

Madison, Wisconsin

CITY OF MADISON

CITY ENGINEERING DIVISION

DEPARTMENT OF PUBLIC WORKS

PLAN OF PROPOSED IMPROVEMENT

INDEX OF SHEETS

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THE CREST AT EAGLE TRACE : STORMWATER MANAGEMENT PLAN

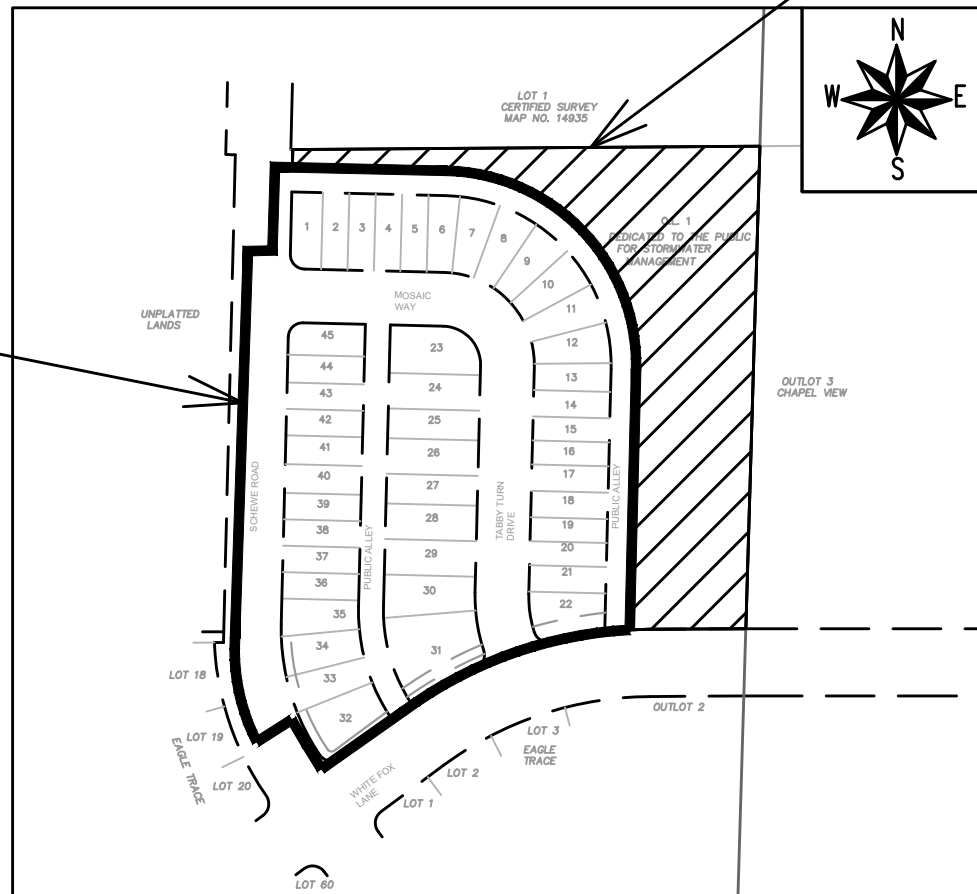
CITY PROJECT NO. 15481
CONTRACT NO. 9601

PROJECT
LOCATION

SEE PROJECT NO. 15480 FOR
OTHER PUBLIC IMPROVEMENTS



PROPOSED POND OUTLOT



PUBLIC IMPROVEMENT PROJECT
APPROVED

APPROVED DATE:
MARCH 11, 2025

BY THE COMMON COUNCIL
OF MADISON, WISCONSIN

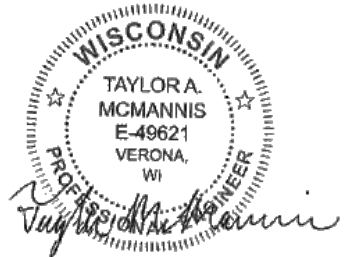
PUBLIC IMPROVEMENT DESIGN
APPROVED BY:

05/01/2025

City Engineer

Date

STORMWATER MANAGEMENT PLAN
DESIGNED BY:



05/01/2025

GENERAL NOTES:

1. ALL SITE WORK AND MATERIALS SHALL BE PER THE CITY OF MADISON STANDARD SPECIFICATIONS.
2. EROSION CONTROL MEASURES SHALL BE PLACED PER THE APPROVED EROSION CONTROL PLAN.
3. LENGTHS OF CULVERTS INCLUDE ENDWALLS.
4. CULVERT LENGTHS SHALL BE FIELD VERIFIED DURING CONSTRUCTION TO ENSURE THAT THEY ARE LONG ENOUGH TO CONFORM TO TYPICAL CROSS SECTION.
5. ALL DISTURBED AREAS SHALL RECEIVE A MINIMUM OF 6" OF TOPSOIL, FERTILIZER, SEED AND MULCH. SEED MIXTURE SHALL BE PER THE CITY OF MADISON REQUIREMENTS. FERTILIZER SHALL BE PLACED PER A SOIL TEST.
6. SEE APPROVED CITY ENGINEERING PLANS FOR SITE STORM SEWER TYPE, LENGTHS, AND SIZES

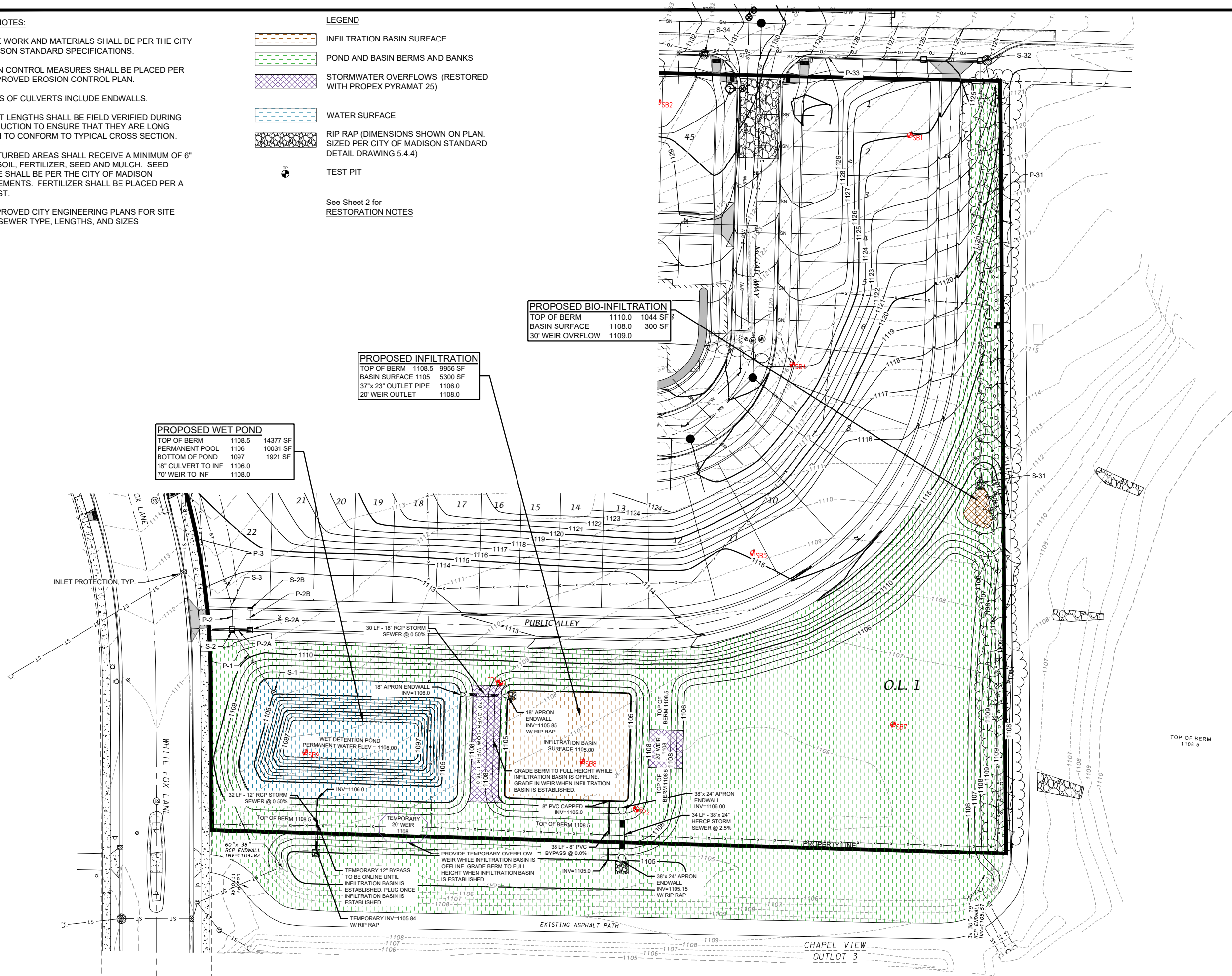
	INFILTRATION BASIN SURFACE
	POND AND BASIN BERMS AND BANKS
	STORMWATER OVERFLOWS (RESTORED WITH PROPEX PYRAMAT 25)
	WATER SURFACE
	RIP RAP (DIMENSIONS SHOWN ON PLAN. SIZED PER CITY OF MADISON STANDARD DETAIL DRAWING 5.4.4)
	TEST PIT

See Sheet 2 for
RESTORATION NOTES

PROPOSED WET POND	
TOP OF BERM	1108.5 14377 SF
PERMANENT POOL	1106 10031 SF
BOTTOM OF POND	1097 1921 SF
18" CULVERT TO INF	1106.0
70' WEIR TO INF	1108.0

PROPOSED INFILTRATION	
TOP OF BERM	1108.5 9956 SF
BASIN SURFACE	1105 5300 SF
37"x 23" OUTLET PIPE	1106.0
20' WEIR OUTLET	1108.0

PROPOSED BIO-INFILTRATION	
TOP OF BERM	1110.0 1044 SF
BASIN SURFACE	1108.0 300 SF
30' WEIR OVRFLOW	1109.0



DETENTION AND INFILTRATION BASIN PLAN DETAILS - OUTLOT 1

THE CREST AT EAGLE TRACE

CITY OF MADISON, DANE COUNTY, WISCONSIN



SCALE: 1" = 60'
(PAGE SIZE: 11x17)

0 30

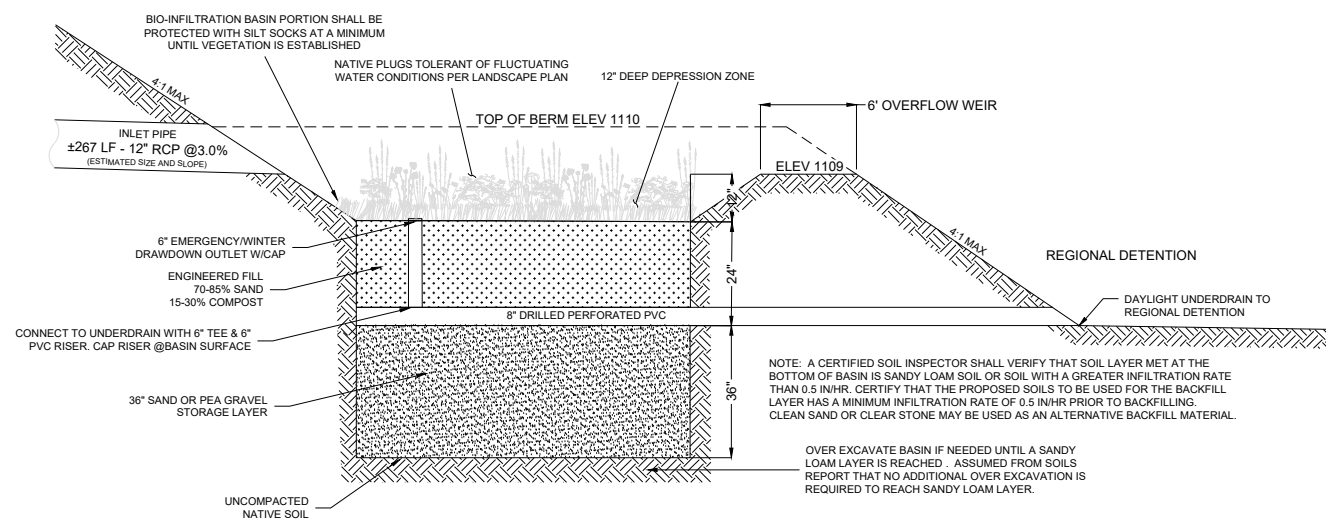
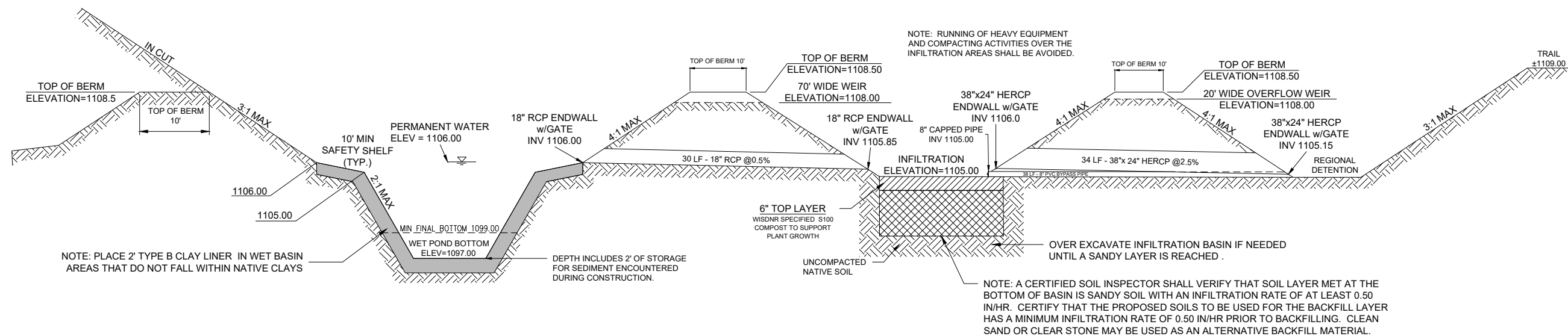
DATE: 04/23/2025
REVISED:

DRAWN BY: TAM

FN: 24-05-137

Sheet Number:

1 OF 3



- Start of Work - Public Outlots and Green Infrastructure:

1. Prior to beginning work on public improvements or on grading on lands to be dedicated to the public (including outlots and easements) a preconstruction meeting shall be held and notice of the start of work shall be provided to the City Engineer a minimum of fifteen (15) working days prior to starting work. The Contractor's ecosystem/ecological subcontractor shall be required to attend the preconstruction meeting for any work that includes native seeding, planting and professional ecosystem establishment.
2. Rough grading of the lands to be dedicated to the public may occur prior to the preconstruction meeting provided all required land disturbance permits are in place and any applicable site grading and erosion control plans have been approved.
3. Infiltration basins shall not be used as sediment traps prior to final grading.
4. Final grading shall not occur until the pre-construction meeting has occurred and the final plans are issued by the City of Madison.
5. Final grading and seeding for all improvements within the stormwater outlot shall be completed within the same month. This does not include minor grading required to bring infiltration basins online at a later date as required by WDNR Technical Standard 1003.
6. Final seeding may not occur until the as-built has been approved by the City of Madison.
7. Final grading and seeding for professional ecosystem establishment for stormwater management outlots and other public storm green infrastructure shall be completed by the date submitted with the erosion control permit.

As-Builts - Public Outlots and Green Infrastructure:

1. Either the Contractor or the City shall be responsible for obtaining asbuilts of construction prior to the Contractor's initial seeding/planting in stormwater outlots and areas of other public green infrastructure. The Contractor shall inform the City at the pre-construction meeting if they will take on the as-built responsibilities or defer to the City to complete the required as-built survey work.
2. The Contractor shall provide the City with a schedule of construction and notify the City at least fifteen (15) working days prior to the anticipated final grading work commencing. The Contractor shall then notify the City at least five (5) working days prior to the anticipated date of final grading completion and the site being ready for as-built surveying.
3. The Contractor shall reimburse the City as defined in Section O of the 9601 Developer Agreement, The Crest At Eagle Trace - Stormwater Management. Developer to Reimburse the City of Costs Sustained.
4. If the City is responsible to complete the as-built survey, was provided proper notice by the Contractor as defined above, and fails to obtain asbuilts within five (5) working days of final grading being completed, the final grading shall be considered approved in regards to as-built survey requirements.
5. If the Contractor is responsible to complete the as-built survey the City shall have two (2) working days to review and approve or reject the asbuilt survey from the date it is submitted by the Contractor. Final grading shall be considered approved in regards to as-built survey requirements should the City fail to approve or provide response to the Contractor's as-built survey submittal within the allowed two (2) working days.

Professional Ecosystem Establishment on Public Stormwater Outlets and Other Public Green Infrastructure:

1. The Developer shall be required to hire City of Madison prequalified ecological restoration contractor under Category 246 Ecological Restoration of the Prequalified Contractors Qualified for Approval to Bid on Public Works Contracts or work on Public Works contracts and/or Private Developments to seed and to perform professional ecosystem establishment two growing seasons.
2. Developer shall be responsible for removing existing vegetation as recommended by the City Engineer to prepare the site for native plant seeding and professional ecosystem establishment.
3. After seeding, the Developer's ecological restoration contractor shall maintain the newly seeded area with the goal of native seed establishment from the initial native plant seeding for a minimum of two consecutive growing seasons. For all native seeding done after October 14th, the first growing season begins in spring of the following year.
4. The growing season is defined as from the last frost in spring to the first frost in fall.
5. The Developer shall be responsible for seeding with a native species mix that shall be approved by the City of Madison. This mix shall be referenced on the plan sheet provided and sealed by the Developer's Engineer and approved by City Engineering and included in the professional ecosystem establishment plan. Refer to City of Madison Standard Specifications Article 207.2(a) for lists of approved seed mixes by site, custom seed mixes approved by the City shall also be accepted. Seeding shall be performed as specified in Article 207 of the City of Madison Standard Specifications.
6. Requirements of Professional Ecosystem Establishment Plan:
 - a. The following shall be included in the plan and be considered part of this contract:
 - i. The means and methods for removal all and any types of vegetation shall be included in the professional ecosystem establishment plan.
 - ii. Overseeding as part of establishment and disturbance shall be included in the contract.
 - iii. All proposed native seed mixes.
 - iv. A schedule of ecosystem establishment activities, including site preparation, seeding, and management.
 - v. Management means and methods during the first and second growing season for obtaining ecological restoration.
 - vi. In areas where there are existing trees that will not be impacted by grading. This shall include an inventory and assessment of existing trees.
 - vii. Seeding shall be required under erosion control matting, except for overseeding and as required to supplement non stratified seed mix.
7. Seeding that occurs between June 15th and October 14th shall require non stratified seed mix, and entire seeded area shall be overseeded with native seed mix specified in ecological restoration contract after October 14th.
8. The Developer is responsible for submitting the seed mix labels for approval by the City of Madison prior to installation.
9. The Developer shall be required to notify the City Engineer a minimum of five (5) working days prior to seeding. The seeding date will determine the start of the first year growing season.
10. The Developer shall be responsible for all repairs, erosion, etc. during professional ecosystem establishment.
11. Ecological Restoration Guarantee Deposit: The Developer shall provide the City with a deposit to guarantee the restoration and two-year maintenance per plans approved by the City Engineer.
12. The deposit shall be a cash deposit in an amount determined by the City Engineer.

Seed Installation Location and Rates:

1. Prairie Seed Mix, Table 1. Prairie Seed Mix, shall be installed along the pond and basin slopes, and over the remainder of the outlot at a rate of 14 lb/acre and approximately 75 seeds/ft². Refer to seed mix .
2. Wet Pond Perimeter Seed Mix, Table 2. Wet Pond Perimeter Seed Mix, shall be installed in a band covering the safety shelf and 2 ft beyond the waters edge, at a rate of 5 lb/acre and approximately 101 seeds/ft².
3. Infiltration Basin Bottom Seed Mix, Table 3. Infiltration Basin Bottom Seed Mix, shall be installed in the bottom of the infiltration basin at a rate of 8 lb/acre and approximately 91 seeds/ft².

Table 1. Prairie Seed Mix

Nomenclature		Seed Metrics		
Scientific Name	Common Name	Oz/Acre	Seeds/ft ²	% Mix by No. Seeds
Grasses, Sedges, Rushes				
<i>Andropogon gerardii</i>	Big Bluestem	4.0	0.9	1.23
<i>Bouteloua curtipendula</i>	Side oats Grama	60.0	8.3	11.03
<i>Bromus kalmii</i>	Prairie Brome	4.0	0.7	0.98
<i>Carex bicknellii</i>	Bicknell's Oval Sedge	1.0	0.4	0.52
<i>Carex brevior</i>	Fescue Sedge	1.5	1.0	1.33
<i>Carex molesta</i>	Field Oval Sedge	2.0	1.1	1.53
<i>Elymus canadensis</i>	Canada Wild Rye	36.0	4.3	5.74
<i>Elymus virginicus</i>	Virginia Wild Rye	16.0	1.5	2.06
<i>Panicum virgatum</i>	Switch Grass	2.5	0.8	1.07
<i>Schizachyrium scoparium</i>	Little Bluestem	32.0	11.0	14.71
<i>Sorghastrum nutans</i>	Indian Grass	6.0	1.7	2.21
<i>Sporobolus heterolepis</i>	Prairie Dropseed	1.0	0.4	0.49
Forbs				
<i>Achillea millefolium</i>	Yarrow	1.0	4.1	5.46
<i>Agastache foeniculum</i>	Blue Giant Hyssop	1.0	2.1	2.76
<i>Allium cernuum</i>	Nodding Onion	1.0	0.2	0.23
<i>Amorpha canescens</i>	Lead Plant	1.0	0.4	0.49
<i>Asclepias syriaca</i>	Common Milkweed	1.0	0.1	0.12
<i>Asclepias tuberosa</i>	Butterfly Weed	2.0	0.2	0.26
<i>Astragalus canadensis</i>	Canadian Milk Vetch	1.0	0.4	0.52
<i>Baptisia alba</i>	White Wild Indigo	1.0	<0.1	0.05
<i>Chamaecrista fasciculata</i>	Partridge Pea	8.0	0.5	0.66
<i>Coreopsis palmata</i>	Prairie Coreopsis	1.0	0.2	0.31
<i>Dalea candida</i>	White Prairie Clover	1.0	0.4	0.58
<i>Dalea purpurea</i>	Purple Prairie Clover	4.0	1.4	1.84
<i>Drymocallis arguta</i>	Prairie Cinquefoil	0.5	2.6	3.52
<i>Echinacea pallida</i>	Pale Purple Coneflower	2.0	0.2	0.32
<i>Echinacea purpurea</i>	Purple Coneflower	2.0	0.3	0.40
<i>Eryngium yuccifolium</i>	Rattlesnake Master	2.0	0.3	0.46
<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	0.5	4.0	5.36
<i>Helopsis helianthoides</i>	False Sunflower	2.5	0.4	0.48
<i>Lespedeza capitata</i>	Round-headed Bush Clover	1.0	0.2	0.25
<i>Liatris aspera</i>	Rough Blazing Star	1.0	0.4	0.49
<i>Monarda fistulosa</i>	Wild Bergamot	1.0	1.6	2.15
<i>Oligoneuron rigidum</i>	Stiff Goldenrod	2.0	1.9	2.51
<i>Penstemon digitalis</i>	Foxglove Beardtongue	1.0	3.0	3.98
<i>Pycnanthemum virginianum</i>	Mountain Mint	0.5	2.5	3.37
<i>Ratibida pinnata</i>	Yellow Coneflower	2.0	1.4	1.84
<i>Rudbeckia hirta</i>	Black-eyed Susan	3.0	6.3	8.46
<i>Rudbeckia subtomentosa</i>	Sweet Black-eyed Susan	0.5	0.5	0.66
<i>Rudbeckia triloba</i>	Brown-eyed Susan	0.5	0.4	0.52
<i>Silphium laciniatum</i>	Compass Plant	2.0	<0.1	0.04
<i>Solidago speciosa</i>	Showy Goldenrod	0.5	1.1	1.46
<i>Symphyotrichum laeve</i>	Smooth Blue Aster	1.5	1.9	2.53
<i>Symphyotrichum novae-angliae</i>	New England Aster	0.8	1.2	1.62
<i>Tradescantia ohiensis</i>	Ohio Spiderwort	2.0	0.4	0.49
<i>Verbena stricta</i>	Hoary Vervain	2.0	1.3	1.72
<i>Zizia aurea</i>	Golden Alexanders	3.5	0.9	1.18

Diversity and Density Metrics

Plant Type	Species Richness	Total Oz/Acre	Total Seeds/ft ²	% Mix by No. Seeds
Grasses and Sedges	12	166	32.1	42.9
Forbs	35	57.3	42.8	57.1
Totals	47	223.3	74.9	100

Table 2. Wet Pond Perimeter Seed Mix

Nomenclature		Seed Metrics		
Scientific Name	Common Name	Oz/Acre	Seeds/ft ²	% Mix by No. Seeds
Grasses, Sedges, Rushes				
<i>Calamagrostis canadensis</i>	Blue Joint Grass	1.0	6.4	6.36
<i>Carex comosa</i>	Bottlebrush Sedge	2.0	1.4	1.36
<i>Carex crinita</i>	Fringed Sedge	2.0	1.1	1.04
<i>Carex hystericina</i>	Porcupine Sedge	2.0	1.4	1.36
<i>Carex scoparia</i>	Lance-fruited Oval Sedge	2.0	3.9	3.82
<i>Carex stipata</i>	Common Fox Sedge	3.0	2.3	2.32
<i>Carex vulpinoidea</i>	Brown Fox Sedge	3.0	6.9	6.81
<i>Elymus virginicus</i>	Virginia Wild Rye	32.0	3.1	3.05
<i>Glyceria grandis</i>	American Manna Grass	1.0	1.6	1.59
<i>Glyceria striata</i>	Fowl Manna Grass	1.0	2.1	2.04
<i>Juncus effusus</i>	Common Rush	0.5	11.5	11.36
<i>Schoenoplectus tabernaemontani</i>	Softstem Bulrush	3.5	2.5	2.46
<i>Scirpus atrovirens</i>	Dark-green Bulrush	0.7	7.4	7.31
<i>Scirpus cyperinus</i>	Wool Grass	0.2	7.8	7.72
<i>Spartina pectinata</i>	Prairie Cord Grass	4.0	0.6	0.60
Forbs				
<i>Acorus americanus</i>	Sweet Flag	2.0	0.3	0.30
<i>Alisma subcordatum</i>	American Water Plantain	2.0	2.8	2.73
<i>Asclepias incarnata</i>	Swamp Milkweed	2.0	0.2	0.22
<i>Bidens cernua</i>	Nodding Bur Marigold	1.5	0.7	0.72
<i>Eupatorium perfoliatum</i>	Boneset	1.0	3.7	3.63
<i>Eutrochium maculatum</i>	Joe Pye Weed	1.0	2.2	2.16
<i>Helenium autumnale</i>	Sneezeweed	1.0	3	2.95
<i>Iris virginica</i>	Southern Blue Flag	2.0	<0.1	0.05
<i>Lobelia cardinalis</i>	Cardinal Flower	0.2	1.8	1.82
<i>Lobelia siphilitica</i>	Great Blue Lobelia	0.3	3.4	3.41
<i>Mimulus ringens</i>	Monkey Flower	0.2	10.6	10.45
<i>Sagittaria latifolia</i>	Common Arrowhead	3.0	4.2	4.16
<i>Sparganium eurycarpum</i>	Broad-fruit Bur Reed	3.0	<0.1	0.03
<i>Symphyotrichum puniceum</i>	Swamp Aster	1.0	1.8	1.82
<i>Verbena hastata</i>	Blue Vervain	3.0	6.4	6.34

Diversity and Density Metrics

Plant Type	Species Richness	Total Oz/Acre	Total Seeds/ft ²	% Mix by No. Seeds
Grasses, Sedges, Rushes	15	57.9	59.9	59.23
Forbs	15	23.2	41.2	40.77
Totals	30	81.1	101.1	100

Table 3. Infiltration Basin Bottom Seed Mix

Nomenclature		Seed Metrics		
Scientific Name	Common Name	Oz/Acre	Seeds/ft ²	% Mix by No. Seeds
Grasses, Sedges, Rushes				
<i>Andropogon gerardii</i>	Big Bluestem	5.0	1.1	1.27
<i>Bromus ciliatus</i>	Fringed Brome	2.0	0.5	0.51
<i>Bromus kalmii</i>	Prairie Brome	4.0	0.7	0.81
<i>Calamagrostis canadensis</i>	Blue Joint Grass	0.5	3.2	3.55
<i>Carex bebbii</i>	Bebb's Oval Sedge	2.0	1.6	1.72
<i>Carex brevior</i>	Fescue Sedge	2.0	1.3	1.47
<i>Carex molesta</i>	Field Oval Sedge	2.0	1.1	1.27
<i>Carex vulpinoidea</i>	Brown Fox Sedge	3.0	6.9	7.60
<i>Elymus canadensis</i>	Canada Wild Rye	24.0	2.9	3.16
<i>Elymus virginicus</i>	Virginia Wild Rye	24.0	2.3	2.56
<i>Glyceria striata</i>	Fowl Manna Grass	1.0	2.1	2.28
<i>Juncus dudleyi</i>	Dudley's Rush	0.2	14.7	16.22
<i>Panicum virgatum</i>	Switch Grass	2.5	0.8	0.89
<i>Schizachyrium scoparium</i>	Little Bluestem	8.0	2.8	3.04
<i>Scirpus atrovirens</i>	Dark-green Bulrush	0.5	5.3	5.83
<i>Sorghastrum nutans</i>	Indian Grass	5.0	1.4	1.52
<i>Spartina pectinata</i>	Prairie Cord Grass	4.0	0.6	0.67
Forbs				
<i>Asclepias incarnata</i>	Swamp Milkweed	2.0	0.2	0.24
<i>Asclepias syriaca</i>	Common Milkweed	2.0	0.2	0.20
<i>Astragalus canadensis</i>	Canadian Milk Vetch	1.0	0.4	0.43
<i>Chamaecrista fasciculata</i>	Partridge Pea	4.0	0.2	0.27
<i>Eupatorium perfoliatum</i>	Boneset	0.5	1.8	2.03
<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	0.5	4.0	4.44
<i>Eutrochium maculatum</i>	Joe Pye Weed	0.5	1.1	1.20
<i>Helenium autumnale</i>	Sneezeweed	0.5	1.5	1.65
<i>Helopsis helianthoides</i>	False Sunflower	2.5	0.4	0.40
<i>Hypericum ascyron</i> ssp. <i>pyramidatum</i>	Great St. John's Wort	0.5	2.2	2.41
<i>Liatris pycnostachya</i>	Prairie Blazing Star	1.0	0.3	0.28
<i>Lobelia siphilitica</i>	Great Blue Lobelia	0.5	5.7	6.34
<i>Monarda fistulosa</i>	Wild Bergamot	1.5	2.4	2.66
<i>Oligoneuron riddellii</i>	Riddell's Goldenrod	0.5	1.1	1.18
<i>Oligoneuron rigidum</i>	Stiff Goldenrod	2.0	1.9	2.08
<i>Parthenium integrifolium</i>	Wild Quinine	1.0	0.2	0.18
<i>Physostegia virginiana</i>	Obedient Plant	1.0	0.3	0.28
<i>Pycnanthemum virginianum</i>	Mountain Mint	0.5	2.5	2.79
<i>Ratibida pinnata</i>	Yellow Coneflower	2.0	1.4	1.52
<i>Rudbeckia hirta</i>	Black-eyed Susan	3.0	6.3	7.00
<i>Rudbeckia subtomentosa</i>	Sweet Black-eyed Susan	0.5	0.5	0.54
<i>Rudbeckia triloba</i>	Brown-eyed Susan	0.5	0.4	0.43
<i>Silphium integrifolium</i>	Rosinweed	2.0	0.1	0.06
<i>Symphyotrichum encoides</i>	Heath Aster	0.1	0.5	0.51
<i>Symphyotrichum laeve</i>	Smooth Blue Aster	0.5	0.6	0.70
<i>Symphyotrichum novae-angliae</i>	New England Aster	1.0	1.5	1.67
<i>Thalictrum dasycarpum</i>	Purple Meadow Rue	1.0	0.3	0.28
<i>Tradescantia ohiensis</i>	Ohio Spiderwort	1.0	0.2	0.20
<i>Verbena hastata</i>	Blue Vervain	1.0	2.1	2.36
<i>Vernonia fasciculata</i>	Common Ironweed	1.0	0.6	0.61
<i>Zizia aurea</i>	Golden Alexanders	2.5	0.6	0.70

Diversity and Density Metrics

Plant Type	Species Richness	Total Oz/Acre	Total Seeds/ft ²	% Mix by No. Seeds
Grasses, Sedges, Rushes	17	89.7	49.2	54.37
Forbs	31	38.1	41.3	45.63
Totals	48	127.8	90.6	100

SEED MIX DETAILS

THE CREST AT EAGLE TRACE

CITY OF MADISON, DANE COUNTY, WISCONSIN

DATE: 04/23/2025
REVISED:

DRAWN BY: TAM

FN: 24-05-137

Sheet Number:

3 OF 3