serenbe

UGA College of Environment + Design

2018 Trail Master Plan

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College of Environment + Design
UNIVERSITY OF GEORGIA

https://www.wheretraveler.com/atlanta/play/atlanta-day-trip-finding-serenity-serenbe-slideshow

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Introduction and History

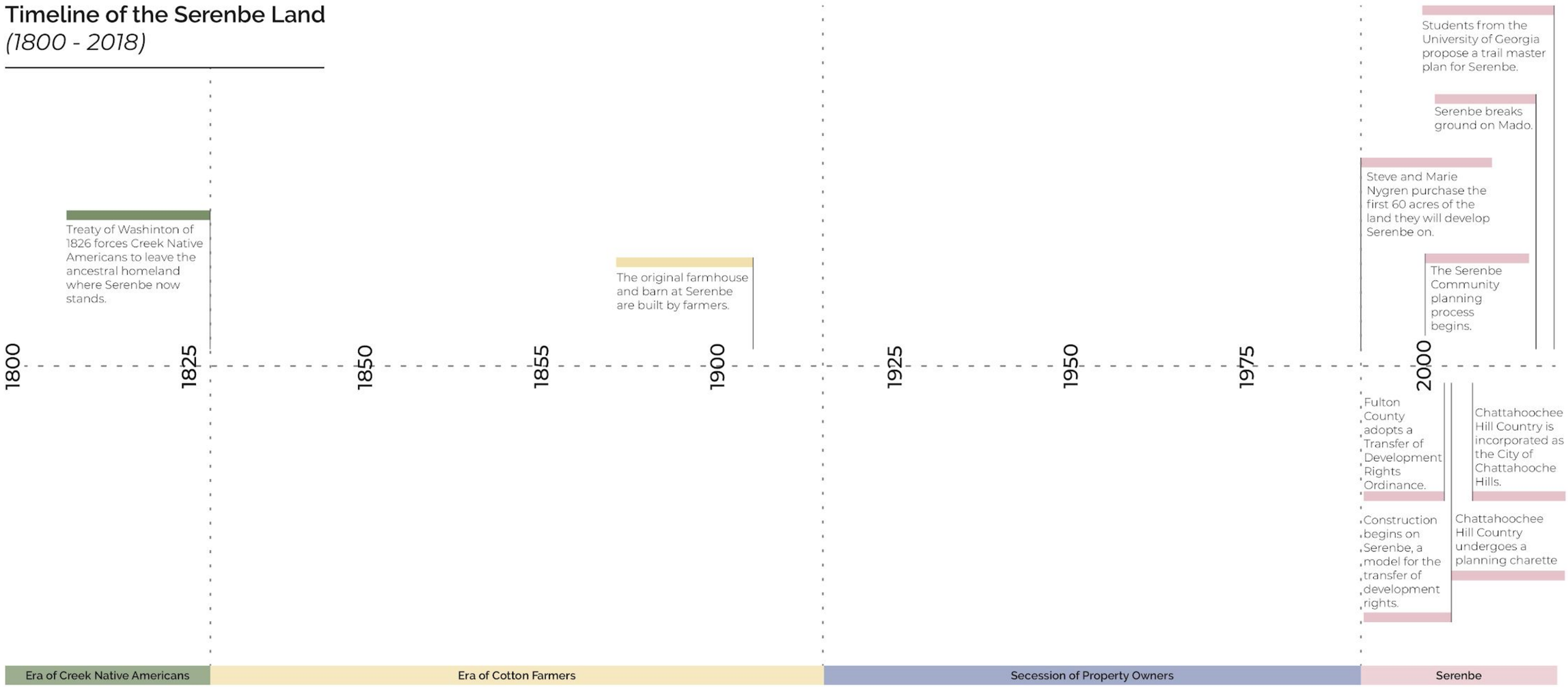
Background Information

The following concept plan and guidelines provide guidance and suggestions for the proposed trail systems in Serenbe, located in Chattahoochee Hills, GA. The University of Georgia, College of Environment and Design took on this project as a senior capstone studio course and all suggestions are a culmination of two weeks of site observations, directives from stakeholders, and as a response to the natural topography and existing conditions of the site.

Primary Goals of the master plan include:

1. Building trail hierarchy
2. Connectivity
3. Identifying effective trails

Timeline of the Serenbe Land
(1800 - 2018)



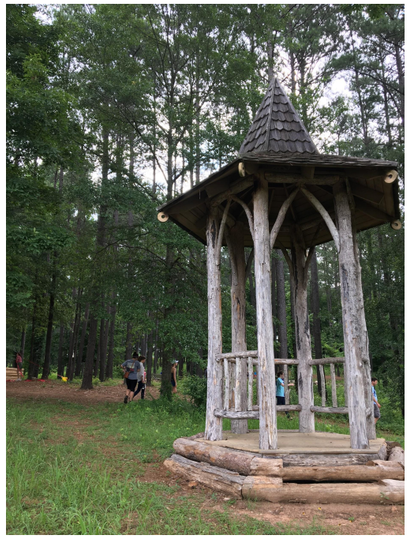
Inventory

Site Visit





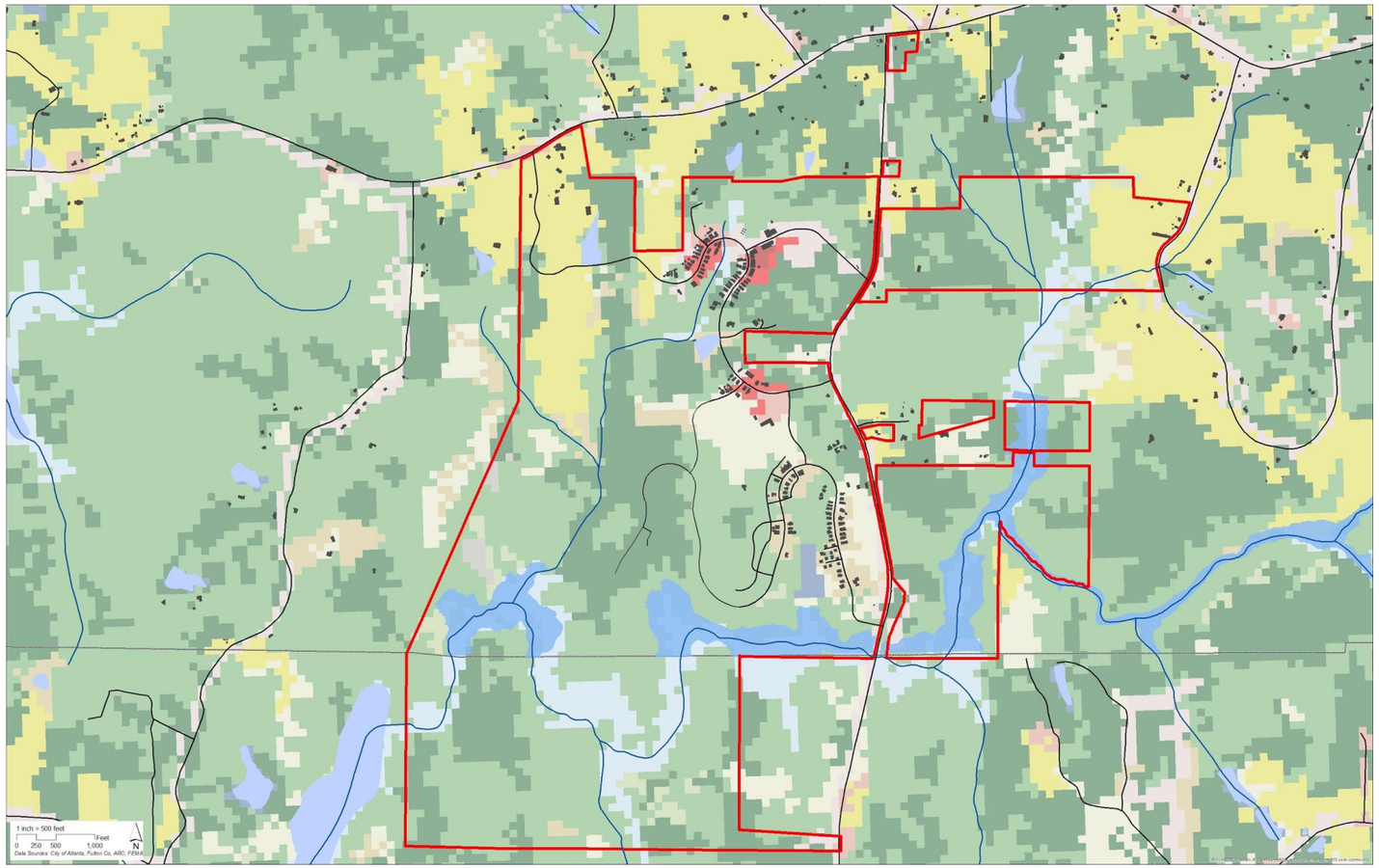





3D Model

This is a laser cut topographic model of Serenbe. The model demonstrates the elevation change, and it distinguishes between sustainable and unsustainable trails. This was a way for the community to understand their land since many had no idea how hilly the area was.

Land Cover



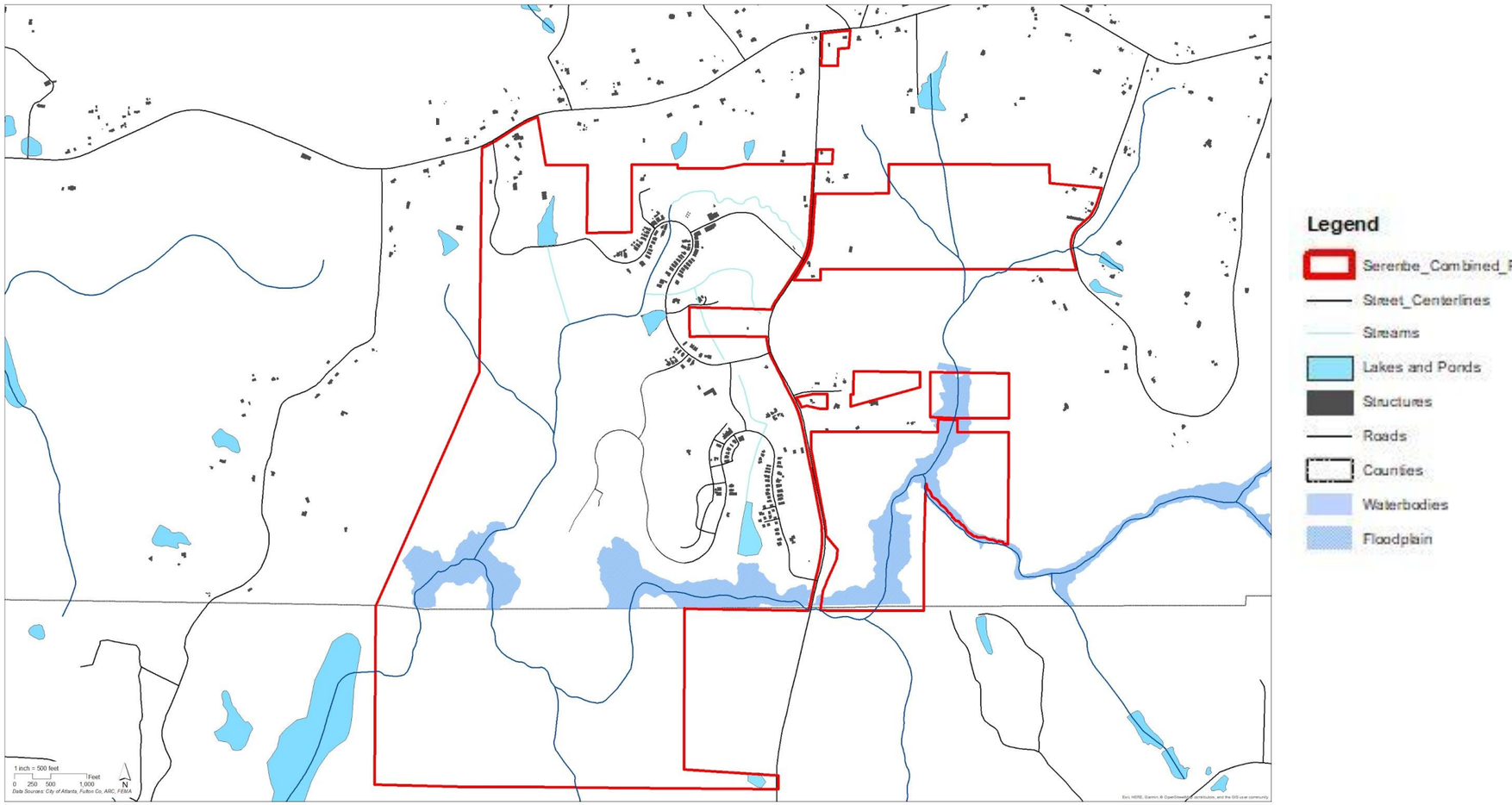
Serenbe sits on what has been historically farmland. Over many years of acquiring land, much of the property is forested. Evergreen forests are the remnants from past pine farming and the deciduous forests have resulted from old-field succession. Forest ages differ based on previous use.

Land Use

Serenbe has a high percentage of forested area with the residential areas clustered together. Keeping the forested and conserved areas intact is important to maintain Serenbe's mission

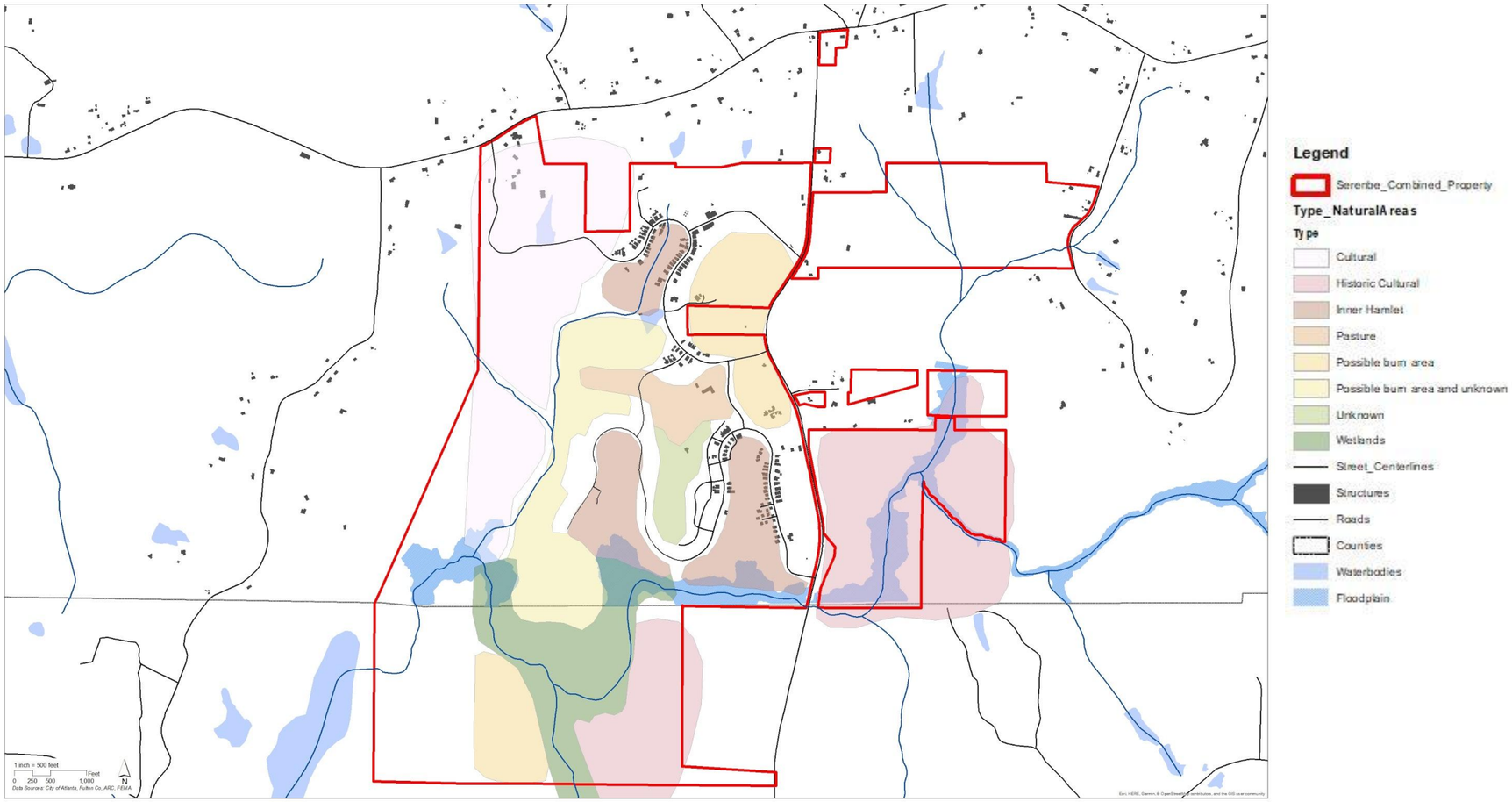
In order to further develop Serenbe, the continued purchase of land for conservation is needed. Serenbe's adjacent land is similar to what it currently owns. A mixture of farmland, fields, and successional forests are all within the Chattahoochee River drainage basin that encompasses Serenbe.

Hydrology



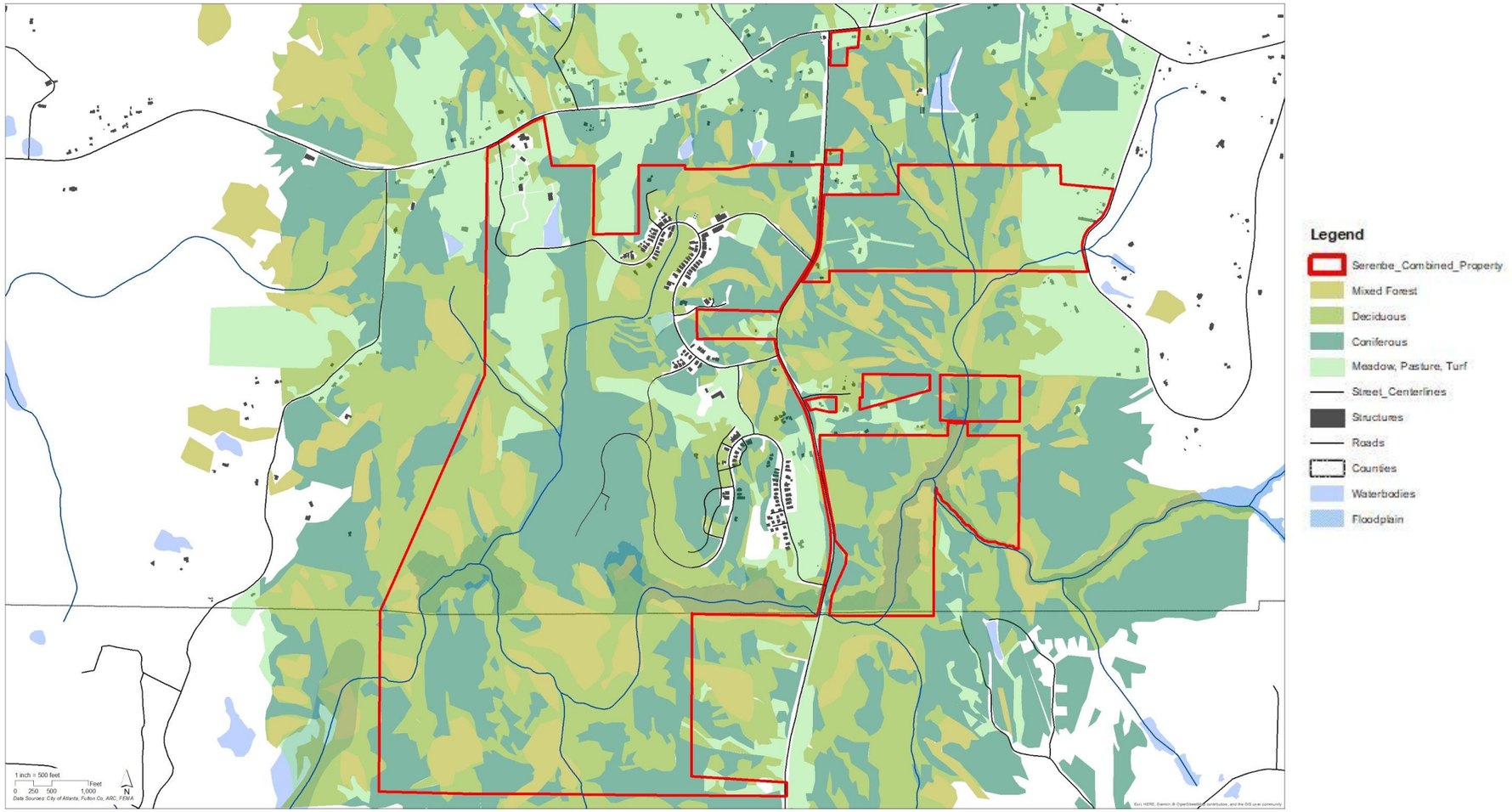
Located within the Chattahoochee River drainage basin, the streams and creeks all eventually flow into the river. On site is Cedar Creek and a tributary with two branches that are currently unnamed. The hydrology map gives a glimpse of both the streams which will need crossings and the floodplain of Cedar Creek where current trails may wash out during a future flood.

Natural Areas



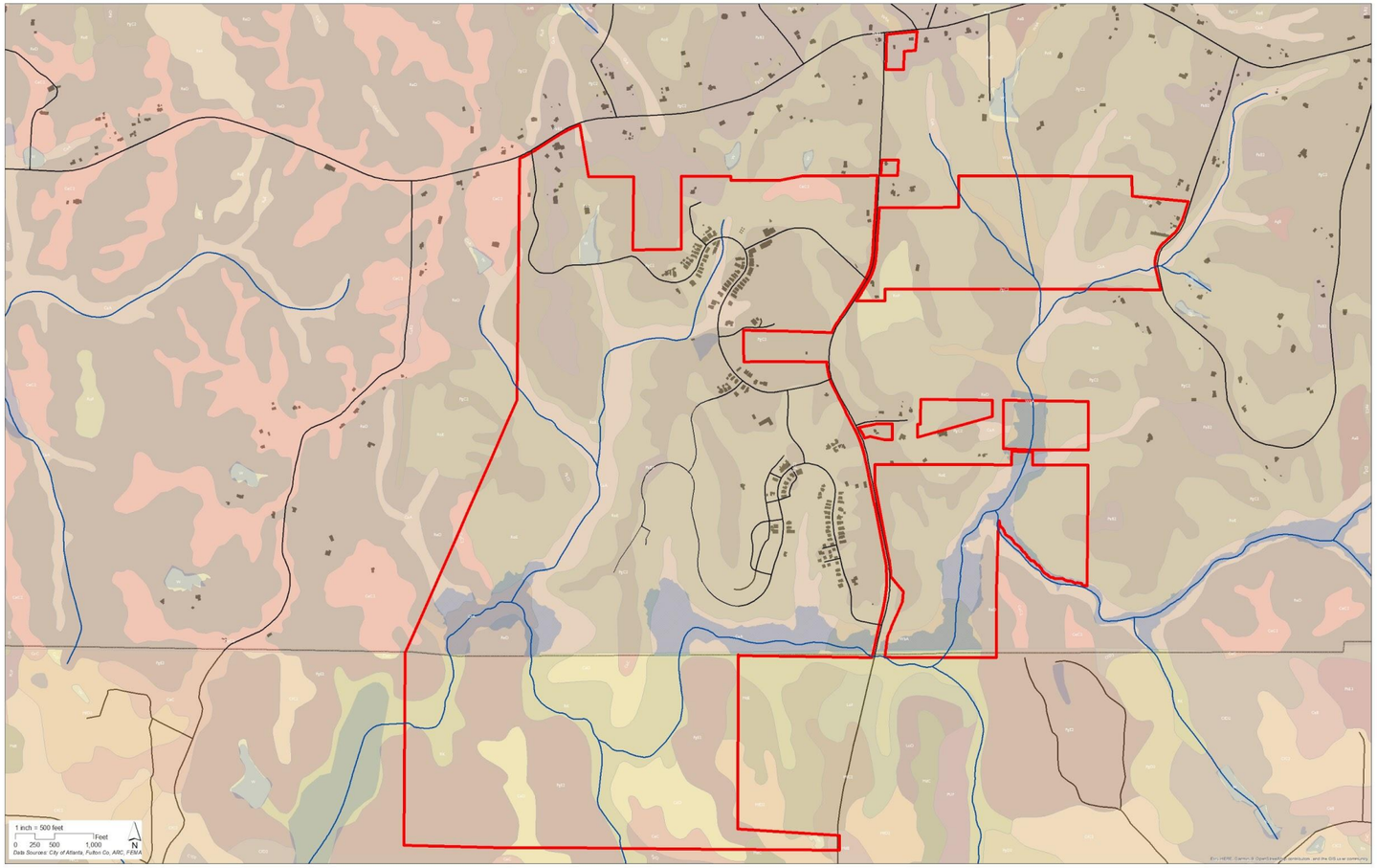
The site has a diversity of natural areas and historic sites that need to be conserved. Serenbe's cultural heritage includes two relics of past indigenous American cultures, the remnants of a working mill, farmhouse, and the gravesite for the Condor family. Much of the property is remnants of farms that existed within the Chattahoochee Hills in different stages of succession from field to forest.

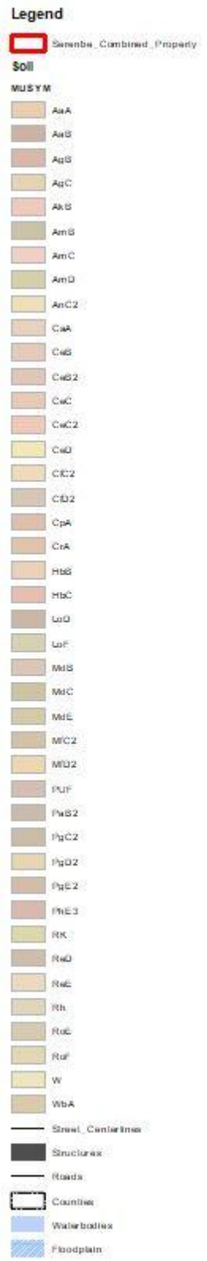
Vegetation



The vegetation is made up of deciduous forest, coniferous forest, meadows, pastures, and turf. Studying the vegetation allows a glimpse into how land was previously used and helps define areas of restoration.

Soils

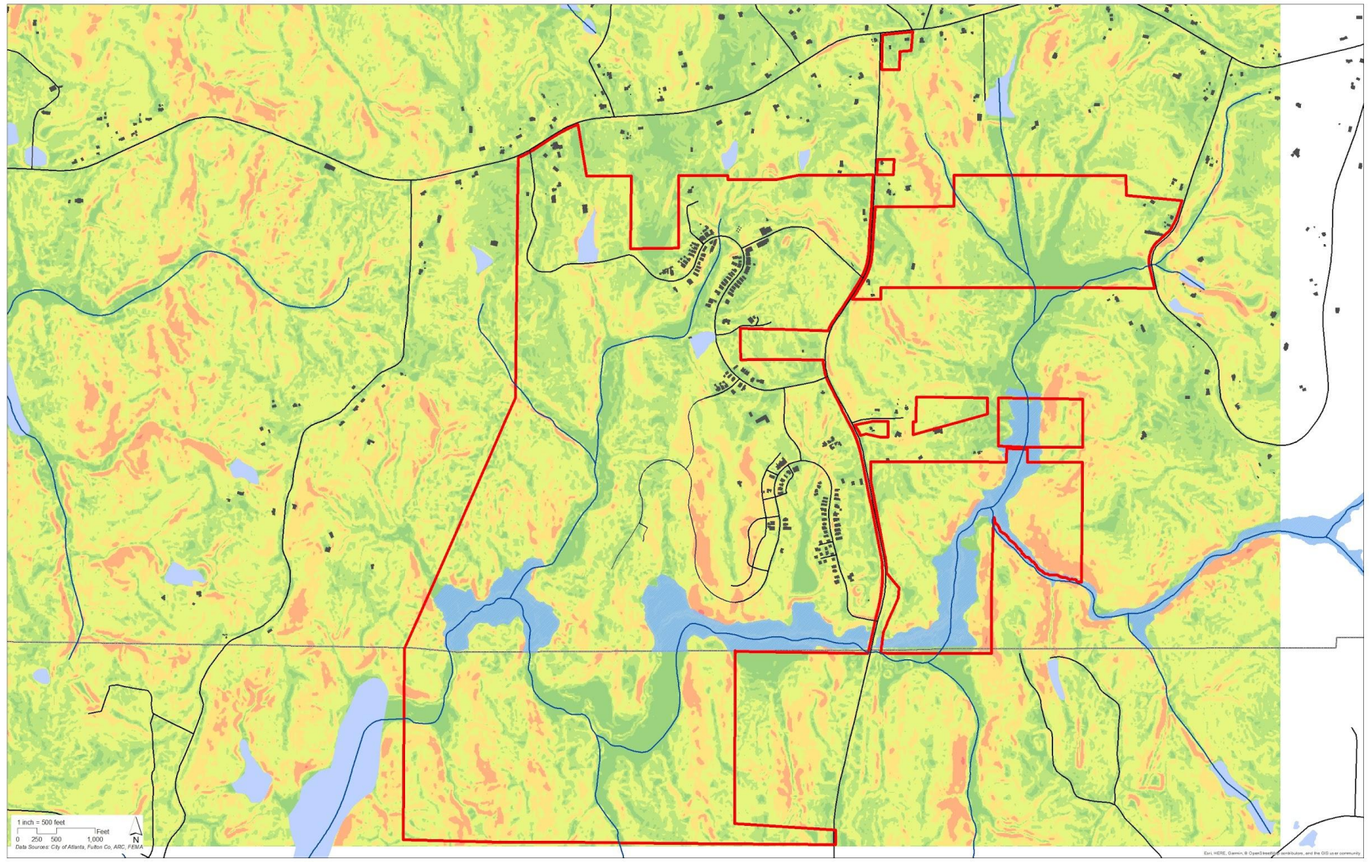




Much of the top organic layer of soils in the Piedmont Region has been washed away due to cotton farming or the lumber industry, but the base soil still remains.

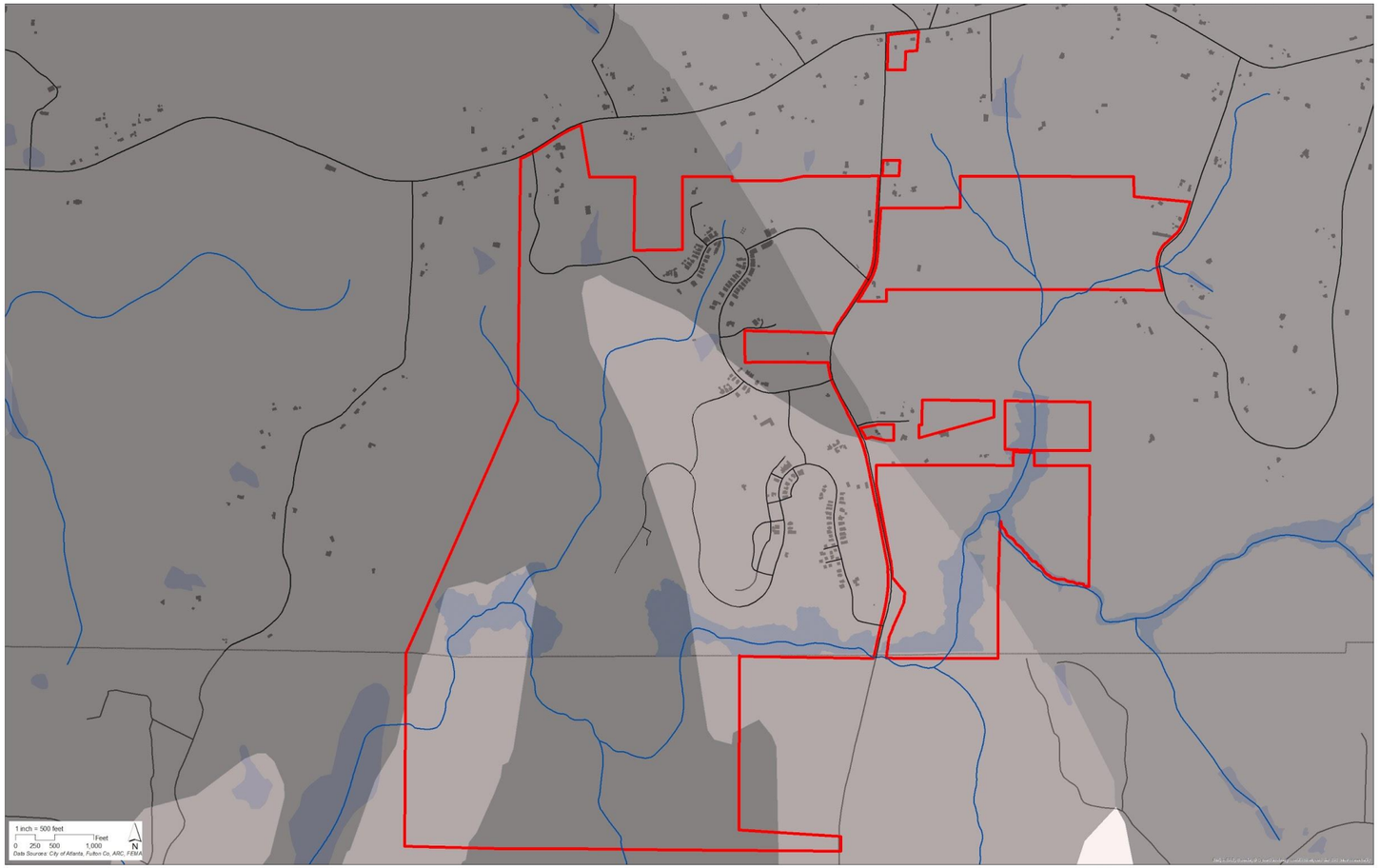
Soil type determines both plant type and land usability. Plants and plant communities change naturally based on soil type. For designers, soil type influences plants chosen and the construction of hardscape elements.

Slope



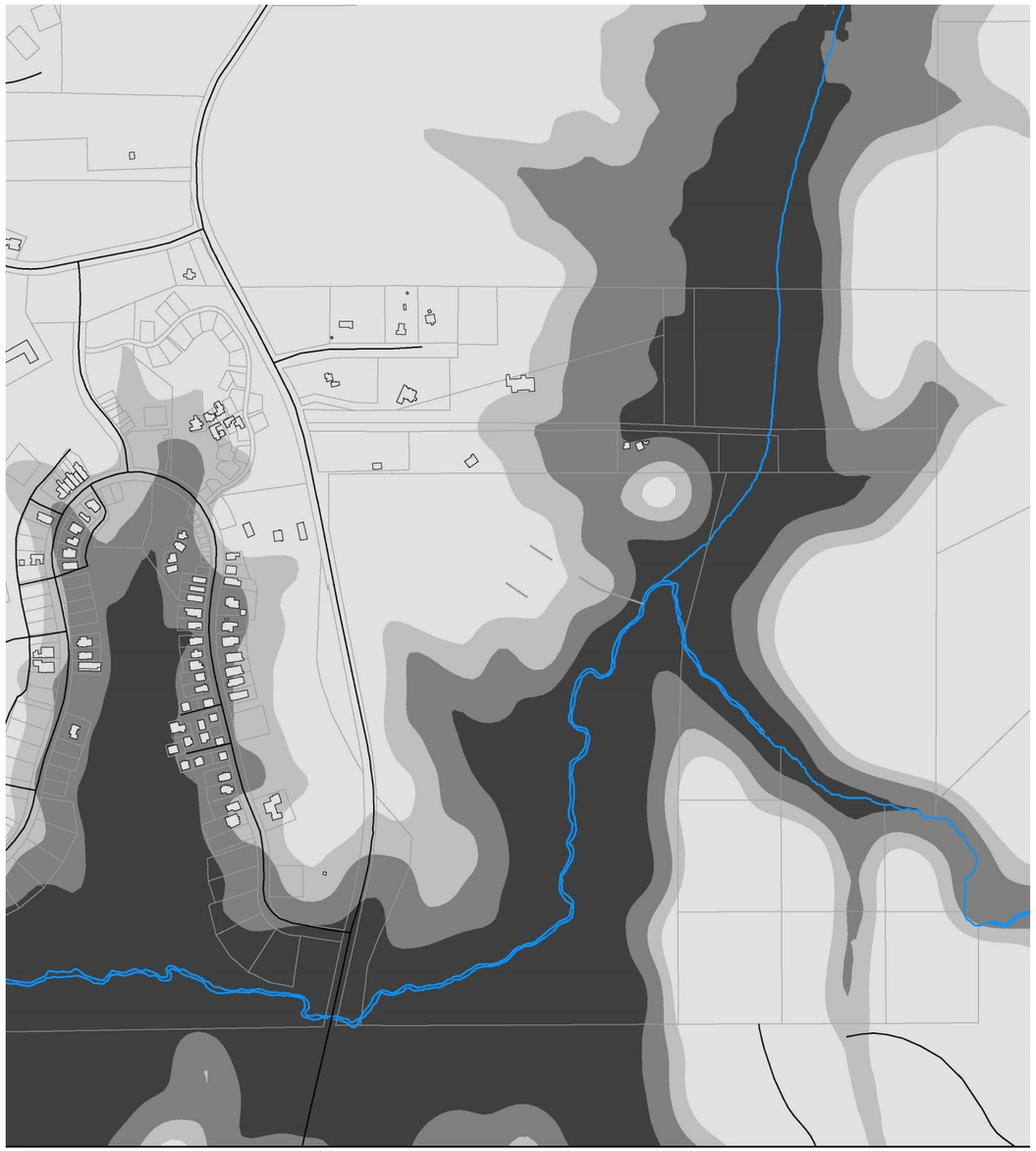
The goal for maximum slope percentage on most trails is 8%, and under 5% for handicap accessible trails. Slope is an important factor in determining where trails should be placed. Areas with steep slopes include the ridge between Grange and Mado and the area surrounding the indigenous historical sites adjacent to Cedar Creek and to the east of Swan Lake.

Geology



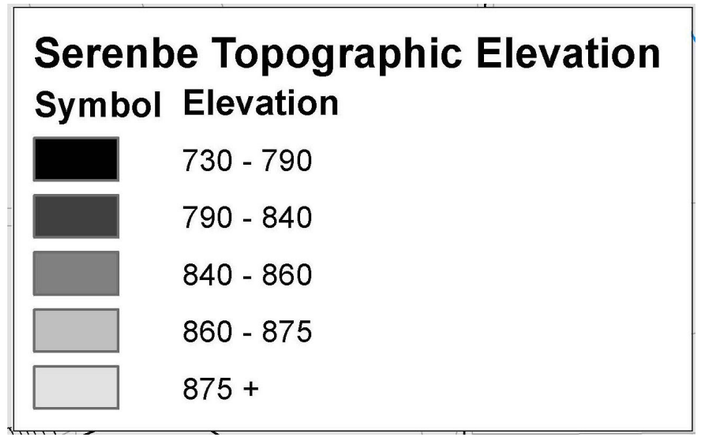
Each rock type contains different mineral components which affects the nutrient uptake of plants residing in the soils above. For example, the Eastern Redbud is more commonly found in areas with an amphibolic base.

Serenbe Mound

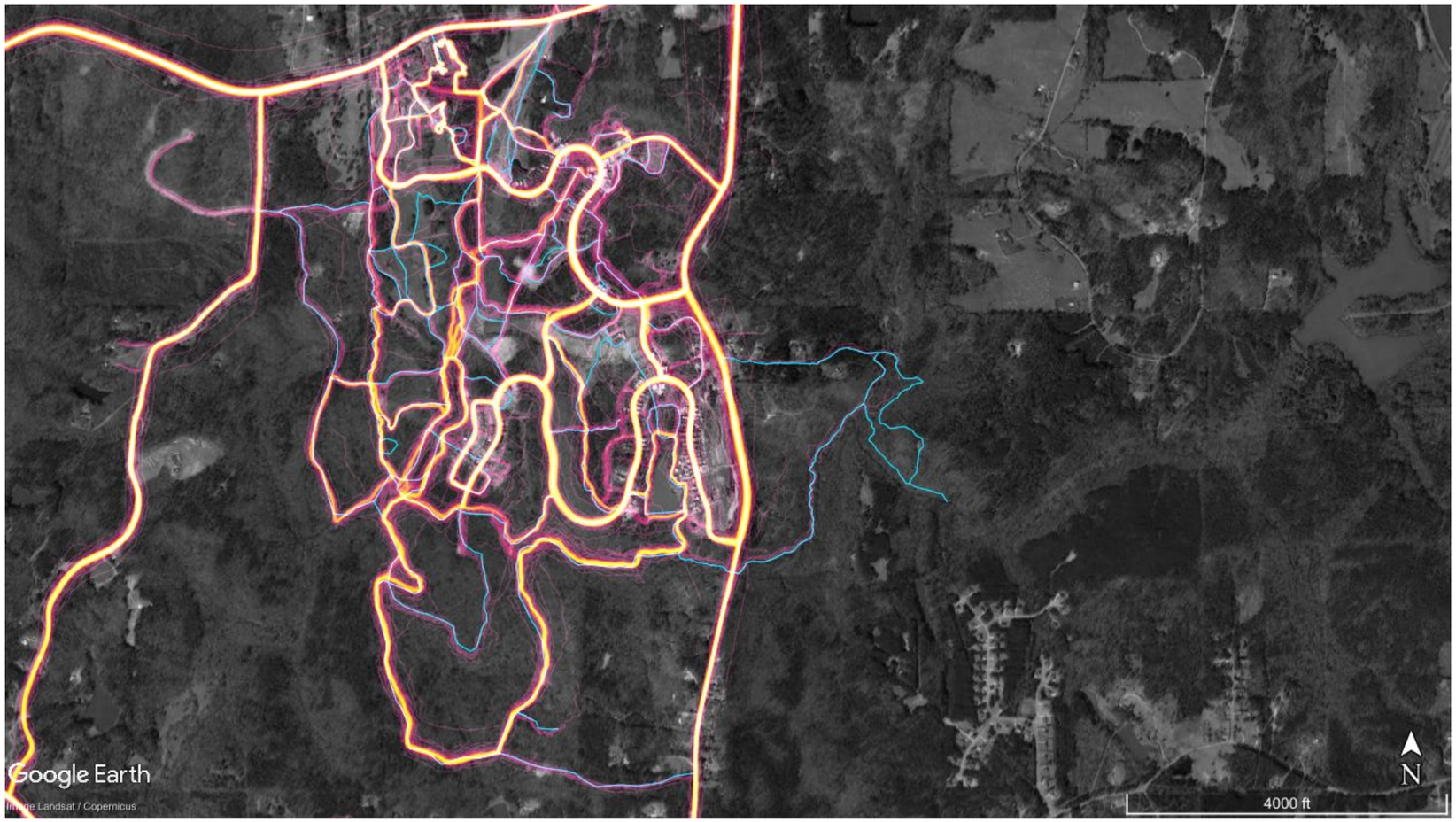


Human use in the past plays an important role in the direction the site may be used in the future. There is a need to protect and preserve those sites bearing cultural significance.

To the east of Grange and past the Art Farm sits a Mississippian Period mound on the edge of Cedar Creek. Across the water is a stone basin which may have been created by indigenous peoples that once lived on what is now Serenbe.



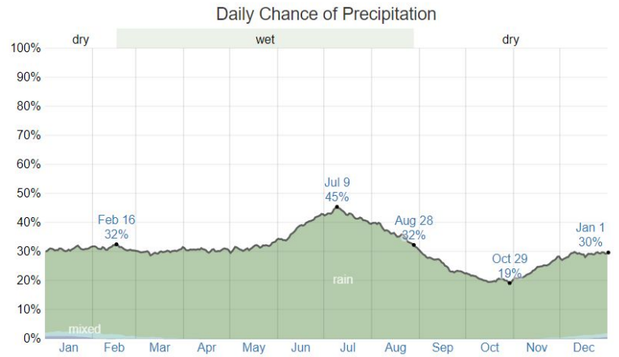
Strava Heat Map

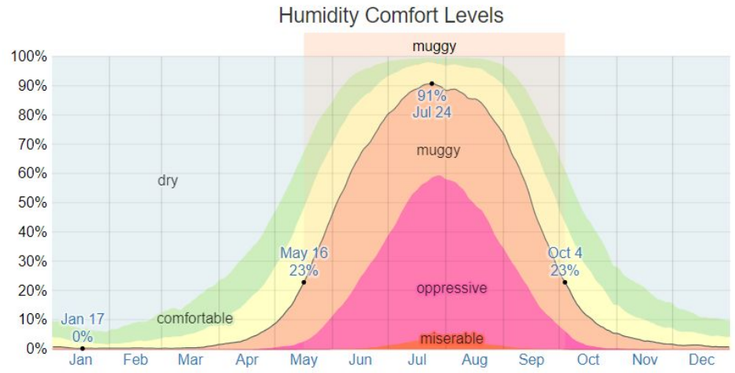


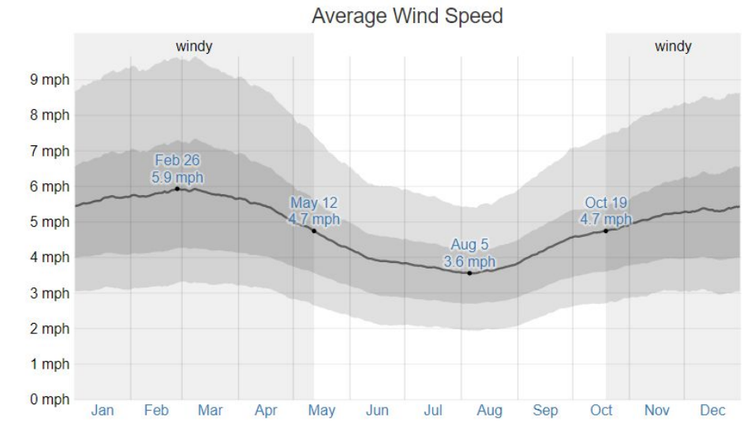
This heat map was generated using data collected by Strava that shows the frequency of a path's use. The vibrancy of the paths is correlated to how often they are trafficked.

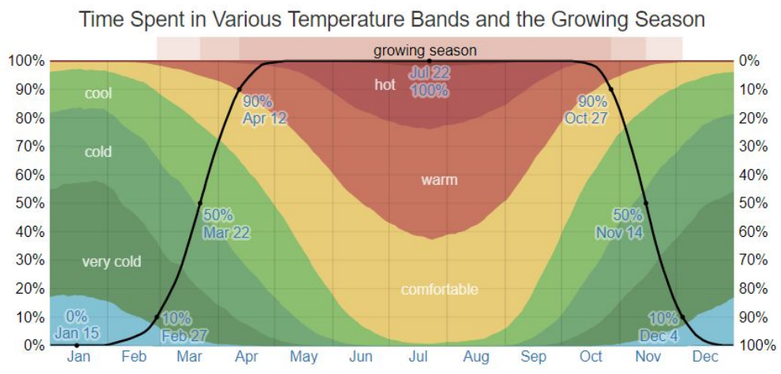
Underneath the Strava data is a blue line generated from the GPS data we used to study the existing trail system. The areas that most clearly reveal the blue line show which trails are most underused.

Climate







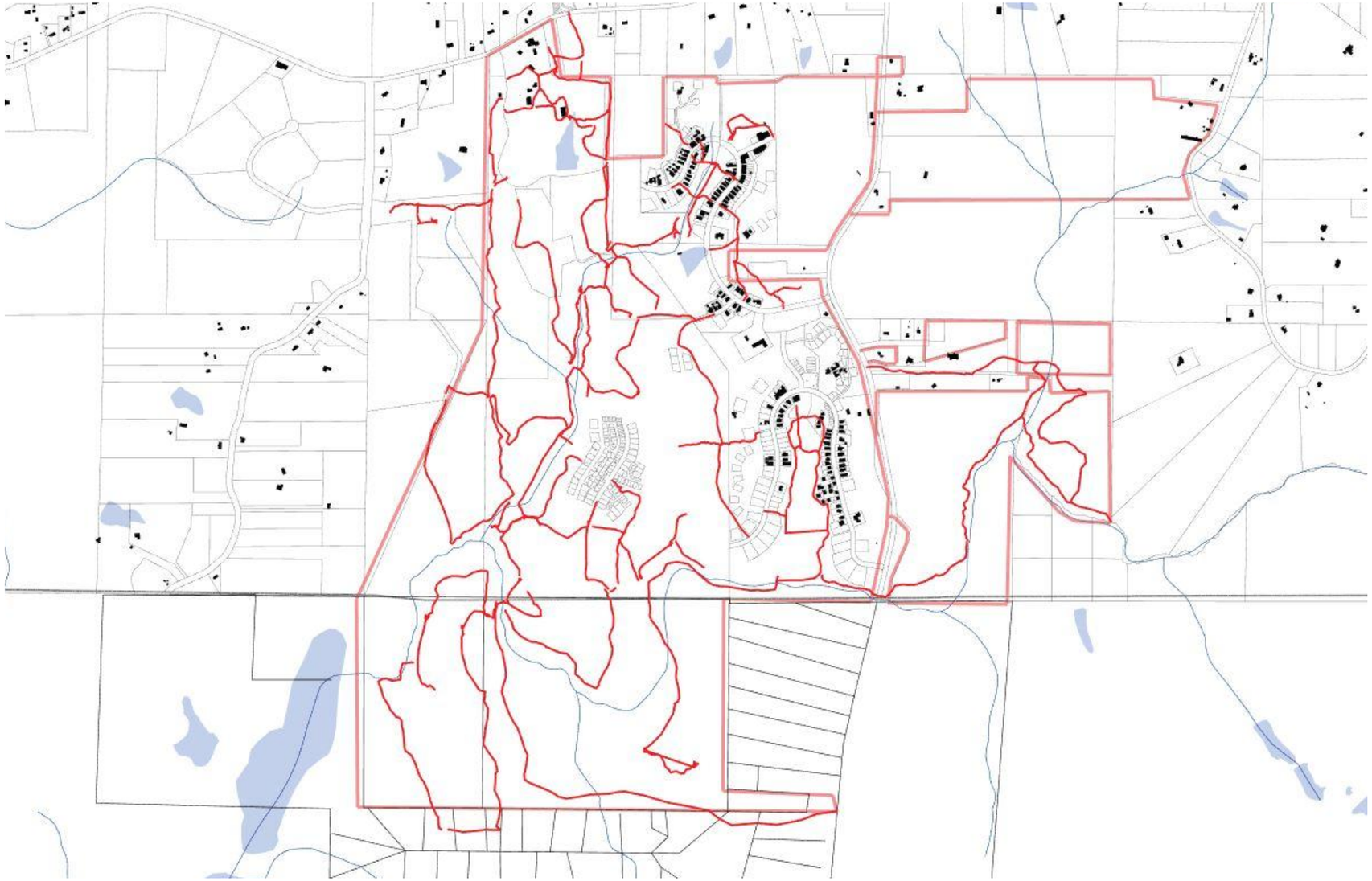


Climate is an important factor for the health and growth of native vegetation and the comfort of visitors. Knowing the climate is vital for planning for each user type.

This site has climate patterns typical of north Georgia, notably warm, humid summers followed by wet, cold winters. Average temperatures

Trail Analysis

Existing Trails

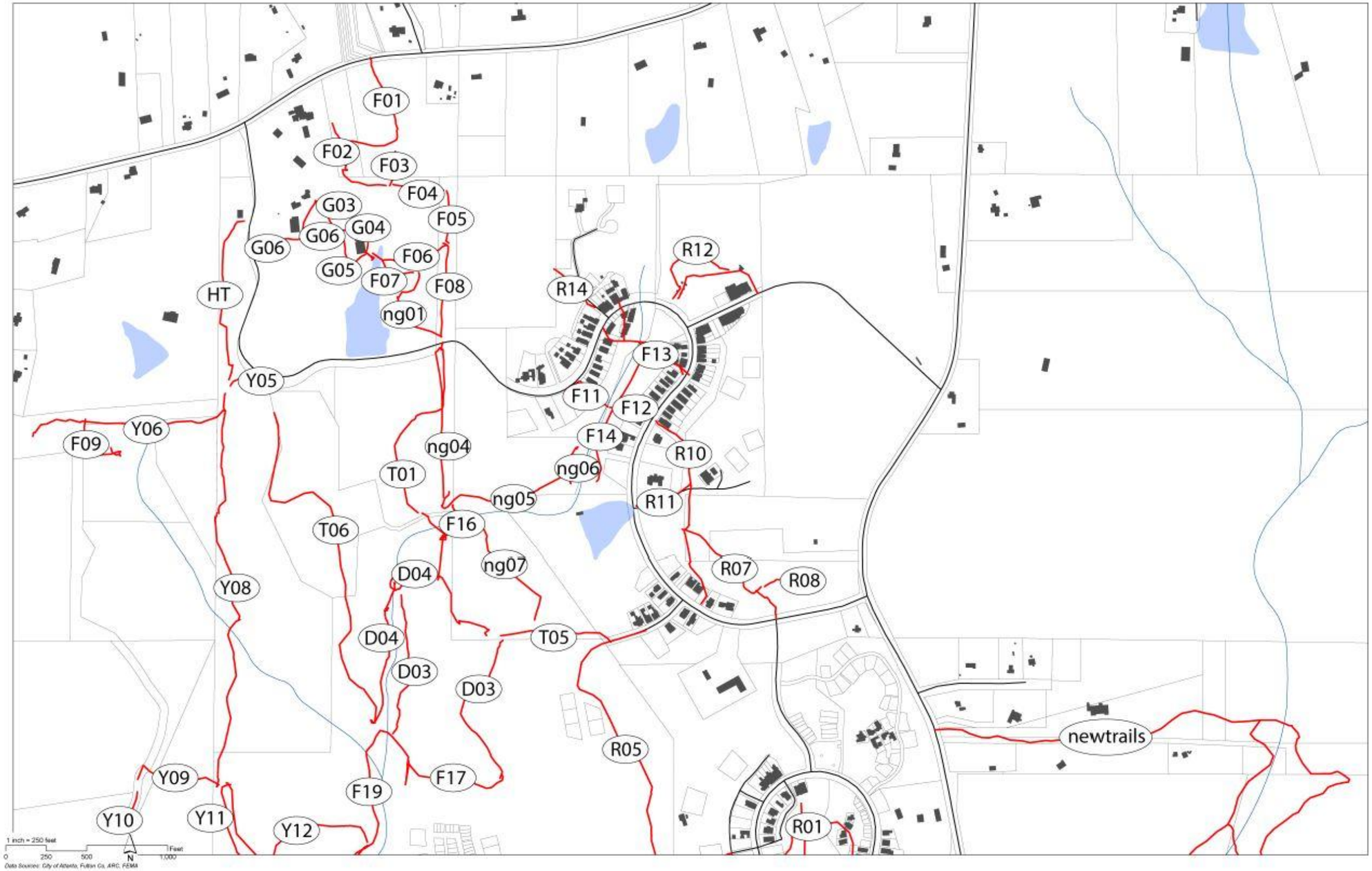


Legend

- Existing Trails
- Structures
- Coweta_Tax_Parcels
- Parcels
- Counties
- Waterbodies

Map created from GIS data showing all current existing trails

Serenbe Trails Data Collection North Map



Trail segments split up by letters and numbers indicating proximity and similarity.

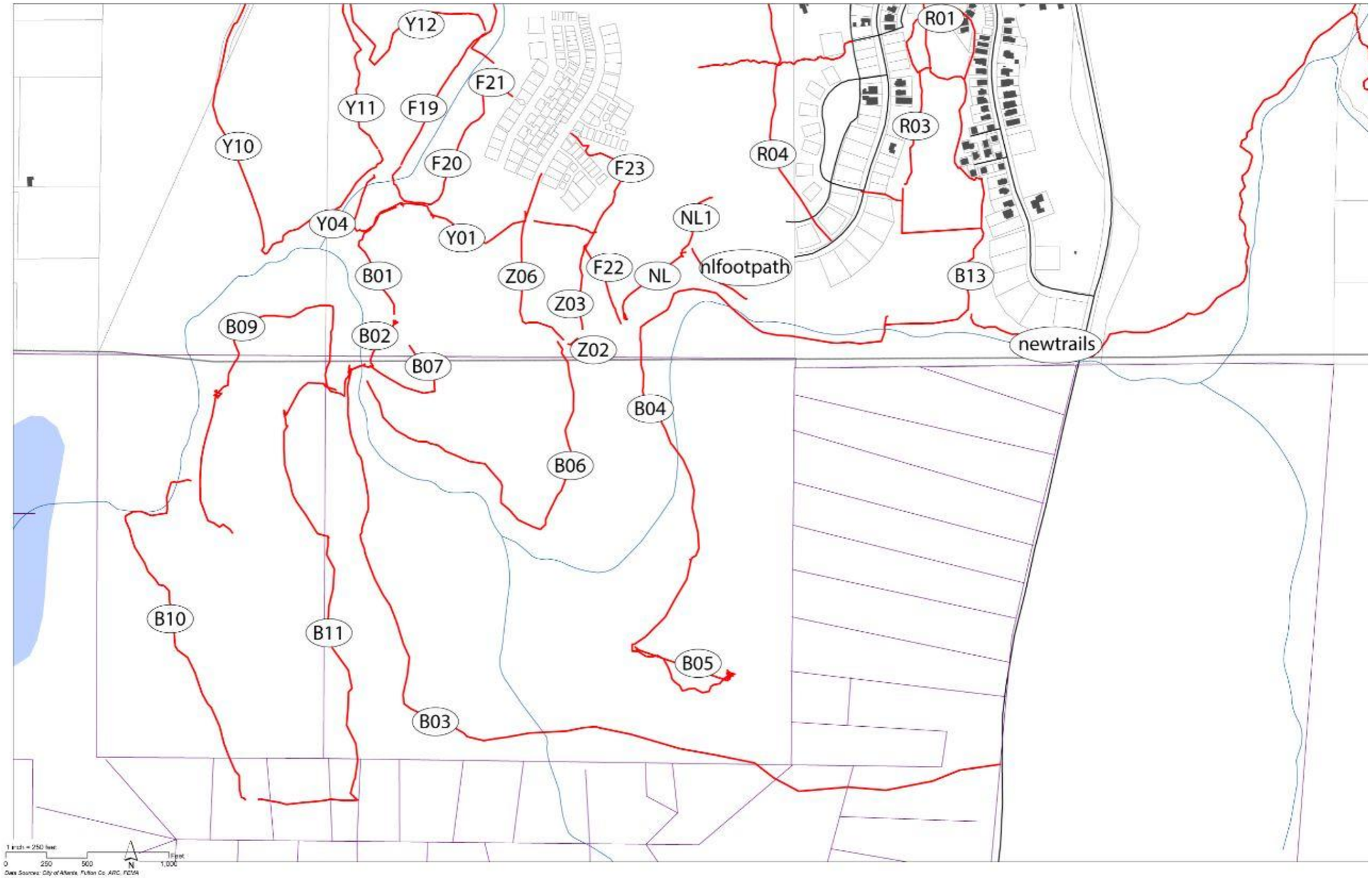
Analysis for North Trails

	Standing Water	Erosion	Tread Type	Tread Type 2	Tread Width (I	Control Points	Natural Hazard	Notes
F1	Puddles, SW	Some erosion	Clay	Road	12			Flat, uneven surface
F11	No SW	No erosion	Concrete	Gravel	8			Stairs, Bridge
F12	No SW	No erosion	Gravel	Pinestraw	8			
F13	No SW	No erosion	Concrete	Gravel	4			
F14	Muddy	Not eroded	Gravel	Dirt	5.5			Walking bridge on entrances and trees in the middle of the road,
F16	No SW	Lot's of erosion	Dirt		6			Sliding Rocks
F17	Muddy, no SW	Over 8% slope	Pinestraw		6			Muddy
F18	DEEP mud, SW	Eroded	Mulch	Rocks	9	Retention pond		Impossible to walk through
F19	Muddy, no SW	Not eroded	Mulch		10			Holds water , horse tracks
F2	No SW	Some erosion	Gravel	Mulch	6	Animal pens		Path w/ Animals
F23	No SW	No erosion	Concrete		4.5			Edible Landscape in Mado
F3	No SW	No erosion	Yellow Brick		3	Yellow brick road		
F4	No SW	Some erosion	Dirt	Grass	10			Path w/ Animals , Steep
F5	No SW	No erosion	Pinestraw		6			
F6	No SW	No erosion	Pinestraw		6	Yoga field		Steep, needs stairs for mobility
F7	No SW	Line of soil eroding	Dirt	Roots	5			
F8	No SW	No erosion	Clay	Road	6			Wet
F9	No SW	Some erosion	Ferns	Grass	6			Rough, Foot Path, Dead end
G1	No SW	No erosion	Road	Gravel	6			Road
G2	No SW	No erosion	Road	Gravel	6			
G3	No SW	No erosion	Grass		3			
G4	No SW	No erosion	Road	Gravel	10			
G5	No SW	No erosion	Mulch		5	Titanic set		
G6	No SW	No erosion	Gravel		7			Road
HT	Muddy, SW	Very eroded, holes	Dirt		2		Horse excrement	Flat
HT2	Very muddy, SW	Minimal erosion	Dirt		4			
R1	No SW	No erosion	Gravel	Dirt	4			
R10	No SW	No erosion	Pinestraw		5	Bridge		Stairs and Bridge
R11	No SW	No erosion	Gravel	Road	10			Cannot finish bc of construction
R12	No SW	No erosion	Pinestraw		7			
R14	No SW	No erosion	Road	Dirt	8			Ends with construction and private property
R4	Muddy	SW present	Dirt	Leaves	6			End of R4 is stables
R5	No SW	No erosion	Dirt	Mud	7			
R6	No SW	No erosion	Pinestraw		6			
R7	No SW	No erosion	Leaves	Debris	5			
R8	No SW	No erosion	Leaves	Pinestraw	5	Event field		
T1	Significant SW	Swale created, Severe fault line trail	Dirt	Pinestraw	7			
T2	Some SW	No erosion, huge dips	Dirt		3			
T5	Significant SW	Erosion present	Mulch		8			Slopes out on both sides
T6	Giant puddles	Erosion on sides	Clay	Gravel	8			WET
Y1	Puddles, lot of standing water	Very muddy	Dirt	Clay	6			
Y10	Giant puddle	Mostly flat	Gravel	Vegetation	8	Waterfall		Sharp turn, built on watershed, Remove part on private property
Y13	Some SW	Some erosion	Mulch		9	Bridge		Bridge
Y4	Giant Puddle	Water erosion, some low erosion	Vegetation	Dirt	5	Exposed granite	Lots of roots	Some side slope present, mostly by river
Y5	Some SW	Some erosion	Dirt	Clay	3			
Y6	No SW	Not much erosion	Dirt	Clay	3			
Y7	SW presence	Giant mudholes	Dirt	Clay	4			Rough, Huge mud hole, horse track, Exposed roots
Y8	Small puddles	Eroded Hill	Dirt	Clay	4	Sleepy hollow set		Steep and Eroded in places
Y9	No SW	No erosion	Dirt	Vegetation	6			Vegetation grown up
D1	No SW	Slight erosion	Dirt	Pinestraw	5	Folly		Connection from labrynth to folly
D2	No SW	No erosion	Dirt		5			Connects to sliding rocks
D3	No SW	No erosion	Dirt	Grass	8	Pool		Goes from open field to pool contruction
D4	No SW	No erosion	Dirt		4			Flat
D5	Lots of SW	No erosion	Dirt		4			In floodplain
D6	Lots of SW	No erosion	Dirt		4			IN floodplain

Trail segments were connected to a data spreadsheet.

Trails were found in two main conditions: either built directly on the watershed, where it is flat and water cannot drain, or as a fault line trail, meaning the trail was built over a 10% slope and running perpendicular to the topography lines. A sustainable trail would be built parallel to the land formation, at an average of 8% slope or under, and out of the watershed.

Serenbe Trails Data Collection South Map

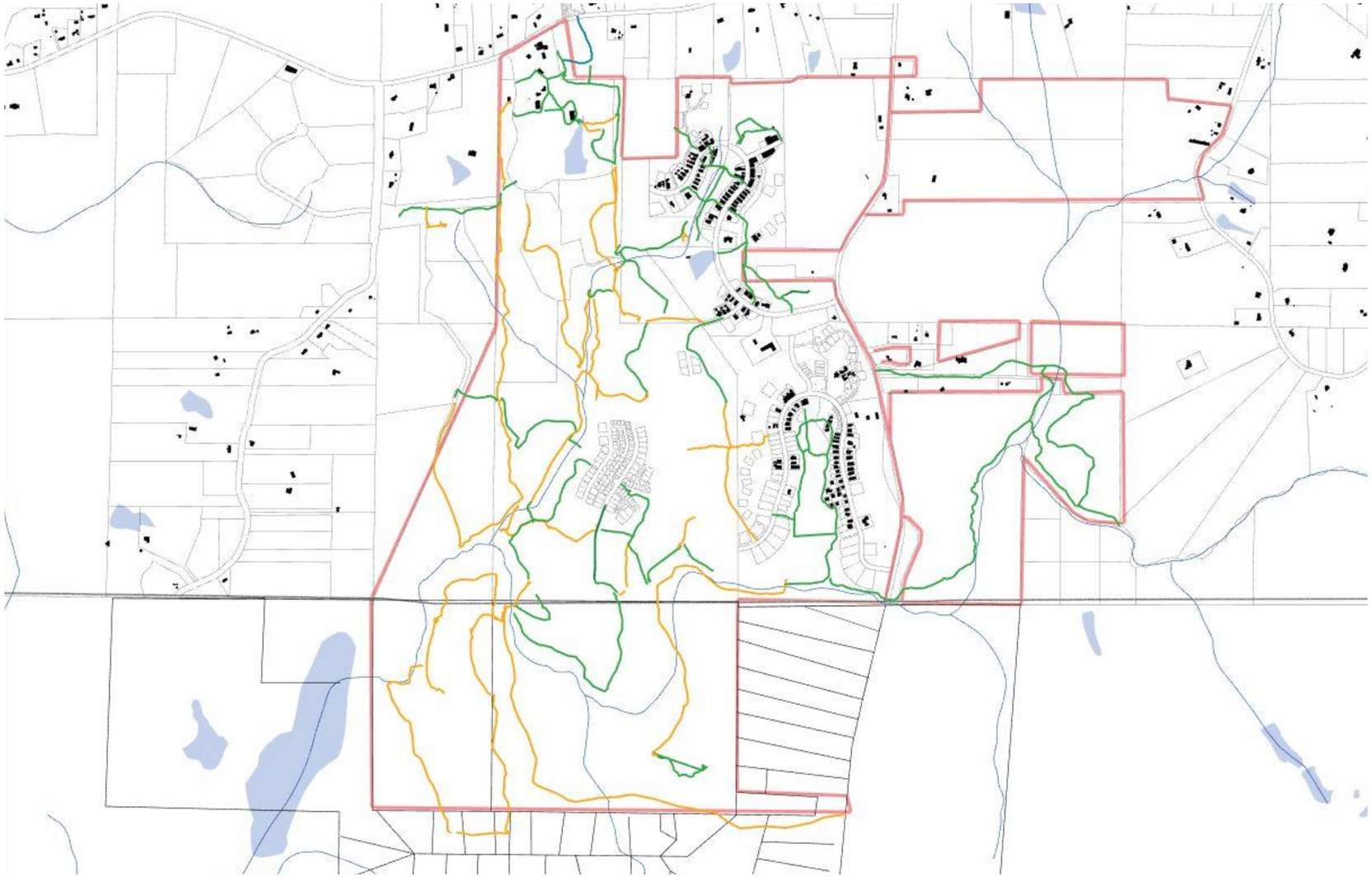


The spreadsheet has been connected to ArcGIS to create editable layers hat can be edited based on current conditions.

Analysis for South Trails

A	B	C	D	E	F	G	H	I	J	K	L
Y1	Puddles, lot of standing water	Very muddy	Dirt	Clay	6						
Y10	Giant puddle	Mostly flat	Gravel	Vegetation	8	Waterfall		Sharp turn, built on watershed, Remove part on private property			
Y11	Some SW	Some erosion	Dirt	Tree Roots	5	Granite outcrop		Zig-Zag, bad, rough			
Y12	No SW	No erosion	Mulch		6	Mado sculpture art					
Y13	Some SW	Some erosion	Mulch		9	Bridge		Bridge			
Y4	Giant Puddle	Water erosion, some low erosion	Vegetation	Dirt	5	Exposed granite	Lots of roots	Some side slope present, mostly by river			
F19	Muddy, no SW	Not eroded	Mulch		10			Holds water , horse tracks			
F20	Less muddy	Minimal erosion	Mulch	Rocks	6						
F21	No SW	No erosion	Mulch		8						
F22	No SW	No erosion	Dirt		5			Flat, in floodplain			
F23	No SW	No erosion	Concrete		4.5			Edible Landscape in Mado			
B1	No SW	No erosion	Dirt	Poison Ivy	5		Slope 8%				
B10	SW at switchback	Really muddy	Muddy	Grass	5.5			Steep in spots, Being built, flood plain, flat areas			
B11	Good drainage overall/drainage i	No erosion, MUDDY	Leaves	Pinestraw	5.5	Fern "forest", intersection point		Not completely done, fault line trail			
B13	SW	No erosion	Dirt		5			Floodplain			
B2	Some SW in dips	Slopes of trails eroded mechanically	Dirt	Leaves	3			Trails cut by gate			
B3	Muddy, all switchbacks have dra	Some erosion	Dirt	Clay	5	Fern "forest", intersecti	Rocky, steep	Collection of water at switchback, fault line trail			
B4	Giant Puddle, lot of area flooded	Severe erosion on fault line	Clay	Rubble	6	Wetland	Steep	Fault line trail, really rough, Built directly on flood plain - Behind Peter Pan			
B5	No SW	Minimal erosion	Dirt	Pinestraw	2	Ruins	Steep	Steep, but not fault line trail			
B6	Muddy, No SW	No erosion	Leaf Debris	Vegetation	5.5			Tree Lined, Pretty, A little grown up, in watershed, too close to creek?			
B7	Muddy, No SW	Minimal erosion	Leaf Debris	Dirt	5.5			Entire trail in water			
B9	More logs, no SW, muddy	Giant dips, eroded	Muddy		5.5			Not finished, dead ends, not a real trail			
Z1	No SW	No erosion	Leaf Debris		5			Rough			
Z2	No SW, muddy	Low point erosion	Leaf Debris		4			Rough			
Z3	Logs keep water on trail, no sw	No erosion	Vegetation		4			Rough, Not clear, Needs help			
Z5	No SW	No ersoion	Leaf Debris	Vegetation	5.5			Construction rd.			
Z6	No SW	No erosion	Asphault		10			Road			
NL	No SW	No erosion	Mulch		6			Floodplain			
NL1	Logs keep water on trail	Flat, soil buildup	Dirt		6						
NLfootpath	Muddy, No SW	Minimal erosion	Dirt		2						
R1	No SW	No erosion	Gravel	Dirt	4						
R2	No SW	No erosion	Bridge		4			Bridge only			
R3	No SW	No erosion	Gravel		4			Beautiful lake views, side path			
R4	Muddy	SW present	Dirt	Leaves	6			End of R4 is stables			

Trail Condition Assessment

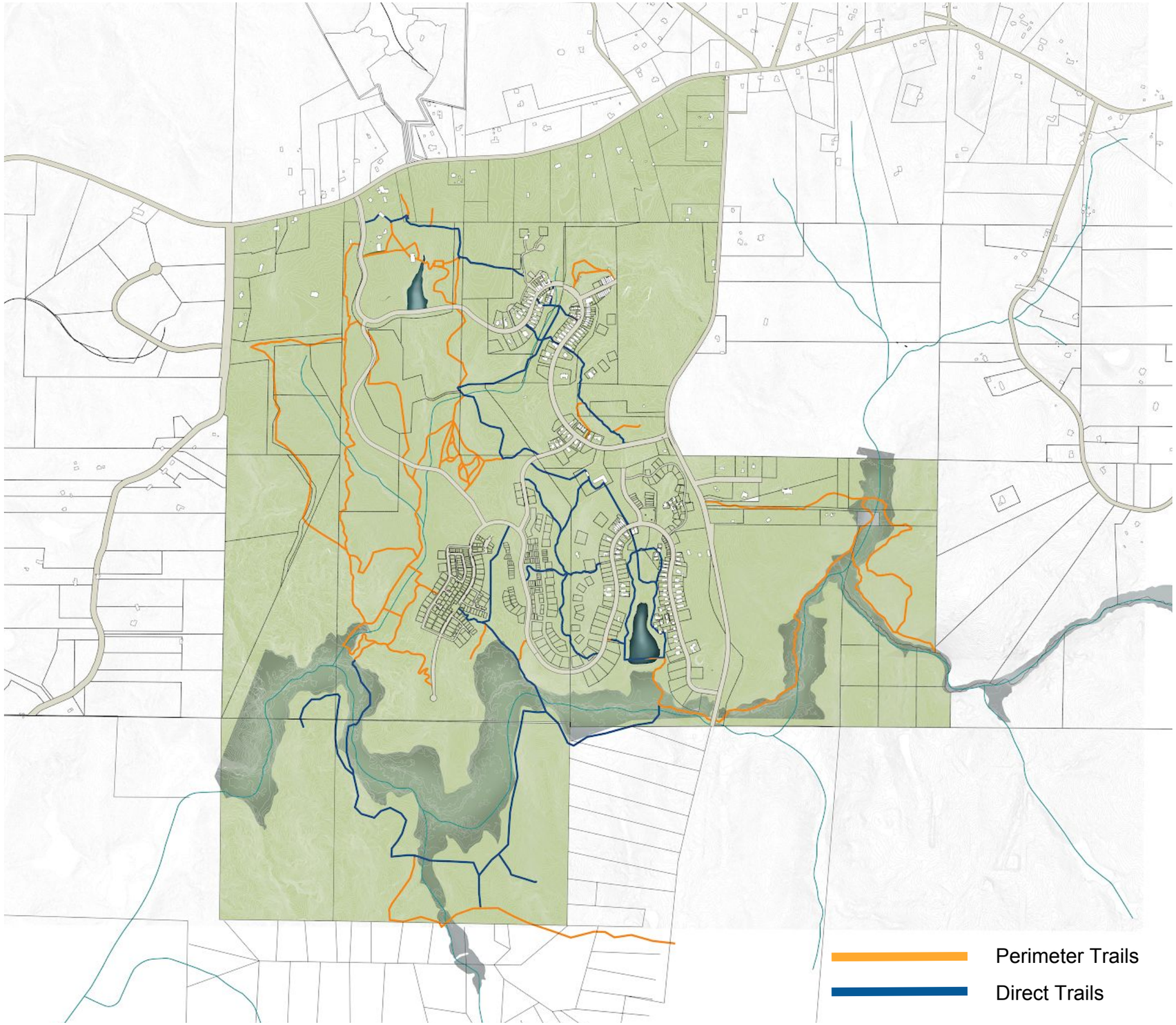


Legend

- Good Trail
- Trail Needs Improvement
- Structures
- Coweta_Tax_Parcels
- Parcels
- Counties
- Waterbodies

Master Plan

Illustrative Master Plan



New Trail System

Comparison of Old Trails vs. New Trails

Old Trail Map

New Trail Map

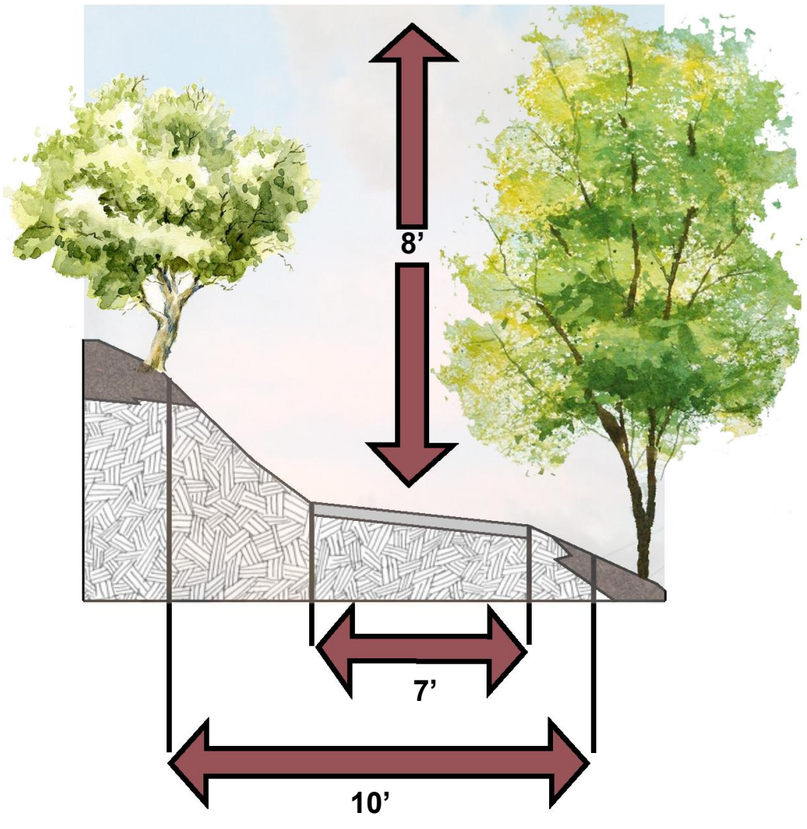
Trail Hierarchy and Tread Type

ADA Accessible Trail
Concrete

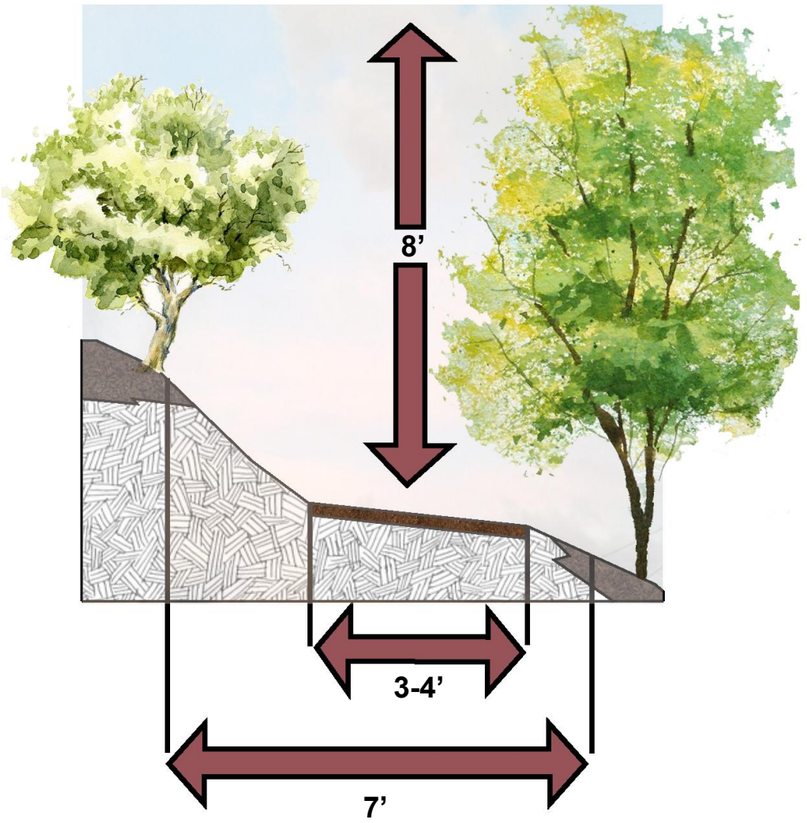
Perimeter Trail
Exposed Mineral Soil

Direct Access Trail
Crushed Granite

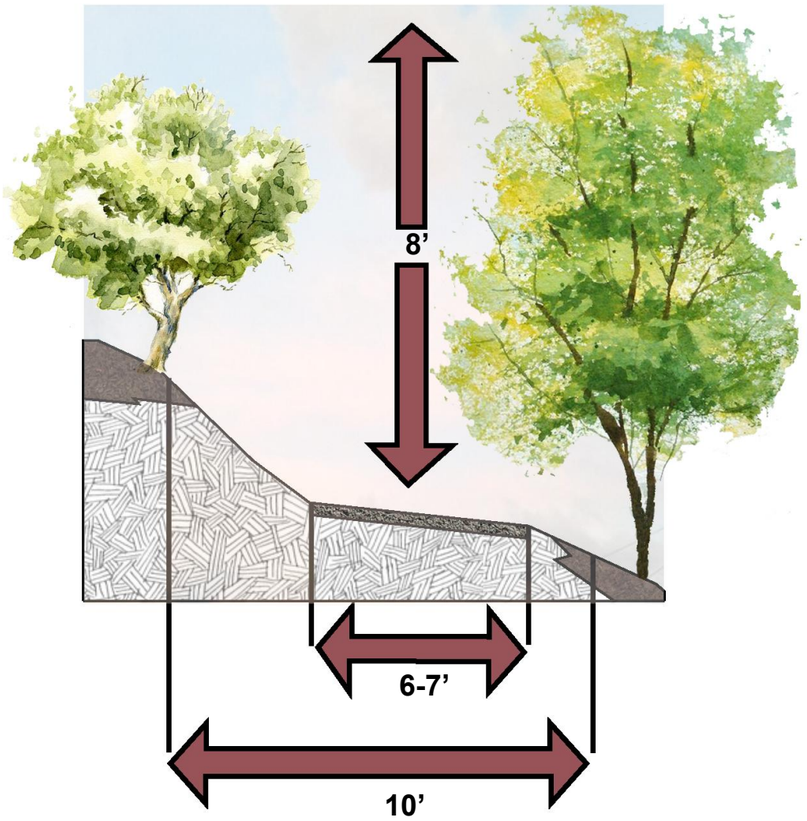
Trail Tread Types



Concrete Trail

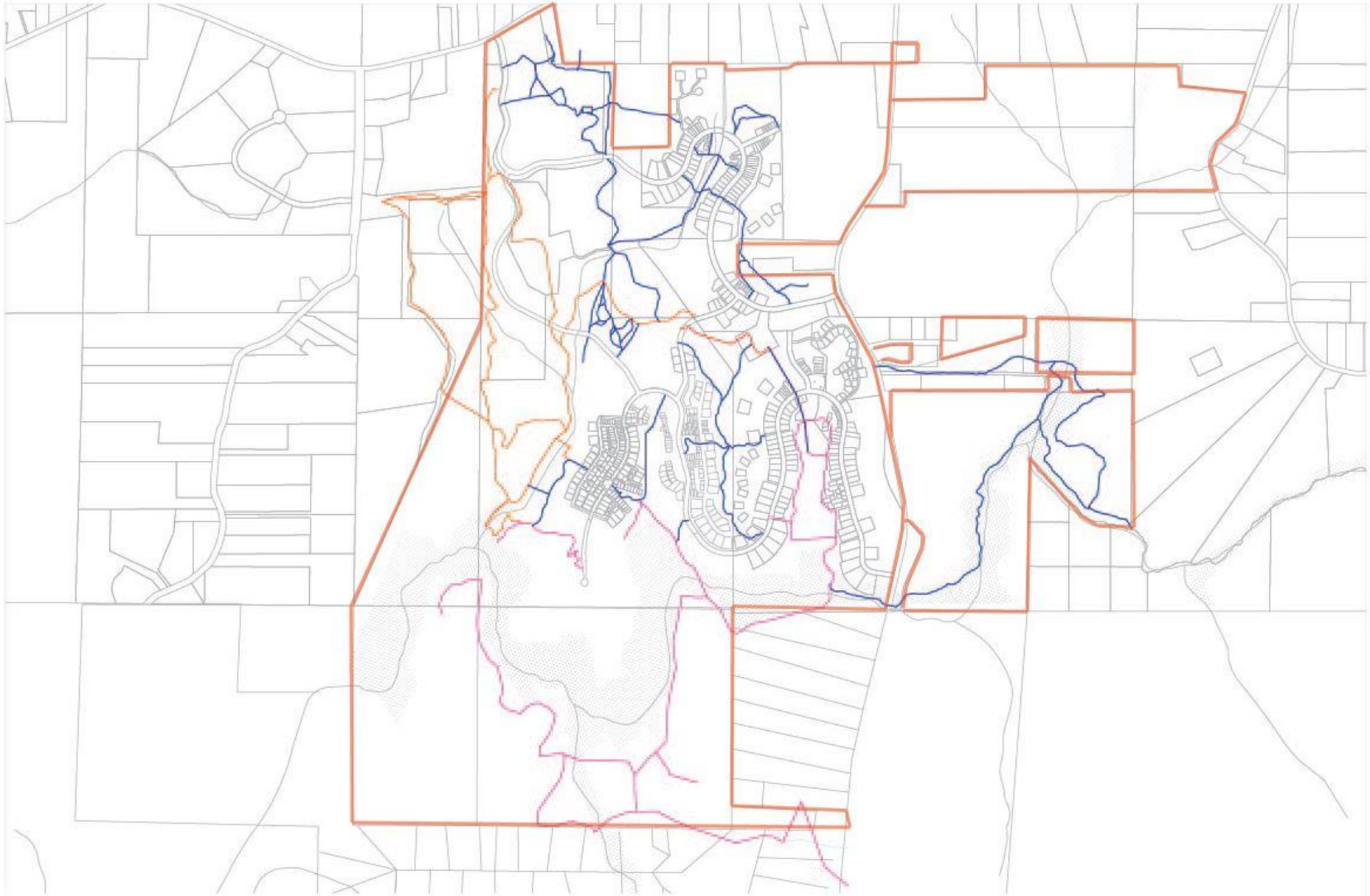


Mineral Soil Trail



Crushed Granite Trail

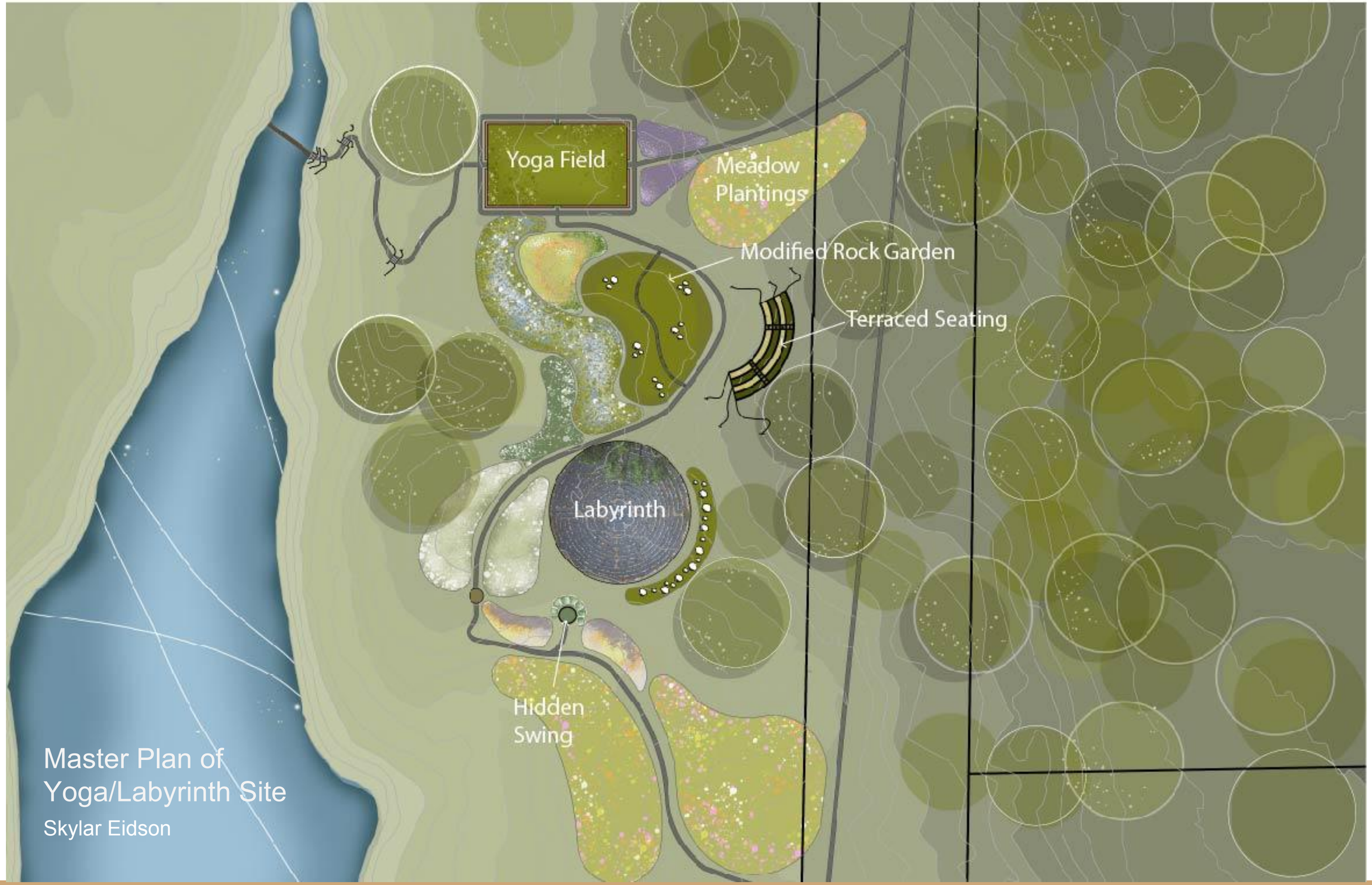
Trail User Types



Site Specific Design

Highlighted Site Specific Areas

Tranquility Trail



Master Plan of Yoga/Labyrinth Site

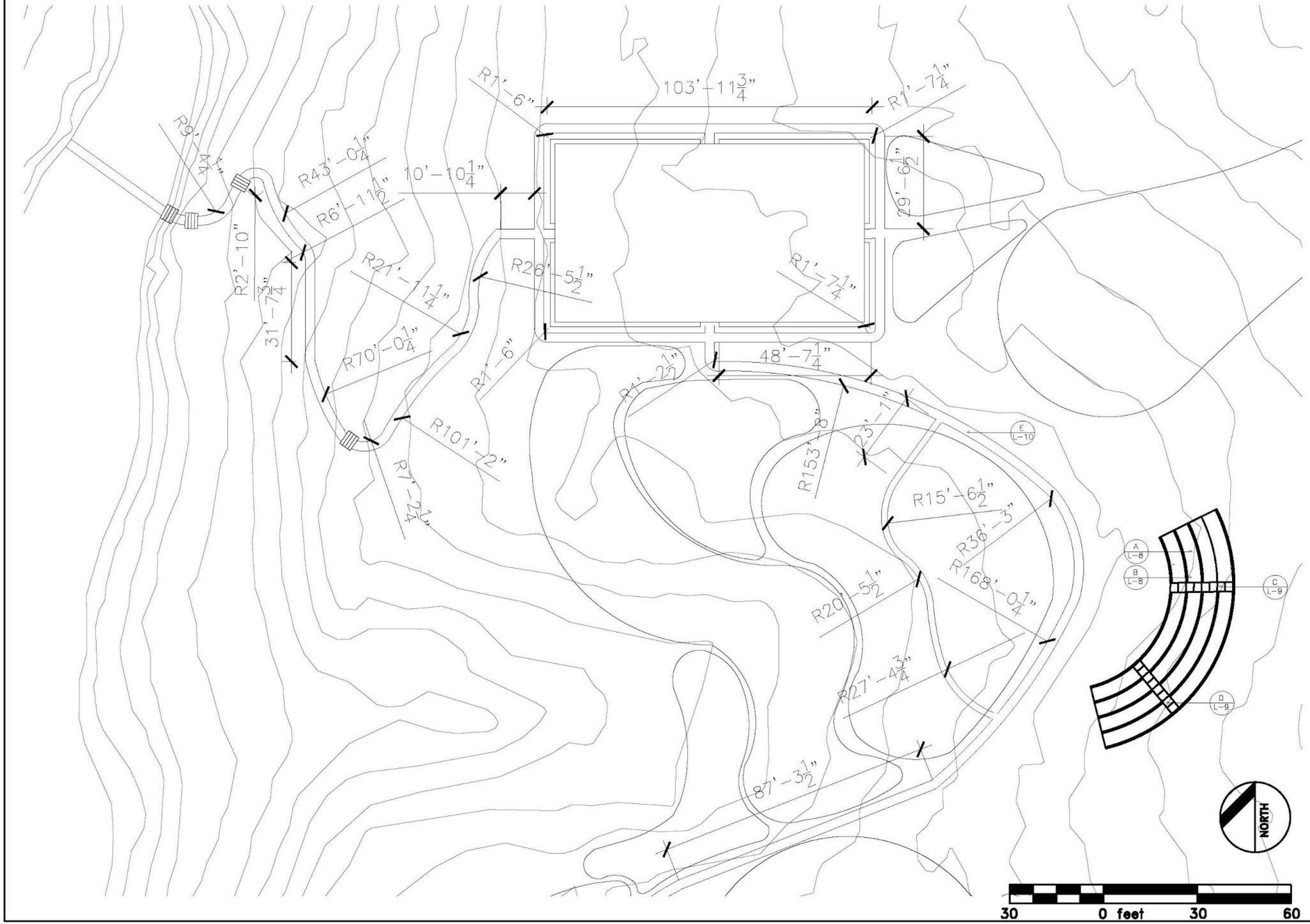
Skylar Eidson

Modified Rock Garden

Hidden Swing

Section of Terraced Seating

Site Specific Construction Documents



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SERENBE SITE SPECIFIC

SKYLAR EIDSON

DRAWN: SE
DATE: 07/26/18
SCALE:

SHEET TITLE:
LAYOUT PLAN

SHEET NUMBER:
L-1

87'-3½"

R89'-10½"

R13'-1½"

R2'-8"

R179'-4"

R23'-3¾"

R54'-5¼"

41'-2½"

R147'-10½"

NORTH

30 0 feet 30 60

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SKYLAR EIDSON

SERENBE SITE SPECIFIC

DRAWN: SE
DATE: 07/26/18
SCALE:

SHEET TITLE:
LAYOUT PLAN

SHEET NUMBER:
L-1.5

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SKYLAR EIDSON

SERENBE SITE SPECIFIC

DRAWN: SE
DATE: 07/26/18
SCALE:

SHEET TITLE:
GRADING PLAN

SHEET NUMBER:
L-2

Winter Jasmine

Aphrodite Plantain Lily

Little Zebra Dwarf Japanese Silver Grass

Vision in White Astilbe

Mondo Grass

Oakleaf Hydrangea

White Cloud Muhly Grass

Annabelle Hydrangea

Autumn Fern

Common Bugle

Northern Sea Oats

Purple Switchgrass

Liriope

Citronelle Coral Bells

Brandywine Lenten Rose

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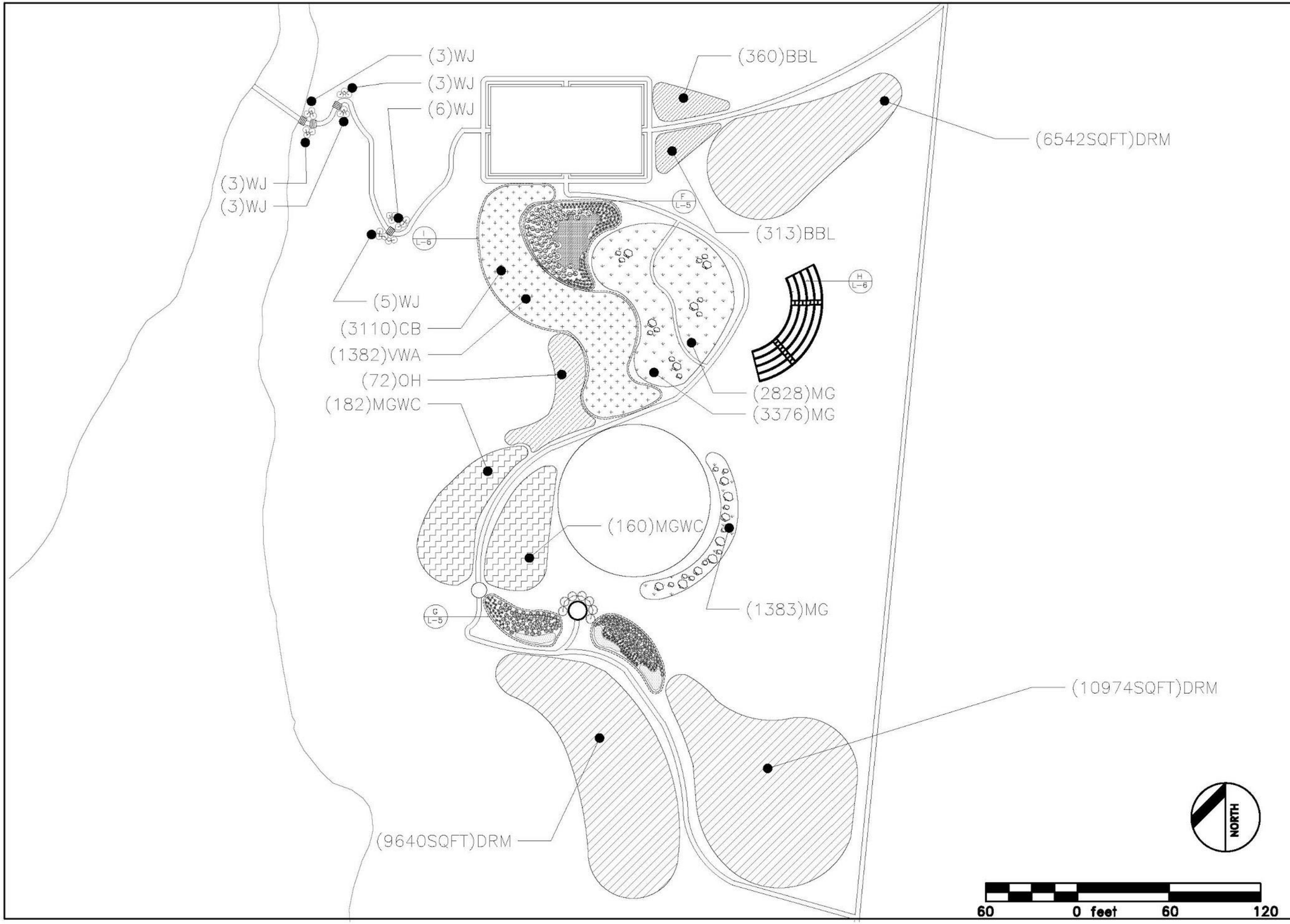
SKYLAR EIDSON

SERENBE SITE SPECIFIC

DRAWN: SE
DATE: 07/26/18
SCALE:

SHEET TITLE:
PLANTING PLAN

SHEET NUMBER:
L–3



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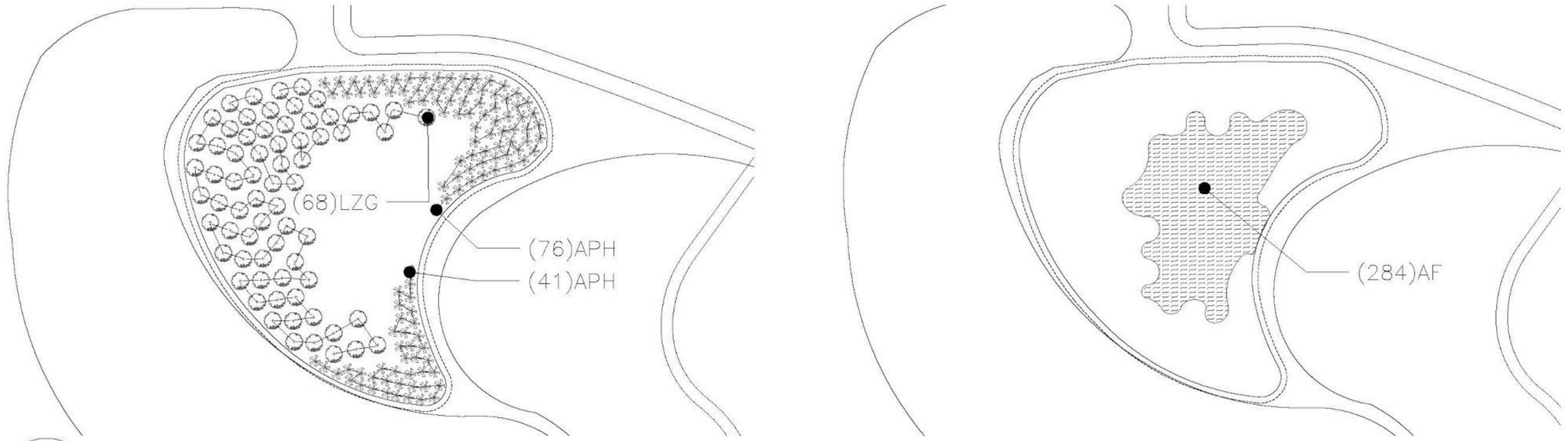
SKYLAR EIDSON

SERENBE SITE SPECIFIC

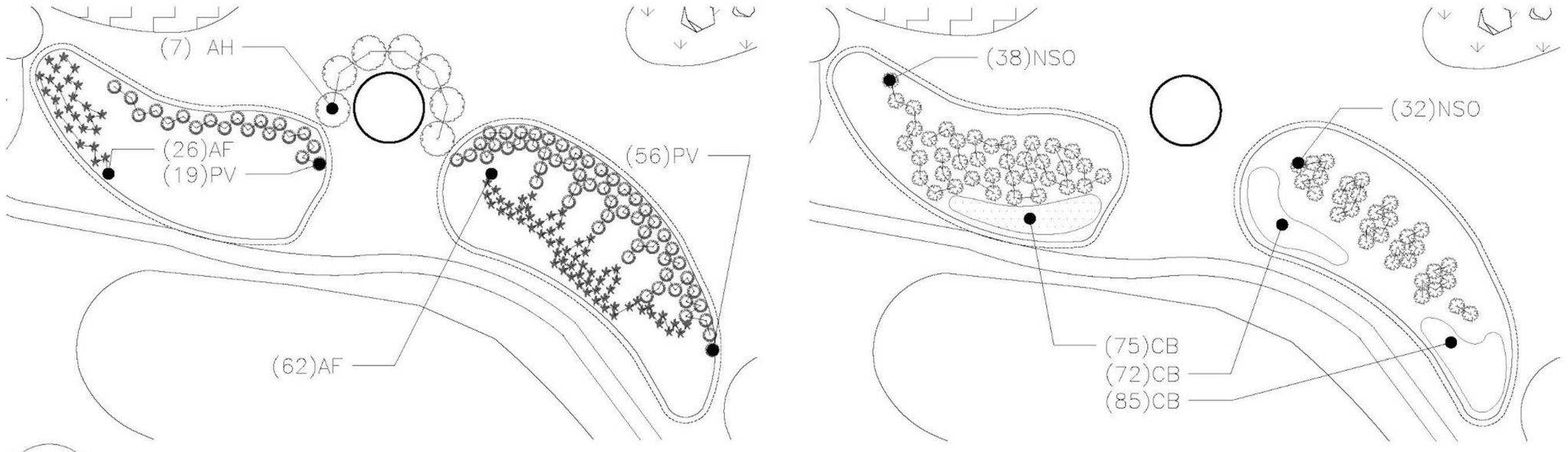
DRAWN: SE
DATE: 07/26/18
SCALE:

SHEET TITLE:
PLANTING PLAN

SHEET NUMBER:
L-4



F / L-5 PLANTING BED A
SCALE 1"=20'



G / L-5 PLANTING BED B
SCALE 1"=20'

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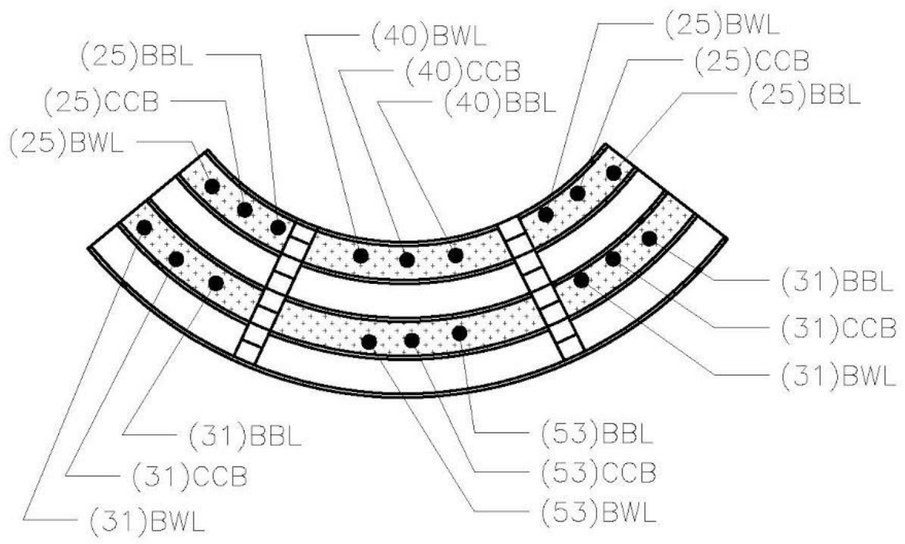
SERENBE SITE SPECIFIC

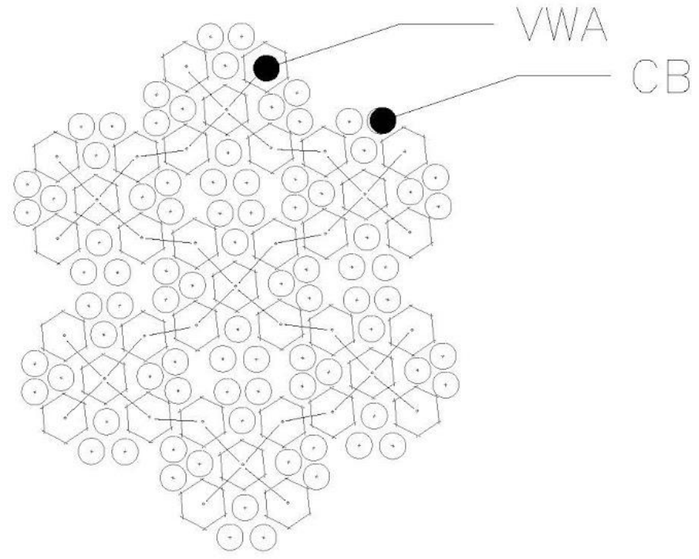
DRAWN: SE
DATE: 07/26/18
SCALE:

SHEET TITLE:
PLANTING PLAN

SHEET NUMBER:
L-5



H / L-6 TERRACE PLANTING PLAN
SCALE 1"=20'



I / L-6 AJUGA & ASTILBE BED LAYOUT
NTS

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SERENBE SITE SPECIFIC

DRAWN: SE
DATE: 07/26/18
SCALE:

SHEET TITLE:
PLANTING PLAN

SHEET NUMBER:
L-6

PLANT SCHEDULE

Ground Cover

Amount	Code	Scientific Name	Common Name
7587	MG	Ophiopogon japonicus	Mondo Grass
3342	CB	Ajuga reptans	Common Bugle
1382	VWA	Astilbe chinensis 'Vision in White'	Vision in White Astilbe
878	BBL	Liriope muscari 'Big Blue'	Big Blue Lily Turf

Grasses

Amount	Code	Scientific Name	Common Name
342	MGWC	Muhlenbergia capillaris White Cloud	White Cloud Muhly Grass
75	PV	Panicum virgatum 'Purple Tears'	Purple Tears Switchgrass
70	NSO	Chasmanthium latifolium	Northern Sea Oats
68	LZG	Miscanthus sinensis 'Little Zebra'	

Shrubs

Amount	Code	Scientific Name	Common Name
7	AH	Hydrangea arborecens 'Annabelle'	Annabelle Hydrangea
23	WJ	Jasminum nudiflorum	Winter Jasmine
72	OH	Hydrangea quercifolia	Oakleaf Hydrangea

Perennials

Amount	Code	Scientific Name	Common Name
117	APH	Hosta plantaginea 'Aphrodite'	Aphrodite Plantain Lily
205	CCB	Heuchera villosa 'citronelle'	Citronelle Coral Bells
205	BWL	Helleborus orientalis 'Brandywine series	Brandywine Leneten Rose

Groundcover Mixes

Sq.Ft.	Code	Mix Name	
27156	DRM	Deer Resistant Medow Mix *	

NOTE:
Deer Resistant Wildflower Mix to be from Ernst Seed Supply and to be installed as per manufacturer's specifications.

Seed Mix Contents:
64.9% Schizachyrium scoparium, Albany Pine Bush–NY Ecotype (Little Bluestem, Albany Pine Bush–NY Ecotype)
12.0% Elymus riparius, PA Ecotype (Riverbank Wildrye, PA Ecotype)
3.7% Echinacea purpurea (Purple Coneflower)
3.0% Chamaecrista fasciculata, PA Ecotype (Partridge Pea, PA Ecotype)
3.0% Rudbeckia hirta, Coastal Plain NC Ecotype (Blackeyed Susan, Coastal Plain NC Ecotype)
2.5% Coreopsis lanceolata (Lanceleaf Coreopsis)
2.0% Asclepias tuberosa (Butterfly Milkweed)
2.0% Aster oblongifolius, PA Ecotype (Aromatic Aster, PA Ecotype)
2.0% Liatris spicata (Marsh (Dense) Blazing Star (Spiked Gayfeather))
2.0% Penstemon digitalis, PA Ecotype (Tall White Beardtongue, PA Ecotype)
0.5% Rudbeckia fulgida var. fulgida, Northern VA Ecotype (Orange Coneflower, Northern VA Ecotype)
0.5% Senna hebecarpa, VA & WV Ecotype (Wild Senna, VA & WV Ecotype)
0.5% Tradescantia ohiensis, PA Ecotype (Ohio Spiderwort, PA Ecotype)
0.4% Monarda fistulosa, Fort Indiantown Gap–PA Ecotype (Wild Bergamot, Fort Indiantown Gap–PA Ecotype)
0.3% Pycnanthemum tenuifolium (Narrowleaf Mountainmint)
0.2% Solidago bicolor, PA Ecotype (White (Silver Rod) Goldenrod, PA Ecotype)
0.2% Solidago juncea, PA Ecotype (Early Goldenrod, PA Ecotype)
0.2% Solidago nemoralis, PA Ecotype (Gray Goldenrod, PA Ecotype)
0.1% Penstemon hirsutus (Hairy Beardtongue)

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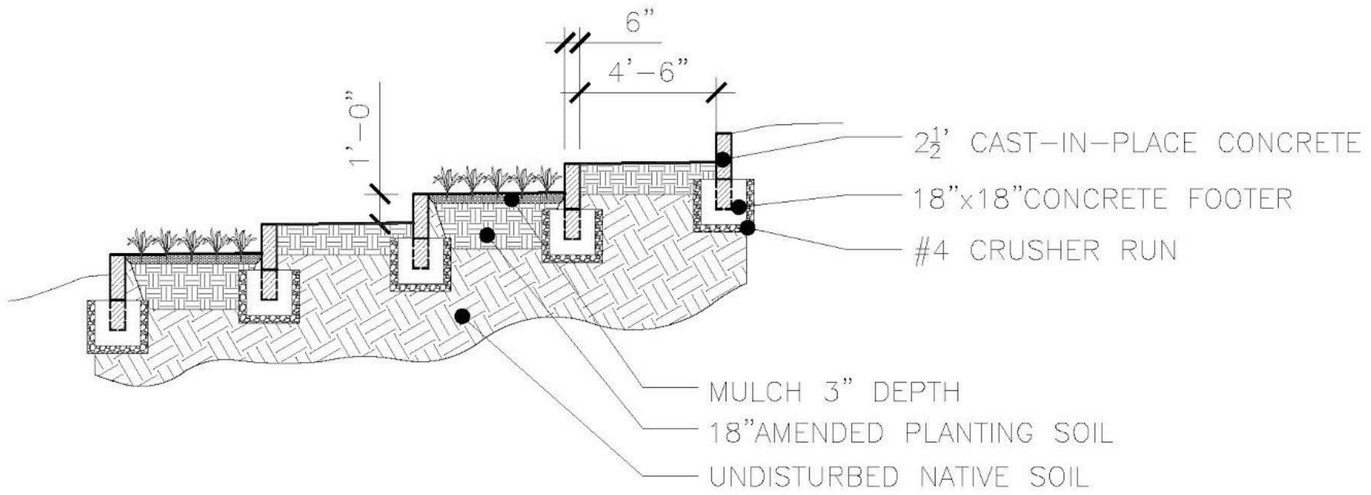
SERENBE SITE SPECIFIC

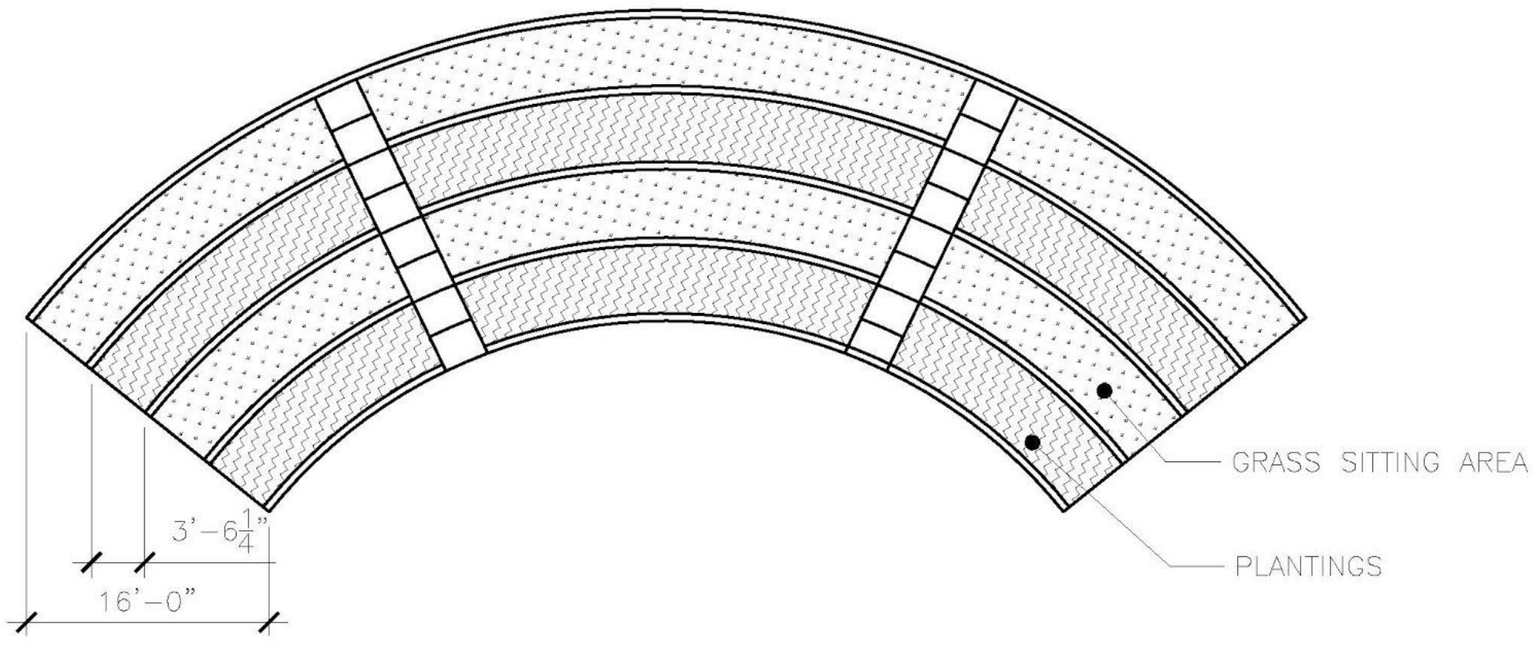
DRAWN: SE
DATE: 07/26/18
SCALE:

SHEET TITLE:
PLANTING SCHEDULE

SHEET NUMBER:
L–7



A / L-8 TERRACED SEATING SECTION CUT
SCALE 1"=5'



B / L-8 TERRACED SEATING PLAN VIEW
SCALE 1"=10'

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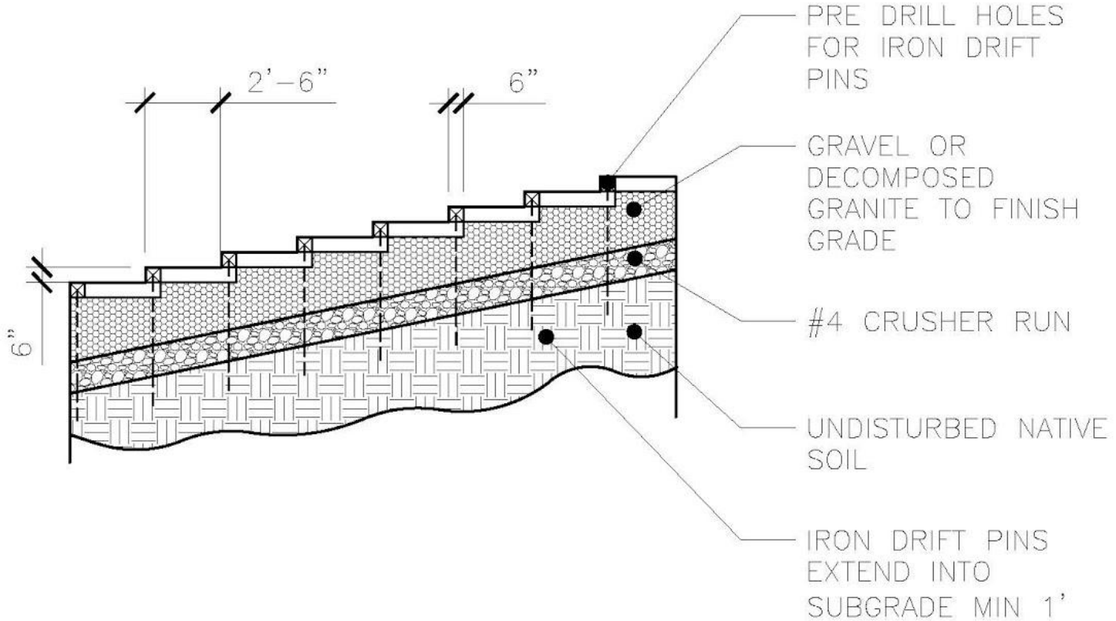
SKYLAR EIDSON

SERENBE SITE SPECIFIC

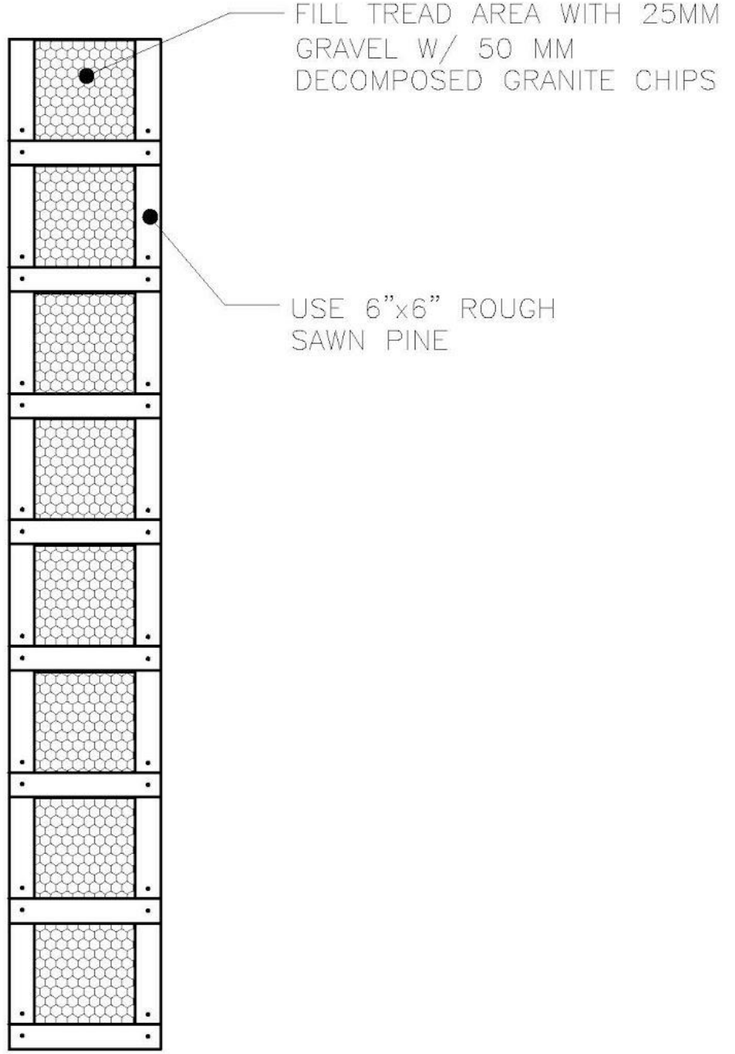
DRAWN: SE
DATE: 07/26/18
SCALE:

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
L-8



C / L-9 TERRACED STAIRS SECTION CUT
SCALE 1"=5'



D / L-9 TERRACED STAIRS PLAN VIEW
SCALE 1"=3'

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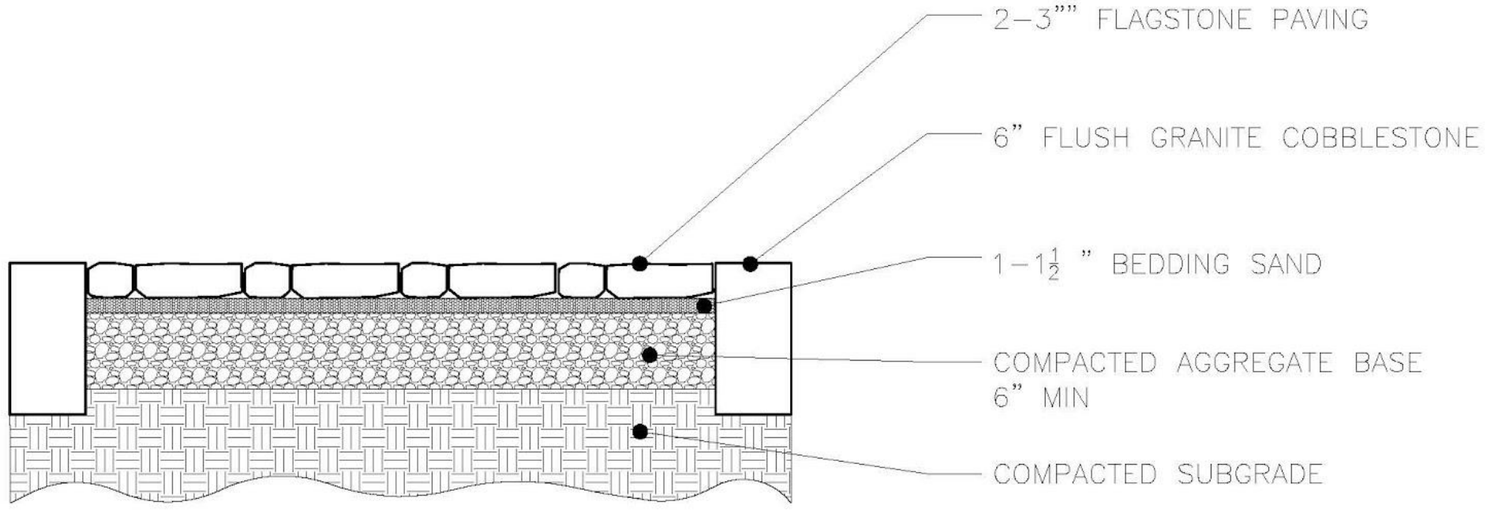
SERENBE SITE SPECIFIC

DRAWN: SE
DATE: 07/26/18
SCALE:

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
L-9



E / L–10 STONE PATH
SCALE 1"=1'

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SERENBE SITE SPECIFIC

DRAWN: SE
DATE: 07/26/18
SCALE:

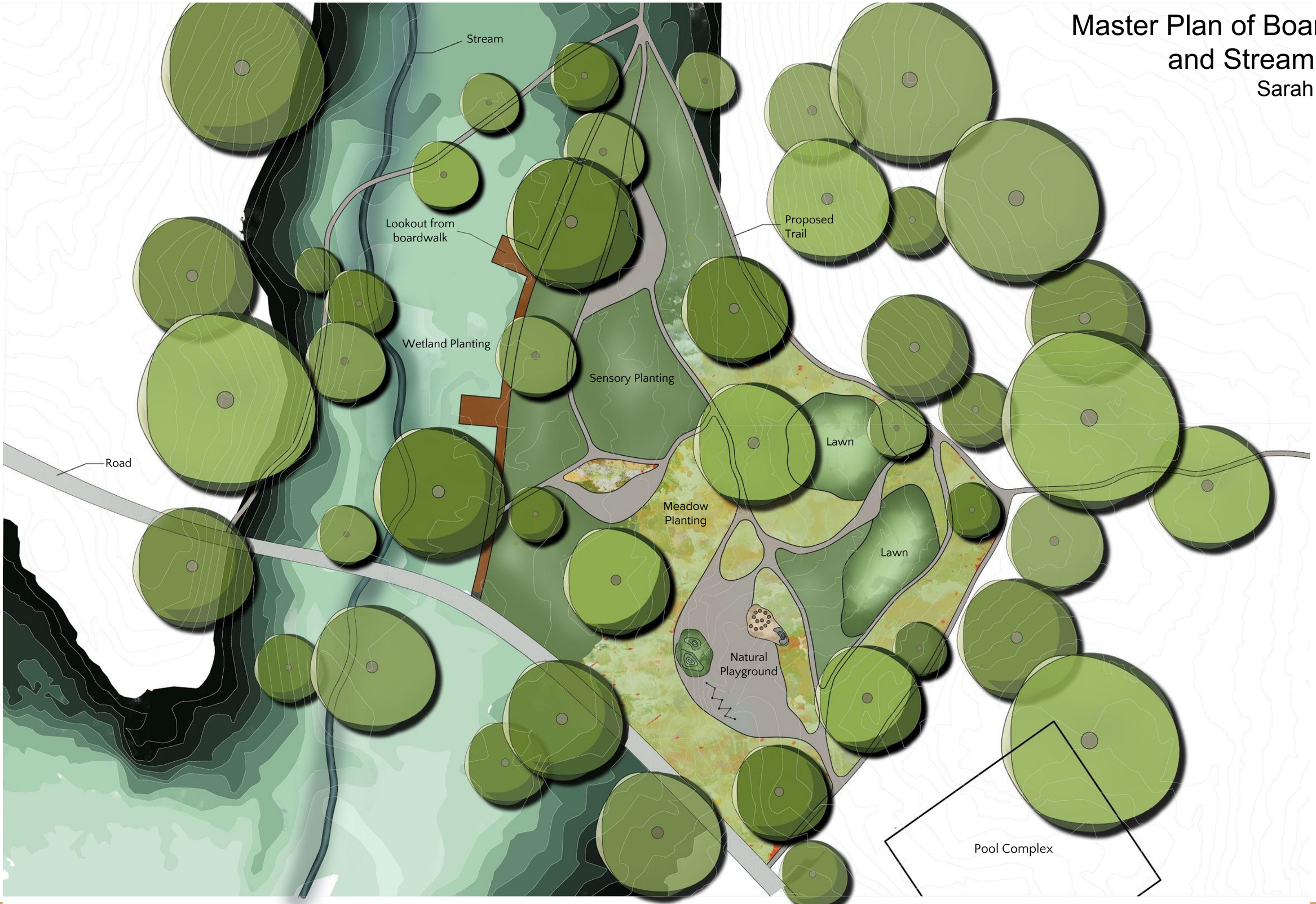
SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
L–10

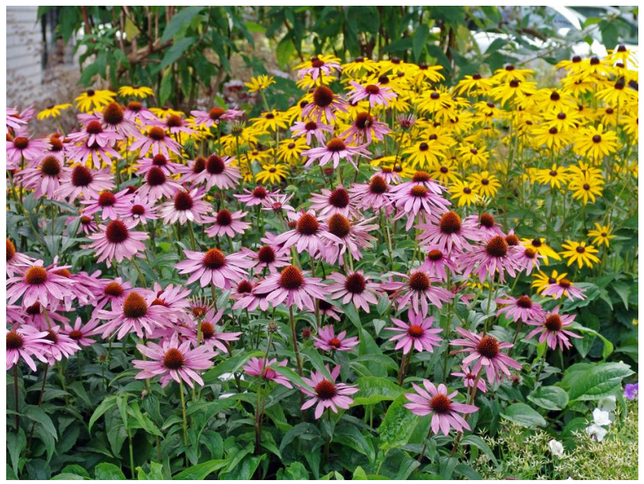
Boardwalk Trail

Master Plan of Boardwalk and Stream Paths

Sarah Franklin



Boardwalk and Walking Trail Experience



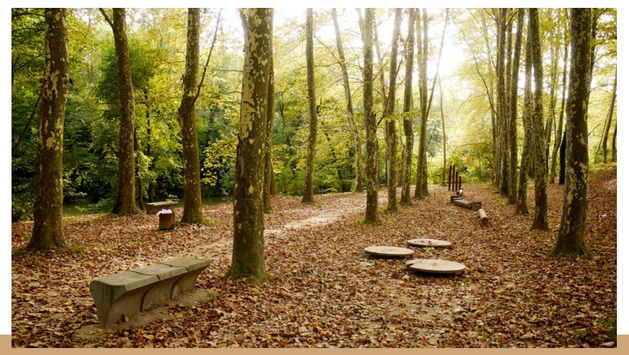
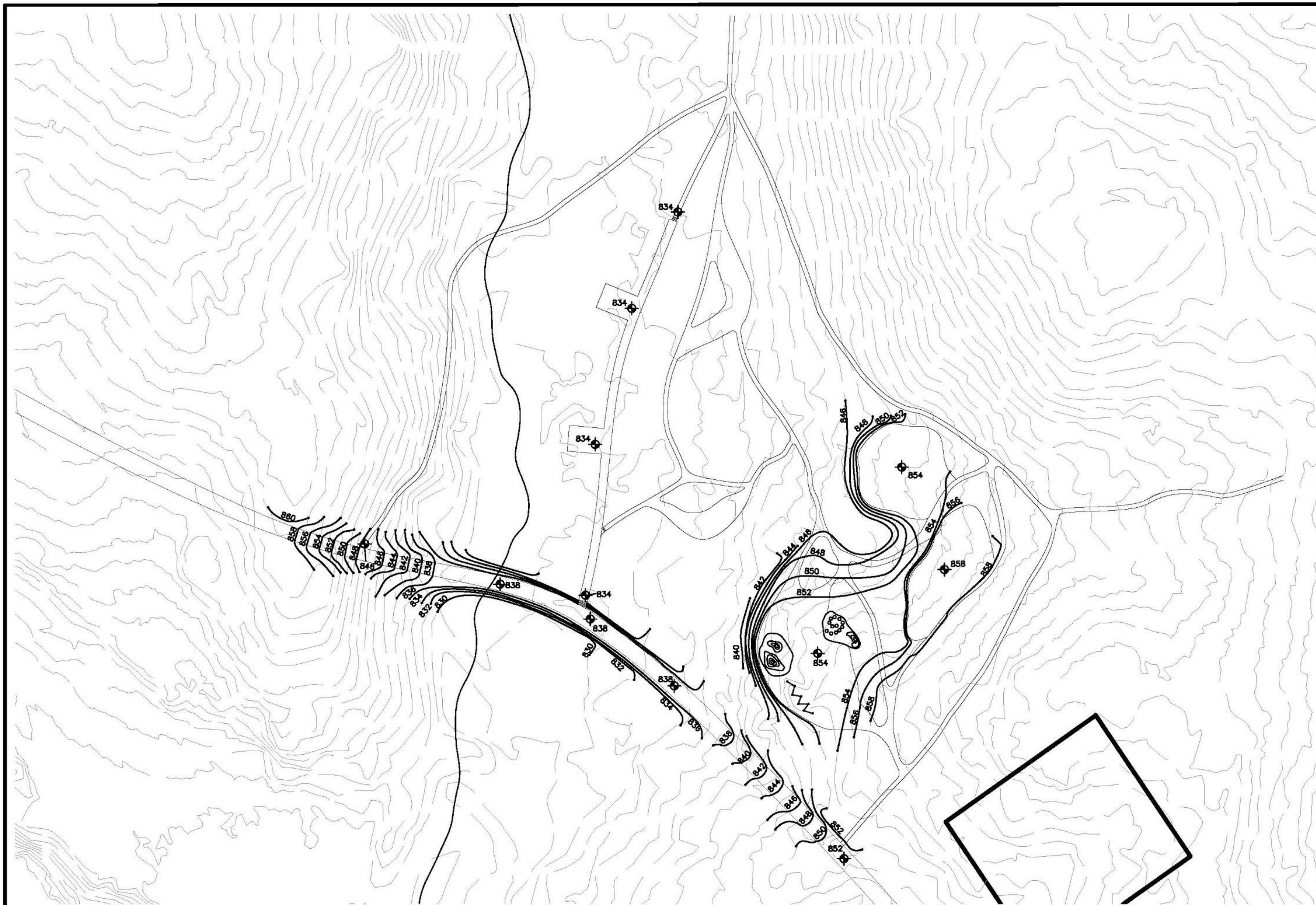


Photo Examples

Site Specific Construction Documents



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SARAH FRANKLIN

SERENBE SITE SPECIFIC

DRAWN: SF
DATE: 07/26/18
SCALE: NTS

SHEET TITLE:

GRADING PLAN

SHEET NUMBER:

L – 1

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SERENBE SITE SPECIFIC

DRAWN: SF
DATE: 07/26/18
SCALE: NTS

SHEET TITLE:

MATERIALS/LAYOUT PLAN

SHEET NUMBER:

L – 2

SHEET NUMBER: L – 3	SHEET TITLE: DIMENSIONS PLAN	DRAWN: SF DATE: 07/26/18 SCALE: NTS	SERENBE SITE SPECIFIC	SARAH FRANKLIN

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Planting Schedule

PLANTING SCHEDULE					
	QTY	**I.D.**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE + CONDITION**
Trees	5	Fp	Green Ash	Fraxinus pennsylvanica	10 gal
	80	Ast	Pawpaw	Asimina triloba	3 gal.
	33	Ar	Red Maple	Acer rubrum	15 gal.
	77	BN	River Birch	Betula Nigra	1" cal.
	52	Mv	Sweet Bay Magnolia	Magnolia virginiana	5 gal.
	10	Po	Sycamore	Platanus occidentalis	10 gal.
	10	Lt	Tulip Poplar	Liriodendron tulipifera	10 gal.
	59	Hv	Witch Hazel	Hamamelis virginiana	5 gal.
	7	Qa	White Oak	Quercus alba	2.5" cal.
Shrubs	659	Bau	False Indigo	Baptisia australis	3 gal.
	75	Vc	Highbush Blueberry	Vaccinium corymbosum	5 gal.
	3,500 sq. ft.	Ca	Silky Dogwood	Cornus amomum	3 gal.
	44	Ra	Sawtooth Blackberry	Rubus argutus	5 gal.
Wetland Mix 1		Ty	Cattails	Typha spp.	Seed
		Ri	Rivercane	Arundo donax	Seed
	Total: 6,475 sq. ft.				
Wetland Fern Mix		Oc	Cinnamon Fern	Osmunda cinnamomea	1 gal.
		Tk	Shield Fern	Thelypteris kunthii	1 gal.
	Total: 30,582 sq. ft.				
Wetland Grass Mix		Av	Broomsedge	Andropogon virginicus	Flat
		Cl	Inland Seaoats	Chasmanthium latifolium	Flat
		Pv	Switchgrass	Panicum virgatum	Flat
	Total: 43,343 sq. ft.				
Meadow Mix 1		Rg	Black Eyed Susan	Rudbeckia goldsturm	Seed
		Ls	Blazing Star	Liatris spicata	Seed
		Sc	Blue Wood Aster	Symphyotrichum cordifolium	Seed
		At	Butterfly Weed	Asclepias tuberosa	Seed
		Ea	Coneflower	Echinacea angustifolia	Seed
		Ga	Gaillardia	Gaillardia x grandiflora	Seed
	Total: 96,696 sq. ft.				
Meadow Mix 2		Md	Scarlet Bee Balm	Monarda didyma	Seed
		Am	Yarrow	Achillea millefolium	Seed
	Total: 22,357 sq.ft.				
Grass	19,562 sq. ft.				

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SERENBE SITE SPECIFIC

DRAWN: SF
DATE: 07/26/18
SCALE: 1:100

SHEET TITLE:

PLANTING PLAN

SHEET NUMBER:
L- 4

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SERENBE SITE SPECIFIC

DRAWN: SF
DATE: 07/26/18
SCALE: 1:100

SHEET TITLE:

PLANTING PLAN

SHEET NUMBER:
L– 4

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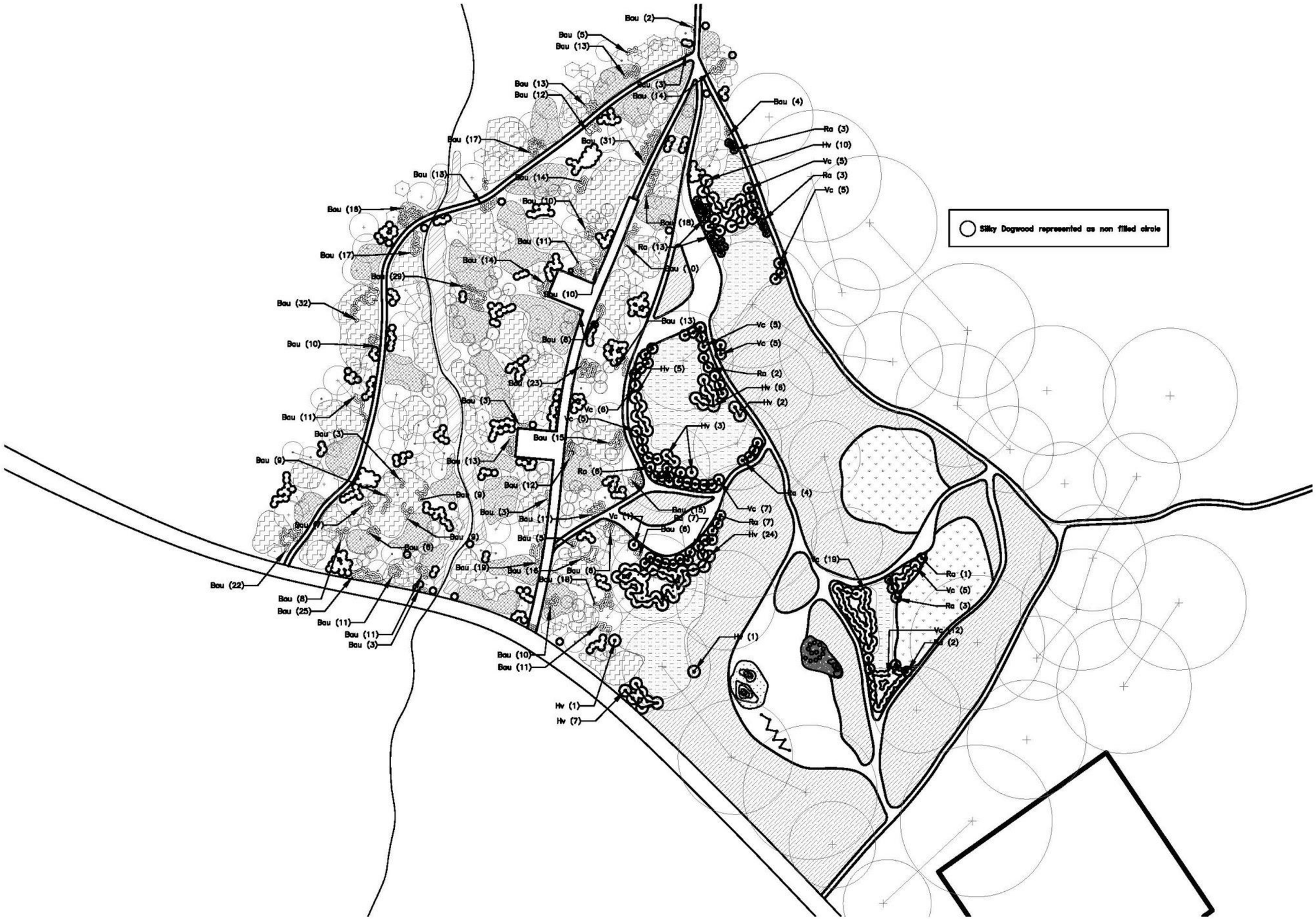
SERENBE SITE SPECIFIC

DRAWN: SF
DATE: 07/26/18
SCALE: 1:100

SHEET TITLE:

PLANTING PLAN

SHEET NUMBER:
L- 4



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SARAH FRANKLIN

SERENBE SITE SPECIFIC

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DATE: 07/26/18
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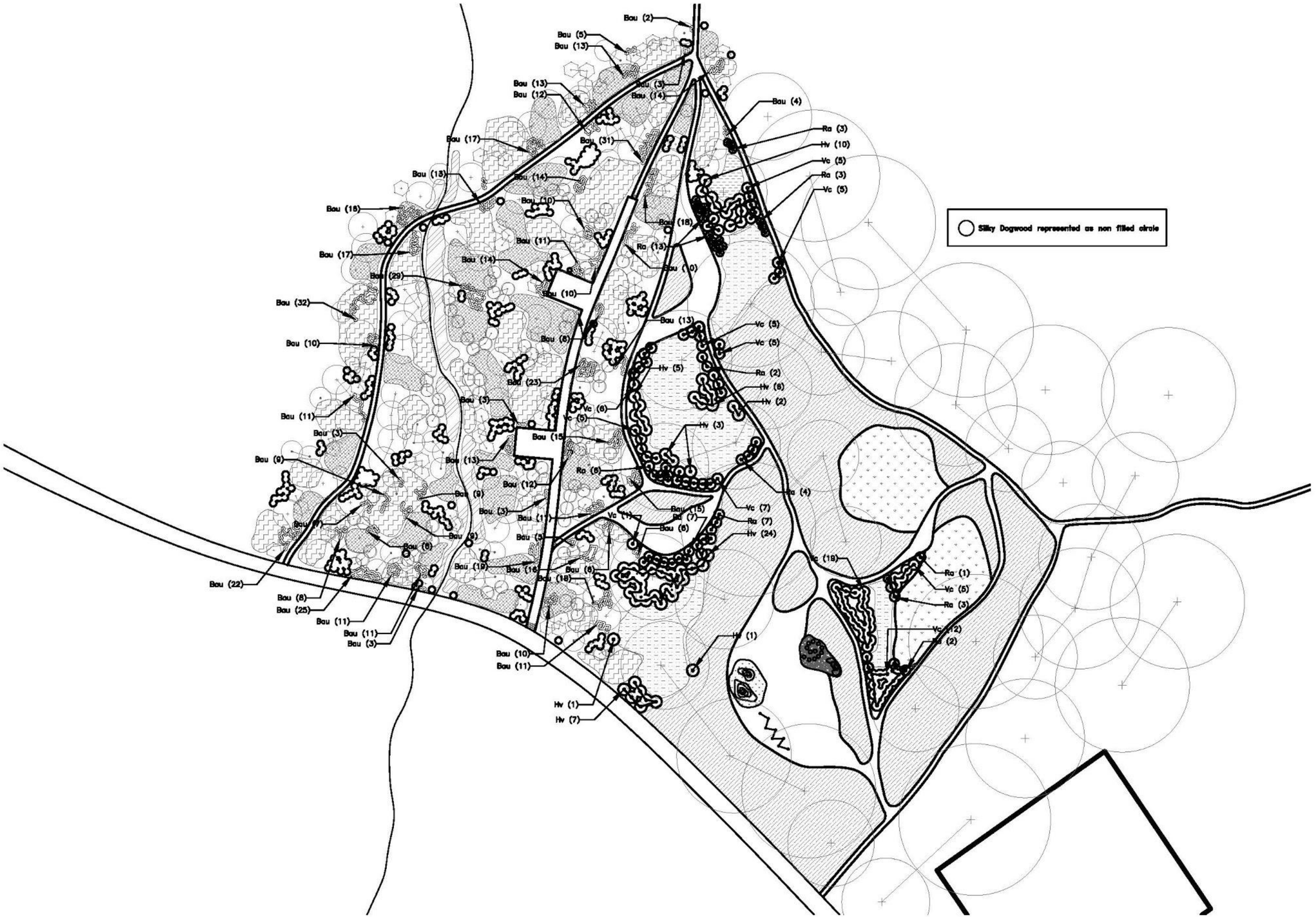
SHEET TITLE:

PLANTING PLAN

SHEET NUMBER:
L- 4



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SARAH FRANKLIN

SERENBE SITE SPECIFIC

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DATE: 07/26/18
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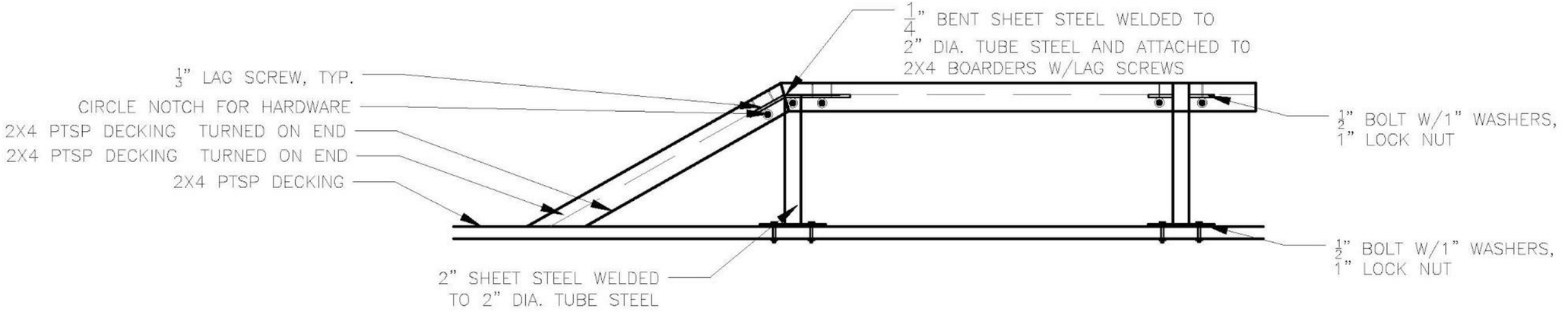
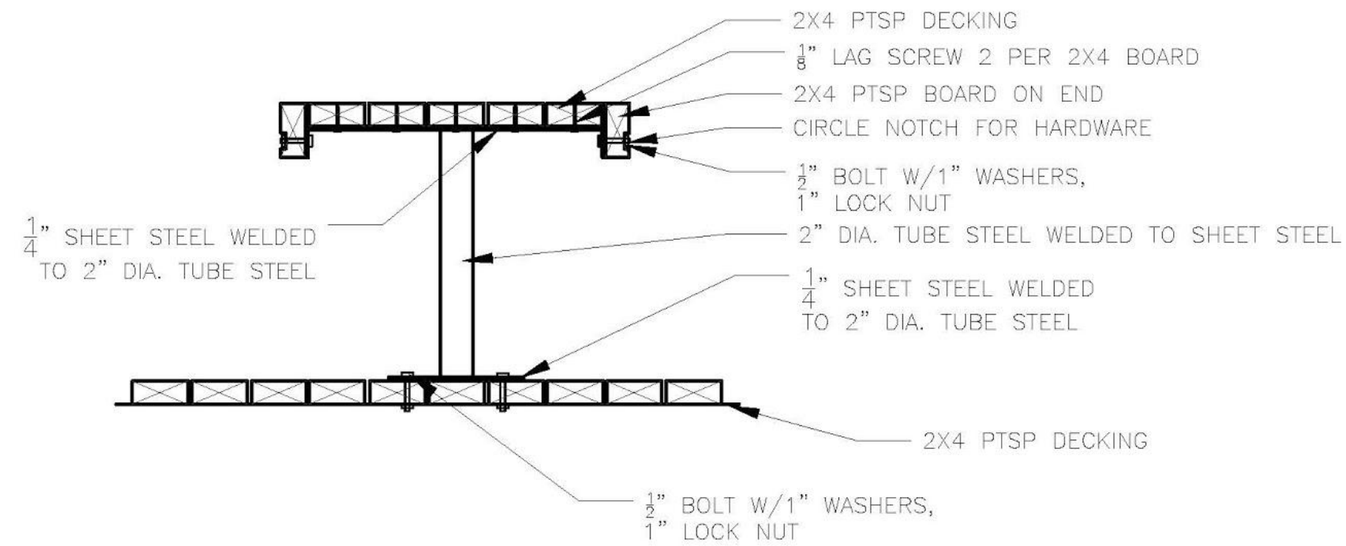
SHEET TITLE:

PLANTING PLAN

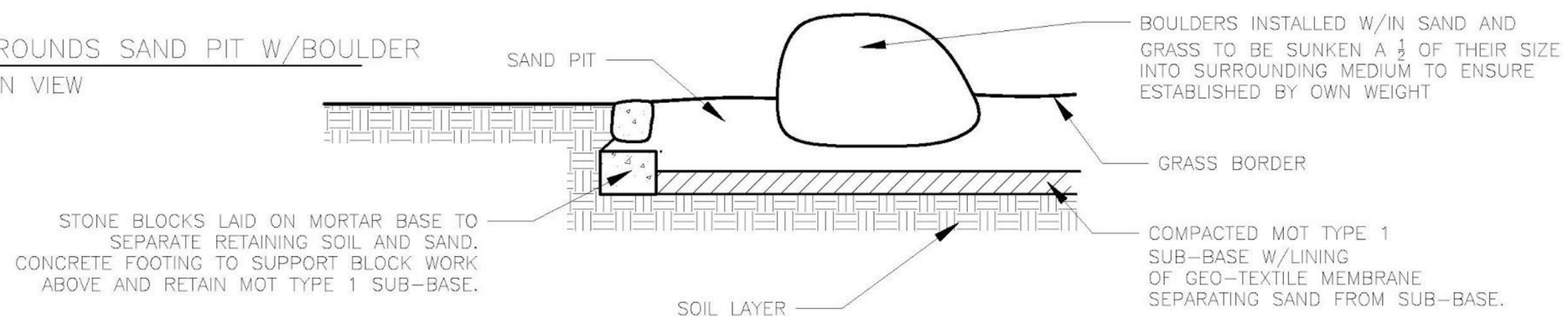
SHEET NUMBER:
L- 4



1 WOODEN BENCH ON BOARDWALK
SIDE VIEW 1.0



1 WOODEN BENCH ON BOARDWALK
SIDE VIEW 2.0



2 PLAYGROUNDS SAND PIT W/BOULDER
SECTION VIEW

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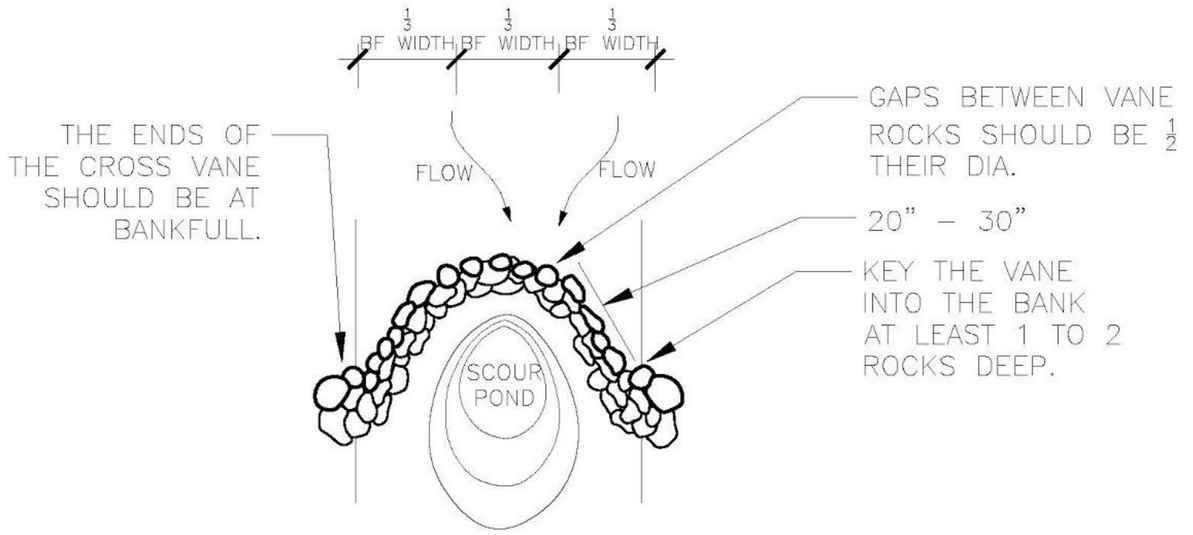
SERENBE SITE SPECIFIC

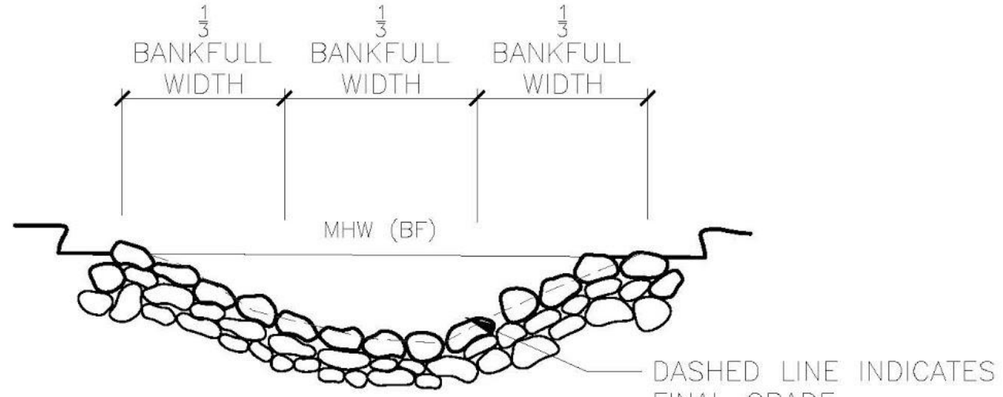
DRAWN: SF
DATE: 07/26/18
SCALE: NTS

SHEET TITLE:
CONSTRUCTION DETAILS

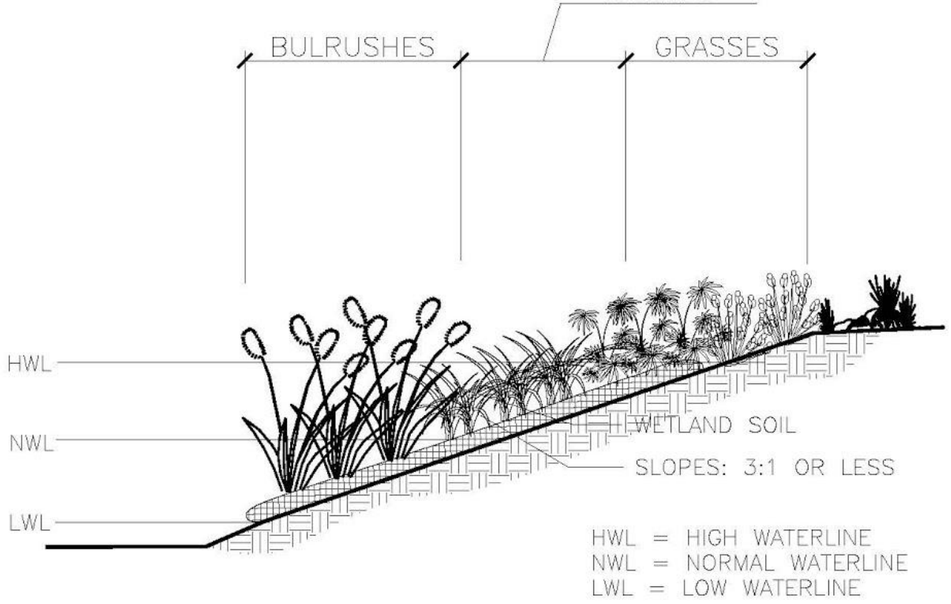
SHEET NUMBER:
L - 5



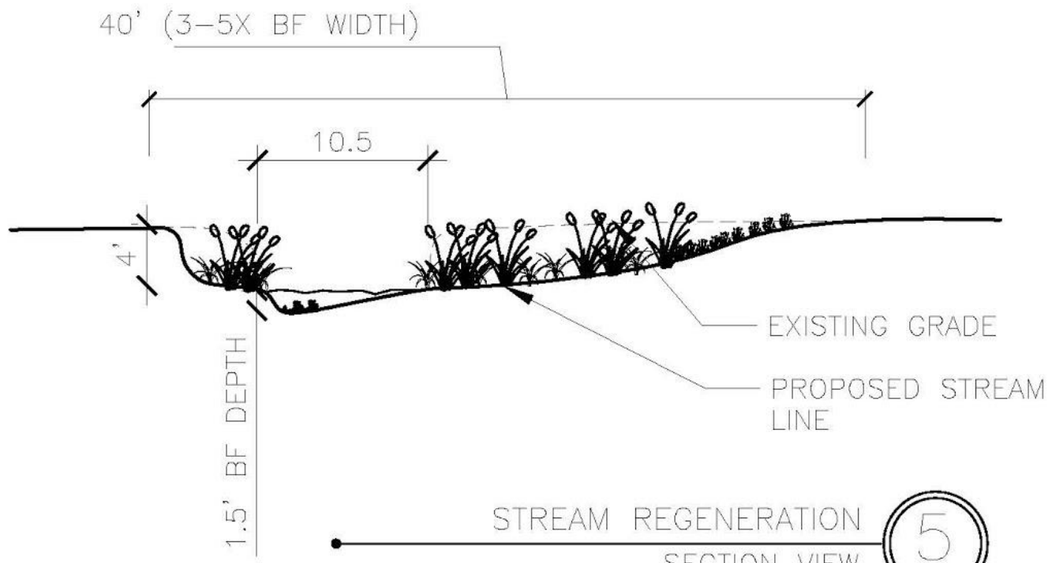
3 TYPICAL ROCK CROSS VANE
PLAN VIEW



TYPICAL ROCK CROSS VANE
CROSS SECTION VIEW 3



4 WETLAND REVEGETATION ZONES
COMMON WETLAND PLANTINGS



STREAM REGENERATION
SECTION VIEW 5

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SERENBE SITE SPECIFIC

DRAWN: SF
DATE: 07/26/18
SCALE: NTS

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
L - 5

Granite Outcrop Trailhead

This proposed modification to the existing trail system will link Serenbe Lane to a trail that leads to the top of Rausch Ridge. The trailhead considers and compliments the layout of the lots that have been proposed for future development.

There is currently a trailhead in this area, but it leads to an uncomfortably sloped and rocky trail. The existing trail doesn't take advantage of the naturally occurring granite outcrop directly adjacent to it. In addition to being simply an uncomfortable trail, it currently runs through private residential lots.

This proposed amendment uses steps to create a gentler, windy path without sacrificing the natural beauty of the site. The granite outcropping is turned into a central feature of the site.

Granite Clearing

Outcrop Planting

Outcrop Planting

Outcrop Planting

Outcrop Planting

Outcrop Planting

Outcrop Planting

Stone Retaining Wall

Grass Planting

Grass Planting

Bike Rack

OUTCROP TRAIL

CHARLES QUINN

Site Specific Construction Documents

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CHARLES QUINN

OUTCROP TRAILHEAD
SITE SPECIFIC

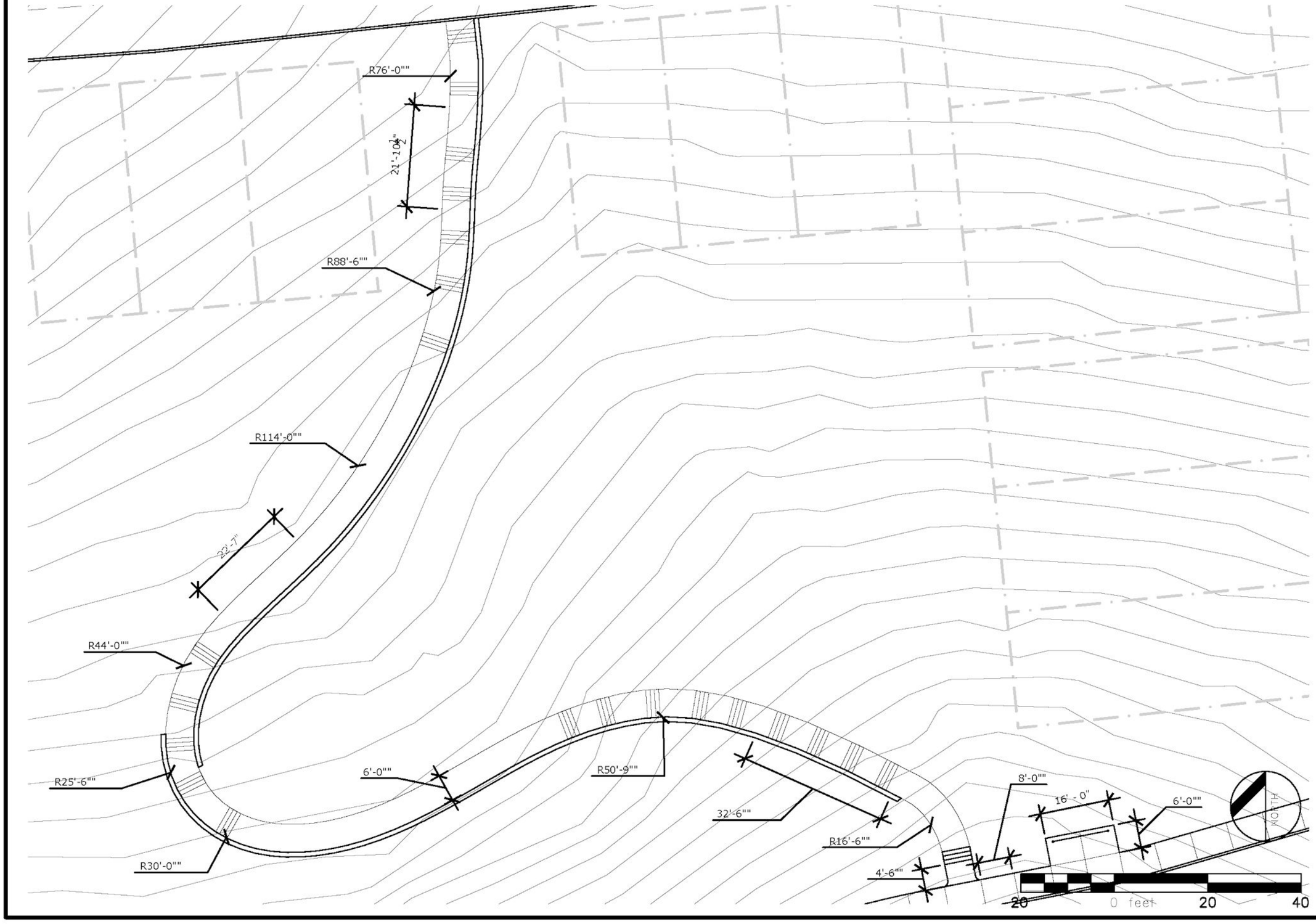
DRAWN: **CQ**
DATE: **7/25/18**
SCALE: **1" = 20'**

SHEET TITLE:

MATERIALS PLAN

SHEET NUMBER:

L–1



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CHARLES QUINN

OUTCROP TRAILHEAD
SITE SPECIFIC

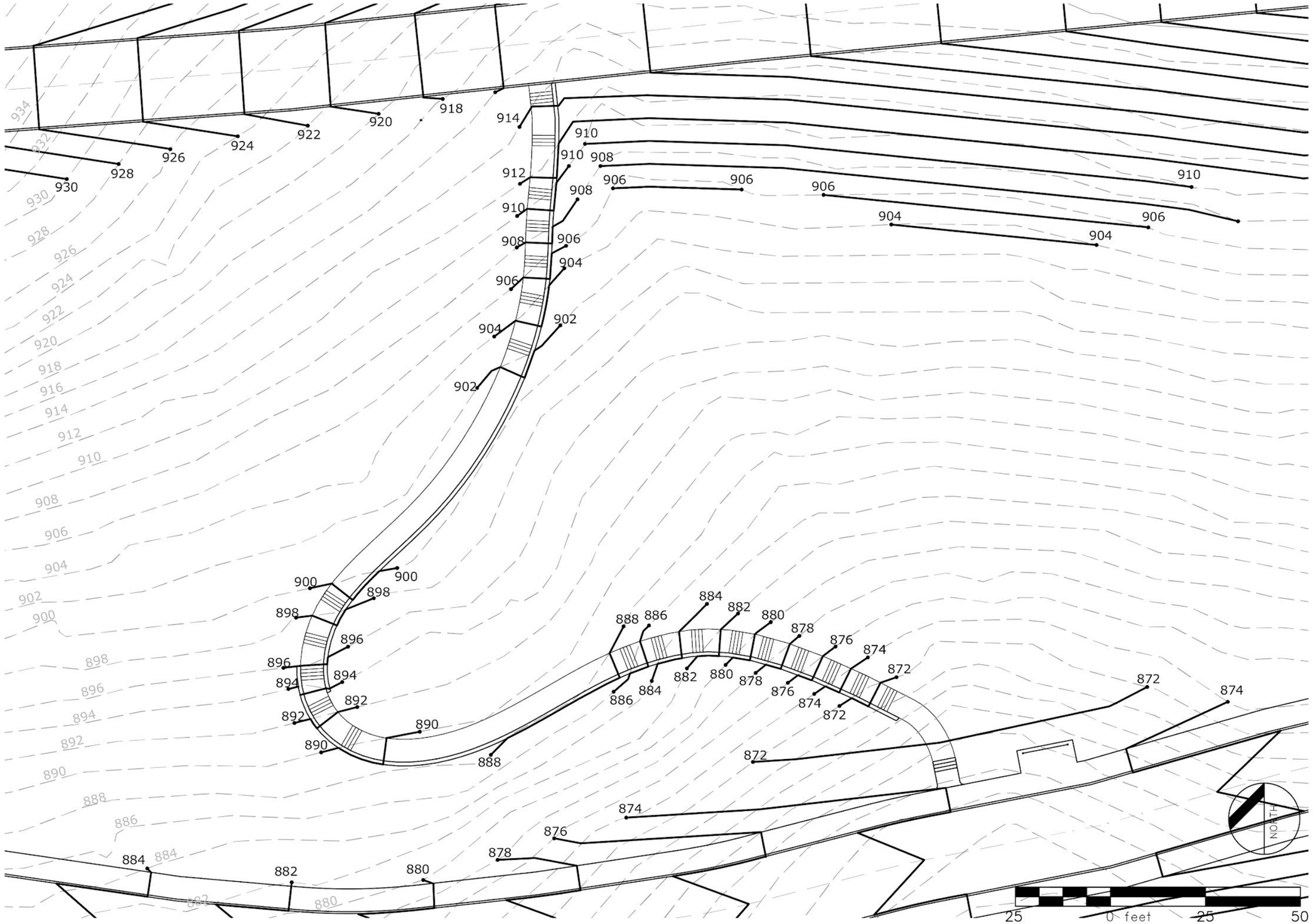
DRAWN: **CQ**
DATE: **7/25/18**
SCALE: **1" = 20'**

SHEET TITLE:

DIMENSION PLAN

SHEET NUMBER:

L–2



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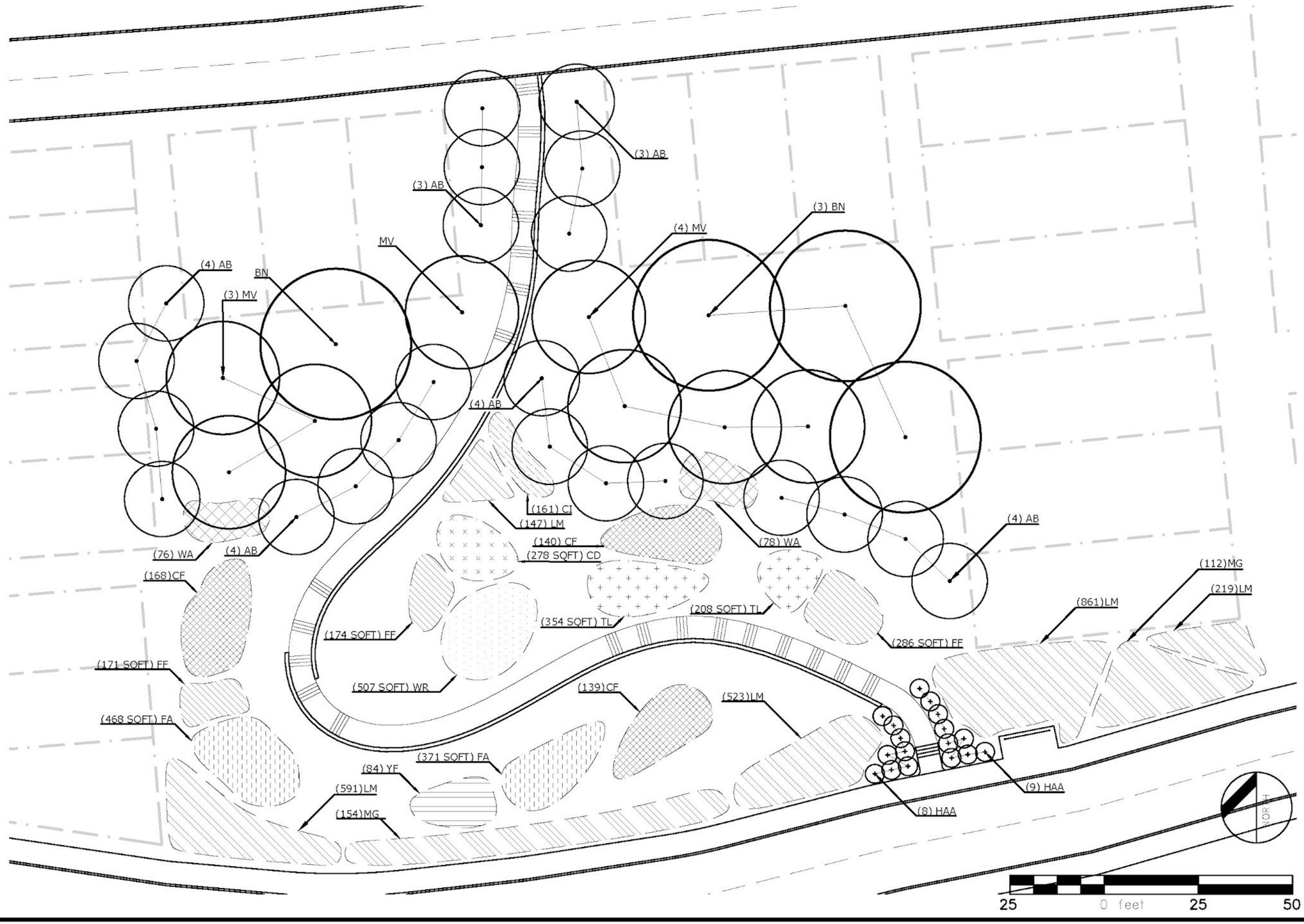
OUTCROP TRAILHEAD
SITE SPECIFIC

DRAWN: **CQ**
DATE: **7/25/18**
SCALE: **1" = 25'**

SHEET TITLE:
GRADING PLAN

SHEET NUMBER:
L–3



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CHARLES QUINN

OUTCROP TRAILHEAD
SITE SPECIFIC

DRAWN: **CQ**
DATE: **7/25/18**
SCALE: **1" = 25'**

SHEET TITLE:
PLANTING PLAN

SHEET NUMBER:
L–4

PLANT SCHEDULE

CODE	QTY / SQFT OF BEDS	BOTANICAL NAME	COMMON NAME	SIZE + CONDITION	SPACING	COMMENTS
TREES:						
AB	22	*Acer buergerianum*	Trident Maple	2.5" Cal		
BN	4	*Betula nigra*	River Birch	5 Gal		
MV	8	*Magnolia virginiana*	Sweet Bay Magnolia	5 Gal		
SHRUBS:						
HAA	17	*Hydrangea arborescens* 'Annabelle'	Smooth Hydrangea	3 Gal		
GROUNDCOVERS:						
CI	161	*Aspidistra elatior*	Cast Iron Plant	1 Gal	12" O.C.	
TL	572 SQFT	*Erythronium americanum*	Trout Lily	SEED	3" O.C.	
WA	154	*Eurybia divaricata*	Woodland Aster	1 Gal	18" O.C.	
CD	278 SQFT	*Helianthus porteri*	Confederate Daisy	SEED	NA	
LM	1333	*Liriope muscari*	Lilyturf	1 Gal	12" O.C.	
FA	839 SQFT	*Manfreda virginica*	False Aloe	SEED	NA	
MG	266	*Muhlenbergia capillaris*	Muhlygrass	3" Pot	24" O.C	
WR	507 SQFT	*Packera tomentosa*	Woolly Ragwort	SEED	NA	
CF	447	*Polystichum acrostichoides*	Christmas Fern	BULB	18" O.C.	
FF	457 SQFT	*Tiarella cordifolia*	Foam Flower	SEED	NA	
YF	84	*Yucca filamentosa*	Yucca	1 Gal	18" O.C.	

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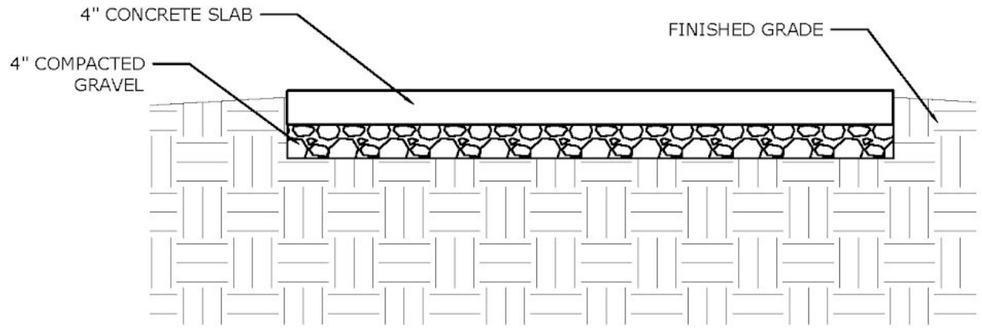
CHARLES QUINN

OUTCROP TRAILHEAD
SITE SPECIFIC

DRAWN: **CQ**
DATE: **7/25/18**
SCALE: **NA**

SHEET TITLE:
PLANT SCHEDULE

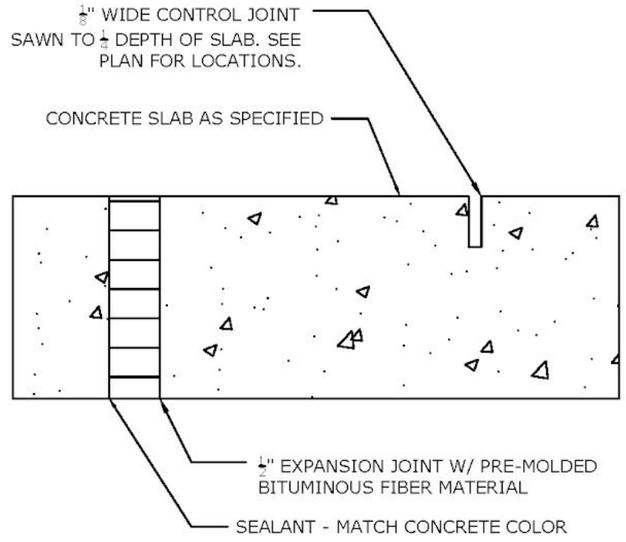
SHEET NUMBER:
L–5



A L-5

CONCRETE SIDEWALK

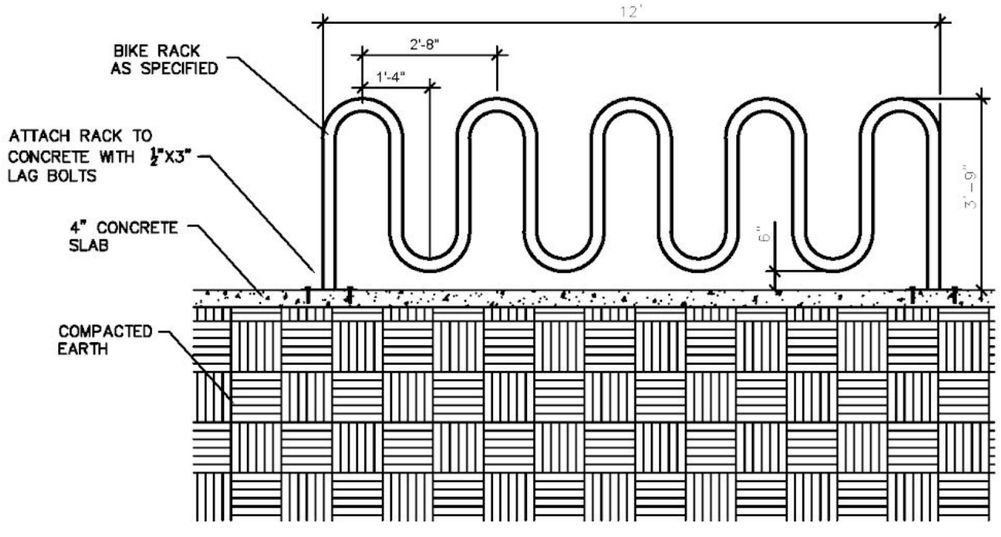
SCALE 1" = 18"



B L-5

CONCRETE JOINTING

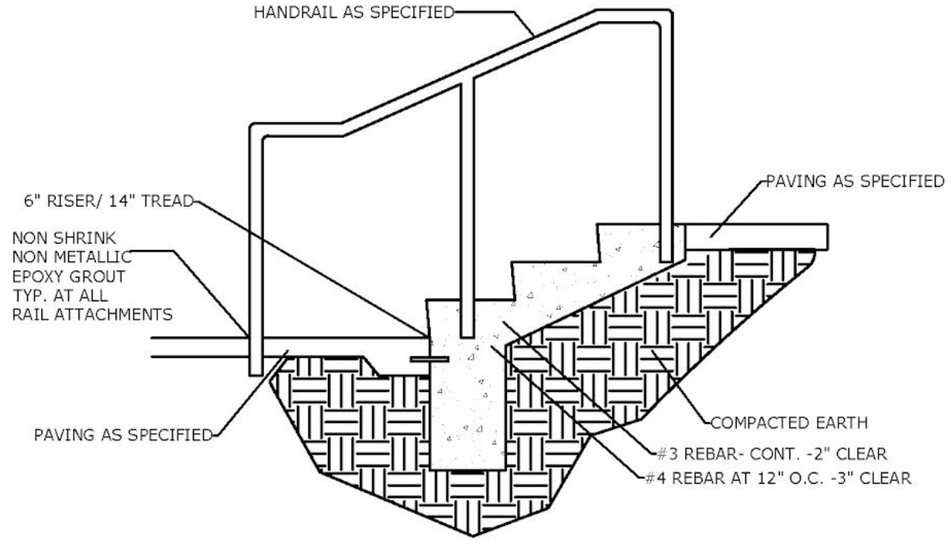
SCALE 1" = 18"



C L-5

BIKE RACK

SCALE 1" = 3'



D L-5

CONCRETE STAIRCASE

SCALE 1" = 2'

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CHARLES QUINN

OUTCROP TRAILHEAD SITE SPECIFIC

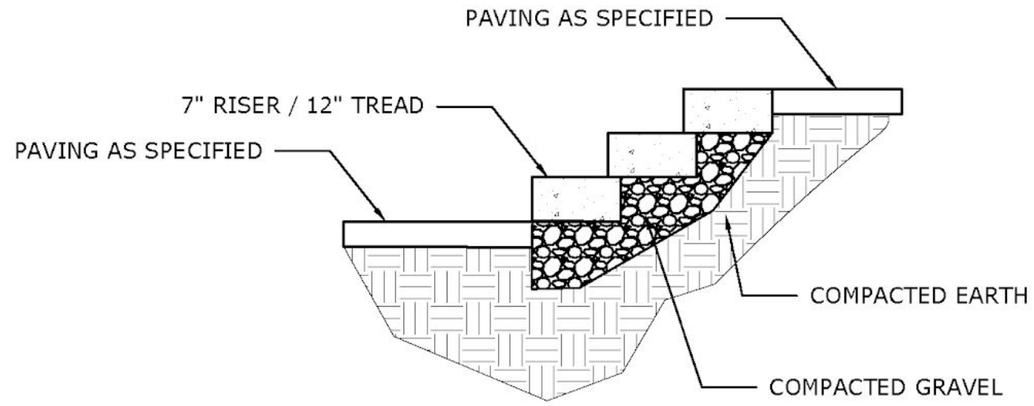
DRAWN: **CQ**
DATE: **7/25/18**
SCALE: **VARIES**

SHEET TITLE:

DETAILS

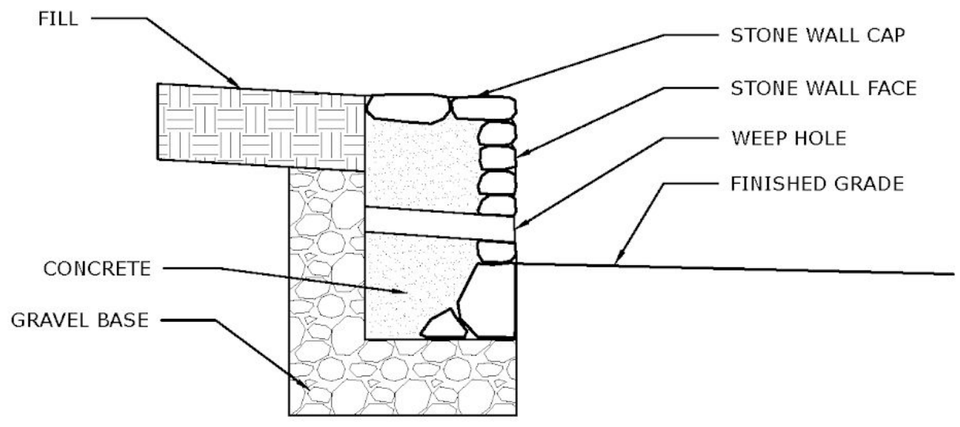
SHEET NUMBER:

L–6



E
L-6

GRANITE STAIRS
SCALE 1" = 2'



F
L-6

ROCK WALL
SCALE 1" = 1'

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College of Environment + Design

CHARLES QUINN

OUTCROP TRAILHEAD
SITE SPECIFIC

DRAWN: **CQ**
DATE: **7/25/18**
SCALE: **VARIES**

SHEET TITLE:
DETAILS

SHEET NUMBER:
L–7

Waterfall Trail


Pump Track


Meadow Plantings

Trailhead Master Plan

Stacia Dangerfield


Rest Area

The Experience

The proposed trailhead is designed as an inviting space for trail users with a pavilion intended for community gatherings. The pervious pavement parking and rain gardens lower the impact of the site, and Georgia native meadow plantings surround both concrete and crushed gravel pathways. A rest area would be provided for trail users. Finally, a pump track is proposed as a fun and distinctive site amenity and would be created using a series of berms and rollers about one foot high.

Cornus Florida

Liriodendron tulipifera

Amelanchier arborea

Quercus lyrata

Callicarpa americana

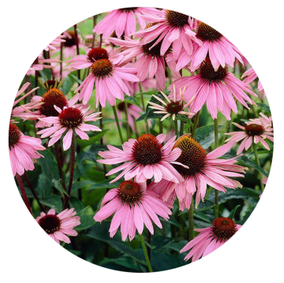
Leucothoe axillaris

Itea virginica

Amsonia tabernaemontana

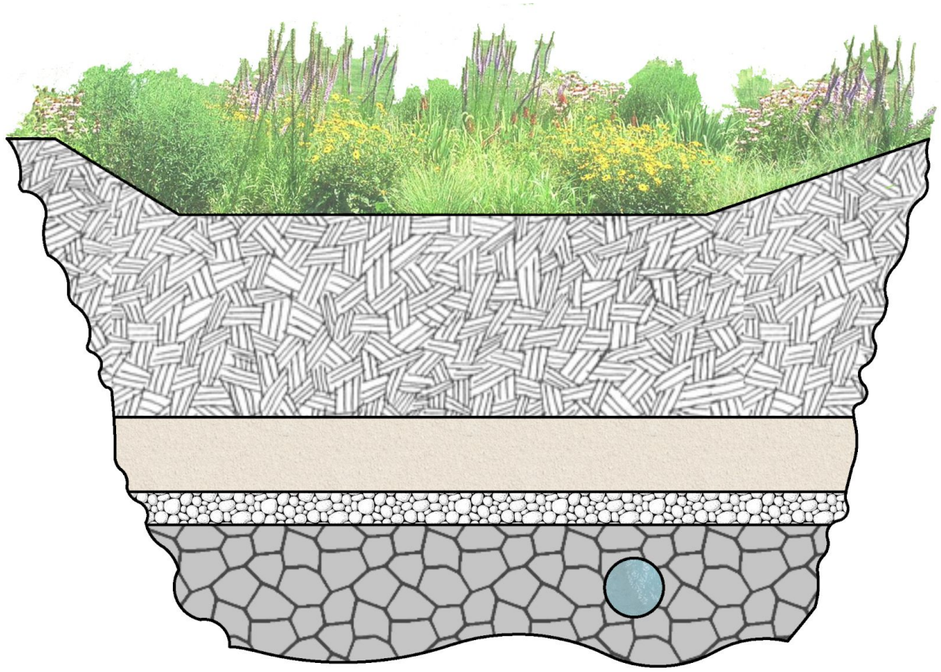
Eupatorium maculatum

Asclepias incarnata



Echinacea purpurea

Baptisia australis



Rain Garden Section

Panicum virgatum

Carex stricta

Clematis integrifolia

Plant Choices

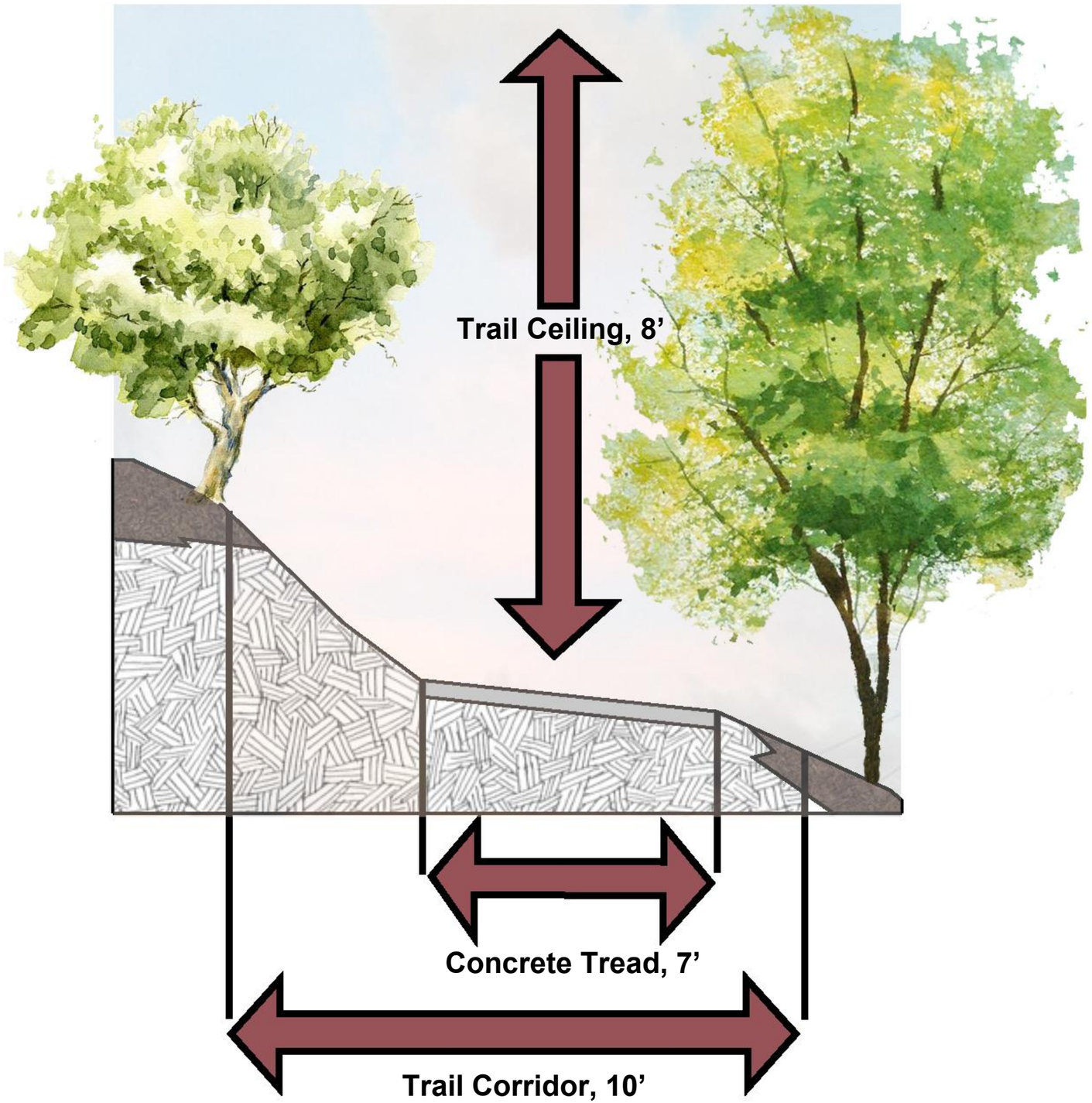
Plants selected for the trailhead were either native or naturalized species and chosen specifically as plants suitable for partially shaded woodland openings.

Additionally, the inclusion of two rain gardens using plants tolerant of wet areas led to exciting new features for the site that serve as a way to help manage stormwater.

Waterfall Accessibility Trail

This area is the perfect opportunity to incorporate an all-access ADA trail to the waterfall to allow access to one of the most well-used sites in Serenbe.

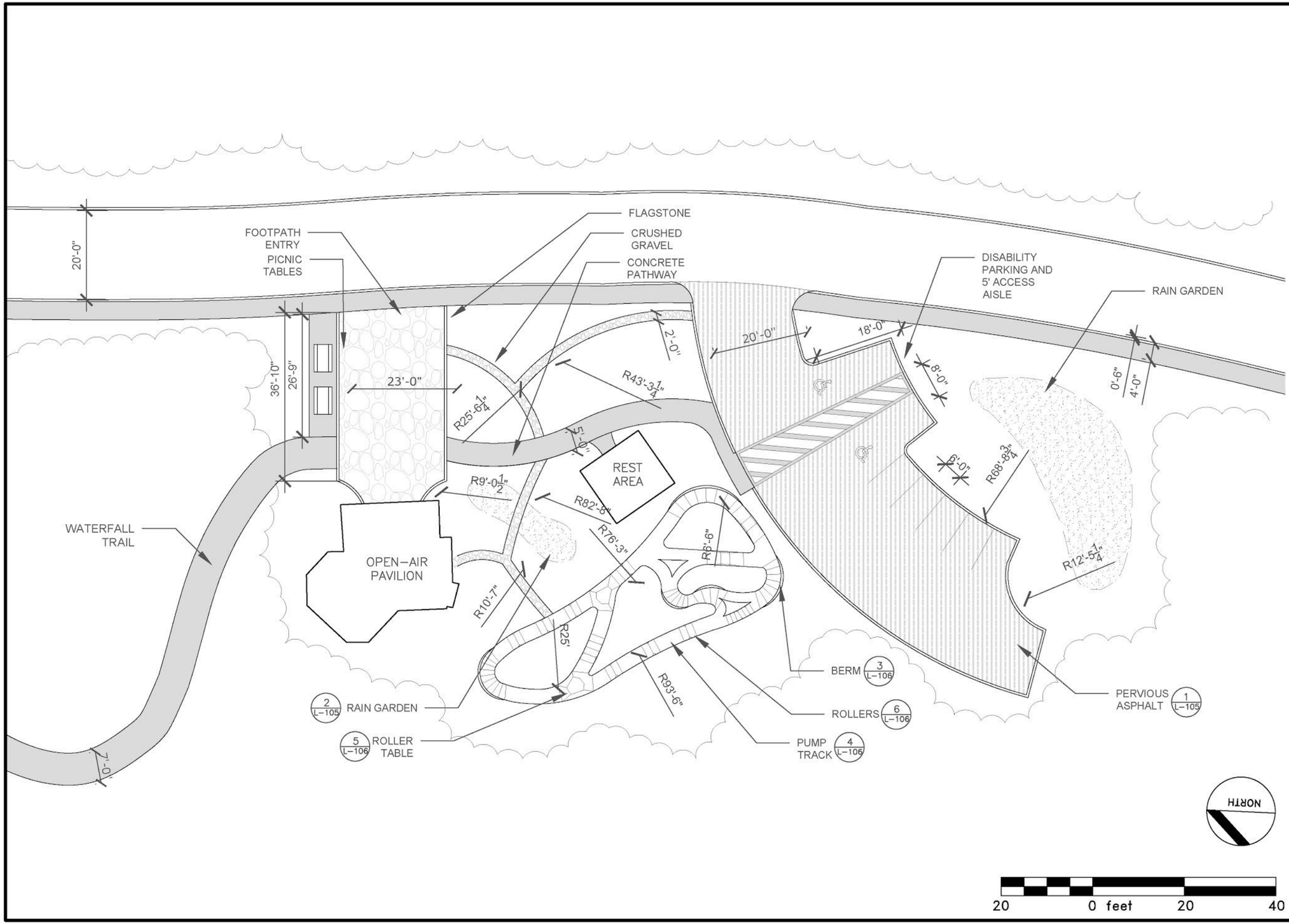
- .25 mile easy-access trail for all user types
- Direct connection to waterfall
- ADA accessible
    - 7’ Concrete pathway
    - Less than 5% slope
- Parking for golf carts and disability parking
- Sustainable trail
    - Avoids floodplain (exception of waterfall)
    - Under 8% slope



Waterfall Trail Section

- ADA accessible
  - 7’ Concrete pathway
  - Less than 5% slope
- The trail corridor and ceiling are included to establish clearing limits that allow for safe and comfortable trails

Site Specific Construction Documents



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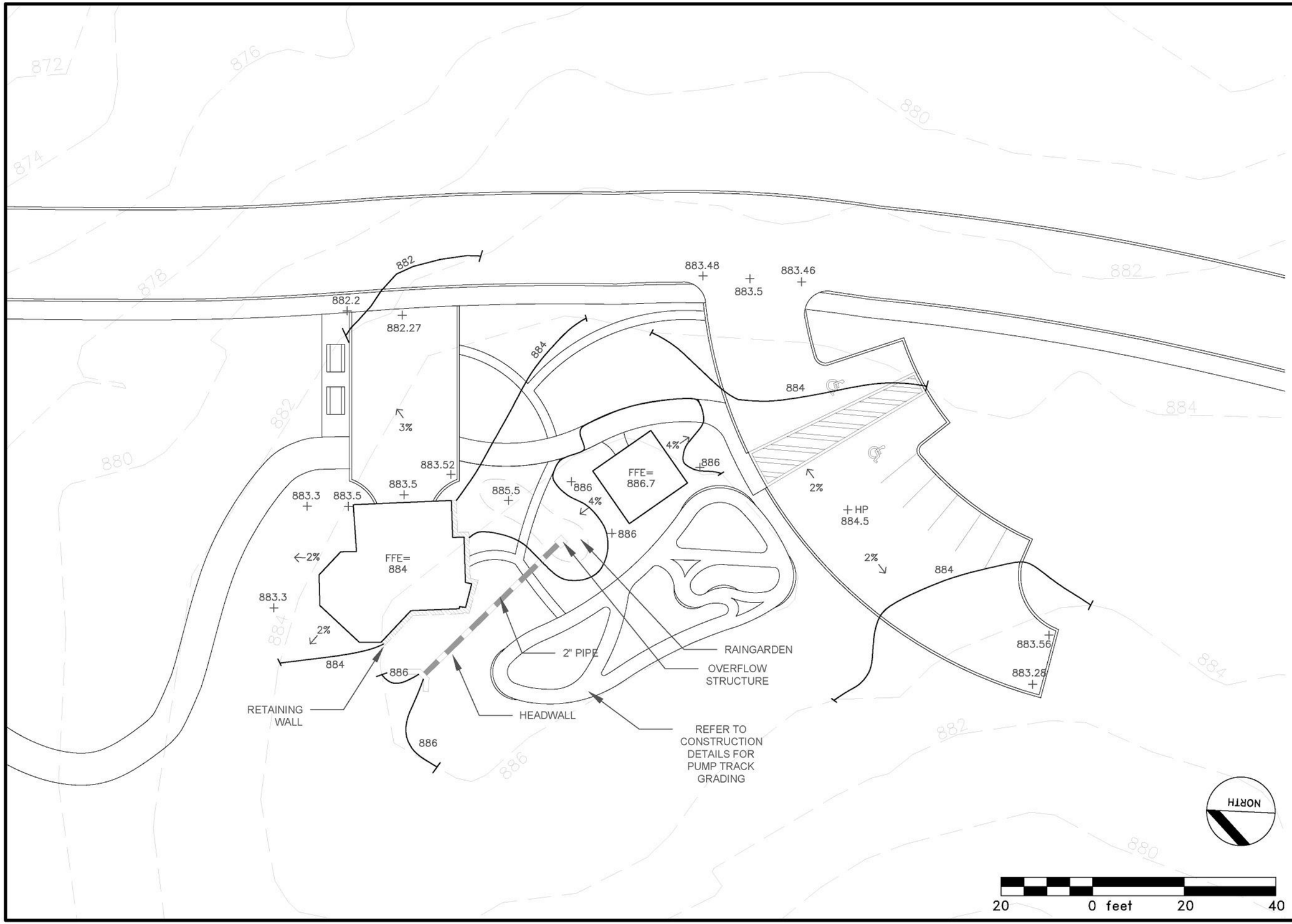
STACIA DANGERFIELD

WATERFALL TRAIL HEAD
SERENBE TRAIL GROUP
PROFESSOR VICK
LAND 4900

DRAWN: SD
DATE: 07/18/2018
SCALE: 1"=20'

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
L-101



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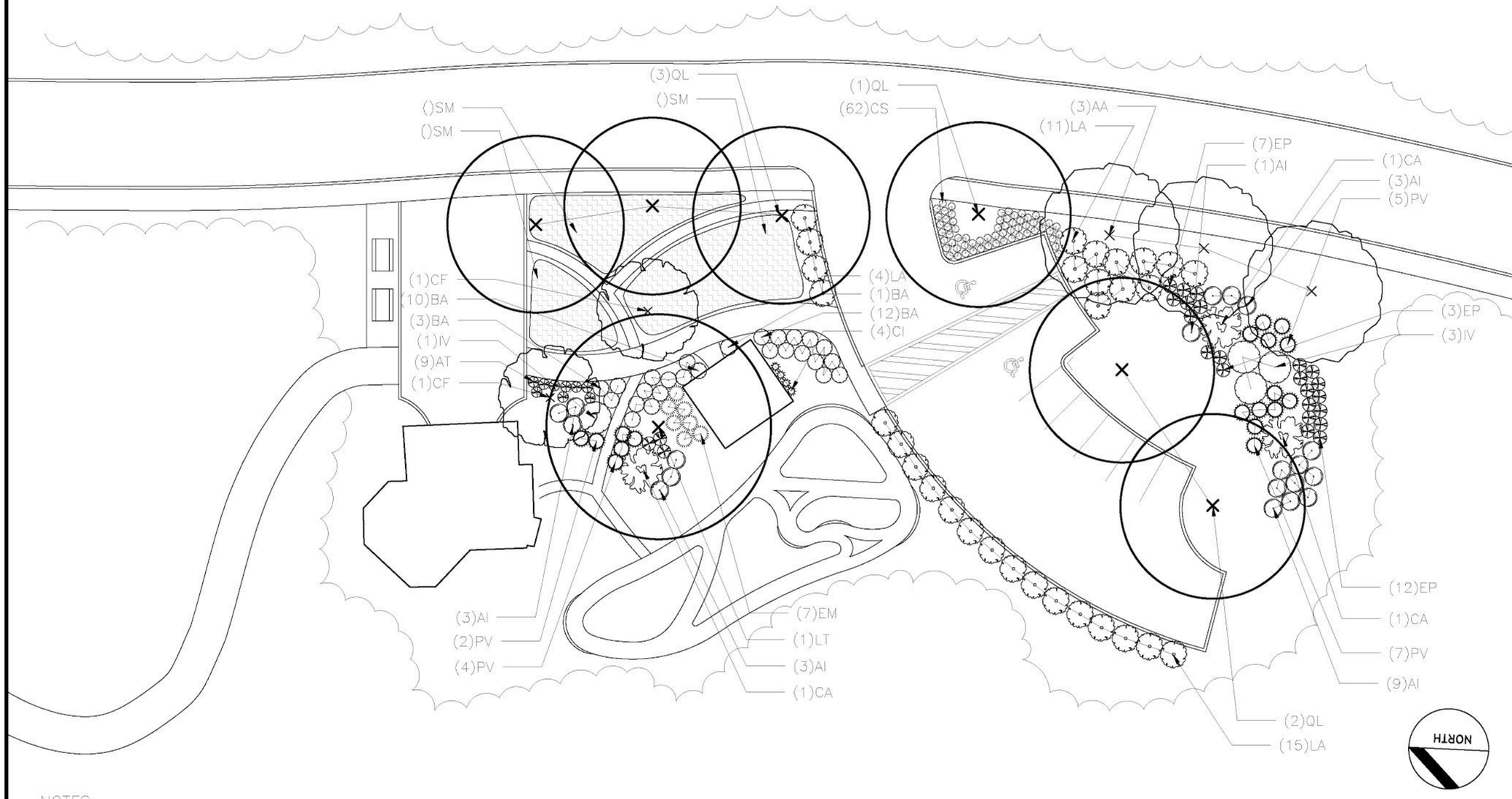
SERENBE TRAIL GROUP
PROFESSOR VICK
LAND 4900

DRAWN: SD
DATE: 07/18/2018
SCALE: 1"=20'

SHEET TITLE:
GRADING PLAN

SHEET NUMBER:
L–102



NOTES:

1. REFER TO SHEET L-104 FOR PLANT LIST
2. MULCH ALL AREAS OUTSIDE OF TREE LINE AND OTHERWISE UNSPECIFIED

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SERENBE TRAIL GROUP
PROFESSOR VICK
LAND 4900

DRAWN: SD
DATE: 07/18/2018
SCALE: 1"=20'

SHEET TITLE:
PLANTING PLAN

SHEET NUMBER:
L-103

Code	Botanical Name	Common Name	Quantity	Size	Spacing
Deciduous Trees					
CF	*Cornus florida*	Flowering Dogwood	2	2" Cal. B&b	As Shown
LT	*Liriodendron tulipifera*	Tulip Poplar	1	4" Cal. B&b	As Shown
AA	*Amelanchier arborea*	Serviceberry	3	2" Cal. B&b	15'
QL	*Quercus lyrata*	Overcup Oak	6	4" Cal. B&b	30'
Shrubs					
CA	*Callicarpa americana*	American Beautyberry	3	5 Gallon	4'-6'
LA	*Leucothoe axillaris*	Doghobble	30	3 Gallon	3'-5'
IV	*Itea virginica*	Virginia Sweetspire	4	3 Gallon	4-6'
Perennials					
AT	*Amsonia tabernaemontana*	Eastern Bluestar	9	1 Gallon	2'-3'
EM	*Eupatorium maculatum*	Joe-Pye Weed	7	1 Gallon	3'-4'
AI	*Asclepias incarnata*	Swamp Milkweed	19	1 Gallon	2'-3'
EP	*Echinacea purpurea*	Coneflower	22	1 Gallon	18"-2'
BA	*Baptisia australis*	Blue False Indigo	26	1 Gallon	3'-4'
Grasses					
PV	*Panicum virgatum*	Switch Grass	18	3 Gallon	36"
CS	*Carex stricta*	Tussock Sedge	62	1 Gallon	18"-2'
Vines					
CI	*Clematis integrifolia*	Clematis*	4	1 Gallon	2'-3'
Seed Mix					
SM	See Plant List	Southeastern Wildflower Mix*	961 sf	Rate: 5-10 lb per acre	As Shown

NOTES:

1. Clematis vines to be trained to trellis attached to building
2. Southeastern wildflower mix to be Ernst Seed Supply Mix "GA Piedmont UPL Meadow Mix" and to be installed as per manufacterer's specifications

SOUTHEASTERN WILDFLOWER MIX CONTENTS:

41.7% *Schizachyrium scoparium, 'Prairie View'-IN Ecotype* (Little Bluestem 'Prairie View'-IN Ecotype)
22.2% *Panicum anceps, GA Ecotype* (Beaked Panicgrass, GA Ecotype)
15.0% *Elymus virginicus, PA Ecotype* (Virginia Wildrye, PA Ecotype)
3.7% *Rudbeckia hirta, Coastal Plain NC Ecotype* (Blackeyed Susan, Coastal Plain NC Ecotype)
3.0% *Chamaecrista fasciculata, FL Ecotype* (Partridge Pea, FL Ecotype)
2.7% *Coreopsis lanceolata* (Lanceleaf Coreopsis)
2.0% *Eragrostis hirsuta, VA Ecotype* (Bigtop Lovegrass, VA Ecotype)
1.5% *Liatris spicata, FL Ecotype* (Marsh (Dense) Blazing Star (Spiked Gayfeather), FL Ecotype)
1.3% *Rudbeckia fulgida var. fulgida, Northern VA Ecotype* (Orange Coneflower, Northern VA Ecotype)
1.0% *Chamaecrista nictitans, NC Ecotype* (Sensitive Pea, NC Ecotype)
1.0% *Eryngium yuccifolium, SC Ecotype* (Rattlesnake Master, SC Ecotype)
1.0% *Penstemon multiflorus, FL Ecotype* (Manyflower Beardtongue, FL Ecotype)
0.7% *Lespedeza virginica, GA Ecotype* (Slender Lespedeza, GA Ecotype)
0.7% *Solidago speciosa, Coastal Plain GA Ecotype* (Showy Goldenrod, Coastal Plain GA Ecotype)
0.7% *Vernonia gigantea, FL Ecotype* (Giant Ironweed, FL Ecotype)
0.5% *Baptisia albescens, SC Ecotype* (Spiked Wild Indigo, SC Ecotype)
0.3% *Silphium asteriscus var. laevicaule, GA Ecotype* (Starry Rosinweed, GA Ecotype)
0.3% *Tradescantia ohiensis, AL Ecotype* (Ohio Spiderwort, AL Ecotype)
0.3% *Vernonia acaulis, SC Ecotype* (Stemless Ironweed, SC Ecotype)
0.2% *Coreopsis leavenworthii, FL Ecotype* (Leavenworth's Tickseed, FL Ecotype)
0.2% *Coreopsis tripteris, AL Ecotype* (Tall Coreopsis, AL Ecotype)

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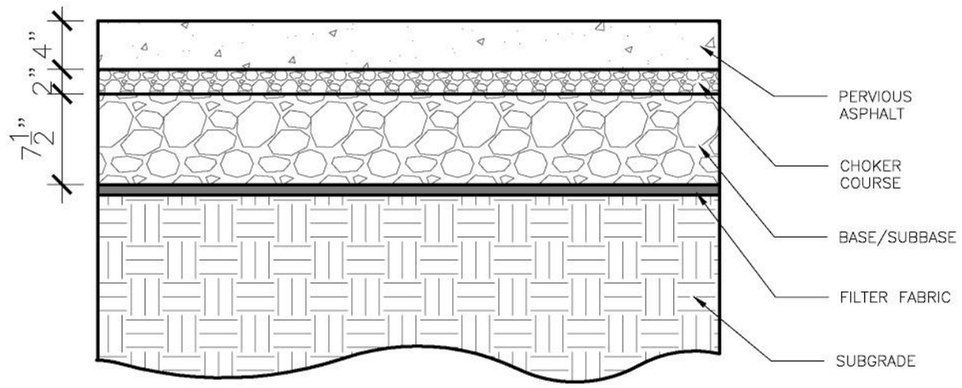
WATERFALL TRAIL HEAD
SERENBE TRAIL GROUP
PROFESSOR VICK
LAND 4900

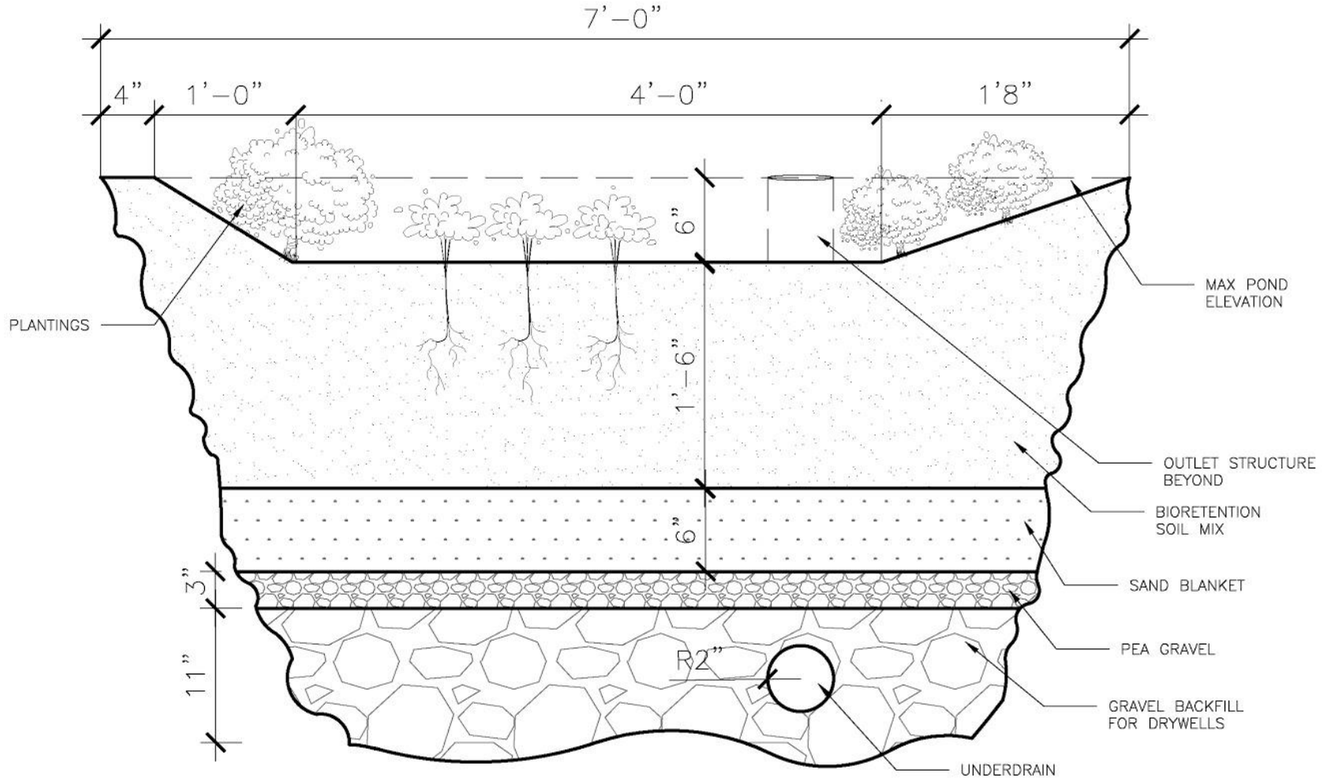
DRAWN: SD
DATE: 07/18/2018
SCALE: 1"=20'

SHEET TITLE:
PLANT SCHEDULE

SHEET NUMBER:
L-104



1 L-105 PERVIOUS ASPHALT DETAIL
SCALE: 1"=1'



2 L-105 RAIN GARDEN
SCALE: 1"=1'

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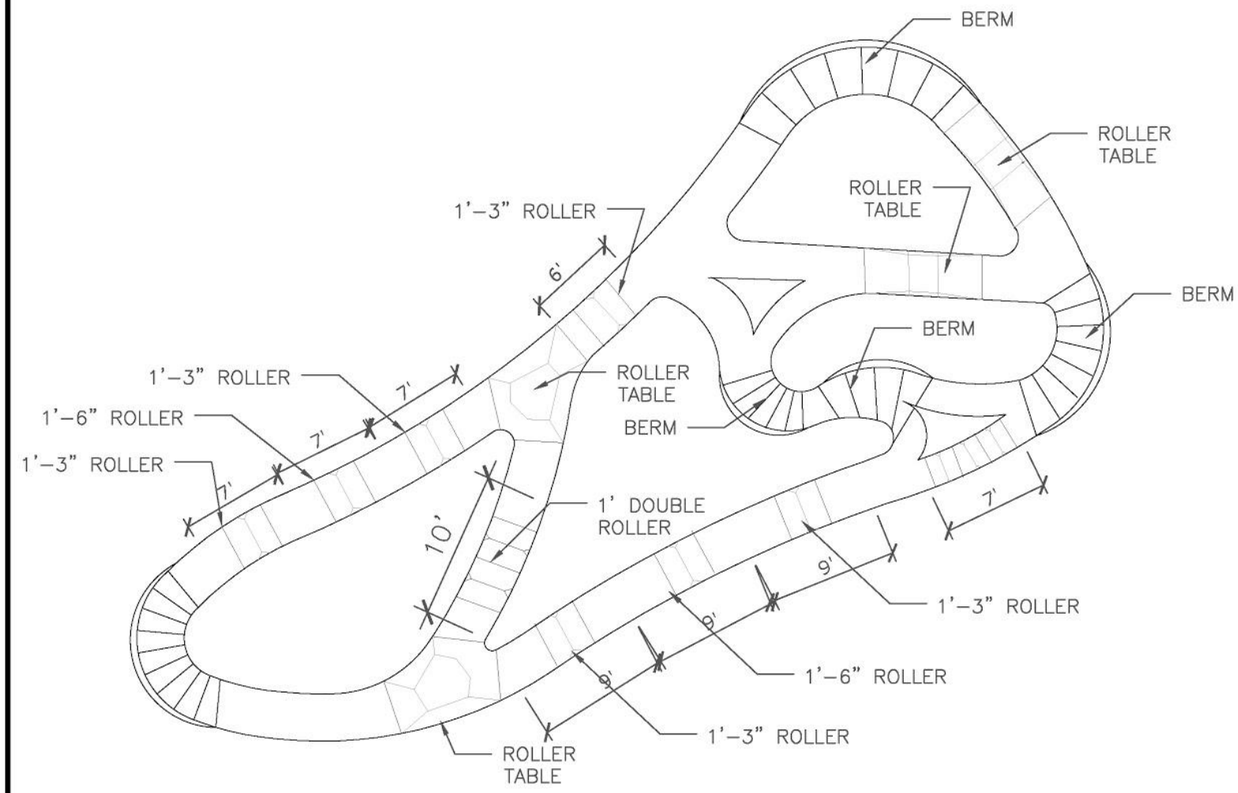
SERENBE TRAIL GROUP
PROFESSOR VICK
LAND 4900

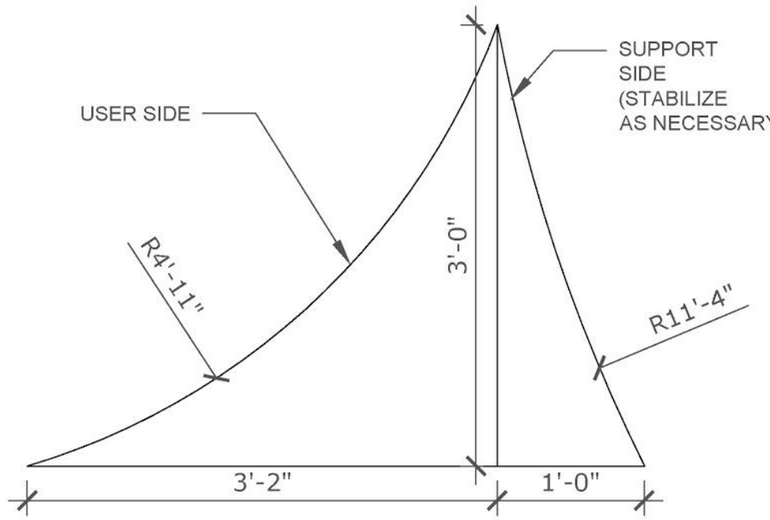
DRAWN: SD
DATE: 07/18/2018
SCALE: 1"=20'

SHEET TITLE:
CONSTRUCTION DETAILS

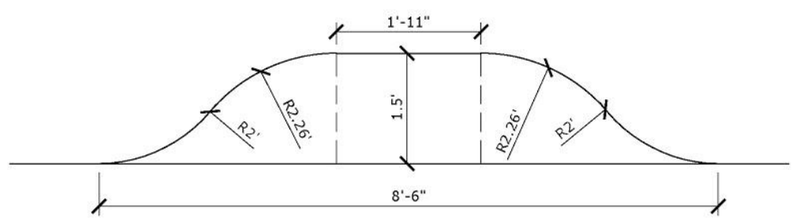
SHEET NUMBER:
L-105



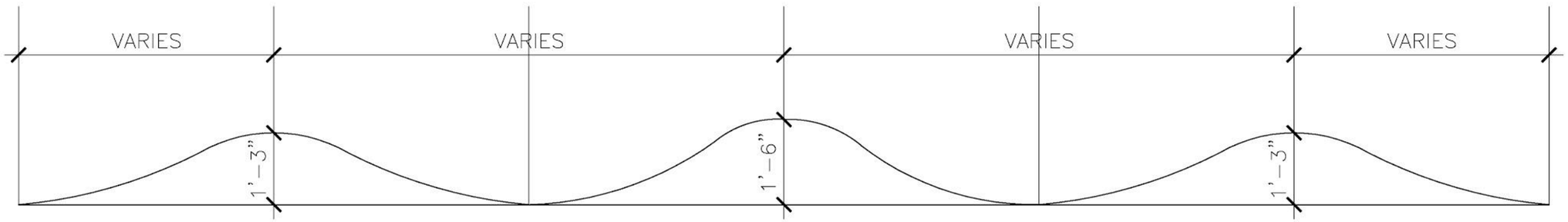
4 L–106 PUMP TRACK PLAN DETAIL
SCALE:1"=10'



3 L–106 BERM SECTION
1"=1'



5 L–106 ROLLER TABLE SECTION DETAIL
SCALE: 1"=2'



6 L–106 ROLLER SECTION DETAIL
SCALE:1"=2'

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SERENBE TRAIL GROUP
PROFESSOR VICK
LAND 4900

DRAWN: SD
DATE: 07/18/2018
SCALE: 1"=20'

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
L–106

Waterfall Overlook


Grandmother Beech
Boardwalk and Falls Overlook
Existing Granite Outcrop
Streambank Restoration Area
Proposed Bridge
Proposed Cane Break
Serenbe Falls
Gazebo
Handicap Accessible Path
N

Acer rubrum

Salix discolor

Betula nigra

Fraxinus pennsylvanica

Arundinaria tecta

Cephalanthus occidentalis

Itea virginica

Aronia arbutifolia

Plant Palette

Site Specific Construction Documents

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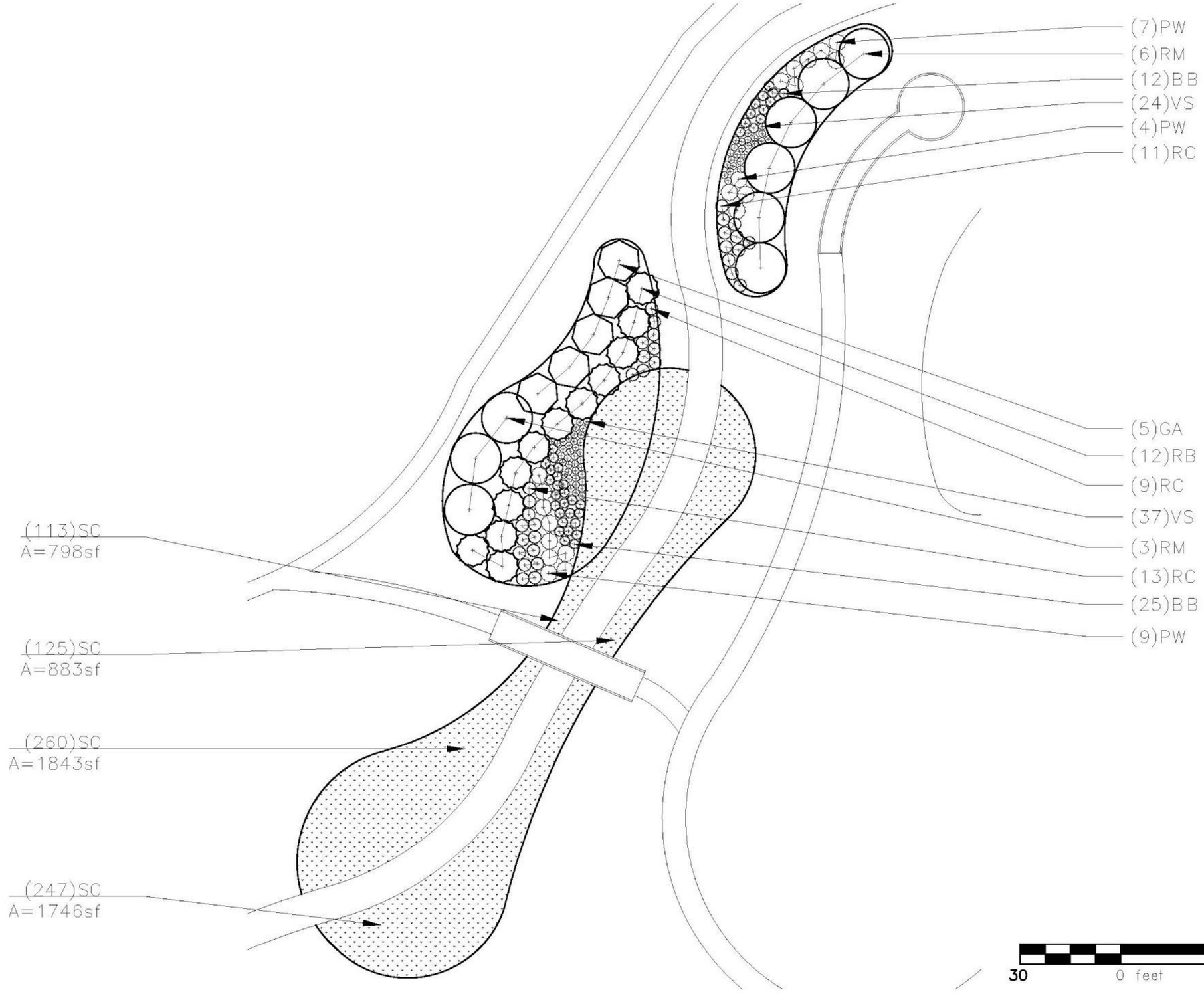
TRAIL MASTERS
PROFESSOR VICK
LAND 4900

DRAWN: **JFB**
DATE: **07/28/2018**
SCALE: **1" = 40'**

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
L – 100



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TRAIL MASTERS
PROFESSOR VICK
LAND 4900

DRAWN: **JFB**
DATE: **07/28/2018**
SCALE: **1" = 30'**

SHEET TITLE:
PLANTING PLAN

SHEET NUMBER:
L – 101

Planting Schedule

Code	Quantity	Botanical Name	Common Name
Deciduous Trees			
RM	9	Acer rubrum	Red Maple
RB	12	Betula nigra	River Birch
GA	5	Fraxinus pennsylvanica	Green Ash
Grasses			
SC	745	Arundinaria tecta	Switch Cane
Shrubs			
RC	33	Aronia arbutifolia	Red Chokeberry
BB	37	Cephalanthus occidentalis	Buttonbush
VS	61	Itea virginica	Virginia Sweetspire
PW	20	Salix discolor	Pussy Willow

Notes:
1. Arundinaria tecta masses are to be spaced 3' apart on center.

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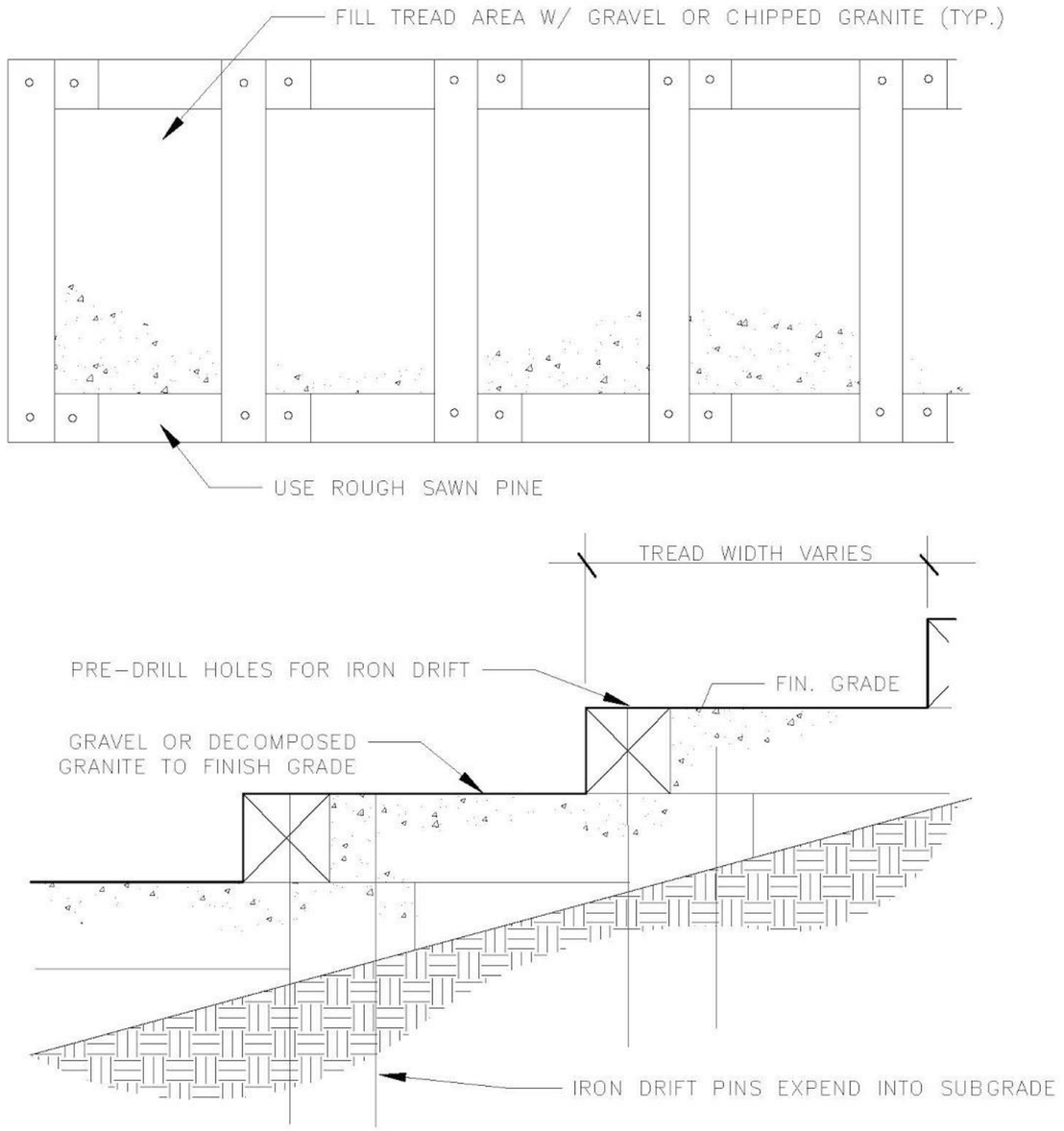
SERENBE WATERFALL TRAIL MASTERS
PROFESSOR VICK
LAND 4900

DRAWN: JFB
DATE: 07/28/2018
SCALE:

SHEET TITLE:
PLANTING PLAN

SHEET NUMBER:
L – 102



A TIMBER STEPS, TYP.

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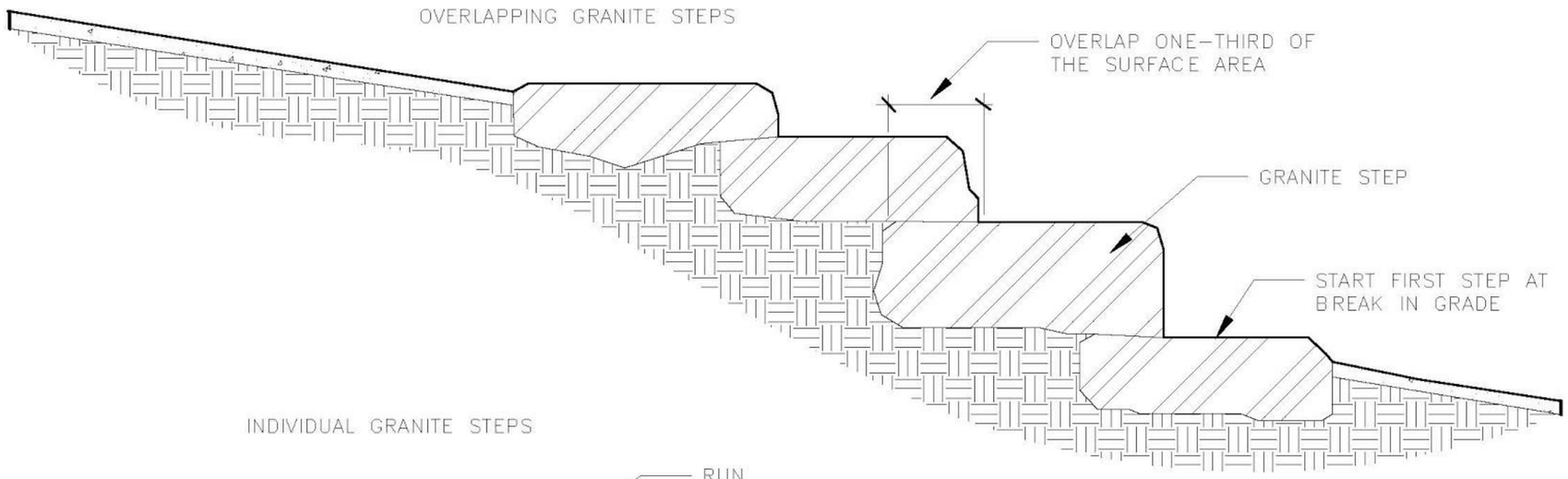
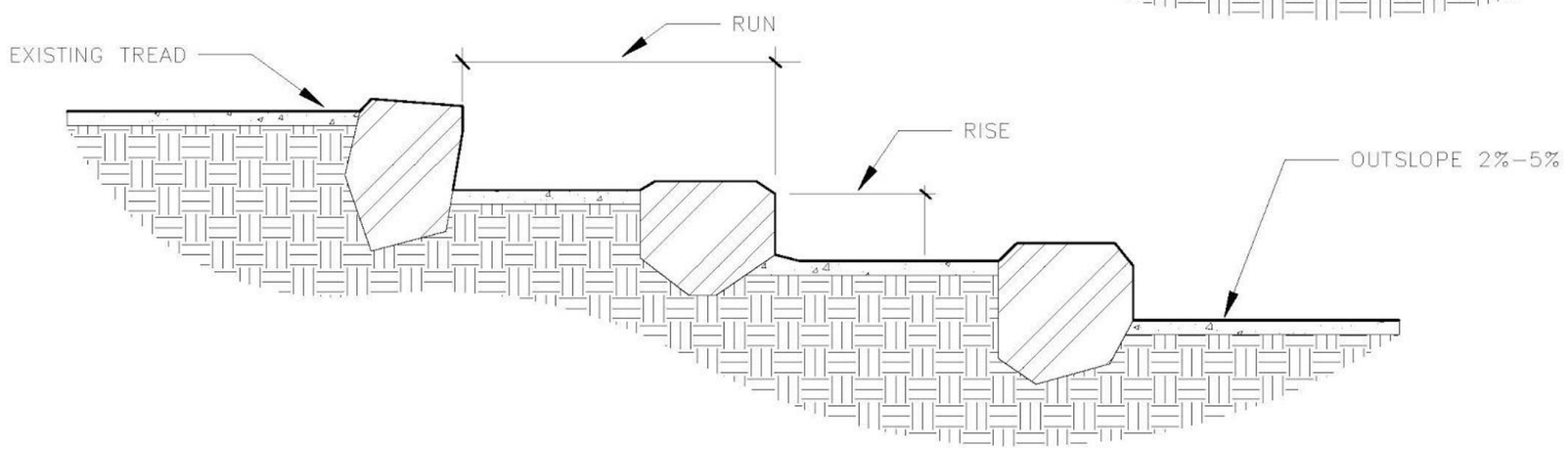
TRAIL MASTERS
PROFESSOR VICK
LAND 4900

DRAWN: JFB
DATE: 07/28/2018
SCALE:

SHEET TITLE:
TIMBER STEPS DETAIL

SHEET NUMBER:
L – 103





B GRANITE STEPS DETAIL, TYP.

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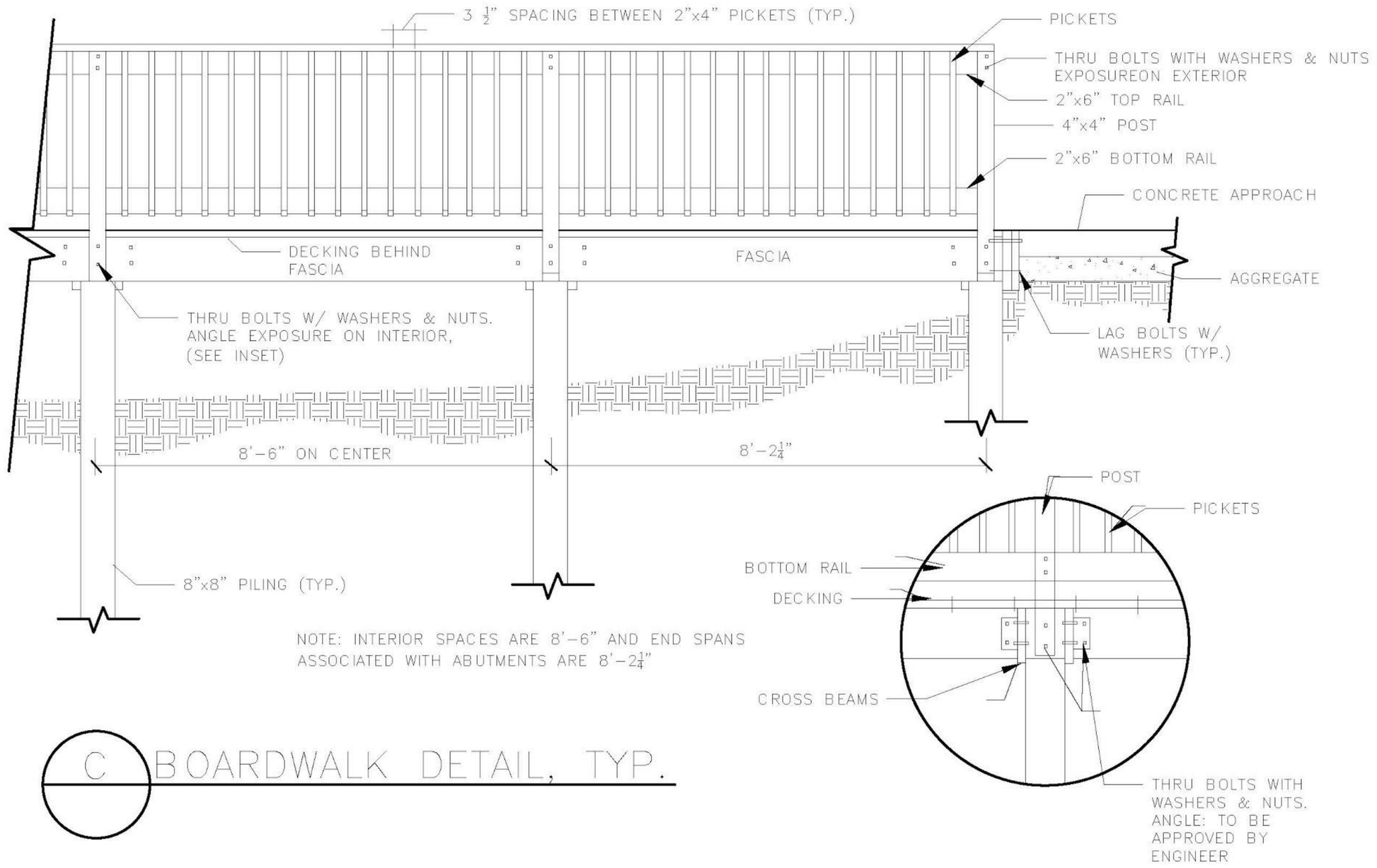
TRAIL MASTERS
PROFESSOR VICK
LAND 4900

DRAWN: JFB
DATE: 07/28/2018
SCALE:

SHEET TITLE:
GRANITE STEPS DETAIL

SHEET NUMBER:
L – 104



NOTE: INTERIOR SPACES ARE 8'-6" AND END SPANS ASSOCIATED WITH ABUTMENTS ARE 8'-2¼"

C BOARDWALK DETAIL, TYP.

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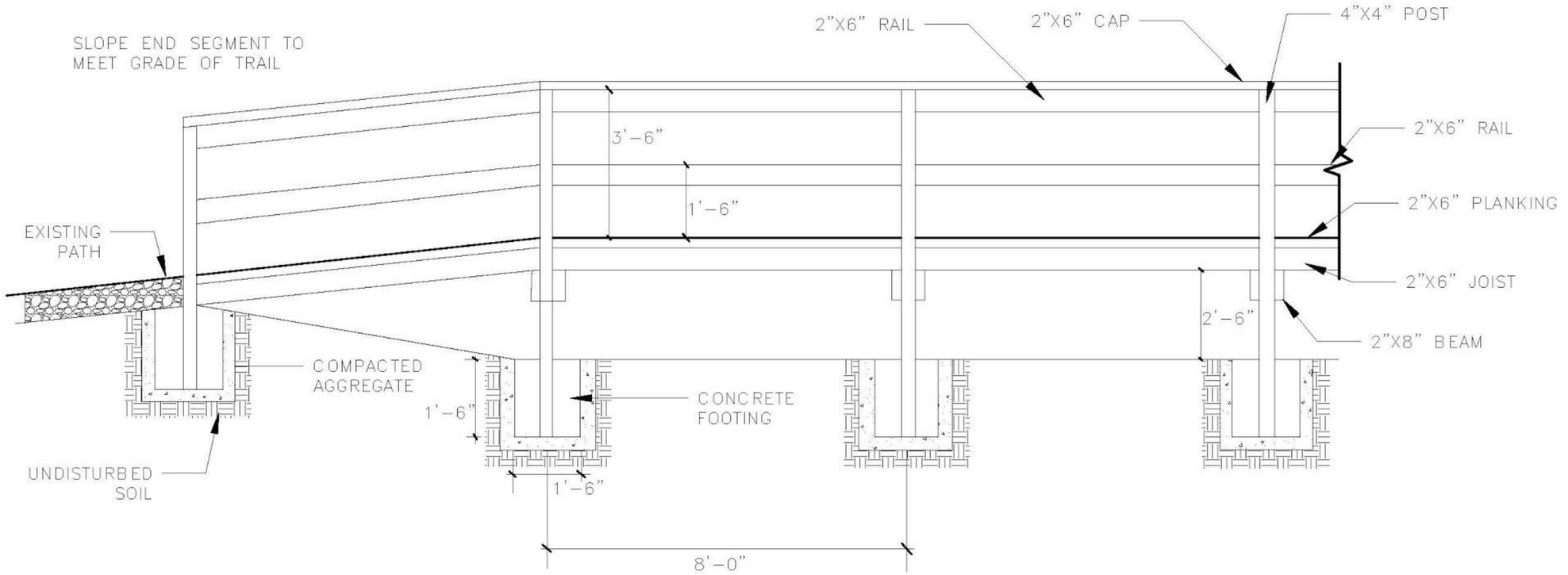
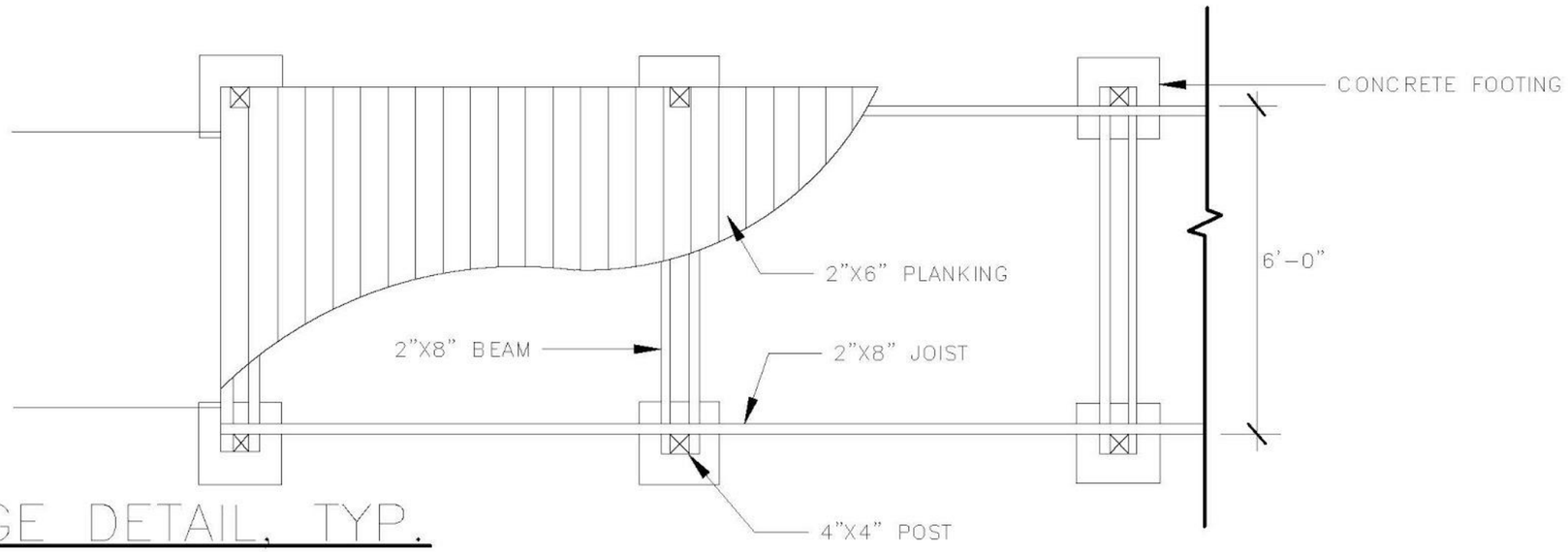
TRAIL MASTERS
PROFESSOR VICK
LAND 4900

DRAWN: JFB
DATE: 07/28/2018
SCALE:

SHEET TITLE:
BOARDWALK DETAIL

SHEET NUMBER:
L – 105





D BRIDGE DETAIL, TYP.

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SERENBE TRAILS
TRAIL MASTERS
PROFESSOR VICK
LAND 4900

DRAWN: JFB
DATE: 07/28/2018
SCALE:

SHEET TITLE:
BRIDGE DETAIL

SHEET NUMBER:
L – 106

Design Suggestions

Conclusion

Summary of Proposal

- Improve accessibility by using ADA standards and new tread type materials
- Create connections between hamlets
- Identify existing trails and assess conditions
- Create sites along the trails to allow for user experiences
- Offer a new master plan option to improve walkability of the community
- Provide trail hierarchy