

COLUMBIA

ENGINEERING
AND SERVICES, INC.



Children's Stormwater Garden @ Roswell River Parks

*Local Park Serves as a Model for
Sustainable Stormwater Integration*

SESWA Annual Conference 2023

WWW.COLUMBIA-ENGINEERING.COM

Children's Stormwater Garden (CSG) at Roswell River Parks

Overview

Introduction

Project Overview

Stormwater Management & GSI

CSG Education / Play Elements

Project Details Summary



Introduction

- About me
- Project Team



Project Overview – Goal & Challenges

Goal: Bring people to the river and promote stormwater education through immersion and interactive play

Challenges:

1. Site Constraints
2. Stakeholder & Regulatory Coordination
3. Maintenance Requirements



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3. Maintenance Requirements



Project Overview – Roswell River Parks Master Plan



Nashville, TN (credit: Marko Forsten)



Chattanooga, TN (credit: Cesar's iPhoneography's)



Columbus, GA (credit: VisitColumbusGA)



Greenville, SC (credit: Roswell Riverpark Master Plan)

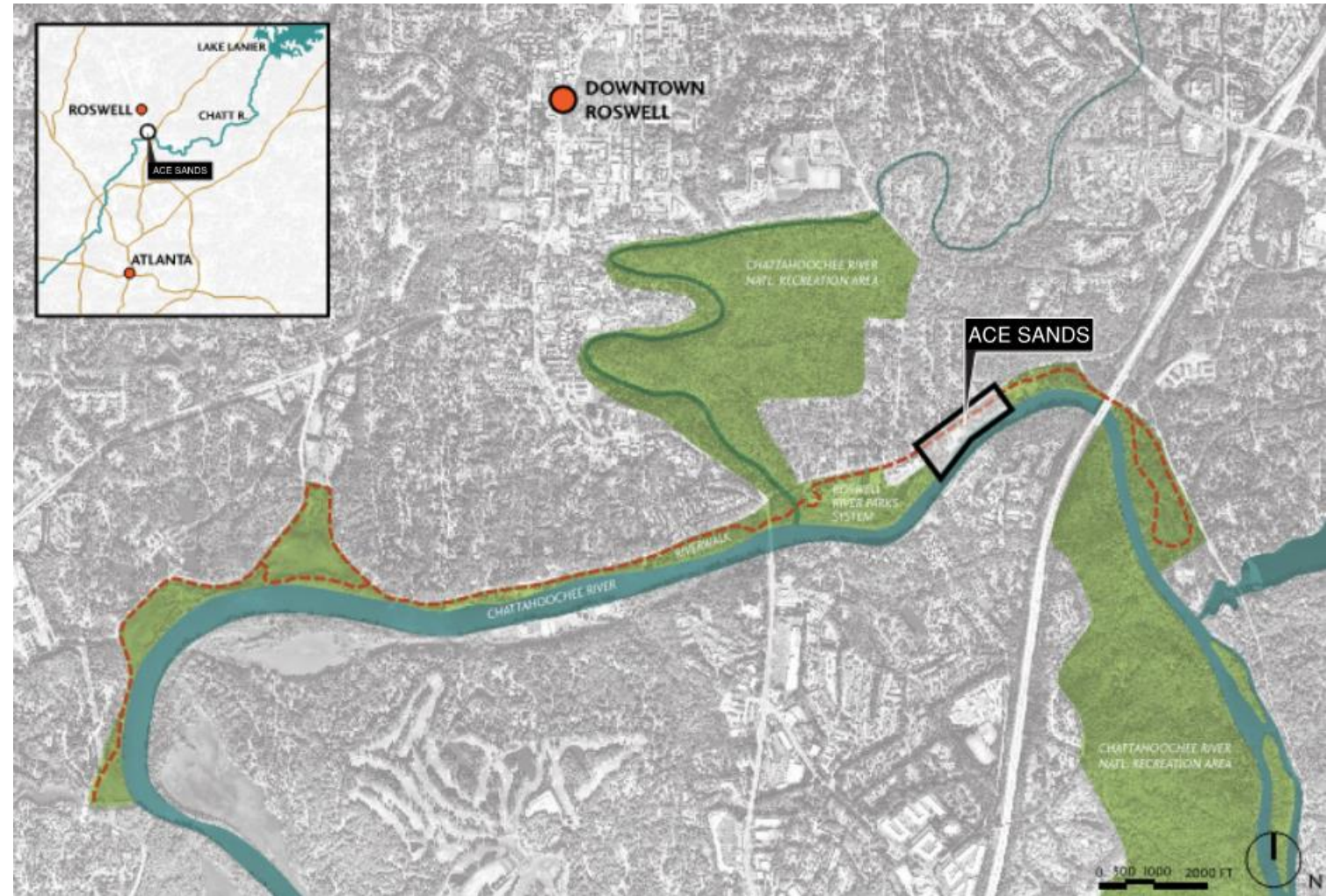
Project Overview – Roswell River Parks Master Plan

Roswell River Parks Master Plan

- 15 parcels ~ 22 acres
- 8 existing/proposed parks
- Unified first-class river park system

Ace Sands Site: ~ 10 acres

- Former mining operation
- Phase 1 – FLT
- Phase 2 – CSG



Source: Roswell River Park Master Plan (2016)

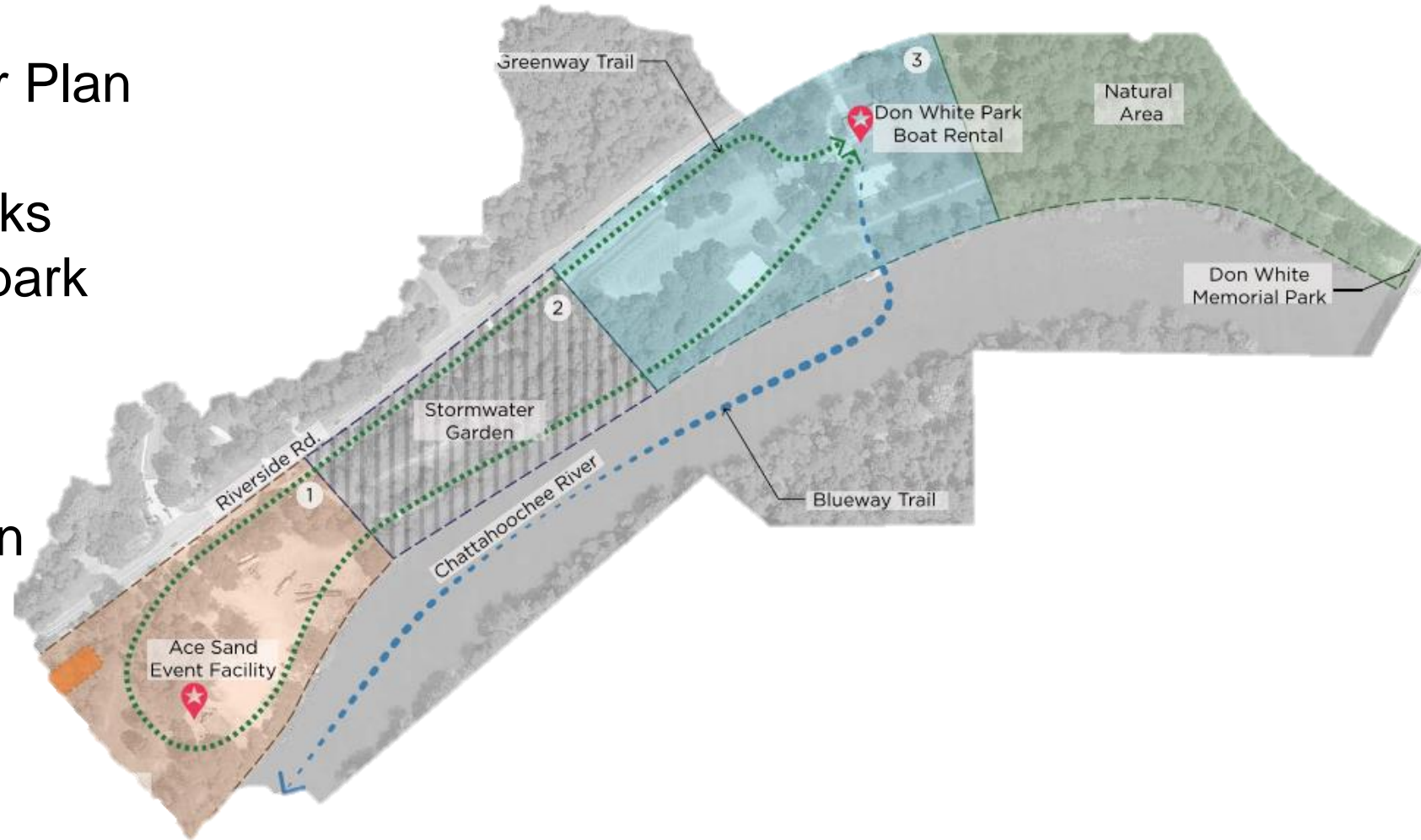
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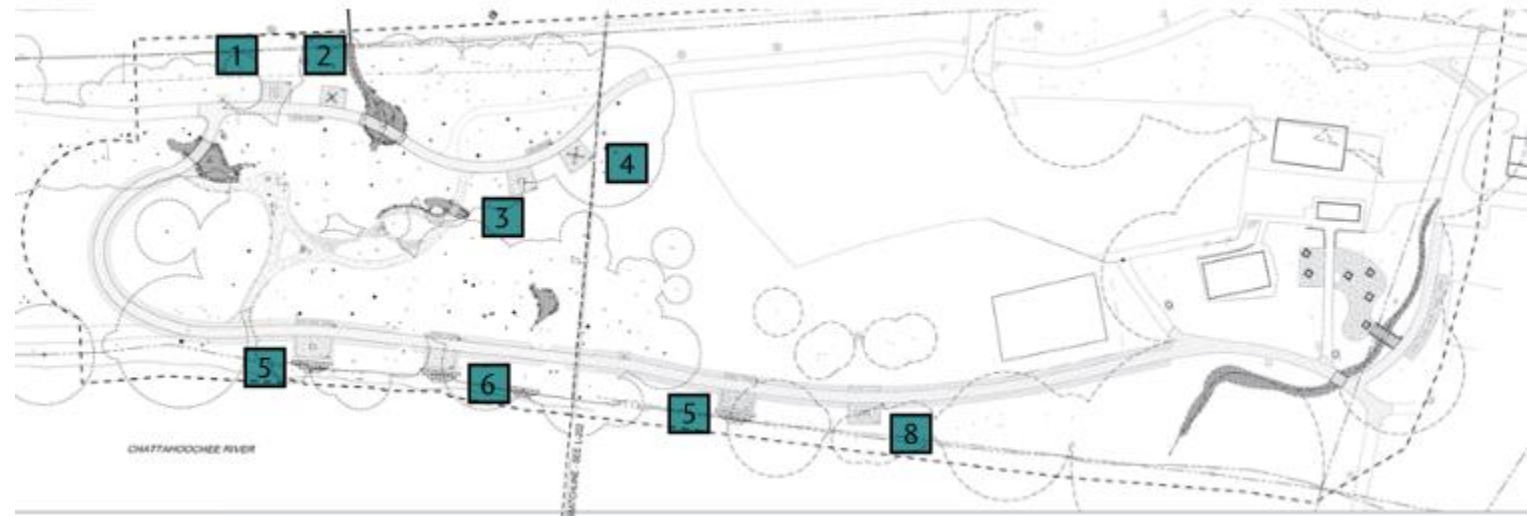
Project Overview – FLT & CSG

Phase 1 – FLT

- Connect multiuse path to existing river path system
- Multiple fitness pods
- Wet swale for water quality

Phase 2 - CSG

- Parking, event space, food truck parking
- Children's stormwater garden
- Multiple GSI and restoration practices



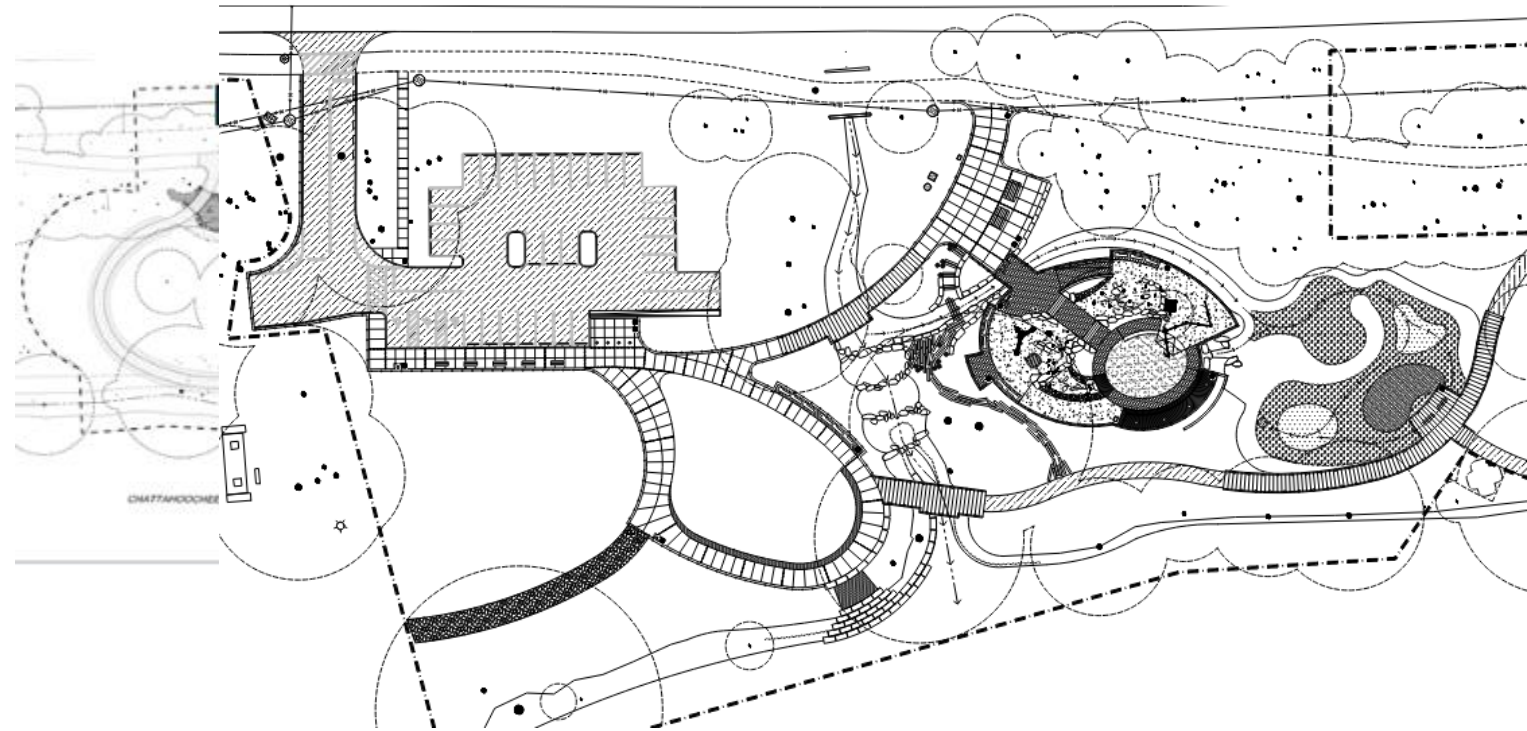
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Stakeholder & Regulatory Coordination



Stakeholder & Regulatory Coordination – Pavement Materials



Asphalt Pavement



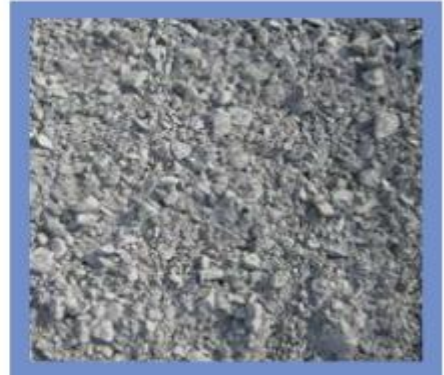
CIP Concrete Pavement,
Exposed Aggregate, Color
Gray (to match boardwalk)



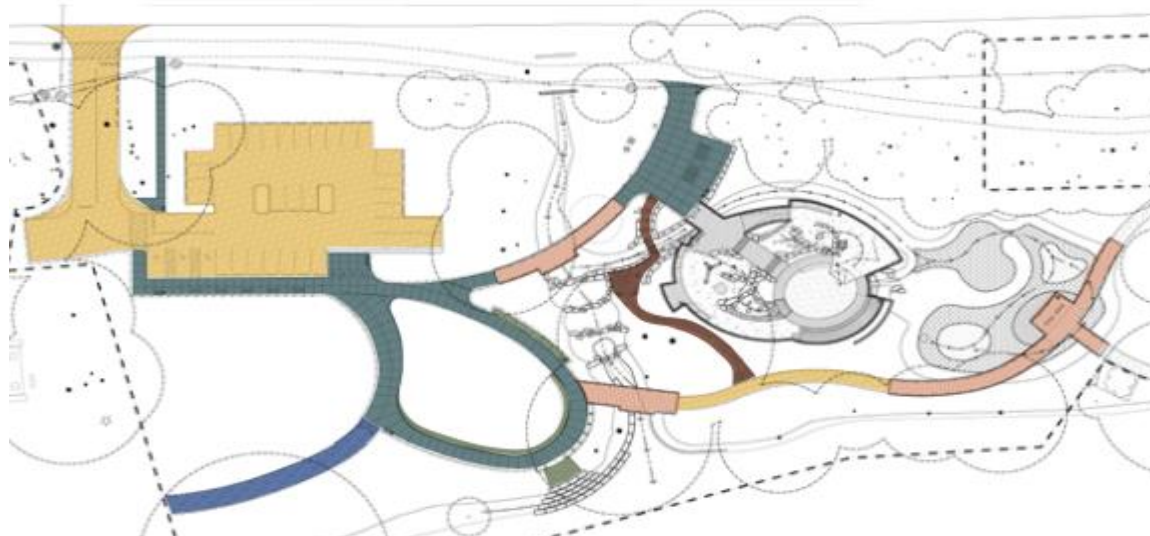
Sawn Log Path



Precast Concrete
Boardwalk (Permatrak,
color: Savannah Brown,
finish: BeachWood)



Gravel Path,
Crushed Ledge Rock
(Crusher Run)



Grasscrete,
TurfStone Pavers

An aerial photograph of a residential area with a semi-transparent green overlay. The overlay shows three distinct flood zones: a light green area at the top labeled 'PROJECTED 100 YEAR FLOOD 880', a medium green area in the middle labeled '100 YEAR FLOOD 864', and a dark green area at the bottom labeled 'ROUTINE FLOOD 862'. A dashed white line follows the boundary of the 'ROUTINE FLOOD 862' zone. The text 'CSG - Stormwater Management & GSI' is centered in white over the map.

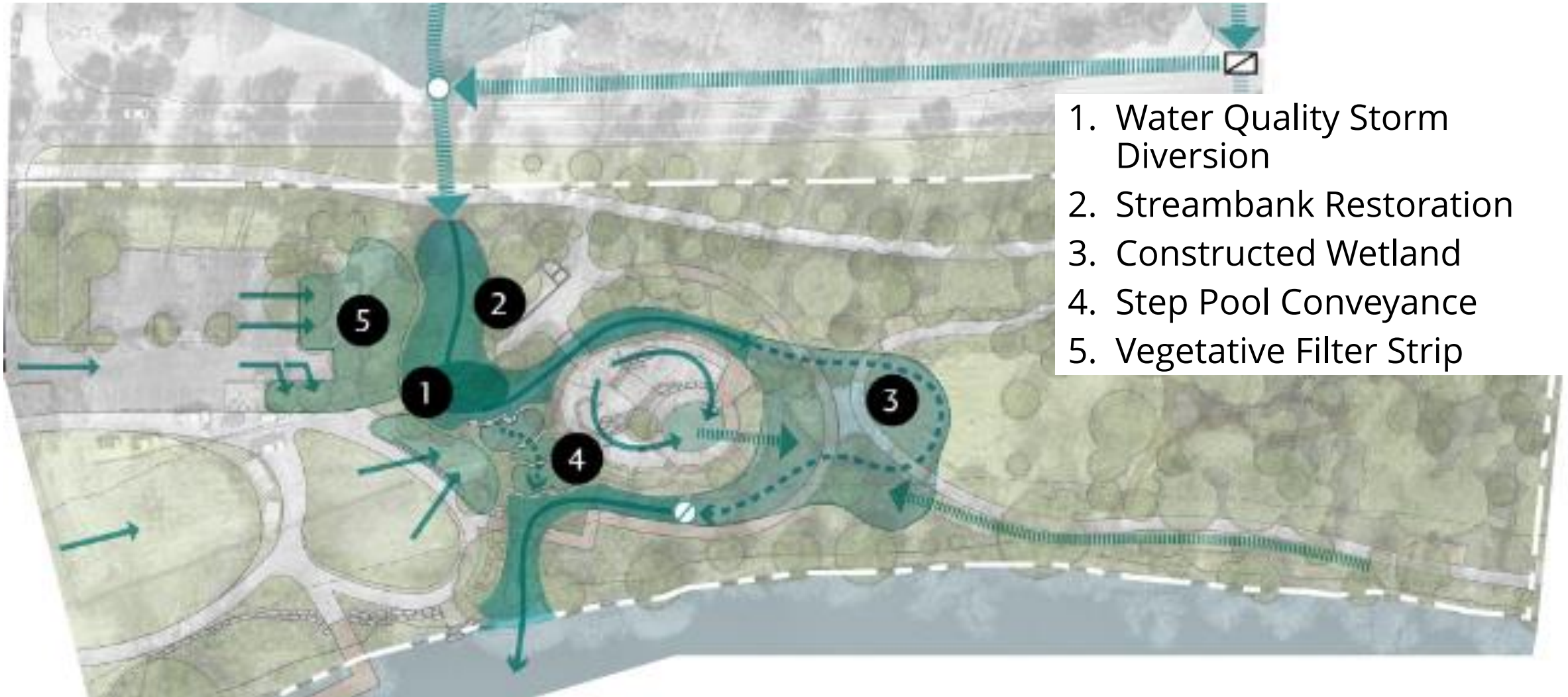
CSG - Stormwater Management & GSI

SOLVING COMPLEX PROBLEMS SINCE 1963

CSG - Stormwater Management & GSI - Overview

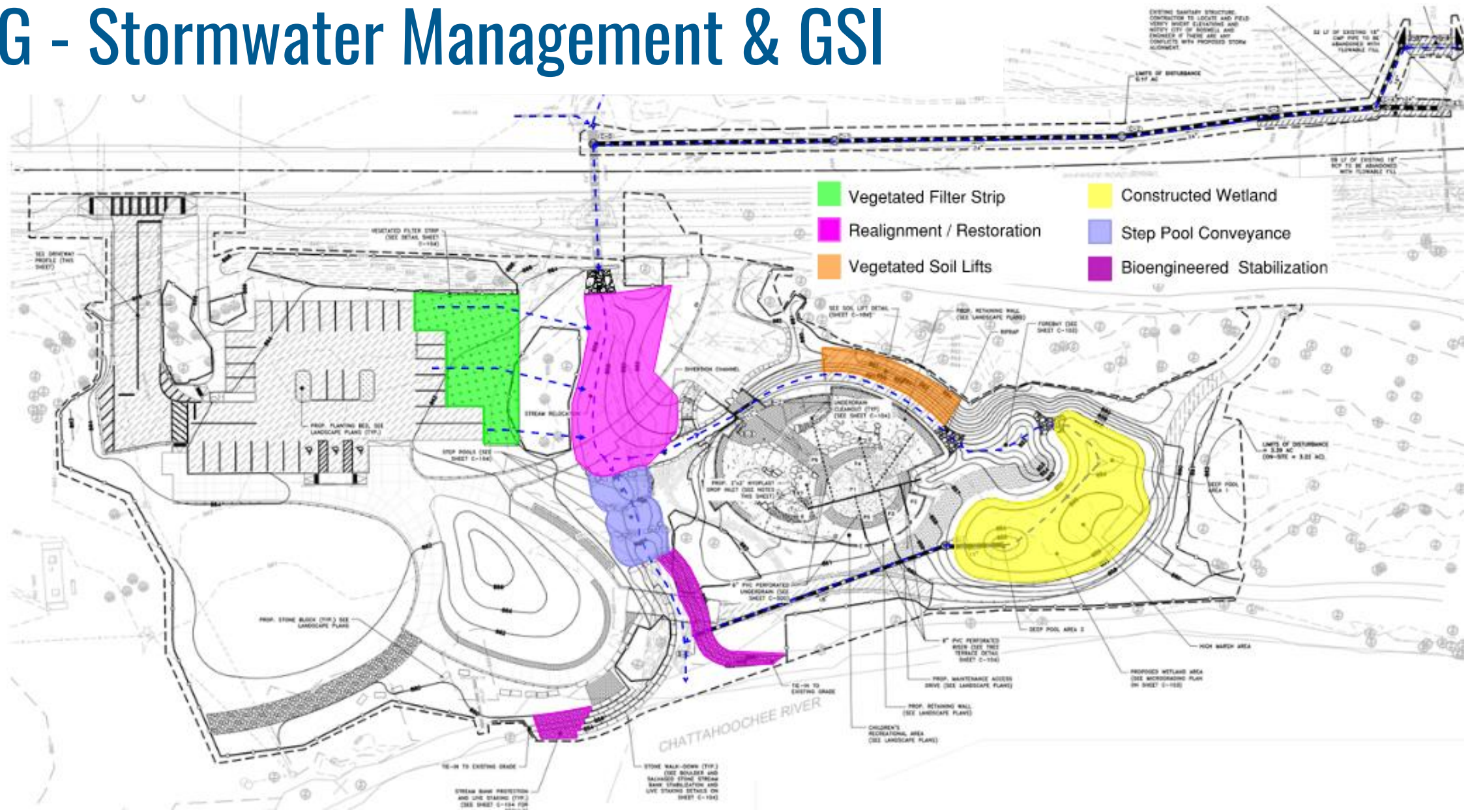


CSG - Stormwater Management & GSI - Overview

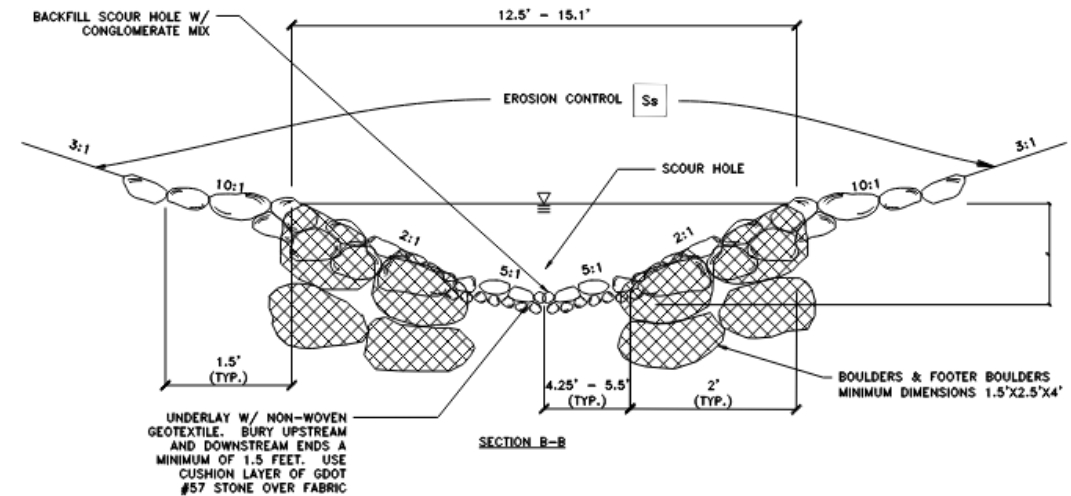
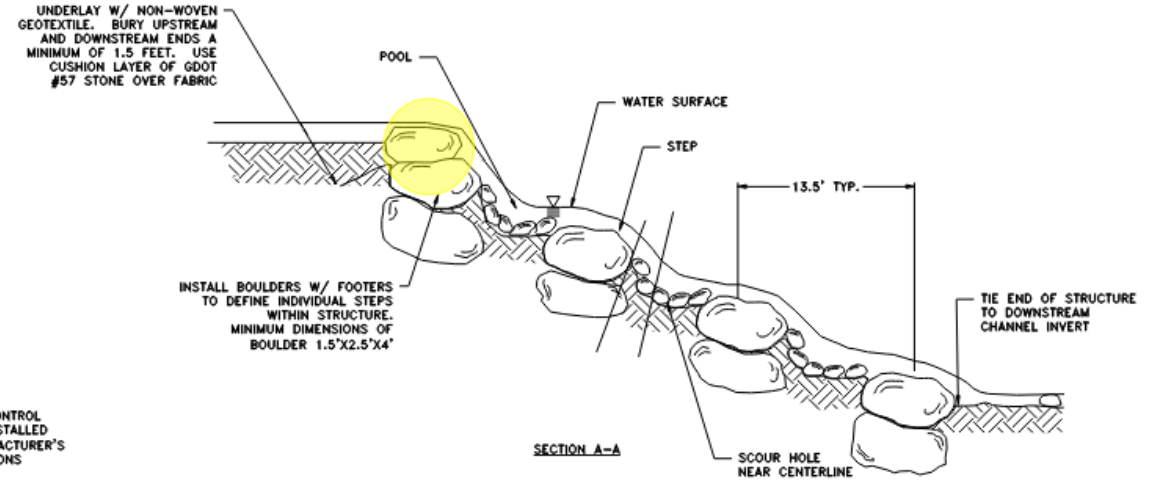
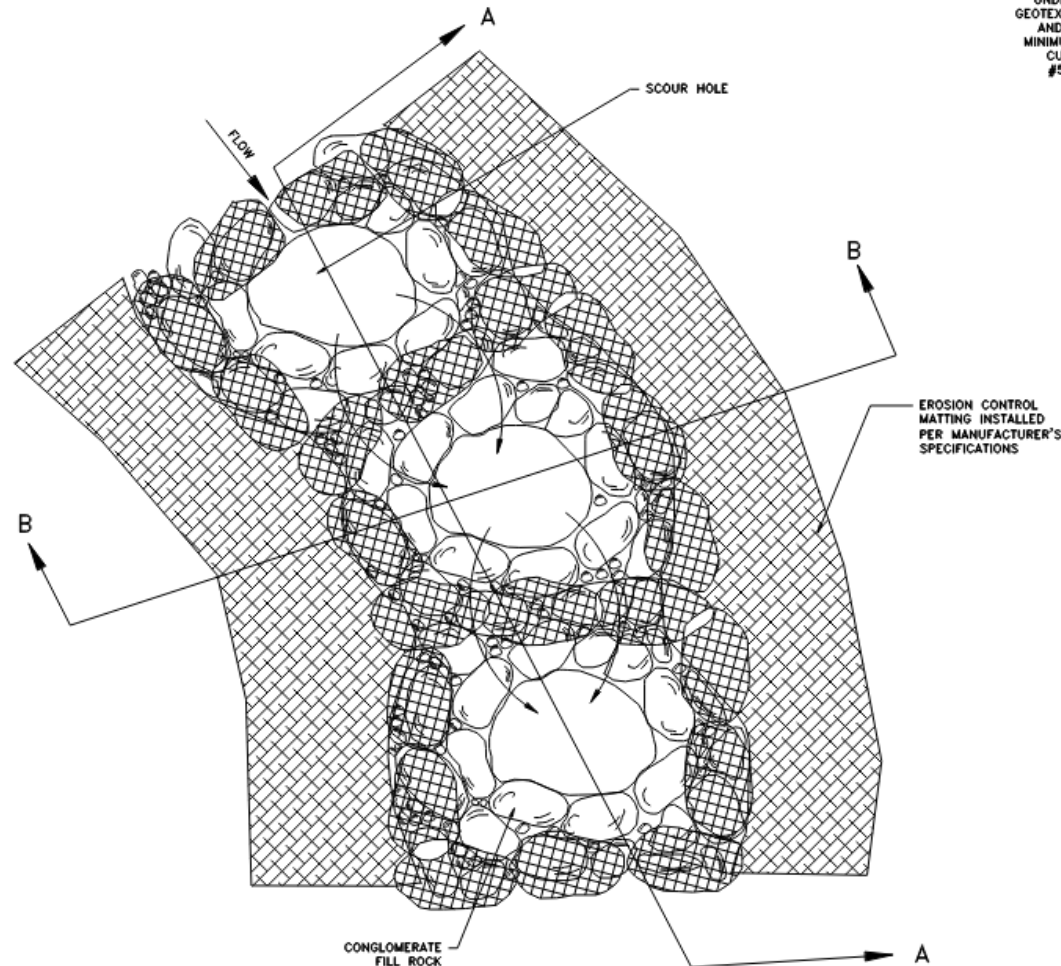


1. Water Quality Storm Diversion
2. Streambank Restoration
3. Constructed Wetland
4. Step Pool Conveyance
5. Vegetative Filter Strip

CSG - Stormwater Management & GSI

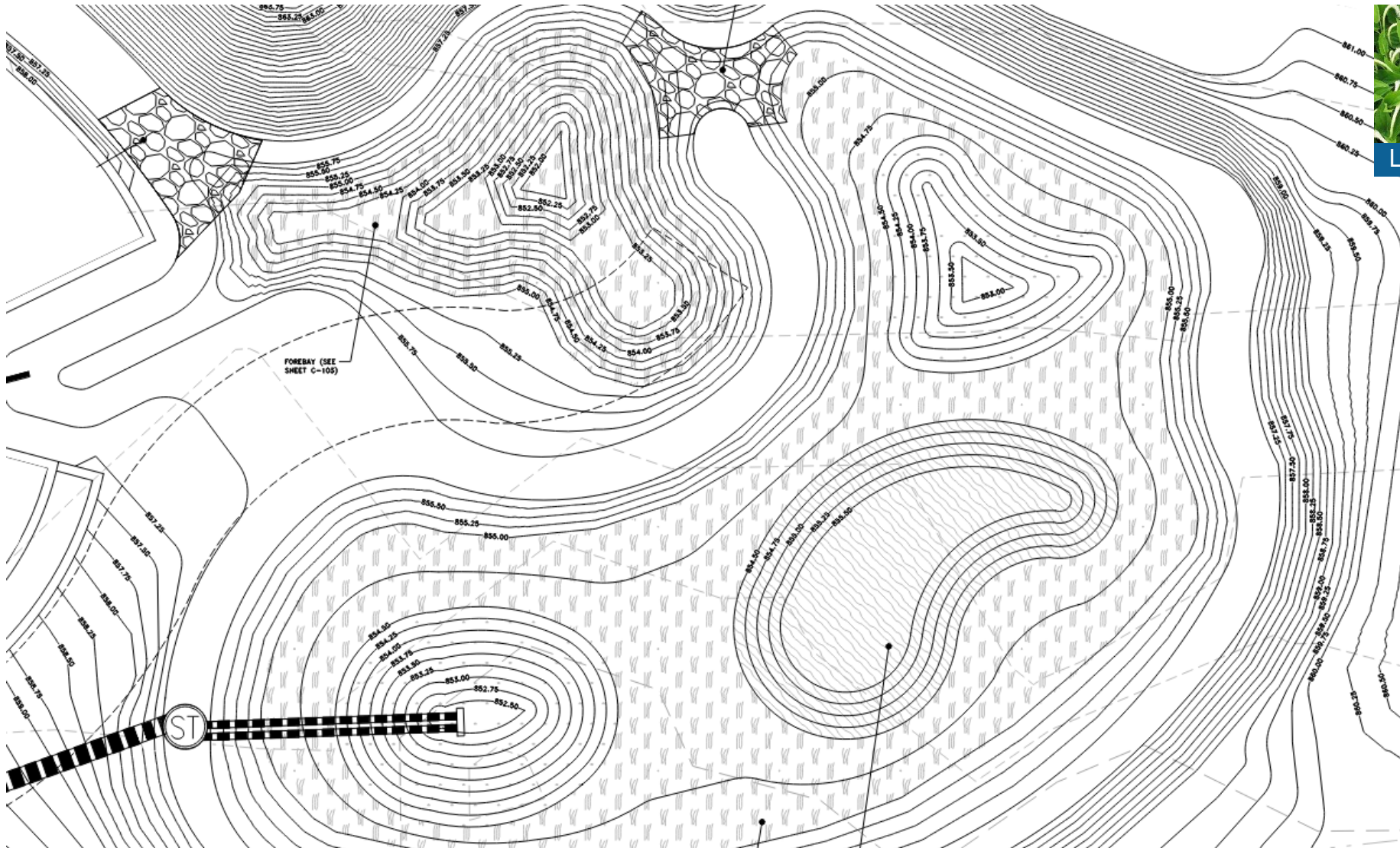


CSG - Stormwater Management & GSI – Step Pool Conveyance

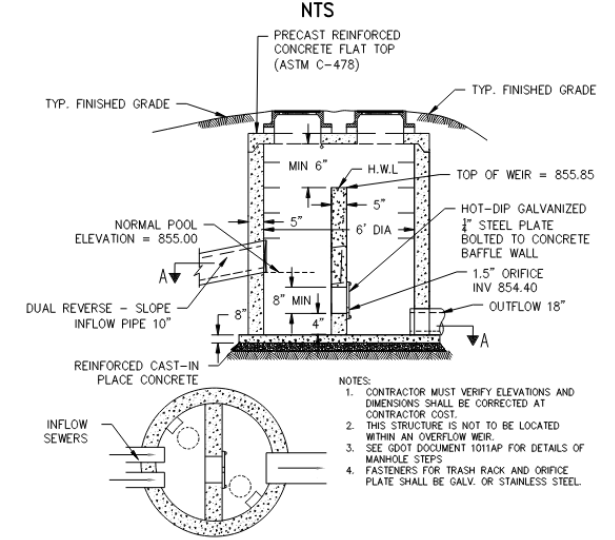


STEP POOL
N.T.S.

CSG - Stormwater Management & GSI – Constructed Wetland

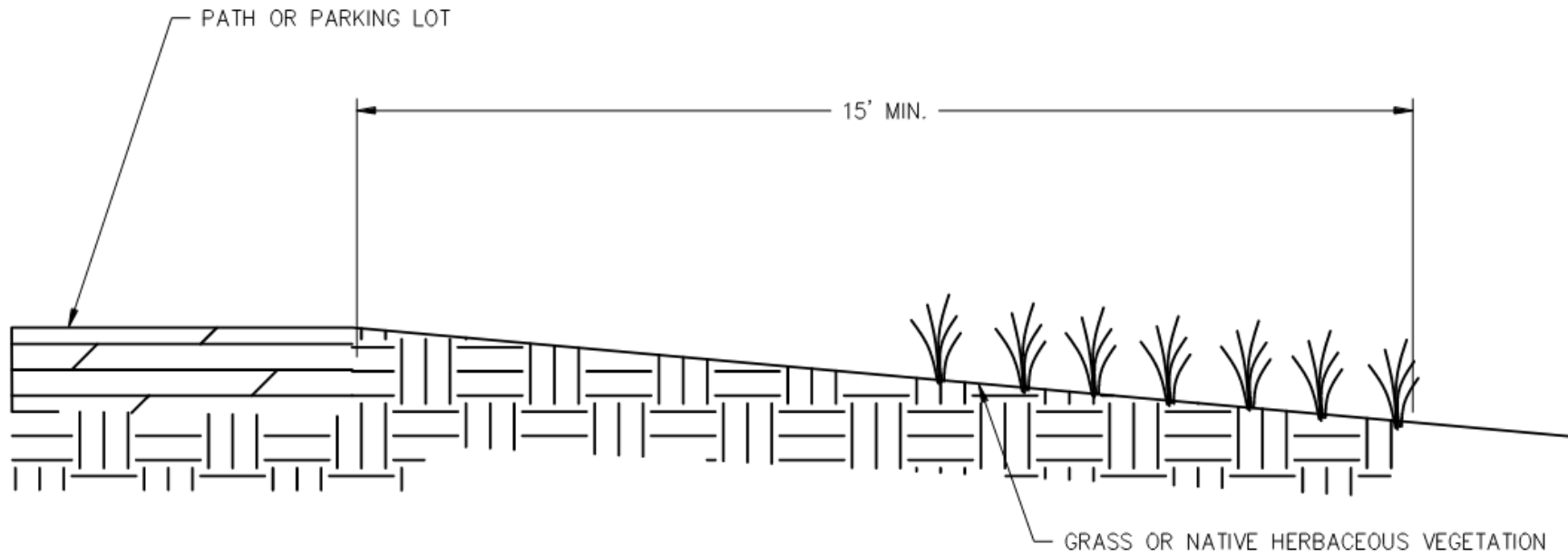


OUTLET CONTROL STRUCTURE DETAIL



CSG - Stormwater Management & GSI – Vegetated Filter Strip

VEGETATED FILTER STRIP DETAIL NTS



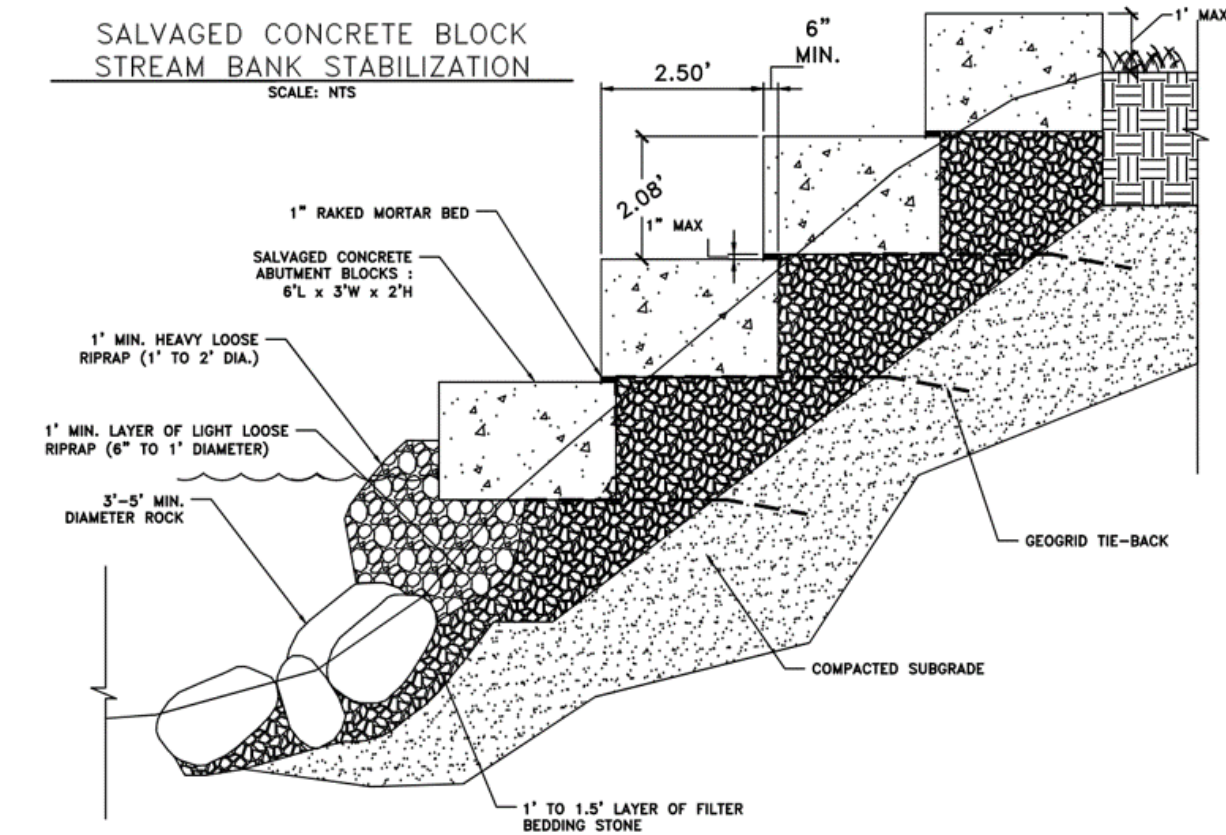
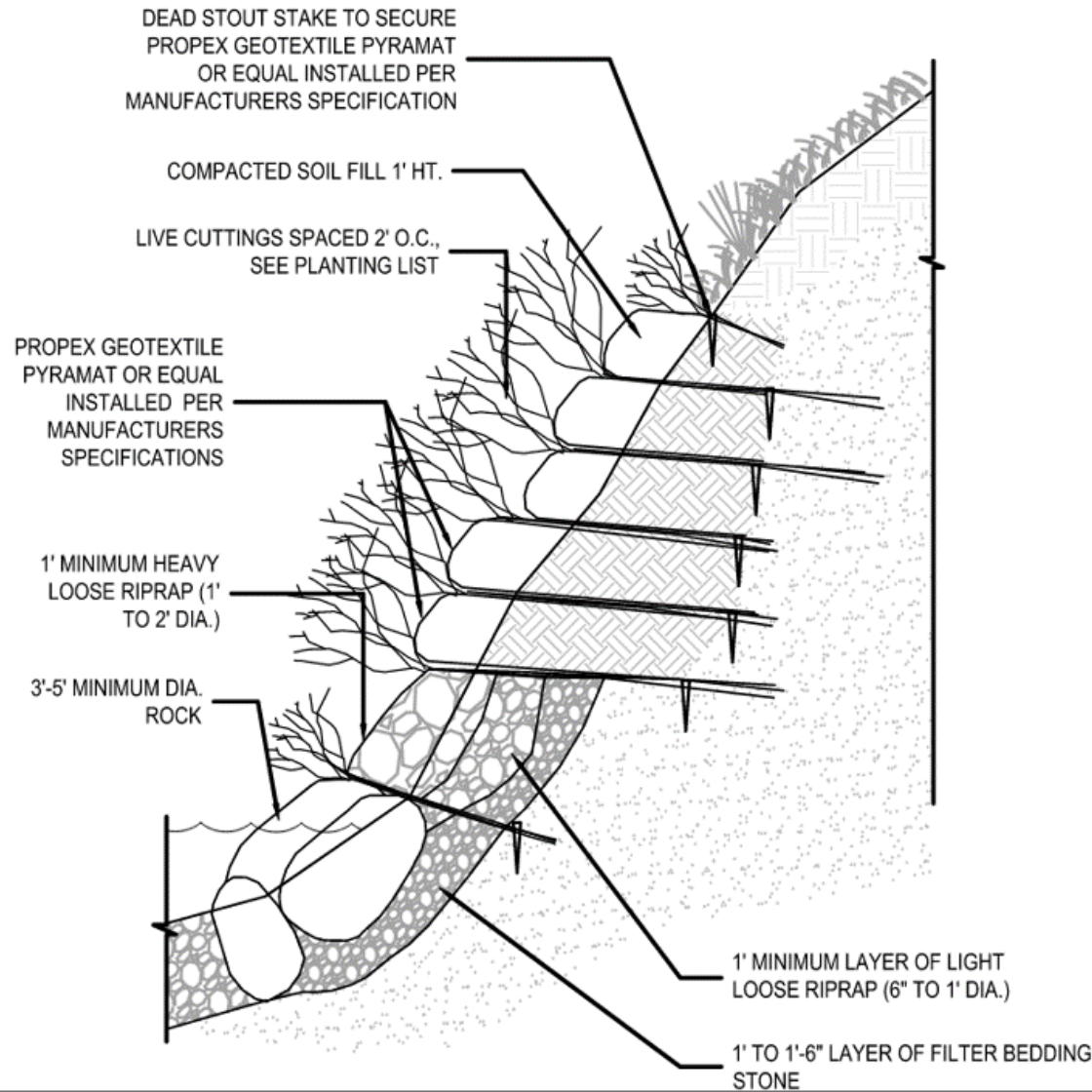
NOTES:

1. SLOPE SHALL BE BETWEEN 2-6%
2. VEGETATED FILTER STRIP SHALL BE UNIFORMLY GRADED

CSG - Stormwater Management & GSI – Vegetated Filter Strip

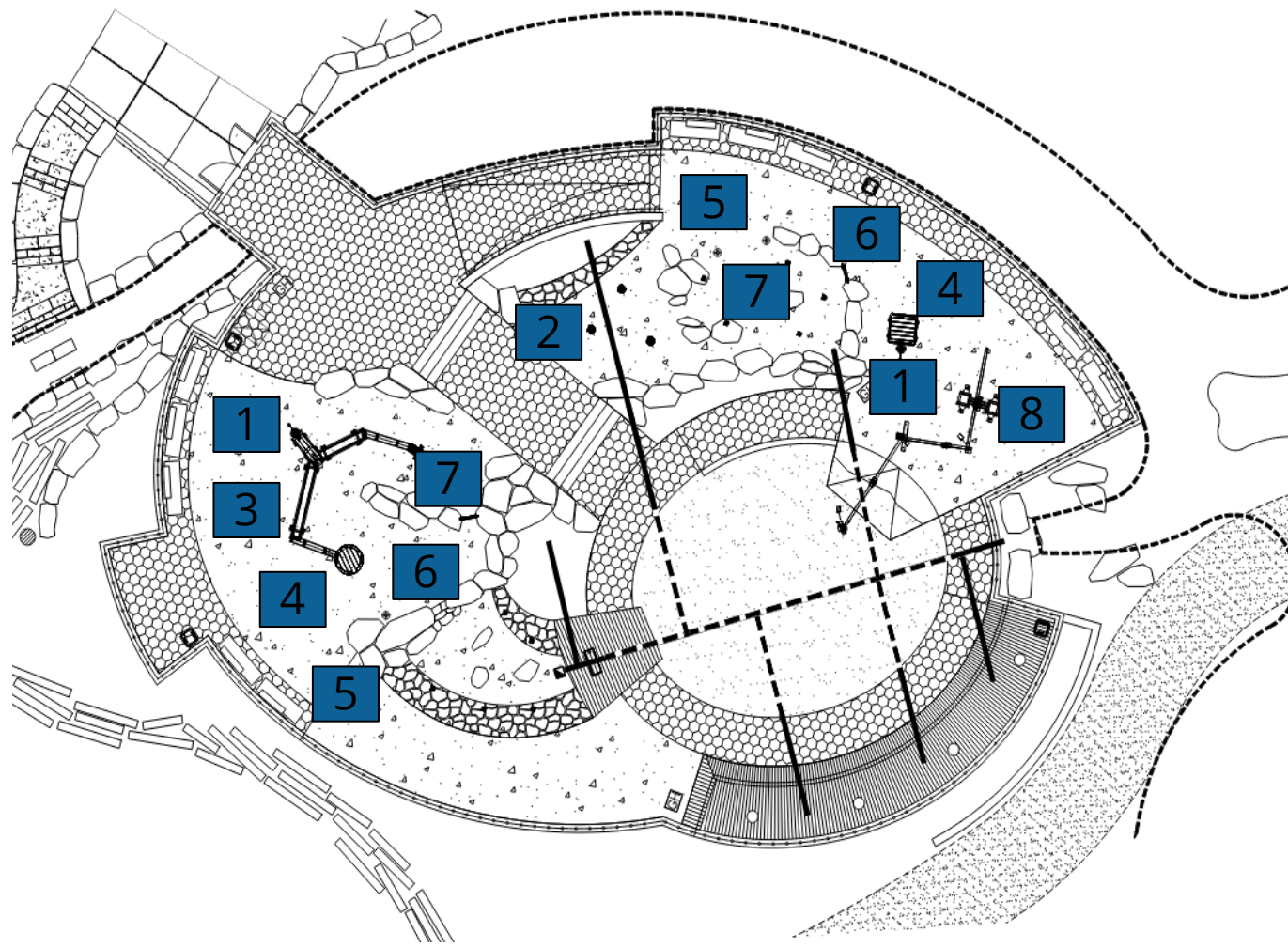


CSG - Stormwater Management & GSI – Bank Stabilization



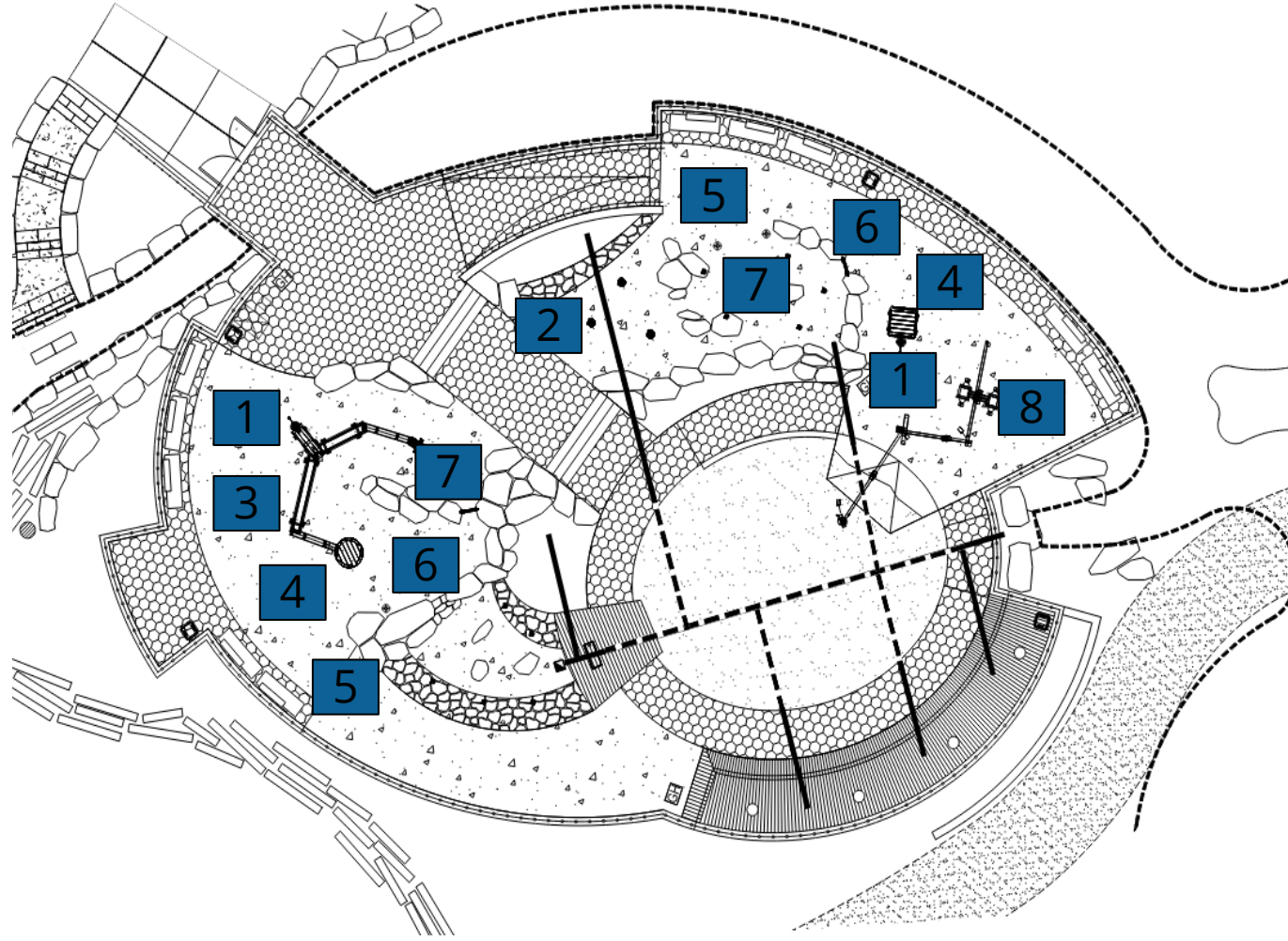
CSG – Park Education & Play Elements

- 1. Well Pump
- 2. Mushroom Pump
- 3. Water Channels
- 4. Mud Tables
- 5. Shower Activator
- 6. Dams
- 7. Spray Shower
- 8. Sand Transport



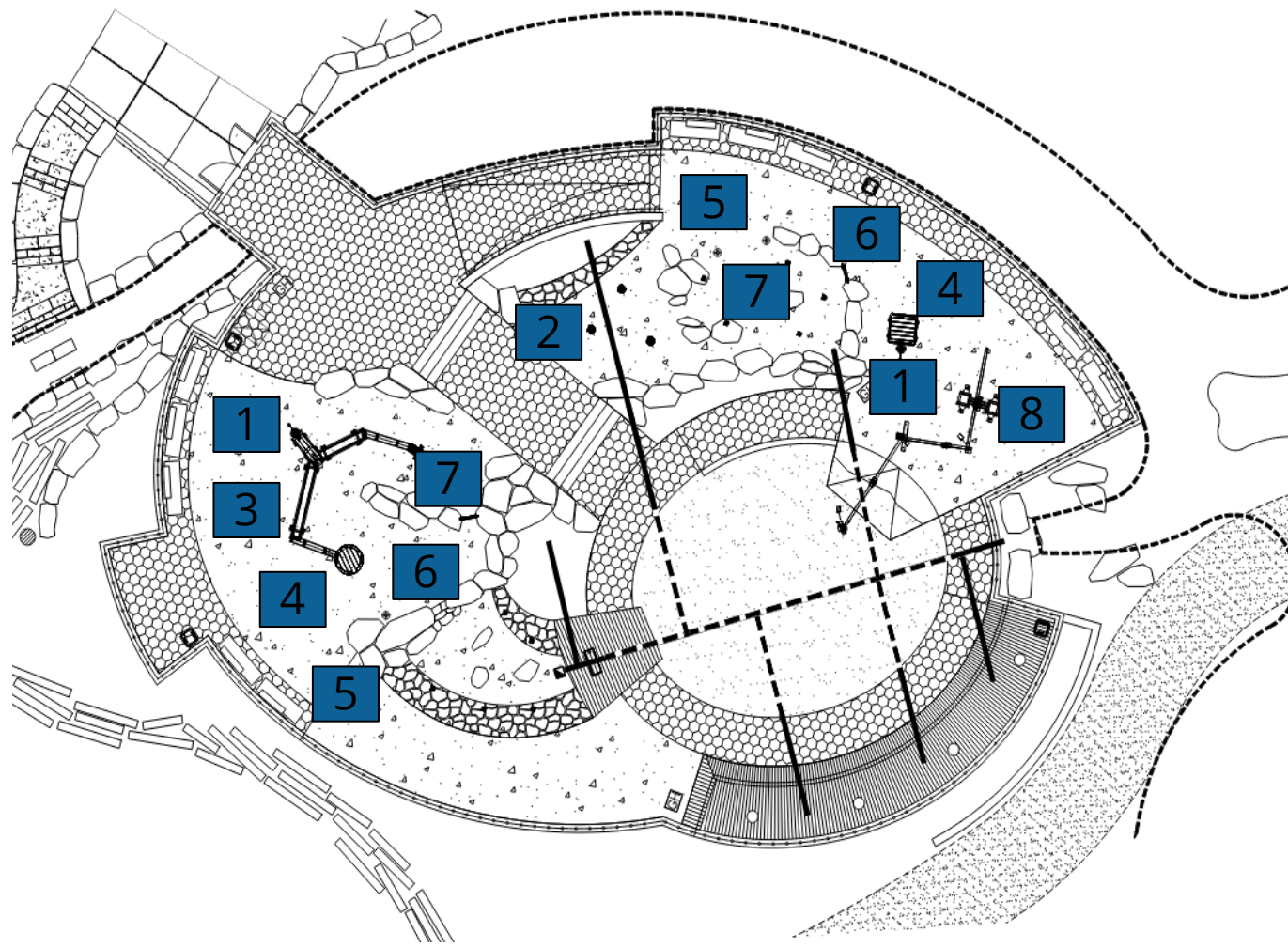
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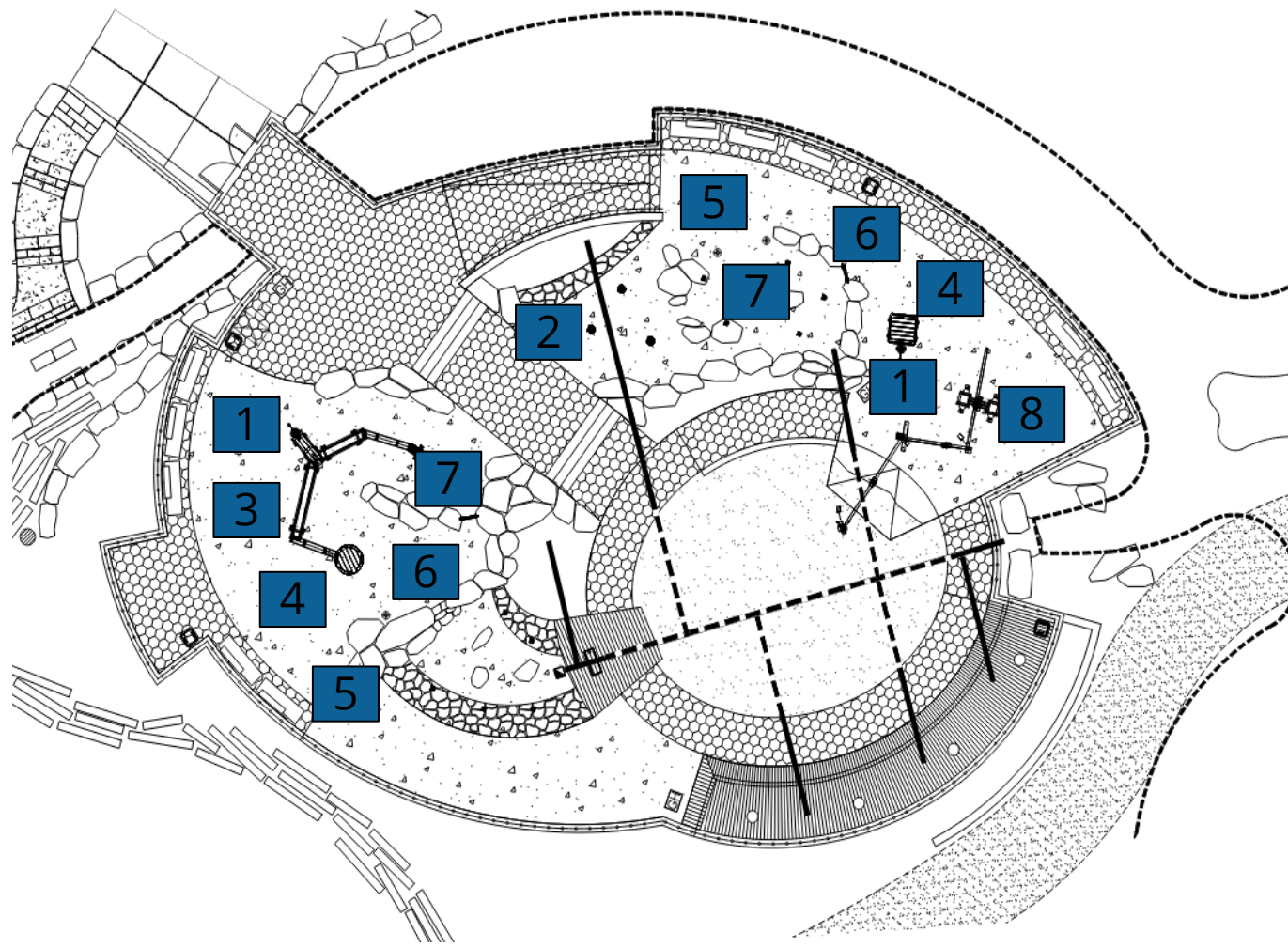
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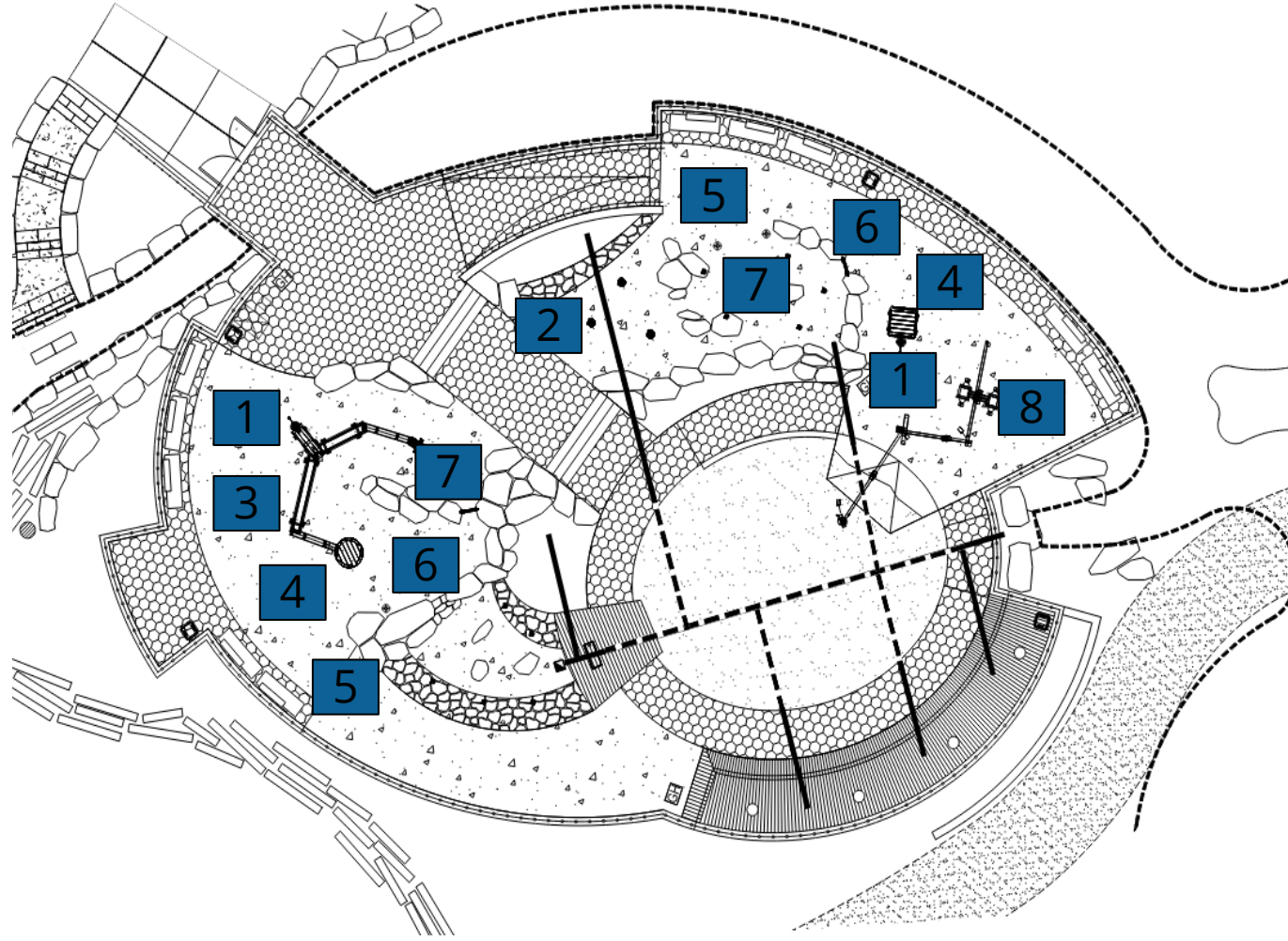
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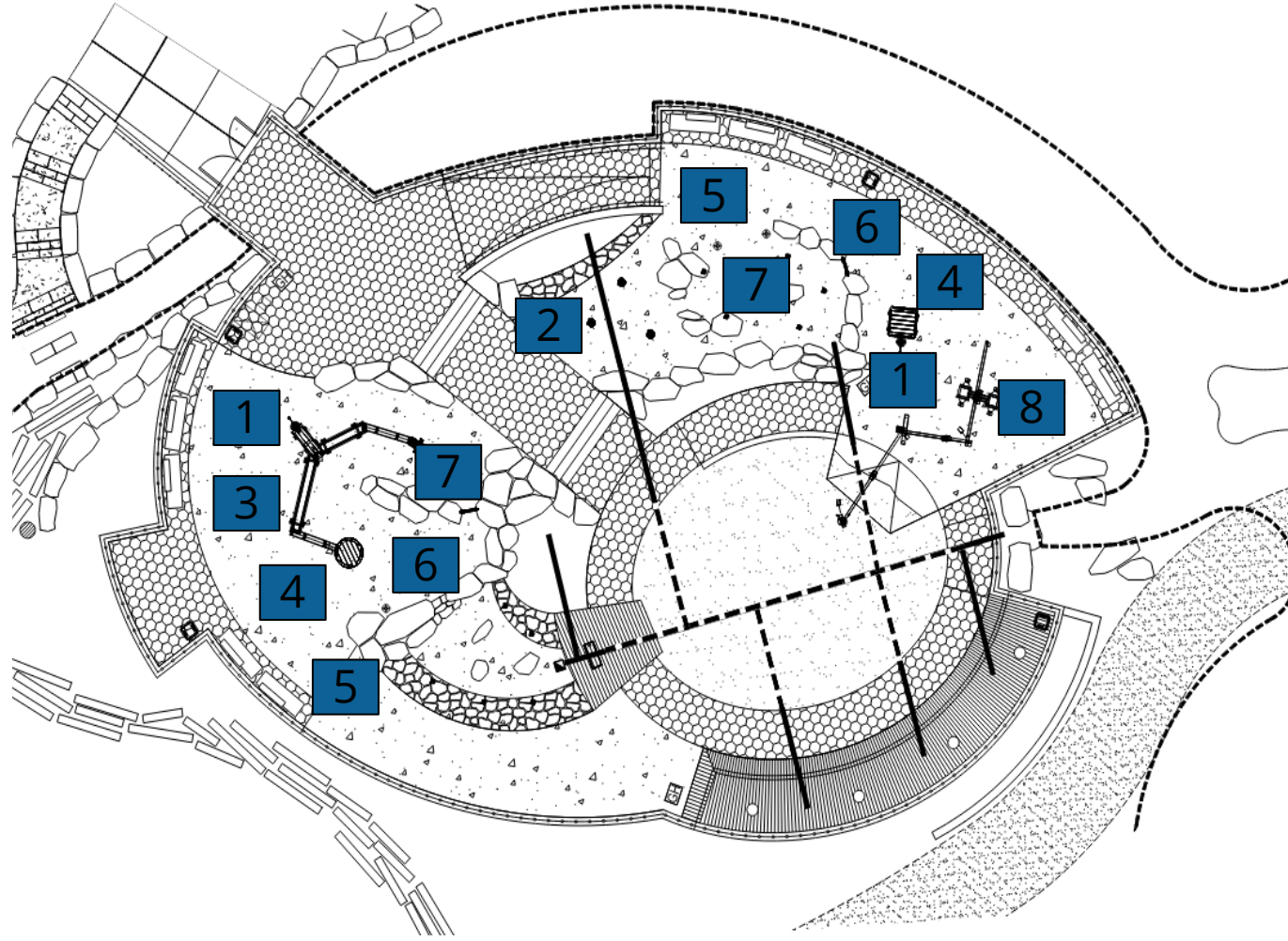
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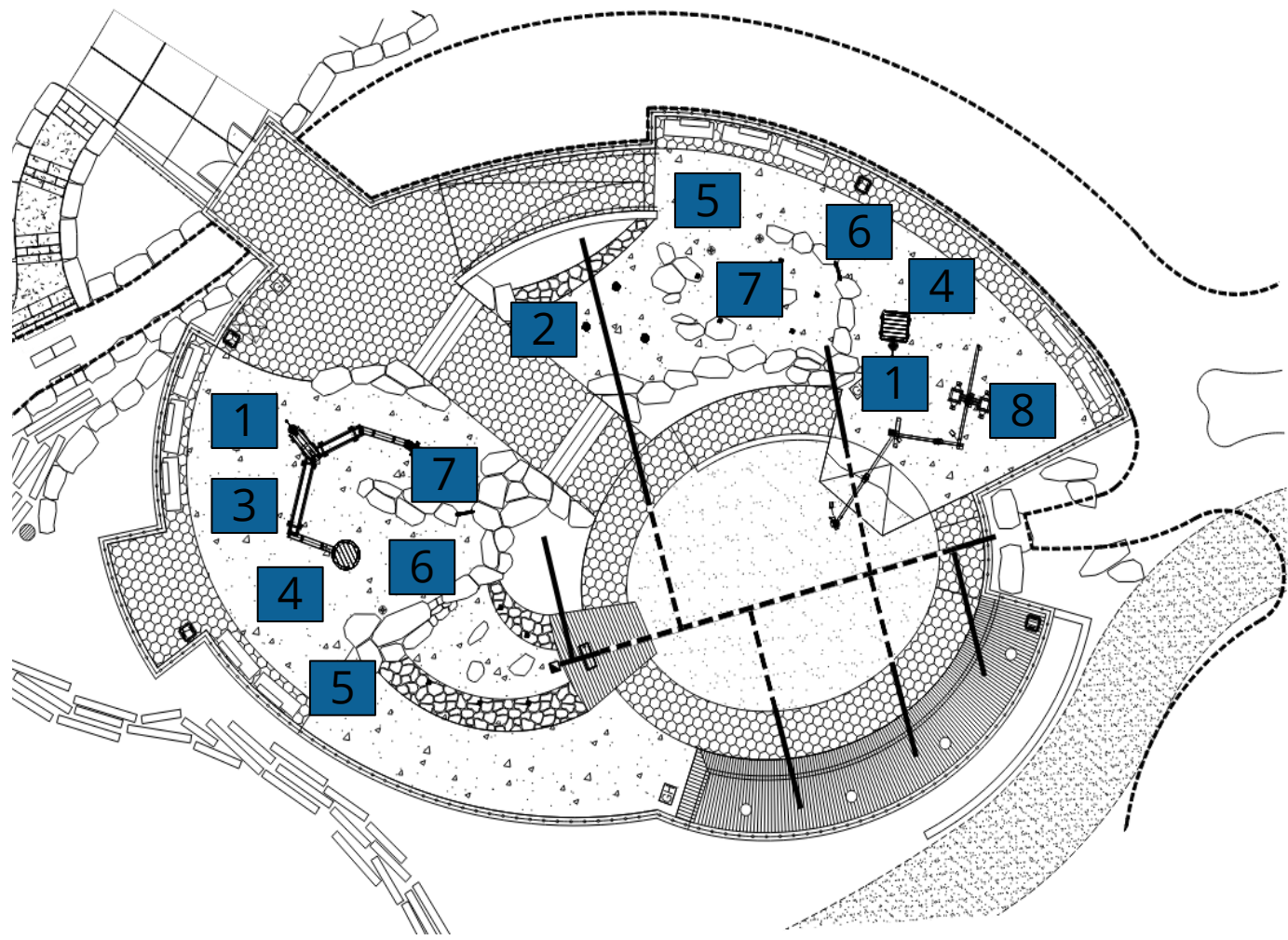
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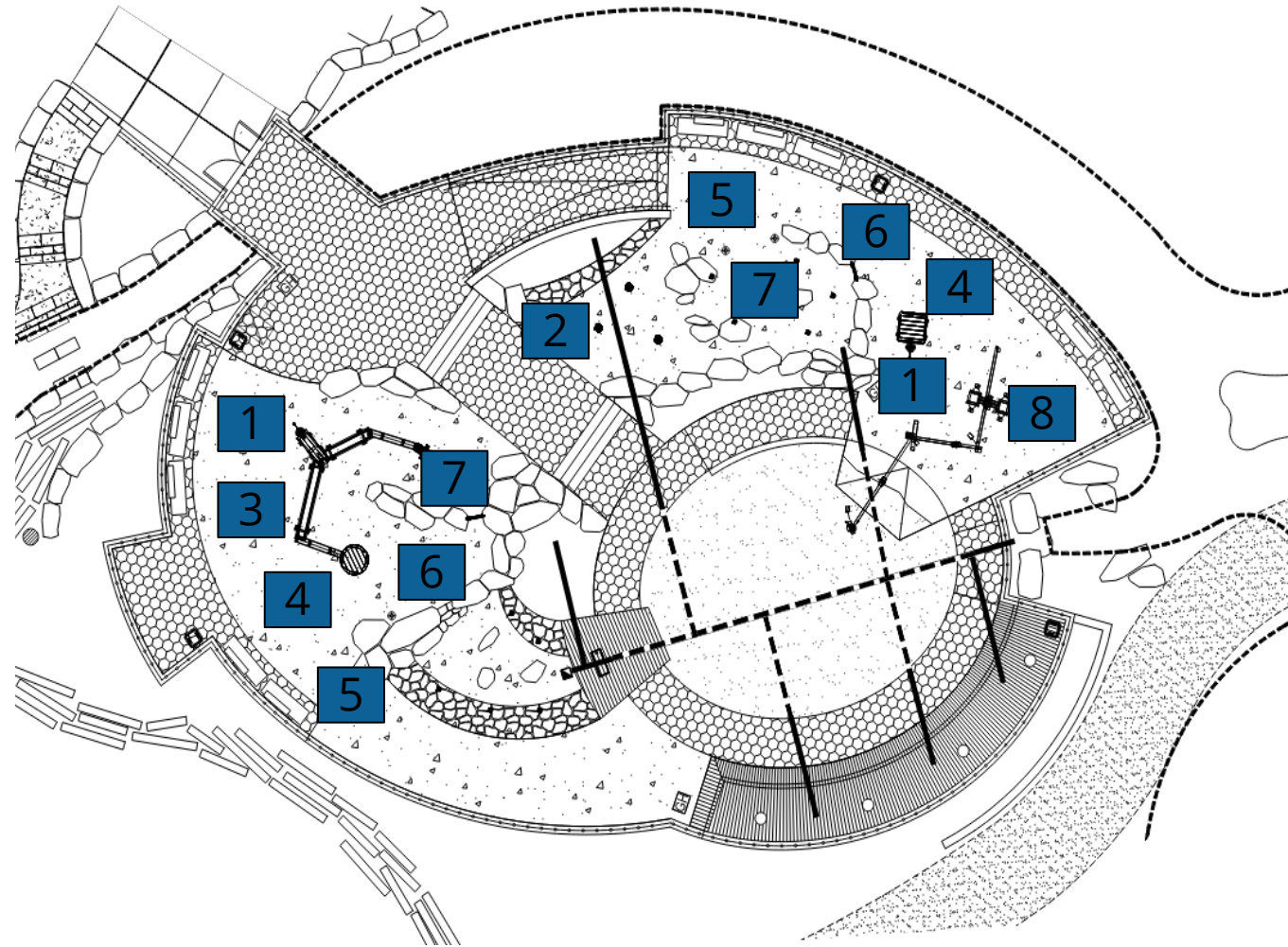
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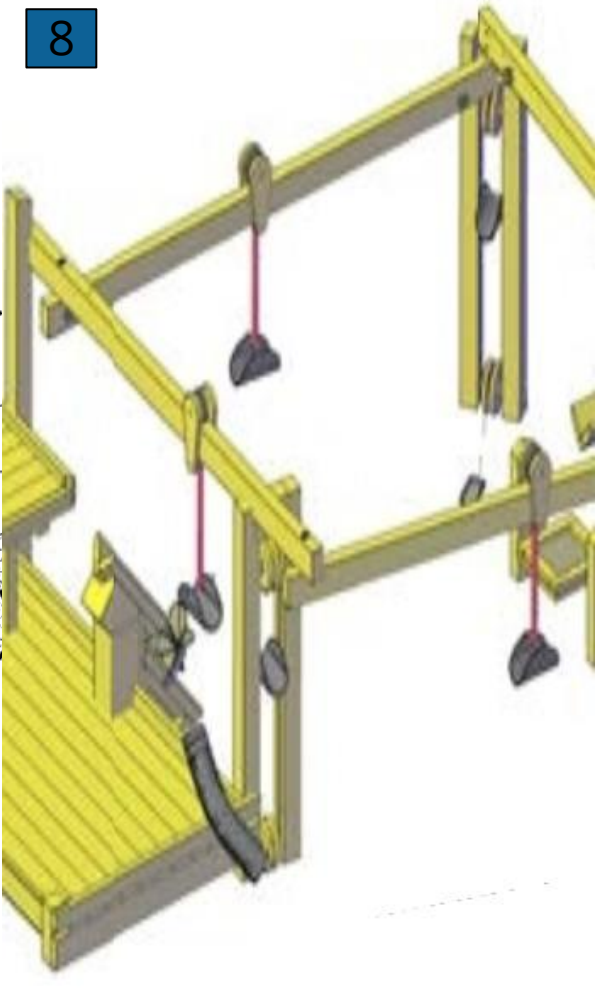
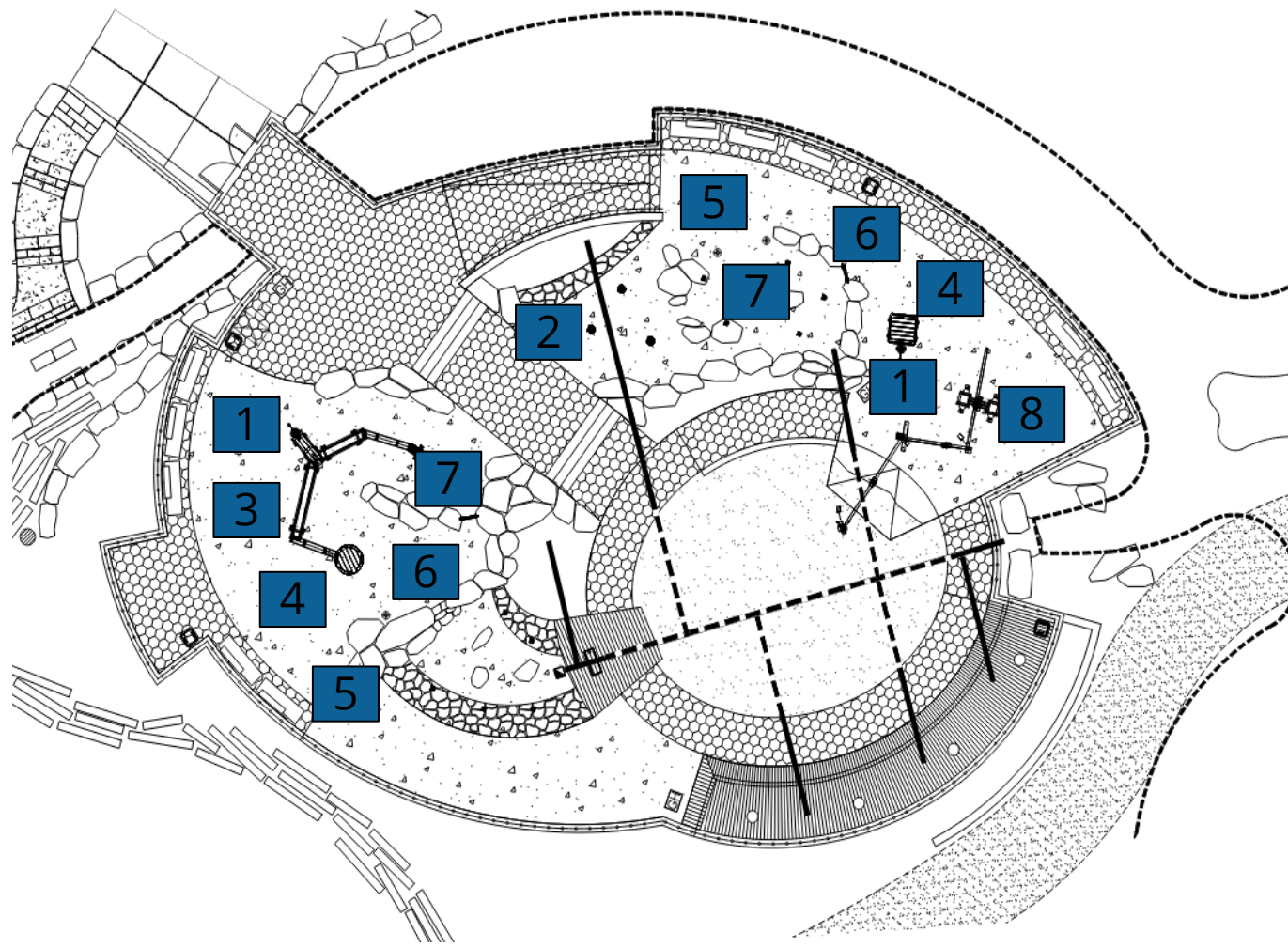
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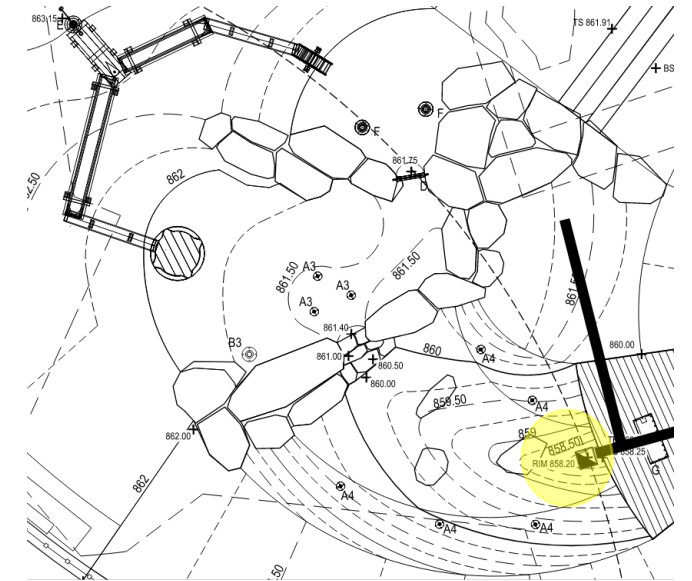
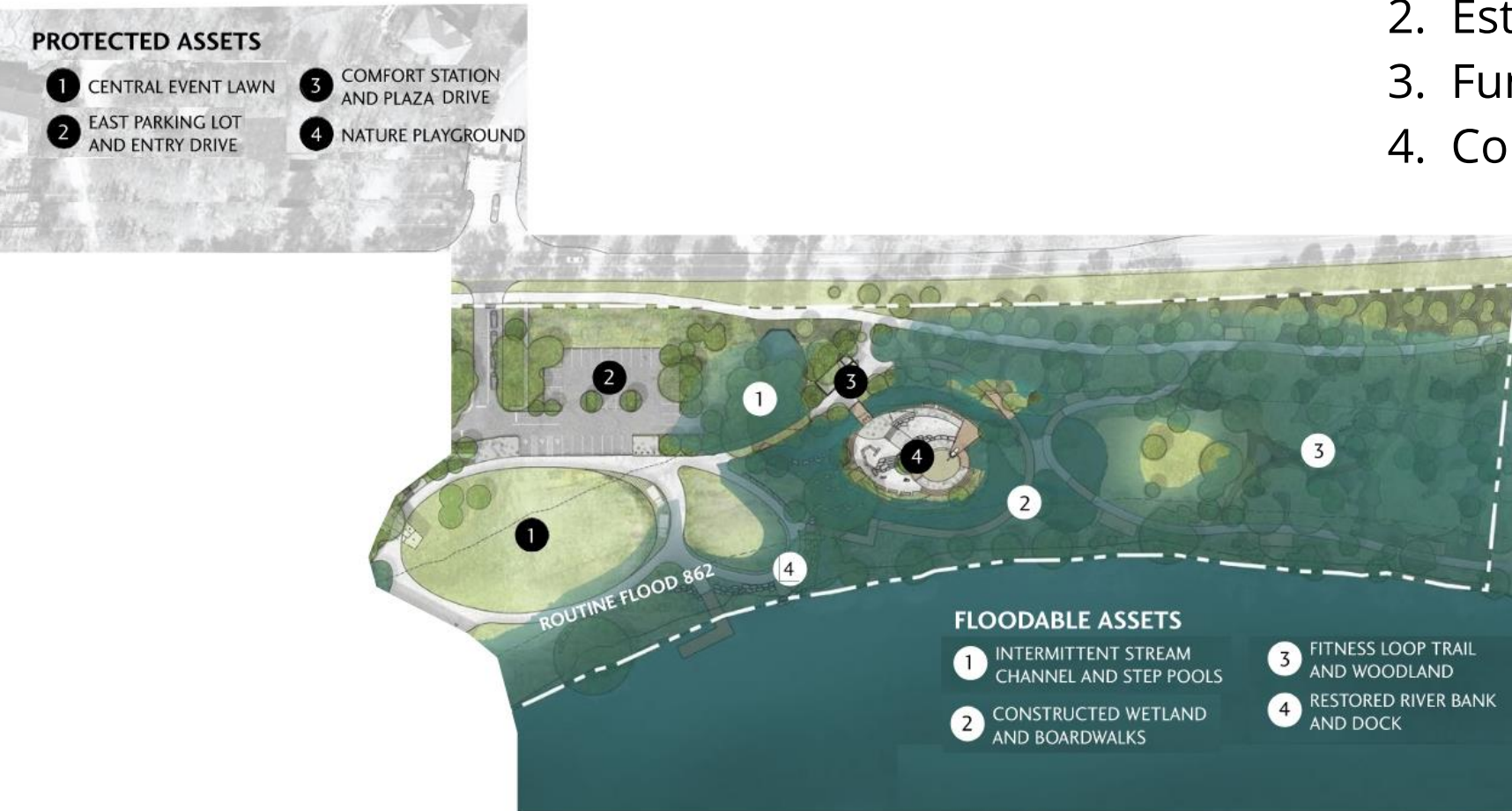
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CSG – Project Details Summary

1. Expect Construction Start Date & Duration: Spring 2024 (12 month)
2. Estimated Construction Cost: \$5.5M
3. Funding Source: Federal Funding
4. Continuing Coordination:
 - RDOT Water Quality
 - Maintenance Considerations





THANK YOU

Damien Di Vittorio

(336) 200-9150

ddivittorio@columbia-engineering.com

www.columbia-engineering.com