
SANDY BEACH PARK CLUB

Living Shoreline

Niagara River Riparian Restoration Program
Presentation to the Greenway Ecological
Standing Committee
June 16th, 2015





*Niagara River Riparian Restoration Program- Sandy Beach Park Club
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Sandy Beach Park Club (SBPC)

- Community membership organization that provides semi-public access to the water (approximately 400 residents in community).
- Site currently has a sheet pile and concrete bulkhead, 2 docks and small pavilion.
- Primarily used for picnicking, swimming and boating.
- The SBPC Board approached Riverkeeper- interested in collaborating to create a living shoreline demonstration project along the adjacent Yacht Club wall, made possible by removing the Park Club's hardened shoreline walls and stairway, which would also enhance the Park Club's access to their sandy swimming area.
- SBPC is eager to collaborate with Riverkeeper by providing access to the Park Club's living shoreline project for educational purposes, and is able to provide in-kind services and cost assistance to accomplish the project. They have already provided numerous services during the conceptual to schematic design phase which will be elaborated on in the budget.

Living Shorelines Objectives at the Sandy Beach Park Club site:

- Removal of significant portions of the existing hardened sheet pile and concrete bulkhead.
- Grading of slope to create the transitional living shoreline alongside a gradual sandy beach area.
- Establishment of living shoreline features including the natural vegetation transition zone, boulder and cobble habitat structures and a log revetment.
- Placement of additional in-water fish habitat in front of the remaining bulkhead both under and around the existing docks with plantings of emergent and submerged aquatic vegetation and placement of structure for shelter/spawning areas (gravels, cobbles and boulders).
- Installation of habitat components to also provide natural protective features that dissipate wave action and boat wakes.

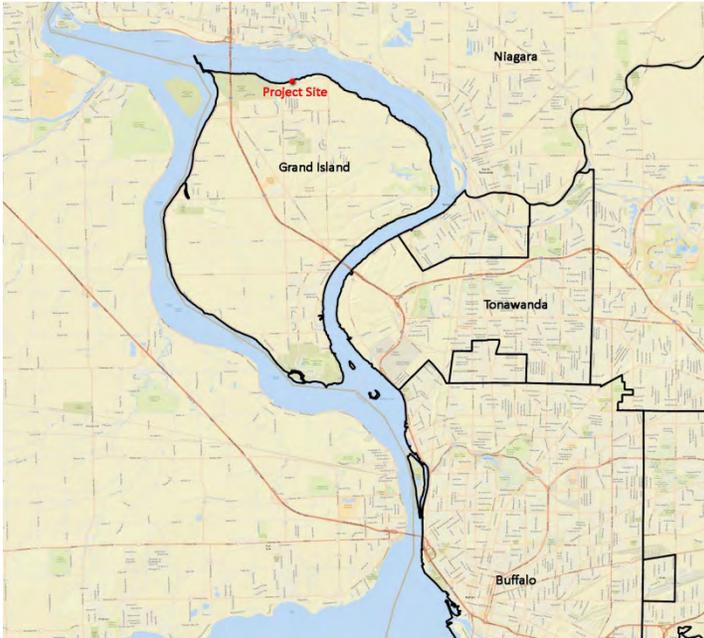
Schedule:

- Next phase of funding will allow us to move forward with final design, Construction Document development and permitting, followed by construction implementation.
- Construction is scheduled for fall 2015 with all grading and habitat structures to be completed in 2015 allowing for the potential to have final planting by end of spring of 2016.

Budget:

- See Page 4

PROJECT LOCATION



PROJECT SITE



EXISTING CONDITIONS



SECTION OF CONCRETE AND SHEET PILE WALL TO BE REMOVED



BUDGET

NRRRP II SANDY BEACH CONSTRUCTION BUDGET	
FINAL DESIGN + CONSTRUCTION DOCUMENTS	
Topographic survey	\$3,000.00
Drawings incl. demo, grading, planting, notes, details	\$7,200.00
Specifications	\$1,650.00
Permitting incl. \$200 for permit fees	\$1,520.00
Design consultant management	\$2,040.00
Contract admin/oversight	\$6,628.00
Sub-Total	\$22,038.00
Contingency @ 5%	\$1,101.90
TOTAL	\$23,139.90
CONSTRUCTION ESTIMATE	
Install temporary erosion control + turbidity curtain	\$9,200.00
Removal of hardened shoreline (incl. hauling, disposal and reuse for toe protection)	\$22,000.00
Shoreline grading (assuming all soil kept on site)	\$6,200.00
Install sand (free material)	\$950.00
Install ledge rock walls (incl. stone backfill and erosion mat)	\$36,000.00
Install habitat boulders	\$18,530.00
Install substrate + cobbles for fish habitat	\$1,520.00
Install log revetment (1 large hardwood tree)	\$1,500.00
Install woody debris (free material)	\$850.00
Install native SAV + EV	\$8,800.00
Install native wetland plantings	\$2,300.00
Install native riparian plantings	\$3,200.00
Install wildlife deterrent	\$1,500.00
Sub Total	\$112,550.00
Contingency @ 15%	\$16,882.50
TOTAL	\$129,432.50
1 YEAR POST CONSTRUCTION MONITORING + PERIOD OF ESTABLISHMENT	
12 Site visits by BNR Habitat Restoration Specialist	\$1,720.00
Documentation and Reporting	\$536.00
TOTAL	\$2,256.00
INTERPRETIVE SIGN DESIGN + INSTALLATION	
Sign design and production	\$734.00
Sign installation	\$0 (In kind service)
TOTAL	\$734.00
OWNER MAINTENANCE GUIDE	
Guide production by BNR Landscape Architect and Restoration Ecologist	\$550.00
1/2 day on site with Sandy Beach Park Club members	\$332.00
TOTAL	\$882.00
SANDY BEACH CONSTRUCTION BUDGET REQUESTED FROM GESC	\$156,444.40

IN KIND SERVICES

Sandy Beach Park Club's In-Kind Services

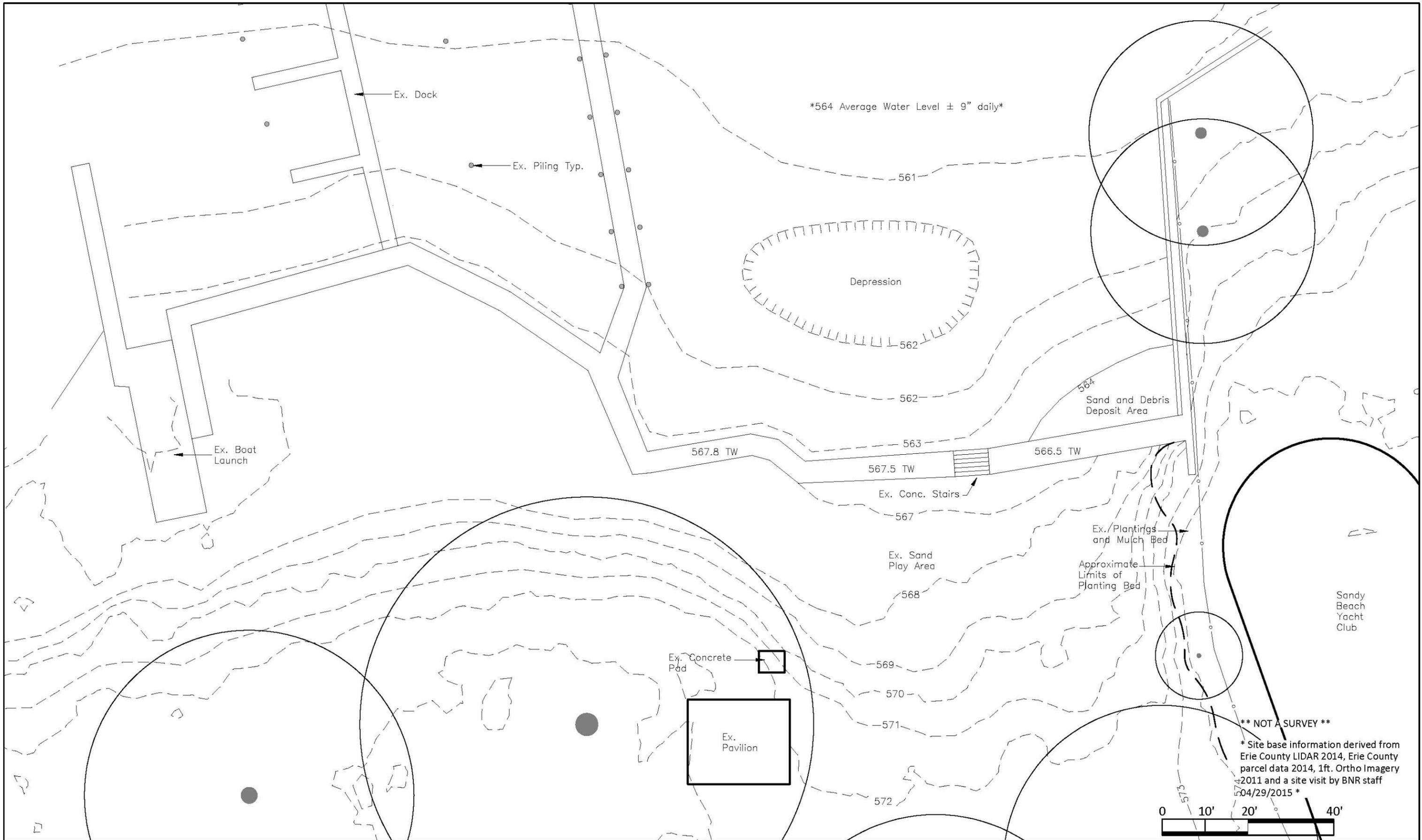
<u>Individual/Organization</u>	<u>Description of Services</u>	<u>Cost Estimate</u>
L.D.C. Construction	Donated time and construction materials including sand for beach	\$8,800.00
Sandy Beach Park Club	Monetary resources Stamped engineering drawing approving the removal of the wall Heavy equipment operators A quantity of Fieldstone Rocks of various shapes and sizes	\$13,000.00
Anchor Environmental	40 tons of rocks and boulders w/o transport	\$720.00
Brian Murphy	Professional construction oversight and reporting. (\$165/hr x 10 hrs day x 15 days)	\$26,400.00
High School Students	Community service labor as directed Photographic record of project – start to finish	Undetermined
Boy & Girl Scouts	Labor as directed	Undetermined
Landscaping Firm	5 Laborers at 8 hours each 5 Yards of Mulch	\$2,225.00
Proctor Signs	Project signage	\$500.00
Edwards Vacuum	Box truck Manpower resources including heavy equipment operators	<u>Undetermined</u>
Total value of in-kind services (w/o undetermined services)		<u>\$51,645</u>

6-12-15 mth

REQUESTED CONSTRUCTION BUDGET \$157,164.40

VALUE OF IN KIND SERVICES \$51,645.00

TOTAL PROJECT VALUE \$203,809.40



**** NOT A SURVEY ****
 * Site base information derived from Erie County LIDAR 2014, Erie County parcel data 2014, 1ft. Ortho Imagery 2011 and a site visit by BNR staff 04/29/2015 *

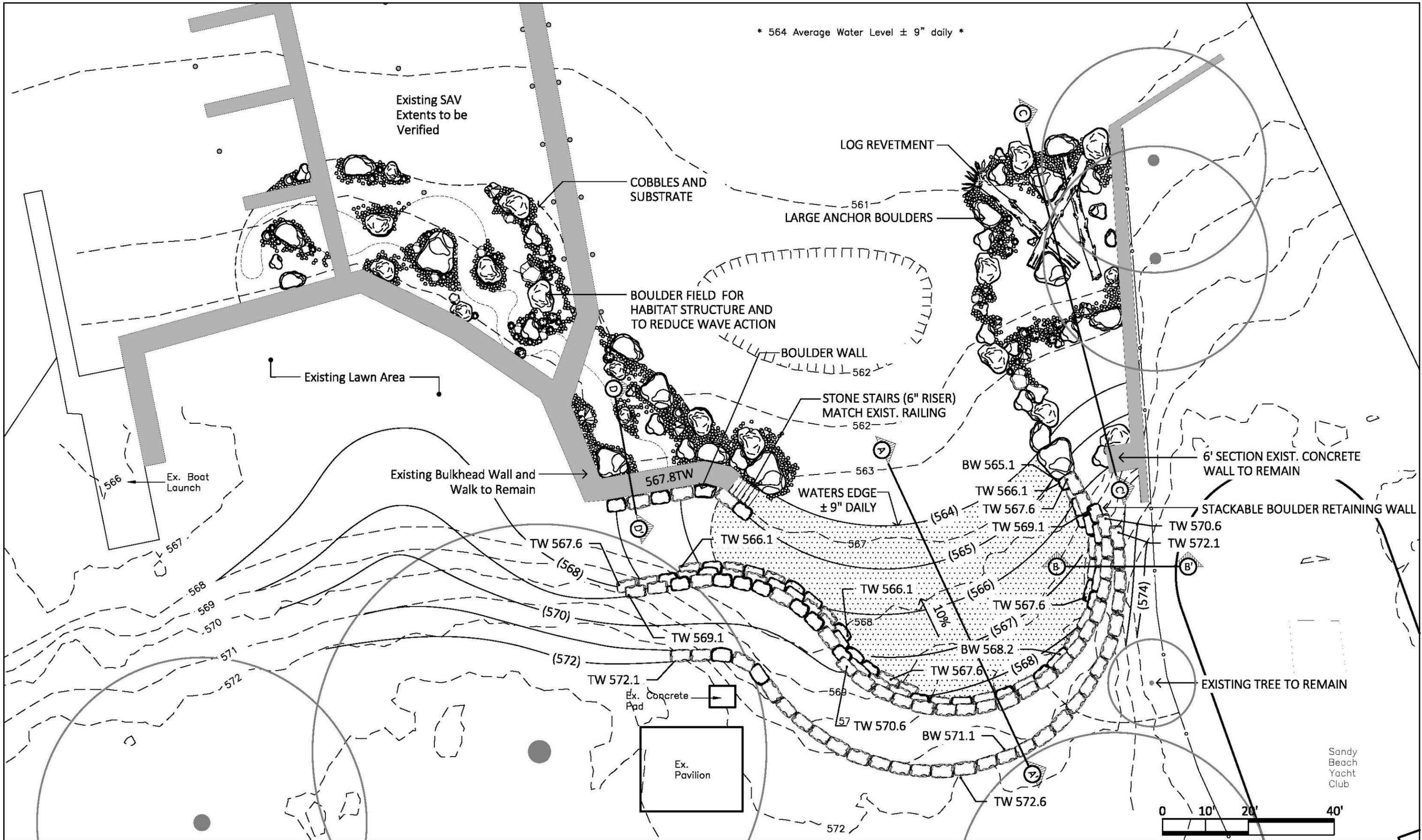


EXISTING CONDITIONS

PROJECT:
SANDY BEACH PARK CLUB
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SCALE: 1:20
 DATE: 06/16/2015





* 564 Average Water Level ± 9" daily *

Existing SAV
Extends to be
Verified

LOG REVETMENT

COBBLES AND
SUBSTRATE

LARGE ANCHOR BOULDERS

BOULDER FIELD FOR
HABITAT STRUCTURE AND
TO REDUCE WAVE ACTION

BOULDER WALL

STONE STAIRS (6" RISER)
MATCH EXIST. RAILING

Existing Lawn Area

Ex. Boat
Launch

Existing Bulkhead Wall and
Walk to Remain

567.8TW

WATERS EDGE
± 9" DAILY

6' SECTION EXIST. CONCRETE
WALL TO REMAIN

STACKABLE BOULDER RETAINING WALL

TW 567.6

TW 566.1

BW 565.1

TW 566.1

TW 567.6

TW 569.1

TW 570.6

TW 572.1

568

569

570

571

572

(570)

TW 569.1

(572)

TW 572.1

Ex. Concrete
Pad

Ex.
Pavilion

567

568

569

57

572

(564)

(565)

(566)

(567)

(568)

TW 566.1

TW 567.6

TW 569.1

BW 568.2

TW 567.6

(568)

BW 571.1

TW 570.6

TW 572.6

EXISTING TREE TO REMAIN

Sandy
Beach
Yacht
Club

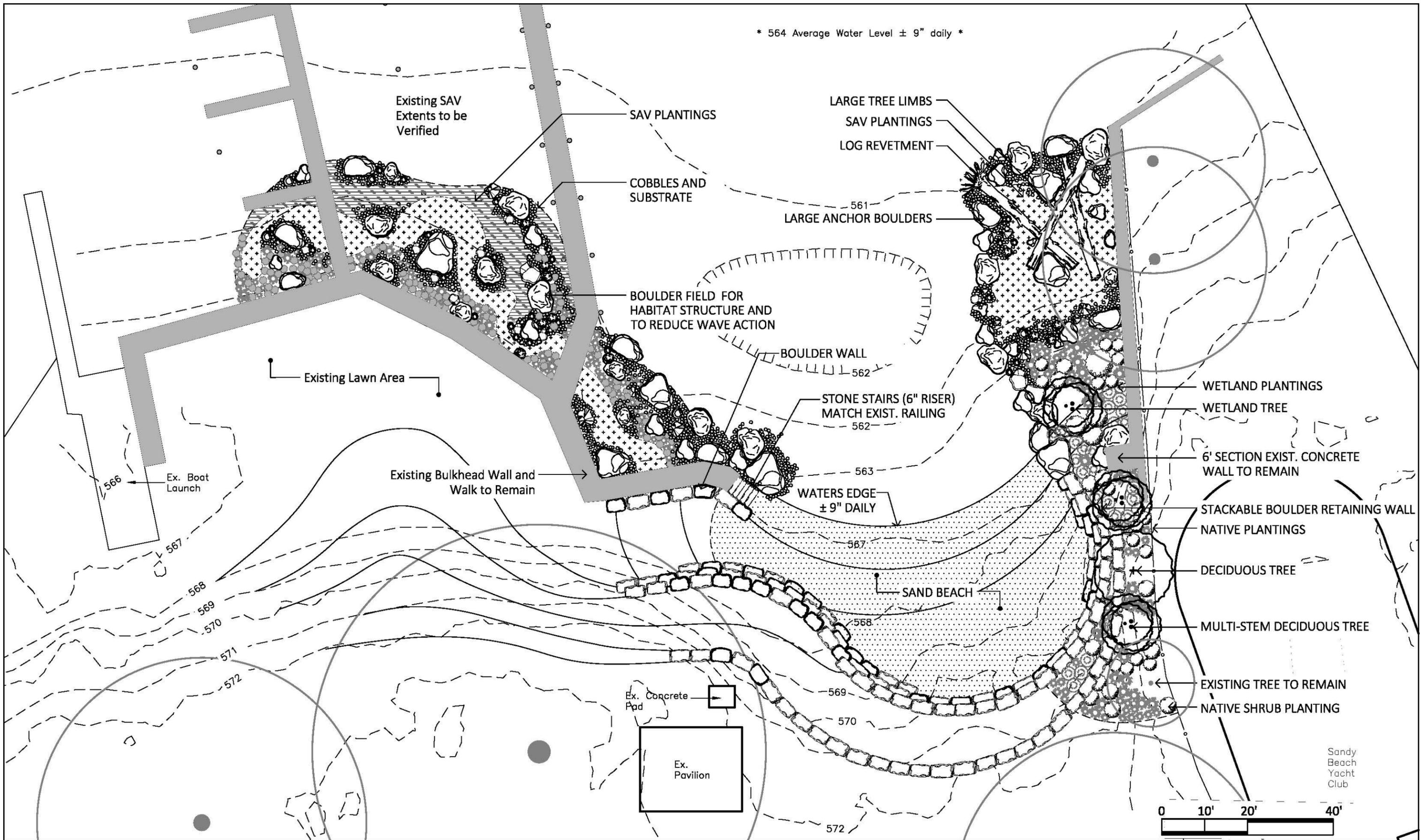


LAYOUT + GRADING PLAN

PROJECT:
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SCALE: 1:20
DATE: 06/09/2015

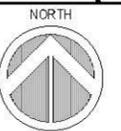


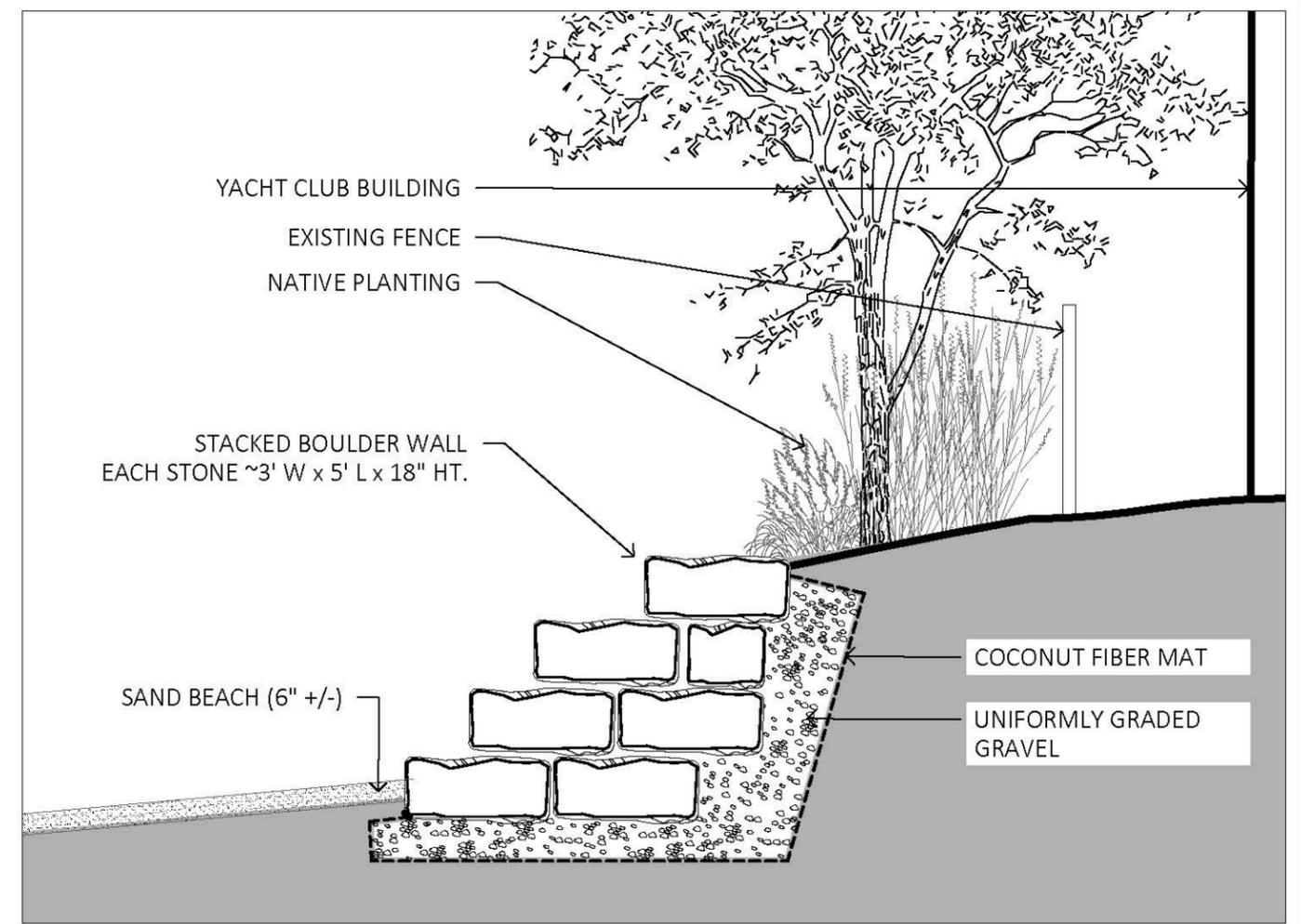


LAYOUT + PLANTING PLAN

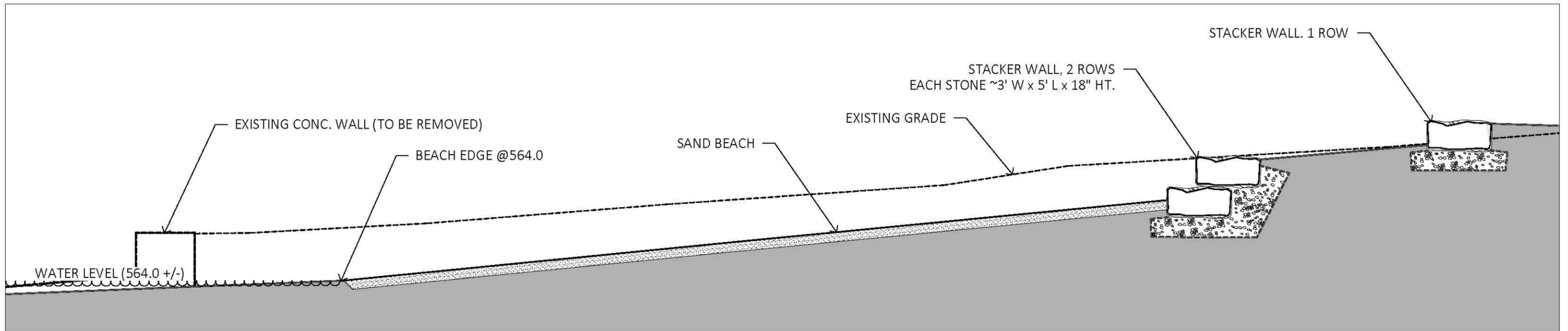
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SECTION B-B'



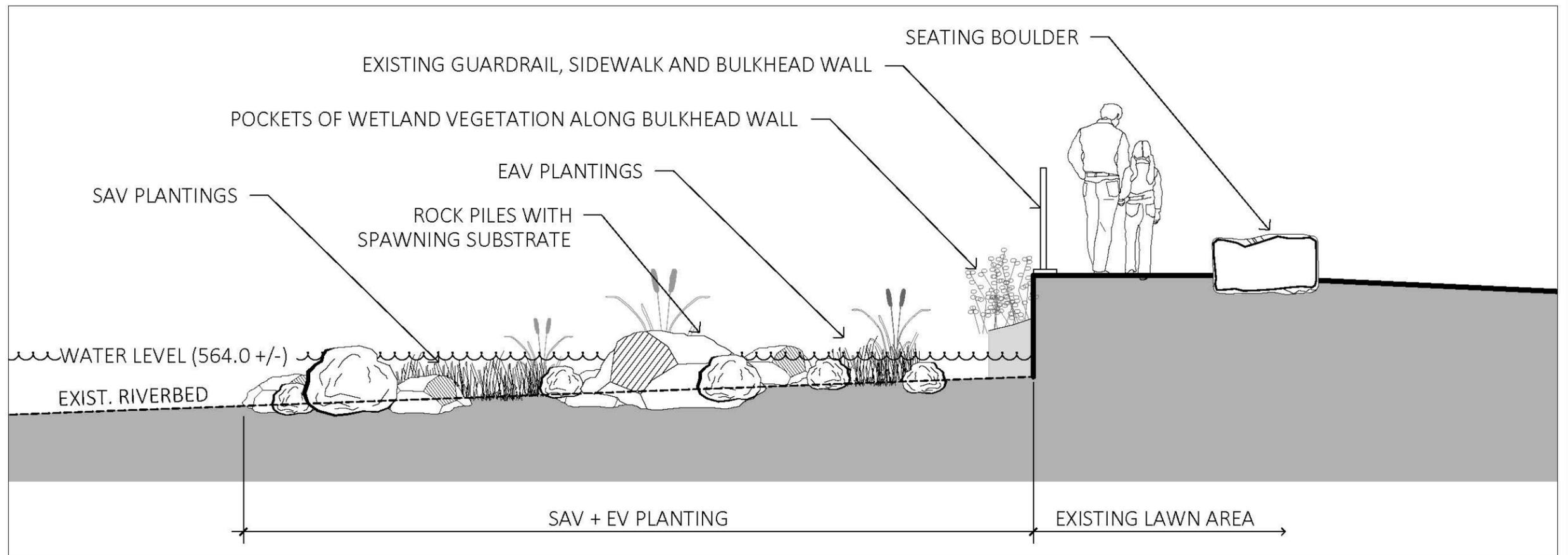
SECTION A-A'



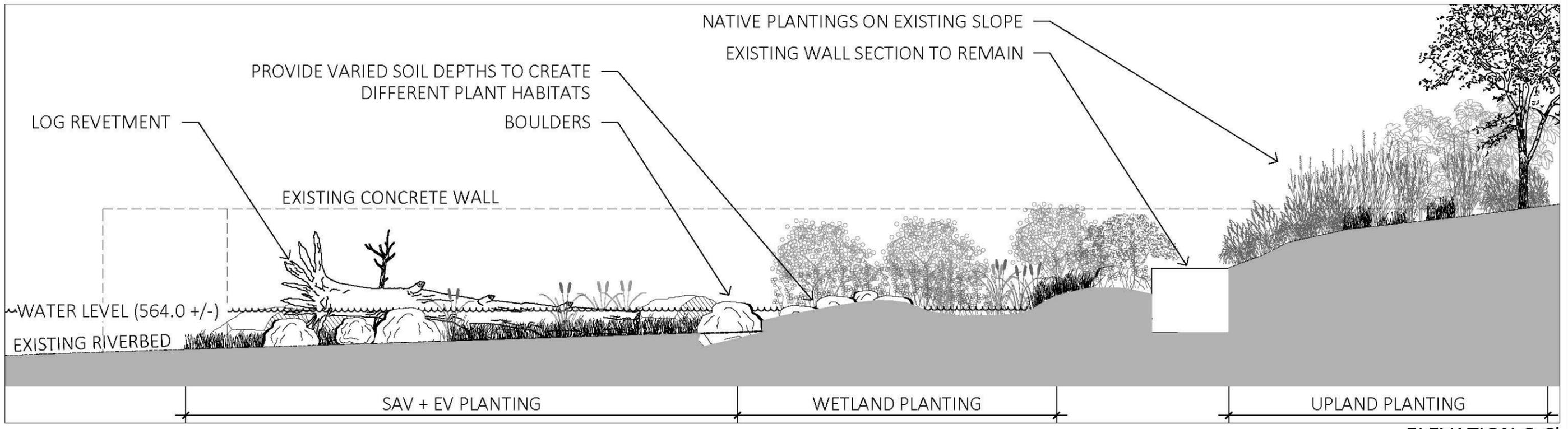
SECTIONS

PROJECT:
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SCALE: DATE:
NTS 06/16/2015



ELEVATION D-D'



ELEVATION C-C'



ELEVATIONS

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SCALE: DATE:
NTS 06/16/2015

Cobble and Boulder Field Notes:

1. Cobbles and boulders shown for general intent only. Final placement to be determined in field.
2. Contractor to provide an irregular edge to cobble and boulder placement. Unless naturally occurring on the stone, straight lines are to be avoided.

POTENTIAL PREFERRED PLANT PALETTE

BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE	CONDITION
TREES				
Betula nigra	River Birch		1 in. / 7 ft.	Clump Form B.B. 16 in. min.
Cercis canadensis	Redbud		1 in. / 7 ft.	B.B. 16 in. min.
Quercus palustris	Pin Oak		1 ½ in.	W.B. 20 in. min.
Larix laricina	Eastern Larch		1 in. / 7 ft.	B.B. 16 in. min.
SHRUBS				
Hypericum kalmianum	St. Johns Wort		4 ft.	#7 Container
Cornus sericea	Red Osier Dogwood		4 ft.	#7 Container
Myrica pennsylvanica	Bayberry		4 ft.	#7 Container
Viburnum trilobum	Highbush Cranberry		4 ft.	#7 Container
PERENNIALS				
Aster puniceus	Swamp Aster		#1	Potted 160 cu.in. min.
Aster novae-angliae	New England Aster		#1	Potted 160 cu.in. min.
Echinacea purpurea	Purple Coneflower		#1	Potted 160 cu.in. min.
Iris versicolor	Blue Flag Iris		#1	Potted 160 cu.in. min.
Lobelia cardinalis	Cardinal Flower		#1	Potted 160 cu.in. min.
Rudbeckia fulgida	Eastern Coneflower		#1	Potted 160 cu.in. min.
Desmodium canadense	Showy Ticktrefoil		#1	Potted 160 cu.in. min.
Asclepias tuberosa	Butterfly Milkweed		#1	Potted 160 cu.in. min.
Eupatorium maculatum	Joe-Pye Weed			
SUBMERGED AQUATIC VEG.				
Vallisneria americana	Eel Grass			
Ceratophyllum demersum	Coontail			
Nymphaea odorata	White Water Lily			
EMERGENT AQUATIC VEG.				
Pontederia cordata	Pickeral Weed			
Sagittaria latifolia	Broad Leaf Arrowhead			
Acorus americanus	Sweet Flag			
Carex lacustris	Hairy Sedge			
Schoenoplectus tabernaemontani	Soft Stem Bulrush			
GROUNDCOVERS				
Asarum canadense	Canada Wild Ginger		#SP4	Potted
Parthenocissus quinquefolia	Virginia Creeper		#SP4	Potted
GRASSES + SEDGES				
Calamagrostis canadensis	Canada Wild Rye		#2	Potted 320 cu.in. min.
Panicum virgatum	Switch Grass		#2	Potted 320 cu.in. min.
Sorghastrum nutans	Indian Grass		#2	Potted 320 cu.in. min.
Schizachyrium scoparium	Little Bluestem		#2	Potted 320 cu.in. min.
Carex stricta	Tussock Sedge		#2	Potted 320 cu.in. min.
FERNS				
Athyrium filix-femina	Lady Fern		#1	Potted 160 cu.in. min.
Polystichum acrostichoides	Christmas Fern		#1	Potted 160 cu.in. min.
Osmunda cinnamomea	Cinnamon Fern		#1	Potted 160 cu.in. min.



NOTES + PLANT LIST

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