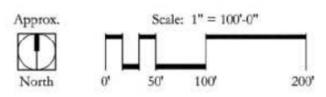




Larsen Property
 COVE DREDGING AND HABITAT
 IMPROVEMENT PLANS

AERIAL VIEW,
 WATERSHED AND
 SITE PREPARATION



Drawn By: David J. Busch
 Issued: 3/23/15 Revised: Sheet: 1 of 6

LEGEND

- WORK AREAS
- FLOATING SILT CURTAIN FOR WORK AREA #1
- FLOATING SILT CURTAIN FOR WORK AREA #2
- UPLAND SILT FENCE
- INFRASTRUCTURE
- SIGNIFICANT TREE
- WATERSHED RIDGE AND DOWNSLOPES

NOTES

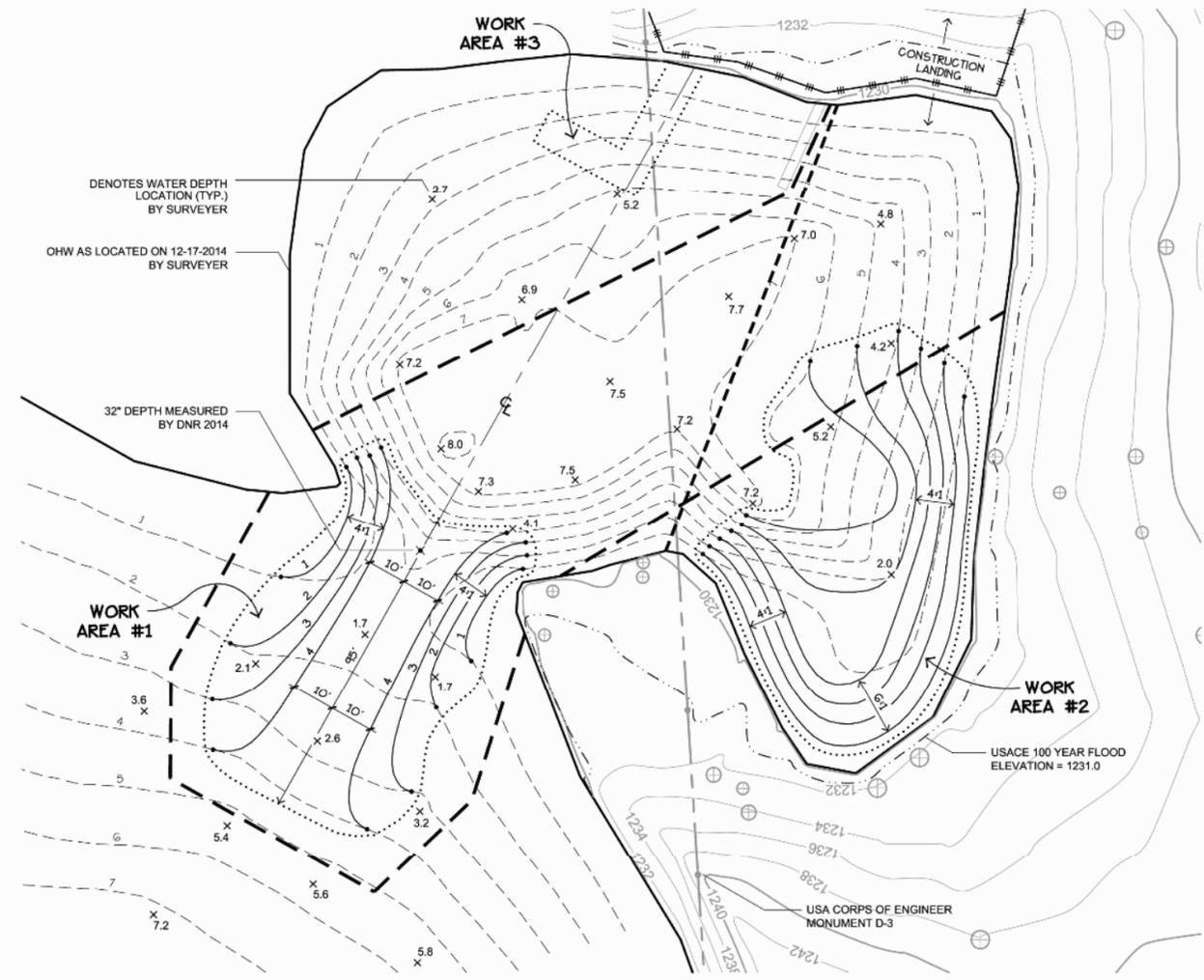
1. IN-WATER WORK IN AREA #1 AND AREA #2 TO BE COMPLETED SEQUENTIALLY WITH FLOATING SILT CURTAIN PLACED TO ISOLATE EACH WORK AREA FROM SURROUNDING WATER.

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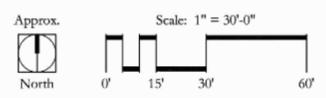
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Larsen Property
COVE DREDGING AND HABITAT
IMPROVEMENT PLANS

EXCAVATION PLAN



Drawn By: David J. Busch
Issued: 3/23/15 Revised: Sheet: 2 of 6

LEGEND

- - - - - EXISTING CONTOUR
- — — — — PROPOSED CONTOUR
- WORK AREA LIMITS
- - - - - FLOATING SILT CURTAIN FOR WORK AREA #1
- - - - - FLOATING SILT CURTAIN FOR WORK AREA #2
- ||||| UPLAND SILT FENCE

NOTES

1. IN-WATER WORK IN AREA #1 AND AREA #2 TO BE COMPLETED SEQUENTIALLY WITH FLOATING SILT CURTAIN PLACED TO ISOLATE EACH WORK AREA FROM SURROUNDING WATER

QUANTITIES

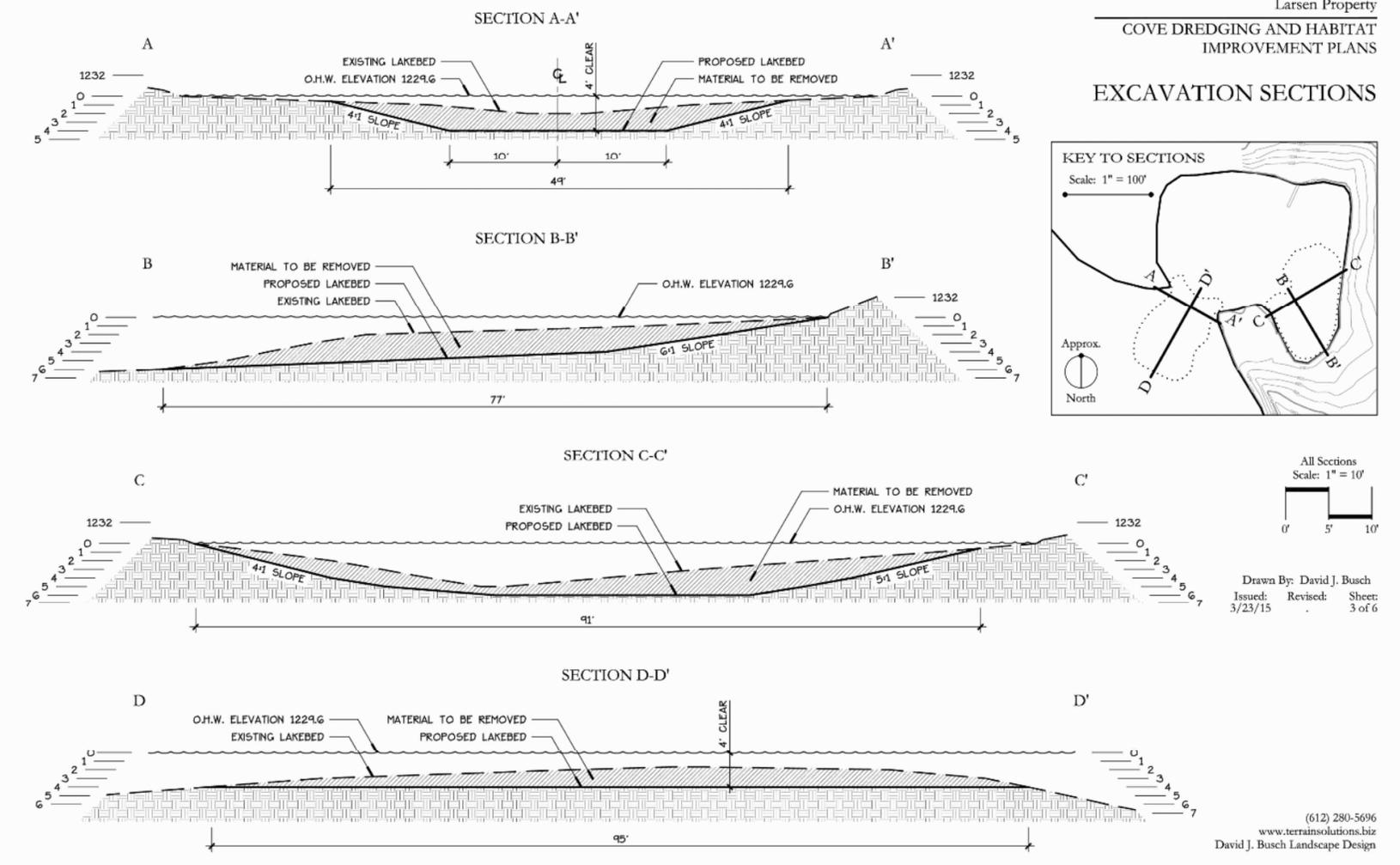
EXCAVATED LAKEBED MATERIAL
AREA #1 = 253 C.Y.
AREA #2 = 420 C.Y.
TOTAL BOTH AREAS = 673 C.Y.

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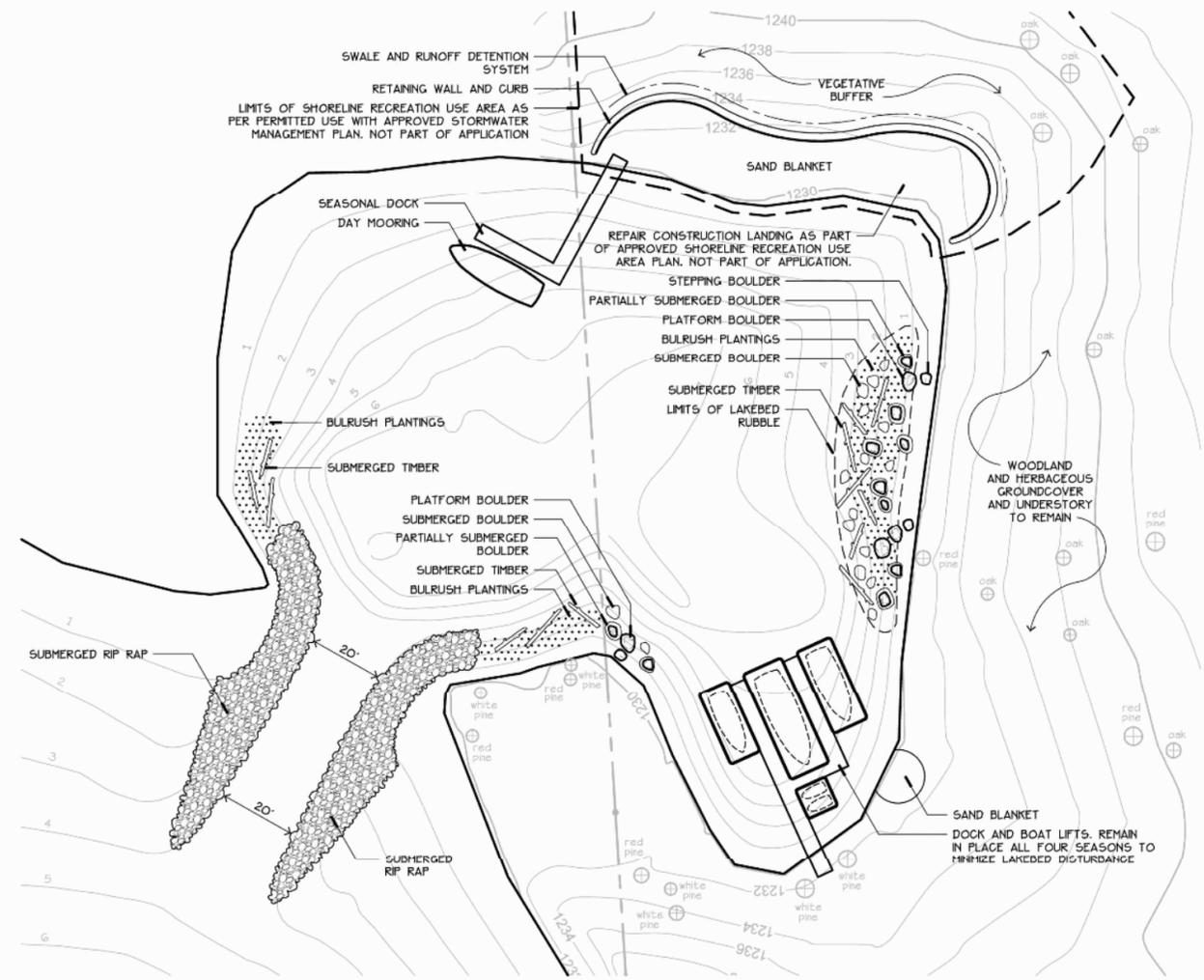
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Larsen Property
COVE DREDGING AND HABITAT
IMPROVEMENT PLANS

EXCAVATION SECTIONS

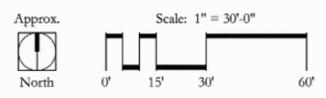


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Larsen Property
COVE DREDGING AND HABITAT IMPROVEMENT PLANS

HABITAT IMPROVEMENT PLAN



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MATERIALS

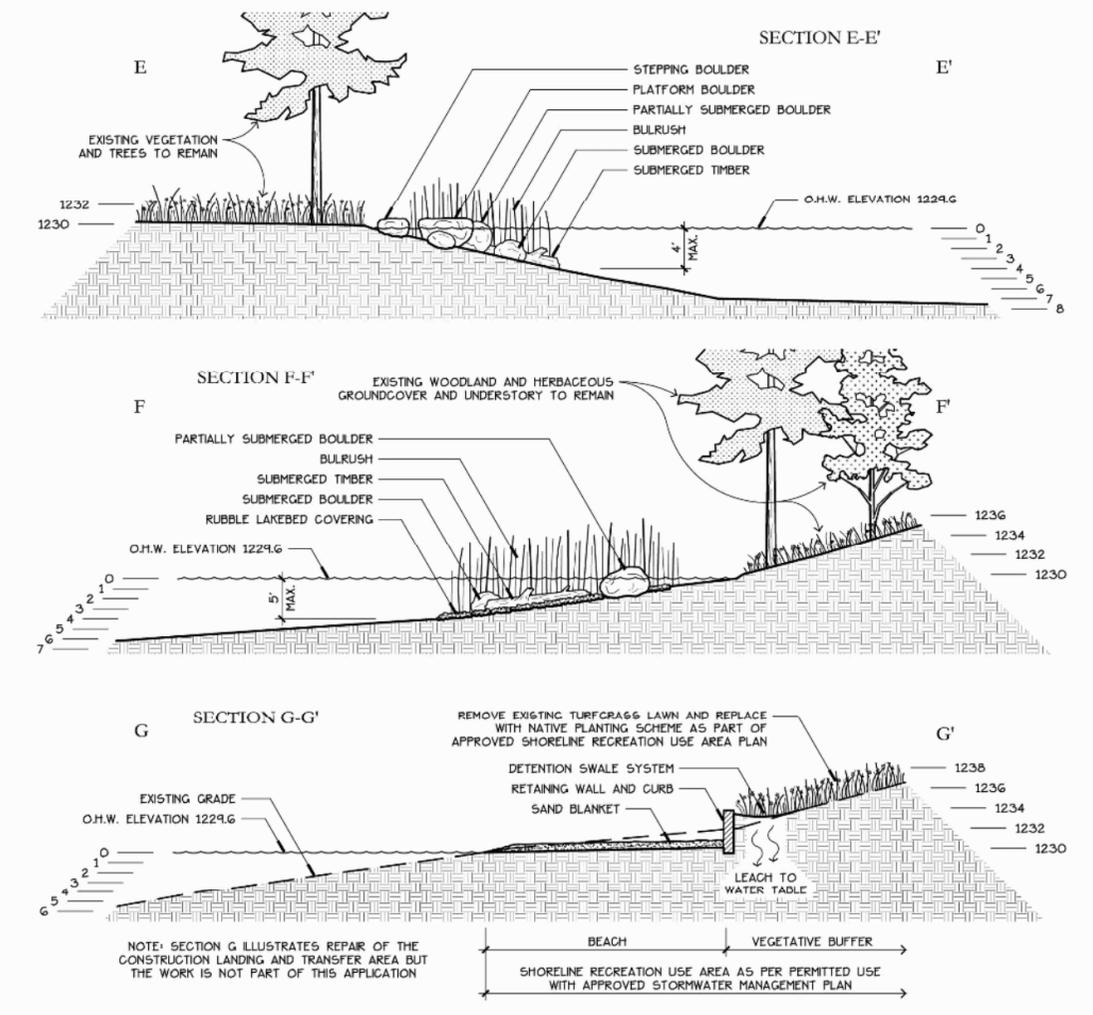
- SUBMERGED RIP RAP
LOCAL FIELDSTONE, 6"-12" SIZES. APPLY A 6" TO 12" THICKNESS ACROSS AREA.
- LAKEBED RUBBLE
LOCAL ROUND FIELDSTONE, 2"-6" SIZES. APPLY 2" TO 6" THICKNESS ACROSS AREA.
- BOULDERS
DULUTH BASALT, SIZES AS DRAWN.
- SUBMERGED TIMBERS
LOGS HARVESTED FROM OWNER'S PROPERTY, 6"-10" DIAMETER, 12'-18' LENGTHS. BALLAST TO LAKEBED WITH LARGE RIP RAP AND SMALL BOULDERS.
- BULRUSH PLANTINGS
LOCAL NATIVE TRANSPLANTS AS PER APPROVED MN DNR APPLICATION TO TRANSPLANT AQUATIC VEGETATION. NOT PART OF THIS APPLICATION.

QUANTITIES

SUBMERGED RIP RAP	72 C.Y.
LAKEBED RUBBLE	21 C.Y.
BOULDERS	APPROX. 33 EA. APPROX. 40 C.Y.
SUBMERGED TIMBERS	13 EA.
BULRUSH PLANTINGS	1330 S.F. 250 EA.

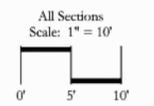
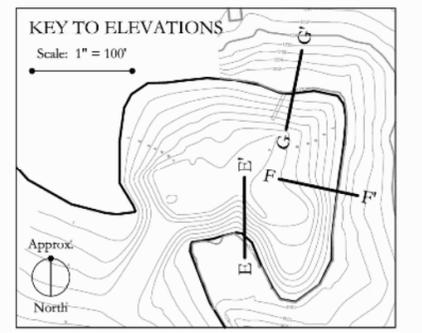
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Larsen Property
COVE DREDGING AND HABITAT IMPROVEMENT PLANS

HABITAT IMPROVEMENT ELEVATIONS



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