

N.T.S

UPPER TRUCKEE RIVER
AND MARSH RESTORATION
PROJECT

E.I.P. # 560

AECOM

City Hall Tower, 16th Floor One East First St.
Reno, NV 89501
Tel: 775-227-9565

Cardno
Shaping the Future

295 Highway 50, Suite 1
Zephyr Cove, NV 89448
Tel: 775.588.9069

DETAILS

D-3

REVISIONS

#	description	date

scale: AS SHOWN

job no.: 00110066.04

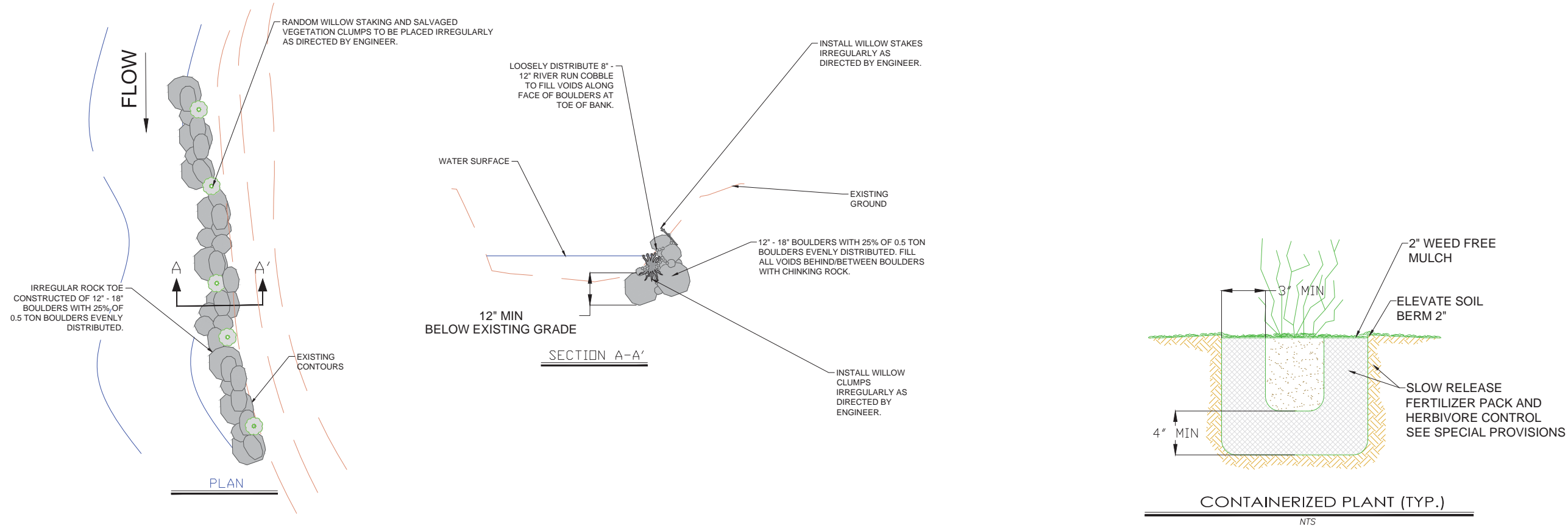
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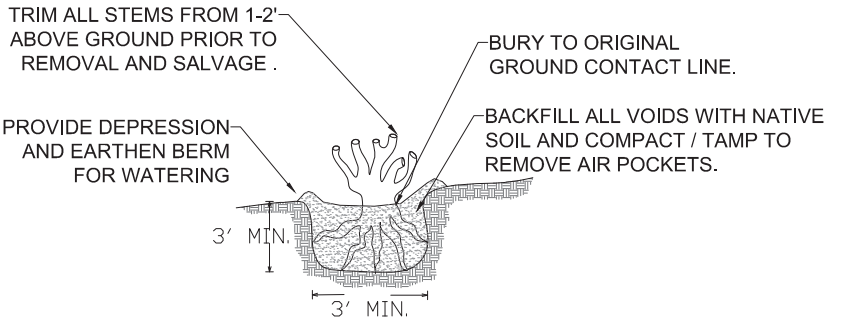
sheet no.: **D-3**

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date: 11/2015



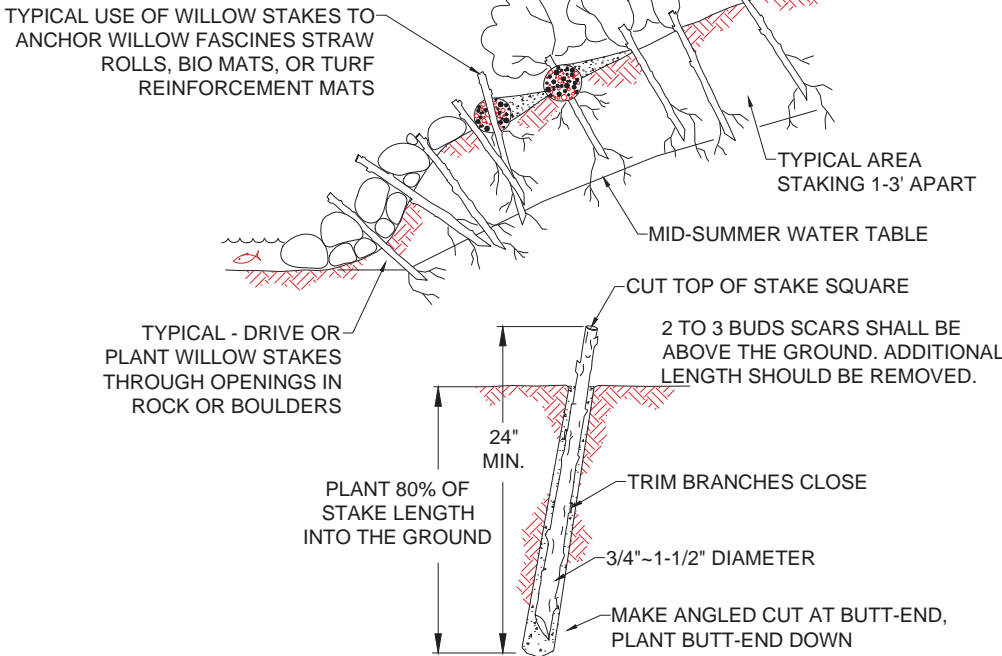
1
D-3
LATERAL GRADE CONTROL / BANK PROTECTION
N.T.S.



- NOTES:
1. DURING REMOVAL AND SALVAGE OPERATION RETAIN SOIL SURROUNDING ROOT BALL TRIM ROOTS AS NEEDED.
 2. WHEN INSTALLED IN CHANNEL BANK, ROOTWAD SHALL BE SUBSTANTIALLY INUNDATED AT BASEFLOW AND SHALL BE INSTALLED TO FORM POOLS ADJACENT TO IT.

SALVAGE AND RELOCATE
WILLOW/ALDER (TYP.)

NTS



- NOTES:
1. HARVEST AND PLANT STAKES DURING THE DORMANT SEASON.
 2. USE HEALTHY, STRAIGHT AND LIVE WOOD AT LEAST 1 YEAR OLD.
 3. MAKE CLEAN CUTS AND DO NOT DAMAGE STAKES OR SPLIT ENDS DURING INSTALLATION, USE A PILOT BAR IN FIRM SOILS.
 4. SOAK CUTTINGS FOR 24 HOURS (MIN.) PRIOR TO INSTALLATION.
 5. COMPACT / TAMP THE SOIL AROUND THE STAKE TO REMOVE ALL AIR POCKETS.

WILLOW STAKES (TYP.)

NTS

1
D-3
BANK PROTECTION (OPTIONS) TYP.
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SCHEMATIC DESIGN PLANS
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DETAILS

D-4

REVISIONS

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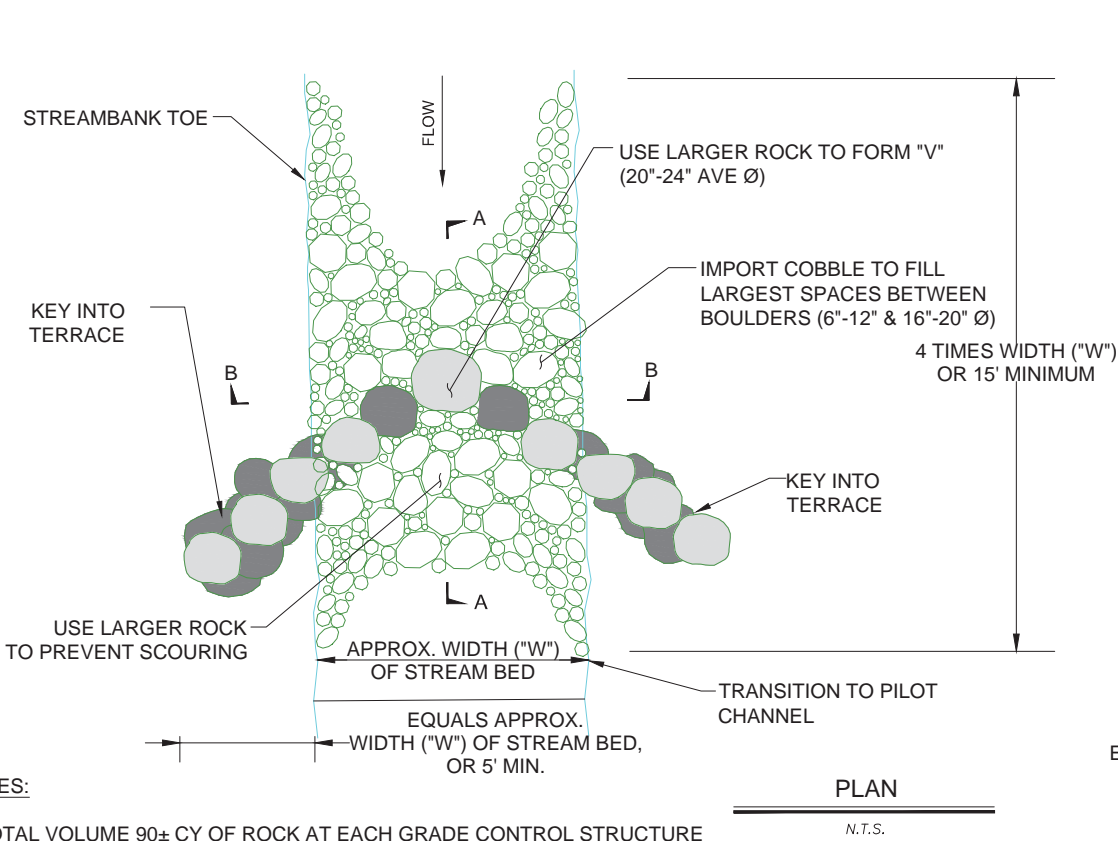
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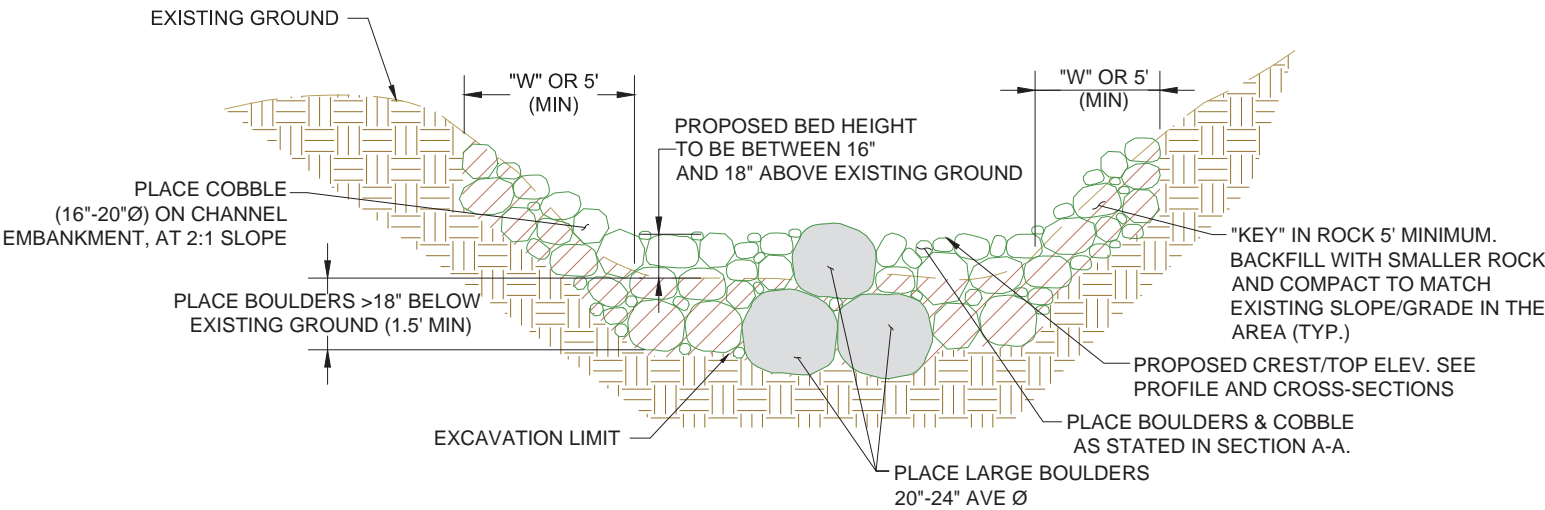
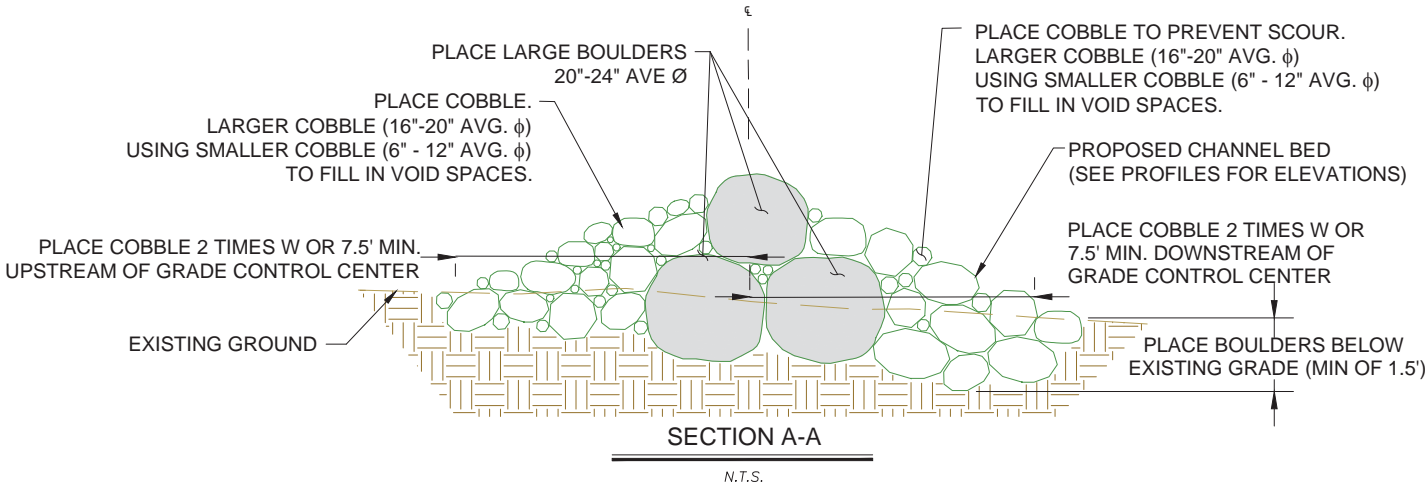
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NOTES:

1. TOTAL VOLUME 90± CY OF ROCK AT EACH GRADE CONTROL STRUCTURE
2. LARGE BOULDERS (20'-24" AVE Ø) PLACED TO FROM "V" IN GRADE CONTROL STRUCTURE SHALL BE PLACED (VERTICAL/ELEVATION) STARTING AT ɛ OF CHANNEL 16"-18" BELOW EXISTING GROUND.
3. THE ELEVATION OF THE LARGE BOULDERS (20'-24" AVE Ø) SHALL INCREASE AT 2% ± GOING AWAY FROM THE CHANNEL ɛ AND INTO THE EMBANKMENT. THE BOTTOM OF THE ROCK IN THE CHANNEL ɛ SHALL BE APPROXIMATELY 0.25' LOWER THAN THE LAST ROCK PLACED (FURTHEST INTO EMBANKMENT).



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DETAILS

D-5

REVISIONS

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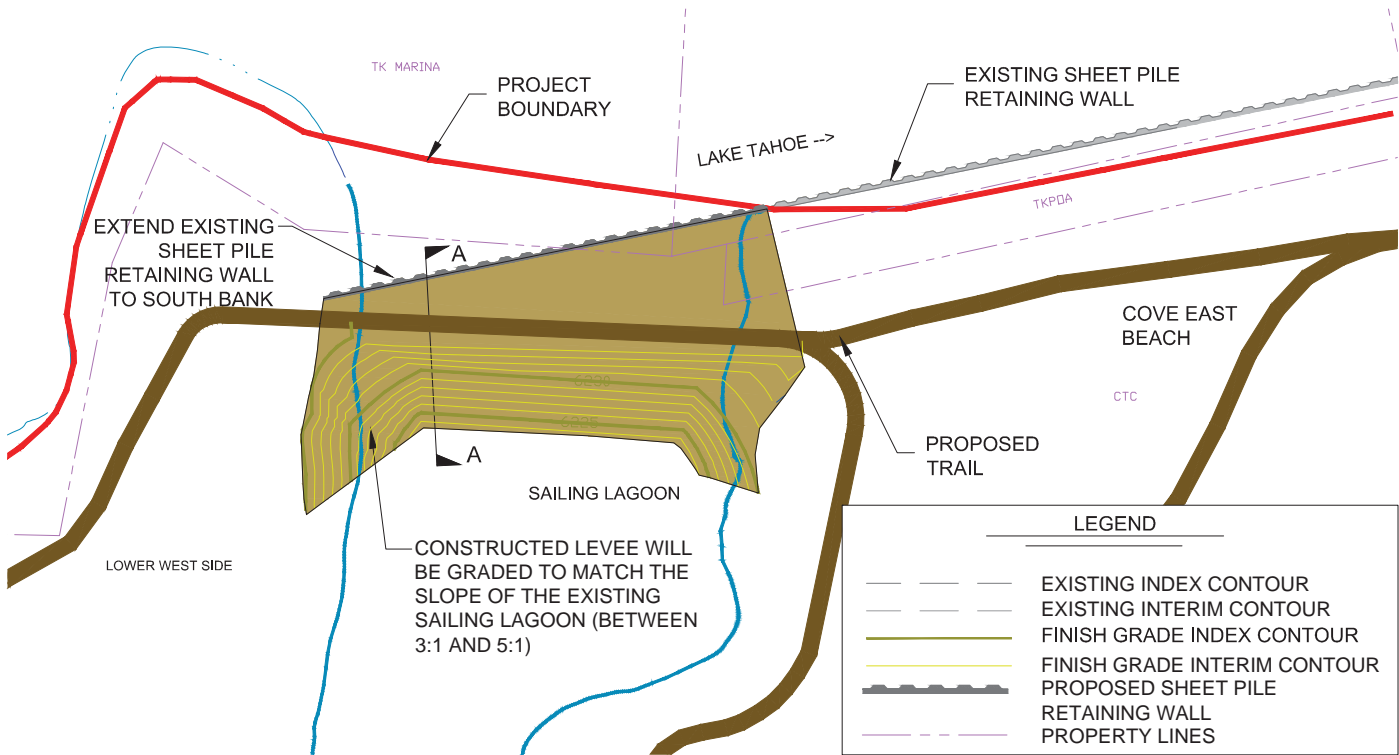
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date: 11/2015



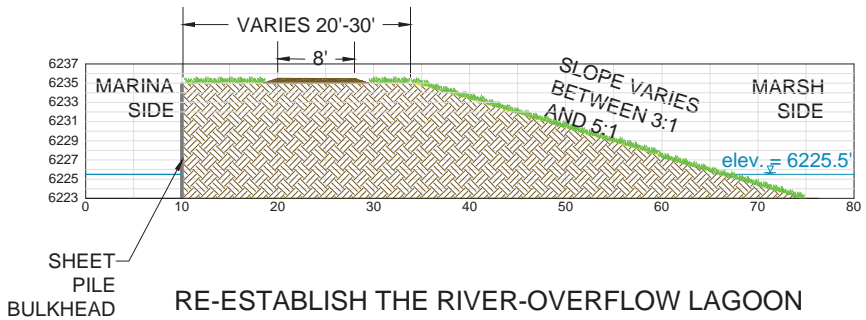
PLAN

SCALE: 1"=60'

1

D-5

SAILING LAGOON BULKHEAD - PREFERRED ALTERNATIVE



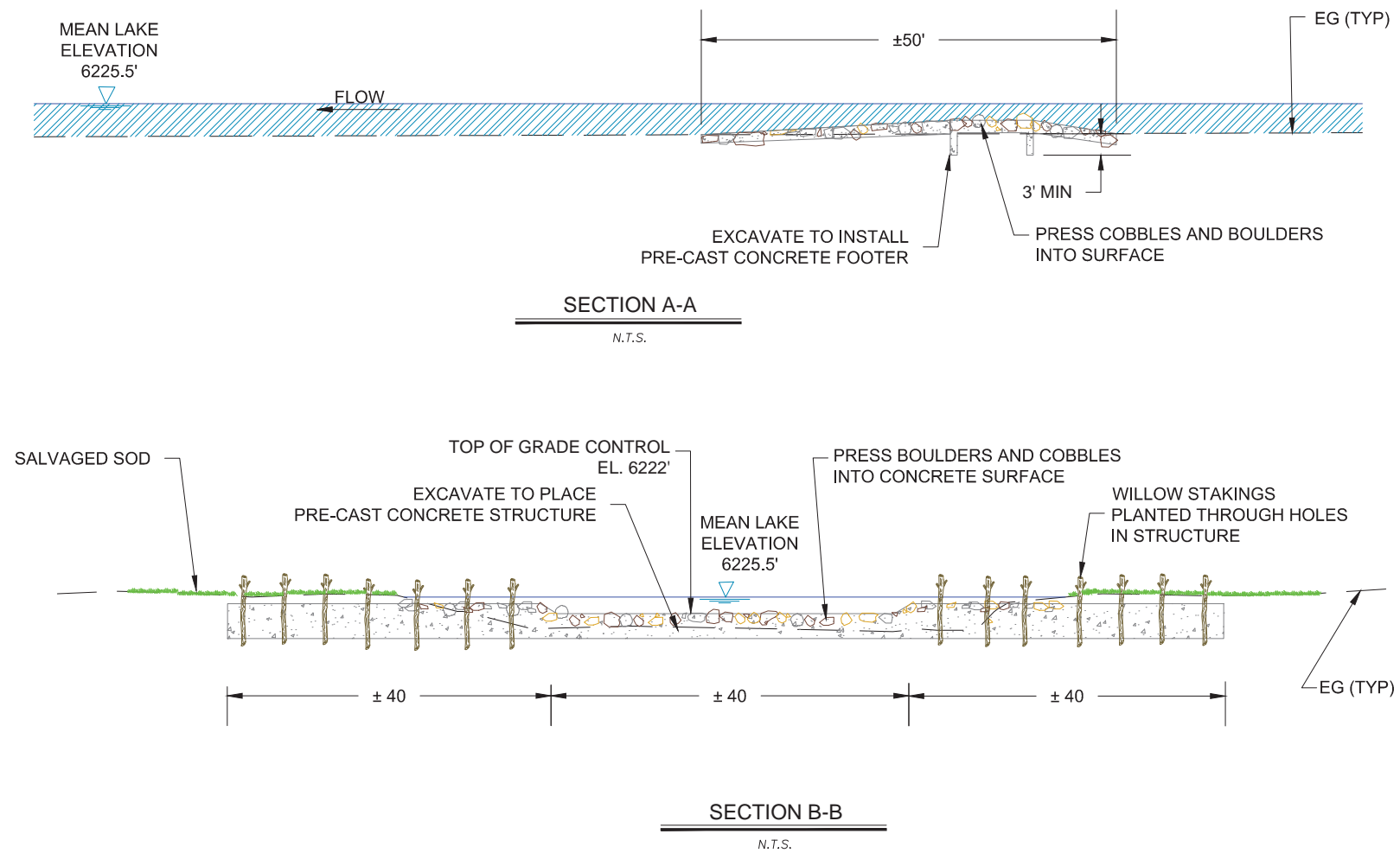
RE-ESTABLISH THE RIVER-OVERFLOW LAGOON
NOTES:

1. THE SURFACE WATER OF THE SAILING LAGOON IS PART OF THE TAHOE KEYS MARINA AND IS HYDRAULICALLY CONNECTED TO LAKE TAHOE, A RESULT OF PRIOR DREDGING AND FILL ACTIVITIES TO PROVIDE VARIOUS NAVIGATION ROUTES SINCE THE 1950'S.
2. THE PREFERRED ALTERNATIVE WILL RESTORE A LAGOON FEATURE ON THE UPPER TRUCKEE BY: 1) CONSTRUCTING A BULKHEAD AT THE EXISTING SAILING LAGOON TO BLOCK ITS OPEN CONNECTION WITH THE MARINA; AND 2) RE-EXCAVATING THE FILL BETWEEN THE SAILING LAGOON AND THE UPPER TRUCKEE SO THAT THE RIVER IS A SURFACE WATER SOURCE TO THE LAGOON.
3. THE LOWER WEST SIDE PLAN SHEETS SHOW THE PROPOSED ALTERNATIVES FOR RECONNECTING THE SAILING LAGOON TO THE UPPER TRUCKEE RIVER.

SECTION A-A

SCALE: 1"=10', 1H:1V

SCHEMATIC DESIGN PLANS
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DETAILS

D-8

REVISIONS

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job no.: 00110066.04

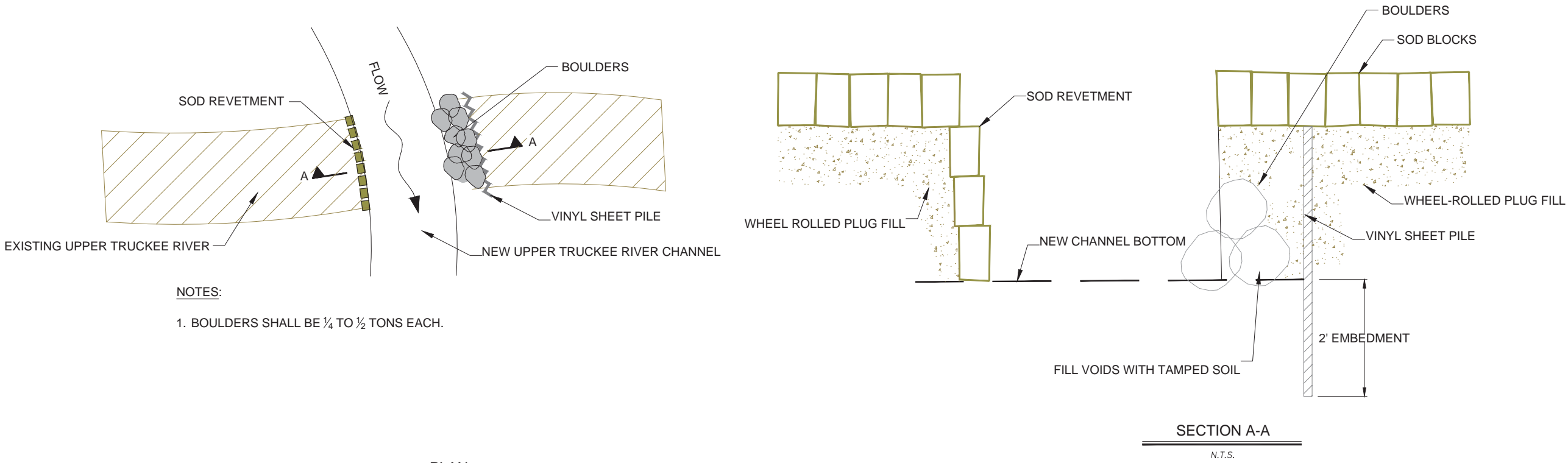
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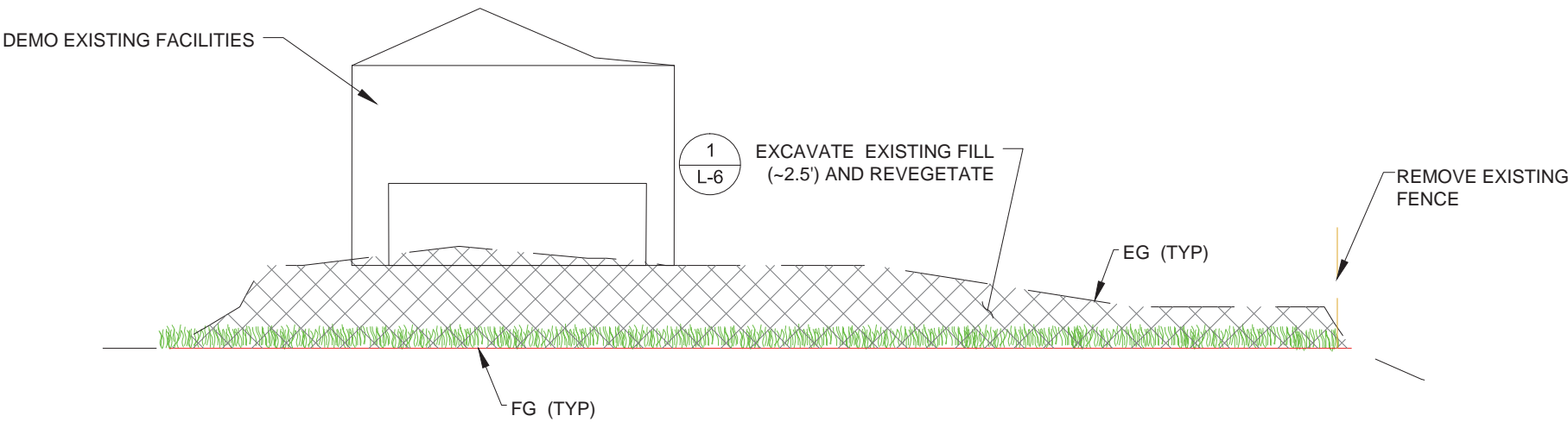
sheet no.: D-8

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date: 11/2015



1
D-8
LATERAL GRADE CONTROL
N.T.S.



2
D-8
TKPOA YARD RESTORATION
N.T.S.

SCHEMATIC DESIGN PLANS
& DETAILS
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LEGEND

WATER'S EDGE

PROPERTY BOUNDARY

PROJECT BOUNDARY

PROPOSED CHANNEL ALIGNMENT

PROPOSED INTERNAL HAUL ROUTES

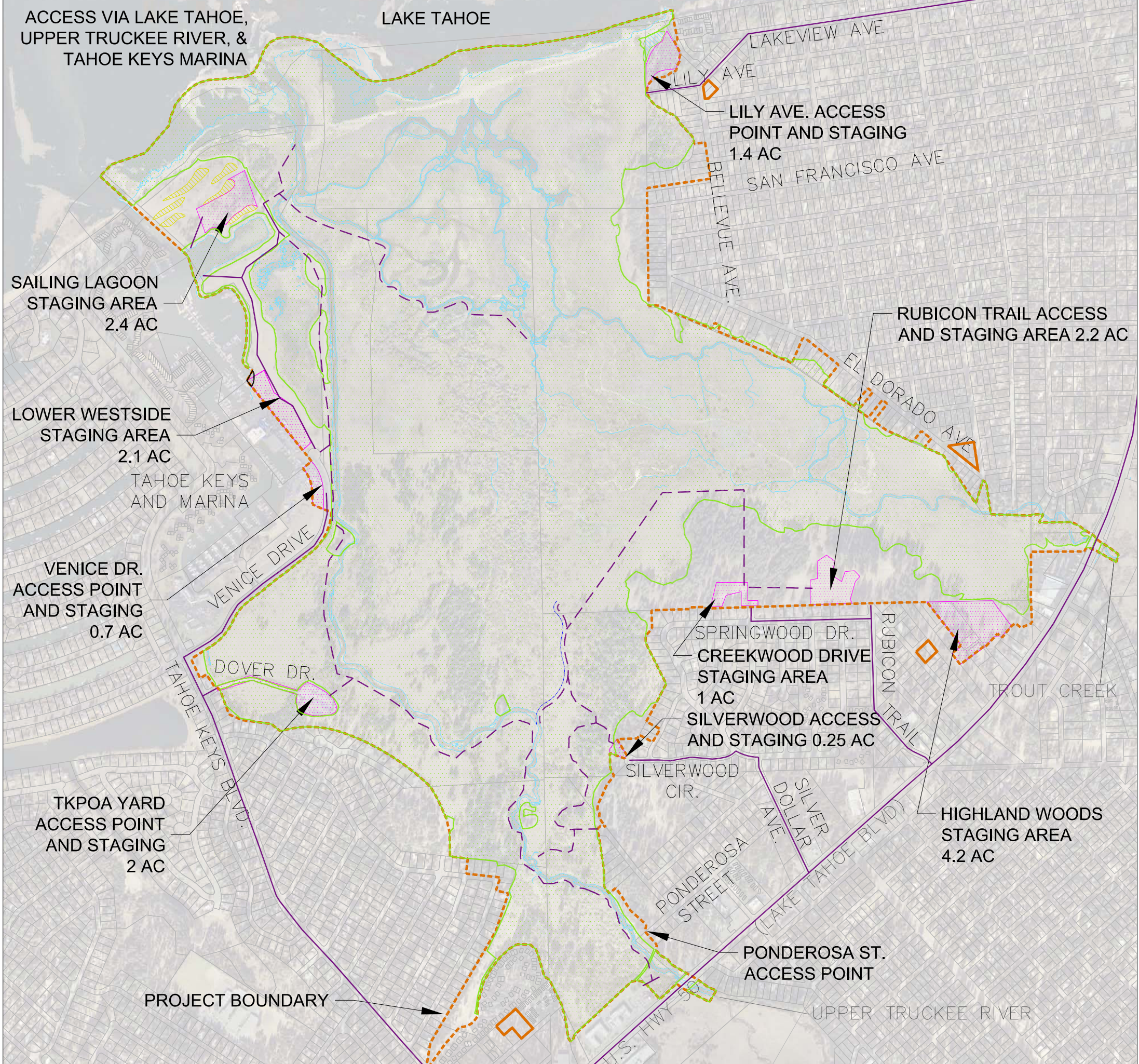
PROPOSED EXTERNAL HAUL ROUTES

POTENTIAL STORAGE/STAGING ROUTE

WETLAND DELINEATION

DUNE RESTORATION AREAS

LILY LAGOON AREA



DGS

CALIFORNIA
TAHOE
CONSERVANCY

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STORAGE STAGING AND
ACCESS PLAN

SS-1

REVISIONS

#	description	date

scale:

AS SHOWN

job no.:

00110066.04

drawn by:

CK

checked by:

CM

sheet no.:

SS-1

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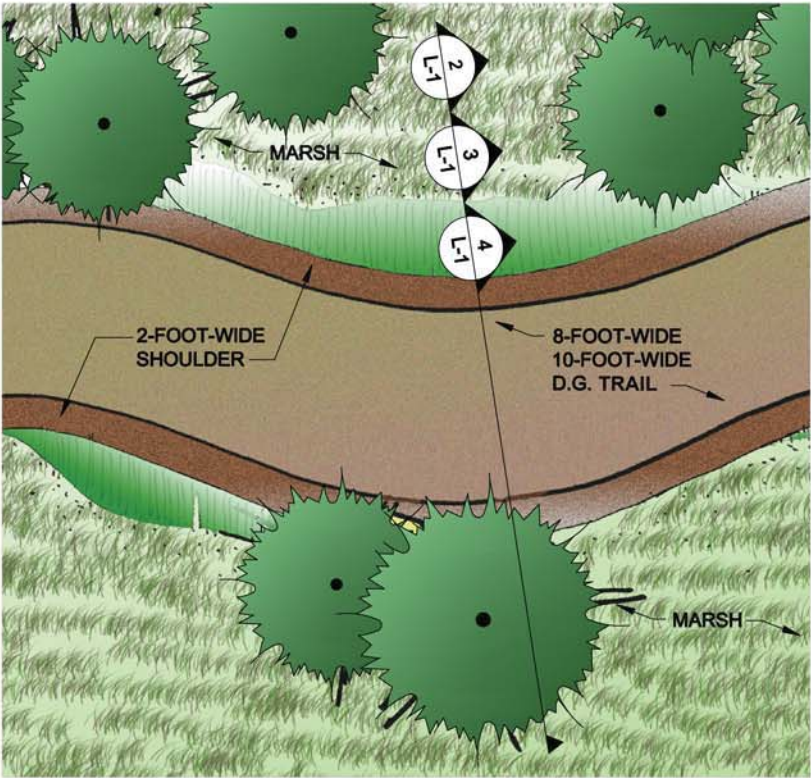
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SCALE IN FEET

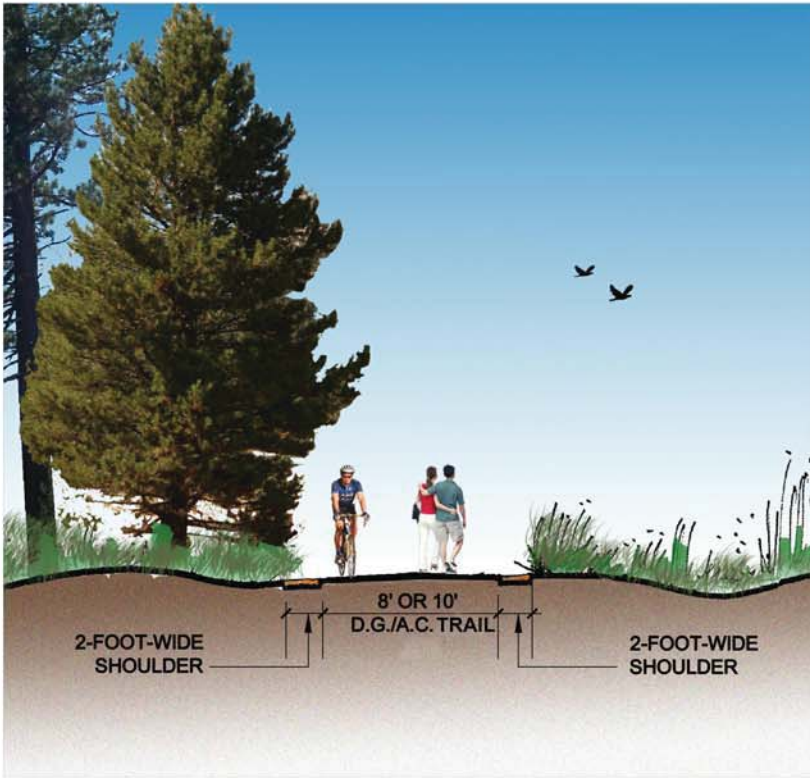
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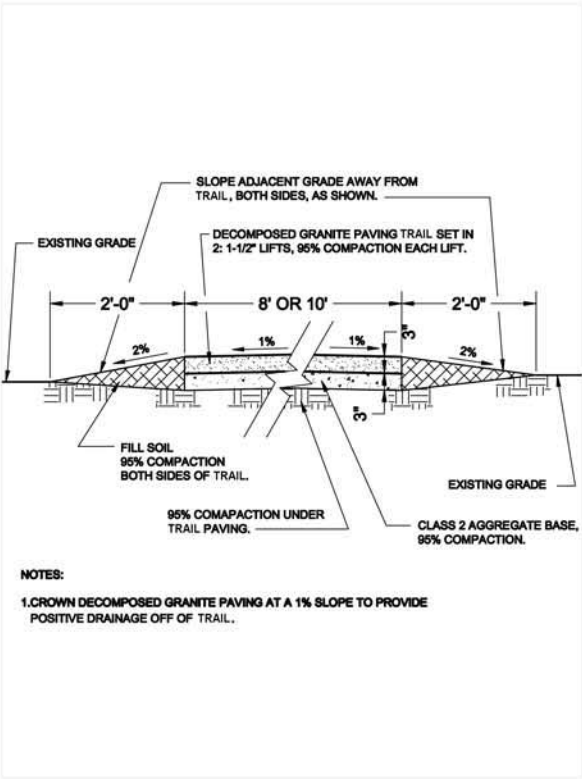
1
L-1 D.G. TRAIL
SCALE: NTS

PLAN VIEW



2
L-1 D.G./A.C. TRAIL
SCALE: NTS

ELEVATION



3
L-1 D.G. TRAIL
SCALE: NTS

SECTION



4
L-1 D.G. TRAIL
SCALE: NTS

REPRESENTATIVE
EXAMPLE



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TRAIL

L-1

REVISIONS

#	description	date

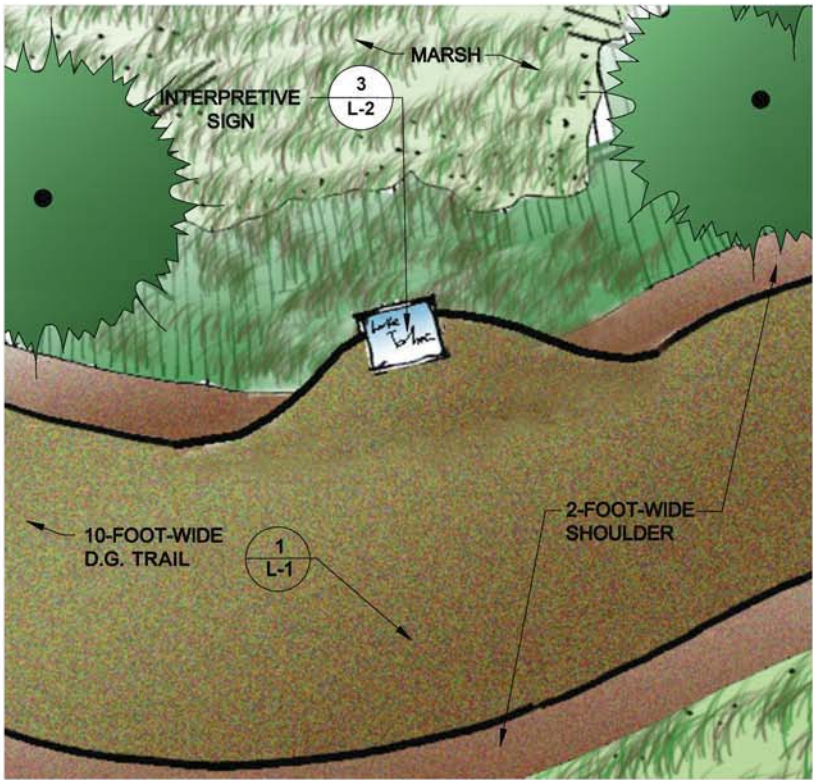
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checked by:	JZ

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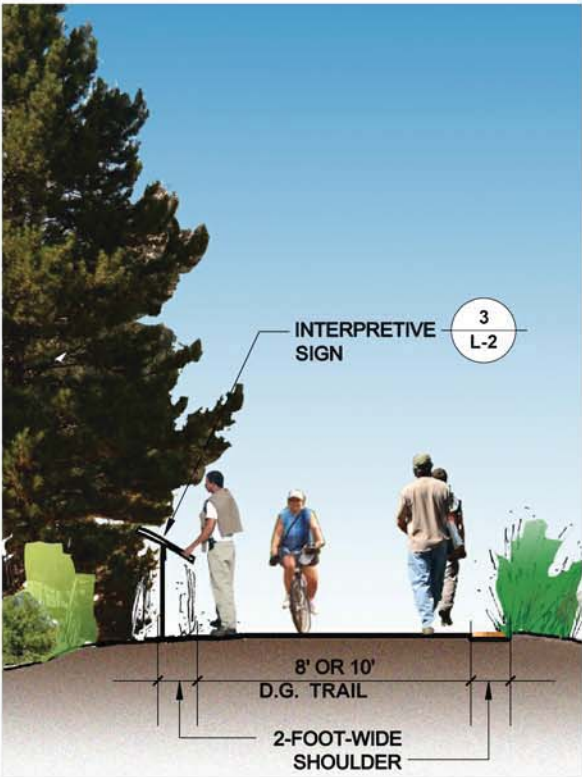
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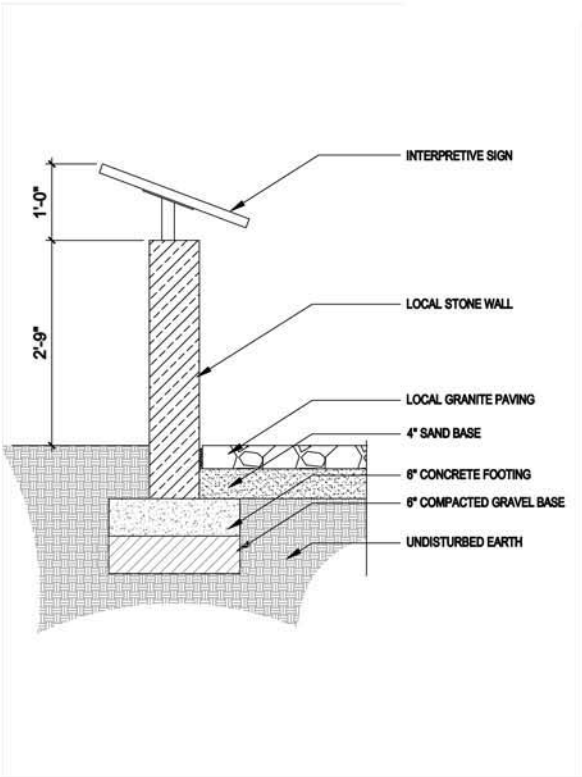
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L-2 **VIEW POINT**
SCALE: NTS PLAN VIEW



2
L-2 **VIEW POINT**
SCALE: NTS ELEVATION



3
L-2 **VIEW POINT**
SCALE: NTS REPRESENTATIVE EXAMPLE



4
L-2 **VIEW POINT**
SCALE: NTS SECTION



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VIEW POINT

L-2

REVISIONS

#	description	date

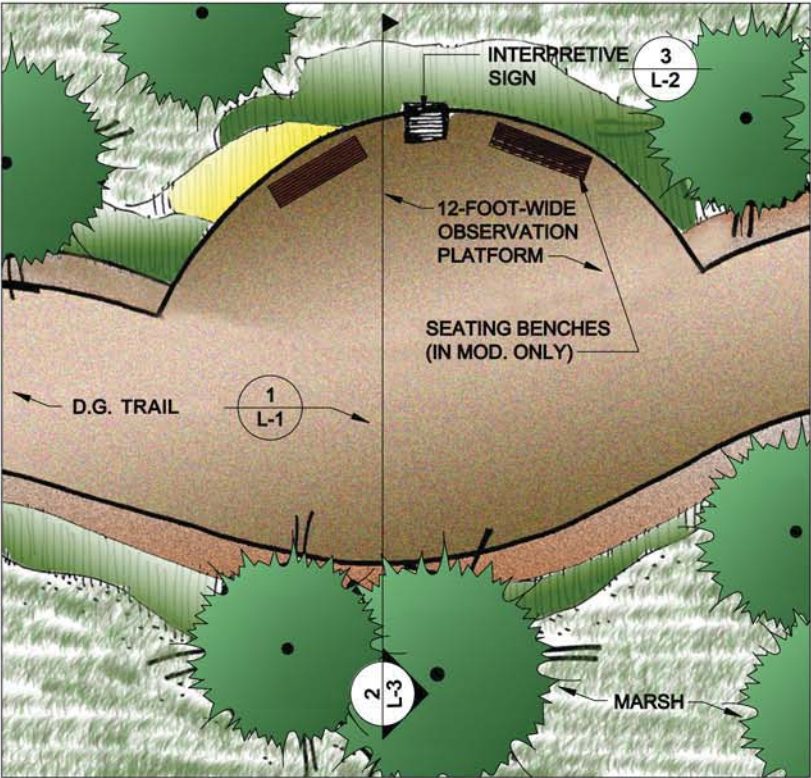
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sheet no.: L-2

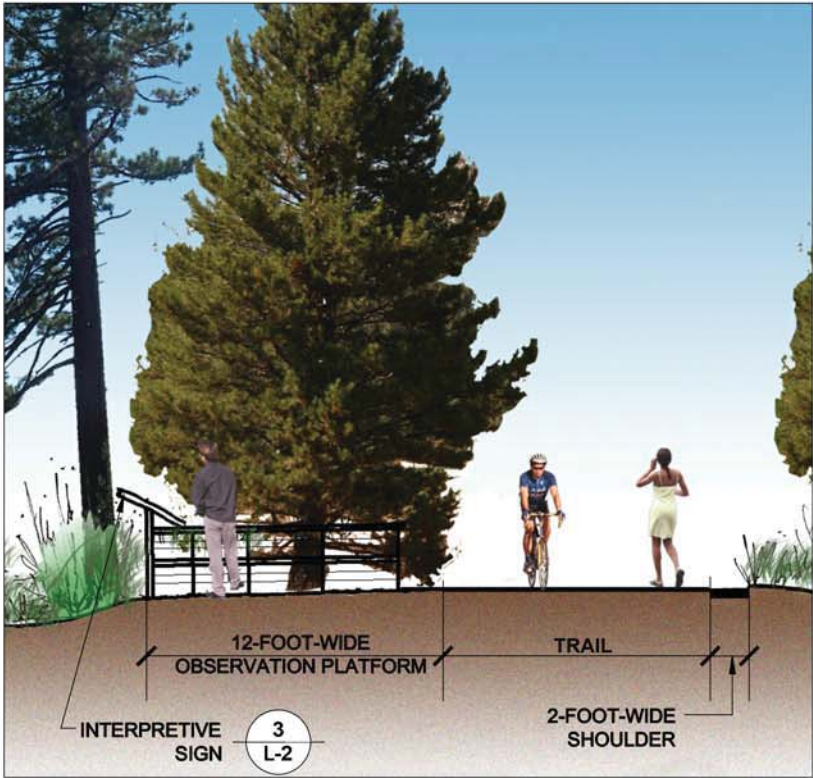
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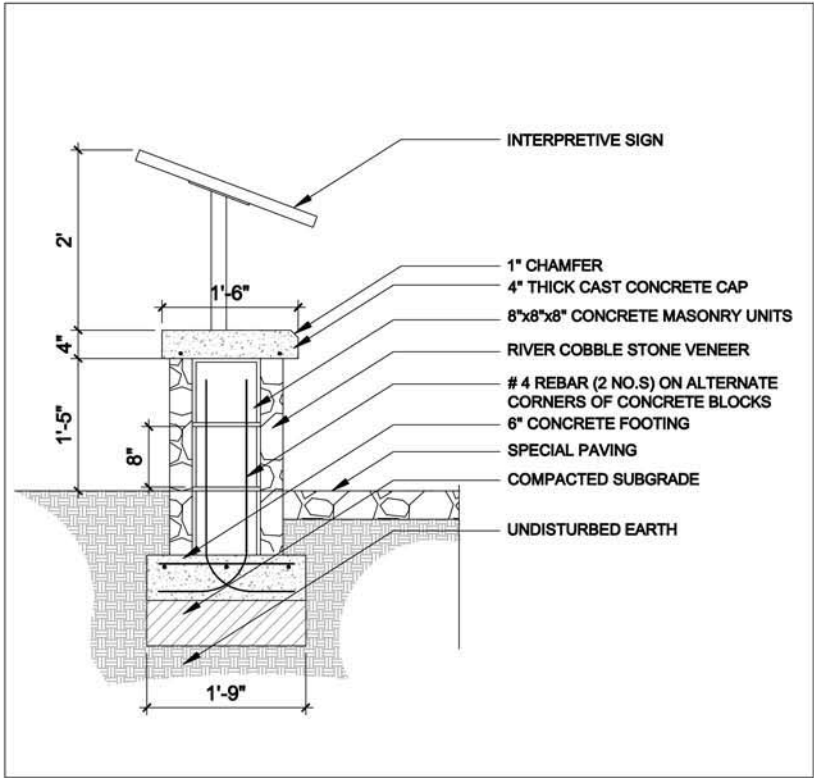
SCHEMATIC DESIGN PLANS
& DETAILS
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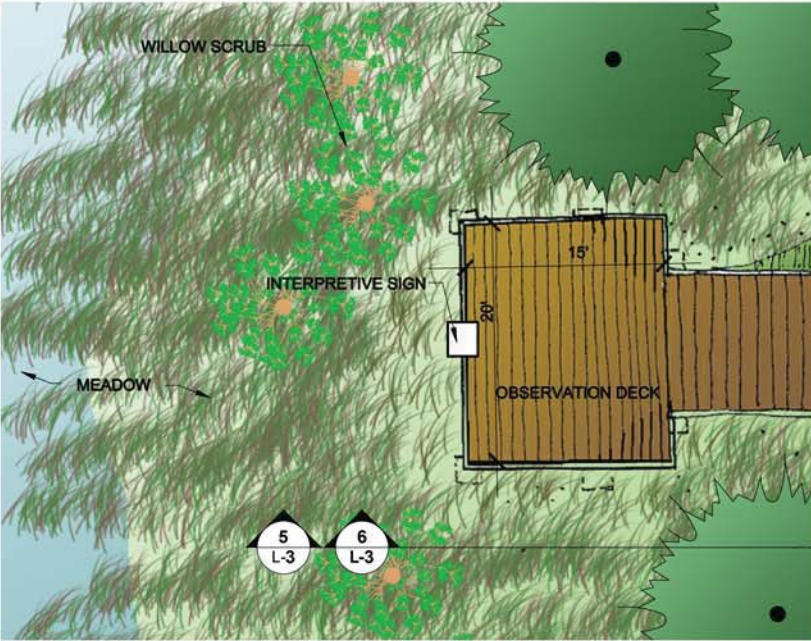
1 OBSERVATION AREA
L-3 SCALE: NTS PLAN VIEW



2 OBSERVATION AREA
L-3 SCALE: NTS PLAN VIEW



3 OBSERVATION AREA
L-3 SCALE: NTS ELEVATION



4 OBSERVATION AREA
L-3 SCALE: NTS ELEVATION



5 OBSERVATION AREA
L-3 SCALE: NTS SECTION



6 OBSERVATION AREA
L-3 SCALE: NTS REPRESENTATIVE EXAMPLE



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OBSERVATION AREA
TYPE 1

L-3

REVISIONS		
#	description	date

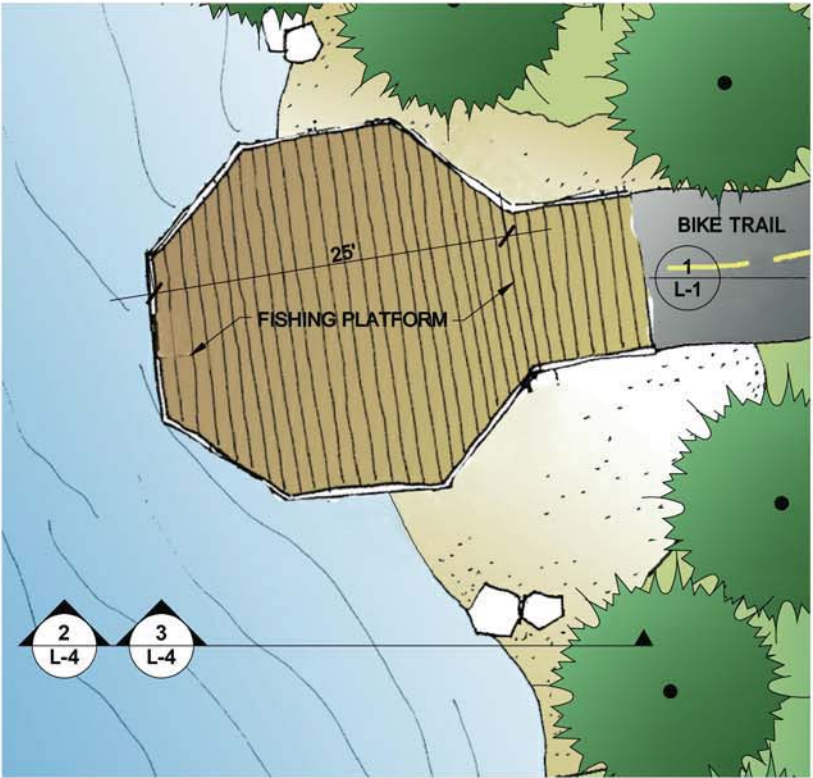
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SCHEMATIC DESIGN PLANS
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1 FISHING PLATFORM
SCALE: NTS



2 FISHING PLATFORM
SCALE: NTS

ELEVATION



3 FISHING PLATFORM
SCALE: NTS

REPRESENTATIVE EXAMPLE



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FISHING PLATFORM

L-4

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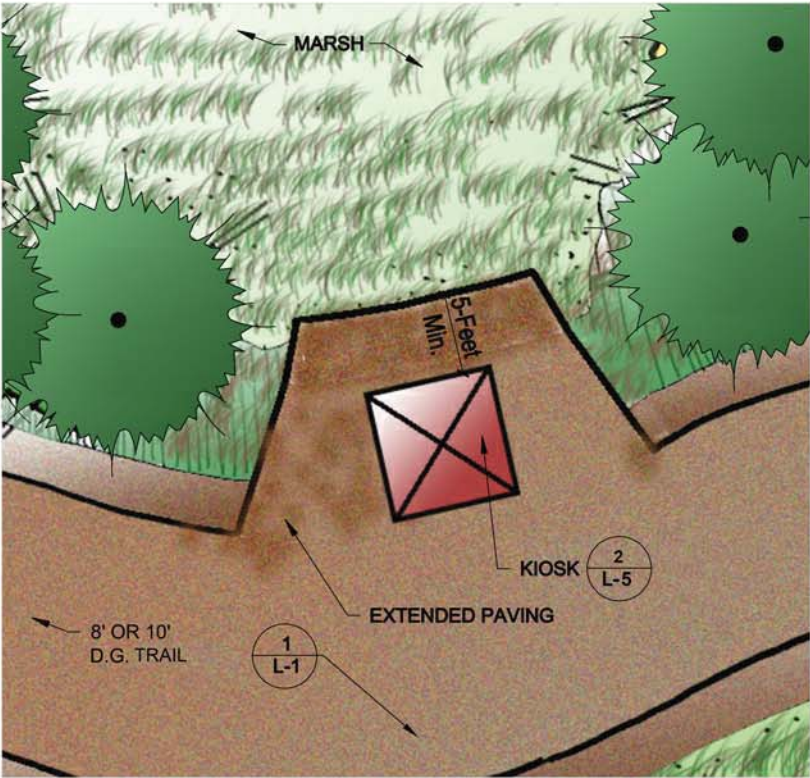
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SCHEMATIC DESIGN PLANS
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1
L-5

KIOSK

SCALE: NTS

PLAN VIEW



2
L-5

KIOSK

SCALE: NTS

REPRESENTATIVE EXAMPLE



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KIOSK

L-5

REVISIONS

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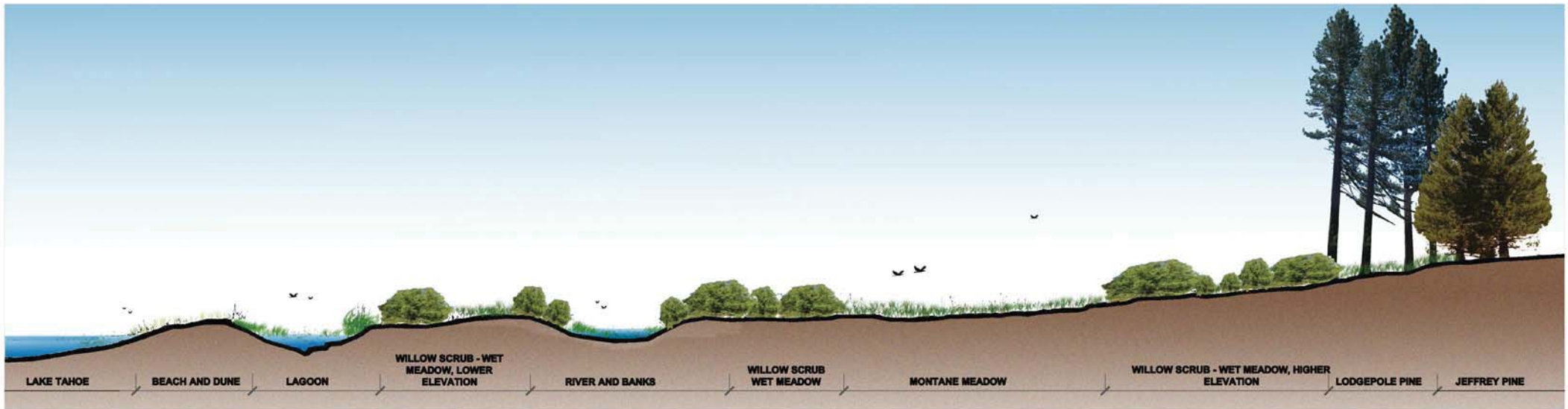
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SCHEMATIC DESIGN PLANS
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1
L-6 REVEGETATION AND HABITAT RELATIONSHIPS
SCALE: NTS SECTION

PLANT LIST

Scientific Name	Common Name	Growth Form	Beach and Dune	Lagoon	Willow Scrub-Wet Meadow, Lower Elevation	Riverbanks	Willow Scrub-Wet Meadow, Higher Elevation	Montane Meadow	Lodgepole Pine	Jeffrey Pine
<i>Scirpus acutus</i>	Tule	P		X						
<i>Sparganium emersum</i> ssp. <i>emersum</i>	Emerald bur-reed	P		X						
<i>Typha angustifolium</i>	Cattail	P		X						
<i>Achnatherum occidentale</i>	Western needlegrass	G							X	X
<i>Agrostis exarata</i>	Spike bentgrass	G				X				
<i>Alopecurus aequalis</i>	Short-awn foxtail	G		X	X					
<i>Bromus carinatus</i>	California brome	G								X
<i>Carex aquatilis</i>	Water Sedge	G	X	X	X		X			
<i>Carex athrostachya</i>	Blister sedge	G					X	X		
<i>Carex nebraskensis</i>	Nebraska sedge	G	X		X	X	X	X	X	X
<i>Carex utriculata</i>	Beaked sedge	G		X	X		X	X		
<i>Deschampsia cespitosa</i> var. <i>cespitosa</i>	Tufted hairgrass	G					X	X		
<i>Deschampsia danthonoides</i>	Annual hairgrass	G	X							
<i>Eleocharis macrostachya</i>	Common spikerush	G		X	X	X				
<i>Elymus glaucus</i>	Blue wildrye	G					X		X	
<i>Elymus trachycaulus</i> var. <i>intermedia</i>	Intermediate Wheatgrass	G						X		
<i>Festuca rubra</i>	Red fescue	G						X		
<i>Glyceria elata</i>	Fowl mannagrass	G		X	X	X				
<i>Hordeum brachyantherum</i>	Meadow barley	G	X					X		
<i>Hordeum jubatum</i>	Foxtail barley	G	X							
<i>Juncus balticus</i>	Wiregrass, Baltic rush	G	X	X	X	X	X			
<i>Juncus effusus</i>	Common rush	G		X	X	X	X			
<i>Juncus ensifolius</i>	Sword-leaved rush	G				X	X			
<i>Juncus nevadensis</i>	Nevada rush	G	X					X		
<i>Juncus orthophyllus</i>	Straight-leaved rush	G						X		
<i>Leymus triticoides</i>	Creeping wildrye	G	X						X	X
<i>Poa secunda</i> var. <i>nevadensis</i>	Bluegrass	G						X	X	X
<i>Scirpus micropus</i>	Small Fruited Bulrush	G				X				
<i>Achillea millefolium</i>	Yarrow	P	X					X	X	X
<i>Arnica chamissonis</i> var. <i>foliosa</i>	Arnica	P	X					X	X	
<i>Aster occidentalis</i>	Western mountain aster	P	X					X	X	X
<i>Fragaria virginiana</i>	Mountain strawberry	P	X					X	X	
<i>Linum lewisii</i>	Flax	P						X		
<i>Lupinus breweri</i>	Brewer's lupine	P								X
<i>Lupinus lepidus</i> var. <i>confertus</i>	Clustered tidy lupine	P	X							X
<i>Lupinus polyphyllus</i>	Big lupine	P					X	X	X	
<i>Oenothera elata</i> var. <i>hookeri</i>	Evening primrose	P	X							

PLANT LIST CONTINUED

Scientific Name	Common Name	Growth Form	Beach and Dune	Lagoon	Willow Scrub-Wet Meadow, Lower Elevation	Riverbanks	Willow Scrub-Wet Meadow, Higher Elevation	Montane Meadow	Lodgepole Pine	Jeffrey Pine
<i>Penstemon rydbergii</i> var. <i>oreocharis</i>	Meadow beardtongue	P						X	X	X
<i>Phacelia hastata</i>	Silverleaf phacelia	P								X
<i>Polygonum bistortoides</i>	Western bisort	P					X	X		
<i>Potentilla glandulosa</i>	Cinquefoil	P					X	X	X	
<i>Potentilla gracilis</i>	Cinquefoil	P	X				X	X	X	
<i>Sidalcea oregana</i> ssp. <i>spicata</i>	Checker mallow	P				X	X	X	X	
<i>Smilacina stellata</i>	False Solomon's seal	P							X	
<i>Stachys ajugoides</i> var. <i>rigida</i>	Hedge nettle	P					X		X	X
<i>Trifolium longipes</i>	Long-stalked clover	P					X	X	X	
<i>Nuphar luteum</i> var. <i>polysepalum</i>	Yellow pond-lily	P		X						
<i>Polygonum amphibium</i>	Water smartweed	P		X	X					
<i>Polygonum hydropiperoides</i>	Waterpepper	P		X	X					
<i>Rumex salicifolius</i>	Willow-leaved dock	P		X	X	X				
<i>Amelanchier alnifolia</i>	Serviceberry	S							X	
<i>Arctostaphylos patula</i>	Greenleaf Manzanita	S								X
<i>Artemisia tridentata</i> var. <i>vaseyana</i>	Mountain sagebrush	S							X	X
<i>Berberis aquifolium</i> var. <i>repens</i>	Oregon grape	S								X
<i>Ceanothus prostratus</i>	Squaw carpet	S								X
<i>Chrysothamnus nauseosus</i>	Rubber rabbitbrush	S								X
<i>Lonicera conjugalis</i>	Double honeysuckle	S								X
<i>Ribes cereum</i>	Wax currant	S								X
<i>Ribes lacustre</i>	Swamp currant	S					X		X	X
<i>Ribes roezlii</i> var. <i>roezlii</i>	Sierra currant	S								X
<i>Rosa woodsii</i> var. <i>ultramontana</i>	Interior rose	S							X	X
<i>Salix exigua</i>	Narrow-leaved willow	S	X			X				
<i>Pinus contorta</i> var. <i>murrayana</i>	Lodgepole pine	T							X	X
<i>Pinus jeffreyi</i>	Jeffrey pine	T								X
<i>Salix geyeriana</i>	Geyer's willow	T		X	X					
<i>Salix lemmonii</i>	Lemmon's willow	T	X	X	X	X	X		X	
<i>Salix lucida</i> var. <i>lasiandra</i>	Shining willow	T		X	X	X				
<i>Salix scouleriana</i>	Scouler's willow	T					X		X	
Total Number of Species			17.0	15.0	14.0	13.0	19.0	22.0	24.0	24.0

KEY
G - GRASS P - PERENNIAL S - SHRUB T - TREE



UPPER TRUCKEE RIVER
AND MARSH RESTORATION
PROJECT

E.I.P. # 580

AECOM

City Hall Tower, 16th Floor
One East First Street
Reno, NV 89501
Tel: 775.337.9565



295 Highway 50, Suite 1
Zephyr Cove, NV 89448
Tel: 775.588.9069

REVEGETATION
SECTION AND
PLANT LIST

L-6

REVISIONS

description date

scale: NOT TO SCALE

job no.: 00110066.04

drawn by: ML

checked by: JZ

sheet no.: L-6

sheet 25 of 25

date: 11/2015

