

* PLACE LIFTS TO MAXIMIZE DIVERSITY ALONG BEND AS MUCH AS POSSIBLE; LIFTS MUST BE PLACED TO MINIMIZE FABRIC FOLDING TO SUPPORT VEGETATION ESTABLISHMENT

CLUMPS NOT INSTALLED

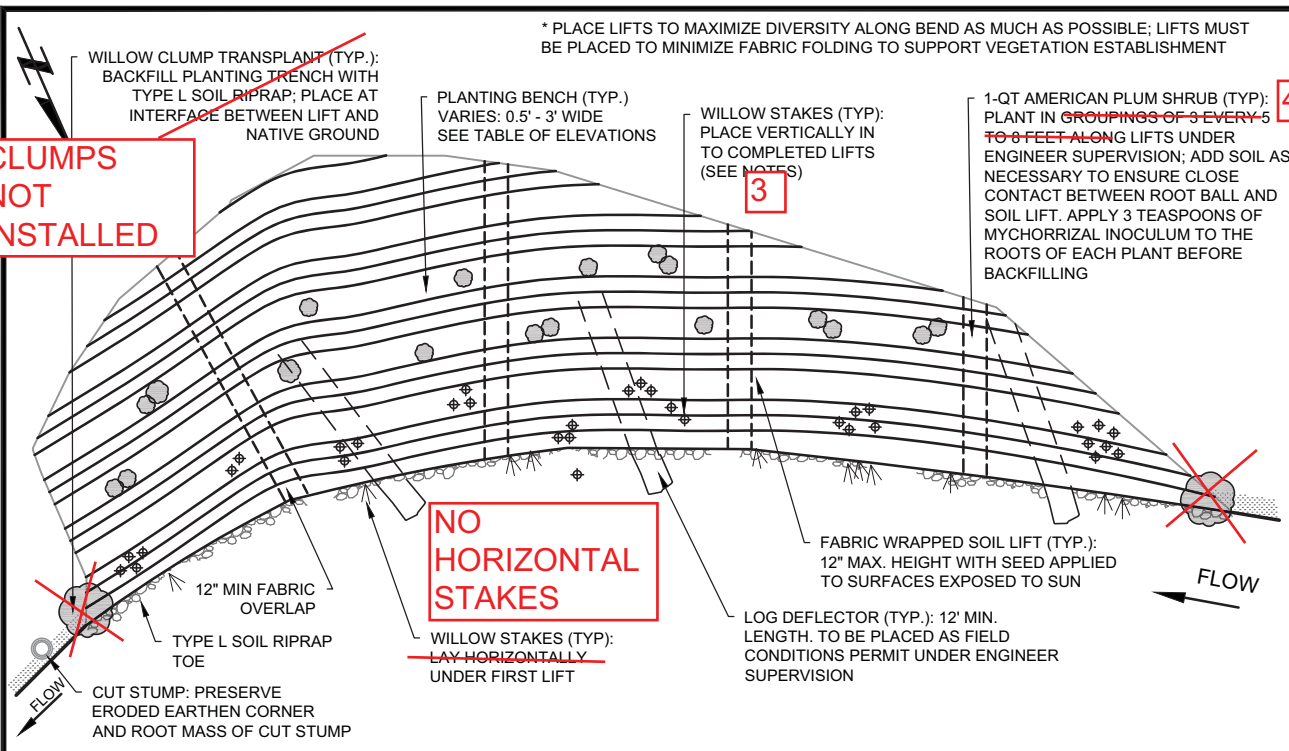
NO HORIZONTAL STAKES

HYDROMULCH APPLIED IN LIEU OF S-2 BLANKET

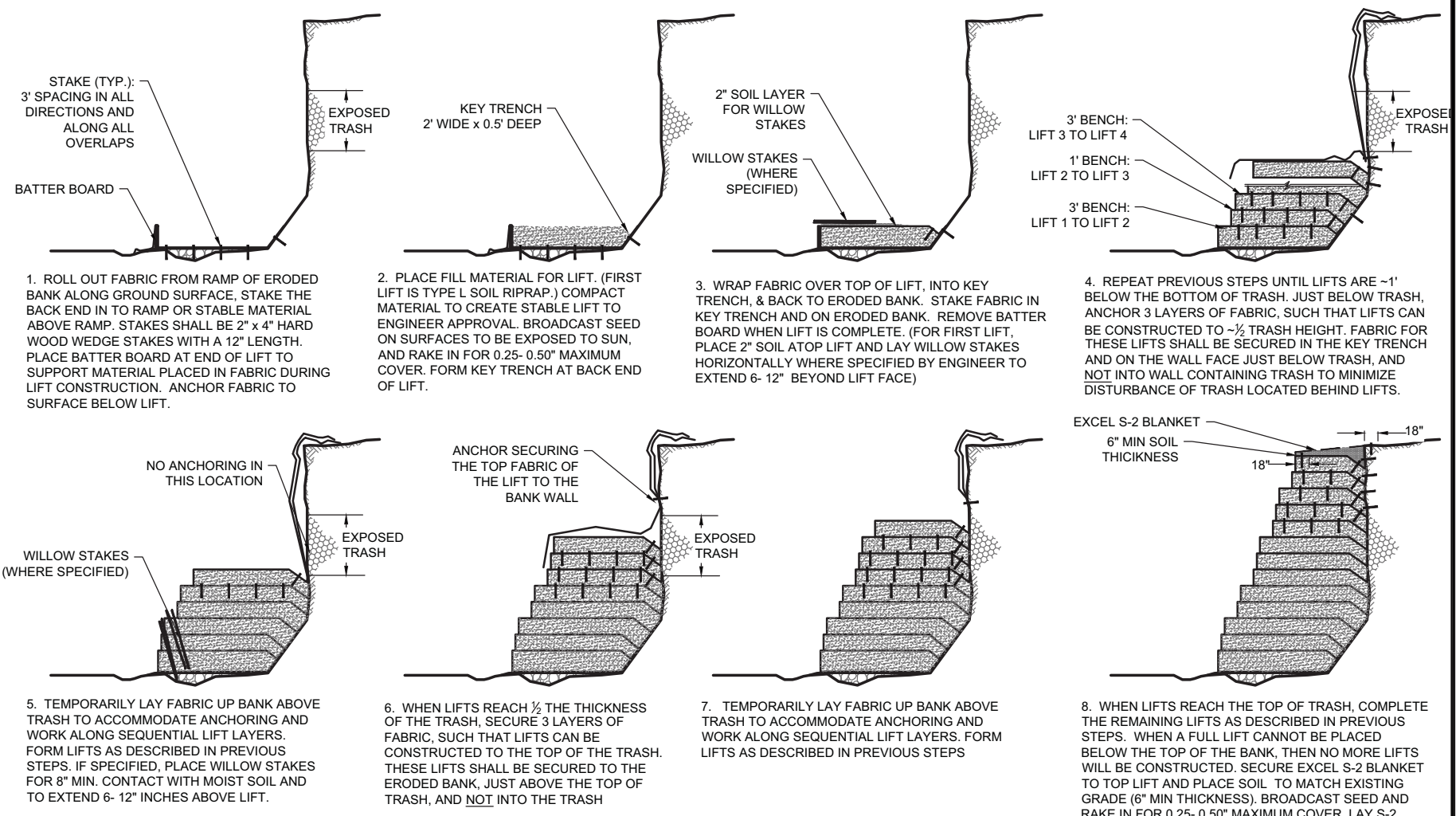
3. WILLOW STAKES PLACED ONLY IN LIFTS 1 AND 2
4. 13 AMERICAN PLUMS PLACED VERTICALLY ON LIFTS 8 AND 10; 3 PLUMS PLACED HORIZONTALLY BETWEEN LIFTS 4 AND 6; 4 PLUMS PLACED ON NORTH BANK
5. ADDITIONAL SOIL NOT REQUIRED TO MEET TOP OF SLOPE ELEV

1 DUCKBILL INSTALLED PER DEFLECTOR ON U/S SIDE

DUCKBILLS NOT INSTALLED



ERODED BANK (SOUTH) REPAIR: PLANVIEW (NTS)



ERODED BANK (SOUTH) LIFT CONSTRUCTION

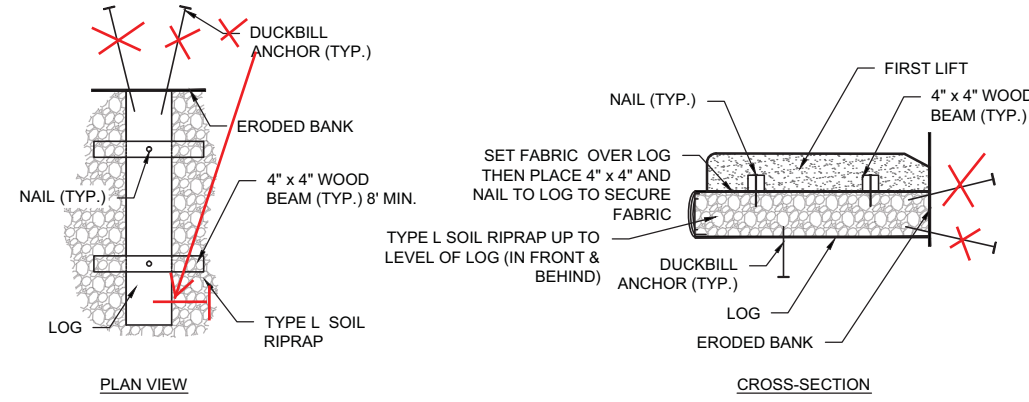
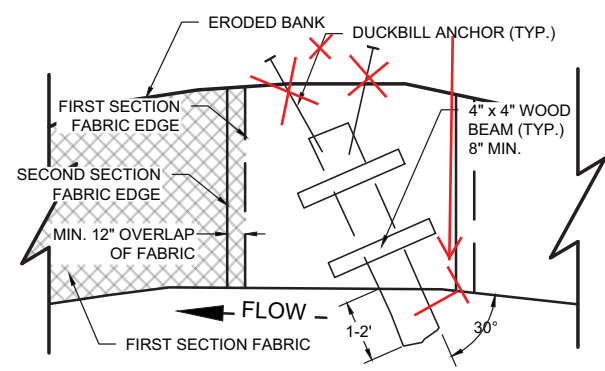
LIFT #	BASE EL	TOP EL	BENCH WIDTH
1	5544.9	5546.4	N/A
2	5546.4	5547.4	3
3	5547.4	5548.4	1
4	5548.4	5549.4	3
5	5549.4	5550.4	2
6	5550.4	5551.4	1
7	5551.4	5552.4	0.5

BOTTOM OF TRASH ELEVATION: 5553- 5554
 ANCHOR FABRIC FOR LIFTS 8, 9, 10 BELOW TRASH AFTER PLACING LIFT 7

8	5552.4	5553.4	1
9	5553.4	5554.4	2
10	5554.4	5555.4	0.5

TOP OF TRASH ELEVATION: 5556- 5558
 ANCHOR FABRIC FOR LIFTS 11, 12, 13 AT TOP OF SLOPE AFTER PLACING LIFT 10

11	5555.4	5556.4	2
12	5556.4	5557.4	0.5
13	5557.4	5558.4	2
14	5558.4	5559.4	1

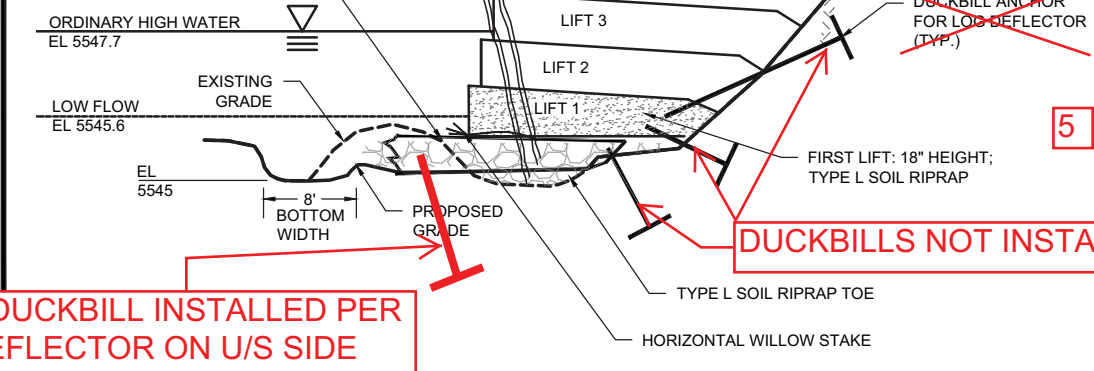


LIFT CONSTRUCTION SEQUENCE

LOG DEFLECTOR ANCHORING

- NOTES:
1. START LIFT CONSTRUCTION AT DOWNSTREAM
 2. WORK IN SECTIONS, ALLOWING FOR 12" MINIMUM FABRIC OVERLAP
 3. FOR DEFLECTORS, IF SPECIFIED, PLACE FABRIC AND CENTER LIFT OVER DEFLECTOR

ERODED BANK (SOUTH) REPAIR: CROSS SECTION (NTS)



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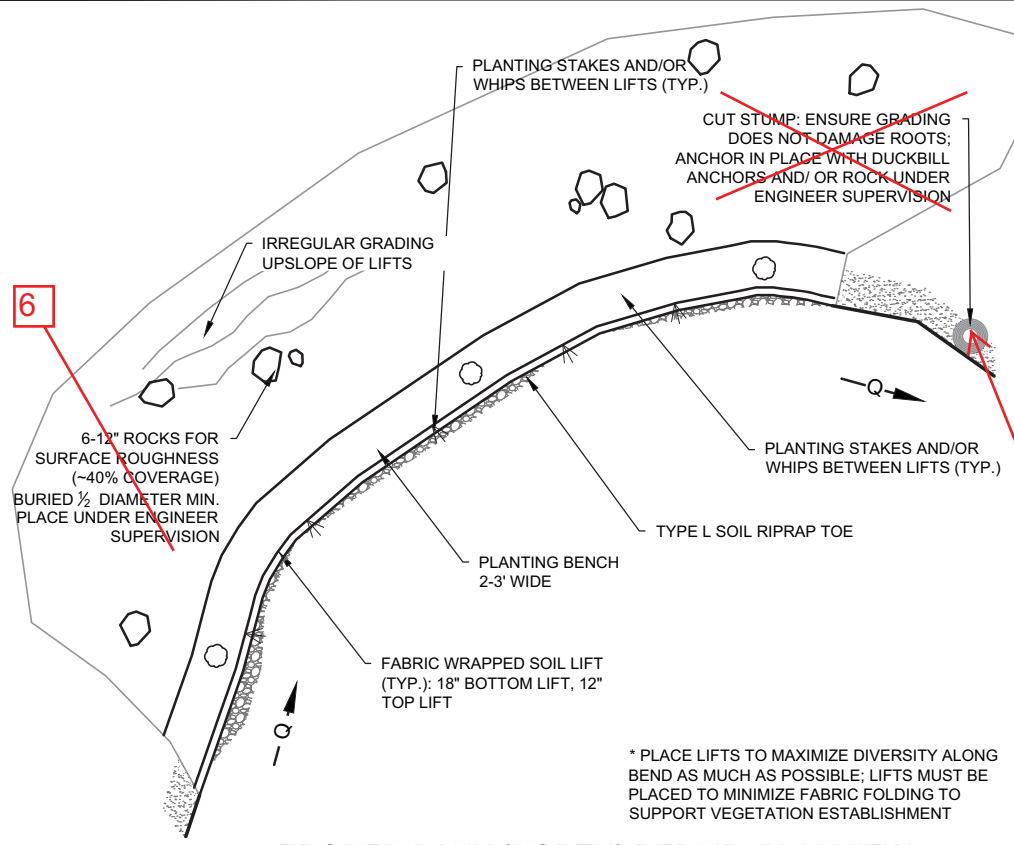
NO.	DATE	REVISION	BY	CHK

FINAL RECORD DRAWINGS
 11-04-14

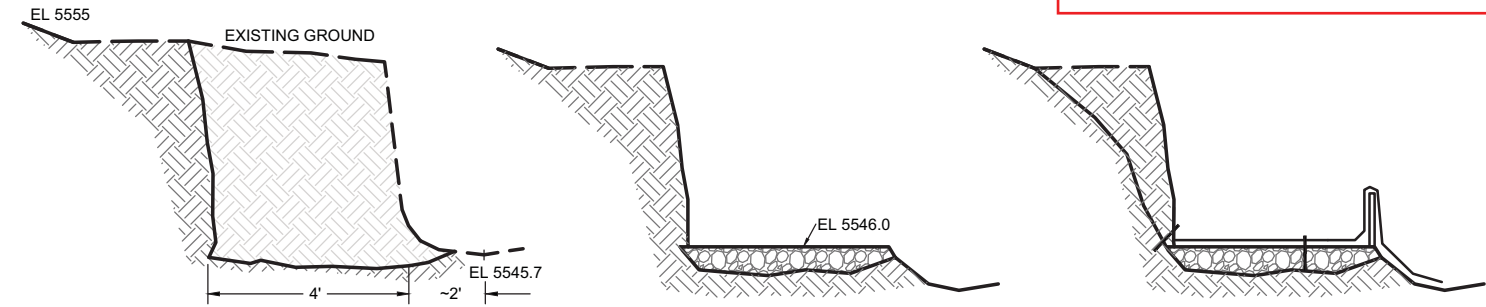
RALSTON CREEK

Project Number: WA-002356-0001 Date: August 8, 2014 Engineer: BHV Drawn By: JAL

ERODED BANK REPAIR DETAILS 1



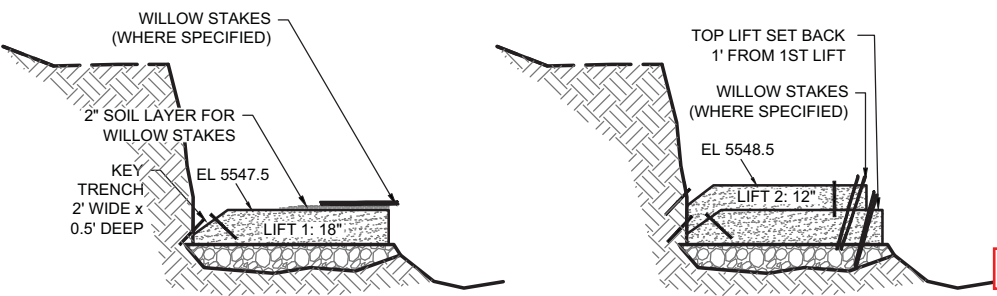
ERODED BANK (NORTH) REPAIR: PLANVIEW



1. EXCAVATE 4' BENCH AT EL 5545.0± -2' FROM EXISTING THALWEG

2. PLACE TYPE L SOIL RIPRAP TO EL 5546.0

3. ROLL OUT FABRIC FROM BANK SLOPE AND PLACE BATTER BOARD AT END OF LIFT TO SUPPORT MATERIAL PLACED IN LIFT DURING CONSTRUCTION. PLACE ROW OF STAKES NEAR FRONT OF LIFT AND INTO BANK AT BACK OF LIFT. THE BOTTOM LIFT WILL BE 18" THICK.



4. PLACE FILL MATERIAL FOR LIFT. (FIRST LIFT IS TYPE L SOIL RIPRAP.) COMPACT MATERIAL TO CREATE STABLE LIFT TO ENGINEER APPROVAL. BROADCAST SEED AND RAKE IN FOR 0.25- 0.50" MAXIMUM COVER. FORM KEY TRENCH AT BACK END OF LIFT. SECURE FABRIC INTO KEY TRENCH AND INTO BANK. REMOVE BATTER BOARD. (IF SPECIFIED AT FIRST LIFT, PLACE 2" SOIL ATOP LIFT AND LAY WILLOW STAKES HORIZONTALLY WHERE SPECIFIED BY ENGINEER TO EXTEND 6- 12" BEYOND LIFT FACE)

5. REPEAT STEPS 3 AND 4 TO CREATE SECOND LIFT (12" HEIGHT) SET BACK 1' FROM FIRST LIFT. IF SPECIFIED, PLACE WILLOW STAKES FOR 8" MIN. CONTACT WITH MOIST SOIL AND TO EXTEND 6- 12" INCHES ABOVE LIFT.

6. SECURE EXCEL S-2 BLANKET TO TOP OF LIFT 2 WITH 18" KEY IN GRADE AREA ABOVE LIFTS TO CREATE IRREGULAR SURFACE WITH EFFECTIVE SLOPE OF 2-2.3:1 (H:V). BROADCAST SEED AND RAKE IN FOR 0.25- 0.5" COVER, MAXIMUM. WRAP S-2 BLANKET OVER GRADED SLOPE. SECURE ALONG SLOPE AND IN 1' x 1' KEY TRENCH AT TOP OF SLOPE. INCORPORATE 6- 12" ROCKS FOR SURFACE ROUGHNESS, BURIED TO 1/2" DIAMETER, MINIMUM UNDER ENGINEER SUPERVISION.

3 LIFTS PLACED. SEE SKETCH

EFFECTIVE SLOPE UPDATED TO ~2.6:1 DUE TO THIRD LIFT.

ERODED BANK (NORTH) CROSS SECTION AND LIFT CONSTRUCTION

Ralston Creek Seed Mix		Percent of Mix	LBS/PLS per Acre	Broadcast Rate LBS per Acre	Acres to be Seeded	TOTAL PLS
<i>Elymus trachycaulus</i> 'Pryor' or 'First Strike'	Slender wheatgrass	15%	2.05	4.11	0.2	0.82
<i>Elymus lanceolatus</i> 'Critana'	Thickspike wheatgrass	15%	2.12	4.24	0.2	0.85
<i>Bouteloua curtipendula</i> 'Trailway'	Sideoats grama	5%	0.57	1.14	0.2	0.23
<i>Elymus canadensis</i>	Canada wildrye	10%	1.89	3.79	0.2	0.76
<i>Bromus marginatus</i> 'Garnet'	Mountain brome	10%	3.40	6.81	0.2	1.36
<i>Nassella viridula</i> 'Cucharas'	Green needlegrass	10%	1.20	2.41	0.2	0.48
<i>Spartina pectinata</i>	Prairie cordgrass	20%	2.21	4.42	0.2	0.88
<i>Rosa woodsii</i>	Woods rose	5%	2.40	4.81	0.2	0.96
<i>Prunus americana</i>	American plum	1%	12.52	25.03	0.2	5.01
<i>Rhus trilobata</i>	Skunkbush sumac	5%	5.36	10.73	0.2	2.15
Seeding Rate: 100 seeds per square foot, broadcast		96%	33.74	67.49		13.50

APPLY MENAFEE GRANULAR HUMATE AT RATE OF 300 POUNDS PER ACRE.
 APPLY MYCO APPLY ALL PURPOSE GRANULAR MYCHORRIZAL INOCULUM AT A RATE OF 20 POUNDS PER ACRE.
 WILLOW STAKES SHALL BE HARVESTED AND INSTALLED PER UDFCD SPECIFICATIONS

STUMP REMOVED. SEE NOTE 2

6. ROCKS NOT PLACED TO IMPROVE BLANKET CONTACT WITH SOIL

POST-CONSTRUCTION WATERING NOTES AND SCHEDULE :

WATERING OF THE PLANTED AMERICAN PLUM SHRUBS SHOULD COMMENCE IMMEDIATELY FOLLOWING PLANTING.

FOR THE FIRST THREE WEEKS, THE PLUMS SHOULD BE WATERED DAILY IF TEMPERATURES ARE IN THE 70'S AND ABOVE; AND EVERY OTHER DAY IF TEMPERATURES ARE IN THE 60'S OR BELOW.

FROM THERE UNTIL NOVEMBER 21, PLUMS SHOULD BE WATERED ONCE PER WEEK UNLESS PRECIPITATION IS RECEIVED THAT WEEK (>1/2" OF RAIN OR >3" OF SNOW).

THE WATERING METHOD SHOULD USE A GENTLE FLOW THAT ALLOWS THE WATER TO SOAK INTO THE SOIL AND NOT RUN OFF. WATERING SHOULD BE SUFFICIENT TO THOROUGHLY SOAK THE SOIL IN THE AREA OF THE ROOT BALL.

ACCESS ROUTES FOR WATERING THE PLUMS SHOULD BE DISCUSSED WITH THE ENGINEER PRIOR TO STARTING. REPEATED TRAMPLING OR DISTURBANCE OF NEWLY-SEEDED AREAS IS TO BE AVOIDED.

WATERING OF THE SEEDED AREAS SHOULD BEGIN IMMEDIATELY FOLLOWING SEEDING.

FOR THE FIRST THREE WEEKS, THE SEEDED AREAS SHOULD BE WATERED TWICE PER WEEK. THE WATERING SHOULD BE DONE IN A MANNER THAT GENTLY AND GRADUALLY SATURATES THE SOIL. SOIL SHOULD BE SATURATED TO A DEPTH OF TWO INCHES. A PROBE SUCH AS A NARROW TROWEL OR SCREWDRIVER CAN BE USED TO TEST THE SOIL SATURATION DEPTH.

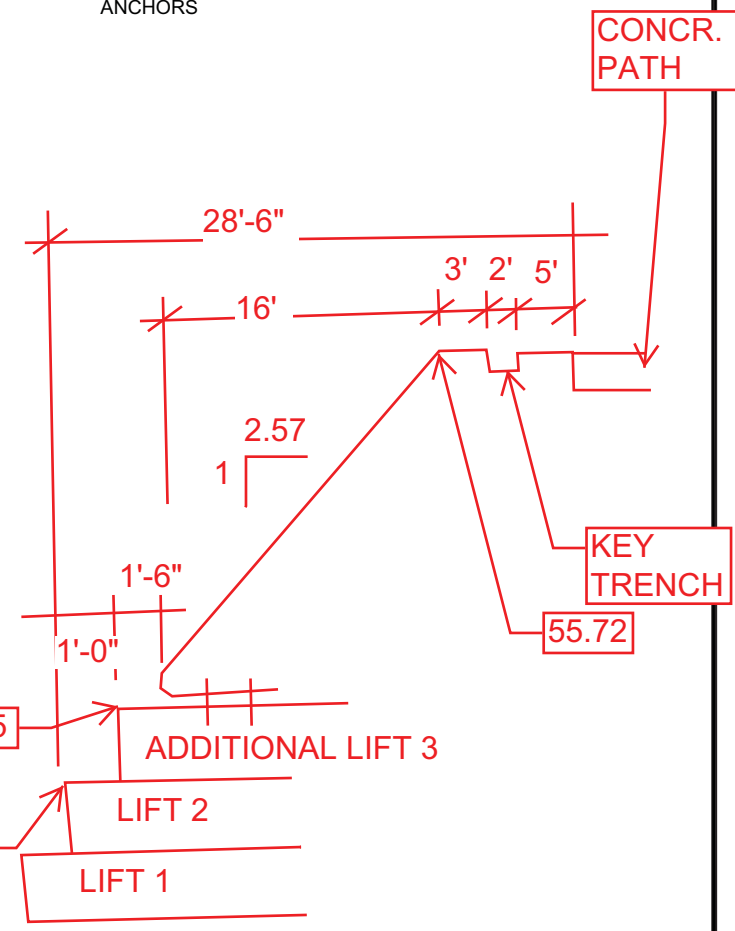
AFTER THE FIRST THREE WEEKS AND UNTIL NOVEMBER 21, SEEDED AREAS SHOULD BE WATERED ONCE PER WEEK UNLESS PRECIPITATION IS RECEIVED THAT WEEK (>1/2" OF RAIN OR >3" OF SNOW). THE DEPTH OF SOIL SATURATION WITH WATER FOR THE WEEKLY WATERING SHOULD BE 3 INCHES.

FROM NOVEMBER 21-FEBRUARY 13, PLANTS AND SEEDED AREAS SHOULD BE EVALUATED EVERY THREE WEEKS TO DETERMINE THE NEED FOR WINTER WATERING. THIS WILL DEPEND ON THE AMOUNT OF PRECIPITATION THAT IS RECEIVED.

IN FEBRUARY, A WATERING SCHEDULE FOR THE SPRING AND SUMMER SHOULD BE DEVELOPED. IDEALLY, WATERING COULD CONTINUE ON A LIMITED BASIS (I.E., DURING PROLONGED HOT OR DRY PERIODS) THROUGH OCTOBER OF 2015.

MATERIALS:

- FABRIC FOR ALL FABRIC-WRAPPED SOIL LIFTS SHALL BE KOIRWRAP 1000 BY NEDIA ENTERPRISES
- BLANKET FOR GRADED AREA UPSLOPE OF FABRIC-WRAPPED SOIL LIFTS SHALL BE S-2 ALL NATURAL BY WESTERN EXCELSIOR
- ANCHORS LOGS AND CUT STUMPS SHALL BE DUCKBILL EARTH ANCHORS, MODEL 88 BY DUCKBILL EARTH ANCHORS



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ERODED BANK REPAIR DETAILS 2