

**BROCKWAY CAMPGROUND REVEGETATION SPECIFICATIONS**

**A. GENERAL**

CONTRACTED WORK SHALL BE CONDUCTED AND/OR OVERSEEN BY A LICENSED CONTRACTOR AND INSPECTED BY THE OWNER. THE CONTRACTOR SHALL PERFORM ALL REVEGETATION WORK AS SPECIFIED HEREIN AND IN ACCORDANCE WITH THE PROVISIONS OF THESE REVEGETATION SPECIFICATIONS AND THE IMPROVEMENT PLANS. THE REVEGETATION WORK SHALL CONSIST OF ALL SITE PREPARATION ASSOCIATED WITH THE REVEGETATION TREATMENTS AND SHALL INCLUDE TEMPORARY EROSION CONTROL, SEEDED PREPARATION, APPLICATION OF TOPSOIL, APPLICATION OF SOIL AMENDMENTS, SEEDING, AND MULCHING. VEGETATIVE COVER SHALL BE ACHIEVED ACCORDING TO THE PERFORMANCE STANDARDS INCLUDED IN THIS DOCUMENT. ALL DISTURBED AREAS SHALL BE STABILIZED OR REVEGETATED.

**B. ASSUMPTIONS**

- DURING CLEARING AND GRUBBING, TOPSOIL WILL BE STOCKPILED FOR RE-USE IN THE PROJECT AREA. THIS TASK WILL BE PERFORMED BY OTHERS.
- WOODCHIPS AND/OR TUB GRINDINGS WILL BE STOCKPILED WITHIN THE PROJECT AREA BY OTHERS TO BE USED, AS NEEDED, FOR EROSION CONTROL AND REVEGETATION.
- ALL WORK MUST BE COMPLETED BY OCTOBER 15, 2013. THE CONTRACTOR SHALL PROVIDE A SCHEDULE TO THE OWNER WITH BID SUBMITTAL.
- ALL REVEGETATION AND EROSION CONTROL MATERIALS MUST BE CERTIFIED "WEED-FREE".

**C. GENERAL INSTALLATION OF TREATMENTS**

- SOIL AMENDMENT:** SOIL AMENDMENTS WILL BE PLACED ON THE SOIL SURFACE TO A DEPTH OF 1.0", AS SPECIFIED BY THE OWNER. SOIL AMENDMENT SHALL CONSIST OF WOODY COMPOST, AGED WOODCHIPS OR LOCALLY DERIVED WOODCHIPS OR TUB GRINDINGS. WOODCHIPS AND/OR TUB GRINDINGS FROM TREE REMOVAL ACTIVITIES WILL BE AVAILABLE WITHIN THE PROJECT AREA TO BE TRANSPORTED BY THE CONTRACTOR FOR APPLICATION.
- SOIL LOOSENING:** FOLLOWING SOIL AMENDMENT APPLICATION, TOPSOIL SHALL BE APPLIED TO THE SURFACE AND THE SOIL SHALL BE TILLED TO AN AVERAGE DEPTH OF 12" (+/-) THROUGH THE TILLING PROCESS. THE SOIL AMENDMENT AND TOPSOIL WILL BE MIXED INTO THE SOIL WITH A HIGHER CONCENTRATION OF AMENDMENT MATERIAL AND TOPSOIL TOWARD THE SURFACE. SOIL SHALL BE TILLED WITH AN EXCAVATOR WITH A BUCKET ABLE TO REACH AND MIX TO THE SPECIFIED DEPTH. SOIL TILLING DEPTH SHALL VARY LEAVING THE SUBSURFACE IN A SCALLOPED CONFIGURATION. SOIL SURFACE WILL BE LEFT IN AN UNEVEN CONDITION WITH 6"-10" OF SURFACE RELIEF OVER A 100 SQ. FT. AREA. THE SOIL SHALL BE COMPLETELY LOOSENED SO THAT NO CLUMPS LARGER THAN 6" IN DIAMETER REMAIN. AFTER TILLING, NO VEHICLE TRAVEL SHALL BE ALLOWED ON THE SURFACE IN ORDER TO AVOID COMPACTION AND MAINTAIN AN APPROXIMATE 12" DEPTH SOIL PENETRATION WITH A CONE PENETROMETER.
- ORGANIC, SLOW RELEASE FERTILIZER:** APPLY BIOSOL 6-1-3 (OR EQUIVALENT) AT A RATE OF 2000 LBS/AC. FERTILIZER AND SEED MAY BE APPLIED CONCURRENTLY.
- SEED:** APPLY REVEGETATION SEED MIX AT APPROXIMATELY 75 LBS/ACRE PLS (IF HAND SEEDING) OR 100 LBS/ACRE PLS (IF HYDRAULIC APPLICATION). MOUNTAIN MIX, OBTAINED FROM COMSTOCK SEED, 917 HWY 88, GARDNERVILLE, NV 89410, 775-265-0090.

SEED SHALL BE UNIFORMLY BROADCAST WITH HAND-HELD SEEDERS OR HYDRAULICALLY WITH OTHER MATERIALS. IF BROADCAST BY HAND METHODS, SEED AND FERTILIZER SHALL THEN BE RAKED LIGHTLY INTO THE SOIL IN ORDER TO ATTAIN GREATER SEED-SOIL. REGARDLESS OF THE METHOD OF APPLICATION, 95% OF SEED MUST HAVE DIRECT CONTACT WITH THE SOIL. CARE SHALL BE TAKEN NOT TO BURY THE SEED MORE THAN 1/8" BELOW THE SOIL SURFACE. SEED SHALL NOT BE LEFT UNCOVERED MORE THAN 24 HOURS UNLESS OTHERWISE APPROVED BY THE OWNER. SEEDING SHALL NOT OCCUR UNDER CONDITIONS THAT WOULD ALLOW THE SEED TO BECOME WINDBORNE (GREATER THAN 5 MPH MAXIMUM WIND SPEED).

PLS LBS/AC	VARIETY & SPECIES
26.00	BROME CALIFORNIA SIERRA
9.00	SQUIRRELTAIL
13.00	WILDRIE BLUE HIGH ELEVATION
9.00	FESCUE IDAHO
8.60	WHEATGRASS SLENDER REVENU
0.50	GOOSEBERRY SIERRA
2.50	BITTERBRUSH
0.20	CEANOTHUS VELUTINUS
0.15	CURRANT WAX
5.50	WILDFLOWER MIX - SIERRA
1.00	DAISY SHASTA
75.00	

ALL SEED SHALL CONFORM TO ALL LAWS AND REGULATIONS PERTAINING TO THE SALE AND SHIPMENT OF SEED. FOOD BY THE CALIFORNIA FOOD AND AGRICULTURAL CODE OF 1982, REGULATIONS OF 1983, AND THE FEDERAL SEED ACT. ALL SEED MUST BE TESTED WITHIN 1 YEAR PRIOR TO APPLICATION DATE. SEED TAGS MUST REFLECT THE MOST RECENT TEST DATE. SUBMIT ORIGINAL SEED TESTS BY LOT NUMBER TO THE OWNER FOR APPROVAL PRIOR TO MIXING AND SUBSEQUENT PLANTING. WEED SEED SHALL NOT EXCEED 0.50% OF THE PURE LIVE SEED SPECIFIED AND SHALL NOT INCLUDE ANY SEED OF CHEATGRASS, (BROMUS TECTORUM) OR SWEET CLOVERS (MELILOTUS OFFICINALIS, M. ALBA). CROP SEED SHALL NOT EXCEED 0.50%.

**SEED TAGS SHALL SHOW THE FOLLOWING INFORMATION:**

- SCIENTIFIC NAME
- COMMON NAME
- LOT NUMBER
- PERCENT PURITY
- PERCENT GERMINATION, INCLUDING HARD AND DORMANT SEED
- PERCENT WEED SEED
- ORIGIN

REQUESTS FOR SUBSTITUTE SPECIES, AND/OR VARIETIES MUST BE SUBMITTED IN WRITING. WRITTEN APPROVAL FROM THE OWNER IS REQUIRED FOR ALL SUBSTITUTIONS.

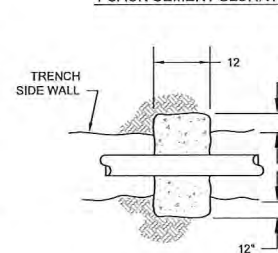
- MULCH:** MULCH WILL CONSIST OF PINE NEEDLES OR WOODCHIPS. MULCH WILL BE APPLIED 1" THICK TO A CONDITION WHERE AT LEAST 85% OF THE GROUND SURFACE IS COVERED AND NOT VISIBLE TO THE EYE. MULCH WILL BE APPLIED BY BLOWER OR BY HAND. IN ADDITION TO THE USE OF CHIPPED WOODY MATERIAL AS MULCH, DURING CLEARING AND GRUBBING LARGER SLASH SUCH AS TREE BRANCHES SHALL BE SALVAGED FOR USE AS MULCH. BRANCHES AND OTHER DEBRIS SHALL BE SCATTERED RANDOMLY AND IN AN UNEVEN FASHION FOLLOWING ALL SOIL TREATMENTS. DIAMETER OF MATERIAL SHALL NOT EXCEED 1.5".

- WATTLES:** WATTLES SHALL BE INSTALLED PER IMPROVEMENT PLANS. WATTLE LAYOUT SHALL BE FIELD FIT BY OWNER. WATTLES SHALL BE STRAW-FILLED OR PINE-NEEDLE FILLED TUBES OF FLEXIBLE NETTING MATERIAL. IF MADE OF STRAW, THEY SHALL BE A MACHINE-PRODUCED TUBE OF COMPACTED RICE STRAW THAT IS CERTIFIED WEED FREE FORAGE. THE NETTING SHALL CONSIST OF SEAMLESS, HIGH-DENSITY POLYETHYLENE AND ETHYL VINYL ACETATE AND CONTAIN ULTRA VIOLET INHIBITORS. LOGS SHALL AVERAGE 8.5" IN DIAMETER AND WEIGH 2.5 LBS/LINEAL FT. USE EARTH SAVER RICE STRAW WATTLES OR APPROVED EQUAL.

A TRENCH 2'-4" (+/-) DEEP WITH A WIDTH EQUAL TO THE DIAMETER OF THE WATTLE MUST BE DUG INTO THE CONTOUR WHERE WATTLES WILL BE PLACED. WATTLES SHALL BE PLACED IN THE TRENCH SO THAT SOIL CONTACTS THE ENTIRE LOWER WATTLE SURFACE SUCH THAT RUNOFF CANNOT RUN UNDER OR AROUND THE WATTLES. STAKES SHALL BE DRIVEN THROUGH THE WATTLES TO SECURE THE WATTLES. DRIVE STAKES AT THE END OF EACH WATTLE AND SPACE APPROXIMATELY 4 FT (+/-) ON CENTER. ENSURE THAT ADJACENT WATTLES ARE OVERLAPPED AT LEAST 4". INSTALL WATTLES ALONG A LEVEL CONTOUR. AT THE END OF THE RUN OF WATTLES, TURN THE ENDS OF THE WATTLE UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE WATTLE.

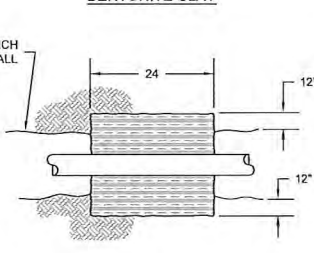
- WATERBARS:** EXISTING WATERBARS ON SKI TRAILS AND ROADWAYS SHALL BE RESTORED. WATERBARS SHALL BE INSTALLED PER IMPROVEMENT PLANS AND FIELD FIT BY OWNER.

**1 SACK CEMENT SLURRY**

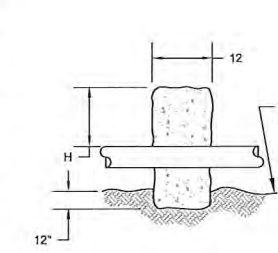


PLAN VIEW

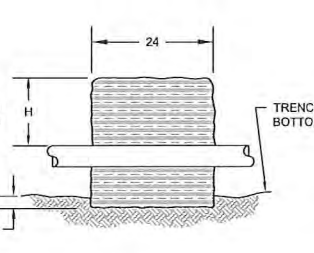
**BENTONITE CLAY**



PLAN VIEW



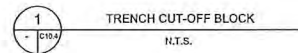
PROFILE VIEW



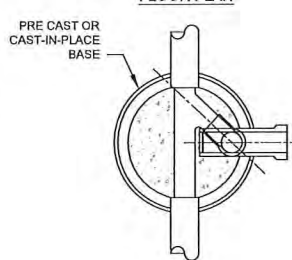
PROFILE VIEW

H = 12" ABOVE SEASONAL HIGH GROUNDWATER TABLE (42" MIN.)

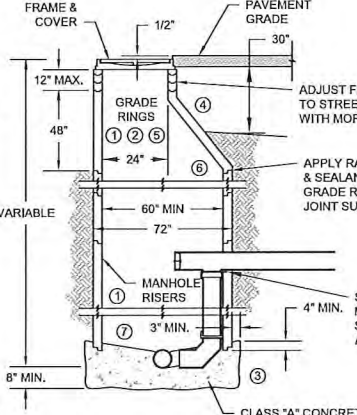
\*NOTE: TRENCH CUT-OFF BLOCKS TO BE INSTALLED ON PIPES GREATER THAN 10% SLOPE. LOCATIONS TO BE PLACED AT MIDWAY POINT OF PIPE RUN AND 10 FT UPHILL FROM DOWNSTREAM MANHOLE.



**FLOOR PLAN**

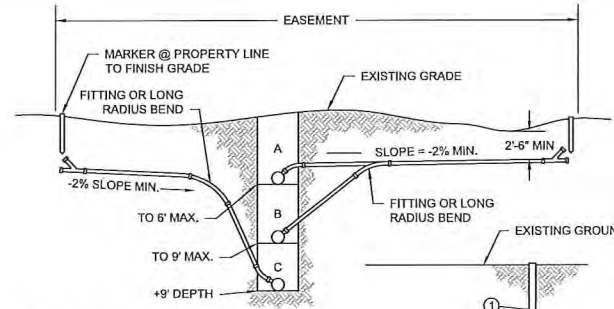


TYPICAL SECTION

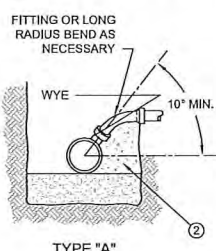


**NOTES:**

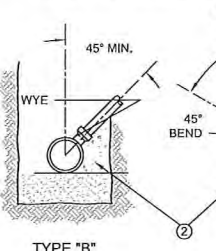
- REINFORCED CONCRETE GRADE RINGS, CONES, PIPE RISERS OR APPROVED PRE CAST MANHOLE SECTIONS SHALL CONFORM TO CURRENT A.S.T.M. SPEC. NO. C-478.
- MANHOLES IN PAVED AREAS SHALL HAVE AT LEAST ONE 2-INCH GRADE RING INSTALLED ON TOP OF THE CONE.
- FOR CAST-IN-PLACE BASES, CONCRETE SHALL BE PLACED AGAINST UNDISTURBED EARTH.
- CLASS 2 BACK FILL AT 95% R.C. IN ALL STREETS, CLASS 3 AT 90% R.C. IN OTHER AREAS.
- CHIMNEY SEAL REQUIRED ON MANHOLES IN PAVED AREAS.
- CONCENTRIC OR ECCENTRIC CONES PERMITTED.
- MINIMUM PIPELINE DROP 5 VERTICAL FEET.



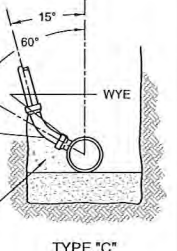
- INSTALL 2" X 2" REDWOOD STAKE OR APPROVED FLEXIBLE GREEN MARKER @ PROPERTY LINE FROM TOP OF LATERAL TO FINISH GRADE.



TYPE "A"



TYPE "B"



TYPE "C"

- PLACE WELL COMPACTED BEDDING MATERIAL 18" UNDER WYE BRANCH, FITTING, AND UNSUPPORTED PIPE. WHEN BEDDING MATERIAL IS USED, PLACE ADDITIONAL MATERIAL TO TOP OF BEND, THE FULL WIDTH OF THE TRENCH.



**D. TREATMENT SPECIFICATIONS BY REVEGETATION AREA**

**GRADED AREAS**  
GRADED AREAS SHALL RECEIVE FULL TREATMENT. PRIOR TO CONSTRUCTION, DUFF AND TOPSOIL WILL BE SALVAGED. FOLLOWING CONSTRUCTION, DUFF AND TOPSOIL WILL BE RE-SPREAD OVER THE AREA. THIS SPREADING WILL TAKE PLACE AFTER ANY SOIL AMENDMENT IS PLACED AND MIXED IN. ALL AREAS SHALL BE LOOSENED TO 12+/- INCHES. THIS CAN BE ACCOMPLISHED EITHER BY TILLING FOLLOWING CONSTRUCTION OR BY LEAVING SOIL UNCOMPACTED FOLLOWING CONSTRUCTION. FERTILIZATION, SEEDING AND MULCHING SHALL BE PERFORMED AS SPECIFIED ABOVE. WATERBARS AND WATTLES SHALL BE PLACED ON SKI RUNS AND ROADWAYS AS SPECIFIED BY THE IMPROVEMENT PLANS AND FIELD FIT BY OWNER.

**STAGING AREAS AND TEMPORARY ACCESS ROADS**  
STAGING AREAS AND TEMPORARY ACCESS ROADS WILL BE RESTORED. LOOSEN COMPACTED SOILS TO 12+/-, APPLY SEED MIX AND SOIL AMENDMENTS AND INCORPORATE TO A DEPTH OF 0.5". APPLY WOODCHIP MULCH OR PINE NEEDLES TO ACHIEVE 85% COVER.

**TEMPORARY PROTECTION, WINTERIZATION**  
THE AREA SHALL BE STABILIZED BY APPLYING A LAYER OF WOOD CHIPS OR PINE NEEDLE MULCH AT LEAST ONE INCH THICK.

WOOD FIBER MULCH AND TACKIFIER MAY ALSO BE UTILIZED FOR TEMPORARY STABILIZATION. MIX WOOD FIBER MULCH AND TACKIFIER WITH A HYDROSEEDER. EVENLY APPLY THE MIXTURE IN ACCORDANCE WITH THE FOLLOWING:

- WOOD-CELLULOSE FIBER MULCH: 500 LBS/ACRE
- TACKIFIER: 150 LBS/ACRE
- WATER: AS NEEDED

**E. SUBMITTALS**

SUBMIT PROOF OF PURCHASE/ORDERS FOR MATERIALS WITHIN 30 DAYS OF THE CONTRACT AWARD TO THE OWNER. PROPOSED SUBSTITUTIONS MUST BE SUBMITTED IN WRITING FOR APPROVAL BY THE OWNER. SUBMIT MATERIAL SAMPLES OR LABELS FOR THE FOLLOWING MATERIALS:

- CONSTRUCTION SCHEDULE AND ORDER OF WORK
- SEED
- FERTILIZER
- MULCH MATERIAL (IF OBTAINED OFFSITE)
- RICE STRAW SEDIMENT LOGS

**F. IMPLEMENTATION INSPECTIONS**

EACH STEP OF THE TREATMENT PROCESS SHALL BE INSPECTED PRIOR TO BEGINNING THE NEXT TREATMENT STEP. THE CONTRACTOR SHALL INFORM THE OWNER JUST PRIOR TO COMPLETION OF EACH STEP AND REQUEST AN INSPECTION. THE CONTRACTOR SHALL NOT BEGIN THE NEXT STEP UNTIL THE PREVIOUS STEP HAS BEEN INSPECTED AND APPROVED BY THE REVEGETATION INSPECTOR. THE STEPS SHALL BE AS FOLLOWS:

STEP	REQUIREMENT	IF NOT MET
SOIL AMENDMENT APPLICATION	1" DEPTH	APPLY ADDITIONAL AMENDMENT
TOPSOIL APPLICATION	3" DEPTH (WHERE AVAILABLE)	APPLY ADDITIONAL TOPSOIL
SOIL PREPARATION	12" WITH SURFACE RELIEF OF 6" IN 24"	RE-TILL AND/OR SMOOTH SURFACE
SEED	75#/AC OR 100#/AC (IF HYDRAULIC APPLICATION), APPROVED MIX	RE-SEED
FERTILIZER	2000#/AC, APPROVED BRAND	RE-FERTILIZE
MULCH	PINE NEEDLES OR WOODCHIPS, 1", 85% TOTAL COVER	ADD MULCH OR REMULCH

**G. PERFORMANCE STANDARD AND ACCEPTANCE**

REVEGETATED AREAS WILL BE INSPECTED AT COMPLETION OF INSTALLATION OF EACH STEP AND A FINAL INSPECTION SHALL BE DONE WHEN ALL STEPS ARE COMPLETED. WORK SHALL BE ACCEPTED SUBJECT TO COMPLIANCE WITH SPECIFIED MATERIALS AND INSTALLATION REQUIREMENTS. FOR ONE FULL GROWING SEASON AFTER PLANTING, CONTRACTOR SHALL GUARANTEE 85% COVER BY MULCH, IN THE YEAR FOLLOWING TREATMENT, SEEDED SPECIES SHALL MAKE UP AT LEAST 15% OF THAT TOTAL COVER. THERE SHALL NO SIGNIFICANT EVIDENCE OF RILLS, GULLIES OR SHEET EROSION AT ANY TIME WITHIN ONE FULL YEAR FOLLOWING IMPLEMENTATION OF REVEGETATION TREATMENTS. SIGNIFICANT RILLS ARE DEFINED AS GREATER THAN 1" DEEP. GULLIES ARE DEFINED AS GREATER THAN 1" DEEP. SHEET EROSION IS DEFINED INDIRECTLY AS EROSION THAT RESULTS IN DOWNSLOPE DEPOSITION OF GREATER THAN 1 CUBIC FOOT OF SEDIMENT. IF ADEQUATE COVERAGE IS NOT ACHIEVED AND/OR EROSION IS APPARENT, THE CONTRACTOR SHALL BE REQUIRED TO RE-APPLY MATERIALS OR PHYSICAL TREATMENTS TO REMEDY THE CAUSE OF THE PROBLEM AS DEFINED BY THE INSPECTOR.

THE REVEGETATION CONTRACTOR SHALL BE REQUIRED TO APPLY FOLLOW-UP TREATMENT WHERE DEEMED NECESSARY BY THE OWNER EITHER DURING THE SEASON OF TREATMENT AND/OR THE SEASON FOLLOWING TREATMENT. THE CONTRACTOR SHALL PROVIDE A UNIT COST FOR ALL OF THE REVEGETATION AND SOIL TREATMENT ELEMENTS SO THAT IF THE CONTRACTOR IS REQUIRED TO RE-TREAT AN AREA, THOSE UNIT COSTS WILL BE USED TO DETERMINE PAYMENT.

IN AREAS WHERE THE CONTRACTOR DID NOT MEET SPECIFICATIONS, NO PAYMENT WILL BE MADE FOR FOLLOW-UP TREATMENT SINCE THAT TREATMENT IS CONSIDERED PART OF THE ORIGINAL, INADEQUATELY IMPLEMENTED TREATMENT. IF TREATMENT IS REQUIRED DUE TO CIRCUMSTANCES BEYOND THE CONTROL OF THE CONTRACTOR, PAYMENT SHALL BE MADE ON A PER UNIT COST BASIS.

THE OWNER, UPON CONTRACTOR'S REQUEST, WILL MAKE FINAL INSPECTION AND ACCEPTANCE AT ONE FULL YEAR FOLLOWING COMPLETION OF SEEDING.

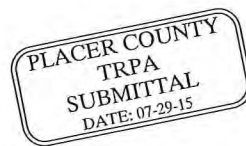
**PREVENTION OF INVASIVE WEEDS**

A. EQUIPMENT USED IN THE PROJECT MUST BE SANITIZED AND FREE OF NON-NATIVE INVASIVE SPECIES BEFORE MOVING INTO THE PROJECT AREA TO ENSURE THAT THE EQUIPMENT IS FREE OF SOIL, SEEDS, VEGETATIVE MATERIAL, OR OTHER DEBRIS THAT COULD CONTAIN OR HOLD SEEDS OF NON-NATIVE INVASIVE SPECIES. ALL VEHICLES, ESPECIALLY LARGE, OFF-ROAD AND/OR EARTHMOVING VEHICLES MUST BE CLEANED OFFSITE PRIOR TO SITE MOBILIZATION. EQUIPMENT WILL BE CONSIDERED CLEAN WHEN THE OWNER VISUAL INSPECTION DOES NOT REVEAL SOIL, SEEDS, PLANT MATERIAL, OR OTHER SUCH DEBRIS.

B. ALL GRAVEL, FILL, OR OTHER MATERIALS ARE REQUIRED TO BE "WEED-FREE". USE ONSITE SAND, GRAVEL, ROCK, OR ORGANIC MATTER WHEN POSSIBLE. OTHERWISE, OBTAIN "WEED-FREE" MATERIALS FROM GRAVEL PITS AND FILL SOURCES. CONTRACTOR MUST PROVIDE PROOF THAT ALL MATERIALS IMPORTED FROM SITES OUTSIDE PROJECT AREA ARE WEED-FREE AND THESE SOURCES MUST BE APPROVED BY OWNER.

C. USE "WEED-FREE" MULCHES, EROSION CONTROL PRODUCTS, AND SEED SOURCES. SALVAGE TOPSOIL FROM THE PROJECT AREA FOR USE IN ONSITE REVEGETATION. CONTRACTOR MUST PROVIDE PROOF THAT TOPSOIL AND FILL MATERIALS IMPORTED FROM SITES OUTSIDE THE PROJECT AREA ARE WEED-FREE AND THESE SOURCES MUST BE APPROVED BY OWNER. SOIL OR MATERIALS FROM AREAS CONTAMINATED BY CHEAT GRASS ARE PROHIBITED.

D. THE USE OF HAY AND STRAW IS PROHIBITED.



RECORD DRAWINGS

DATE

ENGINEER INITIAL

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Revisions:

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**PRELIMINARY NOT FOR CONSTRUCTION**

**UTILITY DETAILS SEWER (2 OF 2) & REVEGETATION NOTES**

Project: 404100  
Drawn By: BAMB  
Checked By: DLH  
Scale: AS-NOTED  
Date: JULY 2015  
Sheet Number:

**C10.2**