

Innovative Revegetation Construction Site Revegetation QC Visits

Project: Western Slope Mountain

Site Visit Date: 5/28/2014

Process	Control Items	Yes (1)/No(0)	Verification Point (V)	Specification	Remarks
Contract					
Seed	Seed type selected applicable to site environment	1		NR	
	Seed type and amount of PLS required stated	1	V	212.02	32#/acre-SWMP
	Type and application rate of mulch specified	1	V	213.01	1.5 tons/acre-SWMP
	CDOT formula used to calculate pounds PLS	UNK		212.02	No documentation
	Fertilizer and conditioner type and application rate specified	1	V	212.06	No organic nutrients; only humate and spray organics
	Seed application rates identified	1		212.06	
	Native seed to ecozone selected	1	V	NR	
Reclamation Planning	Stormwater Management Plan contain seed mixture information	1		SWMP	
	Contractor develops detailed Revegetation Plan	1	V	NR	Method statement provided
	Contractor and CDOT discuss revegetation at Pre-Construction Meeting	0	V	NR	
	Contractor and CDOT Landscape Architect/WQCM meet on site prior to seeding	0	V	NR	
	Percent Vegetative Cover Evaluation performed before any ground disturbance	0	V	SWMP	Data not provided; doubtful
Top Soil Management	Stored top soil free of subsoil, refuse, stumps, woody roots, rocks, noxious weeds	0		207.02	Topsoil pile mixture of many materials
	Wetland topsoil identified in plans for excavation	NA		207.02	
	Wetland topsoil excavated to maximum depth of 12 inches and placed within specified area	NA			
	Depth of topsoil determined for removal, stockpiling and revegetation	0		NR	Visual only and not measured
	Roadway topsoil salvaged before hauling, excavating and fill operations	1	V	207.03	
	Excavated roadway topsoil stored in designated locations	1	V	207.03	
	Stockpiled salvaged topsoil (roadway and wetland) measured in cubic yards	0		207.04	
	Herbicides not used on top soil	1		217.03	
	Chemical testing of salvaged soils performed	0	V	NR	
	Adjustments made to fertilizer and soil amendments based upon chemical data	0	V	NR	

Appendix E-4.xlsx

Seed Evaluation					
	Containers labeled with following information	1		212.02	
	Supplier name/address	1		212.02	Via Seed Tags
	Seed name/lot number	1		212.02	Via Seed Tags
	Seed net weight/origin/percent weed content	0		212.02	No documentation
	Percentage purity and germination	0		212.02	No documentation
	Pounds of pure live seed for each species	0		212.02	No documentation
	Total pounds of pure live seed	0		212.02	No documentation
	Seed samples taken and tested for viability	0	V	NR	
Soil Preparation	Slopes flatter than 2:1 tilled 4 inches deep with even and loose seed bed	NA	V	212.06	
	Slopes are free of miscellaneous materials such as rocks, concrete, debris or other materials that can affect plant revegetation	1		212.06	
	Fertilizer worked into top 4 inches of soil	0	V	212.06	Soils are very hard and compacted in most areas observed
	Organic amendments uniform over soil surface and incorporated into top 6 inches of soil	0	V	212.06	
Soil Conditioning/Fertilizer	Fertilizer containers unopened with guaranteed analysis	0		212.02	No documentation
	Soil conditioner compost, biological nutrient, culture or humic acid based material	1		212.02	Spray on
	Compost data provided to Project Engineer and consistent with specification requirements	1		212.02	
	Soil conditioning and fertilizer application rates specified by Contractor	1		212.03	
	Fertilizer and conditioner applied before seeding	0		212.06	Hydroseeding Approved by PE
Seeding	CDOT WQCM or Landscaping representative present during seeding operations	0		NR	
	Selected seed species are planted	0		NR	
	Seeding Season within seasonal windows established by specification	1		212.03	
	Seed, soil conditioner and fertilizer not applied during inclement weather	1		212.03	
	Seeding occurs within 24 hours of tilling or scarification	NA		212.06	Hydroseeding
	Slope less than 2:1 seeded via mechanical drills with packer wheels or chain	NA		212.06	
	Mechanical drills with depth of at least 1/4 inch	NA		212.06	
	Mechanical drill spacing not greater than 7 inches	NA		212.06	
	Broadcast or hydraulic type seeding (if used) uses twice the seeding rate specified in contract	0		212.06	1.5 times seeding rate

	Broadcast seeding raked in or covered with soil to depth at least 1/4 inch; only on small or non-accessible equipment areas	NA		212.06	
	Seed drill machinery calibrated to a least 1/4 inch or according to CDOT Landscaping representative	NA			
Mulching	Mulch certified as weed free	NA		213.02	
	Project Engineer has inspected and approved of mulch bales	NA		213.02	
	Straw or hay used for mulch is not decomposed	NA		213.02	
	Wood cellulose fiber and mulch tackifier meets specifications	1			Hydromulching and seeding
	No bare soil showing after application	0		213.03	Limited coverage
	Areas mulched and crimped within four hours after seeding	NA		213.03	
	Areas tacked immediate after or simultaneously upon completion of mulching and crimping	NA		213.03	
	Wood chip mulch at 4 inch depth	NA		213.03	
	Spray On Mulch blanket requires product representative during mixing and application	1		213.03	
	Spray on mulch applied at 2600 pound per acre with no cure time	0		213.03	2000 pounds per acre
Revegetation Monitoring	Revegetation Monitoring Performed by CDOT WQCM or Landscape representative at least quarterly	0		NR	Region Landscaper contacted frequently but no site visits
	Seeded areas covered with mulch	1		NR	But limited
	Test areas indicated plant germination and growth	0		NR	
	Revegetation areas inspected routinely	0		NR	
	Year One vegetative cover determination	0		NR	
	Determine need for corrective action	0		NR	
	Year Two vegetative cover determination	0		NR	
	Regional WQCM and Landscaping Coordination and Evaluation	0		NR	
	Final Percent Vegetative Cover Analysis	NA		SWMP	Still under construction
	Deactivate CDPHE Stormwater Permit	NA		SWMP	Still under construction

Soil Data

Salvage Sample	Depth	pH	EC	Saturation%	Sol. CA	Sol Mg	Sol Na	SAR	NO3-N	NH4-N	Inorg N	Mehlich 3 P	Ex K	Ex Ca	Ex Mg	Ex Na	SO4-S	OM	Sand	Silt	Clay	Texture
	inches	SU	dS/m	%	meq/L				mg/kg				meq/100 g				mg/kg	%				
South Facing	0-4	8	0.37	40	4.4	1.3	0.2	0.1	4.3	1.7	6.0	25	240	24.23	0.933333	0.03913	12	1.9	29	45	26	Loam
South Facing	4-12	8	0.33	39	3.9	13.0	0.2	0.1	2.4	2.3	4.7	16	123	24.24	0.958333	0.021739	7	2.1	31	45	24	Loam
North Facing	0-6	8	0.87	28	6.6	2.4	1.0	0.5	10.6	2.1	12.7	19	120	20.59	1.625	0.091304	27	1.5	57	27	16	Sandy Loam

Fertilizer Recommendations			
Salvage Technique	N	P2O5	K2O
	lb/acre		
South Facing	30	0	0
South Facing	30	30	30
North Facing	20	30	30

Seed Mix

Seed Tag Species	SWMP	#/acre	Seed Tag
Mountain Brome	x	8	x
Slender Wheatgrass	x	6	x
Idaho Fescue	x	3	x
Western Wheatgrass	x	8	x
Sandberg Bluegrass	x	2	x
Alkali Sacaton	x	2	x
Wheat/Wheatgrass hybrid	x	3	x
Total		32	

x = present

Conditioner

Type	Application Amount
	#/acre
Organic Based Conditioner	No data
Biosol, Sustane, GrowPower	No data
Humate	No data
Compost	No data