Innovative Revegetation Construction Site Revegetation QC Visits

Project: Urban Corridor

Site Visit Date: 9/17/2014

Process	Control Items	Yes (1)/No(0)	Verification Point (V)	Specification	Remarks
Contract					
Seed	Seed type selected applicable to site environment	UNK		NR	Not verified or approved by CDOT
	Seed type and amount of PLS required stated	1	V	212.02	Term PLS not used in SWMP; 17.5#/ac
	Type and application rate of mulch specified	1	V	213.01	1.5 tons/acre
	CDOT formula used to calculate pounds PLS	0		212.02	
	Fertilizer and conditioner type and application rate specified	0	V	212.06	Amendments not used although specified
	Seed application rates identified	1		212.06	
	Native seed to ecozone selected	UNK	V	NR	
Reclamation Planning	Stormwater Management Plan contain seed mixture information	1		SWMP	
	Contractor develops detailed Revegetation Plan	0	V	NR	
	Contractor and CDOT discuss revegetation at Pre-Construction Meeting	1	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	1	V	SWMP	Not verified
Top Soil Management	Stored top soil free of subsoil, refuse, stumps, woody roots, rocks, noxious weeds	0		207.02	
	Wetland topsoil identified in plans for excavation	1		207.02	
	Wetland topsoil excavated to maximum depth of 12 inches and placed within specified area	1			Not verified
	Depth of topsoil determined for removal, stockpiling and revegetation	1		NR	6 inches
	Roadway topsoil salvaged before hauling, excavating and fill operations	1	V	207.03	
	Excavated roadway topsoil stored in designated locations	1	V	207.03	No signage identifying top soil and no erosion control BMPs
	Stockpiled salvaged topsoil (roadway and wetland) measured in cubic yards	0		207.04	
	Herbicides not used on top soil	1		217.03	Contrary to RFP that allow herbicides
	Chemical testing of salvaged soils performed	1	V	NR	Unclear of parameters; was told by lab is okay - meaning not clear
	Adjustments made to fertilizer and soil amendments based upon chemical data	0	V	NR	

Seed Evaluation					
	Containers labeled with following information	UNK		212.02	
	Supplier name/address	1		212.02	Via seed tag information
	Seed name/lot number	1		212.02	
	Seed net weight/origin/percent weed content	1		212.02	
	Percentage purity and germination	1		212.02	
	Pounds of pure live seed for each species	1		212.02	
	Total pounds of pure live seed	1		212.02	
	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	1	V	212.06	
	Slopes are free of miscellaneous materials such as rocks, concrete, debris or other materials that can affect plant revegetation	0		212.06	
	Fertilizer worked into top 4 inches of soil	0	V	212.06	
	Organic amendments uniform over soil surface and incorporated into top 6 inches of soil	0	V	212.06	No amendments made to soil as directed by project management
Soil Conditioning/Fertilizer	Fertilizer containers unopened with guaranteed analysis	0		212.02	No amendments made to soil as directed by project management
	Soil conditioner compost, biological nutrient, culture or humic acid based material	0		212.02	No amendments made to soil as directed by project management
	Compost data provided to Project Engineer and consistent with specification requirements	0		212.02	No amendments made to soil as directed by project management
	Soil conditioning and fertilizer application rates specified by Contractor	0		212.03	No amendments made to soil as directed by project management
	Fertilizer and conditioner applied before seeding	0		212.06	No amendments made to soil as directed by project management
Seeding	CDOT WQCM or Landscaping representative present during seeding operations	0		NR	
	Selected seed species are planted	1		NR	
	Seeding Season within seasonal windows established by specification	0		212.03	Did not follow windows
	Seed, soil conditioner and fertilizer not applied during inclement weather	NA		212.03	
	Seeding occurs within 24 hours of tilling or scarification	1		212.06	
	Slope less that 2:1 seeded via mechanical drills with packer wheels or chain	1		212.06	
	Mechanical drills with depth of at least 1/4 inch	0		212.06	Not documented
	Mechanical drill spacing not greater than 7 inches	0		212.06	

	Broadcast or hydraulic type seeding (if used) uses twice the seeding rate specified in contract	1		212.06	
	Broadcast seeding raked in or covered with soil to depth at least 1/4 inch; only on small or non-accessible equipment areas	1		212.06	
	Seed drill machinery calibrated to a least 1/4 inch or according to CDOT Landscaping representative	1			No equipment calibration documented
Mulching	Mulch certified as weed free	1		213.02	
	Project Engineer has inspected and approved of mulch bales	0		213.02	
	Straw or hay used for mulch is not decomposed	1		213.02	
	Wood cellulose fiber and mulch tackifier meets specifications	1			
	No bare soil showing after application	1		213.03	
	Areas mulched and crimped within four hours after seeding	1		213.03	
	Areas tacked immediate after or simultaneously upon completion of mulching and crimping	1		213.03	
	Wood chip mulch at 4 inch depth	1		213.03	
	Spray On Mulch blanket requires product representative during mixing and application	NA		213.03	
	Spray on mulch applied at 2600 pound per acre with no cure time	NA		213.03	
Revegetation Monitoring	Revegetation Monitoring Performed by CDOT WQCM or Landscape representative at least quarterly	0		NR	
	Seeded areas covered with mulch	UNK		NR	Not visually verified due to abbreviated site visit
	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	0		SWMP	
	Deactivate CDPHE Stormwater Permit	0		SWMP	

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	%				
NRCS Comp 1	0-6	7.4	0.82	47	5.2	1.7	2.1	1.1	2.3	2.5	4.8	31	426	26.1	4.7	4.5	15	1.8	48	21	31	Sandy Clay Loam
NRCS Comp 2	0-6	7.4	0.86	45	5.2	1.8	2.2	1.2	4.2	2.3	6.5	32	417	25.9	4.7	4.3	9	1.9	48	23	29	Sandy Clay Loam
Background	0-16	7.6	0.8	40	3.7	1.6	3.7	2.2	5.4	7.0	12.4	25	299	26.2	5.1	6.6	13	1.3	42	21	37	Clay Loam
Topsoil	Pile	7.6	3.77	45	15.3	5.5	20.7	6.4	24.1	4.7	28.8	31	271	23.7	4.8	25.0	93	1.7	44	19	37	Clay Loam

Fertilizer Recommendations			
	N	P2O5	K2O
Salvage Technique	lb/acre		
NRCS Comp 1	30	0	0
NRCS Comp 2	30	0	0
Background	10	0	0

Seed Mix

Seed Tag Species	#/acre	Seed Tag
Oats	3	x
Western Wheatgrass	4	x
Needle and Thread Grass	3	x
Blue Grama	1.5	x
Buffalo Grass	1	x
Green Needle Grass	1	x
Indian Ricegrass	1	x
Lewis Blue Flax	0.5	x
Coneflower	0.3	x
Blanket Flower	0.2	x
Side Oats Grama	2	x
Total	17.5	

x = present

Conditioner

Type	Application Amount
	#/acre
Organic Based Conditioner	None Applied
Biosol, Sustane, GrowPower	None Applied
Humate	None Applied
Compost	None Applied