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Everist Materials-Maryland Creek Ranch Facility
Gravel Pit Expansion

Final Compensatory Wetland Mitigation Plan

February 22, 2011

SPK-2010-01226

Submitted to:
US Army Corps of Engineers Sacramento District
Colorado West Regulatory Branch
400 Rood Ave, Room 142
Grand Junction, CO 81501-2563
Phone: (970) 243-1199

Applicant:
Everist Materials, LLC
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Contact: Mr. Greg Norwick, President
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ERC Project #690-111

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1.0 Responsible Parties

Table 1. Responsible Parties

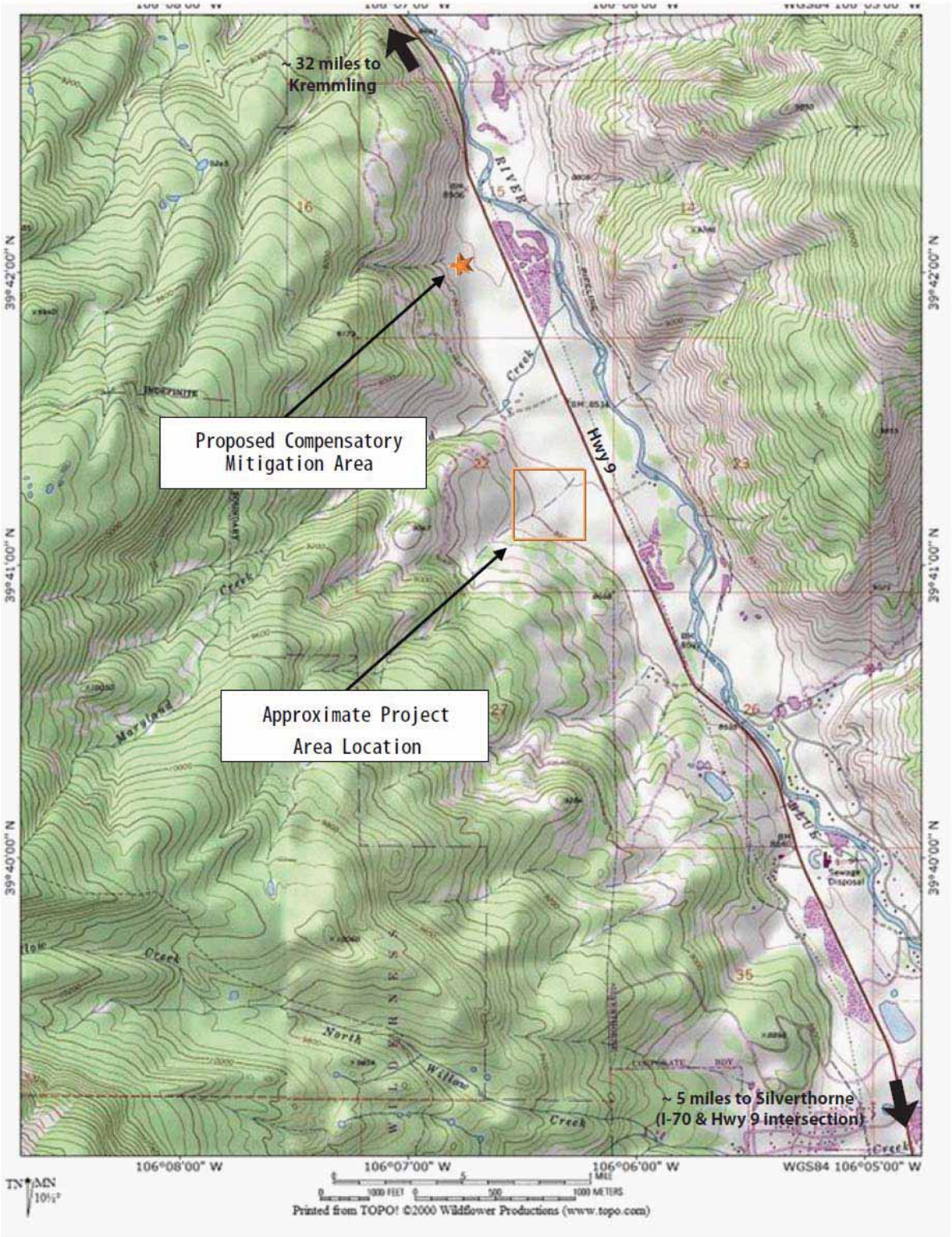
Responsible Parties-CWA Sec. 404 Individual Permit SPK-2010-01226 Compensatory Mitigation	
Permittee	Everist Materials, LLC 28755 Highway 9 North P.O. Box 1150 Silverthorne, CO 80498 Contact: Mr. Greg Norwick, President Ms. Joanna Hopkins Phone: (970) 468-3685
Permittee Agent **Mitigation Designer**	Ecological Resource Consultants, Inc. 5672 Juhls Drive Boulder, CO 80301 Contact: Mr. David Blauch, Senior Ecologist Phone: (303) 679-4820
Regulatory Agency	US Army Corps of Engineers Colorado West Regulatory Branch 400 Rood Avenue, Room 134 Grand Junction, CO 81501 Contact: Mr. Travis Morse (970) 243-1199

2.0 Location

The Compensatory Wetland Mitigation Site (Site) is located in Summit County, Colorado, north of the Town of Silverthorne in Section 22, Township 4 south, Range 78 west (**Latitude 39.701048 north, Longitude -106.112059 west**). The Site is situated on the west side of the Blue River Valley between the Gore Range Mountains to the west, and the Williams Fork Mountains to the east. The Site is located approximately 5.5 miles north from the Interstate 70 and Colorado State Highway (Hwy) 9 intersection, west of County Road 1957 and north of Game Trail Road. Topography on the Site is relatively level at approximately 8,500 feet above mean seal level (AMSL) sloping gradually to the east/northeast. A general vicinity map showing the Site is provided in **Figure 1**. A US Geological Service (USGS) 7.5 minute series topographic map of the Site is shown in **Figure 2**. The approximate 3-acre Site is located within the larger 216-acre Everist Materials, LLC mining permit boundary within Maryland Creek Ranch.

Figure 1. Vicinity Map.

Figure 2. Site Location Map.



3.0 Project Description

Everist Materials, LLC (EM) proposes to provide compensatory wetland mitigation for the unavoidable impacts authorized as part of the final Department of Army Permit (DA Permit) SPK-2010-01226 for the project. The goal of this final compensatory mitigation plan (Plan) is to replace wetland functions lost as a result of impacts from the preferred alternative. This Plan has been prepared in advance of the final DA Permit based on the preliminary mitigation plan submitted as part of the November 15, 2010 Permit Application and subsequently approved for finalization by the US Army Corps of Engineers (USACE) .

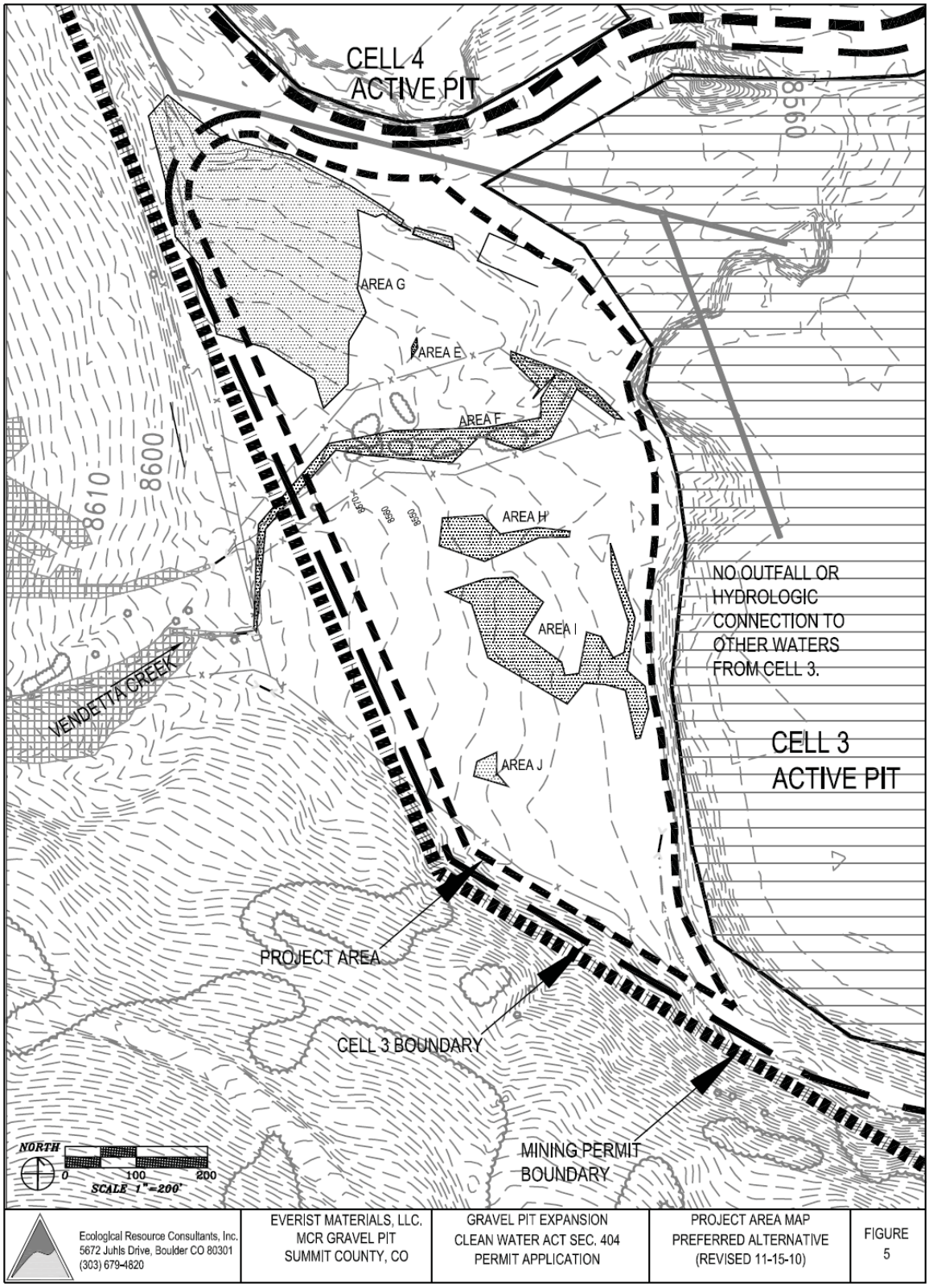
The overall project purpose subject of the DA Permit and this Plan is associated with the expansion of an existing gravel pit operation within the "mine permit boundary" to maximize on-site extraction of aggregate resources for manufacture of crushed aggregate products for sale to the public. The proposed activity within wetlands includes excavation associated with expansion of an existing open gravel pit for resource extraction. Expansion of the pit will require excavation into wetlands within the Project Area, no placement of permanent fill, structural fill or structures are proposed. The activity that is the subject of this application involves wetland impacts associated with excavation. **Figure 3** includes an Overview Map of the Project Area. The existing pit will be expanded approximately 600 feet towards the west. Excavation depth would extend approximately 70 feet below the existing ground surface across approximately 9.92-acres. The pit expansion will result in unavoidable impact to 2.72-acres of wetland.

The 2008 Compensatory Mitigation Final Rule (USACE 33 CFR Parts 325 & 332 and EPA 40 CFR Part 230) states that the fundamental objective of compensatory mitigation is to offset environmental losses resulting from unavoidable impacts to waters of the US authorized by DA permits. Compensatory Mitigation (mitigation) needs to be developed in consideration of the likelihood of ecological success and sustainability as well as location and significance in the watershed relative to the impact site. Mitigation should be commensurate with the amount and type of impact associated with the DA permit and should be located within the same watershed as the impact site. Summit County in the Blue River Watershed does not have an approved mitigation bank or in-lieu fee program therefore permittee responsible mitigation is the only option.

In effort to comply with the guidelines, mitigation site selection and approach focused on an in-kind and on-site, watershed approach. Per the guidelines, a watershed approach to mitigation must consider the importance of landscape position and resource type of mitigation projects for the sustainability of aquatic resource functions within the watershed. Mitigation requirements determined through the watershed approach should not focus exclusively on specific functions but should provide where practicable the suite of functions typically provided by the affected aquatic resource.

Taking the guidelines into account, the most practicable mitigation approach was determined to be creation, or re-establishment of a reference condition wetland in a nearby location as the impacted wetland. The wetlands subject of the DA Permit have been highly altered through past agricultural practices and more recently the gravel mine operations, degrading the overall function in the drainage as well as the Blue River watershed. Therefore, mitigation that focuses on re-establishing a reference condition wetland within a tributary drainage of the Blue River would best serve the watershed.

Figure 3. Overview Map of the Project Area.



4.0 Ecological Assessment of Wetland to be Impacted

The Project Area subject of the DA Permit is comprised of two irrigated and actively hayed meadows and a USGS mapped, unnamed intermittent stream that flows northeast into an active open gravel pit. The intermittent stream is commonly referred to as Vendette Creek. The 1987 USGS Dillon Topographic Map (**Figure 2**) shows Vendette Creek terminating in the vicinity of the Project Area and active hay meadow with no direct surface connection to the Blue River. Currently, Vendette Creek flows into an active open gravel pit with no surface connection to the Blue River. No culverts, ditches or surface connection conveys water from Vendette Creek or the wetlands into the Blue River. All water is contained within the active pit. Water within the pit is controlled by pumps which convey excess water to the EM MCR process facility and/or other on Site pits.

Vegetation within the Project Area meadows is comprised of mixed grass and pockets of sedge species in micro-topographic depressions; willows line the wetlands adjacent to Vendette Creek. The two meadow areas are and have historically been under agricultural hay production and grazed. These meadows have been artificially irrigated as part of the agricultural production dating back to 1952. Irrigation diversions exist up gradient on Vendette Creek to convey irrigation water towards the meadows in the Project Area. Ditches and flood irrigation are used to irrigate the meadow in the Project Area and hayed yearly. The wetlands to be impacted within the Project Area are highly influenced by irrigation practices.

ERC conducted a formal delineation of wetlands and waters of the U.S. within the Project Area in October of 2007 and 2008 (ERC *Wetland Delineation Report Maryland Creek Ranch, Vendette Creek; dated November 24, 2008)*. Wetlands Areas E,G, H, I and J are proposed for impact as part of the DA Permit. Refer to **Figure** 3 for map of delineated wetlands.

Wetland Areas E, G, H, I and J are flood irrigated palustrine emergent (PEM) wet meadows dominated by sedge species (*Carex spp*.). A summary of wetland areas and type is provided in **Table 2**. The wetland pockets form a mosaic within two otherwise upland actively hayed meadows, which are bisected by Vendette Creek. These man-made agricultural meadows are located adjacent to an existing active open gravel pit. At the time of the delineation, these wetland areas exhibited only two of the three parameters that define a wetland including hydrophytic vegetation and hydric soils. Hydrology was not observed at the time of the wetland delineation but rather assumed due to the somewhat late-season sampling date within the growing season (i.e., October) and influenced by flood irrigation practices. The source of hydrology was further investigated early during the 2010 growing season however was determined to be inconclusive. The wetlands and the entire meadow appear to be highly influenced by irrigation practices as well as seasonal runoff, direct precipitation and potentially seasonal groundwater. The wetlands, except Vendette Creek do not have a direct surface connection to the existing pit and do not flow off site.

Vendette Creek enters the Project Area from the west through a culvert under the unpaved Maryland Creek Ranch Road. The creek is completely vegetated with PEM sedge habitat and contains only a narrow channel (approximately 1-foot wide by 6-inches deep) through portions of the wetland complex. Where the small channel is visible, it is underlain by cobble-gravel and mud substrate. Wetland Area F is comprised of palustrine scrub-shrub (PSS) willow (*Salix sp.)* and PEM habitat bordering the Vendette Creek drainage. This drainage is mapped as intermittent on the current USGS topographic map (1987 USGS Dillon Quadrangle). Flows within the Vendette Creek drainage that are not diverted for agricultural use on MCR terminate in the active open gravel pit which does not contain a direct surface hydrologic connection to the Blue River. Irrigation water is also diverted down Vendetta Creek from upgradient irrigation ditches to the Project Area. Excess surface waters and

groundwater within the active pit are manually pumped out of the pit and into a series of cells or used as part of the process facilities.

Photos Showing Project Area Wetlands:

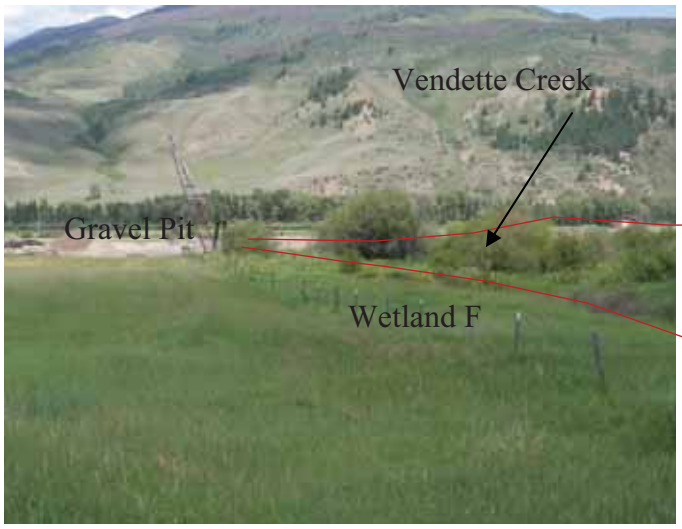


Photo 1. *Wetland Area F looking east. Wetland Area terminates in active open mine shown in photo background (7/2010).*

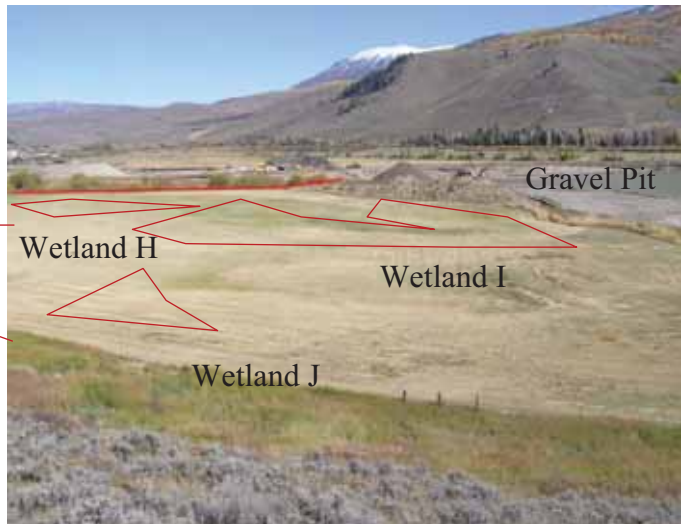
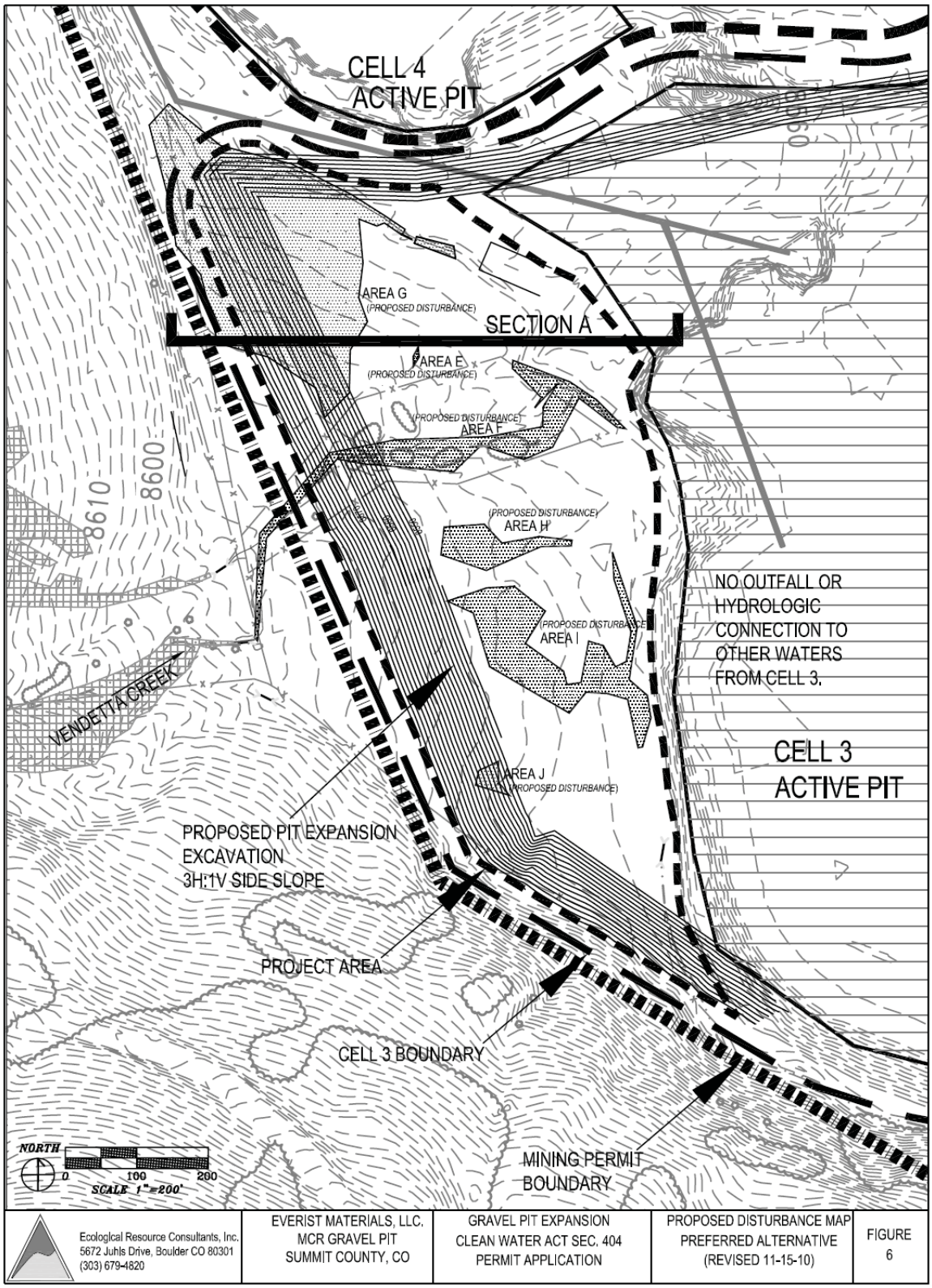


Photo 2. *Wetlands H, I and J looking north. Red line in photo background represents southern boundary of Wetland F (10/2008).*

Table 2. Summary of Wetlands to be Impacted as Part of the DA PERMIT

Wetland Area	Size	Description	Cowardin Classification
Wetland Area E	0.002 acre	Flood Irrigated Wet Meadow	PEM
Wetland Area F	0.42 acre	Scrub-Shrub Vendette Creek Drainage	PSS
Wetland Area G	1.70 acre	Flood Irrigated Wet Meadow	PEM
Wetland Area H	0.13 acre	Flood Irrigated Wet Meadow	PEM
Wetland Area I	0.45 acre	Flood Irrigated Wet Meadow	PEM
Wetland Area J	0.02 acre	Flood Irrigated Wet Meadow	PEM
Total	**2.72 acres**		

Figure 4. Wetland Impact Map.



5.0 Reference Condition

The wetland habitat to be impacted as part of the project are not naturally occurring, rather products of human interaction associated with agricultural. The vegetation community has been altered through land-leveling and routine haying. In addition, hydrology is manipulated as part of the irrigation practices. Since these wetlands do not serve as an appropriate reference standard for mitigation further evaluation was conducted to determine what the natural ecological condition and wetland habitat type would be in a more natural state for the region.

Evaluation of aerial photographs, literature review and professional judgment of regional wetland habitats indicated that prior to significant human disturbance (i.e., grading for agriculture, resource extraction, road development, etc.), the Project Area wetlands likely contained suitable elevation, geomorphic setting and climate required for montane willow shrublands. Therefore, the reference-standard wetland habitat type established for the mitigation plan is a montane willow shrubland (Rocchio *et al.* 2005, Lemly and Rocchio 2009).

These wetland systems, which are found throughout the region, are located along rivers and drainages and typically occur as mosaic of vegetative communities that may be tree or herb dominated in areas but contain diverse shrub components throughout. The hydroperiod for these wetland habitats is highly dependent on snowmelt and geomorphology which largely control the frequency, timing, duration and depth of flooding (Laubhan 2004). The systems consist of temporarily, seasonally and intermittently flooded shrublands comprised of broad-leaved deciduous species in the canopy and midstory (Lemly and Joe Rocchio 2009) and emergent vegetation dominating the understory.

Photo examples of PEM/PSS wetland reference-standard condition for Summit County. Photos depict ideal wetland characteristics that will be incorporated into the mitigation plan.

FACWet was used to determine the level of ecological function of the anticipated wetland mitigation condition. Key variables such as water source, water distribution, water outflow, geomorphology and chemical environment were evaluated to determine what the appropriate and desirable wetland condition would be per the PSS/PEM reference-standard condition. Habitat functional criteria based on anticipated wetland mitigation conditions and site constraints were considered and the functional capacity of the wetland mitigation site was scored for seven overall wetland functions. **Table 3** provides a summary of key variables and conditions that

were extracted from FACWet and considered to provide ecologically-sound design and incorporated into the mitigation plan.

Based on the FACWet results, the proposed mitigation plan will result in the creation of a higher ecologically functioning wetland habitat than was impacted. Significantly higher scores for functions such as wildlife habitat, flood attenuation, short and long-term water storage and production export/food chain support would be achieved through the supply of a stable water source, creation of microtopographic depressions with a variety of water depths, an unimpeded outflow from the complex with connection to the Blue River watershed and the creation of multiple layers of vegetative strata. Overall, anticipated wetland mitigation condition would score "Highly Functioning" as compared to the existing "Functioning" or "Functioning Impaired" wetlands on the site. A comparison of functional assessment results for the proposed mitigation area is provided in **Table 4**.

Table 3. Mitigation Design Criteria for Highly Functional Wetland (Based on FACWet).

Variable	Desirable Condition
Water Source	Passively supplied; stable or appropriately cyclic inflow level
Water Distribution	Free distribution of water throughout the AA with water table depths resulting from differences in surface elevations
Water Outflow	Direct connection to associated channels; free flowing outlets; unimpeded recharge to aquifers
Geomorphology	Generally gradual elevation changes and gentle slope gradients; presence of surficial features and microtopography; channel with stable morphology and connected to a floodplain
Chemical Environment	Redoxiomorphic features in the soil; lack of negative indicators (e.g. algal blooms, highly turbid water, etc.)
Vegetation Structure	Multiple canopy layers; diversity of species and guilds; interspersed mosaic of communities

Table 4. Comparison of FACWet Functional Assessment Results for the Proposed Mitigation Area.

Function	AA1 Wetland E, H, I, J/G	AA2 Wetland F	AA3 Proposed Mitigation Plan
	Functional Capacity		
1. Support of Characteristic Wildlife Habitat	0.64	0.69	0.80
2. Support of Characteristic Fish/Aquatic Habitat	0.67/0.68	0.70	0.84
3. Flood Attenuation	0.65/0.66	0.69	0.84
4. Short and Long-Term Water Storage	0.65/0.66	0.67	0.84
5. Nutrient/Toxicant Removal	0.71	0.72	0.84
6. Sediment Retention/Shoreline Stabilization	0.64	0.71	0.83
7. Production Export/Food Chain Support	0.65	0.70	0.83
FUNCTIONAL CAPACITY SCORE *(=sum of scores ÷ 7 functions)*	**0.66**	**0.70**	**0.83**
FUNCTIONAL CATEGORY	**Functioning Impaired**	**Functioning**	**Highly Functioning**

6.0 Mitigation Site Existing Condition

Location

The Site is located approximately 4,500 feet directly north of the authorized wetland impact area within the Sheep Creek drainage, a tributary to the Blue River. The Site will be situated within the northern limits of an existing gravel pit gravel pit (Cell 1) currently used for sediment collection for the EM MCR process plant. Cell 1 was one of the first areas to be mined as part of the EM MCR operation and has not yet been reclaimed. An area of approximately 3-acres within the Cell 1 footprint will be recontoured for creation of the mitigation wetland at an approximate elevation of 8,510 feet AMSL approximately the same elevation as the impacted wetlands which are at approximately 8,570 feet AMSL.

Aerial image of proposed Site within existing Cell 1, immediately north of the Everist Materials Plant Site and offices.

Existing Condition

The location of the Site is currently an un-reclaimed gravel pit. This pit was mined during the first phase of the operations in the late 1990's and currently is used as a sediment collection basin for the processing plant operations. Over the past several years the northern end of the pit has filled with fine sediment from operations. This entire area is highly disturbed and devoid of any vegetation. A berm approximately 6 feet above the surrounding existing ground surface has been formed to allow for increased sediment collection capacity. The existing water surface elevation is not a static groundwater surface, but highly dependent on manual pumping of water in and out of the pit associated with the processing plant operations. The gravel pit is hydrologically isolated from all surrounding lands with no direct surface connections.


Photos depict current condition of proposed compensatory mitigation area (outlined in red) located in Cell 1.

7.0 Wetland Design

The Site will consist of combination of semi-permanently saturated PSS and semi-permanently inundated/saturated PEM wetland habitat types. Refer to the enclosed design plan Sheets 1, 2 and 3 (**Appendix B**). Additional implementation specifications and notes are provided in the design plan sheets that is not covered in this text. These wetland types have been determined the appropriate reference condition, in-kind and most ecologically valuable within the watershed. The semi-permanently saturated/inundated PSS/PEM wetland community has been designed to maintain a hydrological regime varying from saturated soil (within the upper 12 inches) to shallow inundation (3 inches maximum depth) for 76% to 100% of the growing season (or approximately 85-111 days out of a 111 day growing season).

Hydrology

Achieving the proper hydrological regime is essential for development of distinct wetland mitigation habitat and for the establishment of appropriate vegetation communities. Wetland habitat of the region is typically highly influenced by spring thaw and the flooding condition of mountain streams. In other areas, topographic depressions collect snowpack melt, local runoff, flow from seeps or intercept high groundwater table to produce a more regularly inundated or saturated wetland habitat. Replication of these hydrologic conditions is the basis for the design.

A water budget analysis was conducted for the Site to determine the required water demand to support the desired hydrologic regime and wetland type. Water demands created by evapo-transpiration and deep infiltration were evaluated. A monthly water balance was then created for the site to verify the amount of water required. A summary of the water budget analysis is provided in **Table 5**.

Table 5. Wetland Water Budget.

Month	Total Direct Precipitation And Runoff Inflows (acre-feet)	Desired Inundation (inch)	Total "Demand" (acre-feet)	Consumptive Use (Acre-Feet)	Required Inflows (Acre-Feet)
Oct	0.396	0.00	2.59	0.00	0.00
Nov	0.290	0.00	2.59	0.00	0.00
Dec	0.62	0.00	0.00	0.00	0.00
Jan	0.00	0.00	0.00	0.00	0.00
Feb	0.00	0.00	0.00	0.00	0.00
Mar	0.00	0.00	2.59	0.00	0.00
Apr	2.038	0.00	2.59	0.00	0.00
May	2.115	3.00	3.60	1.013	1.48
Jun	0.852	3.00	4.22	1.638	3.37
Jul	0.834	3.00	4.70	2.111	3.86
Aug	1.00	3.00	3.62	1.040	2.62
Sep	0.805	3.00	2.59	0.000	1.78
Total	**8.33**		**29.07**	**16.40**	**13.12**

The water budget incorporates a percolation loss of 10.34 inches per month. Percolation has been assumed for a conservative measure of required inflow. If groundwater is intercepted as planned percolation loss would be eliminated. Under a worst case situation the wetland will require a total of 13.12 acre-feet of supplemental water May through September or at most 28.7 gallons per minute.

The water budget has been developed in order to determine the maximum amount of water that may be required to maintain the desired hydrologic condition. The intent of the design is to intercept groundwater and create a static groundwater supply source. For the purpose of determining potential water demands and required inflows from alternative sources, a percolation rate has been used as part of the water budget calculations. If groundwater is intercepted as designed, percolation losses would be eliminated as well area required inflows all together. The water budget indicates that with percolation loss, the wetland will require a total of 13.12 acre-feet of water from May through September. The highest demand month of July would require 4.70 acre-feet of water. To meet this highest demand month, supplement inflow at a rate of 28.7 gallons per minute (0.06 cubic feet per second) would be required.

Supporting hydrology for the Site will be supplied by three primary sources, exposed shallow groundwater, direct precipitation/localized runoff and supplemental flows diverted from the Sheep Creek Diversion. The multiple sources will ensure adequate hydrology is maintained throughout the growing season. A summary of each hydrology source follows.

- Groundwater – The Site is situated in an area of shallow groundwater table. Previous investigation indicates that the average groundwater table in the vicinity of the Site is approximately 8,510.00'. This is evident by the adjacent exposed groundwater ponds and existing wetlands to the east. The Site will be contoured to intercept the shallow groundwater table and match the existing topography of the existing wetlands immediately to the east. Confirmation of exact seasonal groundwater elevations will be completed during grading operations to ensure groundwater is intercepted. During excavation operations, groundwater elevations will be determined and the design modified as needed for the specific conditions encountered.

Similar wetland habitat types that exist immediately to the east will also be used as biological bench markers for final grade determination and be replicated.

A detailed groundwater hydrologic study had been completed for the Maryland Creek Ranch valley (WWE, April 20, 2006) which confirms the average water surface elevation in the Site vicinity is at 8,510.00' during its lowest period (February and March). The study was conducted to develop an understanding of the current static groundwater levels in the Blue River alluvium at Maryland Creek Ranch and to use the data to predict future post-gravel mining lake levels. The final groundwater surfaces were based on a computer program and data from seven monitoring wells, 16 surface water features and 7 points along the Blue River.

- Direct Precipitation and localized runoff - Direct precipitation from snowpack and rainfall as well as localized runoff will be collected and retained within the wetland complex significantly contributing to the overall water supply. Overland flow from the existing hillside slope will be directed to the mitigation site. The Site has an approximately 16-acre localized watershed. Runoff off from snowmelt and rainfall will contribute 8.33-acre feet of sustaining hydrology.

- Sheep Creek Diversion - Currently Sheep Creek flows are controlled by MCR through a head gate structure and directed throughout MCR for irrigation. The head gate will be replaced to provide a permanent alternative hydrological source to the Site as needed. A maximum of 30 gallons per minute (gpm) (0.066 cubic feet per second (cfs)) for the months May through September will be diverted as needed into the wetland complex. 30 gallons per minute will be more than sufficient to maintain desired hydrological regime based on the water budget analysis. The water budget calculates that with no groundwater present a monthly required inflow would range from 11.0 to 28.7 gallons per minute. Diversions will be designed to be passive in nature, ensuring water can be supplied to the wetland without potential disruption.

- Outflow control - A outfall spillway weir structure has been designed to maintain a maximum static water depth within the Site. The weir is sized to drain all excess water above the designed maximum water surface elevation from the Site. The weir will consist of one 8' wide crest sections. The oversized crest section has been specified to ensure collection of debris does not change the static water surface elevation. Adjustable stop-logs will be used during the monitoring period to allow adjustments to maintain an appropriate maximum static water surface, draining or over flooding as needed. Once the exact appropriate outfall elevation has been verified the stop logs will be bolted in place for long term integrity.

Soil

The Site will be over excavated by 1 foot to allow for the placement of salvaged wetland topsoil. The wetland topsoil salvaged from the authorized project wetland impact areas will be salvaged, transplanted and spread over prepared subsoils to form the final surface and a minimum planting bed depth of one foot. The exact boundary of wetland topsoil to be salvaged will be field staked by ERC representatives (Refer to Sheet 3 for Wetland Topsoil Salvage areas). The upper two feet of impact wetland topsoil, including root mass will be salvaged and transplanted to the Site. Salvaged topsoil will be spread uniformly to a minimum depth of one foot throughout the wetland. All organics, mineral soil and wetland rootmat will be intermingled within the 1 foot depth. The topsoil will be placed, lightly compacted and then flooded to minimize air pockets and account for minor settling. Subsoils will consist of existing re-contoured, compacted native soils. The wetland topsoil to be salvaged is generally described as a clayey loams textured mineral approximately 2 foot deep, exhibiting hydric characteristics such as low chromas (i.e. 10YR 2/1), and extensive bright mottling (5YR 5/8). Approximately

4,500 cubic yards of soil will be required for the Site, additional wetland topsoil will be salvaged and stockpiled for use as needed.

A one-time application of soil amendments has been specified due to the unknown condition of the final placed topsoil on to the Site. The final determination of need and application rates will be based upon soil laboratory analysis during grading operations. The addition of soil amendments as part of wetland creation have been proven to assist in growth stimulation of existing seed banks as well as supplemental seeding efforts.

Vegetation

Wetland vegetation will be established on the Site through four primary methods, salvaged rootmats, supplemental seeding, live willow staking and nursery grown plant material.

- Salvaged Wetland Root Mats – As part of the topsoil salvage from the wetland impact area and placement into the Site, the rootmat of the existing wetland will also be salvaged. This existing dense rootmat to be salvaged is comprised primarily of *Carex nebrascensis* and to a lesser degree intermixed with *Eleocharis palustris*, *Juncus spp*. and *Pedicularis*. Most of these species' primary method of reproduction is by rhizome. The rhizomes, rootmat and above-ground biomass will salvaged and intermixed with the topsoil then spread across the wetland providing the foundation for vegetation establishment.

  Willow clump rootwads will also be salvaged from the wetland impact area, separated from other salvaged topsoil and placed within designated PSS habitat areas. Prior to salvage above ground willow branches will be trimmed to approximately 1 foot remaining. The entire willow rootwad and surrounding wetland topsoil will be salvaged and transplanted into the designed locations within the Site.

- Supplemental Seeding - To facilitate complete ground coverage and seed bank development the entire Site will be seeded with the Wetland Seed Mix as specified. The seed mix will also promote species diversity within the relatively homogenous seed bank. The Wetland Seed Mix has been developed with locally native wetland species that germinate rapidly and will provide complete groundcover over a wide variety of hydrologic conditions. The Wetland Seed Mix is presented in **Table 6**.

- Willow Staking - Designated PSS wetland areas of the Site will be established from harvested willow cuttings (*Salix monticola* and *Salix planifolia*) collected within MCR, prepared and installed into designated areas. Willow staking will occur during the spring of 2012, when willows are dormant prior to leaf-out. Willow stakes will be harvested, prepared and installed in designated locations. Willow stakes will be installed approximately 2.5 foot on-center spacing throughout the 1.0-acre of PSS wetland area. In total, approximately 7,000 willow stakes will be installed. The quantity of willow stakes has been increased to ensure success criteria can be achieved taking into consideration typical mortality.

- Nursery Grown Shrubs – Within the designated PSS wetland areas, fifty (50) #5 bog birch (*Betula glandulosa*) will be planted to increase vegetation diversity. Planting of the shrubs will coincide with willow staking during the spring of 2012. Shrubs will be planted in random locations within the designated PSS wetland area as field staked by ERC.

Table 6. Wetland Seed Mix.

Scientific Name	Common Name	*R8 Indicator Status	% of Mix	PLS Required
Beckmannia syzigahne	sloughgrass	OBL	15	2.0
Calamagrostis canadenisis	blue jointed reedgrass	OBL	15	1.0
Carex nebrascensis	Nebraska sedge	OBL	15	4.0
Deschampsia cespitosa	tufted hairgrass	FACW	25	2.5
Phleum alpinum	alpine timothy	FAC	30	4.0
Alternatives				
Carex aquatilis	water sedge	OBL		
Carex utriculata	beaked sedge	OBL		
Carex microptera	small-winged sedge	FAC		
Glyceria striata	fowl managrass	OBL		
Juncus arcticus	Arctic rush	FACW		

Notes:
Required PLS based on 2.72-acre seeding area and 100 seeds per square foot broadcast.

**** Wetland Indicator Status Definitions***

Code	Wetland Type	Comment
OBL	Obligate Wetland	Occurs almost always (estimated probability 99%) under natural conditions in wetlands.
FACW	Facultative Wetland	Usually occurs in wetlands (estimated probability 67% - 99%) but occasionally found in non-wetlands.
FAC	Facultative	Equally likely to occur in wetlands or non-wetlands (estimated probability 34% - 66%).

Source: (Reed 1988). National List of Plant Species that Occur in Wetlands: Intermountain (Region 8).

Transition Buffer

The area immediately surrounding the wetland complex between elevations 8510.25 feet to 8512 feet will be a designated transition buffer. This buffer averages approximately 20 feet in width. The area will be seeded and stabilized with native transition zone seed mix specified in **Table 7.** Species selected are intended for moist to dry soil conditions common to the region, which germinate quickly and provide ideal buffering characteristics.

To increase ecological diversity of the transition buffer and entire wetland habitat, fifteen (15) 2 inch caliper balled and burlapped narrowleaf cottonwood trees (*Populus angustifolia*) will be planted. In addition fifty total shrubs, including twenty five (25) #5 chokecherry (*Prunus virginiana*) and twenty five (25) #5 woods rose (*Rosa woodii*) will be planted. Tree and shrubs will be purchased from a native plant nursery and installed along with the willow staking scheduled for the spring of 2012.

Table 7. Transition Buffer Seed Mix.

Scientific Name	Common Name	% of Mix	PLS Required
Bromus marginatus	mountain brome	20	5.0
Elymus canadensis	Canada wildrye	20	3.0
Elymus lanceolatus	streambank wheatgrass	20	2.0
Pascopyrum smithii	western wheatgrass	20	3.0
Phleum alpinum	alpine timothy	20	0.5
Notes: *Required PLS based on 0.5-acre of seeding area and 75 seeds/square foot broadcast.*			

Upland Area

The area immediately surrounding the transition buffer will be restored as upland. The area will be seeded and stabilized with a native upland seed mix. Species selected are intended for dry soil conditions common to the region, which germinate quickly and provide ideal buffering characteristics. The Upland Seed Mix is presented in **Table 8**. This area is not considered as part of the compensatory mitigation plan and will not be deed restricted as with the wetland and transition buffer.

A one-time application of soil amendments has been specified for the upland areas due to the likely infertile nature of the final graded soils. The final determination of need and application rates will be determined from soil laboratory analysis during grading operations. The addition of soil amendments as part of upland restoration has been proven to assist in vegetation establishment.

Table 8. Upland Seed Mix.

Scientific Name	Common Name	% of Mix	PLS Required
Achnatherum hymenoides	Indian ricegrass	10	7.0
Bromus marginatus	mountain brome	35	25.0
Elymus canadensis	Canada wildrye	10	8.0
Festuca saximontana	Rocky Mountain fescue	10	8.0
Pascopyrum smithii	western wheatgrass	35	26.0
Alternatives			
Elymus trachycarlus	streambank wheatgrass		
Fesuca arizonica	Arizona fescue		
Festuca idahoensis	Idaho fescue		
Notes: *Required PLS based on 3.0-acre of seeding area and 75 seeds/square foot broadcast.*			

8.0 Success Criteria

The primary goal of the Plan is to establish a 2.72-acre, self sustaining, wetland complex comprised of two general habitat types. Success criteria have been established based on measurable and quantifiable parameters defining a wetland per the USACE and intent of this Plan.

Goal #1-Overall establishment of 2.72-acres of wetland as defined per the US Army Corps of Engineers Wetland Delineation Manual (1987) and Western Regional Supplement (USACE 2010).

Success Criteria.

1. A routine onsite wetland delineation results in 2.72-acres of wetland.

2. Wetland shall include two general habitat community types, approximately 60% PEM and 40% PSS as defined by Cowardin *et al.* 1979.

3. Adequate hydrologic regime is maintained for two- consecutive years with no management interaction or manipulation.

4. Noxious weeds species identified in List A, B and C of the Summit County Weed Management Plan (most current adopted version) do not occupy more than 10% of the total Site.

5. Functional Capacity Score per the FACWet Method of the Site is greater than or equal to 0.7.

6. Site is legally protected through a deed restriction or conservation easement.

Goal #2-Palustrine Emergent Wetland Habitat shall comprise approximately 60% (approximately 1.7-acres) of the overall Site.

Success Criteria

1. Native emergent vegetation shall cover at least 70% (aerial coverage) of the Site. Dominant species shall be considered locally native wetland species with an indicator status ranging from facultative to obligate.

2. Hydrologic regime of the habitat shall vary from saturated soil (within the upper 12 inches of the soil profile) to shallow inundation (3 inches maximum depth) for 76% to 100% of the growing season (or approximately 85-111 days out of a 111 day growing season). Hydrologic regime will function with no management interaction or manipulation for at least 2-consecutive years.

3. Soils shall exhibit hydric characteristics or indications that hydric soil characteristics will develop.

Goal #3-Palustrine Scrub-Shrub Wetland Habitat shall comprise approximately 40% (approximately 1.0-acre) of the overall wetland habitat.

Success Criteria

1. Native shrub species shall have a mid-story overall aerial coverage of at least 30% or exhibit adequate shrub establishment that at least 30% aerial coverage will naturally occur over time. The 30% aerial coverage threshold is based on Cowardin et al. 1979, distinguishing classes on the basis of the life form of the plants that constitute the uppermost layer of vegetation and that possess an aerial. Supplemental planting of shrubs will be conducted as required and determined during monitoring to meet the success criteria.

2. Native emergent vegetation herbaceous understory shall cover at least at least 70% (aerial coverage) within the designated habitat.

3. Hydrologic regime of the habitat shall be semi-permanently saturated within the upper 12 inches of the soil profile for 76% to 100% of the growing season (or approximately 85-111 days out of a 111 day growing season). Hydrologic regime will function with no management interaction or manipulation for at least 2-consecutive years.

4. Soils shall exhibit hydric characteristics or indications that hydric soil characteristics will develop.

Goal #4-Transition Buffer shall surround the wetland habitat (approximately 0.5-acre).

Success Criteria

1. Native herbaceous vegetation shall cover at least 70% (aerial coverage) within the designated transition buffer.

2. Seventy five percent (75%) or more of the planted trees and shrubs shall be healthy and well established. Supplemental planting of trees and shrubs will be conducted as required and determined during monitoring to meet the success criteria.

3. Noxious weeds species identified in List A, B and C of the Summit County Weed Management Plan (most current adopted version) do not occupy more than 10% of the total transition buffer.

4. The transition buffer (0.5-acre) will be included as part of the Site and legally protected through a deed restriction or conservation easement

9.0 Monitoring Plan

The intent of the monitoring plan is to establish a process for evaluating whether the Site is successfully meeting its Success Criteria as defined in Section 8.0 and in compliance with 33 CFR 332.2. The monitoring plan ensures that the compensatory mitigation project is objectively evaluated to determine if it is developing into the desired wetland type and providing the expected functions. The permittee will be responsible for monitoring the Site. Annual monitoring reports will be submitted to the USACE for a period of five years (or as specified in the DA Permit Special Conditions or until determined successful) in order to assess the status and success of the Site as well as provide information that can be used for corrective measures and/or adaptive management (as necessary). If the Site meets its success criteria in less than five years, the monitoring period length can be reduced, if there are at least two consecutive monitoring reports that demonstrate that success. This section presents the specific monitoring plan that will be implemented.

Monitoring Protocol

Monitoring includes the collection and analysis of repeated observations or measurements to evaluate changes in condition and progress toward meeting the success criteria. Monitoring of the Site will consist of collecting and evaluating quantitative data on the soils, hydrology and vegetative communities within the constructed wetland on a yearly basis.

Vegetation Monitoring
Formal vegetation monitoring will be conducted once at the peak of each growing season throughout the monitoring period. Vegetation monitoring will be two-tiered and will include evaluation of herbaceous vegetation cover and evaluation of shrub cover and health. Permanent plots will be established to monitor vegetation communities. Permanent plot studies are the most direct way to indicate the pathways of vegetation change (what happens), and can also provide insights into mechanisms and causes (how and why) of vegetation change (Pickett et al. 1987). Permanent plots are more efficient to resample than temporary plots and fewer numbers of plots are required to detect change or track trends (Roman et al. 2001).

Herbaceous Vegetation Sampling
Surface groundcover may be the most important component of vegetation monitoring and is therefore a commonly measured quantity. Establishment of perennial groundcover is important for long-term soil stability and healthy, productive plant communities. Cover is the vertical projection of plant material on the ground. Cover estimates usually involve visual estimates in plots, line intercepts or point techniques. The herbaceous PEM plant community will be monitored using 1^2 meter quadrats positioned randomly within the habitat community (refer to diagram below). Ten (10) permanent sample plot locations will be placed within the PEM vegetation community during year-1 for herbaceous vegetation monitoring. The sample plot locations will be clearly identifiable (i.e., spray painted) metal T-post in the ground. The T-posts will be re-painted during each monitoring period to ensure the sample plot location can be easily found from year-to-year. Each T-post will be positioned in the northwest corner of the sampling quadrat for long-term monitoring of the vegetation quadrats. During vegetation monitoring, percent cover will be visually estimated to the nearest percent for each species. Site-specific data sheets will be completed for each sample location.

Woody Vegetation Sampling
Sampling of woody vegetation within the constructed wetland will consist of establishing two 3.048^2 meter macroplots (one within each designated shrub pocket) to record plant species characteristics (refer to diagram below). The macroplot will be permanently established during year-1 using clearly identifiable (i.e., spray painted) metal T-posts to mark four corners. The T-posts will be re-painted during each monitoring period to

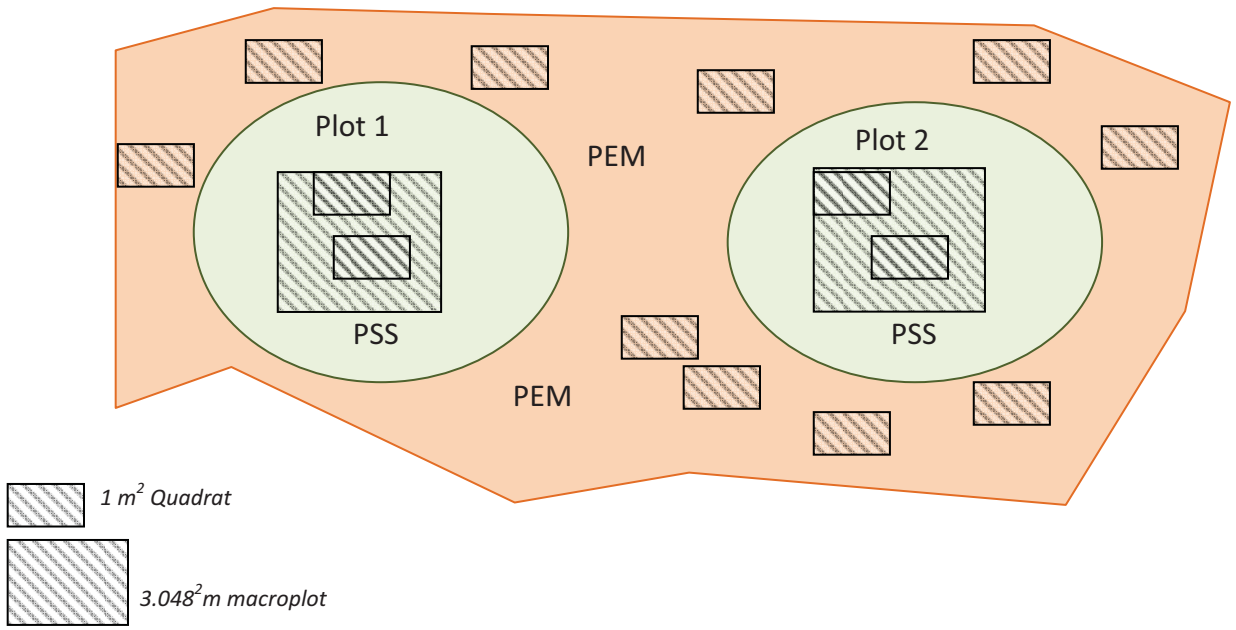
ensure the sample plot location can be easily found from year-to-year. A wire wrapped around the fencing will denote the macroplot boundary. Any shrub located within the wire fencing will be included in the sample. Each shrub will be numbered, tagged and its location recorded in the field. Shrub characteristics such as species type, height and health will be recorded for each plant species. During vegetation monitoring, overall percent cover of woody species will be visually estimated within the macroplot to the nearest percent. The herbaceous understory within the PSS vegetation community will be monitored using 1^2 meter quadrats positioned randomly within the habitat community (refer to diagram below). Two (2) permanent quadrats will be established within each macroplot to evaluate ground cover. Species type and percent cover will be evaluated within each quadrat. Site-specific data sheets will be completed for each sample location.

Transition Buffer Sampling

Herbaceous vegetation within the transition buffer will be monitored using 1^2 meter quadrats positioned in representative locations within the habitat community. Two (2) permanent sample plot locations will be placed within the transition buffer during year-1 for herbaceous vegetation monitoring. The sample plot locations will be clearly identifiable (i.e., spray painted) metal T-post in the ground. The T-posts will be re-painted during each monitoring period to ensure the sample plot location can be easily found from year-to-year. Each T-post will be positioned in the northwest corner of the sampling quadrat for long-term monitoring of the vegetation quadrats. During vegetation monitoring, percent cover will be visually estimated to the nearest percent for each species within the quadrats. Site-specific data sheets will be completed for each sample location.

Woody vegetation will be monitored within the transition buffer by tagging the trees and shrub species. The trees and shrubs will be numbered, tagged and their location recorded in the field. General tree and shrub characteristics such as species type, height and health will be recorded for each plant species.

Vegetation Monitoring Diagram



Soils and Hydrology Monitoring

Sampling will be conducted to document the depth and duration of inundation within the constructed wetland. One soil test pit will be excavated for each PEM quadrat (10) and one per PSS macroplot (2). Soil sampling and hydrology monitoring will not be completed within the transition buffer as these areas are not intended to contain wetland characteristics. Soil pits will be excavated on the northwest side of the plot, within 2-feet of the T-post. Dug by hand to minimize disturbance, the test pits will be 6-12 inches in diameter and 18 inches deep. On occasion, digging to an 18-inch depth may not be possible due to the extreme rocky nature of the subsoil. Each test pit will be backfilled upon observation and documentation. A new test pit will be excavated for monitoring annually.

Wetland (i.e., hydric) soils are formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA-NRCS 1994). The following combination of indicators is useful for assessing whether a soil is becoming hydric: soil saturation, color, and texture; and the presence of mottling, concretions (i.e., masses formed by the union of separate particles, clumps), and root hairs or other organic material. Depth to saturation, soil color, degree of mottling/gleying and textured will be evaluated and documented.

The presence of hydric soils and wetland hydrology will be determined using the indicators presented in the USACE Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region or the USDA-NRCS Field Indicators of Hydric Soils (2010).

Invasive, Non-native Plant Species

Within each quadrat and macroplot, percent aerial cover of invasive, non-native plant species will be evaluated. Aerial cover estimates will facilitate prioritizing weed management efforts. Intensive weed management efforts will be focused on areas where extreme weed infestation (over 10% aerial cover) threatened to completely out-

compete desirable species. Areas with problematic weeds will be targeted for secondary weed management efforts. No weed management will occur where weeds are minimal. While desirable species are expected to out-compete weeds over time, continued monitoring allows continued assessment of the situation.

Photo Documentation
During year-1, color photo points will be established to monitor trends in the establishing plant communities. Each photo point will be marked with a metal T-post driven into the ground and clearly labeled with all identification information. The location of each photo point will be marked and clearly identified on a monitoring map and recorded using GPS technology. Each photo point will depict a panoramic view of the Site and detail specific characteristics.

Evaluating Results

The results of the monitoring plan will be compared to the success criteria established in Section 8.0. The Site will be considered successful once all of the goals and success criteria are documented for a minimum of two-consecutive years with no management interaction or manipulation. Supplemental planting and/or seeding shall occur as needed to achieve the success criteria.

Monitoring Schedule

The monitoring plan outlined herein will be implemented in year-1 following construction activities. Formal vegetation monitoring will be conducted once at the peak of each growing season throughout the monitoring period. A monitoring report which follows the USACE Minimum Monitoring Requirements for Compensatory Mitigation Projects Involving the Restoration, Establishment, and/or Enhancement of Aquatic Resources (USACE 2008) will be submitted to the USACE prior to December 31 of the monitoring year.

Per the USACE Minimum Monitoring Requirements, the monitoring report narrative (which does not include supporting data) will be less than 10 pages and include the following information:

i Project Overview (1 page)
ii. Requirements (1 page)
iii. Summary Data (maximum of 4 pages)
iv. Maps and Plans (maximum of 3 pages)
v. Conclusions (1 page)
Completion of Compensatory Mitigation Requirements
Special Condition

10.0 Adaptive Management Plan

The implementation of an adaptive management plan is essential for evaluating if a wetland mitigation project is developing properly during the critical establishment period (1-3 years after creation). The immature state of many newly created wetland projects makes the project vulnerable to erosion, weed infestation and herbivory which could lead to the incorrect development of desired habitat types. An adaptive management plan in conjunction with the monitoring program is to be used as a tool to evaluate the development of a wetland project and determine necessary corrective measures that must be implemented during the early stages of establishment to ensure the desired goals are met.

Adaptive management is a systematic process for continually improving management techniques during the establishment of a wetland mitigation project. Generally, an adaptive management plan involves six main steps: 1) problem assessment, 2) design, 3) implementation, 4) monitoring, 5) evaluation and 6) adjustment (Nyberg 1998). The framework formed by these six steps is intended to encourage a thoughtful, disciplined approach to management of the wetland mitigation project without constraining the creativity that is vital to dealing effectively with uncertainties and change that can occur during the wetland establishment.

The following Adaptive Management Plan will be implemented during the establishment period in addition to the formal yearly monitoring program to ensure successful development of the Site per the Plan.

1. Routine visual inspection of the Site will be conducted by ERC designer throughout the growing season. A standardized inspection form will be created to document each inspection. Routine inspection forms will be included as part of the yearly monitoring report.

2. Each routine inspection will include an evaluation of the following:
    a. Hydrology
        - Evaluate appropriate hydrologic regime is being maintained
        - Measure of overall inundation depth or soil saturation depth
        - Inspect inflows and outflow paths for proper function with no erosion or blockages
    b. Vegetation
        - Vegetation development progression, new growth, aerial spread, health
    c. Potential problem identification
        - Herbivory problems
        - Weed or non-desirable species establishment
        - Site erosion, gullies or sink holes
        - Uneven or irregular water distribution
        - Ice or freeze damage
        - Excessive debris

3. Minor corrective measures will be conducted on Site as needed during routine inspections.

4. More complex or larger corrective measures required shall be developed by ERC Designer and presented to the owner.

5. Corrective measures shall be implemented as soon as possible before becoming highly problematic.

6. Evaluate corrective measure success and document.

7. Evaluate corrective measures success in relation to yearly monitoring program.

11.0 Implementation Plan and Schedule

Implementation of the Plan will be dependent upon DA Permit authorization. At the time of preparation of this Plan the exact authorization date of the DA Permit is unknown therefore a start date for the overall project cannot be specified. However, the permittee will ensure that the wetland impacts coincide with implementation of the Plan. The permittee will construct the mitigation concurrently to wetland impacts in order to minimize temporal loss of wetland habitat. The permittee is responsible for the successful implementation of the compensatory mitigation plan. A general outline of the implementation sequence of the Plan in provided as follows.

Table 9. Implementation Plan.

ID#	Activity Description
1	DA Permit Authorization
2	Initiate Pit Expansion (Proposed DA Permit Project)
3	Initiate Rough Grading of Mitigation
4	Salvage and Stockpile Wetland Topsoil
5	Initiate Final Wetland Mitigation Site Work
6	Complete Mitigation Site Work –concurrent with impacts (ID#2)
7	As-Built Monitoring Report Submittal to USACE (Year-1)
8	Willow Stake Installation within PSS areas at Site
9	Transition Zone Tree and Shrub Plantings
10	Ongoing Monitoring and Maintenance

The Plans developed and enclosed are intended as a design-build implementation project by ERC. Insufficient design information is provided for implementation by others. ERC shall verify all final elevations and locations prior to implementation. An ERC design representative will direct all activities in the field, who is knowledgeable of the design and compensatory mitigation construction. Jurisdictional wetlands exist immediately north and east of the site. ERC shall clearly field stake existing wetland boundary prior to any site activity. Silt fence shall be installed on the upland side of the wetland boundary. All site workers shall be informed as to the boundary and sensitive nature of the area. No disturbance shall occur within the existing wetland.

12.0 Site Protection

The Site (wetland and transition buffer) will be protected through a deed restriction. EM MCR and Maryland Creek Ranch have previously used deed restrictions for protection of other onsite wetlands, which will serve as a model for this deed restriction. **Appendix A** provides a model deed restriction to be filed for the long term protection of the Site. Once the Site has been determined successfully established, EM MCR will prepare and file a formal deed restriction. The final filed deed restriction will then be forwarded to the USACE as part of the final monitoring reports and prior USACE formal determination of mitigation success.

13.0 References

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Appendix A
Model Deed Restriction

WHEN RECORDED RETURN TO:

THIS SPACE FOR RECORDER'S USE ONLY

DECLARATION OF RESTRICTIONS

THIS DECLARATION OF RESTRICTIONS ("Declaration") is made as of this _____ day of _____, 20 __, by_____ a _____Limited Liability Company ("Declarant").

WHEREAS, Declarant is the owner of the surface of certain real property located in the Town of Silverthorne, County of Summit, Colorado, legally described in Exhibit A attached hereto and incorporated hereby by this reference and illustrated in Exhibit B (hereinafter "Preserve Area"). Should a discrepancy ever arise between the legal description and the illustration, the legal description of the surface area shall prevail; and

WHEREAS, Declarant intends to use the Preserve Area in a manner not inconsistent with the provisions of the Section 404 Permit No._____, a copy of which is attached hereto as Exhibit C (hereinafter "Permit") issued to Declarant by the U.S. Army Corps of Engineers (hereinafter "Corps") and the Open Space Preserve Operations and Management Plan, a copy of which is attached hereto and incorporated herein as Exhibit D (hereinafter "The Plan");

WHEREAS, this Declaration is intended to implement the provisions of the Permit requiring a binding covenant running with the Preserve Area, but shall not be construed to impose restrictions in addition to those expressly set forth in the Permit; and

WHEREAS, the Preserve Area consists of both open water features and associated upland areas;

WHEREAS, the Declaration will benefit all parties to the Declaration in that it will assist in preserving and maintaining the drainage and wetland habitat in the Preserve Area;

NOW THEREFORE, Declarant declares as follows:

1. Covenant Running with Land. In consideration of the foregoing benefits flowing to all parties; the benefits obtained by the Declarant from the Permit, and other valuable consideration, the receipt and adequacy of which is hereby acknowledged, the Declarant does hereby covenant and agree to restrict, and does by this instrument intend to restrict, the future use of the Preserve Area as set forth below, by the establishment of this Covenant running with the land.

2. Restrictions Concerning the Preserve Area. The Preserve Area preserved as compensatory mitigation for work authorized by the Permit shall not be made the subject of a future application for a Department of the Army General or Individual permit for fill except for the purpose of enhancing or restoring the mitigation associated with this mitigation project, without prior written approval from the Corps. All work within the Preserve Area shall comply with the following special conditions:

(a) Any areas within the Preserve Area disturbed by the installation of utility lines shall be restored to the condition such area was in prior to construction of utility lines;

(b) No buildings shall be constructed within the Preserve Area;

(c) No storm water shall be stored in or deposited directly into any aquatic environment within the Preserve Area without passing through a minimum of two stormwater treatments; and

(d) All culvert crossings shall be designed to protect ground and surface water flow, ensuring that the Preserve Area is not indirectly effected from re-direction of hydrology.

3. Not An Offer to Dedicate: No Rights of Public Use. Nothing contained herein shall be construed as affording the public access to any portion of the Preserve Area, although the Declarant, in its sole discretion, may permit public access to the Preserve Area on such terms and conditions as it deems appropriate.

4. Rights retained by Declarant. Declarant retains the right to perform any act not specifically prohibited or expressly restricted by this Declaration. These ownership rights include, but are not limited to, the retention of the economic viability of the Preserve Area provided that such acts and uses are not inconsistent with the interests transferred and conveyed herein. Declarant may install new utility lines or relocate existing utility lines above or beneath the Preserve Area.

5. Water/Minerals. The Preserve Area does not include any decreed or undecreed water and water rights, ditches and ditch rights, springs and spring rights, reservoir and reservoir rights, wells and groundwater rights, and any other types of rights related to the ownership of water, tributary, non-tributary and not non-tributary, appurtenant to or customarily or historically used or associated with or upon the Property (the "Water"). Additionally, any existing easements, mineral rights and rights of ways are not being transferred, encumbered, sold, leased or otherwise conveyed by this Declaration. The Water, all oil, gas, hard rock, hydrocarbons, coal, and other minerals remain the property of the Declarant and the right to access, extract and transport such property interests are expressly reserved.

6. Subsequent Liens on the Property. No provisions of this Declaration should be construed as impairing the ability of Declarant to use the Preserve Area as collateral for subsequent borrowing.

7. Amendment. If the circumstances arise under which an amendment to or modification of this Declaration would be appropriate, the parties are free to jointly amend this Declaration. Any amendment must be in writing, signed by both parties, and recorded in the official records of Summit County, Colorado.

8. Successors and Assign Bound. Declarant hereby agrees and acknowledges that the Preserve Area shall be held, sold, conveyed, owned and used subject to the applicable terms, conditions and obligations imposed by this Declaration relating to the use, repair, maintenance and/or improvement of the Preserve Area, and matters incidental thereto. Such terms, conditions and obligations are a burden and restriction on the use of the Preserve Area, as applicable.

The provisions of this Declaration shall (subject to the limitations contained in this Declaration and without modifying the provisions of this Declaration) be enforceable as equitable servitudes and conditions, restrictions and covenants running with the land, and shall be binding on the Declarant and upon each and all of the respective successors, and assigns of the Preserve Area.

[remainder of page intentionally blank]

9. Severability. The provisions of the Declaration are severable and the violation of any of the provisions of this Declaration by a Court shall not affect any of the other provisions which shall remain in full force and effect.

DECLARANT:

_____

a limited liability company

Date: _____

By: _____

Its: _____

STATE OF

County of

The foregoing instrument was acknowledged before this _____ day of _____, 20__, by _____, as _____ of _____

Witness my hand and official seal.

My commission expires: _____.

_____
Notary Public

EXHIBIT A – LEGAL DESCRIPTION OF "PRESERVE AREA"

EXHIBIT A

WETLANDS EASEMENT

A POLYGONAL/OVAL SHAPED EASEMENT, OVER AND ACROSS THE SOUTH ONE-HALF OF SECTION [illegible], TOWNSHIP [illegible] SOUTH, RANGE [illegible] WEST OF THE 6th P.M., COUNTY OF SUMMIT, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE CENTER ONE QUARTER CORNER OF SAID SECTION 15 FROM WHICH THE CENTER WEST ONE-SIXTEENTH CORNER OF SAID SECTION 15 BEARS N[illegible] E, A DISTANCE OF [illegible] FT, THENCE S01°17'07"E, A DISTANCE OF [illegible] FEET TO THE POINT OF BEGINNING OF THIS WETLANDS EASEMENT;

THENCE ALONG THE FOLLOWING NONTANGENTIAL CURVES AND COURSE:
A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 10°33'13", A RADIUS OF 882.96 FEET, AN ARC LENGTH OF 162.64 FEET, A CHORD BEARING S76°42'48"E, AND A CHORD DISTANCE OF 162.41 FEET;
A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 45°24'41", A RADIUS OF 416.91 FEET, AN ARC LENGTH OF 330.44 FEET, A CHORD BEARING S49°00'08"E, AND A CHORD DISTANCE OF 321.85 FEET;
S01°32'52"W, A DISTANCE OF 19.14 FEET;
A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 56°10'00", A RADIUS OF 24.54 FEET, AN ARC LENGTH OF 24.06 FEET, A CHORD BEARING S58°22'09"W, AND A CHORD DISTANCE OF 23.11 FEET;
A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 39°13'39", A RADIUS OF 532.03 FEET, AN ARC LENGTH OF 364.26 FEET, A CHORD BEARING N73°15'12"W, AND A CHORD DISTANCE OF 357.18 FEET;
A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 58°08'47", A RADIUS OF 176.65 FEET, AN ARC LENGTH OF 179.27 FEET, A CHORD BEARING N18°57'53"W, AND A CHORD DISTANCE OF 171.68 FEET;
A CURVE TO THE RIGHT HAVING A CENTRAL ANGLE OF 96°35'39", A RADIUS OF 14.97 FEET, AN ARC LENGTH OF 25.23 FEET, A CHORD BEARING N49°42'46"E, AND A CHORD DISTANCE OF 22.35 FEET TO THE POINT OF BEGINNING, SAID WETLANDS EASEMENT CONTAINS [illegible] OR [illegible] ACRES, MORE OR LESS.

SURVEYOR'S CERTIFICATE:

I, [illegible], A REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, HEREBY CERTIFY THAT THE LAND SURVEY INFORMATION SHOWN HEREON IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

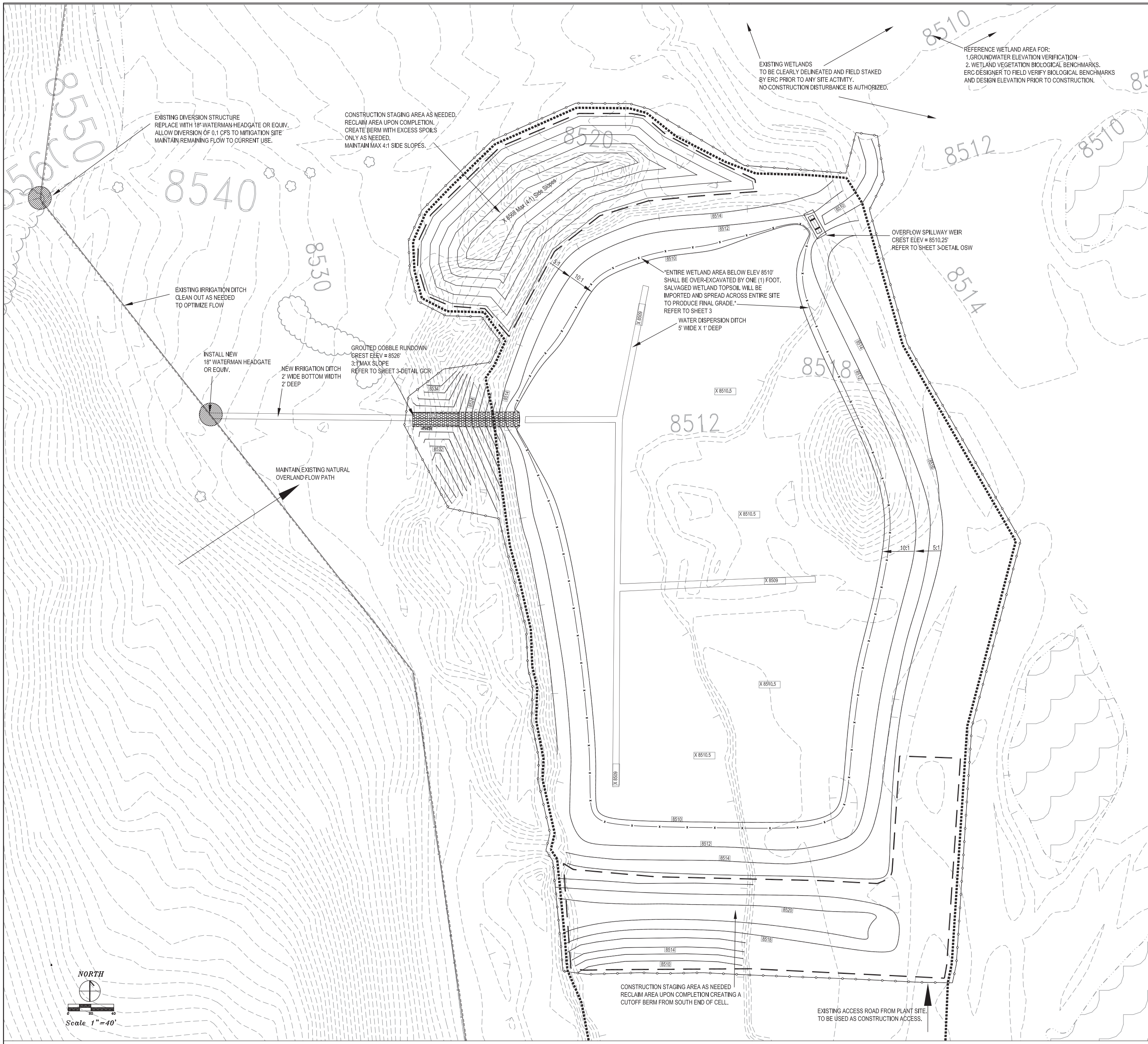
DATE:_____

[illegible]

EXHIBIT B – MAP OF "PRESERVE AREA"

EXHIBIT C – SECTION 404 PERMIT NO.

Appendix B
Design Plan Sheets 1, 2 and 3



NOTES:

1. THIS PLAN IS A FINAL COMPENSATORY MITIGATION PLAN FOR US ARMY CORPS DA PERMIT# SPK-2010-01226.
THIS PLAN IS SUBJECT TO ALL SPECIAL CONDITIONS OF THE PERMIT.

2. THIS PLAN IS INTENDED AS A DESIGN-BUILD IMPLEMENTATION PROJECT BY ERC. INSUFFICIENT INFORMATION MAY EXIST FOR IMPLEMENTATION BY OTHERS. ERC DESIGNER WILL OVERSEE ALL WORK ON A REGULAR BASIS.

3. ERC LEAD DESIGNER CONTACT: DAVID BLAUCH (303) 679-4820.
OWNER CONTACT: EVERIST MATERIALS-JOANNA HOPKINS (970) 468-2521.

4. JURISDICTIONAL WETLAND EXISTS IMMEDIATELY NORTH AND EAST OF THE SITE. ERC SHALL CLEARLY FIELD STAKE EXISTING WETLAND BOUNDARY PRIOR TO ANY SITE ACTIVITY. SILT FENCE SHALL BE INSTALLED ON THE UPLAND SIDE OF THE WETLAND BOUNDARY. ALL SITE WORKERS SHALL BE INFORMED AS TO THE BOUNDARY AND SENSITIVE NATURE OF THE AREA. NO DISTURBANCE SHALL OCCUR WITHIN THE EXISTING WETLAND.

5. SILT FENCE SHALL BE INSTALLED BY CONTRACTOR AROUND THE ENTIRE DISTURBANCE AREA PRIOR TO SITE ACTIVITY. OTHER APPROPRIATE EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AS NEEDED BY THE CONTRACTOR.

6. ALL DESIGN GRADES WILL BE FIELD VERIFIED BY ERC BASED ON BIOLOGICAL BENCHMARKS OF ADJACENT WETLAND. FINAL DESIGN ELEVATIONS MAY VARY SLIGHTLY FROM THOSE IN THIS PLAN. ALL DESIGN ELEVATIONS SHALL BE FIELD VERIFIED BY ERC DESIGNER DURING GRADING ACTIVITIES.

7. ALL SPOILS SHALL BE DISPOSED OF IN DESIGNATED BERM AREAS OR AS APPROVED BY ERC AND OWNER.

8. ENTIRE WETLAND AREA (BELOW ELEV. 8510') SHALL BE OVER-EXCAVATED BY 1.0-FOOT TO ELEVATION 8509'. SUBSOILS SHALL COMPACTED TO PRODUCE A FIRM AND LEVEL SUBSURFACE. FINISHED SUBSURFACE SHALL BE FIRM, TIGHTLY COMPACTED AND FREE OF OF ROCKS OR SOIL CLODS GREATER THAN 0.25-FEET IN DIAMETER AND/OR VOIDS.

9. SALVAGED WETLAND TOPSOIL WILL BE IMPORTED AND SPREAD ACROSS THE DESIGNATED AREA TO PRODUCE THE FINAL GRADE. WETLAND TOPSOIL SALVAGE AREA WILL BE CLEARLY IDENTIFIED BY ERC. WETLAND TOPSOIL SHALL BE PLACED WITHIN THE DESIGNATED AREA TO A UNIFORM DEPTH OF 1.0-FOOT AND LIGHTLY COMPACTED TO ENSURE NO AIR POCKETS, CREATING A SETTLED, FIRM AND FRIABLE SEEDBED. FINISHED SURFACE MAY RANDOMLY UNDULATE +/- 0.25-FOOT. ONCE ALL TOPSOIL IS PLACED THE ENTIRE WETLAND SHALL BE FLOODED AND SOILS ALLOWED TO COMPLETELY SATURATE AND SETTLE. SOILS SHOULD THEN BE DRAINED AND GRADES RE-VERIFIED TAKING INTO CONSIDERATION ANY SETTLING. ADDITIONAL WETLAND TOPSOIL SHALL BE PLACED AS NEEDED TO ACCOMODATE ANY SETTLING.REFER TO SHEET 3 FOR ADDITIONAL INFORMATION.

10. EXISTING SITE CONDITION WITHIN THE CELL INCLUDES FINE SEDIMENT AND OPEN WATER. WATER MANAGEMENT WILL BE REQUIRED BY CONTRACTOR. EQUIPMENT ACCESS AND MANEUVERABILITY WITHIN THE CELL MAY ALSO BE DIFFICULT. CONTRACTOR SHALL CONSIDER AND EVALUATE THESE CONDITIONS PRIOR TO SITE ACTIVITY.

11. ALL UTILITIES LOCATIONS TO BE CONFIRMED BY CONTRACTOR.

12. WETLAND HYDROLOGY IS PRIMARILY FROM EXPOSED GROUNDWATER. GROUNDWATER ELEVATION IN THE AREA IS APPROXIMATELY AT ELEV. 8510'. FINAL EXCAVATION AND SURFACE ELEVATION WILL BE DEPENDENT ON GROUNDWATER INTERCEPTION. SUPPLEMENTAL WETLAND HYDROLOGY WILL BE SUPPLIED VIA AN IRRIGATION DIVERSION ON SHEEP CREEK AND LOCAL RUNOFF ENTERING THE WETLAND THROUGH THE GROUTED COBBLE RUNDOWN AND DIRECT PRECIPITATION. WETLAND IS DESIGNED TO MAINTAIN SATURATED SOIL CONDITIONS TO A MAXIMUM OF 0.25' OF INUNDATION THROUGHOUT THE GROWING SEASON. ERC SHALL VERIFY GROUNDWATER ELEVATION DURING GRADING OPERATIONS. THE OVERFLOW SPILLWAY WEIR IS DESIGNED TO MAINTAIN THE MAXIMUM WATER SURFACE ELEVATION.

13. ERC WETLAND DESIGNER SHALL DIRECT ALL WORK.

14. THE PERMITEE IS RESPONBLE FOR THE SUCCESSFUL IMPLEMENTATION OF THE MITIGATION PLAN. ANY SIGNIFICANT DEVIATION IDENTIFIED DURING CONSTRUCTION MUST BE APPROVED BY THE ARMY CORPS.

LEGEND

- 8510 — EXISTING CONTOURS
- EXISTING AREA OF DISTURBANCE
- 8510 — PROPOSED CONTOURS
- X 8510.5 — PROPOSED SPOT ELEVATIONS
- LIMITS OF PROJECT DISTURBANCE AND SILT FENCE PLACEMENT
- CONSTRUCTION STAGING AREA
- OVER-EXCAVATED AREA BY 1.0-FOOT SALVAGED WETLAND TOPSOIL PLACEMENT

Ecological Resource Consultants, Inc.
5672 Juhls Drive, Boulder, CO 80301
(303) 679-4820

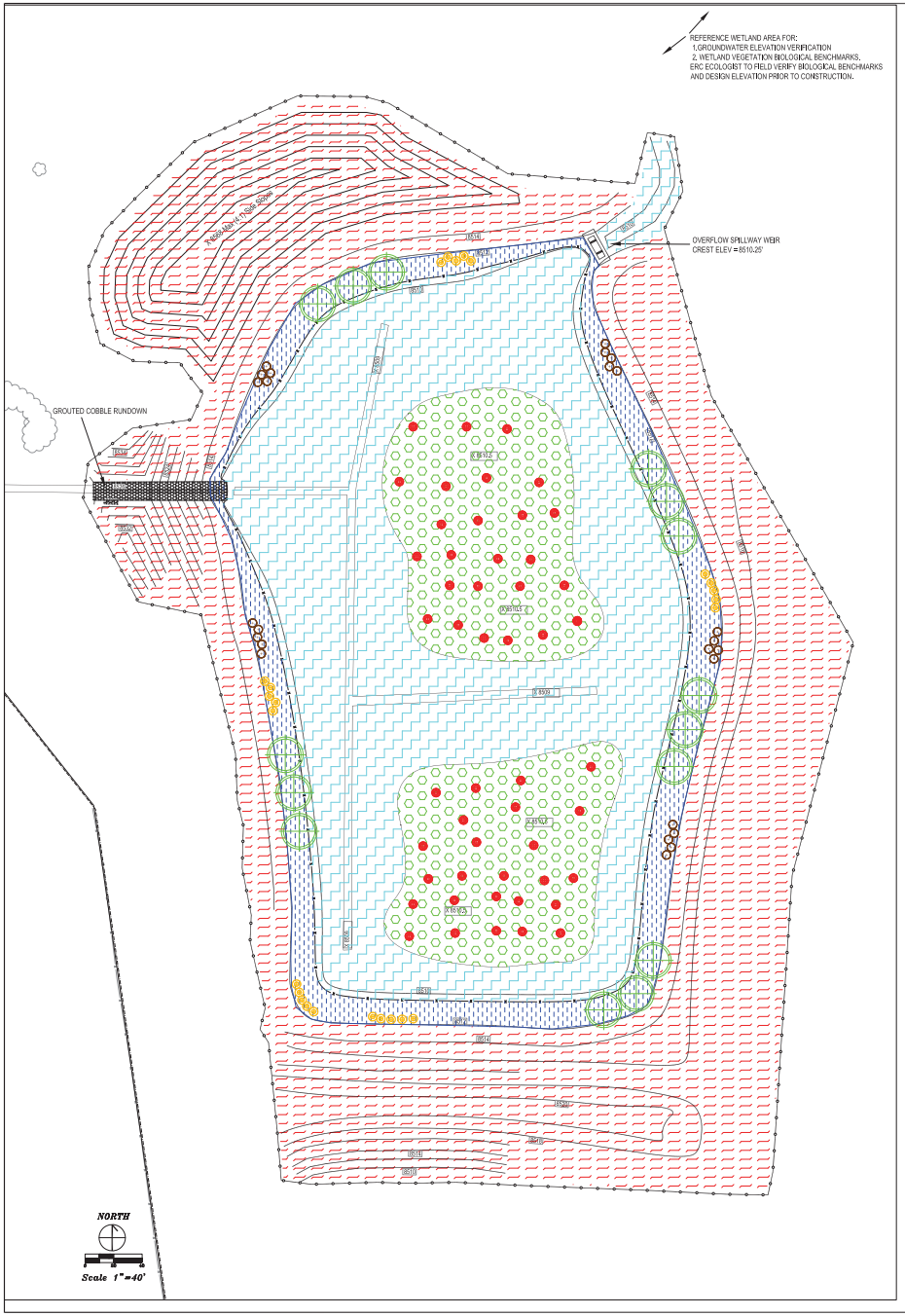
Designed By: erc
Drawn By: erc
Date: 2-22-11
Project No.: 690-111
File Path:

Revision No.:
Revision Date:
Approved By:
Comments:

Everist Materials, LLC-MCR Facility
Summit County, CO

Final Mitigation Plan
Grading Plan

SHEET 1



NOTES:

GENERAL

1. THIS PLAN IS A FINAL COMPENSATORY MITIGATION PLAN FOR US ARMY CORPS DA PERMIT# SPK-2010-01226. THIS PLAN IS SUBJECT TO ALL SPECIAL CONDITIONS OF THE PERMIT.

2. THIS PLAN IS INTENDED AS A DESIGN-BUILD IMPLEMENTATION PROJECT BY ERC. INSUFFICIENT INFORMATION MAY EXIST FOR IMPLEMENTATION BY OTHERS. ERC DESIGNER WILL OVERSEE ALL WORK ON A REGULAR BASIS.

3. ERC LEAD DESIGNER CONTACT: DAVID BLAUCH (303) 679-4820.
OWNER CONTACT: EVERIST MATERIALS-JOANNA HOPKINS (970) 468-2521.

4. JURISDICTIONAL WETLAND EXISTS IMMEDIATELY NORTH AND EAST OF THE SITE. ERC SHALL CLEARLY FIELD STAKE EXISTING WETLAND BOUNDARY PRIOR TO ANY SITE ACTIVITY. SILT FENCE SHALL BE INSTALLLED ON THE UPLAND SIDE OF THE WETLAND BOUNDARY. ALL SITE WORKERS SHALL BE INFORMED AS TO THE BOUNDARY AND SENSITIVE NATURE OF THE AREA. NO DISTURBANCE SHALL OCCUR WITHIN THE EXISTING WETLAND.

5. SILT FENCE SHALL REMAIN PROPERLY INSTALLED AROUND THE ENTIRE DISTURBANCE AREA UPON COMPLETION OF GRADING AND PLANTING ACTIVITIES UNTIL UPLAND VEGETATION HAS ESTABLISHED AS DETERMINED ADEQUATE BY ERC.

6. THIS PLANTING PLAN INTENDS TO DEVELOP TWO DISTINCT WETLAND HABITAT TYPES COMPRISED OF APPROXIMATELY 60% (1.7-ACRES) PALUSTRINE EMERGENT AND 40% (1.0-ACRES) PALUSTRINE SCRUB-SHRUB.

7. ALL PLANTING AREAS AND HABITAT TYPES SHALL BE FIELD IDENTIFIED AND VERIFIED BY ERC BASED ON EXISTING SITE CONDITIONS. PLANT SPECIES SUBSSTITUATIONS BY ERC ONLY.

WETLAND SEEDING

1. WETLAND SEEDING SHALL OCCUR UPON COMPLETION OF GRADING ACTIVITIES AND PRIOR TO REMOVAL OF WATER MANAGMENT CONTROLS. WETLAND SEEDING SHOULD BE COMPLETED DURING "DRY" SOIL CONDITIONS.

2. WETLAND SEED MIX SHALL BE BROADCAST ACROSS ALL DESIGNATED AREAS PER PLAN AND AS FIELD IDENTIFIED BY ERC. SEED SHALL BE SPREAD IN TWO-OPPOSITE DIRECTIONS ACROSS THE SITE. SEED SHALL BE MIXED WITH 50% VOLUME OF CLEAN SAND TO ENSURE EVEN DISTRIBUTION. SEED AND SAND MIX SHALL BE SPREAD ACROSS ENTIRE SITE FROM ELEVATIONS 8509' TO 8510.5' WHICH INCLUDES THE PALUSTRINE EMERGENT AND PALUSTRINE SCRUB-SHRUB WETLAND HABITAT.

3. A ONE-TIME APPLICATION OF SOIL AMENDMENTS SHALL BE SPREAD ACROSS THE ENTIRE WETLAND DURING SEEDING. THE USE OF SOIL AMENDMENT IN WETLAND AREA WILL BE BASED UPON SALVAGED TOPSOIL CONDITION AT TIME SALVAGE/PLACEMENT AND LABORATORY ANALYSIS. OSMOCOTE 12-3-3 OR OTHER EQUIVELANT PRODUCT SHALL BE SPREAD AT 300 POUNDS PER ACRE ACROSS THE ENTIRE WETLAND. MYCORRIZAL INOCULUM (DRY-GRANULAR-ENDONET) MYCOAPPLY OR OTHER EQUIVELANT PRODUCT SHALL BE SE SPREAD AT A RATE OF 60 POUNDS PER ACRE ACROSS THE ENTIRE WETLAND DURING SEEDING OPERATIONS. ALL SOIL AMMENDMENTS TO BE APPROVED BY ERC

4. SEED AND SOIL AMENDMENTS SHALL BE LIGHLY INCORPORATED INTO THE SOIL SURFACE BY LIGHT COMPACTION WITH A HAND ROLLER OR SIMILAR METHOD TO ENSURE GOOD SOIL-SEED CONTACT. CHAIN DRAG, DISC OR DRILL MAY BE USED HOWEVER, SITE CONDITIONS MAY BE DIFFICULT FOR SUCH METHODS. SEED-SOIL INCORPORATION METHOD TO BE APPROVED BY ERC.

PALUSTRINE SCRUB-SHRUB WETLAND AREA

1. AREAS DESIGNATED AS PALUSTRINE SCRUB-SHRUB WETLAND HAVE A SLIGHTLY HIGHER FINISHED ELEVATION (8510.50') THAN THE SURROUNDING PALUSTRINE EMERGENT WETLAND (8510.0'). THESE AREAS SHOULD BE FORMED FROM SALVAGED WETLAND TOPSOIL AS RAISED "MOUNDS".

2. WILLOW ROOTWADS FROM THE WETLAND IMPACT AREAS SHOULD BE SALVAGED AND PLACED WITHIN THESE AREAS DURING GRADING ACTIVITIES. ERC WILL IDENTIFY ALL WILLOW ROOTWADS TO BE TRANSPLANTED. ROOTWADS SHALL BE BURIED WITHIN THE MOUNDS, NOT COVERED BY MORE THAN 0.5-FOOT OF TOPSOIL. ALL ABOVE GROUND STEMS AND BRANCHES OF THE ROOTWADS SHALL BE TRIMMED PRIOR TO TRANSPLANTING.

3. WILLOW STAKING WILL OCCUR DURING THE SPRING FOLLOWING GRADING ACTIVITY ANTICIPATED FOR THE SPRING OF 2012 AS A SEPARATE ACTIVITY. WILLOW STAKING WILL REQUIRE COLLECTION, PREPARATION AND INSTALLATION. WILLOW STAKE COLLECTION SHALL OCCUR DURING DORMANCY PRIOR TO LEAF-OUT. TIMING OF WILLOW STAKE COLLECTION AND INSTALLATION IS CRITICAL AND WILL REQUIRE CLOSE OBSERVATION OF SITE AND WEATHER CONDITIONS. ERC TO COORDINATE ALL EFFORTS.

4. WILLOW STAKE COLLECTION AREAS WILL BE IDENTIFIED WITHIN MARYLAND CREEK RANCH BY ERC. WILLOW STAKES WILL BE COLLECTED FROM *SALIX MONTICOLA* AND *SALIX PLANEFOLIA* SPECIES AS FIELD IDENTIFIED BY ERC DESIGNER. APPROXIMATELY 7,000 WILLOW STAKES WILL BE REQUIRED.

5. NO MORE THAN ONE-THIRD OF THE DONOR SHRUB SHALL BE HARVESTED. MINIMUM STAKE DIMENSIONS SHALL BE 0.5-INCH DIAMETER AND 3-FEET IN LENGTH. STAKES SHALL BE CUT AND ANY BRANCHES PRUNED. DURING COLLECTION ALL WILLOW STAKES SHALL REMAIN MOIST AND NOT ALLOWED TO DRY. WILLOW STAKES SHALL BE BUNDLED FOR TRANSPORATION AND HANDLING.

6. WILLOW BUNDLES SHALL BE SOAKED, COMPLETELY SUBMERGED, FOR A MINIMUM OF 48-HOURS BUT NO LONGER THAN 96-HOURS PRIOR TO INSTALLATION. ALL BUNDLES/STAKES SHALL REMAIN SUBMERGED UNTIL INSTALLATION.

7. WILLOW STAKES SHALL BE INSTALLED WITHIN DESIGNATED PALUSTRINE SCRUB-SHRUB HABITAT AREAS. STAKES SHALL BE INSTALLED STAGGERED APPROXIMATELY 2.5- FOOT ON-CENTER SPACING. STAKES SHALL BE INSTALLED VERTICALLY ORIENTED IN THE SAME DIRECTION WHICH IT GREW ON THE SHRUB. WILLOW STAKES SHALL BE INSERTED INTO THE GROUND A MINIMUM OF 1.5-FEET DEEP. THE PLANTING HOLE MUST BE BACKFILLED WITH NATIVE SOIL AND LIGHLY TAMPED TO PREVENT AIR POCKETS. ONCE INSTALLED THE ABOVE GROUND PORTION OF THE STAKE SHALL BE PRUNED SO THAT 1/2 OF THE STAKE REMAINS ABOVE THE GROUND.

8. FIFTY (50) #5 BOG BIRCH (BETULA GLANDULOSA) SHALL BE RANDOMLY PLANTED WITH THE PALUSTRINE SCRUB-SHRUB HABITAT DURING WILLOW STAKING.

UPLAND AREA AND TRANSITION BUFFER SEEDING

1. UPLAND AND TRANSISTION BUFFER SEEDING SHALL OCCUR UPON COMPLETION OF GRADING ACTIVITIES AND AFTER WETLAND SEEDING AS APPROVED BY ERC.

2. UPLAND AND TRANSITION BUFFER SEEDING AREAS SHALL BE FINISHED TO HAVE AN ADEQUATE SEEDBED. UPLAND SEEDBEDS SHALL BE SMOOTH, FREE OF CLODS AND ROCKS (IN EXCESS OF 0.25-FOOT IN DIAMETER) OR RUTS AND HAVE A 0.5-FOOT MINIMUM UPPER LAYER OF LOOSE TOPSOIL. SEEDBED SHALL BE WELL SETTLED, FIRM AND FRIABLE TO FACILITATE SEED PLACEMENT AT REQUIRED DEPTHS. COMPACTED SOILS SHALL BE RELIEVED BY SUBSOILING, RIPPRING OR DEEP CHISELING. HARROWING, DISCING OR OTHER OPERATIONS MAY BE REQUIRED TO BREAKDOWN LARGE SOIL CLODS GREATER THAN 0.25-FOOT IN DIAMETER AND PROVIDE AN ACCEPTABLE SEEDBED.

3. UPLAND AND TRANSITION BUFFER SEED MIX SHALL BE BROADCAST SPREAD ACROSS ALL DESIGNATED AREAS PER PLAN AS IDENTIFIED BY ERC. UPLAND AREA AND TRANSITION BUFFER SEED SHALL BE MIXED WITH 50% VOLUME OF CLEAN SAND TO ENSURE EVEN DISTRIBUTION. SEED SHALL BE SPREAD IN TWO-OPPOSITE DIRECTIONS ACROSS THE SITE.

4. A ONE-TIME APPLICATION OF SOIL AMENDMENTS SHALL BE SPREAD ACROSS THE ENTIRE UPLAND AREA AND TRANSITION BUFFER DURING SEEDING. BIOSOL MIX 7-2-3 OR OTHER EQUIVELANT PRODUCT SHALL BE SPREAD AT 800 POUNDS PER ACRE ACROSS THE ENTIRE UPLAND. MYCORRIZAL INOCULUM (DRY-GRANULAR-ENDONET) MYCOAPPLY OR OTHER EQUIVELANT PRODUCT SHALL BE SE SPREAD AT A RATE OF 60 POUNDS PER ACRE ACROSS THE ENTIRE UPLAND DURING SEEDING OPERATIONS.

5. SEED AND SOIL AMENDMENTS SHALL BE LIGHLTY INCOPORATED INTO THE SOIL THROUGH HAND RAKING. CHAIN DRAG OR SIMILAR METHOD TO ENSURE GOOD SOIL-SEED CONTACT.

6. ALL UPLAND AREAS AND TRANSITION BUFFER SHALL BE COVERED WITH HYDRO-MULCH OR EROSION CONTROL BLANKET WITHIN 48-HOURS OF SEEDING. FINAL APPLICATION METHOD TO BE DETERMINED BY ERC.

EROSION CONTROL FABRIC SHALL CONSIST OF A SHORT-TERM (12-MONTH) SINGLE NET BIODEGRADABLE NATURAL FIBER FABRIC. NORTH AMERICAN GREEN BIONET S75BN OR OTHER EQUIVELANT PRODUCT SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS. NO POLYPROPYLENE NETTING STRUCTURE SHALL BE USED. ALL FABRIC SHALL BE INSTALLED PER MANUFACTURE'S SPECIFICATIONS.

THE USE OF WOOD FIBER HYDRO-MULCH SHALL BE APPLIED AT A RATE OF 2000 POUNDS PER ACRE. All HYDRO-MULCH SHALL ALSO INCLUDE A MULCH TACKIFIER CONSISTING OF ORGANIC, NON-TOXIC, FREE-FLOWING, NON-CORROSIVE MATERIAL. HYDRO-MULCH SHALL UNIFORMLY COVER ALL SEEDED AREAS WITH A UNIFORM LAYER. NO HYDRO-MULCHING SHALL OCCUR WITHIN THE PALUSTRINE EMERGENT WETLAND AREA.

7. TRANSITION BUFFER TREE AND SHRUB PLANTING SHALL OCCUR DURING WILLOW STAKING.

TABLE 1. WETLAND SEED MIX (ELEVATION 8509' TO 8510.5') PALUSTRINE EMERGENT AND SCRUB-SHRUB WETLAND AREAS

SCIENTIFIC NAME	COMMON NAME	% OF MIX	PLS REQUIRED	RG 8, WETLAND INDICATOR STATUS
BECKMANNIA SYZIGAHNE	SLOUGHGRASS	15	2.0	OBLIGATE
CALAMAGROSTIS CANADENSIS	BJ REEDGRASS	15	1.0	OBLIGATE
CAREX NEBRASCENSIS	NEBRASKA SEDGE	15	4.0	OBLIGATE
DESCHAMPSIA CEASPITOSA	TUFTED HAIRGRASS	25	2.5	FACULTATIVE WETLAND
PHLEWM ALPINUM	ALPINE TIMOTHY	30	4.0	FACULTATIVE
			TOTAL 13.5	
ALTERNATIVES				
CAREX AQUATILIS	WATER SEDGE			OBLIGATE
CAREX UTRICULATA	BEAKED SEDGE			OBLIGATE
CAREX MICROPTERA	SMALL-WINGED SEDGE			FACULTATIVE
GLYCERIA STRIATA	FOWL MANNAGRASS			OBLIGATE
JUNCUS ARCTICUS	ARCTIC RUSH			FACULTATIVE WETLAND

NOTES: 1. REQUIRED PLS (PURE LIVE SEED) BASED ON 1.7-ACRE SEEDING AREA AND 100 SEEDS PER SQUARE FOOT BROADCAST.

TABLE 2. UPLAND SEED MIX (ABOVE ELEVATION 8512') (ALL UPLAND DISTURBANCE AREAS)

SCIENTIFIC NAME	COMMON NAME	% OF MIX	PLS REQUIRED
ACHNATHERUM HYMENOIDES	INDIAN RICEGRASS	10	6.0
BROMUS MARGINATUS	MOUNTAIN BROME	35	40.0
ELYMUS CANADENSIS	CANADA WILDRYE	10	7.0
FESTUCA SAXIMONTANA	ROCKY MTN. FESCUE	10	1.0
PASCOPYRUM SMITHII	WESTERN WHEATGRASS	35	26.0
			TOTAL 80.0
ALTERNATIVES			
ELYMUS LANCEOLATUS	STREAMBANK WHEATGRASS		
FESTUCA ARIZONICA	ARIZONA FESTCUE		
FESTUCA IDAHOENSIS	IDAHO FESTCUE		

NOTES: 1. REQUIRED PLS (PURE LIVE SEED) BASED ON 2.5-ACRE SEEDING AREA AND 75 SEEDS PER SQUARE FOOT BROADCAST.

TABLE 3. TRANSITION BUFFER SEED MIX (8510.25 -8512')

SCIENTIFIC NAME	COMMON NAME	% OF MIX	PLS REQUIRED
BROMUS MARGINATUS	MOUNTAIN BROME	20	5.0
ELYMUS CANADENSIS	CANADA WILDRYE	20	3.00
ELYMUS LANCEOLATUS	STREAMBANK WHEATGRASS	20	2.0
PASCOPYRUM SMITHII	WESTERN WHEATGRASS	20	3.0
PHLEM ALPINUM	ALPINE TIMOTHY	20	0.5
			TOTAL 13.5

NOTES: 1. REQUIRED PLS (PURE LIVE SEED) BASED ON 0.5-ACRE SEEDING AREA AND 75 SEEDS PER SQUARE FOOT BROADCAST.

TABLE 4. TREE AND SHRUB PLANTINGS

SCIENTIFIC NAME	COMMON NAME	SIZE	QUANTITY
POPULUS ANGUSTIFOLIA	NARROWLEAF COTTONWOOD	2"-CAL	15
BETULA GLANDULOSA	BOG BIRCH	#5	50
PRUNUS VIRGINIANA	CHOKECHERRY	#5	25
ROSA WOODSII	WOODS ROSE	#5	25

LEGEND

- PALUSTRINE EMERGENT WETLAND 1.72-ACRES
- PALUSTRINE SCRUB-SHRUB WETLAND 1.0-ACRE
- TRANSITION BUFFER 0.5-ACRE
- UPLAND AREA 2.5-ACRES
- FINAL CONTOURS
- 8510 — FINAL SPOT ELEVATIONS
- X 8511.5 X — LIMITS OF PLACED SALVAGED WETLAND TOPSOIL
- LIMITS OF PROJECT DISTURBANCE AND SILT FENCE PLACEMENT

SHEET 2

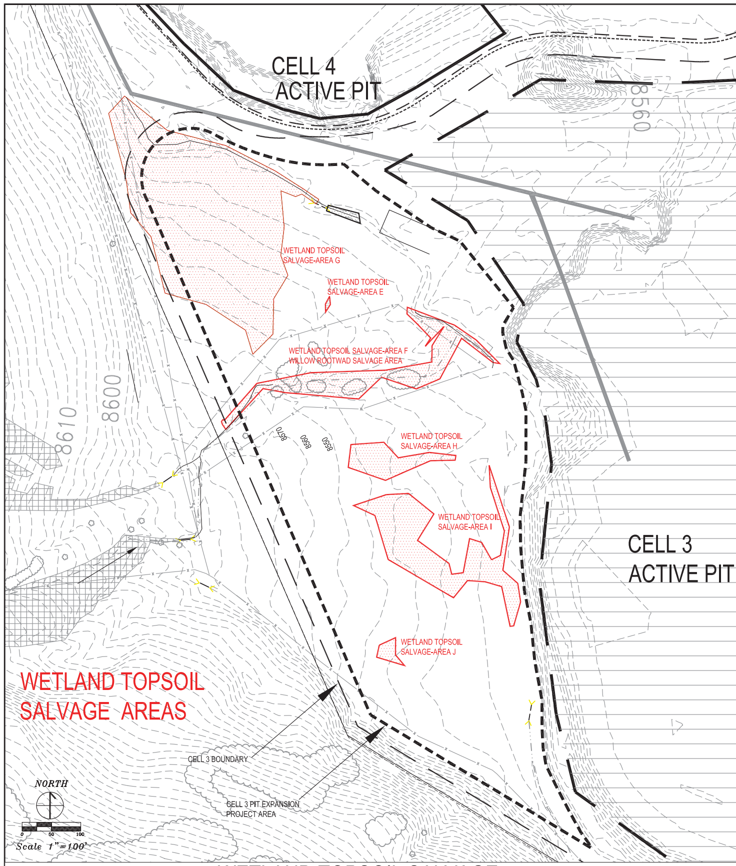
Final Mitigation Plan
Planting Plan

Everist Materials, LLC-MCR Facility
Summit County, CO

Revision No.:
Revision Date:
Approved By:
Comments:

Designed By: DB
Drawn By: DB
Date: 2/25/11
Project No.: 095-111
File Path:

Ecological Resource Consultants, Inc.
5672 Jay Bird Drive, Boulder, CO 80301
(303) 679-4820



WETLAND TOPSOIL SALVAGE

NOTES:

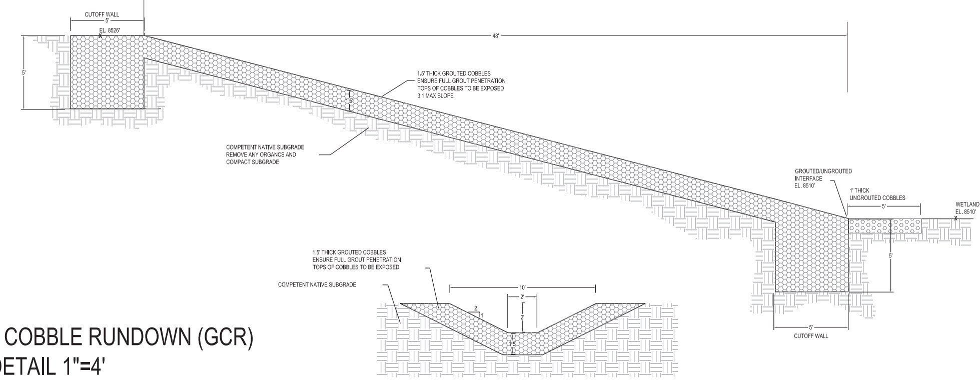
1. CREATION OF THE WETLAND MITIGATION AREA REQUIRES SALVAGE, TRANSPORTATION AND PLACEMENT OF WETLAND TOPSOIL FROM THE DA PERMIT AUTHORIZED IMPACT AREAS. THE TOPSOIL SALVAGE AREA IS LOCATED APPROXIMATELY 4,000 FEET SOUTH OF THE MITIGATION SITE, WITHIN MARYLAND CREEK RANCH, EVERIST MATERIALS MINING BOUNDARY.

2. ERC DESIGNER SHALL CLEARLY DELINEATE THE WETLANDS TO BE IMPACTED AND TOPSOIL SALVAGED PRIOR TO ANY SITE ACTIVITY. ONLY THE WETLAND TOPSOIL SHALL BE SALVAGED AND NOT MIXED WITH OTHER MEADOW TOPSOIL. SALVAGE AREAS ARE IDENTIFIED BY RED HATCH IN THE ABOVE FIGURE. APPROXIMATELY 2.7-ACRES OF WETLAND AREA WILL BE USED FOR TOPSOIL SALVAGE.

3. THE UPPER 2.0-FEET OF ROOTMAT AND TOPSOIL SHALL BE STRIPPED AND TRANSPORTED TO THE MITIGATION SITE. TOPSOIL MATERIAL WILL BECOME INTERMIXED INCLUDING ABOVE GROUND PLANT PARTS, ROOTMAT, ORGANIC MATTER AND MINERAL SOIL AS PART OF SALVAGE, TRANSPORT AND PLACEMENT. APPROXIMATELY 4,500 CUBIC YARDS WILL NEED TO BE SALVAGED AND TRANSPORTED. ADDITIONAL WETLAND TOPSOIL SHALL BE SALVAGED, STOCKPILED AND USED AS NEEDED IN THE SITE TO ACCOUNT FOR SETTLING AND/OR VARIATIONS.

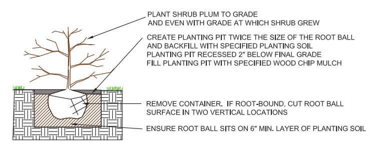
4. WETLAND TOPSOIL SALVAGE WILL NEED TO BE CLOSELY COORDINATED WITH MINING OPERATIONS AND MITIGATION CONSTRUCTION. IF STOCKPILING OF MATERIAL IS REQUIRED, COORDINATION WITH ERC WILL BE REQUIRED TO ENSURE INTEGRITY OF SEEDBANK.

5. WETLAND TOPSOIL SALVAGE AREA F CONTAINS WILLOW SHRUBS. WILLOW ROOTWADS SHALL BE SALVAGED IN THIS AREA ALONG WITH TOPSOIL. ALL WILLOWS BRANCHES SHALL FIRST BE TRIMMED SO THAT NO MORE THAN 1.0-FOOT OF STEM REMAINS ABOVE GROUND. WILLOW CUTTINGS CAN BE USED FOR WILLOW STAKING OR INCOPORATED INTO THE TOPSOIL. ERC TO DETERMINE BASED UPON WILLOW HEALTH AND SEASON. TOPSOIL SALVAGED IN THIS AREA ALONG WITH ROOTWADS SHALL BE HANDLED AND STOCKPILED SEPARATELY THAN OTHER AREAS AND PLACED ONLY WITHIN DESIGNATED PALUSTRINE SCRUB-SHRUB PLANTING AREAS OF THE MITIGATION SITE. ROOTWADS SHALL NOT BE COVERED WITH MORE THAN 0.5-FOOT OF TOPSOIL ONCE TRANSPLANTED.

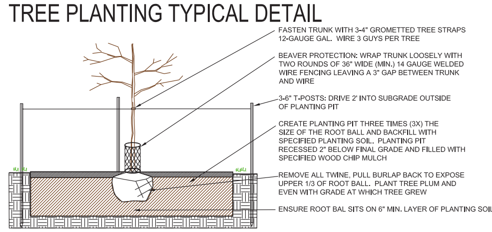


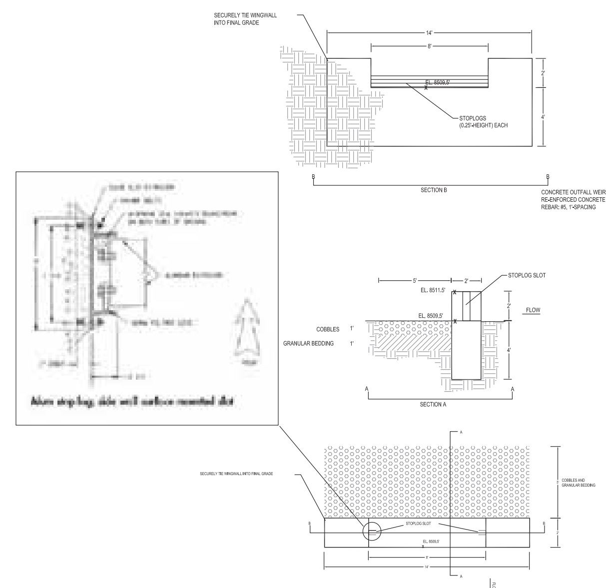
GROUTED COBBLE RUNDOWN (GCR)
TYPICAL DETAIL 1"=4'

SHRUB PLANTING TYPICAL DETAIL



TREE PLANTING TYPICAL DETAIL





OUTFALL SPILLWAY WEIR (OSW)
TYPICAL DETAIL 1"=4'

Ecological Resource Consultants, Inc.
5672 Juhls Drive, Boulder, CO 80301
(303) 679-4820

Designed By: erc
Drawn By: erc
Date: 2-22-11
Project No.: 690-111
File Path:

Revision No.:
Revision Date:
Approved By:
Comments:

Everist Materials, LLC-MCR Facility
Summit County, CO

Final Mitigation Plan
Typical Details

SHEET
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