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Memorandum

To: Lon Van Gemert, Progressive Rail Inc.
From: Karen Wold
Subject: Potential for Disturbance of Protected Wildlife or Plants near Q Prime and Scott Land Company Properties
Date: August 9, 2011
Project: 23/70-1014.00 EAW 001
c:

On October 8th 2010, Barr Engineering conducted a vegetation survey to determine the presence of kitten tails (*Besseyia bullii*) within the proposed silica sandstone mining area at the Q Prime and Scott Land Company properties located within Township 115, Range 23, Section 33 and Township 114, Range 23, Section 4 in Scott County, Minnesota. Property boundaries are outlined in the attached map. Kitten tails are a state protected threatened perennial herb plant species. Kitten tail habitat is primarily of oak savanna communities, though it also occurs in dry prairies and oak woodlands including dry-mesic oak/maple woodlands, dry-mesic oak/hickory woodlands, and dry-mesic pine/oak woodlands.

The Department of Natural Resources Natural Heritage Database (NHIS) indicates that kitten tails are present within a one mile radius of the property; therefore it was recommended that a site survey be conducted to determine the presence of kitten tails within the property. The site survey conducted on October 8th 2010 consisted of walking parallel/meandering transects throughout all potentially suitable habitat within the 140-acre proposed mine site. GPS located photos were taken throughout the site, and observed vegetation was recorded.

No kitten tail plants were found during the site survey. Habitat within the Q Prime Flood Bros. site consists of disturbed dry sandy soils dominated by non-native invasive vegetation, primarily grasses and forbs with sparse shrubs and trees. Portions of the property have been disturbed by previous mining activities. The only oak species found on the site were less than two feet in height located at the northwest portion of the site. The attached table summarizes vegetation found during the site survey.

Dominant trees at the site include Siberian elm (*Ulmus pumila*), red cedar (*Juniperus virginiana*), cottonwood (*Populus deltoides*), red pine (*Pinus resinosa*), and boxelder (*Acer negundo*). Dominant vegetation within the herbaceous layer includes spotted knapweed (*Centaurea stoebe*), thistle (*Cirsium spp.*), strawberry (*Fragaria sp.*), bird's foot trefoil (*Lotus corniculatus*), sweetclover (*Melilotus sp.*), common plantain (*Plantago major*), red raspberry (*Rubus idaeus*), dandelion (*Taraxacum officinale*), stiff goldenrod (*Oligoneuron rigidum*), and mullein (*Verbascum thapsus*). A small area of native grasses was found at the southeast portion of the site that had been previously farmed for many years.

The presence of kitten tails within this site is unlikely due to the disturbed habitat conditions, dominance of invasive vegetation, the lack of typical oak savanna habitat, and the fact that no kitten tail plants were found during the site survey.

The seed source for the observed prairie grasses on the site is unknown. The NHIS database shows a dry sand prairie mapped west of the site. It is possible that this is the source for the small area of native prairie grasses found at the southeast portion of the site.

The nearest documented eagle's nest is greater than two miles from the proposed mine site. This is well outside the distance that the U.S. Fish and Wildlife Service would be concerned about site disturbance to protected eagles. The NHIS database indicates that there is a waterbird nesting area in the Minnesota Valley National Wildlife Refuge west of the site. Project activities are expected to have a minimal impact on wildlife utilization of nearby habitats.

Vegetation Summary
Proposed Mining Area at Q Prime and Scott Land Company
October 8, 2010

Scientific Name	Common Name	Growth Habit	MN Nativity
<i>Acer negundo</i>	boxelder	Tree	Native
<i>Achillea millefolium</i>	common yarrow	Forb/herb	Native
<i>Ambrosia artemisiifolia</i>	annual ragweed	Forb/herb	Native
<i>Andropogon gerardii</i>	big bluestem	Graminoid	Native
<i>Arctium minus</i>	burdock	Forb/herb	Introduced
<i>Asclepias syriaca</i>	common milkweed	Forb/herb	Native
<i>Bromus inermis</i>	smooth brome	Graminoid	Introduced
<i>Cannabis sativa ssp. sativa</i>	marijuana	Forb/herb	Introduced
<i>Centaurea stoebe L. ssp. micranthos (Gugler) Hayek</i>	spotted knapweed	Forb/herb	Introduced
<i>Cirsium arvense</i>	Canada thistle	Forb/herb	Introduced
<i>Cornus sericea ssp. sericea</i>	redosier dogwood	Tree, Shrub	Native
<i>Erigeron strigosus</i>	prairie fleabane	Forb/herb	Native
<i>Fragaria virginiana</i>	Virginia strawberry	Forb/herb	Native
<i>Geranium maculatum</i>	spotted geranium	Forb/herb	Native
<i>Glyceria striata</i>	fowl mannagrass	Graminoid	Native
<i>Juniperus virginiana var. virginiana</i>	eastern redcedar	Tree	Native
<i>Lotus corniculatus</i>	bird's-foot trefoil	Forb/herb	Introduced
<i>Melilotus officinalis</i>	yellow sweetclover	Forb/herb	Introduced
<i>Nepeta cataria</i>	catnip	Forb/herb	Introduced
<i>Oligoneuron rigidum var. humile</i>	stiff goldenrod	Forb/herb	Native
<i>Parthenocissus quinquefolia</i>	Virginia creeper	Vine	Native
<i>Pinus resinosa</i>	red pine	Tree	Native
<i>Plantago major</i>	common plantain	Forb/herb	Introduced
<i>Populus deltoides ssp. Monilifera</i>	eastern cottonwood	Tree	Native
<i>Populus tremuloides</i>	quaking aspen	Tree	Native
<i>Quercus rubra</i>	northern red oak	Herbaceous	Native
<i>Rhus sp.</i>	sumac	Shrub	Native
<i>Rubus idaeus ssp. strigosus</i>	American red raspberry	Shrub	Native
<i>Rumex crispus ssp. Crispus</i>	curly dock	Forb/herb	Introduced
<i>Salix exigua</i>	narrowleaf willow	Shrub, Tree	Native
<i>Salix nigra</i>	black willow	Tree	Native
<i>Schizachyrium scoparium var. scoparium</i>	little bluestem	Graminoid	Native
<i>Securigera varia (L.) Lassen</i>	crownvetch	Forb/herb	Introduced
<i>Setaria italica</i>	foxtail bristlegrass	Graminoid	Introduced
<i>Solidago canadensis</i>	Canada goldenrod	Forb/herb	Native
<i>Sorghastrum nutans</i>	Indiangrass	Graminoid	Native
<i>Stellaria media ssp. media</i>	common chickweed	Forb/herb	Introduced
<i>Taraxacum officinale</i>	common dandelion	Forb/herb	Introduced
<i>Thlaspi arvense</i>	field pennycress	Forb/herb	Introduced
<i>Trifolium hybridum</i>	alsike clover	Forb/herb	Introduced
<i>Trifolium pratense</i>	red clover	Forb/herb	Introduced
<i>Trifolium repens</i>	white clover	Forb/herb	Introduced
<i>Ulmus americana</i>	American elm	Tree	Native
<i>Ulmus pumila</i>	siberian elm	Tree	Introduced
<i>Urtica dioica ssp. Gracilis</i>	stinging nettle	Forb/herb	Native
<i>Verbascum thapsus</i>	common mullein	Forb/herb	Introduced
<i>Verbena stricta</i>	hoary vervain	Forb/herb	Native
<i>Vitis riparia</i>	riverbank grape	Vine	Native