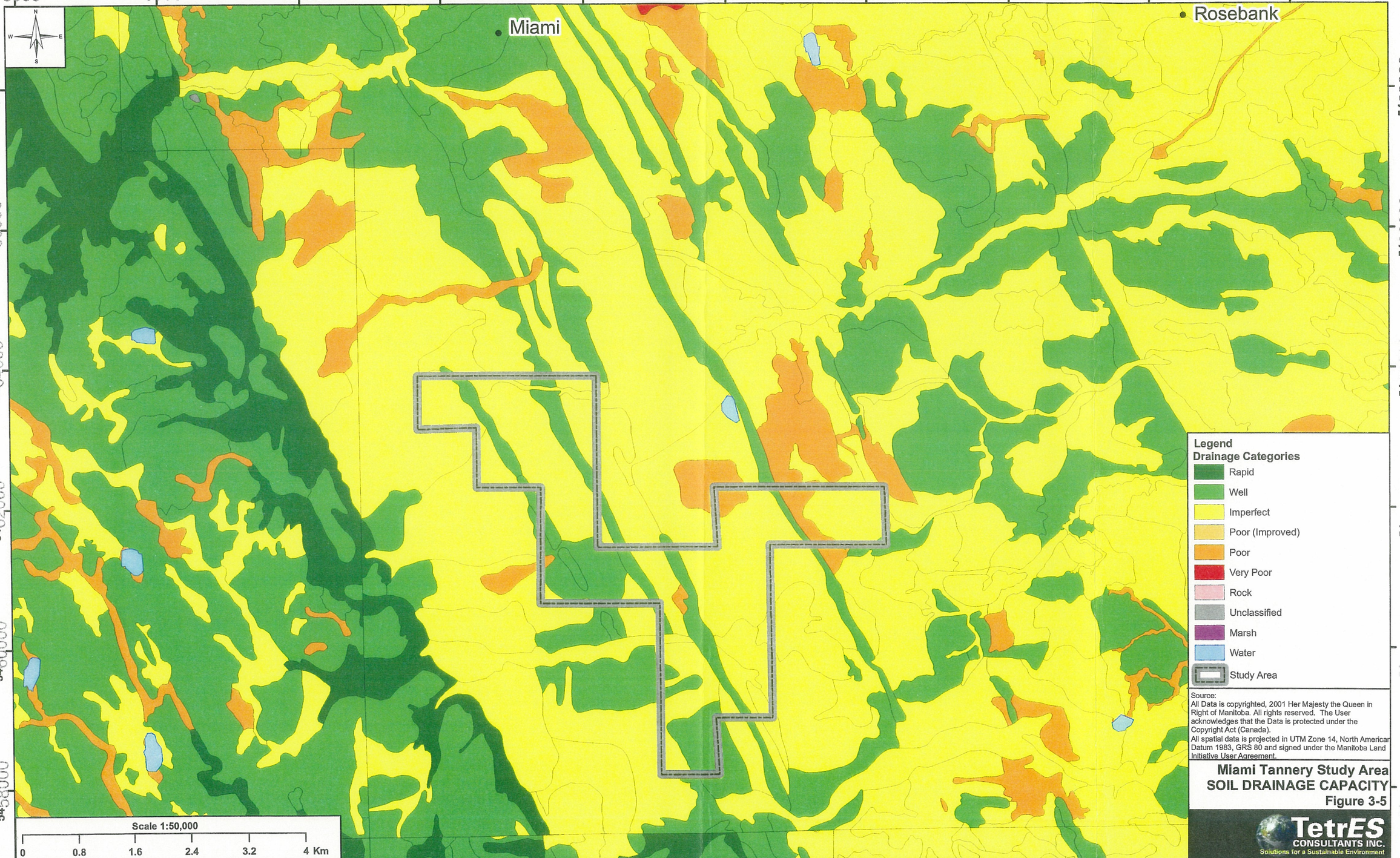
548000 550000 552000 554000 556000 558000 560000 562000 564000 566000

5468000
5466000
5464000
5462000
5460000
5458000

Miami

Rosebank



Legend
Drainage Categories

- Rapid
- Well
- Imperfect
- Poor (Improved)
- Poor
- Very Poor
- Rock
- Unclassified
- Marsh
- Water
- Study Area

Source:
All Data is copyrighted, 2001 Her Majesty the Queen in Right of Manitoba. All rights reserved. The User acknowledges that the Data is protected under the Copyright Act (Canada).
All spatial data is projected in UTM Zone 14, North American Datum 1983, GRS 80 and signed under the Manitoba Land Initiative User Agreement.

Miami Tannery Study Area
SOIL DRAINAGE CAPACITY
Figure 3-5

TetrES CONSULTANTS INC.
Solutions for a Sustainable Environment

Scale 1:50,000
0 0.8 1.6 2.4 3.2 4 Km

P:\Temporary Items\Miami_Arcmaps\miami_drainage_map_2.mxd

by Mesozoic shale bedrock, though lesser amounts of sandstone and limestone may also be present in the area. For example, Bird River Mines Co. Ltd. continues development of a deposit of high-purity, non-swelling calcium bentonite near Deerwood, 8 km northwest of Miami, Manitoba.

3.1.5 Groundwater and Hydrogeology

Aquifers in the regional study area are generally found in sand and gravel deposits of glacial moraines, eskers, kames and glacial outwash materials. Many of these aquifers lie in a north-south orientation and are overlain by thick glaciolacustrine clays (cf. Section 3.1.4). The predominance of shale bedrock underlying these tills will, without fractures, yield very little water. Communities in south-central Manitoba rely on aquifers and to a lesser extent rainfall, as their main sources of water in this region (Betcher *et al.* 1995).

No groundwater analysis was undertaken for the EIA, however, as indicated in Sections 2.4.1.2 and 2.5, benchmark water-quality analysis will be conducted prior to the commissioning of the proposed tannery and subsequent periodic monitoring of area groundwater quality will be conducted by the Colony.

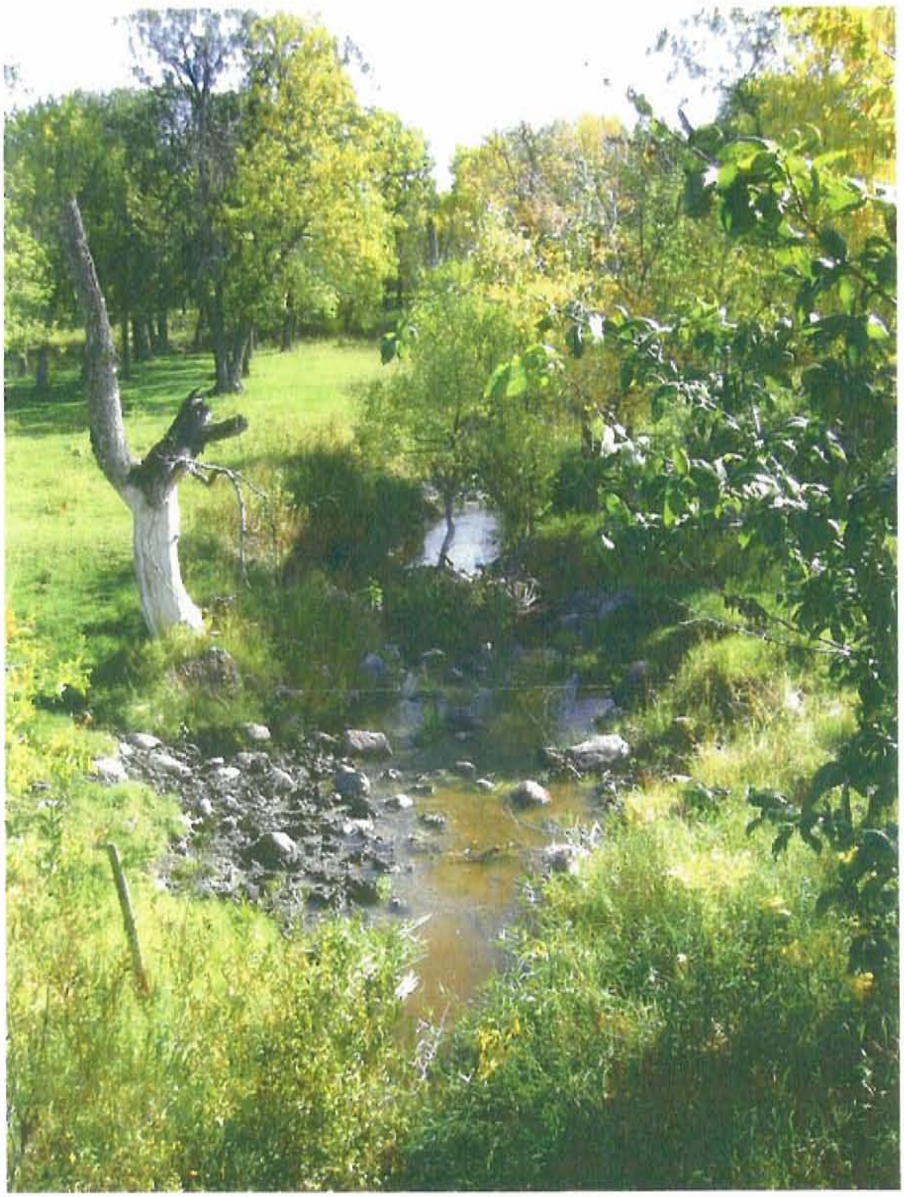
3.2 AQUATIC ENVIRONMENT

Well to imperfectly drained soils within the Project site and the relatively flat topography of the area, limit the occurrence of aquatic habitat to a small number of ephemeral creeks and wetlands. Creeks containing water within the Regional study area generally flow in a north-eastern direction, draining into the Red River watershed before reaching Lake Winnipeg and ultimately the Hudson Bay. Major creeks outside of the Project site include South Tobacco Creek located ~6.5 km north of the Project site and Shannon Creek located ~ 1 km southeast of the Project site.

A number of smaller intermittent creeks occur throughout the regional study area, yet only one creek exists within the Project site (Figure 3-6). This creek drains eastward from the Pembina Hills region (Manitoba Escarpment), meandering through neighbouring pasture and farmyards before entering the Project site at the Miami Colony. This creek appears to form a retention pond or watering hole for irrigation and/or cattle. Creek beds east of the colony were noticeably dry.

3.2.1 Surface-Water Habitats

Surface-water habitat opportunities in the Project site are considered to be limited to the one creek flowing into the colony site. Other surface-water habitats that may be found within the project site are ephemeral and generally of poor quality because of surrounding agriculture and



Photograph of the Existing Creek in the Study Area
Figure 3-6

photos; ms\01\0769