




Appendix M
Record of Public Consultation



Neepawa Industrial Wastewater Treatment Facility Upgrade

Open House
October 18, 2007

Purpose of the Open House

- 
- Public Consultation is an important step in the Environmental Assessment process
 - Present information on the Neepawa Industrial Wastewater Treatment Facility
 - Gather information on related concerns

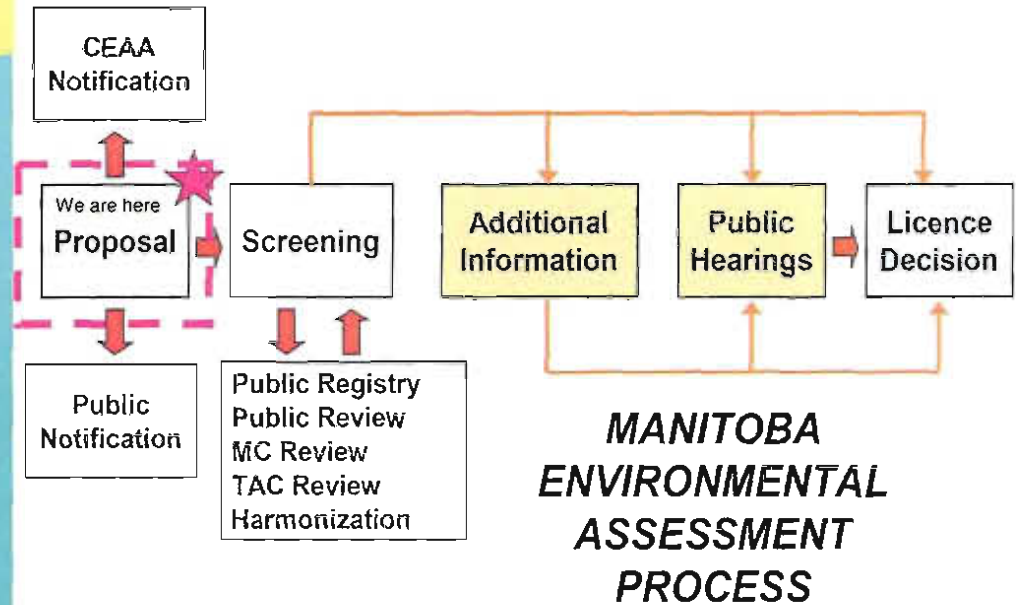


- Earth Tech is currently conducting their Environmental Assessment

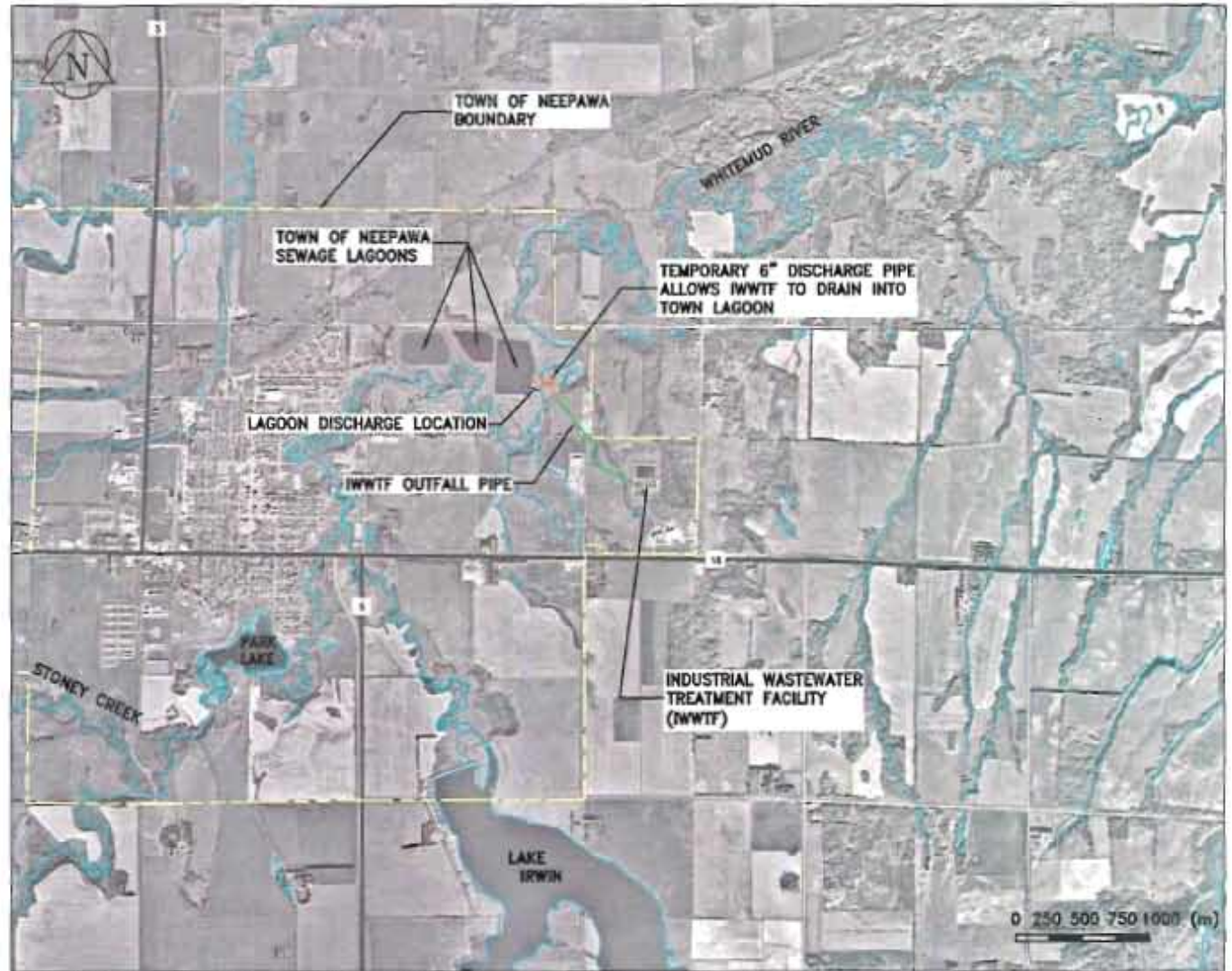
- Project considered a major alteration, which results in the placement of the Environmental Assessment on the Public Registry for comments

- Depending on the government and public review, either more information will be requested, Clean Environment Commission (CEC) hearings will take place, or the Minister of Conservation will issue or refuse a license

- Following the Minister's decision, there is a 30 day appeal period




Site Location



Source: MapInfo Land Information 1:20,000 (Digital Topographic Mapping 063-01, 062-04, 062-04, Digital Imagery 3 km Res 462555img, 462560img, 470556img, 470561img, 480556img, 480561img, 490556img, 490561img, 495557img, 495562img)

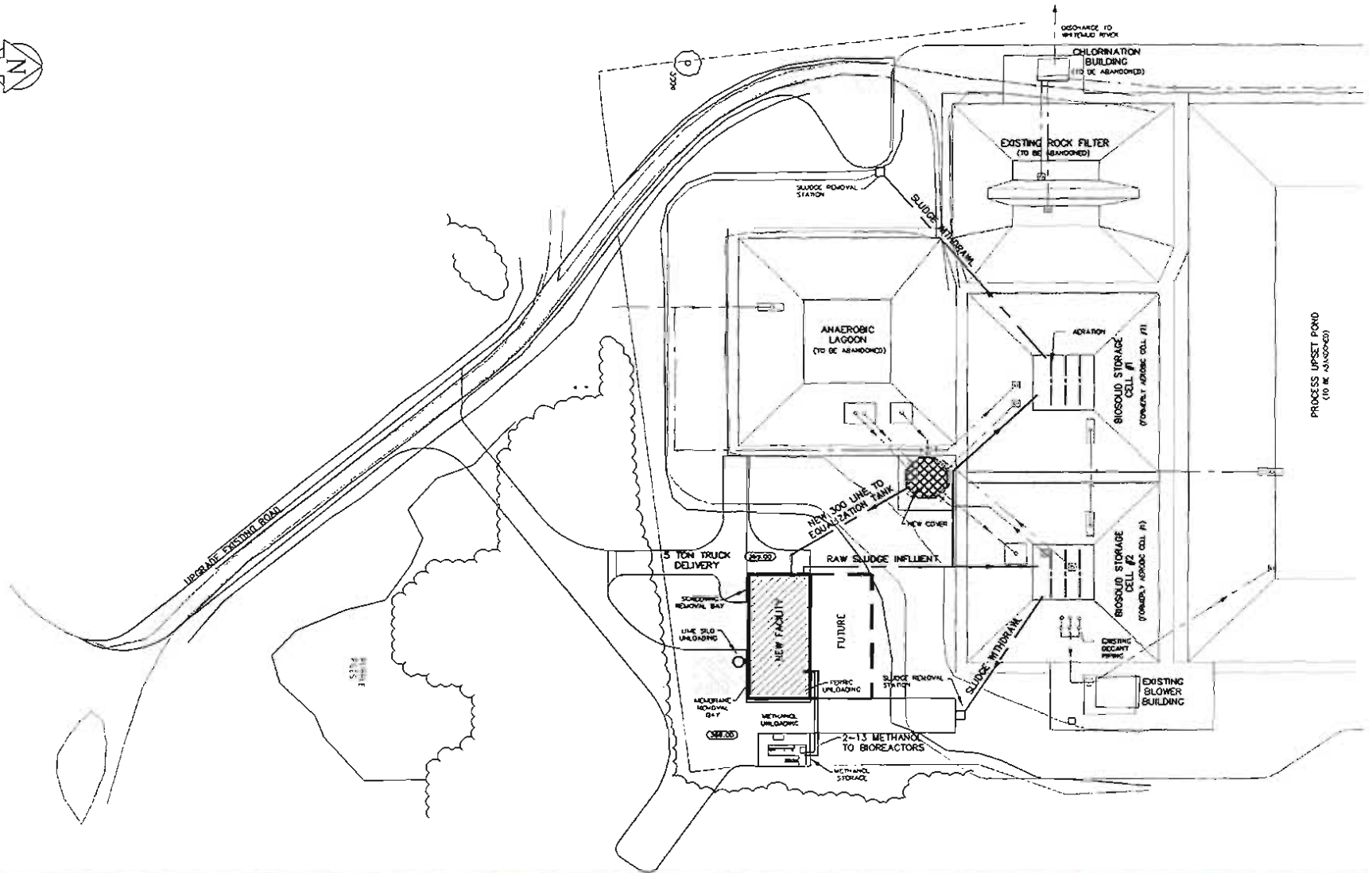
Purpose for the Upgrade

- 
- Existing IWWTF infrastructure is aging
 - Unable to meet current licence requirements
 - Currently operating with the use of the municipal lagoons
 - Improve quality of effluent discharged to the Whitemud River
 - Reduces input to municipal lagoons and allows for future municipal growth
 - Potential for future expansion of the IWWTF for additional industry

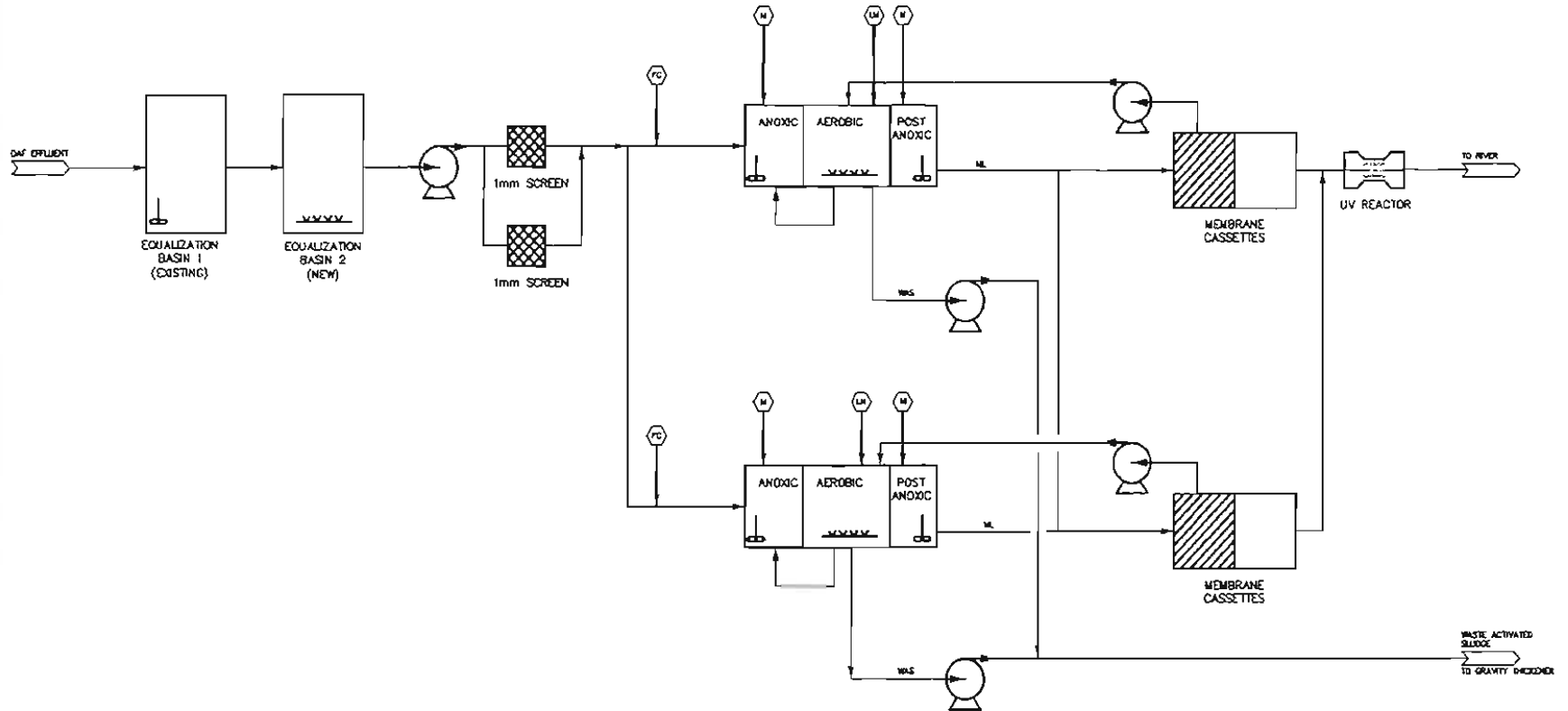


- Current licence CEC order 1103VC dated July 25, 1987
- Current contributor Springhill Farms
 - 4,000 hogs/day
 - current agreement allows up to approximately 1,500 m³/day

IWWTF Plan View



IWWTF Process Flow Diagram



- METHANOL DOSING
- FERRIC CHLORIDE DOSING
- LIME DOSING

IWWTF Process Upgrades



- Nutrients in effluent will be reduced to
 - 15 mg/L total nitrogen
 - 1 mg/L total phosphorus
- Added UV disinfection
 - Increased microbial removal
 - Disinfection without the use of chlorine
- Enclosed building for improved treatment
 - Keep system warmer
 - Provides more consistent removal rates
- Land application of sludge
- Construction
 - Proposed start – Spring/Summer 2008
 - Proposed end – Summer 2009
- IWWTF in operation
 - Proposed for Fall 2009



- An Environmental Assessment assesses the impacts on environmental components, including:
 - Flora / Fauna
 - Archaeology
 - Water Quality
 - Groundwater
 - Surface Water
 - Aquatic Resources

- What has been done
 - Whitemud River orientation from Lake Irwin outlet to Arden
 - Habitat characterization and assessment
 - Water chemistry
 - Fish presence study
 - Benthic survey
 - Assessment of passage blockages downstream of IWWTF

- What is to come
 - Further work to identify critical seasonal habitats
 - Cross sectional survey of Whitemud River



Offstream wetland used by various species for spawning



Fish spawning tributary 20 km downstream from IWWTF



Next Steps

- Incorporation of Public Input
- Start of the IWWTF Detailed Design in early 2008
- Second Open House
 - Proposed for December 2007
- Submit completed application to Manitoba Conservation
 - Proposed for March 2008



- The project team wants to hear from you
- Please take the time to complete a questionnaire and submit any comments on the forms provided
- Presentation and questionnaire are also available at:

www.neepawa.ca



PROPOSED TOWN OF NEEPAWA IWWTF UPGRADE
ENVIRONMENTAL ASSESSMENT OPEN HOUSE

October 18, 2007

QUESTIONNAIRE FOR ATTENDEES
(Personal and Other Questions are Optional)
Feel Free to Give Us Your Comments Without Your Name or Address

Name: _____ **Phone Number:** _____

Address: _____

e-mail _____

Location: (Relative to IWWTF) _____

1) Do you have any concerns about the proposed Town of Neepawa IWWTF Upgrade?

Yes No

If so, what are your concerns?

2) Would you like someone from Earth Tech (Canada) Inc. to contact you?

Yes No

If so, please leave contact information

3) Did you find this Open House useful?

Yes No



Land of Plenty

**Open House for the Town of Neepawa
Industrial Wastewater Treatment Facility**

The Town of Neepawa is hosting an Open House for the proposed Industrial Wastewater Treatment Facility.

Location - Neepawa Public Library-MFR

Tuesday, December 18, 2007

From 4:00 p.m. to 7:00 p.m.

The open house is part of the public consultation process for the proposed Town of Neepawa Industrial Wastewater Treatment Facility upgrades. Representatives from Earth Tech and the Town of Neepawa will be on hand to receive comments and answer questions as part of the project.

Neepawa Industrial Wastewater Treatment Facility Upgrade

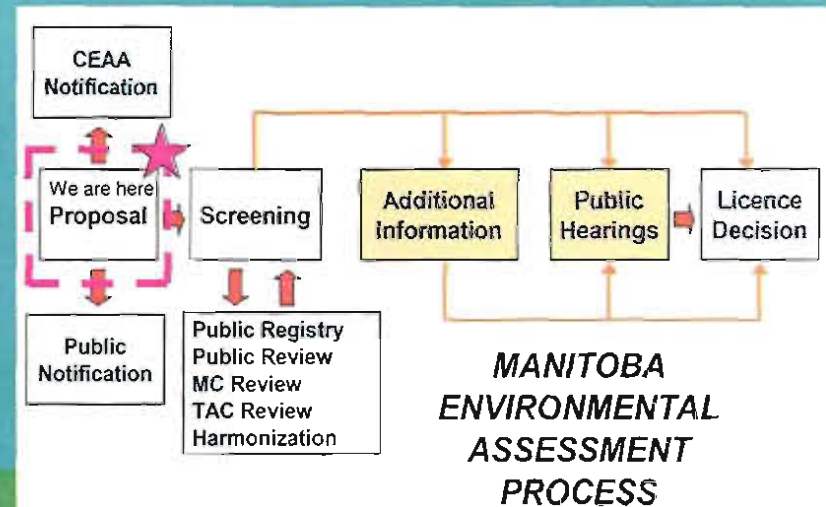
Open House #2 December 18, 2007



Purpose of the Open House



- Public Consultation is an important step in the Environmental Assessment process
- Minimal questions from the public at Open House #1
- Present information on the Neepawa Industrial Wastewater Treatment Facility and Environmental Assessment
- Gather information on related concerns



Purpose for the Upgrade

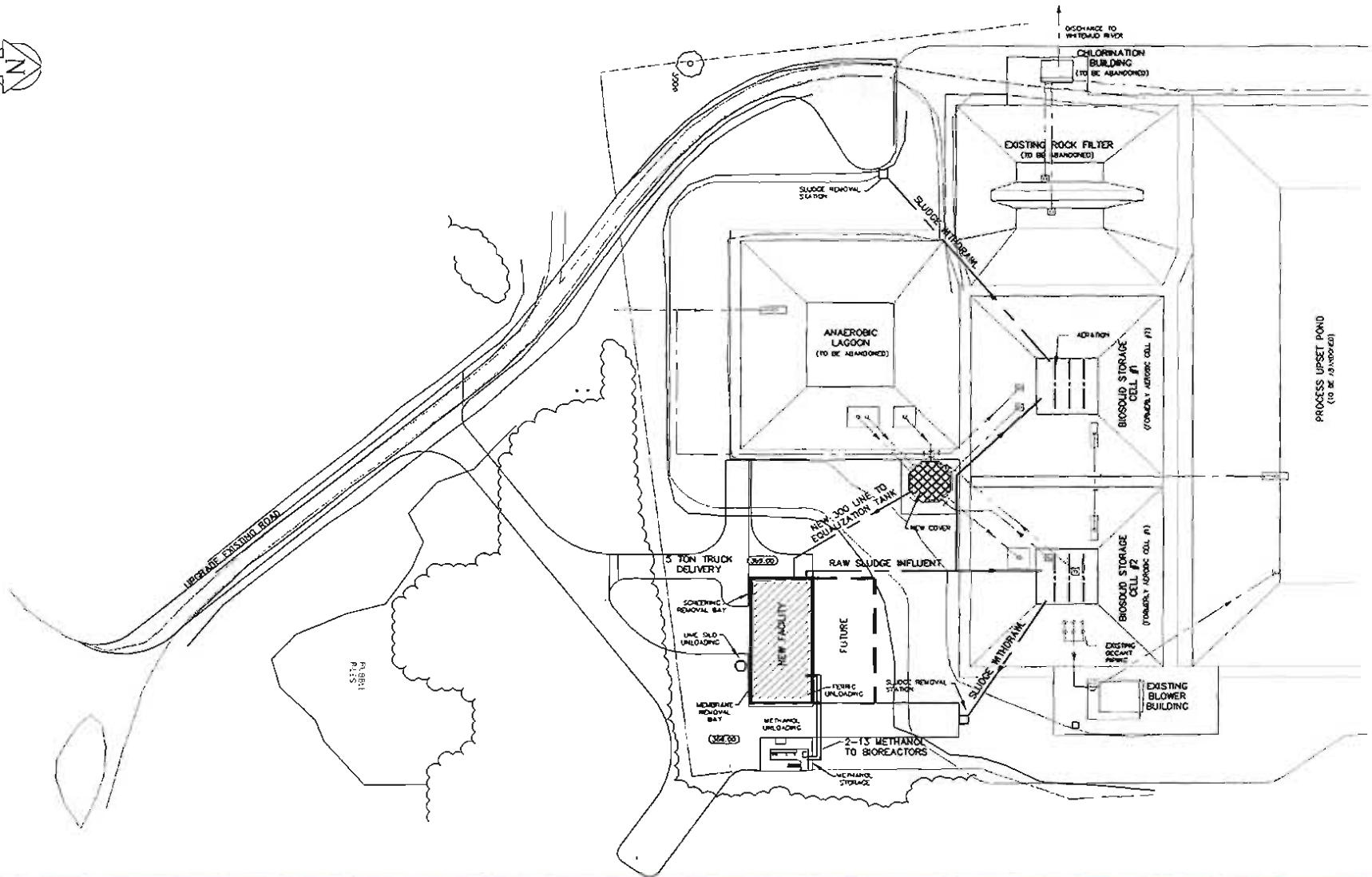
- Existing IWWTF infrastructure is aging
 - Unable to meet current licence requirements
- Currently operating with the use of the municipal lagoons
- Improve quality of effluent discharged to the Whitemud River
- Reduces input to municipal lagoons and allows for future municipal growth
- Potential for future expansion of the IWWTF for additional industry



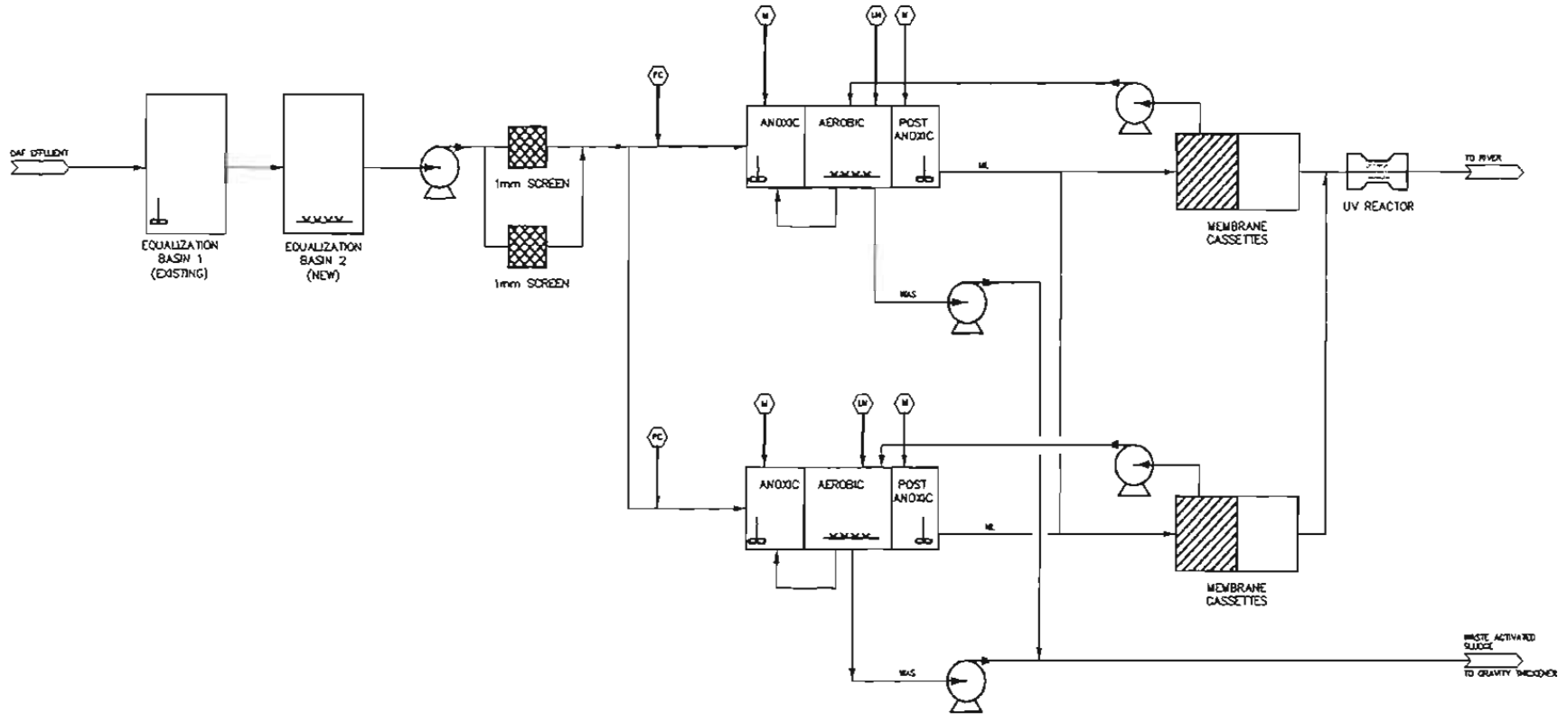
Site Location



IWWTF Plan View



IWWTF Process Flow Diagram



- METHANOL DOSING
- FERRIC CHLORIDE DOSING
- LIME DOSING



- The land application of biosolids will be detailed in the IWWTF's Environmental Licence
- Agronomic nitrogen and phosphorus consumption rates will factor into the biosolids application rate
- Stabilized sludge (biosolids) for land application:
 - 180 tonnes dry solids generated per year
 - approximately 18 hectares of suitable land would be required yearly
- Based on Canadian Land Inventory agriculture capability classification, there is >80,000 ha of land within 30 km of the IWWTF site, suitable for land application



Image source: University of Nebraska Institute of Agriculture and Natural Resources Cooperative Extension



Image source: Michigan Department of Environmental Quality

IWWTF Process Upgrades



- Nutrients in effluent will be reduced to
 - 15 mg/L total nitrogen
 - 1 mg/L total phosphorus
- Added UV disinfection
 - Increased microbial removal
 - Disinfection without the use of chlorine
- Enclosed building for improved treatment
 - Keep system warmer
 - Provides more consistent removal rates
- Land application of sludge
- Construction
 - Proposed start – Spring/Summer 2008
 - Proposed end – Summer 2009
- IWWTF in operation
 - Proposed for Fall 2009



- Flora/Fauna – based on regional scale distribution mapping and typical species habitat, five species at risk could be found in the project area
- Terrestrial survey will occur prior to construction to determine mitigation measures if these species are present
- Proposed changes to occur in and around a previously disturbed area
- Existing infrastructure will be re-used – minimizing the disturbed area footprint

No significant impacts to flora/fauna are anticipated



Small White Lady's Slipper
Image source: Environment
Canada Species at Risk Fact
Sheet



Loggerhead Shrike
Image source: Nature Canada

- Archaeology – Historic Resources Branch of Government of Manitoba has reviewed location of proposed upgrades
 - Their records indicate that the potential for impact to heritage resources in this area is low

No significant impacts to heritage resources are anticipated



- Whitemud River classified as a highly meandering river
- In some areas small riffles, cut-offs and oxbows have developed which provide good aquatic habitat
- Water depth in main channel is variable ranging from a few centimeters to > 2 m
- In stream vegetation ranges from none to extensive and depends on bottom substrate and flow conditions
- Fish surveys indicate presence of (among others):
 - northern pike
 - white suckers
 - fathead minnows
 - emerald shiners

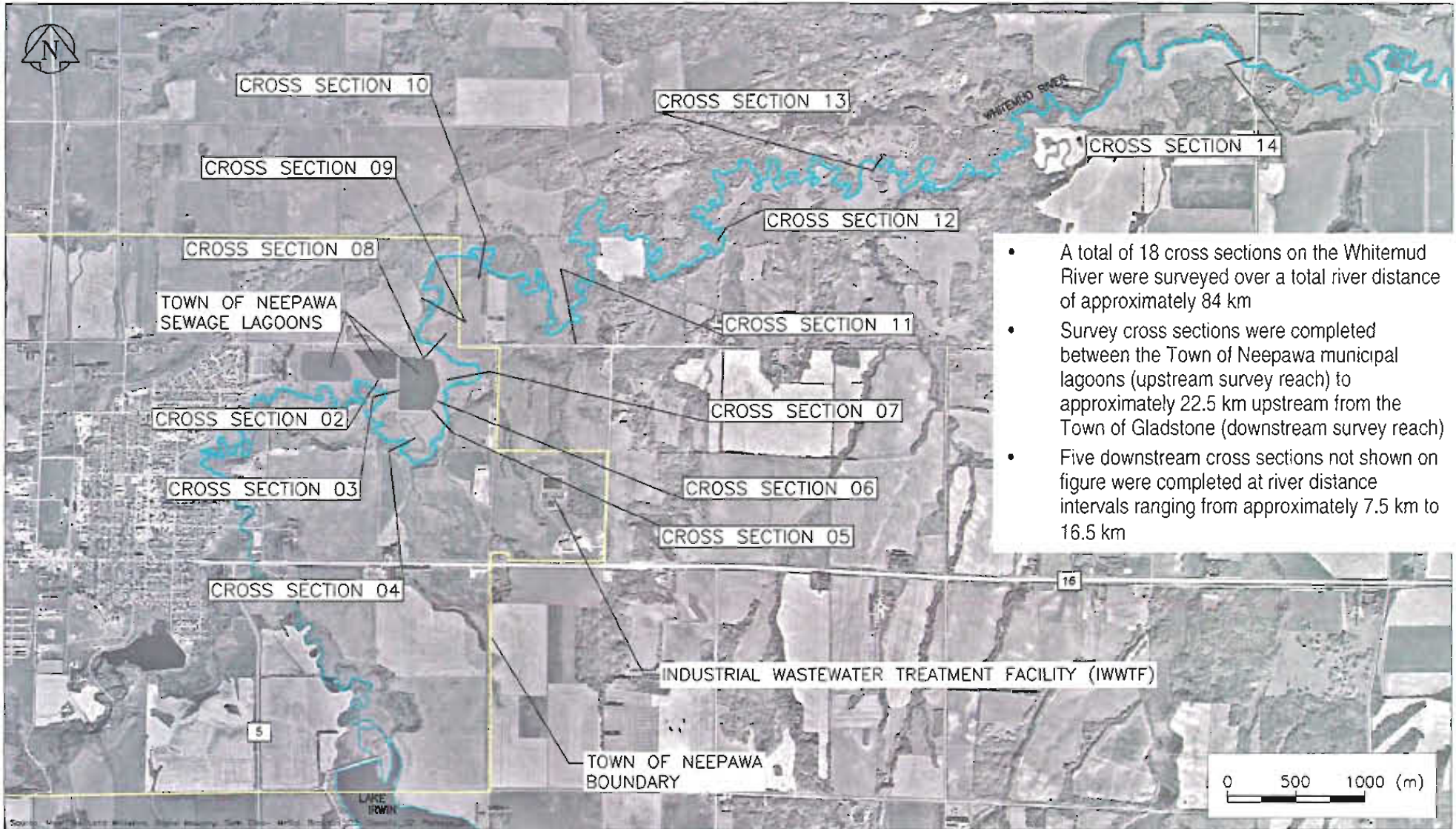


Offstream wetland used by various species for spawning



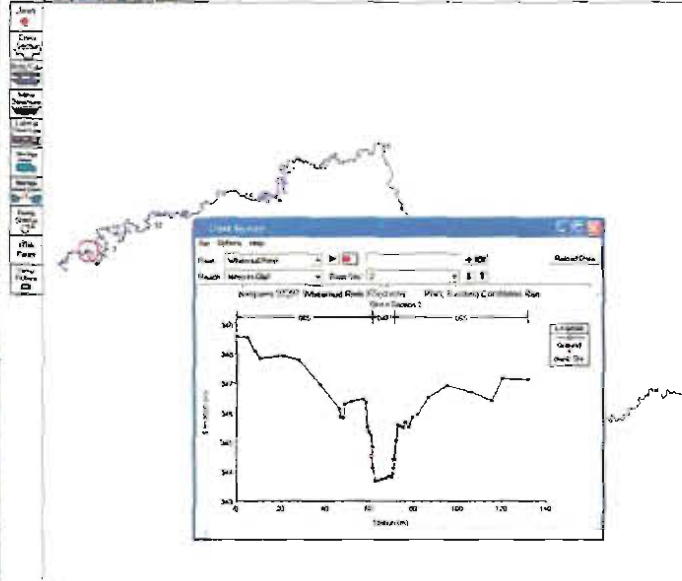
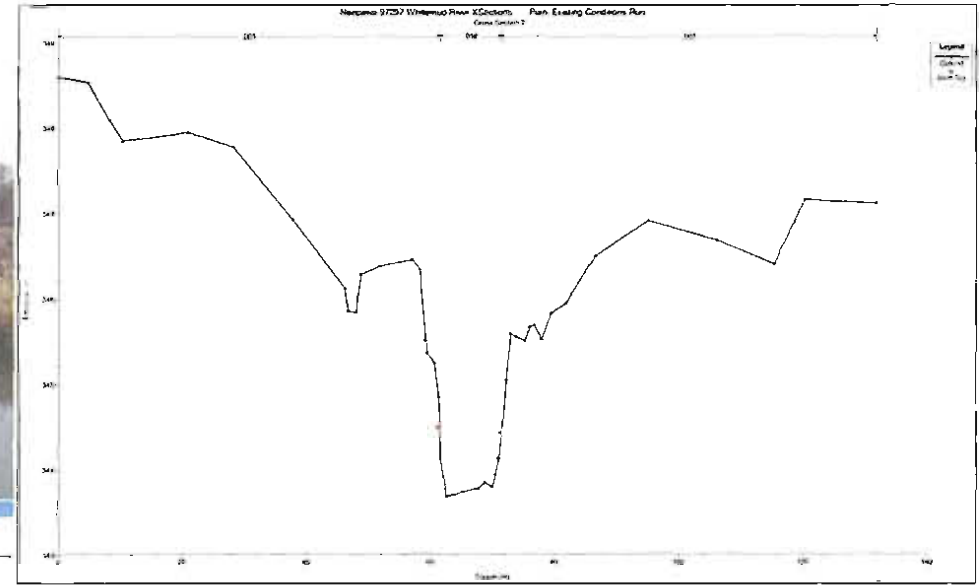
Fish spawning tributary 20 km downstream from IWWTF





- A total of 18 cross sections on the Whitemud River were surveyed over a total river distance of approximately 84 km
- Survey cross sections were completed between the Town of Neepawa municipal lagoons (upstream survey reach) to approximately 22.5 km upstream from the Town of Gladstone (downstream survey reach)
- Five downstream cross sections not shown on figure were completed at river distance intervals ranging from approximately 7.5 km to 16.5 km

Whitemud River Hydraulic Model





- Estimated *mean* annual flow at effluent discharge location $1.32 \text{ m}^3/\text{s}$
- Estimated *high* annual flow at effluent discharge location $5.24 \text{ m}^3/\text{s}$
- Estimated *low* annual flow at effluent discharge location $0.198 \text{ m}^3/\text{s}$

- IWWTF designed to discharge on a 24/7 basis $0.0064 \text{ m}^3/\text{s}$
 - IWWTF flow = **0.49%** of Whitemud flow in *mean* flow conditions
 - IWWTF flow = **0.12%** of Whitemud flow in *high* flow conditions
 - IWWTF flow = **3.23%** of Whitemud flow in *low* flow conditions



- Whitemud River has elevated background nutrient levels due to anthropogenic sources
- IWWTF effluent discharged to Whitemud River is not expected to make a significant change to the overall loads in the river although will be an improvement to the current condition
- Plume dispersion modeling currently underway
- Dispersion modeling will examine potential cumulative effects of municipal and IWWTF discharges





- Start of the IWWTF Detailed Design in early 2008
- Finalize environmental assessment of IWWTF
- Submit completed application to Manitoba Conservation
 - Proposed for March 2008

Questions and Comments

- The project team wants to hear from you
- Please take the time to complete a questionnaire and submit any comments on the forms provided
- Presentation and questionnaire are also available at:

www.neepawa.ca



PROPOSED TOWN OF NEEPAWA IWWTF UPGRADE
ENVIRONMENTAL ASSESSMENT OPEN HOUSE #2

December 18, 2007

QUESTIONNAIRE FOR ATTENDEES
(Personal and Other Questions are Optional)

Feel Free to Give Us Your Comments Without Your Name or Address

Name: _____ Phone Number: _____

Address: _____

e-mail _____

Location: (Relative to IWWTF) _____

1) Did you attend the October 18, 2007 Open House?

Yes No

2) Do you have any concerns about the proposed Town of Neepawa IWWTF Upgrade?

Yes No

If so, what are your concerns?

3) Would you like someone from Earth Tech (Canada) Inc. to contact you?

Yes No

If so, please leave contact information

4) Did you find this Open House useful?

Yes No

PUBLIC NOTICE

Open House for the Town of Neepawa Industrial Wastewater Treatment Facility

The Town of Neepawa is hosting an Open House for the proposed Industrial Wastewater Treatment Facility:

**Location - Neepawa Public Library MPR
Tuesday, April 15, 2008
From 4:00 p.m. to 7:00 p.m.**

The open house is part of the public consultation process for the proposed Town of Neepawa Industrial Wastewater Treatment Facility upgrades. Representatives from Earth Tech, Pharmed Engineering, Springhill and the Town of Neepawa will be on hand to receive comments and answer questions as part of the project.

Town of Neepawa
Box 339, Neepawa, MB
(204) 476-7600



Neepawa Industrial Wastewater Treatment Facility Upgrade

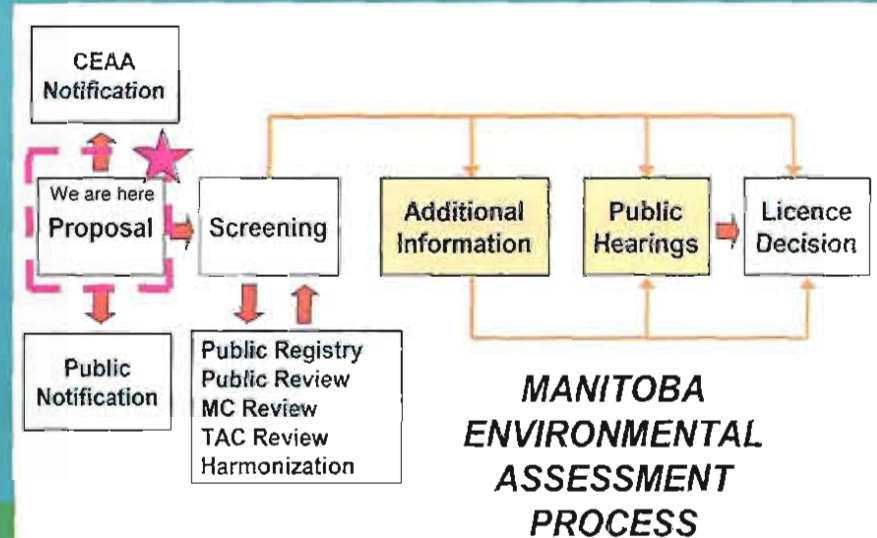
Open House #3 April 15, 2008




Purpose of the Open House



- Public Consultation is an important step in the Environmental Assessment process
- Minimal questions from the public at Open House #1 and #2
- Introduce new owners of Springhill Farms
- Present information on the Neepawa Industrial Wastewater Treatment Facility
- Inform public on environmental assessment findings



Purpose for the Upgrade

- 
- Existing IWWTF infrastructure is aging
 - Unable to meet current licence requirements
 - Currently operating with the use of the municipal lagoons
 - Improve quality of effluent discharged to the Whitemud River
 - Reduces input to municipal lagoons and allows for future municipal growth
 - Expandable facility for future growth options

Summary of Changes from Open House #2

<u>Item</u>	<u>Previous Design</u>	<u>New Design</u>
Flow	Equalized flow of 550 m ³ /day	Equalized flow of 1,520 m ³ /day
Location	Plant adjacent to existing lagoons	Plant located to south of lagoons
Pre-treatment	Only process wastewater sent to DAF DAF effluent combined with sanitary, holding facility and truck wash wastewater then pumped to flow attenuation	All wastewater streams are screened then sent to flow attenuation then DAF
Pre-treatment	No changes to pre-treatment at Springhill Farms Facility	Chemical dosing (polymer) to DAF at Springhill Farms Facility
Treatment Tanks	Concrete tanks in lower level of treatment plant building	Aboveground steel tanks located outside
Carbon Source	Methanol used as carbon source stored in outdoor tanks	Sugar or similar carbon source used as carbon source - stored indoors



Site Location



IWWTF Plan View



PRELIMINARY
DO NOT USE FOR CONSTRUCTION

PLAN



REV. NO.	BY	DATE	DESCRIPTION

IF THIS INFORMATION
REQUIRES TO BE
UP-DATED FROM
REVISIONS TO
THIS PLAN
PLEASE CONTACT
PHARMER ENGINEERING

PE PHARMER ENGINEERING



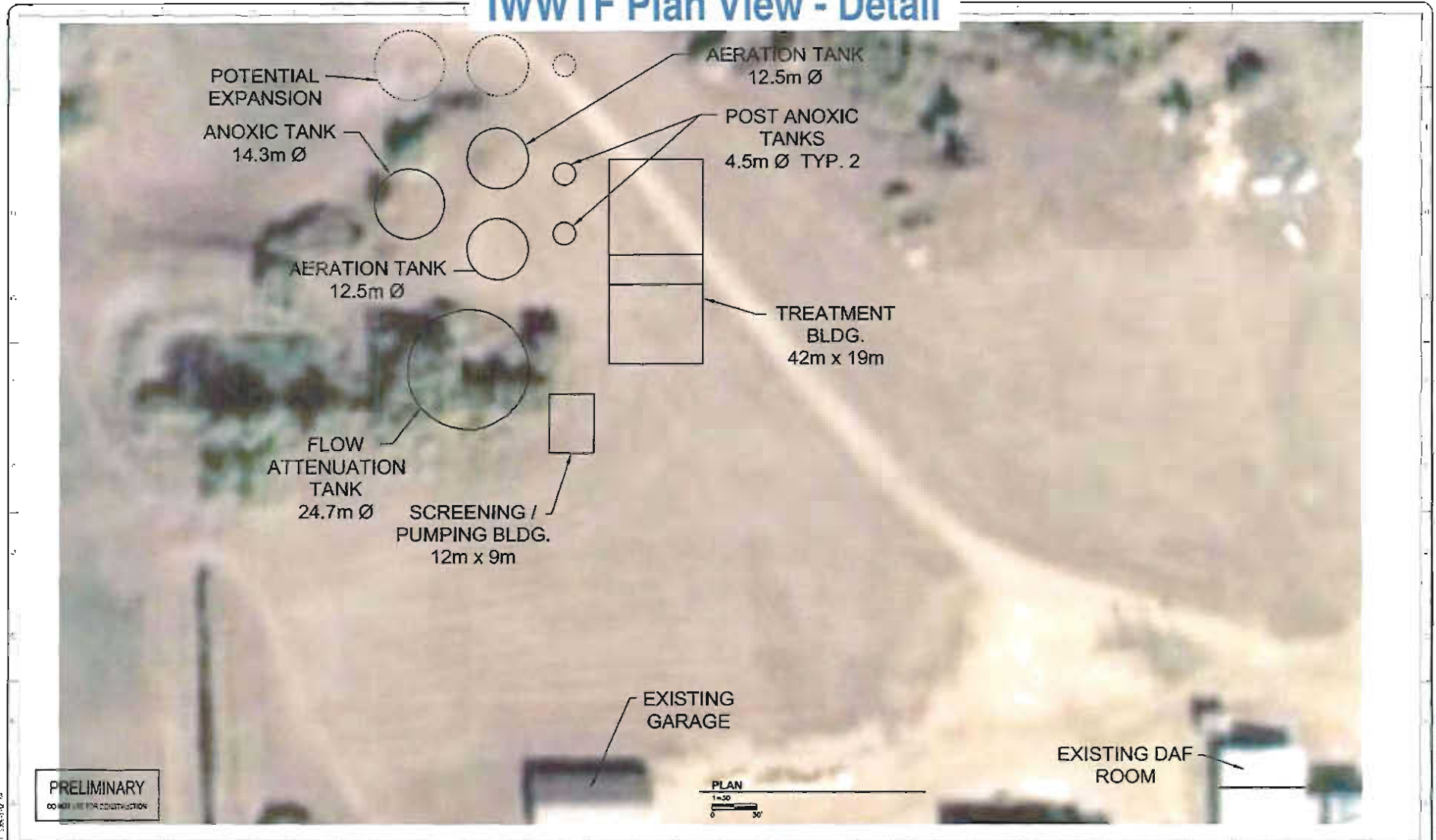
DESIGNED BY	
CHECKED BY	
APPROVED BY	
PROJECT NO.	10011
DATE	

Spring Hill Farms
Industrial Wastewater Treatment Facility
Neepawa, Manitoba
FACILITY
LOCATION PLAN

SCALE: AS SHOWN
C1.0

PRELIMINARY - NOT FOR CONSTRUCTION

IWWTF Plan View - Detail



PRELIMINARY
DO NOT USE FOR CONSTRUCTION

REV. NO.	DESCRIPTION	DATE	BY	CHKD.

ATTENTION:
IF THIS DRAWING IS USED
FOR ANY OTHER PROJECT
IT IS THE USER'S RESPONSIBILITY
TO OBTAIN THE NECESSARY
PERMITS AND APPROVALS
FROM THE APPROPRIATE
AGENCIES.



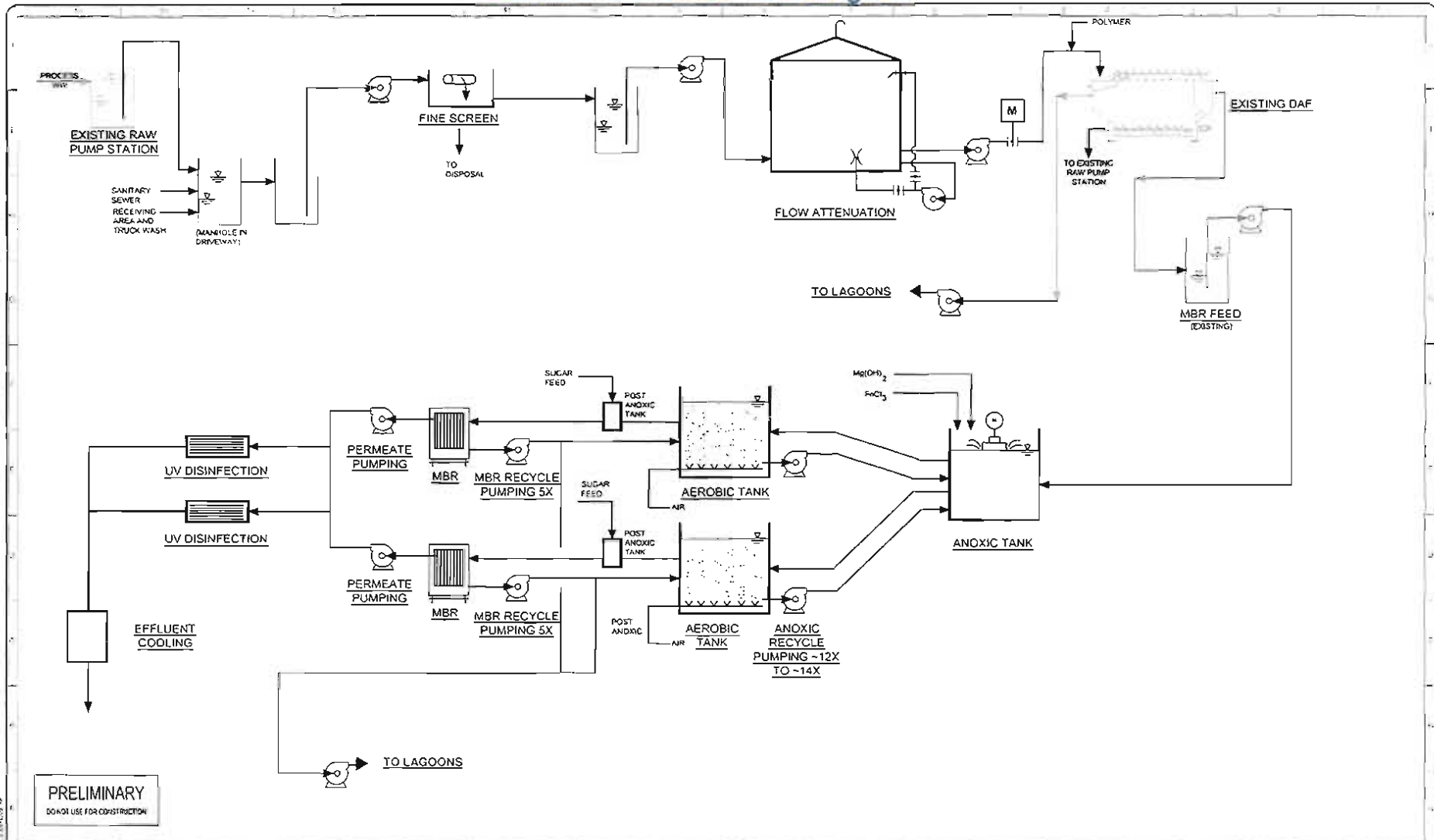
DESIGNER	DRP
DRAWING	TMS
CHECKED	XXX
APPROVED	OOO
PROJECT DATE	April 2008
PROJECT NO.	10211
SCALE	AS NOTED

Spring Hill Farms
Industrial Wastewater Treatment Facility
Neepawa, Manitoba
SITE PLAN

DRAWING NUMBER
C2.0
REV. B

PRELIMINARY - NOT FOR CONSTRUCTION

New IWWTF Process Flow Diagram



PRELIMINARY
DO NOT USE FOR CONSTRUCTION

REV. NO.	DESCRIPTION	DATE

ATTENTION:
IF THIS BAR DOES NOT MEASURE 1" AS SHOWN OR 2" AS SHOWN THEN DRAWING IS NOT TO SCALE - SCALE AS SHOWN.



DESIGNED:	JKK
DRAWN:	JKK
CHECKED:	JKK
APPROVED:	JKK
PROJECT NO.:	10211
SCALE:	NA

Spring Hill Farms
Industrial Wastewater Treatment Facility
Neepawa, Manitoba
PROCESS FLOW DIAGRAM

DRAWING NUMBER
N0.0
REV. B

PRELIMINARY - NOT FOR CONSTRUCTION

IWWTF Process Upgrades

- Nutrients in effluent will be reduced to
 - 15 mg/L total nitrogen
 - 1 mg/L total phosphorus
- Added UV disinfection
 - Increased microbial removal
 - Disinfection without the use of chlorine
- Land application of sludge
- Construction
 - Proposed start – Fall 2008
 - Proposed end – Fall 2009
- IWWTF in operation
 - Proposed for Fall 2009



- The land application of biosolids will be detailed in the IWWTf's Environmental Licence
- Agronomic nitrogen and phosphorus consumption rates will factor into the biosolids application rate
- Stabilized sludge (biosolids) for land application
- Based on Canadian Land Inventory agriculture capability classification, there is >80,000 ha of land within 30 km of the IWWTf site, suitable for land application



Image source: University of Nebraska Institute of Agriculture and Natural Resources Cooperative Extension



Image source: Michigan Department of Environmental Quality





- Flora/Fauna – based on regional scale distribution mapping and typical species habitat, five species at risk could be found in the project area
- Terrestrial survey will occur prior to construction to determine mitigation measures if these species are present
- Proposed changes to occur in and around a previously disturbed area
- Some existing infrastructure will be re-used – minimizing the disturbed area footprint

No significant impacts to flora/fauna are anticipated



Small White Lady's Slipper
Image source: Environment
Canada Species at Risk Fact
Sheet



Long-tailed Nighthawk
Image source: Nature Canada

- Archaeology – Historic Resources Branch of Government of Manitoba has reviewed location of proposed upgrades
 - Their records indicate that the potential for impact to heritage resources in this area is low

No significant impacts to heritage resources are anticipated



- Whitemud River classified as a highly meandering river
- In some areas small riffles, cut-offs and oxbows have developed which provide good aquatic habitat
- Water depth in main channel is variable ranging from a few centimeters to > 2 m
- In stream vegetation ranges from none to extensive and depends on bottom substrate and flow conditions
- Fish surveys indicate presence of (among others):
 - northern pike
 - white suckers
 - fathead minnows
 - emerald shiners



Offstream wetland used by various species for spawning



Fish spawning tributary 20 km downstream from IWWTF






- Estimated **mean** annual Whitemud River flow at effluent discharge location $1.32 \text{ m}^3/\text{s}$
- Estimated **high** annual Whitemud River flow at effluent discharge location $5.24 \text{ m}^3/\text{s}$
- Estimated **low** annual Whitemud River flow at effluent discharge location $0.198 \text{ m}^3/\text{s}^*$
- IWWTF designed to discharge on a 24/7 basis $0.0176 \text{ m}^3/\text{s}$
 - IWWTF flow = **1.3%** of Whitemud flow in **mean** flow conditions
 - IWWTF flow = **0.3%** of Whitemud flow in **high** flow conditions
 - IWWTF flow = **8.9%** of Whitemud flow in **low** flow conditions
- Upgrades represent a 29% reduction in total nitrogen and an 87% reduction in total phosphorus compared to 2007 IWWTF releases
- Other discharges of nutrients to the Whitemud River occur downstream of Neepawa
- Overall the loads in the Whitemud River are not expected to change significantly as a result of the project however there will be an improvement in the local area



*Based on minimum release from Lake Irwin

- 
- Start IWWTF Detailed Design in May 2008
 - Finalize environmental assessment of IWWTF
 - Submit completed application to Manitoba Conservation
 - Proposed for June 2008

- 
- The project team wants to hear from you
 - Please take the time to complete a questionnaire and submit any comments on the forms provided
 - Presentation and questionnaire are also available at:

www.neepawa.ca

PROPOSED TOWN OF NEEPAWA IWWTF UPGRADE
ENVIRONMENTAL ASSESSMENT OPEN HOUSE #3

April 15, 2008

QUESTIONNAIRE FOR ATTENDEES
(Personal and Other Questions are Optional)
Feel Free to Give Us Your Comments Without Your Name or Address

Name: _____ Phone Number: _____

Address: _____

e-mail _____

Location: (Relative to IWWTF) _____

1) Did you attend the December 18, 2007 Open House?

Yes No

2) Do you have any concerns about the proposed Town of Neepawa IWWTF Upgrade?

Yes No

If so, what are your concerns?

3) Would you like someone from Earth Tech (Canada) Inc. to contact you?

Yes No

If so, please leave contact information

4) Did you find this Open House useful?

Yes No

