



**TECHNICAL REVIEW COMMITTEE**

**A TECHNICAL REVIEW REPORT  
PREPARED FOR**

**THE RURAL MUNICIPALITY  
OF  
WOODLANDS**

**Topigs Norsvin Canada  
Delta II Boar Test Station  
E ½ 19-14-3 WPM**

**TRC 12 – 024**

**April 21, 2017**

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## A. INTRODUCTION – THE TEAM

The Technical Review Committee (TRC) is supported by the following department personnel:

- Agriculture (Ag); Livestock Environment, Nutrient Management and Business Development Specialists, Agricultural Engineer, and Veterinarians
- Indigenous and Municipal Relations (IMR); Community Planners
- Infrastructure (MI); Development Review Technologists, Engineering and Operations Division; Development Review Officers, Water Management and Structures Division
- Sustainable Development (SD); Technical Review Officer, Soils Specialist, Environmental Engineer, Environment Officer, Habitat Mitigation Biologist, Regional Wildlife Manager, Nutrient Management Regulation Supervisor, Groundwater Specialist, Water Rights Licensing Manager and Resource Planner  
and
- Any other specialist or department that may have an interest, which may be consulted during the process.

The Technical Review Coordinator, (Senior Planner, IMR) chairs the committee.

## THE REPORT (TRC Process Box 17)

### Prime Purpose of TRC Reports

To provide objective, highly credible, technically-based assessments that:

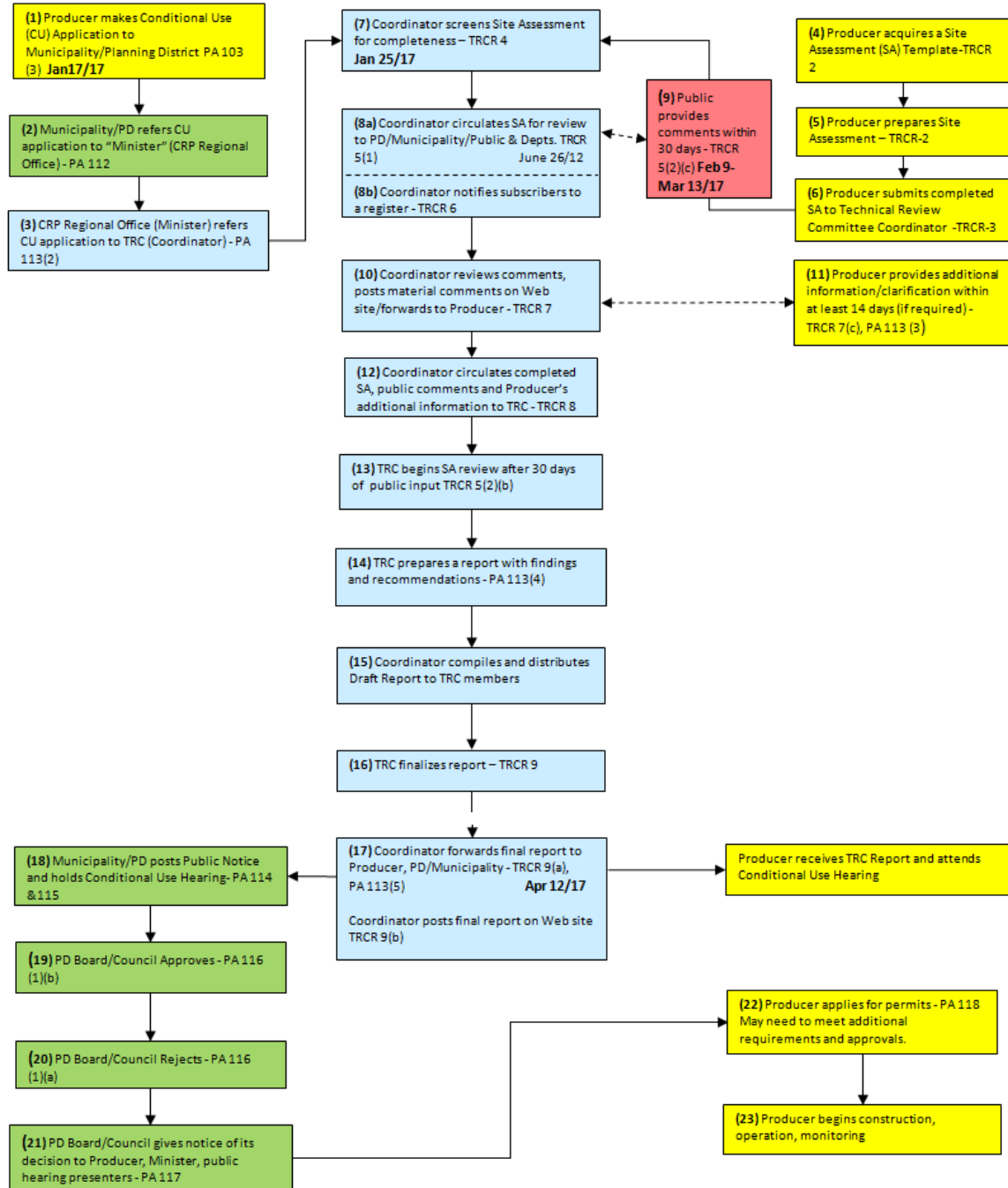
- a) Enable municipal councils to make informed Conditional Use Permit decisions;
- b) Create a common stakeholder understanding of a livestock proposal, potential impacts and related regulatory requirements and safeguards;
- c) Provide a vehicle/forum that enables the sharing of public concerns and proponent responses;
- d) Offer recommendations to both municipal councils and proponents; and

- e) Represents the fulfillment of the TRC's role as per 116(1)(b)(i) of The Planning Act – to determine, based on available information, that the proposed operation will not create a risk to health, safety or the environment, or that any risk can be minimized through the use of appropriate practices, measures and safeguards

Should the Municipal Council provide conditional approval of the proposal, the project proponent may be required to obtain various permits and licenses from the Province to address in greater detail environmental aspects of the proposal.

# THE PROCESS

## Livestock Technical Review Process Delta II Boar Test Station



## B. DESCRIPTION OF PROPOSED LIVESTOCK OPERATION

To view a detailed description go to:

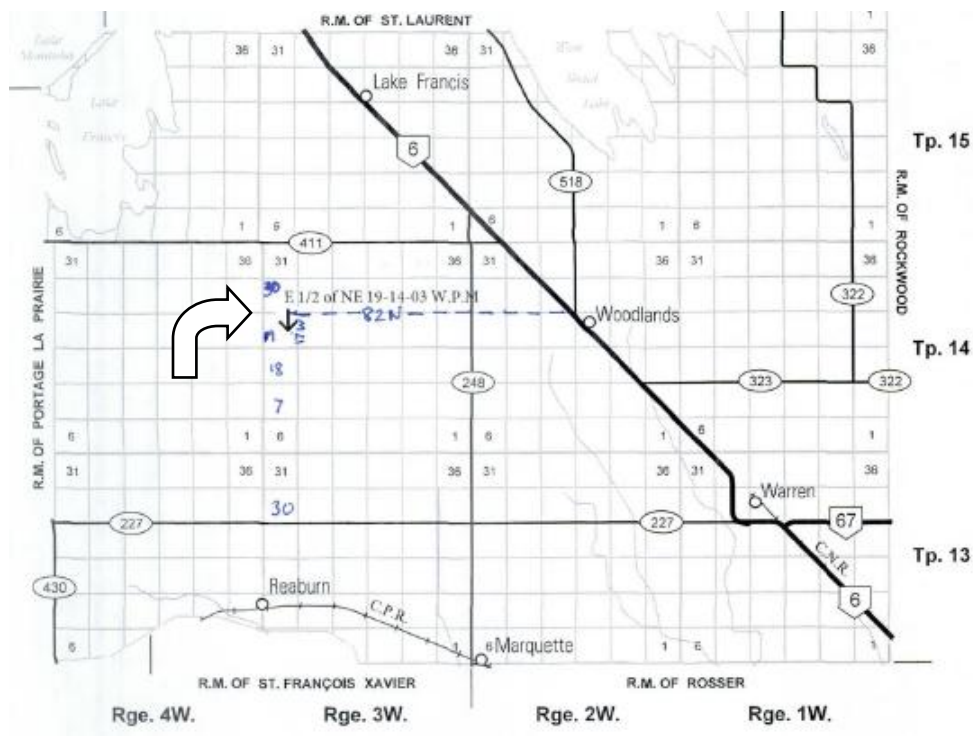
[www.gov.mb.ca/ia/programs/livestock/public\\_registries.html](http://www.gov.mb.ca/ia/programs/livestock/public_registries.html)

Applicant: Topigs Norsvin Canada.

Site Location: Approximately 8 miles ( $\pm 12.87$  kms) west of the Community of Woodlands (E $\frac{1}{2}$  19-14-3 WPM) Refer to map below.

Proposal: To establish a Boar Test Station consisting of 1872 pig grower/finishers and 958 Boars, totaling 459.3 Animal Units in an Animal Confinement Facility situated in an undeveloped heavily wooded and secluded site. This will involve the following:

- Construction of a new barn
- Construction of a two cell earthen manure storage structure (138 day primary cell and 281 day secondary cell holding capacity)
- Consuming 36,814 litres of water per day (from ground monitoring wells)
- Rendering mortalities; no permanent site for composting mortalities onsite
- Using the truck haul routes as shown below



## C.SITE ASSESSMENT OVERVIEW

Assessment Overview Table

Provincial Technical Overview of: Delta II Boar Test Station			
Items Provided by Project Proponent	Con- firmed	Departmental Comment and Related Existing Provincial Safeguards	Dept
1. Completed Site Assessment	X	Not Applicable	IMR
2. Clearly defined the project as a <u>  x  </u> Animal Confinement Facility	X	Agricultural buildings such as barns over 600 meters (6,458 sq ft) as proposed in this project, require a building permit from the Office of The Fire Commissioner under <i>The Buildings and Mobile Homes Act</i> and the <i>Manitoba Building Code</i> .	IMR
3. Proposed Project Site Physical Suitability	X	<p>Topigs Norsvin Canada is proposing to construct a new pig barn, research facility and lined earthen manure storage facility on the north half of the E ½ NE-19-14-3W. Detailed soil survey descriptions and interpretation is provided in the appendix. In general, the soils at the site developed on dense, stony till. Areas of higher elevation are moderately well drained, mid-slopes are imperfectly drained and depressional areas where water accumulates are poorly drained (see photos in Appendix A).</p> <p>Manitoba Agriculture staff visited the site on March 22 and April 4 2017. The site is completely covered in trees. Ditching along the north side was reasonably well maintained and appeared to support surface drainage of the site. On April 4, snowmelt water was collecting in a depressional area</p>	Ag

**Provincial Technical Overview of: Delta II Boar Test Station**

<b>Items Provided by Project Proponent</b>	<b>Con- firmed</b>	<b>Departmental Comment and Related Existing Provincial Safeguards</b>	<b>Dept</b>
		across the centre of the site and draining into the ditch (see photo in Appendix A). This ephemeral drain may have to be diverted to ensure snowmelt water does not collect or pond around the storage or buildings post-construction. The proponent has indicated that they will apply for a drainage permit.	
	X	This site was not impacted by Lake Manitoba flood waters during the 2011 flood, and it is not near to any Provincial Waterway drains.  We are not aware of any major overland flooding concerns in either the immediate vicinity or the general area of this quarter section.	MI
4. Identified 36,814 litres/day required for proposed operation	X	Based on the consumption rate, Topigs Norsvin Canada is required to submit an Application for Licence to Construct a Well and Divert Groundwater. This application is required in order to issue a Groundwater Exploration Permit which must occur PRIOR to groundwater exploration and to well construction, therefore should be submitted well in advance of hiring the driller. In addition, the proponent will likely need to hire the services of a hydrogeologist registered with APEGM as a condition of the Permit. If there are any questions, the proponent is directed to contact Lorraine Thibert in the Water Use Licensing Section, at 204-945-6693 or by email at Lorraine.Thibert@gov.mb.ca.	SD
5. Proposed measures to meet storage and application regulations for manure	X	Any applicable permit or annual submissions under the Livestock Manure and Mortalities Management Regulation would be processed by Environmental Approvals Branch of Sustainable Development.  The proposed operation would be required register annual manure management plans. Manure management plans are reviewed by Branch staff for regulatory compliance at the time of submission. As soil nutrients change over time, staff have not dedicated resources to review the spreadfield information and soil tests in this site assessment. However, soil analysis reports are included in the manure management plans. Additional details on the required information for manure management plans, including mandatory sampling depth, soil analysis and completing the form are provided at: <a href="http://www.gov.mb.ca/sd/envprograms/livestock">http://www.gov.mb.ca/sd/envprograms/livestock</a> .	SD

**Provincial Technical Overview of: Delta II Boar Test Station**

Items Provided by Project Proponent	Con- firmed	Departmental Comment and Related Existing Provincial Safeguards	Dept
		The above website also provides details for other approvals required by the department, excluding the pig pilot permit. For information on that requirement, the proponent may contact the SD member identified in Section F of this report.	
6. Proposed Project Site with suitable mortalities disposal methods (rendering)	X	Topigs Norsvin Canada is proposing to dispose of mortalities through rendering. Rendering is an approved method of disposal under the Livestock Manure and Mortalities Management Regulation.	SD
7. Proposed Project Site with acceptable odour control measures	X	<p>Topigs Norsvin Canada has indicated that they will use existing shelterbelts and they will consider a cover for the manure storage facility in the future should odour become an issue for the community. These are acceptable odour control measures.</p> <p>Should odour become a problem for neighbouring residents, there is a complaints process under <i>The Farm Practices Protection Act</i>. A person who is disturbed by any odour, noise, dust, smoke or other disturbance resulting from an agricultural operation may make a complaint, in writing, to the Manitoba Farm Industry Board. The Act is intended to provide for a quicker, less expensive and more effective way than lawsuits to resolve nuisance complaints about farm practices. It may create an understanding of the nature and circumstances of an agricultural operation, as well as bring about changes to the mutual benefit of all concerned, without the confrontation and the expense of the courts.</p>	Ag
		The Planning Act allows Municipal Councils to require a manure storage cover and the planting of a shelter belt as a condition of approval.	IMR
8. Proposed Project Site that meets development plan and zoning by-law requirements	X	<p>The project site located at E 1/2 of NE19-14-3 W.P.M is designated AA Agricultural Area under the Rural Municipality of Woodlands Development Plan By-law No.2643/14 and is zoned RA Rural Area Zone under the RM of Woodlands Zoning Bylaw No. 2648/14. The minimum: Site Area is 80 acres, Site Width is 600 feet, Front Yard is 75 feet, Side Yard is 25 feet and Rear Yard is 30 feet.</p> <p>Project appears to satisfy the minimum requirements for a</p>	IMR



**Provincial Technical Overview of: Delta II Boar Test Station**

Items Provided by Project Proponent	Con- firmed	Departmental Comment and Related Existing Provincial Safeguards	Dept
		<p>livestock operation the size and type being proposed.</p> <p>The Minimum Mutual Setback Requirement is 1640 feet from a Single Residence (excepting the residence of the owner) to an Earthen Manure Storage Facility and 820 feet to an Animal Housing Facility /Confined Livestock Area /Non-earthen Manure Storage.</p> <p>The proponent has identified compliance with these setbacks.</p> <p>The Planning Act requires municipalities to issue development permits for any development on a site. All development must comply with the Zoning By-law and Development Plan. Any proposed development that does not meet the separation distance or setback requires Council approval and a public process to vary those requirements.</p>	
<p>9. Proposed Project Site that is a sufficient distance from native prairie, Wildlife Managements Areas and Crown Land.</p>	<p align="center">X</p>	<p>Central Region Wildlife would like to highlight the potential for Rough Agalinis (<i>Agalinis aspera</i>), endangered plant species, to occur on E 1/2 of NE19-14-3 W.P.M as it is known to occur approximately 1 mile southwest of the proposed site. A site visit and survey would be prudent prior to development.</p>	<p align="center">SD</p>
<p>10. Proposed Spreadfields that are sufficient, and suitable for manure spreading</p>	<p align="center">X</p>	<p>Topigs Norsvin Canada has proposed sufficient suitable land for manure spreading. The proposal is consistent with Provincial requirements for pig developments under the Pig Production Special Pilot Project. The Pilot Project holds pig operations to a higher standard than any other type of livestock operation in Manitoba. It requires new and expanding pig operations to:</p> <ul style="list-style-type: none"> <li>• be located outside of Hanover and La Broquerie,</li> <li>• construct a 2-cell manure storage facility,</li> <li>• demonstrate access to sufficient suitable land to balance manure phosphorus with crop phosphorus removal,</li> <li>• inject or immediately incorporate manure that is applied to <i>tilled</i> land, and</li> <li>• maintain soil test levels below 60 ppm Olsen P for the life of the operation.</li> </ul>	<p align="center">Ag</p>

**Provincial Technical Overview of: Delta II Boar Test Station**

<b>Items Provided by Project Proponent</b>	<b>Con- firmed</b>	<b>Departmental Comment and Related Existing Provincial Safeguards</b>	<b>Dept</b>
		<p>Topigs Norsvin Canada has balanced phosphorus excretion by the pigs with phosphorus removal by the crops. The calculation takes into consideration typical, modern feeding practices for pig production, crop yields and the agricultural capability of the lands listed in the site assessment. The most agriculturally limiting factors are a naturally occurring dense layer (D), stoniness (P) and wetness (W) in low lying areas. Areas of severe wetness have been eliminated. The March 22 and April 4 2017 site visits confirmed that soils in the area are very stony. These stones will accelerate the wear and tear of tillage equipment and may limit manure injection; however, stony conditions can be improved with picking. According to the Manitoba Agricultural Services Corporation (MASC) all of the lands in the site assessment fall into soil zone H. This information is used to determine realistic rates of crop phosphorus removal. In this proposal, conservative 10 year average crop yields for soil zone H in the RM of Woodlands were used.</p> <p>Lands that are agriculture capability Class 6, 7 or unimproved organics are considered unsuitable for manure application and have not be included in the suitable land base. Only reconnaissance level soil survey is available for the land assessment. If areas of Class 6, 7 or unimproved organic soils are present in the fields but not visible on the soil survey due to scale, they should be eliminated from the manure management plan.</p> <p>All of the setbacks from water outlined in the Livestock Manure and Mortalities Management Regulation and the Nutrient Management Regulation must not receive manure. Topigs Norsvin Canada has considered the setbacks in their estimation of the land requirement and these setbacks must be omitted from any future manure management plans.</p> <p>If the operator uses professional services to develop the manure management plan, the manure management planner must successfully complete the Manure Management Planner's Course offered by Assiniboine Community College and be a member in good standing of the Manitoba Institute of Agrologists or a Certified Crop Advisor.</p> <p>If the services of a commercial manure applicator are obtained to land apply the manure, the applicator must be trained by the Assiniboine Community College and licenced by Manitoba Agriculture.</p>	

**Provincial Technical Overview of: Delta II Boar Test Station**

<b>Items Provided by Project Proponent</b>	<b>Con- firmed</b>	<b>Departmental Comment and Related Existing Provincial Safeguards</b>	<b>Dept</b>
11. Proposed Spreadfields with sufficient minimum setbacks on spread fields from natural features (water sources etc)	X	The proponent has acknowledged the setback areas for all water features have been observed and excluded from landbase calculations. Setbacks should be clearly communicated and observed by those involved in manure application to minimize the risk of nutrients entering surface waters.	SD
12. Proposed Spreadfields that have been secured by spread agreements	X	The proposal includes spread agreements for all of the land acres to meet the land requirement. These agreements demonstrate that there is sufficient suitable land in the area for the life of the operation; however, it is not expected that all of the land that under agreement will receive manure every year. It is more likely that each year the fields that receive manure will vary according to availability, accessibility, crop nutrient requirements and soil test values. There is more than enough land under agreement to rotate fields on a year to year basis in order to keep soil test levels within all regulatory limits. Should any of the land agreements expire or not be renewed and should more land be required, it will be the responsibility of Topigs Norsvin Canada to secure alternative spread fields.	Ag
13. Proposed Spreadfields that are properly designated (Development Plan) and Zoned (Zoning By-law)	X	All spread fields are designated AA Agricultural Area under the Rural Municipality of Woodlands Development Plan By-law No.2643/14 and zoned RA Rural Area Zone under the RM of Woodlands Zoning Bylaw No. 2648/14.	IMR
14. Proposed trucking routes and access points that do not impact Provincial Roads or Provincial Trunk Highways	X	We have no concern regarding the proposed truck haul route onto PTH 6.	MI
15. Proposed trucking routes – local roads	X	Under The Planning Act, Municipalities as a condition of approval may require Norsvin Topigs Canada to enter into a Development Agreement regarding the condition and upkeep of local roads used as truck haul routes.	IMR

## D. PUBLIC COMMENTS & DISPOSITIONS

Public Comment Summary	Proponent Response/Disposition
<p><b>1) Jody Yeo</b> Marquette.MB</p>	<p>Opposed; concerned with:                      Operator exceeding animal unit allotment;                      Sale of community pasture land;                      Job creation for residents of RM;                      Increased traffic on gravel haul routes; who will pay for road upgrades and road maintenance to improve conditions; and                      3-year time frame for manure spread agreements, renewal and impact on neighboring properties.</p>
<p><b>2) Roy Smith</b></p>	<p>Concerned with:                      Hog barn being built 1 ½ miles from him; surrounding land is low and wet and is a major water way;                      Pollution of lake which is where our drinking water comes from; and                      Spread zones are mainly on grass lands and means more run off.</p>
<p><b>3) Judy Smith</b> NW 23-14-3W</p>	<p>Opposed; concerned with:                      Land is vital to community, project will not benefit Woodlands;                      Water quality; and                      Land is low and subject to overland flooding in spring with potential for run- off from grassed spread fields.</p>
<p><b>4) Nichole Griffiths</b> Lot A,. Plan 45946 SE ¼ 31-13-2WPM</p>	<p>Opposed; concerned with:                      Water replenishing rates;                      Well water contamination;                      Health risks associated with local spreading grounds;                      Contamination of watersheds;                      creeks and rivers during flooding;                      foul odours;                      Decreased residential property values; and                      Increased traffic.</p>

<p><b>5) Travis Yeo</b> Marquette , MB</p>	<p>Opposed; concerned with:</p> <p>Manure application methods within 48 hours , potential runoff during rain, who will monitor water quality; and</p> <p>Sale of RM land.</p> <p>Roads and Traffic-</p> <p>Road 82N – what actions will be taken to ensure taxpayers won't be responsible for added cost of road maintenance and upgrades; Road 17W is undeveloped now who will pay to develop; and</p> <p>The need for an accessory use detached residence if locals are to be employed.</p>
<p><b>6) Damien Dudeck</b> Lot A, Plan 45946 SE ¼ 31-13-2WPM</p>	<p>Opposed; concerned with:</p> <p>Water replenishing rates;</p> <p>Well water contamination;</p> <p>Health risks associated with local spreading grounds;</p> <p>Contamination of watersheds;</p> <p>creeks and rivers during flooding;</p> <p>foul odours;</p> <p>Decreased residential property values; and</p> <p>Increased traffic.</p>
<p><b>7) W.A.Fleury</b> Marquette, MB</p>	<p>Opposed; concerned with:</p> <p>Site location being part of surface water collection area for Lake Francis Wildlife Management Area and flood prone;</p> <p>Sale of land; and</p> <p>Proposed barn being adjacent to road with a substantial drain adjacent to it that drains and over flows in spring into 3 very large culverts to 411 and then directly to marsh.</p>

**Disposition:**

Topigs Norsvin Canada has provided responses to the public concerns as noted in Appendix C. As well, the proponent is directed to adhere to provincial requirement and safeguards as noted in the Provincial Technical Overview Table above. The Technical Review Committee has also responded to concerns raised about flooding on the project site.

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## E. CONCLUSIONS & RECOMMENDATIONS

### Overall Conclusion

The information contained in the Site Assessment submitted by the proponent generally meets Provincial requirements. In addition, based on available information it has been determined that the proposed operation will not create a risk to health, safety or the environment, or that any risk can be minimized through the use of appropriate practices, measures and safeguards.

### Recommended Actions to Council

- As per Section 114(1) of The Planning Act, Council must set a date for a Conditional Use hearing which must be at least 30 days after it receives this report
- As per Section 114(2) of The Planning Act, at least 14 days before the date of the hearing, Council must:
  - a) send notice of the hearing to
    - (1) the applicant,
    - (2) the minister, (c/o the Selkirk Community & Regional Planning Office)
    - (3) all adjacent planning districts and municipalities, and
    - (4) every owner of property located within three kilometres of the site of the proposed livestock operation, even if the property is located outside the boundaries of the planning district or municipality;
  - b) publish the notice of hearing in one issue of a newspaper with a general circulation in the planning district or municipality; and
  - c) post a copy of the notice of hearing on the affected property in accordance with Section 170 of The Planning Act.
- Council should specify the type(s) of operation, legal land location, number of animals in each livestock category and total animals units in its Conditional Use Order.
- As per Section 117 of The Planning Act, Council must send a copy of its (Conditional Use Order) to
  - a) the applicant;
  - b) the minister (c/o the Selkirk Community & Regional Planning Office); and
  - c) every person who made representation at the hearing.

Council is welcome to contact Manitoba Sustainable Development's Technical Review Officer with Environmental Approvals Branch as well as regional Environmental Compliance and Enforcement staff to discuss environmental compliance issues, if applicable, with respect to the Livestock Manure and Mortalities Management Regulation (M.R. 42/98).

## Recommended Actions to Proponent

That any additional measures identified through subsequent Provincial and Federal licensing or permitting in order to minimize any identified risks to health, safety and the environment be undertaken.

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## F. TECHNICAL REVIEW COMMITTEE MEMBERS

<b>Name</b>	<b>Department</b>	<b>Title</b>	<b>Telephone</b>
Don Malinowski Chair	Indigenous and Municipal Relations	Senior Planner Community & Regional Planning Branch	945-8353
Petra Loro	Agriculture	Livestock Environment Specialist Agri-Resource Branch	945-3869
Jen Webb	Sustainable Development	Manager Environmental Approvals Branch	945-8541
Jeff DiNella	Infrastructure	Senior Development Review Technologist Highway Planning and Design Branch	945-1801

## Appendices

## Appendix A

### Barn, Research Facility and Manure Storage Site Description and Assessment

Provided by

Petra Loro and Clay Sawka

Manitoba Agriculture

April 5, 2017

Topigs Norsvin Canada is proposing to construct a pig barn, research facility and lined earthen manure storage structure at on north half of the E ½ NE-19-14-3W. The reconnaissance soil survey indicates that the facility site is made up of the Isafold association with 40% of the site consisting of the ISF series, 30% the LUR series and 30% the CKG series.

ISF represents the Isafold soil series. These soils developed from stony till. They occupy the well drained ridges and knolls (photo 1 taken April 4, 2017). Topography is level to irregular, gently sloping. While the dominant surface texture is loam, textures range from very fine sandy loam to clay. The Isafold soils are usually very stony.



LUR represents the Lundar soil series. They occupy the intermediate position between the ridge and swale sequence in the Isafold association and, as such, are imperfectly drained. The surface texture ranges from silty clay loam to loam. Topography is level to very gently sloping. These soils are also usually are very stony.

CKG represents the Clarkleigh soil series which occur associated with Lundar soils in irregular to depressional topography. These are the low-lying areas of the field where water accumulates. In addition to being stony these soils are severely affected by wetness due to slow permeability and a high water table.

The pigs at this site will be housed in a completely enclosed barn. The interior of the barn and the research facility will be totally protected from rain, snow and snowmelt. Landscaping can be designed to keep precipitation and snowmelt from pooling around the barn. As such, there will be minimal risk of water contamination from the barn or research facility.

Manure from the under-barn concrete pits will be pumped to an earthen manure storage facility where it will be stored until it can be recycled as fertilizer for crop production. Topigs Norsvin Canada is proposing to install a lined, 2-celled earthen manure storage facility with at least 400 days capacity so that winter application is eliminated. The proposal indicates that an impermeable 60 mil HDPE liner will be used to protect groundwater from contamination. The manure storage facility will contain above-ground, lined berms (approximately 5 feet above grade) which will protect the storage from snowmelt. A minimum 1-foot freeboard must be maintained to ensure manure does not overflow the storage in the event of prolonged, heavy rainfall. Manure application will be according to an annual manure management plan registered with Manitoba Sustainable Development.



Manitoba Agriculture staff visited the site on March 22 and April 4 2017. The site is completely covered in trees. Ditching along the north side was reasonably well maintained and appeared to be supporting drainage of the site (photo 2 taken April 4, 2017).



Staff visited the site on April 4 to assess water levels at the site following spring snowmelt when water levels are expected to be at their highest (i.e. worst case scenario). On April 4, snowmelt water was collecting in a depressional area across the centre of the site and draining into the ditch (photo 3). Trees were present throughout the drain indicating that this is an ephemeral (seasonal) drain that does not remain wet for long enough to prohibit tree growth. This ephemeral drain may have to be diverted to ensure snowmelt water does not collect or pond around the storage or buildings post-construction. The proponent has indicated that they will apply for a drainage permit.



**Appendix B  
LIVESTOCK TECHNICAL REVIEW COMMITTEE**

**SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPONENT:Mike Shaw  
PROPOSAL NAME:Delta II Boar Test Station  
TYPE OF OPERATION:267.7 AU Grower/Finisher Pig and 191.6 AU Boars.  
RURAL MUNICIPALITY:Woodlands  
OPERATION LOCATION:E1/2 of NE 19-14-3 WPM**

**Environmental Stewardship Division; Environmental Approvals Branch; Soil, Animal Waste and Conservation Section**

- Any applicable permit or annual submissions under the Livestock Manure and Mortalities Management Regulation would be processed by Environmental Approvals Branch of Sustainable Development. Therefore, the Branch has not reviewed any information associated with storage or application of manure including, but not limited to, the manure storage facility, plans for manure management/soil tests, and land base assessment.

**Environmental Stewardship Division; Environmental Approvals Branch; Municipal and Industrial Section**

- No concerns.

**Environmental Stewardship Division; Environmental Compliance & Enforcement Branch, Selkirk**

- Manitoba Sustainable Development, Compliance and Enforcement branch, Selkirk District office has reviewed the above noted proposal and has no concerns at this time.

**Biodiversity & Land Use Division; Wildlife & Fisheries Branch; Habitat, Biodiversity & Endangered Species section**

- No wildlife related concerns.

**Parks and Regional Services Division; Central Region**

- Central Region Wildlife would like to highlight the potential for Rough Agalinis (*Agalinis aspera*), endangered plant species, to occur on E 1/2 of NE19-14-3 W.P.M as it is known to occur approximately 1 mile southwest of the proposed site. A site visit and survey would be prudent prior to development.
- If Rough Agalinis is not found to occur on this property, we have no concerns with the proposal.

**Water Stewardship Division; Water Science & Management Branch**

Staff in the Water Science and Management Branch have reviewed the site assessment for Delta II Boar Test Station - Topigs Norsvin Canada Inc. in the RM of Woodlands and have the following comments:

- The proponent has acknowledged the setback areas for all water features have been observed and excluded from landbase calculations. Setbacks should be clearly communicated and observed by those involved in manure application to minimize the risk of nutrients entering surface waters.
- Proper nutrient management applications that avoid excess loss of nutrients to surface waters are needed on lands receiving manure in southern Manitoba because long-term trend analysis of total phosphorus and total nitrogen has shown significant increases in these nutrients in the Assiniboine and Red rivers (Jones and Armstrong 2002);

- The proponent plans to inject or broadcast manure followed by incorporation within 48 hours. The proponent is encouraged to inject manure wherever possible (except on established perennial forages) to further protect water quality. Manure applications should not occur to saturated, frozen or snow covered soils or when heavy rainfall is expected within 24 hours. Manure applications are best completed by mid-October or earlier as manure applied shortly before freeze up is more susceptible to nutrient runoff losses during spring snowmelt than if the manure is applied earlier in the fall.
- Manitoba has included phosphorus as a nutrient by which fertilizer application through manure, synthetic fertilizer, and municipal waste sludge to agricultural lands may be limited. To remain environmentally sustainable over a long-term planning horizon of 25 years or more, the proponent must be able to balance phosphorus inputs from applied manure and other nutrient sources such as commercial fertilizers with crop removal rates to avoid excessive build-up in soils. Consequently, sufficient land base or economically achievable treatment technologies must be available such that manure can be applied at no more than 1 times crop removal rates. In addition, under the Hog Production Pilot project new and expanding pig operations must have access to sufficient suitable land to accommodate all of the phosphorus generated by the operation. Therefore, the proponent must have access to 1157 acres to ensure that manure can be applied at 1 times crop removal.
- All unused and abandoned wells on the site and spread fields should be properly sealed. A sealed well report should be filed with the Groundwater Management Section of Sustainable Development for each well sealed. Information on well sealing is available from Sustainable Development (204-945-6959) or: [http://www.gov.mb.ca/conservation/waterstewardship/water\\_info/misc/abandoned\\_wells.pdf](http://www.gov.mb.ca/conservation/waterstewardship/water_info/misc/abandoned_wells.pdf). It is recommended that all but the most basic wells should be sealed by a well drilling professional. A list of currently licensed well drilling professionals is located [http://www.gov.mb.ca/conservation/waterstewardship/water\\_quality/wells\\_groundwater/well\\_drillers.html](http://www.gov.mb.ca/conservation/waterstewardship/water_quality/wells_groundwater/well_drillers.html).
- During manure application all groundwater features, including water wells, should be given as a minimum, the amount of buffer as outlined in the regulations.
- Note that the Well Standards Regulation under the Groundwater and Water Well Act requires a 100 metre separation distance between newly constructed wells and confined livestock areas.

**Water Stewardship Division; Water Use Licensing Branch; Groundwater Licensing section**

- This proponent is required to submit an Application for Licence to Construct a Well and Divert Groundwater. This application is required in order to issue a Groundwater Exploration Permit which must occur PRIOR to groundwater exploration and to well construction, therefore should be submitted well in advance of hiring the driller. In addition, the proponent will likely need to hire the services of a hydrogeologist registered with APEGM as a condition of the Permit. If there are any questions, the proponent is directed to contact Lorraine Thibert in the Water Use Licensing Section, at 204-945-6693 or by email at [Lorraine.Thibert@gov.mb.ca](mailto:Lorraine.Thibert@gov.mb.ca).

**Biodiversity & Land Use Division; Lands Branch; Provincial & Regional Land Management Planning section**

- No concerns.

## **Appendix C**

### **Topigs Norsvin Canada Inc. Response To Public Comments**

March 17, 2017

Attn: Don Malinowski, TRC Coordinator

Re: File No. TRC 12-024, Delta II Boar Test Station

Firstly, I would like to acknowledge the concerns raised by the seven area residents regarding our proposed Topigs Norsvin Canada Delta II Boar Test Station project in the RM of Woodlands. We respect their views and thank them for their time to comment in the Technical Review Committee's (TRC) public review process.

As many points raised had common themes, the following is a response to all the concerns expressed.

#### **Our Company - Topigs Norsvin Canada**

Topigs Norsvin Canada is a subsidiary of an international company that is one of the leading swine genetics companies in the world. The proposed facility will be wholly owned and operated by Topigs Norsvin Canada Inc. Topigs Norsvin Canada Inc. has been a Canadian registered company since 1984. We are headquartered in Winnipeg, Manitoba and already operate two farms in Manitoba.

Our proposed "Delta II" project will be an innovative and state of the art facility. It will be a world class research facility containing the most sophisticated and modern equipment available, including a CT scanner and computerized feed intake and recording equipment. There will be a filtered intake ventilation system and the strictest protocols to ensure the highest levels of biosecurity. This facility will deliver top genetics to over 50 countries around the world.

The research station will hold approximately 2800 animals. Half of these will be in the testing phase while the other half will be for global sales. The focus is on research and not production of animal

#### **Government Regulations, Monitoring & Enforcement**

In Manitoba, a livestock producer must meet stringent development requirements and undergo a rigorous and complex development process. This process includes mandatory public reviews, a formal public hearing and various provincial and local council approvals.

In particular, the livestock operation proposal must meet the requirements of The Planning Act, The Groundwater Protection Act, The Environment Act's Livestock Manure and Mortalities Management Regulation as well as other regulatory requirements depending on the nature and location of the proposed project.

Strict government requirements based on good science, good land use planning, professional engineering design and construction, and on-going government monitoring and enforcement protects both the public interest and .... the environment.

### **Remote Site**

The proposed 80-acre site located on the E1/2 of NE 19-14-3 WPM, on the eastern edge of the Woodlands Community Pasture was carefully chosen. Its remoteness and existing thick bush cover provides both bio-security and security for the Delta II Boar Test Station. As well, the location ensures that siting of the proposed test station barn and manure storage facility far exceed requirements for separation distances from even the single closest rural residence. The site is ideally located with direct access to extensive farmland. Area producers will benefit from the application of organic manure fertilizer; thereby reducing crop input costs.

The proposed Delta II project will have a minimal impact on the Woodlands Community Pasture. Topigs Norsvin Canada will be responsible at its own cost, to construct perimeter fencing and an access gate to maintain the integrity and current use of the rest of the expansive Community Pasture lands.

There is also provision for the Municipality (or Woodlands Community Pasture Inc) to either buy back or lease any of the land that may not be required for Delta II after it is fully developed. Thus, any excess land could be returned to the Woodlands Community Pasture. Moreover, it is our understanding that the Woodlands Municipality has deposited the land sale proceeds into a fund to buy more land for the Woodlands Community Pasture should other nearby community pasture land be divested from the federal or provincial government, in future.

The proposed Delta II project site is **NOT** located within any provincially designated Wildlife Management Area (WMA). It should also be noted that Manitoba Sustainable Development, (Dec 28, 2016 Director of Lands) has confirmed that "based on their records there is **NO** Order-in-Council on the NE 19-14 -3WPM " that pertains to the Woodlands Community Pasture".

### **Water Quality - Protection of Surface Water and Groundwater**

The proposed location for the Delta II facility is located within the West Interlake Watershed for water management planning purposes. It is NOT within the provincially designated Red River Special Management Area that requires special attention and flood risk mitigation measures to protect from flooding, and ground and surface water pollution.

As in all cases, provincial regulations regulate all activities that have the potential to contaminate both surface and groundwater supply. Besides livestock operations, this includes urban development of cities, municipal (earthen) sewage lagoons and other treatment systems, gas stations, refuse disposal sites, many types of heavy industry, rural residential subdivisions and individual residential septic fields.

Surface and groundwater protection is provided by means of multi-layered regulations and monitoring and enforcement system. This includes location, design and

construction of manure storage facilities, certification of manure applicators, strict annual manure testing, and regulating the methods and rate of fertilizer application. Provincial regulation strictly prohibits the application of manure immediately around surface watercourses or over potential aquifer recharge areas (gravel deposits, bedrock outcrops, sinkholes, etc.).

Livestock industry environmental stewardship programs are supported by both Manitoba Agriculture and Manitoba Pork for livestock producers to utilize "Best Practices". Manitoba Sustainable Development's public policies, regulations, conservation programs and monitoring and enforcement is mandated to protect the environment and natural resources for multiple uses including safe water quality and recreation, wildlife, forestry, parks and unique or ecologically sensitive areas.

The proposed Delta II site is surrounded on three sides (north, south and west) by Community Pasture in its natural state and this will remain in its current use. Much of the land to the east of the proposed site is cultivated and has been used for annual crops, hay and pasture for many years. It is this land that producers have offered up to be utilized for manure application on about a 4 to 5-year rotational basis with only about 250 acres used each year. This will be applied only once in the fall over a 2 to 3-day period and only during favourable weather conditions.

Manure application will be in accordance with a government approved annual manure management plan. All manure application will be applied at an agronomic rate and in locations that meet the requirements of the Livestock Manure & Mortalities Regulation. Manure fertilizer application will also be GIS mapped and supervised by a professional agronomist.

### **Manure Storage Safety**

An earthen manure storage (EMS) is proposed to contain the manure from this operation. This type of storage is very common and is used by almost every municipality for safely storing and treating human waste.

Earthen manure storages have been regulated by the Province of Manitoba since 1995. A permit to construct an EMS requires a detailed geotechnical assessment of soils; a design prepared by a professional engineer; review of the design and all relevant information by Manitoba Sustainable Development prior to issuing the permit; site supervision of the construction by the responsible engineer and finally certification of the storage by the engineer when the work is completed.

The above process is required for all manure storages constructed in Manitoba. Since the legislation was enacted in 1995 many hundreds of hog, poultry and dairy storages have been constructed. This program is among the strongest legislation in North America and has an excellent record of providing safe containment of livestock manure.

Delta II has retained DGH Engineering Ltd. to conduct a geotechnical site assessment to determine the specification of the manure storage required. Design features of typical earthen manure storages include:

- Determination of soil type on site. As per the soil type at this location we will be using a HDPE liner to prevent ground water contamination;
- Thick earthen berms, a minimum of five feet above grade. This design provides extremely high structural integrity and ensures that surface waters will not be impacted, and that surface water will not impact the storage;
- The interior and exterior slopes are designed to prevent erosion from occurring. The exterior berms will be grassed to further ensure bank stability.
- Erosion within the storage during filling and pump out will be eliminated using concrete pads and ramps.

Setbacks from surface watercourses are the final defense that, in conjunction with the above measures, will ensure that surface water is protected. The proposed EMS meets all setback requirements. The design and construction standards enforced by the Province of Manitoba ensure that there is no risk of groundwater contamination.

Since this program originated, the Province annually conducts audits of manure storages. Any storages found to have experienced damage or deterioration are required to implement remedial repairs to ensure environmental safety. To date, no permitted storage in Manitoba has experienced an incident that has resulted in any significant environmental impact.

#### **Land Base Required to Recycle Crop Nutrients**

Nutrients contained in the manure will be utilized as organic fertilizer for crop production. The organic material contained in the manure will act as a soil conditioner improving soil tilth, fertility, and water retention. Over the long term, increased soil organic content also builds a better and more stable soil structure less prone to erosion.

The manure will be applied as a fertilizer at rates that will match crop phosphorus and nitrogen uptake. An annual manure management plan must be filed with Manitoba Sustainable Development at least 60 days prior to application of manure to fields. Delta II plans to do annual soil testing to ensure that there is no build-up of nutrients that could pose a risk to surface or groundwater. The manure application rate is calculated using target yield, crop nutrient uptake, and manure nutrient levels. Soil and manure nutrient contents are analysed annually.

As the manure management plans are filed with the Province annually, should a build-up of nutrients begin to occur, the Province would be alerted and require changes in the operation's manure management practices.

The land base required to sustainably support this proposed hog operation has been identified in the assessment filed with the Technical Review Committee (TRC). In fact, the manure agreements that have been signed with area producers far exceed the required farm acreage required. It is expected that the TRC will verify that there is an adequate land base to recycle the nitrogen and phosphorous from this proposed operation.

Manure will be applied using one of the following application toolbars: a cultivator, Aerway or Coulter. These specific application toolbars do a very accurate job applying

the manure uniformly across the land while physically opening the soil to allow land to absorb the nutrients. Delta II will not use broadcast/ spray toolbars.

A three-metre setback is recommended by Provincial Guidelines as a setback from watercourses when manure is injected. In addition to respecting this setback, Delta II will maintain a vegetated buffer strip within this setback. Vegetated buffer strips have proven to be very effective in controlling nutrient runoff from cultivated crop land.

### **Water Consumption & Sustainable Water Supply**

The proposed 2,830 head finisher barn and research facility will require 10,393 imperial gallons per day or 7.2 gallons per minute. A new well will be drilled for the proposed operation. Prior to any new development of a water supply that exceeds 5,500 gallons per day, a Water Rights License must be obtained through Manitoba Sustainable Development. The license process includes the assessment of the proposed use on the aquifer and other uses. Manitoba Sustainable Development establishes withdrawal rates that prevent problems for other users prior to issuing a license. The local aquifer is expected to sustain all current uses as well as the proposed development without any concern.

### **Odour Control**

Odour is one of the primary concerns regarding swine farms. Odorants in swine manure result primarily from the partial decomposition of organic matter by anaerobic microorganisms. Although not present at toxic concentrations, livestock odours present a nuisance potential.

There are three sources of odour from swine operations: the facilities that house the animals, the manure storage, and the manure spreading operation. At the present time, it is not economically feasible to raise swine without some odour production. However, odours can be maintained at acceptable levels through proper siting, correct facility design and management and proper planning and operation of manure management systems.

In Barn Measures - with frequent manure removal and by keeping the animal and floor as clean and dry as possible, odours within the proposed barns will be kept to a practical minimum. Manure will be flushed out of the barns on a two-week interval to exterior long-term storage. This will keep the in-barn production of the most odorous gases to a minimum. Hydrogen sulphide, mercaptans, and organic acid gases are produced and released in greater quantities when manure is stored in the barn for longer periods. A state-of-the-art ventilation system will be installed, with computerized controls to ensure that the animals are always comfortable and healthy. This promotes improved barn cleanliness and reduced odour production. Further, the facility will be operated in an all-in all-out fashion by room; with complete wash-down and disinfection of every room between subsequent groups of pigs, improving barn sanitation and reducing odour production.

Manure Storage Measures - odour nuisance from the earthen manure storage experienced by neighbouring residents should be negligible due to the isolation and



remoteness of the site as it is located far from houses and is surrounded by dense bush to the south, west and north sides. The layout and clearing of the actual development site will provide a shelterbelt of existing mature bush on **all sides of the Delta II Test Station**.

Shelter belts around the hog facility will not only improve the aesthetic appearance of the area, but will help to disperse odours. Windbreak buffers also help decrease the effects of odours by creating greater lift and turbulence to better dissipate and diffuse odours. However, if odour complaints are experienced **within the first two years**, our company is prepared to include as a condition in a development agreement the installation of a plastic cover on the manure storage. This technology involves a geosynthetic membrane that covers the complete storage surface and eliminates almost all gas emissions from the storage.

Manure Application Measures - historically it was reported that about 40% of the public complaints on odour nuisance from swine operations were related to land application of manure when broadcasting was used as the delivery method. As mentioned previously, Delta II will **NOT** be using broadcasting to apply manure fertilizer. In contrast, the use of injection has virtually eliminated odour from the manure application process.

In our proposed operation, manure will be injected into the topsoil using a cultivator as our preferred method. The liquids are not atomized, evaporation and exposure to the air is eliminated, nutrients in the manure are stabilized with respect to runoff and odour release is negligible. Of the methods of manure applications available, injection results in the least odour during and after spreading. Alternatively, where rocks may be encountered, we will use an Aerway or Coulter equipment allowing manure to be incorporated directly into the soil. Irrespective of which application method is used, the effect on area residents is predicted to be minimal. This is due to the sparse population surrounding the spreading lands and the need for only a 2 - 3 day "fair weather" window to spread on about 250 acres only once a year in the fall. Our company will provide notice to neighbours before annual manure application takes place.

The nearest weather station with wind data applicable to the project site is in Winnipeg. Weather patterns at the site are expected to be generally similar to those observed in Winnipeg. The annual prevailing winds in the area of the site are from the North-West.

### **Traffic**

There will be minimal traffic to the Delta II Test Station. Staff of 10 will be encouraged to car pool whenever possible and visitors will be intermittent. It is anticipated that an average of 6 to 11 passenger vehicles carrying staff or visitors will enter the Delta II site per day.

We have re-estimated our expected truck traffic on a weekly basis. There will be 3 - 4 tractor trailers per week; 1 hauling pigs in and 1 hauling pigs out plus 1 or 2 tractor trailers hauling feed. As well, there will be 1 service truck entering the Delta II site per week.

This will **NOT** put a heavy stress on road 82N and not require additional road maintenance beyond what is normally required.

### **Quality of Life and Property Values**

The quality of life and land values for neighbours adjacent to hog farms were studied a few years ago, by Alberta Pork Producers and Alberta Agriculture. In the study, completed by Serecon Management Consulting Inc., 73 neighbours to existing hog operations were surveyed for their view. The study concluded as follows:

“While most neighbours share public concerns about odour, water quality and the impact of the operations on their quality of life, the large majority haven’t had any problems. They believe water quality, property impacts and aesthetics are important, but said that the existing operations did not significantly impact on these values.”

An additional study undertaken by Serecon examined the impact of intensive swine operations on neighbouring property values. This study occurred in the Lacombe and Rimbey areas of Alberta and concluded the following:

“Our findings in the analysis and supported by our expertise in this area is that generally intensive livestock operations, more specifically hog enterprises, do not have a negative impact on area land values. In fact, most of the purchasers surveyed found that land prices have increased in the areas studied due primarily to the number and density of livestock enterprises. This was due to the increased number of buyers in the area”.

With respect to the subject proposal, the proposed Delta II Boar Test Station is not expected to have a negative impact on the quality of life for area neighbours with respect to social interaction or outdoor recreation pursuits nor land values in the Rural Municipality of Woodlands. It bears repeating that the site is very isolated and heavily bushed making it virtually "out of sight and out-of-mind" for most residents and the public. Compliance with strict government regulations and good neighbour "best practices" in both the management and operation of the Test Station facility will also contribute towards maintaining a high quality of life and property values.

### **Jobs & Benefits to Community**

The proposed \$9.0 - \$10 Million development project will create 15 jobs in Manitoba of which 10 will be directly employed at the Delta II Boar Test Station in the R.M of Woodlands. Some technicians will be required to be trained and certified to run the specialized equipment such as the CT Scanner, feed intake recording equipment and sophisticated software programs. Besides research and lab technicians, employees for animal care, administration and deliveries will be required. The estimated annual payroll will be about \$600,000. Topigs Norsvin Canada's hiring policy and preference is to hire locally first.

The other 5 jobs will include 3 staff at existing quarantine nursery barns in the R.M. of Rockwood as well as 2 mobile testing positions to service all three barn operations owned and operated in Manitoba.

The house to be built on the test station site in the Woodlands Municipality is needed for biosecurity/security reasons. We prefer someone living on-site to monitor visitors and activities beyond the normal work day.

Delta II once fully developed will also provide considerable benefits to the area including annual tax revenues estimated at \$6,000 to the Municipality and \$4,000 to the local School Division. The project will also create additional spinoff benefits with annual operating expenditures of \$2.0 million. Project construction will also create opportunities for local trades and suppliers.

On behalf of Topigs Norsvin Canada, thank you for the opportunity to provide this additional information and clarification of our proposed Delta II Boar Test Station project. We are excited about the prospects of making major advances in swine genetics of global significance and market reach, right here in the Municipality of Woodlands, Manitoba. We are committed to be a "good corporate" citizen in the community and indeed, a good neighbour to adjacent residents and producers.

Regards,

A handwritten signature in black ink, appearing to read 'Mike Shaw', with a long horizontal stroke extending to the right.

Mike Shaw, Director Genetic Services  
Topigs Norsvin Canada Inc.