Schedule B: Minimum Distance Separation Formulae

4. IMPLEMENTATION GUIDELINES

The following outlines the specific Implementation Guidelines which shall be executed during the application of the *Minimum Distance Separation (MDS) Formulae* to calculate setbacks.

MDS I MDS II

#1. Referencing MDS in Municipal Planning Documents

In accordance with the Provincial Policy Statement, 2014, this MDS Document shall apply in *prime* agricultural areas and on rural lands. Consequently, the appropriate parts of this MDS Document shall be referenced in municipal official plans, and detailed provisions included in municipal comprehensive zoning by-laws such that, at the very least, MDS setbacks are required in all designations and zones where *livestock facilities* and *anaerobic digesters* are permitted.

Sections 1, 2, 6, 7 and 8 of this document are primarily provided for information purposes, and are not required for inclusion in municipal planning documents; however, Sections 3, 4 and 5 comprise the *Minimum Distance Separation Formulae* as referenced in the PPS, and as such shall form the basis for MDS provisions enshrined in local land use planning documents. To exercise the various options available to municipalities under Implementation Guidelines #7, #9, #35 and #38, appropriate references must be included in the appropriate implementing land use planning document (official plan and/or comprehensive zoning by-law depending on the trigger for MDS); otherwise, the default approaches outlined in Implementation Guidelines #7, #9, #35 and #38 shall apply as written in this MDS Document.

#2. For What, and When, is an MDS Setback Required?

The MDS I setback distances shall be met prior to the approval of: proposed lot creation in accordance with Implementation Guidelines #8 and #9; rezonings or re-designations in accordance with Implementation Guideline #10; building permits on a lot which exists prior to March 1, 2017 in accordance with Implementation Guideline #7; and as directed by municipalities for local approvals for agriculture-related uses or on-farm diversified uses in accordance with Implementation Guideline #35.

The information used to carry out an MDS I calculation must reflect the circumstances at the time that the municipality deems the planning or building permit application to be complete.

The MDS II setback distances shall be met prior to the approval of the building permit application for a first or altered livestock facility occupying an area greater than 10 m² or any anaerobic digester.

The information used to carry out an MDS II calculation must reflect the circumstances at the time that the municipality deems the building permit application to be complete.

#3. For What, and When, is an MDS Setback NOT Required?

Certain proposed uses are not reasonably expected to be impacted by existing livestock facilities or anaerobic digesters and as a result, do <u>NOT</u> require an MDS I setback. Such uses may include, but are not limited to:

- extraction of minerals, petroleum resources and mineral aggregate resources;
- · infrastructure; and
- · landfills.

However, if one of the uses exempted from MDS I by this Implementation Guideline is later proposed to be rehabilitated or redeveloped to a use that is not an *agricultural use*, then MDS I setbacks shall be met prior to the approval of any required planning or building permit application.

In addition, MDS I setbacks are NOT required from:

- livestock barns occupying an area less than 10 m²;
- certain unoccupied livestock barns in accordance with Implementation Guideline #20;
- certain unused manure storages in accordance with Implementation Guideline #21;
- · apiaries;
- · aquaculture facilities;
- · deadstock handling facilities;
- · fairground buildings;
- · feed storages;
- field shade shelters;
- · greenhouses;
- · kennels:
- machinery sheds;
- meat plants (including abattoirs and slaughterhouses);
- · mushroom facilities;
- · pastures;
- · poultry hatcheries;
- · stockyards;
- temporary field nutrient storage sites
 (as defined under the Nutrient Management Act, 2002);
- veterinary clinics with housing for livestock; and
- · ZOOS.

Certain things that may or may not be associated with agriculture do <u>NOT</u> require MDS II setbacks. Such things may include, but are not limited to:

- · apiaries;
- · aquaculture facilities;
- · deadstock handling facilities;
- · fairground buildings;
- · feed storages;
- · field shade shelters;
- · greenhouses;
- · kennels;
- · machinery sheds;
- meat plants (including abattoirs and slaughterhouses);
- · mushroom facilities;
- · pastures;
- · poultry hatcheries;
- · stockyards;
- temporary field nutrient storage sites (as defined under the Nutrient Management Act, 2002);
- · veterinary clinics with housing for livestock; and
- · zoos.

In addition, MDS II setbacks are NOT required from:

- extraction of minerals, petroleum resources and mineral aggregate resources;
- · infrastructure; and
- · landfills.

#4. MDS Setbacks for Manure Transfer Facilities

Some *livestock facilities* and *anaerobic digesters* require transfer facilities that store manure for less than 14 days before transfer to a longer-term permanent storage, or transfer to field spreading areas, or transfer off the farm.

Transfer facilities include, but are not limited to: areas for settling sand out of liquid manure, small sumps for collection or mixing of liquid manure from several areas of a *livestock barn*, or outside concrete pads where solid manure is temporarily stored awaiting pickup by a custom manure broker.

Manure transfer facilities are not considered permanent *manure storages* and instead will receive the same MDS setbacks as the *livestock barn*. In other words, the MDS setback for a transfer facility is the same as Building Base Distance 'F', and shall not generate its own separate Storage Base Distance 'S'.

#5. MDS Setbacks for Earthen Manure Storages

MDS setbacks are applied to *first* or *altered livestock facilities* (MDS II) and, reciprocally, from *existing livestock facilities* (MDS I), which in both cases includes earthen *manure storages*, despite these storages not being considered 'buildings' and, consequently, not requiring building permits at the time of construction. Simply because earthen *manure storages* do not require building permits does not exclude them from MDS setbacks, as these *livestock facilities* are permanent *manure storages* with defined boundaries and represent an odour source with the highest odour potential according to Table 5.

#6. Required Investigation Distances for MDS

A separate MDS I setback shall be required to be measured from all existing livestock facilities and anaerobic digesters on lots in the surrounding area that are reasonably expected by an approval authority to be impacted by the proposed application.

As part of municipal consideration of planning or building permit applications, all existing livestock facilities or anaerobic digesters within a 750 m distance of a proposed Type A land use and within a 1,500 m distance of a proposed Type B land use shall be investigated and MDS I setback calculations undertaken where warranted.

In circumstances where large *livestock facilities* (e.g., >1,200 *Nutrient Units*) exist beyond the 750 m or 1,500 m study area, MDS I setbacks from these facilities should also be calculated.

When investigating the surrounding area for applications to permit a first or altered livestock facility or anaerobic digester, MDS II setbacks shall be required to be measured from all existing and approved sensitive receptors reasonably expected by an approval authority to be impacted by the proposed first or altered livestock facility or anaerobic digester, including all existing and approved development and all dwellings on lots in the surrounding area.

#7. MDS I Setbacks for Building Permits on Existing Lots

MDS I setbacks are not required for dwelling additions and renovations proposed on existing lots, even where an addition results in the existing dwelling being closer to a surrounding livestock facility or anaerobic digester. However, MDS I setbacks are required for all other building permit applications for dwellings on lots that existed prior to March 1, 2017, unless otherwise specified in a municipality's zoning by-law or where otherwise not required by this MDS Document.

For *lots* created after March 1, 2017, MDS I setbacks shall be required for building permit applications for *dwellings* unless otherwise not required by this MDS Document.

Where a setback is required, MDS I measurements shall be taken as the shortest distance between the proposed building to be constructed and either the manure storages, or anaerobic digesters, or the livestock occupied portions of the livestock barns.

While municipalities have the option to exempt buildings proposed through building permit applications on *lots* which exist prior to March 1, 2017, they are strongly discouraged from exempting these applications.

If local exemptions are supported for building permits on existing *lots*, a municipality shall adopt provisions in their comprehensive zoning by-law which clearly state the details for such exemptions. Examples of such provisions may include, but are not limited to, those which only require an MDS I setback for building permit applications:

- on existing lots that are in a particular land use zone or designation (e.g., rural residential, estate residential);
- on existing lots that are above or below a certain size threshold (e.g., 4 ha);

Not applicable

MDS I	MDS II
 on existing lots which are vacant (e.g., no existing dwellings or other buildings); on existing lots, but where the MDS I setback cannot be met, then through a planning application, allow a dwelling provided that it be located as far as possible from the existing livestock facility from which the setback cannot be met; on lots which exist prior to a specific date (e.g., March 1, 2017 or the date of adoption of comprehensive zoning by-law); or, for certain types of buildings (e.g., dwellings). 	
#8. MDS I Setbacks for Lot Creation	
 Where lot creation is proposed, including new lots for agricultural uses, an MDS I setback is required for both the severed and retained lot. However, an MDS I setback is not required: for a severed or retained lot for an agricultural use when that lot already has an existing dwelling on it; for purposes such as easements, corrections of deeds, quit claims and minor boundary adjustments which do not result in the creation of a new lot; for a severed or retained lot for infrastructure in accordance with Implementation Guideline #3; for a severed or retained lot for agriculture-related uses, except where required by a municipality in accordance with Implementation Guideline #35; or where noted in Implementation Guideline #9. NOTE: The lot creation policies contained in the PPS, provincial plans and other local lot creation policies continue to apply despite any exemptions from MDS I setbacks. 	Not applicable

#9. MDS I Setbacks and Lot Creation for a Residence Surplus to a Farming Operation

For a proposed severance of a residence surplus to a farming operation:

- Where the existing dwelling to be severed and the nearby livestock facility or anaerobic digester are located on separate lots prior to the consent, an MDS I setback is not required for the consent application (or associated rezoning) unless otherwise required by a municipal official plan policy. This is because a potential odour conflict may already exist between those surrounding livestock facilities or anaerobic digesters and the existing dwelling.
- 2. An MDS I setback is always required for a proposed lot with an existing dwelling when prior to the consent, that dwelling is located on the same lot as an existing livestock facility or anaerobic digester and after the consent, the dwelling would be on a lot separate from that same existing livestock facility or anaerobic digester. This is because such a proposal could create a potential odour conflict as the dwelling and the livestock facility or anaerobic digester will be on separate conveyable lots if the severance is approved. This is the case regardless of how a municipality chooses to treat existing livestock facility on lots separate from the dwelling prior to the consent.
- 3. Where a new lot is proposed with an existing dwelling AND an existing livestock facility or anaerobic digester on it, an MDS I setback is not required for that livestock facility or anaerobic digester in accordance with Implementation Guideline #14.

Refer to Figure 3 in Section 7 of this MDS Document for a drawing illustrating these three scenarios.

NOTE: For severances of a residence surplus to a farming operation, an MDS I setback shall only be required for the newly created surplus dwelling lot and shall not be required for the remnant farm parcel nor for any associated rezonings of the severed or retained parcels.

Not applicable

#10. MDS I Setbacks for Zoning By-Law Amendments and Official Plan Amendments

An MDS I setback is required for all proposed amendments to rezone or redesignate land to permit development in prime agricultural areas and rural lands presently zoned or designated for agricultural use. This shall include amendments to allow site-specific exceptions which add nonagricultural uses or residential uses to the list of agricultural uses already permitted on a lot, but shall exclude applications to rezone a lot for a residence surplus to a farming operation (e.g., to a rural residential zone) in accordance with Implementation Guideline #9 above.

Amendments to rezone or redesignate land already zoned or designated for a non-agricultural use, shall only need to meet the MDS I setbacks if the amendment(s) will permit a more sensitive land use than existed before. In other words, if the proposal is to change an existing Type A land use (e.g., industrial use outside of a settlement area) to a Type B land use (e.g., commercial) in accordance with Implementation Guidelines #33 and #34, then an MDS I setback shall be required.

Not applicable

#11. MDS Setbacks for Reconstruction

Where a municipality explicitly requires MDS I setbacks for building permit applications on *lots* which exist prior to March 1, 2017, in accordance with Implementation Guideline #7, an MDS I setback is <u>NOT</u> required for building reconstruction provided <u>ALL</u> of the following conditions are met:

- the building which existed before the application was habitable;
- the proposed building is for the same or less sensitive land use type (i.e., Type A or Type B in accordance with Implementation Guidelines #33 and #34) than the former building; and

MDS II setbacks are <u>NOT</u> required for *livestock* facility reconstruction provided the resulting *livestock facility* is built no closer to the surrounding existing or approved *development* or *dwelling* than the *livestock facility* which existed before the building permit application.

However, MDS II setbacks shall be required if the proposed reconstruction includes an *anaerobic digester* or a *livestock facility* that meets at least ONE of the following conditions:

 will house a different livestock type(s) which is more odorous than existed before reconstruction (resulting in a greater value for Factor A); or

MDS I	MDS II
the proposed building is built no closer to the surrounding livestock facilities or anaerobic digesters than the former building.	 will house a greater number or area of livestock or store a greater volume of imported manure than existed before reconstruction (resulting in a greater value for Factor B); or will change from a solid to a liquid manure system (resulting in a greater value for Factor D); or will have a new manure storage with an increased relative odour potential (based on Table 5) than existed before reconstruction (e.g., going from a 'Very Low' to a 'Low' odour potential).
#12. Existing Uses that Do Not Conform to MDS	
An MDS I setback is required for proposed development or dwellings, even though there may be existing or approved development or dwellings nearby that do not conform to MDS I requirements. However, a reduced MDS I setback may be permitted provided there are four, or more, nonagricultural uses, residential uses and/or dwellings closer to the subject livestock facility than the proposed development or dwellings and those four or more non-agricultural uses, residential uses and/or dwellings are: • located within the intervening area (120° field of view shown in Figure 4 in Section 7 of this MDS Document) between the closest part of the proposed development or dwelling and the nearest livestock facility or anaerobic digester; • located on separate lots; and • of the same or greater sensitivity (i.e.,	Even though there may be a portion of the existing livestock facility or existing anaerobic digester that does not conform to the MDS II setbacks, building permit applications for any altered livestock facility or anaerobic digester are still required to meet the MDS II setbacks.

Type A or Type B in accordance with Implementation Guidelines #33 and #34) as the proposed development or dwelling.

MDS I	MDS II
If <u>ALL</u> of the above conditions are met, the MDS I setback for the proposed <i>development</i> or <i>dwelling</i> may be reduced such that it is located no closer to the <i>livestock facility</i> or <i>anaerobic digester</i> than the furthest of the four <i>non-agricultural uses</i> , residential uses and/or dwellings as shown in Figure 4.	
#13. Non-Application of MDS to Accessory Structu	res
When an MDS I setback is required by a municipality for building permit applications on a lot which existed prior to March 1, 2017, in accordance with Implementation Guideline #7, an MDS I setback shall NOT be required for proposed structures accessory to a dwelling, including, but not limited to: decks, garages, gazebos, greenhouses, outbuildings, patios, picnic areas and sheds.	MDS II setbacks shall <u>NOT</u> be required from existing structures accessory to a <i>dwelling</i> , including, but not limited to: decks, garages, gazebos, greenhouses, outbuildings, patios, picnic areas and sheds.
#14. Uses Located on the Same Lot	
An MDS I setback is <u>NOT</u> required to be met for proposed development, dwelling, agriculture-related use, or on-farm diversified use from an existing livestock facility or anaerobic digester located on the same lot as the proposal.	MDS II setbacks are NOT required to be met for the first or altered livestock facility or anaerobic digester to any existing or approved development, dwelling, agriculture-related use, or on-farm diversified use located on the same lot.
#15. Same Ownership	
An MDS I setback is required for proposed development or dwellings even if the lot on which they are proposed is held by the same owner as the existing livestock facility or anaerobic digester nearby. This recognizes that a lot may be sold to a new owner, possibly resulting in a potential future land use conflict.	MDS II setbacks are required for a proposed first or altered livestock facility or anaerobic digester even if the lot on which they are proposed is held by the same owner as the existing or approved development or dwellings nearby. This recognizes that a lot may be sold to a new owner, possibly resulting in a potential future land use conflict.

#16. Obtaining Required Information to Calculate MDS Setbacks

The preferred method for obtaining information (e.g., livestock and manure type as well as design capacity) to be used in MDS I calculations for a complete planning application is visiting the site and getting information directly from the farm operator(s) or owner(s) of the property where the livestock facilities or anaerobic digesters are located.

If cooperation is not forthcoming, or there is concern about the accuracy of the information available, it may be helpful to obtain independent information by consulting other sources, including, but not limited to:

- · aerial photography;
- best professional judgement about the past/most recent use of building(s);
- current farm owner or operator (if different than the original information source);
- existing municipal building permits on record;
- Municipal Property Assessment Corporation (MPAC) records;
- neighbouring landowners;
- qualified consultant(s) knowledgeable about livestock facilities; or
- · OMAFRA staff.

NOTE: Even though information may be provided by the applicant or their agent, ultimately, it is the responsibility of the municipality to determine if information used for an MDS I calculation is reasonably accurate and reflects existing conditions.

The only method for obtaining information (e.g., livestock and manure type as well as design capacity) to be used in MDS II calculations for the first or altered livestock facility is from the owner(s) or their agent with the application for the proposed construction.

In some circumstances where information is missing, or there is a concern about the accuracy of the information available, it may be helpful to obtain independent information by carrying out a site visit or consulting other sources, including, but not limited to:

- aerial photography;
- best professional judgement about the past/most recent use of building(s);
- current farm operator (if different than the owner/agent);
- · existing municipal building permits on record;
- Municipal Property Assessment Corporation (MPAC) records;
- · neighbouring landowners;
- qualified consultant(s) knowledgeable about livestock facilities; or
- OMAFRA staff.

NOTE: Even though information may be provided by the applicant or their agent, ultimately, it is the responsibility of the municipality to determine if information used for an MDS II calculation is reasonably accurate and reflects the proposed construction.

#17. Fewest Number of Nutrient Units Used when Calculating MDS

The fewest number of *Nutrient Units* used in calculating MDS I setbacks is 5 *Nutrient Units*, even if the actual *design capacity* is fewer than 5 *Nutrient Units*.

Accordingly, the MDS software will automatically round-up to the minimum of 5 *Nutrient Units*.

MDS II setbacks are required for all first or altered livestock facilities; however, the fewest number of Nutrient Units used in calculating MDS II setbacks is 5 Nutrient Units, even if the actual design capacity is fewer than 5 Nutrient Units.

Accordingly, the MDS software will automatically round-up to the minimum of 5 *Nutrient Units*.

#18. MDS II for Building Permit Applications to Renovate Existing Livestock Facilities

Not applicable

An MDS II setback is required prior to the approval of a building permit application to renovate existing livestock facilities that would result in an altered livestock facility.

This is true even if the renovation results in the same design capacity, or a lower design capacity than what existed before. For example, an existing livestock facility to be renovated is more than 3 years old and has a design capacity of 150 Nutrient Units for swine feeders on a liquid manure system with an outside, uncovered, straight-walled liquid manure storage (M1 storage in Table 5). After the proposed renovation, the altered livestock facility will instead have a design capacity of 50 Nutrient Units for chicken broilers on a solid manure system with an outside, uncovered, solid manure storage (V3 storage in Table 6).

NOTE: This would result in fewer *Nutrient Units* than before the renovation.

- Factor A = 0.7 for chicken broilers (just for those livestock being added)
- Factor B = 260 for 50 Nutrient Units
- Factor C = 0.5 for a -66.7% increase (or 66.7% decrease), but Factor C always equals 0.5 for any decrease in Nutrient Units
- Factor D = 0.7 for solid manure (just for those livestock being added)

MDS I	MDS II
Not applicable	 Building Base Distance ('F') = 0.7 x 260 x 0.5 x 0.7 = 63.7 m Storage Base Distance ('S') = 63.7 m (for a V3 storage) Likewise, an MDS II setback is also required prior to the approval of a building permit application to renovate existing anaerobic digesters in accordance with Implementation Guideline #22.

#19. Cumulative Design Capacity of Livestock Facilities on a Lot

MDS calculations shall be based on the combined design capacity for all livestock barns on a lot, even if they are unoccupied livestock barns or separated by a substantial distance on the lot.

Where there are no *livestock barns* on a *lot*, MDS calculations shall be based on the combined *design* capacity for all *manure storages* on a *lot*, even if they are *unused manure storages* or separated by a substantial distance on the *lot*.

#20. MDS Setbacks for Unoccupied Livestock Barns

Design capacity for an MDS I calculation shall include all *unoccupied livestock barns* on a *lot* in accordance with this Implementation Guideline.

First and foremost, the number of livestock or the area of livestock housing of unoccupied livestock barns should be based on information supplied by the farm operator(s) and/or owner(s). Only after concerted, documented effort has been made to obtain information from the farm operator(s) and/or owner(s), but obtaining information was not possible, then the following default Factors apply for unoccupied livestock barns:

- Factor A = 1.0
- Factor B is based on 1 Nutrient Unit/ 20 m² of area of livestock housing (NOTE: Assume the barn is only one-story high if using aerial photography.)
- Factor D = 0.7

Design capacity for an MDS II calculation shall include all unoccupied livestock barns on a lot.

However, buildings deemed by a municipal building official, with input from a professional engineer or a consultant knowledgeable about *livestock facilities* where appropriate, as no longer being structurally sound, or reasonably capable of housing *livestock* shall not be included in an MDS II calculation.

MDS I	MDS II
 However, an MDS I setback is not required when: the building has been deemed by a municipal building official, with input from a professional engineer or a consultant knowledgeable about livestock facilities where appropriate, as no longer being structurally sound or reasonably capable of housing livestock; or the portion of the lot on which the unoccupied livestock barn is located is zoned such that the building shall not be used for housing livestock; or the floor area of the unoccupied livestock barn is <100 m². 	
#21. MDS Setbacks for Unused Manure Storages Design capacity for an MDS I calculation shall include all manure storages on a lot in accordance with this Implementation Guideline, even if those storages are unused and not storing manure at the time of the MDS I application.	Design capacity for an MDS II calculation shall include all manure storages on a lot, even if those storages are unused and not storing manure at the time of an MDS II application.
First and foremost, the volume of <i>unused manure</i> storages should be based on information supplied by the farm operator(s) and/or owner(s). Unused manure storages for SOLIDS: Only after	However, structures deemed by a municipal building official, with input from a professional engineer or a consultant knowledgeable about livestock facilities where appropriate, as no longer being structurally sound, or reasonably capable of storing manure, shall not be included in an

Factor B is based on 1 Nutrient Unit/19.8 m³ of volume for storages with two or more walls (NOTE: Assume manure is stored 1 m deep over the area enclosed by the two or more walls if using aerial

not possible, then the following Factors apply for

unused manure storages for <u>SOLIDS</u>:

photography).
• Factor D = 0.7

• Factor A = 1.0

MDS I	MDS II
 However, an MDS I setback is not required when: there is only one, or no, walls; or, the structure has been deemed by a municipal building official, with input from a professional engineer or a consultant knowledgeable about <i>livestock facilities</i> where appropriate, as no longer being structurally sound or reasonably capable of storing manure; or, the portion of the <i>lot</i> on which the <i>unused manure storage</i> is located is zoned such that the structure shall not be used for storing manure; or, the floor area of the <i>unused manure storage</i> is <100 m². 	
 Unused manure storages for LIQUIDS: Only after concerted, documented effort has been made to obtain information from the farm operator(s) and/or owner(s), but obtaining information was not possible, then the following Factors apply for unused manure storages for LIQUIDS: Factor A = 1.0 Factor B is based on 1 Nutrient Unit/19.8 m³ of design capacity (NOTE: Assume manure is stored 2.5 m deep and level over the area enclosed by storage walls if using aerial photography). Factor D = 0.8 	
 However, an MDS I setback is not required when: the structure has been deemed by a municipal building official, with input from a professional engineer or a consultant knowledgeable about <i>livestock facilities</i> where appropriate, as no longer being structurally sound or reasonably capable of storing manure; or, the portion of the <i>lot</i> on which the <i>unused manure storage</i> is located is zoned such the structure shall not be used for storing manure; or, the floor area of the <i>unused manure storage</i> is <40 m². 	

MDS I	MDS II
#22. MDS Setbacks for Anaerobic Digesters	
There is no calculation for an MDS I setback from an anaerobic digester. Instead, the required MDS I setbacks are fixed as follows: 200 m to proposed Type A land uses 450 m to proposed Type B land uses 200 m to proposed dwellings Refer to Figure 5 in Section 7 of this MDS Document. Secondary elements related to the anaerobic digester such as gas and water pipes and electrical generator buildings or wires are not subject to MDS I setbacks. MDS I setbacks are measured from the closest associated component of the existing anaerobic digester.	There is no calculation for an MDS II setback for an anaerobic digester. Instead the required MDS II setbacks are fixed as follows: 200 m from existing Type A land uses 450 m from existing Type B land uses 200 m from existing dwellings on a separate lot 20 m from a rear and side lot line 40 m from the edge of a road allowance Refer to Figure 6 in Section 7 of this MDS Document. Secondary elements related to the anaerobic digester such as gas and water pipes and electrical generator buildings or wires are not subject to MDS II setbacks. MDS II setbacks are measured to the closest associated component of the proposed anaerobic digester. MDS II setbacks for anaerobic digesters cannot be reduced through Implementation Guideline #43.
#23. Calculating Building Base Distance ('F')	
The MDS I formula for calculating Building Base Distance ('F') is: 'F' = Factor A x B x D x E.	The MDS II formula for calculating Building Base Distance ('F') is: 'F' = Factor A x B x C x D.
NOTE: Factor C is NOT used in MDS I.	NOTE: Factor E is <u>NOT</u> used in MDS II.
#24. Determining Storage Base Distance ('S')	
Storage Base Distance ('S') is <u>NOT</u> calculated, but re Base Distance ('F') in accordance with Implementati type from Table 5 that best matches the <i>manure sto</i> .	on Guideline #23, then select the manure storage

If there are multiple manure storage types on the lot, the storage type with the highest relative Storage

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determine the corresponding value on Table 6.

Odour Potential is selected from Table 5.

#25. Factor A: Odour Potential Factor (Table 1)

Factor A is determined by selecting the value aligned with the applicable *livestock*/manure description on Table 1. Factor A is based on the relative potential for emanating offensive odours. The greater the value of Factor A, the higher the odour potential and the further the resulting MDS setbacks, all other things being equal.

#26. Factor B: Nutrient Units Factor (Table 2)

Factor B used in MDS I setbacks for settlement area expansions shall only be based on the design capacity for all livestock facilities on a lot.

In addition, for other MDS I setbacks where the *livestock facilities* are located on *lots* ≤5 ha, Factor B is also only based on the *design capacity* for all *livestock facilities* on the *lot*.

For all other MDS I setbacks where the *livestock* facilities are located on *lots* >5 ha, Factor B is based on the possible future expansion of the existing *livestock* facilities on the *lot*, known as the 'potential' design capacity.

More specifically, the potential design capacity for MDS I is determined by knowing the design capacity for all livestock facilities on the lot, and the total area of the lot. With both of these pieces of information, use the table below to determine the appropriate potential design capacity. This value should then be used to find the value of Factor B for the purposes of calculating an MDS I setback where the livestock facilities are located on a lot >5 ha.

For MDS II, Factor B is based on the design capacity for all livestock facilities on a lot.

In accordance with Table 2, the more *Nutrient Units*, the greater the value for Factor B and the further the resulting MDS II setbacks, all other things being equal.

While using Table 2, it may be necessary to interpolate a value for Factor B. When interpolating, do not include more than two decimal places, rounded accordingly.

MDS I MDS II Total Total Design Total Total Lot Lot Size Lot Size Lot Size >25 ha, but Size ≤5 ha >5 ha, but >50 ha ≤50 ha Factor B Factor B Factor B Factor B based on based on based on based on ≤5 NU design design design design capacity capacity capacity capacity only only only only Factor B Factor B Factor B Factor B based on based on based on based on >5 NU, design 2 x design 2 x design 2 x design but capacity capacity ≤25 NU capacity capacity only Factor B Factor B Factor B Factor B based on based on based on >25 NU, based on design 2 x design 3 x design 3 x design ≤125 NU capacity capacity capacity capacity only Factor B Factor B Factor B Factor B based on based on based on based on design 2 x design 3 x design 3 x design >125 NU capacity capacity, capacity, capacity, to max of to max of only to max of 450 NU 300 NU 600 NU NOTE: To determine design capacity for unoccupied livestock barns or unused manure storages, see Implementation Guidelines #20 and #21 respectively. In accordance with Table 2, the more Nutrient Units, the greater the value for Factor B and the further the resulting MDS I setbacks, all other things being equal. While using Table 2, it may be necessary to interpolate a value for Factor B. When interpolating, do not include more than two decimal places, rounded accordingly.

MDS I	MDS II
#27. Factor C: Expansion Factor (Table 3)	
Not applicable	Factor C only applies for MDS II, and is based on the percentage increase in the number of <i>Nutrient Units</i> for the proposed construction of a <i>first</i> or altered livestock facility, compared to the <i>Nutrient Units</i> of all existing livestock facilities on the lot. The greater the percentage increase, the greater the value for Factor C and the further the resulting MDS II setbacks, all things being equal.
	Expansion of a <i>livestock</i> facility is a necessary and typical process for most farm operations, and can reasonably be expected over time.
	Factor C is 1.14 (Table 3) for the first livestock facility on a lot, resulting in a building location that will allow for future expansion of most subsequent livestock facilities within a reasonable building envelope.
	Factor C is 0.5 (Table 3) for no increase in <i>Nutrient Unit</i> s (0% increase) and for decreases in <i>Nutrient Unit</i> s.
	Where an existing livestock facility is to be expanded, the percentage increase shall be calculated using the total additional Nutrient Units proposed as the numerator and the total existing Nutrient Units as the denominator, with the result multiplied by 100.
	For example, if an existing livestock facility currently has a design capacity of 200 Nutrient Units and proposes to increase design capacity by 100 additional Nutrient Units, the percentage increase is calculated as 100 Nutrient Units (numerator) divided by 200 Nutrient Units (denominator) and multiplied by 100 for a value of 50% (100/200) x 100 = 50%. From Table 3, Factor C = 0.8100.
	Where a <i>livestock</i> facility is to be expanded, and one or more building permits to establish or expand that <i>livestock</i> facility were already issued within the previous 3 years, the percentage increase shall be calculated using the total additional <i>Nutrient Units</i> established or added by building permit(s) issued during the previous 3-year period, plus the proposed expansion, as the numerator, and the total existing

MDS I	MDS II
	Nutrient Units prior to the previous 3-year period as the denominator. For example, an existing livestock facility currently has a design capacity of 200 Nutrient Units and proposes to increase design capacity by 100 additional Nutrient Units. A building permit for this livestock facility was issued 2 years ago which increased the size of the operation at that time from 100 Nutrient Units to 200 Nutrients Units. In this case, the percentage increase is calculated as 200 Nutrient Units (numerator) (100 Nutrient Units for this expansion plus 100 Nutrient Units for expansion 2 years ago) divided by 100 Nutrient Units (denominator) (the design capacity of the livestock facility 3 years ago) and then multiplied by 100 for a value of 200% [(100+100)/100] x 100 = 200%. From Table 3, Factor C = 1.0000. In using Table 3, it may be necessary to interpolate a value for Factor C. When interpolating, do not include more than four decimal places, rounded accordingly.

#28. Factor D: Manure Type (Table 1)

Factor D is determined by selecting the value aligned with the applicable manure type (liquid manure or solid manure) in Table 1. Factor D is based on the physical state of manure (liquid or solid) on the *lot* and its relative potential for emanating offensive odours. The greater the value for Factor D, the higher the odour potential and the further the resulting MDS setbacks, all other things being equal.

#29. Factor E: Encroaching Land Use Factor (Table 4)

Factor E is determined by selecting the encroaching land use factor in Table 4 (Type A Land Use or Type B Land Use) that best matches the descriptions in Implementation Guidelines #33 and #34. Factor E is based on the relative sensitivity of an encroaching land use as it relates to odour from an existing livestock facility. The more sensitive the land use (based on an anticipated higher density of human occupancy, habitation or activity), the greater the value (1.1 or 2.2) of the encroaching land use factor and the further the resulting MDS I setbacks, all other things being equal.

Not applicable

#30. Determining Factor A When More Than One Type of *Livestock* are Housed and/or More Than One Type of Manure are Stored, With Differing Values for Factor A

In MDS I, Factor A will require a weighted average when there is more than one type of *livestock* housed and/or more than one type of manure stored on a *lot* with differing values for Factor A.

For example, if a *livestock* facility on a *lot* has 50 *Nutrient Units* of chicken broilers (Factor A = 0.7), as well as 100 *Nutrient Units* of swine feeders (Factor A = 1.2), then the weighted average Factor A is: $[(50 \times 0.7) + (100 \times 1.2)] \div (50 + 100) = 1.03$

When calculating a weighted average, the value of Factor A should not include more than two decimal places, rounded accordingly.

In MDS II, Factor A will require a weighted average when there is more than one type of *livestock* proposed to be added and/or more than one type of manure proposed to be added at the same time with differing values for Factor A.

For example, if a farmer proposes to expand a *livestock facility* by adding 50 *Nutrient Units* of chicken broilers (Factor A = 0.7), as well as adding 100 *Nutrient Units* of swine feeders (Factor A = 1.2) at the same time, then the weighted average Factor A is: $[(50 \times 0.7) + (100 \times 1.2)] \div (50 + 100) = 1.03$

When calculating a weighted average, the value of Factor A should not include more than two decimal places, rounded accordingly.

#31. Determining Factor D When BOTH Solid and Liquid Manure are Stored on a Lot

In MDS I, Factor D will require a weighted average when <u>BOTH</u> solid and liquid manure are being stored on a *lot*.

For example, if a *livestock facility* has 50 *Nutrient Units* of chicken broilers with a solid manure system (Factor D = 0.7) <u>AND</u> 100 *Nutrient Units* of swine feeders with a liquid manure system (Factor D = 0.8) then the weighted average Factor D is: $[(50 \times 0.7) + (100 \times 0.8)] \div (50 + 100) = 0.77$

When calculating a weighted average, the value of Factor D should not include more than two decimal places, rounded accordingly.

In MDS II, Factor D will require a weighted average when <u>BOTH</u> solid and liquid *manure storages* are being proposed as part of the same building permit application.

For example, if a farmer proposes to add 50 *Nutrient Units* of chicken broilers with a solid manure system (Factor D = 0.7) <u>AND</u> 100 *Nutrient Units* of swine feeders with a liquid manure system (Factor D = 0.8) then the weighted average Factor D is: $[(50 \times 0.7) + (100 \times 0.8)] \div (50 + 100) = 0.77$

When calculating a weighted average, the value of Factor D should not include more than two decimal places, rounded accordingly.

#32. Rounding of MDS Calculations

All resulting calculated separation distances are rounded $\underline{\text{UP}}$ to the nearest metre. For example, if the final MDS setback is 364.72 m, round up to 365 m.

#33. Type A Land Uses (Less Sensitive)

For the purposes of MDS I, proposed Type A land uses are characterized by a lower density of human occupancy, habitation or activity including, but not limited to:

- · industrial uses outside a settlement area;
- open space uses;
- building permit applications on existing lots outside a settlement area for dwellings, unless otherwise specified in a municipality's zoning by-law in accordance with Implementation Guideline #7;
- the creation of lots for agricultural uses, in accordance with Implementation Guideline #8; and
- the creation of one or more lots for development on land outside of a settlement area that would NOT result in four or more lots for development in immediate proximity to one another (e.g., sharing a common contiguous boundary, across the road from one another, etc.), regardless of whether any of the lots are vacant.

For the purposes of MDS II, existing Type A land uses are characterized by a lower density of human occupancy, habitation or activity including, but not limited to:

- · industrial uses outside a settlement area;
- · open space uses; and,
- dwellings on lots which are located outside
 of a settlement area and are not recognized
 through an official plan designation for
 development; includes dwellings that are
 located on lots zoned for agriculture uses,
 residential uses or non-agricultural uses (such
 as zones for general agriculture, rural
 residential, estate residential, etc.), provided
 the lot remains in a prime agricultural area
 or rural lands type designation.

#34. Type B Land Uses (More Sensitive)

For the purposes of MDS I, proposed Type B land uses are characterized by a higher density of human occupancy, habitation or activity including, but not limited to:

 new or expanded settlement area boundaries; For the purposes of MDS II, existing Type B land uses are characterized by a higher density of human occupancy, habitation or activity including, but not limited to:

- · settlement area boundaries; and
- existing development outside of a settlement area which is recognized through an official plan designation.

MDS I MDS II an official plan amendment to permit Because of the increased sensitivity of these uses, development, excluding industrial uses, an MDS II setback from existing Type B land uses on land outside a settlement area; is twice the distance from existing Type A land uses. a zoning by-law amendment to permit development, excluding industrial uses or dwellings, on land outside a settlement area: and the creation of one or more lots for development on land outside a settlement area, that results in four or more lots for development, which are in immediate proximity to one another (e.g., sharing a common contiguous boundary, across the road from one another, etc.), regardless of whether any of the lots are vacant. Because of the increased sensitivity of these uses, a new or expanding Type B land use will generate an MDS I setback that is twice the distance as the MDS I setback for a Type A land use. This is reflected in the value of Factor E which is 2.2 for Type B versus 1.1 for Type A.

#35. MDS Setbacks for Agriculture-Related Uses and On-Farm Diversified Uses

MDS I setbacks from existing livestock facilities and anaerobic digesters will generally not be needed for land use planning applications which propose agriculture-related uses and onfarm diversified uses. However, some proposed agriculture-related uses and onfarm diversified uses may exhibit characteristics that could lead to potential conflicts with surrounding livestock facilities or anaerobic digesters. Therefore, it may be appropriate for municipalities to require an MDS I setback to permit certain types of these uses.

Typically, this subset of uses may be characterized by a higher density of human occupancy or activity or will be uses that may generate significant visitation by the broader public to an agricultural area. Examples include, but are not limited to: food service, accommodation, agri-tourism uses and retail operations.

MDS II setbacks to existing agriculture-related uses and on-farm diversified uses will generally not be needed for building permit applications for first or altered livestock facilities and anaerobic digesters. However, some existing agriculture-related uses and on-farm diversified uses may exhibit characteristics that could lead to potential conflicts with first or altered livestock facilities or anaerobic digesters. Therefore, it may be appropriate for municipalities to require MDS II setbacks to certain types of these uses.

Typically, this subset of uses may be characterized by a higher density of human occupancy or activity, or are uses that generate significant visitation by the broader public to an agricultural area. Examples include, but are not limited to: food service, accommodation, agri-tourism uses and retail operations. Surrounding land uses and geographic context can also play a role in determining the

Surrounding land uses and geographic context can also play a role in determining the suitability of applying MDS I setbacks to proposed agriculture-related uses, on-farm diversified uses and agricultural uses.

For these reasons, and in keeping with the intent of this MDS Document, municipalities may choose to require an MDS I setback for proposals, including lot creation, to permit certain types of agriculture-related uses or onfarm diversified uses. In these circumstances, agriculture-related uses and on-farm diversified uses shall be considered as Type A land uses. Municipalities shall include specific provisions in their comprehensive zoning by-law to clearly indicate the types of agriculture-related uses and on-farm diversified uses that will be required to meet MDS I setbacks, including provisions related to the measurement of MDS I setbacks from existing livestock facilities and anaerobic digesters. Otherwise, MDS I setbacks will NOT be required for these types of uses.

Municipalities are strongly encouraged to develop policies in their official plans and provisions in their comprehensive zoning by-law to provide consistent direction on this issue.

suitability of applying MDS II setbacks from existing agriculture-related uses, on-farm diversified uses and agricultural uses.

For these reasons, and in keeping with the intent of this MDS Document, municipalities may choose to require MDS II setbacks for new or altered livestock facilities and anaerobic digesters to certain types of existing agriculture-related uses or on-farm diversified uses. In these circumstances, agriculture-related uses and on-farm diversified uses shall be considered as Type A land uses. Municipalities shall include specific provisions in their comprehensive zoning by-law to clearly indicate the types of agriculture-related uses and on-farm diversified uses that MDS II setbacks are applied to and how they are measured. Otherwise, MDS II setbacks will NOT be required to these types of uses.

Municipalities are strongly encouraged to develop policies in their official plans and provisions in their comprehensive zoning by-law to provide consistent direction on this issue.

#36. Non-Application of MDS Within Settlement Areas

MDS I setbacks are <u>NOT</u> required for proposed land use changes (e.g., consents, rezonings, redesignations, etc.) within approved settlement areas, as it is generally understood that the long-term use of the land is intended to be for non-agricultural purposes.

MDS II setbacks are <u>NOT</u> required where municipalities permit *first* or *altered livestock facilities* (e.g., urban agriculture) or *anaerobic digesters* within approved *settlement area* designations, as MDS II was not designed to be used in an urban setting. However, because other issues could be considered when raising *livestock* in *settlement areas*, municipalities may choose to establish local approaches governing urban agriculture.

#37. MDS Setbacks for Churches, Schools and Cemeteries Used Primarily by a Community Reliant on Horse-Drawn Transportation

Normally churches, schools and cemeteries are considered Type B land uses as they are institutional uses; however, existing, new and expanding churches, schools and cemeteries intended to primarily serve a community which relies on horse-drawn vehicles as a predominate mode of transportation, shall be considered as Type A land uses for the purposes of both MDS I and MDS II.

#38, MDS Setbacks for Cemeteries

Except where noted in Implementation Guideline #37, for the purposes of MDS I, new cemeteries and expansion to existing cemeteries are considered Type B land uses, as they are institutional uses.

For the purposes of MDS II, existing cemeteries are considered Type B land uses, as they are institutional uses.

However, certain cemeteries may be treated as Type A land uses at the discretion of the municipality. For example, those cemeteries which are closed, or receive low levels of visitation, or where no place of worship is present, in addition to where noted in Implementation Guideline #37.

NOTE: Cemeteries meeting the above criteria shall be clearly identified in the municipality's planning documents on a comprehensive basis in order to be treated as Type A land uses. Otherwise all cemeteries will continue to be treated as Type B land uses, except where noted in Implementation Guideline #37.

#39. MDS II Setbacks for Rear Lot Lines, Side Lot Lines and Road Allowances

Not applicable

In addition to setbacks from surrounding Type A and Type B land uses, first or altered livestock facilities shall also meet the following MDS II setbacks:

 Rear and side lot line MDS II setbacks are calculated as 0.1 multiplied by the Building Base Distance 'F' and Storage Base Distance 'S' to a maximum of 30 m.

MDS I	MDS II
Not applicable	For example, if an MDS II calculation yields values of 100 m for Building Base Distance 'F' and 123 m for Storage Base Distance 'S', the MDS II setback for the <i>livestock barn</i> from the ear and side <i>lot</i> lines would be 10 m (100 m x 0.1 = 10 m). The MDS II setback for the <i>manure storage</i> from the rear and side <i>lot</i> lines would be 12.3 m (123 m x 0.1 = 12.3 m). This value is rounded to the nearest whole number, so in this instance, the setback for the <i>manure storage</i> would be 12 m. As another example, if an MDS II calculation yields values of 350 m for Building Base Distance 'F' and 400 m for Storage Base Distance 'S', the MDS II setback for the <i>livestock barn</i> from the rear and side <i>lot</i> lines would be 30 m (350 m x 0.1 = 35 m, but reduced to the maximum of 30 m). The MDS II setback for the <i>manure storage</i> from the rear and side <i>lot</i> lines would be 30 m (400 m x 0.1 = 40 m, but reduced to the maximum of 30 m). Road allowance MDS II setbacks are calculated as 0.2 multiplied by the Building Base Distance 'F' and Storage Base Distance 'S' to a maximum of 60 m. For example, if an MDS II calculation yields values of 100 m for Building Base Distance 'F' and 123 m for Storage Base Distance 'S', the MDS II setback for the <i>livestock barn</i> from the edge of the road allowance would be 20 m (100 m x 0.2 = 20 m). The MDS II setback for the <i>manure storage</i> from the edge of the road allowance would be 24.6 m (123 m x 0.2 = 24.6 m). This value is rounded to the nearest whole number, so in this instance, the setback for the <i>manure storage</i> would be 25 m. As another example, if an MDS II calculation
	yields values of 350 m for Building Base Distance 'F' and 400 m for Storage Base Distance 'S', the MDS II setback for the <i>livestock barn</i> from the edge of the road allowance would be 60 m (350 m x 0.2 = 70 m, but reduced to the maximum of

MDS I	MDS II
	60 m). The MDS II setback for the manure storage from the edge of the road allowance would be 60 m (400 m x 0.2 = 80 m, but reduced to the maximum of 60 m). Rear and side lot line and road allowance MDS II setbacks for anaerobic digesters are found in Implementation Guideline #22. These MDS II setbacks are measured as the shortest distance between the point of new construction for the manure storages, or the anaerobic digester, or the livestock occupied portions of each of the surrounding livestock barns and the side and rear lot lines, as well as the edge of the road allowance.

#40. Measurement of MDS Setbacks for Development and Dwellings

For proposed development, MDS I setbacks are measured as the shortest distance between the area proposed to be rezoned or redesignated to permit development and either: the surrounding livestock occupied portions of livestock barns, manure storages or anaerobic digesters. Refer to Figure 7 in Section 7 of this MDS Document. This shall include areas proposed to be rezoned or redesignated with site-specific exceptions that add nonagricultural uses or residential uses to the list of agricultural uses already permitted on a lot.

For building permit applications for proposed dwellings, where required in accordance with Implementation Guideline #7, MDS I setbacks are measured as the shortest distance between the proposed dwelling and either the surrounding manure storages, anaerobic digesters or the livestock occupied portions of the livestock barns.

For existing development, MDS II setbacks are measured as the shortest distance between the point of new construction for the livestock occupied portions of the livestock barns, manure storages, anaerobic digesters and the surrounding area that is zoned or designated to permit non-agricultural uses or residential uses in a zoning by-law or official plan respectively, even if there are portions of the existing livestock facility or existing anaerobic digester that do not conform to the MDS II setbacks.

For existing dwellings, MDS II setbacks are measured as the shortest distance between the point of new construction for the livestock occupied portions of the livestock barns, manure storages or anaerobic digesters, and the surrounding dwellings, even if there are portions of the existing livestock facility or existing anaerobic digester that do not conform to the MDS II setbacks. Refer to Figure 8 in Section 7 of this MDS Document.

NOTE: Where there are two dwellings on the same lot, the MDS II setback shall be measured to both.

#41. Measurement of MDS I Setbacks for the Creation of Lots

Where an MDS I setback is required for the creation of a lot, in accordance with Implementation Guideline #8 or #9, measurement of the MDS I setback should be undertaken as follows:

- For proposed lots with an existing dwelling that are ≤1 ha, MDS I setbacks are measured as the shortest distance between the proposed lot line and either the surrounding livestock occupied portions of the livestock barns, manure storages or anaerobic digesters.
- 2. For proposed lots with an existing dwelling that are >1 ha, MDS I setbacks are measured as the shortest distance between the existing dwelling and either the surrounding livestock occupied portions of the livestock barns, manure storages or anaerobic digesters.
- 3. For proposed *lots* without an existing *dwelling* that are ≤1 ha, MDS I setbacks are measured as the shortest distance between the proposed *lot* line and either the surrounding *livestock occupied portions* of the *livestock barns*, *manure storages* or anaerobic digesters.
- 4. For proposed lots without an existing dwelling that are >1 ha, MDS I setbacks are measured as the shortest distance between a 0.5 ha or larger building envelope (for a potential dwelling) and either the surrounding livestock occupied portions of the livestock barns, manure storages or anaerobic digesters.

For *lots* created after March 1, 2017, MDS I setbacks shall be required for all building permit applications for *non-agricultural uses* and *dwellings* in accordance with Implementation Guideline #7.

Not applicable

#42. Non-Effect of Wind Direction, etc. on MDS Setbacks

The direction of prevailing wind, surrounding topography, and presence of trees, berms or other screening are not part of, and are not intended to affect, the calculation of MDS setbacks. However, these or other similar elements could be considered in applications to vary or reduce MDS setbacks, where appropriate, and in accordance with Implementation Guideline #43.

#43. Reducing MDS Setbacks

MDS I setbacks should not be reduced except in limited site specific circumstances that meet the intent of this MDS Document. Examples include circumstances that mitigate environmental or public health and safety impacts, or avoid natural or human-made hazards.

If deemed appropriate by a municipality, the processes by which a reduction to MDS I may be considered could include a minor variance to the local zoning by-law provisions, a site specific zoning by-law amendment or an official plan amendment introducing a site specific policy area.

MDS II setbacks should not be reduced except in limited site specific circumstances that meet the intent of this MDS Document. Examples include circumstances that mitigate environmental or public health and safety impacts, or avoid natural or human-made hazards.

If deemed appropriate by a municipality, the process by which a reduction to MDS II may be considered would typically be through a minor variance to the local zoning by-law provisions. To a lesser extent a site specific zoning by-law amendment may also be appropriate.