 Ontario Ministry of Natural Resources / Ministère des Richesses naturelles	<i>Subject:</i> Rehabilitation Requirements for Existing Aggregate Operations in the Protected Countryside of the Greenbelt Plan Area	<i>Policy No.:</i> A.R. 2. 01.12a	<i>New:</i> Yes
<i>Compiled by – Branch:</i> Lands & Waters	<i>Section:</i> Aggregate & Petroleum Resources	<i>Date Issued:</i> Draft 1	

Guiding Principles:

The Greenbelt Plan identifies a number of specific rehabilitation requirements for existing aggregate operations occurring within lands designated as Protected Countryside by the Plan.

Policy:

Within the Protected Countryside, all existing aggregate operations will be required to

- maximize the rehabilitated area of the site on an ongoing basis and ensure that rehabilitation contributes to the goals of the Greenbelt Plan; and
- establish a maximum allowable disturbed area, and rehabilitate any excess disturbed area above the maximum within the timeframes specified by the Greenbelt Plan (see A.R. 2.01.12b).


Additionally, all existing aggregate operations (with the exception of wayside permits) will be required to meet the rehabilitation requirements of the Greenbelt Plan with respect to:

- the ecological value and the long-term ecological integrity of the site;
- the extraction and rehabilitation of key natural heritage features and key hydrological features;
- rehabilitation of below water extraction areas; and
- ensuring the final rehabilitation of sites outside of the Natural Heritage System appropriately reflects the long-term land use of the general area.

MNR and the aggregate industry will consider comprehensive rehabilitation plans in areas where there is a high concentration of aggregate operations

In addition to the above requirements, sites located within the Natural Heritage System will be required to rehabilitate portions of the licensed site to forest cover that is representative of the natural ecosystem in that particular setting or ecodistrict, as specified by the Greenbelt Plan. The rehabilitation must be implemented to maintain, restore or improve the connectivity of key natural heritage features and key hydrologic features on the site and on adjacent lands.

In order to fulfil the obligations of the Greenbelt Plan, the majority of aggregate operations within the Protected Countryside will require site plan amendments with respect to rehabilitation. These amendments will be initiated by the licensee/permittee and MNR will make a decision to approve or not approve the amendment within one year of the date the amendment request was submitted. If the licensee/permittee does not initiate a site plan amendment to reflect the requirements of the Greenbelt Plan then MNR will impose a site plan amendment on the licensee.

 <p>Ministry of Natural Resources Ministère des Richesses naturelles</p>	<p><i>Subject:</i> Establishing Maximum Disturbed Area for Existing Aggregate Operations in the Protected Countryside of the Greenbelt Plan Area</p>	<p><i>Policy No.:</i> A.R. 2. 01.12b</p>	<p><i>New:</i> Yes</p>
<p><i>Compiled by – Branch:</i> Lands & Waters</p>	<p><i>Section:</i> Aggregate & Petroleum Resources</p>	<p><i>Date Issued:</i> Draft 1</p>	

Guiding Principles:

Rehabilitated area within a pit or quarry will be maximized and the disturbed area minimized on an ongoing basis during the life-cycle of an operation.

Policy:

The Ministry of Natural Resources will approve the maximum allowable disturbed area of each existing aggregate operation as well as any excess disturbed area above the maximum that is required to be rehabilitated.

Rehabilitation of all excess disturbed area shall be completed within 10 years of the date of approval of the Greenbelt Plan, dated February 28, 2005, which includes 50% completed within 6 years.

Each existing licensee will be requested to complete the form “Determining Maximum Allowable Disturbed Area” which will then be verified and approved by MNR. Any dispute regarding the maximum allowable disturbed area or the excess area that is required to be rehabilitated can be appealed to the Manager of the Aggregate and Petroleum Resources Section. The manager will then make a determination, confirming the maximum allowable disturbed area, and his/her decision is final.

Licensees will also be required to submit a report by September 30th of each year indicating how they are achieving the maximum allowable disturbed area within the prescribed timeframes (i.e. 10 years or 6 years).

Calculating Disturbed Area

The disturbed area includes all areas within the boundaries of a licenced site which has been altered from its natural state and where final rehabilitation in accordance with the Act, the regulations and the site plan has not been completed.

Features/Activities to Consider When Calculating Disturbed Area

- Office Area
- Buildings or Structures
- Internal Roads/Travel Areas
- Parking Lots
- Recycling Area (e.g. asphalt, concrete)
- Berms
- Overburden piles
- Ponds

- Permanent Processing Area
- Portable Processing Equipment Area
- Asphalt Plant Area
- Concrete Batching Plant Area
- Wash Plant Area
- Wash Pond Area
- Silt pond area
- Stockpile Area
- Scrap Area
- Progressive Rehabilitation Areas (*where final rehabilitation requirements have not been met*)
- Area under Excavation (above water)
 - Including areas that are currently being worked (i.e. active face) and areas that have previously been under excavation but are not depleted.*
- Area under Excavation (below water)
- Stripped Area

Additional Notes on Determining Disturbed Area

Plant Facilities, Stockpile Areas, etc.

All areas of the site where processing equipment, offices, stockpile areas, or other structures still exist on the site are considered disturbed. Exceptions may be where an office are shown on the site plan as remaining when the rehabilitation is complete.

Berms

If a berm is established and is permanent (i.e. shown as part of the final rehabilitation on the site plan), it is not considered disturbed, and should not be included in the disturbed area.

If a berm is established and is temporary (i.e. used for screening purposes but not shown as remaining on site after final rehabilitation), it must be included in the disturbed area.

Note: A berm is considered “established” when it is shaped and suitably vegetated according to the site plan and/or the Act/Regulations.

Pond Areas

Until the banks of a pond area have been sloped, topsoiled and re-vegetated, both the slopes and the land under water should be included in the disturbed area.

If a portion of the slope is rehabilitated, then a similar percentage of the total land under water is also to be considered rehabilitated and should therefore not be included in the disturbed area.

In the event that a pond is being developed for specific purposes (fish habitat, subdivision), the pond may require further landscaping, substrate, or vegetation establishment before it can be considered rehabilitated.

Quarry Floors to be Flooded

Areas of the quarry floor which are to be flooded are no longer considered disturbed when:

- i) the final elevation of the quarry has been reached (this may be final elevation on plan or just where no further extraction will occur due to quality of resource) and all stockpiles

have been removed along with any equipment and the area requires no more work to be considered rehabilitated; and

- ii) the adjacent slopes have been completely rehabilitated according to the site plan.

If a portion of the slope is rehabilitated, then a similar percentage of the total land to be under water would not be considered disturbed area.

Recommended Approach for Completing Column 1 (Existing Disturbed Area)

1. Gather all available information regarding the site (e.g. Current site plan, recent aerial photos, recent CARs).
2. Read over the notes above regarding the items to be included and information to consider for calculating disturbed and rehabilitated areas.
3. Map out current disturbed areas on the operations page of the site plan or a recent aerial photo (this sketch must be submitted to MNR, and you will need to measure areas mapped, so ensure it is at a useable and identifiable scale).
4. Measure all of the disturbed areas and enter them on the form. You can list each type of feature separately or group the features in a logical manner (e.g. you may have a single area for plants and stockpiles, or list them separately).

Recommended Approach for Completing Column 2 (Required Disturbed Area)

Consider the areas recorded in Column 1 (Existing Disturbed Area). If you added them all up (to get the Total Disturbed Area), could you continue to operate throughout the life of the pit or quarry with this area as your maximum disturbed?

Could you operate efficiently with less disturbed area? Keeping in mind that the goal is to minimize disturbed, go through each item and determine if you need a larger area for future use, or if the disturbed area could be reduced. For example, there may be areas that are depleted that could be rehabilitated, or you may need additional stockpile and plant areas for future contracts.

Considerations for Calculating Required Disturbed Area.

1. Does your rehabilitation plan require you to strip one area and use the topsoil and overburden to rehabilitate depleted areas? If so, there will be a period of time both areas are considered disturbed (i.e. until final rehabilitation has been carried out on depleted areas).
2. Is the area shown for stockpiles representative of the area required during peak season production?
3. Have you considered your requirements for blending or operating multiple benches/ lifts?
4. Progressively rehabilitated areas are still considered as disturbed area until they have met all of the requirements of final rehabilitation on the site plan. For example, if progressive

rehabilitation includes sloping and re-vegetating and the final rehabilitation includes planting of tree species, the area would be considered disturbed until such time as the tree species are planted.

Establishing 'Maximum Allowable Disturbed Area' (Column 3)

Prior to establishing the maximum allowable disturbed area, MNR will conduct a thorough file and site plan review, and conduct a site visit.

Any outstanding site plan amendment requests will be processed during the review, and prior to establishing the maximum allowable disturbed area.

MNR cannot approve a disturbed area for a feature/activity that is larger than the area currently allowed on the site plan.

Site plan amendments may be required prior to establishing maximum allowable disturbed area as follows:

- Where the amendment is already in process;
- To clearly delineate the areal extent of activities that are already approved on the site plan (i.e. stockpile areas, scrap);
- Where the site plan does not currently provide enough area for an activity to meet the long term needs of the operation.

MNR, in establishing maximum allowable disturbed area, will consider:

- The existing approved area for activities/features on the site plan;
- The variety of activities carried out on site;
- The variety of products produced on site;
- Blending requirements (pits);
- The requirement to operate separate benches (quarries);
- The geology of the site/nature of the deposit; and
- Any other items identified by the licensee under the 'Rationale' in Section 3 of the form.

Existing Rehabilitation Status

The areas of progressive rehabilitation are those where rehabilitation is being done sequentially in accordance the site plan (e.g. rough grading, sloping, and backfilling).

The areas of final rehabilitation are those where all of the requirements stated on your site plan for final rehabilitation have been met.

Pond Areas

If a portion of the slope of a pond is rehabilitated, then a similar percentage of the total land under water is also to be considered rehabilitated.

In the event that a pond is being developed for specific purposes (fish habitat, subdivision), the pond may require further landscaping, substrate, or vegetation establishment before it can be considered rehabilitated.

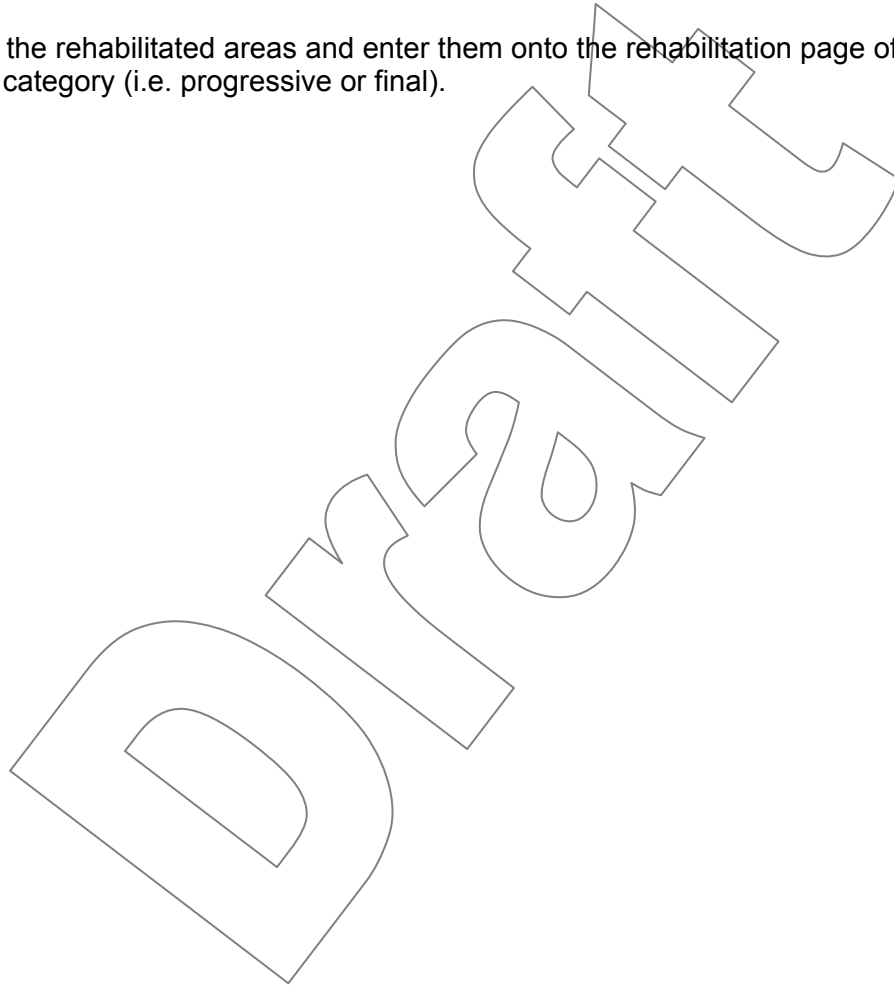
Quarry Floors to be Flooded

Although a quarry floor which are to be flooded is no longer considered disturbed when the final elevation of the quarry has been reached, all stockpiles have been removed along with any equipment and the area requires no more work to be considered rehabilitated and the adjacent slopes have been completely rehabilitated according to the site plan, the floor area cannot be included as final rehabilitation until such time as it is flooded.

Recommended Approach for Recording Rehabilitation Status

1. Map out the undisturbed areas, areas that have been progressively rehabilitated and areas that have undergone final rehabilitation.

Measure all the rehabilitated areas and enter them onto the rehabilitation page of the form in the appropriate category (i.e. progressive or final).



**DETERMINING MAXIMUM ALLOWABLE DISTURBED AREA
FOR AGGREGATE OPERATIONS WITHIN THE PROTECTED COUNTRYSIDE
OF THE GREENBELT PLAN AREA**

Section 1: Site Information

- a) Licence No.: _____
- b) Licensee: _____
- c) Location
Lot: _____ Con.: _____ Geographic Twp.: _____
Local Municipality (Lower-tier): _____
Region/County or Single-tier Municipality: _____
- d) Licenced Area (ha): _____
- e) Setback Area (ha): _____
- f) Area to be Extracted (ha): _____
- g) Pit or Quarry: _____
- h) Tonnage Condition (or unlimited): _____
- i) Maximum Allowable Depth (metres): _____
(includes depth below water)
- j) Below water extraction proposed: yes no
If yes, approved depth of extraction below water (metres): _____
- k) Licence (or portion of) within Natural Heritage System of Greenbelt (Y/N): yes no

To determine if your licence is located in the Natural Heritage System, detailed mapping is available online at: http://www.mah.gov.on.ca/userfiles/HTML/nts_1_23501_1.html. If you do not have access to the internet, or require assistance, contact the local MNR office.

Section 2: Description of Current Rehabilitation Requirements

Summarize or list all of the notes on your site plan that discuss rehabilitation.

These notes would include those that refer to progressive or final rehabilitation, phasing of rehabilitation (may be incorporated into operational phasing), requirements for floor preparation (e.g. ripping), topsoil replacement, type of vegetation, etc.

Please also state the end use of the site as identified on the site plan.

a) Does the approved site plan currently identify a 'maximum disturbed area'? yes no

If yes, the current maximum disturbed area is _____ ha

Section 3: Current Disturbed Area

All areas indicated in Column 1 must be mapped on a copy of the operational plan of the current site plan or air photo.

Please read the attached notes on 'Calculating Disturbed Area' for guidance.

FEATURE/ACTIVITY	(1) Existing	(2) Required	(3) Approved
a) _____	_____	_____	_____
b) _____	_____	_____	_____
c) _____	_____	_____	_____
d) _____	_____	_____	_____
e) _____	_____	_____	_____
f) _____	_____	_____	_____
g) _____	_____	_____	_____
h) _____	_____	_____	_____
i) _____	_____	_____	_____
j) _____	_____	_____	_____
k) _____	_____	_____	_____
l) _____	_____	_____	_____
m) _____	_____	_____	_____
n) _____	_____	_____	_____
o) _____	_____	_____	_____
p) _____	_____	_____	_____
q) _____	_____	_____	_____
Subtotal	_____	_____	_____
r) Area under Excavation (above water)	_____	_____	_____
s) Area under Excavation (below water)	_____	_____	_____
t) Stripped Area	_____	_____	_____
Maximum Allowable Disturbed Area	_____	_____	_____

Rationale for 'Requested Maximum Allowable Disturbed Area':

Current Total Disturbed Area _____

Area Requiring Rehabilitation _____

Current Total Disturbed Area - Max. Allowable Disturbed Area

Section 4: Existing Rehabilitation Status

				Rehabilitated Area (ha)		
				Progressive		Final
				Grading (complete)	Topsoiled/Vegetated	Vegetation established as per site plan
Floor						
Slopes						
Ponds						
						Totals

First consideration for rehabilitation should be given to areas under progressive rehabilitation that can be rehabilitated to final.

MNR Approval

Name: _____

Date: _____