



OSSGA Student Design Competition

Aggregate Property Rehabilitation Student Design Competition

BACKGROUND:

Ontario consumes approximately 164 million tonnes of aggregate annually – more than any other natural resource. This is equivalent to approximately 12 tonnes - or 1 truck load - per person per year. Progressive and final rehabilitation of aggregate properties plays an important role in land stewardship and enhances the quality of life in communities where aggregate is produced. The Student Design Competition was established to educate students with respect to compatible after-uses of former aggregate properties and to promote public and academic awareness of the potential of former aggregate sites in Ontario. Each year, a different aggregate property in Ontario is chosen for the competition by the Ontario Stone, Sand & Gravel Association's (OSSGA) Rehabilitation Committee and **thousands of dollars in cash prizes** are awarded.

ELIGIBILITY:

Students who are enrolled in one of the following programs: landscape architecture; planning; ecology; environmental design; engineering; hydrology; geography; or, related program, in a post-secondary institution in Ontario may enter the competition.

SUBMISSION DEADLINE: See webpage (http://www.ossga.com/student_design_competition)

SUBMIT ENTRY TO: Ontario Stone, Sand & Gravel Association
5720 Timberlea Blvd., Suite 103
Mississauga, ON L4W 4W2

SITE INFO: See webpage (http://www.ossga.com/student_design_competition)

FOR FURTHER INFORMATION:

Cynthia Robinson
Environment & Education Manager
Ontario Stone, Sand & Gravel Association
5720 Timberlea Blvd., Suite 103
Mississauga, ON L4W 4W2
Email: crobinson@ossga.com
Phone: (905) 507-0711 x 6
Web: www.ossga.com

The information requirements, as outlined below, have been adapted from Ontario's Provincial Standards pursuant to the *Aggregate Resources Act (ARA)*. All operators with licenced aggregate sites in Ontario are required to comply with these Standards.

ENTRY REQUIREMENTS:

Format:

Students (individually or in groups of no more than 3) are required to submit 3 panels (minimum 24” by 36” in size) and a 250 word written Design Brief describing the design intent of the entry including an electronic copy of the panels and Design Brief, in PDF format. At least one panel must include the logo of The Ontario Aggregate Resources Corporation (TOARC) as an acknowledgement of their sponsorship of the competition. Each panel must be numbered and indicate the total number of drawings submitted (i.e., 1 of 3). The panels must also remain anonymous to the judges, see below for instructions on how to provide contact information. Panels containing information identifying the academic institution and/or entrant(s) will be disqualified from the competition.

Criteria:

1. EXISTING CONDITIONS:

The Existing Conditions panel should illustrate the site and facilities as they currently exist.

OSSGA will provide electronic site plans showing the existing conditions of the site, surrounding land uses and other information. To receive a set of site plans please contact:

Cynthia Robinson
Environment & Education Manager
Ontario Stone, Sand & Gravel Association
Email: crobinson@ossqa.com

The Existing Conditions panel should illustrate the entrant’s interpretation of the site, along with any assumptions that the entrant has made that will direct decisions for the design of the progressive and final rehabilitation plans. In addition, the panel should include:

- The project title
- A key map showing the pit/quarry location
- A description of the site by lot and concession, municipality, county, or region
- A scale using both ratio and graphic methods, between a scale of 1:1,000 and 1:5,000
- A north arrow
- A legend
- The boundary of the project, including the dimensions and hectarage of the site
- The existing zoning and land uses within 120 metres of the site
- The topography of the site illustrated by contour lines (including any existing berms)
- The location and use of all structures existing on and within 120 metres of the site
- The location of existing entrances to the site
- Main internal haul roads on the site
- The assumed elevation of the groundwater table
- Existing surface water drainage and drainage facilities on and within 120 metres of the site
- The location and type of fences on the site
- The location of existing vegetation (i.e., woodlots and hedgerows) on the site and within 120 metres of the site
- The location of existing stockpiles of topsoil and overburden on the site
- Significant natural or man-made features on and within 120 metres of the site
- Existing excavation faces & rehabilitated areas
- The location of processing areas and equipment
- Section lines and any “view” locations

N.B. The chosen site may be partially or completely depleted. Therefore, the “existing conditions” panel should reflect this. Normally when applying for a licence and preparing site plans under the *ARA*, extraction has not yet taken place.

2. PROGRESSIVE REHABILITATION:

The Progressive Rehabilitation panel should illustrate the proposed process taken to remove the resource and achieve the final design in a logical manner.

Historically, this has been the most difficult section of the submission for the students to undertake. Clearly describing a process is as important as the end result itself.

This panel should illustrate how the entrant plans to create the end use (i.e., the chronological order of work, the efficient use of resources and where materials for grading are coming from etc.), and in addition the panel should include:

- The project title
- The location of the main internal haul roads on the site and how they change through the life of the site
- The location of entrances on site
- The elevation of the groundwater table
- Any proposed water diversions and points of discharge to surface water
- The location of any proposed buildings and other structures to be erected on the site
- The location of any proposed aggregate stockpile areas, including any recyclable materials on site
- The area, in hectares, to be extracted
- The location of all excavation setbacks from the boundary
- The final extraction elevation
- The location and height of any berms
- Section lines and section view locations should be shown
- The sequence of resource removal and the direction of rehabilitation
- Details on how the overburden and topsoil will be used to facilitate progressive rehabilitation
- The location, design, and type of vegetation (i.e., grasses, legumes, shrubs, and trees, etc.)
- How the slope will be established on the excavation faces and floor
- If proposed, details on the importation of topsoil or inert material to facilitate rehabilitation

3. FINAL REHABILITATION:

The Final Rehabilitation panel should illustrate how the site will look and function once the resource has been extracted and the site has undergone final rehabilitation, and should include:

- The project title
- If proposed, details on the importation of topsoil or inert material to facilitate rehabilitation
- How the final slopes will be established on all excavation faces and the pit/quarry floor
- The location, design, and type of vegetation (i.e., grasses, legumes, shrubs, and trees, etc.)
- Any buildings or structures that are to remain on the site
- Anticipated elevation of the groundwater table
- Any internal roads that are to remain on the site
- Final surface water drainage and facilities
- The final elevation of the rehabilitated areas of the site illustrated by a one metre contours
- Section lines and view locations should be shown on the plan

4. DESIGN BRIEF:

The Design Brief is a written description of the design intent of the entry including:

- Project title and description of site by lot and concession, and municipality or region
- Description of design intent, maximum 250 words (8.5 x 11, typed)

The design brief information sheet should be printed and placed in the same non-identifying envelope used for the contact information sheet (see below) and attach the envelope to the panels. The project title should be written on the face of the envelope. An electronic copy (PDF) of the design brief should also be provided with the electronic copy (PDF) of your panels.

5. CONTACT INFORMATION:

To maintain anonymity in the awards review process, entrants must submit contact information on a separate sheet (8.5 x 11, typed) which is to be printed and included in the same envelope as the design brief; attach the envelope to the panels for submission. Contact information will be used for administrative purposes only, by competition organizers and will not be shared with the Awards Review Panel. The contact information sheet should include the following information:

- Project title
- Description of design intent
- Entrant(s) contact information including, name, permanent mailing address, telephone number, email address and academic institution name for each entrant.

N.B. Panels containing information identifying the institution and/or entrant(s) will be disqualified from the competition.

General:

Cross sections and vignettes should be used where appropriate.

Whether extraction occurs below the water table, or a minimum 1.5 metres above the water table, will affect the quantity of resource that may be extracted as well as the after use of the site. In some cases there is not sufficient resource below the water table to warrant underwater extraction. However, if there is significant material below the water table, it may be reasonable to extract, but this will limit your after use options.

Use text descriptions to explain your understanding of the existing conditions and how they impact your rehabilitation plans. Use text descriptions to explain your progressive rehabilitation sequencing and why you chose your final rehabilitation plan.

OSSGA encourages competition entrants to visit active pits and/or quarries to inform the award submission. In addition, examples of site plans can also be viewed at the local Ministry of Natural Resources (MNR) office.

Costs:

To offset production and site tour costs, OSSGA will consider written requests for funding from participating academic institutions. For deadlines, please see OSSGA website (http://www.ossqa.com/student_design_competition).

AWARDS REVIEW:

The Awards Review Panel is appointed by OSSGA's Awards Committee, and includes operators, managers and industry consultants.

The Awards Review Panel will determine the number and value of the awards when evaluating the entries. Winning entries will be displayed at OSSGA's Annual General Meeting held every February.

EVALUATION:

1. Existing Conditions (25%)
 - Is the information listed on the panel complete? (15%)
 - How effective is the panel at demonstrating to the audience an understanding of existing conditions relevant to the planning of aggregate extraction operations and rehabilitation? (10%)
2. Progressive Rehabilitation (25%)
 - Is the information listed on the panel complete? (15%)
 - Does the plan effectively mitigate potential negative impacts to: natural features such as wetlands, woodlands & surrounding land uses? (5%)
 - Is the plan practical and economical? Does the plan show efficient stripping, movement, and placement of on-site topsoil and/or overburden in all phasing of the progressive and final rehabilitation (i.e., minimizes material movement)? (5%)
3. Final Rehabilitation (25%)
 - Is the information listed on the panel complete? (5%)
 - Does the final rehabilitation plan fit into the landscape context (i.e., will it be compatible with existing or future land uses surrounding the site? Does the final rehabilitation plan add value to the surrounding community?). (5%)
 - Is the final rehabilitation plan innovative? (10%)
 - Is the final rehabilitation plan practical and economically viable? (5%)
4. Design Brief (5%)
 - Is the information listed in the brief complete?
 - Is the design intent well articulated and is it achieved by the final rehabilitation plan identified on the panel?
5. Overall Impression (20%)
 - The judges overall impression of the design concept and the presentation.

N.B. Originality is important but the Awards Review Panel is also interested in rehabilitation plans that balance innovation with practicality.