

OSSGA

Aggregate Rehabilitation

Student Design

Competition

GAIN REAL WORLD
DESIGN EXPERIENCE
& SHAPE FUTURE
REHABILITATION!

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Presented by:



Aggregate 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. Administered by the Ontario Stone, Sand and Gravel Association (OSSGA) and funded by The Ontario Aggregate Resources Corporation (TOARC), 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 INFORMATION

Entries are to be submitted to Ashlee Zelek, Director of Environment and Education at the Ontario Stone, Sand & Gravel Association at azelek@ossga.com.

The submission deadline is the **first week of May** (for students participating during the winter semester) and the **first week of January** (for students participating during the fall semester). See website (http://www.ossga.com/student_design_competition) for exact dates.

AWARDS JUDGING AND PRESENTATION

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 Conference held every February.

COSTS

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

ENTRY REQUIREMENTS

The information requirements, as outlined below, have been adapted from Ontario's Provincial Standards pursuant to the *Aggregate Resources Act* (ARA). All operators with licensed aggregate sites in Ontario are required to comply with these Standards. Site information will be made available on OSSGA's website (http://www.ossqa.com/student_design_competition).

FORMAT & SUBMISSION REQUIREMENTS

Students (individually or in groups of no more than 3) are required to submit:

- Electronic copy of the panels in PDF format
- 250-word written Design Brief in PDF or word format
- Contact information in PDF or word format (separate document from Design Brief)

This year, because of COVID-19, printed panels will not be required. However, the panels should be designed to a printed size of 24" by 36". OSSGA will print the panels of the winning submissions for display at the OSSGA Conference and AGM.

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.

*****Please note that panels containing information identifying the academic institution and/or entrant(s) will be disqualified from the competition.**

CRITERIA

The award criteria are divided into 5 sections: Existing Conditions, Progressive Rehabilitation, Final Rehabilitation, Design Brief and Contact Information. Please read the criteria for each section carefully. Each section also contains a breakdown of the judges' evaluation.

1. EXISTING CONDITIONS

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 Ashlee Zelek at azelek@ossqa.com.

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

EVALUATION

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

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

EVALUATION

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:

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

EVALUATION

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

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

An electronic copy (PDF) of the design brief should be included with your submission.

EVALUATION

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. CONTACT INFORMATION

To maintain anonymity in the awards review process, entrants must submit contact information on a separate document. 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.

EVALUATION

Overall Impression (20%)

- The judge's overall impression of the design concept and the presentation.

SUBMISSION TIPS

- ✓ 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 and Forestry (MNRF) office.
- ✓ Originality is important, but the Awards Review Panel is also interested in rehabilitation plans that balance innovation with practicality.
- ✓ For inspiration, check out past winners of OSSGA's Student Design Competition, available on our website (http://www.ossqa.com/student_design_competition).

QUESTIONS?

For further information, contact Ashlee Zelek, Director of Environment and Education at azelek@ossqa.com or 647-727-8778.