



November 15, 2010

Dear Great Lakes Student Chapter:

This is your 2011 ASCE Great Lakes Student Conference Mailer II, the second of four packets to be sent to each of the participating schools. Please read carefully through this packet and distribute copies to the appropriate chairpersons in your Chapter. Do not throw away this mailer! The information that is given here may not be repeated in subsequent mailers.

Enclosed you will find the following information:

- Tentative Conference Schedule
- Event Rules

You will notice there is no steel bridge practice time set for the night before this year because we will be setting up at space at that time. At this point plan on not having a time to set up and practice the night before provided by us. We will work on getting a space secured to allow for practicing but as always please be patient as we are learning as we go.

The technical paper and business meeting are two **mandatory** events that each chapter must participate/be present at. Each chapter must have at least one representative in attendance at the business meeting. Failure to attend both events will forfeit your chapter from being scored for overall Conference Champion.

Chapters will be notified of all rule changes and clarifications. Event rules will also be posted on the conference website: <http://qlrc.orgsync.com/org/greatlakeregionalconference>. The website will be updated regularly so reference it regularly. Please direct questions to Chad Shihata at [asce@uwm.edu](mailto:asce@uwm.edu) and I will do my best to respond in a timely fashion.

Good luck and we look forward to seeing you in the spring!

Sincerely,

Handwritten signature of Chad Shihata in black ink.

Chad Shihata  
Conference Chair  
608.412.2423  
[cshihata@uwm.edu](mailto:cshihata@uwm.edu)

Handwritten signature of Joseph Balloni in black ink.

Joseph Balloni  
ASCE Student Chapter President  
262.527.8342  
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# Tentative Schedule

## Thursday, March 31

Registration/Dinner	7:00pm	Doubletree
Welcome Meeting	8:00pm	Doubletree
Concrete Canoe Captain Meeting	8:30pm	Doubletree

## Friday, April 1

Concrete Canoe Unloading/Breakfast	7:00am	Veterans Park
Captains Meeting	8:00am	Veterans Park
Aesthetics Judging/Swamp Testing	8:30am	Veterans Park
Races Begin	10:00am	Veterans Park
Surveying Competition	11:00am	Veterans Park
Lunch	12:00pm	Veterans Park
Races Continue	12:30pm	Veterans Park
Steel Bridge Captains Meeting	6:00pm	Klotsche

## Saturday, April 2

Steel Bridge Setup/Breakfast	6:30am	Klotsche
Aesthetics Judging	8:00am	Klotsche
Technical Paper Presentations	8:00am	Union
Concrete Canoe Presentations	9:00am	Union
Mystery Design	11:00am	Union
Lunch	12:00pm	Union
Geotechnical Competition	12:30pm	Union
Environmental Competition	2:00pm	Union
Game Show	3:00pm	Union
Business Meeting	4:00pm	EMS
Awards Banquet	7:00pm	Italian Community Center

# Concrete Canoe

## **6.3.1 Conference Competition**

For the Conference Competitions, each school shall provide five (5) bound copies of the Design Paper. Electronic copies of the report are not be required at the conference level and shall not be requested by the host school. All copies of the Design Paper must be received by the date specified by the conference host school or be subject to penalties. Please note that the CNCCC does not dictate the deadlines for the submission of Design Papers at the Conference Competitions.

Papers must be submitted to the host chapter postmarked by March 25, 2011.

Send to: UWM Engineering

ASCE at UWM

3200 N. Cramer St, Rm 503

Milwaukee, WI 53211

# TECHNICAL PAPER

## Objective

TOPIC: “Ethics and the ASCE Report Card for America’s Infrastructure”

*The following may be used to stimulate, but should in no way limit, the discussion.*

Since 1988, ASCE has produced and distributed the “Report Card for America’s Infrastructure”. To prepare the Report Cards, ASCE assembles panels of the nation’s leading civil engineers to assess the state of the nation’s infrastructure based on data from studies, reports and other sources, and surveys of practicing engineers. In the Report Card, ASCE addresses major infrastructure elements such as water and wastewater systems, bridges, roads, and transit systems, in addition to other public infrastructure and the built environment such as schools and parks. Grades are assigned on the basis of condition, capacity, and funding versus need. The Report Card is used to educate the public and policy makers on the condition of the nation’s infrastructure and the need to invest public dollars to maintain or enhance this infrastructure.

Given that Civil Engineers are likely to benefit from any investment in infrastructure, we must ask:

- What are ethical implications of ASCE preparing the Report Card, when Civil Engineers might benefit?
- How might ASCE’s role in preparing the Report Card affect public perception of Civil Engineers?
- What is the responsibility of ASCE and what measures should ASCE take regarding the accuracy and completeness of the Report Card?
- What are potential disadvantages of ASCE preparing the Report Card?
- How might these disadvantages be rectified or minimized?
- Is there a better way to educate the public and policy makers on the state of infrastructure?
- How does the current ASCE Code of Ethics address this topic? If it is not addressed, what changes are necessary?

## General Rules

1. Papers are not to exceed 2,000 words in length, must be written by only one person, and should not have appeared in any publications other than in school or ASCE chapter publications. Reference citations of the papers should conform to the official ASCE *Authors’ Guide to Journals and Practice Periodicals*, which can be found on the ASCE Publications website <http://www.pubs.asce.org/authors/index.html>. A complete bibliography should also be included, if appropriate.
2. Authors must be undergraduate students and both ASCE Student Organization members and ASCE national student members in good standing at the time of submission to be considered. Each chapter may submit up to 3 papers.
3. Three bound single-sided copies of the paper and a 250 word abstract, including the author’s name, school, and title of the paper must be submitted to the host chapter postmarked by March 25, 2011.  
Send to: UWM Engineering  
ASCE at UWM  
3200 N. Cramer St, Rm 503  
Milwaukee, WI 53211

Each author will be expected to make a 5 - 10 minute oral presentation on the paper. Up to five minutes of questioning by the judges will be allotted following each presentation. A penalty of 5 points per minute or fraction thereof will be assessed to any presentation that violates either time

boundary. Computer and projector will be supplied by UW-Milwaukee. The host chapter should be notified in writing by March 25, 2011, of any additional equipment to be used or brought by a participating school.

### **Scoring**

1. Technical Content 40 Points
  - a. Significance of Topic (10 points)
  - b. Choice of Supporting Material (10 Points)
  - c. Appropriate Scope of Paper (10 Points)
  - d. Thoroughness of Exposition and Development of Conclusion (10 points)
2. Written Presentation 30 Points
  - a. Logical, Perspicuous Arrangement (15 Points)
  - b. Communications Skill/Attention to Format (15 Points)
3. Oral Presentation 30 Points
  - a. Effectiveness and Delivery (10 Points)
  - b. Adroit Use of Appropriate Visual Aids (10 Points)
  - c. Capable Handling of Questions and Comments (10 Points)

Winners will be selected by a panel of at least three (3) judges to be identified by the host school. Prizes for winners are as follows:

- 1<sup>st</sup> - \$100
- 2<sup>nd</sup> - \$60
- 3<sup>rd</sup> - \$40

*Note: Submission for the ASCE Student Conference Paper Competition does not constitute an entry for the National Daniel W. Mead Student Contest. While the paper topic is the same – and the same paper may be submitted for both contests – they are two separate events and require two separate submissions. For a complete set of rules for the 2010 National Daniel W. Mead Student Contest, please visit <http://www.asce.org/students>.*

# Surveying Competition

## Objective

The purpose of this competition is to test teams on basic surveying techniques, such as taping and pacing distances, measuring horizontal angles using a transit, and measuring elevations using a level.

## Events

### 1. Pacing and Taping Distances

- Each team will pace several distances between fixed points. After the team paces off the distance, the team will tape off the distance. All measurements and calculations must be recorded in a field book.

### 2. Leveling

- Each team will run a loop from one benchmark to another benchmark making turns on a series of specified points. At each turn, the team will calculate and record the elevation of the point on which the turn was made. All measurements and calculations must be recorded in a field book.

### 3. Transit

- Each team will find the interior angles of a traverse that is made by a series of fixed points. All measurements and calculations must be recorded in a field book using professional standards.

## General Rules

1. Each school may enter one team with no more than three members and must provide their own equipment which should include the following:

1. Dumpy level with tripod
2. Level Rod
3. Transit with tripod
4. Range Pole
5. 100 ft. steel tape with or without reel
6. Chaining pins
7. Tension handle
8. Plumb bob
9. Three blank field books
10. Non-programmable calculator

2. Any other equipment may be brought except for electronic surveying equipment, programmable calculators, or laptop computers.

3. No consultation with faculty, professional surveyors or engineers, or comparisons with other teams will be allowed.

4. Judges will have the right to disallow the use of any equipment that may give a team an unfair advantage.

## Scoring

Each of the events rewards 50 points to first place, 30 points to second place, and 10 points for third place. Each event will have a maximum allowed time, and any team that does not complete the event within this allowed time limit will be disqualified from that specific event. Scoring and tie breakers are based first on accuracy then on time. The factor of time in the score will be based on the difference of the maximum time allowed and the time completed.

# Environmental Competition

## Objective

Designing and supplying a pervious concrete specimen with excellent hydrocarbon trapping capacity.

## General Rules

1. Provide one 6" x 12" cylinder for testing and judging.
2. Submit a sheet containing the following information for each cylinder entered at time of registration.
  - Name of school
  - Specimen number
  - Team Captain
  - Team member names
  - Casting date
  - Mix design including quantities
  - Faculty or Practitioner Advisor's name and signature as verification that each entry conforms to the Environmental Competition Rules.

Failure to supply all requested information will result in disqualification from this competition.

## Eligibility

The environmental team shall consist of no less than 1 and no more than 5 undergraduate members of the school ASCE student chapter. Each team shall designate a captain who shall be responsible for the participation of the team.

## Product

Concrete cylinder shall be 6" x 11" cast in a standard 6" x 12" plastic cylinder mold. The cylinder mold shall have an open top, and a one-inch hole in the bottom to allow the water to drain out. The plastic cylinder molds shall be a minimum of 12 inches high, so that a minimum one-inch lip is maintained around the top. See Figure 1 for a sketch of dimensions. The mix design shall contain no organic material which could be subject to decomposition in an actual pavement. Examples of organic material include:

- Wood or wood fiber (including paper)
- Plant or animal fiber (including cotton and wool)
- Carbon or charcoal

## Execution

### Prior to the Conference

Teams shall make the concrete sample at their home facilities and bring it with them to the Conference. Testing at your school shall be permitted and teams shall be permitted to experiment with several different concrete mixtures, however, the actual cylinder submitted for testing shall not have been previously exposed to oil.

The teams are responsible for having their cylinders registered with the judges no later than 30 minutes before the start of competition. A representative from each school must be present during the testing of each of that school's specimens.

## Testing

Each specimen shall be flushed with water prior to testing by the judges to ensure the cylinders are cleansed of 'dissolving' agents or other impurities other than the pervious concrete matrix.

### Test 1

Each specimen shall have two quarts of water poured over it, which must percolate all the way through the specimen in under two minutes. If the specimen fails this test, it shall be disqualified.

## Test 2

After Test 1, a measuring device shall be placed below each specimen. Each specimen shall be required to pass vegetable oil and water (0.5 quarts vegetable oil, 1.5 quarts water). The vegetable oil shall be poured through first by a judge, evenly, over the top, over a 20 second time frame. The water shall be poured immediately following by a team member. Each team shall have two minutes in which to pour all the water at a rate of their choosing. After an additional one minute, the measuring device shall be removed from under the specimen. The amount of vegetable oil collected in the measuring device shall be determined. The measuring device will be a graduated cylinder with the volume of oil floating on top as the metric.

## Scoring

Scoring shall be based on the amount of oil retained in the specimen. The specimen which allows the least volume of oil to pass shall be declared to be the winner. Specimens which fail Test 1, but which do not violate the spirit of the competition shall be awarded participation points. Ties shall be broken as follows based on innovation in mix design, as determined by the judges. All decisions of the judges shall be final.

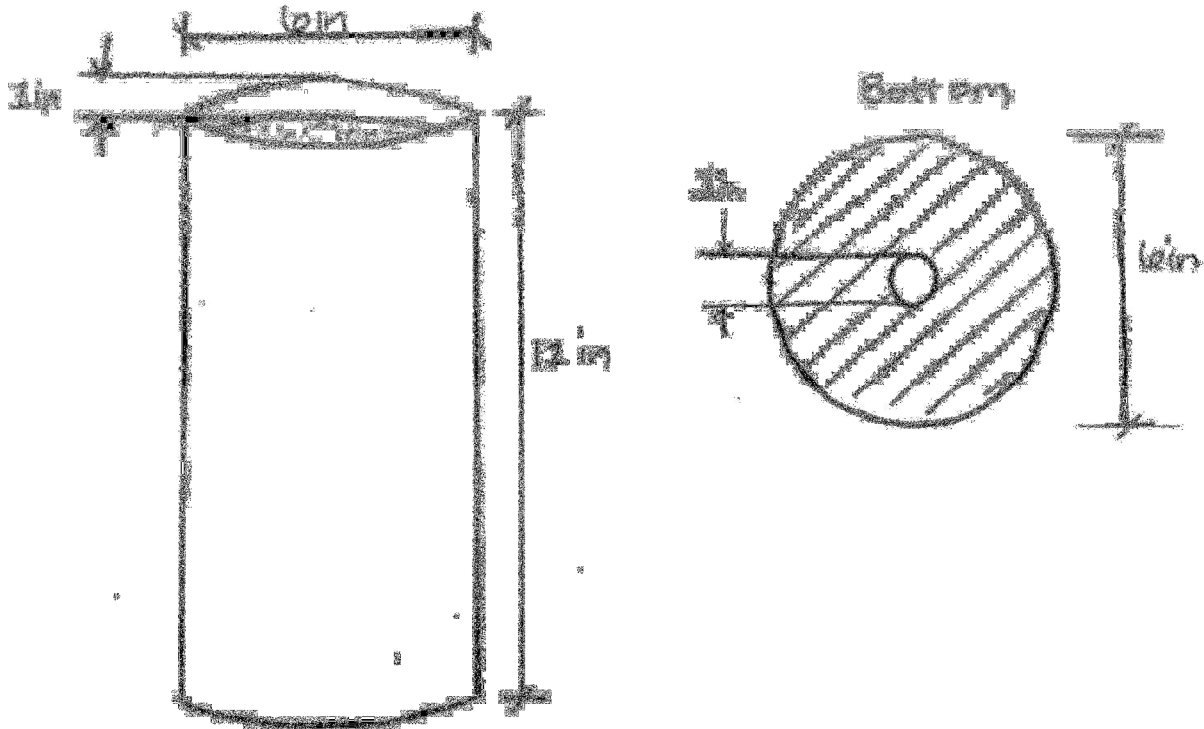


FIGURE 1: Sketch of Dimensions



# Geotechnical Competition

## Objective

The objective of this competition is to create a model segment of a working floodwall using materials provided the day of the competition. The winning floodwall will be determined using a ratio of the amount of water restrained to the cost of the materials used to build the floodwall.

## General Rules

For the purpose of the competition, “floodwall” is defined as any surface that holds back a pool of water. A floodwall’s “strength” will be defined as the measured amount of water it is able to hold back before it incurs failure. Failure of a floodwall will be deemed when the model houses in the designated area of the module are completely submerged.

## Materials

Each team will be provided the following construction materials:

- A module in which to build the floodwall
- Box-cutter
- Scissors
- Flashlight
- Latex Gloves (if desired)

Each team may purchase the following building materials:

- Clay
- Mesh Reinforcement
- Balsa Wood

These materials may be “purchased” by any team member from the designated competition materials store.

## Building Procedures

Teams are free to use their materials as they wish to build a floodwall that will protect the designated areas of the module from water. The floodwall may only be built out of the purchased materials (clay, mesh reinforcement, balsa wood). The floodwall must be completed within a 90-minute time limit. The head judge will announce when time will begin and end.

## Testing

Since the floodwalls cannot be tested with water prior to being judged, teams may use the flashlights provided to test for weak points in their floodwalls. A cloth cover will be provided to hold on one side of the floodwall and light can be shined from the other to look for holes in the wall. Floodwalls will be tested in the same location they are built in to avoid damage during transport.

## Judgment

When a team deems that it has completed its construction of a floodwall they may begin testing their floodwall once an available judge is present. Each team will pour water from jugs into their own floodwall module using a provided funnel. The judge will determine the failure of a floodwall when the model houses become completely submerged. Upon the floodwall’s failure, pouring of the water must cease immediately, and the remaining water will be weighed to determine how much water the floodwall held. All judge’s rulings are final.

If early in the pouring process the floodwall begins to leak, the team reserves the right to discontinue pouring and consider if an “emergency repair” is necessary and essential. If an “emergency repair” is to be conducted, the team will be penalized an emergency crew fee per minute of repair time. This additional cost is added to the total cost of the floodwall. Materials used for the “emergency repair” may

only come from materials left over from original construction; no new materials may be purchased. During emergency repair session absolutely no water may be poured into the module.

### **Scoring**

A team's score will be based on a ratio between the strength of the floodwall and the cost of the materials used to build it.

A floodwall that holds back an adequate amount of water with respect to actual floodwall proportions, will receive a full strength score of 100. The amount of water necessary to flood the model house without the floodwall's presence would equate to a strength score of zero. The amount of water a floodwall module holds after a failure will determine a strength score based on a linear function between the two above scores. Strength scores of over 100 are possible.

The cost of a team's floodwall will be based on the materials the team has purchased and any additional costs resulting from emergency repairs. The judges will tally this cost throughout the competition.

A special ratio will combine the strength and cost scores to make a final floodwall score. This ratio, as seen on the scoring sheet, comprises of the strength over the cost of the floodwall including the costs associated with an early failure.

The competition staff will compute each team's score based on the above criteria. The team will be allowed to verify that this result is correct. Any disagreement over the results must be discussed with the head judge immediately. The head judge's decision is final.

# Mystery Design

## **Objective**

The mystery design is a competition in which schools will be given a limited amount of time to complete a specific type of design using only the materials given to the teams.

## **General Rules**

Each school will be given their mystery design competition rules along with the registration packet. Schools will then have until the start of the competition to come up with a design to be judged. Materials will be provided at the start of the competition.

# Game Show

## Objective

The Quiz Bowl is an academic contest testing the knowledge of civil engineering students in several categories of civil engineering. The categories are as follows:

- Statics/Dynamics
- Water Resources Engineering
- Transportation Engineering
- Structural Engineering
- Environmental Engineering
- Geotechnical Engineering
- Engineering Ethics
- Fluid Mechanics/Hydraulic Engineering
- Engineering Economics
- Engineering Materials

## General Rules

Schools are eligible to enter one team in the Quiz Bowl consisting of no more than four undergraduate members of ASCE.

The quiz bowl will be played in a similar format to the popular game show Jeopardy. Games will consist of an equal number of teams based on the number of teams competing. There will be five randomly selected categories with five questions each ranging in value from 100 to 500 points. There is one Daily Double per game. There is no Double Jeopardy.

The school that traveled the farthest distance to UW-Milwaukee will be given the first choice of question. After the question is read by the proctor, teams will have thirty seconds to buzz in with an answer in the form of a question. The first team to buzz in will be given five seconds to answer the question. If an incorrect answer is given, the value of the question will be subtracted from the answering team's point total and five seconds will be given for the other teams to buzz in.

There will be a Final Jeopardy round in which teams will be able to wager a point value after being given a category. Teams with zero or fewer points cannot compete in Final Jeopardy. The top three scoring teams will participate in a championship game of Jeopardy set up exactly as above. The winner of the final game will be the winner of the event. In the event of a tie, a round of sudden death will ensue between the tied teams. Whichever team correctly answers the sudden death question first will proceed to the final round or win the event. If the first question is not correctly answered by any team, subsequent questions will be asked until a team can provide a correct response.