

# Oregon State University

School of Civil and  
Construction Engineering

American Society of Civil Engineers  
Student Chapter

2016 Annual Report  
Submitted: February 1st, 2016

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**Oregon State University ASCE Student Chapter**

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# Executive Officers

May 2015 – March 2016



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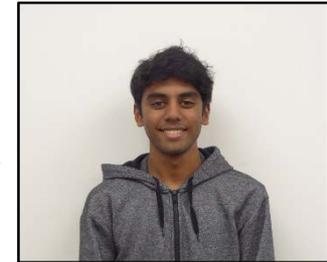
# Executive Officers

April 2016 – March 2017



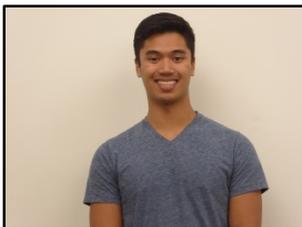
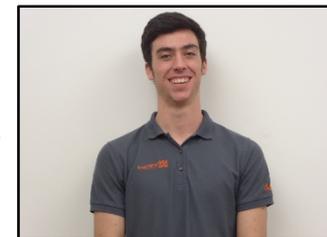
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# Membership Application Reorganization

- Transitioned from paper applications to online applications for membership.
- Oregon State's long standing tradition of promoting sustainability by going paperless.
- Ease-of-use for students, and seamlessly become a national ASCE member with our process.
- Convenience of using credit/debit cards for students instead of checks or cash.



New Members:	Existing Members (Renew):
<a href="#">Start OSU Student Chapter Application</a>	*Skip Start OSU Student Chapter Application*
<a href="#">Start National Application</a>	<a href="#">Renew National Application</a>

New members and existing members should **NOT** be paying any national application Fees of any kind.

The **ONLY one time payment** that needs to be made is in the "[Start OSU Student Chapter Application](#)" (for new members).

If you are local member and not a national member yet, then all you have to do is [Start National Application](#).

# Financial Summary

**Dues: \$15 lifetime membership**

**As of December 31st, 2015 to December 31st, 2016**

- **Total Income: \$48,805.80**
- **Total Expenditures: \$37,771.94**
- **Cash Balance: \$17,662.99**
- **Accounts Receivable: \$14,000.00**
- **Accounts Payable: \$0.00**

# Goals and Objectives

**“The objectives of the OSU ASCE Student Chapter are the advancement of the art and science of engineering, the professional improvement of its members, the encouragement of civil responsibility of its members and the encouragement of professional and social interaction between students of civil engineering and between such students and practicing engineers.”**

**6 long-term goals were established  
to meet these objectives.**

# Goals and Objectives

1. Increase Membership to 200 Students.
2. Complete 8 Service Projects
3. Qualify both Steel Bridge and Concrete Canoe for Nationals
4. Host at least 12 Speaker Meetings.
5. Achieve National Recognition for the Annual Report
6. Hold 7 Joint Events with other clubs on campus.

# Increase Membership to 200 Students

## Detailed Description of Goal:

In 2014, there were 150 student members on average during the year. A goal was set to increase membership by 30% to 200 students in 2015. In 2015, membership increased to 175 students. With the increase to 200 members halfway achieved, it is maintained as a goal for 2016.

## Action Plan:

In 2016, more effort was focused on reaching out to the underclassmen and informing upperclassmen about the opportunities of ASCE post-school. An on-line membership application system was established in Fall 2016 so that chapter and national membership and dues can all be taken care of in one, quick session.

# Increase Membership to 200 Students

## Assessment:

**Achieved:** The membership was 244 students on average during 2016, up 40% from 2015.

## Follow-up:

The entirely online membership application system will be continued in 2017, and will make signing up for ASCE membership easier for students, easier to manage, and make every member who signs up a national member. Extra effort will go out to recruiting graduate students, many who come to OSU as Student Members. Work to increase announcements in all classes about membership and activities.

# Complete 8 Service Projects

## **Detailed Description of Goal:**

Perform 8 community service projects and outreach efforts. This was accomplished in 2015 and is maintained as a goal.

## **Action Plan:**

Increase the number of design and construction projects in the total. Officers will reach out to new sources of volunteers in the chapter, especially underclassmen. Continue the successful sidewalk repair and Habitat for Humanity projects.

# Complete 8 Service Projects

## Assessment:

**Nearly Achieved:** 7 projects completed by ASCE in 2016, including 2 with design and construction components. These include Habitat for Humanity, Sidewalk Replacement on campus, Adopt-A-Highway, outreach to elementary and high school students, etc. An eighth project, the country club bridge, was finished by ASCE in late 2015 and passed to AGC for construction in 2016.

## Follow-up:

Work more with AGC to develop construction projects, such as the very successful sidewalk repair on campus. 2017 will be the 3<sup>rd</sup> year for this type of effort. Expand outreach efforts to schools as well. One has already been completed at an Albany middle school.

# Qualify both Steel Bridge and Concrete Canoe teams for Nationals

## Detailed Description of Goal:

The goal for this year is to have both OSU ASCE teams make it to the national competition.

## Action Plan:

Each of the team captains will focus on weaknesses in previous contests: refining the construction process for the bridge and improving racing/paddling for the canoe.

# Qualify both Steel Bridge and Concrete Canoe teams for nationals at PNW Student Conference

## Assessment:

**Partially Achieved:** The teams both competed at the PNW conference, and steel bridge made it to the national competition at BYU by placing 3rd in the conference. Canoe placed 2nd overall at PNW.

## Follow-up:

Continue to work on historical weaknesses for each team. The canoe team has constructed a practice canoe for improving fabrication and paddling for the first time. The steel bridge team automatically qualifies for nationals since OSU is hosting. ASCE also has incorporated a third team into the chapter: Geowall. We are hoping it competes well on a national level as well.

# Host at least 12 Speaker Meetings

## Detailed Description of Goal:

12 professional speaker meetings, including industry practitioners and researchers/professors to discuss projects and the CE profession.

## Action Plan:

The plan for the upcoming year is to keep a successful speaker program going. In 2015, 23 speaker meetings were held. Invite speakers to return, and seek new ones in more varied disciplines.

# Host at least 12 Speaker Meetings

## **Assessment:**

**Achieved:** 26 speaker meetings were held during the 2016 year.

## **Follow-up:**

The plan for 2017 is to continue the quality of meetings and perhaps have a few less meetings with larger attendance. We will invite more speakers to help with the cost of refreshments for the students. This will increase attendance, and help to completely cover the food costs for meetings during the year.

# Achieve National Recognition for Annual Report

## **Detailed Description of Goal:**

Annual report that highlights the chapter's accomplishments effectively and in a clear and concise format

## **Action Plan:**

Have the Secretary work on the membership roster and collection of activity and project reports throughout the year. Have regular officer meetings to keep everyone informed and together as a group.

# Achieve National Recognition for Annual Report

## **Assessment:**

**Achieved:** 2016 Letter of Honorable Mention and 2016 Finalist for Richard J. Scranton Outstanding Community Service Award.

## **Follow-up:**

Continue to improve recording of activities during the year and work to expand community service efforts by including more students who are not involved in ASCE in other ways.

# OSU Chapter History of Excellence

- The OSU ASCE Student Chapter was first established in 1921, and only six other student chapters are older. They were established in 1920. We have been recognized consistently as one of the top chapters in the country:
- Certificates of Commendation (1972, 1978, 1979, 1987, 1992, 1993, 1994, 1995, 1996, 1998, 2002, 2003, 2004, 2005, 2006, 2008, 2011, 2013, 2015) for the annual report of the prior year.
- Letters of Honorable Mention (1999, 2000, 2001, 2007, 2009, 2010, 2012, 2016)
- Outstanding Community Service Award (1996)
- Service Certificate of Commendation (2004 and 2008)
- Service Award (2010)
- Distinguished Chapter Award for Region 8 (AK, AZ, HI, ID, MT, OR, UT, WA) (2014)
- Richard J. Scranton Outstanding Community Service Award (2014) and Finalist (2016)

# Hold 7 Joint Events with Other Clubs

## **Detailed Description of Goal:**

Hold at least 7 social, professional and service events with a number of other groups on campus.

## **Action Plan:**

Expand our set of collaborative functions with groups outside ITE and the AGC student chapters, such as Women in Science and Engineering. This would give the chapter a voice to people who are less likely to hear about ASCE but might still be interested and broaden perspectives for our members.

# Hold 7 Joint Events with Other Clubs

## **Assessment:**

**Achieved:** The chapter had 9 joint events with AGC and ITE. These included sports, speaker meetings, and service projects.

## **Follow-up:**

The continuing goal is to expand the joint speaker meetings and activities to other student clubs, such as WSE. We need to look for ASCE members who are also in these other groups and use them as links.

# Membership Statistics

**244** Chapter Members (Average for the Year)

**244** ASCE National Society-level Members

**100%** of Local Members are Society-level Members

**121** Members with Jr/Sr status

**249** CE students with Jr/Sr status eligible to join ASCE

**49%** of students with Jr/Sr status that are Local Members

# Meeting Statistics

**26** professional meetings with an invited speaker

**6** student presentations and/or papers presented

**2** professional licensure meetings and/or ethics topics presented

**2** field trips taken

**10** social functions

# Popular Meetings

- Cookies and Clubs Event
- Ken Archibald's 40th
- Bowling Night
- ASCE vs. AGC Basketball
- ASCE vs. AGC Softball
- Resume' Building Workshop
- Mentoring Study Session
- Meet a CE day
- Power Engineers
- Galvanizers

# Cookies and Clubs Event

Promote and advertise ASCE to incoming freshmen.

Recruit new Civil Engineering majors to a community of their peers.

Showcase the Concrete Canoe and the Steel Bridge to hundreds of freshmen in order to gain membership for the respective teams.



**15** ASCE members promoting to **200+** freshmen engineering majors new to campus!

# Ken Archibald's 40th

Our friend, Ken Archibald, has served as our practitioner advisor for the last 40 years.

We couldn't have been more happy to throw him a surprise party.

Ken has been especially active in the Capital and Willamette Branches, and is always working to connect students to the profession.

**50** Current and past chapter members, professionals, friends and family all gathered to surprise Ken.



Ken (center) pictured with current and past student chapter presidents.



# Bowling Night

Chapter bonding through bowling, billiards and pizza! Promoting ASCE and our fun activities.

40+ participated, including many interested in joining our chapter!



# ASCE vs. AGC Basketball

Friendly competition between ASCE and AGC (Associated General Contractors). Played at Dixon Rec Center for four 15 minute quarters, allowing all participants ample opportunity to play.



The **12** person ASCE team won a thriller 81-80 in overtime!  
Fun and successful team-building event for both clubs!

# ASCE vs. AGC Softball

Another friendly game against AGC along with a meal to connect everyone. A relaxing event to celebrate the end of the school year.

The **12** ASCE members along with advisors Dr. Miller and Ken Archibald were dominated by the **18** AGC players, but then all came together for a Pita Pit picnic.

New ASCE president Cody Beairsto presented Dr. Miller with the 2016 CE Teacher of the Year Award.



# Resume' Building Workshop

The Career Services center gave a presentation on how to create and format a resume', as well as the pertinent information that should be included. The second half consisted of one-on-one sessions with the students to edit their resumes. **35** students attended.

The event was held a week before the Engineering Career Expo to prepare Civil Engineering and Construction Engineering Management students for potential internships and job opportunities.



# Mentoring Study Session

The student chapter organized a mentoring study session with pizza for all ages to gather and teach one another concepts from classes. Mainly for those who have taken the class before to help tutor, and those who are in the same classes to study effectively.

With **15** ASCE members of difference class standings, it helped create a sense of community around academics.



# Meet-a-CE Day

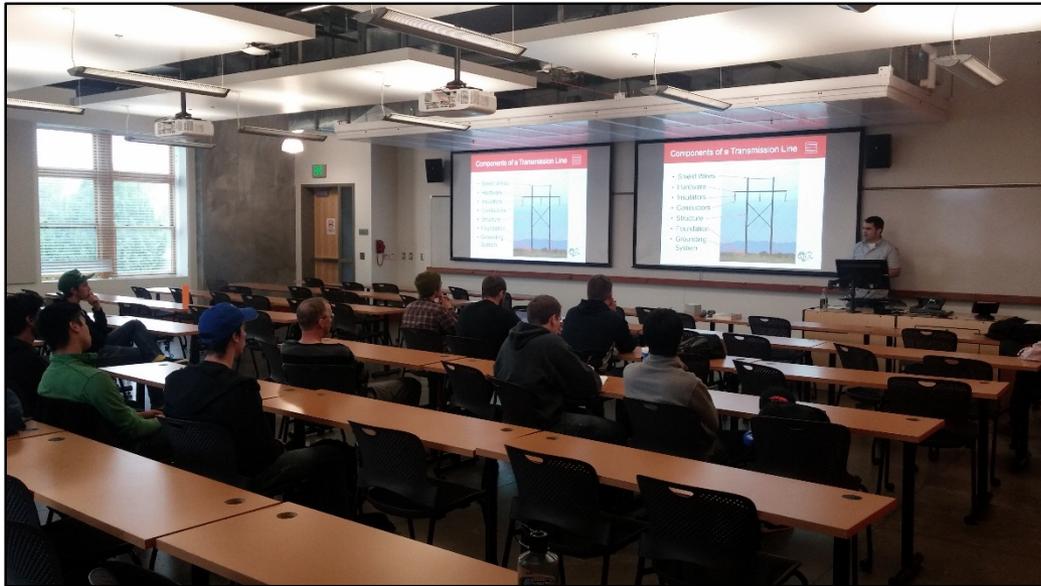
3 ASCE officers, 1 faculty advisor, and 15 Civil Engineering majors ranging from freshmen to graduate students attended the event at Portland State University.

The event consisted of technical sessions, networking with professionals, and a construction site tour.



# Power Engineers

Along with 1 faculty advisor, over 15 students attended the speaker meeting by Power Engineers. Powerlines, installation in remote areas, and seismic strengthening techniques for power stations were all discussed.



# Galvanizers

Over **25** ASCE students and **1** faculty advisor attended the Galvanizers' presentation on their hot-dipped galvanized steel process.

Chemical bonds between elements, different uses of galvanized steel, and the durability were all discussed.



# WSCL

4 ASCE members along with our faculty advisor traveled to Anchorage, Alaska to attend the Workshop for Student Chapter Leaders (WSCL). During the trip from January 8<sup>th</sup>-9<sup>th</sup>, 2016, they endured a magnitude 7.1 earthquake!



# Pacific NW Student Conference

University of Idaho, Home of the Vandals

April 7<sup>th</sup> – April 9<sup>th</sup>, 2016

35 students and 1 faculty advisor attended



# Pacific NW Student Conference

Concrete Canoe – 2<sup>nd</sup> Overall

Steel Bridge – 3<sup>rd</sup> Overall

Surveying – 1<sup>st</sup> Overall

Technical Paper – 4<sup>th</sup> Overall

Participation in every event!



# Concrete Canoe

20 Concrete Canoe members brought “**Doug**”, representing the theme of **Cascadia**, alive, led by team captain, Arlan Sterpa.



2016 Results:

- Overall – **2<sup>nd</sup> place**
- Design Report – **1<sup>st</sup> place**
- Final Product – **1<sup>st</sup> place**
- Oral Presentation – **4<sup>th</sup> place**



# Concrete Canoe



# Steel Bridge

Team captains Tyler Becker and Chelsea Farnsworth lead the team into Steel Bridge Nationals for the 3<sup>rd</sup> year in a row.

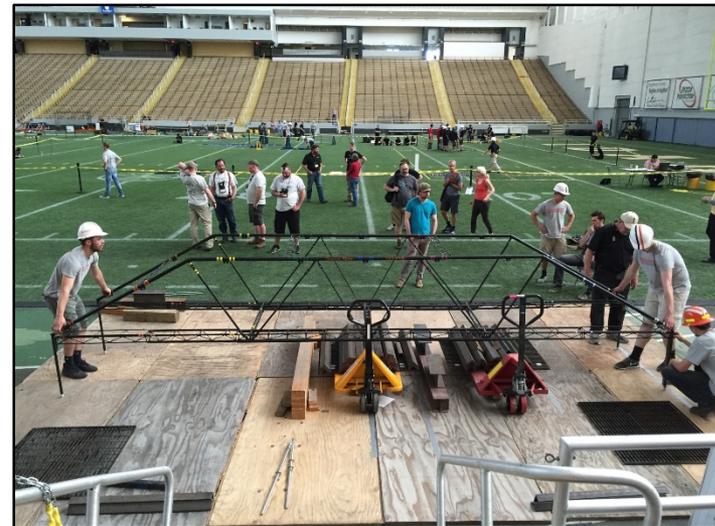
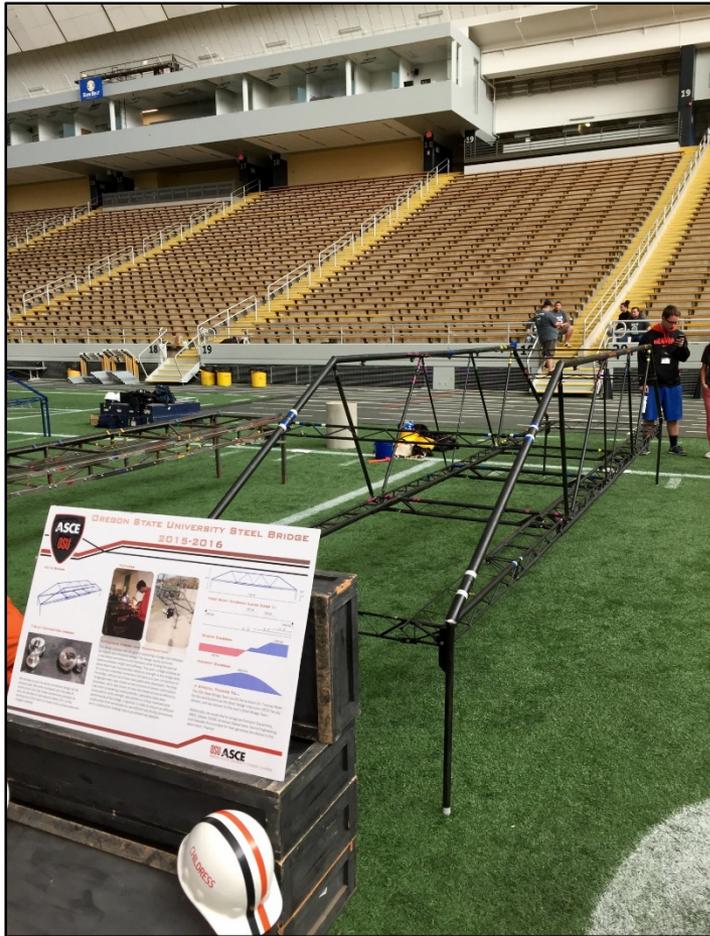
The team consisted of 30 members throughout the school year and 11 at the regional and national competitions.



## 2016 Regional Results

- Overall – **3<sup>rd</sup> place**
- Construction Speed – **3<sup>rd</sup> place**
- Lightness – **4<sup>th</sup> place**
- Display – **6<sup>th</sup> place**
- Economy – **3<sup>rd</sup> place**
- Efficiency – **4<sup>th</sup> place**

# Steel Bridge



# Steel Bridge - Nationals

Brigham Young University in Provo,  
Utah on May 27<sup>th</sup> – May 28<sup>th</sup>, 2016

Returning for the 3<sup>rd</sup> year in a row!



The team challenged themselves and built almost an entirely new bridge in 6 weeks before the National Competition.

# Steel Bridge - Nationals

Unfortunately, due to a design error, the new bridge failed under 2,250 lb after a connection sheared.



The result of the 2016 NSSBC has motivated the team more than ever to do their best during the 2017 season.

# ASCE National Convention in Portland, OR

Keynote speakers, networking opportunities, and cutting edge talks were all presented at the convention.

Goals of this event were to gather sponsors, fundraise, and recruit judges for the 2017 National Student Steel Bridge Competition (NSSBC) to be hosted by Oregon State University.



# ASCE National Convention

The Steel Bridge Team represented Oregon State at the ASCE National Convention 2016, in Portland, Oregon.

**6** members attended from September 28<sup>th</sup> – October 1<sup>st</sup> and accumulated a total of **66** person hours at this event.



# 2016 Special Projects

- Habitat for Humanity
- Philomath Library Outreach
- Sidewalk Replacement
- ITE Adopt-A-Highway
- Engineering Outreach Nights
- Order of the Engineer
- CH2M Bridge Contest
- Corvallis Country Club Bridge (completed by AGC in 2016)

Over 500 hours of service!



# Habitat for Humanity

## Description/Goals:

Help with progress towards completion on one of two Habitat houses built in Corvallis each year.

Work with construction manager to grade and level base rock for the driveway. Place reinforcement on dobbies to prevent cracking.



# Habitat for Humanity

## Engineering component

- Group dynamics were very important to these tasks as well as in the engineering field.
- Construction experience and mentors are invaluable for young engineers learning to make their designs feasible.



## Project impact

- Helped provide families with affordable homes in which they are a large part of the building process.
- Strengthened ties between Oregon State ASCE and the Corvallis community

# Habitat for Humanity

## Participation

Completed projects in February, with a total of 7 students (3% of ASCE membership)

35 person-hours were spent on the Habitat for Humanity projects

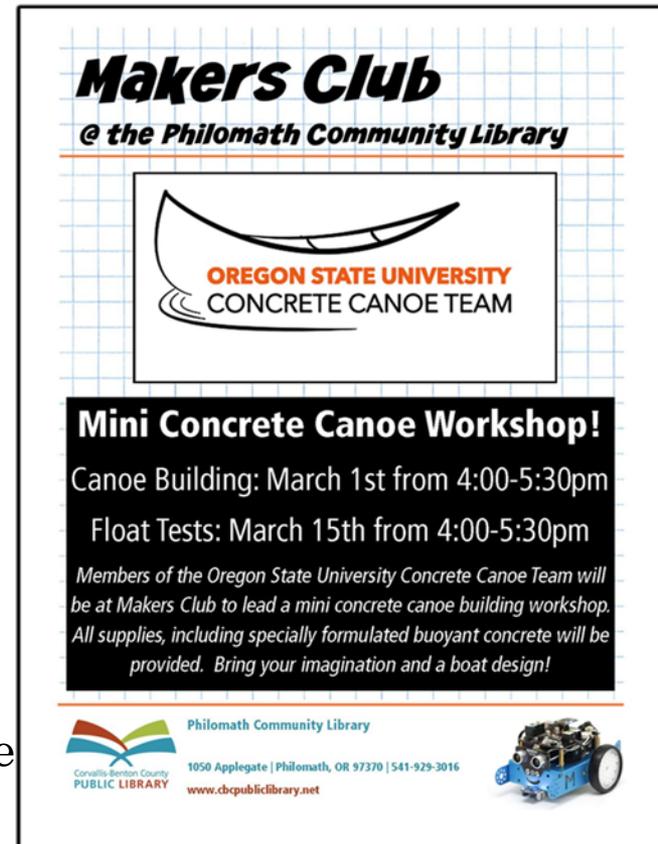


# Philomath Library Outreach

## Description/Goals:

- Collaborate with community partners and establish a new relationship between ASCE and the local Teen Makers Club
- Provide local teens with hands-on design and engineering experience
- Describe basic engineering principles as relating to concrete design and buoyant forces
- Promote ASCE and Concrete Canoe

**Participation:** 6 ASCE and Concrete Canoe members, 2 library staff, and 23 local middle and high school students participated. 2.5% of ASCE members for 20 person-hours.



**Makers Club**  
@ the Philomath Community Library

**OREGON STATE UNIVERSITY**  
CONCRETE CANOE TEAM

**Mini Concrete Canoe Workshop!**  
Canoe Building: March 1st from 4:00-5:30pm  
Float Tests: March 15th from 4:00-5:30pm

*Members of the Oregon State University Concrete Canoe Team will be at Makers Club to lead a mini concrete canoe building workshop. All supplies, including specially formulated buoyant concrete will be provided. Bring your imagination and a boat design!*

Philomath Community Library  
Corvallis-Benton County PUBLIC LIBRARY  
1050 Applegate | Philomath, OR 97370 | 541-929-3016  
www.cbpubliclibrary.net

# Philomath Library Outreach



# Philomath Library Outreach



# Philomath Library Outreach



Concrete Canoe teaching local teens about engineering principles!



# Philomath Library Outreach

**Engineering Component:** Explained to the teens at two different technical levels to ensure all participants had equal understanding of principles, including:

- Density, surface area, and buoyant forces
- Concrete mixture design and practical applications of lightweight concrete
- Basic engineering design and iteration process

**Project Impact:** This new project created a partnership between ASCE, Concrete Canoe and the local community to inspire middle and high school students who are already interested in engineering to pursue their dreams through visual and physical learning techniques.

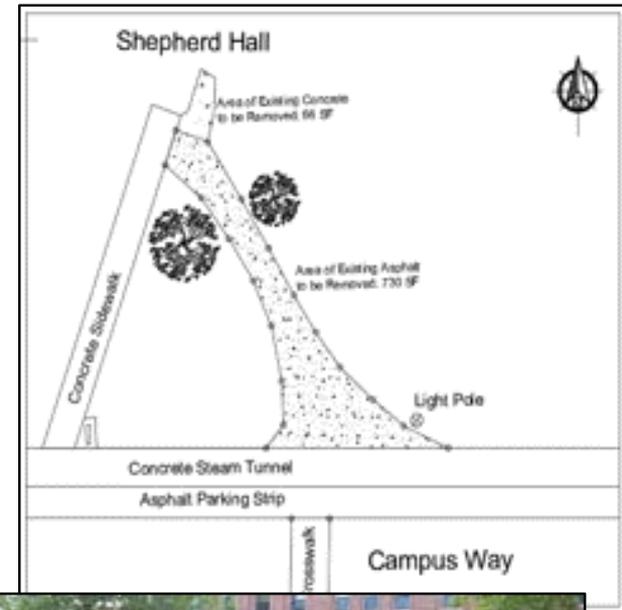
# Sidewalk Replacement

**Description:** ASCE and AGC designed, removed, and replaced 800 sq. ft. of asphalt and concrete on the OSU campus.

This project allowed for students to participate in a project from to design to completion.

**Engineering Component:** Students learned the following skills:

- Permitting/beginning a project
- ADA Compliance
- Project management/leadership
- AutoCAD/Design
- Concrete forming and finishing



# Sidewalk Replacement

**Project Impact:** This project repaired a section of sidewalk that was in noncompliance with the Americans with Disabilities Act. The sidewalk was a hazard as the site had major cracking and puddling in front of an ADA ramp.

Students were able to gain construction experience as well as learning the knowledge for permitting.

**Participation:** 29 ASCE members, or 12% of chapter members, participated in the sidewalk replacement project. They collectively put in 350 person-hours.



# ITE Adopt-A-Highway

**Description:** ASCE and ITE (Institute of Transportation Engineers) worked together to clean up a 2-mile stretch of Hwy 34 outside of Corvallis.



**Participation:** 7 ASCE members, or 3% of ASCE, were able to devote 28 person-hours into making our community cleaner.

# ITE Adopt-A-Highway

**Engineering Component:** This event brought forth teamwork, leadership, and service for the community.

In addition, this promoted sustainability and environmental awareness by removing potential pollutants.

**Project Impact:** The community was able to have a cleaner, better looking highway. ASCE and ITE students worked together, making future collaboration easier. Positive impression for ASCE in Corvallis.



# Engineering Outreach Nights

**Description:** ASCE members attended the Family Science and Engineering Nights at local elementary schools. The goal of the outreach is to inspire young children to explore engineering.

**Engineering Component:** Teach concepts of buoyancy, structural design and earthquakes to the kids.



# Engineering Outreach Nights

**Participation:** 6 ASCE members, or 2.5% of our chapter, lead these activities, for a total of 36 person-hours.

**Project Impact:** We attended Hoover Elementary School in Corvallis, Oregon and South Shore Elementary School in Albany, Oregon. This created an awareness of engineering for young students.

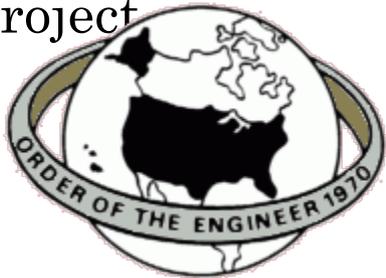


# Order of the Engineer

**Description:** Organized the Order of the Engineer ceremony as a service to the college of engineering, with all engineering majors invited.

5 majors were represented; Dean of Engineering Scott Ashford presented the rings; Alumna Katie Ritenour (who started the ceremony at Oregon State) participated.

**Participation:** 2 ASCE members, or 1% of the chapter, organized the event with the help of 2 faculty members and our practitioner and faculty advisors, totaling a 30 person-hour project



# Order of the Engineer

**Engineering Component:** This ceremony for graduating engineering students encouraged inducted members to behave ethically and with professionalism as they begin their engineering careers.

**Project Impact:** 29 new members of the Order were inducted from 5 different engineering majors. Increased awareness and practice of ethical and professional behavior in engineering.



# CH2M Bridge Contest

**Description:** Organization and conducting of high school bridge contest. Objective is to design the bridge with the greatest efficiency (ratio of load carried to weight of the bridge). The contest has been held for over 45 years.

**Participation:** With 12 ASCE students (4.9% of ASCE members) putting in over 70 person-hours, the event was a big success.



# CH2M Bridge Contest

## Engineering Component:

Teaching the high school students structural design concepts: including compression vs. tension and using the hands-on testing to help the students design bridges in the future.

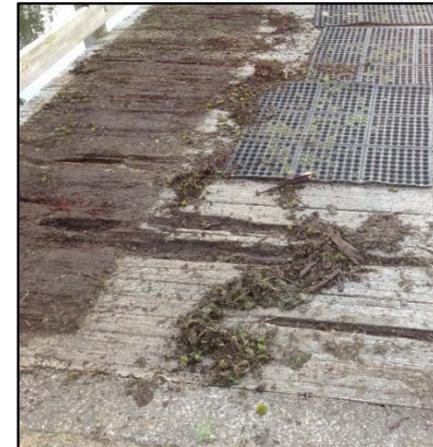
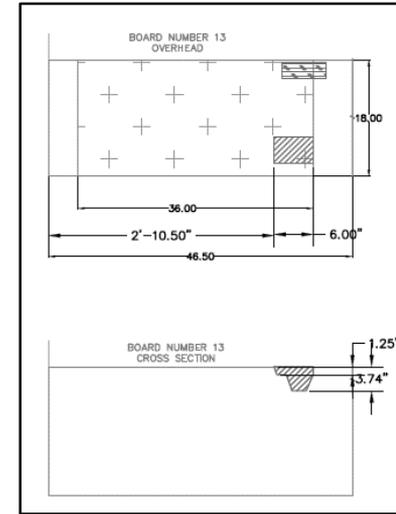
**Project Impact:** This event got high schoolers more involved with Civil Engineering at a young age and introduce them to Oregon State University as a potential college to consider.



# Corvallis Country Club Bridge

**Description:** Survey damage to the country club's bridge and record findings and create detailed drawings. Analyzed options for repair.

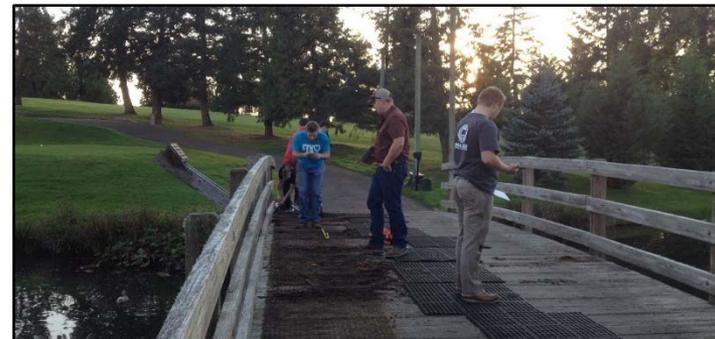
**Engineering Component:** Provided students with an opportunity to practice fieldwork and use of CAD software. Reviewed design elements of wooden structures and their constraints. Developed possible timeline and work schedule of replacement project.



# Corvallis Country Club Bridge

**Project Impact:** Helped club with decision process for replacement. Created closer ties to the community members that sued the country club. Provided a level of service that provides safety for those that use the bridge.

**Participation:** ASCE portion of project completed in late 2015. Passed to AGC student chapter for actual construction and repair in 2016. Included in 2016 report to show cooperation between clubs.



# Summary and Questions

## Accomplishments

- Steel Bridge goes to nationals for the 3<sup>rd</sup> year in a row!
- Integrated GeoWall Team into the Chapter
- Increased team fundraising

## Challenges

- Membership retention
- Attending YMF and Branch or Section meetings
- Preparing to Host National Steel Bridge Competition.

