September 12, 2018 Meeting

The September 12, 2018 Waterloo Technical Society (WTS) meeting was called to order by President Dorhout at 7:20 pm. President Dorhout welcomed visitors and noted that this was the first meeting of the 105th year of the Society.

A total of 32 members and guests attended.

Treasurer's Report. Ken Friend reported a beginning balance of $855.17. Income of $0.00 from memberships with expenses of $0.00 for the May speakers' meals, $250.00 donation to the WSR Robotics Team and $250.00 donation to the HCC Automotive Technology and Body Repair Program leaves a new balance of $355.17. Treasurer Friend's report stated a total of 9 honorary and 0 paid members yielding a membership roster of 9 members. As a reminder, dues are now raised from $10 to $20 per year to enable more gift giving to speakers' causes.

Current Officers. Officers for the 105th WTS year were introduced by President Dorhout:

Officers for the 2018-2019 year (year 105) are:

President:	Gary Dorhout
Co-Vice Presidents:	Jerry Mohling and James Stevenson
Treasurer:	Kenneth Friend & Paul Anderson
Dinner Reservations:	Derek Eagles & Steve Lang
Secretary:	James Stevenson
Publicity/Recognition:	Todd Whiting
Auditing:	Bill Mitchell & Jim Garrett
Nominating Committee:	Open
Web Site:	Tim Schoenfelder / Jim Volgarino

Old Business. President Dorhout reviewed the topics presented in the past year. The dates, speaker and topics for the 104th WTS were:

Speakers for the 2017-2018 Meeting Year (Year 104)

13 Sep 2017 – William Close—Mega Sculptures
11 Oct 2017 – Dr. Bert Schou– Not Your Grandfather's Farm
8 Nov 2017 – Cody Wilkinson – Large Seeding and Tillage Equipment
13 Dec 2017 – No Meeting
10 Jan 2018 – Susan Card—Jerald Sulky Company
14 Feb 2018 – Barbara and Dale Hatinger – A Career in Technology
14 Mar 2018—Jim Volgarino—The Story of William Galloway
11 Apr 2018—Waverly Shell Rock First Wave Droids Robotics Team
9 May 2018—Dan Whealy--Tour of KWWL Hi-Definition TV Studio

Dues have been raised from $10 per year to $20 per year. This was done to enable the Society to make contributions to organizations and individuals that promote or participate in technology. Treasurer Friend stated that he has begun collecting dues at the higher rate. This item is now closed.

The membership had tabled a motion to donate $250 to Tiny House Program at UNI until the 2018-2019 Fiscal Year. No action was taken on this item.

Additional items tabled were Website Design, use of $100 given by Todd Whiting for membership growth, and Logo revision.

New Business. No new business was discussed.

Guest Speakers. **Austin Maginnis, Instructor; and students Austin O'Neill & Anna Fuller**

Austin Maginnis is an instructor at the University of Northern Iowa (UNI) and is the instructor of the Construction Resources class responsible for building the tiny houses.

He has a B.S. in Construction Engineering with experience as a Mechanical Systems Engineer designing HVAC, Plumbing, and Fire Suppression systems.

Austin is also part owner of T.E.A.M. Builders; a residential remodeling company in Cedar Falls.

Austin O'Neil is a Sophomore at UNI in construction management and is from DeWitt, Iowa.

Anna Fuller is Senior at UNI and is a General Studies major, double minoring in Real Estate and Marketing.

Background: Professor Scott Greenhalgh started the first Tiny House Project originally to house Foster Care children aging out of the program. Five houses have been built with material costs ranging from $8,000 to $12,000 each. Students typically spend a collective 1,800 hours in planning, researching construction codes, sourcing and purchasing materials and building the house. The house shown in Figures 1-3 was built to customer order to be used as a summer cabin for a material cost of $12,000.



Figure 1. Tiny House on trailer. The house is 18L x 8W x 11H feet

Storage requirements sometimes have required under-bed compartments. This house had no provision for that.



Figure 2. Prof. Maginnis standing on space for bed.

Students benefit from acquiring hands-on skills. Other benefits are community engagement, problem solving in teams, systems thinking and team work dynamics that attract students in the Construction Management Degree program and other campus majors. A variety of majors have participated in each house. The house viewed had hurricane ties in the rafters so it would endure roadway wind speeds during transportation.

The process begins with a meeting with students and client. From there drafting of a design begins. A project team is formed and roles are assigned for each participant.

Near construction completion colors are selected. Some former project members are Teaching Assistants as is the case with Anna. There are now 40 students interested in

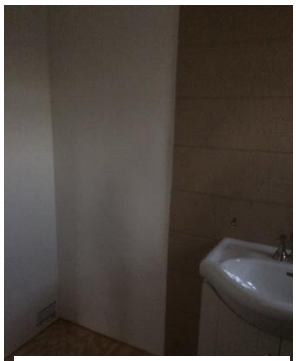


Figure 3. Bathroom shower (incomplete) and sink.

Tiny House project participation.

Many codes had to be researched and complied with. Step placement and height, clearances for transportation, bed heights, electrical panels and wiring, etc. Uses of the houses have been for deer blinds, fishing shacks, play house at child care and Air BnB remote rental. Vacation houses along the Mississippi are often used only seasonally. The opening in the wall in Figure 2 is for a summer cabin's air conditioner snice the house will not be used in the winter.

Students benefit from the networking required to make an idea into a house. This project's students thought the experience was beneficial in breaking the ice with others in their major, giving them an experience working with tools, solving the many problems with scheduling, fitting and procuring materials, and learning how to utilize others' skills appropriately. Placement rates for graduates have been 99% in the field of construction management.

Community engagement is something the members of WTS could experience. Some members have become partners. JOPPA, American Federation of Independ Living, Iowa Aftercare Service Network (military veterans) to name a few. Local vendors have provided necessary services such as truck transportation of the house. Vieth Construction and Pella Windows and Doors have generously provided services and materials. Social media has recognized that Tiny Houses coupled with Habitat Restore can provide needed alternative shelters for the homeless.

There have been ordnances enacted in some communities due to the character of the occupants. Waterloo, for instance, is interested in lofts made of Tiny Houses.

Funding is always a problem for universities. The Tiny House seen by WTS was funded by the client. Other sources include donations and grants. Currently the Tiny House project is seeking grant money to begin another house as there is no client identified.

Next Meeting. The next meeting will be October 10, 2018, topic and speaker to be announced.

Meeting adjourned at 7:45 pm. after a viewing and tour of the Tiny House.

Respectfully submitted,

James R. Stevenson, Vice President and Secretary