

**PROJECT DESCRIPTION:**

Historically, the masonry industry has lagged competing industries such as tilt-up, wood, and steel in providing software to streamline and simplify the design process of masonry structures. Over the course of the last ten years, the industry has made significant investments in the development of design tools and software targeted to architectural and structural engineering firms. Direct Design Software (DDS) was one of the first masonry design programs launched, and in early 2019, version 3.0 of the software was released.

The Arizona Masonry Council (AMC) has chosen to promote DDSv3 as one of its central Education & Promotional efforts as part of its strategic plan for 2019. AMC will leverage its relationship with the Structural Engineers Association of Arizona (SEAoA) to promote the software and drive its usage throughout the year.

**PROJECT OBJECTIVE:**

This program is designed to have two primary objectives:

- 1. Increase awareness within the Arizona Structural Engineering community of the availability of the Direct Design Software and benefits and advantages of utilizing the software when designing masonry projects.
- 2. Drive utilization of the software by providing structural engineers with Direct Design Software initial and follow up training sessions and provide opportunities for users to give feedback to software developers and request additional training support over the course of twelve months.
  - 1. Utilization of software will be measured at eight, twenty, and thirty-two weeks after the initial 6/13/19 presentation & training.
  - 2. Metrics to be used include:
    - Number of licenses activated.
    - Number of active users. User is defined as a Structural Engineer who utilized the software for the design of at least one project.
    - Number of projects where software was utilized
    - The dollar value of projects where software was used.

The table below provides a summary of the key metrics we are striving to achieve during the three different periods we will be collecting data.

Metric	8 Weeks After Initial Training	20 Weeks After Initial Training	32 Weeks After Initial Training
Number of licenses activated	9	14	19

(48 Total # of licenses distributed)			
Number of active users	5	10	15
Number of projects where DDS was used.	One project per active user	Three projects per active user	Five projects per active user
Total dollar value of projects where DDS was used	AMC will wait to until after the first data collection to estimate the dollar value goal for 20 and 32 weeks		

**BACKGROUND INFORMATION:**

The development of the Direct Design Software has been a collaborative effort between the software developer, Ensoltech, and the National Concrete Masonry Association (NCMA). As a part of this collaboration, special promotional packages have been developed to encourage local masonry associations and industry members to promote the software to structural engineers in their respective markets. In most instances where these promotional packages have been utilized, it has been as a one-off training opportunity with little effort made to track the actual utilization of the software over a specified time or provide additional follow-up training opportunities as needed to drive usage of the software continually.

Our campaign is unique in that we provide a minimum of three training opportunities for structural engineers to take advantage of in addition to collecting data to measure utilization of the software at least three specific intervals over the course of the yearlong campaign.

The campaign requires a pre-planning phase of sixteen weeks and then an additional thirty-six weeks in which further follow-up software and data collection on the usage of the software will occur. The initial Direct Design Training session will kick-off during the 2019 Structural Engineering Association of Arizona (SEAOA) State Convention & Conference at the Doubletree Hilton in Paradise Valley, AZ, on June 13, 2019. Russ Peterson, the developer of the Direct Design Software, will facilitate a 90-minute training session to attendees of the conference. The Arizona Masonry Council, Inc. purchased thirty one-year subscriptions of the software to give away to attendees of the session. Recipients of the software will be provided with follow-up training opportunities over the course of the next thirty-two weeks. Please note that although the AMC is paying for this campaign, the training sessions will be branded as an Arizona

Masonry Guild (AMG) sponsored event since members of the Arizona structural engineering are accustomed to AMG sponsoring continuing education events for SEAoA.

During the June 13, 2019, DDS training session, 48 SEAoA members attended the session. Based on the larger than expected attendance, the AMC Board decided to provide each attendee with a one-year subscription.

### **SCOPE OF WORK:**

The campaign encompasses various marketing communication strategies, instructional delivery methods and data collection to increase awareness of the software, increase usage of the software, and measure success including:

- Direct mail
- Email communications
- Classroom instruction
- Online/Webinar training
- Video tutorials
- Electronic survey
- Phone survey/interviews

Please refer to the Appendix for examples of the marketing collateral and survey information that will be used in this campaign.

After each data collection interval, a formal written report summarizing the key metrics (see Project Objectives) will be prepared and distributed to the Arizona Masonry Council Board of Directors.

### **SUMMARY OF QUALIFICATIONS:**

To bring this campaign to fruition, the Arizona Masonry Council will leverage a combination of association staff, contracted subject matter experts and contracted service providers. Below is a breakdown of the qualifications and responsibilities of each party.

<b>Company</b>	<b>Role/Responsibilities</b>	<b>Qualifications</b>
Lisa Prichard/ AZ Masonry Council	Oversees execution of the entire campaign, manages service providers, and ensures the campaign is completed within budget and on time.	Current Executive Director of AZ Masonry Council with over 13 years of experience executing various educational/promotional campaigns on behalf of the Arizona Masonry Industry.

<p>Russ Peterson/ Ensoltech</p>	<p>Facilitates Direct Design Software instruction in both classroom setting and via online webinars.</p>	<p>Russ Peterson is an engineer, software developer, and active member of The Masonry Society (TMS). His company, Ensoltech, has created Direct Design Software and other structural design software packages. He has participated in the development of various TMS design guides and other publications and holds M.S. and B.S. degrees in Civil Engineering from Montana State University.</p>
<p>Pamela Bir/ Your Computer Lady</p>	<p>Responsible for the creation and layout of various Constant Contact emails, survey via SurveyMonkey, and webinar online registration setup. Also, responsible for the execution of phone surveys throughout the campaign.</p>	<p>For over 20 years, Your Computer Lady has provided small businesses various website development &amp; management, email marketing, social media marketing, database management, survey, and various other administrative services.</p>

**ANTICIPATED IMPACT ON NATIONAL, REGIONAL, AND LOCAL LEVEL:**

According to the Structural Engineers Association of Arizona, over 50% of its members perform structural design services for projects to be constructed outside of the Arizona market. We expect the Arizona masonry market to benefit the most from this initiative since the end users of the software are based in the state. However, we do believe that on a regional and national level, the masonry industry will benefit since the members of SEAoA who receive a year subscription to the software will more than likely use the software to design masonry projects outside of Arizona.

**BUDGET:**

The estimated budget for the 2019 Direct Design Software Campaign is \$11,060. Please refer to the 2019 Direct Design Software Campaign Planning Calendar for a breakdown of these expenses.

## REQUESTED PAYMENT PROCEDURE:

The preferred payment procedure requested is two installment payments. One payment of 50% of the grant to be issued upon completion & submission of the campaign summary report at ten weeks after the initial presentation & training. The second payment of the remaining 50% to be issued upon completion & submission of the campaign summary report at 32 weeks after the initial presentation & training.

## ADDITIONAL FUNDING SOURCES:

The Arizona Masonry Council, Inc. is underwriting the entire cost of the 2019 Direct Design Software Campaign.

## REPORTING SCHEDULE:

Below is a summary of the reporting schedule for the entire campaign:

<b>Data Collection Method/Timing</b>	<b>Audience</b>	<b>Timeframe</b>
Phone Survey 8 weeks after initial training (estimated timeframe Week of 8/5/19)	AZ Masonry Council Board of Directors/ Written summary report of phone interview responses & results.	Report to be completed the Week of 8/19/19
SurveyMonkey 20 weeks after initial training (estimated timeframe of Week of 10/21/19)	AZ Masonry Council Board of Directors/ Written summary report of SurveyMonkey responses & results.	Report to be completed by Week of 11/14/19.
Phone Survey 32 weeks after initial training (estimated timeframe Week of 1/13/20)	AZ Masonry Council Board of Directors/ Written summary report with of phone interview results & responses.	Report to be completed by Week of 2/10/20.

**ARIZONA MASONRY COUNCIL, INC.**  
**2019 DIRECT DESIGN SOFTWARE**  
**CAMPAIGN**  
**APPENDIX**

**2019 Direct Design Software Campaign  
Planning Calendar**

<b>Task &amp; Description</b>	<b># of Weeks Prior to Presentation Date of 6/13/19</b>	<b>Estimated Cost</b>	<b>Owner</b>	<b>Date Completed</b>
Hold planning meeting with Ensoltech (Russ Peterson) to discuss details of DDS presentation during 2019 Structural Engineers Association of Arizona (SEAOA) Annual State Convention	16 weeks		Lisa Prichard	2/18/2019
Submit DDS Presentation RFP to SEAOA Convention Committee for review & approval	14 weeks		Lisa Prichard	3/4/2019
Once approved by SEAOA, finalize date & time of DDS presentation on SEAOA Convention Schedule	12 weeks		SEAOA Convention Committee & Lisa Prichard	3/19/2019
Notify Russ Peterson of presentation date, time and convention location	12 weeks		Lisa Prichard	3/21/2019
Reserve hotel for Russ Peterson	12 weeks		Lisa Prichard	3/21/2019
Contact NCMA to get estimate on cost of Direct Design Software Seminar Package & Partner Pricing for 50 one-year licenses of software	10 weeks	\$8,100	Lisa Prichard & NCMA (Nick Lang)	4/4/2019
Work with Russ Peterson to determine dates of 2nd & 3rd follow up training webinar. 1 hour per webinar.	10 weeks		Lisa Prichard & Ensoltech (Russ Peterson)	4/5/2019
Develop DDS direct mail piece with information about DDS presentation during SEAOA convention; Mail copy to all previous SEAOA members who attended 2018 SEAOA convention	9 weeks	\$700	Lisa Prichard & Americopy	4/9/2019
Mail out DDS direct mail piece	8 weeks		Americopy	4/22/2019
Contact NCMA to finalize details on what information is to be collected from attendees in order to activate DDS license. Determine workflow/process with NCMA on how attendees will receive activation key.	6 weeks		Lisa Prichard & NCMA (Nick Lang)	5/1/2019
Create DDS presentation email with date, time of presentation and opportunity for attendees to receive a free one year license to DDS. Request SEAOA Admin to email out to all SEAOA members.	4 weeks		Lisa Prichard & SEAOA Administrator	5/31/2019

**2019 Direct Design Software Campaign  
Planning Calendar**

<b>Task &amp; Description</b>	<b># of Weeks Prior to Presentation Date of 6/13/19</b>	<b>Estimated Cost</b>	<b>Owner</b>	<b>Date Completed</b>
Develop DDS drawing card to be completed by attendees of presentation. Card should include area for first & last name, company name, email address & phone number. Print 75 copies of raffle cards.	2 weeks		Lisa Prichard	6/3/2019
DDS Presentation- Bring pens, drawing forms, bowl/bucket for attendees to deposit completed drawing forms; Ensure Russ mentions details (date, time) about DDS one-hour follow up training webinar at the conclusion of his presentation. Draw winners of free year-long DDS subscriptions.	Presentation Date		Lisa Prichard & Russ Peterson	6/13/2019
Enter contact information of winners into Excel spreadsheet. Send completed spreadsheet to NCMA (Nick Lang) to generate license activation keys and email activation key information directly to each winner.	1 day after presentation		Lisa Prichard	6/14/2019
NCMA to send out emails with DDS activation keys to each winner	1 week after presentation		Ella Krupa (NCMA)	6/19/2019
Send out follow up Constant Contact email to ensure all winners received his/her DDS activation key email from NCMA and provide details for 1 hour DDS follow-up webinar and link to register. Also provide area for attendees to submit their questions about DDS that Russ can answer during webinar.	2 weeks after presentation	\$150- Layout of email, setup of online registration	Lisa Prichard & YCL	7/1/2019
Phone Survery: Call each winner to 1. Verify they have activated software; 2. Determin if they have used the software yet; 3. If yes, get general feedback on experience with software and how many times/projects they have used the software; 4. Collect any new questions they may have after using the software; 5. If they haven't used software, find out what is preventing them from utilizing it and what additional training is needed; 6. Provide them with the details of 1-hour follow-up training webinar.	8 weeks after presentation	\$480- (16 hours x \$30 per hour)	YCL	Wk of 8/5/19
Send out Webinar registration Constant Contact email to SEAOA Members	8 weeks after presentation		Lisa Prichard	Wk of 8/5/19
Forward all feedback/questions collected from calls to Russ Peterson so has time to prepare responses/answers to questions during follow-up webinar.	8 weeks after presentation		YCL	Wk of 8/5/19



**2019 Direct Design Software Campaign  
Planning Calendar**

<b>Task &amp; Description</b>	<b># of Weeks Prior to Presentation Date of 6/13/19</b>	<b>Estimated Cost</b>	<b>Owner</b>	<b>Date Completed</b>
Send out webinar reminder email to all registrants.	9 weeks after presentation		Lisa Prichard	Wk of 8/12/19
Provide AZ Masonry Council Board with summary report of results/responses/feedback collected from Phone Survey.	10 weeks after presentation		Lisa Prichard	Wk of 8/19/19
Hold 2nd follow- up training webinar; Record webinar.	10 weeks after presentation	\$500	Russ Peterson, Lisa Prichard & YCL	Wk of 8/19/19
Send out post-webinar email with any additional follow-up information/documentation and link to replay recorded webinar.	11 weeks after presentation		Lisa Prichard	Wk of 8/26/19
Send out 3rd follow up webinar registration email to SEAOA members	18 weeks after presentation		Lisa Prichard	Wk of 10/7/19
Send out SurveyMonkey to measure utilization of DDS.	20 weeks after presentation	\$150- Survey creation, layout & scheduling in Survey Monkey	YCL	Wk of 10/21/19
Provide AZ Masonry Council Board with a summary of SurveyMonkey responses.	22 weeks after presentation		Lisa Prichard	Wk of 11/4/19
Hold 3rd follow-up training webinar; Record Webinar.	22 weeks after presentation	\$500	Russ Peterson, Lisa Prichard & YCL	Wk of 11/4/19
Phone Survey: Conduct phone survey to measure utilization of DDS- Make calls to each software recipients to determine if usage of the software has increased.	32 weeks after presentation	\$480- (16 hours x \$30 per hour)	YCL	Wk of 01/13/20
Provide AZ Masonry Council Board with a summary of results/responses/feedback collected from SurveyMonkey and second Phone Survey	36 weeks after the presentation		Lisa Prichard	Wk of 02/10/20
	<b>Estimated Total Cost of Campaign</b>	<b>\$11,060</b>		

# DIRECT DESIGN SOFTWARE v3

## Masonry: Clear. Precise. Direct.

**Direct Design Software enables design of an entire masonry structure in minutes**, with just a few simple inputs in the **intuitive user interface**. This easy to learn software generates **code-compliant structural masonry analyses** per TMS 402 with **design load calculations** per ASCE 7.

The powerful program is **fully automated**, detailing every block and reinforcing bar and displaying the full text of every calculation for easy verification. Fully-detailed **wall elevation drawings** quickly communicate the design.

Direct Design Software **saves time and cuts costs** by doing the tedious work for you and letting you focus on your clients and project workflow. **Start your free trial today** and unlock the power of Direct Design!

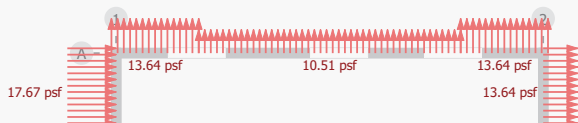
Attend the June 13th DDS presentation at the 2019 SEAoA Annual Convention for your chance to win a one-year Direct Design Software subscription.

### Design Pressures

Pressure values from Equation 28.4-1:

### LOADS

- $p = q_h(GC_{pi}-GC_{pe}) = (22.36 \text{ psf})(0.61-0.18) = 17.67 \text{ psf}$  (Windward surface, edge zone)
- $p = q_h(GC_{pi}-GC_{pe}) = (22.36 \text{ psf})(0.40-0.18) = 12.97 \text{ psf}$  (Windward surface, field zone)
- $p = q_h(GC_{pi}-GC_{pe}) = (22.36 \text{ psf})(-0.43-0.18) = -13.64 \text{ psf}$  (Leeward surface, edge zone)
- $p = q_h(GC_{pi}-GC_{pe}) = (22.36 \text{ psf})(-0.29-0.18) = -10.51 \text{ psf}$  (Leeward surface, field zone)



### Out-Of-Plane Wall Checks

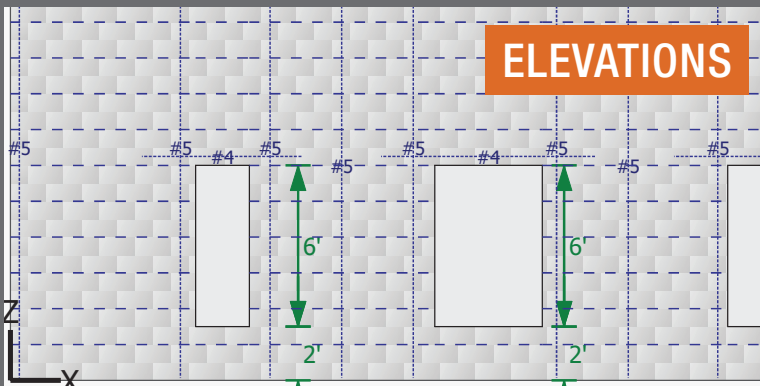
#### Check Summary

For each check, this shows whether it passed or failed, the index of the critical load combination, and the provided, e.g.  $M_u/\phi M_n$ . A ratio greater than 1.0 is failing. Load combinations are listed beneath the table.

### CHECKS

	All Pass?	Length	Axial Stress Check	Axial Force Check	P-M Intr Check @ top	P-M Intr Check @ mid	P-δ Flex Check	TMS Defl Check	IBC Defl Check	Shear Check
Segment 1 in Wall along grid 1 from A to B, Story 1	Yes	10.00 ft	0.073 (1) Pass	0.061 (1) Pass	0.000 (1) Pass	0.668 (16) Pass	0.642 (16) Pass	0.013 (6) Pass	0.009 (6) Pass	0.031 Pass
Segment 2 in Wall along grid 1 from A to B, Story 1	Yes	2.00 ft	0.131 (1) Pass	0.060 (1) Pass	0.000 (1) Pass	0.312 (16) Pass	0.298 (16) Pass	0.026 (6) Pass	0.018 (6) Pass	0.000 Pass
Segment 3 in Wall along grid 1 from A to B, Story 1	Yes	11.33 ft	0.068 (1) Pass	0.059 (1) Pass	0.000 (1) Pass	0.719 (16) Pass	0.695 (16) Pass	0.012 (6) Pass	0.009 (6) Pass	0.077 Pass
Segment 1 in Wall along grid 2 from A to B, Story 1	Yes	4.00 ft	0.090 (1) Pass	0.057 (1) Pass	0.000 (1) Pass	0.328 (16) Pass	0.316 (16) Pass	0.015 (6) Pass	0.011 (6) Pass	0.014 Pass
Segment 2 in Wall along grid 2 from A to B, Story 1	Yes	2.67 ft	0.106 (1) Pass	0.057 (1) Pass	0.000 (1) Pass	0.227 (16) Pass	0.218 (16) Pass	0.015 (6) Pass	0.011 (6) Pass	0.006 Pass
Segment 3 in Wall along grid 2 from A to B, Story 1	Yes	10.00 ft	0.058 (1) Pass	0.048 (1) Pass	0.000 (1) Pass	0.476 (16) Pass	0.461 (16) Pass	0.009 (6) Pass	0.007 (6) Pass	0.050 Pass

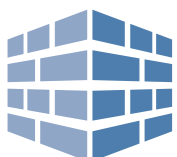
### ELEVATIONS



### COMPLIANCE SUMMARY

#### Code Compliance Status

- ✓ Wall Segments (In-Plane Loading): All 30 are passing
- ✓ Wall Segments (Out-of-Plane Loading): All 30 are passing
- ✓ Wall Header & Sill Panels (Out-of-Plane Loading): All 28 are passing
- ✓ Lintels: All 16 are passing
- ✓ Diaphragm Levels (Chord Reinforcement): All levels pass
- ✓ Structure has one or more irregularities, but the relevant provisions do not trigger anything that would require a special inspection.



Direct  
Design

<https://azmasonry.org/dds>

NATIONAL  
**NCMA**  
CONCRETE MASONRY  
ASSOCIATION



PROUD SPONSOR OF THE 2019 SEAoA ANNUAL CONVENTION & CONFERENCE

Join the Arizona Masonry Guild (AMG) on Thursday, June 13th at 8:15 am for a Direct Design Software (DDS) presentation during the 2019 SEAoA Annual Convention & Conference.

This presentation will provide an introduction to Version 3.0 of the Direct Design Software (DDS). DDS is a unique structural design software package that combines the loading requirements of ASCE 7 and the material resistance provisions of TMS 402 to quickly and easily produce code-compliant concrete masonry designs in accordance with the International Building and Residential Codes (IBC and IRC).

**At the conclusion of the DDS presentation, AMG will give away 30 one-year DDS subscriptions. Must be present to win.**

### **Presentation Learning Objectives:**

- Generate code-compliant building layout and detailing using TMS 402 and TMS 403 design criteria and International Building Code provisions.
- Understanding of loading requirements and distribution for wind, seismic, dead, live, and snow loads.
- Proper structural design of concrete masonry construction and architectural configurations using standardized design methodologies.
- Overview of the software interface, user inputs, and design outputs.

## **SPEAKER**

**Russ Peterson:**



Russ Peterson is an engineer, software developer and active member of The Masonry Society (TMS). His company, Ensoltech, has created Direct Design Software and other structural design software packages. He has participated in the development of various TMS design guides and other publications and holds M.S. and B.S. degrees in Civil Engineering from Montana State University.

**A free 30 day trial of the DDS software is now available to download.  
Visit <https://azmasonry.org/dds> to download your free 30-day trial DDS software.**