

# 2021 Storm Shelter Conference

Lead Sponsor: National Storm Shelter Association

November 15-17 | Dallas, Texas



DALLAS, TEXAS

Announcing the 2021 Storm Shelter Conference, presented by the National Storm Shelter Association!

This event will be in-person only, without any online options, and it will feature:

- NSSA Accredited Professional (AP) training and exams
- NSSA Certified Inspector (CI) training and exams
- Code-Compliance Screening of pre-manufactured storm shelters
- The 2021 NSSA Annual Meeting
- Committee meetings for NSSA and the NSSA Foundation
- Kiesling Award Luncheon
- An evening social event
- Tours of a local High School Tornado Shelter designed for 3,943 people

Last year's online-only conference was a big success with 120 attendees. Since that conference, ICC has published the standard of ICC 500-2020 "ICC/NSSA Standard for the Design and Construction of Storm Shelters". The standard was revised to include many of the changes proposed by NSSA to provide better clarity and consistency in the industry. At the conference this year, NSSA is launching several programs that are based on this new standard. Building Officials, Owners, Architects, Engineers, Contractors, Manufacturers and Academia should all find value in these events. NSSA is an AIA CES Provider.

## EVENT LOCATION

On November 15, all events will be held at Rock Hill High School, located at 16061 Coit Road in Frisco, TX (courtesy of Prosper Independent School District).

On November 16 & 17, all events will be held at Hilton Dallas Park Cities Hotel at 5954 Luther Lane, Dallas, TX 75225.



HILTON DALLAS PARK CITIES

## HOTEL

Hotel accommodations at the Hilton Dallas Park Cities Hotel can be made online via the link at [www.nssa.cc](http://www.nssa.cc) or by calling 214-368-0400. Special group rates have been arranged for those who use the "NSS" group code, starting at \$159/night + tax. The cut-off date for reserving rooms in the room block is Monday, October 25th. Conference rates will be available for the nights of November 14th, 15th & 16th, subject to availability of guest rooms at the time of reservation. Hotel rooms are not included in conference registration.

Guest accommodations will be available at 3:00 pm on arrival day and reserved until 12:00 pm on departure day. Any attendee wishing special accommodation for late checkout should inquire at the front desk on the day of departure.

This North-Dallas hotel features a roof-top pool. A few walking blocks to the east are dozens of modern eateries and boutique shops. And, the hotel is a short drive away from the Perot Museum of Nature & Science, the Nasher Sculpture Center, the Dallas World Aquarium, and the Dallas Arboretum and Botanical Garden.

## TRANSPORTATION

The Dallas Love Field (DAL) Airport is 14 minutes away from the hotel by car. The Dallas/Fort Worth (DFW)

International Airport is 22 minutes away from the hotel by car. Both Uber and Lyft are commonly available in Dallas (including both airports and the hotel). Rock Hills High School (where the NSSA Certified Inspector (CI) training/exam will occur on November 15th) is 33 minutes away from the hotel by car.

## HOTEL PARKING + INTERNET

For over-night guests of the hotel that reserve under the "NSS" group code, valet parking and internet are both complimentary. For all others, valet parking is available for \$30/day plus tax (\$16/day + tax if not parking overnight). Self-parking is not recommended due to limited parking on-site. For all others who are not Hilton Honors members, internet is available for \$9.99/day + tax.



HILTON DALLAS AT UAB

## COVID

Before attending the conference, NSSA expects attendees to be responsible for assessing their own risks of becoming infected and the risks that they could infect others. NSSA does not require that attendees be vaccinated, wear masks or socially distance themselves from others. However, compliance with any applicable regulations will be the responsibility of each attendee. We recommend attendees at least bring a mask to all events, in case they are required to wear one.

## ROCK HILL HIGH SCHOOL



MAIN ENTRANCE TO ROCK HILL HIGH SCHOOL (**NOT** THE ENTRANCE FOR EVENT)

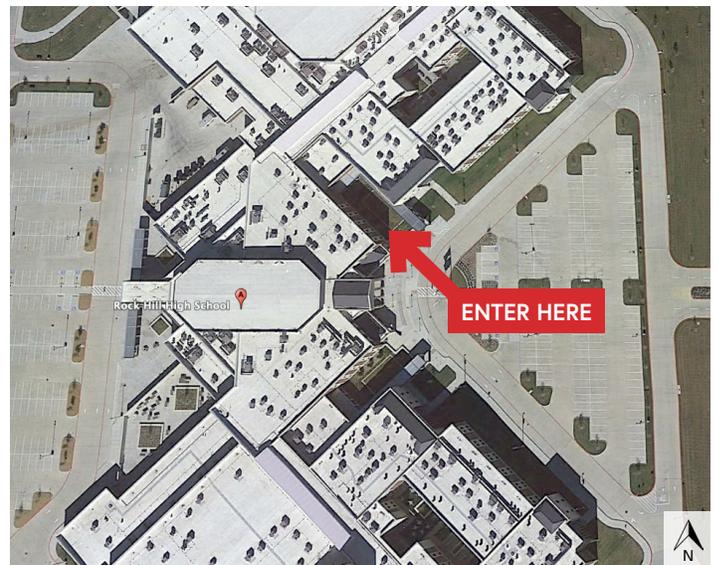
All events on November 15th will occur on the Rock Hill High School campus during a regular school day, courtesy of Prosper Independent School District. The address is 16061 Coit Road in Frisco, TX. NSSA will not be providing transportation to and from the hotel.

Prosper ISD will allow conference attendees to park on campus in any areas designated for students. Attendees should enter the building at the LGI Entrance.

As this will be a regular school day, photography and/or video of students is strictly prohibited and normal school policies regarding alcohol, drugs and weapons apply. Attendees will need to bring valid identification such as a state driver's license because Prosper ISD will perform security background checks on all attendees before they will be allowed to enter the buildings. And, please remain quiet in the hallways while students are in class.

The Tornado Shelter is a multi-purpose building that also serves as two practice basketball gymnasiums. The Large

Group Instruction space is near the Tornado Shelter. Attendees wishing to tour the Tornado Shelter should arrive anytime between 1 and 3 pm, but groups may need to wait while other groups are touring the shelter.



LGI ENTRANCE (USE **THIS** ENTRANCE FOR EVENT)

# NSSA Credentials

There are two types of NSSA credentials now available to individuals, starting at the 2021 NSSA Storm Shelter Conference: NSSA Accredited Professional (NSSA AP) status and NSSA Certified Inspector (NSSA CI) status. These credentials indicate that an individual has demonstrated knowledge and understanding of relevant requirements for storm shelters as defined by the ICC/NSSA Standard for the Design and Construction of Storm Shelters (ICC 500). An individual with an NSSA AP or NSSA CI credential may rank higher in qualifications-based selections than one that is not.



## The NSSA Accredited Professional (AP) (NSSA AP) Program

An NSSA AP credential (<https://www.nssa.cc/nssa-accredited-professional.html#/>) may be required by authorities having jurisdiction, owners, or registered design professionals in responsible charge hiring various registered design professionals as consultants on a project. Given that many peer reviewers spend significantly more time reviewing work by design professionals without storm shelter experience, there is also a potentially lower fee for the code-required peer review services when the design professionals of record for each design discipline are NSSA Accredited Professionals.

### THE SPECIALTIES AVAILABLE FOR NSSA AP'S ARE:

- Architecture
- Structural Engineering
- Mechanical Engineering
- Electrical Engineering
- Civil Engineering

## The NSSA Certified Inspector (NSSA CI) Program

An NSSA CI credential (<https://www.nssa.cc/nssa-certified-inspector.html#/>) may be required by authorities having jurisdiction, owners or design professionals in various scenarios. Current model building codes such as the IBC require that the Building Official approve the qualifications of the special inspector that does the code-required inspection of impact-protective systems for storm shelters and there is no credential that addresses these qualifications like the NSSA CI program. Additionally, where adopted without amendment, ICC 500-2020 requires that all existing community storm shelters be evaluated annually (even ones constructed in accordance with earlier editions of ICC 500) and be maintained and repaired; the training for an NSSA CI covers the required tasks for the annual evaluation and additional training to assist owners with tracking maintenance and repairs.

### THE SPECIALTIES AVAILABLE FOR NSSA CI'S ARE:

- Impact-Protective Systems Installation Inspection
- Annual Storm Shelter Evaluation

# 2021 Storm Shelter Conference SCHEDULE

Monday, November 15 at Rock Hill High School		
TIMES	EVENT	ROOM
7 - 7:30	<b>NSSA Certified Inspector (CI) Training Registration &amp; Continental Breakfast</b>	LGI Entrance
7:30 - 8	<b>Storm Shelter Orientation</b>	Tornado Shelter
8 - 9	<b>NSSA CI Training Session 1</b> (1.0 HSW LU's)	LGI Room
9 - 11	<b>NSSA CI Training Session 2</b> (2.0 HSW LU's)	Tornado Shelter
11 - 12	<b>NSSA CI Training Session 3</b> (1.0 HSW LU's)	LGI Room
12 - 1	<b>NSSA CI Training Lunch</b>	LGI Room
1 - 4	<b>NSSA CI Written Exams*</b>	LGI Room
	<b>Shelter Tours</b> (open to all) Meet at LGI Entrance between 1-3	Tornado Shelter

\*Additional fee required to take the NSSA CI Exam

Tuesday, November 16 at Hilton Dallas Park Cities		
TIMES	EVENT	ROOM
8:00 - 8:15	<b>Registration &amp; Continental Breakfast</b> (with Exhibits)	Beverly C
8:15 - 8:30	<b>Keynote Address</b> NSSA President: Michelle Barbee	Beverly C
8:30 - 9:45	<b>Technical Session 1A</b> (1.25 HSW LU's) New ICC 500 and FEMA publications	Beverly A
	<b>Technical Session 1B</b> (1.25 HSW LU's) MEP Systems	Beverly B
9:45 - 10:15	<b>Break</b> (with Exhibits)	Beverly C
10:15 - 11:30	<b>Technical Session 2A</b> Code Compliance Screening of Pre-Manufactured Storm Shelters	Beverly A
	<b>Technical Session 2B</b> (1.25 HSW LU's) MEP Systems	Beverly B
11:30 - 1	<b>Kiesling Award Luncheon</b>	The Grain

SCHEDULE FOR NOVEMBER 16 CONTINUED ON NEXT PAGE

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**SCHEDULE FOR NOVEMBER 16 CONTINUED**

**Tuesday, November 16 at Hilton Dallas Park Cities**

TIMES	EVENT	ROOM
1 - 2:15	<b>Technical Session 3A</b> (1.25 HSW LU's) Structural Systems	Beverly A
	<b>Technical Session 3B</b> (1.25 HSW LU's) Architectural Systems	Beverly B
2:15 - 2:45	<b>Break</b> (with Exhibits)	Beverly C
2:45 - 4	<b>Technical Session 4A</b> (1.25 HSW LU's) Structural Systems	Beverly A
	<b>Technical Session 4B</b> (1.25 HSW LU's) Architectural Systems	Beverly B
4 - 4:30	<b>NSSA Residential Storm Shelter Labeling &amp; Listing Task Force</b>	Beverly A
	<b>NSSA Accredited Professional (AP) Exam Registration &amp; General Information</b>	Beverly B
6 - 8:30	<b>Reception</b> (Beer, Wine and Heavy Hors D'Oeuvres)	Beverly C

**Wednesday, November 17 at Hilton Dallas Park Cities**

TIMES	EVENT	ROOM
8:00 - 8:30	<b>Registration &amp; Continental Breakfast</b> (Examinees must be present by 8:15)	Beverly
8:30 - 11:30	<b>NSSA Accredited Professional (AP) Exams**</b>	Beverly
11:30 - 12:30	<b>NSSA Annual Meeting with Boxed Lunches</b>	Beverly
12:30 - 2:30	<b>NSSA Design Practices Committee Focus on Impact Resistance Database</b>	Beverly
2:30 - 3:30	<b>NSSA Board Meeting</b>	Miramar
3:30 - 4	<b>NSSA Foundation Board Meeting</b>	Miramar

\*\*Additional fee required to take the NSSA AP Exam

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# Conference Registration

## 2021 STORM SHELTER CONFERENCE

November 15 - 17, 2021, Dallas, TX

REGISTER ONLINE AT [NSSA.CC](http://NSSA.CC)

There is a maximum seating capacity for each event. Early registration is encouraged.

REGISTRATION		
FEES	IF AN NSSA MEMBER	IF NOT AN NSSA MEMBER
<b>REGISTRATION FEES</b> Registration fee includes all sessions, breaks, meals, & events shown on schedule except for taking the exams.	<b>\$240</b> (\$190 for one day)	<b>\$290</b> (\$220 for one day)
<b>NSSA CI EXAM FEES</b> Exam fee does not include breaks, meals or any other events shown on schedule. Applicants must meet pre-requisites.	<b>\$125</b>	<b>\$250</b>
<b>NSSA AP EXAM FEES</b> Exam fee does not include breaks, meals or any other events shown on schedule. Applicants must meet pre-requisites.	<b>\$250</b>	<b>\$500</b>

REFER TO [WWW.NSSA.CC](http://WWW.NSSA.CC) FOR SPONSORSHIP AND EXHIBITOR OPTIONS

## NSSA Certified Inspector (CI) Training Session 1: NSSA Expectations of NSSA Certified Inspectors

Lead Trainer: Ben Harris, Huckabee

This session will focus on the basic requirements of ICC 500 for impact-protective system installation inspection and annual storm shelter evaluation, covering NSSA's expectations of NSSA Certified Inspectors performing those duties. And, additionally, this session will cover annual evaluation tasks as well as additional tasks that owners may ask NSSA CI's to perform during an annual evaluation to assist owners in managing their responsibilities for maintenance and repairs. This session will also cover specific requirements for documentation and provide resources on how to successfully manage an NSSA CI's responsibilities in a real-world experience performing an annual storm shelter evaluation where challenging situations may be encountered.

To receive AIA HSW Learning Units for continuing education credit from AIA for this event, attendees must attend all 3 sessions for a total of 4.0 AIA HSW LU's.

## NSSA Certified Inspector (CI) Training Session 2: Hands-On Storm Shelter Training

Lead Trainers: Jim Bell, NSSA; Ben Harris, Huckabee

This session will include with a hands-on orientation experience, in an active storm shelter, of impact-protective systems, their components and their labels, necessary to perform installation inspections. This orientation will include a simulation of the step by step process required to properly perform an annual evaluation of an existing impact-protective system. The session will also include a hands-on simulation of an annual storm shelter evaluation, identifying additionally the essential facilities of storm shelters and code-required signage that owners may want NSSA CI's to look at when performing an annual evaluation. Depending on this number of attendees, the group may split into two or three groups and rotate through instructional stations in the storm shelter.

To receive AIA HSW Learning Units for continuing education credit from AIA for this event, attendees must attend all 3 sessions for a total of 4.0 AIA HSW LU's.

## NSSA Certified Inspector (CI) Training Session 3: Impact-Protective Systems Installation Inspections

Lead Trainer: Jim Bell, NSSA

This session will focus on how NSSA CI's can identify the correct listing for any listed impact-protective system, and obtain the installation instructions online for any specific assemblage of components, and perform an installation inspection. This will address some of the most common types of impact-protective systems, including storm doors, storm shutters, storm windows, and storm louvers.

To receive AIA HSW Learning Units for continuing education credit from AIA for this event, attendees must attend all 3 sessions for a total of 4.0 AIA HSW LU's.

## Technical Session 1A: New ICC 500 and FEMA Publications

Moderator: Ben Harris, Huckabee; Glenn Overcash, AECOM

This course is an introduction to several documents: ICC 500-2020 "ICC/NSSA Standard for the Design and Construction of Storm Shelters", the 4th Edition of FEMA P-361 "Safe Rooms for Tornadoes and Hurricanes", and the 5th Edition of FEMA P-320 "Taking Shelter from the Storm".

## Technical Session 1B: MEP Systems

Presenters: Travis Horn, Romine, Romine & Burgess; David Boon, Reed Wells Benson; Biraj Bhandari, Estes McClure & Associates

This course will address MEP requirements for storm shelters, focusing more on Electrical systems and then coordination of debris impact protection of both Mechanical and Electrical systems as well as coordination of MEP peer reviews. This course will be particularly helpful

preparation for any design professionals taking the NSSA AP Mechanical Engineering and/or Electrical Engineering specialty exams on November 17 during the conference.

## Technical Session 2A: Code Compliance Screening of Pre-Manufactured Storm Shelters

Moderator: Mike Vaughn

NSSA hopes all manufacturers of Pre-Manufactured Storm Shelters (regardless of whether they are NSSA Producer Members or not) will attend and participate in this discussion. This will not be a presentation but will be a general group discussion where all attendees are encouraged to speak. It is hoped that Governmental Representatives, Owners, Architects, Engineers, Contractors and Academia will also participate. Mike Vaughn with Vaughn Concrete Products will start by discussing how the changes over time to ICC 500, the International Building Code and the International Residential Code have resulted in some pre-manufactured storm shelters not being code compliant. The group will share experiences with the non-compliant pre-manufactured storm shelters and discuss ways to practically address those challenges.

It is important to recognize that laws vary significantly across the country, and many of them require interpretation by a building official. Due to the proprietary nature of pre-manufactured storm shelters and the sensitive nature of claiming that any product is not code compliant, attendees will be encouraged to not mention specific products. Of course, manufacturers are certainly welcome to ask questions or make comments about their own products, though.

During the discussion, we will encourage manufacturers to arrange a time, ideally during the conference, when a focus group might meet to discuss their specific products. For this purpose, we are making the Miramar conference room (which can hold up to 12 people) available on November 16 from 4 pm – 6 pm and November 17 from 4 pm to 5 pm. During the conference, Jessica Miller with Armstrong Douglass will coordinate times on a first-come first-served basis. Any manufacturers wishing to set up a focus group meeting in advance of the conference is welcome to do so by coordinating times with Jim Bell, NSSA's Operations Manager. The suggested meeting length for a focus group is 30 minutes. Manufacturers can ask any conference attendees to participate in their specific focus group, and can exclude people such as competitors. If manufacturers will request attendees of their focus group sign a Non-Disclosure Agreement (NDA), they should have copies prepared in advance and also realize that nobody will be obligated to sign an NDA. This should be an extremely valuable opportunity for each manufacturer to dialogue openly with some knowledgeable people about their specific products, and how best to make sure they are code-compliant in the present and near future. To make the most of this opportunity, manufacturers should bring detailed drawings and photographs of their products so that they can be displayed electronically in the Miramar Room. Attendees at such focus groups will only be making verbal, preliminary and informal questions/comments, not conclusions or judgements. Manufacturers are welcome to request proposals from any of NSSA's Professional Members for professional services if that is desired.

## Technical Session 2B: MEP Systems

Presenters: Allen Grammar, Baird Hampton Brown; Mark Siebert, CMTA; Peter Darrouzet, Image Engineering Group

This course addresses critical support systems such as mechanical ventilation, natural ventilation, potable water supply and sanitation facilities for storm shelters. This course will be particularly helpful preparation for any design professionals taking the NSSA AP Mechanical Engineering specialty exam on November 17 during the conference.

## Technical Session 3A: Structural Systems

Presenters: Andrew Dziak, JQ Engineering; Chris Zweifel, ZZ Consulting; Jessica Miller, Armstrong Douglass

This course addresses the design of storm shelters relating to debris impact resistance (including construction assembly testing, impact-protective system testing as well as falling debris hazard loading and laydown debris hazard loading) and wind pressure resistance as well as breakaway loading. This course will be particularly helpful preparation for any design professionals taking the NSSA AP Structural Engineering specialty exam on November 17 during the conference.

## Technical Session 3B: Architectural Systems

Main Presenter: Daniel Dain, Huckabee

This course will address architectural design requirements for storm shelters (community tornado, community hurricane, residential tornado

and residential hurricane) using ICC 500-2020. This course will be particularly helpful preparation for any design professionals taking the NSSA AP Architecture specialty exam on November 17 during the conference.

Attendees will learn how to determine if a storm shelter is required by the 2021 IBC and 2021 IEBC, determine the required design occupancy, and determine the maximum travel distance required for storm shelters by the 2021 IBC, 2021 IEBC and ICC 500-2020. Attendees will learn when the 2021 International Residential Code requires storm shelters be either labeled and listed or construction documents be sealed by a design professional. Attendees will learn how to calculate the open floor plan area required for a storm shelter required by ICC 500-2020, determine which floor plan areas are suitable for use, and calculate the open floor plan area provided in a storm shelter. Attendees will learn how to determine if fire rated construction is required by ICC 500-2020 at a storm shelter envelope. And, attendees will learn how to specify wayfinding and identification signage to comply with ICC 500-2020.

## Technical Session 4A: Structural Systems

Presenters: Larry Curtis, KFC Engineering; Randy Lackner, Datum; Jeff Bryant, Huckabee

This course addresses the design of storm shelters relating to debris impact resistance and wind pressures (including the specification of impact-protective systems as well as the calculation of wind pressures on occupants and non-structural, interior components). This course also addresses the specification of a quality control plan for the construction of the storm shelter envelope, load-bearing systems and lateral-force-resisting-systems, as well as debris baffling and impact-protective systems, including special inspections and structural observations. This course will be particularly helpful preparation for any design professionals taking the NSSA AP Structural Engineering specialty exam on November 17 during the conference.

## Technical Session 4B: Architectural Systems

Main Presenter: Daniel Dain, Huckabee

This course addresses the architectural coordination required for the design of storm shelters (tornado and hurricane, community and residential) using ICC 500-2020. This course will be particularly helpful preparation for any design professionals taking the NSSA AP Architecture specialty exam on November 17 during the conference.

Attendees will learn how to provide a Civil Engineer with the necessary information to determine the minimum finish floor elevation required by ICC 500-2020 and obtain then document that minimum finish floor elevation for authorities having jurisdiction. Attendees will learn how to provide a Structural Engineer the necessary information to determine if proposed load-bearing and lateral-force-resisting-systems comply with the wind pressure and debris impact requirements of ICC 500-2020, including the design for breakaway, falling debris and laydown debris loading, and then design for that compliance and document that compliance. Attendees will learn how to provide Mechanical and Electrical Engineers the necessary information to design power and lighting systems that comply with ICC 500-2020, then providing the architectural design features necessary for the proper function of those systems, including interior ventilation and protection of generators for community hurricane shelters. Attendees will learn how to coordinate the development of the Statement of Special Inspections required by Chapter 17 of the IBC and ICC 500-2020 by obtaining recommendations from the Civil, Structural, Mechanical and Electrical Engineers for the project and then coordinating the submission of a comprehensive statement, acting as the Registered Design Professional In Responsible Charge, including the structural observations required by ICC 500-2020. And, attendees will learn how to coordinate Peer Reviews with Civil, Structural, Mechanical and Electrical Engineers when providing peer reviews required by ICC 500-2020.