This issue of the Connection starts off with a president’s message that informs our readers about the numerous activities and new development that the board of directors is currently undertaking. These activities range from re-organizing the composition of the board itself to changing all regular membership voting so that it will be done under one general category, mainly that of members at large.

We have included articles about our very successful Annual Meeting that was held this spring in Nashville, Tennessee in conjunction with the North American Steel Construction Conference (NASCC). We had an excellent meeting and Nashville was a perfect setting for it.

We also have some articles contributed by Kerri Olsen and Greg Brawley concerning business aspects of steel detailing that will inform and enlighten you about some of the current trends and developments in our industry.

This issue also contains an article about how we are updating the Individual Detailer Certification program to use on-line testing. The new program actually gives applicants specific information about their scores for each of the testing categories.

There is an article about one of the founders of NISD, Jack Metcalfe. It is not about Jack’s many contributions to NISD but about his annual mission trips to Haiti. It’s nice to see what good people we have in our institute.

My thanks to Kerri Olsen and Greg Brawley for their fine articles and especially Robert Beauchamp for the job-site article he contributed when contacted at the last minute when we needed a substitution for one that failed to arrive on time.

I would think that any steel detailer would jump at the chance to have their project appear in the Connection. It gives them the opportunity to advertise their company free of charge. Any NISD firm that is proud of the work they produce should want to show it off and let everyone know who they are. Why not? Why would anyone want to keep the good quality work they do a secret?

Think about it and get in touch with me to get things started on your job-site article. I need some pictures and some basic information about the project. That’s how easy it is. An extra bonus in doing this is that it boosts the morale of your employees, especially those who actually worked on the project and then get to read about it in a printed publication.
Hello Everyone,

I hope that this message finds you having a great summer. It has been a busy spring for the NISD and we’re just getting started. The spring started with a record-breaking NASCC meeting here in the south in Nashville, followed by a busy and productive NISD Annual Meeting. I appreciate your continued confidence in allowing Alden Prier and me to continue to serve as your Vice President and President. We say thanks to our old friend and valued asset in Robert Beauchamp as he steps down from the office of Secretary-Treasurer and welcome Glenn Ihde who steps up to replace him. We are all looking forward to accomplishing as much as we can in the coming months.

The Board of Directors and committees have been very busy. This is an exciting time for the NISD as we make historic changes to our organization and take the lead in many areas of the future of steel detailing and Building Information Modeling.

If you are a member, by now you have received a packet with the proposed changes to our constitution, edited by John Linn and the constitution committee, along with Mike Pelliccio and the membership committee, which will change our organizational structure from the old chapter system to an all member-at-large system. We feel that this will encourage greater involvement and representation of the membership. We want you to get involved and take part as we move into the future.

Thanks to the hard work of Man of the Year Fred Tinker, along with Michael Tinker and a little help from the Board, we have completed a total revamp and update of the IDC testing program. We have compiled a large data pool of test questions in the major areas of steel detailing and modeling and have enlisted ADDA, the American Design Drafting Association in creating a completely computerized test. The test questions are randomly compiled so that no two tests are alike. Similarly, the IDC renewal test will be taken from the new areas of these questions so that each test is unique and consists of current information. The data base and test program are in beta testing and should be complete before fall. We will publish more information in detail about the new program as it is completed in the next couple of months.

The QPP Committee led by Dave Merrifield is revamping the QP Program with the intent of making it more modern, relevant and endorsed by other areas of industry. We will be going to a committee-based review system involving officials outside the NISD. There will likely be an internet component to allow for auditing via the web.

We are working on several other areas of exciting developments and new programs. The NISD is leading the way in the BIM Forum and other areas of modeling. We will be initiating programs to help our membership lead the way into the future of detailing and modeling.

Please join us as we move into an exciting new age!
The 2015 Annual Meeting

by Kerri Olsen

Attendance was noticeably higher in Nashville than the previous year at the NISD Annual Meeting in Toronto. It was wonderful to see our regular attendees, but it was even better to see all the ‘new’ faces of those who have been members for a while, but had previously been unable to join us.

Our hotel was located close to the many clubs and restaurants in Nashville that featured live country music. We really enjoyed our evening listening to many exceptional musicians. It was fun to wander from place to place on foot, or to take the pedal cab to explore. Unique to Nashville are the Pedal Taverns – of which there are several very popular choices – see picture on page 19:

The Welcome Reception on Friday night provided a time for an informal get together with old and new friends. Discussions were spirited and hopeful, everyone charged by the opportunities of a thriving economy. Many of our members had given presentations at the NASCC earlier in the week and the increased attendance and optimism from that show certainly spilled over into our meeting. The Welcome Reception cocktails were provided by DataDraft Structural Detailing Systems – THANK YOU ROBERT!!

The presenters for our annual meeting on Saturday provided some very useful industry information.

Continued on page 19
ANNUAL MEETING SPEAKERS

Dr. Michael Gray
How the use of Cast Connection is changing the Construction World.

Dr. Gray is the Executive Vice President of Cast Connex, the leading supplier of off-the-shelf and custom cast steel connection solutions. Cast Connex has designed and supplied cast connectors for a variety of projects across the United States and Canada. Dr. Gray is a co-inventor of Cast Connex’s Scorpion Yielding Connector.

Written about in the NISD Winter issue, NISD member Apex Structural had detailed the University of Alberta in 2013 using the Cast Connection system. This system is growing in popularity with designers, so be expecting to see this system used on upcoming projects in your area!

Amanda Kunze
The Changing Landscape between Educators and Industry, and how it affects our future.

Amanda is currently the Education and Professional Development Manager for Design Data in Lincoln Nebraska, where she acts as a liaison between Design Data and educational administrators, instructors, representatives of universities, technical schools, and high schools.

Amanda’s talk included the presentation of the new ‘Virtual College’ offerings by Northcentral Technical College in Wausau, Wisconsin.

Brandy Breauckman
Virtual College Coordinator for Northcentral Technical College, joined Amanda with a presentation of the online steel detailing course, which is being provided by the college. Additionally, Northcentral Technical College will be presenting a Steel Detailing Project Management course in the fall of this year.

See their website at: Virtualcollege.ntc.edu.

Joe Langemeier

Joe is currently the Vice President of Sales and Marketing at AZZ Galvanizing Services and the American Galvanizer’s Association. Joe has spent 17 years in the Hot Dip Galvanizing business, and is a contributor for Design Data's Details for Hot Dip Galvanizing. In addition to discussing successful execution of Galvanized projects, Joe talked about AZZ Galvanizing offering metalizing and dual coatings – i.e. painting over galvanizing in the future.
Is it the Steel Detailer or the Steel Fabricator's Project Manager?

by Kerri Olsen

The skill level of the industry workforce is changing due in part to the generational shift. Those who have worked in the industry for many years have already retired or are fast approaching retirement. There has not been enough of the right kind of training provided to the new replacements, and the steel industry as a whole is suffering.

What is occurring now is the result of the combination of new steel detailers entering into the workforce who do not fully understand the correct application of steel details, and the lack of adequate business practice, together with inadequate management practices of the steel fabricator's project manager.

Many steel fabricators have succumbed to the low pricing for steel detailing offered by steel detailing firms who lack the adequate industry experience that supports the creation of good steel drawings.

Often, new project managers working for the steel fabricator lack the expertise to manage the steel drawings and related paperwork. This combination spells disaster for the design team, general contractor, steel erector and the steel fabricator. This often results in an extreme amount of rework and crisis management efforts for all involved.

In my work I travel to offices of steel fabricators across the country. Everywhere I visit I hear the same problems almost immediately – the design drawings are poor at best and the steel detailing is bad to worse as well. These are steel detailers who are not NISD members, and are not certified according to the NISD certification programs. The management style, and/or the lack of management skills on behalf of the steel fabricator's project manager, often is not considered. Lack of proper management is the root of many extended problems.

Project managers for the steel fabricator are often college graduates with project management training, but they lack the real world application for steel fabrication and erection. Project managers for the steel fabricator are often just passing through information without proper evaluation or direction to the steel detailer.

Tasks that should be handled by project managers working for the steel fabricators are now being handled by the steel detailer. Most steel detailers fail to protest this behavior because the additional support they provide does somehow get the work done. It can alleviate any adversary behavior by the steel fabricator, and then allow the steel detailer to bill for completed work and receive compensation.

This is more than a growing trend. It is considered standard operating procedure by those who have not been advised otherwise.

The general contractor makes the demands; the steel fabricator passes them along without filtering first to the steel detailer, often without a thought for the immediate and the long term impact to the project. The steel detailer simply gives their customer what they are asking for.

This note from a steel detailer trying to find a way to recoup the cost of all the additional hours of work caused by the steel fabricator's lack of project management skills:

“I think it would be good for detailers to figure out how to take a tax deduction for time donated to design completion. We are all reluctant to strain our relationship with the fabricator, who is reluctant to strain their relationship with the contractor. The design team takes advantage of this, and while we finish their high-dollar work, we in turn charge pennies on the dollar, making design completion the cheapest work we do. I think it should be counted as a loss to a detailing firm, and the hourly rate of deduction should be on par with engineering and architect fees.”

While a good idea, it is probably not realistically workable. Going for ‘outside relief' in any format would not prevent or stop the painful behavior. It would be better to start by creating conditions to not allow the customer to go down the wrong path.

When dealing with customers, include with all explanations and discussions the opportunity for minimizing labor, keeping to schedule and maximizing cash flow, and they will be on your side.

What I am talking about here is a conversation which lasts for the entire project. Game rules are established at the beginning with listing customer duties and responsibilities in the proposal letter. At the time of award, review these conditions with the customer, making sure that the information is clearly understood, and what it will mean moving forward with the project. In this way, you are setting the stage for a successful plan to put the project manager on task for what is expected of them to support a successful job.

Continued on page 18
Application for Individual Detailer Certification

Classification:

- [ ] Senior Detailer – Class I: Minimum 10 years experience including checking
- [ ] Detailer – Class II: Minimum 5 years experience

Category:

- [ ] Structural/Miscellaneous
- [ ] Bridge

Submit:

- Either a letter of recommendation from a steel fabricator, a Certified Class I detailer, or a NISD National Director. When your application is processed, you will receive a sample test and a list of publications to study for the test.

IDC Test Fee Schedule

At time of application + 10 days prior to test + proctor fee (if applicable)

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NISD Member: [ ] yes [ ] no Last 4 digits of SS# or SIN#: ______________________

Home Address: ____________________________________________________________

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fax: (631) 208-8331
Thomas Tebbens

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Kevin Brandt

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IDC Announcement  
by Michael & Fred Tinker

The IDC is back and better than ever. It has been a long but exciting journey for the members of the committee entrusted to update the testing process. The Individual Detailer Certification, or IDC, was created to help determine and certify the skill level of individuals performing steel detailing services. Currently, there are 285 certified steel detailers worldwide. Certified steel detailers are in high demand, as they are the preferred steel detailers sought out by our engineering and fabrication partners.

The IDC application appears in every issue of the Connection. The opportunity to transition from the traditional paper test to on-line testing was presented during the NISD Board teleconference on 11-5-2014. The American Design Drafting Association (ADDA) is providing additional support for this transition. Their involvement with the testing has streamlined the examination process, which now includes more questions than was in the previous version.

We were excited to announce at the NISD annual meeting that the IDC testing practice and procedure was going to be upgraded and would be available on-line! Due to proctor requirements, the testing still needs to be performed in a public facility. Proctors are commonly available in a school or library, local to the testing candidate. Another future advancement in the process may be online proctors that can be utilized anywhere in the world using a lock-down browser and web cam.

The Individual Detailer Certification is an open book test. There is a publication list provided to the testing candidates, which can be used during the test instead of a study guide. Bridge certification applicants are given a listing of AISC, NISD and AASHTO publications which they can use as their study guide.

The bank of random questions for the Structural and Miscellaneous Test is comprised of BIM, Bolting, Calculations, Connections, Erection Safety, Fireproofing, Galvanizing, Handrail-Stair-Ladder, Joist and Deck, Material, Math, Painting, Records & Reports, Specification, Standards & Codes, Welding, and Common questions. The Structural and Miscellaneous testing will be ready soon, with Bridge testing available soon after.

With the new process, the 170-question exam is drawn, at random, from a database of 287, so each test will be different. It is expected that the exam will take up to 8 hours, although some candidates may finish sooner. Currently, there are many IDC applicants waiting for the opportunity to become certified. Be sure to fill out your application to be one of the first detailers to use the new on-line system.

The application stage requires more information than before, and email addresses are required for taking the test. The fee structure for the overseas member has been reduced to $350 plus proctoring costs. The non-member overseas fee has been increased by $50.00 for the application process plus proctoring costs.

Continued on page 17

Congratulations! This regular feature recognizes detailers who have recently taken and passed the IDC test. The listing is by discipline and class.

Structural/Miscellaneous Senior Detailer – Class I
Ravi Polamarasetty
DGSTS, Inc.
Elgin, IL

Detailer – Class II
Basant Kumar Bandari
Mold-Tek Technologies, LTD
Hyderabad, India
Vinay Kumar Battula
Mold-Tek Technologies, LTD
Hyderabad, India
Timothy Benefield
Ranburne Steel Fabrication
Ranburne, AL
Glenn Meadows
The Detailer Collaborative, LLC
Portsmouth, NH
Michael McGinty
OLT Fabrication & Manufacturing, Inc.
Phoenix, AZ
Venkata Ramana Lokavarapu
Mold-Tek Technologies, LTD
Hyderabad, India

Individual Detailer Certification Program
Industry professionals are in search of talented detailers who have the knowledge and capability to produce quality shop drawings within the framework of various codes, specifications and contract documents.

NISD created the Individual Detailer Certification Program in response to the steel industry’s need to measure the skill level of individuals performing steel detailing services.

This is not a test of memory but a test of ability. The exam’s emphasis is based on a candidate’s knowledge of the various techniques, codes, and specifications involved in detailing.
Datadraft Systems in Montreal recently finished detailing a church building for Macuch Steel in Augusta, Georgia that presented some interesting challenges as many church projects tend to do. In this particular case - St. Michael the Archangel Church - the detailing staff had to re-check the steel design documents for missed conceptual match-up with the architectural design. The problems found were numerous but with excellent cooperation from the engineering staff, the tight delivery schedule was successfully maintained.

The roof design used Versa-Dek roof decking, which can span a considerable length, but it required that almost all beam to beam and beam to column conditions use moment connections, as forces had to be transmitted through hip and valley members.

Datadraft has a close relationship with Con-X Engineers and with their help, along with help from the shop and erection managers of Macuch Steel, some very economical and practical connection details were developed.

Extensive use of shop-welded frames allowed for fast erection of otherwise complicated conditions. All in all the steel erection was a great success. It all went up smoothly and without burning a single hole, which is quite a feat for this kind of structure.

The overall success of this project would not have been possible without the utmost collaboration between the detailer, the engineer and the fabricator/erector.

On the Job Site — Atlanta, Georgia: Saint Michael Church

NISD member Datadraft Systems, from Montreal, Canada

by Robert Beauchamp

We developed this node to transfer the loads of five moment beams at one point.

Project Statistics (Structural & Miscellaneous):
- Tonnage: 371,193 lbs.
- Erection Drawings: 32
- Detail Drawings: 536
- Gather Sheets: 1101
- Software: Tekla Structures
National Institute of Steel Detailing
Membership Application
The annual membership cycle runs from June 1st through May 31st

☐ Regular Membership is open to any company that conducts its office in the Americas for, and is regularly engaged in, the business of steel detailing. Such office shall have been conducted for a minimum period of one year. A member in this category may be chapter affiliated or a member-at-large, and has all privileges and benefits of membership including voting and holding office.

Fee Schedule: $290 for companies with a gross annual income of less than $250,000 [June-September]
Prorated dues when joining October-February $200 March to May 31 of the following year (15 months) $290
$450 for companies with a gross annual income greater than $250,000 [June-September]
Prorated dues when joining October-February $305 March to May 31 of the following year (15 months) $450

☐ Associate Membership is open to any company, national or regional trade or professional association interested in enhancing the detailing profession or the activities of the NISD, whose primary business is not in structural steel detailing. This category includes all privileges and benefits of membership except those of voting and holding office.

Fee Schedule: Annual membership fee is $360 [June-September]
Prorated dues when joining October-February $245 March to May 31 of the following year (15 months) $360

☐ Individual Associate Membership is open to a person employed as a steel detailer or other person interested in the future of the steel detailing industry but who does not fall in the category of Regular or Associate membership. This category has limited privileges and benefits of membership, which precludes them from voting and holding office.

Fee Schedule: Annual membership fee is $65
Annual dues of $65 are renewable on June 1st

☐ Overseas Membership is open to any company that conducts a regular office for, and is regularly engaged in, the business of steel detailing outside the Americas. Such office shall have been conducted for a minimum period of one year. Members in this category may vote (no proxy votes), but they may not hold national office.

Fee Schedule: Annual membership fee is $450 [June-September]
Prorated dues when joining October-February $305 March to May 31 of the following year (15 months) $450

☐ Member Emeritus Membership is open to any individual who was a former regular member of the NISD and has retired from the competitive field, but wishes to remain active in the NISD. Members in this category may not hold office.

Fee Schedule: Annual membership fee is $100
Annual dues of $100 are renewable on June 1st

The undersigned hereby applies for membership in the National Institute of Steel Detailing, Inc.

Name ____________________________________________ Title ________________________________
Company Name ________________________________________________________________________
Address ______________________________________________________________________________
City ________________________________ State/Province ______________________ Zip/Postal Code____________
Country _______________________________________
Telephone ________________________ _______________  Fax ______________________________________
E-mail       ________________________________________ Web site _______________________________________

Payment in US Dollars

Membership Fee: US$__________
Postage/handling, add: $40 for Canada $________
$45 for Central & South America $________
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Meet Our New Secretary/Treasurer

Glenn Ihde – NISD Secretary/Treasurer

Glenn Ihde was elected NISD Secretary-Treasurer at the 2015 Annual Meeting in Nashville. He succeeds Robert Beauchamp who had previously stepped in to finish out Richard Stern’s term as Secretary-Treasurer.

Glenn is the sole proprietor of Glenn Ihde & Company. The company provides structural steel detailing services, and was established in December 1985. It is located in McKinney, Texas where Glenn both lives and works.

Before starting his own company, Glenn held the following positions: Structural Draftsman at Hartwell-Baxter Structural Engineers; Chief Structural Draftsman at Professional Engineering Consultants; Structural Department Head at Schaffer, Schirmer and Efflin, Architects; Director of Structural Engineering at DeBoer Construction, Inc.; Engineering Manager at Borton Construction, Inc.; Vice President, Construction Management at Wells Fargo REO.

Glenn is a licensed professional engineer in the State of Texas and is also licensed in the states of Kansas, California, and Washington. He served in the U.S. Army, and attended several schools including Wichita Drafting College, Kansas State, and Wichita State University. He is very active in local community affairs, and is also affiliated with many professional associations.

Glenn and his wife, Alice are the proud parents of 8 children (7 girls & 1 boy) who are all college graduates. They all live fairly close to Glenn and Alice, and have greatly enriched their parents’ lives with the gift of eleven grandchildren.

Glenn says that he is grateful to be living in America, a blessed land where everyone has the opportunity to live the life of their desires.

The NISD is also grateful to have Glenn Ihde as its new Secretary-Treasurer.

Publications from NISD...
These reference guides are now available.
Order them online at www.nisd.org
A Helper For Haiti

by John Linn

When I first joined NISD and became a chapter director, I was impressed by the high quality and character of my fellow detailers on the board. I was proud to be one of them, to associate with them and work side by side with them to help further improve the steel detailing industry.

Over my many years on the board I have had the opportunity to form personal friendships with quite a few board members. One of these good friends is Jack Metcalfe from the Pittsburgh Chapter.

Jack has been with the NISD since its inception. For all these many years he has always played an active role in our institute and without a doubt has contributed more to NISD than anyone else ever has or probably ever will. Jack also gives a great deal in another way unrelated to NISD.

Every year he goes to Haiti for seven to ten days to work together with other like-minded volunteers from many different religious denominations at an established mission compound on the island. The mission is there primarily to help the people of Haiti to have a healthier and happier life style.

In 1998 they began building a medical clinic which is still in operation today. It is staffed by the many volunteer doctors, nurses, dentists and pharmacists who administer much needed medical aid to those in need. Many Haitians who may be sick or physically impaired have to walk painful miles to get medical help at the clinic. After Haiti’s big quake in 2010, the clinic was overwhelmed by injured people who despite their injuries traveled there by foot while in dire need of medical help.

Jack and the other volunteers have made great strides in improving the living conditions in Haiti. In addition to the medical clinic they have dug water wells and installed pumps to deliver the water. They have built a grain mill and a bakery. They have built modern septic systems. For electrical power they have installed solar panels and generators. Electricity is usually available for 4 to 14 hours a day. They go out to remote villages in old army trucks to bring some basic food stuffs such as rice, beans and canned milk. Doctors, dentists and nurses also travel with them on these trips.

The most common medical problems are caused by the prevailing lack of sanitation. These are dysentery, diarrhea and worms. Along with the medical problems they also try to help with the problem of inadequate housing conditions. Some houses will have two or more families living in two 8ft by 8ft rooms. Jack says that year after year the conditions improve but do so very slowly. Maintenance is a real problem for the people because when something breaks it is nearly impossible to find repair parts. Therefore a broken bicycle will just be abandoned to die a rusty death.

Thanks to people like Jack Metcalfe, the children of Haiti will be spared the suffering of many diseases, especially dysentery-type diseases, and the parents and grandparents of the children will have the hope of a better life ahead for both themselves and their children.

We should be proud!
Raising Awareness for the NISD

by Kerri Olsen

For those of you who are unaware of what goes on in the background with the NISD, please note that we have been invited to provide articles for Structure Magazine. This is an exclusive publication for practicing structural engineers and currently the circulation is more than 30,000 readers strong!

In November 2014, we submitted an article that re-introduced the NISD to readers. In this article, we explain how NISD certified detailers are different from steel detailers who are not members or certified members. We discuss NISD Certification, Quality Procedures, Membership, The NISD Industry Standard, as well as the NISD business management standards for steel detailers. – Please see the following link:

http://www.structuremag.org/?p=7542

An article, The NISD Difference was published in February 2015, which further explains why membership to the NISD is important for steel detailers and why engineers may prefer the selection of a certified steel detailer. Basically, this article was written to explain the current problems designers, contractors and fabricators commonly face and the difference NISD Certified steel detailers make to provide better shop detail drawings. Please see the following link:

http://www.structuremag.org/?p=8058

These articles have created increased interest in the NISD website and after they have been released, John Linn has seen an up tick with the number of visits to the website. Our next submission will be for the August 2015 issue.

It is through these articles that we help the engineers to better understand the problems they currently may be having with shop detail drawings and how we may help to resolve them. As a result, we have seen an increase in steel detailers seeking NISD certification.

IDC Announcement

Continued from page 13

Re-certification will be comprised of six categories (BIM, Erection Safety, Fire-proofing, Galvanizing, Joist and Deck, and Painting). Detailers can expect 30 unique questions, 5 from each category, every three years in order to maintain their certification.

If the test is failed or the applicant would like a higher rating, up to five categories may be retaken within 3 months of the original testing date. Previously, candidates had to retake the entire test. Now, candidates only have to retake those specific categories needed to improve the grade.

With this new testing program, failed test categories will be identified for the candidate by notice from NISD. This information then allows the candidate to concentrate their studies on weak areas, making retesting specific to the deficient areas, and thus keeping the retest costs to a minimum. A continuing education program is being considered by the NISD in order to even further improve the relevancy of the IDC program.

We would like to thank the volunteers who came forward to help review and complete the test. Also thank you to Amanda Kunze, Education and Professional Development Manager with Design Data for introducing NISD to ADDA. You can read more about the IDC testing on the NISD.org website.
Is it the Steel Detailer or the Steel Fabricator’s Project Manager?  Continued from page 7

These explanations may target specific conditions for managing the project. When the project manager is clear on the level of responsibility they have with managing their side of the steel detailing tasks before actually engaging in the project, they may then be held accountable for their level of support. For example, ask your customer to identify specific scope of work items and quantities. It is not good enough to say, ‘all steel items’, when you can get a specific list.

Another way is for the steel detailer to list specific items identified by contract drawing locations and sections together with quantities when the fabricator does not.

This then lays the ground work for not only identifying items which are shown, but then leads into information which is not shown and will need to be provided for by requests for information. Have the customer verify and sign your proposal.

When the foundation for working the job is built upon the gathering of complete and specific information, then the entire project requirements will extend from there. This then puts the project manager in the position of managing the job instead of the steel detailer acting on the fabricator’s behalf for information gathering.

Your level of concentrated involvement with scope of work, inclusions, exclusions and qualifications will vary by customer types. Experienced steel detailers will recognize immediately what kind of project manager they are detailing with, and it is important to create documentation accordingly, which protects both you and your customer.

It will be the things that are not talked about, which will come back later to bite you. When bid items are clearly defined, and the working ground rules are firmly established, you can then decide how much of a nice guy you want to be for helping the project manager do his or her job. I would suggest while doing so that you gently remind them you are helping them out, so favors are not abused.
The 2015 Annual Meeting

Dr. Michael Gray talked about their Cast bracing connections, the use of which simplifies the steel detailing required for braced frames. Amanda Kunze together with Brandy Breauckman talked about the online education programs for steel detailing and steel detailing project management, which is available through the Northcentral Technical College in Wausau, Wisconsin. Joe Langemeier with AZZ Galvanizing, who talked about the best practice for successful execution of galvanized projects, also introduced the planned options for offering metalizing and dual coatings. There was lively discussion after each speaker and the meeting time flew by.

The President’s Banquet took place at the Rodizio Grill Saturday evening. The Rodizio Grill is a ‘Brazilian Steakhouse’ and the food was absolutely fabulous. Unique to this restaurant were the servers making the rounds with select grilled meats, fruits and vegetables on a stick. You only had to wave them over for them to treat you with a selection. A wooden dowel standing on end placed in the center of the table alerted the servers to the desire for more select meats. When the dowel was laid on its side, you were ready for dessert. If you are ever in Nashville and are looking for a great place to eat we highly suggest the Rodizio Grill!

President Joel Hicks took the floor around dessert time to announce the Man of the Year award. Fred Tinker was selected for his outstanding contributions on behalf of the NISD, and especially for his accomplishments regarding IDC testing over the past year. Please see the article on ‘Individual Detailer Certification’ presented by Fred Tinker and Michael Tinker in this issue of the Connection.

We look forward to more participants, and seeing YOU next year in Orlando!

PHOTOS & HIGHLIGHTS

Apparentely there are just enough loop holes in the law to allow for a business to serve alcohol on the road. I am pretty sure laws in most cities would not be so accommodating!

Reservations are made online for a seat on the Pedal Tavern. I have to say, however, this activity seems counterintuitive on many levels, the first of which would be the purpose of drinking... Just sayin’.

Man of the Year Fred Tinker, with his son, Michael Tinker.

Joe Langemeier of AZZ Galvanizing, innocently and offhandedly referred to Fred and Michael as ‘The Tinker Brothers’ during his morning presentation. The two are now stuck with that moniker by all who were there and know about it. This is one of the many memorable events which take place during annual meetings that are difficult to convey in the Connection!
Where Do We Go From Here?

by Greg Brawley

The National Institute of Steel Detailing has been in existence since 1969. At that time, the steel detailing firm had passed through the evolutionary phase of being moonlighters and sharecroppers into an era of firm formation that brought together sizeable companies capable of performing on large-scale bridge, industrial, and commercial projects. Although conceived as a firm-owner's association in those days, the firm owners were always steel detailers first! The fundamental mechanism that created the steel detailing industry was always the erratic work flow demands placed on the steel detailing function by the contracting process. How was a steel fabrication company going to be able to staff an in-house department with the capacity, experience and expertise to meet an irregular and indeterminate demand for vital services that could fluctuate from moment to moment? While the outside detailing firm's original business model was to provide supplemental skilled labor to execute overflow from an overburdened drawing room in the fabricator's office, the steel detailing firm would soon enough be placed in the middle of the torrent of down-streaming information flow. What began as enterprising entrepreneurs providing labor resources to meet surging technical needs of inconsistent contract demands has evolved into detailing firms supplying a complex and diverse menu of sophisticated technical consulting services in addition to shop detail drawings!

HOW DID WE GET HERE?

The Project Delivery System: Something like five decades ago, before terms like fast-track appeared in our lexicon, the project delivery system was simple and well-defined by generations of building practices. The owner would retain an architect and pay him a percentage of the project cost to design, administer and supervise the construction of his project. The architect in turn, would yield some percentage of his fee to the structural engineer and various other sub-consultants all based on an equitable percentage based fee structure. The architect, upon having completed a design and delivered working drawings that were complete, concise, fully checked and correct by intent and in fact, would then tender them for bids to general contractors who would agree to execute the work for a lump sum contract price that was all inclusive. Of course, the general contractor would prepare his proposal by seeking lump sum subcontract pricing for the various trades and specialties that would enable the contractor to compile a complete and thorough lump sum figure that the owner could expect, to reflect some reality about the project cost. It should be noted that there were rare and infrequent errors or omissions in the design documents and the term RFI had not yet been invented.

At some indistinct point in time, finance became a more compelling element in the formula for project delivery. Soon, fast-track became not only a common contract form, but became the new paradigm of construction project delivery. Concurrent with this shift, came the exponential rise in building technology, high-tech building products and a flood of construction product innovation. The initial results were that the increase in product innovation severely taxed the architect's ability to deliver complete designs within the specified time frame, and still protect the owner's interests in incorporating all the whistles and bells that were in the marketplace. The owners found themselves footing the bill for adds and extras that could not be anticipated by the original budget. The architects, contracted based on fees tied to project costs, found themselves in the unenviable position of justifying fees that were generated, not by their expertise, but by the expertise of vendors and sub-consultants that were knowledgeable about the increasingly sophisticated products being placed in the project.

The lines between design and execution of the design became increasingly blurred as construction project overruns, schedule delays and adds and extras mounted. Cost-conscious owners and developers were increasingly motivated to initiate wholesale changes in the lines of project responsibility and liability through the contracting process. The response to these circumstances was to initiate lump sum fees for the architect and design sub-consultants.

The Contract Drawings: Something that has plagued the detailing industry for decades is the steady decline in contract drawing quality. In addition to the downward pressure from project delivery evolution and increased technological demands, the incentives of lump-sum design became spending less time in preparing and checking 2-D drawings. We call them Contract Drawings and Contract Documents! However, the collective experience of our industry is that these documents are most of-
Where Do We Go From Here?  Continued from page 20

The development of emerging IFC standards cited in the table above (At Level 3), is the prime mover in the quest for fully Open Standards and interoperability in BIM implementation. In somewhat oversimplified terms, these data standards are what allow the vast array of 3-D Modeling software to talk to each other. It's worth noting that for a large project to achieve Level 3 implementation, there might be 50 or 60 or more 3-D models generated by various design disciplines and vendor-based contributors that would have to be integrated. To fully achieve the Level 3 objective, the collaborative model server would include management of communication, graphics, geometry, design calculations and all the discreet data that once was the source of 2-D output.

At present, the technical hurdles that confound maximized BIM implementation are being swept aside by improved interoperability and the performance demands of the construction industry. In addition to the technical hurdles, there remain issues of blurred lines of professional responsibilities and liabilities, enlightened project delivery systems, risk management, insurances, intellectual property rights, and legal ramifications.

While it may be difficult to fathom, be assured that there is such muscle behind these initiatives that it has become simply a matter of 'when'...not 'if'. It is through establishing new standards of industry performance that these challenges will be met.

The AISC Code of Standard Practice for Buildings and Bridges – Remaining Relevant: As far as the U.S. steel detailing industry is concerned, much of what we do contractually, has in the past, been sustained by the concepts and language found in the AISC Code of Standard Practice for Buildings and Bridges. Generally, the Code establishes a standard of performance for engineering, fabrication, erection and detailing in the execution of steel structures. A vital element of the Code, as far as steel detailing is concerned, is found in “Section 3: Design Drawings and Specifications” and “Section 4: Shop and Erection Drawings”. The text and commentaries of these sections, however only address the information to be delivered in 2-D drawing form. As the content and quality of design increasingly shifts towards reliance on 3-D model data, as opposed to 2-D design drawing information, project specifications and contract documents are frequently amended to suit this change, and often rely on exceptions and exclusions to the Code to adapt to the needs of the 3-D Modeling world. The AISC sought propos-
Where Do We Go From Here? Continued from page 21


"The AISC Code reflects industry advancements and provides the AEC community with a useful framework for a common understanding of acceptable standards when contracting for structural steel," commented Charles J. Carter, S.E., P.E., Ph.D., AISC vice president and chief structural engineer. "However, few aspects of BIM have become standard. This has hampered the ability of the AISC Code Committee to incorporate provisions related to BIM into the Code."

Despite these concerns, the AISC Code Committee has determined that adapting the Code to cover drawings, models and their use in combination in the forthcoming iteration of the Code, will serve to sustain the function and relevance of the Code in the steel construction industry.

In the absence of uniform and consistent guidelines, the individual steel detailing firm needs to actively establish its contractual obligations and standards for these types of services within each of their own proposals and contracts.

Where Do We Go From Here? It may be clear at this point that steel detailing, as we may know it now, will not be the same in the years to come. As the line between design and execution becomes blurred by the collaboration processes of 3-D Modeling, the lines between contractual and technical accountability also become blurred. For the most part, steel detailing firms are the ones who are creating and handling the models for their scope of work and creating the models that will become a part of the collaborative model. Here are a few observations that may offer a glimpse of the future of the steel detailing industry:

• While this may or may not be a problem for the fabricator, erector, and SER, it is definitely a problem for the steel detailing industry,

• As direct contributors to the collaborative model, the risks and liabilities for the steel detailing firm increase exponentially.

• Under current project delivery systems, the steel detailer might be in the position of a risk or liability being created with respect to an entity with which they do not have a contract.

• While the ownership of 2-D shop detail drawings from a 3-D model may rightfully be with the fabricator, the model and collaboration efforts, costs and risks may not be. As the lines between execution and design blur, will the fabricator be willing to pay for collaboration beyond what is required to produce the 2-D shop drawings?

The drive towards full BIM implementation means that the standard of education, qualification and training for individual steel detailers will have to be expanded to not only include the traditional knowledge base of steel detailing, but also include information management and BIM modeling skills.

While standardization of BIM is important it may be even more important to advocate for performance standards that lay out the lines of responsibility and accountability for ALL participants in BIM collaborative model development. Finding a new niche for steel detailing in the project delivery system would seem to be the edge of our industry’s potential for growth.

AUTHOR’S NOTE: The commentary and observations of this article are born out of almost 50 years of steel detailing and fabrication industry and do not necessarily reflect or represent the opinions of anyone other than the author.
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