

SPRING 2018

Sheet Metal Journal

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Western Washington

MacMiller: 8th & Howell

Also in this issue:

Education

Treat Apprentices
Right



OUR CONTRACTORS SET THE STANDARDS FOR THE INDUSTRY



SMACNA-Western Washington is a trade association and a Local Chapter of the Sheet Metal & Air Conditioning Contractors National Association (SMACNA), which is located in Chantilly, Virginia.

SMACNA Contractors are heating, ventilating, air conditioning (HVAC), and sheet metal experts. They are your assurance of quality in the fabrication and installation of ductwork and air handling systems.

SMACNA contractors are also skilled professionals in:

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- Industrial sheet metal
- Kitchen equipment
- Specialty stainless steel work
- Manufacturing and custom fabricating
- Repair services
- Siding and decking
- Flow testing & balancing
- Energy management & maintenance

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You'll find SMACNA contractors working in all areas of construction whether industrial, commercial, institutional, or residential.

SMACNA contractors developed the technical manuals and standards that today are accepted worldwide in the construction community. As leaders in their industry, they continue to adopt and apply the latest technologies to HVAC and sheet metal work. Everything from duct construction and installation to air pollution control, from energy recovery to roofing, from seismic restraint to welding... they do it all!

STATEMENT OF PURPOSE

The ultimate goal of SMACNA - Western Washington, Inc. is to achieve and maintain the following principles and programs for the sheet metal industry:

1. To establish advertising, publicity, and promotional activities that advise the public of the nature, extent, and availability of services performed by the industry.
2. To promote educational programs to formulate high quality standards of sheet metal construction.
3. To aid in the formulation of uniform sheet metal specifications and improvement of state and municipal codes.
4. To expose fraudulent or misleading advertising or representations intended to deceive the public.
5. To encourage and promote trade practices that will eliminate unfair competition or exploitation of the sheet metal industry.
6. To encourage and promote the establishment of a uniform pattern of payments by customers during the progress of jobs to avoid inequitable payment delays and economic penalties.
7. To provide a forum for the discussion of the common interests and problems of labor and industry, and to encourage and promote harmonious relations between labor and industry.
8. To encourage any proper activity that will increase the efficiency of the industry and its ability to serve the public.



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Courtesy of LNM Architects

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LOOKING AHEAD AT EDUCATION

This issue's focus on education and training prompts pause to consider education of the future. Looking back one short decade, the face of post-secondary education has changed dramatically, infusing the traditional student-at-desk-before-an-instructor model with a hybrid mix of digital resources, online note-taking, and chat room meetings.

Trades training has shifted in tandem—more productive technology has changed the nature of the curriculum, live-work programs allow apprentices to earn a living as they study, and classroom culture has morphed to meet changing student demographics.

Students are changing, as well. Adult learners make up the fastest growing group of learners in North America, and their demographics are opening up to include higher proportions of women and visible minorities than ever before in history. Their goals and ambitions are different from young learners—career changes, job retraining, advancement, and being required by ones employer are the top reasons for continuing and other forms of adult learning, while brand new students are following their dreams, looking for a good career advantage, and making plans for a bright and financially prosperous future.

Moving into the future, there are several trends that will shape the educational outlook of students in all sectors. Academic universities will handle the trends differently from trades training centres, community colleges, and co-operative learning groups, but meet these trends they must.

Personalized learning. Homeschoolers have been saying this for decades—all students learn differently, and the more adapted to a learner's style, the more intrinsic becomes the learning process. The influx of technology spells solutions for students across the learning spectrum, who will be able to find the tools that help them most, thereby boosting confidence and stoking the fires of additional learning.

Geographic diversity. Learning tools are one of the fastest growing segments of technology development. With platforms and niche projects rolling out at lightening speed, students are able to learn a language with a smartphone app, communicate with an instructor on another continent, and watch lessons unfold as they are happening via streaming video. This means



By / Jessica Kirby, Editor

self-paced learning is the way of the future, with theory learned on the go and practical components continuing face to face in various capacities.

Project based evaluation. Like many things, evaluating students on their practical deliverables is not new—it is a return to historical teaching methods where students were assumed capable once they could physically prove themselves. Students will have to master collaboration, group work, organizational, and time management skills, not to mention problem-solving and reconciling the theoretical and practical on the fly.

Field experience. Despite the shift towards technology-based learning, the importance of field experience is in no danger of extinction. Quite the opposite—because the prevalence of technology grants students more time, flexibility, and learning options, it will bring them deeper engagement and greater passion for their trades. This is the fuel for positive face-to-face, experiential learning that schools will have greater space and resources to provide, having freed up space and resources previously spent on exclusive in-class instruction.

Mentorship importance. Independence has a price, and when it comes to education the price of multi-optional platforms is information overload and fogginess about what seems the best course. A decade from now, when the options are limitless and students in a single class span the globe, teachers' roles as mentors – beacons in the mist of data overload – will be essential to directing students down the paths they seek.

Enjoy this issue of *Sheet Metal Journal – Western Washington* as it overviews some of SMACNA's education and training offerings. Professional associations remain at the top of the list of advocates for employee learning and professional growth—make sure you take advantage of these chances to shine down your own bright path. ■



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EDUCATION MATTERS

The focus of our spring issue is to highlight education and training opportunities currently open to SMACNA-WW members. These and other association programs will provide endless avenues for personal and professional development open to SMACNA members and their employees in 2018.

The importance of continuing education can not be understated. Continuing to learn and grow as employers, employees, and individuals helps us stay well-rounded and competitive, and on top of the industry's latest technologies and developments. Consider educational opportunities an investment in oneself and in the company's enduring success.

SMACNA and its Programs Committee have made a focused effort to increase education offered to the membership on a national level, and we at SMACNA-WW are asking its members to promote these career-enhancing, skill-based trainings.

SMACNA-WW offered training with Nic Bittle called "The Six Million Dollar Foreman" on March 27, and an all-day executive leadership training, "Perform Like the Boss," the following day.

We are bringing back Bluebeam training June 5 and 6. Bluebeam is about to launch a new version of the software and SMACNA-WW is one of the first to offer the updated training. Space will be limited, so look out for an invite.

April 24 we will be hosting a risk management seminar "Understanding Hidden Construction Health Hazards" that will involve DER training, an EAP program description, a session on suicide, and a final session on opioid abuse.

The SMAC-YA or Youth Leaders Committee will be hosting another networking event at a Mariners Game in late spring. This is an effort to recruit students into the mechanical and sheet metal industry, and is always an excellent time. Be sure to recommend it to any young college students within the industry you think would benefit and enjoy the opportunity.

SMACNA-WW will be hosting a women's luncheon and seminar in August with Stephanie McShane of Maxim Consulting. This is an effort to launch a women's networking group that will be open to both management and field employees. Our association will also be hosting a supervisory seminar for foreman, journeymen, and future leaders at a later date, yet to be determined.

National SMACNA also has a host of seminars and training opportunities all members are welcome to—see page 16 for a comprehensive list and descriptions.

Training and education can open up a whole new world of personal and company growth. Individuals who participate in these types of opportunities on an ongoing basis are more successful in business, open to new innovations and technologies,



By / Julie A. Muller-Neff, Esq.
Executive Vice-President, SMACNA-WW

invested in employee health and progress, and willing to self-reflect, compared with people who choose to stop learning. What are you waiting for? ■

UPCOMING SMACNA-WW EVENTS

February 2, 2018

SMACNA-WW Crab Feed, Ocean Shores Convention Center

March 27

Membership Mtg - Nic Bittle "Six Million Dollar Foreman"

March 28

Exec. Management - Nic Bittle "Perform Like the Boss" One-Day Training

April 24

Safety Seminar - "Understanding Hidden Construction Health Hazards," Seatac Marriot

June 5-6

Bluebeam, Seatac Marriot

June 15

SMACNA Membership Event, Emerald Downs

August 3

Annual Golf Tournament, Washington National Golf Club

August 30

Women's Luncheon - Stephane McShane "Being a Woman in the Industry," Hyatt Regency Lake Washington at Seattle's Southport, Renton

September 19

SMACNA Membership Event America's Car Museum, Tacoma

October 14-17

SMACNA National Convention, San Diego, CA

November 8

Membership Meeting - Michael Geraghty "Key Secrets of Master Communicators," Seatac Marriot

December 7

SMACNA-WW Annual Holiday Gala, Seattle Marriott Waterfront

ASSOCIATION EVENTS

SMACNA-WESTERN WASHINGTON'S 55TH ANNUAL CRAB FEED EVENT A SUCCESS

Photos / SMACNA-WW

SMACNA-Western Washington has done it again. More than 340 SMACNA-WW members and their guests gathered at Ocean Shores Convention Center in Ocean Shores, WA for the association's Annual Crab Feed event.

As always, the enthusiastic guests dressed in their great pirate and mermaid costumes, ready for a meal fit for the high seas. A hungry crowd enjoyed mouthwatering crab, consuming over 700 lbs. of the succulent deliciousness, in addition to the beer and wine. This year, SMACNA-WW extended the evening with the return of the after party, dancing the night away with pirate vigor to a live performance by the band **Ready or Not**.

Mark your calendars for next year's Crab Feed at Ocean Shores, February 1, 2019. You will not want to miss it. ■





SMACNA members perform work in industrial, commercial, institutional, and residential markets. They specialize in heating, ventilation and air conditioning, architectural sheet metal, industrial sheet metal, kitchen equipment, specialty stainless steel work, manufacturing, siding and decking, testing and balancing, service, and energy management and maintenance.

CONTRACTOR MEMBERS

- | | |
|---|--|
| ACCO Engineered Systems | Hermanson Company, LLP |
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| Emerald Aire, Inc. | PSR Mechanical |
| ENVIROMECH | Schmitt's Sheet Metal & Roofing |
| Evergreen State Heat & AC | Scott & From Co., Inc. |
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| Gensco, Inc. | Sunset Air, Inc. |
| H & R Mechanical Systems, Inc. | Temp Control Mechanical Services Corp. |
| | University Mechanical Contractors, Inc. |

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- | | |
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| AIREFCO, Inc. | Industrial Air Systems, Inc. |
| ArmaceLL LLC | Johnson-Barrow, Inc. |
| Automated Controls | K-Solutions Law |
| C.M. Hoskins Company | Magnum Crane Service |
| CliftonLarsonAllen, LLP | Milwaukee Tool |
| Cole Industrial, Inc. | Pacific Product Sales, Inc. |
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| Edge Construction Supply | Sunbelt Controls |
| FBM SPI | Trane |
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PARTNERS IN PROGRESS CONFERENCE A SUCCESS

Partners in Progress held its annual conference in February, presenting excellent programming and guest speakers as well as breakout sessions and training opportunities. This conference was national in scope, joining labor and management, and offering participants the chance to meet with contractors from across the nation to discuss issues that run across the industry. SMACNA-Western Washington's executive vice-president Julie Muller-Neff; Ned Gebert, SMACNA-WW's Secretary-Treasurer; and, SMACNA-WW Trustee Mark Webster attended.

There were several important breakout sessions including several on market recovery options, diversifying the workforce, and joint legislative efforts. Trainer and facilitator Michael Gaffney held four sessions focused on market recovery options, discussing why market recovery discussions should occur outside of traditional negotiations; local target programs, equity funds, loan programs, and other means to financially support market recovery; single versus parallel workforces; and the challenges that arise when market recovery means entering a new market for contractors and labor.

The diversity session focused on the way diversity leads to more talent, more productivity, and more market share, resulting in contractors experiencing higher performance and increased profitability. Julie Muller-Neff, Mechelle Agnew, business manager for SMART Local Union 464, Leah Rambo, JAC administrator, SMART Local 28 training centre, and Angela Simon, president of Western Allied Mechanical, held a panel on overcoming barriers to achieving greater diversity, attracting women and minorities, addressing the needs of women and minorities, and developing a culture of inclusivity.

Author and consultant Kevin Doherty's keynote address "Recruiting Quality Applicants" was an engaging presentation on real examples of what chapters and locals are doing across North America to find, train, motivate, and retain quality sheet metal workers. Guy Gast, president of The Waldinger Corporation, and Angela Simon presented on the *New Horizons Foundation's HVAC and Sheet Metal Industry Futures Study 2016* and the five key implications contractor firms need to understand and improve upon to successfully move forward over the next three to five years.

In closing, retired Blue Angels pilot John Foley discussed the high performance mindset as a process and state of being that accelerates everyday achievement. Foley explained individuals and teams that embrace high performance begin a journey toward excellence and elevated execution that has the power to carry them beyond their dreams.

Learn more about this and next year's conference at www.pinp.org. ■

2018 SAFETY SURVEY NOW OPEN TO U.S. AND CANADIAN MEMBERS

SMACNA's annual Safety Survey Report is a valuable resource that many SMACNA contractors use to gauge the impact of their safety culture. The Safety Survey is now live on the SMACNA website and SMACNA encourages members to input their company's safety data.

Member responses ensure a rich quantity of information and are critical to the success of the program. Members can find the information needed in their 2017 injury and illness records. Submitting the survey is quick, easy, and confidential. After completing the online survey, members will also be able to print out a copy of their survey data.

Since each country collects injury statistics differently, the online survey is open both to U.S. and Canadian members. Simply select the state or province and participants will be directed to the correct Safety Survey for their country.

All entries must be received by May 4.

The results of the survey, the 2018 Safety Statistics Profile, will be available free to members later this summer. Members can visit SMACNA's Safety webpage to see Safety Statistics Profiles from previous years.

Submit the survey online today. For more information, contact Mike McCullion, SMACNA's director of market sectors and safety (mmccullion@smacna.org / (703) 995-4027).

SMACNA-WW is counting on your participation. Your company can gain national recognition by filling out the survey. For those SMACNA-WW members who complete the online survey by April 23 you will be entered into a drawing to win a \$250 Best Buy gift card, so act now. ■

NIC BITTLE BRINGS WORKFORCE PRO TRAINING TO SMACNA-WW

Author, speaker, and trainer Nic Bittle brought his "Perform Like the Boss" and "Six Million Dollar Foreman" trainings to SMACNA-WW members March 27–28.

Nic walks participants through what he has discovered is the main difference between the exiting sheet metal worker and the emerging sheet metal worker, and shares what the smart contractors are doing to develop the next generation sheet metal worker that will give them an edge over their competition.

He discusses four core competencies lacking in most of the workforce entering the industry today, and the necessary steps one must take to develop these within the workforce.

For more information about Nic's presentations and his work and services, please visit www.nicbittle.com ■

CONSTRUCTION EMPLOYMENT GROWTH SURGES IN FEBRUARY

February was the best month for construction employment gains since March 2007, according to Associated Builders and Contractors' (ABC) analysis of today's employment report from the U.S. Bureau of Labor Statistics (BLS). The sector added 61,000 net new jobs on a monthly basis in February, an increase of 0.9 per cent, and 254,000 net new jobs on a yearly basis, an increase of 3.7 per cent.

Nonresidential construction added 35,400 net new jobs in February after adding 21,000 net new jobs in January. Although gains were widespread among all five major construction subsectors, nonresidential specialty trade contractors outperformed them all with 19,000 net new jobs.

The construction industry unemployment rate, which is available only on a non-seasonally adjusted basis, increased by half a percentage point in February and stands at 7.8 per cent. Despite the month-over-month increase, which is likely attributable to seasonal factors, the industry's unemployment rate is a full percentage point lower than at the same time one year ago. The national unemployment rate for all industries remained unchanged at 4.1 per cent. Learn more at abc.org. ■

DUPONT CONSTRUCTION NEARING COMPLETION

Apprentices from the Western Washington JATC are nearing completion at Dupont. "It has been a long year in DuPont with construction but we are headed for the finish line," said Don Steltz, Western Washington JATC executive administrator.



More than 40 apprentices, led by full-time instructor Justin Bourgault and Jeff Reinhardt to complete the finishing work, are helping to complete the railing systems for the stairs and balconies and the service apprentices are working on the networking and internet in the buildings. The project is set to complete mid-April. Great work to all involved. ■

continued on page 23

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Pasco • Portland • Salem • Seattle • Spokane • Tacoma • Vancouver • Wenatchee • Yakima

ANNUAL INDUSTRY LABOR REPORT PREDICTS 2018 MAN-HOURS

According to SMACNA's newly released 2018 Annual Industry Labor Report, 2017 man-hours increased 2.51%; however, a decrease is predicted for 2018. The six-page report is a snapshot of the challenges and market opportunities of unionized sector of the sheet metal industry and provides a statistical analysis of the survey responses tabulated from more than 35 chapters. In addition to man-hour projections, the 2018 Annual Industry Labor Report contains details on:

- Grievance activity
- Fringe benefit allocations
- Man-hour projections by region
- Funded status of local pensions
- Davis-Bacon work
- Labor-management meetings
- Contractor business status
- Negotiation issues
- Other areas of concern.

View the full text online at www.smacna.org ■

2018 BARGAINERS' UPDATE—TIMELY BARGAINING TIPS

SMACNA's 2018 Bargainers' Update (formerly the Bargainer's Mailing) will assist chapters and their bargaining committees with timely information to help with their preparations. Key information includes five primary categories: basic information, settlements, potential issues, national funds, industry funds, and federal mediators.

The update also provides:

- A summary of the 2017 sheet metal settlements
- Updated *Wage and Fringe Manual*
- Cost projections for healthcare plan increases in 2018

- Comprehensive information from the National Pension Plan
- Guidance on 9a recognition language
- Crew-cost method of equalization
- Federal Mediation Conciliation Service reporting requirements.

Please contact SMACNA's Labor Relations Department with questions regarding these materials or other issues that may arise during negotiations. ■

SMACNA PERSONNEL POLICY GUIDE— NEW MEMBERS-ONLY RESOURCE

Most small- to medium-sized contractors don't have a human resources department and that's where SMACNA steps in to assist with its new *Personnel Policies and Procedures Guide*. Any of the policies it contains can be modified or edited allowing a member to create a personalized policy manual for their firm.

The new human resources publication clarifies company procedures and expectations that foster healthy management-employee relationships and eliminates confusion and inconsistency. It addresses most of the topics necessary to provide employees a solid understanding of their obligations and opportunities

Chapters will want to remind their members about this free, online members-only resource. Personnel Policies and Procedures is the latest addition to SMACNA's *Contractors Operations Manual*—a collection of books about the nonfinancial aspects of operating a contracting business. The Contractor Operations Manual includes:

- Guideline to Information Technology
- Materials and Inventory Management
- Principles of Job Costing
- Personnel Policies and Procedures.

For more information about this and other members-only resources, please visit www.smacna.org ■

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INDUSTRIAL MARKET INTELLIGENCE AT YOUR FINGERTIPS

Industrial Info Resources© is a leading provider of global market intelligence in the industrial process.

This valuable and timely resource may now be available at no charge to SMACNA industrial contractors thanks to one of SMACNA and SMART's cooperative initiatives.

If the local has a license to use the site, you can work with the local to identify project opportunities in such areas as pharmaceutical, biotech, petrochemical, oil and gas production, food and beverage, electric power, as well as pulp and paper.

SMART has purchased licenses (or “seats”) to Industrial Info Resources© and has made them available to union locals throughout the United States and Canada.

SMACNA contractors interested in using this tool should contact their union local office and ask if they have a license or “seat” to Industrial Info Resources© and identify potential industrial projects.

For more information on this cooperative effort and Industrial Info Resources©, contact Mike McCullion, SMACNA director of market sectors and safety, at 703-995-4027 or mmccullion@smanca.org. ■

NEED TO INCREASE ATTENDANCE AT YOUR MEETINGS?

SMACNA National's Chapter Education Program enables a chapter to bring in a professional industry speaker to present an in-depth education program on a variety of business topics, plus SMACNA pays the instructor's fee for one program. Reimbursement is on a first-come, first-served basis.

Chapters and members may select from 15 education programs covering a wide range of subjects including:

- Estimating
- Workforce development
- Communication
- Market opportunities
- Financial management.

Individual courses are for half- and full-day seminars allowing the speaker the opportunity to provide more comprehensive information and meet one-on-one with the participants to answer

specific questions. A program outline along with reviews from previous attendees can help guide a chapter's decision on which program will best accommodate their members.

For more details, view the complete list of Chapter Education Programs or contact Bridgette Bienacker, SMACNA director of business management and membership, at bbienacker@smacna.org. ■

SMACNA ANNUAL CONVENTION

October 14-17, 2018 Marriott Marquis San Diego Marina

SMACNA's Annual Convention is its premier event that blends exceptional education with world-class networking and social events—and this year is no different as we journey to the San Diego Marriott Marquis and Marina for the 75th Annual Convention, October 14-17, 2018.

The opening reception on Sunday evening takes place on the flight deck of the U.S.S. Midway Museum, one of the longest-serving and most famous aircraft carriers in U.S. Naval history. This event promises to be a breath-taking, life-long memory that you and your family won't soon forget.

The last day of the conference marks the beginning of the 75th Anniversary year for SMACNA, so join us for the big celebration which includes multi-platinum recording artist **Andy Grammer**.

Registration opens April 2, 2018. ■

UPCOMING NATIONAL EVENTS

Jan 22 - 24, 2018

2018 AHR Expo
Chicago, IL

Apr 22 - 25, 2018

2018 Project Managers Institute
Raleigh, NC

May 06 - 09, 2018

2018 Financial Bootcamp
Tempe, AZ

May 08 - 10, 2018

2018 CEA National Issues Conference
Washington, DC

May 21 - 24, 2018

SMACNA Leadership Development Program
Chapel Hill, NC

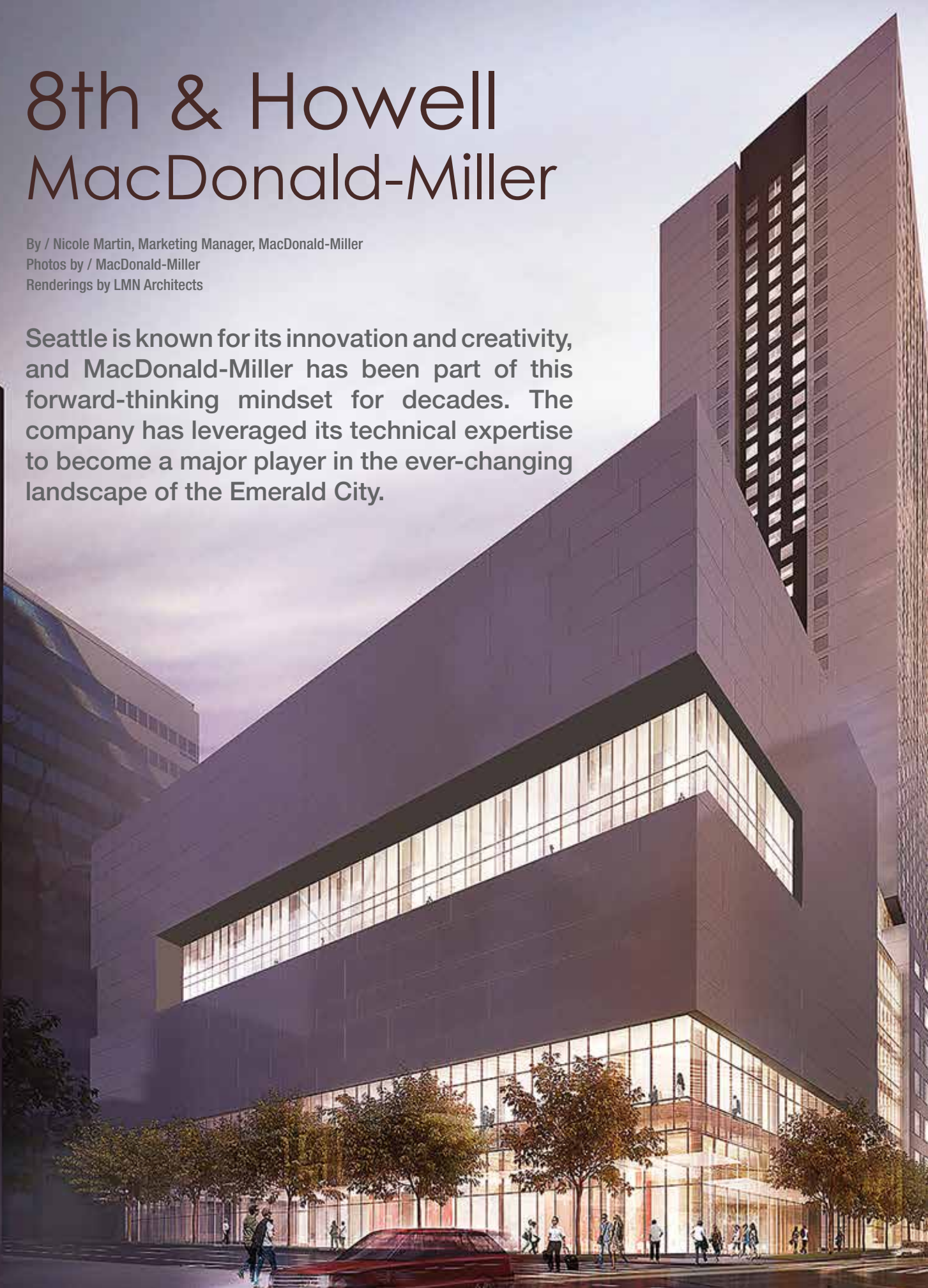
8th & Howell MacDonald-Miller

By / Nicole Martin, Marketing Manager, MacDonald-Miller

Photos by / MacDonald-Miller

Renderings by LMN Architects

Seattle is known for its innovation and creativity, and MacDonald-Miller has been part of this forward-thinking mindset for decades. The company has leveraged its technical expertise to become a major player in the ever-changing landscape of the Emerald City.





A current initiative that reflects MacDonald-Miller's level of ingenuity is the construction of the 8th & Howell project for the R.C. Hedreen Company. This immense undertaking will consist of over one million square feet, encompass an entire city block, and become the largest hotel in Seattle history.

Specifically designed to complement the soon-to-be expansion of the Washington State Convention Center, 8th & Howell's completion will provide 1,264 luxury hotel rooms to visiting guests. The hotel will include underground parking, street-level restaurants and retail, as well as a seven-story podium level featuring banquet and ballroom space, high-end meeting rooms, and a banquet-capacity commercial kitchen. This \$60-million project will soar over 46 stories high and alter the skyline on 8th Avenue between Howell & Stewart Streets.

"The final system will be designed and verified to a LEED Gold certification, meaning 8th & Howell will be one of the most efficient structures in the city."



MacMiller was selected through an extensive interview process and is performing the HVAC, controls, plumbing, and piping scopes of work. The depth of its internal resources spurred the design team to request a joint design-assist role with the consulting engineer to ensure a cost effective and energy-efficient design was achieved. Given the sheer size of the project and to eliminate redundant efforts, MacMiller's detailing group was tasked with assisting in the creation of the construction documents, while continually advising the engineers on constructability and cost.

MacMiller loves a good challenge and a project this size certainly has its share of them. To create operational efficiency for such a large project, MacMiller is utilizing its pre-fabrication capabilities and multi-trade rack innovation for high-level implementation. The company's detailing efforts have included targeting both repetitive bathroom and guest room spaces to maximize the use of wall pre-fab rough-ins, guest room ceiling assemblies, and vertical riser systems. Multi-trade racks, manufactured in MacMiller's own prefabrication facility, will drive efficient installation and space planning for the crowded ceiling spaces in the public areas. This approach is designed to move labor off the site and into the shop, doing a significant amount of work before certain aspects of the job site are even ready.

The energy efficient design will be one of the first projects of its size designed to meet the 2012 Energy Code. It will include a 3000-ton high-efficiency chiller plant, roof-mounted cooling towers, heat recovery systems, low-flow plumbing fixtures, domestic water pre-heat, and variable speed pumping throughout

the building. Custom air handling units, VAV terminal units, hot water heating, and a high-efficiency boiler plant will serve ductwork systems throughout the building. Ballroom and meeting rooms will be designed with low velocity ceiling diffusers and sound attenuation to ensure sound levels support the intended use in the large meeting spaces. The final system will be designed and verified to a LEED Gold certification, meaning 8th & Howell will be one of the most efficient structures in the city.

Another detailing triumph is found in the full scale laundry facility. Careful design and planning has been required to accommodate the size and height of the specialty laundry equipment while still allowing operation within the confines of the tight clearance issues that a basement presents. MacMiller's detailing group was a critical part of designing a method where the ducts and piping for the ceiling actually fit.

Creating energy efficiencies is right up MacMiller's alley, and one unique feature of the laundry design is the incorporation of a laundry water recycle system that will save the owner thousands of gallons of water over a standard application. When combined with low-flow plumbing fixtures, the system will reduce water usage by 30 per cent compared with a typical hotel.

The most innovative feature regarding the energy savings approach is how the building will be monitored. MacMiller's building performance team will install the building controls, and this includes hotel rooms that possess occupancy sensors that identify whether people are actually in their rooms. If the system identifies vacancy, the HVAC system and lights will



be automatically shut down, resulting in significant energy savings. At the heart of the efficiency initiative is the presence of an ICONICS Energy Dashboard. This tool monitors and controls energy usage to match the baseline established in the original design and gives the building owner real time data to determine whether or not the building is operating at optimal efficiency. Adjustments can then be made based on the data delivered to flag systems in need of repair and to ensure the building operates at peak performance.

Sellen Construction is the general contractor and the underground portion of the 8th & Howell project is slated for completion in June, making it a two-and-a-half-year timeline. This is the type of project that truly brings to light MacMiller's ability to harness several complicated systems into one integrated system that performs perfectly. When finished, the project will be one of the largest in city history and MacMiller will be able say that it helped make it happen. ■

PROJECT TEAM

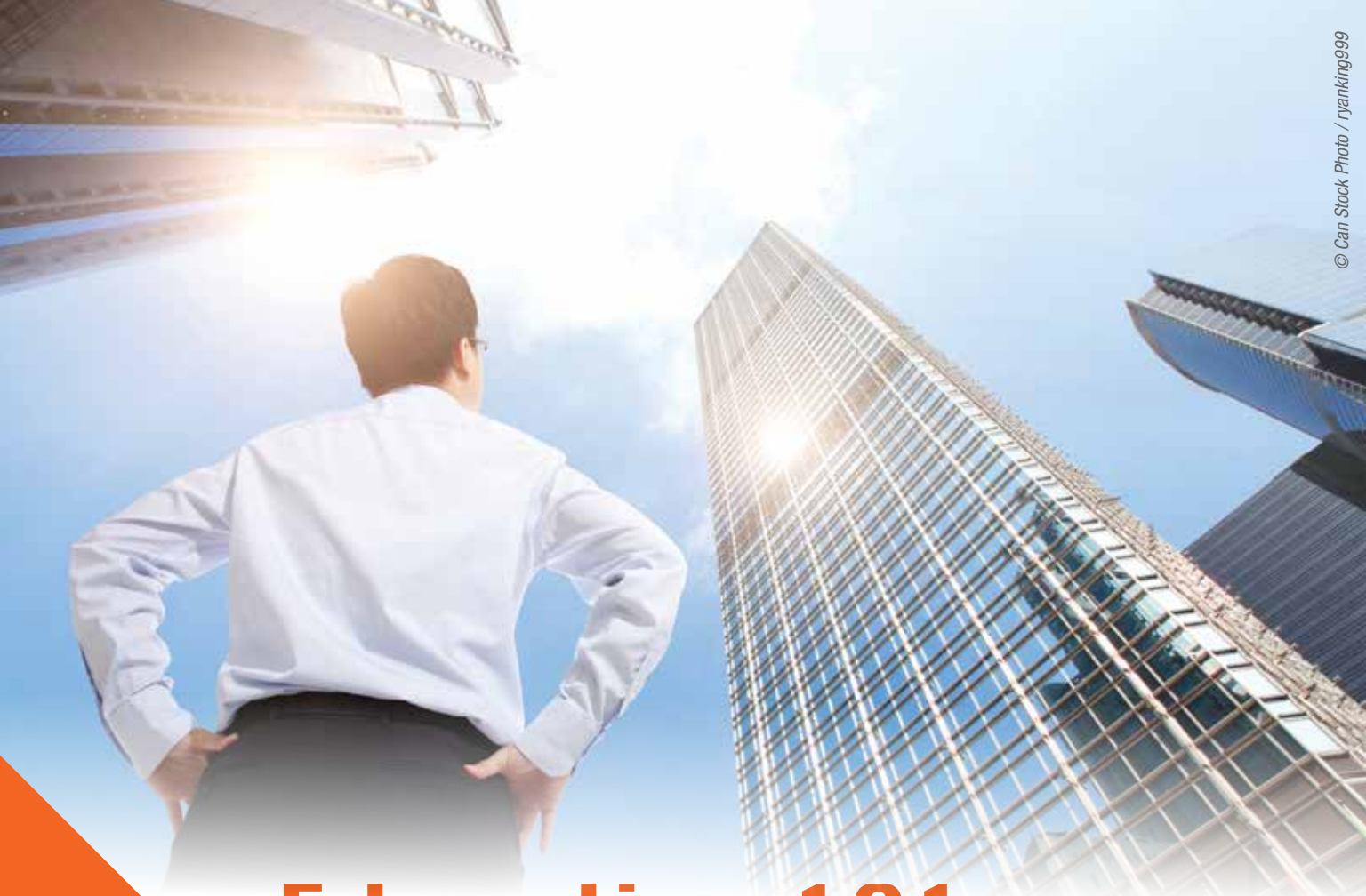
Owner: R.C. Hedreen Company

Architect: LMN Architects

Engineer of record: Arup Group

General contractor: Sellen Construction

Mechanical contractor: MacDonald-Miller



Education 101

SMACNA Offers a Host of Education and Training Programs for Success in 2018

by / Jessica Kirby

It's a big world out there and the competition is fierce. The economy is fluctuating and the workforce is changing. How will you keep up?

According to a Gartner Research study, continuing education is a foolproof way to stay competitive by increasing productivity and efficiency in your company. The logic is sound: the more employees learn, the more skilled they become and the more work they can do in less time. The study says for every hour spent on employee training, five hours are saved annually on productivity.

The largest group of new hires industry is facing is millennials. These straightforward, relationship-driven, technology focused professionals care more about development than bells and whistles, and giving out fancy bonuses may be fuelling this otherwise brilliant generation's sense of entitlement, says a Gallup Research report. If you want to treat them, and treat

them well enough to retain them, invest in them with education and professional development.

“Giving out toys and entitlements is a leadership mistake, and worse, it’s condescending,” says the report. “Purpose and development drive this generation.”

The benefits are obvious across companies and the value transects industries. Training and education save money because they reduce downtime, errors, and turnover, and help develop a company culture of passion and purpose because investment in employees shows care and commitment from management.

SMACNA offers a robust set of national training programs aimed at all facets of business development from project management to financials and beyond. Check out the following list of opportunities SMACNA National has to offer and contact the national office through its website at www.smacna.org to register or find out more.

2018 Project Managers Institute: April 22 – 25, Raleigh, NC

The Project Managers Institute covers the essential skills of effective project management for project managers. Sessions include management/leadership, project planning, ethics and integrity in project management financials, time management, change order management, and standards and best practices. Program objectives include building and leading powerful, integrated project teams; understanding and mastering financial control of projects; planning projects to maximize profits and customer satisfaction; and developing and maintaining profitable customer relationships.

Supervisor Training Academy: March 19 – 21, St. Louis, MO

The multi-day program will cover topics relevant to supervisors, foremen and superintendents and other critical managers. The program will cover leadership, communication, productivity, profitability, measurement and industry trends.

"The logic is sound: the more employees learn, the more skilled they become and the more work they can do in less time."

2018 Financial Bootcamp: May 6 – 9, Tempe, AZ

This program covers in-depth financial management issues, how to interpret financial statements, how to calculate financial ratios, working with credit, developing cash flow projections, understanding equipment acquisition and leasing, and using financial information for strategic and business planning.

SMACNA Leadership Development Program: May 21 – 24, Chapel Hill, NC

The SMACNA LDP experience provides career-minded executives and managers the opportunity to enhance career plans and prepare for senior leadership. We prepare you by taking a strategic approach to providing you with the right skills, knowledge, and social awareness to launch your candidacy for promotion or business ownership.

SMACNA Annual Convention: Oct. 14 – 17, San Diego, CA

SMACNA's Annual Conference offers a range of business development sessions, covering a range of topics relevant to owners, supervisors, and employees. Keep and eye on the national website for updates to this year's education programming.



2019 Business Management University: March 3 – 7, Tempe, AZ

BMU provides an in-depth study of the practical business practices in running a successful sheet metal company. Program sessions include financial management, strategic planning, contractor survival skills, negotiation, surety and bonding, leadership, and productivity. The program features engaging workshops, hands-on participatory sessions, and case studies along with idea sharing and networking opportunities.

SMACNA National also archives its webinars, meaning you can log in to a host of education sessions on topics like Business Management, Labor Relations, Safety and Health Information, and Technical Information. Business Management offers webinars on 18 topics like navigating turbulent markets and BIM; the Labor Relations section offers eight online sessions covering collective bargaining in tough economic times, SMWIA's code of excellence, and other subjects. Health and Safety and Technical Info offer 13 and eight webinars, respectively, covering everything from health hazards and PPE to HVAC duct leakage and construction standards.

Face to face or online, local or at a travel destination, continuing education isn't just worth the investment; it is essential in moving a business forward. ■



Apprenticeship

Alert

"I can't believe I signed up for this."



By / Mark Breslin

And so began a tale of stupidity, short-sightedness, and tradition that reflects a broken culture and wasted talent.

The words were spoken to me by a young man in March 2017 after I gave a presentation to 400 young people serving their union apprenticeships. During my talk, I asked a question that I have been asking for over 10 years to well over 100,000 union craftsmen and women: "How many of you during your apprenticeship were hazed, teased, called names, given meaningless work, ignored, or not taught because the guy in front of you was afraid for their job?" And in that room, like the other 200 times before, 95 per cent of the hands slowly rose into the air.

Ninety. Five. Per cent. In the year 2017. Not 1970 or 1990. Today. Now.

The young man in question approached me at the end of my presentation. He waited until everyone else had left. He told me he had military leadership experience. He had seen and done more than any of his apprentice peers. He had joined a union and the apprenticeship to again be part of a team that cared about each other—but he found something entirely different.

His experiences included being degraded; given little to no mentoring or instruction; seeing his peers called names (though no one would do it to him as he had that look in his eyes); and watching poorly performing journeymen be treated with

more attention and respect because they were friends with the foreman. He felt he was part of a team only when it was funny to treat the low man on the food chain poorly.

Here is the future of our business. The ideal candidate, signing up with exactly the right reasons and a perfect foundation for success... but it had only taken him two years to go from enthusiasm and belief to, "I can't believe I signed up for this."

This legacy practice of mistreating and degrading apprentices needs to end now, and it is the contractors first – and the union second – who have to start taking a stand. The current crop of apprentices needs to be the very last that are ever abused in the apprentice system as a stupid excuse for developing our young talent. It is being done by insecure people who had it done to them. And it is, decidedly, over.

I know some old-school guys are going to tell me that if you don't have thick skin, don't sign up; if you can't hack it, then you don't belong. I disagree. Talent development is not about hazing or mistreatment. It is about instilling confidence, skills, and belief through mentoring, guidance, and coaching. This is not always common behavior in an industry that prides itself on toughness and independence. As well, many are going to say that the millennial generation is soft and has received too



© Can Stock Photo / michaeljung

many trophies for too little effort. While some of that may be true, it doesn't justify poor behaviour at the job site on the part of journeymen whose pensions will someday be paid by those very same apprentices.

I would like to suggest three solutions to this challenge – one for the apprentice training staff, one for the contractors, and one for the union leadership – so each can play a part in a constructive evolution going forward.

First, apprentices must be given a true picture of what they are going to face. We cannot ignore the fact that this is going to be part of their experience. In my book *Survival of the Fittest* (and especially in the accompanying workbook), I outline role-playing behaviors for classes to engage in and discuss. Spend 10 minutes at the end of classes doing role-playing. Stand back and watch the wheels turn. How does an apprentice deal with hazing? How do they respond when told to "slow it down"? How do they ask for assistance or mentorship? How should they go about earning respect on the job? These are not technical skills but job site survival skills that every apprentice needs so they can get through the wringer until we change the culture.

Secondly, contractors need to draw the line: if you abuse, haze, or mistreat an apprentice, you are fired. Foremen are expected

to develop apprentices or at least match them to journeymen capable of maximizing their ability. Companies need to move away from the idea that apprentices are cheaper labour with limited skills and begin developing them as our future leaders and workforce. A change in mindset needs to precede a change in behavior.

Finally, unions can help by standing up for apprentices and giving them the camaraderie they were first offered. The best part of being in the trades isn't the money; it's the people and the work and the pride that come with doing something you feel is important. Sharing that with others and seeing it play out every day, with everyone having each other's backs, is what it's all about. Every union in North America might consider an annual Mentor of the Year award for the journeyman who is tops in development of apprentice talent. Make it visible. Talk about it at the hall. Put it in the newsletters. Bring the brotherhood (and sisterhood) back to union affiliation.

It is time for a change. Not every apprentice is going to make it, and we aren't running a babysitting service. If an apprentice doesn't have the heart and passion to be a tradesperson, maybe they need to do something else. But for every young man or woman who comes to us offering us the next 25 years of their life – their blood and sweat and best effort – we deserve to give them more. And the time is now. ■

LEGISLATIVE SESSION – PRODUCTIVE AND SHORT

The 2018 legislative session ended on a mostly good note for SMACNA contractors and, for the first time in a number of years, it ended on time. The legislators packed a lot into the short 60-day session. The Democrats controlled both the House and Senate for the first time in five years allowing them to pass bills that had been stalled under split control. These bills included voting rights, equal pay for equal work, a ban on bump stock mechanisms, and regulation of the Internet.

Money and taxes

The Legislature got good news with the February revenue forecast. The projected \$1 billion plus increase allowed the Legislature to finish funding the last part of McCleary, the education lawsuit. The money went primarily for increases in teacher salaries.

Last year the Legislature changed the property tax structure as part of a long-term solution for education funding. The Legislature did a “swap” between state and local school district property taxes. The exchange entailed the state assuming a higher property tax rate for school funding and the schools lowering their rate. But because this change is still in transition and districts have not made their adjustments, 2018 property taxes rose sharply in most areas, particularly the Puget Sound. Responding to the situation, the Legislature passed SB 6614 reducing the property tax rate in 2019 from \$2.70 to \$2.40 per \$1,000 of assessed value.

Despite the increased revenue, Democrats in the House once again proposed a capital gains tax. HB 2967 would have imposed a seven per cent tax on long-term capital gains from the sale of real estate, stocks, and other property assets. The tax would apply only when the amount of income went above a designated income threshold. The tax would have captured the sale of businesses, causing SMACNA to oppose the measure. Many believe a capital gains tax would be a precursor to a state income tax. The bill moved out of House Finance but was not brought to the House floor for a vote.

In the Senate, the Democrats tried to pass a tax on carbon, an issue long championed by Governor Inslee. In an effort to get support, they provided generous exemptions for manufacturing and food processing businesses, as well as many fuel types. In the end the nearly \$1 billion a year tax would have applied primarily to vehicle fuel, natural gas, and electricity used by business and residents. The money would have been spent on carbon reduction efforts as well as water, forest, and public transportation projects. SB 6203 did not get enough support from the slim Democrat majority to move out of the Senate. It was never considered in the House. A carbon tax initiative may be on the November ballot.



By / Kathleen Collins,
SMACNA Legislative Consultant

Prevailing wage and apprenticeships

A major victory for SMACNA was the passage of SB 5493. This new law will set the prevailing wage rate based on the wages and benefits in collective bargaining agreements (CBA) for geographic jurisdiction where a CBA is available. For areas where no CBA is available, the traditional survey method will be used. This is a significant and important bill for SMACNA contractors that passed with strong bi-partisan support in both houses.

HB 1673 is another new prevailing wage law. It requires a person within each contracting firm to be trained on prevailing wage compliance in order to be eligible for the responsible bidder list. Bidders who have completed three or more public works projects and have had a Washington business license for at least three years are exempt from the requirement. This will help with competition from out of state contractors.

Some important bills on apprenticeships passed this year. HB 1849 says general contractors may not require subcontractors to exceed their proportional apprenticeship utilization requirements in their contracts. It also requires the awarding agency to monitor contractor and subcontractor apprenticeship hours and report noncompliance to LNI. HB 2685 will promote registered pre-apprenticeship opportunities to high school students. SB 6126 will, for the first time, require formal apprenticeship training to become a 01 electrician.

Employment issues

Reflecting the growing concern over sexual harassment, the Legislature passed two laws on the subject. SB 5996 prohibits an employer from requiring an employee to sign a nondisclosure agreement dealing with sexual harassment or sexual assault as a condition of employment. SB 6471 convenes a work group that will develop model politics and best practices for employers concerning sexual harassment.

After several years of trying, the Legislature passed a landmark bill in the employment arena—the Equal Pay Act. HB 1506

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NEW PAID LEAVE ENTITLEMENTS: ARE YOU IN COMPLIANCE?

State law now requires all Washington employers to provide paid sick and safe leave for all non-exempt employees. This new entitlement was passed by voter initiative in 2016 and is codified at RCW 49.46.200-.210, making it part of Washington's Minimum Wage Act. The law took effect on January 1, 2018.

Unlike many other employee protections, this law does not exclude employees covered by a collective bargaining agreement. Unionized employees are accordingly entitled to the same paid sick leave as their non-unionized counterparts, and the employer – not the union – is responsible to provide these entitlements.

While the law is relatively short, the Washington State Department of Labor & Industries has issued a series of regulations and sample policies. As a general overview, the combined law and regulations provide the following.

- **Accrual:** Employees accrue at least one hour of paid leave for every 40 hours worked. There is no cap on accrual, and employees must accrue paid leave for all hours worked.
- **Usage:** Employees can begin using their accrued paid leave on the 90th calendar day after the start of their employment. Once eligible, employees may use leave for:
 - › Mental/physical illness, injury, or health condition of the employee or an employee's family member (including preventative medical care and treatment);
 - › Closure of an employee's place of business or the school/place of care for an employee's child when that closure is ordered by a public official for any health-related reason;
 - › Absences that qualify for leave under Washington's Domestic Violence Leave Act.
- **Cap & Carryover:** There is no cap on the amount of accrued paid leave an employee can use. Any accrued and unused leave available to an employee must be carried over to the following year, but the amount carried over can be limited to 40 hours. Leave accrued in the following year is in addition to the hours carried over.
- **Payment:** Employees shall be paid their normal hourly compensation when taking paid leave.
- **Notification:** Employers must notify employees that they are entitled to paid leave, the rate at which paid leave will be paid, the authorized purposes for using paid leave, and a reminder that retaliation is prohibited against employees using paid leave. For existing employees, notice must be provided no later than March 1, 2018. For new employees, notice must be given when hired. Employers must also provide ongoing (at



By / Karen Galipeau Forner

least monthly) notification of an employee's accrued leave, amount used since the last notice, and the total amount of paid leave available to the employee.

- **Reinstatement:** If an employee is rehired by the same employer within 12 months, the employee's unused paid sick leave must be reinstated. While not required, an employer can avoid the reinstatement obligation if it pays out unused leave at separation.

The law gives employers some options in creating their own paid leave practices, but in most cases, the law requires employers to publish its particular policy so that it is easily accessible to employees. For example, employers may require employees to give reasonable notice for planned and unplanned absences but only if the employer publishes a written policy or collective bargaining agreement outlining the notice requirements. The same option applies to employers that want an employee to verify any absences exceeding three consecutive days. The law gives employers choices in other aspects like frontloading leave, universal PTO policies, shared leave programs, and third party administrators.

Cities like Seattle, Tacoma, and SeaTac already have paid sick and safe leave laws in effect. These laws still apply, so employers located in these cities or who employ workers within these cities will have to compare both local and state law and apply the portion of the law that is more favorable to the employee. In Seattle, for example, employees who work for large employers (250+ employees) accrue paid leave at the higher rate of one hour for every 30 hours worked.

Washington's new law is a good reminder that employment law and regulations rapidly change in Washington. Employers are wise to frequently review and update their employee policies and manuals to avoid regulatory investigations or employee litigation. ■

Karen Galipeau Forner is the founder and managing member of K-Solutions Law in Bellevue, Washington. Karen represents employers in the areas of workplace safety, workers' compensation, administrative appeals, and employment law. She

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TURNING VANES

Turning vanes in HVAC ductwork are perhaps one of the greatest sources of conflict between sheet metal contractors and HVAC engineers. Why? Because many mechanical/sheet metal contractors believe turning vanes can cause the ductwork to become less efficient by increasing the pressure drop in the system and by adding expense and time to the installation. This belief seems to be based on simple logic: when there is more surface area exposed to the airflow, the amount of friction will be increased, and the harder the fan must work to achieve the required airflow.

In some cases where the HVAC system is having difficulty supplying the required volume to all zones, contractors want to recommend the removal of every second turning vane to reduce the friction in the duct. This practice is in violation of SMACNA turning vane spacing requirements, because it decreases the uniformity of the airflow and increases system pressure drop. The real question is, does reality match up with popular beliefs?

When there is a change in direction in a duct that has no turning vanes, the duct walls must absorb the sudden impact of the air in order to re-direct the airflow to the desired direction. Turning vanes assist the airflow in making a smoother and more gradual change in direction, thus transferring less impact and less force to the duct walls. While the turning vane surfaces do add a small amount of friction, the amount of energy lost to friction from the vanes is very little compared to the energy lost in the impact resulting from the airflow taking an abrupt change in direction. Figures 1(a) and 1(b) show the airflow resistance that occurs in a 90 degree elbow with and without turning vanes.

Figure 1a: Inefficient (height/width = 1.0)

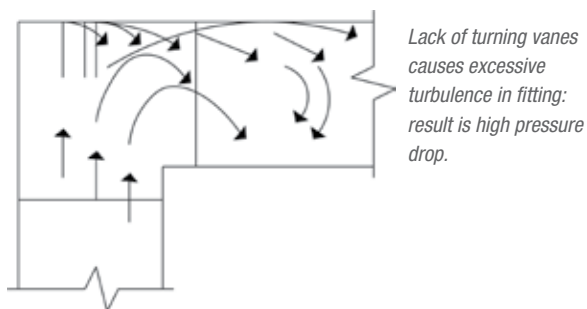
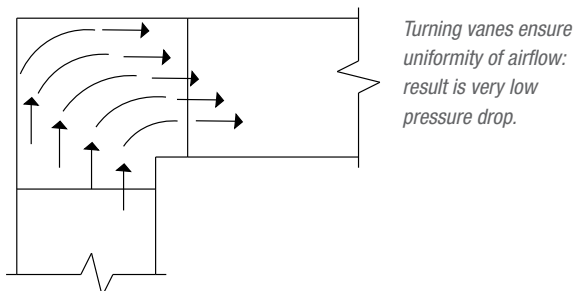


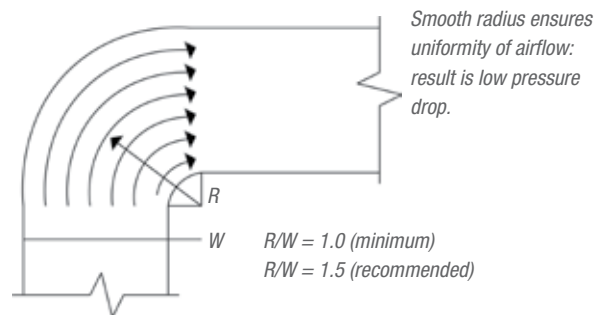
Figure 1b: Efficient (height/width = 1.0)



By / Norm Grusnick, P. Eng.
Commercial products manager, ECCO Supply

From these figures it can be seen that the elbow with turning vanes is much more effective than the same elbow without the vanes. If the client desires a less expensive installation, the design engineer may specify a radius elbow without turning vanes. A radius elbow is still highly effective but with a recommended 1.5 center line radius it occupies a lot more space. Figure 1(c) shows a radius elbow.

Figure 1c: Efficient (height/width = 1.0)



In all cases above it can be seen that as the airflow changes direction more gradually, the fitting pressure drop decreases and with it the energy required by the system fan to supply the desired airflow volume.

Turning vanes are proven very valuable for reducing pressure losses and increasing system efficiencies. Designers should always specify fittings with the highest possible efficiency to increase system efficiency at every available opportunity. Contractors should never take it upon themselves to add or remove turning vanes from the engineer's design. ■

References

American Society of Heating, Refrigeration, and Air-Conditioning Engineers Inc. (ASHRAE) *2017 ASHRAE Handbook-Fundamentals*

Sheet Metal and Air Conditioning Contractors National Association Inc. (SMACNA) *HVAC Duct Construction Standard-Metal and Flexible Third Edition 2005.*

LEGISLATIVE UPDATE

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prohibits discrimination in “similarly employed” jobs and in career advancement opportunities based on gender. This is the first time the state wage law has been updated many decades. Although several changes were made to the bill, many businesses still opposed the bill because of the four-year look back and other enforcement provisions.

HB 1298 is another law that has been around a number of sessions and passed this year. It would prohibit an employer from including any question on an application or inquiring into an applicant's criminal background until after the employer initially determines that the applicant is otherwise qualified for the position (meets the basic criteria for the position as advertised or as listed in the job description). Advertisements for job openings cannot exclude people with criminal records from applying. Once the employer has initially determined the applicant is otherwise qualified, the employer may ask about or obtain information about criminal records. SMACNA contractors who need workers eligible to go into facilities that restrict persons with criminal backgrounds can use the second part of the hiring process to screen for this requirement.

If you have questions about any of these new laws, please contact the SMACNA offices. ■

SMACNA will keep you updated on legislative issues as they evolve during session. If you have questions, please contact the SMACNA office.

IT'S THE LAW

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is a frequent presenter at continuing legal education seminars and to employer groups. Karen has over 25 years' experience defending and resolving a wide range of workers' compensation, WISHA, and employment law matters. Prior to starting K-Solutions Law, Karen worked as senior attorney at a law firm in Seattle and for the Washington State Attorney General's Office. She was the Program Advisor for the Industrial Insurance and Washington Industrial Safety and Health Act (WISHA) Discrimination Programs for more than 10 years and the Program Advisor for the Workers' Compensation Sren also litigated complex WISHA, Industrial Insurance, Third Party, and Crime Victims Compensation Act cases. She recently served on the Washington State Bar Association Character and Fitness Board.

INDUSTRY NEWS

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JOHNS MANVILLE LAUNCHES THE SOURCE: NEW EDUCATIONAL PORTAL

Johns Manville has launched The Source, an online resource designed to help professionals in the mechanical, HVAC, and industrial insulation industries stay up to speed on the latest information. It is a resource built specifically to aid in professional development, and it houses JM’s webinars, product specifications, blogs, and more.

The three portals of The Source (mechanical, HVAC, and industrial) house content that is unique to each industry. There are up to six content categories available on The Source: webinars, specifications, blog, tools, products, and online training. As Johns Manville is focused on bridging the knowledge gap and contributing to the education of engineers, specifiers, contractors, and facility owners, these resources deliver highly relevant topics, including the latest research results, codes and standards, and product information.

The Source is a versatile tool that can be instrumental in educating the up-and- comers in the industry. For more information, or to sign up to receive updates about the blog and webinars, please visit <http://www.jm.com/the-source/>. ■

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