



Darlene's Photo - Women's Day 2018, 737Project, Zhoushan, China

## Special Lecture International Women's Day – March 8, 2021

Prof. Darlene Septelka  
CM 250 – Construction and Culture

# Introduction

- ❑ Welcome
- ❑ What is IWD
- ❑ The Masked Builder Unveiled
- ❑ Women in Construction: The State of the Industry in 2021
- ❑ Open Discussion



Darlene's Photo - Women's Day 2019, 737Project, Zhoushan, China

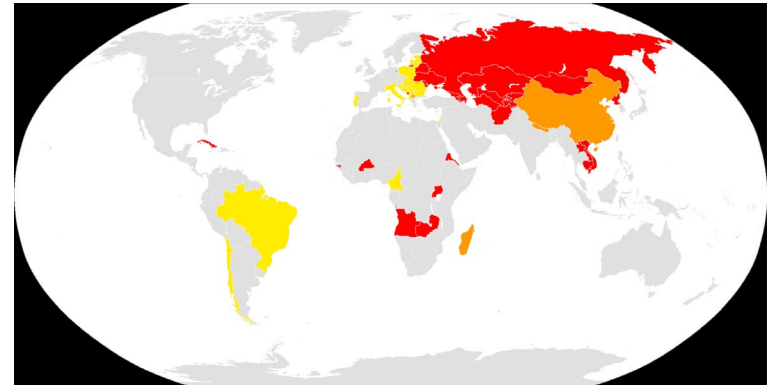
# About International Women's Day

- International Women's Day is a global day celebrating the social, economic, cultural and political achievements of women.
- The day also marks a call to action for accelerating gender parity.
- Marked annually on **March 8th**, International Women's Day (IWD) is one of the most important days of the year to:
  - ▣ celebrate women's achievements
  - ▣ raise awareness about women's equality
  - ▣ lobby for accelerated gender parity
  - ▣ fundraise for female-focused charities

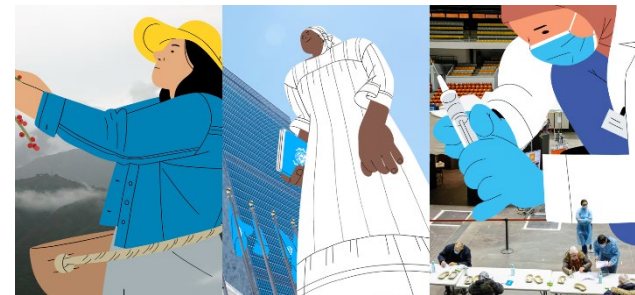


# History of International Women's Day

- International Women's Day (IWD) grew out of efforts in the early 20th century to promote women's rights, especially suffrage.
- **1900's US**
  - Great unrest and critical debate was occurring amongst women. Women's oppression and inequality was spurring women to become more vocal and active in campaigning for change.
  - In 1908 - 15,000 women marched through New York City demanding shorter hours, better pay and voting rights.
  - In 1909 - its campaign for female enfranchisement the first National Woman's Day was held, which was highlighted by mass meetings across the United States; the day was observed until 1913.
  - 1911 'Triangle Fire' in New York City took the lives of more than 140 working women, most of them immigrants.
    - This disastrous event drew significant attention to working conditions and labor legislation in the United States that became a focus of subsequent International Women's Day events.
    - 1911 also saw women's Bread and Roses campaign which lead to strikes for working conditions and voting rights.
- **1910 Copenhagen**
  - A conference in Copenhagen was held with over 100 women from 17 countries, representing unions, socialist parties, working women's clubs approved the formation of International Women's Day.
- **1975**
  - International Women's Day was celebrated for the first time by the United Nations in 1975.
- **2021**
  - Today, IWD belongs to all groups collectively everywhere. IWD is not country, group or organization specific.



Official holiday | Holiday for women | Non-official holiday



UN 2021 Theme - Women in leadership: Achieving an equal future in a COVID-19 world



***"We need women's representation that reflects all women and girls in all their diversity and abilities, and across all cultural, social, economic and political situations. This is the only way we will get real societal change that incorporates women in decision-making as equals and benefits us all."***

*UN Women Executive Director Phumzile Mlambo-Ngcuka - International Women's Day (8 March 2021)*



# The Masked Builder



# The Call and The Challenge

- The Call and The Challenge sculpture by Ken Spiering in Riverpoint Park in Spokane was erected in 1986 to commemorate Sacred Heart Medical Center's 100th year anniversary.
- The piece depicts **Mother Joseph**, a Sister of Providence, laying bricks.



# Who is Mother Joseph?



- ❑ 16 April 1823 – 19 January 1902
- ❑ She was born **Esther Pariseau**
- ❑ She learned carpenter from her father, a carriage maker
- ❑ At 20 she joined the convent in Montreal, Canada
- ❑ Arrived in the Pacific NW in December 1856
- ❑ She designed and supervised construction of Providence Academy completed in 1874

Video – Student National History Day Competition Documentary by Junni Nuzzi

[Mother Joseph; Washington's first Architect and the story of Providence NHD Project by Olivia Nuzzi - YouTube](https://youtu.be/8oxkh9ISv0o)

Video: <https://youtu.be/8oxkh9ISv0o>



# The Design-Builder

- ❑ Mother Joseph was named treasurer, with responsibility for construction of all the sisters' buildings in the region.
- ❑ In this ministry over the next 25 years, she traveled thousands of miles by horseback, steamer, stagecoach, and rail to establish additional schools and hospitals and beg for the funds to support them.
- ❑ Popular stories about Mother Joseph on the construction sites abound, painting a vivid image of this spirited and gifted woman.
- ❑ One can well imagine her bouncing on wooden beams to test their strength, climbing up to inspect a roof, or working late into the night to rebuild a poorly made chimney.
- ❑ She was a knowledgeable and demanding supervisor, expecting perfection from both herself and those with whom she worked.
- ❑ Building design, property selection, negotiating with civic and church leaders, overseeing the laborers—Mother Joseph managed them all.
- ❑ Her finest building, Providence Academy in Vancouver, built in 1873, still stands as a testament to her aesthetic vision and workmanship.



Providence Academy, Vancouver WA completed in 1874 - School, orphanage, and governance offices for the Sisters - Georgian Revival, typical of the NW time period

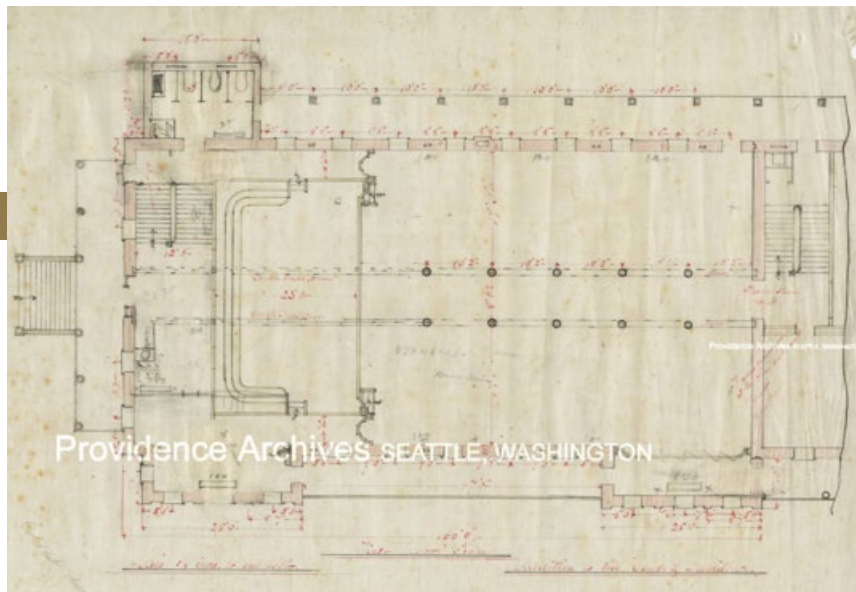


**Providence Hospital – 1883**  
Destroyed 1911, Seattle, Washington



**Sacred Heart Hospital - 1886**  
.Spokane, WA

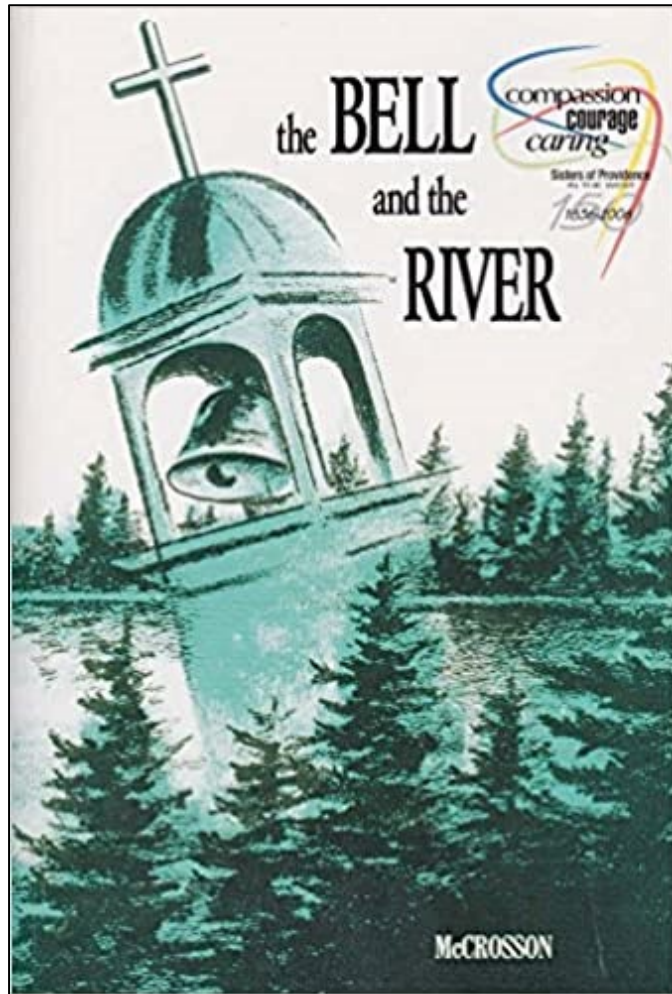
***Clad in habit, with hammer and saw in hand, she personally supervised the construction, sometimes ripping out faulty workmanship and redoing it herself.***



- ❑ In 1953 the American Institute of Architects named Mother Joseph “the first architect of the Pacific Northwest
- ❑ The West Coast Lumbermen’s Association recognized her as “the first White artisan to work with wood in the Pacific Northwest.
- ❑ On 1 May 1980, in the Capitol in Washington, D.C., a statue of Mother Joseph was unveiled in National Statuary Hall, in Washington, D.C.
- ❑ There is also a statue of her in the Washington State capitol in Olympia.



# Further Reading



## STORMING THE OLD BOYS' CITADEL

TWO PIONEER WOMEN ARCHITECTS  
OF NINETEENTH CENTURY NORTH AMERICA



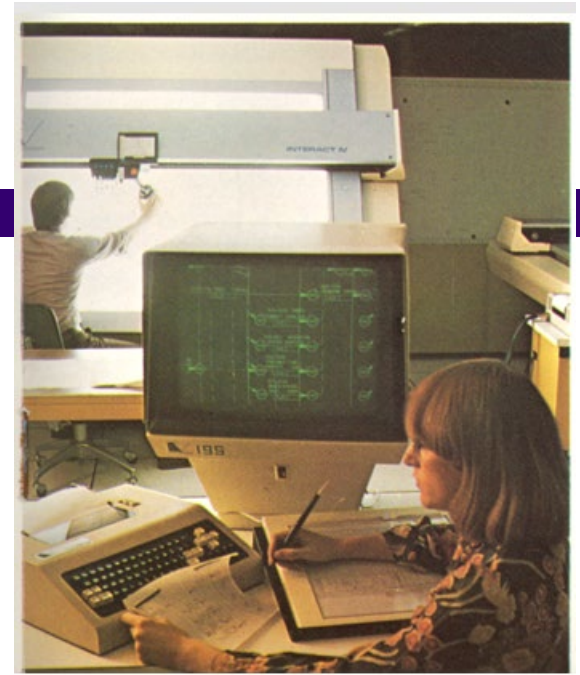
Carla Blank and Tania Martin

[Storming the old boys' citadel : two pioneer women architects of nineteenth century North America - University of Washington \(exlibrisgroup.com\)](http://exlibrisgroup.com)



# Construction Industry

- ❑ When you think of an industry dominated by men, construction might be one of the first that comes to mind.
- ❑ Historically, women have been confined primarily to **clerical roles** in the construction industry.
- ❑ When women first began entering the construction industry, they typically worked in offices doing paperwork or answering phones.
- ❑ Rarely were women seen on-site, handling materials or doing hard labor.
- ❑ **What is the percentage of women in construction?**



Darlene's Photo - 1975, Testing 1<sup>st</sup> Generation CAD, Stone & Webster



Darlene's Photo - 1977, McGuire Nuclear Station Construction Project

# How are we doing?

- ❑ In 1978, the Department of Labor laid out a 12 year vision for the year 2000 where women would makeup 25% of the construction workforce, and they declared the construction industry would no longer be considered a nontraditional career for women
- ❑ In 1999, based on my research, I estimated this would not happen to 2043
- ❑ My article was a call for action to academia and industry to address gender diversity in construction
- ❑ Today, 22 years after my article, 48 years later from DOL prediction, in 2020, construction overall is at 10.9%.
- ❑ Today in our UW CM is at 22% women, in 1999 my research showed women enrollment in CM program was only 9% (2018 is 9-15%)
- ❑ Is my past estimate possible?
  - Overall, (2016-9.1%, 5y growth of 1.8%) - so now 2060?????
  - UW CM, we are on good pace to reach 25%, but overall all universities is still 9-15%

  
DAILY JOURNAL OF COMMERCE  
51.25  
Thursday, September 2, 1999

## Schools failing to attract women into construction

◆ *Construction management programs have not experienced growth in women's enrollment over the last 30 years like many other non-traditional professional degree programs.*

By DARLENE SEPTELKA  
Special to the Journal

The recent construction boom, along with the aging work force, has contributed to a labor shortage that has helped open some doors for women to enter construction. Many of these women are employed in management positions and are running construction projects, but still not enough women are involved in the industry to meet the current demands for qualified women construction managers.

As a source for hiring trained managers, many construction companies are turning to college construction management programs to help fill their employment needs. These recruiters are actively looking for women graduates, along with men, to meet their current employment shortages and potential company growth.

There are over 94 universities in the United States that offer construction management or construction engineering as an undergraduate college degree program. Many of these programs have been in existence for over 30 years. With such a high demand for construction management graduates, most seniors have secured a job before they graduate, many of them receiving several offers.

However, women comprise only nine percent of students enrolled in construction management as a degree program, according to a study prepared in March 1999 by Washington State University that was presented at the 35th Annual Associated Schools of Construction Conference in April.

This study also showed that the enrollment of female students has only grown 4 percent over the last 10 years. Construction management programs have not experienced a

growth in women enrollment over the last 30 years like many other non-traditional professional degree programs.

For instance, the Women's Educational Equity Act Equity Resource Center's 1999 Fact Sheet on Women's and Girl's Educational Equity shows that over the past 25 years, women graduating in dentistry increased 26 percent, in medicine 31 percent, and in law 34 percent. These programs are no longer considered a non-traditional career for women.

For other construction-related programs, the percentage rate of women graduating in 1996 with a bachelor's degree in civil engineer was 19 percent, and 30 percent for women graduating with a bachelor's degree in architecture, according to the U.S. Department of Education, Office of Educational Research and Improvement's Digest of Education Statistics 1996.

The DOE's report did not even identify construction management as a higher degree. Although it did have a "construction trades category" reporting a percentage rate of 5 percent for women graduating in 1996 with a bachelor's degree.

In 1978, Department of Labor blueprint that by the year 2000 women would make up 25 percent of the construction workforce, and the construction industry would no longer be considered a nontraditional career for women. At a 25 percent enrollment rate, construction management would no longer be considered a nontraditional program for women.

However, at the current rate of growth, this would not happen until the year 2043.

The industry is underutilizing a potential segment of the workforce. Faced with the current workforce crisis industry can not afford to

overlook this potential segment. Things need to change at a faster rate than they have been. Academia and industry need to look at what can be done to increase women enrollment in construction management programs.

Paula Johnson, a project manager for Turner Construction Co.'s Special Project Division in Seattle and a 1998 graduate from Washington State University's Construction Management Program, says there are many opportunities for women after they graduate.

Johnson believes that most women when considering a career choice are not aware of the opportunities available to them in pursuing a degree in construction management.

The other issue is image.

"The image of construction as a good old boy's club still exists," Johnson said. In fact, the WEEA's 1999 Fact Sheet states that, "gender stereotypes about careers still limit girls' interest and participation in career options."

Johnson said that women who are working in the industry need to get the word out, because "no one else is going to do it."

Getting involved in the community and talking to high school and elementary school girls is one way to draw more young women to the field, as good women role models are needed for girls to identify that a career in construction is a possibility.

Johnson also suggested that women who are working in construction need to get involved in industry and professional organizations. Getting involved means to volunteer for committees and run for offices.

On the other hand, industry also needs to make a commitment to the women that are currently in the industry. Promoting more women to upper management and corporate positions and electing them to responsible positions in industry organizations will help change perceptions that construction is for

"good old boys."

Universities also need to work on promoting their construction management programs and make high school and college student aware of construction careers possibilities when making career and program choices.

Most students, both male and female, do not know that construction management is a college program and consider construction as a non-professional or a trade career choice.

Nor are students aware of professional construction or project management opportunities. The current job offer for a graduating construction management senior can range from \$35,000 to \$45,000 depending on the company's location within Washington state. Most students have multiple offers with women students being in high demand. The employment prospects are better or equal to most undergraduate programs.

Also, universities need to work on recruiting more women construction management professors as teachers to help provide women role models for both male and female students.

The WSU study reported that the current percentage rate of women teaching in construction management programs is only at 6 percent. More female instructor will help dispel the notion that construction is for males only.

Finally, funding needs to be made available in the forms of grants and research dollars for the development of programs that will help educate elementary and high school student about the industry as well as promoting an interest in construction from females and other minorities.

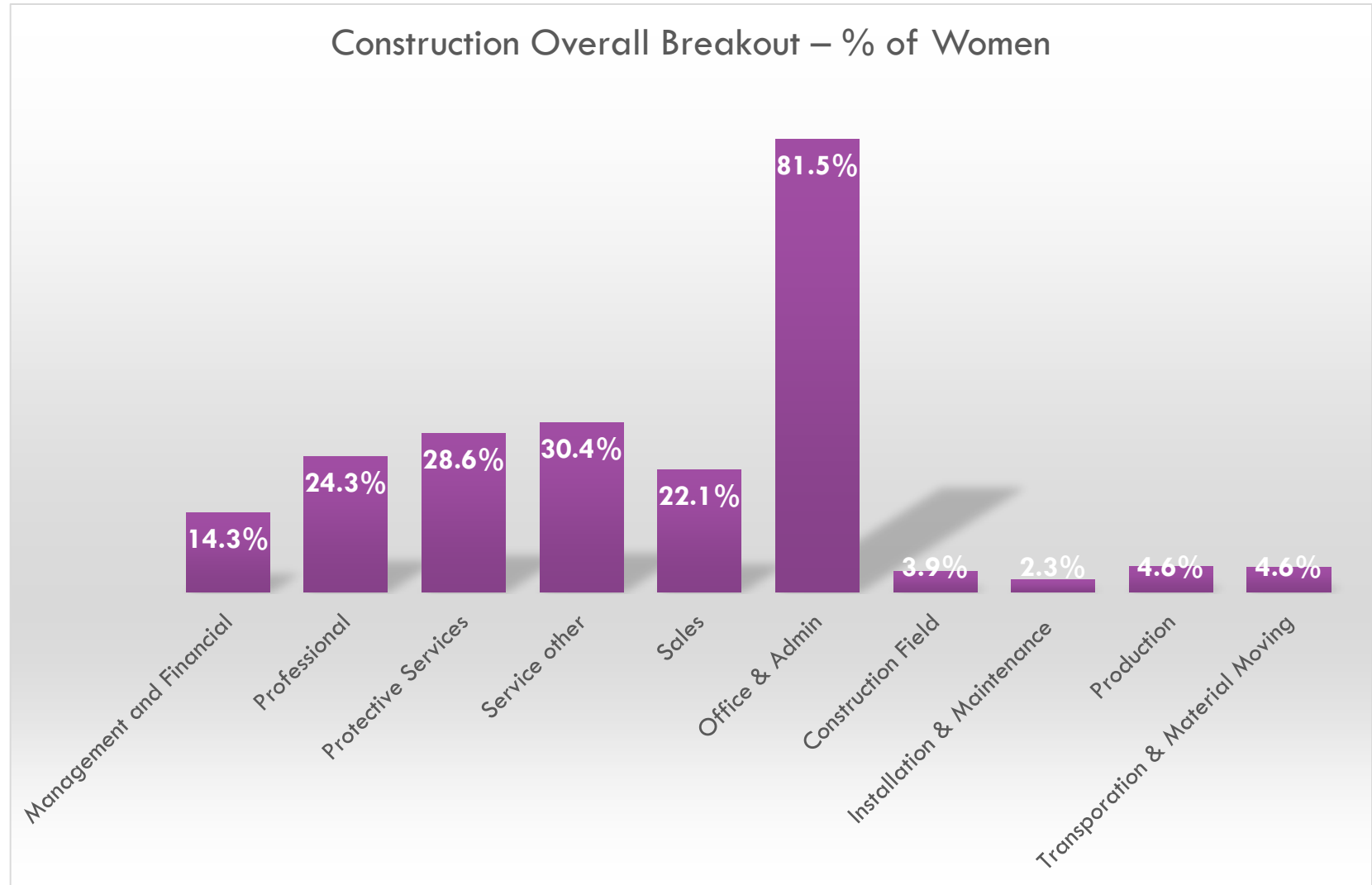
Some organizations have provided some funding for elementary education programs, but little research has been done on their impact in changing the perception of the industry in the minds of women and actually increasing female enrollment in college construction programs.

Darlene Septelka is an assistant professor and construction management coordinator for Washington State University at Spokane School of Architecture and Construction Management Interdisciplinary Design Institute.

**Table 318.30. Bachelor's, master's, and doctor's degrees conferred by postsecondary institutions, by sex of student and discipline division: 2017-18**

	<b>%Women</b>
<b>Architecture and related services</b> .....	47.1%
Architecture .....	46.3%
City/urban, community and regional planning .....	40.4%
Environmental design/architecture .....	44.7%
Interior architecture .....	91.1%
Landscape architecture .....	45.3%
Architectural history and criticism, general .....	52.5%
Architectural technology/technician .....	39.8%
Architectural and building sciences/technology .....	41.7%
Real estate development .....	18.3%
Architecture and related services, other .....	51.4%
<b>Business, management, marketing, and personal and culinary services</b> .....	47.0%
Project management .....	39.9%
Construction management .....	9.6%
<b>Engineering and engineering technologies</b> .....	21.0%
Engineering .....	22.2%
Engineering, general .....	24.2%
Pre-engineering .....	18.5%
Architectural engineering .....	34.4%
Civil engineering, general .....	25.5%
Structural engineering .....	25.0%
Civil engineering, other .....	22.2%
Construction engineering .....	15.0%
Industrial engineering .....	33.1%
Manufacturing engineering .....	15.1%
<b>Engineering technologies/construction trades/mechanics and repairers</b> .....	12.8%
Engineering technologies and engineering-related fields .....	13.0%
Engineering technology, general .....	9.5%
Architectural engineering technology/technician .....	17.8%
Civil engineering technology/technician .....	12.5%
Construction engineering technology/technician .....	9.9%
<b>Construction trades</b> .....	13.9%
Building/construction site management/manager .....	13.9%

# Overall % Breakdown of Construction by Job Areas



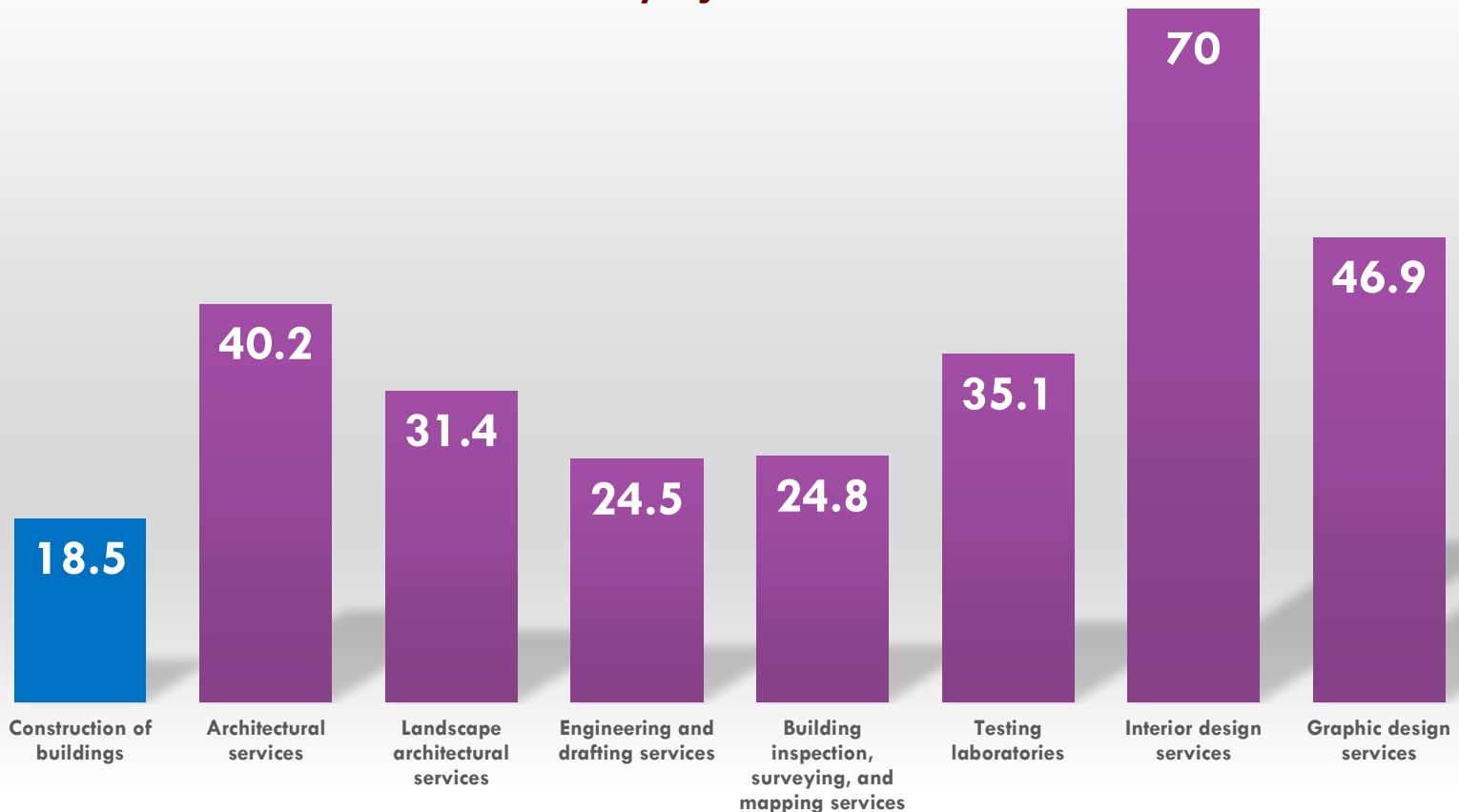
Note Dec 2020 - Overall Construction Industry Women Represented 13% of the Workforce



# Percentage of Women in BE Industries/Professional Firms

As of Dec 2020 – Women % of All Employees

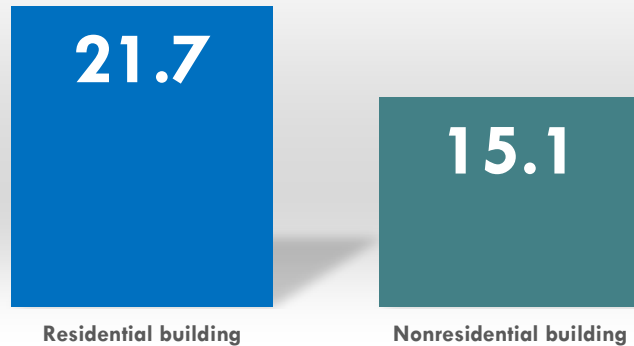
**Table B-5b. Employment of women on nonfarm payrolls by industry sector, not seasonally adjusted**



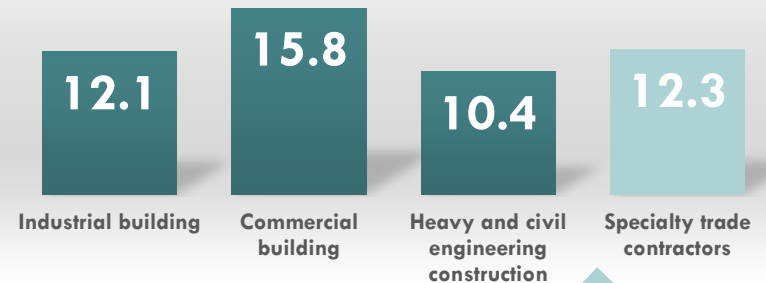
Overall Construction Industry was 13%

# Percentage of Women in the Construction Industry

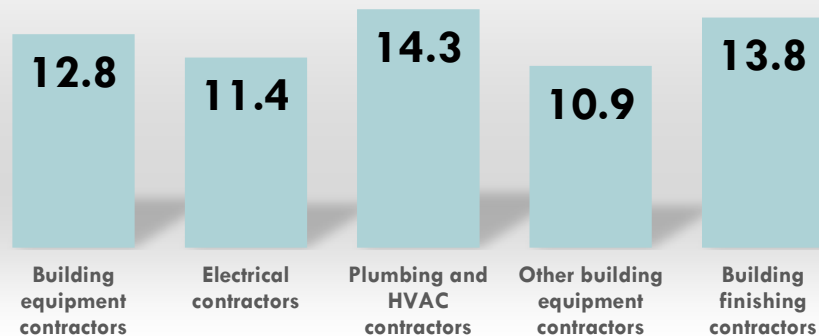
Percentage of Women as of Dec 2020



Non-Residential - % of Women as of Dec 2020

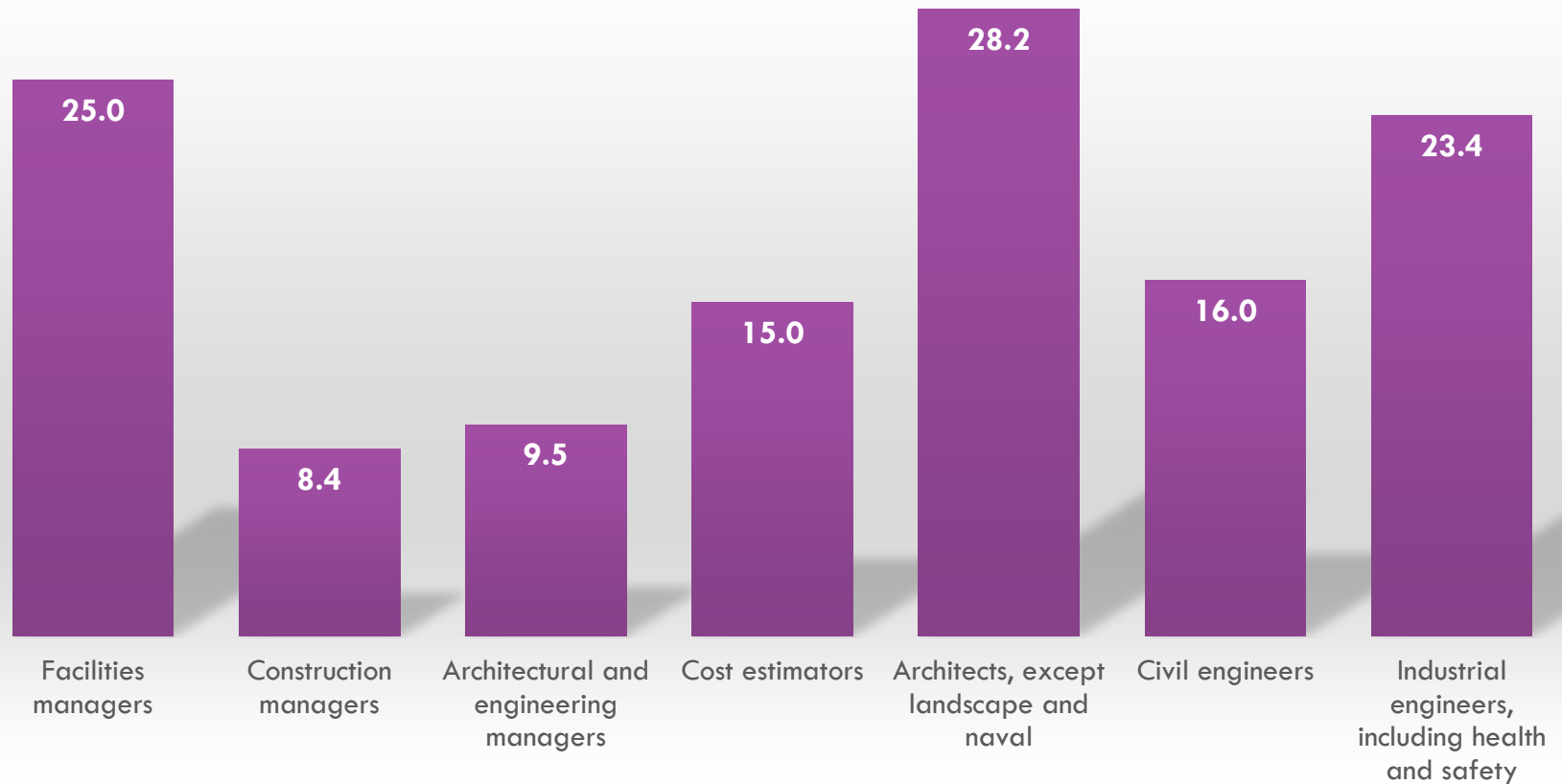


Subcontractor - % of Women as of Dec 2020



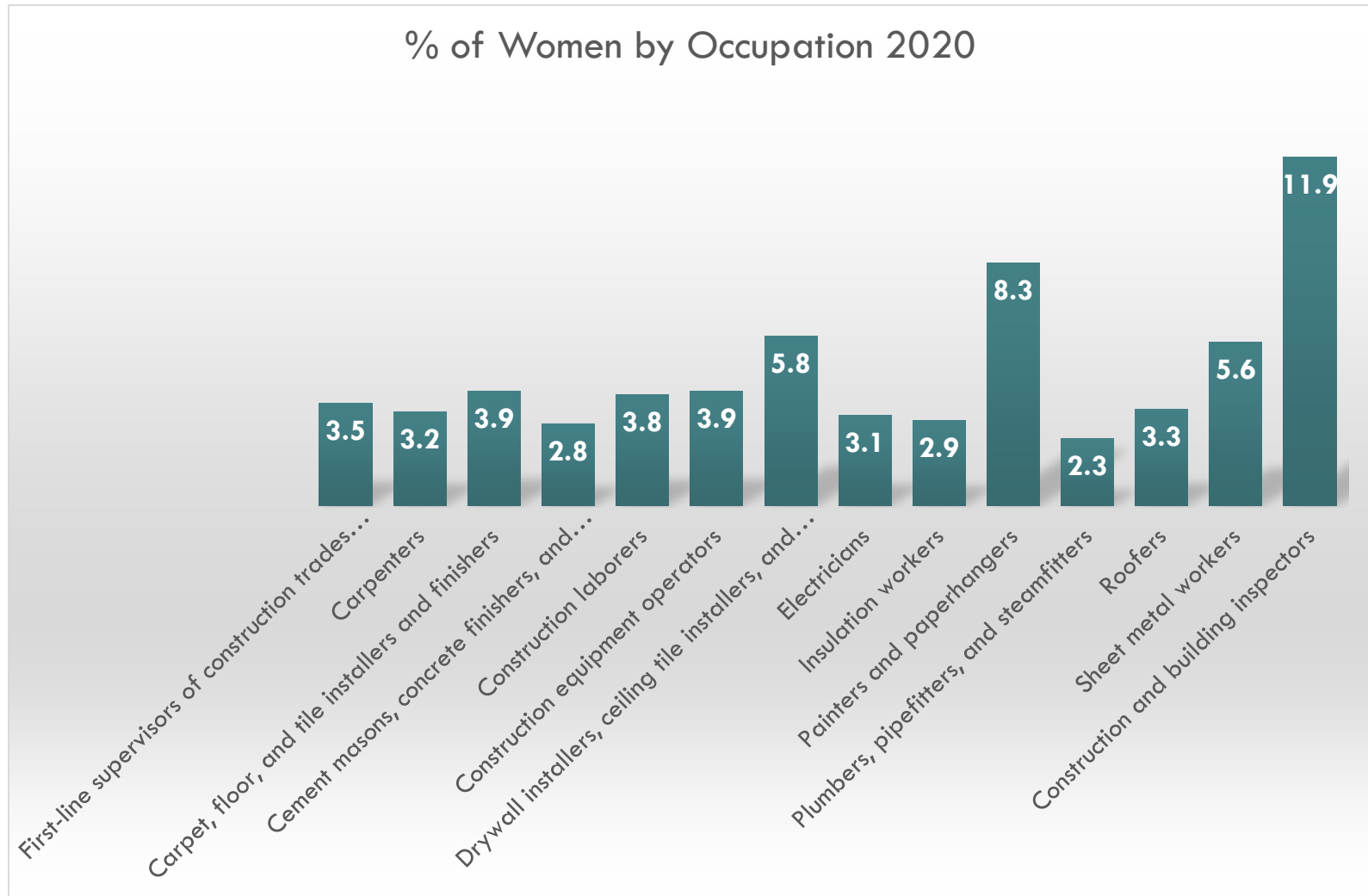
# Overall Women in BE Professional Occupations

% of Women by Occupation 2020



# Overall Women in Field Occupations

## 4% in 2020





# Women in Construction: The State of the Industry in 2021



Source: [Women in Construction: The State of the Industry in 2021 | BigRentz](#)

Date: January 19, 2021, Article by: Lior Zitzman, Big Rentz

# How Many Women Are in Construction?

Women make up **14% of staff executive positions** and **7% of line executives**



**86.7%**

are in office positions



**2.5%**

of tradespeople are women

Women represented about **10%** of the construction industry in 2019.

Of all the people working in construction, women comprise only [10.9 percent](#) in 2020. Even smaller is the number of women on the front lines of a job site—only one for every 100 employees in the field.

Considering that [women make up 47 percent](#) of all employed individuals, this means that the construction industry is only benefitting from about [1.25 percent of women in the workforce](#).

# Factor that explain the gender gap

- There are several factors that explain this enormous gender gap, from unconscious gender bias, to the lack of adequate training, to overall perceptions of women working in construction.
- Despite these barriers, women continue to build their path in the construction industry.
- According to [Randstad](#), nearly one-third of companies promoted a woman to a senior position in 2018.
- As new construction projects are expected to stabilize and return to low growth in 2021, and [new construction industry jobs](#) are expected to balloon by almost 2 million in 2022, companies are looking to recruit more women than ever before to bring their skill sets into the field.

# Jobs Held by Women

Nearly 1 in 3 companies **promoted women to senior roles** in 2018



**45%**  
Sales & Office



**31%**  
Management



**21%**  
Construction  
& Maintenance



**1.5%**  
Service Occupations



**1.4%**  
Transportation

**76%** of women in construction jobs **work off-site.**



# Women-Owned Firms

**13% of constructions firms** are owned by women



**64% growth**

in women owners from  
2014 to 2019



**9%**

of women-owned firms achieved  
revenues greater than \$500,000

**4% of new construction firms** were launched by women last year.

## Leadership Breakdown

Industry-wide, women comprised **7.5% of all construction managers** in 2019.

**44%**

of the top 100 contracting companies have women in **executive** roles.

**16%**

employ women in **C-level positions. 2 of them** are **CEOs**.

## Time as Leaders

While women have led the board for many years, there are growing numbers of **women managers in the field**.

## Time as Leaders

While women have led the board for many years, there are growing numbers of **women managers in the field**.

### Construction Managers



**5.4 YEARS**  
average time in role



**38%** have held their role for less than a year.

### C-Level Executives



**7 YEARS**  
average time in role



**53%** have held their role for less than a year.

The average tenure of women leaders in the industry is **15 years**.

# Obstacles Women Face



## PAY GAP

**43%** of organizations do not actively monitor gender pay gaps.



## ADVANCEMENT

**73%** of women feel passed over for roles because of their gender.



## INJURY

Women have a **higher risk** of workplace injury due to poorly-fitted equipment.



## DISCRIMINATION

**60%** of gender discrimination victims in the workplace are women.



## EXCLUSION

**8 out of 10** women feel left out at company social events.



## ROLE MODELS

**47%** of women have never worked with a manager who is a woman.

# Inspiration from Women in Construction



*To be productive, people have to feel included.*

**Katie Coulson**  
**Vice President, Skanska**

An account manager for large projects and mentor to both women and men in diverse teams.



*People tend to respect older male counterparts. I overcame that hurdle because I was patient and showed them I was chosen for this role for a reason.*

**Jennifer Vides**  
**Superintendent, Turner Construction**

A young professional who became a project superintendent at only 26 years old.



*If you can show them how great a woman can be, then they start thinking many women can be great.*

**Anna Jacobson**  
**Senior Preconstruction Manager, Morley Builders**

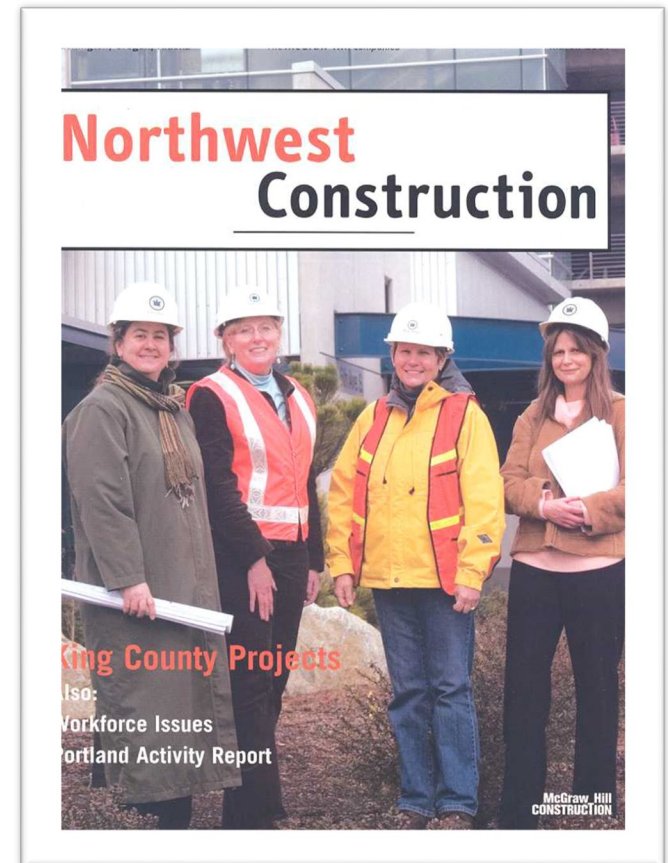
A 18-year field veteran, breast cancer survivor, and founder of a women's peer mentorship group for construction.





# Report's Conclusions

- The study shows that although women are still underrepresented, they are making significant progress as leaders in the industry.
- A substantial portion of women executives and construction managers entered those roles in the last 5 years, suggesting that companies are more recently promoting women to leadership roles.
- AEC companies and associations are increasing their efforts to promote women in their organizations and educate young women about the benefits of working in the industry.



2007 Cover of Northwest Construction Magazine,  
King County Women in construction – Darlene  
Brightwater Treatment Plant



# Learning Resources for Women in Construction

- To enter a competitive and dangerous field like construction, women have a multitude of resources available to them that address their specific needs in the industry:
- Women's Organizations provide mentorship, marketing and networking opportunities to help women who are new to the construction industry.
  - ▣ National Association of Women in Construction ([NAWIC](#))
  - ▣ [Women Construction Owners & Executives USA](#)

# Learning Resources for Women in Construction

- ❑ Construction Courses
  - ❑ Such as UW CM Program
  - ❑ [large construction companies](#) collaborate with the local community to offer courses and boot-camp programs for young girls and any women interested in the industry.
  - ❑ Apprenticeship programs that strive to recruit women, prepare them for exams, and train them with job-specific skills.
- ❑ Construction Forums and Conferences
  - ❑ A number of conferences are held to celebrate and discuss the topic of women in construction.
  - ❑ NAWIC's [Annual Conference](#) includes professionals seminars and workshops for women,
  - ❑ [Groundbreaking Women in Construction](#) conference provides management training and teaches women how to bridge pay gaps in their workplace.
- ❑ Industry Blogs
  - ❑ That aim to tackle issues of diversity, provide original research, highlight scholarship opportunities, and share personal stories and anecdotes.
  - ❑ [Constructing Equality](#)
  - ❑ [Tradeswomen](#)

# Diversity Drives Performance - Studies

- McKinsey and Co. - **Diversity Wins: How inclusion matters – May 2020**
  - Although more diverse representation in the construction industry isn't a reality today, a [report by McKinsey & Co.](#) reveals that **the most gender-diverse companies are 25 percent more likely to achieve above-average profitability than companies with less diversity.**
  - Report found that construction companies with more women in executive line roles than staff roles experienced **above-average financial performance compared to those companies that didn't.**
  - When 30 percent or more of executive-level positions were filled by women, those companies had a **48 percent likelihood of outperforming their least-diverse competitors.**
- Randstad UK – Women in Construction – The Race to Gender Equity 2019
  - [Randstad](#) found that women executives are more likely to occupy staff roles (14 percent) than line roles (7 percent).
  - This is in stark contrast to men in executive roles, with 33 percent operating as staff executives and 46 percent as line executives.

# #ChooseToChallenge

- ❑ IWD 2021 campaign theme: #ChooseToChallenge
- ❑ A challenged world is an alert world. Individually, we're all responsible for our own thoughts and actions - all day, every day.
- ❑ We can all choose to challenge and call out gender bias and inequality. We can all choose to seek out and celebrate women's achievements. Collectively, we can all help create an inclusive world.
- ❑ From challenge comes change, so let's all **choose to challenge**.
  - ❑ So, hand up high to show you're in
  - ❑ So **strike the #ChooseToChallenge pose** with your hand high to show your commitment to choose to challenge inequality, call out bias, question stereotypes, and help forge an inclusive world.

Powerful #ChooseToChallenge discussion starter



[Video IWD: IWD 2021 campaign theme: #ChooseToChallenge \(internationalwomensday.com\)](https://internationalwomensday.com)



# 2021 and beyond

- **Today – We can celebrate that great improvements have been made**
  - The world has witnessed a significant change and attitudinal shift in both women's and society's thoughts about women's equality.
  - With more women in the boardroom, greater equality in legislative rights, and an increased critical mass of women's visibility as impressive role models in every aspect of life, one could think that women have gained true equality.
  - We do have female astronauts, a US VP, and prime ministers, school girls are welcomed into university, women can work and have a family, women have real choices.
- **The Fact – There's no place for complacency!**
  - Some may feel that 'all the battles have been won for women, while many women from the 1970's know only too well the longevity and ingrained complexity of patriarchy.
  - The unfortunate facts:
    - Women are not paid equally to that of their male counterparts
    - Women still are not present in equal numbers in business or politics
    - Globally women's education, health and the violence against them is worse than that of men.
  - Sadly - According to the World Economic Forum none of us will see gender parity in our lifetimes, and nor likely will many of our children.
  - Gender parity will not be attained for almost a century.

# IWD Closing

- ❑ So make a difference, think globally and act locally!
- ❑ Make everyday International Women's Day.
- ❑ Do your bit to ensure that the future for girls is bright, equal, safe and rewarding.
- ❑ AEC companies are embracing diversity and working to close the gender gap.

***There has never been a better time to be a woman in construction!***



Darlene's Photo - 2017, 737 Project, Zhoushan, China



Darlene's Photo - 2019, 737 Project, Zhoushan, China

# US Bureau of Labor Statistics

## Occupation Outlook Handbook – Feb. 2021

- Employment of **construction managers is projected to grow 8 percent from 2019 to 2029**, much faster than the average for all occupations. Those with a bachelor's degree in construction science, construction management, or civil engineering, coupled with construction experience, should have the best job prospects.

Quick Facts: Construction Managers	
2019 Median Pay ?	\$95,260 per year \$45.80 per hour
Typical Entry-Level Education ?	Bachelor's degree
Work Experience in a Related Occupation ?	None
On-the-job Training ?	Moderate-term on-the-job training
Number of Jobs, 2019 ?	476,700
Job Outlook, 2019-29 ?	8% (Much faster than average)
Employment Change, 2019-29 ?	40,400

Quick Facts: Architects	
2019 Median Pay ?	\$80,750 per year \$38.82 per hour
Typical Entry-Level Education ?	Bachelor's degree
Work Experience in a Related Occupation ?	None
On-the-job Training ?	Internship/residency
Number of Jobs, 2019 ?	129,900
Job Outlook, 2019-29 ?	1% (Slower than average)
Employment Change, 2019-29 ?	1,100

Quick Facts: Civil Engineers	
2019 Median Pay ?	\$87,060 per year \$41.86 per hour
Typical Entry-Level Education ?	Bachelor's degree
Work Experience in a Related Occupation ?	None
On-the-job Training ?	None
Number of Jobs, 2019 ?	329,200
Job Outlook, 2019-29 ?	2% (Slower than average)
Employment Change, 2019-29 ?	5,500

# Discussion and Q&A

*The foundation for equality within our industry has been poured, and together we can construct a world built by men and women — working side by side.*





# Sources

- [McKinsey & Co.](#)
- [2](#)
- [Catalyst](#)
- [JLL](#)
- [Randstad](#)
- [JBKnowledge](#)
- [GWIC](#)
- [NAWIC](#)
- [WCOEUSA](#)
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