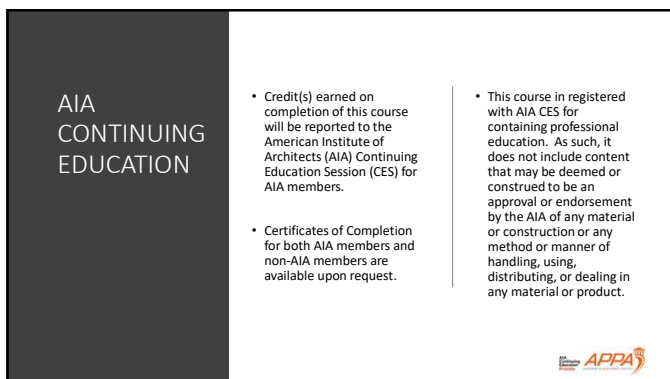




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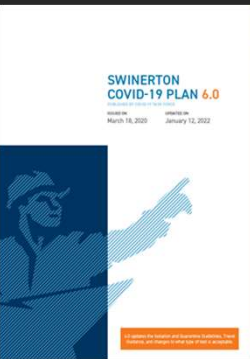


Setting the Stage

- Unprecedented disruptions to our lives
- The Pandemic
- Hybrid Work
- The Great Resignation
- Hyper-inflation



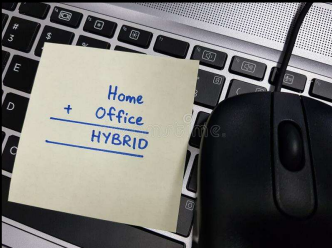
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The Pandemic


- Keeping staff safe
- Closing of campuses/offices
- Learning to work remote/virtual
- Keeping construction projects moving
- On-going challenges

5



Hybrid Work

- Flexibility
- Home School and After School
- Aging Parents
- Relocation



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The Great Resignation

- Over 40 million workers have left the workforce
- Multiple Reasons
 - Relocation
 - Remote work
 - Family Care
 - On-going concerns about the pandemic
 - Searching for satisfaction




7









Labor

- 2008
- Retiring baby boomers
- Different career dynamics
- Lower population and immigration
- The future workforce does not exist

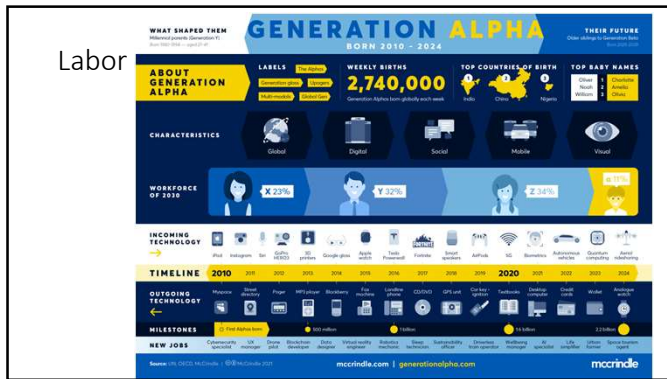


8

BUILDERS	BABY BOOMERS	GENERATION X	GENERATION Y	GENERATION Z	GENERATION α
<p>The generation that built the economy, infrastructure and industry after the Depression and WW2.</p> <p><i>We prefer proper English if you please!</i></p> <p> Born: < 1946 Age: 75+</p>	<p>The post-war baby boom that created an economic boom.</p> <p><i>Be cool! Peace! Groovy! Way out!</i></p> <p> Born: 1946-1964 Age: 56-74</p>	<p>Ironically named after Douglas Coupland's anti-ideal novel "iXt" - just call us X". Note: spans 15 years.</p> <p><i>Trust! Ace! Rad! As if! Wicked!</i></p> <p> Born: 1965-1979 Age: 41-55</p>	<p>The letter that followed X, also known as Millennium.</p> <p><i>Bling! Funky! (Duh!) Fashion! Whoopee!</i></p> <p> Born: 1980-1994 Age: 28-40</p>	<p>Following from Y, the end of an era and the end of a millennium.</p> <p><i>It's fun! boe! slay! (gasp quett!)</i></p> <p> Born: 1995-2009 Age: 11-25</p>	<p>Coined by McCrindle to define the start of a whole new era. Follows scientific naming (Greek alphabet).</p> <p><i>extra! far! yet! meta! GOAT!</i></p> <p> Born: 2010-2024 Age: under 11</p>
<p>World War II 1939-1945</p>	<p>Moon landing 1969</p>	<p>Stock market crash 1987</p>	<p>September 11 2001</p>	<p>GFC 2008</p>	<p>Trump / Brexit 2016</p>
<p>Model T Ford 1908, 1927</p>	<p>Ford Mustang 1964</p>	<p>Holden Commodore 1978</p>	<p>Toyota Prius 1997</p>	<p>Tesla Model S 2012</p>	<p>Autonomous vehicles 2020s</p>
<p>Roller skates</p>	<p>Frisbee</p>	<p>Rubik cube</p>	<p>BMX bike</p>	<p>Folding scooter</p>	<p>Fidget spinner</p>
<p>Record player LP, 1948</p>	<p>Audio cassette 1962</p>	<p>Walkman 1979</p>	<p>iPod 2001</p>	<p>Spotify 2008</p>	<p>Smart speakers Now</p>

9

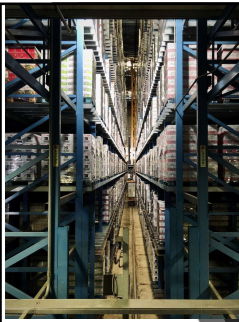
Labor



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Supply Chain & Logistics

- Significant disruptions to the world-wide supply chain
 - Business Bankruptcies
 - Industry Consolidation
- Raw Materials
- Manufacturing
- Engineering and Installation
- Travel/International Travel



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Hyper-Inflation

- **Construction Cost Index**
 - Q1 8.4%
 - Q2 8.5%
 - Q3 10.4%
- **Building Cost Index**
 - Q1 14.9%
 - Q2 15.3%
 - Q3 5.7%

Construction Cost Index

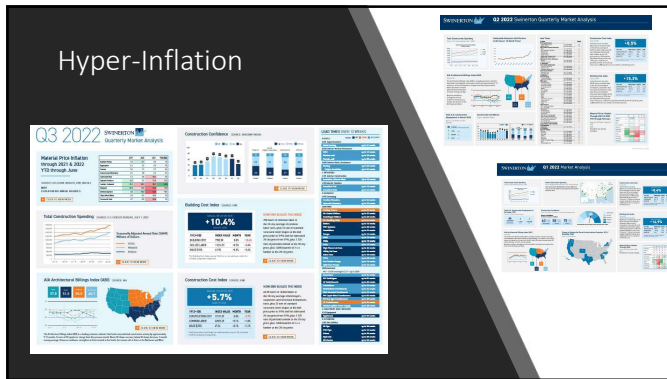
ENR: 200 hours of skilled labor at the 20-city average of Common labor rates plus 25 cwt of standard structural shapes at mill pricing, plus 1.128 tons of Portland cement, plus 1,088 board feet of lumber.

Building Cost Index

ENR: 69 hours of skilled labor at the 20-city average of Bricklayers, carpenters and iron workers, plus 25 cwt of standard structural shapes at mill pricing, plus 1.128 tons of Portland cement, plus 1,088 board feet of lumber.



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Group Discussion



- What are some of the strategies that you have used at your university to manage the disruptions to your construction projects?

APPA

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Procurement

- Owner Furnished/Contractor Installed (OFCI)
- Pre-purchase Long Lead Items
- Campus Standards
- Procurement Capabilities
- Piggyback Agreements

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Project Delivery

- Construction Manager/General Contractor (CMGC)
- Design-Build
 - Traditional Design-Build
 - Progressive Design-Build
- Program Management/Construction Management (PMCM)





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Contract Language

• "The Parties acknowledge and agree that, due to current extraordinary circumstances and market demands, there is the potential for material cost increases to various construction materials. Because of the unpredictable nature of such material shortages, price protection cannot be guaranteed for trades whose work includes the construction materials referenced herein. The construction materials affected include, but are not limited to all steel-related products, all wood-related products, concrete, petroleum related products, etc. Contractor has not included an escalation factor or contingency in the GMP. Contractor will use reasonable efforts to minimize any such price impacts; however, in the event the Cost of Work increases due to such material cost increase beyond Contractor's reasonable control, the Contract Sum shall be increased accordingly. In the event material (s) shortages impact the critical path schedule activities, Contractor is entitled to an extension of time."

TERMS AND CONDITIONS

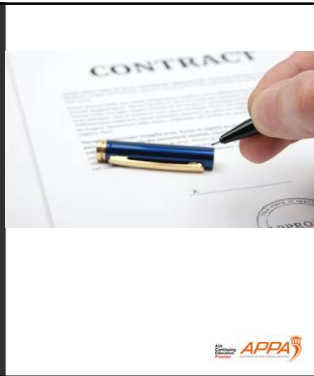
Agree 



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Contract Language

- "The GMP does include projected escalation and escalation allowances as indicated in the bid tallies. Any additional extraordinary escalation costs above or below these costs will be funded and/or refunded through Owner Contingency. "Extraordinary escalation" is defined as unforeseen escalation over 5% per year for this clarification. Reasonable escalation is included. According to the Department of General Services (DGS) California Construction Cost Index (CCCI), the Annual Percentage increase was less than 5% every year from 2011 through 2020."



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Final Thoughts

- Disruptions will continue
- Labor will continue to be a challenge
- Supply chain and logistics will be episodic
- Planning for construction is critical
- Need to find new and innovative ways to deliver projects




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AIA CONTINUING EDUCATION

- This concludes The American Institute of Architects Continuing Education Systems Course



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Thank you!

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