

# Event Session

## Climate Prepared Institutional and Commercial Properties: Protecting from Flooding and Extreme Heat

Date: September 12, 2024

**00:00:00 --> 00:00:01:** I'm David McHenry.

**00:00:01 --> 00:00:04:** I'm a partner at Dirty McHenry Architecture here in Philadelphia,

**00:00:04 --> 00:00:08:** and I also chair ULI, Philadelphia's Resilience Committee.

**00:00:09 --> 00:00:12:** We were formed about 3 years ago and since then

**00:00:12 --> 00:00:16:** we've posted multiple conversations about developing on the waterfront, how

**00:00:16 --> 00:00:21:** climate activities, changing our approach to programming public space.

**00:00:21 --> 00:00:25:** We also worked on a tap in Eastwick that you've

**00:00:25 --> 00:00:28:** heard a little bit about and we've got last year

**00:00:28 --> 00:00:32:** we did this, we collaborated with AIA and we're thrilled

**00:00:32 --> 00:00:36:** this year to have Greenville United and the Preservation Alliance

**00:00:36 --> 00:00:37:** along with us.

**00:00:40 --> 00:00:44:** I'd like to begin by thanking our keynote speakers, our

**00:00:44 --> 00:00:47:** moderators and panelists from previous sessions for giving us a

**00:00:47 --> 00:00:52:** proper context and include your understanding of the complex interdependencies

**00:00:52 --> 00:00:54:** between thought, action and impact.

**00:00:55 --> 00:00:58:** As we look at policy, evolution and community impacts, there

**00:00:58 --> 00:01:00:** are some key shifts in the resilience perspective that I

**00:01:01 --> 00:01:03:** think are useful to highlight as we narrow our lens.

**00:01:05 --> 00:01:09:** Early on resilience focused on recovery after disasters and today

**00:01:09 --> 00:01:12:** we think and you've heard a lot about perspective that

**00:01:12 --> 00:01:16:** emphasizes preparedness, adaptation and long term planning.

**00:01:16 --> 00:01:19:** So we've moved from a reactive recovery to this proactive

00:01:19 --> 00:01:20: adaptation.

00:01:21 --> 00:01:24: And at the same time, we moved from individual action,

00:01:24 --> 00:01:26: an impact to a more systemic approach.

00:01:26 --> 00:01:30: Our focus is expanded to consider the complexities of interconnectedness

00:01:30 --> 00:01:33: and the potential for cascading failures.

00:01:37 --> 00:01:42: Philadelphia, again, like many urban areas, face several resilience challenges.

00:01:43 --> 00:01:46: Philadelphia's vulnerable to flooding both from the rivers and inland,

00:01:46 --> 00:01:47: and storm surge.

00:01:49 --> 00:01:52: Philadelphia experience more frequent heat waves and heat.

00:01:53 --> 00:01:57: Urban heat line effect, excuse me, urban heat island effect

00:01:57 --> 00:02:02: exacerbates this, particularly in the narrow streets up in our neighborhood where we are, where there aren't trees and where

00:02:02 --> 00:02:06: there are trees there, they're struggling.

00:02:07 --> 00:02:10: Economic inequality and high levels of poverty leave many communities

00:02:10 --> 00:02:14: in Philadelphia with limited access to resources that would help

00:02:14 --> 00:02:17: them prepare for and recover from disruptions.

00:02:17 --> 00:02:19: Low incoming neighborhoods, in particular, often experience more severe impacts

00:02:19 --> 00:02:23: from heat, flooding, and infrastructure failures.

00:02:23 --> 00:02:26: And compromised air quality, which can be worsened by heat

00:02:26 --> 00:02:29: waves, contribute to health problems for vulnerable populations.

00:02:29 --> 00:02:32: These circumstances will not improve.

00:02:35 --> 00:02:36: Our perspective remains narrowly focused on responding to events rather

00:02:36 --> 00:02:40: than more holistic, proactive, and adaptive strategies that take into

00:02:40 --> 00:02:43: account the complex interdependencies across systems.

00:02:43 --> 00:02:46: We must emphasize the importance of thinking ahead, being flexible,

00:02:47 --> 00:02:51: and preparing for both known and unknown challenges.

00:02:51 --> 00:02:54: Let's be clear, interconnectedness does not imply that the responsibility

00:02:55 --> 00:02:59: for community resilience vest solely with governments, or with public

00:02:59 --> 00:03:02: entities, or with agencies.

00:03:02 --> 00:03:04: Each of us as property owners, investors, policy makers, designers

00:03:05 --> 00:03:10: and users, there's an individual and collective responsibility

00:03:10 --> 00:03:15:

towards climate

**00:03:15 --> 00:03:20:** action to protect future generations and ensure equity for vulnerable

**00:03:20 --> 00:03:21:** communities.

**00:03:23 --> 00:03:27:** We can incorporate green infrastructure strategies that employ natural processes

**00:03:27 --> 00:03:30:** to manage storm water, reduce our risk from urban flooding

**00:03:30 --> 00:03:31:** and enhance urban resilience.

**00:03:32 --> 00:03:35:** We can mitigate greenhouse gas emissions by investing in energy

**00:03:36 --> 00:03:40:** efficient technologies and buildings and transitioning to renewable energy resources

**00:03:40 --> 00:03:42:** like solar, wind and hydro.

**00:03:42 --> 00:03:47:** We can leverage our public transportation infrastructure with transit oriented

**00:03:47 --> 00:03:51:** development and incentivize cycling, walking, electric vehicles, all to reduce

**00:03:52 --> 00:03:53:** our carbon footprints.

**00:03:54 --> 00:03:58:** We can promote sustainable consumption, raise awareness about climate change,

**00:03:58 --> 00:04:02:** advocate for national and global climate policies, encourage civic involvement

**00:04:02 --> 00:04:05:** in Environmental Protection efforts, protect and preserve biodiversity.

**00:04:08 --> 00:04:09:** It's a lot of aspiration.

**00:04:10 --> 00:04:14:** How do we make all this a reality, a fundamental

**00:04:14 --> 00:04:17:** part of how we think and act individually?

**00:04:21 --> 00:04:23:** We want to leave here today with a sense of

**00:04:23 --> 00:04:26:** purpose and possibility, and that starts with small actions.

**00:04:27 --> 00:04:30:** Each of us is faced with choices every day that

**00:04:30 --> 00:04:34:** ripple well beyond that particular decision and move us toward

**00:04:34 --> 00:04:37:** the interconnectedness that makes those aspirations achievable.

**00:04:37 --> 00:04:38:** For all of us.

**00:04:39 --> 00:04:42:** The factors we consider, the weight we give them, and

**00:04:42 --> 00:04:47:** the discipline and courage we muster to consider the alternatives

**00:04:47 --> 00:04:50:** rather than the way we've always done things, move us

**00:04:50 --> 00:04:54:** towards resilient outcomes beyond our resilient individual action.

**00:04:56 --> 00:04:59:** So in this closing session, we look at 2 projects,

**00:04:59 --> 00:05:04:** paying particular attention to how the project collaborators face these

**00:05:04 --> 00:05:07:** choices and decisions, and in a real world context, the

00:05:07 --> 00:05:11: obstacles they faced, the challenges they overcame, the Champions that

00:05:11 --> 00:05:14: help them along, and the lessons learned for all of

00:05:15 --> 00:05:18: you who may find yourselves in the same or similar

00:05:18 --> 00:05:18: circumstances.

00:05:20 --> 00:05:22: We're fortunate to have two individuals who bring a diverse

00:05:22 --> 00:05:25: perspective and a deep expertise in this conversation.

00:05:25 --> 00:05:29: They'll share their insights on best practices, innovative solutions, and

00:05:29 --> 00:05:33: the critical role of collaboration between public and private sectors

00:05:33 --> 00:05:37: and ensuring that our historic and commercial properties can withstand

00:05:37 --> 00:05:39: the challenges of a changing climate.

00:05:41 --> 00:05:43: As the moderator of this discussion, my role is to

00:05:43 --> 00:05:46: guide the conversation, ensure that we address the most pressing

00:05:46 --> 00:05:49: issues, and facilitate an engaging and productive dialogue.

00:05:50 --> 00:05:52: And for that part, I'm going to need some help

00:05:52 --> 00:05:52: from all of you.

00:05:53 --> 00:05:56: I encourage each of you to think critically about the

00:05:56 --> 00:05:59: topics we cover, and I welcome and strongly encourage your

00:05:59 --> 00:05:59: questions.

00:05:59 --> 00:06:02: You guys have been great so far, lots of questions.

00:06:02 --> 00:06:05: So I appreciate that and hopefully you can help me

00:06:05 --> 00:06:06: when we get to that part.

00:06:08 --> 00:06:10: So with that, let let me introduce our panelists.

00:06:11 --> 00:06:14: I'll introduce them, but they're going to come up one

00:06:14 --> 00:06:17: at a time, make a brief presentation on their particular

00:06:17 --> 00:06:20: project, then we'll convene together up here.

00:06:21 --> 00:06:23: And have a little bit of a discussion and and

00:06:23 --> 00:06:24: then invite your questions.

00:06:26 --> 00:06:30: Claire Donato is President of Mark B Thompson Associates.

00:06:30 --> 00:06:34: She's a registered architect and the League accredited professional with

00:06:34 --> 00:06:38: over 25 years experience with programming, planning and developing complex

00:06:38 --> 00:06:41: projects for both nonprofit and public institutions.

00:06:42 --> 00:06:45: Claire also has developed an expertise with projects requiring rigorous

00:06:45 --> 00:06:50: technical solutions through the rehabilitation and adaptive reuse of existing

00:06:50 --> 00:06:50: structures.

00:06:51 --> 00:06:53: Claire is going to share with us the adaptive reuse

00:06:53 --> 00:06:56: of the Fairmount Waterworks or firm completed with Philadelphia Water  
00:06:56 --> 00:06:57: Department.  
00:06:58 --> 00:07:02: Ron Pluto, Vice President of Engineering at Brandywine Realty Trust.  
00:07:03 --> 00:07:07: Since joining Brandywine in 2005, Ron has overseen many of  
00:07:07 --> 00:07:11: the company's major construction projects and activities relative to building  
00:07:11 --> 00:07:16: systems design and construction, including Sierra Center, the historic renovation  
00:07:16 --> 00:07:19: of 30th Street Post Office, EVO and FMC Tower, and  
00:07:20 --> 00:07:23: the conversion of the Bulletin Building in the lab space.  
00:07:23 --> 00:07:27: As Vice President of Engineering, Ron is responsible for Brandywine's  
00:07:27 --> 00:07:31: major development projects for building systems design, installation and commissioning.  
00:07:32 --> 00:07:35: Ron will be sharing with us Brandywine's Next Generation Life  
00:07:35 --> 00:07:38: Science building under construction at 3151 Market St.  
00:07:38 --> 00:07:40: which is slated for completion later this year.  
00:07:42 --> 00:07:44: Please welcome Claire, who will begin.  
00:07:57 --> 00:07:58: Good afternoon.  
00:07:59 --> 00:08:01: Happy to be here this afternoon to participate.  
00:08:01 --> 00:08:05: On this panel, I'll be presenting a case study looking  
00:08:05 --> 00:08:10: at mitigation strategies in response to repetitive flooding at the  
00:08:10 --> 00:08:12: Fairmount Waterworks.  
00:08:12 --> 00:08:17: We've been involved with planning and implementation projects at the  
00:08:17 --> 00:08:23: Waterworks, assisting the Philadelphia Water Department, Philadelphia Parks and Recreation,  
00:08:23 --> 00:08:27: and the Fun for the Waterworks for several campaigns since  
00:08:27 --> 00:08:28: the early 1990s.  
00:08:29 --> 00:08:33: While the lessons learned are important to this individual site,  
00:08:33 --> 00:08:36: hopefully they have relevance to other historic sites in our  
00:08:36 --> 00:08:36: region.  
00:08:37 --> 00:08:40: I want to start with a few points about historic  
00:08:40 --> 00:08:43: buildings and why in this region they are particularly exposed  
00:08:43 --> 00:08:44: to flooding hazards.  
00:08:45 --> 00:08:48: And then we'll give some background on the Fairmount Waterworks  
00:08:48 --> 00:08:52: and how it has adapted to changing demands and technologies  
00:08:52 --> 00:08:53: throughout its history.

00:08:57 --> 00:09:02: Throughout Pennsylvania's early development, our communities settled along the banks

00:09:02 --> 00:09:06: of the Commonwealth's more than 86,000 miles of streams, rivers

00:09:06 --> 00:09:09: and creeks, function not only as a vital source of

00:09:09 --> 00:09:13: sustenance, but also as sources of industrial power and the

00:09:13 --> 00:09:17: backbone of Pennsylvania's first transportation and commerce networks.

00:09:19 --> 00:09:23: Hastened by the effects of climate change and persistent upstream

00:09:23 --> 00:09:26: development, the early settlement patterns have now led to many

00:09:26 --> 00:09:30: of our oldest communities and buildings to become increasingly flood

00:09:30 --> 00:09:31: prone.

00:09:32 --> 00:09:37: Nearly 1000 historically designated or eligible buildings in Pennsylvania are

00:09:38 --> 00:09:42: vulnerable to flood hazards, and 77% of the population by

00:09:42 --> 00:09:46: county has experienced at least one flood event per year

00:09:46 --> 00:09:48: between 1950 and 2017.

00:09:48 --> 00:09:53: Integrating preservation planning and disaster planning can play a significant

00:09:53 --> 00:09:57: role in community resilience and sustaining community character.

00:10:00 --> 00:10:03: The waterworks in Philadelphia began its life at Center Square,

00:10:04 --> 00:10:07: with the pumping works located centrally to the city but

00:10:07 --> 00:10:08: remote from the source.

00:10:08 --> 00:10:12: After operating at Center Square for approximately 12 years, the

00:10:12 --> 00:10:16: waterworks relocated to the Schuylkill River at Fairmount to join

00:10:16 --> 00:10:18: the pumps and the engines with the water source and

00:10:18 --> 00:10:21: to create an expansive reservoir at the high point of

00:10:21 --> 00:10:22: the city.

00:10:23 --> 00:10:26: 10 years later, the location on the river would provide

00:10:26 --> 00:10:27: the source of power as well.

00:10:29 --> 00:10:31: We may tend to think of the waterworks as an

00:10:31 --> 00:10:34: iconic building, a static presence within the landscape of the

00:10:34 --> 00:10:38: city and inseparable from images of the Schuylkill River at

00:10:38 --> 00:10:40: Fairmount, both historic and today.

00:10:42 --> 00:10:46: However, behind the walls of these buildings, they were designed

00:10:46 --> 00:10:47: to be machines.

00:10:47 --> 00:10:51: First powered by steam and then water, the building served

00:10:51 --> 00:10:53: as a solid engine block to the moving parts of  
00:10:54 --> 00:10:54: the machines.  
00:10:55 --> 00:10:58: The buildings were designed for the river to flow through  
00:10:58 --> 00:11:02: them, and during their evolution, they were constantly  
adapting to  
00:11:02 --> 00:11:03: new technologies.  
00:11:07 --> 00:11:11: From 1815 to 1872, the buildings were extensively modified  
to  
00:11:11 --> 00:11:15: adapt from steam engines to water wheels and turbines.  
00:11:15 --> 00:11:19: To meet the demands for more water distribution to the  
00:11:19 --> 00:11:23: rapidly expanding city and allowing the city to grow and  
00:11:23 --> 00:11:24: industrialize faster.  
00:11:25 --> 00:11:29: Roofs were raised, exterior areas were enclosed, the river  
wall  
00:11:29 --> 00:11:33: was built out, and the area originally occupied by steam  
00:11:33 --> 00:11:35: engines was converted to a public saloon.  
00:11:38 --> 00:11:41: After the river was no longer safe for drinking water  
00:11:41 --> 00:11:46: and without space to expand for filtration, the buildings  
adapted  
00:11:46 --> 00:11:49: again, this time for new uses as an aquarium, a  
00:11:49 --> 00:11:52: swimming pool, a cafe, and leading towards a new vision  
00:11:52 --> 00:11:55: for use as a public Education Center.  
00:11:57 --> 00:12:01: Between 1997 and 2003, a major restoration campaign was  
undertaken  
00:12:01 --> 00:12:06: to connect the historic public spaces and the surrounding  
gardens  
00:12:06 --> 00:12:09: to views of the river and to create a learning  
00:12:09 --> 00:12:11: hub for environmental education.  
00:12:11 --> 00:12:15: To adapt the lower level, the former machine level, for  
00:12:15 --> 00:12:19: new occupancy, new challenges needed to be addressed to  
acknowledge  
00:12:19 --> 00:12:21: and accept that the spaces would flood.  
00:12:24 --> 00:12:28: In evaluating flood proofing techniques 30 years ago,  
including wet  
00:12:28 --> 00:12:33: flood proofing, dry flood proofing, barrier measures, and  
interior retrofit  
00:12:33 --> 00:12:37: measures, we focused mainly on wet flood proofing.  
00:12:38 --> 00:12:41: Wet flood proofing means making portions of the building  
resistant  
00:12:41 --> 00:12:44: to flooding and allowing water to enter during during flooding  
00:12:44 --> 00:12:45: events.  
00:12:45 --> 00:12:50: This approach was most consistent with the structural  
characteristics of  
00:12:50 --> 00:12:55: the original construction that remained to make the building  
resistant

00:12:55 --> 00:12:56: to flooding.

00:12:58 --> 00:13:02: Many issues needed to be anticipated and addressed with either

00:13:02 --> 00:13:04: design or operational responses.

00:13:05 --> 00:13:09: This illustration shows the original area of the Interpretive Center,

00:13:09 --> 00:13:13: which entailed converting spaces that had seen little modernization since

00:13:13 --> 00:13:15: the closure of the aquarium in 1962.

00:13:16 --> 00:13:20: One of the first questions we asked is what survived

00:13:20 --> 00:13:24: and performed well for over 150 years learning from the building.

00:13:24 --> 00:13:24: building.

00:13:25 --> 00:13:29: The design of the Interpretive Center included resilient and durable

00:13:29 --> 00:13:34: traditional building materials like stone and brick masonry, bluestone flooring

00:13:34 --> 00:13:35: and lime plaster.

00:13:35 --> 00:13:40: New resilient building materials included fully grouted masonry units.

00:13:40 --> 00:13:44: Interior floors were sloped to drain towards the river.

00:13:44 --> 00:13:47: Primary program spaces were located at the higher main floor

00:13:47 --> 00:13:48: elevation.

00:13:48 --> 00:13:52: The lowest floor level was reserved for exhibits only with

00:13:52 --> 00:13:53: no public access.

00:13:54 --> 00:13:57: Custom grills were designed for the river door openings to

00:13:57 --> 00:14:01: keep large debris from entering the building during flooding and

00:14:01 --> 00:14:04: exhibit components were designed excuse me, designed to be portable,

00:14:05 --> 00:14:06: submersible or raisable.

00:14:07 --> 00:14:10: Operational strategies and technology also played a role.

00:14:11 --> 00:14:14: A flood alarm system was integrated with the fire alarm

00:14:14 --> 00:14:18: to require evacuation when water submerges a sensor located at

00:14:18 --> 00:14:20: the lowest floor elevation.

00:14:20 --> 00:14:24: Safe alternative means of egress paths were maintained as water

00:14:24 --> 00:14:25: level rises.

00:14:26 --> 00:14:30: A flood management plan sets protocols for monitoring upstream gauges

00:14:31 --> 00:14:34: and procedures for evacuation and shut down of systems.

00:14:35 --> 00:14:38: An electrical disconnect, a trip button, is located above floodwaters.

00:14:39 --> 00:14:42: Mechanical plant and primary equipment is located as high



as  
00:14:42 --> 00:14:44: possible on the building or on site.  
00:14:45 --> 00:14:50: The electrical panels are elevated on floor levels, elevated throughout  
00:14:50 --> 00:14:52: the facility wherever possible.  
00:14:53 --> 00:14:59: So, you know, these strategies were reasonably manageable for a  
00:14:59 --> 00:14:59: time.  
00:14:59 --> 00:15:03: But with events like Hurricane Ida, we know that severe  
00:15:03 --> 00:15:05: storms will be more frequent.  
00:15:07 --> 00:15:11: We are now too familiar with images like these at  
00:15:11 --> 00:15:15: the Waterworks and the impact that repetitive flood events has  
00:15:15 --> 00:15:17: on the facility and its programs.  
00:15:18 --> 00:15:21: In response to ISAIAS in 2020 and Ida in 2021,  
00:15:21 --> 00:15:25: the Fund for the Waterworks through its Resiliency Committee has  
00:15:25 --> 00:15:32: been actively pursuing funding opportunities to implement resiliency improvements for  
00:15:32 --> 00:15:33: the Fairmount Waterworks.  
00:15:37 --> 00:15:40: This flood gauge is located at the site and tells  
00:15:40 --> 00:15:44: the story and the record storms unfortunately continue.  
00:15:44 --> 00:15:48: The gauge measures floodwaters above the lowest floor level in  
00:15:48 --> 00:15:49: the facility.  
00:15:51 --> 00:15:54: This is a floor plan illustrating the varying levels throughout  
00:15:54 --> 00:15:57: the lower level of the facility and their exposure to  
00:15:57 --> 00:15:59: different severities of flooding events.  
00:15:59 --> 00:16:04: The lowest floor elevations, subject to the most repetitive flooding  
00:16:04 --> 00:16:07: with up to three feet of water, are by design  
00:16:07 --> 00:16:08: not occupied.  
00:16:08 --> 00:16:12: These routine floods have the least impact but still require  
00:16:12 --> 00:16:13: resources for cleanup.  
00:16:14 --> 00:16:17: The next level of flooding has major impact on the  
00:16:17 --> 00:16:19: facility and most program spaces.  
00:16:20 --> 00:16:23: This level of flooding requires shutting down the facility until  
00:16:23 --> 00:16:23: repairs.  
00:16:23 --> 00:16:24: Can be undertaken.  
00:16:25 --> 00:16:29: And finally, the level of Ida reached elevated mechanical spaces  
00:16:29 --> 00:16:33: and nearly submerged all elevated equipment at the ceiling.  
00:16:35 --> 00:16:38: So it's clear that more needs to be done to  
00:16:38 --> 00:16:41: be prepared for the future and the greater impact of

00:16:41 --> 00:16:43: major and severe flood events.

00:16:44 --> 00:16:49: Building elements that had relatively long service life through prior

00:16:49 --> 00:16:51: floods did not survive Ida.

00:16:51 --> 00:16:55: Notably, the stronger forces that came with higher water levels

00:16:55 --> 00:16:58: need to be addressed for the river wall, windows and

00:16:58 --> 00:16:59: doors.

00:16:59 --> 00:17:03: And the amount of systems infrastructure throughout the lower level

00:17:03 --> 00:17:07: of the facility needs to be either reconsidered or further

00:17:07 --> 00:17:07: protected.

00:17:09 --> 00:17:14: So the resiliency planning that we've been involved with has

00:17:14 --> 00:17:19: really taken a comprehensive rethinking of how the lower level

00:17:19 --> 00:17:23: is used and identifying priorities to focus on improvements that

00:17:23 --> 00:17:26: promote health, safety and resilience.

00:17:27 --> 00:17:31: These include creating a base of operations for staff that

00:17:31 --> 00:17:34: is remote or on the located on the upper level

00:17:34 --> 00:17:35: of the facility.

00:17:36 --> 00:17:42: Aligning uses with improved resiliency will include reconsidering how programming

00:17:42 --> 00:17:48: is delivered, reorganizing spaces to provide more open, flexible collaboration,

00:17:48 --> 00:17:53: teaching and meeting spaces, locating staff resources elsewhere and storing

00:17:53 --> 00:17:55: materials off site.

00:17:55 --> 00:18:00: Creating conditioned interior zones for thermal comfort to reduce heating

00:18:00 --> 00:18:04: and cooling demands and reducing the amount of HVAC equipment

00:18:04 --> 00:18:07: and locating it as high as possible where needed in

00:18:07 --> 00:18:08: the lower level.

00:18:09 --> 00:18:12: The plan also includes a more robust use of dry

00:18:12 --> 00:18:17: flood proofing techniques to create localized areas of protection.

00:18:17 --> 00:18:23: This will involve identifying mission critical locations and using reinforced

00:18:23 --> 00:18:26: interior walls that resist flood forces for up to 10

00:18:26 --> 00:18:27: to 12 feet high.

00:18:29 --> 00:18:33: Protecting equipment that does need to remain within these dry

00:18:33 --> 00:18:39: flood proof zones, using structurally reinforced fiberglass exterior windows to

00:18:39 --> 00:18:43: resist the higher forces, and using stop log barriers at  
00:18:43 --> 00:18:46: interior locations to reduce cleanup.  
00:18:47 --> 00:18:50: Following the lead of recent exhibit upgrades, we will  
continue  
00:18:50 --> 00:18:54: with a design aesthetic that relies on digital interventions and  
00:18:54 --> 00:18:57: showcases the building and reduces items that need to be  
00:18:57 --> 00:19:00: moved or designed to sustain flooding.  
00:19:00 --> 00:19:04: The elevator, which is critical for all of the shared  
00:19:04 --> 00:19:08: tenant spaces on site, needs to be upgraded and we'll  
00:19:08 --> 00:19:12: use technology that locates equipment at the upper levels.  
00:19:12 --> 00:19:16: And in future phases, we intend to investigate interventions in  
00:19:16 --> 00:19:20: the river, such as debris Nets, trash deflectors and tidal  
00:19:20 --> 00:19:23: vegetations to also help mitigate impact.  
00:19:26 --> 00:19:30: Opportunities to implement these initiatives were identified  
throughout the facility  
00:19:30 --> 00:19:32: and organized according to priority.  
00:19:33 --> 00:19:36: This is a view from 25 or 30 years ago,  
00:19:36 --> 00:19:40: showing the original arrangement of exhibits in the lobby and  
00:19:40 --> 00:19:44: showing the strategies that were implemented at the time.  
00:19:45 --> 00:19:47: Electronics mounted high.  
00:19:47 --> 00:19:53: Exhibits raised on winches, removable video monitors,  
submersible fixed support  
00:19:53 --> 00:19:54: systems.  
00:19:54 --> 00:19:59: Durable materials, flood grills and and removable furnishings.  
00:20:00 --> 00:20:03: This is a projection or visualization of the same view  
00:20:03 --> 00:20:07: looking at the same direction in the facility with the  
00:20:07 --> 00:20:11: vision for opening up spaces and address additional  
strategies that  
00:20:11 --> 00:20:12: are being planned.  
00:20:13 --> 00:20:16: Again, the idea of removing some of the interior walls  
00:20:16 --> 00:20:21: to reduce interior turbulence, using high density submersible  
panels and  
00:20:21 --> 00:20:24: reinforcing interior walls and using door barrels.  
00:20:24 --> 00:20:25: Barriers.  
00:20:26 --> 00:20:29: We had a great opportunity with the exhibit pool, a  
00:20:29 --> 00:20:33: social history of segregation, which allowed us to test some  
00:20:33 --> 00:20:34: of these ideas.  
00:20:34 --> 00:20:38: We used these high density submersible panels that were  
supported  
00:20:38 --> 00:20:43: on stainless steel suspension systems to provide space for  
graphics  
00:20:43 --> 00:20:45: and content and create spatial dividers.  
00:20:46 --> 00:20:50: We projected content on panels and walls the effective way

00:20:50 --> 00:20:54: and reducing new construction in the space and new exhibit components and the open space, again with minimal divisions, helps

00:20:54 --> 00:20:58:

00:20:58 --> 00:21:02: allow water to move more freely inside the building during flooding events.

00:21:02 --> 00:21:03:

00:21:05 --> 00:21:12: Another visualization view illustrates the concept of providing insulated interior

00:21:12 --> 00:21:17: wall systems that create these smaller localized conditioned interior zones,

00:21:17 --> 00:21:22: with the wall systems being able to be elevated during flood events and providing the type of flexible workspaces with

00:21:22 --> 00:21:27:

00:21:27 --> 00:21:32: storage and resource materials being located elsewhere in upper levels

00:21:32 --> 00:21:34: of the building or off site.

00:21:39 --> 00:21:42: And in wrapping up, I'd like to bring this graphic

00:21:42 --> 00:21:43: back.

00:21:43 --> 00:21:48: Retrofitting historic structures for flood mitigation can be highly intrusive

00:21:48 --> 00:21:52: because of the risk of removing or compromising character defining

00:21:52 --> 00:21:52: features.

00:21:53 --> 00:21:56: We're having them obscured with incompatible materials.

00:21:56 --> 00:22:00: It is possible, though, to design mitigation projects in which important features are preserved in place and retrofitting measures are

00:22:00 --> 00:22:05:

00:22:05 --> 00:22:09: hidden from view or sensitively integrated with new interventions.

00:22:10 --> 00:22:14: Careful selection of mitigation strategies that are appropriate to the

00:22:14 --> 00:22:18: building in the setting, learning from the building and its performance over its history, and aligning uses and operations with

00:22:18 --> 00:22:22:

00:22:22 --> 00:22:26: resiliency goals have all been important aspects of our planning

00:22:26 --> 00:22:26: work.

00:22:26 --> 00:22:28: For the waterworks.

00:22:28 --> 00:22:29: Thank you.

00:22:46 --> 00:22:47: See if I can.

00:22:48 --> 00:22:49: Can you guys hear me?

00:22:50 --> 00:22:52: This screen is way too small for me.

00:22:52 --> 00:22:54: I think I'm going to use the microphone and try

00:22:54 --> 00:22:56: to Glenn had this figured out.

00:22:56 --> 00:22:56: Maybe I can.

00:22:59 --> 00:23:02: So I think this works, right.  
00:23:03 --> 00:23:08: So this thing had a pointer too, didn't it?  
00:23:09 --> 00:23:10: No, it didn't.  
00:23:10 --> 00:23:10: That's fine.  
00:23:10 --> 00:23:12: He had a special.  
00:23:12 --> 00:23:13: Oh, he had a his own special thing.  
00:23:13 --> 00:23:13: OK.  
00:23:14 --> 00:23:18: So I'm here to talk about 3151 market relative to  
00:23:18 --> 00:23:19: resiliency.  
00:23:19 --> 00:23:23: This has been really educational and interesting and I'm  
going  
00:23:23 --> 00:23:27: to move quickly through some of this stuff because I've  
00:23:27 --> 00:23:30: got way too many slides for the the time I  
00:23:30 --> 00:23:30: have here.  
00:23:30 --> 00:23:32: But the I did want to take just a few  
00:23:32 --> 00:23:35: minutes to talk about Brandywine and what we've been doing  
00:23:35 --> 00:23:38: in University City and on the West Bank to the  
00:23:38 --> 00:23:38: Schuylkill River.  
00:23:39 --> 00:23:41: I think a lot of it's relevant to what we're  
00:23:41 --> 00:23:42: talking about here today.  
00:23:42 --> 00:23:48: So Brandywine is was Founded in 1994.  
00:23:51 --> 00:23:54: I came to work for Brandywine 20 years ago, almost  
00:23:54 --> 00:23:55: 20 years ago today.  
00:23:55 --> 00:23:58: So I've been part of all the wonderful projects they've  
00:23:58 --> 00:24:01: been doing on the on the West banks of the  
00:24:01 --> 00:24:05: Schuylkill and our latest adventure in Schuylkill Yards.  
00:24:08 --> 00:24:12: We're a fully integrated real estate investment trust.  
00:24:12 --> 00:24:15: We have property management, design, construction.  
00:24:15 --> 00:24:16: We have a design group.  
00:24:16 --> 00:24:19: We have all the functions that would come with a  
00:24:19 --> 00:24:21: fully integrated.  
00:24:21 --> 00:24:24: We have a life science group of people.  
00:24:25 --> 00:24:29: But all these activities overlap and we all work collaborative  
00:24:29 --> 00:24:32: together on all of our projects and assets.  
00:24:34 --> 00:24:39: So our University City story started 20 years ago and  
00:24:39 --> 00:24:44: it started with A2 acre parcel next to 30th St.  
00:24:44 --> 00:24:45: station.  
00:24:46 --> 00:24:49: There wasn't a lot over here 20 years ago.  
00:24:49 --> 00:24:54: And our CEO Jerry Sweeney had a an amazing vision  
00:24:54 --> 00:24:58: for for this area and a very long term vision  
00:24:58 --> 00:25:03: that he's been prosecuting here for 20 years.  
00:25:04 --> 00:25:07: So our first project was Sierra Center.

00:25:07 --> 00:25:12: We opened that in 2005 and then we did the

00:25:12 --> 00:25:20: historic renovation of the original 30th Street Post office.

00:25:21 --> 00:25:23: It's almost a million gross square feet.

00:25:25 --> 00:25:27: We restored the facades.

00:25:27 --> 00:25:30: We restored the historic corridor through the building.

00:25:30 --> 00:25:34: It was a League Gold project and then we went

00:25:34 --> 00:25:40: on to develop Sierra S between Chestnut and Walnut School

00:25:40 --> 00:25:41: Ave.

00:25:41 --> 00:25:42: and 30th St.

00:25:43 --> 00:25:46: Before we did this development, the post office had what

00:25:46 --> 00:25:47: they call the Truck Terminal Annex.

00:25:47 --> 00:25:53: There was an old 50s building, all impervious, all impervious

00:25:53 --> 00:25:53: surface.

00:25:55 --> 00:26:00: We demoed that developed, created the three pad sites for

00:26:00 --> 00:26:04: the Sierra S garage, the Evo student housing and and

00:26:04 --> 00:26:05: FMC tower.

00:26:06 --> 00:26:12: We had to deliver the garage with the post office

00:26:12 --> 00:26:17: with the GSA lease in 2010, 20 years ago.

00:26:17 --> 00:26:22: We also work on the formation of the Schuylkill River

00:26:22 --> 00:26:28: Development Corporation and we've been participating with

00:26:28 --> 00:26:31: them in terms

00:26:31 --> 00:26:33: of time and, and funding and some of our own

00:26:33 --> 00:26:35: labour out there.

00:26:36 --> 00:26:39: So they've done a great job, you know, over the

00:26:39 --> 00:26:42: decades developing the East Banks and Schuylkill and, and,

00:26:42 --> 00:26:43: and

00:26:44 --> 00:26:48: main, you know, working on the trails and the programming

00:26:48 --> 00:26:51: there.

00:26:53 --> 00:26:54: So that that's kind of the the division or that

00:26:54 --> 00:26:58: was the skyline at that point.

00:26:58 --> 00:27:01: I did want to say a couple things.

00:27:01 --> 00:27:05: We went back after we finished the Sierra S garage,

00:27:05 --> 00:27:08: you know, to get that done, we had to put

00:27:08 --> 00:27:09: a massive storm water management tank in the basement of

00:27:10 --> 00:27:13: that garage or in the in the underground of the

00:27:13 --> 00:27:15: lower level.

00:27:15 --> 00:27:16: But what we did is we went back and added

00:27:16 --> 00:27:19: a park on top of the garage subsequent that a

00:27:19 --> 00:27:20: public park.

00:27:20 --> 00:27:22: It's it's a green roof, but it's also what we

00:27:22 --> 00:27:25: call blue roof.

00:27:25 --> 00:27:28: The water department work with us on that.

00:27:23 --> 00:27:26: So even the impervious areas up there drained back to  
00:27:26 --> 00:27:27: the soil areas.  
00:27:27 --> 00:27:31: So it effectively did this had the same effect of  
00:27:31 --> 00:27:34: that massive storm water tank in the basement, which we  
00:27:34 --> 00:27:38: ended up connecting the storm water from Evo to.  
00:27:38 --> 00:27:42: So it's so we we, we, we put green roofs  
00:27:42 --> 00:27:43: on Sarah S.  
00:27:44 --> 00:27:49: So we you know, that whole block between chestnut and  
00:27:49 --> 00:27:53: walnut and scoop, we have a 30th, you know, tremendous  
00:27:53 --> 00:27:55: impact on storm water.  
00:27:55 --> 00:27:57: All that you know, when the truck terminal annex was  
00:27:57 --> 00:27:59: there that just, you know, it rained and went straight  
00:27:59 --> 00:27:59: to the river.  
00:28:02 --> 00:28:08: So our next adventure we're we're embarking on here is  
00:28:08 --> 00:28:10: Schuylkill Yards.  
00:28:10 --> 00:28:12: I think you guys have all heard of Schuylkill Yards.  
00:28:12 --> 00:28:17: It's a a partnership with Drexel University and you can  
00:28:17 --> 00:28:21: see that what we call our east and West tower  
00:28:21 --> 00:28:24: on JFK are kind of fully designed.  
00:28:24 --> 00:28:26: Actually the West towers fully.  
00:28:26 --> 00:28:28: We opened that about almost a year ago now.  
00:28:28 --> 00:28:34: The Scoop yards W tower with some mixed-use with 360  
00:28:34 --> 00:28:35: apartments.  
00:28:36 --> 00:28:40: The but this is Schookel yards and 3151 is part  
00:28:40 --> 00:28:43: of this that we're finishing up now.  
00:28:44 --> 00:28:50: But it's, you know, 1-1 in this programming, you know,  
00:28:50 --> 00:28:55: we're, we're programming 6 1/2 acres of green space.  
00:28:56 --> 00:29:00: And we actually the first thing we did in scoop  
00:29:00 --> 00:29:03: of yards as we built Drexel Square, which is a  
00:29:03 --> 00:29:07: the park in front of the Bolton building.  
00:29:07 --> 00:29:09: I don't think a lot of you've seen that with  
00:29:09 --> 00:29:12: the large Don redwoods and the green space there.  
00:29:13 --> 00:29:15: The water department was, was great.  
00:29:15 --> 00:29:17: They work with us and and they allowed us to  
00:29:17 --> 00:29:20: take some of the storm water credits from that park  
00:29:20 --> 00:29:22: and bank them 'cause we're going to some of the  
00:29:23 --> 00:29:24: other school yards.  
00:29:24 --> 00:29:27: Projects are very challenging in terms of storm water.  
00:29:27 --> 00:29:31: You know, when you're building a high rise building and  
00:29:31 --> 00:29:36: you've got a limited footprint, you know, there's there's not  
00:29:36 --> 00:29:40: always a great opportunity to create a lot of impervious  
00:29:40 --> 00:29:40: area.

00:29:40 --> 00:29:43: The sidewalks in some of these areas are full of  
00:29:43 --> 00:29:43: utilities.  
00:29:43 --> 00:29:45: We're talking about trees earlier.  
00:29:45 --> 00:29:47: It's sometimes it's very difficult.  
00:29:47 --> 00:29:50: We'd love to put big trees along all the sidewalks,  
00:29:50 --> 00:29:53: but when you've got pico conduits and fiber and pipes  
00:29:53 --> 00:29:56: and all kinds of stuff in the sidewalk, you know,  
00:29:57 --> 00:29:59: that can be challenging as well.  
00:30:01 --> 00:30:04: So this is just the project to school yard.  
00:30:04 --> 00:30:06: Like I said, we we delivered.  
00:30:06 --> 00:30:08: We first thing we did is we built Drexel Square.  
00:30:09 --> 00:30:12: We, we the lower the the building.  
00:30:12 --> 00:30:15: We opened the Sierra Center, the first building in University  
00:30:15 --> 00:30:15: City.  
00:30:16 --> 00:30:19: We went back and converted the lower floors to life  
00:30:19 --> 00:30:20: science space.  
00:30:21 --> 00:30:24: We built our B labs on two of those floors  
00:30:24 --> 00:30:27: and that's been a huge success.  
00:30:28 --> 00:30:32: 3000 market we we did a renovation there and fully  
00:30:32 --> 00:30:35: leased that building to Spark Therapeutics.  
00:30:36 --> 00:30:40: 3025 JFK we just finished up almost a year ago.  
00:30:40 --> 00:30:41: I can't believe it.  
00:30:41 --> 00:30:45: And then 3151 markets the, the project we're finishing up  
00:30:45 --> 00:30:49: now we're, we're, we've got, you know, we've got temporary  
00:30:49 --> 00:30:52: certificate of occupancy on some of the floors.  
00:30:52 --> 00:30:56: We've got finished work and and commissioning and some  
00:30:57 --> 00:30:57: other  
00:30:57 --> 00:30:57: work to do.  
00:30:57 --> 00:30:59: But we'll be done with that here in the next  
00:30:59 --> 00:31:00: month, month and a half.  
00:31:01 --> 00:31:05: 3001 JFK, we've got that project designed through C DS,  
00:31:05 --> 00:31:09: but it's currently on on hold until we figure out  
00:31:09 --> 00:31:11: when to start that project.  
00:31:14 --> 00:31:16: So it's part of Skoku Yards.  
00:31:16 --> 00:31:20: You know, we've invested over \$16,000,000 in in  
00:31:20 --> 00:31:21: neighborhood engagement  
00:31:21 --> 00:31:21: initiatives.  
00:31:21 --> 00:31:28: We have partners, partnerships with the Enterprise Center,  
00:31:29 --> 00:31:36: Man Manor, Centennial, Parkside, all the Peloton Village  
00:31:36 --> 00:31:43: Civic Association.  
00:31:36 --> 00:31:43: We've, we've also worked on the construction apprenticeship  
00:31:36 --> 00:31:43: preparatory program



00:31:43 --> 00:31:47: with the local young folks in the area.

00:31:47 --> 00:31:50: You can see Chris Franklin's one of our developed executives

00:31:50 --> 00:31:53: with, he's actually doing a class there in some of

00:31:53 --> 00:31:53: our space.

00:31:54 --> 00:31:57: So we, we've helped, you know, work to get some

00:31:57 --> 00:32:00: of the young folks, you know, into those apprenticeship programs

00:32:01 --> 00:32:03: and it's, it's been hugely, hugely successful.

00:32:03 --> 00:32:05: A lot of those folks ended up working on some

00:32:05 --> 00:32:07: of our projects over the years.

00:32:07 --> 00:32:08: So that that was that was great.

00:32:10 --> 00:32:12: So I I need to get moving here.

00:32:12 --> 00:32:16: But some impacts to the talk about investment and how

00:32:16 --> 00:32:18: important that is in jobs.

00:32:21 --> 00:32:25: But you know, in in 3151 market, you know, it's

00:32:25 --> 00:32:31: a lab, life science lab purpose built building, which we

00:32:31 --> 00:32:36: think Philadelphia has a will will have a huge need

00:32:36 --> 00:32:38: for this space.

00:32:39 --> 00:32:40: Philadelphia is in a great position.

00:32:41 --> 00:32:45: I heard earlier people talking about the, the how fast

00:32:45 --> 00:32:47: things move in terms of economics.

00:32:47 --> 00:32:52: But the Philadelphia lifetime we think has a huge potential

00:32:52 --> 00:32:56: for the life science space and cell and gene therapy

00:32:56 --> 00:32:57: research.

00:32:59 --> 00:33:03: So we, we you know we have, we did our

00:33:03 --> 00:33:08: B labs and we've got 3151 market we're opening.

00:33:09 --> 00:33:12: We did a gut and rehab out at 2:50 King

00:33:12 --> 00:33:17: of Prussia Road and Radnor where we created a life

00:33:17 --> 00:33:22: science building and that's 50% leased and 155 Radnor.

00:33:22 --> 00:33:24: We did a build a suit for Arkima.

00:33:25 --> 00:33:28: We've got some labs we built in Rockville and the

00:33:28 --> 00:33:32: Bulletin building we repurpose for laboratory space for mainly

00:33:32 --> 00:33:36: Spark Therapeutics who loose leases almost all that building

00:33:36 --> 00:33:36: from

00:33:36 --> 00:33:36: us.

00:33:36 --> 00:33:39: So see there's some of our tenants that.

00:33:40 --> 00:33:43: So we've we've gone into the life science arena in

00:33:43 --> 00:33:44: a in a pretty big way.

00:33:46 --> 00:33:52: So 3151 market, you know, looking from the from the

00:33:52 --> 00:33:57: Northwest here, it's, it's just to me, it's an absolutely

00:33:58 --> 00:33:59: gorgeous building.

00:33:59 --> 00:34:02: I think Gensler did a tremendous job on the, on  
00:34:02 --> 00:34:04: the design and the architecture.  
00:34:06 --> 00:34:09: This is just another view from the same angle from  
00:34:09 --> 00:34:10: Drexel's woodland walk.  
00:34:13 --> 00:34:15: This is just another same angle in the corner of  
00:34:16 --> 00:34:16: market.  
00:34:17 --> 00:34:19: We actually did a lease with Starbucks.  
00:34:19 --> 00:34:21: So that Cafe is going to be a Starbucks.  
00:34:21 --> 00:34:25: Hopefully they'll open early next year.  
00:34:28 --> 00:34:33: So one thing interesting is, is we started schematic design  
00:34:33 --> 00:34:37: of this just a few months into the pandemic.  
00:34:38 --> 00:34:39: So it's probably the first time.  
00:34:40 --> 00:34:44: Usually when you're, you know, you got up, you're taking  
00:34:44 --> 00:34:47: on a project like this, everybody gets in a room,  
00:34:47 --> 00:34:50: you know, you got the all, all kinds of things  
00:34:50 --> 00:34:53: to look at, you know, and this is basically, we're  
00:34:53 --> 00:34:57: doing this over Teams and Zoom and, and it was  
00:34:57 --> 00:34:58: very interesting.  
00:34:58 --> 00:35:00: But one of the things, you know, we had, we  
00:35:00 --> 00:35:02: had to ask is, you know, what do we need  
00:35:02 --> 00:35:03: to do different?  
00:35:03 --> 00:35:05: You know, how's the world post pandemic?  
00:35:05 --> 00:35:07: What's, what's this world going to be like?  
00:35:07 --> 00:35:10: What do we need to do different in this building  
00:35:10 --> 00:35:11: to make it resilient?  
00:35:11 --> 00:35:15: Make it not only just resilient, but you know what  
00:35:15 --> 00:35:18: needs to be different about this building in a post  
00:35:18 --> 00:35:20: COVID pandemic world.  
00:35:20 --> 00:35:22: So some of the things we did we, you know,  
00:35:22 --> 00:35:25: we, we just, we, we got touchless entry, we got  
00:35:25 --> 00:35:28: sliding doors, we got bigger elevators, we got what we  
00:35:28 --> 00:35:30: call destination dispatch elevators.  
00:35:30 --> 00:35:32: So you don't, they hit your floor, you just use  
00:35:32 --> 00:35:35: your phone or your security access card and it takes  
00:35:35 --> 00:35:36: you to your floor.  
00:35:37 --> 00:35:41: The restrooms, we went beyond code in terms of fixture  
00:35:41 --> 00:35:45: counts and we put individual restroom stalls and each one  
00:35:45 --> 00:35:48: has its own sink and water closet.  
00:35:49 --> 00:35:54: We've got floor to ceiling glass, lots of daylight and  
00:35:54 --> 00:35:59: Gensler, this is a great, great concept Gensler came up  
00:35:59 --> 00:35:59: with.  
00:35:59 --> 00:36:03: We wanted some outdoor space for tenants and we came

00:36:03 --> 00:36:06: up with this terrace and eco porch scheme.  
00:36:06 --> 00:36:08: And I'll show you on the next slide a little  
00:36:08 --> 00:36:08: bit about that.  
00:36:08 --> 00:36:12: But basically every other floor, a tenant that leases space  
00:36:12 --> 00:36:15: on that North End of the floor would have their  
00:36:15 --> 00:36:16: own private terrace.  
00:36:17 --> 00:36:20: And if they leased 2 floors, we could, they could  
00:36:20 --> 00:36:22: open it up and make a two-story space out of  
00:36:22 --> 00:36:23: it, put stairs in there.  
00:36:24 --> 00:36:28: The eco space inside there could actually be indoor outdoor  
00:36:28 --> 00:36:30: space with operable partitions.  
00:36:31 --> 00:36:33: And so it creates, you know, this outdoor area.  
00:36:35 --> 00:36:37: You'll see, you know, this is a rendering where you  
00:36:37 --> 00:36:41: see the potential tennis there going up to the second  
00:36:41 --> 00:36:42: floor and the outdoor terrace.  
00:36:42 --> 00:36:44: And that's eco space in there.  
00:36:44 --> 00:36:47: You know, that could be either, you know, just part  
00:36:47 --> 00:36:50: of contiguous to the rest of the floor or it  
00:36:50 --> 00:36:53: could be, you know, this indoor outdoor space.  
00:36:55 --> 00:36:57: It's just another rendering of that.  
00:36:59 --> 00:37:00: It's our main lobby.  
00:37:00 --> 00:37:02: We've got this large living wall.  
00:37:03 --> 00:37:06: We'll have live, live plants.  
00:37:06 --> 00:37:08: We're we're actually installing that right now.  
00:37:09 --> 00:37:12: And we've got the Conference Center program for the  
00:37:12 --> 00:37:13: second  
00:37:13 --> 00:37:16: floor on this north side.  
00:37:16 --> 00:37:18: So you have a dedicated stair that goes up there  
00:37:18 --> 00:37:21: and, and, and you know, a lot of these life  
00:37:21 --> 00:37:25: science tenants, they're really security conscious.  
00:37:25 --> 00:37:26: This gives us an opportunity to have conference space  
00:37:26 --> 00:37:28: outside  
00:37:28 --> 00:37:32: of the security.  
00:37:32 --> 00:37:35: So if tenants want to bring in guests have we  
00:37:35 --> 00:37:35: don't have events, not everybody has to be checked through,  
00:37:35 --> 00:37:35: you know, a security turnstiles and, and, and all  
00:37:35 --> 00:37:40: that.  
00:37:40 --> 00:37:44: So that's just a rendering of that conference space, just  
00:37:44 --> 00:37:49: a rendering of some sample office space.  
00:37:49 --> 00:37:50: So, you know, a life science building has a lot  
00:37:50 --> 00:37:55: of requirements.  
00:37:55 --> 00:37:55: You know, there there's they, you need emergency power  
00:37:55 --> 00:37:55: redundancy

00:37:55 --> 00:37:58: once through air, you know, you, you've got a, a  
00:37:58 --> 00:38:00: lot of require requirements.  
00:38:00 --> 00:38:04: So we, we wanted to make sure this building was  
00:38:04 --> 00:38:08: top of the market and, and we think, we think  
00:38:08 --> 00:38:09: we did that.  
00:38:10 --> 00:38:15: It's going to be a lead platinum building with the  
00:38:15 --> 00:38:17: Silverwell certification.  
00:38:19 --> 00:38:22: We've got high performance in terms of if you, you  
00:38:22 --> 00:38:27: know, vibration, a lot of lab tenants are sensitive to  
00:38:27 --> 00:38:27: that.  
00:38:27 --> 00:38:31: Certainly if you're going to do vivarium space, it's, it's  
00:38:31 --> 00:38:32: a huge issue.  
00:38:34 --> 00:38:34: But I know.  
00:38:35 --> 00:38:37: So this is a tip the core on a typical  
00:38:37 --> 00:38:38: floor.  
00:38:39 --> 00:38:41: And one of the things we did is if you  
00:38:41 --> 00:38:44: see on that, I don't have a pointer, but on  
00:38:44 --> 00:38:47: the 2 ends, on the North and South ends of  
00:38:47 --> 00:38:50: the building, we have this 2 hour rated shaft.  
00:38:50 --> 00:38:53: And but you see these doors, we have these, these  
00:38:54 --> 00:38:57: little platforms on the corners of the floor.  
00:38:57 --> 00:39:00: So you can, you can go into the shaft.  
00:39:00 --> 00:39:02: It's a 2 hour rated enclosure.  
00:39:02 --> 00:39:04: You go into the shaft, there's railing there.  
00:39:04 --> 00:39:07: But that space adjacent to it is for, for lab  
00:39:07 --> 00:39:10: tenants if they need to run additional utilities up and  
00:39:10 --> 00:39:12: down through to the, to the top of the bill.  
00:39:13 --> 00:39:15: So I want they want to talk, we're talking about  
00:39:15 --> 00:39:18: energy, we're talking about resiliency.  
00:39:19 --> 00:39:22: And as mentioned earlier, you know, our car, our, our  
00:39:22 --> 00:39:26: energy footprint, our energy intensity is one thing I wanted,  
00:39:26 --> 00:39:29: I wanted to talk about is there's really, there's a  
00:39:29 --> 00:39:32: few things we did with our HVAC systems I wanted  
00:39:32 --> 00:39:33: to touch on.  
00:39:34 --> 00:39:37: And there's the other thing we, I want to touch  
00:39:37 --> 00:39:41: on was the storm storm water management, water reclaim  
systems  
00:39:41 --> 00:39:41: we did.  
00:39:42 --> 00:39:44: And I want to talk a little bit about dynamic  
00:39:44 --> 00:39:44: glazing.  
00:39:44 --> 00:39:47: I think I'm running short on time though, so I  
00:39:47 --> 00:39:49: won't get too I know, I know we have a

00:39:49 --> 00:39:52: few engineers here, but I I won't get too technical.  
00:39:52 --> 00:39:55: Basically in a life science building, you know you have  
00:39:55 --> 00:39:56: to move a lot of air.  
00:39:56 --> 00:40:00: You got some of these lab spaces, 1468 air changes  
00:40:00 --> 00:40:01: an hour.  
00:40:01 --> 00:40:04: So you know the building can move 320,000 cubic feet  
00:40:04 --> 00:40:06: a minute and one through air.  
00:40:06 --> 00:40:11: So we have 480 thousand CFM supply custom supplier  
handlers  
00:40:11 --> 00:40:15: and 480 thousand CFM exhaust air handlers and.  
00:40:16 --> 00:40:20: This little, just a representation, these are basically these  
rectangles  
00:40:20 --> 00:40:21: or coil banks.  
00:40:21 --> 00:40:26: We did A3 coil bank heat recovery system, which is  
00:40:26 --> 00:40:29: is a little bit unique.  
00:40:29 --> 00:40:30: And then we did some other unique things.  
00:40:30 --> 00:40:34: But basically in the winter, if it's 10?? outside, you  
00:40:34 --> 00:40:37: know, we've got a supplier, the building is 60??, so  
00:40:37 --> 00:40:40: it allows us to recover close to, you know, over  
00:40:40 --> 00:40:43: 11,000,000 Btus from the exhaust air.  
00:40:44 --> 00:40:48: And in this situation, in this example, we're adding about  
00:40:48 --> 00:40:50: 6,000,000 energy added to do that.  
00:40:50 --> 00:40:53: But what we also did is we incorporated this, that  
00:40:53 --> 00:40:57: that middle upper rectangle on the supply tunnel represents  
the  
00:40:57 --> 00:41:00: chilled water coils in the air handler.  
00:41:00 --> 00:41:02: And what we actually do, what we can do in  
00:41:02 --> 00:41:04: the winter is we can use those as a chiller.  
00:41:05 --> 00:41:08: And in this scenario, if we had 309 tons of  
00:41:08 --> 00:41:12: internal load in the building, we could actually use that  
00:41:12 --> 00:41:13: also as reheat.  
00:41:13 --> 00:41:17: So now we're adding 13 million at the Preheat, 4  
00:41:17 --> 00:41:21: million at the chilled water coil and only 300,000 at  
00:41:21 --> 00:41:22: the reheat.  
00:41:23 --> 00:41:27: We're picking up, still picking up over 11,000,000 on the  
00:41:27 --> 00:41:31: recovery, but now we only have to add 2 million,  
00:41:31 --> 00:41:35: you know, with actual energy, external energy.  
00:41:35 --> 00:41:38: So it's really huge benefit.  
00:41:38 --> 00:41:43: I won't get into all this, just shows how we  
00:41:43 --> 00:41:46: do that this in the summer.  
00:41:46 --> 00:41:49: The three coil bank heat recovery system really has the  
00:41:49 --> 00:41:52: the the the most benefit in the summer.  
00:41:53 --> 00:41:57: You know, traditional 2 coil bank heat recovery, you don't

00:41:57 --> 00:42:00: get a lot of recovery in the summer, but in  
00:42:00 --> 00:42:04: the in, in, in the, but with a three bank  
00:42:04 --> 00:42:08: we're actually taking, we're taking heat out of the outside  
00:42:08 --> 00:42:08: air.  
00:42:08 --> 00:42:12: In this case, this example, this is a 95 dry  
00:42:12 --> 00:42:14: bulb, 76 wet bulb entering air.  
00:42:15 --> 00:42:17: We're taking 600 tons out of precool coil.  
00:42:18 --> 00:42:21: We're we're dumping it in the exhaust air right from  
00:42:22 --> 00:42:22: the building.  
00:42:23 --> 00:42:27: And then we're also using it as free reheat, dumping  
00:42:27 --> 00:42:30: 250 tons in the reheat and that that'll also lowers  
00:42:30 --> 00:42:34: the water temperature back to the precool.  
00:42:34 --> 00:42:36: So we're able to move 250 tons from the reheat,  
00:42:36 --> 00:42:40: 350 tons from the exhaust air, which does our precooling  
00:42:40 --> 00:42:40: of 600 tons.  
00:42:40 --> 00:42:44: So it takes that 600 tons off the chilled water  
00:42:44 --> 00:42:48: coils, reduces the chiller load, which is like a 3030%  
00:42:48 --> 00:42:51: reduction and actual chiller capacity needed.  
00:42:53 --> 00:42:54: Yeah, we're out.  
00:42:57 --> 00:42:58: OK.  
00:42:59 --> 00:43:01: Yeah, yeah, yeah, we sure can.  
00:43:03 --> 00:43:06: I want to let me just show this one slide  
00:43:06 --> 00:43:07: before we get into that.  
00:43:07 --> 00:43:11: We are recovering all the storm water and, as well  
00:43:11 --> 00:43:16: as the condensate from the large air handling units and,  
00:43:16 --> 00:43:20: and that basically reduces our municipal make up by  
00:43:20 --> 00:43:22: 2,000,000  
00:43:23 --> 00:43:29: gallons a year.  
00:43:29 --> 00:43:33: And dynamic glass, we're putting dynamic glass.  
00:43:33 --> 00:43:36: I don't know how much anybody knows about dynamic glass,  
00:43:36 --> 00:43:39: but typically in a, and a development like this building  
00:43:39 --> 00:43:43: across the street or FMC tower, we have a, a  
00:43:43 --> 00:43:47: fixed high performance coating in the, in the insulated glass.  
00:43:47 --> 00:43:47: They give us a solar heat gain coefficient of about  
00:43:47 --> 00:43:51: .25.  
00:43:51 --> 00:43:55: That means that 75% of that energy is reflected and,  
00:43:55 --> 00:43:59: and with dynamic glass, we can actually electric, we can  
00:43:59 --> 00:44:01: control the, the, the solar heat gain coefficient building needs  
00:44:01 --> 00:44:08: no internal shades.  
00:44:08 --> 00:44:09: And and I won't, you know, that's kind of self-explanatory,  
00:44:09 --> 00:44:09: OK.  
00:44:21 --> 00:44:23: Want to you come up?

00:44:23 --> 00:44:23: Yeah.

00:44:23 --> 00:44:24: Stay here.

00:44:24 --> 00:44:24: You're not.

00:44:26 --> 00:44:26: There you go.

00:44:27 --> 00:44:27: Great.

00:44:27 --> 00:44:28: Thank you.

00:44:29 --> 00:44:31: So we'll get to some questions from the audience in

00:44:31 --> 00:44:32: a minute.

00:44:32 --> 00:44:35: I'm curious, we have a project that's an adaptive reuse,

00:44:35 --> 00:44:38: a renovation and then a new construction.

00:44:38 --> 00:44:42: I'm curious, Claire, what constraints that you face with an

00:44:42 --> 00:44:46: adaptive reuse were the most challenging you wish you could

00:44:46 --> 00:44:47: have avoided?

00:44:47 --> 00:44:51: Maybe, Ron, from your perspective, what constraints do you

00:44:51 --> 00:44:54: wish

00:44:54 --> 00:44:54: you had which would allow you to corral conversations

00:44:54 --> 00:44:56: maybe

00:44:54 --> 00:44:56: a little differently?

00:44:59 --> 00:45:00: Well, with the Fairmont.

00:45:00 --> 00:45:03: Waterworks, as you saw with some of the drawings, it

00:45:03 --> 00:45:07: was really never meant to be building the people occupied.

00:45:07 --> 00:45:09: It was part of the machinery.

00:45:09 --> 00:45:15: So just creating an occupiable building, how to make entry,

00:45:15 --> 00:45:20: accessibility, putting systems in it, I mean those were very

00:45:20 --> 00:45:22: major constraints.

00:45:22 --> 00:45:24: And then you add the flooding exposure.

00:45:25 --> 00:45:30: So it was a lot to overcome, but I'm, you

00:45:31 --> 00:45:31: know.

00:45:32 --> 00:45:32: Constraints are also.

00:45:32 --> 00:45:35: Helpful in coming up with solutions SO.

00:45:38 --> 00:45:41: Ron, any constraints you wish you had a new construction

00:45:41 --> 00:45:41: other than?

00:45:41 --> 00:45:42: That we.

00:45:42 --> 00:45:43: I wish I had.

00:45:43 --> 00:45:43: Yeah.

00:45:43 --> 00:45:43: Yeah.

00:45:44 --> 00:45:46: I don't wish I have any new constraints.

00:45:46 --> 00:45:46: I know.

00:45:47 --> 00:45:48: Constraints I wish I had.

00:45:48 --> 00:45:49: That's a tough one.

00:45:53 --> 00:45:55: Constraints I wish I had.

00:45:57 --> 00:45:58: We'll come back.

00:45:58 --> 00:45:59: You'll come back to that.

00:46:00 --> 00:46:03: Claire, you talked about the dry flood proofing and wet  
00:46:03 --> 00:46:06: flood proofing in particular, but I think you had some  
00:46:06 --> 00:46:09: hybrid strategies where there were you did some dry proofing  
00:46:09 --> 00:46:11: and some wet flood proofing.  
00:46:11 --> 00:46:15: I'm curious what what criteria sort of governed which which  
00:46:15 --> 00:46:18: category different spaces in the building fell into so.  
00:46:22 --> 00:46:26: You know, one question that's asked a lot is why  
00:46:26 --> 00:46:30: not just use dry flood proofing to more permanently make  
00:46:30 --> 00:46:33: the facility, you know, not allow the water in to  
00:46:33 --> 00:46:34: begin with.  
00:46:35 --> 00:46:38: And back in the 1980s when the facility was studied  
00:46:38 --> 00:46:43: pretty extensively on how to the the challenges related to  
00:46:43 --> 00:46:47: adaptively reusing it, which kind of set up the restoration  
00:46:47 --> 00:46:49: campaigns that followed.  
00:46:49 --> 00:46:54: But it was studied and structurally the building, the original  
00:46:54 --> 00:46:58: building the said the water is designed to run through  
00:46:58 --> 00:46:58: it.  
00:46:58 --> 00:47:03: So it would been really structurally infeasible to just use  
00:47:03 --> 00:47:07: the existing walls to hold the water out as.  
00:47:07 --> 00:47:08: As you know if.  
00:47:08 --> 00:47:10: Water builds up unequally on one side or another.  
00:47:11 --> 00:47:13: It will make the walls unstable.  
00:47:13 --> 00:47:17: So to really dry flood proof, that facility would require  
00:47:17 --> 00:47:22: essentially building a structure with inside inside the  
structure, which  
00:47:22 --> 00:47:25: would have made it much more like a bunker and  
00:47:25 --> 00:47:27: losing a lot of the historic character.  
00:47:27 --> 00:47:31: So that's why the decision initially when it seemed like  
00:47:31 --> 00:47:35: living with the flooding would be part of the educational  
00:47:35 --> 00:47:40: program and part of the demonstration and, and, and  
balancing  
00:47:40 --> 00:47:44: the downsides with being in this important historic building  
and  
00:47:44 --> 00:47:48: having it available as the public space, that has just  
00:47:48 --> 00:47:49: become too challenging.  
00:47:49 --> 00:47:54: So we're now going back to those different techniques and  
00:47:54 --> 00:47:58: looking at how can we more locally with inside the  
00:47:58 --> 00:48:00: building create hybrid solutions.  
00:48:00 --> 00:48:05: So it's really kind of breaking down the building into  
00:48:05 --> 00:48:09: these zones that I can use or make use of  
00:48:09 --> 00:48:13: and demonstrate all those different techniques.  
00:48:14 --> 00:48:18: So I, I think it was Abby who mentioned the



00:48:18 --> 00:48:22: 5% premium associated with resilience and she was challenged on

00:48:23 --> 00:48:23: that.

00:48:24 --> 00:48:26: But I remember when that was the whole sort of

00:48:26 --> 00:48:29: discussion around lead, you know what, how much money do

00:48:29 --> 00:48:31: I have to spend to achieve a particular level lead

00:48:31 --> 00:48:32: certification?

00:48:32 --> 00:48:36: I'm curious as you guys were doing your projects, both,

00:48:36 --> 00:48:40: you know, renovation and new construction for those technologies that

00:48:41 --> 00:48:44: were elective, you know what, what sort of strategies or

00:48:44 --> 00:48:48: arguments did you use to sort of convince your, your

00:48:48 --> 00:48:51: client side to make that investment and it was, you

00:48:52 --> 00:48:55: know, that the payback was there worth worth doing?

00:48:56 --> 00:48:58: What you know, as a, as a real estate investment

00:48:58 --> 00:49:01: trust, we're always up against the economics, right?

00:49:01 --> 00:49:05: Because there's almost an unlimited amount of money you can

00:49:05 --> 00:49:09: spend on a project if you, if you get in,

00:49:09 --> 00:49:12: but there's only so much folks will pay for rent,

00:49:13 --> 00:49:13: right?

00:49:13 --> 00:49:16: So we still have shareholders and we still have to,

00:49:16 --> 00:49:19: to, to make economic sense in the end.

00:49:19 --> 00:49:23: But with that said, we I've been fortunate to be

00:49:23 --> 00:49:28: with Brandon because there's always been a focus on, on

00:49:28 --> 00:49:34: building first class buildings, you know, with efficiency and utility,

00:49:35 --> 00:49:36: long term utility.

00:49:37 --> 00:49:39: So it's, it's been very fortunate.

00:49:39 --> 00:49:41: But there, there are economic limits.

00:49:41 --> 00:49:44: We try to find those things that are, they're really

00:49:44 --> 00:49:48: practical and we try to stretch, you know, to get

00:49:48 --> 00:49:50: things done that, that, that makes sense.

00:49:50 --> 00:49:53: And I think we've done a pretty good, pretty good,

00:49:53 --> 00:49:54: pretty good job at that.

00:49:54 --> 00:49:57: In terms of some percentage, I think that's a little

00:49:57 --> 00:50:01: bit arbitrary because you know, how do you define resiliency?

00:50:01 --> 00:50:04: A lot of that's like dependent and then you know

00:50:04 --> 00:50:06: what degree you take it to, you know, that number

00:50:07 --> 00:50:08: could vary tremendously I think.

00:50:12 --> 00:50:17: I think with the Philadelphia Water Department and the Fairmont

00:50:17 --> 00:50:20: Park Commission at the time and Parks and Rec Now  
00:50:20 --> 00:50:24: fund for the waterworks, there's really a commitment to be  
00:50:24 --> 00:50:28: in the building and to make it public space.  
00:50:28 --> 00:50:33: So those incremental cost increases to make it safe and  
00:50:33 --> 00:50:38: accessible are part of making the building available.  
00:50:40 --> 00:50:43: If we go to audience, you guys want to manage  
00:50:43 --> 00:50:44: either from there?  
00:50:44 --> 00:50:45: There's a question here.  
00:50:57 --> 00:51:01: First of all, I'm no engineer, but I'm I'm generally  
00:51:01 --> 00:51:05: familiar with that Penn and Penn Madison and CHOP have  
00:51:06 --> 00:51:10: built in our building major facilities right cheek by jowl  
00:51:10 --> 00:51:15: with yours and I realized that hospitals are different from  
00:51:15 --> 00:51:17: what you have been building for.  
00:51:17 --> 00:51:22: But taking account of that, my question is, are there  
00:51:22 --> 00:51:27: has, has there been any opportunity to compare notes  
00:51:27 --> 00:51:32: between  
00:51:32 --> 00:51:35: those who designed your buildings and those who have  
00:51:35 --> 00:51:38: pen and chops buildings to evaluate?  
00:51:38 --> 00:51:40: Well, you did this, We think that's a great idea.  
00:51:40 --> 00:51:45: You did that, we think that's a great idea.  
00:51:45 --> 00:51:51: Well, maybe we should share ideas or do something that  
00:51:51 --> 00:51:56: reflects that there's a, a common understanding and what is,  
00:51:56 --> 00:51:57: are really good ideas for buildings that are supposed to  
00:51:58 --> 00:52:04: last 5000 years.  
00:52:04 --> 00:52:08: So I'm, I'm just wondering whether subject to obviously  
00:52:08 --> 00:52:13: confidential  
00:52:13 --> 00:52:17: information and all that, whether whether there has been any  
00:52:17 --> 00:52:21: discussion between Brandywine and pen and a job as to  
00:52:21 --> 00:52:26: well, how do you build for different uses conceitedly?  
00:52:26 --> 00:52:28: How do you build in the contemporary area buildings that  
00:52:28 --> 00:52:33: really are the best design subject to reasonable cost?  
00:52:33 --> 00:52:37: Absolutely.  
00:52:37 --> 00:52:41: And, and there's been lots of conversations over the years.  
00:52:41 --> 00:52:45: We've had a, a tremendous partnership with Penn and, and  
00:52:45 --> 00:52:49: hop and and hospital system and, and CHOP as well,  
00:52:49 --> 00:52:51: and some of the same engineering firms and design teams  
00:52:51 --> 00:52:55: and that that they worked with on the pavilion and  
00:52:55 --> 00:52:59: the Research Center across the river.  
00:52:59 --> 00:53:03: You know, we've, we work with some of those same  
00:53:03 --> 00:53:08: folks and, and we all, you know, there's been some  
00:53:08 --> 00:53:13: sharing of lessons learned and, and the conversations, but  
00:53:13 --> 00:53:18: certainly

00:53:03 --> 00:53:07: should be more, you know, it's, it's, I think it's  
00:53:07 --> 00:53:11: important as a, you know, as a development community that,  
00:53:11 --> 00:53:14: you know, we deliver better products.  
00:53:14 --> 00:53:17: And I think, you know, even though we're, we're not  
00:53:17 --> 00:53:20: really competitors with pen, but even when you, when you,  
00:53:20 --> 00:53:23: when you're dealing with your competitors, I think we still  
00:53:23 --> 00:53:26: want to find the best way to do things right.  
00:53:26 --> 00:53:27: So absolutely.  
00:53:28 --> 00:53:30: Maybe we'll go to a slide of the questions.  
00:53:30 --> 00:53:30: Sure.  
00:53:31 --> 00:53:34: Can these projects plan ahead to include at a later  
00:53:34 --> 00:53:37: point emerging resilience methods for future upgrades?  
00:53:40 --> 00:53:41: I can take that.  
00:53:42 --> 00:53:45: Yeah, we're, we're, that's something we, we talk about in  
00:53:45 --> 00:53:47: the design of every building.  
00:53:47 --> 00:53:51: You know, it's a question our CEO is guaranteed to  
00:53:51 --> 00:53:52: ask.  
00:53:52 --> 00:53:54: It's like, what are we doing to, you know, ensure  
00:53:54 --> 00:53:58: the utility of this building, you know, decades from now?  
00:53:58 --> 00:54:00: It's really kind of unique in the developer world or,  
00:54:00 --> 00:54:02: or in the real estate world.  
00:54:02 --> 00:54:06: Most developers are looking to figure out what the ROI  
00:54:06 --> 00:54:10: is, flip the building, you know, you know, kind of  
00:54:10 --> 00:54:14: one and done or maybe I'm exaggerating a little bit,  
00:54:14 --> 00:54:18: but it's really been great to work with Brandy one,  
00:54:18 --> 00:54:22: because our CEO has had a really long term vision  
00:54:22 --> 00:54:26: of creating lasting assets that have long utility and, and  
00:54:27 --> 00:54:28: work with the community.  
00:54:30 --> 00:54:35: And he's really been a focus on creating neighborhoods that  
00:54:35 --> 00:54:40: that work for the communities and assets that that work  
00:54:40 --> 00:54:41: long term.  
00:54:41 --> 00:54:48: And in terms specifically, I mean, you know, we've been  
00:54:48 --> 00:54:55: pushed, we've been doing, we hire Florida floors, one  
example,  
00:54:55 --> 00:54:58: for flexibility in the future.  
00:54:58 --> 00:55:01: That's really at FMC Sierra Center.  
00:55:02 --> 00:55:04: We've kind of pushed the market in terms of floor  
00:55:04 --> 00:55:05: to floor.  
00:55:05 --> 00:55:07: ICE would be one example.  
00:55:10 --> 00:55:11: There's a question over here.  
00:55:11 --> 00:55:13: I would just add to that while you maybe, oh,  
00:55:13 --> 00:55:16: there's a sorry, there's a question here I didn't realize

00:55:16 --> 00:55:16: you had.

00:55:17 --> 00:55:18: David, thanks everybody.

00:55:18 --> 00:55:19: Appreciate the panel.

00:55:20 --> 00:55:22: Lisa Shulock from the Philadelphia Energy Authority.

00:55:23 --> 00:55:25: Little bit of a question and a comment for Ron.

00:55:26 --> 00:55:29: When I look at all of the innovative things you've

00:55:29 --> 00:55:31: done around energy efficiency, I, I, I'm not sure if

00:55:31 --> 00:55:34: I don't think you work on the finance side, but

00:55:34 --> 00:55:37: do you know if there's anybody at Brandywine who's looking

00:55:37 --> 00:55:40: at all of the tax incentives that are available for

00:55:40 --> 00:55:41: those innovations?

00:55:41 --> 00:55:45: Because just for the audience, there's hundreds of thousands

00:55:45 --> 00:55:48: of

00:55:45 --> 00:55:48: dollars in there of tax benefits.

00:55:48 --> 00:55:51: And I know a REIT is, doesn't pay taxes, but

00:55:51 --> 00:55:54: the IRA created ways for, for, for those to be

00:55:54 --> 00:55:55: monetized.

00:55:55 --> 00:55:57: So that's more for all of you in the room

00:55:57 --> 00:56:00: who you know work with clients who are doing energy

00:56:00 --> 00:56:04: efficiency and renewable include and that dynamic glass you

00:56:04 --> 00:56:08: talked

00:56:04 --> 00:56:08: about that actually is eligible for the investment tax credit

00:56:08 --> 00:56:09: like solar energy is so.

00:56:10 --> 00:56:10: Yes.

00:56:10 --> 00:56:11: And we're practical stuff.

00:56:11 --> 00:56:16: We are pursuing that 3151 market the we need a

00:56:16 --> 00:56:17: tax partner.

00:56:18 --> 00:56:23: Historically, tax energy tax credits haven't been any benefit to

00:56:23 --> 00:56:28: a real estate investment trust because we, you know, we,

00:56:28 --> 00:56:33: we have to distribute our profits to the shareholders in

00:56:33 --> 00:56:34: terms of dividends.

00:56:34 --> 00:56:37: They pay tax on the dividends, but we, we're exclusive,

00:56:37 --> 00:56:39: you know, we're, we don't pay a corporate tax per

00:56:39 --> 00:56:39: SE.

00:56:39 --> 00:56:42: So we really don't have any income to offset.

00:56:42 --> 00:56:45: So it has, you know, historically historic tax credits have

00:56:45 --> 00:56:48: been no benefit to a real estate investment trust.

00:56:48 --> 00:56:52: But but the ITC, there's two projects where there's two

00:56:52 --> 00:56:56: projects we have that qualify at, at 3025 JFK, we

00:56:56 --> 00:57:01: put in two coach combine heat and power micro turbines

00:57:01 --> 00:57:05: that make all the hot water for all the apartments

00:57:05 --> 00:57:08: and make electricity at the same time.

00:57:08 --> 00:57:11: And the ITC has we, you know, it's, it's a

00:57:11 --> 00:57:16: lot of the partners are, are looking, are, are working  
00:57:16 --> 00:57:19: on much bigger projects out there.  
00:57:19 --> 00:57:22: So we've got, we've got to find a historic partner  
00:57:22 --> 00:57:24: that will work on this little micro.  
00:57:25 --> 00:57:26: We're working through that now.  
00:57:26 --> 00:57:27: But it's a it's.  
00:57:27 --> 00:57:29: It's a complicated process.  
00:57:30 --> 00:57:30: Thanks, Lisa.  
00:57:31 --> 00:57:32: Good question here.  
00:57:32 --> 00:57:37: So it's great to be moving sort of into the  
00:57:37 --> 00:57:40: entry level of of LEED silver.  
00:57:40 --> 00:57:45: But are you looking at at working towards the 2050  
00:57:45 --> 00:57:46: challenge?  
00:57:47 --> 00:57:51: And are you aware that high rise passive houses are  
00:57:51 --> 00:57:55: going up, some of the largest in the world are  
00:57:55 --> 00:57:59: going up in Boston, NY and and other places that  
00:58:00 --> 00:58:04: Cornell's dorm and Staten Island is now occupied and has  
00:58:05 --> 00:58:07: been for several years.  
00:58:07 --> 00:58:10: These are all market rate projects that are passive house.  
00:58:11 --> 00:58:13: And then of course retrofits for historic stuff.  
00:58:13 --> 00:58:15: The Marcel.  
00:58:15 --> 00:58:15: Breuer.  
00:58:15 --> 00:58:20: Hotel in New Haven is an exquisite example of retrofitting  
00:58:21 --> 00:58:23: for historic preservation.  
00:58:25 --> 00:58:29: I would be very interested in catching up with, interested  
00:58:29 --> 00:58:31: in catching up with you after this and, and get  
00:58:31 --> 00:58:33: more information on that.  
00:58:33 --> 00:58:34: It sounds intriguing.  
00:58:34 --> 00:58:37: There's been really not much of that in Philadelphia.  
00:58:37 --> 00:58:40: I, I don't know how the market would perceive it  
00:58:40 --> 00:58:41: or, or what exactly the product is.  
00:58:42 --> 00:58:44: I'm I'm not familiar with those projects, but I I  
00:58:44 --> 00:58:46: would I would be very interested in and our.  
00:59:02 --> 00:59:03: Little Bill of Rights.  
00:59:04 --> 00:59:05: You need to know that.  
00:59:11 --> 00:59:12: Where we going next slide?  
00:59:12 --> 00:59:13: We can do one more.  
00:59:13 --> 00:59:14: Is that Kevin?  
00:59:16 --> 00:59:17: Yeah.  
00:59:17 --> 00:59:19: So we have one question for you, Claire.  
00:59:19 --> 00:59:21: What do you consider the greater threat to the waterworks?  
00:59:22 --> 00:59:26: Maintaining the political will to maintain a challenging public

asset,  
00:59:26 --> 00:59:27: or climate change itself?  
00:59:36 --> 00:59:37: They're both huge challenges.  
00:59:38 --> 00:59:42: I think they both really put into focus the need,  
00:59:42 --> 00:59:47: the need to have a public will to make the  
00:59:47 --> 00:59:48: building survive.  
00:59:48 --> 00:59:55: And the water department, the fund for the waterworks, have  
00:59:55 --> 01:00:01: done great jobs of creating programs and new initiative of  
01:00:01 --> 01:00:03: getting teaching.  
01:00:03 --> 01:00:07: Out onto the water is an important aspect of making  
01:00:07 --> 01:00:11: sure people stay connected to the Water Works.  
01:00:11 --> 01:00:15: So I think that's kind of a combination of environmental  
01:00:15 --> 01:00:19: education, how we protect our assets from flooding and and  
01:00:19 --> 01:00:22: connecting with our historic sites.  
01:00:22 --> 01:00:23: So we have one.  
01:00:32 --> 01:00:32: I'm just like now.  
01:00:36 --> 01:00:37: In the inter.  
01:00:38 --> 01:00:40: Director of our office and I just want to say  
01:00:40 --> 01:00:40: about.  
01:00:41 --> 01:00:41: Here you go.  
01:00:41 --> 01:00:43: Let's just so it's sure that I am a very  
01:00:43 --> 01:00:47: receptive audience to preservation and energy efficiency.  
01:00:47 --> 01:00:49: So to the degree that you know, our office can  
01:00:49 --> 01:00:53: have these conversations and facilitate that, I personally, if I  
01:00:53 --> 01:00:56: get to stay, would love, love to do that so.  
01:00:58 --> 01:00:58: Awesome.  
01:00:58 --> 01:00:59: Thank you so much, Liz.  
01:00:59 --> 01:01:02: And I have a feeling there's probably a number of  
01:01:02 --> 01:01:05: connections that still need to be made kind of following  
01:01:05 --> 01:01:07: the formal part of today's program.  
01:01:07 --> 01:01:10: So with that, I'm going to give a big thank  
01:01:10 --> 01:01:14: you to to Dave, Claire and Ron for joining us.  
01:01:18 --> 01:01:21: And to just provide a few closing remarks.  
01:01:21 --> 01:01:24: Let me also welcome Paul from the Preservation Alliance of  
01:01:24 --> 01:01:25: Greater Philadelphia.  
01:01:27 --> 01:01:28: Thank you very much, Kevin.  
01:01:28 --> 01:01:29: Excellent job panel.  
01:01:29 --> 01:01:32: I'm Paul Steinke, Preservation Alliance for Greater  
Philadelphia.  
01:01:33 --> 01:01:36: That's US, one of the four Co sponsors of today's  
01:01:36 --> 01:01:37: program.  
01:01:37 --> 01:01:38: So my job is to get it to Kevin and

01:01:38 --> 01:01:40: then Kevin's going to send you to the bar.  
01:01:42 --> 01:01:45: But first, Johnny, would you pull up my PowerPoint please?  
01:01:47 --> 01:01:49: Oh, there's no, this is my PowerPoint.  
01:01:51 --> 01:01:53: So I just want to make a point about this  
01:01:53 --> 01:01:53: brick wall.  
01:01:53 --> 01:01:56: You've been looking at screens all day, either up here  
01:01:56 --> 01:01:59: on your phones, but if you look at this wall  
01:01:59 --> 01:02:02: for a second, everything you're looking at came out of  
01:02:02 --> 01:02:03: the earth, right?  
01:02:03 --> 01:02:06: Everything that was used to build that wall was extracted  
01:02:06 --> 01:02:07: from the earth.  
01:02:08 --> 01:02:12: There was energy to turn it into brick and mortar  
01:02:12 --> 01:02:13: and to bring it here.  
01:02:13 --> 01:02:16: And then there was labor to put it all together.  
01:02:16 --> 01:02:20: A hand touched every single one of those bricks, whatever  
01:02:20 --> 01:02:21: year that was.  
01:02:21 --> 01:02:25: And so that's a good example of why historic preservation  
01:02:25 --> 01:02:27: is, and that's my PowerPoint.  
01:02:29 --> 01:02:32: Historic preservation is one of the answers to climate change  
01:02:32 --> 01:02:33: and global warming.  
01:02:33 --> 01:02:37: Because when somebody comes along, takes that wall  
01:02:37 --> 01:02:41: down, puts  
01:02:41 --> 01:02:44: it in the landfill, all those resources extracted from the  
01:02:44 --> 01:02:45: earth, all of that energy and all that labor is  
01:02:45 --> 01:02:49: wasted.  
01:02:49 --> 01:02:54: And when it's replaced by new concrete, new cement and  
01:02:54 --> 01:02:57: steel, well, those three things contribute about 15% of  
01:02:57 --> 01:02:59: greenhouse  
01:02:59 --> 01:03:03: gas emissions when they're produced worldwide.  
01:03:03 --> 01:03:06: That's a lot, 15%.  
01:03:06 --> 01:03:10: And the statistics about the amount of concrete, cement and  
01:03:10 --> 01:03:14: steel that are being produced every year, not only here  
01:03:14 --> 01:03:16: but in rapidly expanding countries around the world, just  
01:03:16 --> 01:03:19: staggering  
01:03:19 --> 01:03:21: what it's doing to climate change and global warming.  
01:03:21 --> 01:03:23: So that's why we got to keep walls like this.  
01:03:23 --> 01:03:27: So that's my commercial about historic preservation.  
01:03:27 --> 01:03:30: Thank you for listening, Jelani.  
01:03:30 --> 01:03:32: You can now take down my PowerPoint.  
01:03:32 --> 01:03:34: And I'd now like to move on to closing remarks  
01:03:34 --> 01:03:37: and just ask all of the panelists who are still  
01:03:37 --> 01:03:39: here to please rise.  
01:03:39 --> 01:03:41: Everyone who was up here where I am now today,

01:03:37 --> 01:03:40: let's give them all a round of applause.

01:03:46 --> 01:03:49: And we're also like to acknowledge the sponsors of today's

01:03:49 --> 01:03:54: event, AIA Philadelphia Green Building United, ULI Philadelphia and the

01:03:54 --> 01:03:55: Preservation Alliance.

01:03:56 --> 01:03:58: Every all staff who are here who helped put this

01:03:58 --> 01:04:01: together, please, please rise and be acknowledged.

01:04:09 --> 01:04:11: And now I'm going to hand the mic to Kevin

01:04:11 --> 01:04:12: to send us to the bar.

01:04:14 --> 01:04:15: Awesome.

01:04:15 --> 01:04:15: Thanks so much.

01:04:16 --> 01:04:19: A little bit of a a quick commercial as well

01:04:19 --> 01:04:23: recognizing that this is the commercial break between you and

01:04:23 --> 01:04:23: the bar.

01:04:24 --> 01:04:27: But there was the comment earlier question about sort of

01:04:27 --> 01:04:31: industrial sites and the role that they play, especially I

01:04:31 --> 01:04:34: think the question was tied to the potential for for

01:04:34 --> 01:04:35: solar panels.

01:04:35 --> 01:04:38: And not exactly that topic, but you like Philadelphia recently

01:04:38 --> 01:04:40: launched an industrial local product council.

01:04:41 --> 01:04:44: And one of the conversations they have coming up in

01:04:44 --> 01:04:46: just a couple of weeks are actually looking at the

01:04:46 --> 01:04:50: future of commercial fleets, looking at hydrogen and electrical fleets

01:04:50 --> 01:04:53: and how developers and planners should be thinking about the

01:04:53 --> 01:04:56: integration of those fleets into their industrial sites into the

01:04:56 --> 01:04:56: future.

01:04:56 --> 01:04:59: So I would encourage folks, if you're interested in the

01:04:59 --> 01:05:00: topic to check that out.

01:05:00 --> 01:05:02: I'll also just note that there were a couple of

01:05:02 --> 01:05:05: review sources mentioned about ULI and some of the work

01:05:05 --> 01:05:05: that we've done.

01:05:06 --> 01:05:09: I think, Abby, you mentioned the work that ULI and

01:05:09 --> 01:05:13: OSS partnered on with the Eastwood community.

01:05:14 --> 01:05:16: And Karen, you mentioned the work that you and I

01:05:16 --> 01:05:17: did with the RWC.

01:05:17 --> 01:05:19: So I encourage everyone if you're interested in learning more

01:05:19 --> 01:05:22: about those projects to, to check out our website too.

01:05:22 --> 01:05:24: But again, on behalf of, of ULI and, and all

01:05:24 --> 01:05:27: of the partnering groups, thanks so much for joining us

01:05:27 --> 01:05:27: today.



01:05:27 --> 01:05:30: I think this was a really great conversation.  
01:05:30 --> 01:05:32: And like I said, I hope everyone is leaving a  
01:05:32 --> 01:05:34: little bit more informed and a little bit more inspired.  
01:05:35 --> 01:05:38: And I hope those that, that, that inspiration strikes you  
01:05:38 --> 01:05:40: and, and you, you leave the room today with, with  
01:05:40 --> 01:05:42: a new connection as well.  
01:05:43 --> 01:05:45: Just a couple quick reminders and some housekeeping.  
01:05:46 --> 01:05:50: If you haven't already, but you are interested in earning  
01:05:50 --> 01:05:54: continuing education credits for being here today, make sure  
you  
01:05:54 --> 01:05:57: sign up for those credits at the respective tables in  
01:05:57 --> 01:05:58: the front.  
01:05:58 --> 01:06:01: And then following today's program, we'll send a survey  
around  
01:06:01 --> 01:06:03: to all of your inboxes to get your feedback.  
01:06:03 --> 01:06:05: This is the second annual Resilience forum.  
01:06:05 --> 01:06:07: I'm sure we're all looking forward to the third annual  
01:06:07 --> 01:06:08: Resilience forum.  
01:06:08 --> 01:06:11: And your feedback from today's program is, is really  
important  
01:06:11 --> 01:06:14: to making sure that we're creating and creating content that  
01:06:14 --> 01:06:17: is of most relevance to the, to the practitioner community  
01:06:17 --> 01:06:18: here in Philadelphia.  
01:06:18 --> 01:06:21: So with that, thank you all once again for coming.  
01:06:21 --> 01:06:22: The bar is open.  
01:06:22 --> 01:06:25: There's some refreshments out as well and and I look  
01:06:25 --> 01:06:27: forward to engaging with folks for the next half hour  
01:06:27 --> 01:06:27: or so.  
01:06:28 --> 01:06:28: So thanks again.

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