



Virtual Tour

ULI's Coastal Forum Virtually Tours Toronto's Waterfronts and Floodproofing

Projects

Date: May 13, 2020

00:00:05 --> 00:00:08: Hey good morning everybody. Welcome to utilize coastal forums spring

00:00:08 --> 00:00:09: meeting webinar.

00:00:09 --> 00:00:12: I'm Leah Shepherd from utilized Urban Resilience program and we

00:00:12 --> 00:00:14: are so glad that you can join us today.

00:00:14 --> 00:00:17: While I'm showing the rules of the road to ensure

00:00:17 --> 00:00:20: our web and R foster respectful and educational environment.

00:00:20 --> 00:00:23: Please feel free to introduce yourself in the chat window

00:00:23 --> 00:00:25: at the bottom of your screen by sharing who you

00:00:25 --> 00:00:28: are and resilient Waterfront Bilton project.

00:00:28 --> 00:00:31: They are interested in learning more about.

00:00:31 --> 00:00:32: Just so a couple words,

00:00:32 --> 00:00:34: the road here. Please keep an eye on your mute

00:00:34 --> 00:00:35: button.

00:00:35 --> 00:00:37: It is at the bottom left hand side of your

00:00:37 --> 00:00:37: screen.

00:00:37 --> 00:00:39: If you have any questions,

00:00:39 --> 00:00:41: please feel free to send them in the chat box

00:00:41 --> 00:00:44: and speakers will answer them at an appropriate time.

00:00:44 --> 00:00:47: If you know you have a distracting background or notice

00:00:48 --> 00:00:50: that the meeting bandwidth may be limited,

00:00:50 --> 00:00:52: please consider turning off your video.

00:00:52 --> 00:00:55: We suggest that users use the side-by-side mode to see

00:00:56 --> 00:00:58: the presentation and speaker at the same time,

00:00:58 --> 00:01:01: you can access the setting by turning on the side

00:01:01 --> 00:01:04: by side mode under the view options button at the

00:01:04 --> 00:01:05: top of your screen.

00:01:07 --> 00:01:11: This webinar will be recorded and uploaded to Knowledge Finder

00:01:11 --> 00:01:15: shortly after the webinar ends and with that I'm going

00:01:15 --> 00:01:17: to hand it over to Jack Smith,
00:01:17 --> 00:01:18: chair of the Coastal Forum,
00:01:18 --> 00:01:21: to kick off the web and R in just about
00:01:21 --> 00:01:21: a minute.
00:01:24 --> 00:01:24: Thank you.
00:01:28 --> 00:01:30: Well yeah, thank you very much.
00:01:30 --> 00:01:34: Welcome everyone to the first virtual convening of the
00:01:34 --> 00:01:34: Coastal
00:01:34 --> 00:01:37: Forum.
00:01:37 --> 00:01:41: It may not be our last and certainly we appreciate
00:01:41 --> 00:01:43: the speakers efforts to accommodate this new venue and we
00:01:43 --> 00:01:47: appreciate your efforts to participate.
00:01:47 --> 00:01:48: This way. We want to make it as similar to
00:01:48 --> 00:01:51: our regular.
00:01:51 --> 00:01:52: Convenings as we can there will be a short session
00:01:52 --> 00:01:55: afterwards.
00:01:55 --> 00:01:58: 15 minutes can be allowed after the session for some
00:01:58 --> 00:02:02: questions and answers back and forth with the speakers or
00:02:02 --> 00:02:05: discussion among ourselves as best we could do in this
00:02:05 --> 00:02:06: type of format. Suggestions for the future is what we'll
00:02:06 --> 00:02:09: be looking for as well.
00:02:09 --> 00:02:12: At the end of the program will focus on that.
00:02:12 --> 00:02:15: For now, we want to certainly thank the team in
00:02:15 --> 00:02:17: Toronto that has been able to put together a great
00:02:17 --> 00:02:22: presentation for us of a very.
00:02:22 --> 00:02:23: Significant large multiyear resilience project that I think will
00:02:23 --> 00:02:26: learn
00:02:26 --> 00:02:27: a lot from today.
00:02:27 --> 00:02:29: As you know, the Coastal Forum is a member driven
00:02:29 --> 00:02:31: initiative.
00:02:31 --> 00:02:34: It's up to us to figure out what works and
00:02:34 --> 00:02:37: what doesn't on our waterfront.
00:02:37 --> 00:02:39: What can we do for the long term values that
00:02:39 --> 00:02:41: we're putting into real estate development?
00:02:41 --> 00:02:45: How do we make it more resilient?
00:02:45 --> 00:02:48: How do we deal with the sea level rise?
00:02:48 --> 00:02:52: The climate change? The increasing intensity of storms?
00:02:52 --> 00:02:54: The rain bombs that that make rainfall.
00:02:54 --> 00:02:56: Something harder to deal with and then we have been
00:02:56 --> 00:02:59: dealing with in the past decades.
00:02:59 --> 00:03:02: So today open your notebooks,
00:03:02 --> 00:03:05: try to take some notes.

00:02:59 --> 00:03:02: This will be recorded so you'll be able to view
 00:03:02 --> 00:03:05: it again if you miss part of it or need
 00:03:05 --> 00:03:06: to leave unexpectedly,
 00:03:06 --> 00:03:09: but we appreciate very much for being here today.
 00:03:09 --> 00:03:13: We're going to hear from Waterfront Toronto Candy on the
 00:03:13 --> 00:03:14: project,
 00:03:14 --> 00:03:18: director of the Portlands integration component will be
 speaking to
 00:03:18 --> 00:03:21: us first kind of giving us an overview of the
 00:03:22 --> 00:03:22: situation,
 00:03:22 --> 00:03:26: the area, the rather large area on the waterfront in
 00:03:26 --> 00:03:31: Toronto that this project is confronting these issues on.
 00:03:31 --> 00:03:34: Peter Preston, civil engineer with a wrap.
 00:03:34 --> 00:03:38: He's been involved in practice for 13 years and design
 00:03:38 --> 00:03:44: and construction of major transportation municipal projects in
 the Greater
 00:03:45 --> 00:03:47: Toronto Area in Canada as a very.
 00:03:47 --> 00:03:54: Good background, Anna Green infrastructure stormwater
 management brownfield development and
 00:03:54 --> 00:03:56: focus on water intensive development.
 00:03:56 --> 00:04:00: We also are welcoming Don Forbes and Meryl Schenker with
 00:04:00 --> 00:04:01: Waterfront Toronto.
 00:04:01 --> 00:04:03: As you can see their titles there.
 00:04:03 --> 00:04:06: This is a hard working team that is put together
 00:04:06 --> 00:04:09: and has already seen success and part of the project
 00:04:09 --> 00:04:12: and are working towards the next phases of it and
 00:04:12 --> 00:04:15: we look forward very much to hearing from you.
 00:04:15 --> 00:04:18: So at this time I believe that Leah will be
 00:04:18 --> 00:04:21: kind of master of ceremonies in terms of transitioning since
 00:04:21 --> 00:04:24: she controls the mouse and at this time would ask
 00:04:24 --> 00:04:26: her to please work with.
 00:04:26 --> 00:04:28: Canon get going.
 00:04:30 --> 00:04:32: OK, thank you very much,
 00:04:32 --> 00:04:35: Peter and Leah wanted to thank everyone for coming out
 00:04:35 --> 00:04:35: today.
 00:04:35 --> 00:04:38: A little bit of background on myself before we jump
 00:04:38 --> 00:04:39: into it,
 00:04:39 --> 00:04:42: so I've been working on the Portland's project since 2002.
 00:04:42 --> 00:04:45: The majority of time with the concert Toronto and Region
 00:04:45 --> 00:04:49: Conservation Authority in partnership with Waterfront
 Toronto,
 00:04:49 --> 00:04:51: and in the last couple of years I've moved over
 00:04:51 --> 00:04:54: to Waterfront Toronto to help with the team.

00:04:54 --> 00:04:57: With the coordination with larger integration with a variety of
00:04:58 --> 00:05:00: different types of infrastructure projects,
00:05:00 --> 00:05:04: public and private. That are occurring in conjunction to all
00:05:04 --> 00:05:09: the work we're doing here for creating a resilient community
00:05:09 --> 00:05:11: at the mouth of Toronto.
00:05:11 --> 00:05:13: So jumping into the project itself,
00:05:13 --> 00:05:18: this project area has some significant flood considerations we
have
00:05:18 --> 00:05:19: to look at.
00:05:19 --> 00:05:24: It is of course located within Canada's largest urban
municipality,
00:05:24 --> 00:05:28: and as such comes with all the typical urban hydrology
00:05:29 --> 00:05:32: considerations have to do with in the built form.
00:05:32 --> 00:05:36: It also is at the confluence of the Lake Ontario,
00:05:36 --> 00:05:40: so we do have the consideration of higher Lake levels
00:05:40 --> 00:05:43: that we've been recently dealing with.
00:05:43 --> 00:05:47: And of course it also has a significant River.
00:05:47 --> 00:05:50: It's not large in comparison to many rivers,
00:05:50 --> 00:05:53: and throughout the States and Canada,
00:05:53 --> 00:05:57: but it is a significant urban River system that flows
00:05:58 --> 00:06:00: right through the middle of the site.
00:06:00 --> 00:06:05: That does create a significant flood vulnerability.
00:06:05 --> 00:06:08: Under provincial flood regulations in Ontario.
00:06:11 --> 00:06:13: So jumping into the first bit,
00:06:13 --> 00:06:17: we have, sorry you've jumped a little bit ahead of
00:06:17 --> 00:06:18: the mutant there only.
00:06:18 --> 00:06:21: Oh, so I just wanted to see if we can
00:06:21 --> 00:06:25: go back to urban flooding so we do have significant
00:06:25 --> 00:06:29: amount of high intensity rainfall events that occur throughout
the
00:06:29 --> 00:06:32: Toronto area on a regular basis.
00:06:32 --> 00:06:35: This was an event that occurred back in 2013 where
00:06:35 --> 00:06:39: we had about 3 hours of intense rainfall that overwhelmed
00:06:39 --> 00:06:42: all our urban systems and River systems.
00:06:42 --> 00:06:46: And these types of storms are increasing in frequency,
00:06:46 --> 00:06:49: so the significant sideration next slide,
00:06:49 --> 00:06:51: please.
00:06:51 --> 00:06:55: Lake Ontario. The last two years I alluded to earlier,
00:06:55 --> 00:06:57: Lake Ontario has.
00:06:57 --> 00:07:03: Experienced record level conditions. As most of the Great
Lakes
00:07:03 --> 00:07:07: have in the last particularly last year 2017 was a
00:07:07 --> 00:07:11: new record and then 2019 was even higher than the

00:07:11 --> 00:07:15: previous 2017 with the project location being on.

00:07:15 --> 00:07:19: Lakeville area completed about 100 years ago.

00:07:19 --> 00:07:23: We don't have a lot of free board over the

00:07:23 --> 00:07:26: existing Lake level conditions,

00:07:26 --> 00:07:29: so making sure that. Anything that we put in there

00:07:29 --> 00:07:31: is a sustainable community in the area.

00:07:31 --> 00:07:34: Has to consider the influences of Lake directly as well

00:07:34 --> 00:07:36: as on the stormwater infrastructure.

00:07:36 --> 00:07:36: Next slide.

00:07:38 --> 00:07:44: River in flooding. We have unique regulatory conditions in Ontario.

00:07:44 --> 00:07:48: The regulatory floodplain is defined by the province as the

00:07:49 --> 00:07:53: one in 100 year flood event or the largest rainfall

00:07:53 --> 00:07:57: event on record within a specific geographic area.

00:07:57 --> 00:08:01: In our case, Toronto was hit with the remnants of

00:08:01 --> 00:08:05: Hurricane Hazel in the 1950s and as a result we

00:08:05 --> 00:08:09: utilized the the precipitation that has was.

00:08:09 --> 00:08:13: Inundated on the Toronto area and model that throughout our

00:08:13 --> 00:08:17: various watersheds to determine what is the extent of flooding.

00:08:17 --> 00:08:20: This area. At the mouth of the Don River.

00:08:20 --> 00:08:24: Into the inner harbor. Toronto is the largest flood vulnerable

00:08:24 --> 00:08:26: area in the Toronto region.

00:08:26 --> 00:08:27: Next slide.

00:08:31 --> 00:08:35: As you can see, our project area is at the

00:08:35 --> 00:08:37: mouth of the Don River Valley.

00:08:37 --> 00:08:41: Lived on River itself, has covers about an area of

00:08:41 --> 00:08:46: about 210 square kilometres and it does start up in

00:08:46 --> 00:08:51: the oakwood's brain and flows through series of municipalities,

00:08:51 --> 00:08:54: culminating in the highly urbanized area,

00:08:54 --> 00:08:59: Toronto. The River discharges into Lake Ontario at a right

00:08:59 --> 00:09:00: hand corner.

00:09:00 --> 00:09:04: Called the Keating Channel and most of the area surrounding

00:09:04 --> 00:09:06: it is was Lakefield.

00:09:06 --> 00:09:10: As I mentioned earlier, covering all going a good distance

00:09:10 --> 00:09:13: upstream of the River where the previous mouth of the

00:09:13 --> 00:09:17: River used to occur and as such creates a significant

00:09:17 --> 00:09:22: consideration on moving forward with the design for any works

00:09:22 --> 00:09:23: next slide.

00:09:23 --> 00:09:28: Extent of the floodplain is.

00:09:28 --> 00:09:31: So what you see here is the results of a

00:09:31 --> 00:09:35: combination of the hydrological modeling and hydraulic modeling.

00:09:35 --> 00:09:38: To determine that under a hurricane Hazel like event in

00:09:38 --> 00:09:39: the Dawn watershed,

00:09:39 --> 00:09:43: we'd have approximately 290 hectares of land at risk of

00:09:43 --> 00:09:47: flooding that would occur through multiple locations at the at

00:09:47 --> 00:09:51: the right hand turn into the Keating Channel just underneath

00:09:51 --> 00:09:54: the railway embankment, which you can see just to the

00:09:54 --> 00:09:57: left of the middle of the screen and also the

00:09:57 --> 00:10:00: ponding of water that occurs near the top of the

00:10:00 --> 00:10:04: screen. There's an underpass. Called Eastern Ave that allows spill

00:10:04 --> 00:10:08: into the residential communities in that area as well.

00:10:08 --> 00:10:11: So the intent of this project is to eliminate the

00:10:11 --> 00:10:12: flood risk to this area.

00:10:12 --> 00:10:14: Up to the regulatory flood.

00:10:14 --> 00:10:17: Plus an additional 50 centimeters of freeboard,

00:10:17 --> 00:10:20: which is actually a significant mental water under a major

00:10:20 --> 00:10:24: flood event given the flow velocities to to deal with

00:10:24 --> 00:10:27: the sustainability and certainly due to climate change and other

00:10:27 --> 00:10:30: factors. Next slide.

00:10:35 --> 00:10:37: What you could also see is to the left was

00:10:38 --> 00:10:41: what used to be the floodplain on the West side

00:10:41 --> 00:10:42: of the Don River,

00:10:42 --> 00:10:45: a project that we worked on with Waterfront GRC in

00:10:46 --> 00:10:48: the city back in the 2000s was lower.

00:10:48 --> 00:10:53: Don River, Western media flood protection project combined with the

00:10:53 --> 00:10:56: West Don lands at Cork Town Commons Project,

00:10:56 --> 00:11:01: which basically established a large landform which will be talked

00:11:01 --> 00:11:01: about.

00:11:01 --> 00:11:04: Later on by Peter combined with the new railway railway

00:11:04 --> 00:11:08: expansion Bridge to deal with the water that would have

00:11:08 --> 00:11:11: been pushed it back into the River as result of

00:11:11 --> 00:11:13: this new land form and so about 10 years over

00:11:13 --> 00:11:16: 10 years ago we illuminated the flood risk to much

00:11:16 --> 00:11:18: of the downtown core of Toronto.

00:11:18 --> 00:11:21: So now we're trying to finish the project off with

00:11:21 --> 00:11:23: the Portland's project.

00:11:23 --> 00:11:26: Eliminate the remaining flood vulnerable area.

00:11:26 --> 00:11:27: Next slide.

00:11:34 --> 00:11:38: The option that we have basically has a different lots
00:11:38 --> 00:11:39: of different components.
00:11:39 --> 00:11:42: We are doing. Basically we're trying to create 3 new
00:11:42 --> 00:11:46: outlets for the River instead of having the River turn
00:11:46 --> 00:11:50: right directly into the Keating Channel as it's also outlet,
00:11:50 --> 00:11:53: we're actually going to be creating a low flow base
00:11:53 --> 00:11:53: flow,
00:11:53 --> 00:11:57: naturalised River channel that continues straight South of the
00:11:58 --> 00:11:58: Keating
00:11:58 --> 00:12:01: Channel,
00:12:01 --> 00:12:02: and then veers through meandering wave pattern.
00:12:02 --> 00:12:06: Through the middle of the site,
00:12:06 --> 00:12:07: effectively creating an island called Billiards Island as well as
00:12:07 --> 00:12:09: another island to the South Pole.
00:12:09 --> 00:12:12: Some precinct.
00:12:12 --> 00:12:14: This River naturalized River system will have a series of
00:12:14 --> 00:12:16: adjacent wetlands and an riparian areas.
00:12:16 --> 00:12:18: Tide in with park scapes.
00:12:18 --> 00:12:20: Before you get into development areas,
00:12:20 --> 00:12:24: the third outlet you see goes straight into the ship
00:12:24 --> 00:12:25: channel that's actually going to be a wetland that separated
00:12:25 --> 00:12:28: from the Don River.
00:12:28 --> 00:12:31: Them fast majority of time.
00:12:31 --> 00:12:32: Ann is only fed by water from Lake Ontario through
00:12:32 --> 00:12:36: the ship Channel itself,
00:12:36 --> 00:12:38: but an under major severe events around the one one
00:12:38 --> 00:12:40: and 25 year to 150 year event.
00:12:40 --> 00:12:42: Flood waters from the dawn to be able to go
00:12:42 --> 00:12:46: through that location as well,
00:12:46 --> 00:12:50: acting as a naturalized spillway so it has multiple benefits,
00:12:50 --> 00:12:54: improving ecology, recreation, as well as providing flood
00:12:54 --> 00:12:55: relief so
00:12:55 --> 00:12:58: that we're not putting all the flows erosive flows into
00:12:58 --> 00:13:01: a single location.
00:13:01 --> 00:13:06: The Keating Channel remains in place is a hard.
00:13:06 --> 00:13:07: Deep wide channel. It provides an urban context to the
00:13:07 --> 00:13:11: future communities around the area of prominent Ann and
00:13:11 --> 00:13:12: recreational
00:13:12 --> 00:13:17: space under regular,
00:13:17 --> 00:13:18: frequent flooding, it becomes the main conduit for
00:13:18 --> 00:13:19: floodwaters to
00:13:19 --> 00:13:20: go that way,
00:13:20 --> 00:13:21: also providing protection against the naturalized components

00:13:17 --> 00:13:18: and under a
00:13:18 --> 00:13:23: regulatory flood event.
00:13:23 --> 00:13:23: It takes about 60% of the flows as well.
00:13:29 --> 00:13:30: Next slide.
00:13:30 --> 00:13:33: This is a bit of a video,
00:13:33 --> 00:13:37: so this gives you a conceptual idea of what the
00:13:37 --> 00:13:40: River will look like with the naturalized River wetlands.
00:13:40 --> 00:13:42: Urban areas with the built form around it,
00:13:42 --> 00:13:46: and if you could hit the little arrow there,
00:13:46 --> 00:13:48: Leah that you can see what happens under the regulatory
00:13:48 --> 00:13:51: floor flow conditions with the storm.
00:13:51 --> 00:13:54: Just give you context before I sign off.
00:13:55 --> 00:13:57: Let others chat the base flow conditions we're looking at
00:13:57 --> 00:13:59: about four cubic meters per second,
00:13:59 --> 00:14:03: or in the summer for the River itself.
00:14:03 --> 00:14:07: Under the regulatory storm, events were looking at 5th,
00:14:07 --> 00:14:09: basically 1600 cubic meters per second of water that we
00:14:09 --> 00:14:13: have to convey into Lake Ontario.
00:14:13 --> 00:14:14: The 100 year event is about 500 and 500 cubic
00:14:14 --> 00:14:17: meters per second,
00:14:17 --> 00:14:19: so it gives you sort of the magnitude of volumes
00:14:19 --> 00:14:22: of water we're dealing with.
00:14:30 --> 00:14:34: So with that I will sign off my portion.
00:14:34 --> 00:14:37: Right, hi thank you Peter go ahead.
00:14:37 --> 00:14:38: Thanks, thanks Ken. Thanks Sally and Jack for bringing us
00:14:41 --> 00:14:43: together today.
00:14:43 --> 00:14:47: My name is Peter Preston.
00:14:47 --> 00:14:50: I'm a civil engineer in Arabs in infrastructure practice here
00:14:50 --> 00:14:54: in the in Toronto and today when we talking about
00:14:54 --> 00:14:56: Cork Town common is rather a unique park in in
00:14:56 --> 00:14:59: Toronto. So it's a Cork town.
00:15:00 --> 00:15:00: Common is 7 Hecter signature and an award winning park
00:15:00 --> 00:15:05: in the West.
00:15:05 --> 00:15:09: Don Lands neighborhood Ann really formed the cornerstone
00:15:09 --> 00:15:12: of the
00:15:12 --> 00:15:15: areas that revitalization at the mouth of the Don River
00:15:15 --> 00:15:20: and some of the short list of the park amenities
00:15:20 --> 00:15:23: and. Into the large pavilion water play area.
00:15:23 --> 00:15:26: Sandy playgrounds dog run, walking trails and and over 700
00:15:26 --> 00:15:30: trees and thousands of shrubs.
00:15:26 --> 00:15:30: Including the city's first artificial March March,
00:15:26 --> 00:15:30: which provides a great habitat for birds and phibians,

00:15:30 --> 00:15:33: and really is a destination within the city.

00:15:33 --> 00:15:36: Now, what makes at the park unique is that it's

00:15:36 --> 00:15:40: integrated with the areas flood protection landform as well as

00:15:40 --> 00:15:45: its ambitious sustainability and stormwater management and

00:15:45 --> 00:15:49: strategy. These are the two short stories that I'll focus

00:15:49 --> 00:15:50: on today.

00:15:50 --> 00:15:52: You don't mind.

00:15:52 --> 00:15:53: Flipping Leo.

00:15:56 --> 00:15:59: So just some very quick facts about the park.

00:15:59 --> 00:16:02: It's located East of Toronto's downtown,

00:16:02 --> 00:16:05: adjacent to the Don River.

00:16:05 --> 00:16:08: And with the Portlands just located to the South,

00:16:08 --> 00:16:11: it was officially opened in July 2014.

00:16:11 --> 00:16:15: It was developed by Waterfront Toronto and is now operated

00:16:15 --> 00:16:17: and maintained by the city's parks,

00:16:17 --> 00:16:22: Forestry and Recreation. Division was designed by

00:16:22 --> 00:16:27: landscape architects Michael

00:16:27 --> 00:16:30: Van Valkenburgh Associates with multi dis engineering

00:16:30 --> 00:16:35: services by Arab,

00:16:35 --> 00:16:35: which included civil, structural, mechanical,

00:16:35 --> 00:16:38: electrical and sustainability design. It was constructed by

00:16:38 --> 00:16:41: Eastern Construction

00:16:41 --> 00:16:44: Company.

00:16:41 --> 00:16:44: At a cost of 16,000,000.

00:16:46 --> 00:16:50: And we can flip to the next one late.

00:16:50 --> 00:16:53: So the the Western lands both once a brownfield site

00:16:53 --> 00:16:54: with a large risk of flooding from the Don River

00:16:54 --> 00:16:59: as Canada noted,

00:16:59 --> 00:17:04: and the flood hazard lands could not be redeveloped until

00:17:04 --> 00:17:07: the Conservation Authority requirements for protecting that

00:17:07 --> 00:17:12: land for the

00:17:12 --> 00:17:14: major for the major storms were satisfied.

00:17:14 --> 00:17:17: And that solution was the flood protection landform.

00:17:17 --> 00:17:21: And as the name suggests,

00:17:21 --> 00:17:24: that protects the area from flooding in the Don River

00:17:24 --> 00:17:26: Valley and so prior to revitalization of the area.

00:17:26 --> 00:17:28: the West Donlands really was a remnant of the dairy's

00:17:28 --> 00:17:34: industrial past,

00:17:34 --> 00:17:35: which was home to factory cement plants,

00:17:35 --> 00:17:38: hog processing facilities and even munitions work during

00:17:38 --> 00:17:41: World War

00:17:41 --> 00:17:44: One.

00:17:35 --> 00:17:38: Really, as a soil contamination was was also a significant
00:17:39 --> 00:17:41: barrier to the development as well,
00:17:41 --> 00:17:44: and so the the landform as you see on the
00:17:44 --> 00:17:47: bottom left is about four meters high and extends for
00:17:47 --> 00:17:50: over 700 meters from Queen St and in the North
00:17:50 --> 00:17:54: to the rail corridor in the self in required about
00:17:54 --> 00:17:58: 400,000 cubic meters of clean soil that was imported from
00:17:58 --> 00:18:00: across the Greater Toronto area,
00:18:00 --> 00:18:03: in which also acted as a as a clean cap
00:18:03 --> 00:18:05: over the contaminated soils.
00:18:05 --> 00:18:09: And surfing a dual purpose and so the construction of
00:18:09 --> 00:18:12: the land form was completed in 2012 and it removed
00:18:12 --> 00:18:16: well over 200 hectares of land from the Don River
00:18:16 --> 00:18:21: floodplain, which included areas extending as far West as
00:18:21 --> 00:18:26: almost
00:18:26 --> 00:18:30: to the downtown financial district and early estimates were
00:18:30 --> 00:18:34: that
00:18:36 --> 00:18:37: the landform removed more than 160 million dollars in flood
00:18:36 --> 00:18:37: flood damage risk in the event of a major storm.
00:18:36 --> 00:18:37: Flipping to the next one.
00:18:41 --> 00:18:45: So the flood protection line form itself was developed by
00:18:46 --> 00:18:52: by Infrastructure Ontario and the Toronto Region
00:18:46 --> 00:18:52: Conservation Authority with
00:18:52 --> 00:18:57: design and construction by a common and elite construction.
00:18:57 --> 00:19:01: And here you can see a larger section through the
00:19:01 --> 00:19:04: landform with the park above.
00:19:04 --> 00:19:09: Sitting on the landform and the regulatory flood depth for
00:19:09 --> 00:19:11: Hurricane Hazel,
00:19:11 --> 00:19:14: shown in the blue dotted line.
00:19:14 --> 00:19:18: How much extends through the park and the clay core
00:19:18 --> 00:19:20: of the landform,
00:19:20 --> 00:19:24: which prevents water from penetrating through it?
00:19:28 --> 00:19:32: And then flip the next one layer.
00:19:32 --> 00:19:37: So the the flood protection landform enabled the
00:19:32 --> 00:19:37: development of
00:19:37 --> 00:19:39: the West Donlands.
00:19:39 --> 00:19:44: I'm extending to beyond the Distillery District to Parliament
00:19:39 --> 00:19:44: St.
00:19:44 --> 00:19:48: In the background there, which included the dry side of
00:19:48 --> 00:19:49: the landform,
00:19:49 --> 00:19:52: which is the Cork town common side.
00:19:52 --> 00:19:57: You can see the the delineation line between the flushable
00:19:57 --> 00:20:00: wet and the protected dry side of the landform and

00:20:01 --> 00:20:03: the great image on the right,
00:20:03 --> 00:20:08: showing the successful planting and naturalization elements of the park,
00:20:08 --> 00:20:14: including the. The Marsh and the Aspen Grove and the
00:20:14 --> 00:20:18: the The Pavilion just on center left.
00:20:18 --> 00:20:22: And so the landform really could have been seen as
00:20:22 --> 00:20:23: a as a constraint,
00:20:23 --> 00:20:29: but instead the landscape architects used it to become.
00:20:29 --> 00:20:33: More of an integral part of the park design and
00:20:33 --> 00:20:34: and as you can see,
00:20:34 --> 00:20:39: it's really enabled. Spectacular views over the Toronto skyline from
00:20:39 --> 00:20:42: the the new elevations across the park.
00:20:45 --> 00:20:49: Great if you can flip to the next slide please.
00:20:49 --> 00:20:54: So moving on from from the parks integration with the
00:20:54 --> 00:20:58: flood protection land format onto the bit of the water
00:20:58 --> 00:21:02: story for the site and so arups design with water
00:21:02 --> 00:21:06: approach places every integrated water cycle at the heart of
00:21:07 --> 00:21:09: sustainable design and delivery,
00:21:09 --> 00:21:14: and these were some of the guiding principles that were
00:21:14 --> 00:21:17: applied in the park design.
00:21:17 --> 00:21:22: Including acknowledging water as a valuable resource by by
00:21:22 --> 00:21:23: minimizing
00:21:23 --> 00:21:27: potable water use,
00:21:27 --> 00:21:27: and reusing greywater for the parks irrigation and in March
00:21:27 --> 00:21:27: supply.
00:21:27 --> 00:21:32: Returning water to the Earth by minimizing impermeable
00:21:32 --> 00:21:35: surfaces and
00:21:35 --> 00:21:38: promoting at source stormwater control.
00:21:38 --> 00:21:42: Supplying water for life by irrigating the plant life,
00:21:42 --> 00:21:45: improving microclimate and fostering diversity.
00:21:45 --> 00:21:49: Protecting from floods. Of course.
00:21:49 --> 00:21:53: Safeguarding the area from flooding in extreme events which
00:21:53 --> 00:21:59: other
00:21:59 --> 00:22:02: the flood form served and reconnecting people with water by
00:22:02 --> 00:22:05: providing a legacy infrastructure offering recreational
00:22:05 --> 00:22:08: educational benefits and really
00:22:08 --> 00:22:15: adding to the local community.
00:22:15 --> 00:22:20: And next slide please.
00:22:20 --> 00:22:25: And so, um. A closed loop water recycling system really
00:22:25 --> 00:22:30: helps minimize the amount of municipal supplied.
00:22:30 --> 00:22:35: Water is actually used in the parks maintenance.
00:22:35 --> 00:22:40: And the park stormwater management system manage is the

majority
00:22:30 --> 00:22:32: over stormwater on site,
00:22:32 --> 00:22:38: which results in a significant reduction of discharge volumes from
00:22:38 --> 00:22:40: the site and outperforms.
00:22:40 --> 00:22:46: Required local criteria and so some of the key components
00:22:46 --> 00:22:47: of the system.
00:22:47 --> 00:22:49: Included.
00:22:49 --> 00:22:53: Collection of grey water from the splash pads,
00:22:53 --> 00:22:56: which is then treated on site before being conveyed to
00:22:56 --> 00:22:57: the parks.
00:22:57 --> 00:23:02: Marsh and irrigation systems. The collective grey water is treated
00:23:02 --> 00:23:08: using microfilters and ultraviolet sterilization equipment that's located beneath the
00:23:08 --> 00:23:12: Park pavilion and the treated water is combined.
00:23:12 --> 00:23:17: With the park, why drainage system that collects stormwater can
00:23:17 --> 00:23:18: convey that to the Marsh,
00:23:18 --> 00:23:23: which also function as a tertiary treatment system and combining
00:23:23 --> 00:23:28: the filtered and disinfected grey water from the play area
00:23:28 --> 00:23:32: and with the natural rainfall provides a more frequent flow
00:23:32 --> 00:23:34: of new water in the Marsh,
00:23:34 --> 00:23:39: which also helps maintain oxygen levels and prevents stagnation as
00:23:39 --> 00:23:40: well.
00:23:40 --> 00:23:43: And another kind of hidden element is.
00:23:43 --> 00:23:46: A 900 cubic meter underground cistern,
00:23:46 --> 00:23:50: which has a footprint of about 40 by 15 meters
00:23:50 --> 00:23:54: under the number 4 on the top of the screen
00:23:54 --> 00:23:59: and this sister in stores the collected surface stormwater and
00:23:59 --> 00:24:04: overflows from the Martian is reused for the park wide
00:24:04 --> 00:24:09: irrigation and so in summer the splash pad itself can
00:24:09 --> 00:24:13: consume upwards of 570,000 liters of water.
00:24:13 --> 00:24:16: Each week, and instead of being wasted,
00:24:16 --> 00:24:20: it is UV filtered and reused to help reduce the
00:24:20 --> 00:24:20: parks,
00:24:20 --> 00:24:28: potable water consumption and also helping achieve the parks sustainability
00:24:28 --> 00:24:28: goals.
00:24:28 --> 00:24:33: So it really is successful in that respect and.
00:24:33 --> 00:24:37: Um, and that's it. So that's that's Cork town Commons.
00:24:37 --> 00:24:39: And if you're ever looking for a park to visit

00:24:39 --> 00:24:40: in the city,
00:24:40 --> 00:24:42: it it really is a destination.
00:24:45 --> 00:24:46: Thanks Jeff.
00:24:51 --> 00:24:53: Thanks very much.
00:24:53 --> 00:24:54: Don mirror
00:24:58 --> 00:25:00: hi.
00:25:00 --> 00:25:02: I'm just working to share the screen.
00:25:18 --> 00:25:21: Alright, hi everyone, my name is Don Forbes.
00:25:21 --> 00:25:25: I'm the solar mediation and earthworks project director for the
00:25:25 --> 00:25:30: Portland Flood Protection enabling Infrastructure project and
thanks a lot
00:25:30 --> 00:25:31: Peter for that.
00:25:31 --> 00:25:34: That really good description of Cork Town common in a
00:25:34 --> 00:25:38: past life I worked on the environmental remediation and
approvals
00:25:38 --> 00:25:42: program for for the flood protection platform Cork Town
Common
00:25:42 --> 00:25:45: and the redevelopment of West Palm lined up as the
00:25:45 --> 00:25:48: Pan Am Games athletes Village for 2015.
00:25:48 --> 00:25:52: Great, great talk. So I'm gonna take us through the
00:25:52 --> 00:25:55: rest of the Portland's project.
00:25:55 --> 00:25:59: So let's let's get walking for virtual walking.
00:25:59 --> 00:26:02: Here is the path that we're going to be taking
00:26:02 --> 00:26:03: for our tour.
00:26:03 --> 00:26:06: Peters already talked about Cork Town common.
00:26:06 --> 00:26:09: We're going to head South from from that area through
00:26:09 --> 00:26:13: the sediment and debris management area for the project
we're
00:26:13 --> 00:26:16: going to cross Lake Shore Blvd and then hit Villier
00:26:16 --> 00:26:19: St Commissioner St and get down to to the shipping
00:26:19 --> 00:26:22: channel taking various stops along the way to describe the
00:26:23 --> 00:26:27: different features of the Portland Protection project that we're
going
00:26:27 --> 00:26:29: to see.
00:26:29 --> 00:26:33: This is a current drone survey photo that they were
00:26:33 --> 00:26:34: using.
00:26:34 --> 00:26:38: You could see we've we've raised most of the area
00:26:38 --> 00:26:41: and are working on earthworks program.
00:26:41 --> 00:26:45: This area of Toronto is about 2 to 2 1/2
00:26:45 --> 00:26:51: kilometers due East of the financial center of Toronto
Intersection,
00:26:51 --> 00:26:56: King and King and Bay where Canada's primary financial
institutions

00:26:56 --> 00:26:59: are all headquartered so.

00:26:59 --> 00:27:02: We're really close to the downtown core and where we're

00:27:02 --> 00:27:05: open to create a great new community in that area

00:27:05 --> 00:27:08: that is really accessible to all the residents.

00:27:08 --> 00:27:10: This is the future. What we're looking at.

00:27:10 --> 00:27:14: You see the Parkland in the wetland habitat that we're

00:27:14 --> 00:27:17: creating along the New River mouth as well as the

00:27:17 --> 00:27:17: new new streets.

00:27:17 --> 00:27:21: New new Cherry Street Commissioner Street on roadway

00:27:21 --> 00:27:22: with new

00:27:21 --> 00:27:22: infrastructure.

00:27:24 --> 00:27:28: Peters walked us through Cork Town common so it'll breeze

00:27:28 --> 00:27:32: right past there and will head down to these sentiment

00:27:32 --> 00:27:34: and debris management area.

00:27:34 --> 00:27:37: This is at the northern end of our our project

00:27:37 --> 00:27:41: area and in order to convey the floodwaters underneath the

00:27:41 --> 00:27:42: Lakeshore Bridge,

00:27:42 --> 00:27:45: which is right here, we need to widen that area.

00:27:45 --> 00:27:48: And of course, when you widen river,

00:27:48 --> 00:27:51: you start dropping out the sentiment.

00:27:51 --> 00:27:53: Currently the settlement drops open,

00:27:53 --> 00:27:55: the Keating Channel an is.

00:27:55 --> 00:27:59: Collected by by dredging the Keating Channel every every

00:27:59 --> 00:28:01: year

00:27:59 --> 00:28:01: or every few months in the summer,

00:28:01 --> 00:28:05: and then that that material is disposed of elsewhere.

00:28:05 --> 00:28:07: But as soon as we widen this area,

00:28:07 --> 00:28:10: we're going to have to manage all the sentiment in

00:28:10 --> 00:28:11: this location.

00:28:11 --> 00:28:15: We're also going to have to create debris management

00:28:15 --> 00:28:19: because

00:28:15 --> 00:28:19: this this 40 kilometre long River is usually brings a

00:28:19 --> 00:28:22: lot of Woody debris during storms down South.

00:28:22 --> 00:28:25: This area is going to house equipment to dredge.

00:28:25 --> 00:28:31: The settlement and collect the debris that comes down the

00:28:31 --> 00:28:32: Don River.

00:28:32 --> 00:28:33: This is.

00:28:36 --> 00:28:38: An aerial drone survey of this zone.

00:28:38 --> 00:28:42: So right in here is where we're going to have

00:28:42 --> 00:28:43: the debris management area.

00:28:43 --> 00:28:47: We have to remove these buildings and this billboard.

00:28:47 --> 00:28:51: We've already taken down all the vegetation in this area

00:28:51 --> 00:28:53: in preparation of these activities.

00:28:53 --> 00:28:57: This this road. Here this is the ramps between the
00:28:57 --> 00:29:00: Don Valley Parkway and the Gardner Expressway,
00:29:00 --> 00:29:04: which is a major major commuter route and transportation
route
00:29:04 --> 00:29:06: in and out of the downtown.
00:29:06 --> 00:29:11: Or city. This is obviously during our pandemic time,
00:29:11 --> 00:29:13: so traffic is really light.
00:29:13 --> 00:29:16: It's usually significantly busier than this,
00:29:16 --> 00:29:19: and here we have Lakeshore Blvd,
00:29:19 --> 00:29:23: again a significant arterial arterial Rd within the City of
00:29:23 --> 00:29:23: Toronto.
00:29:26 --> 00:29:30: Now we're going to move from the settlement debris
management
00:29:30 --> 00:29:33: area down to the intersection of the Don River in
00:29:33 --> 00:29:35: the Keating Channel.
00:29:35 --> 00:29:41: Of course, the Don River was channelized.
00:29:41 --> 00:29:42: So we're going to back.
00:29:42 --> 00:29:45: Her daughter was channelized a little bit further North of
00:29:45 --> 00:29:46: this location,
00:29:46 --> 00:29:48: and as Ken mentioned earlier,
00:29:48 --> 00:29:51: when they filled in the Marsh at at the mouth
00:29:51 --> 00:29:52: of the River,
00:29:52 --> 00:29:54: they made the water taken 90 degree bend in the
00:29:54 --> 00:29:58: Keating Channel and of course water doesn't particularly like
to
00:29:58 --> 00:30:00: do that in a flooding event.
00:30:00 --> 00:30:02: So when the flood does occur,
00:30:02 --> 00:30:04: this is one of the areas where it overtops and
00:30:04 --> 00:30:07: spills out all through the Portland Zan,
00:30:07 --> 00:30:08: the South of Eastern area.
00:30:11 --> 00:30:14: This is the current conditions that we're looking at.
00:30:14 --> 00:30:16: You see, the dawn overflows down here.
00:30:16 --> 00:30:18: Here is Lakeshore Blvd and your ramps.
00:30:18 --> 00:30:22: The sedimentary management area will be up in this zone
00:30:22 --> 00:30:22: in the future,
00:30:22 --> 00:30:25: and here you have the 90 degree bend of Keating
00:30:25 --> 00:30:26: Channel.
00:30:29 --> 00:30:32: As noted, the Don Don River was channelized up to
00:30:32 --> 00:30:33: about this point.
00:30:33 --> 00:30:36: If anyone is familiar with Toronto,
00:30:36 --> 00:30:38: this is Bloor St and this is Queen St,
00:30:38 --> 00:30:42: both very, very major routes within the city.
00:30:42 --> 00:30:46: So about halfway between that point is where the

channelization

00:30:46 --> 00:30:49: began and extends all the way down to the former

00:30:49 --> 00:30:50: mouth.

00:30:52 --> 00:30:55: This area here is the King and Bay Area

00:30:55 --> 00:30:56: that I mentioned earlier,

00:30:56 --> 00:30:59: which is, you know, the financial core of the City

00:30:59 --> 00:31:00: of Toronto.

00:31:04 --> 00:31:08: As we carry on, we're going to move between Villier

00:31:08 --> 00:31:12: St and Commissioner St into the future River Valley.

00:31:12 --> 00:31:16: This area is going to primarily be a an ice

00:31:16 --> 00:31:17: management area.

00:31:17 --> 00:31:20: Of course we have a lot of ice that flows

00:31:20 --> 00:31:24: down the Don River in the winters and this area

00:31:24 --> 00:31:27: is going to capture most of that that I so

00:31:27 --> 00:31:30: it's being constructed with armor,

00:31:30 --> 00:31:35: stone surfaces and very resilient finishes so that we don't

00:31:35 --> 00:31:39: have constant damage to to those those areas that are

00:31:39 --> 00:31:42: in need of consistent repair.

00:31:42 --> 00:31:45: The rest of the River is going to have very

00:31:45 --> 00:31:47: resilient finishes as well,

00:31:47 --> 00:31:50: but those are softer in nature because the flows are

00:31:50 --> 00:31:54: a little bit more dissipated the further you get along

00:31:54 --> 00:31:55: the River,

00:31:55 --> 00:31:58: and we don't have the ice buildup to deal with

00:31:58 --> 00:32:02: so various various finishes of gravel and some of the

00:32:02 --> 00:32:06: bends will contain exposed root wads from trees that have

00:32:06 --> 00:32:10: been harvested from from elsewhere in the province of

00:32:10 --> 00:32:12: Ontario

00:32:10 --> 00:32:12: to protect and preserve.

00:32:12 --> 00:32:16: The channel that we're creating.

00:32:16 --> 00:32:20: This is the local, the intersection of Villier St and

00:32:20 --> 00:32:22: the Dawn roadway looking Southwest,

00:32:22 --> 00:32:26: so we're looking this way right here as this is

00:32:26 --> 00:32:30: an old former industrial property was used for some

00:32:30 --> 00:32:33: stockpiling

00:32:30 --> 00:32:33: of soil from other developments,

00:32:33 --> 00:32:38: and we're busy addressing all of those past contamination

00:32:38 --> 00:32:42: issues

00:32:38 --> 00:32:42: and excess soil issues at the moment.

00:32:42 --> 00:32:45: This is the view that you'll see from there in

00:32:45 --> 00:32:46: the future.

00:32:46 --> 00:32:50: Here you have your your New River Valley cutting across

00:32:50 --> 00:32:54: and then the new Villagers Island precinct with mixed use

00:32:54 --> 00:32:57: residential developments throughout.

00:33:05 --> 00:33:08: So here you have your Keating Channel and the River

00:33:08 --> 00:33:11: Valley is going to cut through here across failures.

00:33:13 --> 00:33:15: And this is Commissioner St.

00:33:15 --> 00:33:18: It'll run along Commissioner St.

00:33:18 --> 00:33:21: Before sweeping to the West and heading North,

00:33:21 --> 00:33:26: this is newly excavated soil that we are stockpiling here

00:33:26 --> 00:33:29: for future future remediation and reuse.

00:33:29 --> 00:33:31: This is rocky, the rock Ripper.

00:33:31 --> 00:33:35: This is a very large excavator that we're using to

00:33:35 --> 00:33:39: construct a slurry wall cut off wall down to bedrock

00:33:39 --> 00:33:41: to allow us to do water.

00:33:41 --> 00:33:46: The River Valley excavation this this piece of equipment is

00:33:46 --> 00:33:49: one of the largest excavators I've ever seen in my

00:33:50 --> 00:33:50: life.

00:33:50 --> 00:33:54: And the stick and the boom are able to extend

00:33:54 --> 00:33:55: about 95 feet,

00:33:55 --> 00:34:00: and the bucket that's on this is is able to

00:34:00 --> 00:34:01: get about.

00:34:01 --> 00:34:04: About 30 or 40 centimeters.

00:34:04 --> 00:34:06: So a foot to a foot and a half into

00:34:06 --> 00:34:10: the competent shale bedrock that we have at depth.

00:34:10 --> 00:34:14: Very significant piece of equipment and you can follow it

00:34:14 --> 00:34:15: on Twitter.

00:34:15 --> 00:34:17: At at Rocky the Ripper.

00:34:21 --> 00:34:26: So from here we're moving down to the Dawn Greenway

00:34:26 --> 00:34:27: and spillway.

00:34:27 --> 00:34:29: Yeah, we're just up here.

00:34:29 --> 00:34:32: We move down the future River will cut through failures

00:34:32 --> 00:34:36: through commissioners before sweeping along this

00:34:36 --> 00:34:37: alignment,

00:34:36 --> 00:34:37: out to the Poulson slip.

00:34:41 --> 00:34:43: Don't think we're getting another video here.

00:34:45 --> 00:34:50: So here's, Commissioners will have a new bridge

00:34:50 --> 00:34:55: constructed on

00:34:50 --> 00:34:55: Commissioners crossing the New River Valley and will

00:34:55 --> 00:34:58: extend through

00:34:55 --> 00:34:58: the Greenway and the Don Greenway will be home to

00:34:58 --> 00:35:02: a very significant wetland that will not have a lot

00:35:02 --> 00:35:04: of easy human access,

00:35:04 --> 00:35:08: so this provides a lot of really high quality habitat

00:35:08 --> 00:35:11: as well as the sort of 3rd relief valve for

00:35:11 --> 00:35:15: floodwaters that it can noted earlier as floodwater.

00:35:15 --> 00:35:19: Exceeds the capacity of the Keating Channel and the new
00:35:19 --> 00:35:20: naturalized River.
00:35:20 --> 00:35:24: It'll overflow through the wetland and then out into the
00:35:24 --> 00:35:25: shipping channel,
00:35:25 --> 00:35:27: which is right down here.
00:35:27 --> 00:35:31: We're protecting the new wetland from the influx of carp.
00:35:31 --> 00:35:35: Another large fish species by installing carp gates along that
00:35:35 --> 00:35:37: that shipping channel dock wall.
00:35:41 --> 00:35:45: Here you see one of the old factories that was
00:35:45 --> 00:35:47: in the portlands in this area.
00:35:47 --> 00:35:52: So right now we are looking looking SW again towards
00:35:52 --> 00:35:55: the shipping channel in this direction.
00:35:55 --> 00:35:58: This building was removed last summer.
00:35:58 --> 00:36:01: And this is the rendering of what this will look
00:36:01 --> 00:36:02: like in the future.
00:36:02 --> 00:36:04: You have the shipping channel down.
00:36:04 --> 00:36:07: Here you have this high quality wetland habitat that's being
00:36:07 --> 00:36:11: created and the only access for human interaction with the
00:36:11 --> 00:36:13: wetland is on the on the perimeter.
00:36:13 --> 00:36:16: So let me trails and boardwalks in the perimeters,
00:36:16 --> 00:36:18: but they won't be able to get in so that
00:36:18 --> 00:36:19: we can.
00:36:19 --> 00:36:21: We can leave this area to the bugs in the
00:36:21 --> 00:36:22: bunnies and the fish.
00:36:26 --> 00:36:28: This is another drone shot.
00:36:28 --> 00:36:32: This is our pretreatment pond for dewatering effluent.
00:36:32 --> 00:36:34: So any any water that we pump out of the
00:36:34 --> 00:36:35: ground.
00:36:35 --> 00:36:39: Today water goes through here to separate free phase.
00:36:39 --> 00:36:42: A hydrocarbon or an Apple and settlement from that water
00:36:42 --> 00:36:46: before it's conveyed to our water treatment plant.
00:36:46 --> 00:36:49: Right here we have a 1,000,000 gallon in fluent holding
00:36:50 --> 00:36:53: tank and a 2 million gallon effluent holding tank but
00:36:53 --> 00:36:56: the water is pumped from the pretreatment pond.
00:36:56 --> 00:36:58: To the influence tank there,
00:36:58 --> 00:37:00: it's pumped into our treatment system,
00:37:00 --> 00:37:02: which is a multi phase treatment system.
00:37:02 --> 00:37:06: To remove hydrocarbons and metals and volatile organic
00:37:06 --> 00:37:09: compounds and
00:37:09 --> 00:37:12: polyaromatic hydrocarbons from that way stream.
00:37:12 --> 00:37:16: Then it goes into the 2 million 2 million gallon
00:37:12 --> 00:37:16: holding tank before we ultimately discharged shipping

channel and we have to meet what's called the provincial water quality objectives

before we can discharge, which are very stringent the the Lake in Lake Ontario doesn't even meet the provincial water quality objectives.

To work. We have a very significant system in place that's designed to treat between one and 3 million liters per day.

I mentioned the slurry wall cut off walls in the northern portion of the property.

This sinuous line that you see here and here.

Those are structural secant pile walls that extend all the way to to bedrock,

and those and the story walls form our cut off wall to allow us to do water.

The excavation to build all these new finishes back up in a dry environment,

but in this area we needed to construct with the structural secant pile walls so that we can.

We can support the side walls of the excavation.

We will also be reconstructing.

Commissioner St about 2 meters higher than it currently sits, and we're building a new Cherry Street again about 2 meters higher than it currently sits,

and this will allow us to install all new utilities and services to support the future redevelopment.

This is a shot of our water treatment system being constructed.

Some more on site activities you see to sort of.

Identifiers in these shots. One is the CN Tower right here.

This is the Atlas Crane which was used when this was an industrial port to move boats and other materials in and out of the Polston slip.

It's been listed as a heritage element of the Portland, so it's being preserved through this process and will be integrated into one of the parks and then here you see the Lafarge Silos cement plant.

And this is what this area is going to look like in the future.

Here you have the. The Atlas cream.

00:39:23 --> 00:39:26: And the Lafarge Silos for reference purposes.

00:39:26 --> 00:39:30: And you can see how the River Valley is going

00:39:30 --> 00:39:32: to snake through that area.

00:39:32 --> 00:39:36: Under the new Cherry Street Bridge and out into Lake

00:39:36 --> 00:39:37: Ontario.

00:39:37 --> 00:39:40: And this gentleman needs to improve his posture.

00:39:42 --> 00:39:46: So next, we've gone through the whole River Valley and

00:39:46 --> 00:39:50: we're going to end up in Promontory Park.

00:39:50 --> 00:39:53: This area right up here is what we refer to

00:39:53 --> 00:39:56: as the Cherry St Lake filling project.

00:39:56 --> 00:40:00: This is all lakefill that was put in between the

00:40:00 --> 00:40:04: existing slips that were there to expand the overall footprint

00:40:05 --> 00:40:09: of Promontory Park and allow us to create some interesting

00:40:09 --> 00:40:15: new habitat features that will talk about momentarily.

00:40:15 --> 00:40:17: As you can see, here is your Atlas Crane,

00:40:17 --> 00:40:19: so the New River Valley is going to cut right

00:40:19 --> 00:40:22: through into what's referred to as Pohlson slip.

00:40:22 --> 00:40:25: This is the Cherry St Lake filling area and this

00:40:25 --> 00:40:28: will be Promontory Park South.

00:40:32 --> 00:40:36: New Cherry Street will run along this alignment and you

00:40:36 --> 00:40:40: can see the search charging material that's been placed here

00:40:40 --> 00:40:43: to Geo technically improve the ground conditions.

00:40:43 --> 00:40:47: We also have surcharge in this area to improve the

00:40:47 --> 00:40:50: ground conditions in future Promontory Park,

00:40:50 --> 00:40:53: but also as a soil stockpiling area.

00:40:53 --> 00:40:57: We have one point. 3,000,000 cubic meters of soil that

00:40:57 --> 00:41:01: we're going to be excavating from the River Valley and

00:41:01 --> 00:41:03: we need to reuse that soil to create.

00:41:03 --> 00:41:07: All of these landforms and raise grades to achieve flood

00:41:07 --> 00:41:08: protection.

00:41:08 --> 00:41:10: Some of it can be used directly,

00:41:10 --> 00:41:14: other others have to be remediated before we can reuse.

00:41:14 --> 00:41:16: This is existing Cherry Street here,

00:41:16 --> 00:41:20: which will remain for the time being until until redevelopment

00:41:20 --> 00:41:21: occurs.

00:41:25 --> 00:41:27: Here we have again Cherry St.

00:41:27 --> 00:41:31: This is looking East along the New River Valley.

00:41:31 --> 00:41:34: Here is your soil management area.

00:41:34 --> 00:41:40: Sorry, little stockpiling area we have liners that we've put

00:41:40 --> 00:41:41: down to ensure that.

00:41:41 --> 00:41:46: Contaminated soil they were stockpiling for future

remediation doesn't impact

00:41:46 --> 00:41:48: the existing ground surface.

00:41:48 --> 00:41:50: This is the future of Promontory Park.

00:41:53 --> 00:41:56: The site is was formerly Marine Terminal 35 M T-35,

00:41:56 --> 00:42:01: and so it actually has heritage significance to the City

00:42:01 --> 00:42:01: of Toronto,

00:42:01 --> 00:42:06: so it is being commemorated through the through some art

00:42:06 --> 00:42:10: installations that are that are occurring.

00:42:10 --> 00:42:14: This is the Cherry Street Lakeville area that identified earlier

00:42:14 --> 00:42:18: and here we have one of the new habitats that

00:42:18 --> 00:42:18: was created.

00:42:18 --> 00:42:21: In that.

00:42:21 --> 00:42:23: Area so here we go.

00:42:23 --> 00:42:25: So this is.

00:42:25 --> 00:42:28: One of the one of the new habitat coves that

00:42:28 --> 00:42:32: was created to allow birds and other fish to have

00:42:32 --> 00:42:33: a high quality,

00:42:33 --> 00:42:38: high quality habitat. This was the concept that was created

00:42:38 --> 00:42:42: by the landscape architects and this is the reality you

00:42:42 --> 00:42:47: see these these trees that have been placed there not

00:42:47 --> 00:42:50: there, not live trees or dead trees to allow bird

00:42:50 --> 00:42:54: habitat and then you have fish gates here and here

00:42:54 --> 00:42:55: to prevent.

00:42:55 --> 00:42:58: The influx of carp, another large fish species,

00:42:58 --> 00:43:01: to allow the smaller sufficient fish species to thrive in

00:43:01 --> 00:43:01: this area.

00:43:05 --> 00:43:10: So this is last summer.

00:43:10 --> 00:43:12: Year and a half ago or so you see the

00:43:12 --> 00:43:15: outlook screen in this area and you see the preferred

00:43:15 --> 00:43:18: silos in the River will cut with the two of

00:43:18 --> 00:43:20: them.

00:43:20 --> 00:43:23: And this is the artist rendering of what this area

00:43:23 --> 00:43:25: will look like.

00:43:25 --> 00:43:28: We call this Canoe Cove and it's a series of

00:43:28 --> 00:43:32: small islands and little channels that run between those

00:43:32 --> 00:43:36: islands

00:43:36 --> 00:43:42: to allow to allow a great interactive experience for for

00:43:42 --> 00:43:42: the users with other wildlife that will exist in the

00:43:42 --> 00:43:45: area.

00:43:42 --> 00:43:45: Lastly, we're going to pop over to the new Cherry

00:43:45 --> 00:43:49: Street and Cherry Street Bridge area course to Orient

00:43:49 --> 00:43:49: ourselves

00:43:49 --> 00:43:49: here.

00:43:49 --> 00:43:52: You have the Don River and the Keating Channel.

00:43:57 --> 00:44:01: We're going to keep moving in our drone survey past
00:44:01 --> 00:44:03: the West Cove Habitat area.
00:44:05 --> 00:44:08: And the North Cove habitat area.
00:44:08 --> 00:44:11: This Swale will be illuminated in the future.
00:44:11 --> 00:44:15: Right now it's conveying storm water out through the area
00:44:15 --> 00:44:17: and this is our location of Cherry Street.
00:44:17 --> 00:44:21: You can see the surcharge pile that's there.
00:44:21 --> 00:44:25: Bridge foundations are already underway as you can see
here
00:44:25 --> 00:44:26: and here.
00:44:26 --> 00:44:31: We've had to reconstruct the dock wall in this area.
00:44:31 --> 00:44:35: And eventually this will tie into Lakeshore Blvd just a
00:44:35 --> 00:44:37: little bit North of the picture.
00:44:41 --> 00:44:44: And this is a rendering of the new Cherry St.
00:44:44 --> 00:44:48: Northbridge. All three of the bridges Cherry St N Cherry
00:44:48 --> 00:44:51: St South which crosses over the River mouth as well
00:44:51 --> 00:44:54: as the new Commissioner Street Bridge,
00:44:54 --> 00:44:56: are all designed very similarly.
00:44:56 --> 00:45:00: Similarly, they are currently being manufactured on the East
Coast
00:45:00 --> 00:45:02: of Canada and Halifax,
00:45:02 --> 00:45:05: and they'll be they'll be shipped by.
00:45:05 --> 00:45:08: My ship through the got out of the Great Lakes
00:45:08 --> 00:45:12: starting next fall for for the beginning of installation.
00:45:14 --> 00:45:17: And I'm going to pass it off to mirror to
00:45:17 --> 00:45:19: take over the rest of the show.
00:45:19 --> 00:45:23: Thanks Don. So now that we've all walked through and
00:45:23 --> 00:45:27: hopefully everyone's a little bit more oriented to the site
00:45:27 --> 00:45:30: and the portlands and broader Eastern waterfront,
00:45:30 --> 00:45:33: we thought it might be worth to end by.
00:45:36 --> 00:45:39: Just zooming out and taking a look at what all
00:45:39 --> 00:45:41: of this work means.
00:45:41 --> 00:45:44: You want to just go back really quickly done for
00:45:44 --> 00:45:45: one second.
00:45:45 --> 00:45:48: Think what this all means for the potential to revitalize
00:45:48 --> 00:45:51: the rest of the designated waterfront area,
00:45:51 --> 00:45:55: which Waterfront Toronto was mandated to revitalize so you
can.
00:45:55 --> 00:45:57: You can see here on this plan.
00:45:57 --> 00:46:02: View all of the white massing that represents future
neighborhoods
00:46:02 --> 00:46:05: that are either in the midst of being planned or
00:46:05 --> 00:46:06: approved so.

00:46:06 --> 00:46:09: Millers Island there in the center which is created as
00:46:09 --> 00:46:11: Don just walked us through by carving out the new
00:46:11 --> 00:46:15: rumor that messing represents the approved precinct plan
that City
00:46:15 --> 00:46:18: Council approved in 2017 for mixed use community on what
00:46:18 --> 00:46:21: will become an island failures island to the North of
00:46:21 --> 00:46:22: that.
00:46:22 --> 00:46:26: That massing represents another potential future precinct
which is heating
00:46:26 --> 00:46:29: channel precinct that gets enabled by the shifting of the
00:46:29 --> 00:46:33: Lakeshore Blvd in Gardner Expressway that John pointed out
early
00:46:33 --> 00:46:36: on further North to create that extra space there.
00:46:36 --> 00:46:39: And then to the East of addon roadway,
00:46:39 --> 00:46:43: that additional massing, those are future precinct to be
planned,
00:46:43 --> 00:46:46: not as much residential in the mix,
00:46:46 --> 00:46:47: but.
00:46:47 --> 00:46:50: More film uses an light industrial uses to build on
00:46:50 --> 00:46:52: to the existing film industry in the Portland,
00:46:52 --> 00:46:55: so that's the bigger picture in the Portland,
00:46:55 --> 00:46:57: in Eastern waterfront. And if you go to the next
00:46:57 --> 00:47:00: slide you can see kind of that same approach was
00:47:00 --> 00:47:03: taken in previous precincts at Waterfront Toronto worked on
so
00:47:03 --> 00:47:05: you can see the potential of spaces.
00:47:05 --> 00:47:07: So this is what the West on lines look like
00:47:07 --> 00:47:10: before the development of Cork Town common.
00:47:10 --> 00:47:12: And if you go to the next slide you can
00:47:12 --> 00:47:13: see that West Online.
00:47:13 --> 00:47:16: So development for the the original Pan Am Athletes Village
00:47:16 --> 00:47:18: all ringing out spreading out.
00:47:18 --> 00:47:21: From Cork Town common, sort of catalyzed by the creation
00:47:21 --> 00:47:22: of that park in public space,
00:47:22 --> 00:47:25: that neighborhood is still being built out.
00:47:25 --> 00:47:28: Another mixed use neighborhood, and if you go to the
00:47:28 --> 00:47:31: next slide you can see early aerial image of another
00:47:31 --> 00:47:34: big precinct that waterfront work with data plan that's East
00:47:34 --> 00:47:37: Bayfront. So there's a Parliament slip on the edge and
00:47:37 --> 00:47:40: the port lines would be just to the right East
00:47:40 --> 00:47:41: of where we're looking here,
00:47:41 --> 00:47:44: so that's what it looked like it before.
00:47:44 --> 00:47:46: In the early 2000s. If you go to the next

00:47:46 --> 00:47:49: slide you can see that the development of that.

00:47:49 --> 00:47:52: Community is now ongoing with the generous water waters edge

00:47:52 --> 00:47:53: promenade.

00:47:53 --> 00:47:54: With the role of trees.

00:47:54 --> 00:47:56: We've got parks including Sugar Beach,

00:47:56 --> 00:47:58: which is to the left there at the Jarvis slip

00:47:59 --> 00:48:02: and we've got mixed use development starting to come along.

00:48:02 --> 00:48:04: So this just gives you a sense of kind of

00:48:04 --> 00:48:06: the potential that sprouts up.

00:48:06 --> 00:48:10: From running this investment now into remediating these sample test

00:48:10 --> 00:48:14: real faces and starting with public realm like we're doing

00:48:14 --> 00:48:14: in Portland.

00:48:14 --> 00:48:16: And that's it, I think.

00:48:16 --> 00:48:19: Well, this is actually to end with our aspiration to

00:48:19 --> 00:48:21: bring Ryan Gosling to Portlands in Toronto.

00:48:21 --> 00:48:23: This is what the view will be like in the

00:48:23 --> 00:48:24: future,

00:48:24 --> 00:48:27: hopefully from Promontory Park when we're complete.

00:48:27 --> 00:48:28: When we're finished building it,

00:48:28 --> 00:48:30: and you can see that CN Tower,

00:48:30 --> 00:48:33: which Don pointed out a number of times to sort

00:48:33 --> 00:48:36: of ground you to that Westward view into the Toronto's

00:48:36 --> 00:48:37: downtown and financial center.

00:48:37 --> 00:48:40: So from Promontory Park, this would be the experience that

00:48:41 --> 00:48:42: people will have in the Portland.

00:48:45 --> 00:48:48: Great mirror hundon. Thank you very much for that and

00:48:48 --> 00:48:49: Peter,

00:48:49 --> 00:48:50: thanks for yours and Ken.

00:48:50 --> 00:48:52: Thank you again as well.

00:48:52 --> 00:48:54: Will have some questions now.

00:48:54 --> 00:48:58: Hopefully we can ask them from the audience as well

00:48:58 --> 00:49:00: as we look at our time here.

00:49:00 --> 00:49:05: It's been a very long project and I think it

00:49:05 --> 00:49:07: is an industrious.

00:49:07 --> 00:49:10: An advanced thinking type of project.

00:49:10 --> 00:49:14: One of the questions is where did the \$16,000,000 come from?

00:49:14 --> 00:49:15:

00:49:15 --> 00:49:19: What were the sources of income for the Cork town

00:49:19 --> 00:49:20: common?

00:49:20 --> 00:49:22: Peter, do you know?

00:49:22 --> 00:49:26: Um, for perhaps when you wanna front runners up on
00:49:26 --> 00:49:26: that,
00:49:26 --> 00:49:29: but I assume it's it was probably a combination of
00:49:29 --> 00:49:31: provincial and federal funding.
00:49:31 --> 00:49:34: And then I can give a little detail on that,
00:49:34 --> 00:49:36: and also for the larger project,
00:49:36 --> 00:49:39: Portland's too, is that a separate funding source?
00:49:39 --> 00:49:42: So how did? How did all this come together?
00:49:42 --> 00:49:44: Yeah, so for Cork Town Commons,
00:49:44 --> 00:49:47: that was just for the the Cork Town common split.
00:49:47 --> 00:49:50: The cost for the landform in the railway bridge,
00:49:50 --> 00:49:53: which didn't really get into a lot of discussion.
00:49:53 --> 00:49:58: That brought the total cost in excess of.
00:49:58 --> 00:50:02: Hundred \$1,000,000 when it's all said and done that was
00:50:02 --> 00:50:06: funded by the three levels of government with the initial
00:50:06 --> 00:50:10: contributions put in back in 2002 by all three levels
00:50:10 --> 00:50:14: of government. The Portland's Flood Protection Project itself
was a
00:50:14 --> 00:50:17: separate contribution agreement,
00:50:17 --> 00:50:20: established in two phases, one in 2016 for the Cherry
00:50:20 --> 00:50:22: Street Lakeville,
00:50:22 --> 00:50:26: which was funded entirely by the federal government and
that
00:50:26 --> 00:50:27: cost \$65,000,000.
00:50:27 --> 00:50:29: That work is now done.
00:50:29 --> 00:50:33: It came under budget. And then the remaining portions of
00:50:34 --> 00:50:36: the work was 1.2 billion dollars.
00:50:36 --> 00:50:40: For to do all the other works that Don was
00:50:40 --> 00:50:41: working through.
00:50:41 --> 00:50:46: That is contribution between all three levels of government
split
00:50:46 --> 00:50:50: three ways and that was assigned in in 2018.
00:50:53 --> 00:50:58: Very good, very very ambitious and it looks like it's
00:50:58 --> 00:51:00: going very well.
00:51:00 --> 00:51:03: Peter, I guess it's been several years since the park
00:51:03 --> 00:51:04: is open.
00:51:04 --> 00:51:07: If you had to change anything after seeing how it's
00:51:07 --> 00:51:08: been operating,
00:51:08 --> 00:51:10: would you make any changes?
00:51:10 --> 00:51:12: How is how is it performed based on expectations?
00:51:17 --> 00:51:20: Yeah, so I guess I suppose overall.
00:51:22 --> 00:51:26: You know the the park is is really satisfying the
00:51:26 --> 00:51:29: Parkland requirements for for new community,

00:51:29 --> 00:51:34: providing you know successful recreational facilities and amenities for the

00:51:34 --> 00:51:39: for the mixed residential development and providing opportunities for for

00:51:39 --> 00:51:44: community stewardship and and heritage interpretation as well.

00:51:44 --> 00:51:47: But I think some of the the challenges that remain

00:51:48 --> 00:51:52: are around the extensive of planting and naturalization and.

00:51:52 --> 00:51:56: With over 700 trees and thousands of.

00:51:56 --> 00:52:00: Um of aquatic plants and in ground covering's the amount

00:52:00 --> 00:52:04: of maintenance that is that is needed is is.

00:52:04 --> 00:52:09: It's really quite intensive and with you know the horticulture,

00:52:09 --> 00:52:14: maintenance, weeding, pruning. An actually quite a few issues with

00:52:14 --> 00:52:18: with invasive species as well being so close to the

00:52:18 --> 00:52:23: to the Don River and post to migratory flyway routes.

00:52:23 --> 00:52:26: And I think that that may be a key takeaway

00:52:26 --> 00:52:27: that may.

00:52:27 --> 00:52:32: Um baby a lesson for the for the Portland's development

00:52:32 --> 00:52:37: and their approach to the to the naturalization of that

00:52:37 --> 00:52:37: area.

00:52:37 --> 00:52:39: Yes, so nature can always be a challenge.

00:52:39 --> 00:52:42: That's what we're trying to deal with in terms of

00:52:42 --> 00:52:44: resilience to start with,

00:52:44 --> 00:52:48: where there any unexpected remediation surprises.

00:52:48 --> 00:52:50: Either in that or the portlands.

00:52:52 --> 00:52:54: Not that not that I know of for for Cork

00:52:55 --> 00:52:55: Town,

00:52:55 --> 00:52:56: but it's a good one.

00:52:56 --> 00:53:00: Can around Don could pick that one up discuss that.

00:53:00 --> 00:53:04: Both both the West on lands and the Portland's have

00:53:04 --> 00:53:06: under gone very,

00:53:06 --> 00:53:11: very expensive organization of soil and groundwater conditions.

00:53:11 --> 00:53:15: I wouldn't say anything was unexpected.

00:53:15 --> 00:53:20: There's a significant amount of contamination on both sites.

00:53:20 --> 00:53:24: Both sites are going through a risk assessment process because

00:53:24 --> 00:53:25: it's not.

00:53:25 --> 00:53:30: It's not technically or financially feasible to full scale remediation

00:53:30 --> 00:53:31: of those sites.

00:53:31 --> 00:53:33: Before we do it, nor is it,

00:53:33 --> 00:53:37: nor is it necessary, because the way we're constructing these

00:53:37 --> 00:53:42: things where we're placing barriers to the existing site

00:53:42 --> 00:53:46: contaminants

00:53:46 --> 00:53:48: to prevent exposure of human and ecological receptors.

00:53:48 --> 00:53:52: So these barriers include, you know,

00:53:52 --> 00:53:53: clean cap thickness is for trees and plants to be

00:53:53 --> 00:53:56: to be planted in.

00:53:56 --> 00:53:58: They include in the bottom of the River Valley,

00:53:58 --> 00:54:02: Geosynthetic clay liner and Geomembranes.

00:54:02 --> 00:54:06: To prevent the influx of contaminated groundwater into the

00:54:06 --> 00:54:06: River

00:54:06 --> 00:54:10: Valley on the sides of the River Valley we're putting

00:54:10 --> 00:54:13: in.

00:54:13 --> 00:54:18: We have those structural seeking file walls in some areas

00:54:18 --> 00:54:21: and in other areas we have a Claiborne that prevents

00:54:21 --> 00:54:26: the the lateral influx of contaminated groundwater into the

00:54:26 --> 00:54:32: River.

00:54:32 --> 00:54:35: All of these systems that we're putting in place are

00:54:35 --> 00:54:39: fairly common practice in in the redevelopment of brownfield

00:54:39 --> 00:54:39: sites,

00:54:39 --> 00:54:41: and they're all they're undergoing significant review through

00:54:41 --> 00:54:44: the Ontario

00:54:44 --> 00:54:46: Ministry of Environment.

00:54:46 --> 00:54:49: Conservation parks the City of Toronto soil and Groundwater

00:54:49 --> 00:54:53: Management

00:54:53 --> 00:54:55: Unit,

00:54:55 --> 00:54:58: the Toronto Region Conservation Authority,

00:54:58 --> 00:55:01: as well as our own team of internal experts and

00:55:01 --> 00:55:03: 3rd party peer reviewers.

00:55:03 --> 00:55:06: So we're taking these well established concepts and

00:55:06 --> 00:55:10: combining them

00:55:10 --> 00:55:12: into the implementation of 1 very very significant project.

00:55:12 --> 00:55:15: But you know, we do have to remediate some of

00:55:15 --> 00:55:18: the soil before we can reuse it because it's too

00:55:18 --> 00:55:19: contaminated and some of it is going to have to

00:55:19 --> 00:55:22: go on site because there's no.

00:55:22 --> 00:55:25: There's no viable way to remediate it.

00:55:25 --> 00:55:28: Economically, the Portland's was the subject to significant

00:55:28 --> 00:55:31: amount of

00:55:31 --> 00:55:34: petrochemical storage over the years,

00:55:34 --> 00:55:37: and there is actually a refinery on site.

00:55:37 --> 00:55:40: So in the worst areas we really have no choice

00:55:40 --> 00:55:43: but to remove it.

00:55:43 --> 00:55:46: But Luckily we have to raise all these grades by

00:55:22 --> 00:55:25: on average 2 meters around the entire site,
 00:55:25 --> 00:55:28: so that gives us the opportunity to take that soil
 00:55:28 --> 00:55:30: and reuse it sustainably,
 00:55:30 --> 00:55:34: to which protection and to create all the great landforms
 00:55:34 --> 00:55:36: that are being designed into parts.
 00:55:36 --> 00:55:40: Very good, I said great Brownfield project on a slightly
 00:55:40 --> 00:55:43: different bent on that same question about was there
 anything
 00:55:44 --> 00:55:47: unexpected found in addition to looking at the soil quality
 00:55:47 --> 00:55:51: conditions were also very cognisant that this is sort of
 00:55:51 --> 00:55:54: the juncture of past River and coastal Marsh at Lake
 00:55:54 --> 00:55:55: Ontario,
 00:55:55 --> 00:55:59: so we have a significant archaeological study component that
 has
 00:55:59 --> 00:56:02: to be done as we excavate through these layers so
 00:56:02 --> 00:56:05: the majority of the materials in the top five meters
 00:56:05 --> 00:56:08: or so is. Recent place fill but we are going
 00:56:08 --> 00:56:11: to be cutting into the native soils that were in
 00:56:12 --> 00:56:15: the wetlands and some of the past or for logical
 00:56:15 --> 00:56:19: structures in there. There's beaches and sandbars and spits,
 00:56:19 --> 00:56:23: so we'll be having archaeologists going out every day when
 00:56:23 --> 00:56:27: we get into the deeper excavations of the River Valley
 00:56:27 --> 00:56:31: to ensure that we are looking for past indigenous activities
 00:56:31 --> 00:56:35: as well. Is more recent activities such as locations trying
 00:56:35 --> 00:56:39: to find the old foundations for past governor breakwaters.
 00:56:39 --> 00:56:43: Foundations for cottages that were placed along the spit
 back
 00:56:43 --> 00:56:47: in 1800s and other interesting artifacts throughout the
 process,
 00:56:47 --> 00:56:50: and we did that also for the Cork town common
 00:56:51 --> 00:56:52: pieces as well.
 00:56:52 --> 00:56:54: Very elaborate on unexpected. Well,
 00:56:54 --> 00:56:58: we were kind of let me ask accommodation question and
 00:56:58 --> 00:56:59: we have some time.
 00:56:59 --> 00:57:03: After this we will have at least 15 minutes to
 00:57:03 --> 00:57:04: ask additional questions,
 00:57:04 --> 00:57:07: but I wanted to get one out right now in
 00:57:07 --> 00:57:11: terms of the kind of design criteria that were used.
 00:57:11 --> 00:57:12: This is a multi year,
 00:57:12 --> 00:57:16: if not, you know decades long project and what were
 00:57:16 --> 00:57:18: the Lake level rise?
 00:57:18 --> 00:57:20: Or is future storm conditions.
 00:57:20 --> 00:57:23: You know what benchmarks were being used?

00:57:23 --> 00:57:26: For Cork Town are the same ones being used now
 00:57:26 --> 00:57:29: or are you updating that as you go?
 00:57:29 --> 00:57:32: How does this fit into the kind of overall resilience
 00:57:32 --> 00:57:35: efforts in Toronto from that perspective?
 00:57:35 --> 00:57:38: And if we're lucky to get to Toronto in 2023
 00:57:38 --> 00:57:40: for the spring meeting with you alive,
 00:57:40 --> 00:57:44: then would any of the Portland's projects be up and
 00:57:45 --> 00:57:47: available for viewing at that time?
 00:57:47 --> 00:57:50: So the primary purpose of the project,
 00:57:50 --> 00:57:52: of course, is reverting floodings,
 00:57:52 --> 00:57:55: and we also have an extremely conservative design standard
 when
 00:57:55 --> 00:57:58: we're developing our flood protection works.
 00:57:58 --> 00:58:00: As we mentioned early, it's right,
 00:58:00 --> 00:58:03: hurricane sized events with some additional freeboard.
 00:58:03 --> 00:58:07: So yes, Lake Ontario has gone up.
 00:58:07 --> 00:58:12: Much higher than past recordings of the curtain as result
 00:58:12 --> 00:58:13: of that,
 00:58:13 --> 00:58:19: local conservation authority has re established the frequency
 curves for
 00:58:19 --> 00:58:23: what would be denoted as the one in 100 year
 00:58:23 --> 00:58:25: Lake level condition.
 00:58:25 --> 00:58:29: All the previous design until last year was on the
 00:58:29 --> 00:58:34: basis of 75.8 meters above sea level as our basis
 00:58:34 --> 00:58:37: of what is anticipated be the one.
 00:58:37 --> 00:58:40: The 1% chance occurring at any given time and all
 00:58:40 --> 00:58:42: the design for the public realm,
 00:58:42 --> 00:58:47: stormwater infrastructures, bridge crossings, an and
 hydraulic modeling for the
 00:58:47 --> 00:58:51: River component where it interfaces with that is based on
 00:58:51 --> 00:58:52: that as a result of 2017,
 00:58:52 --> 00:58:55: the new Lake levels had gone up last year in
 00:58:55 --> 00:58:58: May and we were in the process is comedy in
 00:58:58 --> 00:58:58: the design,
 00:58:58 --> 00:59:03: particularly with regards to the storm urban stormwater
 components which
 00:59:03 --> 00:59:06: we didn't get into it all in this really other
 00:59:06 --> 00:59:08: than briefly touched at the beginning.
 00:59:08 --> 00:59:13: Where some additional infrastructure works are required to
 deal with
 00:59:13 --> 00:59:17: the fact that we have potentially higher Lake levels and
 00:59:17 --> 00:59:20: not very steep sloped adjacent lands to be able to
 00:59:20 --> 00:59:24: convey flows from the rainfall from the future development

land.

00:59:24 --> 00:59:28: So there was some accommodation of that and of course

00:59:28 --> 00:59:30: when we had 2019 Lake levels,

00:59:30 --> 00:59:33: it bumped up the 100 year Lake level again up

00:59:33 --> 00:59:34: to 76.2.

00:59:34 --> 00:59:37: So there's some additional work that May or may not

00:59:37 --> 00:59:38: be done.

00:59:38 --> 00:59:41: We're currently working with the city.

00:59:41 --> 00:59:45: What is? The design expectations for this storm water

00:59:45 --> 00:59:45: management

00:59:45 --> 00:59:45: components.

00:59:45 --> 00:59:48: We did an analysis of other aspects of the project,

00:59:48 --> 00:59:52: particularly with ecological public ground components,

00:59:52 --> 00:59:54: but also groundwater bit controls.

00:59:54 --> 00:59:57: Donna mentioned is secant pile walls to hold up the

00:59:57 --> 01:00:01: Valley system and some of the constructability components

01:00:01 --> 01:00:02: which we

01:00:01 --> 01:00:02: didn't get into as well.

01:00:02 --> 01:00:07: For the most part, that there is sufficient conservatism to

01:00:07 --> 01:00:10: deal with these new Lake level conditions.

01:00:10 --> 01:00:12: And so really, it's you know,

01:00:12 --> 01:00:14: how do we move forward with the storm?

01:00:14 --> 01:00:19: What urban stormwater runoff infrastructure requirements

01:00:19 --> 01:00:22: given that we're about

01:00:19 --> 01:00:22: to start construction on some of these pieces now?

01:00:22 --> 01:00:24: And how do we, you know,

01:00:24 --> 01:00:26: are we going to? And how are we going to

01:00:26 --> 01:00:29: dive to modify the infrastructure of this?

01:00:29 --> 01:00:31: This point to the construction process?

01:00:31 --> 01:00:35: So those discussions are currently ongoing?

01:00:35 --> 01:00:38: And by 2020 three we won't be fully done,

01:00:38 --> 01:00:41: but there would definitely be significant pieces of work that

01:00:42 --> 01:00:43: would be in place.

01:00:43 --> 01:00:45: Most of the River Valley would be in place,

01:00:45 --> 01:00:49: though not depends what time of year you come into,

01:00:49 --> 01:00:51: whether it's fully flowing from the Don River,

01:00:51 --> 01:00:55: who will be at least connected to Lake Ontario to

01:00:55 --> 01:00:58: allow the vegetation of period of years to establish before

01:00:58 --> 01:01:01: we open it up to the challenges of dealing with

01:01:01 --> 01:01:04: the urban flows from the Don River.

01:01:04 --> 01:01:07: Thank you, thank you very much for that.

01:01:07 --> 01:01:10: I wanted to just quickly as we've reached the formal

01:01:10 --> 01:01:14: end of our coastal forum session offer a virtual round

01:01:14 --> 01:01:16: of applause to our speakers.
01:01:16 --> 01:01:17: Mira, Dahnken, Peter and Jack,
01:01:17 --> 01:01:20: of course, as Jack mentioned earlier,
01:01:20 --> 01:01:23: some of the speakers are willing to stay for a
01:01:23 --> 01:01:28: few extra minutes if people are interested in asking
questions.
01:01:28 --> 01:01:31: To them personally. Otherwise thank you again for joining us.
01:01:31 --> 01:01:34: The recording will be available on Knowledge Finder shortly
after
01:01:34 --> 01:01:35: this session is over.
01:01:35 --> 01:01:39: Thank you guys. Thank you and also you know sending
01:01:39 --> 01:01:41: your ideas for our next session.
01:01:41 --> 01:01:45: We certainly want to continue the conversation looking at
other
01:01:45 --> 01:01:49: opportunities to learn from projects like this around the coast
01:01:49 --> 01:01:51: of the North America in particular.
01:01:51 --> 01:01:54: Again, thanks and certainly applause to our speakers.
01:01:54 --> 01:01:57: Thanks for the time and effort to join us today
01:01:57 --> 01:02:00: and to share this is unique and fabulous project.
01:02:00 --> 01:02:02: I'm sure it will be successful.
01:02:02 --> 01:02:06: If there are additional questions you know,
01:02:06 --> 01:02:09: certainly now is the time to raise your hand and
01:02:09 --> 01:02:12: see if we can answer any more of them here.

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