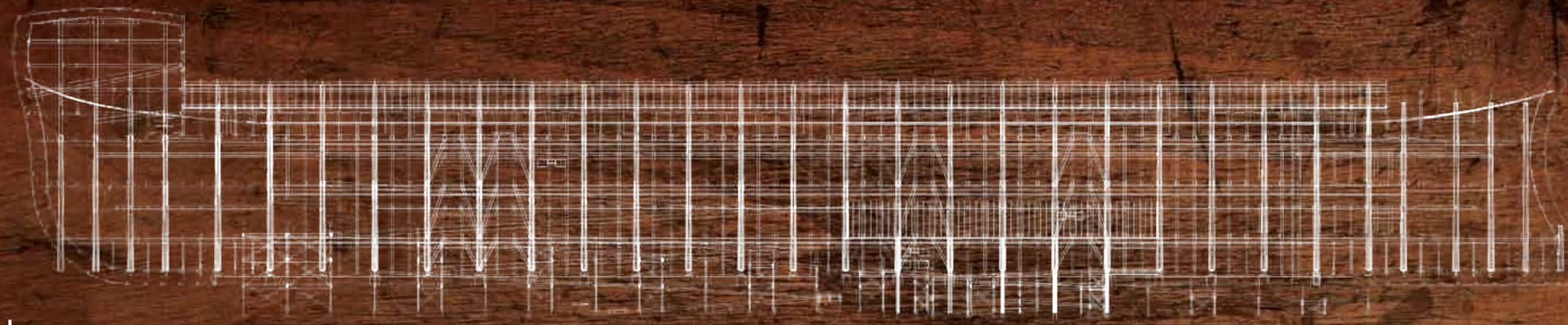
ARK ENCOUNTER



510 Feet

91.5 Feet

85 Feet

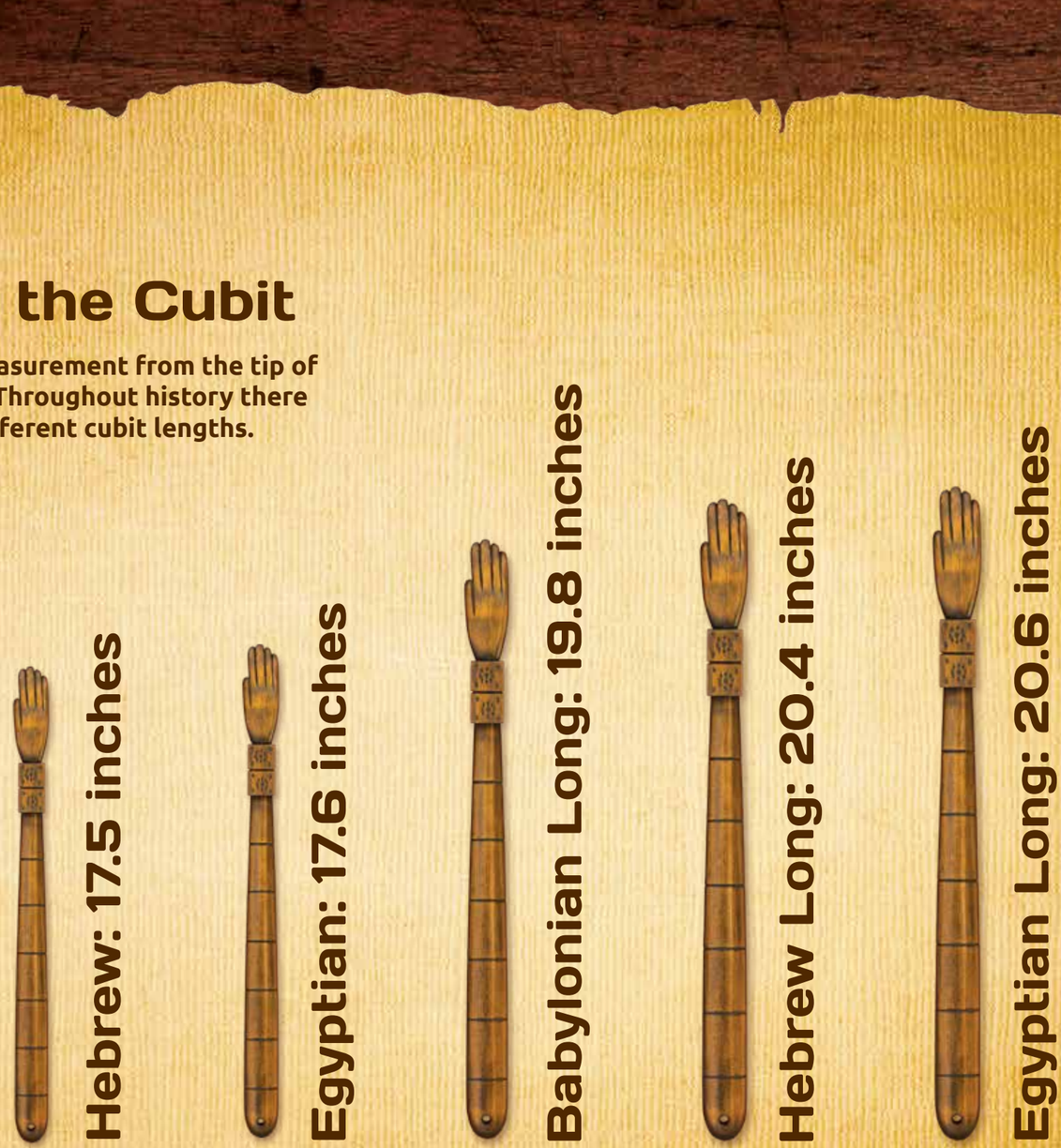
The life-size Noah's Ark will be the largest timber-frame building in the world.

And this is how you shall make it: The length of the ark shall be three hundred cubits, its width fifty cubits, and its height thirty cubits.

— Genesis 6:15, NKJV

History of the Cubit

A cubit is based on the measurement from the tip of the fingers to the elbow. Throughout history there have been several different cubit lengths.



Hebrew: 17.5 inches

Egyptian: 17.6 inches

Babylonian Long: 19.8 inches

Hebrew Long: 20.4 inches

Egyptian Long: 20.6 inches

Why the Hebrew Long Cubit?

We don’t know what cubit length Noah used to build the Ark, but we know that in large-scale construction projects ancient civilizations usually used the long cubit. In the Old Testament we read that Solomon used an older long cubit in the construction of the temple.

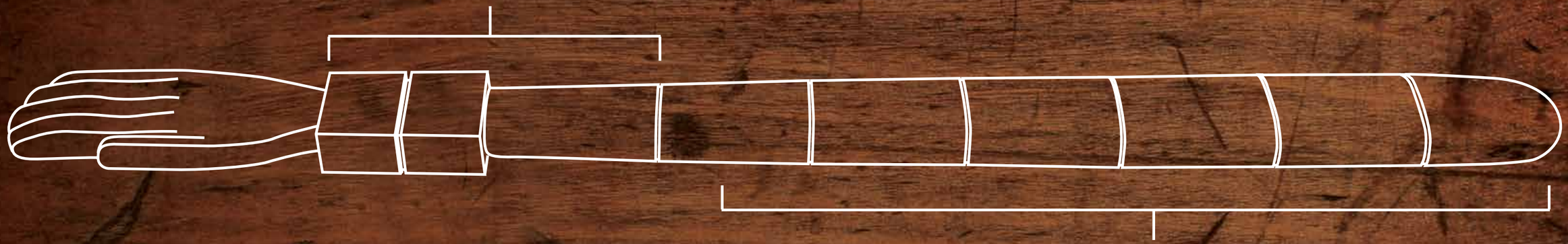
We can assume Noah probably used a long cubit for the construction of the Ark.
So for the Ark Encounter we decided to use the length of the Hebrew long cubit.

A Cubit

A cubit is divided into several segments though these varied like the cubit lengths.

A Handbreadth

Five handbreadths make up a cubit.
A handbreadth can be divided into 4 finger widths.

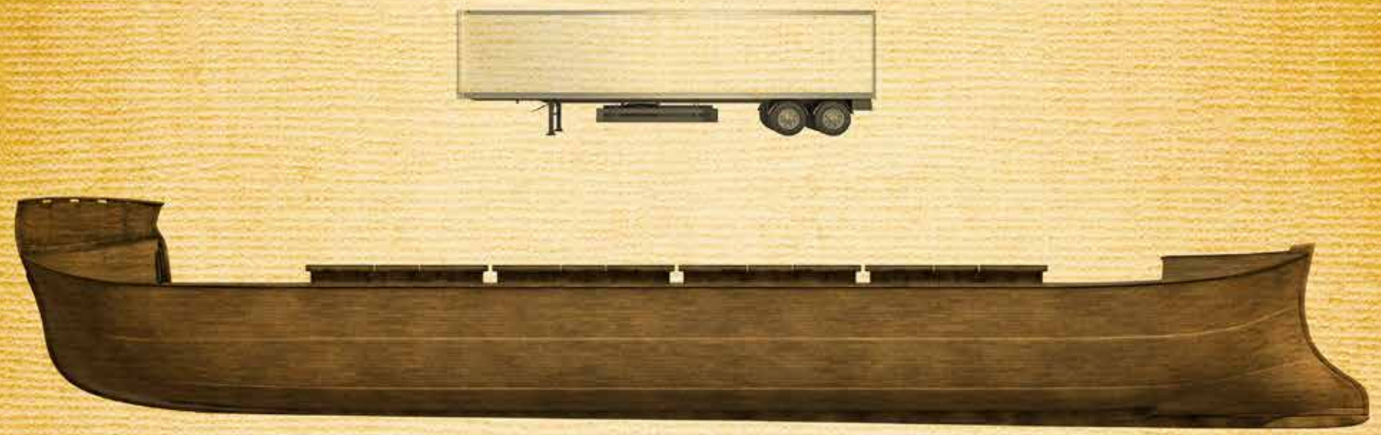


A Span

A span is half of a cubit. One span is two and a half handbreadths.

Fun Comparisons

Width = 2 school buses
Height = 3 giraffes stacked
Length = 1.5 football fields
Volume = 483 semi-trailers



The Wood

The big logs come from trees that were killed by a beetle infestation. Most of the other timber comes from renewable forests.

Round logs

Engelmann Spruce and Douglas Fir
Utah, Colorado

- (64) logs, 28” to 38” dia. X 48’ long
- (56) logs, 20”+ dia. X 18’ long
- (4) logs, external braces from deck 3 to ground level, 32”+ dia. X 52’ long. At Grid 1 & Grid 31.

Heavy timber

Douglas Fir
Oregon, Washington

- (64) 20” X 20” X 32’ long
- (64) 18”X 18” X 18’ long

Floor joist, decks 2 and 3, and roof deck, 6’ c/c, 16” X 18” full length and width of Ark. Girder beams, four per deck, full length of the Ark. Timber braces all decks.

The process of making a Glulam




Glulaminated members

Southern Yellow Pine

Georgia, Alabama

166 ribs for exterior wall of the Ark.
10.5" X 22" X 55' tall
12" X 5'-0" X 680' in total length from Bow to Stern.

Wood decking & flooring

Decking, 600,000 board feet (bf); 76 miles of decking.
Bamboo flooring, 290,000 bf; 55 miles of flooring.

Ark, exterior cladding

1” X 10”, 185,000 bf; 35 miles.
(ACCOYA natural wood, 50 year warranty, will weather gray)

Ark interior cladding

(on exterior walls)
94,000 bf; 18 miles.

Plywood

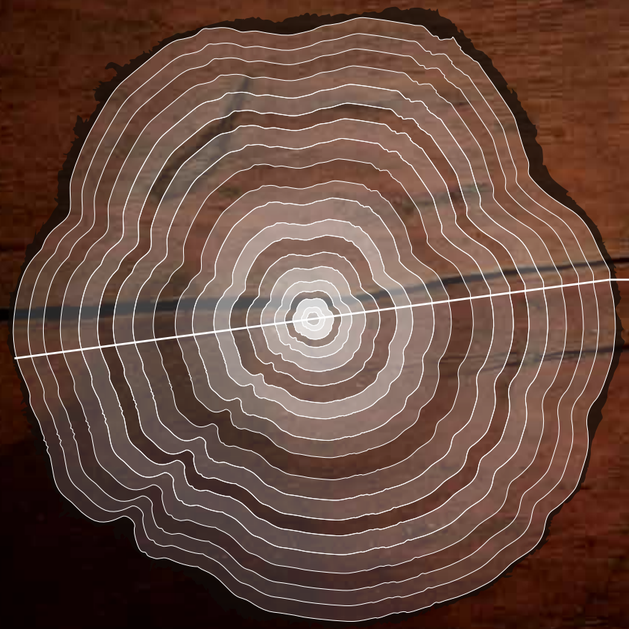
4’ X 8’, 15, 150 sheets.

Safety railings

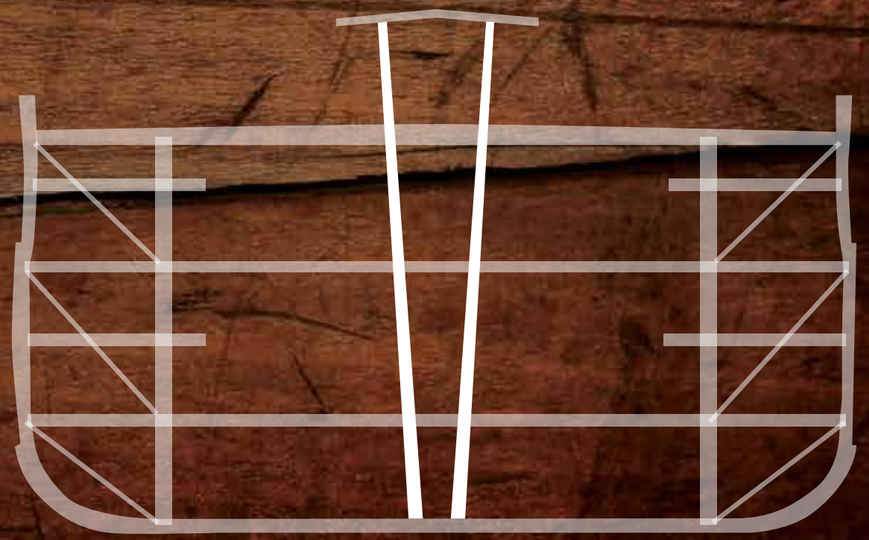
2” X 4”; 4 miles.

Rain vent/cavity

Behind ACCOYA cladding, 3/8” X 2”; 17 miles.



28″ – 38″ Diameter



All Accounted For

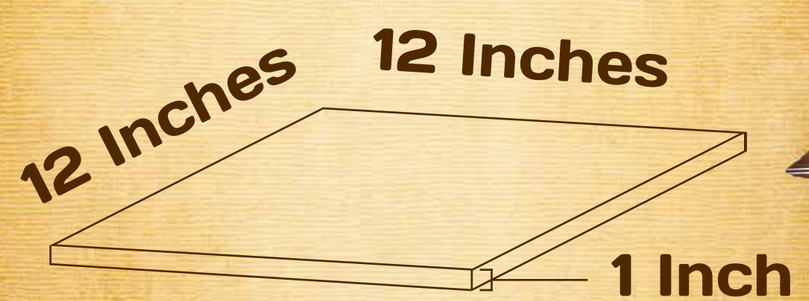
Each piece of wood is prepared off site for a specific location within the Ark. While off site, each plank and beam is assigned a number, so when it arrives at the Ark site, the builders know the exact location it is intended to go.

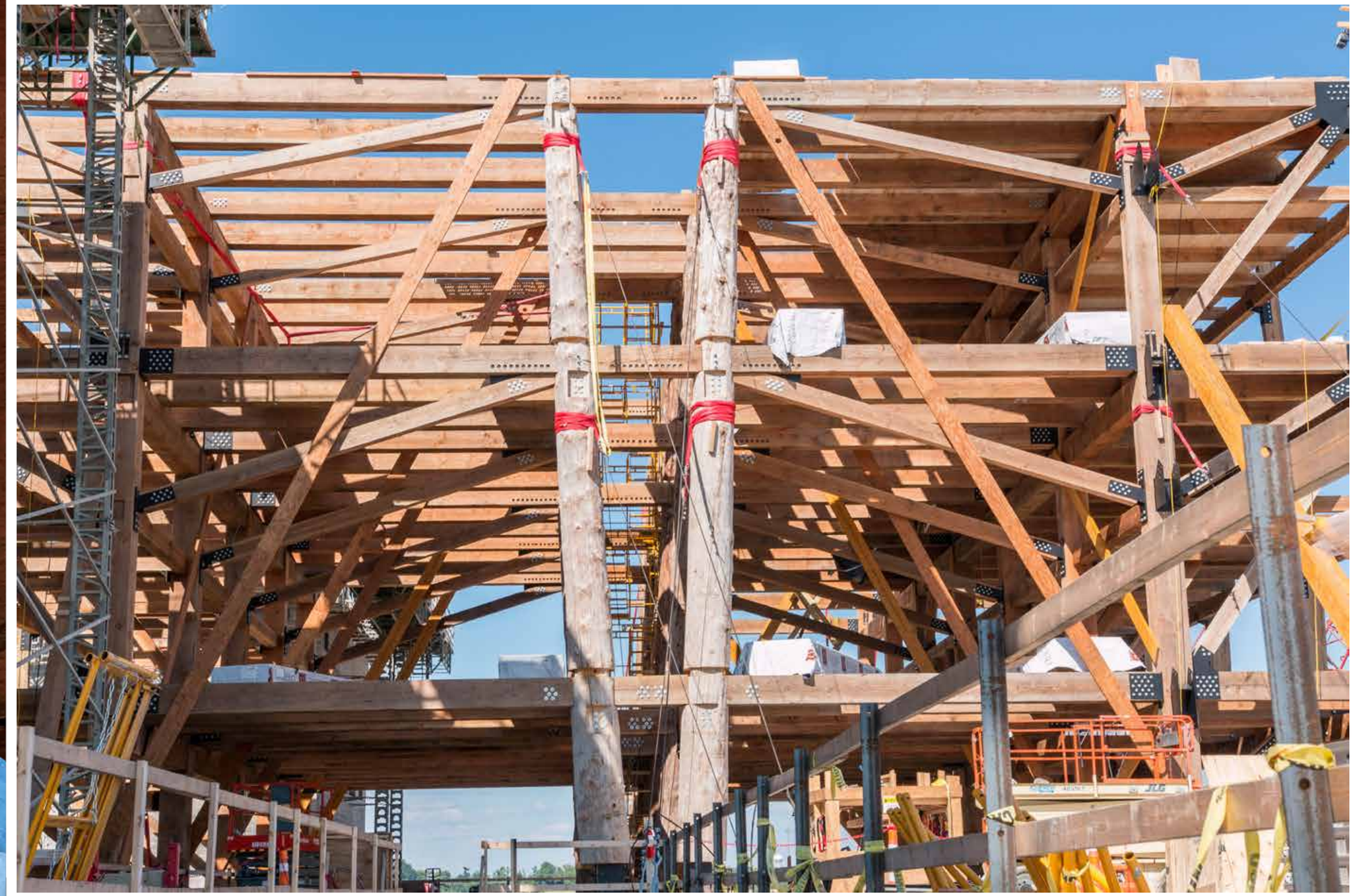
Won't Tumble Down

The planks and beams are being cut off site. The accuracy has to be within 1/32 of an inch variance to ensure that the Ark will stay standing. The cut has to be precise because of the weight of the center beams.

3.1 Million Board Feet

Over 3.1 million board feet of timber will be used in the construction of the Ark. A board foot is 12 inches by 12 inches by 1 inch. In board feet (laid end to end) there is enough timber in the Ark construction to go from Williamstown, Kentucky, to Philadelphia, Pennsylvania.

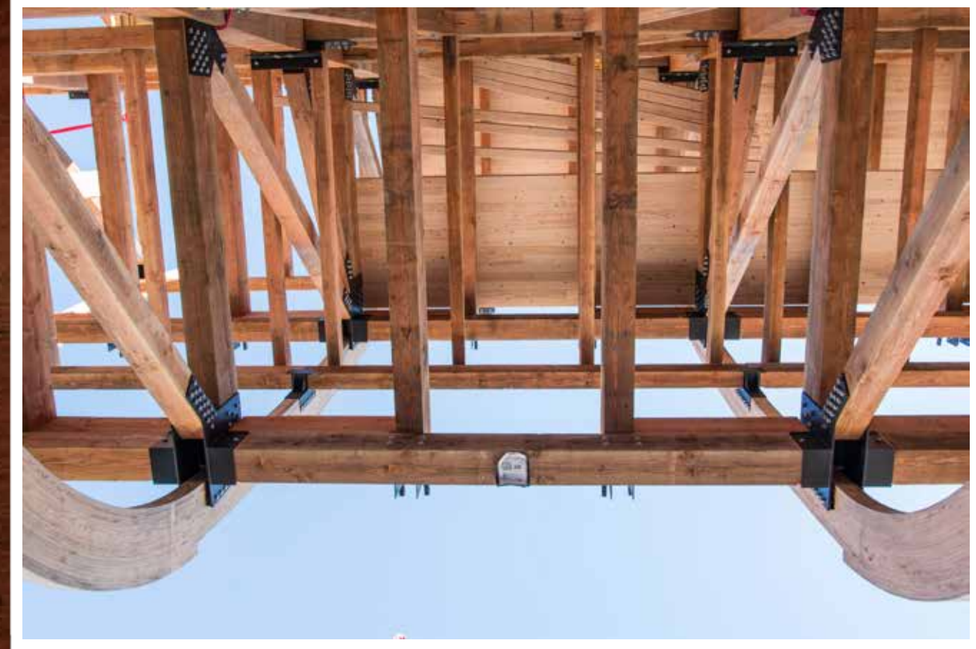


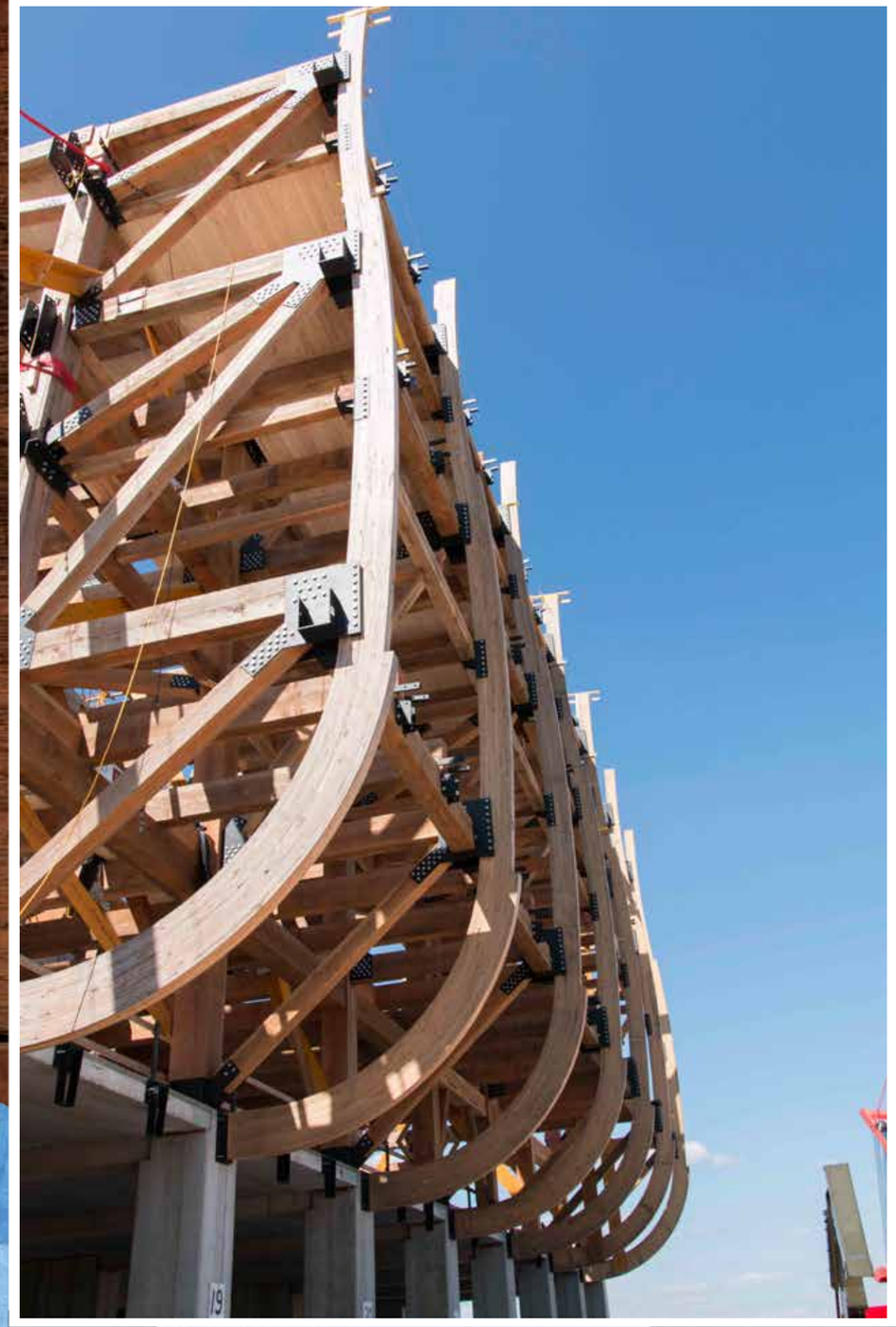


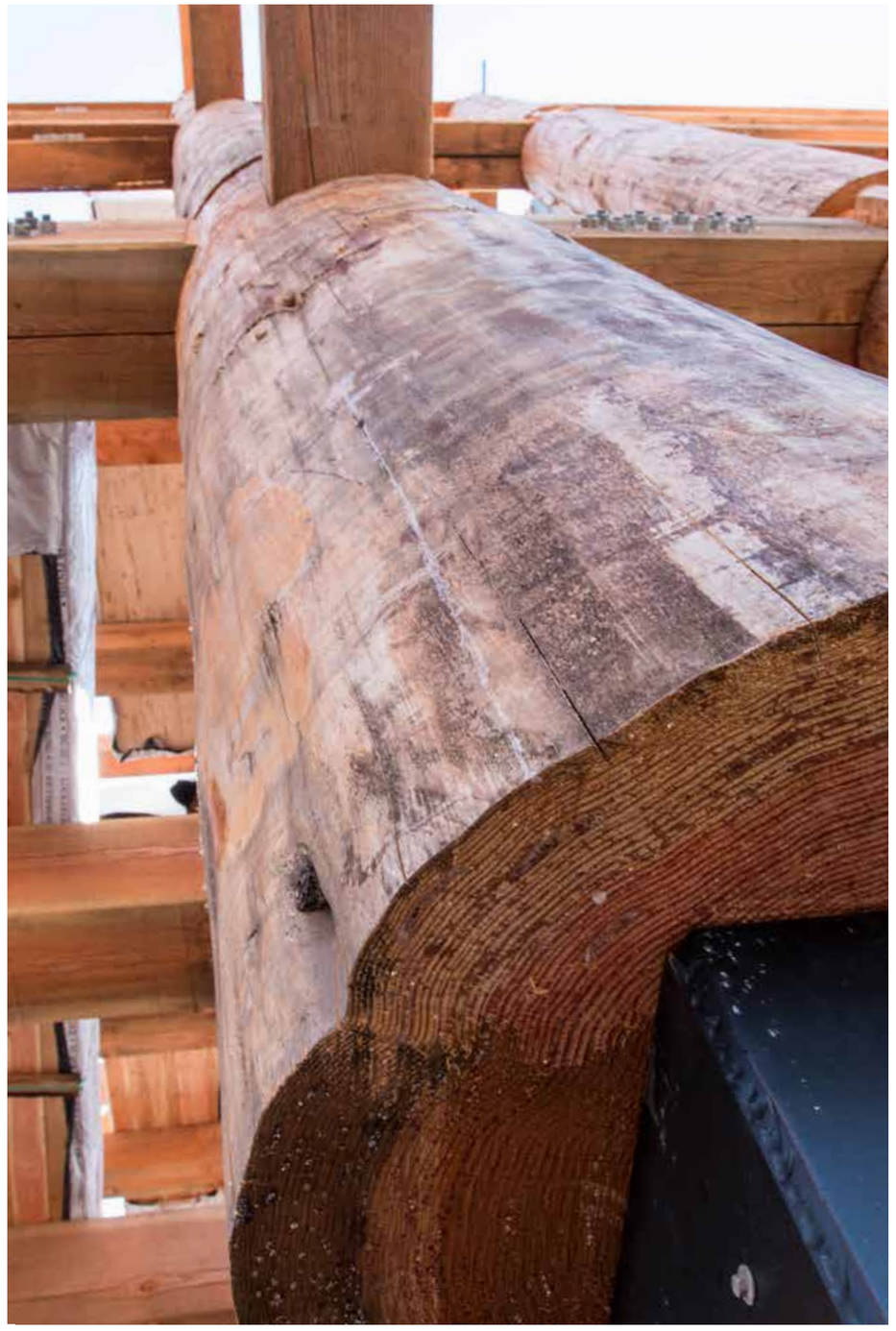
Ark Ribs

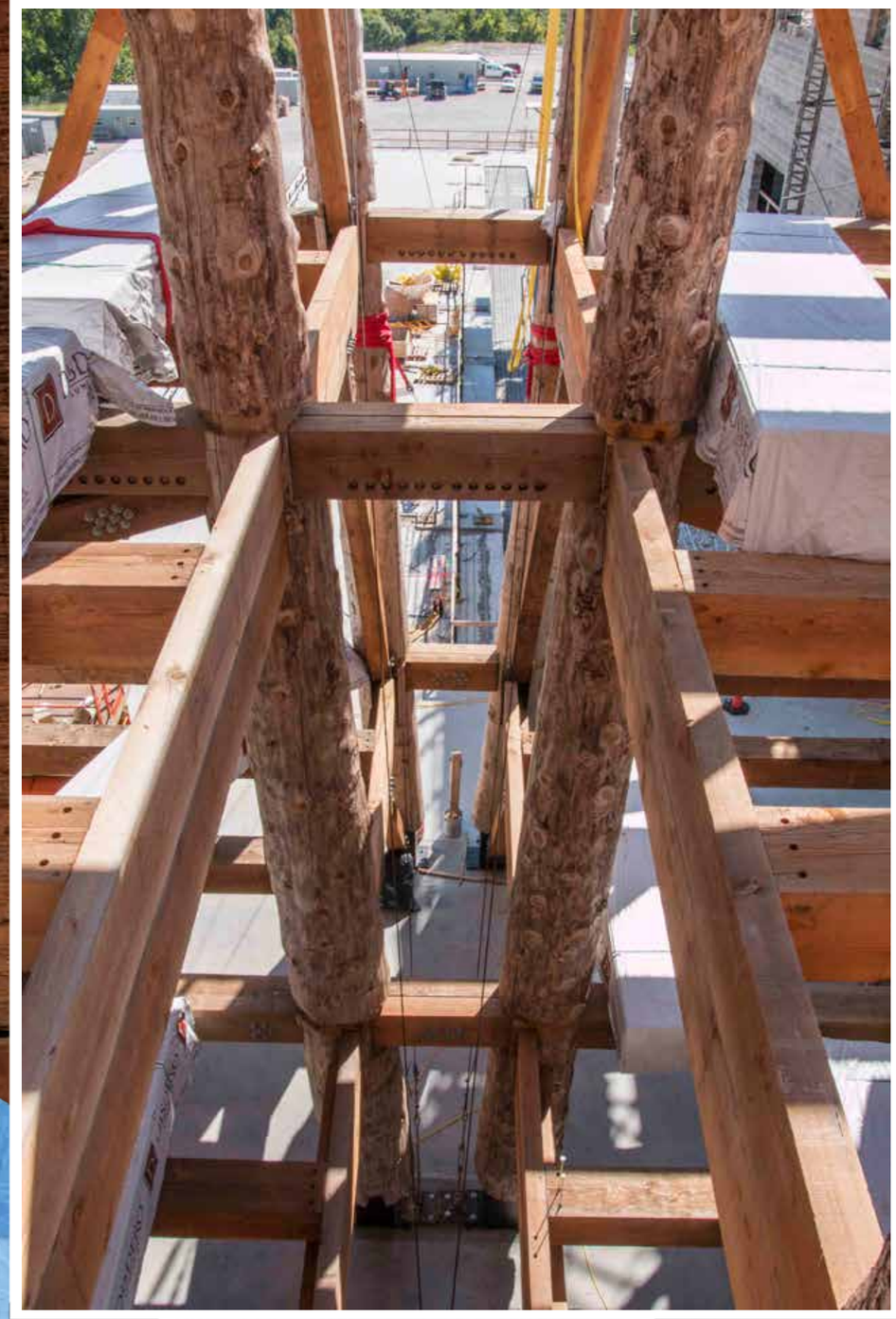
(166 total)

The ribs of the Ark are made of laminated timber (called Glulams). Ribs with beams and logs are made into a structure called a bent. Thirty-two bents will be constructed and bolted onto the concrete platform on top of the piers. The keel of the Ark will go under the platform so the concrete platform will not be seen once the Ark is constructed. The keel will be 12.5 feet off the ground.

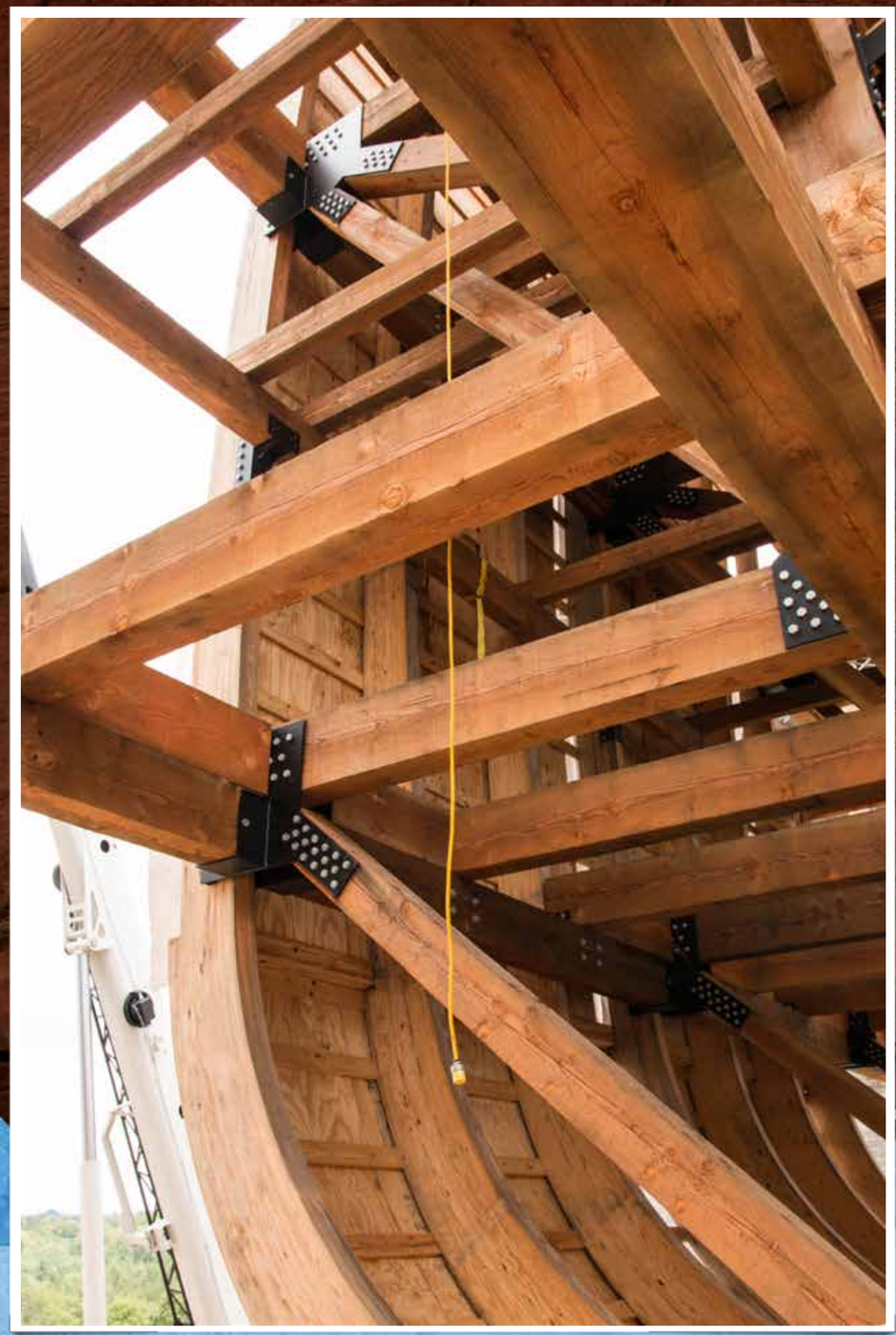









ARK



Parking Lot

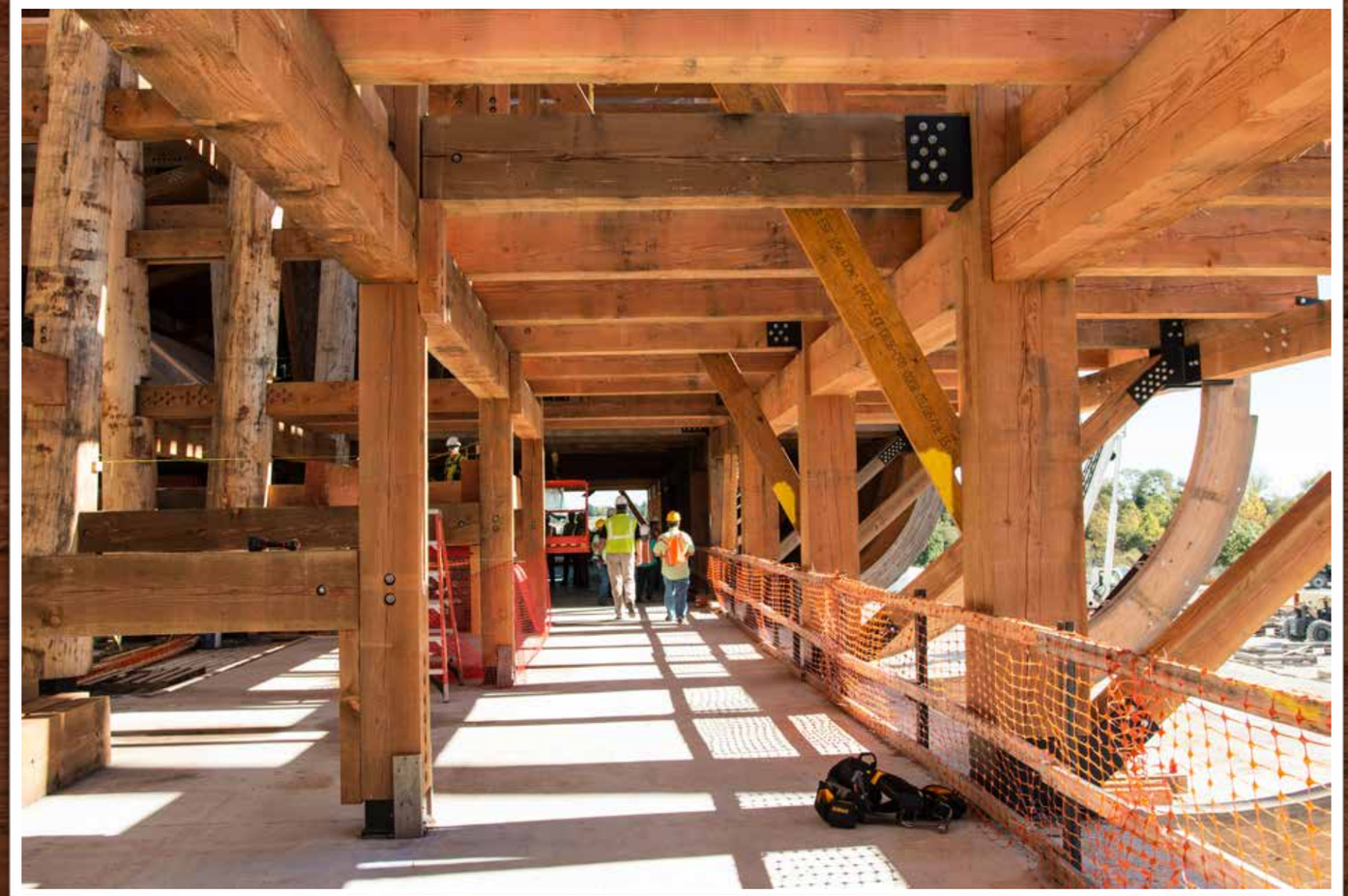
The Ark Encounter sits on 200 acres

September 19, 2015

February 11, 2016

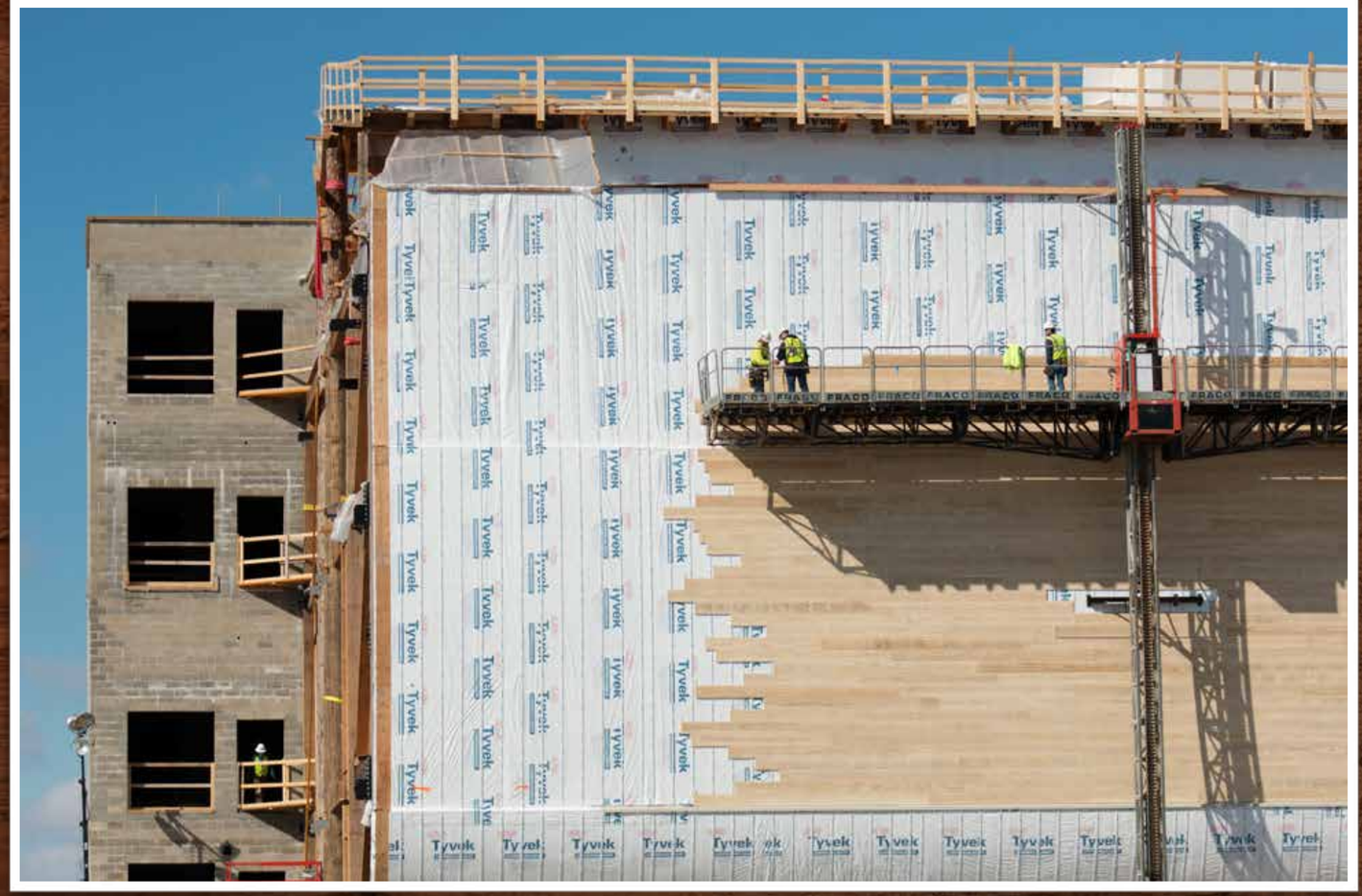
March 25, 2016

October 8, 2015



October 8, 2015

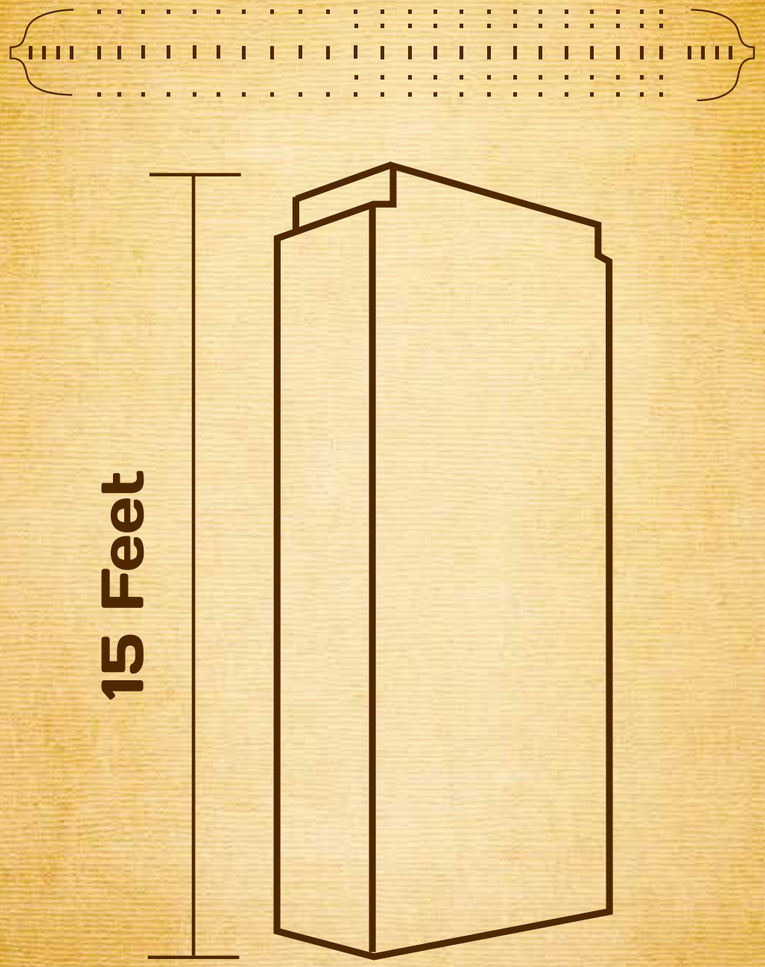
October 8, 2015



February 11, 2016

March 24, 2016

103 Concrete Piers



As a guest, you will be able to walk under the Ark. These piers stretch the height of 12.5 feet above the ground level to the underside of the Ark; 15 feet from the ground level to deck 1 of the Ark.

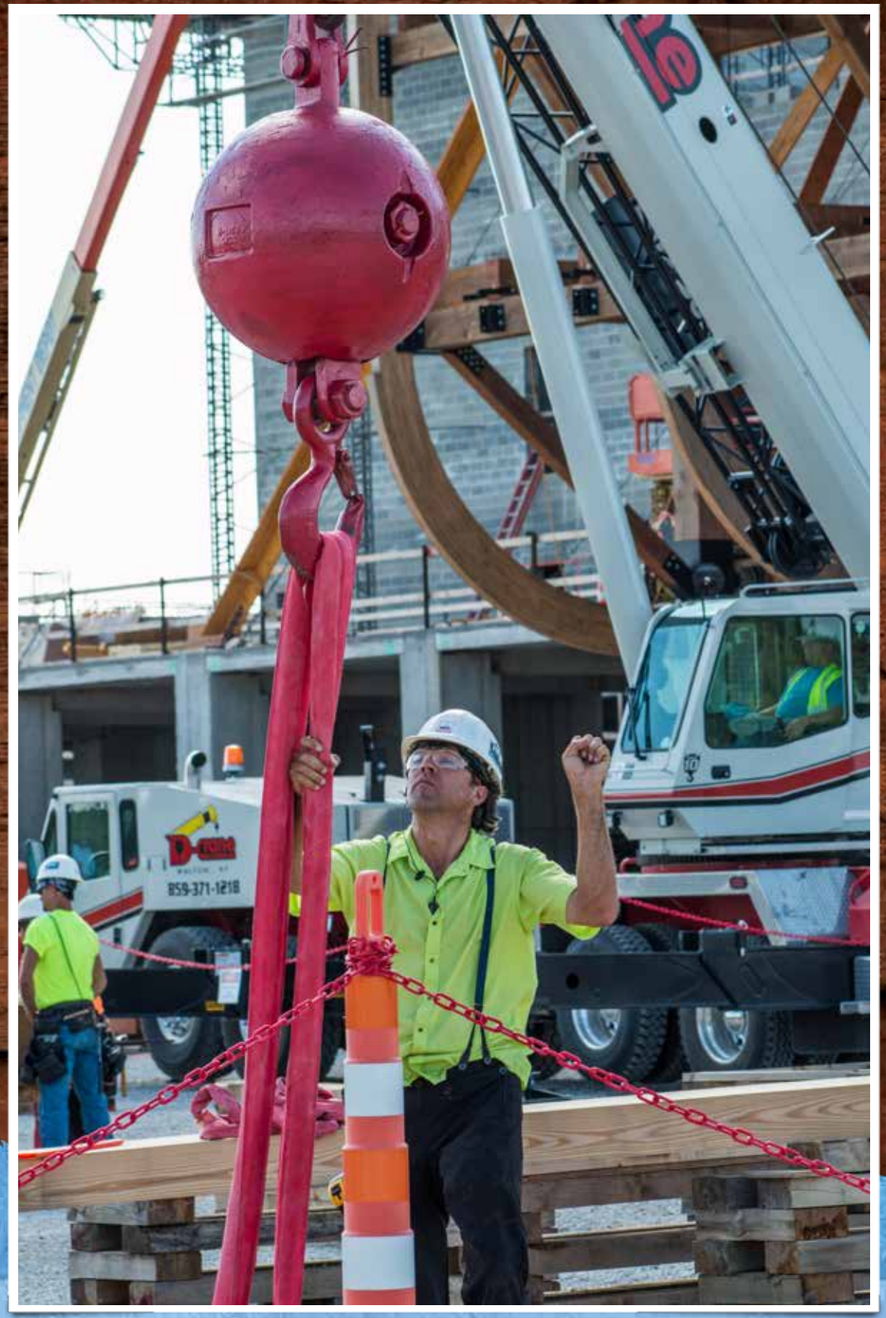
Concrete on the Ark?

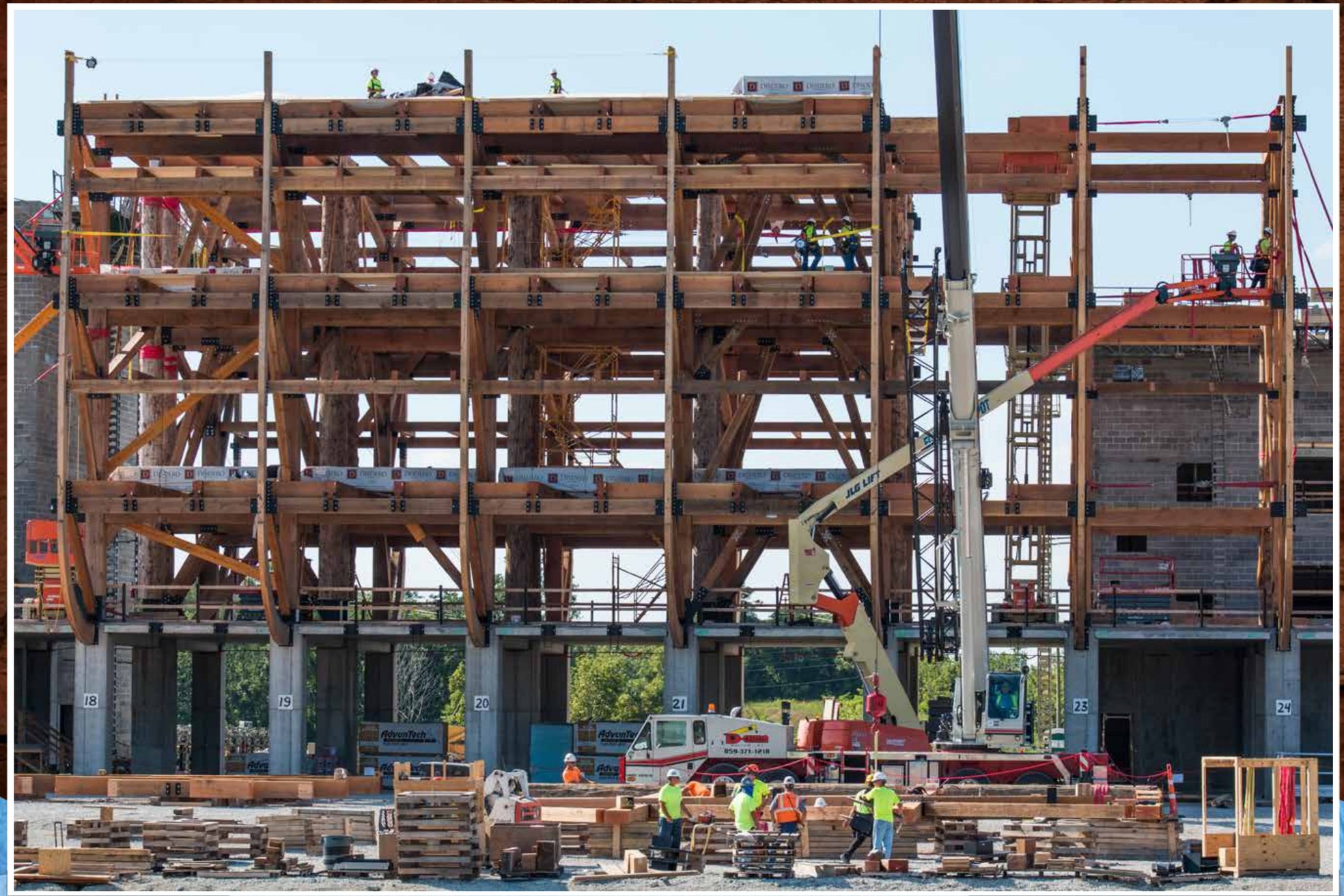
3,500 yards of poured concrete and approximately 6,000 yards of concrete in precast slabs will be used in the construction. Because of the massive size of the Ark, to be within building code regulation, the first floor must be concrete. So the Ark will be built around the concrete floor.

Ark Construction

Solid Foundation

Half a million cubic yards of dirt were moved to prepare the Ark site. Some places were lowered by about 40 feet. Four feet under the site was solid rock—so the foundation for each pier sits on solid rock.

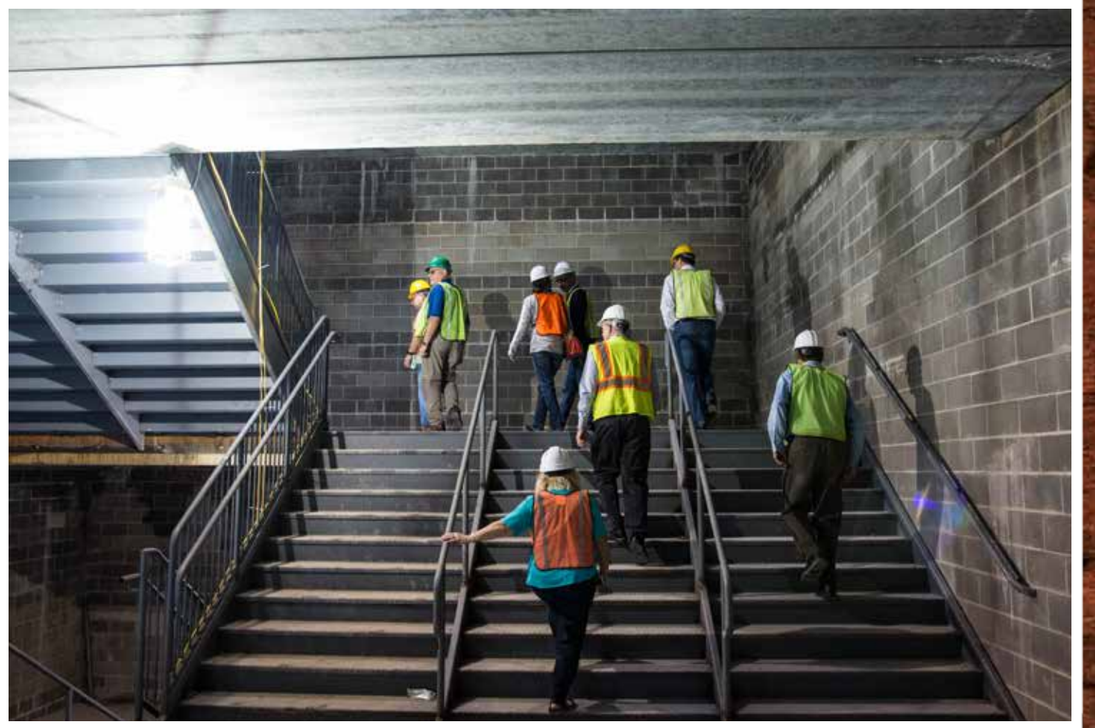



JLG LIFT
18
19
20
21
23
24

The Towers

Three seven-story buildings (70 feet high) are being constructed to which the Ark will anchor. Each tower will extend into the Ark about 14 feet.

The two end towers contain elevators and stairs. The large middle tower contains stairs and restrooms. These supports are designed to hold up under 120 MPH wind forces and contain a 50,000 gallon underground water tank for extra fire protection.




White Cap

Site Excavation

Approximately one million cubic yards of dirt were removed to prepare the parking lot (across the valley from the Ark) for 4,000 vehicle spaces. Approximately 500,000 cubic yards of dirt were moved on the Ark site.


GREER
CATERPILLAR
777F

Highway I-75

Utility Pole

Ark Location

Back Corner of Parking Lot

Utility Pole

Ark Location

Back Corner of Parking Lot

Entrance to Parking Lot

August 26, 2010

Parking lot looking toward Ark location.

January 6, 2015

The utility pole helps show how much land has been moved.

August 26, 2010

Looking toward the tram road from the Ark location.

January 6, 2015

Looking toward the tram road from the Ark location.

August 26, 2010

Looking at the Ark from the stern end.

March 15, 2016

Looking at the Ark from the stern end.

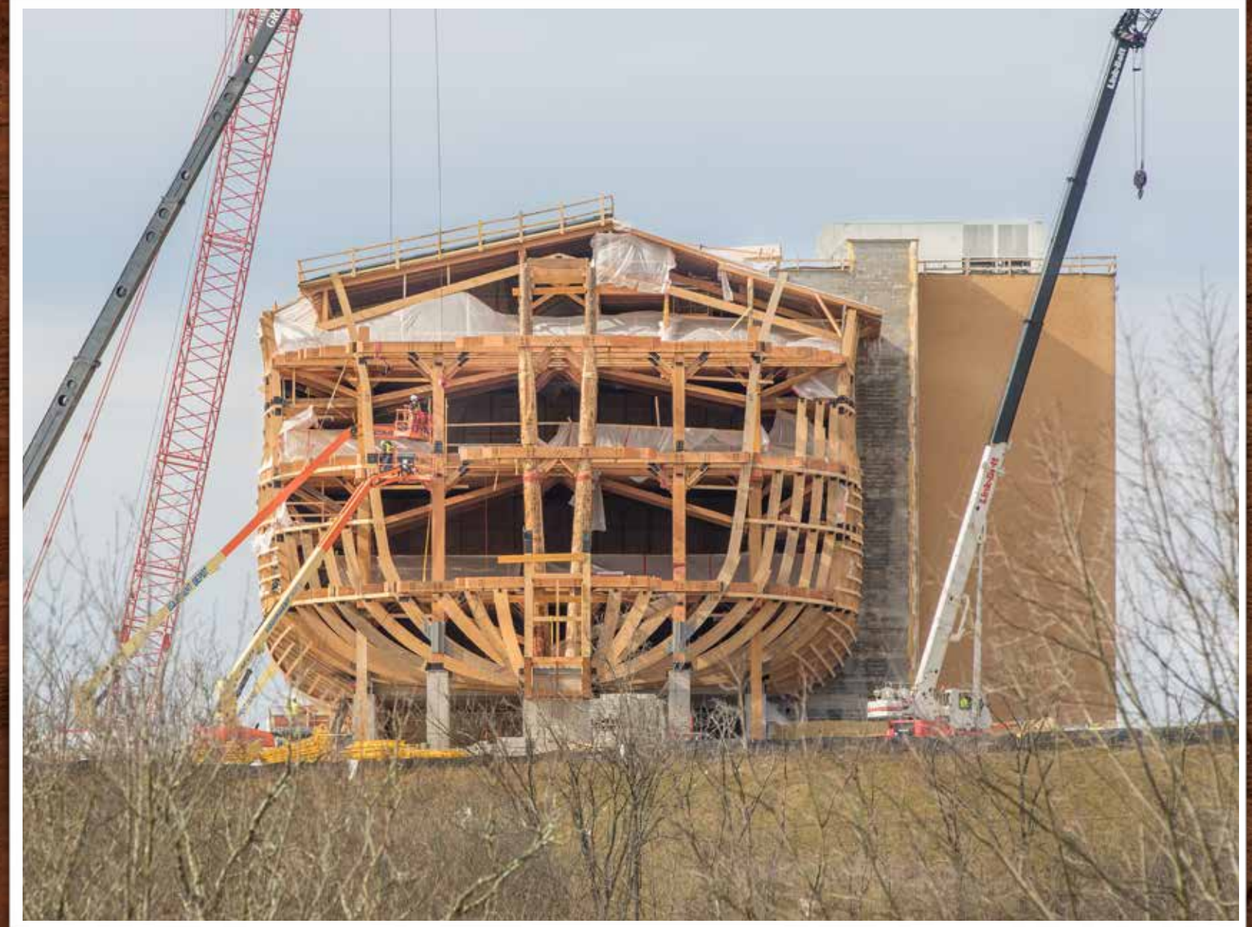
August 26, 2010

Looking at the Ark from the stern end.

March 25, 2016

Looking at the Ark from the stern end.

October 8, 2015



March 7, 2016

Parking Lot

Tram Road


Link-Belt
EQUIPMENT DEPOT


EQUIPMENT DEPOT
JLG LIFT

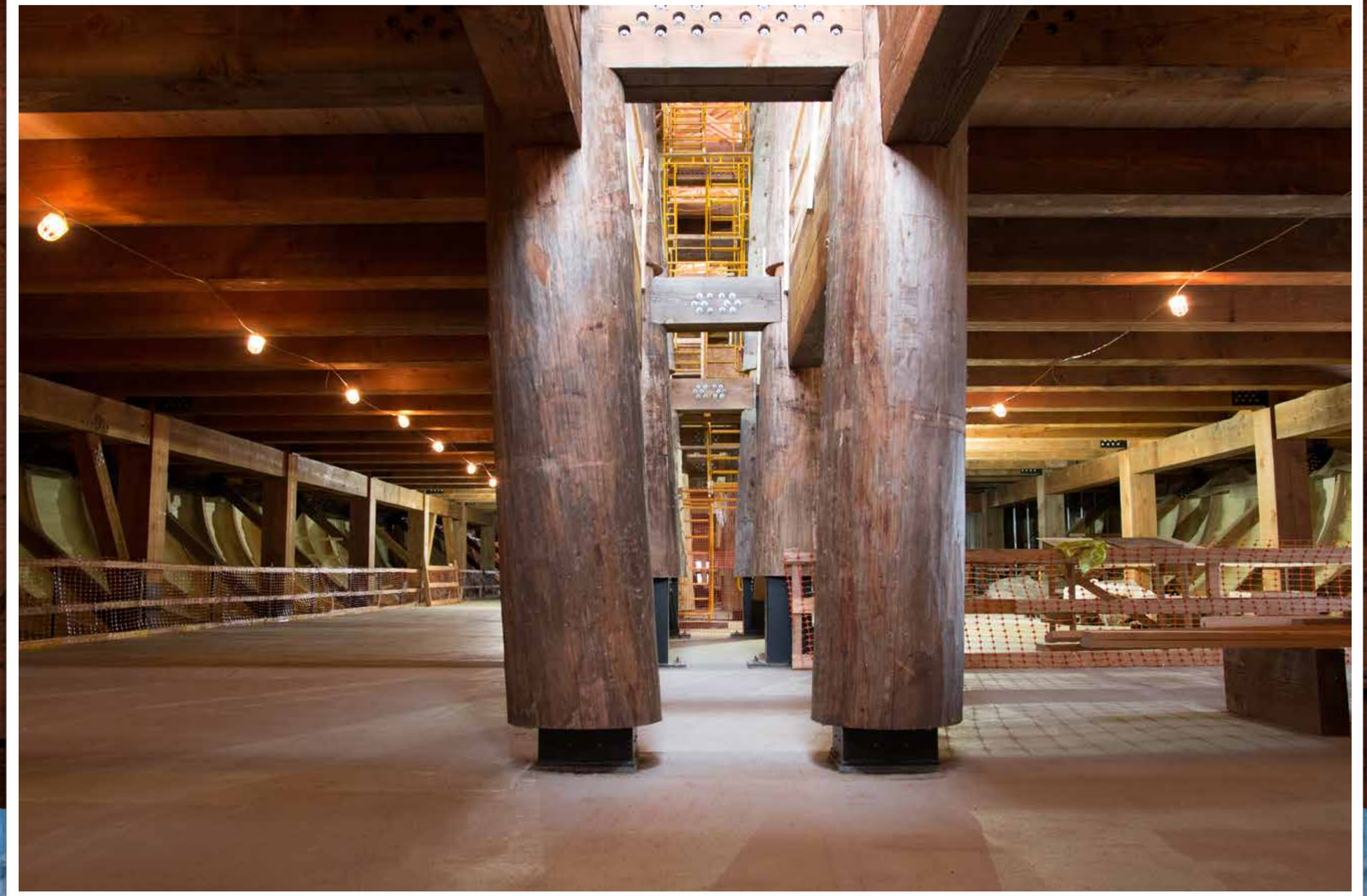

Tyvek
JLG LIFT

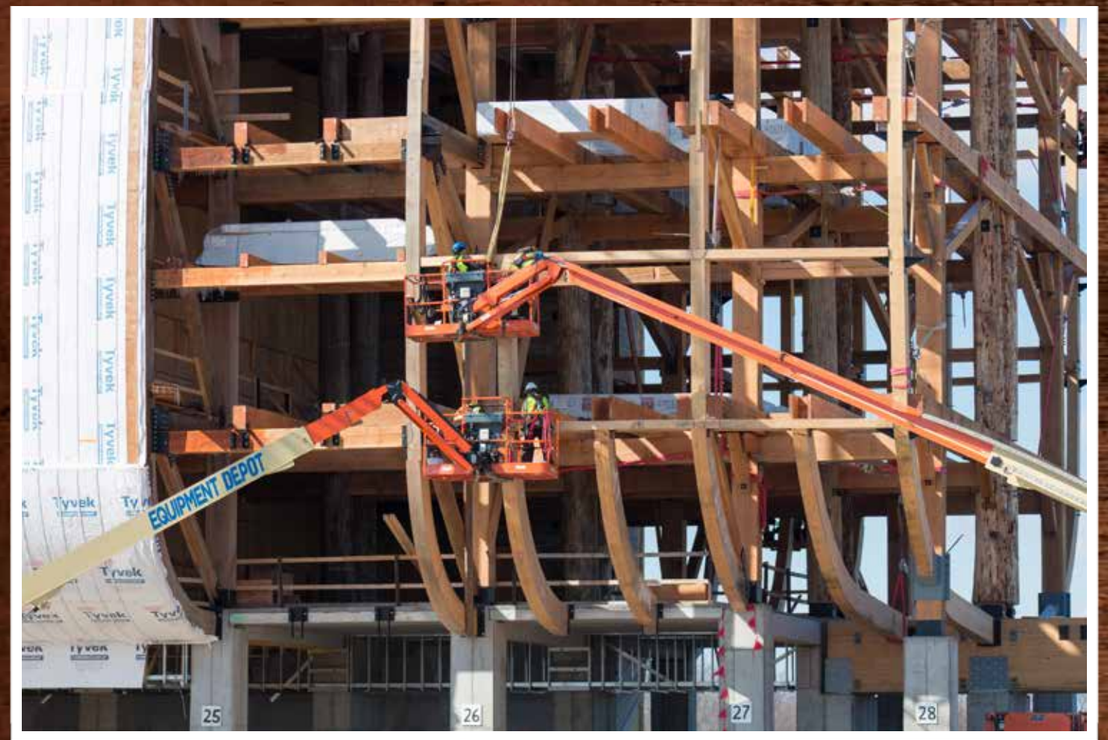
August 8, 2014

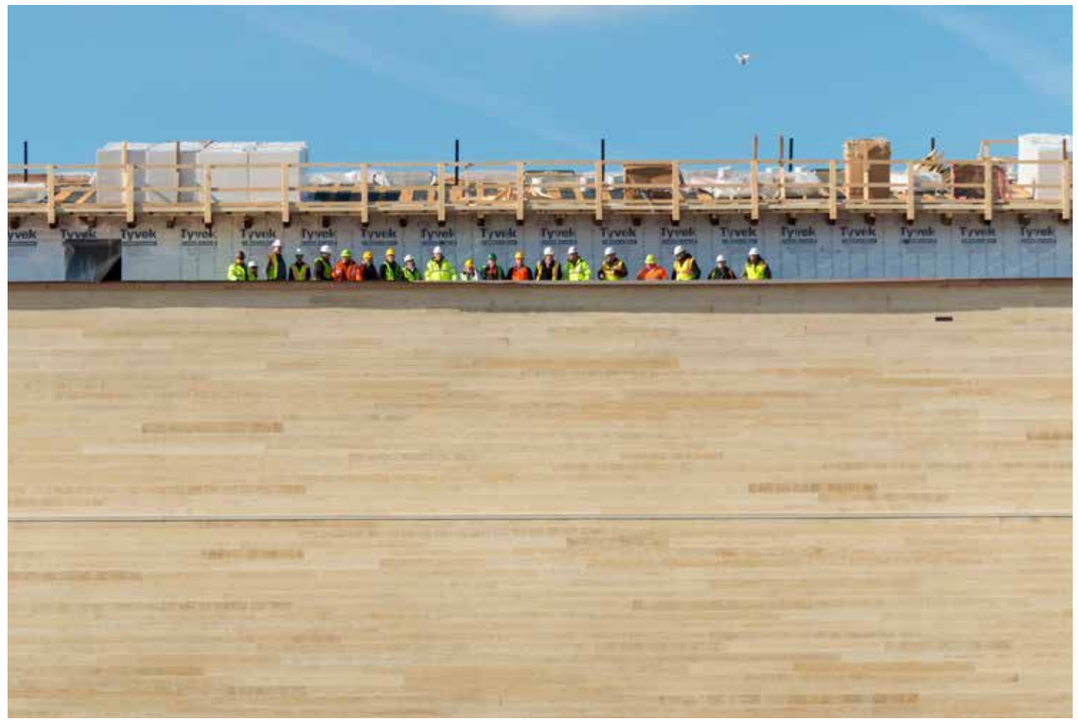
Looking at the Ark location from the advancement hut.

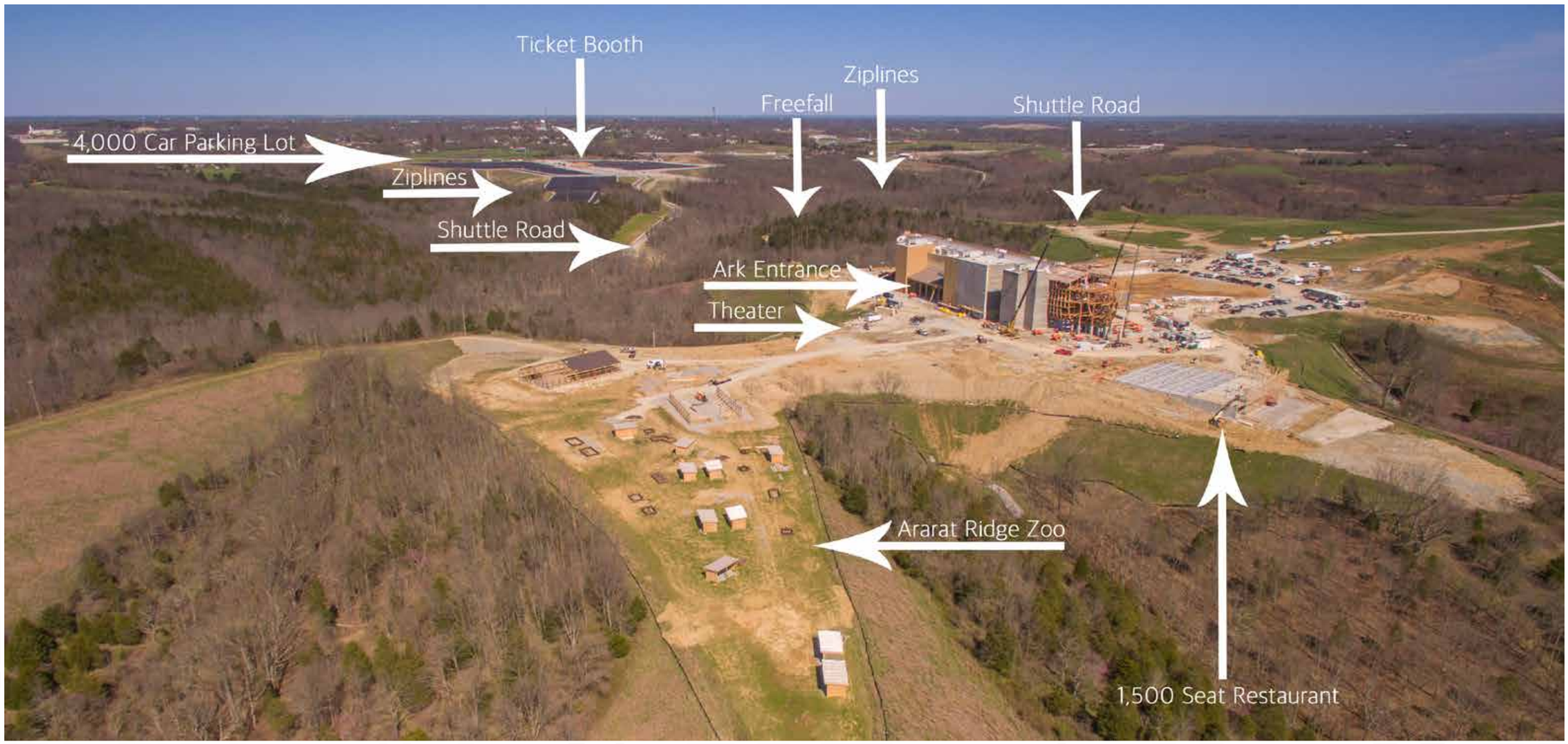
December 14, 2015

Looking at the Ark location from the advancement hut.




EQUIPMENT DEPOT
25
26
27
28




Ticket Booth
Ziplines
Freefall
Shuttle Road
4,000 Car Parking Lot
Ziplines
Shuttle Road
Ark Entrance
Theater
Ararat Ridge Zoo
1,500 Seat Restaurant


4,000 Car Parking Lot
Ziplines
Ticket Booth
Freeway
Freefall
Ararat Ridge Zoo
Theater
Shuttle Road
Ziplines
Shuttle Road
Gift Store Below Ark
1,500 Seat Restaurant

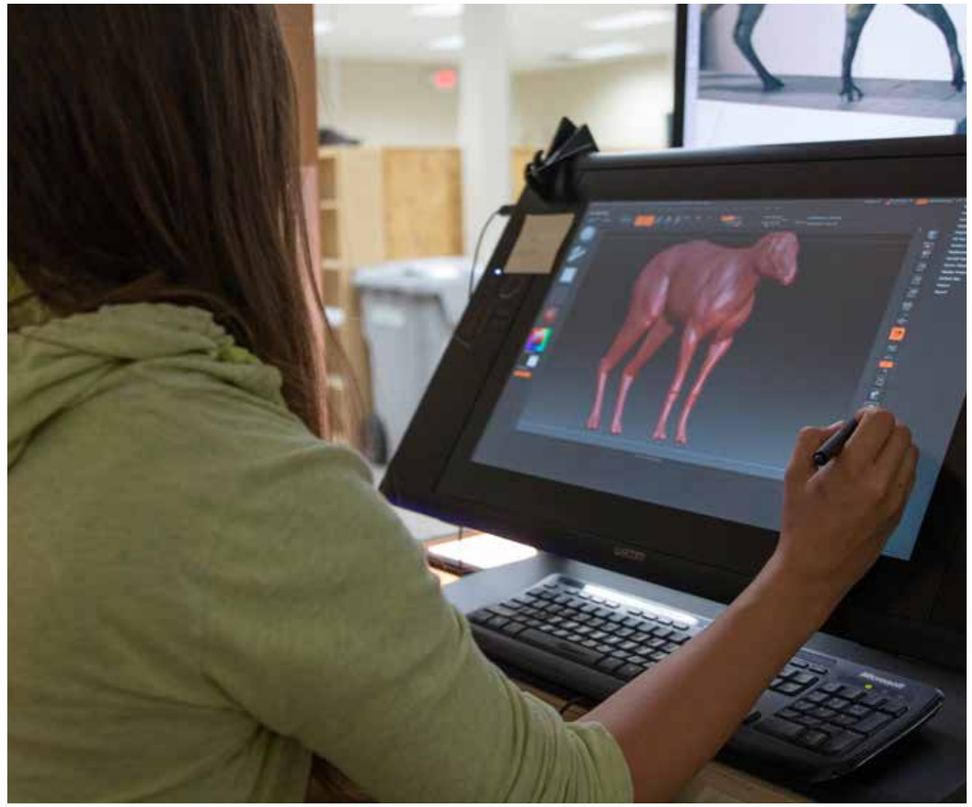
Ark Bays

The Ark will contain 132 bays. Many of the bays are being constructed off site to be installed once the Ark structure is completed. Seventy-four bays will be exhibits, the others will contain space for dining, offices, housekeeping, mechanical, security, etc.


ICE AGE

The Designer's Handiwork

These small figurines are sculpted with our 3D printer, and then meticulously hand painted by one of our designers. The figures shown on this page will be used in the Babel diorama.



Sculpt It

Our artists start by sculpting animal kinds on the computer.

CNC Machine

Pieces of the animal are cut out on this machine.

Pieced Together

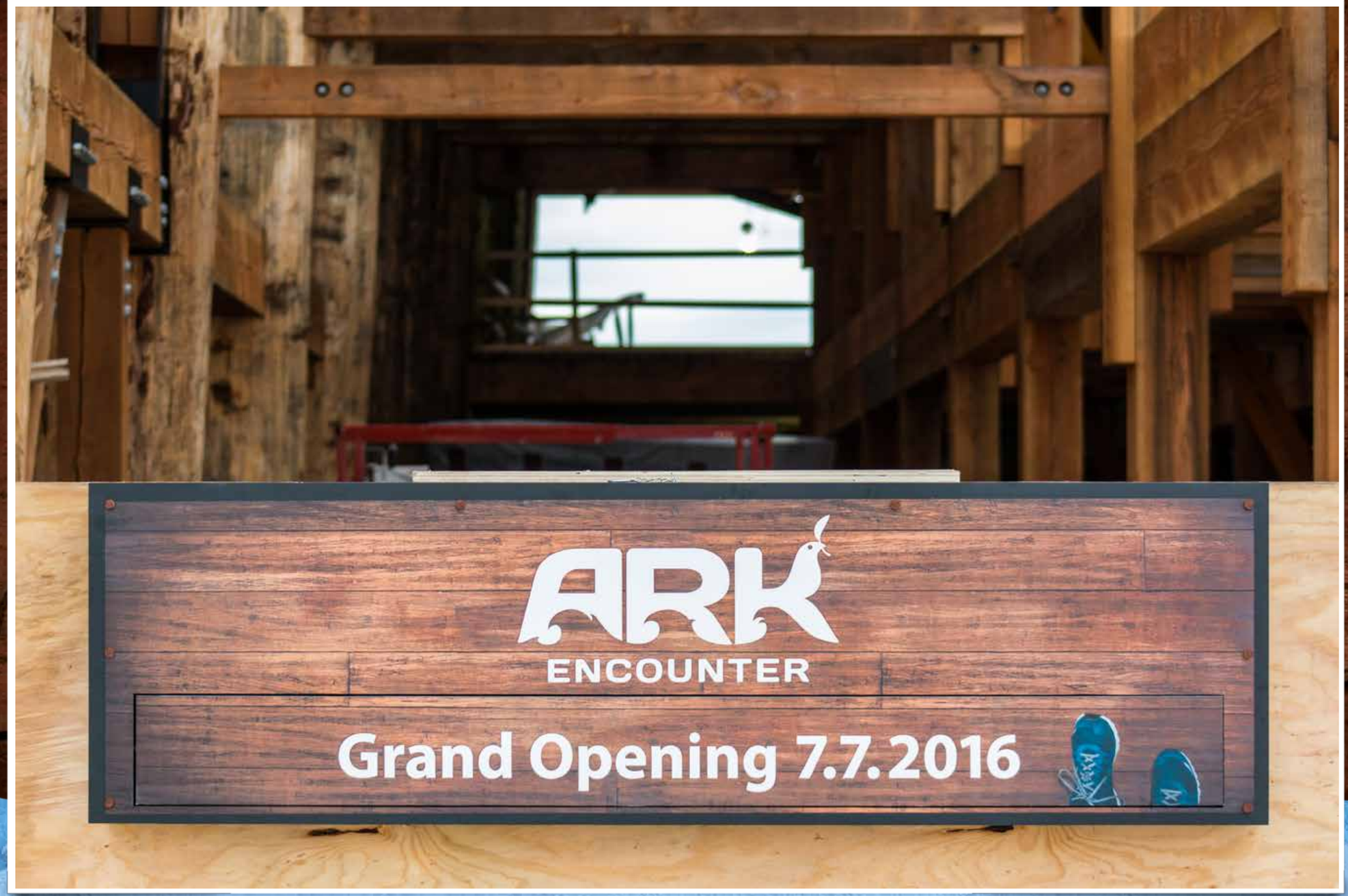
Then their pieces are assembled.

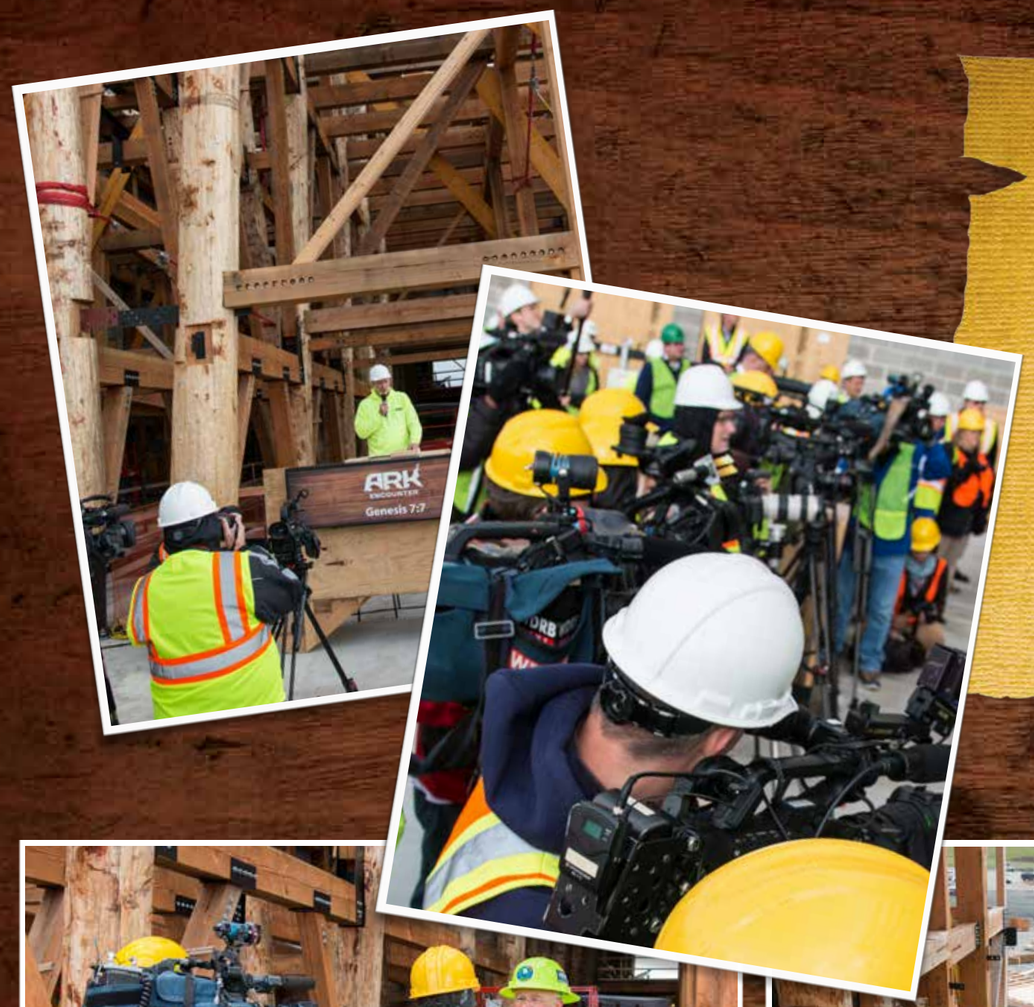
Fur Application

Fur is applied, cut, and airbrushed to get a realistic affect.

Making the Giraffe Kind

Making the Tyrannosaurus Kind


ARK
ENCOUNTER
Grand Opening 7.7.2016



Grand Opening
7.7.2016

"We are so excited that the construction progress and schedule landed on this 7/7 date. Genesis 7:7 states that Noah and his family entered the Ark. So it's fitting we allow the public to enter the life-size Ark on 7/7." **— Ken Ham**

Get Your Tickets!

For the first 40 days, guests can purchase daytime tickets for 9 a.m.–4 p.m. or nighttime tickets for 5 p.m.–midnight. The day and evening times will also offer some differing experiences.

Dr. John Whitcomb

Dr. John Whitcomb coauthored *The Genesis Flood* with the late Dr. Henry Morris.

ArkEncounter.com