



USS John F. Kennedy
Memorial Center



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USS John F. Kennedy Memorial Center

Kenneth William Cheston

Thesis submitted to the faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

master of architecture

Susan C. Piedmont-Palladino
Markus Breitschmid
Jaan Holt

05.09.16
Alexandria, Virginia



USS John F. Kennedy Memorial Center

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Architectural Abstract

This thesis was an evolutionary exploration into how aircraft carriers can be revitalized after decommissioning. The studies surrounding this matter went through radical changes in terms of the direction and overall intent. The final design embraces the specific USS John F. Kennedy supercarrier as a museum with a memorial center to complement the experience along with a bridge spanning pathway wrapped around the ship that terminates at the roof of the memorial center.



PROJECT

USS John F. Kennedy Memorial Center

Kenneth William Cheston

General Audience Abstract

Aircraft Carriers are naval vessels that allow for landing and take-off of military aircraft. Typically, Aircraft Carriers are active for 50 to 60 years then need to be retired or decommissioned. The ship is either torn apart for resources, sunk to the bottom of the ocean to serve as an artificial reef, or tied up to a dock indefinitely to serve as a sterile museum. The purpose of this research is to explore a fourth option that allows the public to appreciate the steel beasts in a manner that is respectful and full of awe.

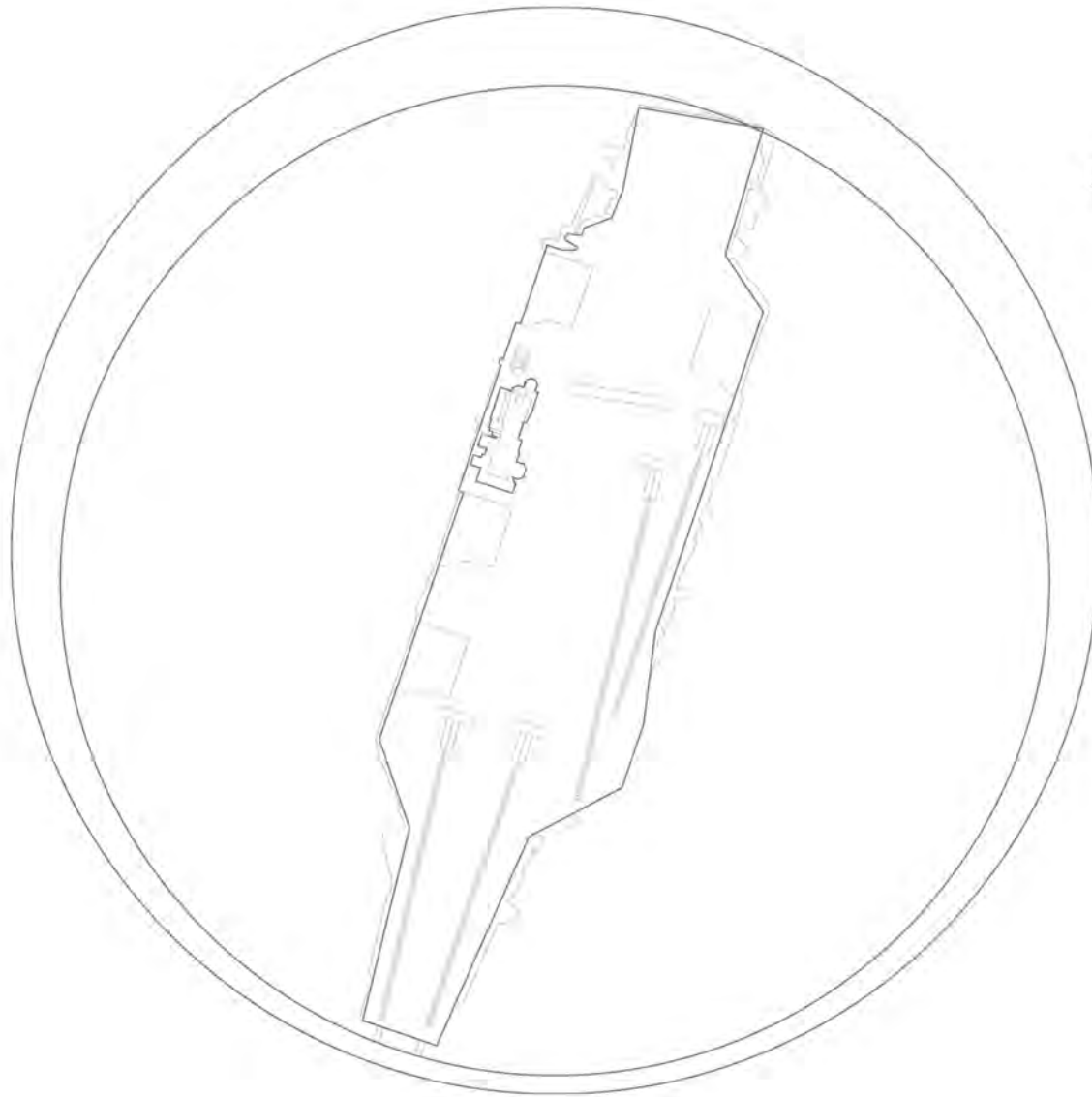
ACKNOWLEDGEMENTS

THERE ARE SIMPLY TOO MANY PEOPLE TO THANK FOR HELPING ME ALONG THE WAY WHILE I WAS A STUDENT HERE AT THE WASHINGTON-ALEXANDRIA ARCHITECTURE CENTER. PROFESSORS, FRIENDS, AND COWORKERS ALL PITCHED IN AT TIMES TO GIVE ME A HELPING HAND.

TWO INDIVIDUALS THAT HELPED ME ABOVE ALL WERE MY MOTHER AND FATHER. THIS IS NOT YOUR TYPICAL THANK YOU NOTE TO YOUR PARENTS. WHILE WORKING ON MY THESIS I DID NOT HAVE THE TIME TO DO ALL THE THINGS A NORMAL HUMAN BEING IS EXPECTED TO DO SUCH AS COOKING, CLEANING, AND OTHER SIMPLE MAINTANENCE THEY TOOK ON THEMSELVES WITHOUT ME ASKING. I TRULY COULD NOT DO IT WITHOUT THEM AND I AM FOREVER THANKFUL.

THANK YOU FOR YOUR TIME.

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INTRODUCTION

FOR THE PAST 3 YEARS I HAD BEEN INTERNING AT THE BOSTON OFFICE OF AECOM ON LONG WHARF. HERE I WOULD OCCASIONALLY EAT MY LUNCH AT THE END OF THE WHARF LOOKING OUT ONTO THE BAY. ONE DAY MY FRIEND POINTED OUT HIS NEW APARTMENT ACROSS THE BAY HE HAD JUST MOVED INTO. THE NEW BUILDING STOOD PROUD ON A MOSTLY DESERTED WATERFRONT THAT WAS A PART OF EAST BOSTON.

I BECAME MORE FAMILIAR WITH EAST BOSTON DUE TO MY RELOCATION TO LOGAN INTERNATIONAL AIRPORT FOR A CONSTRUCTION PROJECT. I REMEMBER COUNTLESS TIMES TAKING THE BLUE-LINE METRO RUNNING UNDERNEATH THE BAY TO ARRIVE AT THE 'MAVERICK' STOP. I WOULD PROCEED ONWARD FOR ANOTHER 20 MINUTES WEAVING THROUGH THE NEIGHBORHOODS OF EAST BOSTON UNTIL I CAME TO THE AIRPORT. IT WAS THEN THAT I REALIZED HOW DEPRIVED EAST BOSTON WAS OF AN IDENTITY OR DEVELOPMENT.

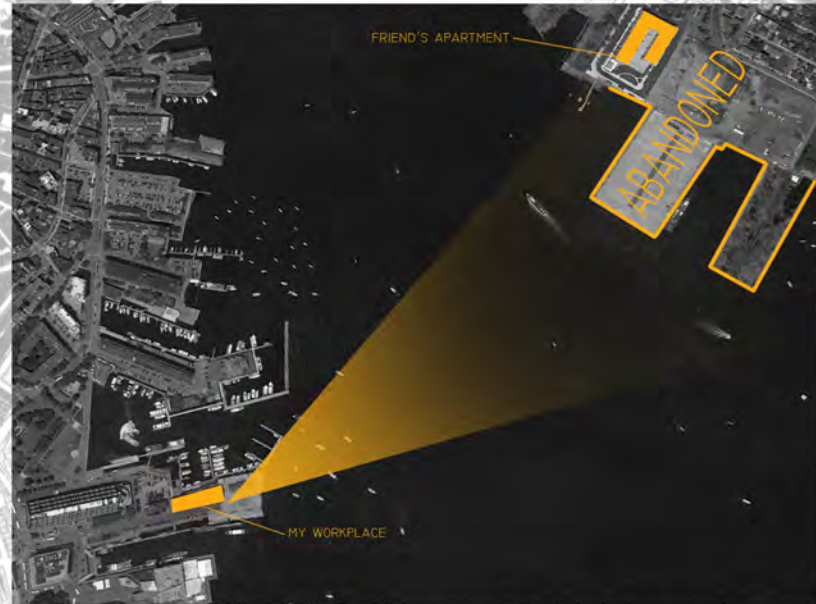
IN MY MIND, I SOLIDIFIED EAST BOSTON AS THE SITE OF MY CHOOSING DUE TO THE NEED FOR REJUVENATION; HOWEVER A SITE ALONE IS NOT ENOUGH FOR AN ARCHITECTURAL THESIS.

MY INTEREST IN DECOMMISSIONED AIRCRAFT CARRIERS CAME FROM GROWING UP IN THE HOME OF TWO MILITARY VETERANS WHO SERVED IN THE NAVY AND MARINE CORPS. THESE MAMMOTHS OF MODERN ENGINEERING EVENTUALLY RUN THEIR COURSE AND NEED TO BE RETIRED OR DECOMMISSIONED. THE SHIPS ARE EITHER SCRAPPED, SCUTTLED, OR DRY DOCKED.

MY SOLUTION IS TO MAKE EAST BOSTON A HOME FOR ONE OF THESE DECOMMISSIONED AIRCRAFT CARRIERS. THE SITE COULD POTENTIALLY ACCOMMODATE THE SHIP IN A NEW INNOVATIVE WAY SO THAT THE SHIP BECOMES A WORLD ATTRACTION. THE STAGE IS SET FOR ARCHITECTURE TO SOLVE A PROBLEM WITH SOCIAL, GEOGRAPHICAL, ECONOMICAL, AND IDENTITY ASPECTS.



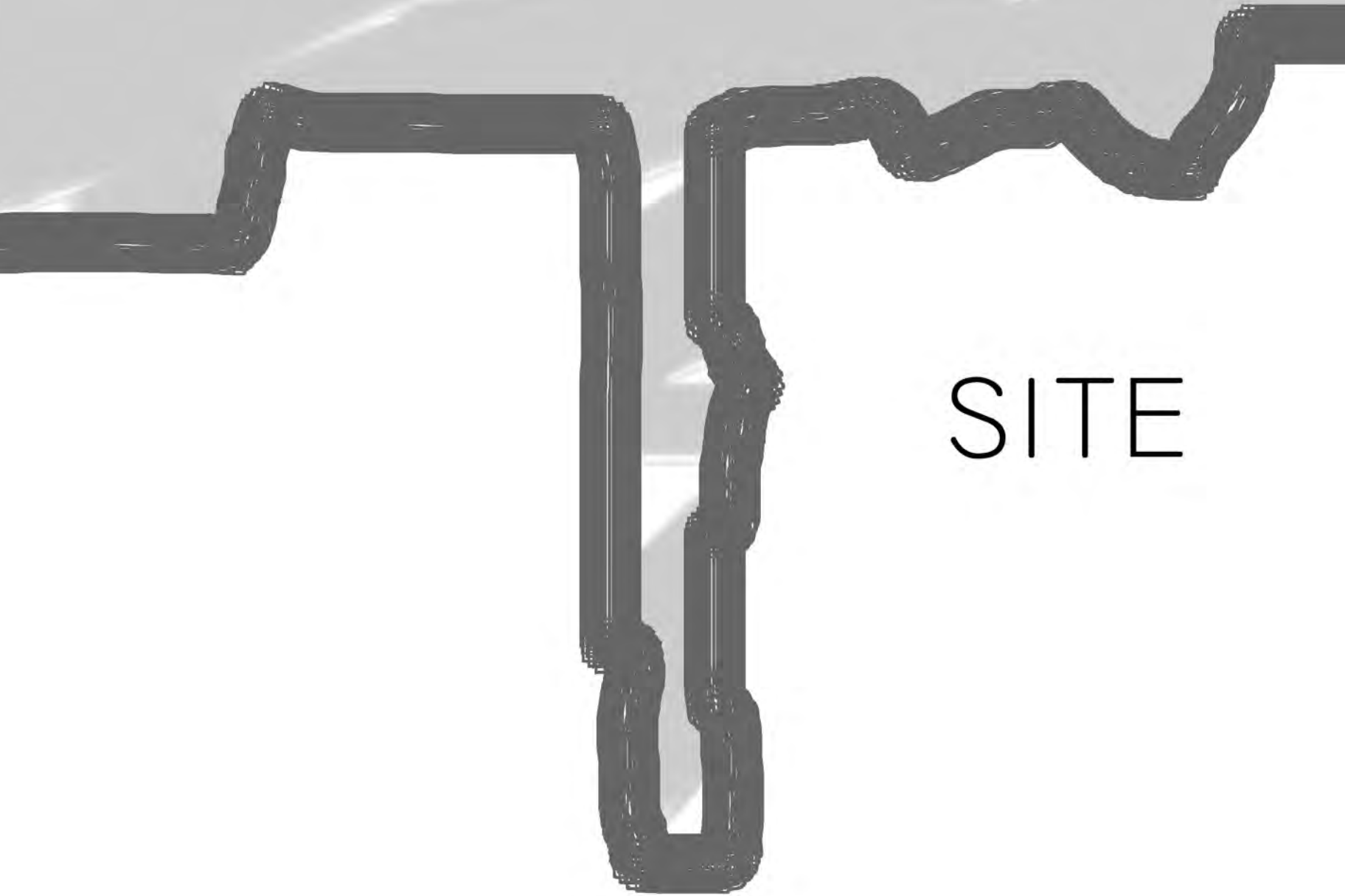
STREET VIEW ON LONG WHARF LOOKING TOWARDS THE BAY.
(SOURCE: GOOGLE EARTH. APRIL 12, 2013.)



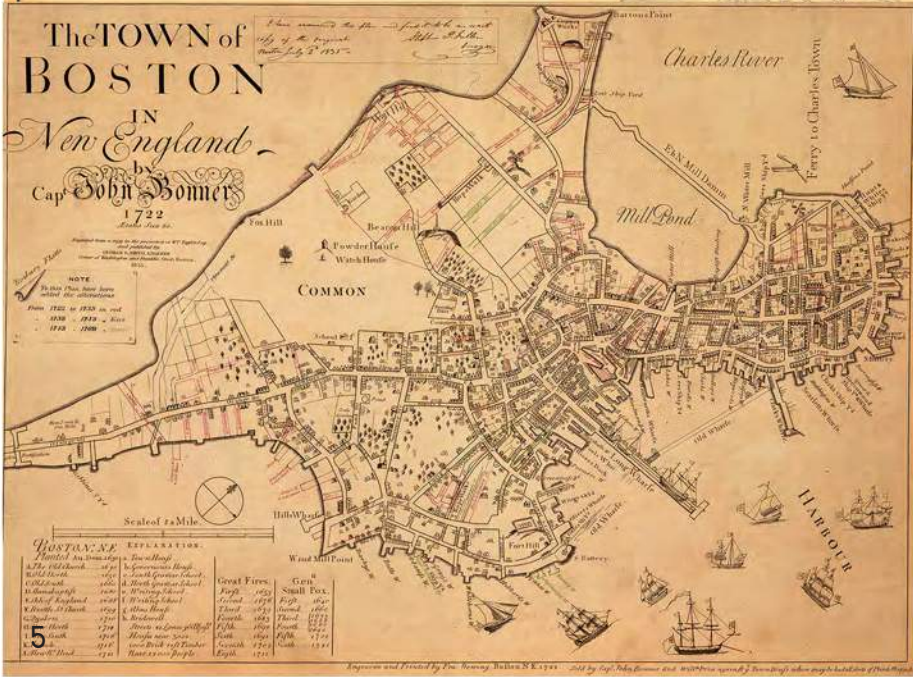
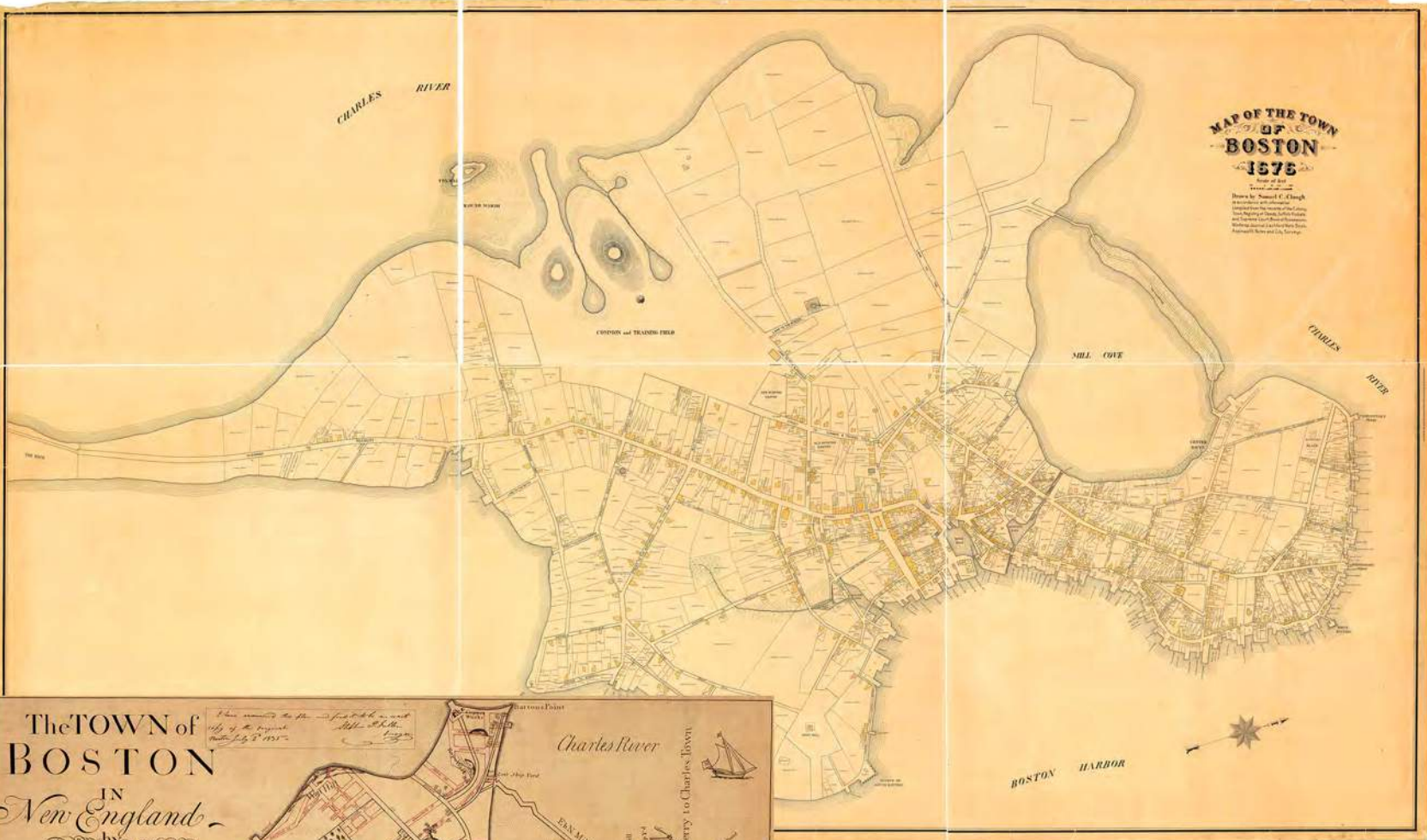
AERIAL VIEW OF THE FINANCIAL DISTRICT AND EAST BOSTON.
(SOURCE: GOOGLE EARTH. APRIL 12, 2013.)

BASE MAP OF BOSTON IN BACKGROUND SHOWS EAST BOSTON AND ALL OF HISTORICAL BOSTON. (SOURCE: BOSTON REDEVELOPMENT AUTHORITY. NOVEMBER 13, 2015)





SITE



TOP: PROPERTY MAP OF BOSTON 1648 BY SAMUEL C. CLOUGH IN ACCORDANCE WITH INFORMATION COMPILED FROM THE RECORDS OF THE COLONY, TOWN REGISTRY OF DEEDS, SUFFOLK PROBATE, AND SUPREME COURT; BOOK OF POSSESSIONS, WINTHROP JOURNAL, LECHFORD NOTE BOOK, ASPINWALL'S NOTES AND CITY SURVEYS (INSCRIPTION ON DRAWING.) (SOURCE: MAPPING BOSTON BY ALEX KRIEGER. 1999.)

LEFT: THE TOWN OF BOSTON IN NEW ENGLAND BY CAPTAIN JOHN BONNER, 1722. (SOURCE: MAPPING BOSTON BY ALEX KRIEGER. 1999.)

AERIAL IMAGE OF BOSTON. (SOURCE: GOOGLE EARTH. APRIL 12TH, 2013.)

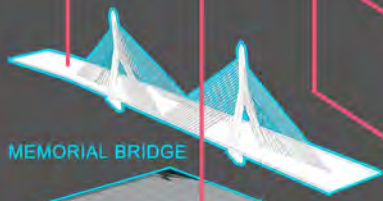


IT IS WELL KNOWN THAT OVER 50% OF DOWNTOWN BOSTON IS LANDFILL. HERE FROM THE DIAGRAMS WE CAN SEE THE ORIGINAL FOOTPRINT OF BOSTON ALMOST 300 YEARS AGO OVERLAID ON MODERN-DAY BOSTON. ORIGINALLY BOSTON WAS CALLED 'SHAWMUT PENINSULA' WHICH REFERS TO THE GEOGRAPHIC ISLAND THAT WAS ONLY CONNECTED BY A SMALL ISTHMUS TO MAINLAND. THE SMALL ISTHMUS MADE IT EASY TO PROTECT ENTRY INTO BOSTON WHILE SUSTAINING AN IDEAL LOCATION FOR PORTS. IT IS ALSO APPARENT FROM THE DIAGRAM THAT EAST BOSTON RECEIVED LANDFILL AS WELL. I DID NOT REALIZE IT AT THE TIME, BUT THE SUBSTANTIAL MOVING OF THE EARTH'S LAND WOULD COME INTO PLAY LATER IN MY STUDIES.

BOSTON



LOGAN INTERNATIONAL AIRPORT



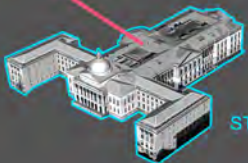
MEMORIAL BRIDGE



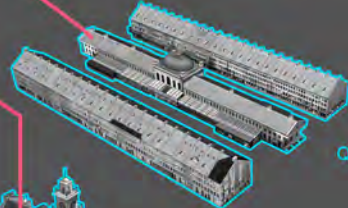
TD GARDEN



CITY HALL



STATE HOUSE



QUINCY HALL



HISTORICAL STATE HOUSE



BOSTON IS ONE OF THE MOST HISTORICAL CITIES IN AMERICA WITH ITS NUMEROUS SITES TO SEE DATING BACK TO THE BIRTH OF THE UNITED STATES. EAST BOSTON DOES NOT SHARE THIS CHARM. VISITORS SIMPLY ARRIVE AT THE LOGAN INTERNATIONAL AIRPORT THEN PROCEED TO TAKE THE METRO STRAIGHT TO DOWNTOWN BOSTON. EAST BOSTON IS A COLLECTION OF MIDDLE CLASS ROW HOUSES WHOSE RESIDENTS COMMUTE TO DOWNTOWN FOR WORK. THE SITE FOR THIS PROJECT TAKES PLACE ON THE COAST LINE OF EAST BOSTON WHERE A SHIPPING DEPOT USED TO EXIST WITH A POWERFUL BOSTON SKYLINE IN THE BACKGROUND.

BASE MAP OF BOSTON IN BACKGROUND SHOWS EAST BOSTON AND ALL OF HISTORICAL BOSTON. (SOURCE: BOSTON REDEVELOPMENT AUTHORITY. NOVEMBER 13, 2015)



AERIAL VIEW OF THE FINIANCIAL DISTRICT AND EAST BOSTON. (SOURCE: GOOGLE EARTH. APRIL 12, 2013.)

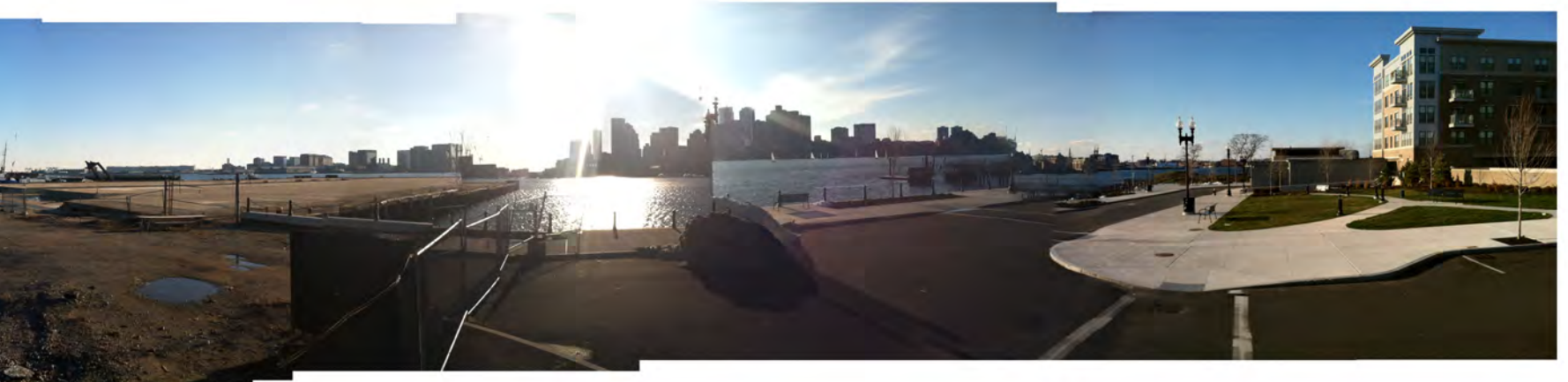




1. PANORAMA AT 3 PM JANUARAY 3RD

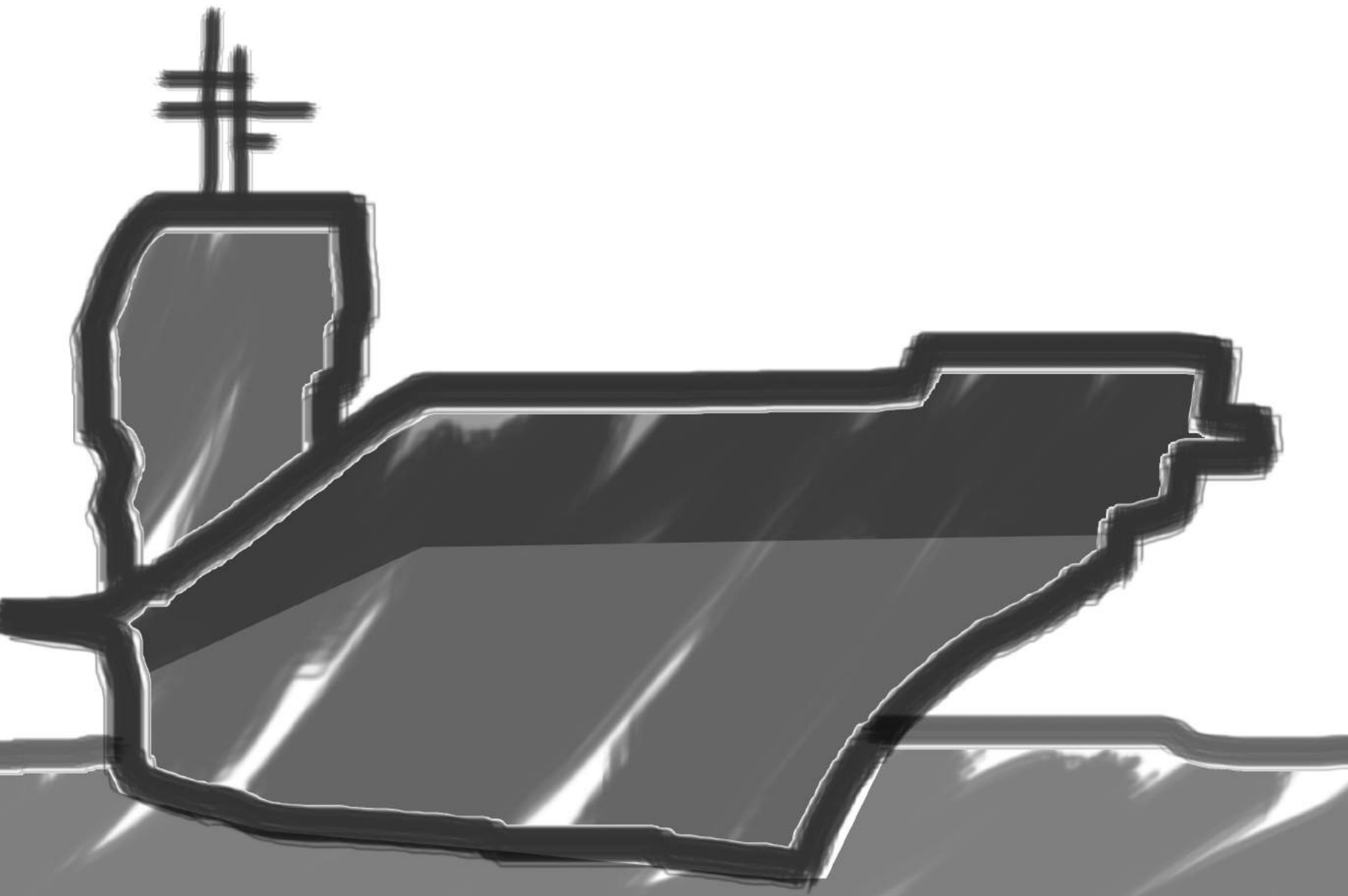


2. PANORAMA AT 5 PM JANUARAY 3RD



AS PREVIOUSLY MENTIONED THIS SITE WAS A SHIPPING DEPOT DATING BACK TO THE EARLY 1800'S AND SERVED AS ONE OF BOSTON'S MAIN SHIPBUILDING YARDS AS WELL. THERE ARE PLAQUES AROUND THE SITE THAT COMMEMORATE THIS HISTORY AS WELL AS THE PAVILIONS. TODAY THE SITE HAS BEEN ABANDONED FOR DECADES AND CURRENTLY SERVES AS STORAGE FOR BOAT OWNERS AND CONTRACTORS.

EAST BOSTON IS UNDERGOING A MUCH NEEDED REDEVELOPMENT PLAN OF WHICH INCLUDES THE NEW NEIGHBORING APARTMENT COMPLEX. THERE ARE PLANS TO BUILD THREE MORE SIMILAR BUILDINGS ON THIS SPECIFIC SITE; HOWEVER LACK OF INVESTORS HAS STALLED THE PROJECT. IN MY OPINION, NEW APARTMENTS WOULD CREATE SOCIAL TENSIONS WITH THE NEARBY PROMINENT AFFORDABLE HOUSING. THIS IS THE CHANCE TO DO SOMETHING SPECIAL THAT EVERYONE IN EAST BOSTON CAN BE PROUD OF.



SHIP



BREMERTON, WASHINGTON JUST OUTSIDE OF SEATTLE SITS 4 DECOMMISSIONED AIRCRAFT CARRIERS. FROM LEFT TO RIGHT: USS INDEPENDENCE, USS KITTY HAWK, USS CONSTELLATION, AND USS RANGER. (SOURCE: AIRCRAFT CARRIERS BY PAUL E FONTENOY, 2006.)

DECOMMISSIONED AIRCRAFT CARRIERS

AIRCRAFT CARRIERS ARE THE WORLD'S LARGEST MILITARY NAVAL VESSELS EVER WITH AN AVERAGE LENGTH OF 1,100 FEET (ROUGHLY A FIFTH OF A MILE OR 3 FOOTBALL FIELDS) BY 250 FEET IN WIDTH BY 150 FEET FROM THE LOWEST POINT OF THE HULL TO THE ROOF OF THE CONTROL TOWER (ANOTHER 50 FEET OF ANTENNA WHICH WOULD BE AN OVERALL HEIGHT, EQUIVALENT TO A 20 STORY BUILDING). THEY HOUSE **5,000** PEOPLE WITH 2,000 COMPARTMENTS AND CAN CARRY ABOUT 100 PLANES ON AND BELOW THE FLIGHT DECK. AT ALL TIMES, THE UNITED STATES HAS ANYWHERE FROM 10-15 ACTIVE AIRCRAFT CARRIERS TRAVELLING THE WORLD OUTNUMBERING BY FAR ANY NATION'S OWN INVENTORY. BEHIND NUCLEAR WARHEADS, AIRCRAFT CARRIERS ARE THE FOUNDATION AND SYMBOL OF THE UNITED STATES' MILITARY POWER. WITHOUT THEM, AMERICA WOULD CEASE TO BE THE INFLUENTIAL WORLD POWER IT IS TODAY. NEEDLESS TO SAY, THEY HAVE A CONTROVERSIAL VIEW FROM THE WORLD DUE TO THE RECENT CONFLICTS IN THE MIDDLE EAST AND THEIR ENORMOUS EXPENSE. NEVERTHELESS, THE SHIPS REPRESENT AMERICAN PRIDE AND DESERVE TO BE HONORED WITH HISTORY AND SACRIFICE CONSIDERED.

IN ALL THEIR GLORY, EVEN THESE STEEL MAMMOTHS OF MODERN MARVEL CANNOT ESCAPE FATHER TIME. THE AIRCRAFT CARRIERS WERE ABLE TO STAY ACTIVE LONGER AS TIME WENT ON. FOR EXAMPLE, CARRIERS BUILT DURING WORLD WAR II ONLY HAD A LIVE SPAN OF ABOUT 10-15 YEARS. SHIPS BUILT IN THE 1960S AND ONWARD ARE ACTIVE FROM 30-50 YEARS. A MAJOR INNOVATION DURING THE MID-1960S CALLED FOR ALL NEW AIRCRAFT CARRIERS TO USE **NUCLEAR REACTORS** AS THE BASIS FOR POWER RATHER THAN THE CONVENTIONAL BOILER ROOMS. THIS MEANT CARRIERS COULD LAST A DECADE WITHOUT MAINTENANCE WITH REGARD TO THE ENGINE, STRICTLY IN CONTRAST TO BOILER POWERED CARRIERS THAT REQUIRE MAINTENANCE TWICE A YEAR.

NO MATTER THE TECHNOLOGICAL ADVANCEMENT, THE SHIPS ARE EVENTUALLY TOO EXPENSIVE TO KEEP UP REPAIRS AND ARE SENT INTO THIS PURGATORY STATE CALLED '**DECOMMISSIONING**'. BASICALLY THIS MEANS THE SHIP AWAITS A FATE OF BEING TURNED INTO A DRY DOCK MUSEUM, SCUTTling, OR SCRAPPING. MUSEUMS CAN BE A POSITIVE ALTERNATIVE; HOWEVER FUNDS ARE USUALLY TIGHT AND TOURS CAN ONLY EXPLORE A SMALL SELECTION OF COMPARTMENTS. SCUTTling REFERS TO THE SINKING OF THE SHIP TO EVENTUALLY SERVE AS AN ARTIFICIAL REEF. THIS HAS RECENTLY BEEN ABANDONED DUE TO THE HIGH LEVEL OF TOXINS THAT ARE RELEASED FROM ELECTRICAL AND MECHANICAL COMPARTMENTS OF THE SHIP. LASTLY, SCRAPPING REFERS TO THE DECONSTRUCTION OF THE AIRCRAFT CARRIERS, WHICH CAN REJUVENATE THE ECONOMY OF THE AREA DESPITE THE GIGANTIC UP FRONT COSTS. THIS OPTION IS INEVITABLE AS WE CANNOT PRESERVE ALL HISTORICAL CARRIERS. THIS THESIS IS IN LARGE PART AN EXPLORATION OF A **FOURTH OPTION** THAT ALLOWS THE MAJESTIC SIDE OF THE SHIP TO BE REVEALED.



USS JOHN F. KENNEDY - TRAVELING IN THE ATLANTIC ON ITS WAY TO A TOUR IN THE MIDDLE EAST. (SOURCE: AIR-CRAFT CARRIERS BY PAUL E FONTENOY, 2006.)

USS JOHN F. KENNEDY

PRESIDENT DWIGHT EISENHOWER PASSED FUNDING FOR A NEW FLEET OF AIRCRAFT CARRIERS DURING HIS PRESIDENCY, WHICH BEGAN IN 1953. OBVIOUSLY, EISENHOWER PLAYED A BIG ROLE IN WORLD WAR II AND SAW THE IMPORTANCE OF HAVING A STRONG CARRIER FLEET. NO BASES COULD BE ESTABLISHED FOR THE CONFLICTS IN KOREA AND VIETNAM WHICH WOULD JUSTIFYING THE NEED FOR MORE CARRIERS. UP UNTIL THIS POINT, UNITED STATES' CARRIER FLEET WAS A MONTAGE OF HYBRID SHIPS FROM THE WORLD WAR THAT HAD NEW TECHNOLOGIES INSTALLED TO ACCOMMODATE JETS. EISENHOWER BOLDY PLANNED A 5 YEAR PROGRAM FOR CARRIER SHIPBUILDING WHERE ONE CARRIER WOULD BE BUILT PER YEAR. THE USS

SARATOGA, RANGER, INDEPENDENCE, ENTERPRISE, AND LASTLY THE USS JOHN F. KENNEDY; ALL POSSESSED STATE-OF-THE-ART TECHNOLOGIES. IT WAS THE DAWN OF A NEW ERA OF AMERICAN POWER CALLED THE 'SUPERCARRIER'.

THE USS JFK SUFFERED DELAYS DUE TO BUDGET CONSTRAINTS WHICH LED TO ITS LATE LAUNCH IN 1967. UNLIKE ITS NUCLEAR POWERED FAMILY, THE USS JFK WAS A CONVENTIONAL BOILER-POWERED CARRIER AND THE LAST OF ITS KIND. DUE TO ITS UNIQUE DESIGN ALTERED BY THE ADMINISTRATION WHILE IN CONSTRUCTION, THE USS JFK BECAME ITS OWN CLASS. ONCE ACTIVE, THE SHIP SERVED MANY TOURS OVER THE SPAN OF 40 YEARS, FINALLY BEING DECOMMISSIONED IN 2007. THE TOURS WERE MAINLY TO THE MIDDLE EAST TO SERVE CONFLICTS IN LEBANON AND OPERATION DESERT STORM AS WELL AS OPERATION IRAQI FREEDOM.

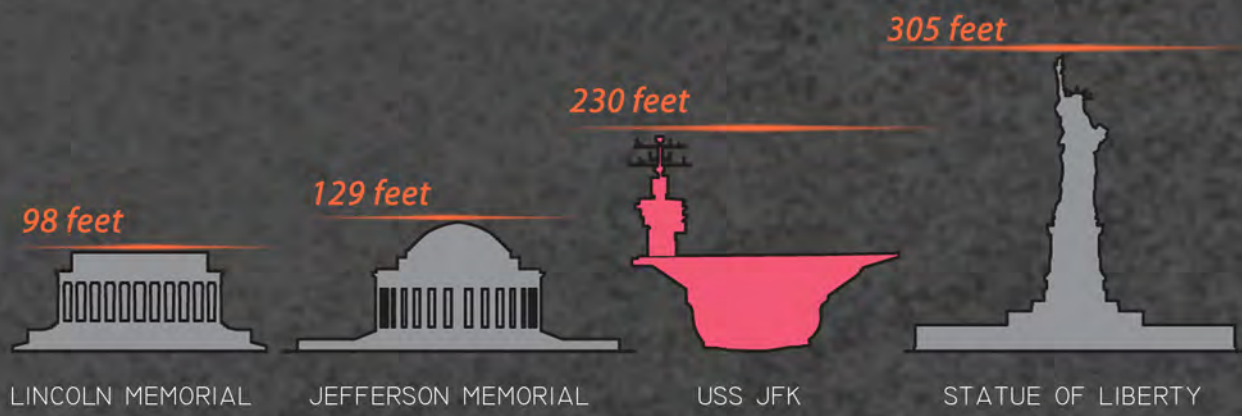
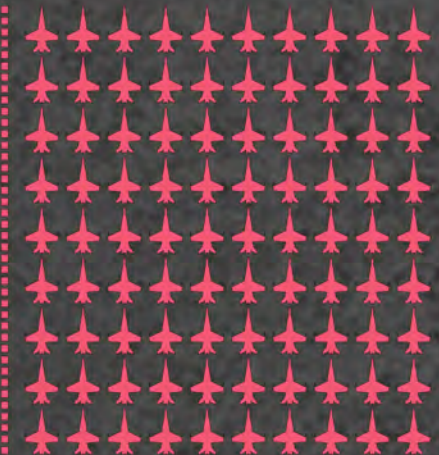
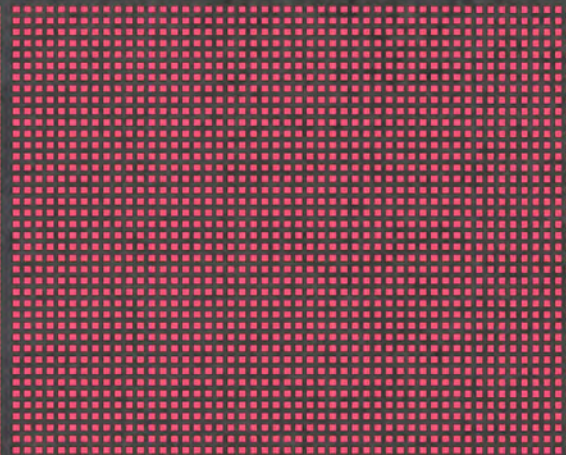
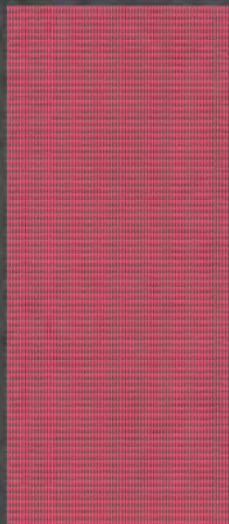
I HAD THE HONOR OF READING *SUPERCARRIER: AN INSIDE ACCOUNT OF LIFE ABOARD THE WORLD'S MOST POWERFUL SHIP, THE USS JOHN F. KENNEDY* BY GEORGE C. WILSON. IN THIS ACCOUNT, WILSON GOES INTO DEPTH OF THE EVERYDAY OPERATIONS AND CHARACTER OF THE MEN THAT SERVE ON THE SHIP. THE MEN MAKE HUGE SACRIFICES TO KEEP THE SHIP RUNNING. SOME MEN DO NOT SEE SUNLIGHT FOR WEEKS ON END. PLANES ARE CONSTANTLY IN THE SKY AROUND THE CLOCK. ONLY OFFICERS HAVE A DORMITORY TO THEMSELVES. ONE OF THE WORLD'S LARGEST SHIPS ON THE PLANET HAS NO ROOM FOR ERROR AND VERY LITTLE PHYSICAL ROOM FOR ITS INHABITANTS. THERE IS AN OVER-ARCHING ATTITUDE OF HOPE, PERSEVERANCE, PASSION, AND SADNESS. IN SO MANY INSTANCES THE MEN SEEMED CONFUSED AS TO WHAT THEIR PURPOSE WAS FOR KEEPING THE AIRCRAFT CARRIER RUNNING. WHAT WAR WERE THEY FIGHTING? THIS ACCOUNT WAS TAKEN IN 1983 YET THE ATTITUDE STILL RESONATES IN PRESENT DAY WITH SAILORS OF MODERN AIRCRAFT CARRIERS. IN MANY WAYS THIS THESIS IS NOT ONLY HONORING THE SHIP, BUT MAINLY THE MEN AND WOMEN WHO LOST THEIR LIVES SERVING ON THE SHIP AND FOR THOSE WHOSE PURPOSE FELT LOST. YOU HAD AND STILL HAVE A PURPOSE AND WE ARE ALL INDEBTED TO YOU.



5,570
INHABITANTS

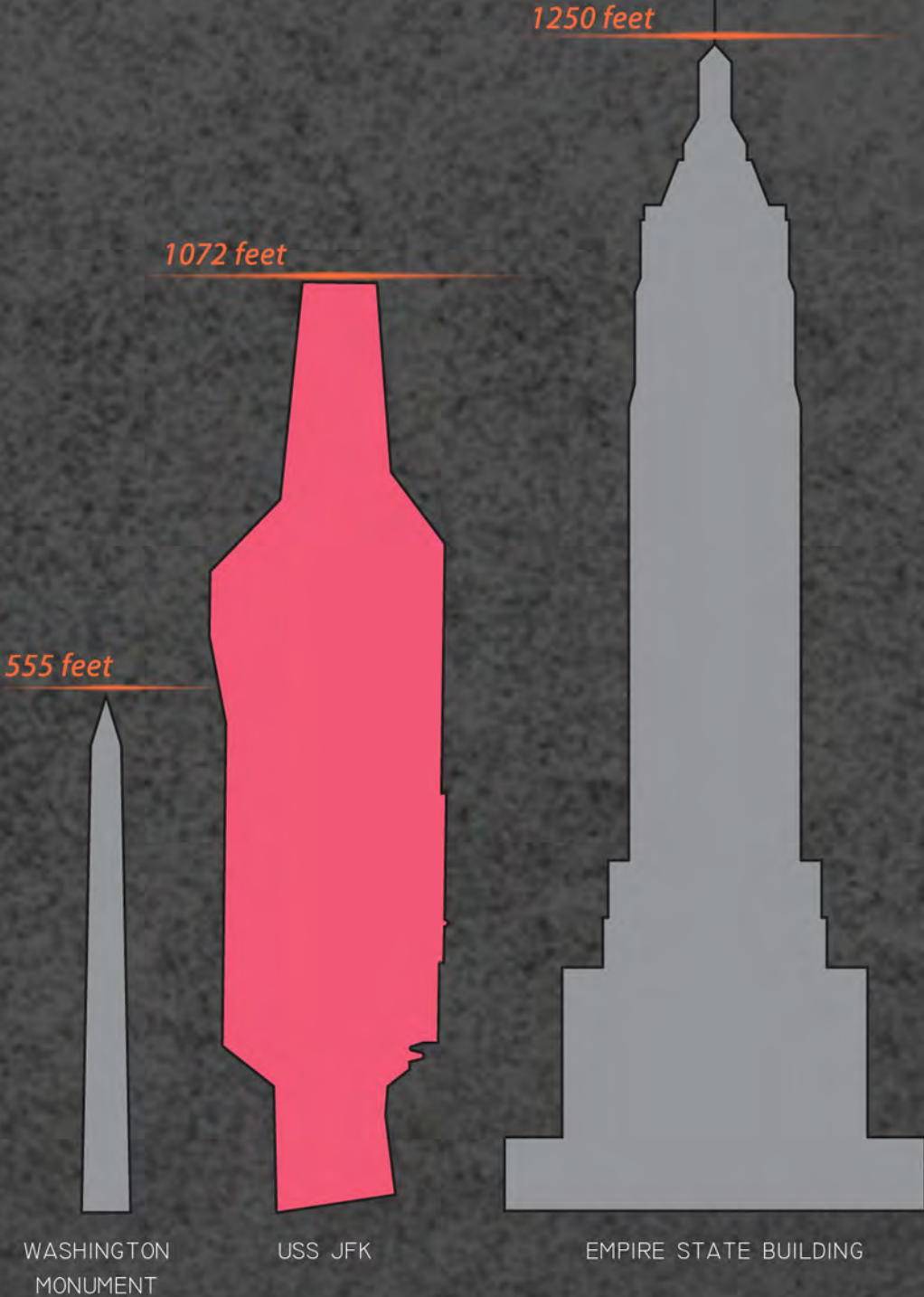
2,083
COMPARTMENTS

90
AIRCRAFT



LANDMARK COMPARISON

HERE IS A GRAPHIC PORTRAYING THE CARRIER'S RELATIVE SCALE TO FAMOUS LANDMARKS IN AMERICA. THE GRAPHIC SHOWING AN INVENTORY OF PEOPLE, COMPARTMENTS, AND AIRCRAFT ARE SCALED RELATIVE TO THE LANDMARK GRAPHIC AS WELL.

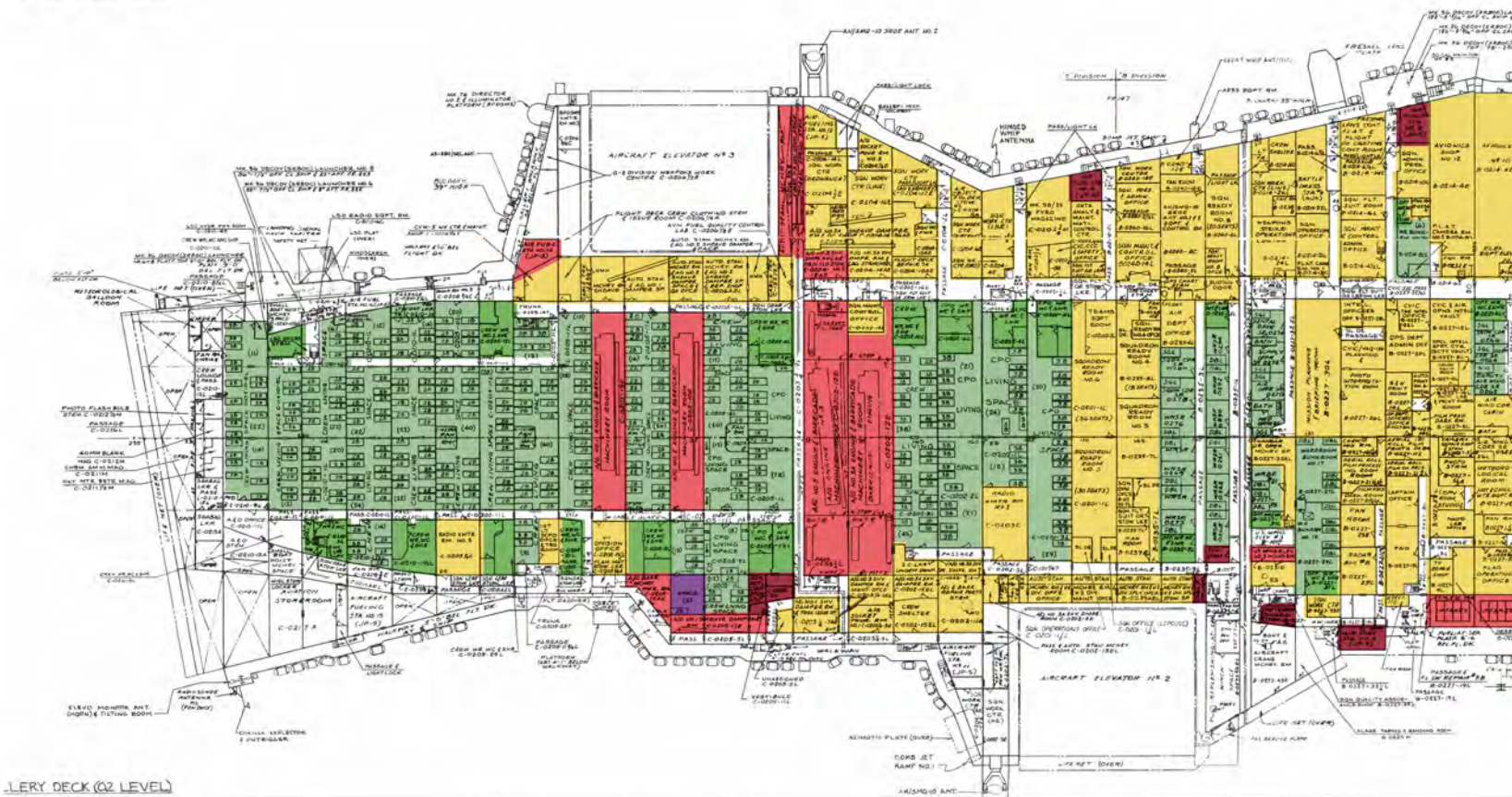


PROGRAM

UNFORTUNATELY, RESOURCES AS A STUDENT ARE LIMITED REGARDING TECHNICAL DRAWINGS OF AIRCRAFT CARRIERS. LUCKILY, I WAS ABLE TO RECEIVE DRAWINGS OF THE USS MIDWAY COURTESY OF THE INTREPID SEA, AIR & SPACE MUSEUM. THE SHIP IS NEARLY 20 YEARS OLDER THAN THE USS JFK; HOWEVER IN TERMS OF PROGRAMMATIC ORGANIZATION IT REMAINS RELEVANT.

FLIGHT DECK LEVEL OF THE USS MIDWAY.
(SOURCE: INTREPID SEA, AIR, & SPACE MUSEUM.
NOVEMBER 5, 2015)

OFFICIAL USE ONLY

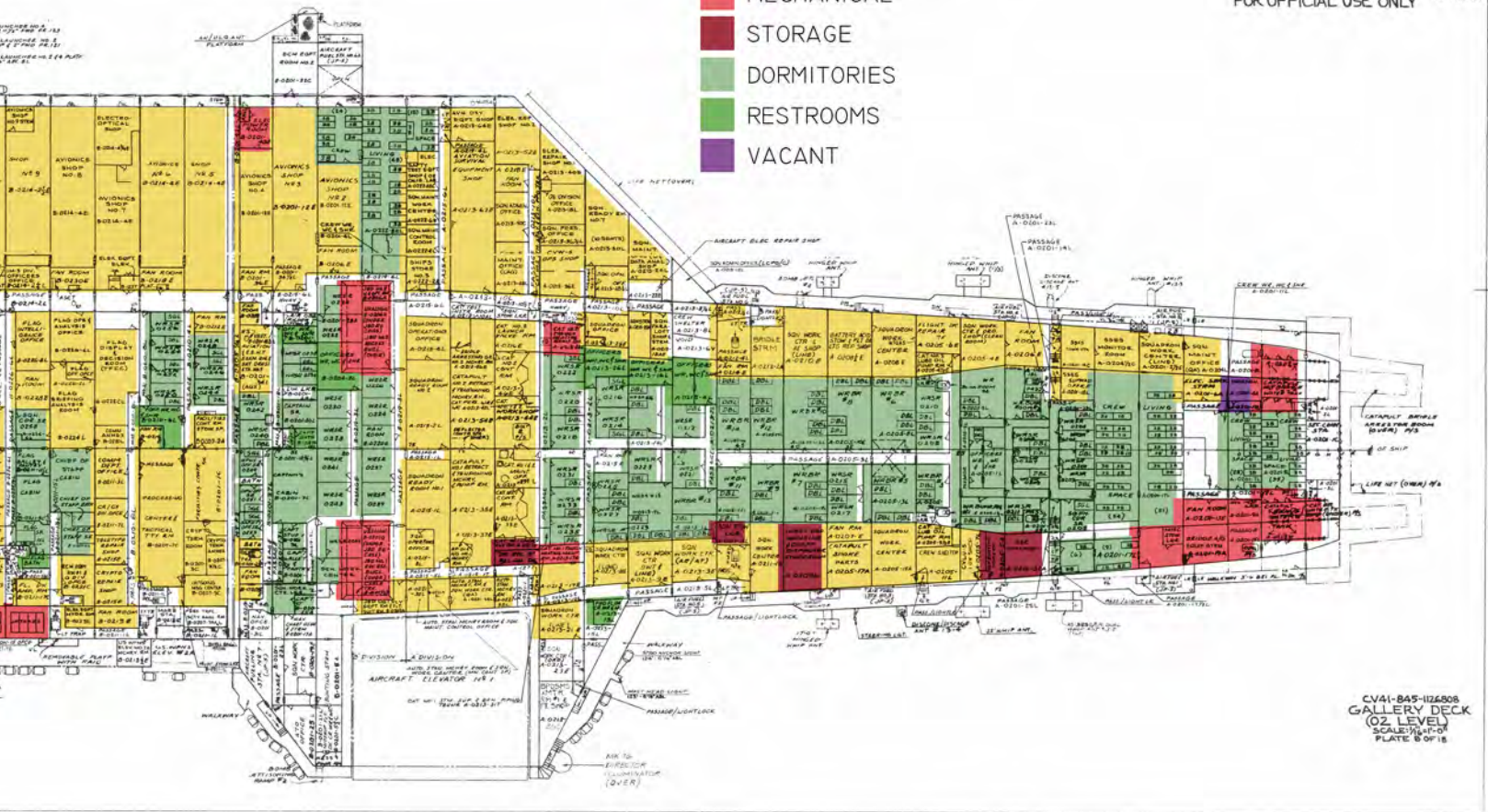


FLIGHT DECK

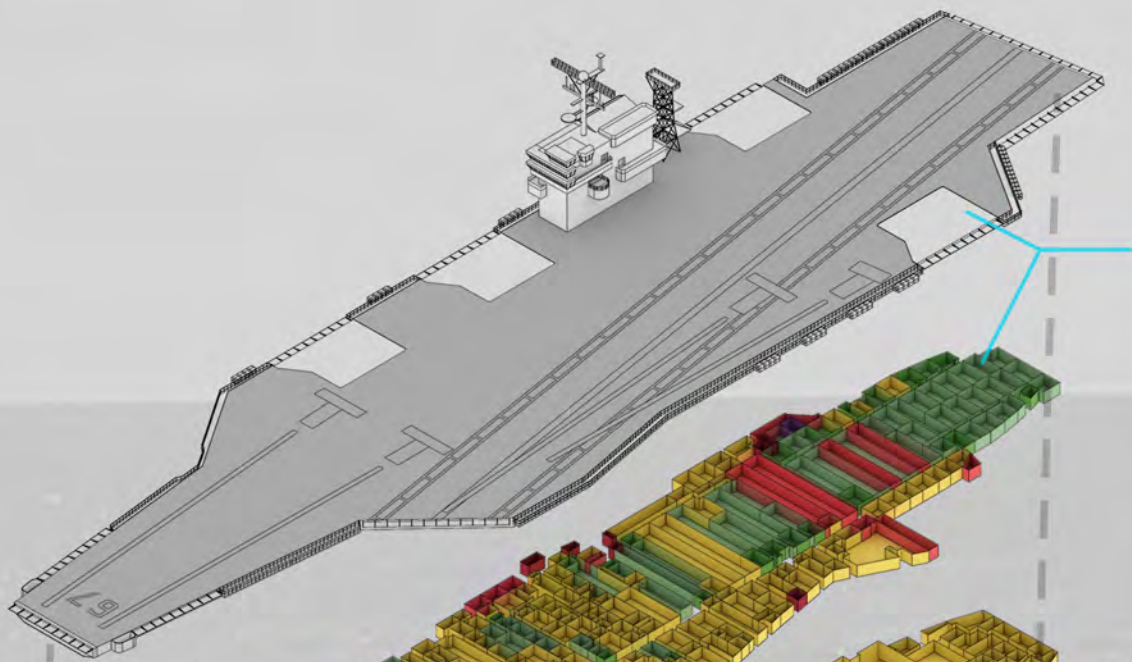
THIS DRAWING SHOWS THE PLAN OF THE LEVEL RIGHT BELOW THE FLIGHT DECK. IT IS PERHAPS THE MOST CONSTRAINED OF THE LEVELS DUE TO THE WALLS THAT ACT AS BEAMS TO SUPPORT THE HEAVY FLIGHT DECK ABOVE. JUST BELOW THIS LEVEL IS THE HANGAR WHERE AIRCRAFT IS STORED. IT IS TRULY AMAZING THAT HUMANS CAN INHABIT THIS SPACE, NEVER MIND LIVING AND SLEEPING HERE.

- SHIP OPERATIONS
- MECHANICAL
- STORAGE
- DORMITORIES
- RESTROOMS
- VACANT

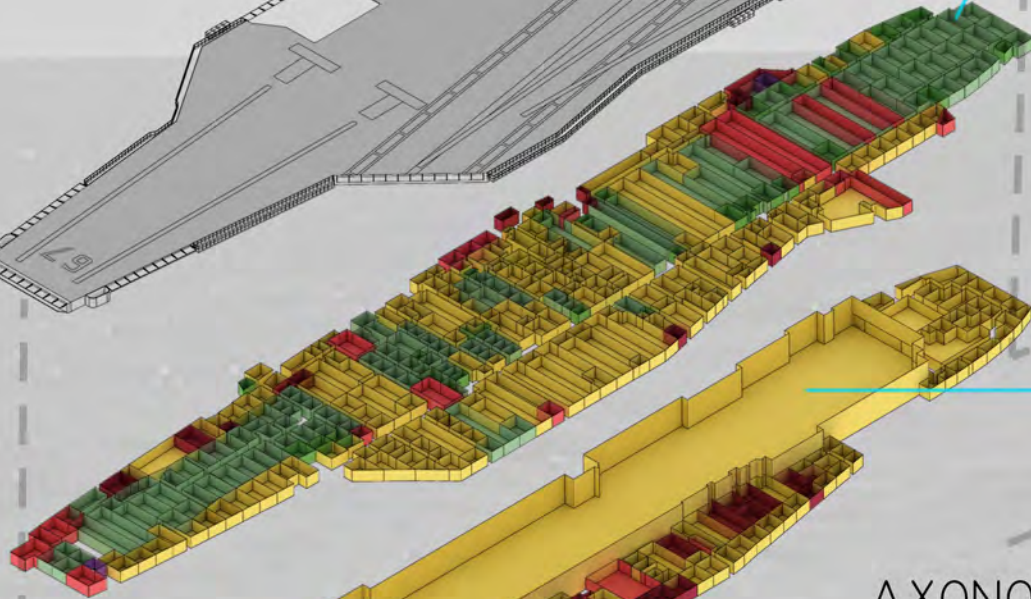
FOR OFFICIAL USE ONLY PLATE NO. 8



CV41-845-102608
GALLERY DECK
(02 LEVEL)
SCALE: 1/4" = 1'-0"
PLATE 8 OF 18



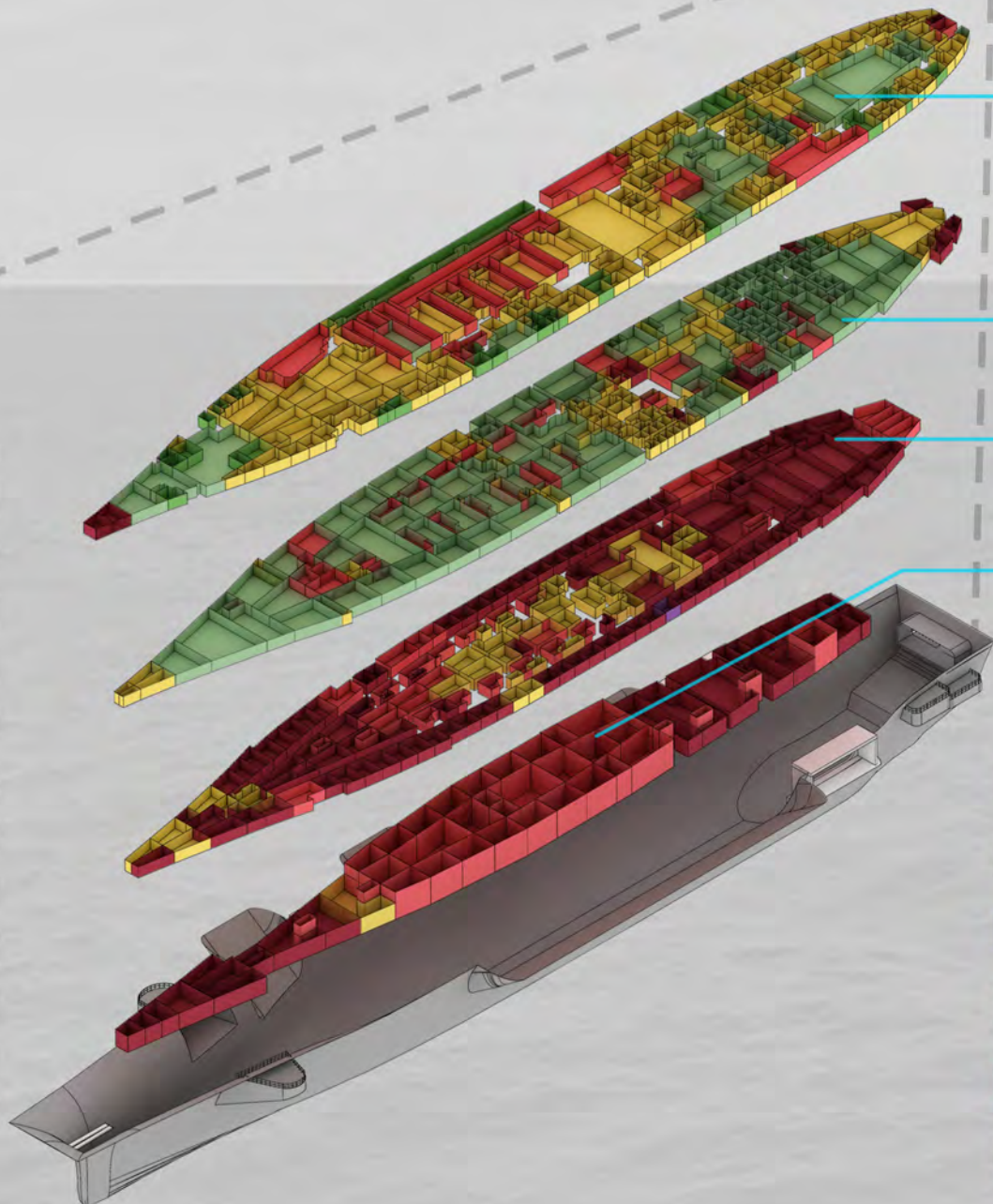
FLIGHT DECK



AIRCRAFT HANGAR

AXONOMETRIC

THIS GRAPHIC PUTS ALL OF THE PREVIOUS PLANS IN PERSPECTIVE TO GIVE SOME SECTIONAL AWARENESS OF THE SUCCESSION OF THE LEVELS. DESPITE WHAT THE GENERAL PUBLIC MAY THINK, 3D MODELING TAKES TIME AND CRITICAL THINKING. THE GEOMETRIES OF THE SHIP'S HULL, FLIGHT DECK, AND CONTROL TOWER TOOK CONSIDERABLE AMOUNT OF TIME; HOWEVER I LEARNED A LOT OF THE SHIPS ORGANIZATION IN THE PROCESS.



SHIP OPERATIONS

LIVING QUARTERS

STORAGE

MACHINE ROOMS

-  LIVING AREA
-  RESTROOMS
-  SHIP OPERATIONS
-  STORAGE
-  MECHANICAL
-  VOID

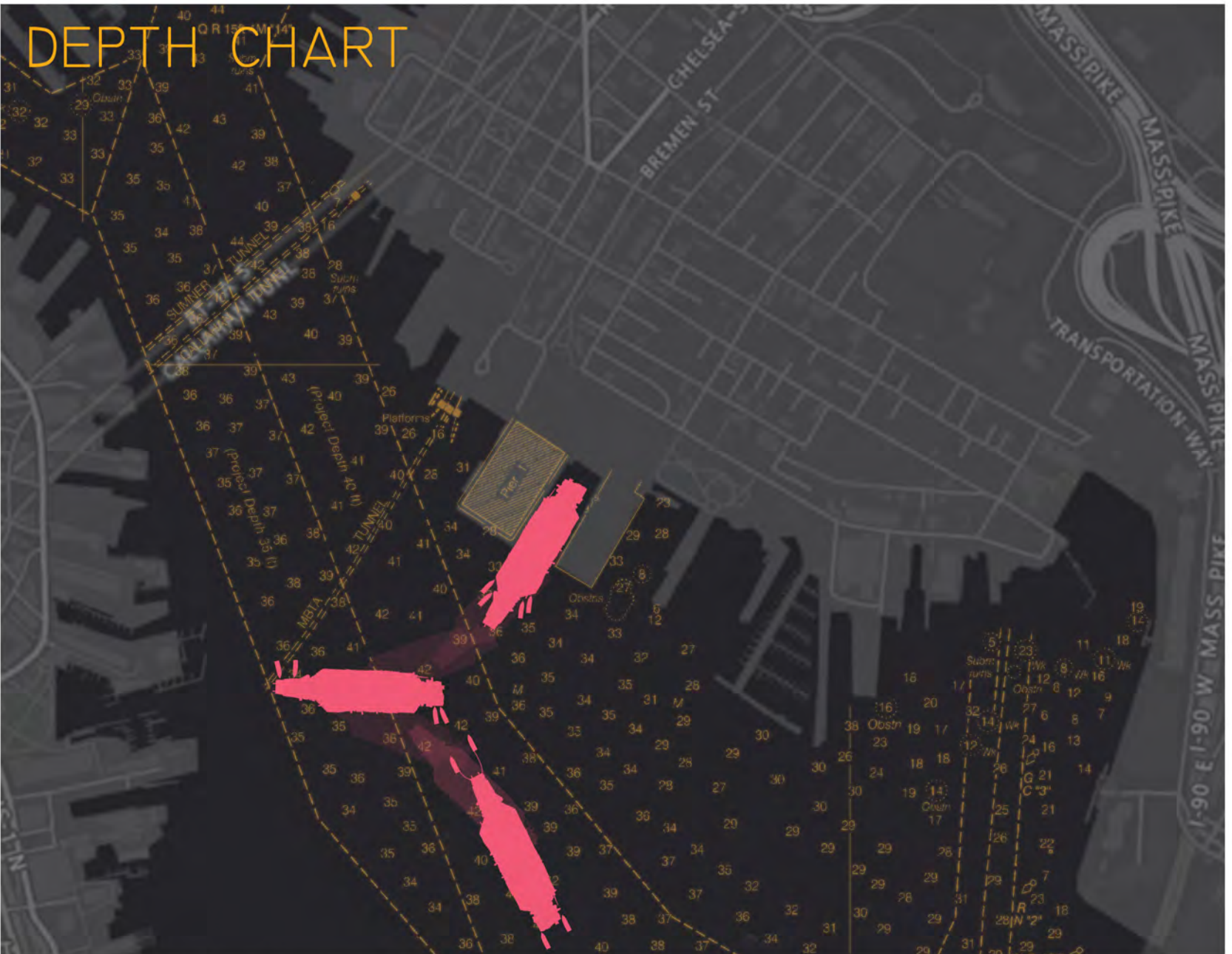
SHIP





SITE





DEPTH CHART OF BOSTON HARBOR. (SOURCE: CITY OF BOSTON. 2015)



FINALLY, I CONFRONTED THE INEVITABLE QUESTION AS TO WHETHER THIS SHIP WOULD BE ABLE TO DOCK ON THE SITE. I WAS ABLE TO OBTAIN A DEPTH CHART OF THE BOSTON HARBOR SHOWN TO THE LEFT. A CHANNEL WAS DUG OUT SHOWN WITH THE DELINEATED LINES THAT HAS A GREATER DEPTH THAT CAN ACCOMMODATE THE SHIP; HOWEVER THE IMMEDIATE SITE NEEDS TO BE DREDGED IN ORDER FOR THE SHIP TO BE SAFE FROM COLLISION. THE USS JFK SITS 38' IN THE WATER WHEN FULLY STOCKED WITH SUPPLIES AND PERSONNEL, BUT SITS 32' WHEN VACANT. I USED THIS DEPTH TO CONDUCT A DREDGING STUDY TO SEE EXACTLY HOW MUCH SOIL NEEDS TO BE DISPLACED.

GRASSHOPPER'S SCRIPT FUNCTION CALLED 'GALAPAGOS' ENABLES A RANGE OF INFORMATION TO BE ANALYZED BASED ON AN IDEAL VALUE.

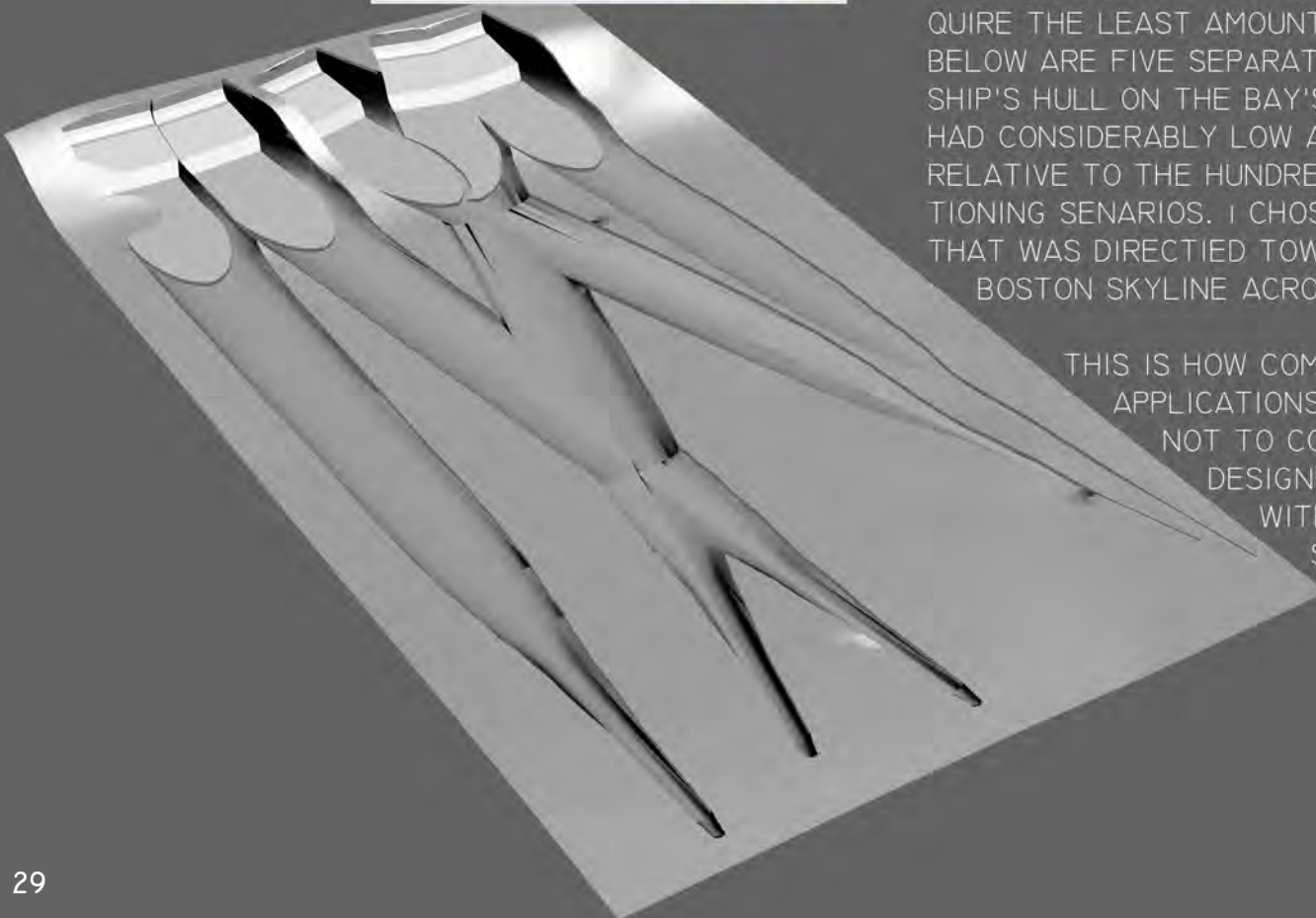


DREDGING STUDY

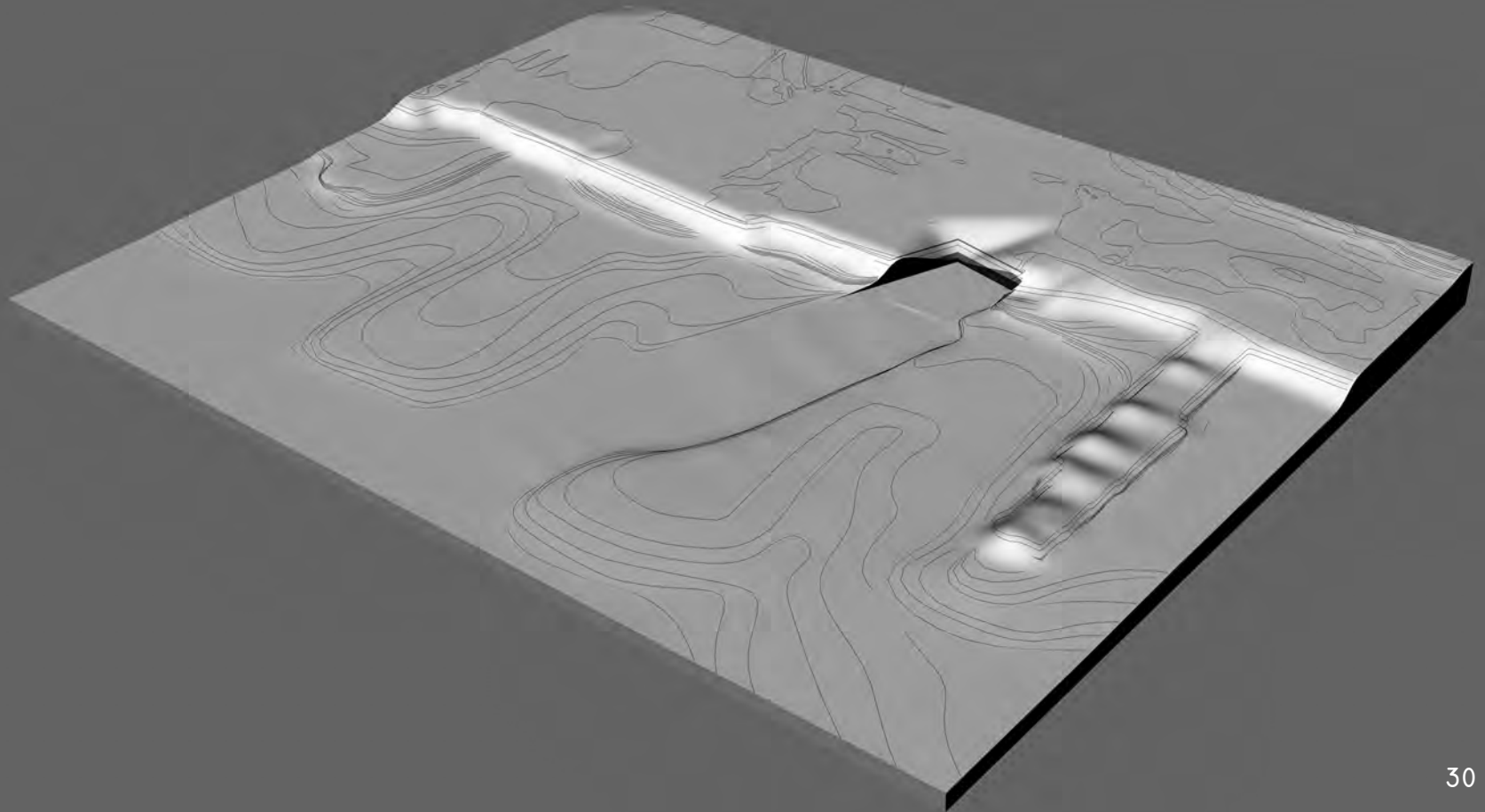
RHINOCEROS IS THE 3D MODELING PROGRAM USED IN THIS THESIS THAT HAS A PLUG-IN CALLED 'GRASSHOPPER' THAT ACTS AS A SCRIPTING PROGRAM USEFUL FOR COMPLEX GEOMETRIES AND ANALYSIS.

I CREATED A SCRIPT TO FIND THE POSITIONING OF THE AIRCRAFT CARRIER THAT WOULD REQUIRE THE LEAST AMOUNT OF DREDGING. BELOW ARE FIVE SEPARATE IMPRINTS OF THE SHIP'S HULL ON THE BAY'S FLOOR THAT ALL HAD CONSIDERABLY LOW AMOUNT OF DREDGING RELATIVE TO THE HUNDREDS OF OTHER POSITIONING SENARIOS. I CHOSE THE POSITION THAT WAS DIRECTIED TOWARDS THE BOSTON SKYLINE ACROSS THE BAY.

THIS IS HOW COMPUTER APPLICATIONS SHOULD BE USED. NOT TO CONTROL THE DESIGNER, BUT TO ASSIST WITH ANALYSIS AND STUDIES THE ARCHITECT COULD NEVER DO ALONE.

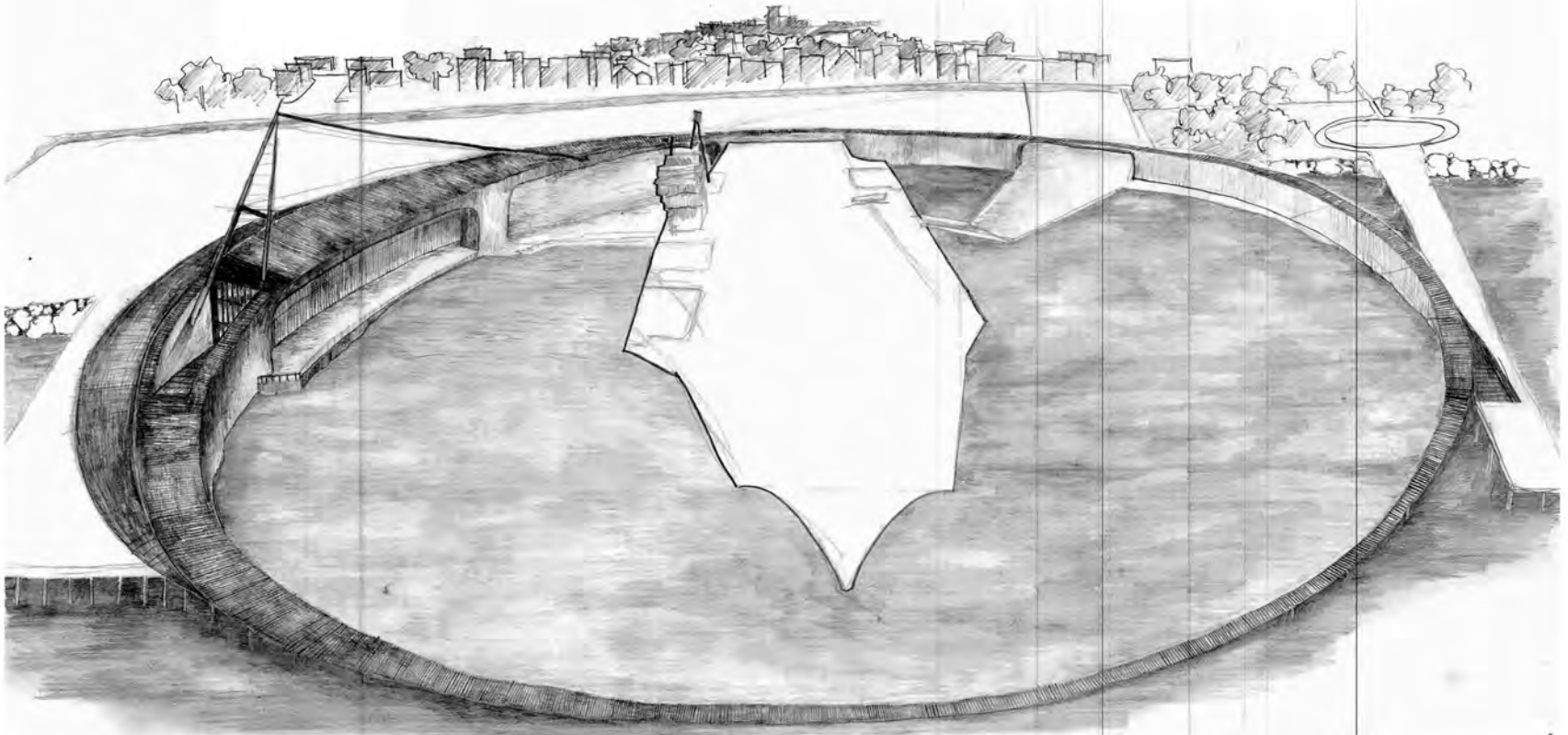


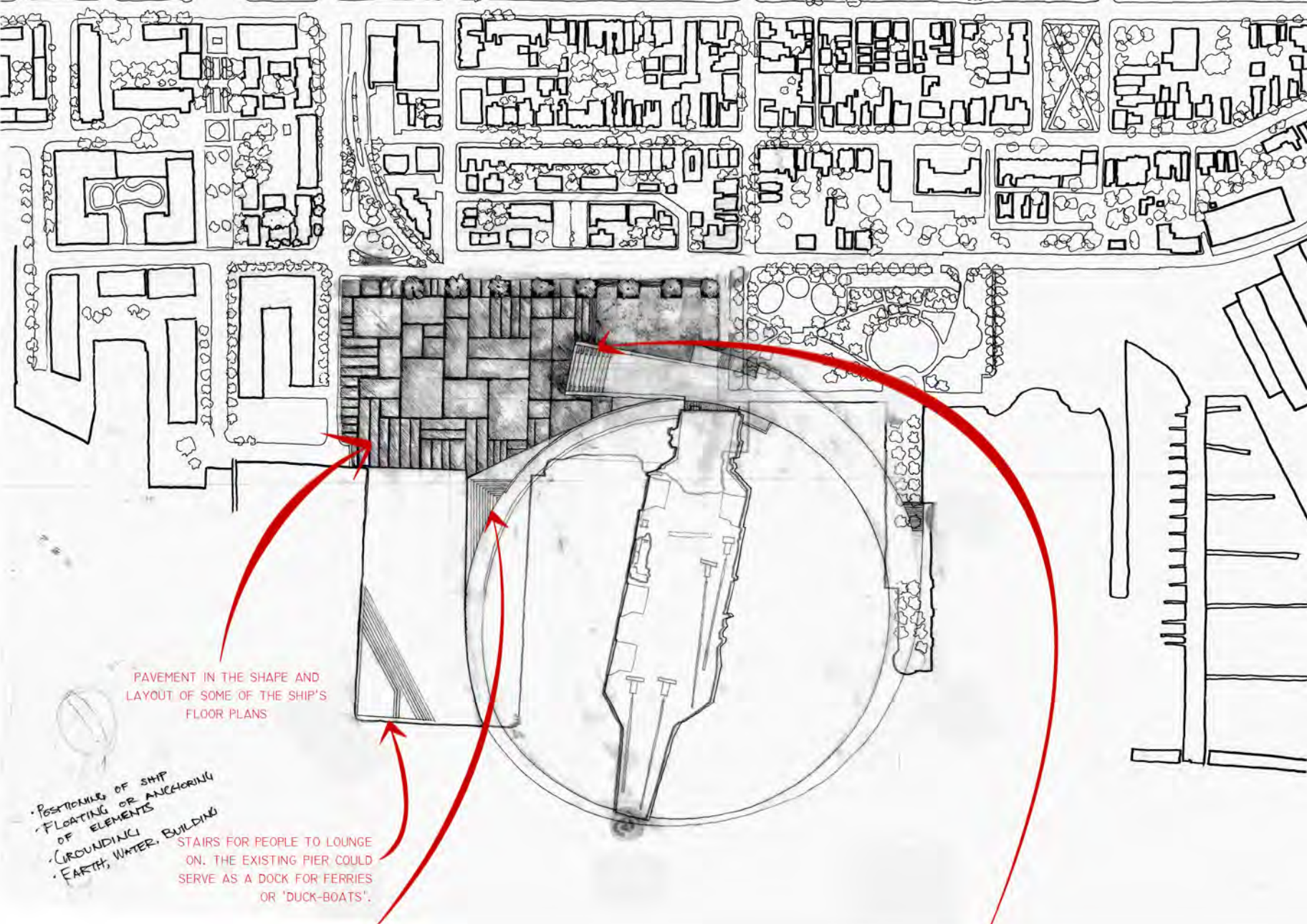
IN THE PREVIOUS STUDY I USED AN 8 FOOT OFFSET FROM THE EXACT GEOMETRY OF THE SHIP'S HULL SO THAT THERE IS A TOLERANCE FOR SAFE CLEARANCE BETWEEN THE BAY'S FLOOR AND THE SHIP'S HULL. OF COURSE, EXCAVATORS ARE NOT COOKIE CUTTERS, SO I MADE A MORE REALISTIC RENDITION OF WHAT THE EXCAVATION WOULD LOOK LIKE BELOW. ALL THE CONTOUR LINES ARE CUT BACK WHERE THE SHIP WOULD LIE.



THE BEGINNING OF THE DESIGN

THE PRELIMINARY DESIGN SOUGHT TO ALLOW THE PUBLIC TO LOOK AT THE SHIP FROM ALL ANGLES. THUS THIS PATHWAY CONCEPT WAS BORN TO ENCOMPASS THE SHIP. THE SKETCHES HERE ARE PROPOSING SLIGHTLY DIFFERENT SCHEMES, YET THE IDEA REMAINS. A DECISION HERE THAT HAS SOLIDIFIED IN THE FINAL DESIGN IS TO DEMO A PORTION OF THE EXISTING PIER TO THE WEST AND INTERSECT THE PIER TO THE EAST. NOW IT IS A MATTER OF WHERE THE BUILDING SHOULD RESIDE IN RELATION TO THE PATH.





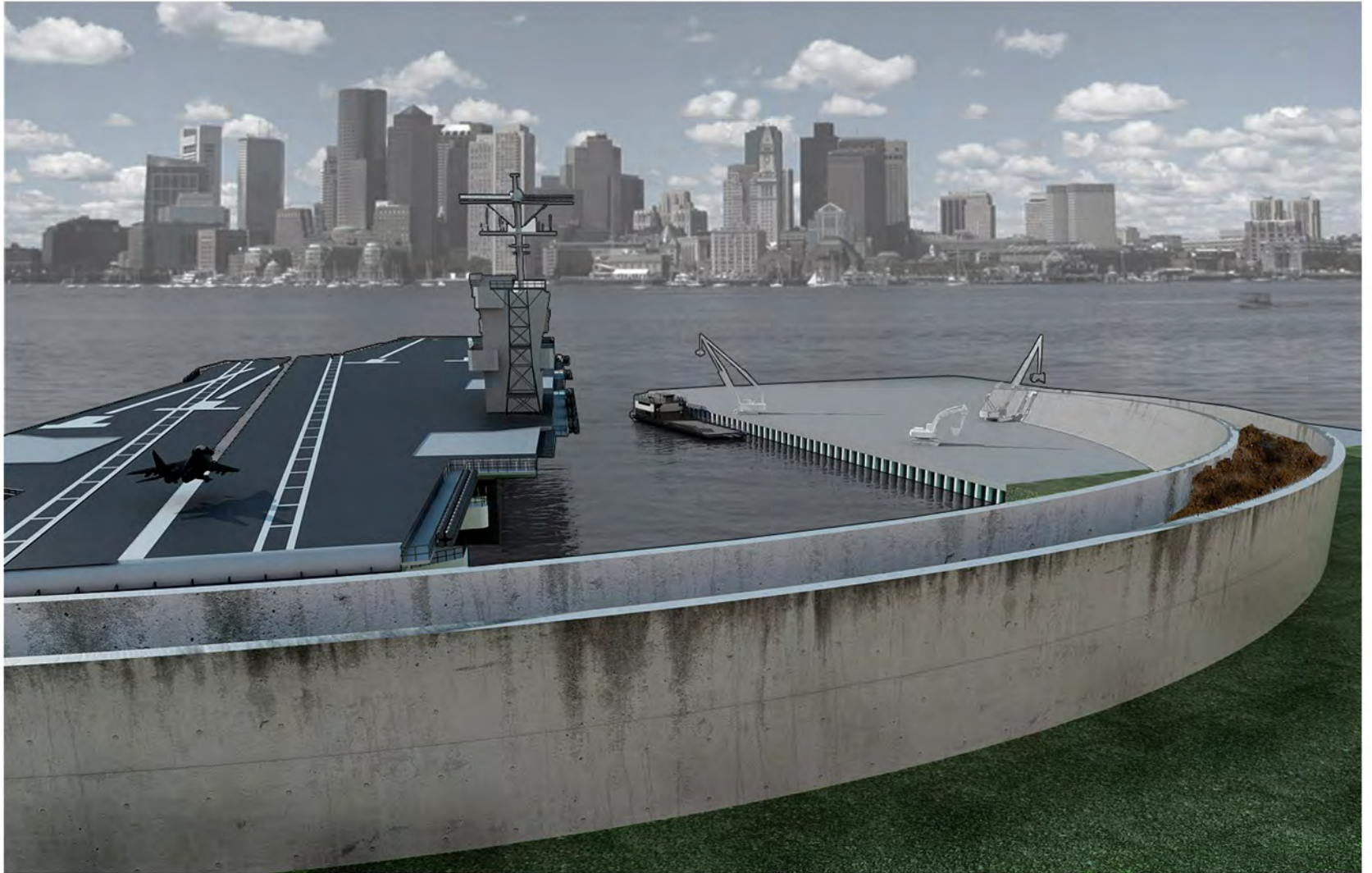
PAVEMENT IN THE SHAPE AND LAYOUT OF SOME OF THE SHIP'S FLOOR PLANS

- POSITIONING OF SHIP
- FLOATING OR ANCHORING OF ELEMENTS
- GROUNDING: EARTH, WATER, BUILDING

STAIRS FOR PEOPLE TO LOUNGE ON. THE EXISTING PIER COULD SERVE AS A DOCK FOR FERRIES OR "DUCK-BOATS".

STAIRS TO ALLOW ENTRY ONTO THE "PATHWAY"

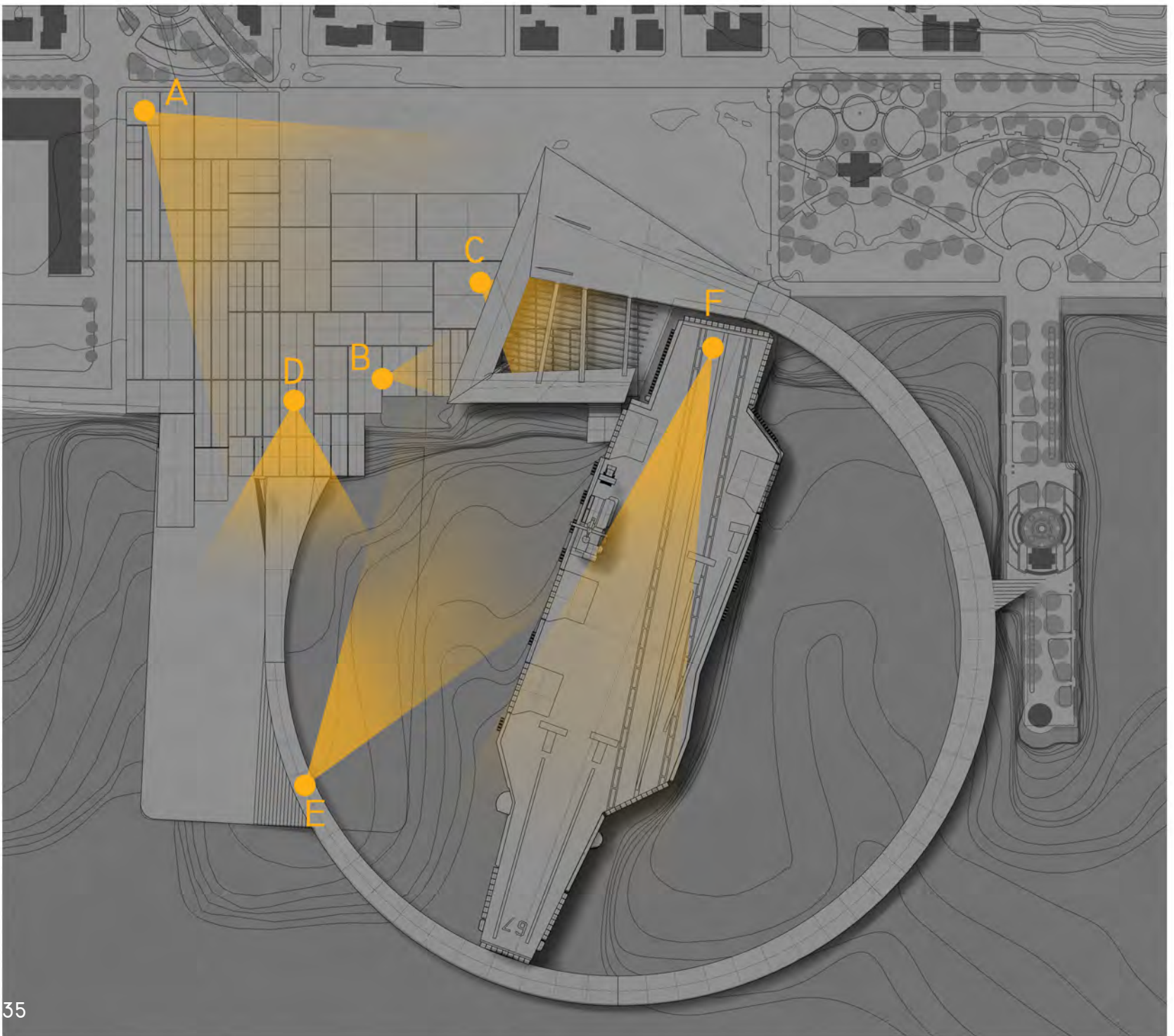
TOP POINT OF THE PATHWAY COULD HAVE MORE STAIRS FOR AN AMPHITHEATER.



PATHWAY

THE QUESTION ARISES OF WHAT EXACTLY IS THIS PATHWAY MADE OUT OF AND HOW IS IT CONSTRUCTED? THE RENDERING ON THE LEFT DEPICTS A MID-CONSTRUCTION PHASE OF THE PATHWAY. THE CONTAMINATED LANDFILL FROM THE DREDGING COULD BE KEPT IN BETWEEN TWO RETAINING WALLS WITH A CONCRETE FOUNDATION TO CONTAIN THE SOIL.

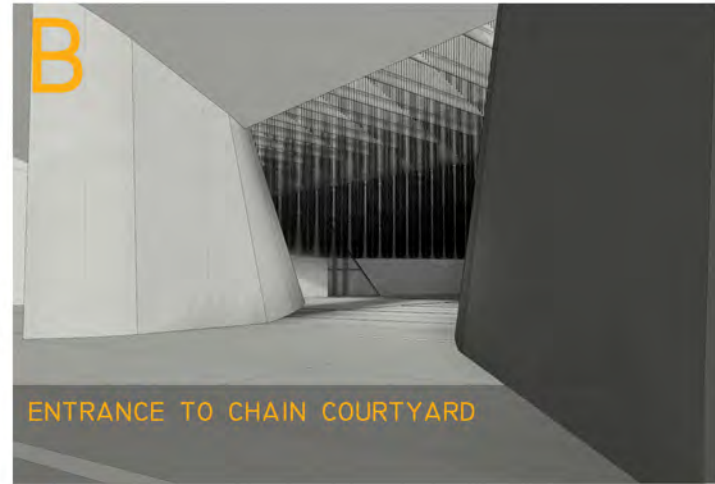
ALTHOUGH THIS WOULD HAVE BEEN A CLEVER WAY OF USING THE MASSIVE AMOUNT OF LANDFILL DISPLACED, THE PATHWAY WOULD BECOME A GIGANTIC WALL SHEILDING THE SHIP FROM BEING VIEWED. THE SCALE OF THIS WALL WOULD OVERCAST STRONG SHADOWS ON NEIGHBORING PARK PAVILIONS AND TOWNHOUSES. A DIFFERENT ROUTE NEEDED TO BE TAKEN FOR THE PATHWAY TO SUCCESSFULLY INTEGRATE THE MEMORIAL WITHIN ITS SURROUNDINGS.



POINTS OF VIEW



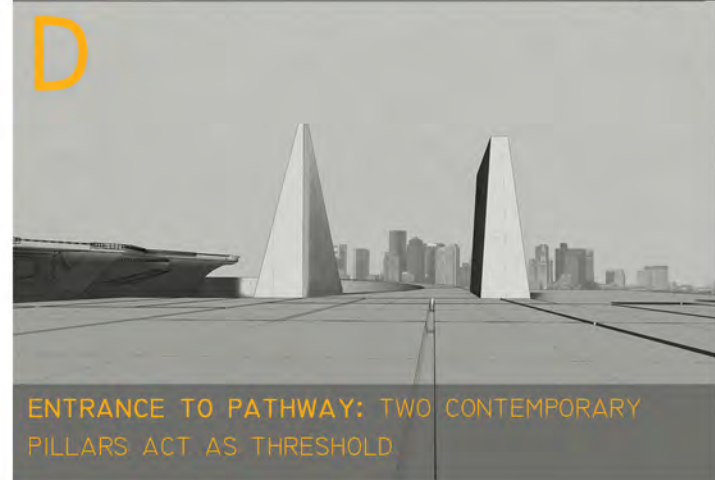
A
ENTRANCE: HERE THE ROOF OF THE BUILDING CAN BE SEEN AS AN EXTENSION



B
ENTRANCE TO CHAIN COURTYARD



C
CHAIN COURTYARD: CHAINS HANG FROM BEAMS ABOVE TO ACT AS WIND CHIMES.



D
ENTRANCE TO PATHWAY: TWO CONTEMPORARY PILLARS ACT AS THRESHOLD

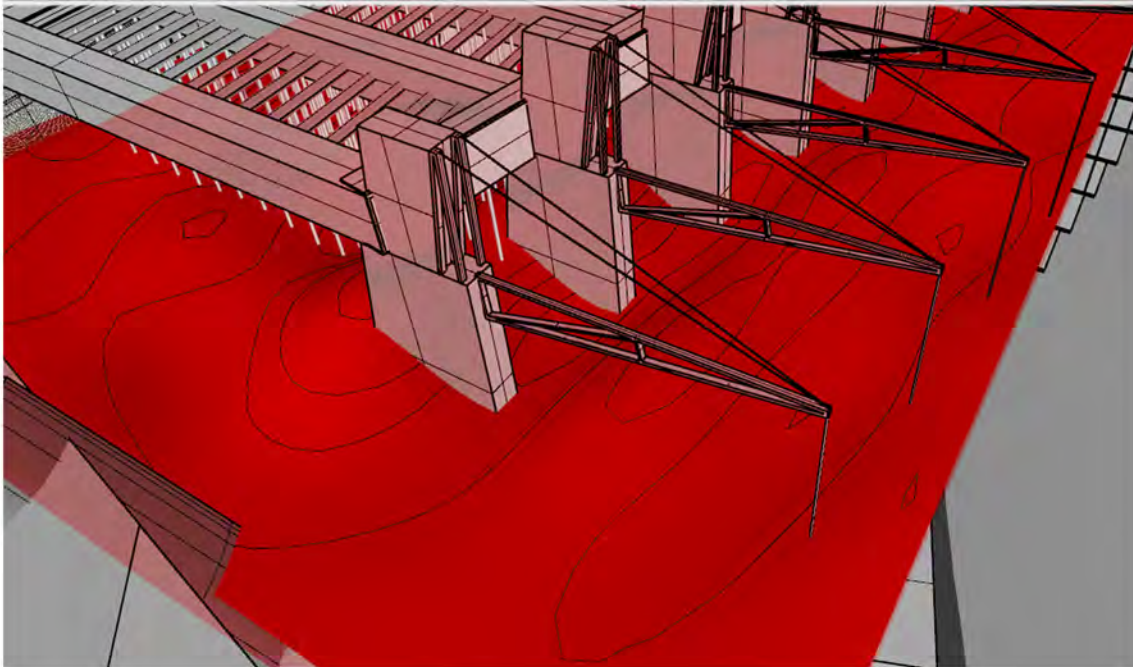


E
VIEW FROM EXISTING PIER OF BUILDING AND SHIP

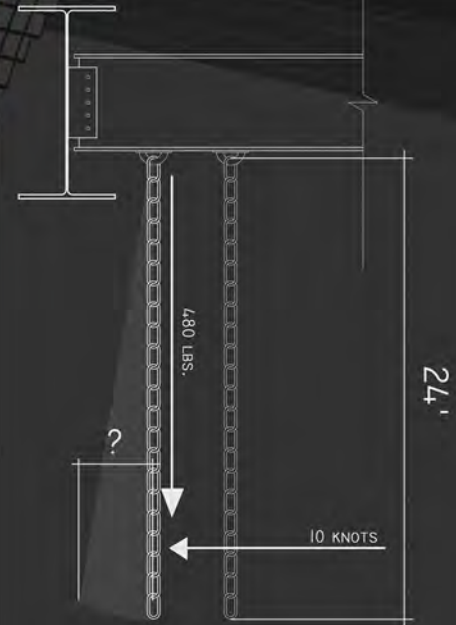


F
VIEW OF BOSTON SKYLINE FROM FLIGHT DECK

OSCILLATION OF THE CHAINS



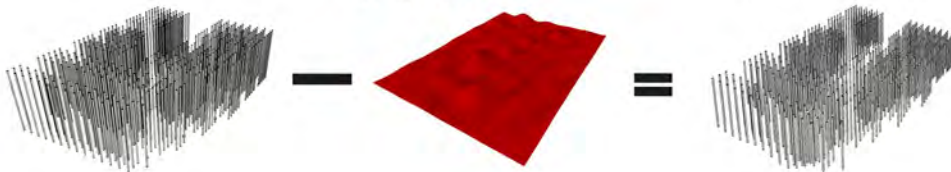
CHAIN SWING STUDY



24' CHAINS

RIPPLE EFFECT
CREATED FROM COLUMN
POSITIONING

'OSCILLATING CHAINS'
CHAINS TERMINATE AT RIPPLE
PLANE INTERSECTION



$$T^2 = (mg)^2 + (mv^2/r)^2$$

$$10 \text{ knots} = 16.81 \text{ ft/s}$$

$$T = (480)^2 + ((480/32.2) * 16.88^2 / 24)^2$$

$$T = 511.5869$$

$$\theta = \tan^{-1}(v^2/gr) = 1.25^\circ$$

$$T = mg / \sin \theta$$

$$\sin^{-1}(1/(T/(mg))) \quad \theta = 2.545^\circ \text{ or } 2'-0"$$



THE CHAINS.

I CONDUCTED TWO STUDIES TO THE LEFT THAT ADD REALISM TO THE CHAINS. ONE IS HOW FAR WILL THESE CHAINS SWING SO THAT THEY ARE SPACED APPROPRIATELY RELATIVE TO EACH OTHER. ASSUMING THESE CHAINS WEIGH APPROXIMATELY 460 LBS (A ROUGH ESTIMATION) THE CHAINS WOULD SWING ABOUT 2 FEET IN EACH DIRECTION GIVEN AN ASSUMED 10 KNOT WIND. ADDITIONALLY, TERMINATING THE CHAINS ON THE SAME ELEVATION SEEMED INADEQUATE. I CREATED A SCRIPT TO GENERATE A RIPPLED PLANE REACTING TO THE COLUMNS IN THE COURTYARD. THE PLANE THEN ACTS AS THE POINT WHERE THE INDIVIDUAL CHAINS END CREATING AN OVERALL OSCILLATING EFFECT.

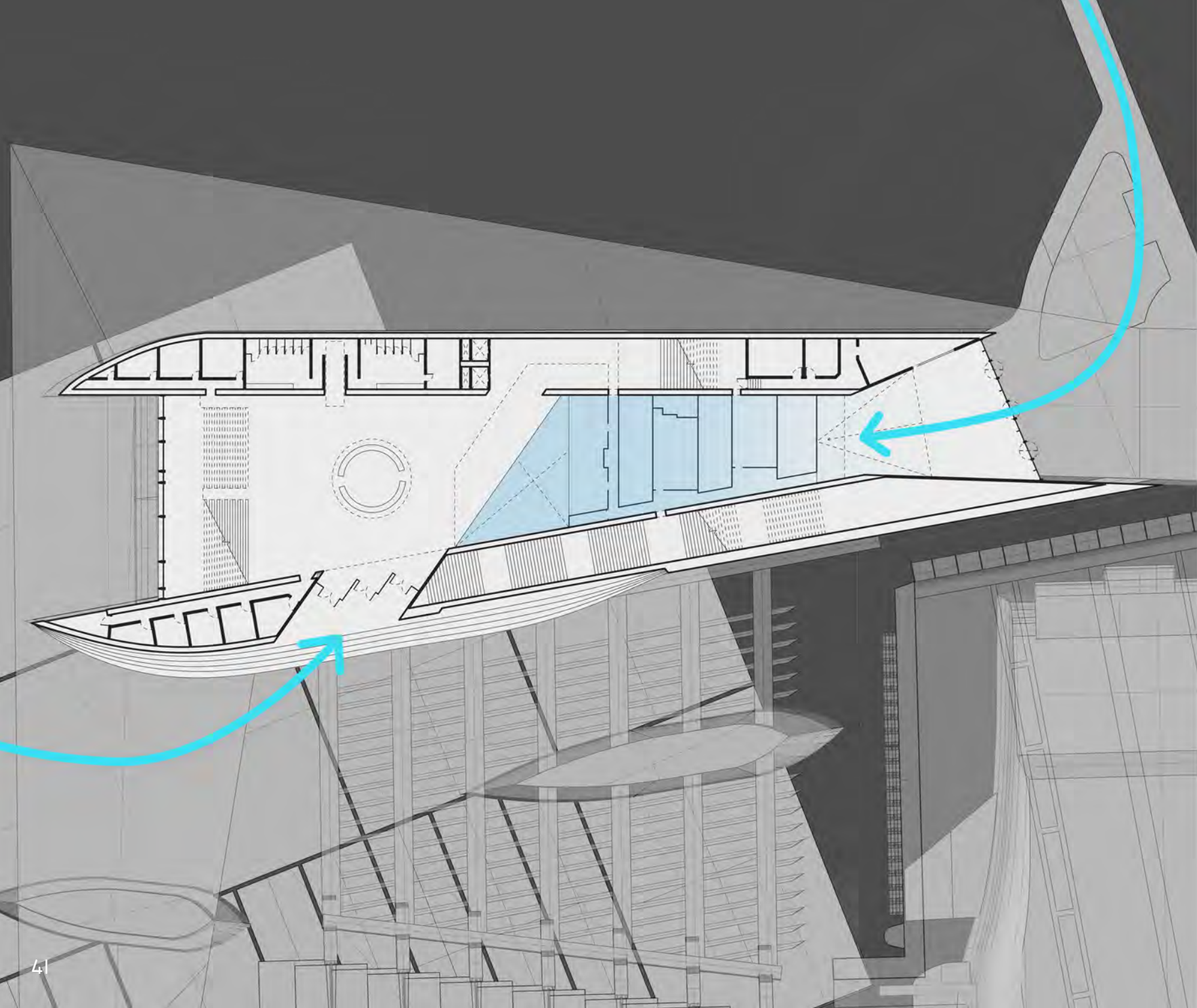
I HAVE FOUND THAT IT IS IMPORTANT TO CONSISTENTLY AND CONSTANTLY SWITCH MEDIA IN TERMS OF DESIGN TO PROVIDE AS MANY POINTS OF VIEW OF THE PROJECT AS POSSIBLE. THIS RENDERING IS CONCEPTUAL YET SPECULATES AT WHAT THE BUILDING COULD LOOK LIKE THUS FAR.



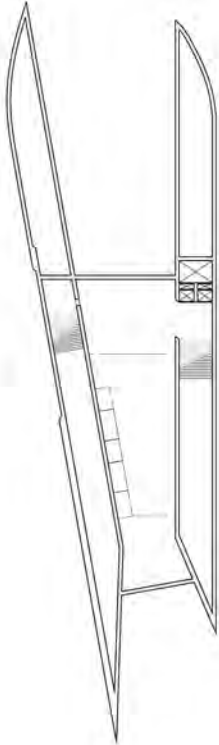
VIEW FROM THE ENTRANCE TO THE STIE LOOKING TOWARD THE MEMORIAL CENTER AND USS JFK IN BACKGROUND



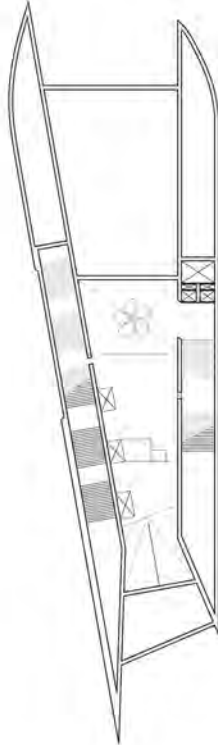
TO THE LEFT SITS THE BUILDING WITH CORTEN STEEL CLADDED COLUMNS AND WEATHERED STEEL PANELS FOR THE ROOF. THE STOREFRONT SHINES BRIGHTLY ADJACENT TO THE OUTDOOR COURTYARD, WITH THE CHAINS PROVIDING DIRECT ACCESS TO THE SHIP. TO THE FAR RIGHT ARE TWO COLUMNS THAT MARK THE THRESHOLD TO THE PATH THAT ENCIRCLES THE SHIP. PROPORTIONS AND SCALE MAY BE EXAGGERATED IN THIS CASE TO EMPHASIZE HIERARCHY.



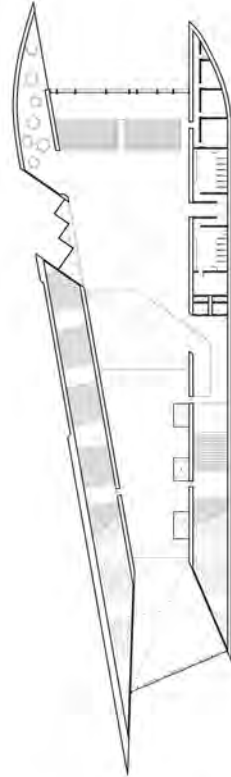
FP-03



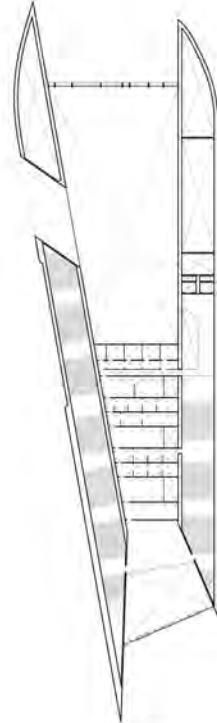
FP-02



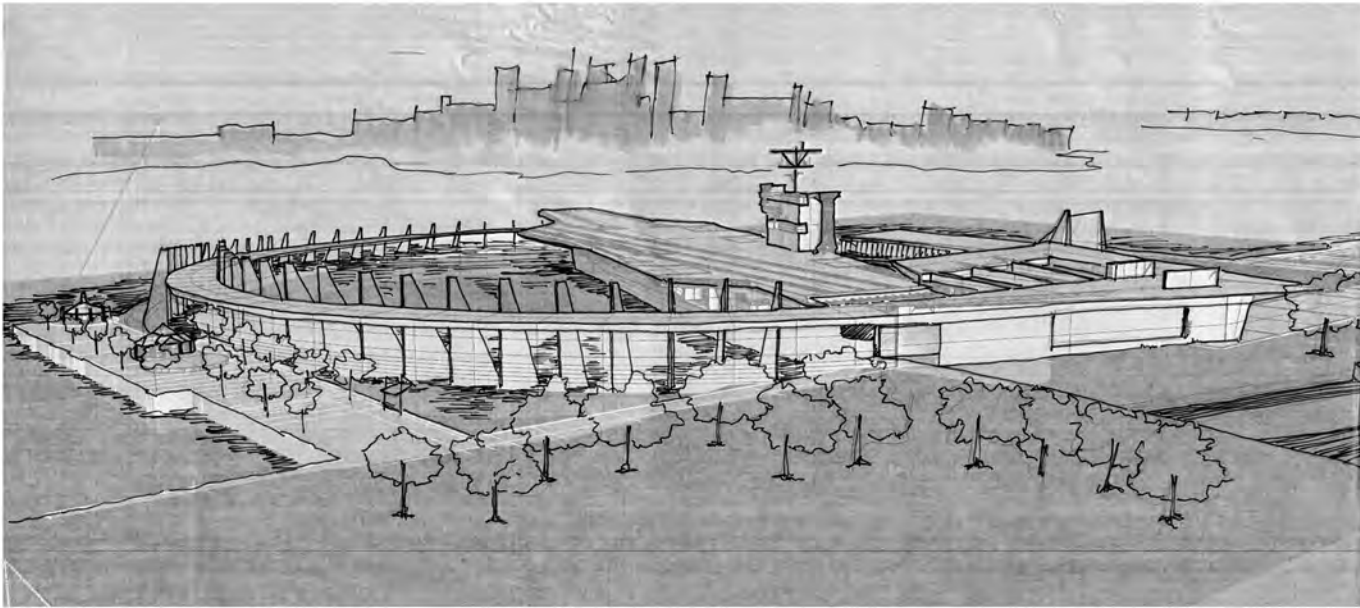
FP 02



FP 03

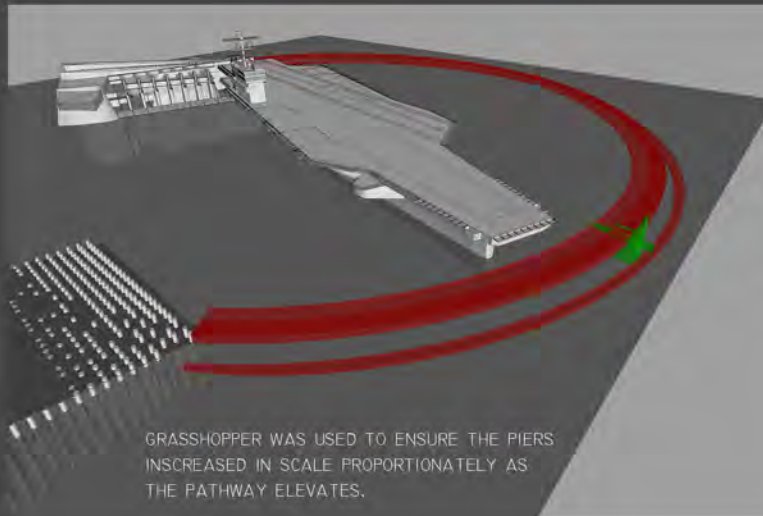
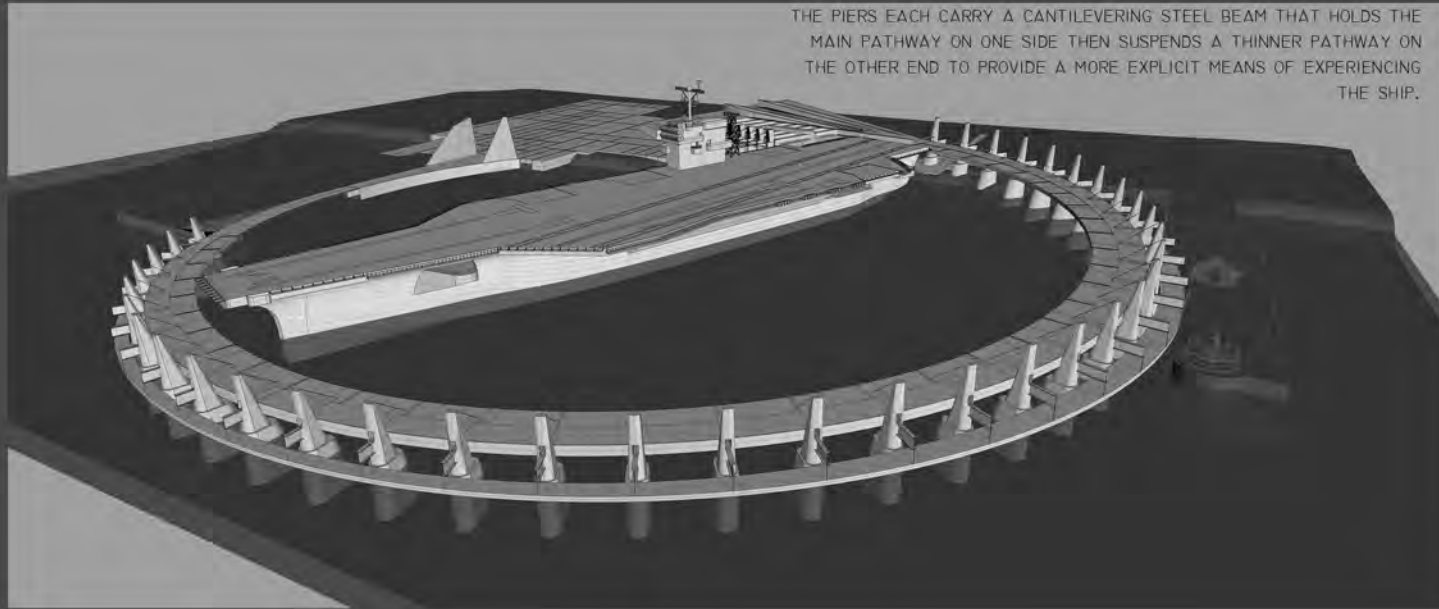


IT WAS IMPORTANT TO ME THAT THE ENTRANCES TO THE BUILDING REMAIN SUBTLE TO NOT DETRACT FROM THE PATHWAY OR SHIP. THE USS JFK'S ENTRANCES ARE NOT OBVIOUS TO THE GENERAL PUBLIC AS WELL. THE ARROW TO THE FAR LEFT INDICATES THE MAIN TRAFFIC OF VISITORS COMING BY MEANS OF THE "T" WHILE THE ARROW TO THE THE RIGHT WILL MOST LIKELY BE LOCALS AS THE ENTRANCES FACES AN EXISTING PARK TO THE EAST.



THE EVOLUTIONS OF THE MUSEUM AND THE PATHWAY PROVED TO BE AT TIMES A BALANCING ACT. AS THE MUSEUM GAINED A SENSE OF REALITY, THE PATHWAY BEGGED FOR DEVELOPMENT FROM ITS RUDIMENTARY FORM AS A FORTRESS WALL AROUND THE SHIP. TO BREAK UP THE MASSIVENESS OF THE PATHWAY, I ENVISIONED THE STRUCTURE TO BE A BRIDGE-LIKE SYSTEM. IN THIS PRELIMINARY SKETCH THE PATHWAY IS SUPPORTED BY BEARING WALLS ON ONE SIDE. THESE WALLS WOULD BECOME PIERS THAT HOST A CANTILEVERING STEEL BEAM TO CARRY THE PATHWAY IN A MUCH MORE ELEGANT MANNER.

THE PIERS EACH CARRY A CANTILEVERING STEEL BEAM THAT HOLDS THE MAIN PATHWAY ON ONE SIDE THEN SUSPENDS A THINNER PATHWAY ON THE OTHER END TO PROVIDE A MORE EXPLICIT MEANS OF EXPERIENCING THE SHIP.



GRASSHOPPER WAS USED TO ENSURE THE PIERS INCREASED IN SCALE PROPORTIONATELY AS THE PATHWAY ELEVATES.

OVER HANG AND SUPPORTIVE
STEEL CABLE

DOORWAY CREATED BY
SUBTRACTIVE BREP

INNER BEAM

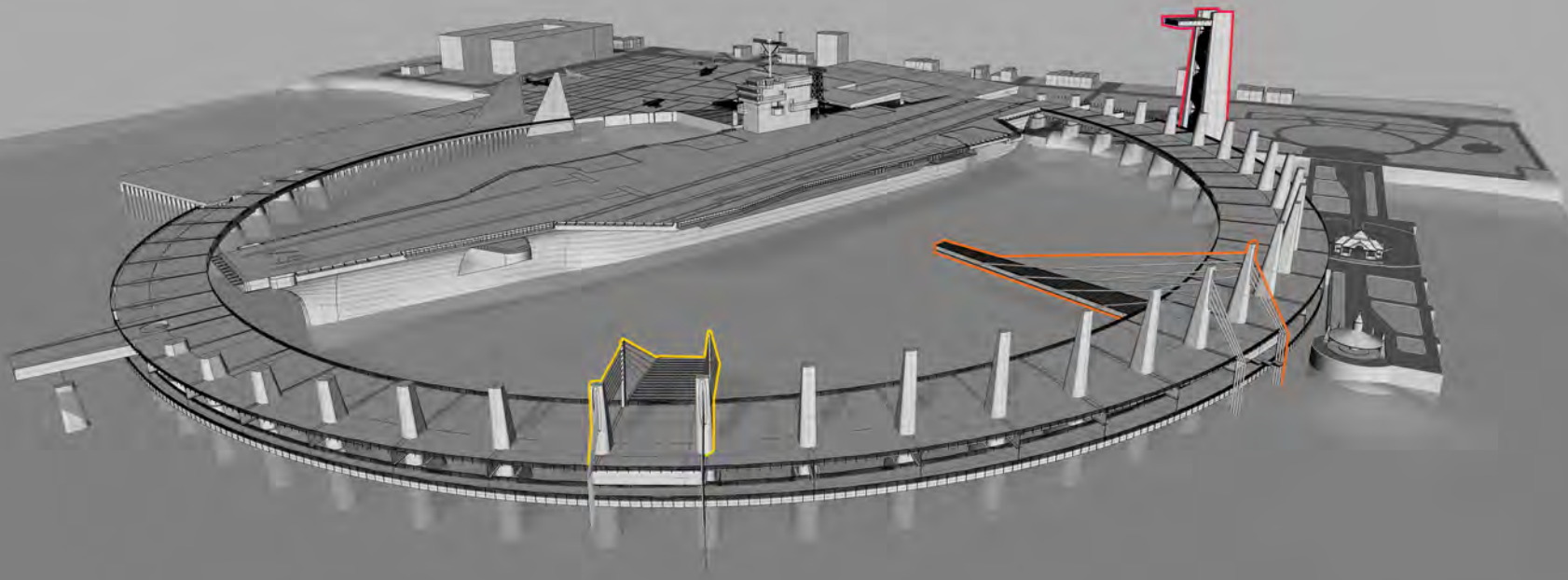
OUTER BEAM

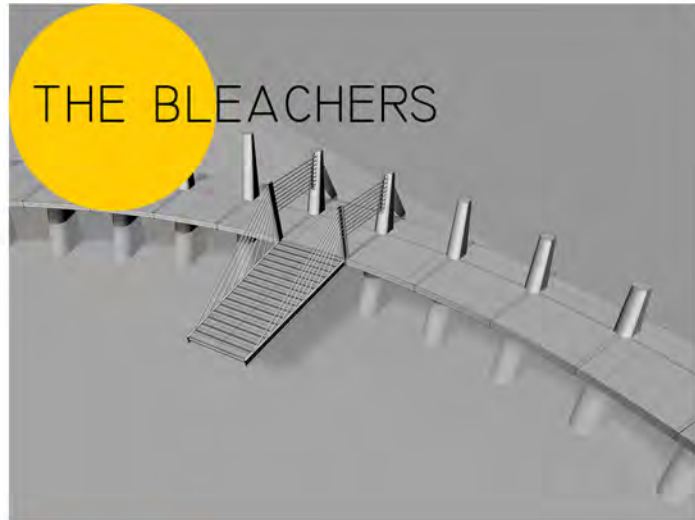
STEEL CABLE SUPPORTING
SECONDARY PATHWAY NOT
SHOWN HERE.

BRIDGE PIER

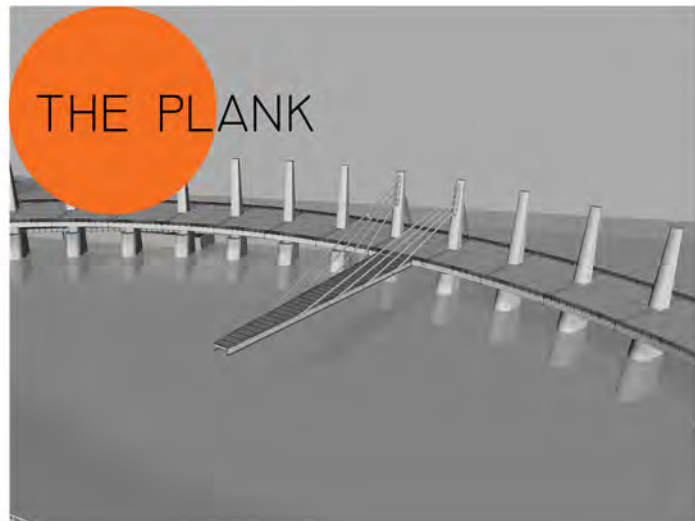


THERE ARE THREE ARCHITECTURAL COMPONENTS THAT WERE CREATED TO ALLOW FOR RECESS FROM THE PATHWAY AND OFFER DIFFERENT PERSPECTIVES. THE '**BLEACHERS**', THE '**PLANK**', AND THE '**TOWER**' BREAK UP THE HOMOGENEITY OF THE PATHWAY AND GIVE MORE IMPORTANCE TO THE SHIP.

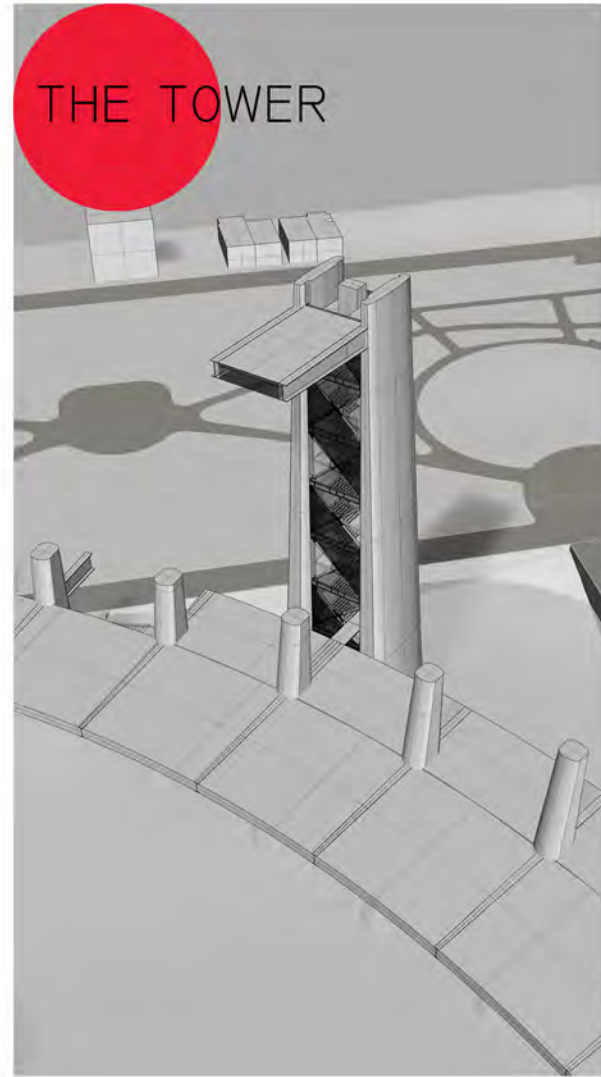




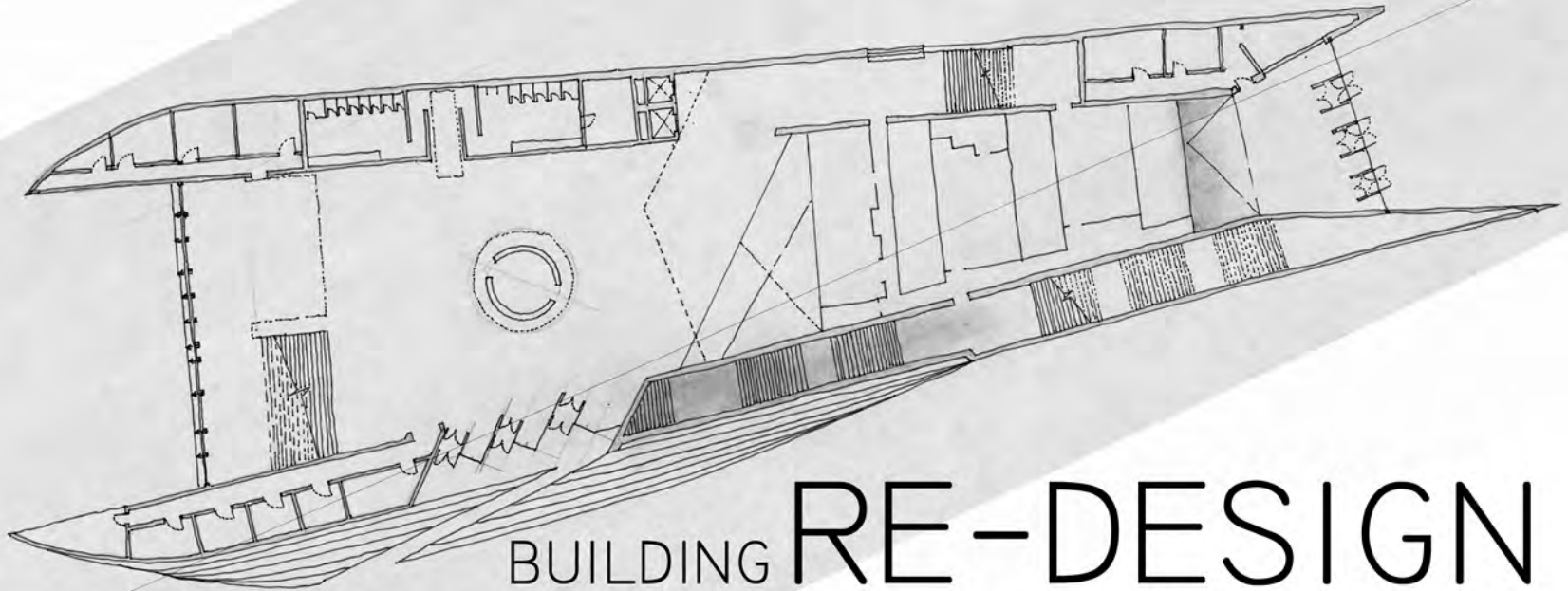
THE BLEACHERS



THE PLANK



THE TOWER



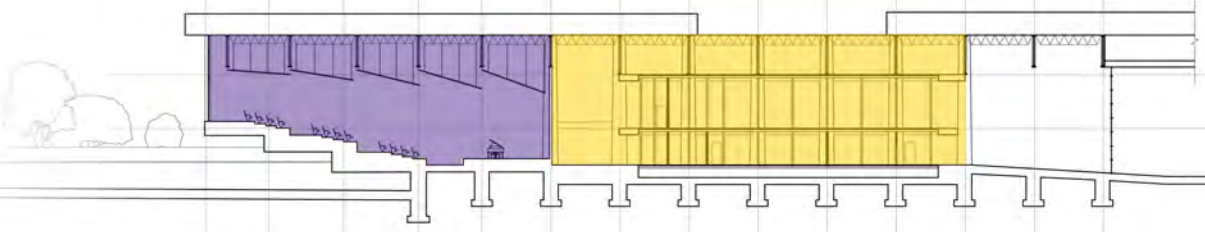
BUILDING RE-DESIGN

MANY TIMES DURING MY JOURNEY WITH ARCHITECTURE I FIND MYSELF IN A DESIGN THAT I FEEL HAS PLATEAUED AND THE PROJECT DESERVES BETTER. AS A STUDENT OF ARCHITECTURE, MY WORK ETHIC DERIVES FROM THE MENTALITY OF EXHAUSTING AS MANY OPTIONS AND SCHEMES AS POSSIBLE TO ARRIVE AT THE MOST DESIRABLE RESULT.

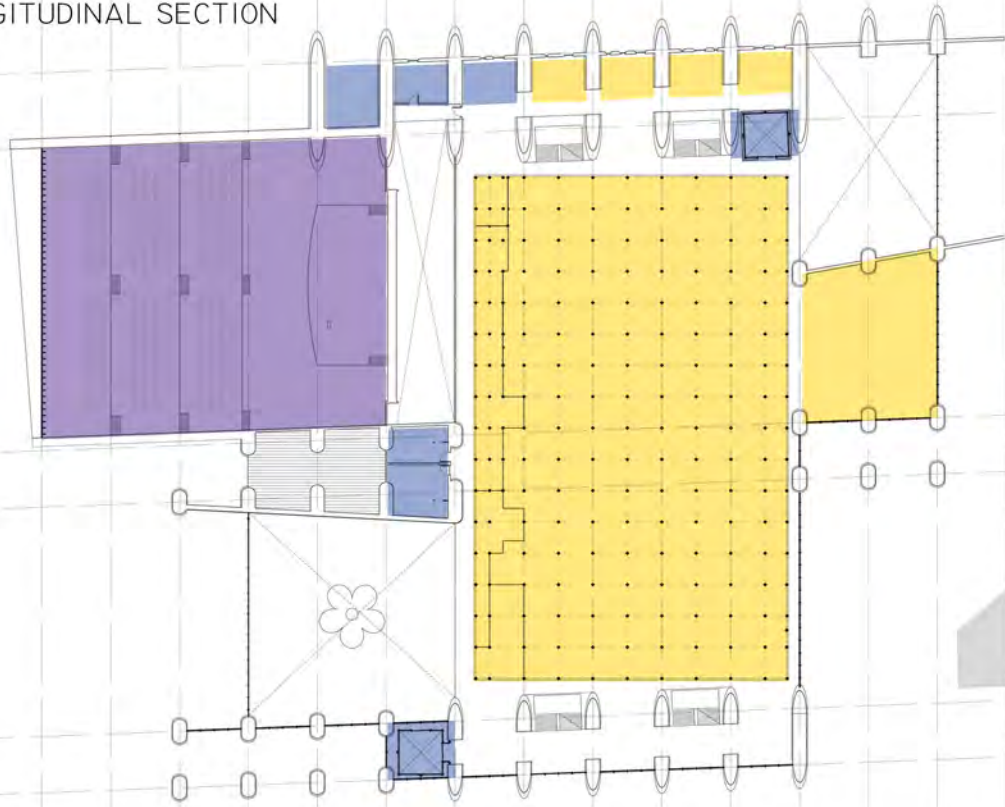
IN THIS INSTANCE I FOUND THE PATHWAY TO HAVE EVOLVED INTO A DYNAMIC BRIDGE-LIKE STRUCTURE THUS THE INITIAL DESIGN FOR THE BUILDING SEEMED ALIENATED AND NEEDED TO ADAPT AS WELL. A GRID OF REINFORCED CONCRETE COLUMNS WAS CREATED TO BE IN CONVERSATION WITH THE PATHWAY'S PIERS AND THE OVERALL FOOTPRINT WAS EXPANDED TO AVOID THE NARROW PROPORTION IT ONCE WAS.

THE NEW DESIGN EXPANDS THE GLASS MUSEUM PORTION INTO A MASSIVE SCALE. THE MUSEUM IS VISIBLE IMMEDIATELY UPON THE FRONT AND BACK ENTRANCES. THE LECTURE HALL WAS A NEWLY INTRODUCED PROGRAM AND AN AMBITIOUS GOAL AT THIS POINT IN THE THESIS; HOWEVER IT WAS A PLACE HOLDER FOR A MORE APPROPRIATE TYPOLOGY TO COME LATER. THE OUTDOOR CHAIN COURT YARD REMAINS INTACT TO THE SOUTH WITH THE LAST ROW OF COLUMNS SUPPORTING THE BEAMS THAT CARRY THE CHAINS.

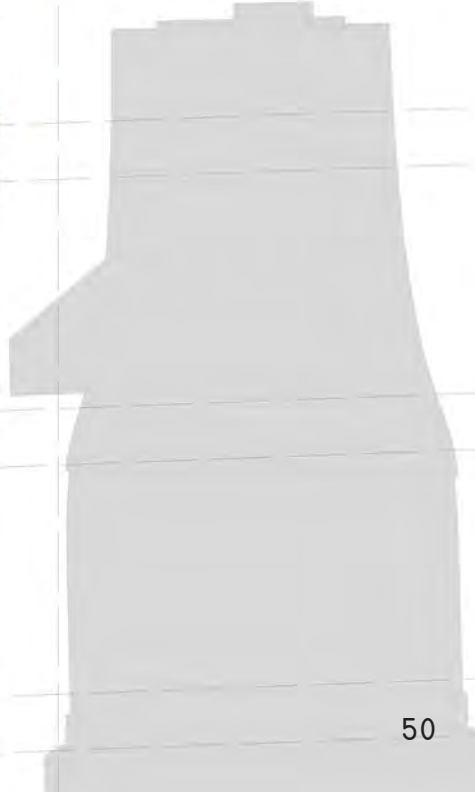


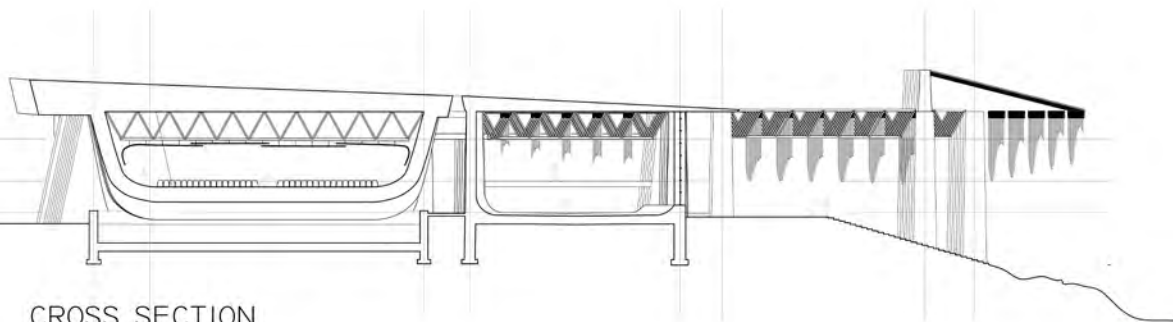


LONGITUDINAL SECTION

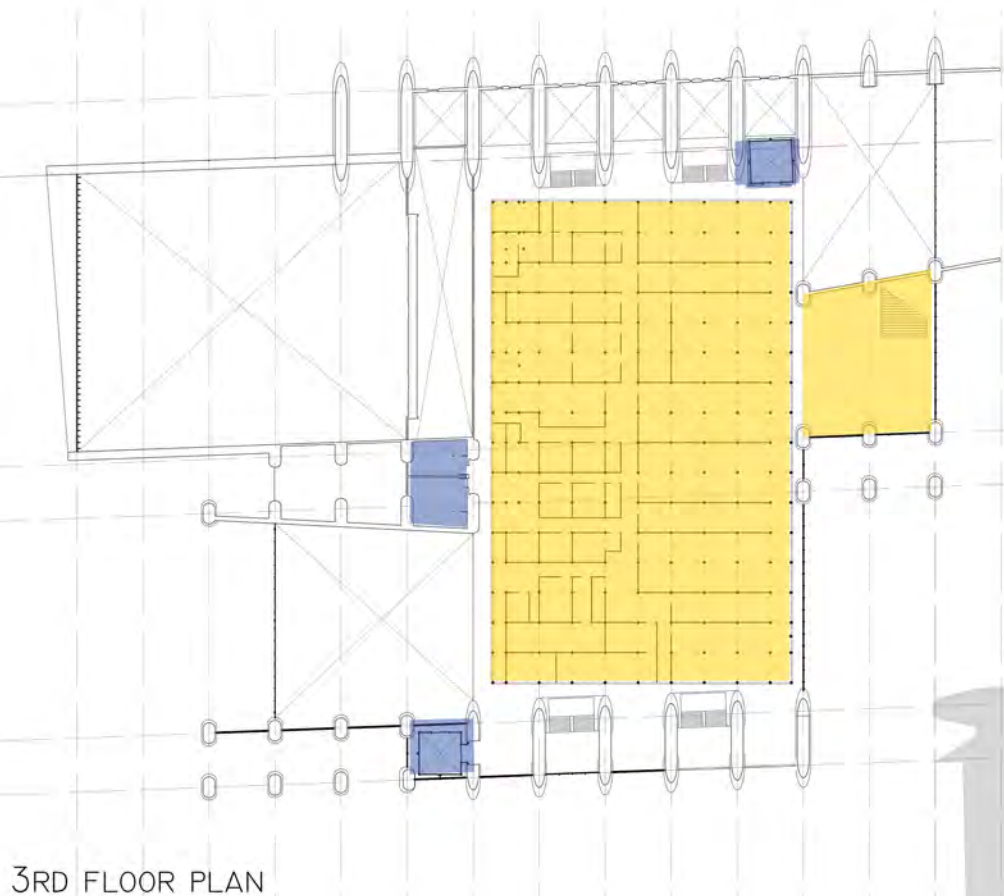


2ND FLOOR





- LECTURE HALL
- OFFICES
- SERVICES
- MUSEUM
- GRAND LOBBY



CHAINS REMAIN YET A STAIRWAY IS INCORPORATED TO PROVIDE ACCESS TO WATER.



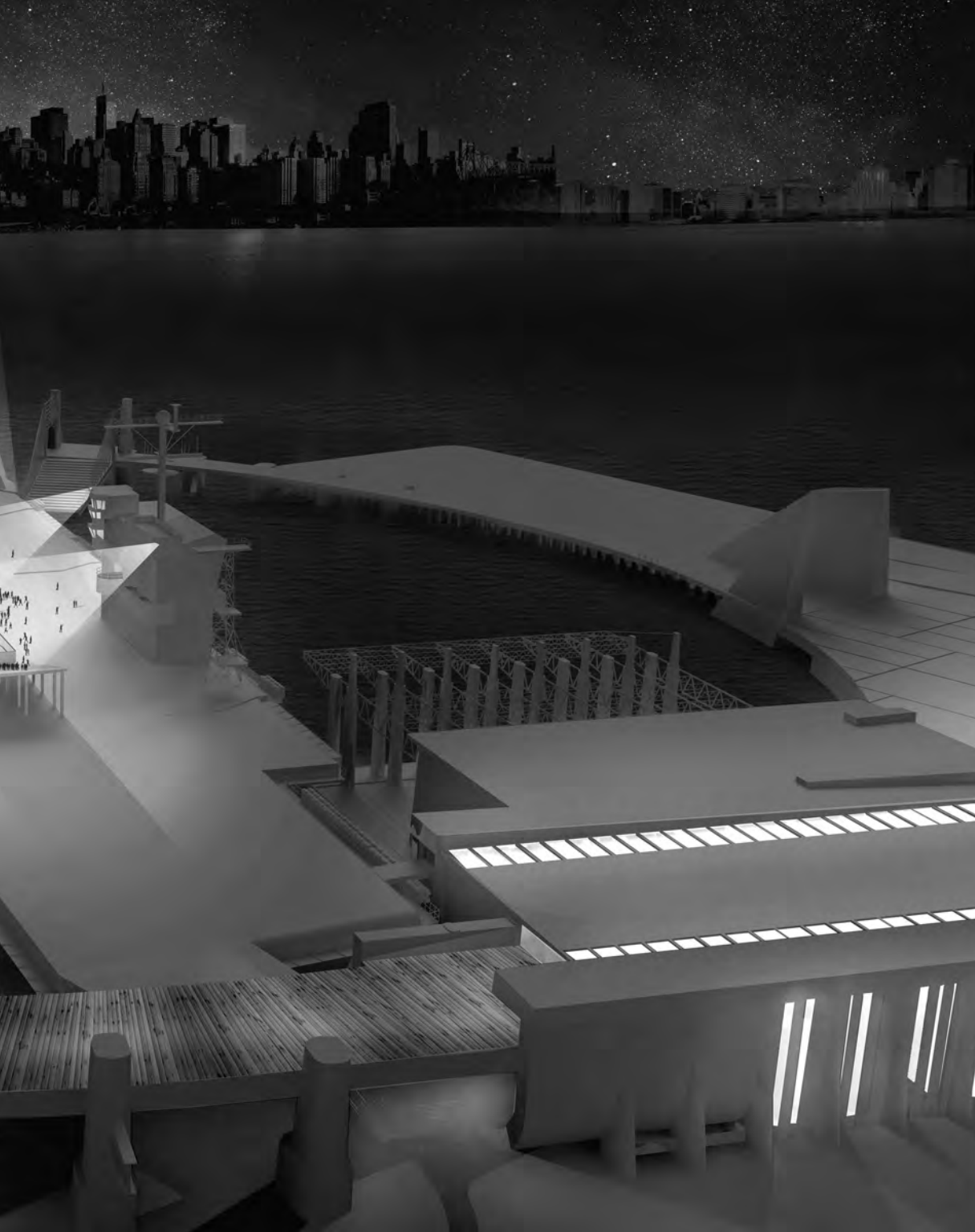
PERSPECTIVE OF **MAIN LOBBY ENTRANCE** WITH LECTURE HALL SOTREFRONT TO THE LEFT AND CHAIN COURTYARD TO THE RIGHT

FINAL DESIGN





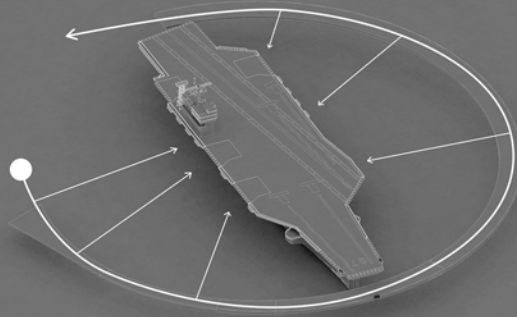
BIRD'S EYE VIEW OF THE PATHWAY, USSJFK, AND MEMORIAL CENTER WITH BOSTON IN THE BACKGROUND



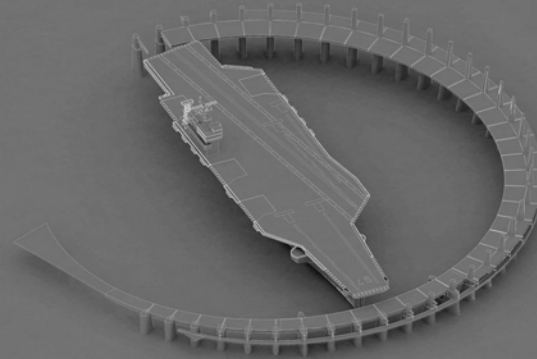
FINAL DESIGN

THE REALITY OF A THESIS IS THAT IT DOES IN FACT HAVE TO END AT SOME POINT. THIS NIGHT TIME SHOT OF THE PROJECT SHOWS ADDITIONAL TOWER AND PLATFORMS TO GIVE MORE SIGNIFICANCE TO THE SHIP THROUGH SINGULARITY RATHER THAN TO THE ARCHITECTURAL ELEMENTS.

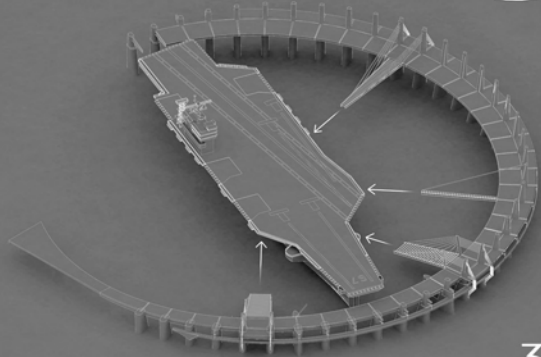
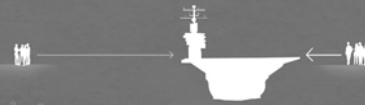
A NCAA BASKETBALL GAME CURRENTLY IS TAKING PLACE ON THE SHIPS DECK BETWEEN BOSTON COLLEGE AND MICHIGAN STATE. THE AIRCRAFT CARRIER PROVIDES THE IMMEDIATE DIRECT LIGHTING WHILE THE PATHWAY AND TOWERS GIVE AMBIENT LIGHTING.



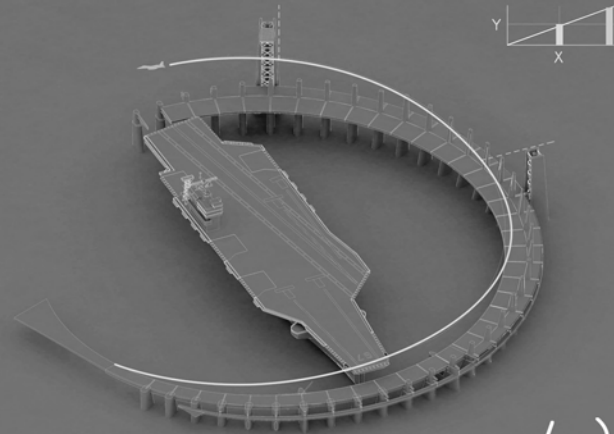
1.)



2.)



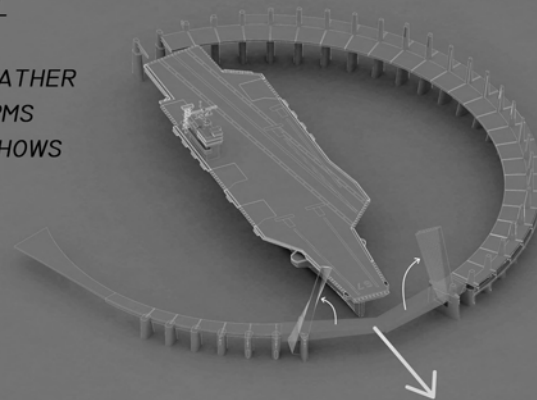
3.)



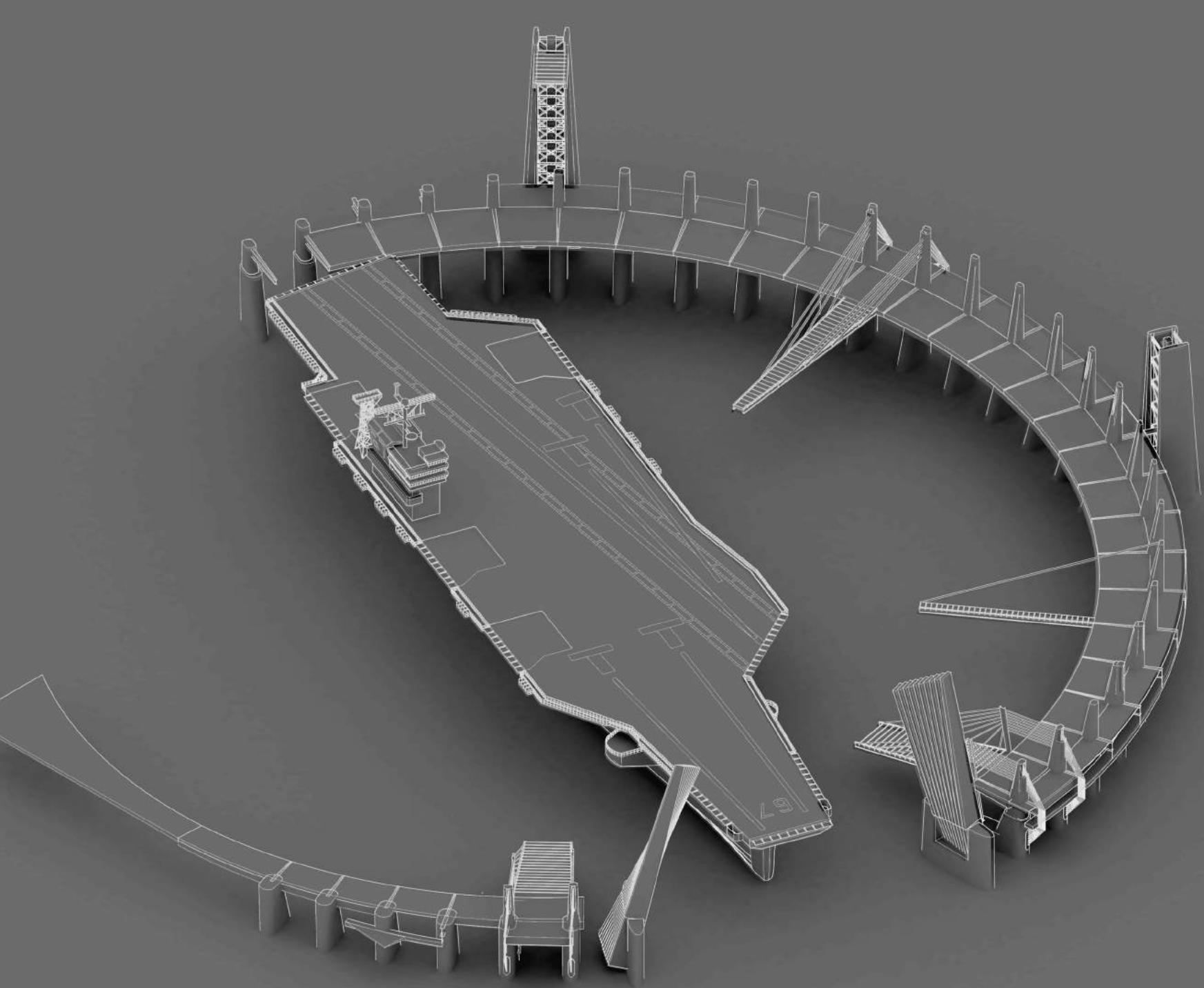
4.)

PROCESS RECAP

HERE WE TAKE A LOOK AT THE DESIGN DECISIONS THAT LED UP TO THE FINAL DESIGN OF THE PATHWAY. 1) SHOWS THE ORIGINAL IDEA OF THE PATHWAY TO GIVE 360° VIEW OF THE SHIP. 2) SHOWS THE IMPLEMENTATION OF A BRIDGE-LIKE STRUCTURE RATHER THAN A WALL. 3) SHOWS THE DEVELOPMENT OF THE PLATFORMS ANSWERING TO THE DESIRE TO BE CLOSER TO THE SHIP. 4) SHOWS THE PROPORTIONAL RELATIONSHIP BETWEEN THE TOWERS. 5) SHOWS THE DRAWBRIDGE IN CASE THE SHIP EVER NEED TO BE MOVED.



5.)



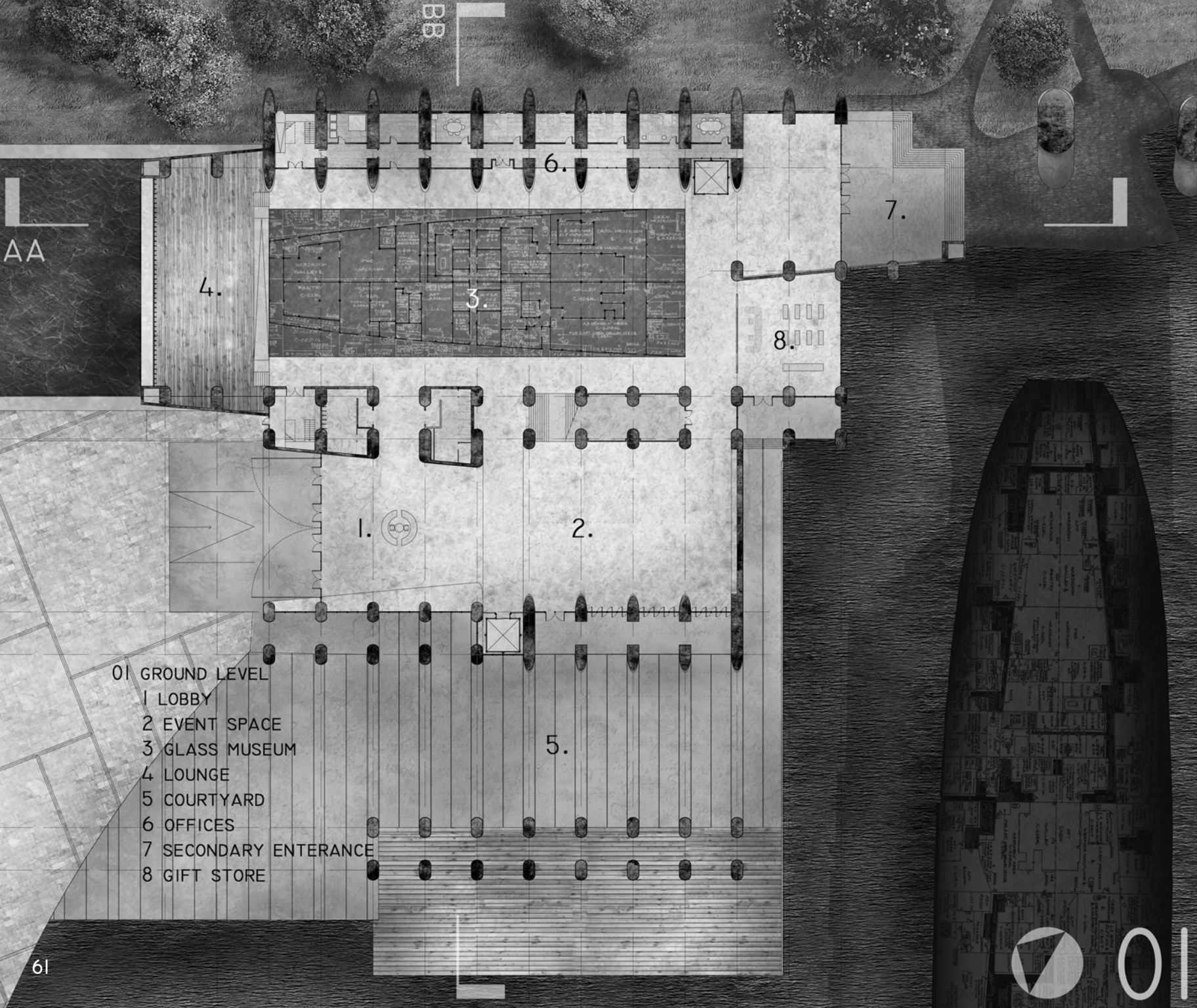


67

SITE PLAN

FOR THE FIRST AND LAST TIME YOU ARE ABLE TO VIEW THE DESIGN IN ITS ENTIRETY WITH ALL CONTEXT CONSIDERED. THE TOP LEFT IS WHERE MOST PEOPLE WILL ENTER THE SITE. THEY ARE ABLE TO VIEW THE DECOMMISSIONED AIRCRAFT ON DISPLAY, PLACED STRATEGICALLY ON THE GRANITE STONED PLAZA WITH THE SILHOUETTE OF THE AIRCRAFT CARRIER IN THE BACKGROUND.

PEOPLE WOULD THEN HAVE THE CHOICE OF ENTERING INTO THE BUILDING OR WALKING DUE SOUTH TO BEGIN A EXPERIENTIAL WALK AROUND THE AIRCRAFT CARRIER.



AA

4.

6.

7.

3.

8.

1.

2.

5.

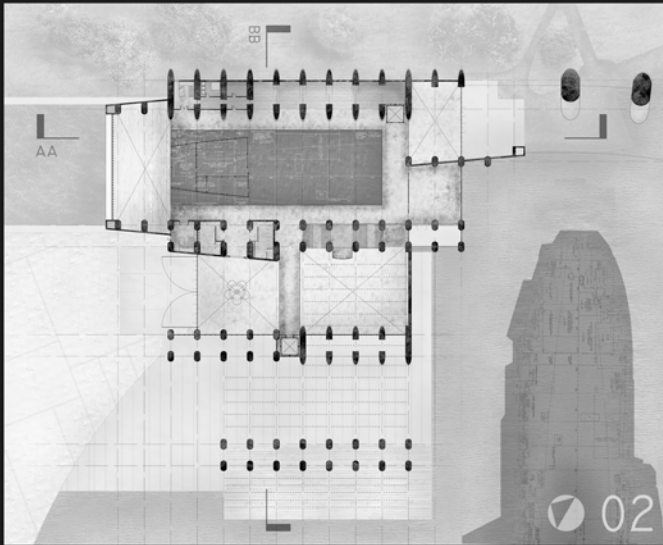
- 01 GROUND LEVEL
- 1 LOBBY
- 2 EVENT SPACE
- 3 GLASS MUSEUM
- 4 LOUNGE
- 5 COURTYARD
- 6 OFFICES
- 7 SECONDARY ENTERANCE
- 8 GIFT STORE

61

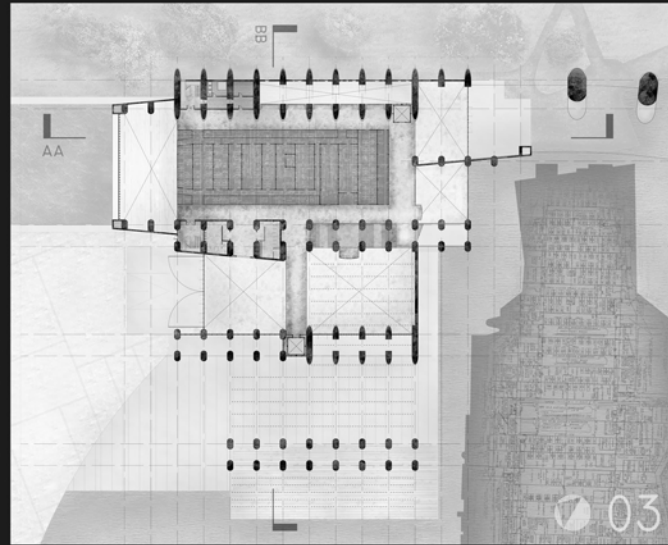


01

FLOOR PLANS



02 FLOOR PLAN



03 FLOOR PLAN



ROOF PLAN

THE BUILDING'S ORGANIZATION IS RELATIVELY SIMPLE. THE ORDERING SYSTEM HAS THREE HORIZONTAL BARS THAT ARE SEPARATED BY A ROW OF DUAL COLUMNS THAT ENCASE SERVICE PROGRAMS.

THE NORTHERNMOST BAR IS HOME TO THE GLASS MUSEUM WHICH MIMICS THE INNARDS OF THE SHIP TO ALLOW PEOPLE TO EXPERIENCE ALL THE SPACES AT ONCE DUE TO THE TRANSPARENCY OF THE GLASS. THE SECOND MOST NORTHERN BAR OR THE MIDDLE IS THE LOBBY AND EVENT SPACE THAT ARE SEPARATED BY SUSPENDED WALKWAYS PROVIDING ACCESS FROM THE ELEVATOR TO THE MUSEUM. THE LAST BAR IS SIMPLY THE OUTDOOR COURTYARD WITH THE CHAINS THAT HANG DOWN FROM THE TRUSSES ABOVE.



CROSS SECTION AA

1 LOUNGE

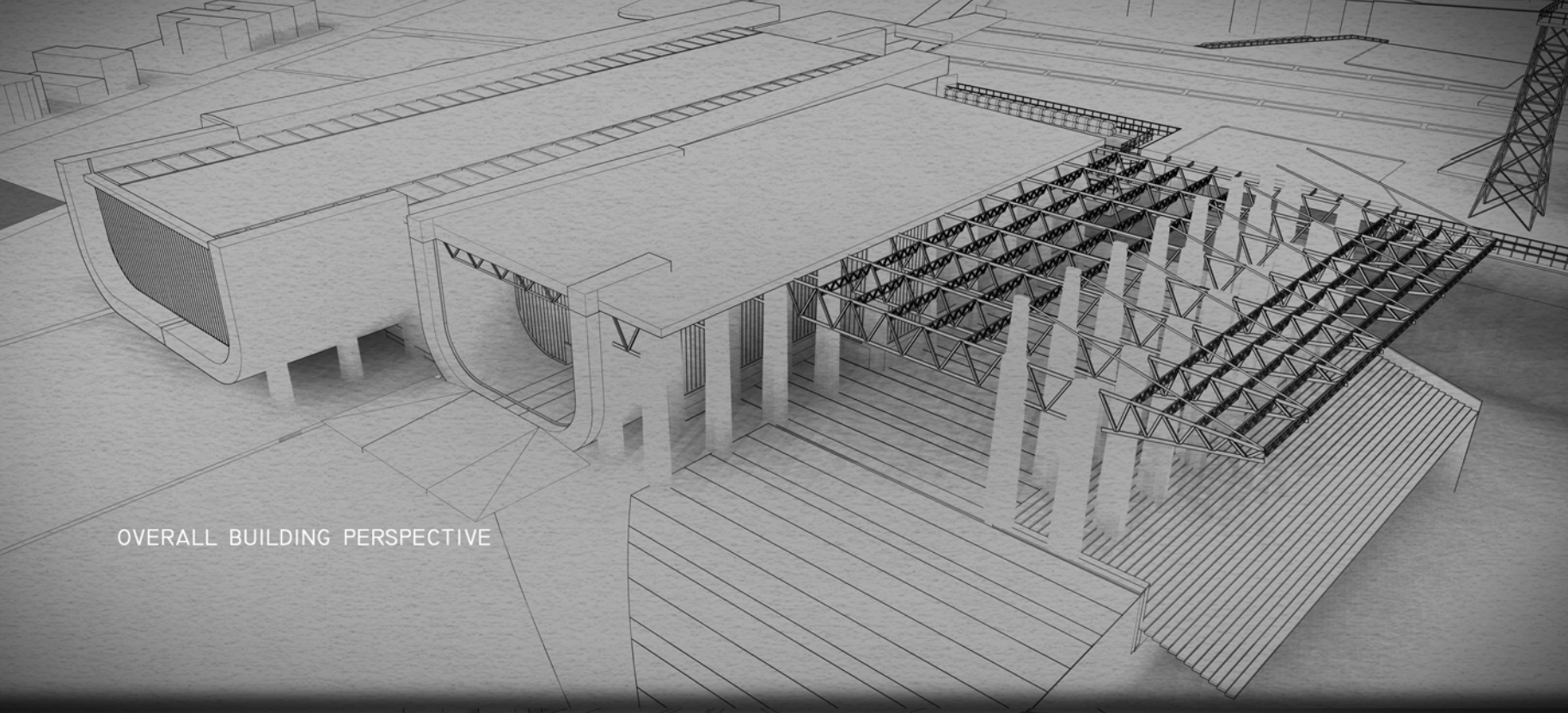
2 GLASS MUSEUM

3 SECONDARY ENTRY

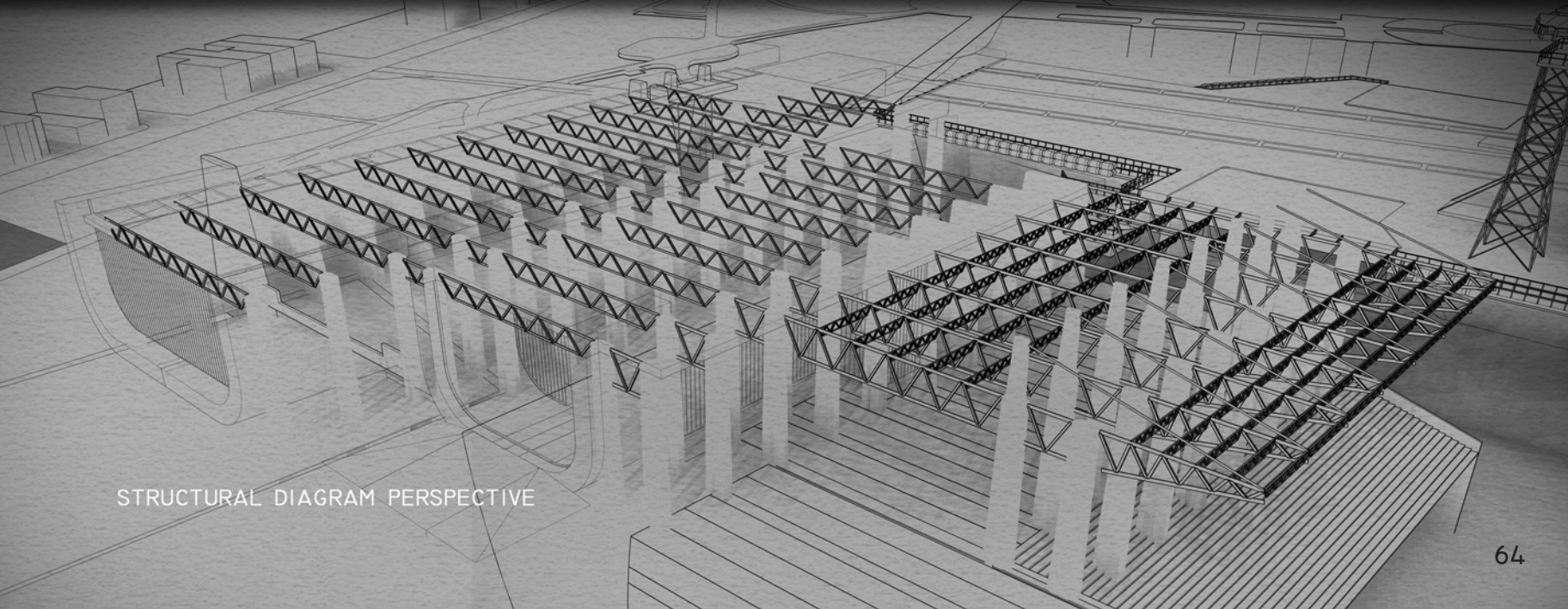


AGAIN, TO REITERATE THE ORDERING SYSTEM THERE IS A STRUCTURE DIAGRAM TO THE RIGHT THAT DEPICTS THE ROWS OF CONCRETE COLUMNS SUPPORTS STEEL TRUSSES ABOVE THAT MAKE UP THE BONES OF THE BUILDING.

ABOVE IS A CROSS SECTION CUTTING THROUGH THE GLASS MUSEUM. SECTION CUT MARKS ARE DELINEATED ON THE FLOOR PLANS PREVIOUS TO THIS DRAWING INDICATING EXACTLY WHERE THE CUT TAKES PLACE.



OVERALL BUILDING PERSPECTIVE

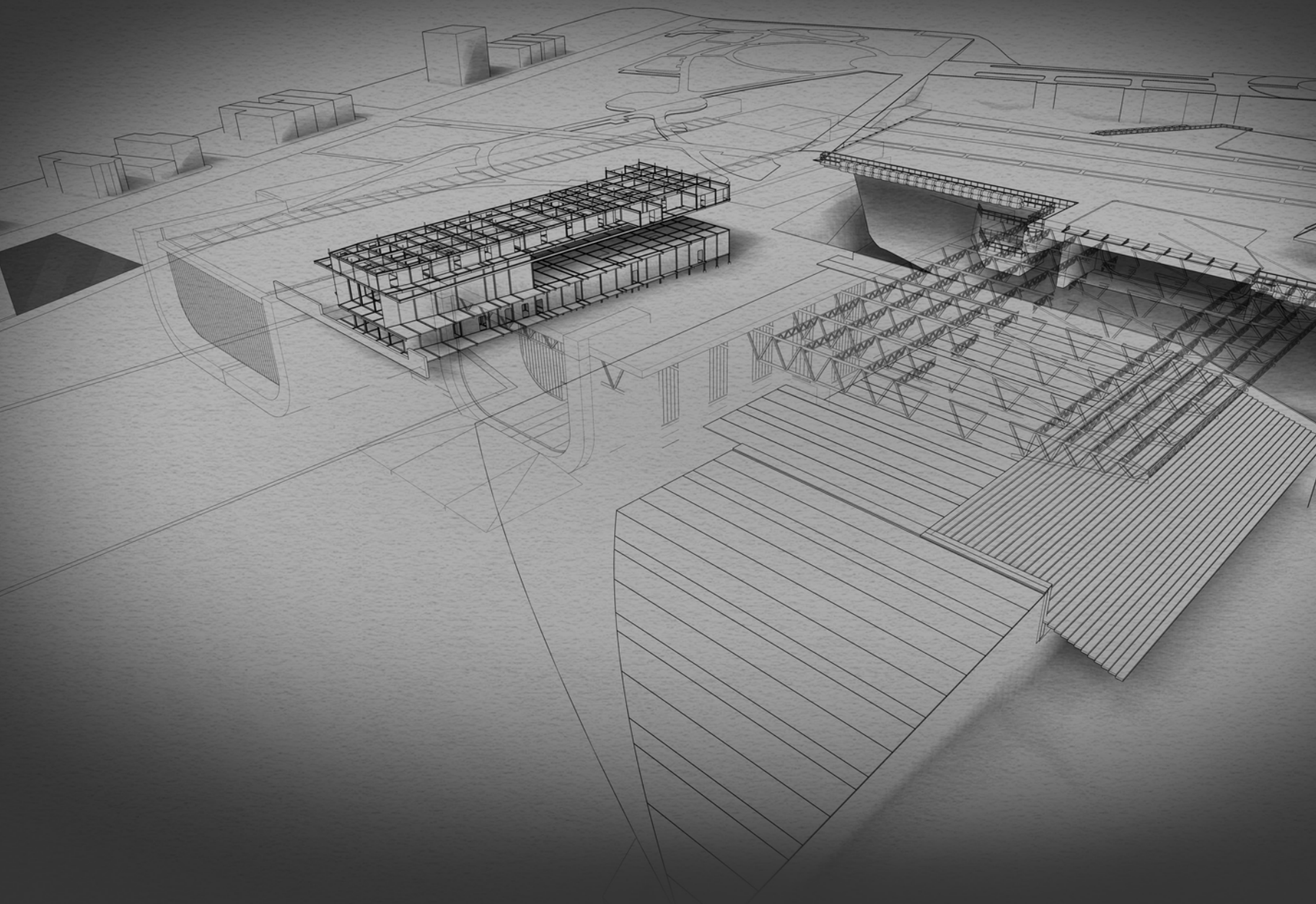


STRUCTURAL DIAGRAM PERSPECTIVE

VIEW FROM WITHIN THE SECOND FLOOR OF GLASS MUSEUM LOOKING SOUTH TOWARD WALKWAYS



AS MENTIONED BEFORE, A MUSEUM COMPOSED OF STRICTLY STEEL FRAMING AND GLASS SITS IN THE NORTHERN PART OF THE BUILDING. THE STEEL FRAMING REPRESENTS THE DIFFERENT ROOMS ON THE RESPECTIVE LEVELS. ABOVE IS A RENDERING ON THE AIRPLANE HANGAR LEVEL OF THE MUSEUM WHERE NO VERTICAL GLASS PARTITIONS TAKE PLACE DUE TO THE OPENNESS OF THIS LEVEL ON THE SHIP. THE PURPOSE OF THIS SPACE IS TO MIMIC THE INNARDS OF THE USS JFK AND MAKE IT POSSIBLE TO EXPERIENCE ALL THE SPACES SIMULTANEOUSLY DUE TO THE TRANSPARENCY.

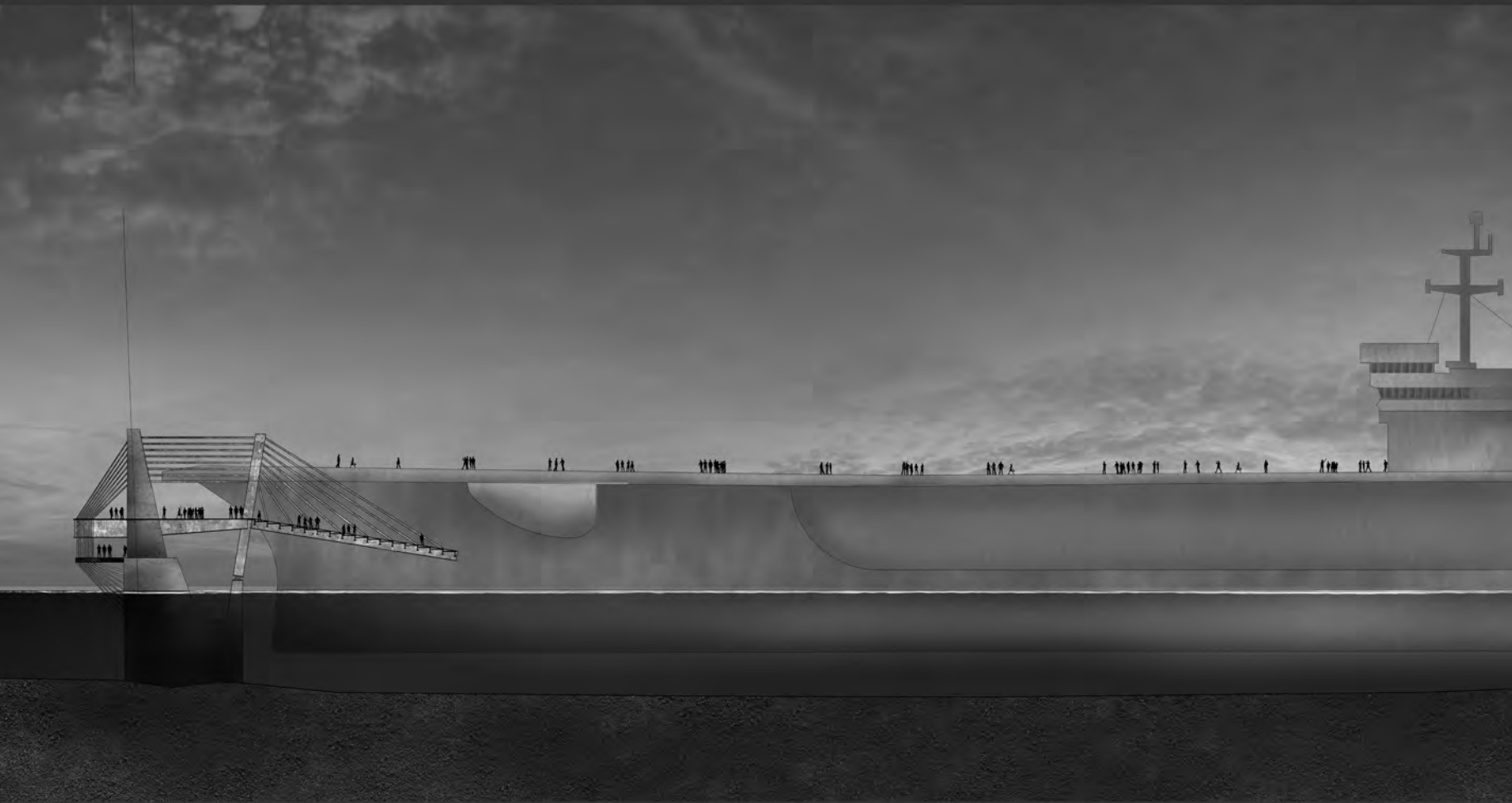




LONGITUDINAL SECTION BB

THIS SECTION CUTS THROUGH THE BUILDING LOOKING DUE EAST TOWARDS USS JFK. THE SECTION REVEALS THE RELATIONSHIP BETWEEN THE SHIP AND THE BUILDING SUCH AS THE ROOF TO FLIGHT DECK ELEVATION AND THE ALIGNMENT OF THE THIRD BAR TO AN ELEVATOR SHAFT IN THE BACKGROUND. IT WAS IMPORTANT TO ENSURE THE BUILDING COMPLEMENTED AND NOT DETRACT FROM THE SHIP.

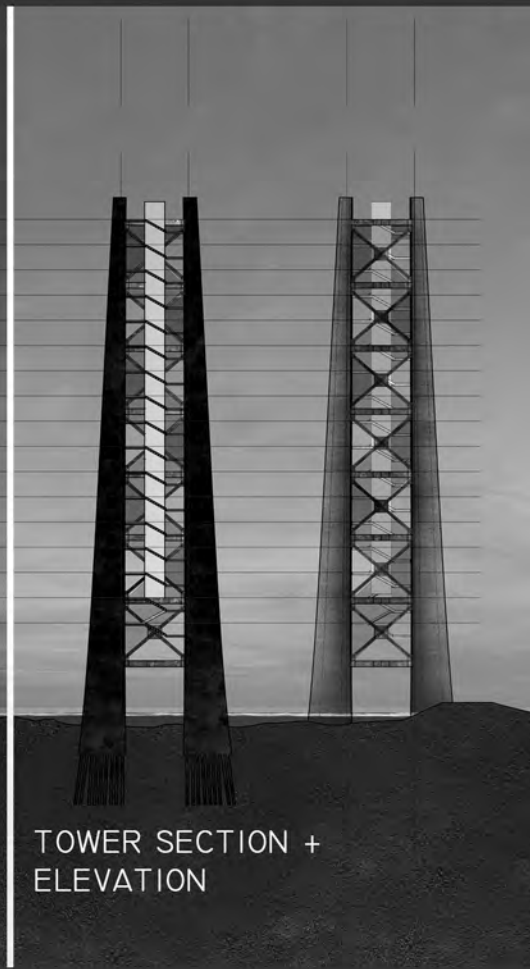






PATHWAY SECTION + PLAN

IN THE SECTION WE ARE LOOKING IN THE OPPOSITE DIRECTION OF THE PREVIOUS DRAWING, CUTTING THROUGH THE TOWER AND 'BLEACHER' PLATFORM.

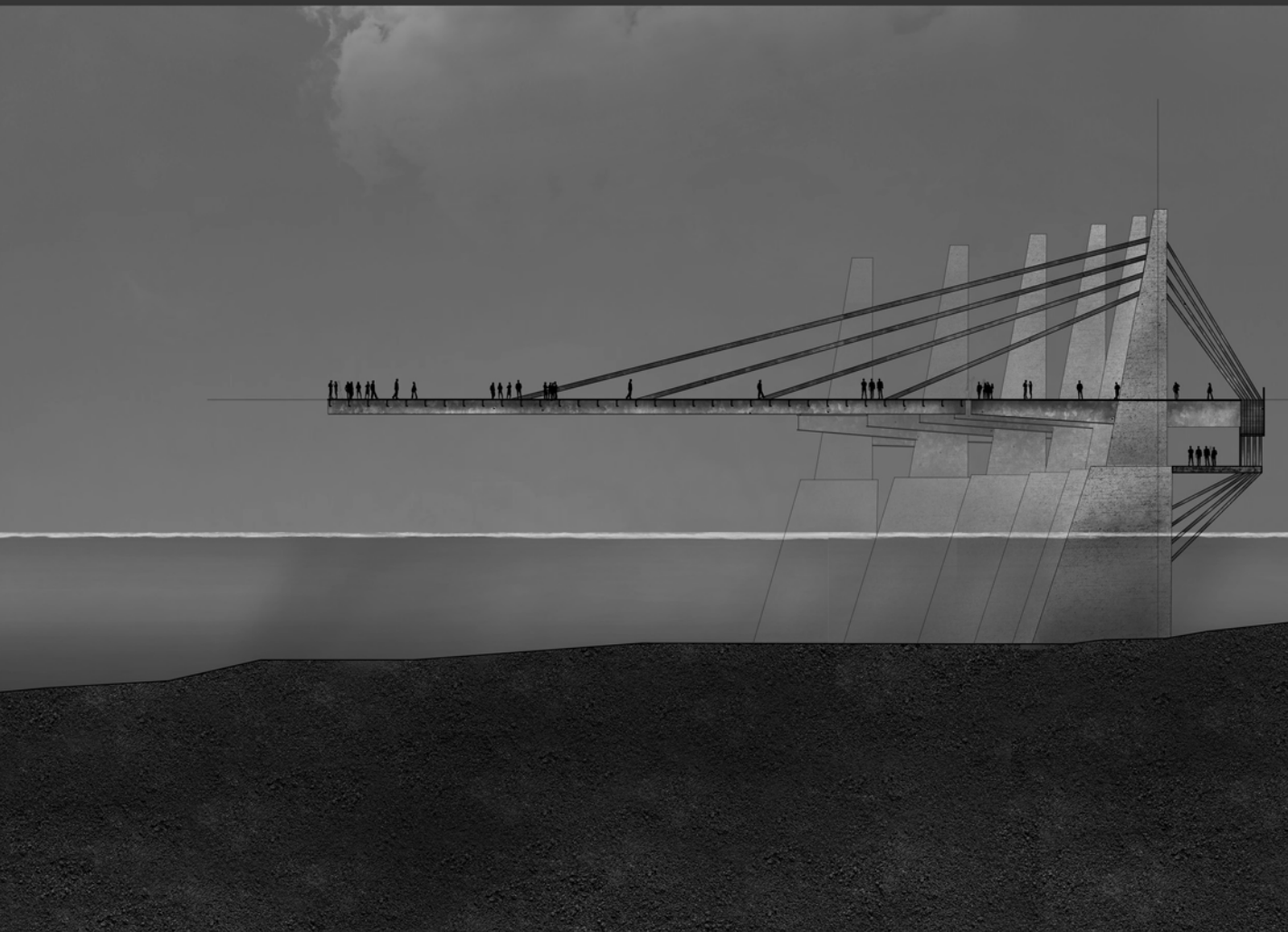
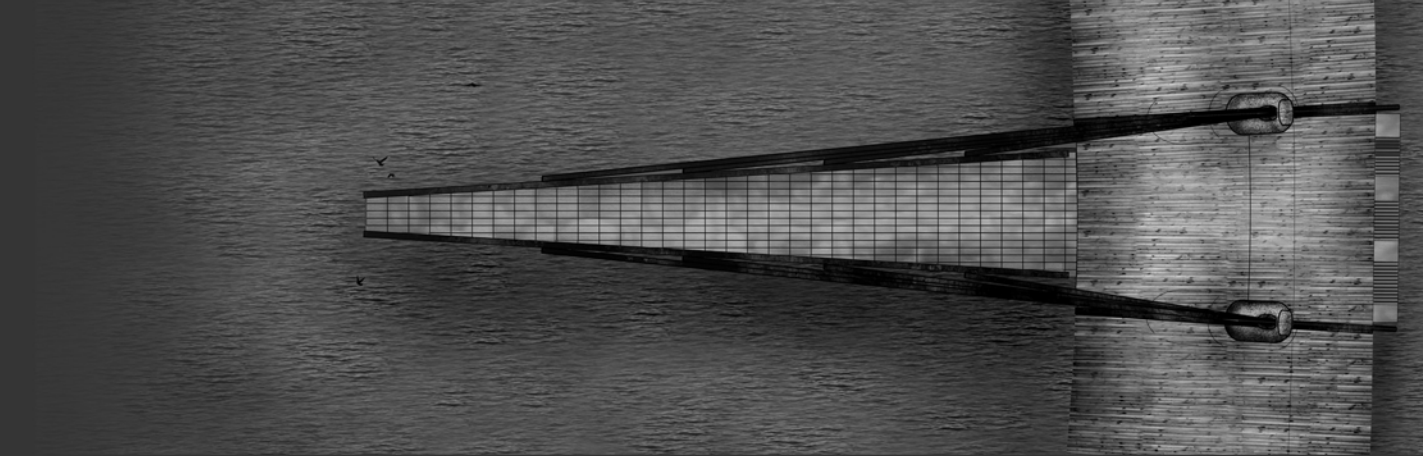


TOWER SECTION + ELEVATION

PATHWAY CROSS SECTION + PLAN

HERE WE SEE THE 'PLANK' PLATFORM THAT CANTILEVERS OUTWARD APPROXIMATELY 130 FEET TOWARDS THE AIRCRAFT CARRIER. INSTEAD OF THE TYPICAL WOOD DECKING USED IN THE PATHWAY, THE PLANK HAS METAL DECKING TO GIVE A FEELING OF INTENSITY THAT COMPLEMENTS THE DARING CANTILEVER.





PRIMARY PATHWAY

THIS IS APPROXIMATELY THE HALFWAY POINT ON THE PATHWAY AT ONE OF THE 'BLEACHER' PLATFORMS. THE PATHWAY HAS STAINLESS STEEL RAILINGS WITH CABLES IN TENSION BETWEEN THE BALUSTERS. PEOPLE ARE ABLE TO BIKE, RUN, OR LOUNGE ABOUT THE PATHWAY WITH THE USS JFK AS THE BACKDROP.



VIEW FROM SECOND BLEACHER PLATFORM LOOKING TOWARD USS JFK

VIEW FROM THE MOST NORTHERN POINT OF THE SECONDARY PATHWAY LOOKING SOUTH TOWARD THE TALLEST TOWER



SECONDARY PATHWAY

ANOTHER PATHWAY IS SUSPENDED BELOW BY THE CANTILEVERING STEEL I-BEAMS THAT CARRY THE PRIMARY PATHWAY. THERE ARE POINTS OF ACCESS TO THE PRIMARY PATHWAY AS WELL AS THE TOWERS IF PEOPLE DESIRE TO CHANGE SCENERY. THIS PATHWAY IS NARROWER IN DIMENSION AND IS MEANT FOR PEOPLE WHO ARE MORE FAMILIAR WITH THE SITE AND PERHAPS WANT TO BYPASS THE TOURISTS UP ABOVE.

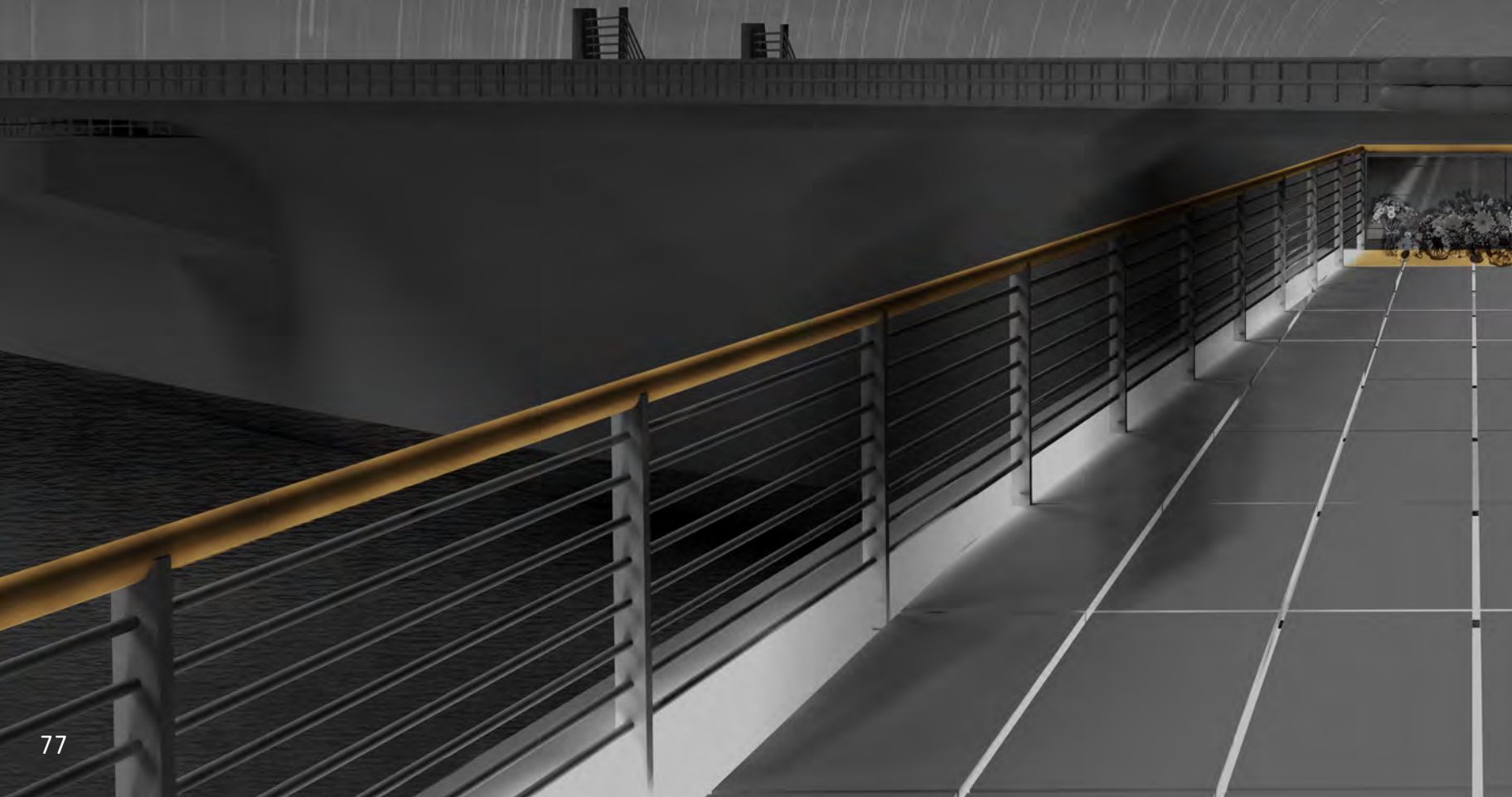


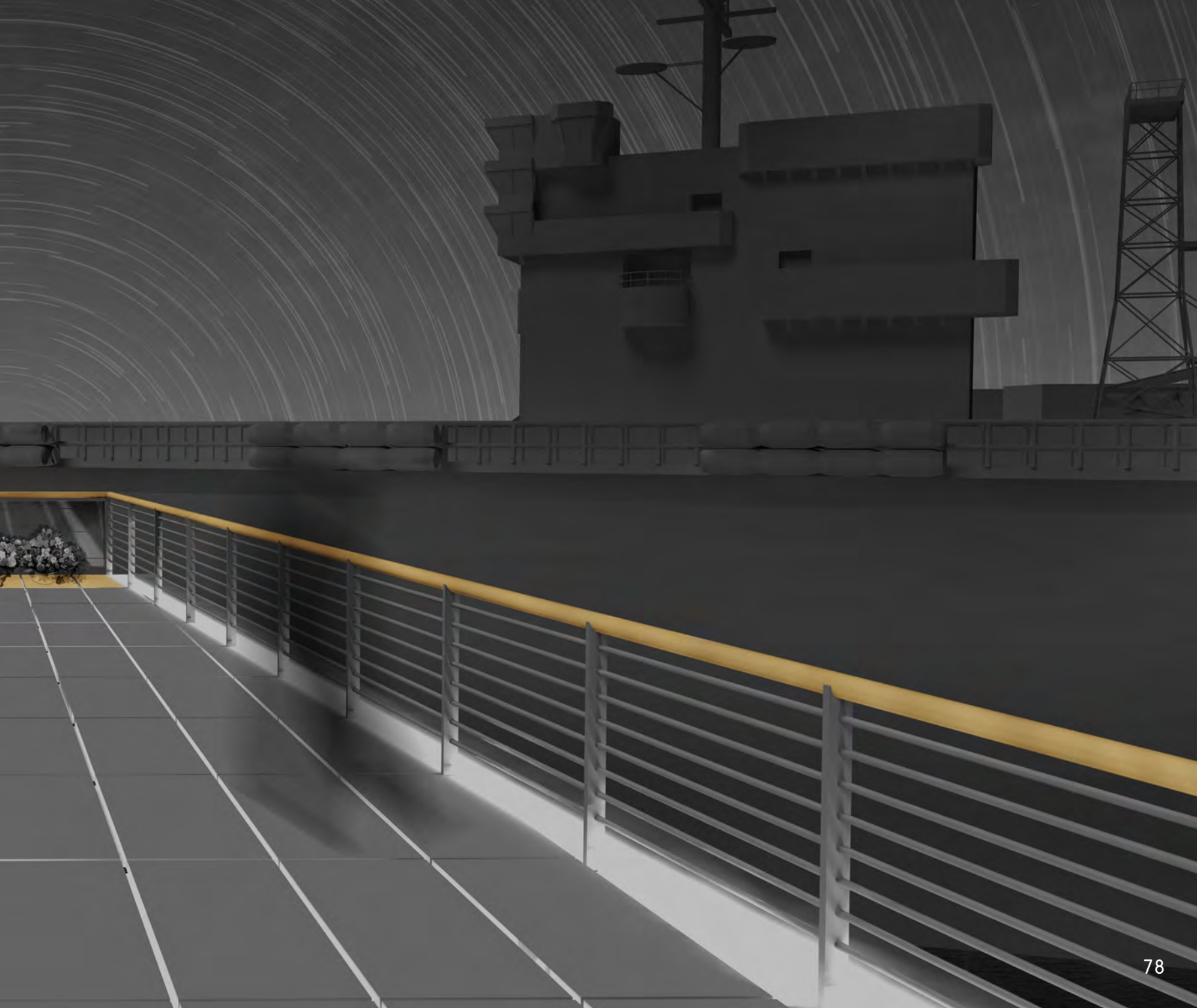
VIEW FROM THE BEIGINNING OF THE REFLECTING POOL LOOKING TOWARD THE MEMORIAL CENTER



HERE IS A RENDERING ON THE PLANK PLATFORM SHOWING BRASS FOR THE RAILINGS AND AT THE EDGE OF THE PLANK. BRASS IS A COMMON MATERIAL FOR THE PROPELLER OF SHIPS AND IS USED IN THIS CASE TO REMIND THOSE WHO WALK THE PATHWAY ABOUT THE SOLEMNITY REVOLVING THE SACRIFICE OF THE SAILORS WHO SERVED ON THE SHIP. ALSO, THERE ARE NAMES OF SAILORS WHO SERVED ON THE SHIP ENGRAVED IN THE BRASS AT THE END OF THE PLATFORM. HERE YOU CAN SEE FLOWERS ON TOP OF THE BRASS AT THE END OF THE PLATFORM FROM FAMILY MEMBERS WHO LOST A SAILOR AT SEA.

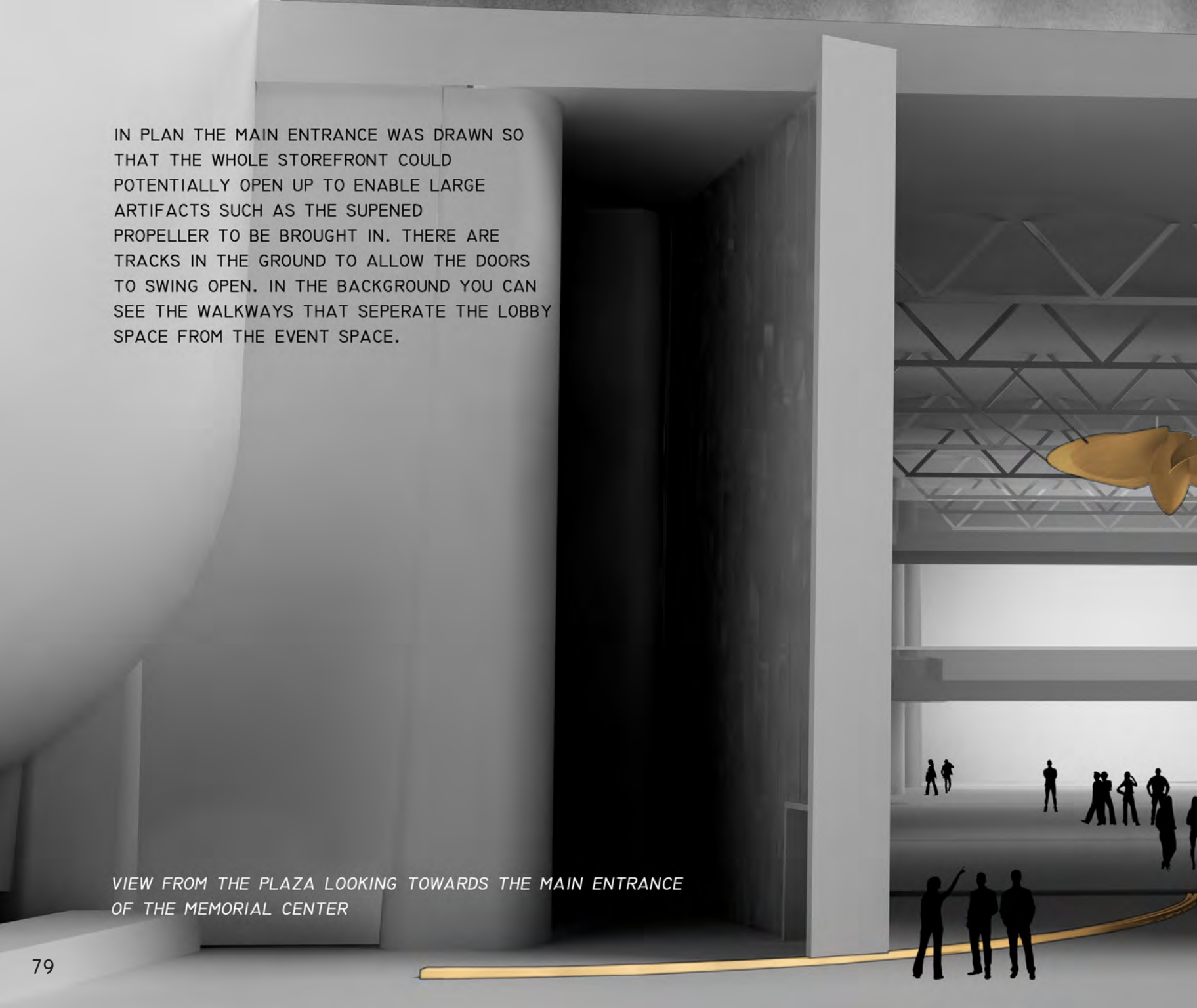
VIEW FROM THE MIDPOINT OF THE DIVING BOARD PLATFORM LOOKING TOWARDS THE USS JFK





IN PLAN THE MAIN ENTRANCE WAS DRAWN SO THAT THE WHOLE STOREFRONT COULD POTENTIALLY OPEN UP TO ENABLE LARGE ARTIFACTS SUCH AS THE SUPENED PROPELLER TO BE BROUGHT IN. THERE ARE TRACKS IN THE GROUND TO ALLOW THE DOORS TO SWING OPEN. IN THE BACKGROUND YOU CAN SEE THE WALKWAYS THAT SEPERATE THE LOBBY SPACE FROM THE EVENT SPACE.

VIEW FROM THE PLAZA LOOKING TOWARDS THE MAIN ENTRANCE OF THE MEMORIAL CENTER





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