
_Cal Poly, SLO _Winter 2018 _ARCH 452 _ARCE 415
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PORTLAND PACIFIC

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_Teddy Khieu
_Shaina Kim
_George Suarez



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GOALS

_Create Unique Bar Experience

_Multi-Seasonal Performance Venue

_Celebrate Views

_Exciting Destination

PREFACE

Interested by Portland's diverse culture and unique environment, our group took on the challenge of designing a pub and performance venue in Portland, Oregon.

The site stands unique to others as it lays in between Tilikum Bridge and Ross Island Bridge. Being just south of Downtown Portland, there are many opportunities to bring in visitors to Portland Pacific.

Through the series of plans, construction details and photos to follow, you will understand just how Portland Pacific is envisioned by both architects and architectural engineers.

PRECEDENTS



Naturtheater Grötzingen
_Michael Balz Heinz Isler

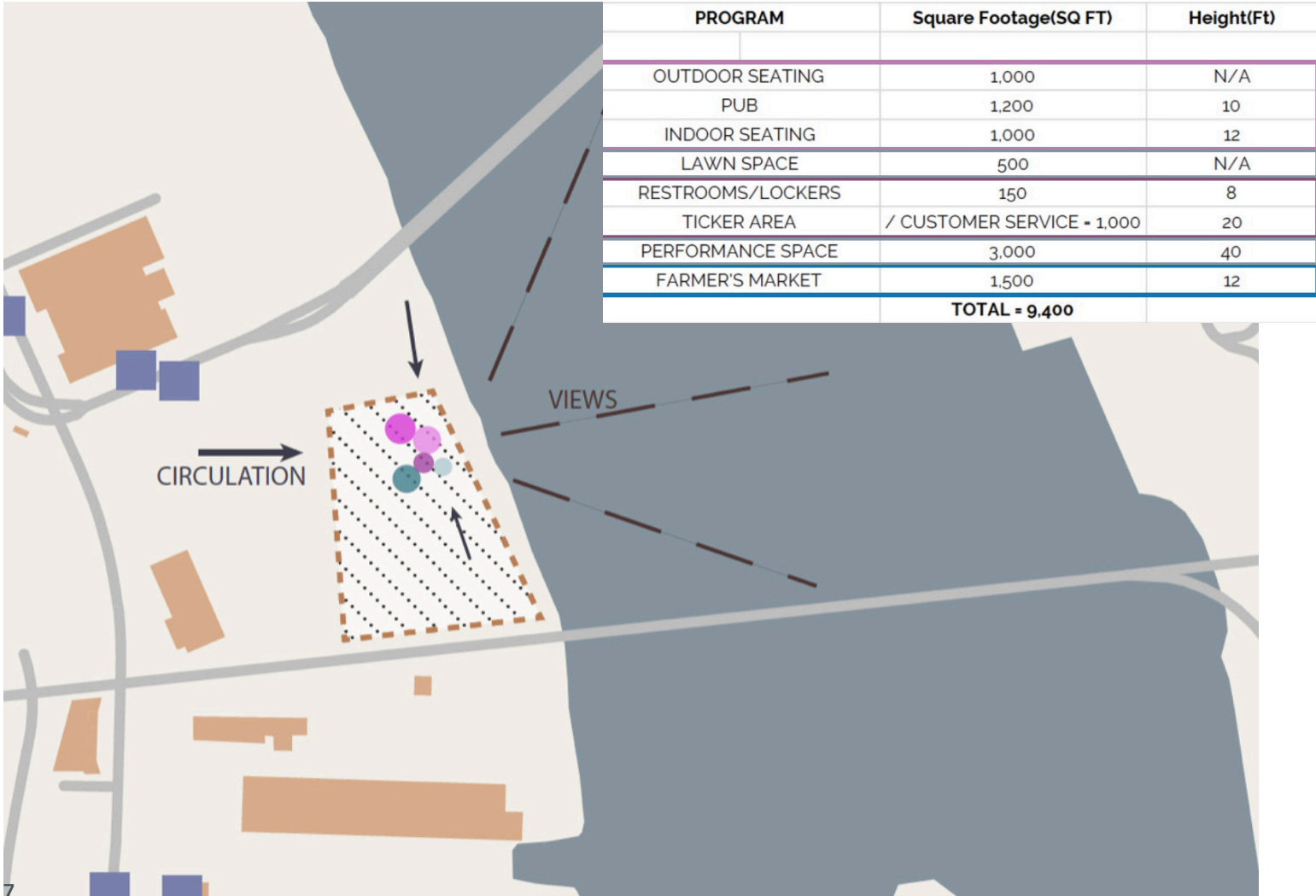


The Forum
_D·LIM architects
_Seoul Structural Engineering

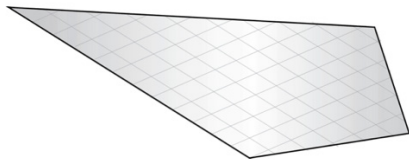
_Naturtheater Grötzingen served as a great study as it utilized five foundation points rather than the usual three or four. It also served the very purpose our group pursued: a finicular concrete shell as a performance venue.

_The Forum in particular was a great inspiration for Portland Pacific. It was important to the architects and engineers that the visitors of the project would not just be in awe of the design, but get to experience it fully by being allowed seating on the rooftop.

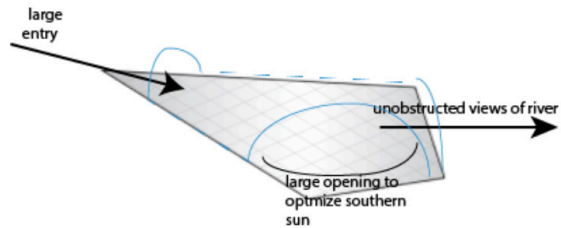
SITE



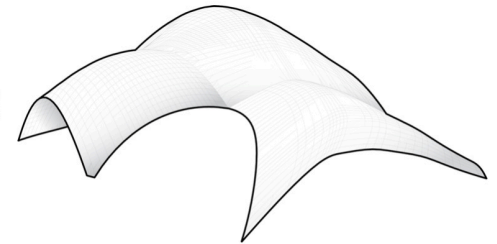
FORM DEVELOPMENT



_initial plane



_in response to:
site, views, & climate



_final form

SITE PLAN

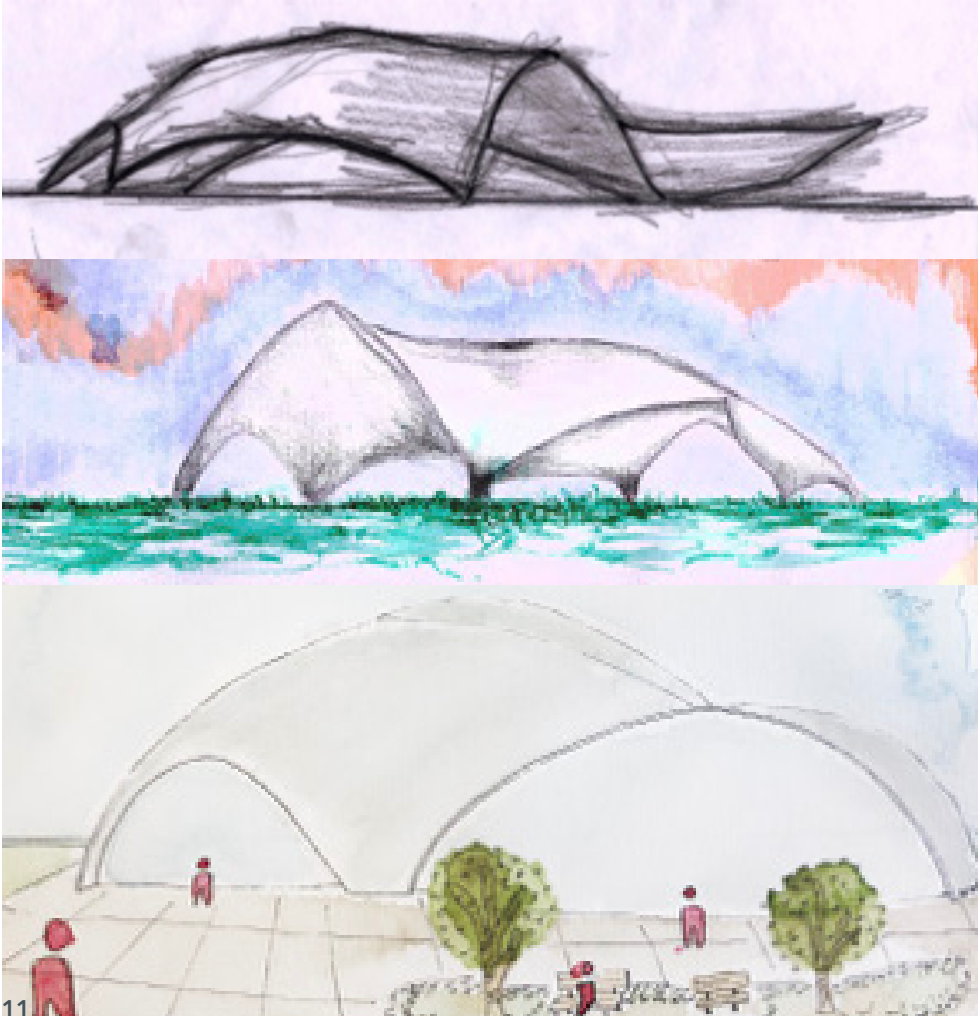


FLOOR PLAN

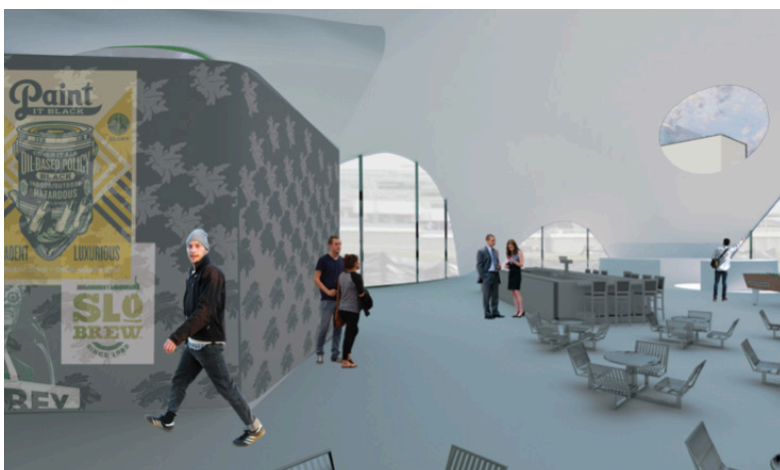
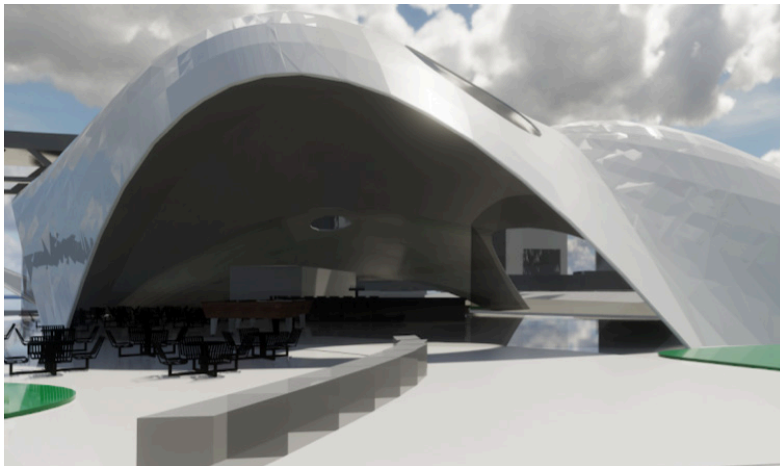


- 1 LOBBY
- 2 PUB
- 3 PERFORMANCE SPACE
- 4 MIXED USE

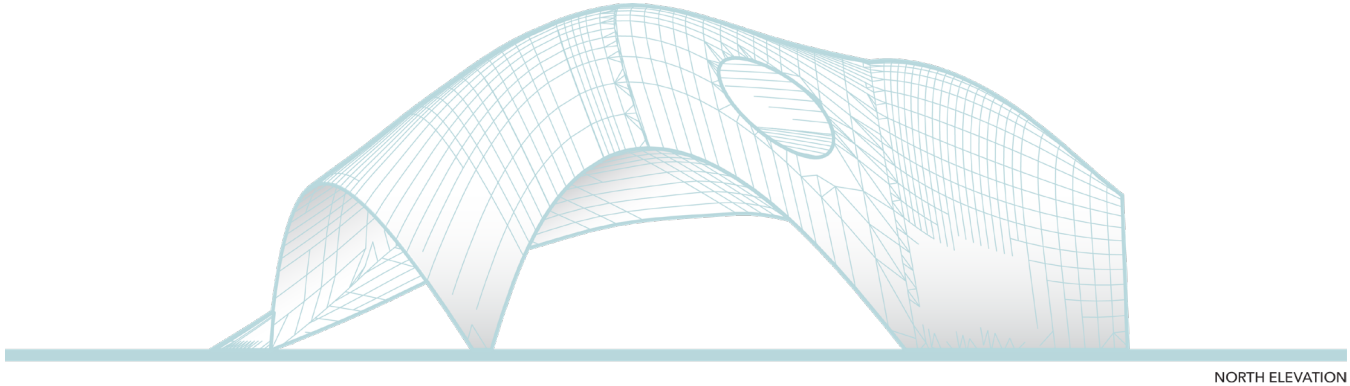
DESIGN



DESIGN

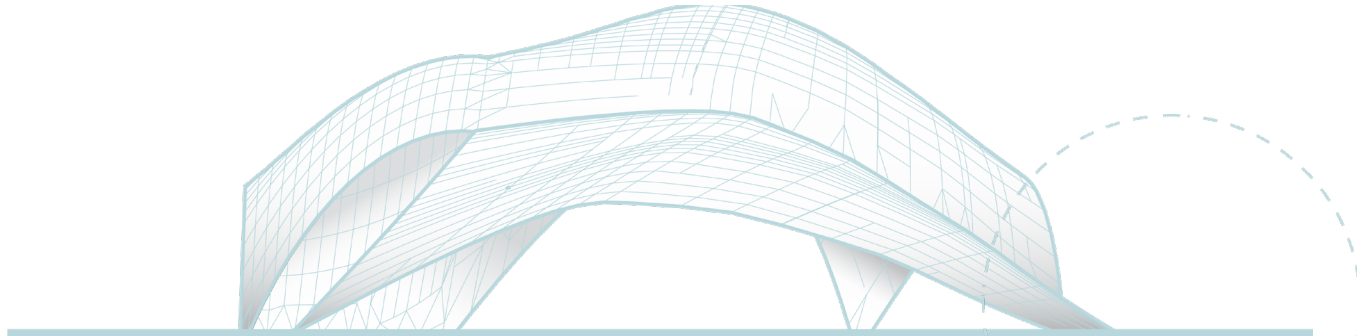


ELEVATIONS



NORTH ELEVATION

ELEVATIONS



SOUTH ELEVATION

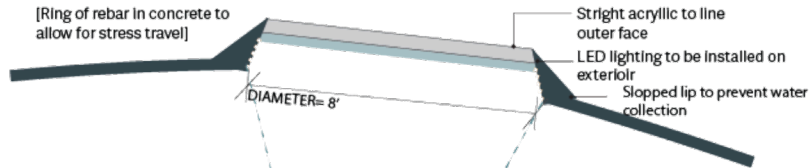


_unique to our building is the ability for visitors to sit on subtle/fixed seating arrangements on top of our very structure. Audience members can truly experience the form of the building while enjoying a performance outside.

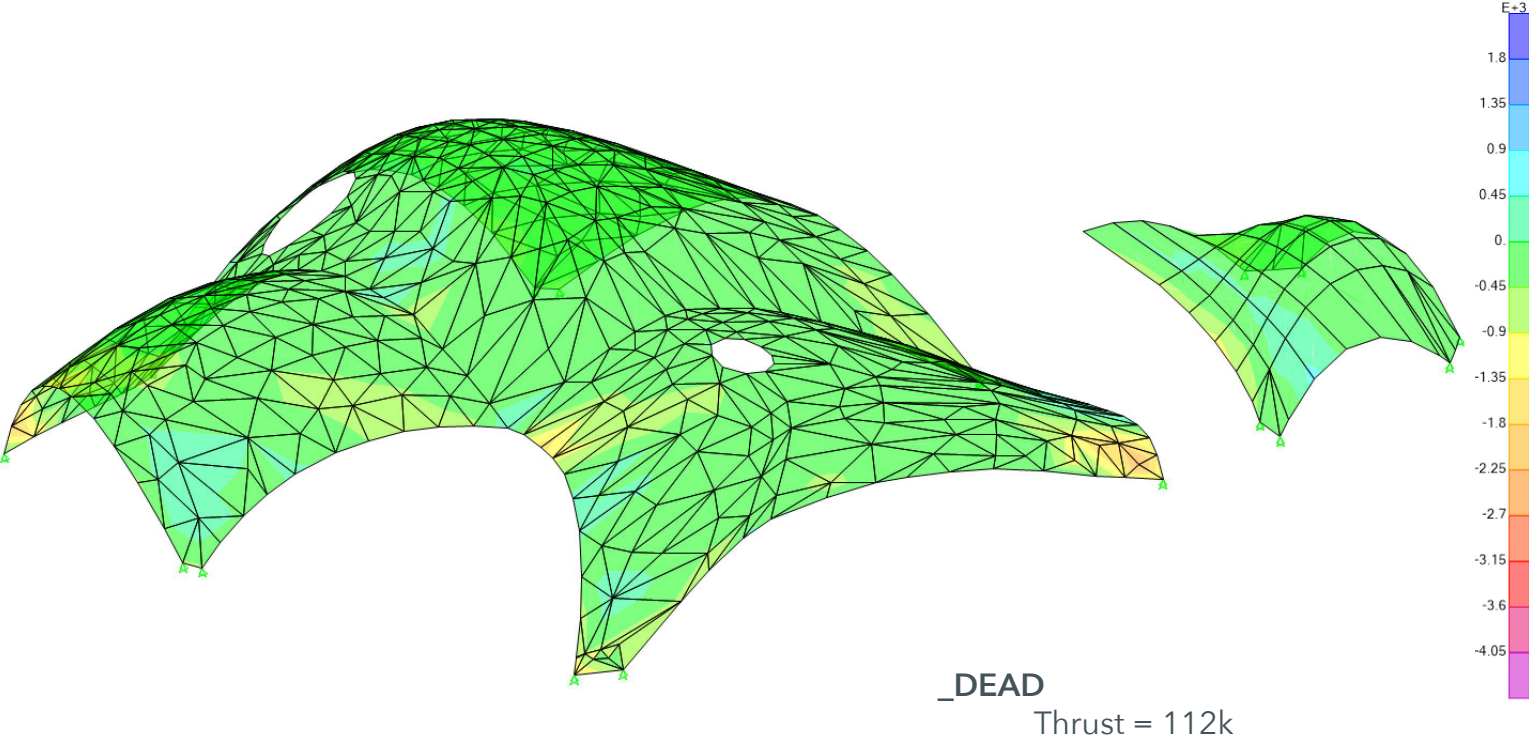
SECTIONS



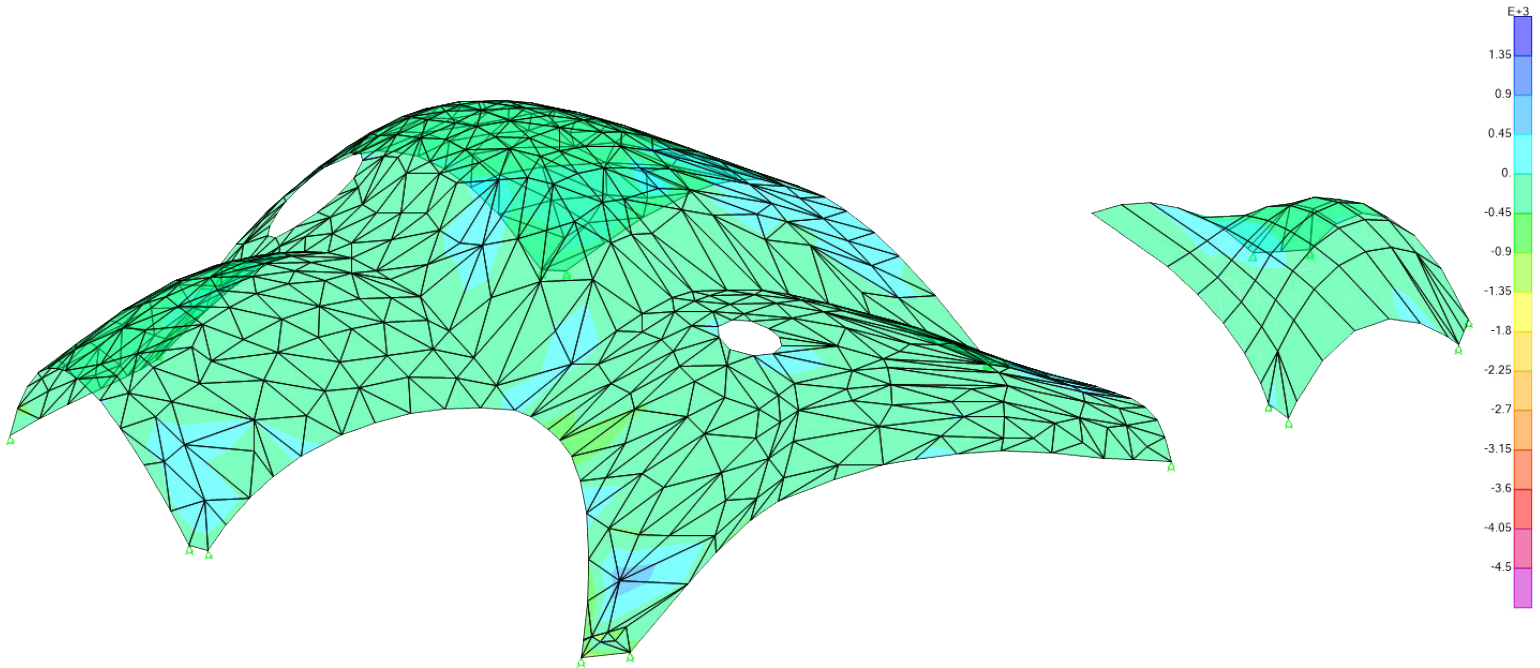
SECTIONS



SAP ANALYSIS



SAP ANALYSIS

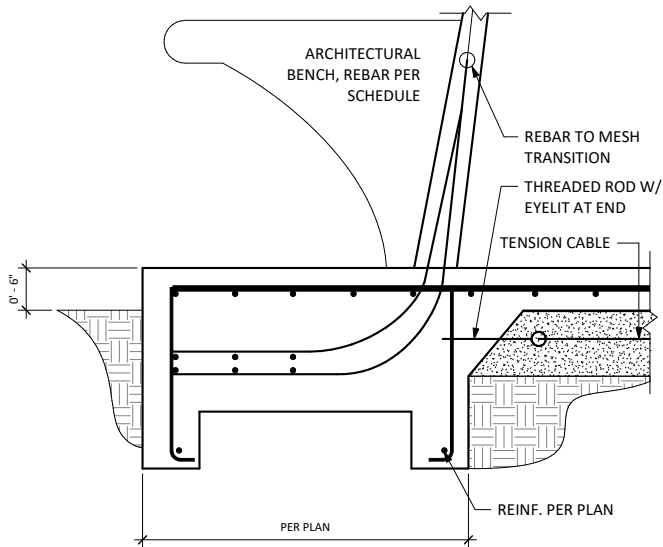


_BUCKLING

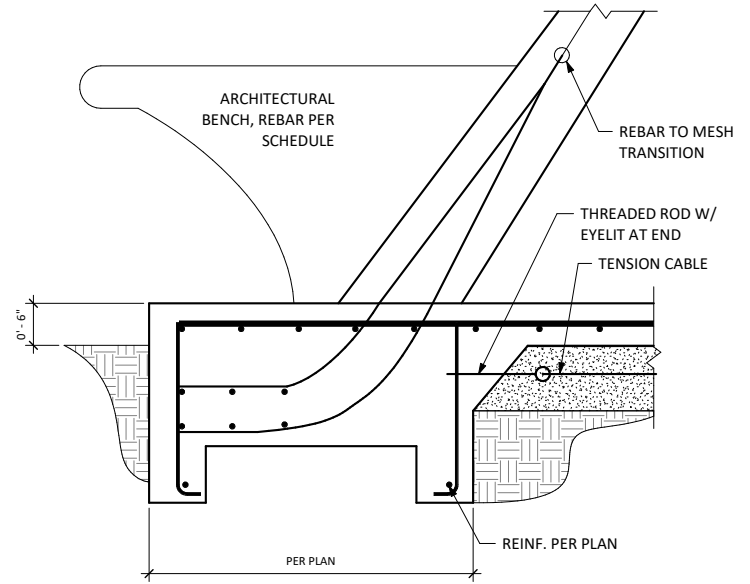
Factor = 10.71

SDS = 0.728

FOUNDATION DETAILS

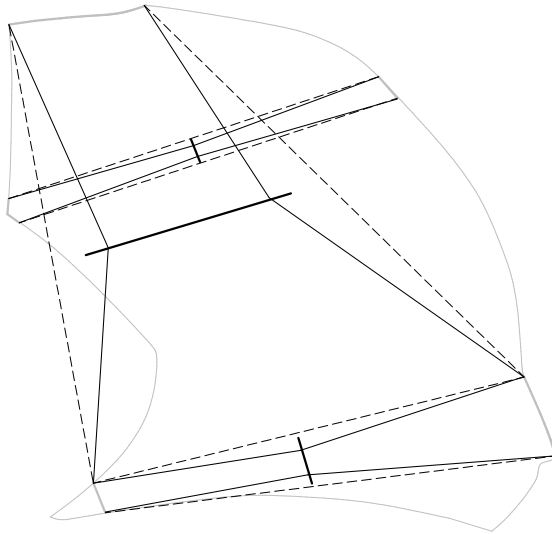


① TYPICAL FOOTING
1" = 1'-0"



② SPECIAL CONDITION FOOTING
1" = 1'-0"

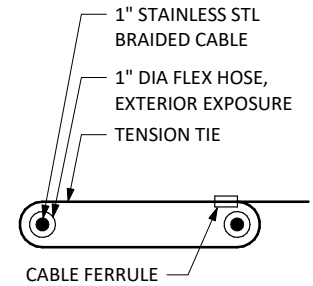
FOUNDATION DETAILS



LEGEND

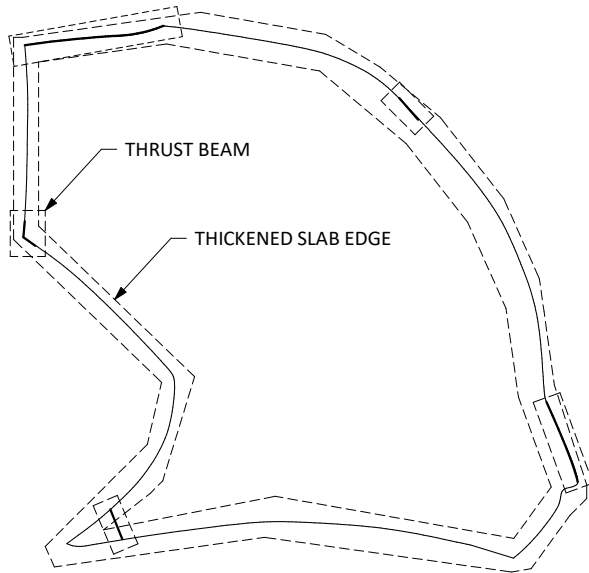
- EXISTING CONNECTION TO GROUND
- BUILDING FOOTPRINT
- - - PRE-STRESSED TENSION CABLE
- POST-STRESSED TENSION CABLE
- TENSION TIE

① TENSION TIE PLAN
1/4" = 1'-0"



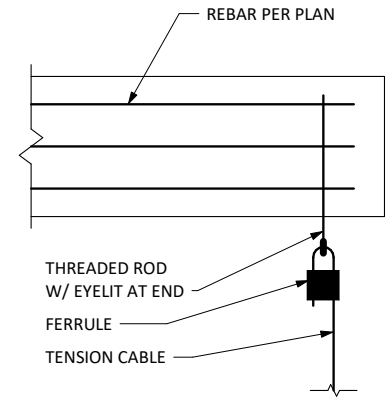
② CABLE SECTION
1 1/2" = 1'-0"

FOUNDATION DETAILS



- LEGEND**
- EXISTING CONNECTION TO GROUND
 - BUILDING FOOTPRINT
 - - - SLAB EDGE BELOW GRADE

① FOUNDATION PLAN
1/4" = 1'-0"



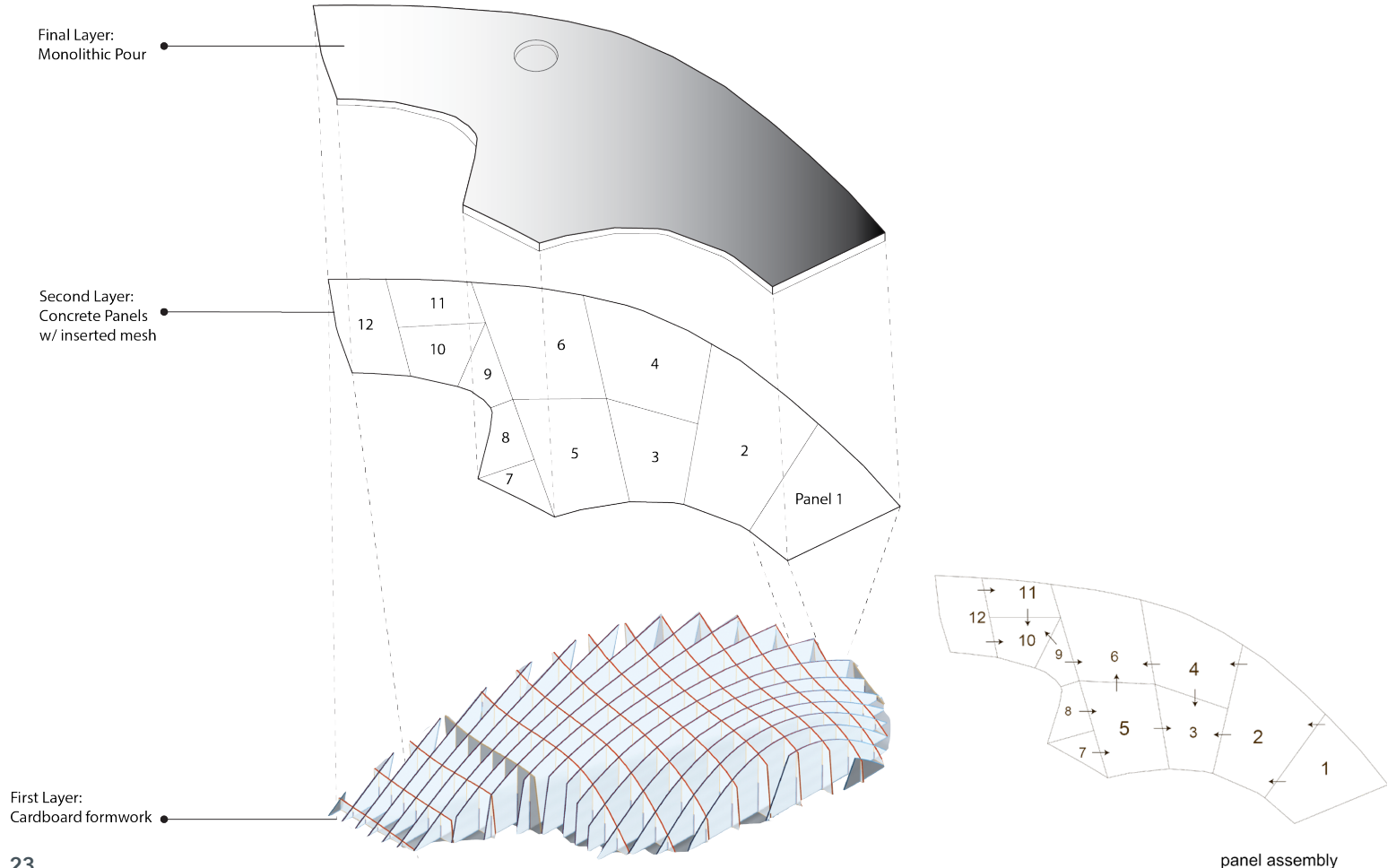
① TYPICAL THREADED ROD HOOK PLAN
1 1/2" = 1'-0"

PANEL TEST



Panel layers:
_Concrete
_Mesh
_Bubble Wrap

PANEL ASSEMBLY



SMALL SCALE CONSTRUCTION



_Demonstrating the process of building our formwork, pouring and curing the concrete, and assembling the panels per the diagram provided on the previous page.

COST ESTIMATE

Portland Pacific Target Values

Portland Pacific Conceptual Estimate

		Full Scale	
		9335 SF	
A10 FOUNDATIONS		\$73.71 /SF	\$688,088
03.21.00 Reinforcing Steel		\$11.96 /SF	\$111,638
REINFORCING - MISC. PADS AND CURBS - SF	1,200 SF	\$6.00 /SF	\$7,200
REINFORCING - FOOTING REINFORCING - LB (450#/CY)	33,480 LB	\$2.00 /LB	\$66,960
REINFORCING - SLAB-ON-GRADE - LB (2#/SF)	18,739 LB	\$2.00 /LB	\$37,478
03.31.00 Structural Concrete		\$22.48 /SF	\$209,872
CONCRETE - MISCELLANEOUS PADS & CURBS - SF	1,200 SF	\$15.00 /SF	\$18,000
CONCRETE - SLAB-ON-GRADE - SF	9,369 SF	\$15.00 /SF	\$140,540
CONCRETE - THICKENED SLAB EDGE - CY	10 CY	\$500.00 /CY	\$5,000
CONCRETE - FOOTINGS (W/ 20% WASTE) - CY	74 CY	\$500.00 /CY	\$37,200
EXPORT SPOILS (70%) - CY	152 CY	\$60.00 /CY	\$9,132
05.16.00 Structural Cabling		\$1.62 /SF	\$15,080
1/4" BRAIDED STEEL CABLE (20% WASTE) - LF	754 LF	\$20.00 /LF	\$15,080
05.50.00 Metal Fabrications		\$0.14 /SF	\$1,298
THREADED ROD - LF	50 LF	\$25.00 /SF	\$1,250
EYELET HOOKS - EA	12 EA	\$4.00 /EA	\$48
31.00.10 Earthwork		\$25.01 /SF	\$233,500
EXCAVATE FOUNDATION - CY	4,670 CY	\$50.00 /CY	\$233,500
31.22.16 Subgrade Reshaping - CY		\$12.50 /SF	\$116,700
AGGREGATE BASE (STRUCTURAL SLAB ON GRADE) - CY	2,334 CY	\$50.00 /CY	\$116,700

Unifomat System

- A - Substructure
- B - Shell
- C - Interiors
- D - Services
- E - Equipment & Furnishings
- F - Special Construction
- G - Building Sitework

CSI MasterFormat System

- Division 03 - Concrete
- Division 05 - Metals
- Division 06 - Wood, Plastics, & Composites
- Division 08 - Openings
- Division 23 - HVAC

TOTAL: \$24,697,417

Potential Safety Hazards:

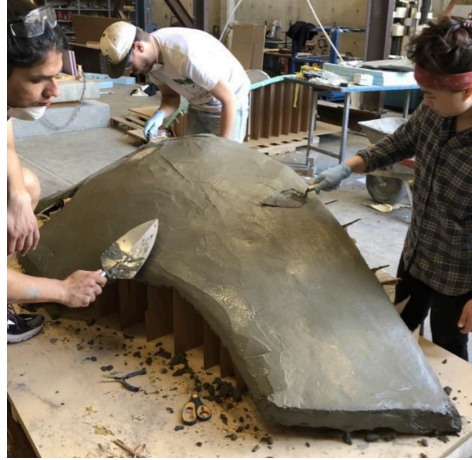
- _Sharp mesh cuts
- _Slips, trips, & falls
- _Soft tissue injury
- _Inhalation of silicates
- _Cuts from power tools
- _Inhalation of sawdust
- _Eye irritants
- _Foot injuries from drops

_We intend to wear PPE including, but not limited to: goggles, gloves, masks; to reduce these risks

Tool/machinery needs for Production:

- _Drill driver and impact driver
- _Table saw and miter saw
- _Wire cutters and pliers
- _Gloves
- _Scissors
- _Respirators
- _Eye protection
- _Construction screws
- _Matching drill bits
- _Pliers

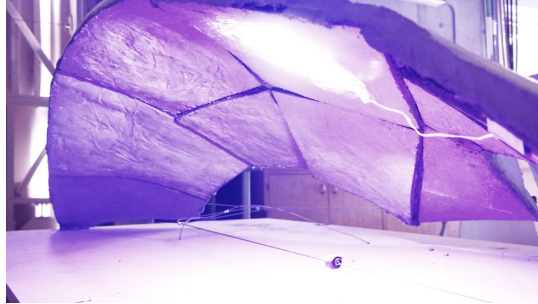
SMALL SCALE CONSTRUCTION



SMALL SCALE CONSTRUCTION



OCULUS PERFORMANCE



_Demonstrating the various colors and atmospheres the oculus can display when in use.



GROUP PHOTO



*_A special thanks to Ed & Clare
for their creative and educational
direction and support.*

**PORTLAND
PACIFIC**