Morelab will create a temporary sculpture installation called Tide/Untied, for the entrance of Fort Mason Center. This sculpture will be made of corten steel rail and stand at fifteen and half feet tall by thirteen and half feet wide by thirty-four feet in length. This piece is commissioned by Fort Mason Art and Culture Center for duration of eight years commencing June, 2017 through June, 2024. The design team has already consulted with SFAC staff to ensure they address ADA issues and surface treatment of the sculpture.

Fort Mason Center will be responsible for the maintenance and care of the artwork and the duration of the installation is consistent with the term of Fort Mason's lease with the Recreation and Park Department. The installation has already been approved by the Recreation and Park Department.

Fort Mason Center for Arts & Culture

Entranceway Public Art Project

Final Design

Submitted by: Matthew Passmore
MoreLab, LLC

Version 5.0 – Design with SFAC Recommendations
December 13, 2016

Tide/Untied

Matthew Passmore, MoreLab, LLC :: 1661 20th Street, Suite 3 Oakland, CA 94607 :: morelab.com :: matt@morelab :: 415.676.9035

Introduction

Whimsical and imbedded in the cultural and infrastructural history of Fort Mason, *Tide/Untied* is an inhabitable sculpture that helps define the entrance to Fort Mason Center (FMC), creates opportunities for wonder and curiosity, and offers a place for visitors to gather and meet.

Constructed of railroad track that seems to connect to the terminus of the historic track inside the Fort, the sculpture rail lifts dramatically out of the ground, creating places to sit, loops to walk through, and a playful definition to the entrance to the FMC. Though abstract in form, *Tide/Untied* looks vaguely familiar; perhaps the form references a nautical knot, frozen somewhere in the process of being tied, or perhaps it is a gesture toward the rolling tides that have carved the contours of the San Francisco Bay for millennia. Whatever the form might spark in the imagination of the viewer, the material of the sculpture is deeply connected to the history of Fort Mason and the Waterfront.

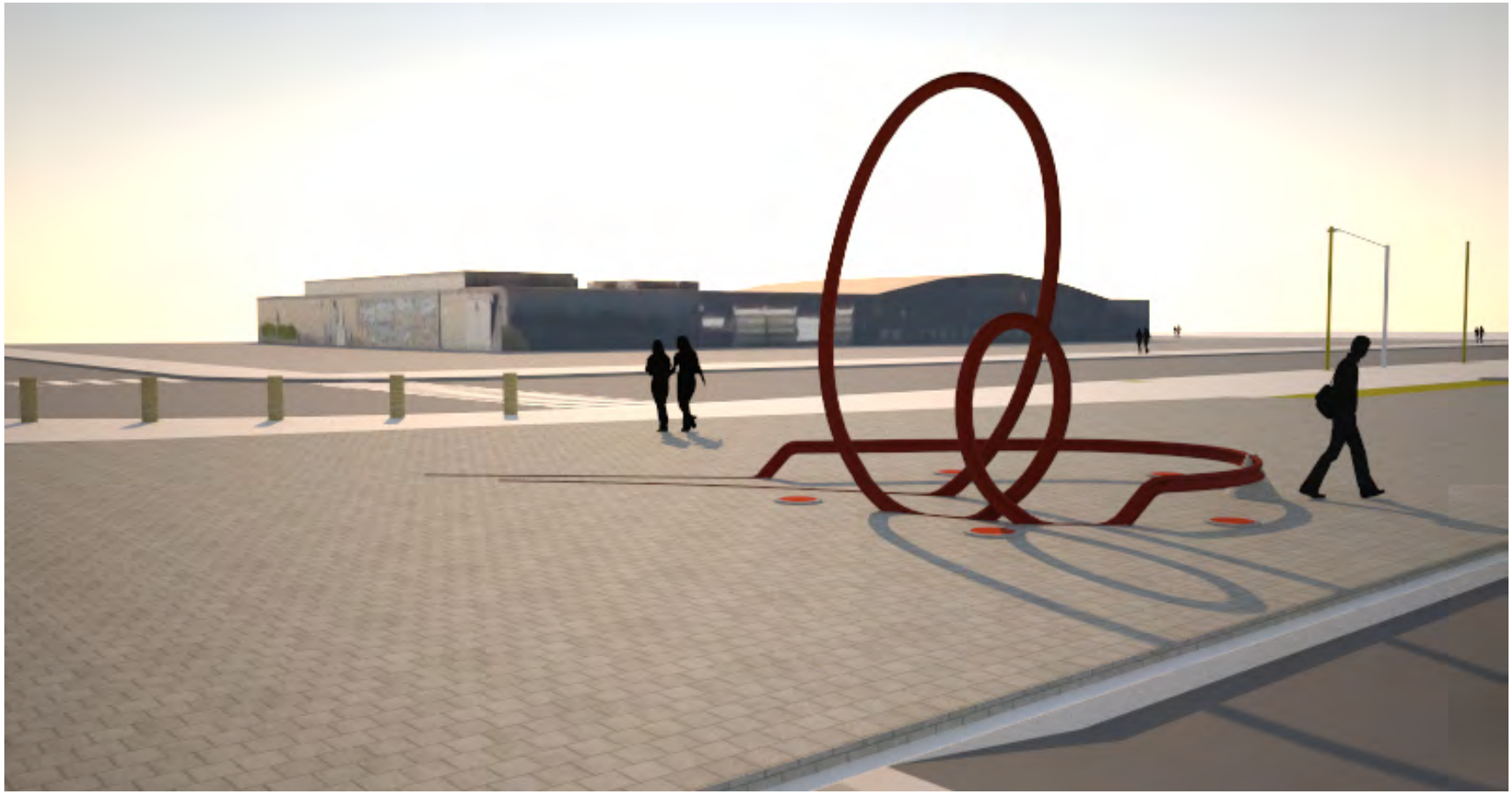
Known as the Point of Embarkation for the US Army, the history of Fort Mason has always been deeply and actively intertwined with elemental utility of the railroad. Soldiers, goods and materiel moved through the Fort in warehouse-sized loads each and every day (the photo 2nd from the left, below, shows the scale of goods that once moved through the Fort *daily*). The currently derelict Fort Mason tunnel was once part of the Belt Railroad, which moved goods along the entire San Francisco Waterfront. It is safe to say, then, that both Fort Mason and the Waterfront (and, indeed California and the West) have been significantly shaped by the technological wonder that was the railroad.

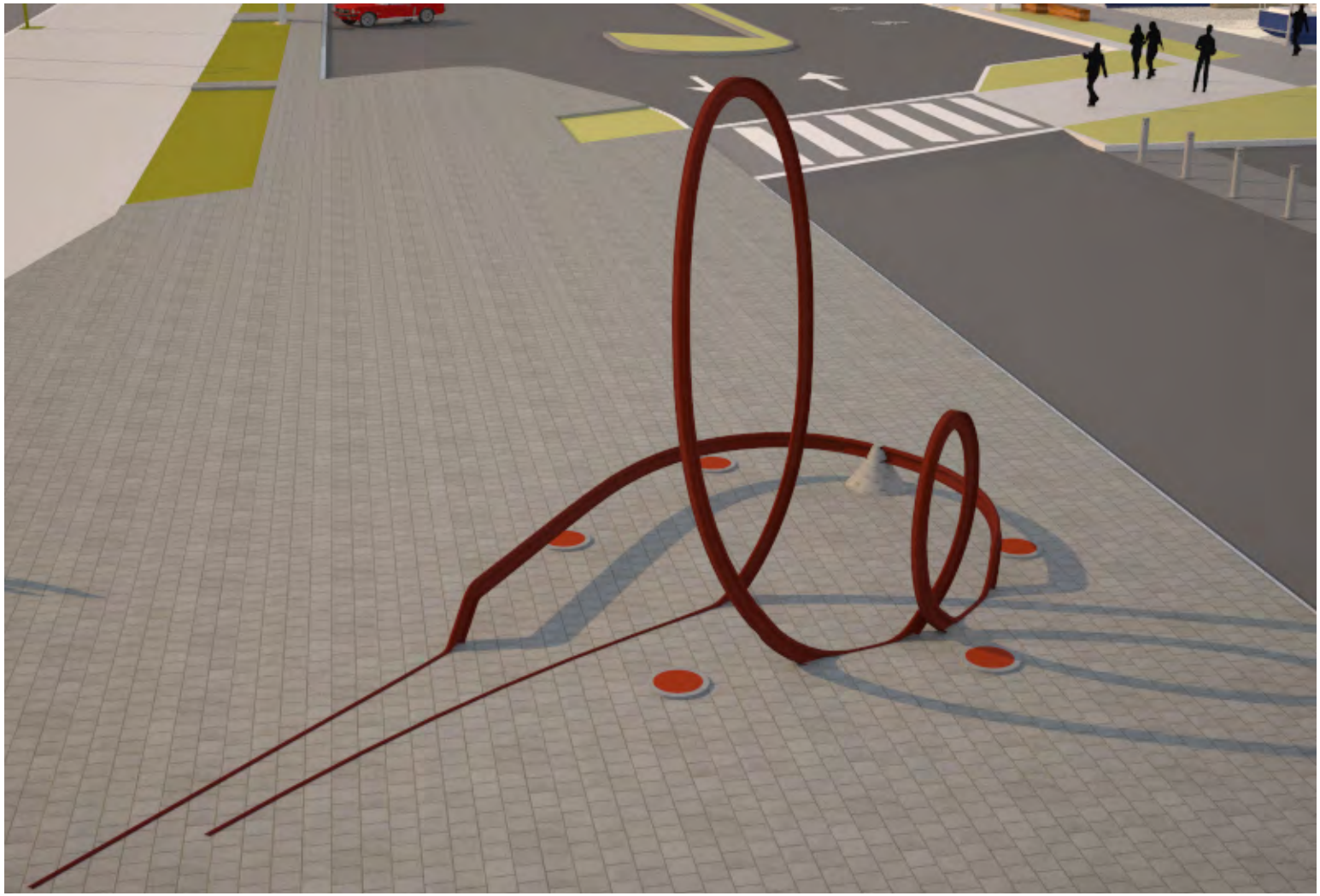
One of the principal threads in MoreLab's work is the relationship between people and urban infrastructure. As part of this exploration, we recently developed novel techniques and machinery for manipulating rail into seemingly impossible forms. *Tide/Untied* represents a further evolution, both conceptually and materially, for this line of inquiry.

Like Fort Mason, we too have been shaped by the simple power of rail.

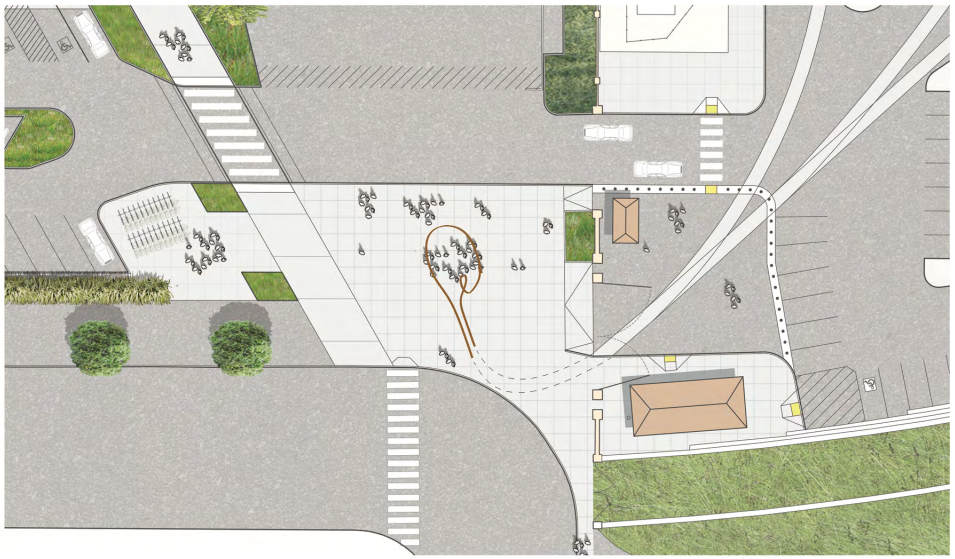



Renderings

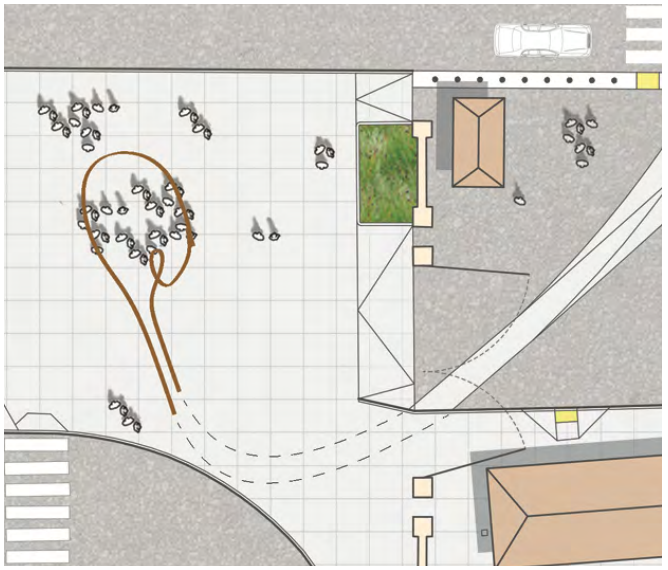




Site Plan

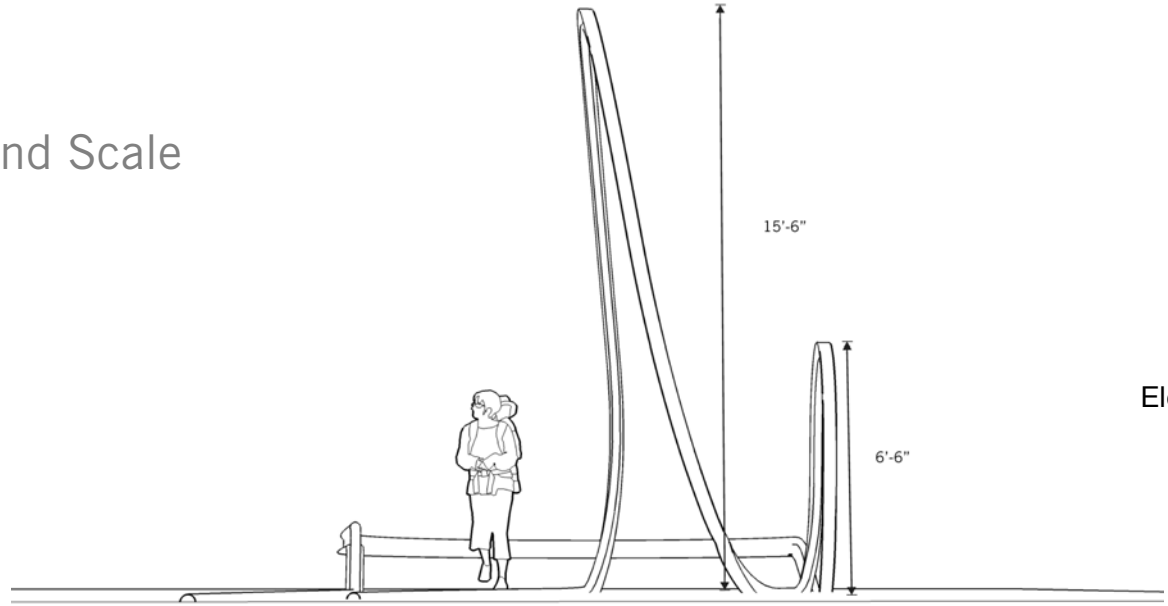


Tide/Untied creates a visually unifying gathering place at the center of the plaza.

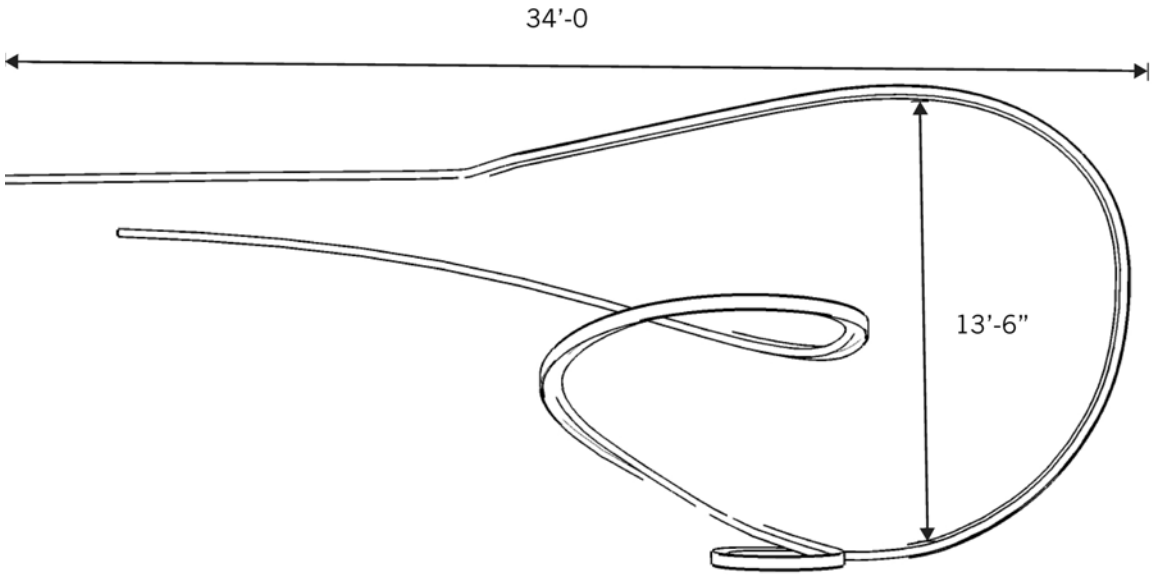


The angles of the rails curve around and imply alignment and connection with the existing track within Fort Mason Center.

Elevation and Scale



Elevation view



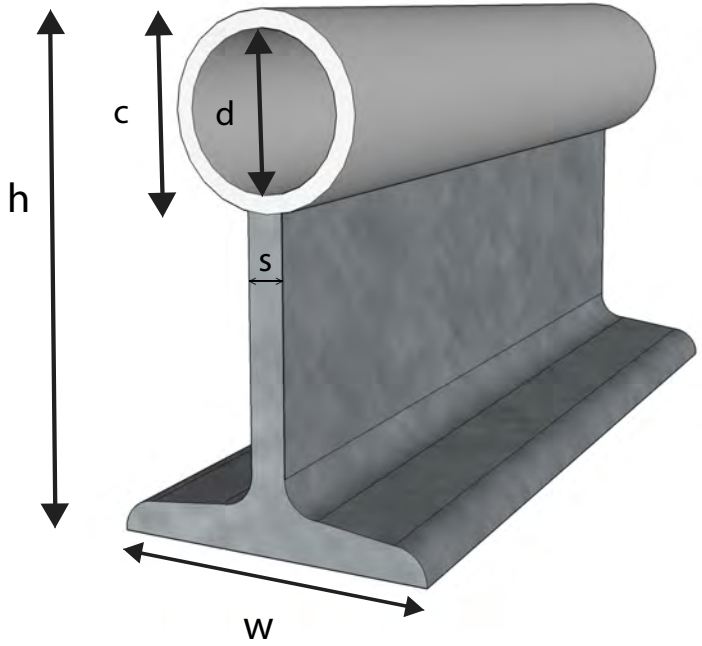
Plan view

Rail Profile

To create the rail profile for the sculpture, we will cut the top flange off a S8 23 type I-beam, and add a new cap of 2" schedule 80 tube steel, welded continuously onto the I-beam. The round cap greatly simplifies the engineering for the piece and also makes the fabrication more straightforward: the round pipe is always symmetrical, which makes creating compound curves much simpler than the other option: rectangle bar. While this geometry is not the standard rail geometry, given the scale and complexity of the piece, we believe the round cap will read as railroad track.

Standard rail profile

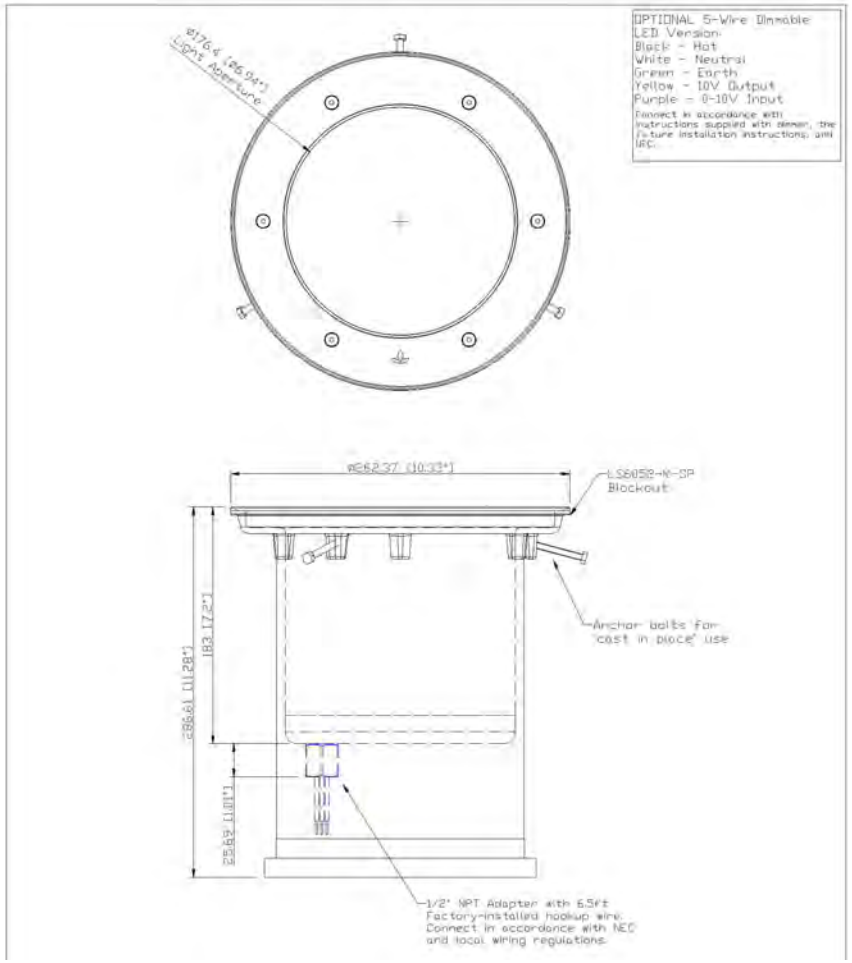
S8 x 23 type I-beam
Top flange cut off and replaced with 2" Sched 80 pipe attached as cap



dimensions:
h = 6.5"
w= 4.171"
c= 2.38" (O.D.)
d= 1.94" (I.D.)
s= 0.441"

Lighting

To light the sculpture at night, we have selected the Lumascape LS853LED, with Amber bulbs. The amber light plays well off the Rust patina. We used these same luminaires to compelling effect on *Intersection*, a sculpture we created in Portland, OR.



1300 Industrial Road, Unit # 19
San Carlos, CA 94070
Tel: 1-(650)-595-LUMA(5862)
Fax: 1-(650)-595-5820
Email: info@lumascape.com
FREE CALL 1-866-695-LUMA(5862) US & Canada

LUMASCAPE USA INC.

LS853LED — Ingrade

humantouch gripglass opticlear microantileach

IP68 IK10 cULus

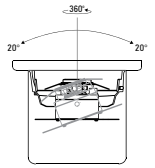
The LS853LED is a full featured, shallow depth ingrade luminaire featuring lumen output and efficacy exceeding metal halide. This luminaire also features a universal input driver (120-277 V), and measures only 7.1 inches (180 mm) deep (in direct burial format). The ability to aim the luminaire ensures the most efficient light delivery can be set according to the site conditions.

Specifications

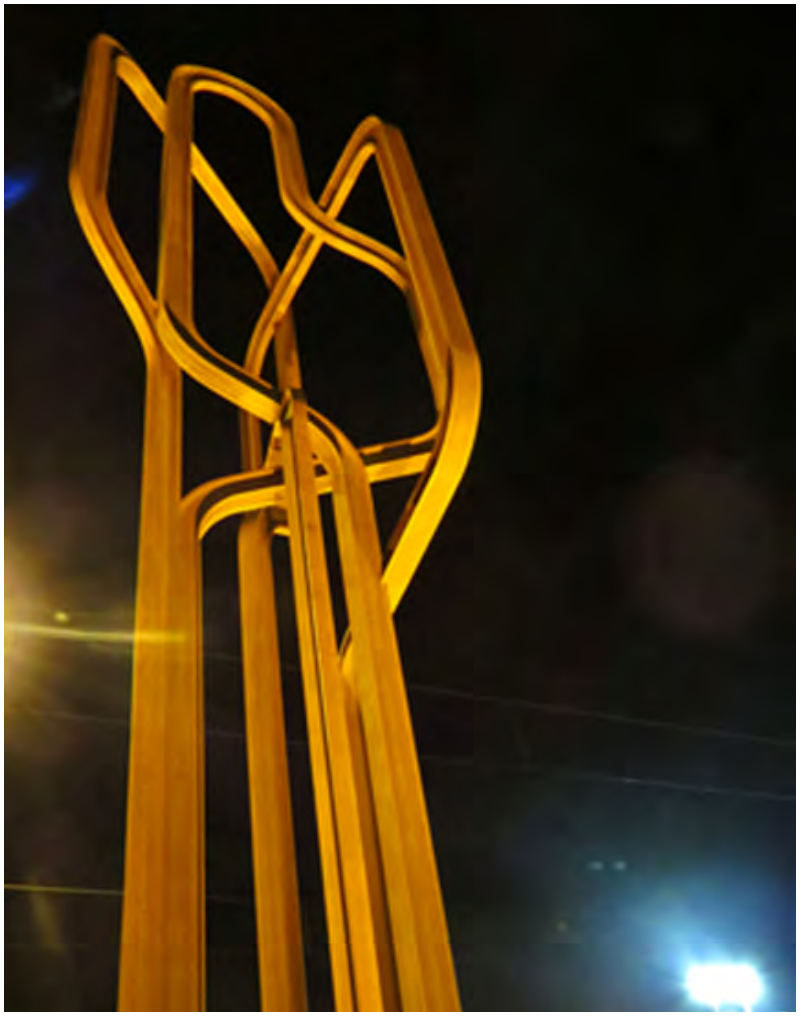
Lamp source	20 W LED ☐ White (4 300 K typical) Warm white (2 900 K typical) Blue (470 nm) *Other colors by request* RGB *(consult factory for full details)*
UL classification	Suitable for wet locations
Lumen Maintenance (L70)	85,000 hrs @ 25 °C
Control Protocol *(optional, consult factory)*	0-10 V RGB via DMX
IP rating	IP68
Construction	316 marine grade stainless steel
Installation types	**Pre-Installation Blockout** Concrete pour, drive-over etc. **Direct Burial** Landscapes, planters etc.
Drive-over	With **OptiClear™** lens and pre-installation blockout (LS6052-K or LS6052-K-SP)
Static load rating	9 260 lb (4 200 kg) with **OptiClear™** lens and pre-installation blockout (LS6052-K or LS6052-K-SP)
Impact rating	IK10 with **OptiClear™** lens
Standard inclusions	Teflon coated cover screws **MicroAntiLeach™** wire entry Thermal cutout
Ambient operating temperature	-22 °F to 122 °F (-30 °C to +50 °C)
Surface temperature	≤113 °F (45 °C)
Photometrics	www.lumascape.com

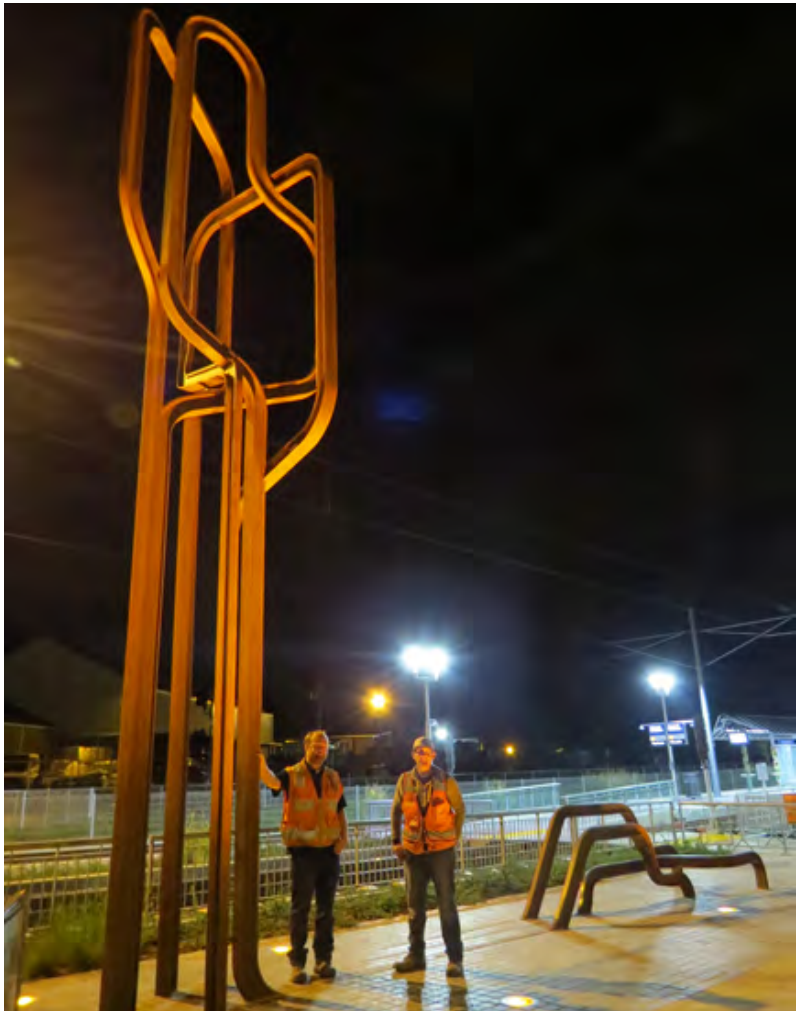
Any luminaire can become hot - take care with appropriate use and placement

LS853LED Round Flush Cover



Examples of the LS853LED luminaires, lighting our *Intersection* sculpture in Portland, Oregon.





Lighting Layout (preliminary)

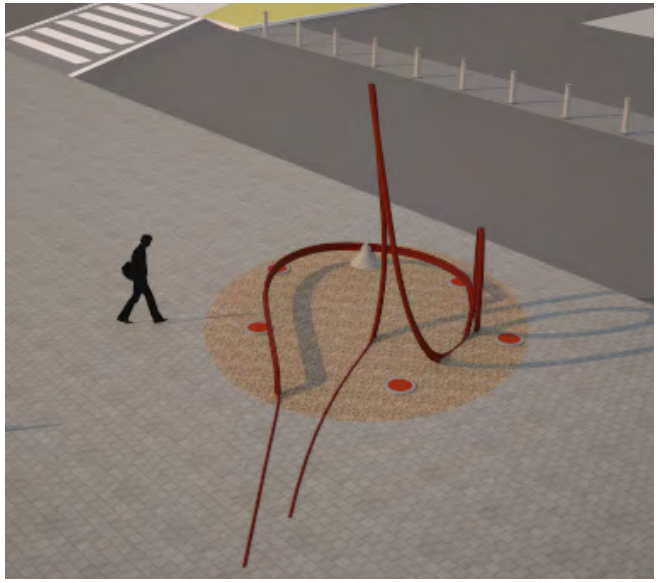
SFAC Staff Feedback: ADA Issues and Sculpture Surface Treatment

Patrick Hadjuk (FMC) and Matthew Passmore (MoreLab) met with Susan Pontius and Jill Manton of the SFAC to discuss SFAC Staff feedback. Susan and Jill expressed two main areas of concern: **ADA issues**, and the **surface treatment** on the sculpture. We will address these separately.

ADA Issues

Staff noticed that several sections of the sculpture might create a tripping hazard without proper indication of a change in materials, or a curb around the piece. The most elegant solution to us is to use a different ground material than the rest of the plaza. This different material could be a different paver, gravel, or another treatment sufficient to be noticed by visitors using canes.

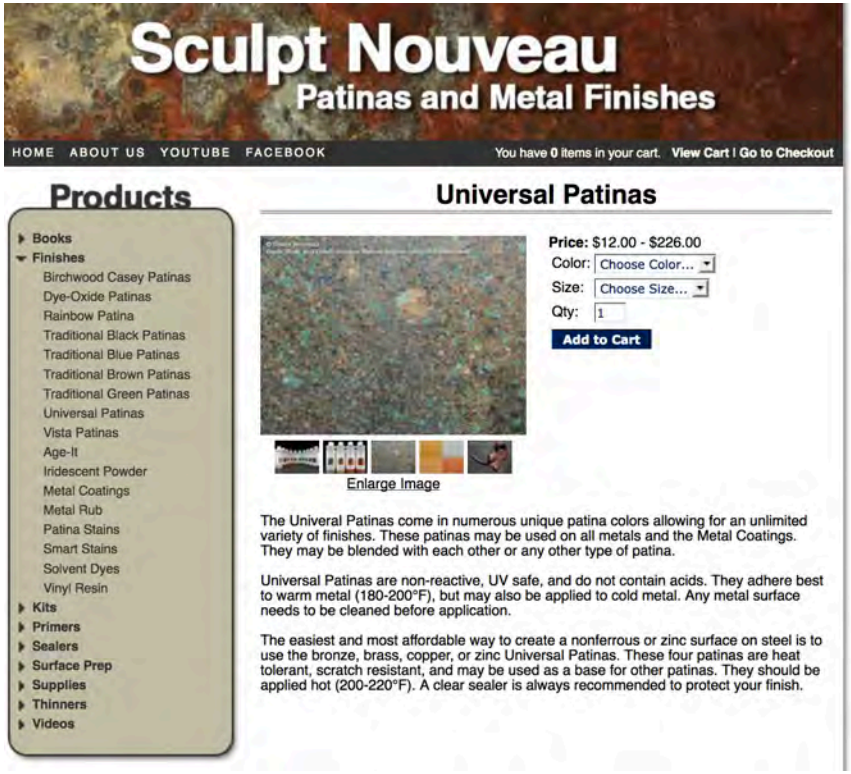
We are currently in conversation with the project landscape architect (CMG) and ADA experts to select the proper ground cover that will create a safe, useful and elegant solution to this issue.



Sculpture Surface Treatment - Patina

Susan and Jill also indicated concern regarding the rust patina on the surface of the sculpture. This issue has two components: staining from water runoff sheeting off the piece that will color the ground beneath the sculpture, and the long-term durability of the metal. The first issue will be addressed through the use of different ground cover, as described above.

For the surface of the metal, we are investigating the use of various chemical patinas that will adequately seal the surface to achieve long term durability. Jennifer Correia of the SFAC recommended Sculpt Nouveau, which offers several potentially suitable patinas



Impact and Public Access

Tide/Untied is a sculpture intended to create a place in the plaza at the new entrance to Fort Mason. The sculpture is meant to be accessible to the public, who will be invited to walk between the loops and over the sides of the piece, and to sit and wait for friends along the main arc of the piece. Access to the center of the piece will comply with the ADA and allow for an identical experience and identical access to people of all abilities. The piece will be lit by in-grade luminaires that cast an amber hue onto the piece night

Materials

Given the complex geometry of the sculpture, we will re-create the rail profile out of mild steel, as done partially in our *Intersection* sculpture, installed in Portland in 2015 (see above). Throughout the design and fabrication of *Intersection*, we developed new and innovative techniques for manipulating mild steel to give the appearance of new railroad track. The support structure at the extremity of the curve would ideally be made of the same paving material as the surface of the plaza, creating the illusion that the plaza deformed and curved upward to support the sculpture.

Sub-consultants

To build *Tide/Untied*, we will work with sub-consultants with whom we have ongoing professional relationships. Principal fabrication, assembly and transportation would be handled by **Art & Design Works, LLC** (ADW) in Portland, Oregon. Led by Jim Schmidt, ADW and MoreLab innovated new techniques for manipulating railroad track, as demonstrated in *Intersection*. Engineering will be done by **Grummel Engineering**, who did the engineering for Intersection (though based in Portland, Grummel engineers are licensed in California). Design, technical drawings, project management and coordination will all be handled in-house by MoreLab, LLC.

Installation Schedule and Construction Integration

To accomplish the project timeline, we would need to begin design development and fabrication as soon as possible. Ideally, we would be able to integrate significant elements of the sculpture into the construction timeline of the plaza, including: foundations, up-lighting and installation.