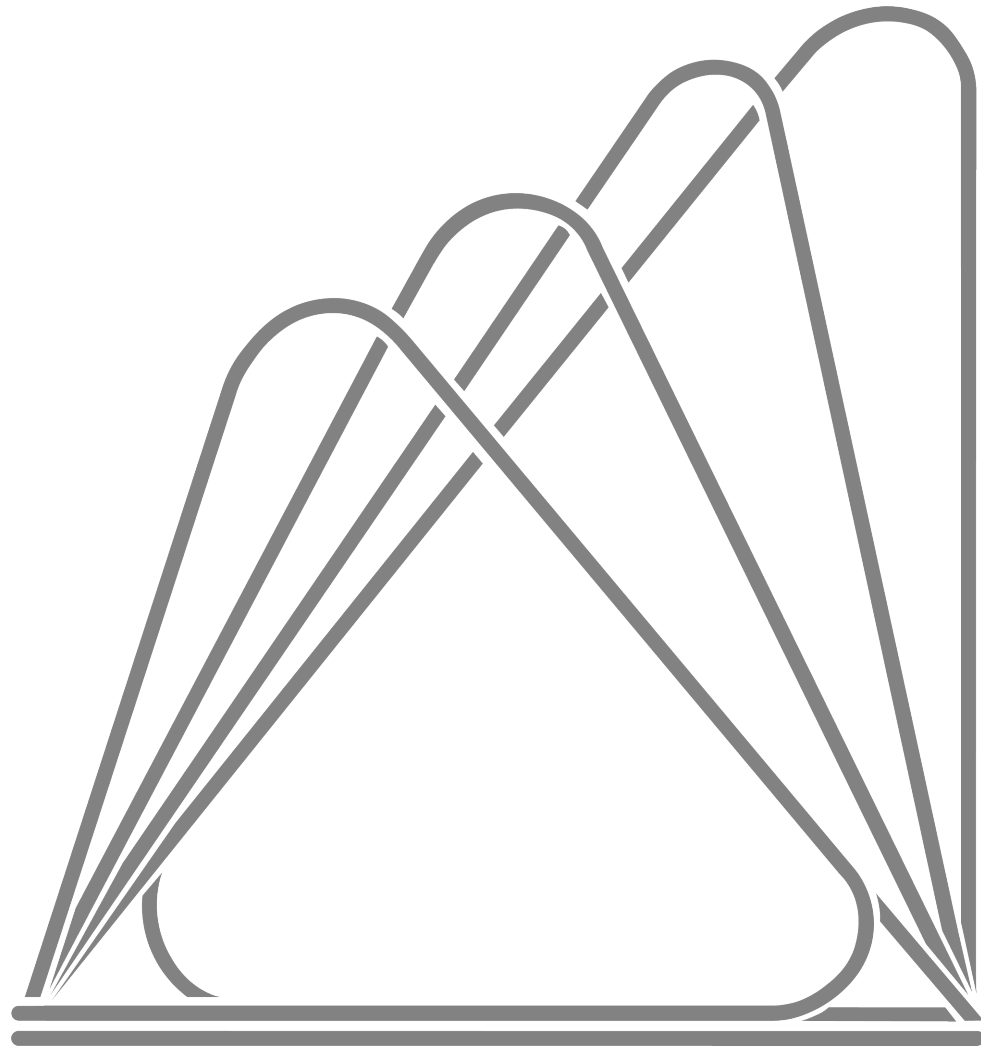




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- S1 Plan
- S2 Northeast Section
- S3 Southwest Elevation
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- S7 Opening Mechanism Detail
- S8 Schedule
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- S11 Structure Components
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- S13 Conduit Measurement
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- S18 Edge Detail
- S19 Stakes Detail
- S20 Handle Detail
- S21 Assembly/ Disassembly
- S22 Transportation

Content Page

For Review

09.10.2017

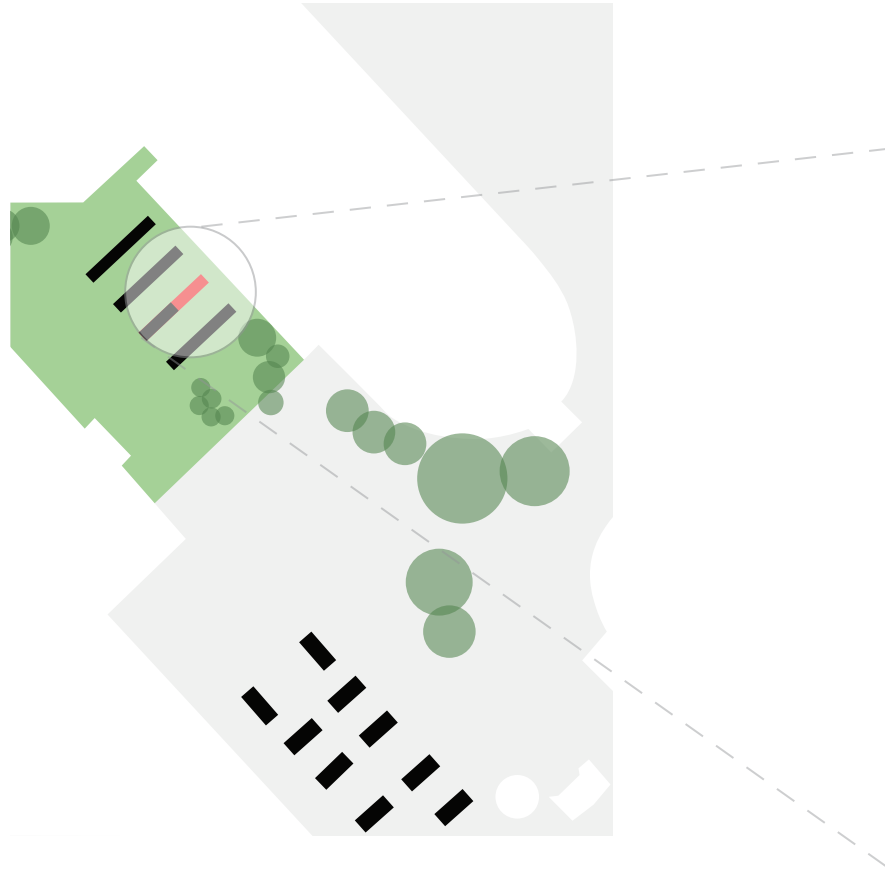
Hoop House

Phipps Conservatory Rooftop Garden

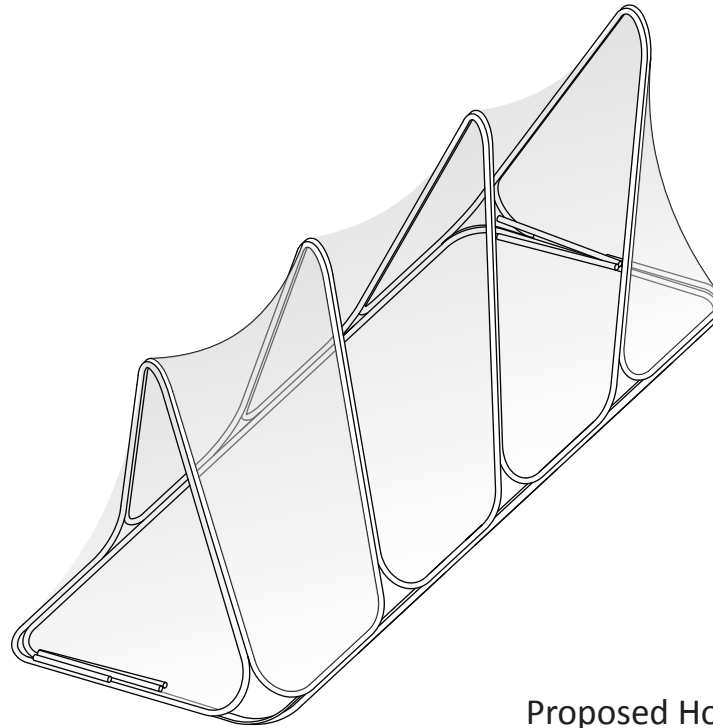
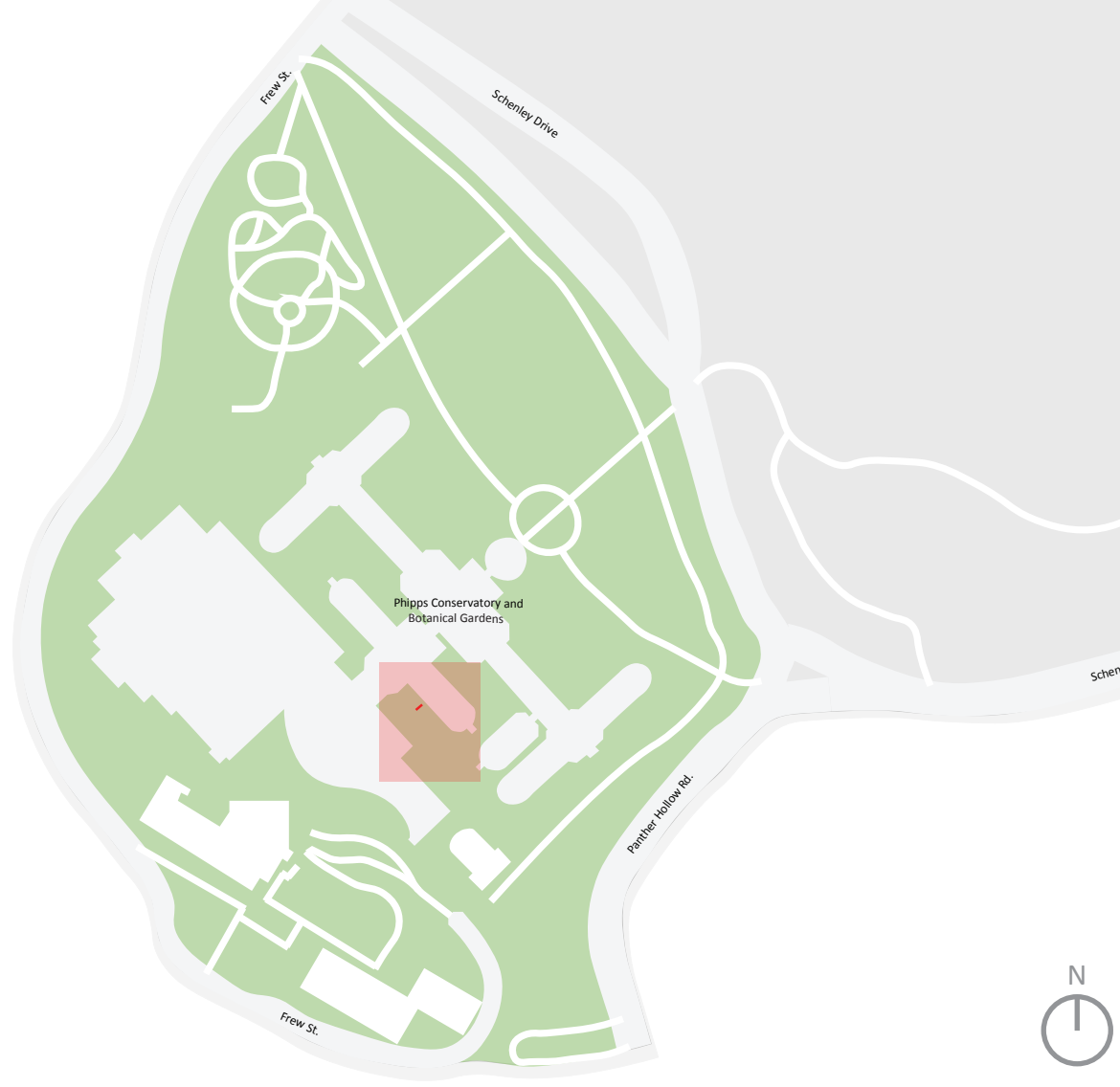
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Ale Meza
Isabella Ouyang
Anthony Ra

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City of Pittsburgh
Phipps Conservatory



Proposed Hoop House



Site Plan

For Review

Scale: 1/2" = 1'

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SO



Grass Walkway

Planter Bed

Grass Walkway

Planter Bed

Grass Walkway

Planter Bed

Grass Walkway

Hoop House

Hoop House

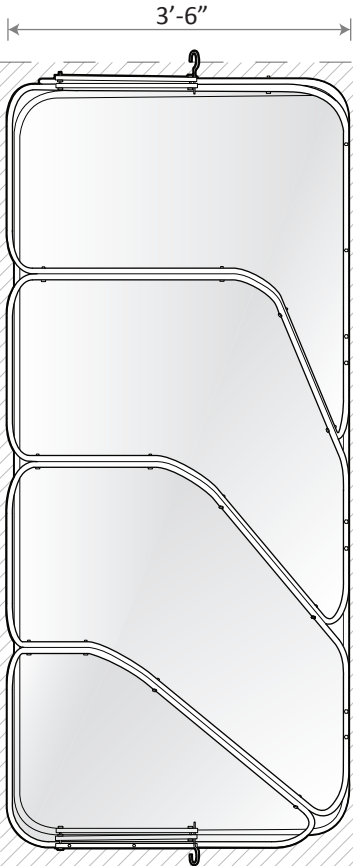
Planter Bed

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4'-4"

3'-4"

3'-0"



3'-6"

10'-8"

Plan

For Review

Scale: 1/2" = 1'

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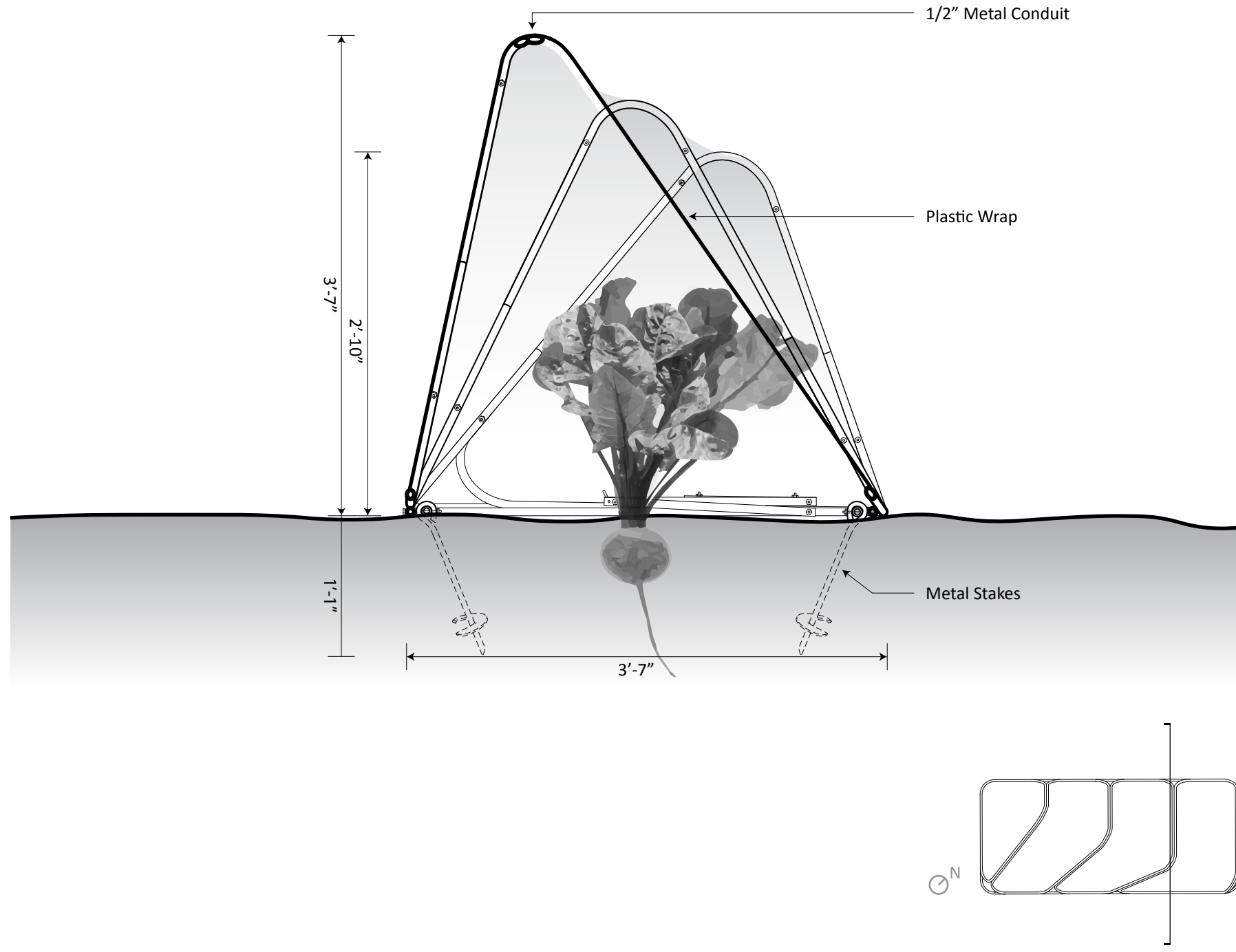
S1

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Section - Northeast

For Review

Scale: 1" = 1'

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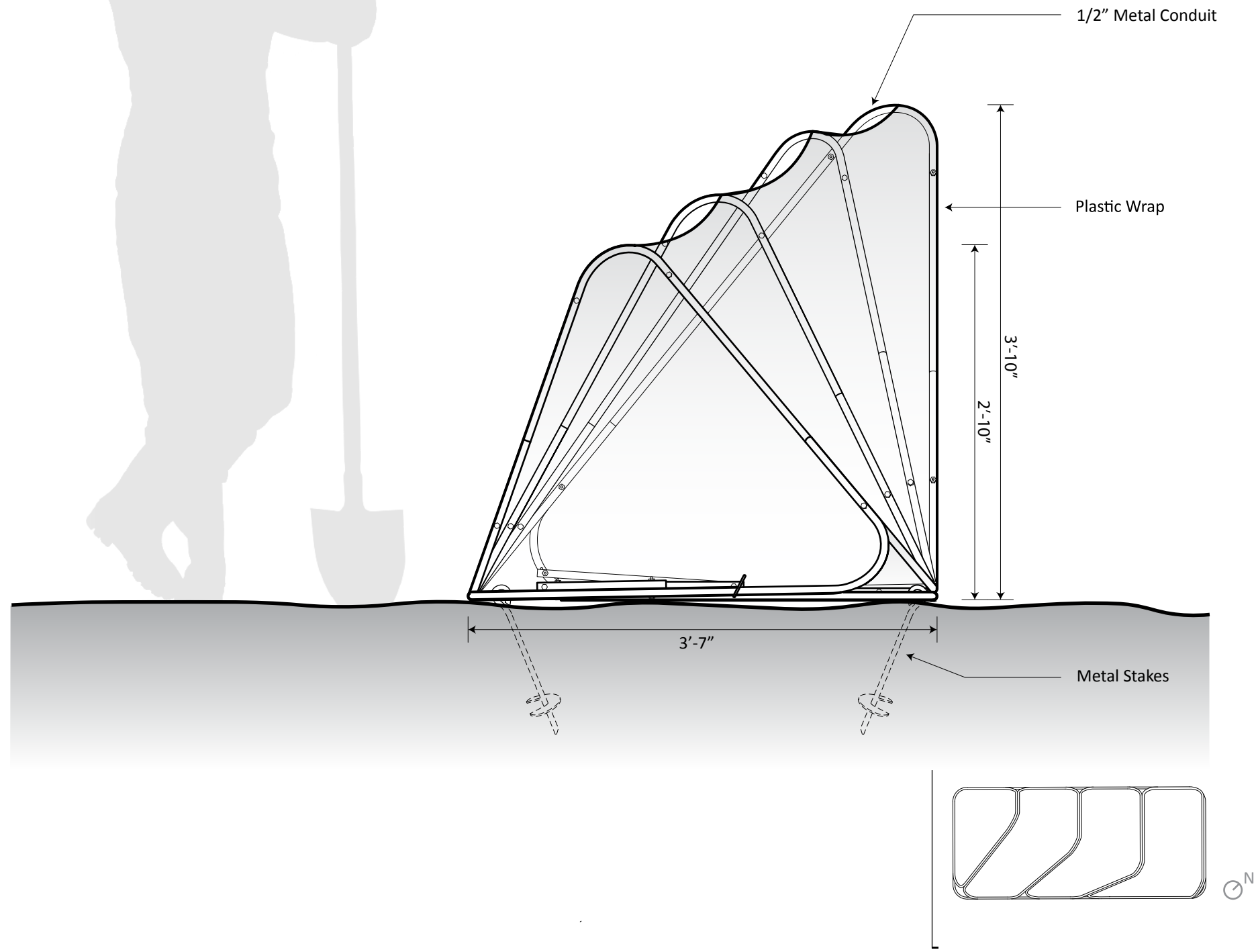
S2

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Elevation - Southwest

For Review

Scale: 1" = 1'

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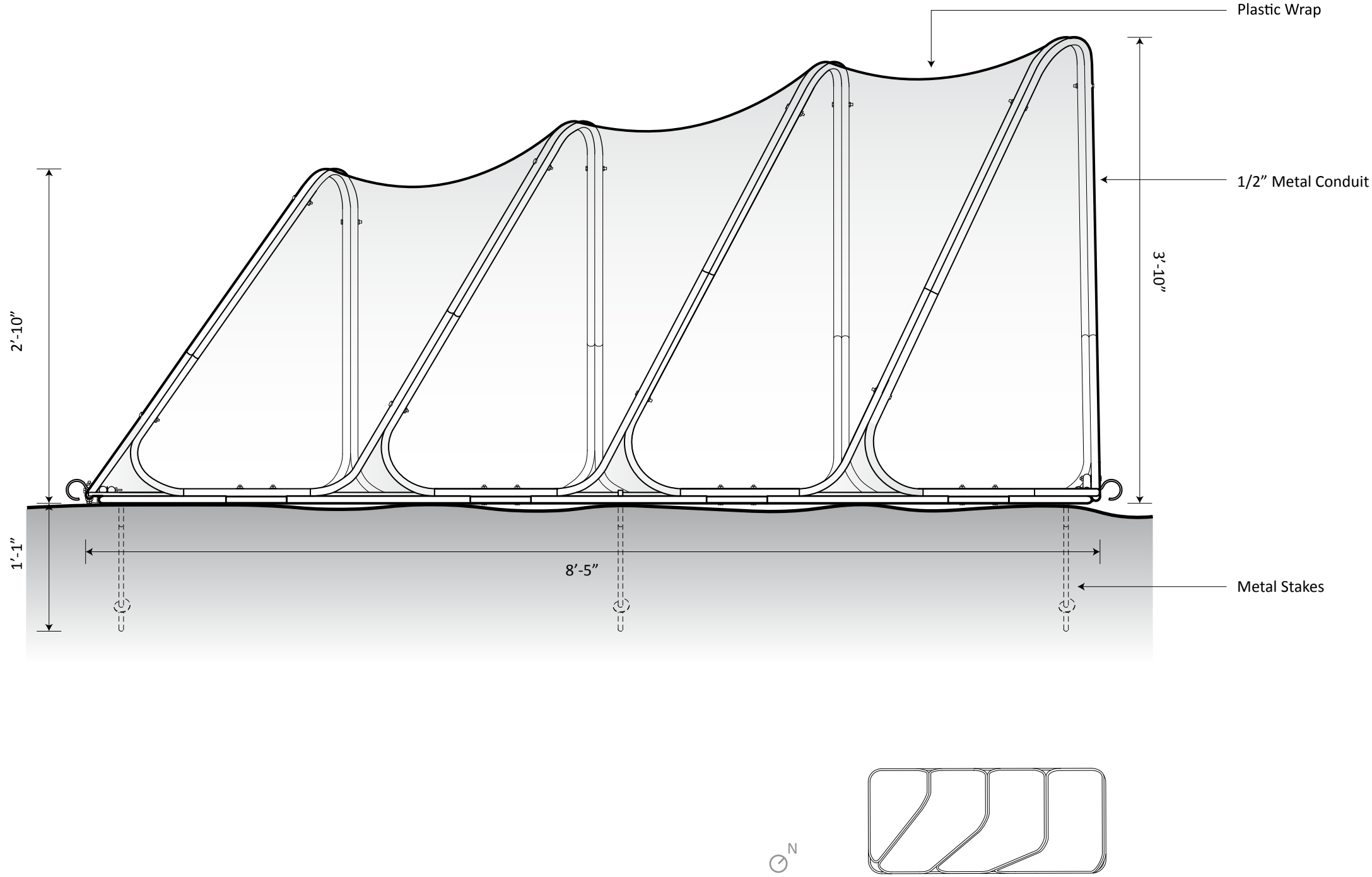
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Elevation - Northwest

For Review

Scale: 1/4" = 1'

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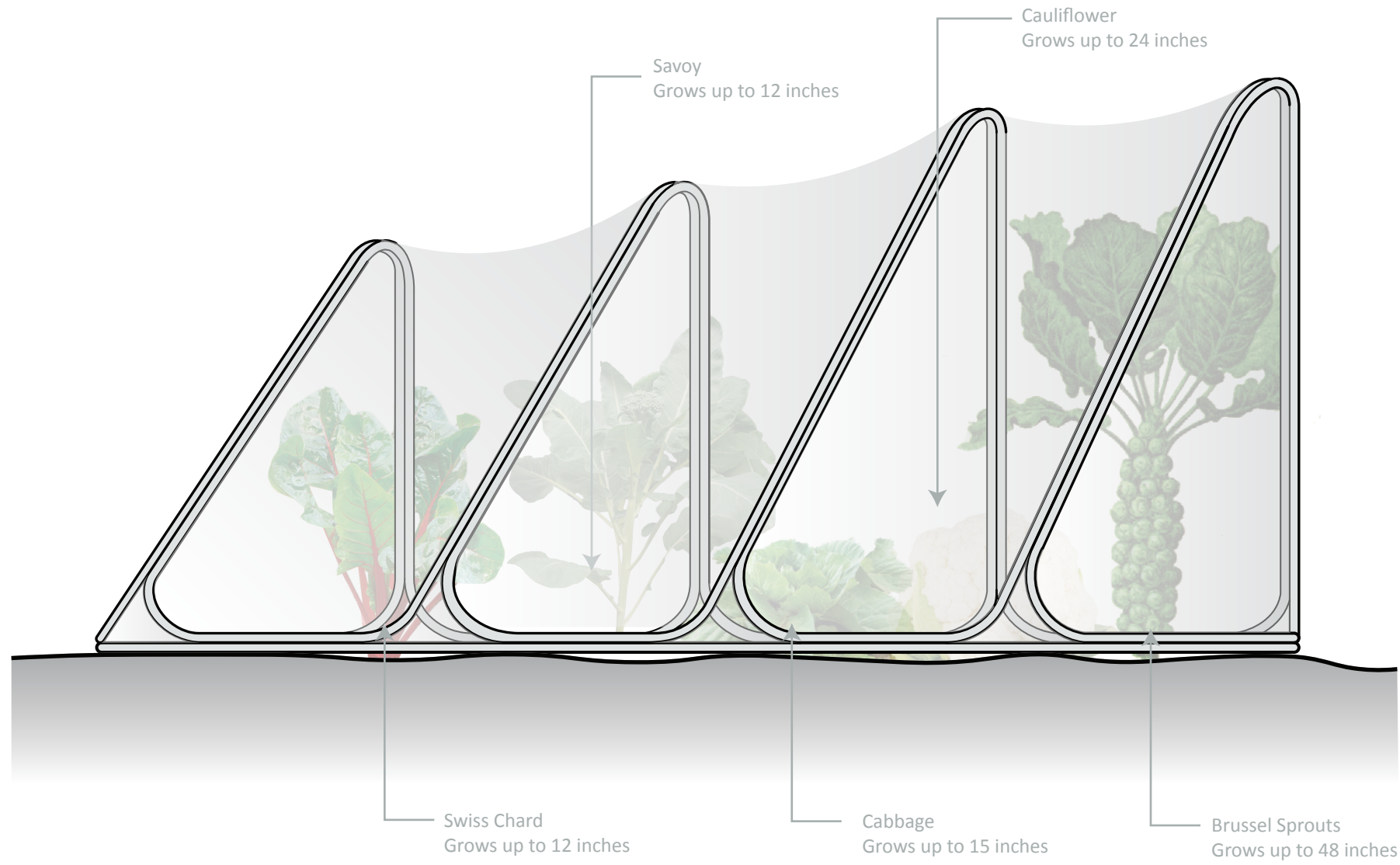
S4

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Planting Diagram

For Review

Scale: 1"= 1'

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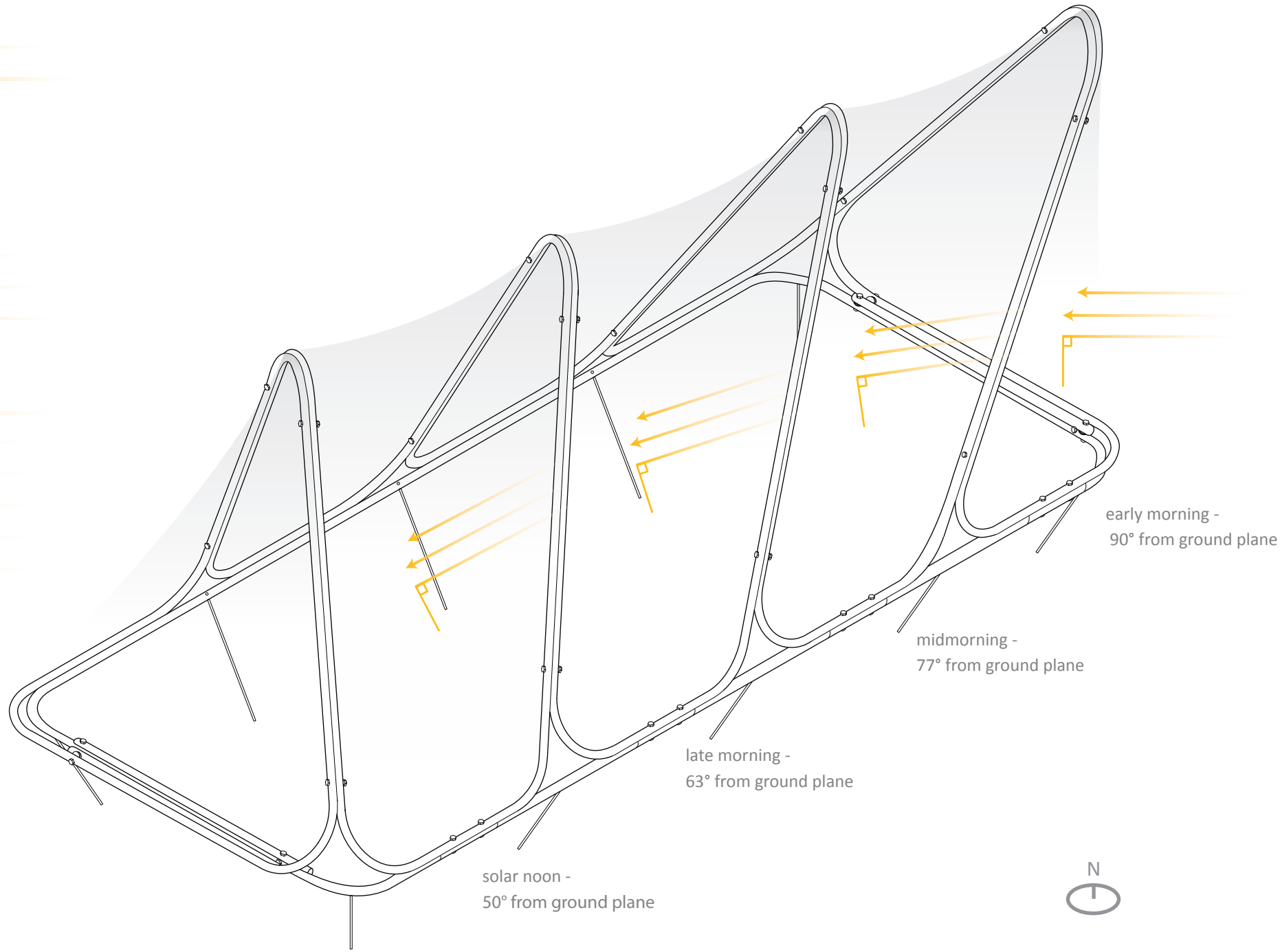
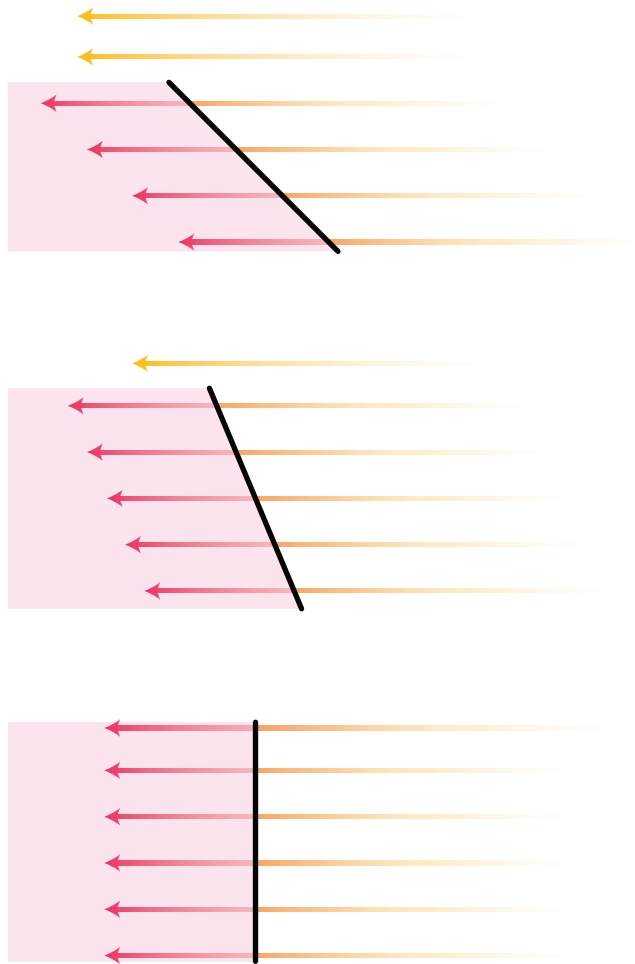
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Maximizing Sunlight Collection
through Hoop House Surface



Sun Angles Diagram

For Review

Scale: 1"= 1'

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Hoop House

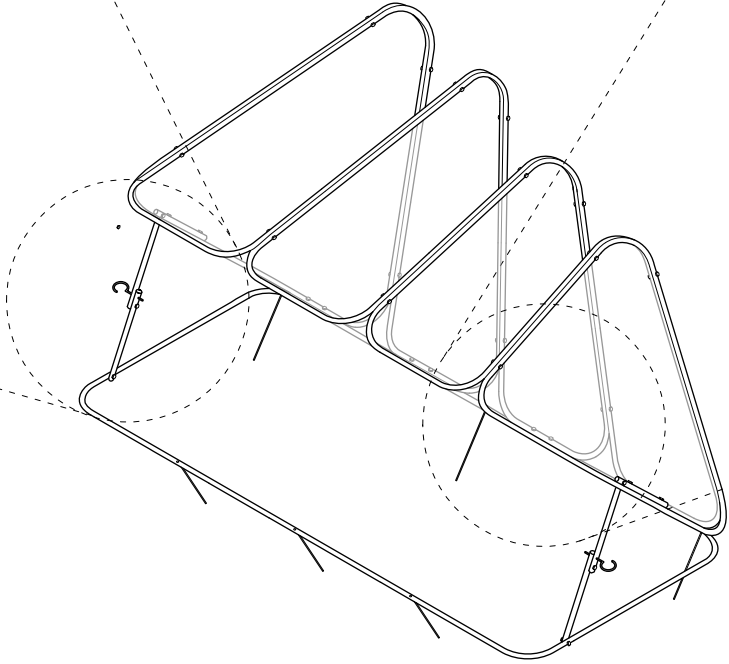
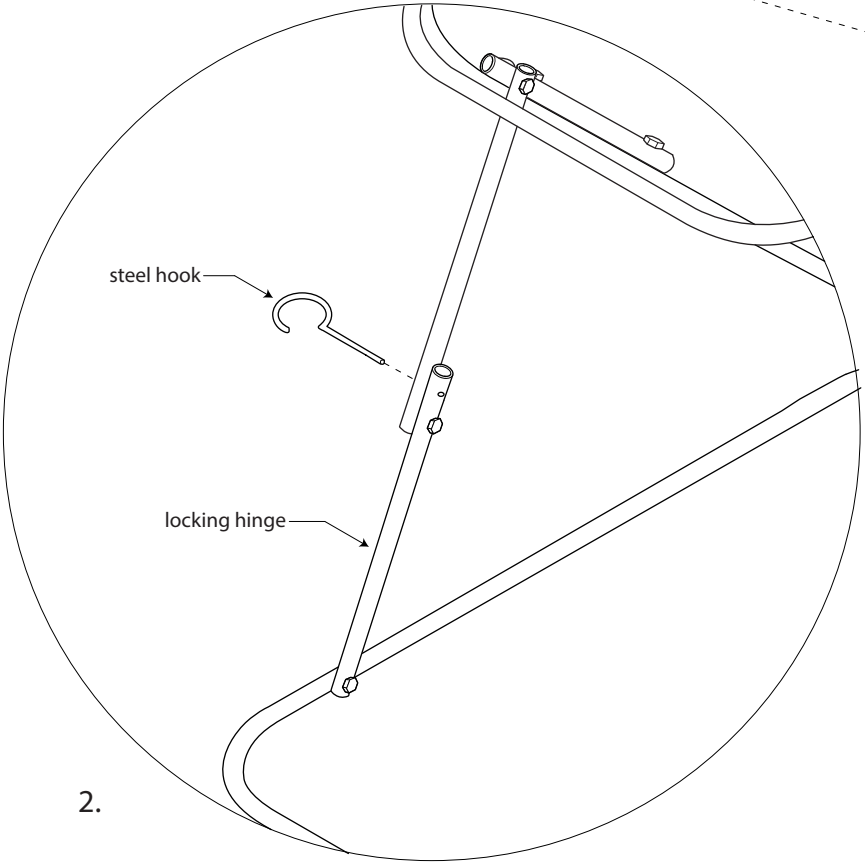
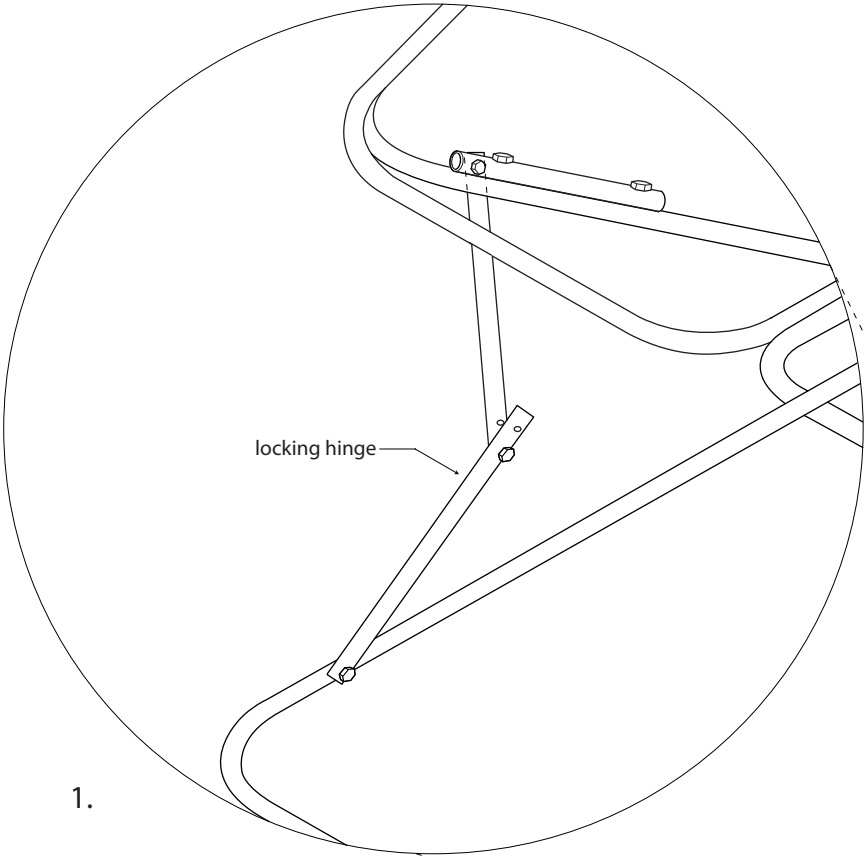
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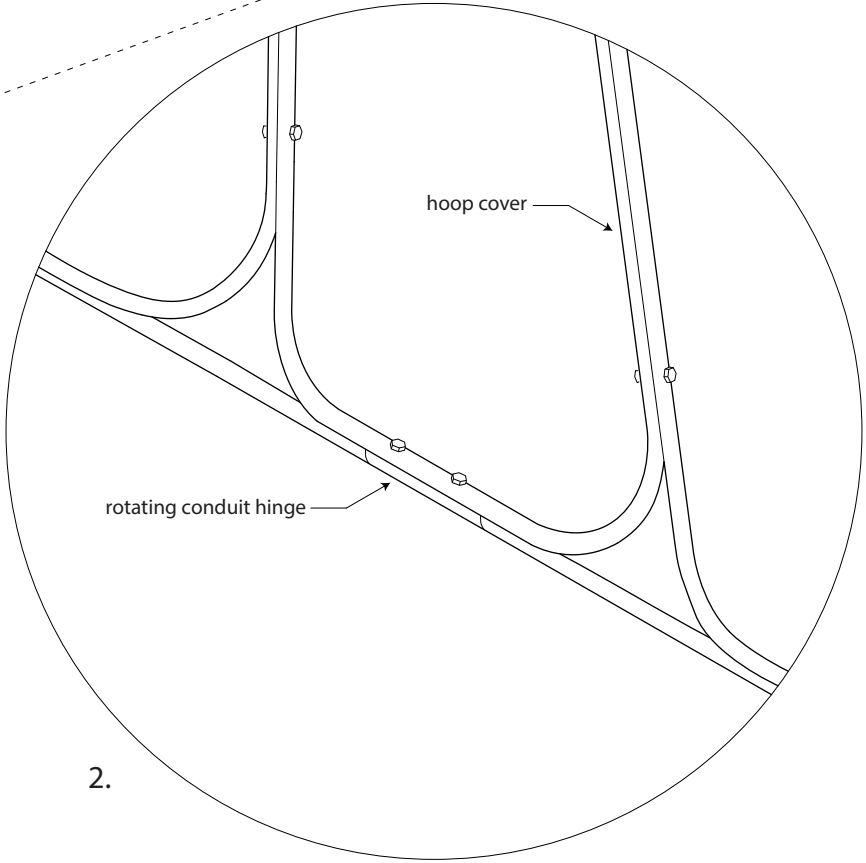
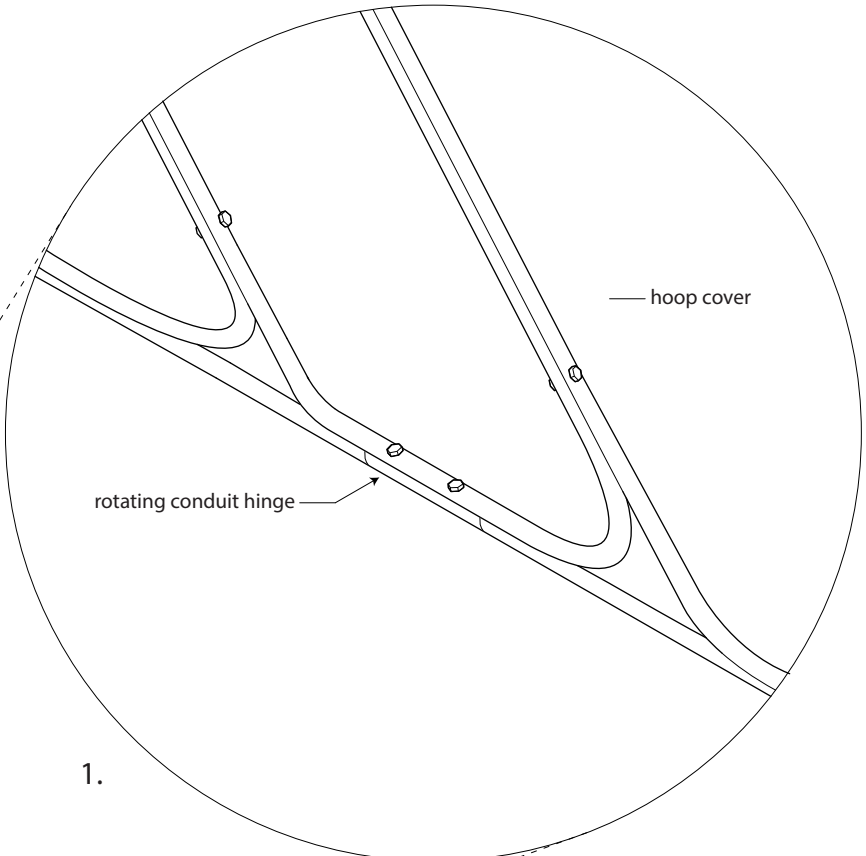
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S6

Locking Hinge Sequence



Rotating Hinge Detail



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Opening Mechanism Detail

For Review

Scale: 1" - 1'

09.10.2017

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S7

Monday Oct. 9th

Cut and Bend Conduit Panel Components
Cut Plastic Panels

Tuesday Oct. 10th

Cut and Bend Conduit Panel Components
Mark placement for holes

Wednesday Oct. 11th

Drill holes in conduit
Assemble panels
Begin attaching plastic to panels (once holes are drilled)

Thursday Oct. 12th

Finish attaching plastic to panels
Build Bracing

Friday Oct. 13th

Heat Shrink Plastic

Saturday Oct. 14th

Cut and Bend Conduit Base
Drill Holes in Base

Sunday Oct. 15th

Create and install triangle panels (edge details)

Monday Oct. 16th

Create and assemble handles on panel
Create and assemble opening mechanism

Tuesday Oct. 17th

Test assembly and movement then address possible problems

Wednesdy Oct. 18th

Transportation and Installation

Construction Schedule

For Review

Scale: N/A

09.10.2017

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Alejandra Meza
Isabella Ouyang
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Part	Quantity	Price per Unit	Total Cost	
1/2" Steel Conduit	140' - 9" (includes 3"tolerance for error on each bent piece)	\$2.00 per 10' length	\$30	
1/2" PVC Pipe	116"	\$2.17 per 10' length	\$2.17	
3/8" Aluminum Tube	64"	\$10 per 36" length	\$20	
1/4" x 2" Bolts	32	\$5.28 per 50 pack	\$5.28	
1/4" x 4" Bolts	4	\$4.17 per 25 pack	\$4.17	
1/4" Nuts	44	\$2.87 per 50 pack	\$2.87	
1/4" Washers	18	\$2.46 per 25 pack	\$2.46	
Acrylic Sheet	1	\$2.98 per 0.05" x10" x 8" sheet	\$2.98	
1/4" x 3-3/4 Threaded Hook	2	\$0.62	\$1.24	
1/2" 15" Stakes	8	\$3.28	\$26.24	
Grand Total \$97.41				

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Material and Budget List

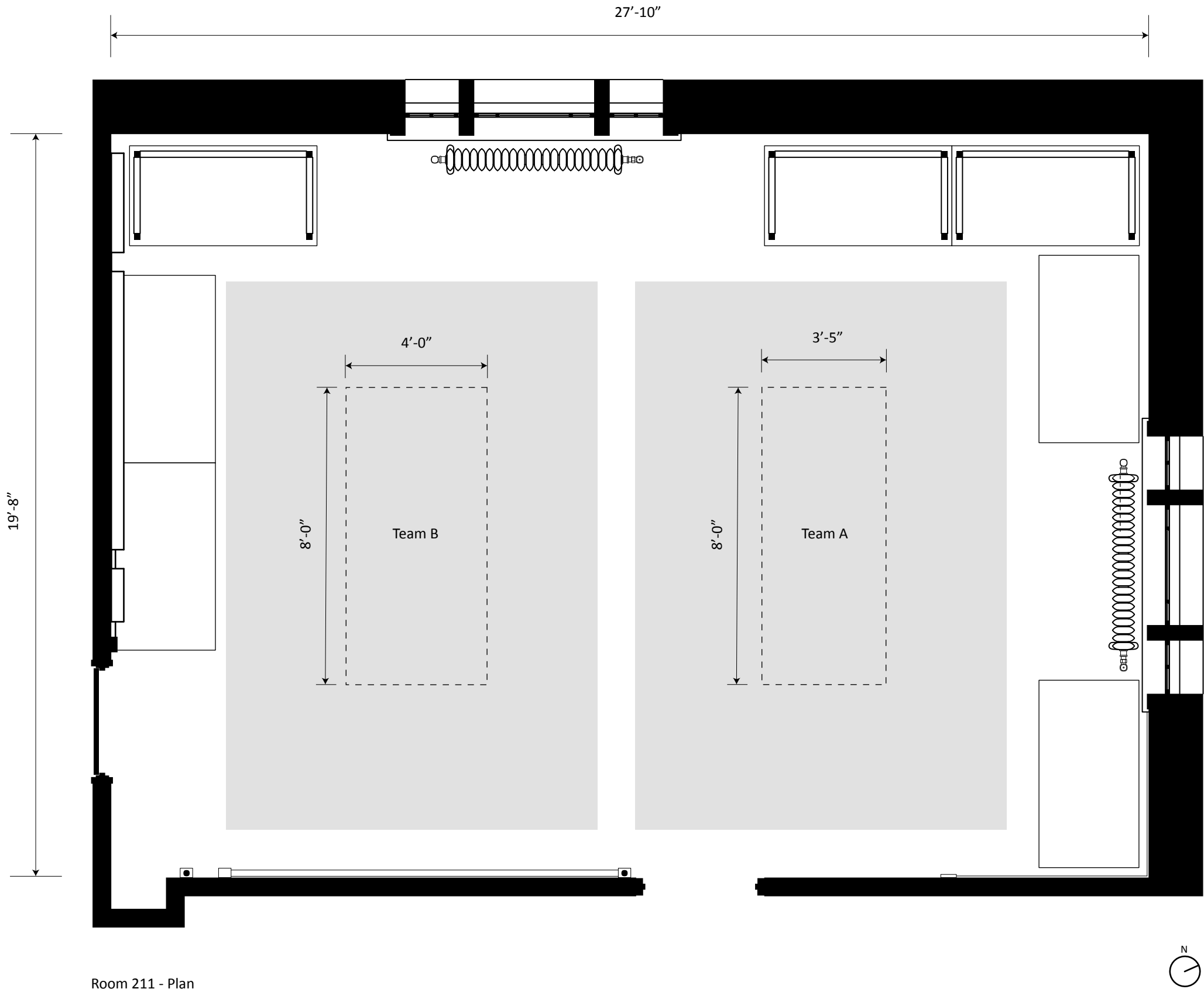
For Review

Scale: N/A

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Studio Setup

For Review

Scale: 1/3" = 1'

09.10.2017

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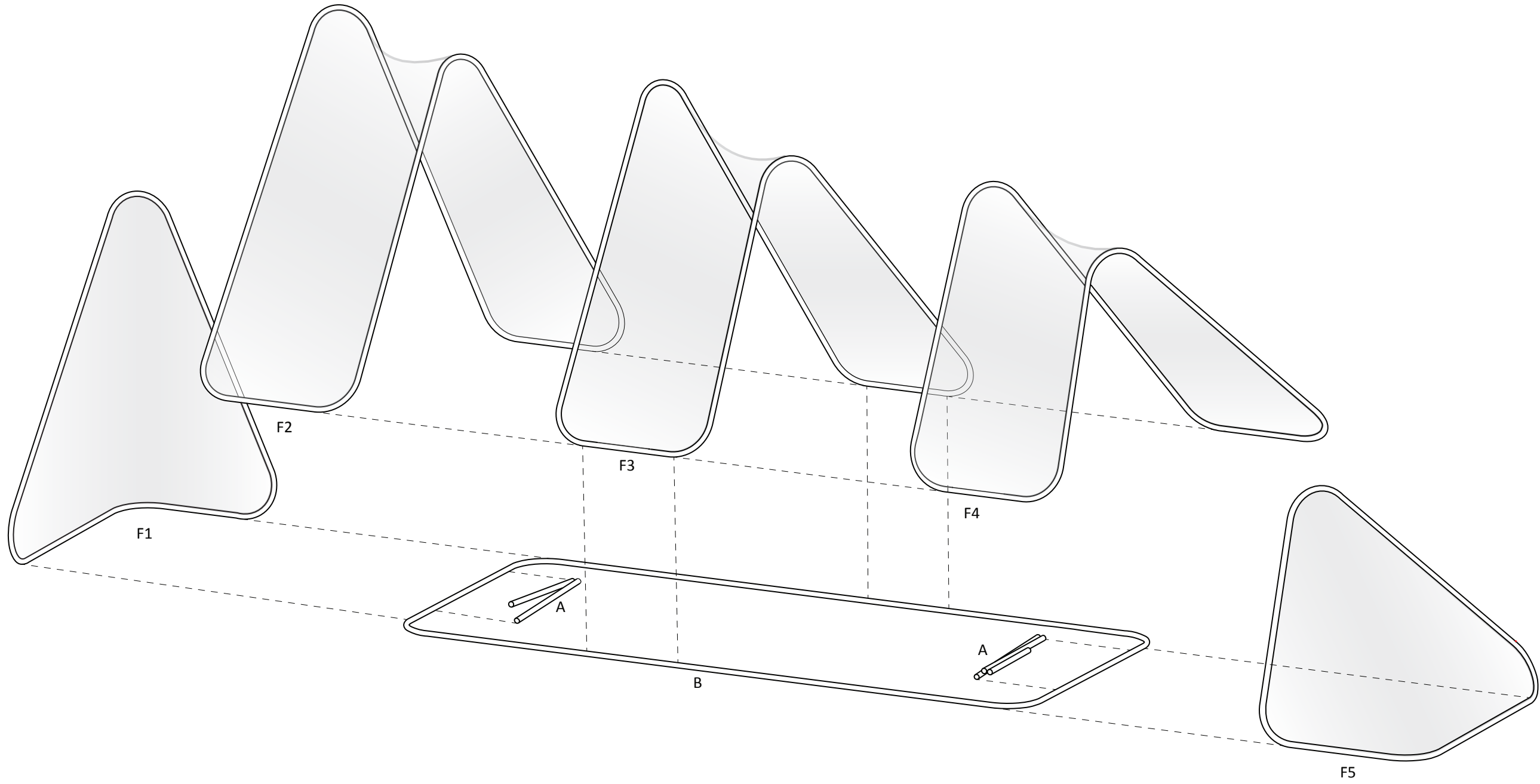
S10

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Structure Components

For Review

Scale: N/A

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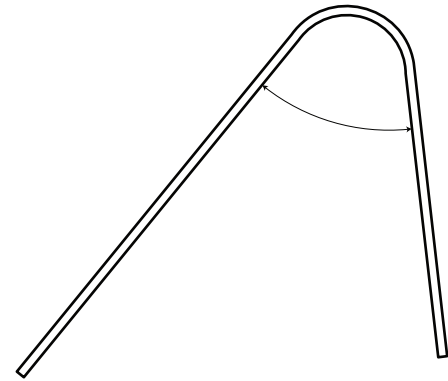
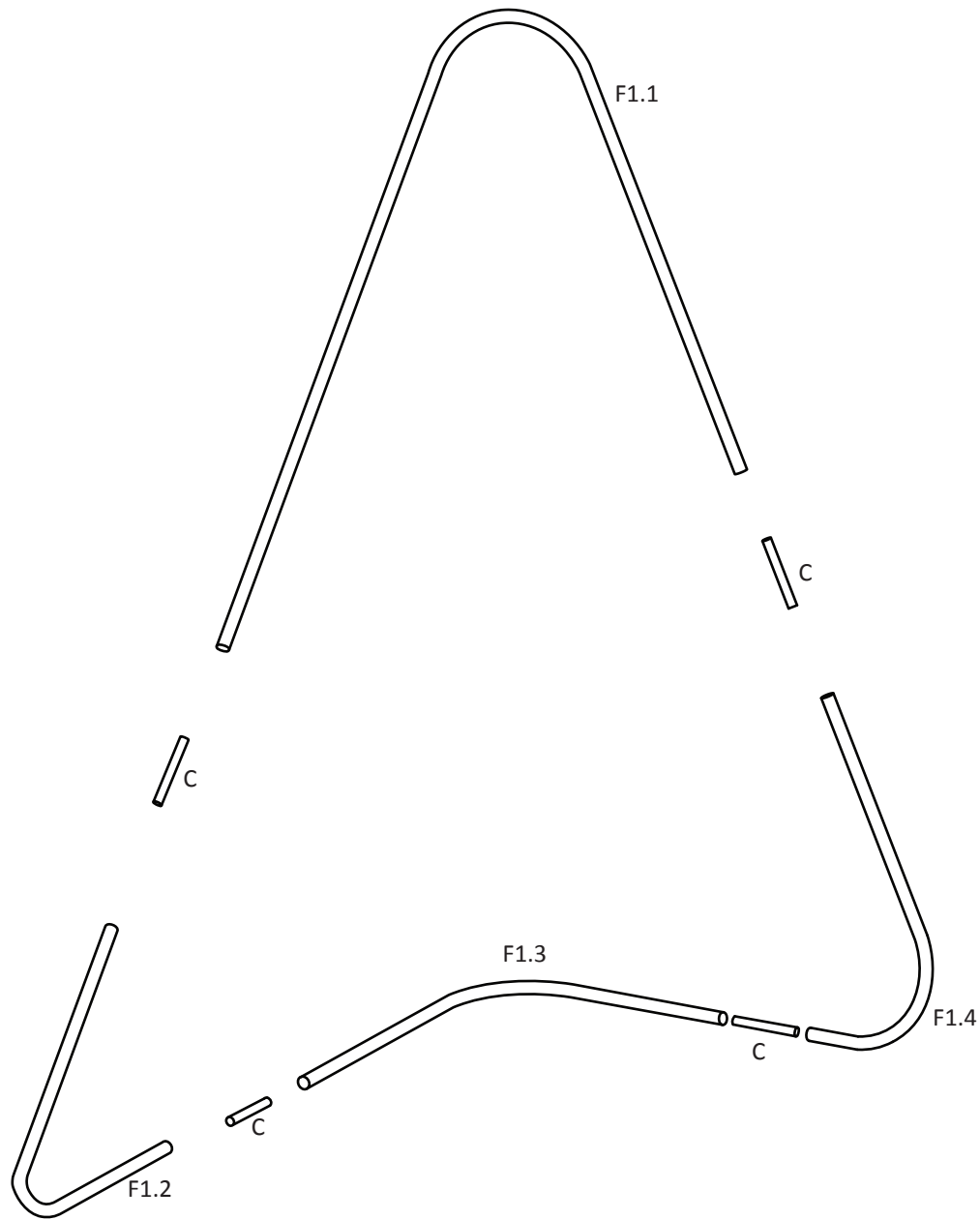
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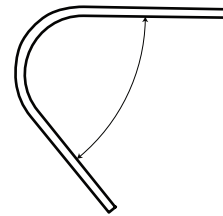
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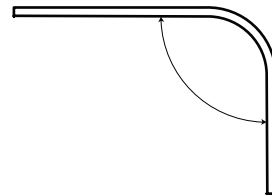
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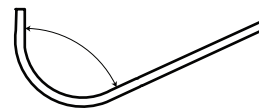
F1.1
Material: Conduit
Length: 72"
Bend: 45.75°



F1.2
Material: Conduit
Length: 34"
Bend: 51.2°



F1.3
Material: Conduit
Length: 34"
Bend: 90°



F1.4
Material: Conduit
Length: 27"
Bend: 65.4°



C x 4
Material: PVC
Length: 4"

Panel Components - F1

For Review

Scale: N/A

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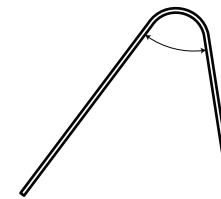
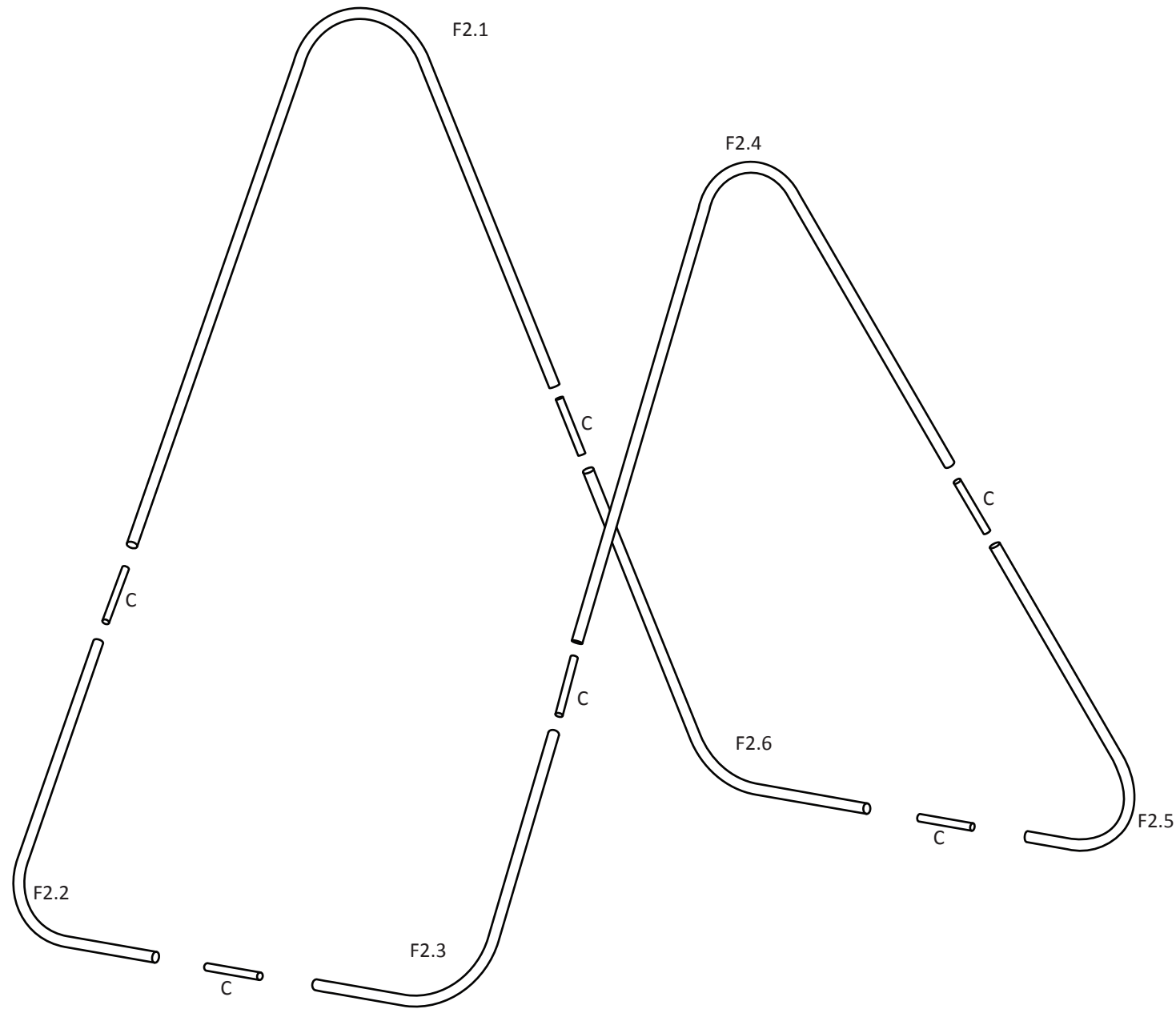
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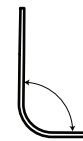
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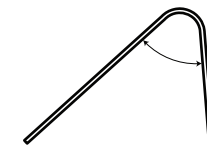
F2.1
Material: Conduit
Length: 71"
Bend: 45.75°



F2.2
Material: Conduit
Length: 31"
Bend: 90°



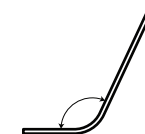
F2.3
Material: Conduit
Length: 30"
Bend: 90°



F2.4
Material: Conduit
Length: 61"
Bend: 52.5°



F2.5
Material: Conduit
Length: 31"
Bend: 62.9°



F2.6
Material: Conduit
Length: 34"
Bend: 115°



C x 6
Material: PVC
Length: 4"

Panel Components - F2

For Review

Scale: N/A

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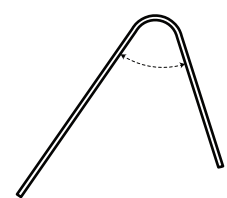
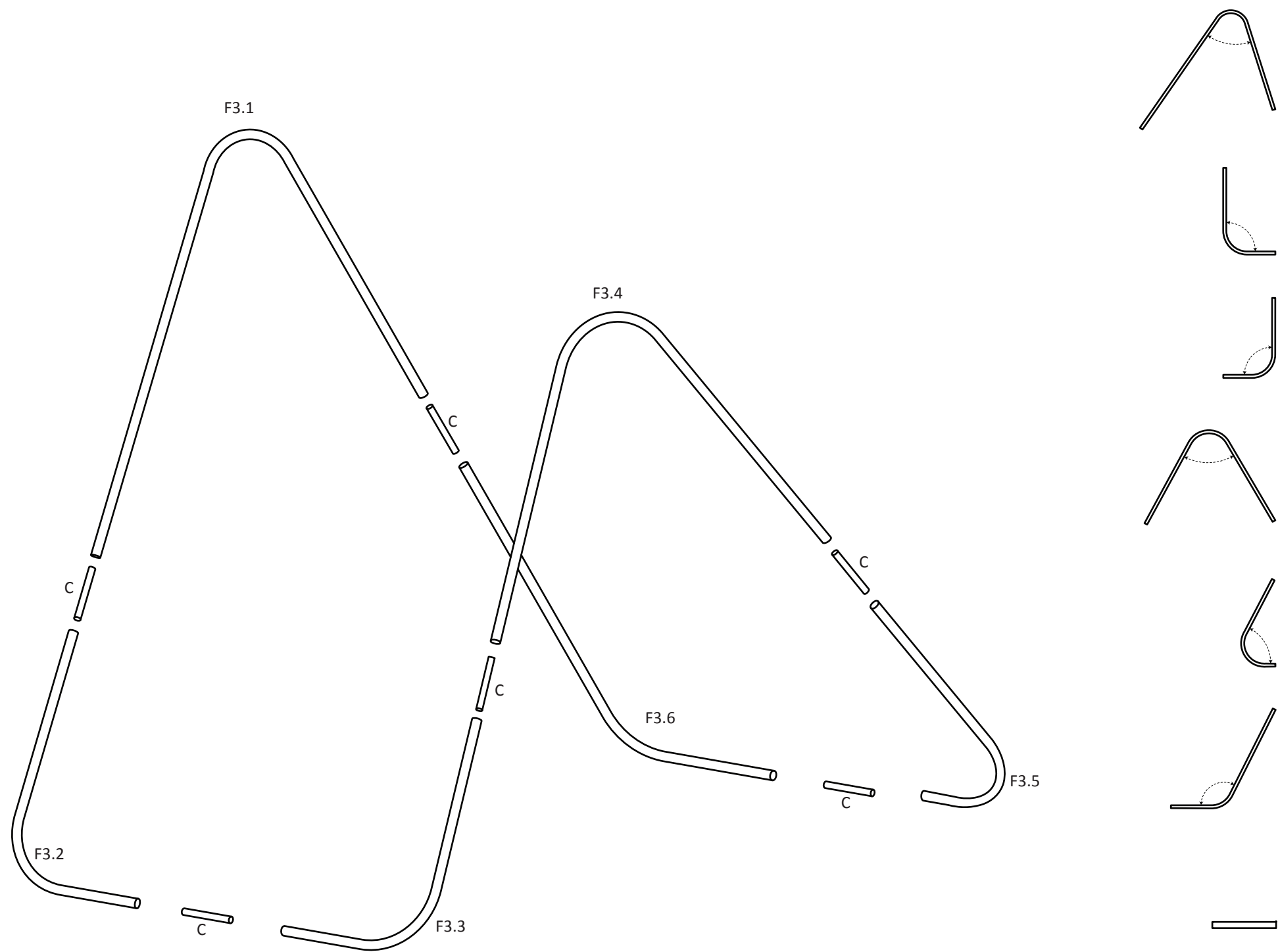
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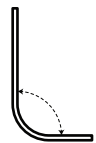
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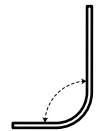
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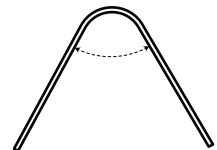
F3.1
Material: Conduit
Length: 61”
Bend: 52.5°



F3.2
Material: Conduit
Length: 30”
Bend: 90°



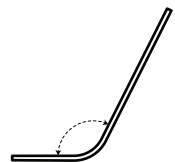
F3.3
Material: Conduit
Length: 28”
Bend: 90°



F3.4
Material: Conduit
Length: 53.5”
Bend: 58.5°



F3.5
Material: Conduit
Length: 27.5”
Bend: 63.5°



F3.6
Material: Conduit
Length: 37.5”
Bend: 118°



C x 6
Material: PVC
Length: 4”

Panel Components - F3

For Review

Scale: N/A

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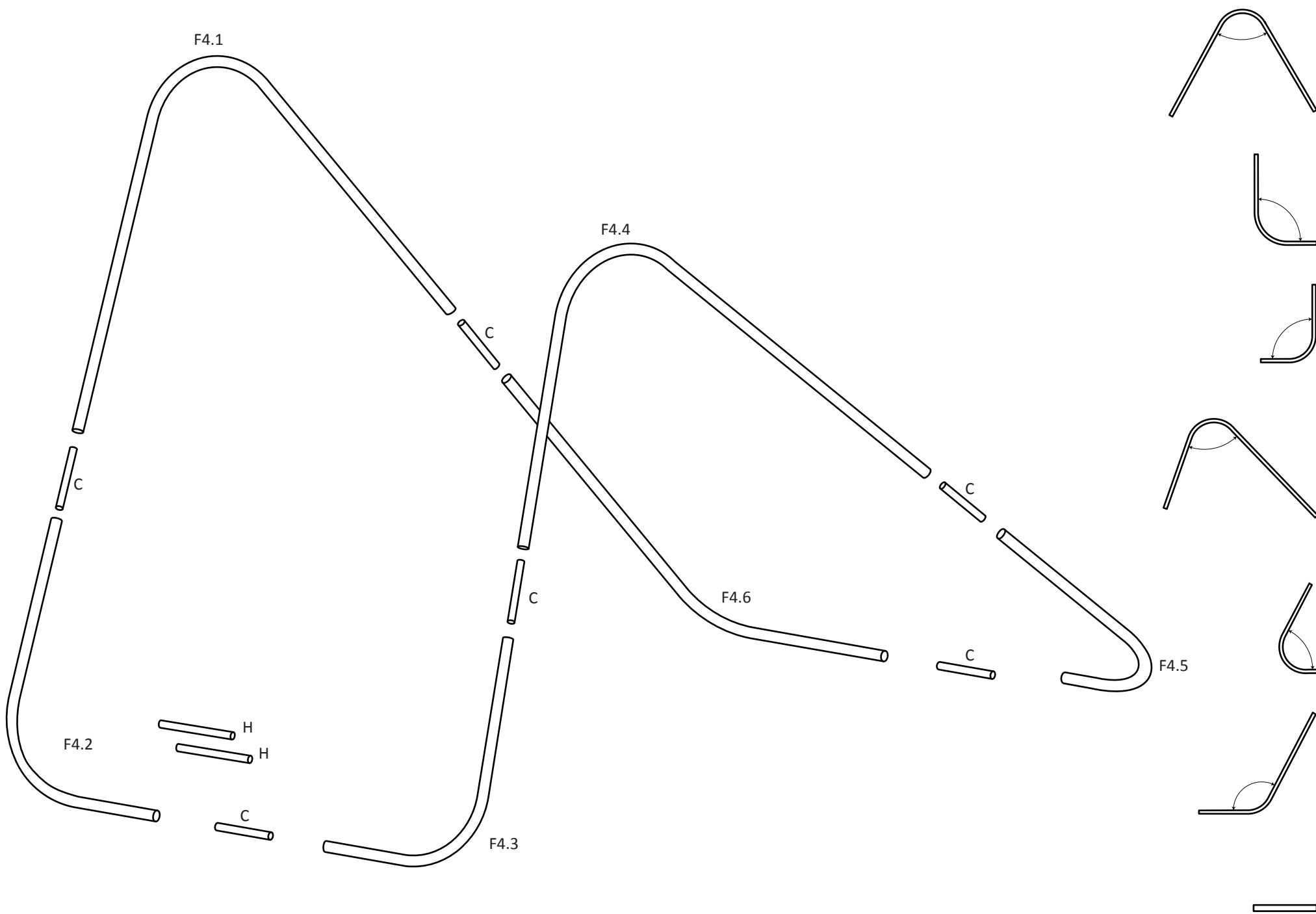
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S12



- F4.1

Material: Conduit
Length: 53”
Bend: 58.5°
- F4.2

Material: Conduit
Length: 29”
Bend: 90°
- F4.3

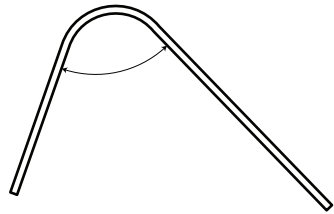
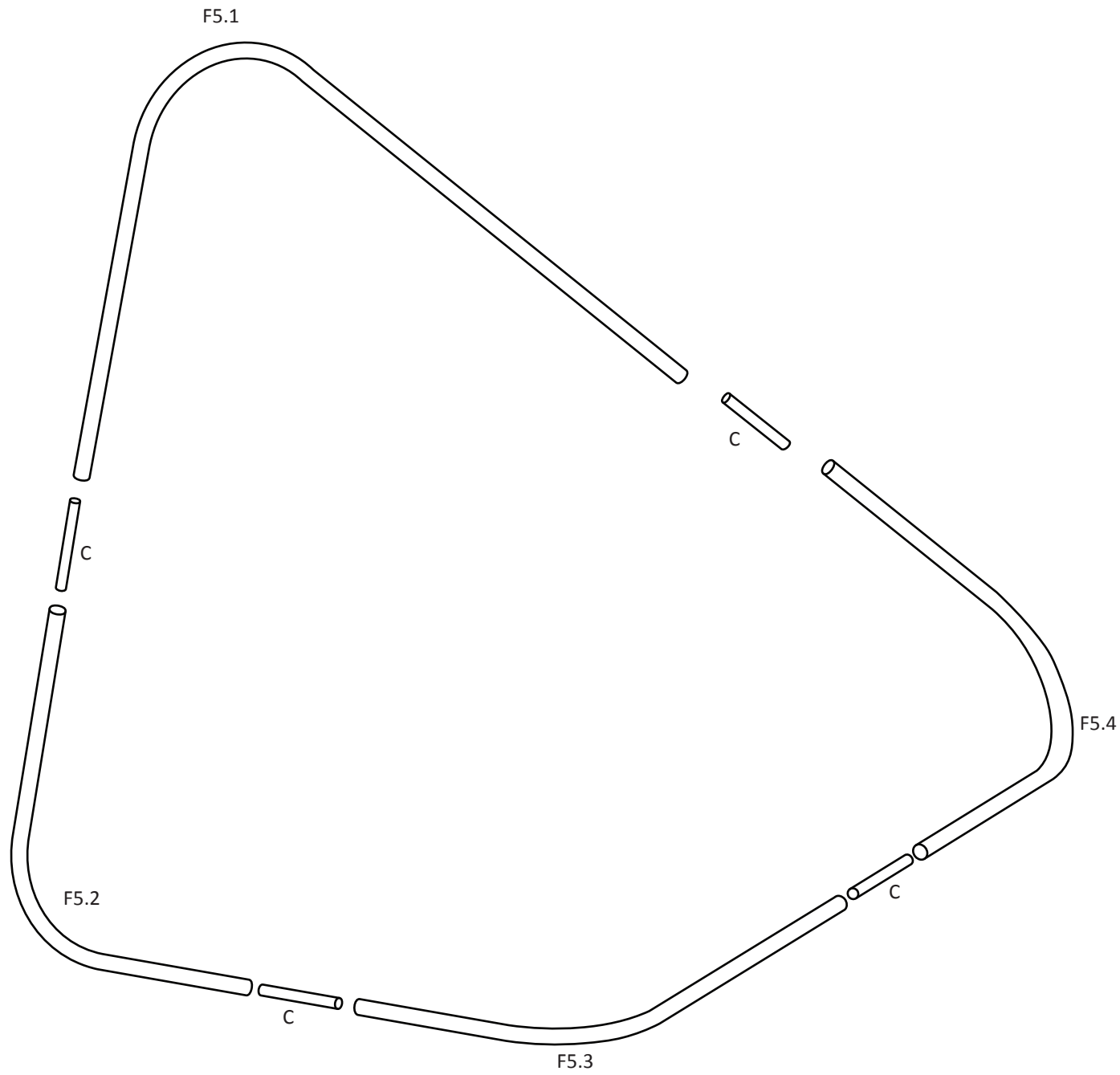
Material: Conduit
Length: 25”
Bend: 90°
- F4.4

Material: Conduit
Length: 51”
Bend: 63.25°
- F4.5

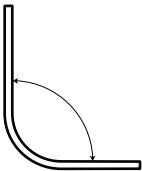
Material: Conduit
Length: 25.5”
Bend: 63.4°
- F4.6

Material: Conduit
Length: 36”
Bend: 118°
- C x 6

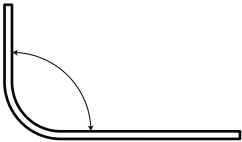
Material: PVC
Length: 4”



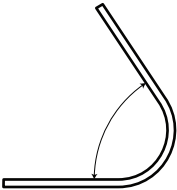
F5.1
Material: Conduit
Length: 51"
Bend: 63.25°



F5.2
Material: Conduit
Length: 26.5"
Bend: 90°



F5.3
Material: Conduit
Length: 33.5"
Bend: 90°



F5.4
Material: Conduit
Length: 34"
Bend: 56.4°



C x 4
Material: PVC
Length: 4"

Panel Components - F5

For Review
Scale: N/A
09.10.2017
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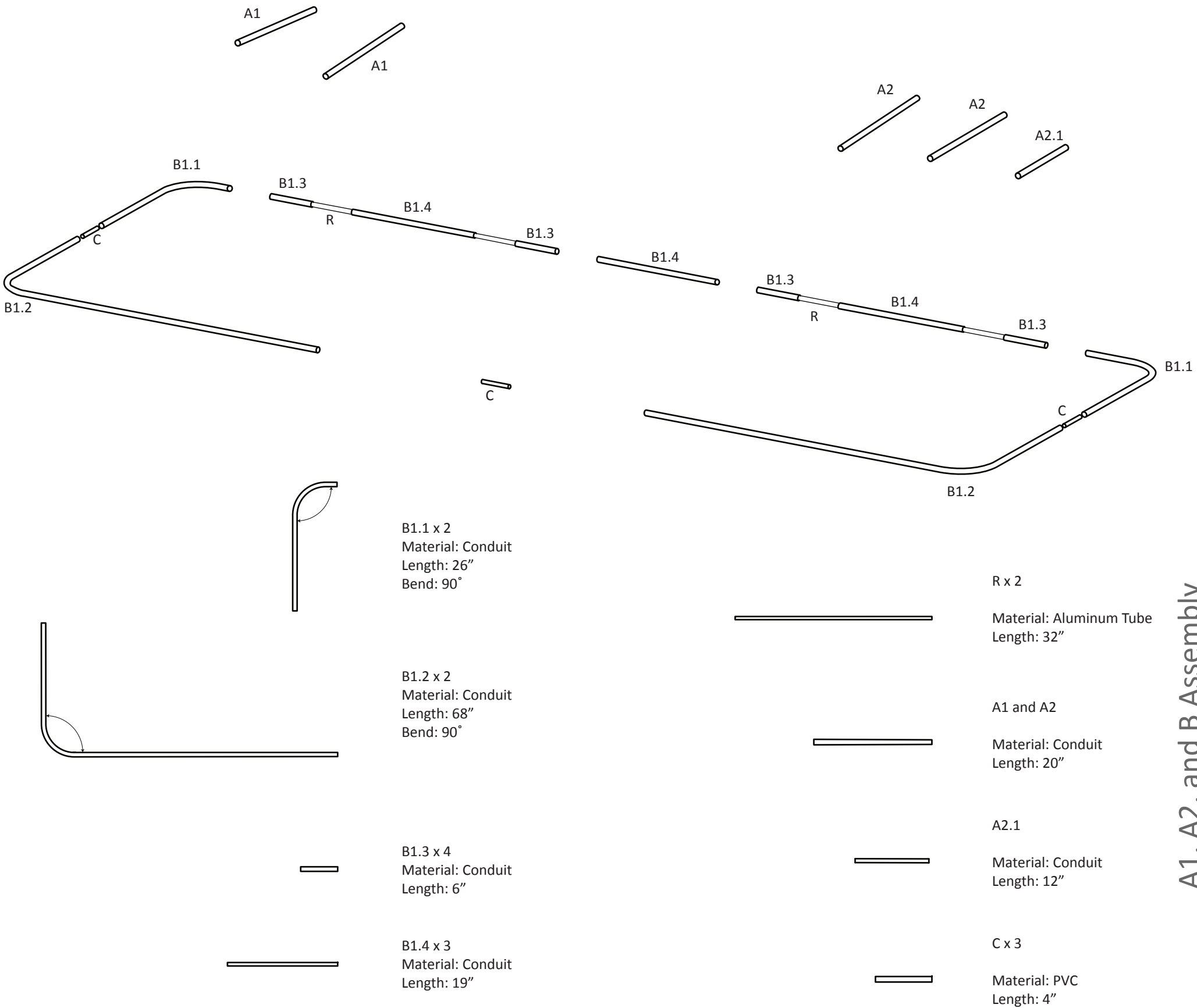
S12

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A1, A2, and B Assembly

For Review
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Panel Components - A1, 12

For Review
Scale: N/A
09.10.2017
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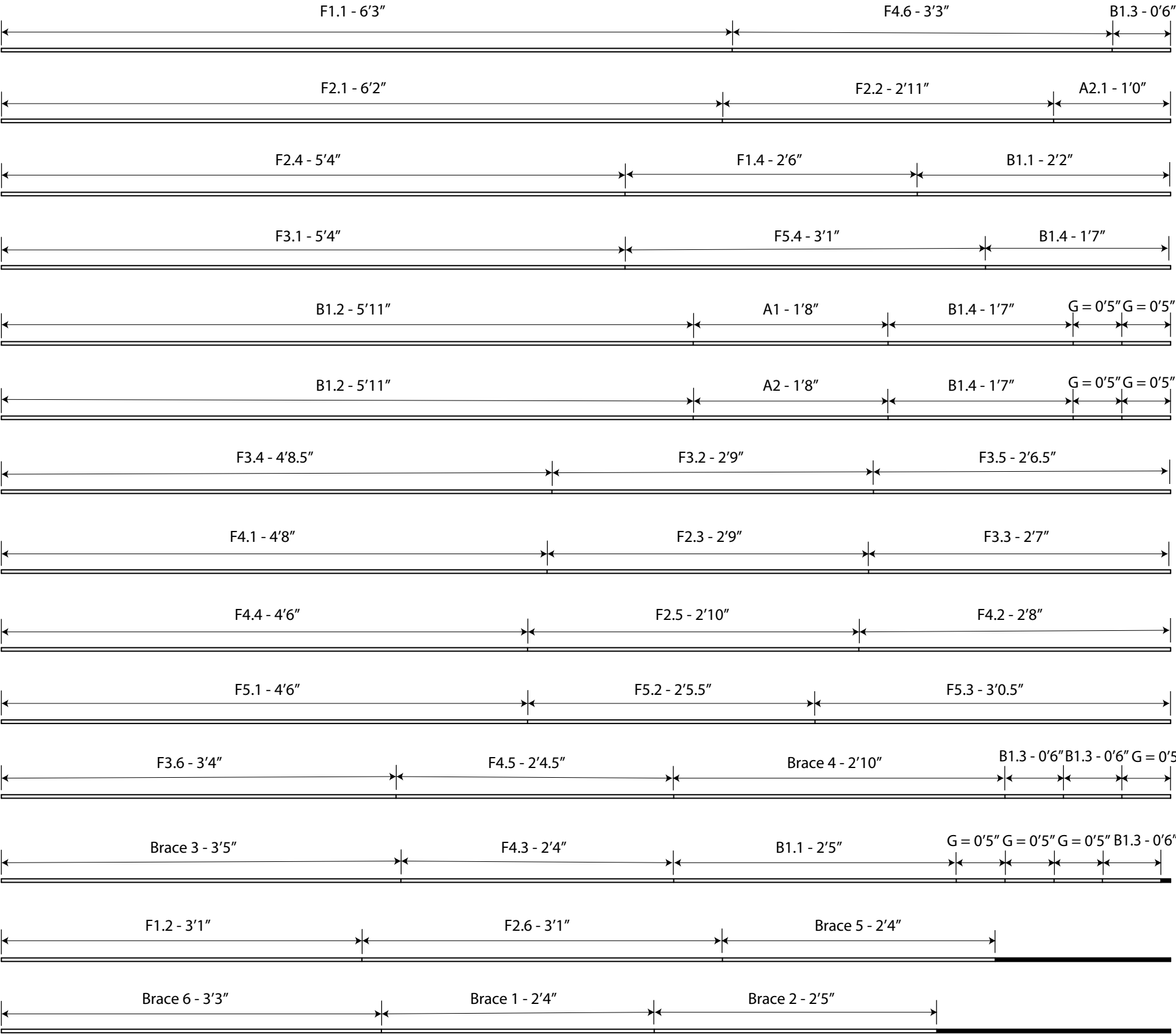
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Conduit Measurement

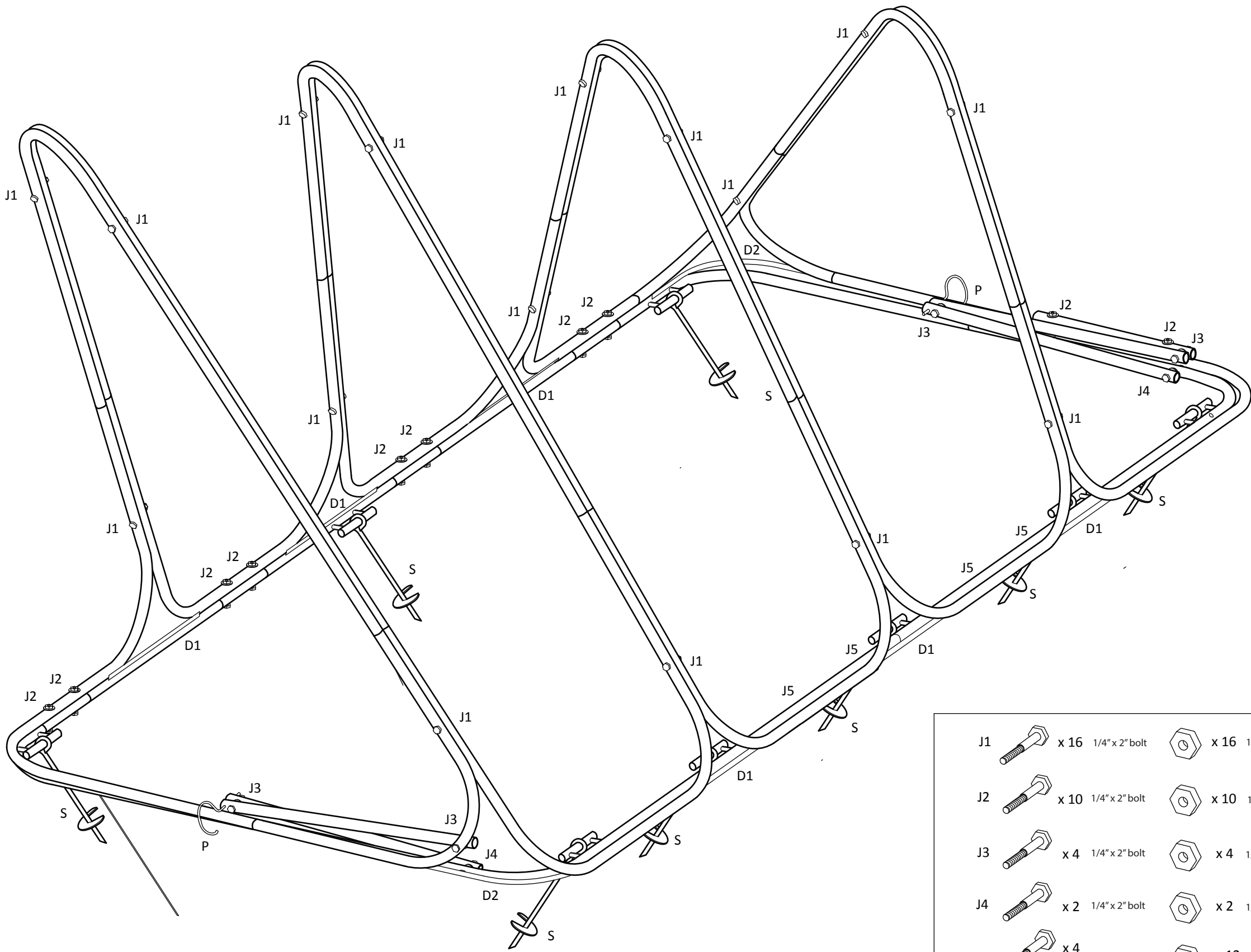
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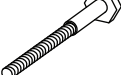
Scale: 1" = 1'

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S13



J1		x 16	1/4" x 2" bolt		x 16	1/4" nut		
J2		x 10	1/4" x 2" bolt		x 10	1/4" nut		x 10 1/4" washer
J3		x 4	1/4" x 2" bolt		x 4	1/4" nut		x 4 1/4" washer
J4		x 2	1/4" x 2" bolt		x 2	1/4" nut		x 4 1/4" washer
J5		x 4	1/4" x 3" bolt		x 12	1/4" nut		
S		x 10	ground anchor	P		x 2	1/4" x 2" steel hook	
D1		x 6	1/2" x 12" acrylic	D2		x 2	1/2" x 16" acrylic strip	

Connection Components

For Review

Scale: 1"=1'

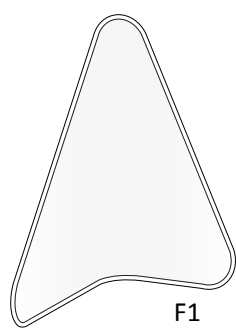
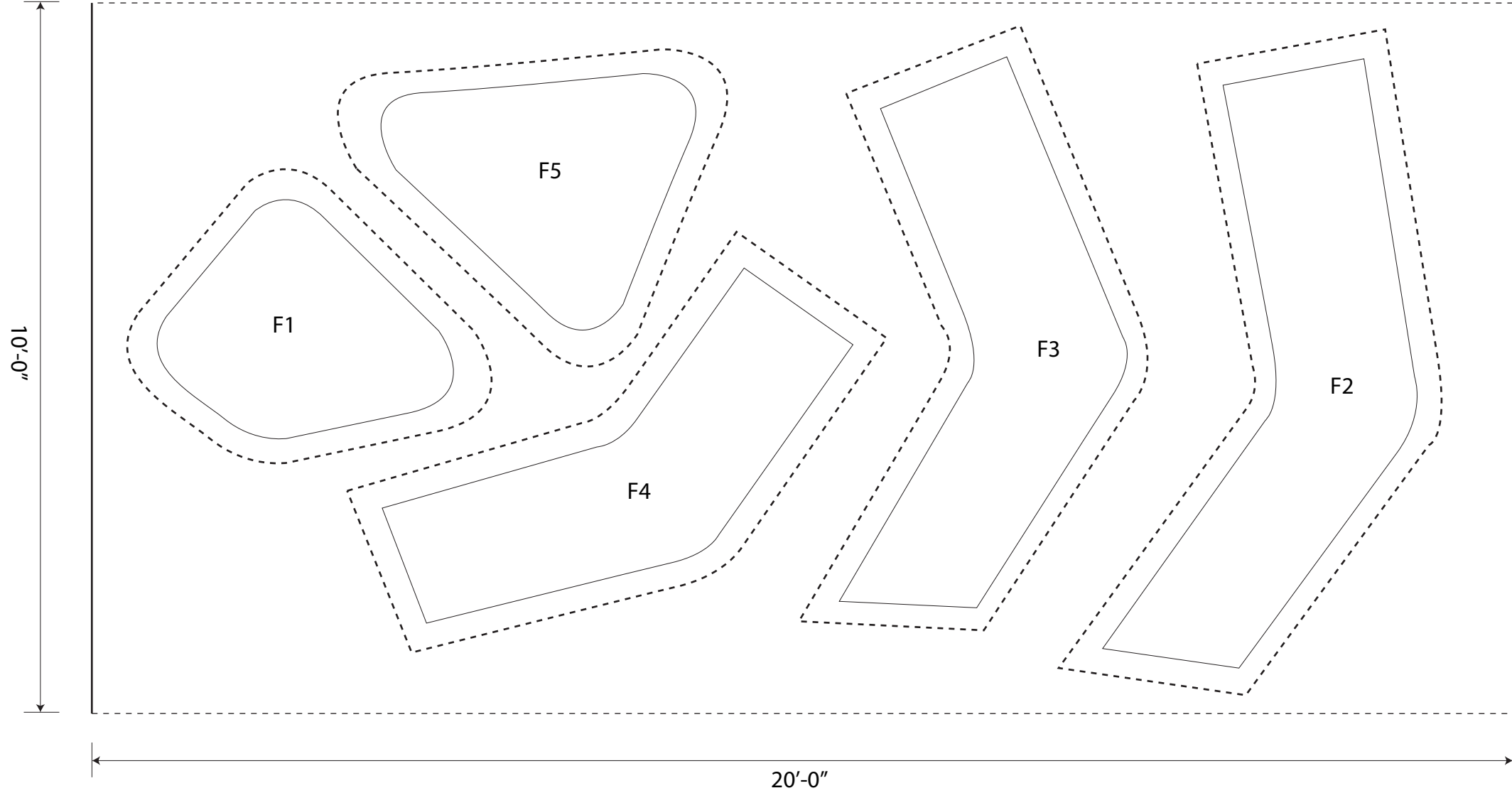
09.10.2017
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Hoop House

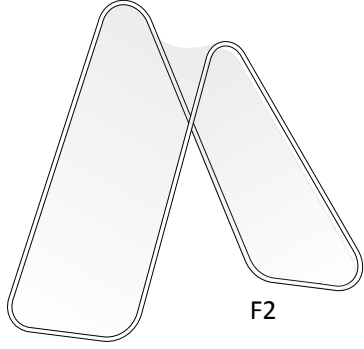
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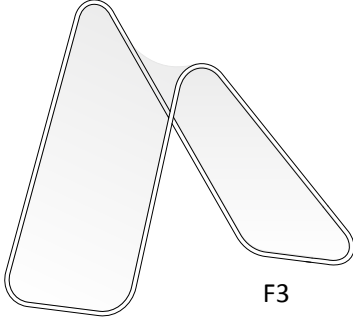
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Ale Meza
Isabella Ouyang
Anthony Ra



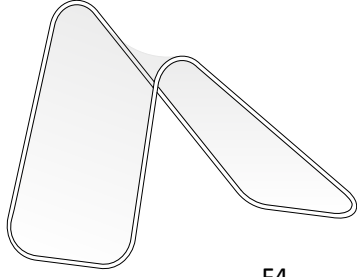
F1



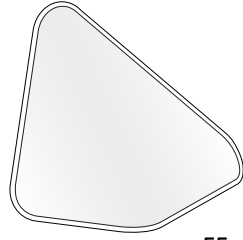
F2



F3



F4



F5

Cut Sheets

For Review

Scale: 1' - 1/2"

09.10.2017

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Hoop House

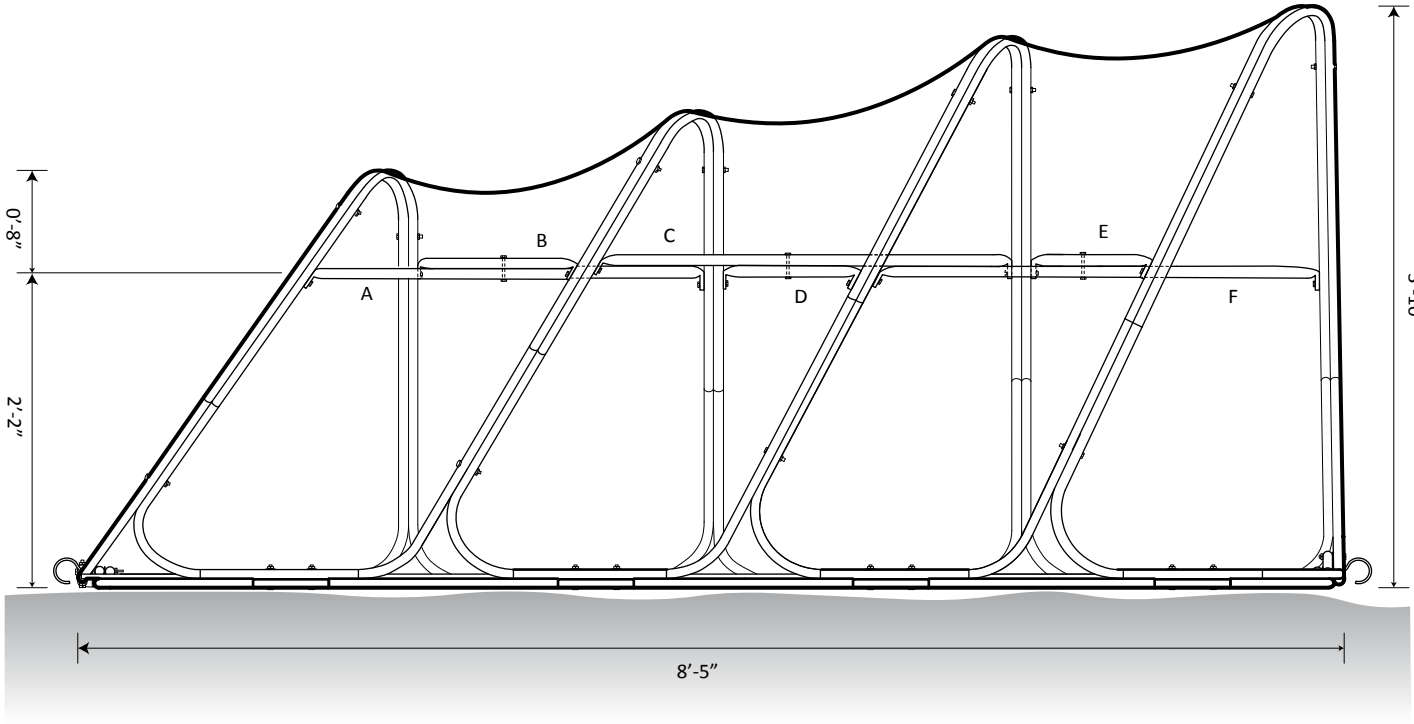
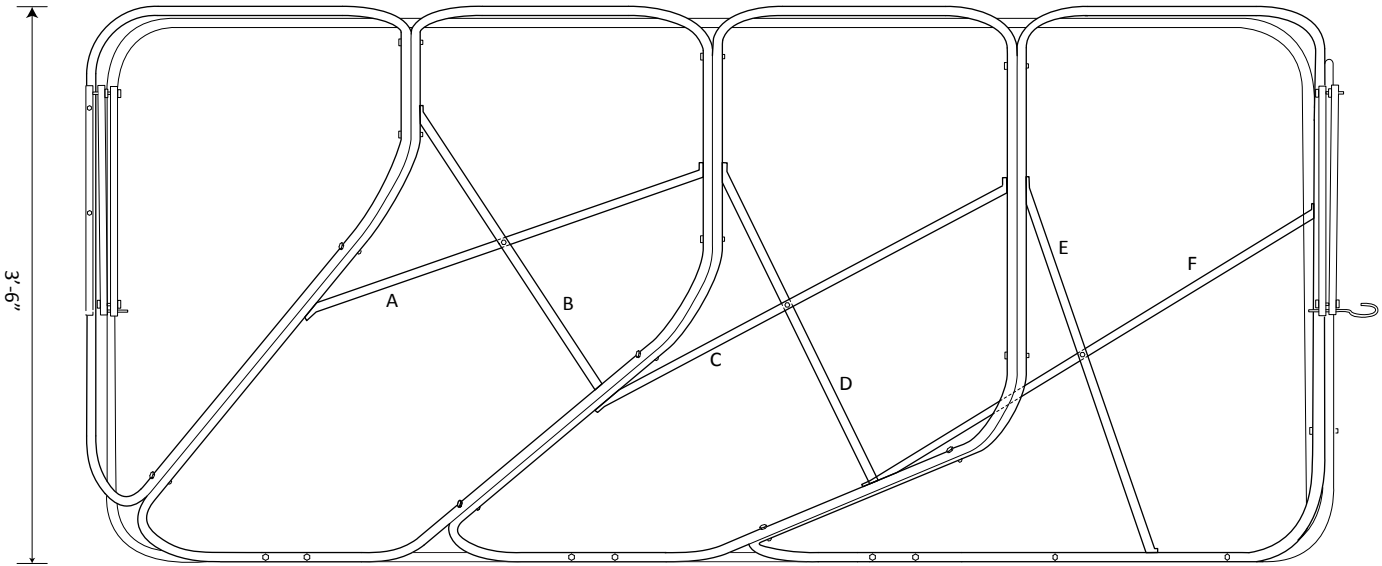
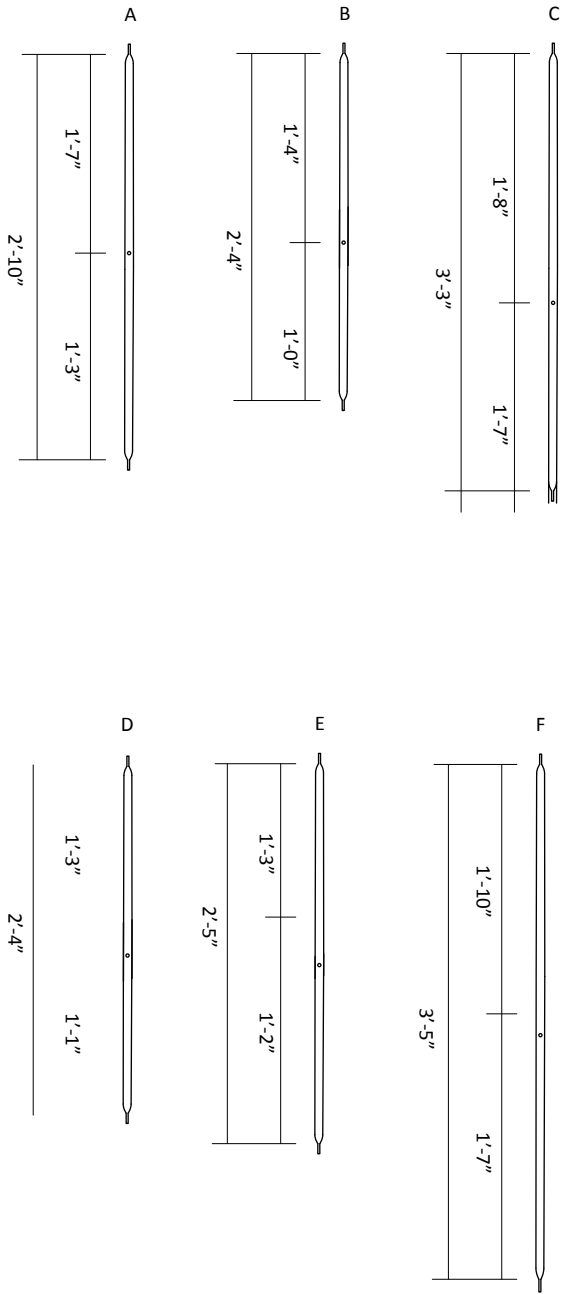
Phipps Conservatory Rooftop Garden

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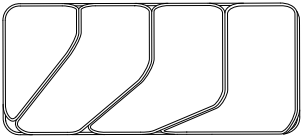
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Edward Fischer
Ryu Kondrup
Alejandra Meza
Isabella Ouyang
Anthony Ra

Components for Temporary Internal Bracing Structure

To be installed only during Heat Shrink Process
Each crimped end measures 2" long



N



Temporary Internal Bracing

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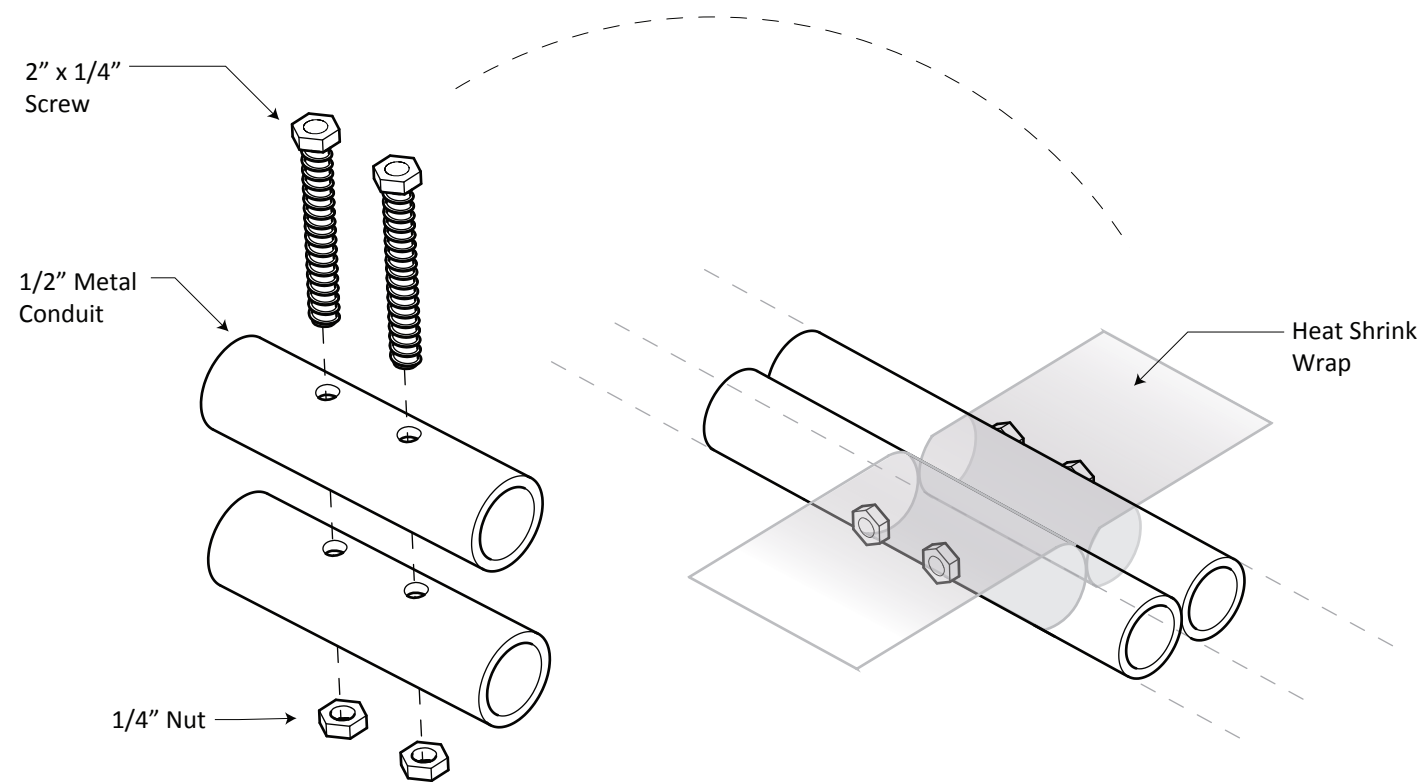
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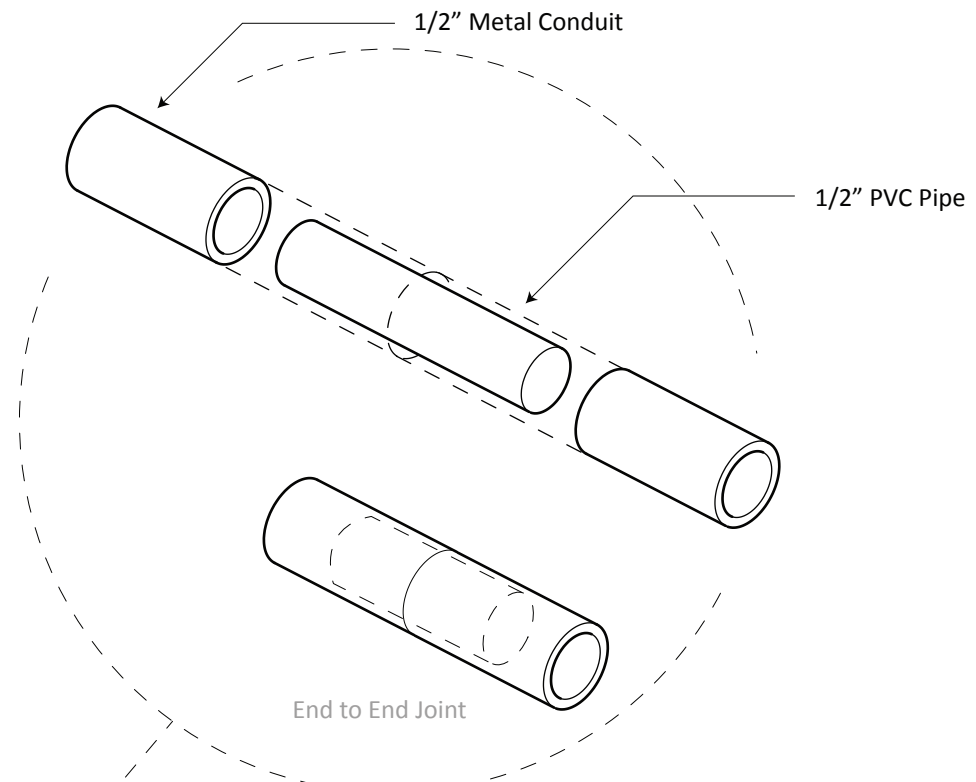
Scale: 1" = 1'

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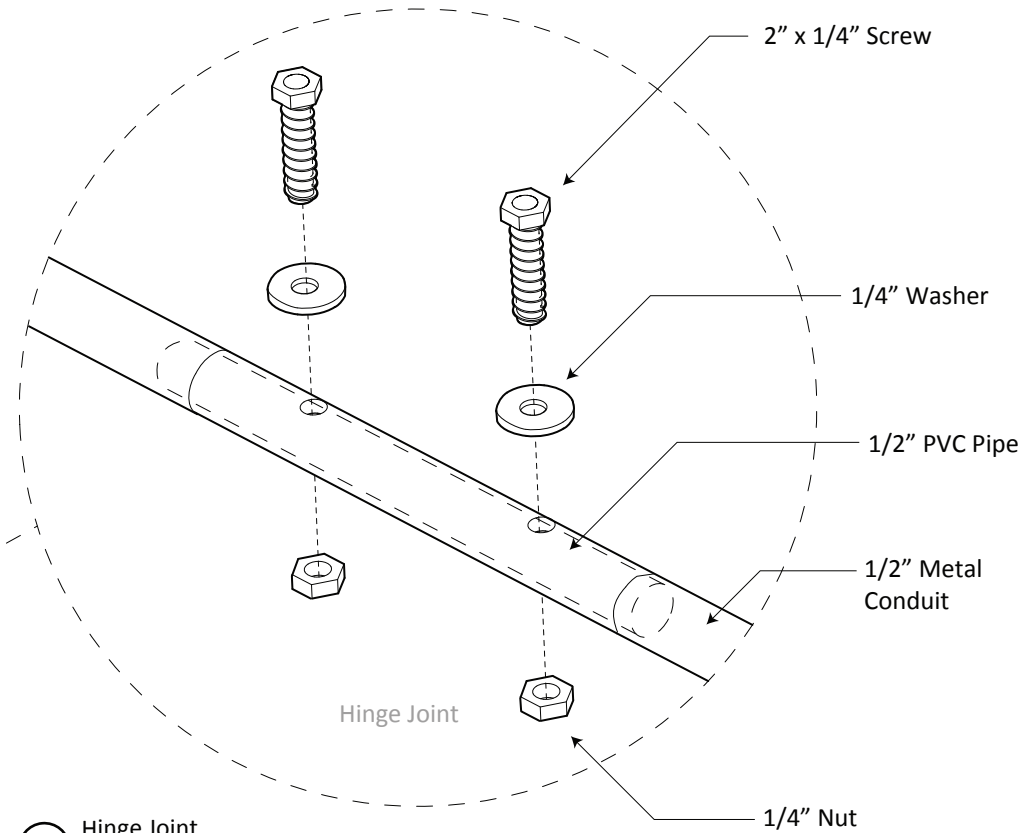
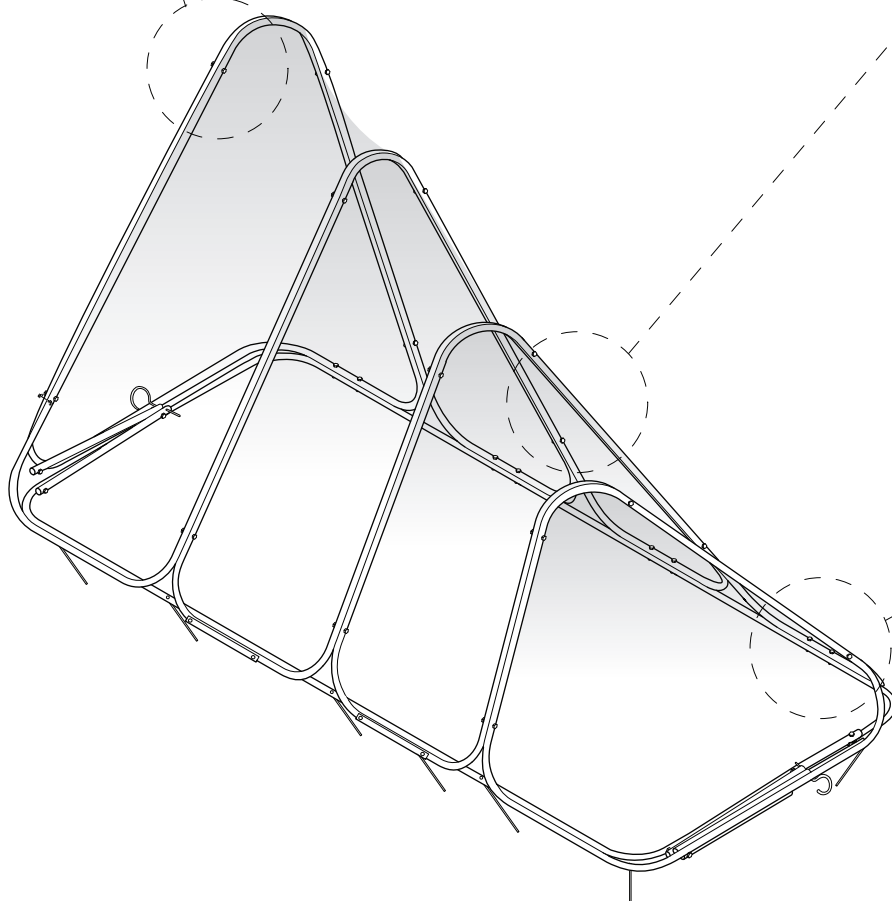
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A Panel to Panel Joint



B End to End Joint



C Hinge Joint

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Joints Detail

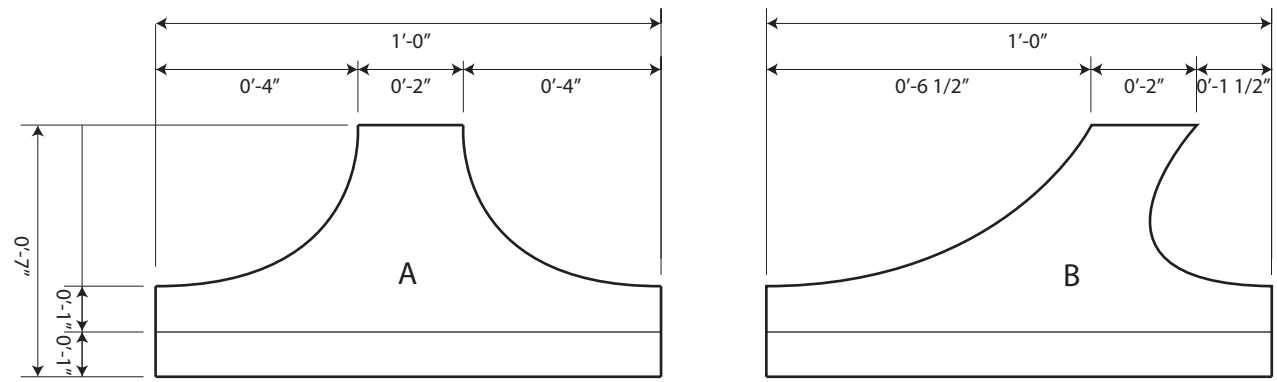
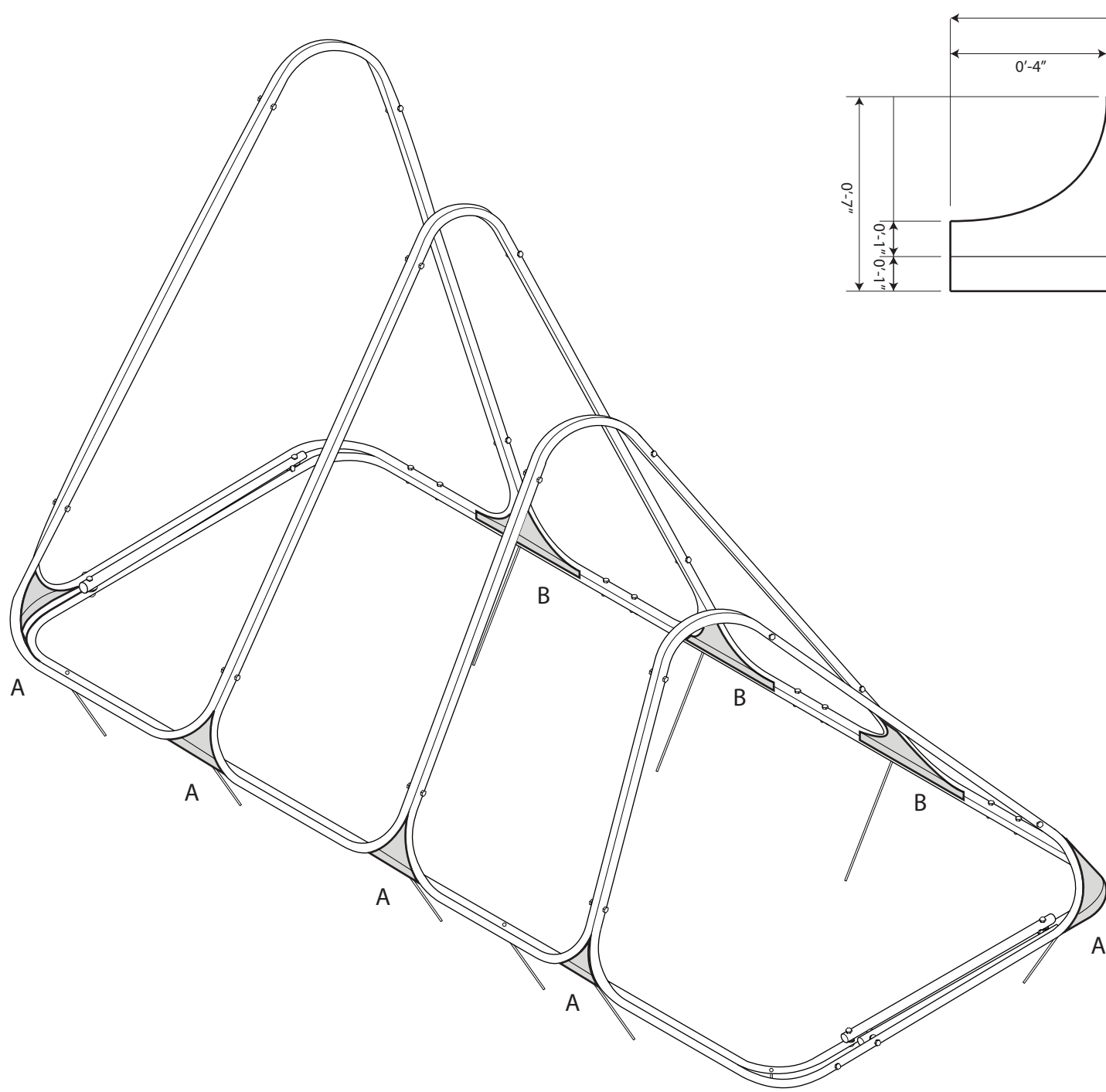
For Review

Scale: 1/2" = 1'

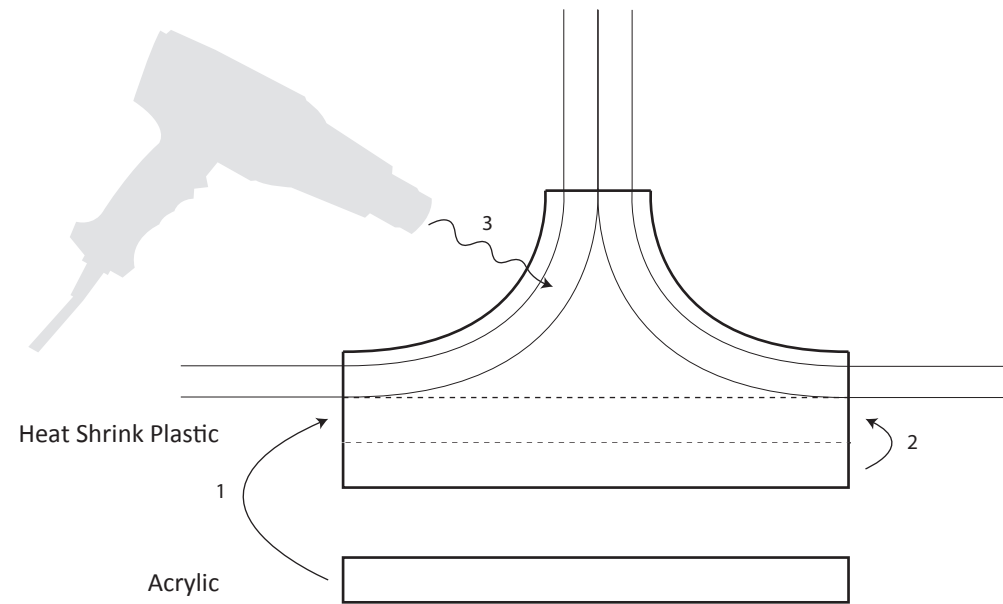
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Scale: 2" - 1'



1. Place acrylic strip onto shrink wrap plastic 1" above bottom edge
2. fold bottom edge 1" up to top of acrylic, then fold acrylic and wrapped plastic up 1" to the bottom edge of the curve
3. Apply light heat to wrapped acrylic to secure in place
4. Place rounded edges of plastic piece onto inside bottom edge of panel intersections and apply heat to secure in place

Bottom Edge Seal Detail

For Review

Scale: 1"=1'

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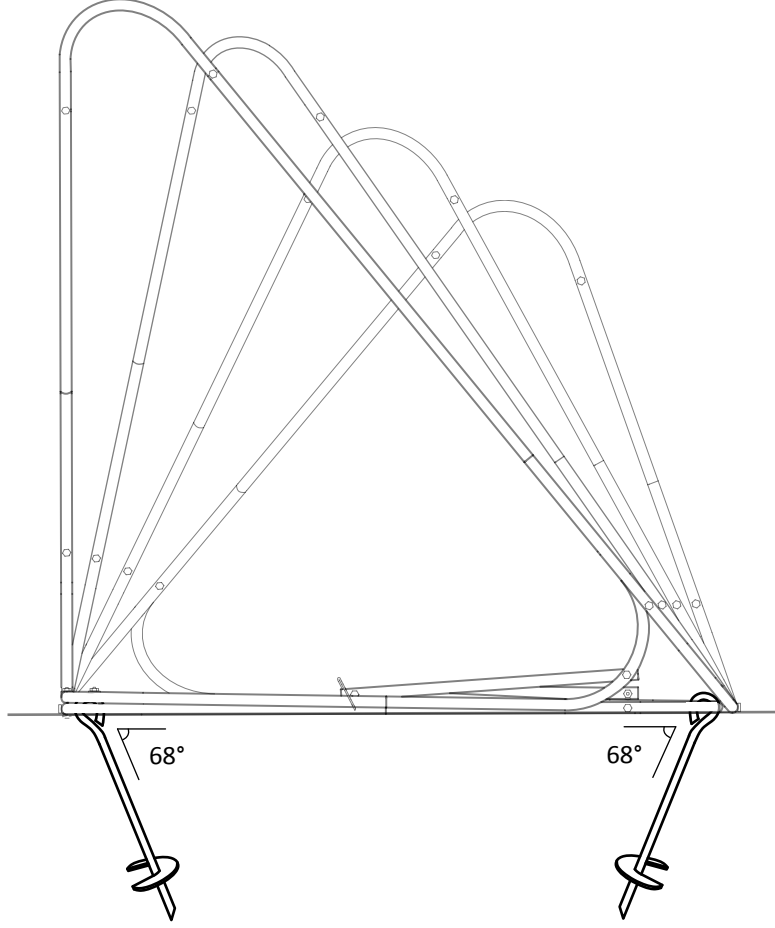
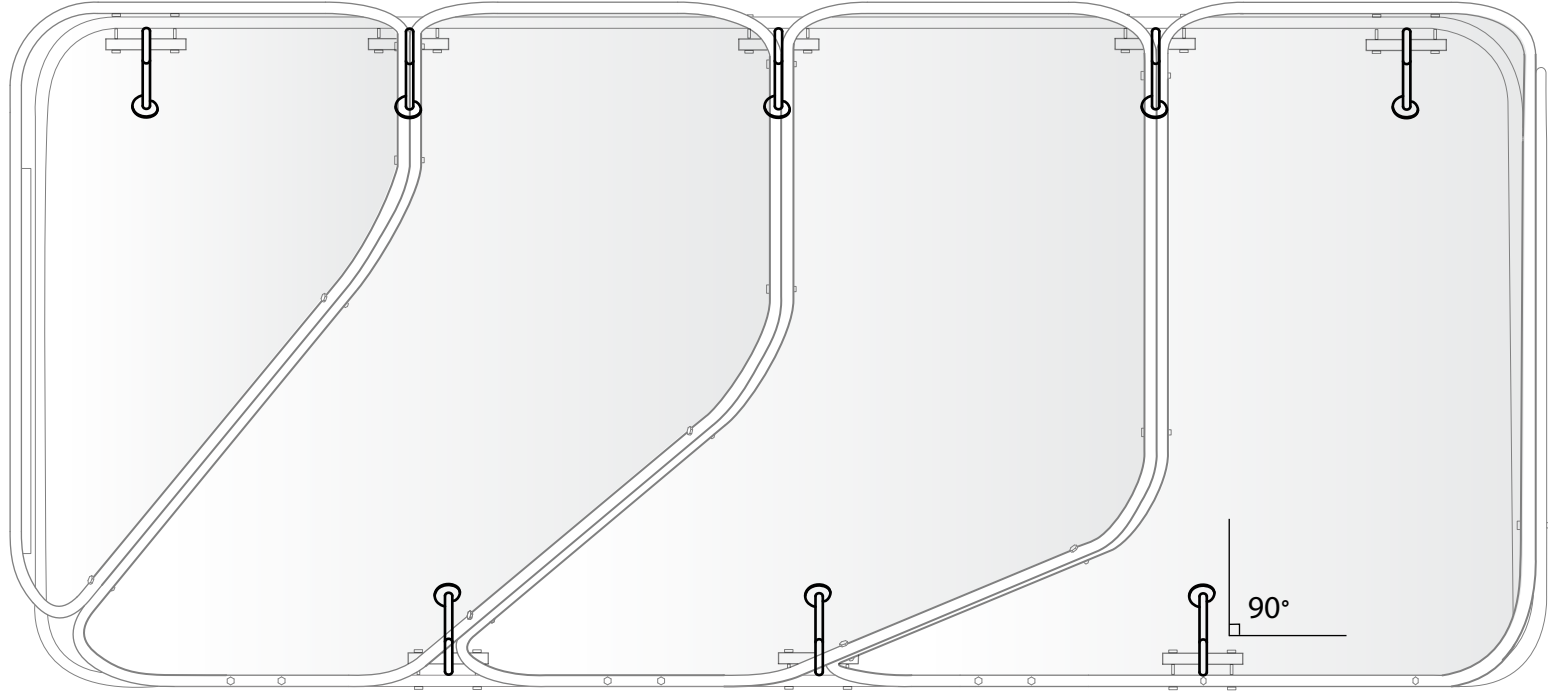
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Ground Anchor Detail

For Review

Scale: 1" = 1'

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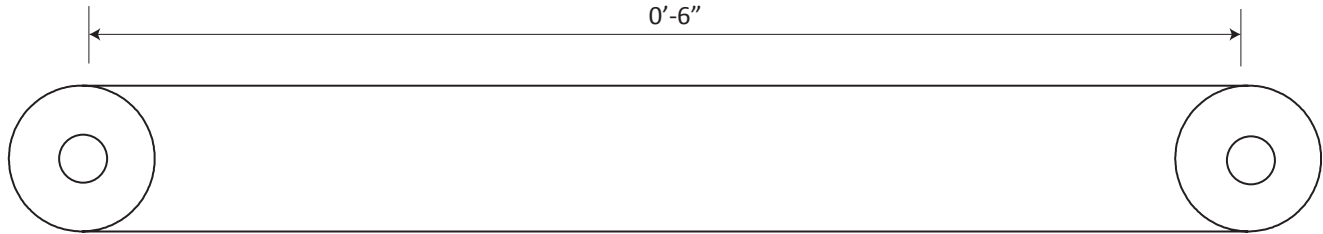
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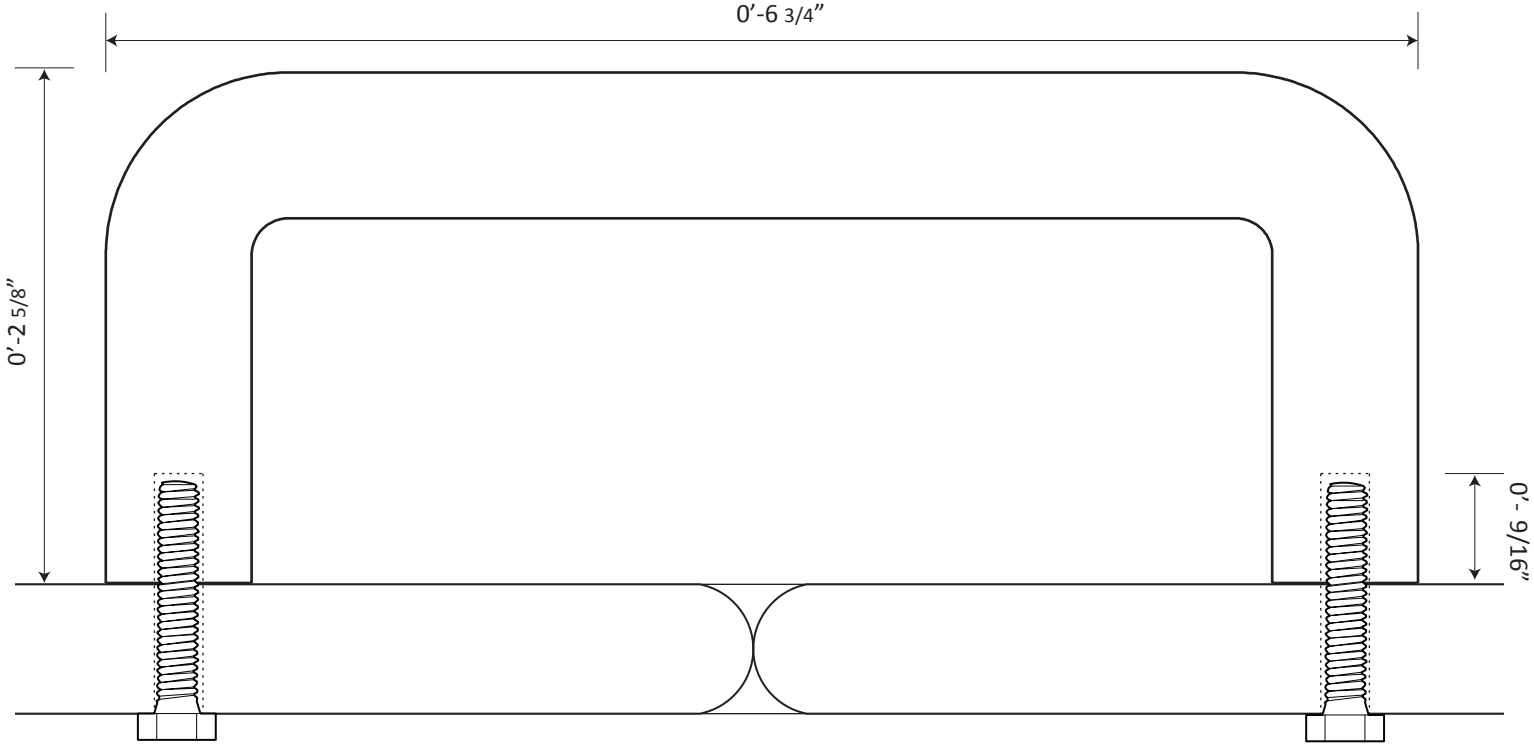
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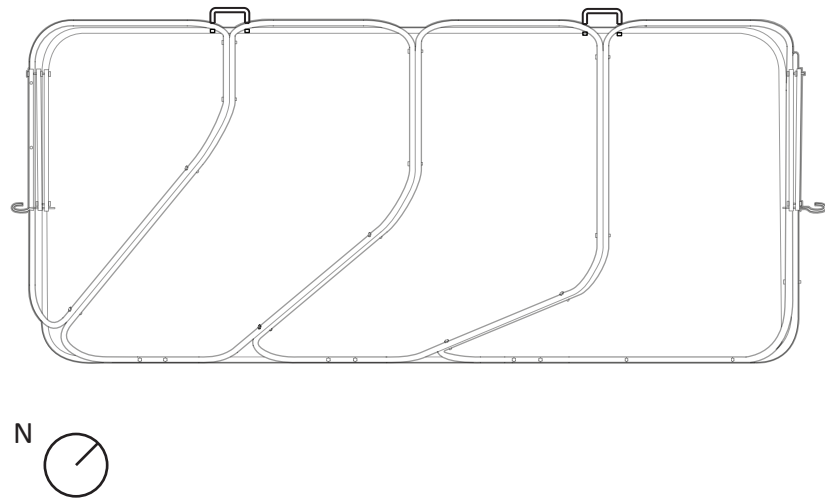
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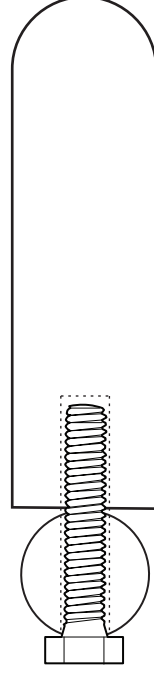
Elevation - Bottom View



Elevation - Front View



Elevation - Side View



Panel Handle Detail

For Review

Scale: 1" = 1"

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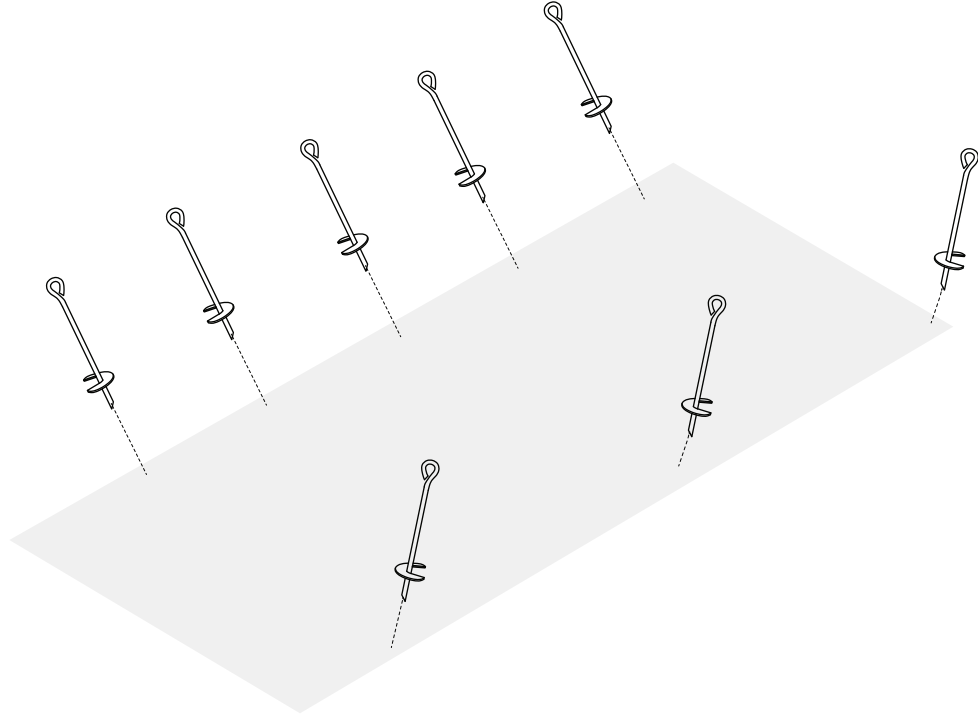
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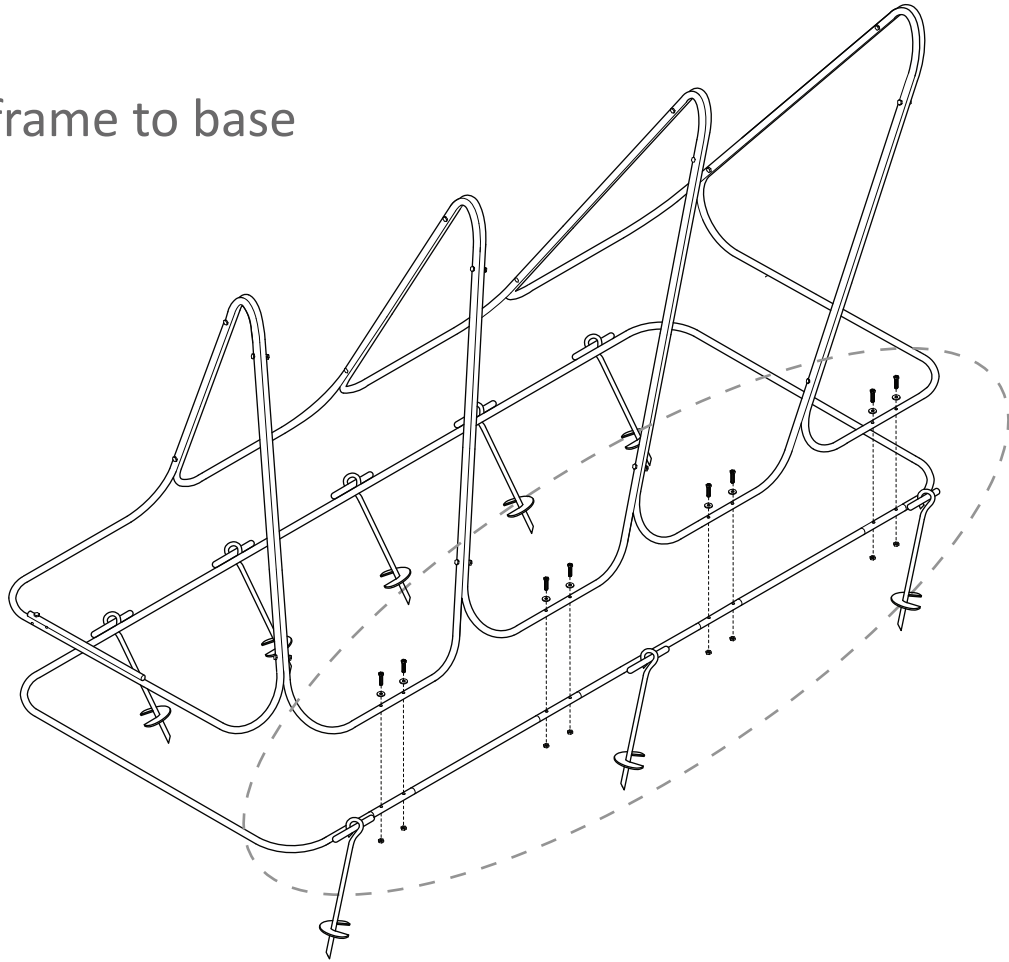
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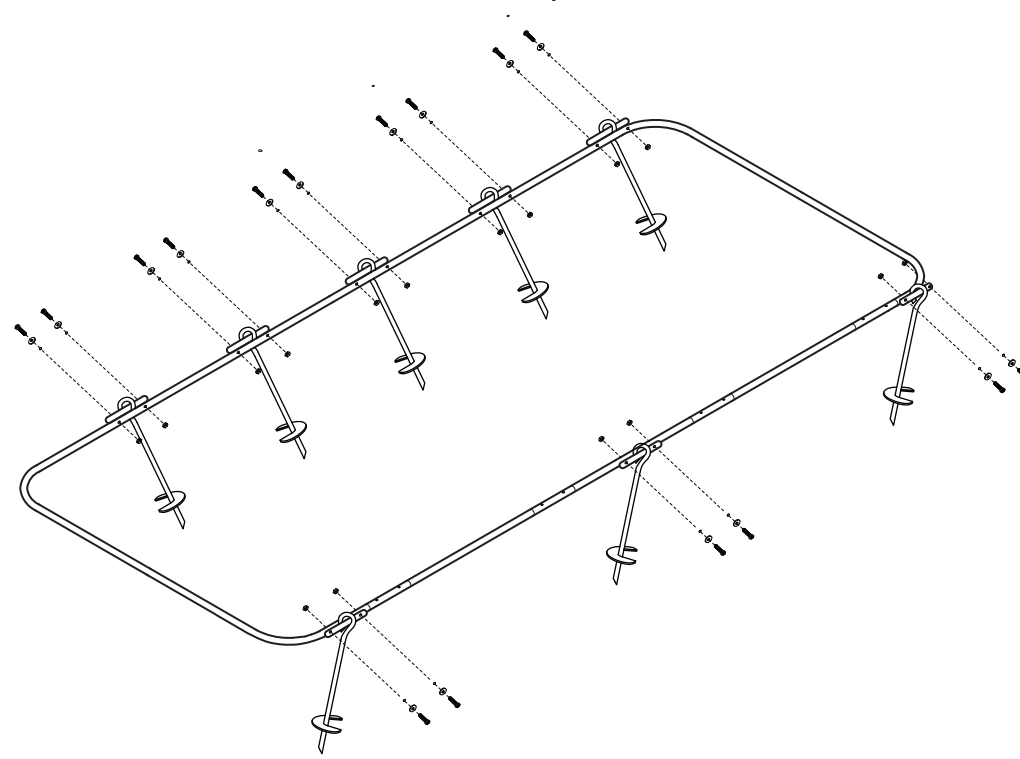
Step 1:
Embed Ground Anchors



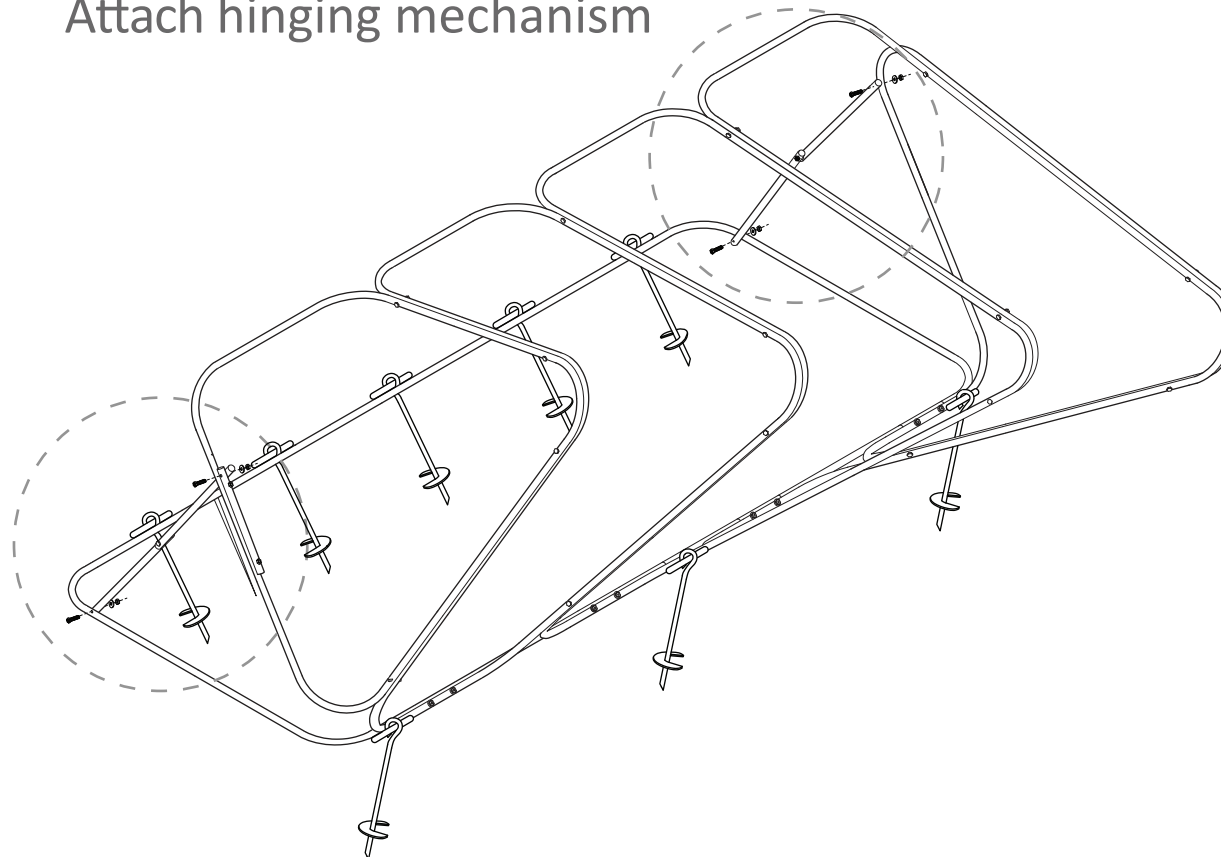
Step 2:
Attach frame to base



Step 2:
Attach Base to Ground Anchors



Step 4:
Attach hinging mechanism



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Storage Disassembly

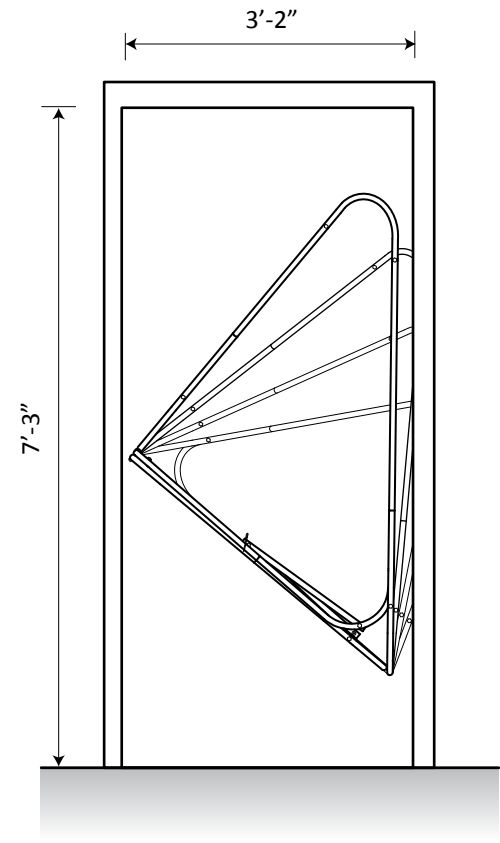
For Review

Scale: 1"-1'

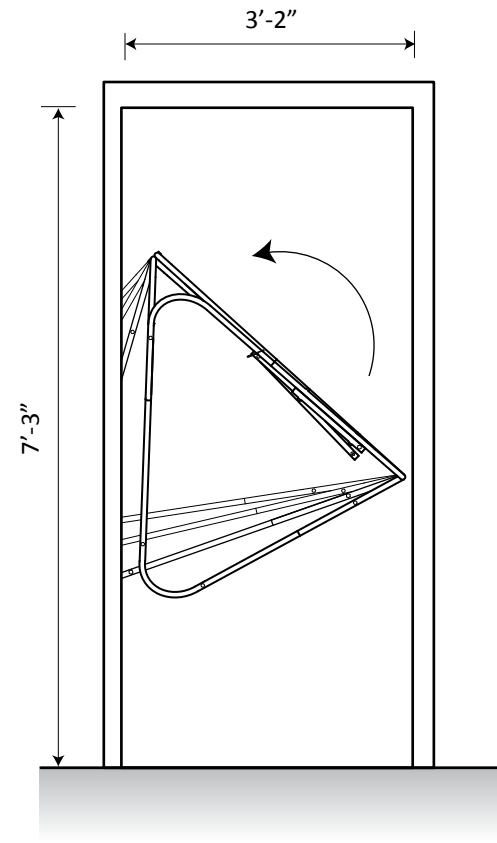
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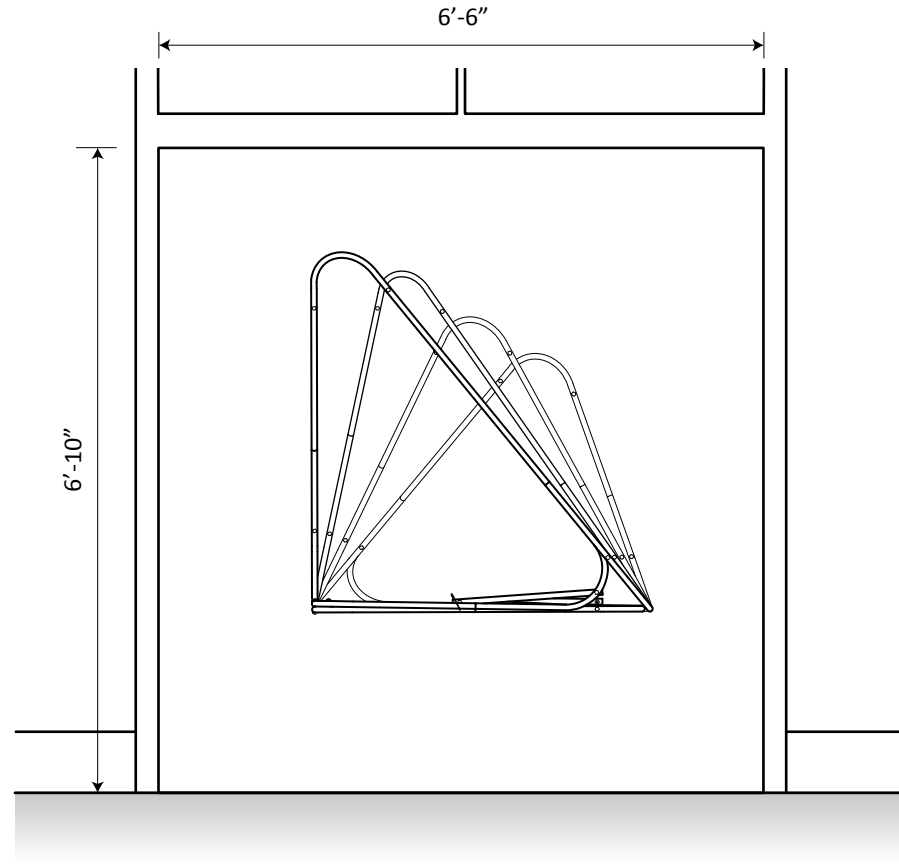
S21



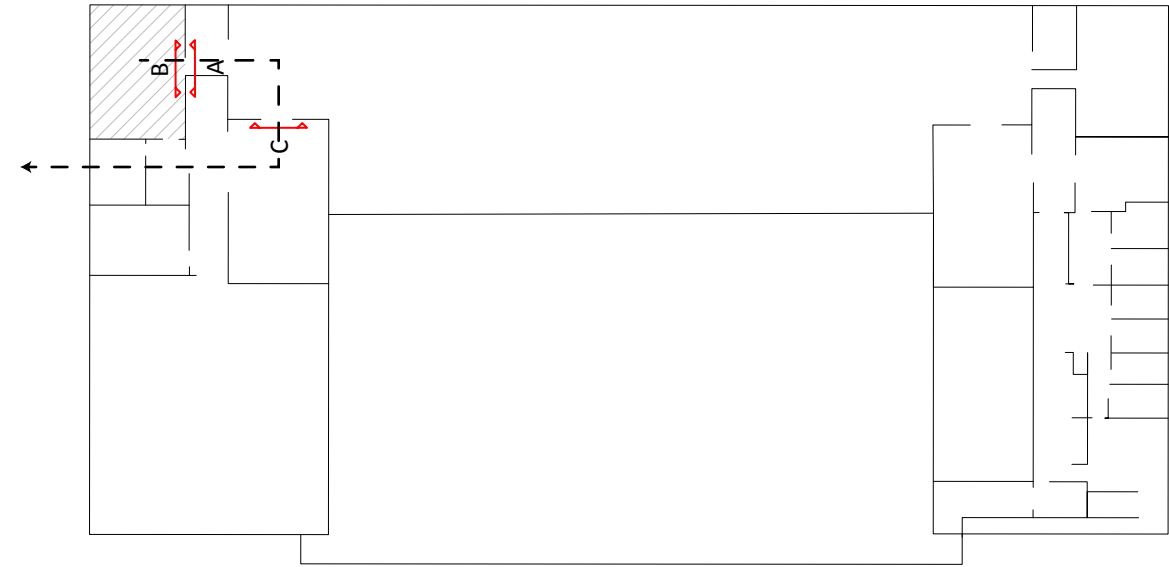
A CFA 211 - Entrance
1/2" - 1' - 0"



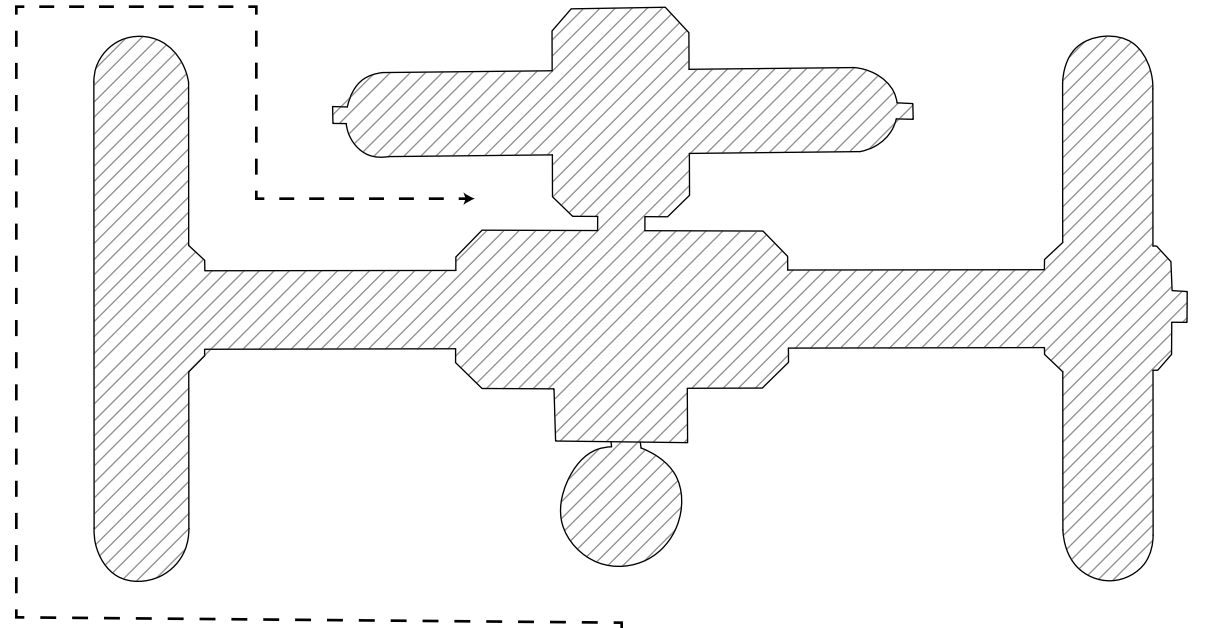
B CFA 211 - Exit
1/2" - 1' - 0"



C CFA 200 - Exit
1/2" - 1' - 0"



D CFA 2nd Floor Plan



F Phipps Conservatory Plan

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Transportation - Diagram

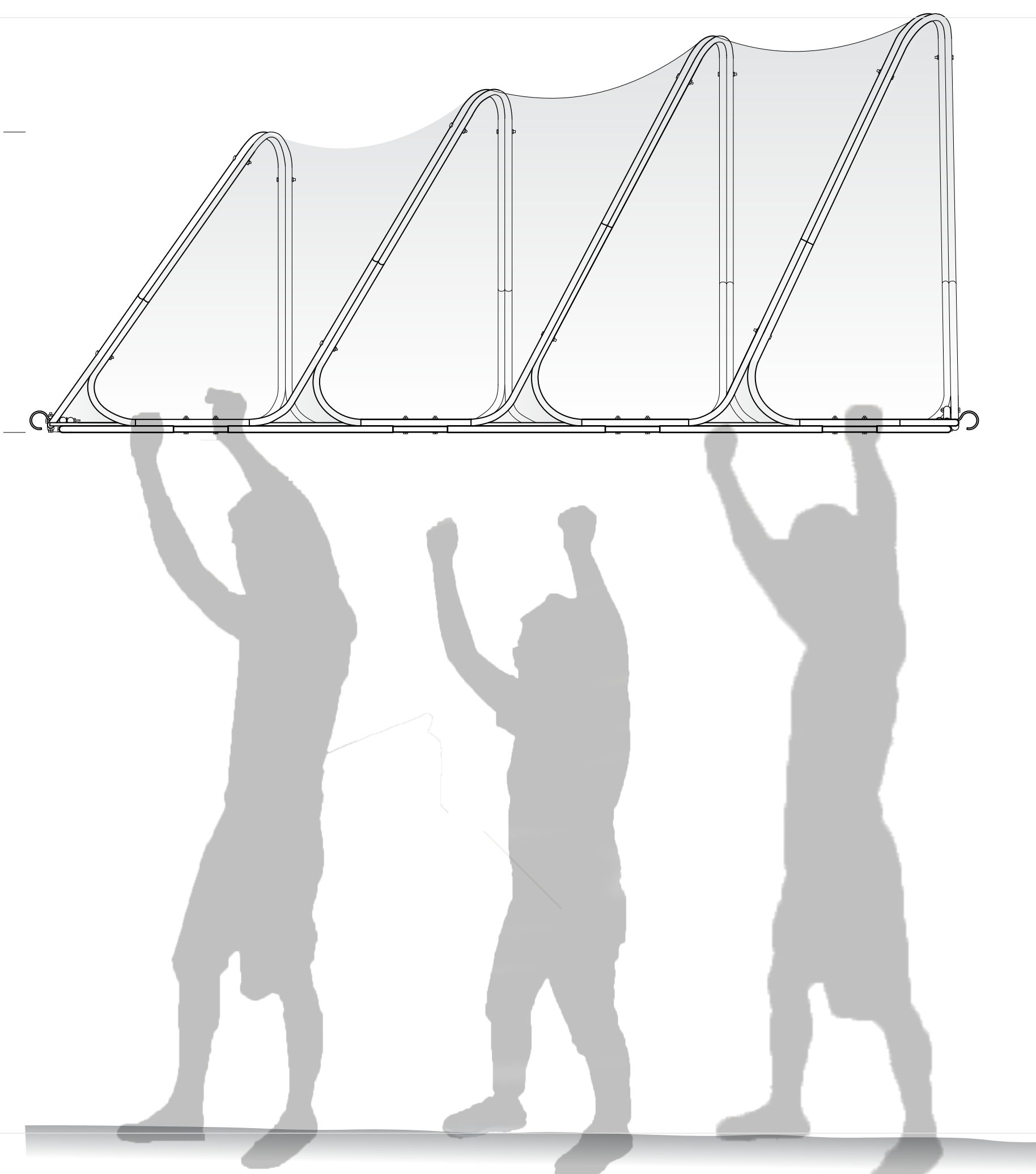
For Review

Scale: 1/2" - 1'

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S22



Transportation - Diagram

For Review

Scale: 1" = 1'

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