robosub

2023

TeamTime #2
Friday, April 21, 2023 | 6:00 PM Eastern Time

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2023

GET STARTED

1. Edit your name to "Name | Team Name"
2. Let us know in the chat:

   Has your vehicle been in the water?

RoboSub 2023 Team Handbook Released

AGENDA

[18:00-18:10] Welcome / Introduction
[18:10-18:20] Accommodations
[18:30-18:40] Technical Update
[18:40-18:45] Are You Ready?
[18:45-19:00] Questions?

RS 26

ROBOSUB 2023

Theme, Venue, Dates

RoboSub.org/2023

EXPLORATION: WHIRLPOOL X-TREME!

NIWC PACIFIC'S TRANSDEC
SAN DIEGO, CALIFORNIA

FROM JULY 31 - AUGUST 6, 2023

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Timeline

Date/Deadline	Event
March 2 – April 1530	Registration
June 9, 2023	Event Submissions Deadline: • Team Information • On-Site Requirements • Merchandise Order
June 11, 2023	Full 100% Refund Cancellation Deadline
June 16, 2023	Design Documentation Deadline: • Technical Design Report • Team Introduction Video • Team Website • Optional Pre-Qualification • Optional Community & Outreach
July 25, 2023	50% Refund Cancellation Deadline
July 31 – August 6, 2023	RoboSub 2023

Timeline

RoboSub.org/2023

Reminders!

Invitation Letter
- If your team members will be traveling from outside the USA and require visas, remember to apply early!
- If you need an invitation letter, submit the request in your registration in Survey Monkey Apply

First-Year Teams
First-year teams are eligible to participate without bringing an AUV to competition.

Reminders

RoboSub.org/2023

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Design Documentation Submissions

Instructions and scoring matrices are now available in the Team Handbook:

- Section 2.2: Design Documentation
- Appendix B: Technical Design Report (TDR)

Tips:

- Think about how easy your submission is to judge, from the judges' perspective.
- **Websites** – Test it! Consider the user experience maneuvering your site and finding the required information.
- **Intro Video** – Be creative! Share your competition approach while sharing your team's personality.
- **Technical Design Report** – Get detailed! Review the requirements thoroughly and don't forget to outline your strategy and testing in detail.

26th Annual
RoboSub 2023
Logistics Update

Accommodations

RoboSub.org/2023

ACCOMMODATION OPTIONS

RoboSub Hotels
Holiday Inn Bayside
The Dana on Mission Bay

Alternative Accommodation Options
Short Term Rentals – VRBO / AirBnB
Benefits: Kitchen / Personal Pool

Accommodations

RoboSub.org/2023

Holiday Inn Bayside

- Room Cost: $239.00 plus 12.695% taxes (1-4 people / 2 queen beds) - available on a first come / first served basis / **Rooms must be pre-paid at the time of reservation.** Cancellations allowed 48 hours prior to arrival with full refund. Credit card will be required upon check-in for incidentals.
- Reservation Cut-off: Friday, June 30, 2023. Group Rate cannot be guaranteed if the room block is sold out or after June 30, 2023.
- Reservation Dates Available – 07/28/23 through 08/08/23 (space available)
- Reservation Link will be available soon.
- Parking Costs - $10/day per vehicle
- Overnight Pool Practice Hours - 11:00 pm – 6:00 am (07/31/23 - 08/05/23
- Complimentary WiFi / No Resort Fees
- Shipping Receipt/Storage - 07/28/23 - 08/07/23. Crates must arrive no earlier than 07/28/23 and must be shipped out no later than 08/07/23 to avoid additional charges.

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26
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2023

Accommodations

🔗 RoboSub.org/2023

The Dana on Mission Bay

- Room Cost: $229.00 plus 12.695% taxes (1-4 people / 2 queen beds) - available on a first come / first served basis / Rooms must be pre-paid at reservation. Cancellations allowed 48 hours prior to arrival with full refund. Credit card will be required upon check-in for incidentals.
- Reservation Cut-off: Friday, June 30, 2023. Group Rate cannot be guaranteed if the room block is sold out or after June 30, 2023.
- Reservation Dates Available – 07/28/23 through 08/09/23 (space available)
- Reservation Link will be available soon.
- Parking Costs - $10/day per vehicle
- Overnight Pool Practice Hours - 10:00 pm – 6:00 am (07/31/23 - 08/05/23
- Complimentary WiFi / No Resort Fees
- Shipping Receipt/Storage - 07/28/23 - 08/07/23. Crates must arrive no earlier than 07/28/23 and must be shipped out no later than 08/07/23 to avoid additional charges.

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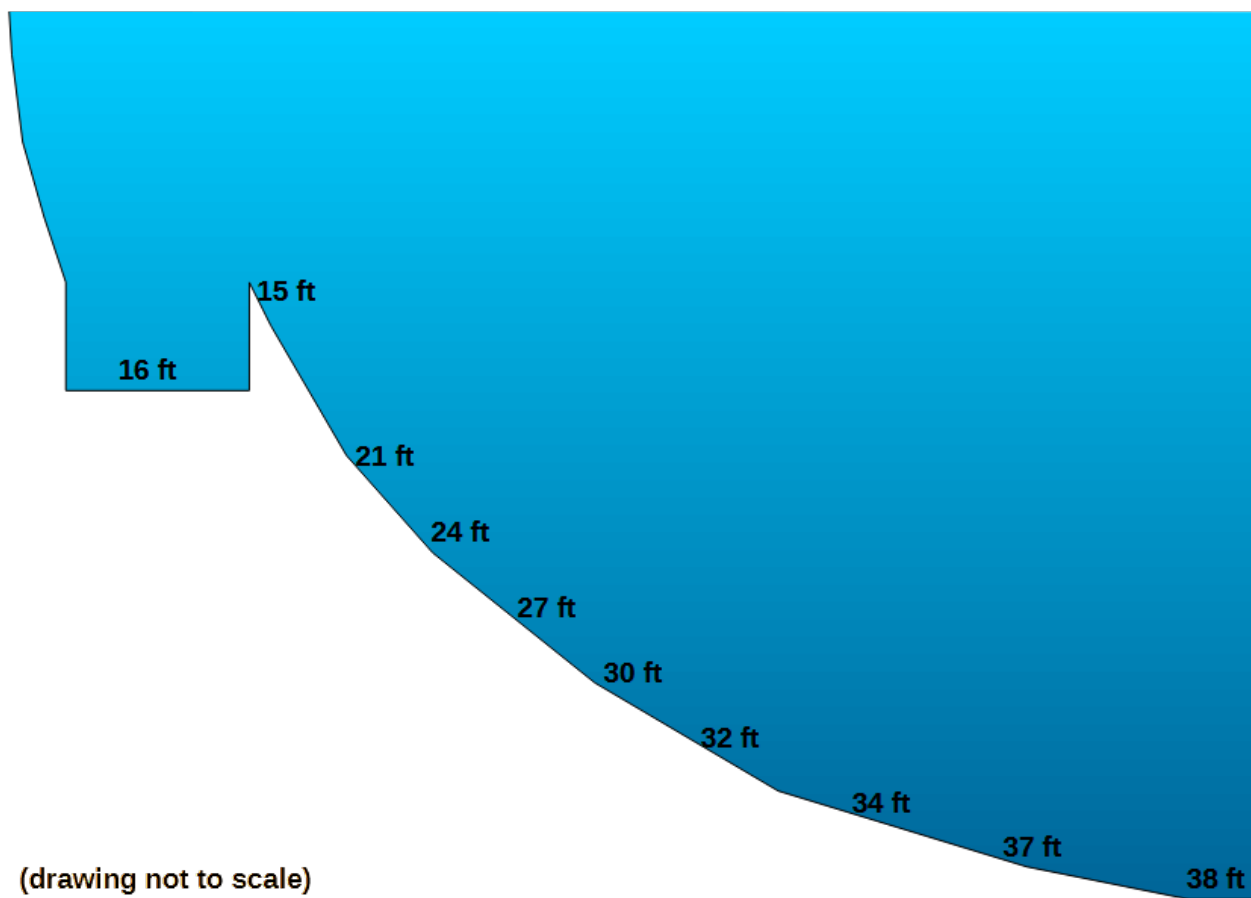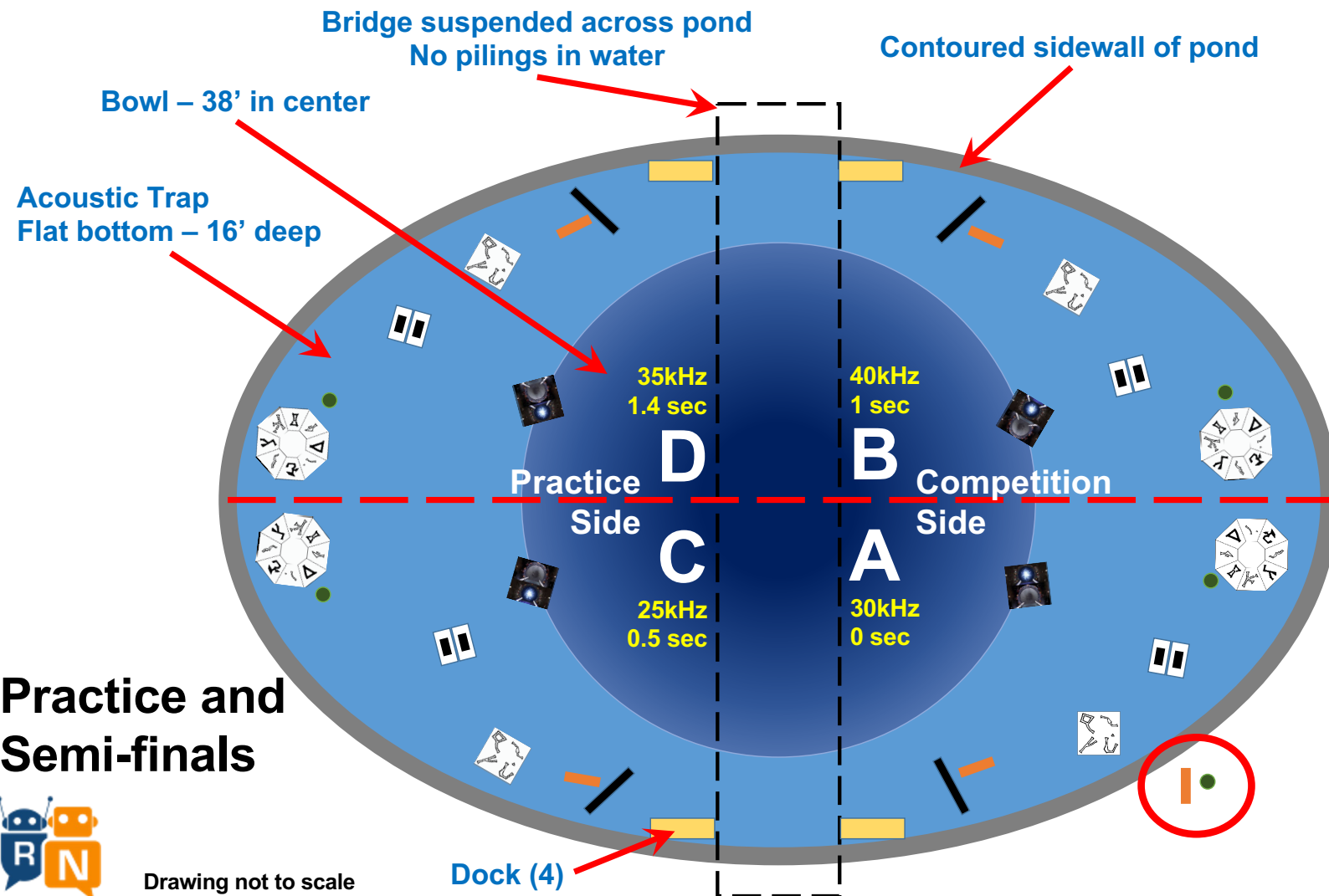
26th Annual
RoboSub 2023
Technical Update

Whirlpool

X-treme

Location

300 ft
91m

200 ft
61m

Depth

15 ft

16 ft

21 ft

24 ft

27 ft

30 ft

32 ft

34 ft

37 ft

38 ft

(drawing not to scale)

Practice and Semi-finals

Bridge suspended across pond
No pilings in water

Contoured sidewall of pond

Bowl – 38' in center

Acoustic Trap
Flat bottom – 16' deep

35kHz
1.4 sec

40kHz
1 sec

D

B

Practice Side

Competition Side

C

A

25kHz
0.5 sec

30kHz
0 sec

Drawing not to scale

Dock (4)

Key

▬	Gate
▮	Path
●	Pinger
	Start Dialing
	Location
	Goa'uld Attack
	Engaging Chevrons

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Bridge suspended across pond
No pilings in water

Contoured sidewall of pond

Bowl – 38' in center

Acoustic Trap
Flat bottom – 16' deep

35kHz
1.4 sec

40kHz
1 sec

Competition
Side

A

25kHz
0.5 sec

30kHz
0 sec

Finals

Drawing not to scale

Dock (4)

Key	
▬	Gate
▮	Path
●	Pinger
(symbol)	Start Dialing
▯▯	Location
(images)	Goa'uld Attack
(symbol)	Engaging Chevrons

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Oh for crying out loud | Coin Flip

Gate

Coin Flip

Heads

Tails

Front

Dock

(drawing **not** to scale)
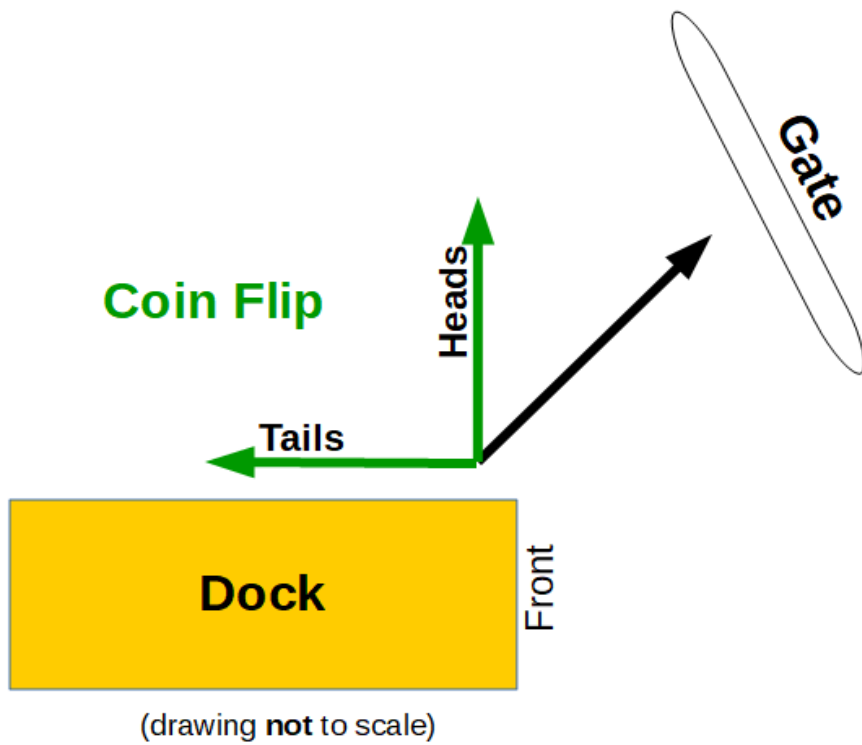
Random orientation
- 90° or 180° from dock

Gate

10ft (30.5m)

5ft (15.2m)

1ft (0.31m)

2ft (0.61m)

4ft (1.2m)

3" (76mm) box from black/red corrugated plastic sheets

2" (51mm) box
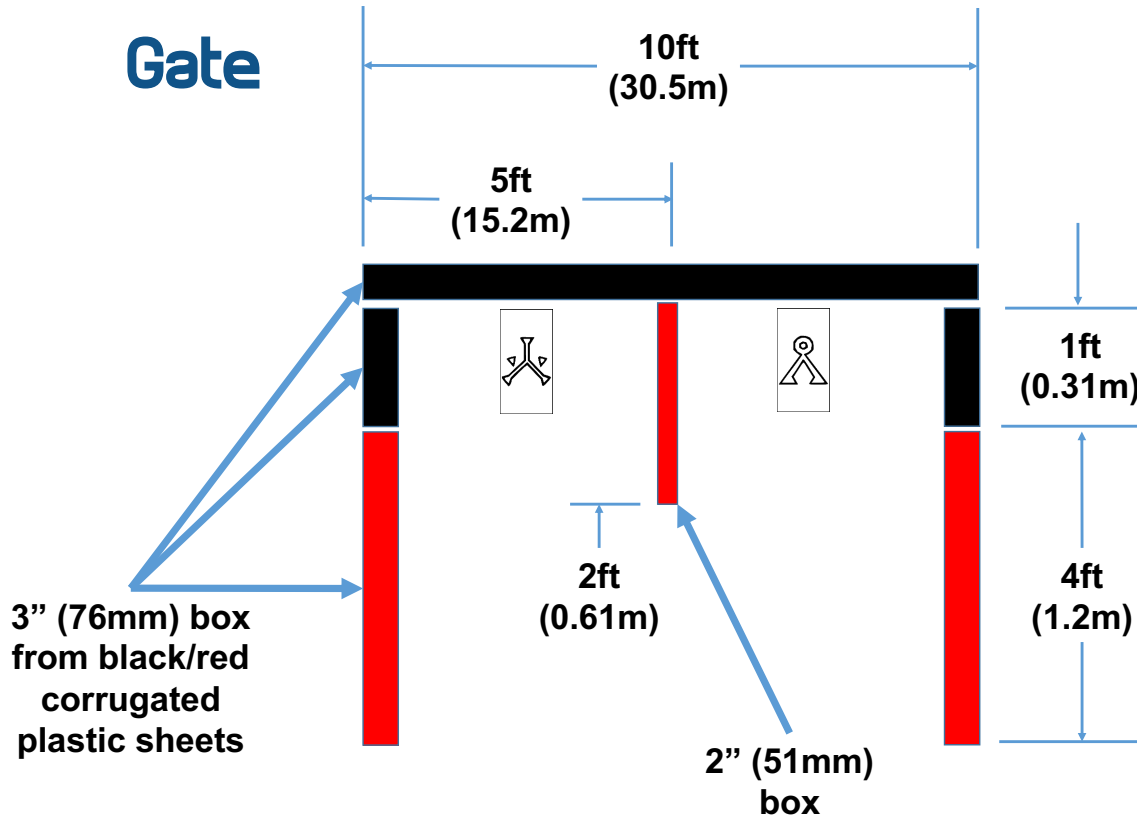
- 🤿 Choose your destination
  - Abydos
  - Earth
- 🤿 Extra points for staying with your destination for the remainder of the tasks
- 🤿 **New:** Full scale images on Box

- 🤿 With Style
  - 10 ft/3 m before/after gate
  - Extra points
    - Every 90° change in orientation
      - Yaw: +100
      - Roll/Pitch: +200
    - Up to 800 points

Drawing not to scale

Path
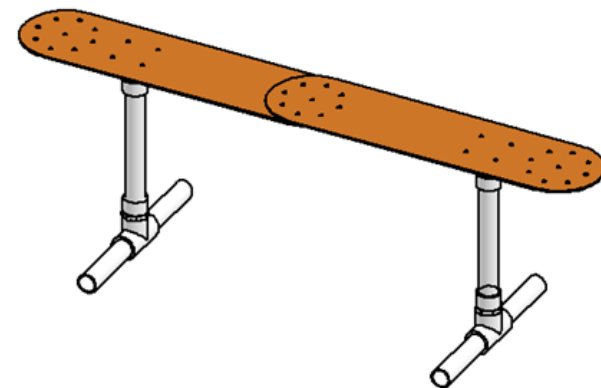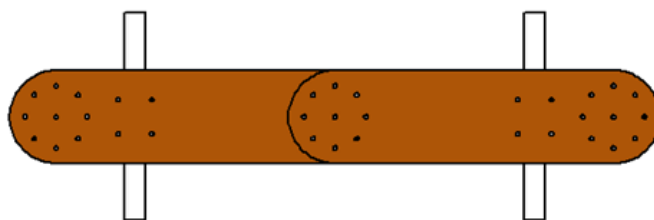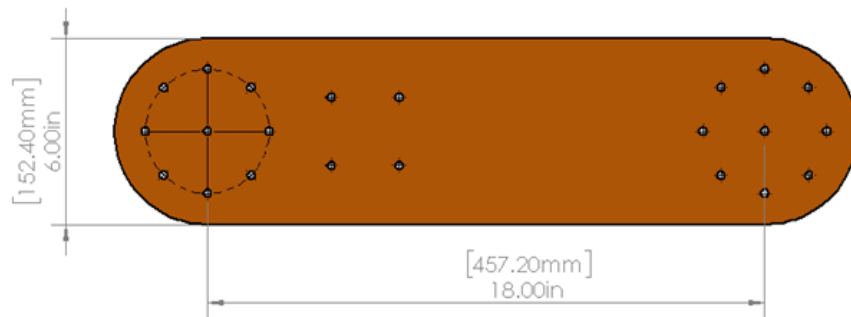
Start Dialing | Buoy

🚢 Buoy is two sided
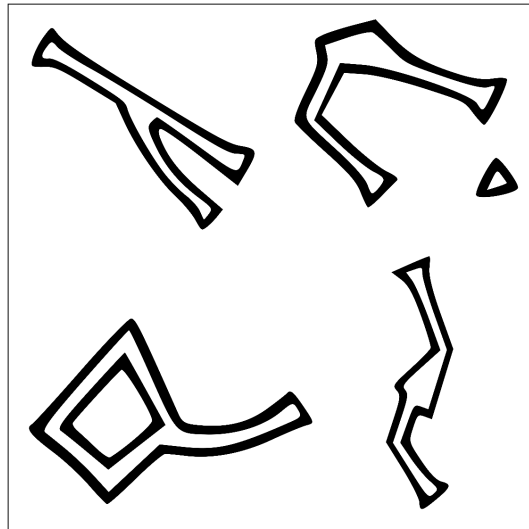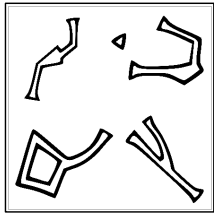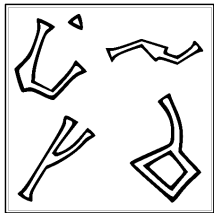
Find full scale images on Box

Floor

Abydos

Earth

Drawing not to scale

Location | Bins

[355.60mm]
14.00in

[203.20mm]
8.00in

[12.70mm]
0.50in

[203.20mm]
8.00in

[101.60mm]
4.00in

Vote on the <u>color</u> of the cover and handle

Location | Bins
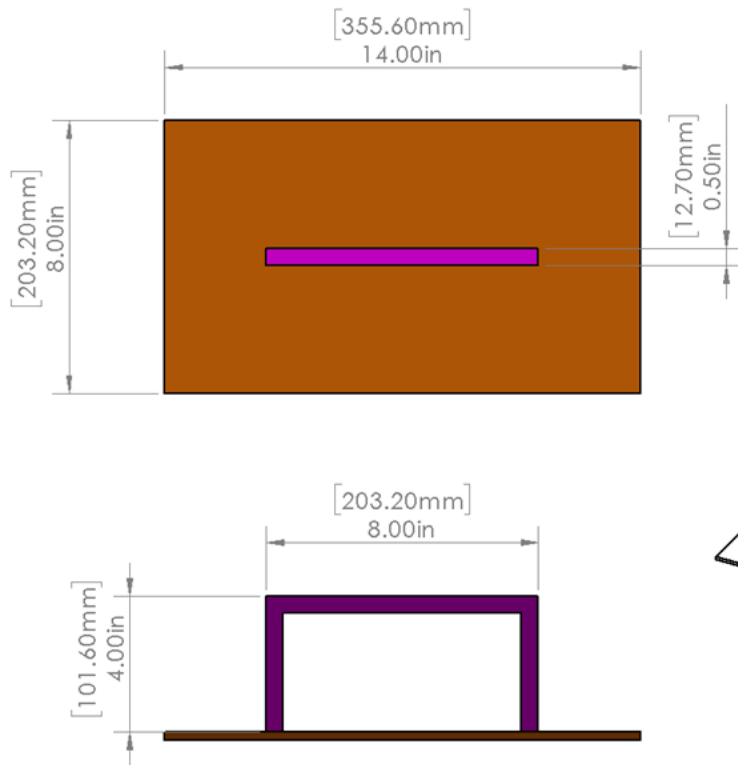
Abydos

Earth
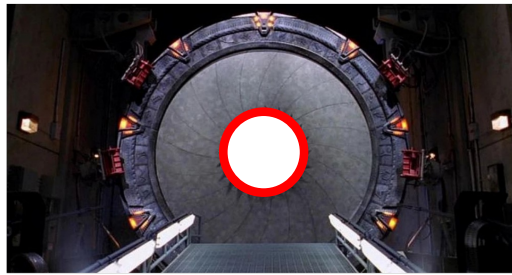
- 🛥 1/3 of each bin is covered
  - Cover can be anywhere
  - Lift off cover
- 🛥 Place marker in correct bin for your destination
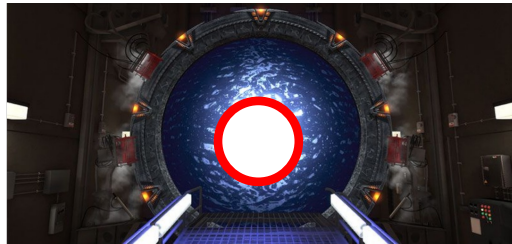- 🛥 **New:** Full scale images on Box
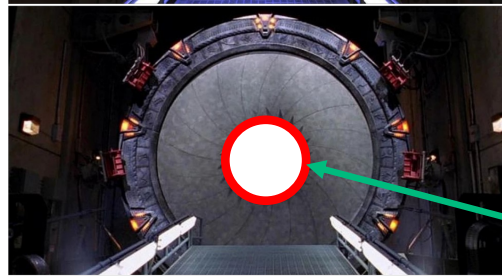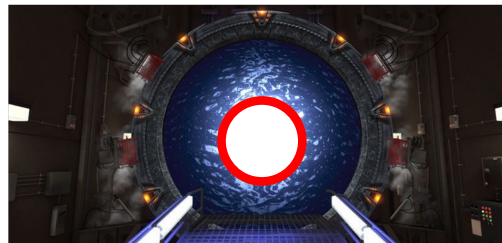
Goa'uld Attack | Torpedoes

Closed   **Open**

Open   **Closed**

- ⛴ The panel has two different openings
  - Close the Iris to stop the attack.
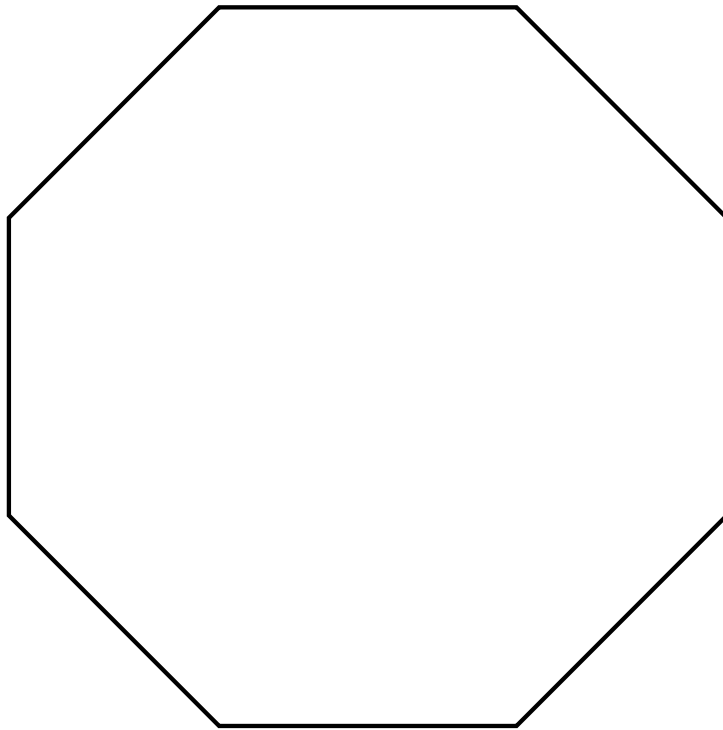 - One torpedo through the open gate
  - One torpedo through the closed iris
- ⛴ **New:** Full scale images on Box
  - Currently without the center circle

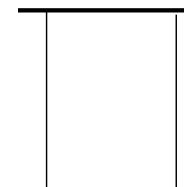**Vote** on the <u>color</u> of circle

Engaging Chevrons | Octagon

- "Ring" floating on the surface
- 4 "chevrons" in the center of the Dial Home Device (DHD).
  - Use the 4 to finish the dialing sequence
- One Pinger located at the center of the octagon

Octagon

Surface

DHD

Floor

Drawing not to scale

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DHD | Octagon

Vote on the <u>color</u> of the chevrons
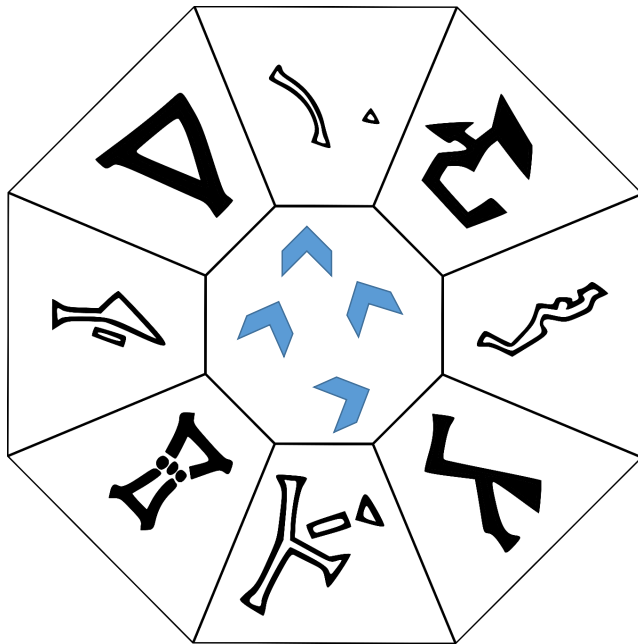
4 "chevrons" in the center.
- Place them in the correct bins to finish the sequence
  - Abydos
  - Earth

New: Full scale images on Box

Drawing not to scale

Abydos

Earth

Chevrons

ITEM NO.	PART NUMBER	QTY.	Length
1	Chevron	2	
2	Long	1	4.00
3	Short	2	2.00
4	T-Slip	1	

Dimensions shown: [152.40mm] 6.00in, [76.20mm] 3.00in, [76.20mm] 3.00in

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL
ANGULAR: MACH   BEND
TWO PLACE DECIMAL
THREE PLACE DECIMAL

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

FINISH

	NAME	DATE
DRAWN	DKN	8 April 2023
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

TITLE:

SIZE **A** DWG. NO. 06_Chevron REV

SCALE: 1:4 WEIGHT: SHEET 1 OF 1

NEXT ASSY   USED ON
APPLICATION   DO NOT SCALE DRAWING

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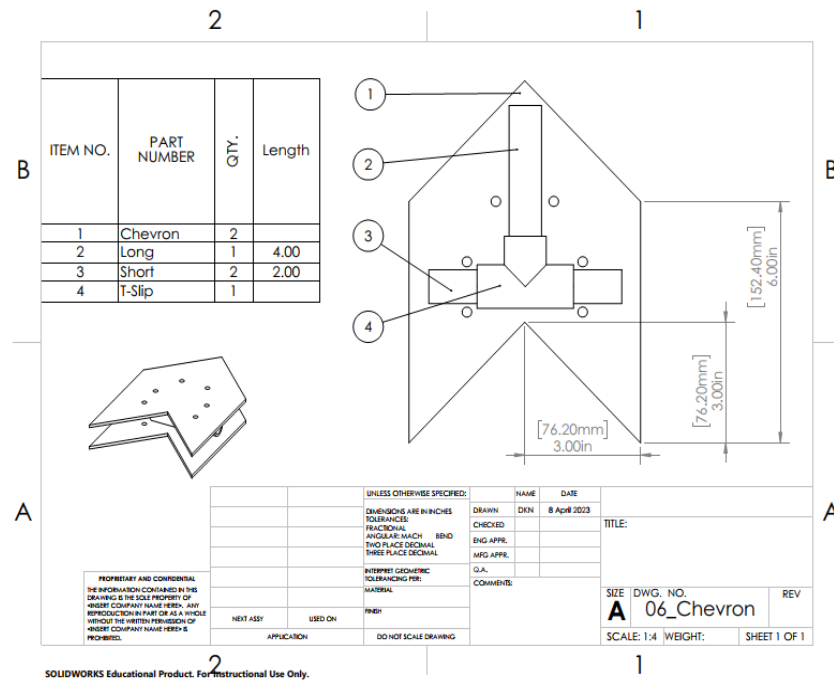
Finding the tasks
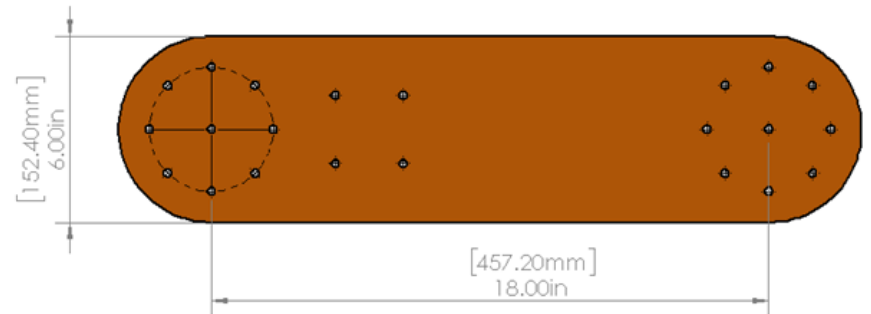
- Path
  - One from Gate to Start dialing (Buoy)
- Pinger
  - One located at the center of the octagon
- **Vote** on the location of the second pinger
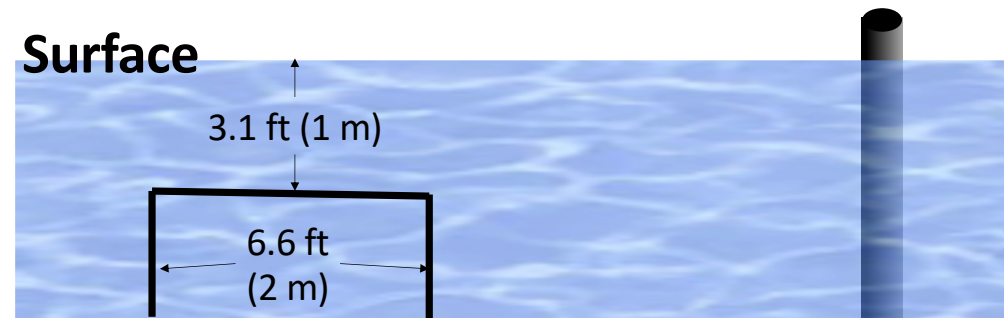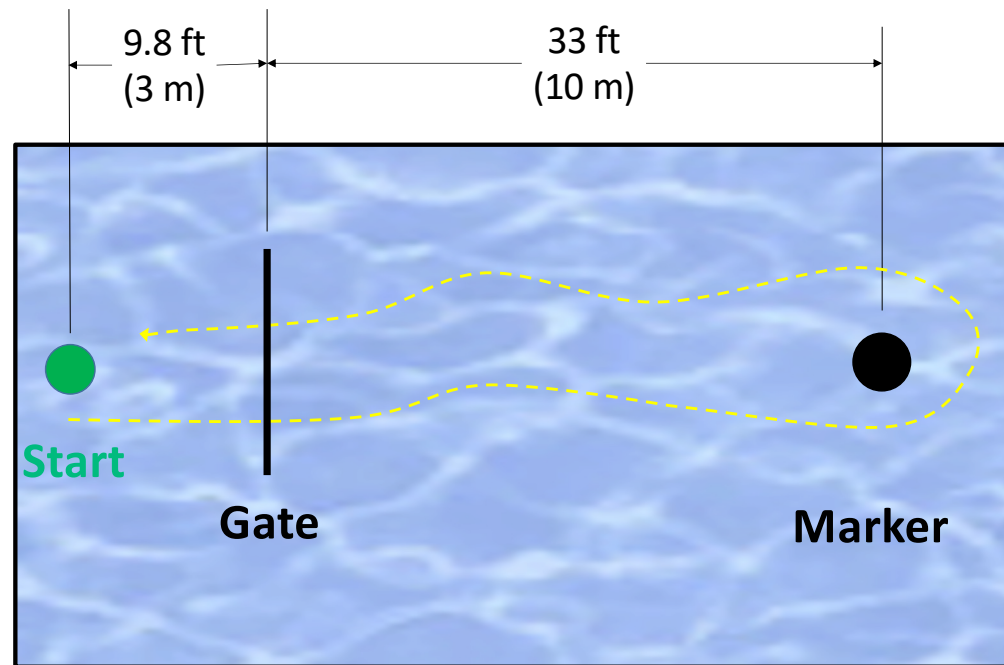 - Location (Bins)
  - Goa'uld Attack (Torpedoes)
- Second path will point toward the other task

Pre-qualification

🛥 Optional

🛥 Must be submitted before being on-site at competition

🛥 Directions on how to do this are available in the Team Handbook

TWO Teams have submitted pre-qual attempts!

9.8 ft (3 m)

33 ft (10 m)

Start

Gate

Marker

Surface

3.1 ft (1 m)

6.6 ft (2 m)

(drawing **not** to scale)

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Final Reminders

ROBOSUB 2023

Are You Ready?

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Have you:

- ☐ Reviewed Task Ideas and Handbook?
- ☐ Registered & Paid?
- ☐ Reviewed your AUV Design Process?
- ☐ Started building your AUV?
- ☐ Test your AUV in water?

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Data Sharing

RoboSub.org/data-sharing

What is Data Sharing?

Centralized Repository

Community Driven

Competition focused
- Vision
- Acoustics
- Mechanical Designs
- Electrical Designs

DATA FOR ALL TEAMS

LARGE DOMAIN OF DATASETS

BETTER PLATFORM FOR NEW TEAMS

RoboSub 2023 Discord

Replacing BAND and Forum. All on-site communications will be posted on Discord.

JOIN TODAY!
- Scan the QR Code
- Select the RoboSub23 role
- Turn on notifications

Stay in Touch

RoboSub.org/2023

ROBOSUB 2023

? ? ?

🔗 RoboSub.org/2023

GOT QUESTIONS?

RoboNation is a 501c3 nonprofit organization whose mission is to provide a pathway of hands-on educational experiences that empower students to find innovative solutions to global challenges. Working together with the industry, research and educators, we have grown to include over nine student competitions and programs and engage more than 250,000 students per year.

For more information contact autonomy@robonation.org