

ASTM E54.09 Homeland Security Applications; Response Robots Obstructed Test Lane and Related Scenarios

Version 2022A



**STARTS AT 10:00 AM EST
WASHINGTON, DC TIME**

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Flying in Close Proximity (6-10 ft) to Objects

Obstructed Test Lane and Related Scenarios

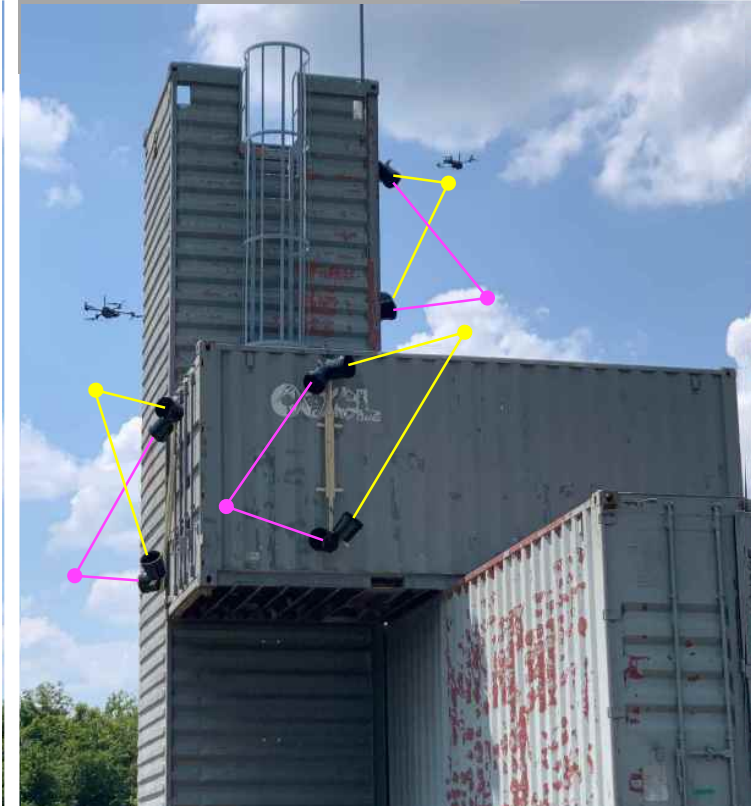
VEHICLE INSPECTION



OBJECT INSPECTION



STRUCTURE INSPECTION



DUAL BUCKET ALIGNMENTS GUIDE PILOTS INTO SAFE POSITIONS WITHIN PROXIMITY TO OBJECTS

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Obstructed Test Lane

Basic Maneuvering (MAN)

ALIGN WITH BUCKETS AND LAND ACCURATELY

Align with each bucket long enough to capture a **single alignment image (NO ZOOM)** showing the green ring inside the bucket. Score 5 points for a continuous green ring or 1 point for a partial green ring. Similar scoring for accurate or partial landings.

20 ALIGNMENTS TOTAL UP TO 100 POINTS

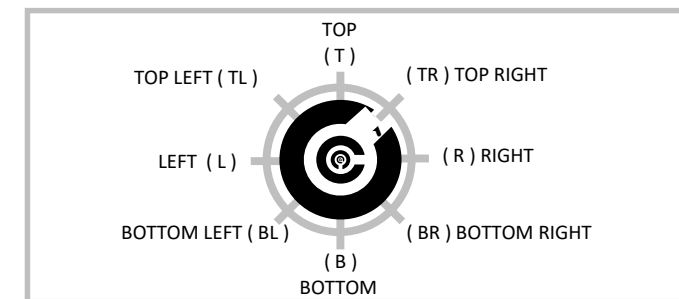
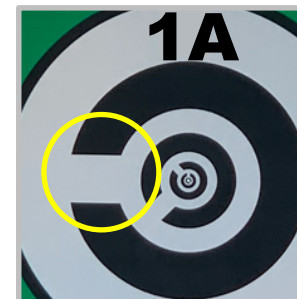


Payload Functionality (PAY)

ALIGN AND IDENTIFY ACUITY TARGETS

Align with each bucket long enough to capture a **single alignment image (NO ZOOM)** of each bucket AND a **single acuity image (MAX ZOOM)** of each target. Score 1 point for each correct identification of the 5 increasingly small Concentric C gap directions.

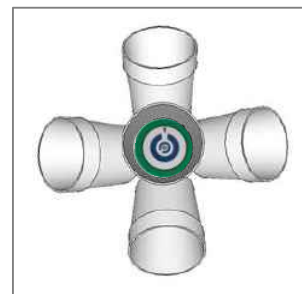
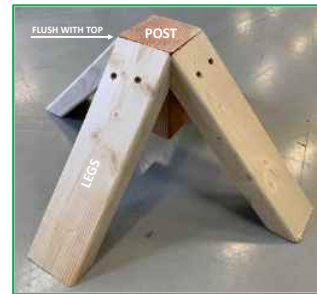
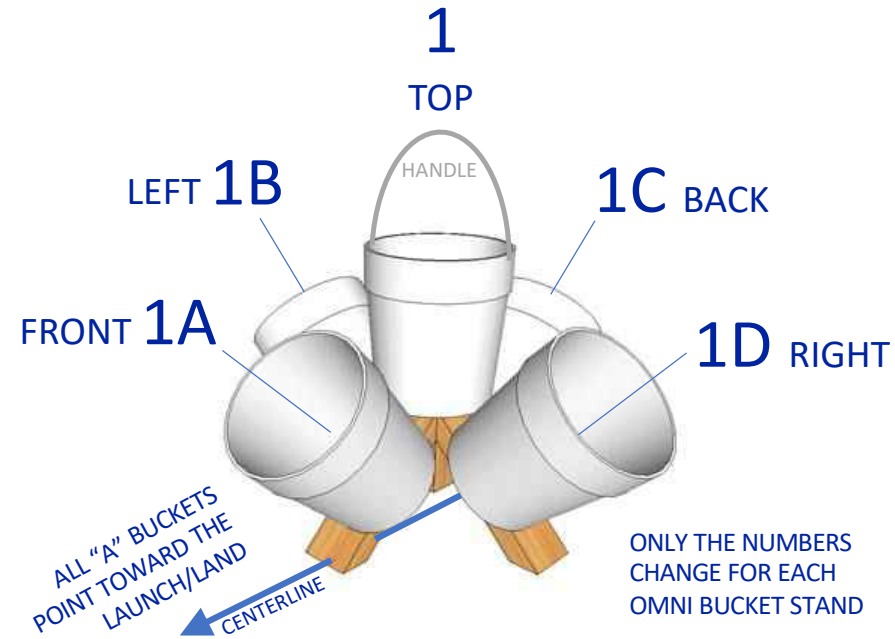
20 TARGETS TOTAL UP TO 100 POINTS



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Obstructed Test Lane

WHITE BUCKETS & GREEN RINGS

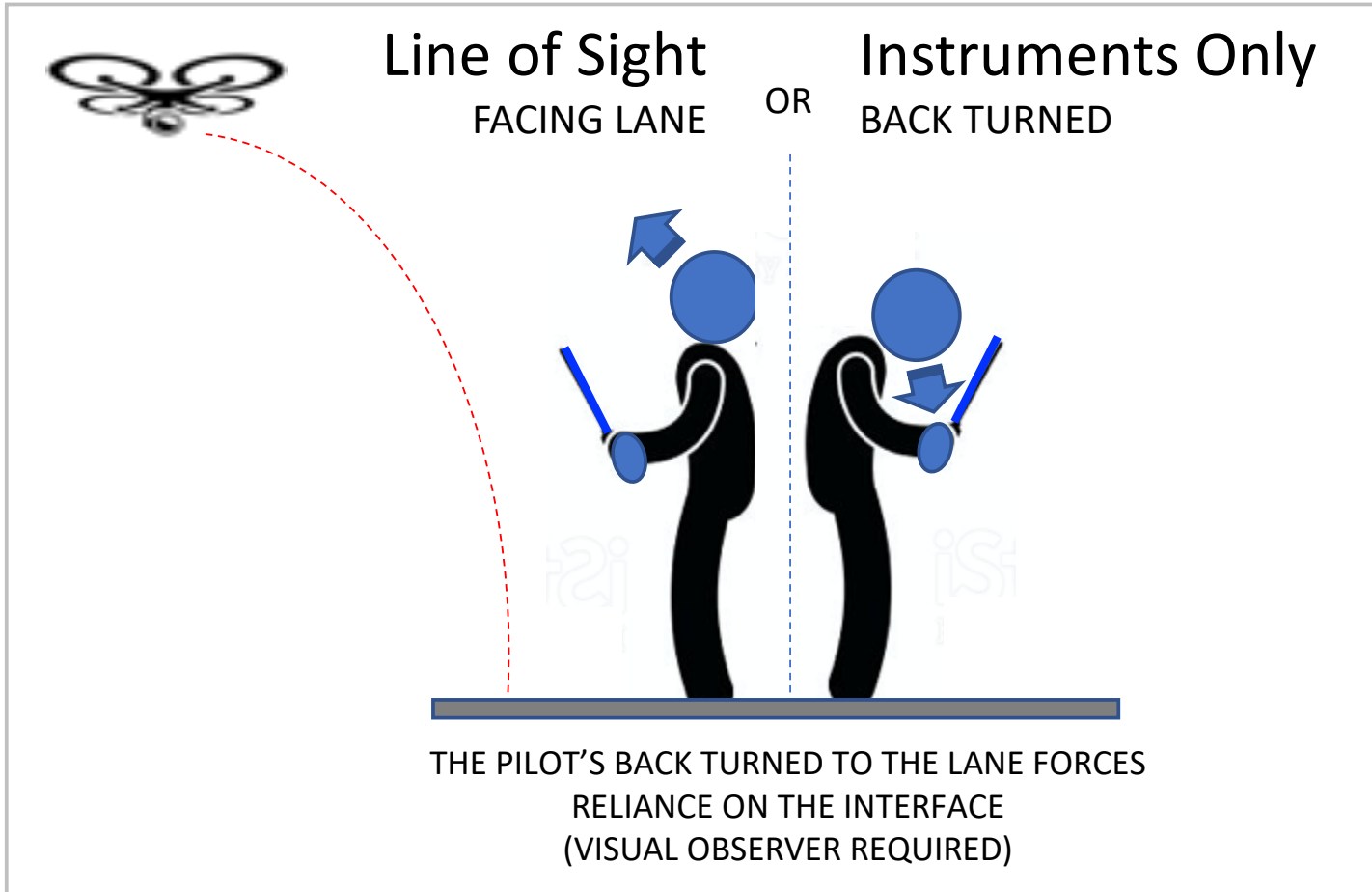


BLACK BUCKETS & COLOR RINGS



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Obstructed Test Lane



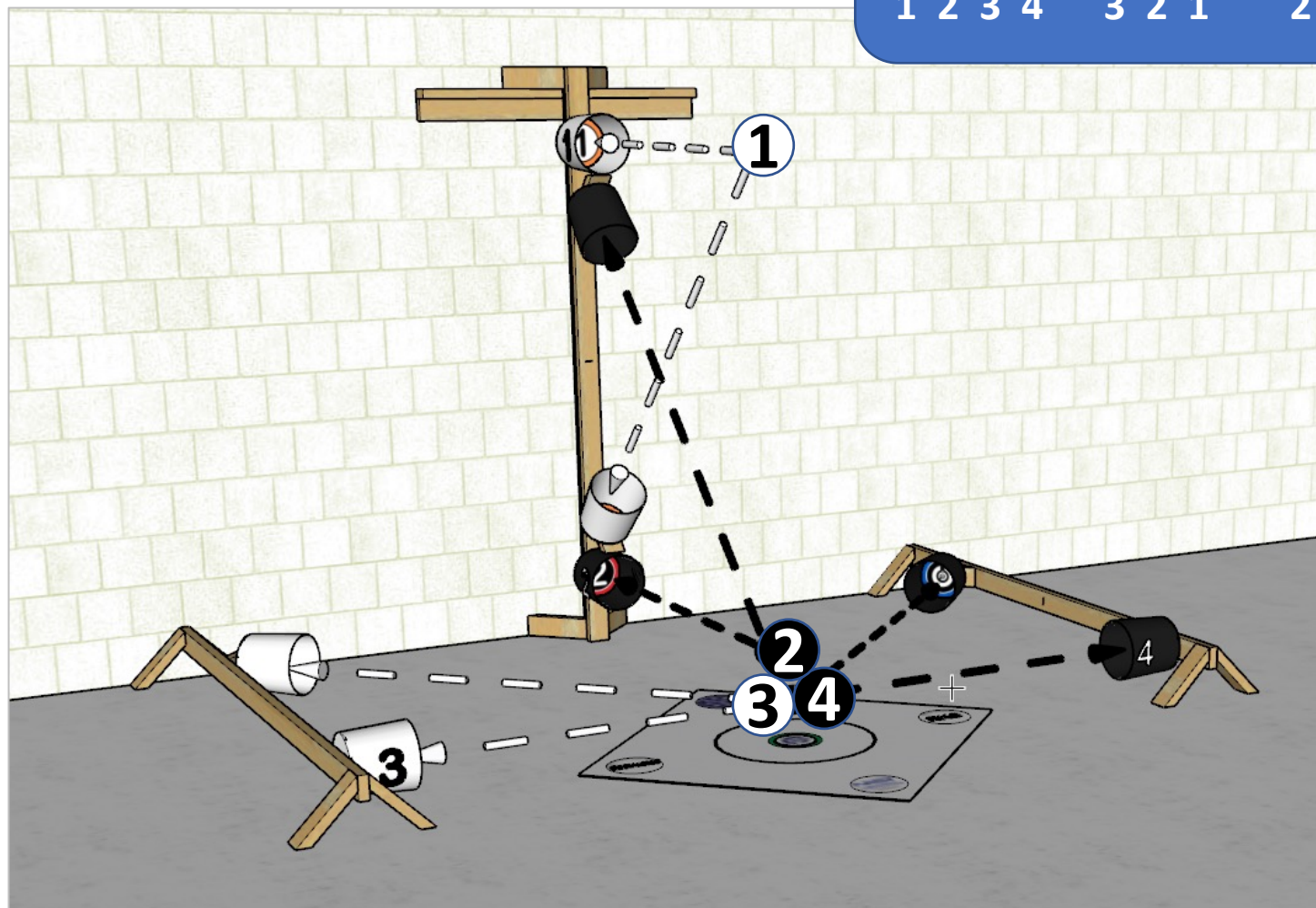
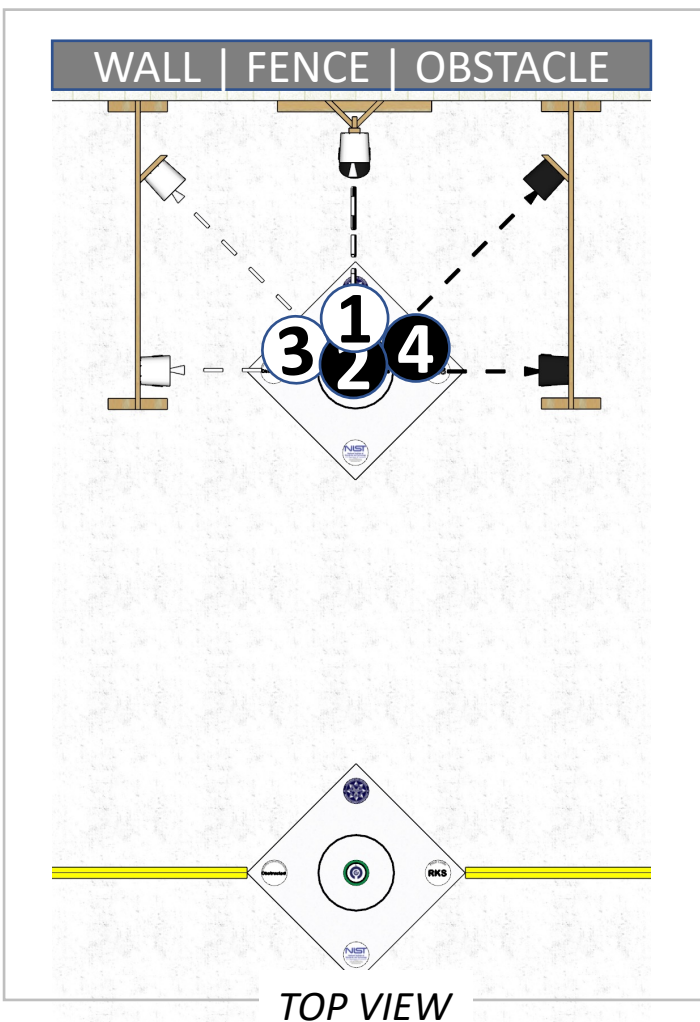
Dual Bucket Rail Apparatus

Obstructed Test Lane

Perch Test (PAY 6)

Obstructed Test Lane

FLIGHT PATH
10 POSITIONS (20 BUCKETS)
FORWARD – REVERSE – FORWARD
1 2 3 4 3 2 1 2 3 4



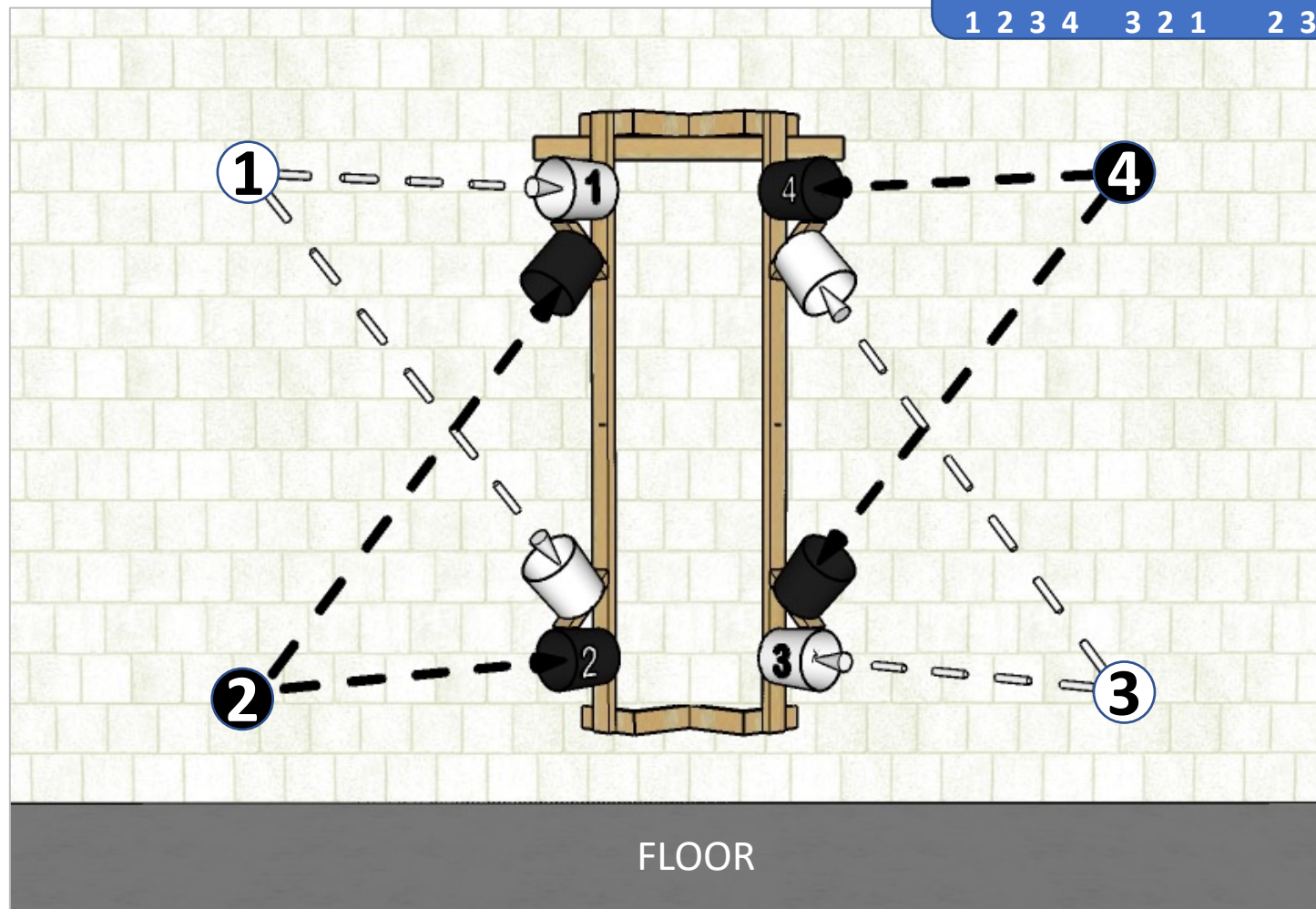
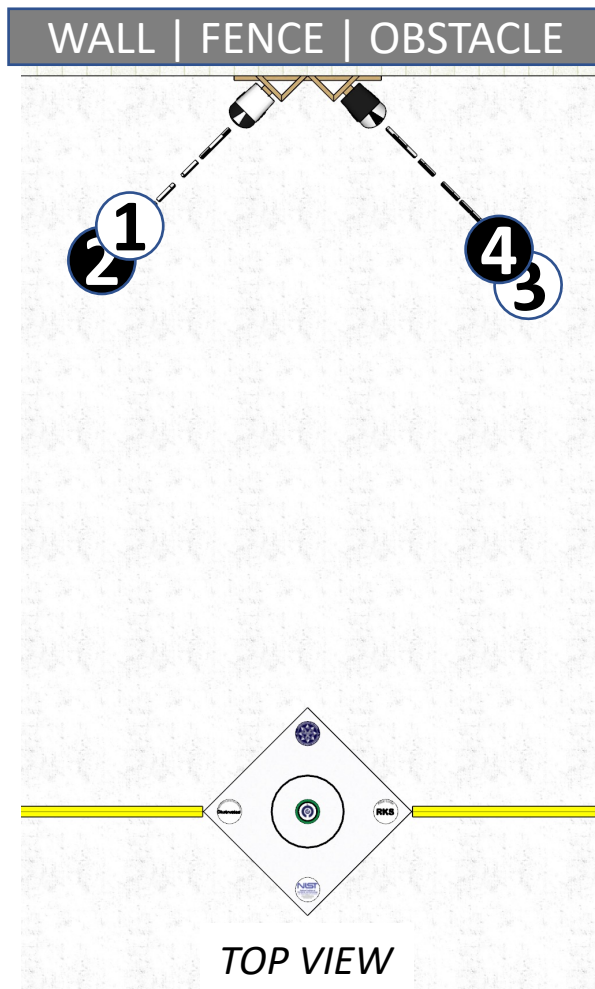
Perch Test (PAY 6)

Obstructed Test Lane

Wall Test (PAY 7)

Obstructed Test Lane

FLIGHT PATH
10 POSITIONS (20 BUCKETS)
FORWARD – REVERSE – FORWARD
1 2 3 4 3 2 1 2 3 4

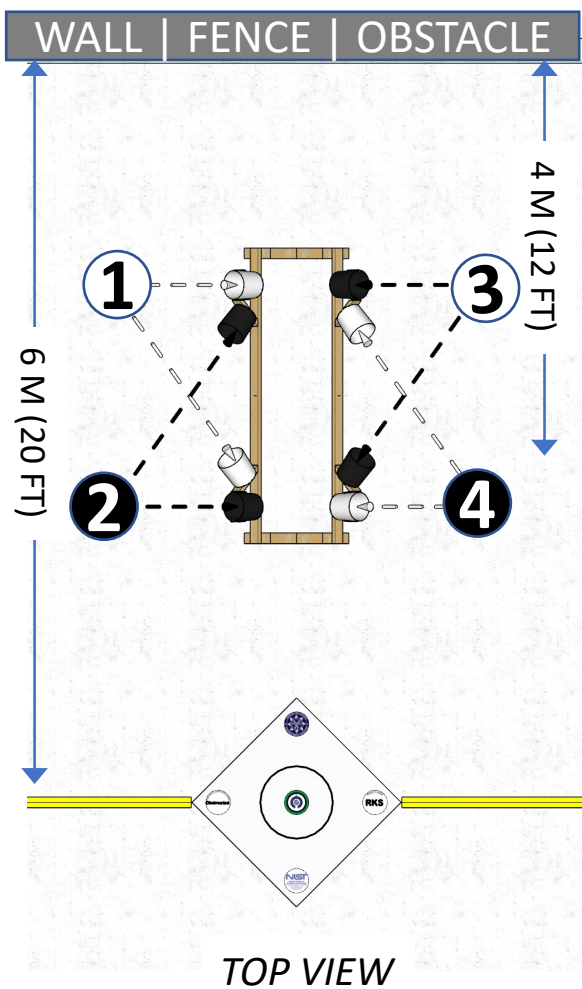


Wall Test (PAY 7)

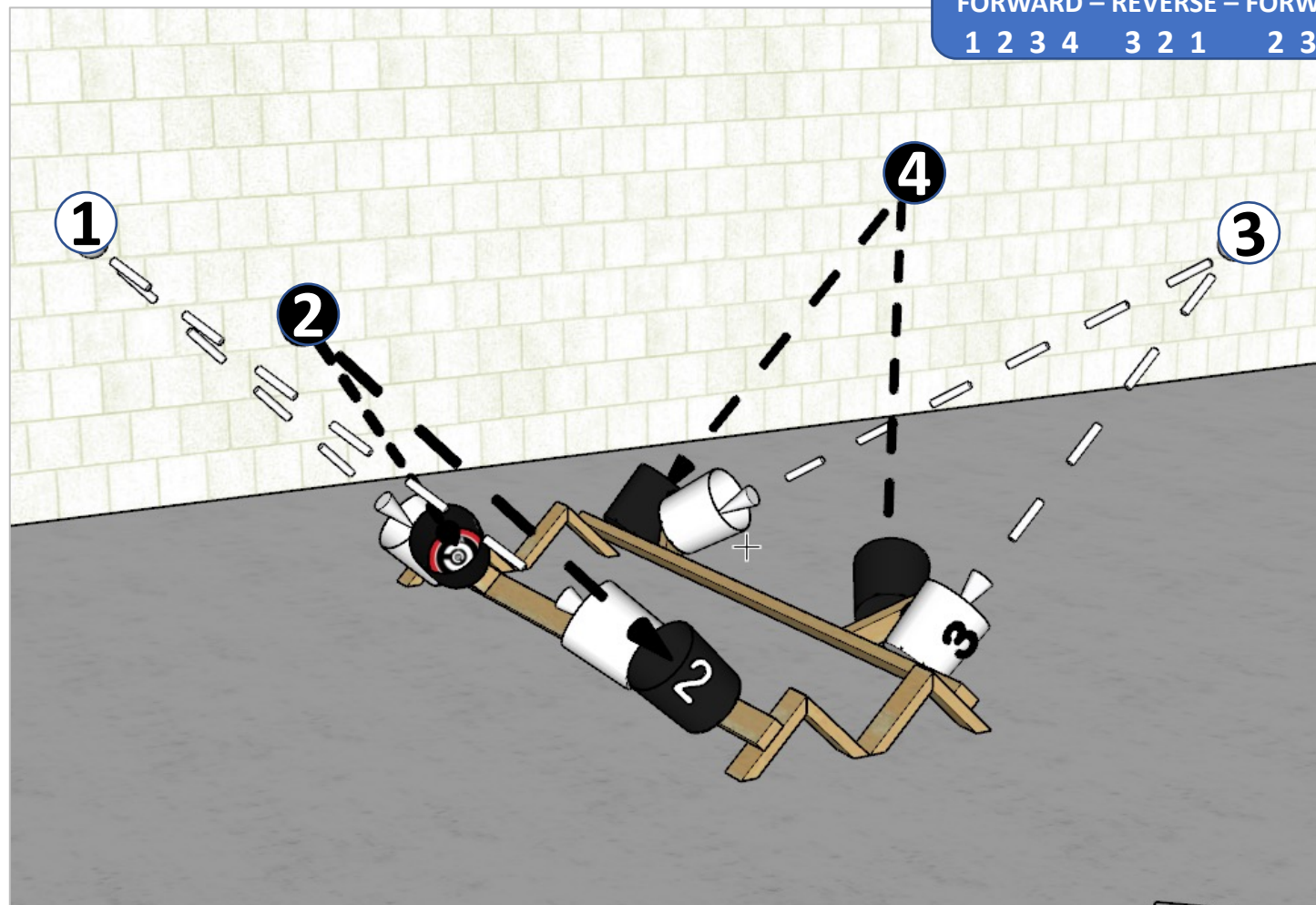
Obstructed Test Lane

Ground Test (PAY 8)

Obstructed Test Lane



FLIGHT PATH
10 POSITIONS (20 BUCKETS)
FORWARD – REVERSE – FORWARD
1 2 3 4 3 2 1 2 3 4



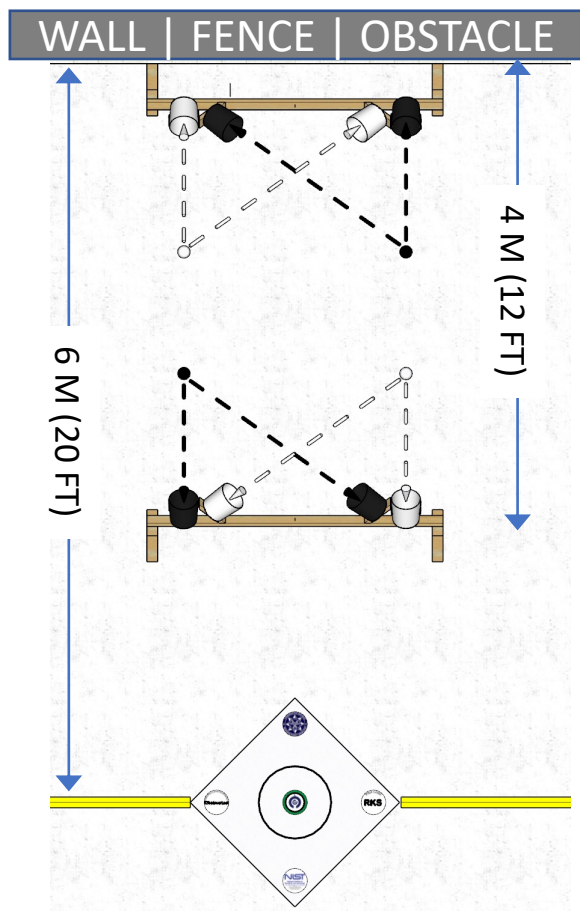
Ground Test (PAY 8)

Obstructed Test Lane

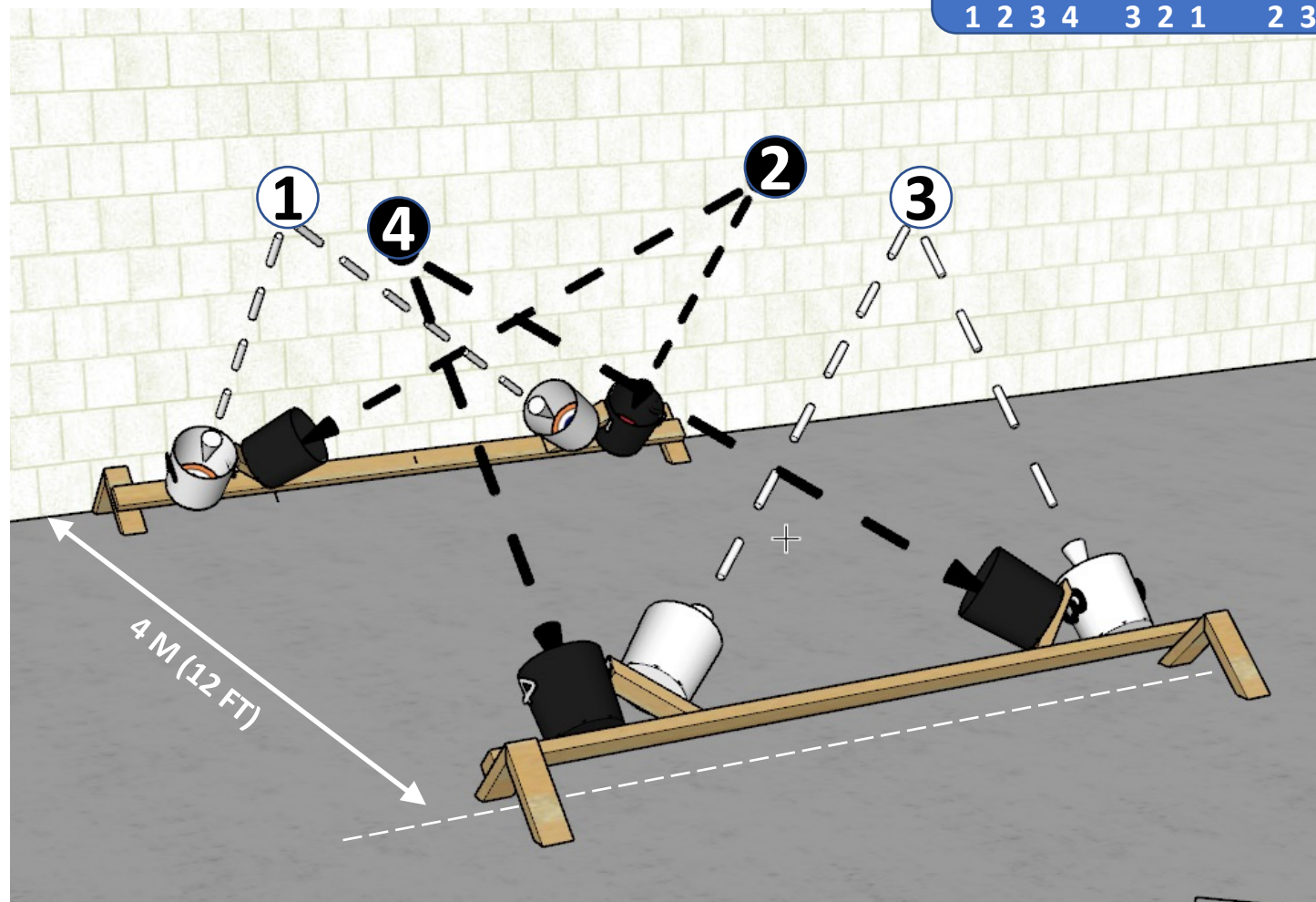
Alley Test (PAY 9)

Obstructed Test Lane

FLIGHT PATH
10 POSITIONS (20 BUCKETS)
FORWARD – REVERSE – FORWARD
1 2 3 4 3 2 1 2 3 4



TOP VIEW



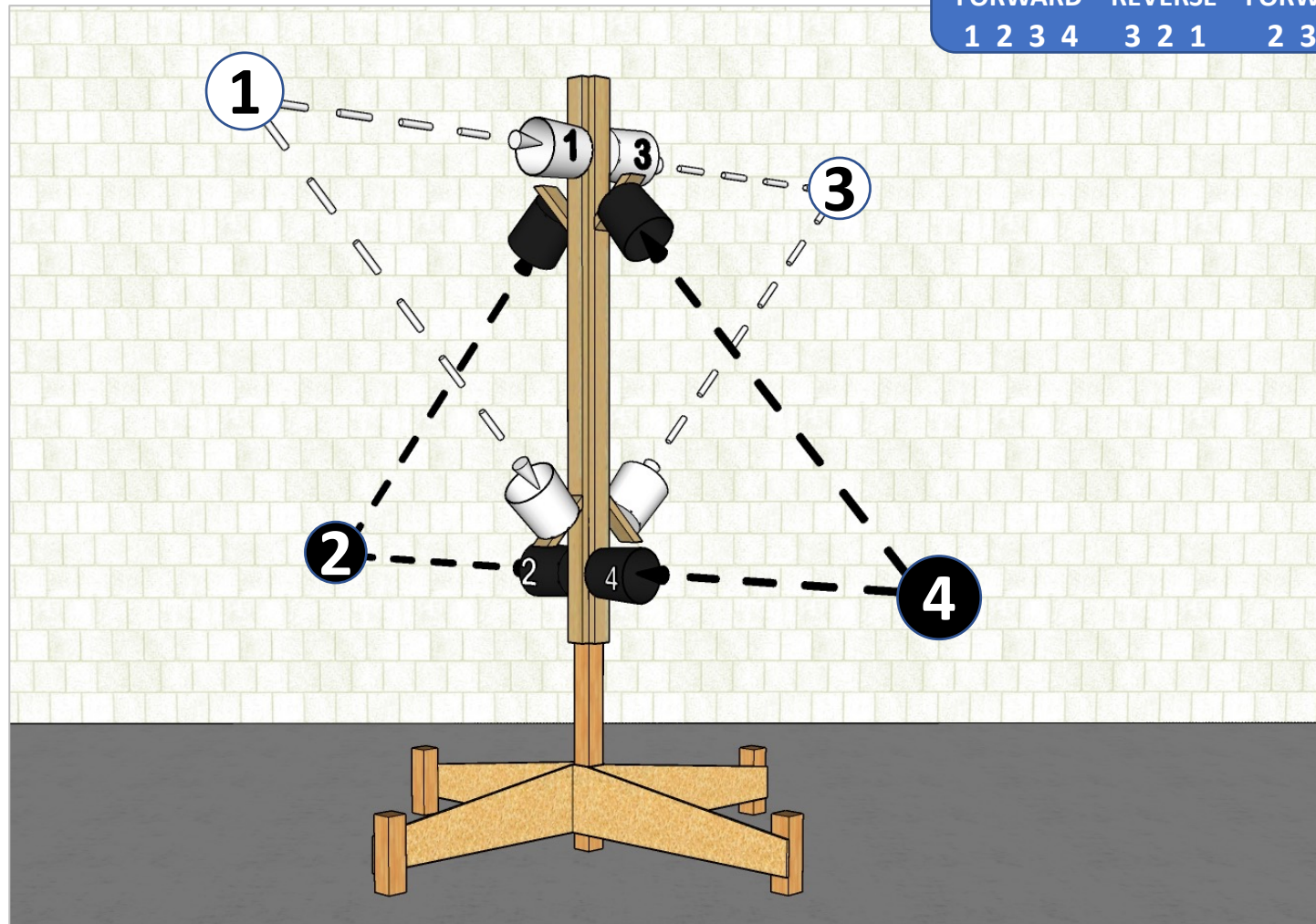
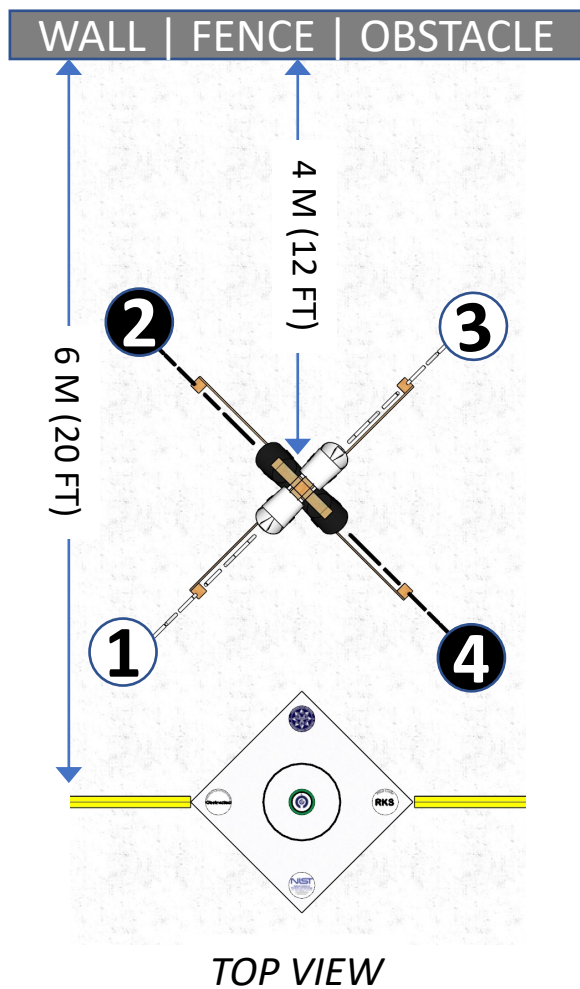
Alley Test (PAY 9)

Obstructed Test Lane

Post Test (PAY 10)

Obstructed Test Lane

FLIGHT PATH
10 POSITIONS (20 BUCKETS)
FORWARD – REVERSE – FORWARD
1 2 3 4 3 2 1 2 3 4



Post Test (PAY 10)

Obstructed Test Lane

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Obstructed Test Lane and Related Scenarios



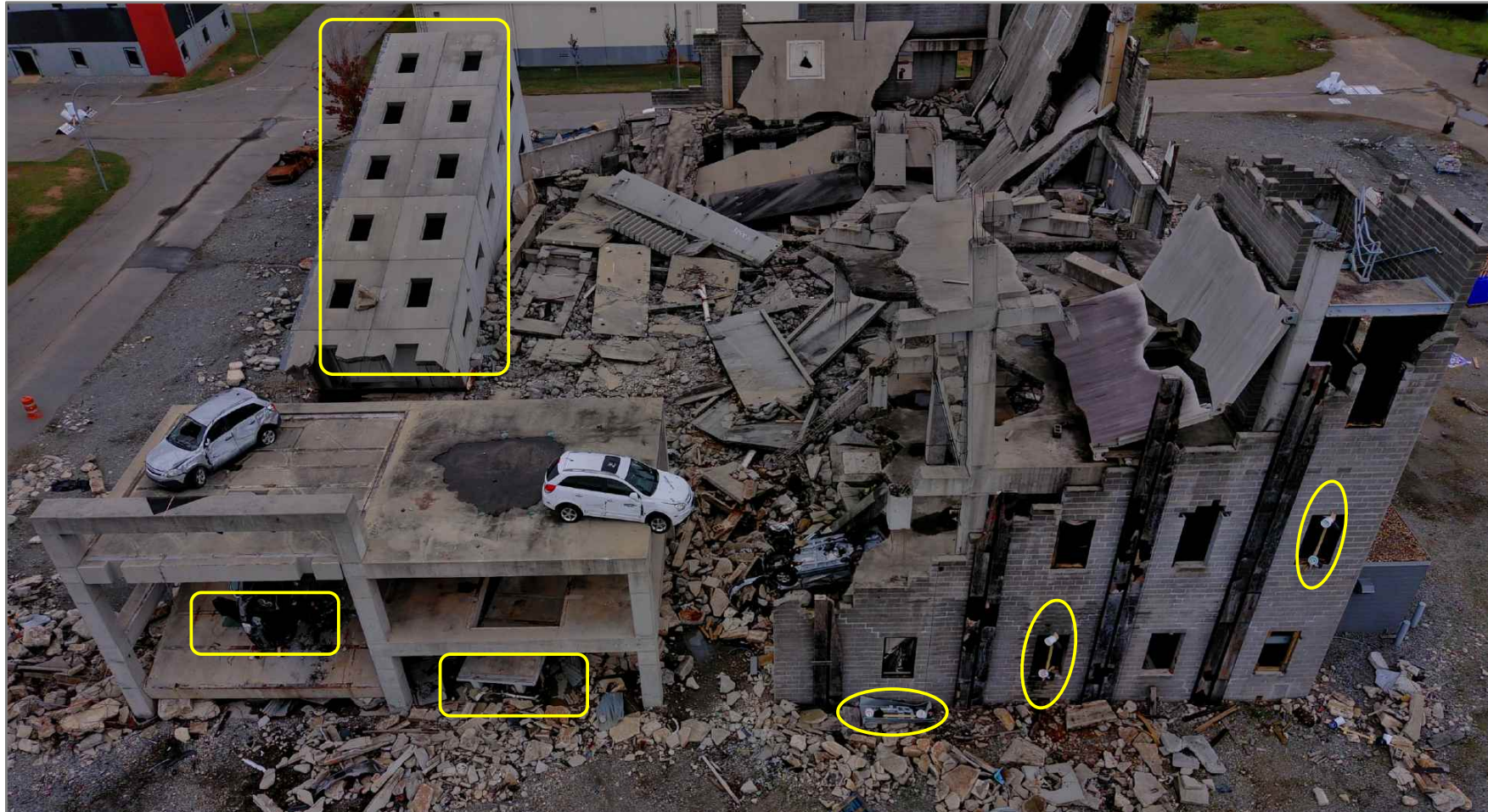
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Obstructed Test Lane and Related Scenarios



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Obstructed Test Lane and Related Scenarios



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Obstructed Test Lane and Related Scenarios



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Obstructed Test Lane and Related Scenarios



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Obstructed Test Lane and Related Scenarios



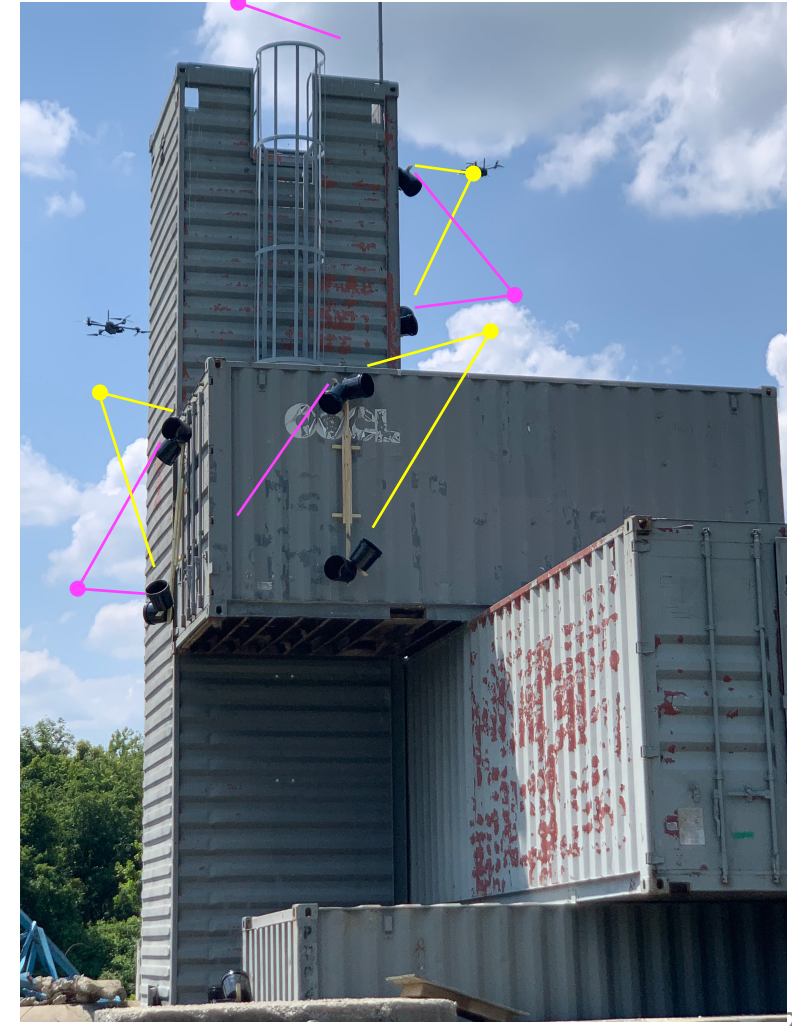
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Obstructed Test Lane and Related Scenarios



Flying in Close Proximity (6-10 ft) to Objects

Safety | Capabilities | Proficiency



Three Different Test Lanes for Different Missions

Safety | Capabilities | Proficiency

OPEN TEST LANE



OBSTRUCTED TEST LANE



CONFINED TEST LANE



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Obstructed Test Lane and Related Scenarios



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Obstructed Test Lane and Related Scenarios

