PROPOSED INSULATED BLANKET/TARP DESIGN PLANS

PREPARED FOR:

TRAINE

PREPARED ON:
March 29, 2025

Sheet Number	Sheet Name
1	Cover Page
2	ROV General Form Layout
3	Peri Gang Forms
4	Insulating Blanket Cross-Section & Materials
5	Hook Design
6	Insulating Blanket Layout
7	Launching Insulated Blanket onto Peri Gang Forms
8	Notes

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SHEET 1 OF 8

DWG #: 001	CONCEPT DRAWING - NOT FOR CONSTRUCTION	CURRENT REVISION	-
		REVISION DATE	-
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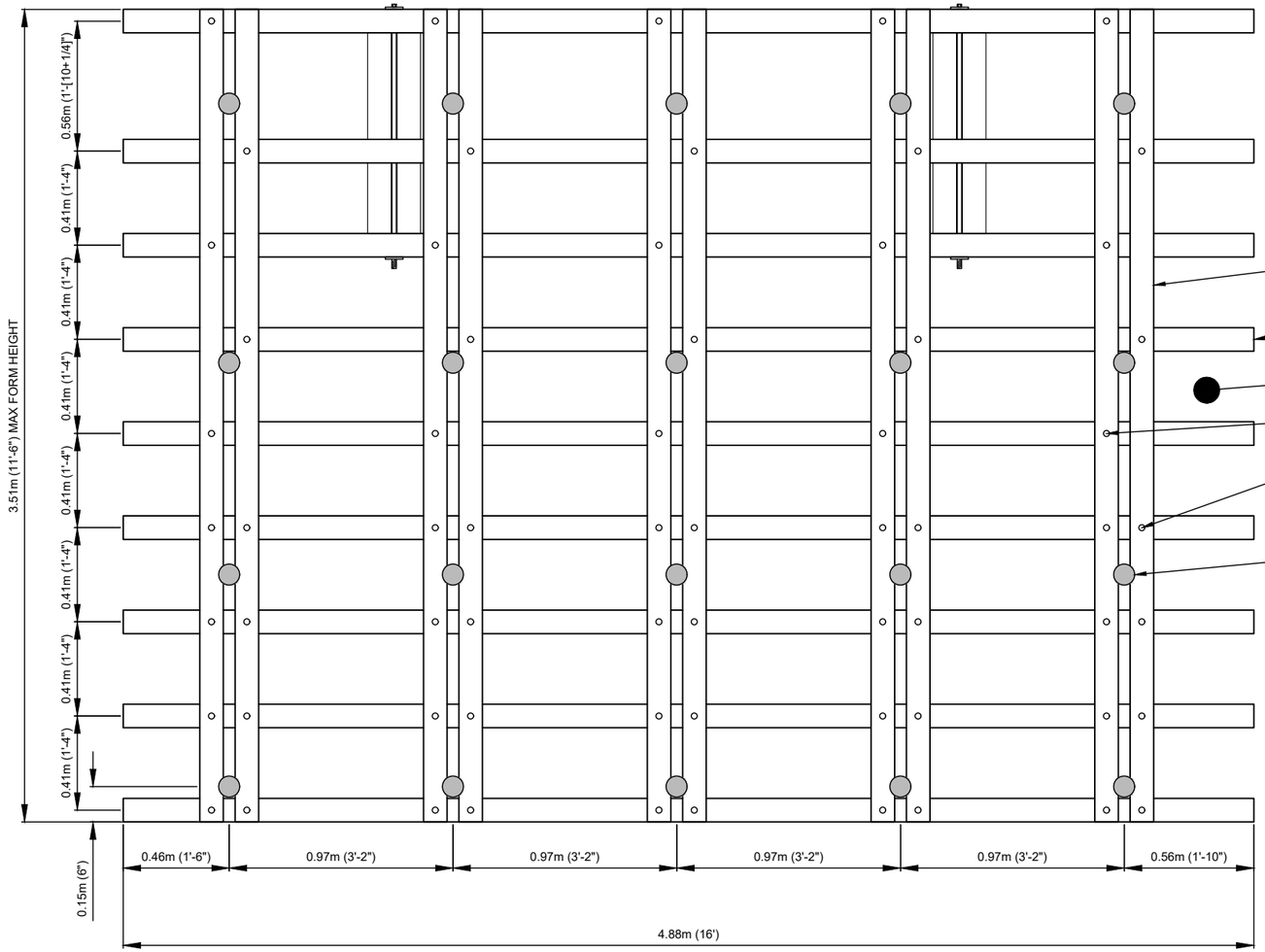
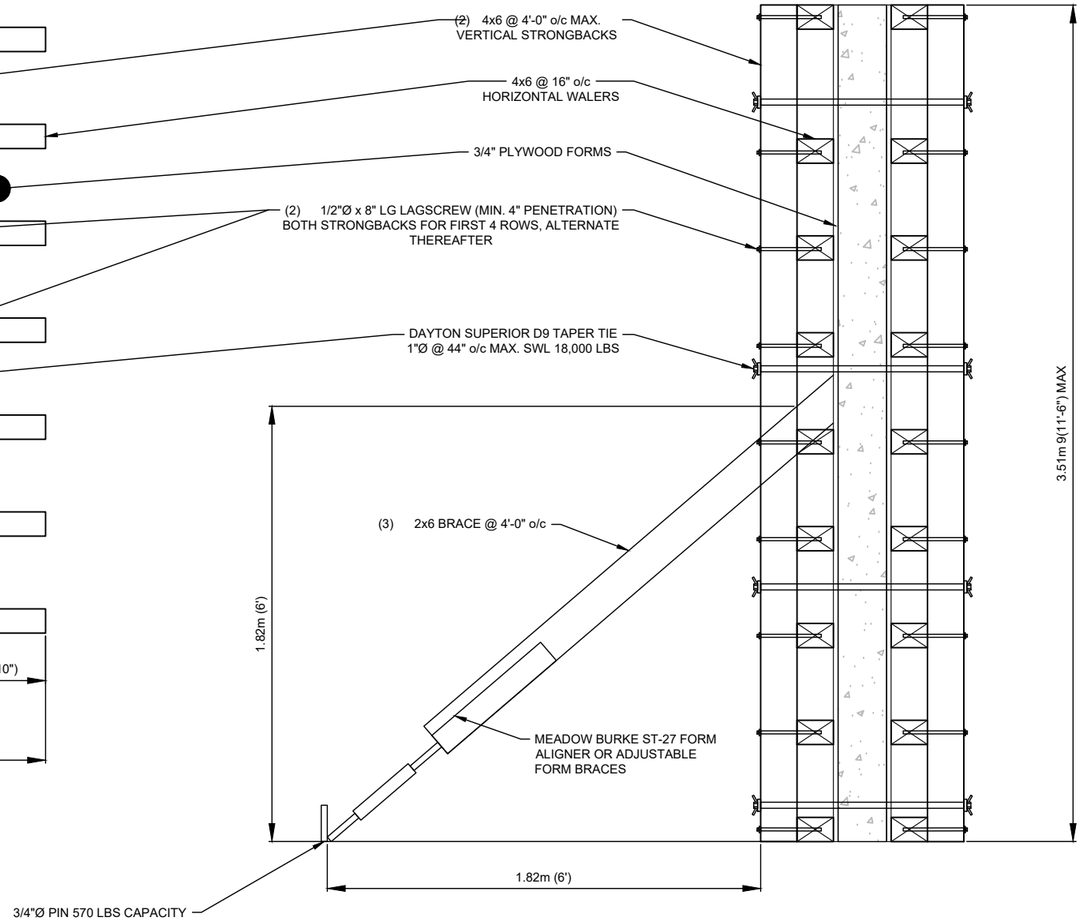


ROV FORM PROFILE VIEW
SCALE 1:25

-0.25 0 0.25 0.5 0.75 1 1.25

IT IS TO BE NOTED THAT THE DRAWINGS ON SHEET 2 (THIS SHEET) WERE MADE AND PROVIDED BY ROV - ENGINEERING CONSULTANTS. THESE DRAWINGS PROVIDE THE NECESSARY DIMENSIONS THAT THE INSULATION BLANKET/TARP IS TO BE DESIGNED TO.



ROV FORM SECTIONAL VIEW
SCALE 1:25

-0.25 0 0.25 0.5 0.75 1 1.25

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PROPOSED INSULATED BLANKET/TARP DESIGN PLANS

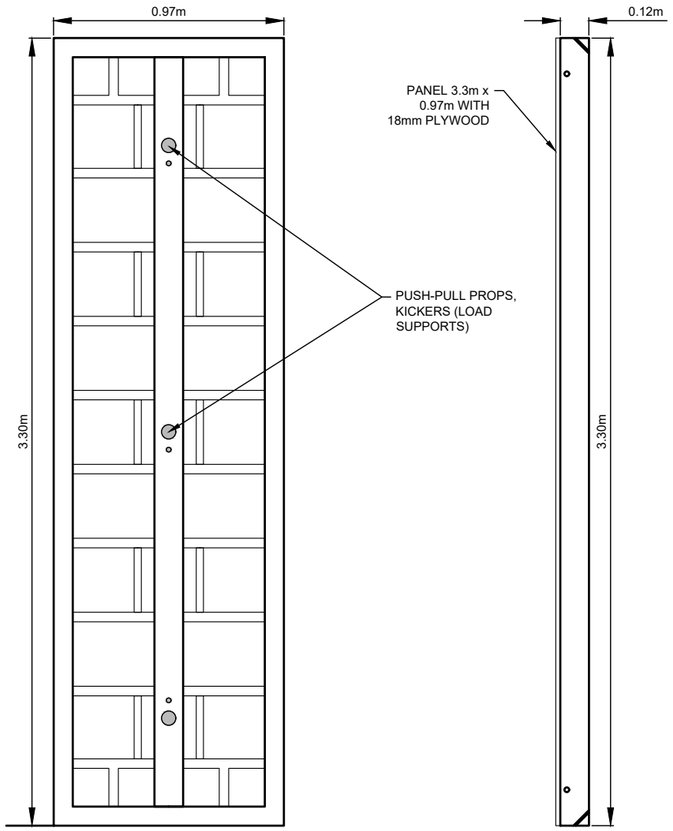
SHEET NAME: ROV GENERAL FORM LAYOUT

SCALE: As Indicated	REFERENCE DRAWING: ROV Engineering Consultants
DESIGN BY: Infrastructure Group A	DRAWING DATE: March 29, 2025
DRAWN BY: Jeffrey Robertson	REVISION NUMBER: 0
REVIEWED BY: To Be Determined	REVISION DATE:-
CONCEPT DATE: JAN, 21, 2025	DWG#: 001

SHEET 2 OF 8

SINGLE PERI PANEL SIDE (3.3m x 1.2m):
SCALE 1:25

-0.25 0 0.25 0.5 0.75 1 1.25



SINGLE PERI PANEL FRONT (3.3m x 1.2m):
SCALE 1:25

-0.25 0 0.25 0.5 0.75 1 1.25

EXACT PERI GANG FORM DIMENSIONS COULD NOT BE FOUND ON THE ASSEMBLY INSTRUCTIONS; THEREFORE, ESTIMATIONS WERE USED IN ORDER TO COMPLETE THE PRELIMINARY DESIGNS. IT IS TO BE NOTED THAT SOME DIMENSIONS ON THIS SHEET MAY VARY.

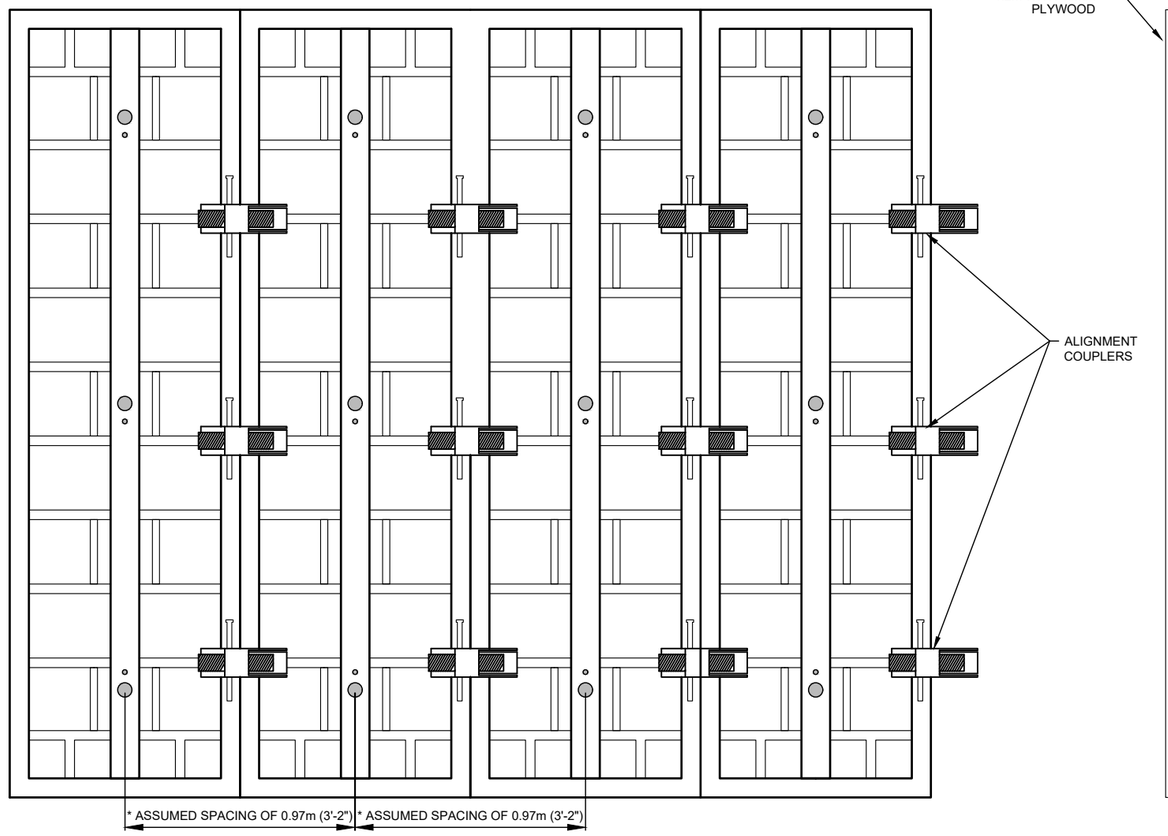
FOR THE PURPOSES OF THIS DRAFT, THE LARGEST MAXIMO PERI FORM HEIGHT OF 3.3m (10'- 10") WILL BE ASSUMED BECAUSE THIS BEST COMPLIES WITH THE GENERAL DRAWING ON SHEET 2, AND THE FORM SIZES LISTED ON THE PERI WEBSITE. TO AGAIN COMPLY WITH THE DRAWING ON SHEET 2, THE LENGTH WILL BE ASSUMED TO BE 0.97m (3'-2").

*SINCE THE EXACT DIMENSIONS OF PERI GANG WERE NOT ABLE TO BE FOUND, THE SPACING BETWEEN PUSH-PULL KICKERS (FORM SUPPORTS) WILL BE ASSUMED AS 0.97m (3'-2") AS IN THE "ROV GENERAL FORM LAYOUT" ON SHEET 2.

REFERENCE:
PERI. (2018). MAXIMO MX 15, Panel Formwork 270 | 330. Instructions for Assembly and Use – Standard Configuration – Issue 04. https://www.peri.ca/en

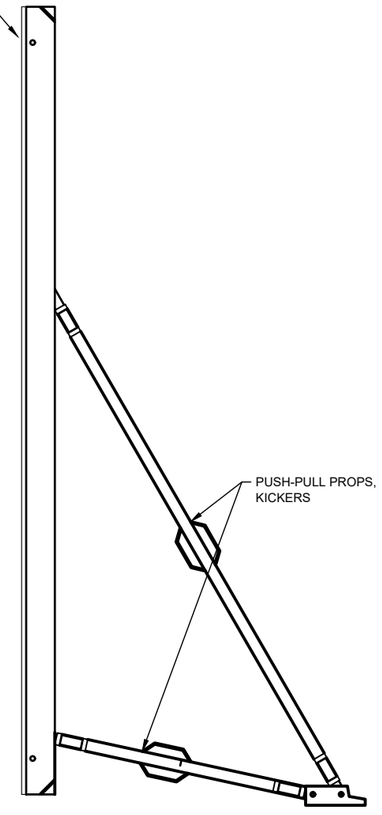
LINKED PERI GANG FORMS FRONT VIEW:
SCALE 1:25

-0.25 0 0.25 0.5 0.75 1 1.25



LINKED PERI GANG FORMS SIDE VIEW:
SCALE 1:25

-0.25 0 0.25 0.5 0.75 1 1.25



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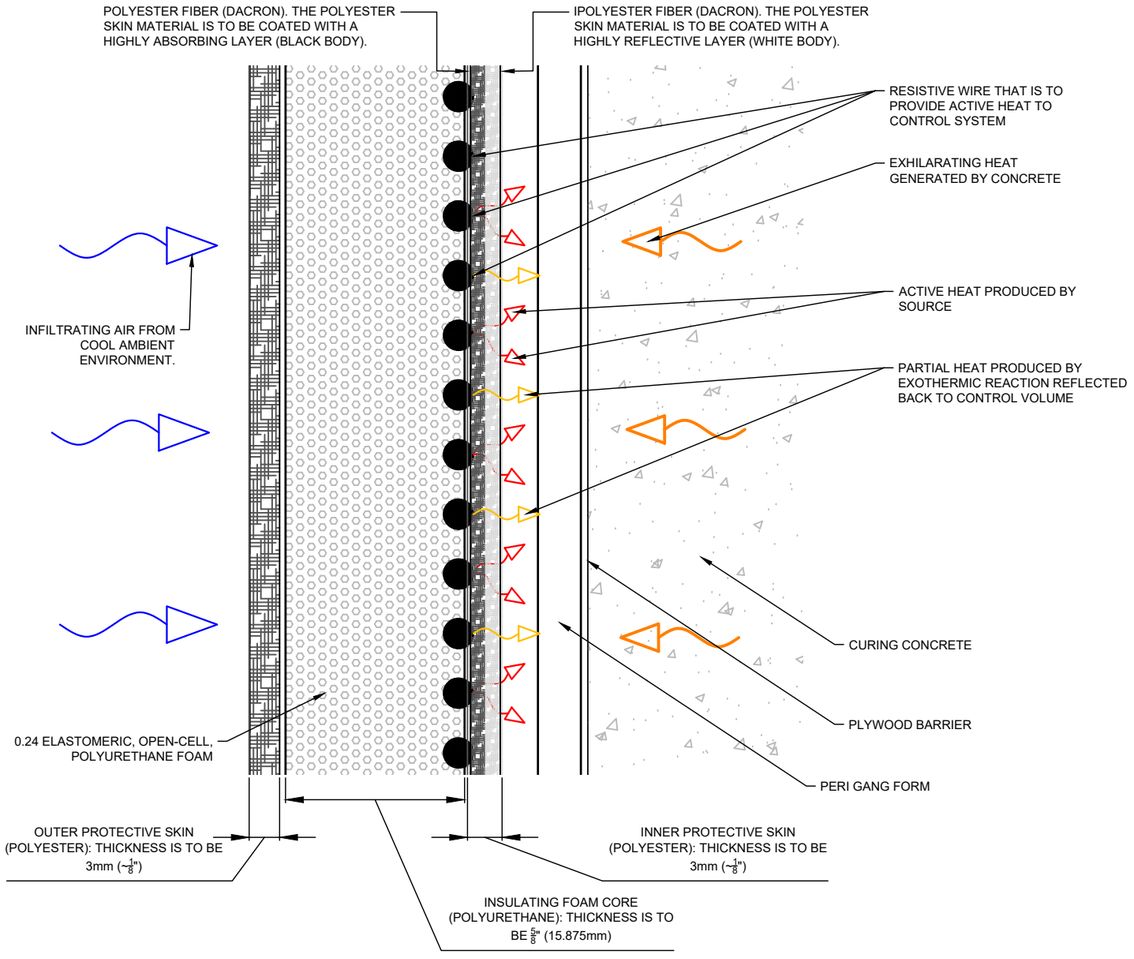
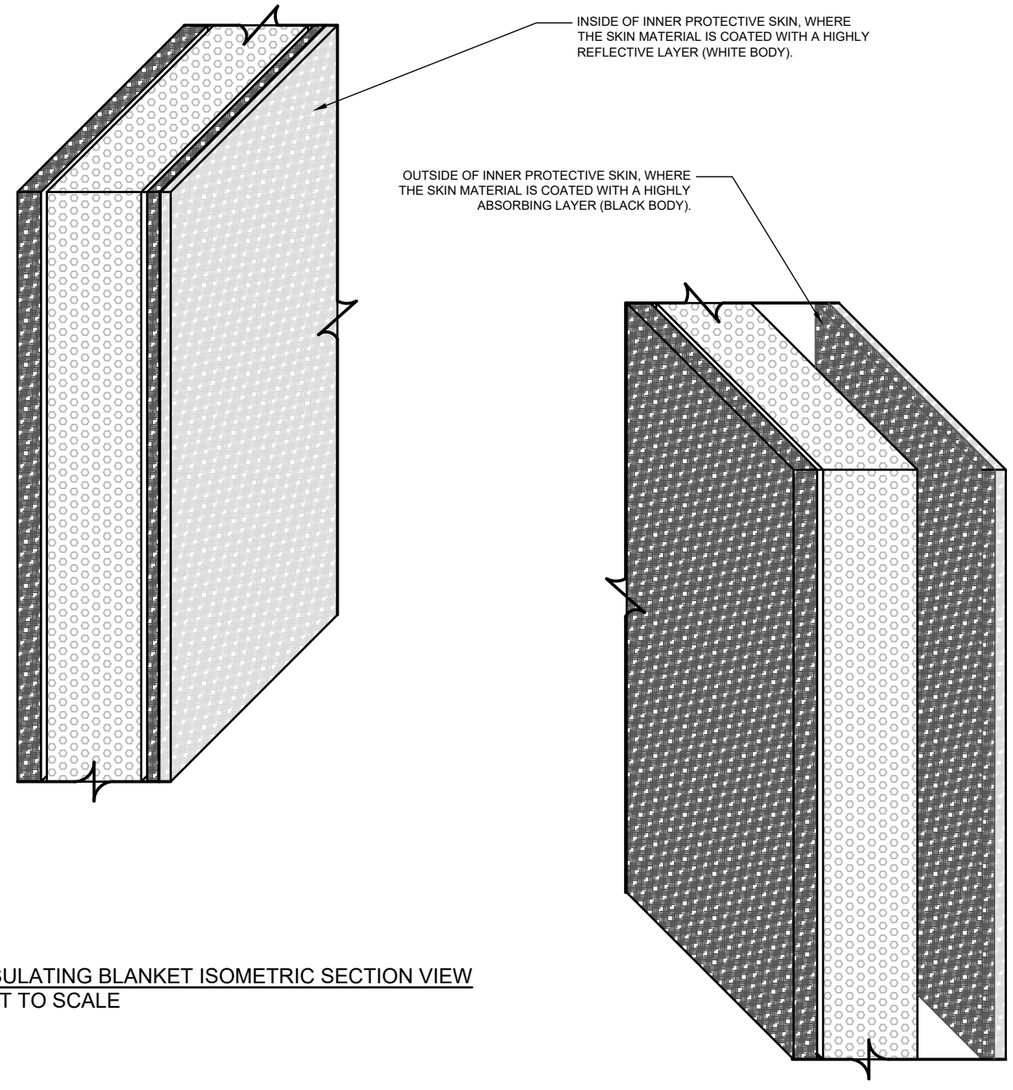
PROPOSED INSULATED BLANKET/TARP DESIGN PLANS	SCALE: As Indicated	REFERENCE DRAWING: ROV Engineering Consultants
	DESIGN BY: Infrastructure Group A	DRAWING DATE: March 29, 2025
	DRAWN BY: Jeffrey Robertson	REVISION NUMBER: 0
SHEET NAME: PERI GANG FORMS	REVIEWED BY: To Be Determined	REVISION DATE:-
	CONCEPT DATE: JAN, 21, 2025	DWG#: 001

NOT TO SCALE



INSULATING BLANKET SECTIONAL VIEW
NOT TO SCALE

NOT TO SCALE



INSULATING BLANKET ISOMETRIC SECTION VIEW
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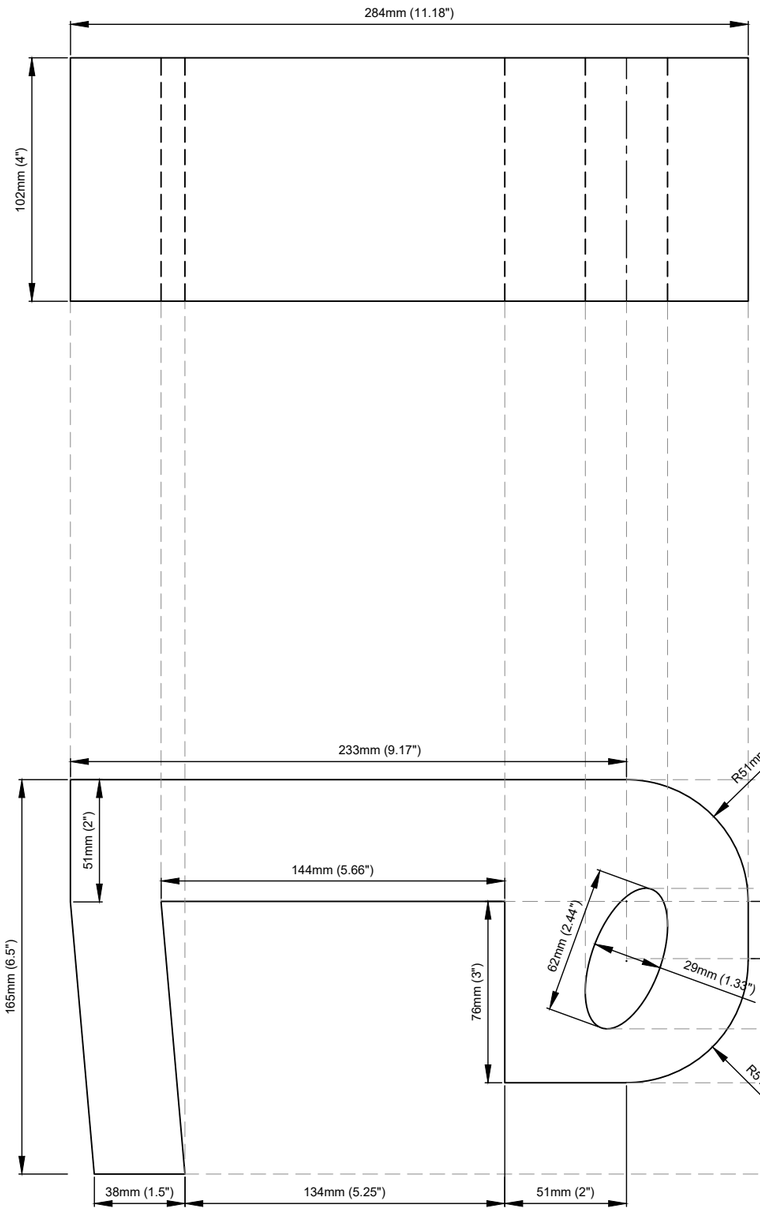
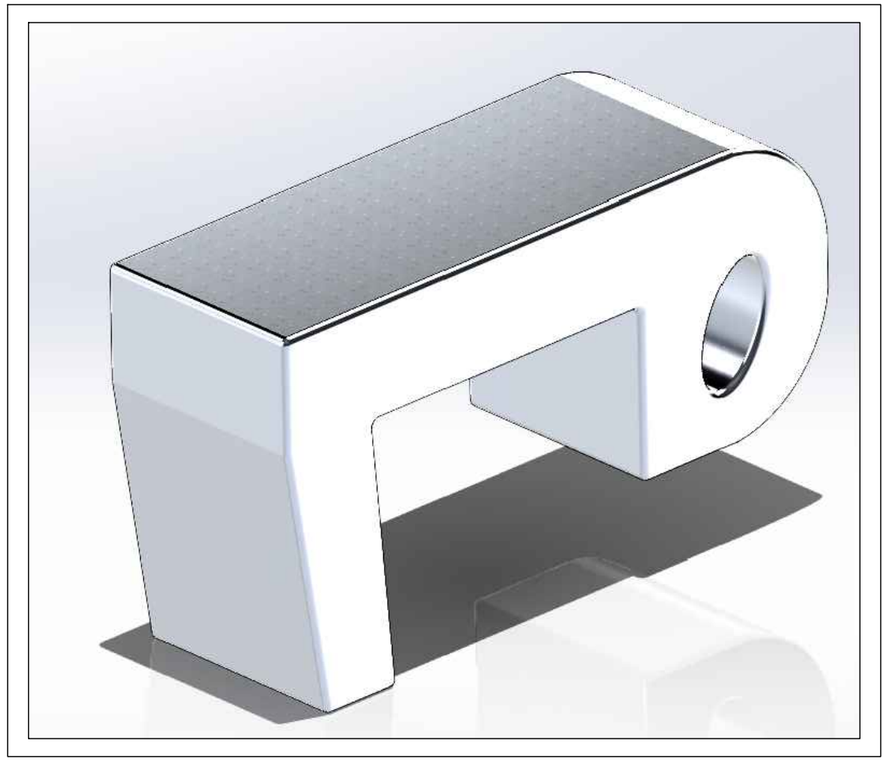
	DESIGN BY: Infrastructure Group A	DRAWING DATE: March 29, 2025
	DRAWN BY: Jeffrey Robertson	REVISION NUMBER: 0
SHEET NAME: INSULATING BLANKET CROSS-SECTION & MATERIALS	REVIEWED BY: To Be Determined	REVISION DATE:-
	CONCEPT DATE: JAN, 21, 2025	DWG#: 001

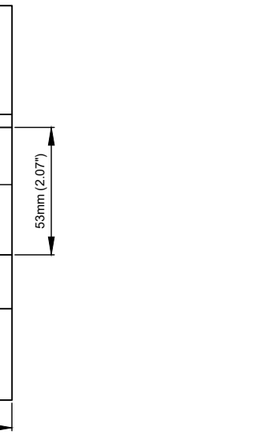
SHEET 4 OF 8

HOOK DESIGN - TOP VIEW:
SCALE 1:2.5

-2.5cm 0cm 2.5cm 5cm 7.5cm 10cm 1.25cm







HOOK DESIGN ORIGIN AND REPRODUCTION

THE HOOK DESIGN PRESENTED IN THIS DOCUMENT WAS ORIGINALLY DRAFTED USING AN ALTERNATIVE CAD SOFTWARE, SOLIDWORKS. TO ENSURE CONSISTENCY AND EASE OF REFERENCE, THE DRAWING HAS BEEN REPRODUCED WITHIN THIS DOCUMENT USING THE CURRENT CAD PLATFORM.

THE ORIGINAL IMAGE DESIGN WAS PRODUCED BY SEBASTIAN SCHMIDT.

HOOK DESIGN - SIDE VIEW:
SCALE 1:2.5

-2.5cm 0cm 2.5cm 5cm 7.5cm 10cm 1.25cm

HOOK DESIGN - FRONT VIEW:
SCALE 1:2.5

-2.5cm 0cm 2.5cm 5cm 7.5cm 10cm 1.25cm

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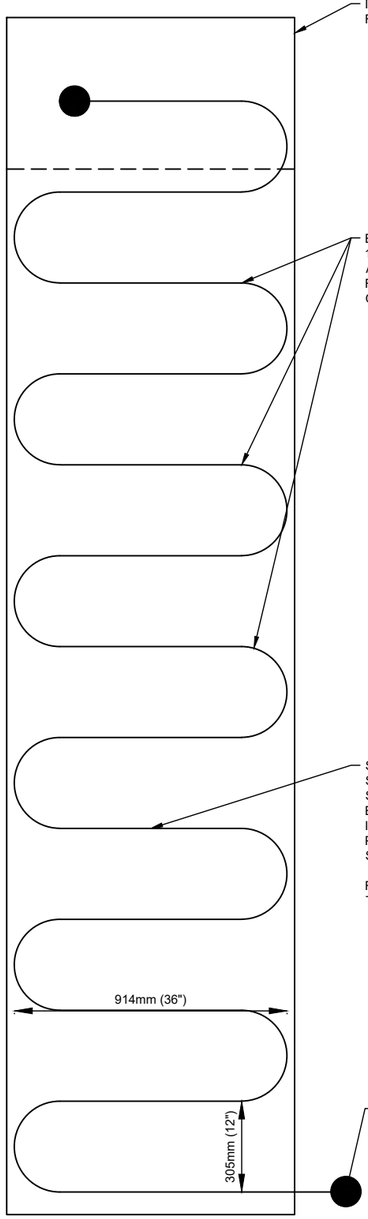
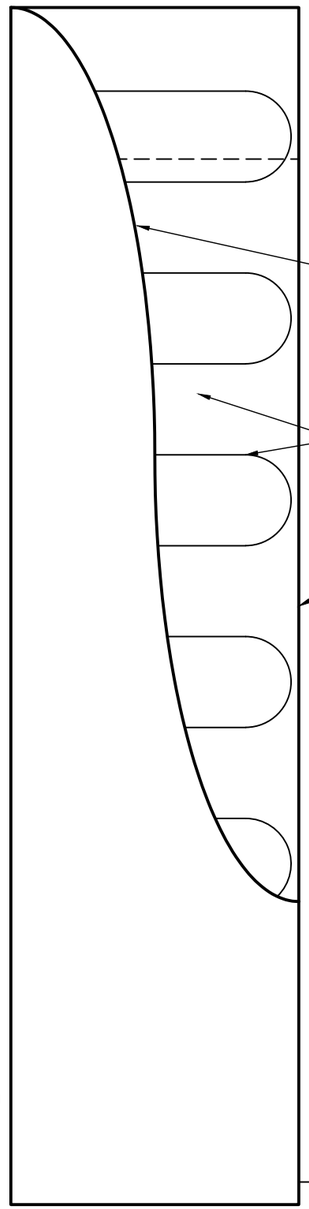
PROPOSED INSULATED BLANKET/TARP DESIGN PLANS

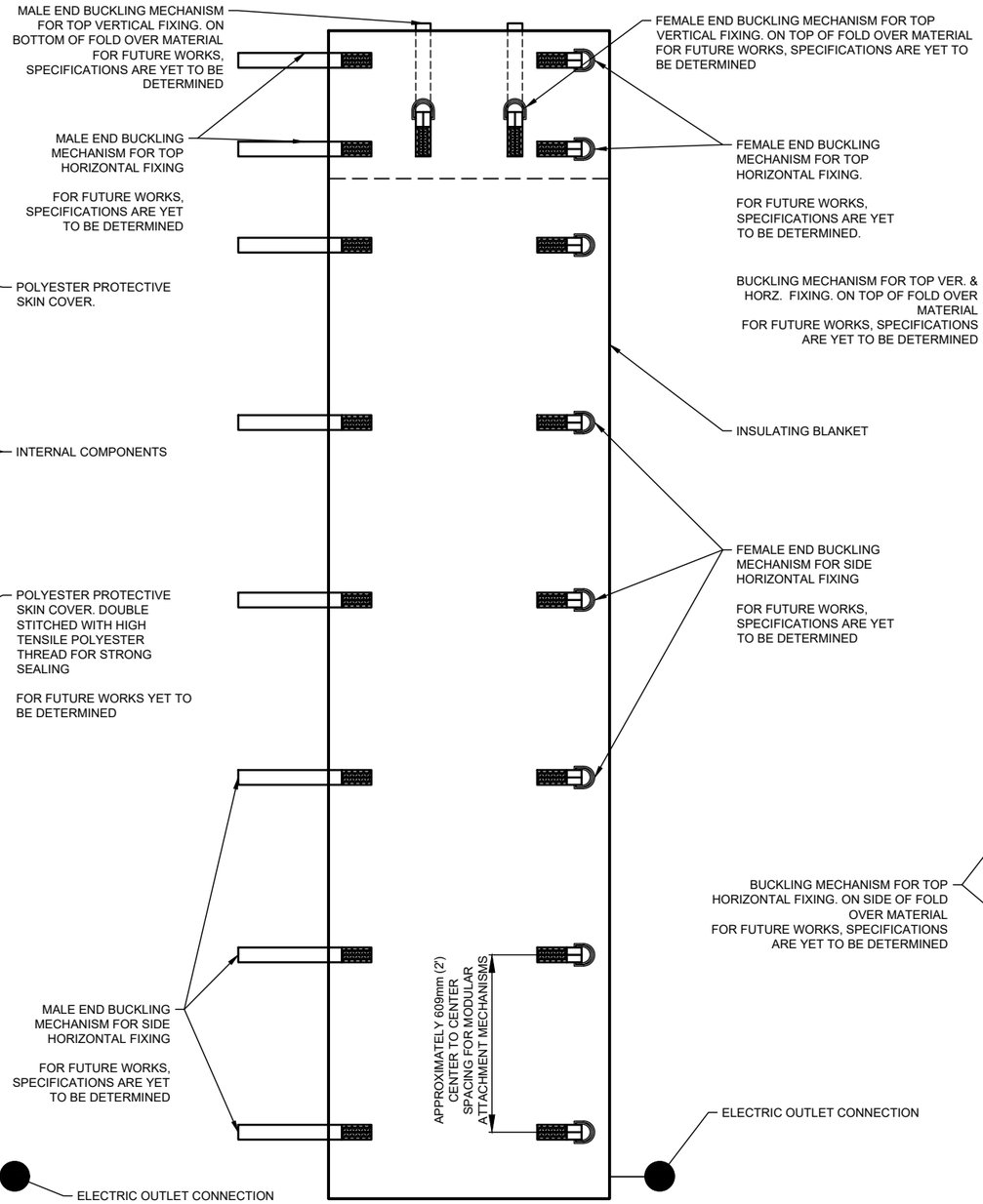
SHEET NAME: HOOK DESIGN

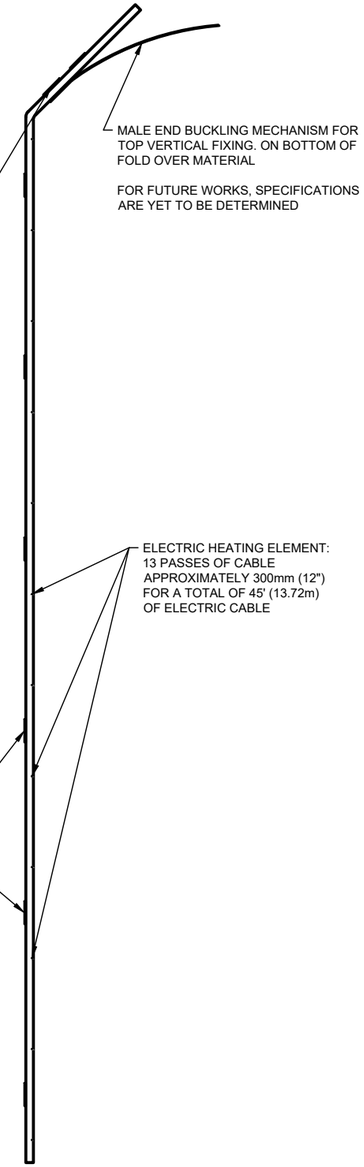
SCALE: As Indicated	REFERENCE DRAWING: ROV Engineering Consultants
DESIGN BY: Infrastructure Group A	DRAWING DATE: March 29, 2025
DRAWN BY: Jeffrey Robertson	REVISION NUMBER: 0
REVIEWED BY: To Be Determined	REVISION DATE:-
CONCEPT DATE: JAN, 21, 2025	DWG#: 001

SHEET 5 OF 8









INNER INSULATING BLANET COMPONENTS:
SCALE 1:25

-0.2 0 0.2 0.4 0.6 0.8 1

SECTIONAL INSULATING BLANET COMPONENTS:
SCALE 1:25

-0.2 0 0.2 0.4 0.6 0.8 1

FRONT VIEW INSULATING BLANKET:
SCALE 1:25

-0.2 0 0.2 0.4 0.6 0.8 1

SIDE VIEW INSULATING BLANKET:
SCALE 1:25

-0.2 0 0.2 0.4 0.6 0.8 1

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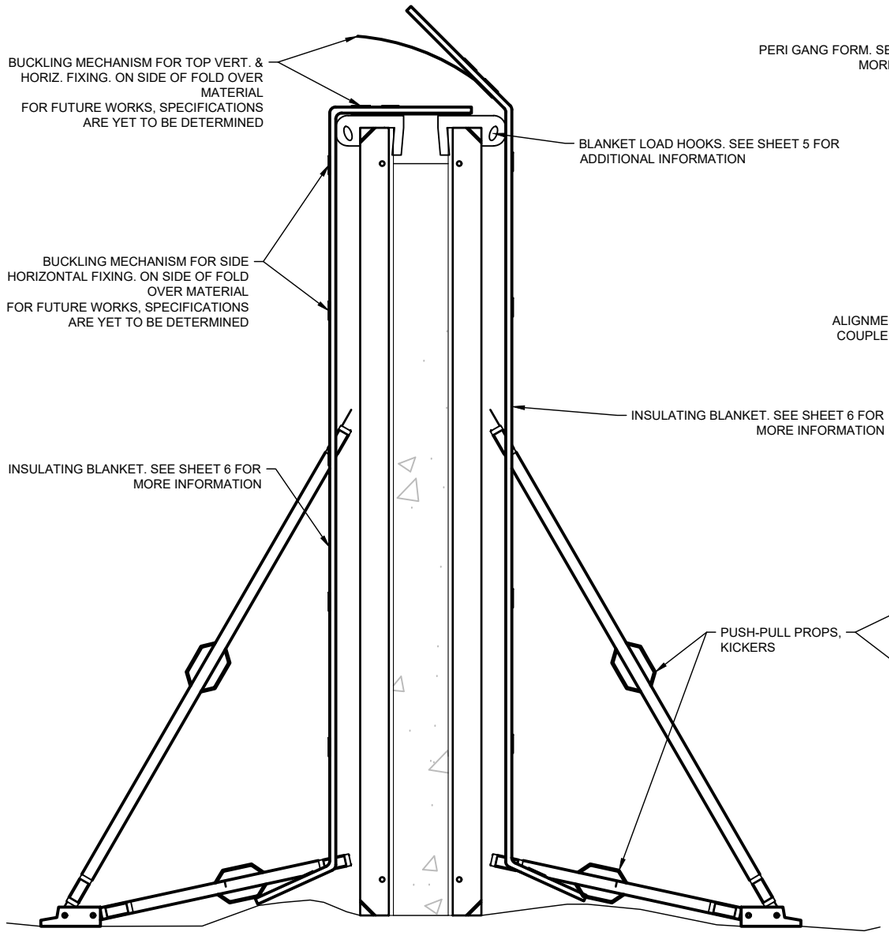
PROPOSED INSULATED BLANKET/TARP DESIGN PLANS

SHEET NAME: INSULATING BLANKET LAYOUT

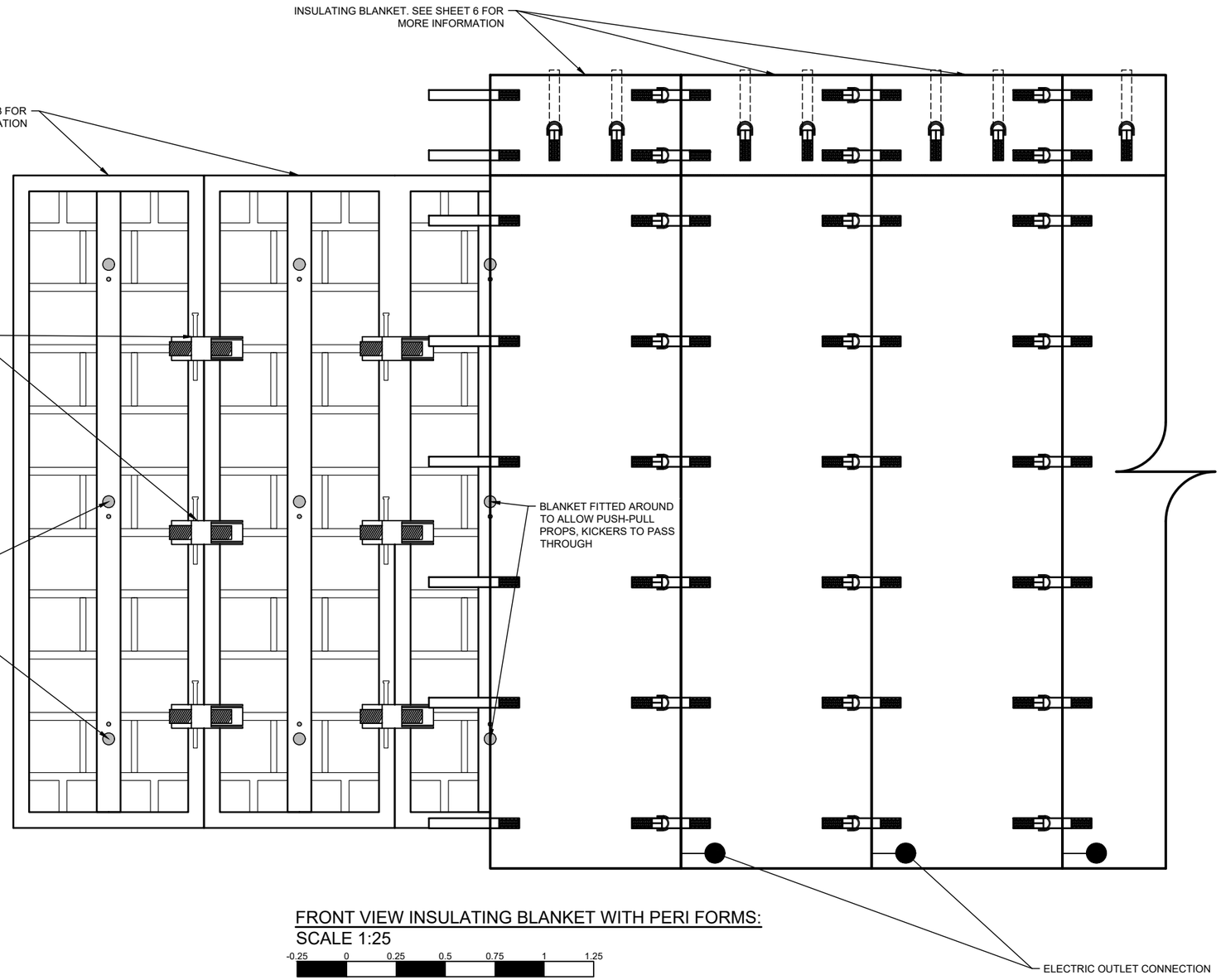
SCALE: As Indicated	REFERENCE DRAWING: ROV Engineering Consultants
DESIGN BY: Infrastructure Group A	DRAWING DATE: March 29, 2025
DRAWN BY: Jeffrey Robertson	REVISION NUMBER: 0
REVIEWED BY: To Be Determined	REVISION DATE:-
CONCEPT DATE: JAN, 21, 2025	DWG#: 001

SHEET 6 OF 8



SIDE VIEW INSULATING BLANKET WITH PERI FORMS:
SCALE 1:25

-0.25 0 0.25 0.5 0.75 1 1.25



FRONT VIEW INSULATING BLANKET WITH PERI FORMS:
SCALE 1:25

-0.25 0 0.25 0.5 0.75 1 1.25

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PROPOSED INSULATED BLANKET/TARP DESIGN PLANS

SHEET NAME: LAUNCHING INSULATED BLANKET ONTO PERI GANG FORMS

SCALE: As Indicated	REFERENCE DRAWING: ROV Engineering Consultants
DESIGN BY: Infrastructure Group A	DRAWING DATE: March 29, 2025
DRAWN BY: Jeffrey Robertson	REVISION NUMBER: 0
REVIEWED BY: To Be Determined	REVISION DATE:-
CONCEPT DATE: JAN, 21, 2025	DWG#: 001

SHEET 7 OF 8

1 - PURPOSE AND SCOPE

THIS CAD DRAWING IS INTENDED TO PROVIDE A COMPREHENSIVE AND ACCURATE REPRESENTATION OF THE DESIGN SOLUTION DEVELOPED TO ADDRESS THE CHALLENGE OF CONCRETE CURING IN COLD WEATHER CONDITIONS, SPECIFICALLY IN THE OKANAGAN AREA. THE PRIMARY OBJECTIVE OF THIS DESIGN IS TO FACILITATE CONCRETE POURS AT AMBIENT TEMPERATURES AS LOW AS -15°C.

THE MODULAR INSULATED BLANKET DESIGN PRESENTED HEREIN IS ENGINEERED TO MAINTAIN A CONTROLLED INTERNAL ENVIRONMENT, ENSURING THAT THE TEMPERATURE WITHIN THE INSULATED SPACE REMAINS AT OR ABOVE +10°C. THIS DESIGN ENABLES CONCRETE CURING TO PROCEED EFFECTIVELY UNDER THE SPECIFIED CONDITIONS, PROVIDED THAT THE AMBIENT TEMPERATURE DOES NOT FALL BELOW -25°C.

BY ADHERING TO THE SPECIFICATIONS OUTLINED IN THIS DRAWING, TRAINE CAN CONFIDENTLY PERFORM CONCRETE POURS DURING COLD WEATHER, MITIGATING THE RISKS ASSOCIATED WITH INADEQUATE CURING AND ENSURING STRUCTURAL INTEGRITY.

2 - SCOPE LIMITATIONS

THIS CAD DRAWING REPRESENTS A NEAR-COMPLETE DESIGN SOLUTION AIMED AT ADDRESSING THE PRIMARY CHALLENGE OF CONCRETE CURING IN COLD WEATHER CONDITIONS IN THE OKANAGAN AREA. WHILE THE MODULAR INSULATED BLANKET DESIGN HAS BEEN THOROUGHLY DEVELOPED TO MEET THE SPECIFIED PERFORMANCE CRITERIA, IT IS ACKNOWLEDGED THAT CERTAIN CHALLENGES REMAIN UNRESOLVED.

THESE OUTSTANDING ISSUES FALL OUTSIDE THE SCOPE OF THIS ENGR 499 CAPSTONE PROJECT AND WILL REQUIRE FURTHER INVESTIGATION AND DEVELOPMENT TO ENHANCE THE OVERALL EFFECTIVENESS AND PRACTICALITY OF THE SOLUTION. FUTURE WORK MAY INCLUDE OPTIMIZATION OF THERMAL EFFICIENCY, ADAPTATION TO VARYING SITE CONDITIONS, AND IMPROVEMENTS IN MODULARITY AND EASE OF DEPLOYMENT.

ANY NOTES LABELED AS "FOR FUTURE WORKS" PERTAIN TO OUT-OF-SCOPE CRITERIA THAT WILL OR WOULD BE PURSUED IN THE EVENT THAT TRAINE DECIDES TO MANUFACTURE THIS PRODUCT. THESE ITEMS REPRESENT AREAS OF FURTHER DEVELOPMENT AND OPTIMIZATION THAT EXTEND BEYOND THE SCOPE OF THIS ENGR 499 CAPSTONE PROJECT BUT MAY BE ESSENTIAL FOR COMMERCIAL VIABILITY AND LONG-TERM PERFORMANCE.

3 - CONCRETE GUIDE LINES

THE USE OF THIS PRODUCT REQUIRES OVERSIGHT BY AN ENGINEER OR EQUIVALENT QUALIFIED PERSON(S) DURING CONCRETE POURING OPERATIONS. ALL ACTIVITIES MUST STRICTLY ADHERE TO THE GUIDELINES SET FORTH BY THE CSA A23.1 STANDARDS FOR CURING CONCRETE.

THE ENGINEER OR EQUIVALENT QUALIFIED PERSON(S) IS RESPONSIBLE FOR MAINTAINING A CONTINUOUS TEMPERATURE AS SPECIFIED BY THE CONCRETE MANUFACTURER OR CSA A23.1 THROUGHOUT THE CURING PROCESS. UPON COMPLETION OF CURING, QUALIFIED PERSON(S) MUST INSPECT THE CONCRETE TO VERIFY COMPLIANCE WITH ALL RELEVANT SPECIFICATIONS AND STANDARDS.

CSA A23.1 RELEVANT STANDARDS:

1.1. FORECASTED AIR TEMPERATURE AT OR BELOW 5 DEGREES CELSIUS
THE AGGREGATE OR MIXING WATER SHALL BE HEATED TO MAINTAIN A MINIMUM CONCRETE TEMPERATURE OF 10 DEGREES CELSIUS AT POINT OF POUR.
CONCRETE SHALL NOT BE PLACED ON OR AGAINST ANY SURFACE.
CONTRACTOR SHALL BE PREPARED TO COVER SLABS IF AN UNEXPECTED DROP IN AIR TEMPERATURE SHOULD OCCUR.
CONCRETE EXPOSURE CLASSES REQUIRING CURING TYPE 1 (BASIC) IN ACCORDANCE WITH CSA A23.1 SHALL HAVE THE CONCRETE TEMPERATURE MAINTAINED ABOVE 10 DEGREES CELSIUS FOR AT LEAST 7 DAYS OR UNTIL THE CONCRETE REACHES 70% OF SPECIFIED STRENGTH.

FORECASTED AIR TEMPERATURE BELOW 2 BUT NOT BELOW -4 DEGREES CELSIUS
FORMS AND STEEL SHALL BE FREE FROM ICE AND SNOW.
THE AGGREGATE OR MIXING WATER SHALL BE HEATED TO GIVE A MINIMUM CONCRETE TEMPERATURE OF 10 DEGREES CELSIUS AT POINT OF POUR.
CONCRETE SHALL NOT BE PLACED ON OR AGAINST ANY SURFACE WHICH IS AT A TEMPERATURE OF LESS THAN 5 DEGREES CELSIUS.
SLABS SHALL BE COVERED WITH CANVAS OR SIMILAR, KEPT A FEW INCHES CLEAR OF SURFACE.
IN WINDY WEATHER, THE STOREY BELOW THE SLAB SHALL BE ENCLOSED.
PROTECTION SHALL BE MAINTAINED FOR AT LEAST THE SPECIFIED CURING PERIOD.
CONCRETE TEMPERATURE SHALL BE MAINTAINED ABOVE 10 DEGREES CELSIUS FOR THE SPECIFIED CURING PERIOD.

FORECASTED AIR TEMPERATURE BELOW -4 DEGREES CELSIUS
THE STOREY BELOW SHALL BE ENCLOSED AND ARTIFICIAL HEAT PROVIDED. HEATING TO BE STARTED AT LEAST ONE HOUR AHEAD OF POURING AND MAINTAINED FOR A MINIMUM OF THE SPECIFIED CURING PERIOD.
TEMPERATURE OF THE CONCRETE AT ALL SURFACES SHALL BE KEPT AT A MINIMUM OF 20 DEGREES CELSIUS FOR 3 DAYS OR 10 DEGREES FOR 7 DAYS. CONCRETE SHALL BE KEPT ABOVE FREEZING TEMPERATURES UNTIL IT REACHES 70% OF ITS SPECIFIED STRENGTH.
AN ENCLOSURE MUST BE CONSTRUCTED SO THAT AIR CAN CIRCULATE OUTSIDE THE OUTER EDGES AND MEMBERS.
REINFORCING TO BE COVERED AND WARMED TO MAINTAIN ITS TEMPERATURE AT 0 DEGREES CELSIUS OR HIGHER AT THE TIME OF CONCRETE PLACEMENT.

4 - WARNINGS

THE INSULATED BLANKET MUST BE INSPECTED PRIOR TO EACH USE TO ENSURE SAFE AND EFFECTIVE OPERATION. ALL ELECTRICAL CORDS MUST BE EXAMINED FOR FAULTS, CUTS, OR OTHER DAMAGE TO MINIMIZE THE RISK OF ELECTROCUTION. ANY SHARP EDGES OR DAMAGED SECTIONS OF THE BLANKET MUST BE IDENTIFIED AND REPAIRED TO REDUCE THE RISK OF CUTS AND SCRAPES.

ALL PERSONNEL USING THIS PRODUCT MUST BE PROPERLY TRAINED IN ITS OPERATION AND SAFETY PROCEDURES. UNDER NO CIRCUMSTANCES SHOULD WORN OR DEFECTIVE MATERIALS BE UTILIZED. SUCH MATERIALS MUST BE EITHER RETURNED TO THE MANUFACTURER FOR REPAIR OR DISPOSED OF IN ACCORDANCE WITH SAFETY STANDARDS.

4 - END-OF-LIFE

AT THE END OF THE PRODUCT'S SERVICE LIFE, COMPONENTS SHALL BE DISASSEMBLED AND PROPERLY DISPOSED OF ACCORDING TO THE FOLLOWING GUIDELINES:

1. POLYESTER PROTECTIVE SKIN: THE POLYESTER PROTECTIVE SKIN SHALL BE STRIPPED FROM OTHER COMPONENTS AND SENT TO A FABRIC RECYCLING CENTER.

2. POLYURETHANE FOAM: POLYURETHANE FOAM SHALL BE SENT TO A DOWN-CYCLING CENTER. IF A SUITABLE DOWN-CYCLING FACILITY CANNOT BE LOCATED, THE FOAM SHALL BE DISPOSED OF IN A LANDFILL OR SENT TO A COMBUSTION ENERGY RECOVERY CENTER.

3. ELECTRICAL HEATING ELEMENT: THE ELECTRICAL HEATING ELEMENT SHALL BE SENT TO AN ELECTRONIC RECYCLING CENTER TO ENSURE PROPER HANDLING AND RECYCLING OF ELECTRICAL COMPONENTS.

4. BUCKLING AND FABRIC MECHANISMS: ANY BUCKLING AND FABRIC MECHANISMS SHALL BE COLLECTED AND SENT TO AN APPROPRIATE RECYCLING CENTER.

PROPER ADHERENCE TO THESE DISPOSAL GUIDELINES WILL MINIMIZE ENVIRONMENTAL IMPACT AND COMPLY WITH APPLICABLE WASTE MANAGEMENT REGULATIONS.

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PROPOSED INSULATED BLANKET/TARP DESIGN PLANS

SHEET NAME: NOTES

SCALE: As Indicated

DESIGN BY: Infrastructure Group A

DRAWN BY: Jeffrey Robertson

REVIEWED BY: To Be Determined

CONCEPT DATE: JAN, 21, 2025

REFERENCE DRAWING: ROV Engineering Consultants

DRAWING DATE: March 29, 2025

REVISION NUMBER: 0

REVISION DATE:-

DWG#: 001

SHEET 8 OF 8