



KENYA ELECTRICITY GENERATING COMPANY LIMITED
KGN-GDD-068-2017
TENDER FOR FABRICATION AND SUPPLY OF
PORTABLE SILENCERS FOR GEOTHERMAL DEVELOPMENT DIVISION

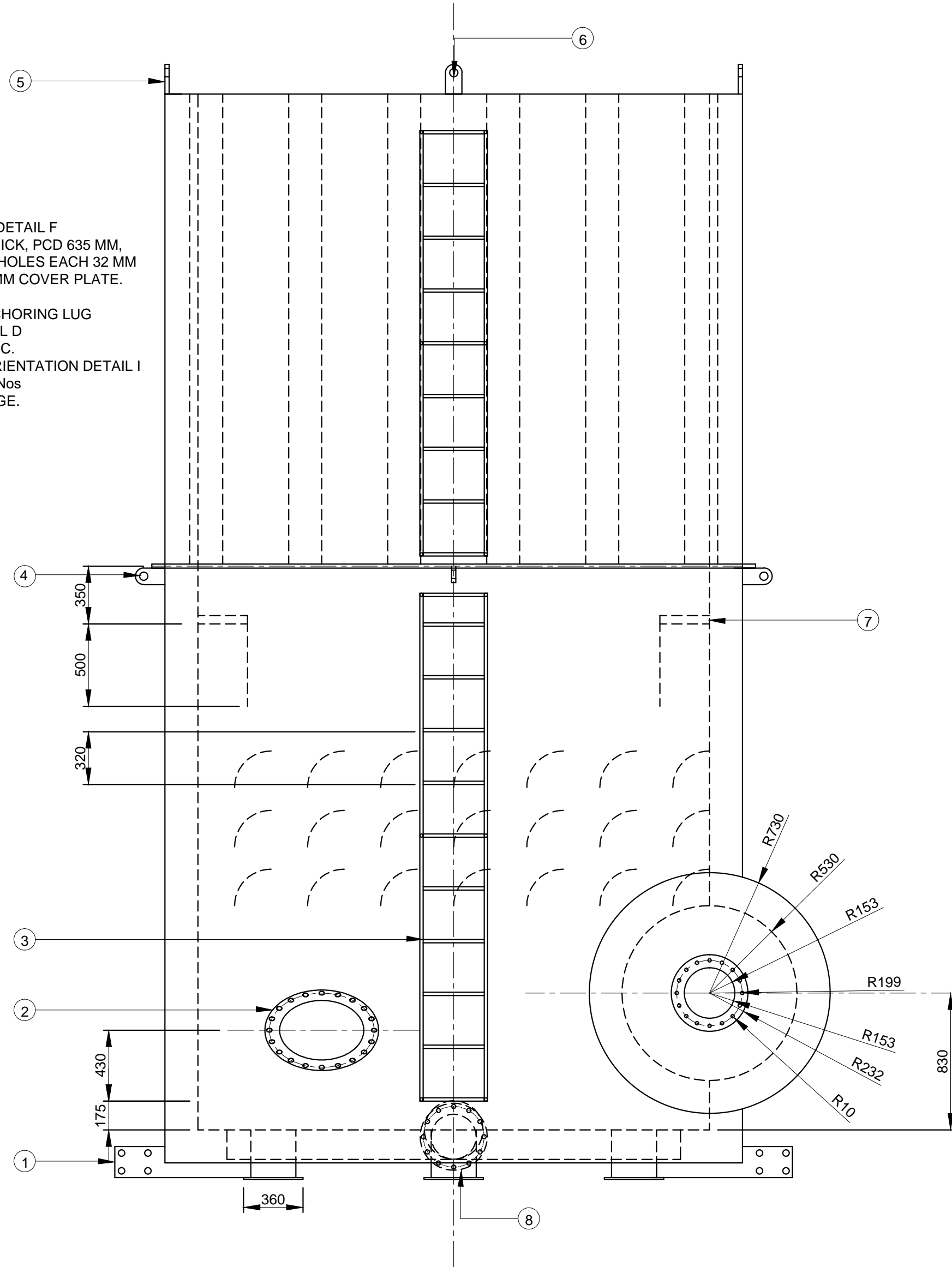
ADDENDUM NO. 1 – ADDITIONAL DRAWINGS

Date: 11th July 2017

In accordance with the **TENDER FOR FABRICATION AND SUPPLY OF**
PORTABLE SILENCERS FOR GEOTHERMAL DEVELOPMENT DIVISION

The drawing
provided below
should be used to
complement those
already provided
earlier

1. ANCHORING PLATE DETAIL F
2. MAN HOLE 12 MM THICK, PCD 635 MM, WITH 20 NO.S BOLT HOLES EACH 32 MM COMPLETE WITH 8 MM COVER PLATE.
3. LADDER.
4. LOWER LIFTING/ANCHORING LUG ORIENTATION DETAIL D
5. LIFTING LAG DETAIL C.
6. TOP LIFTING LUG ORIENTATION DETAIL I
7. 2"X2" ANGLE LINE 4 Nos
8. 10" CLASS 300 FLANGE.



IMPROVED SILENCER TYPE 1
END VIEW
SCALE 1:25

ALL DIMENSIONS AND LEVELS ARE TO BE VERIFIED ON SITE BY THE CONTRACTOR BEFORE COMMENCING ANY WORK

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GENERAL NOTES

1. CARBON STEEL MATERIAL MUST BE USED ON ALL CONSTRUCTIONS OTHER THAN THE ACOUSTIC TUBES
2. PERFORATED 40% OPEN AREA STAINLESS STEEL MATERIAL MUST BE USED ON THE ACOUSTIC TUBES
3. CONTINUOUS WELDING MUST BE USED
4. ALL DIMENSIONS ARE IN MM OR OTHERWISE STATED
5. ALL FIBRE GLASS FILLING MUST BE TO A DENSITY OF 200 KG/M³
6. HIGH TEMPERATURE ACOUSTIC FIBRE GLASS MUST BE USED
7. ACOUSTIC TUBES MUST BE RUBBED WITH HIGH TEMPERATURE FIBRE GLASS CLOTH
8. THE SILENCER MUST BE FULL ASSEMBLED AT THE FABRICATORS YARD/WORKSHOP
9. KENGEN REPRESENTATIVE MUST INSPECT THE SILENCERS AT EVERY STAGE OF FABRICATION

No	DATE	DETAILS	Chd	Appd
REVISIONS				



APPROVALS	NAME	SIGN	DATE
Designed by:	ERIC ROP & PHILIP NJUGUNA		
Drawn by:	ERIC ROP		
Checked by:	NICHOLUS OMENYA		
Approved by:	PETER OUMA		

Project **IMPROVED SILENCER DESIGN FOR OLKARIA**

Description

**SILENCER TYPE 1
END VIEW**

Scale 1:25 Date MARCH 2017

Drg.No OLK/R.ENG/TYP/1/3 Rev. No 2

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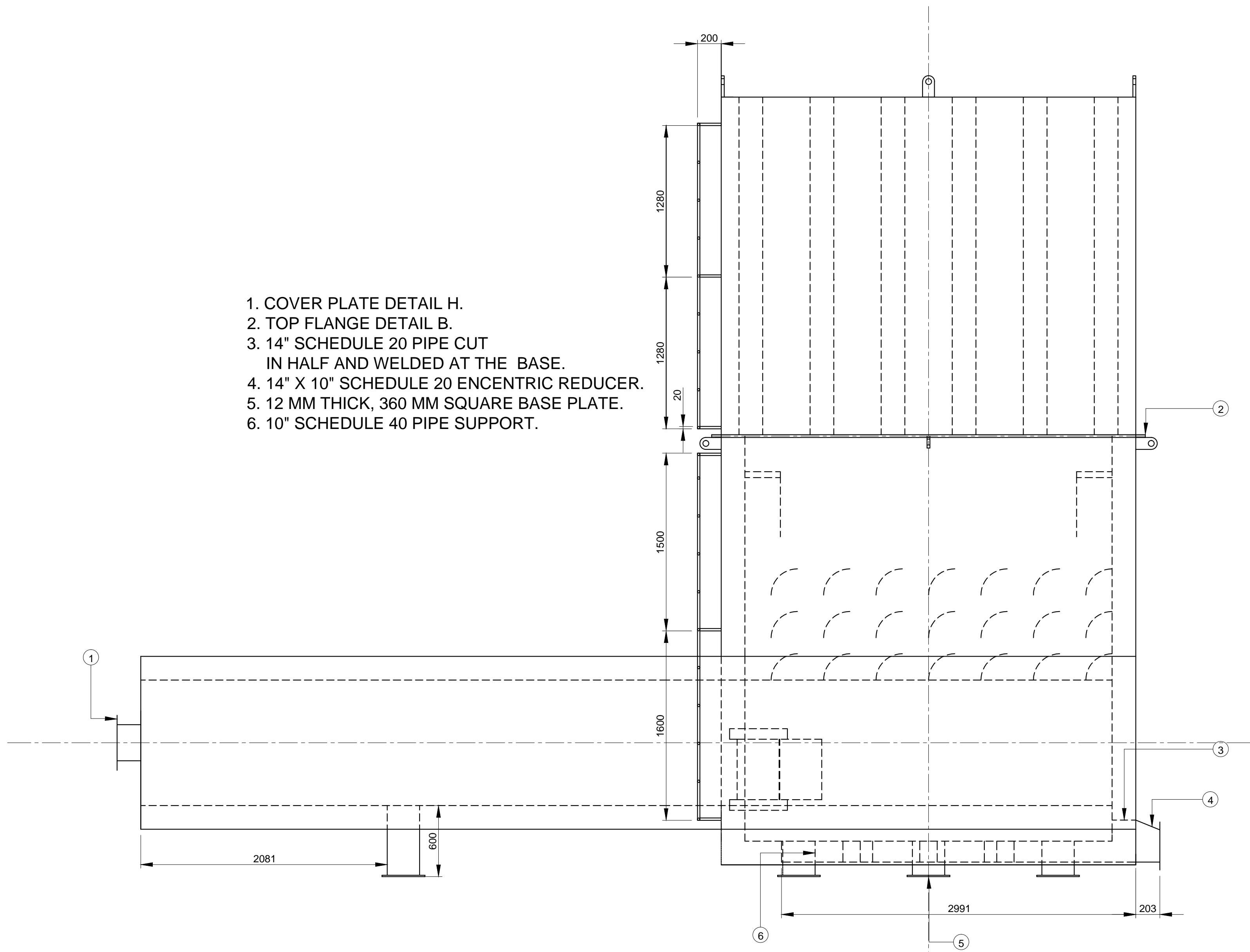
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1. COVER PLATE DETAIL H.
2. TOP FLANGE DETAIL B.
3. 14" SCHEDULE 20 PIPE CUT IN HALF AND WELDED AT THE BASE.
4. 14" X 10" SCHEDULE 20 ENCENTRIC REDUCER.
5. 12 MM THICK, 360 MM SQUARE BASE PLATE.
6. 10" SCHEDULE 40 PIPE SUPPORT.



IMPROVED SILENCER TYPE 1
FRONT VIEW
 SCALE 1:25

No	DATE	DETAILS	Chd	Appd
REVISIONS				



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Project **IMPROVED SILENCER DESIGN FOR OLKARIA**

Description
SILENCER TYPE 1 FRONT VIEW

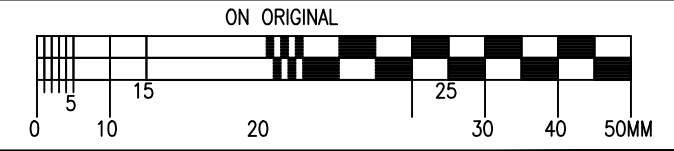
Scale 1:25 Date MARCH 2017

Drg.No OLK/R.ENG/TYP/1/2 Rev. No 2

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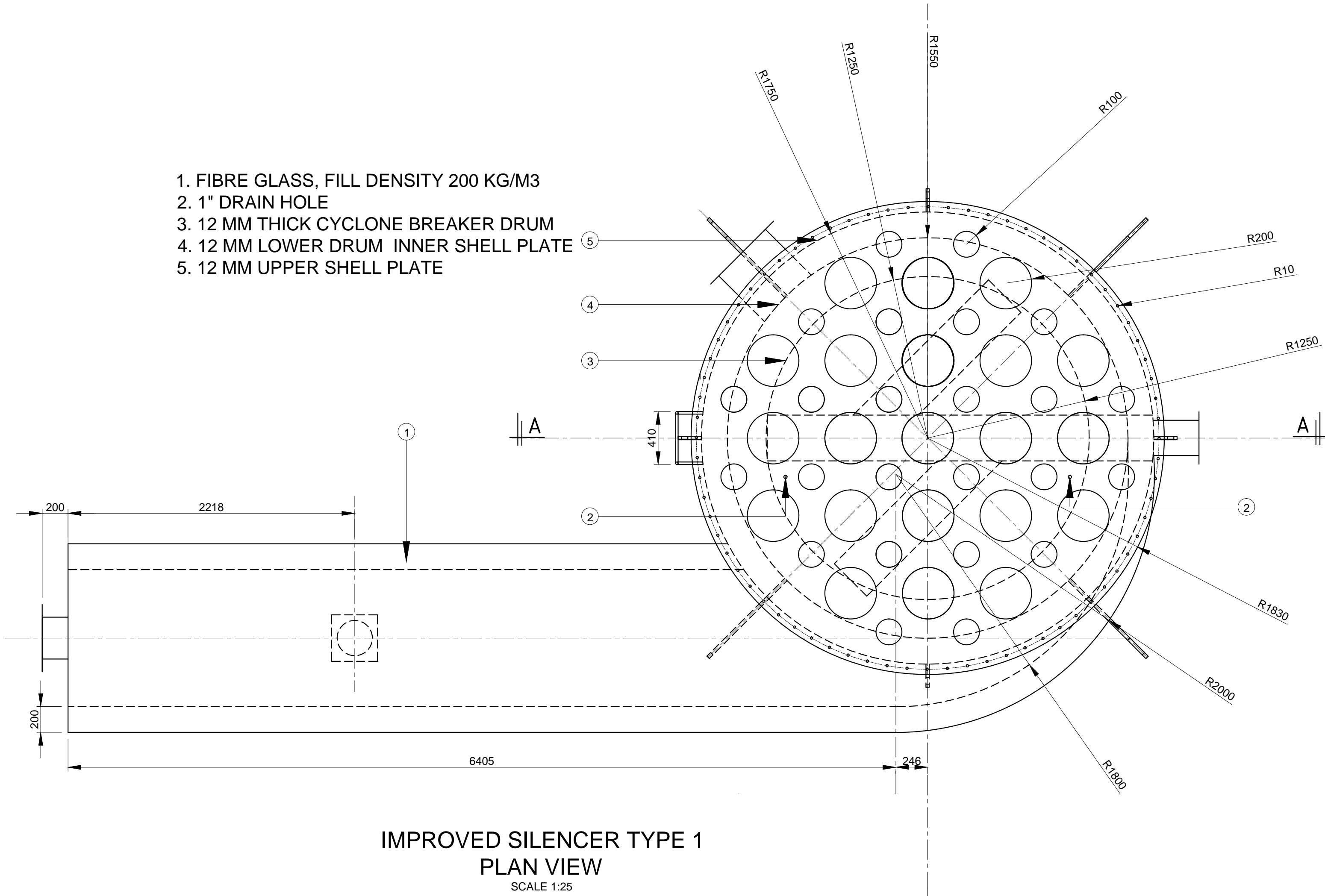
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 - HIGH TEMPERATURE ACOUSTIC FIBRE GLASS MUST BE USED
 - ACOUSTIC TUBES MUST BE RUBBED WITH HIGH TEMPERATURE FIBRE GLASS CLOTH
 - 5/8" DIAMETER 90 MM LONG FULL THREAD BOLTS C/W NUTS AND WASHERS ARE REQUIRED FOR INLET SPOOL ASSEMBLY
 - ALL FLANGE CONNECTIONS MUST BE SEALED WITH HIGH TEMPERATURE ASBESTOS ROPE GASKET
 - THE SILENCER MUST BE FULLY ASSEMBLED AT THE FABRICATORS YARD/WORKSHOP
 - KENGEN REPRESENTATIVE MUST INSPECT THE SILENCERS AT EVERY STAGE OF FABRICATION

- FIBRE GLASS, FILL DENSITY 200 KG/M³
- 1" DRAIN HOLE
- 12 MM THICK CYCLONE BREAKER DRUM
- 12 MM LOWER DRUM INNER SHELL PLATE
- 12 MM UPPER SHELL PLATE



IMPROVED SILENCER TYPE 1
PLAN VIEW
 SCALE 1:25

No	DATE	DETAILS	Chd	Appd
REVISIONS				



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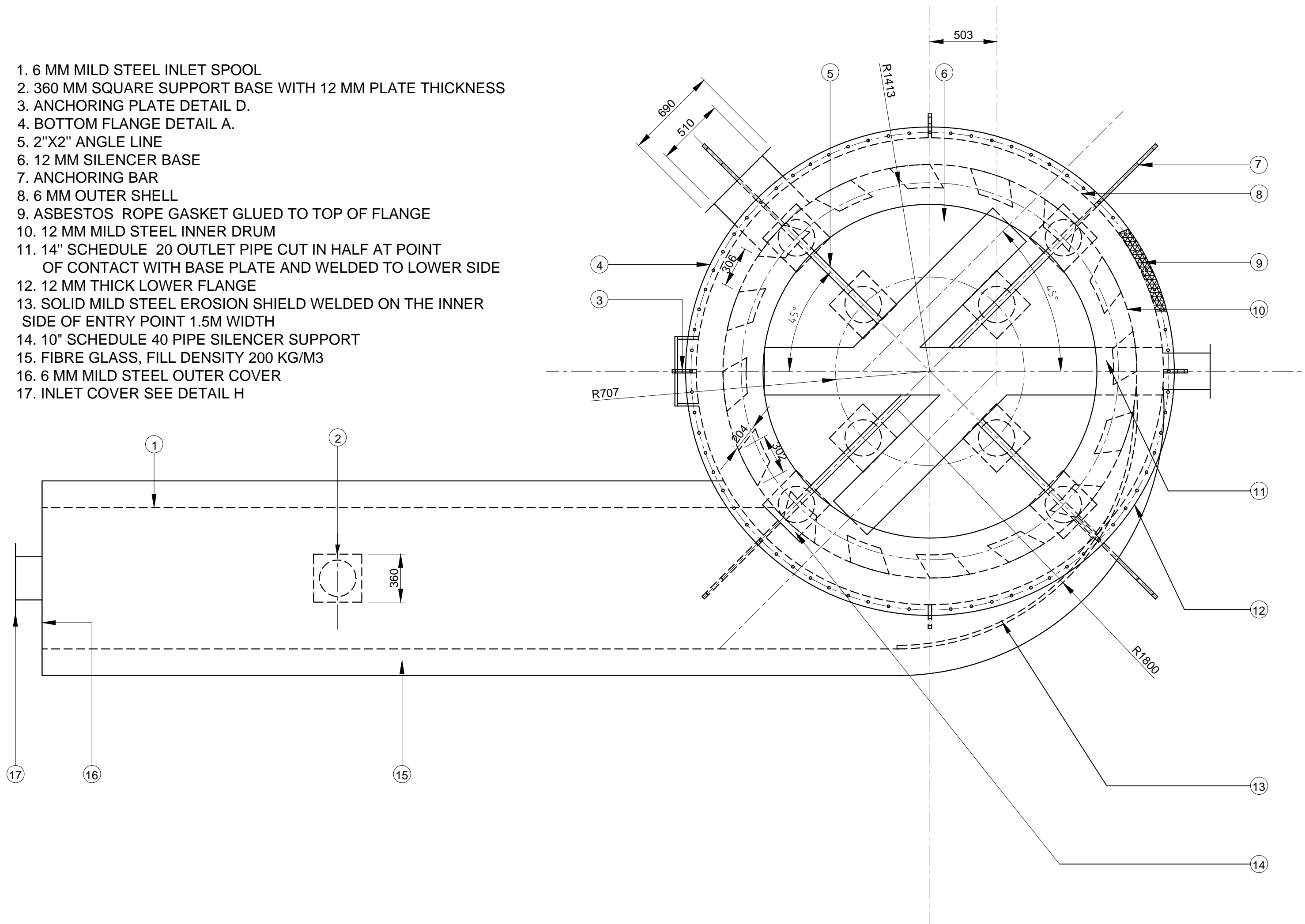
Project **IMPROVED SILENCER DESIGN FOR OLKARIA**

Description
SILENCER TYPE 1 PLAN VIEW

Scale 1:25 Date MARCH 2017

Drg.No OLK/R.ENG/TYP/1/1 Rev. No 2

1. 6 MM MILD STEEL INLET SPOOL
2. 360 MM SQUARE SUPPORT BASE WITH 12 MM PLATE THICKNESS
3. ANCHORING PLATE DETAIL D.
4. BOTTOM FLANGE DETAIL A.
5. 2"X2" ANGLE LINE
6. 12 MM SILENCER BASE
7. ANCHORING BAR
8. 6 MM OUTER SHELL
9. ASBESTOS ROPE GASKET GLUED TO TOP OF FLANGE
10. 12 MM MILD STEEL INNER DRUM
11. 14" SCHEDULE 20 OUTLET PIPE CUT IN HALF AT POINT OF CONTACT WITH BASE PLATE AND WELDED TO LOWER SIDE
12. 12 MM THICK LOWER FLANGE
13. SOLID MILD STEEL EROSION SHIELD WELDED ON THE INNER SIDE OF ENTRY POINT 1.5M WIDTH
14. 10" SCHEDULE 40 PIPE SILENCER SUPPORT
15. FIBRE GLASS, FILL DENSITY 200 KG/M3
16. 6 MM MILD STEEL OUTER COVER
17. INLET COVER SEE DETAIL H



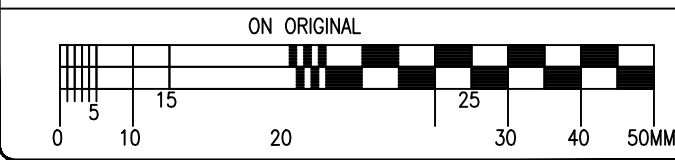
IMPROVED SILENCER TYPE 1
CROSS SECTION B - B

SCALE 1:25

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 5. ALL FIBRE GLASS FILLING MUST BE TO A DENSITY OF 200 KG/M³
 6. HIGH TEMPERATURE ACOUSTIC FIBRE GLASS MUST BE USED
 7. ACOUSTIC TUBES MUST BE RUBBED WITH HIGH TEMPERATURE FIBRE GLASS CLOTH
 8. THE SILENCER MUST BE FULL ASSEMBLED AT THE FABRICATORS YARD/WORKSHOP
 9. KENGEN REPRESENTATIVE MUST INSPECT THE SILENCERS AT EVERY STAGE OF FABRICATION

No	DATE	DETAILS	Chd	Appd
REVISIONS				



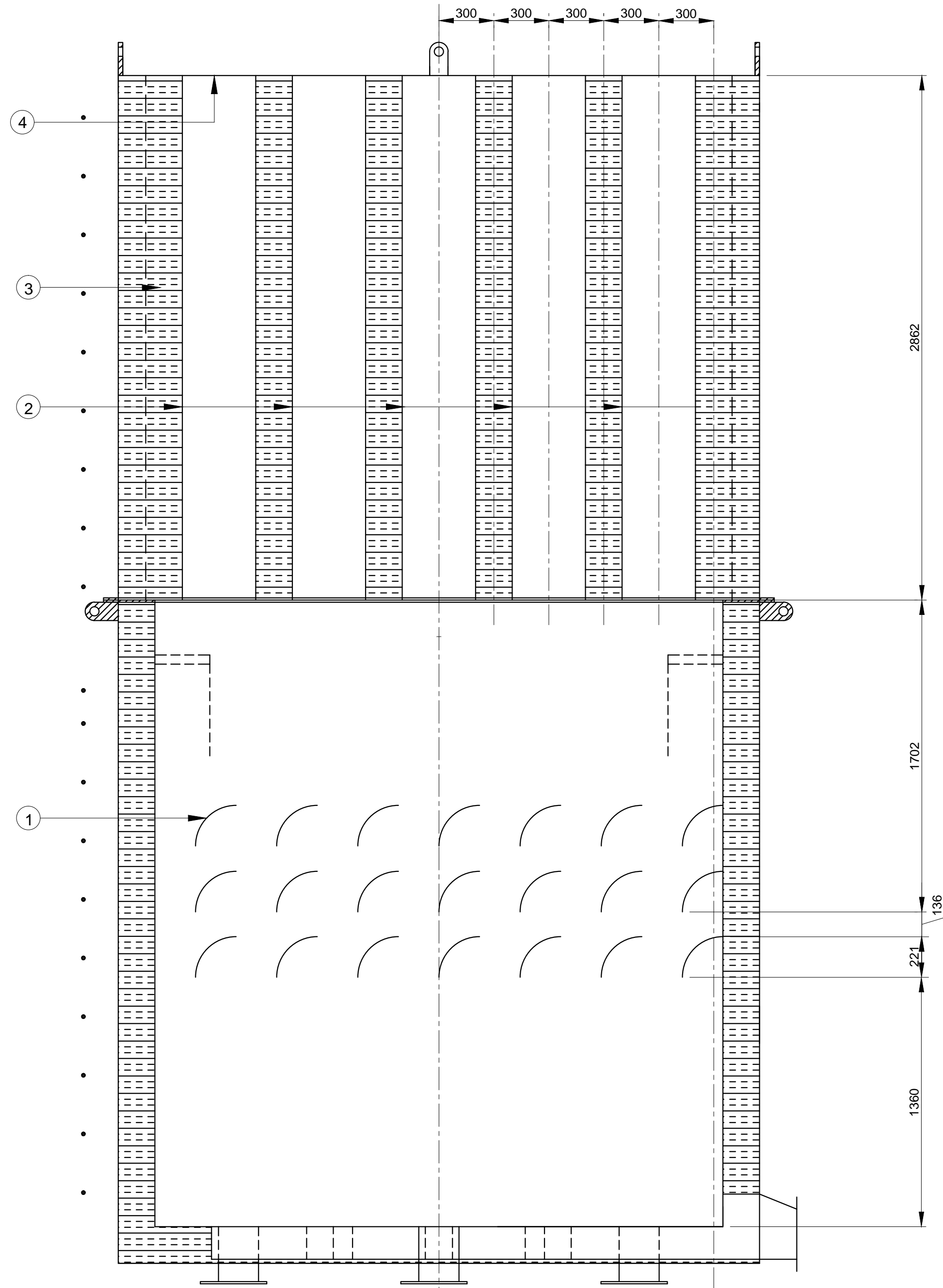
APPROVALS	NAME	SIGN	DATE
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Project **IMPROVED SILENCER DESIGN FOR OLKARIA**

Description
SILENCER TYPE 1 SECTION B-B

Scale 1:25 Date MARCH 2017

Drg.No OLK/R.ENG/TYP/1/5 Rev. No 2



**IMPROVED SILENCER TYPE 1
CROSS SECTION A - A**

SCALE 1:20

1. BAFFLE PLATES
2. 400 MM DIAMETER STEAM
3. FIBRE GLASS MATERIAL
FILL DENSITY 200KG/M3
4. 12 MM TOP PLATE

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 2. PERFORATED 40% OPEN AREA STAINLESS STEEL MATERIAL MUST BE USED ON THE ACOUSTIC TUBES
 3. THE PERFORATIONS MUST BE ROUND HOLE EVEN OR STAGGERED
 4. CONTINUOUS WELDING MUST BE USED
 5. ALL DIMENSIONS ARE IN MM OR OTHERWISE STATED
 6. ALL FIBRE GLASS FILLING MUST BE TO A DENSITY OF 200 KG/M³
 7. HIGH TEMPERATURE ACOUSTIC FIBRE GLASS MUST BE USED
 8. ACOUSTIC TUBES MUST BE RUBBED WITH HIGH TEMPERATURE FIBRE GLASS CLOTH
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No	DATE	DETAILS	Chd	Appd
REVISIONS				



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Project **IMPROVED SILENCER
DESIGN FOR OLKARIA**

Description
**SILENCER TYPE 1
SECTION A-A**

Scale 1:20 Date MARCH 2017

Drg.No OLK/R.ENG/TYP/1/4 Rev. No 2

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 - 5/8" DIAMETER 90 MM LONG FULL THREAD BOLTS, NUTS AND WASHERS 72 NOS ARE REQUIRED FOR ASSEMBLY
 - THE SILENCER MUST BE FULL ASSEMBLED AT THE FABRICATORS YARD/WORKSHOP
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No	DATE	DETAILS REVISIONS	Chd	Appd



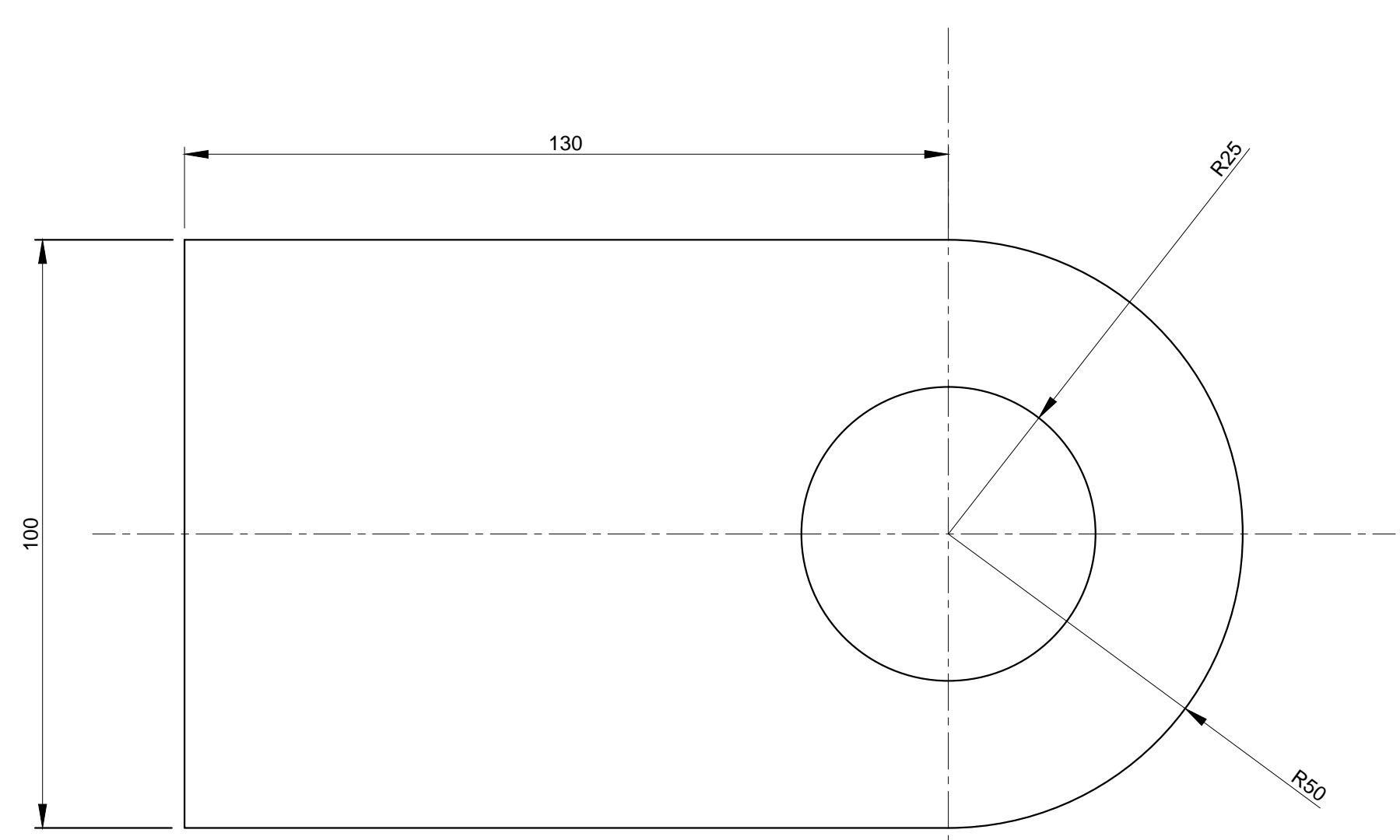
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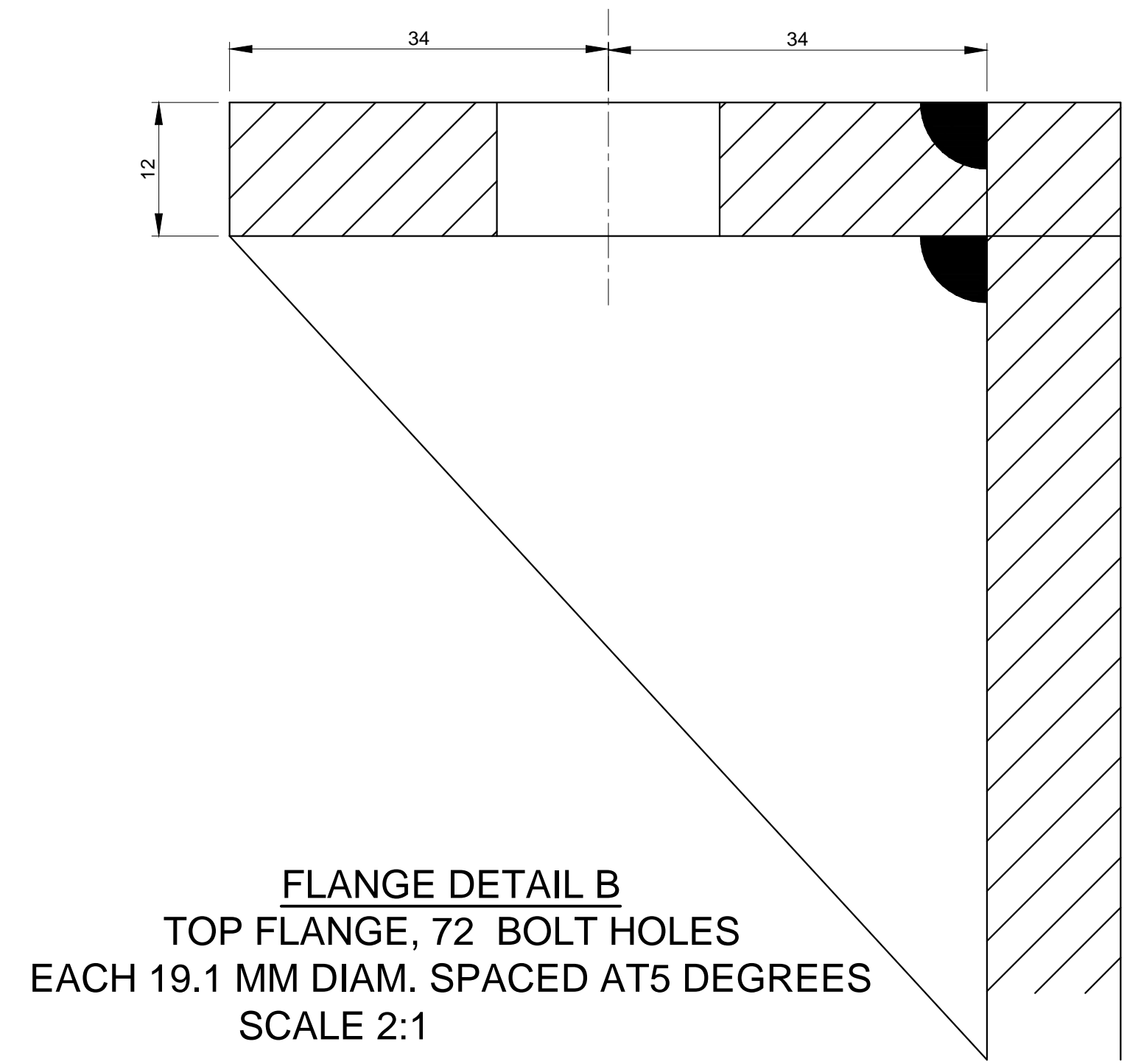
Description **SILENCER TYPE 1
DETAIL A, B, C AND D**

Scale **VARIES** Date **MARCH 2017**

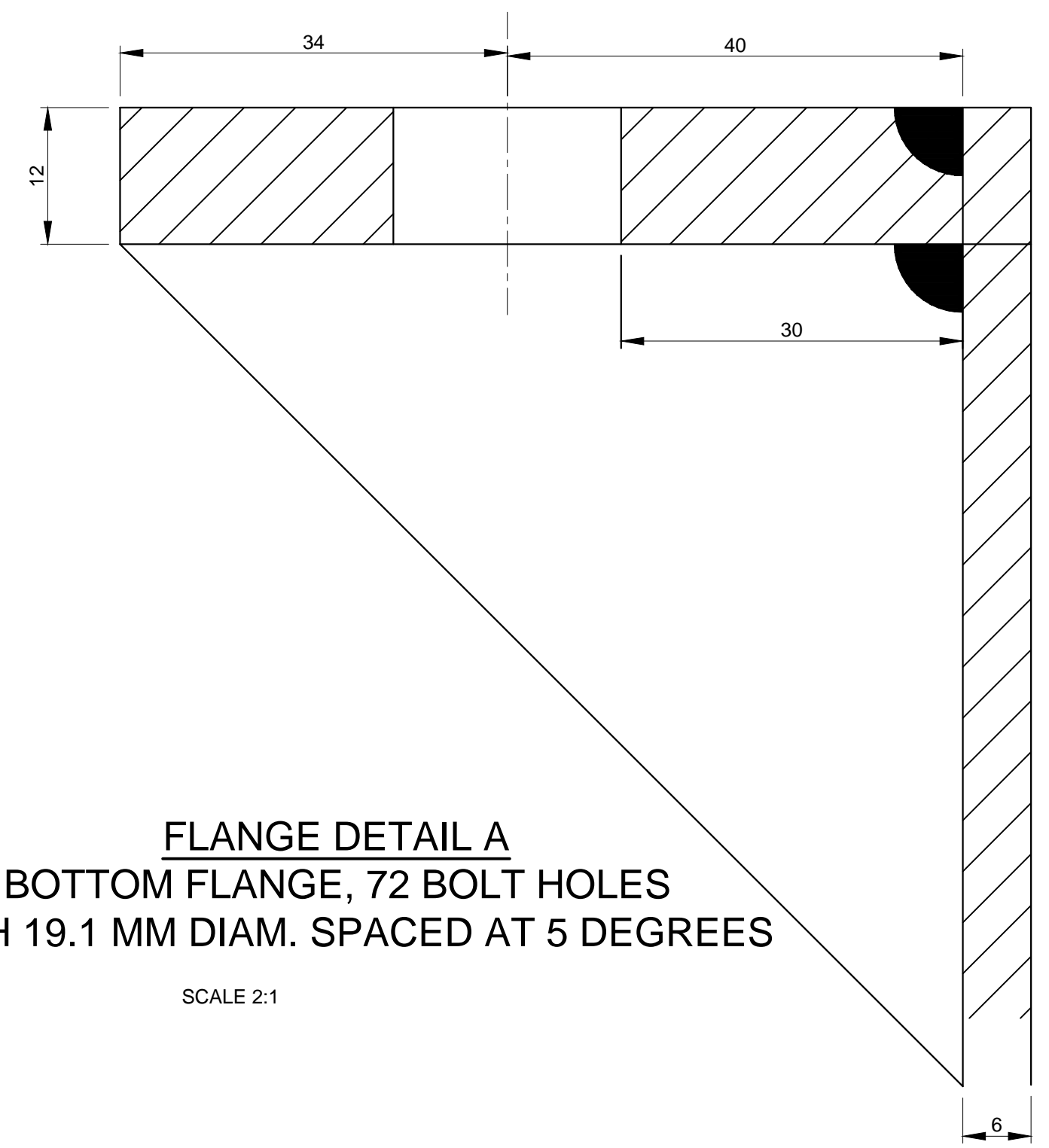
Drg.No **OLK/R.ENG/TYP/1/6** Rev. No



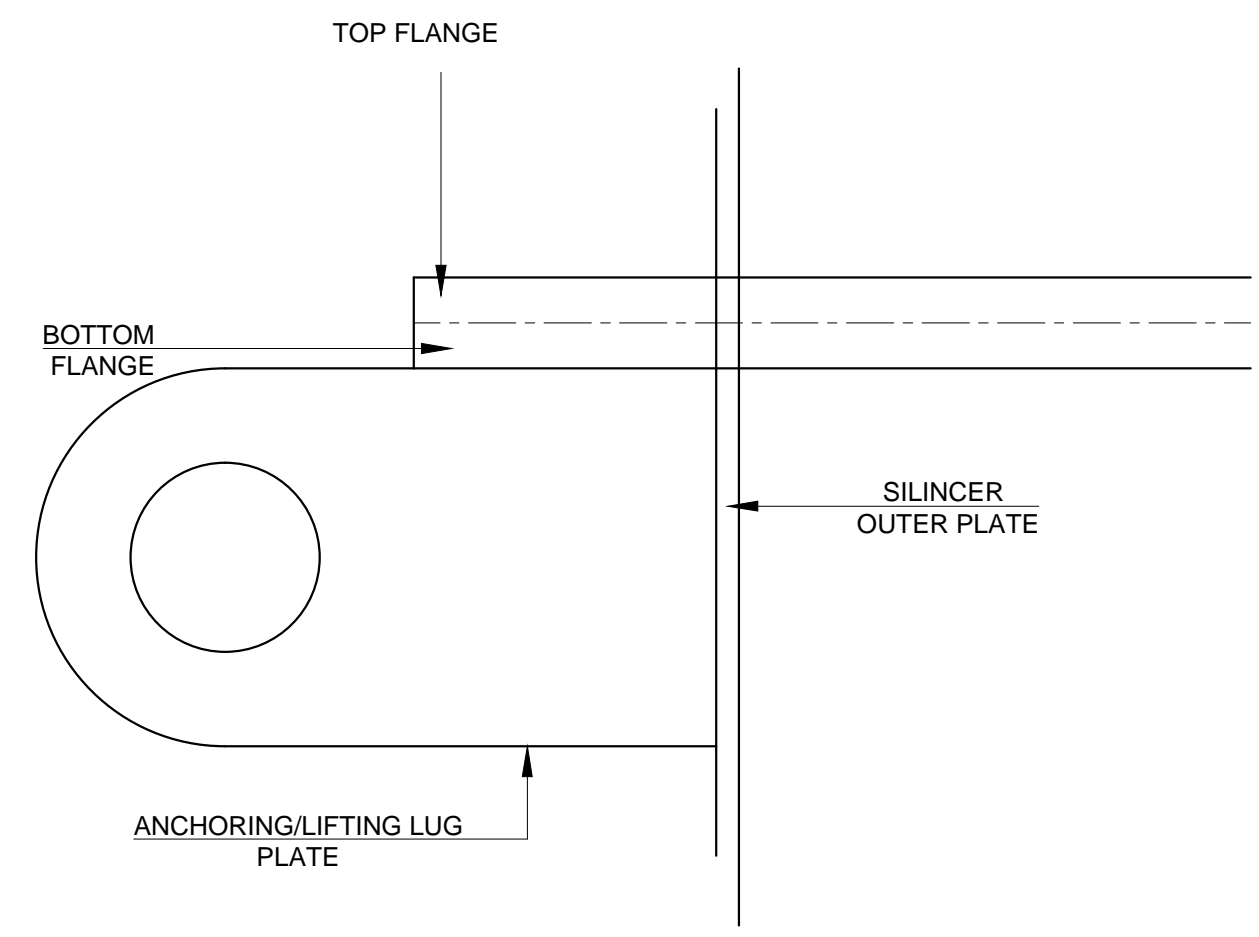
LIFTING LUG
DETAIL C
SCALE 2:1



FLANGE DETAIL B
TOP FLANGE, 72 BOLT HOLES
EACH 19.1 MM DIAM. SPACED AT 5 DEGREES
SCALE 2:1



FLANGE DETAIL A
BOTTOM FLANGE, 72 BOLT HOLES
EACH 19.1 MM DIAM. SPACED AT 5 DEGREES
SCALE 2:1



ANCHORING PLATE ORIENTATION
DETAIL D
SCALE 1:2

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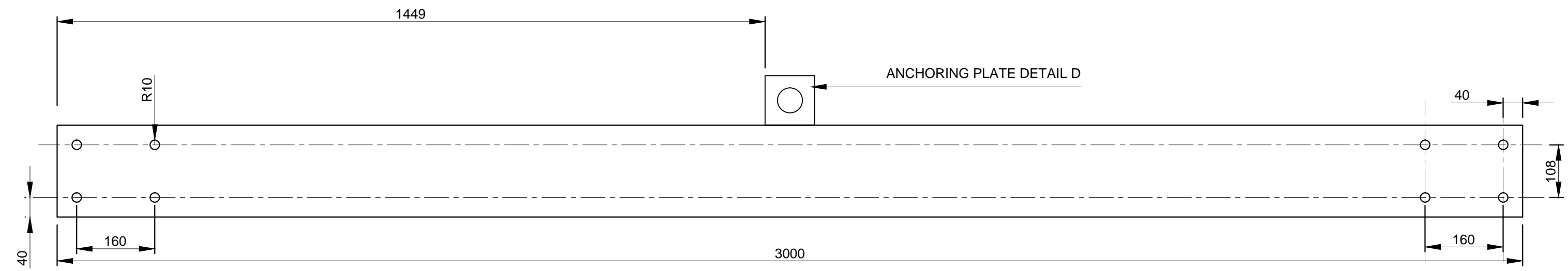
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- 5/8" DIAMETER 90 MM LONG FULL THREAD HIGH TENSILE BOLTS C/W NUTS AND WASHERS 32 NOS ARE REQUIRED FOR ASSEMBLY
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DETAIL G
ANCHORING BAR 1" THICK
4 NOS. REQUIRED
 SCALE 1:8

No	DATE	DETAILS	Chd	Appd
REVISIONS				



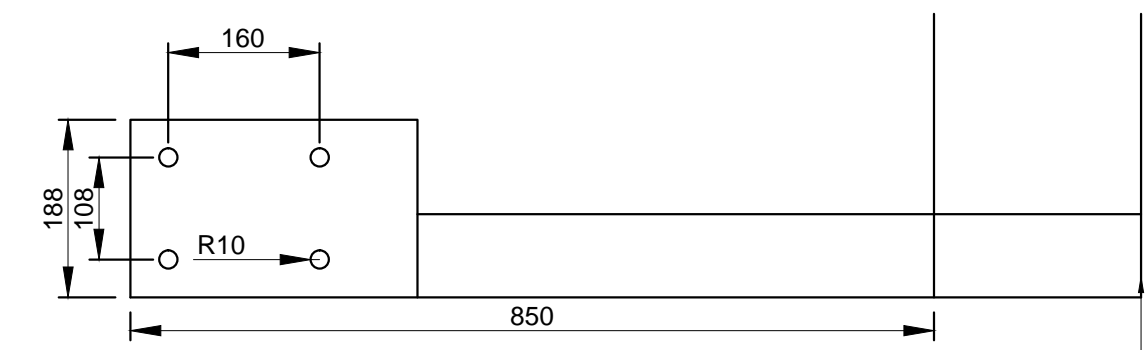
APPROVALS	NAME	SIGN	DATE
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Project **IMPROVED SILENCER DESIGN FOR OLKARIA**

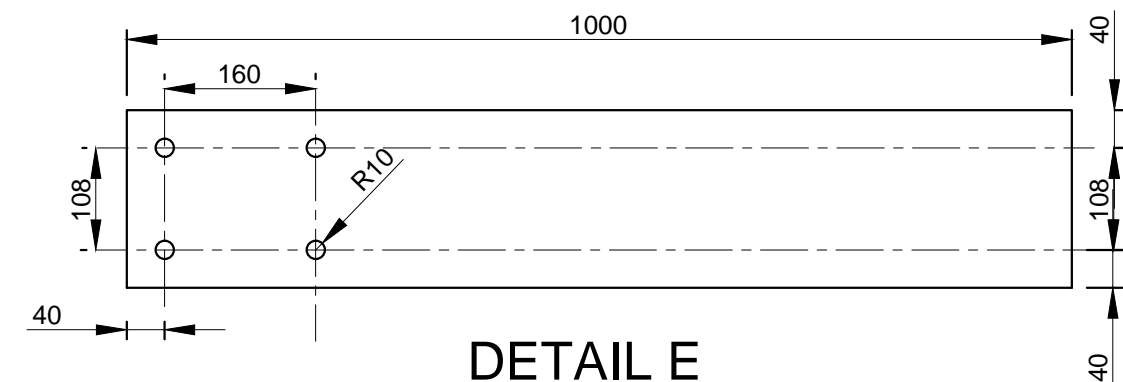
Description
**SILENCER TYPE 1
 DETAIL E,F AND G**

Scale 1:8 Date MARCH 2017

Drg.No OLK/R.ENG/TYP/1/7 Rev. No 2



DETAIL F
ANCHORING BAR 1" THICK
4 NOS. REQUIRED
 SCALE 1:8



DETAIL E
ANCHORING BAR 1" THICK
4 NOS. REQUIRED
 SCALE 1:8

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- DIAMETER D VARIES AS FOLLOWS
D=223 - 2 NOS.
D=172 - 2 NOS
D=145 - 2 NOS
D=118 - 2 NOS
D=93 - 2 NOS

No	DATE	DETAILS	Chd	Appd
REVISIONS				



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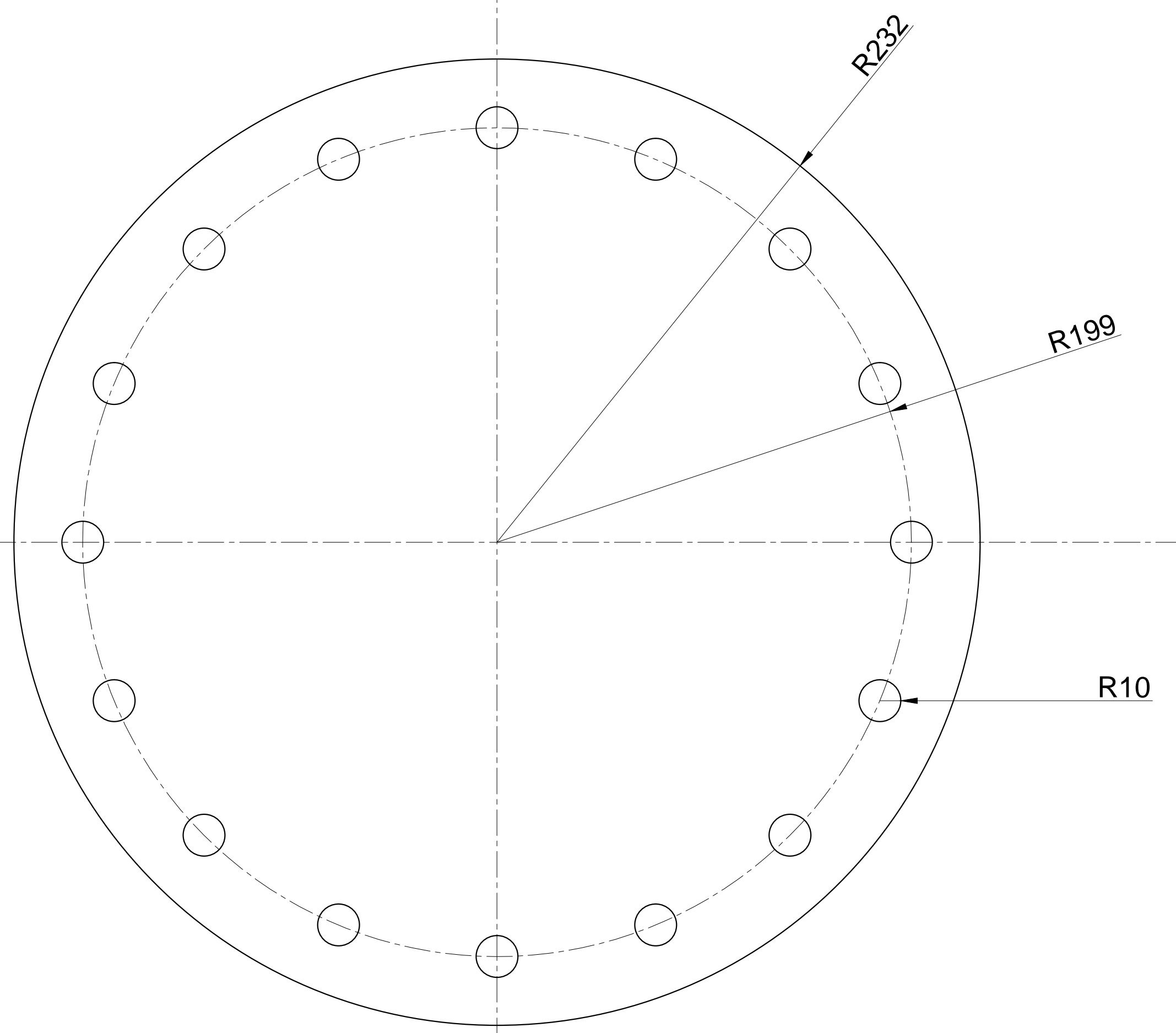
Project: **IMPROVED SILENCER DESIGN FOR OLKARIA**

Description: **SILENCER TYPE 1
DETAIL H**

Scale: 1:2 Date: MARCH 2017

Drg.No: OLK/R.ENG/TYP/1/8 Rev. No: 2

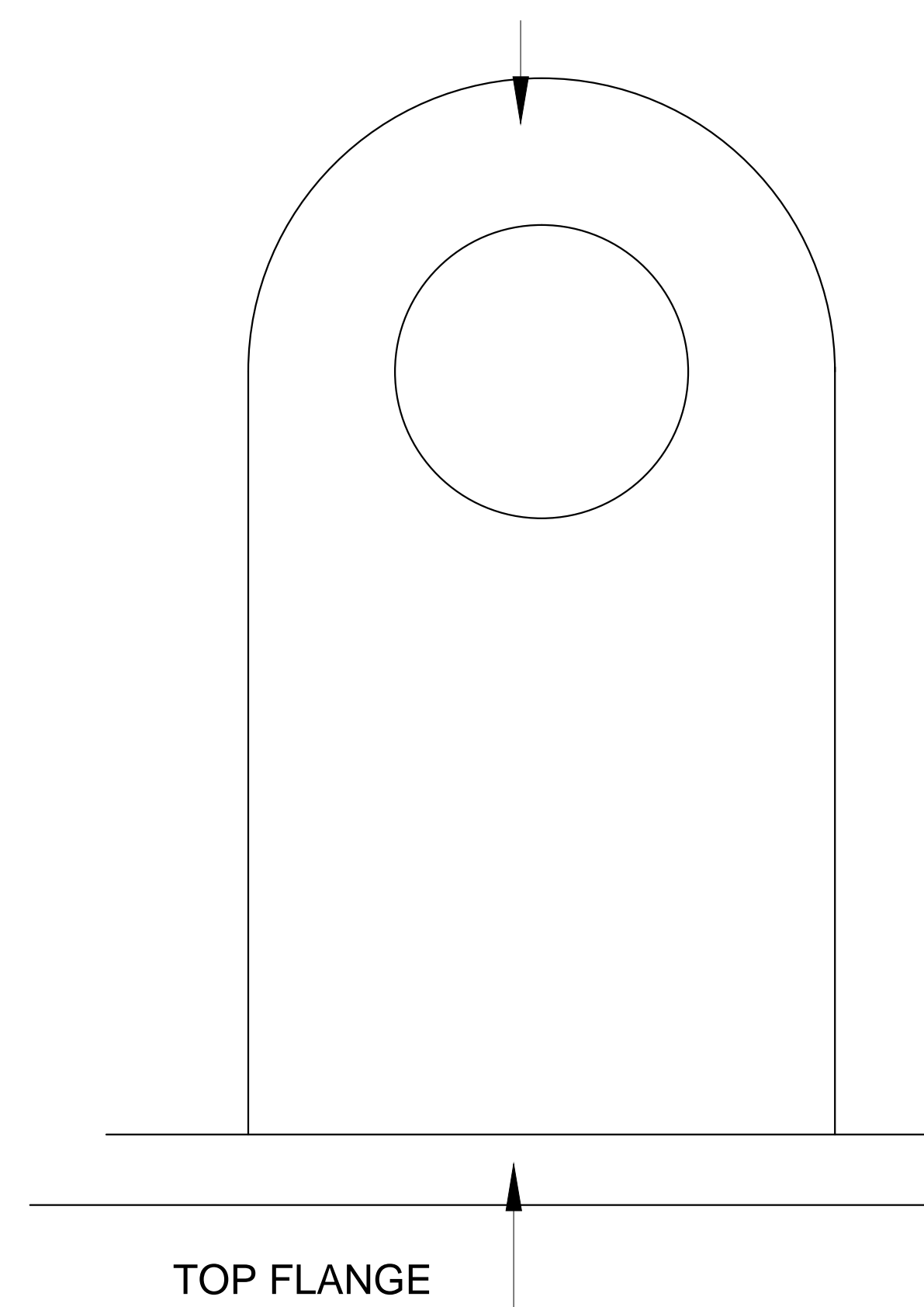
DETAIL H



COVER PLATE DETAIL H
10 NOS REQUIRED
8 MM THICKNESS
16 BOLT HOLES
SCALE 1:2

DETAIL I

LIFTING LUG



TOP FLANGE

**ANCHORING PLATE
ORIENTATION
DETAIL I**

SCALE 1:1

ACKNOWLEDGEMENT OF ADDENDUM NO. 1

We, the undersigned hereby certify that addendum is an integral part of the document and the alternations set out in the clarification have been incorporated in the tender proposal.

Signed

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.....

Tenderer.....

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