



Modification Application Supporting Report

DA 22/458 Friday Flat and Middle Slopes,
Thredbo – Snowmaking Infrastructure



Document Control

Revision	Date	Revision Type	Author	Approved by
A	22.08.2022	Draft	C.Chalk	P.Fleming
0	12.10.2022	Final	C.Chalk	P.Fleming

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1 Introduction

This Modification Application (MOD) relates to the Development Application (DA) 22/458 (PAN-174161) which was granted development consent on 31 March 2022. The Applicant for the MOD is Kosciuszko Thredbo Pty Ltd (KT) (ABN 95 000 139 015).

The Development site is located at Middle Slopes (skiers right of the Supertrail run) within Thredbo Alpine Resort (Thredbo) (**Appendix A**), approximately 30 kilometres (km) south-west of Jindabyne, New South Wales (NSW). The site is located on land formally described as Lot 876/DP 1243112.

2 Description of Modification

2.1 Background / Context

2.1.1 Approved Development under DA 22/458

DA 22/458 permitted the following works within Middle Slopes:

- Installation of four (4) manual hydrants;
- Trench for electrical services; and
- Trench for new short lateral snowmaking pipe; and
- Rehabilitation works.

2.2 Justification for Modification

KT operate a snowmaking system which provides air and water via pipes to a network of snowmaking guns to produce snow across the resort. These guns are broadly grouped into the categories of lance or fan guns. Lance guns rely on the supply of air, water and electricity, whilst fan guns can be configured with onboard air compressors, relying only on water and electricity to operate enabling vastly increased flexibility for early season operations.

The improved technology of fan guns to increase efficiencies and performance has been at the forefront of snowmaking companies research and development within recent years. The fan guns allow for a higher snow output, optimum energy efficiency as well as resource conservation (TechnoAlpin 2021). Due to the effective operation of the TT10 fan guns which were installed at Friday Flat in summer 2021/22, KT has made the decision to install TT10 fan guns within Middle Slopes instead of manual hydrants which would have serviced mobile fan guns. Permanent fan guns will allow for better use of suitable temperatures without the need to move mobile guns into position which can take up valuable snowmaking time.

2.3 Development components subject to this MOD Application

This MOD relates to the installation of four (4) concrete pits (**Appendix B**) and four (4) TT10 fan guns (**Appendix C**) at Middle Slopes, instead of the manual hydrants that were proposed under DA 22/458.

The disturbance footprint of a single concrete pit is 3 x 3 m x 1.6 m deep. The TT10 fan guns are located within the concrete pit disturbance footprint.

The proposed disturbance footprint for the four (4) manual hydrants in this location was 4 m² (refer Table 1 of Statement of Environmental Effects (SEE) prepared for DA 22/458). The proposed disturbance footprint for the four (4) concrete pits is 36 m². The proposed modification will result in an additional 32 m² area of disturbance which is considered minor.

2.4 Project Timing

The anticipated construction period is February-March 2023, with operation to commence as required during the 2023 winter season.

3 Statutory Framework

Sections 4 and 5 of the SEE for DA 22/458 provided a review and assessment against key legislation and planning instruments applicable to the Development. Construction of the proposed modification will be largely the same as the approved development under DA 22/458 (i.e. installation of TT10 fan guns were approved for Friday Flat). The works subject to this MOD do not trigger any integrated development requirements.

Additional statutory considerations relevant to this MOD are provided below.

3.1 Section 100 of EP&A Act – Content of a Modification Application

A cross-reference to the requirements for a modification application in accordance with Section 100 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) is provided in **Table 1**.

Table 1: Content of modification application

Content of modification application (Section 100 of EP&A Regulation)	Response
(1) A modification application must contain the following information—	
(a) the name and address of the applicant,	Kosciuszko Thredbo Pty Ltd 2 Friday Drive, Thredbo NSW 2625
(b) a description of the development that will be carried out under the development consent	A description of the proposed works is provided in Section 2 .
(c) the address and folio identifier of the land on which the development will be carried out,	The Development site within Middle Slopes is located on the skiers right of the Supertrail run, within the head lease allotment, on land formally described as Lot 876/DP 1243112.
(d) a description of the modification to the development consent, including the name, number and date of plans that have changed, to enable the consent authority to compare the development with the development originally approved,	A description of the modification is provided in Section 2 . A cross-reference to approved plans which have been amended is provided in Section 4 .
(e) whether the modification is intended to— (i) merely correct a minor error, misdescription or miscalculation, or (ii) have another effect specified in the modification application,	This MOD relates to the installation of concrete pits and TT10 fan guns instead of manual hydrants within Middle Slopes. The installation of concrete pits and TT10 fan guns were described in DA 22/458 relating to the Friday Flat area. The proposed modification will result in a slightly increased

	disturbance area of 32 m ² within Middle Slopes, however the level of environmental impact is assessed as minor.
(f) a description of the expected impacts of the modification,	<p>Section 5 of the SEE (Rev2) for DA 22/458 outlined the assessment method for the Development which remains applicable to this MOD. The level of environmental impact determined in Section 7 of the SEE (Rev2) also remains relevant.</p> <p><i>Ecological considerations</i> The works will not impact on any undisturbed native vegetation adjacent to the ski run. The new concrete pits will be located entirely within the existing disturbed / managed ski run. Any excess excavated material from the pit excavations will be removed offsite and managed in accordance with approved Site Environmental Management Plan. Eco Logical Australia Pty Ltd (ELA) were engaged as part of DA 22/458 to assess the level of ecological impact from the Development. The level of impact that was determined by ELA (2021) remains applicable to this proposal i.e. the proposed works will not result in any adverse impacts on threatened species, populations or ecological communities and will not have a significant impact on these entities pursuant to the NSW <i>Biodiversity Conservation Regulation 2016</i> or the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>.</p> <p><i>Waterfront land considerations</i> DA 22/458 was nominated integrated development for the works associated with Friday Flat. The site subject to this MOD is not located within 40 m of a watercourse (waterfront land). Therefore, no further assessment is required.</p> <p><i>Geotechnical considerations</i> As the proposed modification comprises a greater excavation than what was originally proposed for the manual hydrants, KT have re-engaged Asset Geotechnical Engineering Pt Ltd (AssetGeoEnviro) to review the geotechnical risk associated with the proposed modification. AssetGeoEnviro (2022) determined the geotechnical impact from the concrete pits is minimal, and no further assessment or updating of the geotechnical report is considered necessary. A copy of the Form 4 – Minimal Impact Certification is provided in Appendix D.</p>
(g) an undertaking that the modified development will remain substantially the same as the development originally approved,	See comment against (e).
(h) for a modification application that is accompanied by a biodiversity development assessment report—the biodiversity credits information,	Not applicable.
(i) if the applicant is not the owner of the land—a statement that the owner consents to the making of the modification application,	KT is the applicant for this modification application.

(j) whether the modification application is being made to— (i) the Court under the Act, section 4.55, or (ii) the consent authority under the Act, section 4.56.	This modification application is being made to the consent authority under the EP&A Act. This modification involves minimal environmental impact. The modification is substantially the same as the development for which the consent was originally granted.
(2) Subsection (1)(i) does not apply if the consent of the owner is not required under section 98.	KT is the applicant for this modification application.
(3) If a modification application under the Act, section 4.55(1A) or (2) relates to BASIX development, or BASIX optional development if the development application was accompanied by a BASIX certificate, the application must be accompanied by— (a) the BASIX certificate, or (b) a new BASIX certificate if the current BASIX certificate is no longer consistent with the development.	Not applicable.

3.2 Snowy Mountains SAP Master Plan

The *Snowy Mountains Special Activation Precinct Master Plan* (DPE 2022) (Snowy SAP Master Plan) sets out the vision, principles, and precinct-wide performance criteria to support the planning controls in three Environmental Planning Instruments (EPIs).

Thredbo is nominated as one (1) of the nine (9) Alpine sub-precincts included in the Snowy Mountains Special Activation Precinct (SAP). The Development site is located outside of the Structure Plan development areas and is located within existing disturbed areas. The site was assessed by Eco Logical Australia Pty Ltd (ELA) as part of DA 22/458 to ensure potential impacts to biodiversity are first avoided, then minimised and mitigated through a range of measures implemented during construction and operation.

The protection of the natural, cultural and social values of KNP is a primary focus of the Snowy Mountains Special Activation Precinct. As demonstrated in the original SEE (KT 2022) and supporting technical reports, the Development will not result in any significant adverse impacts on natural values. The Development will not adversely impact on any cultural values.

The Snowy SAP Master Plan describes the future desired character of Thredbo as –

“Thredbo is the densest alpine village among the alpine resorts, meaning future infrastructure improvements will focus on pedestrian connectivity within the resort and long-term public transport solutions at the Alpine Precinct scale. Developments and renewal within the village will continue to support a strong alpine design character, village heart and year-round uses”.

The Development is consistent with the desired future character of Thredbo, and will contribute to improved snow cover during winter operations.

4 Amendments to Approved Documents and Plans for DA 22/458

A cross-reference is provided in **Table 2** to highlight the approved plans under DA 22/458 that have been amended to support this MOD.

Table 2: Amendments to Approved Documents and Plans under DA 22/458

Document	Title / Description	Author / Prepared by	Document Reference	Amended Plan Reference
Plan	Universal Concrete Pit Drawing	TechnoAlpin, prepared by Ambrosini. S	CHRC007, Version A	No changes
Plan	TT10 Fan Gun Dimensions	Kosciuszko Thredbo Pty Ltd, sourced from TechnoAlpin	-	No changes
Statement of Environmental Effects / Plan	Statement of Environmental Effects: Friday Flat and Middle Slopes Fan Gun Project, Thredbo Alpine Resort, Kosciuszko National Park – Figure 4: Project site – Middle Slopes	Kosciuszko Thredbo Pty Ltd, prepared by C.Chalk	Revision 2	Middle Slopes Fan Guns Site Plan, Revision A, 19/08/2022, prepared by KOS

5 Conclusion

This MOD relates to the installation of concrete pits and TT10 fan guns within the general location of existing snowmaking infrastructure at Middle Slopes. The fan guns will allow KT to improve the efficiency of its snowmaking operation, as well as the quality and reliability of snow cover within Middle Slopes.

This MOD has considered the potential impacts of the proposal on the human, built and natural environment in accordance with relevant statutory requirements. The level of environmental impact determined in DA 22/458 remains applicable to the works subject to this MOD.

The proposal will result in an increased disturbance footprint of 32 m², resulting in minimal environmental impact. The works are substantially the same as the development for which the consent was originally granted. With the implementation of appropriate environmental controls that were approved under DA 22/458, the impacts of the proposal are considered acceptable.

In response to the challenges posed by the sustainability of natural snow fall within a changing climate, the TT10 fan guns will contribute to improved seasonal length and viability of snow cover on Middle Slopes. Therefore, the infrastructure is considered fundamental for the winter operations in the resort.

6 References

Asset Geotechnical Engineering Pt Ltd (2022), Friday Flat & Middle Slopes Fan Gun Project, Thredbo NSW Geotechnical Assessment.

Eco Logical Australia Pty Ltd (ELA) 2021, *Snowmaking Works, Friday Flat and Middle Slopes, Thredbo*, 7 December 2021, reference: 20761

Kosciuszko Thredbo Pty Ltd (KT) 2022, Statement of Environmental Effects – Friday Flat and Middle Slopes Fan Gun Project, Thredbo Alpine Resort, Kosciuszko National Park.

7 Appendices

Appendix A Middle Slopes Fan Guns Site Plan



- Legend**
- TT10 Fan Gun and Concrete Pit
 - Electrical Trench
 - Water Lateral

Scale: 1:887

10 5 0 10 20 30 40 Meters

Map Projection: Universal Transverse Mercator
Horizontal Datum: GDA 2020
Grid: GDA 2020 MGA Zone 55



**MIDDLE SLOPES FAN GUNS SITE
PLAN**

Project: DA 22/458 Modification Application

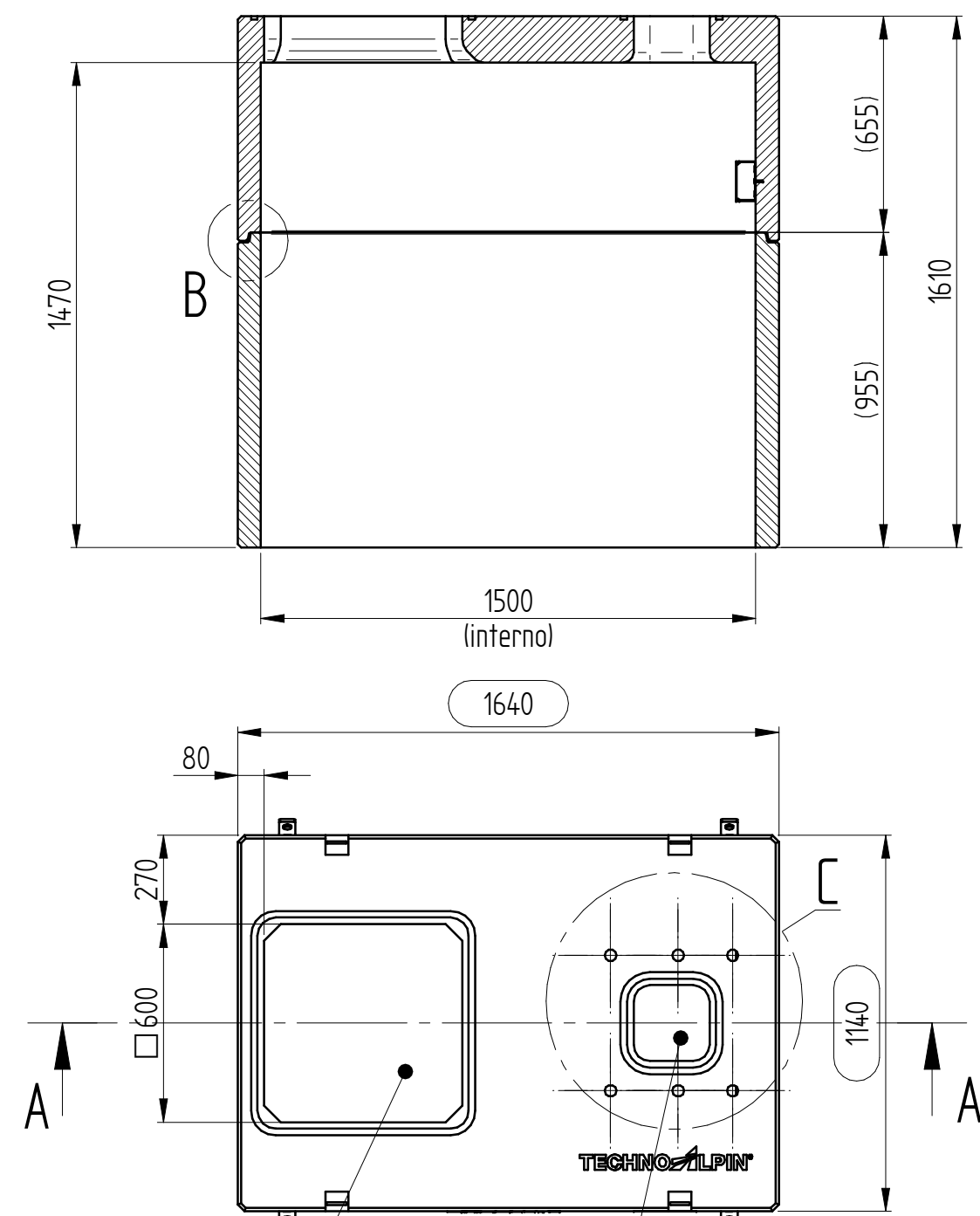
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Date: 19/08/2022

Produced By: KOS

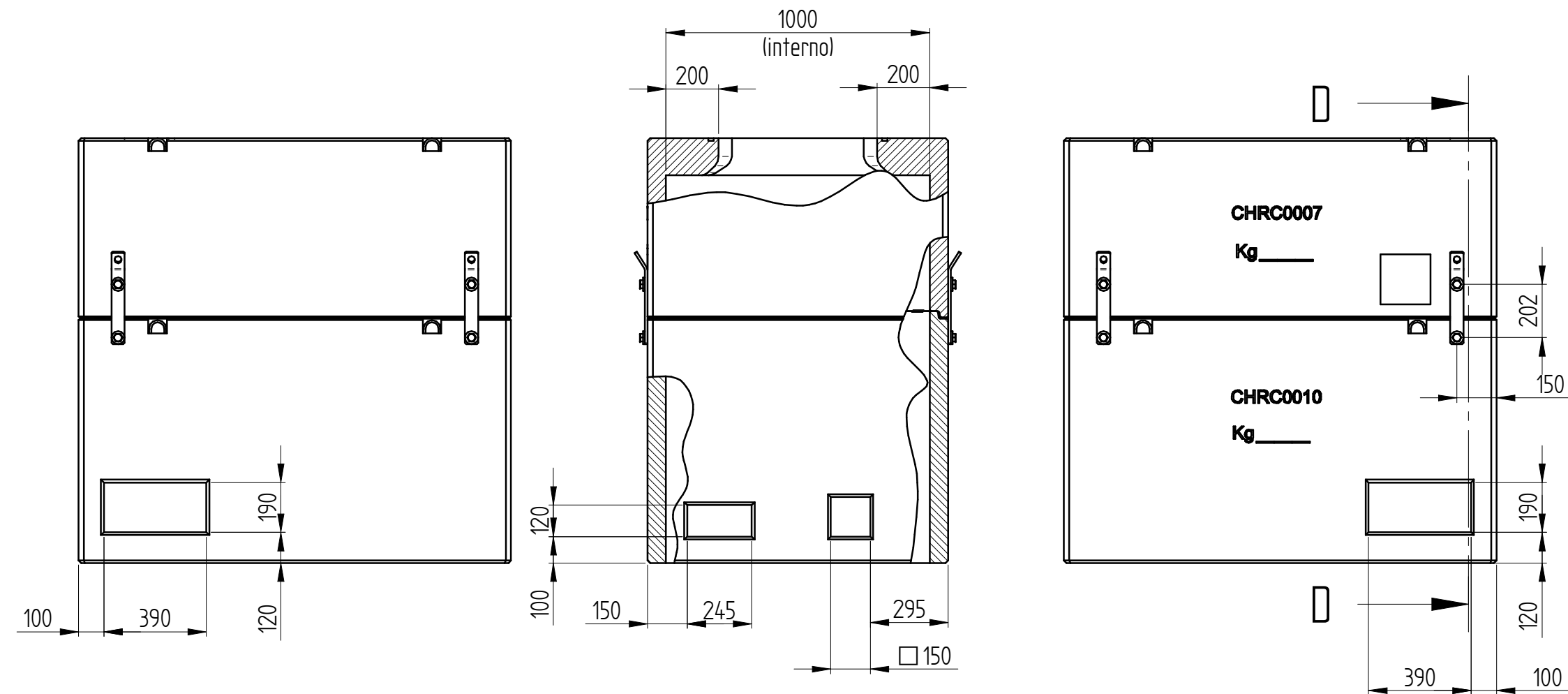
Appendix B Concrete Pit Drawing

Sez. A-A

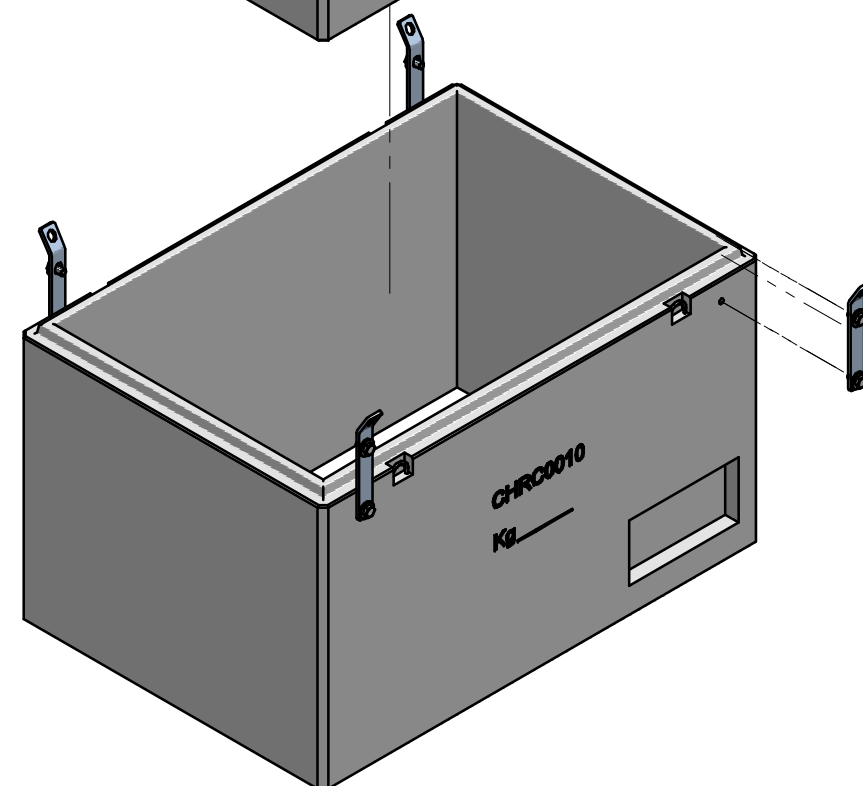
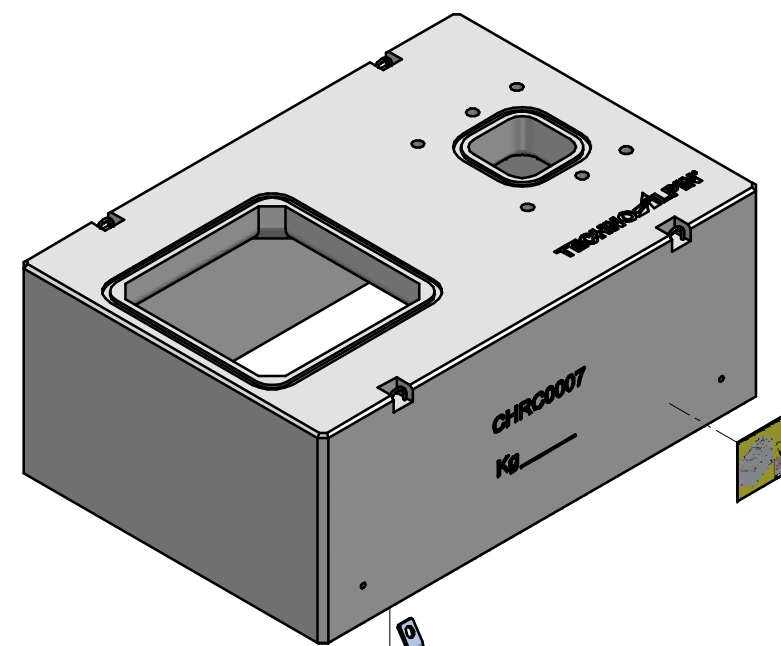
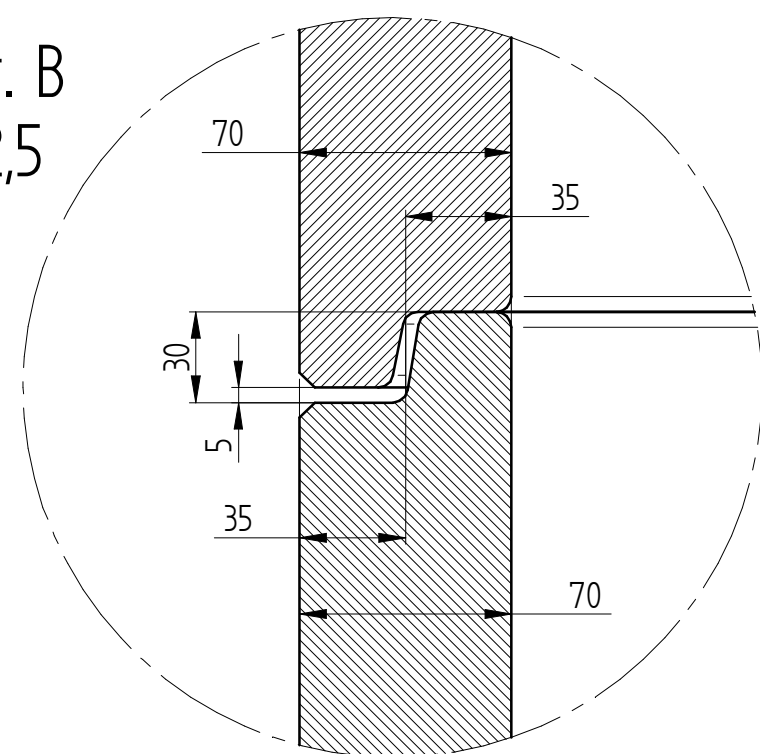
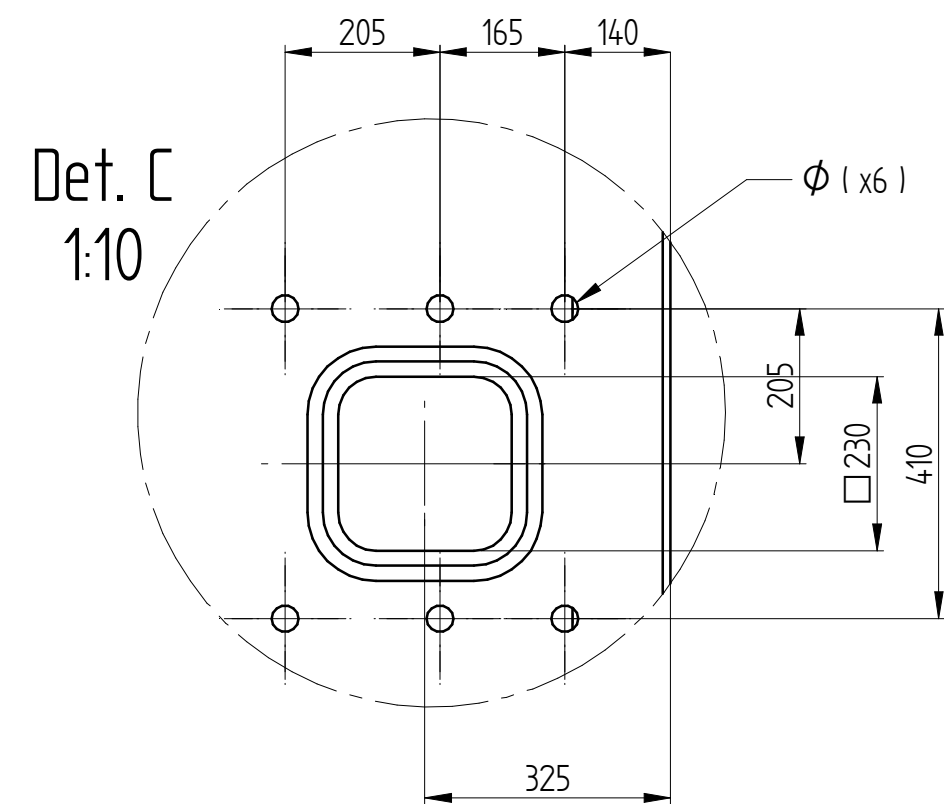


Einstiegs Luke
Chiusino
Entrance
Capot de regard

Lift 4.5m / Lanze / Turm 1.6m
Lift 4.5m / Lancia / Torre 1.6m
Lift 4.5m / Lance / Tower 1.6m
Lift 4.5m / Lance / Tour 1.6m


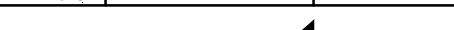


Sez. D-D



smooth surface treatment

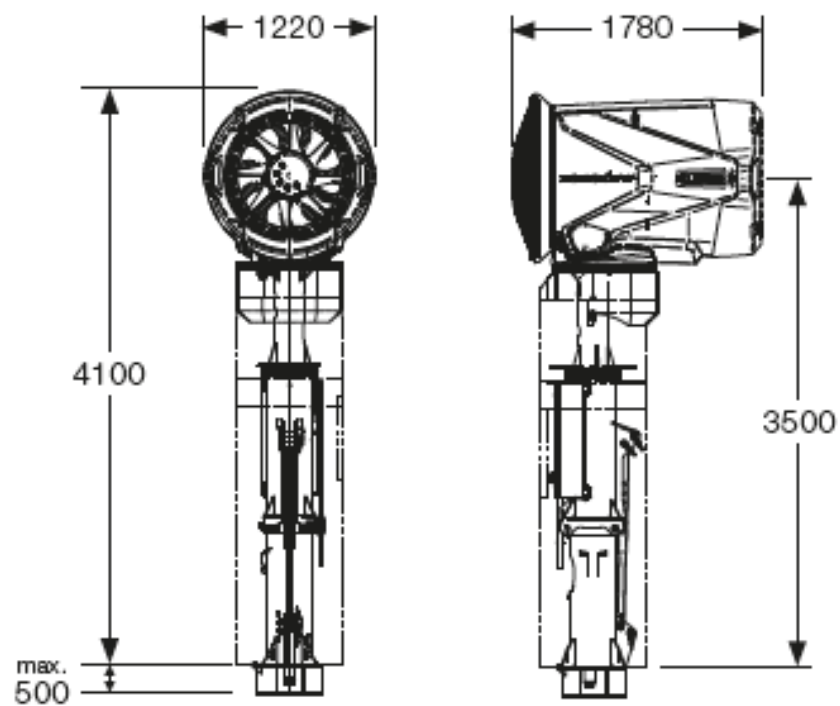
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6	BL505016	00	Washer M5x15 ZN UNI 6593	5
5	SKEE1348	00	Wiring channel T1-N 120x60 grey RAL7030	10
4	PQSK0002	01	Sticker Pit indication for mounting	1
3	CHRC0012	00	Kit flange for pit complete	1
2	CHRC0007	01	Pit lid 2 entrances (reinforced) 600x600 H	1
1	CHRC0010	02	Pit lower part reinforced H	1
Pos.	Item	Rev.	Item description	Qty

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Dimensioning unit	mm	Creator Ambrosini S.	Approver Ambrosini S.					Page size A2	
Projection method		Create date 19.03.2021	Approve date 19.03.2021	Description	Pit for Lift 4.5m - 2 holes (entrance 600x600) H				Page 1/1 ISOCD "dfr" 3999985
				ISO 16016 The reproduction, distribution and utilization of this document as well as the communication of its contents to others without express authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or design.					

Appendix C TT10 Fan Gun Dimensions

TT10 Fan Gun Dimensions

TT10



(Source: TechnoAlpin 2020)

Appendix D Geotechnical Form 4 – Minimal Impact Certification

Form 4 – Minimal Impact Certification

DA Number: DA 22/458

This form may be used where minor construction works which present minimal or no geotechnical impact on the site or related land are proposed to be erected within the “G” line area of the geotechnical maps.

A geotechnical engineer or engineering geologist must inspect the site and/or review the proposed development documentation to determine if the proposed development requires a geotechnical report to be prepared to accompany the development application. Where the geotechnical engineer determines that such a report is not required then they must complete this form and attach design recommendations where required. A copy of Form 4 with design recommendation, if required, must be submitted with the development application.

Please contact the Alpine Resorts Team in Jindabyne for further information - phone 02 6456 1733.

To complete this form, please place a cross in the appropriate boxes ☐ and complete all sections.

1. Declaration made by geotechnical engineer or engineering geologist in relation to a nil or minimal geotechnical impact assessment and site classification

I,
Mr ☒ Ms ☐ Mrs ☐ Dr ☐ Other

First Name	Family Name
Mark	Bartel

OF
Company/organisation
AssetGeoEnviro

certify that I am a geotechnical engineer /engineering geologist as defined by the “Policy” and I have inspected the site and reviewed the proposed development known as

Friday Flat & Middle Slopes Fan Gun Project

As a result of my site inspection and review of the following documentation

(List of documentation reviewed) – and attached to the report

Friday Flat Fan Gun Project
Middle Slopes Fan Guns Site Plan - Rev A dated 19/8/2022 (attached)
Concrete Pit Plans by Techno Alpin (attached)
TT10 gun details (attached)

I have determined that;

- ☒ the current load-bearing capacity of the existing building will not be exceeded or adversely impacted by the proposed development, and
- ☒ the proposed works are of such a minor nature that the requirement for geotechnical advice in the form of a geotechnical report, prepared in accordance with the "Policy", is considered unnecessary for the adequate and safe design of the structural elements to be incorporated into the new works, and
- ☒ in accordance with AS 2870.1 Residential Slabs and Footings, the site is to be classified as a type
(insert classification type)

Class 'P'

- ☐ ~~I have attached design recommendations to be incorporated in the structural design in accordance with this site classification.~~ Not applicable, no structural design. See below

I am aware that this declaration shall be used by the Department as an essential component in granting development consent for a structure to be erected within the "G" line area (as identified on the geotechnical maps) of Kosciuszko Alpine Resorts without requiring the submission of a geotechnical report in support of the development application.

2. Signatures

Signature

Mark Bartel

Chartered professional status

CPEng 35641 NER (Civil)

Name

Mark Bartel

Date

22 August 2022

3. Contact details

Alpine Resorts Team

Shop 5A, 19 Snowy River Avenue

P O Box 36, JINDABYNE NSW 2627

Telephone: 02 6456 1733

Facsimile: 02 6456 1736

Email: alpineresorts@planning.nsw.gov.au

The Modification Application for DA 22/458 involves installation of four concrete pits and four TT10 fan guns at Middle Slopes, instead of the manual hydrants that were proposed under DA 22/458. The disturbance footprint of a concrete pit is 3 x 3 m x 1.6 m deep. The geotechnical impact from the pits is minimal, and no further assessment or updating of the geotechnical report is considered necessary.



- Legend**
- TT10 Fan Gun and Concrete Pit
 - Electrical Trench
 - Water Lateral

Scale: 1:887

10 5 0 10 20 30 40
Meters

Map Projection: Universal Transverse Mercator
Horizontal Datum: GDA 2020
Grid: GDA 2020 MGA Zone 55



MIDDLE SLOPES FAN GUNS SITE PLAN

Project: DA 22/458 Modification Application

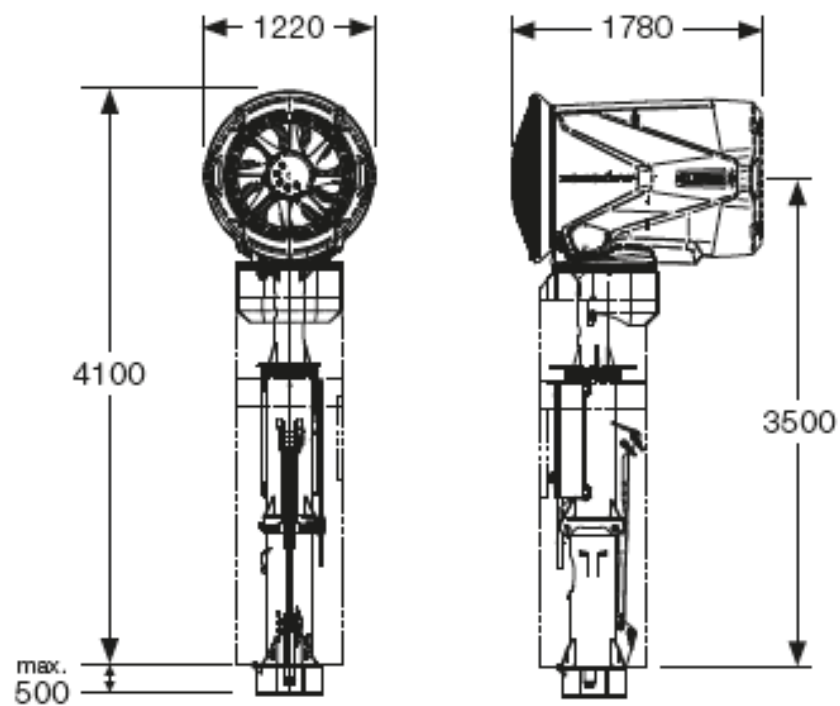
Revision: A

Date: 19/08/2022

Produced By: KOS

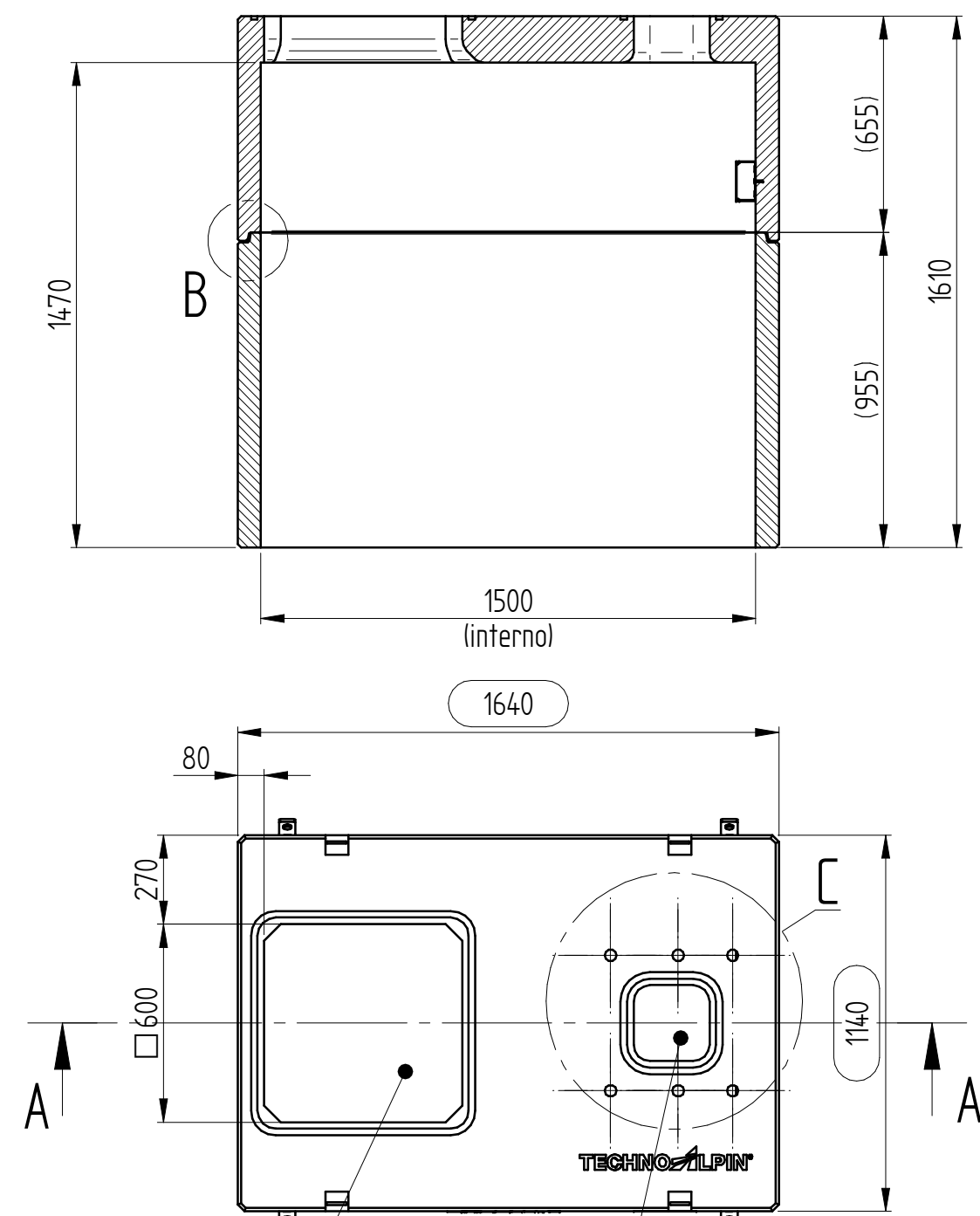
TT10 Fan Gun Dimensions

TT10



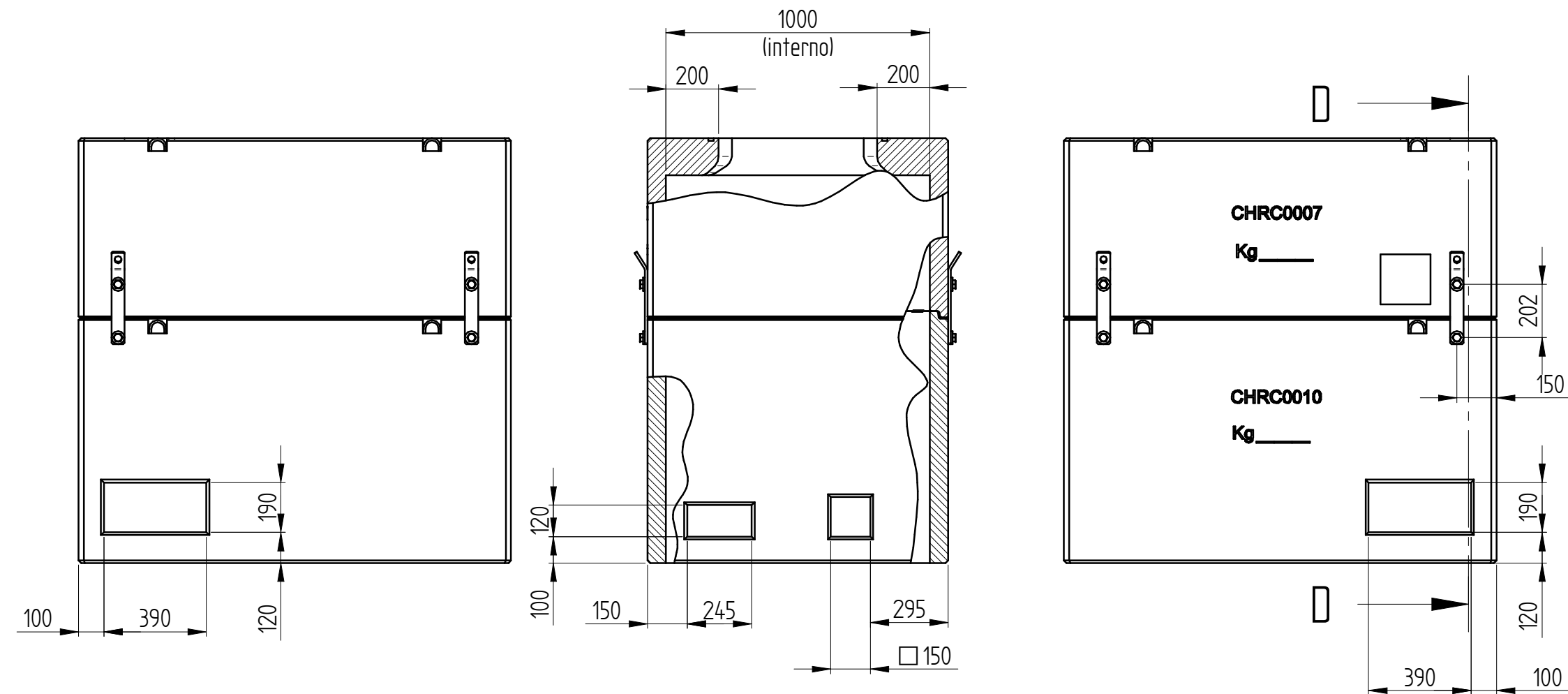
(Source: TechnoAlpin 2020)

Sez. A-A

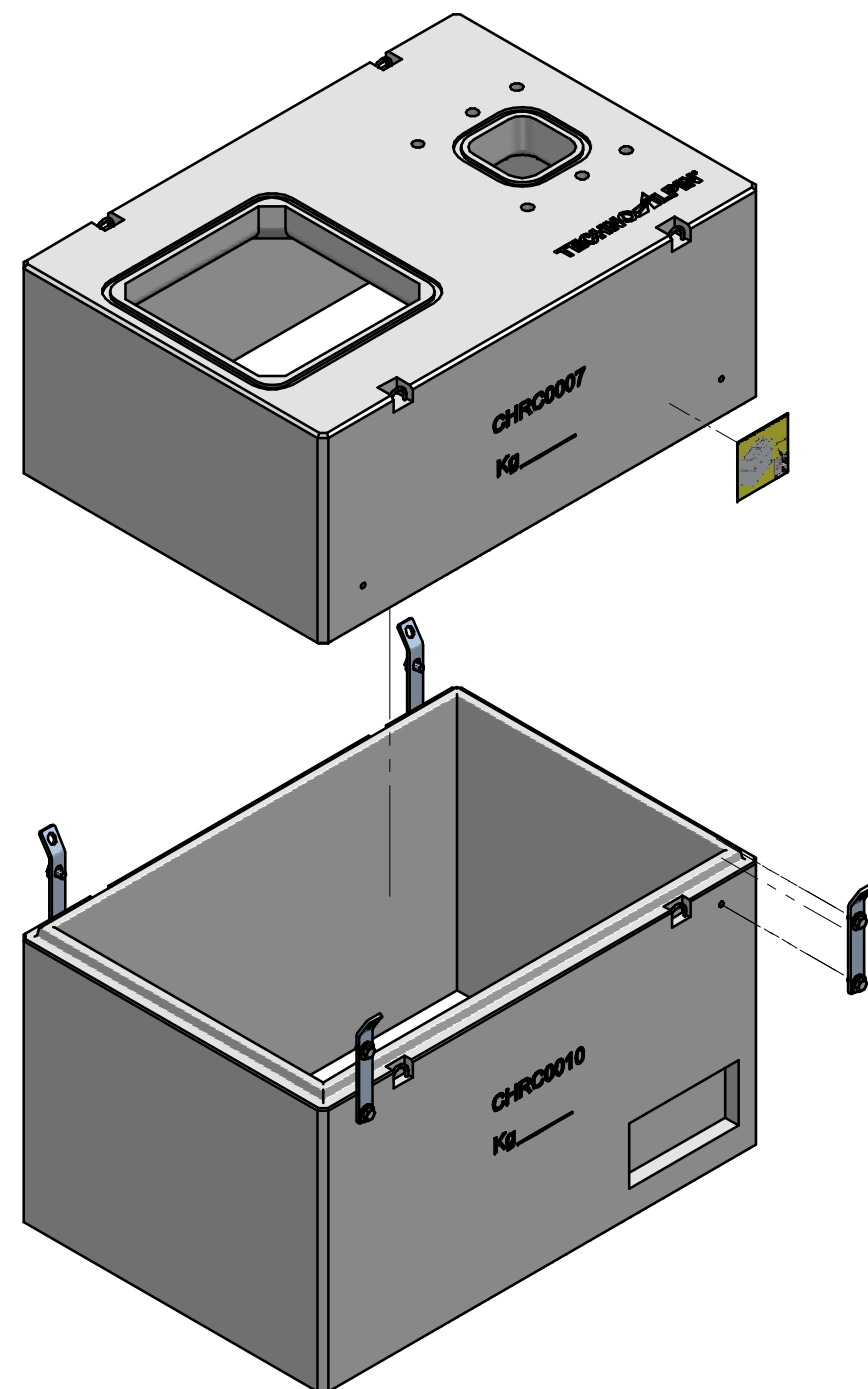
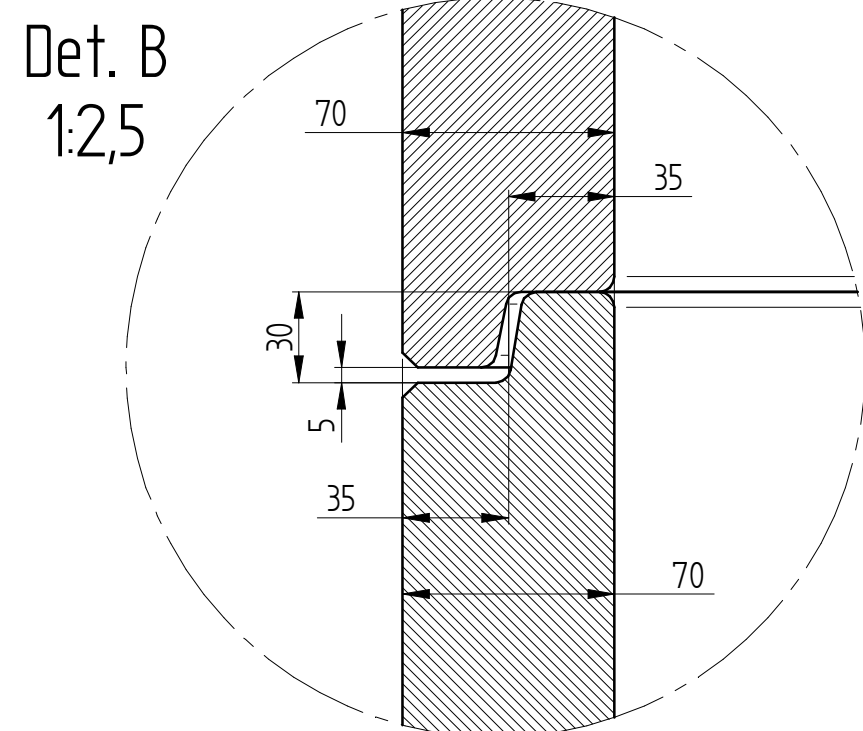
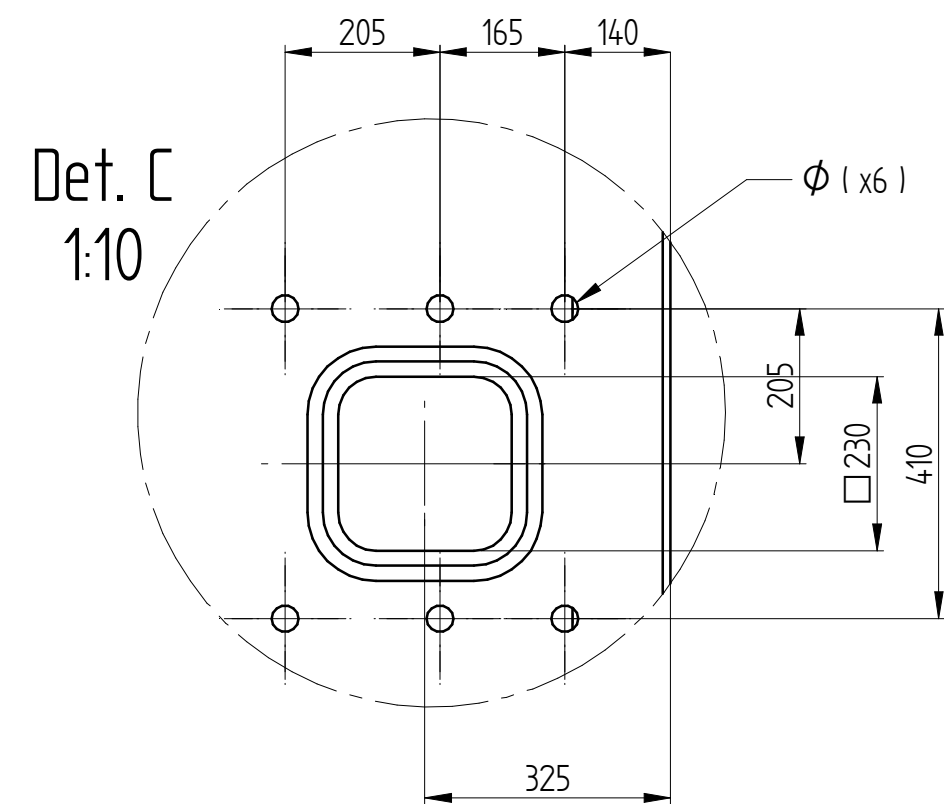


Einstiegs Luke
Chiusino
Entrance
Capot de regard

Lift 4.5m / Lanze / Turm 1.6m
Lift 4.5m / Lancia / Torre 1.6m
Lift 4.5m / Lance / Tower 1.6m
Lift 4.5m / Lance / Tour 1.6m


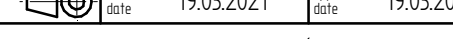


Sez. D-D



smooth surface treatment

7	SRD05040	00	Plug PVC 5mm with screw TGS 5 4,0x30	5
6	BL505016	00	Washer M5x15 ZN UNI 6593	5
5	SKEE1348	00	Wiring channel T1-N 120x60 grey RAL7030	10
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1	CHRC0010	02	Pit lower part reinforced H	1
Pos.	Item	Rev.	Item description	Qty

Revision	Version	Description of the change				Date	Creator	Approver
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Projection method		Create date	19.03.2021	Approval date	19.03.2021	A		A2
					Description		Page	
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ISO 16016					The reproduction, distribution and utilization of this document as well as the communication of its contents to others without express authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or design.		IDOC "dfr"	
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