CHARLOTTE PASS

GUTHRIES CHAIR - 2 CLF

REVISION HISTORY				
REV	DESCRIPTION	DATE	DRAWN	APPROVED
A	FIRST ISSUE	01-09-2023	Andrew	Shaun

GENERAL

G1. These drawings shall be read in conjunction with other consultants' drawings and specifications and with such other written instructions as may be issued during the course of the contract. Any discrepancies or omissions shall be immediately referred to the superintendent for resolution.

G2. The information contained on these drawings is for structural engineering purposes only. In all other matters, the approved architects' drawings shall take precedence. All discrepancies that could result in changes to the structural details shall be referred to the engineer prior to proceeding with construction. IF IN DOUBT, ASK.

G3. All materials and workmanship shall be in accordance with the relevant and current Australian Standards, the Building Code of Australia and with the by-laws and ordinances of the relevant building authorities.

G4. All dimensions shall be verified by the builder on site before fabrication and construction. Engineers' drawings shall not be scaled for dimensions.

G5. Unless noted otherwise all levels are in metres and all dimensions are in millimetres.

G6. During construction the structure shall be maintained in a stable condition and no part shall be overstressed. Temporary bracing shall be provided by the builder to keep the works and excavations stable at all times.

G7. The builder shall give a minimum of 24 hours notice for all engineering inspections.

FOUNDATIONS

F1. Footings have been designed for the following allowable bearing strength unless noted otherwise.

ELEMENT	(f_b) Base Bearing (kPa)	(f_s) Skin Friction (kPa)
Piers	750 kPa	50 kPa
Pads	200 kPa	10 kPa

All footings excavations shall be inspected be inspected and approved by an experienced geotechnical engineer to conform the foundation material and design values to ensure the excavations are clean and stable.

F2. Prior to any excavation near existing footings, the builder shall determine the depth of founding to existing footings by local investigatory excavation.
General excavation shall not proceed below a level of 150mm above the underside of existing footings until instruction is obtained from the engineer on procedures and precautions to be taken.

F3. Temporary site excavations up to 1.5m depth can be cut at near vertical. Loose topsoil material should be cut at 1H:1V. If required deeper excavations.

F4. All recommendations in geotechnical report JM/C11763 by ACT Geotechnical Engineers dated 5th May for Guthries Chairlift - Charlotte Pass Snow Resort

F5. Benching and battering should be conducted in accordance with the site conditions and the following details
-Maximum vertical cut 1.5m
-Bench 1m for cuts >

TYPICAL FOUNDATION DETAIL

F1. Foundation design bearing pressure = 200kPa maximum

F2. Foundation depth are nominal 1500mm below grade

F3. Geotechnical report JM/C11763 indicated the following conditions for foundations.

Pad foundations may be founded in Colouvial and Residual soils with a bearing capacity of 200kPa

It is expected at 1/2m depth that foundations will be founded in weathered granite bedrock achieving allowable bearing capacities up to 750kPA

F4. Weathered granite bedrock may be removed by excavation, ripper or hammer.

F5. Excavations to 1.5m may be completed with 1.5m near vertical cuts. It is expected that all foundations will be cut with near vertical batters in accordance with the referenced Geotechnical report.

F6. No bulk earthworks, cut and fill are conducted for bottom station, and tower foundations

F7. Top station fill is conducted in accordance with drawings 2020-15-C-014 and 2020-15-M-021

F8. All excavated material will be re-used onsite

F9. If excavated material is to be used as controlled backfill it shall be crushed onsite using a hydraulic jaw crusher attached to a hydraulic excavator. The same excavator completing the work will crush the rock at the site of the foundation reducing any movement of plant onsite

F10. Excess backfill will be flown to top station for use in the unload ramp as specified on drawings 2020-15-C-014 and 2020-15-M-021

F11. Topsoil is to be separated and re-used for re-vegetation around the foundation

F12. Foundation to be backfilled to within maximum of 150mm top of concrete. Topsoil to be "Crowned" away from foundation to prevent water pooling

F13. Backfill around foundations should be compacted in layers of 150mm thick using excavated spoil free of large rocks, vegetation or topsoil. Compaction can be either achieved with a rammer compactor or excavator attachment

REINFORCEMENT

R1. All reinforcing bars shall be grade D500N to AS 4671 unless noted otherwise. All mesh shall be grade 500L to AS 4671 and shall be supplied in flat sheets.
Reinforcement notation shall be as follows in the following order:

Number of bars in group (if nominated)
|
17Ø20/250
| |
| Spacing in mm
Nominal bar size

The figures following the fabric symbols RL, SL, L, TM, are the reference number for fabric to AS 4671.

R2. Reinforcement is represented diagrammatically and not necessarily in true projection.

R3. Splices in reinforcement shall be made only in positions shown or otherwise approved in writing by the engineer. Laps shall be in accordance with AS 3600 and not less than the development length for each bar as shown in the table below.

SPLICE SCHEDULE		
	32MPa Conc.	40MPa Conc.
Bar Ø	Splice Length	Splice Length
N10	450	400
N12	550	500
N16	800	700
N20	1000	900
N24	1250	1100
N28	1500	1350
N32	1800	1600
N36	2100	1850
N40	2400	2150

R4. Welding of reinforcement shall not be permitted unless shown on the structural drawings or approved by the engineer.

R5. Joggles to bars shall comprise a length of 12 bar diameters between beginning and end of an offset of 1 bar diameter.

R6. Reinforcement is to be supported in its correct position within the tolerances of AS 3600 by approved bar chairs, spacers or support bars.

R7. Site bending of reinforcement shall be avoided if possible. Where site bending is unavoidable it shall be carried out cold, without the application of heat, and in accordance with the practice note RPN1 of the Steel Reinforcement Institute of Australia.

R8. The engineer shall be given a minimum of 24 hours notice for reinforcement inspection and concrete shall not be deliverd until final approval has been obtained from the engineer.

CONCRETE

C1. All workmanship and materials shall be in accordance with AS 3600, AS 1379 and AS 3610 current editions with amendments, except where varied by contract documents.

C2. Concrete quality:
All cement to be type SL, shrinkage limited cement in accordance with as 3972, except that the maximum shrinkage of the cement in the mortar test sample in accordance with AS 2350 shall be less than 600 microstrain.

ELEMENT	STRENGTH GRADE	SLUMP (mm)	MAXIMUM AGGREGATE SIZE (mm)
Piers	N32	80	20
Slabs	N40	100	20

C3. All concrete in slabs and beams to be proportioned to limit drying shrinkage to 650 microstrain at 50 days.

C4. No admixtures other than low range WRA and plasticisers shall be used in concrete unless approved in writing.

C5. Clear concrete cover to all reinforcement shall be as follows unless noted otherwise. Cover may need to be increased for fire rating.

EXPOSURE CLASS TO AS 3600	CAST AGAINST GROUND	CAST IN FORMS AND EXPOSED	CAST IN FORMS AND NOT EXPOSED
Piers	50mm	-	-
Slabs	50mm	40mm	-
Columns	50mm	32mm	

C6. The finished concrete shall be mechanically vibrated to achieve a dense homogeneous mass, completely filling the formwork thoroughly embedding the reinforcement and free of stone pockets. All concrete including slabs on ground and footing shall be compacted with mechanical vibrators.

C7. Curing of all concrete is to be achieved by the prevention of loss of moisture for a total of 2 days followed by a gradual drying out. Approved sprayed on curing compounds that comply with AS 3799 may be used where floor finishes i,e Densiproof will not be affected (refer to manufacturers specification). Polythene sheeting or wet hessian may be used if protected from wind and traffic.

C8. Repairs to concrete shall not be attempted without the permission of the engineer.

C9. Cast-in fixings, bolts etc. shall not be altered without the permission of the engineer.

C10. Blinding under slabs may be completed with stabalized sand 10% (5x20kg bags cement per tonne sand)

C11. Concrete slump and compressive test cylinders are to be completed on 10% of the concrete loads delivered to site

SAFETY RISK AND HAZARDS

SRH1. Construction activity can be hazardous. Potential hazards considered by the designers to have a higher risk than normal construction activity are identified with appropriate notes on these drawings. Whilst every effort has been made to identify higher than normal risk construction activities, not every potential risk or hazard can be foreseen and the absence of comment does not imply that there are no risks or hazards involved in this project. It is therefore essential that an adequate safety plan is prepared by the contractor for the works.

FILL

FL1. All site fill shall be placed in accordance with the recommendations for "controlled" fill contained in AS2870-2011 "residential Slabs and Footings" and AS3798-2007 "Guidelines on Earthworks for Commercial and Residential Developments"

FL2. Prior to commencing site fill all vegetation and topsoil is to be removed from the fill area. The base of a fill area shall be cut horizontal to a minimum width required for compaction rollers or equipment. Where necessary the base may be cut in steps to allow for sloping sites.

FL3. Following the site preparation works, areas of the subgrade below fill should be inspected by a geotechnical engineer to assess whether or not proof rolling or further measures are necessary.

FL4. Prior to the use of material for fill a geotechnical engineer shall inspect the proposed material to determine its suitability for use as engineered fill

FL5. All material for fill shall be clean, free of organic matter and have particle sizes not greater than 75mm.

FL6. Engineered fill should be compacted in 250mm thick loose layers using to achieve a minimum density ration of 95% Standard Maximum Dry Density (SMDD) If thinner loose layers are placed, the maximum particle size must reduce to not larger than two third of the compacted layer thickness

FL7. All fill batters shall not exceed 2 horizontal and 1 vertical unless specified by the engineer

FL8. All filled surfaces shall be over filled, compacted and trimmed back to design grade to ensure compaction of the edges.

FL9. All filled surfaces shall be either topped with a suitable hard face and or re-vegetated to prevent erosion.

FL10. Surface drainage should be provided around the uphill side of structures to prevent water pooling

NSW GOVERNMENT
Department of Planning
Housing and Infrastructure

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No DA 22/12013

Granted on the 29 February 2024

Signed D James

Sheet No 57 of 60

Drawing Title: General Structural-Civil Notes	Drawn: Andrew	Date: 01-09-2023	Scale: N/A	Third Angle Projection
	Checked: Shaun	Date: 01-09-2023	Material: N/A	
	Approved: Shaun	Date: 01-09-2023	Finish: N/A	
Project: Guthries 2-CLF	Sub Project: 2020-15	Project No_Drawing No: 2020-15-C-021		Revision: A
File: G:\Shared drives\Drawings\Projects\Charlotte Pass\Guthries\Drawings\2020-15-C-021.dwg		All dimensions in millimeters. DO NOT SCALE. If in doubt ask.		

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