



Preliminary Calculations

Project State/Province: Utah

Resort Name: Snowbasin Resort

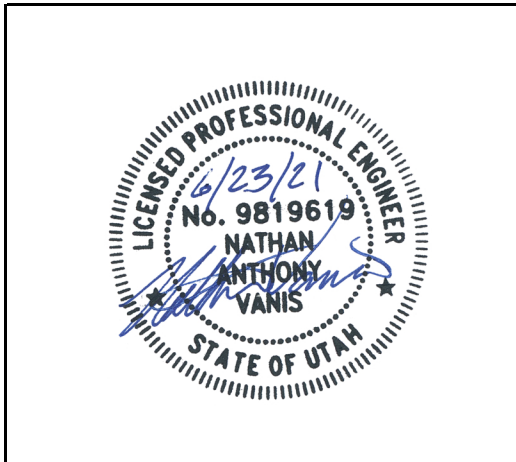
Lift Name: Middle Bowl

Lift Type: Detachable

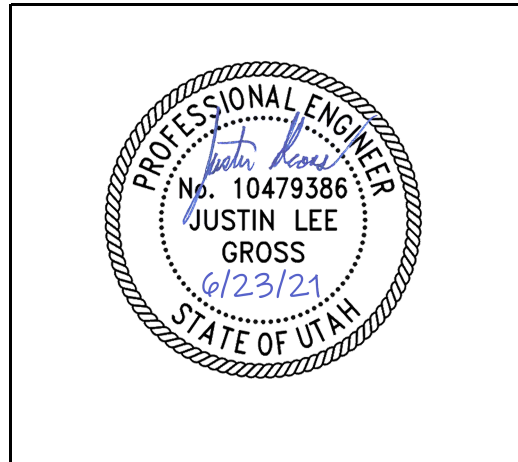
Carrier Capacity: 6P

LPOA Project Number: C52231

Calculations Compiled: June-21



Mechanical Engineer
Design and Machinery Engineer



Civil Engineer
Foundations, Profile, and Structural



Preliminary Lift Equipment Data Sheet

Area: Snowbasin Resort Date: 6/22/2021
Lift Name: Middle Bowl Job #: C52231
Lift Type: Detachable - 6P

General Specifications

Capacity Initial: 1800 pph
Capacity Final: 2400 pph
Vertical Rise: 362.60 m 1189.63 ft
Slope Length: 1463.99 m 4803.12 ft
Line Gauge: 5.60 m 18.37 ft
Carrier Capacity: 6 place
Drive Location: Top
Tension Location: Bottom
Rotation: CCW

Initial Capacity Specifications

Number of Carriers: 51
Speed Uphill: 5.08 m/s 1000 fpm
Speed Downhill: 5.08 m/s 1000 fpm
Downhill Loading: 10 %
Overhauling: No
Carrier Spacing: 60.96 m 200.00 ft
12.0 sec

Final Capacity Specifications

Number of Carriers: 68
Speed Uphill: 5.08 m/s 1000 fpm
Speed Downhill: 5.08 m/s 1000 fpm
Downhill Loading: 10 %
Overhauling: No
Carrier Spacing: 45.72 m 150.00 ft
9.0 sec



Preliminary Lift Equipment Data Sheet

Area: Snowbasin Resort Date: 6/22/2021
Lift Name: Middle Bowl Job #: C52231
Lift Type: Detachable - 6P

Haul Rope Specifications

Rope Diameter:	42.0 mm	1.65 in	Safety Factor:	5.05
Rope Weight:	6.28 daN/m	4.30 lbs/ft	Rope Construction:	6x25 FW
Min. Break Strength:	123000 daN	276515 lbs	Maximum Angle:	26.7 °
Preliminary Max Tension:	24335 daN	54707 lbs		

Drive Equipment

Drive Bullwheel Ø:	4.00 m	13.12 ft		
Gearbox or Direct Drive:	Gearbox		Gearbox Primary Ratio:	60.1 :1
Gearbox Manufacturer:	Kissling		Auxiliary Input Ratio:	1 :1
Gearbox Model:	PK22M-SB600HW		Evacuation Input Ratio:	2 :1

Primary Drive:	Electric Motor	Quantity of Motors:	1	
Manufacturer:	ABB	Connection:	Flex Coupling	
Model:	TBD	Ratio:	1 :1	
Power:	597 kW	800 HP	Speed:	1457 RPM

Auxiliary Drive:	Diesel Engine	Quantity of Engines:	2
Manufacturer:	Cummins	Power Per Unit:	305 HP
Model:	QSC8.3 Tier 3	Connection:	Driveline
Torque Converter:	Twin Disc TD 8-1750		

Evacuation Drive: Use Either Auxiliary

Braking Equipment

Service Brake		Emergency Brake	
Model:	LP Service Brake	Model:	Poma 10T Disc
Quantity:	1	Quantity:	1
Location:	High Speed Input	Location:	Bullwheel

Rollback Brake		Drive Train Backstop	
Model:	Poma 10T Disc	Location:	N/A
Quantity:	1		
Location:	Bullwheel		



Preliminary Lift Equipment Data Sheet

Area: Snowbasin Resort Date: 6/22/2021
Lift Name: Middle Bowl Job #: C52231
Lift Type: Detachable - 6P

Carrier and Grip Equipment

Carrier		Grip	
Carrier Manufacturer:	Leitner-Poma	Grip Manufacturer:	Leitner
Carrier Model:	Six Place Detachable	Grip Model:	LPOA-N
Restraint Bar:	w/ Footrest	Grip Slip Test Value:	1177 daN 2646 lbs
Carrier Weight:	418 daN 940 lbs		

Line Equipment

Number of Towers: 18
Sheave Train Type: Leitner-Poma Ø450mm Wide

Tension Equipment

Tension Location:	Bottom	Nominal Pressure:	70 Bar
Tension Force:	26000 daN 58450 lbs	Maximum Pressure:	77 Bar
Number of Cylinders:	2	Minimum Pressure:	63 Bar

Electrical System

Drive			
Manufacturer:	ABB	Voltage:	480 VAC
Model:	TBD	Controller:	VFD

Control System

Manufacturer:	Leitner-Poma of America, Inc.	Anti-collision MFG:	Leitner-Poma
Model:	2021 Detachable Chair	Deropement Circuit:	CPS + Brittle Bar

**Explanation of Line
Calculations**

CALCULATIONS EXECUTED BY COMPUTER

1) ROPELINE CALCULATION

a) LOADING CASES

Analysis of the lift line under all design loading conditions is required to insure that there is no possibility of insufficient sheave loading occurring under any combination of specified operating conditions. For example when a lift is designed for parking of carriers during poor weather conditions the design loading cases differ slightly from a standard lift. Having carriers on one side of the line and bare cable on the other side of the line becomes a design loading condition rather than a special case, which only occurs during construction or maintenance.

In determining of tower loadings, sags, tensions, etc. the cable is assumed to have an evenly distributed load. This is an approximation used to simplify the calculations without causing undue error. In the case of extreme point loads such as with a tram this method should not be used. The following calculations determine the distributed loads used in the design loading cases.

LIFT CAPACITY	=	C (people/hr)
CABLE SPEED	=	V (m/s)
DOWNHILL LOAD	=	D (%)
CARRIER CAPACITY	=	N (people/carrier)
CARRIER SPACING	=	S (m/carrier)
CARRIER INTERVAL	=	I (sec/carrier)
WEIGHT OF EMPTY CARRIER	=	WC (dan/carrier)
WEIGHT OF ONE PASSENGER	=	WP (daN/passenger)
WEIGHT OF BARE CABLE	=	WB (dan/m)

DISTRIBUTED LOADS (daN/m)

BARE = WB

EMPTY = WB + WC/S

FULL = WB + WC/S + (WPxN)/S

DOWN = WB + WC/S + (WPxNx D)/S

b) FORMULAE FOR CALCULATING LINE LOADS

ASSUMPTIONS:

- Catenary curve is assimilated to a parabolic arc
- Friction factor at each tower is constant
- Cable is uniformly loaded along entire lift line
- Tower loading occurs at theoretical working point where parabolic arcs intersect

TENSIONS:

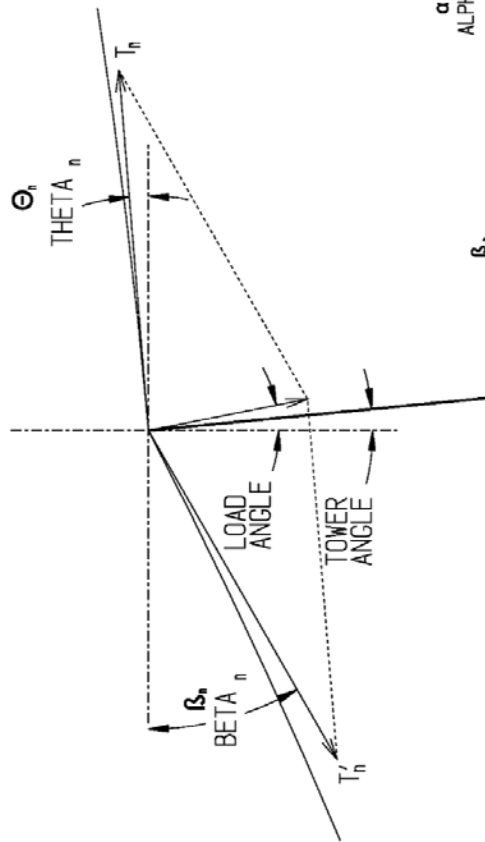
The tensioning system supplies a constant force to the cable which is the basis of the line calculation. In general the calculations begin where the tensioning force is applied and progress to the other end of the lift, adding or subtracting friction accordingly. Using this tensioning force the tower loadings and span geometry for each loading case are calculated.

TOWER LOADS:

The calculation of load at each tower is an iterative process involving the determination of friction at that particular tower. The incoming and outgoing tensions at the tower are initially assumed to be equal. Load and friction are then calculated and the outgoing tension is adjusted to account for this friction. The process is iterated using the new outgoing tension until convergence occurs at the correct friction value. The correct loading, tension and geometry values are then included in the table for that particular loading case after which the next tower is calculated. The accompanying diagram and formulae shown on the next page detail these calculations.

EXAMPLE OF CALCULATIONS:

- cable traveling in uphill direction
- uniform line weight = w



$$T_n = T_{n-1} + (DY_{n-1} \times w)$$

$$TANG_{n-1} = (T_{n-1} + T_n) / 2$$

$$SAG_{n-1} = w \times (DX_{n-1})^2 / 8 \times TANG_{n-1} \times \cos^2(\alpha_{n-1})$$

$$\tan(\beta_n) = (DY_{n-1} + 4 \times SAG_{n-1}) / DX_{n-1}$$

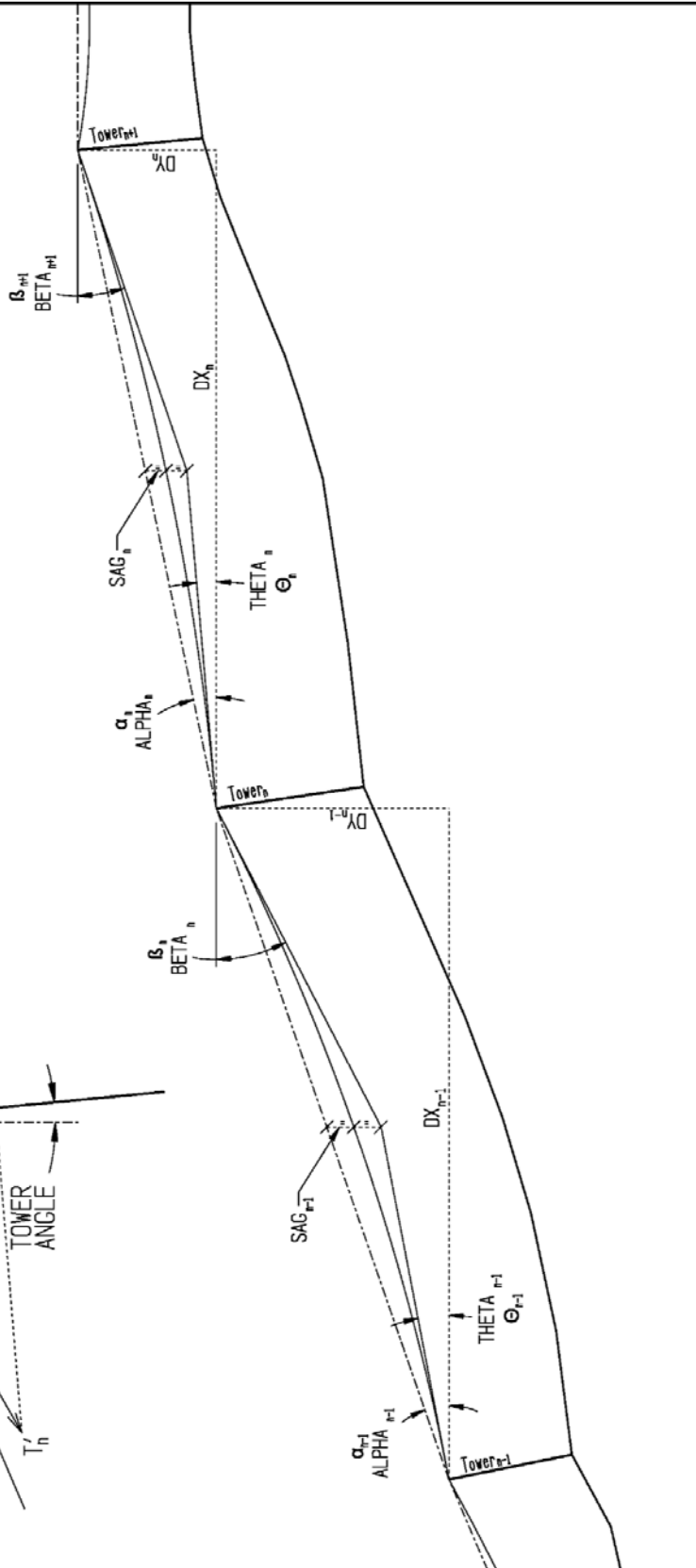
$$\tan(\theta_n) = (DY_n - 4 \times SAG_n) / DX_n$$

$$LOAD_n = \sqrt{(T_n \cos \theta_n)^2 + (T_n \sin \theta_n)^2} + (T_{n-1} \cos \beta_n)^2 + (T_{n-1} \sin \beta_n)^2$$

$$\tan(LOAD_ANGLE_n) = \frac{T_n \sin \theta_n}{T_n \cos \theta_n + T_{n-1} \cos \beta_n}$$

$$FRIC_{n-1} = LOAD_n \times FRIC_FACTOR$$

$$T_n = T_{n-1} + FRIC_{n-1}$$



c) DETERMINATION OF LINE EQUIPMENT

When determining what line equipment may be used on each tower a number of checks are performed to insure that applicable code requirements are met. Both the ANSI B77.1-2017 (United States) and the CAN/CSA-Z98-19 (Canada) are considered and the most restrictive requirement of the two is used. Poma also includes special restrictions above and beyond those detailed in the codes such as the 33% overload case, which is described in "TABLES".

d) TABLES

SUMMARY TABLE:

The summary table is headed with project number, ski area name, lift name and "SUMMARY TABLE". This is followed by a listing of each distributed load value used in evaluating the various loading cases. The table headings are as follows:

TOWER	This details the tower number or point of cable deviation. RBW = return bullwheel, DBW = drive bullwheel, *** = a point in the terminal where the cable deviates.
SIDE	U = up, D = down
MAX SAG	This is the maximum sag value found for the span uphill of the tower
MIN CURVE	This is the minimum radius of cable arc which corresponds to the MAX SAG discussed above
MAX BOA	The maximum break over angle for the sheave train is equal to the maximum absolute value of (BETA - THETA) which is used to calculate the maximum deflection per sheave.
MAX TENS	Maximum tension at the tower (either T or T') of all design loading cases
MIN TENS	Minimum tension (either T or T') of all design loading cases
MAX LOAD	Maximum load of all design loading cases
MIN LOAD	Minimum load of all design loading cases
33% OVER LOAD	This is a Poma safety requirement to insure that an overload will not cause deropement. MIN TENS and a distributed load of 1.33 * FULL is used in the adjacent spans to calculate this load. If a compression sheave train deropes under this condition it is changed to a support/compression.
30% UNDER TENS	This is a code requirement which considers the effect of a temporary reduction in tension due a sudden line surge. This check uses MIN TENS * .7 and FULL distributed load in the adjacent spans to calculate the load. If a compression sheave train wants to derope under these conditions support/compression is required.

50%
OVER
TENS

When a tower lies below the straight line drawn between two adjacent towers there is the possibility that a large increase in tension could cause a deropement. A fixed grip lift is checked using MAX TENS * 1.5 and a distributed load of EMPTY in the adjacent spans to determine this load. For a detachable lift the possibility of having bare cable is greatly increased. Therefore MAX TENS * 1.5 and distributed load of BARE in the adjacent spans is used. If a sheave train wants to derope under these conditions support/compression is required.

SHEAVE support sheaves are indicated with S
TRAIN compression sheaves are indicated with C

LOADING CASE TABLES:

There is a separate table included for each design loading case as described in "LOADING CASES". At the top of each table is found the project number, ski area name and lift name. This information is followed by the applicable loading case and distributed line loads used in the calculations. The following list describes the table headings which differ from those found in the summary table.

SAG	calculated sag for the span uphill of the tower
CURVE	radius of assimilated arc used in drawing of profile
BETA	downhill cable tangent angle (see example)
THETA	uphill cable tangent angle (see example)
K	ratio of sag/span for span uphill of tower
DX	horizontal distance of uphill span (see example)
DY	vertical distance of uphill span (see example)
TENS	cable tension T (see example)
LD ANGLE	load angle with vertical (see example)
LOAD	load on sheave train, + = support, - = compression

e) DETERMINATION OF TERMINAL EQUIPMENT

DRIVE BULLWHEEL:

In determination of the frictions and line loads at each tower a kinetic friction factor of .025 is normally used. This has proven to accurately predict the friction losses on a sheave due to compression of the liner, bearing friction, and so on although the actual friction does change somewhat with climactic conditions. In order to be conservative in the calculation of terminal equipment the UPHILL FULL / DOWNHILL EMPTY case is recalculated using a nominal friction factor (normally .03). This results in the calculation of a higher incoming tension on the drive bullwheel ($T_{.03}$) and a lower outgoing tension ($t_{.03}$). These values are used in calculation of the nominal torque placed on the drive bullwheel and thus the gearbox.

$$\begin{aligned} \text{NOMINAL TORQUE} &= (T_{.03} - t_{.03}) * \text{DRIVE BW DIA}/2 \\ \text{daN}\cdot\text{m} &= \text{daN} * \text{m} \end{aligned}$$

All of the standard loading cases are checked to determine if the lift will produce overhauling torque. This will determine if any special retarding devices are required to insure that the lift cannot run away with a downhill load. The program checks each case to see if $t > T$.

$$\begin{aligned} \text{IF } t > T \quad \text{OVERHAULING TORQUE} &= (t - T) * \text{DRIVE BW DIA}/2 \\ \text{daN}\cdot\text{m} &= \text{daN} * \text{m} \end{aligned}$$

$$\text{IF } T > t \quad \text{OVERHAULING TORQUE} = 0$$

Design speeds of the drive bullwheel.

$$\begin{aligned} \text{FULL SPEED RPM} &= \text{FULL SPEED} * 60 / (\text{DRIVE BW DIA} * \pi) \\ \text{AUX SPEED RPM} &= \text{AUX SPEED} * 60 / (\text{DRIVE BW DIA} * \pi) \\ \text{EVAC SPEED RPM} &= \text{EVAC SPEED} * 60 / (\text{DRIVE BW DIA} * \pi) \\ \text{Rev/min} &= (\text{m/s}) * (\text{s/min}) / (\text{m/rev}) \end{aligned}$$

To determine the radial force applied to the drive bullwheel and therefore transferred to its supporting shaft all of the design loading cases are searched to find the maximum total force.

$$\begin{aligned} \text{MAX CABLE LOAD} &= (T+t)_{\text{max}} \\ \text{daN} &= \text{daN} \end{aligned}$$

Allowable adherence is determined by the angle of cable wrap around the drive bullwheel (usually 180° or less) and the coefficient of friction of the bullwheel liner. The maximum kinetic adherence should not exceed the value calculated in the following formula. f =coefficient of friction (.205), a = angle of wrap in radians.

$$\text{ALLOWABLE ADHERENCE} = e^{fa}$$

$$\text{ADHERENCE} = T/t$$

Rotation from above refers to the direction of rotation of the drive bullwheel when viewed from above. Therefore a CCW lift would mean that the right hand side would be going uphill when viewed from the bottom of the lift.

GEARBOX:

This section details the required parameters for the various input shafts of the gearbox given the proper ratios, included are torque and speed of the input shaft for the stated line speed. As an example the requirements for the auxiliary input are calculated as follows.

$$\begin{aligned} \text{Torque} &= \text{NOMINAL TORQUE} / (\text{MAIN RATIO} * \text{AUX RATIO} * \text{AUX EFFICIENCY}) \\ \text{daN}\cdot\text{m} &= \text{daN}\cdot\text{m} \end{aligned}$$

$$\begin{aligned} \text{Speed} &= \text{AUX SPEED RPM} * \text{MAIN RATIO} * \text{AUX RATIO} \\ \text{rev/min} &= \text{rev/min} \end{aligned}$$

TENSION SYSTEM:

TENSION SYSTEM FORCE is the total force produced by the tensioning system and applied to the tension bullwheel. Tension system force is denoted by T_o .

$$\text{TENSION PER SIDE} = T_o/2.$$

When considering the use hydraulic rams it is assumed that all the rams are of the same size and they are pulling the carriage.

$$\begin{aligned} \text{AREA OF HYDRAULIC RAM} &= (\text{CYLINDER BORE}^2 - \text{SHAFT DIA}^2) * \pi/4 \\ \text{cm}^2 &= \text{cm}^2 - \text{cm}^2 \end{aligned}$$

$$\begin{aligned} \text{TENSION SYSTEM PRESSURE} &= T_o / (\text{AREA} * \text{NUMBER OF HYDRAULIC RAMS}) \\ \text{Bars} &= \text{daN} / \text{cm}^2 \end{aligned}$$

For a lift with parking the carriage travel is determined by using the difference in total cable length under bare/bare condition and the total cable length under full/full condition. For a lift without parking the empty/empty and full/full cases are used. Carriage travel may consist of a number of components including environmental factors such as temperature. For the practical purposes of sizing the runways only the change in sag and elastic stretching of the cable due to change in tension are considered in this calculation.

CABLE:

TOTAL CABLE LENGTH is calculated for the full/full case, MAXIMUM TENSION is determined by searching all design loading cases, MINIMUM SHEAR RATIO the ratio of minimum tension to weight of a fully loaded carrier, MAXIMUM RADIAL ACCELERATION relates to the sheave spacing, arc of the sheave train and speed of the carrier passing over it. MAXIMUM CABLE INCLINATION is determined by searching all design loading cases for the maximum value of BETA. SIMULTANEOUS BREAKOVER SPANS is a measure of how many spans have a length approximately equal to a multiple of the carrier spacing. MAXIMUM DEFLECTION PER SHEAVE is a function of maximum break over angle divided by number of sheaves.

BRAKES:

Self-explanatory

ELECTRIC MOTOR:

These calculations assume that the electric motor is connected to the main gearbox input with V-Belts or some other form of power transmission. Otherwise ELECTRIC INPUT RATIO should be 1.

$$\text{POWER} = \frac{(T-t) * (\text{DRIVE BW DIA}/2) * \text{FULL SPEED RPM} * .001404}{\text{MAIN GEARBOX EFFICIENCY} * \text{ELECTRIC INPUT EFFICIENCY}}$$

Hp

$$\text{SPEED} = \text{FULL SPEED RPM} * \text{MAIN RATIO} * \text{ELECTRIC RATIO}$$

rpm

STARTING

$$\text{TORQUE} = \frac{\text{DRIVE BW STARTING TORQUE}}{\text{MAIN RATIO} * \text{ELECTRIC RATIO} * \text{MAIN EFFIC} * \text{ELEC EFFIC}}$$

daN·m

CARRIERS:

Self-explanatory

2) TOWER and TOWER FOOTING STRUCTURAL CALCULATIONS

a) GENERAL TERMINOLOGY

L	=	length of foundation
W	=	width of foundation
H	=	overall height of the foundation
D	=	depth of foundation below ground
M _{long}	=	overturning moment in the longitudinal direction
M _{transv}	=	overturning moment in the transverse direction
M _{right}	=	righting moment
V _{long}	=	horizontal force in the longitudinal direction
V _{transv}	=	horizontal force in the transverse direction
V _{resist}	=	resisting force in the horizontal direction
f _{pmax}	=	maximum soil pressure
F _{pallow}	=	allowable soil pressure
Σ vert	=	total vertical force = total resultant at soil
φ	=	soil friction coefficient

Refer to the spread footing diagram.

b) GENERAL DESIGN

Note: Any dimensions referred to as length are parallel to the centerline of the ropeway and width are perpendicular to the centerline of the ropeway.

The controlling load combination is determined. Typically, wind across the ropeway line, transverse, combined with the static forces longitudinal to the line is the worst case. The maximum wind occurs during non-operation, therefore, the static forces due to the haul rope with empty carriers is used.

A different load combination combines a reduced wind acting simultaneously with ice accumulation. Again, the empty carrier, non-operation, longitudinal static forces are used. This combination may control for sites with severe ice accumulation and long spans between towers.

Various wind orientations, seismic orientations, avalanche, and snow creep forces are also considered on a site specific basis.

The tower base forces are determined for the tower design. The square root of the sum of the squares of the longitudinal and transverse components for the bending moment and the horizontal force are used.

$$M_{\text{result}} = \text{bending moment at the base of the tower} = (M_{\text{long}}^2 + M_{\text{transv}}^2)^{1/2}$$

$$V_{\text{result}} = \text{horizontal shear at the base of the tower} = (V_{\text{long}}^2 + V_{\text{transv}}^2)^{1/2}$$

$$P = \text{vertical load at the base of the tower (not including foundation)}$$

Leitner-Poma uses two basic anchor bolt groups, the 4 bolt and the 8 bolt. In special cases a 12 bolt group is sometimes used. The anchor bolt groups are designed to exceed the strength of the maximum tower section that can be placed on them.

Two basic foundation types are used by Leitner-Poma. The Spread Footing model assumes only soil bearing under the spread. The Block Footing model assumes soil bearing upon the sides of the excavation as well as soil bearing under the footing. Each of these models is discussed more thoroughly below.

Under normal conditions the density of concrete is assumed to be $CONC = 23.6 \text{ KN/m}^3 = 150 \text{ lbs/ft}^3$. When there is excessive ground water present the effects of buoyancy are taken into account.

c) SPREAD FOOTING DESIGN

A general maximum aspect ratio used is 1.5:1. On rare occasion this ratio may be violated slightly. The width is typically greater than the length due to the fact that transverse wind forces applied to the foundation are much greater across the line than along the line. An exception occasionally arises when avalanche or snow creep acts on the tower. This is a case by case situation.

Design for soil bearing follows common accepted engineering methods. For example, the eccentricity of the soil reaction is calculated for both the longitudinal and transverse axes. The eccentricity determines whether a triangular or trapezoidal soil bearing pattern occurs. It is worth noting that ropeway towers typically have significant overturning in both the longitudinal and transverse axes. The calculated soil bearing takes this into account.

The overturning and sliding forces are also handled using accepted engineering methods.

The density of backfill is assumed to be $FILL = 17.3 \text{ KN/m}^3 = 110 \text{ lbs/ft}^3$.

Refer to the diagram on the following page.

Four main design factors are checked to insure adequacy.

$M_{\text{right}}/M_{\text{over}} > 1.5$. $M_{\text{over}} = V_x * H$. The two directions are checked individually.

$V_{\text{resist}}/V_{\text{slide}} > 1.5$. V_{resist} is due to friction at the concrete to soil interface and/or passive earth pressure. $V_{\text{slide}} = V_{\text{result}}$

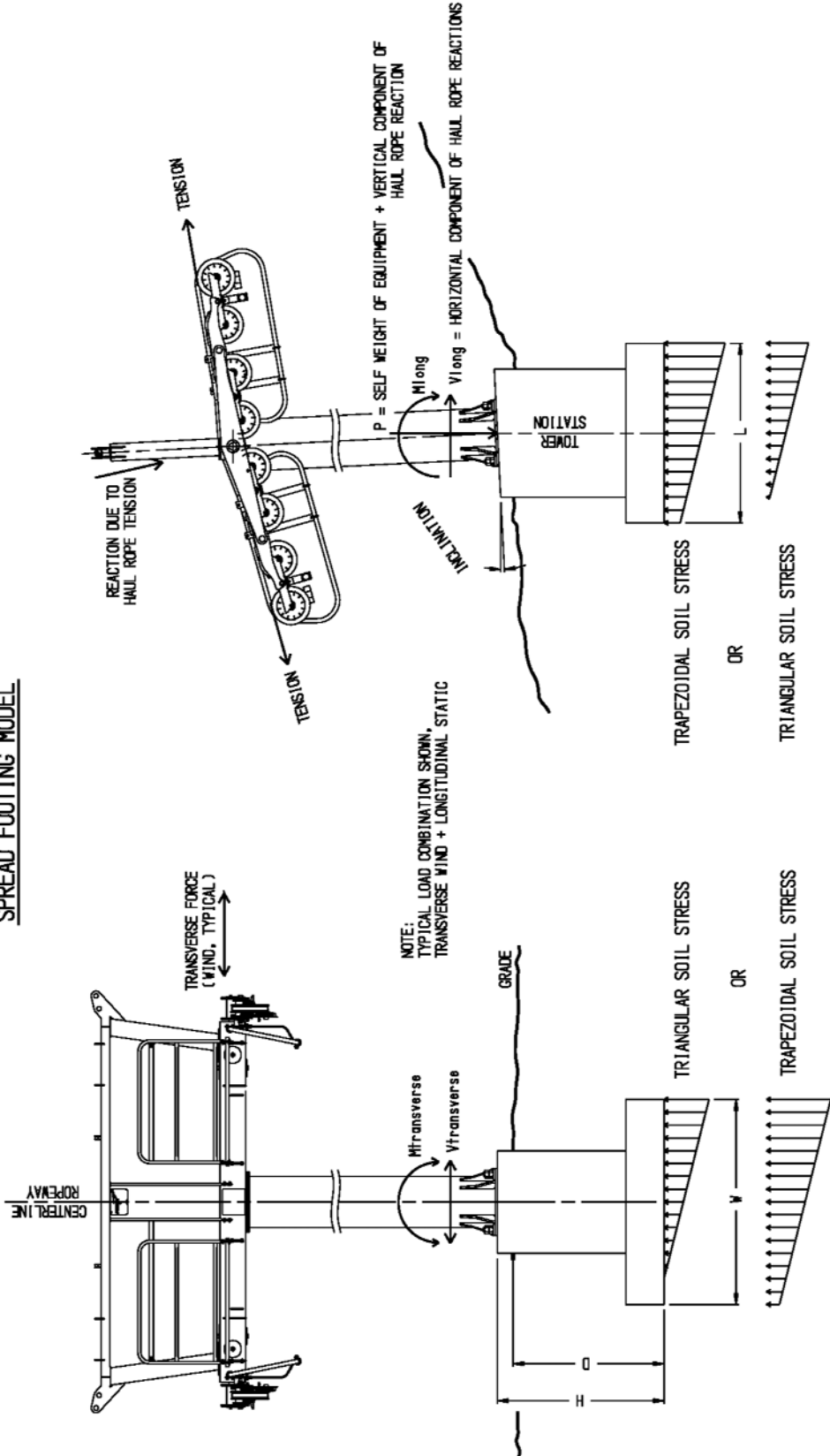
$f_p \text{ max} < F_p$

If the vertical design load P is negative, wanting to pull the footing out of the ground, then;

$Abs(P)/Tension > 2.0$

The concrete and the reinforcement are designed using common engineering methods and meet the local standard.

SPREAD FOOTING MODEL



VERTICAL AND LONGITUDINAL STATIC FORCES

TRANSVERSE FORCES

d) BLOCK FOOTING DESIGN

Additional Terminology for the Block Footing:

X	=	width of bottom soil pressure triangular distribution
LATERAL REACTION	=	sum of horizontal soil bearing
CONC	=	density of concrete

Review:

$$M_{\text{result}} = \text{overturning moment at the base of the tower} = (M_{\text{long}}^2 + M_{\text{transv}}^2)^{1/2}$$

$$V_{\text{result}} = \text{horizontal shear at the base of the tower} = (V_{\text{long}}^2 + V_{\text{transv}}^2)^{1/2}$$

$$P = \text{vertical load at the base of the tower} = \Sigma \text{vert}$$

The block footing model assumes all forces are acting across, transverse to, the ropeway line.

Similar to the spread footing, four main design factors are checked to insure adequacy.

$$M_{\text{right}}/M_{\text{over}} > 1.5. \quad M_{\text{over}} = M_{\text{result}} + V_{\text{result}} * H$$

$$V_{\text{resist}}/V_{\text{slide}} > 1.5. \quad V_{\text{resist}} \text{ is due to friction at the concrete to soil interface. } V_{\text{slide}} = V_{\text{result}}$$

$$f_p \text{ max} < F_p$$

If the vertical design load P is negative, wanting to pull the footing out of the ground, then;

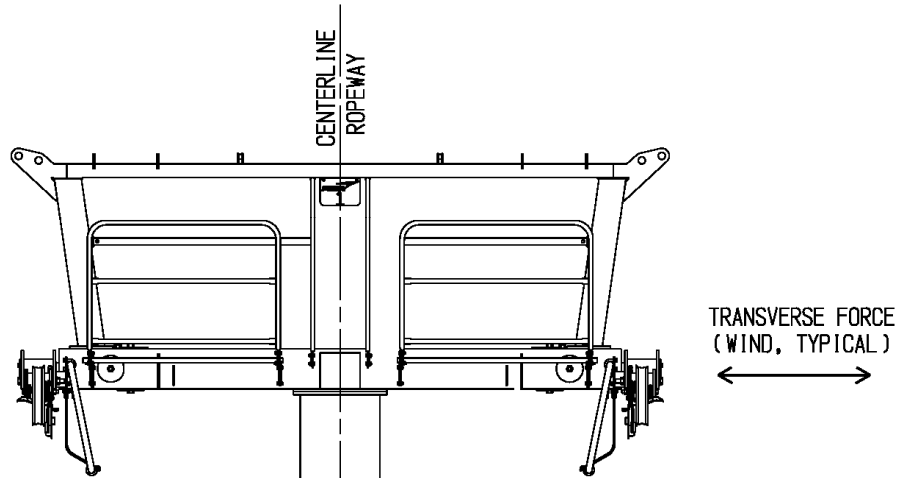
$$\text{Abs}(P)/\text{Tension} > 2.0$$

The maximum soil bearing, $f_{p\text{max}}$, is assumed to equal the allowable soil bearing, F_p . The vertical soil bearing is assumed to be a triangular stress pattern. The lateral soil bearing is assumed to be a parabolic stress pattern with a height of 2/3 of the depth. The length, L, of the block footing is longer along the ropeway line than the width, W, across the line. This is to engage more lateral soil bearing with more footing surface area.

Summing the moments due to the lateral reaction acting at its height + Σvert acting through a triangular stress pattern of width $X = 0$, X can be found.

The righting moment, M_{right} , is calculated about the centerline at the bottom of footing. It is the sum of the lateral force at its distance above the bottom of the footing + Σvert times the eccentricity.

BLOCK FOOTING MODEL

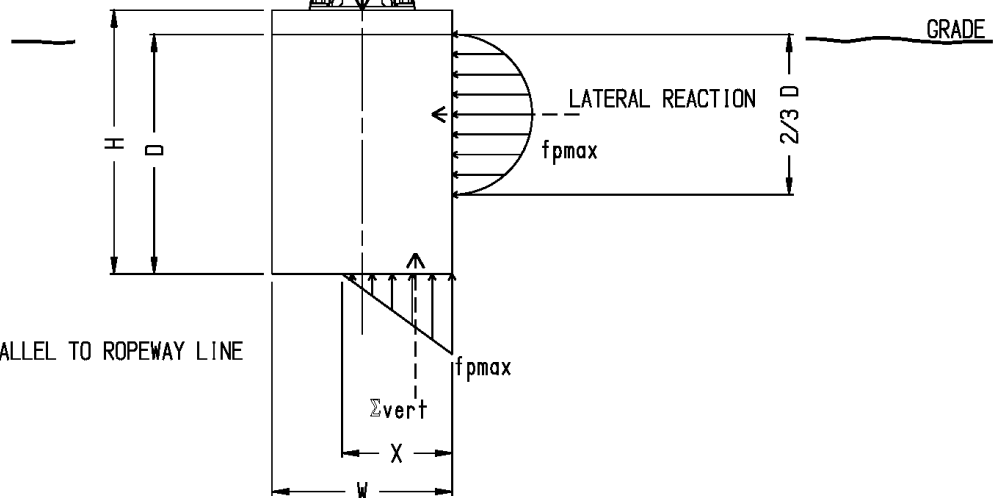
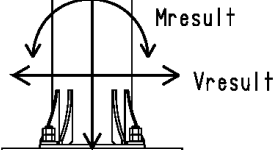


NOTE:
REFER TO THE SPREAD FOOTING DIAGRAM
FOR ASSUMPTIONS REGARDING THE SOURCE
OF M_{result} AND V_{result} .

$$M_{result} = (M_{long}^2 + M_{transv}^2)^{0.5}$$

$$V_{result} = (V_{long}^2 + V_{transv}^2)^{0.5}$$

$P =$ SELF WEIGHT OF EQUIPMENT + VERTICAL COMPONENT OF
HAUL ROPE REACTION



NOTE:
FOOTING LENGTH IS PARALLEL TO ROPEWAY LINE

VERTICAL WITH RESULTANT HORIZONTAL AND MOMENT FORCES

e) ROCK ANCHORED FOOTING DESIGN

Rock Anchored Footings are modeled as spread footings with additional anchors. The location of the anchor, in plan view, creates an eccentricity to the center of rotation. The maximum allowable tension of the anchor(s) with the eccentricity(s) provides an additional righting moment and is added to the basic foundation righting moment. In some cases the anchor is pre-tensioned. The maximum allowable tension load of the anchor(s) is added as a point(s) load to the gravity(self) load of the foundation. The static compression stress under the footing is increased by the pretension load(s). For both pre-tensioned and non-pre-tensioned the compression stress under the foundation is increased during a wind or seismic event.

The rock anchored footing can be either constructed on exposed rock surface or loose soil may be removed and filled against the foundation. If fill is replaced against the footing no passive earth pressure is assumed.

4) TERMINAL FOOTING STRUCTURAL CALCULATIONS

The terminal foundations are a spread footing design. The haul rope tension is a static force pulling the terminal along the ropeway line, longitudinally. This is the primary horizontal force and overturning. The tension is either due to empty carriers, non-operational, or fully loaded carriers, operational.

Transverse forces may be either wind or seismic. Wind and seismic are not used simultaneously. If transverse wind controls the empty tension is used. If transverse seismic controls then fully loaded tension is used.

Many other forces are also taken into consideration. For terminals that have buildings a snow load is considered as well as a floor variable, aka live, load. Some of Leitner-Poma's return terminals are open frame and snow accumulation is considered to be negligible. For these return terminals there is no floor variable load either.

Longitudinal wind or seismic forces may add to the tension. Longitudinal wind or seismic is not used simultaneously with transverse wind or seismic. Again, if wind controls then empty tension is used. If seismic controls then fully loaded tension is used.

The terminal foundation calculation is organized as follows:

Page 1. The longitudinal static forces are used to determine the size of the spread for soil bearing, overturning, and sliding as stated below. The overall height of the foundation is generally determined by the topography of the original and final grade.

Page 2. The transverse forces are superimposed to check the chosen foundation size.

Page 3. The spread footing bending capacity, shear capacity, and tension reinforcement is checked using local standards. On this page the results of several load combinations are also used to check the same reinforcement bar.

Three main design factors are checked to insure adequacy.

$M_{right}/M_{over} > 2.0$. $M_{over} = V_x * H$. The two directions are checked individually.

$V_{resist}/V_{slide} > 2.0$. V_{resist} is due to friction at the concrete to soil interface and/or passive earth pressure. $V_{slide} = V_{result}$

$f_p \max < F_p$

The concrete and the reinforcement are designed using common engineering methods and meet the local standard.

4) MISCELLANEOUS FOUNDATION INFORMATION

a) GENERAL:

For the sake of keeping the submittal documents a reasonable size the calculations that are submitted are abbreviated. The abbreviated versions demonstrate the principal assumptions, methods, and show the worst case results. The complete calculations show many repetitive methods for load cases, soil bearing, sliding, overturning, concrete, and reinforcement. The load combinations and therefore repeated design checks that do not control are not provided on paper. Complete calculations are available if needed. Complete calculations will only be provided electronically.

**Line Calculations
Initial Capacity**

1800 pph @ 5.08 m/s

Snowbasin Resort
Middle Bowl

June-21

Project Number: P52231i.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 1800 pph

SUMMARY TABLE

FULL: 20.58 daN/m. EMPTY: 13.14 daN/m. BARE: 6.28 daN/m. DOWN: 13.88 daN/m.

TOWER	SIDE	MAX SAG	MIN CURVE	MAX BOA	MAX TENS	MIN TENS	MAX LOAD	MIN LOAD	DOWN:			SHEAVE TRAIN
									33% OVER LOAD	30% UNDER TENS	50% OVER TENS	
RBW	U	0.01	632	0.3	13000	13000	0	0	0	0	0	---
RBW	D	0.00	937	0.2	13000	13000	0	0	0	0	0	---
***	U	0.00	669	-17.6	13101	13000	-3996	-4044	-3956	-2765	0	---
***	D	0.00	977	-17.7	13000	12900	-3987	-4012	-3955	-2743	0	---
***	U	0.00	642	18.2	13210	13103	4159	4116	0	0	0	---
***	D	0.00	922	18.1	12905	12801	4045	4021	0	0	0	---
***	U	0.01	643	1.8	13221	13206	421	342	0	0	0	---
***	D	0.00	922	1.7	12804	12793	374	332	0	0	0	---
1	U	0.43	685	-18.1	13327	13214	-4173	-4530	-3979	-2751	0	12C
1	D	0.30	967	-18.7	12792	12683	-4151	-4341	-4017	-2621	0	12C
2	U	1.81	688	11.3	13707	13424	2690	1666	0	0	0	6S
2	D	1.31	954	9.6	12902	12740	2150	1605	0	0	0	6S
3	U	2.70	717	8.3	14244	13614	2049	518	0	0	428	4S
3	D	1.98	980	5.8	13177	12875	1343	527	0	0	446	4S
4	U	1.10	771	2.3	14894	13820	605	-689	1321	1057	-1491	2C/4S/2C
4	D	0.82	1040	0.3	13571	13054	76	-617	531	1109	-1304	2C/4S/2C
5	U	1.13	806	4.9	15489	14009	1315	244	0	0	87	4S
5	D	0.85	1074	3.4	13949	13219	828	257	0	0	126	4S
6	U	0.25	795	17.8	16224	14201	5004	3725	0	0	0	8S
6	D	0.19	1034	16.8	14339	13317	4173	3515	0	0	0	8S
7	U	3.11	813	2.3	16343	14326	650	-474	1331	1052	-1208	2C/4S/2C
7	D	2.41	1053	0.8	14304	13338	204	-403	620	1104	-988	2C/4S/2C
8	U	3.11	858	5.6	16962	14514	1663	-150	2695	2074	-920	1C/4S/1C
8	D	2.43	1099	3.5	14689	13513	895	-79	1543	2124	-680	1C/4S/1C
9	U	0.14	875	14.2	17866	14760	4401	2741	0	0	0	8S
9	D	0.11	1097	13.0	15202	13690	3435	2579	0	0	0	6S
10	U	0.58	883	15.8	18066	14852	4938	3584	0	0	0	8S
10	D	0.47	1092	15.2	15168	13631	3989	3314	0	0	0	8S
11	U	2.38	926	-17.7	18072	14901	-5529	-5597	-4198	-2812	0	16C
11	D	1.96	1127	-18.8	14979	13466	-4871	-5000	-4364	-2351	0	16C
12	U	0.20	937	13.6	19017	15295	4485	2791	0	0	0	8S
12	D	0.17	1120	12.7	15419	13656	3408	2545	0	0	0	6S
13	U	1.45	946	4.5	19185	15405	1519	499	0	0	0	4S
13	D	1.22	1125	3.8	15421	13683	1035	493	0	0	0	4S
14	U	1.59	1038	-7.8	19598	15523	-2649	-3138	-1426	-858	0	8C
14	D	1.35	1222	-8.7	15630	13722	-2370	-2699	-1847	-516	0	8C
15	U	1.45	1091	5.4	20549	15877	1929	520	0	0	413	4S
15	D	1.25	1271	4.6	16179	13984	1285	534	0	0	460	4S
16	U	0.00	1078	13.1	21570	16164	4917	3219	0	0	0	8S
16	D	0.00	1234	12.7	16753	14186	3705	2865	0	0	0	6S

17 U	0.85	1069	6.1	21656	16253	2316	1332	0	0	0	4S
17 D	0.75	1217	5.8	16679	14165	1698	1198	0	0	0	4S
18 U	0.00	1072	11.0	22056	16376	4207	2732	0	0	0	8S
18 D	0.00	1207	10.7	16836	14195	3127	2404	0	0	0	6S
*** U	0.00	1073	1.4	22072	16445	555	364	0	0	0	---
*** D	0.00	1207	1.4	16759	14188	411	318	0	0	0	---
*** U	0.00	1136	18.1	22246	16455	6963	5164	0	0	0	---
*** D	0.00	1258	18.1	16749	14077	5237	4420	0	0	0	---
*** U	0.00	1089	-17.7	22412	16582	-5164	-6885	-5906	-4130	0	---
*** D	0.00	1188	-17.7	16613	13966	-4346	-5108	-4996	-3472	0	---
DBW U	0.00	0	0.0	22412	16711	0	0	0	0	0	---
DBW D	0.00	0	0.0	16486	13966	0	0	0	0	0	---

Project Number: P52231i.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 1800 pph

Loading case: UPHILL FULL =			20.58 daN/m			DOWNHILL EMPTY =			13.14 daN/m		
TOWER SIDE	SAG	CURVE	BETA	THETA	K	DX	DY	TENS	LD ANGLE	LOAD	SHEAVE TRAIN
RBW U	0.01	632	0.00	-0.26	0.0011	5.76	0.00	13000	0.00	0	---
RBW D	0.00	990	0.00	-0.17	0.0007	5.76	0.00	13000	0.00	0	---
*** U	0.00	669	0.26	17.87	0.0002	0.99	0.32	13100	7.65	-3996	---
*** D	0.00	1032	0.17	17.88	0.0001	0.99	0.32	13000	10.44	-3990	---
*** U	0.00	642	17.96	-0.22	0.0010	5.00	0.00	13210	10.28	4159	---
*** D	0.00	975	17.94	-0.15	0.0006	5.00	0.00	12904	7.48	4042	---
*** U	0.01	643	0.22	-1.60	0.0012	6.02	-0.14	13221	0.74	421	2S
*** D	0.00	974	0.15	-1.51	0.0008	6.02	-0.14	12803	-2.11	370	2S
1 U	0.43	685	-1.06	17.02	0.0076	44.72	15.40	13322	6.57	-4173	12C
1 D	0.29	1022	-1.16	17.68	0.0051	44.72	15.40	12792	9.67	-4170	12C
2 U	1.81	688	20.93	9.65	0.0168	96.32	23.63	13707	16.72	2690	6S
2 D	1.24	1007	20.31	10.96	0.0115	96.32	23.63	12890	14.21	2096	4S
3 U	2.70	717	17.78	9.52	0.0198	119.63	30.84	14244	15.08	2049	4S
3 D	1.88	1033	16.54	11.03	0.0138	119.63	30.84	13148	12.35	1263	4S
4 U	1.10	771	19.18	16.86	0.0114	75.72	27.34	14894	19.45	605	*****
4 D	0.78	1095	17.78	17.75	0.0080	75.72	27.34	13522	16.33	8	*****
5 U	1.13	806	22.74	17.87	0.0111	77.86	29.62	15489	21.73	1315	2S
5 D	0.81	1130	21.91	18.72	0.0079	77.86	29.62	13881	18.88	772	2S
6 U	0.25	795	23.68	5.87	0.0061	39.09	5.00	16224	16.19	5004	8S
6 D	0.18	1086	22.88	6.25	0.0045	39.09	5.00	14251	13.15	4109	8S
7 U	3.11	813	8.70	6.42	0.0207	138.97	28.07	16343	8.99	650	1C/4S/1C
7 D	2.29	1106	8.32	7.74	0.0152	138.97	28.07	14214	6.60	144	1C/4S/1C
8 U	3.11	858	16.25	10.62	0.0192	139.52	38.59	16962	14.87	1663	1C/4S/1C
8 D	2.32	1152	15.00	11.86	0.0144	139.52	38.59	14579	12.00	799	1C/4S/1C
9 U	0.14	875	20.08	5.89	0.0043	30.71	3.72	17866	14.41	4401	8S
9 D	0.10	1149	18.94	6.14	0.0033	30.71	3.72	15066	11.12	3352	6S
10 U	0.58	883	7.92	-7.84	0.0090	63.54	-6.42	18066	1.46	4938	8S
10 D	0.45	1143	7.68	-7.37	0.0069	63.54	-6.42	15031	-1.27	3924	6S
11 U	2.38	926	-3.68	13.98	0.0156	124.30	40.45	18072	3.73	-5529	16C
11 D	1.87	1181	-4.16	14.85	0.0123	124.30	40.45	14848	6.76	-4886	16C
12 U	0.20	937	21.90	8.31	0.0050	37.82	6.32	19017	16.53	4485	8S
12 D	0.16	1171	21.09	8.55	0.0040	37.82	6.32	15258	13.40	3325	6S
13 U	1.45	946	10.65	6.11	0.0134	103.26	16.87	19185	9.81	1519	4S
13 D	1.17	1176	10.42	6.73	0.0108	103.26	16.87	15258	7.14	982	2S
14 U	1.59	1038	12.39	20.15	0.0111	102.17	43.84	19598	14.84	-2649	8C
14 D	1.29	1276	11.79	20.73	0.0090	102.17	43.84	15455	17.69	-2404	8C
15 U	1.45	1091	26.16	20.77	0.0103	99.75	43.65	20549	24.90	1929	4S
15 D	1.20	1326	25.63	21.28	0.0085	99.75	43.65	15970	22.02	1211	2S
16 U	0.00	1078	26.37	13.25	0.0007	5.83	1.39	21570	21.24	4917	8S
16 D	0.00	1285	25.91	13.28	0.0006	5.83	1.39	16514	18.17	3624	6S
17 U	0.85	1069	13.57	7.43	0.0096	83.65	14.31	21656	11.93	2316	4S
17 D	0.72	1267	13.54	7.79	0.0081	83.65	14.31	16441	9.24	1649	4S
18 U	0.00	1072	11.95	0.99	0.0007	6.00	0.12	22056	7.90	4207	8S
18 D	0.00	1257	11.60	1.01	0.0006	6.00	0.12	16588	4.88	3057	6S
*** U	0.00	1073	1.31	-0.13	0.0006	5.00	0.00	22072	2.02	555	2S
*** D	0.00	1256	1.28	-0.11	0.0005	5.00	0.00	16513	-0.85	402	2S
*** U	0.00	1136	0.13	-17.94	0.0001	0.99	-0.32	22246	-7.49	6963	---
*** D	0.00	1310	0.11	-17.94	0.0001	0.99	-0.32	16503	-10.33	5159	---
*** U	0.00	1089	-17.89	-0.15	0.0007	5.76	0.00	22412	-10.43	-6885	---
*** D	0.00	1237	-17.89	-0.13	0.0006	5.76	0.00	16370	-7.60	-5035	---
DBW U	0.00	0	0.00	0.00	0.0000	0.00	0.00	22412	0.00	0	---
DBW D	0.00	0	0.00	0.00	0.0000	0.00	0.00	16244	0.00	0	---

Project Number: P52231i.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 1800 pph

Loading case: UPHILL EMPTY =		13.14 daN/m			DOWNHILL EMPTY =		13.14 daN/m			LD ANGLE	LOAD	SHEAVE TRAIN
TOWER SIDE	SAG	CURVE	BETA	THETA	K	DX	DY	TENS				
RBW U	0.00	990	0.00	-0.17	0.0007	5.76	0.00	13000	0.00	0	---	
RBW D	0.00	990	0.00	-0.17	0.0007	5.76	0.00	13000	0.00	0	---	
*** U	0.00	1048	0.17	17.88	0.0001	0.99	0.32	13101	7.61	-4021	---	
*** D	0.00	1032	0.17	17.88	0.0001	0.99	0.32	13000	10.44	-3990	---	
*** U	0.00	1005	17.94	-0.14	0.0006	5.00	0.00	13208	10.31	4136	---	
*** D	0.00	975	17.94	-0.15	0.0006	5.00	0.00	12904	7.48	4042	---	
*** U	0.00	1006	0.14	-1.50	0.0007	6.02	-0.14	13218	0.75	380	2S	
*** D	0.00	974	0.15	-1.51	0.0008	6.02	-0.14	12803	-2.11	370	2S	
1 U	0.27	1073	-1.16	17.74	0.0049	44.72	15.40	13325	6.88	-4359	12C	
1 D	0.29	1022	-1.16	17.68	0.0051	44.72	15.40	12792	9.67	-4170	12C	
2 U	1.18	1066	20.25	11.12	0.0109	96.32	23.63	13581	17.11	2158	6S	
2 D	1.24	1007	20.31	10.96	0.0115	96.32	23.63	12890	14.21	2096	4S	
3 U	1.77	1096	16.39	11.23	0.0130	119.63	30.84	13923	15.24	1254	4S	
3 D	1.88	1033	16.54	11.03	0.0138	119.63	30.84	13148	12.35	1263	4S	
4 U	0.73	1160	17.59	17.87	0.0076	75.72	27.34	14330	16.30	-68	*****	
4 D	0.78	1095	17.78	17.75	0.0080	75.72	27.34	13522	16.33	8	*****	
5 U	0.76	1199	21.79	18.84	0.0075	77.86	29.62	14708	21.75	758	2S	
5 D	0.81	1130	21.91	18.72	0.0079	77.86	29.62	13881	18.88	772	2S	
6 U	0.17	1167	22.77	6.32	0.0041	39.09	5.00	15205	15.96	4335	8S	
6 D	0.18	1086	22.88	6.25	0.0045	39.09	5.00	14251	13.15	4109	8S	
7 U	2.14	1188	8.25	8.00	0.0142	138.97	28.07	15273	9.56	68	1C/4S/1C	
7 D	2.29	1106	8.32	7.74	0.0152	138.97	28.07	14214	6.60	144	1C/4S/1C	
8 U	2.16	1239	14.76	12.11	0.0134	139.52	38.59	15659	14.87	723	1C/4S/1C	
8 D	2.32	1152	15.00	11.86	0.0144	139.52	38.59	14579	12.00	799	1C/4S/1C	
9 U	0.10	1246	18.71	6.20	0.0031	30.71	3.72	16255	13.87	3533	8S	
9 D	0.10	1149	18.94	6.14	0.0033	30.71	3.72	15066	11.12	3352	6S	
10 U	0.41	1256	7.62	-7.23	0.0063	63.54	-6.42	16409	1.62	4226	8S	
10 D	0.45	1143	7.68	-7.37	0.0069	63.54	-6.42	15031	-1.27	3924	6S	
11 U	1.68	1320	-4.31	15.19	0.0110	124.30	40.45	16464	4.03	-5552	16C	
11 D	1.87	1181	-4.16	14.85	0.0123	124.30	40.45	14848	6.76	-4886	16C	
12 U	0.14	1319	20.78	8.65	0.0035	37.82	6.32	17085	16.14	3600	8S	
12 D	0.16	1171	21.09	8.55	0.0040	37.82	6.32	15258	13.40	3325	6S	
13 U	1.04	1327	10.32	7.02	0.0095	103.26	16.87	17193	10.10	989	4S	
13 D	1.17	1176	10.42	6.73	0.0108	103.26	16.87	15258	7.14	982	2S	
14 U	1.14	1450	11.51	21.03	0.0080	102.17	43.84	17487	14.84	-2896	8C	
14 D	1.29	1276	11.79	20.73	0.0090	102.17	43.84	15455	17.69	-2404	8C	
15 U	1.06	1504	25.35	21.56	0.0075	99.75	43.65	18093	24.89	1196	4S	
15 D	1.20	1326	25.63	21.28	0.0085	99.75	43.65	15970	22.02	1211	2S	
16 U	0.00	1469	25.64	13.29	0.0005	5.83	1.39	18767	20.89	4028	8S	
16 D	0.00	1285	25.91	13.28	0.0006	5.83	1.39	16514	18.17	3624	6S	
17 U	0.62	1455	13.53	8.04	0.0071	83.65	14.31	18830	12.21	1802	4S	
17 D	0.72	1267	13.54	7.79	0.0081	83.65	14.31	16441	9.24	1649	4S	
18 U	0.00	1455	11.36	1.03	0.0005	6.00	0.12	19104	7.62	3435	8S	
18 D	0.00	1257	11.60	1.01	0.0006	6.00	0.12	16588	4.88	3057	6S	
*** U	0.00	1455	1.26	-0.10	0.0004	5.00	0.00	19117	2.01	455	2S	
*** D	0.00	1256	1.28	-0.11	0.0005	5.00	0.00	16513	-0.85	402	2S	
*** U	0.00	1541	0.10	-17.93	0.0001	0.99	-0.32	19267	-7.50	6016	---	
*** D	0.00	1310	0.11	-17.94	0.0001	0.99	-0.32	16503	-10.33	5159	---	
*** U	0.00	1478	-17.89	-0.11	0.0005	5.76	0.00	19413	-10.42	-5979	---	
*** D	0.00	1237	-17.89	-0.13	0.0006	5.76	0.00	16370	-7.60	-5035	---	
DBW U	0.00	0	0.00	0.00	0.0000	0.00	0.00	19413	0.00	0	---	
DBW D	0.00	0	0.00	0.00	0.0000	0.00	0.00	16244	0.00	0	---	

Project Number: P52231i.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 1800 pph

Loading case: UPHILL BARE =		6.28 daN/m		DOWNHILL BARE =		6.28 daN/m						
TOWER	SIDE	SAG	CURVE	BETA	THETA	K	DX	DY	TENS	LD ANGLE	LOAD	SHEAVE TRAIN
RBW	U	0.00	2070	0.00	-0.08	0.0003	5.76	0.00	13000	0.00	0	---
RBW	D	0.00	2070	0.00	-0.08	0.0003	5.76	0.00	13000	0.00	0	---
***	U	0.00	2192	0.08	17.90	0.0001	0.99	0.32	13101	7.57	-4044	---
***	D	0.00	2159	0.08	17.90	0.0001	0.99	0.32	13000	10.40	-4012	---
***	U	0.00	2103	17.93	-0.07	0.0003	5.00	0.00	13206	10.34	4116	---
***	D	0.00	2038	17.93	-0.07	0.0003	5.00	0.00	12902	7.51	4021	---
***	U	0.00	2105	0.07	-1.41	0.0004	6.02	-0.14	13215	0.76	342	2S
***	D	0.00	2038	0.07	-1.42	0.0004	6.02	-0.14	12801	-2.11	332	2S
1	U	0.13	2245	-1.25	18.40	0.0023	44.72	15.40	13327	7.16	-4530	12C
1	D	0.14	2136	-1.25	18.37	0.0025	44.72	15.40	12792	9.97	-4341	12C
2	U	0.57	2208	19.60	12.50	0.0053	96.32	23.63	13465	17.48	1666	6S
2	D	0.60	2089	19.63	12.42	0.0056	96.32	23.63	12780	14.60	1605	4S
3	U	0.87	2242	15.06	12.88	0.0064	119.63	30.84	13627	15.40	518	4S
3	D	0.92	2118	15.13	12.78	0.0068	119.63	30.84	12888	12.53	527	4S
4	U	0.37	2343	16.01	18.87	0.0038	75.72	27.34	13838	16.01	-689	*****
4	D	0.39	2210	16.10	18.81	0.0040	75.72	27.34	13069	18.89	-617	*****
5	U	0.39	2388	20.83	19.83	0.0038	77.86	29.62	14015	21.76	244	2S
5	D	0.41	2252	20.88	19.77	0.0040	77.86	29.62	13225	18.89	257	2S
6	U	0.09	2295	21.81	6.80	0.0021	39.09	5.00	14294	15.73	3725	8S
6	D	0.09	2138	21.87	6.76	0.0023	39.09	5.00	13405	12.90	3515	8S
7	U	1.09	2330	7.78	9.68	0.0073	138.97	28.07	14338	7.30	-474	1C/4S/1C
7	D	1.18	2168	7.82	9.55	0.0078	138.97	28.07	13348	10.11	-403	1C/4S/1C
8	U	1.12	2400	13.14	13.73	0.0069	139.52	38.59	14518	12.01	-150	1C/4S/1C
8	D	1.21	2234	13.27	13.60	0.0075	139.52	38.59	13515	14.87	-79	1C/4S/1C
9	U	0.05	2379	17.16	6.53	0.0016	30.71	3.72	14829	13.27	2741	8S
9	D	0.05	2196	17.29	6.50	0.0017	30.71	3.72	13755	10.47	2579	6S
10	U	0.21	2392	7.28	-6.53	0.0033	63.54	-6.42	14942	1.79	3584	8S
10	D	0.24	2182	7.31	-6.61	0.0036	63.54	-6.42	13714	-1.07	3314	6S
11	U	0.88	2520	-5.00	16.54	0.0058	124.30	40.45	15041	4.36	-5597	16C
11	D	0.99	2256	-4.93	16.37	0.0065	124.30	40.45	13591	7.13	-5000	16C
12	U	0.08	2481	19.49	9.04	0.0019	37.82	6.32	15365	15.69	2791	8S
12	D	0.08	2205	19.66	8.99	0.0021	37.82	6.32	13720	12.90	2545	6S
13	U	0.56	2488	9.93	8.07	0.0051	103.26	16.87	15417	10.43	499	4S
13	D	0.63	2208	9.98	7.92	0.0057	103.26	16.87	13696	7.52	493	2S
14	U	0.62	2704	10.48	22.05	0.0043	102.17	43.84	15602	14.84	-3138	8C
14	D	0.70	2378	10.63	21.88	0.0049	102.17	43.84	13789	17.68	-2699	8C
15	U	0.58	2762	24.38	22.50	0.0041	99.75	43.65	15890	24.87	520	4S
15	D	0.66	2431	24.54	22.35	0.0047	99.75	43.65	13997	22.01	534	2S
16	U	0.00	2659	24.74	13.35	0.0003	5.83	1.39	16244	20.47	3219	8S
16	D	0.00	2322	24.89	13.34	0.0003	5.83	1.39	14258	17.69	2865	6S
17	U	0.35	2631	13.47	8.78	0.0039	83.65	14.31	16287	12.56	1332	4S
17	D	0.40	2289	13.48	8.65	0.0045	83.65	14.31	14195	9.63	1198	4S
18	U	0.00	2619	10.63	1.08	0.0003	6.00	0.12	16445	7.28	2732	8S
18	D	0.00	2261	10.76	1.07	0.0003	6.00	0.12	14255	4.49	2404	6S
***	U	0.00	2620	1.21	-0.05	0.0002	5.00	0.00	16455	2.01	364	2S
***	D	0.00	2259	1.22	-0.06	0.0003	5.00	0.00	14196	-0.85	318	2S
***	U	0.00	2775	0.05	-17.92	0.0000	0.99	-0.32	16584	-7.52	5164	---
***	D	0.00	2356	0.06	-17.93	0.0000	0.99	-0.32	14188	-10.35	4420	---
***	U	0.00	2661	-17.90	-0.06	0.0003	5.76	0.00	16711	-10.40	-5164	---
***	D	0.00	2224	-17.90	-0.07	0.0003	5.76	0.00	14075	-7.57	-4346	---
DBW	U	0.00	0	0.00	0.00	0.0000	0.00	0.00	16711	0.00	0	---
DBW	D	0.00	0	0.00	0.00	0.0000	0.00	0.00	13966	0.00	0	---

Project Number: P52231i.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 1800 pph

Loading case: UPHILL FULL =			20.58 daN/m			DOWNHILL FULL =			13.88 daN/m				
TOWER SIDE	SAG	CURVE	BETA	THETA	K	DX	DY	TENS	LD ANGLE	LOAD	SHEAVE	TRAIN	
RBW U	0.01	632	0.00	-0.26	0.0011	5.76	0.00	13000	0.00	0	---		
RBW D	0.00	937	0.00	-0.18	0.0008	5.76	0.00	13000	0.00	0	---		
*** U	0.00	669	0.26	17.87	0.0002	0.99	0.32	13100	7.65	-3996	---		
*** D	0.00	977	0.18	17.88	0.0001	0.99	0.32	13000	10.44	-3987	---		
*** U	0.00	642	17.96	-0.22	0.0010	5.00	0.00	13210	10.28	4159	---		
*** D	0.00	922	17.94	-0.16	0.0007	5.00	0.00	12905	7.48	4045	---		
*** U	0.01	643	0.22	-1.60	0.0012	6.02	-0.14	13221	0.74	421		2S	
*** D	0.00	922	0.16	-1.52	0.0008	6.02	-0.14	12804	-2.11	374		2S	
1 U	0.43	685	-1.06	17.02	0.0076	44.72	15.40	13322	6.57	-4173		12C	
1 D	0.30	967	-1.15	17.60	0.0054	44.72	15.40	12792	9.64	-4151		12C	
2 U	1.81	688	20.93	9.65	0.0168	96.32	23.63	13707	16.72	2690		6S	
2 D	1.31	954	20.38	10.81	0.0121	96.32	23.63	12902	14.17	2150		4S	
3 U	2.70	717	17.78	9.52	0.0198	119.63	30.84	14244	15.08	2049		4S	
3 D	1.98	980	16.69	10.84	0.0146	119.63	30.84	13177	12.33	1343		4S	
4 U	1.10	771	19.18	16.86	0.0114	75.72	27.34	14894	19.45	605	*****		
4 D	0.82	1040	17.96	17.64	0.0084	75.72	27.34	13571	16.37	76	*****		
5 U	1.13	806	22.74	17.87	0.0111	77.86	29.62	15489	21.73	1315		2S	
5 D	0.85	1074	22.01	18.61	0.0084	77.86	29.62	13949	18.88	828		2S	
6 U	0.25	795	23.68	5.87	0.0061	39.09	5.00	16224	16.19	5004		8S	
6 D	0.19	1034	22.99	6.20	0.0047	39.09	5.00	14339	13.17	4173		8S	
7 U	3.11	813	8.70	6.42	0.0207	138.97	28.07	16343	8.99	650		1C/4S/1C	
7 D	2.41	1053	8.38	7.56	0.0160	138.97	28.07	14304	6.54	204		1C/4S/1C	
8 U	3.11	858	16.25	10.62	0.0192	139.52	38.59	16962	14.87	1663		1C/4S/1C	
8 D	2.43	1099	15.18	11.68	0.0151	139.52	38.59	14689	12.00	895		1C/4S/1C	
9 U	0.14	875	20.08	5.89	0.0043	30.71	3.72	17866	14.41	4401		8S	
9 D	0.11	1097	19.11	6.10	0.0035	30.71	3.72	15202	11.18	3435		6S	
10 U	0.58	883	7.92	-7.84	0.0090	63.54	-6.42	18066	1.46	4938		8S	
10 D	0.47	1092	7.71	-7.45	0.0073	63.54	-6.42	15168	-1.29	3989		6S	
11 U	2.38	926	-3.68	13.98	0.0156	124.30	40.45	18072	3.73	-5529		16C	
11 D	1.96	1127	-4.08	14.70	0.0129	124.30	40.45	14979	6.72	-4871		16C	
12 U	0.20	937	21.90	8.31	0.0050	37.82	6.32	19017	16.53	4485		8S	
12 D	0.17	1120	21.23	8.51	0.0042	37.82	6.32	15419	13.44	3408		6S	
13 U	1.45	946	10.65	6.11	0.0134	103.26	16.87	19185	9.81	1519		4S	
13 D	1.22	1125	10.46	6.61	0.0112	103.26	16.87	15421	7.11	1035		2S	
14 U	1.59	1038	12.39	20.15	0.0111	102.17	43.84	19598	14.84	-2649		8C	
14 D	1.35	1222	11.90	20.62	0.0094	102.17	43.84	15630	17.69	-2370		8C	
15 U	1.45	1091	26.16	20.77	0.0103	99.75	43.65	20549	24.90	1929		4S	
15 D	1.25	1271	25.73	21.18	0.0088	99.75	43.65	16179	22.02	1285		2S	
16 U	0.00	1078	26.37	13.25	0.0007	5.83	1.39	21570	21.24	4917		8S	
16 D	0.00	1234	26.00	13.27	0.0006	5.83	1.39	16753	18.21	3705		6S	
17 U	0.85	1069	13.57	7.43	0.0096	83.65	14.31	21656	11.93	2316		4S	
17 D	0.75	1217	13.55	7.71	0.0084	83.65	14.31	16679	9.20	1698		4S	
18 U	0.00	1072	11.95	0.99	0.0007	6.00	0.12	22056	7.90	4207		8S	
18 D	0.00	1207	11.68	1.00	0.0006	6.00	0.12	16836	4.92	3127		6S	
*** U	0.00	1073	1.31	-0.13	0.0006	5.00	0.00	22072	2.02	555		2S	
*** D	0.00	1207	1.29	-0.12	0.0005	5.00	0.00	16759	-0.85	411		2S	
*** U	0.00	1136	0.13	-17.94	0.0001	0.99	-0.32	22246	-7.49	6963	---		
*** D	0.00	1258	0.12	-17.94	0.0001	0.99	-0.32	16749	-10.32	5237	---		
*** U	0.00	1089	-17.89	-0.15	0.0007	5.76	0.00	22412	-10.43	-6885	---		
*** D	0.00	1188	-17.89	-0.14	0.0006	5.76	0.00	16613	-7.60	-5108	---		
DBW U	0.00	0	0.00	0.00	0.0000	0.00	0.00	22412	0.00	0	---		
DBW D	0.00	0	0.00	0.00	0.0000	0.00	0.00	16486	0.00	0	---		

Project Number: P5223li.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 1800 pph

Loading case: UPHILL EMPTY =		13.14 daN/m			DOWNHILL FULL =		13.88 daN/m					
TOWER SIDE	SAG	CURVE	BETA	THETA	K	DX	DY	TENS	LD ANGLE	LOAD	SHEAVE TRAIN	
RBW U	0.00	990	0.00	-0.17	0.0007	5.76	0.00	13000	0.00	0	---	
RBW D	0.00	937	0.00	-0.18	0.0008	5.76	0.00	13000	0.00	0	---	
*** U	0.00	1048	0.17	17.88	0.0001	0.99	0.32	13101	7.61	-4021	---	
*** D	0.00	977	0.18	17.88	0.0001	0.99	0.32	13000	10.44	-3987	---	
*** U	0.00	1005	17.94	-0.14	0.0006	5.00	0.00	13208	10.31	4136	---	
*** D	0.00	922	17.94	-0.16	0.0007	5.00	0.00	12905	7.48	4045	---	
*** U	0.00	1006	0.14	-1.50	0.0007	6.02	-0.14	13218	0.75	380	2S	
*** D	0.00	922	0.16	-1.52	0.0008	6.02	-0.14	12804	-2.11	374	2S	
1 U	0.27	1073	-1.16	17.74	0.0049	44.72	15.40	13325	6.88	-4359	12C	
1 D	0.30	967	-1.15	17.60	0.0054	44.72	15.40	12792	9.64	-4151	12C	
2 U	1.18	1066	20.25	11.12	0.0109	96.32	23.63	13581	17.11	2158	6S	
2 D	1.31	954	20.38	10.81	0.0121	96.32	23.63	12902	14.17	2150	4S	
3 U	1.77	1096	16.39	11.23	0.0130	119.63	30.84	13923	15.24	1254	4S	
3 D	1.98	980	16.69	10.84	0.0146	119.63	30.84	13177	12.33	1343	4S	
4 U	0.73	1160	17.59	17.87	0.0076	75.72	27.34	14330	16.30	-68	*****	
4 D	0.82	1040	17.96	17.64	0.0084	75.72	27.34	13571	16.37	76	*****	
5 U	0.76	1199	21.79	18.84	0.0075	77.86	29.62	14708	21.75	758	2S	
5 D	0.85	1074	22.01	18.61	0.0084	77.86	29.62	13949	18.88	828	2S	
6 U	0.17	1167	22.77	6.32	0.0041	39.09	5.00	15205	15.96	4335	8S	
6 D	0.19	1034	22.99	6.20	0.0047	39.09	5.00	14339	13.17	4173	8S	
7 U	2.14	1188	8.25	8.00	0.0142	138.97	28.07	15273	9.56	68	1C/4S/1C	
7 D	2.41	1053	8.38	7.56	0.0160	138.97	28.07	14304	6.54	204	1C/4S/1C	
8 U	2.16	1239	14.76	12.11	0.0134	139.52	38.59	15659	14.87	723	1C/4S/1C	
8 D	2.43	1099	15.18	11.68	0.0151	139.52	38.59	14689	12.00	895	1C/4S/1C	
9 U	0.10	1246	18.71	6.20	0.0031	30.71	3.72	16255	13.87	3533	8S	
9 D	0.11	1097	19.11	6.10	0.0035	30.71	3.72	15202	11.18	3435	6S	
10 U	0.41	1256	7.62	-7.23	0.0063	63.54	-6.42	16409	1.62	4226	8S	
10 D	0.47	1092	7.71	-7.45	0.0073	63.54	-6.42	15168	-1.29	3989	6S	
11 U	1.68	1320	-4.31	15.19	0.0110	124.30	40.45	16464	4.03	-5552	16C	
11 D	1.96	1127	-4.08	14.70	0.0129	124.30	40.45	14979	6.72	-4871	16C	
12 U	0.14	1319	20.78	8.65	0.0035	37.82	6.32	17085	16.14	3600	8S	
12 D	0.17	1120	21.23	8.51	0.0042	37.82	6.32	15419	13.44	3408	6S	
13 U	1.04	1327	10.32	7.02	0.0095	103.26	16.87	17193	10.10	989	4S	
13 D	1.22	1125	10.46	6.61	0.0112	103.26	16.87	15421	7.11	1035	2S	
14 U	1.14	1450	11.51	21.03	0.0080	102.17	43.84	17487	14.84	-2896	8C	
14 D	1.35	1222	11.90	20.62	0.0094	102.17	43.84	15630	17.69	-2370	8C	
15 U	1.06	1504	25.35	21.56	0.0075	99.75	43.65	18093	24.89	1196	4S	
15 D	1.25	1271	25.73	21.18	0.0088	99.75	43.65	16179	22.02	1285	2S	
16 U	0.00	1469	25.64	13.29	0.0005	5.83	1.39	18767	20.89	4028	8S	
16 D	0.00	1234	26.00	13.27	0.0006	5.83	1.39	16753	18.21	3705	6S	
17 U	0.62	1455	13.53	8.04	0.0071	83.65	14.31	18830	12.21	1802	4S	
17 D	0.75	1217	13.55	7.71	0.0084	83.65	14.31	16679	9.20	1698	4S	
18 U	0.00	1455	11.36	1.03	0.0005	6.00	0.12	19104	7.62	3435	8S	
18 D	0.00	1207	11.68	1.00	0.0006	6.00	0.12	16836	4.92	3127	6S	
*** U	0.00	1455	1.26	-0.10	0.0004	5.00	0.00	19117	2.01	455	2S	
*** D	0.00	1207	1.29	-0.12	0.0005	5.00	0.00	16759	-0.85	411	2S	
*** U	0.00	1541	0.10	-17.93	0.0001	0.99	-0.32	19267	-7.50	6016	---	
*** D	0.00	1258	0.12	-17.94	0.0001	0.99	-0.32	16749	-10.32	5237	---	
*** U	0.00	1478	-17.89	-0.11	0.0005	5.76	0.00	19413	-10.42	-5979	---	
*** D	0.00	1188	-17.89	-0.14	0.0006	5.76	0.00	16613	-7.60	-5108	---	
DBW U	0.00	0	0.00	0.00	0.0000	0.00	0.00	19413	0.00	0	---	
DBW D	0.00	0	0.00	0.00	0.0000	0.00	0.00	16486	0.00	0	---	

Project Number: P52231i.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 1800 pph

Loading case: UPHILL EMPTY =		13.14 daN/m			DOWNHILL BARE =		6.28 daN/m			LD ANGLE	LOAD	SHEAVE TRAIN
TOWER SIDE	SAG	CURVE	BETA	THETA	K	DX	DY	TENS				
RBW U	0.00	990	0.00	-0.17	0.0007	5.76	0.00	13000	0.00	0	---	
RBW D	0.00	2070	0.00	-0.08	0.0003	5.76	0.00	13000	0.00	0	---	
*** U	0.00	1048	0.17	17.88	0.0001	0.99	0.32	13101	7.61	-4021	---	
*** D	0.00	2159	0.08	17.90	0.0001	0.99	0.32	13000	10.40	-4012	---	
*** U	0.00	1005	17.94	-0.14	0.0006	5.00	0.00	13208	10.31	4136	---	
*** D	0.00	2038	17.93	-0.07	0.0003	5.00	0.00	12902	7.51	4021	---	
*** U	0.00	1006	0.14	-1.50	0.0007	6.02	-0.14	13218	0.75	380	2S	
*** D	0.00	2038	0.07	-1.42	0.0004	6.02	-0.14	12801	-2.11	332	2S	
1 U	0.27	1073	-1.16	17.74	0.0049	44.72	15.40	13325	6.88	-4359	12C	
1 D	0.14	2136	-1.25	18.37	0.0025	44.72	15.40	12792	9.97	-4341	12C	
2 U	1.18	1066	20.25	11.12	0.0109	96.32	23.63	13581	17.11	2158	6S	
2 D	0.60	2089	19.63	12.42	0.0056	96.32	23.63	12780	14.60	1605	4S	
3 U	1.77	1096	16.39	11.23	0.0130	119.63	30.84	13923	15.24	1254	4S	
3 D	0.92	2118	15.13	12.78	0.0068	119.63	30.84	12888	12.53	527	4S	
4 U	0.73	1160	17.59	17.87	0.0076	75.72	27.34	14330	16.30	-68	*****	
4 D	0.39	2210	16.10	18.81	0.0040	75.72	27.34	13069	18.89	-617	*****	
5 U	0.76	1199	21.79	18.84	0.0075	77.86	29.62	14708	21.75	758	2S	
5 D	0.41	2252	20.88	19.77	0.0040	77.86	29.62	13225	18.89	257	2S	
6 U	0.17	1167	22.77	6.32	0.0041	39.09	5.00	15205	15.96	4335	8S	
6 D	0.09	2138	21.87	6.76	0.0023	39.09	5.00	13405	12.90	3515	8S	
7 U	2.14	1188	8.25	8.00	0.0142	138.97	28.07	15273	9.56	68	1C/4S/1C	
7 D	1.18	2168	7.82	9.55	0.0078	138.97	28.07	13348	10.11	-403	1C/4S/1C	
8 U	2.16	1239	14.76	12.11	0.0134	139.52	38.59	15659	14.87	723	1C/4S/1C	
8 D	1.21	2234	13.27	13.60	0.0075	139.52	38.59	13515	14.87	-79	1C/4S/1C	
9 U	0.10	1246	18.71	6.20	0.0031	30.71	3.72	16255	13.87	3533	8S	
9 D	0.05	2196	17.29	6.50	0.0017	30.71	3.72	13755	10.47	2579	6S	
10 U	0.41	1256	7.62	-7.23	0.0063	63.54	-6.42	16409	1.62	4226	8S	
10 D	0.24	2182	7.31	-6.61	0.0036	63.54	-6.42	13714	-1.07	3314	6S	
11 U	1.68	1320	-4.31	15.19	0.0110	124.30	40.45	16464	4.03	-5552	16C	
11 D	0.99	2256	-4.93	16.37	0.0065	124.30	40.45	13591	7.13	-5000	16C	
12 U	0.14	1319	20.78	8.65	0.0035	37.82	6.32	17085	16.14	3600	8S	
12 D	0.08	2205	19.66	8.99	0.0021	37.82	6.32	13720	12.90	2545	6S	
13 U	1.04	1327	10.32	7.02	0.0095	103.26	16.87	17193	10.10	989	4S	
13 D	0.63	2208	9.98	7.92	0.0057	103.26	16.87	13696	7.52	493	2S	
14 U	1.14	1450	11.51	21.03	0.0080	102.17	43.84	17487	14.84	-2896	8C	
14 D	0.70	2378	10.63	21.88	0.0049	102.17	43.84	13789	17.68	-2699	8C	
15 U	1.06	1504	25.35	21.56	0.0075	99.75	43.65	18093	24.89	1196	4S	
15 D	0.66	2431	24.54	22.35	0.0047	99.75	43.65	13997	22.01	534	2S	
16 U	0.00	1469	25.64	13.29	0.0005	5.83	1.39	18767	20.89	4028	8S	
16 D	0.00	2322	24.89	13.34	0.0003	5.83	1.39	14258	17.69	2865	6S	
17 U	0.62	1455	13.53	8.04	0.0071	83.65	14.31	18830	12.21	1802	4S	
17 D	0.40	2289	13.48	8.65	0.0045	83.65	14.31	14195	9.63	1198	4S	
18 U	0.00	1455	11.36	1.03	0.0005	6.00	0.12	19104	7.62	3435	8S	
18 D	0.00	2261	10.76	1.07	0.0003	6.00	0.12	14255	4.49	2404	6S	
*** U	0.00	1455	1.26	-0.10	0.0004	5.00	0.00	19117	2.01	455	2S	
*** D	0.00	2259	1.22	-0.06	0.0003	5.00	0.00	14196	-0.85	318	2S	
*** U	0.00	1541	0.10	-17.93	0.0001	0.99	-0.32	19267	-7.50	6016	---	
*** D	0.00	2356	0.06	-17.93	0.0000	0.99	-0.32	14188	-10.35	4420	---	
*** U	0.00	1478	-17.89	-0.11	0.0005	5.76	0.00	19413	-10.42	-5979	---	
*** D	0.00	2224	-17.90	-0.07	0.0003	5.76	0.00	14075	-7.57	-4346	---	
DBW U	0.00	0	0.00	0.00	0.0000	0.00	0.00	19413	0.00	0	---	
DBW D	0.00	0	0.00	0.00	0.0000	0.00	0.00	13966	0.00	0	---	

Project Number: P52231i.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 1800 pph

Loading case: UPHILL BARE =		6.28 daN/m			DOWNHILL EMPTY =			13.14 daN/m				
TOWER	SIDE	SAG	CURVE	BETA	THETA	K	DX	DY	TENS	LD ANGLE	LOAD	SHEAVE TRAIN
RBW	U	0.00	2070	0.00	-0.08	0.0003	5.76	0.00	13000	0.00	0	---
RBW	D	0.00	990	0.00	-0.17	0.0007	5.76	0.00	13000	0.00	0	---
***	U	0.00	2192	0.08	17.90	0.0001	0.99	0.32	13101	7.57	-4044	---
***	D	0.00	1032	0.17	17.88	0.0001	0.99	0.32	13000	10.44	-3990	---
***	U	0.00	2103	17.93	-0.07	0.0003	5.00	0.00	13206	10.34	4116	---
***	D	0.00	975	17.94	-0.15	0.0006	5.00	0.00	12904	7.48	4042	---
***	U	0.00	2105	0.07	-1.41	0.0004	6.02	-0.14	13215	0.76	342	2S
***	D	0.00	974	0.15	-1.51	0.0008	6.02	-0.14	12803	-2.11	370	2S
1	U	0.13	2245	-1.25	18.40	0.0023	44.72	15.40	13327	7.16	-4530	12C
1	D	0.29	1022	-1.16	17.68	0.0051	44.72	15.40	12792	9.67	-4170	12C
2	U	0.57	2208	19.60	12.50	0.0053	96.32	23.63	13465	17.48	1666	6S
2	D	1.24	1007	20.31	10.96	0.0115	96.32	23.63	12890	14.21	2096	4S
3	U	0.87	2242	15.06	12.88	0.0064	119.63	30.84	13627	15.40	518	4S
3	D	1.88	1033	16.54	11.03	0.0138	119.63	30.84	13148	12.35	1263	4S
4	U	0.37	2343	16.01	18.87	0.0038	75.72	27.34	13838	16.01	-689	*****
4	D	0.78	1095	17.78	17.75	0.0080	75.72	27.34	13522	16.33	8	*****
5	U	0.39	2388	20.83	19.83	0.0038	77.86	29.62	14015	21.76	244	2S
5	D	0.81	1130	21.91	18.72	0.0079	77.86	29.62	13881	18.88	772	2S
6	U	0.09	2295	21.81	6.80	0.0021	39.09	5.00	14294	15.73	3725	8S
6	D	0.18	1086	22.88	6.25	0.0045	39.09	5.00	14251	13.15	4109	8S
7	U	1.09	2330	7.78	9.68	0.0073	138.97	28.07	14338	7.30	-474	1C/4S/1C
7	D	2.29	1106	8.32	7.74	0.0152	138.97	28.07	14214	6.60	144	1C/4S/1C
8	U	1.12	2400	13.14	13.73	0.0069	139.52	38.59	14518	12.01	-150	1C/4S/1C
8	D	2.32	1152	15.00	11.86	0.0144	139.52	38.59	14579	12.00	799	1C/4S/1C
9	U	0.05	2379	17.16	6.53	0.0016	30.71	3.72	14829	13.27	2741	8S
9	D	0.10	1149	18.94	6.14	0.0033	30.71	3.72	15066	11.12	3352	6S
10	U	0.21	2392	7.28	-6.53	0.0033	63.54	-6.42	14942	1.79	3584	8S
10	D	0.45	1143	7.68	-7.37	0.0069	63.54	-6.42	15031	-1.27	3924	6S
11	U	0.88	2520	-5.00	16.54	0.0058	124.30	40.45	15041	4.36	-5597	16C
11	D	1.87	1181	-4.16	14.85	0.0123	124.30	40.45	14848	6.76	-4886	16C
12	U	0.08	2481	19.49	9.04	0.0019	37.82	6.32	15365	15.69	2791	8S
12	D	0.16	1171	21.09	8.55	0.0040	37.82	6.32	15258	13.40	3325	6S
13	U	0.56	2488	9.93	8.07	0.0051	103.26	16.87	15417	10.43	499	4S
13	D	1.17	1176	10.42	6.73	0.0108	103.26	16.87	15258	7.14	982	2S
14	U	0.62	2704	10.48	22.05	0.0043	102.17	43.84	15602	14.84	-3138	8C
14	D	1.29	1276	11.79	20.73	0.0090	102.17	43.84	15455	17.69	-2404	8C
15	U	0.58	2762	24.38	22.50	0.0041	99.75	43.65	15890	24.87	520	4S
15	D	1.20	1326	25.63	21.28	0.0085	99.75	43.65	15970	22.02	1211	2S
16	U	0.00	2659	24.74	13.35	0.0003	5.83	1.39	16244	20.47	3219	8S
16	D	0.00	1285	25.91	13.28	0.0006	5.83	1.39	16514	18.17	3624	6S
17	U	0.35	2631	13.47	8.78	0.0039	83.65	14.31	16287	12.56	1332	4S
17	D	0.72	1267	13.54	7.79	0.0081	83.65	14.31	16441	9.24	1649	4S
18	U	0.00	2619	10.63	1.08	0.0003	6.00	0.12	16445	7.28	2732	8S
18	D	0.00	1257	11.60	1.01	0.0006	6.00	0.12	16588	4.88	3057	6S
***	U	0.00	2620	1.21	-0.05	0.0002	5.00	0.00	16455	2.01	364	2S
***	D	0.00	1256	1.28	-0.11	0.0005	5.00	0.00	16513	-0.85	402	2S
***	U	0.00	2775	0.05	-17.92	0.0000	0.99	-0.32	16584	-7.52	5164	---
***	D	0.00	1310	0.11	-17.94	0.0001	0.99	-0.32	16503	-10.33	5159	---
***	U	0.00	2661	-17.90	-0.06	0.0003	5.76	0.00	16711	-10.40	-5164	---
***	D	0.00	1237	-17.89	-0.13	0.0006	5.76	0.00	16370	-7.60	-5035	---
DBW	U	0.00	0	0.00	0.00	0.0000	0.00	0.00	16711	0.00	0	---
DBW	D	0.00	0	0.00	0.00	0.0000	0.00	0.00	16244	0.00	0	---

Project Number: P52231i.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 1800 pph

Drive BW

Nominal Torque ----->	13863.425 daNm
Overhauling Torque ----->	0.000 daNm
Full Speed RPM ----->	24.255 rev/min
Aux. Speed RPM ----->	19.404 rev/min
Evac. Speed RPM ----->	9.702 rev/min
Max Cable Load (T+t)----->	38897.614 daN
Allowable Adherence ----->	1.904
Adherence (T/t) ----->	1.380
Rotation (from above) ----->	CCW

Gearbox

Main Gearbox Ratio ----->	60.090
Main Input 228.097 daNm 1457.497 rpm	5.080 m/s
Aux. Input Ratio ----->	1.000
Aux. Input 256.346 daNm 1165.998 rpm	4.064 m/s
Evac. Input Ratio ----->	2.000
Evac. Input 128.173 daNm 1165.998 rpm	2.032 m/s

Tension System

Tension System Force ----->	26000.000 daN
Tension Per Side ----->	13000.000 daN
Area of Hydraulic Ram ----->	107.675 cm2
Number of Hydraulic Rams ----->	2.000
Tension System Pressure ----->	120.733 bars
Carriage Travel ----->	0.131 m

Cable

Cable Diameter ----->	42.000 mm
Total Cable Length ----->	2963.474 m
Breaking Strength ----->	124000.000 daN
Maximum Tension ----->	22411.969 daN
Safety Factor ----->	5.533
Minimum Shear Ratio ----->	14.552
Maximum Radial Acceleration ----->	2.000 m/s/s
Maximum Cable Inclination ----->	26.374 deg
Simultaneous Breakover Spans ----->	2.000
Maximum Deflection per Sheave ----->	2.526 deg

Brakes

Service Brakes ----->	1xPP2200
Emergency Brakes ----->	1x10TONNE
Antirollback Brakes ----->	1x10TONNE

Electric Motor

Required Power ----->	466.762 h.p.
Speed ----->	1457.497 rpm
Electric Input Ratio ----->	1.000

Carriers

Number ----->	51
Spacing ----->	60.960 m
Carrier Capacity ----->	6.000 persons/carrier
Trip Time ----->	4.861 min
Empty Weight ----->	418.000

GENERAL

Project number -----> P52231I
Lift model -----> LPA6P
Lift type -----> Detachable Six
Initial speed (m/s)-----> 5.08
Final speed (m/s) -----> 5.08
Aux speed (m/s) -----> 4.064
Evac speed (m/s) -----> 2.032
Init capacity (pp/h) -----> 1800
Final capacity (pp/h) -----> 1800
Percent Download (%)-----> 10
Parking (y/n)-----> Y
Rotation -----> CCW
Metric (y/n) -----> Y

LINE

Cable diameter (mm) -----> 42.0
Cable core type -----> Solid
Cable weight (daN/m) -----> 6.28
Breaking strength (daN) -----> 124000.0
Max cable tens (daN) -----> 27555.0
Acceleration rate -----> 0.35
Kinetic Friction factor -----> 0.025
Nominal Friction factor -----> 0.030
Friction at Bullwheels -----> 0.001
Max sheave load [supp] (daN) -----> 700
Min sheave load [comp] (daN) -----> -400
Max radial accel (m/s/s) -----> 2.0
Auto-incline towers (y/n) -----> N
Chairs in terminal -----> 1.72
Line Gage (m) -----> 5.6
Multiple Break Over Window -----> 3.5

DRIVE

Drive location (top/bottom) -----> Top
Drive BW diameter (m) -----> 4.
Angle of wrap -----> 180.0
Gear Box model -----> PK22M-SB600HW
Allowable Torque (daNm)-----> 17000.
Allowable Tension (daN) -----> 80000.
Gear box ratio -----> 60.09
Auxilliary ratio -----> 1.00
Evac ratio -----> 2.00
Gear box efficiency -----> 0.9
Auxilliary efficiency -----> 0.9
Evac efficiency -----> 0.9
Electric motor v-belt ratio -----> 1.0
Electric motor v-belt efficiency -----> 1.0
Electric motor type ----->
Electric motor connection ----->
Aux motor type ----->
Aux motor connection ----->
Evac motor type ----->
Evac motor connection ----->
Service Brakes -----> 1xPP2200
Diameter of service brake track (mm)-----> 317.0
Area of service brake pad (cm2)-----> 142.5
Emergancy Brakes -----> 1x10TONNE
E-brake ram area (cm2) -----> 85.48
Diameter of emergancy brake track (cm)-----> 317.0
Area of emergancy brake shoe (cm2)-----> 322.0

TENSION

Tension location (top/bottom) -----> Bottom
Initial tension force (daN) -----> 26000.
Final tension force [0 if unknown] (daN) -----> 26000.
Max allowable ram pressure (bars)-----> 150
Diameter of ram piston (mm) -----> 76.2
Diameter of cylinder bore (mm) -----> 139.7
Number of hydraulic rams -----> 2
Return BW diameter (m) -----> 4.

CARRIER

Type of carrier -----> Six Place Chair
Grip type (detachable/fixed)-----> Detachable
Carrier capacity (persons / carrier) -----> 6
Empty carrier weight (daN)-----> 418
Carrier sail area (sq m) -----> 0.420
Carrier sail area with ice (sq m) -----> 0.758
Passenger weight (daN) -----> 75.6

TOWERS

Diameter of comm line (mm)-----> 90
Height of comm line above flange (m) -----> 1.55
Area of x-arm (sq m) -----> 0.4369
Height of x-arm above flange (m) -----> 0.71
Weight of x-arm (daN) -----> 760.0
Sheave diameter (mm) -----> 436
Sheave weight (kg) -----> 16
Distance between sheave (m) -----> 0.573
Height of sheave above flange (m) -----> 0.15
Tower tube diameter (m) -----> 0.61
Tower tube weight (daN/m) -----> 138.0

2s weight (daN) -----> 118
2s wp constant (mm)-----> 182
4s weight (daN) -----> 260
4s wp constant (mm)-----> 258
6s weight (daN) -----> 500
6s wp constant (mm)-----> 350
8s weight (daN) -----> 665
8s wp constant (mm)-----> 350
8c weight (daN) -----> 665
8c wp constant (mm)-----> -8
12c weight (daN) -----> 1275
12c wp constant (mm)-----> -389
16c weight (daN) -----> 1875
16c wp constant (mm)-----> -414
1c/4s/1c weight (daN) -----> 395
1c/4s/1c wp constant (mm) -----> 258
2s/8c/2s weight (daN) -----> 920
2s/8c/2s wp constant (mm) -----> -8
2s/4c/2s weight (daN) ----->
2s/4c/2s wp constant (mm) -----> -87
2c/4s/2c weight (daN) ----->
2c/4s/2c wp constant (mm) -----> 258

**Line Calculations
Final Capacity**

2400 pph @ 5.08 m/s

**Snowbasin Resort
Middle Bowl**

June-21

Project Number: P52231f.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 2400 pph

SUMMARY TABLE

FULL: 25.34 daN/m. EMPTY: 15.42 daN/m. BARE: 6.28 daN/m. DOWN: 16.41 daN/m.

TOWER	SIDE	MAX SAG	MIN CURVE	MAX BOA	MAX TENS	MIN TENS	MAX LOAD	MIN LOAD	DOWN:			SHEAVE TRAIN
									33% OVER LOAD	30% UNDER TENS	50% OVER TENS	
RBW	U	0.01	513	0.3	13000	13000	0	0	0	0	0	---
RBW	D	0.01	792	0.2	13000	13000	0	0	0	0	0	---
***	U	0.00	543	-17.5	13101	13000	-3980	-4044	-3935	-2749	0	---
***	D	0.00	826	-17.7	13000	12900	-3979	-4012	-3944	-2727	0	---
***	U	0.01	521	18.2	13212	13103	4173	4116	0	0	0	---
***	D	0.00	780	18.1	12906	12801	4052	4021	0	0	0	---
***	U	0.01	522	1.9	13223	13206	447	342	0	0	0	---
***	D	0.01	780	1.7	12804	12793	388	332	0	0	0	---
1	U	0.52	556	-17.6	13327	13214	-4054	-4530	-3821	-2632	0	12C
1	D	0.36	818	-18.5	12792	12683	-4088	-4341	-3933	-2502	0	12C
2	U	2.21	562	12.6	13787	13424	3029	1666	0	0	0	6S
2	D	1.54	810	10.4	12943	12740	2331	1605	0	0	0	6S
3	U	3.26	592	10.2	14450	13614	2556	518	0	0	424	4S
3	D	2.32	835	7.0	13273	12875	1614	527	0	0	445	4S
4	U	1.32	641	3.9	15257	13820	1034	-689	1917	1504	-1542	2C/4S/2C
4	D	0.95	890	1.3	13739	13054	307	-617	845	1557	-1328	2C/4S/2C
5	U	1.34	676	6.0	15992	14009	1672	244	0	0	74	4S
5	D	0.99	924	4.1	14180	13219	1019	257	0	0	120	4S
6	U	0.29	672	18.6	16878	14201	5433	3725	0	0	0	8S
6	D	0.22	893	17.3	14640	13317	4389	3515	0	0	0	8S
7	U	3.66	689	3.4	17031	14326	1022	-474	1865	1453	-1282	2C/4S/2C
7	D	2.78	910	1.6	14613	13338	406	-403	899	1506	-1021	2C/4S/2C
8	U	3.63	732	7.3	17799	14514	2263	-150	3534	2702	-1009	1C/4S/1C
8	D	2.80	953	4.6	15063	13513	1220	-79	1985	2753	-719	1C/4S/1C
9	U	0.16	751	15.1	18901	14760	4956	2741	0	0	0	8S
9	D	0.13	956	13.7	15666	13690	3717	2579	0	0	0	6S
10	U	0.68	759	16.3	19130	14852	5393	3584	0	0	0	8S
10	D	0.54	951	15.5	15634	13631	4210	3314	0	0	0	8S
11	U	2.76	795	-16.7	19105	14901	-5515	-5597	-3815	-2514	0	16C
11	D	2.24	983	-18.0	15424	13466	-4820	-5000	-4218	-2028	0	16C
12	U	0.23	811	14.4	20256	15295	5052	2791	0	0	0	8S
12	D	0.19	981	13.3	15967	13656	3693	2545	0	0	0	6S
13	U	1.68	820	5.2	20463	15405	1859	499	0	0	0	4S
13	D	1.40	986	4.4	15979	13683	1216	493	0	0	0	4S
14	U	1.82	901	-6.8	20953	15523	-2491	-3138	-936	-483	0	8C
14	D	1.53	1073	-8.0	16225	13722	-2256	-2699	-1633	-123	0	8C
15	U	1.66	954	6.2	22124	15877	2397	520	0	0	396	4S
15	D	1.41	1122	5.2	16888	13984	1535	534	0	0	453	4S
16	U	0.00	948	13.5	23367	16164	5486	3219	0	0	0	8S
16	D	0.00	1094	13.0	17567	14186	3982	2865	0	0	0	6S

17 U	0.96	940	6.5	23469	16253	2646	1332	0	0	0	4S
17 D	0.84	1079	6.1	17490	14165	1863	1198	0	0	0	4S
18 U	0.00	945	11.3	23949	16376	4702	2732	0	0	0	8S
18 D	0.00	1072	10.9	17678	14195	3365	2404	0	0	0	6S
*** U	0.00	946	1.5	23967	16445	619	364	0	0	0	---
*** D	0.00	1071	1.4	17596	14188	442	318	0	0	0	---
*** U	0.00	1002	18.1	24156	16455	7569	5164	0	0	0	---
*** D	0.00	1117	18.1	17585	14077	5504	4420	0	0	0	---
*** U	0.00	960	-17.7	24335	16582	-5164	-7466	-6169	-4313	0	---
*** D	0.00	1054	-17.7	17442	13966	-4346	-5357	-5216	-3618	0	---
DBW U	0.00	0	0.0	24335	16711	0	0	0	0	0	---
DBW D	0.00	0	0.0	17308	13966	0	0	0	0	0	---

Project Number: P52231f.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 2400 pph

Loading case: UPHILL FULL =			25.34 daN/m			DOWNHILL EMPTY =			15.42 daN/m				
TOWER	SIDE	SAG	CURVE	BETA	THETA	K	DX	DY	TENS	LD ANGLE	LOAD	SHEAVE	TRAIN
RBW	U	0.01	513	0.00	-0.32	0.0014	5.76	0.00	13000	0.00	0	---	
RBW	D	0.00	843	0.00	-0.20	0.0009	5.76	0.00	13000	0.00	0	---	
***	U	0.00	543	0.32	17.86	0.0002	0.99	0.32	13099	7.67	-3980	---	
***	D	0.00	879	0.20	17.88	0.0001	0.99	0.32	13000	10.45	-3982	---	
***	U	0.01	521	17.97	-0.27	0.0012	5.00	0.00	13212	10.26	4173	---	
***	D	0.00	830	17.95	-0.17	0.0008	5.00	0.00	12905	7.47	4049	---	
***	U	0.01	522	0.27	-1.66	0.0014	6.02	-0.14	13223	0.74	447	2S	
***	D	0.01	830	0.17	-1.54	0.0009	6.02	-0.14	12804	-2.12	383	2S	
1	U	0.52	556	-1.00	16.57	0.0094	44.72	15.40	13321	6.37	-4054	12C	
1	D	0.34	871	-1.12	17.45	0.0060	44.72	15.40	12792	9.57	-4113	12C	
2	U	2.21	562	21.37	8.72	0.0204	96.32	23.63	13787	16.47	3029	6S	
2	D	1.45	861	20.53	10.48	0.0134	96.32	23.63	12927	14.08	2260	6S	
3	U	3.26	592	18.63	8.47	0.0239	119.63	30.84	14450	14.98	2556	4S	
3	D	2.19	886	17.00	10.46	0.0161	119.63	30.84	13235	12.30	1508	4S	
4	U	1.32	641	20.14	16.25	0.0136	75.72	27.34	15257	19.63	1034	*****	
4	D	0.90	943	18.32	17.41	0.0093	75.72	27.34	13673	16.43	217	*****	
5	U	1.34	676	23.30	17.30	0.0132	77.86	29.62	15992	21.73	1672	4S	
5	D	0.94	977	22.23	18.38	0.0092	77.86	29.62	14089	18.87	944	2S	
6	U	0.29	672	24.20	5.61	0.0072	39.09	5.00	16878	16.32	5433	8S	
6	D	0.21	942	23.20	6.09	0.0051	39.09	5.00	14522	13.23	4305	8S	
7	U	3.66	689	8.96	5.52	0.0243	138.97	28.07	17031	8.67	1022	1C/4S/1C	
7	D	2.64	961	8.48	7.19	0.0175	138.97	28.07	14492	6.40	327	1C/4S/1C	
8	U	3.63	732	17.09	9.79	0.0225	139.52	38.59	17799	14.87	2263	1C/4S/1C	
8	D	2.66	1004	15.53	11.33	0.0165	139.52	38.59	14917	12.00	1093	1C/4S/1C	
9	U	0.16	751	20.84	5.73	0.0051	30.71	3.72	18901	14.70	4956	8S	
9	D	0.12	1006	19.44	6.03	0.0038	30.71	3.72	15485	11.31	3606	6S	
10	U	0.68	759	8.08	-8.18	0.0105	63.54	-6.42	19130	1.37	5393	8S	
10	D	0.51	1001	7.78	-7.60	0.0079	63.54	-6.42	15452	-1.33	4123	8S	
11	U	2.76	795	-3.34	13.31	0.0182	124.30	40.45	19105	3.57	-5515	16C	
11	D	2.13	1034	-3.93	14.40	0.0140	124.30	40.45	15250	6.65	-4840	16C	
12	U	0.23	811	22.50	8.13	0.0057	37.82	6.32	20256	16.74	5052	8S	
12	D	0.18	1030	21.51	8.42	0.0045	37.82	6.32	15752	13.54	3581	6S	
13	U	1.68	820	10.83	5.62	0.0154	103.26	16.87	20463	9.66	1859	4S	
13	D	1.33	1035	10.55	6.38	0.0122	103.26	16.87	15760	7.03	1145	2S	
14	U	1.82	901	12.86	19.69	0.0127	102.17	43.84	20953	14.85	-2491	8C	
14	D	1.46	1126	12.13	20.39	0.0102	102.17	43.84	15992	17.69	-2301	8C	
15	U	1.66	954	26.58	20.36	0.0117	99.75	43.65	22124	24.90	2397	4S	
15	D	1.35	1174	25.94	20.98	0.0095	99.75	43.65	16611	22.03	1437	4S	
16	U	0.00	948	26.75	13.23	0.0007	5.83	1.39	23367	21.41	5486	8S	
16	D	0.00	1143	26.19	13.26	0.0006	5.83	1.39	17248	18.30	3874	6S	
17	U	0.96	940	13.59	7.12	0.0109	83.65	14.31	23469	11.79	2646	4S	
17	D	0.81	1127	13.56	7.55	0.0091	83.65	14.31	17172	9.12	1798	4S	
18	U	0.00	945	12.25	0.96	0.0008	6.00	0.12	23949	8.03	4702	8S	
18	D	0.00	1120	11.84	0.99	0.0007	6.00	0.12	17348	4.99	3272	6S	
***	U	0.00	946	1.33	-0.15	0.0007	5.00	0.00	23967	2.02	619	2S	
***	D	0.00	1119	1.30	-0.13	0.0006	5.00	0.00	17268	-0.85	430	2S	
***	U	0.00	1002	0.15	-17.94	0.0001	0.99	-0.32	24156	-7.48	7569	---	
***	D	0.00	1167	0.13	-17.94	0.0001	0.99	-0.32	17257	-10.32	5399	---	
***	U	0.00	960	-17.88	-0.17	0.0007	5.76	0.00	24335	-10.44	-7466	---	
***	D	0.00	1101	-17.89	-0.15	0.0007	5.76	0.00	17118	-7.60	-5259	---	
DBW	U	0.00	0	0.00	0.00	0.0000	0.00	0.00	24335	0.00	0	---	
DBW	D	0.00	0	0.00	0.00	0.0000	0.00	0.00	16986	0.00	0	---	

Project Number: P52231f.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 2400 pph

Loading case: UPHILL EMPTY = 15.42 daN/m		DOWNHILL EMPTY = 15.42 daN/m									
TOWER SIDE	SAG	CURVE	BETA	THETA	K	DX	DY	TENS	LD ANGLE	LOAD	SHEAVE TRAIN
RBW U	0.00	843	0.00	-0.20	0.0009	5.76	0.00	13000	0.00	0	---
RBW D	0.00	843	0.00	-0.20	0.0009	5.76	0.00	13000	0.00	0	---
*** U	0.00	893	0.20	17.88	0.0001	0.99	0.32	13100	7.62	-4013	---
*** D	0.00	879	0.20	17.88	0.0001	0.99	0.32	13000	10.45	-3982	---
*** U	0.00	856	17.95	-0.17	0.0007	5.00	0.00	13209	10.30	4143	---
*** D	0.00	830	17.95	-0.17	0.0008	5.00	0.00	12905	7.47	4049	---
*** U	0.01	857	0.17	-1.53	0.0009	6.02	-0.14	13219	0.75	392	2S
*** D	0.01	830	0.17	-1.54	0.0009	6.02	-0.14	12804	-2.12	383	2S
1 U	0.32	914	-1.13	17.52	0.0057	44.72	15.40	13324	6.78	-4302	12C
1 D	0.34	871	-1.12	17.45	0.0060	44.72	15.40	12792	9.57	-4113	12C
2 U	1.37	911	20.46	10.66	0.0127	96.32	23.63	13620	16.99	2322	6S
2 D	1.45	861	20.53	10.48	0.0134	96.32	23.63	12927	14.08	2260	6S
3 U	2.06	941	16.82	10.69	0.0152	119.63	30.84	14021	15.19	1499	4S
3 D	2.19	886	17.00	10.46	0.0161	119.63	30.84	13235	12.30	1508	4S
4 U	0.85	1000	18.10	17.55	0.0088	75.72	27.34	14501	19.26	139	*****
4 D	0.90	943	18.32	17.41	0.0093	75.72	27.34	13673	16.43	217	*****
5 U	0.88	1038	22.09	18.53	0.0086	77.86	29.62	14945	21.74	930	4S
5 D	0.94	977	22.23	18.38	0.0092	77.86	29.62	14089	18.87	944	2S
6 U	0.19	1014	23.06	6.18	0.0048	39.09	5.00	15516	16.04	4541	8S
6 D	0.21	942	23.20	6.09	0.0051	39.09	5.00	14522	13.23	4305	8S
7 U	2.45	1034	8.40	7.49	0.0163	138.97	28.07	15599	9.38	247	1C/4S/1C
7 D	2.64	961	8.48	7.19	0.0175	138.97	28.07	14492	6.40	327	1C/4S/1C
8 U	2.47	1083	15.24	11.63	0.0153	139.52	38.59	16057	14.87	1013	1C/4S/1C
8 D	2.66	1004	15.53	11.33	0.0165	139.52	38.59	14917	12.00	1093	1C/4S/1C
9 U	0.11	1094	19.16	6.10	0.0035	30.71	3.72	16747	14.05	3800	8S
9 D	0.12	1006	19.44	6.03	0.0038	30.71	3.72	15485	11.31	3606	6S
10 U	0.47	1103	7.71	-7.43	0.0072	63.54	-6.42	16916	1.56	4444	8S
10 D	0.51	1001	7.78	-7.60	0.0079	63.54	-6.42	15452	-1.33	4123	8S
11 U	1.91	1158	-4.10	14.79	0.0125	124.30	40.45	16956	3.93	-5544	16C
11 D	2.13	1034	-3.93	14.40	0.0140	124.30	40.45	15250	6.65	-4840	16C
12 U	0.16	1162	21.15	8.54	0.0040	37.82	6.32	17676	16.27	3872	8S
12 D	0.18	1030	21.51	8.42	0.0045	37.82	6.32	15752	13.54	3581	6S
13 U	1.18	1171	10.43	6.72	0.0108	103.26	16.87	17802	10.00	1152	4S
13 D	1.33	1035	10.55	6.38	0.0122	103.26	16.87	15760	7.03	1145	2S
14 U	1.29	1281	11.80	20.74	0.0090	102.17	43.84	18133	14.84	-2820	8C
14 D	1.46	1126	12.13	20.39	0.0102	102.17	43.84	15992	17.69	-2301	8C
15 U	1.19	1335	25.62	21.30	0.0084	99.75	43.65	18845	24.89	1421	4S
15 D	1.35	1174	25.94	20.98	0.0095	99.75	43.65	16611	22.03	1437	4S
16 U	0.00	1308	25.89	13.28	0.0005	5.83	1.39	19625	21.01	4301	8S
16 D	0.00	1143	26.19	13.26	0.0006	5.83	1.39	17248	18.30	3874	6S
17 U	0.70	1296	13.54	7.83	0.0079	83.65	14.31	19696	12.12	1960	4S
17 D	0.81	1127	13.56	7.55	0.0091	83.65	14.31	17172	9.12	1798	4S
18 U	0.00	1298	11.56	1.01	0.0006	6.00	0.12	20008	7.71	3671	8S
18 D	0.00	1120	11.84	0.99	0.0007	6.00	0.12	17348	4.99	3272	6S
*** U	0.00	1298	1.28	-0.11	0.0005	5.00	0.00	20022	2.02	485	2S
*** D	0.00	1119	1.30	-0.13	0.0006	5.00	0.00	17268	-0.85	430	2S
*** U	0.00	1375	0.11	-17.93	0.0001	0.99	-0.32	20180	-7.50	6306	---
*** D	0.00	1167	0.13	-17.94	0.0001	0.99	-0.32	17257	-10.32	5399	---
*** U	0.00	1318	-17.89	-0.13	0.0005	5.76	0.00	20332	-10.42	-6257	---
*** D	0.00	1101	-17.89	-0.15	0.0007	5.76	0.00	17118	-7.60	-5259	---
DBW U	0.00	0	0.00	0.00	0.0000	0.00	0.00	20332	0.00	0	---
DBW D	0.00	0	0.00	0.00	0.0000	0.00	0.00	16986	0.00	0	---

Project Number: P52231f.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 2400 pph

Loading case: UPHILL BARE =		6.28 daN/m		DOWNHILL BARE =		6.28 daN/m						
TOWER	SIDE	SAG	CURVE	BETA	THETA	K	DX	DY	TENS	LD ANGLE	LOAD	SHEAVE TRAIN
RBW	U	0.00	2070	0.00	-0.08	0.0003	5.76	0.00	13000	0.00	0	---
RBW	D	0.00	2070	0.00	-0.08	0.0003	5.76	0.00	13000	0.00	0	---
***	U	0.00	2192	0.08	17.90	0.0001	0.99	0.32	13101	7.57	-4044	---
***	D	0.00	2159	0.08	17.90	0.0001	0.99	0.32	13000	10.40	-4012	---
***	U	0.00	2103	17.93	-0.07	0.0003	5.00	0.00	13206	10.34	4116	---
***	D	0.00	2038	17.93	-0.07	0.0003	5.00	0.00	12902	7.51	4021	---
***	U	0.00	2105	0.07	-1.41	0.0004	6.02	-0.14	13215	0.76	342	2S
***	D	0.00	2038	0.07	-1.42	0.0004	6.02	-0.14	12801	-2.11	332	2S
1	U	0.13	2245	-1.25	18.40	0.0023	44.72	15.40	13327	7.16	-4530	12C
1	D	0.14	2136	-1.25	18.37	0.0025	44.72	15.40	12792	9.97	-4341	12C
2	U	0.57	2208	19.60	12.50	0.0053	96.32	23.63	13465	17.48	1666	6S
2	D	0.60	2089	19.63	12.42	0.0056	96.32	23.63	12780	14.60	1605	6S
3	U	0.87	2242	15.06	12.88	0.0064	119.63	30.84	13627	15.40	518	4S
3	D	0.92	2118	15.13	12.78	0.0068	119.63	30.84	12888	12.53	527	4S
4	U	0.37	2343	16.01	18.87	0.0038	75.72	27.34	13838	16.01	-689	*****
4	D	0.39	2210	16.10	18.81	0.0040	75.72	27.34	13069	18.89	-617	*****
5	U	0.39	2388	20.83	19.83	0.0038	77.86	29.62	14015	21.76	244	4S
5	D	0.41	2252	20.88	19.77	0.0040	77.86	29.62	13225	18.89	257	2S
6	U	0.09	2295	21.81	6.80	0.0021	39.09	5.00	14294	15.73	3725	8S
6	D	0.09	2138	21.87	6.76	0.0023	39.09	5.00	13405	12.90	3515	8S
7	U	1.09	2330	7.78	9.68	0.0073	138.97	28.07	14338	7.30	-474	1C/4S/1C
7	D	1.18	2168	7.82	9.55	0.0078	138.97	28.07	13348	10.11	-403	1C/4S/1C
8	U	1.12	2400	13.14	13.73	0.0069	139.52	38.59	14518	12.01	-150	1C/4S/1C
8	D	1.21	2234	13.27	13.60	0.0075	139.52	38.59	13515	14.87	-79	1C/4S/1C
9	U	0.05	2379	17.16	6.53	0.0016	30.71	3.72	14829	13.27	2741	8S
9	D	0.05	2196	17.29	6.50	0.0017	30.71	3.72	13755	10.47	2579	6S
10	U	0.21	2392	7.28	-6.53	0.0033	63.54	-6.42	14942	1.79	3584	8S
10	D	0.24	2182	7.31	-6.61	0.0036	63.54	-6.42	13714	-1.07	3314	8S
11	U	0.88	2520	-5.00	16.54	0.0058	124.30	40.45	15041	4.36	-5597	16C
11	D	0.99	2256	-4.93	16.37	0.0065	124.30	40.45	13591	7.13	-5000	16C
12	U	0.08	2481	19.49	9.04	0.0019	37.82	6.32	15365	15.69	2791	8S
12	D	0.08	2205	19.66	8.99	0.0021	37.82	6.32	13720	12.90	2545	6S
13	U	0.56	2488	9.93	8.07	0.0051	103.26	16.87	15417	10.43	499	4S
13	D	0.63	2208	9.98	7.92	0.0057	103.26	16.87	13696	7.52	493	2S
14	U	0.62	2704	10.48	22.05	0.0043	102.17	43.84	15602	14.84	-3138	8C
14	D	0.70	2378	10.63	21.88	0.0049	102.17	43.84	13789	17.68	-2699	8C
15	U	0.58	2762	24.38	22.50	0.0041	99.75	43.65	15890	24.87	520	4S
15	D	0.66	2431	24.54	22.35	0.0047	99.75	43.65	13997	22.01	534	4S
16	U	0.00	2659	24.74	13.35	0.0003	5.83	1.39	16244	20.47	3219	8S
16	D	0.00	2322	24.89	13.34	0.0003	5.83	1.39	14258	17.69	2865	6S
17	U	0.35	2631	13.47	8.78	0.0039	83.65	14.31	16287	12.56	1332	4S
17	D	0.40	2289	13.48	8.65	0.0045	83.65	14.31	14195	9.63	1198	4S
18	U	0.00	2619	10.63	1.08	0.0003	6.00	0.12	16445	7.28	2732	8S
18	D	0.00	2261	10.76	1.07	0.0003	6.00	0.12	14255	4.49	2404	6S
***	U	0.00	2620	1.21	-0.05	0.0002	5.00	0.00	16455	2.01	364	2S
***	D	0.00	2259	1.22	-0.06	0.0003	5.00	0.00	14196	-0.85	318	2S
***	U	0.00	2775	0.05	-17.92	0.0000	0.99	-0.32	16584	-7.52	5164	---
***	D	0.00	2356	0.06	-17.93	0.0000	0.99	-0.32	14188	-10.35	4420	---
***	U	0.00	2661	-17.90	-0.06	0.0003	5.76	0.00	16711	-10.40	-5164	---
***	D	0.00	2224	-17.90	-0.07	0.0003	5.76	0.00	14075	-7.57	-4346	---
DBW	U	0.00	0	0.00	0.00	0.0000	0.00	0.00	16711	0.00	0	---
DBW	D	0.00	0	0.00	0.00	0.0000	0.00	0.00	13966	0.00	0	---

Project Number: P52231f.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 2400 pph

Loading case: UPHILL FULL = 25.34 daN/m			DOWNHILL FULL = 16.41 daN/m								
TOWER SIDE	SAG	CURVE	BETA	THETA	K	DX	DY	TENS	LD ANGLE	LOAD	SHEAVE TRAIN
RBW U	0.01	513	0.00	-0.32	0.0014	5.76	0.00	13000	0.00	0	---
RBW D	0.01	792	0.00	-0.21	0.0009	5.76	0.00	13000	0.00	0	---
*** U	0.00	543	0.32	17.86	0.0002	0.99	0.32	13099	7.67	-3980	---
*** D	0.00	826	0.21	17.88	0.0001	0.99	0.32	13000	10.46	-3979	---
*** U	0.01	521	17.97	-0.27	0.0012	5.00	0.00	13212	10.26	4173	---
*** D	0.00	780	17.95	-0.18	0.0008	5.00	0.00	12906	7.47	4052	---
*** U	0.01	522	0.27	-1.66	0.0014	6.02	-0.14	13223	0.74	447	2S
*** D	0.01	780	0.18	-1.55	0.0010	6.02	-0.14	12804	-2.12	388	2S
1 U	0.52	556	-1.00	16.57	0.0094	44.72	15.40	13321	6.37	-4054	12C
1 D	0.36	818	-1.11	17.35	0.0064	44.72	15.40	12792	9.53	-4088	12C
2 U	2.21	562	21.37	8.72	0.0204	96.32	23.63	13787	16.47	3029	6S
2 D	1.54	810	20.63	10.27	0.0143	96.32	23.63	12943	14.02	2331	6S
3 U	3.26	592	18.63	8.47	0.0239	119.63	30.84	14450	14.98	2556	4S
3 D	2.32	835	17.19	10.21	0.0171	119.63	30.84	13273	12.27	1614	4S
4 U	1.32	641	20.14	16.25	0.0136	75.72	27.34	15257	19.63	1034	*****
4 D	0.95	890	18.54	17.26	0.0098	75.72	27.34	13739	16.47	307	*****
5 U	1.34	676	23.30	17.30	0.0132	77.86	29.62	15992	21.73	1672	4S
5 D	0.99	924	22.36	18.24	0.0097	77.86	29.62	14180	18.87	1019	2S
6 U	0.29	672	24.20	5.61	0.0072	39.09	5.00	16878	16.32	5433	8S
6 D	0.22	893	23.33	6.02	0.0054	39.09	5.00	14640	13.26	4389	8S
7 U	3.66	689	8.96	5.52	0.0243	138.97	28.07	17031	8.67	1022	1C/4S/1C
7 D	2.78	910	8.55	6.95	0.0185	138.97	28.07	14613	6.32	406	1C/4S/1C
8 U	3.63	732	17.09	9.79	0.0225	139.52	38.59	17799	14.87	2263	1C/4S/1C
8 D	2.80	953	15.75	11.11	0.0173	139.52	38.59	15063	12.00	1220	1C/4S/1C
9 U	0.16	751	20.84	5.73	0.0051	30.71	3.72	18901	14.70	4956	8S
9 D	0.13	956	19.64	5.98	0.0040	30.71	3.72	15666	11.39	3717	6S
10 U	0.68	759	8.08	-8.18	0.0105	63.54	-6.42	19130	1.37	5393	8S
10 D	0.54	951	7.83	-7.69	0.0083	63.54	-6.42	15634	-1.35	4210	8S
11 U	2.76	795	-3.34	13.31	0.0182	124.30	40.45	19105	3.57	-5515	16C
11 D	2.24	983	-3.83	14.21	0.0148	124.30	40.45	15424	6.60	-4820	16C
12 U	0.23	811	22.50	8.13	0.0057	37.82	6.32	20256	16.74	5052	8S
12 D	0.19	981	21.68	8.37	0.0047	37.82	6.32	15967	13.60	3693	6S
13 U	1.68	820	10.83	5.62	0.0154	103.26	16.87	20463	9.66	1859	4S
13 D	1.40	986	10.60	6.24	0.0128	103.26	16.87	15979	6.99	1216	2S
14 U	1.82	901	12.86	19.69	0.0127	102.17	43.84	20953	14.85	-2491	8C
14 D	1.53	1073	12.27	20.25	0.0107	102.17	43.84	16225	17.69	-2256	8C
15 U	1.66	954	26.58	20.36	0.0117	99.75	43.65	22124	24.90	2397	4S
15 D	1.41	1122	26.07	20.85	0.0100	99.75	43.65	16888	22.03	1535	4S
16 U	0.00	948	26.75	13.23	0.0007	5.83	1.39	23367	21.41	5486	8S
16 D	0.00	1094	26.30	13.25	0.0006	5.83	1.39	17567	18.35	3982	6S
17 U	0.96	940	13.59	7.12	0.0109	83.65	14.31	23469	11.79	2646	4S
17 D	0.84	1079	13.57	7.45	0.0095	83.65	14.31	17490	9.08	1863	4S
18 U	0.00	945	12.25	0.96	0.0008	6.00	0.12	23949	8.03	4702	8S
18 D	0.00	1072	11.93	0.99	0.0007	6.00	0.12	17678	5.03	3365	6S
*** U	0.00	946	1.33	-0.15	0.0007	5.00	0.00	23967	2.02	619	2S
*** D	0.00	1071	1.31	-0.13	0.0006	5.00	0.00	17596	-0.85	442	2S
*** U	0.00	1002	0.15	-17.94	0.0001	0.99	-0.32	24156	-7.48	7569	---
*** D	0.00	1117	0.13	-17.94	0.0001	0.99	-0.32	17585	-10.32	5504	---
*** U	0.00	960	-17.88	-0.17	0.0007	5.76	0.00	24335	-10.44	-7466	---
*** D	0.00	1054	-17.89	-0.16	0.0007	5.76	0.00	17442	-7.61	-5357	---
DBW U	0.00	0	0.00	0.00	0.0000	0.00	0.00	24335	0.00	0	---
DBW D	0.00	0	0.00	0.00	0.0000	0.00	0.00	17308	0.00	0	---

Project Number: P52231f.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 2400 pph

Loading case: UPHILL EMPTY =		15.42 daN/m			DOWNHILL FULL =		16.41 daN/m						
TOWER	SIDE	SAG	CURVE	BETA	THETA	K	DX	DY	TENS	LD ANGLE	LOAD	SHEAVE	TRAIN
RBW	U	0.00	843	0.00	-0.20	0.0009	5.76	0.00	13000	0.00	0	---	
RBW	D	0.01	792	0.00	-0.21	0.0009	5.76	0.00	13000	0.00	0	---	
***	U	0.00	893	0.20	17.88	0.0001	0.99	0.32	13100	7.62	-4013	---	
***	D	0.00	826	0.21	17.88	0.0001	0.99	0.32	13000	10.46	-3979	---	
***	U	0.00	856	17.95	-0.17	0.0007	5.00	0.00	13209	10.30	4143	---	
***	D	0.00	780	17.95	-0.18	0.0008	5.00	0.00	12906	7.47	4052	---	
***	U	0.01	857	0.17	-1.53	0.0009	6.02	-0.14	13219	0.75	392		2S
***	D	0.01	780	0.18	-1.55	0.0010	6.02	-0.14	12804	-2.12	388		2S
1	U	0.32	914	-1.13	17.52	0.0057	44.72	15.40	13324	6.78	-4302		12C
1	D	0.36	818	-1.11	17.35	0.0064	44.72	15.40	12792	9.53	-4088		12C
2	U	1.37	911	20.46	10.66	0.0127	96.32	23.63	13620	16.99	2322		6S
2	D	1.54	810	20.63	10.27	0.0143	96.32	23.63	12943	14.02	2331		6S
3	U	2.06	941	16.82	10.69	0.0152	119.63	30.84	14021	15.19	1499		4S
3	D	2.32	835	17.19	10.21	0.0171	119.63	30.84	13273	12.27	1614		4S
4	U	0.85	1000	18.10	17.55	0.0088	75.72	27.34	14501	19.26	139	*****	
4	D	0.95	890	18.54	17.26	0.0098	75.72	27.34	13739	16.47	307	*****	
5	U	0.88	1038	22.09	18.53	0.0086	77.86	29.62	14945	21.74	930		4S
5	D	0.99	924	22.36	18.24	0.0097	77.86	29.62	14180	18.87	1019		2S
6	U	0.19	1014	23.06	6.18	0.0048	39.09	5.00	15516	16.04	4541		8S
6	D	0.22	893	23.33	6.02	0.0054	39.09	5.00	14640	13.26	4389		8S
7	U	2.45	1034	8.40	7.49	0.0163	138.97	28.07	15599	9.38	247		1C/4S/1C
7	D	2.78	910	8.55	6.95	0.0185	138.97	28.07	14613	6.32	406		1C/4S/1C
8	U	2.47	1083	15.24	11.63	0.0153	139.52	38.59	16057	14.87	1013		1C/4S/1C
8	D	2.80	953	15.75	11.11	0.0173	139.52	38.59	15063	12.00	1220		1C/4S/1C
9	U	0.11	1094	19.16	6.10	0.0035	30.71	3.72	16747	14.05	3800		8S
9	D	0.13	956	19.64	5.98	0.0040	30.71	3.72	15666	11.39	3717		6S
10	U	0.47	1103	7.71	-7.43	0.0072	63.54	-6.42	16916	1.56	4444		8S
10	D	0.54	951	7.83	-7.69	0.0083	63.54	-6.42	15634	-1.35	4210		8S
11	U	1.91	1158	-4.10	14.79	0.0125	124.30	40.45	16956	3.93	-5544		16C
11	D	2.24	983	-3.83	14.21	0.0148	124.30	40.45	15424	6.60	-4820		16C
12	U	0.16	1162	21.15	8.54	0.0040	37.82	6.32	17676	16.27	3872		8S
12	D	0.19	981	21.68	8.37	0.0047	37.82	6.32	15967	13.60	3693		6S
13	U	1.18	1171	10.43	6.72	0.0108	103.26	16.87	17802	10.00	1152		4S
13	D	1.40	986	10.60	6.24	0.0128	103.26	16.87	15979	6.99	1216		2S
14	U	1.29	1281	11.80	20.74	0.0090	102.17	43.84	18133	14.84	-2820		8C
14	D	1.53	1073	12.27	20.25	0.0107	102.17	43.84	16225	17.69	-2256		8C
15	U	1.19	1335	25.62	21.30	0.0084	99.75	43.65	18845	24.89	1421		4S
15	D	1.41	1122	26.07	20.85	0.0100	99.75	43.65	16888	22.03	1535		4S
16	U	0.00	1308	25.89	13.28	0.0005	5.83	1.39	19625	21.01	4301		8S
16	D	0.00	1094	26.30	13.25	0.0006	5.83	1.39	17567	18.35	3982		6S
17	U	0.70	1296	13.54	7.83	0.0079	83.65	14.31	19696	12.12	1960		4S
17	D	0.84	1079	13.57	7.45	0.0095	83.65	14.31	17490	9.08	1863		4S
18	U	0.00	1298	11.56	1.01	0.0006	6.00	0.12	20008	7.71	3671		8S
18	D	0.00	1072	11.93	0.99	0.0007	6.00	0.12	17678	5.03	3365		6S
***	U	0.00	1298	1.28	-0.11	0.0005	5.00	0.00	20022	2.02	485		2S
***	D	0.00	1071	1.31	-0.13	0.0006	5.00	0.00	17596	-0.85	442		2S
***	U	0.00	1375	0.11	-17.93	0.0001	0.99	-0.32	20180	-7.50	6306	---	
***	D	0.00	1117	0.13	-17.94	0.0001	0.99	-0.32	17585	-10.32	5504	---	
***	U	0.00	1318	-17.89	-0.13	0.0005	5.76	0.00	20332	-10.42	-6257	---	
***	D	0.00	1054	-17.89	-0.16	0.0007	5.76	0.00	17442	-7.61	-5357	---	
DBW	U	0.00	0	0.00	0.00	0.0000	0.00	0.00	20332	0.00	0	---	
DBW	D	0.00	0	0.00	0.00	0.0000	0.00	0.00	17308	0.00	0	---	

Project Number: P52231f.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 2400 pph

Loading case: UPHILL EMPTY =		15.42 daN/m			DOWNHILL BARE =		6.28 daN/m					
TOWER	SIDE	SAG	CURVE	BETA	THETA	K	DX	DY	TENS	LD ANGLE	LOAD	SHEAVE TRAIN
RBW	U	0.00	843	0.00	-0.20	0.0009	5.76	0.00	13000	0.00	0	---
RBW	D	0.00	2070	0.00	-0.08	0.0003	5.76	0.00	13000	0.00	0	---
***	U	0.00	893	0.20	17.88	0.0001	0.99	0.32	13100	7.62	-4013	---
***	D	0.00	2159	0.08	17.90	0.0001	0.99	0.32	13000	10.40	-4012	---
***	U	0.00	856	17.95	-0.17	0.0007	5.00	0.00	13209	10.30	4143	---
***	D	0.00	2038	17.93	-0.07	0.0003	5.00	0.00	12902	7.51	4021	---
***	U	0.01	857	0.17	-1.53	0.0009	6.02	-0.14	13219	0.75	392	2S
***	D	0.00	2038	0.07	-1.42	0.0004	6.02	-0.14	12801	-2.11	332	2S
1	U	0.32	914	-1.13	17.52	0.0057	44.72	15.40	13324	6.78	-4302	12C
1	D	0.14	2136	-1.25	18.37	0.0025	44.72	15.40	12792	9.97	-4341	12C
2	U	1.37	911	20.46	10.66	0.0127	96.32	23.63	13620	16.99	2322	6S
2	D	0.60	2089	19.63	12.42	0.0056	96.32	23.63	12780	14.60	1605	6S
3	U	2.06	941	16.82	10.69	0.0152	119.63	30.84	14021	15.19	1499	4S
3	D	0.92	2118	15.13	12.78	0.0068	119.63	30.84	12888	12.53	527	4S
4	U	0.85	1000	18.10	17.55	0.0088	75.72	27.34	14501	19.26	139	*****
4	D	0.39	2210	16.10	18.81	0.0040	75.72	27.34	13069	18.89	-617	*****
5	U	0.88	1038	22.09	18.53	0.0086	77.86	29.62	14945	21.74	930	4S
5	D	0.41	2252	20.88	19.77	0.0040	77.86	29.62	13225	18.89	257	2S
6	U	0.19	1014	23.06	6.18	0.0048	39.09	5.00	15516	16.04	4541	8S
6	D	0.09	2138	21.87	6.76	0.0023	39.09	5.00	13405	12.90	3515	8S
7	U	2.45	1034	8.40	7.49	0.0163	138.97	28.07	15599	9.38	247	1C/4S/1C
7	D	1.18	2168	7.82	9.55	0.0078	138.97	28.07	13348	10.11	-403	1C/4S/1C
8	U	2.47	1083	15.24	11.63	0.0153	139.52	38.59	16057	14.87	1013	1C/4S/1C
8	D	1.21	2234	13.27	13.60	0.0075	139.52	38.59	13515	14.87	-79	1C/4S/1C
9	U	0.11	1094	19.16	6.10	0.0035	30.71	3.72	16747	14.05	3800	8S
9	D	0.05	2196	17.29	6.50	0.0017	30.71	3.72	13755	10.47	2579	6S
10	U	0.47	1103	7.71	-7.43	0.0072	63.54	-6.42	16916	1.56	4444	8S
10	D	0.24	2182	7.31	-6.61	0.0036	63.54	-6.42	13714	-1.07	3314	8S
11	U	1.91	1158	-4.10	14.79	0.0125	124.30	40.45	16956	3.93	-5544	16C
11	D	0.99	2256	-4.93	16.37	0.0065	124.30	40.45	13591	7.13	-5000	16C
12	U	0.16	1162	21.15	8.54	0.0040	37.82	6.32	17676	16.27	3872	8S
12	D	0.08	2205	19.66	8.99	0.0021	37.82	6.32	13720	12.90	2545	6S
13	U	1.18	1171	10.43	6.72	0.0108	103.26	16.87	17802	10.00	1152	4S
13	D	0.63	2208	9.98	7.92	0.0057	103.26	16.87	13696	7.52	493	2S
14	U	1.29	1281	11.80	20.74	0.0090	102.17	43.84	18133	14.84	-2820	8C
14	D	0.70	2378	10.63	21.88	0.0049	102.17	43.84	13789	17.68	-2699	8C
15	U	1.19	1335	25.62	21.30	0.0084	99.75	43.65	18845	24.89	1421	4S
15	D	0.66	2431	24.54	22.35	0.0047	99.75	43.65	13997	22.01	534	4S
16	U	0.00	1308	25.89	13.28	0.0005	5.83	1.39	19625	21.01	4301	8S
16	D	0.00	2322	24.89	13.34	0.0003	5.83	1.39	14258	17.69	2865	6S
17	U	0.70	1296	13.54	7.83	0.0079	83.65	14.31	19696	12.12	1960	4S
17	D	0.40	2289	13.48	8.65	0.0045	83.65	14.31	14195	9.63	1198	4S
18	U	0.00	1298	11.56	1.01	0.0006	6.00	0.12	20008	7.71	3671	8S
18	D	0.00	2261	10.76	1.07	0.0003	6.00	0.12	14255	4.49	2404	6S
***	U	0.00	1298	1.28	-0.11	0.0005	5.00	0.00	20022	2.02	485	2S
***	D	0.00	2259	1.22	-0.06	0.0003	5.00	0.00	14196	-0.85	318	2S
***	U	0.00	1375	0.11	-17.93	0.0001	0.99	-0.32	20180	-7.50	6306	---
***	D	0.00	2356	0.06	-17.93	0.0000	0.99	-0.32	14188	-10.35	4420	---
***	U	0.00	1318	-17.89	-0.13	0.0005	5.76	0.00	20332	-10.42	-6257	---
***	D	0.00	2224	-17.90	-0.07	0.0003	5.76	0.00	14075	-7.57	-4346	---
DBW	U	0.00	0	0.00	0.00	0.0000	0.00	0.00	20332	0.00	0	---
DBW	D	0.00	0	0.00	0.00	0.0000	0.00	0.00	13966	0.00	0	---

Project Number: P52231f.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 2400 pph

Loading case: UPHILL BARE =		6.28 daN/m		DOWNHILL EMPTY =		15.42 daN/m					
TOWER SIDE	SAG	CURVE	BETA	THETA	K	DX	DY	TENS	LD ANGLE	LOAD	SHEAVE TRAIN
RBW U	0.00	2070	0.00	-0.08	0.0003	5.76	0.00	13000	0.00	0	---
RBW D	0.00	843	0.00	-0.20	0.0009	5.76	0.00	13000	0.00	0	---
*** U	0.00	2192	0.08	17.90	0.0001	0.99	0.32	13101	7.57	-4044	---
*** D	0.00	879	0.20	17.88	0.0001	0.99	0.32	13000	10.45	-3982	---
*** U	0.00	2103	17.93	-0.07	0.0003	5.00	0.00	13206	10.34	4116	---
*** D	0.00	830	17.95	-0.17	0.0008	5.00	0.00	12905	7.47	4049	---
*** U	0.00	2105	0.07	-1.41	0.0004	6.02	-0.14	13215	0.76	342	2S
*** D	0.01	830	0.17	-1.54	0.0009	6.02	-0.14	12804	-2.12	383	2S
1 U	0.13	2245	-1.25	18.40	0.0023	44.72	15.40	13327	7.16	-4530	12C
1 D	0.34	871	-1.12	17.45	0.0060	44.72	15.40	12792	9.57	-4113	12C
2 U	0.57	2208	19.60	12.50	0.0053	96.32	23.63	13465	17.48	1666	6S
2 D	1.45	861	20.53	10.48	0.0134	96.32	23.63	12927	14.08	2260	6S
3 U	0.87	2242	15.06	12.88	0.0064	119.63	30.84	13627	15.40	518	4S
3 D	2.19	886	17.00	10.46	0.0161	119.63	30.84	13235	12.30	1508	4S
4 U	0.37	2343	16.01	18.87	0.0038	75.72	27.34	13838	16.01	-689	*****
4 D	0.90	943	18.32	17.41	0.0093	75.72	27.34	13673	16.43	217	*****
5 U	0.39	2388	20.83	19.83	0.0038	77.86	29.62	14015	21.76	244	4S
5 D	0.94	977	22.23	18.38	0.0092	77.86	29.62	14089	18.87	944	2S
6 U	0.09	2295	21.81	6.80	0.0021	39.09	5.00	14294	15.73	3725	8S
6 D	0.21	942	23.20	6.09	0.0051	39.09	5.00	14522	13.23	4305	8S
7 U	1.09	2330	7.78	9.68	0.0073	138.97	28.07	14338	7.30	-474	1C/4S/1C
7 D	2.64	961	8.48	7.19	0.0175	138.97	28.07	14492	6.40	327	1C/4S/1C
8 U	1.12	2400	13.14	13.73	0.0069	139.52	38.59	14518	12.01	-150	1C/4S/1C
8 D	2.66	1004	15.53	11.33	0.0165	139.52	38.59	14917	12.00	1093	1C/4S/1C
9 U	0.05	2379	17.16	6.53	0.0016	30.71	3.72	14829	13.27	2741	8S
9 D	0.12	1006	19.44	6.03	0.0038	30.71	3.72	15485	11.31	3606	6S
10 U	0.21	2392	7.28	-6.53	0.0033	63.54	-6.42	14942	1.79	3584	8S
10 D	0.51	1001	7.78	-7.60	0.0079	63.54	-6.42	15452	-1.33	4123	8S
11 U	0.88	2520	-5.00	16.54	0.0058	124.30	40.45	15041	4.36	-5597	16C
11 D	2.13	1034	-3.93	14.40	0.0140	124.30	40.45	15250	6.65	-4840	16C
12 U	0.08	2481	19.49	9.04	0.0019	37.82	6.32	15365	15.69	2791	8S
12 D	0.18	1030	21.51	8.42	0.0045	37.82	6.32	15752	13.54	3581	6S
13 U	0.56	2488	9.93	8.07	0.0051	103.26	16.87	15417	10.43	499	4S
13 D	1.33	1035	10.55	6.38	0.0122	103.26	16.87	15760	7.03	1145	2S
14 U	0.62	2704	10.48	22.05	0.0043	102.17	43.84	15602	14.84	-3138	8C
14 D	1.46	1126	12.13	20.39	0.0102	102.17	43.84	15992	17.69	-2301	8C
15 U	0.58	2762	24.38	22.50	0.0041	99.75	43.65	15890	24.87	520	4S
15 D	1.35	1174	25.94	20.98	0.0095	99.75	43.65	16611	22.03	1437	4S
16 U	0.00	2659	24.74	13.35	0.0003	5.83	1.39	16244	20.47	3219	8S
16 D	0.00	1143	26.19	13.26	0.0006	5.83	1.39	17248	18.30	3874	6S
17 U	0.35	2631	13.47	8.78	0.0039	83.65	14.31	16287	12.56	1332	4S
17 D	0.81	1127	13.56	7.55	0.0091	83.65	14.31	17172	9.12	1798	4S
18 U	0.00	2619	10.63	1.08	0.0003	6.00	0.12	16445	7.28	2732	8S
18 D	0.00	1120	11.84	0.99	0.0007	6.00	0.12	17348	4.99	3272	6S
*** U	0.00	2620	1.21	-0.05	0.0002	5.00	0.00	16455	2.01	364	2S
*** D	0.00	1119	1.30	-0.13	0.0006	5.00	0.00	17268	-0.85	430	2S
*** U	0.00	2775	0.05	-17.92	0.0000	0.99	-0.32	16584	-7.52	5164	---
*** D	0.00	1167	0.13	-17.94	0.0001	0.99	-0.32	17257	-10.32	5399	---
*** U	0.00	2661	-17.90	-0.06	0.0003	5.76	0.00	16711	-10.40	-5164	---
*** D	0.00	1101	-17.89	-0.15	0.0007	5.76	0.00	17118	-7.60	-5259	---
DBW U	0.00	0	0.00	0.00	0.0000	0.00	0.00	16711	0.00	0	---
DBW D	0.00	0	0.00	0.00	0.0000	0.00	0.00	16986	0.00	0	---

Project Number: P52231f.

Snowbasin Resort. 'Middle Bowl.'

06/22/21

Lift Speed: 5.08 m/s Lift Capacity: 2400 pph

Drive BW

Nominal Torque ----->	16345.836 daNm
Overhauling Torque ----->	0.000 daNm
Full Speed RPM ----->	24.255 rev/min
Aux. Speed RPM ----->	19.404 rev/min
Evac. Speed RPM ----->	9.702 rev/min
Max Cable Load (T+t)----->	41643.159 daN
Allowable Adherence ----->	1.904
Adherence (T/t) ----->	1.433
Rotation (from above) ----->	CCW

Gearbox

Main Gearbox Ratio ----->	60.090
Main Input 271.776 daNm 1457.497 rpm	5.080 m/s
Aux. Input Ratio ----->	1.000
Aux. Input 302.247 daNm 1165.998 rpm	4.064 m/s
Evac. Input Ratio ----->	2.000
Evac. Input 151.124 daNm 1165.998 rpm	2.032 m/s

Tension System

Tension System Force ----->	26000.000 daN
Tension Per Side ----->	13000.000 daN
Area of Hydraulic Ram ----->	107.675 cm2
Number of Hydraulic Rams ----->	2.000
Tension System Pressure ----->	120.733 bars
Carriage Travel ----->	0.234 m

Cable

Cable Diameter ----->	42.000 mm
Total Cable Length ----->	2963.957 m
Breaking Strength ----->	124000.000 daN
Maximum Tension ----->	24335.016 daN
Safety Factor ----->	5.096
Minimum Shear Ratio ----->	14.552
Maximum Radial Acceleration ----->	2.000 m/s/s
Maximum Cable Inclination ----->	26.749 deg
Simultaneous Breakover Spans ----->	1.000
Maximum Deflection per Sheave ----->	2.542 deg

Brakes

Service Brakes ----->	1xPP2200
Emergency Brakes ----->	1x10TONNE
Antirollback Brakes ----->	1x10TONNE

Electric Motor

Required Power ----->	556.142 h.p.
Speed ----->	1457.497 rpm
Electric Input Ratio ----->	1.000

Carriers

Number ----->	68
Spacing ----->	45.720 m
Carrier Capacity ----->	6.000 persons/carrier
Trip Time ----->	4.862 min
Empty Weight ----->	418.000

GENERAL

Project number -----> P52231f
Lift model -----> LPA6P
Lift type -----> Detachable Six
Initial speed (m/s)-----> 5.08
Final speed (m/s) -----> 5.08
Aux speed (m/s) -----> 4.064
Evac speed (m/s) -----> 2.032
Init capacity (pp/h) -----> 1800
Final capacity (pp/h) -----> 2400
Percent Download (%)-----> 10
Parking (y/n)-----> Y
Rotation -----> CCW
Metric (y/n) -----> Y

LINE

Cable diameter (mm) -----> 42.0
Cable core type -----> Solid
Cable weight (daN/m) -----> 6.28
Breaking strength (daN) -----> 124000.0
Max cable tens (daN) -----> 27555.0
Acceleration rate -----> 0.35
Kinetic Friction factor -----> 0.025
Nominal Friction factor -----> 0.030
Friction at Bullwheels -----> 0.001
Max sheave load [supp] (daN) -----> 700
Min sheave load [comp] (daN) -----> -400
Max radial accel (m/s/s) -----> 2.0
Auto-incline towers (y/n) -----> N
Chairs in terminal -----> 2.29
Line Gage (m) -----> 5.6
Multiple Break Over Window -----> 3.5

DRIVE

Drive location (top/bottom) -----> Top
Drive BW diameter (m) -----> 4.
Angle of wrap -----> 180.0
Gear Box model -----> PK22M-SB600HW
Allowable Torque (daNm)-----> 17000.
Allowable Tension (daN) -----> 80000.
Gear box ratio -----> 60.09
Auxilliary ratio -----> 1.00
Evac ratio -----> 2.00
Gear box efficiency -----> 0.9
Auxilliary efficiency -----> 0.9
Evac efficiency -----> 0.9
Electric motor v-belt ratio -----> 1.0
Electric motor v-belt efficiency -----> 1.0
Electric motor type ----->
Electric motor connection ----->
Aux motor type ----->
Aux motor connection ----->
Evac motor type ----->
Evac motor connection ----->
Service Brakes -----> 1xPP2200
Diameter of service brake track (mm)-----> 317.0
Area of service brake pad (cm2)-----> 142.5
Emergancy Brakes -----> 1x10TONNE
E-brake ram area (cm2) -----> 85.48
Diameter of emergancy brake track (cm)-----> 317.0
Area of emergancy brake shoe (cm2)-----> 322.0

TENSION

Tension location (top/bottom) -----> Bottom
Initial tension force (daN) -----> 26000.
Final tension force [0 if unknown] (daN) -----> 26000.
Max allowable ram pressure (bars)-----> 150
Diameter of ram piston (mm) -----> 76.2
Diameter of cylinder bore (mm) -----> 139.7
Number of hydraulic rams -----> 2
Return BW diameter (m) -----> 4.

CARRIER

Type of carrier -----> Six Place Chair
Grip type (detachable/fixed)-----> Detachable
Carrier capacity (persons / carrier) -----> 6
Empty carrier weight (daN)-----> 418
Carrier sail area (sq m) -----> 0.420
Carrier sail area with ice (sq m) -----> 0.758
Passenger weight (daN) -----> 75.6

TOWERS

Diameter of comm line (mm)-----> 90
Height of comm line above flange (m) -----> 1.55
Area of x-arm (sq m) -----> 0.4369
Height of x-arm above flange (m) -----> 0.71
Weight of x-arm (daN) -----> 760.0
Sheave diameter (mm) -----> 436
Sheave weight (kg) -----> 16
Distance between sheave (m) -----> 0.573
Height of sheave above flange (m) -----> 0.15
Tower tube diameter (m) -----> 0.61
Tower tube weight (daN/m) -----> 138.0

2s weight (daN) -----> 118
2s wp constant (mm)-----> 182
4s weight (daN) -----> 260
4s wp constant (mm)-----> 258
6s weight (daN) -----> 500
6s wp constant (mm)-----> 350
8s weight (daN) -----> 665
8s wp constant (mm)-----> 350
8c weight (daN) -----> 665
8c wp constant (mm)-----> -8
12c weight (daN) -----> 1275
12c wp constant (mm)-----> -389
16c weight (daN) -----> 1875
16c wp constant (mm)-----> -414
1c/4s/1c weight (daN) -----> 395
1c/4s/1c wp constant (mm) -----> 258
2s/8c/2s weight (daN) -----> 920
2s/8c/2s wp constant (mm) -----> -8
2s/4c/2s weight (daN) ----->
2s/4c/2s wp constant (mm) -----> -87
2c/4s/2c weight (daN) ----->
2c/4s/2c wp constant (mm) -----> 258

Lift name -----> Middle Bowl
Ski Area -----> Snowbasin Resort
Location -----> Utah
Date -----> May 2021
Designer -----> B. Shepardson
Surveyor -----> C. Firsching, 5/25/21
Survey unit (M/F) -----> M
Reference elevation (M)-----> 2260.
Reference Station (M)-----> 0.

4.20 2301.75 210525231 GND
7.85 2301.96 210525230 GND
12.57 2302.43 210525229 GND
17.46 2302.80 210525228 GND
20.49 2303.03 210525226 GND
21.23 2303.08 210525227 GND
25.75 2303.52 210525225 GND
32.33 2304.38 210525224 GND
38.95 2304.66 210525223 GND
43.05 2304.80 101 CP LOW 13.92os
45.22 2304.97 210525222 GND
50.84 2305.19 210525221 GND
57.20 2305.52 210525220 GND
60.00 2305.72 205 BOT LOAD
69.52 2305.99 210525219 GND
76.21 2306.24 210525218 GND
88.50 2306.56 210525217 GND 10.06
96.64 2307.40 210525216 GND
104.48 2307.84 210525215 GND
112.30 2308.50 210525214 GND
115.41 2309.32 210525213 GND TREELINE
122.07 2310.32 210525212 GND 10.06
130.69 2311.35 210615117 BIKE TRAIL
132.69 2311.49 210615118 GND T2 ALT
151.32 2314.49 210525211 GND
164.76 2318.95 210525210 GND
172.54 2320.99 210525209 GND
179.93 2323.76 210525208 GND
202.12 2329.73 210525207 GND 10.06
222.57 2335.76 210615116 GND T3 20%ss 10.93
231.61 2337.79 210525203 GND TRL 20%ss 10.93
244.48 2341.23 210525201 GND TRL 15%ss 10.71
256.49 2343.85 210525199 GND TRL 15%ss 10.71
265.05 2345.13 210525197 GND 20%ss 10.93
277.41 2347.17 210525195 GND 20%ss 10.93
288.08 2349.28 210525193 GND 25%ss 11.14
299.15 2352.63 210525191 GND 20%ss 10.93
311.93 2355.39 210525190 GND 10.06
327.90 2361.51 210525189 GND
335.38 2364.41 210525188 GND
339.55 2365.73 210615114 GND T4
342.23 2366.37 210615115 GND T4 ALT
343.78 2366.92 210525187 GND 10.06
353.42 2370.27 210615113 GND
360.50 2373.37 210615112 GND
370.73 2377.36 210615110 GND 15%ss 10.71
372.10 2378.49 210525185 SNOW TRL 15%ss 10.71
376.96 2379.79 210525183 GND TRL 20%ss 10.93
383.65 2382.59 210525181 GND TRL 10%ss 10.49
393.83 2386.30 210525179 GND TRL 20%ss 10.93
401.48 2388.93 210525177 GND TRL 10%ss 10.49
410.87 2391.53 210525175 GND TRL 10%ss 10.49
417.88 2394.35 210615109 GND T5 10.06
424.87 2396.55 210525173 GND
430.88 2397.45 210525172 GND
446.96 2400.70 210525171 GND
459.85 2405.14 210525170 GND 10.06
467.29 2408.59 210615108 GND
473.12 2412.24 210615107 GND
479.25 2416.25 210615106 GND
483.41 2418.54 210525168 GND 35%ss 11.58

487.61 2421.45 210525166 GND 10.06
493.57 2424.37 210525164 SNOW 35%ss 11.58
495.68 2424.62 210615105 GND T6
499.65 2426.75 210525163 SNOW 10.06
506.70 2428.85 210615104 ROCK -1.66os
526.67 2429.69 210615102 GND 10%ss 10.49
534.13 2430.86 210615101 GND T7 10.06
541.67 2431.23 210525159 GND 10.06
548.29 2430.74 210525157 GND TRL EDGE 20%ss 10.93
556.65 2430.84 210525156 GND TRL 10.06
562.37 2431.12 210525155 GND TRL
567.01 2431.24 210525154 GND TRL EDGE 10.06
585.56 2431.31 210525152 GND 40%ss 11.79
596.35 2432.88 210525150 GND 10%ss 10.49
604.44 2435.00 210525149 GND 10.06
637.03 2445.74 210525148 GND
647.48 2449.90 210525147 ROCK
657.59 2452.72 210525146 GND 10.06
664.49 2453.25 210525144 GND 15%ss 10.71
669.59 2455.39 210525143 ROCK 1.26os
672.37 2455.87 210525141 GND 30%ss 11.36
673.24 2456.11 210615100 GND T8 ALT
675.27 2456.78 210615099 GND T8
678.16 2457.55 210525140 ROAD 10.06
681.45 2457.94 210525139 ROAD
684.38 2458.21 210525138 ROAD
687.91 2459.14 210525137 GND
692.41 2460.82 210525135 ROCK 10.06
699.14 2461.37 210525133 GND 30%ss 11.36
709.25 2465.49 210525132 ROCK 2.24os
721.00 2467.43 210525131 GND 10.06
723.47 2467.48 210525130 EXIST T11 -0.92os
727.08 2468.47 210525128 SNOW 30%ss 11.36
728.66 2468.87 210615097 ROCK
728.77 2470.03 210615098 ROCK 3.77os
733.50 2470.04 210615096 ROCK
737.37 2470.15 210525126 SNOW 45%ss 12.01
743.13 2470.92 210615094 GND 30%ss 11.36
751.69 2473.41 210525124 SNOW 50%ss 12.23
756.98 2473.95 210615092 GND 55%ss 12.44
763.93 2477.69 210525122 SNOW 45%ss 12.01
770.32 2479.24 210615090 GND 45%ss 12.01
774.93 2482.37 210525120 SNOW 30%ss 11.36
781.47 2485.04 210615088 GND 25%ss 11.14
782.75 2486.04 210525119 SNOW 10.06
787.63 2487.71 210525118 GND
791.96 2490.21 210525117 GND 10.06
810.23 2494.84 210525115 GND 35%ss 11.58
812.73 2495.32 210615087 GND T9
822.24 2496.94 210525113 GND 45%ss 12.01
832.20 2497.88 210525111 GND 55%ss 12.44
842.81 2498.11 210615086 GND T10
844.15 2498.09 210525109 GND 55%ss 12.44
856.43 2497.68 210525107 GND 50%ss 12.23
863.90 2496.39 210525105 GND 45%ss 12.01
874.98 2494.48 210525103 GND 45%ss 12.01
885.27 2493.75 210525101 GND 60%ss 12.66
894.15 2493.04 210525099 GND 50%ss 12.23
906.35 2492.13 210615085 GND T11 60%ss 12.66
912.49 2491.00 210525095 GND ROCKS 65%ss 12.87
918.03 2491.29 210525093 GND ROCKS 55%ss 12.44
921.36 2491.36 210525092 SNOW TRAIL 10.06
926.60 2492.07 210525091 SNOW TRAIL
934.32 2493.40 210525090 SNOW TRAIL
940.45 2494.41 210525089 SNOW TRAIL UH
945.09 2495.89 210525088 SNOW LG ROCK DH 10.06
960.61 2501.32 210525086 GND ROCKS 25%ss 11.14
973.10 2506.67 210525084 GND ROCKS 40%ss 11.79
979.04 2508.86 210525082 GND ROCKS 30%ss 11.36
983.54 2510.71 210525080 GND LG ROCKS UH 20%ss 10.93
986.49 2511.85 210525078 GND 40%ss 11.79

991.82	2514.35	210615083	GND 45%ss	12.01	
999.09	2519.38	210525075	GND 10%ss	10.49	
1006.10	2523.07	210525073	GND 15%ss	10.71	
1014.49	2527.72	210525071	GND	10.06	
1019.84	2531.21	210525070	ROCK	-1.95os	
1027.64	2533.23	210525068	GND	10.06	
1031.75	2534.61	210615082	GND	T12	
1040.93	2536.58	210525066	GND	10.06	
1049.07	2537.64	210525064	GND 20%ss	10.93	
1057.20	2538.38	210615081	GND		
1059.11	2538.92	210525063	SNOW	10.06	
1069.10	2539.34	210615079	GND T13 20%ss		10.93
1078.87	2539.53	210615077	GND 15%ss	10.71	
1088.51	2539.23	210615075	GND 20%ss	10.93	
1091.34	2539.93	210525060	SNOW		
1098.64	2539.84	210615073	GND 15%ss	10.71	
1106.84	2541.32	210525059	SNOW		
1110.32	2541.36	210615071	GND 10%ss	10.49	
1112.88	2541.74	210525058	SNOW		
1117.91	2541.78	210615069	GND 10%ss	10.49	
1121.67	2542.20	210525057	SNOW	10.06	
1129.68	2542.22	210615067	GND 10%ss	10.49	
1131.72	2543.30	210525056	SNOW		
1145.86	2547.34	210525055	SNOW		
1147.21	2547.21	210615065	GND 20%ss	10.93	
1155.44	2550.90	210525054	SNOW		
1156.82	2550.32	210615063	GND 20%ss	10.93	
1160.83	2552.79	210525053	SNOW		
1167.13	2556.45	210525052	SNOW		
1167.74	2554.01	210615061	GND 25%ss	11.14	
1171.39	2558.86	210525051	SNOW	10.06	
1173.02	2555.88	210615059	GND T14 15%ss		10.71
1174.69	2558.62	210525050	SNOW		
1177.72	2558.82	210525046	SNOW		
1178.64	2558.68	210615058	ROCK		
1181.25	2559.45	210525047	ROAD		
1186.47	2559.98	210525048	ROAD		
1190.40	2562.04	210615057	GND		
1192.59	2562.87	210525049	SNOW		
1196.12	2562.74	210615056	BIKE TRAIL		
1199.15	2563.16	210615054	GND 10%ss	10.49	
1203.93	2565.09	210615052	GND 10%ss	10.49	
1208.87	2567.67	210615050	GND		
1211.26	2569.11	210525045	SNOW		
1212.36	2569.43	210615049	ROCK		
1216.24	2569.48	210615048	BIKE TRAIL		
1220.55	2571.33	210615046	GND	10.06	
1221.84	2573.53	210525044	SNOW	10.06	
1225.92	2574.66	210615045	ROCK	2.85os	
1234.53	2578.34	210615043	GND 15%ss	10.71	
1239.80	2580.94	210615042	BIKE TRAIL		
1242.80	2583.14	210615040	GND 20%ss	10.93	
1252.42	2589.35	210615038	GND 10%ss	10.49	
1258.37	2593.29	210525042	GND 10%ss	10.49	
1264.56	2597.25	210525040	GND	10.06	
1271.37	2600.77	210525038	GND 10%ss	10.49	
1274.98	2601.82	210615037	GND T15 15%ss		10.71
1284.43	2603.32	210525034	GND 15%ss	10.71	
1296.13	2605.29	210615035	GND 55%ss	12.44	
1304.49	2608.38	210615033	GND 40%ss	11.79	
1309.44	2610.13	210615031	GND 30%ss	11.36	
1314.01	2611.63	210525033	GND	10.06	
1326.79	2617.79	210525031	GND 50%ss	12.23	
1333.42	2622.15	210525029	GND 35%ss	11.58	
1338.42	2624.91	210525027	GND 30%ss	11.36	
1344.02	2628.79	210525025	GND 20%ss	10.93	
1353.89	2635.17	210525023	GND 15%ss	10.71	
1364.47	2641.40	210525022	GND	10.06	
1373.28	2645.70	210525019	GND 10%ss	10.49	
1374.66	2646.15	210615030	GND T16		
1376.49	2646.90	210525018	GND 15%ss	10.71	

1379.48 2646.82 210615028 GND T17 25%ss 11.14
1387.33 2646.20 210615026 GND 15%ss 10.71
1394.97 2646.24 210615024 GND 10%ss 10.49
1402.24 2647.13 210615022 GND 25%ss 11.14
1412.99 2648.26 210615020 GND 20%ss 10.93
1417.91 2648.69 210615018 GND 20%ss 10.93
1421.33 2649.09 210525010 ROAD 10.06
1425.23 2649.24 210525009 ROAD
1427.45 2649.18 210525008 ROAD
1430.50 2649.89 210525011 GND
1434.42 2651.02 210615016 GND 25%ss 11.14
1436.44 2651.60 210525012 GND
1440.25 2653.89 210525013 GND
1440.44 2654.05 210615014 GND 35%ss 11.58
1442.84 2655.12 210525014 GND 10.06
1445.18 2656.09 210615002 GND T18
1448.49 2657.28 210615012 GND 20%ss 10.93
1450.11 2657.34 210525015 GND
1451.36 2657.62 210615010 GND 25%ss 11.14
1454.19 2658.05 210525016 GND
1456.70 2657.87 210615008 GND 20%ss 10.93
1459.94 2658.80 210525017 GND
1463.78 2658.13 210615006 GND 35%ss 11.58
1468.33 2659.08 210615005 GND
1471.40 2659.36 210615004 GND DP1
1473.70 2659.76 210525007 GND
1477.89 2660.39 210525006 GND
1479.39 2660.63 210615003 GND DP2
1480.89 2660.73 210525005 GND 10.06
1483.38 2660.95 202 TOP BW
1485.58 2661.22 210525001 GND
1488.35 2662.00 210525002 GND
1490.22 2662.52 210525003 GND
1493.28 2662.87 210525004 GND



Area: Snowbasin Resort
Lift Name: Middle Bowl
Lift Type: Detachable - 6P

Date: 6/22/2021
Job #: C52231

Drawing Index

Profile

C52231

