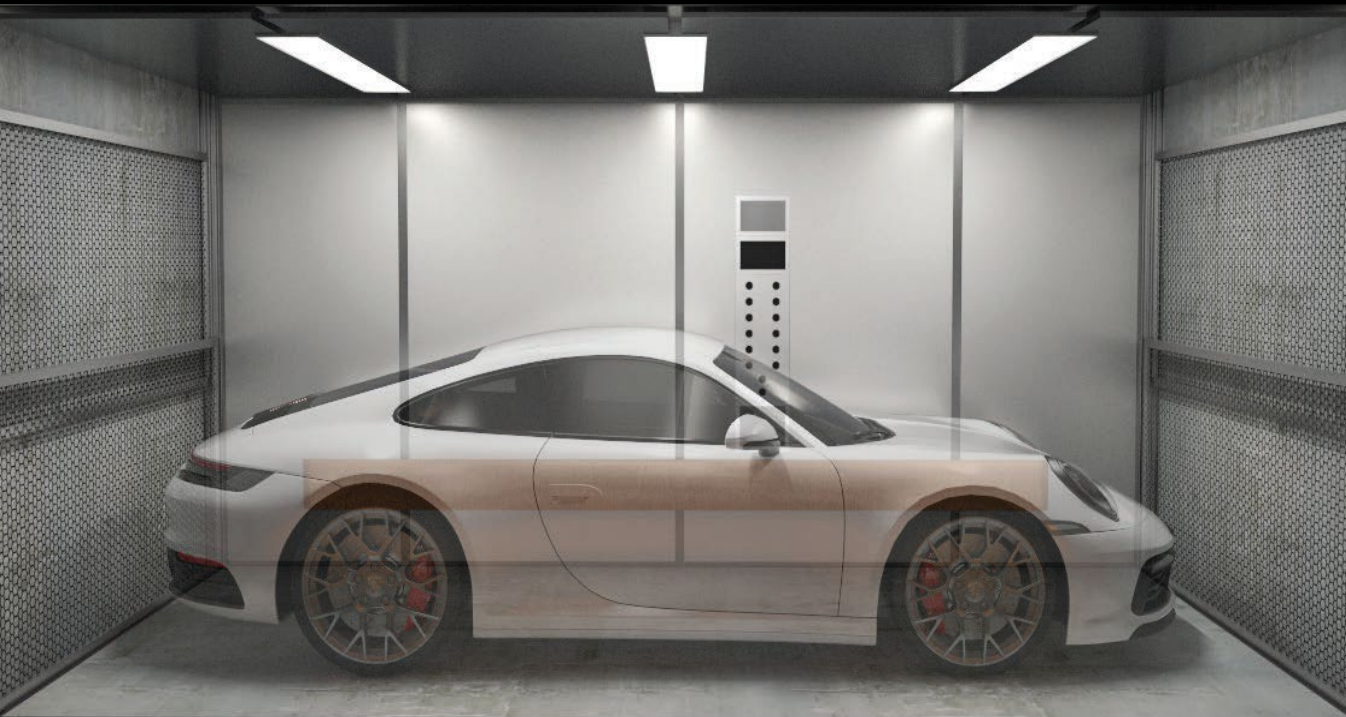




VEHICLE ELEVATORS



PLANNING GUIDE

**Options and Finishes for
Hydraulic and Overhead
Vehicle Elevators**

AVT BECKETT ELEVATORS

WWW.AVTBECKETT.COM

1-844-360-0288



STANDARD HOISTWAY SIZES CLASS B TYPE FREIGHT

All Dimensions are in Inches

DIRECT ACTING AND ROPED										
	HOISTWAY			PLATFORM		DOOR		PIT	CAB	2 SEC GATE
	CAP/LBS	DEPTH	WIDTH	DEPTH	WIDTH	WIDTH	HEIGHT	DEPTH	HEIGHT	OH
F	10000	260	144	240	108	104	84	60	84	132
F/R	10000	264	144	245	108	104	84	60	84	132

* add 1" to OH for each additional inch above 84" CH (ex. 85" CH = 133" OH)

DIRECT ACTING AND ROPED										
	HOISTWAY			PLATFORM		DOOR		PIT	CAB	2 SEC GATE
	CAP/LBS	DEPTH	WIDTH	DEPTH	WIDTH	WIDTH	HEIGHT	DEPTH	HEIGHT	OH
F	8000	251	138	231	102	98	84	60	84	132
F/R	8000	255	138	236	102	98	84	60	84	132

INGROUND										
	HOISTWAY			PLATFORM		DOOR		PIT	CAB	2 SEC GATE
	CAP/LBS	DEPTH	WIDTH	DEPTH	WIDTH	WIDTH	HEIGHT	DEPTH	HEIGHT	OH
F	10000	260	144	240	108	104	84	60	84	132
F/R	10000	264	144	245	108	104	84	60	84	132

INGROUND										
	HOISTWAY			PLATFORM		DOOR		PIT	CAB	2 SEC GATE
	CAP/LBS	DEPTH	WIDTH	DEPTH	WIDTH	WIDTH	HEIGHT	DEPTH	HEIGHT	OH
F	8000	251	138	231	102	98	84	60	84	132
F/R	8000	255	138	236	102	98	84	60	84	132

Sizes may vary depending on different applications

GEARED / GEARLESS										
	HOISTWAY			PLATFORM		DOOR		PIT	CAB	2 SEC GATE
	CAP/LBS	DEPTH	WIDTH	DEPTH	WIDTH	WIDTH	HEIGHT	DEPTH	HEIGHT	OH
F	10000	260	142	240	108	104	84	60	84	132
F/R	10000	264	142	245	108	104	84	60	84	132

GEARED / GEARLESS										
	HOISTWAY			PLATFORM		DOOR		PIT	CAB	2 SEC GATE
	CAP/LBS	DEPTH	WIDTH	DEPTH	WIDTH	WIDTH	HEIGHT	DEPTH	HEIGHT	OH
F	8000	251	138	231	102	98	84	60	84	132
F/R	8000	255	138	236	102	98	84	60	84	132

Custom Sizes Available



Group One Systems Available Options Available

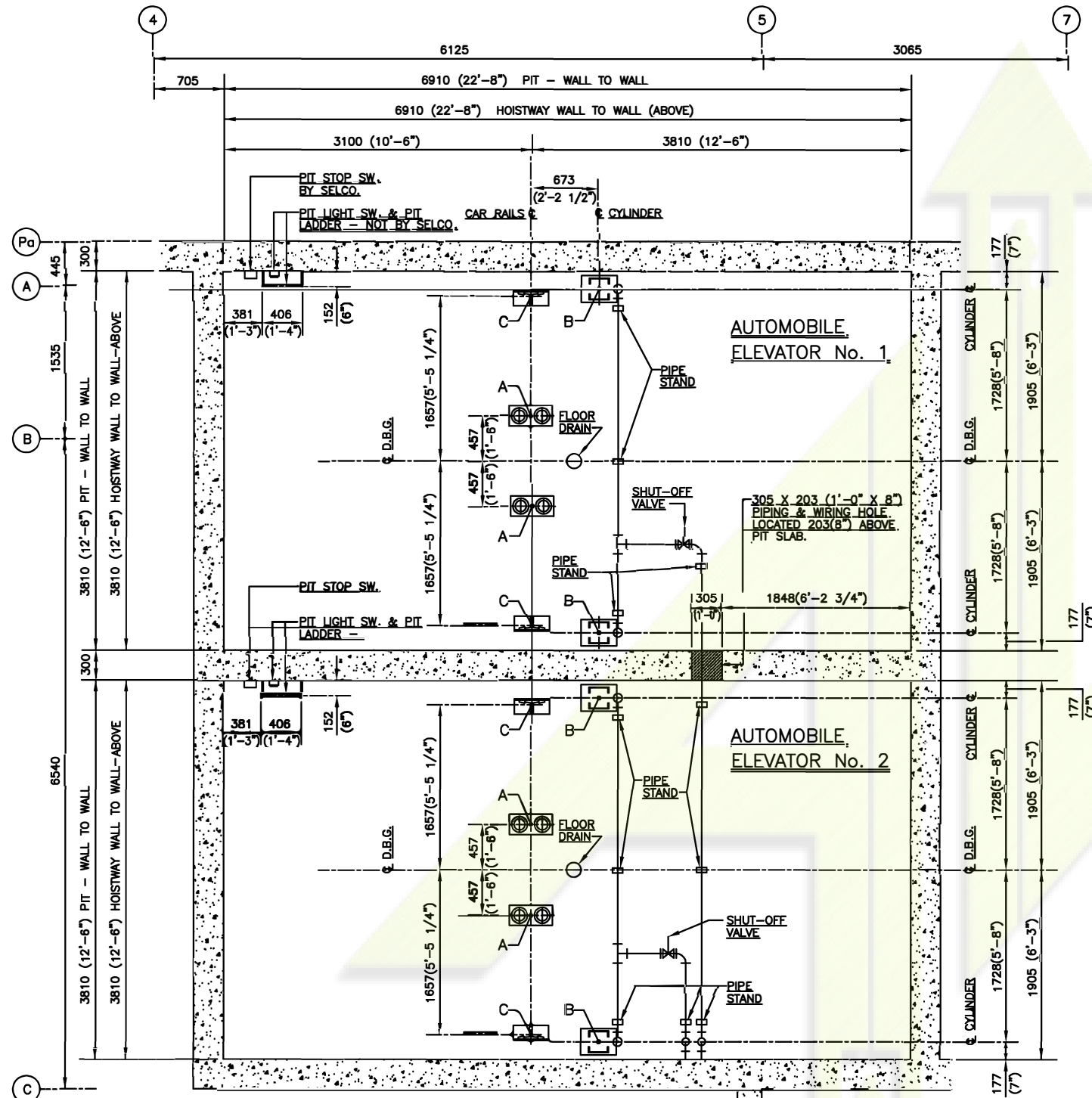
System Type				
Inground	Twin Post	Roped - Hydro	Geared	Gearless 2:1
Door Type				
Powered Bi-Parting Hall Doors		Manual Bi-Parting Hall Doors		Powered Car Gates
Cab Shell and Interior Options				
<u>*All wall panels are 20" – Wall Paint is AVT Gray unless specified – One Car Station Standard – 6" Wood Bumpers*</u>				
Stainless Steel Wall Panels		Textured Stainless Wall Panels		Hang on Panels
Bumper Options	2" - 12" Wide	Wood	Stainless Steel	Powder Coat Painted
Floor Options	Plywood	Aluminum Checker Plate		Stainless Steel Painted
Canopy	White Powder Coat	Lighting	LED Flat 12x48 Panels	LED Pot Lighting
Additional Options				
Power Units & Tanks		Hydraulic Piping & Accessories		Emergency Lowering
Controllers		Electrical Package & Accessories		Hoistway Equipment

AVT recognizes the challenges of urban development in North America due to space availability, and the changing requirements within the elevator industry. Trends for city parking has changed! Indoor, under ground parking is becoming more and more popular using large car lifts to get you there. AVT brought together its team of engineers to establish some basic planning guidelines. Elevator contractors, architects and builders can now design with confidence. There are various types of applications required for vehicle elevators. AVT offers a safe, reliable and proven solution for all of those needs. If any special requirements may be required please feel free to contact one of our sales team to assist in planning custom projects.

Safe - Reliable - Proven

Roped Hydraulic Sample Drawings





PIT PLAN

PIT LOADS		
LOAD SYMBOL	LOAD CONDITION	LOADS
A	IMPACT ON CAR BUFFER SUPPORT	131.0 kN (29500 lbs.)
B	IMPACT ON CYLINDER SUPPORT	122.0 kN (27500 lbs.)
C	VERTICAL IMPACT LOAD ON CAR RAIL AT SAFETY APPLIC.	222.0 kN (50000 lbs.)

THE FOLLOWING ITEMS MUST BE PROVIDED BY THE BUILDING OWNER:

All material (unless noted) is in accordance with AMSE A17.1-2010 or B44-10 the purchaser.

FOLLOWING IN ACCORDANCE WITH ASME A17.1 OR CSA B44-10 CODE REQUIREMENTS, WHICHEVER ARE MORE STRINGENT.

HOISTWAY.

- A CLEAR HOISTWAY SHOULD BE PLUMB WITHIN $-0"/+1"$ (25mm)
- VENTING OF HOISTWAY AS REQUIRED BY CODE.
- A DRY PIT, REINFORCED TO SUSTAIN THE VERTICAL LOADS AS SHOWN.
- A PIT LADDER, MADE OF NON-COMBUSTIBLE MATERIAL, FOR EACH ELEVATOR, CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH CODE & EXTENDED FROM PIT FLOOR TO 1220mm (48") ABOVE SILL OF LOWEST LANDING.
- ADEQUATE SUPPORT FOR GUIDE RAIL BRACKETS TO SUPPORT HORIZONTAL LOADS AS SHOWN. SUPPORT LOCATIONS MUST NOT EXCEED SPACING AS REQUIRED BY CODE AND AS SHOWN. WHEN MAXIMUM SPACING IS EXCEEDED, RAIL REINFORCEMENT OR ADDITIONAL SUPPORTS MUST BE PROVIDED AT PURCHASER'S EXPENSE.
- GUIDE RAIL SUPPORT LOCATIONS MUST BE STEEL, CONCRETE OR FILLED CONCRETE BLOCK. INSERTS IF USED ARE SUPPLIED AND INSTALLED BY OTHERS, IN LOCATIONS SHOWN, AS WALLS ARE ERECTED. IF RAIL ARE ATTACHED TO STEEL BEAMS, FIRE-PROOFING IS TO BE ADDED.

AFTER RAIL BRACKETS ARE INSTALLED

- PROJECTIONS OR RECESSES IN THE HOISTWAY OF 102mm (4") OR MORE, ON SIDES NOT USED FOR LOADING OR UNLOADING, SHALL BE BEVELLED AT AN ANGLE NOT LESS THAN 75 DEGREES FROM THE HORIZONTAL.
- A HOIST BEAM, HOOK OR EYE BOLT SHALL BE FURNISHED AT THE TOP OF THE HOISTWAY OR IN THE MACHINE ROOM. (SEE ELEVATION FOR LOADS)
- ENTRANCE WALLS ACCEPTING PASSENGER TYPE ENTRANCES ARE TO BE ERECTED (OR ROUGH OPENING FILLED IN) AFTER DOOR FRAMES AND SILLS ARE INSTALLED. MINIMUM ROUGH OPENING HEIGHT OF 2718mm (8'-11") IS REQUIRED FOR EACH ELEVATOR SHAFT AT FLOOR WHERE MATERIAL IS MOVED INTO HOISTWAY.
- A SUITABLE SILL SUPPORT AND RECESS AS SHOWN, FULL WIDTH OF THE HOISTWAY, GROUTED BY OTHERS AFTER DOOR SILLS ARE INSTALLED.
- ANY SLEEVES IN WALLS, OR ANY TRENCHING AND FILLING REQUIRED FOR OIL LINE AND WIRING DUCT INSTALLATION.
- ANY CUTTING AND PATCHING OF BUILDING CONSTRUCTION REQUIRED TO INSTALL SPECIAL FIXTURES OR OTHERS ELEVATOR APPARATUS, AND ANY REPAIRS, GROUTING, PATCHING OR PAINTING MADE NECESSARY BY SAME.
- TEMPORARY BARRICADES, IF REQUIRED FOR SAFETY DURING CONSTRUCTION.
- DRAIN OR SUMP PUMP REQUIRED & SHALL COMPLY W/APPLICABLE PLUMBING CODE. (BY OTHERS)

MACHINE ROOM:

- MACHINE ROOM PROPERLY LIGHTED (200 LUX MIN.) AND VENTILATED PER CODE REQUIREMENTS WITH TEMPERATURES MAINTAINED BETWEEN 5 TO 32 DEGREES CELSIUS (41 TO 90 DEGREES FAHRENHEIT). ACCESS DOORS TO MACHINE ROOMS SHALL BE OF A MINIMUM WIDTH OF 750mm AND A MINIMUM HEIGHT OF 2030mm TO COMPLY WITH CODE.

E.E. NOTE:

- (ALL ELECTRICAL WORK TO BE IN ACCORDANCE WITH ANSI OR HEC OR CAN/CSA-B44 & 125V SINGLE-PHASE RECEPTACLE INSTALLED IN MACHINE ROOM, PIT OR HOISTWAY SHOULD BE CLASS "A" GROUND FAULT CIRCUIT INTERRUPTER TYPE.)
- A FUSED DISCONNECT SWITCH, ALSO SUITABLE FOR MOTOR HORSEPOWER FOR EACH ELEVATOR OF AMPLE CAPACITY, WITH WIRING TO THE MOTOR STARTER CONTROL. DISCONNECT MEANS SHALL DISCONNECT THE NORMAL POWER SUPPLY AS WELL AS ANY EMERGENCY POWER SUPPLY IF PROVIDED.
 - A FUSED DISCONNECT SWITCH (120V AC) FOR EACH ELEVATOR WITH WIRING TO ELEVATOR CONTROLLER FOR CAB LIGHTING.

- LIGHT AND SWITCH IN ELEVATOR MACHINE ROOM, WITH SWITCH LOCATED ADJACENT TO ACCESS. STANDARD DUPLEX OUTLET (110V/AC 15AMP) IN MACHINE ROOM.
- LIGHT SWITCH AND CONVENIENCE OUTLET (110V AC) IN ELEVATOR PIT. LIGHT SWITCH ACCESSIBLE FROM BOTTOM TERMINAL LANDING OPENING OR FROM PIT ACCESS DOOR OPENING.
- HEAT AND PRODUCT OF COMBUSTION SENSORS LOCATED IN EACH ELEVATOR LOBBY WITH NECESSARY WIRING TO ELEVATOR CONTROLLER WHEN FIRE SERVICE IS SPECIFIED.
- TELEPHONE INSTRUMENT IN ELEVATOR CAR AND WIRING FROM BUILDING SOURCE TO ELEVATOR CONTROLLER.
- FURNISHING OF ANY INTERCOM, PAGING OR TELEVISION SYSTEMS INCLUDING WIRING FROM BUILDING SOURCE TO ELEVATOR CONTROLLER.
- IF ELEVATOR IS EQUIPPED WITH A BATTERY EMERGENCY LOWERING UNIT, AN AUXILIARY CONTACT IS REQUIRED ON MAIN POWER DISCONNECT IN ELEVATOR MACHINE ROOM. THESE CONTACTS (SUPPLIED BY OTHERS) SHALL BE UL APPROVED & LOCATED IN DISCONNECT.
- NECESSARY POWER FOR INSTALLING, ERECTING AND HOISTING WITHOUT CHARGE.
- ANY FEATURES OR EQUIPMENT REQUIRED, BUT NOT SPECIFICALLY SPECIFIED AS BEING FURNISHED BY ELEVATOR CONTROLLER.
- A SECURE AND DRY PLACE TO STORE ELEVATOR EQUIPMENT AND TOOLS BEFORE AND DURING CONSTRUCTION.

RAIL REACTIONS - SEE CHART ON SHEET No. 4 of 6	MAX. BRACKET SPACING REFER TO DETAIL OF RAIL BRACKETS AND RAIL RUN ON SHEET No. 5.
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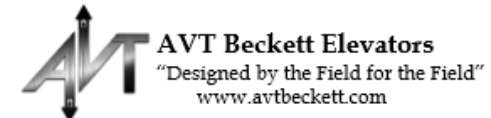
PIT REACTIONS - SEE PIT PLAN		NORTH
CAR NO.	BUFFER	

ELEVATOR(S) DATA	
CLASSIFICATION	FREIGHT - CLASS 'B' LOADING
CAPACITY	4536 kg. (10000 lbs.)
SPEED, UP/DN (NOMINAL)	.51 m/s. (100 f.p.m.)
SPEED, UP/DN (ACTUAL)	.51 m/s. (100 f.p.m.)
OPERATION	COLLECTIVE
CONTROL	IC
LANDINGS/OPENINGS	6 / 9 (6-FRONT & 3-REAR)
CAR	
CAR ENCLOSURE (TYPE)	SPECIAL
CAR GUIDE SHOES (TYPE)	ELPRO 30PR
YOKE GUIDE SHOES (TYPE)	H-W MODEL 375
CAR TOE GUARD (LETH)	762 (30")
CAR SAFETY	H-W MODEL 481-D TYPE 'B' - F.G.C.
PLATFORM	
PLATFORM (TYPE)	STEEL FRAME
FRAME-FRONT/BACK (SIZE)	C10 X 15.3
FRAME-SIDES (SIZE)	MC8 X 21.4
JOISTS (NO/SIZE)	8 - C8 X 13.75
FLOOR (TYPE)	1-LAYER 3/4" PLYWOOD + 1/4" STEEL CHECKER PLATE
AREA	18.37 m ² (197.77 SQ.FT.)
BUFFERS (TYPE/STROKE)	SPRING 5" (127mm) - 4 TOTAL
CAR RAILS	44.5 kg./m (30 lbs./ft.)
PLUNGER RAILS	12.0 kg./m (8 lbs./ft.)
HOIST ROPES	(5) - 5/8" X 105'-0"
GOVERNOR ROPE	(1) - 3/8" X 170'-0"
ROPE FASTENING TYPE	WEDGE SHACKLES
GOVERNOR	H-W MODEL 207RS - SELF RESETTING
GOVERNOR PIT IDLER	H-W MODEL 191
YOKE SHEAVE	640mm (25")
HOISTWAY EQUIPMENT	
PUMP (MFR/SIZE/TYPE)	2 - PUMPS GR60 SMU
MOTOR	2 - MOTORS 37.29kW (50H.P.)
WORKING PRESSURE	3482 kPa (505 psi)
STATIC PRESSURE	3185 kPa (459 psi)
PRESSURE RATING	4137 kPa (600 psi)
RELIEF VALVE/BY-PASS (SIZE)	2" / SCH. 40
FEED LINE (SIZE/SCH. NO)	2 - VALVES UC4/4M E2
VALVE	
TANK HEATER	
JACK ASSY. (TYPE/PKG)	TWO - ONE STAGE PLUNGER
PLUNGER O.D.	215.90mm (8.500")
PLUNGER WALL THICK.	9.53mm (0.375")
CYLINDER O.D.	273.05mm (10.750")
CYLINDER WALL THICK.	
CYLINDER STROKE	8992mm (29'-6")
CLOSED LENGTH	9303mm (30'-6 1/4")
OPEN LENGTH	18294mm (60'-0 1/4")
CYLINDER PROTECTION (TYPE)	N/A
DRILLING SIZE	N/A
WT. lbs.	
CAR	6727 kg. (14830 lbs.)
PUMP UNIT	272 kg. (600 lbs.)
CONTROLLER	136 kg. (300 lbs.)
JACK ASSY. - EACH	1172 kg. (2583 lbs.)
GROSS LOAD	11263 kg. (24830 lbs.)
LOAD ON SAFETY	11340 kg. (25000 lbs.)

DRWN.	W.T.	OWNER
PREL. DATE	11/08/16	ARCH./ENG. RICHMOND ARCHITECTS LTD.
FINAL DATE		CONTRACTOR
CHKD.		INSTALL BY

C/NO CHANGE		W.T.
B/FLOOR DRAINS ADDED.		W.T.
A/NOTE 1 REVISED.		W.T.
No. 1	REVISION	BY/DATE

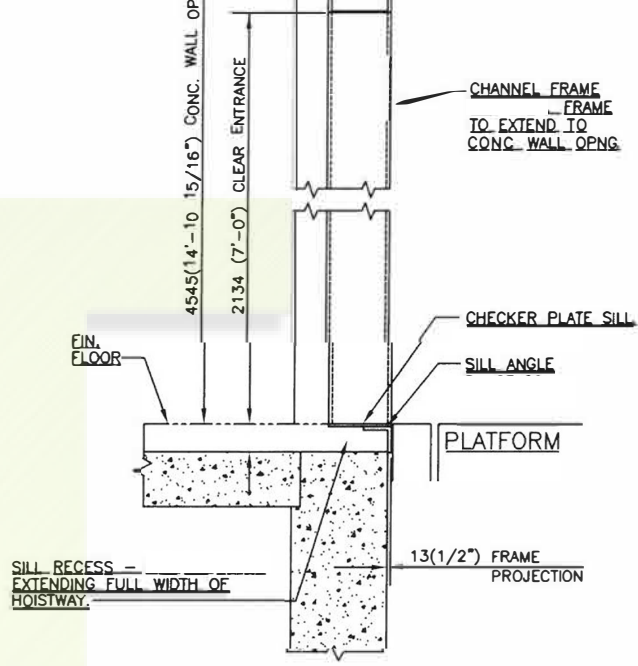
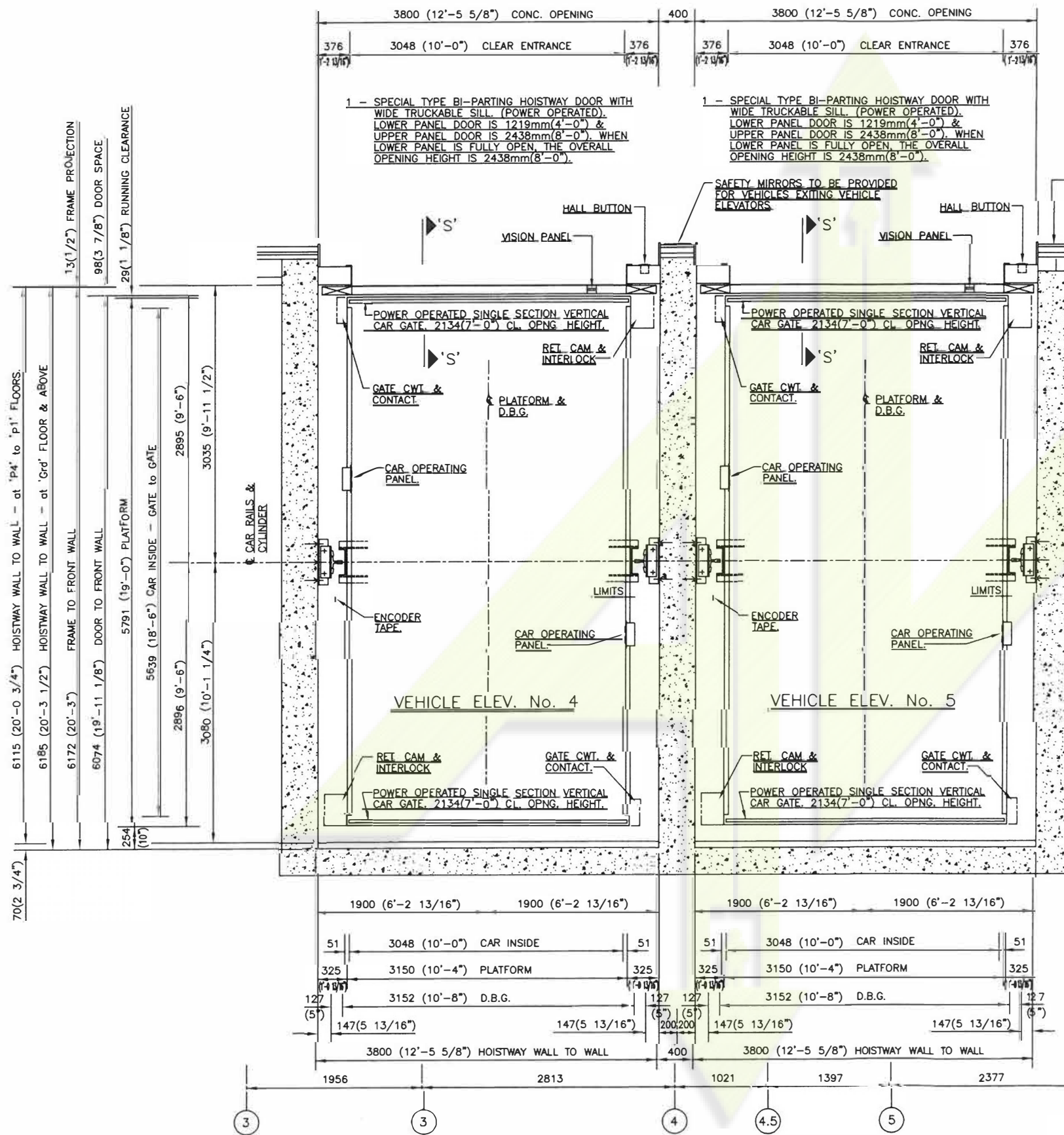
BLDG. NAME SAM E D GS
ADDRESS ROPED HYDRAULIC FREIGHT ELEV. - ROPING 1:2



DRWG. No.	TWIN ROPED	REV. 'C'	SHEET 1 of 6
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In-Ground Hydraulic Sample Drawings





SECTION 'S-S' at

CONDITION	NET FORCES
LOADING	R1 = 8.90 kN (2000 lbs.) R2 = 23.10 kN (5175 lbs.)
RUNNING	R1 = 8.90 kN (2000 lbs.) R2 = 10.40 kN (2330 lbs.)

⊕ - THESE CONDITIONS NEED NOT BE CONSIDERED AS ACTING SIMULTANEOUSLY.

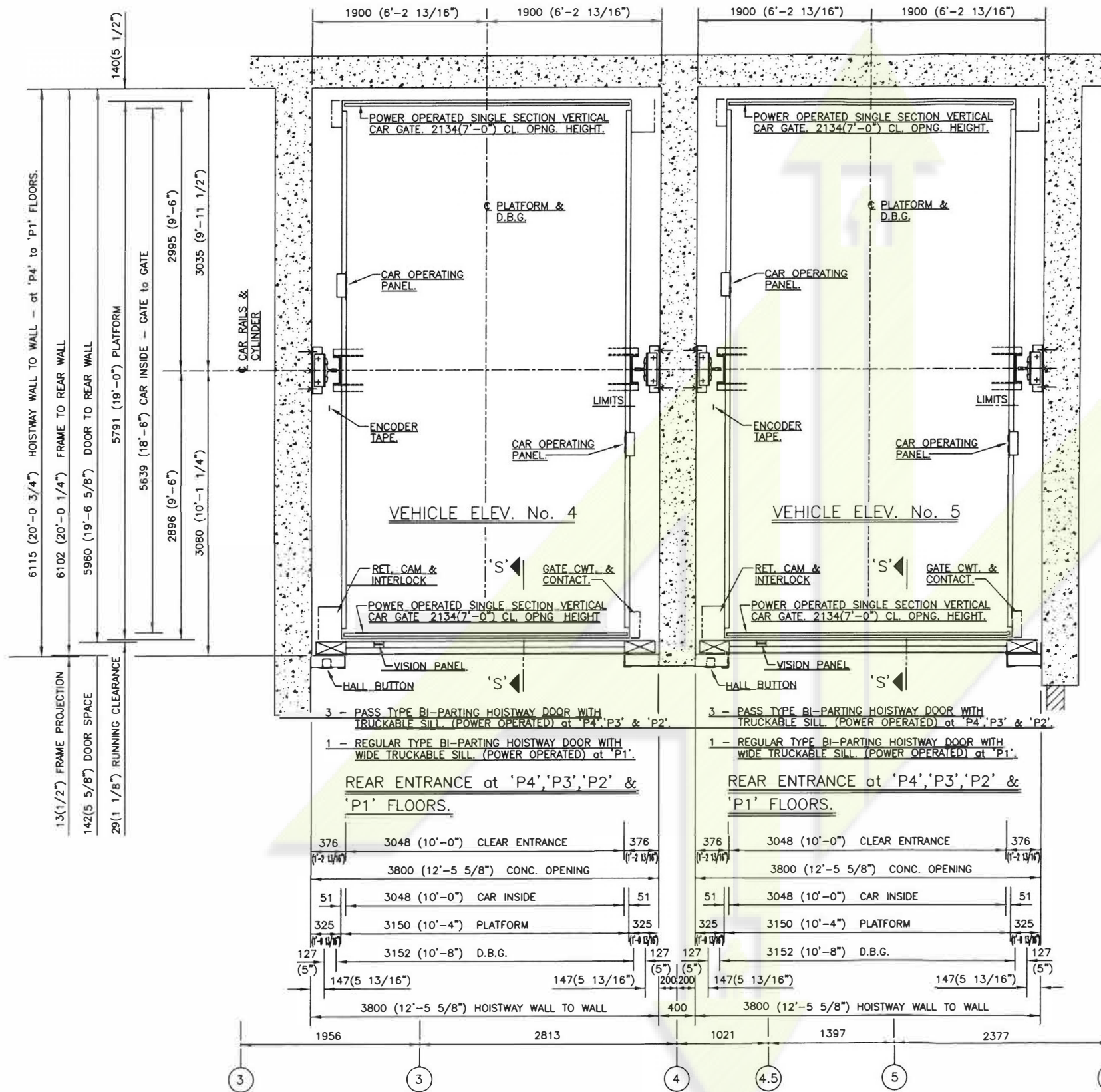
VEHICLE FREIGHT
ELEV. No. 4 & 5
HOISTWAY PLAN at
Street LEVEL
& SECTION 'S-S'

REVISION	BY	DATE
'G'		
'F'		
'E'		
'D'		
'C'		
'B'		
'A'		

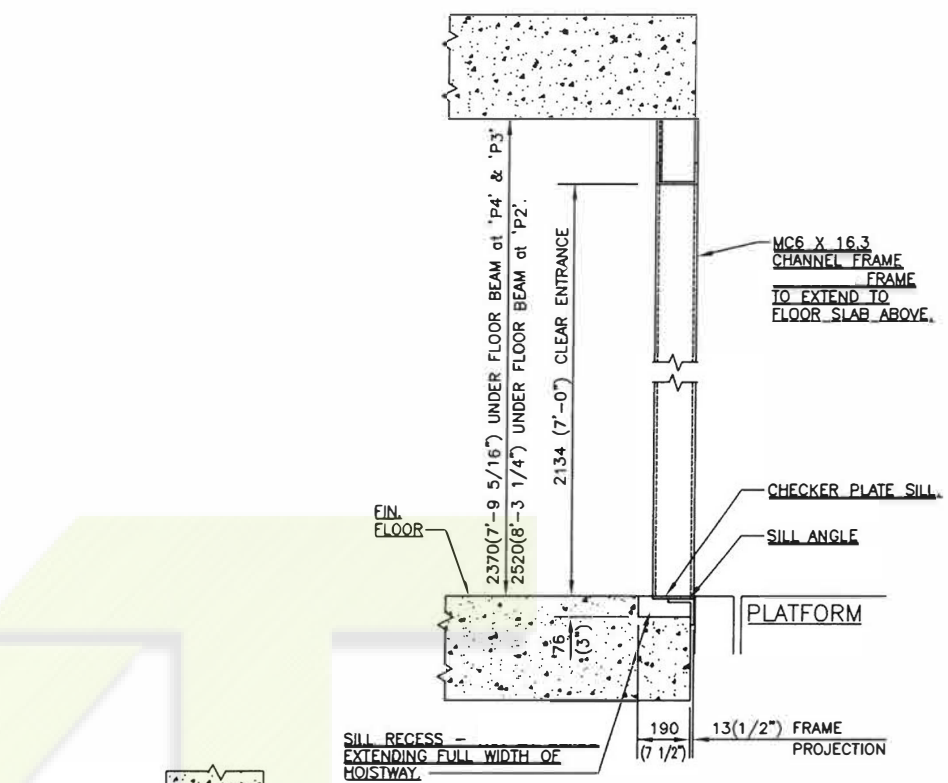
HOISTWAY PLAN



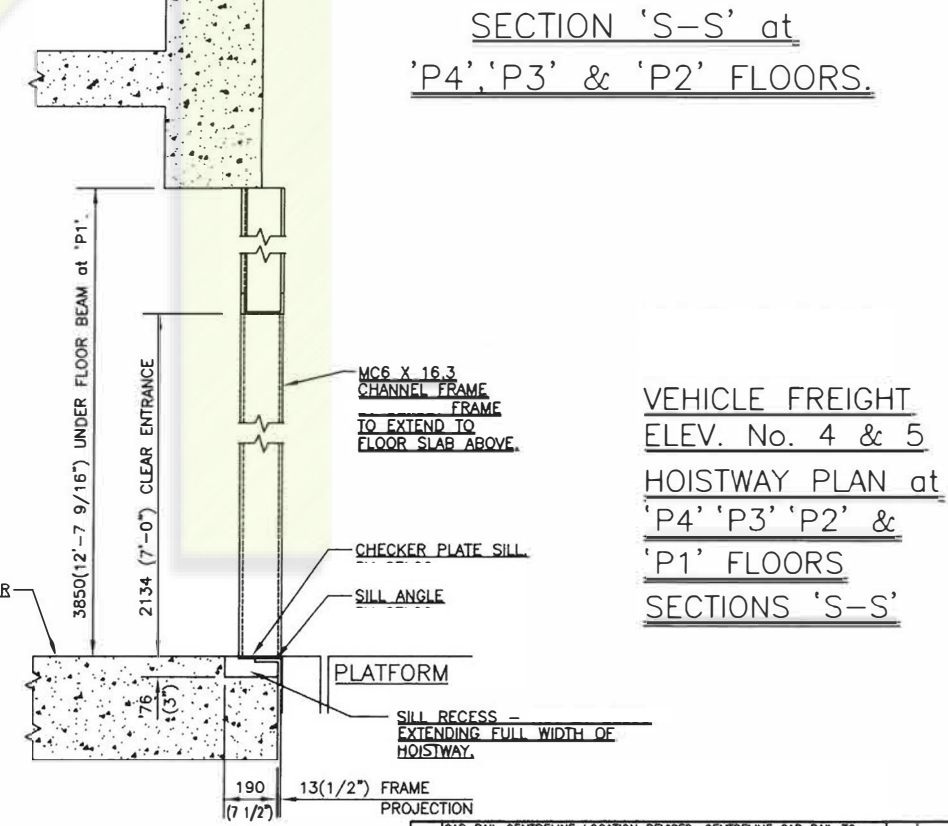
BLDG. NAME	
ADDRESS	
TWO HYDRAULIC VEHICLE FREIGHT ELEV.	
DRWG. No.	Sample Dwg



HOISTWAY PLAN at 'P4', 'P3', 'P2' & 'P1' FLOORS.



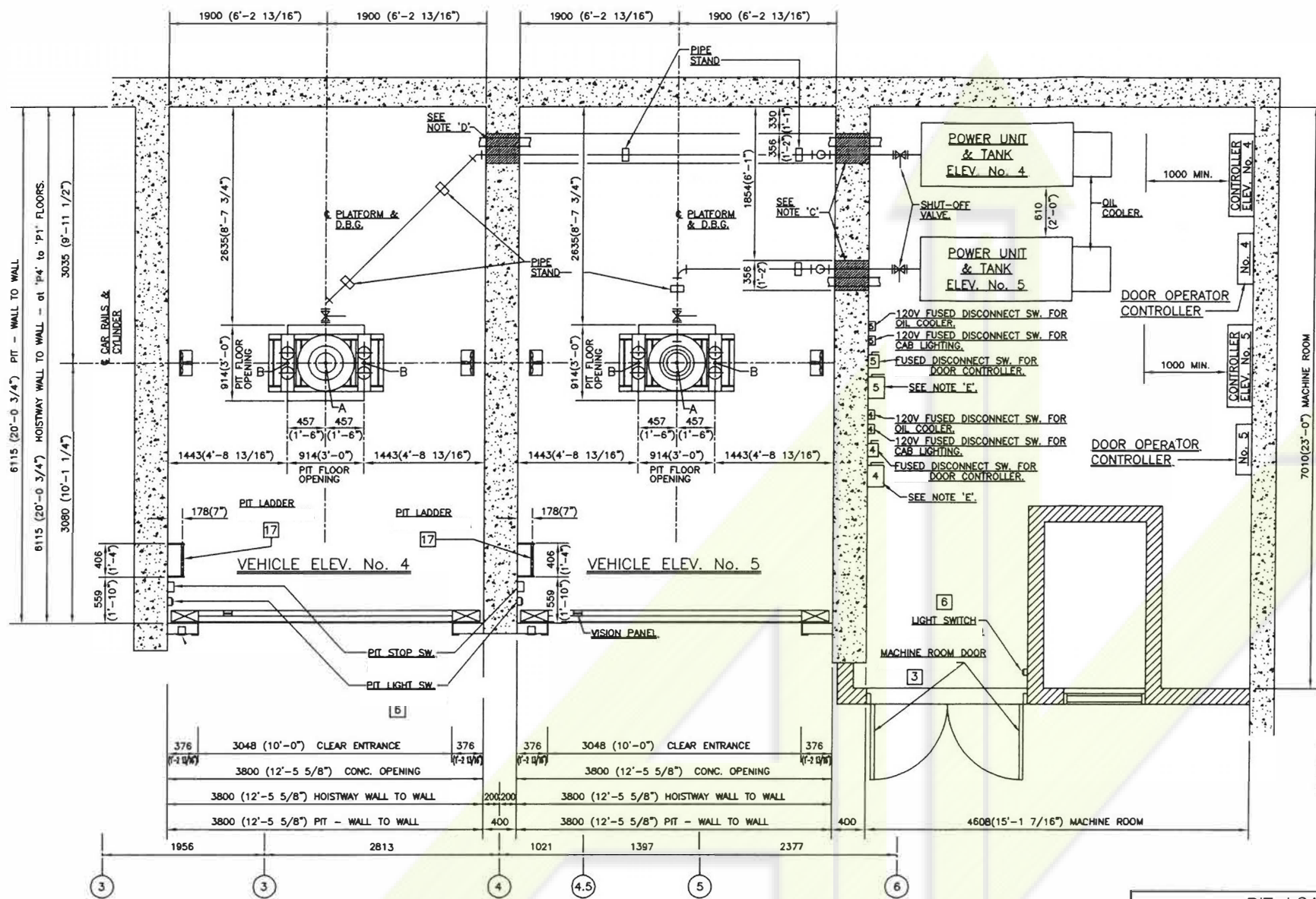
SECTION 'S-S' at 'P4', 'P3' & 'P2' FLOORS.



SECTION 'S-S' at 'P1' FLOOR.

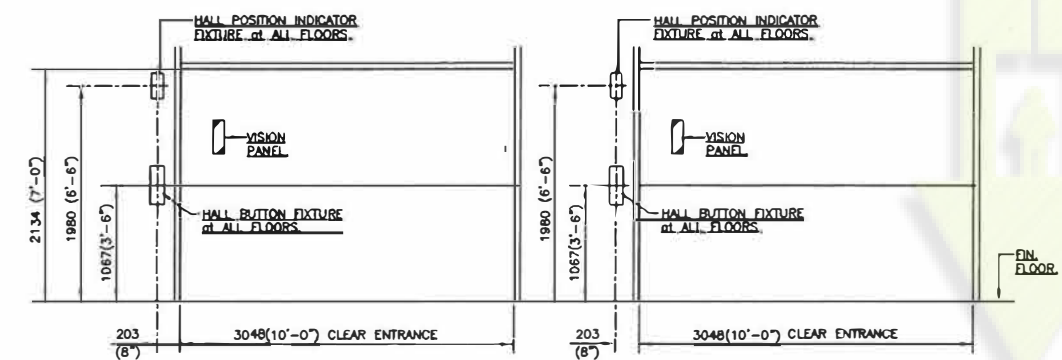
VEHICLE FREIGHT ELEV. No. 4 & 5 HOISTWAY PLAN at 'P4', 'P3', 'P2' & 'P1' FLOORS SECTIONS 'S-S'

'G'	CAR RAIL CENTRELINE LOCATION REVISED. CENTRELINE CAR RAIL TO FRONT & REAR OF PLATFORM REVISED.	W.T.
'F'	CAR RAIL CENTRELINE LOCATION REVISED. CENTRELINE CAR RAIL TO FRONT & REAR OF PLATFORM REVISED.	W.T.
'E'	HOISTWAY DEPTH (FRONT TO REAR) REVISED. PLATFORM DEPTH (FRONT TO REAR) REVISED. CAR INSIDE FRONT TO REAR REVISED. ALL RELATED DIMENSIONS REVISED TO SUIT.	W.T.
'B-D'	NO CHANGE	W.T.
'A'	LAYOUT APPROVED AND MADE FINAL WITHOUT CHANGE.	W.T.
No.	REVISION	BY DATE
BLDG. NAME		
ADDRESS		
TWO HYDRAULIC VEHICLE FREIGHT ELEV.		
DRWG. No.	Sample Dwgs	REV. SHEET 'G' 2 of 4



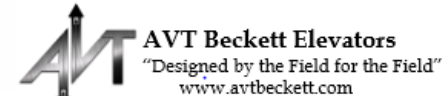
PLAN VIEW at 'P4' FLOOR.
PIT & MACHINE ROOM PLAN

PIT LOADS		
LOAD SYMBOL	LOAD CONDITION	LOADS
A	IMPACT ON CYLINDER HEAD SUPPORT	222.0 kN (50000 lbs.)
B	IMPACT ON CAR BUFFER SUPPORT	115.0 kN (26000 lbs.)



HALL FIXTURE DETAIL at 'P4', 'P3', 'P2' & 'P1' - REAR ENTRANCES
HALL FIXTURE DETAIL at 'PEARL STREET LEVEL' - FRONT ENTRANCES

VEHICLE FREIGHT ELEV. No. 4 & 5
PLAN VIEW at 'P4' FLOOR - PIT & MACHINE ROOM PLANS.
HALL FIXTURE DETAIL.



No.	REVISION	BY	DATE
1	CAR RAIL CENTRELINE REVISED.		
2	CAR RAIL CENTRELINE REVISED.		
3	HOISTWAY DEPTH (FRONT to REAR) REVISED. ALL RELATED DIMENSIONS REVISED TO SUIT.		

- IMPORTANT - THE FOLLOWING NOTES SHOULD BE CONSIDERED BY THE OWNER OR HIS AGENT BEFORE APPROVING THESE DRAWINGS(S).
PROVISIONS BY: OWNER
- CONSTRUCTION, FIRE RATING AND VENTING OF HOISTWAY AND MACHINE ROOM ACCORDING TO ELEVATOR AND BUILDING CODES.
 - HOISTWAY PLUMBED TO WITHIN 25mm. ALL LEDGES OVER 100mm BEVELLED 75° TO HORIZONTAL.
 - ACCESS ROUTE TO MACHINE ROOM 900mm x 2100mm MINIMUM STAIRS INCLINED TO 57° MINIMUM CANTILEVER OR PROPPED ON OPEN ROOF.
 - MACHINE ROOM MAINTAINED AT 5'-32" C. HEAT GENERATED 13,339.5 W. (45800 BTU's/HR.)
 - REGULAR AND EMERGENCY POWER SUPPLY AND WIRING ACCORDING TO INFORMATION TO FOLLOW.
 - 110V LIGHT FIXTURE(S), SWITCH AND OUTLET IN EACH PIT AND MACHINE ROOM SWITCH ON LOCK JAMB SIDE OF DOOR.
 - ELEVATOR FEEDERS INCLUDING LOCKABLE FUSED DISCONNECT SWITCHES OR CIRCUIT BREAKERS.
 - SUPPORT FOR BUFFERS AND JACK UNIT STRUCTURALLY DESIGNED FOR REACTIONS SHOWN.
 - HOIST BEAMS FOR A LINE LOAD OF 45.0 kN/m LOADED AS SHOWN.
 - RAIL BRACKET SUPPORTS SPACED AND DESIGNED FOR RAIL REACTIONS SHOWN AT EVERY FLOOR AND ROOF LEVELS. EXTRA SUPPORTS REQUIRED WHEN FLOOR HEIGHT EXCEEDS MAXIMUM RAIL BRACKET SPACING.
 - POCKETS, PATCHING, SHORING AND PIT WATERPROOFING OR SUMP WHERE REQUIRED.
 - FRONT WALLS (ROUGH OPENINGS) TO BE ERECTED AFTER ENTRANCE FRAMES HAVE BEEN INSTALLED. ENTRANCE FRAMES ARE NOT DESIGNED TO SUPPORT OVERHEAD WALL LOADS. SADDLES TO BE GROUDED FULL LENGTH.
 - ELEVATOR PIT LADDER(S) EXTENDING 1220mm ABOVE THE BOTTOM LANDING AND LOCATED AS SHOWN.
 - SLEEVES FOR OIL AND ELECTRICAL DUCTS FROM MACHINE ROOM TO HOISTWAY AS REQUIRED.

NOTE 'C':
203 X 355 (8" X 1'-2") WALL OPENING FOR PIPING & WIRING DUCT - LOCATED 978mm (3'-2 1/2") ABOVE MACH. ROOM FLOOR.

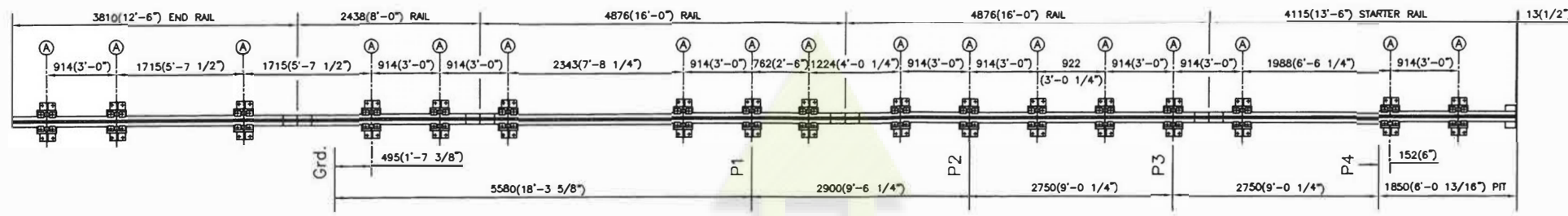
NOTE 'D':
203 X 355 (8" X 1'-2") WALL OPENING FOR PIPING & WIRING DUCT - LOCATED 203 (8") ABOVE PIT FLOOR SLAB.

NOTE 'E':
MAIN LINE FUSED DISCONNECT SW. WITH MICRO/AUXILIARY SWITCH TO DISCONNECT ELEVATOR LOWERING WHEN MAIN DISCONNECT IS SHUT-OFF.

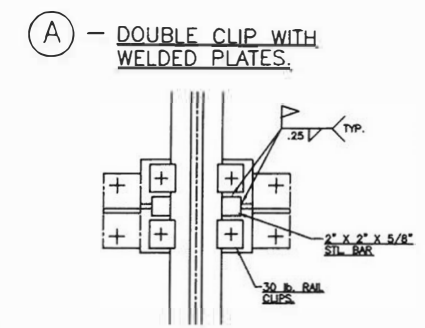
ELEVATOR(S) DATA		
GENERAL DATA	CLASSIFICATION	FREIGHT - CLASS 'B' LOADING
	CAPACITY	4540 kg. (10000 lbs.)
	SPEED UP/DOWN (NOMINAL)	.25/.25 m/s (50/50 FPM)
	SPEED UP/DOWN (ACTUAL)	.25/.25 m/s (50/50 FPM)
	OPERATION CONTROL	A.C.
	LANDINGS/OPENINGS	5 / 5 (1-FRONT & 4-REAR)
	EMERGENCY POWER	5 / 5 (1-FRONT & 4-REAR)
	FIREFIGHTERS ELEV. (CAR No.)	
CAR	CAR ENCLOSURE (TYPE)	SPECIAL
	CAR GUIDES (TYPE)	SLIDING - H-W #381
	CAR TOE GUARD (LGTH.)	30" (762)
PLATFORM	PLATFORM (TYPE)	STEEL FRAME
	FRAME-FRONT/BACK (SIZE)	C10 X 15.3
	FRAME-SIDES (SIZE)	MCB X 18.7
	JOISTS (SIZE)	C7 X 9.8
	FLOOR (TYPE)	1/4" ST. STL. CHECKER PLATE
	AREA	17.30 m ² (186.25 SQ.FT.)
HOISTWAY EQUIPMENT	BUFFERS (TYPE/STROKE)	SPRING/51mm(2") - 4 TOTAL
	CAR RAILS (kg./m)	44.5 kg./m (30.0 lbs./ft)
	CWT. RAILS (kg./m)	N/A
	MAX. BRACKET SPACING-LOADING	1143mm (3'-9")
	MAX. BRACKET SPACING-RUNNING	2464mm (8'-1")
	PUMP (MFR/SIZE/SCH.)	B4PIC-238AS
	MOTOR (kW)	37.3 kW (50 HP)
	WORKING PRESSURE	2634 kPa (382 P.S.I.)
	STATIC PRESSURE	2400 kPa (348 P.S.I.)
	PRESSURE RATING	4137 kPa (600 P.S.I.)
	RELIEF VALVE/BY-PASS (SIZE)	
	FEED LINE (SIZE/SCH. NO.)	63.5mm(2.50")/SCH. 40
	VALVE	UC4STD
	HYDRAULIC OIL (QTY.)	
JACK ASSEMBLY	JACK ASSY. (TYPE/PKG.)	SIMPLE PLUNGER
	PLUNGER O.D.	241.30mm (9.500")
	PLUNGER WALL THICK.	12.7mm (.500")
	CYLINDER O.D.	323.85mm (12.750")
	CYLINDER WALL THICK.	9.53mm (.375")
	CYLINDER STROKE	1433mm (47'-0 3/8")
	CLOSED LENGTH	14716mm (48'-3 3/8")
	OPEN LENGTH	29051mm (95'-3 3/4")
	CYLINDER PROTECTION (TYPE)	16" P.V.C.
	CASING SIZE	610mm (24")
	CAR	5584 kg. (12310 lbs.)
WEIGHT	PUMP UNIT	140 kg. (300 lbs.)
	CONTROLLER	2800 kg. (6171 lbs)
	JACK ASSY.	11250 kg. (24800 lbs)
	GROSS LOAD	
DRWN.	OWNER	
PRELIM. DATE	ARCH./ENG.	
FINAL DATE	CONTRACTOR	
CHKD.	INSTALL. BY	

No.	REVISION	BY	DATE
	'D' NO CHANGE		
	'C' LANDINGS/OPENINGS REVISED IN ELEVATOR DATA		
	'B' FLOOR OPENING IN PIT FLOOR ADDED. HALL FIXTURE DETAIL REVISED. DISCONNECT SW. RE-ARRANGED AND IDENTIFIED.		
	'A' LAYOUT APPROVED AND MADE FINAL WITHOUT CHANGE		

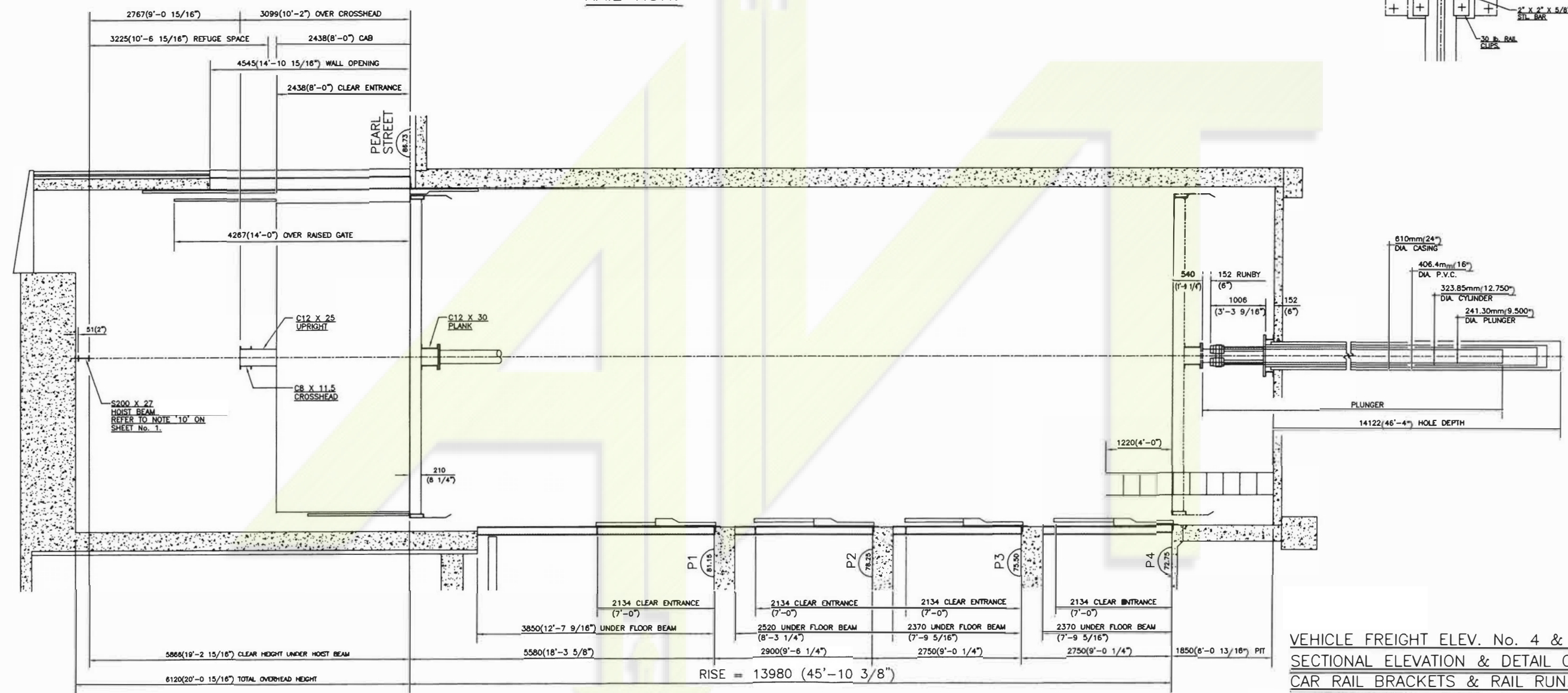
BLDG. NAME	
ADDRESS	
TWO HYDRAULIC VEHICLE FREIGHT ELEV.	
DRWG. No.	Sample Dwg
REV. SHEET	G 1 of 4



ERECTOR NOTE:



DETAIL OF CAR RAIL BRACKETS & RAIL RUN.



VEHICLE FREIGHT ELEV. No. 4 & 5
SECTIONAL ELEVATION & DETAIL OF
CAR RAIL BRACKETS & RAIL RUN.

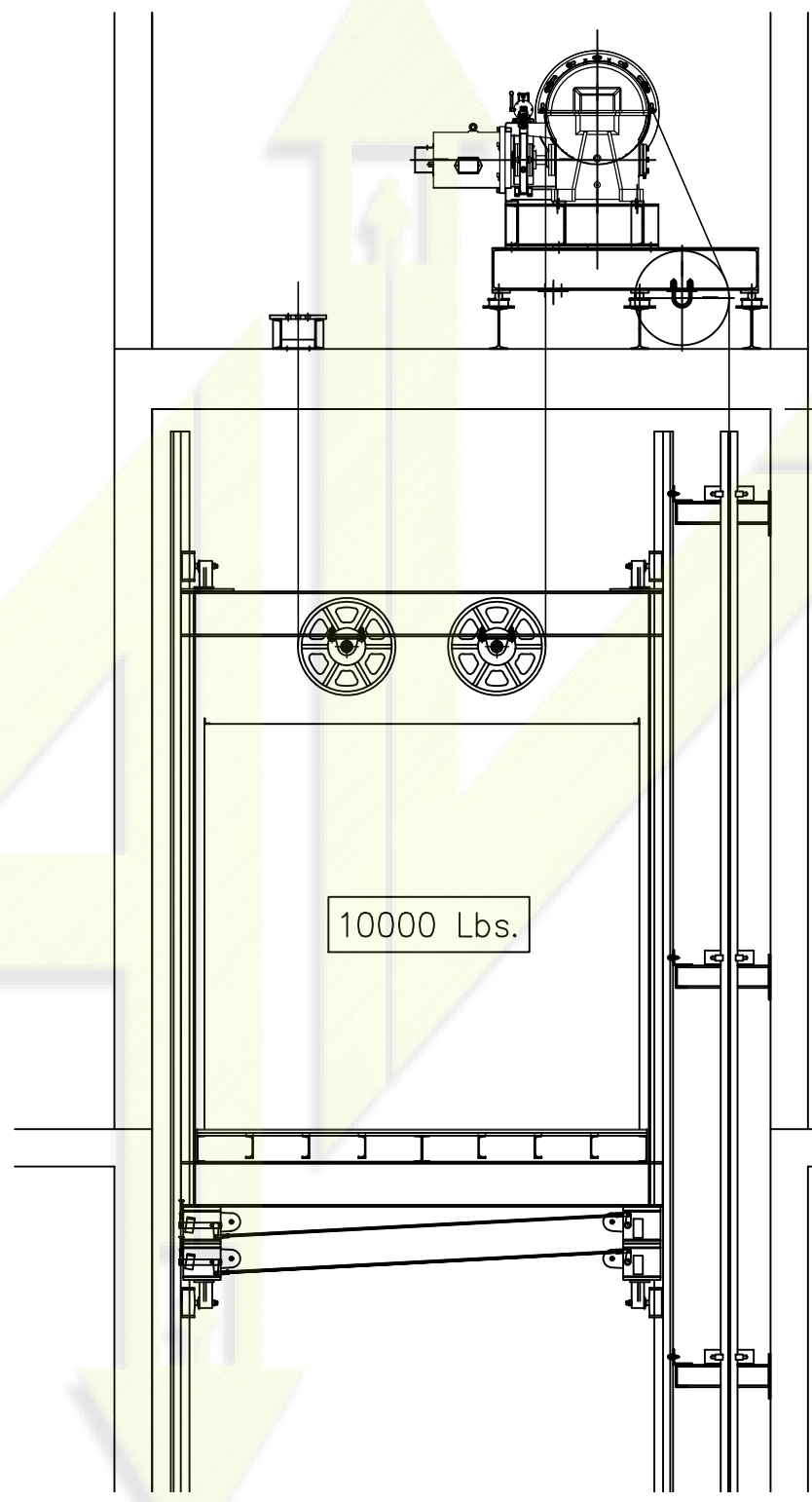
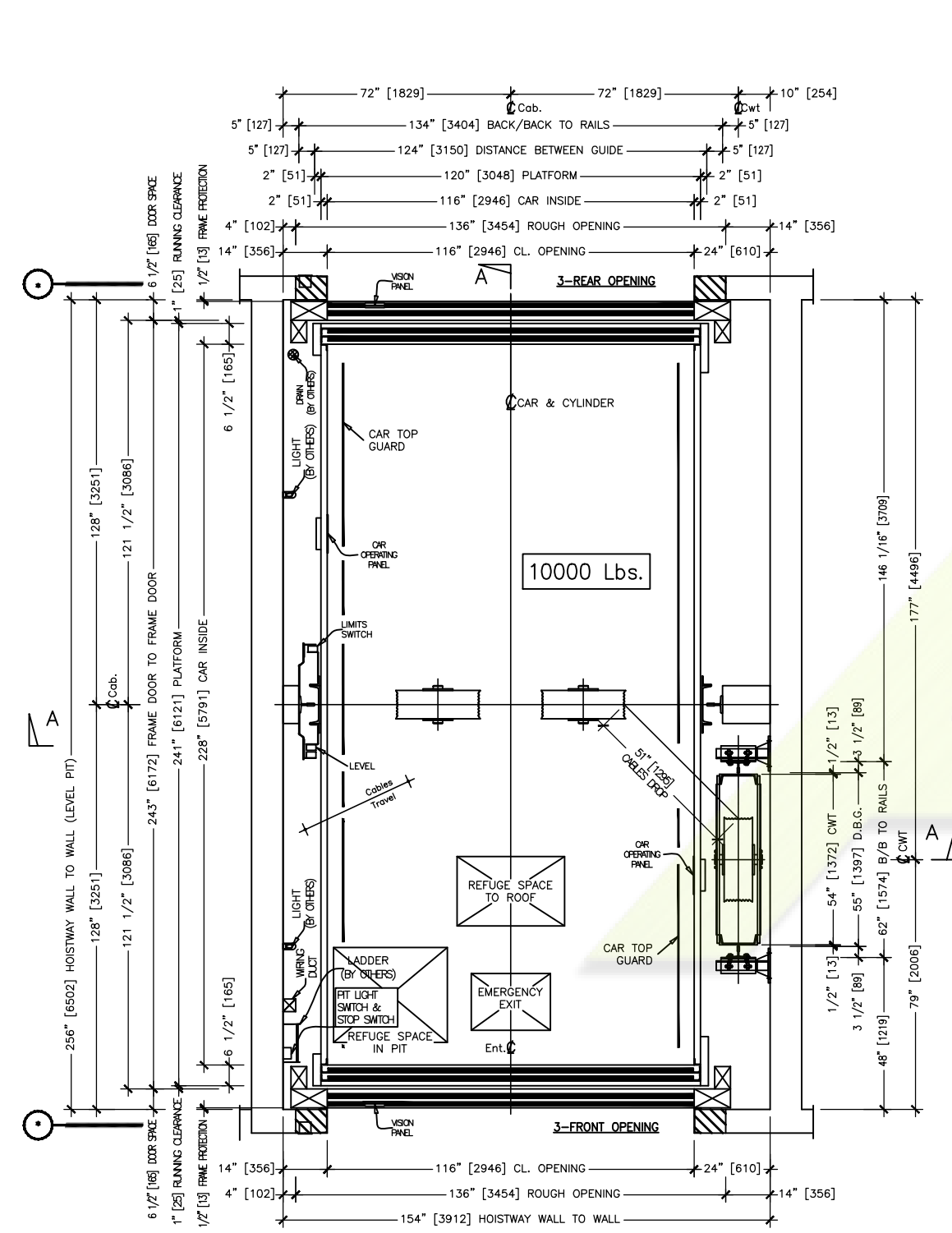
SECTIONAL ELEVATION

10	NO CHANGE		
11	NO CHANGE		
12	NO CHANGE		
13	OVERHEAD BETWEEN TOP OF PIT CHANNEL & TOP OF BUFFER CHANGED FROM 1158mm(3'-9 9/16") TO 1006mm(3'-3 9/16") RAIL FASTENINGS REVISED.		
14	NO CHANGE		
15	NO CHANGE		
16	REAR ENTRANCE FLOOR MARKING REVISED. REAR ENTRANCE WALL OPENING HEIGHT REVISED. HOIST BEAM SIZE ADDED. HEIGHT UNDER HOIST BEAM REVISED. ALL RELATED DIMENSIONS REVISED TO SUIT. LAYOUT APPROVED & MADE FINAL.		
No.	REVISION	BY	DATE
	BLDG. NAME		
	ADDRESS		
	TWO HYDRAULIC VEHICLE FREIGHT ELEV.		
	DRWG. No.		REV. SHEET 'G' 4 of 4

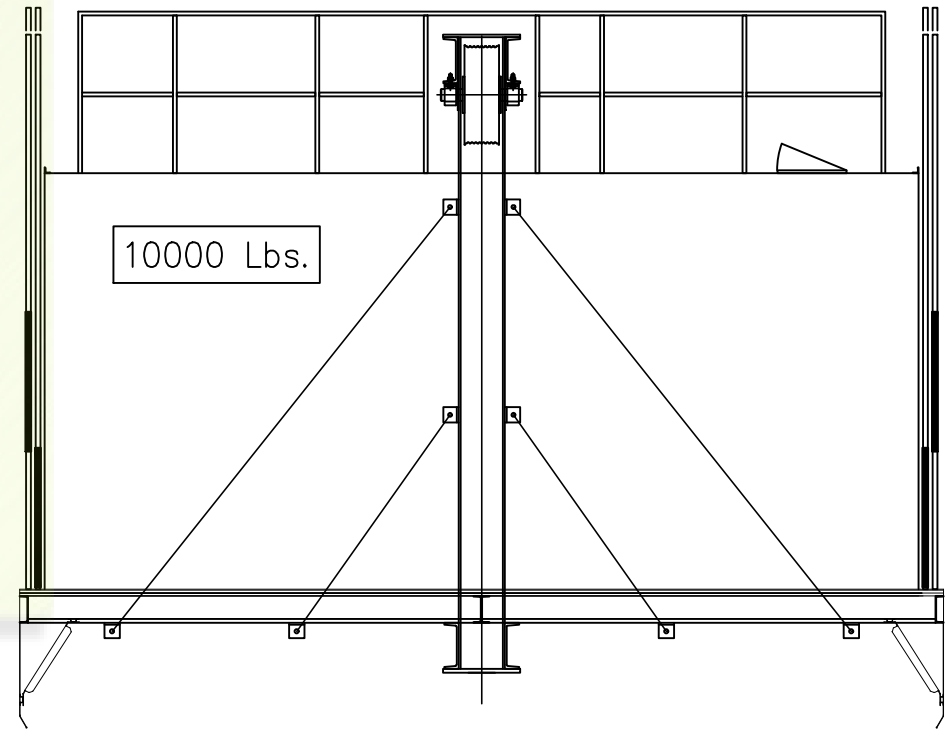


Overhead Sample Drawings

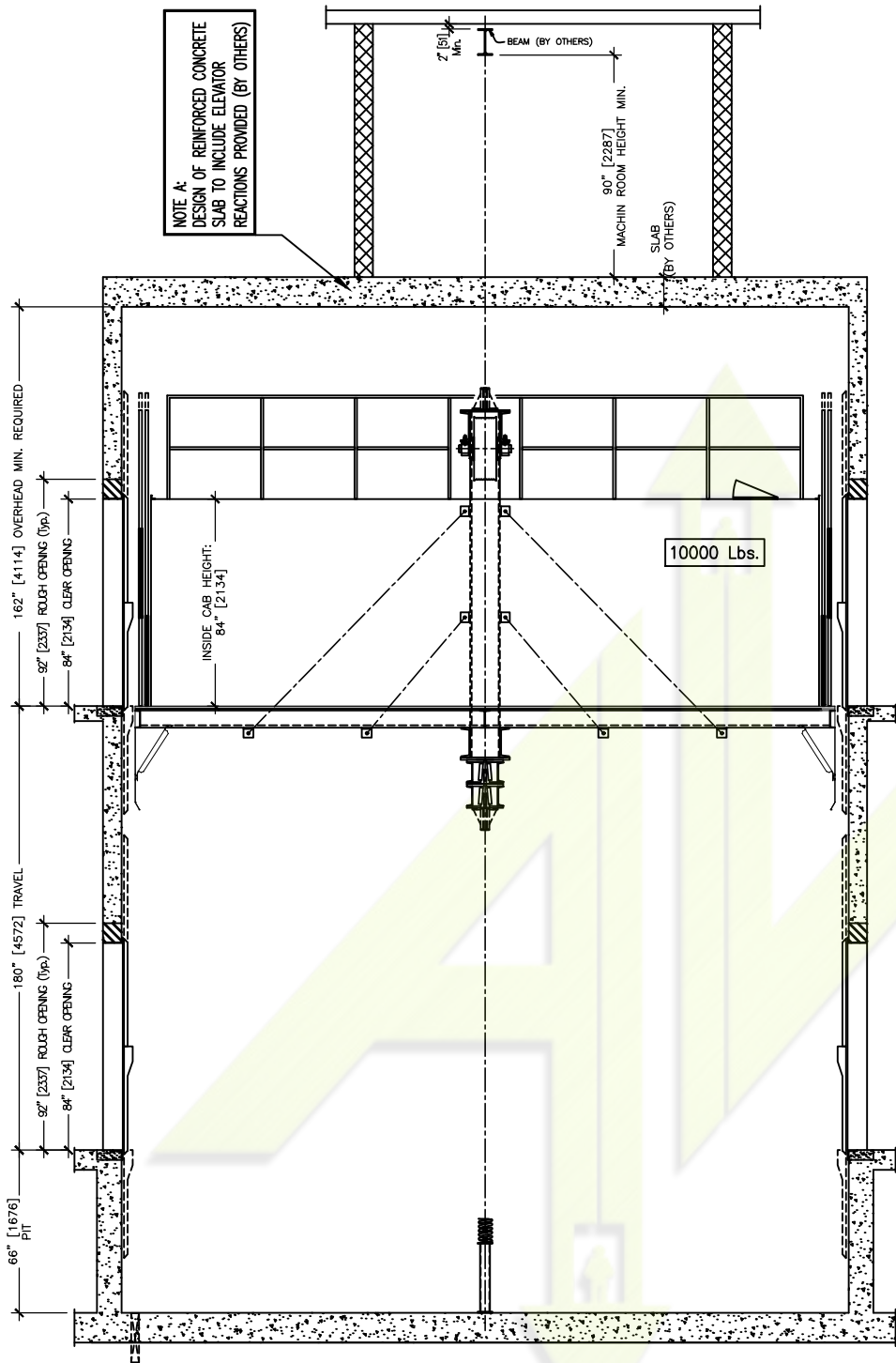




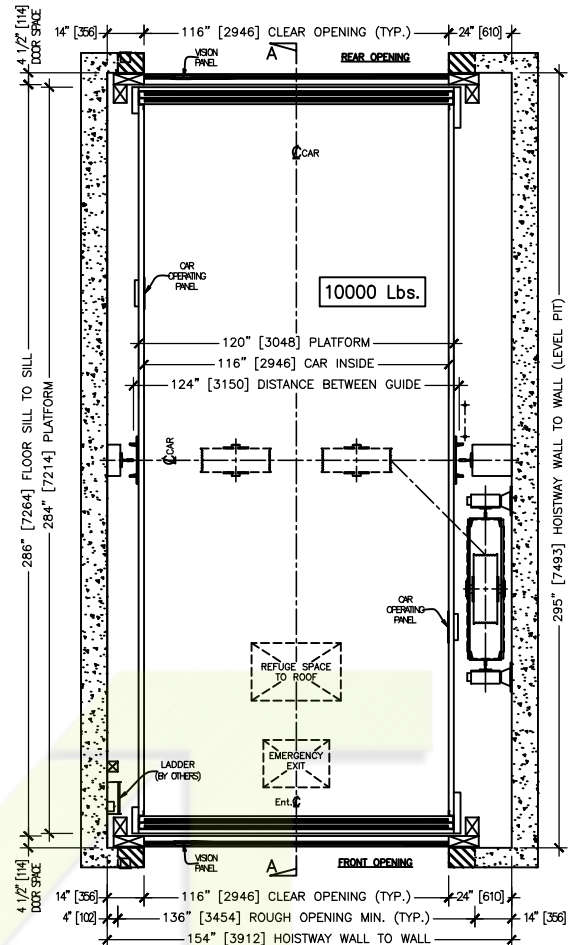
SLAB OVERHEAD MIN. REQUIRED (BY OTHERS)



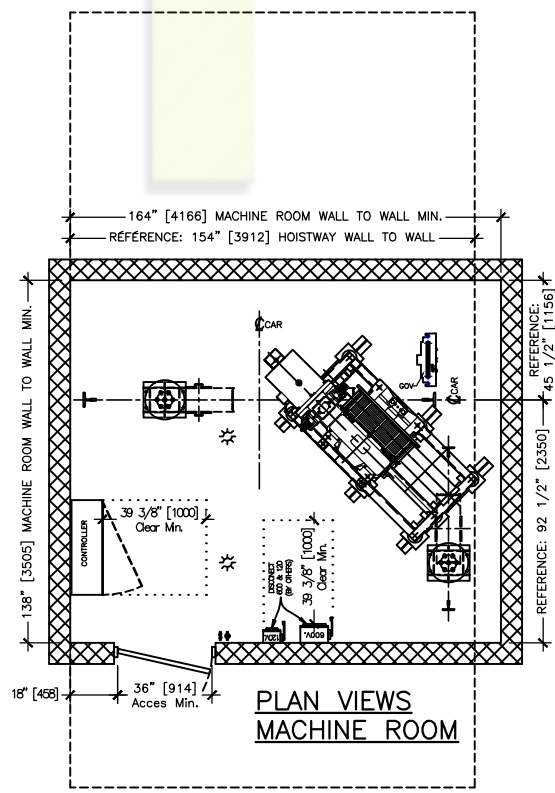
NOTE A:
DESIGN OF REINFORCED CONCRETE
SLAB TO INCLUDE ELEVATOR
REACTIONS PROVIDED (BY OTHERS)



ELEVATION VIEWS



PLAN VIEWS LANDING



PLAN VIEWS MACHINE ROOM

△			
0	DRAWN FOR INFORMATION	J.B.	19/05/2020
REV#	COMMENTS	BY	DATE

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GEARLESS OVERHEAD
CAR LIFTS
CAPACITY 10000 Lb.



EMS Bi-Parting Door Sample Drawings

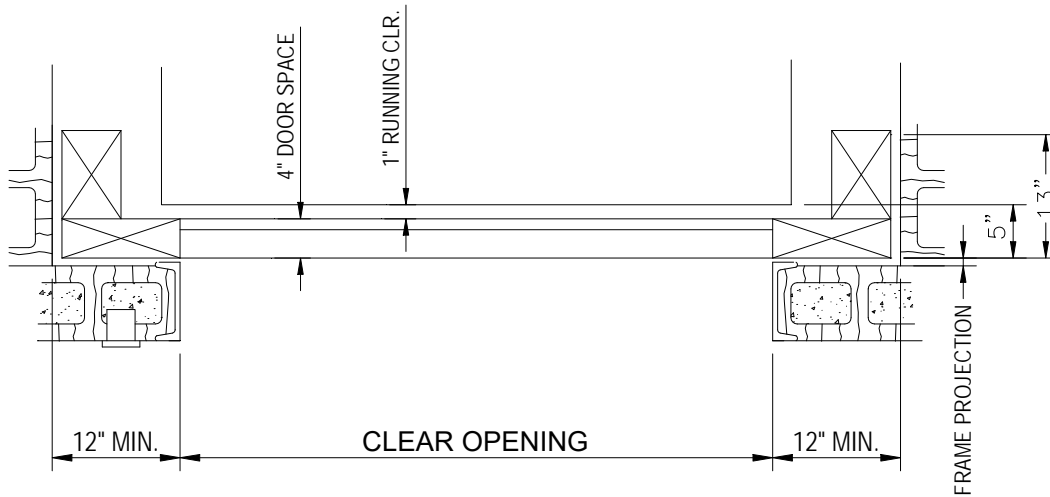


REGULAR BI-PARTING DOOR

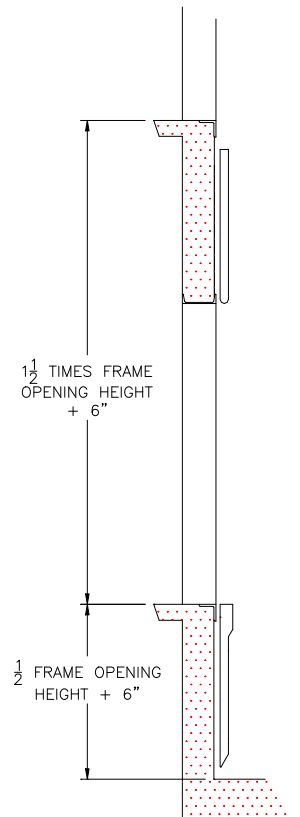
Model: **DP-R**

- MOST ECONOMICAL DOOR CONFIGURATIONS
- FLOOR HEIGHT = 1-1/2 TIMES OPENING HEIGHT + 6"
- PIT DEPTH = 1/2 TIMES OPENING HEIGHT + 6"

Opening Height	7'	8'	9'	10'	11'	12'	13'	14'	15'
Floor Height Required	11'-0"	12'-6"	14'-0"	15'-6"	17'-0"	18'-6"	20'-0"	21'-6"	23'-0"
Min. Pit Depth	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-5"	7'-0"	7'-6"	8'-0"
Min. Overhead Required for Bi-Parting Door	10'-9"	12'-3"	13'-9"	15'-3"	16'-9"	18'-3"	19'-9"	21'-3"	22'-9"



PLAN VIEW



ELEVATION



5410 N. Euclid
St. Louis, MO 63115

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info@emsdoors.com

FORM # ED8505

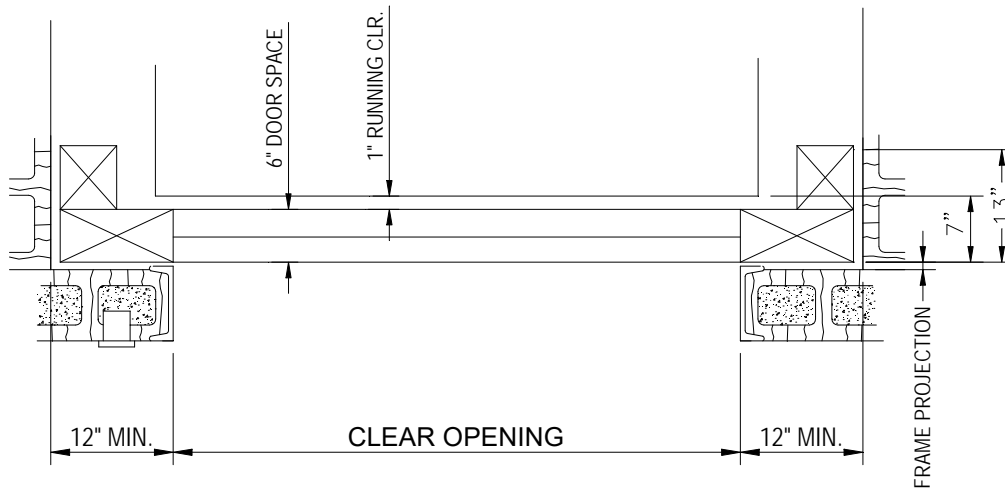
PASS BI-PARTING DOOR

Model: **DP-P**

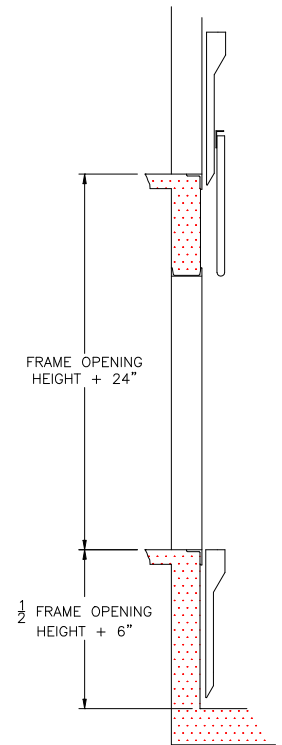
- REQUIRED WHEN FLOOR HEIGHTS ARE REDUCED
- PLATFORM TO OPENING JAMB IS INCREASED TO 7"
- FLOOR HEIGHT = MIN. OPENING HEIGHT + 24" **
- PIT DEPTH = 1/2 TIMES OPENING HEIGHT + 6"

** Floor Heights are based on doors having equal opening heights. Wide openings and/or heavy capacities may increase dimensions shown. Contact EMS with applications below minimum

Opening Height	7'	8'	9'	10'	11'	12'	13'	14'	15'
Floor Height Required **	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"
Min. Pit Depth	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-5"	7'-0"	7'-6"	8'-0"



PLAN VIEW



ELEVATION



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St. Louis, MO 63115

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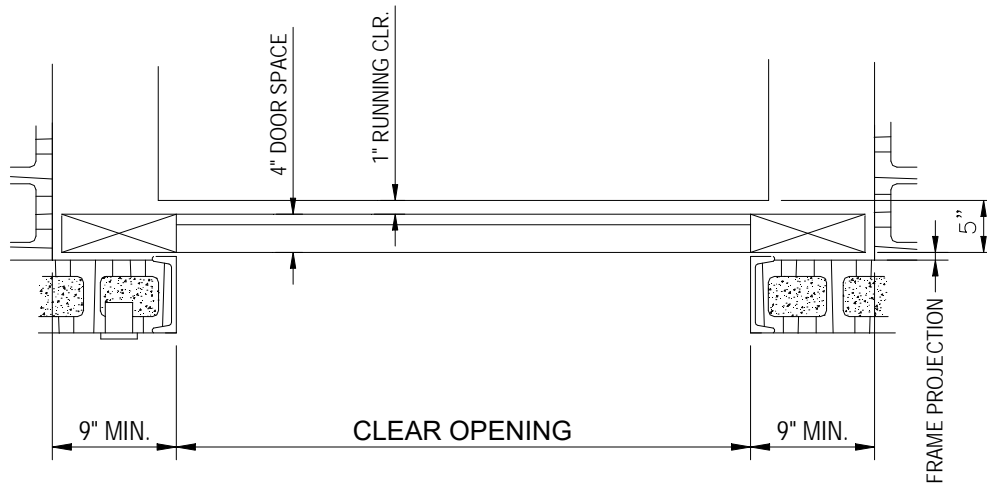
FORM # ED8506

MANUAL - REGULAR BI-PARTING DOOR

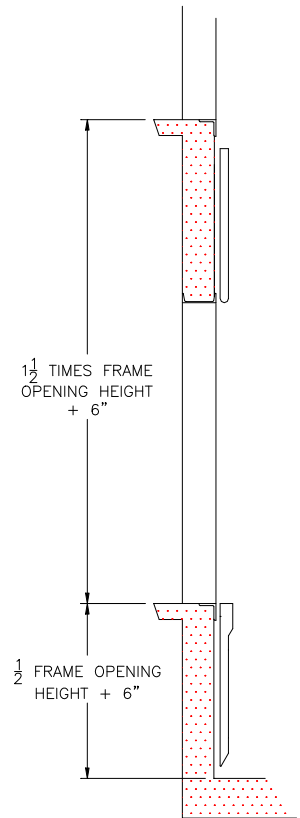
Model: **DM-R**

- MOST ECONOMICAL DOOR CONFIGURATIONS
- FLOOR HEIGHT = 1-1/2 TIMES OPENING HEIGHT + 6"
- PIT DEPTH = 1/2 TIMES OPENING HEIGHT + 6"

Opening Height	7'	8'	9'	10'	11'	12'	13'	14'	15'
Floor Height Required	11'-0"	12'-6"	14'-0"	15'-6"	17'-0"	18'-6"	20'-0"	21'-6"	23'-0"
Min. Pit Depth	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-5"	7'-0"	7'-6"	8'-0"
Min. Overhead Required for Bi-Parting Door	10'-9"	12'-3"	13'-9"	15'-3"	16'-9"	18'-3"	19'-9"	21'-3"	22'-9"



PLAN VIEW



ELEVATION



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FORM # ED8512

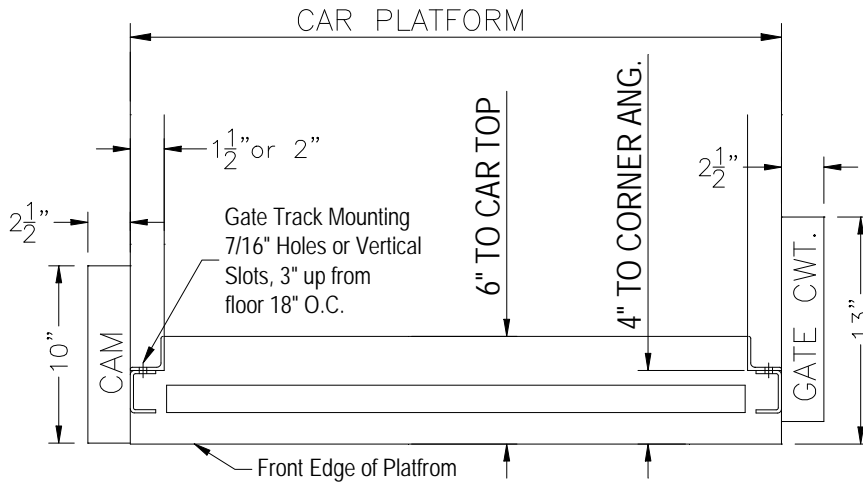
ONE SECTION CAR GATE

Model: **G1S-L2**

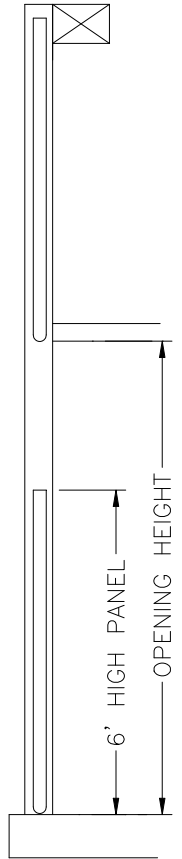
- POWER OR MANUAL OPERATION
- STANDARD 6' HIGH MESH PANEL
 - AVAILABLE FULL CAB HEIGHT
 - AVAILABLE SOLID PANEL
- DOUBLE LIGHT CURTAIN ARRANGEMENT
- MIN. OVERHEAD = OPENING HEIGHT + PANEL HEIGHT + 3"

Opening Height	7'	8'	9'	10'	11'	12'	13'	14'	15'
Overhead Required (6' high panel)	13'-3"	14'-3"	15'-3"	16'-3"	17'-3"	18'-3"	19'-3"	20'-3"	21'-3"
Overhead Required (full height panel)	14'-3"	16'-3"							

*Panel Size Exceeds Shipping Restrictions



PLAN VIEW



ELEVATION



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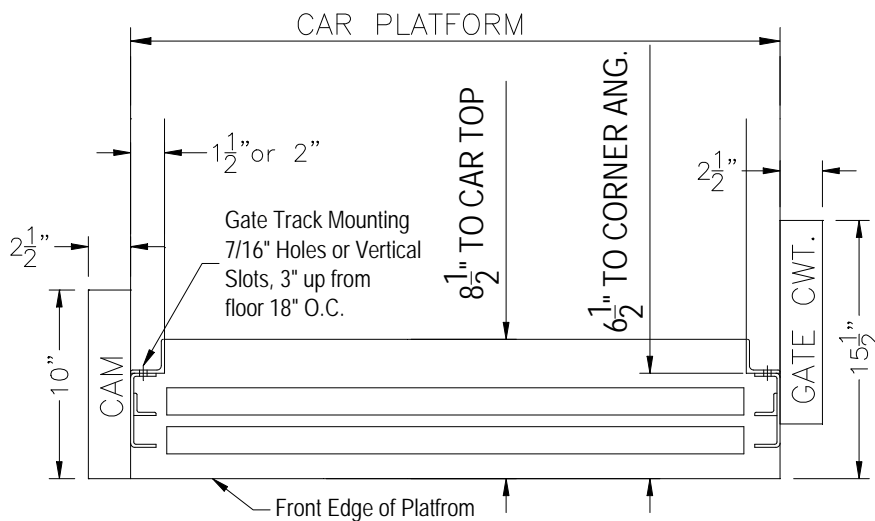
FORM # ED8519

COMPOUND TWO SECTION CAR GATE

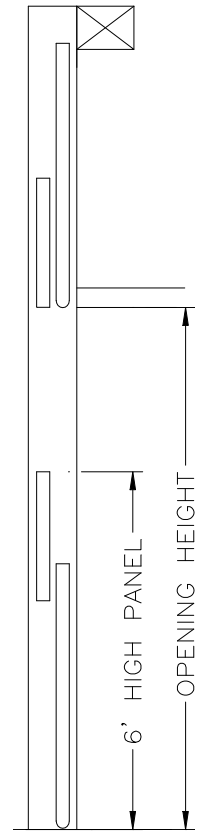
Model: **G2SC-L2**

- POWER OR MANUAL OPERATION
- STANDARD 6' HIGH MESH PANEL
 - AVAILABLE FULL CAB HEIGHT
 - AVAILABLE SOLID PANEL
- DOUBLE LIGHT CURTAIN ARRANGEMENT
- OVERHEAD = 1-1/2 TIMES OPENING HEIGHT + 7"

Opening Height	7'	8'	9'	10'	11'	12'	13'	14'	15'
Overhead Required (6' high panel)	11'-1"	12'-7"	14'-1"	X					
Overhead Required (full height panel)	11'-1"	12'-7"	14'-1"	15'-6"	17'-7"	18'-7"	20'-1"	21'-6"	23'-1"



PLAN VIEW



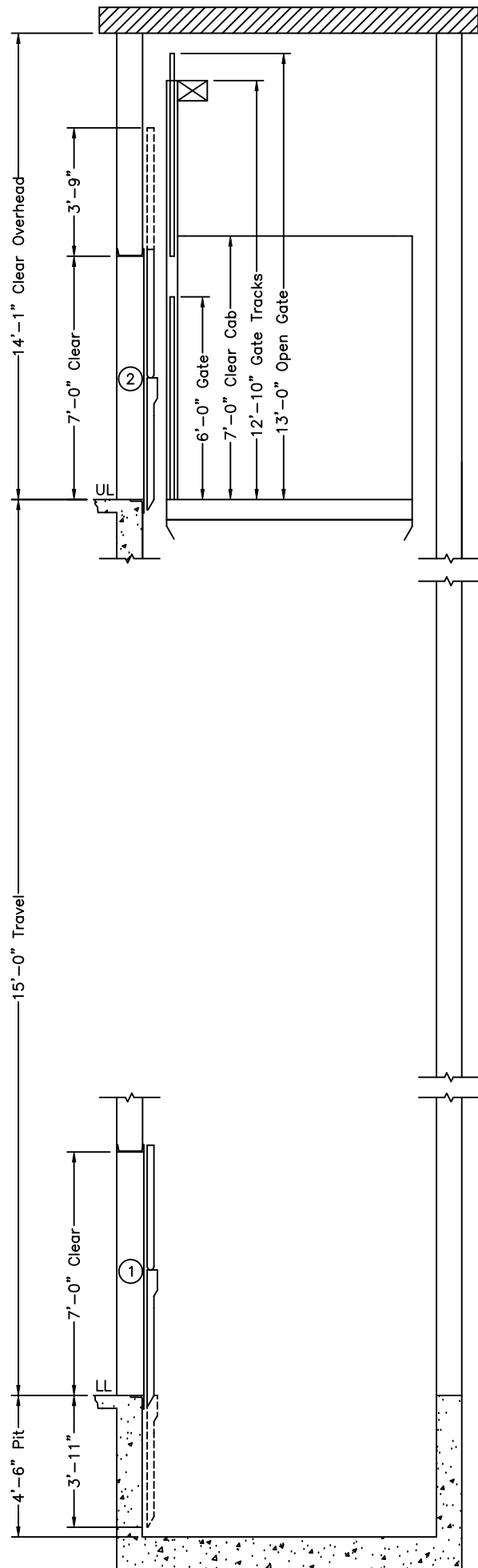
ELEVATION



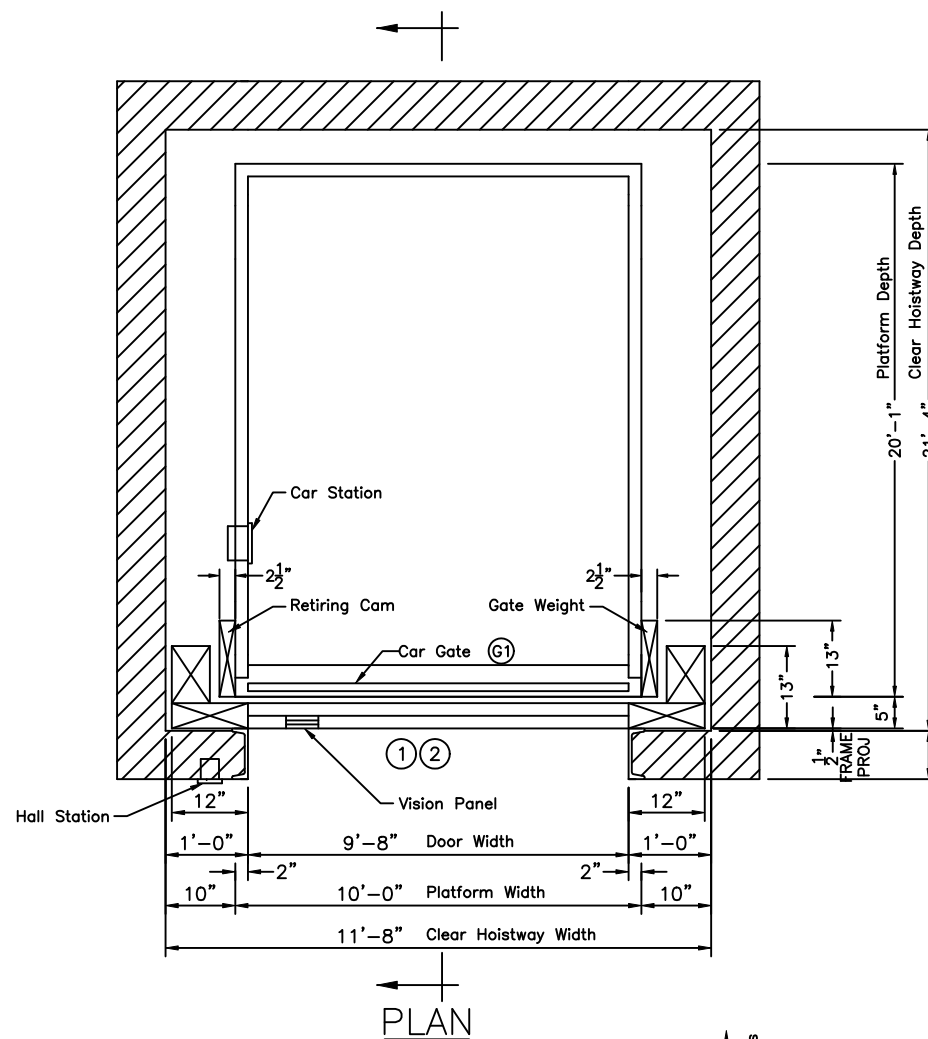
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St. Louis, MO 63115

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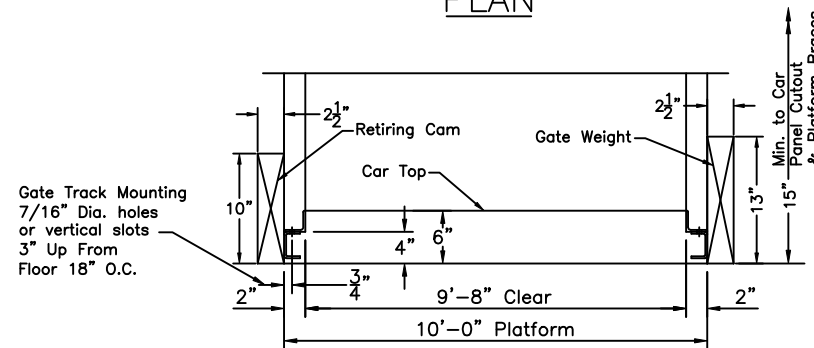
FORM # ED8520



ELEVATION

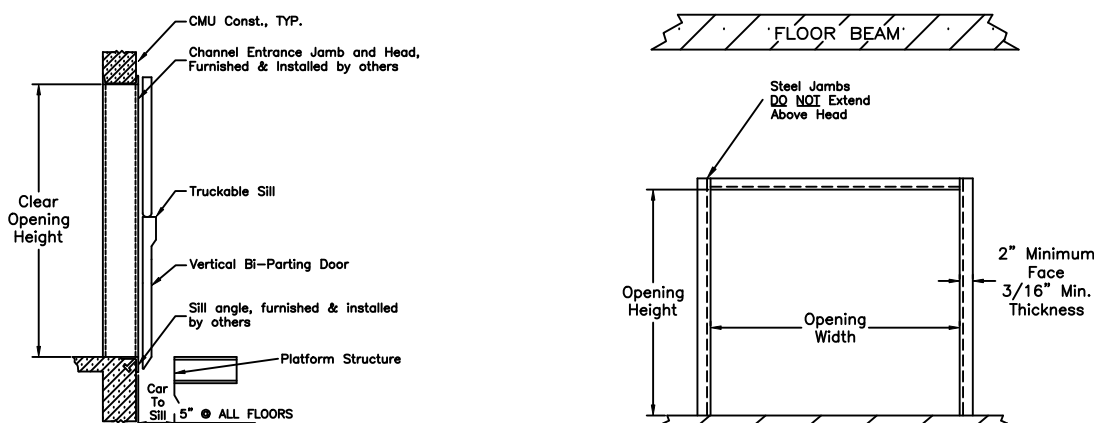


PLAN



Ⓔ As Shown

ENCLOSURE DETAIL



Freight Door Arrangement Print Only

GENERAL NOTES

- ENTRANCE FRAMING:
 - * ENTRANCE FRAMING TO BE SUPPLIED BY OTHERS. (INSTALLATION OF FRAMING NOT BY EMS GROUP, INC.)
 - * STEEL JAMBS TO HAVE 3/16" MINIMUM THICKNESS AND A 2" SHAFTSIDE FLANGE.
 - * JAMBS MUST BE SET PLUMB ONE ABOVE THE OTHER AND SQUARE WITH THE HOISTWAY WALLS. WALLS MUST NOT PROJECT BEYOND SHAFTSIDE FLANGE OF ENTRANCE FRAME.
 - * HOISTWAY WALLS CONSTRUCTED OF MATERIALS OTHER THAN POURED CONCRETE, FILLED CMU OR BRICK MUST HAVE STEEL JAMBS EXTENDING FROM SILL TO BEAM ABOVE.
- EMS DOORS, GATES AND ASSOCIATED MATERIALS TO BE SUPPLIED WITH BAKED POWDER COAT FINISH. COLOR: EMS MEDIUM GREY (DOOR GUIDES ARE NOT PAINTED)

- EMS CAR GATE IS EQUIPPED WITH A REOPENING DEVICE ACROSS THE BOTTOM OF THE CAR GATE PANEL.

- (2) 6'-0" HIGH LIGHT CURTAINS ARE PROVIDED FOR EACH GATE. THE LIGHT CURTAINS WILL BE ATTACHED TO THE GATE TRACKS AND PROJECT A CURTAIN BETWEEN THE CAR GATE TRACKS AND THE SPACE BETWEEN THE CAR GATE AND FRONT EDGE OF CAR PLATFORM. IT WILL WORK IN CONJUNCTION WITH THE REVERSING DEVICE ON THE BOTTOM OF THE CAR GATE. UNDERWRITERS LABELING

EMS GROUP FREIGHT DOORS ARE SUPPLIED WITH U.L. 1-1/2 HOUR "B" LABELS.

CODE REQUIREMENTS

THIS DRAWING IS PREPARED SHOWING MATERIAL FURNISHED IN COMPLIANCE WITH THE ANSI/ASME A17.1 SAFETY CODE FOR ELEVATORS AND ESCALATORS.

DISCONNECTS

THE NATIONAL ELECTRIC CODE, ARTICLE 620-51 REQUIRES THAT ONE DISCONNECT BE USED TO REMOVE POWER FROM ALL CONTROLS. IF LOCAL JURISDICTION REQUIRES SEPARATE DISCONNECTS, THEN EACH CONTROL SHOULD HAVE ITS OWN "WARNING" SIGN PER N.E.C. ARTICLE 620-52.

DOOR CONTROL TO ELEVATOR CONTROL INTERCONNECTION INFORMATION PER DOCUMENT: #FD9201A DRIC

TECHNICAL DATA

SUPPLY VOLTAGE TO DOOR CONTROL: 480 VAC 3 Ph 60 Hz: 15A MAX

CAPACITY: 8000 lbs. CLASS: B

ELECTRICAL CLASSIFICATION: HOISTWAY: NEMA 1 MACHINE ROOM: NEMA 1

GATE/CAM WEIGHT ON CAR: 730 lbs.

DOOR & GATE TRAVELER LENGTH: 100 Ft.

DOOR AND GATE EQUIPMENT

QTY.	DESCRIPTION	SIZE	MARKED
Power Operated Doors and Gates			
2	Regular bi-parting steel plate freight door	9'8" x 7'0"	Ⓔ Ⓕ
1	Single section mesh car gate	9'8" x 6'0"	Ⓔ
2	Door interlock		
1	Retiring Cam		
1	RCLIPS Door & Gate Control		
1	Wiring Package		

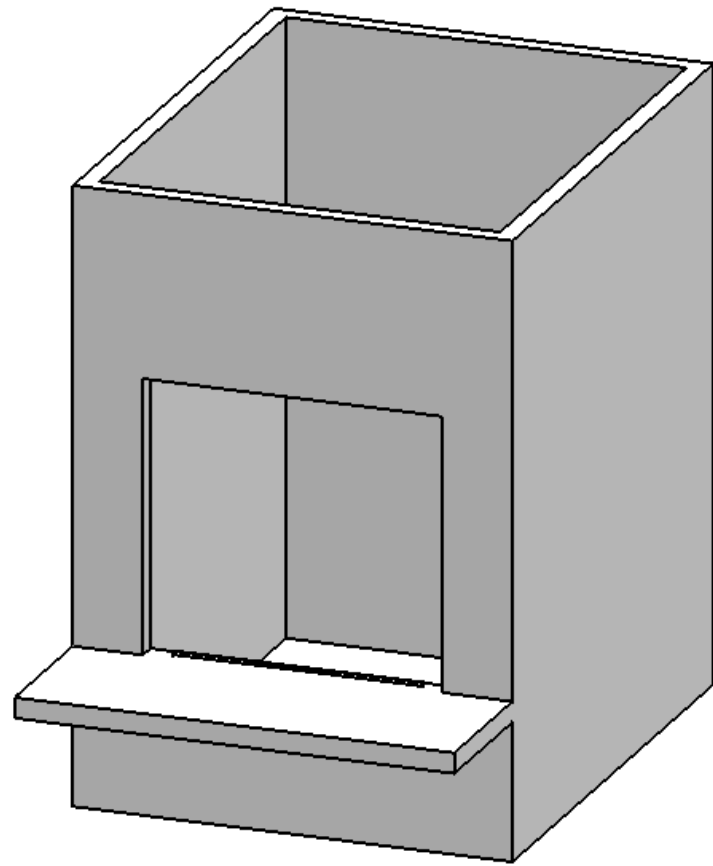
REVISION

DATE

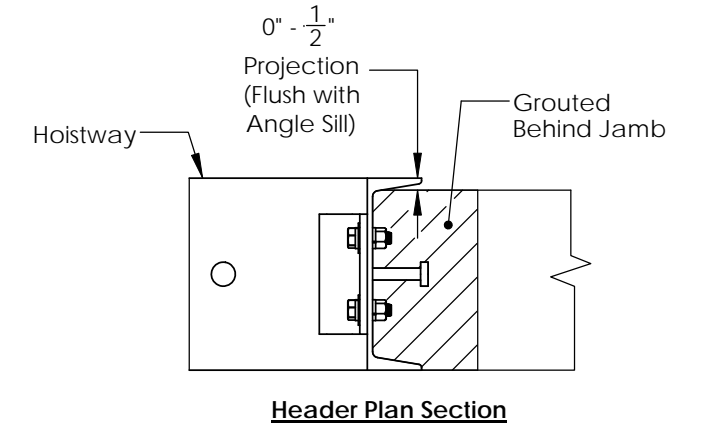
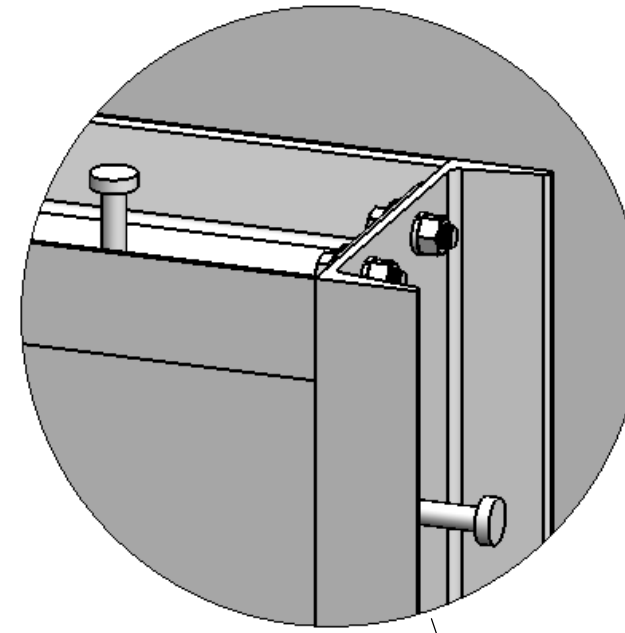
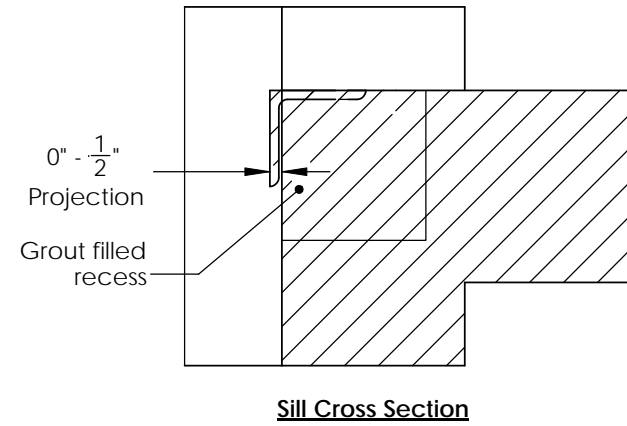
REVISION	DATE
1	
2	
3	
4	



PROJECT NAME:	8000# AUTOLIFT
LOCATION:	CITY, STATE
ARCHITECT:	.
GEN. CONT.:	.
ELEV. CONT.:	.
ELEV. CONT. #:	.
DATE:	..
PROJ. NO.:	..
DWG.:	HL1

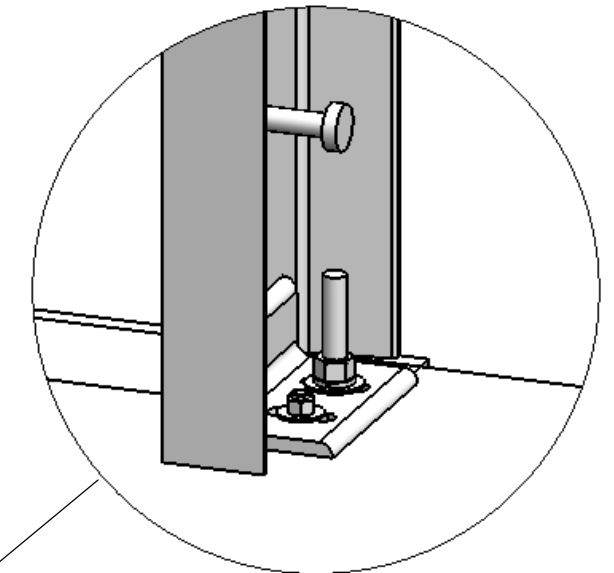
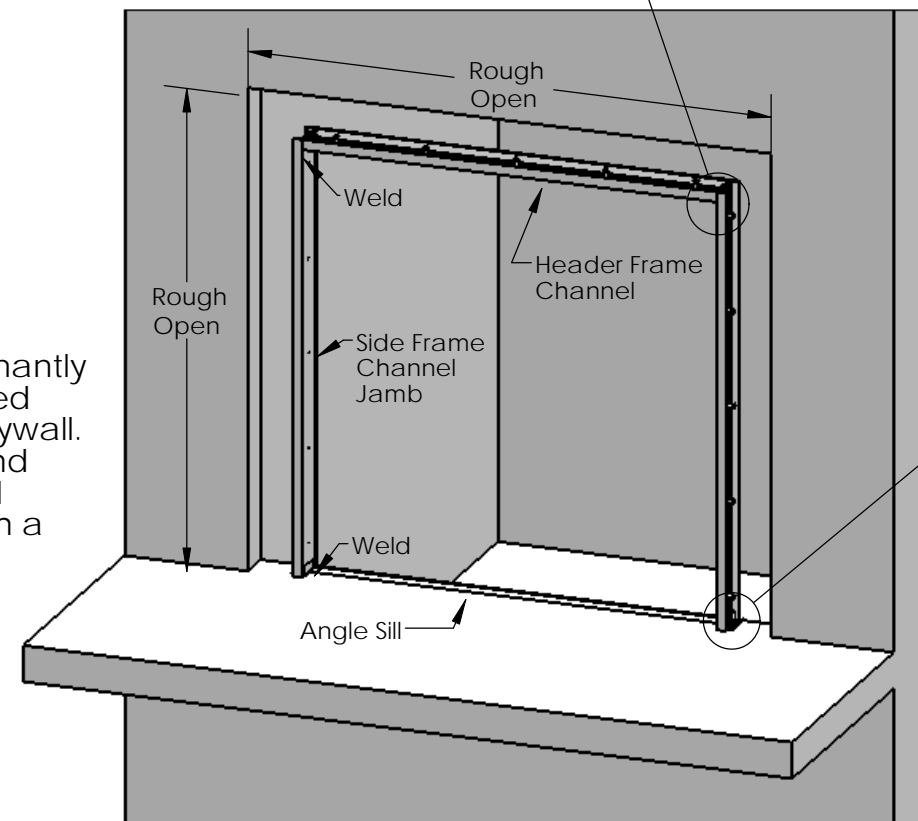


Typical Hoistway Construction



Typical Entrance Frame Installation

Entrance framing is typically fabricated using structural steel C-Channels. Trucked load weights onto and from the elevator are transmitted directly to the Angle Sill and possibly the Entrance Frames- special considerations must be made when designing and fabricating the Entrance Framing. Entrance Framing must be permanently secured to the building structure by code. Typical elevator hoistways are constructed using one or a combination of materials including concrete, block masonry, and drywall. Angle Sills are typically set flush with the finished floor, may include a tread plate, and are grouted in during construction. Side jambs must be secured to the angle sill and the building structure. The header channel is secured to the side jambs typically with a mechanical fastener or welded connection. Header frames typically are not engineered to support the weight of the building structure above the entrance.



Transmitted Loads to Structural Frames and Sill from Freight Elevator Doors

Total weight of all door equipment hanging on the structural frames: - lbs.

Transmitted Load to the Sill Angle from the doors during trucking across top of door panels: - lbs



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info@emsdoors.com

JOB NO: -

DATE: 27 FEB 14

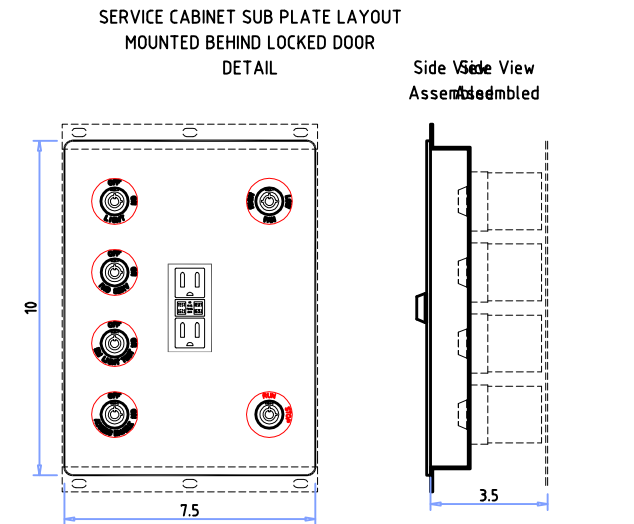
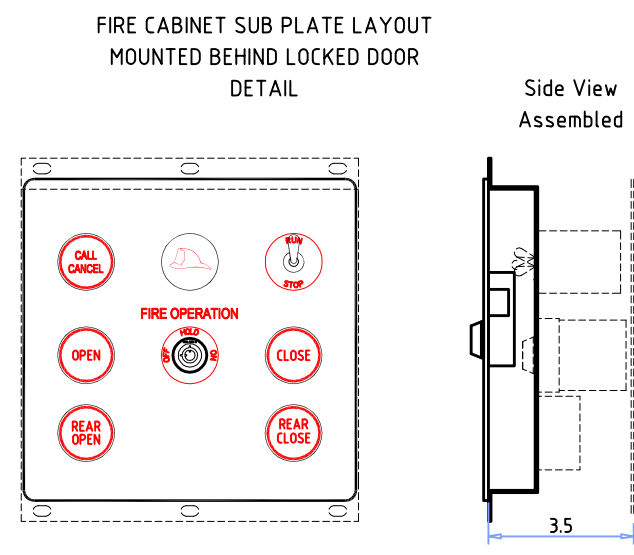
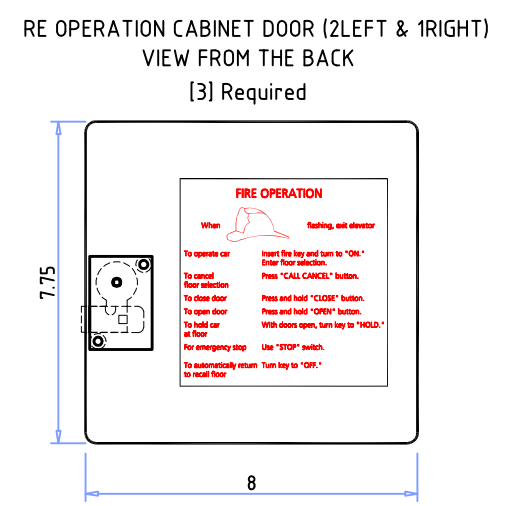
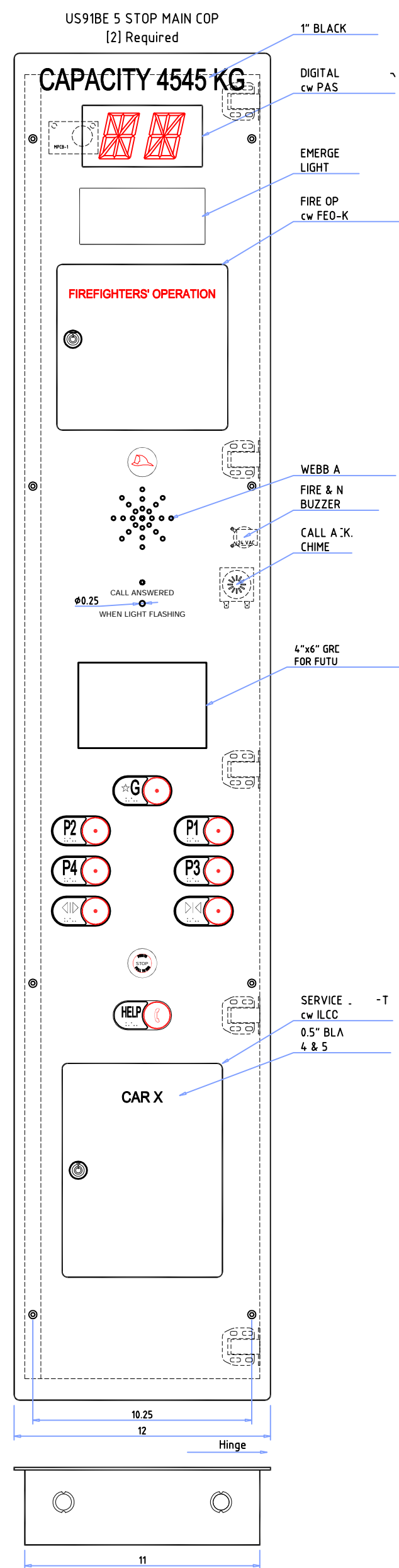
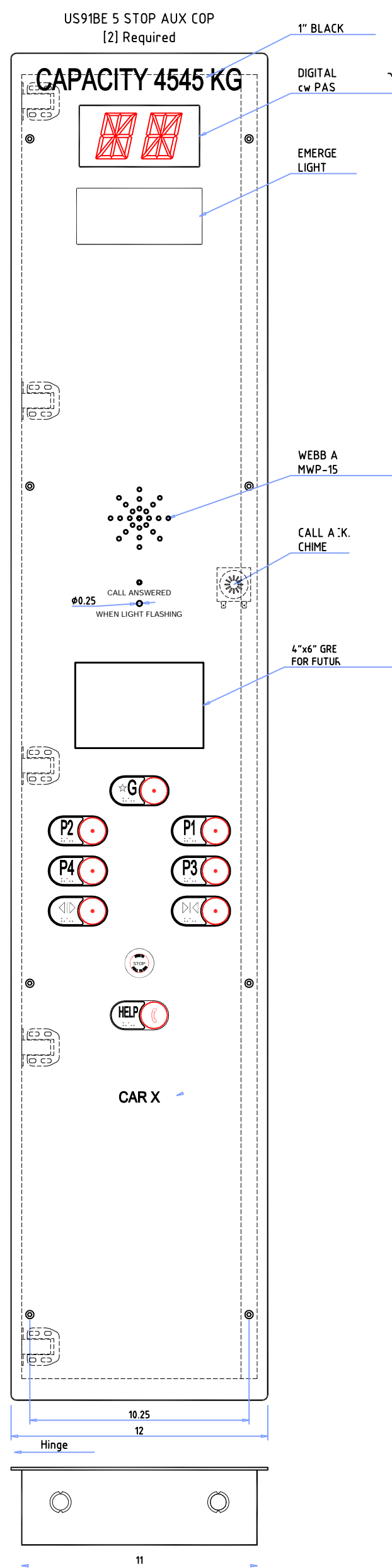
DRAWING NO.

REV.

SHEET 1 OF 1

Car & Hall Fixture Sample Drawings





CONTROLLER: GAL

MATERIALS	
Face Plates	12Ga SS #4 Brush Finish, Grain Vertical (unless noted)
Back Box	16Ga Satin Coat
PUSHBUTTONS / BRAILLE	
Pushbutton Style (COP)	US91BE C3, Red Moulding
Alarm Pushbutton (COP)	N/A
Call Cancel Pushbutton	US91 C3, RED, 1N/O 1N/C Non-III -Flush Mount
Contacts (COP)	2 N/O for All Buttons UNLESS NOTED
Button Illumination Type	24V RED L.E.D.
D/O, D/C Button Illumination	Non Illuminated, 1N/O 1N/C
Phone Button Illumination	Non Illuminated
Braille Type	TAG91
VISUAL INDICATORS	
Fire Hal Indicator	UL91 Indicator, 24V Red LED Illuminated
AUDIBLE INDICATORS	
Fire Nudging Buzzers	24VAC
Call Ack. Chime	24VAC (24VDC-DIODE)
MISC	
Hinge Side of C.O.P.	RIGHT (MAIN) & LEFT (AUX)
Emergency Light	Dupar Complete LED Unit, with Battery
COMMUNICATIONS	
Auto Dialer	WEBB installed by Dupar (MWP-150 IN MAIN & MWP-150-RSM IN AUX COP)
KEYSWITCHES	
Fire Service Cabinet Lock	FEO-K1 Barrel (Key removable @ 12 O'Clock Only)
Service Cab Lock	ILCO X4001 Barrel (Key removable @ 12 O'Clock Only)
Ind Service K/S	US91STXR2C1 (ILCO 4001 Key, 2 Pos. Removable in Both, 2NO, 2NC contacts)
Light K/S	US91STXR2A8 (ILCO 4008 Key, 2 Pos. Removable in Both, 2NO contacts)
Fan (2 speed) K/S	US91STXR3T1 (ILCO 4001 Key, 3 Pos. Removable in All, 2NO, 1NC contacts)
Inspection K/S	US91STXR2C2 (ILCO 4002 Key, 2 Pos. Removable in Both, 2NO, 2NC contacts)
Run/Stop K/S - in Car Station	US91STXR2C2 (ILCO 4002 Key, 2 Pos. Removable in Both, 2NO, 2NC contacts)
Run/Stop - in Fire Operation Cab.	2 Positions toggle switch
Emergency Light Test	US91STXR1Q1 (ILCO 4001 Key, Spring return, 1NO 1NC contacts)
Fire Operation K/S (Car)	US91STXR2TK1 (FEO-K1, 3 Pos., trapped in "ON", 2NO, 2NC contacts)
PUSH TO STP/PULL TO RUN (1NO 1NC)	
DIGITAL P.I. & VOICE ANNUNCIATOR	
Car	MH122-RR (TWO DIGITS)
Voice Annunciator	N/A
Floor Markings CAR 4, 5	P4,P3,P2,P1,xG (P4,P3,P2,P1 OPEN AT REAR)

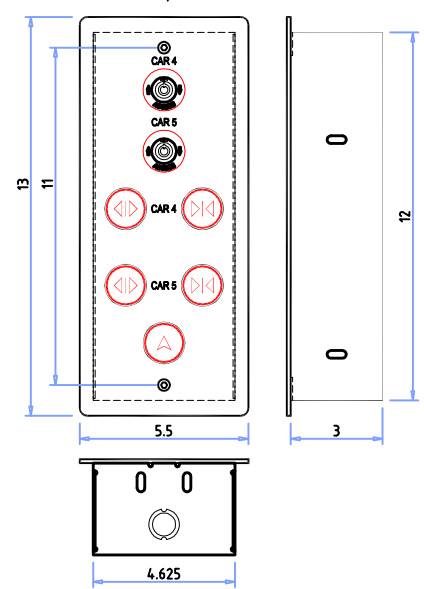
CUSTOMER TO PROVIDE WIRING DIAGRAM UPON APPROVAL

Itemref	Quantity	Title/Name, designation, material, dimension etc	Article No./Reference
APPROVAL OF THIS DRAWING IS YOUR ACCEPTANCE THAT ALL DATA CONTAINED THEREIN IS CORRECT. CHANGES REQUIRED AFTER APPROVAL MAY INCUR EXTRA COST.			
Designed by	Checked by	Approved by - date	Customer Date
<input type="checkbox"/> APPROVED AS NOTED <input type="checkbox"/> REVISE AS NOTED <input type="checkbox"/> RESUBMIT DRAWINGS <input type="checkbox"/> RELEASE FOR FABRICATION <input type="checkbox"/> _____ NAME (PRINT)		SIGNATURE _____ DATE _____ DRAWING MUST BE SIGNED AND DATED HERE BEFORE MANUFACTURE WILL BEGIN. NO OTHER APPROVAL STAMP(S) DISCLAIMERS, MARKINGS, ETC., ARE ACCEPTED.	

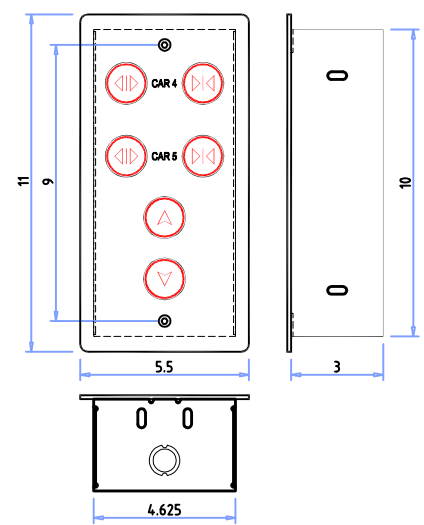
Edition 6
Sheet 1/2

Sample Dwg

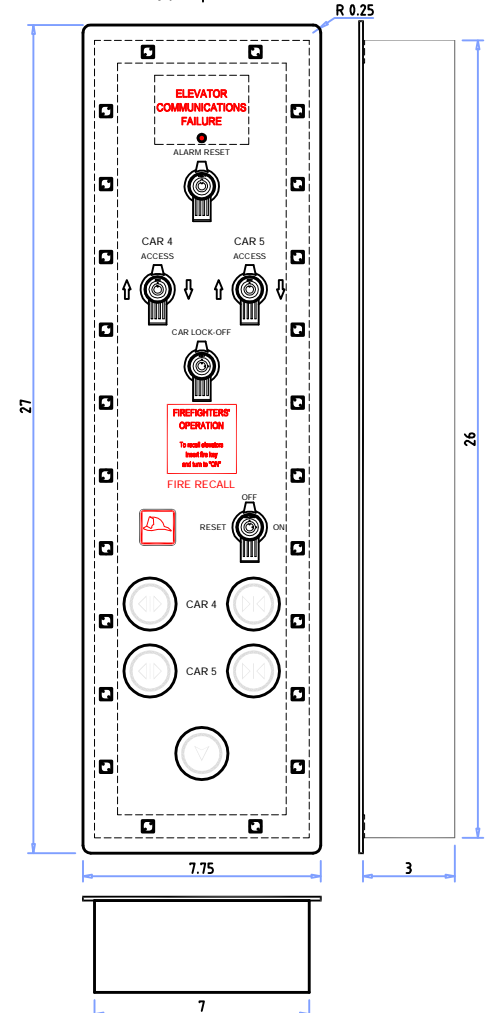
US91 TERM UP HS cw DO/DC & ACCESS (1) Required



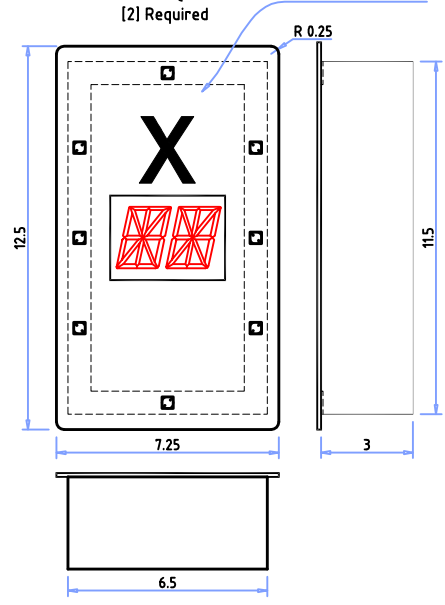
US91 INTERM HS cw DO/DC (3) Required



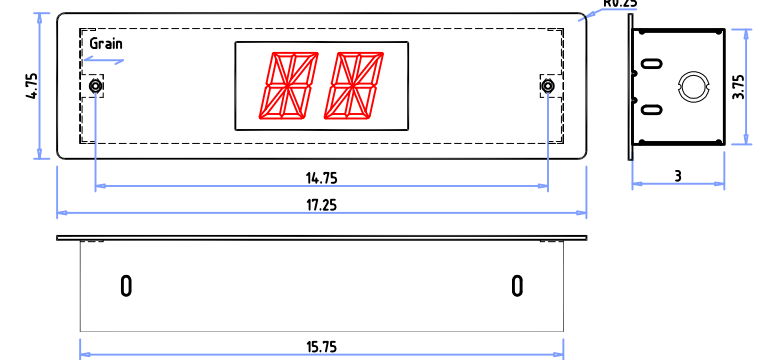
WATER PROOF
US97 TERM HS cw PH1 & COMMUN. FAILURE (@ FL G)
(1) Required



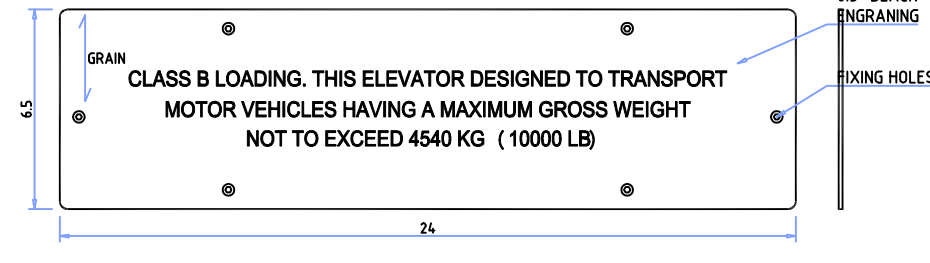
WATER PROOF
HALL PI (@FL G)
(2) Required



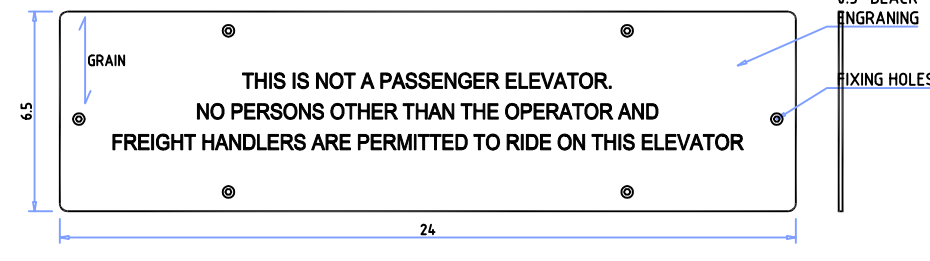
HALL PI (@ FL P1,P2,P3,P4)
(8) Required



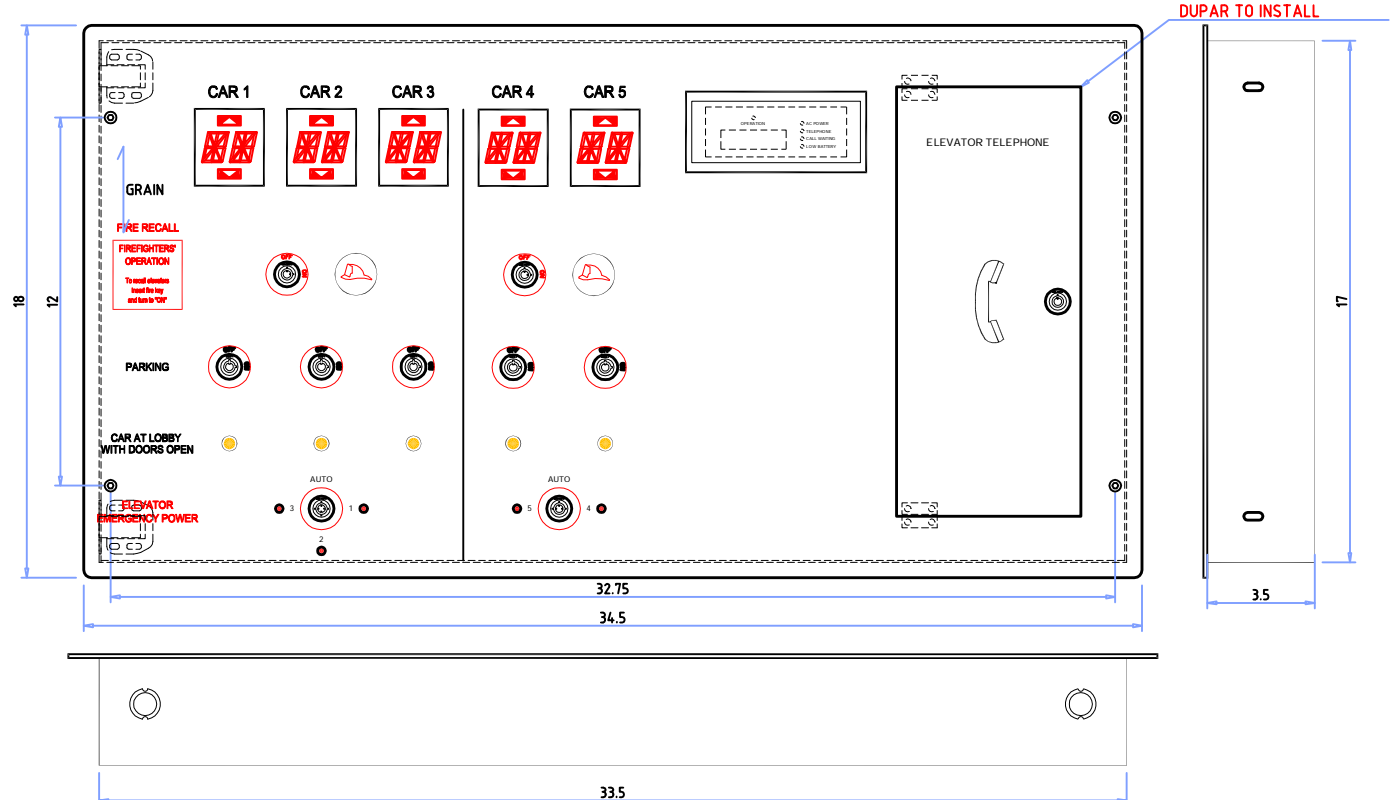
Engraved Sign
(2) Required



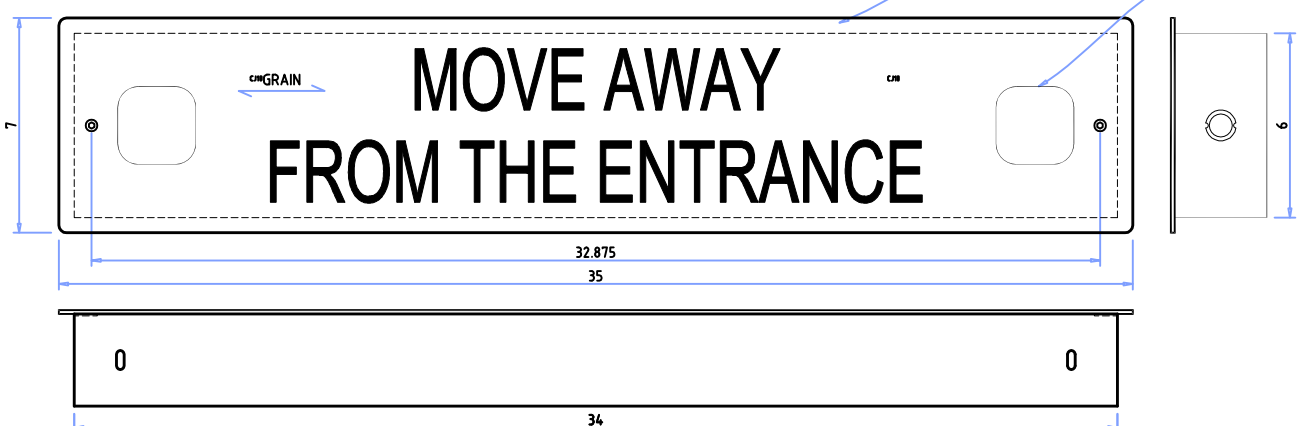
Engraved Sign
(2) Required



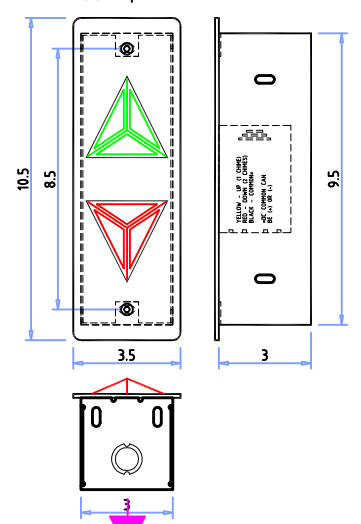
Lobby Panel
(1) Required



ENGRAVED PLATE CW 2 C/J10 FLASHER & BUZZER UNIT
Material: 12Ga SS
(2) Required



CAR DI cw CHIME
(8) Required



CONTROLLER: GAL	
MATERIALS	
Face Plates	12Ga SS #4 Brush Finish, Grain Vertical (unless noted)
Back Box	16Ga Satin Coat
PUSHBUTTONS	
Pushbutton Style (HS)	US91 C3, Red Moulding & US97EN 24V WHITE LEGEND/RED HALO (WATER PROOF)
Contacts (H/S)	2 N/O for All Buttons UNLESS NOTED
Button Illumination Type	24V RED L.E.D.
VISUAL INDICATORS	
Fire Hat Indicator	UL91 Indicator, 24V Red LED Illuminated
Emergency Indicator	0.25" diameter, AMBER 24V
Car at Lobby Indicator	0.5" Diam Indicator, 24V Amber LED Illuminated
Move away Indicator	US85, RED 24V Illumin.
Direction Arrows	2.625" c/w 24V RED (down) & GREEN (up) LED Boards
AUDIBLE INDICATORS	
Car Lantern Chime	24V (1 up, 2 down)
KEYSWITCHES	
Fire Recall K/S (Hall)	RSFK1 (FEO-K1, 3 Pos., trapped in "RESET")
Communication failure	RPAB1 (ILCO 4001 Key, Spring return)
Parking K/S	US91STRZC1 (ILCO 4001 Key, 2 Pos. Removable in Both, 2NC contacts)
Emergency Power (Car 1, 2, 3) K/S	US91STR3TK1 (ILCO key FEOK1, 3 Pos., Removable in All, 2NO, 1NC contacts)
Emergency Power (Car 4, 5) K/S	US91STR4WK1 (ILCO key FEOK1, 4 Pos., Removable in All, 3NO, 1NC contacts)
Access K/S (@ FL P4)	US91STRIS2 (ILCO key 4002, Double Spring Return, 4NO contacts)
Access K/S (@ FL G)	RR002 (ILCO key 4002, Double Spring Return)
Car Lock-off K/S	RPAB1 (ILCO key 4001, Spring Return)
DIGITAL P.I.	
Hall P.I.	MV222-RR(ON WATER PROOF) (TWO DIGITS) & MH22-RR(TWO DIGITS)
Lobby P.I.	MSV21-RR (TWO DIGITS)
Floor Markings CAR 4, 5	P4,P3,P2,P1,G (P4,P3,P2,P1 OPEN AT REAR)

Itemref	Quantity	Title/Name, designation, material, dimension etc	Article No./Reference
APPROVAL OF THIS DRAWING IS YOUR ACCEPTANCE THAT ALL DATA CONTAINED THEREIN IS CORRECT. CHANGES REQUIRED AFTER APPROVAL MAY INCUR EXTRA COST.	<input type="checkbox"/> APPROVED AS NOTED <input type="checkbox"/> REVISE AS NOTED <input type="checkbox"/> RESUBMIT DRAWINGS <input type="checkbox"/> RELEASE FOR FABRICATION <input type="checkbox"/> _____ <input type="checkbox"/> _____	SIGNATURE _____ DATE _____ NAME (PRINT) _____	DRAWING MUST BE SIGNED AND DATED HERE BEFORE MANUFACTURE WILL BEGIN. NO OTHER APPROVAL STAMP(S) DISCLAIMERS, MARKINGS, ETC., ARE ACCEPTED.
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