

# Camlins

Client: Pegasus Life

Title : Landscape Design Risk Assessment

Location: Fitzjohn's Ave.

Key to Risk		Unacceptable
		Undesirable
		Negligible
		Acceptable

Hazard Ref	INITIAL ASSESSMENT						MITIGATION	ASSESSMENT FOLLOWING MITIGATION			
	Hazard Description	Consequence of Hazard	Severity	Likelihood	Risk	Risk	Mitigation Description	Severity	Likelihood	Risk	Residual Risk
<b>PEDESTRIAN FOOTWAYS</b>											
P1	Pedestrians walking in front of Access to Car Stacker	Pedestrian being struck by Cars	3	3	9	Acceptable	Public footways are a minimum 2m wide, signs will warn pedestrians of vehical access car speeds will be low. Different Materials and Bonding to surfacing to be used to distinguish extent of parking bay. Different materials demarcating pedestrian sanctuary.	3	2	6	Acceptable
P2	Wet surfaces of Pedestrian Access and Steps causing slip and trip hazard	Pedestrian injury	2	3	6	Acceptable	Selection of non slip materials. Avoidance of surface water and potentially any ice build up through cross falls and positive drainage gully system.	2	3	6	Acceptable
P3	Wet surfaces to ramps and access ramps	Pedestrian injury	2	4	8	Acceptable	Provide non-slip surface to ramp. Keep ramp slope to requirements of DDA (1 in 15 max). Provide suitable alternative step route if appropriate	2	3	6	Acceptable

P4	Pedestrians being caught in the mechanical equipment associated with automatic car stacker	Pedestrian injury	5	3	15	Undesirable	Safety Warning Signage. User training and regular safety instruction. The moving equipment is located away from the car stop and the entrance to the garage away from the switch to mechanisms. Safety barrier and kill safety switch as suppliers recommendation. Hard Surface would include different material finishes and textures to clearly highlight the danger areas and physical to direct pedestrians away from the moving parts . Safety requirements of Supplier of Car Stacker Equipment to advise.	5	2	10	Acceptable
P5	Vehicle conflict due to access and loading in pedestrianised area.	Pedestrian injury.	3	3	9	Acceptable	Limit loading and access to times when there are low pedestrian flows.	3	2	6	Acceptable
P6	Uneven Surfaces problems for those with impaired mobility. Covers and Gratings. Surfaces kept dry.	Trip hazard reduced mobility and safe walking areas	3	3	9	Acceptable	Mortared joints in evenly laid paving . Covers flush and gratings at right angles to direction of travel out of the flow with openings no greater than 13mm.	3	1	3	Negligible

Highway											
HW1	Collision between exiting cars and road vehicles in shared sections of highway	Passenger / driver / pedestrian injury, damage to vehicles, disruption to traffic	4	3	12	Undesirable	Provide different coloured road surface and road markings in shared lane to ensure that drivers are aware of shared status. Appropriate warning signs will be erected, public to be supplied with information on tram safety. Owner resident drivers to undergo training.	4	2	8	Acceptable
HW2	Exiting reversing vehicles being obscured from drivers on Prince Arthur Road by parked vehicles .	Serious damage to vehicles and potentially fatal to personnel. Disruption to traffic and trams	5	3	15	Undesirable	Establish Clear Visibility Splay behind boundary wall. Provide concealed entrance warning signage and solid lines as carriageway centre line to discourage reckless overtaking, low traffic flows expected. Urban environment, therefore low traffic speeds.	5	1	5	Negligible

VEHICLE AREAS											
VA1	Allocation of Loading and Parking areas along the footway. Loss of parking / loading bays on High Street, resulting in hazardous / illegal parking.	Customers and deliveries may park on the High Street, causing an obstruction. Health and safety issues related to increasing distances to transport goods, accidents due to dangerous parking.	3	4	12	Undesirable	Strategic placing of signs and use of leaflets to inform public / retailers about problems associated with parking on carriageway in shared running. Use of rear loading facilities.	3	4	12	Undesirable
VA2	Kerb	Too high creating disabled access problems	3	2	6	Acceptable	Provide step free and gap free LEVEL ACCESS access to building , Ramps with max 1 in 15 slope.	3	1	3	Negligible
VA3	Pedestrian Crossings	Pedestrian injury struck by vehicle	4	3	12	Undesirable	Ensure clear visual splay at crossing. Provide different coloured road surfaces and road markings. Use of tactile paving at edge of footway.	4	2	8	Acceptable
VA3	Loss of Parking/loading bays on Prince Arthur Road.	May cause disruption and potential vehicle accident . Health and safety issues relative to delivering heavy goods.	3	3	9	Acceptable	Strategic placing of signs and use of leaflets to inform public / residents about problems associated with parking on non designated areas .	3	2	6	Acceptable
VA4	Parking Lay-by	Pedestrian Injury	3	2	6	Acceptable	Signage, textured and coloured paving	3	1	3	Negligible
VA5	Safe Carriageway at Controlled Pedestrian Crossings	Pedestrian Injury	3	2	6	Acceptable	Include pedestrian detectors at crossing. Refuge island so that pedestrians can cross in two stages	3	1	3	Negligible
VA6	Central Reserve Surfacing and Kerbs	Pedestrian Injury due to walking in the carriageway	3	2	6	Acceptable	1m wide emergency footway.	3	1	3	Negligible

CYCLE											
CY1	Collision between cyclist and pedestrian on footway	Injury to cyclist / pedestrian and damage to bicycle	3	2	6	Acceptable	Safe cycle provisions to include cycle storage in this section. Consider formal Warning to dismount on Pavement. Level access route to cycle storage area.	3	2	6	Acceptable

UTILITIES											
U1	Conflict with services	Damage to apparatus and injury to construction worker	5	5	25	Unacceptable	Obtain locations of existing and abandoned apparatus. Confirm locations and depth by trial holes prior to construction. Liaise with Utilities companies to protect or divert services where necessary. Pegasus Life have appointed an M&E Consultant and Utilities Consultant. See Also Symmetrys Engineering DRA.	4	1	4	Negligible
U2	Maintenance of utilities plant and apparatus (severely congested in this area) may restrict footway width or result in the need to close traffic lane	Personal injury as pedestrian is forced to walk in the carriageway and is struck by a vehicle. Unsafe working area for workers. Space restrictions during maintenance periods	4	3	12	Undesirable	This will be addressed by Max Fordham M&E, but is likely to entail traffic management measures providing safe access routes for pedestrians.	4	2	8	Acceptable

CONSTRUCTION											
C1	Interruption of Emergency Services during Construction Works	Emergency Services cannot reach required destination quickly enough	5	3	15	Undesirable	Ensure measures in place to allow Emergency Services through when deliveries and maintenance are occurring on site. Refer to Construction Code of Practice.	5	2	10	Acceptable
C2	Contaminated ground	Soil Contamination and construction generated contamination may affect health of public and construction workers	3	2	6	Acceptable	Ground investigation. Contractor to train staff and provide suitable PPE. Measures for disposal to ensure dust is not formed. Material to be removed to licensed tip using registered haulage contractor. Refer to Construction Code of Practice.	3	1	3	Negligible
C3	Use of resins and other materials including coated rails	Materials may affect health of construction workers	3	2	6	Acceptable	Contractor to prepare method statement and provide suitable PPE to staff. Materials to be recorded in H&S file for reference during maintenance works. Refer to Construction Code of Practice.	3	1	3	Negligible
C4	Normal construction hazards associated with lifting and reaching	Injury to construction worker	4	4	16	Unacceptable	Use appropriate lifting systems, manageable components etc. Contractor to consider in developing Method Statements. Refer to Construction Code of Practice.	4	2	8	Acceptable
C5	Connections of drainage system to existing sewers (combined sewers). Risk of contact with vermin and Weils Disease	Injury to construction worker	3	3	9	Acceptable	Use of appropriate PPE by contractor's and maintenance personnel. Provision of warning notices and information in H&S file and maintenance manuals. Refer to Construction Code of Practice.	3	2	6	Acceptable
C6	In Installation of Green Roof the fixing of Safety line apparatus to buildings may affect structure of building .	Damage to building, injury to construction worker	4	2	8	Acceptable	Obtain specific engineering details for safety guide locations. Refer to Construction Code of Practice.	4	1	4	Negligible

C7	Existence of basements and cellars adjacent to Landscape Works is expected, and construction works may result in collapse of cellar, or cellar may make design of work incorrect	Damage to building, injury to construction worker	4	3	12	Undesirable	Check with SBA Architecture and Symmetry Structural Engineering Drawings. Carry out detailed survey including use of "Ground Radar". Check information with Building Control. Refer to Construction Code of Practice.	4	2	8	Acceptable
C8	Construction works adjacent to adjacent buildings. Vibration may affect existing buildings	Damage to building, injury to construction worker	4	2	8	Acceptable	All adjacent buildings to be monitored for adverse effects of construction. Details of foundations etc to be sought. Condition survey to be carried out prior to design and construction. Refer to Construction Code of Practice.	4	1	4	Negligible
C9	Diversion of public footpaths and cycleways during the works may encourage public to try to cross site, or to use unsuitable routes	Injury to public	4	3	12	Undesirable	Ensure suitable alternative route is agreed with highway authority prior to closure of existing route. Refer to Construction Code of Practice.	4	1	4	Negligible
C10	Removal of and reconstruction of Garden walls and fences	Injury to construction workers and neighbouring residents.	4	4	16	Unacceptable	Take due care and attention and wearing PPE. Inform neighbouring property owner of programme. Stage demolition to strict working method statement after Engineering to make ground subsidence safe. If possible batter ground to expose working grade of foundations..	3	2	6	Acceptable
C11	Noise hazard to construction operatives	Injury to construction worker	3	3	9	Acceptable	Normal construction hazard. Contractor to provide appropriate PPE and consider in preparation of method statement. Refer to Construction Code of Practice.	3	2	6	Acceptable



C11	Noise and vibration hazards to neighbouring properties and members of public, due to construction works	Injury to construction worker and public	3	3	9	Acceptable	Comply with noise requirements of planning authority. Monitor areas of possible high noise and vibration. Refer to Construction Code of Practice.	3	2	6	Acceptable
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OPERATION											
O1	Normal hazards associated with lifting and reaching during normal operation	Injury to construction worker	4	4	16	Unacceptable	Use appropriate lifting systems, manageable components etc. Contractor to detail in H&S File	4	2	8	Acceptable
O2	Extended haul routes expose pedestrians and delivery people to risk from moving heavy goods	Injury to public	4	2	8	Acceptable	Provision of dedicated loading and access facilities maximised (see Loading and Access schedules)	4	2	8	Acceptable

MAINTENANCE											
M1	Maintenance services of	Damage to apparatus and injury to construction worker	4	3	12	Undesirable	Max Fordham M &E and a Utility Consultant has been appointed by Pegasus Life.	4	1	4	Negligible
M2	Maintenance of Ground Level Landscape	Damage to apparatus and injury to maintenance worker and residents	2	2	4	Acceptable	Plant non poisonous plants with low maintenance requirements. Use localized water taps. Safe working practice following maintenance stage risk assessment.	1	1	1	Acceptable
M3	Maintenance of Green Roof . Watering and general plant maintenance at height.	Damage to apparatus and injury to construction worker	5	3	15	Unacceptable	Plant low maintenance plants. Localized water taps. Man secure safety harnesses . Dedicated access routes. Safe working practice following maintenance stage risk assessment.	3	2	6	Acceptable

EXISTING AND PROPOSED TREE PLANTING											
TP1	Treatment of Trees	Injury at height	4	3	12	Undesirable	Qualified and detailed, assessment, Regular monitoring	4	2	8	Acceptable
TP2	Assessment of Trees and continued maintenance	Injury at height, long term potential maintenance assessment	4	3	12	Undesirable	Qualified and detailed, assessment, Regular monitoring	4	2	8	Acceptable
TP3	Felling of Mature Trees	Risk of falling or being hit by falling branches of equipment. Damage to adjoining structures and services. Risk to passing traffic.	4	3	12	Undesirable	Qualified and detailed, assessment, Regular monitoring. Timing and road closures as required. Advice sort from Tree Maintenance Ltd.	4	2	8	Acceptable
TP4	Removal of trees	Breach of the peace, Civil Disorder from protestors, Disruption to the Programme. Destruction of animal habitat	4	4	16	Unacceptable	Provide protection to the tree fellers, their equipment and their vehicles using security guards. Anticipate Local Hostility, Liaise closely with the police and Authorities	4	3	12	Undesirable
TP5	Planting replacement trees of	Working with heavy plant. Damage to existing services. Planted too close to or branches effect vehicles/trams and existing buildings.	4	3	12	Unacceptable	Fencing and Personal Health and safety equipment. Services/Utilities information. Plant selection, safe planting locations advice taken from Tree Maintenance Limited.	4	2	8	Acceptable
TP6	Normal hazards associated with lifting and reaching during normal operation	Injury to construction worker	4	4	16	Unacceptable	Use appropriate lifting systems, manageable components etc. Contractor to detail in H&S File	4	2	8	Acceptable

Assessment prepared by: Mike Cox

Date: 06/11/15

Checked by:

Approved by: