






DESERT ROSE



TEAM UOW AUSTRALIA - DUBAI SOLAR DECATHLON MIDDLE EAST 2018

 Desert Rose Team UOW Australia - Dubai	Team: TEAM UOW	Client:  Dubai Electricity and Water Authority  SOLAR DECATHLON MIDDLE EAST DUBAI, UAE - 2018	AMENDMENTS				COPYRIGHT None; Project is Public		COVER SHEET GE-001																											
	Address: UNIVERSITY OF WOLLONGONG WOLLONGONG NSW, AUSTRALIA 2522		<table border="1"> <thead> <tr> <th>REV.</th> <th>DESCRIPTION</th> <th>DATE</th> <th>DRAWN</th> <th>CHECK</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REV.	DESCRIPTION	DATE	DRAWN	CHECK																											LOT # M DRAWER L.FAIDUTTI CHECKED C.MCDOWELL DATE 20 February, 2018 SCALE N.T.S. @ A3	SHEET: 01 OF 01
	REV.		DESCRIPTION	DATE	DRAWN	CHECK																														
Contact: sd-2018@uow.edu.au www.desertrosehouse.com.au	DATE DRAWN CHECK	DATE 20 February, 2018	SHEET: 01 OF 01																																	
1	2	3	4	5	6	7	8	9	10																											

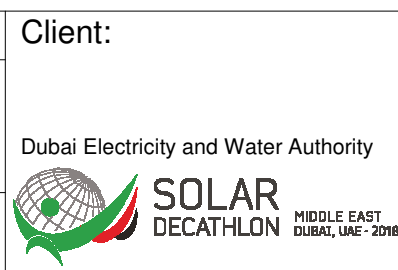
0. GENERAL (GE)		2. ARCHITECTURAL (AR)		3. INTERIORS (IN)		5. STRUCTURAL (ST)	
NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION	NO.	DESCRIPTION
GE-001	COVER SHEET	AR-001	SOLAR HAI PLAN	IN-001	FLOOR PLAN	ST-000	STRUCTURAL DRAWING ASSEMBLY
GE-101-01	SHEET LIST	AR-002	SITE PLAN	IN-101	REFLECTED CEILING PLAN	ST-001	SUBFLOOR LAYOUT
GE-101-02	SHEET LIST	AR-003	GROUND FLOOR VIEWS	IN-201	INTERIOR ELEVATIONS PLAN	ST-002	LOAD DISTRIBUTION TO PIERS
GE-201	GENERAL LEGEND AND NOTES	AR-011	GROUND FLOOR PLAN	IN-202	MASTER BEDROOM ELEVATIONS	ST-003	PIER ASSEMBLY
GE-301	EXTERIOR RENDERINGS	AR-012	GROUND FLOOR PLAN	IN-203	STUDY ROOM ELEVATIONS	ST-011	STRUCTURAL HOUSE FLOOR ASSEMBLY
1. RULES COMPLIANCE (RU)		AR-013	GROUND FLOOR PLAN	IN-204	LIVING ROOM ELEVATIONS	ST-012	HOUSE SUBFLOOR FRAMING
		AR-021	ROOF PLAN	IN-205	DINING ROOM ELEVATIONS	ST-013	SUBFLOOR / DECK FRAMING PROPERTIES
NO		AR-101	BUILDING ELEVATION SOUTH	IN-206	ENTRANCE ELEVATIONS	ST-016	STRUCTURAL WALL ASSEMBLY
Sheet Name		AR-102	BUILDING ELEVATION WEST	IN-301-01	FURNITURE DETAIL - BDJ	ST-017	STRUCTURAL WALL LAYOUT
RU-001	SOLAR ENVELOPE - 3D	AR-103	BUILDING ELEVATION NORTH	IN-301-02	FURNITURE DETAIL - BDJ	ST-018	TYPICAL ENDUROFRAME WALL
RU-002	SOLAR ENVELOPE - SITE PLAN	AR-104	BUILDING ELEVATION EAST	IN-302	FURNITURE DETAIL - LRJ	ST-019	ENDUROFRAME WALL STUD CAPACITIES
RU-003	SOLAR ENVELOPE - NORTH/SOUTH	AR-201	LONGITUDINAL SECTION 1	IN-401	KITCHEN PLAN	ST-021	STRUCTURAL ROOF ASSEMBLY
RU-004	SOLAR ENVELOPE - EAST/WEST	AR-202	LONGITUDINAL SECTION 2	IN-411	KITCHEN ELEVATION - WEST	ST-101	ISOMETRIC HOUSE STRUCTURE
RU-101	MEASURABLE AREA	AR-211	TRANSVERSAL SECTION 1	IN-412	KITCHEN ELEVATION - NORTH	ST-102	STRUCTURAL SECTIONS AND ELEVATIONS
RU-201	ARCHITECTURAL FOOTPRINT	AR-212	TRANSVERSAL SECTION 2	IN-413	KITCHEN ELEVATION - EAST	ST-201	STRUCTURAL SUBFLOOR BLOW UP
RU-301	RULES COMPLIANCE FLOOR PLAN	AR-301	DOOR AND WINDOW LOCATIONS - GF	IN-414	ISOMETRIC KITCHEN VIEWS	ST-202	TYPICAL SUBFLOOR CONNECTIONS
4. BIOCLIMATIC ANALYSIS (BA)		AR-302	DOOR AND WINDOW LOCATIONS - CL	IN-501	BATHROOM PLAN	ST-203	TYPICAL FLOOR MEMBER CONNECTION
		AR-303	WINDOW SCHEDULE	IN-511	BATHROOM ELEVATIONS AND FINISHES	ST-204	FLOOR TO WALL ASSEMBLY OVERLAP
NO.		AR-304	WINDOW DETAILING (W1)	IN-512	BATHROOM ELEVATIONS AND FIXTURES	ST-205	WALL TO WALL PARALLEL ASSEMBLY
DESCRIPTION		AR-305	WINDOW DETAILING (W2)	IN-513	W.C. ELEVATIONS	ST-206	WALL TO WALL PERPENDICULAR ASSEMBLY
BA-001	LOCAL CLIMATE ANALYSIS	AR-307	WINDOW DETAILING (W3)	IN-601	INTERIOR RENDERINGS	ST-207	WALL TO TRUSS ON STUD ASSEMBLY
BA-002	LOCAL CLIMATE ANALYSIS	AR-308	WINDOW DETAILING (W4)	6. PLUMBING (PL)		ST-208	WALL TO TRUSS OFF STUD ASSEMBLY
BA-003	LOCAL CLIMATE ANALYSIS	AR-311	DOOR SCHEDULE			ST-301	SECOND SKIN WALL ISOMETRIC
BA-004	SHADING ANALYSIS	AR-312	DOOR DETAILING (D1)	ST-302	SECOND SKIN WALL SITE PLAN		
BA-011	PASSIVE & HYBRID DESIGN STRATEGIES	AR-313	DOOR DETAILING (D2)	ST-303	SECOND SKIN WALL ELEVATION		
		AR-314	DOOR DETAILING (D3)	ST-304	SSW TYPICAL BRACKETS ASSEMBLY		
		AR-315	DOOR DETAILING (D4)	ST-305	WEST HOUSE BRACKET LOCATION		
		AR-316	DOOR DETAILING (D5)	ST-306	WEST CONCRETE BRACKET LOCATION		
		AR-317	DOOR DETAILING (D6)	ST-311	HOUSE BRACKET AND STEEL FRAME OVERLAY		
		AR-318	DOOR DETAILING (D7)	ST-321	WEST HOUSE BRACKET REACTIONS		
		AR-319	DOOR DETAILING (D8)	ST-322	SSW PIER LAYOUT AND REACTIONS		
		AR-320	DOOR DETAILING (D9)	ST-323	SSW BOTTOM CHANNEL LAYOUT		
		AR-321	FLOOR CONSTRUCTION DETAILS	ST-331	PANEL 1 TO 25 MANUFACTURING		
		AR-322	BATHROOM AND W/C FLOOR DETAILS				
		AR-331	ROOF DETAILS - 10DEG ROOF				
		AR-332	ROOF DETAILS - 10DEG ROOF				
		AR-333	ROOF DETAILS - 3DEG ROOF				
		AR-337	ROOF CONNECTION DETAILS 4				
		AR-338	ROOF CONNECTION DETAILS 5				
		AR-341	WALL SECTIONS/ CONSTRUCTION DETAILS				
		AR-342	INTERIOR WALL DETAILS				
		AR-351	PARTITION DETAILS				
		AR-401	RAMP AND RAILING DIMENSIONS				
		AR-402	NORTHERN RAMP				
		AR-403	SOUTHERN RAMP				
		AR-404	RAMP RAILING CROSS-SECTION				
		AR-405	DECK SCREEN				

 <p>Desert Rose Team UOW Australia - Dubai</p>	Team: TEAM UOW Address: UNIVERSITY OF WOLLONGONG WOLLONGONG NSW, AUSTRALIA 2522 Contact: sd-2018@uow.edu.au www.desertrosehouse.com.au	Client: Dubai Electricity and Water Authority 	AMENDMENTS <table border="1"> <thead> <tr> <th>REV.</th> <th>DESCRIPTION</th> <th>DATE</th> <th>DRAWN</th> <th>CHECK</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Updated Plans, Detailing and Template Adjustments</td> <td>01/02/18</td> <td>JR</td> <td>VP</td> </tr> <tr> <td>2</td> <td>Updated to As-</td> <td>14/09/18</td> <td>VP</td> <td>JR</td> </tr> </tbody> </table>	REV.	DESCRIPTION	DATE	DRAWN	CHECK	1	Updated Plans, Detailing and Template Adjustments	01/02/18	JR	VP	2	Updated to As-	14/09/18	VP	JR	COPYRIGHT None; Project is Public LOT # M DRAWER L. FAIDUTTI CHECKED C. MCDOWELL DATE 20 February, 2018 SCALE N.T.S. @ A3	SHEET LIST GE-101
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			SHEET: 01 OF 02																	

1		2		3		4		5		6		7		8		9		10	
A	7. SOLAR WATER HEATING (SW)			10. ELECTRICAL (EL)				13. SDME INSTRUMENTATION DRAWINGS (ID)				16. PUBLIC TOURS (PT)							
	NO.	Sheet Name		NO.	DESCRIPTION			NO.	DESCRIPTION			NO.	DESCRIPTION						
	SW-002	SOLAR THERMAL SYSTEM SCHEMATIC		EL-001	GRID CONNECTION			ID-001	GENERAL MONITORING PLAN			PT-001	SITE ACCESSIBILITY						
	SW-001	SOLAR THERMAL INFO AND DETAILS		EL-100	ELECTRICAL SCHEDULE/ LEGEND			ID-002	MONITORING PANEL ROOM			PT-101	HOUSE TOUR FLOOR PLAN						
B	8. FIRE PROTECTION (FP)			EL-101	POWER PLAN (SOCKET OUTLETS)			ID-003	ELECTRICITY METERS' TOPOLOGY			PT-201	HOUSE TOUR GENERAL INFORMATION						
	NO.	DESCRIPTION		EL-102	POWER PLAN (MAJOR DEVICES)			ID-004	ELECTRICITY METERS CONNECTION										
	FP-001-01	FIRE RATING COMPLIANCES		EL-201	LIGHTING PLAN			ID-005	HOUSE APPLIANCES										
	FP-001-02	FIRE RATING WALL FINISH PLAN		EL-202	LIGHTING DETAILS			ID-006	PLANT ROOM ELEVATIONS										
	FP-001-03	FIRE RATING WINDOWS AND DOORS		EL-203	LUX LEVEL DETAIL														
	FP-101	FIRE RATE CEILING FINISHING PLAN		EL-301	ONE-LINE DIAGRAM														
	FP-201	FIRE SUPPRESSION PLAN		EL-401	ELEC. PANELS/ CIRCUIT LAYOUTS/ GRND														
	FP-301	FIRE SUPPRESSION ISOMETRIC																	
C	9. MECHANICAL (ME)			11. PHOTOVOLTAIC SYSTEM (PV)				14. SITE OPERATION (SO)											
	NO.	DESCRIPTION		NO.	DESCRIPTION			NO.	DESCRIPTION										
	ME-001	HVAC DISTRIBUTION SCHEMATIC		PV-001	PV SYSTEM - ROOF PLAN			SO-001	OUTSIDE LOGISTICS - SOLAR HAI										
	ME-002	MECHANICAL LEGENDS/SCHEDULE		PV-002	PV SYSTEM - ARRAY WIRING PLAN			SO-101	LOT INSIDE LOGISTICS										
	ME-003	HVAC AIR DISTRIBUTION PLAN		PV-003	PV SYSTEMS LEGEND/ SCHEDULE			SO-201	ASSEMBLY / DISASSEMBLY										
	ME-004	HVAC WATER DISTRIBUTION PLAN		PV-011	PV SYSTEM ELEVATIONS - SOUTH			SO-202	ASSEMBLY / DISASSEMBLY										
	ME-005	HVAC SYSTEM ISOMETRIC VIEW		PV-012	PV SYSTEM ELEVATIONS - EAST			SO-203	ASSEMBLY / DISASSEMBLY										
	ME-011	HVAC EQUIPMENT - HEAT PUMP		PV-013	PV SYSTEM ELEVATIONS - WEST			SO-204	ASSEMBLY / DISASSEMBLY										
	ME-012	HVAC EQUIPMENT - DESICA		PV-101	PV SYSTEMS - GENERAL			SO-205	ASSEMBLY / DISASSEMBLY										
	ME-013	HVAC EQUIPMENT - DESICA DETAILS		PV-102	INVERTERS - GENERAL			SO-206	ASSEMBLY / DISASSEMBLY										
	ME-014	HVAC EQUIPMENT - FAN COIL UNIT		PV-103	BATTERIES - GENERAL			SO-207	ASSEMBLY / DISASSEMBLY										
	ME-015	HVAC EQUIPMENT - PUMP		PV-104	BATTERY METERING AND CONTROL			SO-208	ASSEMBLY / DISASSEMBLY										
	ME-016	HVAC EQUIPMENT RADIANT PANEL		PV-105	ENERGY STORAGE (S10 MINI) SCHEMATIC			SO-209	ASSEMBLY / DISASSEMBLY										
	ME-017	HVAC EQUIPMENT - PCM		PV-106	SOLAR PV CABLE TECHNICAL DATA			SO-210	ASSEMBLY / DISASSEMBLY										
	ME-018	HVAC EQUIPMENT - ERV		PV-107	SOLAR PV DC PROTECTION			SO-211	ASSEMBLY / DISASSEMBLY										
	ME-019	HVAC EQUIPMENT AND DETAILS		PV-108	SOLAR PV MODULE TECHNICAL DATA			SO-212	ASSEMBLY / DISASSEMBLY										
	ME-020	HVAC EQUIPMENT - DIFFUSERS		PV-109	EV CHARGER			SO-213	ASSEMBLY / DISASSEMBLY										
	ME-101	MECHANICAL ROOMS PLAN		PV-201	PV SYSTEMS - DC CIRCUITS														
	ME-102	MECHANICAL ROOM PLAN (SPLIT AREA 1)		PV-211	PV SYSTEMS - AC CIRCUITS														
	ME-103	MECHANICAL ROOM PLAN (SPLIT AREA 2)		PV-221	PV SYSTEMS - GROUNDING														
	ME-104	MECHANICAL INTERIOR ELEVATION 1																	
	ME-105	MECHANICAL INTERIOR ELEVATION 2																	
	ME-106	MECHANICAL INTERIOR ELEVATION 3																	
	ME-107	MECHANICAL INTERIOR ELEVATION 4																	
	ME-108	MECHANICAL INTERIOR ELEVATION 5																	
	ME-109	MECHANICAL INTERIOR ELEVATION 6																	
	ME-231	CONTROL AND AUTOMATION DETAILS																	
	ME-232	CONTROL AND AUTOMATION - DIN LAYOUT																	
	ME-233	PXC3.E75-100A ELECTRICAL CONNECTIONS																	
	ME-234	I/O MODULE 1 CONNECTIONS																	
	ME-235	I/O MODULE 2 & 3 CONNECTIONS																	
	ME-236	I/O MODULE 4 CONNECTIONS																	
	ME-237	I/O MODULE 5 & 6 CONNECTIONS																	
	ME-238	I/O MODULE 7 CONNECTIONS																	
	ME-239	I/O MODULE 8 & 9 CONNECTIONS																	
	ME-240	VALVE TERMINAL BOX CONNECTIONS																	
	ME-241	SENSOR TERMINAL BOX CONNECTIONS																	
D				12. TELECOMMUNICATIONS AND BUILDING...				15. HEALTH AND SAFETY (HS)											
				NO.	DESCRIPTION			NO.	DESCRIPTION										
				BAS-001	DESCRIPTION AND FEATURES			HS-001	HEALTH AND SAFETY										
				BAS-101	AUTOMATION WIRING PLAN (KNX)			HS-002	EMERGENCY EVACUATION PLAN										
				BAS-102	AUTOMATION WIRING (IP)			HS-101	ASSEMBLY / DISASSEMBLY										
				BAS-103	BUILDING WINDOW WIRING PLAN			HS-102	ASSEMBLY / DISASSEMBLY										
				BAS-201	SCH. DIAGRAM AND INTERFACES (KNX)			HS-103	ASSEMBLY / DISASSEMBLY										
				BAS-202	SCHEMATIC DIAGRAM AND INTERFACES (IP)			HS-104	ASSEMBLY / DISASSEMBLY										
				BAS-301	EQUIPMENT SCHEDULE/ LEGEND			HS-105	ASSEMBLY / DISASSEMBLY										
								HS-106	ASSEMBLY / DISASSEMBLY										
								HS-107	ASSEMBLY / DISASSEMBLY										
								HS-108	ASSEMBLY / DISASSEMBLY										
								HS-109	ASSEMBLY / DISASSEMBLY										
								HS-110	ASSEMBLY / DISASSEMBLY										
								HS-111	ASSEMBLY / DISASSEMBLY										
								HS-112	ASSEMBLY / DISASSEMBLY										
								HS-113	ASSEMBLY / DISASSEMBLY										
E																			
F																			
G																			



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SHEET: 02 OF 02

GE-101



1	2	3	4	5	6	7	8	9	10
STRUCTURAL GENERAL NOTES		EARTHQUAKE (KN) 30.50 HORIZONTAL SHEAR FROM UNIFORM BUILDING CODE: VOLUME 2 - VERTICAL SHEAR EQUALS 0KN AS PER UBC: VOLUME 2 SECTION 1630.5, AS STRUCTURAL PERIOD IS LESS THAN 0.7 SECONDS.			A = F/P A = 35.31kN / 100kPa $\sqrt{0.353} = 594\text{mm}$		SECOND SKIN WALL THE SECOND SKIN WALL IS MADE OF A LIGHTWEIGHT FOAMED CONCRETE INCORPORATING RECYCLED CRUSHED GLASS AS A CEMENT REPLACEMENT. TYPICAL DENSITY = 1200 TO 1300 kg/m ³ 28-DAY COMPRESSIVE STRENGTH = 7 TO 8 MPa 90-DAY COMPRESSIVE STRENGTH > 10MPa THE CONCRETE IS 50mm THICK AND 25 PANELS MAKE UP THE WALL. THE CONCRETE IS REINFORCED WITH TWO LAYERS OF C-GRID450 WHICH IS A CARBON-FIBRE 60X60mm GRID MESH. THE LONGITUDINAL STRANDS ARE ORIENTED VERTICALLY UP THE WALL IN THE PLANE OF BENDING. THE PROPERTIES OF THE C-GRID450 MESH ARE AS FOLLOWS		
DEAD WEIGHT TOTAL DEAD WEIGHT OF THE DESERT ROSE HOUSE = 307.19KN 256.92KN FROM THE FLOOR, WALLS AND ROOF, 50.27KN FROM THE SECOND SKIN WALL SURROUNDING THE DESERT ROSE HOUSE. VALUES TAKEN DURING DISMANTLING USING A CRANES LOAD CELL.		LOAD COMBINATIONS CASES AS1170.0-2002 - CASE 1 - 1.35G PERMANENT ACTION ONLY - CASE 2 - 1.2G + 1.5Q PERMANENT AND IMPOSED ACTION - CASE 3 - 1.2G + WU + Ψ_c Q PERMANENT, WIND AND IMPOSED ACTION - CASE 4 - 1.2G + 1.5 Ψ_c Q PERMANENT AND LONG-TERM IMPOSED ACTION - CASE 5 - 0.9G + WU PERMANENT AND WIND ACTION REVERSAL			TO COMPLY WITH THE 100kPa BEARING CAPACITY OF THE SOIL, A BASE PLATE OF AT LEAST 600mm WILL BE NEEDED. TO DO THIS, AN EXTRA SHEET OF STRUCTURAL PLYWOOD BOARD WILL BE NEEDED TO INCREASE THE BEARING AREA OF THE PIERS FROM 0.090m ² TO 0.500m ² . REFER TO ST-002 SHEET 4 AND SHEET 5 FOR PIER REACTIONS AND MINIMUM REQUIRED PIER BASE PLATE SIZE.		LONGITUDINAL PROPERTIES INDIVIDUAL STRAND CROSS-SECTIONAL AREA = 2.07mm ² AVERAGE NUMBER OF STRANDS PER UNIT WIDTH = 16.6strands/m AREA OF STRANDS PER UNIT WIDTH = 50.9mm ² /m STRAND TENSILE STRENGTH = 3.7kN GRID TENSILE STRENGTH PER UNIT WIDTH = 66.4kN/m TENSILE MODULUS OF ELASTICITY = 234,500MPa ELONGATION AT BREAK = 0.99%		
DEAD LOADS INTERIOR FLOOR= 0.42KPA BATHROOM FLOOR = 1.52KPA DECK = 0.44KPA INTERIOR WALL = 0.31KPA EXTERIOR WALL = 0.42 SHEET ROOF = 0.32KPA TRACTILE SOLAR ROOF = 0.79KPA		G = DEAD LOADS Q = LIVE LOADS W _U = WIND ACTIONS Ψ_c = THE COMBINATION REDUCTION FACTOR = 0.7			ENDUROFRAME STRUCTURE ALL MEMBERS MADE FROM ENDUROFRAME BUILDING SYSTEM ARE MADE FROM TRUECORE STEEL WITH MINIMUM YIELD STRENGTH OF 550MPa. THE ROOF TRUSSES WERE DESIGNED BASED ON THE FOLLOWING SPACING AND LOADING CONDITIONS. ENDUROCAD SOFTWARE USES AS4055-2012 WIND LOADS FOR HOUSING. SERVICEABILITY LIMIT STATE WIND COULD NOT BE ADJUSTED. TO COMPENSATE, ULTIMATE LIMIT STATE WIND SPEED INCREASED TO 50m/s.		TRANSVERSE PROPERTIES INDIVIDUAL STRAND CROSS-SECTIONAL AREA = 2.07mm ² AVERAGE NUMBER OF STRANDS PER UNIT WIDTH = 16.6strands/m AREA OF STRANDS PER UNIT WIDTH = 50.9mm ² /m STRAND TENSILE STRENGTH = 3.2kN GRID TENSILE STRENGTH PER UNIT WIDTH = 58.4kN/m TENSILE MODULUS OF ELASTICITY = 234,500MPa ELONGATION AT BREAK = 0.94%		
LIVE LOADS FLOOR=5KPA (SDME REQUIREMENT) ROOF = 1KPA (SDME REQUIREMENT)		ASCE7-16 - LFRD - STRENGTH DESIGN - CASE 1 - 1.4D - CASE 2 - 1.2D + 1.6L + 0.5LR - CASE 3 - 1.2D + 1.0W + L + 0.5LR			- ROOF HEIGHT (m) 5.3 - CEILING: SEALED - WIND SPEED [ULTIMATE] (m/s) 50 - WIND SPEED [SERVICEABILITY] (m/s) 32				
ENVIRONMENTAL LOADS WIND LOAD [ULTIMATE] AS1170.2-2011 INTERNAL PRESSURE (KPA) -0.30, 0.00 WALL EXTERNAL PRESSURE (KPA) - WINDWARD WALL 0.704 - LEEWARD WALL -0.503 - SIDE WALL -0.654 ROOF EXTERNAL PRESSURE (KPA) - UPWIND -0.906 - DOWNWIND -0.906 - CROSSWIND -0.906		D = DEAD LOADS L = LIVE LOADS LR = LIVE ROOF LOADS W = WIND THESE LOAD COMBINATIONS HAVE BEEN APPLIED TO THE STRUCTURAL SUBFLOOR IN ORDER TO OBTAIN THE PIER REACTION VALUES LISTED IN ST- 002, SHEET 4. AS1170.0 LOAD CASE 2 AND ASCE7-16 CASE 2 GOVERNS OVER THE OTHER 6 AS THE FLOOR LIVE LOAD OF 5KPA IS MUCH LARGER THAN ANY OTHER LOADS BEING APPLIED TO THE DESERT ROSE HOUSE.			SHEET ROOF WITH AWNING PITCH (DEG) 3 TRUSS SPACING (mm) 950 BATTEN SPACING (mm) 450 TCLL, TOP CHORD LIVE LOAD (kPa) 1 BCLL, BOTTOM CHORD LIVE LOAD (kPa) 0 TCDL, TOP CHORD DEAD LOAD (kPa) 0.20 BCDL, BOTTOM CHORD DEAD LOAD (kPa) 0.13				
WIND LOAD [SERVICEABILITY] AS1170.2-2011 INTERNAL PRESSURE (KPA) -0.20, 0.00 WALL EXTERNAL PRESSURE (KPA) - WINDWARD WALL 0.476 - LEEWARD WALL -0.340 - SIDE WALL -0.442 ROOF EXTERNAL PRESSURE (KPA) - UPWIND -0.612 - DOWNWIND -0.612 - CROSSWIND -0.612		DESIGN PIER BASE PLATES ALL PIERS COME WITH A 10mm THICK STEEL PLATE OF A 300mm X 300mm SQUARE FOR THEIR BASEPLATE. P = PRESSURE F = FORCE A = AREA F = PA AREA = 0.09m ² ALLOWABLE BEARING PRESSURE FOR SERVICEABILITY LIMIT STATE = 100kPa F = 0.09m ² * 100kPa F = 9kN			SHEET ROOF ABOVE KITCHEN AND BEDROOM PITCH (DEG) 3 TRUSS SPACING (mm) 900 BATTEN SPACING (mm) 450 TCLL, TOP CHORD LIVE LOAD (kPa) 1 BCLL, BOTTOM CHORD LIVE LOAD (kPa) 0 TCDL, TOP CHORD DEAD LOAD (kPa) 0.20 BCDL, BOTTOM CHORD DEAD LOAD (kPa) 0.13				
WIND LOAD [ULTIMATE] ASCE7 INTERNAL PRESSURE (KPA) -0.17, 0.17 WALL EXTERNAL PRESSURE (KPA) - WINDWARD WALL 0.620 - LEEWARD WALL -0.390 - SIDE WALL -0.550		MAXIMUM REACTION FORCE THAT COMPLIES WITH THE 100kPa SOIL BEARING CAPACITY FOR A 300mm X 300mm SQUARE BASEPLATE IS 9kN. MAXIMUM REACTION FORCE FROM THE DESERT ROSE HOUSE IS 35.31kN WHICH OCCURS AT SERVICEABILITY LIMIT STATE.			TRACTILE ROOF PITCH (DEG) 10 TRUSS SPACING (mm) 600 BATTEN SPACING (mm) 450 TCLL, TOP CHORD LIVE LOAD (kPa) 1 BCLL, BOTTOM CHORD LIVE LOAD (kPa) 0 TCDL, TOP CHORD DEAD LOAD (kPa) 0.75 BCDL, BOTTOM CHORD DEAD LOAD (kPa) 0.13				
WIND LOAD [SERVICEABILITY] ASCE7 INTERNAL PRESSURE (KPA) -0.12, 0.12 WALL EXTERNAL PRESSURE (KPA) - WINDWARD WALL 0.450 - LEEWARD WALL -0.260 - SIDE WALL -0.390									

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1 Exterior Render North
1 : 100

2 Exterior Render South
1 : 100

 Desert Rose Team UOW Australia - Dubai	Team: TEAM UOW	Client: Dubai Electricity and Water Authority 	AMENDMENTS				COPYRIGHT None; Project is Public		EXTERIOR RENDERINGS GE-301																						
	Address: UNIVERSITY OF WOLLONGONG WOLLONGONG NSW, AUSTRALIA 2522		<table border="1"> <thead> <tr> <th>REV.</th> <th>DESCRIPTION</th> <th>DATE</th> <th>DRAWN</th> <th>CHECK</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REV.	DESCRIPTION	DATE	DRAWN	CHECK																						LOT # M	DRAWER L.FAIDUTTI
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Contact: sd-2018@uow.edu.au www.desertrosehouse.com.au	CHECKED C.MCDOWELL	SHEET: 01 OF 01	DATE 20 February, 2018	SCALE N.T.S.:00 @ A3																											