

BROOMBRIDGE OFFICE COMPLEX - LANDSCAPE & DRAINAGE PLAN

288 BANNOW ROAD, BROOMBRIDGE, CABRA, DUBLIN 7



NOTES:
 THE PROPOSAL IS FOR THE OFFICES TO BE HEATED BY PV PANELS AND A HEAT PUMP SO THERE WILL BE NO SEPERATE GAS SUPPLY TO THE OFFICE COMPLEX.
 FOR THE PURPOSE OF THIS EXERCISE DRAINAGE IS BEING SHOWN FOR BUILDING A & B ONLY.
 ALL UTILITIES INCLUDING ELECTRICITY & TELECOMS WILL BE CONNECTED FROM EXISTING BANNOW ROAD CONNECTION SUPPLY.
 SEE SHEET P401 FOR MORE DETAILS ON HARD LANDSCAPING DETAILS.
 FULL DRAINAGE CALCULATIONS ARE INCLUDED IN **APPENDIX 2** OF REPORT.

SUDS MEASURES INCORPORATED IN THE DRAINAGE DESIGN:

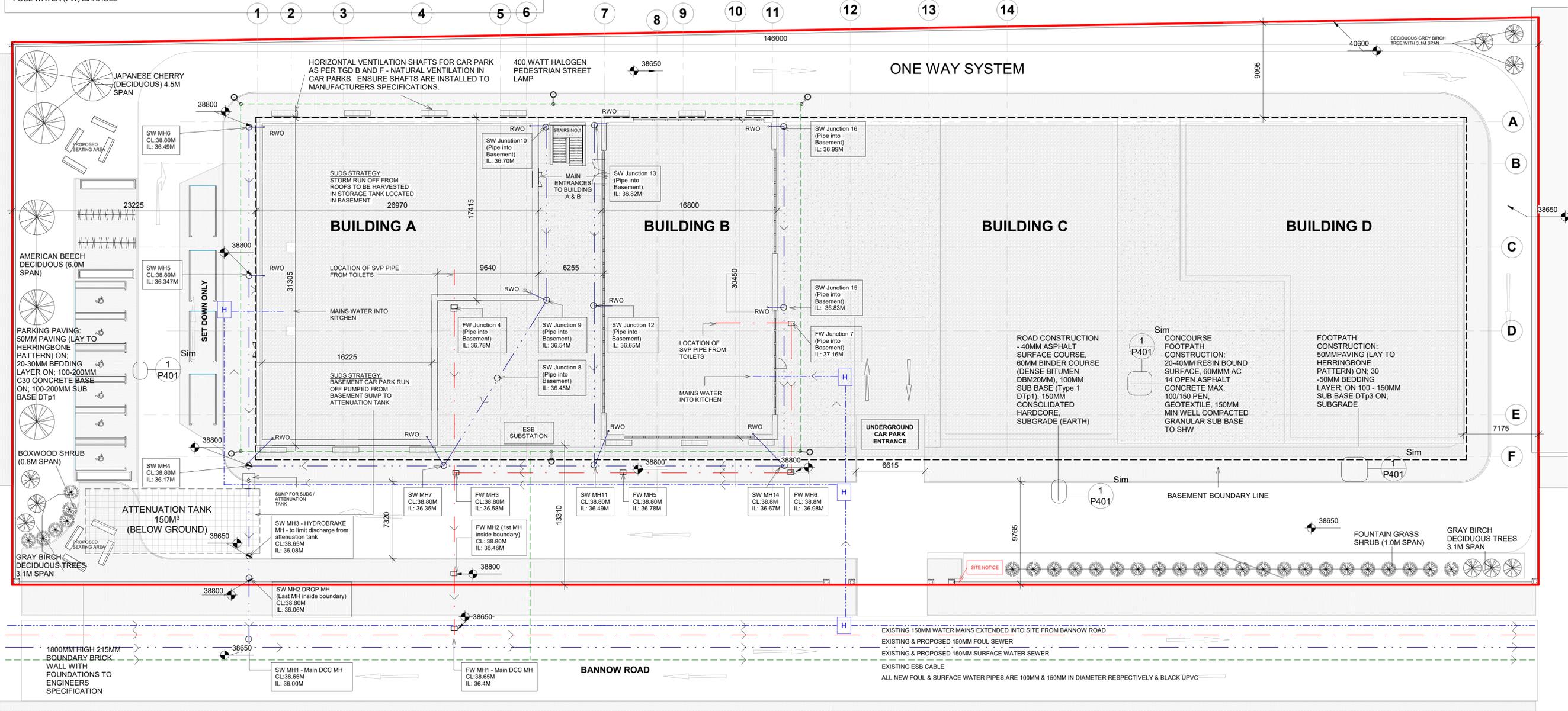
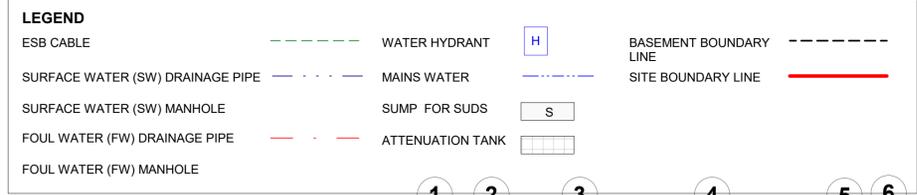
- STORMWATER:**
- GREEN ROOF ON BUILDING A ADOPTED AS SHOWN.
 - RAINWATER ON BUILDING B WILL BE HARVESTED IN BASEMENT RAIN WATER HARVESTING TANK FOR RE-USE AS GREY WATER FOR FLUSHING TOILETS AND URINALS.
 - STORMWATER DISCHARGE FROM OFFICE DEVELOPMENT IS ATTENUATED VIA A HYDROBRAKE MANHOLE. THE COMBINED STORAGE VOLUME OF THE ATTENUATION TANK SHOULD BE SIZED FOR A 100 YEAR STORM.
 - SILT CONTROL. SILT TRAPS TO BE INCORPORATED INTO ALL GULLIES AND MANHOLES.
 - DRAINAGE OF BASEMENT TO BE CONNECTED TO CLASS 1 BY-PASS PETROL SEPERATOR TO ENSURE NO OILS OR PETROL POLLUTE THE LOCAL AUTHORITY SYSTEMS.
 - GREEN LANDSCAPED AREAS TO SLOW THE RATE OF DISCHARGE OF STORMWATER.
 - ATTENUATION TANK TO BE LINED WITH PERMEABLE GEOTEXTILE MEMBRANE.
 - PAVING DRAINAGE TO BE DISCHARGED INTO LANDSCAPED AREAS AND BE FILTERED PRIOR TO ENTERING POND.

- FOUL WATER:**
- LOW WATER DEMAND APPLIANCES AND SANITARY FITTINGS WILL BE ADAPTED THROUGHOUT IN CONJUNCTION WITH DUAL FLUSH WC'S AERATED TAPS ETC.

ATTENUATION TANK:
 WAVIN AQUACELL PLUS - DESIGNED PRIMARILY FOR USE IN APPLICATIONS WHERE INSPECTABILITY IS REQUIRED. AQUACELL PLUS SUITABLE FOR USE IN ALL APPLICATIONS FROM LANDSCAPED AREAS TO HEAVILY TRAFFICKED AREAS FOR VEHICLES UP TO 44 TONNES).

WATER HYDRANTS:
 PROVISION OF WATER HYDRANTS AND LOCATIONS IN WITH TGD B (PARA 5.1.7, 5.2.2) & DIAGRAM 30 - EXTERNAL FIRE MAINS & HYDRANTS

DRAINAGE:
 DRAINAGE FOR BUILDING C & D IS OUT OF SCOPE OF THIS PROJECT.
 FOUL WATER SEWER 100MM (PROPOSED) WITH FALL 1:80. GRADIENT BASED ON GUIDANCE FROM TGD H - DRAINAGE & WASTE WATER DISPOSAL: DIAGRAM 7 - DISCHARGE CAPACITIES OF FOUL DRAINS (PARA 1.3.4)
 SURFACE WATER SEWER 150MM DIAMETER (PROPOSED) WITH FALL OF 1:100. GRADIENT BASED ON TGD H - DIAGRAM 11 - DISCHARGE (PARA 1.5.7.2).



1 Site - Landscape & Drainage Plan
 1 : 200

Organisation Name TUDublin	Client Name DT175 02	Scale 1 : 200	Project number TDS 4	Date 17 May 2019	Drawn by Emma Harrington		Emma Harrington DT175-02 2018_19	
Project Name TDS Project - Concrete Building	Sheet Name Landscaping Plan	Checked by EJH	P105					

Appendix 2: Drainage Calculations to accompany P101 - Site Plan and P105 - Landscape and Drainage Plan

SCHEDULE OF DRAINAGE - BROOMBRIDGE OFFICE COMPLEX (BUILDING A & B)

Note: Buildings A, B, C and D are located over the basement.

FOUL WATER DRAINAGE

SITE COVER LEVEL	38,800
FALL OF PIPE	1.80
PIPE DIAMETER	100MM (BLACK UPVC PIPE)

MH NUMBER	COVER / GROUND LEVEL	COVER LEVEL (CALCULATION ONLY)	LENGTH OF PIPE	DROP / FALL	INVERT LEVEL	LOCATION
FW MH1	38,650				36,400	DCC Main MH - Bannow Road (See Notes below)
FW MH2	38,800	36,400	4,848	60.60	36,461	1st MH inside boundary (On footpath)
FW MH3	38,800	36,461	9,626	120.33	36,581	South East corner - Building A (On footpath at Front of Building)
FW Junction 4		36,581	15,876	198.45	36,779	East corner (middle) - Building A (Pipe into Basement)
FW MH5 - RUNS FROM MH3	38,800	36,581	15,979	199.74	36,781	South West Corner - Building B (On footpath at Front of Building)
FW MH6	38,800	36,781	16,063	200.79	36,981	South East corner - Building B (Pipe into Basement)
FW Junction 7		36,981	14,300	178.75	37,160	East corner (middle) - Building B (Pipe into Basement)

Note: Foul Water mains is 2M from the edge of footpath (project roadside of road running Eastwards with an invert level 750MM below the finished road surface). Revised invert level agreed with Tony Hayes on 29/04/2019.

SURFACE WATER DRAINAGE

SITE COVER LEVEL	38,800
FALL OF PIPE	1.100
PIPE DIAMETER	150MM (BLACK UPVC PIPE)

MH NUMBER	COVER / GROUND LEVEL	COVER LEVEL (CALCULATION ONLY)	LENGTH OF PIPE	DROP / FALL	INVERT LEVEL	LOCATION
SW MH1	38,650				36,000	DCC Main MH - Bannow Road (See Notes below)
SW MH2	38,800	36,000	5,837	58.37	36,058	1st MH inside boundary (On footpath) Hydrobrake MH to limit discharge from attenuation tank. On roadway (38,800)
SW MH3	38,650	36,058	2,080	20.80	36,079	South West corner - Building A (On footpath)
SW MH4	38,800	36,079	8,660	86.60	36,166	West Elevation middle - Building A (On footpath)
SW MH5	38,800	36,166	18,153	181.53	36,347	North West corner - Building A (On footpath)
SW MH6	38,800	36,347	14,187	141.87	36,489	South East front corner - Building A (On footpath)
SW MH7 - RUNS FROM MH4	38,800	36,166	18,670	186.70	36,352	South East corner - Building A (Pipe into Basement)
SW Junction 8		36,352	9,898	98.98	36,451	South East middle outside corner - Building A (Pipe into Basement)
SW Junction 9		36,451	8,724	87.24	36,539	North East corner - Building A (Pipe into Basement)
SW Junction 10		36,539	16,538	165.38	36,704	South West corner - Building B (On footpath)
SW MH11 - RUNS FROM MH7	38,800	36,352	14,359	143.59	36,496	West Elevation middle - Building B (Pipe into Basement)
SW Junction 12		36,496	15,228	152.28	36,648	North West corner - Building B (Pipe into Basement)
SW Junction 13		36,648	17,235	172.35	36,821	South East corner - Building B (On footpath)
SW MH14 - RUNS FROM MH11	38,800	36,496	17,861	178.61	36,675	East Elevation middle - Building B (Pipe into Basement)
SW Junction 15		36,675	15,113	151.13	36,826	North East corner - Building B
SW MH16		36,826	17,050	170.50	36,996	

Note: Surface Water mains is 3M from the edge of footpath (project roadside of road running eastwards with an invert level 1M below the finished road surface). Revised invert level agreed with Tony Hayes on 29/04/2019.