Number Individual Tree (T) Group (G)	Species	Height m	Stem (s) Dia. mm	Life stage: Y/SM/EM/M/OM ERC: <10/>10/>20/>40	RPA Radius (m) Only shown where trees are known to be retained	Overall condition Good/Fair/Poor/ Dead	Category & Subcategory	Tree status Retained/ removed / potentially removed	Notes
3487	Field Maple	7	190	Y 20-40		Poor	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3604	Field Maple	13	400	SM >40		Good	C 1+2	Remove	Part of Group 7 Leyland cypress, Norway maple, Birch, Hawthorn Pine. If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3605								Remove	Part of Group 7 Leyland cypress, Norway maple, Birch, Hawthorn Pine. If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3611								Potentially removed	Part of Group 8 Larch, Hawthorn, Privet. If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3614	Japanese Larch	7	190	Y 10-20		Poor	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3617	Beech	14	615	M >40		Fair	B 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3619	Sweet Chestnut	15	850	M >40		Fair	B 1+2+3	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3619a	Sycamore	15	850	M >40	10.20	Good	B 1+2+3	Retained if possible – subject to detailed design	
3622	Maple	7	160	Y >40		Fair	B 1	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3623	Whitebeam	9	150	Y 20-40		Good	B 1	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3624	Field Maple	7	180	Y >40		Good	B 1	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3625	Field Maple	7	130	Y >40		Good	C 1	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3626	Field Maple	4	130	Y >40		Fair	C 1	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3627	Field Maple	5	105	Y >40		Good	C 1	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3628	Field Maple	8	160	Y >40		Good	B 1	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3630	Hornbeam	7	190	Y >40		Good	B 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3631	Hornbeam	7	170	Y		Good	B	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved

Number Individual Tree (T) Group (G)	Species	Height m	Stem (s) Dia. mm	Life stage: Y/SM/EM/M/OM ERC: <10/>10/>20/>40	RPA Radius (m) Only shown where trees are known to be retained	Overall condition Good/Fair/Poor/ Dead	Category & Subcategory	Tree status Retained/ removed / potentially removed	Notes
				>40			1		Matters)
3632	Hornbeam	8	115	Y >40		Fair	C 1	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3633	Hornbeam	8	125	Y >40		Fair	C 1	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3634	Hornbeam	4	155	Y >40		Good	B 1	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3765	Maple	8	80	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3766	Maple	8	70	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3767	Maple	8	85	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3768	Maple	8	80	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3769	Maple	8	80	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3770	Maple	8	70	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3771	Ash	7	140	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3772	Ash	7	25-30	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3773	Ash	6	95	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3774	Ash	6	15-20	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3775	Ash	6	15-20	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3776	Ash	6	15-20	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3777	Ash	6	15-20	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3778	Ash	6	15-20	SM >40		Good	C 1+2	Potentially removed	Root zone/canopy fall within confirmed zone of influence
3781	Maple	8	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3782	Maple	8	100-150	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)

Number Individual Tree (T) Group (G)	Species	Height m	Stem (s) Dia. mm	Life stage: Y/SM/EM/M/OM ERC: <10/>10/>20/>40	RPA Radius (m) Only shown where trees are known to be retained	Overall condition Good/Fair/Poor/ Dead	Category & Subcategory	Tree status Retained/ removed / potentially removed	Notes
3783	Maple	7	100-150	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3796	Maple	8	70	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3797	Maple	8	70	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3798	Maple	8	70	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3799	Maple	7	70	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3800	Maple	8	70	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3801	Maple	7	80	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3802	Maple	8	80	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3803	Maple	7	70	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3804	Field Maple	7	120	Y >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3806	Field Maple	8	200-250	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3808	Lime	5	200-250	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3809	Lime	5	200-250	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3810	Lime	5	200-250	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3811	Lime	6	200-250	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3812	Lime	5	60	Y >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3813	Lime	3	80	Y >40		Fair	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3814	Ash	5	95	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3815	Ash	5	100	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3816	Ash	6	80	Y 20-40		Fair	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)

Number Individual Tree (T) Group (G)	Species	Height m	Stem (s) Dia. mm	Life stage: Y/SM/EM/M/OM ERC: <10/>10/>20/>40	RPA Radius (m) Only shown where trees are known to be retained	Overall condition Good/Fair/Poor/ Dead	Category & Subcategory	Tree status Retained/ removed / potentially removed	Notes
3817	Ash	6	100	Y 20-40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3818	Ash	6	110	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3819	Ash	7	100	Y 20-40		Fair	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3820	Lime	2.5	50	Y >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3821	Lime	6-7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3822	Lime	6-7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3823	Lime	6-7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3824	Lime	6-7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3825	Lime	6-7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3826	Lime	6-7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3827	Lime	6-7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3828	Lime	6-7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3829	Lime	6-7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3830	Lime	6-7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3831	Lime	6-7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3832	Lime	6-7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3833	Lime	6-7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3835	Birch	9	250	M >40		Fair	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3836	Birch	8	250	M >40		Fair	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3837	Lime	11	120	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)

Number Individual Tree (T) Group (G)	Species	Height m	Stem (s) Dia. mm	Life stage: Y/SM/EM/M/OM ERC: <10/>10/>20/>40	RPA Radius (m) Only shown where trees are known to be retained	Overall condition Good/Fair/Poor/ Dead	Category & Subcategory	Tree status Retained/ removed / potentially removed	Notes
3838	Lime	7	120	Y >40		Good/Fair	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3839	Lime	5	100	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3840	Lime	6.5	90	Y >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3841	Birch	5	75	Y 20-40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3842	Birch	5	250	Y 20-40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3843	Birch	5	250	Y 20-40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3844	Birch	6	250	M 20-40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3845	Birch	9	250-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
Tag less	Birch	9	150-200	SM >40		Good	C 1+2	-	
3855	Birch	8	115	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3856	Weymouth Pine	8	180	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3857	Weymouth Pine	6	160	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3858	Birch	8	100	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3859	Birch	8.5	95	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3860	Birch	9	300	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3861	Birch	5	250	Y 20-40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3862	Birch	6	250	M 20-40		Fair	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3863	Birch	5	250	Y 20-40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3864	Birch	7	260	M 20-40		Fair	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3865	Birch	7	100	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)

Number Individual Tree (T) Group (G)	Species	Height m	Stem (s) Dia. mm	Life stage: Y/SM/EM/M/OM ERC: <10/>10/>20/>40	RPA Radius (m) Only shown where trees are known to be retained	Overall condition Good/Fair/Poor/ Dead	Category & Subcategory	Tree status Retained/ removed / potentially removed	Notes
3866	Birch	6	110	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3867	Birch	6	110	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3868	Birch	7	100	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3874	Ash	7	95	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3875	Ash	7	100	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3876	Ash	8	120	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3877	Birch	7	100	Y >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3879	Birch	7	105	Y >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3880	Birch	7	110	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3886	Birch	6	250	Y 20-40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3887	Birch	8	100	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3888	Birch	5	230	Y 20-40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3889	Birch	6	200	M 20-40		Fair	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3891	Lime	7	120	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3892	Lime	7	110	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3893	Birch	4	250	Y 20-40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3895	Birch	6	130	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3896	Birch	7	110	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3897	Birch	7	100	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3898	Birch	7	100	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)

Number Individual Tree (T) Group (G)	Species	Height m	Stem (s) Dia. mm	Life stage: Y/SM/EM/M/OM ERC: <10/>10/>20/>40	RPA Radius (m) Only shown where trees are known to be retained	Overall condition Good/Fair/Poor/ Dead	Category & Subcategory	Tree status Retained/ removed / potentially removed	Notes
3899	Birch	6	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3900	Birch	8	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3901	Birch	8	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3902	Birch	8	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3903	Birch	8	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3904	Birch	6.5	250	M 20-40		Fair	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3905	Lime	8	200-250	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3906	Lime	8	200-250	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3907	Lime	8	200-250	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3908	Lime	8	200-250	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3909	Birch	7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3910	Birch	5	200	M 20-40		Fair	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3911	Birch	9	250-300	SM >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3912	Birch	9	250-300	SM >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3913	Birch	9	250-300	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3914	Birch	9	250-300	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3915	Birch	6	100-150	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3916	Birch	6	100-150	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3917	Birch	6	100-150	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3918	Birch	6	100-150	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)

Number Individual Tree (T) Group (G)	Species	Height m	Stem (s) Dia. mm	Life stage: Y/SM/EM/M/OM ERC: <10/>10/>20/>40	RPA Radius (m) Only shown where trees are known to be retained	Overall condition Good/Fair/Poor/ Dead	Category & Subcategory	Tree status Retained/ removed / potentially removed	Notes
3919	Birch	6	200	M 20-40		Fair	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3920	Birch	6	250	Y 20-40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3921	Lime	7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3922	Lime	7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3923	Lime	7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3924	Lime	7	150-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3925	Birch	7	100-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3926	Birch	7	100-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3927	Birch	7	100-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3928	Birch	7	200-250	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3929	Birch	7	100-200	SM >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3931	Birch	7	115	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3932	Birch	7	120	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3933	Birch	7	110	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3934	Birch	7	10	Y >40		Good	C 1+2	Remove	Replace through proposed new car park landscaping (subject to reserved Matters)
3935	Birch	7	75	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3936	Birch	7	75	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3937	Birch	7	75	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3938	Birch	7	75	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3939	Birch	6	75	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)

Number Individual Tree (T) Group (G)	Species	Height m	Stem (s) Dia. mm	Life stage: Y/SM/EM/M/OM ERC: <10/>10/>20/>40	RPA Radius (m) Only shown where trees are known to be retained	Overall condition Good/Fair/Poor/ Dead	Category & Subcategory	Tree status Retained/ removed / potentially removed	Notes
3940	Birch	6.5	75	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3941	Birch	7	75	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3942	Birch	7	80	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3946	Birch	4	75	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
3947	Birch	7	95	Y >40		Good	C 1+2	Potentially removed	If removed, replace through proposed new car park landscaping (subject to reserved Matters)
Group 15	See Notes		110				C 2	Removed	Hornbeam, Portugal Laurel, Birch, Alder, Field Maple, Rhododendron, Holm Oak. If removed, replace through proposed new car park landscaping (subject to reserved Matters)
Group 16	See Notes		75				C 1+2	Remove	Silver Birch, Scots Pine, Common Alder, Common Holly, Field Maple, Rhododendron, Holm Oak. If removed, replace through proposed new car park landscaping (subject to reserved Matters)
Group 17	See Notes		100				C 1+2	Potentially removed	Alder, Field Maple, Silver Birch, Laurel, Privet, Common Holly, Hornbeam. If removed, replace through proposed new car park landscaping (subject to reserved Matters)
Group 3	See Notes		50				C 2	Remove	Himalayan Birch x8. If removed, replace through proposed new car park landscaping (subject to reserved Matters)

Number: number of tree on survey plan; # denotes that tree was not accessible and measurements are estimated
Species: common species name
Height: approximate height of tree in m
Stem Diameter: for individual trees: diameter of single stem or combined stem diameter; for groups: diameter or combined stem diameter of largest specimen in group
Life stage: Y = young = not yet established, SM = semi-mature = up to 1/3 of expected height and crown; EM = early mature = between 1/3 and 2/3 of expected height and crown;
M = Mature = 2/3 and full expected height and crown, OM = over-mature = crown beginning to decrease inside and break down
ERC: Estimated remaining contribution in years
Overall condition: taking into account condition of base, stem and crown and overall appearance and health
Category / subcategory: Tree categories and subcategories as per BS 5837:2012;
Categories: A: trees of high quality; B: trees of moderate quality; C: trees of low quality; U: trees unsuitable for retention;
Subcategories: 1 mainly arboricultural qualities, 2: mainly landscape qualities; 3: mainly cultural values and conservation

Bristol Airport: 12mppa Planning Application
A38 Highway Improvements – Downside Road/A38 Junction Woodland
Tree survey

Number Individual Tree (T) Group (G)	Species	Height m	Stem (s) Dia. mm	Life stage: Y/SM/EM/M/OM ERC: <10/>10/>20/>40	RPA Radius (m) Only shown where trees are to be retained	Overall condition Good/Fair/Poor/ Dead	Category / Sub-category	Tree status Retained/ removed/ potentially removed	Notes
1001-1005 G	Mixed	-	-	M >40		Good	C1+2	Removed	Field Maple, Hawthorn, Hazel, trimmed.
1006	Holme Oak	8	180	M >40		Good	C1+2	Removed	
1007	Sycamore	10	250	M >40		Good	C1+2	Removed	Co-dominant stems
1008	Sycamore	12	180	M >40		Good	C1+2	Removed	Co-dominant stems
1009	Sycamore	12	150-300	M >40		Good	C1+2	Removed	Multi Stemmed
1010 G	Sycamore	15	250-300	M >40		Good	C1+2	Removed	Group of 5
1011 G	Sycamore	15	150-250	M >40		Good	C1+2	Removed	Group of 4
1012	Sycamore	15	350	M >40		Poor	C1+2	Removed	Poor specimen
1013 G	Sycamore	15	200-350	M >40		Good	C1+2	Removed	Group of 6
1014	Sycamore	15	300-450	M >40	5.4	Good	C1+2	Retained	
1015 G	Sycamore	12-15	150-300	M >40		Good	C1+2	Removed	Group of 20, even aged regeneration
1016	Sycamore	18	400-500	M >40		Good	C1+2	Removed	
1017 G	Sycamore	12	150-300	M >40		Good	C1+2	Removed	Group of 5

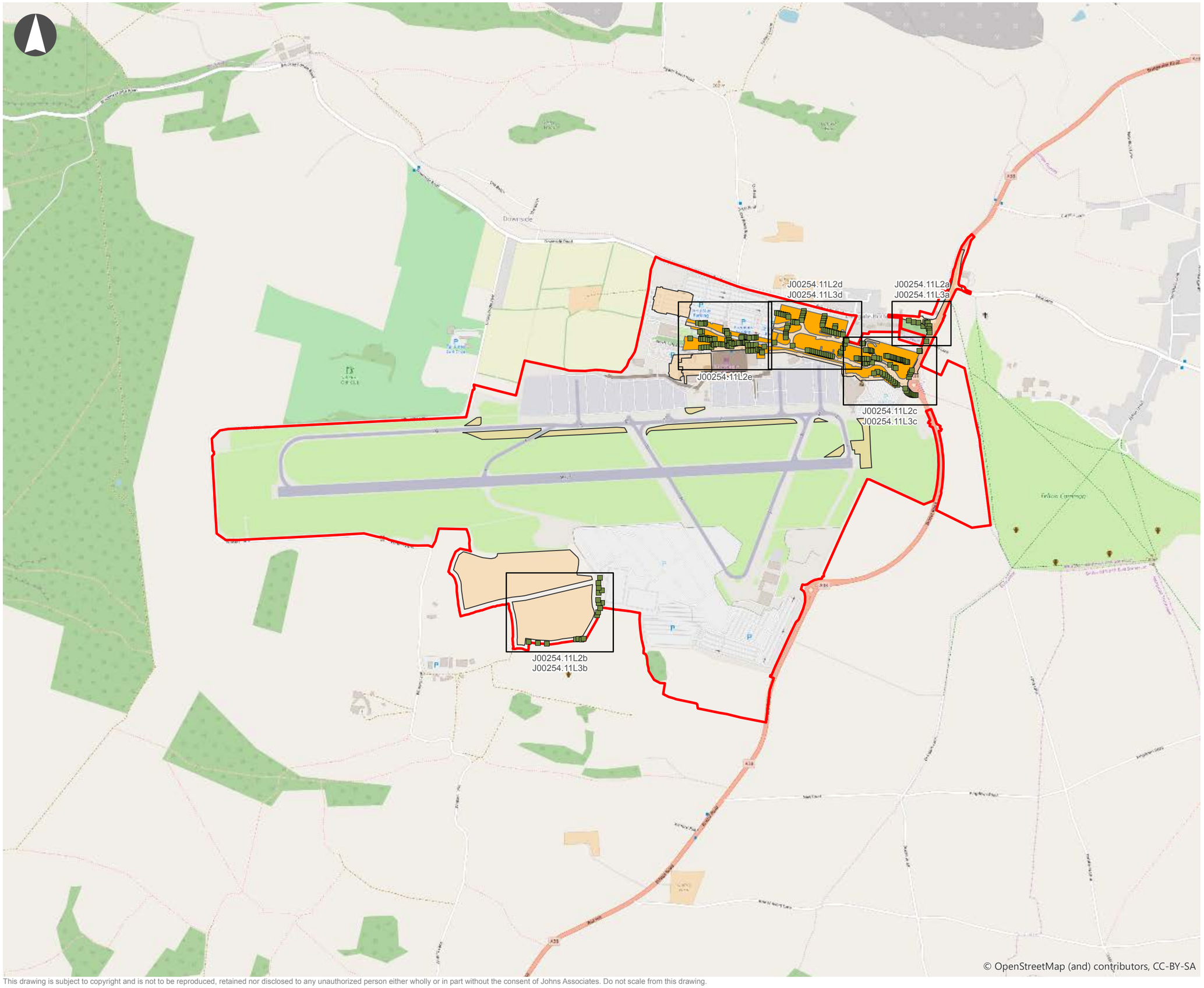
Number: number of tree on survey plan; **#** denotes that tree was not accessible and measurements are estimated
Species: common species name
Height: approximate height of tree in m
Stem Diameter: for individual trees: diameter of single stem or combined stem diameter; for groups: diameter or combined stem diameter of largest specimen in group
Life stage: Y = young = not yet established, SM = semi-mature = up to 1/3 of expected height and crown; EM = early mature = between 1/3 and 2/3 of expected height and crown;
M = Mature = 2/3 and full expected height and crown, OM = over-mature = crown beginning to decrease inside and break down
ERC: Estimated remaining contribution in years
Overall condition: taking into account condition of base, stem and crown and overall appearance and health
Category / subcategory: Tree categories and subcategories as per BS 5837:2012;
Categories: A: trees of high quality; B: trees of moderate quality; C: trees of low quality; U: trees unsuitable for retention;
Subcategories: 1 mainly arboricultural qualities, 2: mainly landscape qualities; 3: mainly cultural values and conservation

Bristol Airport: 12mppa Planning Application
Silver Zone Extension (Phase 2)
Tree Survey

Number Individual Tree (T) Group (G)	Species	Height m	Crown Spread m				Stem (s) Dia. mm	Life stage: Y/SM/EM/M/OM ERC: <10/>10/>20/>40	RPA Radius (m)	Overall condition Good/Fair/Poor/Dead	Category & Sub-category	Tree status Retained/ removed/ potentially removed	Notes
			N	E	S	W							
4001	Ash	13	5	7	4	5	510	M>40	6.12	Good	A 1+2+3	Retain	
4002	Ash	17	7	6	9	9	850	M>40	10.20	Good	A 1+2+3	Retain	
4003	Ash	14	7	6	8	7	570	M>40	6.84	Good	A 1+2+3	Retain	
4004	Ash	14	3	3	4	5	440	M>40	5.28	Good	A 1+2+3	Retain	
4005	Ash	17	6	8	8	7	930	M>40	11.16	Good	A 1+2+3	Retain	
4006	Ash	17	4	5	5	6	200/300/320	M>40	3.84	Poor/Fair	C 2+3	Retain	3 Stems, one of which is in decline (die back)
4007	Oak	15	3	5	5	7	480	M>40	5.76	Good	A 1+2+3	Retain	
4008	Ash	16	4	6	6	6	490	M<10	5.88	Poor	U 2+3	Remove and replace with Oak	Healthy crown but base has large amount of decay. In decline.
4009	Field Maple	9	2	3	4	3	200/240	M>20	2.64	Good	B 1+2+3	Retain	
4010	Holly	8	3	3	3	2	260/260	M>20	3.12	Good	B 1+2+3	Retain	
4011	Hawthorn	8	3	3	3	3	350	M>20	4.20	Good	B 1+2+3	Retain	
4012	Field Maple	9	3	3	5	2	440/400/200	M>20	7.53	Poor	B 1+2+3	Retain	Multi stem. The tree is covered with Ivy. Ivy to be severed at base
4013	Oak	14	6	5	6	6	750	M>40	9.00	Good	A 1+2+3	Retain	
4014	Ash	17	6	6	6	6	700	M>40	8.4	Good	A 1+2+3	Retain	
4015	Field Maple	9	2	3	4	2	350	M>20	4.20	Poor	B 1+2+3	Retain	The tree is covered with Ivy. Ivy to be severed at base.
4016 G	Field Maple	9	3	3	4	3	Average 250	M>20	9.49	Good	B 1+2+3	Retain	Multi stem. Group. The trees are an overgrown hedgerow
4017	Hawthorn	9	5	4	3	4	200/230/230	M>20	4.58	Good	B 1+2+3	Retain	Multi stem
4018	Ash	17	5	5	5	5	500	M>20	6.0	Good	B 1+2+3	Retain	

Number: number of tree/group on survey plan; **#** denotes that tree was not accessible and measurements are estimated
Species: common species name
Height: approximate height of tree in m
Crown Spread: approximate spread of canopy in m from centre of tree, measured towards north, east, south and west
Stem Diameter: for individual trees: diameter of single stem or combined stem diameter; for groups: diameter or combined stem diameter of largest specimen in group
Life stage: Y = young = not yet established, SM = semi-mature = up to 1/3 of expected height and crown; EM = early mature = between 1/3 and 2/3 of expected height and crown;
M = Mature = 2/3 and full expected height and crown, OM = over-mature = crown beginning to decrease inside and break down
ERC: Estimated remaining contribution in years
Overall condition: taking into account condition of base, stem and crown and overall appearance and health
Category / subcategory: Tree categories and subcategories as per BS 5837:2012;
Categories: A: trees of high quality; B: trees of moderate quality; C: trees of low quality; U: trees unsuitable for retention;
Subcategories: 1 mainly arboricultural qualities, 2: mainly landscape qualities; 3: mainly cultural values and conservation

APPENDIX B. TREE SURVEY PLAN



JOHNS ASSOCIATES

CLIENT

Bristol Airport

PROJECT

Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum

TITLE

Tree survey extent plan

SCALE @ A3	CREATED BY	CHECKED BY
1:12,500	MM	MJ
REFERENCE	**REVISION**	**DATE ISSUED**
J00254.11L1		23/09/23

- Planning Application Boundary
- Outline survey of trees within or adjacent to zones of influence or potential remodelling
- Zones of Influence
- Potential remodelling of car parking and terminal layouts

APPENDIX C. TREE REMOVAL / RETENTION PLAN

JOHNS ASSOCIATES

CLIENT

Bristol Airport

PROJECT

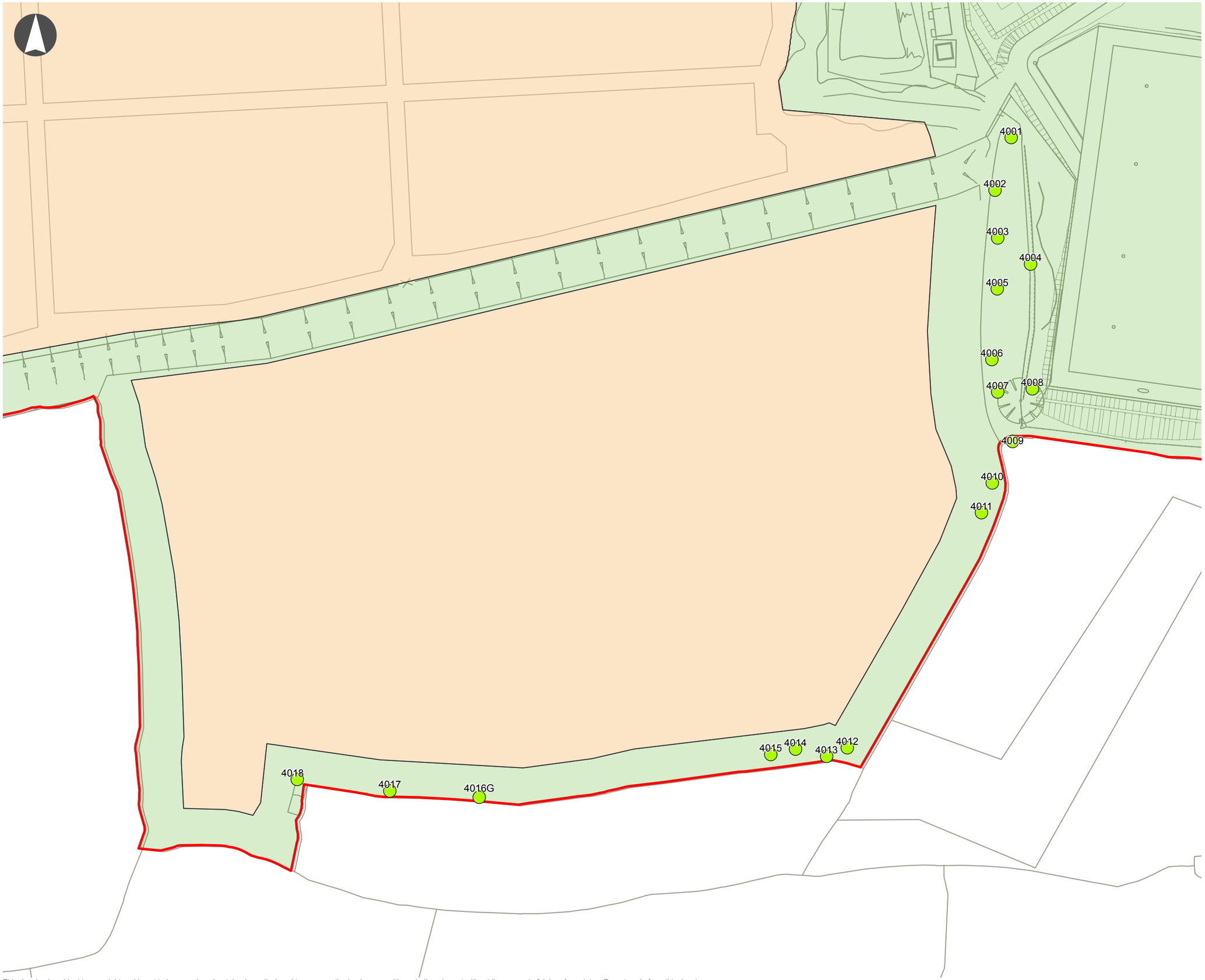
Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum

TITLE

Indicative tree removal and retention plan: A38 Highway Improvement works at Downside Road / A38 Junction

SCALE @ A3	CREATED BY	CHECKED BY
1:500	MM	MJ
REFERENCE	**REVISION**	**DATE ISSUED**
J00254.11L2a		23/09/23

- Planning Application Boundary
- Zone of Influence
- Removal
- Potential retention
- Likely retention of trees if present



JOHNS ASSOCIATES

CLIENT

Bristol Airport

PROJECT

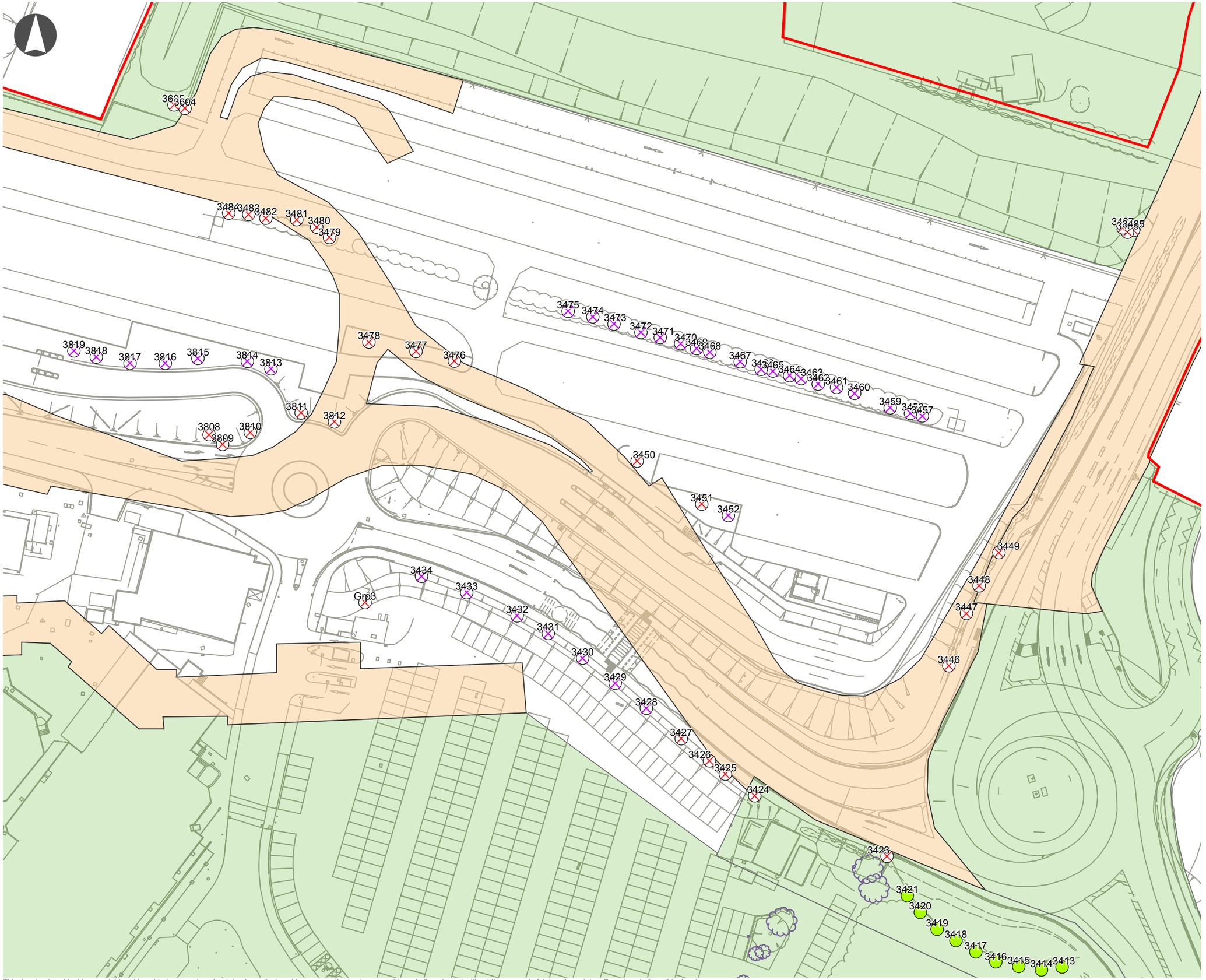
Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum

TITLE

Indicative tree removal and retention plan: Proposed Silver Zone car park extension (Phase 2)

SCALE @ A3	CREATED BY	CHECKED BY
1:1,250	MM	MJ
REFERENCE	**REVISION**	**DATE ISSUED**
J00254.11L2b		23/09/23

- Planning Application Boundary
- Zone of Influence
- Potential retention
- Likely retention of trees if present



JOHNS ASSOCIATES

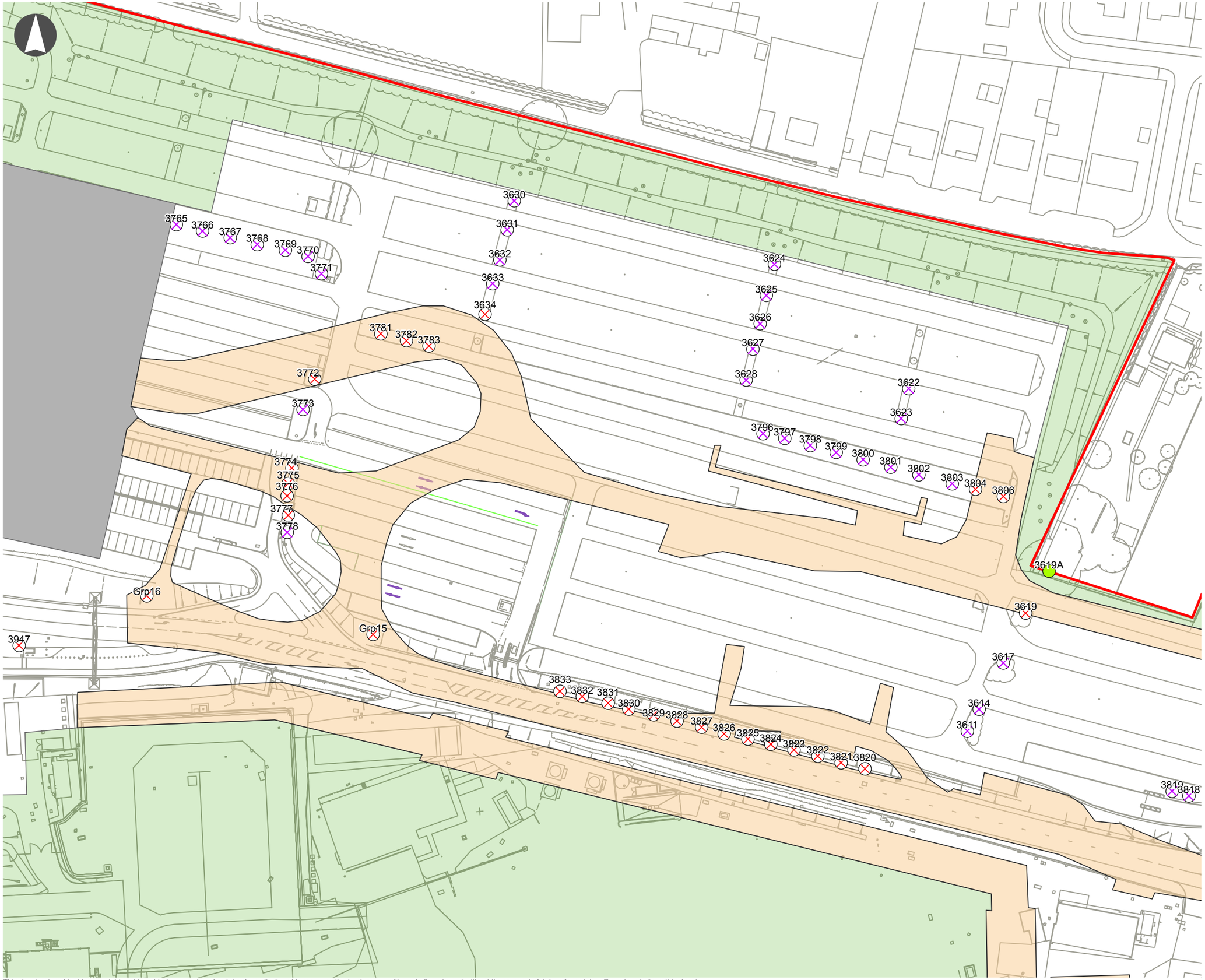
CLIENT
Bristol Airport

PROJECT
Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum

TITLE
Indicative tree removal and retention plan: Gyratory road with internal surface car parking

SCALE @ A3	CREATED BY	CHECKED BY
1:750	MM	MJ
REFERENCE	**REVISION**	**DATE ISSUED**
J00254.11L2c		23/09/23

- Planning Application Boundary
- Zone of Influence
- Removal
- Potential removal
- Potential retention
- Likely retention of trees if present



JOHNS ASSOCIATES

CLIENT

Bristol Airport

PROJECT

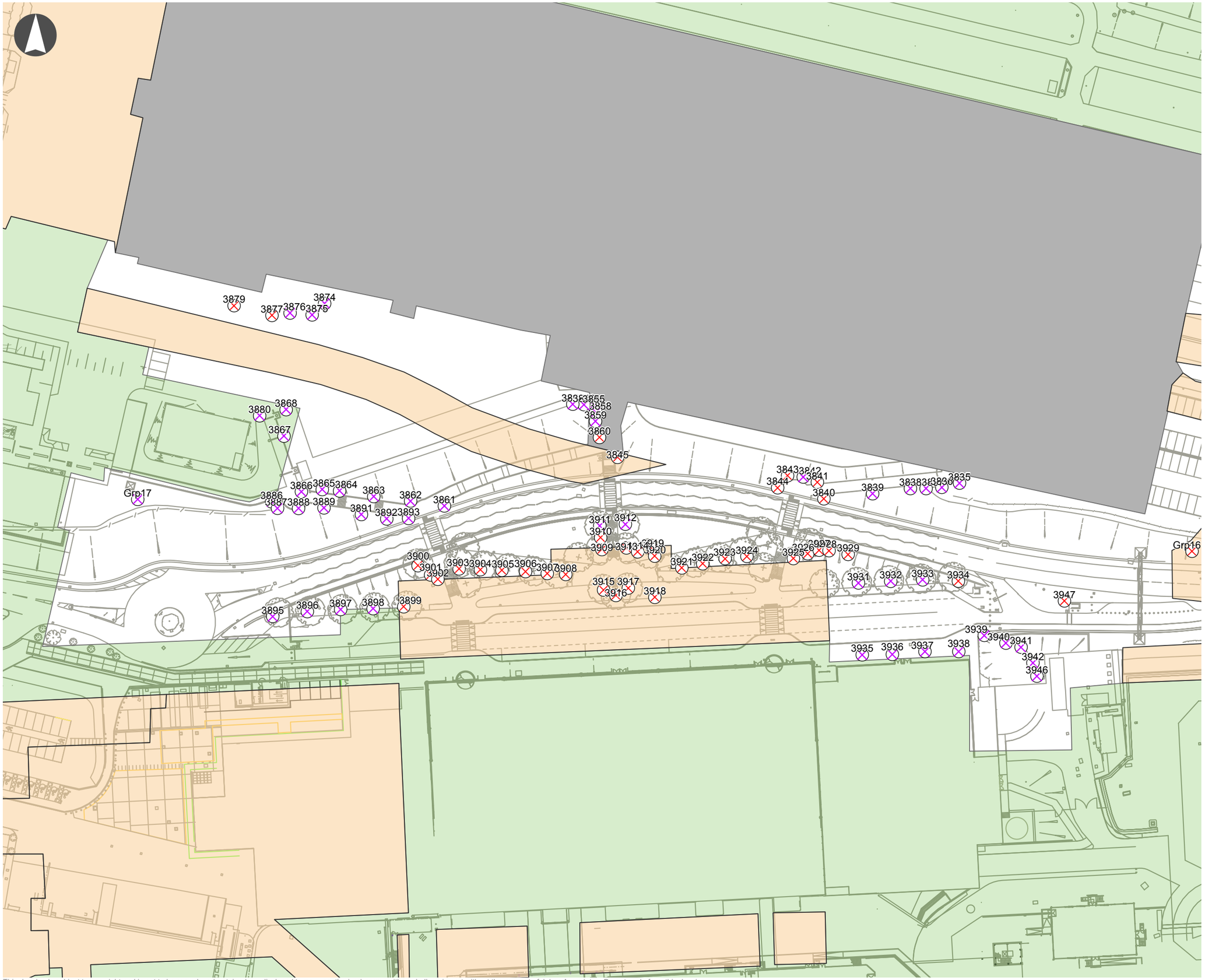
Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum

TITLE

Indicative tree protection plan: Associated with proposed multi-storey car park, gyratory road with internal surface car parking

SCALE @ A3	CREATED BY	CHECKED BY
1:1,000	MM	MJ
REFERENCE	**REVISION**	**DATE ISSUED**
J00254.11L2d		23/09/23

- Planning Application Boundary
- Zone of Influence
- Removal
- Potential removal
- Potential retention
- Existing permissions
- Likely retention of trees if present



JOHNS ASSOCIATES

CLIENT

Bristol Airport

PROJECT

Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum

TITLE

Indicative tree removal and retention plan: Associated with proposed multi-storey car park, canopies to the front of the existing terminal, gyratory road with internal surface car parking

SCALE @ A3	CREATED BY	CHECKED BY
1:1,000	MM	MJ
REFERENCE	**REVISION**	**DATE ISSUED**
J00254.11L2e		23/09/23

- Planning Application Boundary
- Zone of Influence
- Removal
- Potential removal
- Existing permissions
- Likely retention of trees if present

APPENDIX D. TREE PROTECTION PLAN

JOHNS ASSOCIATES

CLIENT
Bristol Airport

PROJECT
Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum

TITLE
Indicative tree protection plan: A38 Highway Improvement works at Downside Road / A38 junction

SCALE @ A3	CREATED BY	CHECKED BY
1:500	MM	MJ
REFERENCE	**REVISION**	**DATE ISSUED**
J00254.11L3a		23/09/23

- Potential tree retention
- Line of tree protection fencing
- Root Protection Areas
- Planning Application Boundary
- Zone of Influence

JOHNS ASSOCIATES

CLIENT

Bristol Airport

PROJECT

Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum

TITLE

Indicative tree protection plan: Proposed Silver Zone car park extension (Phase 2)

SCALE @ A3	CREATED BY	CHECKED BY
1:1,250	MM	MJ
REFERENCE	**REVISION**	**DATE ISSUED**
J00254.11L3b		23/09/23

- Potential tree retention
- Line of tree protection fencing
- Root Protection Areas
- Planning Application Boundary
- Zone of Influence

JOHNS ASSOCIATES

CLIENT

Bristol Airport

PROJECT

Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum

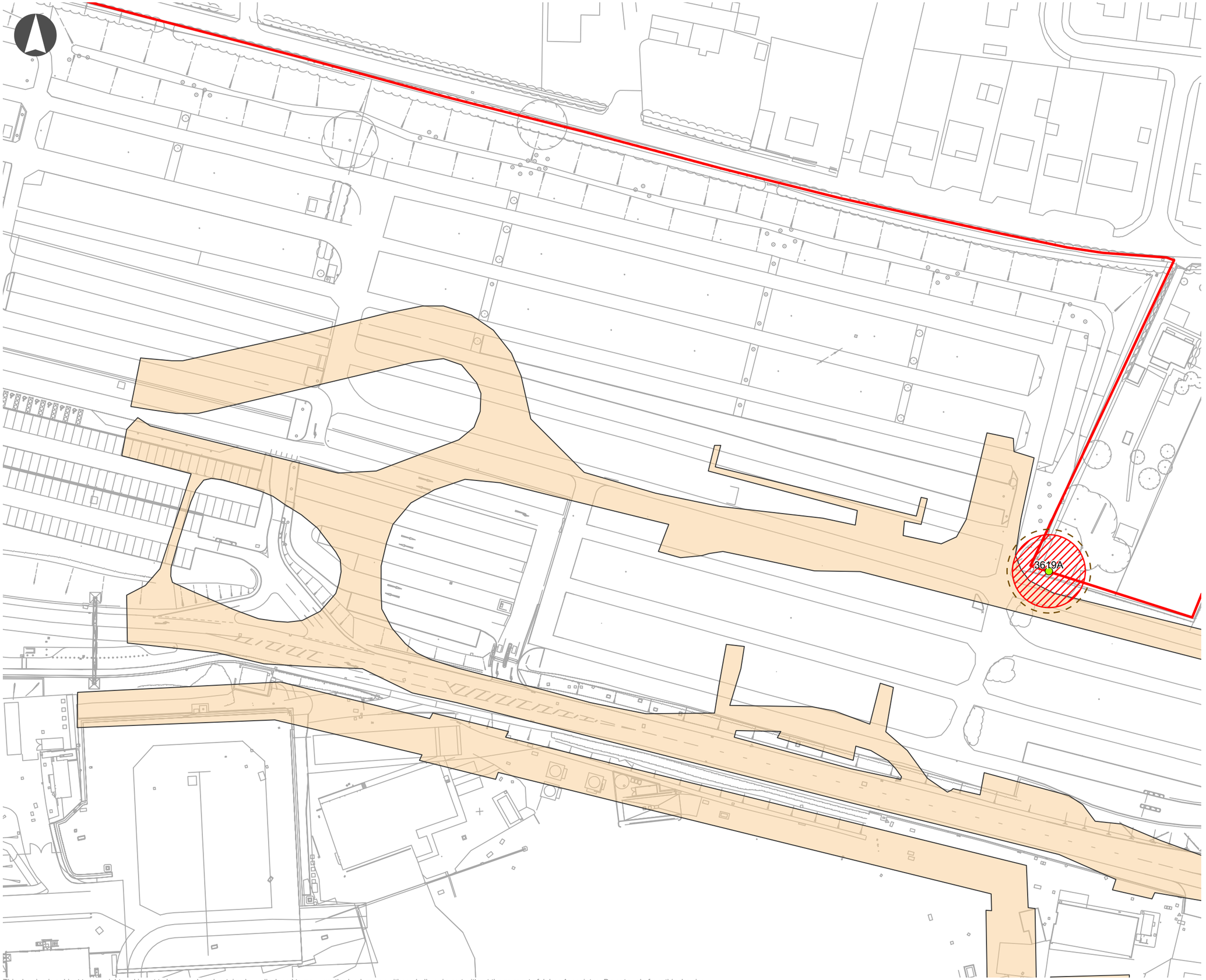
TITLE

Indicative tree protection plan: Northside Airport Car Park: Gyratory road with internal surface car parking

SCALE @ A3	CREATED BY	CHECKED BY
1:750	MM	MJ
REFERENCE	**REVISION**	**DATE ISSUED**
J00254.11L3c		23/09/23

- Potential tree retention
- Line of tree protection fencing
- Root Protection Areas
- Planning Application Boundary
- Zone of Influence

3421 3420 3419 3418 3417 3416 3415 3414 3413



JOHNS ASSOCIATES

CLIENT

Bristol Airport

PROJECT

Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum

TITLE

Indicative tree protection plan: Associated with proposed multi-storey car park, gyratory road with internal surface car parking

SCALE @ A3	CREATED BY	CHECKED BY
1:1,000	MM	MJ
REFERENCE	**REVISION**	**DATE ISSUED**
J00254.11L3d		23/09/23

- Potential tree retention
- Line of tree protection fencing
- Root Protection Areas
- Planning Application Boundary
- Zone of Influence

If 3619A is to be retained in the detailed design then it will require the use of no-dig construction techniques within the Root Protection Area and the production of a method statement detailing this approach

APPENDIX E. SPECIFICATION FOR TREE PROTECTION FENCING

EXTRACT - BRITISH STANDARD BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.

6.2 Barriers and ground protection

6.2.1 General

6.2.1.1 All trees that are being retained on site should be protected by barriers and/or ground protection before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences. Where all activity can be excluded from the RPA, vertical barriers should be erected to create a construction exclusion zone. Where, due to site constraints, construction activity cannot be fully or permanently excluded in this manner from all or part of a tree's RPA, appropriate ground protection should be installed.

6.2.1.2 Areas of retained structural planting, or designated for new structural planting, should be similarly protected, based on the extent of the soft landscaping shown on the approved drawings.

6.2.1.3 The protected area should be regarded as sacrosanct, and, once installed, barriers and ground protection should not be removed or altered without prior recommendation by the project arboriculturist and, where necessary, approval from the local planning authority.

6.2.1.4 Where required, pre-development tree work may be undertaken before the installation of tree protection measures, with the agreement of the project arboriculturist or local planning authority if appropriate.

6.2.1.5 It should be confirmed by the project arboriculturist that the barriers and ground protection have been correctly set out on site, prior to the commencement of any other operations.

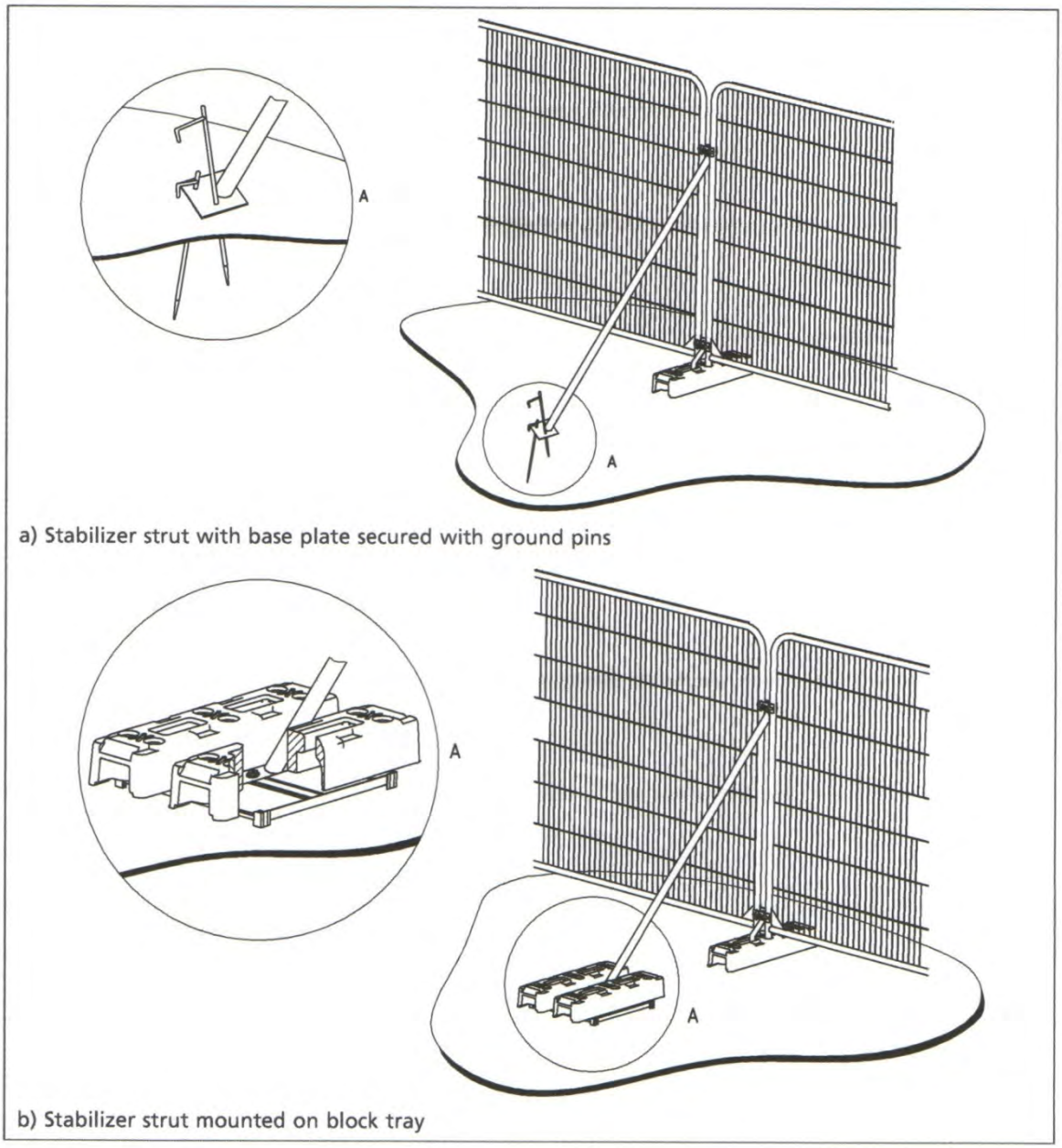
6.2.2 Barriers

6.2.2.1 Barriers should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree(s). Barriers should be maintained to ensure that they remain rigid and complete.

6.2.2.2 The default specification should consist of a vertical and horizontal scaffold framework, well braced to resist impacts. The vertical tubes should be spaced at a maximum interval of 3 m and driven securely into the ground. Onto this framework, welded mesh panels should be securely fixed. Care should be exercised when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid contact with structural roots. If the presence of underground services precludes the use of driven poles, an alternative specification should be prepared in conjunction with the project arboriculturist that provides an equal level of protection. Such alternatives could include the attachment of the panels to a free-standing scaffold support framework.

6.2.2.3 Where the site circumstances and associated risk of damaging incursion into the RPA do not necessitate the default level of protection, an alternative specification should be prepared by the project arboriculturist and, where relevant, agreed with the local planning authority. For example, 2 m tall welded mesh panels on rubber or concrete feet might provide an adequate level of protection from cars, vans, pedestrians and manually operated plant. In such cases, the fence panels should be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The distance between the fence couplers should be at least 1 m and should be uniform throughout the fence. The panels should be supported on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins. Where the fencing is to be erected on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabilizer struts should be mounted on a block tray.

BS5837: 2012 ROBUST TREE PROTECTION FENCING
WITH ABOVE GROUND STABILISING SYSTEMS



a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray

APPENDIX G: TREE PROTECTION MEASURES

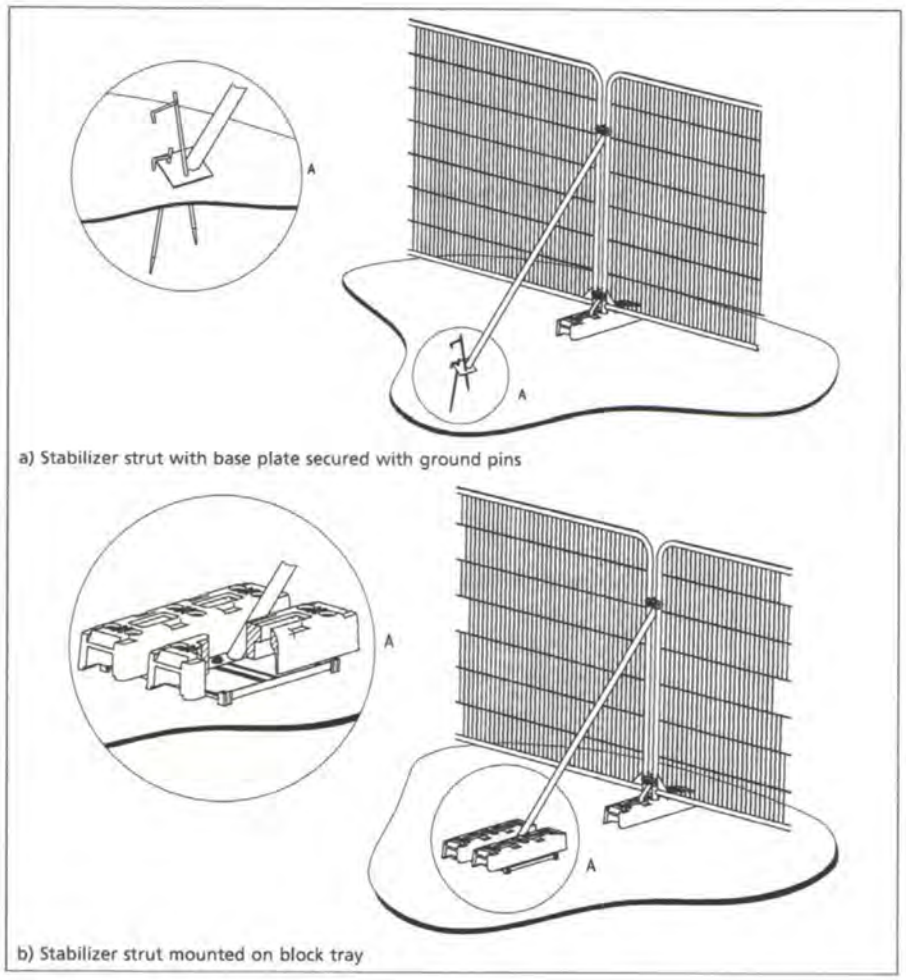
Protection Barriers

Tree protective barriers must accord with guidance set out in BS:5837 2012. Section 6.2.2 of the Standard sets out the default position, however it also states in 6.2.2.3 that 'where the site circumstances and associated risk do not necessitate the default position, an alternative specification should be prepared and agreed by the local planning authority'.

It is considered appropriate to recommend the use of formal tree protection fencing in certain locations. Because the works will involve larger plant, together with excavations etc, /HGV deliveries it is also felt appropriate that the fencing adopts a more robust style of fencing i.e. preformed galvanised steel mesh panels ('Heras' or similar) facings on a driven braced scaffold pole framework (see Figure 2).

This will both be a clear demarcation of the line beyond which disturbance of the RPA's will not occur, and minimise the risk of accidental disturbance in the RPAs of the retained trees. Subject to the precautions below being adhered to it is felt that this will provide sufficient protection of the RPA's, however' this must be agreed with the local authority on Site before any development work commences.

BS5837: 2012 ROBUST TREE PROTECTION FENCING
WITH ABOVE GROUND STABILISING SYSTEMS



Construction Compound

Any construction compound will be located beyond the perimeter of the pre-installed formal tree protection fencing to avoid impinging on the RPA of retained trees/shrubs/hedgerows.

Precautions when Working within RPAs

This section is included in the event that some working within RPAs of trees, currently identified to be felled, is possible, reducing the extent of tree felling on the Site perimeter, with the approval of the LPA and Tree Officer.

General Excavation

Any works required within the RPA must be carried out with care and the following general guidance followed (not all may be relevant).

Removal of Structures

All excavation within the RPA must be carried out by hand causing the minimum disruption of roots.
Exposed roots to be removed should be cut 10-20 cm behind the final face of excavation. Retained roots must be protected from direct sunlight, drying out and extreme temperatures by an appropriate covering. Roots greater than 25 mm should be retained where possible, roots 25 – 100 mm should only be cut in exceptional circumstances. Roots over 100 mm should only be cut following guidance from the arboricultural consultant.

Installation of New Structures

New structures within RPA's are potentially damaging, these should be designed to have the minimum impact on the RPA, this may include above ground construction using piling. New surfaces such as roads, paths and car parks should be constructed to allow water and gas movement, give load spreading to avoid compaction and be constructed with little or no excavation. Provision of new services should only pass through RPA's as a final resort, if this is the case trenchless installation is the preferred method. These are engineering issues that should be guided by tree expertise.

Access Track In the RPA

If any proposed access road passes through the RPA of some trees, a no dig approach needs to be adopted to minimise damage to roots located in this area. This needs to be combined with the use of a three-dimensional cellular confinement system such as Geocell or Cellweb.

Soft Landscaping

The proposed layout of the Site should aim to ensure that re-profiling will be kept outside the RPA's with ground levels maintained at original levels. Where there is a possibility of reprofiling extending over the RPA, this should be on a very small scale and not exceed any more than 15% of the RPA. Where new planting is proposed within the RPA's this should be carried out with care and ideally mulch rather than grass should be placed around the base of retained trees to reduce the risk of mowing damage.

Site Storage, Cement Mixing and Washing Points

All site storage areas, cement mixing and washing points for equipment and vehicles must be outside the RPA's. Where there is a risk of polluted water run off precautions must be in place to contain any spillages.

Drainage

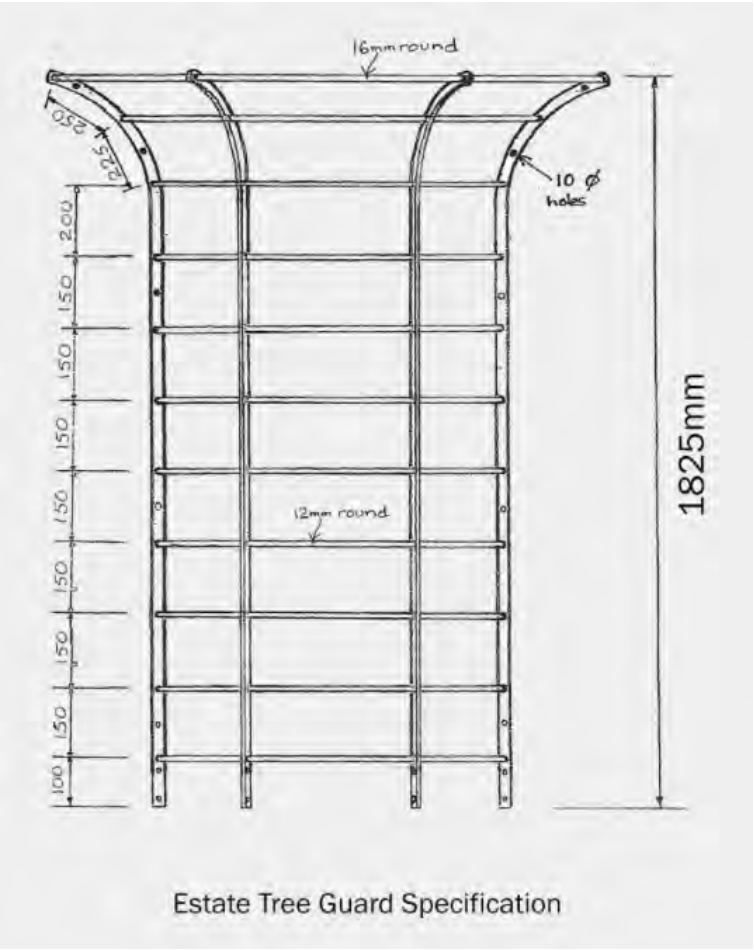
The construction of the Site and the use of drainage systems need to take into account the relative wetness/dryness of the adjacent soils/gardens and be aligned with these conditions (e.g. Site runoff should not be directed into areas of dry ground unless contained in a ditch or pond. Equally, the proposals should not intercept or reduce the existing flow of runoff into areas of wetter features.

Tree and Shrub Planting
Any proposed tree and shrub planting on completion should be carried out using the appropriate planting techniques for the size of plant being planted. Appropriate protection measures should be put in place to protect the plants during establishment; consideration should be given to potential threats from domestic stock, wild mammals and mechanical damage. Maintenance of all stock should be carried to ensure successful establishment, this will require replacement of losses and should continue for up to 5 years or until successful establishment is confirmed by the local authority.

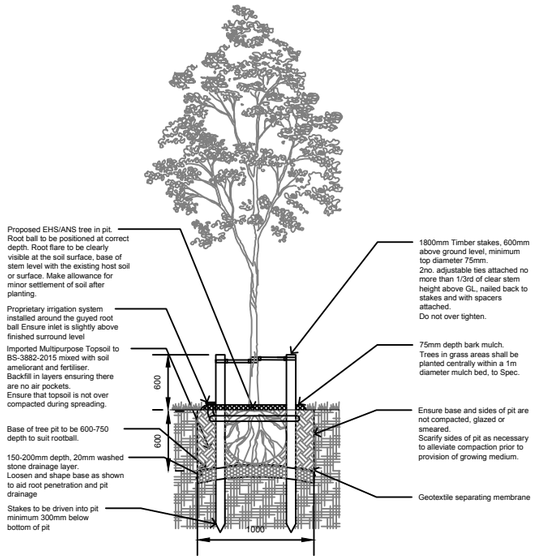
Tree Protection Supervision
Tree protection cannot be reliably implemented without some supervisory input. This input varies depending on the Site and resources available. It is recommended that specialist input is taken during the preparation period before work starts to ensure that any detail changes in the application are considered in relation to trees and shrubs. A pre-commencement meeting should take place with both the arboricultural consultant and local council representative in attendance prior to commencement of works to ensure all protection measures are in place.

Site Management
It is the developer's responsibility to ensure that the details of any agreed Method Statement and any subsequent amendments are fully understood by all Site personnel. It is recommended that a copy of the final Method Statement should be available on Site at all times.

Protection from Cattle Grazing.
Trees planted in the Gruffy Field will protected by a suitable grazing barrier constructed of galvanised steel, equivalent to the one shown below.



APPENDIX H: PLANTING AND BIODIVERSITY FEATURE PLANS



Tree Pit Detail - EHS 14-16cm trees in soft landscape areas
Not to scale
Refer to Planting Plans and Landscape Specification for further details

Proposed Plant Schedule

Proposed native woodland planting 60-80cm bare root whips total:
51No. Acer campestre
17No. Betula pendula
9No. Carpinus betulus
17No. Cornus sanguinea
17No. Corylus avellana
17No.Crataegus monogyna
9No. Ligustrum vulgare
34No. Ilex aquifolium 3L PG

Proposed native woodland planting feathered trees total:
17No. Acer campestre
5No. Betula pendula
3No. Carpinus betulus
5No. Cornus sanguinea
5No. Corylus avellana
5No.Crataegus monogyna
3No. Ligustrum vulgare
11No. Ilex aquifolium 7.5L PG

Native woodland mix to increase screening for residents at Melody Cottage. Comprising of standard trees underplanted with scrub mix reducing in height towards the outer western edge
4No. Acer campestre
3No. Alnus glutinosa
3No. Betula pendula
2No. Carpinus betulus
3No.Crataegus monogyna

Native climbers e.g. Ivy, Honey suckle, planted on northern side of acoustic wall trellis to attract insects and soften appearance in views

Proposed native woodland planting and standard trees to enhance screening and habitat
2No. Acer campestre
1No. Alnus glutinosa
1No. Betula pendula
1No. Carpinus betulus
1No.Crataegus monogyna

Rides cut through existing brambles to extended and enhanced bat tower roost

Existing native hedgerow reinforced to increase to minimum 2m width using native pollinating whip species e.g. Spindle, Guelder Rose and Wayfaring tree. Hedgerow to be allowed to develop to c4-5m high to create a more varied profile

Measure 1

Measure 2

KEY

- Red line boundary
- Bristol Airport boundary
- Existing trees and vegetation
- Existing native hedgerow reinforced by increasing width. Whips planted in single rows at 400mm centures
- Proposed specimen standard tree
- Proposed native woodland tree and shrub mix planting areas comprising standard stock and shrub whip planting.
- Proposed trellis and climbers on existing acoustic wall
- * Extended and enhaced bat tower roost

rev	description	date	by	chk
A	FINAL	03-10-2023	HC	MJ
-	PLANNING	12-05-2023	LS	MJ

A Amended to Planning Authority comments

NORTH

SCALE 1:1000 @ A1
0 10 20 30 40 50m

Standard Tree Planting
Standard trees (8-10cm girth) planted at locations shown along bund. Tree pits to be 900mm diameter x 0.6m deep. Backfilling material to be made up of 2/3 suitable excavated material and 1/3 peat free soil ameliorant. Short double staking on windward side, with tree secured to cross bar using soft rubber buckle tree ties. Removal of stakes and tie: 2 years after planting. All tree planting to be protected by spiral shelters. Watering:25 litres per tree every other week from April to September for the first two years (weekly during drought periods).

Species	% of Mix
Acer campestre (Field Maple)	25%
Alnus glutinosa (Alder)	20%
Betula pendula (Silver Birch)	20%
Carpinus betulus (Hornbeam)	10%
Crataegus monogyna (Hawthorn)	25%

Native Woodland Planting
Bare root transplants (60-80cm high) and 3L container grown Ilex planted at a spacing of 2m centers in 450mm of topsoil. 25% of the stock to compromise of feathered trees at a height of 175-200cm. Feathered trees to be planted in 0.9m diameter x 0.6m deep. Backfilling material to be made up of 2/3 suitable excavated material and 1/3 peat free soil ameliorant. Short single staking on windward side, with tree secured using soft rubber buckle tree ties. Removal of stakes and tie: 2 years after planting. All planting to be protected with shrub shelters and mulched to a depth of 75mm.

Species	% of Mix
Acer campestre (Field Maple)	30%
Betula pendula (Silver Birch)	10%
Carpinus betulus (Hornbeam)	5%
Cornus sanguinea (Dogwood)	10%
Corylus avellana (Hazel)	10%
Crataegus monogyna (Hawthorn)	10%
Ligustrum vulgare (Privet)	5%
Ilex aquifolium (Holly)	20%

Native Hedgerow Reinforcement
Bare root transplants (60-80cm high) planted in a triple staggered row with plants at 450mm centers and rows 450mm apart (equating to 7 plants per linear m). Hedge to be planted in 450mm of top soil and plants to be protected with spiral shrub shelters.

Species	% of Mix
Acer campestre (Field Maple)	20%
Corylus avellana (Hazel)	20%
Crataegus monogyna (Hawthorn)	30%
Euonymus europaeus	10%
Lonicera periclymenum	5%
Prunus spinosa (Blackthorn)	10%
Rosa arvensis	5%

NB: No change of level on these works

Project:
BRS12mpppa

Client:
BRISTOL AIRPORT

Drawing title:
INTEGRATED/EMBEDDED LANDSCAPE VISUAL & ECOLOGY MITIGATION MASTERPLAN NO. 01

Status:
PLANNING

Drawing Number:	Scale:	Revision:
J01111-MP-01	1:1000@A3	A

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Proposed Plant Schedule

Proposed standard tree planting total:
5No. Acer campestre
4No. Alnus glutinosa
4No. Betula pendula
3No. Carpinus betulus
5No.Crataegus monogyna

Proposed native woodland planting 60-80cm bare root whips total:
51No. Acer campestre
17No. Betula pendula
9No. Carpinus betulus
17No. Cornus sanguinea
17No. Corylus avellana
17No.Crataegus monogyna
9No. Ligustrum vulgare
34No. Ilex aquifolium 3L PG

Proposed native woodland planting feathered trees total:
17No. Acer campestre
5No. Betula pendula
3No. Carpinus betulus
5No. Cornus sanguinea
5No. Corylus avellana
5No.Crataegus monogyna
3No. Ligustrum vulgare
11No. Ilex aquifolium 7.5L PG

KEY

- Red line boundary
- Bristol Airport boundary
- Existing trees and vegetation
- Existing hedgerows
- Existing grassland management (refer to Grassland Management Plan)
- Proposed specimen standard trees comprising of standards and feathered trees
- Proposed mown grass nature trail
- Proposed native hedge planting with tree specimens

rev	description	date	by	chk
A	FINAL	03-10-2023	HC	MJ
-	PLANNING	12-05-2023	LS	MJ

A Amended to Planning Authority comments

NORTH

SCALE 1:1000 @ A1
0 10 20 30 40 50m

PLANTING GENERAL

All planting work shall be in accordance with approved horticultural standards and all relevant British Standards. Plants shall be supplied in accordance with the HTA Trade Certification Scheme and handled in accordance with the CPSE Handling and Establishment of Landscape Plants Guidelines. Existing trees to be retained shall be protected in accordance with BS 5837:20l2 'Trees in Relation to Design, Demolition and Construction-Recommendations'. Planting areas, apart from meadow areas, are to be prepared with topsoil that meets the general standards set out in BS 3882:2015 - Specification for Topsoil.

INDICATIVE SPECIES LIST

Standard Tree Planting

Standard trees (8-10cm girth, 2.5-3m ht) planted at locations shown along bund. Tree pits to be 900mm diameter x 0.6m deep. Backfilling material to be made up of 2/3 suitable excavated material and 1/3 peat free soil ameliorant. Short double staking on windward side, with tree secured to cross bar using soft rubber buckle tree ties. Removal of stakes and tie: 2 years after planting. All tree planting to be protected by spiral shelters.Watering: 25litres per tree every other week from April to September for the first two years (weekly during drought periods)

Species	% of Mix
Acer campestre (Field Maple)	25%
Alnus glutinosa (Alder)	20%
Betula pendula (Silver Birch)	20%
Carpinus betulus (Hornbeam)	10%
Crataegus monogyna (Hawthorn)	25%

Woodland Understorey Planting

Bare root transplants (60-80cm high) and 3L container grown Ilex planted at a spacing of 2m centers in 450mm of topsoil. 25% of the stock to compromise of feathered trees at a height of 175-200cm. Feathered trees to be planted in 0.9m diameter x 0.6m deep. Backfilling material to be made up of 2/3 suitable excavated material and 1/3 peat free soil ameliorant. Short single staking on windward side, with tree secured using soft rubber buckle tree ties. Removal of stakes and tie: 2 years after planting. All planting to be protected with shrub shelters and mulched to a depth of 75mm.

Species	% of Mix
Taxus baccata (Yew)	10%
Acer campestre (Field Maple)	30%
Quercus robur (Pedunculate Oak)	10%
Carpinus betulus (Hornbeam)	5%
Cornus sanguinea (Dogwood)	10%
Corylus avellana (Hazel)	10%
Crataegus monogyna (Hawthorn)	10%
Ligustrum vulgare (Privet)	5%
Ilex aquifolium (Holly)	10%

Wild Flower Seed Mix

Proposed grassland overseed mix for the northern meadow area

Species	% of Mix
Lotus corniculatus (Birdfoot Trefoil)	5%
Centaurea nigra (Black Knapweed)	8%
Medicago lupilina (black Medic)	5%
Vicia sativa (Common Vetch)	5%
Ranunculus acris (Meadow Buttercup	7%
Malva moschata (Musk Mallow)	4%
Leucanthemum vulgare (Ox Eye Daisy)	12%
Silene dioca (Red Campion)	8%
Plantago lanceolata (Ribwort Plantain)	12%
Prunella vulgaris (Self Heal)	13%
Silene alba (White Campion)	15%
Achillea millefolium (Yarrow)	6%

NB: No change of level on these works

Project:
BRS12mpppa

Client:
BRISTOL AIRPORT

Drawing title:
INTEGRATED/EMBEDDED LANDSCAPE VISUAL & ECOLOGY MITIGATION MASTERPLAN NO.02

Status:
PLANNING

Drawing Number:	Scale:	Revision:
J01111-MP-02	1:1000@A3	A

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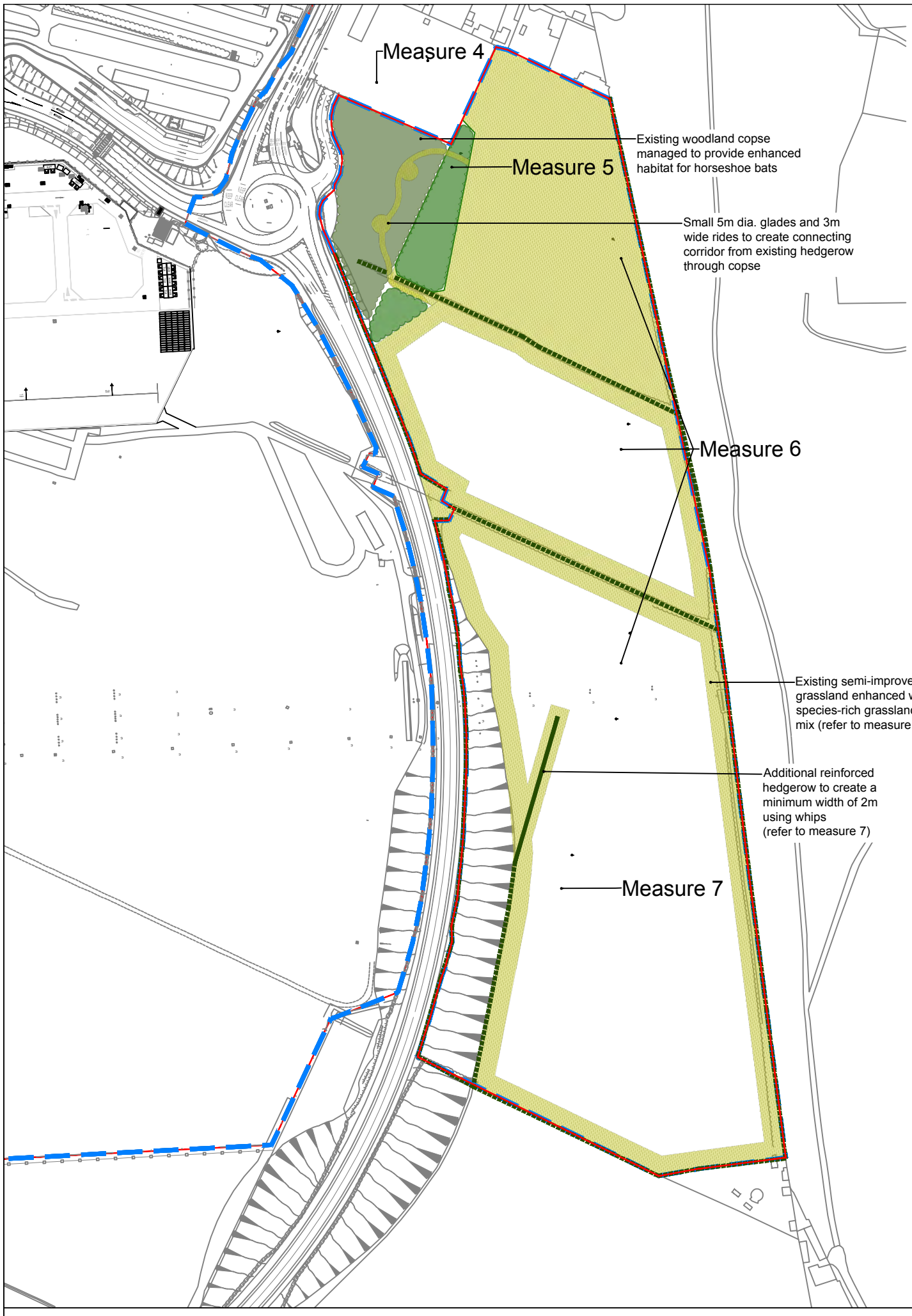

KEY

- Red line boundary
- Bristol Airport boundary
- Existing trees and vegetation
- Existing hedgerows
- Existing semi-improved grassland enhanced with species-rich grassland mix
- Existing hedgerow reinforced using native hedge species
- Existing slopes
- Proposed native woodland tree and shrub mix planting areas comprising standard stock and shrub whip planting.

Woodland Planting
Bare root transplants (60-80cm high) and 3L container grown Ilex planted at a spacing of 2m centers in 450mm of topsoil. 25% of the stock to compromise of feathered trees at a height of 175-200cm. Feathered trees to be planted in 0.9m diameter x 0.6m deep. Backfilling material to be made up of 2/3 suitable excavated material and 1/3 peat free soil ameliorant. Short single staking on windward side, with tree secured using soft rubber buckle tree ties. Removal of stakes and tie: 2 years after planting. All planting to be protected with shrub shelters and mulched to a depth of 75mm. Watering 25 litres per tree every other week from April to September for the first two years (weekly during drought periods).

Species	% of Mix
Alnus glutinosa (Alder)	10%
Acer campestre (Field Maple)	30%
Betula pendula (Silver Birch)	15%
Cornus sanguinea (Dogwood)	10%
Corylus avellana (Hazel)	10%
Crataegus monogyna (Hawthorn)	10%
Ligustrum vulgare (Privet)	5%
Ilex aquifolium (Holly)	10%

Hedgerow Planting
Bare root transplants (60-80cm high) planted in a triple staggered row with plants at 450mm centers and rows 450mm apart (equating to 7 plants per linear m). Hedge to be planted in 450mm of top soil and plants to be protected with spiral shrub shelters.

Species	% of Mix
Acer campestre (Field Maple)	20%
Corylus avellana (Hazel)	20%
Crataegus monogyna (Hawthorn)	30%
Euonymus europaeus	10%
Lonicera periclymenum	5%
Prunus spinosa (Blackthorn)	10%
Rosa arvensis	5%

Meadow and Grass Seed
Where over-seeding of wildflower seed is required, method of distribution to be dispersal by hand unless otherwise agreed by Bristol Airport / Ecologist. For areas to be overseeded by hand, ground to be scarified first, and then seed applied by conventional sowing technique - by hand, back mounted spreader or tractor/other machine spreader. To be carried out in autumn window when the grass sward is more open and less aggressive.

Where over-seeding with wildflower seed, a suitable seed mix will be used to enhance the existing plant communities as well as meeting specific requirements for airfield safeguarding under CAP722, using following mix;

Species	% of Mix
Lotus corniculatus (Birdsfoot Trefoil)	5%
Centaurea nigra (Black Knapweed)	8%
Medicago lupilina Yellow (Black Medic)	5%
Vicia sativa *(Common Vetch)	5%
Ranunculus acris (Meadow Buttercup)	7%
Malva moschata (Musk Mallow)	4%
Leucanthemum vulgare (Ox Eye Daisy)	12%
Silene dioca (Red Campion)	8%
Plantago lanceolata (Ribwort Plantain)	12%
Prunella vulgaris purple (Self Heal)	13%
Silene alba White (White Campion)	15%
Achillea millefolium(Yarrow)	6%

NB: No change of level on these works

rev	description	date	by	chk
A	FINAL	03-10-2023	HC	MJ
-	PLANNING	12-05-2023	LS	MJ

A Amended to Planning Authority comments

NORTH

0 50m 100m 150m

Metres Scale 1:2,500

Project:
BRS12mpppa

Client:
BRISTOL AIRPORT

Drawing title:
INTEGRATED/EMBEDDED LANDSCAPE VISUAL & ECOLOGY MITIGATION MASTERPLAN NO.03

Status:
PLANNING

Drawing Number:	Scale:	Revision:
J01111-MP-03	1:2500@A3	A

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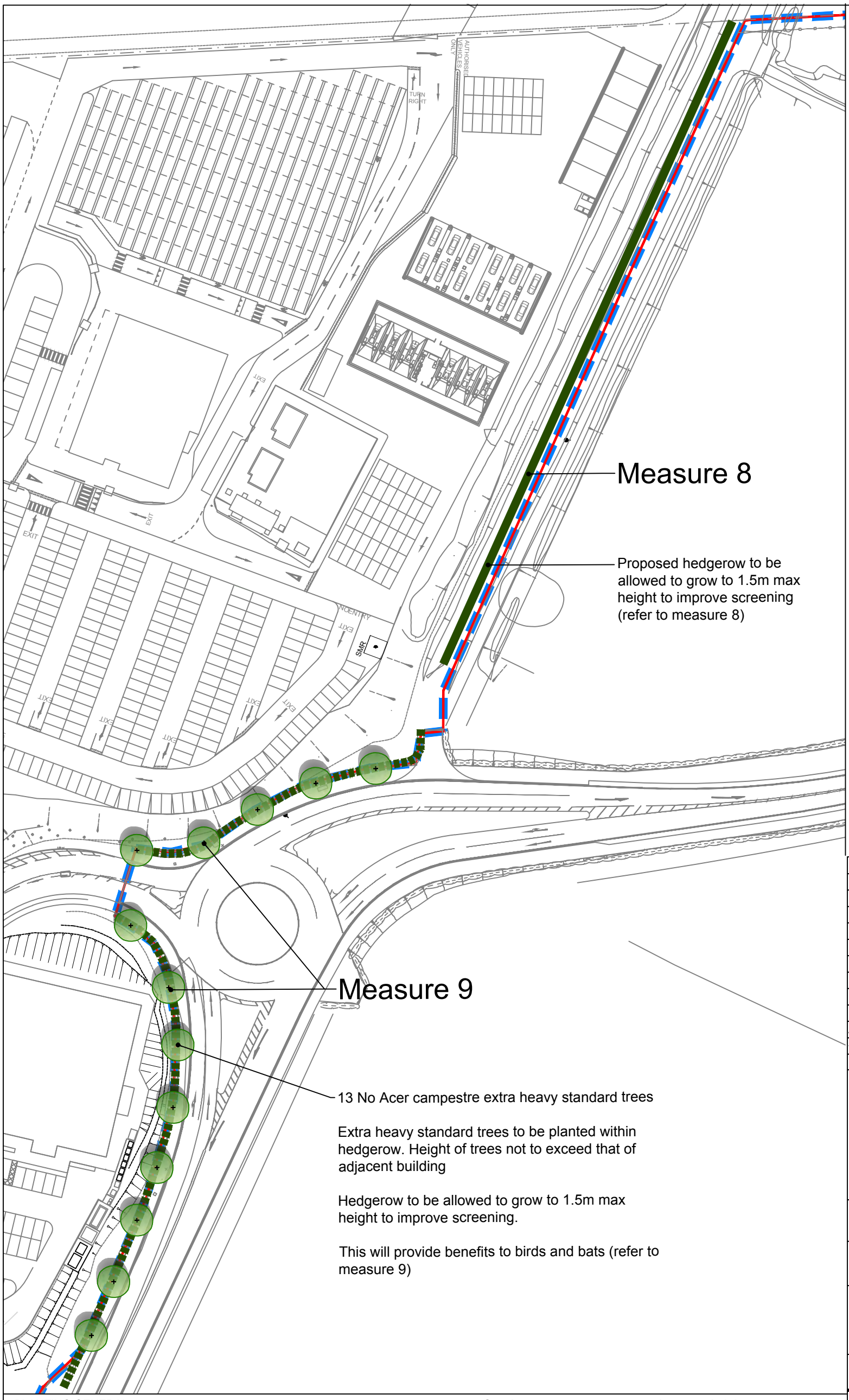

KEY

- Red line boundary
- Bristol Airport boundary
- Existing hedgerows
- Proposed specimen extra heavy standard trees 14-16cm girth
- Proposed native hedge planting

NB: No change of level on these works

rev	description	date	by	chk
A	FINAL	03-10-2023	HC	MJ
-	PLANNING	12-05-2023	LS	MJ

A Amended to Planning Authority comments

NORTH

0 50m 100m 150m

Metres Scale 1:2,500

Project:
BRS12mpppa

Client:
BRISTOL AIRPORT

Drawing title:
INTEGRATED/EMBEDDED LANDSCAPE VISUAL & ECOLOGY MITIGATION MASTERPLAN NO. 04

Status:
PLANNING

Drawing Number:	Scale:	Revision:
J01111-MP-04	1:1000@A3	A

PLANTING GENERAL

All planting work shall be in accordance with approved horticultural standards and all relevant British Standards. Plants shall be supplied in accordance with the HTA Trade Certification Scheme and handled in accordance with the CPSE Handling and Establishment of Landscape Plants Guidelines. Existing trees to be retained shall be protected in accordance with BS 5837:20I2 'Trees in Relation to Design, Demolition and Construction- Recommendations'. Planting areas, apart from meadow areas, are to be prepared with topsoil that meets the general standards set out in BS 3882:2015 - Specification for Topsoil

Tree Planting

Extra Heavy Standard trees (3.50-4.00m high) planted at locations shown. Tree pits to be 1m diameter x 0.7m deep. Backfilling material to be made up of 2/3 suitable excavated material and 1/3 peat free soil ameliorant. Short double staking on windward side, with tree secured to cross bar using soft rubber buckle tree ties. Removal of stakes and tie: 2 years after planting. All tree planting to be protected by spiral shelters. Watering: 25 litres per tree every other week from April to September for the first two years (weekly during drought periods).

Species	size	height
Acer campestre (Field Maple)	EHS	3.5-4m

Hedgerow Planting

Bare root transplants (60-80cm high) planted in a triple staggered row with plants at 450mm centers and rows 450mm apart (equating to 7 plants per linear m). Hedge to be planted in 450mm of top soil and plants to be protected with spiral shrub shelters.

Species	% of Mix
Acer campestre (Field Maple)	20%
Corylus avellana (Hazel)	20%
Crataegus monogyna (Hawthorn)	30%
Euonymus europaeus	10%
Lonicera periclymenum	5%
Prunus spinosa (Blackthorn)	10%
Rosa arvensis	5%

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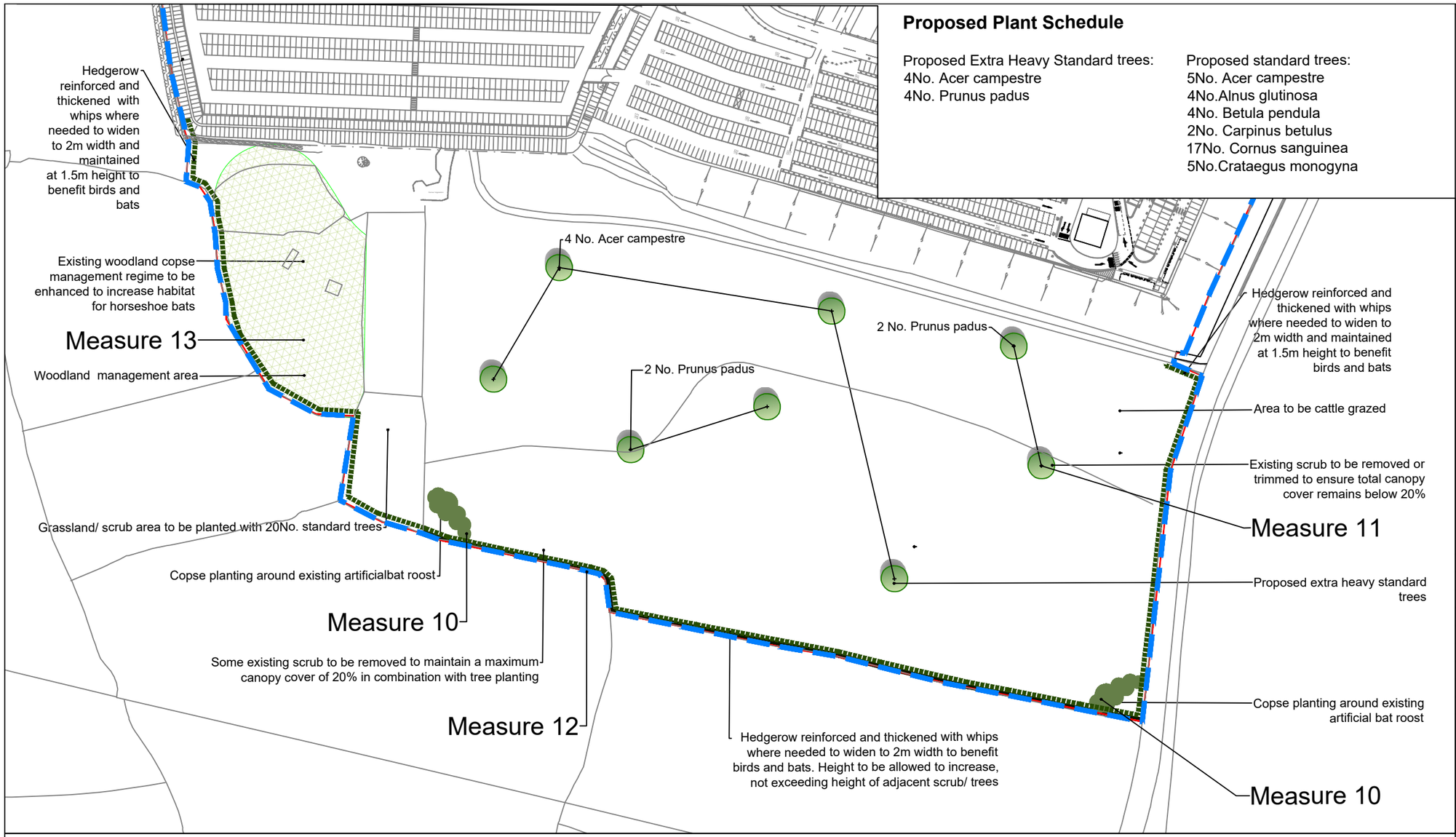

Proposed Plant Schedule

Proposed Extra Heavy Standard trees:
4No. Acer campestre
4No. Prunus padus

Proposed standard trees:
5No. Acer campestre
4No.Alnus glutinosa
4No. Betula pendula
2No. Carpinus betulus
17No. Cornus sanguinea
5No.Crataegus monogyna

KEY

- Red line boundary
- Bristol Airport boundary
- Existing trees and vegetation
- Existing hedgerows
- Proposed extra heavy standard trees comprising a mix of sizes from 10-12cm girth to 16-18cm girth depending on species / location (see species list for details)
- Proposed native hedge planting with tree specimens (see species list for details)
- Woodland Management Area

NB: No change of level on these works

rev	description	date	by	chk
A	FINAL	02-10-2023	HC	MJ
-	PLANNING	12-05-2023	LS	MJ

A Amended to Planning Authority comments

NORTH

SCALE 1:2000 @ A1

0 25m 50m 100m

Habitat enhancements will provide improved habitat and foraging for horseshoe bats.

The management regime of the existing woodland copse to the west is to be enhanced to increase habitat for horseshoe bats. Existing building bat roost are to be enhanced and extended. There is also to be a new building bat roost.

Two small copses are to be planted to the southwest and southeast corners of Gruffys Field to add further enhancements to bat habitat. Improvements will include enhancement of and extending horseshoe bat night feeding perches. The resulting habitat will benefit birds, bats, badgers, small mammals and invertebrates.

PLANTING GENERAL
All planting work shall be in accordance with approved horticultural standards and all relevant British Standards. Plants shall be supplied in accordance with the HTA Trade Certification Scheme and handled in accordance with the CPSE Handling and Establishment of Landscape Plants Guidelines. Existing trees to be retained shall be protected in accordance with BS 5837:20l2 'Trees in Relation to Design, Demolition and Construction- Recommendations'. Planting areas, apart from meadow areas, are to be prepared with topsoil that meets the general standards set out in BS 3882:2015 - Specification for Topsoil.

INDICATIVE SPECIES LIST

Tree Planting
Extra Heavy Standard trees (3.50-4.00m high) planted at locations shown. Tree pits to be 1m diameter x 0.7m deep. Backfilling material to be made up of 2/3 suitable excavated material and 1/3 peat free soil ameliorant. Standard trees (2.5-3m high), tree pits to be 0.9m x 0.6m deep. All trees to be short double staked on windward side, with tree secured to cross bar using soft rubber buckle tree ties. Removal of stakes and tie: 2 years after planting. All tree planting to be protected by spiral shelters. Watering: 25 litres per tree every other week from April to September for the first two years (weekly during drought periods).

Species	Size	Girth	Height
Acer campestre (Field Maple)	EHS	14-16cm	3.5-4m
Prunus padus (bird cherry)	EHS	14-16cm	3.5-4m

Hedgerow Planting
Bare root transplants (60-80cm high) planted in a triple staggered row with plants at 450mm centers and rows 450mm apart (equating to 7 plants per linear m). Hedge to be planted in 450mm of top soil and plants to be protected with spiral shrub shelters and fencing to prevent cattle browsing.

Species	% of Mix
Acer campestre (Field Maple)	20%
Corylus avellana (Hazel)	20%
Crataegus monogyna (Hawthorn)	30%
Euonymus europaeus	10%
Lonicera periclymenum	5%
Prunus spinosa (Blackthorn)	10%
Rosa arvensis	5%

Project:
BRS12mpppa

Client:
BRISTOL AIRPORT

Drawing title:
INTEGRATED/EMBEDDED LANDSCAPE VISUAL & ECOLOGY MITIGATION MASTERPLAN NO. 05

Status:
FINAL

Drawing Number:	Scale:	Revision:
J01111-MP-01	1:2000@A3	A

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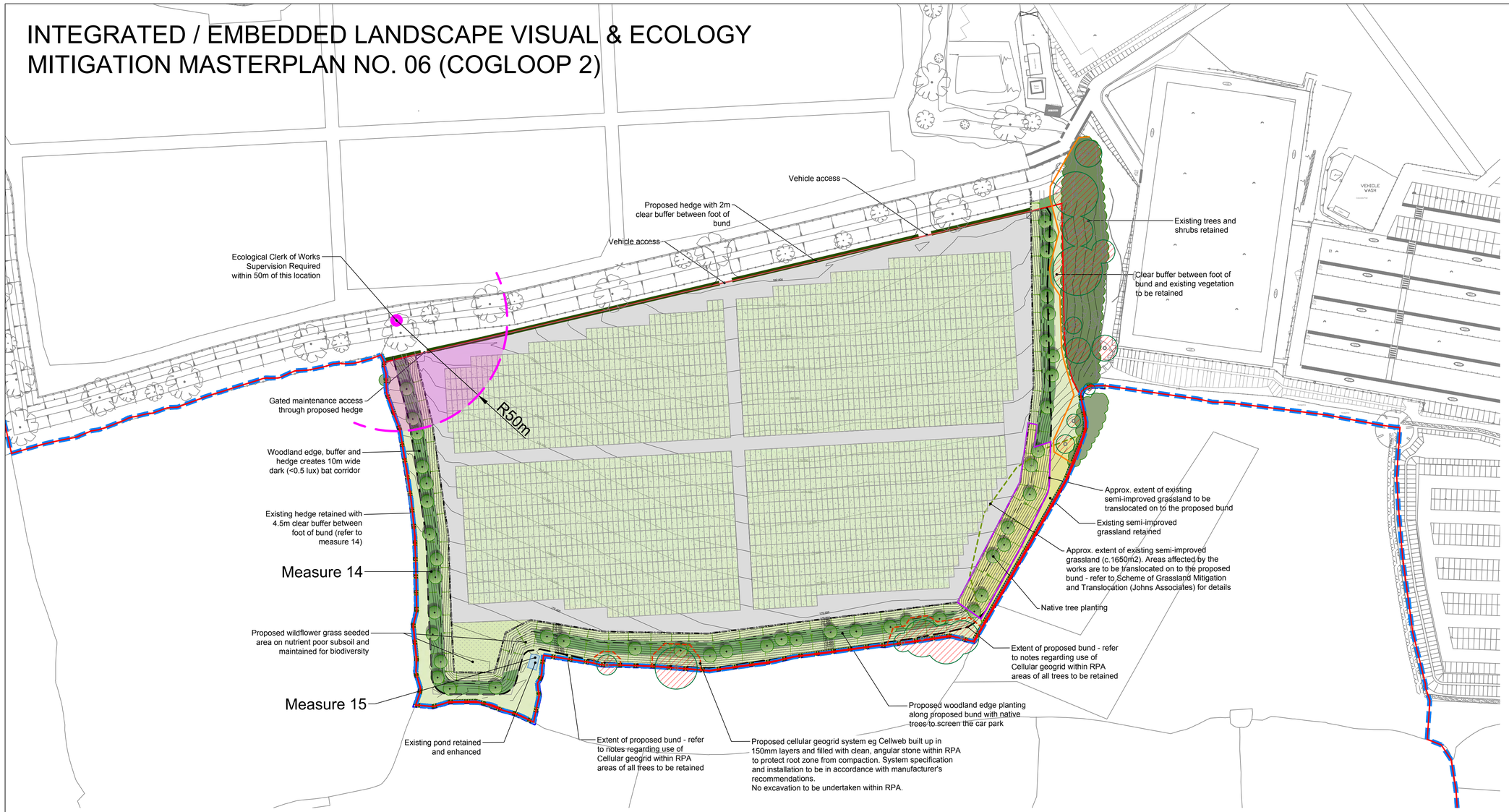
INTEGRATED / EMBEDDED LANDSCAPE VISUAL & ECOLOGY MITIGATION MASTERPLAN NO. 06 (COGLOOP 2)



NORTH

KEY

- Cogloop 2 boundary
- Bristol airport boundary
- Existing trees and vegetation
- Existing hedgerows
- Existing semi-improved grassland retained
- Approx. extent of translocated semi-improved grassland
- Proposed woodland edge native tree and shrub mix planting areas comprising c.75% 1+1 60-80cm stock and 25% feathered stock at 1m centres.
- Proposed specimen standard trees comprising 10-12cm girth stock
- Proposed native hedge planting with tree specimens
- Proposed grass
- Proposed areas for species-rich grassland using locally sourced seed where available.
- Proposed grass car parking bays
- Proposed asphalt entrance road and circulation area
- Existing pond retained and enhanced
- Proposed 3m high security fence
- Proposed slopes
- Tree Root Protection Areas - Ecological Clerk of Works Supervision Required at each RPA zone
- Tree Protection Fencing to BS5837
- Approximate extent of proposed cellular geogrid system required to build up bund levels within RPAs to protect root zone from compaction. System specification and installation to be in accordance with manufacturer's recommendations. No excavation to be undertaken within RPA

The landscape bund is designed to screen the Car Park extension from sensitive receptors in the surrounding landscape and minimise effects associated with light spill, noise and vibrations. Planting along the bund will improve the biodiversity of the site by creating new areas of habitats and foraging territory, as well as horseshoe bats, meadow planting along the interior slope of the bund is intended to provide habitat for prey species for bats.

The indicative species list has been selected in accordance with Civil Aviation Authority CAP: 722 with species selected to not provide roosting or nesting opportunities or provide food in the form of fruits (acorns, beech-mast etc.) flowers and leaves.

PLANTING GENERAL
All planting work shall be in accordance with approved horticultural standards and all relevant British Standards. Plants shall be supplied in accordance with the HTA Trade Certification Scheme and handled in accordance with the CPSE Handling and Establishment of Landscape Plants Guidelines. Existing trees to be retained shall be protected in accordance with BS 5837:2012 'Trees in Relation to Design, Demolition and Construction-Recommendations'. Planting areas, apart from meadow areas, are to be prepared with topsoil that meets the general standards set out in BS 3882:2015 - Specification for Topsoil.

NOTES:
- CBR value for proposed cellular geogrid system to be verified prior to commencing works.
- Proposed setting out and levels to be checked and verified on site prior to commencing work (by others).
- The location of all existing services / utilities to be confirmed (by others).
- This drawing to be read in conjunction with all other relevant disciplines drawings, schedules, specifications and supporting information as required.
- This drawing should not be scaled.
- Unless otherwise stated all dimensions are in metres.
- Any discrepancies are to be reported to Johns Associates Ltd and resolution sought before proceeding.

Tree Planting
Standard trees (2.50-3.00m high) planted at locations shown along bund. Tree pits to be 1m diameter x 0.7m deep. Backfilling material to be made up of 2/3 suitable excavated material and 1/3 peat free soil ameliorant. Short double staking on windward side, with tree secured to cross bar using soft rubber buckle tree ties. Removal of stakes and tie: 2 years after planting. All tree planting to be protected by spiral shelters.

Species	% of Mix
Acer campestre (Field Maple)	25%
Alnus glutinosa (Alder)	20%
Betula pendula (Silver Birch)	20%
Carpinus betulus (Hornbeam)	10%
Crataegus monogyna (Hawthorn)	25%

Woodland Edge Planting
Bare root transplants (60-80cm high) and 3L container grown Ilex planted at a spacing of 2m centers in 450mm of topsoil. 25% of the stock to compromise of feathered trees at a height of 175-200cm.
Feathered trees to be planted in 0.9m diameter x 0.6m deep. Backfilling material to be made up of 2/3 suitable excavated material and 1/3 peat free soil ameliorant. Short single staking on windward side, with tree secured using soft rubber buckle tree ties. Removal of stakes and tie: 2 years after planting. All planting to be protected with shrub shelters and mulched to a depth of 75mm.

Species	% of Mix
Alnus glutinosa (Alder)	10%
Acer campestre (Field Maple)	30%
Betula pendula (Silver Birch)	10%
Carpinus betulus (Hornbeam)	5%
Cornus sanguinea (Dogwood)	10%
Corylus avellana (Hazel)	10%
Crataegus monogyna (Hawthorn)	10%
Ligustrum vulgare (Privet)	5%
Ilex aquifolium (Holly)	10%

Hedgerow Planting
Bare root transplants (60-80cm high) planted in a triple staggered row with plants at 450mm centers and rows 450mm apart (equating to 7 plants per linear m). Hedge to be planted in 450mm of top soil and plants to be protected with spiral shrub shelters.

Species	% of Mix
Acer campestre (Field Maple)	30%
Corylus avellana (Hazel)	50%
Crataegus monogyna (Hawthorn)	10%
Prunus spinosa (Blackthorn)	10%

Meadow and Grass Seed
Proposed grassland overseed mix

Species	% of Mix
Lotus corniculatus (Birdfoot Trefoil)	5%
Centaurea nigra (Black Knapweed)	8%
Medicago lupilina (black Medic)	5%
Vicia sativa (Common Vetch)	5%
Ranunculus acris (Meadow Buttercup	7%
Malva moschata (Musk Mallow)	4%
Leucanthemum vulgare (Ox Eye Daisy)	12%
Silene dioca (Red Campion)	8%
Plantago lanceolata (Ribwort Plantain)	12%
Prunella vulgaris (Self Heal)	13%
Silene alba (White Campion)	15%
Achillea millefolium (Yarrow)	6%

Planting Schedule

Standard Trees (Rootballed or CG)

12 No. Acer campestre (Field Mqple)	2.5-3m / 8-10cm girth
9No. Alnus glutinosa (Alder)	2.5-3m / 8-10cm girth
9No. Betula pendula (Silver Birch)	2.5-3m / 8-10cm girth
5 No. Carpinus betulus (Hornbeam)	2.5-3m / 8-10cm girth
12 No. Crataegus monogyna (Hawthorn)	2.5-3m / 8-10cm girth

Feathered Trees (Bare root except where otherwise stated)
19No. Alnus glutinosa (Alder)
57No. Acer campestre (Field Maple)
19No. Betula pendula (Silver Birch)
9No. Carpinus betulus (Hornbeam)
19No. Cornus sanguinea (Dogwood)
19No. Corylus avellana (Hazel)
19No. Crataegus monogyna (Hawthorn)
10No.Ilex aquifolium (Holly) 7.5L CG
19No. Ligustrum vulgare (Privet)

60-80cm Transplants (Bare root except where otherwise stated)
57No. Alnus glutinosa (Alder)
171No. Acer campestre (Field Maple)
57No. Betula pendula (Silver Birch)
29No. Carpinus betulus (Hornbeam)
57No. Cornus sanguinea (Dogwood)
57No. Corylus avellana (Hazel)
57No. Crataegus monogyna (Hawthorn)
30No.Ilex aquifolium (Holly) 3L CG
57No. Ligustrum vulgare (Privet)

rev	description	date	by	chk
C	Planting schedule added	06-10-2023	HC	JH
B	Extent of translocated grassland clarified	27-07-2023	JH	MJ
A	Revised to Hydrock 14522-HYD-XX-XX-M2-C-0001 -Highway Alignment-23.07.18	19-07-2023	JH	MJ
-	PLANNING	12-05-2023	LS	MJ

0 5 10 20 30 40 50
METRES

Project:
BRS 12mppa

Client:
BRISTOL AIRPORT

Drawing title:
INTEGRATED / EMBEDDED LANDSCAPE VISUAL & ECOLOGY MITIGATION MASTERPLAN NO. 06 (COGLOOP 2)

Status:
PLANNING

Drawing Number:	Scale:	Revision:
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APPENDIX I: INTEGRATED LANDSCAPE AND BIODIVERSITY MANAGEMENT AND MONITORING SCHEDULE (INCLUDING CONDITION 20G)

Landscape and Biodiversity Mitigation and Management Plan - Schedule of Typical Operations

Bristol Airport - On Site

Ch = Check and if necessary, carry out
Certain operations may be affected by weather and/or seasonal conditions.
Contractors are to advise the Client Representative (CR) of any such factors.
Ca = Carry out
CR = Client Representative SQE= Suitably Qualified Ecologist

REF.	OPERATION	Frequency	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
1.0	**Introduction**													
	Principal ecological seasonal constraints:													
	Bat roosting habitat													
	Bird nesting season													
2.0	**General**													
	Management Review	Annual check / Review LBMMP every year.									Ca			
	Control of invasive non-native species	As instructed												
	Weed Control	As required		Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch		
	Vegetation management	As required				Ch	Ch	Ch	Ch	Ch	Ch			
	Watering	As required to ensure field capacity until new planting fully established				Ch	Ch	Ch	Ch	Ch	Ch			
	Litter collection	Monthly	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch
3.0	**Management Prescriptions - Habitat Types**													
3.1	**Wildflower Grassland**													
	Hand-pull undesired species	Monthly	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch
	Cutting	Spring and late summer			Ca					Ca		Ch		
	Reinstatement	As required			Ch	Ch	Ch				Ch	Ch		
	Spot weedkilling	Only with SQE and CR's approval		Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch		
3.2	**Woodland, Trees, Scrub and Hedgerow**													
	Existing mature trees woodland	Inspect as required	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch
	New planting - replacement planting as required	As required	Ch	Ch	Ch								Ch	Ch
	New planting - watering	As required to ensure field capacity until new planting fully established				Ch	Ch	Ch	Ch	Ch	Ch			
	New planting - check stakes / guards / shelters - check and reset / replace as required	As required to ensure field capacity until new planting fully established			Ch	Ch	Ch	Ch	Ch	Ch	Ch			
	Weed removal	As required	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch
	Tree removal	As required	Ch										Ch	Ch
	Monitoring	Throughout growing season			Ch	Ch	Ch	Ch	Ch	Ch	Ch			
	Pruning / Maintenance	As required	Ch	Ch									Ca	Ca
3.30	**Pond**													
	Management of vegetation within pond. Removal of sediment that has accumulated overtime and collection of litter and debris.	Remove any excess duckweed in spring, scooping up by running a net across the surface and remove excess blanket weed using a net, cane or stick. Keep approx. 25% of open water available.			Ch	Ch								
		Remove any excess aquatic or marginal plants in the winter (November to January inclusive). If marginals become too big in the summer, these can be cut back as required. Any vegetation to be left on the side of the host feature for 48 hours before removal to designated compost area.	Ch										Ch	Ch

		Monitor sediment levels within the pond and carry out periodic removal by hand if found to be impacting performance of the pond / water quality. Monitor pond for non-native and invasive species and implement an eradication programme if identified.													
3.40	Other Grassland	See separate scheme of grassland translocation, mitigation and management													
3.50	Off-site Woodland	See separate Woodland Management Plan													
4.0	**Autumn/Winter Maintenance**														
4.1	Autumn clearance	as required									Ch	Ch	Ch		
4.2	Autumn/Winter leaf removal	as required	Ch	Ch							Ch	Ch	Ch	Ch	
5.0	**Hard-Landscaped Areas**														
5.1	Sweeping	as required	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	Ch	
5.2	Weed control	as required			Ch	Ch	Ch	Ch	Ch	Ch	Ch				
5.3	Leaf Removal	as required													
5.4	Fencing/ Gates	as required													
6.0	**Management Prescriptions - Habitat Structures**														
	Bat and Bird Boxes														
6.1	Monitor and maintain	Recommended annually - checks by SQE	Ca	Ca								Ca	Ca	Ca	

1. Annual Ecological Walkover Inspection to Inform Management and Reporting / Consultation on the LBMMP.

2. Detailed On-Site Landscape and Biodiversity Monitoring Protocol (repeat of 12mppa baseline surveys) to be undertaken in the first year of the completion of Silver Zone 2 (Cogloop2) Extension, then in Year 3, then Year 5 and then on a rolling 5 yearly basis.

• Inspection of the condition of planted landscape features (trees, shrubs, grassland) and hedgerow heights.
• Condition assessment of woodland at Bristol Airport
• Extended Phase 1 Habitat Survey of Bristol Airport
• Bat Habitat suitability - Assessment of the land use and component habitat matrix and formation data to be undertaken in order to complete the Integrated Habitat System (IHS) mapping required to ascertain the value of the habitat to horseshoe bats[1]
• Bat Potential Roost buildings, artificial structures and trees - All buildings to undergo internal and external inspections for potential bat roost features (PRFs)[2].
• Bat Activity Surveys. The surveys to be conducted within industry guidance[2]. Automated Detector Surveys[3] - Habitats assessed as presenting high suitability for bats[2] to undergo surveys from April to October inclusive, fully compliant with the relevant technical standards. The application site is located within Bat Consultation Zone B of the North Somerset and Mendips Bat SAC[4]. Transect surveys complied with current industry guidelines[4]. 10 surveys to be conducted each month over April to October inclusive.
• Dormouse: habitat assessed for its quality and suitability for dormice. Nest tubes deployed and surveyed and checked a minimum of once every two months over April to October for signs of dormice.
• Badger: a survey of the land within Bristol Airport and in immediately adjacent areas. The survey to involve a search for characteristic signs of badger activity, including setts, latrines/dung pits, paths, fence push-ups, hairs caught on fences or vegetation or in spoil heaps, paw prints and feeding signs.
• Great Crested Newt: eight water bodies are identified within 500m of the application site. Habitat Suitability Index (HSI) assessments to be conducted and all ponds were surveyed a minimum of four times, with any ponds supporting great crested newts to be surveyed on a further two occasions.
• Reptiles: these animals have not been recorded at Bristol Airport since surveys commenced in 2005. Presence / absence refugia surveys to be undertaken in line with guidance from Froglife[5],[6].
• Birds: breeding bird survey to be carried out over five survey visits in April to June, inclusive.

Please refer to separate Scheme of Grassland Translocation, Mitigation and Management and Woodland Management Plan for associated monitoring protocols.

[1] Additional guidance on field data requirements for the purposes of IHS classification were followed as detailed in IHS (v 2.0) Habitat Mapping to GIS and IHS Definitions Version 2-001 (Somerset Environmental Records Centre (SERC), 2006). During the course of the survey, available habitats were assessed for their suitability to support horseshoe bat species for roosting, commuting and foraging purposes.

[2] Conducted in accordance with: Bat Conservation Trust, 2016. Bat Survey Guidelines for Professional Ecologists: Good Practice Guidelines, [online]. Available at: https://www.bats.org.uk/news/2016/02/bat-surveys-for-professional-ecologists-good-practice-guidelines-3rd-edition

[3] Lighting Surveys - Microdaq HOBO remote data loggers or equivalent to be deployed alongside the automated (static) bat detectors in the proposed These remote data loggers should be configured to record lux levels at 30-minute intervals throughout the deployment period to inform bat data analysis.

[5] Froglife, 1999. Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth; and, Gent, A.H. and Gibson, S.D., Eds. (1998). Herpetofauna Workers' Manual. Joint Nature Conservation Committee, Peterborough. Revised and reprinted 2003.

[6] Froglife, 2015. Surveying for Reptiles: Tips, techniques and skills to help you surveys for reptiles, [online]. Available at: https://www.froglife.org/wp-content/uploads/2013/06/Reptile-survey-booklet-3mm-bleed.pdf

APPENDIX K: AIRPORT GRASSLAND MANAGEMENT, ENHANCEMENT AND TRANSLOCATION PLAN

Growth of Bristol Airport to 12mppa

Scheme of Grassland Management, Mitigation and Translocation (Planning Condition 24)

Prepared for: Bristol Airport Ltd

Date: 08/10/23

DOCUMENT CONTROL

Document prepared for

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Document revisions

Version	Details	Date
V1.0 Draft	Issued to project team for comment	May 1st 2023
V1.1 Updated Draft	Issued to client following receipt of comments	May 14th 2023
V1.2 Final Version	Issued for Condition Discharge	08/10/23

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Background

1.1.1 This document has been created to satisfy Condition 24 associated with planning application Number 18/P/5118/OUT, with respect to the growth of Bristol Airport to 12mppa.

1.1.2 This document sets out the specifics of the proposed grassland mitigation and translocation (associated with Planning Condition 24) across land owned and managed by Bristol Airport. The aim of this plan is to increase its diversity and ecological condition, as well as the successful translocation of two areas of more species rich grassland, likely to be considered Habitats of Principal Importance as included in Section 41 of the Natural Environment and Rural Communities Act 2006.

1.1.3 Prior to the commencement of any works to the airfield grassland, expansion of Silver Zone or Downside Road/A38 and associated with the growth of the Bristol Airport to 12 million passengers per annum (12mppa), North Somerset Council requires the discharge of Planning Condition 24 Scheme of 'Grassland Mitigation and Translocation'.

1.1.4 The location of the site is Bristol Airport, North Side Road Felton BS48 3DY

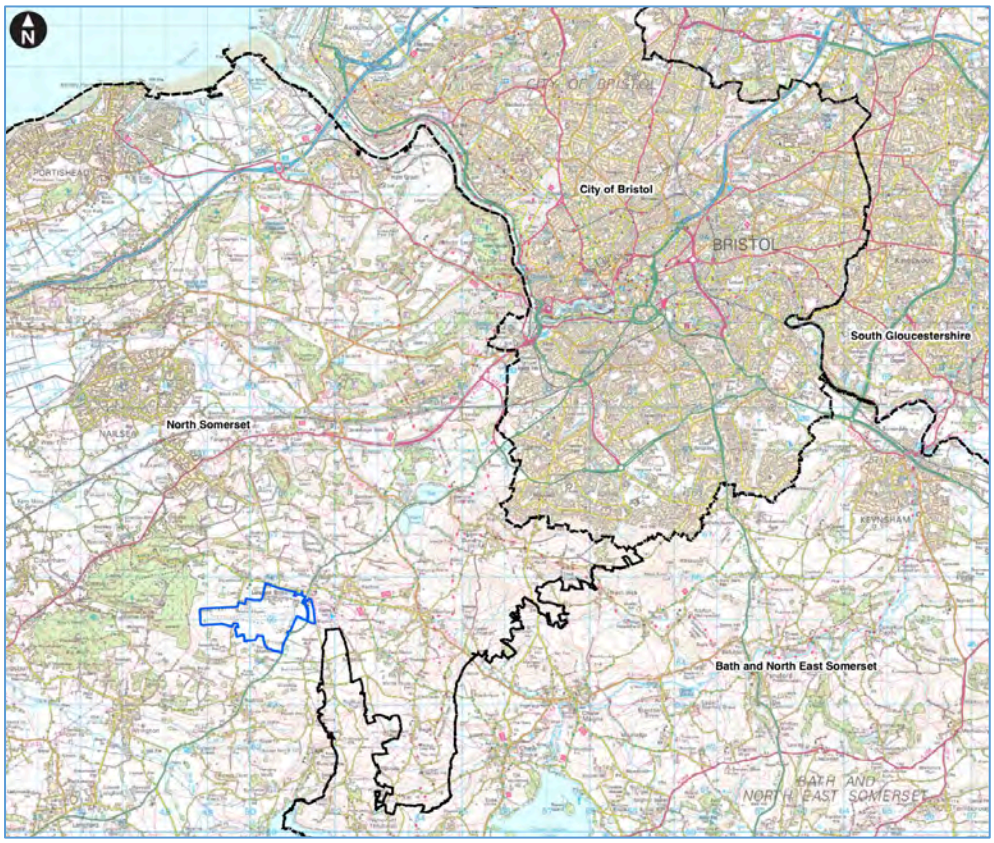

Figure 1. Location of Bristol Airport.

1.1.5 This document also integrates other existing grassland management commitments and includes all meaningful additional areas of grassland at Bristol Airport to provide a single integrated strategy for long term grassland management.

1.2 Safeguarding and Security

1.2.1 The development of this method statement has been influenced by considerations of safeguarding and security. With respect to bird strike and planting/seeding/habitat management at Bristol Airport, there is a need to comply with Civil Aviation Authority publication CAP772 which influences both planting/seeding mix selection and also grassland management regime.

1.2.2 Typically land that is located 'airside' or directly aligned with the runway needs more controlled management from a safeguarding and safety perspective. In order to ensure compliance with counterterrorism measures, it is necessary to maintain clear lines of sight to and from the airfield boundary. This requires a 3 metre clear zone to be retained on the inside of the security fence to ensure that clear sight lines exist at the bottom of the fence.

1.2.3 Notwithstanding, this, there is considerable opportunity to manage the grassland areas at Bristol Airport to support an enriched biodiversity and habitat condition.

1.3 Document Structure

1.3.1 The remainder of this document sets out:

- An overview of the areas of grassland at Bristol Airport (Section 2);
- The proposed translocation of grassland required as part of the work associated with the growth of Bristol Airport to 12mppa (Section 3);
- The mitigation, enhancement and management of different areas of grassland at Bristol Airport (Section 4); and
- Monitoring associated with grassland translocation, mitigation and management at Bristol Airport.

Appendix A contains current grassland habitat distribution mapping at Bristol Airport.

Appendix B contains a plan showing grassland translocation donor and receptor sites.

Appendix C contains a plan showing areas of grassland grouped in to different management zones referred to in this method statement.

Appendix D sets out the criteria for grassland habitat condition (medium/high/very high), that will be used to confirm the status of the existing, enhanced, created and translocated grassland through the monitoring proposed.

2 Overview of Grassland at Bristol Airport

2.1 Background

2.1.1 Ecological surveys have been conducted at Bristol Airport over a long period of time and since 2007 by Johns Associates Ltd. These have included a range of botanical surveys (Phase 1 habitat survey and NVC) to characterise and map the grassland habitats. The last update survey was conducted in summer 2022 with no notable changes in habitat distribution observed over the last 5 years.

2.1.2 There is a range of different grassland habitats at Bristol Airport, ranging from the extensive operational airfield and cattle grazed areas to landscape bunds, verges and former paddocks. The land use requirements and critical controls on land management under Civil Aviation Authority (CAA) CAP772 Wildlife Hazard Management at Aerodromes as critical influences on the type and condition of grassland at Bristol Airport.

2.1.3 Habitat plans set out in Appendix A illustrate the location of the different grassland habitat types currently at Bristol Airport.

2.1.4 The different grassland areas at Bristol Airport have been grouped into individual management zones that are then referred to in this method statement. These can be seen in the plan included in Appendix C.

2.1.5 These are described further in the following sub-sections.

2.2 Amenity Grassland

2.2.1 Amenity grassland exists as small areas with closely managed swards within car parks or roadsides. The sward is regularly cut to a height of 5cm. Species diversity is largely limited to frequent perennial rye-grass *Lolium perenne*, cock's-foot *Dactylis glomerata*, dandelion *Taraxacum officinale agg.*, white clover *Trifolium repens*, creeping cinquefoil *Potentilla reptans* and greater plantain. Areas where this is present are typically associated with the canopies to the front of the existing terminal, multi-storey car park and gyratory road and surface car parking. These support areas of grassland managed as an amenity sward but with a greater species diversity, alongside the constant species listed above. Such areas often merge into areas of more species-poor amenity grassland. There would be changes associated with these areas of grassland as the northside of the Airport develops in future years, although opportunities to extend the area of grassland and its biodiversity/landscape interest exist.

Table 1 Species and their abundance which occur in more species diverse areas of amenity grassland, additional to constant species.

Scientific name	English name	DAFOR
Achillea millefolium	*Yarrow*	*F*
Potentilla anserina	*Silverweed*	*LF*
Plantago lanceolata	*Ribwort plantain*	*F*
Leontodon hispidus	*Rough hawkbit*	*LF*
Succisa pratensis	*Devil's-bit scabious*	*R*
Ranunculus repens	*Creeping buttercup*	*F*
Trifolium pratense	*Red clover*	*LO*
Daucus carota	*Wild carrot*	*LO*

Scientific name	English name	DAFOR
Festuca rubra	*Red fescue*	*LF*
Prunella vulgaris	*Self-heal*	*LA*
Rumex acetosa	*Common sorrel*	*R*
Linum catharticum	*Fairy flax*	*R*
Carex hirta	*Hairy sedge*	*LO*
Leucanthemum vulgare	*Ox-eye daisy*	*LF*
Centaurea nigra	*Black knapweed*	*R*
Lotus pedunculatus	*Common bird's-foot trefoil*	*LF*
Glechoma hederacea	*Ground ivy*	*LO*
Holcus lanatus	*Yorkshire fog*	*F*
Agrostis stolonifera	*Creeping bent*	*F*

2.3 Improved Grassland

2.3.1 The Silver Zone seasonal car park (Cogloop 1) to the south west of the airport, supports a seeded improved grassland sward. The area is used to accommodate parked cars, with seeded grassland established within reinforced grids. Perennial rye-grass is the most abundant species, with a large proportion of bare ground at the base of the sparse sward. No change to this area of grassland is currently proposed.

2.4 Poor Semi-Improved Grassland

Within the Airfield

2.4.1 Typically, in accordance with the requirements of CAA CAP772, the airside grassland comprises a closed sward at a height of 20-30cm with no significant thatch or leaf litter present. The majority of the airside grassland comprises poor semi-improved grassland, within which two sub-communities are considered to be present; neutral poor semi-improved and calcareous poor semi-improved grassland.

2.4.2 The neutral grassland community is dominated by grasses including false oat-grass *Arrhenatherum elatius* and cock's-foot with locally frequent common bent *Agrostis capillaris*, Yorkshire fog *Holcus lanatus*, red fescue *Festuca rubra* and tall fescue *Schedonurus arundinaceus*. A small number of common forb species were recorded, as shown in Table 2 below, but none were recorded as more than occasional in the sward. Examples include dandelion, common mouse-ear *Cerastium fontanum*, field bindweed *Convolvulus arvensis* and ribwort plantain. It should be noted that species diversity was variable in different compartments, ranging from virtually no forb species to a sward supporting most forb species in Table 2 (albeit as occasional). This grassland is associated with the proposed taxiway widening and fillets, taxiway widening and fillets (taxiway ALPHA) and east taxiway within the application site.

2.4.3 Some of the large airfield compartments supported similar species to those listed in Table 2 but with frequent upright brome *Bromopsis erecta* and occasional greater knapweed *Centaurea scabiosa*, bulbous buttercup *Ranunculus bulbosus*, and wild carrot *Daucus carota*. Upright brome in particular is a key indicator of calcareous grassland; and these areas should be classified as semi-improved calcareous grassland (albeit species-poor). No attempt has been made to define the boundaries between species-poor semi-improved neutral and calcareous grassland as it is impossible to do this by eye given the recent vegetation

management. In practice, there are likely to be transitions or zonations between neutral and calcareous vegetation types within the airfield grassland.

2.4.4 Management of the grassland is driven by the overriding safety need to avoid and minimise the risk of bird strike through minimising foraging resources for birds. It is understood that grassland on the airfield is regularly cut to a height of 8 inches at a frequency of 3 to 4 times a year, when flowering heads appear at roughly 10 inches; the arisings are removed. Fertiliser is occasionally applied to the grassland. Blast-furnace slag was applied to the grassland as agricultural liming material approximately 16 to 18 years ago, and it is understood that granulated lime is periodically applied.

Table 2 Species and their abundance within species poor semi-improved neutral grassland within the airside grassland

Scientific name	English name	DAFOR
Achillea millefolium	*Yarrow*	*O*
Agrostis capillaris	*Common bent*	*LF*
Arrhenatherum elatius	*False oat-grass*	*F*
Cerastium fontanum	*Common mouse-ear*	*O*
Convolvulus arvensis	*Field bindweed*	*O*
Crepis capillaris	*Smooth hawk's-beard*	*R*
Dactylis glomerata	*Cock's-foot*	*F*
Festuca rubra	*Red fescue*	*LF*
Geranium molle	*Dove's-foot crane's-bill*	*O*
Heracleum sphondylium	*Hogweed*	*O*
Holcus lanatus	*Yorkshire fog*	*LF*
Lathyrus pratensis	*Meadow vetchling*	*R*
Lolium perenne	*Perennial rye-grass*	*O*
Plantago lanceolata	*Ribwort plantain*	*O*
Potentilla reptans	*Creeping cinquefoil*	*O*
Ranunculus acris	*Meadow buttercup*	*O*
Ranunculus repens	*Creeping buttercup*	*O*
Rubus fruticosus agg.	*Bramble*	*R*
Rumex acetosa	*Sorrel*	*O*
Rumex crispus	*Curled dock*	*O*
Rumex obtusifolius	*Broad-leaved dock*	*O*
Schedonurus arundinaceus	*Tall fescue*	*LF*
Stellaria graminea	*Lesser stitchwort*	*O*
Taraxacum agg.	*Dandelion*	*O*
Trifolium pratense	*Red clover*	*O*
Urtica dioica	*Nettle*	*R*
Viccia cracca	*Tufted vetch*	*O*

Proposed Extension to the Silver Zone Car Park (Phase 2) & Gruffy Field NCA

2.4.5 Poor semi-improved grassland covers fields located towards the south of the airport landholding, comprising the Proposed Extension to the Silver Zone Car Park (Phase 2) and Gruffy Field (outside of the application site), which are managed through grazing. This habitat type is also present as small pockets of un-intensively managed grassland across the main working area of Bristol Airport.

2.4.6 The majority of the area associated with the proposed extension to the silver zone car park (Phase 2/Cogloop 2) comprise poor semi-improved grassland, grazed by cattle. Frequent

grass species include perennial rye grass, creeping bent *Agrostis stolonifera*, Yorkshire fog, cock's-foot and timothy *Phleum pratense*. Crested dog's-tail *Cynosurus cristatus* occurs at locally frequent abundance. Forb species are limited in abundance, and comprise ruderal species which are typical of nutrient enriched disturbed soils. Stands of creeping thistle *Cirsium arvense* are locally abundant, indicating a high intensity of grazing. Heavily poached ground, particularly to the west of the field, is also indicative of a high grazing intensity. Stands of nettle *Urtica dioica* and hogweed *Heracleum sphondylium* are locally abundant where cattle tend to congregate and deposit high volumes of manure, such as within the vicinity of the water trough. Spear thistle and woolly thistle *Cirsium eriophorum* occur at occasional abundance across the field, the latter of which also indicates calcareous soils. Other locally occasional forb species include greater plantain, yarrow *Achillea millefolium*, dandelion, common ragwort *Senecio jacobaea*, creeping buttercup *Ranunculus repens*, white clover *Trifolium repens,* dock and silverweed. The sward length at the time of survey was approximately 15cm and closed, with taller localised stands of thistles. There is no presence of a thatch layer at the base of the sward.

2.4.7 The Gruffy Field Nature Conservation Area (NCA) comprises a similar grassland sward species composition, sward physiognomy and management regime.

Table 3 Species and their abundance within species poor semi-improved neutral grassland within Cogloop 2

Common Name	Species Name	Abundance (DAFOR)
Perennial rye-grass	*Lolium perenne*	*F*
Creeping bent	*Agrostis stolonifera*	*F*
Yorkshire fog	*Holcus lanatus*	*F*
Cock's-foot	*Dactylis glomerata*	*F*
Timothy	*Phleum pratense*	*F*
Crested dog's-tail	*Cynosurus cristatus*	*LF*
Creeping thistle	*Cirsium arvense*	*LA*
Common nettle	*Urtica dioica*	*LA*
Hogweed	*Heracleum sphondylium*	*LA*
Spear thistle	*Cirsium vulgare*	*O*
Woolly thistle	*Cirsium eriophorum*	*O*
Creeping buttercup	*Ranunculus repens*	*LO*
White clover	*Trifolium repens*	*LO*
Greater plantain	*Plantago major*	*LO*
Yarrow	*Achillea millefolium*	*LO*
Dandelion	*Taraxacum officinale agg.*	*LO*
Common ragwort	*Senecio jacobaea*	*LO*
Silverweed	*Potentilla anserina*	*LO*
Dock	*Rumex sp.*	*LO*

Small Pockets

2.4.8 Poor semi-improved grassland is located as small pockets of un-intensively managed grassland across Bristol Airport, such as within car parking areas, at the fire station and on bunds associated with the Silver Zone Bund NCA.

2.4.9 Poor semi-improved swards established on bunds, comprise abundant perennial rye grass, locally abundant self-heal *Prunella vulgaris,* and occasional ruderal species such as bristly ox-tongue, ox-eye daisy, dock *Rumex sp*. and spear thistle. Such pockets of poor semi-improved

grassland are largely managed infrequently, with sward heights reaching up to 40cm in some places. Management is carried out through cutting.

2.4.10 Poor semi-improved grassland east of the Eastern Stands includes previously translocated turves comprising abundant false-oat grass, alongside frequent cock's-foot, red fescue, creeping thistle and bramble. Ox-eye daisy occurs at locally frequent abundance, and forb species such as teasel *Dipsacus fullonum*, hogweed *Heracleum sphondylium*, ribwort plantain and self-heal occur at occasional abundance. It also includes re-seeded grassland.

Table 4 Species and their abundance within poor semi-improved grassland located east of the Eastern Stands

Common Name	Species Name	Abundance (DAFOR)
False-oat grass	*Arrhenatherum elatius*	*LA*
Cock's-foot	*Dactylis glomerata*	*F*
Red fescue	*Festuca rubra*	*F*
Creeping thistle	*Cirsium arvense*	*F*
Bramble	*Rubus fruticosus*	*F*
Ox-eye daisy	*Leucanthemum vulgare*	*LF*
Yorkshire fog	*Holcus lanatus*	*O*
Dogwood	*Cornus sanguinea*	*O*
Teasel	*Dipsacus fullonum*	*O*
Hogweed	*Heracleum sphondylium*	*O*
Ground ivy	*Glechoma hederacea*	*O*
Ribwort plantain	*Plantago lanceolata*	*O*
Self-heal	*Prunella vulgaris*	*O*
Black knapweed	*Centaurea nigra*	*R*
Lords and ladies	*Arum maculatum*	*R*
Common ragwort	*Senecio jacobaea*	*R*

2.5 Good Semi-Improved Grassland (Calcareous)

Airside

2.5.1 The airside grassland comprises a closed sward at a height of 20-30cm with no significant thatch or leaf litter present and whilst the majority of the airside grassland comprises poor semi-improved grassland, a few small areas within the airside grassland support a more species-rich calcareous grassland (albeit still semi-improved). Frequent upright brome is indicative of calcareous grassland. Species indicative of less improved calcareous conditions include downy oat-grass *Avenula pubescens*, quaking-grass *Briza media*, greater knapweed, wild basil *Clinopodium vulgare*, common spotted orchid *Dactylorhiza fuchsii*, rough hawkbit *Leontodon hispidus*, fairy flax *Linum catharticum* and cowslip *Primula veris*. The grassland cannot be classified as unimproved since most of these indicator forb species are only recorded as occasional in the sward as the vegetation is dominated by grass species, and other characteristic species that would indicate grassland with high species diversity (e.g. crested hair-grass *Koeleria macrantha*, wild thyme *Thymus polytrichus*, milkwort *Polygala* sp etc), are absent. This type of grassland characterises one location associated with the 12mppa development (eastern end of the runway), where it will be translocated to a nearby suitable receptor site within the airfield.

2.5.2 General management of airside grassland is described within the habitat description for poor semi-improved grassland. In addition to these practices, carefully tailored management for

species-rich calcareous grassland is applied where possible to areas of habitat at the south west of the airside area, near the fire station (Semi-Improved Calcareous Grassland NCA). These areas are not fertilised and are cut at the end of the flowering season.

Table 5 Species and their abundance within good semi-improved calcareous grassland located within airside grassland

Scientific name	English name	DAFOR
Achillea millefolium	*Yarrow*	*O*
Agrostis capillaris	*Common bent*	*LF*
Arrhenatherum elatius	*False oat-grass*	*F*
Avenula pubescens	*Downy oat-grass*	*O*
Briza media	*Quaking-grass*	*O*
Bromopsis erecta	*Upright brome*	*F*
Centaurea nigra	*Black knapweed*	*O*
Centaurea scabiosa	*Greater knapweed*	*O*
Cerastium fontanum	*Common mouse-ear*	*O*
Clinopodium vulgare	*Wild basil*	*R*
Convolvulus arvensis	*Field bindweed*	*O*
Crepis capillaris	*Smooth hawk's-beard*	*R*
Dactylis glomerata	*Cock's-foot*	*O*
Dactylorhiza fuchsii	*Common spotted orchid*	*R*
Daucus carota	*Wild carrot*	*O*
Festuca rubra	*Red fescue*	*LF*
Galium album	*Hedge bedstraw*	*O*
Galium verum	*Lady's bedstraw*	*O*
Glechoma hederacea	*Ground ivy*	*O*
Holcus lanatus	*Yorkshire fog*	*O*
Knautia arvensis	*Field scabious*	*R*
Lathyrus pratensis	*Meadow vetchling*	*O*
Leontodon hispidus	*Rough hawkbit*	*LF*
Leucanthemum vulgare	*Oxeye daisy*	*O*
Linum catharticum	*Fairy flax*	*LF*
Lolium perenne	*Perennial rye-grass*	*O*
Lotus corniculatus	*Common bird's-foot trefoil*	*O*
Medicago lupulina	*Black medick*	*O*
Plantago lanceolata	*Ribwort plantain*	*O*
Potentilla reptans	*Creeping cinquefoil*	*O*
Primula veris	*Cowslip*	*O*
Ranunculus acris	*Meadow buttercup*	*LF*
Ranunculus bulbosus	*Bulbous buttercup*	*O*
Rhytidiadelphus squarrosus	*Springy turf-moss*	*O*
Rubus fruticosus agg.	*Bramble*	*R*
Taraxacum agg.	*Dandelion*	*O*
Trifolium pratense	*Red clover*	*O*
Viccia cracca	*Tufted vetch*	*O*
Vicia sativa	*Common vetch*	*O*
Vicia sepium	*Bush vetch*	*O*

A38 Cutting

2.5.3 The A38 roadside cutting (A38 Cutting NCA) has resulted in an exposed calcareous substrate upon which a calcareous semi-improved grassland has established, as shown in Plate 6. Typically, the sward has an even grass : forb ratio, with a height of 25cm. Some areas of the cutting consist of stony sloped ground, with a very sparse sward dominated by forb species and a high proportion of bare ground. Management of the cutting appears to be infrequent, with only the flatter areas of the slope being topped and arisings left in place. A moderate thatch layer has accumulated upon flat ground as a result. The species composition of the sward is similar to that of the airside grassland presented in Table 5. Upright brome occurs abundantly in local patches, alongside other occasional or frequent grass species such as quaking grass, crested dog's-tail, cock's-foot and creeping bent. Occasional to frequent forb species include fairy flax, field scabious *Knautia arvensis*, common bird's-foot trefoil *Lotus corniculatus* and rough hawkbit. No orchids were observed within the sward. A small element of scattered scrub is present within the habitat, with rare occurrence of wayfaring tree *Viburnum lantana*.

2.6 Good Semi-Improved Grassland (Neutral)

2.6.1 A small area within the Proposed Extension to the Silver Zone Car Park (Phase 2/Cogloop 2) comprises good semi-improved neutral grassland, with forb species which may indicate slightly calcareous soils. The more species-rich sward is located on a shallow sloping bank at the west boundary of the field, which is likely to have established on soils with a lower nutrient content. The sward is typically closely grazed on the slope (approximate height of 5cm), and consists of a greater cover of forb species which are typical of less nutrient enriched soils than in the wider area of poor semi-improved grassland within the Proposed Extension to the Silver Zone Car Park (Phase 2/Cogloop 2). Mouse-ear hawkweed *Pilosella officinalis* occurs in small locally abundant stands. Locally frequent forb/sedge species include spring sedge *Carex caryophyllea*, bird's-foot trefoil, and creeping cinquefoil. Rare and occasional forb species include self-heal, rough hawkbit, common ragwort, autumn hawkbit *Scorzoneroides autumnalis*, and lady's bedstraw *Galium verum*. A greater number of finer leaved grass species are present within the sward than the surrounding poor semi-improved grassland, including frequent crested dog's-tail and sweet vernal-grass *Anthoxanthum odoratum* and occasional perennial rye-grass, cock's-foot and rough meadow-grass *Poa trivialis*.

2.6.2 This grassland characterises the second location associated with the 12mppa development where it will be translocated to a nearby suitable receptor site within the airfield.

2.6.3 Gruffy Field NCA predominantly comprises poor semi-improved grassland, however, small earthworks scattered across the field support pockets of a more diverse plant community, classified as good semi-improved grassland. The soil situated on such earthworks is likely to be shallower and less nutrient-rich, allowing non-competitive species to establish. Forb and sedge species present include occasional salad burnet *Poterium sanguisorba*, rough hawk-bit, black medick *Medicago lupilina*, mouse-ear hawkweed, glaucous sedge *Carex flacca*, hoary plantain *Plantago media*, lady's bedstraw, common bird's-foot trefoil and red clover *Trifolium pratense*. Fescue *Festuca sp.* and crested dog's-tail are frequent grass species present within the sward.