

HARAKEKE 2015 LTD PLANTING + MATERIALS DESIGN GUIDE

HARAKEKE SUBDIVISION & DEVELOPMENT



Option 1 - Liriodendron fastigata - Upright Tulip Tree



Option 2 - Quercus palustris - Pin Oak



Option 3 - Acer rubrum 'October Glory'



Option 4 - Alectryon excelsus - Titoki



Option 1 - Ulmus pavifolia - Fronteir Elm



Option 2 - Sophora microphylla - Kowhai



Option 3 - Pyrus 'Aristocrat' - Flowering Pear



Option 4 - Acer rubrum Bowhall - Upright Red Maple



Option 5 - Olea europea - Olive



Option 6 - Fraxinus 'Purple Spire'

STREET TREES

Street trees have been used to set a clear street hierarchy within the site. Variations of heights and forms of tree species will assist to create identifiable neighbourhoods and roading types.

Larger avenue trees form the spine that runs along the collector road's. Species along the collector roads are typically larger providing a high level of amenity within the site.

The access roads will be lined with typically smaller sized amenity trees, which when combined with the narrower road width, provide visual cues to aid in way finding through the site.

Trees have been selected based on their high amenity values and suitability to the site conditions. Selection criteria also includes form, scale, autumn colour, hardiness, and seasonal change.

SHRUBS



Hebe 'Snowdrift'



Muehlenbeckia astonii



Oleria paniculata

SHRUBS



Corokia 'Bronze King'



Hebe 'Black Panther'



Brachiglottis greyii

GRASSES + FLAXES



Chinochloa rubra



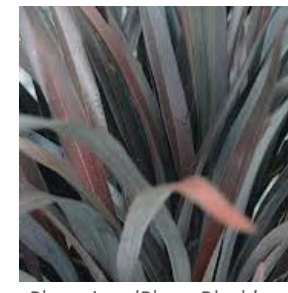
Carex virgata



Chinochloa flavicans



Phormium cookianum

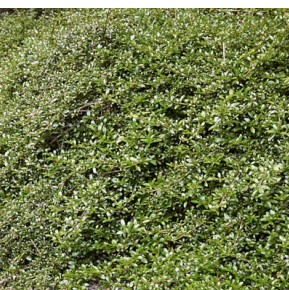


Phormium 'Platts Black'

GROUNDCOVERS



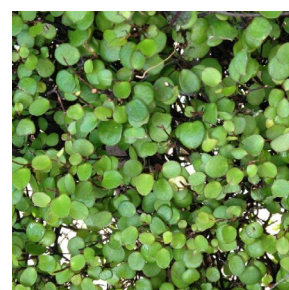
Coprosma 'Poor Knights'



Coprosma taiko



Coprosma rugosa



Muehlenbeckia axillaris

ROAD CORRIDOR SHRUBS

Pockets of native vegetation are proposed within the road corridor to strengthen native gully planting and enhance site amenity.

Native shrubs, grasses and groundcovers are planted in large drifts for effect and to minimise maintenance within road corridor.

SPECIMEN TREES



Quercus palustris - Pin Oak

SPECIMEN TREES



Pyrus 'Aristocrat' - Flowering Pear

SPECIMEN TREES



Fraxinus raywoodii - Claret Ash

NATIVE TREES



Alectryon excelsus - Titoki



Fagus sylvatica pendula - Copper Beech



Acer freemanii Autumn Blaze - Jeffers Red Maple



Liriodendron tulipifera - Tulip Tree



Podocarpus totara - Totara

AMENITY TREES (PLANTING TYPE A)

Amenity trees feature throughout the site in key locations providing points of interest and high amenity value to the site. A rural theme to the tree palette provides a juxtaposition to the native restoration planting and relates to the wider rural context of the area. Amenity trees will also provide shelter, scale, screening as necessary, autumn colour, and seasonal change within the site.



Ulmus pavifolia - Fronteir Elm



Zelcova serrata - Japanese Zelcova



Nothofagus menziesii - Silver Beech

TREES



Podocarpus totara

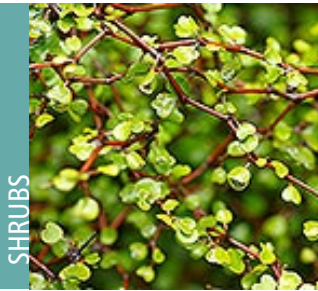


Akeake



Kunzea ericoides - Kanuka

SHRUBS



Muehlenbeckia astonii



Pittosporum tenuifolium



Coprosma rhamnoides

SHRUBS



Hebe stricta var. atkinsonii



Oleria paniculata

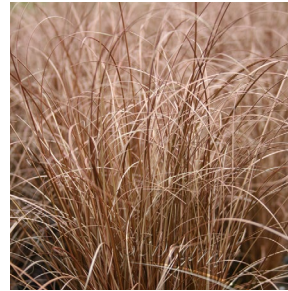


Corokia 'Bronze King'

GRASSES



Chinochloa rubra



Carex comans 'Bronze'



Poa cita

NATIVE HILL COUNTRY PLANTS (PLANTING TYPE A)

Pockets of native vegetation are proposed to strengthen planting design and screening to mitigate development areas in Hill Country Zones.

Planting of hardy species such as Oleria, Akeake and red tussock are suited to the drier ridge areas of the hill country areas of the site.

Further detailed planting design will be guided by the Moutere Downlands Hill Country Ecosystem native plant restoration lists.

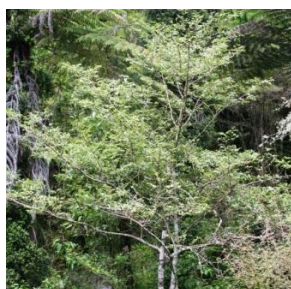
TREES



Dacrydium cupressinum



Kahikatea



Carpodetus serratus

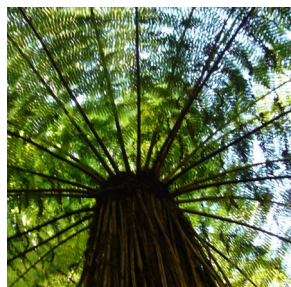
TREES



Lowland Ribbonwood



Kanuka



Mamuka

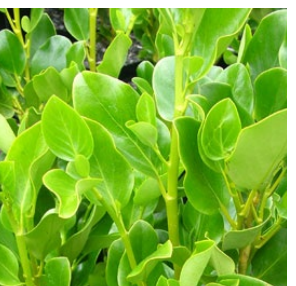


Cabbage Tree (Groups)

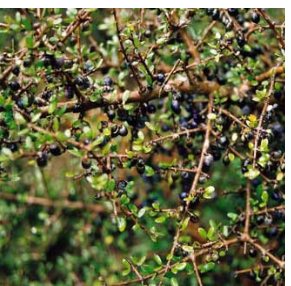
UPPER BANK



Cordarteria - Toetoe



Griselinia littoralis



Coprosma propinqua



Coprosma robusta



Hebe salicifolia



Pittosporum tenuifolium

LOWER BANK



Carex flagellifera



Phormium tenax/cookianum



Juncus pallidus



Carex virgata/secta



Leptocarpus similis - Oioi



Typha orientalis

NATIVE RIPARIAN + GULLY PLANTS

Water quality and habitat of ponds/rivers/streams/ditches within the development will be enhanced by planting native riparian plant species. Planting of riparian species will also help stabilise gullies and waterway banks.

Native plants suitable for such sites include, nearest the water Carex secta/virgata (sedges), oioi and juncas (reeds) and harakeke. On the upper banks harakeke, cabbage tree & toetoe. Beyond these species on higher ground, - karamu, Pittosporum, kanuka, koromiko & ribbonwood.

Where primary cover has been established to re-introduce climactic forest species such as kahikatea, totara, & rimu will be introduced.

Further detailed planting design will be guided by the Moutere Downlands Valleys Ecosystem native plant restoration lists.

TREES



Ngiao



Kunzea ericoides - Kanuka



Griselinia lucida



Rata

TREES + SHRUBS



Cabbage Tree (Groups)



Hebe stricta var. atkinsonii



Akeake



Oleria paniculata

SHRUBS + FLAXES



Phormium cookianum



Coprosma repens



Coprosma propinqua



Brachyglottis greyii



Phormium tenax

GRASSES + GROUNDCOVERS



Cordarteria richardii



Muehlenbeckia axillaris



Coprosma acerosa



Coprosma kirkii



Coprosma 'Poor Knights'

NATIVE COASTAL PLANTS (PLANTING TYPE B)

The native coastal plant palette has been developed for the Ruby Bay Plateau zone of the site. This coastal influence area will include the Moutere bluffs coastal edge and extend into the site towards Aporo Road.

The coastal edge and exposed sites will include ngaio, mirror leaved Coprosma, toetoe and flax as the first line of defence & behind these a mixture of akeake, kanuka & Olearia paniculata.

Cordyline australis, flaxes, native groundcovers and other native species identified as slope stabilisation species will aid in restoration and stabilisation of the Moutere Bluffs.

Further detailed planting design will be guided by the Moutere Downlands - Hill Country Ecosystem, the Moutere Downlands Valleys Ecosystem native plant restoration lists with a focus on coastally appropriate plants.

TREES



Eucalyptus spp



Quercus sp.



Alder sp.

TREES



Juglans nigra



Acacia sp. Blackwood

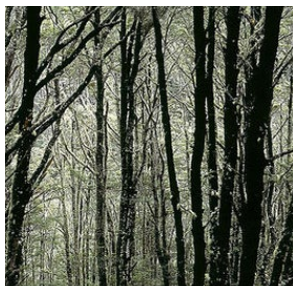


Poplar sp.

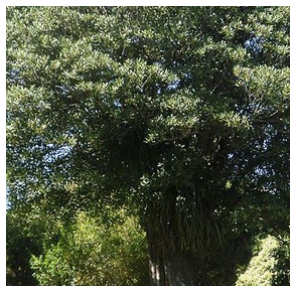
NATIVE TREES



Podocarpus totara



Acacia sp. Blackwood



Elaeocarpus dentatus

PRODUCTIVE TREES



Corylus avellana (Hazelnut)



Olea spp. (Olives)



Pinus pinea (Pine Nut)

WOODLOT TREES (PLANTING TYPE A)

Woodlot trees within the development have been selected for both productive and high amenity values. The position of woodlots on the site will also aid in the screening and mitigation of the housing development.

Where possible dual use of woodlots for wood production and other complementary productive applications such as truffle production should be investigated.

MOUTERE DOWNLANDS – VALLEYS ECOSYSTEM NATIVE PLANT RESTORATION LIST

Locality:	Valleys of the Moutere catchment, between Ruby Bay and Tasman, and parts of Waiwhero and Dove catchments.
Topography:	Flat to gently undulating flood-plains and low terraces
Soils and Geology:	Alluvial clayey loams with impeded drainage and low fertility. Heavy, leached subsoil with iron pans. Derived from strongly weathered sedimentary gravels. Not drought-prone except where intensively drained.
Climate:	High sunshine hours; mild annual temperatures; frosts moderate to heavy; rainfall 900-1000mm.
Coastal influence:	At Kina only.
Original Vegetation:	Extensively covered in a range of vegetated wetlands, especially swamp forest.
Human Modification	A few small forest patches and narrow valley wetlands remaining. Hydrology has been profoundly altered by drainage.

Botanical Names	Māori & Common Names
TREES	
<i>Aristolotelia serrata</i>	makomako, wineberry
<i>Carpodetus serratus</i>	putaputāwētā, marbleleaf
<i>Coprosma areolata</i>	thin-leaved coprosma
<i>Coprosma grandifolia</i>	raurekau
<i>Coprosma linariifolia</i>	yellow-wood
<i>Coprosma rotundifolia</i>	hairy coprosma
<i>Cordyline australis</i>	tī kouka, cabbage tree
<i>Cordyline banksii</i>	tī ngahere
<i>Coriaria arborea</i>	tree tutu
<i>Cyathea dealbata</i>	ponga, silver fern
<i>Dacrycarpus dacrydioides</i>	kāhikatea
<i>Dacrydium cupressinum</i>	rīmu
<i>Dicksonia fibrosa</i>	whēkī ponga
<i>Dicksonia squarrosa</i>	whēkī
<i>Elaeocarpus dentatus</i>	hīnau
<i>Elaeocarpus hookerianus</i>	pōkākā
<i>Fuchsia excorticata</i>	kōtukutuku, tree fuchsia
<i>Griselinia littoralis</i>	papauma, broadleaf
<i>Hedycarya arborea</i>	porokaiwhiri, pigeonwood
<i>Kunzea ericoides</i>	kānuka
<i>Leptospermum scoparium</i>	mānuka
<i>Lophomyrtus obcordata</i>	rōhutu
<i>Macropiper excelsum</i>	kawakawa, pepperwood
<i>Melicope simplex</i>	poataniwha
<i>Melicytus lanceolatus</i>	māhoe wao, narrow-leaved māhoe
<i>Melicytus ramiflorus</i>	māhoe, whiteywood
<i>Myoporum laetum</i>	ngaio
<i>Myrsine australis</i>	māpou
<i>Myrsine divaricata</i>	weeping māpou
<i>Myrsine salicina</i>	toro

<i>Myrsine salicina</i>	toro
<i>Neomyrtus pedunculata</i>	rōhutu
<i>Nestegis lanceolata</i>	white maire
<i>Nothofagus menziesii</i>	silver beech
<i>Nothofagus solandri</i> var. <i>solandri</i>	black beech
<i>Pennantia corymbosa</i>	kaikōmako
<i>Pittosporum eugenioides</i>	tarata, lemonwood
<i>Pittosporum tenuifolium</i>	kōhūhū
<i>Podocarpus totara</i>	tōtara
<i>Prumnopitys ferruginea</i>	miro
<i>Prumnopitys taxifolia</i>	mataī
<i>Pseudopanax arboreus</i>	orihou, five finger
<i>Pseudopanax crassifolius</i>	horoeaka, lancewood
<i>Pseudowintera colorata</i>	horopito
<i>Rhopalostylis sapida</i>	nīkau
<i>Schefflera digitata</i>	patē, seven-finger
<i>Streblus heterophyllus</i>	milkwood
<i>Weinmannia racemosa</i>	kāmahi

SHRUBS	
<i>Coprosma tayloriae</i>	tier coprosma
<i>Coprosma foetidissima</i>	hūpiro, stinkwood
<i>Coprosma microcarpa</i>	beech coprosma
<i>Coprosma propinqua</i>	mikimiki
<i>Coprosma rhamnoides</i>	bucks-horn coprosma
<i>Coprosma rigida</i>	streamside coprosma
<i>Coprosma robusta</i>	karamū
<i>Coprosma tenuicaulis</i>	swamp coprosma
<i>Hebe stricta</i> var. <i>atkinsonii</i>	koromiko
<i>Leptecophylla juniperina</i>	prickly mingimingi
<i>Leucopogon fasciculatus</i>	mingimingi
<i>Melicytus micranthus</i>	manakura, swamp māhoe
<i>Raukawa anomalus</i>	stout netting bush

CLIMBERS	
<i>Rhipogonum scandens</i>	kareao, supplejack
<i>Rubus australis</i>	swamp lawyer
<i>Rubus schmidelioides</i>	shrub lawyer

GRASSES, SEDGES, RUSHES & GROUND COVERS	
<i>Asplenium bulbiferum</i>	mauku, hen and chicken fern
<i>Asplenium oblongifolium</i>	shining spleenwort
<i>Blechnum discolor</i>	piupiu crown fern
<i>Blechnum minus</i>	swamp kiokio
<i>Blechnum novae-zelandiae</i>	kiokio
<i>Blechnum penna-marina</i>	little hardfern
<i>Blechnum procerum</i>	beech hardfern
<i>Hypolepis ambigua</i>	hypolepis
<i>Paesia scaberula</i>	mātātā, scented fern
<i>Pneumatopteris pennigera</i>	pākau, gully fern
<i>Polystichum vestitum</i>	prickly shield fern
<i>Microlaena avenacea</i>	bush ricegrass
<i>Cortaderia richardii</i>	South Island toetoe
<i>Astelia fragrans</i>	ground lily
<i>Astelia grandis</i>	swamp lily
<i>Baumea rubiginosa</i>	stout pākhi sedge
<i>Baumea tenax</i>	slender pākhi sedge
<i>Carex cockayneana</i>	bush sedge
<i>Carex comans</i>	maurea
<i>Carex geminata</i>	toetoe rautahi
<i>Carex lessoniana</i>	rautahi
<i>Carex maorica</i>	Māori sedge
<i>Carex secta</i>	pūrei
<i>Carex virgata</i>	pukio
<i>Dianella nigra</i>	tūrutu, blueberry
<i>Eleocharis acuta</i>	spike rush
<i>Gahnia xanthocarpa</i>	giant cutty sedge
<i>Isolepis polifer</i>	multiplying sedge
<i>Juncus australis</i>	wiwi
<i>Juncus edgariae</i>	wiwi
<i>Juncus pallidus</i>	tall swamp rush
<i>Juncus sarophorus</i>	blue wiwi
<i>Libertia mooreae</i>	native iris
<i>Phormium tenax</i>	harakeke, swamp flax
<i>Typha orientalis</i>	raupō
<i>Uncinia banksii</i>	tufted hookgrass
<i>Uncinia uncinata</i>	hookgrass

MOUTERE DOWNLANDS – HILL COUNTRY ECOSYSTEM NATIVE PLANT RESTORATION LIST

Locality:	Extensive hill country between the Waimea and Motueka Plains; extending from the coast at Kina, Moutere Bluffs and the western coast of Waimea Inlet, inland to Eves Valley and the western flanks of the Moutere catchment. Small outliers on eastern foothills between Wakefield and Richmond.
Topography:	Gently to strongly rolling downs and hill country. Steep coastal cliffs.
Soils and Geology:	Shallow, sandy, easily erodible loam with deep, heavy, leached clay subsoil and impeded drainage. Derived from underlying strongly weathered sedimentary gravels. Low fertility but good moisture-holding ability. Not drought-prone.
Climate:	High sunshine hours; mild annual temperatures; frosts slight to moderate; rainfall 890-1000mm.
Coastal influence:	Cliff faces and tops between Kina and Ruby Bay. Semi-coastal around Waimea and Moutere Inlets.
Original Vegetation:	Podocarp - mixed beech forest. Coastal shrublands. Swamp forest in gullies and hollows and on gentle toe-slopes.
Human Modification:	Almost no areas of native vegetation remain. Still a few modified wetlands in gullies. Much of the original top soil has been eroded off the slopes.

PLANT SPECIES FOR MOUTERE DOWNLANDS – HILL COUNTRY ECOSYSTEM	
Botanical Names	Māori & Common Names
TREES	
<i>Alectryon excelsus</i>	tītiki
<i>Aristolelia serrata</i>	makomako, wineberry
<i>Carpodetus serratus</i>	putaputāwētā, marbled leaf
<i>Coprosma grandifolia</i>	raurekau
<i>Coprosma lucida</i>	shining karamū
<i>Coprosma repens</i>	taupata
<i>Coprosma robusta</i>	karamū
<i>Cordyline australis</i>	tī kouka, cabbage tree
<i>Cordyline banksii</i>	tī ngahere
<i>Coriaria arborea</i>	tree tutu
<i>Cyathea dealbata</i>	ponga, silver fern
<i>Cyathea medullaris</i>	mamaku, black treefern
<i>Dacrydium dacrydioides</i>	kāhikatea
<i>Dacrydium cupressinum</i>	rimu
<i>Dicksonia squarrosa</i>	whēkī
<i>Dodonaea viscosa</i>	akeake
<i>Elaeocarpus dentatus</i>	hīnau
<i>Fuchsia excorticata</i>	kōtukutuku, tree fuchsia
<i>Griselinia littoralis</i>	papauma, broadleaf
<i>Griselinia lucida</i>	puka
<i>Hedycarya arborea</i>	porokaiwhiri, pigeonwood
<i>Kunzea ericoides</i>	kānuka
<i>Laurelia novae-zelandiae</i>	pukatea
<i>Leptospermum scoparium</i>	mānuka
<i>Macropiper excelsum</i>	kawakawa, pepperwood
<i>Meliccytus ramiflorus</i>	māhoe, whiteywood

<i>Myrsine australis</i>	māpou
<i>Nothofagus menziesii</i>	silver beech
<i>Nothofagus solandri</i> var. <i>solandri</i>	black beech
<i>Nothofagus truncata</i>	hard beech
<i>Olearia paniculata</i>	akiraho
<i>Olearia rani</i>	heketara
<i>Pittosporum eugenioides</i>	tarata, lemonwood
<i>Pittosporum tenuifolium</i>	kōhūhū
<i>Podocarpus hallii</i>	mountain tōtara, thin-barked tōtara
<i>Prumnopitys ferruginea</i>	miro
<i>Pseudopanax arboreus</i>	orihou, five finger
<i>Pseudopanax crassifolius</i>	horoeaka, lancewood
<i>Rhopalostylis sapida</i>	nīkau
<i>Schefflera digitata</i>	patē, seven-finger
<i>Weinmannia racemosa</i>	kāmahi
SHRUBS	
<i>Coprosma microcarpa</i>	beech coprosma
<i>Coprosma rhamnoides</i>	bucks-horn coprosma
<i>Coprosma tayloriae</i>	tier coprosma
<i>Coprosma tenuicaulis</i>	swamp coprosma
<i>Dracophyllum filifolium</i>	inaka
<i>Hebe stricta</i> var. <i>atkinsonii</i>	koromiko
<i>Helichrysum lanceolatum</i>	niniao
<i>Leptocophylla juniperina</i>	prickly mingimingi
<i>Leucopogon fasciculatus</i>	mingimingi
<i>Olearia avicenniifolia</i>	grey tree daisy
<i>Ozothamnus leptophyllum</i>	tauhinu, cottonwood
<i>Clematis paniculata</i>	puawānanga, bush clematis
<i>Freycinetia banksii</i>	kiekie
<i>Metrosideros diffusa</i>	rātā vine

GRASSES, SEDGES, RUSHES & GROUND COVERS	
<i>Acaena anserinifolia</i>	piripiri, bidibid
<i>Asplenium gracillimum</i>	graceful spleenwort
<i>Asplenium oblongifolium</i>	shining spleenwort
<i>Astelia fragrans</i>	ground lily
<i>Blechnum discolor</i>	piupiu crown fern
<i>Blechnum minus</i>	swamp kiokio
<i>Blechnum novae-zelandiae</i>	kiokio
<i>Blechnum procerum</i>	beech hardfern
<i>Carex comans</i>	maurea
<i>Carex flagellifera</i>	bootlace sedge
<i>Carex forsteri</i>	forest sedge
<i>Carex geminata</i>	toetoe rautahi
<i>Carex "geminata wide leaf"</i>	swamp rautahi
<i>Carex lessoniana</i>	rautahi
<i>Carex maorica</i>	Māori sedge
<i>Carex raoulii</i>	coast sedge
<i>Carex virgata</i>	pukio
<i>Cortaderia richardii</i>	South Island toetoe
<i>Cyperus ustulatus</i>	upoko tangata
<i>Dianella nigra</i>	tūrutu, blueberry
<i>Gahnia pauciflora</i>	small cutty sedge
<i>Gahnia setifolia</i>	cutty sedge
<i>Gahnia xanthocarpa</i>	giant cutty sedge
<i>Ficinia nodosa</i> (= <i>Isolepis nodosa</i>)	knot sedge
<i>Juncus pallidus</i>	tall swamp rush
<i>Juncus sarophorus</i>	blue wiwi
<i>Microsorium pustulatum</i>	hounds tongue
<i>Paesia scaberula</i>	mātātā, scented fern
<i>Phormium cookianum</i>	wharariki, coastal flax
<i>Phormium tenax</i>	harakeke, swamp flax
<i>Poa aff. cita</i>	coastal silver tussock
<i>Poa anceps</i>	carpet poa
<i>Typha orientalis</i>	raupō
<i>Uncinia banksii</i>	tufted hookgrass
<i>Uncinia uncinata</i>	hookgrass

WALLS



Threshold stone walls



Riverstone detail



Threshold concrete walls



Concrete detail

GATES + FENCES



Black timber farm gate



Stone pillars + fence



Black post and rail farm fence

LETTERBOXES + SIGNS



Timber letterboxes on wall



Steel letterboxes on wall



Corten steel lasercut signage



Steel lasercut signage

LIGHTING + FURNITURE



Street lighting in black



Light bollards



Seating



Rubbish bins

ROADING



Chip seal + flush concrete edge



Exposed agg + asphalt



Stone paving threshold



Carparking

PATHS + PAVING



Feature Paving



Concrete



Timber boardwalk



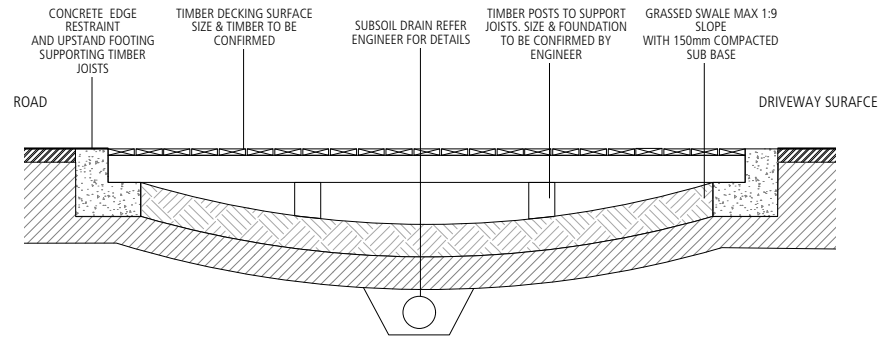
Chipseal



Gravel



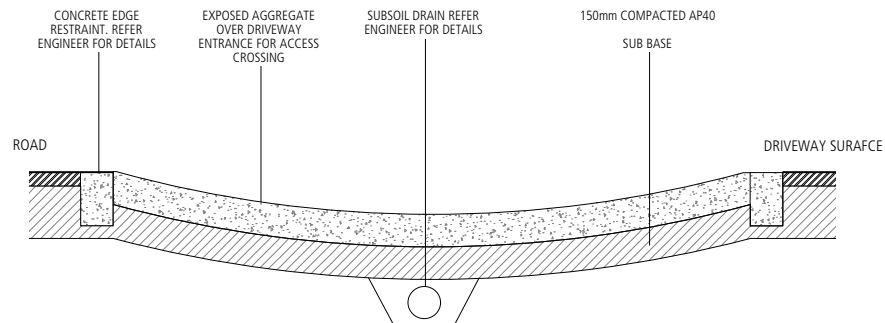
TIMBER



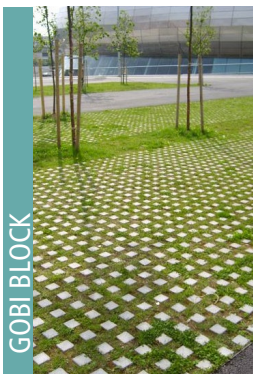
TIMBER BRIDGE CROSSING
NTS



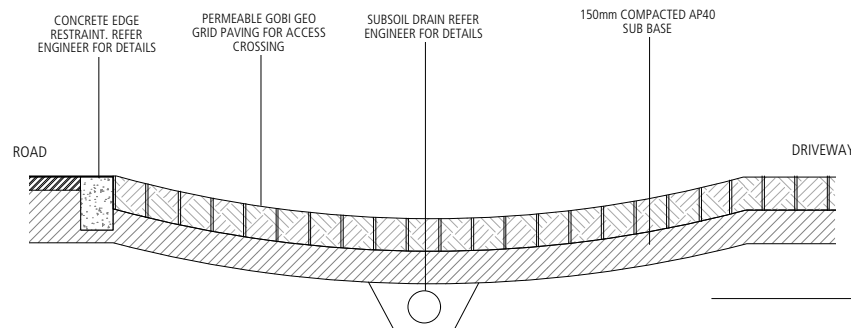
EXPOSED AGGREGATE



EXPOSED AGGREGATE CROSSING
NTS



GOBI BLOCK



GOBI BLOCK PAVING CROSSING
NTS

Note: All designs to be confirmed prior to construction by engineer and to be in accordance with the most current TDC standard.