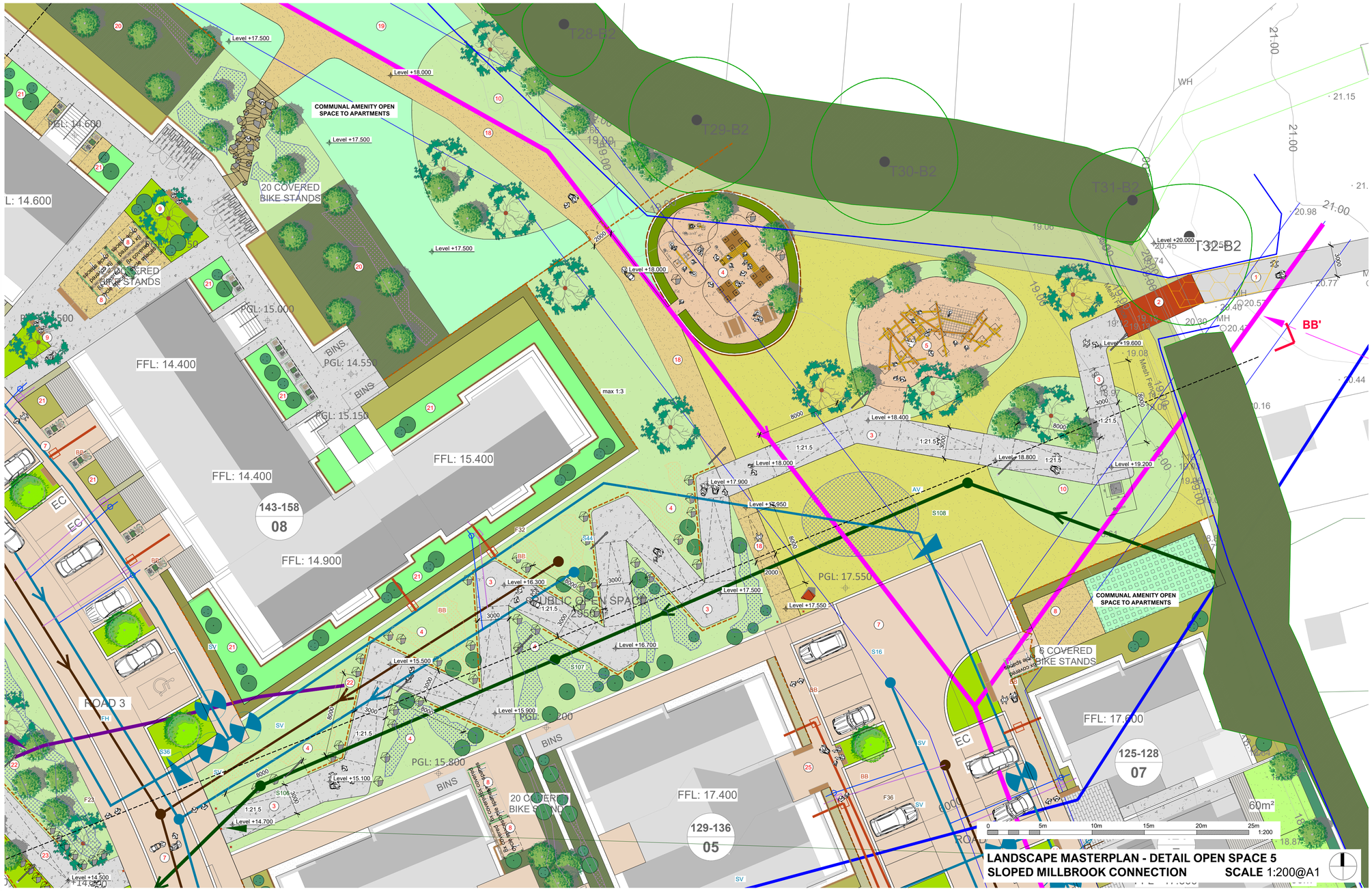

LANDSCAPE MASTERPLAN - DETAIL OPEN SPACE 5 SLOPED MILLBROOK CONNECTION SCALE 1:200@A1

LANDSCAPE - NUMBERED KEY

1. Direct connection to Millbrook through continued 3.00m width shared footpath/cycle route. All proposed works illustrated outside the Red Line Boundary of the subject site are indicative only and are to be agreed with the local authority
2. Small pedestrian bridge with a slight arch to bridge over the existing field drain along the site boundary. CorTen steel plate, 3.00m width, equipped with stainless steel handrail and vertical FSC hardwood posts as horizontal guarding
3. Gently-sloped universally accessible 3.00m width shared cycle and pedestrian path connecting from Home Zone area to the south to the existing open space in the adjacent Millbrook Housing estate to the north-east. Path to be surfaced in hard-wearing in-situ concrete, treated with an exposed aggregate retarder or with a brush-finish applied to reduce slip. This gently-sloped winding approach has been graded at 1:21.5 for 8.0m lengths, rising 400mm height between landings.
4. The planting surrounding the winding path has a distinctive and naturalistic character, with a mix of native and exotic trees and plants to make the space richer and more varied - and help the landscape become more resilient and adaptable to future climate change. A mix of hawthorns, sloes, lilacs etc where services permit will create a lively and attractive space to support insects, bees and butterflies, squirrels, bats and rabbits.
12. Junior Children's Play Area - 'Home' playspace of larch play equipment for younger children 133m², enclosed with a native species hedge and a chestnut pale fence and gate
13. Senior Children's Play Area - 'Adventure' playspace of larch climbing structure for older children 134m², surrounded by long-growing grass
14. Home Zone area
15. Green-roofed cycle shelters with wildlife panels and bird nesting boxes
16. Focal element large trees to signal presence of ginnel streets to rear of housing terraces
17. 'Biotope' managed to develop as long grass and wildflower meadow area
18. Loop path through site for fitness and well-being, paved in golden gravel, linking through the amenity open recreation spaces along the existing hedgerow and watercourse forming the site boundary with Millbrook
19. Mown grass lawn recreation space
20. 'Orchard' planting on 1:3 max sloped gradient to meet existing site levels. Pollinating and fruiting trees, under-planted with bulbs and ground covers. This will ensure clear views and over-looking of the amenity open spaces from the new dwellings to enable passive supervision
21. Privacy buffer planting to dwellings
22. Location of wildlife tunnel to engineer's design detail and specification to be provided under the Home Zone street, 0.60m diameter, to support nocturnal commuting wildlife
23. 3.00m width shared pedestrian/cycle path continues south-west down the slope towards the gathering space beneath the old Oak T3, and to the riverside amenity park beyond.
24. Site boundary formed by an existing hedgerow and tree-line bounding the site with the Millbrook housing, containing a number of high-quality *Quercus robur* 'Common Oak' trees which we propose to protect and retain. This existing hedgerow and field drain provide a valuable wildlife corridor as well as screening views into the site.
25. Entrance to Building 05 enlivened with street tree planting and seating elements to welcome residents outdoors and activate the streetscape.

'HARD' LANDSCAPE MATERIALS - OUTLINE SPECIFICATION KEY

Levels, site entrance, boundaries, road crossings and associated tactile levels, paving bedding + sub-bases, geotextiles etc to engineers' and architects' design detail and specification. 18-month long landscape maintenance and LA-certified Defects Liability Period required post-Practical Completion

PAVING - INSITU CONCRETE
In-situ concrete with exposed aggregate finish with slip-form straight edge treatment or kerb to engineer's design detail and specification. Joints at approx 3.00m centres. Concrete with Ecocem, GGBS and local rounded aggregates.

STEPPED PERMEABLE LINKS IN LANDSCAPE
locally sourced golden granite steps with tactile warning surfaces to top and bottom of flights, with wooden handrails on corten steel uprights

DRAINAGE STRIP TO BASE OF ELEVATIONS
500mm width, 300mm depth layer of 10-20mm diameter washed and graded pebble laid on permeable 500mm strip of 'T1000' geotextile by Terram at base of building elevations or walls, edged with pressure-treated softwood

PERMEABLE PAVING - HARD-BINDING GOLDEN GRAVEL
Golden-coloured hard-binding gravel/dust path of locally sourced aggregates, e.g. 'Ballylusk' or equivalent approved. Edged with 102x76 L-shaped aluminium edging trim on continuous 200x300mm concrete haunch or pressure-treated softwood edging in areas of cell-web paving as designated by consulting arborist.

PERMEABLE PAVING - HOME ZONE
Permeable paving of sharp-edge pre-cast concrete granite aggregate 120mm depth setts 'Clima-Pave Grangegorman' by Kilsaran in Ground Finish, with golden granite kerbs, tactile paving and crossing details

PERMEABLE PAVING - GRASSCRETE (COMMUNAL AMENITY)
'Redes' by Escofet vibro-moulded reinforced concrete cast stone grid paving in 100mm depth 600x600mm format, with 60% of surface area 'hard' and 40% formed by openings filled with a modified topsoil mix. Lay on 40-60mm depth bed of compacted sand on levelled P.M 95% compacted soil (UNE 103-501-94) on permeable sub-base, and seed or turf with amenity grass seed mix suitable for amenity play

ROUNDED BOULDERS Rounded 0.70-1.50m Ø glacial granite erratic boulders with either chamfered smooth edges or rounded shapes, set 300-400mm into landscape finish to act as informal seating/rain-filled bird baths. Sharp edges deburred.

ACCESS ROAD - NATURAL STONE KERBS + CROSSINGS
Natural stone 300x250mm kerb, bull-nosed with radiused corner to exposed edge, with medium bush-hammered finish. Flame-textured tactile paving warning surfaces and mixed pineapple/flamed-textured 'rumble strip' setts to pedestrian crossings and at junctions. Provide kerb-cuts to allow asphalt surfacing to drain to planting. CE-marked.

KERBS - IN-SITU CONCRETE
Slip-form concrete kerb detailed with 'kerb-cut' details to allow asphalt road surfacing to drain excess surface water into adjacent planter beds or landscaping

CAR-PARKING PAVING - PERMEABLE
pre-cast paving 'Newgrange Clima-Pave' 200x100mm 80mm depth paving sett by Kilsaran in shot-blast square-edged 'Black Granite' finish, edged with flush-finished 'Tara' pre-cast kerb by Kilsaran in 'Silver Granite' finish to delineate individual spaces.

PERMEABLE FOOTPATHS + DWELLING FRONT ENTRANCES
Pre-cast concrete paving 'Clima-Pave Killeen' 4-size mix 70mm depth square edge paving sett in 'Silver Granite' ground finish by Kilsaran, edged with L-shaped aluminium edging trim on C20P concrete races 200x300mm.

DWELLING PATIOS
Pre-cast concrete paving 5-size mix 80mm depth 'Pembroke' flags by Kilsaran in 'Silver Granite' colour and ground finish to dwelling front and rear patios, edged with L-shaped aluminium edging 'AsphaltEdge' on C20P 200x300mm concrete races

PERMEABLE IMPACT ATTENUATING PLAY SAFETY SURFACING
Well-graded, chunky pine bark loose materials impact attenuating safety surfacing on free-draining sub-base. Dust and fines removed. Nominal particle size 30-60mm, e.g. '10/50' play bark by Melcourt or equivalent approved, tested and certified in accordance with EN 1177 to 3.00m CFH to 400mm settled depth on free-draining sub-base and geotextile to engineer's design detail and specification.

PERMEABLE IMPACT ATTENUATING SURFACING (PLAY SAND)
400mm depth washed and screened silica safety surfacing play sand suitable for children's play on free-draining sub-base, edged with earthen bund, tested and certified in accordance with EN 1177 to appropriate CFHs.

PERMEABLE IMPACT ATTENUATING SURFACING (GRAVEL)
Washed and screened loose impact attenuating play pea gravel surfacing suitable for children's play to EN 1177, on free-draining sub-base and edged with earthen bund, tested and certified in accordance with EN 1177 to appropriate CFHs.

VEHICULAR CARRIAGEWAY - ASPHALT
asphalt or tarmac surfaceway

BRIDGES OVER WATERCOURSES/DRAINS 'Solo Bridge' by Streetlife NL with FSC hardwood posts and Cor-Ten steel floor plate, stainless steel handrails.

LOCATION OF SCULPTURE
Graphic denotes suggested location for contemporary art sculpture at focal areas throughout the proposed development to assist way-finding

SPECIALIST GROUND PROTECTION (TREES)
Approximate extent of specialist ground protection, of 'no-dig' cellular permeable construction, to support retention of existing trees, suitable for trafficking by wheelchairs, 'Cellweb TRP' plastic cellular confinement system on 'Treetec' geotextile by Geosynthetics laid on existing grade or sub-grade as required to appropriate depth (vehicular 150-200mm or pedestrian 100mm), installed with permeable paving on top of layer. CE-marked 'no-dig' surfacing to comply with BS:5837.

STREET FURNITURE - INDICATIVE FEATURE LIGHTING LAYOUT
'Full' tapered lighting masts by Escofet, in 5mm thick Corten steel finish to act as focal elements in the amenity open space (in varying heights 5.0, 7.0, 9.0m), with LED light projectors. 'Residenza City Elements' lighting posts and bollards provided to 3.0m width paths; 'Cream L, M + S' by Escofet used elsewhere. 'Rough Ready' bollards by StreetLife to restrict access. Lighting layout to M+E's design to meet CIBSE.

OAK GATHERING SPACE - LARGE FORMAT 'STEPPING STONES'
250x150mm pre-cast concrete granite aggregate kerbs laid flush with paving/lawn surfacing to create stepping stone paths through landscape

STREET FURNITURE - BENCHES + SEATS
'Drifter' seats and benches by Streetlife NL in standard lengths of 2.0m and 3.0m with galvanised steel finish supports (finished with a double layer powder coating), provided with 1.8m length back-rests to 2.0m seats with a variety of L1 (300mm depth) + L2 (620mm) slat widths. 'Drifter' picnic sets in 2.00m lengths with table depth of 620mm (2 beams). Recycled 100% hardwood to these streetscape elements. 'Rough and Ready' seats in curved arcs by Streetlife NL in weathering steel finish an, armrests and backrests.

CONCRETE FIRE PIT
1800mm² raised fire-pit or sand-pit, edged in board-marked in-situ concrete, containing a fire-pit for grilling food or a communal barbeque.

CYCLE SHELTERS WITH GREEN ROOFS (8 SPACES EACH)
'8x Bike Shelter' (1 no. 'Elvis' 4 no. cycle stand, 8 no. parking spaces each shelter) by Green Roof Cycle Shelters or EQA, 3.70x2.25x2.00x2.078m LxHxWxD with green roof substrate, planting, external wildlife panels for solitary bees and invertebrates, and bird nesting boxes. Cycle shelters with built-in locking bars and timber cladding to 3 elevations, open to front.

CYCLE SHELTERS WITH GREEN ROOFS (6 SPACES EACH)
'6x Bike Shelter' (3 no. Sheffield-style cycle stands, 6 no. parking spaces per shelter) by Green Roof Cycle Shelters, 2.15m H, 2.77m W, 2.07 D with green roof substrate, planting, external wildlife panels for solitary bees and invertebrates, and bird nesting boxes. Cycle shelters with built-in locking bars and timber cladding to 3 sides

BIN DOCKS WITH GREEN ROOFS (TO DWELLINGS) 'Bin Dock' by Green Roof Cycle Shelters, with aluminium roof- + end-frames polyester powder-coat painted (top coat 'Spring Forest Green'), polyethylene roof tray liner for green roof (w=200kg). Larch post with solitary bee nesting holes; SS cables for climbing plants; slatted spruce (wood FSC certified) panels for ends. Dimensions 2.01Lx0.83Dx1.3Hm to fit 3 no. 140L or 240L bins. Brass rainwater outlets and aluminium rain chains.

BIN STORES WITH GREEN ROOFS (TO APARTMENTS) Free-standing bin shelters, 2.15m H to fit 6 no. 240L or 1100L Euro-bins as tidy collection points for refuse or recycled materials. Flank walls composed of wildlife habitats using recycled materials, 4 no. nesting hole sizes for a broad variety of solitary bees (leaf-cutters, mason, carder, masked) and bird nesting boxes. Nectar-rich plants on the green roof.

SENSORY EQUIPMENT - AMENITY OPEN SPACES Durable vandal-proof equipment to provide sensory stimulation to users of all ages and abilities and create focal elements in open spaces.

PLAY EQUIPMENT - AMENITY OPEN SPACES Larch with steel feet wooden play equipment selected to provide play opportunities for children of all abilities, designed, manufactured and installed to EN1176 and EN 1177. Specialist foundations to river park play features to engineer's design detail and specification.

FITNUTES EQUIPMENT - WALKING ROUTES Larch with steel feet wooden 'fitness' equipment selected to provide exercise equipment, designed, manufactured and installed to EN1176 and EN 1177.

ALL-WEATHER SHELTER Larch all-weather shelter meeting house with shingle roof and 4 integrated benches (4.00x4.00m plan dimensions, 2.20m ht eaves and 3.25m ht roof, to provide a space suitable for community gatherings.

LANDSCAPE DESIGN RATIONALE - 'MILLBROOK' CONNECTION

The design team have proposed a fully accessible 3.00m wide shared pedestrian and cycle path leading from the Home Zone area in front of Building 11 up through the open space, and gently sloping up to meet the existing levels and the site boundary with the existing open space in the 'Millbrook' housing development to the north-east. This gently-sloped, universal design-friendly approach has been graded at 1:21.5 for 8.0m lengths, rising 400mm height between landings. New small trees and large shrubs have been located to avoid underground services routes, and will be planted with root protection measures.

Arboricultural and ecological surveys of the existing trees, hedgerows and field drains have informed the landscape design by establishing their condition and importance, and routes and functions of amenity open space have been planned accordingly by the design team. The existing hedgerow bounding the site with the Millbrook housing contains a number of high-quality *Quercus robur* 'Common Oak' trees which we propose to retain and protect. This tree-line, hedgerow and field drain provide a valuable wildlife corridor as well as screening views into the site. Naturalistic playspaces for younger and older children occupy part of the open space adjoining Millbrook, acting as a 'welcome mat' into the connecting route to the riverside amenity park.

Again, the 'orchard' type planting to the rear of the proposed housing blocks will provide a visual, aesthetic and pollinating/fruiting amenity, while allowing open views for passive surveillance from the new dwellings of the amenity open space and the loop path through it.

landscape design services

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CLIENT	TORCA DEVELOPMENTS LTD.
PROJECT ARCHITECT	BRIAN DUNLOP ARCHITECTS
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STAGE	PLANNING
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REVISION	D

NOTES:
All dimensions are in millimeters unless otherwise stated and shall be checked and confirmed by the contractor on site. Any discrepancies shall be immediately reported to the landscape architects. Work to figured dimensions only - Do not scale from drawing. Do Not Scale. Use Figured Dimensions Only. Not for Construction Purposes unless Specifically Marked.