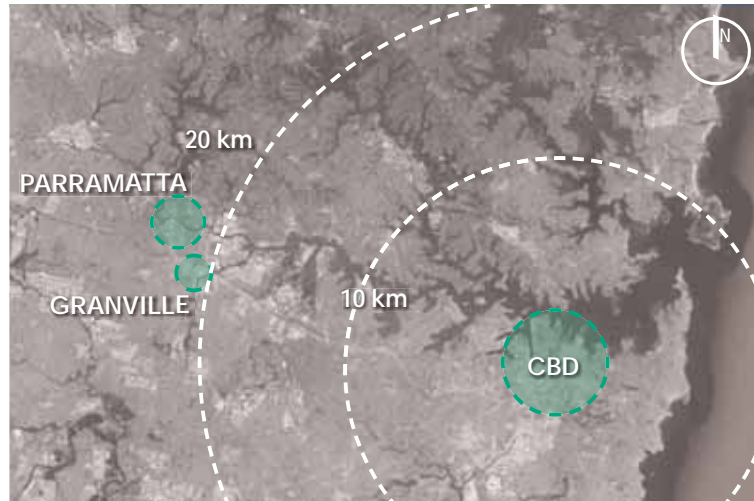


COWPER ST DGP 7 GRANVILLE
DEVELOTEK
LANDSCAPE DEVELOPMENT APPLICATION
DECEMBER 2016

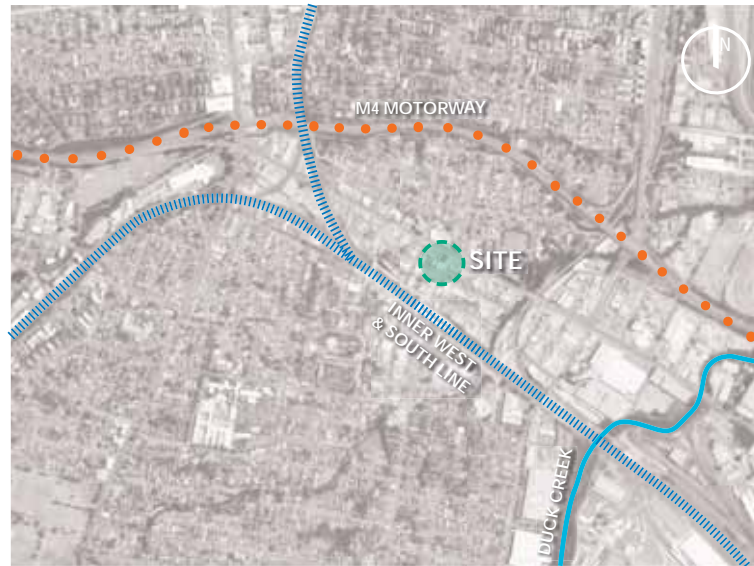


#	NAME
101/	Site Context + Analysis
102/	Landscape Vision Principles
103/	Landscape Vision Diagrams
104/	Landscape Vision Design Concept
105/	Concept Plan Masterplan
106/	Concept Plan Ground Landscape Plan
107/	Detail Plan Through Site Link
108/	Detail Plan Community Park
109/	Street Tree Strategy East Street
110/	Street Tree Strategy Cowper Street
111/	WSUD Strategy
112/	Concept Plan Communal Landscape
113/	Detail Plan Communal Landscape
114/	Section Communal Landscape
115/	Indicative Planting Palette
116/	Indicative Planting Schedule
200/	Landscape Masterplan
201/	Landscape Plan
202/	Landscape Plan
203/	Landscape Plan
204/	Landscape Plan
205/	Landscape Plan
206/	Landscape Plan
501/	Landscape Details
502/	Landscape Details
503/	Landscape Details
504/	Landscape Details
505/	Landscape Specifications

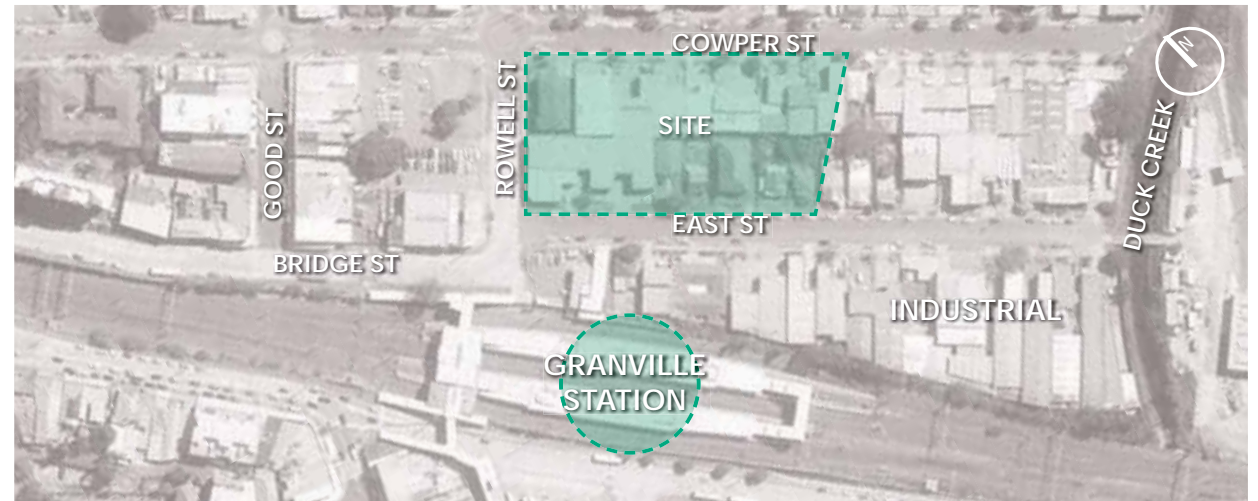
REGIONAL CONTEXT



LOCAL CONTEXT



SITE LOCALITY



LOCAL CONTEXT

The proposed development site is positioned directly adjacent to Granville train station and only 1.5km from Parramatta CBD. Being in such close proximity to the train station, the site will provide a secondary public amenity including retail and hospitality zones to create a unique place for the local community to enjoy. With a large public urban plaza and through site links to Cowper Street, this will be a thoroughfare for local daily commuters. The existing streetscape has poor pedestrian amenity with limited established tree planting.





12 STEPS TO GREAT PUBLIC SPACE

- 1/ Protection from traffic
- 2/ Protection from crime
- 3/ Protection from the elements
- 4/ A place to walk
- 5/ A place to stop and stand
- 6/ A place to sit
- 7/ Things to see
- 8/ Opportunities for conversations
- 9/ Opportunities for play
- 10/ Human-scale
- 11/ Opportunities to enjoy good weather
- 12/ Aesthetic quality

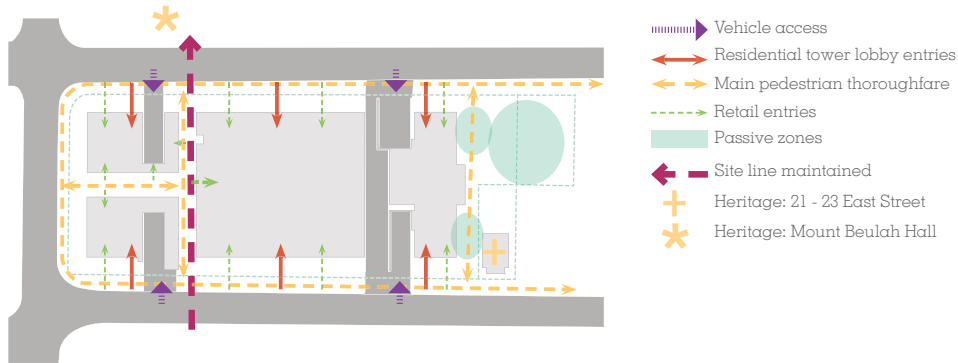
- JAN GEHL + LARS GEMZOE



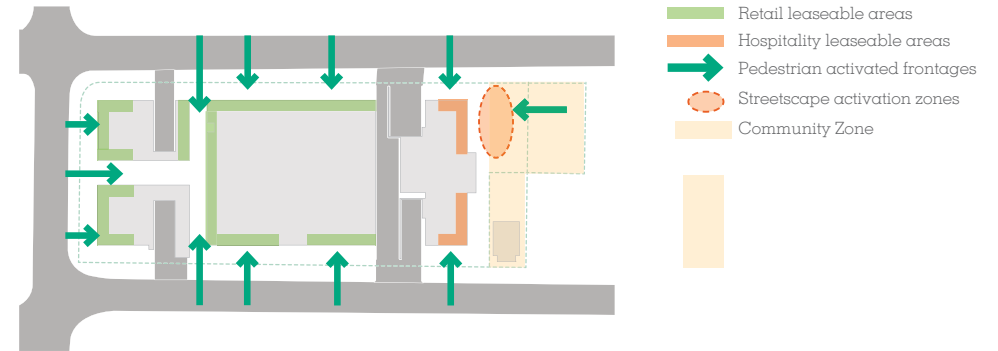
KEY PUBLIC REALM PRINCIPLES

- / Activation - all day / all year
- / Adaptable / flexible space
- / Pedestrian scale - fine grain detail
- / Complement retail tenancy offerings
- / Amenity for residents and visitors
- / Strong connections between spaces
- / Maximise solar access
- / Develop unique + memorable identity
- / Ensure safety and accessibility
- / Robust quality materiality
- / Facilitate social interaction & fun

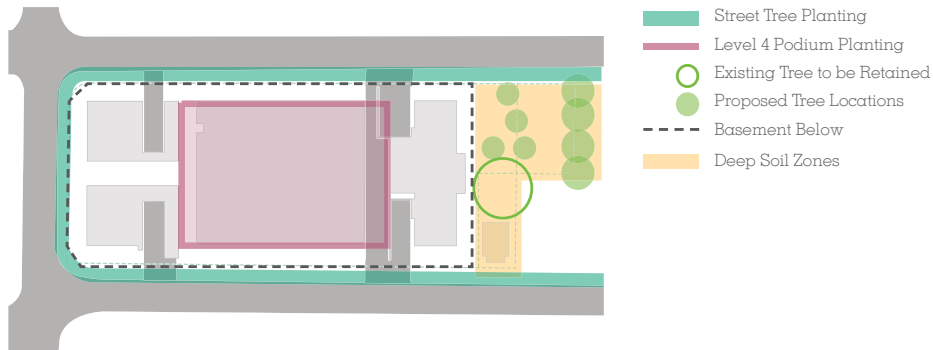
CONNECTIONS



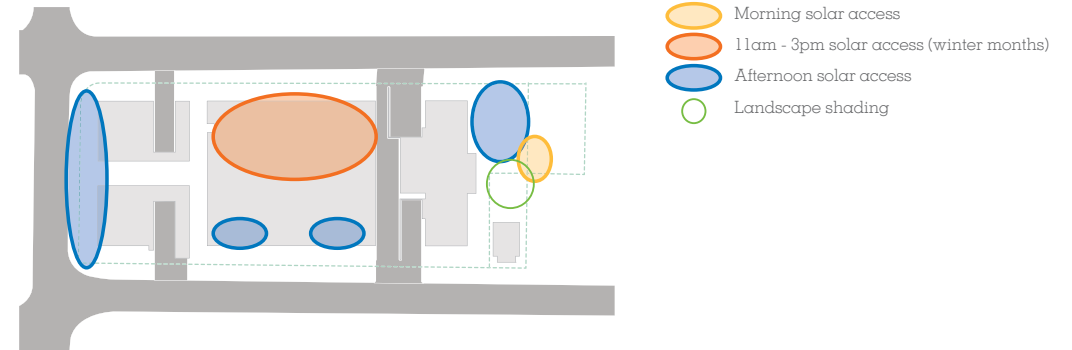
COMMUNITY ACTIVATION



VEGETATED EDGES



VARIATION TO MICROCLIMATE

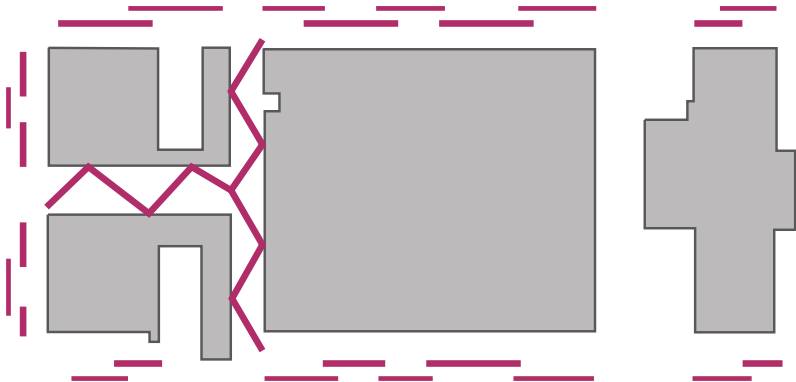


LANDSCAPE HERITAGE

The landscape approach to the open space within the development has incorporated the heritage items listed within the Parramatta Local Environmental Plan in a sensitive fashion. By adapting and reusing the dwelling located at 21-23 East Street as a local cafe destination and retaining the existing tree within the rear of the property, the landscape design has affectively incorporated a rich history into the site. Whilst Mount Beulah Hall located at 37 Cowper Street is not within the site, the landscape approach has maintained site lines through the new urban link from East Street towards the Hall to highlight its significance within the local area. By incorporating these heritage items within the site, and introducing public art within the landscape, this site has the opportunity to be a cultural centre for the local area.

THE URBAN STITCH

The landscape design incorporates a playful physical and visual break down of the streetscape edge through offset wall elements utilising a strong material response. The urban through site links function as an attractive retail environment while also enabling pedestrian amenity. By incorporating a variety of fine grained urban activation elements, a space is created that invites, captures and encourages people through the site.



FORM + TEXTURE





0 5 10 15 20 25M
SCALE 1:250 @ A1





EXPERIENCE

DESIGN PRINCIPLES

This pedestrian link has been designed to balance the need for ease of access to the residential building entries with the provision of active retail and cafe frontages.

Being a natural path of travel for pedestrians, it also offers an entrance to the supermarket and allows users to cut through to the adjacent retail offerings.

This space is designed to allow you to see Mount Beulah Hall, a heritage building protected under the Parramatta LEP with a significant history within the local area.

KEY PLAN

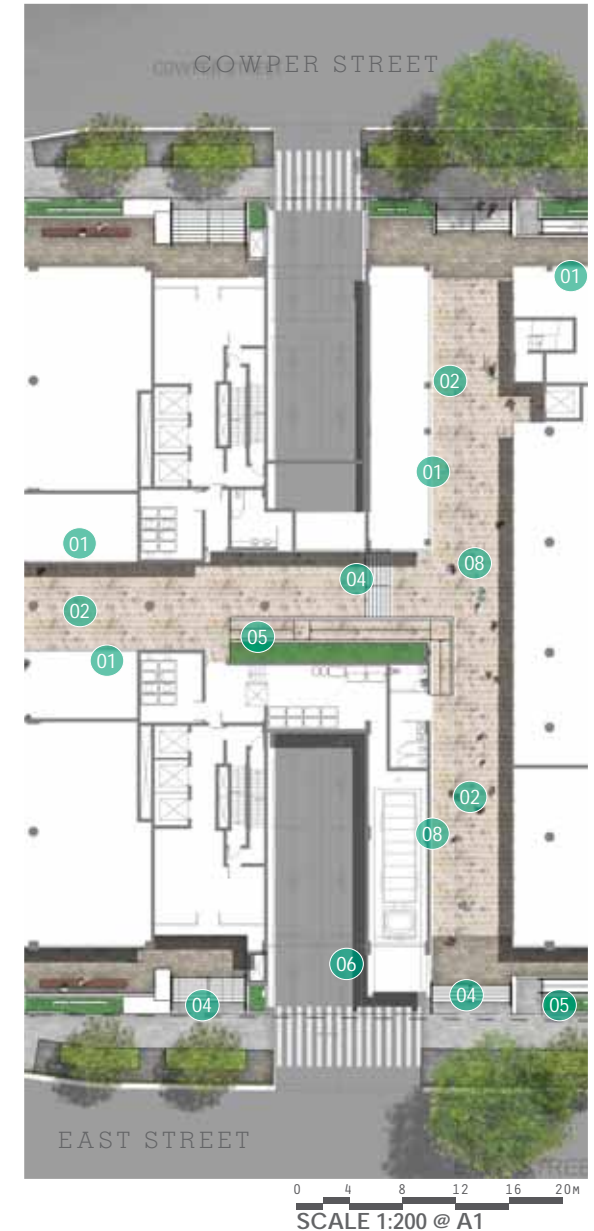


CHARACTER



LEGEND

- 01/ Active retail / cafe frontages
- 02/ Loose furniture opportunities
- 03/ Interpretive inlay element 'stitching' the buildings together
- 04/ Step access to walkway
- 05/ Universal access ramp / walkway
- 06/ Driveway and service
- 07/ Cycle parking
- 08/ Feature lighting / Art installation (Refer to Art Plan)



EXPERIENCE

DESIGN PRINCIPLES

To the East of the site, lies a perfect opportunity to blur the hard edge of the building into the adjacent park. By creating a tiered edge treatment and offering two accessible levels for cafe seating and seamless integration into the park, this will provide essential public amenity to the development for active and passive recreation.

The path network creates a safe passage for local commuters to and from the train station with retail frontage and hospitality offerings along the way.

A playground activates the back corner of the space while the open edges enhance passive surveillance of the public space.

KEY PLAN



CHARACTER



LEGEND

- 01/ Upper cafe level
- 02/ Open turf kickabout space
- 03/ WSUD rain garden with bridge
- 04/ Retail frontage
- 05/ Future road tree planting
- 06/ Children's play area
- 07/ Existing tree to be retained with raised timber decking at base
- 08/ Community facilities
- 09/ Ausgrid truck access way



0 4 8 12 16 20M
SCALE 1:200 @ A1



EAST STREET



TYPICAL SECTION



EAST STREET



- Lophostemon confertus
- Tristaniopsis laurina
- Approved Development Street Planting

PRECEDENT



APPROACH

This approach extends the existing kerb line 1.3m and creates planting bays within the roadway for larger trees. There is no setback for the tower.

Pros

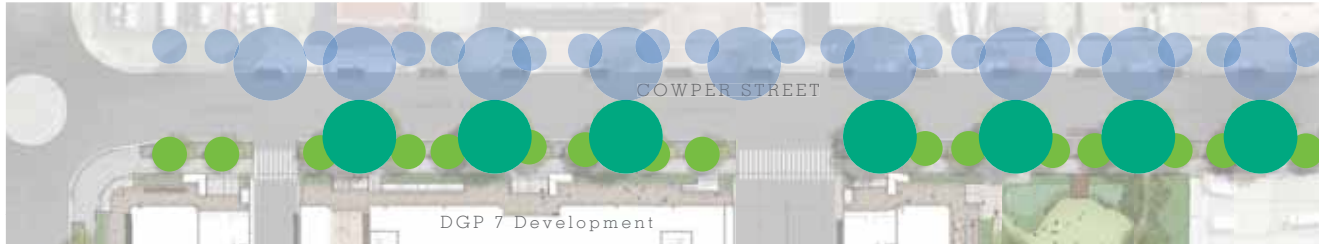
- Larger area of deep soil for root system
- Larger pedestrian pathway

Cons

- Less 'on-street' parking
- More disruption to existing road during construction
- Street more narrow



COWPER STREET



TYPICAL SECTION



Ulmus parvifolia

Tristaniopsis laurina

Possible Development Street Planting

PRECEDENT



APPROACH

This approach extends the existing kerb line 1.3m and creates planting bays within the roadway for larger trees. There is no setback for the tower.

Pros

- Larger area of deep soil for root system
- Larger pedestrian pathway

Cons

- Less 'on-street' parking
- More disruption to existing road during construction
- Street more narrow

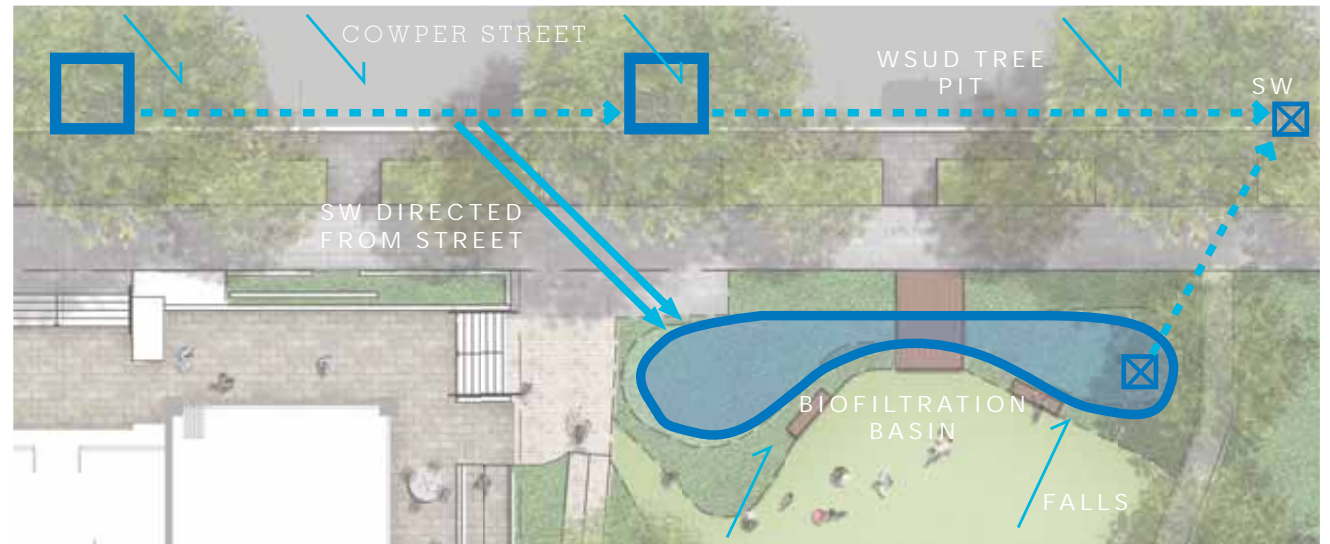
Integrated Hydrology

A best practice approach to urban stormwater management – water sensitive urban design (WSUD) - provides for the sustainable management and improvement of water quality entering waterways from urban regions; opportunities for stormwater reuse; and innovative reductions in potable water demand.

WSUD contributes to urban sustainability and provides the conditions for attractive, human-scale living environments through integration of urban planning and design with the management, protection and conservation of the whole water cycle.

Through collaborative efforts WSUD is being incorporated into the development. Strategies applicable include:

- / Collection and treatment of rainwater for infiltration into deepsoil landscapes through the rain garden on the northern edge of the park
- / Permeable paving – permeable paving systems are to be incorporated where appropriate for disipation of surface water
- / Street tree planting – new in-road tree pits planned for both East and Cowper Street provide space for larger trees with detailed design to allow for passive irrigation, infiltration and reduced stormwater flows
- / Podium planting
- / Sediment control programs during construction



WSUD Diagram

Indicative images





LEGEND

01/ Large open turf area	large social area	checker board
02/ Buffer planting	07/ Table tennis	12/ Water feature
03/ Exploration paths	08/ Passive seating area	13/ Central spine
04/ Childrens play area	09/ Raised timber platforms	14/ Access paths
05/ Hammock grove	10/ Level 14 green roof	
06/ Communal hub with BBQ and	11/ Foosball and large scale	



EXPERIENCE

DESIGN PRINCIPLES

With variety of different areas, this communal open space provide an escape for the residents, offering strategically designed BBQ areas, creating plenty of space for large and small groups to enjoy.

With a sun drenched turf area and many lounge zones, there is ample private useable space. An overhead structure above the central area helps to identify the large communal hub, whilst a series of outdoor rooms and play zones fan off the central spine creating interest from above and on ground.

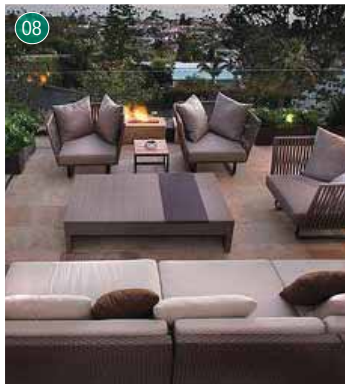
KEY PLAN



LEGEND

- | | |
|---|--|
| 01/ Large open turf area | 10/ Level 14 green roof |
| 02/ Buffer planting | 11/ Foosball and large scale checker board |
| 03/ Exploration paths | 12/ Water feature |
| 04/ Childrens play area | 13/ Central spine |
| 05/ Hammock grove | 14/ Access paths |
| 06/ Communal hub with BBQ and large social area | |
| 07/ Table tennis | |
| 08/ Passive seating area | |
| 09/ Raised timber platforms | |

CHARACTER



LEGEND

- | | |
|-----------------------------|------------------------------------|
| 01/ Private Courtyard | 07/ Large Communal Table |
| 02/ Cobana with large table | 08/ Communal BBQ |
| 03/ Steppers | 09/ Planter Bed with Soil Mounding |
| 04/ Hammock Grove | 10/ Large Open Turf Area |
| 05/ Feature Tree | 11/ Buffer Planting |
| 06/ Bar | |

KEY PLAN



TREES



Tristaniopsis laurina



Eucalyptus tereticornis



Cupaniopsis anacardioides



Olea europea

GRASSES AND RUSHES



Dianella caerulea



Lomandra 'Verday'



Pennisetum 'Nafray'



Dietes iridioides



Phormium Species



Phormium tenax 'Flamin'

SHUBS



Acanthus mollis



Alpinia caerulea



Alpinia caerulea



Philodendron 'Xanadu'



Cyathea cooperi



Doryanthes excelsa



Rosmarinus 'Blue Lagoon'



Acmena 'Allyn Magic'



Aspidistra elatior



Alpinia caerulea



Philodendron 'Xanadu'



Asplenium australasicum



Macropidia fuliginosa



Clivia miniata



Rosmarinus 'Blue Lagoon'

GROUNDCOVERS



Ajuga reptans



Viola hederacea



Trachelospermum jasminoides



Dichondra repens



Hardenbergia 'Meema'



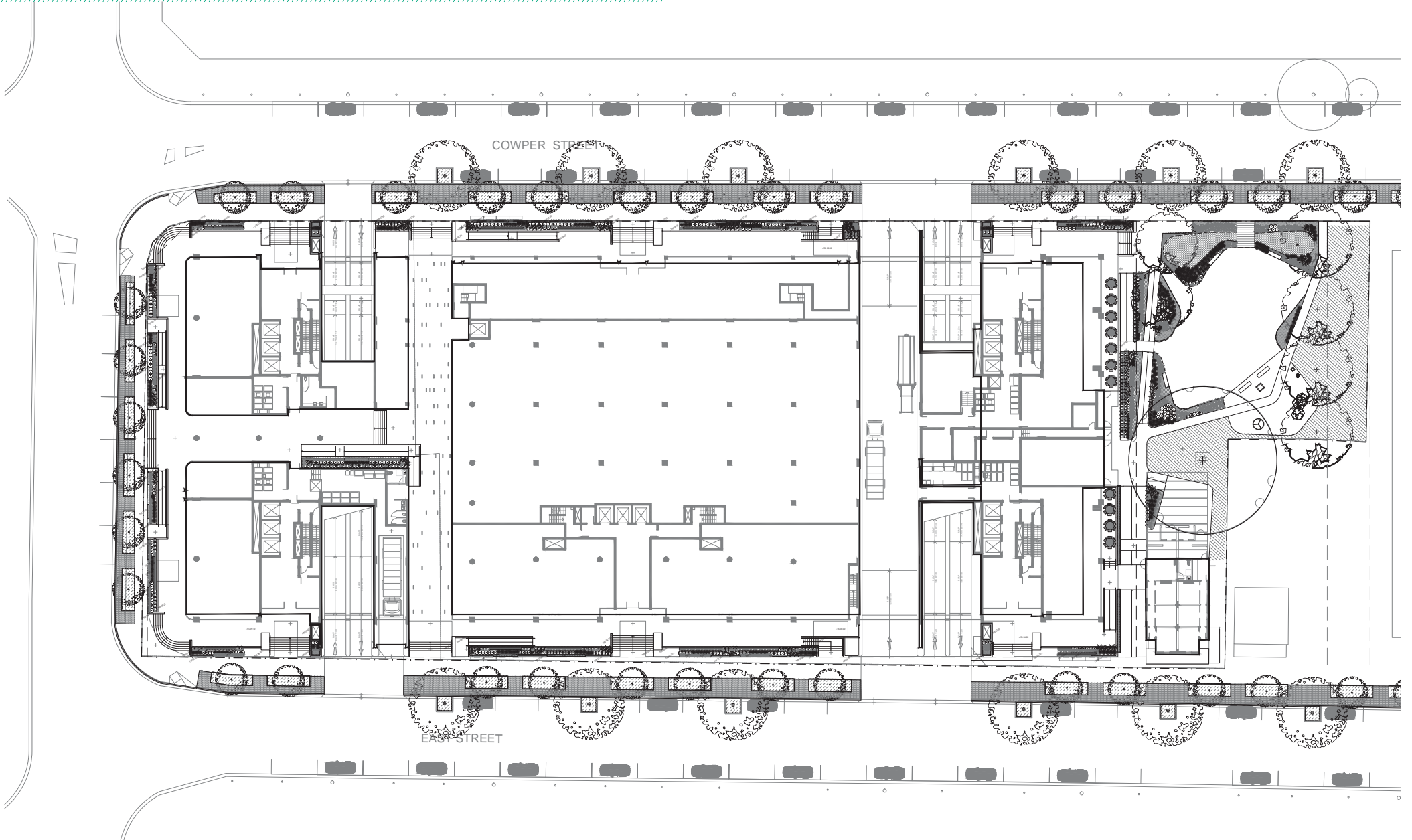
Myoporum parvifolium



15-313 Cowper St Granville DGP 7

CODE	BOTANIC NAME	COMMON NAME	MATURE SIZE (h x w) (m)	PROPOSED POT SIZE	QUANTITY Ground	QUANTITY Level 1	QUANTITY Level 4	QUANTITY Level 14
TREES & PALMS								
Al	Angophora floribunda	Smooth-Barked Apple	20 x 10	75L	2			
Ca	Cupaniopsis anacardioides	Tuckeroo	8 x 6	200L			16	
Et	Eucalyptus tereticornis	Forest Red Gum	20 x 10	75L				
Le	Lophosiemon confertus	Brush Box	15 x 10	75L	6			
Ml	Melaleuca linarifolia	Narrow Leaved Paperbark	10 x 5	75L	6			
Oe	Olea europea	Olive Tree	3 x 5	200L			8	
Pc	Pyrus calleryana 'Capital'	Capital Pear	10 x 4	200L			9	
Tl	Tristanloopsis laurina	Water Gum	10 x 5	75L	28			
Up	Ulmus parvifolia	Chinese Elm	10 x 5	75L	7			
SHRUBS & ACCENTS								
Abr	Amigosanthus 'Big Red'	Kangaroo Paw	1.5 x 1.5	200mm	274		61	
Ac	Alpinia caerulea	Native Ginger	2 x 2	200mm			26	
Cm	Clivia miniata	Bush Lily	1 x 1	150mm	4			
Dc	Dianella caerulea	Flax Lily	0.5 x 0.5	150mm	288			
De	Doryanthes excelsa	Gymea Lily	3 x 1.5	200mm	88			
La	Lavandula stoechas 'Avonview'	Avonview Lavender	1 x 1	200mm			534	
Mf	Macropidia fuliginosa	Black Kangaroo Paw	1 x 1	150mm			534	
Pk	Philodendron 'Xanadu'	Xanadu	1 x 1	150mm			597	
Pt	Phormium tenax 'Flamin'	Flamin Flax	0.8 x 0.8	150mm			300	
Ph	Phormium Species	Flax	1.5 x 1.5	200mm			522	
Rbl	Rosmarinus 'Blue Lagoon'	Prostrate Rosemary	1 x 1	150mm	273		723	
GRASSES & RUSHES								
Dlj	Dianella caerulea 'Little Jess'	Flax Lily	0.4 x 0.4	150mm	420			871
Di	Dietes iridioides	Wild Iris	1 x 1	150mm	737		253	
Ju	Juncus usitatus	Common Rush	1 x 1	150mm	105			
Le	Liriope 'Evergreen Gaint'	Lilyturf	0.5 x 0.5	150mm	420		437	
Ll	Lomandra longifolia	Mat Rush	0.6 x 0.6	150mm	1880			
Lv	Lomandra 'Verday'	Mat Rush	0.6 x 0.6	150mm	481		1456	
Pn	Pennisetum 'Nafray'	Swamp Foxtail	1 x 1	150mm	420		534	
Pl	Poa labillardieri 'Eskdale'	Tussock Grass	0.5 x 0.5	150mm	618		534	
FERNS & CYCADS								
Ad	Adiantum aestivapicum	Maidenhair Fern	0.5 x 0.5	150mm		424	578	
Am	Alocasia macrorrhiza	Elephants Ears	2 x 1.5	200mm		126		
Aa	Asplenium australasicum	Birds Nest Fern	1.5 x 1.5	200mm	223	238	289	
Bs	Blechnum Silver Lady Fern	Silver Lady Fern	1.5 x 1.5	200mm		522		
Br	Bromeliad Species	Bromeliad	1 x 1	150mm			578	
Cc	Cyathea cooperi	Tree Fern	5 x 2	300mm			73	
Cr	Cycas revoluta	Cycad	1.5 x 1	150mm				
Do	Doodia aspera	Prickly Rasp Fern	0.5 x 0.5	150mm		366	578	
Ll	Lindsaea linearis	Screw Fern	0.5 x 0.5	150mm			578	
Mc	Macrozamia communis	Burrawong	1.5 x 2	150mm		15		
Zf	Zamia furturacea	Cardboard Plant	1.5 x 1.5	200mm			141	
GROUNDCOVERS & CLIMBERS								
Hm	Hardenbergia 'Meema'	Meema	0.4 x 2	150mm	101		653	871
Mp	Myoporum parvifolium	Creeping Boobialla	0.15 x spreading	150mm	54			871
Tj	Trachelospermum jasminoides	Star Jasmine	0.25 x 1	150mm	196		160	
Vh	Viola hederacea	Native Violet	0.2 x 0.5	150mm		66	207	

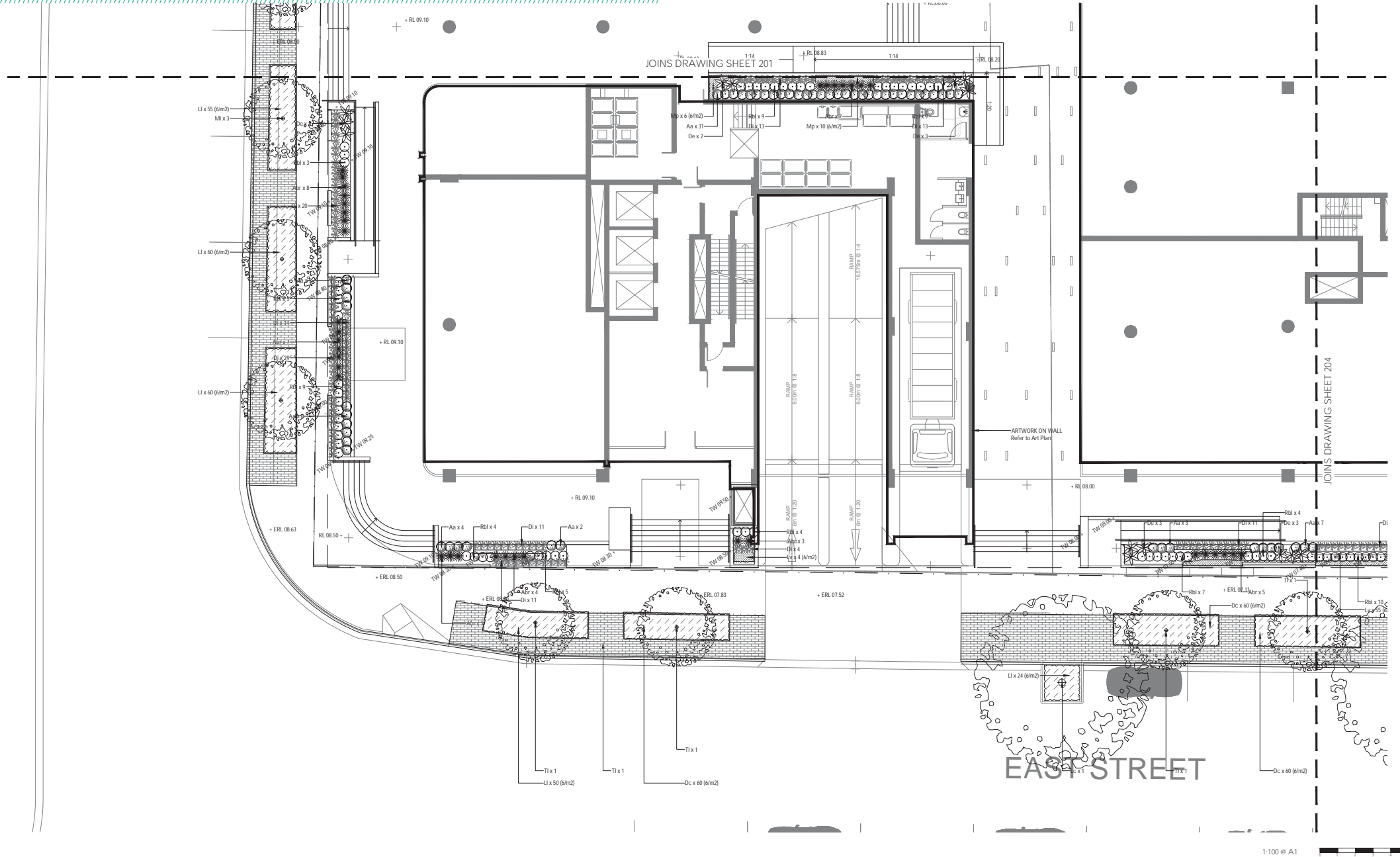


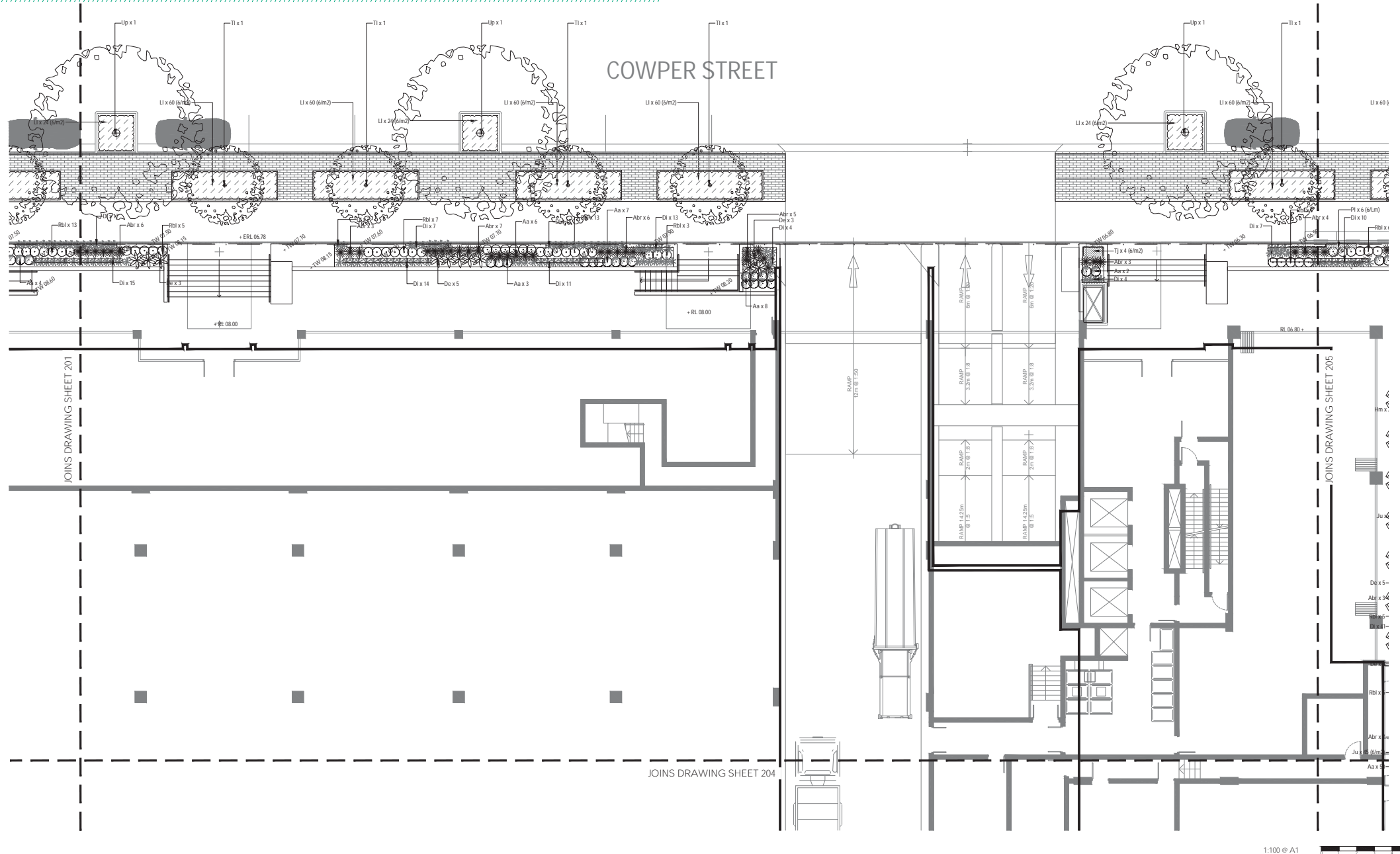


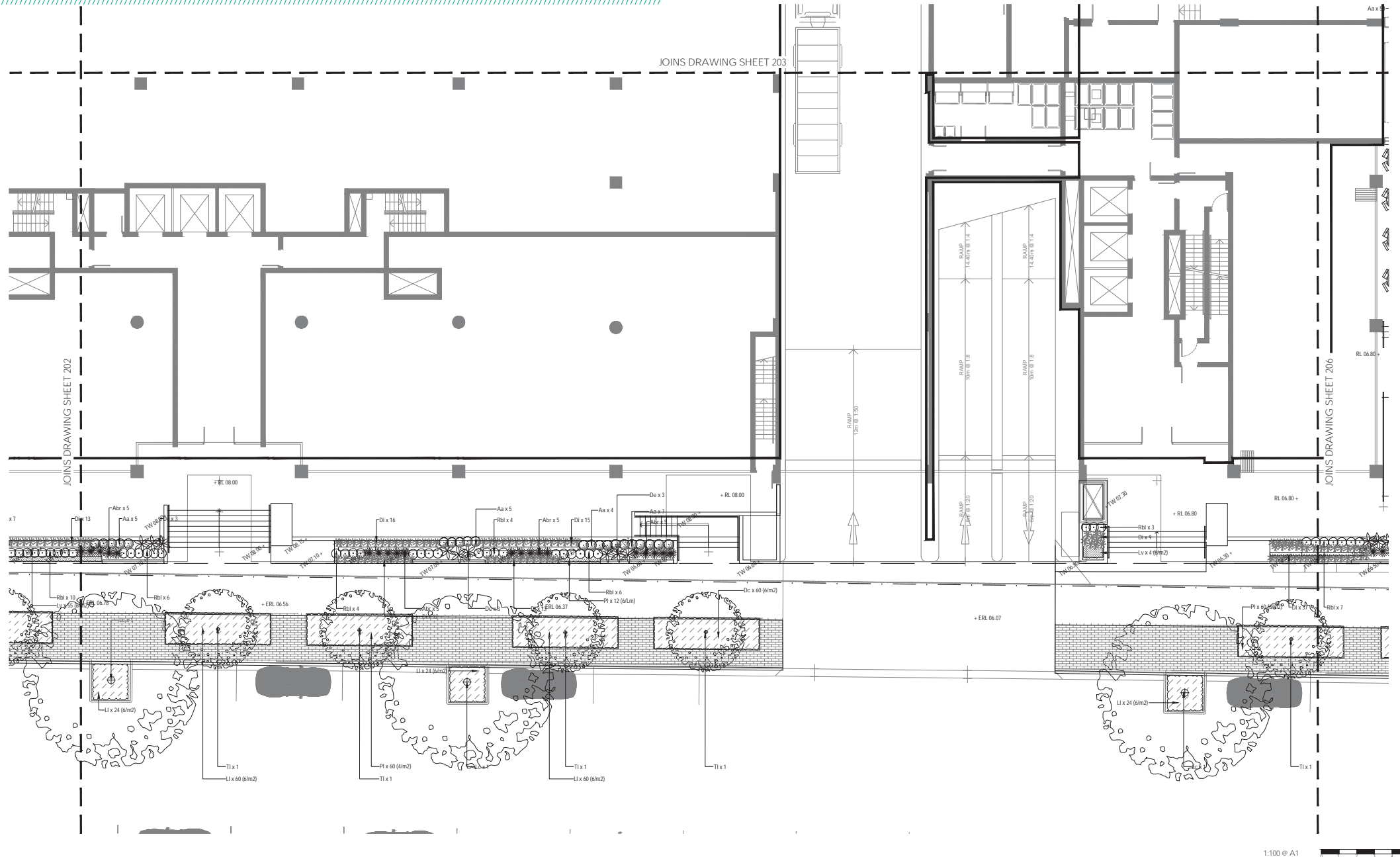
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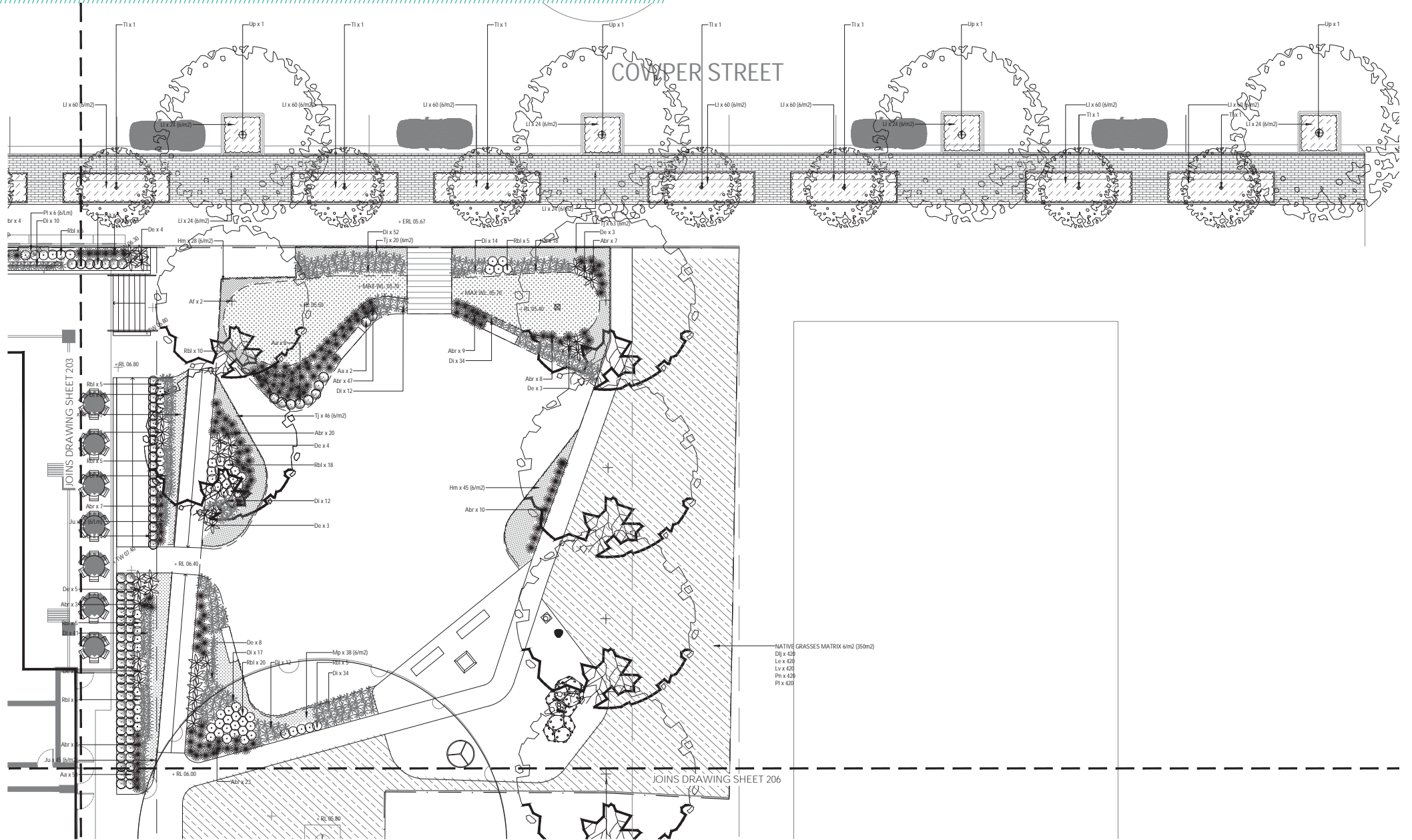




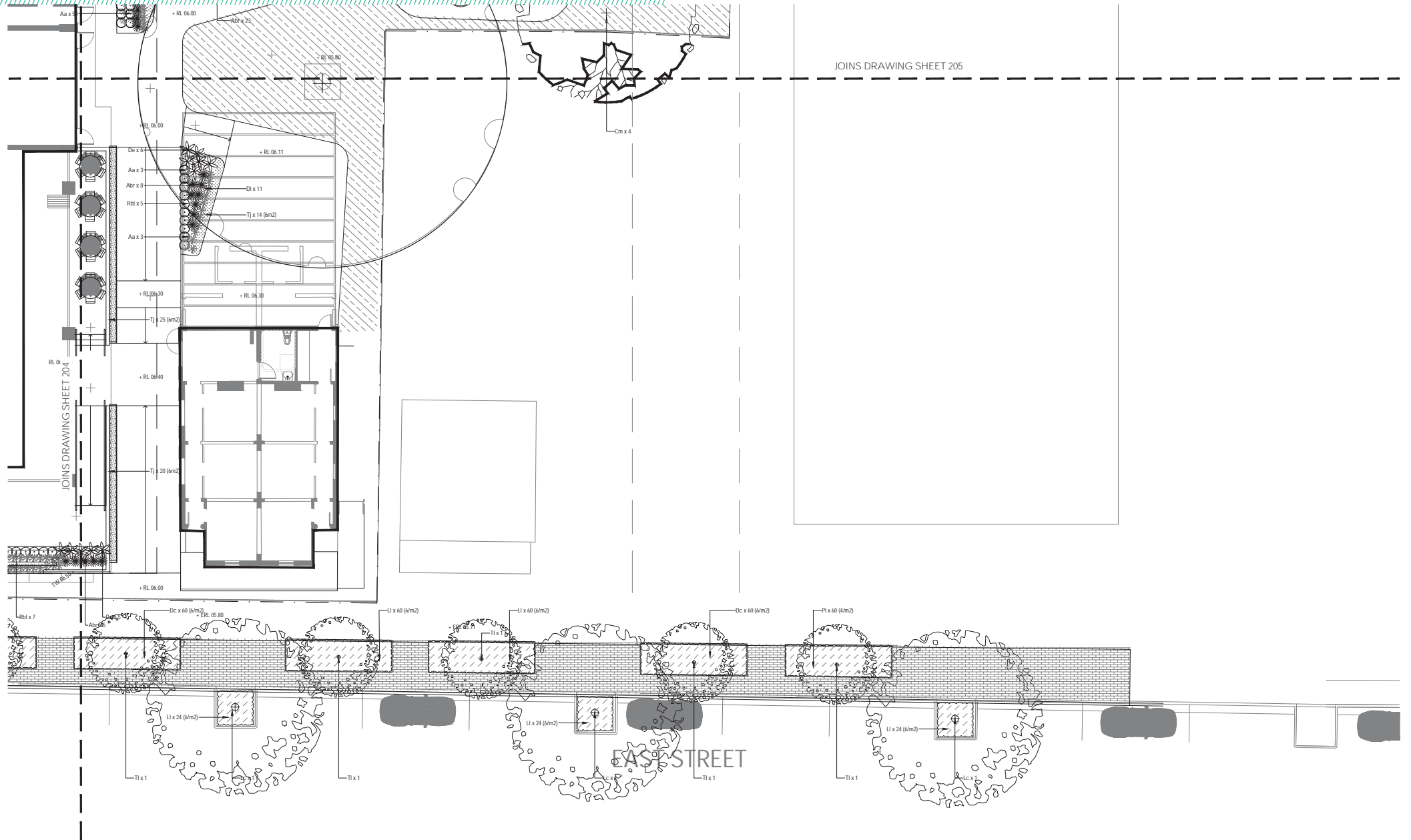


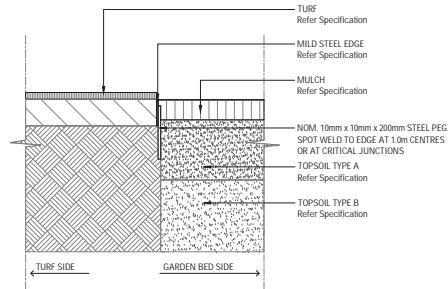




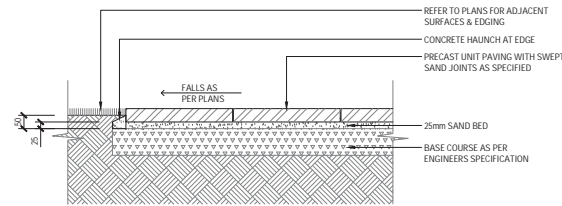


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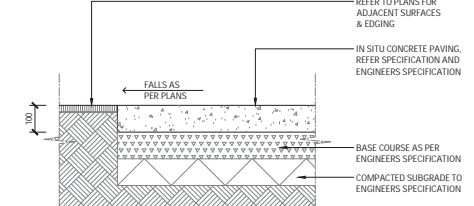




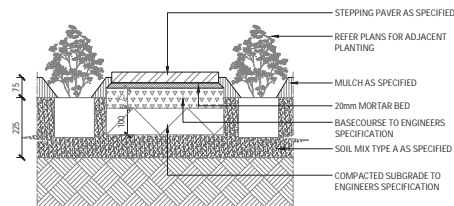
01 TYPICAL MILD STEEL EDGE
SCALE 1:10



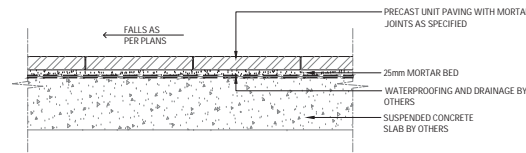
02 PRECAST UNIT PAVERS ON GRADE
SCALE 1:10



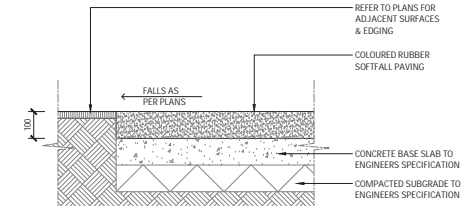
03 IN SITU CONCRETE PAVING
SCALE 1:10



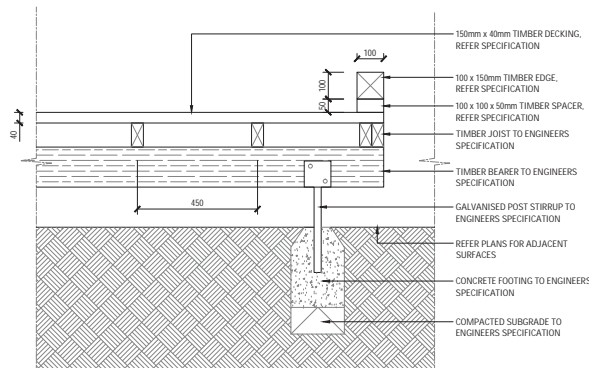
04 STEPPING PAVER IN GARDEN BED ON GRADE
SCALE 1:10



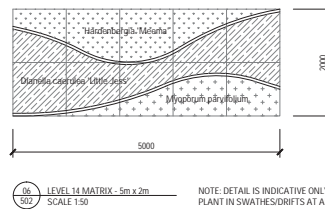
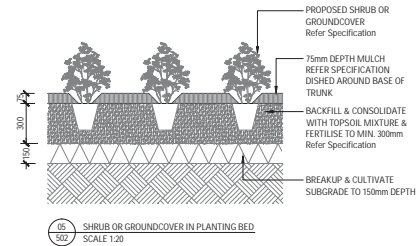
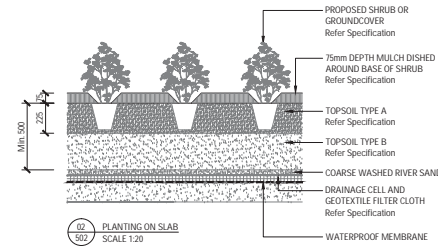
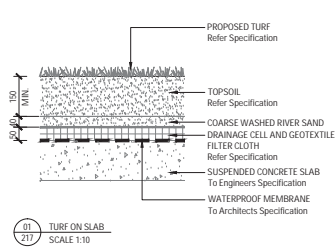
05 PRECAST UNIT PAVERS ON SUSPENDED SLAB
SCALE 1:10



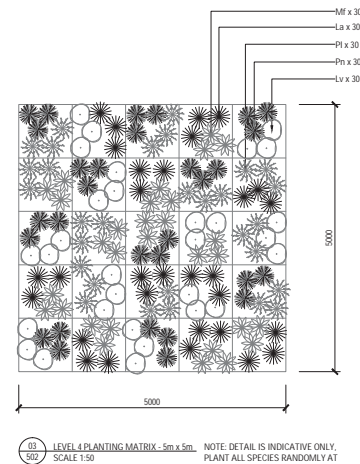
06 SOFTFALL PAVING
SCALE 1:10



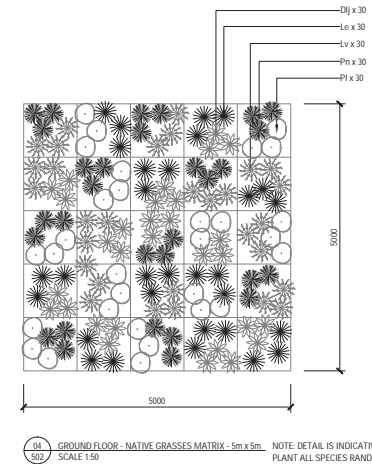
07 RAISED TIMBER DECKING
SCALE 1:10



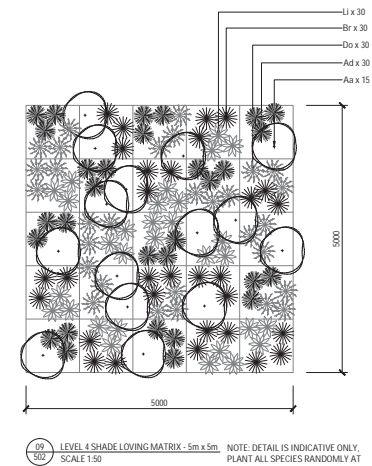
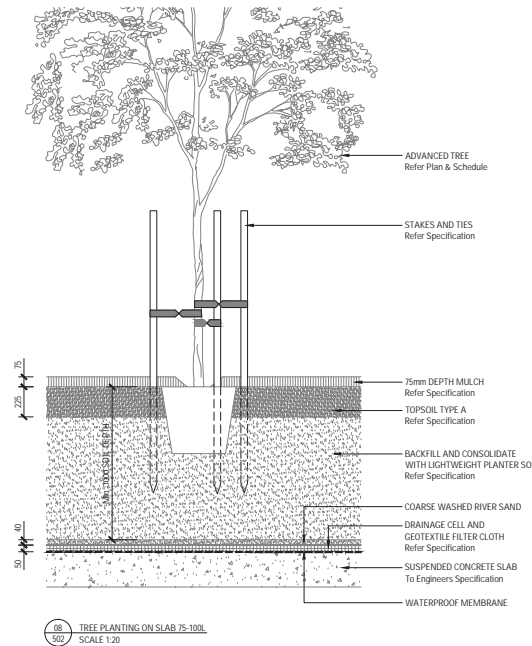
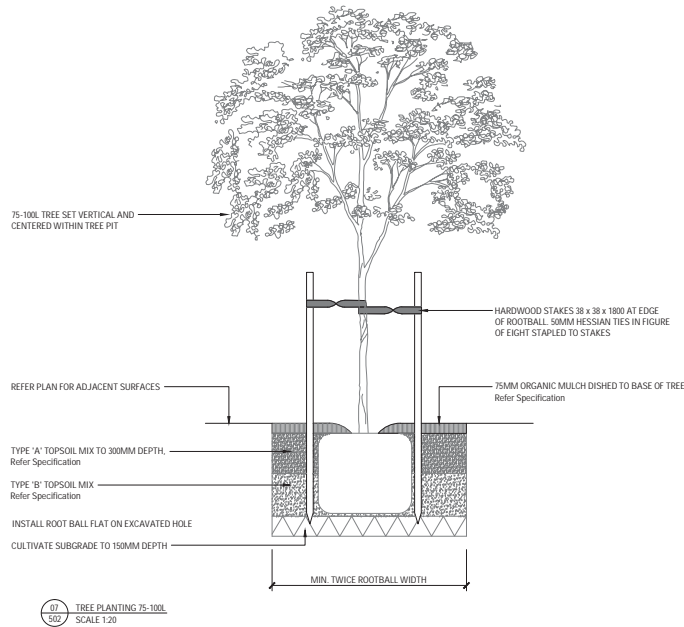
NOTE: DETAIL IS INDICATIVE ONLY.
PLANT IN SWATHES/DRIETS AT AN
OVERALL RATE OF 6/m²



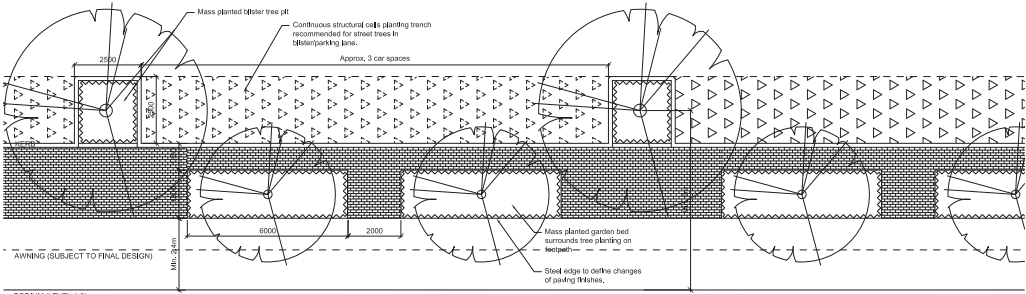
NOTE: DETAIL IS INDICATIVE ONLY.
PLANT ALL SPECIES RANDOMLY AT
AN OVERALL RATE OF 6/m²



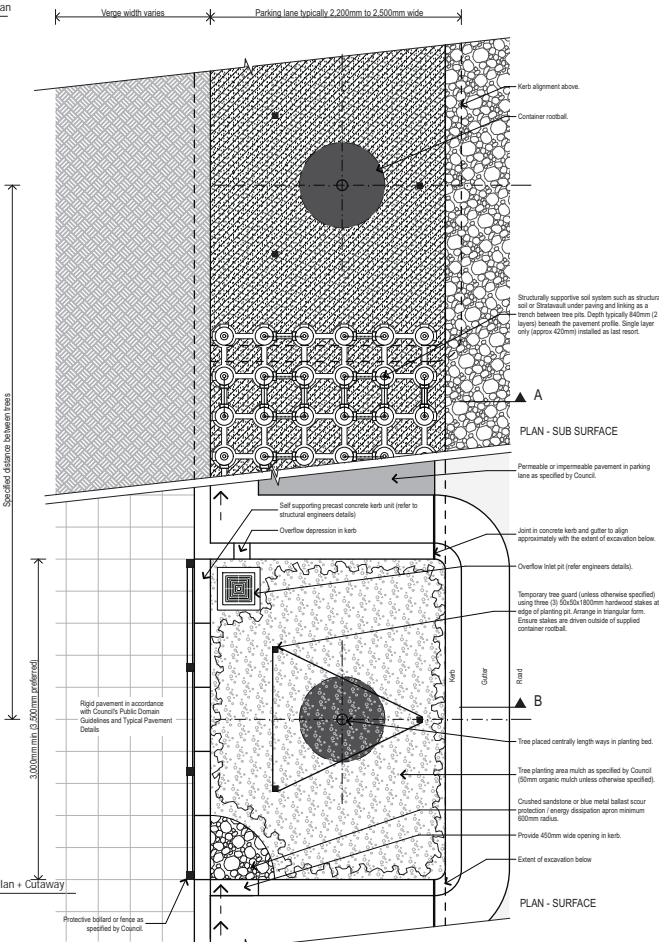
NOTE: DETAIL IS INDICATIVE ONLY.
PLANT ALL SPECIES RANDOMLY AT
AN OVERALL RATE OF 6/m²



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PLANT ALL SPECIES RANDOMLY AT
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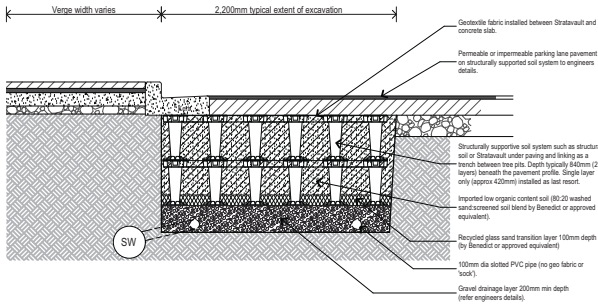


1 Typical Streetscape Layout Plan
Scale 1:200 @ A3

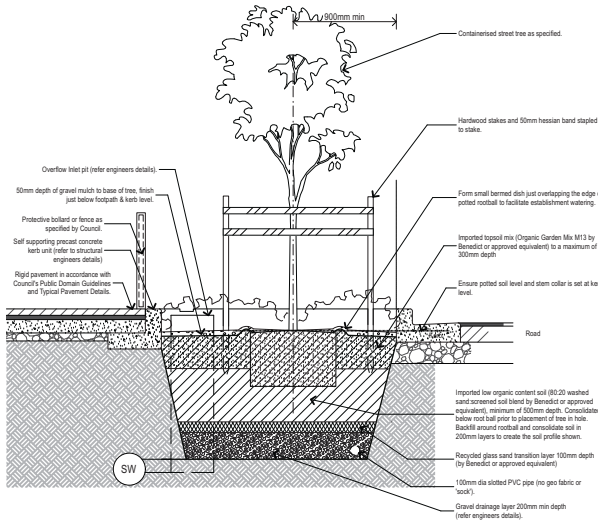


2 In Road Tree Planting Detail Plan + Cutaway
Scale Not To Scale

PUBLIC DOMAIN DETAILS TO BE AS PER COUNCIL
PUBLIC DOMAIN RECOMMENDATIONS

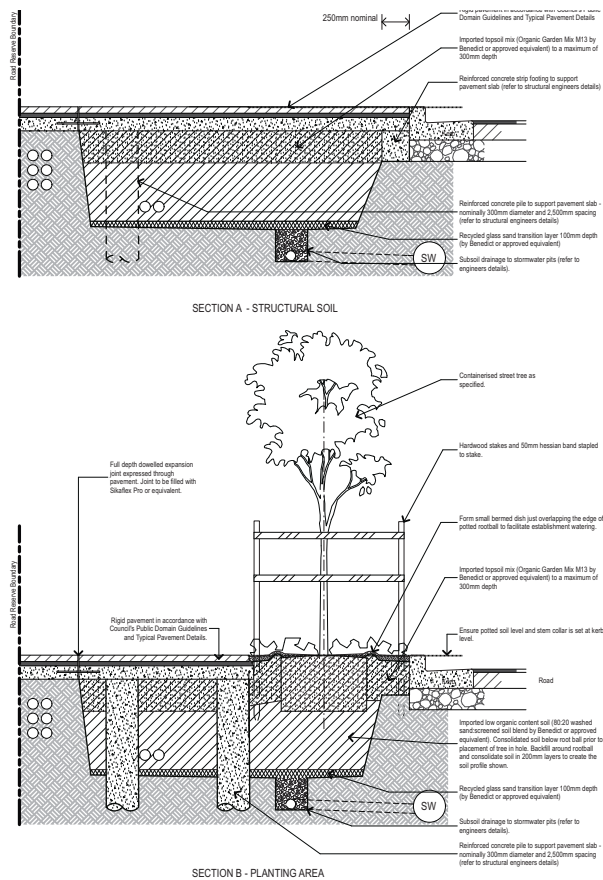
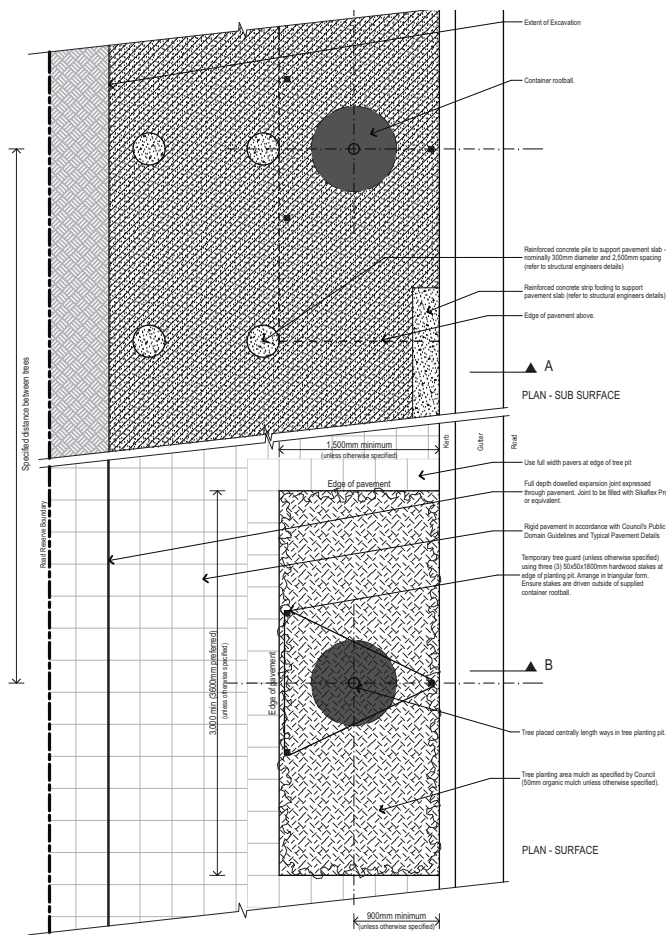


SECTION A - PARKING LANE OVER STRUCTURALLY SUPPORTED SOIL SYSTEM



SECTION B - PASSIVE IRRIGATION PLANTING BED IN PARKING LANE

PUBLIC DOMAIN DETAILS TO BE AS PER COUNCIL
PUBLIC DOMAIN RECOMMENDATIONS



1 Tree Planting In Verge Detail Plan - Cutaway
504 Not To Scale



LANDSCAPE SPECIFICATION NOTES

SERVICES
BEFORE LANDSCAPE WORK IS COMMENCED THE LANDSCAPE CONTRACTOR IS TO ESTABLISH THE POSITION OF ALL SERVICE LINES AND ENSURE TREE PLANTING IS CARRIED OUT AT LEAST 3 METRES AWAY FROM THESE SERVICES. SERVICE LIDS, VENTS AND HYDRANTS SHALL BE LEFT EXPOSED AND NOT COVERED BY ANY LANDSCAPE FINISHES (TURING, PAVING, GARDEN BEDS ETC.) FINISH ADJOINING SURFACES FLUSH WITH PTL LIDS.

ABORIST MANAGEMENT OF TREE PROTECTION
A QUALIFIED AND APPROVED ABORIST IS TO BE CONTRACTED TO UNDERTAKE OR MANAGE THE INSTALLATION OF PROTECTIVE FENCING, AND TO UNDERTAKE SUCH MEASURES AS HE DEEMS APPROPRIATE TO PRESERVE THE SUBJECT TREES TO BE RETAINED. THE ABORIST IS TO BE RETAINED FOR THE ENTIRE CONTRACT PERIOD TO UNDERTAKE ONGOING MANAGEMENT AND REVIEW OF THE TREES.

DRAINAGE CELL AND FILTER FABRIC
FOR ON-SLAB AREAS INSTALL AN APPROVED 'DRAINAGE CELL' PRODUCT TO COMPREHENSIVELY COVER THE BOTTOM OF ALL PLANTERS, OVER DRAINAGE CELL TO ON-SLAB AREAS. A POLYWEFT GEOTEXTILE LINING (AS SUPPLIED BY 'POLYWEFT'S' OR APPROVED EQUIVALENT) IS TO BE INSTALLED TO COVER THE BOTTOM OF ALL PLANTERS, TURNED UP 100MM AND TAPED TO THE PLANTER SIDES TO ENSURE SOIL MIX DOES NOT ESCAPE INTO DRAINAGE OUTLETS/CHUTES. INSTALL MIN. 300MM COARSE RIVER SAND OVER ALL GEOTEXTILE LINING PRIOR TO INSTALLATION OF SOIL MIX.

PLANTING MIXTURE
SHALL BE HOMOGENOUS BLEND OF SOIL AND ADDITIVES IN THE FOLLOWING PROPORTIONS:
EXISTING SITE SOIL 4% SUTABLE OR IMPORTED TOPSOIL 50%
COMPOST 30%
D/W SAND 20%
SOIL TESTING OF EXISTING SITE SOIL IS TO BE UNDERTAKEN TO ASSESS SUITABILITY OF USE AS PLANTING TOPSOIL AND COMPLIANCE WITH AUSTRALIAN STANDARDS.

MULCH APPLICATION
PLACE MULCH TO THE REQUIRED DEPTH, (REFER TO DRAWINGS) CLEAR OF PLANT STEMS, AND RAKE TO AN EVEN SURFACE FINISHING 25MM BELOW ADJOINING LEVELS. ENSURE MULCH IS WATERED IN AND TAMPED DOWN DURING INSTALLATION.

MULCH TYPE
PINE BARK: FROM MATURE TREES, GRADED IN SIZE FROM 15MM TO 30MM, FREE FROM WOOD SLIVERS, DARK BROWN IN COLOUR AND TEXTURE.

COMPOST
SHALL BE WELL ROTTED VEGETATIVE MATERIAL OR ANIMAL MANURE, OR OTHER APPROVED MATERIAL, FREE FROM HARMFUL CHEMICALS, GRASS AND WEED GROWTH AND WITH NEUTRAL PH. PROVIDE A CERTIFICATE OF PROOF OF PH UPON REQUEST.

PLANT MATERIAL
ALL PLANTS SUPPLIED ARE TO CONFORM WITH THOSE SPECIES LISTED IN THE PLANT SCHEDULE ON THE DRAWINGS. GENERALLY PLANTS SHALL BE VIGOROUS, WELL ESTABLISHED, HARDENED OFF, OF GOOD FORM CONSISTENT WITH SPECIES OR VARIETY, NOT SOFT OR FORCED, FREE FROM DISEASE OR INSECT PESTS WITH LARGE HEALTHY ROOT SYSTEMS AND NO EVIDENCE OF HAVING BEEN RESTRICTED OR DAMAGED. TREES SHALL HAVE A LEADING SHOOT, IMMEDIATELY REJECT DRIED OUT, DAMAGED OR UNHEALTHY PLANT MATERIAL BEFORE PLANTING. ALL STOCK IS TO BE CONTAINER GROWN FOR A MINIMUM OF SIX (6) MONTHS PRIOR TO DELIVERY TO SITE.

FERTILISER MASS PLANTING AREAS:
FERTILISER SHALL BE 'NUTRICOTE' OR APPROVED EQUIVALENT IN GRANULE FORM INTENDED FOR SLOW RELEASE OF PLANT NUTRIENTS OVER A PERIOD OF APPROXIMATELY NINE MONTHS. THOROUGHLY MIX FERTILISER WITH PLANTING MIXTURE AT THE RECOMMENDED RATE, PRIOR TO INSTALLING PLANTS.

TURF
SHALL BE SIR WALTER BUFFALO, SHIRLEYS NO. 17 OR APPROVED EQUAL LAWN FOOD SHALL BE THOROUGHLY MIXED INTO THE TOPSOIL PRIOR TO LAYING TURF.

TREES IN GRASS AND SUPER ADVANCED TREES:
PELLETS SHALL BE IN THE FORM INTENDED TO UNIFORMLY RELEASE PLANT FOOD ELEMENTS FOR A PERIOD OF APPROXIMATELY NINE MONTHS EQUAL TO SHIRLEYS KOKOI PELLETS, ANALYSIS 6.31 8.2% KOKOI PELLETS SHALL BE PLACED AT THE TIME OF PLANTING TO THE BASE OF THE PLANT, SHAM MINIMUM FROM THE ROOT BALL AT A RATE OF TWO PELLETS PER 300MM OF TOP GROWTH TO A MAXIMUM OF 8 PELLETS PER TREE.

STAKING AND TYING
STAKES SHALL BE STRAIGHT HARDWOOD, FREE FROM KNOTS AND TWISTS, POINTED AT ONE END AND SIZED ACCORDING TO SIZE OF PLANTS TO BE STAKED.
A. 5-15 LITRE SIZE PLANT 1X1200X3000MM
B. 35-75 LITRE SIZE PLANT 2X1200X3000MM
C. 100+ GREATER THAN 200LITRE 3X1200X3000MM
TIES SHALL BE 30MM WIDE HESSIAN WEAVING OR APPROVED EQUIVALENT NAILED OR STAPLED TO STAKE. DRIVE STAKES A MINIMUM ONE THIRD OF THEIR LENGTH, AVOIDING DAMAGE TO THE ROOT SYSTEM, ON THE WINDWARD SIDE OF THE PLANT.

IRRIGATION SYSTEM
SUPPLY AN AUTOMATIC WATERING SYSTEM USING 'TODD IRRIGATION'S' SYSTEM OR SIMILAR APPROVED, WITH MICRO-JET SPRINKLER HEADS AND LOW DENSITY RUBBER MODIFIED POLYPROPYLENE RETICULATION, TO INCLUDE FILTERS, BENDS, JUNCTIONS, ENDS AND OTHER ANCILLARY EQUIPMENT. THE LANDSCAPER SHALL NOMINATE HIS SOURCE OF SUPPLY FOR THE WATERING SYSTEM AND OBTAIN APPROVAL FROM THE SUPERINTENDENT BEFORE PLACING ORDERS FOR EQUIPMENT OR SUPPLY.

A SCHEMATIC PLAN OF THE PROPOSED IRRIGATION SYSTEM IS TO BE PREPARED BY THE CONTRACTOR, SHOWING SOLENOIDS, PIPE DIMETERS, AND NOZZLE AND TRICKLE ATTACHMENT TYPES (INCLUDING SPRAY/HEAD ANGLE), FOR REVIEW BY THE SUPERINTENDENT PRIOR TO INSTALLATION.

THE CONTRACTOR IS TO LIAISE WITH THE HYDRAULIC ENGINEER AND COUNCIL AS NECESSARY, TO ENSURE THE IRRIGATION SYSTEM CONFORMS WITH ALL THE COUNCIL AND WATER BOARD CODES AND REQUIREMENTS.

PROVIDE AN AUTOMATIC CONTROLLER THAT PROVIDES FOR TWO WEEK SCHEDULING AND HOURLY MULTI-CYCLE OPERATION. THE CONTROLLER SHALL MANUAL OVERRIDE. PROGRAMMING SHALL BE UNDERTAKEN BY THE CONTRACTOR WHO SHALL ADVISE ON THE OPERATION OF THE SYSTEM.

PROVISION OF SECURE HOUSING FOR THE AUTOMATIC IRRIGATION CONTROLLER TO BE LOCATED IN ASSOCIATION WITH THE LANDSCAPE CONTRACTOR AND LOCATION CONFIRMED BY THE SUPERINTENDENT. WIRING TO CONNECT REMOTE SOLENOID LOCATIONS IS TO BE PROVIDED. THE CONTROLLER SHALL BE LOCATED IN A DRY PLACE, PROTECTED FROM THE WEATHER, AND ALL CABLE CONNECTIONS SHALL BE MADE WITH WATERPROOF CONNECTORS.

WATER SUPPLY POINTS TO BE SUPPLIED BY BUILDER.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE AND GUARANTEE SATISFACTORY OPERATION OF THE IRRIGATION SYSTEM.

AFTER THE SYSTEM HAS BEEN INSTALLED TO THE SATISFACTION OF THE SUPERINTENDENT, THE INSTALLATION SHALL BE TESTED UNDER KNOWN WORKING CONDITIONS. ACCEPTANCE OF THE INSTALLED PLANT AND EQUIPMENT SHALL BE SUBJECT TO THESE BEING SATISFACTORY.

TREATED PINE TIMBER EDGING
TIMBER EDGE: 100 X 25MM CCA TREATED RADUATA PINE TIMBER STAKES: 50 X 50 X 500MM CCA TREATED RADUATA PINE SHARPENED AT ONE END. INSTALL IN LOCATIONS SHOWN ON THE DRAWINGS FLUSH TO FINISHED SURFACE LEVELS.

TURF
TURF ALL LANDSCAPE AREAS AS SHOWN ON THE LANDSCAPE DRAWINGS, TURF IS TO HAVE AN EVEN THICKNESS OF NOT LESS THAN 25MM. OBTAIN TURF FROM AN APPROVED GROWER. FURNISH A WARRANTY FROM THE GROWER THAT THE TURF IS FREE FROM WEEDS AND OTHER FOREIGN MATTER. DELIVER TURF TO THE SITE WITHIN 24 HOURS OF BEING CUT, AND LAY IT WITHIN 24 HOURS OF BEING DELIVERED.

TO PREPARE GRADED AREAS TO RECEIVE TURF, EXCAVATE THE AREA AND CULTIVATE SO AS TO ALLOW FOR IMPORTING OF 100MM OF TURF UNDERLAY SOIL. REMOVE ALL STONES OVER 50MM Ø AND REMOVE ALL WEEDS AND FOREIGN MATTER. SPREAD SOIL MIX A.B.S TO A DEPTH OF 100MM AND GRADE TO APPROPRIATE LEVELS TO ACHIEVE GENERAL EVEN GRADES TO DRAINAGE OUTLETS INSTALLED BY OTHERS.

LAY THE TURF ALONG THE LAND CONTOURS WITH STAGGERED, CLOSE BUTTED JOINTS, SO THAT THE FINISHED TURF SURFACE IS FLUSH WITH ADJACENT FINISHED SURFACES OF PAVING AND THE LIKE. AS SOON AS PRACTICABLE AFTER LAYING, ROLL THE TURF WITH A ROLLER WEIGHING NOT MORE THAN 90KG PER METRE OF WIDTH FOR SANDY OR LIGHT SOILS.

WATER AS NECESSARY TO KEEP THE SOIL MOIST TO A DEPTH OF 100MM. PROTECT NEWLY TURFED AREAS AGAINST TRAFFIC UNTIL GRASS IS ESTABLISHED. FERTILISE TWO WEEKS AFTER LAYING. FERTILISE A.B.S.

'TOP DRESS' THE TURF WHEN IT IS ESTABLISHED TO A DEPTH OF 10MM WITH COARSE WASHED RIVER SAND. RUB THE DRESSING WELL INTO THE JOINTS AND CORRECT ANY UNEVENNESS IN THE TURF SURFACES.

LANDSCAPE MAINTENANCE PROGRAM

MAINTENANCE SHALL MEAN THE CARE AND MAINTENANCE OF THE LANDSCAPE WORKS BY ACCEPTED HORTICULTURAL PRACTICES AS RECEIVING AN EFFECT IN THE LANDSCAPE WORKS UNDER NORMAL USE. THIS SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO: WATERING, MOWING, FERTILISING, RESEEDING, RETURFING, WEEDING, PEST AND DISEASE CONTROL, STAKING AND TYING, REPLANTING, CULTIVATION, PRUNING, AERATING, RENOVATING, TOP DRESSING, MAINTAINING THE SITE IN A NEAT AND TIDY CONDITION AS FOLLOWS:

GENERAL
THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE LANDSCAPE WORKS FOR THE TERM OF THE MAINTENANCE (OR PLANT ESTABLISHMENT) PERIOD TO THE SATISFACTION OF THE COUNCIL. THE LANDSCAPE CONTRACTOR SHALL ATTEND TO THE SITE ON A WEEKLY BASIS. THE MAINTENANCE PERIOD SHALL COMMENCE AT PRACTICAL COMPLETION AND CONTINUE FOR A PERIOD OF TWENTY SIX (26) WEEKS.

WATERING
GRASS, TREES AND GARDEN AREAS SHALL BE WATERED REGULARLY SO AS TO ENSURE CONTINUOUS HEALTHY GROWTH.

RUBBISH REMOVAL
DURING THE TERM OF THE MAINTENANCE PERIOD THE LANDSCAPE CONTRACTOR SHALL REMOVE RUBBISH THAT MAY OCCUR AND REDUCER THROUGHOUT THE MAINTENANCE PERIOD. THIS WORK SHALL BE CARRIED OUT REGULARLY SO THAT AT WEEKLY INTERVALS THE AREA MAY BE OBSERVED IN A COMPLETELY CLEAN AND TIDY CONDITION.

REPLACEMENTS
THE LANDSCAPE CONTRACTOR SHALL REPLACE ALL PLANTS THAT ARE MISSING, UNHEALTHY OR DEAD AT THE LANDSCAPE CONTRACTOR'S COST. REPLACEMENTS SHALL BE OF THE SAME SIZE, QUALITY AND SPECIES AS THE PLANT THAT HAS FAILED UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT. REPLACEMENTS SHALL BE MADE ON A CONTINUING BASIS NOT EXCEEDING TWO (2) WEEKS AFTER THE PLANT HAS DIED OR IS SEEN TO BE MISSING.

STAKES AND TIES
THE LANDSCAPE CONTRACTOR SHALL REPLACE OR ADJUST PLANT STAKES, AND TREE GUARDS AS NECESSARY OR AS DIRECTED BY THE LANDSCAPE ARCHITECT. REMOVE STAKES AND TIES AT THE END OF THE MAINTENANCE PERIOD IF SO DIRECTED.

PRUNING
TREES AND SHRUBS SHALL BE PRUNED AS DIRECTED BY THE LANDSCAPE ARCHITECT. PRUNING WILL BE DIRECTED AT THE MAINTENANCE OF THE DENSE FOLIAGE OR MISCELLANEOUS PRUNING AND BENEFICIAL TO THE CONDITION OF THE PLANTS. ANY DAMAGED GROWTH SHALL BE PRUNED. ALL PRUNED MATERIAL SHALL BE REMOVED FROM THE SITE.

MULCHED SURFACES
ALL MULCHED SURFACES SHALL BE MAINTAINED IN A CLEAN AND TIDY CONDITION AND BE REINSTITATED IF NECESSARY TO ENSURE THAT A DEPTH OF 75MM IS MAINTAINED. ENSURE MULCH IS KEPT CLEAR OF PLANT STEMS AT ALL TIMES.

PEST AND DISEASE CONTROL
THE LANDSCAPE CONTRACTOR SHALL SPRAY AGAINST INSECT AND FUNGUS INFESTATION WITH ALL SPRAYING TO BE CARRIED OUT IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS. REPORT ALL INSTANCES OF PESTS AND DISEASES (IMMEDIATELY THAT THEY ARE DETECTED) TO THE LANDSCAPE ARCHITECT.

GRASS AND TURF AREAS
THE LANDSCAPE CONTRACTOR SHALL MAINTAIN ALL GRASS AND TURF AREAS BY WATERING, WEEDING, DRESSING, ROLLING, MOWING, TRIMMING OR OTHER OPERATIONS AS NECESSARY. SEED AND TURF SPECIES SHALL BE THE SAME AS THE ORIGINAL SPECIFIED MIXTURE. GRASS AND TURF AREAS SHALL BE SPRAYED WITH APPROVED SELECTIVE HERBICIDE AGAINST BROAD LEAVED WEEDS AS REQUIRED BY THE LANDSCAPE ARCHITECT AND IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS. GRASS AND TURF AREAS SHALL BE FERTILISED ONCE A YEAR IN AUTUMN WITH 'DYNAMIC LITE'® FOR LAWNS AT A RATE OF 20KG PER 100M². FERTILISER SHALL BE WATERED IN IMMEDIATELY AFTER APPLICATION. IRREGULARITIES IN THE GRASS AND TURF SHALL BE WATERED IN IMMEDIATELY AFTER APPLICATION. GRASS AND TURF AREAS SHALL BE KEPT MOWN TO MAINTAIN A HEALTHY AND VIGOROUS Sward. MOWING HEIGHT: 30-50MM.

WEED ERADICATION
ERADICATE WEEDS BY ENVIRONMENTALLY ACCEPTABLE METHODS USING A NON-RESIDUAL GLYPHOSATE HERBICIDE (EG. ROUNDUP®) IN ANY OF ITS REGISTERED FORMULAE, AT THE RECOMMENDED MAXIMUM RATE. REGULARLY REMOVE BY HAND, WEED GROWTH THAT MAY GROW OR BREAK THROUGHOUT GRASSES, PLANTED AND MULCHED AREAS. REMOVE WEED GROWTH FROM AN AREA 750MM DIAMETER AROUND THE BASE OF TREES IN CROPPED AREAS. CONTINUE ERADICATION THROUGHOUT THE COURSE OF THE WORKS AND DURING THE MAINTENANCE PERIOD.

SOIL SUBSIDENCE
ANY SOIL SUBSIDENCE OR EROSION WHICH MAY OCCUR AFTER THE SOIL FILLING AND PREPARATION OPERATIONS SHALL BE MADE GOOD BY THE LANDSCAPE CONTRACTOR AT NO COST TO THE CLIENT.

