



**HOUSING DEVELOPMENT
NEWPORT EXPORT PACKING
QUEEN'S HILL
NEWPORT**

**PLANTING METHODOLOGY AND
LANDSCAPE MANAGEMENT PLAN**

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Rev 12 November 2023

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CONTENTS

1.0	Introduction	Page 3
1.1	Documents	Page 3
1.2	Scope of Works	Page 3
1.3	General Conditions	Page 4
1.9	Protect against the Following	Page 5
1.21	Timing of Works and Ecological Considerations	Page 7
2.0	Initial Works	Page 7
2.2	Topsoil and Subsoil	Page 8
2.6	Japanese Knotweed	Page 10
3.0	Products and Materials	Page 10
4.0	Grass	Page 12
5.0	Workmanship	Page 13
6.0	Planting General	Page 14
6.3	Extra Heavy Standard Trees	Page 15
6.5	Ornamental Planting Beds	Page 15
6.6	Rain Gardens	Page 16
6.7	Bulbs	Page 16
7.0	Grassing	Page 16
7.10	Sedum Roofs	Page 19
8.0	Landscape Maintenance	Page 20
9.0	Tree Maintenance General	Page 21
10.0	Maintenance of Planting Beds	Page 21
10.4	Rain Gardens	Page 22
11.0	General Grass Management	Page 22
12.0	Sedum Roof Management	Page 23
12.0	Invasive Non-Native Species	Page 24
	5 Year Management Plan	
	Planting Schedule	

1.0 INTRODUCTION

The existing site is the former Newport Export Packing warehouse site abutting Factory Road, Barrack Hill, Newport which is being redeveloped for residential use. The postal code is NP20 5 FA and grid reference is OSGR ST309886 the site area is 0.37 Hectares

There is a fall across the site from west approximately 18.00m AOD to 13.00m AOD to the east giving a change of level of approximately 5.00m and existing building platform is 16.00m AOD. The changes of level are managed with existing retaining walls. The levels at the Church boundary to the north (16.15m AOD) and the retaining wall base to the south varies from (14.30 – 17.15m AOD). So there is minor fall across the site in this N/S direction in comparison to W/E.

The proposed development is a 43 apartment units with associated parking and external landscape areas.

EXISTING SITE

The site is roughly square in shape and the east boundary is directly on to Factory Road with a retaining wall along the majority of the frontage. A large bank of Knotweed occurs on site behind the retaining wall. To the west is a further retaining wall and a line of mature Lawson Cypress on the bank above the retaining wall. There is Knotweed in part of the bank area. There is a strip of unregistered land westwards behind the line of Cypress which abuts the rear gardens of the DOS Cottages facing Queen's Hill. To the north are the landscaped grounds of the Church of Jesus of the Latter Day Saints. To the south is a stone retaining wall which forms the boundary of the rear gardens of the houses on Luca Street. The existing buildings take up a large proportion of the site

1.1 DOCUMENTS

The design information provided by the Landscape Architect has overlaps with architectural work, civil and structural engineering work and mechanical and electrical engineering. The subcontractor should be aware that information required to undertake the landscape works will require reference to the documents prepared by other consultants.

The Planting Methodology and Aftercare was produced using information from the following resources.

- CA 2023-FR-01 Rev C Newport Export Packing Existing Features and Tree Survey
- CA 2023-FR-02 Rev B Newport Export Packing Existing Features and Overlay
- CA 2023-FR-03 Rev B Newport Export Packing Proposals Overall
- CA 2023-FR-12 Rev A Newport Export Packing Roof Garden
- CA 2023-FR-13 Rev A Newport Export Packing Landscape Proposals Trees-Native-Grass-RainGarden
- CA 2023-FR-14 Rev B Newport Export Packing Landscape Proposals Planting Beds
- CA 2023-FR-15 Rev B Newport Export Packing Landscape Proposals Section
- CA Newport Export Packing Planting Schedule 12 November 2023

Also refer to

- 22211-AP-003 Preliminary Engineering Plan
- 2262-FR-PL-01 LGF Plan Rev A
- 2262-FR-PL-02 GF Plan Rev A
- 2262-FR-PL-07 5F Plan Rev A
- Tree Survey - Treescene 18 Oct 2022
- Bat Survey Newpack Factory Road Ecological Services Ltd October 2022

1.2 SCOPE OF LANDSCAPE WORKS

The Proposals are

- Conservation grass mix for Amenity grass areas
- Detention Basin
- Foulwater Service Strip
- Rain Gardens
- Proposed Planting Beds
- Proposed Bulb planting.
- Proposed Trees.
- Sedum Roofs Apartment Block
- Management for 5 years
 - maintenance of landscaping for one year in landscape contract and four years by Client Agent, five years total

NOTE KNOTWEED REMOVAL

Knotweed removal to be undertaken by Knotweed Specialist in accordance with an approved Method Statement.

1.3 GENERAL CONDITIONS

EXISTING STRUCTURES ON OR ADJACENT TO SITE:

- Residential properties to west and south
- Church and its landscaped grounds to the north
- Industrial and commercial units to the east of Factory Road
- Factory Road and footpath,
- Stone and brick retaining walls and fencing
- Some trees and overgrown scrub areas within the site
- Line of Leyland Cypress on west boundary
- Knotweed blocks on boundary areas and a small quantity in the service yard by the building.

- 1.4 SERVICE DRAWINGS:** Any service information on landscape drawings is notional only. The Contractor MUST obtain confirmation of all services from the Principal Contractor and relevant authorities. There will be extensive services. Services may require the adjustment of tree positions in certain areas and care with excavations and a requirement for root barriers where necessary.

NOTIFY: All service authorities including the Employer/Principal Contractor of any proposed works which could affect services not less than one week before commencing site operations and observe service authorities' recommendations for work adjacent to existing services.

ACCESS TO THE SITE: - Permission must be gained from the Site Agent for access to visit the site. . The Contractor's vehicles should not cause obstruction to the Highway and all necessary regulations relating to Highway working must be followed.

Other users who will require access through the landscape contract area are:-

- Principal contractor and other sub contractors
- Access will be required by sub contractors
- Statutory Authorities

WORKING AREA, WORKING HOURS, PARKING, ADVERTISING , HEALTH AND SAFETY Refer to the Principal Contractor's site requirements and attend site inductions and carry out all health and safety instructions required by the Principal Contractor. Provide all Health and Safety information and Method Statements required by Principal Contractor.

1.5 RISKS TO HEALTH AND SAFETY

The nature and condition of the site cannot be fully and certainly ascertained before it is all opened up. However the following risks are or may be present:

- Work close to service covers, street lights, service boxes and markers
- Hazardous materials gas and electricity.
- Work close to live services and working with live services.
- Hazard - machines or workers slipping down slopes
- Site must be left safe at the completion of each day's work eg open trenches made safe,
- During the day all working areas are to be kept safe and all notices and safety procedures followed including temporary fencing where necessary
- Work close to service covers, street lights, service boxes and markers and overhead electricity posts, hazardous materials, gas and electricity.
- Working on detention pond slopes
- Work close to live services
- Other site users on site
- Use of solvents, inflammable substances, and chemicals
- Use of machinery with moving parts, cranes, drilling rigs, electrical equipment and general use of machines.
- Likelihood of chemical drift
- Making noise or dust during Works
- Excavations danger of underground services
- Hazards due to cold/wet windy weather - Manual handling and lifting operations
- Other contractors working on site.

- 1.6 PROPRIETARY NAMES:** The phrase 'or equivalent approved' is to be deemed included whenever products are specified by proprietary name. Where the specification permits the substitution of a product of a different manufacture or type to that specified such a substitution requires approval from the CA and where necessary documentary verification that the alternative product is equivalent in respect of material, safety, reliability, function and where necessary of appearance to the specified product.

BRITISH STANDARDS: All materials, workmanship and plant material must comply with the relevant British Standard unless otherwise indicated.

SIZES: Unless otherwise stated the size indicated is size required

1.7 NOTIFICATION OF RECORDS:

The Contractor shall notify the CA of the date of commencement and completions of the operations outlined below and provide the CA with all necessary documentation required within 7 days to record and verify the Works as follows:

- a daily distribution return showing the number and description of men employed on the works including those employed by Contractors
- a daily distribution return showing the number, type and capacity of all plant excluding hand tools currently employed on works.
- record of actions taken to protect biodiversity and monitor their effectiveness.
- record of weather conditions and other factors having material effect on progress of Works.
- record sheets of pesticide applications as required under Control of Pesticides Regulations 1986
- notification of dates of commencement and completion of operations, including all records of rates of application or use of materials, etc of application of fertilisers, pruning, mowing, litter picking and other maintenance visits etc.

Provide all necessary technical submissions, method statements and risk assessments at least one week in advance of relevant operation.

1.8 SUPERVISION/INSPECTION/DEFECTIVE WORK

SUPERVISION: In addition to the constant management and supervision of the Works provided by the Principal Contractor's person in charge, all significant types of work must be under the close control of competent trade supervisors to ensure maintenance of satisfactory quality and progress.

1.9 SAFETY/PROTECTION

Commonplace hazards which should be controlled by good management and site practice are not listed.

GENERAL CONDITIONS

- Site rules from Principal Contractor's Health and Safety Plan – use of PPE etc
- Continuing liaison :

OPERATIONS AND MATERIALS

- Hazard – Working on Highways
- Hazard - Use of Chemicals, paints, solvents, timber stain etc
- Hazard - machines or workers slipping down steep slopes
- Hazard – services
- Hazard - mechanical and manual handling
- Hazard – protection of public and site users

MAINTENANCE

- Hazard – Working on Highways
- Hazard - Use of Chemicals
- Hazard - machines or workers slipping down steep slopes.
- Hazard - mechanical and manual handling
- Hazard – Protection of public.

HSE APPROVED CODES OF PRACTICE: Comply with the following:

- Management of Health and Safety at Work
- Managing Construction for Health and Safety

1.10 PROTECT AGAINST THE FOLLOWING

1.11 POLLUTION:

The contractor / landscape operatives must be conversant with the requirements of the Environmental Protection Act 1990, Pollution, Prevention and Control Regulations 2000, Hazardous Waste Regulations 2005 and the Control of Pollution (Amendment) Act 1989 for the Carriage of Controlled or Special Wastes. landscape contractors must be registered with a relevant Regulation Authority (Environment Agency) and be in possession of a valid Certificate of Registration or Certificate of Registration as a Broker of Controlled Waste under the Act.

1.12 USE OF CHEMICALS

The contractor/ landscape operatives must comply with 'The Control of Pesticides Regulations 1986', 'The Control of Substances Hazardous to Health Regulations 1988' and any other current legislation and subsequent revisions.

All chemicals must be products on the current list of Agricultural Chemicals Approval Scheme and used strictly in accordance with the conditions of approval. The landscape contractor must comply with all relevant Codes of Practice issued by MAFF.

All pesticides/herbicides transported or stored in the landscape contractor's vehicles or on site (regardless of

quantity) shall be locked in a separate storage compartment or within lockable containers which is secured to the floor of the vehicle. All storage lockers must be sealed and clearly marked as containing pesticides and bear a standard black and yellow hazard sign.

Apply pesticides/herbicides strictly in accordance with the manufacturer's instructions in calm, dry weather conditions. Chemicals should not be applied in wet, frosty or windy conditions.

The contractor/ landscape operatives must hold a BASIS Certificate of Competence, or work DIRECTLY under the supervision of a certified holder.

Notify the site operator at least 24 hours in advance of the location, type of pesticide/herbicide, active ingredient and timing of application prior to commencing work. The contractor/ landscape operatives shall erect warning signs at all entrances to the areas to be treated. When restricted to planting beds, warning signs shall be placed within close proximity in clearly visible locations. Details of application and contact person to be shown.

In accordance with COSHH Regulations the contractor shall protect employees and other persons, including the general public and adjacent land owners who may be exposed to substances hazardous to health.

Dispose of waste chemicals and containers in accordance with the 'Control of Pesticides Regulations 1986', 'Control of Pollution Act 1974' and the 'Water Act 2014' and any subsequent revisions.

The contractor / landscape operatives shall be responsible for making good and or compensation for any damage how so ever caused resulting from negligence in application, handling and/or storage of pesticides and herbicides. He shall also be responsible for keeping up to date with all legislation and regulations governing there use and inform the site operator of any changes that may affect the contract in any way.

The contractor / landscape operatives shall ensure that all property and utilities are protected against accidental or negligent damage that may occur. Any damage incurred by the contractor in carrying out their duties is to be made safe immediately and repaired to the satisfaction of the client or Utilities Company at the earliest convenient time, or as agreed, at the cost of the contractor.

It shall be the contractor / landscape operatives responsibility and liability for any damage to person or property, however caused. All operatives shall be trained according to the task to be undertaken.

1.13 EXISTING MAINS/SERVICES: GENERAL: The Contractor shall:

- Ascertain the exact location of all existing services and the like in, under or over the site or adjacent thereto. The Contractor will be held responsible for any damage or disruption to such services crossing the site or those used during the performance of the Contract. Any such damage as may occur must be made good to the satisfaction of the CA, Employer, Service Authorities and adjoining owners or occupiers, at the Principal Contractor's own expense.
- Check the positions of all services before starting work.
- Adequately protect and prevent damage to all existing services. Do not interfere with their operation without the consent of the Service Authorities or private owners.
- If any damage to services result from the execution of the Works, notify the CA and the appropriate Service Authority without delay. Make arrangements for the work to be made good without delay to the satisfaction of the Service Authority or private owner as appropriate.
- Replace any marker tapes or protective covers disturbed during the site operations to the Service Authorities' Recommendations
- In the event of a service marker being disturbed for any reason it shall not be replaced other than in the exact position and to its former depth unless the repositioning is carried out at the direction and under the supervision of the Service Authority.
- Check all emergency and contact details for the varied service contacts and emergency numbers are up to date.

1.14 NOISE: Ensure that all measures to control noise produced by the Principal Contractor's operations required under or by virtue of the provisions of any enactment or regulations, or the working rules of any industry are strictly complied with.

- Fit all compressors, percussion tools and vehicles with effective silencers of a type recommended by the manufacturer's of the compressor, tools or vehicles.
- Do not use or permit the use of radios or other audio equipment which may cause nuisance

1.15 NUISANCE: Take all necessary precautions to prevent nuisance from dust, rubbish and other causes. Remove daily, and if it should occur on the highway carriageway immediately to avoid any hazard to road users from site rubbish and debris generated from the Works for disposal. Comply with all instructions from the CA in this respect.

1.16 FIRE: Take all precautions necessary to prevent personal injury, death and damage to the Works or other property by fire. Comply with Joint Code of Practice 'Fire Prevention on Construction Sites' published by Building Employer's Confederation and the Loss Prevention Council and National Contractors Group.
Advise the CA immediately if drought, arisings or other circumstances evident give rise to a fire risk.

1.17 BURNING: Burning is not permitted on site

1.18 WATER: Prevent damage from storm and surface water. Keep site and excavations free of water

1.19 WASTE/ARISINGS:

- Remove debris, rubbish, surplus material and spoil regularly, daily where arisings are from a specific process or work item and keep the site and Works clean and tidy.
- Remove all rubbish, dirt and residues from excavations before infilling.
- Ensure that non-hazardous material is disposed off at a tip approved by a Waste Regulation Agency.
- Remove all surplus hazardous materials and their containers for disposal off site in a safe and competent manner as approved by a Waste Regulation Agency and in accordance with relevant regulations.
- Retain waste transfer documentation on site.

1.20 EXISTING FEATURES: Prevent damage to existing structures, fences, walls, roads and paved areas and other site features which are to remain in position during the execution of the Works. If damage occurs make good at the Contractor's own expense and to the satisfaction of the CA.

1.21 TIMING OF WORKS AND ECOLOGICAL CONSIDERATIONS

Protected Species

No Protected Species should be disturbed by the development.

Nesting Birds

It is an offence to disturb nesting wild birds under the Wildlife and Countryside Act 1981. Management should be programmed to take place outside the bird nesting season to avoid any potential for the destruction or damage to birds' nests.

During the breeding season advice will need to be sought from a suitably qualified ecologist and where there is a legal obligation, checks should be made by an ecologist in advance of the works to confirm that there are no birds nesting in the area of operation.

Vegetation clearance, pruning and trimming operations shall generally take place outside the bird nesting season (generally March to August inclusive).

Consideration of sparrow boxes to be included in the apartment construction

Bats

Lighting to consider bats and consideration of bat boxes to be included in the apartment construction

Recommendations from Bat Survey

Use of Bird and Bat Boxes in Building Structure as advised by ecologist.

- Swift Boxes
- Bat Bricks
- Sparrow Terrace
- Standard nest box

LANDSCAPE DETAILS FOR BIODIVERSITY

- Green Sedum roofs on apartment block
- Pollinator plants
- Berrying plants for bird foraging

2.0 INITIAL WORKS

CLEARANCE AND INITIAL ENABLING WORKS

- Existing site has inadequate existing topsoil and subsoil required for landscape works. Some existing soil contaminated by Knotweed.
- Imported topsoil and subsoil will be required.
- Clearance and remedial work to scrub on, and tree and Lawson Cypress removals to be as arboriculturalist's details for tree removal and avoid the birdnesting season.

TREE REMOVALS

Remove trees indicated on Drawing No CA 2023-FR-01-Rev and grub up roots.

- TPO 4/2009-T1 T6 Norway Spruce
- G4 Ash
- G5 Lawson Cypress C
- T1 Juniper U
- T13 Goat Willow U
- T15 Ash U

All tree work is to be to BS3998-2010

All arisings are to be removed from site

2.2 TOPSOIL AND SUBSOIL

All topsoil and subsoil to be imported

2.3 IMPORTED TOPSOIL

- Quantity: All topsoil that is imported is to conform to this specification
- Standard: To BS3882 2015. Plus the following:
- Source: Submit proposals.
- Classification: Multipurpose.
- Texture to BS3882: Medium loam.
- Reaction, to BS1377-3: pH 6 - 7.5.
- Crumb structure: Made up of discernible crumbs.
- Stones:
- Size in any dimension (maximum): 20mm.
- Stone content by dry weight (maximum): 15%.

In addition to conforming to the above BS standard the soil should also conform to the following.

Visual Examination:-

Provide the CA a 1kg sealed sample bag of representative soil, for approval of the physical structure of the soil, before chemical analysis is progressed. Obtain approval of a sample load on site of not less than 2m³. Retain for comparison with subsequent loads. Provide a full analysis from an approved testing station in accordance with 'Analysis for Topsoil'.

Physical Parameters:-

Clay (less than 0.05mm) 5-27%

Silt (0.002 – 0.05mm) 5-45%

Sand (0.05 – 2.00mm) 45-85%

(At least 50% of the total soil fraction should fall within the medium to coarse sand range)

Permeability 10-5 – 10-6 m/sec

Chemical Parameters:-

PH value (1:2.5 soil/water) 6-7.5 pH

Electrical Conductivity (1:2.5 soil/water) <1500 µS/cm

Electrical Conductivity (1:2.5 CaSO₄) <2800 µS/cm

Organic Matter (Walkley Black) 4.0 – 10.0%

Total Nitrogen (Dumas) >0.2%

Extractable Phosphorus (RB427) >26 mg/l

Extractable Potassium (RB427) >220 mg/l

Extractable Magnesium (RB427) >50 mg/l

- TOPSOIL ANALYSIS• All imported topsoil is to be analyzed
- Soil analyst: Submit proposals.
- Samples: Collect in accordance with BS3882.
- Submit:
- Declaration of analysis:
- Chemical analysis and contaminants;
- Maximum stone content, stone size and pH value;
- Nutrient content, pH value and textural classification;
- PH value and textural classification;
- Phytotoxic and CLEA elements; and
- Textural classification and maximum stone content.
- Report detailing soil analyst's recommendations.

The Landscape Contractor shall obtain a sample for analysis, to determine all of the requirements listed above.

The results and a brief analysis and interpretive report making comment on suitability of material in comparison to BS3882 and the specification included within this document, including recommendations for additives and/or amendments to bring sub-grade soil up to the required specification standard. Topsoil requirements and to support broadleaf native trees with particular reference to the requirement identified above and levels of metals and the likely effects of these on nutrient availability and protection of plant growth.

A certificate of Analysis should also be provided shall be submitted to the LA who may adjust the composition of any specified fertiliser of soil ameliorant and the rate of application, after examination of the Landscape Contractors cost. Where suitable amelioration is not possible the CA may reject the topsoil.

RAIN GARDEN SOIL Textural Class required for Rain Garden beds

shall be imported Rain Garden soil to comply with BS3882 2015 Topsoil with the following textural class

30% Fine Sand (0.063-0.2mm)

40% Loamy Topsoil

30% Organic Matter
 (At least 80% of the total ssnd fraction should fall within the fine-medium - coarse washed sand range)
 Permeability 10-5 m/sec 300mm/hr
 or nearest equivalent to be confirmed by test results and approved by Contract Administrator.
 Material can only be lightly compacted when spread.
 Spread soil must be protected and not be tracked over by plant or staff or used for storage of materials.
 Any contaminated or over compacted material to be replaced.

2.4 IMPORTED SUB-SOIL

- Quantity: All subsoil that is imported is to confirm to this specification.
- Standard BS 8601 – 2013 Subsoil.
- Source: Submit proposals.
- Crumb structure: Made up of discernible crumbs.

Visual examination:-

The subsoil shall have a defined granular, crumb or blocky structure and shall be reasonably free from non-soil material, brick and other building materials and wastes, hydrocarbons, plant matter, roots of perennial weeds and any other foreign matter or material or substance that would render the sand unsuitable for use. Provide the Landscape Architect (CA) a 1kg sealed sample bag of representative soil, for approval of the physical structure of the soil, before chemical analysis is progressed.

Physical Parameters:-

Clay (less than 0.05mm) 5-27%
 Silt (0.002 – 0.05mm) 5-50%
 Sand (0.05 – 2.00mm) 40-85%
 Max. Stone Content (2 – 50 mm) 50% by weight
 Max. Stone size in any dimension 75mm

Chemical Parameters:-

PH value (1:2.5 soil/water) 5.0-8.2
 Electrical Connectivity (1:2.5 soil/water) <2000 µS/cm
 Electrical Connectivity (1:2.5 CaSO₄) <2800 µS/cm
 Organic Matter (Walkey Black) % <2.0

Potential Contaminants:-

Refer and comply with Integral Geotechnique's Specific Target Level for the imported Capping Layer Soils List attached at the end of this specification.

Subsoil is to be naturally occurring material, excavated from a level immediately below the vegetable topsoil down to a maximum depth of 2.0m from the original ground level with no stone or rubble material larger specified. The material shall be a friable consistency, free draining, free from extraneous material and pernicious weeds. The subsoil must contain no chemical or domestic refuse or pollutants that would be harmful to short term or permanent plant or animal life. The material will not be extreme in either alkalinity or acidity. It is not acceptable to use topsoil within subsoil layers.

All sources of material shall be stated and a 2m³ minimum sample shall be provided for analysis, inspection and approval prior to deliveries to site. All supplies thereafter shall conform to approved samples. The CA may reject any subsoil with high stone or rubble content.

DETENTION BASIN

The subsoil specified is a sandy subsoil and suitable for the Detention Basin.

2.5 RIP SUBGRADE BEFORE LAYING SUBSOIL

Scarify subgrade to promote free drainage. The surface on which subsoil is to be placed will be thoroughly ripped to a depth of 300mm before subsoil placement. A cross-ripping effect will be achieved by two passes at an angle of 45 degrees to the edge of the strip at 90 degrees to one another. Remove all stones with largest dimension exceeding 50mm. ***If standing water is present on ripped surface inform the CA before placing subsoil***

Confirm equipment to be used ripping the subgrade as areas vary in size and some work may be required by hand.

3.0 PRODUCTS AND MATERIALS

3.1 TOPSOIL AND SUBSOIL

Existing topsoil and subsoil to be checked for suitability of reuse, imported topsoil and subsoil to comply with British Standards.

GENERAL LANDSCAPE

Topsoil and subsoil depths required for the soft landscaping

Rear Gardens of existing or imported topsoil depth 450mm topsoil

Planting Beds existing or imported soil depth	300mm topsoil	300mm subsoil
Tree planting soil depths	300mm topsoil	600mm subsoil
Amenity Grass existing or imported soil	150mm topsoil	150mm subsoil

SAB AREAS – Rain Garden Soil to be imported.

Rain Garden Planting Bed Areas
(permeable root barrier at base of planting medium over drainage filter material in Rain Garden planting beds).
Detention Basin

minimum 400mm depth

75mm topsoil 225mm depth sandy subsoil

3.2 AMELIORANTS

ROOTDIP: Where root-balled trees are used a solution of one part Seanure Root Dip to ten parts water be applied around the roots as part of the puddling-in planting system. Barerooted trees to be dipped in root dip solution.

ANTIDESSICANTS: All trees and evergreen plant material on arrival at site shall be sprayed with an appropriate antidessicant approved by the CA unless the temperature is below 10degC.

GREEN COMPOST: Green recycled compost shall be used which will have an organic and fibre content and some trace elements. It shall improve soil structure and help retain moisture. Green Compost to be made under strictly controlled conditions from green, organic recycled material. PAS 100 standard. Sample to be approved before full orders made. The supplier is to provide a sample and details of the compost components and approved by the Client before use on site.

Spread 50mm depth of compost on surface of all planting beds work into full topsoil depth.
Green Compost to be 10% tree pit and work into full topsoil depth.

To be obtained from a local supplier and sample approved before full load brought to site.

PERMEABLE ROOT BARRIER

The root barrier is to be Terram Rootguard which is a permeable root barrier. The root barriers will be required in most tree pits in the central site area where there are drainage pipes going to the detention basin. Other locations to the treepit face close to services.

Terram
Fiberweb Geosynthetics Ltd
Blackwater Trading Estate
The Causeway, Maldon
Essex CM9 4GG
Tel: +44 (0) 1621 874200
email: info@terram.com
www.terram.com

MULCH:

Melcourt Ornamental Bark Mulch to be used. The product shall consist of

- predominantly matured European Pine Bark with an even nominal particle size distribution of 5-35mm with minimal dust and fines and less than 5% wood content.
- The pH to be between 4.5 and 5.5.
- The product shall be pest, disease and weed free and not have been treated with Methyl Bromide or any additives.
- The product shall have been tested in accordance with the requirements of BS 4790:1987, for fire resistance.

Or other approved product with the same specification.

MULCH TO PLANTING BEDS ;. Supply and spread a layer of bark mulch 75mm thick .Melcourt Amenity Bark Mulch to be used. No mulch required in Rain Gardens.

MULCH TO TREE CIRCLES. Supply and spread a layer of bark mulch 75mm thick within the 900mm diameter circle in grass areas.

3.3 ACCESSORIES

TREE TIES: Tree ties are to be Hessian webbing 50mm wide, wrapped around tree stem and nailed to the stakes with 40mm galvanized nails according to tree type.

TREE STAKES: Tree stakes shall be larch or sweet chestnut poles celcure treated, 75mm in diameter, straight with butt end Extra Heavy Standard Trees will have 2No stakes. The stakes are to be set 1200mm above ground.

AERATION WATERING AND FEEDING UNIT for Extra Heavy Standard Trees not required for Heavy Standard Trees
RootRain Urban,

GreenBlue Urban,

Northpoint,
Compass Park,
Junction Road,
Bodlam,
TN32 5BS,
Tel: 01580 830 800
Email enquiries@greenblue.com

3.4 PLANT MATERIAL SUPPLY

PLANTS GENERALLY

Trees and plants are to conform to the relevant section of BS 3936 (publication series) and the National Plant Specification. No substitutes are to be accepted without the consent of the landscape architect and the local planning authority. All plants shall be true to size specified on the planting plan and schedule. All plants shall be healthy, bushy, pest and disease free and not pot-bound, dry, water logged, leggy or weak. A minimum of five breaks per shrub is required. Trees shall be vigorous, of good shape and with a well-branched head.

Plants that are container grown (CG):

- Supplied in a growing medium with adequate nutrients for the plant to thrive until permanently planted.
- Centred in the container, firmed and well-watered.
- With root growth substantially filling the container, but not root bound, and in a condition conducive to successful transplanting.
- Grown in the open for at least two months before being supplied.
- Grown in containers with holes adequate for drainage when placed on any substrate commonly used under irrigation systems.

HANDLING AND DELIVERY: The Contractor shall comply with the recommendations of the booklet 'Plant Handling' published by the Committee for Plant Supply and Establishment in July 1985.

The Contractor shall include for packing, loading and transporting plant material, trees, etc from the source of supply to the site. All plant material shall be carefully packed and protected to survive transport to site without damage in lifting from the nursery, loading, transit or unloading. Any plant material which sustains major damage shall be rejected and replaced at the Contractor's expense, but slight mechanical damage may be corrected by careful pruning and wounds exceeding 25mm diameter shall be treated with fungicidal sealant.

If plants are not planted within 24 hours of delivery they shall be heeled in by placing the roots in a prepared trench covering them with fine soil and well firming and watering to prevent air pockets.

PLANT INSPECTION: The CA reserves the right to inspect all plant material prior, during and after planting and reject any plants that fail to meet a satisfactory standard.

TREES: They shall have either a well balanced head or well defined central leader with branches growing from the stem with reasonable symmetry and shall comply with the following definitions:

- **Extra Heavy Standard Trees.** All trees shall be rootballed. They shall be of a minimum height of 4.25-5.00m with a sturdy reasonably straight stem maximum 1.80-2.00m in height from ground level to the lowest branch with a minimum girth of 14-16cms when measured 1.00m from ground level.
- **Heavy Standard Trees** All trees shall be rootballed. They shall be of a minimum height of 4.00-4.500m with a sturdy reasonably straight stem maximum 1.80-2.00m in height from ground level to the lowest branch with a minimum girth of 12-14cms when measured 1.00m from ground level.
- **Native Block Whips ;** These are to be strong well-rooted nursery stock evenly developed with a single well defined, straight and upright central leader. The main stem shall be furnished with lateral shoots. The plant shall be self supporting with a stem circumference at the root collar of 30-50mm. Overall heights as specified in the Plant Schedule. All whips are to be bareroot

CONTAINER STOCK TREES

Container stock trees are **not** to be used unless only availability for fruit trees. Tree planting is to be undertaken in season.

POT GROWN SHRUBS: A shrub which is pot-grown or container-grown may, according to species, be cut back or trimmed to encourage bushiness. The size of pot shall be as stated in the Plant Schedule. The height of shrubs shall be measured from the ground level, excluding rootball or any container.

BULBS

Bulbs shall be supplied in boxes or bags clearly labeled with name and source of supply. They shall be clean, dry, undamaged, not exhibiting premature growth and free of pests, disease and infections. They shall be of a size and maturity to assure flowering the season after planting. Bulbs shall be stored in boxes in cool, dry and dark conditions.

SEDUM ROOF

The Sedum mat is to be EverMat with sea hardened sedum varieties grown on a biodegradable coir mat using and extensive light weight substrate which is peat and brick free. With a laying depth of 100mm. Natural drainage is to be used by blending in hydroponic clay aggregate blended into the extensive lightweight substrate. Removing need for plastic drainage layer. Sedum Roof to be laid in accordance with GreenRoofsDirect recommendations.

Green Roofs Direct
0800 774 7650
info@greenroofsdirect.com

4.0 GRASS**SEED**

Grass seed shall be stored in sealed bags, on boards off the ground in a cool, clean, dry place, free from vermin.

The grass seed shall consist of the mixture as specified below. Certified seed shall be used and shall meet specifications for germination and purity laid down in Section 5.3 of BS 4428: 1969 "Recommendations for General Landscape Operations".

4.1 AMENITY GRASS AREAS**GRASS SEED MIX****CONSERVATION GRASS MIX**

Phoenix Amenity Supplies
support@phoenixamenity.co.uk
01684 212020

Slender Creeping Red Fescue	20%
Creeping Red Fescue	40%
Smooth Stalked meadow Grass	7%
Hard Fescue	10%
Chewings Fescue	20%
Browntop Bent	3%
Seed at the rate of 30gms per m2	100%

4.2 DETENTION POND GRASS MIX

DETENTION BASIN		
EMORSGATE SEEDS : MEADOW MIX FOR WETLANDS : EM8		
Ref EM8		
Tel 01553 829028		
enquiries@emorsgateseeds.com		
Agrostis capillaris	Common Bent	2 %
Anthoxanthum odoratum	Sweet Vernal Grass	2 %
Briza media	Quaking Grass	4 %
Cynosurus cristatus	Crested Dogstail	48 %
Deschampsia cespitosa	Tufted Hair Grass	2 %
Festuca rubra	Red Fescue	22 %
Achillea millefolium	Yarrow	2 %
Betonica officinalis	Betony	0.1 %
Galium verum	Lady's Bedstow	2.4 %
Leucanthemum vulgare	Oxeye Daisy	0.6 %
Plantago lanceolata	Ribwort Plantain	4 %
Rumex acetosa	Common Sorrel	0.1 %
Silaum silaus	Pepper Saxifrage	0.1 %
Primula veris	Cowslip	0.2 %
Silene flos-cuculi	Ragged Robin	1 %
Ranunculus acris	Meadow Buttercup	1.4 %
Lotus pedunculatus	Greater Birds Foot Trefoil	0.8 %

Lathyrus pratensis	Meadow Vetchling	0.4	%
Succisa pratensis	Devil's Bit Scabious	0.1	%
Sanguisorba officinalis	Great Burnet	1	%
Vicia cracca	Tufted Vetch	0.1	%
Angelica sylvestris	Wild Angelica	4	%
Centaurea nigra	Common Knapweed	1	%
Filipendula ularia	Meadowsweet	0.6	%
Leontodon hispidus	Rough Hawkbit	0.1	%
		100	%
sow at rate of 4gms per sqm			

5.0 WORKMANSHIP - LANDSCAPE

5.1 SITE CONDITION

The Contractor shall be held responsible for the keeping of the Works in a neat, tidy and litter free condition through the duration of the Contract.

Litter means arisings or residues from the Works, cans, bottles, paper and other extraneous objects.

- 5.2 WATERING:** Water is to be provided by the Principal Contractor and access without cost to the private water system. The Landscape Contractor is to supply hoses and sprinklers and ware as necessary up to Practical Completion and as necessary during the defects/maintenance period.

Quantity: Wet full depth of topsoil.

Application: Even and without displacing plants, mulch or soil.

Frequency: As necessary to ensure the establishment and continued thriving of all seeding/turfing and planting.

Watering for planting of trees, plants and hedging after planting and if dry conditions occur

DROUGHT CONDITIONS: If water supply is or is likely to be restricted by emergency legislation:- inform the CA without delay of the additional cost of second class water supply from a sewerage works or other approved source.

- if planting has not been carried out, do not do so until instructed.
- if planting has been carried out, obtain instructions on supply of water.

PERMANENT DRAINAGE SYSTEM: This is not to be used for disposal of water from excavations without approval.

5.3 FORMATION OF GENERAL GROUND LEVELS

The levels of the site of the site will be as the Architect's or engineer's details

New ground levels need to be as required by the Engineer for paving edges and other hard surface edges and left ready for soil profiling if required to the required depth for the finish of plants and tree planting so that the finished topsoil levels can be 50mm below finished hard edging adjacent to the building and within the carpark areas.

The areas shall be excavated or filled to the correct depth for the soil profile.

The subbase material in the excavated bed areas, grass areas and planting pits are to be broken up to a depth of 200mm as required,

5.4 SOIL PROFILE FORMATION

LOOSE TIP FILLING FOR LANDSCAPE AREAS

SUBSOIL FILL

Do not firm, consolidate or compact when laying.

Tip and grade to approximate levels in one operation with minimum of trafficking by plant.

PLACING FILL GENERALLY

- Ensure that areas to be filled are free from loose soil, rubbish and standing water.
- Do not use frozen material or materials containing ice. Do not place fill on frozen ground.
- Take all necessary precautions to secure the stability of adjacent structures.
- Place fill against structures, or buried services in a sequence and manner that will ensure stability and avoid damage.
- Plant employed for transporting, laying and compacting must suit the type of material. ie light earth moving plant to be used for all subsoil areas.
- Earthmoving equipment: Vary route to avoid rutting.

- Filling: Layers not more than 300 mm thick.
- Lightly compact each layer to produce a stable soil structure when grading them to an even level..

5.5 HANDLING TOPSOIL

Standard: To BS 3882 : 2015.

- Ensure topsoil is free of aggressive weeds weed species: Included in the Weeds Act, section 2 or the Wildlife and Countryside Act Schedule 9, part II.
- Give notice: Obtain instructions before moving topsoil.
- Multiple handling: Keep to a minimum. Use topsoil immediately after stripping.
- Areas to be topsoiled are to be laid over the finished subsoil levels.
- Topsoil areas to be graded to be 50mm below finished edging levels.
- Do not use topsoil contaminated with subsoil, rubbish, oil based products or other materials toxic to plant life.
- Dispose of contaminated topsoil to the Contractor's tip
- Apply herbicide to perennial weeds and allow period of time recommended by manufacturer to elapse before cultivating

Topsoil obtained from site or imported topsoil shall comply with the requirements of BS3882, be of neutral soil reaction and reasonably free from stones. The maximum size of stones shall be 25mm in any one direction. The soil should be reasonably free of excessive quantity of weed seeds, roots or perennial weeds, and be free of sticks, sub-soil and foreign matter.

SPREADING TOPSOIL DEPTH to the depths specified

Once spread the topsoil shall be kept free of weeds by physical means or by spraying with an approved weedkiller until such a time as planting is carried out.

RAIN GARDENS PLANTING BEDS

Prior to spreading Rain Garden Soil supply and lay a semi-permeable root barrier over the stone drainage layer

GREEN COMPOST

PLANTING BEDS

- Spread 50mm layer of Green Compost and cultivate into full depth of topsoil.
- Reduce top 100mm of all topsoil to a fine tilth suitable for final grading
- Remove all undesirable material brought to the surface, including stones larger than 50mm in any dimension, roots, turf or grass and foreign matter.
- Cultivation and planting shall not be carried out when the soil is very wet or waterlogged, or during periods of frost.
- At all times during ground preparation care shall be taken not to re-compact the soil.

6.0 PLANTING GENERAL

6.1 CLIMATIC CONDITIONS: Carry out the work while soil and weather conditions are suitable for the relevant operations. Do not plant during periods of frost or strong winds. Plant only during the following periods:

- Deciduous trees, bareroot plants and shrubs: Late October to late March
- Container grown plants: At any time if ground and weather conditions are favourable.
- Ensure that adequate watering and weed control is provided.

NOTICE

Give notice before:

- Setting out.
- Delivery of plants/ trees.
- Planting shrubs .
- Planting trees

6.2 TREE, SHRUB PLANTING

Planting shall be carried out in accordance with the Plant Schedules and the Contract Drawings.

SETTING OUT: All areas shall be set out in accordance with the Contract Drawings.

PLANT SPACING: Plant spacing shall be carried out in accordance with the Contract Drawing. The CA reserves right to adjust the exact position of all plant material after it has been set out.

The aim will be to space the plants evenly so that when established they will completely fill the areas indicated as fully as possible.

NEW PLANTING AREA

Prior to the placing of topsoil and subsoil ensure existing ground under is thoroughly broken up to a depth of 300mm to

allow free drainage.

- Remove all rubble, concrete washings, and other builder's debris to provide sufficient depths for topsoil placement.
- Cut back excessive haunching where it restricts topsoil depths.
- Excavate tree pits into subgrade prior to top soiling to ensure sufficient depths of soil.
- Mark tree pit locations with timber stakes.

PLANTING AND CULTIVATION: All planting shall comply in all respects with BS 4428: 1968 General Landscape Operations and for Tree Planting BS 8545: 2014. All plants shall be planted in accordance with good horticultural practice, upright with the roots well spread out at same depth at which they had been previously grown in the nursery. Care being taken to avoid damage to root systems and stems. The plants shall be placed in position in accordance with the Contract Drawings showing their best side to the front. Suspended planting and cultivation when weather or soil conditions are unsuitable.

Cultivations are as previously specified. Soil to be free of weeds prior to commencing planting works, where necessary the topsoil will have weeds removed by physical means or will be treated with weedkiller where necessary to destroy weed growth prior to commencing planting.

Evergreens to be dipped in or thoroughly sprayed with antidessicant after planting. Do not apply in rainy or frosty weather. Ensure full coverage of underside of foliage.

ROOT BARRIERS

Root barriers are to be used where trees are within 2.00m of service runs. The root barriers are to be either installed vertically or laid to line service trenches where appropriate. The root barrier is to be Terram Rootguard which is a permeable root barrier.

Terram

Fiberweb Geosynthetics Ltd

Blackwater Trading Estate

The Causeway, Maldon

Essex CM9 4GG

Tel: +44 (0) 1621 874200

email:info@terram.com

www.terram.com

6.3 EXTRA HEAVY STANDARD TREES AND HEAVY STANDARD

These are planted around the site

At planting the localized tree pit dug shall be not less than minimum dimensions or 1500 x1500mm x 900mm depth. Allow the tree at planting to have the root flare at finished topsoil level. (this may be the soil mark on the nursery stock. Check this is the root flare point before planting. Correct planting depth is important.).

Water rootball of rootballed trees with seaweed extract root dip.

All wires hessian and other rootball wrapping to be removed at planting.

Trees need to be orientated for the best crown development. It might be found that due to the nature of growing trees on nursery lines crowns develop asymmetrically..

Tree pits are to backfilled with existing subsoil 600mm thick and existing topsoil 300mm thick. 10% Green Compost is to be mixed in thoroughly into the top 150mm of the topsoil backfill. The returned soil shall be lightly consolidated by treading as filling proceeds layer by layer with subsoil replaced first and then topsoil in layers above the subsoil

The trees shall be set upright in the centre of the tree pit so that the soil level after settlement will be at the original soil mark on the tree stem. The two stakes shall be driven into the pit 300mm from edges and fixed before backfilling

Secure the tree to the tree stakes with Hessian webbing 50mm wide wrapped around tree stem and nail the webbing to the stakes with galvanized nails. The stakes are to be 75mm diameter set 1200mm above ground level.

Supply and fit an aeration watering tube around each Extra Heavy Standard tree. The unit is not required for Heavy Standard trees.

Supply and fit a root barrier 1000mm deep along sides of pits to the facing drainage or other service runs and where pits are close to boundary walls..

Water trees thoroughly after planting.

Where trees are within grass areas form a 900mm diameter circle around each plant and supply and spread a 75mm layer of bark mulch around each plant within the circle

6.4 ORNAMENTAL PLANTING BEDS

Supply and plant shrubs at spacing indicated on the Contract Drawings and of species and sizes indicated on the Plant Schedule.

Excavate planting beds to a depth of 600mm, break up ground under to a depth of 300mm and spread a 300mm depth of existing subsoil and a 300mm depth of existing topsoil over area.

Cultivate planting beds spread a 75mm layer of Green Compost, over the area and work into the full topsoil depth. Remove any debris arising from cultivations.

All pot grown shrubs shall be well-soaked in water with alginure root dip in the water prior to planting and planted into the bed area.

Supply and spread a layer of Bark Mulch 50mm deep over the area.

Water plants thoroughly after planting.

6.5 RAIN GARDEN PLANTING BEDS

Supply and plant shrubs at spacing indicated on the Contract Drawings and of species and sizes indicated on the Plant Schedule.

The Rain Garden unit to be constructed to the Engineer's detail. Lay a permeable root barrier over the drainage layer and spread a 400mm depth of imported rain garden soil over area.

No bark mulch is to be provided.

Water plants thoroughly after planting.

6.6 NATIVE BLOCK

The block is the bank at the rear of the site. If existing usable soil is present to be reused and plants to be slit planted. Trees within the native block to be as tree pits specified.

The Native Block to have soil depths of 300mm imported topsoil and 300mm imported subsoil.
Root dip all the plants in seaweed extract.

Sufficient soil shall be removed from the pit to enable the roots to be contained without distortion. The base of the pit shall be forked over to break up the ground to an additional depth of 100mm.

The plant shall be set upright in the centre of the pit. The returned soil shall be finely broken and firmed in around the root mass so that no residual voids remain. Surplus soil shall be distributed around the plant station and the empty container removed from site.

Net guards shall be fixed to all bare root plants PROVISIONAL

Supply and spread a layer of bark mulch 75mm thick over the area of the native block after planting

6.6 BULBS

Plant Narcissus Tete a Tete and Narcissus Minnow at a depth of 100mm at the rate of 30 per m²
Plant Scilla nutans at a depth of 100mm at the rate of 30 per m²

6.7 PROTECTIVE FENCING

If necessary protective fencing will be erected to protect completed works where necessary where other adjacent works are progress and there is a risk of damage by others of completed landscape works.

6.8 DEFECTS LIABILITY

All planting completed prior to Practical Completion of the whole soft Landscape works is to be maintained as per maintenance requirements until Practical Completion.

All tree, hedge and shrub planting in the communal areas is to be maintained for 5 Years after Practical Completion (1 Year as part of contract and 4 years with managing agent).

After planting remove all soil from hard surfaces and grass areas and leave all areas in a clean and tidy condition at Practical Completion.

FAILURES OF PLANTING: Post Practical Completion maintenance of the planting is to be carried out by the Contractor as specified. Any tree/shrubs/plants which are dead, dying or otherwise defective at the end of each growing season within the

Defects Liability Period will be regarded as defects due to materials or workmanship not in accordance with the Contract. They must be replaced by approved equivalent tree/hedge/shrub/plant material at the next suitable planting season unless otherwise instructed.

This will not apply if defects are caused by malicious damage after Practical Completion.

7.0 GRASSING

7.1 CLEARANCE OF NEW GRASS AREAS. All new grass areas are to be cleared of existing grass and vegetation by the use of a herbicide –glyphosate and dead vegetation removed to provide a clean seed bed for grass seeding.

The grass seeding is to be carried out in either Spring (March - May) or Autumn (mid August - mid October) subject to the availability of the site for seeding.

The Contractor shall apply additional cultivations or applications of weedkiller required to destroy all weed growth, if owing to the time of year or other causes, there is a period of waiting between the completion of cultivation and final grading and seeding operations. As far as is practicable, cultivation and seeding shall proceed in close succession with a minimum elapse of time between each operation.

7.2 GRASS SEEDING : NEW GRASS AREAS

Areas for grass establishment are as indicated on the Contract Drawing.

- Amenity Grass Areas and Rain Garden Amenity Grass Areas are to be Conservation Grass Mix seeded at rate of 30gms per square metre.
- Detention Basin is to Emorsgate EM8 Meadow Mix for Wetlands seeded at the rate of 4gms per square metre..

All works specified shall be carried out in accordance with BS4428 "Recommendations for General Landscape Operations Section 5"

SEEDED AREA REQUIREMENT

- Growth and development: Healthy, vigorous grass sward, free from the visible effects of pests, weeds (undesirable species) and disease.
- Appearance: A closely knit, continuous ground cover of even density, height and colour for grass areas.

CLIMATIC CONDITIONS

- General: Carry out the work while soil and weather conditions are suitable.

NOTICE

Give notice before:

- Setting out.
- Applying herbicide if appropriate..
- Preparing seed bed.
- Seeding.

SETTING OUT

- Boundaries: Mark clearly.
- Delineation: In straight lines or smoothly flowing curves as shown on drawings.

7.3 GRASS OPERATIONS

TOPSOIL : spreading as previously specified.

GRADING

- Topsoil depth and type varies according to substrate type for different seed mixes: reasonably dry and workable.
- Amenity Grass existing or imported soil 150mm topsoil 150mm subsoil
- Contours: Smooth and flowing, with falls for adequate drainage.
- Hollows and ridges: Not permitted.
- Finished levels after settlement: 25 mm above adjoining paving, kerbs, manholes etc.

7.4 GRASS AREAS

- General Amenity Grass 150mm topsoil, 150mm subsoil.

General Grass Areas

Break up ground under to a depth of 300mm

- Detention Basin 75mm topsoil skim 225mm Subsoil

CULTIVATION

The topsoil is to be free of weeds prior to commencing seeding works.

Before seeding the areas shall be raked to provide a suitable tilth, all stones larger than 50mm shall be removed from the surface and removed from site to the Contractor's tip.

SOWING

The Contractor shall obtain approval of the prepared soil before seeding. Supply and cross sow with the grass mix specified. After sowing once seeds have germinated - the seeded areas are to be lightly cross raked and rolled.

INITIAL GRASS CUTTING:

After the seed has germinated a first cut is to be made when the grass has reached 65mm in height and cut to 50mm height. A second cut shall be given to grass when it has reached 75mm reducing it to 40mm.

Arisings are to be removed from the grass areas.

GRASS AREA WATERING.

The Contractor shall water the sown grass areas as necessary and agreed with the CA as failure due to drought will be the sole responsibility of the Contractor.

7.5 DEFECTS LIABILITY**FAILURE OF SEEDING OR TURFING (BEFORE PRACTICAL COMPLETION)**

If germination has failed within one month of original seeding the above shall be repeated until a total grass cover is achieved. If turf fails before Practical completion it is to be replaced.

Grass Areas - Bare areas and areas of dead grass which are apparent at Practical Completion will be regarded as defects and must be made good by recultivation and seeding at times agreed with CA.

FAILURE OF SEEDING (AFTER PRACTICAL COMPLETION)

Grass Areas - Bare areas and areas of dead grass which are apparent after Practical Completion will be regarded as defects and must be made good by recultivation and seeding at times agreed with CA.

7.6 PRACTICAL COMPLETION FOR GRASS SEEDED AREAS

Grass areas will only be accepted for Practical Completion when germination is seen to be even and of correct density and all weeds removed and the first cut has been satisfactorily undertaken.

No individual areas of grass area will be accepted for Practical Completion until the entire landscape works are completed to the satisfaction of the CA.

Should Practical Completion be delayed all grass areas shall be maintained in accordance with the specification for maintenance.

7.7 GENERALLY SEEDING OF GRASS AREAS

Care will be required when programming seeding of grass areas to ensure that completed seeding is not damaged by trafficking by others or additional works being undertaken in grass areas after seeding.

Verge areas may need to be seeded separately after the main grass areas as they are the location for services, signs, verge markers etc and are likely to require works after main grass areas are seeded.

PROTECTIVE FENCING

If necessary protective fencing will be erected to protect completed works where necessary where other adjacent works are in progress and there is a risk of damage by others of completed landscape works.

7.8 CONSERVATION GRASS AREA MAINTENANCE UNTIL PRACTICAL COMPLETION

MOWING : The Contractor shall maintain grass heights all year to a maximum height of 60mm and a minimum height of 30mm. **Arisings shall be removed after the first cut and thereafter evenly dispersed.**

When conditions are dry ensure that the grass is not cut too short

Water as necessary

WEEDKILLER TREATMENT IN CONSERVATION GRASS AREAS.

While actively growing, spot weed treat grass areas with a suitable approved weedkiller to kill vigorous perennial weeds such as thistle, ragwort, rosebay willow herb, knotweed and docks and bramble regrowth. Retreatment as required is to be carried out during September.

7.9 DETENTION BASIN GRASS AREA MAINTENANCE UNTIL PRACTICAL COMPLETION**MOWING :**

The first growing season, the new grass areas and detention basin should be cut regularly (one cut per Month from March-October inclusive) to approximately 50mm to control annual weeds

When conditions are dry ensure that the grass is not cut too short

Water as necessary

NOTE NO WEEDKILLERS TO BE USED IN THE DETENTION BASIN
Weed control by hand weeding or strimming...

7.10 SEDUM ROOFS

NOTE external taps required to enable watering during periods of drought.

The Sedum Roof installation is to be laid between the photo voltaic cell units on the roof. The installation is best undertaken in winter but not in wet or freezing conditions.

The Sedum Roll sizes on coir matting are 1.00 x 1.50m which will need to be cut to size to fit as necessary

The roof slab, insulation layer, waterproofing, protective membranes, drainage outlets by others.
The Sedum Roof is to be laid to GreenRoofDirect's recommendation.

- The stainless steel edging and 300mm pebble edging are to be laid first.
- The Filter Fleece Membrane is to be laid in the planting areas with an upturn by the stainless steel edging.
- The Sedum Blanket needs to be laid on a minimum of 100mm of growing medium which is to be GRD Ultra Light Substrate with 5-10mm layer of clay granules worked in.
 - Spread 110mm to allow for settlement.
 - Reasonably dry and workable.
 - Contours: Smooth and flowing.
 - Finished levels including blanket after settlement: 10mm above stainless steel edge.
 - The substrate is to be free of weeds prior to commencing turfing works.
 - Before laying the areas shall be raked to provide a suitable tilth,
 - Sedum blanket laying.
 - During establishment water during periods of drought.
 - Protect all Sedum areas from damage by others

Follow the following procedures until Practical Completion is achieved and carry on into the 5 year maintenance/defects period

Week 1

Watering in the first week is crucially important. If the Blanket is rolled out in very dry conditions it must be watered every other day during this first week. A quick establishment is very important for the plants to cope with the harsh conditions on a roof.

Week 3

By this stage the Sedum should be showing new signs of growth with mostly bright green, new foliage this will be in contrast to the darker shades of the more hardened foliage. This will indicate the Sedum has travelled well and is beginning to establish.

From this point Green Roofs Ireland Sedum Blankets are low in maintenance. Mainly because of the beginning of the growing season, weeds will instantly start to move into any areas of bare substrate and a spot weed will be required. Due to the coverage of Sedum and intense weeding program during propagation weeds find it very difficult to establish themselves in the blankets.

Week 6

At this stage a walk of each roof is required to check for any weeds. Pulling weeds, whilst they are very small will cause less damage to the Sedum and also before they are allowed to seed. This is paramount as a simple grass weed will turn into a small lawn if a roof is not properly cared for during the first year. A thorough inspection and spot weed at this stage could save weeks of labour in weeding or replacing sections of Blanket. Also remove any weeds from the pebble strip.

Weeds should also be removed from beneath the photovoltaic units.

Week 12

The roof will be well established and by this time a simple check on each roof is all that is required. The comprehensive care plan during the Spring months will mean weeds will not be seeding and spreading. The Roof will also be flowering soon so it is important that foot traffic is kept to a minimum. Cut off the flowers and remove them in August.

Week 24

As the growing season will soon be ending a simple inspection and spot weed is required. At this time fertiliser is used to brighten up the foliage before the winter. Use liquid seaweed fertiliser sprayed on as a fine mist until it drips off the plant surfaces.

Week 36-48

This will be a winter inspection to check on the health of the Sedum. As our winters are changing we are experiencing more and more extreme weather conditions this check is essential.

Replace any failed sections of sedum with new Sedum blanket.

7.11 DEFECTS LIABILITY**FAILURE OF TURFING/SEDUM BLANKET (BEFORE PRACTICAL COMPLETION)**

If turf areas failed within one month of original turfing/Sedum blanket laying the above shall be repeated until a total turf/sedum cover is achieved.

FAILURE OF TURFING/SEDUM BLANKET (AFTER PRACTICAL COMPLETION)

Bare areas and areas of dead grass/sedum which are apparent after Practical Completion will be regarded as defects and must be made good by recultivation and turfing/relaying sedum blanket at times agreed with CA.

8.0 LANDSCAPE MAINTENANCE

MAINTENANCE PERIOD ONE YEAR IN LANDSCAPE CONTRACT AND FOUR YEARS WITH AGENT APPOINTED BY THE CLIENT

- Amenity Grass
- Planting Beds
- Tree Planting
- Bulb Planting
- Rain Gardens
- Sedum Roof
- Native Blocks

8.1 Definitions

CA: Contract Administrator shall mean the agent appointed by the Client

8.2 Programming and site attendance

PROGRAMME OF WORKS: The Contractor shall provide a programme of maintenance works at the commencement of the Contract. The Contractor shall maintain an operation plan that demonstrates the monthly progress and the month in advance. The operational plan is to include management objectives to achieve this plan.

SITE ATTENDANCE: The aim of this item is to ensure that small matters are corrected.

The Contractor shall attend to incidental matters which are defined as follows:

- inspect the site and undertake as necessary litter picking, sweeping, leaf clearance and other maintenance items which require attention in key areas such as at the site entrance, car parking areas and entrances to Buildings
- 'making-safe repairs' to such items as staked trees, fencing etc
- 'making safe' any hazardous items on site eg damaged service covers etc (full repair to be undertaken by Employer's CA.
- reporting to CA any matters requiring more than one hours attendance or requiring specialist work.

MAINTENANCE RETURNS

The Contractor shall submit a monthly maintenance return issue this to CA and copy it to the CA.

8.3 Removal of arisings:

The Contractor shall remove all leaves, litter, rubbish, dirt and other arisings shall be swept up, collected and disposed of on the same day as the various items of work are undertaken. These arisings shall be collected and unsuitable material disposed off at the Contractor's tip. The Contractor shall take sole responsibility for providing a tip and for all charges, fees, transport and any other expenses in connection with tipping unless otherwise specified in writing by the LA.

Where indicated arisings are to be dispersed.

Ornamental planting beds and trees within ornamental areas arisings are to be removed from site.

Note all green waste arisings is to be recycled via local recycling facilities as the site has not suitable locations for composting material or operations for reusing composted material.

8.4 Inspections

During maintenance operations the Contractor shall note and report without delay to the CA any of the following:

- activities by others which prevent the normal maintenance operations proceeding in the site areas egg Statutory Authorities work, new constructions, storage of materials and parking on landscape areas etc.
- damage caused to the site areas by the activity of others on site.
- missing gully covers or damaged service covers noted during the course of the works.
- damage to boundary fences, other fences, railings and other features for which the Employer is responsible.
- persistent litter problems
- theft or malicious damage, or clearly unauthorized use of the site areas

- damage to building structures within site area

Inspect trees after high winds. Refix newly planted trees upright as necessary.

9.0 TREE MAINTENANCE: GENERAL The Contractor is to take care not to damage tree stems, any damage or tree death resulting from damage shall be made good at the Contractor's expense.

TREES MANAGEMENT

- Ensure that all trees remain firmly bedded in the ground after strong winds, frost and other disturbances. Refirm by treading around the base. Any 'collars' forming at the base of the trees shall be broken up and then backfilled with topsoil
- Check tree stakes for firmness and signs of rot or damage.
- Refirm or replace as required. Tree stakes should be removed after three growing seasons. If the tree has failed to anchor at this time the tree is to be replaced.
- Check all tree ties. Remove, adjust, refix or replace if broken. Ties to be nailed securely to the stake. Remove after three growing seasons.
- Provide aeration where compaction is considered to be one cause for poor tree condition.
- Maintain mulch circles around trees weed free for three years.
- Top up mulch in circles in July to 75mm depth for first two years.
- Water as necessary during dry periods.
- Any trees which die or are otherwise defective during the 5 year Defects/Maintenance Period shall be replaced at the Contractor's cost in the next November and March planting season.

Above works to staked trees are to be carried out between September and February each year unless specified otherwise and unless necessary during the remaining part of the year.

PRUNING TREES

- Remove dead or damaged branches and cut back any ragged edges of wounded bark back to healthy tissue.
- Remove side growths beneath the crowns and any suckering growth from tree base. All cuts to be pared back flush to the stem, trunk or scar tissue.
- Where tree in very poor condition tree removal may be required.
- Pruning shall be undertaken once per year during between October and February. The use of chainsaws cannot be permitted.

10.0 MAINTENANCE OF PLANTING BEDS: GENERAL REQUIREMENTS

PEST AND DISEASE CONTROL: The Contractor shall report to the CA any indications that pest or disease control treatment is required. Allow for one application of a treatment approved by the CA. Pest and disease control includes for the control of slugs, snails or any other pest (not vermin) which adversely affects plant material. Repeat treatments are too be made as necessary. Report any rabbit damage noted to CA.

REFIRMING: Ensure that all shrubs remain firmly bedded in the ground after strong winds, frost and other disturbances. Refirm by treading around the base. Any 'collars' formed at the base of the shrubs shall be broken up and then backfilled with topsoil.

AERATION : Where the bed is compacted or the soil water logging aerate the soil avoiding damage to any underground plant rhizomes etc and avoid damage to underground services where these occur.

10.1 WEEDING PLANTING BEDS: All planting beds are to be kept weed free at all times. The Contractor is to provide a list of suitable herbicides for use in planting beds and obtain the written approval of the CA.

CONTROL WEEDING - Control weeding means applying an appropriate weedkiller at the beginning of the growing season and thereafter the areas are to be checked once a month in season and any weeds spot treated with an appropriate weedkiller. Initial weedkiller application to be undertaken during mid/late Spring each year **and be completed by 10 June**. This treatment is for newly planted beds .

NOTE CHECK THAT HERBICIDE USED IS SUITABLE FOR USE ACCORDING TO THE PLANT COMPOSITION OF THE BED IF NOT HANDWEED.

10.2 BED MAINTENANCE

MAINTAINING BARK MULCHED BEDS: During weeding and maintenance operations do not incorporate mulch into the underlying soil. Each Autumn rake over the mulch to provide a neat and tidy appearance

Top up mulch in planting beds in July to a depth of 50mm for the first two years

PLANTING BED EDGES: On one occasion per year the soil at edges of planting beds shall be reduced to 50mm below the adjacent hard or grass surface. The resulting soil shall be removed. Care shall be taken to ensure that the bed edges against grass areas are well defined unless otherwise directed by the CA.

NOTE; Where good horticultural practice for the particular shrubs/plants within a bed require a specific fertiliser treatment this shall be applied.

DISEASES: The CA shall be notified of any pest or disease outbreaks. If cutting out diseased material all implements shall be sterilized between shrubs to prevent spreading the pathogen

CONTROL OF UNSUITABLE VEGETATION

During routine visits inspect plantings for sucker growth, and unsuitable/atypical growths and feathers on stems and remove at the point of origin.

- 10.3 PRUNING SHRUBS AND GROUND COVER:** All pruning is to be carried out in accordance with the correct horticultural practice for the type of shrub. Vary the amount and nature of the pruning, trimming and shaping according to the species, stage of growth, season and required visual effect.

GENERAL

The Contractor shall allow for pruning once a year, and trimming of vigorous species as necessary through the year.

In all cases dead, diseased and damaged material shall be removed.

Where necessary remove growth encroaching onto footpaths, roads, hard areas, grassed areas, signs, lights, sightlines and other features and if directed by the CA.

- Trim as necessary the species to prevent straggly growth or growth beyond the bed limits, reduce the height of shrubs to free tree stems as directed, trim to maintain tall shrubs at a defined height and round off the planting as directed to provide a neat appearance.
- Any plants which die or are otherwise defective during the 5 year Defects/Maintenance Period shall be replaced at the Contractor's cost in the next October and March planting season.

ALL ARISINGS FROM PRUNING SHALL BE SHREDDED AND REMOVED FROM SITE AS GREEN WASTE.

PRUNING GENERALLY: The CA will give directions on site for all planting beds to indicate the approach to be adopted for pruning beds and the effect required.

PRUNING EQUIPMENT: The Contractor shall use only two bladed secateurs or other cutting equipment approved by the CA. All cut ends shall be left with a clean finish.

The adjacent plantings should not over run one another and judicious pruning of the shrubs should be undertaken to achieve the best visual effect.

10.4 RAIN GARDENS

No mulch is provided on the Rain Garden Beds

Pest and disease control as per planting beds.

Refirming as per planting beds.

Weeding rain garden beds. All planting beds are to be kept weed free at all times. **No chemicals to be used.** All weeding to be undertaken by hand.

Control of unsuitable vegetation

Inspect plantings for sucker growth, and unsuitable/atypical growths and feathers on stems and remove at the point of origin.

Pruning shrubs and groundcover as per above for Planting Beds.

10.5 NATIVE BLOCKS

These blocks are to be grown to have a natural woodland edge effect.

- Check and refix, replace (and remove if instructed) as necessary net guards on whips/native plants if these are present. Remove netguards in Year 3 or earlier if instructed. During establishment cut back the netguard to allow balanced growth if necessary.
- Ensure that all native plants/whips remain firmly bedded in the ground after strong winds, frost and other disturbances.
- Refirm by treading around the base. Any 'collars' forming at the base of the whip shall be broken up and then backfilled with topsoil
- Netguards if applied to be checked and refitted as necessary and remove in Year 3.
- Provide aeration where compaction is considered to be one cause for poor whip condition.

- Spotweed treat.mulched beds No weedkillers to be used where native plants are in the Detention Basin..
- Top up mulch in native blocks in July to 75mm depth for Year 1 and Year 2
- Any native plants/whips which die or are otherwise defective during the 5 year Maintenance Period shall be replaced in the next October and March planting season.

PRUNING NATIVE PLANTS/WHIPS it is to be undertaken as follows:

- Remove dead or damaged branches and cut back any ragged edges of wounded bark back to healthy tissue.
- Prune only to encourage bushy growth.. Pruning shall be undertaken once per year during mid/late Spring and be **completed by 15 June and once during October in first two years. Thereafter once per year between October and February.** The use of chainsaws and the like will not be permitted

In Year 5 thin the block favouring strongest growing best formed plants.

11.0 GENERAL GRASS MANAGEMENT

INSPECTION OF GRASS AREAS AND LITTER PICKING : The Contractor shall inspect grass areas on each occasion before commencing grass cutting operations and shall remove and dispose of all litter, stones and other debris which may cause personal injury, or damage to buildings, machinery or equipment and installations.

COMMENCEMENT OF OPERATIONS: Once grass cutting has commenced on an area, the whole area shall be cut and completed.

GRASS CUTTING MACHINES: Grass cutting machines shall be appropriate for the size of area being maintained and the standards of finish specified. Inaccessible margins, isolated rough areas of any size, corners, bases of fencelines, bases of hedges, bases of buildings and including weed killed areas and the like shall be cut by suitable machines or by hand at the same time as the main area of grass. Cutters of all mowers shall be sharp, properly set and shall cut the sward evenly and cleanly.

REMOVAL OF ARISINGS: All arisings from grass cutting scattered over roads, paths and planting beds should be swept up, collected and removed from on the same day mowing is undertaken. Arisings from Conservation and Wildflower Grass Areas to be removed.

OBSTRUCTIONS : All growth around obstructions in grassed areas and grass overhanging edges of planting beds, bases of trees, stone light surrounds, fence lines and the like shall be cut on each occasion that the grass is cut.

GRASS EDGES: Where grass abuts horizontal hard surfaces cut it back to the edge of the hard surface without forming a channel wherever the overgrowth of grass exceeds 100mm, using an appropriate grass edge cutter, cutting to smooth curves and straight lines as appropriate.

GRASS CUTTING MACHINES : Damage to plants or other material caused by the use of these machines, including nylon cord cutting machines, for whatever reason will require the Contractor to supply and place suitably approved replacement material all at his/her own expense.

AREAS OF GRASS TO BE STRIMMED: The areas to be strimmed are steep banks or around obstructions or in areas too small for the mowers to be used. The grass areas shall be strimmed to maintain to the height specified for adjacent grass areas and arisings removed or dispersed according to the grass type.

11.1 AMENITY GRASS : CONSERVATION GRASS AREAS

Mowing

MAXIMUM HEIGHT not to exceed 60mm

MINIMUM HEIGHT not to be less than 40mm

Conservation grass areas, broadleaf weeds to be controlled by mowing unless there is extensive broadleaf weed issue when a spotweed treatment or weed wiping is the only acceptable chemical method and will be undertaken during mid/late spring each year. Retreatment as necessary in season.

11.2 LAWN LONG GRASS AREAS to encourage wild flowers

Note no chemicals or fertilisers to be used in these areas.

CUT TWICE/THREE TIMES A YEAR

In Year 1 the first growing season, the new wildflower and grass areas should be cut regularly (one cut per Month from March-October inclusive) to approximately 50mm to control annual weeds

Once the sward is established for the following years

Cut to a height of 50mm in April and September and if necessary undertake a third cut in winter.

Leave arisings insitu for two days then remove from site

Control broadleaf weeds (but allow for wildflowers to come through) by handweeding or strimming. Retreatment as necessary in season.

11.3 DETENTION BASIN – wetland wildflower mix

Note no chemicals or fertilisers to be used in these areas.

CUT TWICE/THREE TIMES A YEAR

In Year 1 the first growing season, the new wildflower and grass areas should be cut regularly (one cut per Month from March-October inclusive) to approximately 50mm to control annual weeds

Once the sward is established for the following years

Cut to a height of 50mm in April and September and if necessary undertake a third cut in winter.

Leave arisings insitu for two days then remove from site

Control broadleaf weeds (but allow for wildflowers to come through) by handweeding or strimming. Retreatment as necessary in season.

Keep inflow and exit points clear.

11.4 GRASS REINSTATEMENT OF GRASS AREAS

to be undertaken using the same seed mix used for initial seeding.

Any defective or grass failing to thrive in the first two years of maintenance period is to be reinstated

12.0 SEDUM ROOF MANAGEMENT**Week 1**

Watering in the first week is crucially important. If the Blanket is rolled out in very dry conditions it must be watered every other day during this first week. A quick establishment is very important for the plants to cope with the harsh conditions on a roof.

Week 3

By this stage the Sedum should be showing new signs of growth with mostly bright green, new foliage this will be in contrast to the darker shades of the more hardened foliage. This will indicate the Sedum has travelled well and is beginning to establish.

From this point Green Roofs Ireland Sedum Blankets are low in maintenance. Mainly because of the beginning of the growing season, weeds will instantly start to move into any areas of bare substrate and a spot weed will be required. Due to the coverage of Sedum and intense weeding program during propagation weeds find it very difficult to establish themselves in the blankets.

Week 6

At this stage a walk of each roof is required to check for any weeds. Pulling weeds, whilst they are very small will cause less damage to the Sedum and also before they are allowed to seed. This is paramount as a simple grass weed will turn into a small lawn if a roof is not properly cared for during the first year. A thorough inspection and spot weed at this stage could save weeks of labour in weeding or replacing sections of Blanket. Also remove any weeds from the pebble strip.

Weeds should also be removed from beneath the photovoltaic units.

Week 12

The roof will be well established and by this time a simple check on each roof is all that is required. The comprehensive care plan during the Spring months will mean weeds will not be seeding and spreading. The Roof will also be flowering soon so it is important that foot traffic is kept to a minimum. Cut off the flowers and remove them in August.

Week 24

As the growing season will soon be ending a simple inspection and spot weed is required. At this time fertiliser is used to brighten up the foliage before the winter. Use liquid seaweed fertiliser sprayed on as a fine mist until it drips off the plant surfaces.

Week 36-48

This will be a winter inspection to check on the health of the Sedum. As our winters are changing we are experiencing more and more extreme weather conditions this check is essential.

Replace any failed sections of sedum with new Sedum blanket.

Years 2-5

The Sedum Blanket will require 4 scheduled visits during the growing season and a winter visit.

A Green Roof is a living organism it is changing on a daily basis and is highly dependent on the weather. Therefore it is difficult to quantify exact amount of water or labour required. A good relationship with excellent communication between the client and the maintenance contractor is required and combined with a maintenance schedule tailored for the application this will create a healthy and low maintenance Green Roof.

- Spotweed treat weeds or remove small weed plants by hand
- Cut back flowerheads in August and remove arisings
- Remove unsuitable/undesirable plants and other non native invasive species
- Apply liquid seaweed fertiliser sprayed on as a fine mist until it drips off the plant surfaces towards end of growing season.
- Inspect drainage points and keep edging strip weed free
- Water as necessary during periods of drought

- Winter check and replace any failed sedum blanket areas and if failed areas small use sedum plugs in winter for next 5 years.

13.0 INVASIVE NON NATIVE SPECIES

In the event that invasive plant species become established on site they will be controlled at the nearest opportunity using approved methodology and guidance (<http://www.nonnativespecies.org>) to avoid the risk of further contamination and spread. Common examples include:

- Spray Japanese knotweed (*Fallopia japonica*) with glyphosate during the flowering period. Monitor treated sites and apply spot herbicide treatments to any surviving plants.

**NEWPORT EXPORT PACKAGING
MANAGEMENT PLAN
GENERAL YEARS 1-5**

Rev 12 Nov 2023

Task Description		Year 1				Year 2				Year 3				Year 4				Year 5			
		Jan Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan- Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan- Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan- Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec
LITTER	Clear all litter on every visit for landscape maintenance minimum monthly from soft landscape areas.																				
GRASSED AREAS	Cut grass to a maximum height of 50mm and a minimum height of 25mm. Spotweed treatments only Water as necessary during drought periods, regularly in dry periods in first two years only Reseed failed sections																				
DETENTION BASIN	September/October cut and remove arisings If dense winter growth spring cut and remove arisings No chemicals to be applied. Contain by hand weeding or strimming Water as necessary during drought periods, regularly in dry periods in first two years only Keep inlet and outlets clear Reseed failed sections																				
PLANTED TREES	Check the trees and after high winds Check to include health/disease/pest etc and remedial measures Reform Aeration if necessary Check trees refix upright as necessary. Cut ties loose and remove stakes in Year 3. Remove weeds for first four years Top up mulch for first two years only Water as necessary during drought periods, regularly in dry periods during first two years of establishment Apply foliar or liquid fertiliser if necessary in first two years Pruning as necessary to remove deadwood and as necessary to retain natural habit form of the crown Replace defective trees as necessary	Monthly				Every 2 months				High winds				High winds				High winds			
		Monthly check and refix				Every Two Months				Remove Stakes and Ties											
		March				March												March			Oct
					Oct	March			Oct	March			Oct	March				March			Oct
PLANTING BEDS	Check to include health/disease/pest etc and remedial measures Reform Remove weeds for first four years Top up mulch for first two years only Aeration if necessary Water as necessary during drought periods for first 2 years Prune as necessary according to species type Replace defective plants as necessary	Monthly				2 months															
					Oct	March			Oct	March			Oct	March				March			Oct
RAIN GARDENS	Check to include health/disease/pest etc and remedial measures Reform Remove weeds for first four years by hand no chemicals to be used No mulch is applied to these areas Aeration if necessary Water as necessary during drought periods for first 2 years Prune as necessary according to species type Keep overflow pipe upstands clear Replace defective plants as necessary	Monthly				2 months															
					Oct	March			Oct	March			Oct	March				March			Oct
NATIVE BLOCKS	Reform Remove weeds for first four years Water as necessary during drought periods for first 2 years Net guards if applied refix and replace, cut back as necessary to allow balanced growth. Remove netguard in Year 3 Replace defective plants as necessary Thin as necessary in Year 5	Monthly				Every two months															
					Oct	March			Oct	March			Remove Netguard Oct	March				March			Oct
SEDUM ROOF AREAS To be maintained by Roof	To be maintained by Roof Garden Contractor for Year 1 Remove all arisings from maintenance visits Cut back flower heds in August Remove undesirable/unsuitable plants and non native invasive species Apply fertiliser	as per manufacturer's instructions remove the arisings				remove the arisings				remove the arisings				remove the arisings				remove the arisings			
			Apr Aug Sept				Apr Aug Sept				Apr Aug Sept				Apr Aug Sept				Apr Aug Sept		
Monitoring to be undertaken at maintenance visits	Inspect roof clear drain outlets and 300mm edging strip Water as necessary during drought periods	March			Sept	March			Sept/Oct	March			Sept/Oct	March			Sept/Oct	March			Sept/Oct

**NEWPORT EXPORT PACKAGING
MANAGEMENT PLAN
GENERAL YEARS 1-5**

Rev 12 Nov 2023

[illegible]

TIMING OF OPERATIONS

Take care when undertaking work operations to avoid anticipated may be present.

[illegible]

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	FACTORY ROAD : NEWPORT			rev 12 November 2023	
	TREE PLANTING				
KEY	SPECIES		NAME	SIZE	QTY
	EXTRA HEAVY STDS - Rootballed				
Ace EXH	Acer campestre Elegans	P	Field Maple	14-16cm Extra Hvy Standard	3 No
BE EXH	Betula Edinburgh		Birch	14-16cm Extra Hvy Standard	3 No
GL EXH	Ginkgo biloba Lakeview		Giingko	14-16cm Extra Hvy Standard	2 No
PpA EXH	Prunus padus Albertii	P	Bird Cherry	14-16cm Extra Hvy Standard	3 No
SS EXH	Sorbus aucuparis Sheerwater Seedling	P	Form of Rowan	14-16cm Extra Hvy Standard	5 No
	HEAVY STANDARD - Rootballed				
CbL HS	Carpinus betulus Lucas		Hornbeam	12-14cm Hvy Standard	2 No
Cpr HS	Crataegus prunifolia	P	Cockspur Thorn	12-14cm Hvy Standard	2 No
TcR HS	Tilia cordata Rancho	P	Small Leafed Lime	12-14cm Hvy Standard	2 No
St HS	Sorbus torminalis	P	Checker Tree	12-14cm Hvy Standard	1 No
	TOTAL				23 No
	AMENITY GRASS AREAS			G1	132 m2
	CONSERVATION GRASS MIX				
	Phoenix Amenity Supplies		Slender Creeping Red Fescue		20 %
	support@phoenixamenity.co.uk		Creeping Red Fescue		40 %
	01684 212020		Smooth Stalked Meadow Grass		7 %
			Hard Fescue		10 %
			Chewings Fescue		20 %
			Browntop Bent		3 %
	Seed at rate of 30 gms per sqm or similar turf to be used				100 %
	BULBS				3.5 m2
NTT	Narcissus Tete a Tete		Dwarf Daffodil	Bulb	370 No
NM	Narcissus Minnow		Dwarf Daffodil	Bulb	370 No
SN	Scilla nutans		Bluebells	Bulb	240 No
	TOTAL				980
	DETENTION BASIN				237 m2
	EMORSGATE SEEDS : MEADOW MIX FOR WETLANDS : EM8				
	Ref EM8				
	Tel 01553 829028				
	enquiries@emorsgateseeds.com				
	Agrostis capillaris		Common Bent		2 %
	Anthoxanthum odoratum		Sweet Vernal Grass		2 %
	Briza media		Quaking Grass		4 %
	Cynosurus cristatus		Crested Dogtail		48 %
	Deschampsia cespitosa		Tufted Hair Grass		2 %
	Festuca rubra		Red Fescue		22 %
	Achillea millefolium	P	Yarrow		2 %
	Betonica officinalis		Betony		0.1 %
	Galium verum	P	Lady's Bedstow		2.4 %
	Leucanthemum vulgare	P	Oxeye Daisy		0.6 %
	Plantago lanceolata		Ribwort Plantain		4 %
	Rumex acetosa		Common Sorrel		0.1 %
	Silvaum silaus		Pepper Saxifrage		0.1 %
	Primula veris	P	Cowslip		0.2 %
	Silene flos-cuculi	P	Ragged Robin		1 %
	Ranunculus acris	P	Meadow Buttercup		1.4 %
	Lotus pedunculatus	P	Greater Birds Foot Trefoil		0.8 %
	Lathyrus pratensis	P	Meadow Vetchling		0.4 %
	Succisa pratensis	P	Devil's Bit Scabious		0.1 %
	Sanguisorba officinalis	P	Great Burnet		1 %
	Vicia cracca	P	Tufted Vetch		0.1 %
	Angelica sylvestris	P	Wild Angelica		4 %
	Centaurea nigra	P	Common Knapweed		1 %
	Filipendula ularia	P	Meadowsweet		0.6 %
	Leontodon hispidus	P	Rough Hawkbit		0.1 %
	sow at rate of 4gms per sqm				100 %
KEY	BOTANICAL NAME		COMMON NAME	SIZE	QTY
	PLANTING BEDS			B1-B12	232.5 m2
Ab	Abelia grandiflora	P	Abelia	40-60cm 3Lpot	42 No
Aca	Amelanchier canadensis	P	Snowy Melipus	40-60cm 3Lpot	66 No
Ba	Ballota pseudodictamus	P	False Dittany	30-40cm 2Lpot	109 No
CAZ	Choisya Aztec Pearl		Mexican Orange	40-60cm 3Lpot	76 No
CC	Cistus cobariensis		Rock Rose	40-60cm 3Lpot	18 No
CTR	Ceanothus thyrsiflorus Repens		Ceanothus	40-60cm 3Lpot	95 No
EH	Euonymus Harlequin		Dwarf Euonymus	20-30cm 2Lpot	28 No
Hbux	Hebe buxifolia	P	Hebe	20-30cm 2Lpot	60 No
LMD	Lavandula Munstead Dwarf	P	Lavender	20-30cm 2Lpot	7 No
POL	Prunus Otto Luyken	P	Dwarf Laurel	40-60cm 2Lpot	57 No
RMJ	Rosmarinus Miss Jessup Upright	P	Rosemary	40-60cm 3Lpot	5 No
VmBV	Vinca minor Bowles Variety		Periwinkle	20-30cm 2Lpot	124 No
VEP	Viburnum tinus Eve Price	P	Viburnum	40-60cm 3Lpot	139 No
	TOTAL				826 m2

	FACTORY ROAD : NEWPORT			rev 12 November 2023	
	TREE PLANTING				
KEY	SPECIES		NAME	SIZE	QTY
	FOULWATER SERVICE STRIP		FWS1-FWS5		39.75 m2
			Gravl Strips		
	TOTAL				39.75 m2
	RAIN GARDEN			RG1 -RG8	126.5 m2
Am	Alchemilla mollis	P	Lady's Mantle	2Lpot	39 No
Aca	Amelanchier canadensis		Snowy Melipus	40-60cm 3Lpot	29 No
Bis	Bistorta affinis Red Darjeeling	P	E Indian Knotweed	2Lpot	94 No
Cm	Crateagus monogyna		Hawthorn	60-90cm 1 +1	12 No
Cs	Cornus sanguinea	P	Dogwood	60-90cm 1 +1	54 No
GMA	Geranium macrorrhizum Album		Geranium	2Lpot	42 No
Je	Juncus effusus		Soft Rush	2Lpot	162 No
ITN	Iris sibirica Tropic Night		Blue Iris	2Lpot	10 No
Sac	Stachys byzantina		Lambs Ears	2Lpot	71 No
Vo	Viburnum opulus	P	Guelder Rose	40-60cm 3Lpot	30 No
	TOTAL				543 No
	NATIVE BLOCK 1-3				304 m2
			Plant at 1.00m spacing		
Ac	Acer campestre	P	Field Maple	60-90cm 1 +1	25 No
Cm	Crataegus monogyna	P	Hawthorn	60-90cm 1 +1	60 No
Ca	Corylus avellana	P	Hazel	60-90cm 1 +1	25 No
Cs	Cornus sanguinea	P	Dogwood	60-90cm 1 +1	25 No
Ee	Euonymus europaeus	P	Spindle	60-90cm 1+1	10 No
Ia	Ilex aquifolium	P	Holly	40-45cm 3Lpot	49 No
Lv	Ligustrum vulgare	P	Wild Privet	60-90cm 1 +1	10 No
Rf	Rhamnus frangula	P	Alder Buckthorn	60-90cm 1 +1	6 No
Sn	Sambucus nigra	P	Elder	60-90cm 1+1	10 No
Vo	Viburnum opulus	P	Guelder Rose	60-90cm 1 +1	10 No
Hh	Hedera helix	P	Ivy	60-90cm 2Lpot	700 No
ASP	Asplenium scolopendrium		Harts Tingue Fern	2Lpot	60 No
Pset	Polystichum setiferum		Fern	2Lpot	60 No
	TOTAL				1050 No
	SEDUM ROOF AREAS				
	Ground Level Roof				21 m2
	Flats Upper Roof				458.5 m2
	TOTAL				479.5 m2
	Green Roofs Direct 0800 774 7650 info@greenroofsdirect.com			Evermat Sea Hardened Sedum Mat on Coir Base 1.00m wide rolls by 1.5m length Thickness 2.5-4.5cm Yellow ground cover foliage Winter colour attracts butterflies Groundcover all year round hardy variety for heat or cold Pink white flowers attracts bees Shrublike with broad leaves Bluse spruce leaves Clump forming shrub Colour and depth	
	Sedum acre Aureum Sedum Aalbum Coral Carpet Sedum Album mini Sedum Album Athoum Sedum Hispanicum Sedum Summer Glory Sedum Reflexum Sedum Weihenstephaner Gold Sedum Voodoo				