|  |  |  |  |
| --- | --- | --- | --- |
| **Pre-Start Meeting**  Pre-starting attendees to be listed and sign that that have attended and understand the design intent, construction and establishment process. | | | |
| Location |  | | |
| Date |  | | |
| **Role/Stakeholder** | **Company** | **Contact Name** | **Sign** |
| Developer |  |  |  |
| Site superintendent (civil) |  |  |  |
| Site superintendent (landscape) |  |  |  |
| Bioretention designer |  |  |  |
| Civil engineer |  |  |  |
| Landscape architect |  |  |  |
| Civil contractor |  |  |  |
| Landscape contractor |  |  |  |
| Other |  |  |  |
| Other |  |  |  |
| Other |  |  |  |
| Comments (attach and refer to additional pages if necessary) | | | |
|  | | | |
| Actions (attach and refer to additional pages if necessary) | | | |
|  | | | |

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| **FORM A — Tree Pit and Bioretention Bulk Earthworks and Hydraulic Structures** | | | | |
| Purpose: To ensure earthworks bulking out, trimming and profiling are in accordance with design drawings and specifications. | | | | |
| **Items** | **Checked** | **Satisfactory** | **Action (if unsatisfactory)** | **Initial** |
| As constructed survey completed and attached to this form |  |  |  |  |
| Photos taken and attached to this form |  |  |  |  |
| Set-out of system is correct |  |  |  |  |
| Base levels are at correct elevation  (+25 mm) |  |  |  |  |
| Drainage inlet correct location and invert level. |  |  |  |  |
| Outflow pits are correct size and crest and invert is at correct level (+10mm) |  |  |  |  |
| Overflow weir crest correct level (+10mm) |  |  |  |  |
| Outlet pipe is correct size and level (upstream and downstream) (+10mm) |  |  |  |  |
| Edge treatments and batters surrounding the system are at correct levels and slopes |  |  |  |  |
| Existing services undisturbed and adequately protected |  |  |  |  |
| **HOLD POINT: Superintendent and bioretention designer inspection and sign-off before proceeding.** | | | | |
| Comments (attach and refer to additional pages if necessary) | | | | |
|  | | | | |

NB: As-constructed survey or drawings and photos attached.

Signed by superintendent:

Print name:

Date:

**AND**

Signed by designer:

Print name:

Date:

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| --- | --- | --- | --- | --- |
| **FORM B — Under-drainage** | | | | |
| Purpose: To ensure under-drainage is installed correctly before the soil media is installed. | | | | |
| **Items** | **Checked** | **Satisfactory** | **Action (if unsatisfactory)** | **Initial** |
| Base of system free from debris |  |  |  |  |
| Liner (bentonite/HPDE etc) correctly installed and anchored |  |  |  |  |
| There is no fabric ‘sock’ around the under-drainage |  |  |  |  |
| Correct under-drainage has been supplied free from cracks or defects and slotted at 2mm max width or smaller |  |  |  |  |
| Under-drainage pipes are laid at the correct spacing |  |  |  |  |
| All junctions and connections have been appropriately installed and sealed |  |  |  |  |
| Top of clean out points at design level (i.e. approximately 50–100 mm above filter media surface ) |  |  |  |  |
| **HOLD POINT: Superintendent or bioretention designer inspection and sign-off before proceeding.** | | | | |
| Comments (attach and refer to additional pages if necessary) | | | | |
|  | | | | |

NB: As-constructed survey or drawings and photos attached.

Signed by superintendent:

Print name:

Date:

**AND**

Signed by designer:

Print name:

Date:

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| --- | --- | --- | --- | --- |
| **FORM C — Tree Pit and Bioretention Media** | | | | |
| Purpose: To ensure that the soil media placed in the system meets the required specifications and that there is a record of the media being delivered to site.  To ensure media layers are installed correctly and meet the design and specification requirements. | | | | |
| **SOURCING, TESTING AND SUPPLYING BIORETENTION MEDIA** | | | | |
| **Drainage layer** | **Checked** | **Satisfactory** | **Action (if unsatisfactory)** | **Initial** |
| Meets the specifications |  |  |  |  |
| Meets the required hydraulic conductivity (4,000 mm/hr) |  |  |  |  |
| Delivery supply docket certifies that the material delivered is the material tested (delivery docket attached) |  |  |  |  |
| **Transition layer supply** |  |  |  |  |
| Meets the specifications |  |  |  |  |
| Supplier certification provided  (certification attached) |  |  |  |  |
| Delivery supply docket certifies that the material delivered is the material tested (delivery docket attached) |  |  |  |  |
| **Filter media supply** |  |  |  |  |
| Meets the FAWB’s *Guideline Specifications for Soil Media in Bioretention Systems* (2008) |  |  |  |  |
| Meets the required hydraulic conductivity (150–300 mm/hr, 400 mm/hr maximum) |  |  |  |  |
| Frequency of laboratory testing completed in accordance with specification (results of testing attached) |  |  |  |  |
| Supplier certification provided  (certification attached) |  |  |  |  |
| Delivery supply docket certifies that the material delivered is the material tested (delivery docket attached) |  |  |  |  |
| **HOLD POINT: Superintendent or bioretention designer inspection and review of test results and certifications before proceeding.** | | | | |
| Comments (attach and refer to additional pages if necessary) | | | | |
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| **FORM C — Bioretention Media (cont.)** | | | | |
| **INSTALLATION OF BIORETENTION MEDIA** | | | | |
|  | **Checked** | **Satisfactory** | **Action (if unsatisfactory)** | **Initial** |
| Base of system free from debris |  |  |  |  |
| Drainage layer (fine gravel) installed to correct depth (+ 25 mm) |  |  |  |  |
| Transition layer (coarse sand)  installed to correct depth (+ 25 mm) |  |  |  |  |
| Placement of filter media completed to avoid compaction of media and using at least two lifts |  |  |  |  |
| Filter media installed to correct depth |  |  |  |  |
| Light, even compaction applied to remove air gaps (e.g. light roller or single pass with a ‘pozitrack’ bobcat) |  |  |  |  |
| Spreader bar used to flatten surface of filter media |  |  |  |  |
| Final constructed levels are consistent with design levels |  |  |  |  |
| Suitable protection measures in place to protect filter media from silt laden runoff |  |  |  |  |
| **INSPECTION: Superintendent and bioretention designer inspection and sign-off to occur while installation of media is occurring. Photos must be taken by the superintendent, the bioretention designer or the contractor.** | | | | |
| Comments (attach and refer to additional pages if necessary) | | | | |
|  | | | | |

NB: As-constructed survey or drawings and photos attached.

Signed by superintendent:

Print name:

Date:

**AND**

Signed by designer:

Print name:

Date:

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| **FORM D — Tree Pit and Bio-Retention** **Landscape Installation** | | | | |
| Purpose: To ensure the correct plants are supplied, installed and established. | | | | |
| **Items** | **Checked** | **Satisfactory** | **Action (if unsatisfactory)** | **Initial** |
| No mulch has been installed on the biofilter |  |  |  |  |
| Supplied plants are correct species |  |  |  |  |
| Supplied plants are in correct pot sizes and maturity as per the drawings |  |  |  |  |
| Plants have been installed at correct planting density as per drawings |  |  |  |  |
| Trees have been installed as per drawings complete with temporary guying |  |  |  |  |
| Appropriate fertilizers and water retaining crystals included in planting holes |  |  |  |  |
| As constructed drawings marked up with final plant species and densities |  |  |  |  |
| **HOLD POINT: Superintendent AND bio-retention designer inspection and sign-off before proceeding.** | | | | |
| Comments (attach and refer to additional pages if necessary) | | | | |
|  | | | | |

NB: As-constructed survey or drawings and photos attached.

Signed by superintendent:

Print name:

Date:

**AND**

Signed by designer:

Print name:

Date:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **FORM E — Tree Pit and Bioretention Landscape Establishment** | | | | |
| Purpose: To ensure the correct plants are supplied, installed and established. | | | | |
| **Items** | **Checked** | **Satisfactory** | **Action (if unsatisfactory)** | **Initial** |
| **PLANT ESTABLISHMENT** | | | | |
| Weeds being removed as required |  |  |  |  |
| Watering occurring as required |  |  |  |  |
| Replanting occurred as required to replace failed plants |  |  |  |  |
| Plants successfully established.  Measure of successful establishment  1. Survivorship greater than 90%  2. Plants are growing and are healthy  3. No weeds. |  |  |  |  |
| **HOLD POINT: Superintendent AND bioretention designer inspection and sign-off.** | | | | |
| Comments (attach and refer to additional pages if necessary) | | | | |
|  | | | | |

NB: As-constructed survey or drawings and photos attached.

Signed by superintendent:

Print name:

Date:

**AND**

Signed by designer:

Print name:

Date:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **FORM F — Practical completion** | | | | |
| Purpose: Final inspection to ensure tree pits and bioretention are installed and established as intended. | | | | |
| **Items** | **Checked** | **Satisfactory** | **Action (if unsatisfactory)** | **Initial** |
| **TREE PITS AND BIO-RETENTION** | | | | |
| Insitu hydraulic conductivity meets minimum requirements |  |  |  |  |
| As constructed survey complete and within specification tolerances |  |  |  |  |
| Erosion protection installed as per the drawings including rock size and filter fabric. Finished rock flush with surrounding ground. |  |  |  |  |
| Planting to filter media area and batters installed and establishing |  |  |  |  |
| No riling or erosion occurring |  |  |  |  |
| Flush out points installed with caps |  |  |  |  |
| Bioretention outlet pit/weir installed as per the drawings including overflow level within specification tolerances |  |  |  |  |
| Irrigation supply installed and operational |  |  |  |  |
| Sign off forms signed and completed |  |  |  |  |
| **HOLD POINT: Superintendent AND bioretention designer inspection and sign-off.** | | | | |
| Comments (attach and refer to additional pages if necessary) | | | | |
|  | | | | |

NB: As-constructed survey or drawings and photos attached.

Signed by superintendent:

Print name:

Date:

**AND**

Signed by designer:

Print name:

Date: