

**Green Infrastructure Partnership**

**Project Design Checklist**

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| project INFORMATION |
| Agency Name: |       |
| Design Submittal Date: |       |
| Project Name:  |       |
| IGA Number:  |       |
| Partner or Design Contact Name:  |       |
| Contact Number or Email:  |       |
| Construction Est. Start Date:  |       |
| Percent Design Stage:  |       |

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| INSTRUCTIONS |
| In the checklists below, please check “Yes”, “No”, or “N/A” as appropriate. If selecting “No” or “N/A”, please explain why in the Notes column. |

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| GENERAL CHECKLIST |

|  | **Item description** | **Notes / Comments from Designer** |
| --- | --- | --- |
| [ ]  Yes | 1. MWRD Partnership funds cannot be used to satisfy required detention obligations due to the MWRD’s Watershed Management Ordinance (WMO) or any other local, state, or federal regulations. Please check yes to acknowledge this statement.
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Have you determined if your project requires a WMO permit?

If yes, state the status of your WMO permit in the Notes column.If WMO volume control or detention is required, state the volume required in the Notes column. |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Have you included all MWRD diversity goals in your contract specifications?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Have you sent to MWRD a detailed engineer’s opinion of probable cost of construction?
 | (Required by the 98% design stage, encouraged at all stages)      |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Does your design meet the recommended maximum ratio of impervious area draining to pervious area of 2:1? If not, please explain why in the notes.
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Does your design have a flat excavation across entire width of alley? MWRD has found this design to be more efficient on a cost per gallon of storage basis than designs where the center of the alley is excavated deeper than the sides.
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Is geotechnical fabric included at all interfaces between the soil and aggregate layers?
 | (Recommendation for geotech fabric is included in the Supplemental Info Packet)      |
| [ ]  Yes[ ]  No[ ]  N/A | 1. If installation is within 15’ of a structure with a basement have you included a waterproof liner in your details?
 | (Example waterproof liner detail is included in the Supplemental Info Packet. We recommend that the liner extend a minimum of 10’ from the structure, 15’ if possible.)      |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Are all inverts on the underdrains shown on the GI utility plan?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. If installation is within 3 vertical feet or 10 horizontal feet of an existing sanitary sewer have you included lining the sewer as part of this project, replacing it with a water-main quality pipe, or providing some other type of waterproof barrier between the reservoir layer and the sanitary sewer?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Have all the utilities been located and shown on the plans?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Have the locations of all existing stormwater facilities been field confirmed?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Are spot elevations provided around the outside edge, toe of slope, and interior of rain gardens and bioswales?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Have you removed any downspout connections to the sewer and routed roof drains into the GI improvements?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Are all lids on observation wells subject to vehicular traffic rated to handle vehicular traffic?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. If the underdrain connects to a combined sewer has backflow prevention been accounted for?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Is a safe overflow route provided, and shown on the plans, in case the permeable area is clogged or full?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. When replacing or re-using storm manholes and catch basins, has coring the bottom and sides of existing catch basins been considered?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. On alley shoulders, are there any adjacent areas that could contribute sediment-laden inflow to the permeable area? If so, please consider replacing with gravel or a dense ground cover.
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Has it been noted on the plans and in the specs that all drainage stone shall be washed and free of fines?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Have you provided a draft educational sign for review and shown its location in the plan set?
 | (Example education signage is included in the Supplemental Info Packet)      |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Have you provided a “DO NOT PILE SNOW OR MATERIALS ON PERMEABLE PAVERS" sign?
 | (Required at both ends of green alleys or at entrances of parking lots)      |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Have you reviewed the recommendation for MWRD biosolid use for your project from MWRD’s Biosolid Team?
 | (This will be provided to you at the 60% design stage, if applicable)      |
| [ ]  Yes[ ]  No[ ]  N/A | 1. If the answer above is yes, then will you be using MWRD Biosolids on your project? If not, please explain why in the notes.
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Are all the plants for the GI Improvements deep rooted and inundation, drought, and salt tolerant?
 |       |
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| DRC Calculation sheet CHECKLIST |
|  | **Item description** | **Notes / Comments from Designer** |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Have you included the results of seasonally high groundwater elevation at each project location?
 | (Required by the 60% design stage)      |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Have you included the results of infiltration tests that were completed at each project location and no longer than 5 years ago?
 | (Required by the 60% design stage)      |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Have you indicated the location of the borings/soils testing in relation to the project area on a location map or plans?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Have you cross checked the DRC calculation sheet aggregate/soil layer depths and dimensions against the plan sheets?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. If any surface storage (ponding) volumes are shown on the DRC calculation sheet, is the surface storage depth clear on the grading plan?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Have you added the sheet numbers and any other references in the reference column of the DRC calculation sheet that confirm the value shown on the DRC calculation sheet?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Has the CN & Runoff Volume tab been completed, including an exhibit outlining the drainage areas and showing how they drain into proposed GI?
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Has the Professional Engineer signed the Design DRC and CN & Runoff Volume tabs?
 | (Required at the 100% design stage)      |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Once construction is complete, have the Final Constructed DRC and CN & Runoff Volume tabs been completed and signed by the Professional Engineer to reflect the as-built conditions of the project?
 | (Required after construction is complete)      |
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| Suggested Design considerations |
|  | **Item description** | **Notes / Comments from Designer** |
| [ ]  Yes[ ]  No[ ]  N/A | 1. If an underdrain is necessary, please consider a 0% slope for the underdrain to maximize infiltration.
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Consider a design that will minimize disturbance to nearby trees and include tree protection if necessary.
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Show observation wells (OW) for all GI improvements on the plan sheet. Use OWs without an underdrain and designed to extend down to the bottom of the lowest permeable layer of the improvements. If the underlying soils are sloped, locate the underdrain at the low point of the underlying soil.
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. Consider temporary erosion and sediment control measures during construction to protect the aggregate from silt and debris as it's being installed (e.g. cover with fabric overnight if there are disturbed areas nearby and rain is expected which could wash sediment into the brand-new aggregate).
 |       |
| [ ]  Yes[ ]  No[ ]  N/A | 1. We often see low joint material in permeable pavement areas after a few weeks of use. This is a condition that MWRD will ask to be rectified. Please ensure your contractor is aware that the joint material must be filled to the top of the pavers and must be repeatedly compacted so that it will not settle excessively immediately following construction. Recommended language for the paver installation specification that has produced acceptable performance for past permeable paver projects is included in the Supplemental Info Packet.
 |       |
| Suggested notes TO INCLUDE IN your plans/specs |
| * Minimize construction traffic and the compaction of underlying soils in the rain garden/bioretention areas.
* During construction, limit construction dust, soil tracking, or any type of stockpiling on top of permeable pavement.
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| additional comments from partner agency and/or designer (optional) |
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