Rainwater Harvesting and Use Feasibility Worksheet

Municipal Regional Stormwater Permit (MRP)

Stormwater Controls for Development Projects

Complete this worksheet for all **C.3 Regulated Projects*** for which the project density exceeds the **screening density*** provided by municipal staff. Use this worksheet to determine the feasibility of treating the **C.3.d amount of runoff*** with rainwater harvesting and use for indoor, non-potable water uses.   Where it is infeasible to treat the C.3d amount of runoff with either harvesting and use or infiltration, stormwater may be treated with **biotreatment*** measures. See Glossary (Attachment 1) for definitions of terms marked with an asterisk (*).

Complete this worksheet for the entire project area. If the project includes one or more buildings that each individually has a roof area of 10,000 square feet or more, complete a separate copy of this form for each of these buildings.

1. Enter Project Data.

1.1 Project Name:

1.2 Project Address:

1.3 Applicant/Agent Name:

1.4 Applicant/Agent Address:

(For projects with a potential non-potable water use other than toilet flushing, skip to Question 5.1)

1.5 Project Type: If residential or mixed use, enter # of dwelling units:

1.6   Enter square footage of non-residential interior floor area.:

1.7 **Potential rainwater capture area*:**   sq.ft.

1.8 If it is a **Special Project***, indicate the percentage of **LID treatment*** reduction: percent

(Item 1.8 applies only to entire project evaluations, not individual roof area evaluations.)

1.9 Total potential rainwater capture area that will require LID treatment: 0 sq.ft.

(This is the total rain capture area remaining after any Special Project LID treatment reduction is applied.)

2. Calculate Area of Self-Treating Areas, Self-Retaining Areas, and Areas Contributing to Self-Retaining Areas.
(For areas within the Potential Rain Capture Area only)

2.1 Enter square footage of any **self-treating areas*** in the area that is being evaluated: sq.ft.

2.2 Enter square footage of any **self-retaining areas*** in the area that is being evaluated: sq.ft.

2.3 Enter the square footage of areas contributing runoff to **self-retaining area***:   sq.ft.

2.4 TOTAL of Items 2.1, 2.2, and 2.3:   - sq.ft.

3. Subtract credit for self-treating/self-retaining areas from area requiring treatment.

3.1 Subtract the TOTAL in Item 2.4 from the potential rainwater capture area in Item 1.9:   - sq.ft.

3.2 Convert the remaining area required for treatment in Item 3.1 from square feet to acres: 0.00 acres

4. Determine feasibility of use for toilet flushing based on demand

4.1 Project's dwelling units per acre of adjusted potential rain capture area (Divide the number in 1.5 by the number in 3.2)   dwelling units/acre

4.2 Non-residential interior floor area per acre of adjusted potential rain capture area (Divide the number in 1.6 by the number in 3.2)   Int. non-res. floor area/acre

*Note: formulas in Items 4.1 and 4.2 are set up, respectively, for a residential or a non-residential project. Do not use these pre-set formulas for mixed use projects. **For mixed use projects**, evaluate the residential toilet flushing demand based on the dwelling units per acre for the residential portion of the project (use a prorated acreage, based on the percentage of the project dedicated to residential use). Then evaluate the commercial toilet flushing demand per acre for the commercial portion of the project (use a prorated acreage, based on the percentage of the project dedicated to commercial use).*

4.3 Refer to the applicable countywide table in Attachment 2. Identify the number of dwelling units per impervious acre needed in your Rain Gauge Area to provide the toilet flushing demand required for rainwater harvest feasibility.

dwelling units/acre

4.4 Refer to the applicable countywide table in Attachment 2. Identify the square feet of non-residential interior floor area per impervious acre needed in your Rain Gauge Area to provide the toilet flushing demand required for rainwater harvest feasibility.

int. non-res. floor area/acre

Check "Yes" or "No" to indicate whether the following conditions apply. If "Yes" is checked for any question, then rainwater harvesting and use is infeasible. As soon as you answer "Yes", you can skip to Item 6.1. If "No" is checked for all items, then rainwater harvesting and use is feasible and you must harvest and use the C.3.d amount of stormwater, unless you infiltrate the C.3.d amount of stormwater*.

4.5 Is the project's number of dwelling units per acre of adjusted area requiring treatment (listed in Item 4.1) LESS than the number identified in Item 4.3? ☐ Yes   ☐ No

4.6 Is the project's square footage of non-residential interior floor area per acre of adjusted area requiring treatment (listed in Item 4.2) LESS than the number identified in Item 4.4? ☐ Yes   ☐ No

5. Determine feasibility of rainwater harvesting and use based on factors other than demand.

5.1 Does the requirement for rainwater harvesting and use at the project conflict with local, state, or federal ordinances or building codes? ☐ Yes   ☐ No

5.2 Would the technical requirements cause the harvesting system to exceed 2% of the Total Project Cost, or has the applicant documented economic hardship in relation to maintenance costs? (If so, attach an explanation.) ☐ Yes   ☐ No

5.3 Do constraints, such as a slope above 10% or lack of available space at the site, make it infeasible to locate on the site a cistern of adequate size to harvest and use the C.3.d amount of water? (If so, attach an explanation.) ☐ Yes   ☐ No

5.4 Are there geotechnical/stability concerns related to the surface (roof or ground) where a cistern would be located that make the use of rainwater harvesting infeasible? (If so, attach an explanation.) ☐ Yes   ☐ No

5.5 Does the location of utilities, a septic system and/or **heritage trees*** limit the placement of a cistern on the site to the extent that rainwater harvesting is infeasible? (If so, attach an explanation.) ☐ Yes   ☐ No

Note 1: It is assumed that projects with significant amounts of landscaping will either treat runoff with landscape dispersal (self-treating and self-retaining areas) or will evaluate the feasibility of havesting and using rainwater for irrigation using the curves in Appendix F of the LID Feasibility Report.

6. Results of Feasibility Determination

Infeasible   Feasible

6.1 Based on the results of the feasibility analysis in Item 4.4 and Section 5, rainwater harvesting/use is (check one): ☐   ☐

➜ *If "FEASIBLE" is indicated for Item 6.1 the amount of stormwater requiring treatment must be treated with harvesting/use, unless it is infiltrated into the soil.*

➜ *If "INFEASIBLE" is checked for Item 6.1, then the applicant may use appropriately designed* **bioretention**[*,1] *facilities for compliance with C.3 treatment requirements. If Ksat > 1.6 in./hr., and infiltration is unimpeded by subsurface conditions, then the bioretention facilities are predicted to infiltrate 80% or more average annual runoff. If Ksat < 1.6, maximize infiltration of stormwater by using bioretention if site conditions allow, and remaining runoff will be discharged to storm drains via facility underdrains. If site conditions preclude infiltration, a lined bioretention area or flow-through planter may be used.*

Applicant (Print)

Applicant (Sign)   Date