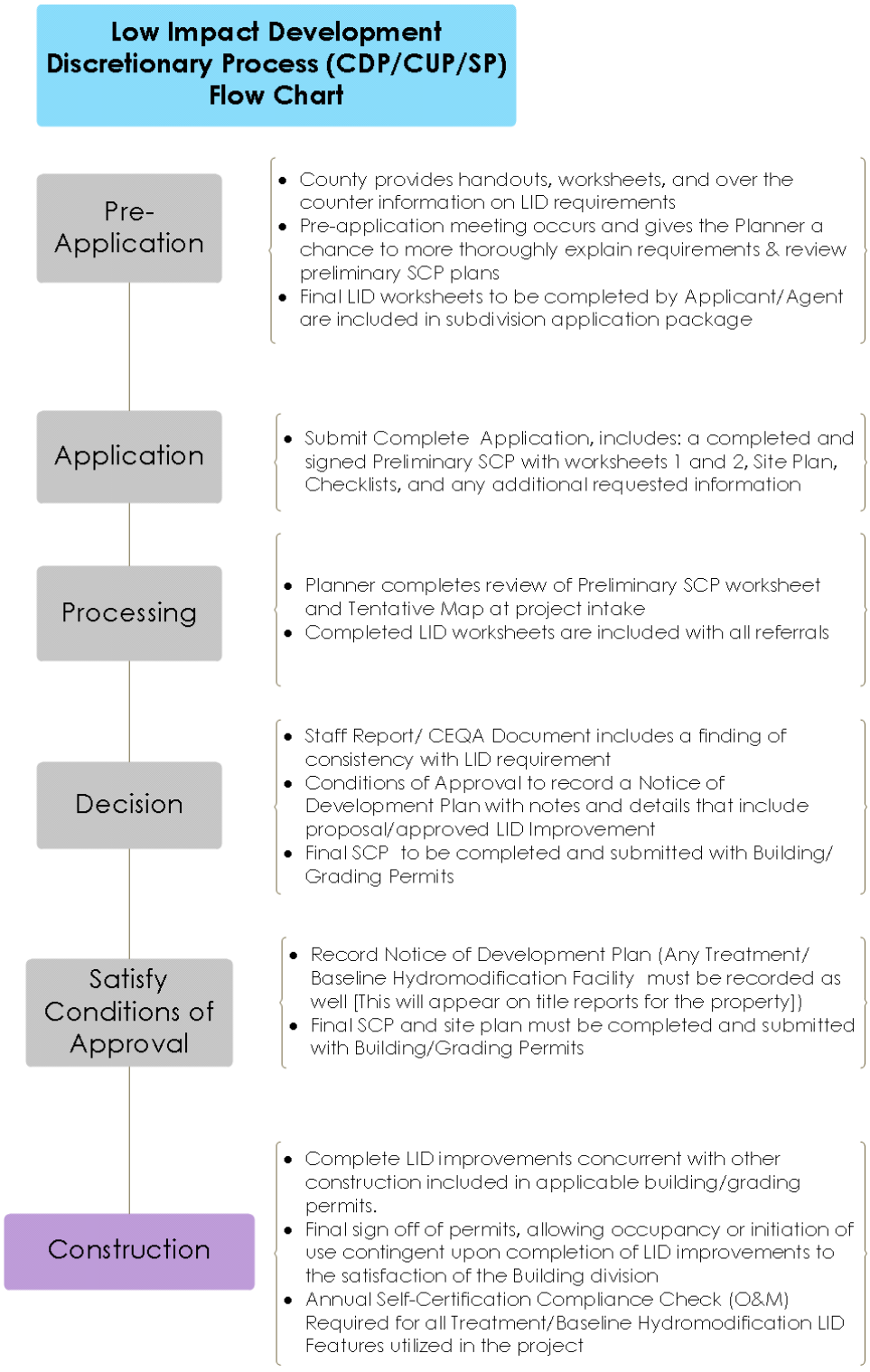
APPENDIX 2

Preliminary Stormwater Control Plan – Discretionary Projects

Preliminary Stormwater Control Plan (CDP, CUP, and SP ≥ 5000 sf)

The flow chart outlines the basic process for discretionary project and subdivision approvals. This is only a guide; not all projects are the same nor is every department. Check with your jurisdictional office for further details on the exact approval process.



Preliminary Stormwater Control Plan (CDP, CUP, and SP ≥ 5000 sf)

For Office Use Only
Application No._____
Received By: _____

Instructions

The following worksheet is used to demonstrate that for each and every lot, the intended use can be achieved with a design which disperses runoff from the roofs, driveways, sidewalks, streets and other impervious areas to self-retaining pervious areas. It is also used to demonstrate that drainage to treatment and/or flow control facilities is feasible and that the project is in overall compliance with the MS4 permit. Use this form to assist you in designing your project to comply with the design standards for Multi-Parcel Regulated projects. The completed, signed Preliminary SCP for Subdivision Projects, a site map, plus any additional applicable information, must be submitted with your application to the Planning Department.

Project Name:_____

Physical Site Address:_____

Project Applicant:_____

Mailing Address:_____

Phone:_____

Consultant's Information

Name:_____

Firm:_____

Address:_____

Email:_____

Phone:_____

A. Project Information

1a. Does Project create or replace 1-acre or more of impervious surface?	☐ **Yes** (see question below)	☐ **No** (skip question 1b.)
b. If 'Yes' to the above question than does project increase impervious surface from pre-project conditions?	☐ **Yes** (hydromodification requirements must be met)	☐ **No** (regulated project requirements must be met)
Total pre-project Impervious Surface (sf):		
Total new or replaced Impervious Surface Area (square feet) **[Sum of impervious area that will be constructed as part of the project]**		

Preliminary Stormwater Control Plan (CDP, CUP, and SP ≥ 5000 sf)

B. Summary Table of Pervious to Impervious Surface

The following table will be used by staff to ensure that adequate measures have been utilized within the project design to capture retain and/or infiltrate the design storm.
Each DMA shown in the table shall be designated with the same name on the site plan. All site design measures used to meet the runoff reduction goals and all treatment facilities utilized to capture remaining runoff volumes must be shown on the site plan at an appropriate scale. Please use the Flow Chart as a reference of the process.

1. **Utilize Worksheet 1 to Calculate Impervious to Pervious Ratio to determine if further runoff reduction is needed**
2. **Utilize the Runoff Reduction Calculator (Worksheet 2*) to increase reduction**
3. **Utilize Bioretention or equivalent if reduction cannot be achieved using site design measures**

DMA Name	Does pervious to impervious ratio Achieve 3.5:1 or better, Worksheet 1(Yes or No)	Does runoff reduction with site design measures equal 100% or greater, Box DD (Worksheet 2)	Value from Box BB (worksheet 2) Impervious surface amount that must be treated using additional methods	Bioretention facility name and size (sf) (Use a sizing factor of 0.04 to calculate bioretention facility size or equivalent sizing technique if different treatment/baseline hydromodification facility is proposed)
(A)	(B)	(C)	(D)	
Example A	*Yes*	*Yes*	----------	----------
Example B	*No*	*Yes*	----------	----------
Example C	*No*	*No*	*1350 sf*	*C : (1350 X .04)=54 sf*

*Worksheet 1 and 2 showing calculations for each DMA must be included with the Preliminary SCP
Attach additional sheets as needed for the table above

Preliminary Stormwater Control Plan (CDP, CUP, and SP ≥ 5000 sf)

C. Preliminary Site Plan Checklist –items that must be include on the site plan

- ☐ Topographic lines (2 ft. contours)
- ☐ On-site waterways/drainages, vegetation and areas to be left undisturbed all shown with appropriate buffers
- ☐ DMAs clearly delineated and labeled with name and area (square feet)
- ☐ Location of site design measures used in worksheet 2
- ☐ Location, size, and name of Bioretention/Treatment Facility
- ☐ Flow direction that clearly demonstrates the ability of self-retaining areas, infiltration site design measure, and treatment facilities to capture runoff from impervious surfaces
- ☐ Hydrologic soil class

D. Operation and Maintenance Plan Requirements

Each Bioretention facility or equivalent will be required to have an operation and maintenance plan attached to the final SCP and shall include all details found in Appendix 3, 4, and 5 of the LID Manual.

E. Additional Requirements

A detailed final Stormwater Control Plan with narrative sections will need to be submitted prior to issuance of a grading/building permit (see, Appendix 1. However, by completing the Preliminary SCP a more efficient and timely review of the final SCP is enabled.

F. Signature and Certification

I, the below signed, confirm that I have accurately described my project to the best of my ability, and that I have not purposely omitted any detail affecting my project's classification for storm water regulation. I hereby certify that the site design measures and storm water flow treatment measures identified herein as being incorporated into my project have been designed in accordance with the approved BMP Fact Sheet or equivalent, and is included in the final site plans. I also hereby certify that my project meets the storm water runoff reduction criteria identified in Worksheet 2, or as determined through other approved means.

_____ _____

Signature Date

_____

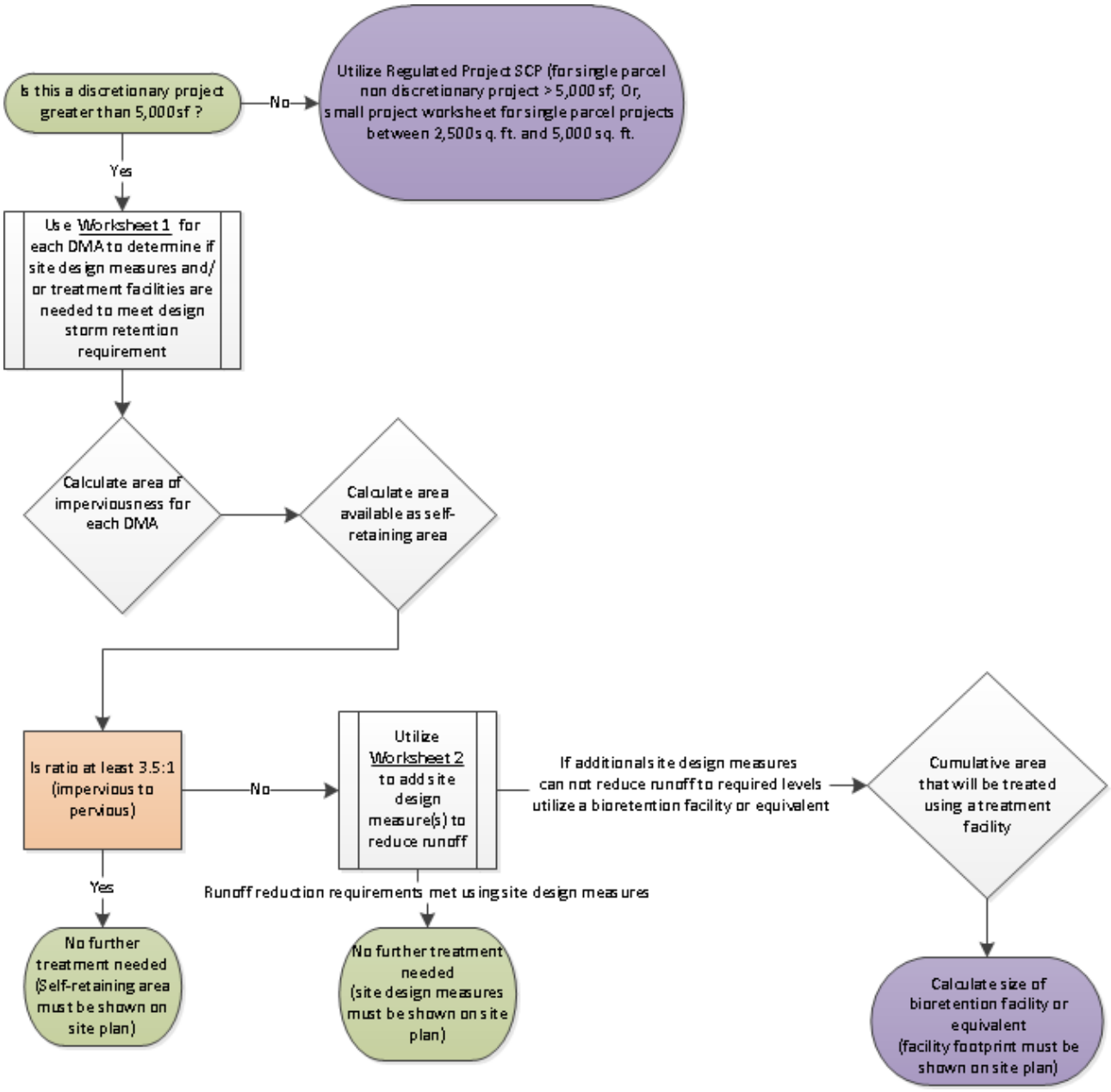
Print Name

I am the:

☐ Property Owner ☐ Applicant ☐ Contractor

Preliminary Stormwater Control Plan (CDP, CUP, and SP ≥ 5000 sf)

The following example illustrates the elements necessary for evaluating a project for compliance with the MS4 permit only. Additional requirements will most likely be needed for compliance with other regulations please consult the full planning submission checklist to make certain all required elements are presented on the preliminary site plan.



Preliminary Stormwater Control Plan (CDP, CUP, and SP ≥ 5000 sf)

Worksheet 1 Example

Regulated Projects Worksheet 1 - Humboldt Low Impact Development Stormwater Manual				
DMA Name	Total Post Project Impervious Surface Area (square feet)	Pervious Self-Retaining Area[1] (square feet)	Ratio of Impervious Surface Area to Self-Retaining Pervious Surface Area	Does Ratio Achieve 3.5 : 1 ratio or better of Impervious Surface Area to Self-Retaining Pervious Surface Area (Yes or No)[2]
Example A	500	150	3.3 : 1	YES
Example B	500	100	5.0 : 1	NO

1: Self-Retaining Areas where impervious surface runoff is directed to the Pervious Self-Retaining Area in accordance with Humboldt LID Manual - Part C, Section 6.0

2: If "Yes", Ratio of Impervious Surface Area to Self-Retaining Pervious Surface Area is equal to 3.5:1 or better (1.3:1 or better in the Shelter Cove MS4 area), then compliance with runoff reduction measures have been met for DMA.
If "No", Ratio of Impervious Surface Area to Self-Retaining Pervious Surface Area does not achieve 3.5:1 or better (1.3:1 in Shelter Cove), then compliance with runoff reduction measures have not been met for DMA (Complete Worksheet 2).

Preliminary Stormwater Control Plan (CDP, CUP, and SP ≥ 5000 sf)

Worksheet 2: (Use one Worksheet for each DMA as applicable)

Regulated Projects Worksheet 2
Humboldt Low Impact Development Stormwater Manual

Project Information						Formulas/Notes
DMA Name:						
Total Post-Project Impervious Surface Area (square feet)			A		square feet	
24 hour - 85th Percentile Design Storm			B		inch	B = Select Design Storm Value (0.65-inch Humboldt Bay Area, 1.3-inch Shelter Cove)
Impervious Surface Runoff Value (Potential Stormwater Runoff due to impervious surface area and design storm value)			C		Gallons per 24 hours	C = A x B x 0.083 x 7.48
Pervious Self-Retaining Area (SRA) Credit (if applicable, if none enter 0)						
Self-Retaining Area (square feet)			SRA Credit		square feet	SRA Credit = Self-Retaining Area x Multiplier. Select Multiplier (3.5 Humboldt Bay Area, 1.3 Shelter Cove)
Site Design Measure Credits						
Tree Planting and Preservation						
New Trees		# of trees				
100 square feet per deciduous tree	D		E		square feet	E = D x 100
200 square feet per evergreen tree	F		G		square feet	G = F x 200
Existing Trees (Credit for 50% of existing canopy area)		Canopy diameter (feet)				
Tree #1	H_1		J_1		square feet	$J_1 = 3.14 \times (H_1/2)^2 \times 0.50$
Tree #2	H_2		J_2		square feet	$J_2 = 3.14 \times (H_2/2)^2 \times 0.50$
Tree #3	H_3		J_3		square feet	$J_3 = 3.14 \times (H_3/2)^2 \times 0.50$
Rain Barrel or Cisterns (55 gallon minimum)						
Square foot credit per gallon based on 24-hour, 85th Percentile Design Storm	K					K = Select square foot credit per gallon (2.48 Humboldt Bay Area, 1.24 Shelter Cove)
		Gallons				
Rain Barrels	L		M		square feet	M = L x K
Cisterns	N		O		square feet	O = N x K
Infiltration Trench/Basin (55 gallon minimum ~ 21 ft³)**		cubic feet				
volume(ft^3) = length x width x depth	P		Q		square feet	Q = P x R x K x 7.48
porosity (approximate %)	R	35%				
Subsurface Infiltrators (55 gallon minimum)						
Proprietary units vary, insert estimated storage in ft^3	S		T		square feet	T = S x 7.48
Impervious Area Disconnection						
Credit per square foot of pervious receiving area			U		square feet	U = Enter square foot value
Soil Quality Improvement						
Credit per square foot of soil quality improvement			V		square feet	V = Enter square foot value
Green Roof						
Credit per square foot of green roof installation			W		square feet	W = Enter square foot value
PPPP (Porous Asphalt, Pervious Concrete, Permeable Pavers)						
Credit per square foot of PPPP			X		square feet	X = Enter square foot value
Vegetated Swales						
Credit per square foot of vegetated swale			Y		square feet	Y = Enter square foot value
Stream Setbacks and Buffers						
Credit per square foot of stream setback and buffer#			Z		square feet	Z = Enter square foot value
Credits Total			AA		square feet	AA = SRA Credit + E + G + J_1 + J_2 + J_3 + M + O + Q + T + U + V + W + X + Y + Z
Post-Project Impervious Surface Area minus Site Design Measure Credits			BB		square feet	BB = A - AA
NEW Impervious Surface Runoff Value (Potential Stormwater Runoff due to impervious surface area and design storm after implementation of Site Design Measures)			CC		Gallons per 24 hours	CC = BB x B x 0.083 x 7.48
Percent reduction in Impervious Surface Runoff Value*			DD		%	DD = ((C - CC) / C) x %100

***If value for DD is not greater than or equal to %100 then bioretention is required for treating remaining runoff from impervious area indicated by value BB. Design and implement bioretention facility in accordance with Humboldt LID Stormwater Manual - Part C.**

****Infiltration Trench/Basin calculations are based on porosity (35%). Increased trench dimensions (volume) are required to meet 55 gallon minimum capacity.**

Green — Fill In [Enter Value]	Conversions Used:
Red — Calculated Value	1 inch = 0.083 feet
Black — Fixed Value/Selectable Value	1 cubic foot = 7.48 gallons
Regulated Projects Worksheet 2, Version 2.0 - June 29, 2016	# check with agency with project area jurisdiction for requirements