

Ensure all prompts shown in **Blue text** have been responded to.

Green Star – Design & As Built Submission Template

Design Review / As Built Submission

Credit: **Concrete Sourcing and Use**

Project Name: [name]

Project Number: GS- [####]

Points available: 3

Points claimed: [1 to 3 or N/A]

Concrete Sourcing and Use

The project has reduced the environmental impacts of concrete by targeting the following criteria:

Credit Criteria	Description	Points available	Points claimed
1 Reduced Use of Portland Cement	Portland cement content has been reduced by 30%, measured by mass across all concrete used in the project compared to the reference case [1 point]; Or Portland cement content has been reduced by 40%, measured by mass across all concrete used in the project compared to the reference case [2 points]	2	<input type="checkbox"/>
2 Reduced Use of Water	At least 50% of the mix water for all concrete used is captured or reclaimed	0.5	<input type="checkbox"/>
3 Reduced Use of Aggregates	At least 40% of coarse aggregate in the concrete is crushed slag aggregate or another alternative materials; Or At least 25% of fine aggregate (sand) inputs in the concrete are manufactured sand or other alternative materials	0.5	<input type="checkbox"/>

1 Reduced Use of Portland cement

The project has reduced the absolute quantity of Portland cement, as an average across all concrete mixes, by replacing it with supplementary cementitious materials. Based on credit compliance requirements, the project has replaced at least [30/40%] of Portland cement measured by mass across all concrete used in the project compared to the reference case as described in Table 2.

Figures used in Table 1 are used to calculate the amount of Portland cement replaced in the project. [Not all/All] of the concrete mixes used in the project have exactly the same concrete strength grades shown in Table 1. If concrete strength grades shown below are not the same, provide links below to documentation

provided by the concrete technologist or designer calculating concrete strength grades through linear interpolation of the two closest performing concrete mix reference cases.

Table 2 Portland cement content concrete strength grades as defined in AS1379

Concrete strength grade (MPa following AS1379)	Portland cement content to be used in establishing the reference case (kg Portland cement/m ³ concrete)
20	280
25	310
32	360
40	440
50	550
65	550
80	610
100	660

Table 1 Concrete mix breakdown and credit achievement

Mix Label	Mpa (following AS1379)	Volume (m ³)	Reference Case Portland Cement Content (kg/m ³)	Total Portland Cement Content Under the Reference Case	Actual Portland Cement Content (kg/m ³)	Actual Total Portland Cement Content
[Mix 1]						
[Mix 2]						
[Mix 3]						
[Mix 4]						
[Mix 5]						
etc						
Overall Total Portland Cement (kg)				[x]		[y]
Overall percentage of replacement (%)				[1-(y/x)(100)=%]		
Portland cement content was reduced by [%] and [1/2] point/s are claimed						

[Please insert hyperlinks to documents which support this claim]

2 Reduced Use of Water

The project uses at least 50% captured or reclaimed water (measured across all concrete mixes in the project) for mixing concrete. Half a point [\[has/has not\]](#) been achieved for meeting the requirements for reclaimed or captured water.

Table 2 Water diversion

Mix Label	Mix Volume (m ³)	Total (L/ m ³)	Total Water Content	Reclaimed or Captured Component (L/ m ³)	Total Reclaimed or Captured Component (L/ m ³)
[Mix 1]					
[Mix 2]					
[Mix 3]					
[Mix 4]					
[Mix 5]					
Totals			[x]		[y]
Overall percentage of replacement (%)		[(y/x)(100)=%]			

[\[Please insert hyperlinks to documents which support this claim\]](#)

3 Reduced Use of Aggregates

The project has reduced the absolute quantity of aggregate, as an average across all concrete mixes, by replacing it with supplementary aggregate materials. Half a point [\[has/has not\]](#) been achieved for meeting reduction requirements:

Where at least 40% of coarse aggregate in the concrete is crushed slag aggregate or another alternative materials (measured by mass across all concrete mixes in the project), provided that use of such materials does not increase the use of Portland cement by over five kilograms per cubic meter of concrete. (This is demonstrated in table 4); **OR**

At least 25% of fine aggregate (sand) inputs in the concrete are manufactured sand or other alternative materials (measured by mass across all concrete mixes in the project), provided that use of such materials does not increase the use of Portland cement by over five kilograms per cubic meter of concrete. (This is demonstrated in Table 5).

Table 3 Coarse Aggregate

Mix Label	Mix Volume (m ³)	Total (L/ m ³)	Total Coarse Aggregate in Mix	Alternative Coarse Aggregate Component (kg/ m ³)	Total Alternative Coarse Aggregate
[Mix 1]					
[Mix 2]					
[Mix 3]					
[Mix 4]					
[Mix 5]					
Totals			[x]		[y]
Overall percentage of replacement (%)		[(y/x)(100)=%]			

[Please insert hyperlinks to documents which support this claim]

Table 4 Fine Aggregate

Mix Label	Mix Volume (m ³)	Total (L/ m ³)	Total Fine Aggregate in Mix	Alternative Fine Aggregate Component (kg/ m ³)	Total Alternative Fine Aggregate
[Mix 1]					
[Mix 2]					
[Mix 3]					
[Mix 4]					
[Mix 5]					
Totals			[x]		[y]
Overall percentage of replacement (%)		[(y/x)(100)=%]			

[Please insert hyperlinks to documents which support this claim]

.Credit 'Not Applicable'

The project's material cost of new concrete represents less than 1% of the project's contract value. This credit is therefore excluded from the points used to calculate the Materials Category Score and is marked as 'Not Applicable'.

Table 6 Cost of Concrete

Total Cost of New Concrete	[\$]
Project's Contract Value	[\$]
Percent Value of Concrete	[%]

[Please insert hyperlinks to documents which support this claim]

Discussion

[Insert any issues you would like to highlight and clarify to the Assessment Panel.]

Author Details:

[Insert name, position and contact details of author]

[Date]

— Report end —