Open Issue Papers

5.2.1 – Recycled Water – Change approach of 5.1 to a plan, and 5.2.1 to exempt quarry only
5.2.2 – Recycled Water (Optional) – Adjust scale up to start at 80%, Adjust optional points
5.3.1 – Enhanced Water Treatment (Optional) – Change to required.
5.3.2 – Enhanced Sludge Management (Optional) – Create additional thresholds
5.3.3 – Water Reuse (optional) - Create additional thresholds
7.2.1 – Ecosystem Boundaries – Combined into one required criterion
7.2.2 - Environmental Impact Assessment - Combined into one required criterion
7.3 – Verification of Site Management Plan (optional) – No change
9.5 – Social Accountability (optional) – Relevant sub-bullet only to apply to public companies
10.2.2 – Total Energy Reduction (optional) – Adjusted scale upward
10.4 – Renewable and Alternative Energy Sourcing (optional) – Adjusted scale upward
11.3 – Demonstrated Process Reduction of Excess Process Materials (optional) – No action proposed
12.1 Chemical Inventory – No immediate action taken

Previously resolved issues

8.1, 8.2, 8.3 – Language balloted and approved (2017)
Criteria 5.2.1/5.2.2 – Recycled Water (Required/Optional)

NSC373 Criterion -

5.2 Recycled water (maximum 2 points)
A facility operator shall earn points for water used in manufacturing operations, as detailed below. Operators that do not utilize water in the processing of dimension stone shall qualify for the required criterion as well as for the maximum points allowed under 5.2.2.

5.2.1 Required
A minimum of 25% of the water accounted for in the water inventory in 5.1 for fabrication and quarry operations shall be captured and recycled.

5.2.2 Optional– a minimum of:
a) 26% to 90% of the water accounted for in the inventory for processing and quarry operations are captured and recycled. (1 point); or

b) More than 90% of the water accounted for in the inventory for processing and quarry operations is captured and recycled. (2 points total).

Initial Comment – Under certain situations, 5.2.1 can be a barrier to certification for companies that consume water for legally required ops (e.g. dust suppression) that cannot first be recycled. More stratification in the thresholds under 5.2.2 are needed to promote and reward improvement. (2 comments total)

Intent of the Criterion – To encourage water reduction through the establishment of a minimum water recycling threshold, and stretch goals to reward superior performance/continuous improvement.

Action to date – Sub-committee was formed and has developed proposed language to address 5.2.1. Changes include modified approach to 5.1. Changes to 5.2.2 were discussed briefly on a sub-committee call last week, but final thresholds were not finalized.

Proposed Action – There are several proposed actions related to these comments. In summary, they are as follows:

- 5.1 – Broaden 5.1 to include the development of a plan with established goals to reduce water consumption.
- 5.2.1 – maintain required minimum threshold for water recycling, but clarify it only applies to fabrication operations. Also, consider strengthening minimum threshold to make relevant.
- 5.2.2 – Keep as is, or add additional levels above 90% if deemed relevant.
Specific language changes are as follows:

5.1 Water Reduction Planning (**Required**) -- The facility operator shall establish and implement a program to systematically improve water consumption and recycling practices. The facility operator shall develop and maintain an annual inventory of water consumption organized by water source (e.g., municipal potable, direct rainwater captured for reuse, on-site wells, or reclaimed grey water) and purpose of consumption (e.g., manufacturing, dust suppression, landscape watering, or office use). The program shall also identify opportunities and methods for decreasing water use and increasing water recycling, establish target goals, quantify changes, and monitor progress. This program shall cover but not be limited to the following topics:

- Sourcing of water (e.g., rain water, grey water, naturally occurring ground water, or other non-potable sources)
- Capture and Recycling of water (e.g., holding and settling ponds, and filtering and recirculation systems)
- Discharge and end-use of water (e.g., use for dust suppression, and discharge into natural drainage area)
- Conservation of potable water (e.g., water-efficient taps with aerators or flow restrictors, low-flow toilets, signage, employee education)
- Conservation of landscaping water (e.g., creation of climate-appropriate or non-irrigated landscapes, use of native plants, efficient watering)

5.2 Recycled water (**maximum 2 points**) 
A facility operator shall earn points for water used in manufacturing operations, as detailed below. Operators that do not utilize water in the processing of dimension stone shall qualify for the required criterion as well as for the maximum points allowed under 5.2.2.

5.2.1 **Required** – A minimum of 80% of the water accounted for in the water inventory in 5.1 for fabrication operations shall be captured and recycled. **Quarry operations are exempted from this requirement.**

5.2.2 **Optional– a minimum of:**
   a) 95% of the water accounted for in the inventory for processing and quarry operations are captured and recycled. (2 points)

Rationale – The threshold for 5.2.2 of 25% was initially set arbitrarily. Given the interpretation of how water is recycled, the threshold has been adjusted upward to be meaningful.

Other Related Changes – No other changes are required.
Criteria 5.3.1 – Enhanced Water Treatment (Optional)

NSC373 Criterion -

5.3.1 Optional - enhanced water treatment (maximum 2 points)

Demonstrate on-site systems that result in enhanced treatment of discharge water. Enhanced treatment shall be demonstrated by one of the following:

   a) Management of wastewater on-site (eg. seepage ponds) resulting in no direct discharge of water from site (1 point); or

   b) Quality of discharged water, either to POTW or directly to the environment, is demonstrated to meet State drinking water standards (1 point); or

   c) Where no permits or regulations are applicable, the facility operators demonstrate that the quality of water discharged to the environment from their facility meets the US EPA’s NPDES (National Pollutant Discharge Elimination System) requirements. (1 point)

Facility Operators that do not utilize water in their manufacturing operations shall qualify for 1 point under this criterion.

Initial Comment – This criterion is an easy criterion to meet and thus should be required. As optional, it appears to allow bad practices.

Intent of the Criterion – To encourage management of water releases from the site in a manner that goes beyond regulatory requirements.

Action-to-date – No substantive action has been taken to date. Was kicked to a sub-committee that I don’t believe was ever formed.

Proposed Action – Change the criterion from optional to required.

Other Related Changes – Net Effect is the loss of potential optional points. (-2 optional points). Points will be used to offset additional optional points in 5.3.2 and 5.3.3.
Criteria 5.3.2 – Enhanced Sludge Management (Optional)

NSC373 Criterion -

5.3.2 Optional – Enhanced Sludge Management
The facility operator shall demonstrate operation of a sludge management system that diverts a minimum of 50% of annual sludge produced by operations from traditional disposal methods by landfill or incineration, in favor of environmentally acceptable reuse applications (e.g., agricultural use). To qualify for this criterion, the facility operator shall provide documentation of the diversion, including a description of the end disposal method. (1 point)

Initial Comment – This criterion fails to reward excellence and continued improvement. Need additional levels to encourage and reward additional improvement.

Intent of the Criterion – To encourage management of sludge produced by processing operations from the site in a manner that goes beyond regulatory requirements.

Action-to-date – No substantive action has been taken to date. Was kicked to a sub-committee that I don’t believe was ever formed.

Proposed Action – Modify the criterion to reward additional performance as follows:

5.3.2 Optional – Enhanced Sludge Management
The facility operator shall demonstrate operation of a sludge management system that diverts sludge produced by operations from traditional disposal methods by landfill or incineration, to environmentally acceptable reuse applications (e.g., agricultural use). Points shall be earned as follows:

a) Diversion of a minimum of 50% of annual sludge produced (1 point)
b) Diversion of a minimum of 75% of annual sludge production (2 points total); or
c) Diversion of a minimum of 90% of annual sludge production (3 points total)

To qualify for this criterion, the facility operator shall provide documentation of the diversion, including a description of the end disposal method.

Other Related Changes – Additional availability of 2 optional points. (Net +2 points)
Criteria 5.3.3

NSC373 Criterion -

5.3.3 Optional – water reuse
The facility operator shall document as compared to the annual water inventory (see 5.1) for both manufacturing and non-manufacturing operations, that at least 25% of input water is sourced from rain water, grey water, or other source that is non-potable. (1 point)

Initial Comment – This criterion fails to reward excellence and continued improvement. Need additional levels to drive improvement.

Intent of the Criterion – To encourage the collection and use of alternative water sources such as rainwater, etc.

Action-to-date – No substantive action has been taken to date. Was kicked to a sub-committee that I don’t believe was ever formed.

Proposed Action – Modify the criterion to reward additional performance as follows:

5.3.3 Optional – water reuse
The facility operator shall document as compared to the annual water inventory (see 5.1) for both manufacturing and non-manufacturing operations, that water is sourced from rain water, grey water, or other source that is non-potable. Points shall be earned as follow:

a) A minimum of 25% of total water is sourced from non-potable sources (1 point)

b) A minimum of 50% of total water is sourced from non-potable sources (2 points total); or

c) A minimum of 75% of total water is sourced from non-potable sources (3 points total)

Other Related Changes – Additional availability of 2 optional points. (Net +2 points)
Criteria 7.2.1/7.2.2 – Ecosystem Boundaries and Environmental Impact Assessment

NSC373 Criterion -

7.2.1 Optional – ecosystem boundaries
The facility operator shall establish ecosystem boundaries to promote conservation (e.g., in a site preservation plan, keep disturbed area as small as possible and ensure vehicles keep to designated paths, research local wildlife populations, mitigate downstream effects from surface water diversion, minimize removal of native vegetation). (1 point)

7.2.2 Optional - environmental impact assessment
The facility operator shall conduct an independent assessment of environmental impacts of current and planned quarrying operations. The plan shall identify any potential impacts on biodiversity, endangered species, and critical habitats, as well as any other impacts anticipated to human health or the environment. To qualify for the points, the results of the impact assessment shall be used to inform other aspects of the site management plan, which shall describe how the plan acts to minimize or prevent identified impacts. Impact assessments performed as part of the site acquisition process meet this requirement, so long as it was performed by an independent third party (e.g., environmental professional engineer, or accredited organization) and within the past 20 years. (2 points)

Initial Comment – These are both good practices and foundational issues. Both should be required. Additional Comment – Both LEED and LBC require that certification + one of these two criteria be required.

Intent of the Criterion – To promote an awareness of the overall impact of operator activity on the surrounding ecosystem and to establish guidelines to limit that potential impact.

Proposed Action –

7.2 Required – Enhanced Site Management
The facility operator shall demonstrate conformance to at least one of the two enhanced site management planning activities listed below. Additional points are earned if both options are demonstrated. (2 total points)

7.2.1 Optional – ecosystem boundaries
The facility operator shall establish ecosystem boundaries to promote conservation (e.g., in a site preservation plan, keep disturbed area as small as possible and ensure vehicles keep to designated paths, research local wildlife populations, mitigate downstream effects from surface water diversion, minimize removal of native vegetation). (1 point)

7.2.2 Optional - environmental impact assessment
The facility operator shall conduct an independent assessment of environmental impacts of current and planned quarrying operations. The plan shall identify any potential impacts on biodiversity, endangered species, and critical habitats, as well as any other impacts anticipated to human health or the environment. To qualify for the points, the results of the impact assessment shall be used to inform other aspects of the site management plan, which shall describe how the plan acts to minimize or prevent identified impacts. Impact assessments performed as part of the site acquisition process meet this requirement, so long as it was performed by an independent third party (e.g., environmental professional engineer, or accredited organization) and within the past 20 years. (2 points)
Criteria 7.3 – Verification of Site Management Plan (Optional)

NSC373 Criterion -

7.3 Optional - Verification of Site Management Plan
The facility operator shall document verification of the site management plan conducted by an Independent, third party organization (e.g., professional engineer, or accredited organization) within the last year (and on an annual basis) that they shall be in compliance with the site management plan for ongoing operations as required in section 7.1. (1 point)

Initial Comment – This criterion is foundational and should be required. (LBC)

Intent of the Criterion – To reward transparency and the use of independent review of public plans.

Action-to-date – No substantive action has been taken to date.

Proposed Action – Propose that no action be taken. Comment was offered the the Living Building Challenge, a group that did not require conformance to this criterion in its approval of NSC373.

Other Related Changes – No changes required.
Criteria 9.5 – Social Accountability (optional)

NSC373 Criterion -

The facility operator shall develop and implement a social accountability plan that shall address the following:

a) demonstration of fair hiring practices;
b) education for applicable employees social accountability issues or practices;
c) corporate ethics;
d) receipt of gifts; and
e) prohibitions against engaging in insider trading.

To qualify, the facility operator shall demonstrate through documentation the implementation of each aspect of the plan, including demonstration of training to all employees. (1 point)

Initial Comment - The issue paper suggested changing the language in 9.5 e because most quarries are not publicly traded companies. A question was raised whether if there is a conflict of interest and insider trading is the same? It was suggested to add a note specifying “if applicable”

Intent of the Criterion – To establish a baseline of social accountability to which companies could publicly demonstrate and certify their commitment to issues of social accountability commonly established in leading standards.

Action to date - Was discussed at 3/16/2016 mtg. Small task force assigned to develop language to be voted on. Later was tabled for 1 year maturation period.

Proposed Action - Initial comment was offered to address the point that e) is applicable in situations where a company is publicly traded. Suggest the following remedy:

e) Prohibitions against engaging in insider trading, in cases where a company is publicly traded.

Other Related Changes – No other changes would be required.
Criteria 10.2.2 – Total Energy Reduction (max 3 Points)

NSC373 Criterion -

10.2.2 Optional – total energy reduction (maximum 3 points)
The facility operator shall demonstrate, over a 6-year timeframe, the successful reduction of total energy use (i.e., combined energy from all sources). Points shall be earned for the following reductions:

a) Achieved reduction of 10 - 20% of energy inventory (1 point);
b) Achieved reduction of 21 - 40% of energy inventory (2 points total); or
c) Achieved reduction of greater than 40% of energy inventory (3 points total).

All reductions shall be measured relative to total energy (e.g., KWh/ton of stone), as determined in section 10.1, and shall be measured and documented to receive credit. Achieved reductions shall be calculated by comparing the total energy consumption for the most recent completed year to that of the baseline year, and calculating the percent of total energy reduction achieved. The baseline year shall be the year 6 years prior, providing that a complete inventory meeting the requirements of section 10.1 exists for that year. Otherwise, the baseline shall be the most recent year for which a complete energy inventory meeting section 10.1 exists. Under no circumstances shall energy data from more than 6 years prior be used as a baseline in this criterion.

Initial Comment – Why stop at 40% reduction? Why not add points for every 20% reduction?

Intent of the Criterion – To promote energy efficient operations through the measurement and reduction in the overall energy use per production volume.

Action to date – Was briefly discussed on a call in 2016. Some reluctance was expressed that adding more points might overweight the standard in terms of energy. Should levels be adjusted upward to accomplish same?

Proposed Action - No recommendation made. I suggest that the levels be adjusted upward rather than to add even more points to the energy section. One such scale might be as follows:

10.2.2 Optional – total energy reduction (maximum 3 points)
The facility operator shall demonstrate, over a 6-year timeframe, the successful reduction of total energy use (i.e., combined energy from all sources). Points shall be earned for the following reductions:

a) Achieved reduction of at least 20% of energy inventory (1 point);
b) Achieved reduction of at least 40% of energy inventory (2 points total); or
c) Achieved reduction of greater than 60% of energy inventory (3 points total).
Criteria 10.4 – Renewable and Alternative Energy Sourcing (max 2 Points)

NSC373 Criterion -

10.4 Optional – Renewable and Alternative Energy Sourcing (maximum 2 points)
The facility operator shall demonstrate the use of renewable energy in its operations. Renewable energy sources include energy derived from water, wind, and solar sources, as well as the use of renewable fuels such as biodiesel and those derived from sources such as switch grass.

a) 1-10% of total energy use derived from renewable sources (1 point); or
b) 11-100% of total energy use derived from renewable sources (2 points total).

All contributions of renewable energy are measured relative to total energy use for entire operation, as determined in section 10.1, and shall be measured and documented to receive credit.

Initial Comment – 10.4 point structure makes no sense. More granularity should be required. Makes no sense to offer a point for 1-10%, which is a laughably small amount – then only another point for the entire spread between 11-100% which is a huge spread. In this case consider starting the low end at 10% and then offer a point for each additional 10% - as this single issue has huge environmental benefits

Intent of the Criterion – To promote the use of renewable energy, even in small amounts

Action to date – None

Proposed Action - I suggest that the levels be adjusted upward rather than to add even more points to the energy section. One such scale might be as follows:

10.4 Optional – Renewable and Alternative Energy Sourcing (maximum 3 points)
The facility operator shall demonstrate the use of renewable energy in its operations. Renewable energy sources include energy derived from water, wind, and solar sources, as well as the use of renewable fuels such as biodiesel and those derived from sources such as switch grass.

a) Demonstrate 10% or greater of total energy use is derived from renewable sources (1 point); or
b) demonstrate 25% or greater of total energy use is derived from renewable sources (2 points total).
c) demonstrate 40% or greater of total energy use is derived from renewable sources (3 points total).

All contributions of renewable energy are measured relative to total energy use for entire operation, as determined in section 10.1, and shall be measured and documented to receive credit.
Criteria 11.3 – Optional – Demonstrated Process Reduction of Excess Materials

NSC373 Criterion -

11.3 Optional – Demonstrated Process Reduction of Excess Process Materials
The facility operator shall demonstrate, over a 6-year timeframe, the successful reduction of excess process material generated per unit processed. Methods for reducing such materials shall include but are not limited to, process modification, operational changes, efficient use of materials, and use of more sustainable materials (estimated or measured as ton of scrap per unit of dimension stone produced).

a) Achieved reduction of 10 - 24% of excess process material inventory (1 point);
b) Achieved reduction of 25 - 50% of excess process material inventory (2 points total); or

b) Achieved reduction of greater than 50% of excess process material inventory (3 points total).

All reductions shall be measured relative to total excess process material (e.g., ton of excess material/ton of stone product produced), as determined in section 11.1 and shall be measured or estimated to receive credit. If estimated, operator shall provide method of estimation and documented data on which the estimation is based to receive credit.

Achieved reductions shall be calculated by comparing the total excess material for the most recent completed year to that of the baseline year, and calculating the percent of total excess material reduction achieved. The baseline year shall be the year 6 years prior, providing that a complete inventory meeting the requirements of section 11.1 exists for that year. Otherwise, the baseline shall be the most recent year for which a complete inventory meeting section 11.1 exists. Under no circumstances shall data from more than 6 years prior be used as a baseline in this criterion.

Initial Comment – 11.3 makes us wonder how the 6 year timeframe is operationalized in the context of a certification? How does this work? There are other credits that have a similar timeframe issue

Intent of the Criterion – To promote process efficiency and reduction of process scrap that can lead to excess solid waste.

Action to date – None

Proposed Action – Not sure why this is an issue paper. Seems like a question for NSF to answer. No change is recommended.
### Criteria 12.1 – Required – Chemical Inventory

**NSC373 Criterion** -

#### 12.1 Required - chemical inventory

The facility operator shall develop and maintain an inventory of all materials and products used in operations directly associated with the production of dimension stone, as well as all those used in operations required to support stone production. Cleaning products used to maintain workspace and administrative areas (i.e., non-production areas), lubricants, and fuels may be excluded from the inventory, while cleaners used to maintain equipment shall be included. Such an inventory shall at a minimum include the following, if applicable:

1. Product or material name or trade name;
2. Material Safety Data Sheet (MSDS) reportable product ingredients (as defined by OSHA 29 CFR§1910.1200) for each product or material identified. Reportable product ingredients shall be identified by chemical name and Chemical Abstract Service Registry Number (CASRN), if available;
3. MSDS reportable chemicals shall be reviewed and all chemicals of concern (primary and secondary) shall be identified (see Annex A);
4. Supplier of the chemical product or material, including the manufacturer and/or distributor;
5. Description of how product is used including method of application (e.g., spray) and the manner of storage onsite;
6. Annual quantity purchased;
7. Maximum quantity stored (unit of measure); and
8. MSDS reportable physical hazards associated with the material of product.

**Initial Comment** – 12.1 is good – but we think there should also be a credit that ties back to the LBC redlist – now an industry standard – that would allow for consistent chemical screening for our projects. This would increase specification of Natural Stone

**Intent of the Criterion** – To require the management of chemical use to ensure occupational safety, and reduce incidental chemical exposures.

**Action to date** – None

**Proposed Action** – Pretty sure that this is covered by 12.4. Could explore adding an optional point for elimination of redlist chemicals. However, I am not sure if there are any chemicals on the LBC redlist that even occur in stone products. Seems unnecessary.