Methodology and Guide for Concrete Producers to Report Material Ingredients and Chemical Constituents

Project Background

The new Materials and Resources credit in LEED v4: Building Product Disclosure and Optimization — Material Ingredients (attached) will require product manufacturers to report material ingredients and chemical constituents in order to help meet the requirements of this credit. LEED v4 references Manufacturers Inventory, GreenScreen, Cradle to Cradle and Health Product Declarations as standards and methodologies for meeting these requirements. These protocols can be complex and difficult to implement.

To help its members meet these new requirement in LEED v4, NRMCA proposed a project to develop a methodology and guide for concrete producers to report material ingredients and chemical constituents of their product. NRMCA solicited and received proposals from five qualified consultants to conduct a review of the Materials Ingredients credit requirements in LEED v4 and develop a methodology, protocol and guide on how concrete producers can meet the requirements in LEED.

After rigorous review and evaluation process, NRMCA selected ARUP as the winning consultant. NRMCA requested and received funding from the RMC Research & Education Foundation (RMCREF) to support the consultant to develop the guide.

The consultant will conduct a review of the LEED v4 credit for Material Ingredients. It will explore the standards and methodologies proposed in the credit and produce a detailed guide for concrete producers to meet the requirements in the most effective, efficient and economical means. The guide will include step-by-step instructions for concrete producers including any tests required for concrete and its ingredients to determine its chemical constituents.

The guide will provide a list of consultants and organizations that can conduct the necessary testing and/or consultation to meet the standards and any organizations that can provide third party verification of the Material Ingredient criteria and what costs would be incurred in conducting tests, engaging consultants and receiving third party verification. The guide will include sample reports for each of the methodologies and standards described in the Material Ingredients credit. The guide will also include recommendations regarding which standard and methodology (GreenScreen, Cradle to Cradle, Health Product Declaration) is the most efficient, effective and economical for concrete producers.

The guide will also include a list of chemical constituents it believes would be required to be reported in Manufacturers Inventory, GreenScreen, Cradle to Cradle or Health Product Declaration. In addition, the

guide will make comments regarding the toxicity or health risks of occupants of buildings using concrete given the chemical constituents in their typical chemical form (phase) in concrete (solid, gas, liquid, etc.).

Benefits of the Project

- The sustainability community and organizations that attempt to drive green practices for the public good have identified transparency and disclosure as key elements to promoting innovation and sustainability in construction. The Material Ingredient disclosure credit in LEED v4 is complex with many different options for product manufacturers to follow. Without this guide concrete producers will be at the mercy of expensive consultants to guide them through the process of meeting the credit requirements, meaning many of them will not participate. The guide will spell out a step by step process for meeting the reporting requirements for the options provided in the LEED standard, encouraging participation and allowing producers to be considered for LEED projects. Without material ingredient disclosures, concrete producers may not be considered on a LEED project.
- LEED v4 has been adopted and is beginning to be used. However, regardless of LEED, consultants are beginning to request Health Product Declarations. It is critical that the concrete industry quickly understand the process for developing HPDs and other protocols for disclosing material ingredients to promote sustainability and remain competitive in the green building marketplace which is poised to double in size over the next several years.

Project Schedule

The project started in February 2014 and will be completed in August 2014.