MODULAR CONSTRUCTION
REDUCE AND REUSE: AN INHERENTLY GREENER CONSTRUCTION PROCESS

CONTENTS

Introduction ............................................................................................................................................... 2
Reduce .......................................................................................................................................................... 2
Reuse ............................................................................................................................................................. 3
Summary ........................................................................................................................................................ 3
About IMS ....................................................................................................................................................4
Introduction

The benefits of modular construction are quickly becoming more widely known as consumers realize the sustainabil-
ity, efficiency, and a faster return on investment the process offers. Green rating programs have also drawn attention
to the modular construction process and the environmental advantages it offers over traditional construction.
The Modular Building Institute (MBI) defines modular construction as an offsite process, performed in a factory setting,
yielding three-dimensional modules that are transported and assembled at the building's location. Through this
controlled process, modular construction offers the ability to reduce and reuse, creating an inherently greener
construction process.

Reduce

Less Construction Waste
In modular construction, the focus of reducing material waste occurs on the front end of the process with 90 percent
of the building construction taking place in a controlled environment. The repetitive method provides a greater
accountability of material quantities and also allows for several projects to be simultaneously occurring in one loca-
tion, giving the ability for materials to easily be reallocated to other projects. With the factory setting, materials are
also protected from inclement weather and theft during a majority of the process. This optimization of construction
material purchase and usage minimizes on-site waste whereas in site built construction the surplus of materials
would be sent to the recycle bin or landfill.

Furthermore, the streamlined and controlled construction process used improves the quality of building. Job site errors and the potential for re-work
are often avoided which also significantly reduces material waste when com-
pared to traditional construction.

Shorter construction schedule
With modular construction, site preparation occurs at the same time the
modules are being constructed in the factory. This allows for the buildings to
be completed 30 to 50 percent sooner than conventional construction, which
in turn generates a faster return on investment.

Less Site Disturbance
The factory construction process can also produce fewer site disturbances due to the limited time on-site. With the
shorter construction schedule, there is a reduction in vehicle traffic as a majority of the work has been completed in
factory. The offsite process also means that there does not need to be a large area for deliveries of materials or stor-
age of the materials as they are already in the building at delivery. Therefore, the traffic from the workers, equipment,
and suppliers is limited and there is a smaller overall footprint during the construction process.

This minimal onsite disruption can be highly desirable for buildings that have a high amount of traffic going to and
from their sites on a daily basis such as schools, hospitals, and government buildings. The streamlined process used
during modular construction allows for these types of facilities as well as other facilities with routine schedules to
have fewer labor hours needed onsite and fewer trips to the site needed by construction traffic.
Reuse

Designed for Deconstruction
Modular buildings are designed to come apart in the same pieces in which they were originally created. The process used during onsite assembly can be easily reversed to allow the modules or components to be disassembled at the end of the facility’s useful life. Therefore, when a building is no longer needed, it can be disassembled and relocated for new use.

Repurposing for a second location
Once a modular building has served its purpose at one location, the entire building can be dismantled and moved to another location.

According to the American Institute of Architects, the ability to “deconstruct” and move structures to new locations extends service life through reuse or recycling. In the past, it was accepted that most materials would end up filling landfills because it simply cost too much to deconstruct a site-built structure. However through the cost-effective ability of modules to be disassembled at the end of its useful life, building materials being scrapped and ending up in landfills is avoided.

Summary
Modular construction can provide significant green advantages over traditional construction by limiting the amount of waste the construction industry as a whole produces. The reduced schedule and offsite process significantly lowers the environmental impact during the construction process. Additionally, with the ability to repurpose the modules for secondary use, there does not have to be an end to a lifecycle of a building or it is at least greatly extended.

The controlled process used in modular construction not only offers quality buildings that meet or exceed the same standards as traditional construction, but also benefits the environment to meet green standards through reducing and reusing.
About IMS

Established in 1999, Innovative Modular Solutions (IMS) is dedicated to building high quality modular buildings. IMS can provide customers with everything from a simple construction trailer or standalone classroom structure to complex, multi-story buildings. IMS serves a diverse set of customers, satisfying needs for modular and portable buildings in several markets including: construction, commercial, education, hospitality, industrial, healthcare, housing and government. For more information, please visit http://www.innovativemodular.com or email us at info@innovativemodular.com

Follow us!