INTEGRATED HOUSING SOLUTIONS

PROJECT MANAGEMENT
BUILDING SYSTEMS
FINANCE SOLUTIONS
SITE AND INFRASTRUCTURE REVIEW

WWW.HILLHOUSINGINTL.COM
Hill Housing provides our clients with the resources necessary to build new communities or rebuild existing communities devastated by disaster, with the most resilient affordable homes in the world, while simultaneously creating an economic impact for the region by creating local jobs.

We offer an integrated approach to building communities, both domestically and internationally, and cultivate projects in the public and private sectors where affordable and sustainable housing is a priority. Hill Housing offers a number of highly-efficient building systems designed for rapid construction. Each demonstrates superior strength when compared to traditional building materials. In addition, they are easily constructed with a mostly unskilled local labor force.

Palm Jumeirah - Dubai, UAE - US $2.3 Billion
Project Manager
Project Management
Hill International provides comprehensive, large-scale program and project management services for Hill’s Housing Solutions.

Building Systems
Hill Housing provides building systems that offer rapid and efficient construction and superior strength to traditional building materials.

Finance Solutions
Hill Housing explores structured financing options with clients through relationships established with worldwide financial institutions when communities are constructed using Hill building systems.

Site and Infrastructure Review
Hill Housing coordinates professional teams to facilitate the review and implementation of new or existing site and infrastructure plans to ensure that they are appropriate for the scope of each project.

Shams Abu Dhabi - Abu Dhabi, UAE - US $2.7 Billion
Construction Manager
Project Management

Hill International provides comprehensive, large-scale program and project management services for Hill’s Housing Solutions. With 3,400 professionals in 110 offices worldwide, Hill has the experience and the expertise to help our clients deliver their projects on time, within budget, and with the highest quality possible.

For more than three decades, public- and private-sector clients worldwide have selected Hill International (NYSE:HIL) as construction consultants on their most complex projects. Each client has unique needs and goals, yet they all choose Hill because they need experts who can prevent problems, minimize risks and eliminate surprises—they need a firm they can trust who will deliver results.

Meeting our clients’ diverse needs in handling construction risk and exceeding their highest expectations is our goal at Hill. We accomplish this objective through a broad range of project management and construction claims services that support our clients during every phase of a project, from planning and design, to procurement and construction, to startup and operation.

Jabal Omar Development - Makkah, Saudi Arabia - Project Management Consultancy Services
Finance Solutions

Hill Housing assists our clients in exploring structured financing options for projects through Hill’s relationships with international, regional and local banks, private equity firms as well as the World Bank / IFC, Export-Import Bank, OPIC, and a number of international and regional development banks.

Advisory services are provided to determine the type of financing that is best suited for the scope and nature of projects being undertaken by governments and/or private developers.

Hill Housing works with developers and their professionals to create a cash flow proforma that models the overall financing requirements, and evaluates the types of credit facilities necessary to implement and sustain each project.

Assistance is provided in negotiating financing terms, securing commitment letters from lending institutions and securing guarantees on products exported from the United States. Support is provided to help clients explore or develop mortgage programs where little or no mortgage financing is available.

Barwa New Cairo - Cairo, Egypt - US $6.9 Billion
Project Manager
Site and Infrastructure Review

Hill Housing can help with site and infrastructure planning review. We help coordinate professional teams to facilitate the review and implementation of new or existing site and infrastructure plans to ensure that they are appropriate for the scope of each project, in order to help our clients develop engineered communities, not just home-sites. We evaluate every phase of the project so that the appropriate recommendations can be made to countries or developers.

Hamad Medical City - Doha, Qatar - $660 Million
Project Management
Building Systems

Hill Housing provides building systems that offer rapid and efficient construction and superior strength to traditional building materials.

Cold-formed steel panelized framing solution

Fully completed and pre-fabricated “turn-key” modular housing solution

Tellus Component System (TCS)
Tellus Concrete Rib Panel System (RIBS)
Tellus Integrated Panel System (TIPS)

Al Khor City - Qatar - US $8.2 Billion
Project Management Oversight Services
BBS patented building system using structural steel and concrete

G-SIP™ Steel Structural Insulated Panel System

Patented Construction Process Cerarmix™ Technology
Worthington Construction Group

CFS Framing Solution is applicable for many types of structures including:

- Multi-Family Housing • Workforce Housing • Hospitality
- Military Housing • Student Housing

- Proprietary panelized load bearing and non-load bearing CFS solution that provides the highest strength-to-weight ratio of any building materials
- Integrates all the components necessary to provide high-quality, cost-effective panels for walls, ceilings and roofs directly from slit coil to a finished panel ready for installation
- Panel fabrication is so simple it can be manufactured at a jobsite without sacrificing quality and structural performance
- Lighter than other framing material making panelized walls easier to handle on the jobsite
- Dimensionally stable – does not rot, warp, split crack or creep and does not expand or contract due to moisture content
- Environmentally friendly and all steel is made from recycled content and is fully recyclable

Worthington Construction has completed:
- Over 10,000 steel-framed homes
- Over 10 million square feet of mid-rise projects

Financial backing of Worthington Industries, a $3 billion, Fortune 1000 company

At the forefront of the steel industry since 1955

www.hillhousingintl.com

Single Family Homes  Townhomes

Downtown Project  Community in Seattle
Example of rapid completion of a multi-family, multi-story housing project using CFS Framing

27 buildings / 850 units

Units of 134 m²

8 months to build

Total Residential Space of 103,000 m²
Modulecon

Modulecon is applicable for many types of structures including:

- Single and Multi-Story Housing
- Schools
- Commercial Industrial Buildings
- Prisons

- 100% of the construction is completed in a locally based manufacturing facility
- Fully completed Modules are delivered to site by locally sourced ground transportation
- Delivered with quality finishes allowing families to occupy homes hours after arriving at the site
- Delivered with all plumbing, electrical, telephone and internet installed throughout the home along with painted doors, walls, windows, tiles and flooring
- Rapid assembly on site using a local labor force
- Load bearing strength allows single and multilevel applications
- Designed to client specifications
Modulecon is a true, fully completed and pre-fabricated “Turn-Key” Modular Housing Solution...

Earthquake and hurricane rated structures using a Steel Reinforced Precast Concrete Building System...

No construction required on site, making Modulecon the fastest, most durable and sustainable building solution on the global market today...
Tellus Building Technology

Tellus Building Systems are applicable for many types of structures including:

- Single and Multi-Story Housing
- Schools
- Commercial
- Industrial Buildings
- Prisons

Patented building systems that use TellusCrete, an advanced concrete that is one-third lighter than regular concrete:

**Tellus Component System (TCS)**
- Patented all concrete component building system

**Concrete Rib Panel System (TCS)**
- Patented molding system

**Integrated Panel System (TIPS)**
- Patented wye-connector thinshell building system
Tellus / Metromont develops advanced building system solutions that will help the industry leapfrog into the 21st century.

Tellus Integrated Panel System (TIPS)

- Thinshell building system based on patented wye-connector
- Cost effective system that produces high thermal performance
- Simple fabrication and installation process
- Lightest concrete panel available to reduce cost of foundation
- Utilizes less materials and reduces time to build
- Single and multilevel applications
Bond Building Systems

BBS patented building systems are applicable for many types of structures including:

Single Story Housing • Schools • Commercial
Industrial Buildings • Prisons

- Proprietary patented steel mesh is used in combination with rebar and road mesh to support structure
- 3,000 PSI concrete applied to walls with use of shotcrete machine creates a 6,000 – 6,500 PSI wall that can withstand high velocity impact
- Unit floors, footers and walls are unified producing a structure that is resistant to most natural disasters
- Simplicity of design produces ability to rapidly construct units
- Meets US LEED certification standards (“green” building technology)

Day 1 - The Foundation
Day 2 - Erect Structure
Day 3 - Foundation Pour
Day 4 - Shotcrete Application
Day 5 - Ready for Roof
East Ridge Residential Community
Palm Beach County, Florida
Civil Servant Housing

School Housing

Single Family Home
Single and Multi Story Housing • Schools • Commercial
Industrial Buildings • Prisons • Workforce Housing

- Patented Steel SIP panel system utilizing 26ga. (.455mm) primed or painted galvanized steel sheets over a 3in. (76.2mm) thick polyisocyanurate rigid foam core; providing an R-24 insulation value.
- G-SIP™ is 24in. (61cm) wide and is produced on a continuous manufacturing line, providing custom lengths to 50ft. (15.25m).
- The panel includes a full length 20ga. (.922mm) steel structural stiffening member integrated onto each panel edge. When panels are installed, these 20ga. edge stiffeners create the equivalent of a 10ga. steel column every 2ft. OC, thus providing significant load-bearing capabilities.
- G-SIP™ is 100% recyclable; is highly resistant to moisture, mold and insects, and contains no CFC’s.
- The panels can be used as a complete stand-alone, self-supporting structure to three floor levels, as floors, walls, ceilings, roof deck and as cladding on other framing systems. They can be utilized in both traditional and modular construction methods.
- G-SIP™ has passed all appropriate U.S. testing protocols and meets or exceeds the standards of each. Completed and passed tests include Seismic, ASTM E 119 Fire, ASTM E 84 Surface Burning, ASTM E 455 Diaphragm Standard, Load bearing, Compression Strength, Acoustic and Missile Impact, to name but a few. The panel system can withstand Wind Uplift and Shear Loads to over 155mph. (249.50kph)
- G-SIP™ is Energy Efficient, Quick to Assemble, Truly Structural, Recyclable and Sustainable.
Multi Story Housing

Single Story Housing

Classrooms
AlphaGen International
Pre-engineered, flexible designs

Single and Multi Family Housing • Schools • Commercial
Medical • Prisons • Workforce Housing

- **Steel Frame:** The structure uses the same engineering specifications as a shipping container used for overseas transport.

- **Premium Insulation:** AlphaGen’s first choice of material for insulation is ultra high density Styrofoam which contains no chloro-flouro carbons (CFCs) and no formaldehyde.

- **Interior Walls:** Internal walls are 4.5” thick and may be added to define space.

- **Electrical:** An electric panel with circuit breakers can be designed into the structure and is specific to the region or country, voltage requirements, and local building and electrical codes.

- **Plumbing and Waste Disposal:** Numerous plumbing and waste disposal options can be used in accordance with building codes for a specific region.

- **HVAC:** With the use of the patented Cerarmix technology and premium insulation, AlphaGen structures are less dependent on traditional HVAC systems.

- **Solar:** A Solar electrical system includes a battery storage system, a converter as specified for the region, and a breaker control box. Heating, cooling, lights, and air conditioning can be run off the solar system.
Cerarmix™

Cerarmix™ is the result of combining ordinary, abundant materials into a new material that functions in extraordinary ways.

Using nanotechnology to change how these materials behave at the molecular level, we have engineered a product that will revolutionize how societies build and maintain the world’s infrastructure.

- Provides superior abrasion, corrosion and erosion resistance, structural strength and fire retardancy
- Dramatically reduces manufacturing costs and the use of petro-leum-based plastics

AlphaGen sells material and licenses applicators to companies that manufacture and repair “infrastructure products”. These products include: pipes, tanks, storage vessels, manholes, transmission poles, water and wastewater treatment plants, concrete, etc.
Building System Applications

Other Applications for the Building Systems

- Schools
  - Student Housing
  - Prisons
  - Civil Servant Housing
  - Government Buildings
- Police Housing / Barracks
- Hospitality / Hotels

Student Housing - Georgia State University

Villas - Melbourne Australia

Hotels - Hyatt Place

Workforce Housing

Civil Servant Housing
SPEED OF CONSTRUCTION
(Structure Only)

100 m² single-family single-story home

3,000 m² multi-family multi-story apartment

Additional Benefits:
- Greater sound attenuation
- Price stability of raw materials: steel vs. lumber
- Simplicity of the construction technologies allow for hiring a local labor force
- Minimal job site waste: 2% (steel) vs. 20% (lumber)
- Use of local unskilled labor: 75% to 90%
- Strict dimensional tolerances
- Green content and fully recyclable
- Shorter and predictable construction schedules
- Lower insurance premiums
- Total labor requirements are less
- Rapid construction: Built to last for 100+ years
- Flexibility in design
- Superior strength
- LEED Certified
- High “R” value attained
- High thermal resistance
- Termite and insect resistant
Economic Impact

Employment of Local Residents When Using the Hill Housing Technologies

- Simplicity of the construction technologies allow for hiring a local labor force
- Training to be provided by Hill International at a newly created training institute
- Sense of community and ownership among the people is created

Job Creation Case Study based on a 5,000 Unit Community

Construction Jobs Created

Unskilled = 900 jobs  
Skilled = 600 jobs  
Total = 1,500 jobs

Local Service Jobs Created Economic Multiplier Effect*

Low - .65 = 975 jobs  
High - 1.5 = 2,250 jobs

Total Potential Local Jobs Created - 2,475 to 3,750

* The economic multiplier is used to determine the total job related economic impact on a region for every construction job that is created on a given project. This theory is detailed in The Economic Impacts of I-73 Construction: A Focus on Job Creation prepared by Dr. Donald Schunk, Research Economist at Coastal Carolina University.
Thermal Efficiency

Continuous Insulation, “ci” (ASHRAE 90.1 Definition): “Insulation that is continuous across all structural members without thermal bridges other than fasteners and service openings…”

Performance - Thermal Imaging of Mass Walls

Thermal Imaging of Precast Concrete Wall System with Continuous Insulation
Calculations by infrared imaging found the system to be an R-13.77.

Thermal Imaging of Cavity Wall System
Calculations by infrared imaging found the system to be an R-7.09.
Where to Start?

Answering the following questions will assist us in developing a complete housing solution for your specific needs.

- How much land has been set aside for the project? What is its estimated value?
- Will the government provide a sovereign guarantee? Will it cover both infrastructure and houses?
- What arrangements have been made, if any, for project financing?
- Who is preparing the Master Plan for the community?
- Will the community contain other structures besides houses (schools, commercial, retail, etc.)?
- Has a Developer/General Contractor been identified for the project?
- Who will be preparing the civil engineering/construction drawings for the project?
- What is the anticipated timing/phasing on the project for infrastructure / construction of houses?
- Who will be responsible for site preparation?
- What is the size (m2) of the proposed units? Target price for construction? Target sales price?
- Who will be the buyer of the home, the government or the individual?
- What is the availability of local skilled / unskilled labor force and what are average daily rates of pay?
About Hill International, Inc.

Hill International (NYSE: HIL) is the global leader in managing construction risk providing project management, construction claims and consulting services for public and private clients in every market sector. Founded in 1976 in New Jersey by Chairman and CEO Irv Richter, Hill is the largest Independent PM/CM Firm in the U.S. with over 10,000 project assignments with total construction value of over $500 billion. Hill International is also the largest construction claims consultancy firm in the World with over 50,000 disputes valued in excess of $100 billion.

Industry Rankings:

- The largest independent U.S. construction management firm (for fee only) according to Engineering News-Record magazine
- 5th largest PM/CM firm in the U.S. Buildings market according to Building Design & Construction magazine
- 8th largest overall U.S. construction management firm (for fee only) according to Engineering News-Record magazine
- 10th largest U.S. program management firm
- 28th fastest-growing firm in the U.S. and Canada according to The Zweig Letter
Hill International, in association with its team of consultants, provided construction management services as the agent of the owner. The Master Plan report recommended the complete demolition and reconstruction of Tasker Homes. The report proposed a total of 546 new dwelling units, integrated into the larger neighborhood, along with extensive site work.

Married Staff Accommodation, Facilities & Related Infrastructure
Abu Dhabi, UAE

Hill International’s scope of services includes construction management and supervision of package 4 of the Married Staff Accommodations, facilities and related infrastructure works at Ruwais area. The project encompasses 21 G+5 residential buildings as well as services blocks, related infrastructure and landscape. The estimated total built-up area is approximately 90,500 m².

Sahil Accommodation Replacement
Abu Dhabi, UAE

Hill International provided the construction management and supervision for the development of a residential complex comprising 612 rooms for ADMAOPOCO on Das Island. The project consisted of two separate three story blocks (BQ & AQ) with a separate central cooling compound.

“The knowledge, ability, and attitude of Hill’s team that enabled them to assume the responsibility for the redesign of the base building and tenant work, and the management of the move of 500 agency employees were the primary factors that kept the project on track and allowed it to succeed in spite of its initial problems.”

Donald Eischens
Executive Program Manager
Department of Real Estate Services
Government of the District of Columbia

“I am firmly convinced that the Stanley Baker Hill (SBH) team has been an invaluable resource to our country, to Iraq and to the U.S. Army Corps of Engineers during the time span that they have all worked together on the Iraq Reconstruction Program.”

Adm. David J. Nash (USN-Ret.)
Former Director
Iraq Project Management Office
In October 2002, the Housing Authority of Portland (HAP) selected Hill International to provide project management assistance to revitalize Oregon’s largest and oldest public housing development, Columbia Villa, located in North Portland.

Hill International provided construction management (CM/Build) services to the New York City Housing Authority for various capital housing projects throughout New York City. The Authority is the oldest housing authority in the United States. It owns, operates, or maintains more than 178,000 apartments in more than 2,600 residential buildings.

Hill International provided construction management services for the expansion of Habshan Residential Complex for GASCO. The original scope consisted of 20 junior and 22 senior blocks (Ground Floor + First Floor), 2 VIP Blocks, 2 chiller yards, expansion of laundry, kitchen and dining hall in the existing Social Centre.

“Through Hill’s extraordinary leadership and management efforts, we managed to receive all our UAE Government Non-Objection Certificates which allowed the Abu Dhabi Municipality to issue Sorouh Real Estate a Building Completion Certificate for our icon Sun and Sky Tower complex on Shams part of Al Reem Island.”

Michael R. Foster
Project Director
Sorouh Real Estate, P.J.S.C.

“On behalf of Al Maabar Libya I would like to offer our utmost appreciation for the exemplary project management services that Hill International provided at our Al Waha Project.”

Emhemmed Ghula
Acting General Manager
Al Maabar Development
Why Hill?

- Over 36 years of global construction experience
- One of the largest project management firms in the world
- Large pool of resources with wider spectrum of expertise
- Seasoned team of 3600 professionals worldwide
- Proven operational systems and procedures
- Similar programs / projects and targeted process
- Deliver master planned communities
- Building systems of unparalleled strength and durability
- Quality housing - highly efficient
- Regional specific
- Flexible designs
- A durable alternative for less cost
- Regional financing options
Why Hill?

“I am very pleased with the consultants that were provided by Hill Int. Hospital construction projects have complex M-E-P systems and construction requirements and require more diligence and expertise than many other types of construction. The Hill consultants were very professional, motivated consultants that possessed a wide variety of skill sets.”

Mike Smith
Director of Facility Planning
Methodist Hospital Construction

“Hill’s technical expertise, attention to detail, and ability to work with the Owner and General Contractor, was a key component in delivering this successful project. Hill’s efforts, and the efforts of primary contractors Hill managed, were an important part of the success of the entire project.”

Paul Witherspoon
Project Manager
U.S. General Services Administration

“On behalf of Al Maabar Libya I would like to offer our utmost appreciation for the exemplary project management services that Hill International provided at our Al Waha Complex from June 2008 to January 2010. Hill International provided a highly qualified and experienced professional team who successfully...”

Emhemmed Ghula
Acting General Manager
Al Maabar Libya
WORLDWIDE OFFICES