Part 1: Existing Conditions Report

The renovation study has two parts:

1. An assessment of the existing conditions of Town Hall to determine the feasibility of renovating the building (“Existing Conditions Report”).

This part of the study is now completed. In brief, the Existing Conditions Report concludes: “Based on our observations and explorations of this building, we believe the building to be basically sound and worth rehabilitating.” (The entire report is available below.) Also, the NYS Historic Preservation Program Analyst for our area advised that the building is eligible for listing on the National Register of Historic Places.

Having concluded that there are no major structural issues to prevent rehabilitation, VIA is proceeding to the second phase of the feasibility assessment. This second phase will help the town assess the desirable scale and potential costs for renovations by developing two alternative, schematic designs and providing preliminary cost estimates as follows:

2. The development of two alternatives and preliminary cost estimates for renovation of the building.
   
   a. A “minimalist” alternative that limits itself to fixing the existing pressing problems of the building.
   
   b. A second alternative that goes beyond a basic fix-up and proposes rearrangement of how the interior space of the building is used, in order to create more convenient, efficient, and functional town offices.

The two alternatives will provide “schematic designs” with preliminary cost estimates. This phase will be completed within several months and will provide enough information for the town to decide whether/how to go ahead with rehabilitation. If the town decides to go forward, it will enter into a contract with an architect to undertake the next steps in the design process.

Steps in the Design Process

The design process has five steps as described in the “Overview” of the Existing Conditions Report, pages 3 – 4. The steps are:

   - Schematic Design
   - Design Development
   - Construction Documentation
   - Bidding & Negotiation
   - Construction Administration

The Westport Town Office Building Feasibility Study will go as far as Schematic Design. At that point the town will decide whether it wants to go ahead with a rehabilitation project. If the town decides to go ahead, it will enter into a contract with an architect to undertake the next steps in the design process.

The design process is divided into five steps in order to economize on the cost of obtaining information. At each step in the design process a certain amount of information is acquired or produced – the more information that is acquired or produced, the greater the cost. For example, it would be risky and potentially wasteful to pay for the preparation of Construction Documents until the decision to go ahead with the project is certain. Therefore, the amount of information that is acquired or produced in the early steps of the design process is not all of the information that will ultimately be required to complete the design process. This is why in the Existing Conditions Report there are references to “additional study” (including comprehensive testing for hazardous materials) that will be required during Design Development. The “additional study” will be undertaken (at additional cost) during Design Development only if the project goes forward beyond Schematic Design into the Design Development step.
TOWN OF WESTPORT, NEW YORK

WESTPORT TOWN OFFICE BUILDING
BUILDING RENOVATION FEASIBILITY ASSESSMENT
EXISTING CONDITIONS REPORT

January 9, 2013

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1. OVERVIEW

A. INTRODUCTION

Vermont Integrated Architecture, P.C. (VIA) and Engineering Ventures, P.C. (EV) have performed an initial review of the existing Westport Town Offices building located at 22 Champlain Avenue in Westport, New York. This study is based on our observations, feedback from building users, and review of applicable codes and requirements. This review is preliminary, and further investigation may be required as a path forward is decided.

This review is a critical component to the overall Building Renovation Feasibility Assessment.

B. PROJECT OVERVIEW

This Existing Conditions Report is part of the Pre-Design and Feasibility Phase of the project. During this phase of the project we are working with designated Town representatives to determine the feasibility of reusing this existing building and for what purposes. With direction from the Town, we will proceed into the Schematic Design phase.

SCHEMATICAL DESIGN
In schematic design we will develop some of the proposed concepts for the project. This includes producing floor plans, elevations, a site plan, and possibly even some three-dimensional models. We may also consider some materials for specific applications. At the end of this phase, we will prepare a preliminary project budget. Once all of this is complete, the Town will make a decision how to proceed.

Should the Town wish to move forward with the full design and construction of this project, further investigation and testing of existing conditions would be done in future phases. These phases are occasionally referenced herein and are described on the following page:
DESIGN DEVELOPMENT

By the time we reach the Design Development phase, the basic layout of the building has been determined. During this phase, we spend a great deal of time coordinating and balancing the various components of the design. We would engage the services of additional outside consultants to further develop the site, structural, mechanical, electrical, plumbing, fire protection, and landscape designs for the project. At this time we may also wish to do some additional testing for structure, hazardous materials, or energy efficiency. The results of this information help us develop the most effective strategies for the project.

In addition, we would work with the Town and users/tenants to further define the needs of each individual space (i.e., decide on finishes for various rooms, choose fixtures and fittings, identify locations for telephone and computer jacks, etc.)

At the end of this phase, we once again check in with the project budget and begin to outline a project construction schedule.

CONSTRUCTION DOCUMENTATION

VIA and various hired consultants would prepare documents, both drawings and specifications, that define both the qualitative and quantitative aspects of the project. These documents need to be clear and concise both for the upcoming bidding and construction phases of the project.

BIDDING & NEGOTIATION

Based on the Town’s preferred procurement method, we would work with the Town to establish a list of potential bidders. We will issue packages of drawings and specifications to potential bidders and respond to requests for information about the project during this phase. Upon request, VIA will assist the Town in reconciling bids and selecting contactors and/or subcontractors for the project.

CONSTRUCTION ADMINISTRATION

During this phase of the project, the architect and engineers regularly visit the construction site and attend job meetings to assess the progress, accuracy, and quality of the construction work being performed. We review specified shop drawings and submittals, document any changes in the project scope, and assist with clarifications to the design as necessary. At the end of the project, we prepare a complete set of record (as-built) documents for the Town.
2. ARCHITECTURAL REVIEW

A. BUILDING HISTORY

The building was constructed in 1928 as the Lakeview Grange Hall. It had a large open meeting hall on the uppermost level, street level; and a large dining room and kitchen on the lower level. In 1940 the Grange disbanded and the building was purchased in 1944 by Judd A. Royce. In 1950 the building changed ownership once again and was purchased by Ralph and Esther DePew. It became DePew’s Roller-Rink. In 1953, The building was purchased by the Lasher-Still Post No. 324, American Legion. They continue to operate the roller-rink. Sometime between 1953 and 1971, the building was leased to the Westport Distributing Company. In 1971, the building was sold to the Town and Village of Westport for their offices and the Youth Center.

Over the years and through the various ownerships, a variety of changes and upgrades were made to the building, including lowering the ceiling in the meeting hall, replacing the windows, some foundation repair and maintenance, building mechanical and electrical system upgrades, and more. We do not at this time have specific information as to when or who installed all of these components. We do know, however, that the covered access ramp on the south side of the building was installed in the spring of 1996.
B. EXISTING BUILDING REVIEW

**Governing Codes & Regulations for this Project Include:**

New York State Uniform Fire Prevention and Building Code, effective January 1, 1984
Energy Conservation Construction Code of New York State, effective as of December 28, 2010
The National Historic Preservation Act of 1966, Section 106
The New York State Historic Preservation Act of 1980, Section 14.09

For the purpose of this document, the building levels are referred to as follows:

Upper Floor Level: Accessible from Champlain Avenue where Clerk and meeting space are located.
Lower Floor Level: Where current Town Offices and Court are located.
Basement Level: Accessible from lower side. Currently unoccupied.

**Energy Efficiency**

Any significant renovations, other than minor finish upgrades, to this building will require compliance with the 2010 Energy Conservation Construction Code of New York State, effective as of December 28, 2010. This includes attention to building envelope, lighting, mechanical, and power systems throughout the structure and on its respective site.

**Envelope**

The existing envelope consists of the following:

**Roof** – The existing roof of the building is not insulated. The dropped ceiling however does have approximately 8” of fiberglass batt insulation placed on top of it. The batt is fairly continuous, but has clearly been disrupted in several places.

R=28 (if insulation were continuous, properly installed, and contained within the roof envelope), but probably performs as if R=15 - 20.

Notes:
1. There is obvious evidence of medium sized mammal occupation/activity in the attic. Possibly raccoon, possum, etc.
2. There is some evidence of water damage at the chimney and eaves, but otherwise the roof seems to be sound and is keeping the interior structure and space dry.
3. Gable end vents appear to have been added for attic ventilation, probably at the same time the ceiling was dropped over meeting space.
**Exterior Walls** – The existing exterior walls on the Upper floor level do not have any insulation in them. Instead of gypsum wall board (sheetrock) on the interior, the walls are clad with “insulating lumber,” by Celotex. On the lower level, the walls have been insulated with fiberglass batt. Without doing an infrared scan, it is difficult to determine its effectiveness, but it would seem that the batts have slumped between the studs. Allowing for greater heat loss at the top of the walls. Windows are fairly new, double pane units on both the upper and lower levels. No air sealing is apparent around windows, doors, or other openings.

Upper Floor – R=5-10  
Lower Floor – R=19 (ideally), but probably performing closer to R=15

**Foundation** – There is not damproofing, waterproofing, or insulation on the foundation walls. There is clear sign of some water damage, or movement at the foundation walls and exposed footings/piers.

Summary: The entire envelope of this building needs to be upgraded for insulation, air sealing, ventilation, and water resistance. It will not be difficult to improve the energy performance of this building, resulting in quick payback of up-front investment.

**Mechanical Systems**

The building is currently heated with an oil-fired, hot-water boiler : 114,000 btu/hr with thru-wall venting (concentric). The Oil boiler was installed and activated in the fall of 2007. The Oil tank is a 550 gallon buried tank located below the fill and vent lines under the front lawn area near the flagpole. The boiler serves hot-water baseboard in much of the building. The boiler is more than adequate for a building of this size. The building, however, is not comfortable in the winter – too cold - as a result of minimal insulation and air sealing as noted above. The heating pipes to the baseboards also are not insulated.

Two window-mounted air conditioners serve the offices on the lower level. Otherwise, the building is not air-conditioned.
A propane tank next to the oil fill and the flagpole serves the gas stove in the kitchen on the upper floor level.

The existing brick chimney was taken out of service to accommodate the direct-vent boiler. The existing chimney does have a stainless steel liner/insert and cap that was installed in the mid-to-late 1990’s. The chimney is in decent condition and could be used again, if necessary.

**Electrical Systems**
The building has a 200 amp service, which is most likely adequate for a building of this type and size. The main panel is located in the bathroom on the upper level with a sub-panel on the lower level in the copy/file room. There is also a manually switched generator panel that provides limited circuits to lighting and phones. A 5 kW portable generator is located in the basement and is connected by a 20’ (+/-) corded plug to a hardwired receptacle in the basement. Some antiquated wiring does exist in the building, but most of it has been updated. In general the power for this building is appropriate and adequate to support future use.

Lighting is primarily fluorescent within the acoustical ceiling tile.

**Accessibility**
The building is accessible at the main level from Champlain Avenue and at the lower level from a very long, covered ramp that lands in the parking area behind the building to the east. The ramp as it was designed does meet code, although it has come out of alignment in places, for example at the doorway, and needs some repairs to bring it back into full compliance. The basement level is accessible at grade on the east side of the building. The rest rooms on both levels do meet accessibility requirements (for access by persons with wheelchairs).

On the interior, there is a communicating stairway from the upper level to the lower level. This stair does not meet code for egress purposes. There is no lift or elevator connecting the two levels. The basement level is only accessible from the exterior on the east side. This does meet code, but major renovations to the building could trigger requirement for a lift or elevator.

**Fire & Life Safety**
The building is equipped with fire detection systems (two battery-powered, residential smoke detectors - one on each floor). They are not hard-wired or interconnected. There are no fire alarm pull boxes nor is there any third-party notification. There are fire extinguishers in the building. There is no sprinkler system. A second means of egress from the meeting space on the upper floor level is required for an occupancy load of 49 or more persons.
**Hazardous Materials**
Given the historic nature of the building, there is likely lead paint both on the interior and on the exterior. Asbestos may be present in small amounts, with flooring adhesives or on the older roofing material. Evidence of mold and mildew is found under the stair on the lower level where the wood floor presents some rot as a result of water infiltration. The degree to which hazardous materials are a concern in this building is best addressed by an Environmental Consultant that specializes in the abatement of hazardous materials. Regardless, we did not observe anything that is not easily corrected or that would encourage the Town to demolish or abandon the building.

**Finishes**

**Exterior** – The building foundation is masonry, stone and rubble. The mortar appears to be in fairly good condition on the exterior. The exterior building siding is a spruce clapboard with a +/- 3” exposure, which appears original to the building. The clapboards are in good condition, but in need of paint. The roof, while showing very little signs of failure (leakage), is corrugated metal. It is showing signs of corrosion. Photos from the 1960’s show asphalt shingles on the roof and evidence of the asphalt roof is still visible from the exterior. We believe that the metal roof, installed in the mid-1980’s, was installed on top of the asphalt roof. There could be another asphalt roof beneath this one, or one that was replaced prior to the one that shows up in the 1960’s.

**Interior** – The meeting hall on the main floor is a 2” wide strip floor running longitudinally (east-west). The walls are painted Cellotex. A wood wainscot exists to the height of the window sills. All are in fairly good condition. The ceiling is a dropped 2’-0” x 4’-0” acoustical ceiling tile, which is showing signs of wear and moisture in a few places. The clerk’s office and the lower level offices and court spaces are carpeted with wainscot to 40” above the floor in most places. The walls are gypsum wall board (sheetrock). The ceilings are 2’-0” x 4’-0” acoustical ceiling tile. The carpet is likely harboring dust and mildew and impeding the indoor air quality of the spaces where it is located. The gypsum wall board is in decent condition and the ceiling tile is showing signs of wear in a few locations. We did not explore what is under the carpeting on the Lower Level.
The storage room and vault are exposed concrete slab floors, which are in decent condition. In the storage area, the foundations walls are also exposed, and there is no ceiling.

The vault is constructed of concrete block and a poured concrete ceiling, supported by steel beams running longitudinally.

The vault is in good condition.

**Special Historic Features**

1. Gable-end, arched-top window over the main entry is definitely worth restoring and exposing.
2. The main entry could be restored to its original splendor.
3. Other mouldings and woodwork inside and out are worth restoring.

Given the age, prominence, and community impact of this building, William Krattinger from the National Register Unit of the State of New York Office of Parks, Recreation, and Historic Preservation is scheduled to survey the building and advise the team in terms of Historic Preservation requirements for the project as well as whether or not it may be eligible for the National Register of Historic Buildings/Places.
3. STRUCTURAL REVIEW

A. OVERVIEW

The Town Offices of Westport, New York at 22 Champlain Avenue is a low-rise building, circa 1920’s, being studied here to weigh its feasibility for renovations. The superstructure is a 3 story wood framed building that has two stories of below only the street side grade. It is nearly fully exposed on the sides and back. A covered ramp addition entry for the middle floor was added to the original construction.

The facility’s structure is predominantly wood. There are cast in place walls and slabs-on-grade at the middle level on the street side. The lower level has exposed rubble, masonry, and concrete shallow-bearing foundation elements supporting the exterior walls and interior wood posts. While the building exhibits localized areas of minor distress resulting from foundation settlement and wood framing shifts, as, for example, the cripple wall on the south side, its overall condition is serviceable, without any known major conditions requiring near-term remediation.

There have been localized areas of re-framing at the first elevated level, tie-rod spreading resistive measures in the upper floor ceiling planes, and some foundation repairs performed over time.

As an existing structure, not subject to or having undergone a recent change of use or significant change to framing or loading, it qualifies as-is under the structural provisions of the governing building codes for the state of New York (2010 Building Code of New York State and 2010 Existing Building Code of New York State). To engender a mandatory structural upgrade to meet the proscriptive structural load and design requirements of the current code (where existing framing is not “grandfathered” in as-is) without a change of use or occupancy, at least 50% of the aggregate area of the building would have to undergo alterations. However, as a practical matter whether or not this threshold is met, if the building is to see any significant restoration, then it is recommended that the weathered structural conditions and some new code issues be addressed as follows:

1. **Roof Augmentation**: The roof truss and rafter structure exhibits spreading and deflections that have been addressed in part by tie-rods schemes. There are related signs of distress in the connections of the curved truss supports. A combined effort to augment the trusses at the ends and across the bottom chords can address these conditions. The augmentation could involve a combination of wood and steel framing. Note that this Shouldered Roof Truss at Exterior Wall
is recommended for low scale renovations to the roof only, such as insulation improvements or significant re-roofing. The augmentations could accommodate design options like exposing the trusses (with augmentations) or having insulation above the existing roof sheathing.

2. **Lateral Load Resistivity**: The whole lateral load resisting system, present now the exterior wood walls, floors and roof, should be brought up to current code standards. The most acute issue would involve addressing the three-story back (east) side of the building, where the openings at the ground level, heavily perforate the system. An upgraded system might involve concealed steel strap bracing and structural augmented foundations (such as helical or rock anchors), as well as the loss of a door. The front (west) wall would likely to be similarly affected. Wood framing upgrades involving a blend of new steel strapping with wood end posts to the long north and south faces is likely needed. Also, steel strapping or added sheathing within the floor and roof framing planes is likely required to distribute the loads to the walls. This would be less invasive to existing wood surface materials if done from the bottom and inside of floors and walls. Having been built in an era before seismic requirements were codified, many similar structures of this type require retrofit measures on some level measures for revitalization.

3. **Lower Level Moisture**: Water and moisture issues in the ground level should be mitigated in an attempt to reduce observed settlement and wall movements. A sub-grade drainage system and covering of concrete mud-mat or functional slab is a recommended approach. Front wall drainage is also a likely related effort to undertake. With the moisture lessened, foundation and wall distress repairs could then be more reliably undertaken. The foundation in the back may lack adequate cover for frost heave resistance. A ground insulation system could address this condition.

4. **General Framing**: As interior renovations are performed, exposed floor framing should be reviewed and have connections “tightened” as required using light gage metal connectors. Our work is conducted as part of an effort to study rehabilitation options for the facility and for use in developing probable costs. While the actions listed above are not required explicitly by code, they will enhance the service life and value of renovation efforts involving other building features.
This report is intended to outline applicable background information, provide recommendations, and serve as a basis for further discussions, requests for more detail, etc. concerning the building structure.

B. EXISTING BUILDING STRUCTURE

The existing building is generally in good shape where observed. There is evidence of minimal water damage. The overall wood elements are in good shape and relatively well-graded (clean) lumber. The principal structure is comprised as follows:

- **Roof and original ceiling framing:**
  - Wood trusses at 4 feet on center with one rafter set in between.
  - Plank wood sheathing
  - Miscellaneous wood framing at front attic space

- **Exterior walls**
  - 6 inch (nominal) deep framing spaced at 16 inches on center
  - Double top plate as trusses and wall studs are not aligned
  - Plank wood sheathing

- **Floor framing (blends of original and renovated)**
  - 8 inch (nominal) joists at 16 inches on center spanning approximately 12 to 13 feet
  - Built up 8 inch (nominal) girders spanning 12 feet
  - 6 x 6 inch (nominal posts)
  - Knee braces at lowest floor
  - Plank wood sheathing

- **Foundation**
  - Shallow bearing masonry rubble and concrete wall and column footings
  - Concrete and masonry retaining wall

In general, the floor framing capacities has met the applied loads from the buildings previous uses as an office, skating, public meeting, and light storage space. The floor framing members likely meet office use loads of the current code; however, a more in-depth study of connections, ledger and girder element continuity, wood grading is required for confirmation.
A wood ramp and roof structure has been added to the south face of the building to access the middle floor. In general, the wood shows signs of long-term weathering. Wood connections do not appear to have been formally engineered or are in need of augmentation due to wear from, it is suspected, snow falling from the higher roof. Alternatively, the structure, as it lacks the apparent heartiness of the original building, may be economically rebuilt or have its function relocated - to increase its durability. It is advised that caution be used by limiting access during times of active, large sliding snow events from the higher roof.

C. STRUCTURAL ANALYSIS FINDINGS

A few selected roof and floor framing areas were evaluated for gravity load. Note that the truss ends at the curved shoulder were found to be the element controlling the capacity of the roof framing. The wind, seismic and earth load effects were as not formally studied at this juncture.

D. ADDITIONAL SITE STUDIES FOR FURTHER DESIGN AND CONSTRUCTION COSTING

We recommend the following studies for advancing the design:

- Foundation conditions: Localized borings or hand augers or test pits in selected areas be undertaken for more thorough definition of soils and water issues. In addition to the soils information, existing foundation depths and sizes could be found.
- Material strength determinations: Since material strengths will be required to verify design for the existing constructions; obtaining those during design may allow for sufficient savings to account for their sampling and testing costs. Strength grading of the wood at selected locations is recommended.

E. BASIS OF REVIEW

The review was conducted as a first phase study for determining options and estimating as part of a larger renovation study. No attempt has been made for detailed analysis or design; or to develop constructions. These can be provided as part ongoing design development. Our review was based on:

- Site observations made on December 5, 2012, as well as a pre-RFP site visit on March 23, 2012.
- Owner provided discussions and RFP materials.
- Standards of practice, codes, design manuals and industry guidelines referenced in the project specifications and consistent with our experience.
F. AREA SEISMICITY INFORMATION

Historically, the building has experienced minor earthquake loadings from regional events, including a relatively large (for the region) event in 1944 near Massena, NY (reference: http://www.earthquakescanada.nrcan.gc.ca/histor/20th-eme/1944-eng.php).

New York – Seismicity Map 1973 to Present
(earthquake.usgs.gov/earthquakes/states/new_york/seismicity.php)

The ground movements arising from nearby seismic do not appear to have been formally tracked in Westport, NY. The available ground record is indicative though of some degree of resiliency for lateral load design events. However, a current code design level event, a so-called 50-year maximum event, has likely not occurred during the life of the building. The design event level is lower than that of the Massena, NY environ as shown below.

It is our understanding from anecdotal sources, that the Ausable Fork seismic event (circa 2005) occurred around 2005 cracked chimneys and foundations in Westport. While this is indicative of this building’s resiliency, no local seismological readings were found.

New York – Hazard Map
(earthquake.usgs.gov/earthquakes/states/new_york/hazards.php)

A major renovation is often a good time to enact lateral load system upgrades, such as described in previous in “Lateral Load Resistivity” paragraph. Upon review, if additional discussion and information on building risk is desired, a meeting with the building ownership is recommended to focus on specific concerns and outcomes. Additional resources for building owners is also available on the FEMA website relative to seismic risk.
4. CONCLUSIONS & RECOMMENDATIONS

Both VIA and EV believe that this building is a valuable historic structure. It has great character and contributes to the community of historic buildings in the center of Westport. In addition, its location in the historic center of town with terrific Lake views is unique.

We believe that there are no exigent structural or environmental conditions currently present that would require the building to be immediately unoccupied or demolished.

That said, the building is at a place in its existence where it is deteriorating at an increasing rate and will continue to deteriorate at an ever-increasing rate. The longer the Town waits to address the issues noted herein, the more costly it becomes to preserve the building. In other words, in order to insure the continued survival and serviceability of this basically sound structure, the time to act is now.

In addition, with current costs of construction in mind, building an entirely new facility on this site, with the character and potential for future history that this building has would be more cost-prohibitive than rehabilitating this existing structure.

Based on our observations and explorations of this building, we believe the building to be basically sound and worth rehabilitating.
5. APPENDICES

I. EXISTING FLOOR PLANS

II. CELOTEX INFORMATION
NOTES:
- Some variations exist in alignment of upper and lower floor levels.
- Lower floor level to Top floor level = 10'
- Depths of vault to be confirmed

1. Upper Floor Plan
2. Lower Floor Plan
3. Basement Floor Plan

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DATE ISSUED: 1/07/2013

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can have this hidden comfort

Three years ago owners of costly homes were enjoying a degree of comfort that few men could give their families.

It wasn't costly furnishings—rich rugs, period furniture, tapestries, et cetera. It was something hidden, built into the house itself.

In winter it gave every room an environment of healthful coziness—and saved enough on fuel to turn on a motor car. In summer it kept the whole house pleasantly cool. It produced a restful quiet.

And so, people in these costly homes were living better, sleeping better, enjoying a healthful comfort denied to most home builders.

Then, suddenly, this hidden source of greater comfort was made available for every home.

New possibilities of home construction were opened up. New standards of comfort and healthfulness were established.

The facts follow—facts so unusual that we have waited three full years to tell them.

The secret of greater home comfort

The secret, in a word, is insulation—heat-insulation. There is no mystery about it. Any architect or engineer can explain it to you fully.

Insulation is a scientific means of stopping the passage of heat.

In the walls of your ice-box it keeps heat out. In the walls of your fireless cooker it keeps heat in.

Similarly, in the walls of a house, insulation keeps heat inside in winter and out of it in summer.

Hence, in costly homes, architects have for years used insulation to do what wood, brick, stucco and other ordinary building materials cannot effectively do.

With insulation you have prevented an unnecessary 25 to 35 per cent heat loss. (Tests show that this heat leakage through the solid walls of a house on the second floor is 25 per cent.)

With insulation they have made homes that are delightfully cool in summer. Homes free from drafts, quiet, more healthful.

Yet, hitherto, they have been able to do this only at extra cost—cost prohibitive to most home builders.

The most important building story ever told

Then, three years ago, an amazing new building material was born to the world—a wholly new material, different from anything made, grown or mined.

It was called Celotex Insulating Lumber. Celotex made it possible for the first time to build a completely insulated house practically without extra cost.

Since it was put upon the market Celotex Insulating Lumber has completely demonstrated its remarkable qualities. It has been built into thousands of homes. In every part of the United States and in many foreign countries it has revolutionized home-building ideas.

What Celotex Insulating Lumber is

Celotex became a reality when years of scientific research ended in the discovery of the remarkable qualities of Bagnese (sugar cane) fibre. This fibre of the longest and toughest fibres known in any plant or tree in the world.

A way was found to fabricate these fibres into building lumber which contains thousands of sealed air cells—the most efficient form of insulation the world has ever known. Today a man with a threepound plant in Louisiana is producing millions of feet of it a year. It comes to you in broad, clean blocks—strong, rugged, durable, possessing qualities that have made it the sensation of the building world.

Three great advantages combined in one material

Celotex is insulation. It has insulation, heat-proofing and sound-proofing qualities combined. It will not allow the passage of sound, reduces the transmission of sound through materials, and eliminates the use of such materials.

Celotex is a structural material. In walls it has many times the structural strength of ordinary building materials. In floors it has many times the shock-absorbing strength of ordinary building materials.

Read how Celotex, by combining for the first time these three great advantages, enables you, at practically no extra cost, to secure for your home all the benefits of insulation.

How Celotex Insulating Lumber is used

Old types of insulation were extra materials—additions. Not so with Celotex. With Celotex, Insulating Lumber is wood, and any other form of insulation.

You use Celotex on the outside walls of your house and under the roof, in place of the wood lumber known as sheathing. Test after test has confirmed the fact that Celotex is stronger and more rigid than any other insulating material with which it is compared.

This use of Celotex gives you heat insulation without extra cost.

You use Celotex in place of lath, as a plaster base. Plaster bonds with Celotex and produces a wall as strong as one made with lath and plaster. And once less likely to crack.

This use of Celotex also gives you heat insulation practically without extra cost. Thus Celotex gives you a home that is stronger, far more comfortable and healthful, yet costs little, if anything, more than an ordinary one.

You can have a home like this

It's easy for you to have a warmer, better home than any old type, heat-saving home in your neighborhood. Simply substitute Celotex for sheathing, plaster base, and roof insulation.

Your home, so built, will have no "cold rooms," or "cold sides." It will be free from drafts. (And the use of Celotex permits the use of the size of your heating plant and radiators, and cut your fuel bills four times as much.)

If you live in a warm climate, Celotex will give your home a new degree of heat-conserving comfort. All summer long your home will be cooler, with no stifling upstairs rooms at night. A restful quiet will pervade it.

If you are going to build, use Celotex. If you are going to buy a completed home, make sure that Celotex has been used in its construction. If you are building a home you wish to live in, insist upon Celotex being used.

New standards of construction are being established by Celotex. Buyers of the future will be glad to know that a home has been built according to the future value of your home with Celotex.

Your architect, contractor or lumber dealer will be glad to talk to you about Celotex. Write us for additional information on the values of the Celotex. We can show you how you can use Celotex to secure it without extra cost. Fill out and mail the coupon—now.

Facts about Celotex Insulating Lumber

Celotex comes in stock sizes:

- Thickness: approximately 1/16 of an inch; width, 4 feet; lengths, 8 to 12 feet.

- The weight of Celotex is about 60 pounds to the hundred square feet, making it easy to handle and a good buy for the money.

- Insulating Celotex is saved like ordinary lumber and is nailed directly to framing.

- The great durability of Celotex permits it to be used inside and outside, and any kind of roofing can be laid over it. It is used in all types of roofs to stop the passage of heat at the roof line.

- Standard prepared gypsum plaster is applied directly to the surface of Celotex.

- Celotex is waterproofed. It can be painted and used as a finishing material.

Other Celotex uses

Celotex is used in stock sizes:

- In dwellings: Mail the coupon for full information on the many uses of Celotex in stock sizes.

- Interior finish: siding, clapboards, stucco, brick veneer, etc., is applied over Celotex in the same manner as wallboard or plywood.

- Insulating & roofing: Insulation is of Celotex in any number of forms. It can be laid over it. It is used in all types of roofs to stop the passage of heat at the roof line.

- Standard prepared gypsum plaster is applied directly to the surface of Celotex.

- Celotex is waterproofed. It can be painted and used as an exterior finish.