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CASE STUDY

Building Permit offices around the country are responsible for providing efficient customer service to large numbers of contractors and customers. These clients seek a variety of services, requiring visits to several different locations, often in different buildings. Every major municipality has similar procedures in issuing building permits, dependent upon individually supervised reviews that can involve time consuming and unnecessary delays, as well as, on occasion, an intrusion of subjectivity into the reviewer's interpretation of Code references.

PERMIT PROCESS

The Inspection Division of the Department of Public Works of the City/Parish of East Baton Rouge is one such office, delegated with the responsibility for processing commercial and residential permit applications to help assure structures are designed to comply with the state and local building code requirements. D.P.W. has attempted to streamline and clarify the process of reviewing and permitting construction projects, however new applicants, understandably, may find the procedural steps mystifying, time consuming and frustrating. The following is an overview of the process for those applicants unfamiliar with the procedure, with the intent of clarifying the process anticipated and assisting to provide a more logical and efficient customer service.

Permits are required, generally, for all new construction, renovations and/or additions to existing structures. Presently, commercial projects must comply with 1997 Standard Building Code for structural soundness, as well as the local Unified Development Code regarding zoning regulations, yard setback, and site issues including parking and non-porous paving requirements.

Applicants submit the single page "Application for Commercial Permit" with two sets of plans identifying the site concerns including building footprint, parking and traffic circulation, etc., and building plans including structural aspects of the work, electrical, plumbing and heating and air plans. These plans, double lined and drawn to scale, generally are required to be stamped by an architect or engineer of record. Also to be submitted is a letter or legal sized site plan showing the parcel involved, building footprint, servitudes, proposed parking and other site issues.

When an architect or engineer has sealed commercial plans, submittal of a Design Supervision Statement and a Structural Design Statement (if structural issues are involved) is required. Alternatively, a Certificate of Responsibility is necessary when sealed plans are not required, such as minor renovations to existing structures or new wood frame buildings of less than 1500 s.f. with structural spans less than 18 feet.

Sealed plans with structural issues require submittal of foundation and structural calculations bearing the seal of the architect or engineer and referencing the local 100 mph design wind load, substantiating the structural soundness of the building.

New buildings, or additions to existing structures of 40% or more, require submittal of a Flood Zone Determination Form. Preparation of this form will be used to identify the address of a new structure and the site's flood zone. The client's chosen surveyor will utilize this information to prepare the Proposed Certificate of Elevation in which the required minimum finished floor elevation of the structure will be determined.

One set of plans must also be submitted to the State Fire Marshal, who will respond directly to this office with a compliance letter identifying that office's concerns. Upon receipt of the plans with the review fee (generally calculated at 2 ½ cents per square

foot), a folder is set up and placed in line for review. A Commercial Plan Reviewer will revise the submitted plans for compliance with the 1997 Standard Building Code. The plans are then reviewed by the Electrical Department (utilizing the 2002 NECode), Plumbing (La. State 2000 Code) and Heating and Air (1997 SBCCI Mechanical Code). Finally the proposed project is reviewed for traffic, drainage and sanitary sewer issues. This review can consume up to two weeks.

Plans eventually return to the initial Commercial Plans Reviewer who will identify any issues that appear not in compliance or unresolved. Correspondence will be forwarded to the professional of record for resolution of any concerns prior to permitting.

The architect or engineer will respond and if necessary the plans will be changed to meet the Code requirements. All plans require approval from the State Fire Marshal and the local Fire Department. Some plans depending upon the nature and impact of the design, may also require approval from the offices of the Health Department, Environmental Plans, and/or Landscape and Forestry. When a servitude encroachment is involved, such as for paving, etc., letters of approval must be secured from the utility companies and/or City-Parish maintenance divisions. These letters must be delivered to the Inspection Division with a certified copy of the standard "Hold Harmless" agreement, filed with the Clerk of Court. If a proposed project is 30,000 s.f. or larger, or involves an increase of 20% or more above an existing structure of such size, Planning Commission Site Plan approval is required in anticipation of major infrastructure impact.

A Sewer Impact Fee is required for all new structures. This fee is based upon the size of the water meter supplying the facility, or can be based upon a fixture count. If the fee is based upon the water meter size, future additional fixtures may be added without additional sewer impact fees provided the meter size is not increased. If the fee is based upon the fixture count, any fixtures added in the future will require new fees. Renovations to an existing structure do not require an additional sewer impact fee if the existing water meter is not being increased.

Upon resolution of the code requirements, the permitted project blueprints can be retrieved by the contractor or owner, with the payment of the permit fee, based upon the project cost. Projects with a project cost exceeding $50,000 require a La. State licensed contractor. Owners can assume responsibility for contracting for projects of less expense, however in both cases, the responsible party must register with the La. Dept. of Revenue and Taxation.

Once the permit has been issued, construction may begin. The contractor will call in for the various inspections as the structure is built, and with passage of final inspections, including those of the Fire Marshal, Fire Department etc, and receipt of the Professional of Record's Letter of Completion the project can be closed, whereupon electrical connections can be acquired and a Certificate of Occupancy will be issued.

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SOLUTION

CBI (Commercial Building Inspector) is a significant software application undertaken by Optasoft L.L.C. to re-compose the procedure of the Commercial Plan Review industry and achieve a significant improvement in productivity and consistency of the review process. The approval process currently using the manual approach is time-consuming and inevitably subjective as reviewers impose their own understanding of the code issues in their review. This CBI program, by imposing a structured procedure upon the reviewer, is designed to promote efficiency of plan review by prompting the reviewer through regularized channels of analysis. Standardizing this review process will eliminate many delays, as well as the all too frequent inconsistencies in codes interpretation that serve as a source of frustration for all concerned.

The specific objectives of CBI are:

- To speed the review and evaluation process in the building industry by first making all relevant information readily available in a comprehendible form, to all players in the industry.
- To coordinate the review process by having all industry professionals work in a shared format instead of the current system of separate paper and plans.
- To evaluate, in a consistent manner, all proposed building designs with Code compliance requirements using minimal time.
- To move towards common procurement procedures and document standards.

The City Parish of Baton Rouge faces many of the challenges common to communities experiencing the development pressures of modern American urban and suburban areas. Utilizing technology to increase the productivity and efficiency of all Commercial Building Review staff in a time of limited resources is a clear necessity. Delivering cost-effective services that meet the changing needs and preferences of East Baton Rouge citizens is critical.

Information technology can now offer opportunities unimagined until recently. “Commercial Building Inspector” was designed to satisfy technology implementation methodologies “**Consistency & Efficiency**”. CBI compiles building codes information into a user-friendly Graphic User Interface (GUI) that is easily utilized by all persons, regardless of computer familiarity, while remaining adaptable to all common computer platforms Windows 95, 98, NT, Me, 2000 and XP. The software is not database oriented. Instead, it is intelligent or responsive software that analyzes input data to confirm whether the inserted data meets the 1997 STANDARD BUILDING CODE intent. Compliance results are presented in paraphrasing language to provide the user with a clear and concise explanation. As CBI creates an analysis report for each project, the program will simultaneously provide a customized compliance report showing all code deficiencies (complete with code references and page number).

CBI saves time by providing accurate and consistent review results while reinforcing the educational level of the reviewer, allowing Commercial Building Review staff to operate at a more efficient and reliable level. As the CBI program prompts the analyst through the commercial plan review, the program displays instant compliance status

to each level of information entry with the Code reason(s) for accepting or not accepting. This can save tremendous time to be utilized elsewhere in the service provided. In the event of user's disagreement with the result, a hyperlink to the actual code text can be displayed to give the user an instant access to resolve any question or misinterpretation of code intent.

Each version of CBI is based upon specific building code editions. Regular maintenance updates and any refinements, as required, will be available for registered users to download free from the Internet.

While incorporation of this new and innovative CBI technology is being considered in many communities, Baton Rouge, Louisiana, is one jurisdiction that is currently utilizing this program in its commercial plan review department. Building Official Pete Newkirk states that CBI was chosen to assist their Commercial Plans Division in providing customers with quick answers to code questions, and has proven to be an efficient alternative to shifting through code manuals as a review is processed. The program is also appreciated for its simple point and click operation, requiring no special computer training. Mr. Newkirk says a product comparison was not made because no similar products exist on the market. Newkirk confirms that the Division's Review staff has enthusiastically adopted the software for its commercial review analysis and has found the review process simplified and clarified with its use. Certainly the public will appreciate the efficiency and enhanced consistency of Code interpretation in the Commercial Plan Review Department provided by CBI Technology.

Advantages

- Increases productivity by reducing review time and complexity;
- Improving Service Delivery. The Commercial Review Plan Section will deliver quality services to the public;
- Software is an easy to use low-cost tool to assist in communicating code requirements to the general public;
- This software tool can improve the quality of plan preparation by providing a consistent result of plan analysis;
- This program is a promising investment resulting in efficient and consistent commercial building reviews, while enhancing the reviewers' understanding of Code compliance issues.