

**Activity 3.1.2 Land Use and Development Regulations**

Introduction

Most locations within the United States fall within a municipality that regulates land use within its jurisdiction. Land Use regulations are designed to protect and promote the public health, safety, and general welfare. Typically they include Zoning Ordinances that control development by designating areas for specific types of use. These ordinances include laws that control a wide variety of development activities within each zoning area, including building construction, parking lot design, entrances and exits from property, water and sewer facilities, storm water runoff, and landscaping.

As part of local Land Use regulations, many municipalities have adopted the International Building Code to regulate the design and construction of non-residential buildings. Although some jurisdictions within a state may not use the IBC, state or local regulations will typically adopt the IBC by reference, meaning that the requirements of the IBC apply within the jurisdiction of that state or other government body.

Rules that control other aspects of development vary and are published by each municipality. It is important to identify the codes and regulations that apply to a project and become familiar with the requirements for development before beginning the design of a project.

Equipment

* **Keystone Library Site Location Map**
* **Keystone Library Site Plan**
* **Keystone Library Renovation Preliminary Building plans** (Revit file)
* City of Noblesville, Indiana Code of Ordinances (found at http://www.amlegal.com/library/)
* Section 154.04 Adoption of Rules by Reference
* Section 159.105 Zoning Districts General Requirements
* Section 159.107 Commercial Districts
* Section 159.120 General Regulations
* Appendix C
* International Building Code 2009
* Section 302
* Section 303
* Section 503
* Section 602
* Section 1004
* Section 1005
* Section 1021
* **Noblesville Zoning Map**

Procedure

In this activity you will research the local code of ordinances and building codes to obtain important information needed to redesign the Keystone building.

The Keystone Building is within the city of Noblesville, Indiana. The Noblesville Code of Ordinances applies to this project location.

1. Identify the *Building Code* that applies in Noblesville by reviewing **Section 154.04 Adoption of Rules by Reference** in the Noblesville Code of Ordinances.

*154.04.A.1 – Building codes*

1. Visit the Indiana Association of Building Officials website at [http://www.iabo.com/](http://www.iabo.com/%20) and follow the link to Current Codes. On which model code is the current **Indiana Building Code** based?

*IBC 2012*

1. Using the International Building Code, find the Use and Occupancy classification of the proposed new Keystone Building.

*302.1 states that the new Keystone Building is an ‘Educational building’*

1. Using the International Building Code, describe each of the four types of construction. Based on the existing structure, under which of these types of construction could the Keystone Building fall? See section 503.1.

*Four Types:*

1. *Types 1&2 - Made of non-combustible materials*
2. *Type 3 – Exterior walls are non-combustible and interior walls are made of materials approved by code*
3. *Type 4 - Exterior walls are of noncombustible materials and the interior building elements are of solid or laminated wood without concealed spaces.*
4. *Type 5 - Structural elements, exterior and interior walls are of any materials permitted by the code.* 
   1. *Fire-resistance rated construction.*
   2. *Non fire-resistance rated construction.*

*Keystone building would fall under Type 2 (Exterior walls made of brick)*

1. Compare the allowable Building Heights and Areas (IBC 2009 Table 503) for the Keystone Library using different construction types. What is the least restrictive construction type that can be used for the Keystone Library? Is a fire-protective layer required over the structural elements? Note: The letter A indicates that the structural members are protected by a fire-rated coating or cover (sheetrock, spray on, or another approved method). The letter B indicates that the structural members are not protected by an additional fire-rated coating or cover.

*Type 2 is the least restrictive. Yes, exterior materials may not be combustable*

1. What materials do you propose to use for the new interior walls and floor for the Keystone Building? Justify your answer.
2. Use the IBC to determine the Occupant Load (IBC 2009 Section 1004) for the Keystone Building assuming a second floor is added per the **Keystone Library Renovation Preliminary Building plans** (see Revit file). For now, conservatively assume that the second floor is entirely stacks and that the first floor is entirely reading rooms. In addition, because there is currently no plan to include an outside stairway to the roof, assume that the occupants of the green roof must exit through the 2nd floor. The building inspector has determined, based on the planned use of the green roof as additional reading area, that the occupant load for the green roof may be based on the requirements for reading rooms.

*100 gross*

1. The occupant load is used to determine the minimum egress width for the building. Use the IBC to determine the required total egress width (IBC 2009 Section 1005) for the Keystone Building including the second floor.

*30 inches*

1. What is the minimum number of exits required for the Occupant Load (IBC 2009 Section 1021)?

*2 exits*

1. Read IBC 2009 Section 1021.2. Is it permissible to have only a single exit from the ground floor? From the second floor? Justify your answers.

*No, the first floor will hold more than 49 people, and the second will hold more than 29 people*

The answers to the following questions should be researched in the Noblesville Code of Ordinances and the Noblesville Zoning Map.

1. In which zoning designation does the Keystone building property lie? (Refer to the Keystone Library Site Location Map to help locate the site on the zoning map.)

*Planned Business*

1. Describe the purpose of this zoning designation. Document your answer with a section number from the code.

*According to 159.107.D.1, “The purpose of the PB District is to encourage well-planned business uses, particularly with respect to unified design, safe ingress-egress, adequate and properly located parking and service facilities and convenient and safe pedestrian accessibility.  Shopping centers are good examples of types of uses in the PB District.  The PB District is also designed to service the motoring public through such uses as motels, restaurants, or service stations.  The PB District shall only be permitted along or at the intersection of major arterials as specified by the Thoroughfare Plan element of the Comprehensive Plan.”*

1. What is the minimum lot size within this designation? Does the Keystone Property meet this requirement? Document your answer with a section number of the code.

*According to 159.107 table 6, Minimum of 20,000 sq. ft.*

1. What is the maximum building height according to the Noblesville ordinance?

*According to 159.107 table 6, max of 3 stories or 35’.*

1. Read Section 159.120 of the Noblesville Code of Ordinances. Record any information that is important to the redevelopment of the Keystone building.

*No*

1. Is the Use proposed in Keystone Building Project permitted on this property? Document your answer.

*Yes, the Keystone building is permitted based on the City of Noblesville Code of Ordinances*

1. When developing a property, when is landscaping and screening required?

*When storm runoff water or other factors will hurt the environment and/or the existing ecosystem*

Conclusion

1. Why is it important to research building codes and local ordinances before beginning the design of a project?

*A company could potentially spend lots of money in design, and then realize that the building is not up to code, or not able to be built at all and be fined for it.*

Give some examples of how building codes protect people and property.

*Building codes make sure the structures can support the number of people that they are regulated for. They can also help to ensure occupants’ safety in time of a natural disaster to some extent.*

1. How do local ordinances control development?

*Local ordinances are in place to make the city a uniform environment where all the buildings of the same type can have the same appearance.*