

PowerPoint Notes

Lecture 1.1: MasterFormat Divisions 00 & 01, Industry Standards

- Systems, Methods, & the Future
 - Selection of methods and systems governed by
 - Functional requirements
 - Cost
 - Appearance
 - Materials, products, and systems available
 - Considerations
 - Climate, topography, initial costs, building codes, zoning ordinances, other regulations, availability of materials and labor, builder capacity, owner preference, local custom
- The Marriott Hotel Construction Project
 - Project Finished early
 - Prefabricated restrooms off site because they were all similar
 - Something similar to the restrooms last semester in north side apartments
- Industry Standards
 - Many diverse interest groups establish standards
 - Material
 - Product
 - Design
 - Workmanship
 - Test Method
 - Objectives are
 - Establish levels of quality use
 - Standardize and simplify
 - Nonprofit groups, or organizations, etc.
 - ISO
 - AISC
 - AWI
 - ACI
 - ASTM
 - Trade Associations – Common interest that people join
 - ABC
 - NAHB
 - ASA
 - AGC

Lecture 1.2: Zoning Codes

- Zoning codes establish requirements for land use
 - Developed, interpreted, enacted, and enforced by local jurisdictions
 - Early codes in late 1800's dealt primarily with fire safety
 - Equitable building prompted zoning that regulated height, mass, and setback
 - New York building problem – too tall and so big that it cast a shadow that affected surroundings with like shadow
- Think about zoning codes this way
 - What's the worst thing you can imagine being built next to an elementary school?
- International Code Council (ICC)
 - Template that a community can adopt to help with codes
 - Table of Content
 - Agriculture
 - A-1: this rule
 - A-2: this rule
 - Residential
 - R-1: this rule
 - Commercial, etc.

Lecture 1.3: Building Codes

- Effect of building codes on design
 - Limit construction type and size for building use
 - Control materials and methods
 - Fire ratings
- Common building groups are
 - Group A: assembly occupancies
 - Group B: business occupancies
- Common building types are
 - Types I and II, A&B
 - Noncombustible
 - Type III, A&B
 - Noncombustible exterior walls
 - Combustible interior elements
 - Type IV
 - Noncombustible exterior walls
 - Heavy timber interior elements
 - Type V, A&B
 - Any construction type permitted by code
 - Combustible
- Building Code Enforcement

- o Descriptive or performance oriented
- o International Code Council (ICC)
 - International Building Code (IBC)
 - International Residential Code (IRC)
- o Uniform Plumbing Code
- o Uniform Mechanical Code
- o National Electrical Code

Lecture 1.4: Sustainable Building Design

- Need for Sustainable Design
 - o In the US, the built environment accounts for
 - 39% of all energy use
 - 40% of raw materials used
 - 39% of carbon emissions
 - 70% of electricity consumption
 - 30% of waste output
 - 12% of portable water consumption
- Building Life Cycle
 - o Begin with extracting raw materials and ends when removed and disposed of
- Green Building & LEED
 - o Relationship between building and environment
 - o The Sustainable Sites (SS) category rewards decisions about the environment surrounding the building, with credits that emphasize the vital relationships among buildings, ecosystems, and ecosystem services

Lecture 20.1: MasterFormat Division 31, Soil Classifications

- Earthwork
 - o Includes below-grade aspects of site construction
 - Demolition
 - Site clearing
 - Grading
 - Excavating and backfilling
 - Surface and groundwater control (dewatering)
 - Erosion control
- Sustainability Considerations
 - o Sitework can be destructive to the environment
 - Codes and ordinances mandate measures
 - o On-site storm/waste water
 - o Endangered species
 - o LEED sustainable sites