PLANNING REVIEW OF ZONING ISSUES

What does the Planning Department review?

Board of Municipal and Zoning Appeals (BMZA) actions: The Zoning Ordinance of Baltimore City requires the Planning Department staff to review and comment on all conditional uses (zoning appeals) and conversion actions. Additionally, the Planning Department staff may respond to any other BMZA action of special interest to the Department.

City Council Ordinances: Article 66B (State enabling legislation regarding land use), and/or the Zoning Ordinance of Baltimore City requires that the Planning Commission review zoning changes, Planned Unit Developments (PUD), conditional uses requiring an ordinance, and Zoning Ordinance text amendments. The Planning Commission is a publicly appointed body and must make their decisions at a public hearing. They make a formal recommendation to the City Council. Planning staff reviews actions and makes a recommendation to the Commission.

What does Planning require as part of the review process?

TECHNICAL REVIEW

- Staff reviews the request to insure that what is proposed matches the zoning request. Sometimes an applicant has not selected the appropriate land use category, has not included all the variances required to complete the project, or requires a different review process.
- Is the request allowed in accordance with Article 66B? This is State enabling legislation.

WELCOME TO HELL

Ok, not *really*...

> Housekeeping: Books, E-mail, and HardHats; MyMail Account
> Next Week's Logistics

> Review: Worksheet #1;

> **Allen:** *Chapter 1-- Making Buildings;*
> *Building System Categories, IBC, and UL*

> Exercise: Building Code Restrictions (AllenX, pp. 2-4);

> Reading: Foundations (Allen, Chapter 2);

Next Week: GETTING DIRTY!

Last Week: *What Do You Know When You See What You See?*

Worksheet #1

... 1. **LOOK** at the room around you.

Identify ten (10) materials, fixtures, or fittings which were likely specified by Architects or consulting Engineers in the design of this building:

... paint, ceiling tile, window frames, door frames, wall base, wall board...
... light fixture, heating fixture, glass, air vent, carpet, door handle...

&c

Last Week: *What Do You Know When You See What You See?*

Worksheet #1

... 2. Identify six (6) more:

... electrical outlets, wood door slab, light switches, conduit, signage, metal security grating, door hinges, ...

If it's nailed down, it's likely something to be specified by the Architect or her/his consultants.

Last Week: *What Do You Know When You See What You See?*

Worksheet #1

... 3. Which material objects can you see which might typically *not* be specified by Architects or consulting Engineers during the design of a building?

... Furniture (chairs, desk, tables) --
although sometimes these are specified by Architects!

... Applied decoration (pictures, calendars, notices) --
although sometimes these are specified by Architects!

... Incidental Fittings (blackboard, trashcans) --
although sometimes these are specified by Architects!

Last Week: *What Do You Know When You See What You See?*

Worksheet #1

... 4. Building materials are typically installed within systems, which are complex combinations of different materials, fixtures, and fittings. Identify at least six visibile within this room:

Fenestration (Window System);
Door/Hardware (Door Panel, Hinges, Frame, Closer, &c);
AC (Diffusers + Ducts);
Interior Wall System;
Electrical Power;
Structural System;
Heating (Baseboard);
Exterior Wall System;
Electrical Lighting;
Finish Ceiling System;
Comm/Security System...

Last Week: *What Do You Know When You See What You See?*

Worksheet #1

... 5. Which of these systems might typically be specified by an Architect? By an Engineer?

Fenestration - ARCH
Door/Hardware - ARCH/HWR
AC (Diffusers + Ducts) - MECH
Interior Wall System - ARCH
Electrical Power - ELEC
Structural System - STRUCT
Heating (Baseboard) - MECH
Exterior Wall System - ARCH
Electrical Lighting - ELEC.
Finish Ceiling System - ARCH
Comm/Security System - ELEC

Last Week: *What Do You Know When You See What You See?*

Worksheet #1

What's the moral of the story...

Last Week: *What Do You Know When You See What You See?*

Worksheet #1

What's the moral of the story?

Success in any profession lies in a willingness to observe accurately and to organize your observations in appropriate categories.

Success in the Architectural Profession requires observation both of ***visual data*** *&* ***abstract principles***, and the relationship between the two.

This Week: *Making Buildings*

You were asked for today to read the first chapter in Allen's big tome, which is titled in a somewhat aggrandized fashion.

What comprises "making buildings?"

This Week: *Making Buildings*

What comprises "making buildings?"

Designing Buildings

Choosing Building Systems

> Constraints

> Information Resources

> The Work of the Design Professional

This Week: *Making Buildings*

Designing Buildings

> Who is involved?

The answer is non-trivial, since the dynamics of the the entire process depends upon the particular characteristics of the project participants.

"There's one on every project..."

This Week: *Making Buildings*

Designing Buildings

> Who is involved?

Client
Design Professsionals (and related consultants)
Regulatory Agencies
Financiers
Construction Team
Vendors / Manufacturers
Project Expediters
Users and Inhabitants

... and the wider community and environmental context.

This Week: *Making Buildings*

Choosing Buildings

> Constraints

Legal Constraints
Design Constraints
Programmatic Constraints

In the context of this week's reading, the most significant initial constraints upon the initial building design are

... **Zoning** and **Building Code**

This Week: *Making Buildings -- Constraints*

Zoning and **Building Code**

What is the difference?

This Week: *Making Buildings -- Constraints*

Zoning

Zoning are laws, typically passed and enforced at the level of the municipality or of the most local jurisdiction, which describe how a project may participate in the urban design of its location.

Bulk (Building Height, Required Yards, Setbacks)
Use (Permitted types of functions within a specific zone)
Density (How much "stuff" can be built: Number of Units, Floor Area Ratio)

Other issues typically covered include Signage, Parking, Processes for Appeal, and Penalties for Violations.

This Week: *Making Buildings -- Constraint* **Zoning Code**

(See next PDF)

This Week: *Making Buildings -- Constraints*

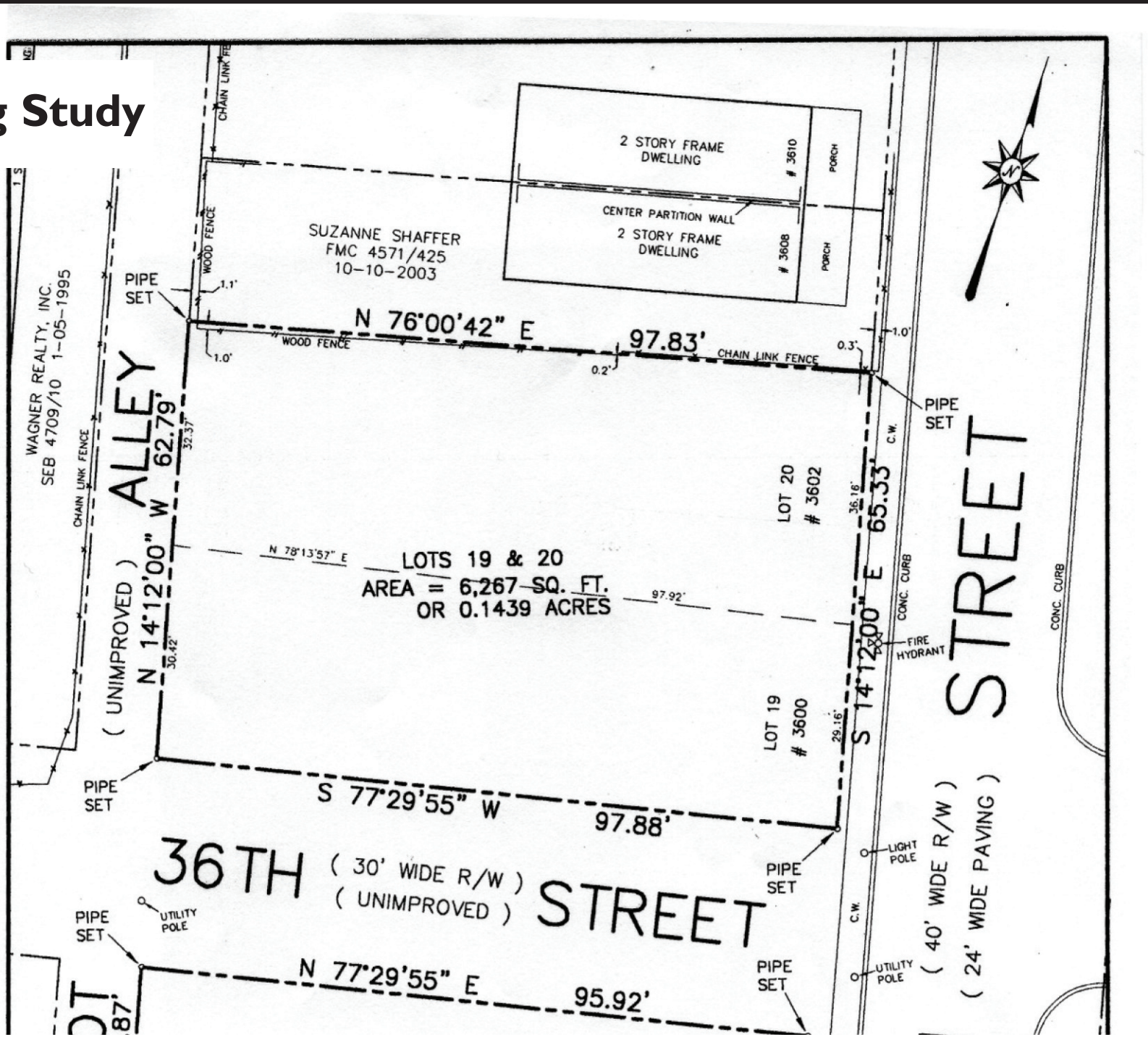
Zoning

Why do we have Zoning in the first place?

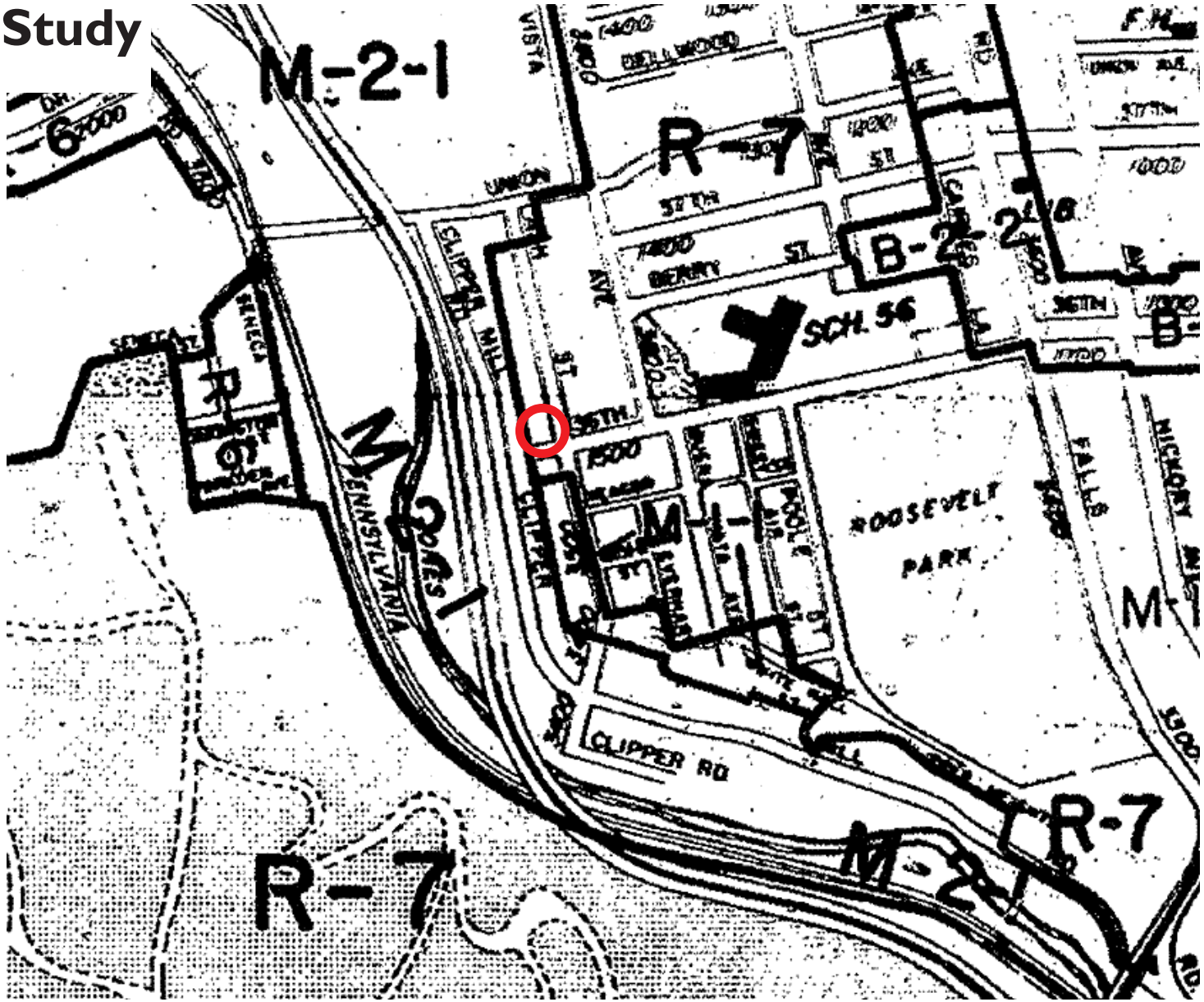
When did Zoning codes arise? Why?

How does Zoning affect new projects today?

Example Zoning Study



Example Zoning Study



Example Zoning Study: **See Baltimore Zoning R-7**

ZONING ANALYSIS

LOT LOCATION: 3600 ASH STREET
BLOCK 3518A, LOTS 19 + 20 [CONSOLODATED 8/07]
(WARD 13, SECTION 3)

LOT SIZE: 6,267 SF (0.1439 ACRES)

OWNER: CLIPPER CREST LLC. / JEREMY KARGON (TEL. 443-739-2886)
3418 ROLAND AVENUE, BALTIMORE, MD 21211

CURRENT ZONING: R-7

PROPOSED USE: MULTIFAMILY, DETACHED DWELLING
ACCESSORY USE: COVERED PARKING (BELOW DWELLING UNITS)

LOT AREA AND COVERAGE

MINIMUM LOT AREA/DWELLING: 1,100 SF/ DWELLING UNIT [§4-1006a]
ALLOWABLE UNITS: 5 DWELLING UNITS (PER 6,267 SF)
PROPOSED UNITS: 3 DWELLING UNITS + COMMONS

MAXIMUM LOT COVERAGE: PER FAR [§4-1008a]
PROPOSED LOT COVERAGE: 2,214 SF (37%)
(COVERAGE INCLUDES EXTERIOR,
COVERED SPACES, PORCHES, AND STAIRS)

TOTAL DISTURBED AREA: ~ 2,967 SF
2,214sf BUILDING FOOTPRINT;
492sf DRIVEWAY;
261sf EXTERIOR PAVING.

MAXIMUM ALLOWABLE BUILT AREA: 7,520 SF (PER FAR 1.2: §4-1008a]
PROPOSED BUILT AREA: 5,264 SF (TOTAL BUILT AREA)

[3,218 SF (TOTAL LIVING AREAS)
2,046 SF (AUXILLIARY PARKING)]

YARDS, SETBACKS, AND BULK [§4-1007]

FRONT: AS PER ADJACENT HOUSE
SIDES: 15'
REAR: 24'-6" (25' LESS 2% REAR YARD REDUCTION - §3-208)
[REAR SETBACK TO BE MEASURED FROM 1/4 WIDTH OF ALLEY PER §3-207c]

ALLOWABLE BUILDING HEIGHT: AS PER FAR [§4-1008]
PROPOSED BUILDING HEIGHT: 25' TO CORNICE AT STREET SIDE
(~38' RELATIVE TO REAR GRADE DUE TO SLOPE)
HIGH POINT: 40' RELATIVE TO REAR GRADE DUE TO SLOPE

OFF-STREET PARKING

REQUIREMENT: ONE FOR EACH DWELLING UNIT; 3 TOTAL
PROPOSED: 3 COVERED, ENCLOSED PARKING SPACES

ADDITIONAL SITE INFORMATION

FLOODPLANE: LOT IS NOT IN A FLOOD PLANE (Area X, White, "Not in Flood Plane")
(cf: PANEL 240087 0006 D, Dated 09-30-1988)

URBAN RENEWAL: LOT IS NOT IN AN URBAN RENEWAL AREA
HISTORIC DISTRICT: LOT IS NOT IN A HISTORIC DISTRICT
WETLANDS/ CRITICAL AREA: LOT IS NOT IN A WETLANDS OR CRITICAL AREA

CONSTRUCTION TYPE

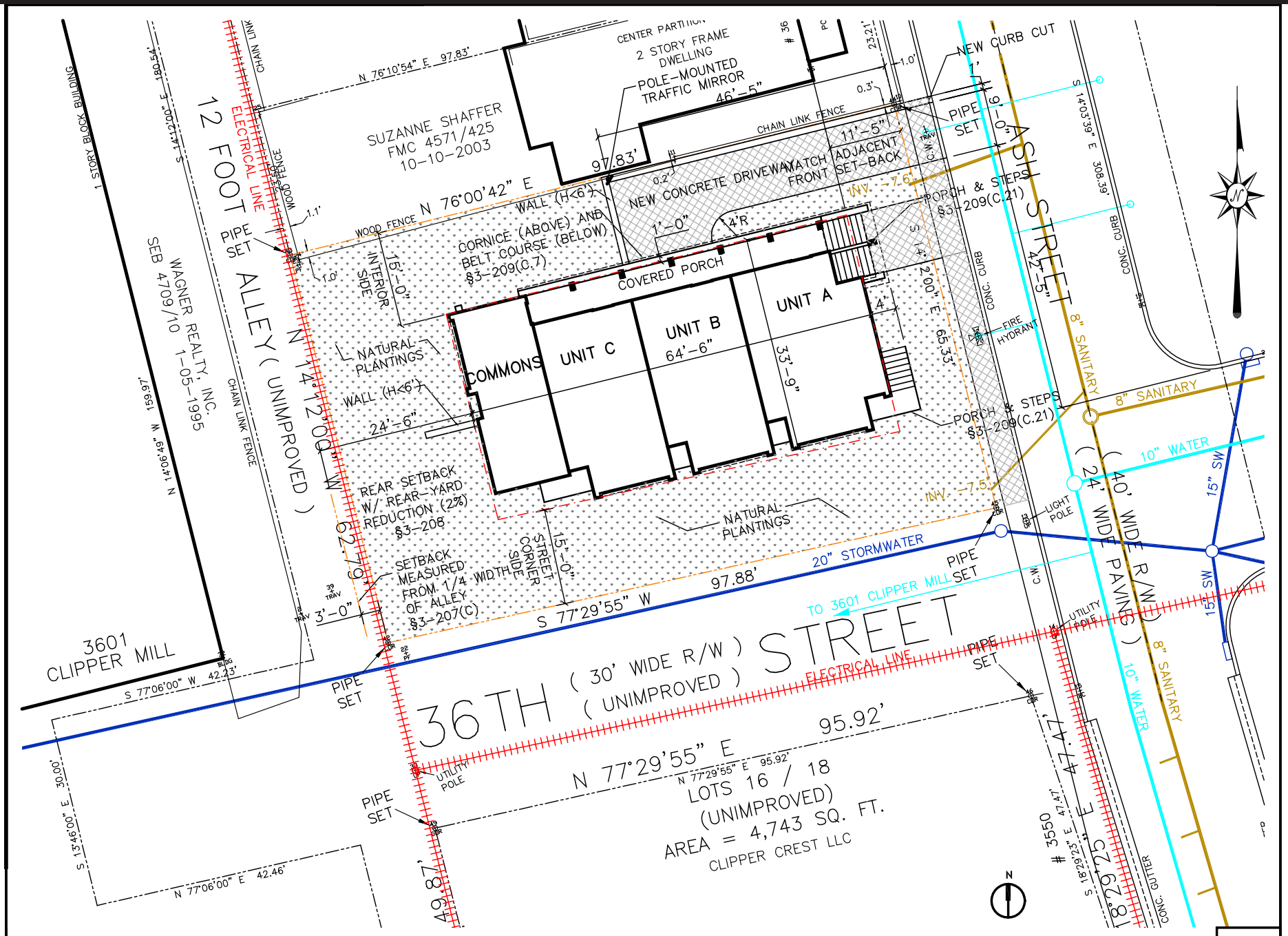
[AS PER IBC 2000]

USE CLASSIFICATION: R-2 (MULTI-FAMILY DWELLING); U (INCIDENTAL USE: PRIVATE GARAGE <3000' PER §406.1.2)

CONSTRUCTION TYPE: OCCUPANCY R-2: TYPE V-B (ALL MATERIALS, UNPROTECTED)
OCCUPANCY U, WALLS & FLOORS: TYPE II-B (NON-COMBUSTIBLE MATERIALS, UNPROTECTED)

GENERAL NOTES: ZONING & CONSTRUCTION

3



3600/3602 ASH STREET [Block 3518A, Lots 19+20] *SITE PLAN: IMPROVEMENTS AND EXISTING UTILITIES, 1" = 10'*

5

This Week: *Making Buildings -- Constraints*

Zoning

Although from the context of "Materials," Zoning itself has relatively little relevance, from the perspective of architectural planning, Zoning is the Big Kahuna:

Most of a project's political and urban dimension, as well as its economic feasibility, will relate to the legal framework imposed by its Zoning.

This Week: *Making Buildings -- Constraints*

Building Codes

Most important quasi-legal framework for conceiving of a building in the literal, material sense.

Also administered by local jurisdiction, with additional legal overlays at the State and Federal level.

> Examples? (Accessibility, Toxicity, Technology Incubation)

What do these examples suggest to us about the very reason we have building codes in the first place?

This Week: *Making Buildings -- Constraints*

Building Codes

Building Codes exist to assure a minium baseline of construction standards which assure **Public Health and Safety**.

(In theory.)

Since their conception, additional factors now influence the development of Building Codes and their use:

> Commercial and Manufacturing Interests
> Professional Interests
> Insurance Interests
> Political Interests
> "Code Industry" and Publishing Industry Interests

This Week: *Making Buildings -- Constraints*

Building Codes

Although building codes have historically varied by locale, depending upon regional construction practices, the trend over the last twenty years has been towards consolodation under a single, nation-wide code, with local variation controlled by amendments passed at the state or city/county level.

Currently, the "International Building Code" is that which is most often cited throughout the United States.

("International" means USA!)

This Week: *Making Buildings -- Constraints*

Building Codes

Yet other bodies still maintain their independance. National Fire Protection Association (NFPA) still maintains a separate code which is used often by local fire marshals to determine sprinkler and life safety criteria.

Additional codes having to do with Accessibility are typically Federally-mandated codes which are reinforced by additional requirements at the STATE level. Examples include UFAS, Fair-Housing, and ADA.

This Week: *Making Buildings -- Constraints*

Building Codes -- Back to IBC

It is important to get some contact time with the categories and concepts of IBC. Basically, the categories may be listed this way:

Occupancy Groups
Construction Classification

Allowable Area / Allowable Height

Fire-Resistance Rating
Fire Separation
Fire Separation Distance

Other related terms: Means of Egress, Occupancy, &c.

This Week: *Making Buildings -- Constraints*

IBC Occupancy Groups

Roughly, this corresponds to the function of the building, what the building is used for. Naturally, most buildings have a mix of functions; in some cases, different functions might be considered "accessory" to a single main function.

Examples?

In other cases, different building functions need to be considered as different "Occupancies," even within a single building.

This Week: *Making Buildings -- Constraints*

IBC Occupancy Groups

How does "Occupancy" relate to Life-Safety concerns?

This Week: *Making Buildings -- Constraints*

IBC Occupancy Groups

How does "Occupancy" relate to Life-Safety concerns?

Each particular "Occupancy" or function has related hazards, which require different consideration with regard to fire protection, egress, and human use.

This Week: *Making Buildings -- Constraints*

IBC Occupancy Groups

Assembly	A-1... A-5
Business	B
Educational	E
Factory (Industrial)	F-1,2
High Hazard	H-1... H-5
Institutional	I-1... I-4
Manufacturing	M
Residential	R-1... R-4
Storage	S-1,2
Utility	U

See IBC Table 503 *Allowable Height and Building Area*

(Section 506:
Area Modifications)

This Week: *Making Buildings -- Constraints*

Construction Classification

Type I **Non-Combustible** (Heavy Protection)
Type II **Non-Combustible** (Light or no Protection)
Type III **Non-Combustible Exterior Walls Only**
Type IV **Heavy Timber**
Type V **Combustible and Miscellaneous**

This Week: *Making Buildings -- Constraints*

Construction Classification

Type IA,B	**Non-Combustible**	Concrete, Fire-Proofed Steel
Type IIA,B	**Non-Combustible**	Fire-Protected Steel, Un-Protected Steel
Type III	**Non-Combustible Exterior Walls Only**	Masonry or Treated Wood Walls, Wood or Steel Floor Assemblies
Type IV	**Heavy Timber**	Thick, Massive Wood Beams
Type V	**Combustible**	Wood framing of any kind

See IBC Table 601 Fire-Resistance Rating

See Table 602 Fire-Resistance / Fire Separation

See Tables 705.4, 706.3.9

Fire Resistance Rating Requirements: Fire Wall, Fire Barrier

This Week: *Making Buildings -- Constraints*

Building Codes -- Fire-Resistance Rating

So what does this mean?

... from a material standpoint?
... from the point of view of the architect?

This Week: *Making Buildings -- Constraints*

Building Codes -- Fire-Resistance Rating

Fire-Resistance is a material property which describes that material's resistance to combustion and the transfer of heat.

Fire-Resistance is also a property of an ASSEMBLY of materials, including both structural elements and non-structural, protective materials.

In the context of the Building Code, Fire-Resistance Ratings are typically "laboratory-determined" figures which have been assembled by *insurance companies* in the interest of guiding decisions concerning material choice. **Underwriters' Laborators** (UL) is the best-known organization which tests and publishes Fire-Resistance Ratings for different materials and assemblies.

This Week: *Making Buildings -- Constraints*

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This Week: *Making Buildings -- Constraints*

Building Codes -- Fire-Resistance Rating

Construction Classification is closely related to Fire-Resistance Rating. How?

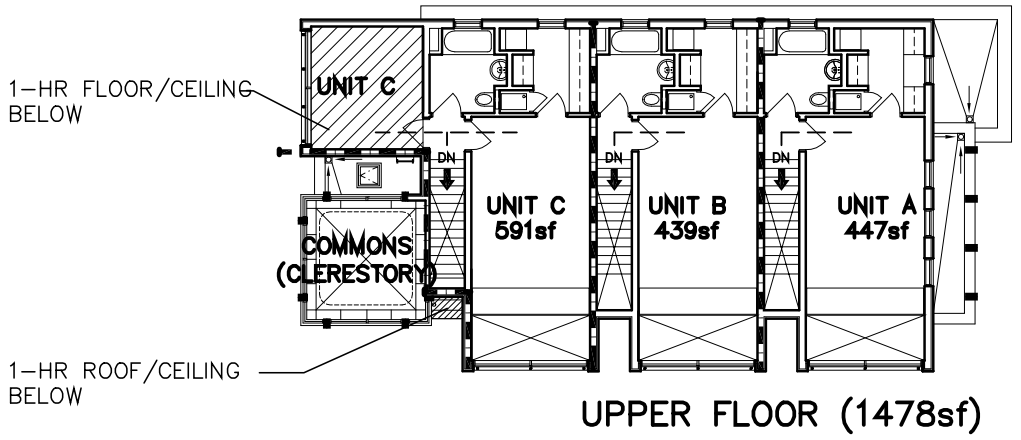
Refer again to IBC Table 601

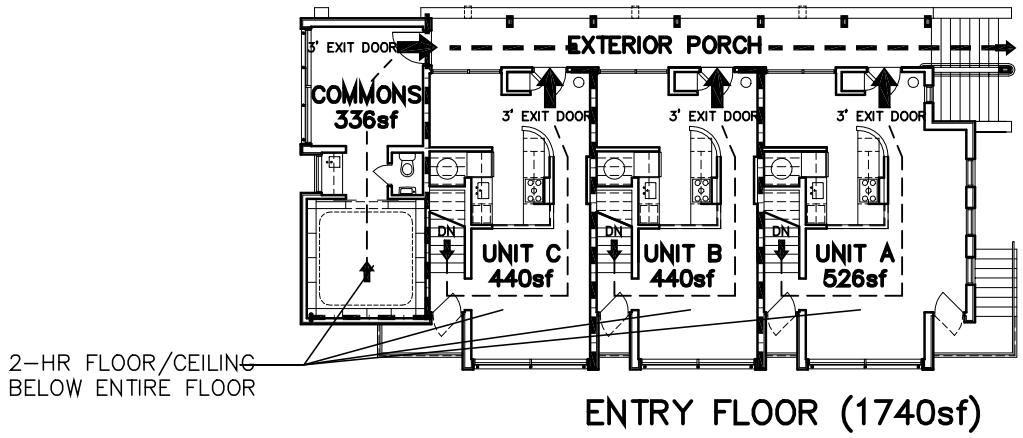
Building Code Sheet Example

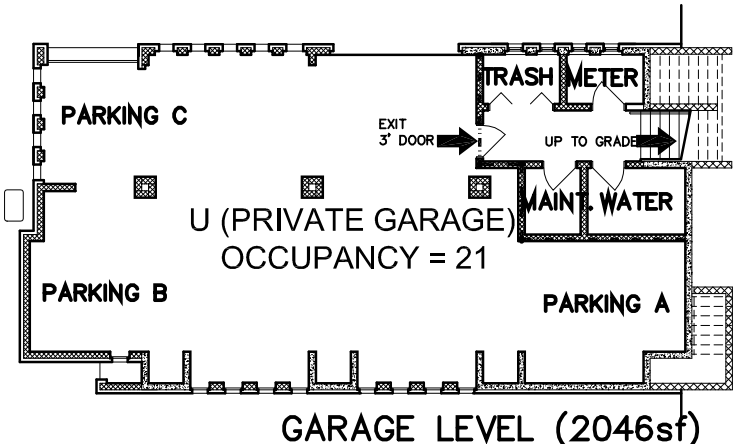
BUILDING CODE ANALYSIS [AS PER IBC 2000]

USE CLASSIFICATION:	R–2 (MULTI–FAMILY DWELLING); U (INCIDENTAL USE: PRIVATE GARAGE <3000' PER §406.1.2)
CONSTRUCTION TYPE:	OCCUPANCY R–2: TYPE V–B (ALL MATERIALS, UNPROTECTED) OCCUPANCY U, WALLS & FLOORS: TYPE II–B (NON–COMBUSTIBLE MATERIALS, UNPROTECTED)
SEPARATION BETWEEN USES:	R–2 OCCUPANCY AND ITS INCIDENTAL USE WILL BE SEPARATED BY A 2–HR FLOOR/CEILING ASSEMBLY
CLASSIFICATION OF PRIVATE GARAGE: (§406.3)	INCIDENTAL USE "PRIVATE GARAGE" WILL CONFORM TO REQUIREMENTS FOR OPEN GARAGE
HEIGHT AND AREA LIMITATIONS (TABLE 503)	THE PROPOSED BUILDING WILL BE SPRINKLERED PER IBC 2000 903.3.1.1 MAXIMUM 3 STORIES (PER §504.2) MAXIMUM 60 FEET (PER §504.2) MAXIMUM 7,000 SF/FLOOR
PROPOSED HEIGHT AND AREA	3 STORIES: 2 STORY DWELLINGS ABOVE 1 STORY PRIVATE GARAGE ~40 FEET RELATIVE TO LOWEST GRADE NO MORE THAN 2,046 SF/FLOOR
PROPOSED TOTAL AREA	5,264 ON ALL FLOORS, INCLUDING PRIVATE GARAGE
FIRE RESISTANCE RATING (TABLE 601)	OCCUPANCY R–2: TYPE V–B (NO RATING REQUIRED) OCCUPANCY U, WALLS & FLOORS: TYPE II–B (NO RATING REQUIRED)
FIRE RESISTANCE RATING SEPARATION DISTANCE (TABLE 602)	USE GROUP R–2: NO RATING REQUIRED FOR EXTERIOR WALLS WITH FIRE–SEPARATION DISTANCE >10') PROPOSED FIRE SEPARATION DISTANCE: 15' (MINIMUM)
FIRE RESISTANCE RATED CONSTRUCTION (SECTION 700)	
INTERIOR FIRE PARTITIONS BETWEEN DWELLING UNITS	REQUIRED: 1/2 HOUR (PER 708.3 EXCEPTION 2) PROPOSED: 1 HOURS THERE ARE NO INTERIOR CORRIDORS BETWEEN DWELLING UNITS
FIRE ALARM, EXIT LIGHT LOCATION:	SEE E01, ELECTRICAL PLANS

Building Code Sheet Example







This Week: *Making Buildings -- Constraints*

Building Codes -- Other Constraints

As mentioned before, Accessibility is covered by Federal and State laws. Federal guidelines are the strongest and most likely to be enforced in case of challenge; State laws can only make Federal requirements stronger still.

Accessibility for all Housing is covered by Fair Housing
Accessibility for Federally-funded housing is covered by UFAS
Accessibility for public areas is covered by ADA.

This Week: *Making Buildings -- Constraints*

Building Codes -- Fair Housing

Fair Housing is the law!

Fair Housing relates to... Housing!

Fair Housing determines which units are "covered," how one must provide access to and within those units, and which accomodations must be made now and for future alterations. Laws and compliance are handled by the Department of Justice.

www.usdoj.gov/fairhousing

This Week: *Making Buildings -- Constraints*

Building Codes -- UFAS
Uniform Federal Accessibility Standards

UFAS tends to be the reference for HC-Accessible units, as opposed to potentially convertible units. UFAS covers housing and housing-related uses.

http://www.access-board.gov/ufas/ufas-html/ufas.htm

This Week: *Making Buildings -- Constraints*

Building Codes -- ADA
Americans with Disabilities Act

Covers buildings which are public in nature, including workplaces.

http://www.ada.gov

This Week: *Making Buildings -- Information Resources*

Standards	ASTM (Materials ANSI (Industrial Products)
Trade Associations	Steel Wood Masonry Everything!
Construction Specifications	CSI / Masterformat

This Week: *Making Buildings -- Information Resources*

CSI MasterFormat

Since the passing of the era of Isaac Newton and Albert Einstein, only MasterFormat remains to describe the workings of nature in a clear, easily-indexed numerical scheme.

No joke about it: Your success in the field of Construction, including Architecture or any of the other design fields, depends upon your awareness of your place in the CSI universe.

This Week: *Making Buildings -- Information Resources*

CSI MasterFormat -- Old Style

16 divisions, comprising the full scope of purchase and activities for any building project:

Division 01	General Requirements
Division 02	Site Work / Existing Conditions
Division 03	Concrete
Division 04	Masonry
Division 05	Metals
Division 06	Wood, Plastics, and Composites
Division 07	Thermal and Moisture Protection
Division 08	Doors and Windows
Division 09	Finishes
Division 10	Specialties
Division 11	Equipment
Division 12	Furnishings
Division 13	Special Construction
Division 14	Conveying Equipment
Division 15	Mechanical
Division 16	Electrical

This Week: *Making Buildings -- Information Resources*

CSI MasterFormat -- Old Style

Each division is subdivided, for example:

04000 Masonry
04100 MORTAR
04200 UNIT MASONRY
04210 BRICK
04220 CONCRETE
04240 CLAY TILE
04250 CERAMIC VENEER
04270 GLASS
04280 GYPSUM
04400 STONE
04500 MASONRY RESTORATION

There's no way to memorize them all, but you should be familiar with the sixteen overall divisions, and know where to go for research.

This Week: *Making Buildings -- Information Resources*

CSI MasterFormat -- New Style

04 0000 MASONRY
- 04 0100 Maintenance of Masonry
  - 04 0120 Maintenance of Unit Masonry
    - 040120.51 Unit Masonry Maintenance
    - 040120.52 Unit Masonry Cleaning
    - 040120.91 Unit Masonry Restoration
    - 04 0120.93 Testing and Sampling Brick for Unit Restoration
  - 040140 Maintenance of Stone Assemblies
    - 040140.51 Stone Maintenance
    - 040140.52 Stone Cleaning
    - 040140.91 Stone Restoration
  - 040150 Maintenance of Refractory Masonry
  - 04 0160 Maintenance of Corrosion-Resistant Masonry
  - 040170 Maintenance of Manufactured Masonry
- 04 0500 Common Work Results for Masonry
  - 040513 Masonry Mortaring
    - 040513.16 Chemical-Resistant Masonry Mortaring
    - 040513.19 Epoxy Masonry Mortaring
    - 040513.23 Surface Bonding Masonry Mortaring
    - 040513.26 Engineered Masonry Mortaring
    - 040513.29 Refractory Masonry Mortaring
    - 040513.91 Masonry Restoration Mortaring
  - 040516 Masonry Grouting
    - 040516.16 Chemical-Resistant Masonry Grouting
    - 040516.26 Engineered Masonry Grouting
  - 040519 Masonry Anchorage and Reinforcing
    - 040519.13 Continuous Joint Reinforcing
    - 040519.16 Masonry Anchors
    - 040519.26 Masonry Reinforcing Bars
    - 040519.29 Stone Anchors
  - 040523 Masonry Accessories
    - 040523.13 Masonry Control and Expansion Joints
    - 040523.16 Masonry Embedded Flashing
    - 040523.19 Masonry Cavity Drainage, Weepholes, and Vents

This Week: *Making Buildings -- Choosing Building Systems*

What do Architects Do?

Among other things, Architects perceive ordered choices from a disordered world.

> What will give the required functional performance?
> What will give the desired aesthetic result?
> What is possible legally?
> What is most economical?
> How can we build in a sustainable manner?

[per Allen, p. 12]

This Week: *Making Buildings -- Choosing Building Systems*

What is "Sustainability" in the context of Materials?

> What is Sustainability in any context?

This Week: *Making Buildings -- Choosing Building Systems*

What is "Sustainability" in the context of Materials?

> What is Sustainability in any context?

"Meeting the needs of the present generation without compromising the ability of future generations to meet their needs."

This Week: *Making Buildings -- Choosing Building Systems*

How might choosing Architectural Materials affected practical implementation of sustainable strategies?

> Origin and Manufacture of Materials for a Building

> Building Construction (Transportation, Methods, Waste)

> Building Use and Maintenance

> Building re-use or demolition

> Other concerns?

This Week: *Making Buildings -- Choosing Building Systems*

One final thought:

Although "Sustainability" will not be an explicit focus this semester, in this particular class, the awareness that our architectural designs affect both present and future society should never be too far from our considerations.

Worksheet 2!

pp. 2,3, & 4 in Allen X

This Week: *Making Buildings*

Are we through yet?

> Reading for next week: Allen, Chapter Two (Foundations)