PROJECT MANAGEMENT

This division will assess objectives related to the management of architectural projects including organizing principles, contract management and consultant management. The division will focus on issues related to office standards, development of project teams, and overall project control of client, fee, and risk management.
Candidates must demonstrate an understanding of and abilities in, quality control, project team configuration, and project scheduling.
In addition, candidates must demonstrate the ability to establish and deliver project services per contractual requirements in collaboration with consultants.

- Contract management
- Control of client, fee, and risk
- Quality control
- Flow of the work
- Delivery of the work

PRACTICE MANAGEMENT

Table of Contents

- Lecture discussions organized in the order of the ARE 5.0 objectives

- Guest Lecturers

- Example projects and goals matrix

- Scenario considerations

- Questions

- Going into the studio

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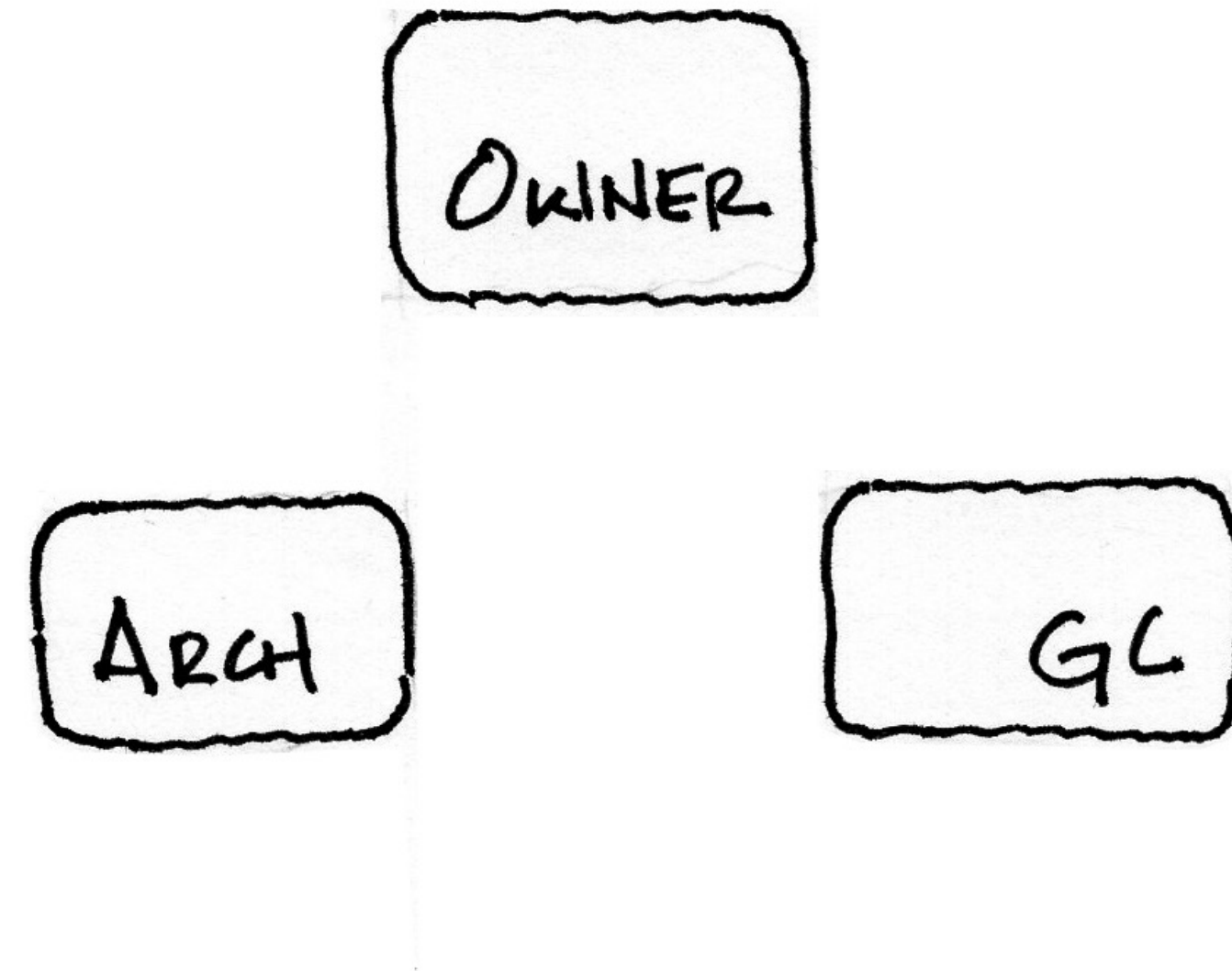
PROJECT MANAGEMENT

Table of Contents

- Lecture discussions organized in the order of the 5.0 objectives

- Guest Lecturers

- Example projects and goals matrix

- Scenario considerations

- Look at sample contracts

- Questions

- Going into the studio

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Terminology

- Firm, office, partnership, design corp.
- "Practice"
- Architect, designer, intern
- Consultant
- Contracts (AIA documents)
- Project delivery
- Design Bid Build
- Design Build
- Construction Manager
- Fast-track
- Multi-Prime
- Developer
- Integrated Project Delivery
- Agency
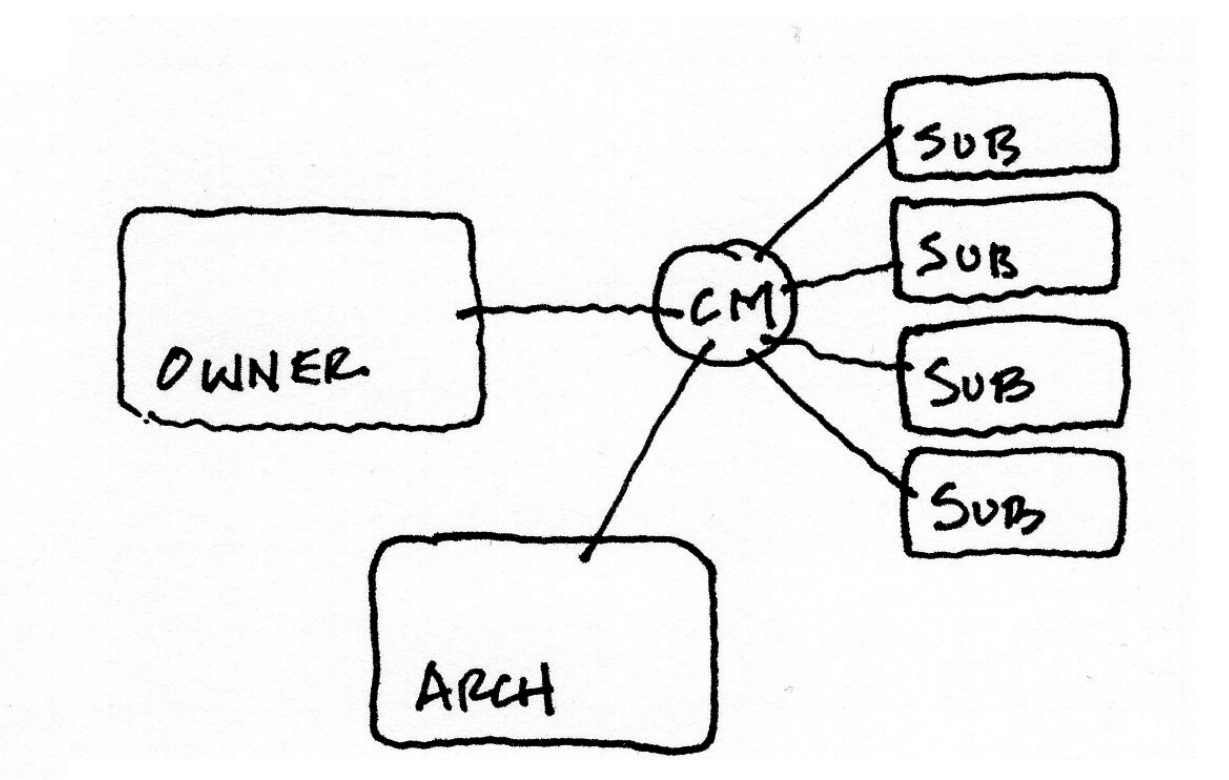

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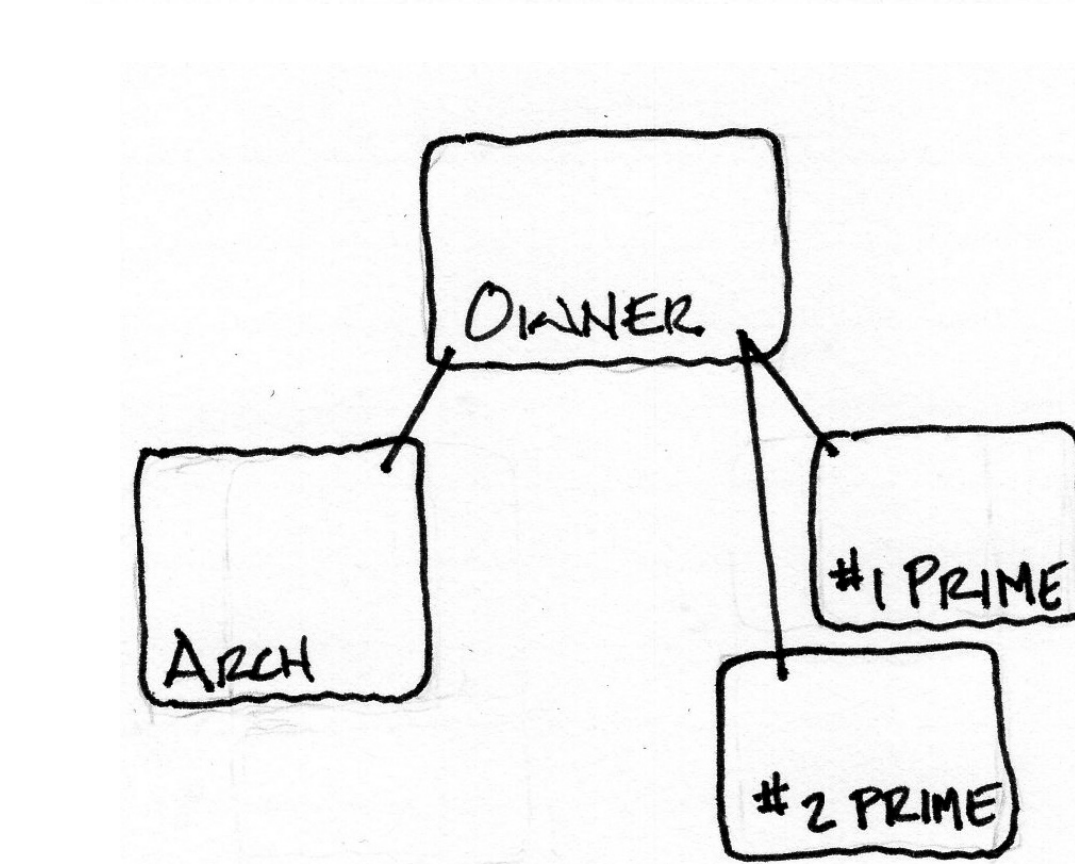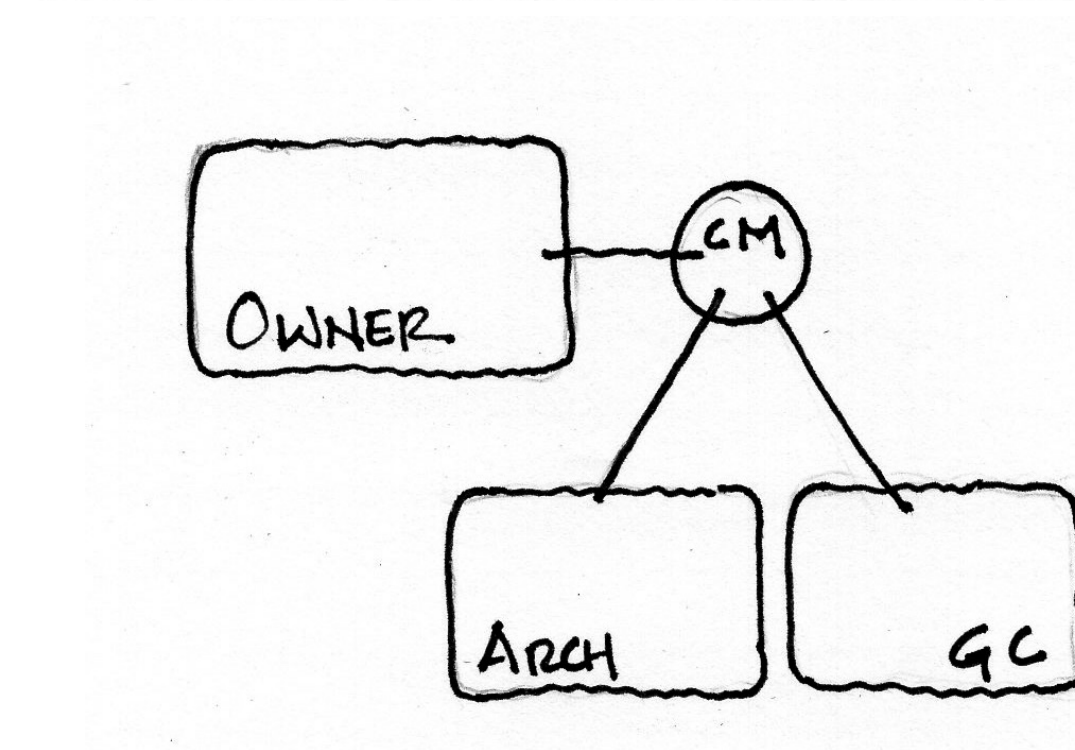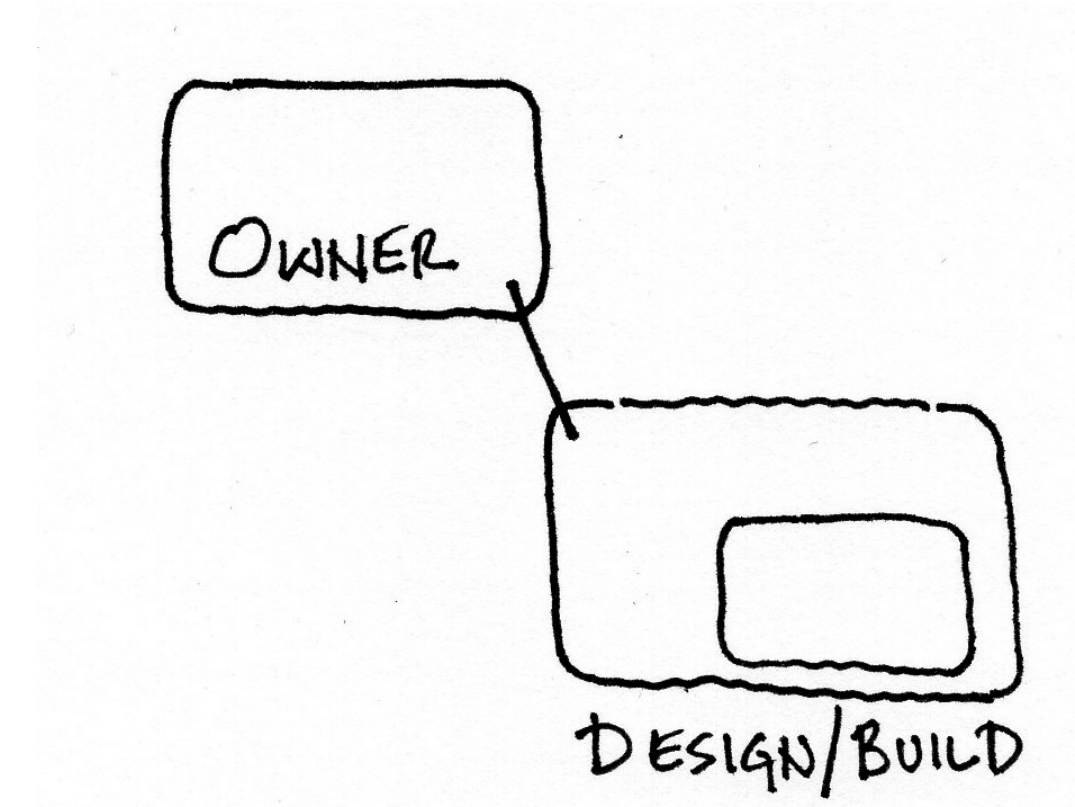
PRACTICE - BASICS

Terminology

- Firm, office, partnership, design corp.
- "Practice"
- Architect, designer, intern
- Consultant
- Contracts (AIA documents)
- Project delivery
- Design Bid Build
- Design Build
- Construction Manager
- Fast-track
- Multi-Prime
- Developer
- Integrated Project Delivery
- Agency

PROJECT TEAMS

In-house staff:

Criteria for putting together a team?
- Useful experience

- Political connections

- Special skill-sets (over time)

- Production capacity

- Schedule

- Diversity

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Consultants and contractors

Criteria for putting together a team?
- Useful experience

- Political connections

- Special skill-sets (over time)

- Production capacity

- Schedule

- Diversity

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PROJECT TEAMS

Managing project resources:

What are the criteria? Why?
- Billable hours

- Future opportunities

- Build skills

- Build teamwork and trust

- Fill the schedule

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PROJECT RESOURCES

Managing project resources:

- Project Schedule
    Pre-Design (additional services)
    Schematic Design SD
    Design Development DD
    Contract Documents CD
    Bidding B
    Construction Administration CA
    Post Occupancy (additional services)

- Fill the schedule

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PROJECT RESOURCES

Project Schedule Criteria

- Coordination issues

- Funding

- Owner requirements

- Lead times / contractor issues

- Weather / regional issues

- Economic market

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PROJECT RESOURCES

Managing project resources:

- People
- Computer time
- Prototyping
- Physical modeling
- Researching / library
- Printing and deliverables

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PROJECT RESOURCES

Project Schedule Criteria

- Billable hours per phase

- Who's hour
- Their billable rate
- Time = money

	Schematic Design	Design Development	Contract Documents	Bidding	Construction Admin

QUESTIONS

1. The Owner wants to complete the project ASAP. What would you likely discuss with the Owner to help them understand the options?

2. Overall fee for the architecture project is $100,000. How much of that fee is set aside for the Bidding phase of the work?

3. The Owner wants a review of the new building performed after one year to determine if everything is working as planned. What part of the project would this time be billed to?

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PLANNING THE WORK

Project Schedule (overall timeline)
- Pre-Design

- Schematic Design

- Design Development

- Contract Documents

- Bidding

- Construction Admin

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PLANNING THE WORK

Systems for keeping track of the work / billing

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PLANNING THE WORK

Project Schedule (drawing types)
- Pre-Design

- Schematic Design

- Design Development

- Contract Documents

- Bidding

- Construction Admin

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PLANNING THE WORK

Terminology through the schedule
- Design drawings
- Bid documents
- Contract documents
- Record drawings
- As-builts

- Design alternatives, options
- RFI
- Addenda
- Change orders
- Construction change directives

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PLANNING THE WORK

Project Schedule
- "Model" vs. "drawing"
- Plans
- Elevations
- Site plans
- Sections
- Specifications
- Wall sections
- S, M, P, E, civil, etc.
- Interior elevations
- Details
- Schedules

Coordination

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PLANNING THE WORK

Systems for keeping track of the work / billing

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Project Schedule Issues

- Coordination issues

- Funding

- Owner requirements

- Lead times / contractor issues

- Weather / regional issues

- Economic market

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PLANNING THE WORK

Systems for maintaining the schedule

- Project Manager reviews of current billing

- Regular meetings in-house

- Regular meetings with consultants

- Realistic deadlines

- Thorough communication with
  clients and other stakeholders

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PLANNING THE WORK

Thorough communication with clients and other stakeholders:
- Regular design meetings

- Meeting minutes

- Regular coordination meetings

- VE meetings

- Milestones for design drawing issuance

- Communication systems appropriate to use (client, code official, estimator, etc.)

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PLANNING THE WORK

Issues that drive project planning:

	Thermal & Moisture Protection	Aesthetic	Structure	Cost & Budget (Life-cycle)	Acoustic	Material Sourcing	Adaptive Reuse	Context	Fire Safety	Maintenance	Local Market	Buildability & Tolerance
client concerns												
consultants												
contractors												
code officials												

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PLANNING THE WORK

Leaving a paper trail:

- Meeting minutes

- Design drawings

- Design decision logs

- RFI's, addendas, memos to file, transmittals

- Project management website protocols

- Change orders / Construction Change Directives / the state of the contract

- Predetermined systems

PLANNING THE WORK

Leaving a paper trail:

- Meeting minutes

- Design drawings

- Design decision logs

- RFI's, addendas, memos to file, transmittals

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Consider
The client calls from the airport and is running to catch a plane but wants to make a change to the design which they hurriedly tell you about over the phone (while the flight attendant is telling them to turn off their phone). What comes next?

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PLANNING THE WORK

Leaving a paper trail:

- Meeting minutes

- Design drawings

- Design decision logs

- RFI's, addendas, memos to file, transmittals

- Project management website protocols

- Change orders / Construction Change Directives / the state of the contract

- Predetermined systems

Consider
What about texts? How about Facebook? Instagram?

The ephemeral / forever conundrum of current communication technologies

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PLANNING THE WORK
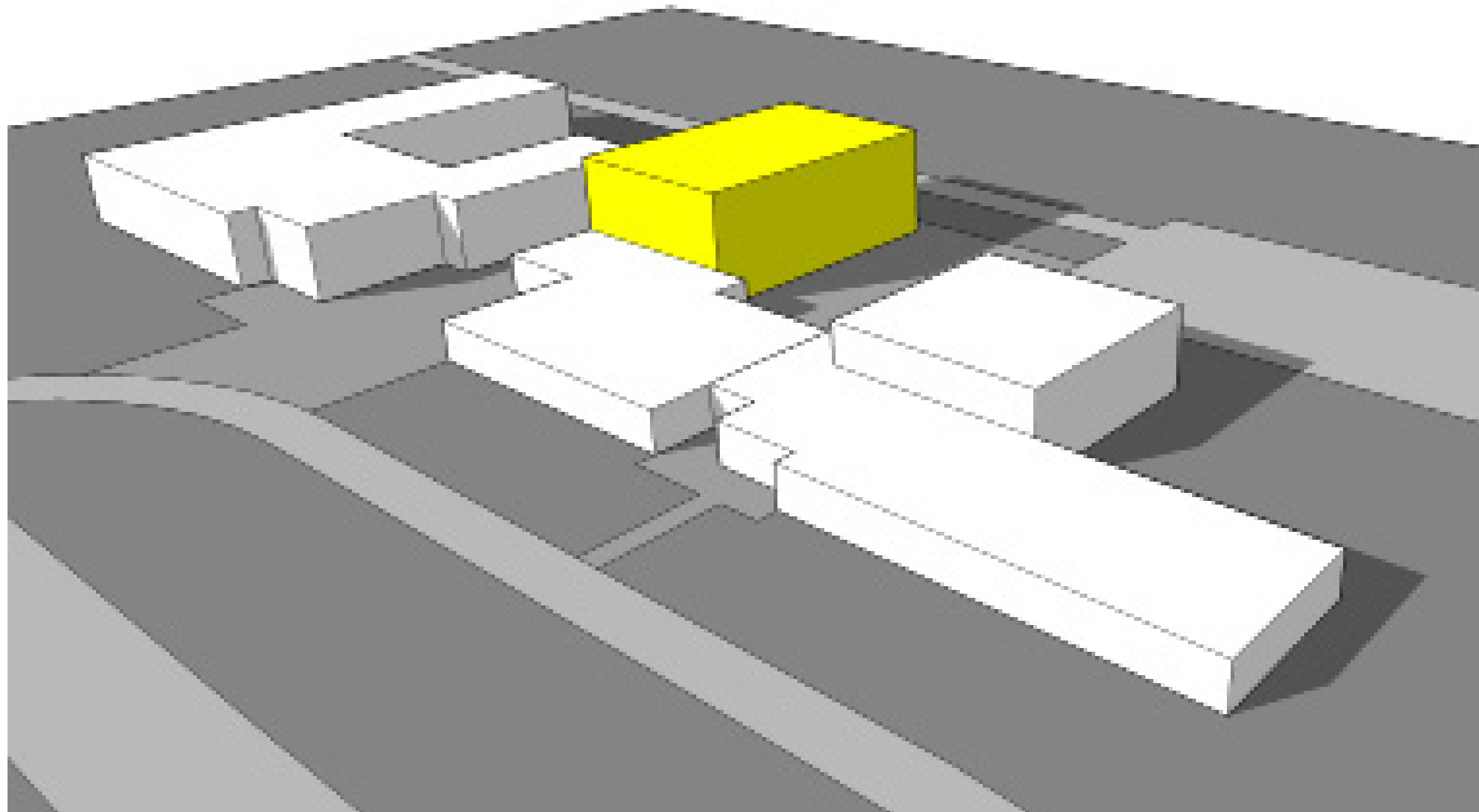
Leaving a paper trail:

- Meeting minutes

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PLANNING THE WORK

	Design-Bid-Build	Design-Build	Fast-Track	Multiple Prime	Integrated Project Delivery

PLANNING THE WORK

Suburban High School Project

PLANNING THE WORK

Urban Adaptive Reuse Residential & Retail Project

QUESTIONS

1. The Owner is considering Fast Track as a project delivery method? What advice would you give them?

2. One of the contractors calls and asks for clarification on the drawings that they are bidding on. You should ...?

3. One of the contractors calls and asks for clarification on the drawings that they are the GC for. You should ...?

4. The Work Plan for the project has 32 hours of time associated with the Schematic Design portion of the project, but after adding up all the hours already spent on the project, the PM realizes they have spent 48 hours so far. What options are there? What impact is it likely to have?

CONTRACTS

A101 Owner / Contractor
- Means and methods
- Schedule
- Controls safety on job site

B101 Owner / Architect
- Design intent
- Decision making
- Code compliance

A201 General Conditions
- Sets the context
- Defines the terminology

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CONTRACTS

Various terms

- Instruments of service / copyrights

- The Work

- The Project

- The Right to Stop the Work

- The Right to Carry Out the Work

- Contractors construction schedules

- Shop drawings, samples, mock ups

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CONTRACTS

Various terms

- Indemnification

- Administration of the Contract

- Inspections

- Right to test the Work

- Interpretations of the design intent

- Change Orders / Construction
  Change Directive

- Essence of the contract

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CONTRACTS

Various terms

- Schedule of Values

- Application for Payment

- Pencil Draw / % of Trades work done

- Approval of Draw

- Retainage

- Certificate of Payment / Progress Payment

- Stored material?

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Various terms

- Substantial Completion

- Final Completion and Final Payment

- Contractor liability insurance

- Owners liability insurance, Builder's Risk

- Performance Bonds

- Subrogation

- Termination for Cause /
  Suspension for Convenience

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CONTRACTS

- Reviewing contracts

- Process / procedures

- Milestones

- Implications

- Making changes

- Sharing with the project team

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Contracts and Project Delivery

	Design-Bid-Build	Design-Build	Fast-Track	Multiple Prime	Integrated Project Delivery

1. The Architectural Intern walks onto the site and sees a mason hanging precariously over the side wall to tuckpoint the lintels. The intern says "Stop, that is unsafe. Provide that worker with a safety harness." What just happened?

2. The contractor has all of the copper piping for the plumbing work sitting beside the building, and now has it listed on draw. But they are not planning on using it for three weeks. How does this impact your certificate of payment?

3. While driving around the old neighborhood you see a bunch of houses that look an awful lot like the ones you designed for that developer. You ask around, and sure enough, the developer is rebuilding more houses with your design. Is this ethical? Does it meet the contract?
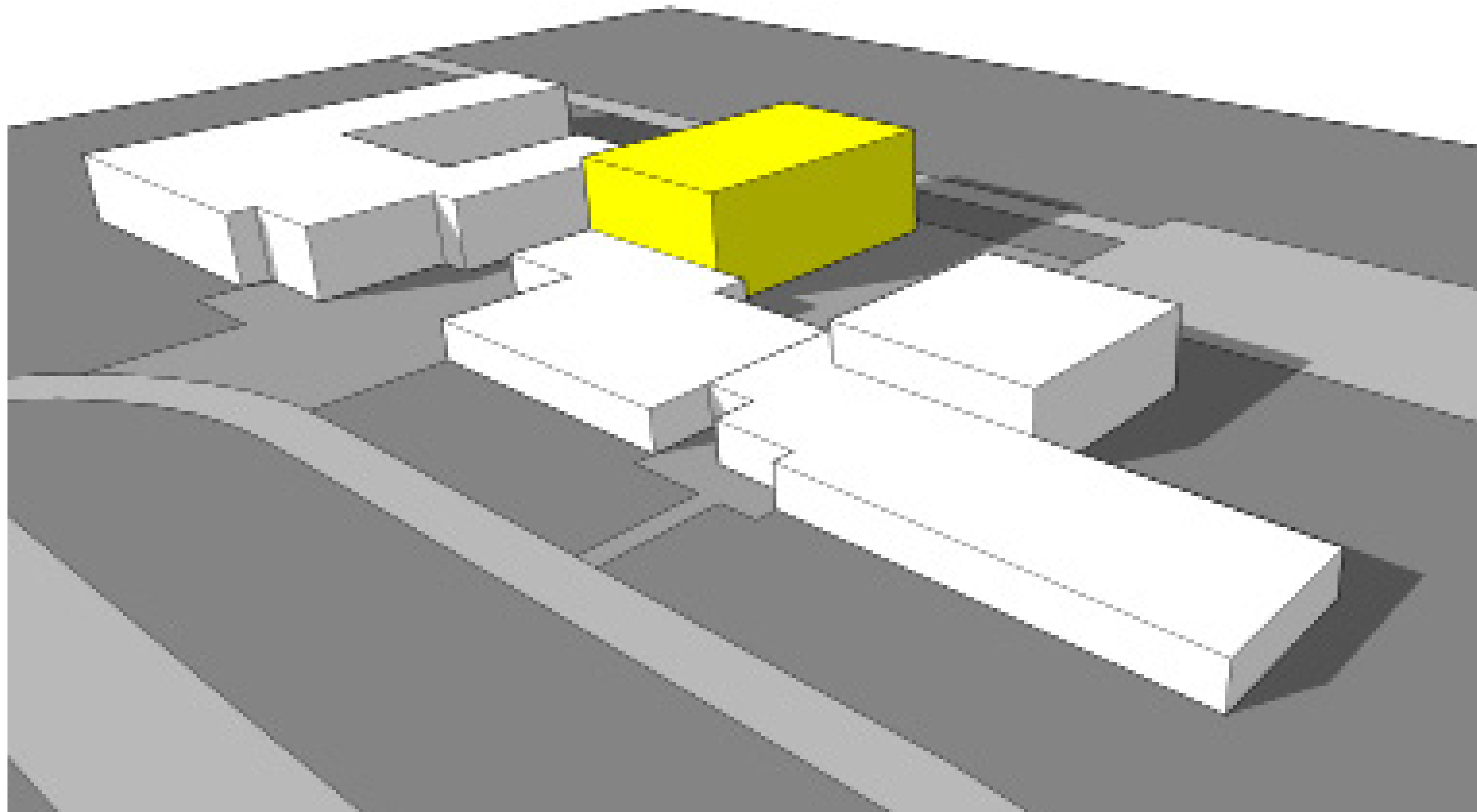
PROJECT EXECUTION

Budgeting

Assemblies:
- Linear and Square Foot
  comparables, unit type, square footage
- Location factors
  square footage, assemblies
- Economic factors
  assemblies, full estimates
- Contract Documents
  bids, full estimates by discipline
- Bidding

- Construction Admin
  specific changes

Linear foot and square foot

Location factors

Economic factors

Owner sign off

Considerations for estimate changes

Clarifying what is in which budget

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Suburban High School Project

PROJECT EXECUTION

Urban Adaptive Reuse Residential & Retail Project

PROJECT EXECUTION

Scope Creep

- Changes that are understandable

- Changes that are unintentional

- What was expected

- What is included

- Contingency

- Multiple budgets, what goes where
    FF&E
    Acquisition and soft costs
    Hard costs (construction)

PROJECT DOCUMENTATION

Relationship between documentation systems
and the project delivery method

- Timing?

- Who has control?

- How detailed?

- What is included?

- Expectations

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PROJECT DOCUMENTATION

Relationship between documentation systems
and the code compliance

- What codes?
    Building code, zoning code, specialty

- When?

- Who is responsible?

- Safety

Code Review

PROJECT CODE COMPLIANCE

Relationship between documentation systems
and the code compliance

- Occupancy / construction type

- Egress

- Fire ratings

- Materials and systems

- Expectations / Specialty

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PROJECT CODE COMPLIANCE

Relationship between documentation systems
and the code compliance

- Occupancy / construction type

- Egress

- Fire ratings

- Materials and systems

- Expectations / Specialty

Consider
The Client wants a building that is 14,000 sf on
each floor, but as you read the code it clearly
states that a building of this construction type
for this particular occupancy type has a
limitation of 10,000 sf per floor. What to do?

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PROJECT CODE COMPLIANCE

Relationship between documentation systems
and the code compliance

- Occupancy / construction type

- Egress

- Fire ratings

- Materials and systems

- Expectations / Specialty

Consider
Imagine, for a moment, a hotel on the beach
in Cancun. What does it look like - what is its
shape? Why?

PROJECT CODE COMPLIANCE

Relationship between documentation systems
and the code compliance

- Zoning district / permitted uses

- Setbacks

- FAR

- Massing / outdoor

- Parking / dropoffs / loading

- Expectations / Specialty

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PROJECT CODE COMPLIANCE

Relationship between documentation systems
and the code compliance

- Zoning district / permitted uses

- Setbacks

- FAR

- Massing / outdoor

- Parking / dropoffs / loading

- Expectations / Specialty

Consider
A client calls and asks you to do a walk-through
at a potential Day Care Center location. The
space is an existing tenant space in an old loft
building. What should you do prior to going to
the meeting?

PROJECT CODE COMPLIANCE

Relationship between documentation systems
and the code compliance

- Zoning district / permitted uses

- Setbacks

- FAR

- Massing / outdoor

- Parking / dropoffs / loading

- Expectations / Specialty

Consider
Administrative Adjustment
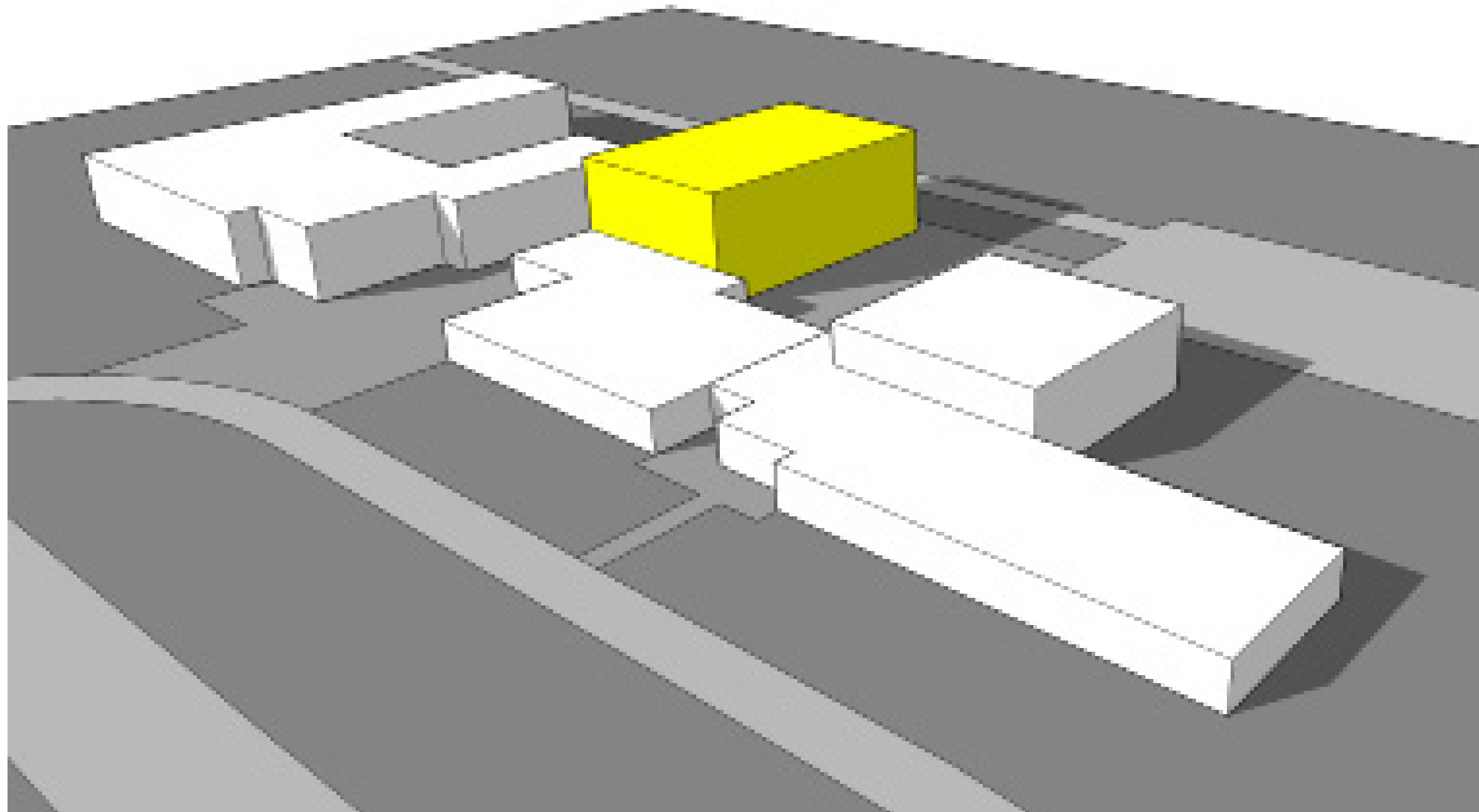
Variance

Amendment

PUD

PROJECT CODE COMPLIANCE

What are the issues that might be a problem?

	Design-Bid-Build	Design-Build	Fast-Track	Multiple Prime	Integrated Project Delivery

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PROJECT CODE COMPLIANCE

Suburban High School Project

PROJECT CODE COMPLIANCE

Urban Adaptive Reuse Residential & Retail Project

QUESTIONS

1. The FAR is 3.5. The site is 100' by 100'. How big a building can you build on the site? How many floors?

2. You have been asked to work on a Frank Lloyd Wright house. As a conscientious architect you immediately go to the Building Code to review any issues that might come up. What else should you check into?

3. The egress path starts in the unit and ends where?

PROJECT QUALITY CONTROL

Mitigation of Risks

- Milestone review of Code Review

- Comparison of Code Review to current set of drawings

- Third party review

- Note and review areas of common code compliance difficulties

- Code officials

- Relationship to client and contracts

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PROJECT QUALITY CONTROL

Mitigation of Risks

- Don't take on others liabilities

- Clarity of drawing set

- Expectations for drawing set

- Ability to review and change

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PROJECT QUALITY CONTROL

Mitigation of Risks

- Understanding sequencing / constructibility

- Multiple eyes review /
  different points of view

- Training program - Code

- Training program - Contracts

- Lessons learned reviews

PROJECT QUALITY CONTROL

Mitigation of Risks

- Understanding sequencing / constructibility

- Multiple eyes review /
  different points of view

- Training program - Code

- Training program - Contracts

- Lessons learned reviews

Consider
The Work Plan has 200 hours for Design Development work by 3 interns and two young designers in the office. The PM thinks that this is the minimum number of hours needed to physically to do the work. Who will do the necessary code check? Who will do the necessary contract / client review?
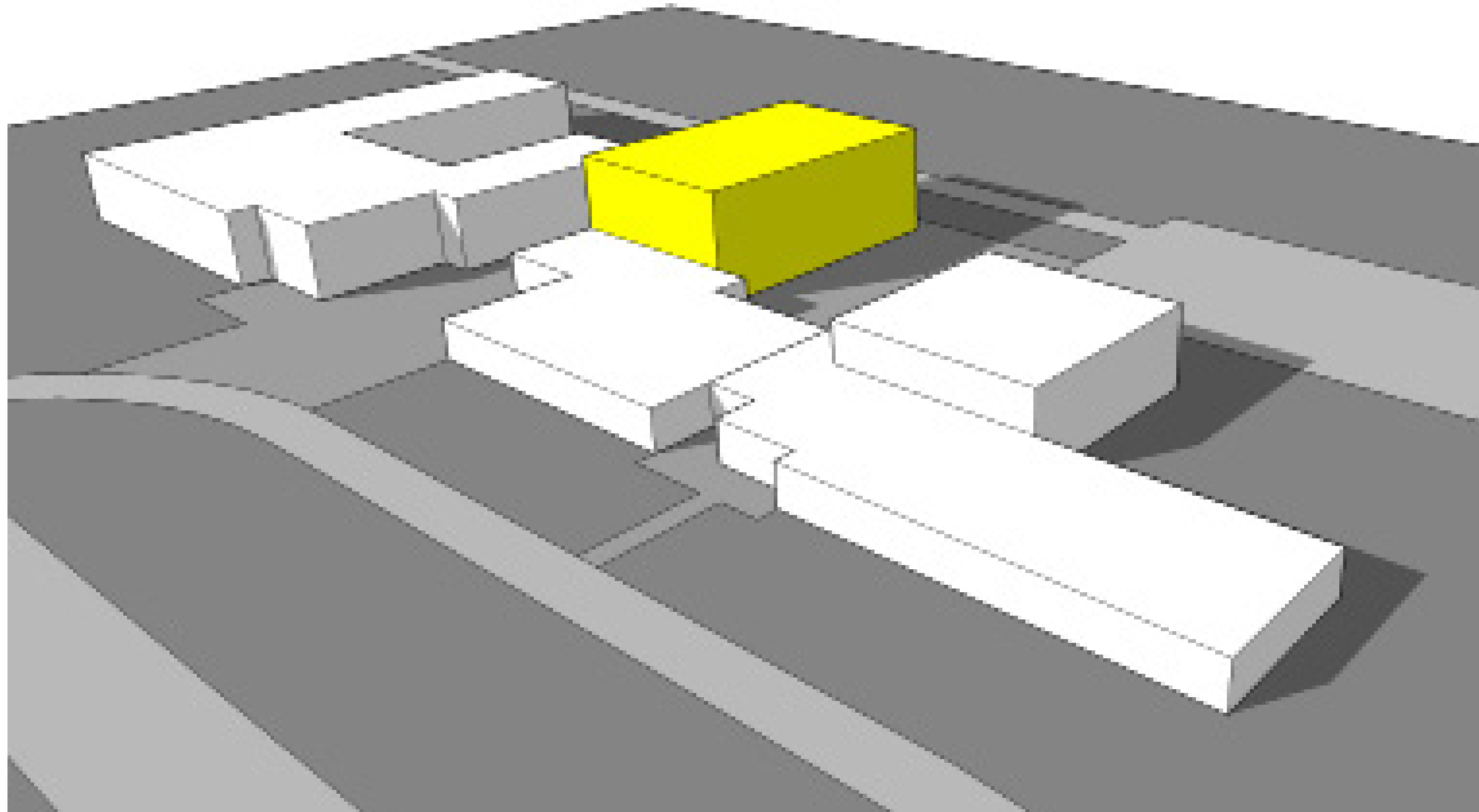
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PROJECT QUALITY CONTROL

Tracking the work

	Thermal & Moisture Protection	Aesthetic	Structure	Cost & Budget (Life-cycle)	Acoustic	Material Sourcing	Adaptive Reuse	Context	Fire Safety	Maintenance	Local Market	Buildability & Tolerance

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PROJECT QUALITY CONTROL

Suburban High School Project

PROJECT QUALITY CONTROL

Urban Adaptive Reuse Residential & Retail Project

QUESTIONS

The client has just been presented with DD set and is quite happy with where the project is. What are the next steps?

What should you have the client do?

What should the PM and the architecture team do?

What should the PM / PA and the consultant team do?

What should the interns do? Probably get some sleep.