


*What My Mother Didn't Tell Me About.....  
Design and Construction*

by *Edward K. Takahashi, FAIA, CCS*  
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15<sup>th</sup> ANNUAL WESTFORD SYMPOSIUM ON BUILDING SCIENCE

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*Topics of Discussions*

1. Know Your Building!
2. What Do You Know About Nails?
3. Plywood versus OSB
4. Tile Roof Underlayment
5. Firestopping in wood frame double party wall construction
6. Forensic assignments



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*Who the hell is Edward Katsuaki Takahashi?*

Fellow, American Institute of Architects  
American Arbitration Association Large Complex Case Panel Neutral  
International Accreditation Services, Inc., Technical Advisory Council  
(Subsidiary of the International Code Council)


President, California Basketball Officials Association, 1979-1981  
Commissioner, Southern California Women's Athletic Union, 1970-1994  
Commissioner, Japanese American Optimist Club Girls Sports Program, 1969-1979

Eagle Rank, 1953  
Silver Beaver, 1989




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**Suzue (Suzie) Takahashi**  
November 8, 1010

**Edward Katsuaki Takahashi**  
November 8, 1936



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**452<sup>nd</sup> Hoin (Abbot) Seytsu Takahashi of the Shingon Buddhism**  
(December 1, 1905 – April 1, 1984)

Archbishop of North America  
Archbishop of South America

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**HEART MOUNTAIN, WYOMING**

**LOS ANGELES, CALIFORNIA**

**1935**

**1943**

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**1943**

**1943**

**FROM HOME TO KOYASAN BUDDHIST TEMPLE (ASSEMBLY POINT) TO SANTA ANITA RACE TRACK TO ROWHER, ARKANSAS TO CRYSTAL CITY, TEXAS, AND FINALLY BACK TO LOS ANGELES**

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**TOYO MIYATAKE**

**ANSEL ADAMS**

In 1942, **Toyo Miyatake**, a Japanese American photographer, was interned in the Manzanar Relocation Camp where he was impelled to secretly photograph his story.

In 1943, **Ansel Adams** was drawn to Manzanar, where he produced his most compassionate body of work. These are their photographs.

**Two Views of Manzanar.**

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25th ANNIVERSARY  
1956

1955

1968

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UCLA BASKETBALL COACH EMERITUS  
JOHN R. WOODEN

KOYASAN BOY SCOUT TROOP 379 75th ANNIVERSARY LUNCHEON, OCTOBER 22 2006

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Success is peace of mind which is a direct result of self-satisfaction in knowing you did your best to become the best that you are capable of becoming.

John R. Wooden,  
Head Basketball Coach, Emeritus, UCLA

**COMPETITIVE GREATNESS**  
All of those who wish to be the best without knowing it realize. Success is a direct result of self-satisfaction.

**POISE**  
Just being yourself. Being at ease in any situation. Never fighting yourself.

**CONFIDENCE**  
Respect without fear. Be proud of your own progress and keeping of things in proper perspective.

**CONDITION**  
Mental-Keeps Physical. These two are the most important. Moderation must be exercised. Discipline must be continued.

**SKILL**  
A knowledge of and the ability to properly and properly execute the fundamentals. Be prepared and be sure every time.

**TEAM SPIRIT**  
A genuine contribution to the team. An acceptance of the group's welfare and being willing to sacrifice for the welfare of all.

**SELF-CONTROL**  
Positive self-discipline and proper reactions under control. Good judgment and common sense are essential.

**ALERTNESS**  
Be observing constantly. Stay interested. Be open to new and old responses.

**INITIATIVE**  
Cultivate the ability to make decisions and take action. Do not be afraid of failure. But never fear it.

**INTENTNESS**  
Set a realistic goal. Concentrate on its accomplishment by removing all temptations and being self-disciplined.

**INDUSTRIOUSNESS**  
There is no substitute for work. Diligently study your own field. Work hard and capital planning.

**FRIENDSHIP**  
Gives you mutual support, respect and direction. Life's struggle is not to be alone. The greatest but requires a just effort.

**LOYALTY**  
To yourself and to all those depending upon you. Keep your word.

**COOPERATION**  
Meet all levels of your co-workers. Listen if you want to be heard. Be interested in hearing the best idea, not in having your best idea.

**ENTHUSIASM**  
Excite all you can about what you are doing. You must only enjoy what you are doing.

**THE PYRAMID OF SUCCESS**

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END

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*I am always...  
a student.*

Le Corbusier (Charles Edouard Jeanneret)  
1961 AIA Gold Medalist

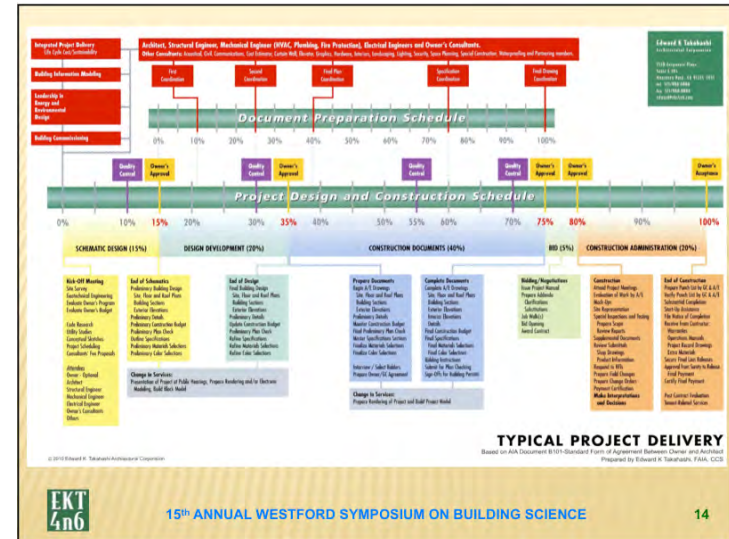
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## HOW TO AVOID LITIGATION

1. LEARN FROM OTHERS **ERRORS AND OMISSIONS** DURING SCHEMATIC DESIGN, DESIGN DEVELOPMENT, CONSTRUCTION DOCUMENTS PREPARATION, BIDDING/NEGOTIATING AND CONSTRUCTION PHASES.
2. ESTABLISH **QUALITY CONTROL AND COORDINATION** WITHIN YOUR ARCHITECTURAL FIRM, AND WITH YOUR CONSULTANTS.
3. PROVIDE **COMPETENT CONTRACT ADMINISTRATION** DUTIES DURING CONSTRUCTION.



Building Science.Com

*Drain the site  
Drain the ground  
Drain the building  
Drain the assembly  
Drain the opening  
Drain the component  
Drain the material*



## GENERAL NOTES

[From a topographical survey of a past assignment]

1. TOTAL SITE – 50.329 ACRES GROSS
2. DOGPATCH WATER DISTRICT: PHONE 111-222-3333  
DOGPATCH GAS & ELECTRIC: PHONE 444-555-6666  
PACIFIC BELL: PHONE 777-888-9999
3. ASSESSOR'S PARCEL NO. 111-2222-3333-44
4. THIS SITE IS WITHIN "ZONE AA" AS SHOWN ON FIRM MAP NO. 123456789 DATED JUNE 10, 1997 (FLOOD DEPTH OF 1-3 FEET)
5. DOGPATCH ENGINEERING OF CLEAR CREEK HAS PREPARED THE DOGPATCH FLOOD MANAGEMENT REPORT IN OCTOBER 1989 FOR THE COUNTY OF CLEAR CREEK. THIS REPORT SHOWS THE 100 YEAR FLOODFLOW TO BE AT 6.5 FPS [feet per second] AND 2.0 FEET [deep] FOR THIS AREA. PLEASE CONTACT ATTORNEY OF THE CLEAR CREEK COUNTY FLOOD CONTROL DISTRICT AT 222-333-4444 FOR FURTHER IMPORTANT INFORMATION.
6. THE UNDERGROUND (U/G) INFORMATION SHOWN HEREON HAS BEEN PLOTTED BASED ON DRAWINGS PROVIDED BY THE UTILITY COMPANIES. THESE DRAWINGS WERE NOT TO SCALE AND SOMEWHAT VAGUE. THE LOCATIONS AS PLOTTED HEREON ARE APPROXIMATE ONLY. THIS U/G LOCATION & DEPTH SHOULD BE FIELD VERIFIED PRIOR TO DESIGN AND/OR CONSTRUCTION.




**Major Deficiencies Noted In Incoming Architectural Graduates** <sup>(7)</sup>  
By AIA/National Survey of mid-1980's

1. Understand techniques for making building water and moisture proof.
2. Understand roof system slopes, applications and flashing.
3. Apply knowledge of materials characteristics in meeting fire safety requirements.
4. Knowledge of roof drainage and water disposal.
5. Prepare details for moisture and environmental control.

6. Knowledge of flashing, drainage and weatherstripping wall openings.
7. Design and details ramps and stairs.
8. Determine any special safety and emergency egress requirements
9. Understand dampproofing and waterproofing subgrade walls.
10. Use moisture barriers in concrete slabs on grade.

11. Understand detailing for fire wall and plenum requirements.
12. Knowledge of requirements for handicapped accessibility codes.
12. Knowledge of requirements for energy performance standards.
13. Understand detailing in various construction types.
14. Selected materials systems and equipment that meet design objectives.
15. Verify that materials conform to Code.

16. Prepare details to attached finish materials to structure.
17. Awareness of importance of site constraints in the design process.
18. Know materials assemblies for fire-rated mechanical and electrical systems enclosures.
19. Incorporate date (e.g., tomography, views, soils) in make design decisions.
20. Identify basis of classifications of materials required for fire safety regulations.

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
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To: Schools of Architecture

1. Design is only one aspect of the profession, what about materials, processes, professional practice, etc.
2. Give them other classes to prepare them for the "REAL WORLD" such as:
  - A. How to draw and detail building plans that can actually be built and not leak.
  - B. Get your students out onto the construction site so they can see and touch and feel the dirt, wood and steel studs and beams, concrete, rebar, rebar chairs, nails, nuts and bolts connections, etc.
  - C. Give them to tools to find details, and correct them to fit the project.
  - D. Have them read and understand the codes---building, green, accessibility, mechanical, electrical, etc.
  - E. Get the field guys into your professional practice class, and have them give and evaluation your students their take on the architects' work.
  - F. Have your soils, civil, structural, mechanical, electrical, acoustical, waterproofing consultants talk to students on their work and how they need to be coordinated.
3. For the first two years, don't let them near the computer' make them drawing the T-square and triangles, and make free hand sketches.

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**Know  
Your  
Building!**



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**End of Introduction**

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