

Project Planning & Control

Lesson 2

Basics of Work Breakdown Structure (WBS)

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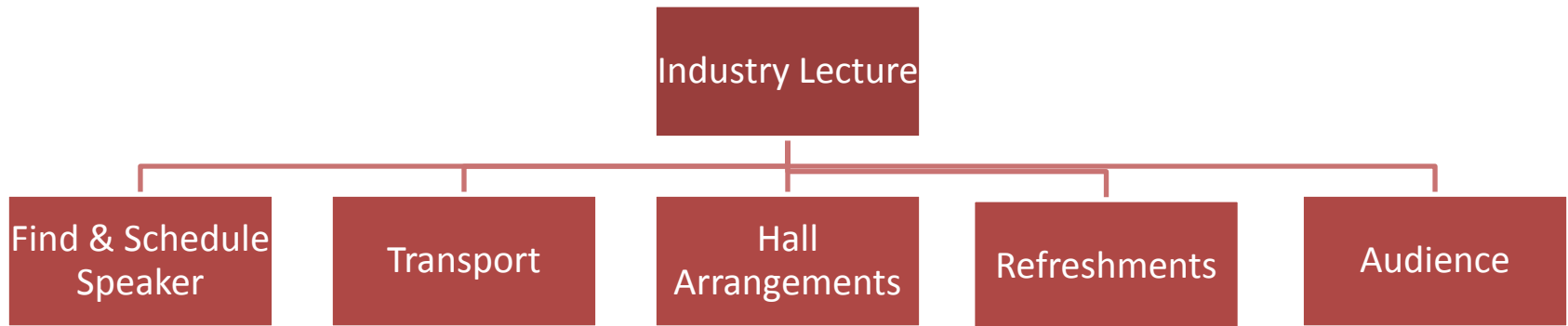
Building Technology & Construction Management

Department of Civil Engineering

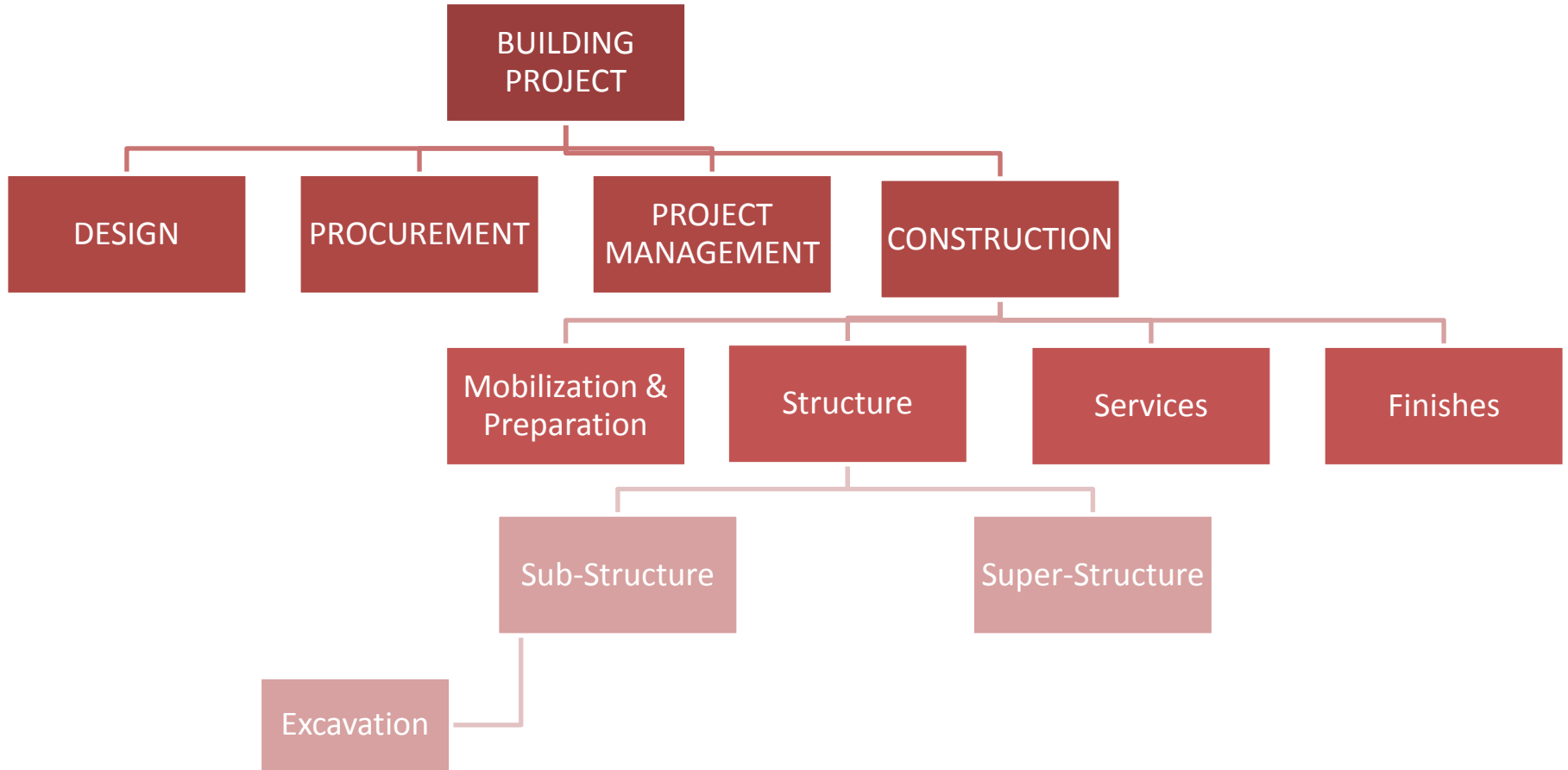
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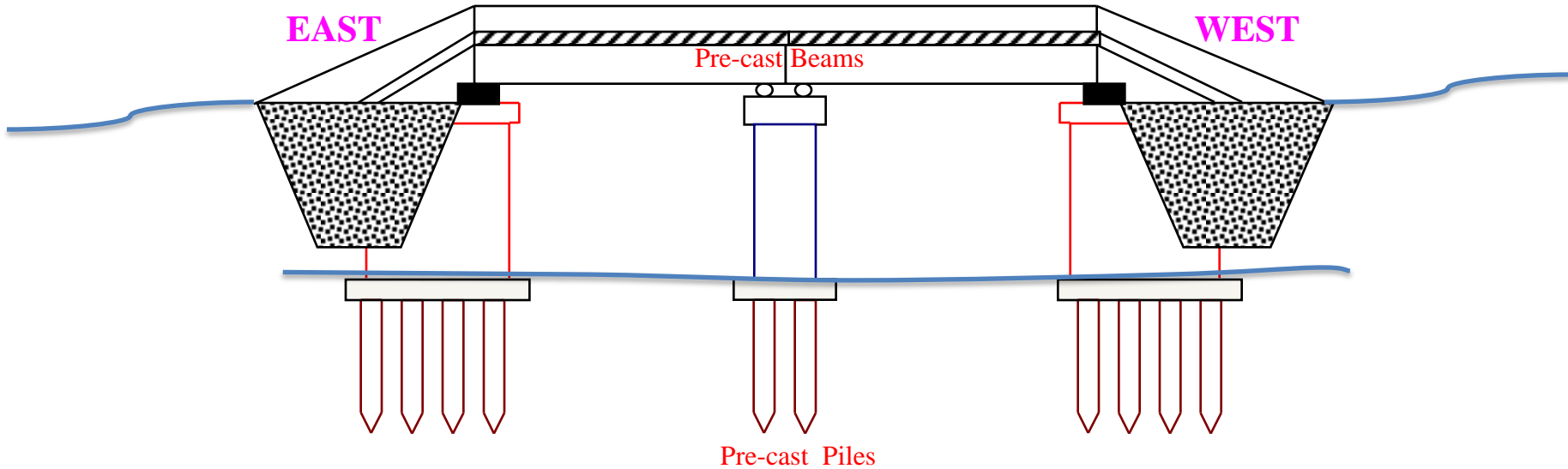
Work Breakdown Structure



Work Breakdown Structure

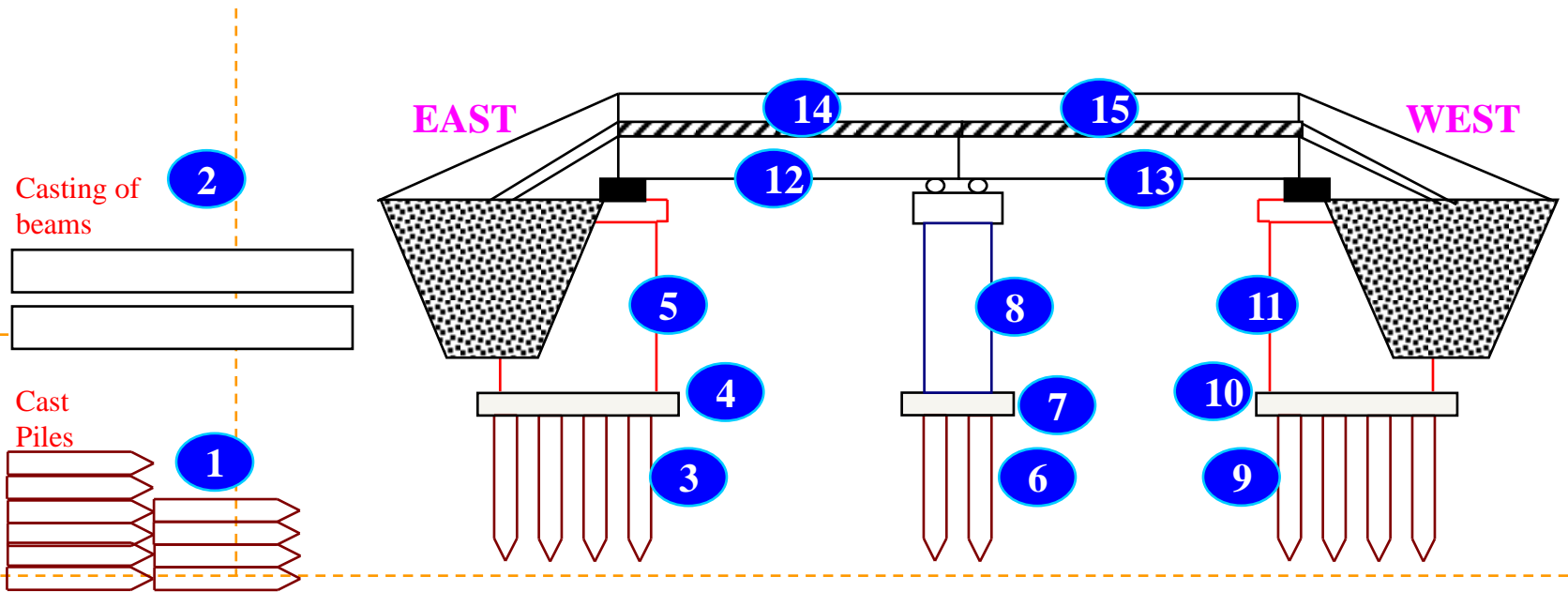


Two Span Bridge- Example

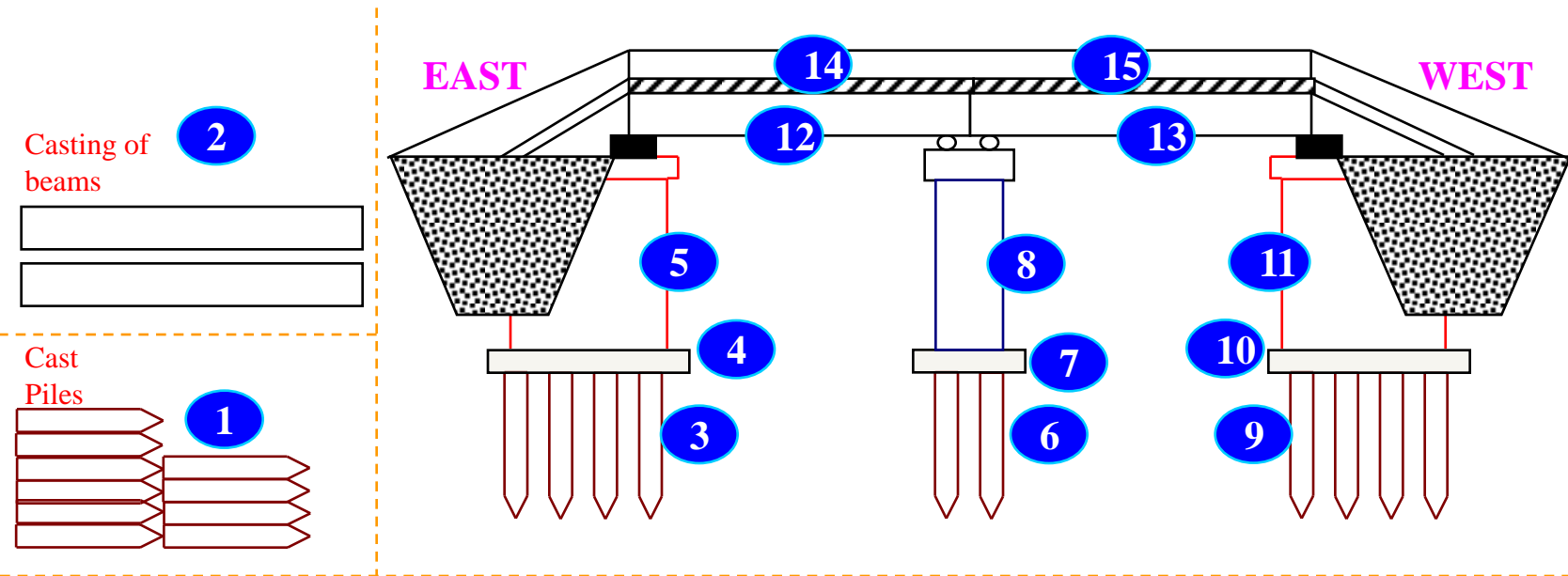


Define activities required to schedule this project

Two Span Bridge- Construction Activities



Two Span Bridge



1. Cast Piles

2. Cast Beams

3. Drive Piles East

4. Const East Pile Cap

5. Const E. Abutment

6. Drive Piles Centre

7. Const Centre Pile Cap

8. Const Centre Pier

9. Drive Piles West

10. Const West Pile Cap

11. Const W. Abutment

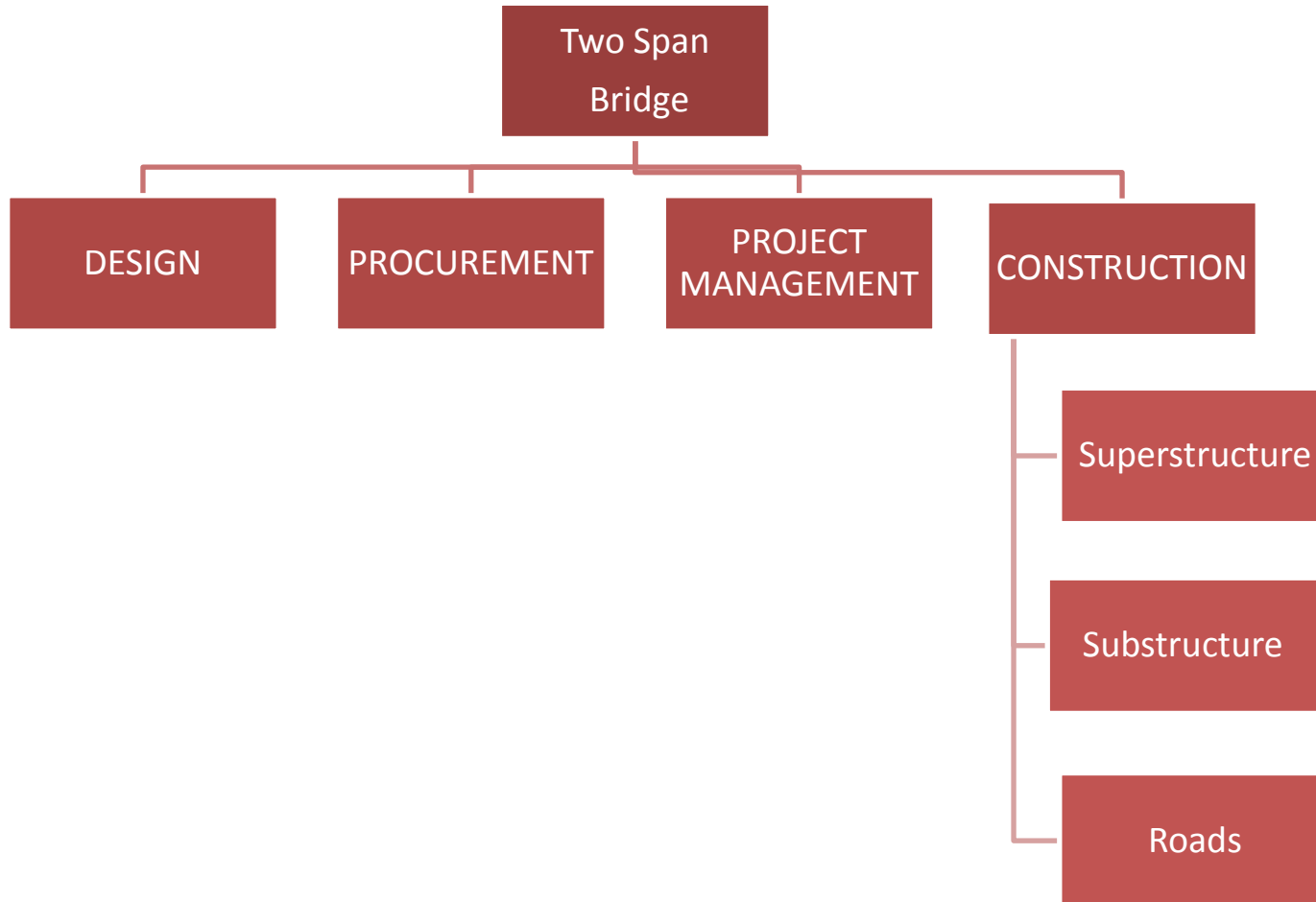
12. Place Beams E. Span

13. Place Beams W. Span

14. Approach Road & Deck Slab East

15. Approach Road & Deck Slab West

Work Breakdown Structure



WBS Development Issues

- Level of detail required for the WBS ?

Level of detail required to plan, communicate, monitor & control the project – type of project, scope, packages- deliverables, duration.

Also depends on schedule level (Level 1- Level 5)

- What activities should be considered ?

A WBS should be comprehensive. There should be no gaps in the job-logic.

The next level decomposition of a WBS element (child level) must represent 100 percent of the work applicable to the next higher (parent) element.

Appropriate level of detail - Guidelines

SHOULD THE WORK PACKAGE BE DECOMPOSED FURTHER ?

The greater the number of positive answers to the following questions, the stronger the justification for breaking down the work package

Y/N	Question
	Is there a need to improve the accuracy of the cost and duration estimates?
	Is more than one individual responsible for the work contents?
	Is there a need to know precisely the timing of activities internal to the work package?
	Is there a need to cost-out activities internal to the work package?
	Are there any dependencies between the internal activities and other work packages?

Y/N	Questions
	Are there any significant time breaks in the execution of the work processes internal to the work elements?
	Do resource requirements within the work package change over time?
	Do the prerequisites differ among the internal deliverables within the work element?
	Are there any acceptance criteria applicable before completion of the entire work package?
	Can a portion of the work to be performed within the work package be scheduled as a unit?
	Are there any specific risks that require focused attention to a portion of the work package, requiring further division to separate them?
	Is the work package understood clearly and completely to the satisfaction of the various stakeholders?

Multiple Views To The WBS

- Product
- Process
- Location
- Responsibility
- Other Logical Views...