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Building Science

Adventures In Building Science

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What is a Building?

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A Building is an Environmental Separator

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- Control heat flow
- Control airflow
- Control water vapor flow
- Control rain
- Control ground water
- Control light and solar radiation
- Control noise and vibrations
- Control contaminants, environmental hazards and odors
- Control insects, rodents and vermin
- Control fire
- Provide strength and rigidity
- Be durable
- Be aesthetically pleasing
- Be economical

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2nd Law of Thermodynamics

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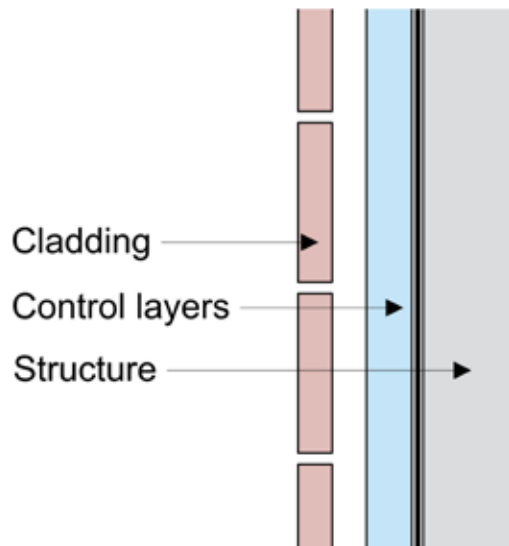
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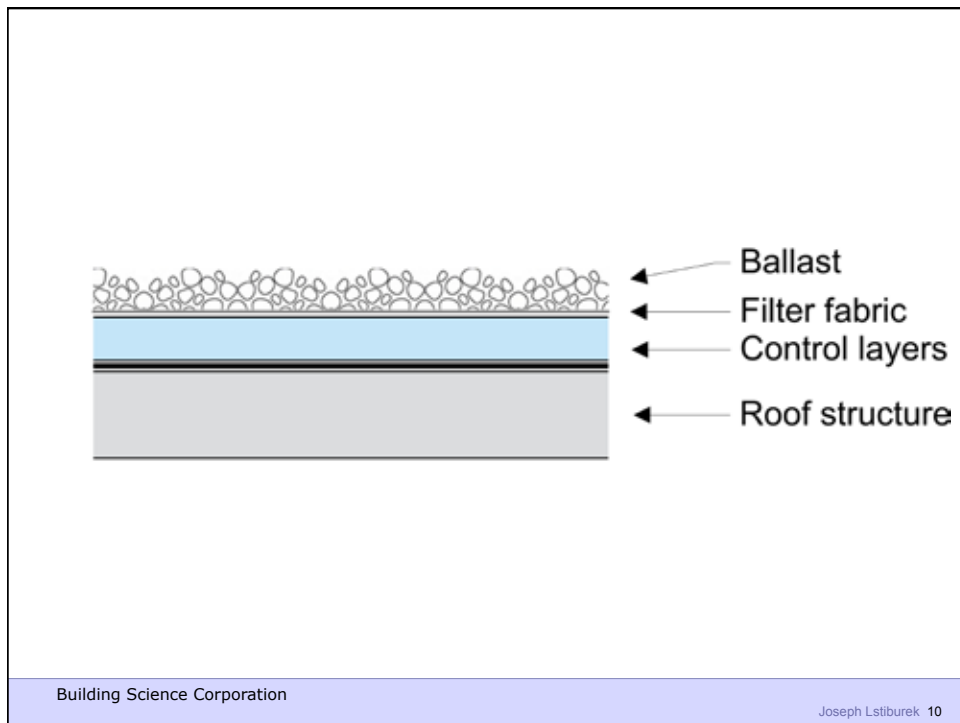
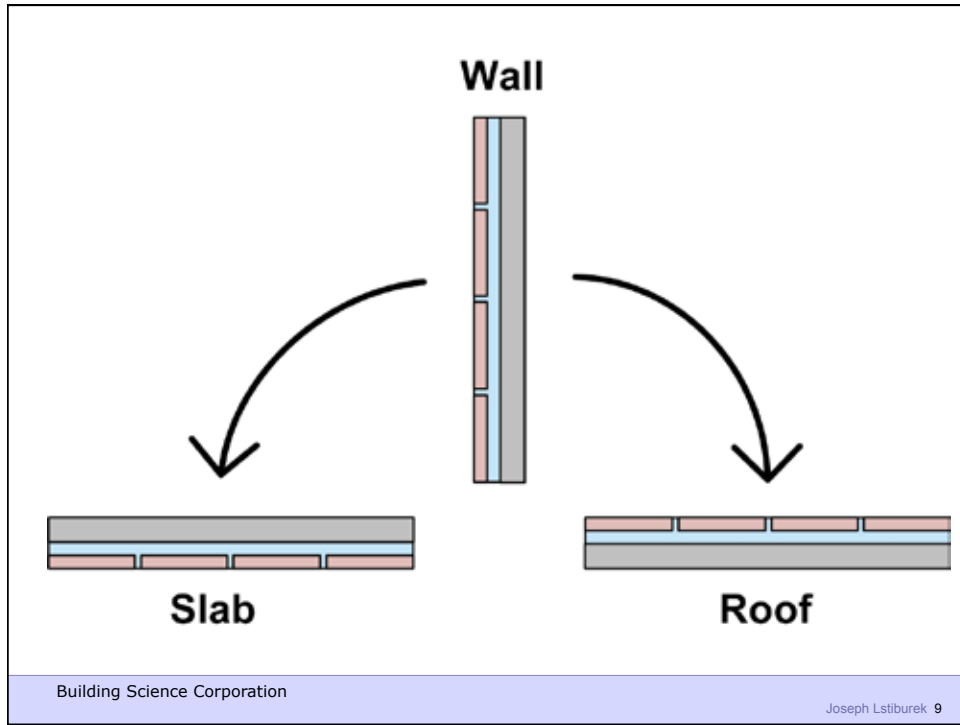
Heat Flow Is From Warm To Cold
Moisture Flow Is From Warm To Cold
Moisture Flow Is From More To Less
Air Flow Is From A Higher Pressure to a
Lower Pressure
Gravity Acts Down

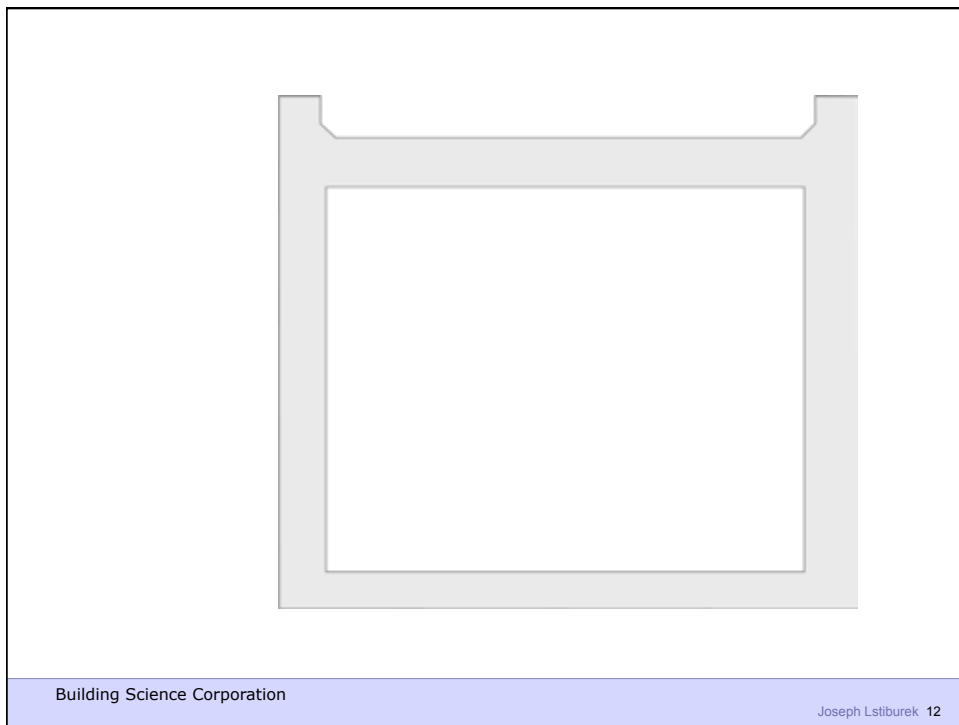
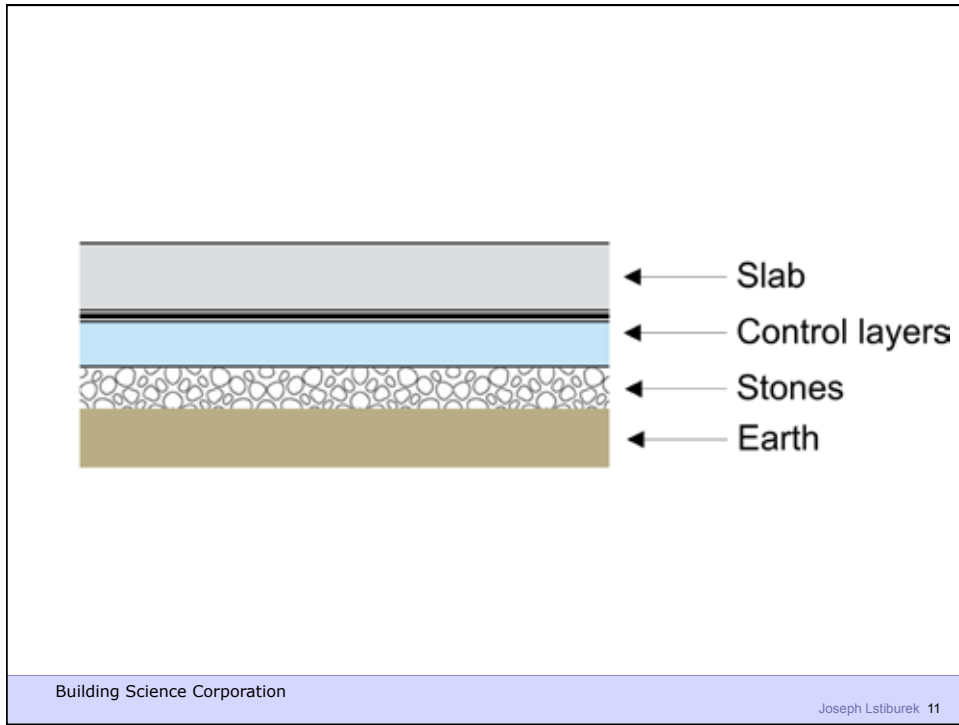
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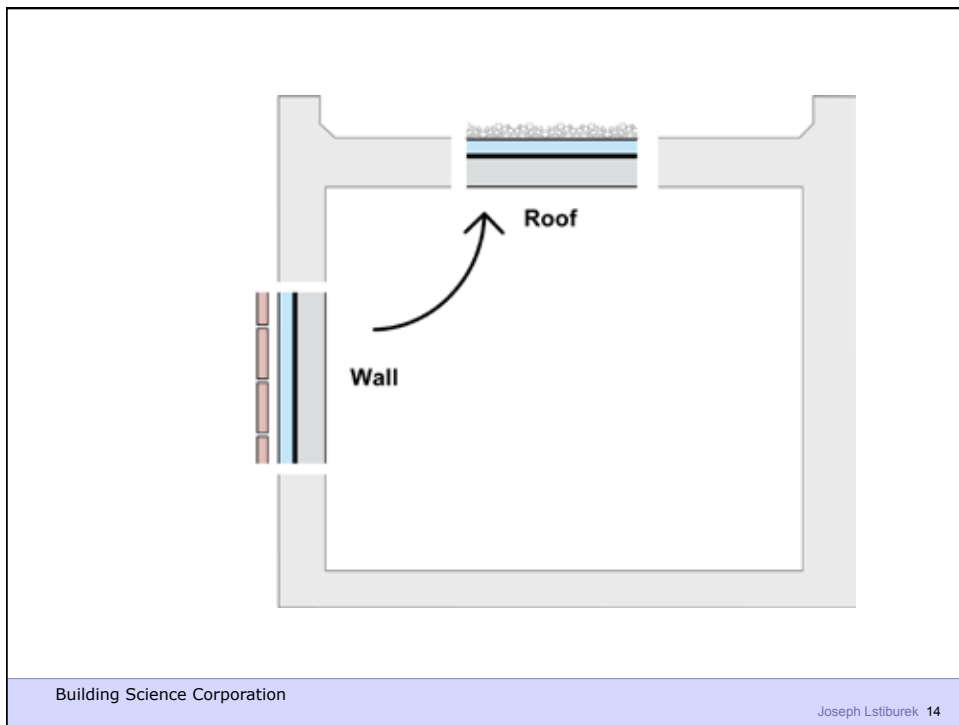
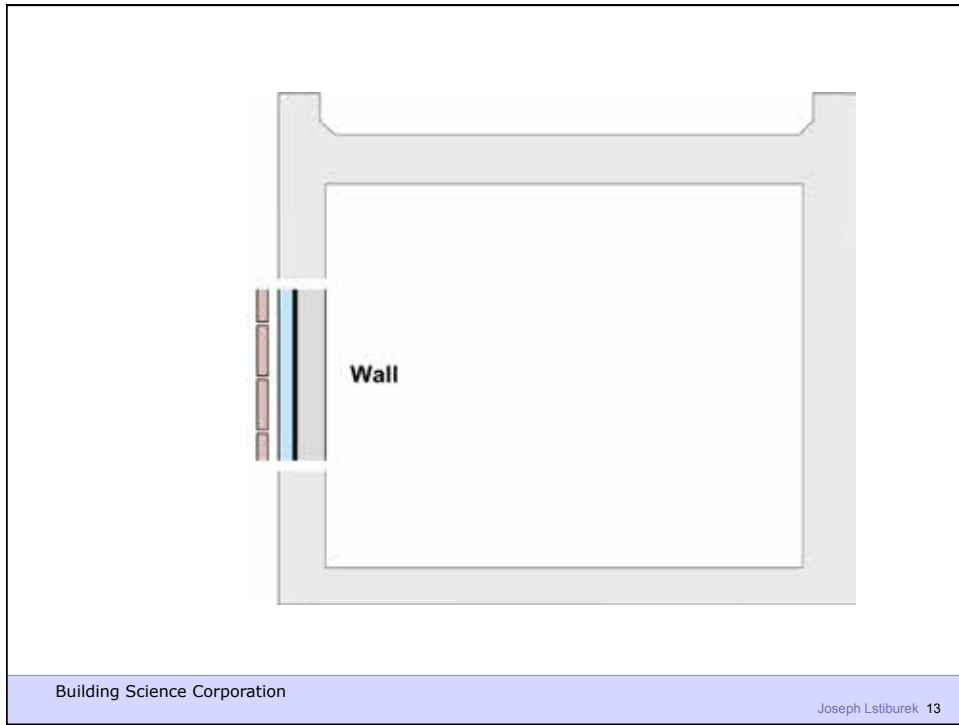
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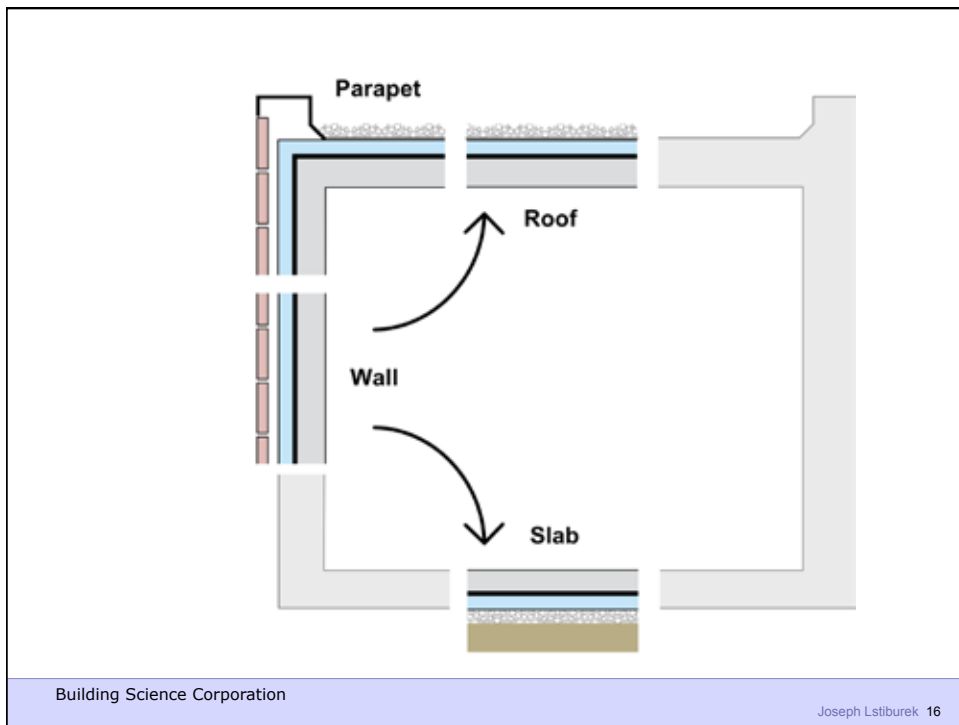
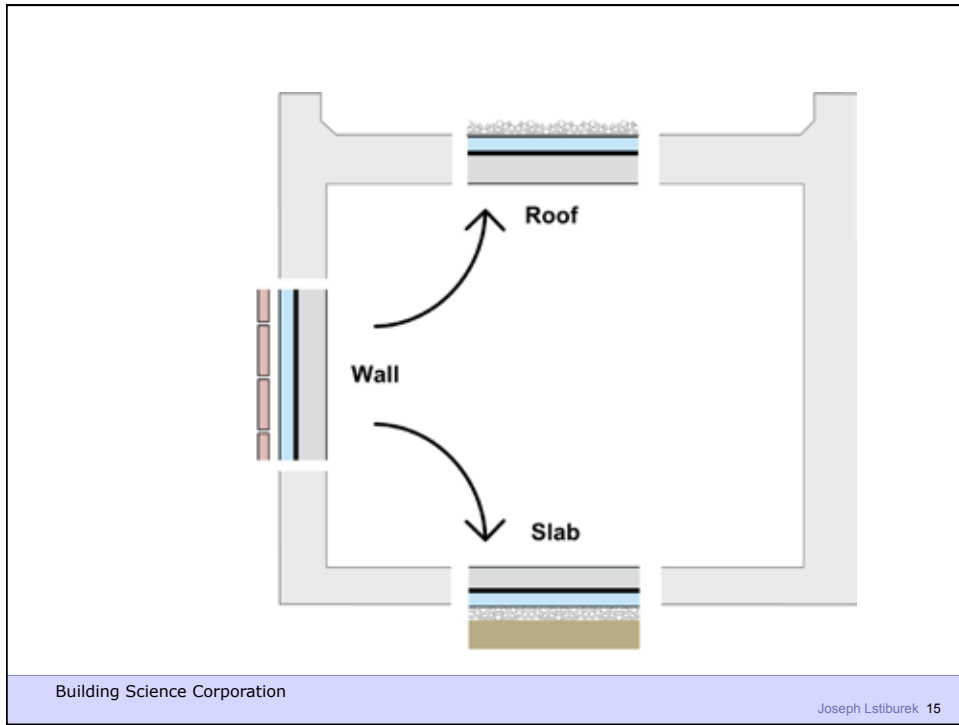
Water Control Layer
Air Control Layer
Vapor Control Layer
Thermal Control Layer

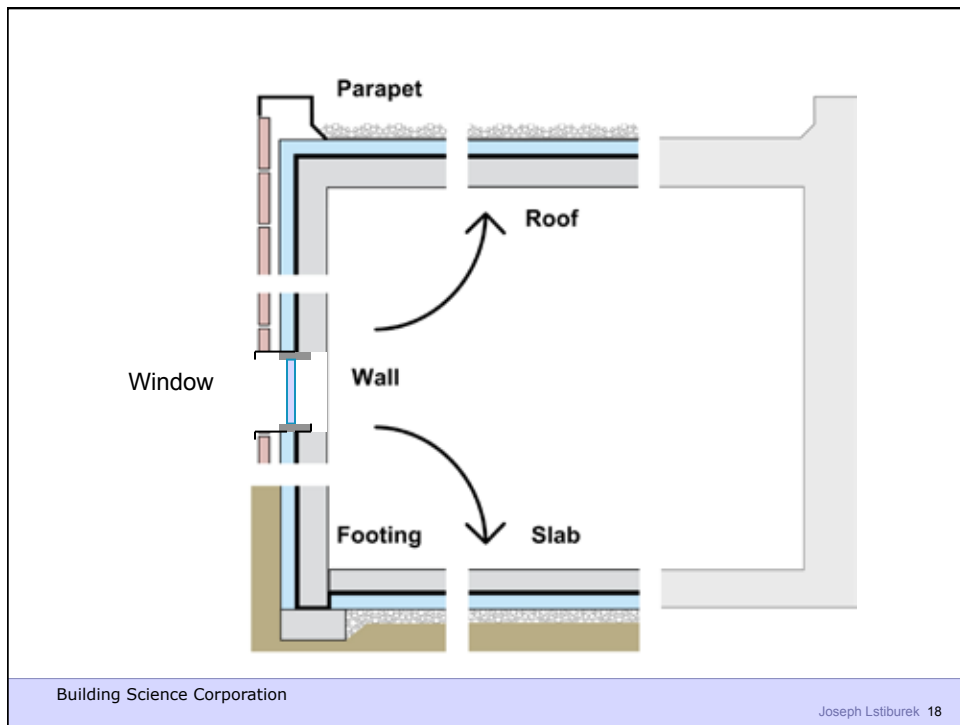
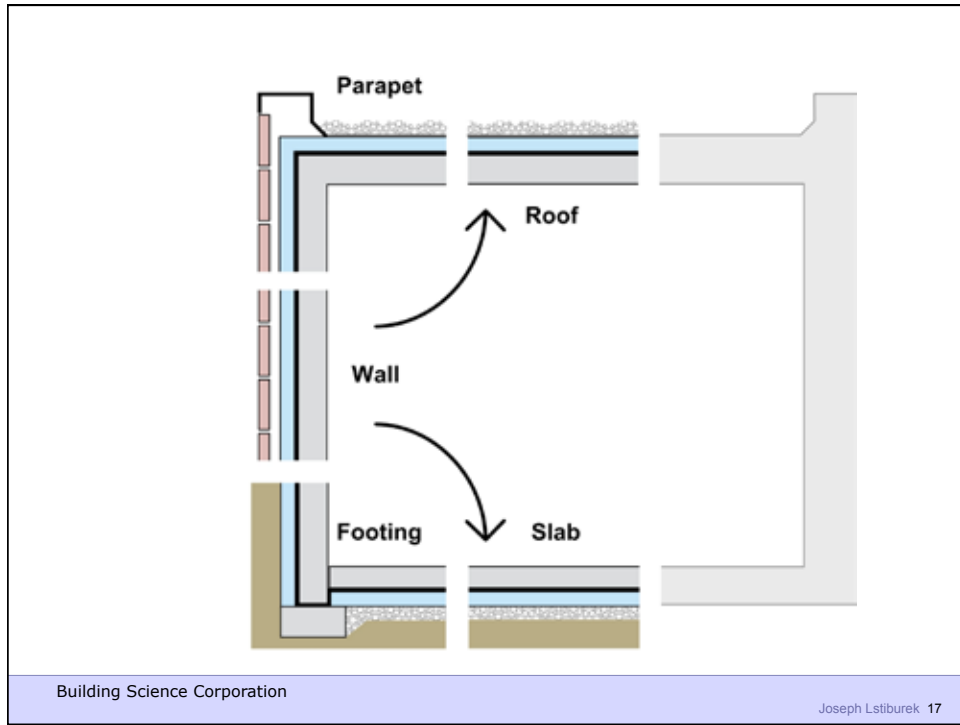


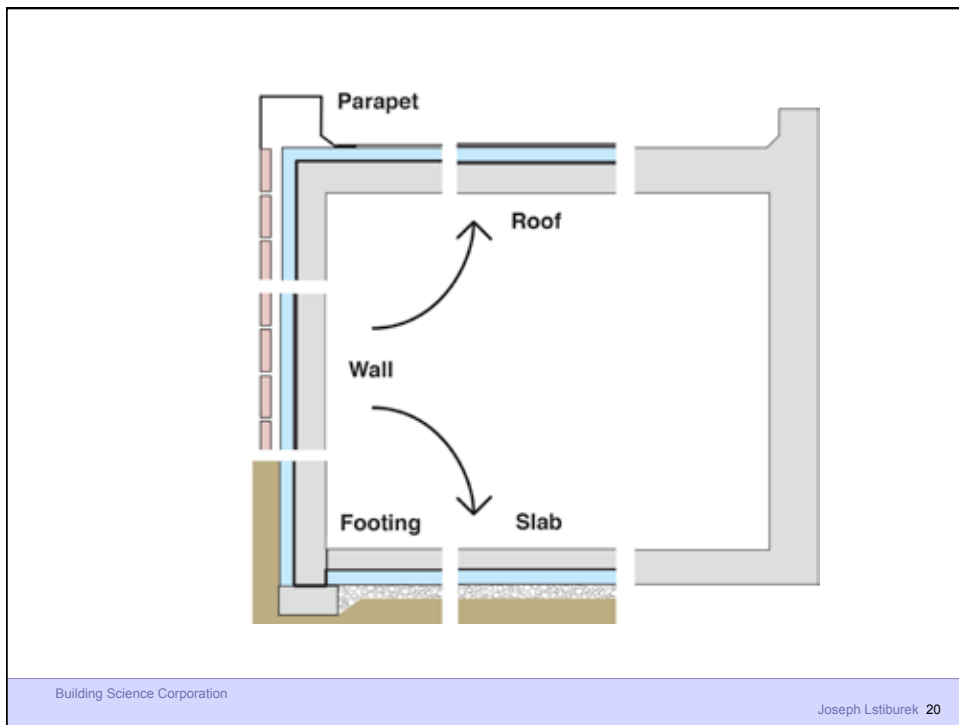
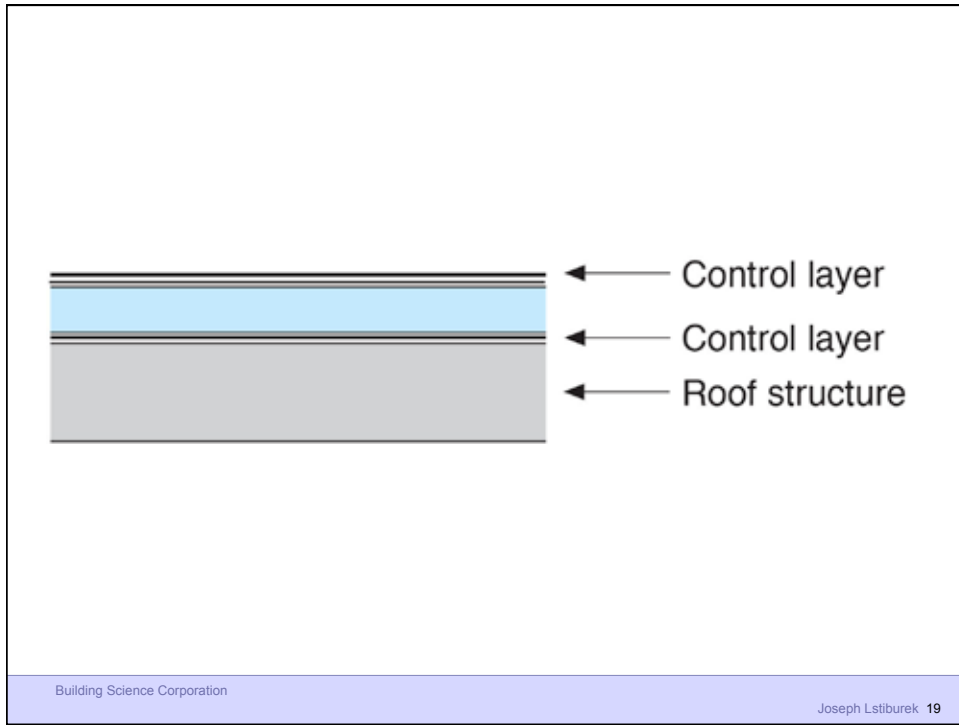


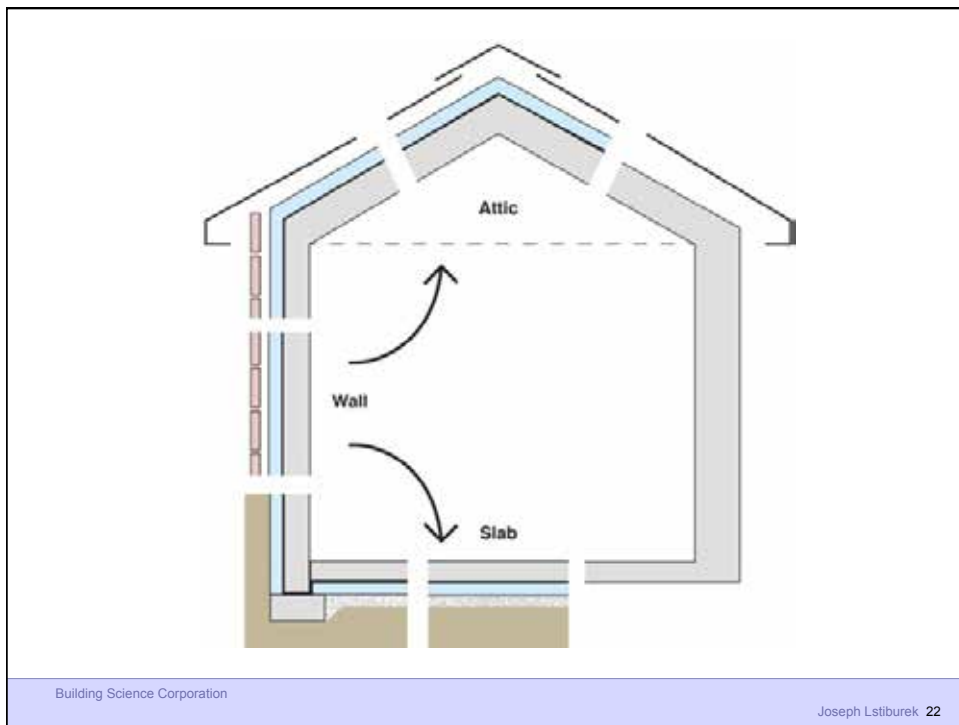
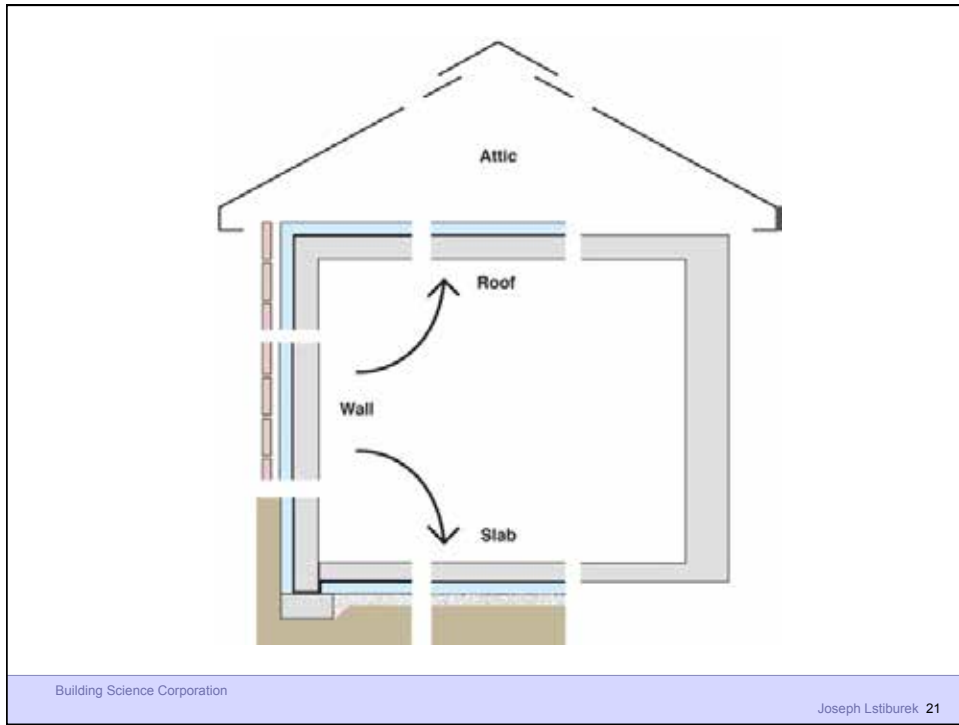


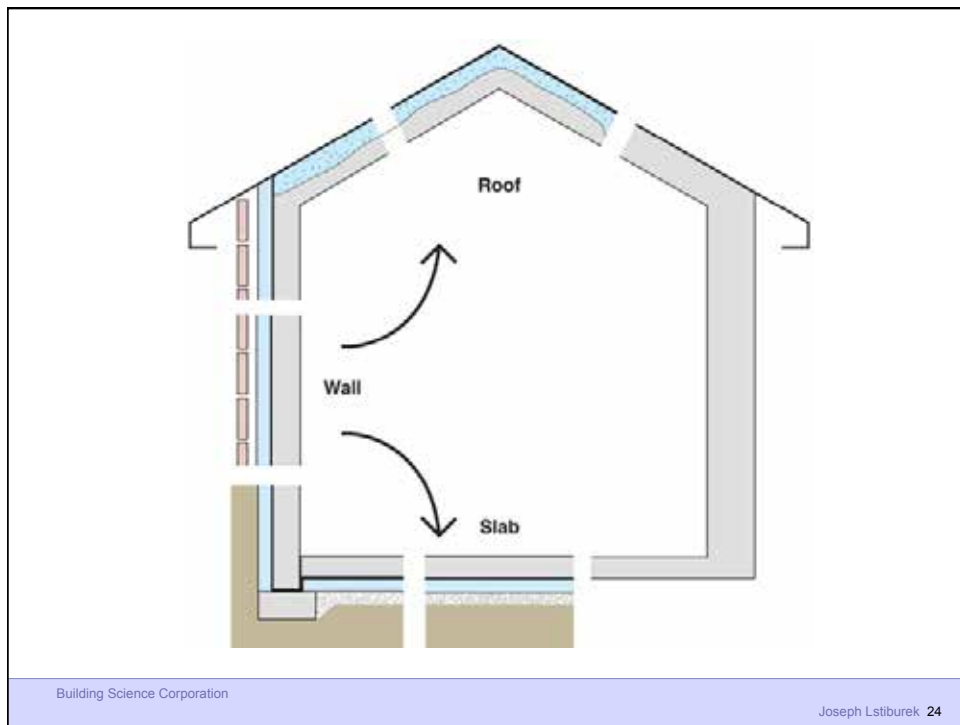
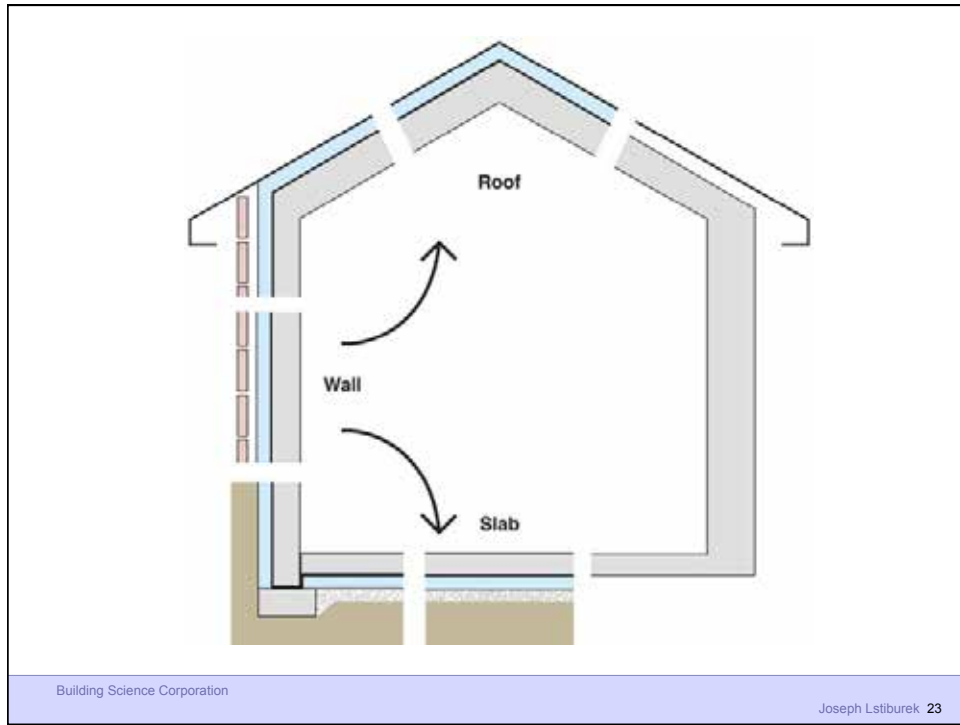




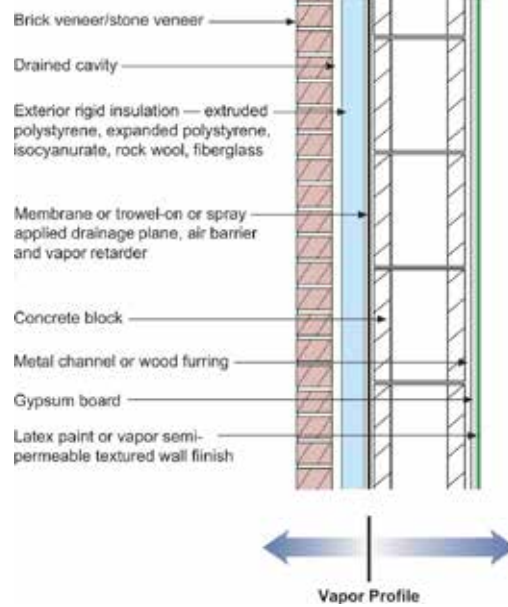


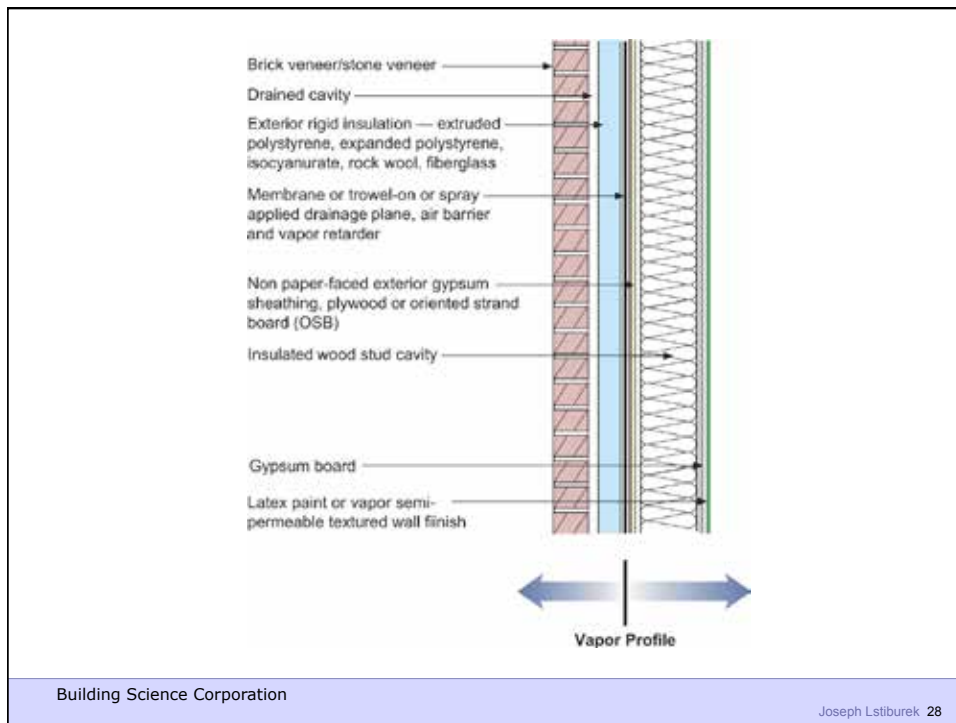
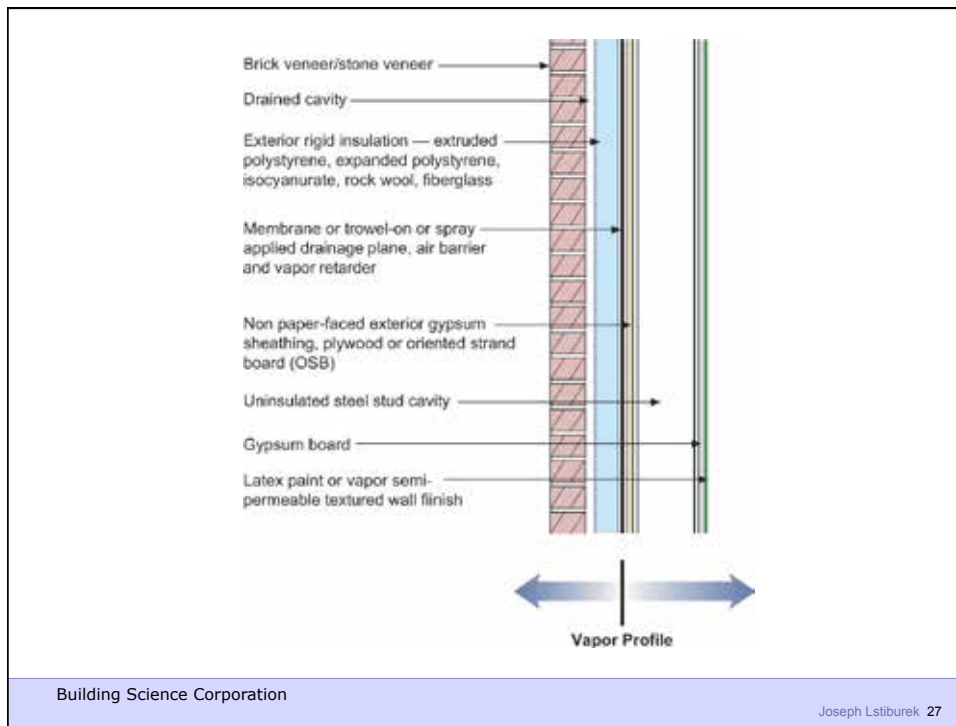






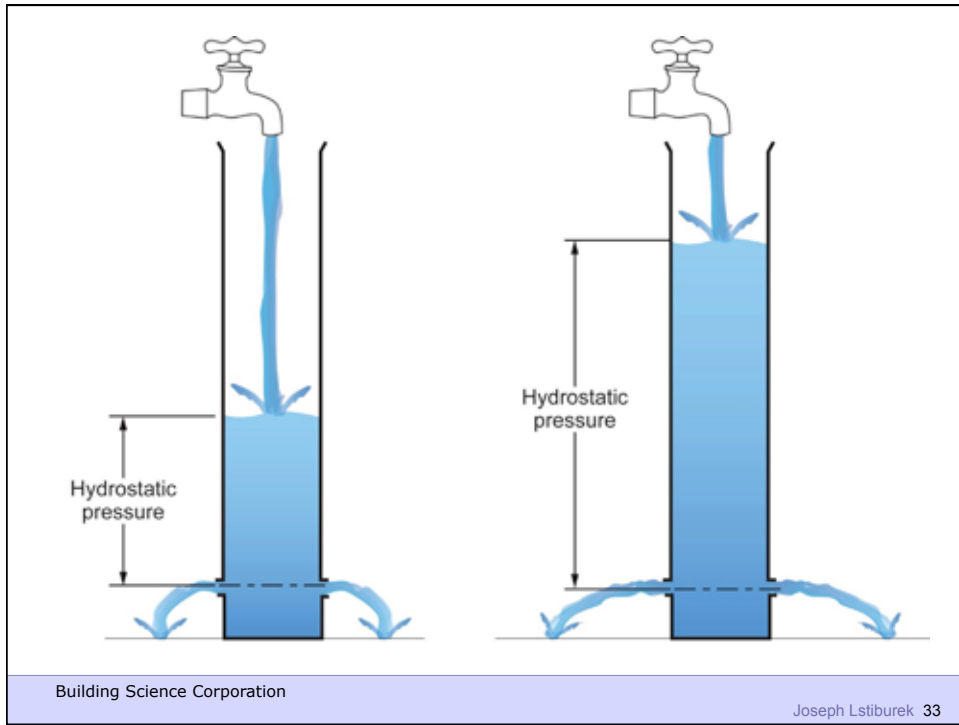
Configurations of the Perfect Wall

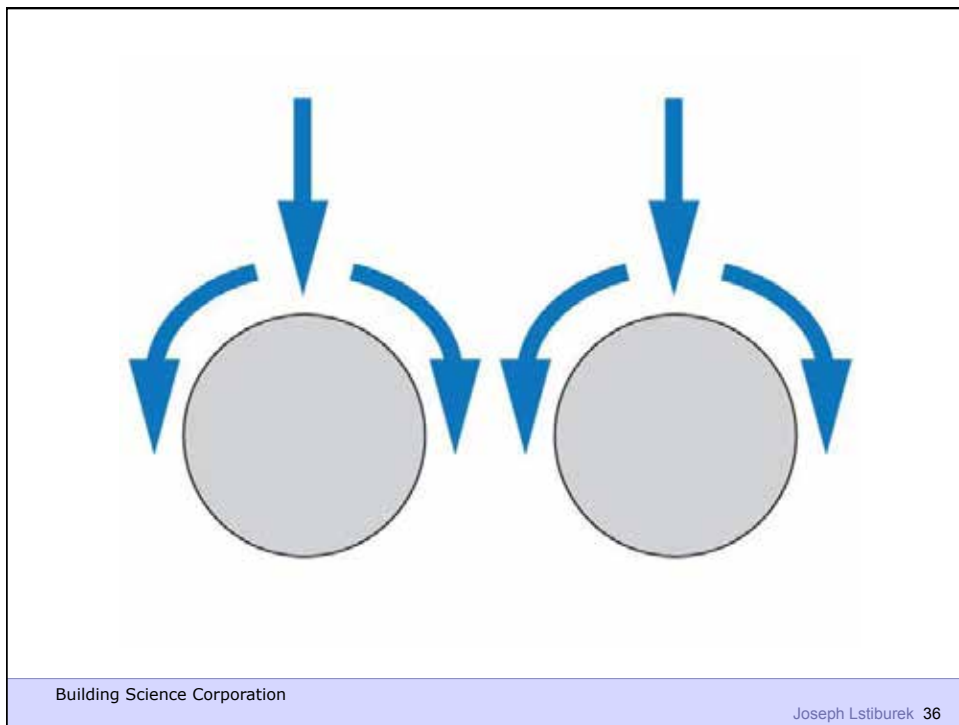
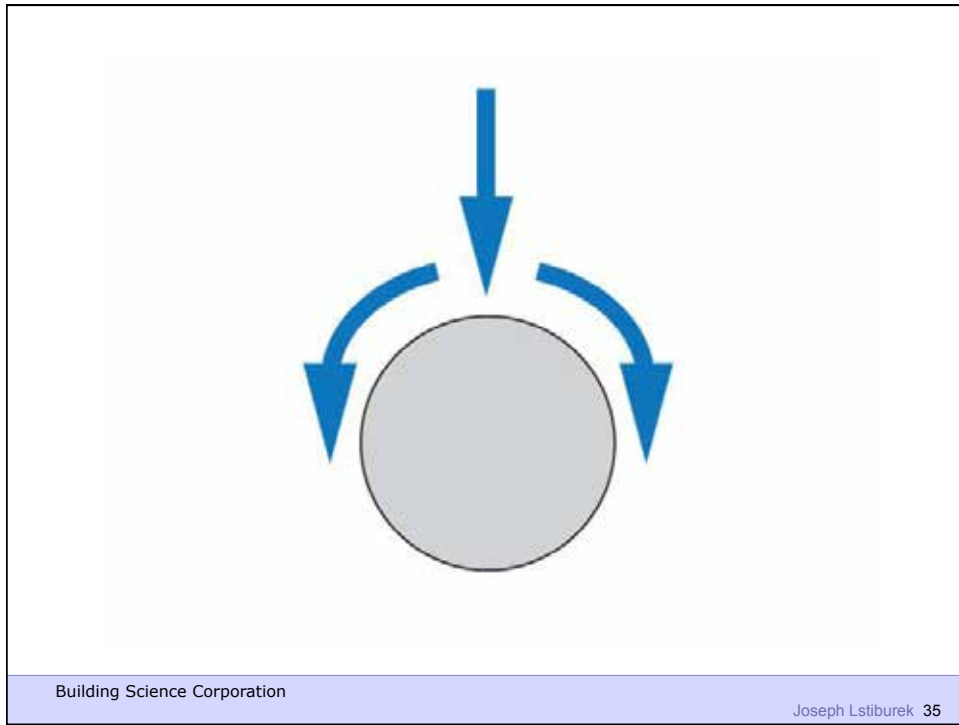


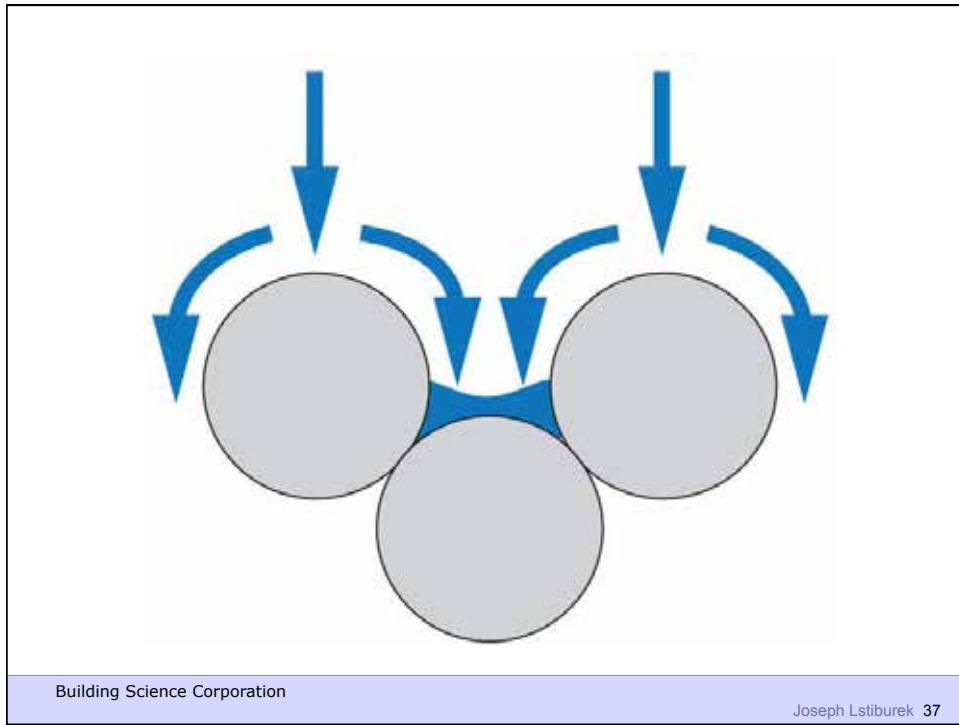


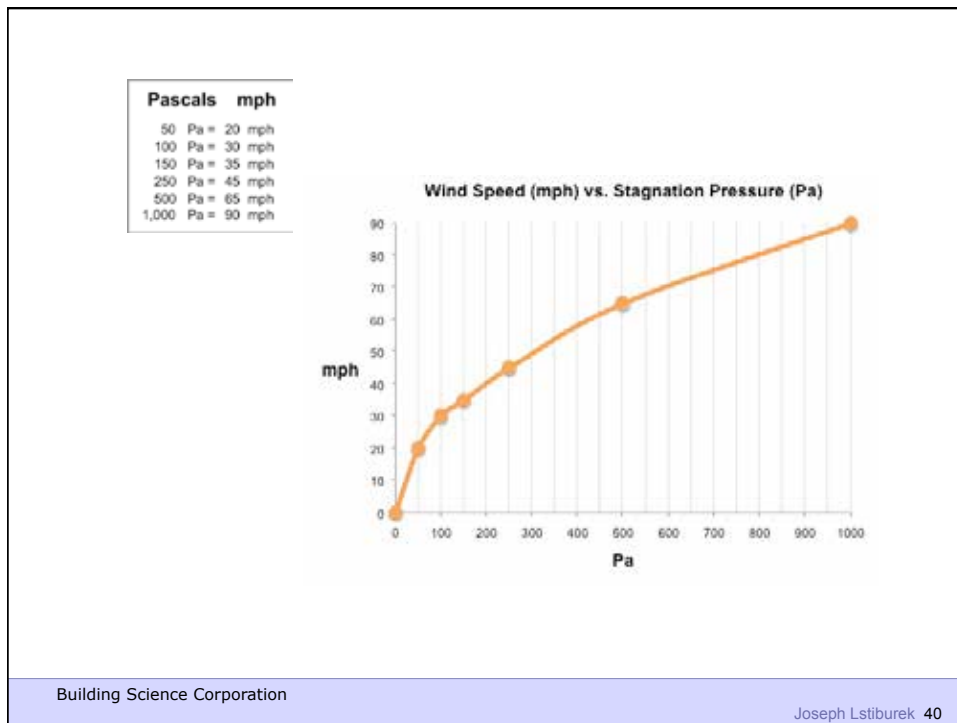
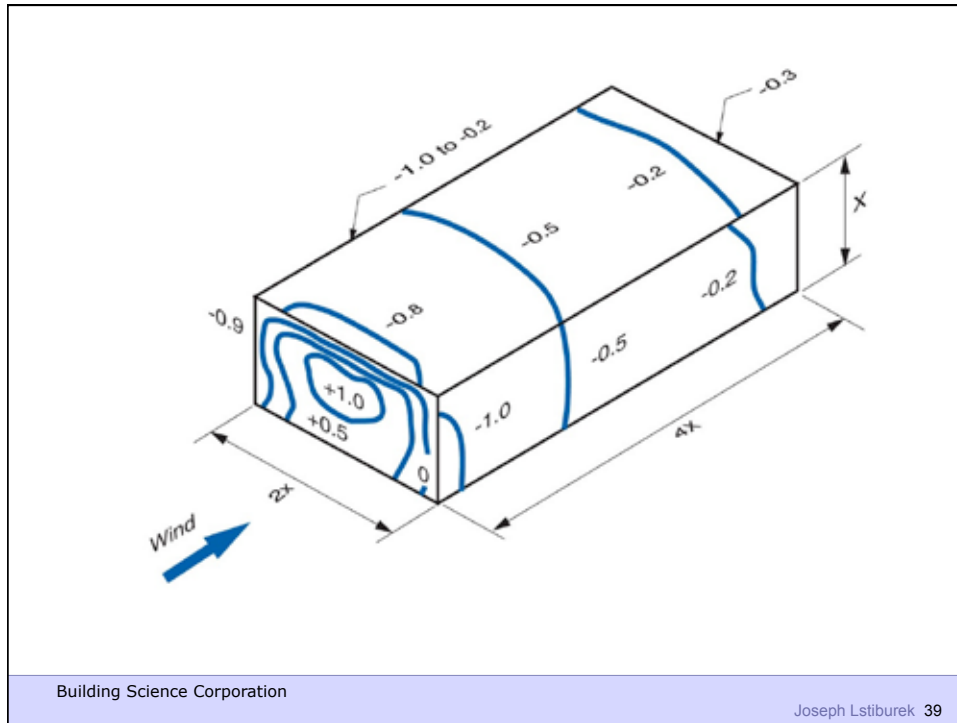










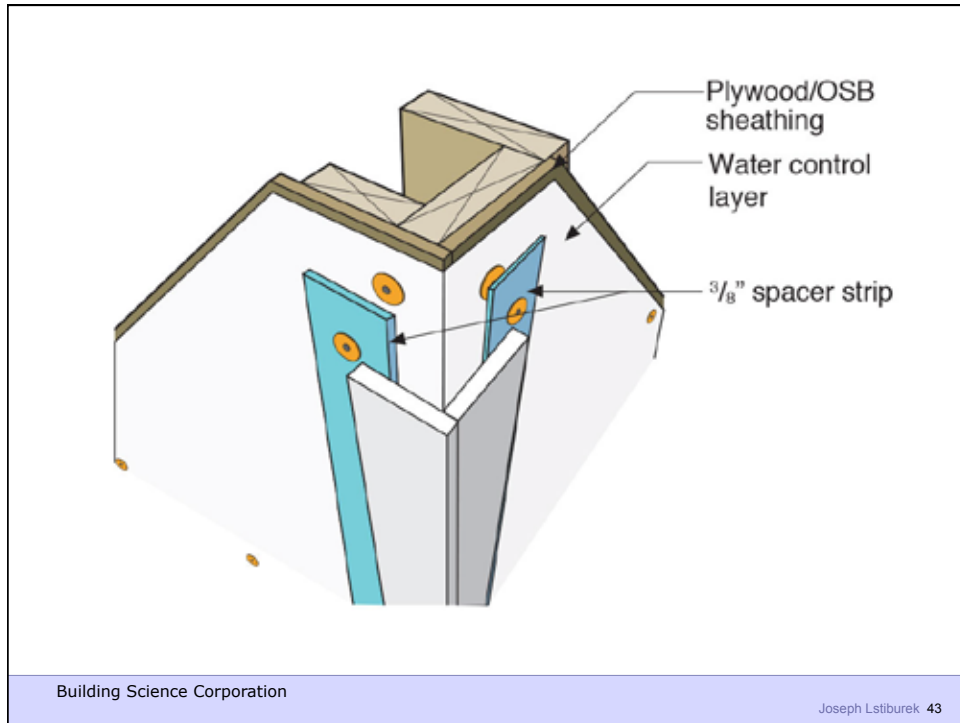




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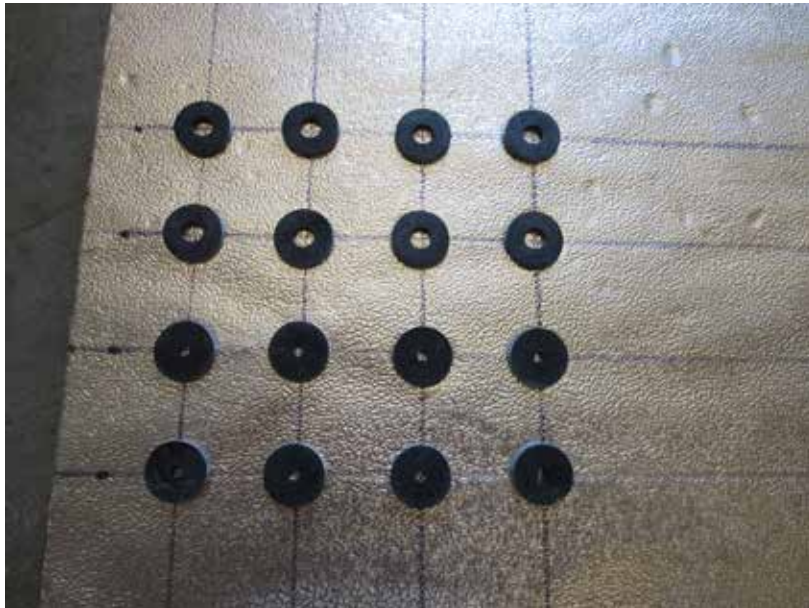
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Rain Screen

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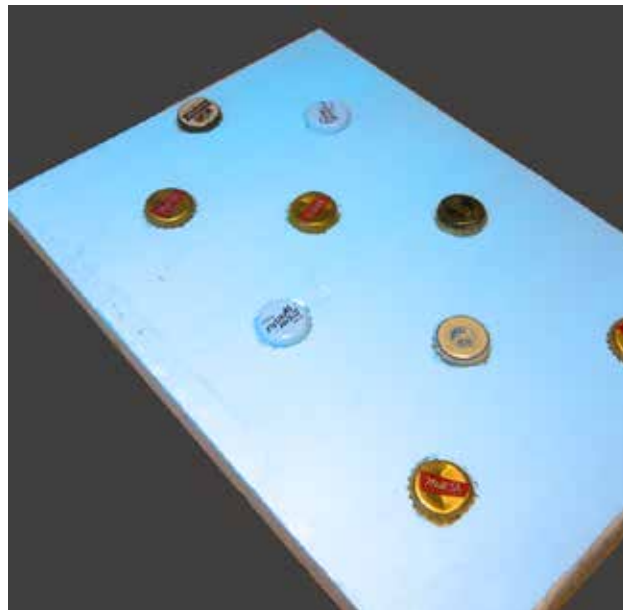
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Beer Screen?

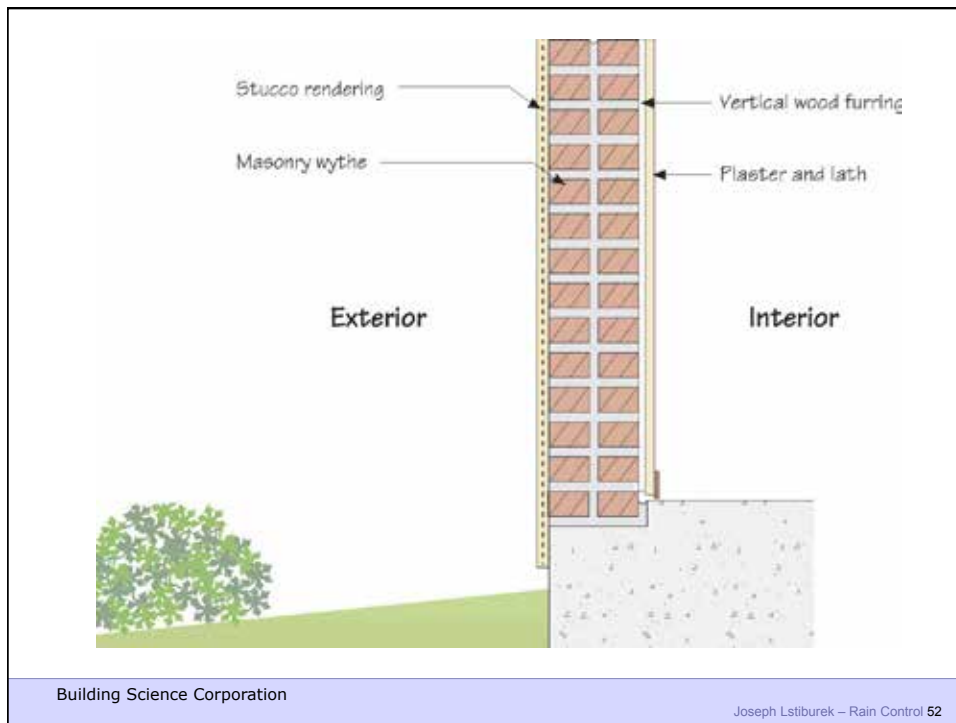
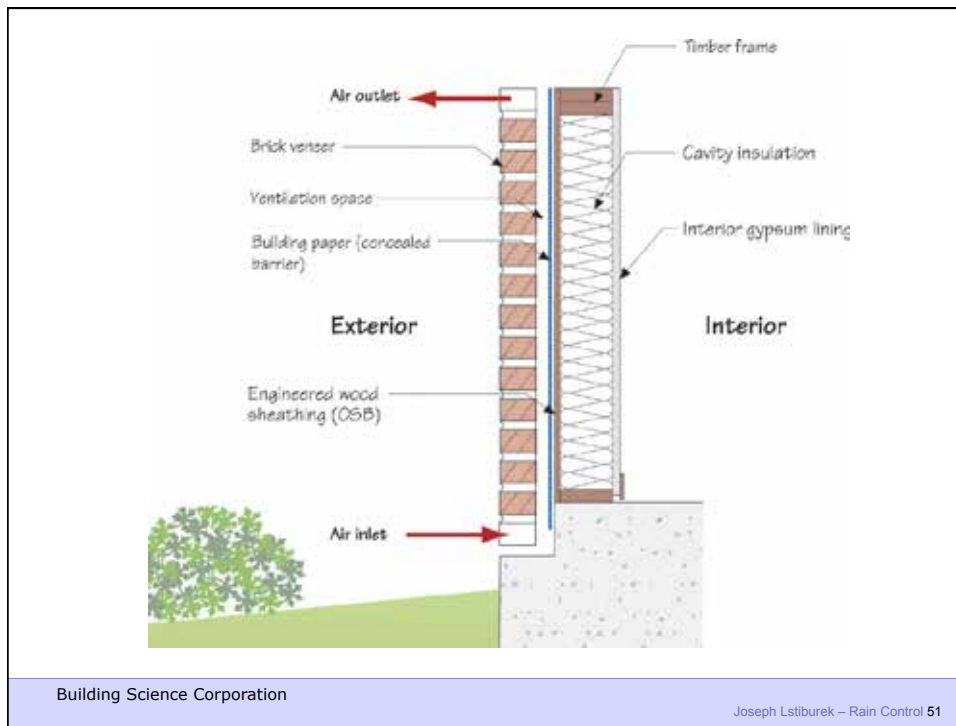
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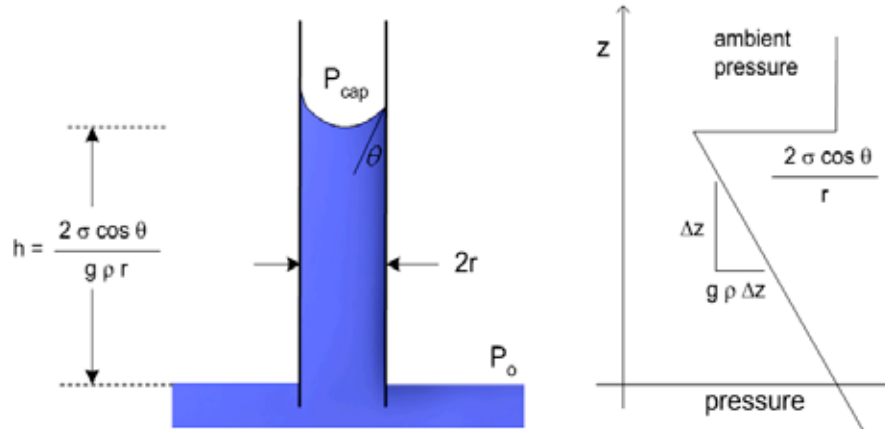


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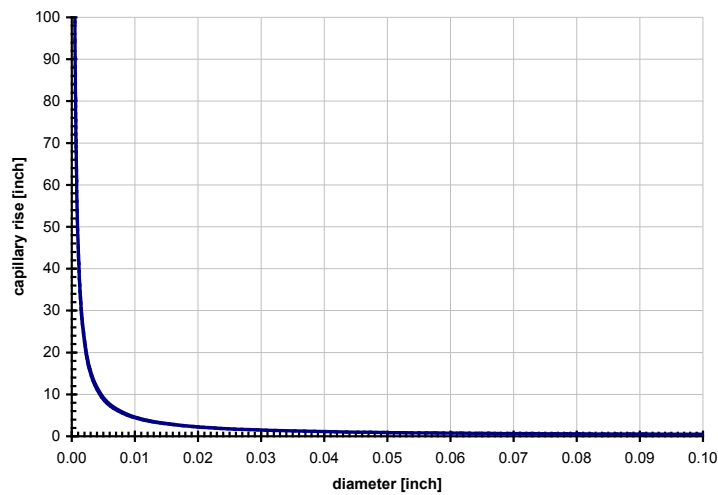
Calculating capillary rise



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Capillary rise versus diameter



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Capillary Flow

Siding laps



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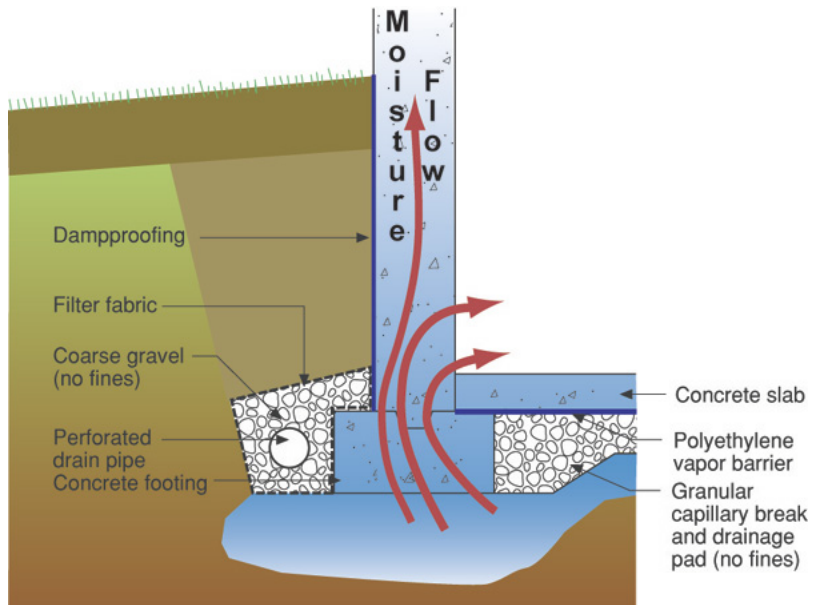
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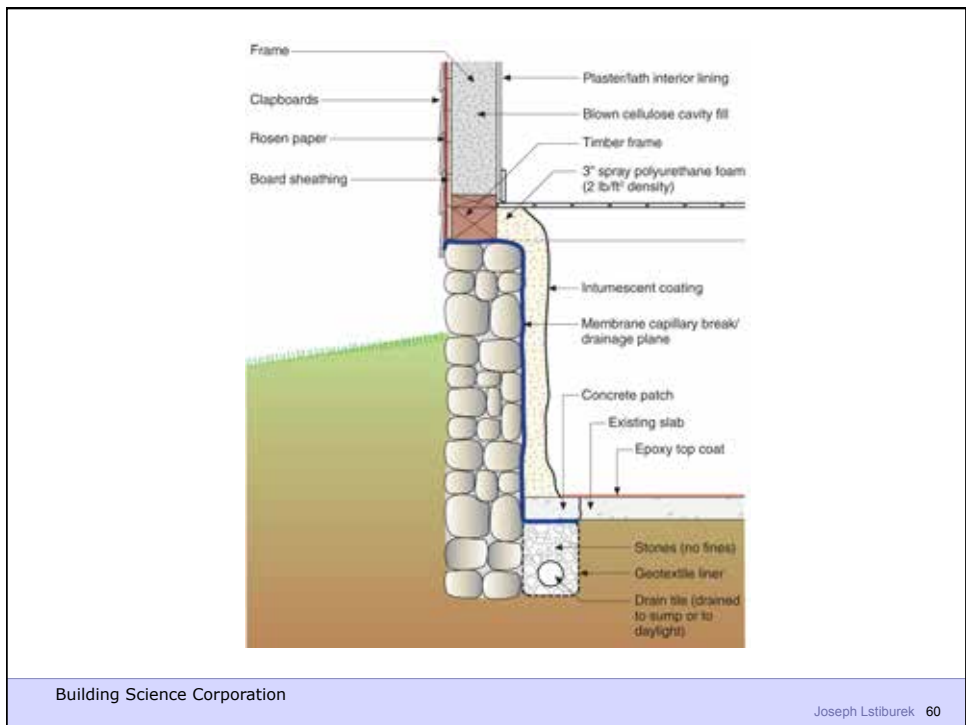
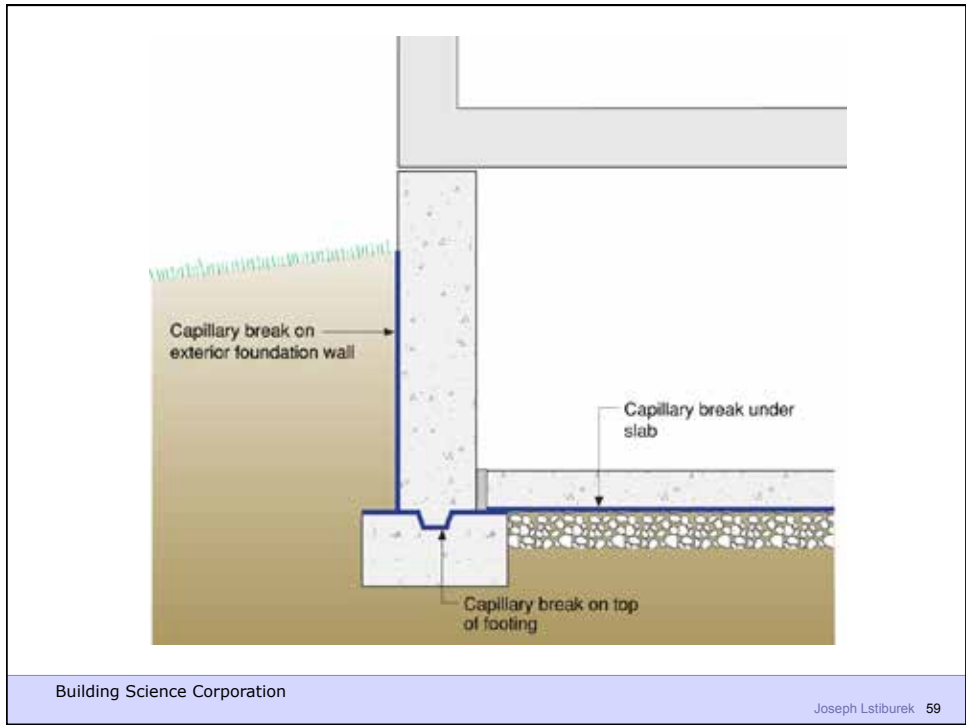
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