Planning and Design for Resiliency

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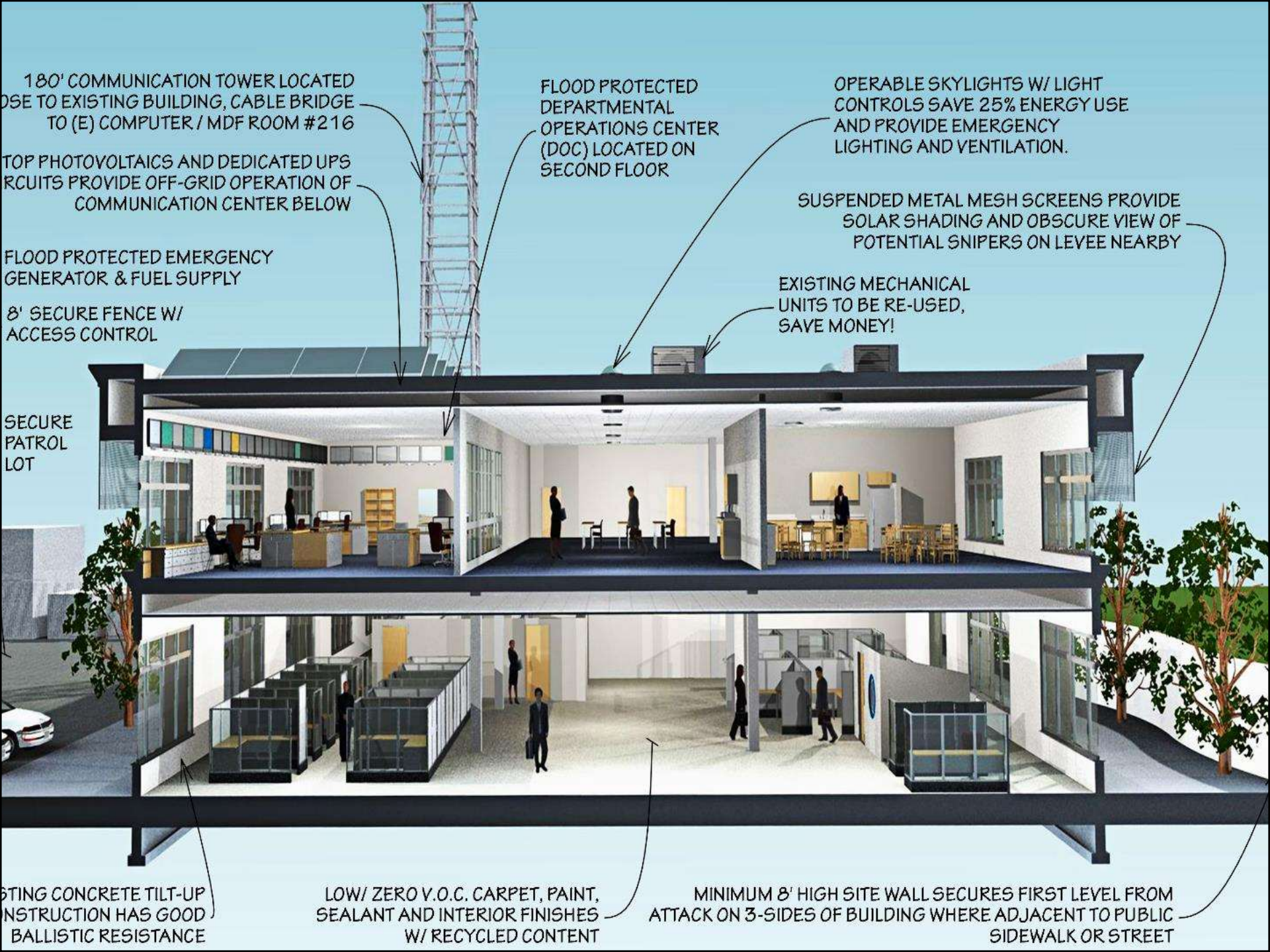
Yuba County Sheriff Office

Case Study: Resilient Remodel

1986 Yuba-Sutter Flood

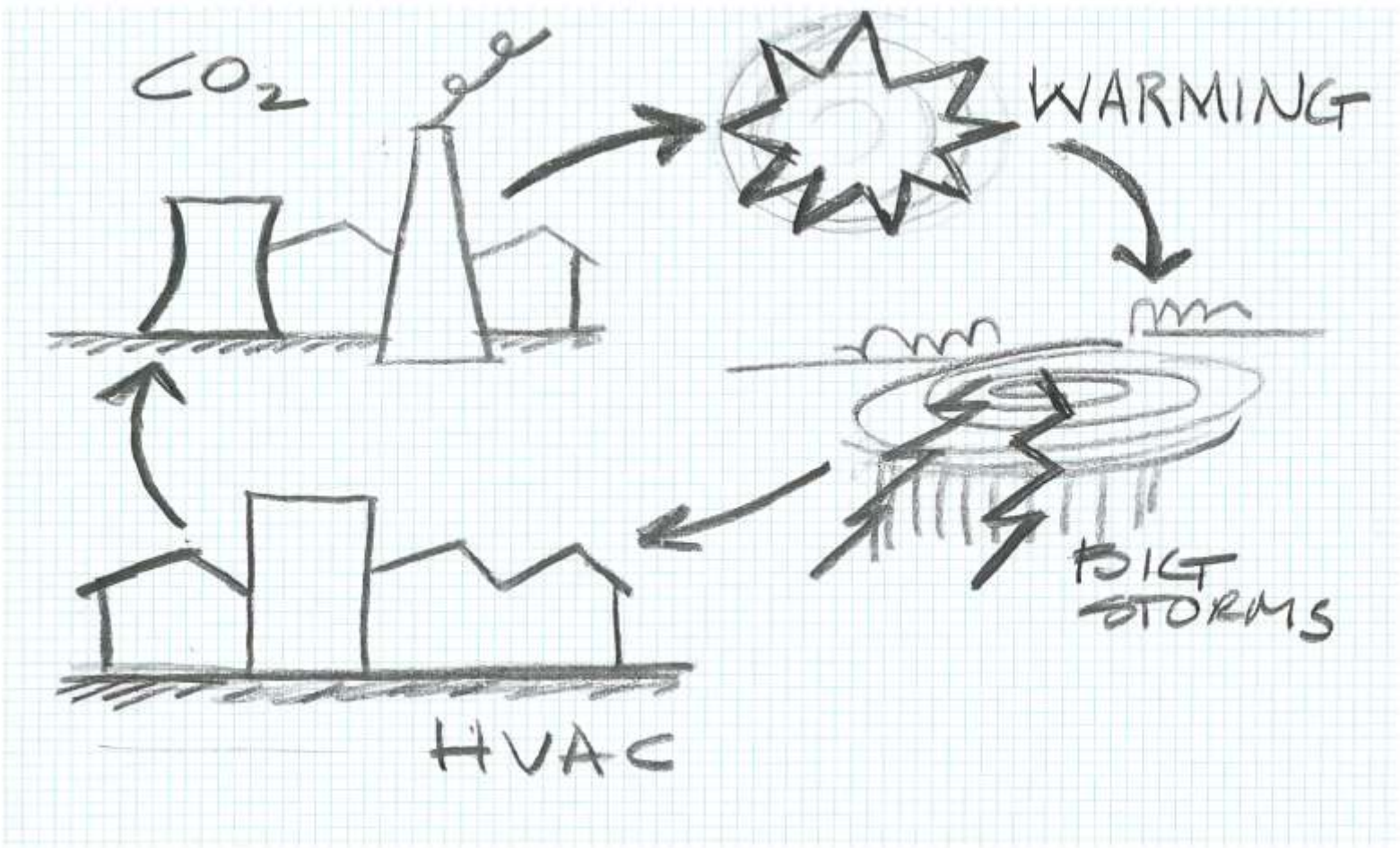
Inland lake resulting from projected Sacramento Valley Superflood


View from Yuba River levee, 14’ flood stage…


180' COMMUNICATION TOWER LOCATED
OSE TO EXISTING BUILDING, CABLE BRIDGE
TO (E) COMPUTER / MDF ROOM #216
TOP PHOTOVOLTAICS AND DEDICATED UPS
RCUITS PROVIDE OFF-GRID OPERATION OF
COMMUNICATION CENTER BELOW
FLOOD PROTECTED EMERGENCY
GENERATOR & FUEL SUPPLY
8' SECURE FENCE W/
ACCESS CONTROL
SECURE
PATROL
LOT
FLOOD PROTECTED
DEPARTMENTAL
OPERATIONS CENTER
(DOC) LOCATED ON
SECOND FLOOR
OPERABLE SKYLIGHTS W/ LIGHT
CONTROLS SAVE 25% ENERGY USE
AND PROVIDE EMERGENCY
LIGHTING AND VENTILATION.
SUSPENDED METAL MESH SCREENS PROVIDE
SOLAR SHADING AND OBSCURE VIEW OF
POTENTIAL SNIPERS ON LEVEE NEARBY
EXISTING MECHANICAL
UNITS TO BE RE-USED,
SAVE MONEY!
STING CONCRETE TILT-UP
NSTRUCTION HAS GOOD
BALLISTIC RESISTANCE
LOW/ ZERO V.O.C. CARPET, PAINT,
SEALANT AND INTERIOR FINISHES
W/ RECYCLED CONTENT
MINIMUM 8' HIGH SITE WALL SECURES FIRST LEVEL FROM
ATTACK ON 3-SIDES OF BUILDING WHERE ADJACENT TO PUBLIC
SIDEWALK OR STREET

Elevated Infrastructure

Designing for local climate and achieving ZNE helps end the CO2 amplifying feedback loop.



Indigo’s new office extracts energy from
Environment so a small PV array can achi
ZNE


Natural light from small distributed sky lights keep the lights off all day

Sacramento River Delta has strong sea breeze from Golden Gate - lowers night time temp to 50 degrees F.

Sac Valley climate map

Lovers automatically open bring in cool night air.

This cools the mass of the building, providing radiant cooling during the day.


Concrete floors, plaster walls and water thermal mass moderate temperature

Straw bale construction


The result!

With an EUI of 3.6 Kw/sq ft/yr this building uses 75% less energy than the average office building so a small PV array < ¼ of floor allows us toeasily achieve ZNE.

Zero Net Energy


indigo