

COASTAL HAZARDS PLANNING GUIDANCE

Kaitlyn McClain
Coastal Resource Planner

kmcclain@dnr.IN.gov

219-926-9757



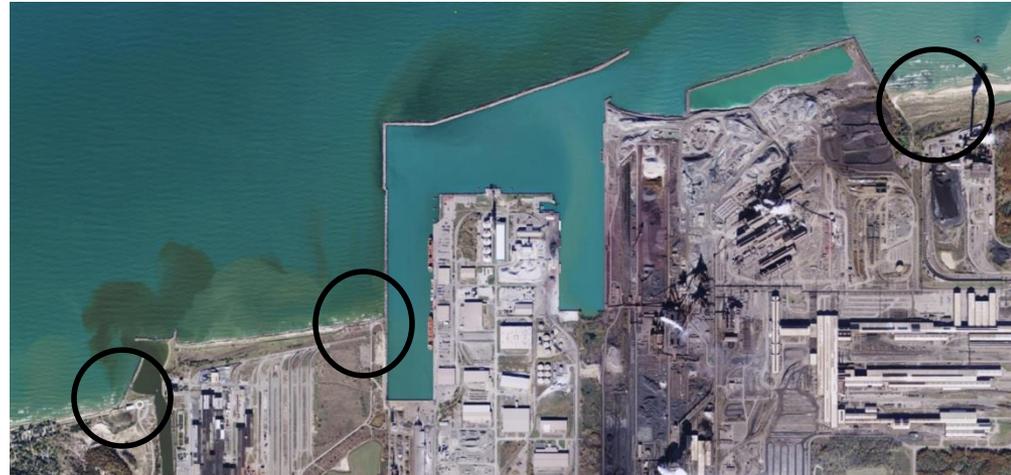
Introduction

- **Section 309 Enhancement Objective:** Prevent or significantly reduce threats to life and property by
 - eliminating development and redevelopment in high-hazard areas
 - managing development in other hazard areas
 - anticipating and managing the effects of Great Lakes level change

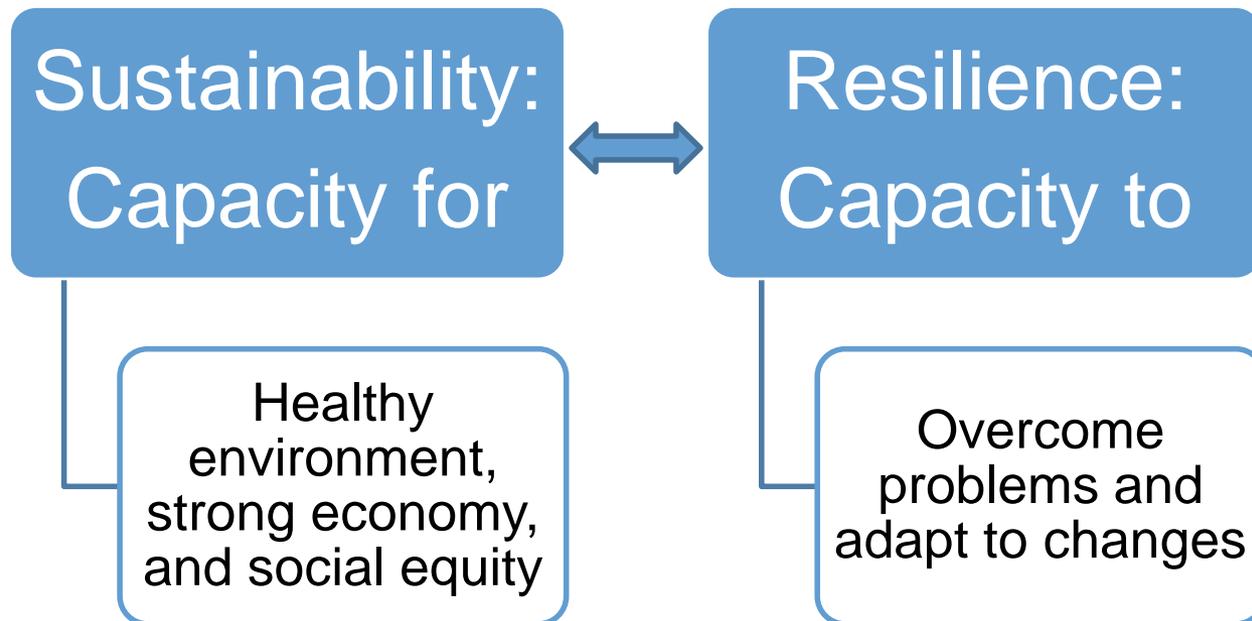
Type of Hazard	General Level of Risk (H, M, L)
Flooding (riverine, stormwater)	M
Coastal storms (including storm surge)	H
Geological hazards (e. g. , tsunamis, earthquakes)	L
Shoreline erosion	H
Great Lake level change	H
Land subsidence	L
Other – Ice Damage	M

Indiana's Coastal Hazards

- Altered shoreline dynamics
- Storms and flooding
- Fluctuating lake levels

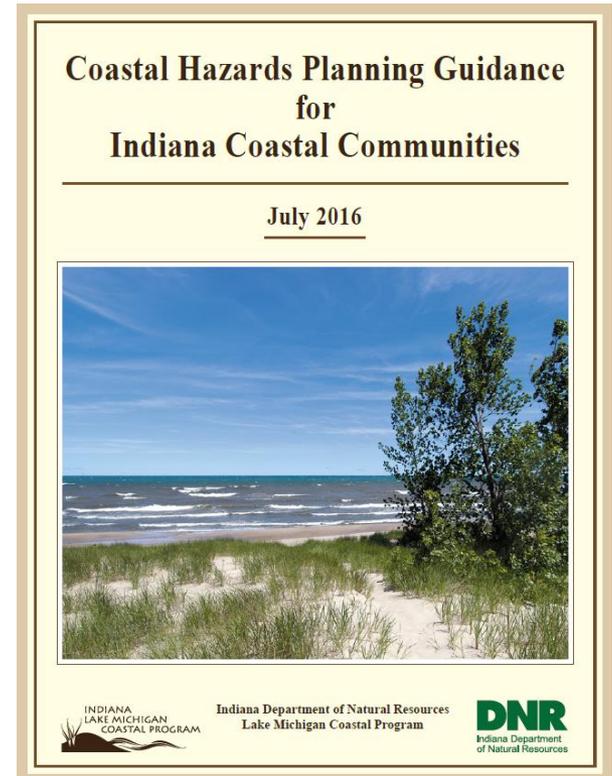


Although storms and lake levels cannot be controlled, property and natural resource damage can be mitigated through early planning at the local level.

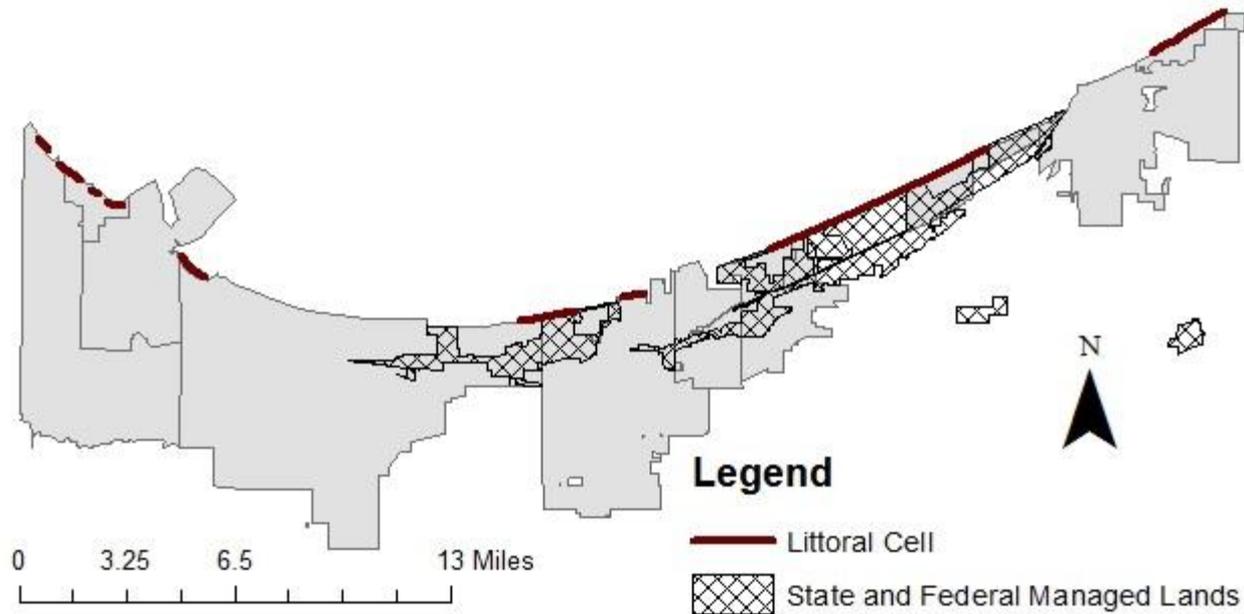


Coastal Hazard and Planning Concepts

- Wave dynamics
- Beach dynamics
- Beach structures
- Exposure, vulnerability, and risk
- All-hazards approach
- Resilience and sustainability
- No Adverse Impact



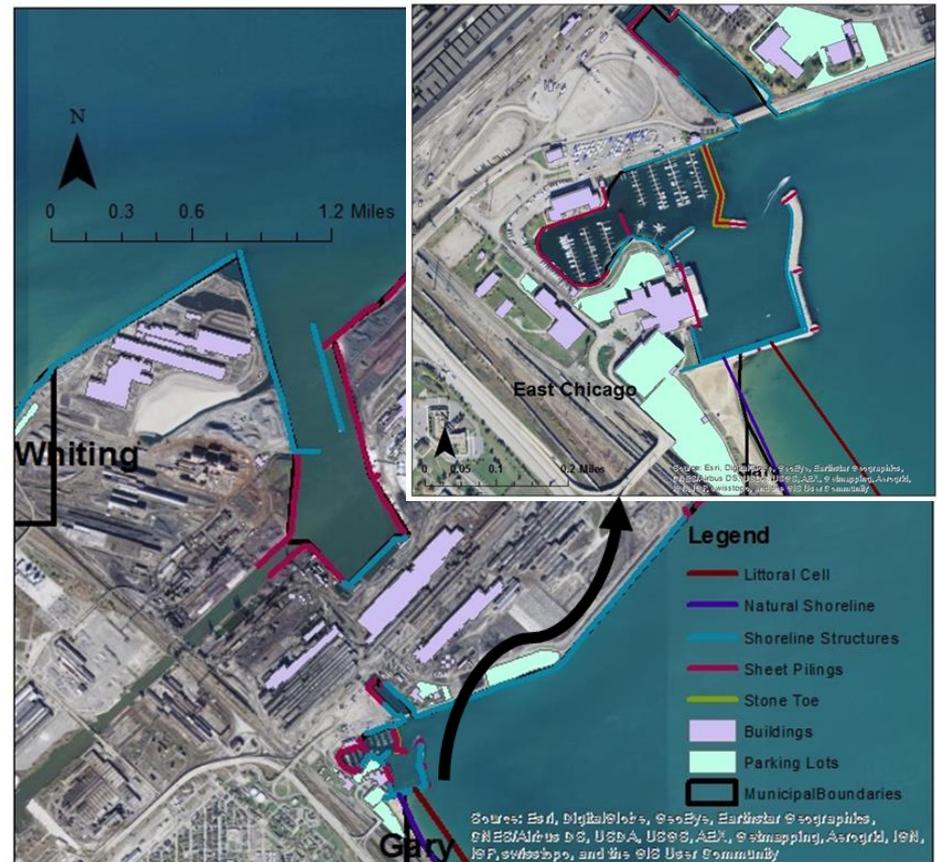
Indiana's Coastal Communities



- 13 municipalities border Lake Michigan
- 9 closed littoral cells created by man-made structures

Shoreline GIS Dataset

- LMCP utilized Section 309 funding to contract with the Polis Center and 39°N to develop an Indiana shoreline dataset.
- Layers
 - Land use
 - Political boundaries
 - Parcels
 - Zone classification
 - Recreation
 - Inland water bodies
 - Transportation corridors
 - Utility corridors
 - Structures
 - Water-related
 - Building footprint
 - Shoreline armoring
 - Access points
 - Historic
 - Water's edge
 - Landmarks
 - Shoreline dynamics
 - Processes
 - Outfalls

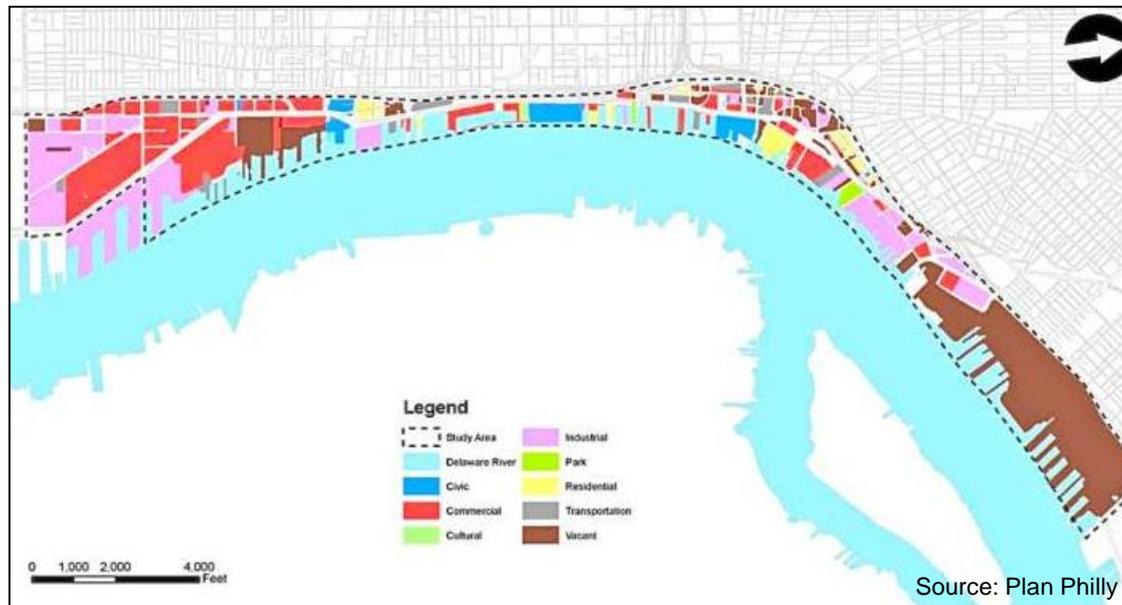


Model Ordinances

- Overlay Zone
- Coastal Hazard Setback
- Shoreline Protection Structures
- Disclosure of Coastal Hazards
- Shoreline Vegetation Buffer
- Site Planning

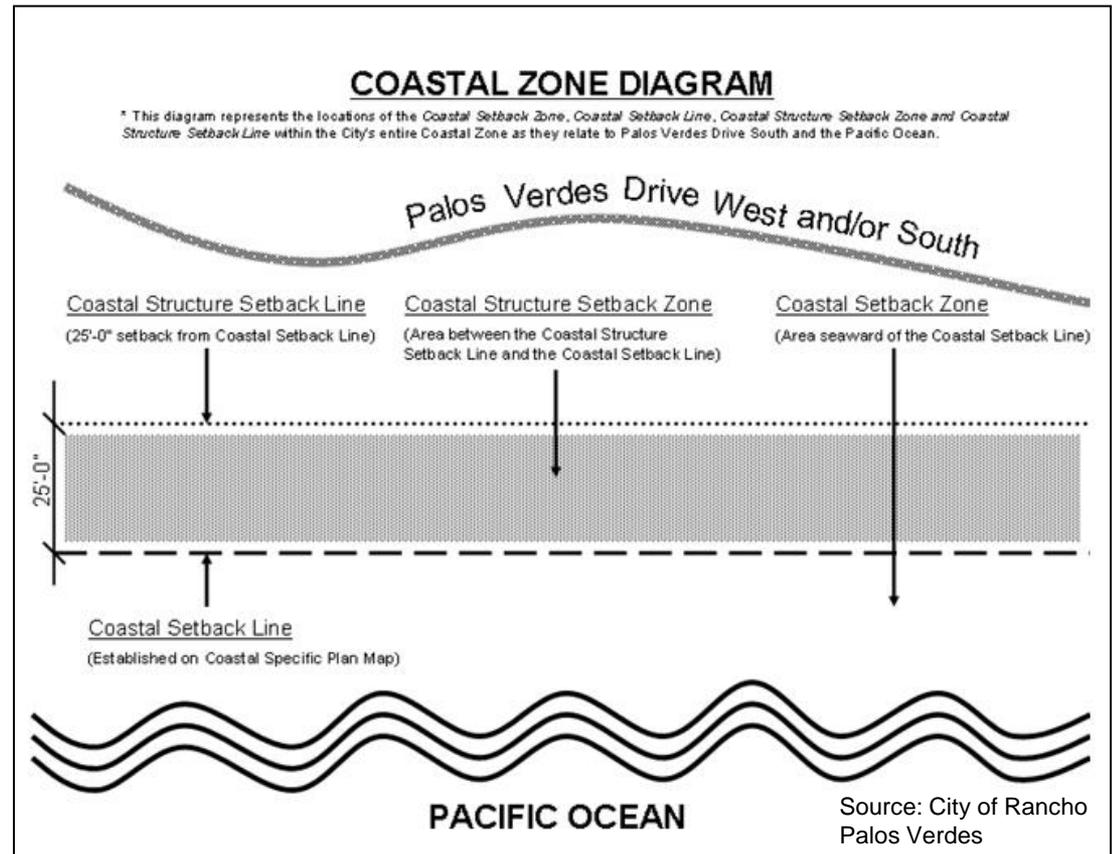
Overlay Zone

- Used to protect cultural or natural resources or promote a specific type of development
- Applied over previously established zoning districts
- Adds new standards to those required of the underlying zoning districts



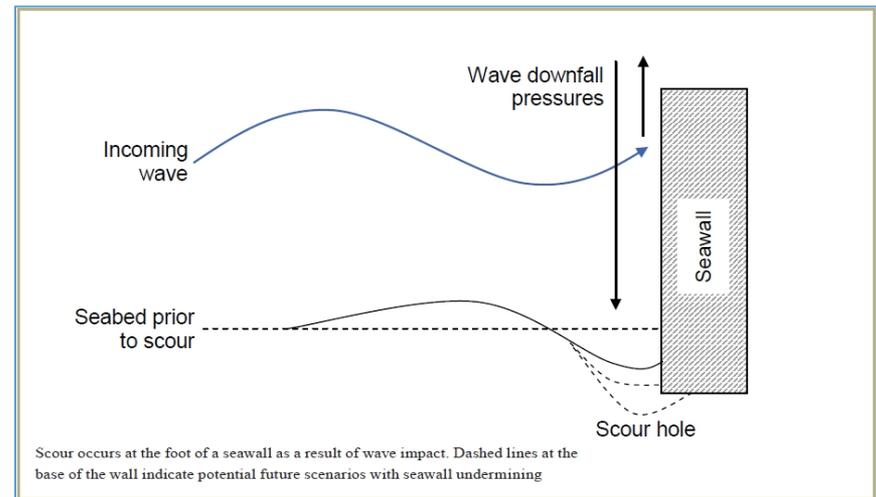
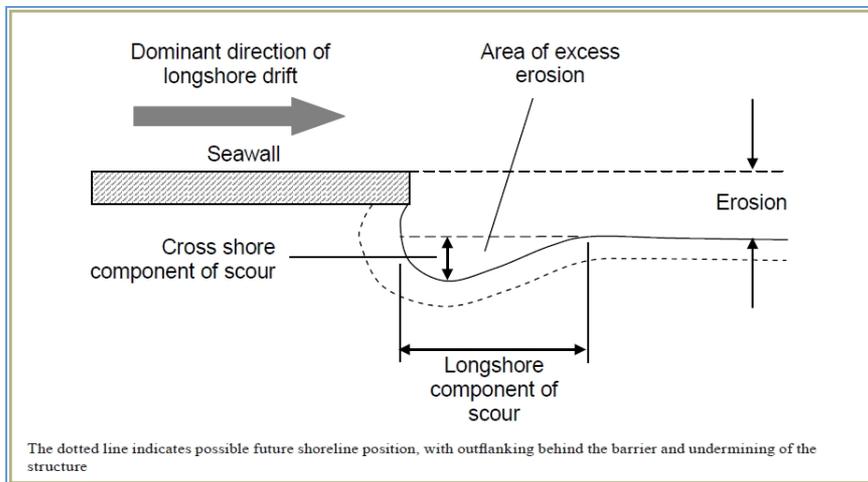
Coastal Hazard Setback

- Most promising measure for minimizing damages to coastal property
- Establish a “no development” area a certain distance from the edge of the lake
- Effective setback will take into account historic lake level fluctuations



Shoreline Protection Structures

- Ensure proper design, permitting, and implementation
- Possible provisions:
 - Long-term maintenance plan
 - Minimum size necessary
 - Tie-in with adjacent protection structures



Disclosure of Coastal Hazards

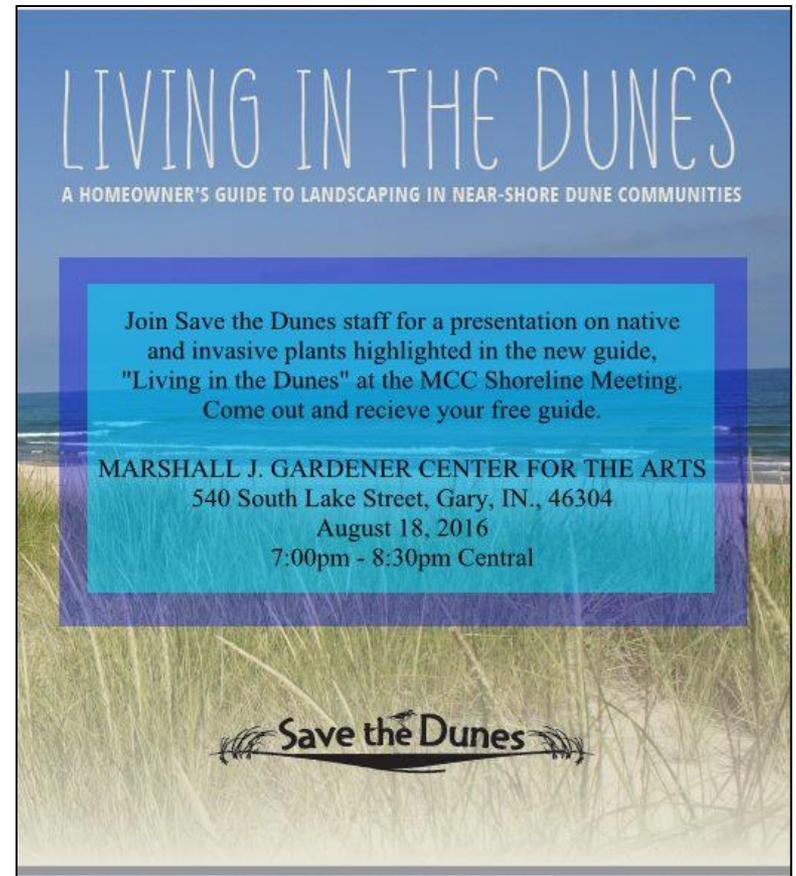
- Signed statement before issuance of building permit or transfer of ownership
- Helps property owners/buyers understand the risks associated with building in or making changes to coastal land



Source: Kyle Telechan, Post-Tribune

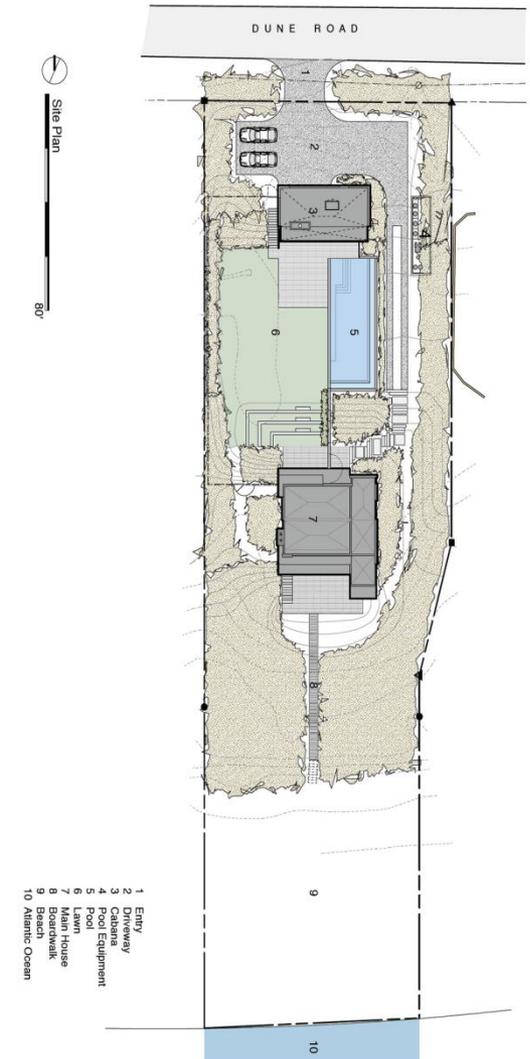
Shoreline Vegetation Buffer

- Require natural vegetation remain or be restored to protect the ecology and aesthetic of the duneland ecosystem
- Selective pruning and limited tree removal
- Partner with local nonprofits to provide homeowner education



Site Planning

- Provides an avenue to detect potential problems on a particular site
- Communities decide level of detail required
- Possible provisions
 - Location of property and dimensions of structure
 - Location of utilities
 - Rates of erosion
 - Location of natural resources/waterbodies
 - Plans to protect native vegetation
 - Plans to control stormwater



Next Steps

- Develop curriculum and incorporate into Coastal Training Program
- Work with shoreline communities to implement ordinance changes or projects that utilize Coastal Program grant funds
- Complete Needs Assessment regarding model ordinances to address flooding



QUESTIONS

Planning Guidance Document:
<http://www.in.gov/dnr/lakemich/7281.htm>

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