## ****Earth 107 Course Capstone Project: Stage 3 - Human System and Engineering Infrastructure Audit Worksheet****

## Assignment Description: You will recall that at the end of Section 1 of the course (i.e. Capstone Project Stage 1), you downloaded the Coastal Vulnerability PowerPoint file. You will use that file to build your final Capstone product. There are multiple sections that you will fill in as you complete each module of the course. By the end of the course, you should be able to complete all sections and produce a PowerPoint presentation that will be turned in for your Capstone grade. This worksheet is meant for compiling notes that will be used to populate your PowerPoint.

## **At this point (end of Module 10) you should be able to complete the following worksheet with notes about your chosen coastal city. Complete each section with relevant notes about your location. If there is no relevant information for a section (e.g., no beach nourishment, etc.), just make a note of this. Please keep track of your sources in the references section. Your completed project must include correctly cited references.**

## Submission Instructions: Submit your completed worksheet to Canvas by the end of Module 10 (see the Course Calendar for the due date). Please employ the following naming convention: Last Name\_First Name Stage3Worksheet.docx.

## ****Progress Update on Stage 3****

## ****Name of your chosen coastal city\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****

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| **Stage 3: Human Vulnerability Assessment** |
| ***Topical Areas of the Audit*** | ***Ask yourself:***  1. *Have I collected and recorded* ***adequate*** *information on each of these elements? and*
2. *Do I* ***understand*** *each component so that I can adequately* ***explain******it and demonstrate******my knowledge*** *for the course capstone submission?*

If the answer to the questions above is NO for either 1 or 2 for any of the following topical areas of the audit, then you should revisit/reread the modules in the section, consult with your fellow students, and if necessary contact the instructor to help improve your understanding. |
| **Coastal Population** E.g., Population Size, Demographics, Distribution, Per Capita Density. Income Distribution. Is this a densely populated city? Is there a large number of people living in poverty? |  |
| **Residential Housing****What do most houses look like; do you see a wide variety of types?** E.g., types of housing such as shanties, Apartments/Condos, Single/Multi-story Single Family Homes, Density of housing, etc. |  |
| **Commercial Buildings**E.g., types of buildings evident such as: hotels, industrial buildings, manufacturing plants, retail, hotels, high-rise buildings etc. |  |
| **Notable Cultural Resources** E.g., Notable churches, museums, monuments, etc. |  |

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| **Stage 3: Potential Mitigation Strategies (Complete only those that apply to your location)** |
| **Shoreline Engineering – Hard Structures**Existing and potential shoreline engineering strategies – e.g., Hard structures |  |
| **Non-traditional “soft” shoreline protection methods**E.g., Dunes, geotubes, bioengineering, marsh restoration activities, etc. |  |
| **Flood Control**Existing and potential engineering projects such as flood gates, levees, pumping systems, etc. |  |
| **Managed Retreat Examples**Managed retreat projects; zoning, regulations, land use planning, building codes, etc. |  |
| **Beach Management** Existing or potential for beach re-nourishment examples. |  |
| **Natural Coastal Habitat Restoration** (wetlands, SAV restoration, Reef/Living shorelines, dune restoration, etc.) |  |
| **Smart Building/ development Examples**Sustainable building practices; retrofit, develop flood resiliency, etc. |  |

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| **Site Specific Concerns or Considerations** |
| Item 1 | Identify more site-specific topics/issues/concerns etc. for your coastal city since Stage 2 and begin listing them on your vulnerability audit. For example, “sea level rise could inundate 50% of the city within this century” or ”increased frequency of flooding is causing loss of property” |
| Item 2 |  |
| Item 3 |  |
| Item 4 |  |
| Item 5 |  |
| Item 6 |  |

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| **References and Key Resources** |
| Include web links, newspaper articles, citations to primary literature, databases, personal communications, etc.  | Item 1 |
| Item 2 |
| Item 3 |
| Item 4 |
| Item 5 |