W. E. T.

Water Elevation Technologies

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Analysis of Costs Associated with Obtaining Elevation Certificates for Low-Income Households in San Marcos, Texas

Agenda

- Introduction
  - Summary
  - Purpose
  - Scope
- Proposal
  - Data
  - Methodology
  - Implications
  - Budget
  - Timetable
  - Final Deliverables
- Conclusion

Summary & Purpose

- Central Texas is prone to floods
- Many of San Marcos' most flood-prone areas are low income
- Survey of property's elevation (elevation certificate) required to obtain flood insurance.
- Grants possible to help low-income families get flood insurance – but how much money will it take?

Scope

- City limits and extraterritorial jurisdiction of San Marcos, Texas

Data

- Base Map
  - Address Points
  - Building Footprints
  - City Limits
  - ETJ
  - Parcel Boundaries
  - Railroad
  - Street Centerlines
- Income
  - Parcel Appraisals
- Hydrology
  - San Marcos River
  - Major Streams
  - FEMA Floodway
  - 100- & 500-year Floodplains
  - Cross-Section Elevations
  - 1998 Flood Area
- Flood Insurance
  - Existing Elevation Certificates
  - Previous Claims

Methodology

- Find properties at risk of flood damage
  - Spatial join of parcels with flood data
    - FEMA-defined floodplain
    - Buffer of flood plain
    - Areas flooded in October 1998 (used as an example of an extreme flood)
- Eliminate properties with existing elevation surveys
  - Known surveys provided as point layer
  - Match to parcels

Methodology

- Determine which properties are likely to have low-income residents
  - Join parcels with possible flooding to property tax assessments
  - Total assessed value of under $30,000 per Hays Central Appraisal District
- Estimated cost = (number of properties meeting criteria) x (cost per survey)
- Cost per elevation survey obtained through contact with San Marcos-area surveyors

Implications

- Analysis of San Marcos Flood Data, San Marcos Tax Appraisal Information, and FEMA Flood data to produce maps to show the following:
  - Locations of residences that are with the floodplain, 100 year floodplain, and the 500 year floodplain.
  - Analysis of these residences to see which ones fall into a low income bracket. Low income defined as Total Assessed Values less than $30,000.
  - Locations of residences that have elevation certificates and if the fall into the floodplains.

Implications

- Analysis of the low income areas within the floodplains for the purpose of:
  - To make a proposed block grant for the city of San Marcos, Texas that will help low income families receive the elevation certificates necessary to apply for flood insurance.
- These maps will be:
  - Clear and easy to read, an overview of the current situation of residences in the floodplains, locations of low income families and their relationship with the floodplains.

Budget

- Total $25,000
  - Personnel: $21,000
    - 3 Analysts × 12 weeks × 10 hours/week × $40/hour = $14,400
    - 1 Project Leader × 12 weeks × 10 hours/week × $55/hour = $6,600
  - Miscellaneous $4,000
    - Office supplies & printing $1,000
    - Computer maintenance & repair $1,000
    - Contingency $2,000

Timeline

Week of:	Jan	February				March				April				
	29	5	12	19	26	5	12	19	26	2	9	16	23	30
Data Collection / Acquisition							Spring Break							
Data Pre-Processing														
Analysis														
Web Site														
Metadata														
Interpretation														
Deliverables														

Deliverables

- Final Report (2 copies; paper)
- Poster for Display
- All data used or created
- Website
- CD containing the following: (2 copies)
  - Data provided (as modified during the pre-processing phase)
  - Data generated as the result of analysis
  - Metadata
  - Electronic copy of Final Report in MS Word format.
  - Electronic copy of Poster for Display
  - PowerPoint Presentation
  - “Readme” directions on use of the CD

Conclusion

- We know areas in need of flood insurance
- We know areas where residents may not be able to afford flood insurance
- Combine the two to determine the need for a grant

Participation

- Clinton Buehring
  - GIS Analyst
  - Proposal: Summary, Purpose, Conclusions, Participation
  - Project: Contact for Surveyors & Insurance, Data Editing & Analysis
- Jeff Gravett
  - GIS Analyst
  - Proposal: Data
  - Project: Data Editing & Analysis, 2D Mapping
- David Lynch
  - Project Manager, Webmaster
  - Proposal: Methodology, Budget, Timetable, Final Deliverables
  - Project: Web Site, Development of Block Grant, Data Editing & Analysis
- Miriam Mosher
  - GIS Analyst
  - Proposal: Scope, Implications, References
  - Project: Metadata, Income Data, Data Editing & Analysis, 3D Mapping