GIS Implementation at the Borough of Wind Gap, PA

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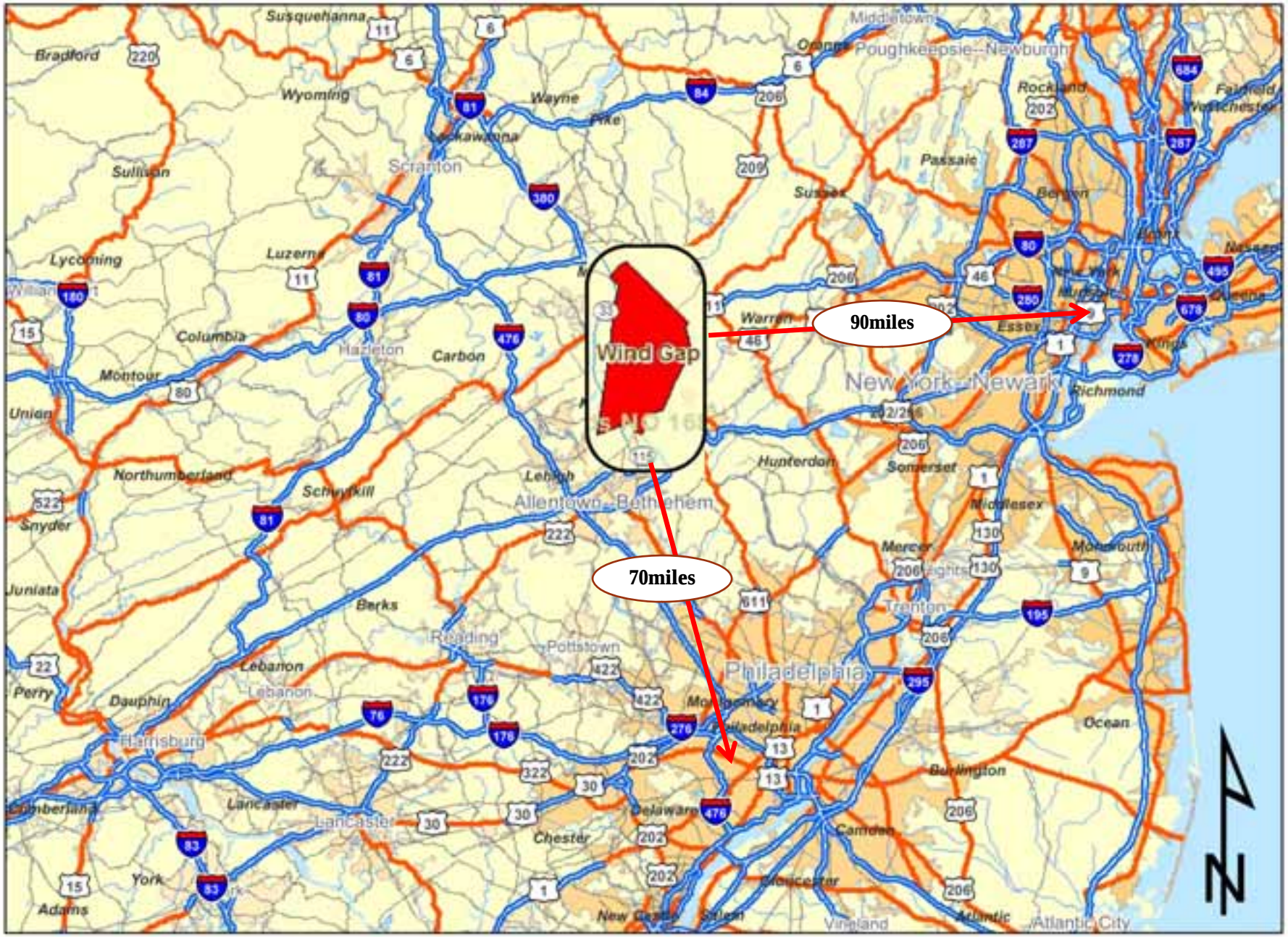
About The Borough of Wind Gap

Wind Gap was founded as a community in 1635 with original settlers being sheepherders. The Borough was incorporated in 1893 with the first Council meeting being held in August.

The tollhouse located on Route 115 (N. Broadway) in Wind Gap was part of the stage route that in 1779 General Sullivan's Campaign used Against The Iroquois nations in New York State.

Railroads reached Wind Gap in 1878, with trolley cars appearing in the early 1900's. Textiles and slate industries helped to form the backbone of Wind Gap's economy and is part of the region known as the Slate Belt.

Borough of Wind Gap, Pa



Current Borough Record Archives

Wind Gap GIS Requirement

- GIS to support Borough infrastructure management.
- GIS data to support grant application process.
- Emergency management spatial database of at-risk and non-mobile populations to assist in planning for emergencies and evacuation.
- GIS data to interact with bordering townships, County & State, Slate Belt COG and Pennsylvania Department of Transportation (PennDOT).
- Build a permanent supportable legacy by outsourcing ongoing support to an experienced engineering firm.

The 1st year of Wind Gap's GIS initiative.

- *Goal 1: Be able to perform property level tracking and information management of parcels.*
  - Cost-efficient tracking of permits related to zoning and planning.
  - Need to retrieve permit data by location or attribute data.
  - Need to link a variety of permitting files (occupancy, move-in, enforcement, etc.) associated with properties.
  - Need to maximize available budget and staff resources through an evaluation of regional coordination of zoning and code administration.
  - Need a emergency management spatial database of at-risk and non-mobile populations to assist in planning for emergencies and evacuation.

The 1st year of Wind Gap's GIS initiative.

- *Goal 2: Establish capital equipment inventory data and perform accurate financial planning.*
  - *Need the inventory data to assist planning of future property replacement costs.*
  - *Need for building/facility maintenance cost tracking.*
  - *Need for building/facility maintenance planning.*
  - *Need for inventory data to assist with grant application preparation*.
- *Goal 3: Leave a permanent GIS legacy at the Borough by out-sourcing development and support.*
  - *Find and establish a professional relationship with an experienced GIS engineering firm.*
  - *Budget and gain approval of both startup and legacy costs.*
  - *Collaborate on the methods, collection and retention of required data.*
  - *Use the KISS planning method.* (Keep It Simple Stupid)

In-house Preparation

- Insure ample computer capacity to support application.
  - 1st generation 64 bit multi-CPU computer hardware.
  - Oversize monitor make viewing maps and reports easier.
- Provide security of data files by backing up data regularly.
- In a networked environment, store data on server & share.
- Meet with staff and agree on inventory to be collected.
  - Stop/Borough/handicapped/PennDOT Signs, Hydrants, Telephone/light polls.
- Methods of collecting inventory.
  - Manually collected & manually inputted.
  - Automated collection & inputted with GPS data. i.e., Trimble Juno.

Trimble Juno 3B Selected by Wind Gap

GPS location capture, feature picture & feature attributes.

1st Wind Gap Features Collected

- Borough Signs
  - *Stop Sign*
  - *Speed Limit*
  - *Warning*
  - *Handicapped*
  - *Street Name*
  - *Borough Sign*
  - *PennDOT*
- Utility Poles
  - *Telephone*
  - *Traffic*
  - *Street Light*
- Hydrants

Borough of Wind Gap
Zoning

Property by Zoning

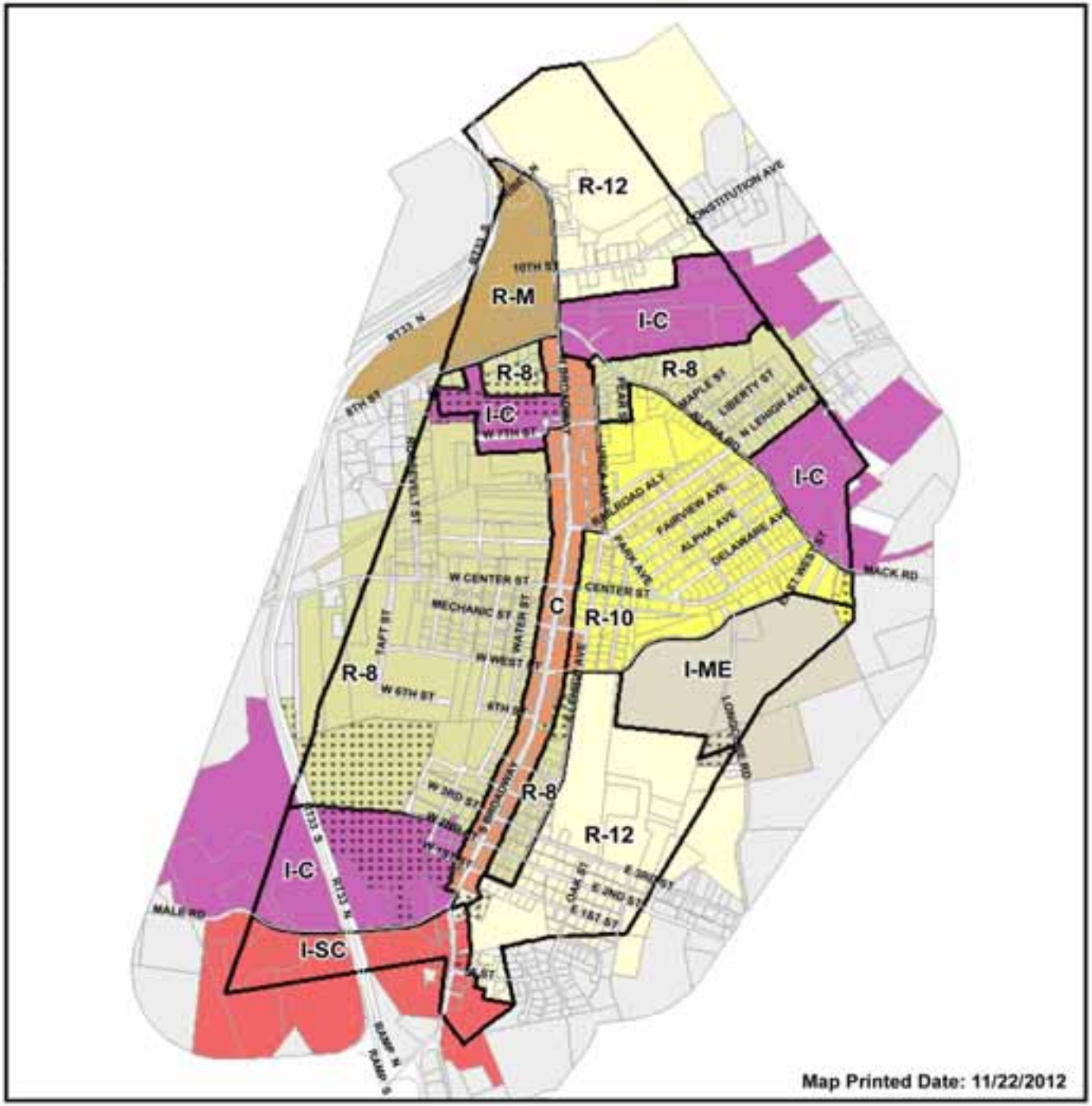
- Community Commercial (C)
- Industrial and Heavy Commercial (I-C)
- Extractive Industry (I-ME)
- Industrial and Shopping Center (I-SC)
- Med Density Single Fam Res (R-10)
- Single Family Res (R-12)
- Med Density Res (R-8)
- Mobile Home Res (R-M)
- Outside of Borough
- Multiple Zoning
- Zoning Boundary

N

1 inch = 1,500 feet

0 800 1,600 2,400 Feet

Data Source:
Parcels - Northampton County GIS
Zoning - Lehigh Valley Planning Commission
& SSM Group, Inc.



Borough of Wind Gap
Zoning Permits

Properties by Permit Type

- Commercial
- Residential
- Not Applicable
- No Permitting

Borough Boundary

Note: Permits prior to 2010 have not been cataloged in the GIS geodatabase

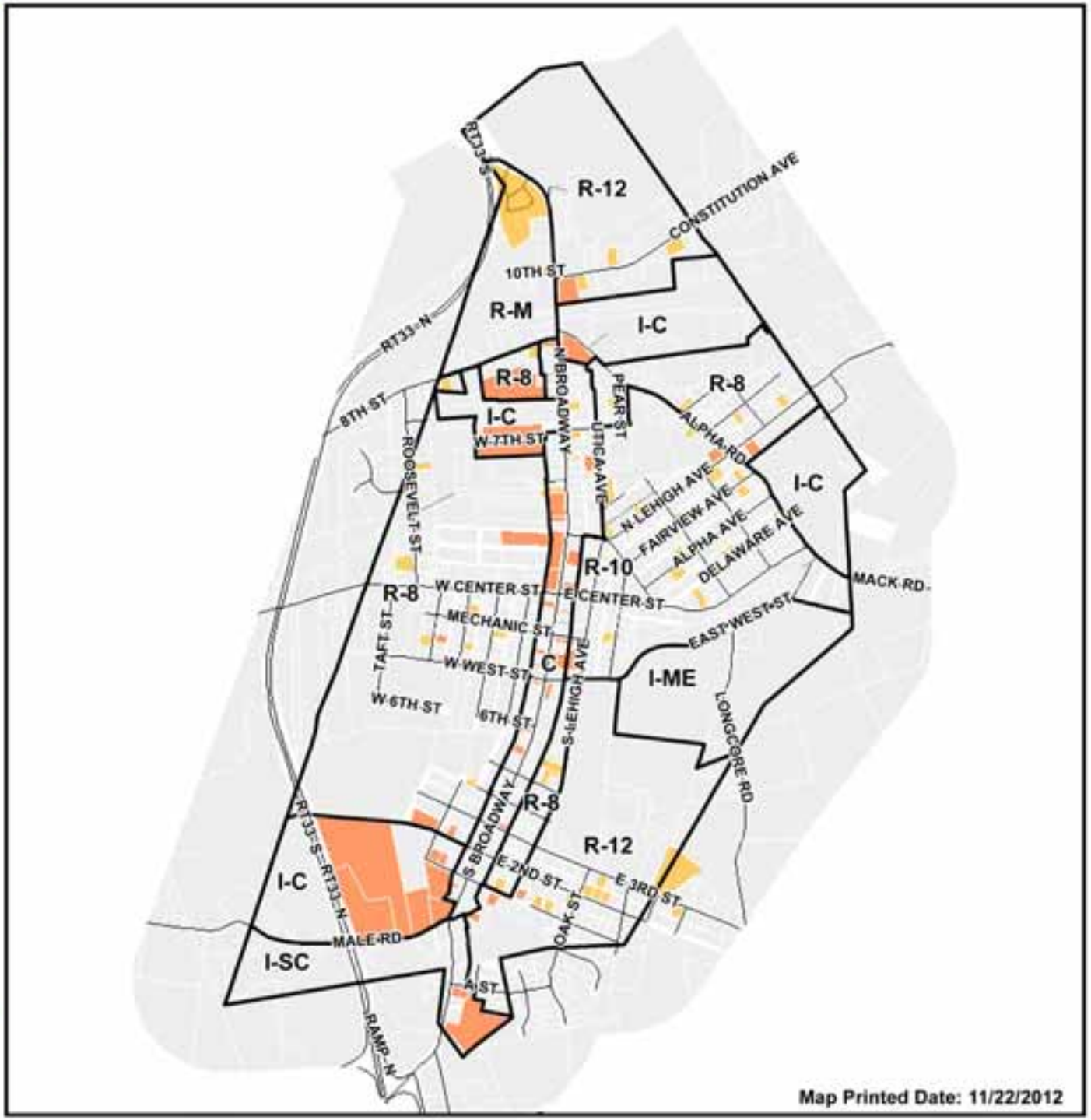
N

1 inch = 1,500 feet

Feet

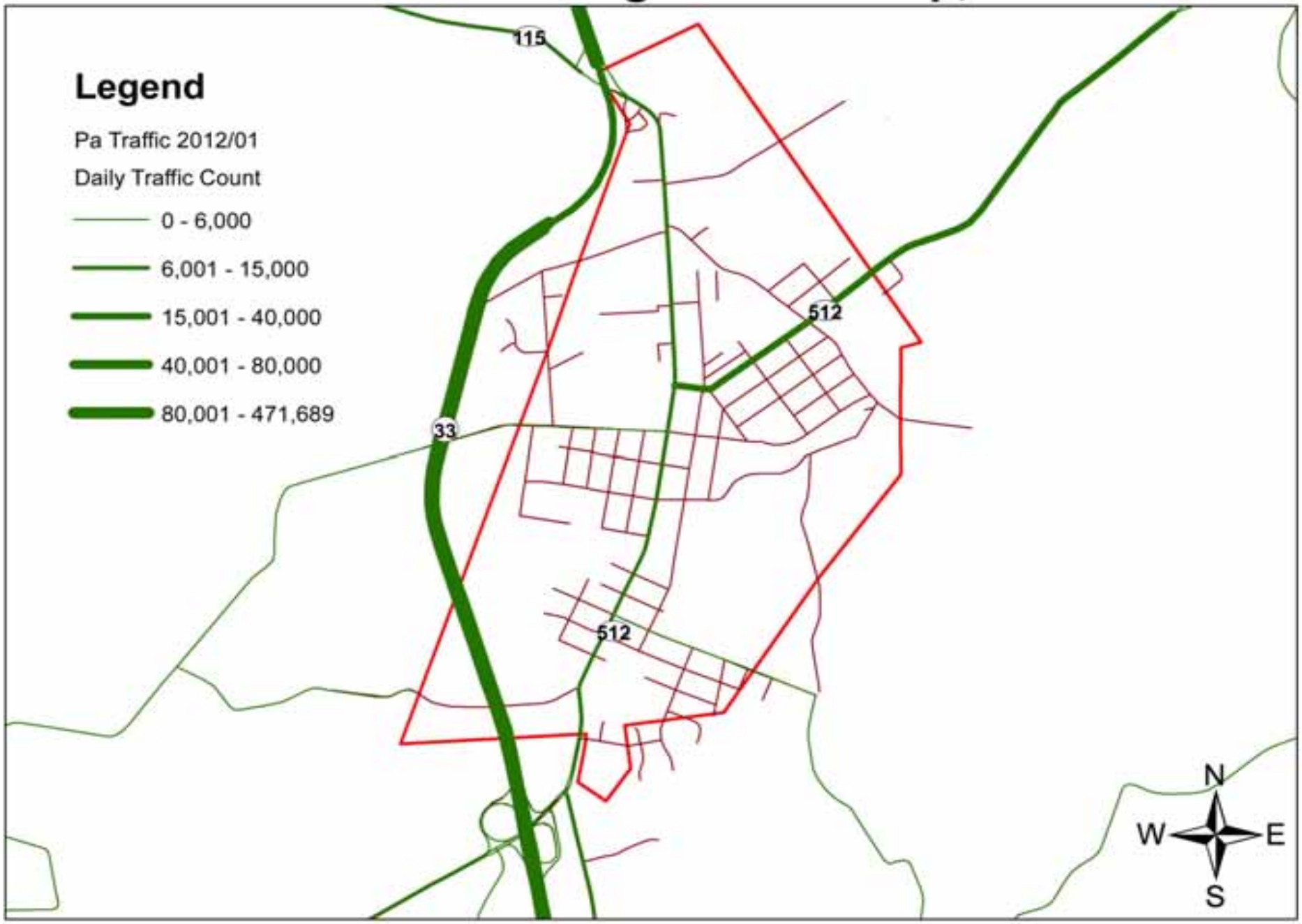
0 800 1,600 2,400

Data Source:
Parcels - Northampton County GIS
Borough Boundary - Based on LVPC Zoning

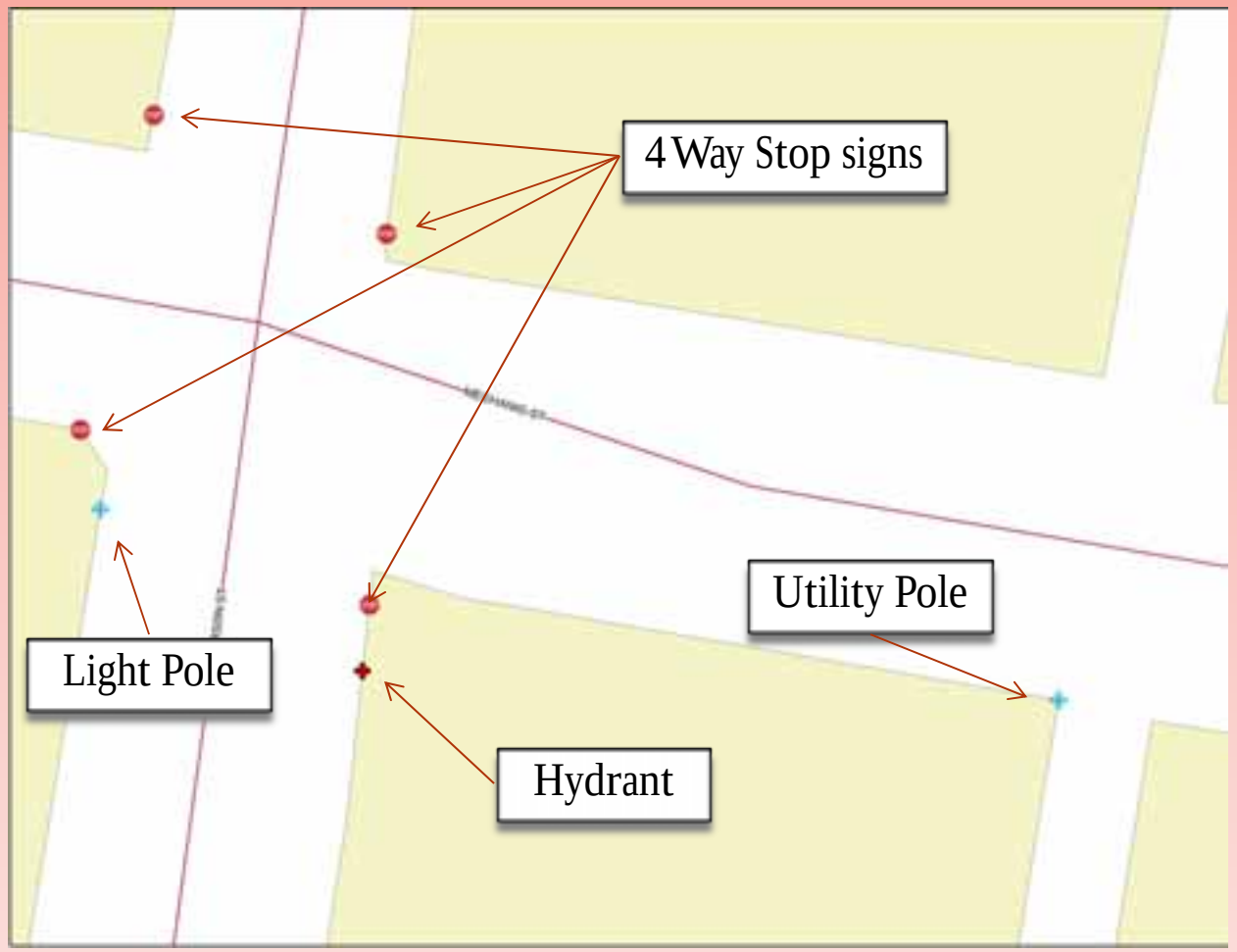


Map Printed Date: 11/22/2012

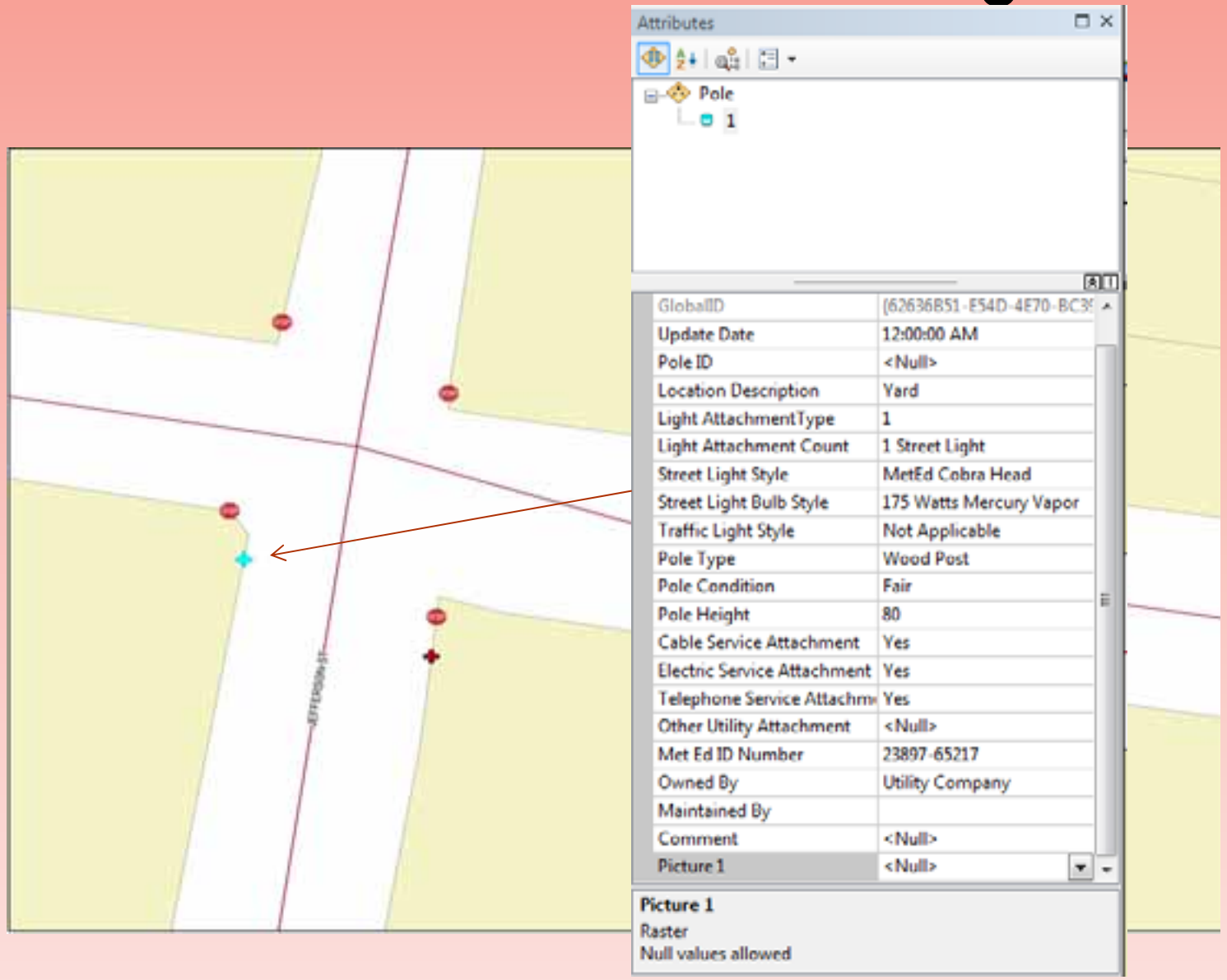
Borough of Wind Gap, PA



Wind Gap Assets Street Map



Collected Attributes of a Light Pole



The 2nd year of Wind Gap's GIS initiative.

- Applied for and received Northampton County gaming grant.
  - Applied for $50,000 and received 55% of a grant to continue GIS 2nd year development.
    - ESRI/GIS training of Borough office staff.
    - Automate collection and synchronization of data collection process (KISS).
    - Collect & maintain information of "at risk" citizens of the borough and provide automated records for Borough Fire Department, Ambulance Squad & Police.
    - Design/planning for automation of Borough streets.
    - Design/planning for automation of storm drain system.
    - Interface with Slate Belt Council Of Governments (COG) GIS efforts.

Planning approach – key items

- Start with the end in mind – business benefits drive the solutions
- The benefits = business needs being met
  - Understand the goals and keep them in sight:
    - *Goal 1: Be able to perform property level tracking and information management of parcels.*
    - *Goal 2: Establish capital equipment inventory data and perform accurate financial planning.*
    - *Goal 3: Leave a GIS living legacy at the Borough – avoid a withering GIS initiative after admin/personnel change, outside advisors help maintain consistency.*

Planning approach – key items

- This drives the decision support for choosing the appropriate technology/path for Borough's needs.
  - Achievable – within reach now, ability to recognize early return on investment
  - Sustainable – can be maintained and absorbed into work flows, acceptable overhead
  - Scalable – can adapt to Borough's changing needs and changing resources, not version bound

Planning approach – key items

- To achieve the goals of the Borough
  - Start with the baseline of capabilities & operations
    - Hardware, training requirements, constrained resources with # of staff, work flows, administrative data needs
    - Wind Gap worked with our survey group to determine capture reqt's and devices.
  - Initial steps
    - Data collection; simple data dictionary, locations, asset attributes and business attributes

Planning approach – key items

- Observe and collect ongoing goals for future tasks
  - Street/alley data, training changes as the organization matures, w/ww system collection
- Identify challenges as they occur
  - Emergency response needs for data may increase,
  - adjust to resources and revenue availability,
  - technology will change for mobile accessibility, GIS software, web app accessibility
- Measure success – are we meeting our requirements?