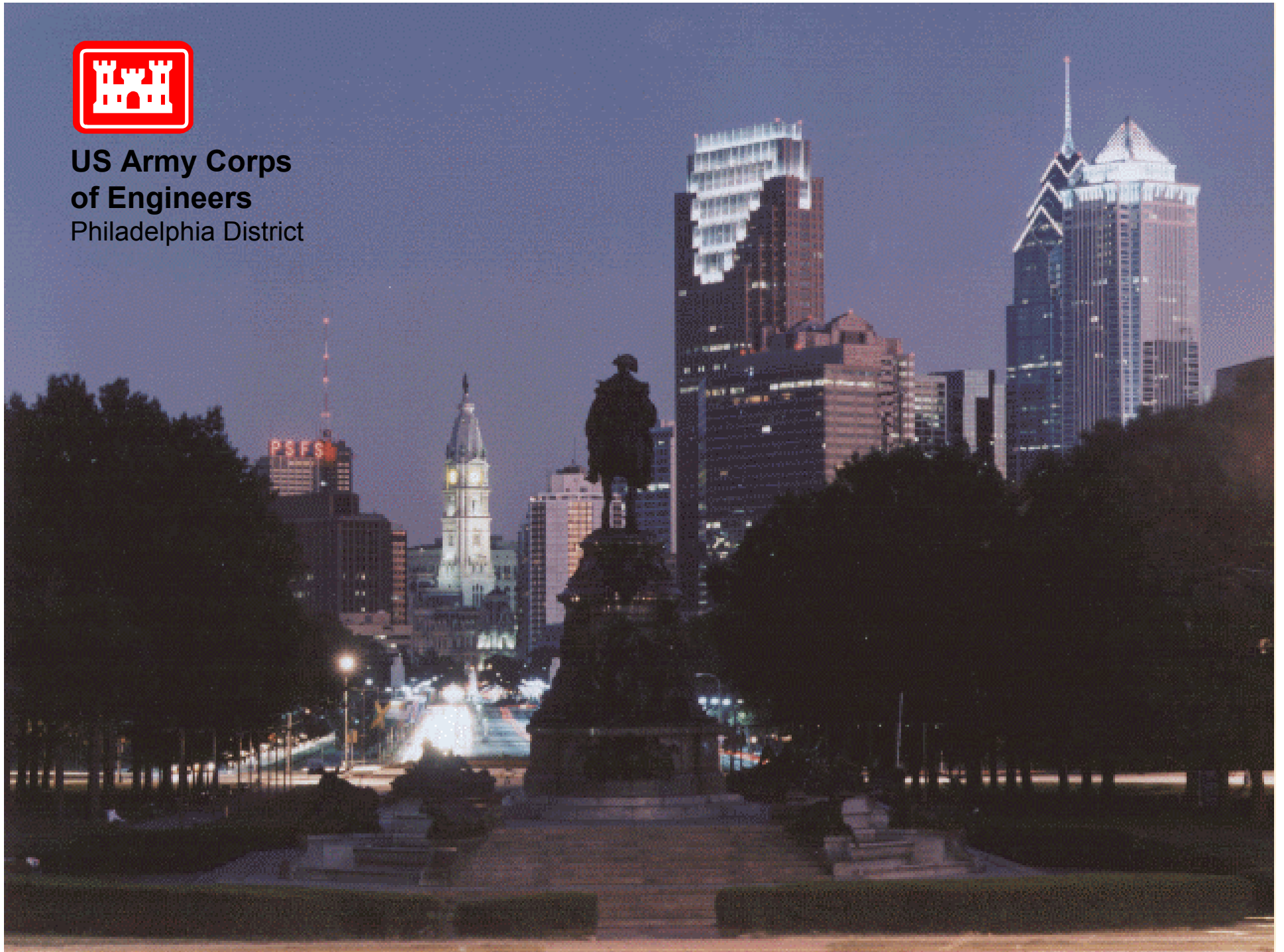
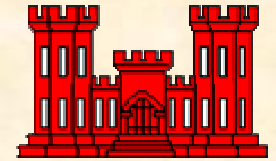


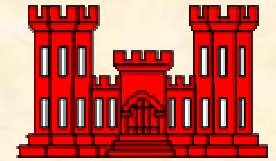
**US Army Corps
of Engineers**
Philadelphia District





Building an In-house Bridge Inspection Program

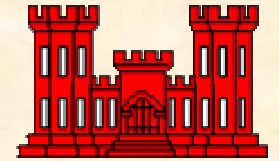
This presentation will address the development of Philadelphia District's in-house bridge inspection capabilities and take an in-depth look at several successful bridge inspection efforts.



INTRODUCTION

- Four high-level highway bridges, Chesapeake and Delaware Canal, DE & MD

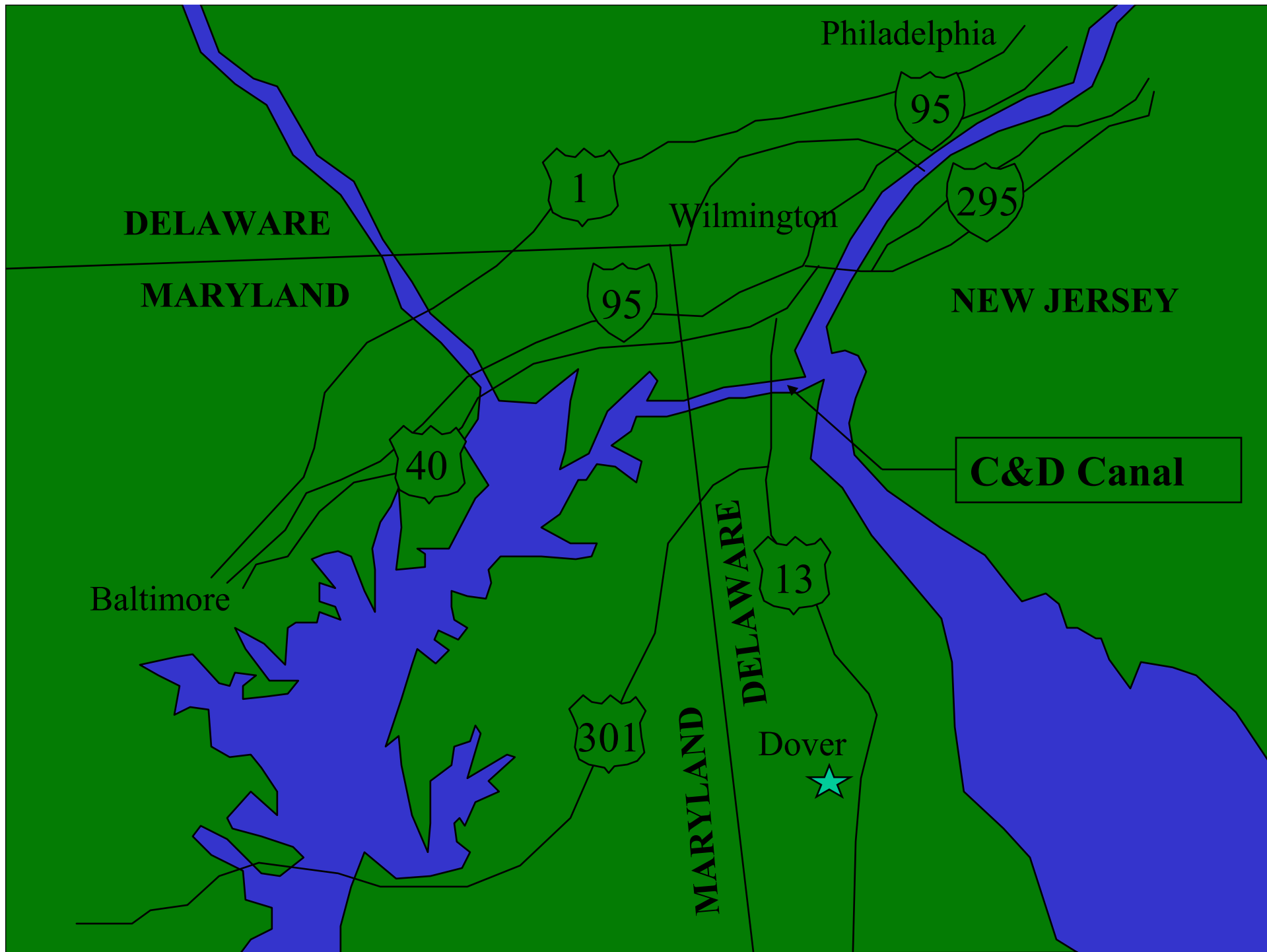




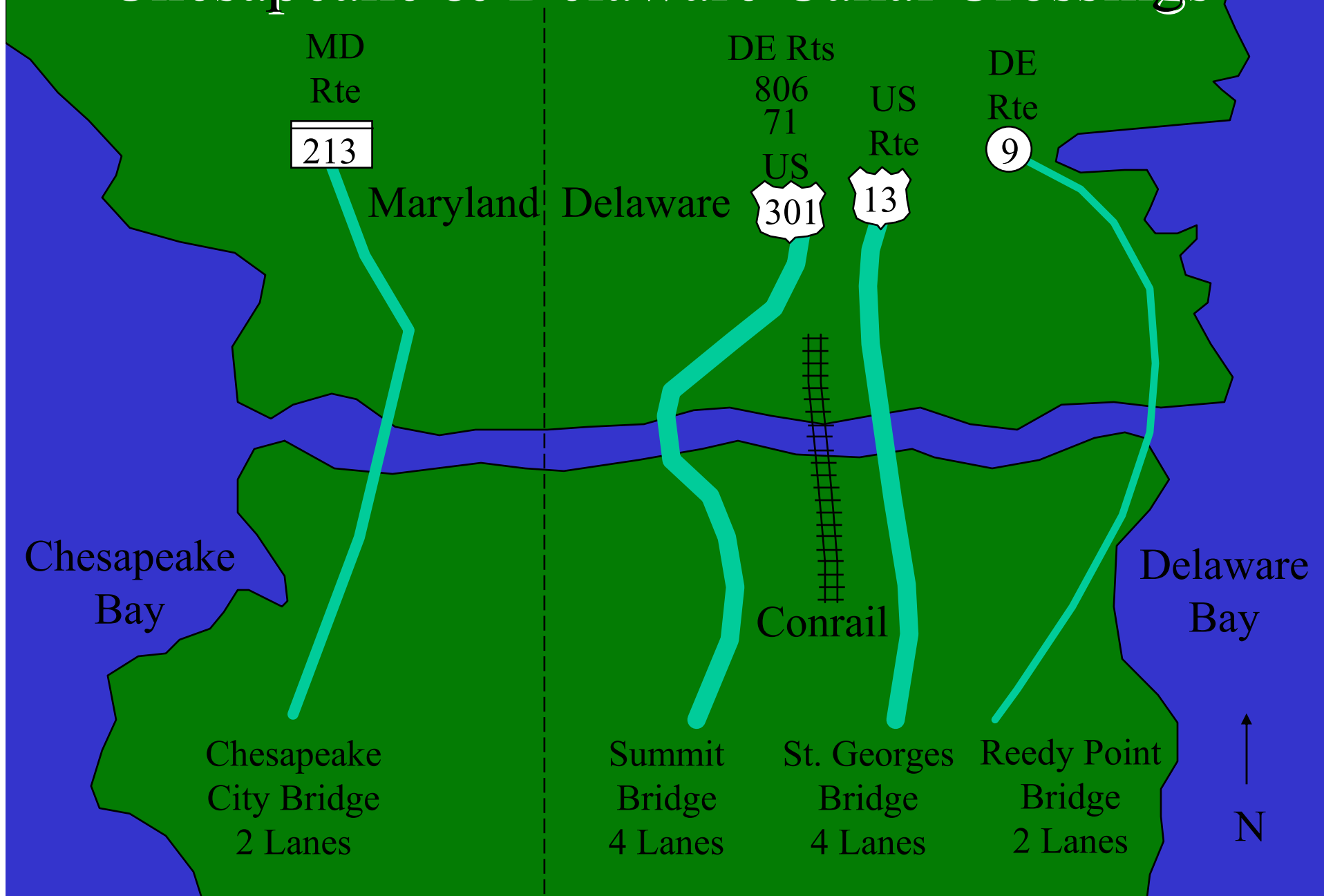
INTRODUCTION

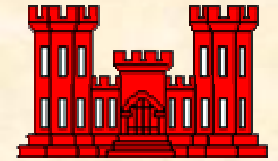
- Four non-public service and spillway bridges at the Northeastern PA dams



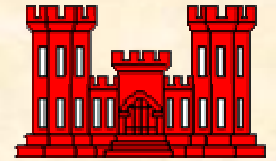


Chesapeake & Delaware Canal Crossings





PHILADELPHIA DISTRICT BRIDGE PROGRAM INSPECTIONS



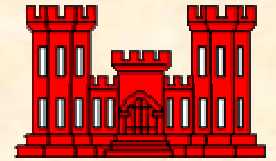
BRIDGE INSPECTION PROGRAM

Philadelphia Engineer District

- STARTING SMALL:
- In 1995 the team's first inspection – Delaware City Bridge
 - every two years ever since (1997, 1999, 2001, 2003, 2005)
- Started inspecting the Dam bridges in the year of their Periodic Inspection:
 - F.E. Walter Dam Service Bridge in 1997 and 2002
 - Beltzville Dam Service and Spillway Bridges in 1998 and 2003
 - Blue Marsh Dam Service Bridge in 1999, 2004



BRIDGE INSPECTION PROGRAM



- GETTING LARGER:
- Until 2003, the District utilized A/E firms to inspect their high-level highway bridges
- 2003 – St. Georges Bridge
 - first of the BIG bridges – 4,209ft structure, tied-arch, 42 spans!
 - financial reasons
 - team of 7 inspectors
 - competitive timeframe and cost with A/E
- 2004 - Reedy Point Bridge
- 2005 - St. Georges Bridge again
- 2006 - SUMMIT BRIDGE
- 2007 - CHESAPEAKE CITY BRIDGE



St. Georges Bridge
2003





Reedy Point Bridge

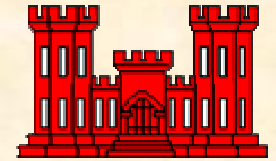
2004





St. Georges Bridge 2005





INSPECTION FOR OTHERS

- In late 1999, Fort Dix contacted NAP about inspection on 8 bridges on base in 2000.
- In 2001, NAP inspected 6 bridges at Tioga-Hammond Lakes in PA for Baltimore District and 5 bridges in Iowa and Nebraska for Kansas City District.
- In 2002 and 2004, NAP inspected the Fort Dix bridges again.
- In 2003, NAP returned to Tioga-Hammond Lakes.
- In 2005, NAP inspected 18 bridges for Baltimore District, incl. Tioga-Hammond, Almond, Cowanesque, Stillwater and Whitney Point Lakes.



Fort Dix, NJ





Tioga-Hammond Lakes, Mansfield, PA





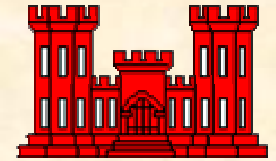
Cowanesque Lake, PA



Stillwater Lake, PA

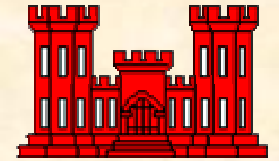


Whitney Point Lake, NY



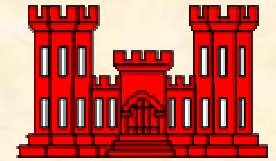
INSPECTION TEAMS

- Usually teams are two people, two engineers or an engineer and a technician.
- District Inspection team (distributed thru EC and Ops):
 - Five engineers, three have P.E.'s
 - Four technicians
 - Two more engineers get trained this year
- Team leader(s) must be a P.E. (we need more P.E.s)
- Bridge manager plans the inspection, coordinating the notes, acquiring equipment and allocating the work.
- Team leader usually writes the report(s).
- Bridge manager also coordinating any A/E inspections at the same time.



IN HOUSE SUPPORT

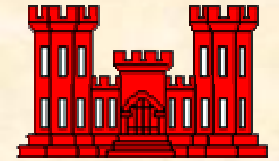
- NAP owns own snooper, crash truck, MPT equipment, safety boat
- Equipment operators in OPS trained as inspectors
- NAP Survey Branch:
 - Provides multibeam scour surveys
 - Provides data in color contour drawings



KEYS TO SUCCESS

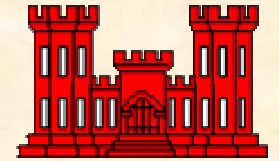
- **Preparation**

- Preparation of notes – create a library for each bridge
- Take the time to put note sheets in CAD
- Create a system for notes and documentation
- Our inspectors find graphical method best
- BRIDGE FILE component of new CEBIS program will be invaluable
- Create list of equipment suppliers
- Ask for input from bridge firms
- talk to other districts (i.e. NAP) about preparing cost estimates, timeframe (how long an inspection should take)
- create a good attack plan for the inspection (critical path and secondary work)



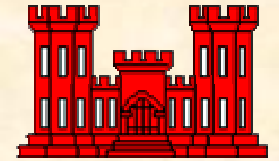
KEYS TO SUCCESS

- In the field:
 - *Pair team members with good, complementary skill sets*
 - *Support work (i.e. rigging, testing, diving)*
 - *BE FLEXIBLE – things never go like they're supposed to go*



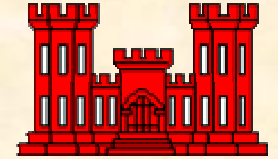
Prioritization Issues

- Coordinating Inspection Schedule with Funding Schedule
 - Recommendation and Action Summary – identify future work items
 - Scheduling of future work vs. scheduling future funding
 - Ensure that contracts contain most current information - Good information from inspectors is paramount.



Prioritization Issues

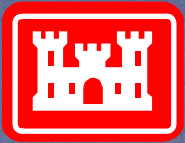
- Coordinating Inspection Schedule with Funding Schedule
- Deciding What Work Can Wait and What Work Cannot
 - Inspectors/Bridge Program Manager/Ops Project Manager coordination



Contact Information

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**US Army Corps
of Engineers**
Philadelphia District

