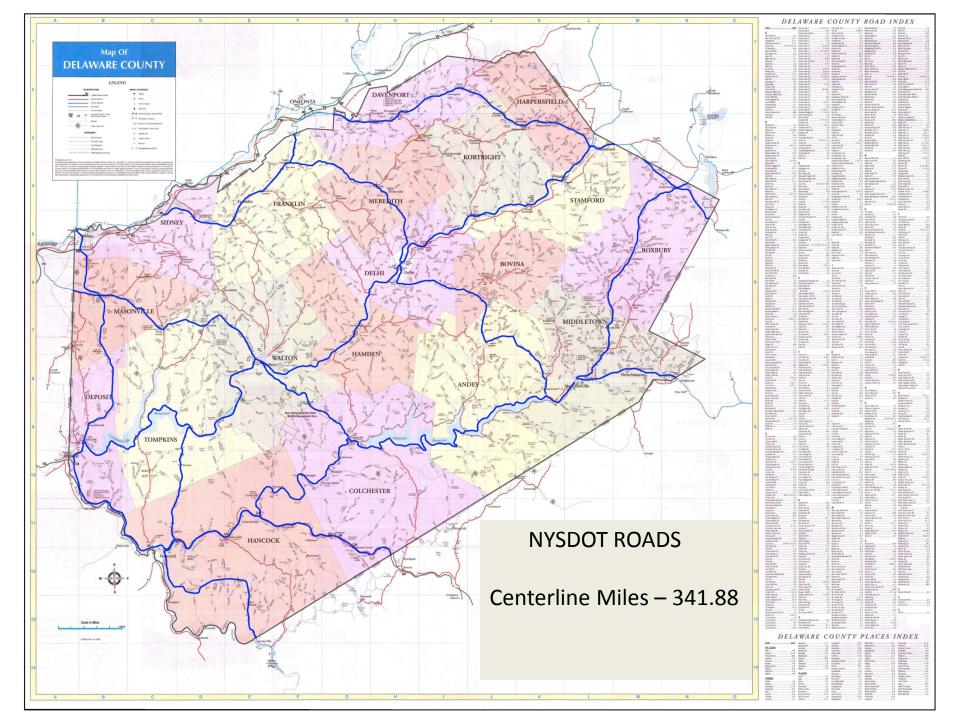
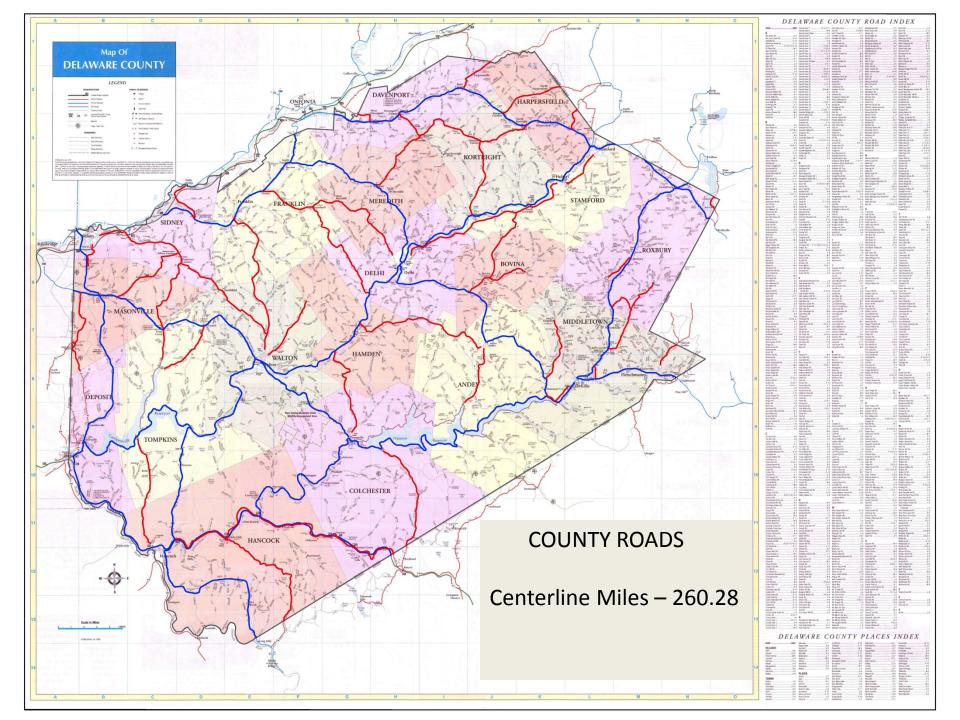
# AUGUST 8, 2017 PRESENTATION 6PM

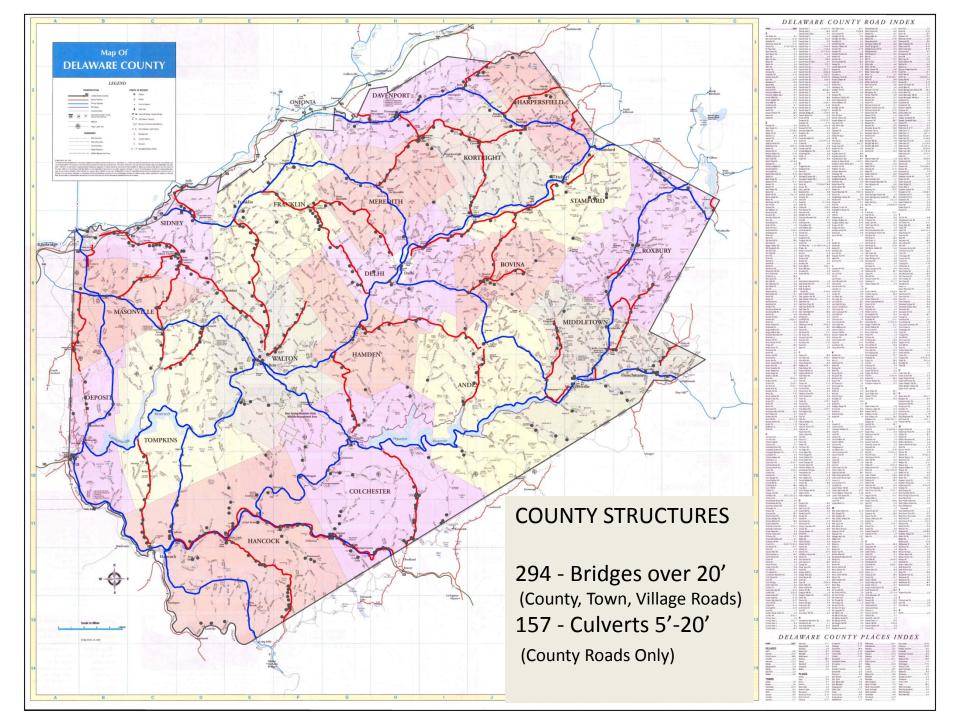
Public Informational Meeting
Town of Hamden

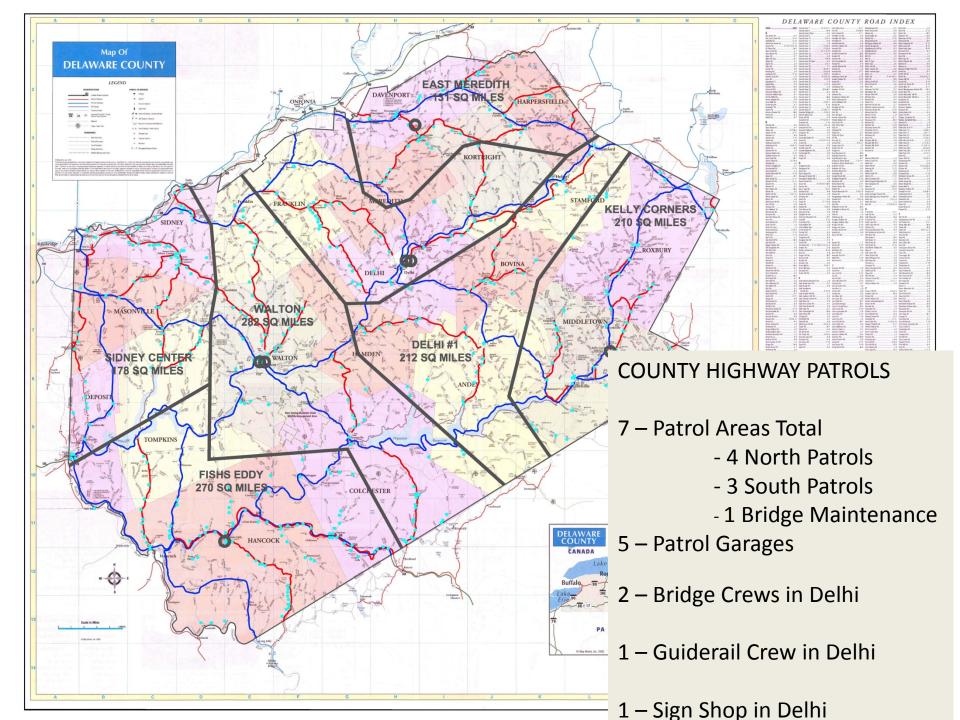
# Background of Delaware County and Delaware County DPW

- Total Area 1,467 Sq Mi
  - Larger than the state of Rhode Island 1,212 Sq Mi
- Population 47,980 (2010)
  - 32.7 People/Sq Mi









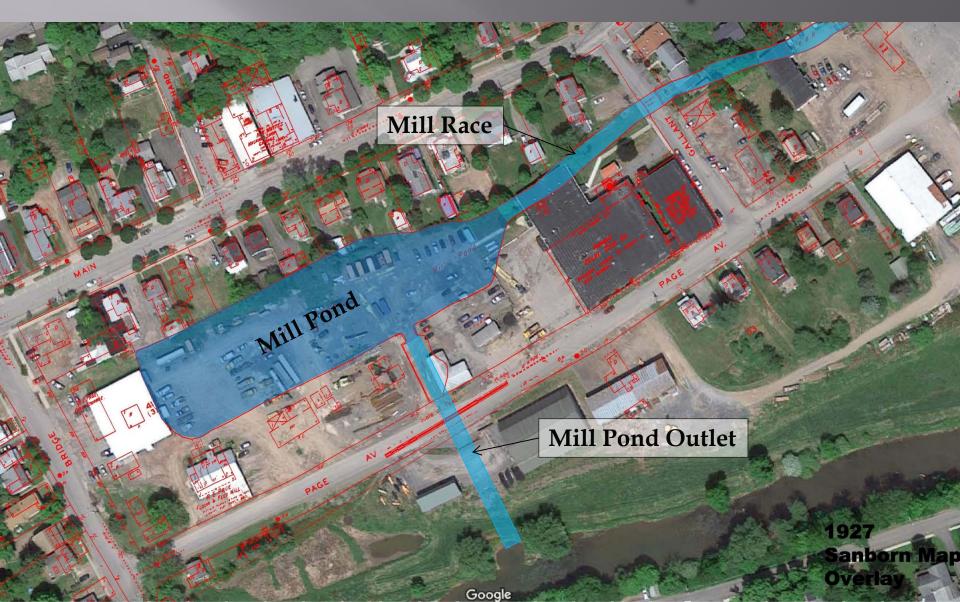
#### COUNTY OWNED EQUIPMENT

- PICKUPS 34
- SINGLE AXLES 18
- TANDEM AXLES 22
- TRACTOR AND TRAILERS 15
- SPECIALIZED TRUCKS/TRAILERS 12
- TRACTORS 5
- BACKHOES 8
- LOADERS 6
- ROLLERS 9
- GRADERS 3
- BULLDOZERS 2
- BROOMS 5
- WOOD CHIPPERS 4
- EXCAVATORS 9
- CRANES 3
- SPECIALIZED EQUIPMENT 16
- CARS AND VANS 11
  - TOTAL PIECES OF EQUIPMENT/TRUCKS 182
  - TOTAL EST. VALUE EQUIP \$6.9 MILLION
  - TOTAL EST. VALUE VEHICLES \$8.5 MILLION

#### **Existing Facility**



#### 1927 Sanborn Map





#### Roof Issues

- 1990 Leaks throughout garage & Annex
- August 8, 1990 Resolution #187 Authorization of Award for Proposal 29-90 Garage Roof Replacement Total Cost \$733,690
  - Contract 1 General Construction
  - Contract 2 Roofing
  - Contract 3 Mechanical

Resolution Failed - Noes 1187 to Ayes 312

#### Concerns

- Too much money to put into old building, recommended pressure treated lumber under membrane roof
- Building not suited for highway building, set up dedicated fund of \$100,000 per year to build a new facility in 10-12 years

#### Roof Issues Cont.

- 1991 –New Flat Roof
  - Cost: \$168,250
  - Life: 20 year warranty (12/10/1990)
  - Encapsulated asbestos in old roof
  - Little/no insulation
- 2000-2006 Excessive leaks in maintenance area
  - Needed new dry space for mechanics to work
  - Purchased Wickham's Property & Buildings in 2006
- Began research for new shop
  - Possibly between DPW office building and Wickham's building

#### Roof Issues Cont.

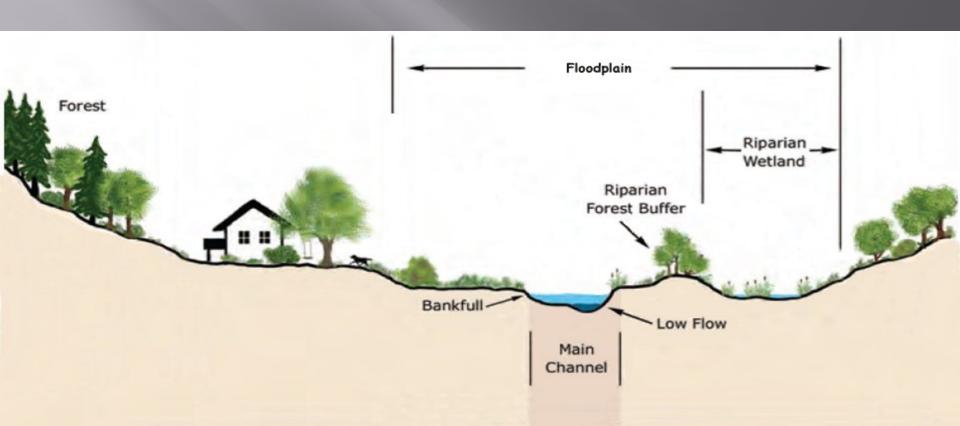
- 2013 Consulted Delaware Engineering for new roof plan
  - Structural deficiencies in existing building
  - Costly structural changes to support new roof
- 2014 Wendel retained for conceptual design of new maintenance facility
  - Identify what size building would be needed to facilitate DPW needs
  - Establish what size building could be built with minimal effect to flood surface water elevations

# Roof Leak



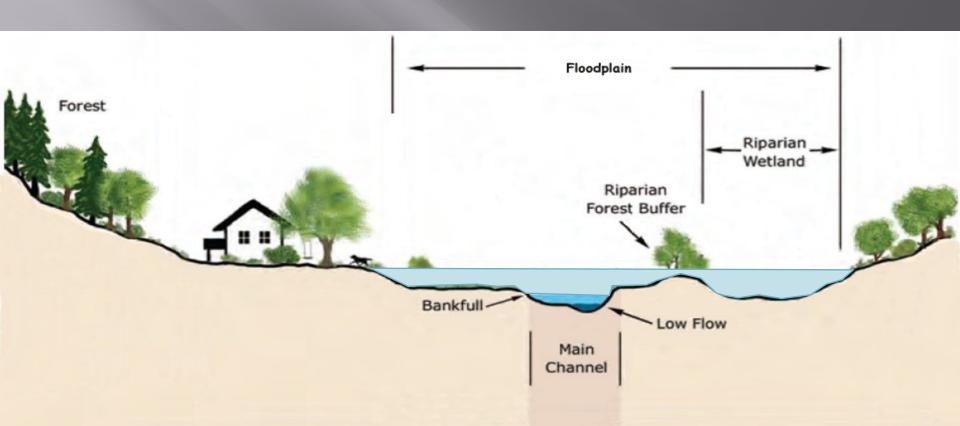
# Floodplain

The floodplain is part of the river during storm conditions



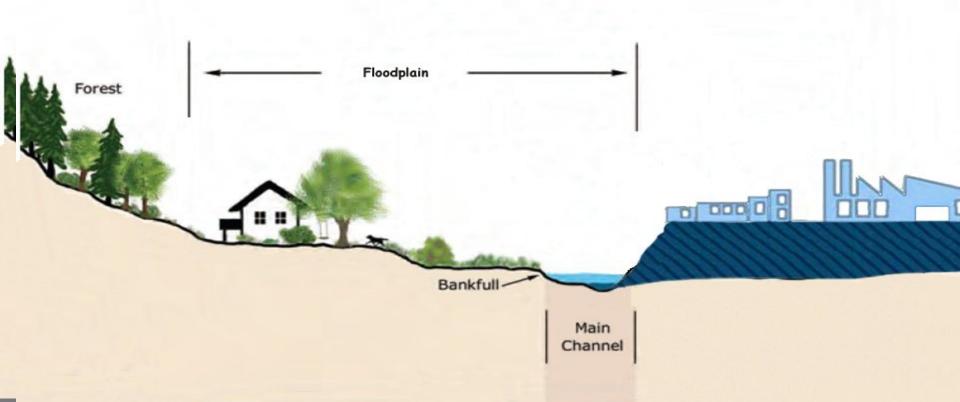
# Floodplain

The floodplain is part of the river during storm conditions



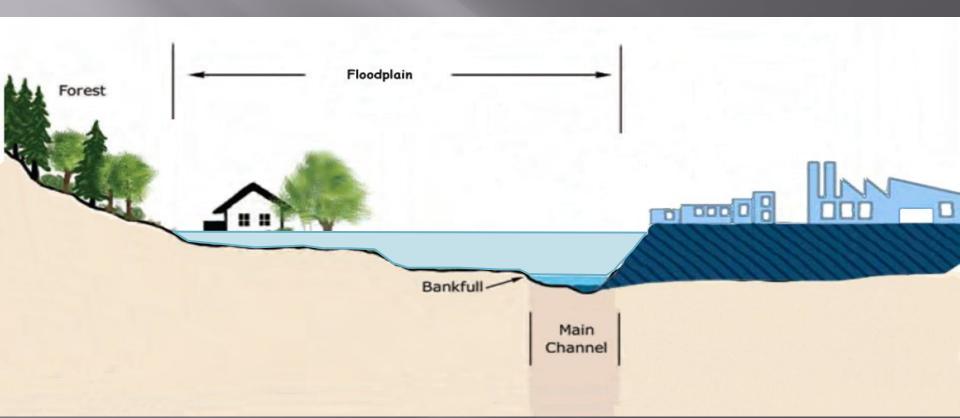
# necessarily Tomorrow's floodplain

If large areas of the floodplain are filled, then there will be an increase in the land area needed to store flood waters. This means your home, farm, or business may be impacted.

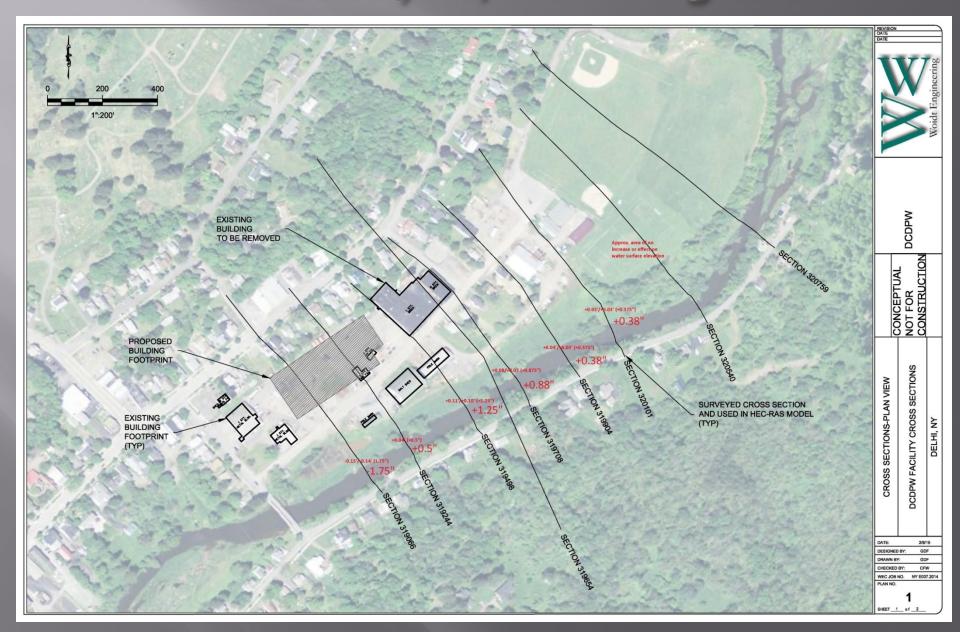


# necessarily Tomorrow's floodplain

If large areas of the floodplain are filled, then there will be an increase in the land area needed to store flood waters. This means your home, farm, or business may be impacted.



### Initial Study w/No Mitigation



## Results of initial study

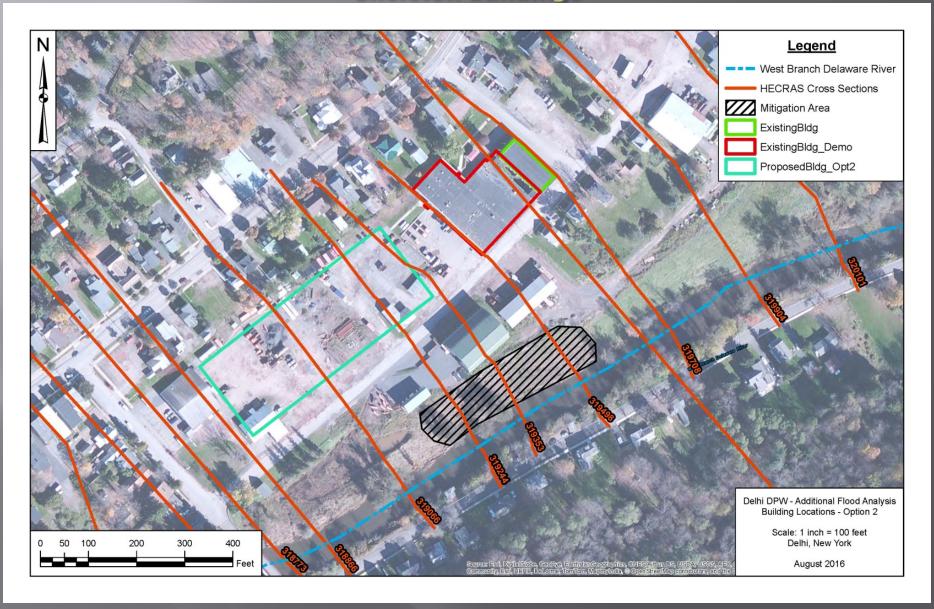
- New building could be constructed with compensating flood mitigation
- However, would still raise the 100 year water surface elevation
- Need for second study with a more strict design criteria

## Second Study Criteria

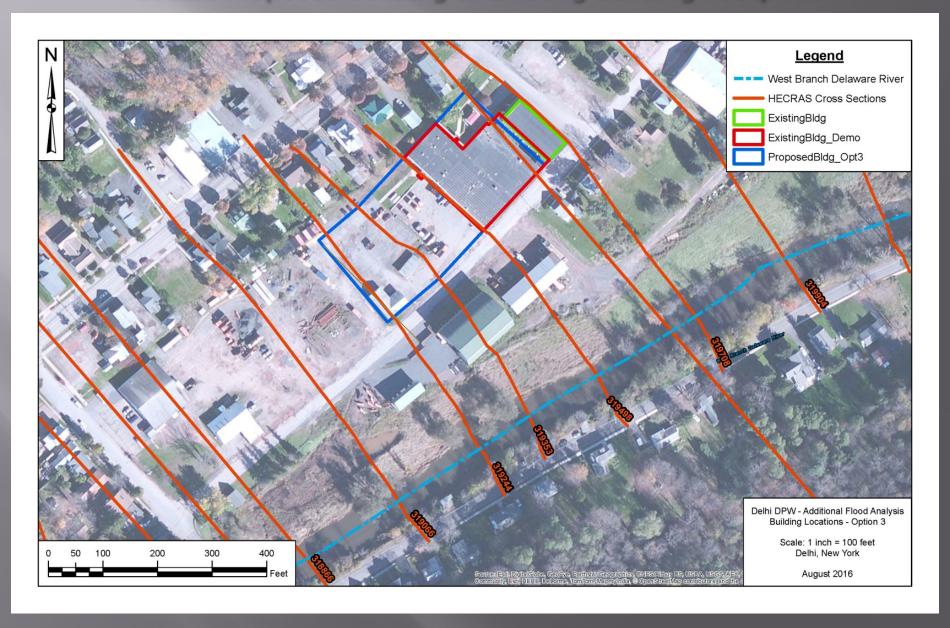
- Structure set above the 500 year flood elevation
- Zero impact on the 100 year flood elevation
- Option 1
  - Largest possible structure to fit on site with no rise of the 100 year flood elevation
- Option 2
  - Similar to option 1 with removal of salt shed and skeleton building for additional mitigation area
- Option 3
  - Assume proposed building will be placed in existing building footprint and existing structure demolished

#### Option 2

Similar to Option 1 with Mitigation and the removal of the Salt Shed and Skeleton Buildings



# Option 3 Locate Proposed Building in Existing Building Footprint



## Results of Second Study

#### Option 1

- Structure would need to be much smaller than existing building
- Not considered a feasible alternative

#### Option 2

- Initial increase of water surface elevation adjacent to mitigation area
- Decrease in water surface elevation upstream

#### Option 3

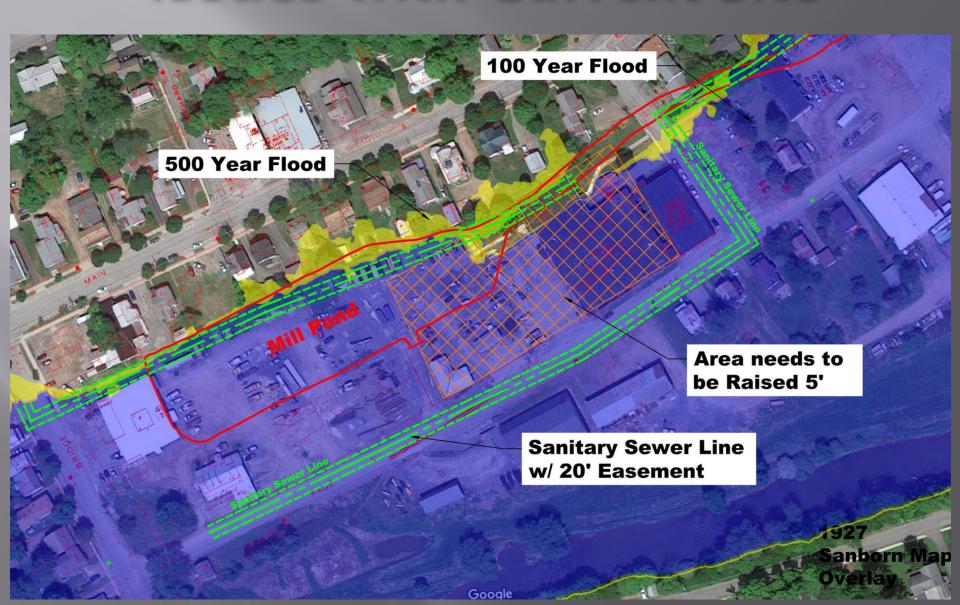
- Provides best results per design criteria
- More in depth model needs to be preformed
- Proposed floor elevation raised 5' from current floor elevation

#### OFF-SITE STORAGE

#### Minimize proposed building footprint and increase mitigation area

- Storing some equipment in an off-site fenced storage area
- Relocate salt shed, skeleton building, & hopper hanger off site
- Properties in Delhi Vicinity
  - Lack of suitable land
  - Unstaffed/unsecure locations
- Solid Waste Management Center (SWMC)
  - Minimal land suitable
  - Lost travel time
  - Walton patrol considerations

#### Issues with Current Site





































- In the 100 year flood zone
  - New building will impact flooding
- Old Mill pond
  - Needs to be excavated and filled with suitable material
- Sewer easement
  - Limits our area of expansion
- Large area needs to be raised
  - Flood restriction, building accessibility problems
- Off site storage
  - Costly, will affect the logistics of DPW activities

- 2013 County All Hazard Mitigation Plan Update
  - Implement mitigation activities to protect people and infrastructure from flooding hazards
  - Prioritize and implementation of mitigation strategies or projects designed to benefit essential facilities
  - Relocate the County DPW Main Shop out of the floodplain

- Delaware County Soil and Water working diligently with local Flood Commissions to make the communities more flood resilient
- County Bridge standards increased to make the County system more flood resilient
- Executive Order 13690 prevents federal funding from being used for siting of facilities in floodplains wherever there is a practicable alternative

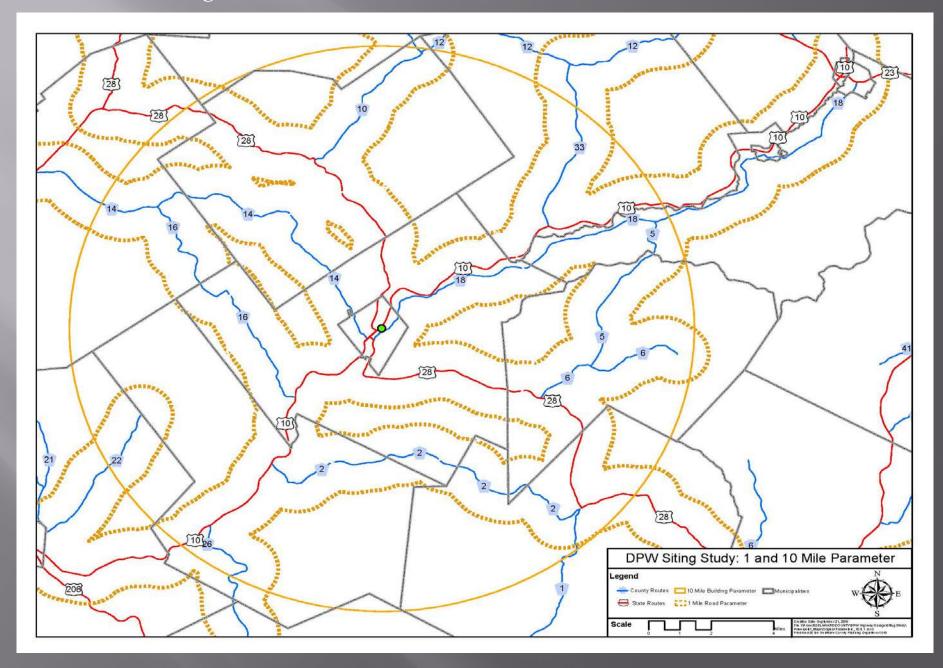
After evaluation of various building options & current site restrictions, the present site was deemed unpractical and uneconomical for future development



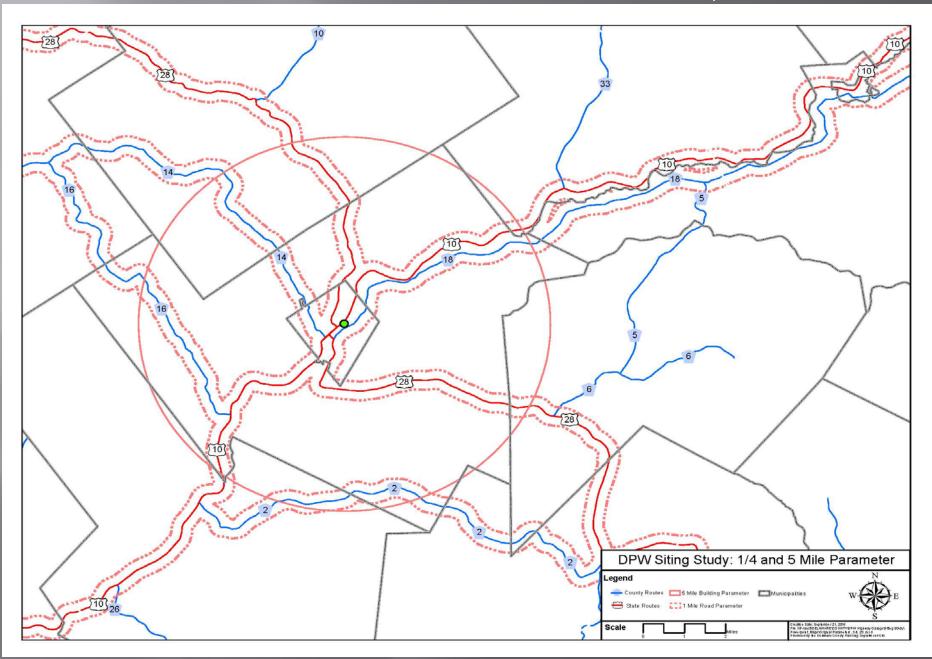
## Search for a New Site

- Delaware County Highway Committee asked the Planning department to establish a search criteria to find suitable sites in the local area.
- Original siting study criteria
  - 10 mile radius from Delhi
  - 1 mile from State or County Highway
  - 25 Acre lot size minimum
- The search criteria was then modified to:
  - 5 Mile Radius from Delhi
  - ¼ Mile from State/County Rd
  - Include 15-25 Acre lots along with 25 Acres and greater.
- A field visit was than performed on the top 3 sites

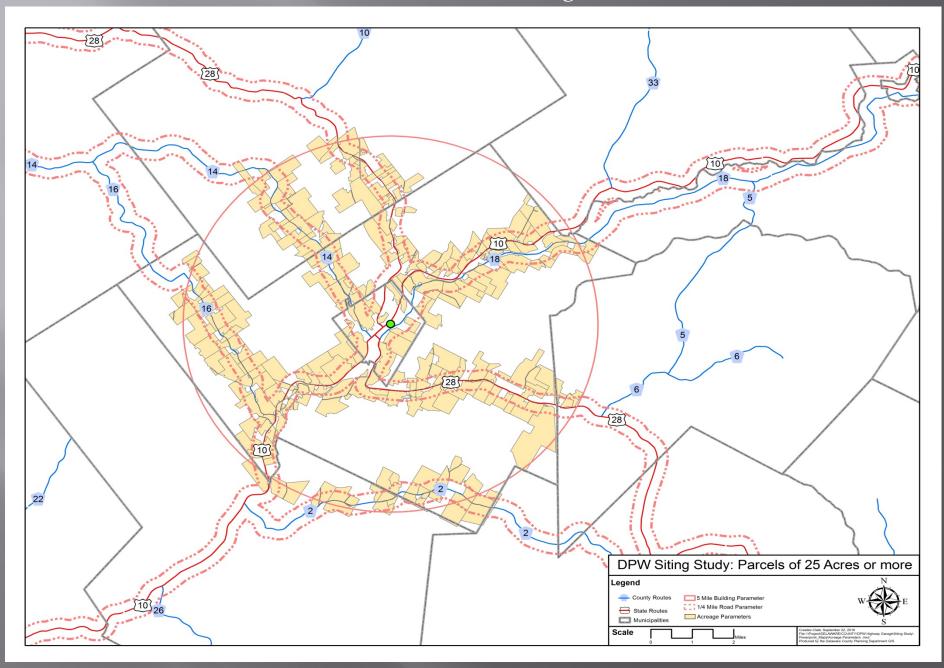
#### Original Parcel Selection Parameters: 10 miles and 1 mile



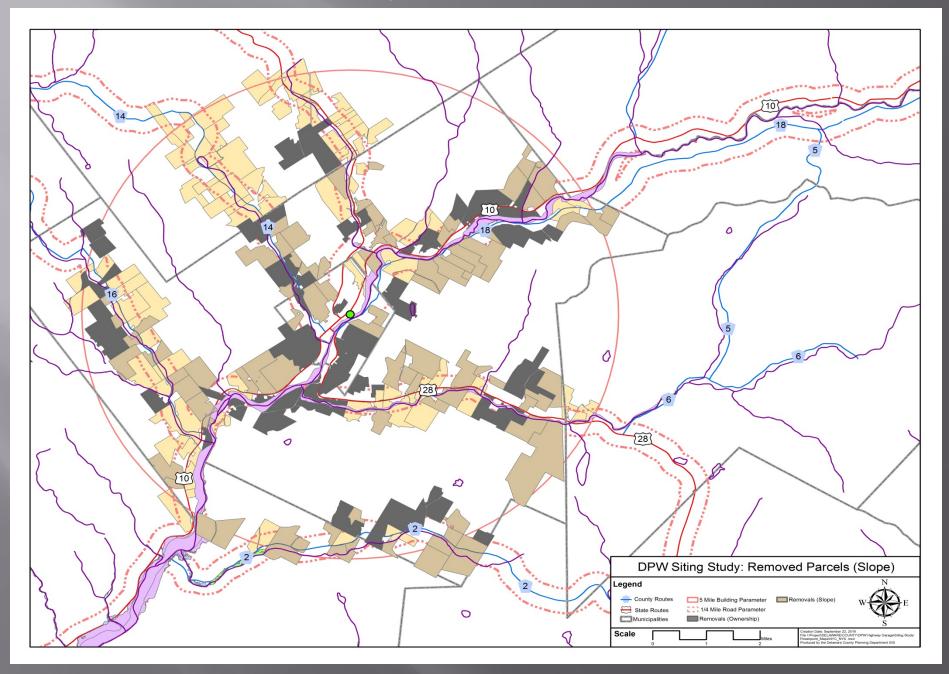
#### Revised Parcel Selection Parameters: 5 miles and 1/4 mile



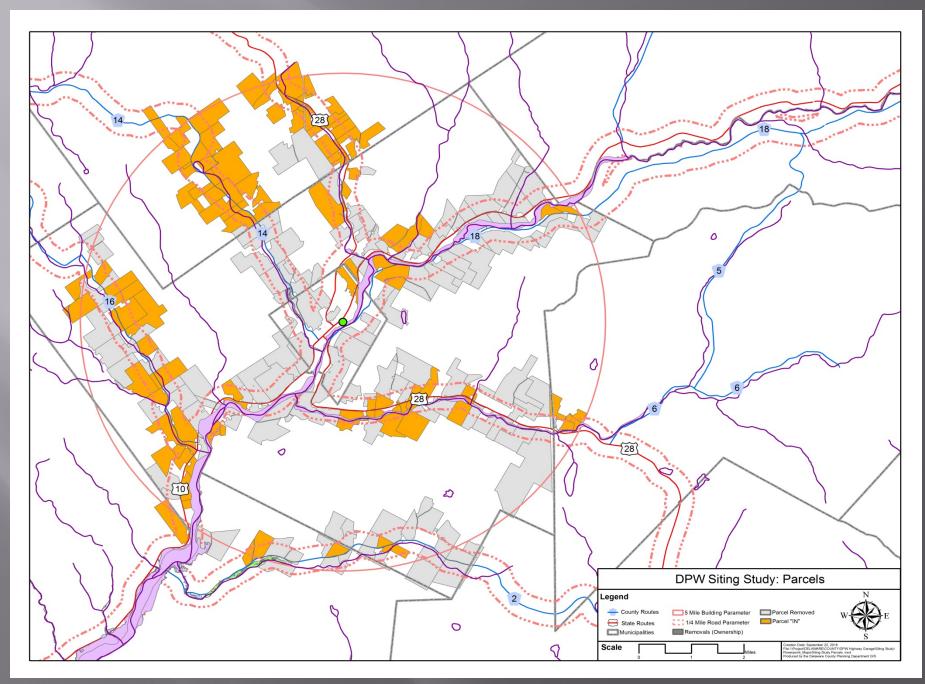
#### Parcel Identified with Acreage Parameter



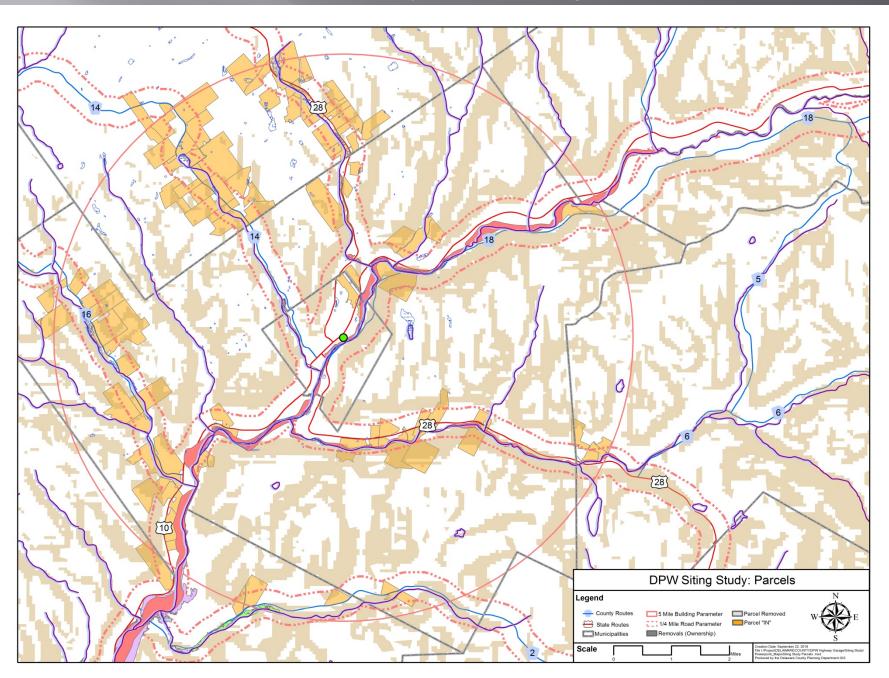
#### Parcel Removed by Ownership and Slope Limitations



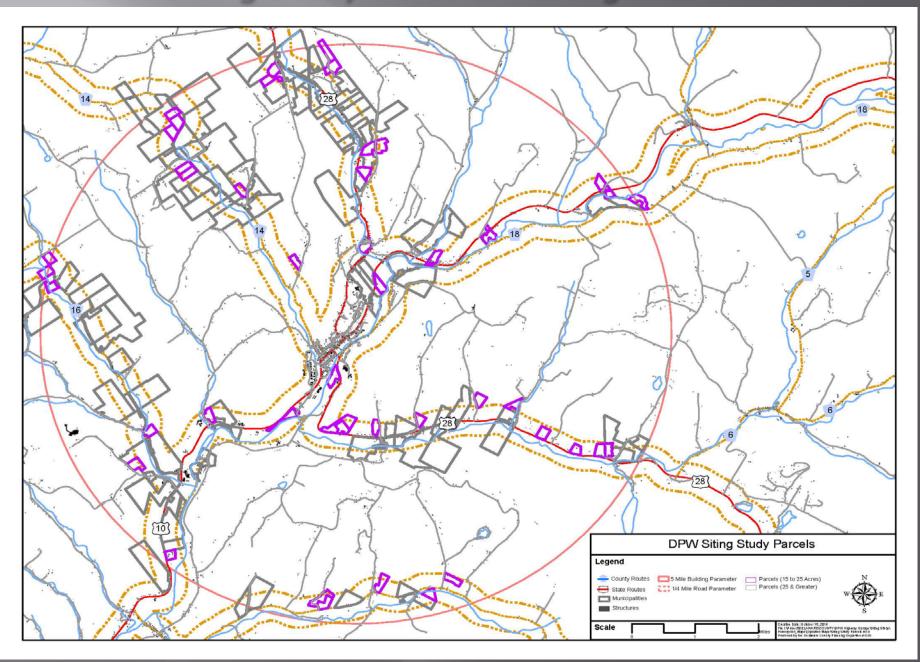
#### Parcels IN & Removed Results



#### Preliminary Parcel Findings



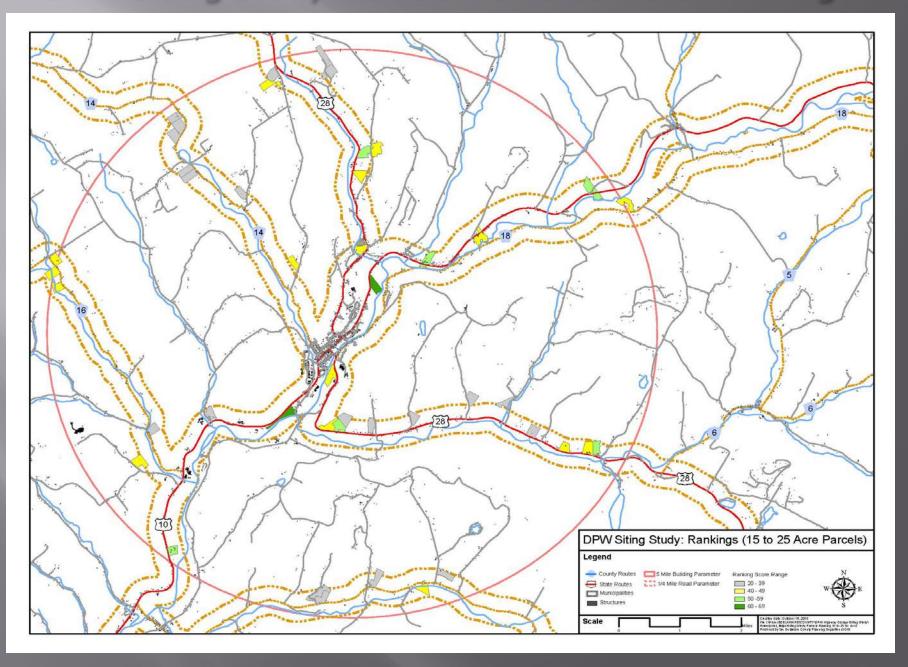
## DPW Siting Study Parcels: Acreage Parameters



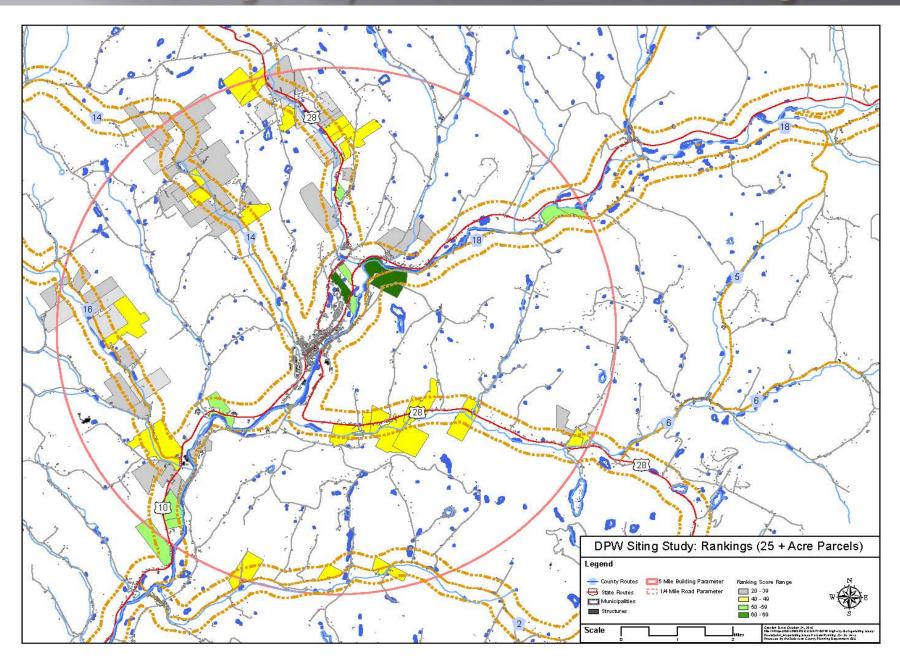
# Ranking Matrix Parameters

Description	Weight
Access - Directly to Site	10
3 Phase Power	10
Soils - Construction and Sanitary System	8
	10
Access - During Flood Events	
Access - Along Routes to Site for Tractor Trailers	10
Municipal Water	5
Municipal Sewer	5
Aquifer Possibilities	7
On-Site Grades	6
Existing Site Use - Occupied/Unoccupied	5
Existing Buildings On-Site - Demo/Usable	5
Benefits to Community	6
Proximity to Existing facility during Transition	5
Fiber for Computers/Phone	9

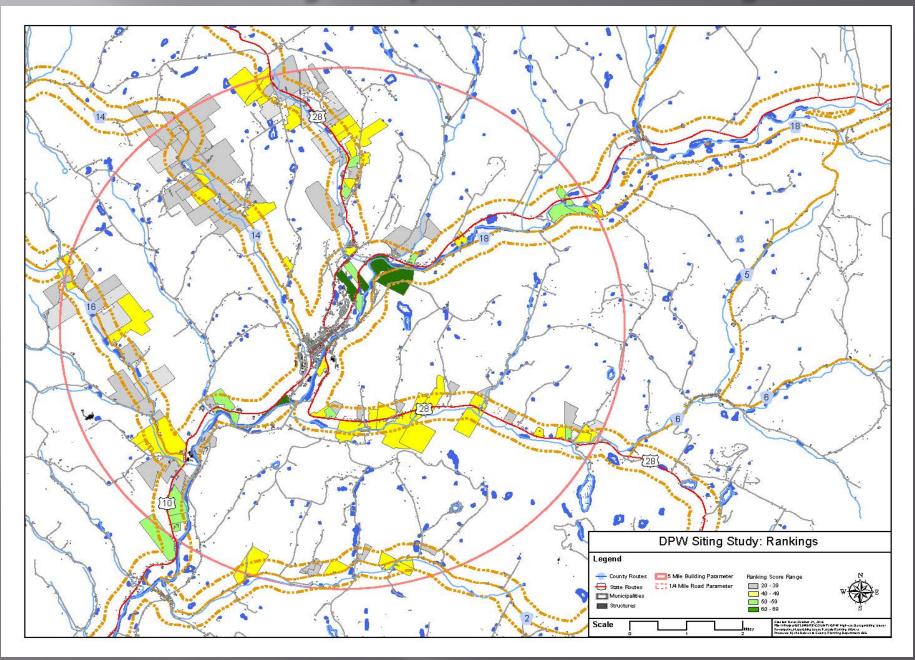
### DPW Siting Study Parcels: 15 to 25 Acre Rankings



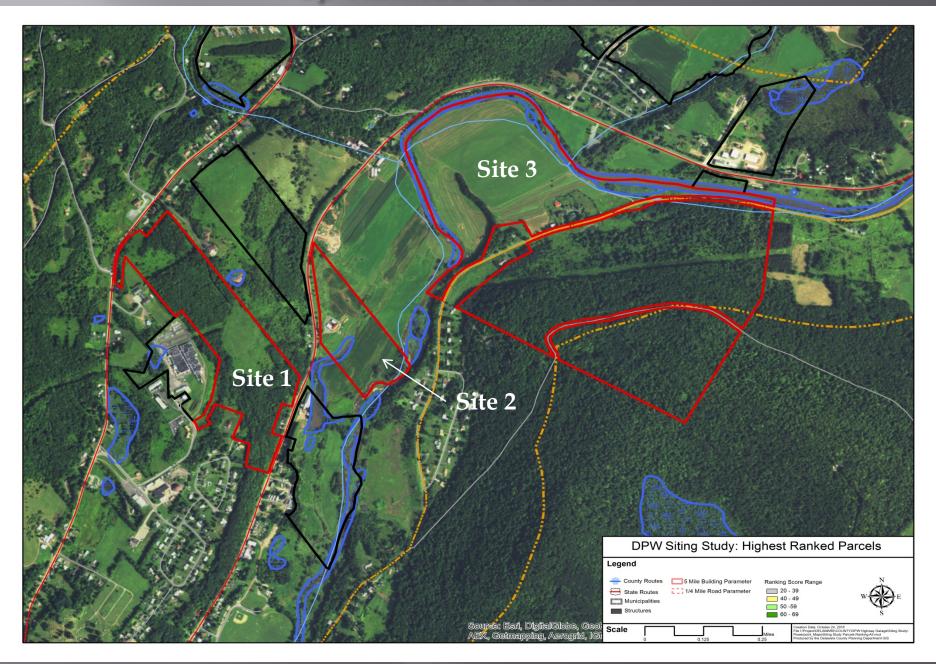
### DPW Siting Study Parcels: 25+ Acre Rankings



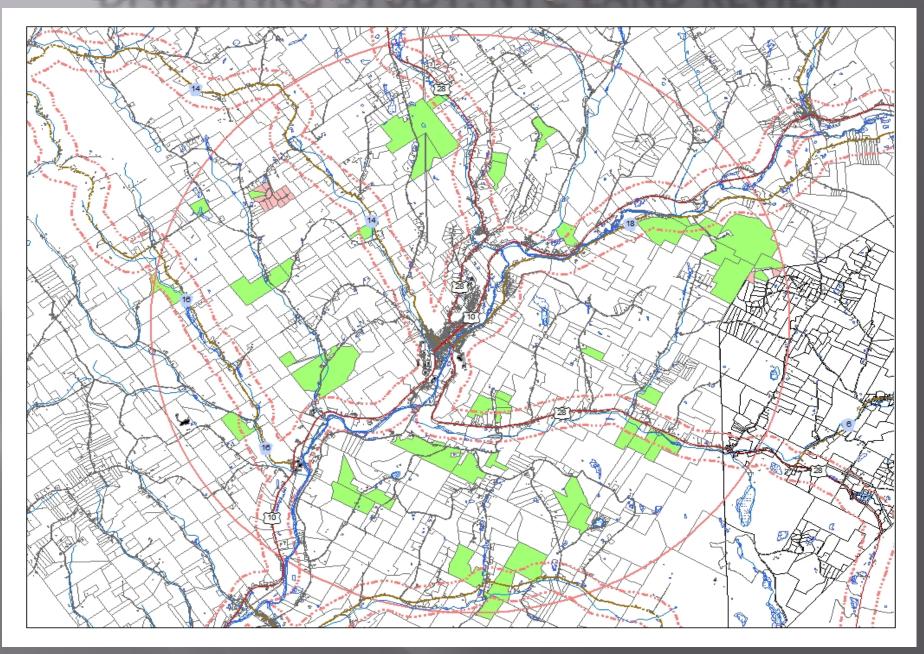
### DPW Siting Study Parcels: All Rankings



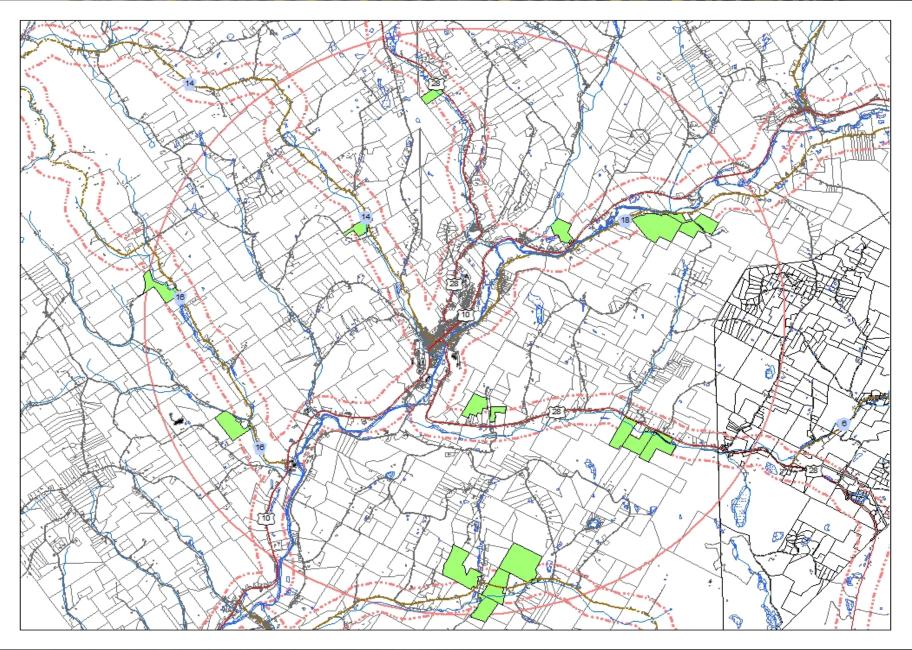
### Top Ranked Sites: Aerial



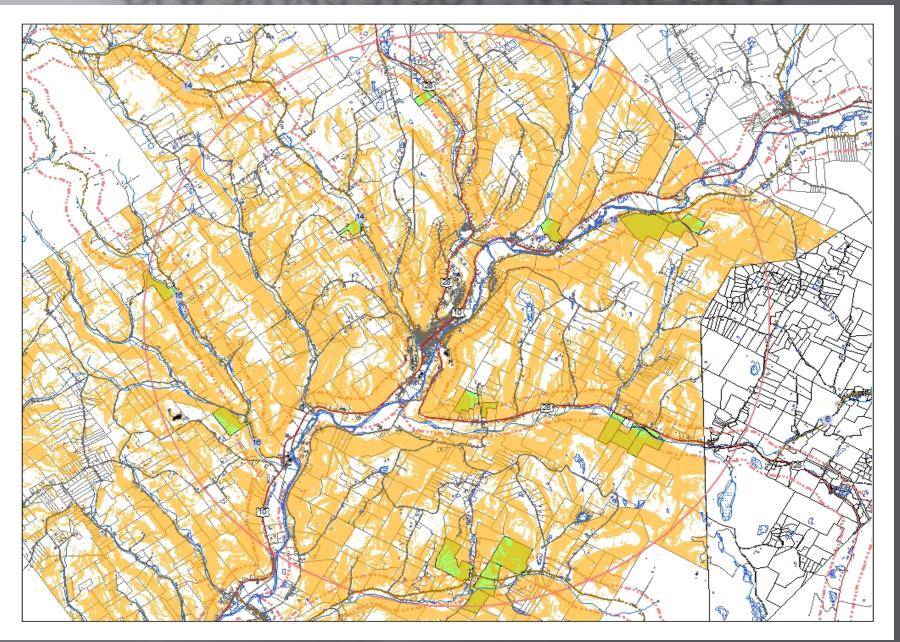
#### DPW SITING STUDY: NYC LAND REVIEW



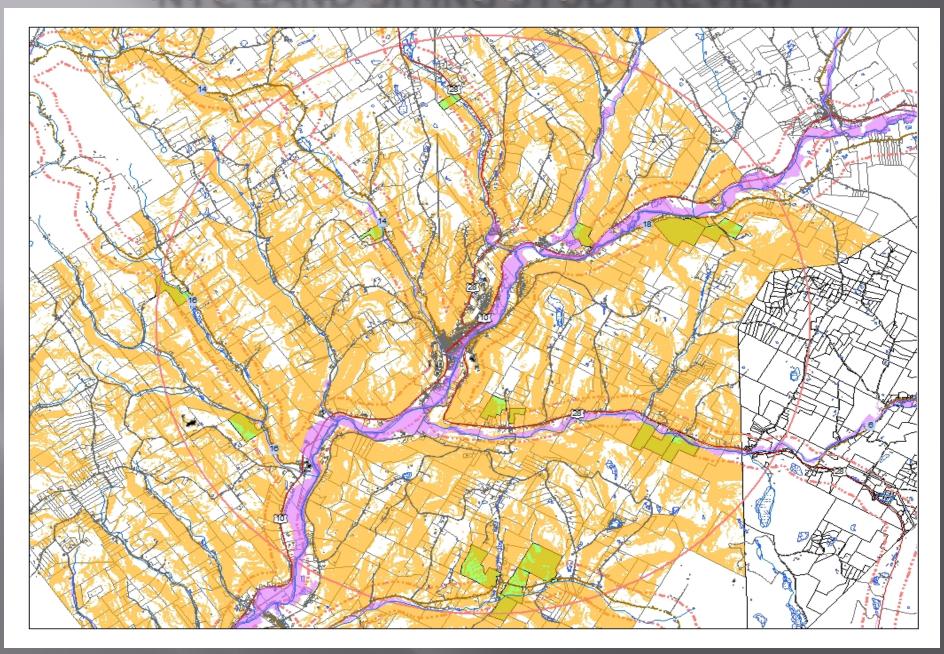
#### DPW SITING STUDY: DISTANCE CRITERIA



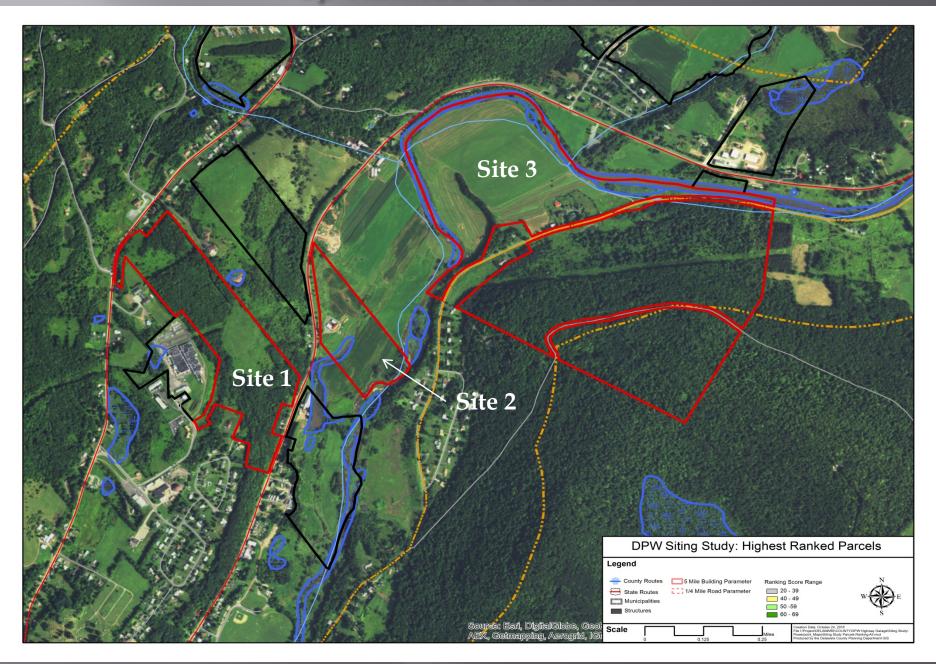
### DPW SITING STUDY: NYC RESULTS



### NYC LAND SITING STUDY REVIEW

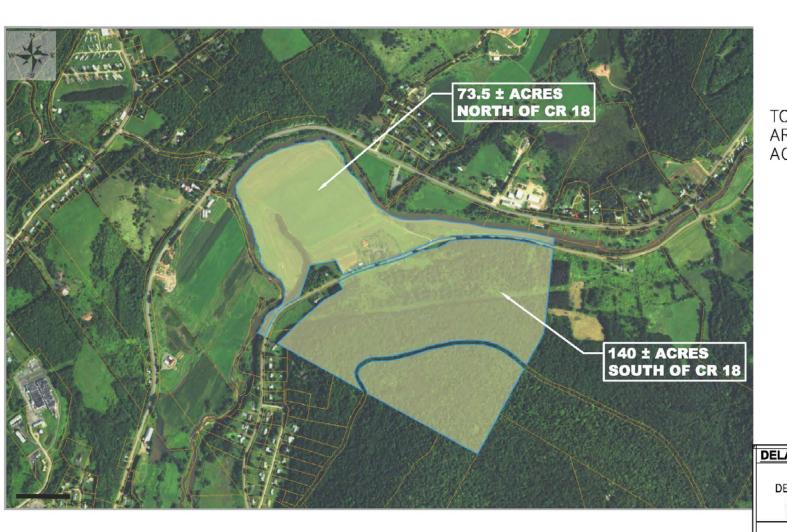


### Top Ranked Sites: Aerial



### Site 3 County Route 18 Property





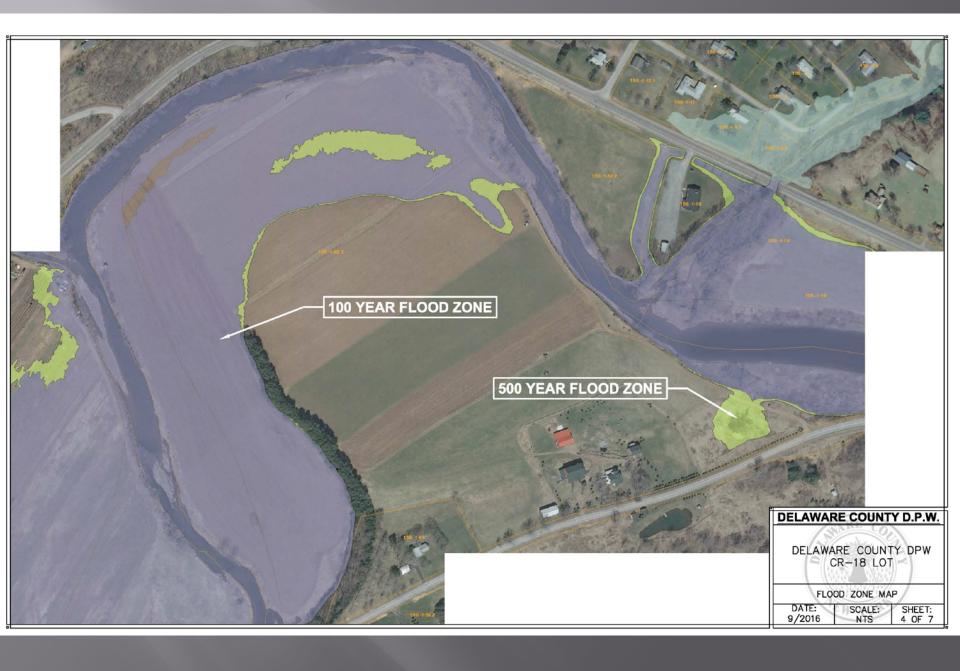
TOTAL PARCEL AREA 213.506 ACRES

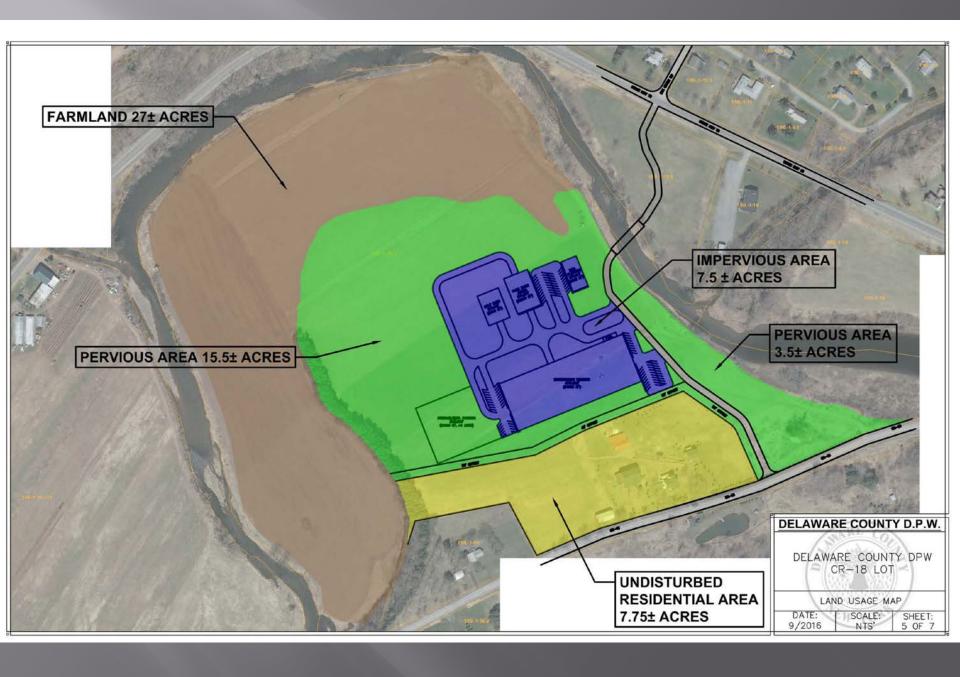
#### DELAWARE COUNTY D.P.W.

DELAWARE COUNTY DPW CR-18 LOT

AERIAL MAP

DATE: SCALE: SHEET: 9/2016 NTS 2 OF 7









## FUNDING

#### Contributions to Project

- Machinery \$2,000,000
- Road \$3,500,000
- □ Capital \$6,000,000Sub-Total \$11,500,000

#### CHIPS

- Rollover \$ 962,608
- **2**017/2018 \$2,120,468

Sub-Total \$3,083,076

TOTAL CONTRIBUTIONS \$14,583,076

# Estimated Costs

- Property 213 acres \$1,395,000 (listed) = \$6550/acre
- Road connecting CR 18 to SR 10 \$510,000
- Bridge across W.Br. Del. River \$4,000,000
- Salt Shed \$400,000 (later date)
- Admin/Engineering/Planning Bldg (later date)
- Pole Barn/Lewis Bldg (later date)
- Maintenance Building \$12,500,000
- Septic \$135,000
- Well \$205,000
- Stormwater \$55,000
- Site Development \$750,000
- Fuel Depot (later date)
- Soft Costs \$3,678,000
- TOTAL ESTIMATED COST \$23,228,000

## Totals

FUNDING CONTRIBUTION \$14,583,076

TOTAL COST OF PROJECT

\$23,228,000

TOTAL AMOUNT REMAINING \$8,644,924

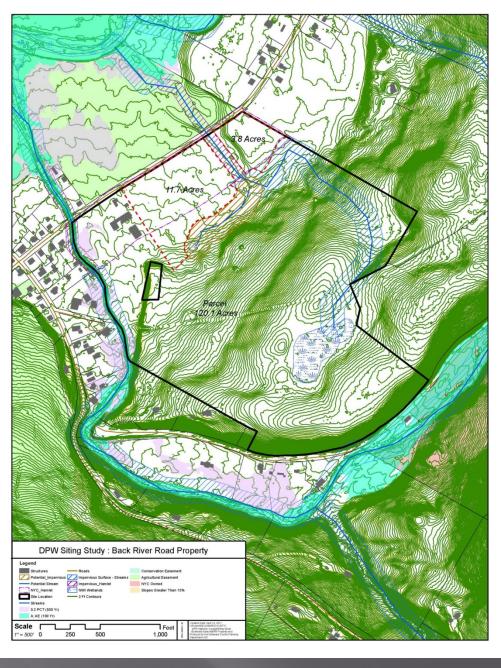
(Assumes NO Outside Funding for Project)

# DPW Siting Study Expanded Parcel Search

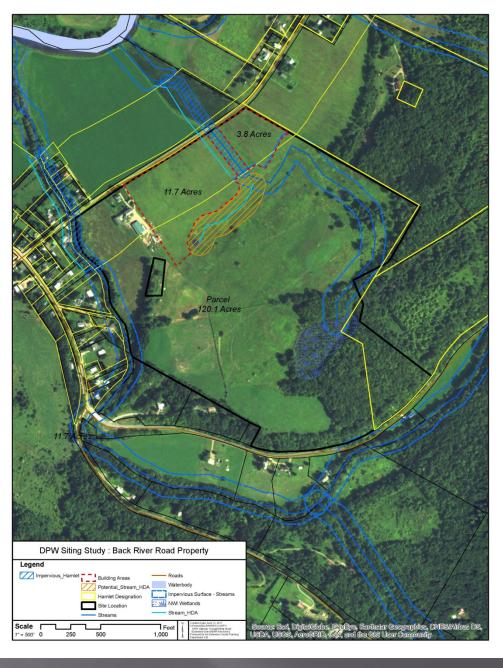
(Volunteered Parcels)

April 26, 2017

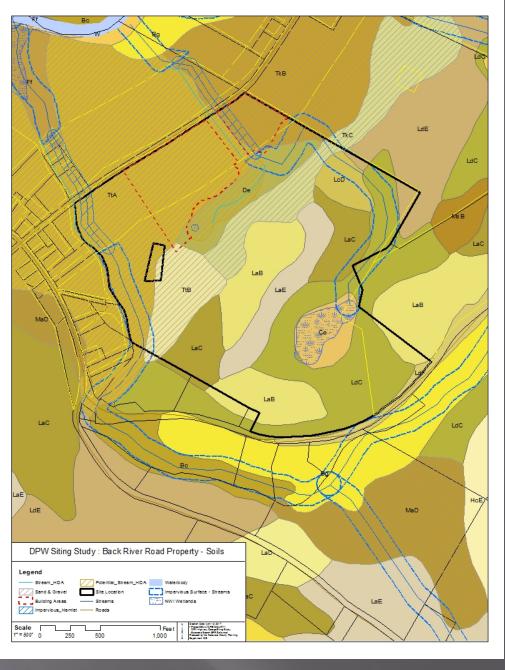
#### Back River Road Property



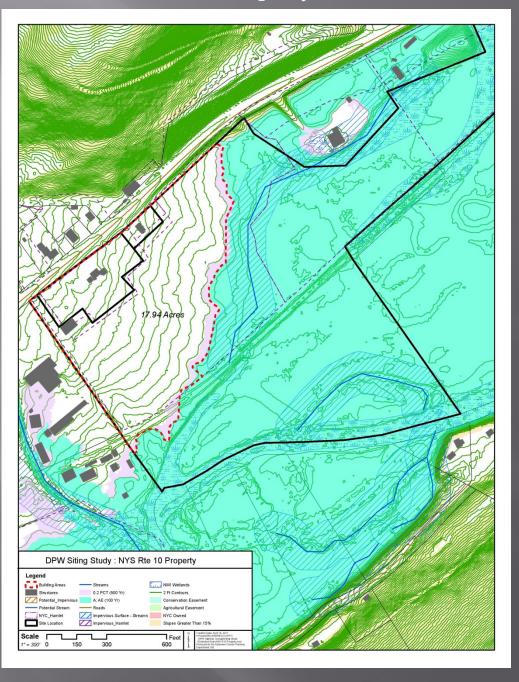
#### Back River Road Property - Aerial



#### Back River Road Property - Soils



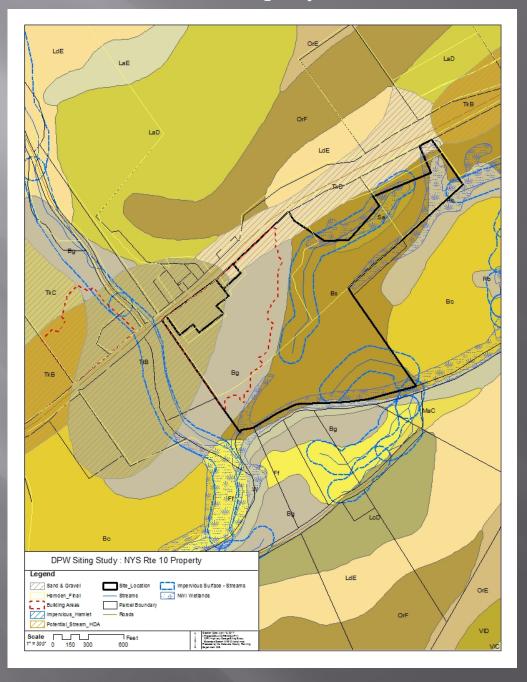
#### NYS Route 10 Property - Soil



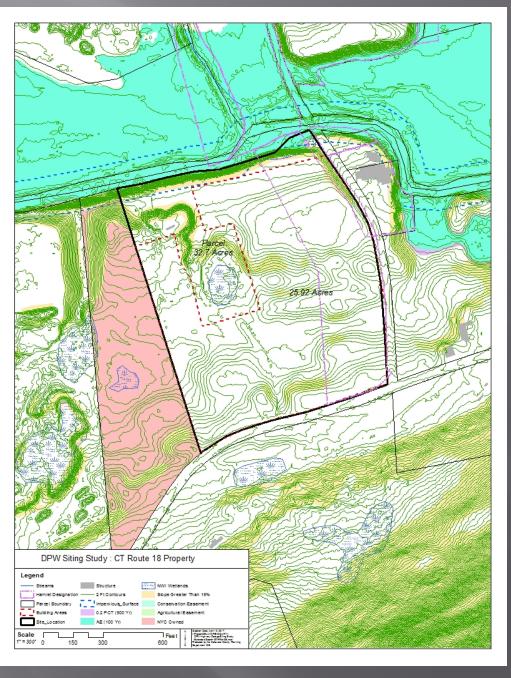
#### NYS Route 10 Property - Aerial



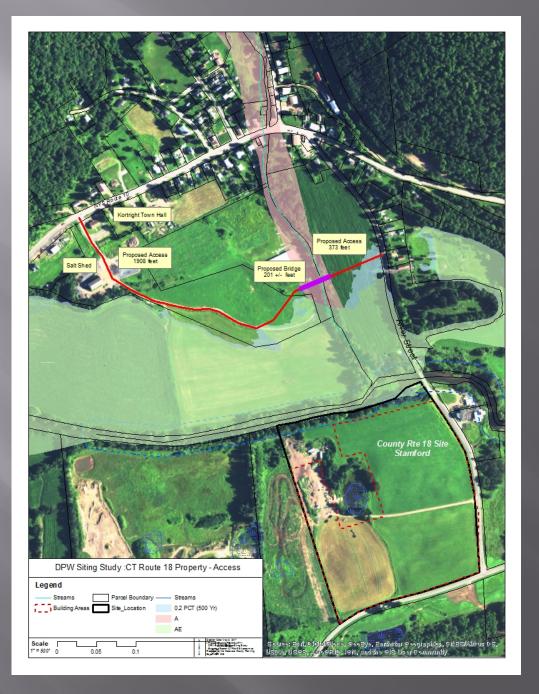
#### NYS Route 10 Property - Soil



#### CT Route 18 - Stamford



#### CT Route 18 - Access : Stamford



#### Site Rankings

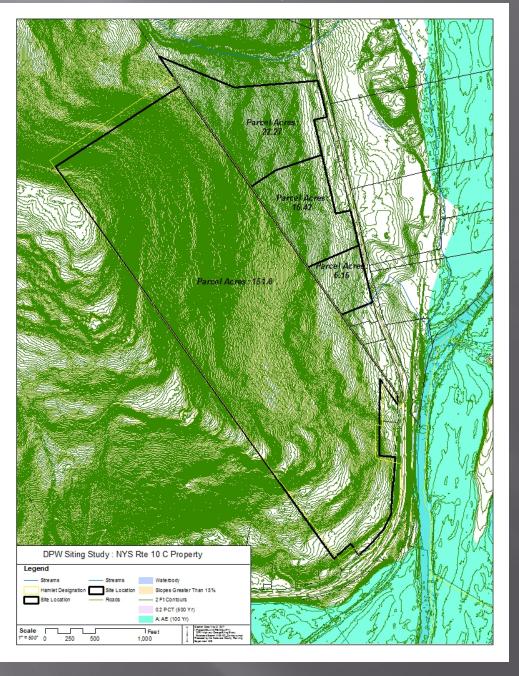
Site Name	ADS	3PP	S_Septic	AFE	ATT	MW	MSR	AP	OSG	ESU_Occ	Ebldg	B_Comm	PEF	Wetlands	Fiber	Score	
Back River Rd	10	6	8	2 /				)	0 6	5 2	2	,		1	2		58
NYS Rte 10		8	0	, ,	10						2			1 1	7		61
N 15 Kte 10	10	8	3	, .	) 10	J	'	,	5 6	2	3	)	L	1 .	/		31
NYS Rte 10 B	10	8	8	3 5	5 10	0		)	0 2	2 2	0	) 1	1	1 :	8		55
CT Rte 18 S	10	8	8	3 2	2	2 2		l	5 3	5	0	) 2	2	1	7		56
																	П
																	4

Site Location	<u>Score</u>
Back River Road	58
NYS Route 10	61
NYS Route 10 B	55
CT Route 18	56

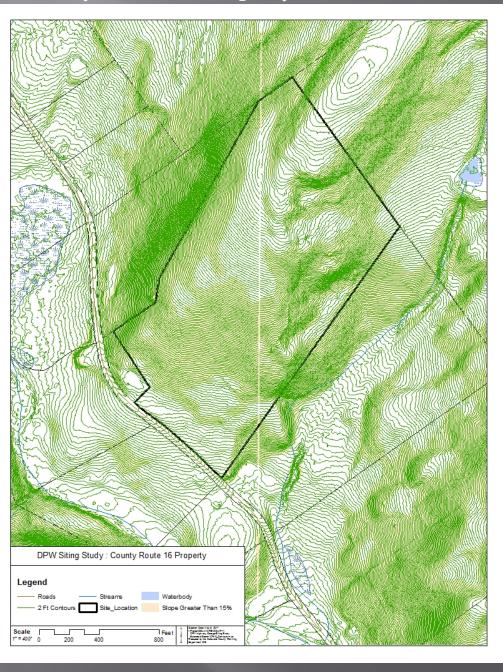
# DPW Siting Study Expanded Parcel Search

May 4, 2017

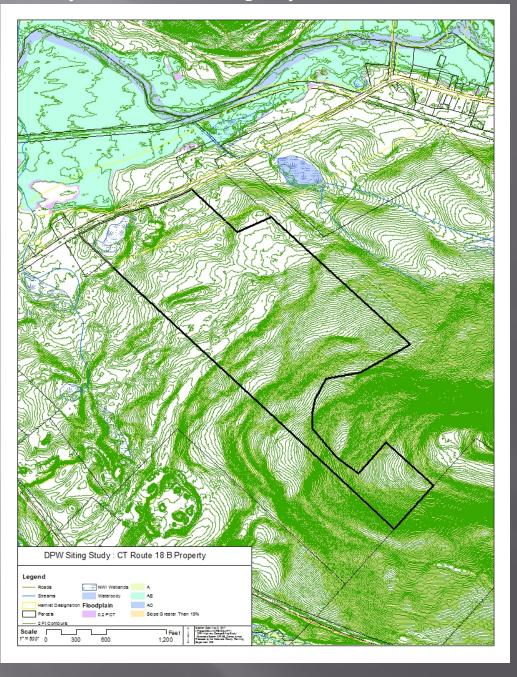
#### NYS Route 10 C Property: Hamden



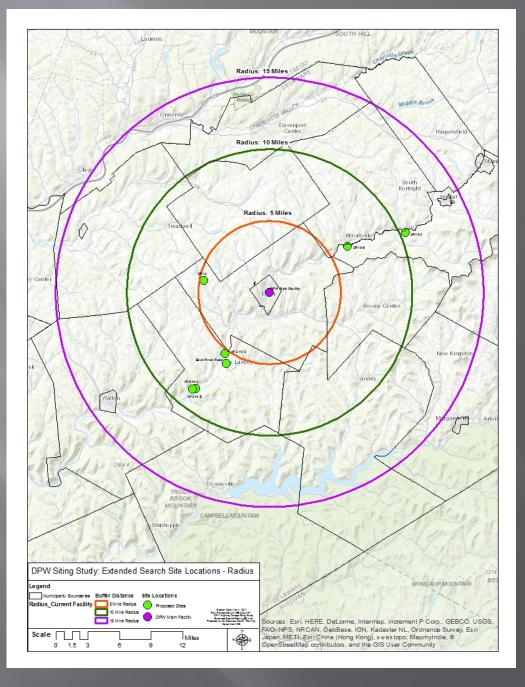
#### County Route 16 Property: Delhi



#### County Route 18 B Property: Stamford



#### Extended Site Locations - Radius



# Delaware County DPW Facility Site Selection

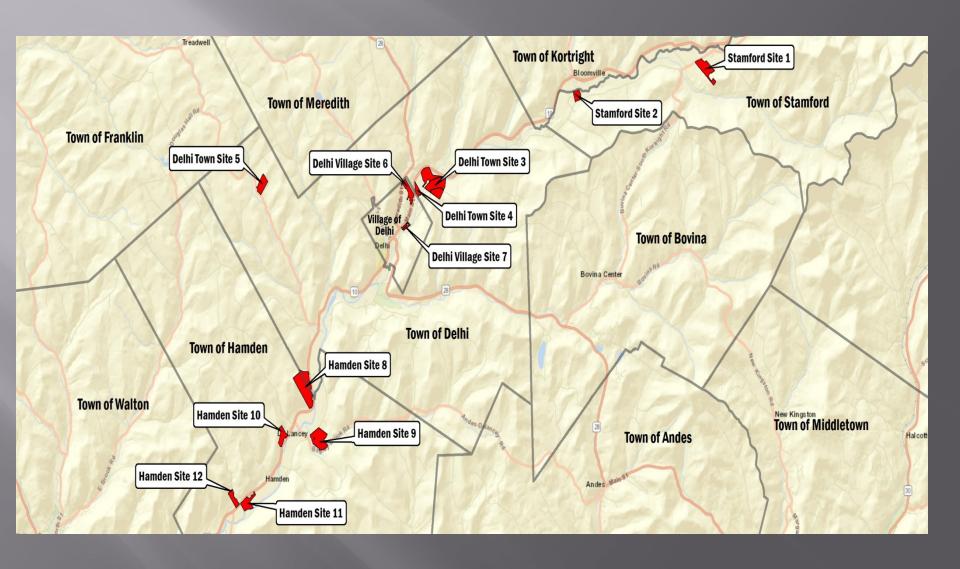
By Wendel

# Site Selection Process

- 1. Facility Programing
- 2. Typical Building/Site Layout
- 3. Candidate Sites
  - Sites 3, 4 and 6 originally by County Planning,
  - plus 8 volunteered sites and existing site
  - Confirmed availability of all
  - Site 6 off list due to unavailability
- Establish Selection Criteria
  - Supervisor Input

- 5. Score Sites (1 **–** 10)
  - Site visits on 5/30/17 and 5/31/17
- Establish Criteria Weight Parameters
  - Supervisor Input
- Ranking of Sites
  - (Score x Average Weight)

# Candidate Sites



# Supervisor/Committee Weighting

Supervisor #	1	2	3	4	5	6	7	8	9	10
Criteria	Weight									
Access	20%	10%	10%	20%	10%	15%	0%	20%	20%	10%
Capital Costs	20%	5%	10%	10%	4%	20%	0%	20%	10%	15%
Demolition	5%	5%	5%	5%	3%	5%	10%	5%	10%	5%
Environmental	5%	5%	10%	5%	10%	5%	5%	10%	5%	15%
Flood Plain	15%	25%	10%	5%	25%	10%	25%	10%	25%	5%
Neighborhood	10%	10%	5%	15%	3%	5%	0%	0%	2%	5%
Inc. Operational Costs	5%	5%	10%	5%	10%	15%	25%	0%	15%	5%
Soils	5%	15%	10%	15%	3%	5%	10%	10%	5%	10%
Topography	5%	5%	10%	10%	10%	5%	25%	5%	2%	5%
Utilites	5%	10%	10%	5%	12%	10%	0%	10%	4%	20%
Water	5%	5%	10%	5%	10%	5%	0%	10%	2%	5%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

11	12	13	14	15	16	17	18	19			
Weight	Total	Average Weight	Order of Weight								
10%	15%	15%	20%	10%	9%	5%	9%	0%	228%	12.67%	
8%	10%	10%	10%	25%	15%	25%	9%	0%	226%	12.56%	
6%	5%	5%	10%	0%	5%	10%	9%	0%	108%	6.00%	
10%	5%	10%	20%	5%	5%	5%	9%	0%	144%	8.00%	
10%	15%	15%	20%	10%	15%	5%	9%	0%	254%	14.11%	
10%	5%	10%	0%	20%	5%	5%	9%	0%	119%	6.61%	
10%	15%	5%	20%	10%	15%	25%	9%	0%	204%	11.33%	
10%	5%	10%	0%	20%	10%	0%	9%	0%	152%	8.44%	
8%	5%	5%	0%	0%	6%	0%	9%	0%	115%	6.39%	
10%	15%	10%	0%	0%	10%	10%	10%	0%	151%	8.39%	
8%	5%	5%	0%	0%	5%	10%	9%	0%	99%	5.50%	
100%	100%	100%	100%	100%	100%	100%	100%	0%	1800%	100.00%	

# Selection Criteria & Weighting

Selection Criteria	Average Weight
Access	12.67 %
Capital Cost	12.56 %
Demolition	6.00 %
Environmental	8.00 %
Flood Plain	14.11 %
Neighborhood	6.61 %
Increased Operational Costs	11.33 %
Soils	8.44 %
Topography	6.39 %
Utilities	8.39 %
Water	5.50 %
Total	100 %

# Top 4 Highest Ranked Sites

Selection	Arranaga	Site 9		S	Site 1		Site 3	Site 11		
Criteria	Average Weighting	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	
Access	12.67 %	6	76.02	5	63.35	3	38.01	6	76.02	
Capital Cost	12.56 %	7	87.92	7	87.92	4	50.24	8	100.48	
Demolition	6.00 %	9	54.00	10	60.00	10	60.00	7	42.00	
Environmental	8.00 %	7	56.00	7	56.00	6	48.00	6	48.00	
Flood Plain	14.11 %	10	141.10	9	129.99	8	112.88	7	98.77	
Neighborhood	6.61 %	6	39.66	9	59.49	7	46.27	7	46.27	
Increased Operational Costs	11.33 %	5	56.65	3	33.99	9	101.97	5	56.65	
Soils	8.44 %	6	50.64	8	67.52	6	50.64	6	50.64	
Topography	6.34 %	10	63.90	8	51.12	10	63.90	8	51.12	
Utilities	8.39 %	6	50.34	6	50.34	5	41.95	6	50.34	
Water	5.50 %	4	22.00	5	27.50	8	44.00	5	27.50	
Total 100 %		698.23		684.22		6	57.86	647.79		
Ranking			1		2	3		4		

# Next Steps

#### **1. TOP 4 SITES**

- Due Diligence Environmental Impact Paper Search
- Contact Local Code Officials
- Test Fitting Conceptual Design/Cost Estimate/Schedule
- Traffic and Site Access (Bridges, Roads, Intersections, etc.)
- Assess Operational Costs

#### 2. TOP RANKED SITE

- Preliminary Design/Cost Estimate
- SEQR
  - Detailed Impact Assessments
- Temporary Relocation TBD (?)
- Acquisition
- Final Design/Cost Estimate
- Bidding
- Construction

# TIMELINE OF IN-HOUSE SITING STUDY

- 8-30-2016 Woidt Engineer H&H Study Draft 3 Options for Page Ave
- 9-14-2016 Possible Location Presented to DPW Committee
- 9-28-2016 Siting Study Presented to DPW Committee
- 11-9-2016 Siting Study Rankings Presented to DPW Committee
- 12-14-2016 Site Visit Top 3 Ranked Presented to DPW Committee
- 1-4-2017 Siting Study Presented to County Board (Executive Session)
- 3-22-2017 DPW Chairman Presented to Public at Committee/Board
- 4-26-2017 Extended Search Study Presented to County Board
- 5-4-2017 Extended Search II Study Presented to DPW Committee
- 5-19-2017 Presentation to Ag Farmland Protection Board
- 6-28-2017 Wendel Siting Study Presentation to County Board
- 7-12-2017 Public Informational Meeting at Delhi Academy
- Today's Public Informational Meeting

# Questions