

KENNETT PIKE & TWADDELL MILL ROAD / OWLS NEST ROAD



Traffic Signal Installation

April 2015

DelDOT Traffic

INTERSECTION HISTORY

- The recommendation for the installation of a traffic signal at the intersection of SR 52 (Kennett Pike) and Twadell Mill Road/Owls Nest Road is a result of a 2013 comprehensive traffic safety study of SR-52 (Kennett Pike) through the Village of Centreville performed by DeIDOT Traffic at the request of the Centreville Civic Association. Other recommendations included:
 - Removal of unnecessary and redundant signage throughout the Village – (COMPLETED FALL 2014)
 - Installation of Speed Reduction Pavement Markings at both gateway islands – (COMPLETED FALL 2014)
 - Installation of additional crosswalks to promote safe crossing of Kennett Pike
 - Increased speed enforcement through the Village by Delaware State Police

INTERSECTION HISTORY

- Crash history, lack of adequate gaps in traffic on SR-52, and insufficient sight lines all contributed to the recommendation to install a traffic signal at this intersection.
- The offset nature of the side streets add to the complexity of the navigation of the intersection, oftentimes creating confusion for opposing vehicles stopped on the side streets.



WHAT WILL THE SIGNAL LOOK LIKE?

- The traffic signal will be mounted on one overhead pole (mast arm), carrying all eight signal heads for all four approaches.
- Pedestrian signals will be installed at all four corners of the intersection.
- Pedestrian crosswalks will remain at the same locations.
- Decorative signal poles will be used to maintain a context sensitive signal installation.
- Through a site review conducted in April 2015, no trees will require removal for the installation of a traffic signal and visibility of the signal heads will not require tree trimming.

HOW WILL THE SIGNAL OPERATE?

- The traffic signal will allow both directions of Kennett Pike to flow at the same time.
- Once Kennett Pike traffic receives a red indication, each side street (Owls Nest Road/Twaddell Mill Road) will receive a green indication separately in order to eliminate conflicting turning movements. This is called "split side street phasing".
- Pedestrians crossing at the intersection will receive their own phase to cross, stopping all traffic. The only times that this will occur is when a pedestrian activates the pedestrian signals by pushing the button. The pedestrian phase will be skipped at all other times to allow for efficient vehicular traffic flow.
- There will be no left turn arrows on Kennett Pike due to the low volumes of turning traffic and to minimize potential diversion of traffic on Twaddell Mill Road or Owls Nest Road.
- Emergency Vehicle Pre-emption detection will be provided on all approaches of the intersection to give priority to emergency vehicles needing to travel through the intersection.
 - Should an emergency vehicle approach the signal with lights and sirens activated, they will immediately receive a green indication on the approach from which they are coming and stop all other approaches in order to reach their destination more quickly.

SIGNAL PLAN (2 OF 2)

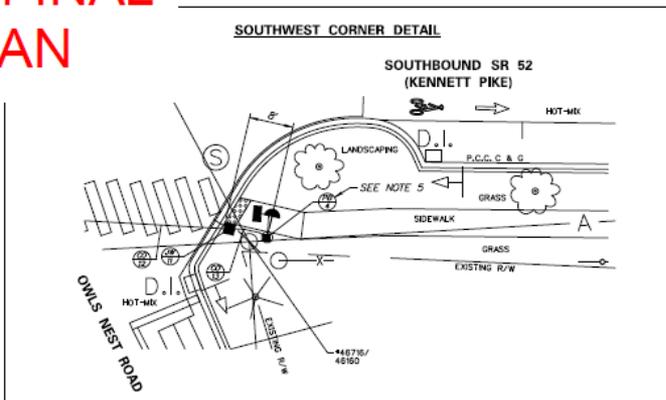
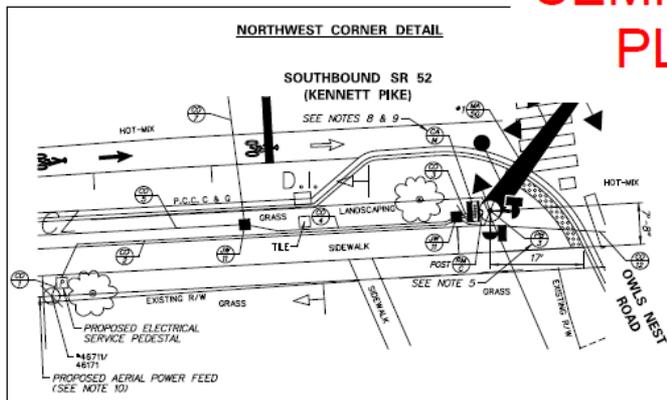
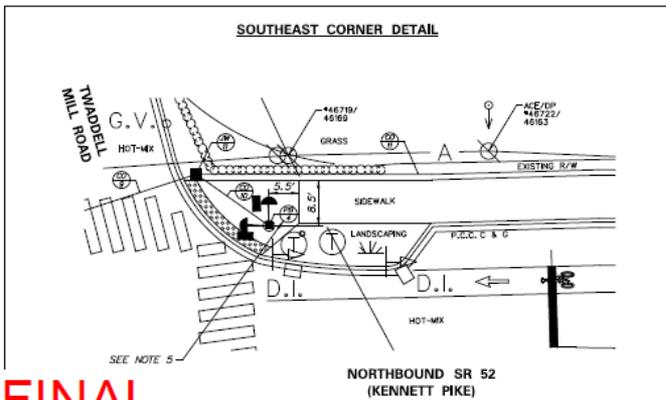
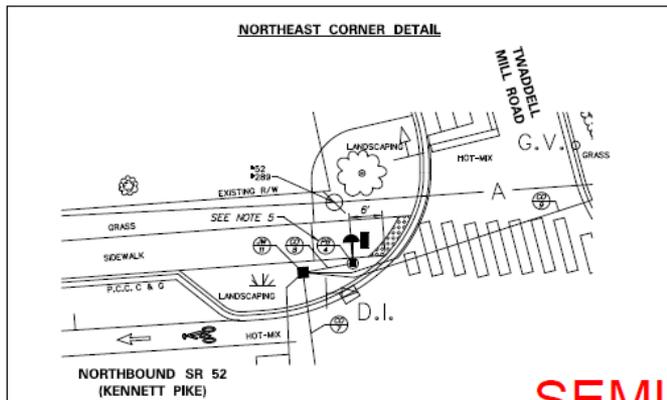
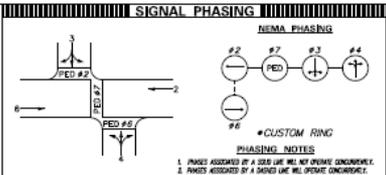
CONDUIT RUN SCHEDULE						
CONDUIT NO.	SIZE	LENGTH	B/V/O	AMOUNT AND TYPE OF CABLE / WIRE	REMARKS	DATE
1	2.0 IN	3 FT	T	ENW (1) 2"MB U.L.F. W/ GROUND - LINE S&E		
2	2.0 IN	77 FT	O/T	ENW (1) 2"MB U.L.F. W/ GROUND - LOAD SIDE		
3	3.0 IN	4 FT	T	ENW (1) 2"MB, (2) 2"MB, (1) #6 GROUND		
4	4.0 IN	36 FT	T	ENW (1) 2"MB U.L.F. W/ GROUND - LOAD SIDE		
5	4.0 IN	52 FT	T	ENW (1) 2"MB, (1) 2"MB, (1) #6 GROUND		
6	4.0 IN	121 FT	B	ENW (1) 2"MB, (1) #6 GROUND		
7	4.0 IN	52 FT	B	ENW (1) 2"MB, (1) 2"MB, (1) #6 GROUND		
8	2.5 IN	30 FT	T	ENW (1) 2"MB, (1) #6 GROUND		
9	4.0 IN	58 FT	B	ENW (1) 2"MB, (1) 2"MB, (1) #6 GROUND		
10	2.5 IN	12 FT	O	ENW (1) 2"MB, (1) #6 GROUND		
11	4.0 IN	173 FT	T	ENW (1) 2"MB, (1) #6 GROUND		
12	4.0 IN	64 FT	B	ENW (1) 2"MB, (1) 2"MB, (1) #6 GROUND		
13	2.5 IN	8 FT	T	ENW (1) 2"MB, (1) #6 GROUND		

MAST ARM SCHEDULE						
MAST NO.	HEIGHT OF MAST	LENGTH OF MAST	NO. OF SIGNALS	NO. OF PEDESTRIAN SIGNALS	NO. OF MICROPHONE DETECTORS	DATE
1	27'-6"	50 FT	7	4	-	20-23

NOTES:

5. PROPOSED POLE BASES SUPPORTING POLES WITH PEDESTRIAN PUSHBUTTONS SHALL BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE FLAT (50:1 FLATTER) LANDING AREA OF THE CURB RAMP OR SIDEWALK IN ACCORDANCE WITH CURRENT ADA BEST PRACTICES. THESE POLE BASES SHALL BE FLUSH WITH THE ADJOINING LANDING AREA. THE PEDESTRIAN PUSHBUTTON SHOULD BE INSTALLED AT A HEIGHT OF 42 TO 48 INCHES ABOVE THE LANDING AREA/SIDEWALK, AND SHALL BE LOCATED SUCH THAT THE MAXIMUM REACH DISTANCE IS 10 INCHES FROM THE LANDING AREA TO THE FACE OF THE PUSHBUTTON. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 7 FEET OR MORE THAN 10 FEET ABOVE SIDEWALK LEVEL.

6. ALL PEDESTRIAN SIGNALS SHALL CONTAIN PEDESTRIAN COUNTDOWN DISPLAYS.
 7. ALL WORK PERFORMED UNDER THIS PROJECT IS INTENDED TO OCCUR WITHIN DELDOT'S EXISTING RIGHT-OF-WAY BASED ON THE NEW CASTLE COUNTY TAX PARCEL MAP.
 8. THE PROPOSED CABINET, TYPE M, SHALL BE MOUNTED TO THE PROPOSED SIGNAL POLE.
 9. DELDOT TRAFFIC SHALL COORDINATE THE COMA INSTALLATION IN THE PROPOSED SIGNAL CABINET.
 10. THE PROPOSED POWER FEED SHALL RUN AERIALY FROM UTILITY POLE #46705/46181 TO UTILITY POLE #46711/46171 AND CONTINUE THROUGH PROPOSED CONDUIT RUNS 1 AND 2.



SEMI-FINAL PLAN

LEGEND	
■ PROPOSED SIGNAL CABINET	⊕ REMOVE BY CONTRACTOR
□ EXISTING SIGNAL CABINET	⊖ REMOVE BY OTHERS
○ PROPOSED SIGNAL POLE BASE	⊙ ABANDON
⊙ EXISTING SIGNAL POLE BASE	⊕ EXISTING POLE BASE IDENTIFIER (TYPE OF POLE BASE)
● PROPOSED PEDESTRIAN POLE BASE	⊕ EXISTING PEDESTRIAN POLE BASE IDENTIFIER (TYPE OF POLE BASE)
● EXISTING PEDESTRIAN POLE BASE	⊕ EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
⊕ PROPOSED WOOD POLE	⊕ EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
⊕ EXISTING UTILITY POLE	⊕ EXISTING JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
⊕ PROPOSED SIGNAL MAST	⊕ EXISTING SIGNAL MAST IDENTIFIER (TYPE OF SIGNAL MAST)
⊕ EXISTING SIGNAL MAST	⊕ EXISTING OVERHEAD RUN IDENTIFIER (TYPE OF OVERHEAD RUN)
⊕ PROPOSED PEDESTRIAN SIGNAL HEAD	⊕ EXISTING PEDESTRIAN SIGNAL HEAD IDENTIFIER (TYPE OF OVERHEAD RUN)
⊕ EXISTING PEDESTRIAN SIGNAL HEAD	⊕ EXISTING PEDESTRIAN SIGNAL HEAD IDENTIFIER (TYPE OF OVERHEAD RUN)
⊕ PROPOSED PEDESTRIAN PUSHBUTTON	⊕ EXISTING PEDESTRIAN PUSHBUTTON IDENTIFIER (TYPE OF CABINET)
⊕ EXISTING PEDESTRIAN PUSHBUTTON	⊕ EXISTING MAST ARM IDENTIFIER (TYPE OF CABINET)
⊕ PROPOSED VIDEO DETECTION	⊕ EXISTING VIDEO DETECTION IDENTIFIER (TYPE OF CABINET)
⊕ EXISTING VIDEO DETECTION	⊕ EXISTING VIDEO DETECTION IDENTIFIER (TYPE OF CABINET)
⊕ PROPOSED MICROPHONE DETECTION	⊕ EXISTING MICROPHONE DETECTION IDENTIFIER (TYPE OF CABINET)
⊕ EXISTING MICROPHONE DETECTION	⊕ EXISTING MICROPHONE DETECTION IDENTIFIER (TYPE OF CABINET)
⊕ PROPOSED SPAN WIRE	⊕ EXISTING SPAN WIRE
⊕ OVERHEAD SIGNING	⊕ EXISTING OVERHEAD SIGNING
⊕ PROPOSED OPTICOM RECEIVER	⊕ EXISTING OPTICOM RECEIVER
⊕ EXISTING OPTICOM RECEIVER	⊕ EXISTING OPTICOM RECEIVER
⊕ PROPOSED MAST ARM	⊕ EXISTING MAST ARM
⊕ EXISTING MAST ARM	⊕ EXISTING MAST ARM
⊕ PROPOSED LUMINAIRE	⊕ EXISTING LUMINAIRE
⊕ EXISTING LUMINAIRE	⊕ EXISTING LUMINAIRE
⊕ PROPOSED LOOP DETECTOR (TYPE 1) (SR 52)	⊕ EXISTING LOOP DETECTOR (TYPE 1) (SR 52)
⊕ PROPOSED LOOP DETECTOR (TYPE 2) (SR 52)	⊕ EXISTING LOOP DETECTOR (TYPE 2) (SR 52)

GENERAL SIGNAL NOTES

- PROPOSED LOOP DETECTOR TYPE #1 - SR 52 - TO BE INSTALLED ON THE NORTHBOUND SR 52 THROUGH MOVEMENT. TYPE #2 - SR 52 - TO BE INSTALLED ON THE SOUTHBOUND SR 52 THROUGH MOVEMENT. TYPE #3 - SR 52 - TO BE INSTALLED ON THE EASTBOUND OWLS NEST ROAD. TYPE #4 - SR 52 - TO BE INSTALLED ON THE WESTBOUND TWADDELL MILL ROAD. LETTING INFORMATION THROUGH MOVEMENT SYSTEM - SR 52 - TO BE INSTALLED ON THE NORTHBOUND AND SOUTHBOUND SR 52 RECEIVING LANES TO SIGN.
- ALL UNLUMINATED CONDUIT LERO SHALL BE SEWED AND THENED. ALL CIRC SHALL BE THENED. PROVIDE WITH APPROVED COUPLERS, SET SCREEN, BOLTED AND COMPRESSION TIGHT. ARE NOT ACCEPTABLE.
- ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETELY ACCURATE. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY DELDOT TRAFFIC IMMEDIATELY BEFORE CONSTRUCTION.
- ALL PROPOSED SIGNAL POLES SHALL BE FLUTED ORNAMENTAL DELDOT MAST ARMS.

RECOMMENDED _____ DATE _____	RECOMMENDED _____ DATE _____	RECOMMENDED _____ DATE _____	APPROVED TRAFFIC ENGINEER _____ DATE _____	APPROVED FOR INSTALLATION CHIEF TRAFFIC ENGINEER _____ DATE _____	
ADDENDUM / REVISIONS _____ _____ _____			SCALE 0 10 20 30 FEET		
DELAWARE DEPARTMENT OF TRANSPORTATION		CONTRACT T201501002 COUNTY NEW CASTLE PERMIT NO. N812 DESIGNED BY D.C.C. (WR&A) CHECKED BY M.L.S. (WR&A)		SIGNAL PLAN DETAILS SR 52 (KENNETT PIKE) @ TWADDELL MILL ROAD/ OWLS NEST ROAD	SHEET NO. 2 TOTAL SHEET 3