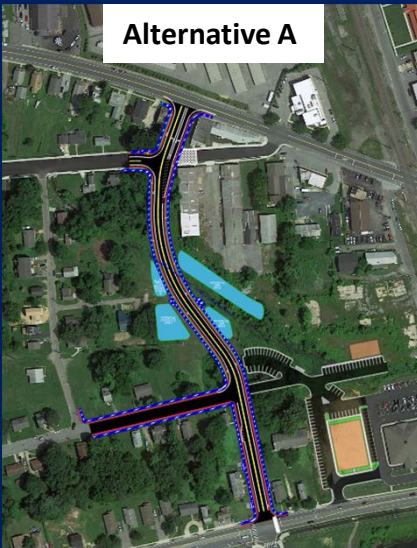


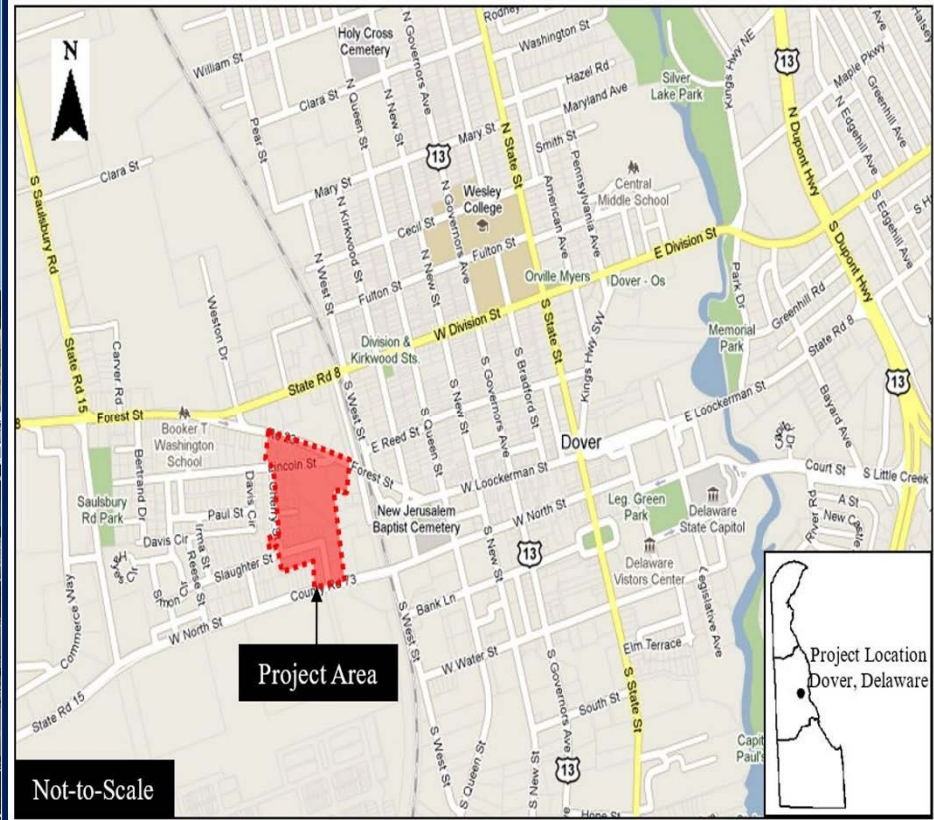
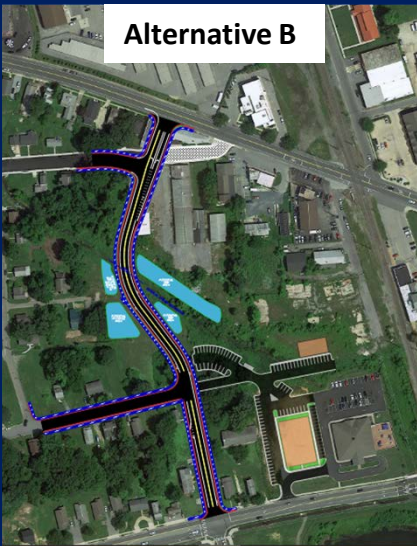


Banning Clarence Street Study PEL Report

Alternative A



Alternative B



November 2021

**Banning/Clarence Street Study
Planning and Environmental Linkage (PEL) Report**

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Executive Summary

The Dover/Kent County MPO, in coordination with the City of Dover and the Delaware Department of Transportation (DelDOT), initiated and sponsored the Banning/Clarence Street Study. The Study is located on the west side of the City of Dover, DE near Eden Hill Medical Complex. The study area is comprised of

existing Banning and Clarence Streets, as well as the undeveloped area north of existing Clarence Street up to Forest Street to the north. S. Saulsbury Road forms the western border, the Delmarva Central Railroad tracks form the eastern border, and open areas to the south near S. Greenberry Lane comprise the southern limits of the study area.

The study determined the following Project Purpose and Need statements:

- Connect 600 proposed housing units in S. Greenberry Lane area to Forest Street without using W. North Street or POW-MIA Parkway
 - Reduce cut-through traffic in the local residential neighborhood by providing an alternative connection
 - Provide a direct connection between the Eden Hill Development and Forest Street
 - Directly connecting to the future extension of S. Greenberry Lane
- Provide a parallel roadway to S. Saulsbury Road to act as a relief route to additional traffic utilizing S. Saulsbury Road

The study area is primarily a built environment comprised mainly of residential and commercial uses, as well as Mixed Urban or Built-up Land uses. Industrial, Institutional/Governmental, and Deciduous Forest comprise the remainder of the study area.

Based on desk top research and field verification, the study area is primarily a built environment. As a result, natural resources are not anticipated to be present in the area. However, further coordination with the appropriate local, state, and federal resource and regulatory agencies is recommended as the project progresses to the design phase.

Two public workshops occurred during the study. Workshop 1, held on April 28, 2021, reviewed the project history, alternatives previously developed and updated alternatives. Workshop 2, held on July 14, 2021 presented revised alternatives based on feedback from the first workshop including parking and flooding concerns.

Four alternatives were developed to address the needs of this study:

- Alternative A, Off-Street Parking
- Alternative A, On-Street Parking
- Alternative B, Off-Street Parking
- Alternative B, On-Street Parking

Alternatives A and B are very similar. Alternative A would tie-in to the intersection with Forest Street approximately 100 feet west of where Alternative B would tie-in.

Alternative A would require the full acquisition of three residential properties and the partial acquisition of one residential property, one institutional and office property and one commercial property.

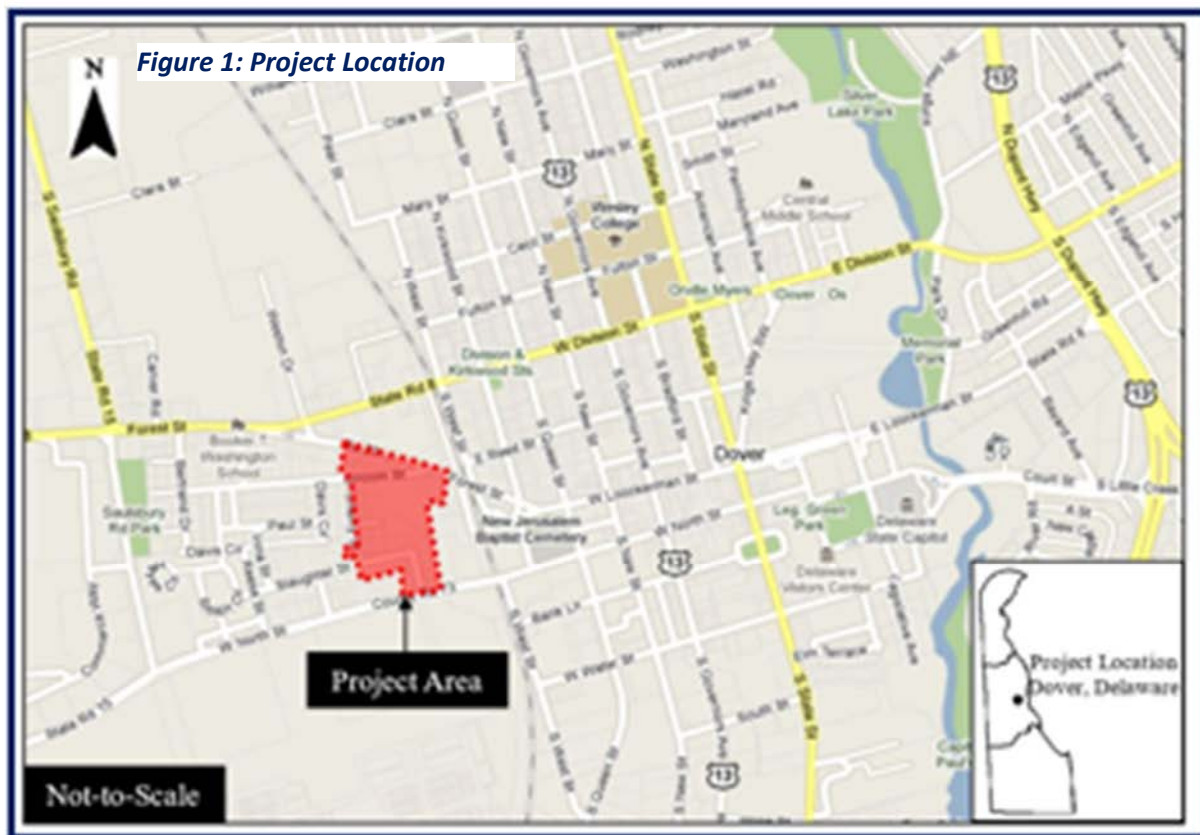
Alternative B would require the full acquisition of two residential properties, and one commercial property and the partial acquisition of one residential property, one institutional and office property and one commercial property. However, both Alternatives A and B meet the identified project needs. Both the Off-Street and On-Street Parking Options are feasible with both Alternatives. Costs are similar for each

Alternative, and neither Alternative was clearly favored over the other by the public through two public workshops.

It is therefore recommended that both Alternatives A and B and both the Off-Street and On-Street Parking Options be advanced forward to the design phase for further detailed study.

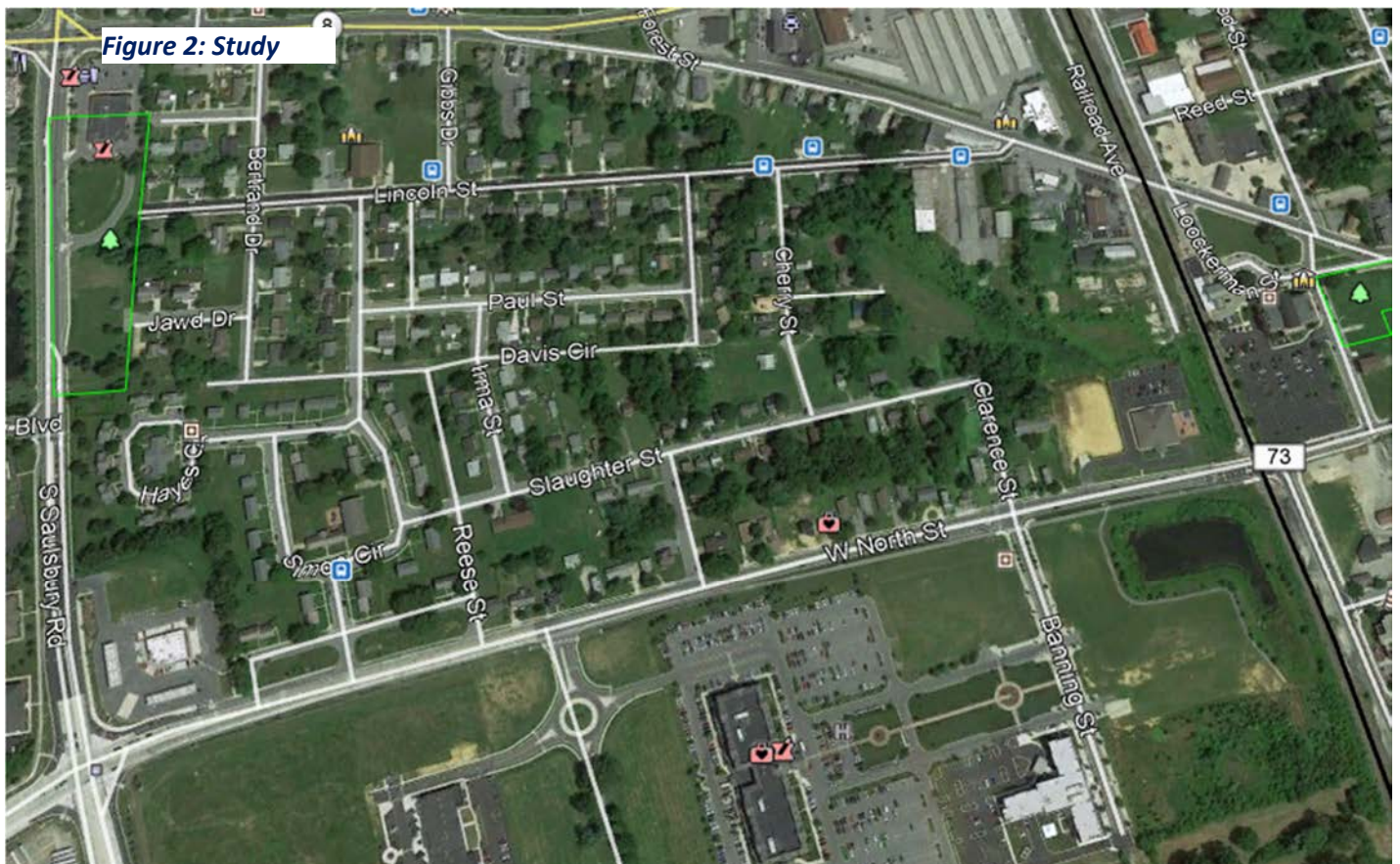
Study Location

The Banning/Clarence Street Study is located on the west side of the City of Dover, DE as shown on **Figure 1**. US 13 and S. Bay Road to the east and SR 15 to the west are major north/south routes in the area, and SR 8 to the north is the primary east/west route.



Study Area

The study area is comprised of existing Banning and Clarence Streets, as well as the undeveloped area north of existing Clarence Street up to Forest Street to the north. S. Saulsbury Road forms the western border, the Delmarva Central Railroad tracks form the eastern border, and open areas to the south near S. Greenberry Lane comprise the southern limits of the study area. This open area to the south is planned for significant residential development and is a contributing factor to the project needs of this study. As shown in **Figure 2**, land use in the study area is primarily residential with services/commercial uses and



industrial uses interspersed throughout the study area. Medical facilities are present to the south off Banning Street, commercial development exists to the east of Clarence Street, two pharmacies are located off Forest Street/S. Saulsbury Road, and industrial uses are present between Forest Street, Lincoln Street and Railroad Avenue.

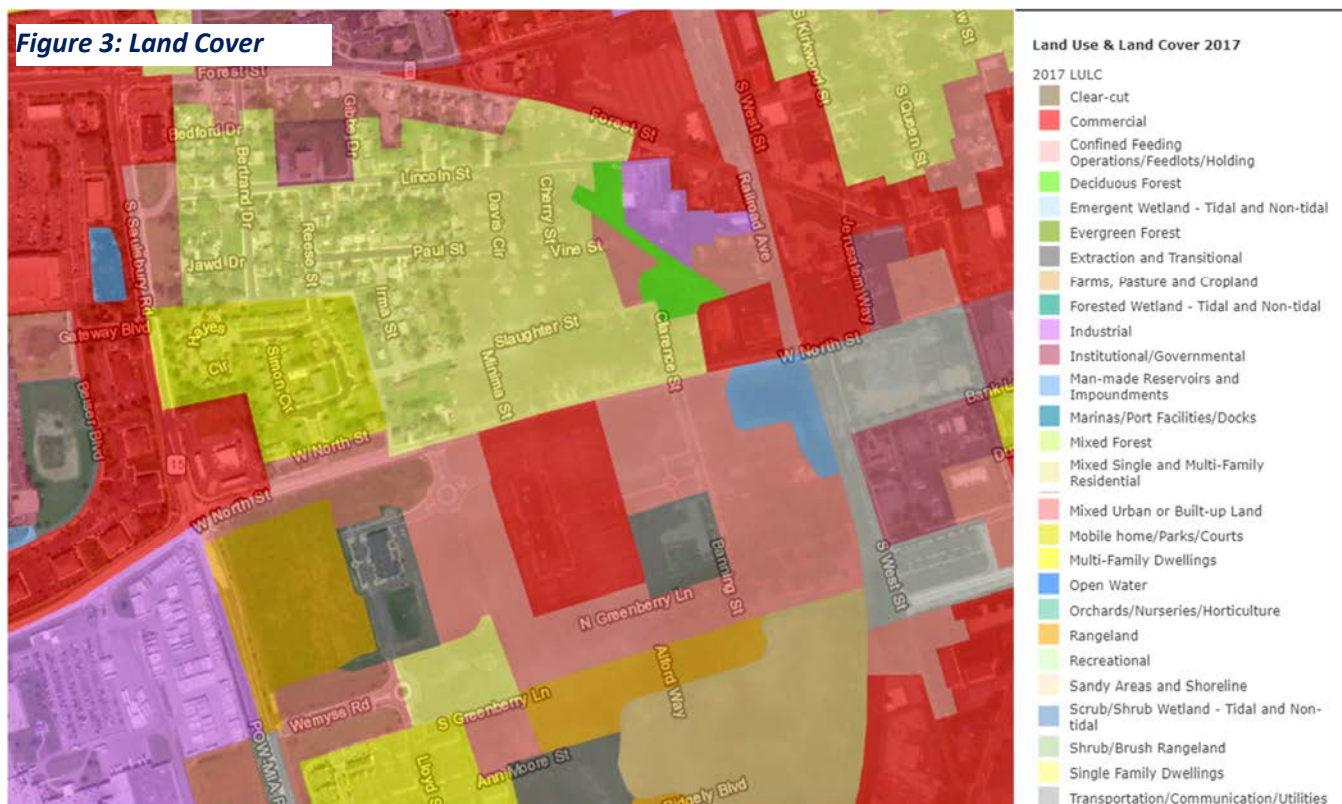
Project Purpose and Need

Originally identified in the City of Dover's *Strategic Development Plan*, the purpose of the study is multifaceted, but in general strives to separate traffic based on its destination by providing an alternate connection to Forest Street. Several needs are met by extending Clarence Street to form a new connection with Forest Street including:

- Connect 600 proposed housing units in S. Greenberry Lane area to Forest Street without using W. North Street or POW-MIA Parkway
 - Reduce cut-through traffic in the local residential neighborhood by providing an alternative connection
 - Provide a direct connection between the Eden Hill Development and Forest Street
 - Directly connecting to the future extension of S. Greenberry Lane
- Provide a parallel roadway to S. Saulsbury Road to act as a relief route to additional traffic utilizing S. Saulsbury Road

Existing Conditions, Environmental Resources & Project Description

Based on desk top research and field verification, the study area is primarily a built environment. As a result, natural resources are not anticipated to be present in the area. **Figure 3** below illustrates



the dominant land types in the study area including residential uses depicted in shades of yellow and commercial uses depicted in red. A significant portion of the study area, south of W. North Street, as well as along portions of Forest Street and S. Slaughter Road are identified as Mixed Urban or Built-up Land depicted in light red. Industrial use, depicted in purple, occurs west of Railroad Avenue; to the west of that, a tract of Deciduous Forest exists depicted in green; The Union Missionary Baptist Church north of Lincoln Street depicted in dark purple; and Man-made Reservoirs and Impoundments, depicted in Blue, are present at the W. North Street/S. West Street intersection and west of S. Slaughter Road.

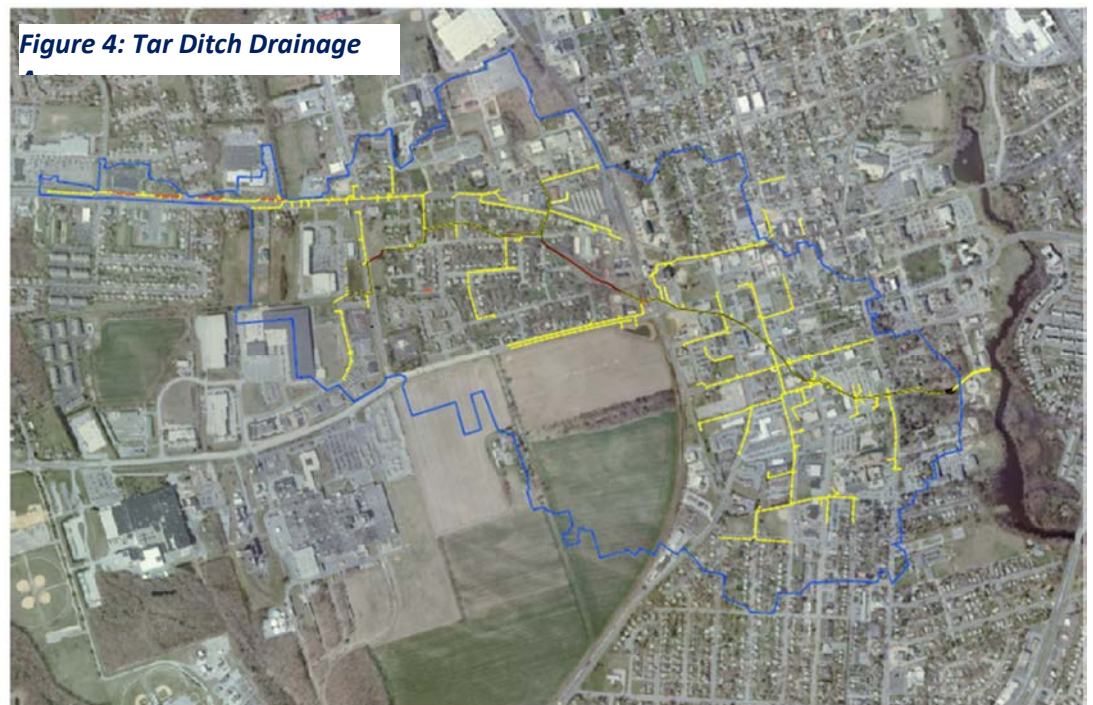
As noted, there does not appear to be the presence of natural resources in the study area, however one small tract of deciduous forest does exist in the study area and the presence/absence of wetlands will

need to be confirmed, as well as the presence/absence of any Rare, Threatened or Endangered Species. No active farmland appears to be present in the study area. The presence/absence of any historic architectural and/or archaeological resources in the study area will also need to be confirmed as the project moves forward. If any conceptual alternatives advance to the design phase, and if any federal funds are used and/or any federally protected resources are impacted, the requirements of the National Environmental Policy Act of 1969 (NEPA) will need to be satisfied.

It is therefore recommended that coordination with the following agencies occur at the beginning of the design phase:

- Delaware State Agricultural Lands Preservation Foundation
- DE SHPO
- Army Corps of Engineers
- DNREC
- USFWS
- FHWA
- City of Dover

The study area is within the Tar Ditch Drainage Area as shown on **Figure 4** and outlined in blue. Flooding, primarily as a result of stormwater, was identified as a concern by some of the area residents at Public Workshop 1. The yellow lines represent the existing drainage system.



While a full flood analysis is beyond the scope of this study, a history of recent area flood studies has been identified and summarized as part of this study. Flood studies for the Tar Ditch Drainage Area were conducted in 1989, 2009, and 2016. These studies, which are available through the City of Dover's Public Works Department, make various recommendations to address flooding in the Tar Ditch Drainage area, including:

- The 1989 Study recommended improvements along S. New Street, South Street and S. State Street shown on **Figure 5** purple.



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- The 2009 Study recommended improvements along Slaughter Street, W. North Street, S. West Street, W. Water Street, S. New Street and Governors Avenue shown on **Figure 5** orange.
- The 2016 Study recommended improvements at Bayview Hospital, along S. State Street, improving the natural channel downstream of S. State Street and the creation of a wetland along the St. Jones River as shown on **Figure 5** green.



Based on these recommendations, the City of Dover is taking the following actions:

- City making improvements on the downstream end of Tar Ditch
- City making improvements along Governors Avenue
- City also will be preparing a Feasibility Study for Water Street flooding improvements in Fiscal Year 2022
 - design scheduled for Fiscal Year 2022
 - construction scheduled for Fiscal Year 2025

Most of these recommendations and actions being taken by the City of Dover are to the east of the Banning/Clarence Street study area. These recommended improvements will still provide a benefit to the study area by improving the volume of stormwater flow downstream of the study area which would lessen stormwater back-ups upstream including areas within the study area. One specific recommendation of this study is to oversize stormwater ponds in the headwater areas so they hold the highest capacity of stormwater thereby managing the flow of water into the downstream system and lessening the potential

for back flow into the study area. As part of this study, we are recommending that the stormwater facilities be designed to overmanaged the runoff to improve the overall performance of the Tar Ditch drainage system.

Public Involvement

Public involvement and community outreach were important components of the Banning/Clarence Street Study. Residents, the business community, as well as state and local stakeholders were engaged throughout the Study. The following provides a summary of the public involvement and outreach that occurred throughout the study and helped guide the development of improvement alternatives:

Community Workshop 1

April 28, 2021

- Virtual - Via Zoom
- Project History, Previous Alternatives, Updated Alternatives
- 16 Registered - 12 Attended
- 6 polling Questions Asked and Tabulated
- 17 Questions Asked and Answered
- 6 Post Workshop Survey Questions Asked and Tabulated
- See *Appendix A* for Workshop 1 Summary Report

Community Workshop 2

July 14, 2021

- Virtual – Via Zoom
- Revised Alternatives
- 18 Registered and Attended
- 5 Polling Questions Asked and Tabulated
- 19 Questions Asked and Answered
- 7 Post Workshop Survey Questions Asked and Tabulated
- See *Appendix B* for Workshop 2 Summary Report

Alternatives Considered

Two conceptual alternatives, Alternatives A & B, were updated based on concepts originally developed as part of a 2011 DelDOT study. Both Alternatives have north and south termini at Forest Street and W. North Street respectively. The southern section, from W. North Street to Slaughter Street, are identical for both alternatives. North of this section the alternatives vary slightly with Alternative A tying into Forest Street approximately 600 feet west of the Delmarva Central Railroad tracks and Alternative B approximately 500 feet from the tracks. As a result of this 100-foot variance in the northern terminus, the following properties would be required for purchase with each Alternative respectively:

Alternative A would require the full acquisition of the following properties:

- 701 Slaughter Street
 - Zoned: RG1 General Residence Zone
 - Property Type: VAC Vacant Land
- 712 Forest Street
 - Zoned: RG1 General Residence Zone
 - Property Type: SFR Single-Family Residential
- 716 Forest Street
 - Zoned: RG1 General Residence Zone
 - Property Type: SFR Single-Family Residential

Alternative A would also require the partial acquisition of the following properties:

- 703 Slaughter Street
 - Zoned: RG1 General Residence Zone
 - Property Type: VAC Vacant Land
- 711 Slaughter Street
 - Zoned: IO Institutional and Office Zone
 - Property Type: VAC Vacant Land
- 12 Lincoln Street
 - Zoned: C3 Service Commercial Zone
 - Property Type: COMM Commercial

Alternative B would require the full acquisition of the properties.

- 701 Slaughter Street
 - Zoned: RG1 General Residence Zone
 - Property Type: VAC Vacant Land
- 700 Forest Street
 - Zoned: C3 Service Commercial Zone
 - Property Type: COMM Commercial
- 712 Forest Street
 - Zoned: RG1 General Residence Zone
 - Property Type: SFR Single-Family Residential

Alternative B would also require the partial acquisition of the following properties:

- 703 Slaughter Street
 - Zoned: RG1 General Residence Zone
 - Property Type: VAC Vacant Land
- 711 Slaughter Street
 - Zoned: IO Institutional and Office Zone
 - Property Type: VAC Vacant Land
- 12 Lincoln Street
 - Zoned: C3 Service Commercial Zone
 - Property Type: COMM Commercial

Figures 6 and 7 depict the both the full and partial acquisitions associated with Alternatives A and B respectively.

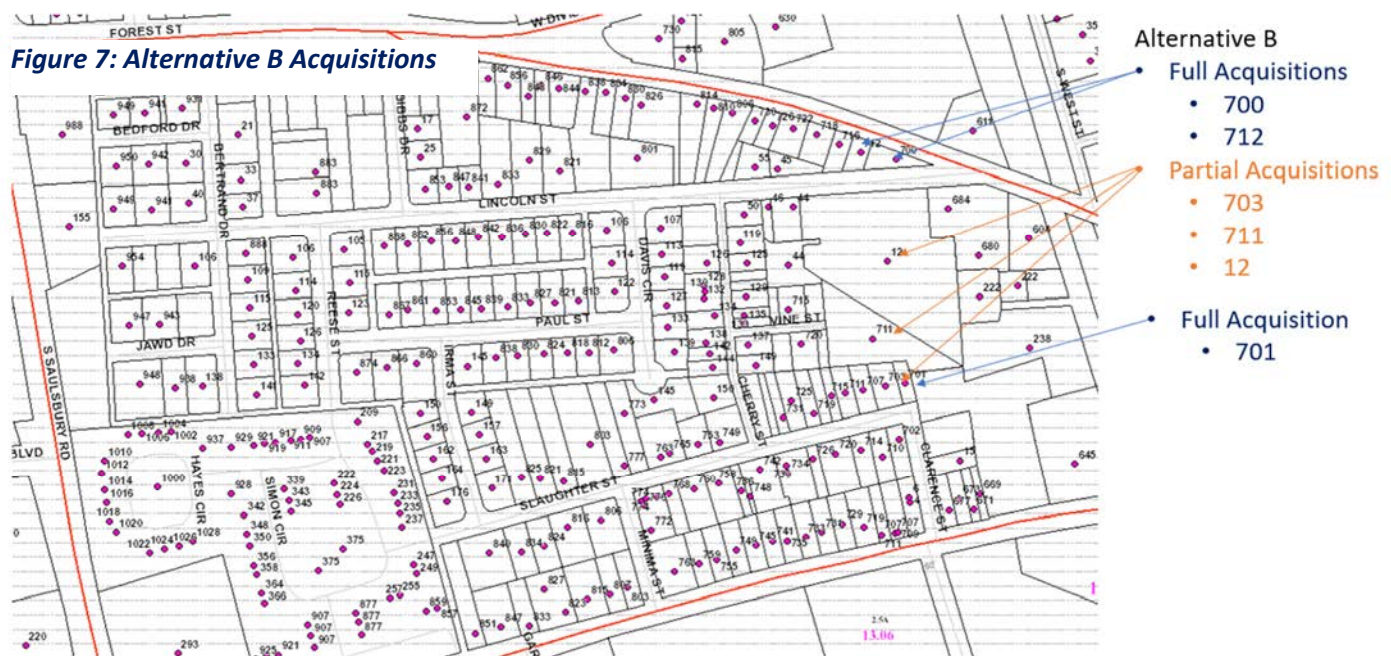
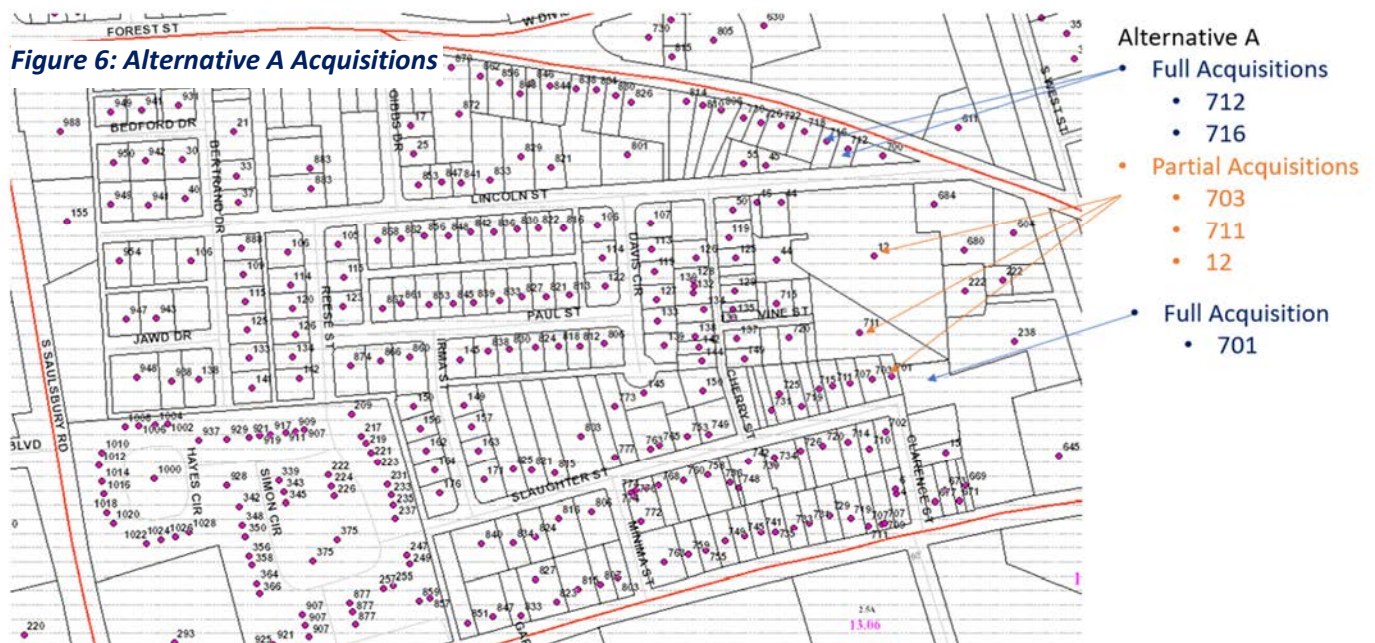


Figure 8 and **Figure 9** below depict Alternative A, and a close-up of the northern section of Alternative A respectively.

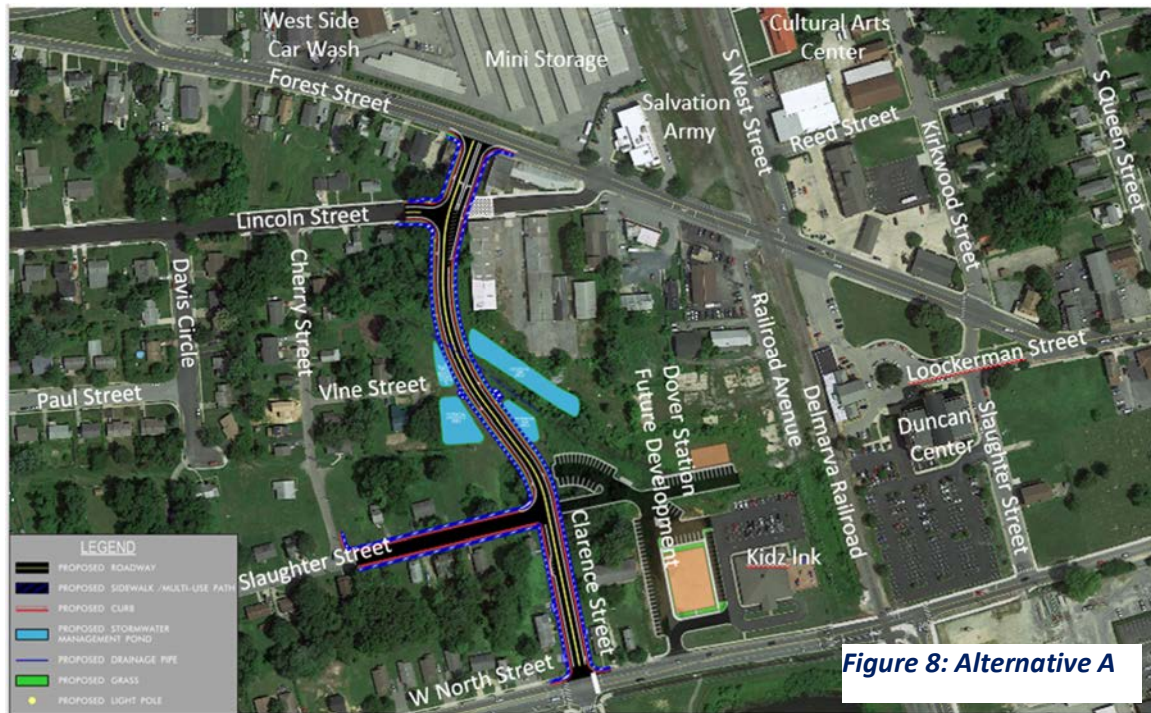
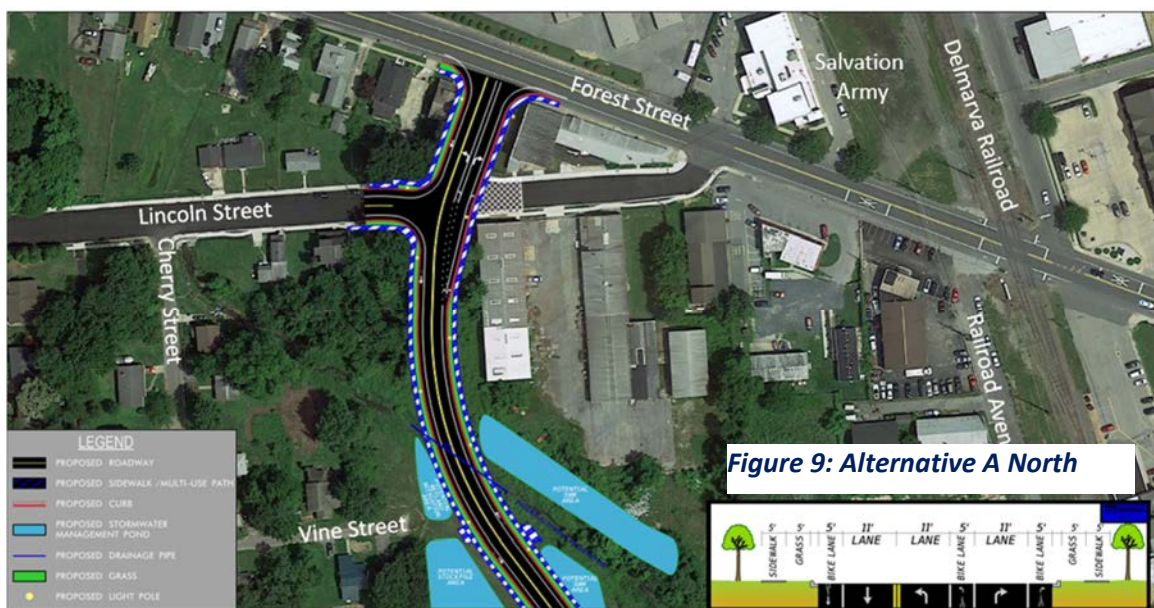
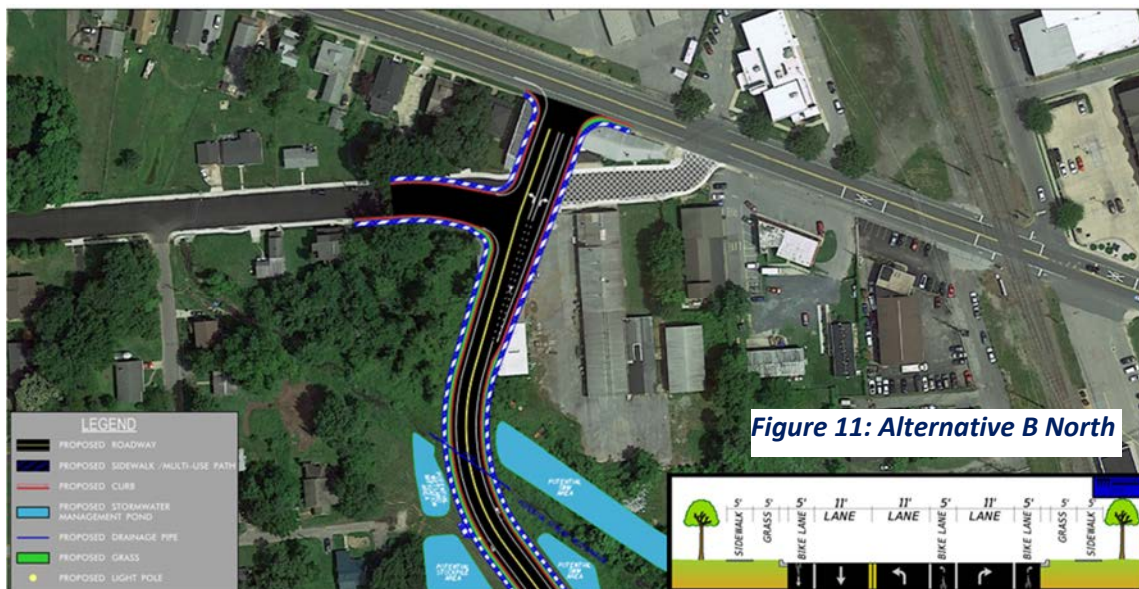
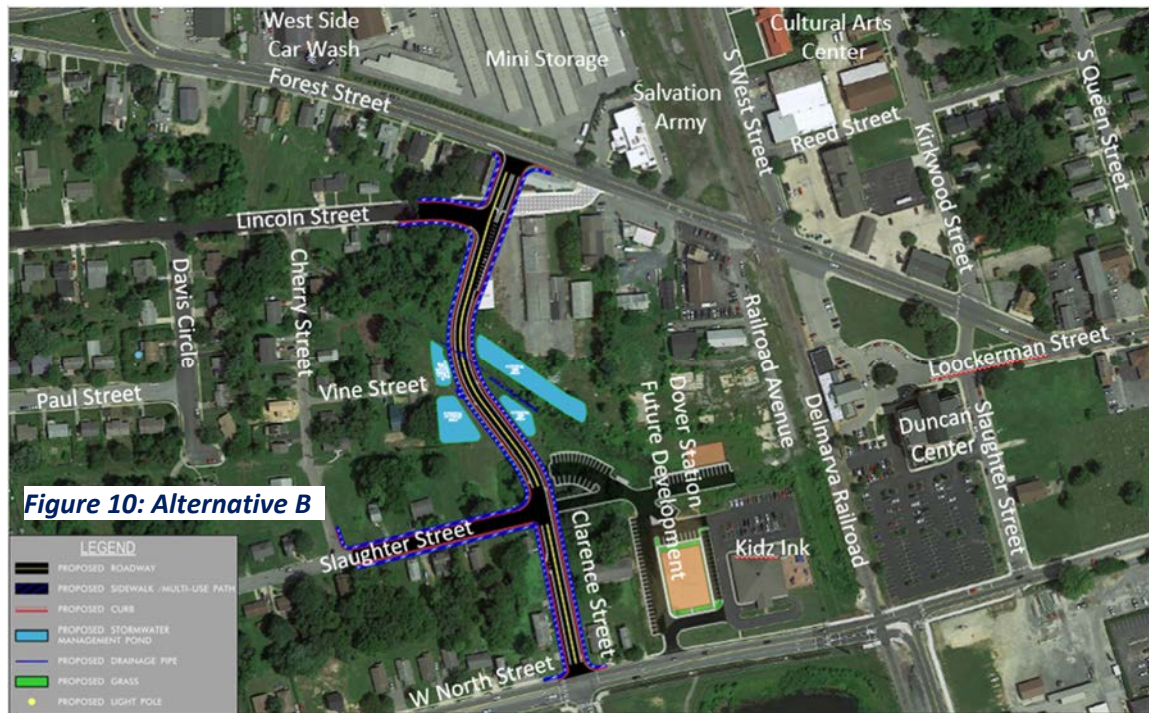


Figure 10 and **Figure 11** below depict Alternative B, and a close-up of the northern section of Alternative B respectively.





Parking in the study area, particularly along Clarence Street, was also an area of concern identified by several area residents at Public Workshop 1. To address those concerns, two parking options were developed, an off-street parking option and an on-street parking option. Both parking options are feasible with both Alternatives A and B.

The Off-Street Parking Option would consist of the following:

- Two 11-foot travel lanes – one in each direction
- Two five-foot bicycle lanes – one in each direction
- Curb
- Five-foot grass buffer
- Five-foot sidewalk in both directions
- No On-Street Parking on Clarence Street
- Off-street parking would be increased by the addition of new off-street parking on the west side of Clarence Street between W. North Street and Slaughter Street
- Off-Street spaces would approximately be doubled in this area



Figure 12: Off-Street Parking

The On-Street Parking Option would consist of the following:

- Two 11-foot travel lanes – one in each direction
- Ten-foot multi-use path on both sides of the road
- Seven-foot parking on west side of Clarence Street
- Curb
- At the intersection of Clarence Street and Slaughter Street the sidewalk would turn into a multi-use path with this option
- Parking would be maintained on Clarence Street between W. North Street and Slaughter Street with this option but would not increase

Figure 12 and Figure 13 depict the Off-Road and On-Road parking Options respectively.



Cost Estimates

Alternative A, Off-Street Parking Option

Preliminary Engineering	\$1,092,530.00
Right-of-Way	\$1,000,000.00
Construction	\$3,605,523.53
Total Cost	\$5,698,053.53

Alternative A, On-Street Parking Option

Preliminary Engineering	\$1,103,550.00
Right-of-Way	\$1,000,000.00
Construction	\$3,637,001.25
Total Cost	\$5,740,551.25

Alternative B, Off-Street Parking Option

Preliminary Engineering	\$1,045,330.00
Right-of-Way	\$1,300,000.00
Construction	\$3,470,656.81
Total Cost	\$5,815,986.81

Alternative B, On-Street Parking Option

Preliminary Engineering	\$1,056,520.00
Right-of-Way	\$1,300,000.00
Construction	\$3,502,631.14
Total Cost	\$5,859,151.14

See Appendix C for complete cost estimate information.

Recommendations

Alternatives A and B are very similar. Both alternatives meet the project purpose and needs statement and are both are feasible and constructable. Alternative A would tie-in to Forest Street approximately 100 feet west of where Alternative B would tie-in. While minor, this does provide more distance to the existing intersection with S. West Street which may improve vehicle stacking lengths and safety. Both alternatives require both full and partial property acquisitions. Both alternatives will allow traffic to connect between the new Eden Hill Subdivision and Forest Street without utilizing the already burdened roadways in the adjacent area including N. and S. West Street and Saulsbury and S. Saulsbury Road. In addition, it is recommended that the undeveloped area in the center of the proposed roadway be utilized for stormwater management and drainage facilities. These facilities should be over designed to hold larger storms so that a managed release can assist and work with the other recommendations for the downstream outfalls. This will enable the project to move forward without affecting or worsening the current flood concerns and conditions. Costs are also comparable across the four options. As a result, it is recommended that both Alternatives A and B and both the Off-Street and On-Street Parking Options are advanced forward to the design phase for further detailed study.

Appendix A: Public Workshop 1 Summary Report

Banning/Clarence Street Study Community Workshop #1 April 28, 2021 Workshop Summary Report

The first Public Workshop for the Banning/Clarence Street Study was held on April 28, 2021 via Zoom. The Workshop included a live presentation and was followed by a Question-and-Answer period.

The following provides a summary of the Workshop and corresponding feedback.

The Workshop hosted 12 attendees. The Workshop presentation included a review of the Study Area, Project Purpose, Project History, Alternatives Previously Studied, Updated Conceptual Alternatives, and Next Steps of the study. The Presentation focused on the two Updated Conceptual Alternatives (A&B), both of which propose to improve and extend Clarence Street from its current terminus at Slaughter Street north to a new terminus with Forest Street. Under both alternatives, Lincoln Street would tie into the new, extended Clarence Street forming a “T” intersection with the remaining segment of Lincoln Street to the east serving only as local access. Alternative A would intersect with Forest Street approximately 100 feet west of where Alternative B would intersect with Forest Street. Typical Sections were provided for each alternative illustrating the anticipated lane, shoulder, and sidewalk widths.

Six Polling questions were asked throughout the presentation to gather information and to encourage participation from the attendees. The following information was gathered through the polls:

Banning/Clarence Street Study		
Community Workshop #1 April 28, 2021		
Poll Results		
	Answer	Tally
Do you live, work, or attend other services in the study area? (Select ALL that apply)		
	Live	4
	Attend Other Services	2
	Live, Attend Other Services	1
	None of the Above	1
Do you agree with the Purpose of this Study?		
	Unsure	2
What describes the group you most represent?		
	Area Resident	5
	Area Business	1
	Concerned Citizen	3
Do you support the improvements associated with Alternative A?		
	Yes	2
	No	1
	Unsure	6
Do you support the improvements associated with Alternative B?		
	Yes	2
	No	1
	Unsure	5
Do you have a preference between the two Alternatives?		
	Prefer Alternative A	1
	Prefer Alternative B	4
	Neither	3
	Unsure	2

Following the presentation, which included the six poll questions summarized above, a Question-and-Answer session was held. The following questions were asked:

1. How many attendees are there on this online forum?
2. What type of housing units will be built along forest St. ref the 600 units?
3. While it is clear of the benefits to the traffic from Eden Hill and the proposed Dover station, what benefits do the local residents reap, for example of Lincoln Park and the surrounding residential community?
4. How many people live in the affected project area? (I understand this may involve further research)
5. How will this project be funded?
6. Is DelDOT in agreement with the drawing as presented tonight?

7. Is the purchase of either the two residential or commercial properties included in the funding request for this proposed project?
8. Has neighborhood flooding been considered? According to the First Street Foundation's Flood Factor Tool, the Lincoln Street neighborhood is among the most vulnerable neighborhoods for flooding in Dover.
9. How is this impacting Vine St homes?
10. Thank you for holding this forum.
11. Is there any DelDOT opposition to the drawing?
12. Will the proposed study go beyond north street? Such as Slaughter Street and Irma Street?
13. Should we consider a broader study about Tar Ditch and its flooding impacts?
14. Is the City willing to request a study from the MPO on the Tar Ditch flooding?
15. Why is this area the target study?
16. Bring on the survey!
17. Yes, this was a GREAT conversation. Thank you!

The Q&A Session, as well as the entire presentation, was recorded and the responses to the questions above can be found on that recording which is posted on the Dover/Kent County MPO Website at doverkentmpo.delaware.gov.

At the completion of the Workshop and Q&A Session attendees were asked to complete a Post Workshop Survey. The results of that survey are as follows:

1. Do you agree with the purpose and goals of this study?

Reply: Unsure (1)

Reply: Yes (2)

2. Are there other improvements you would like evaluated as part of this study? (Please Explain)

Reply: There should be a broader study of Tar Ditch. If in fact transportation facilities are contributing to flooding in Downtown Dover, this should be addressed before this study moves forward.

Reply: The improvements (that I had in mind) were asked and addressed in the online forum (flooding, increased traffic, residential versus commercial property buyout preference, etc.).

3. **How well do you feel that tonight's Workshop provided you the opportunity to share your ideas, thoughts and concerns related to transportation and traffic circulation in the study area?**

Scale: 1 Strongly Disagree – 10 Strongly Agree

Reply: 8

Reply: 10

Reply: 9

4. **Are there any other thoughts, or topics regarding the content or format of tonight's Workshop you would like addressed?**

Reply: The City should have had a representative on to address questions about their role in the process.

Reply: None, you all did a STELLAR job of bringing the information to the forefront for the attending population.

Reply: Statistically, what level of participation would you consider sufficient as to the number of participants on the call (Meaning, what percentage of the total target proposed project area residents were in attendance?). What other means were attempted to reach those who may not have computer access, and are their input and comments being noted?

Reply: Was a more low-tech approach/option considered for the mostly elderly population of the target area to raise awareness for them?

5. **How was the video quality of the workshop?**

Scale: 1 Strongly Disagree – 10 Strongly Agree

Reply: 10

Reply: 10

Reply: 9

6. **How was the audio quality of the workshop?**

Scale: 1 Strongly Disagree – 10 Strongly Agree

Reply: 10

Reply: 10

Reply: 9

Appendix B: Public Workshop 2 Summary Report

Banning/Clarence Street Study Community Workshop #2 July 14, 2021 Workshop Summary Report

The second Public Workshop for the Banning/Clarence Street Study was held on July 14, 2021 via Zoom. The Workshop included a live presentation and was followed by a Question-and-Answer period.

The following provides a summary of the Workshop and corresponding feedback.

The Workshop hosted 18 attendees. The Workshop presentation included a review of the Study Area, Project Purpose, Revised Alternatives (Including parking options), Recent Flood Studies, and Next Steps of the study. Revisions to the two Conceptual Alternatives (A&B) including both off-street and on-street parking options were presented. Updated typical Sections were also provided for each alternative illustrating the anticipated lane, shoulder, and sidewalk widths. Additionally, recent flood studies in the Tar Ditch Drainage area were summarized and presented.

Five Polling questions were asked throughout the presentation to gather information and to encourage participation from the attendees. The following information was gathered through the polls:

Banning/Clarence Street Study		
Community Workshop #2		
14-Jul-21		
Poll Results		
Workshop Summary Report		
	Answer	Tally
Did you attend the First Workshop on April 28, 2021?		
	Yes	3
	No	9
What Study Area Road(s) do you use most often?		
	Clarence Street	2
	Banning Street	1
	W. North Street	6
	Forest Street	5
	Slaughter Street	1
Do you agree with the Purpose of this Study?		
	Yes	3
	No	0
	Unsure	7
Do you have a preference between the two Alternatives?		
	Prefer Alternative A	2
	Prefer Alternative B	4
	Support Both	0
	Neither	0
	Unsure	5
Which Parking Option do you Prefer?		
	Prefer Off-Street Option	3
	Prefer On-Street Option	2
	Support Both	2
	Neither	0
	Unsure	3

Following the presentation, which included the five poll questions summarized above, a Question-and-Answer session was held. The following questions were asked:

1. What is the purpose of the study?
2. Will Vine Street be tied in? I believe heavier out traffic can be expected on Vine Street.

3. Will heavier foot traffic be expected on Cherry Street because of this project?
4. When is this supposed to be decided? And is it definitely A or B happening?
5. What is driving the need for this study?
6. Excellent presentation. You are very granular.
7. Was there a cultural study done?
8. What is the benefit for the residents of Lincoln Heights?
9. Are more developments anticipated with the direct connection street? More medical complexes etc. by tearing down run down residential homes?
10. Where is S. Greenberry Lane and where is the 600 units of housing proposed?
11. Vine Street is way too narrow and should be addressed.
12. Will there be a light at Forest Street? It's already quite busy.
13. Will foot traffic on Vine Street increase because of this project?
14. Regarding the 600 proposed housing units: What type of housing units are they?
And where are they located?
15. Is the traffic on Salisbury Road rated an F or whatever is the worst rate now in a traffic study?
16. What is the Dover Station?
17. Can you put the email address for comments in the chat?
18. Thank you for this workshop.
19. How will you pay property owners?

The Q&A Session, as well as the entire presentation, was recorded and the responses to the questions above can be found on that recording which is posted on the Dover/Kent County MPO Website at doverkentmpo.delaware.gov.



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Appendix C: Cost Estimates

Banning Street Alternative A, Off-Street Parking

TBD

Conceptual Cost Estimate 9/29/2021

ITEM #	TITLE	UNIT	ESTIMATE COST	UNIT QUANTITY	TOTAL
201000	CLEARING AND GRUBBING	LS	\$10,000.00	1.00	\$10,000.00
202000	EXCAVATION AND EMBANKMENT	CY	\$26.00	2986.00	\$77,636.00
202003	UNDERCUT EXCAVATION	CY	\$39.00	538.00	\$20,982.00
204000	TEST HOLE	CY	\$200.00	6.00	\$1,200.00
209001	BORROW, TYPE A	CY	\$22.00	2166.00	\$47,652.00
209002	BORROW, TYPE B	CY	\$28.00	235.00	\$6,580.00
301001	GABC	CY	\$72.00	1990.00	\$143,280.00
302002	DELAWARE NO. 3 STONE	TON	\$78.00	54.00	\$4,212.00
401005	SUPERPAVE TYPE C, PG 64-22 (CARBONATE STONE)	TON	\$100.00	799.00	\$79,900.00
401014	SUPERPAVE TYPE B, PG 64-22	TON	\$95.00	1182.00	\$112,290.00
401021	SUPERPAVE TYPE BCBC, PG 64-22	TON	\$90.00	1945.00	\$175,050.00
601033	REINFORCED CONCRETE PIPE, 18", CLASS IV	LF	\$85.00	3672.00	\$312,120.00
601039	REINFORCED CONCRETE PIPE, 36", CLASS IV	LF	\$125.00	80.00	\$10,000.00
602005	DRAINAGE INLET, 48" X 48"	EACH	\$4,000.00	13.00	\$52,000.00
701023	I.PCC CURB AND GUTTER, TYPE 3-8	LF	\$36.00	3536.00	\$127,296.00
705001	PCC SIDEWALK, 4"	SF	\$14.00	15875.00	\$222,250.00
705002	PCC SIDEWALK, 6"	SF	\$16.00	1765.00	\$28,240.00
705005	PCC SIDEWALK, 8"	SF	\$18.00	380.00	\$6,840.00
705007	DETECTABLE WARNING SURFACE	SF	\$38.00	95.00	\$3,610.00
762001	SAW CUTTING, CONCRETE, FULL DEPTH	LF	\$15.00	47.00	\$705.00
817002	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD-THERMOPLASTIC	SF	\$12.50	1476.00	\$18,450.00
817013	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	LF	\$1.50	5382.00	\$8,073.00
817015	PREFORMED RETROREFLECTIVE THERMOPLASTIC MARKINGS, BIKE SYMBOL	EACH	\$475.00	11.00	\$5,225.00
846001	PROVIDE AND INSTALL LOOP WIRE 1-CONDUCTOR #14 AWG ENCASED IN 1/4" FLEXIBLE TUBING IN A LOOP SAWCUT	LF	\$25.00	7341.00	\$183,525.00
846002	PROVIDE AND INSTALL A 1-1/2 INCH GALVANIZED RIGID METAL CONDUIT DETECTOR SLEEVE WITH LOOP WIRE	LF	\$30.00	15417.00	\$462,510.00
847002	INSTALL OR REMOVAL OF BASE OR PAD MOUNTED CABINET	EACH	\$500.00	1.00	\$500.00
847003	LIGHTING CONTROL CABINET - 200 A, 277/480V	EACH	\$15,000.00	1.00	\$15,000.00
851511	DECORATIVE LIGHT STANDARD AND FIXTURE, LED, SINGLE	EACH	\$4,000.00	14.00	\$56,000.00
905001	SILT FENCE	LF	\$3.50	3541.00	\$12,393.50
905004	INLET SEDIMENT CONTROL, DRAINAGE INLET	EACH	\$150.00	13.00	\$1,950.00
908004	TOPSOIL, 6" DEPTH	SY	\$8.50	5198.00	\$44,183.00
908010	TOPSOILING, 6" DEPTH	SY	\$4.50	3849.00	\$17,320.50
908014	PERMANENT GRASS SEEDING, DRY GROUND	SY	\$1.00	5198.00	\$5,198.00
908015	PERMANENT GRASS SEEDING, STORMWATER	SY	\$1.50	1722.00	\$2,583.00
908017	TEMPORARY GRASS SEEDING	SY	\$0.75	16374.00	\$12,280.50
908023	STABILIZED CONSTRUCTION ENTRANCE	SY	\$50.00	239.00	\$11,950.00
908024	STABILIZED CONSTRUCTION ENTRANCE, TOPDRESSING	TON	\$78.00	18.00	\$1,404.00
910008	STORMWATER MANAGEMENT POND	CY	\$25.00	1722.00	\$43,050.00
	Subtotal				\$2,343,438.50
763000	Initial Expense (5%)	L.S.	\$117,171.93	1	\$117,171.93
763501	Construction Engineering (2.5%)	L.S.	\$58,585.96	1	\$58,585.96
	MOT	L.S.	\$150,000.00	1	\$150,000.00
	TOTAL BASE FOR PROJECT				\$2,669,196.39
	CONSTRUCTION CONTINGENCY	10%	\$266,919.64	1	\$266,919.64
	TRAFFIC (FROM TRAFFIC STATEMENT)	L.S.	\$100,000.00	1	\$100,000.00
	UTILITY	L.S.	\$50,000.00	1	\$50,000.00
	PLANTING	L.S.	\$20,000.00	1	\$20,000.00
	QA/QC for HMA	L.S.	\$1,374.10	1	\$1,374.10
	Asphalt Cost Adj	L.S.	\$14,033.40	1	\$14,033.40
	TOTAL CONSTRUCTION COST				\$3,121,523.53
	PROJECT DEVELOPMENT	L.S.	\$468,230.00	1	\$468,230.00
	PRELIMINARY ENGINEERING (DESIGN)	L.S.	\$624,300.00	1	\$624,300.00
	CONSTRUCTION ENGINEERING - (INSPECTION, CE, ETC)	L.S.	\$484,000.00	1	\$484,000.00
	ROW COSTS	L.S.	\$1,000,000.00	1	\$1,000,000.00
	TOTAL BASE CONSTRUCTION COST				\$5,698,053.53

Banning Street Alternative A, On-Street Parking

TBD

Conceptual Cost Estimate 9/23/2021

ITEM #	TITLE	UNIT	ESTIMATE COST	UNIT QUANTITY	TOTAL
201000	CLEARING AND GRUBBING	LS	\$10,000.00	1.00	\$10,000.00
202000	EXCAVATION AND EMBANKMENT	CY	\$26.00	2880.00	\$74,880.00
202003	UNDERCUT EXCAVATION	CY	\$39.00	526.00	\$20,514.00
204000	TEST HOLE	CY	\$200.00	6.00	\$1,200.00
209001	BORROW, TYPE A	CY	\$22.00	2046.00	\$45,012.00
209002	BORROW, TYPE B	CY	\$28.00	235.00	\$6,580.00
301001	GABC	CY	\$72.00	1974.00	\$142,128.00
302002	DELAWARE NO. 3 STONE	TON	\$78.00	54.00	\$4,212.00
401005	SUPERPAVE TYPE C, PG 64-22 (CARBONATE STONE)	TON	\$100.00	768.00	\$76,800.00
401014	SUPERPAVE TYPE B, PG 64-22	TON	\$95.00	1143.00	\$108,585.00
401021	SUPERPAVE TYPE BCBC, PG 64-22	TON	\$90.00	1880.00	\$169,200.00
601033	REINFORCED CONCRETE PIPE, 18", CLASS IV	LF	\$85.00	3637.00	\$309,145.00
601039	REINFORCED CONCRETE PIPE, 36", CLASS IV	LF	\$125.00	80.00	\$10,000.00
602005	DRAINAGE INLET, 48" X 48"	EACH	\$4,000.00	13.00	\$52,000.00
701023	I.PCC CURB AND GUTTER, TYPE 3-8	LF	\$36.00	3501.00	\$126,036.00
705001	PCC SIDEWALK, 4"	SF	\$14.00	20061.00	\$280,854.00
705002	PCC SIDEWALK, 6"	SF	\$16.00	1572.00	\$25,152.00
705005	PCC SIDEWALK, 8"	SF	\$18.00	380.00	\$6,840.00
705007	DETECTABLE WARNING SURFACE	SF	\$38.00	95.00	\$3,610.00
762001	SAW CUTTING, CONCRETE, FULL DEPTH	LF	\$15.00	47.00	\$705.00
817002	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD-THERMOPLASTIC	SF	\$12.50	1481.00	\$18,512.50
817013	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	LF	\$1.50	5101.00	\$7,651.50
817015	PREFORMED RETROREFLECTIVE THERMOPLASTIC MARKINGS, BIKE SYMBOL	EACH	\$475.00	9.00	\$4,275.00
846001	PROVIDE AND INSTALL LOOP WIRE 1-CONDUCTOR #14 AWG ENCASED IN 1/4" FLEXIBLE TUBING IN A LOOP SAWCUT	LF	\$25.00	7370.00	\$184,250.00
846002	PROVIDE AND INSTALL A 1-1/2 INCH GALVANIZED RIGID METAL CONDUIT DETECTOR SLEEVE WITH LOOP WIRE	LF	\$30.00	15477.00	\$464,310.00
847002	INSTALL OR REMOVAL OF BASE OR PAD MOUNTED CABINET	EACH	\$500.00	1.00	\$500.00
847003	LIGHTING CONTROL CABINET - 200 A, 277/480V	EACH	\$15,000.00	1.00	\$15,000.00
851511	DECORATIVE LIGHT STANDARD AND FIXTURE, LED, SINGLE	EACH	\$4,000.00	14.00	\$56,000.00
905001	SILT FENCE	LF	\$3.50	3505.00	\$12,267.50
905004	INLET SEDIMENT CONTROL, DRAINAGE INLET	EACH	\$150.00	13.00	\$1,950.00
908004	TOPSOIL, 6" DEPTH	SY	\$8.50	4823.00	\$40,995.50
908010	TOPSOILING, 6" DEPTH	SY	\$4.50	3589.00	\$16,150.50
908014	PERMANENT GRASS SEEDING, DRY GROUND	SY	\$1.00	4823.00	\$4,823.00
908015	PERMANENT GRASS SEEDING, STORMWATER	SY	\$1.50	1722.00	\$2,583.00
908017	TEMPORARY GRASS SEEDING	SY	\$0.75	15193.00	\$11,394.75
908023	STABILIZED CONSTRUCTION ENTRANCE	SY	\$50.00	239.00	\$11,950.00
908024	STABILIZED CONSTRUCTION ENTRANCE, TOPDRESSING	TON	\$78.00	18.00	\$1,404.00
910008	STORMWATER MANAGEMENT POND	CY	\$25.00	1722.00	\$43,050.00
	Subtotal				\$2,370,520.25
763000	Initial Expense (5%)	L.S.	\$118,526.01	1	\$118,526.01
763501	Construction Engineering (2.5%)	L.S.	\$59,263.01	1	\$59,263.01
	MOT	L.S.	\$150,000.00	1	\$150,000.00
	TOTAL BASE FOR PROJECT				\$2,698,309.27
	CONSTRUCTION CONTINGENCY	10%	\$269,830.93	1	\$269,830.93
	TRAFFIC (FROM TRAFFIC STATEMENT)	L.S.	\$100,000.00	1	\$100,000.00
	UTILITY	L.S.	\$50,000.00	1	\$50,000.00
	PLANTING	L.S.	\$20,000.00	1	\$20,000.00
	QA/QC for HMA	L.S.	\$1,326.85	1	\$1,326.85
	Asphalt Cost Adj	L.S.	\$13,534.20	1	\$13,534.20
	TOTAL CONSTRUCTION COST				\$3,153,001.25
	PROJECT DEVELOPMENT	L.S.	\$472,950.00	1	\$472,950.00
	PRELIMINARY ENGINEERING (DESIGN)	L.S.	\$630,600.00	1	\$630,600.00
	CONSTRUCTION ENGINEERING - (INSPECTION, CE, ETC)	L.S.	\$484,000.00	1	\$484,000.00
	ROW COSTS	L.S.	\$1,000,000.00	1	\$1,000,000.00
	TOTAL BASE CONSTRUCTION COST				\$5,740,551.25

Banning Street Alternative B, Off-Street Parking

TBD

Conceptual Cost Estimate 9/30/2021

ITEM #	TITLE	UNIT	ESTIMATE COST	UNIT QUANTITY	TOTAL
201000	CLEARING AND GRUBBING	LS	\$10,000.00	1.00	\$10,000.00
202000	EXCAVATION AND EMBANKMENT	CY	\$26.00	3408.00	\$88,608.00
202003	UNDERCUT EXCAVATION	CY	\$39.00	584.00	\$22,776.00
204000	TEST HOLE	CY	\$200.00	6.00	\$1,200.00
209001	BORROW, TYPE A	CY	\$22.00	2266.00	\$49,852.00
209002	BORROW, TYPE B	CY	\$28.00	237.00	\$6,636.00
301001	GABC	CY	\$72.00	2039.00	\$146,808.00
302002	DELAWARE NO. 3 STONE	TON	\$78.00	54.00	\$4,212.00
401005	SUPERPAVE TYPE C, PG 64-22 (CARBONATE STONE)	TON	\$100.00	825.00	\$82,500.00
401014	SUPERPAVE TYPE B, PG 64-22	TON	\$95.00	1221.00	\$115,995.00
401021	SUPERPAVE TYPE BCBC, PG 64-22	TON	\$90.00	2008.00	\$180,720.00
601033	REINFORCED CONCRETE PIPE, 18", CLASS IV	LF	\$85.00	3726.00	\$316,710.00
601039	REINFORCED CONCRETE PIPE, 36", CLASS IV	LF	\$125.00	80.00	\$10,000.00
602005	DRAINAGE INLET, 48" X 48"	EACH	\$4,000.00	14.00	\$56,000.00
701023	IPCC CURB AND GUTTER, TYPE 3-8	LF	\$36.00	3614.00	\$130,104.00
705001	PCC SIDEWALK, 4"	SF	\$14.00	16271.00	\$227,794.00
705002	PCC SIDEWALK, 6"	SF	\$16.00	1586.00	\$25,376.00
705005	PCC SIDEWALK, 8"	SF	\$18.00	135.00	\$2,430.00
705007	DETECTABLE WARNING SURFACE	SF	\$38.00	95.00	\$3,610.00
762001	SAW CUTTING, CONCRETE, FULL DEPTH	LF	\$15.00	47.00	\$705.00
817002	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD-THERMOPLASTIC	SF	\$12.50	1396.00	\$17,450.00
817013	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	LF	\$1.50	4710.00	\$7,065.00
817015	PREFORMED RETROREFLECTIVE THERMOPLASTIC MARKINGS, BIKE SYMBOL	EACH	\$475.00	7.00	\$3,325.00
846001	PROVIDE AND INSTALL LOOP WIRE 1-CONDUCTOR #14 AWG ENCASED IN 1/4" FLEXIBLE TUBING IN A LOOP SAWCUT	LF	\$25.00	6024.00	\$150,600.00
846002	PROVIDE AND INSTALL A 1-1/2 INCH GALVANIZED RIGID METAL CONDUIT DETECTOR SLEEVE WITH LOOP WIRE	LF	\$30.00	12651.00	\$379,530.00
847002	INSTALL OR REMOVAL OF BASE OR PAD MOUNTED CABINET	EACH	\$500.00	1.00	\$500.00
847003	LIGHTING CONTROL CABINET - 200 A, 277/480V	EACH	\$15,000.00	1.00	\$15,000.00
851511	DECORATIVE LIGHT STANDARD AND FIXTURE, LED, SINGLE	EACH	\$4,000.00	4.00	\$16,000.00
905001	SILT FENCE	LF	\$3.50	3613.00	\$12,645.50
905004	INLET SEDIMENT CONTROL, DRAINAGE INLET	EACH	\$150.00	14.00	\$2,100.00
908004	TOPSOIL, 6" DEPTH	SY	\$8.50	5463.00	\$46,435.50
908010	TOPSOILING, 6" DEPTH	SY	\$4.50	3803.00	\$17,113.50
908014	PERMANENT GRASS SEEDING, DRY GROUND	SY	\$1.00	5463.00	\$5,463.00
908015	PERMANENT GRASS SEEDING, STORMWATER	SY	\$1.50	1790.00	\$2,685.00
908017	TEMPORARY GRASS SEEDING	SY	\$0.75	17209.00	\$12,906.75
908023	STABILIZED CONSTRUCTION ENTRANCE	SY	\$50.00	239.00	\$11,950.00
908024	STABILIZED CONSTRUCTION ENTRANCE, TOPDRESSING	TON	\$78.00	18.00	\$1,404.00
910008	STORMWATER MANAGEMENT POND	CY	\$25.00	1790.00	\$44,750.00
	Subtotal				\$2,228,959.25
763000	Initial Expense (5%)	L.S.	\$111,447.96	1	\$111,447.96
763501	Construction Engineering (2.5%)	L.S.	\$55,723.98	1	\$55,723.98
	MOT	L.S.	\$150,000.00	1	\$150,000.00
	TOTAL BASE FOR PROJECT				\$2,546,131.19
	CONSTRUCTION CONTINGENCY	10%	\$254,613.12	1	\$254,613.12
	TRAFFIC (FROM TRAFFIC STATEMENT)	L.S.	\$100,000.00	1	\$100,000.00
	UTILITY	L.S.	\$50,000.00	1	\$50,000.00
	PLANTING	L.S.	\$20,000.00	1	\$20,000.00
	QA/QC for HMA	L.S.	\$1,418.90	1	\$1,418.90
	Asphalt Cost Adj	L.S.	\$14,493.60	1	\$14,493.60
	TOTAL CONSTRUCTION COST				\$2,986,656.81
	PROJECT DEVELOPMENT	L.S.	\$448,000.00	1	\$448,000.00
	PRELIMINARY ENGINEERING (DESIGN)	L.S.	\$597,330.00	1	\$597,330.00
	CONSTRUCTION ENGINEERING - (INSPECTION, CE, ETC)	L.S.	\$484,000.00	1	\$484,000.00
	ROW COSTS	L.S.	\$1,300,000.00	1	\$1,300,000.00
	TOTAL BASE CONSTRUCTION COST				\$5,815,986.81

Banning Street Alternative B, On-Street Parking

TBD

Conceptual Cost Estimate 9/28/2021

ITEM #	TITLE	UNIT	ESTIMATE COST	UNIT QUANTITY	TOTAL
201000	CLEARING AND GRUBBING	LS	\$10,000.00	1.00	\$10,000.00
202000	EXCAVATION AND EMBANKMENT	CY	\$26.00	3308.00	\$86,008.00
202003	UNDERCUT EXCAVATION	CY	\$39.00	573.00	\$22,347.00
204000	TEST HOLE	CY	\$200.00	6.00	\$1,200.00
209001	BORROW, TYPE A	CY	\$22.00	2168.00	\$47,696.00
209002	BORROW, TYPE B	CY	\$28.00	236.00	\$6,608.00
301001	GABC	CY	\$72.00	2020.00	\$145,440.00
302002	DELAWARE NO. 3 STONE	TON	\$78.00	54.00	\$4,212.00
401005	SUPERPAVE TYPE C, PG 64-22 (CARBONATE STONE)	TON	\$100.00	791.00	\$79,100.00
401014	SUPERPAVE TYPE B, PG 64-22	TON	\$95.00	1179.00	\$112,005.00
401021	SUPERPAVE TYPE BCBC, PG 64-22	TON	\$90.00	1938.00	\$174,420.00
601033	REINFORCED CONCRETE PIPE, 18", CLASS IV	LF	\$85.00	3714.00	\$315,690.00
601039	REINFORCED CONCRETE PIPE, 36", CLASS IV	LF	\$125.00	80.00	\$10,000.00
602005	DRAINAGE INLET, 48" X 48"	EACH	\$4,000.00	14.00	\$56,000.00
701023	I.PCC CURB AND GUTTER, TYPE 3-8	LF	\$36.00	3602.00	\$129,672.00
705001	PCC SIDEWALK, 4"	SF	\$14.00	20346.00	\$284,844.00
705002	PCC SIDEWALK, 6"	SF	\$16.00	1408.00	\$22,528.00
705005	PCC SIDEWALK, 8"	SF	\$18.00	135.00	\$2,430.00
705007	DETECTABLE WARNING SURFACE	SF	\$38.00	95.00	\$3,610.00
762001	SAW CUTTING, CONCRETE, FULL DEPTH	LF	\$15.00	47.00	\$705.00
817002	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND, ALKYD-THERMOPLASTIC	SF	\$12.50	1419.00	\$17,737.50
817013	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	LF	\$1.50	4598.00	\$6,897.00
817015	PREFORMED RETROREFLECTIVE THERMOPLASTIC MARKINGS, BIKE SYMBOL	EACH	\$475.00	6.00	\$2,850.00
846001	PROVIDE AND INSTALL LOOP WIRE 1-CONDUCTOR #14 AWG ENCASED IN 1/4" FLEXIBLE TUBING IN A LOOP SAWCUT	LF	\$25.00	6024.00	\$150,600.00
846002	PROVIDE AND INSTALL A 1-1/2 INCH GALVANIZED RIGID METAL CONDUIT DETECTOR SLEEVE WITH LOOP WIRE	LF	\$30.00	12651.00	\$379,530.00
847002	INSTALL OR REMOVAL OF BASE OR PAD MOUNTED CABINET	EACH	\$500.00	1.00	\$500.00
847003	LIGHTING CONTROL CABINET - 200 A, 277/480V	EACH	\$15,000.00	1.00	\$15,000.00
851511	DECORATIVE LIGHT STANDARD AND FIXTURE, LED, SINGLE	EACH	\$4,000.00	4.00	\$16,000.00
905001	SILT FENCE	LF	\$3.50	3569.00	\$12,491.50
905004	INLET SEDIMENT CONTROL, DRAINAGE INLET	EACH	\$150.00	14.00	\$2,100.00
908004	TOPSOIL, 6" DEPTH	SY	\$8.50	5166.00	\$43,911.00
908010	TOPSOILING, 6" DEPTH	SY	\$4.50	3602.00	\$16,209.00
908014	PERMANENT GRASS SEEDING, DRY GROUND	SY	\$1.00	5166.00	\$5,166.00
908015	PERMANENT GRASS SEEDING, STORMWATER	SY	\$1.50	1790.00	\$2,685.00
908017	TEMPORARY GRASS SEEDING	SY	\$0.75	16273.00	\$12,204.75
908023	STABILIZED CONSTRUCTION ENTRANCE	SY	\$50.00	239.00	\$11,950.00
908024	STABILIZED CONSTRUCTION ENTRANCE, TOPDRESSING	TON	\$78.00	18.00	\$1,404.00
910008	STORMWATER MANAGEMENT POND	CY	\$25.00	1790.00	\$44,750.00
	Subtotal				\$2,256,600.75
763000	Initial Expense (5%)	L.S.	\$112,825.04	1	\$112,825.04
763501	Construction Engineering (2.5%)	L.S.	\$56,412.52	1	\$56,412.52
	MOT	L.S.	\$150,000.00	1	\$150,000.00
	TOTAL BASE FOR PROJECT				\$2,575,738.31
	CONSTRUCTION CONTINGENCY	10%	\$257,573.83	1	\$257,573.83
	TRAFFIC (FROM TRAFFIC STATEMENT)	L.S.	\$100,000.00	1	\$100,000.00
	UTILITY	L.S.	\$50,000.00	1	\$50,000.00
	PLANTING	L.S.	\$20,000.00	1	\$20,000.00
	QA/QC for HMA	L.S.	\$1,367.80	1	\$1,367.80
	Asphalt Cost Adj	L.S.	\$13,951.20	1	\$13,951.20
	TOTAL CONSTRUCTION COST				\$3,018,631.14
	PROJECT DEVELOPMENT	L.S.	\$452,790.00	1	\$452,790.00
	PRELIMINARY ENGINEERING (DESIGN)	L.S.	\$603,730.00	1	\$603,730.00
	CONSTRUCTION ENGINEERING - (INSPECTION, CE, ETC)	L.S.	\$484,000.00	1	\$484,000.00
	ROW COSTS	L.S.	\$1,300,000.00	1	\$1,300,000.00
	TOTAL BASE CONSTRUCTION COST				\$5,859,151.14

Appendix D: PEL Checklist

Appendix D – PEL Checklist

Banning / Clarence Street Study

Federal Highway Administration - Planning and Environmental Linkages Questionnaire https://www.environment.fhwa.dot.gov/env_initiatives/pel/pel_quest.aspx			
	Topic	Section Reference	Comments
1.	Background:		
a.	Who is the sponsor of the PEL study? (state DOT, Local Agency, Other)	Executive Summary	Dover Kent County MPO
b.	What is the name of the PEL study document and other identifying project information (e.g. sub-account or STIP numbers, long-range plan, or transportation improvement program years)?	Title Page	Banning/Clarence Street PEL Study
c.	Who was included on the study team (Name and title of agency representatives, consultants, etc.)?	Title Page	DeIDOT, City of Dover, Century Engineering
d.	Provide a description of the existing transportation facility within the corridor, including project limits, modes, functional classification, number of lanes, shoulder width, access control and type of surrounding environment (urban vs. rural, residential vs. commercial, etc.)	Study Area	The Study is located on the west side of the City of Dover, DE. The study area is comprised of existing Banning and Clarence Streets, as well as the undeveloped area north of existing Clarence Street up to Forest Street to the north. S. Saulsbury Road forms the western boarder, the Delmarva Railroad Tracks form the eastern boarder, and open areas to the south near S. Greenberry Lane comprise the southern limits of the study area.
e.	Provide a brief chronology of the planning activities (PEL study) including the year(s) the studies were completed.	Project Purpose and Need, Public Involvement, Recommendations	Originally identified in City of Dover's <i>Strategic Development Plan</i> , DeIDOT Study – completed 2011 Workshop Summaries
f.	Are there recent, current, or near future planning studies or projects in the vicinity? What is the relationship of this project to those studies/projects?	N/A	N/A
2.	Methodology used:		
a.	What was the scope of the PEL study and the reason for completing it?	Purpose & Need	The purpose of the study is multifaceted, but in general strives to separate traffic based on its destination by providing an alternate connection to Forest Street. Several needs are met by extending Clarence Street to form a new connection with Forest Street including:

Banning / Clarence Street Study

Federal Highway Administration - Planning and Environmental Linkages Questionnaire https://www.environment.fhwa.dot.gov/env_initiatives/pel/pel_quest.aspx			
	Topic	Section Reference	Comments
			<ul style="list-style-type: none">• Reducing cut-through traffic in the local residential neighborhood• Providing a direct connection between the Eden hill Development and Forest Street• Providing a parallel roadway to Saulsbury Road• Directly connecting to the future extension of S. Greenberry Lane• Connect 600 proposed housing units to Forest Street without using North Street or POW-MIA Parkway
b.	Did you use NEPA-like language? Why or why not?	Existing Conditions, Environmental Resources& Project Description	Yes – There is the potential for state and federally regulated environmental and cultural resources to be present in the study area.
c.	What were the actual terms used and how did you define them? (Provide examples or list)	Existing Conditions, Environmental Resources& Project Description	Wetlands, Farmlands, Rare, Threatened and Endangered Species, Historic Architectural and Archeological Resources If any conceptual alternatives advance to design projects, if any federal funds are used and/or any federally protected resources are impacted, the requirements of the National Environmental Policy Act of 1969 (NEPA) will need to be satisfied.
d.	How do you see these terms being used in NEPA documents?	Existing Conditions, Environmental	These analyses are described in the report for reference in a future NEPA study

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	Topic	Section Reference	Comments
		Resources& Project Description	
e.	What were the key steps and coordination points in the PEL decision-making process? Who were the decision-makers and who else participated in those key steps? For example, for the corridor vision, the decision was made by state DOT and the local agency, with buy-in from FHWA, the USACE, and USFWS and other resource/regulatory agencies.	Public Involvement	Throughout the study, representatives from the Dover Kent MPO, DelDOT, City of Dover, provide existing conditions information, review the information prepared, comment on the material, and provide feedback which was processed through subsequent revisions. In addition, area residents, legislators and local business owners were also invited to review and provide feedback throughout the study.
f.	How should the PEL information be presented in NEPA?		The PEL Study may be attached
3.	Agency coordination:		
a.	Provide a synopsis of coordination with Federal, tribal, state and local environmental, regulatory and resource agencies. Describe their level of participation and how you coordinated with them.	Public Involvement, Recommendations	Throughout the course of this study, alternatives were developed to address the study's Purpose and Need and are based on feedback from the community and area businesses, as well as input from the Dover Kent County MPO, DelDOT, and the City of Dover.
b.	What transportation agencies (e.g. for adjacent jurisdictions) did you coordinate with or were involved during the PEL study?	Recommendations	DelDOT, Dover Kent County MPO, City of Dover
c.	What steps will need to be taken with each agency during NEPA scoping?	Existing Conditions, Environmental Resources& Project Description	Each recommendation that moves forward for design will continue with the NEPA process where this report leaves off. Each agency will be prepared to have a scoping meeting for the recommendation and begin the in-depth investigation into the permitting and coordination necessary for design.
4.	Public coordination:		
1.	Provide a synopsis of your coordination efforts with the public and stakeholders.	Public Involvement	Throughout the study, representatives from DelDOT, City of Dover, Dover Kent County MPO, and the

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	Topic	Section Reference	Comments
			community were invited to provide existing conditions information, review the information prepared, comment on the material, and provide feedback which was processed through subsequent revisions. In addition, legislators and local business owners were also invited to review and provide feedback throughout the study.
5.	Range of alternatives:		
a.	What types of alternatives were looked at?	Purpose and Need, Public Involvement, Recommendations	Throughout the course of this study, alternatives were developed to address the study's Purpose and Need and are based on feedback from the community and area businesses, as well as input from DelDOT, and the City of Dover. Two alignment options and two parking options were developed as part of this study. All four options are recommended to be carried forward for future detailed study.
b.	How did you select the screening criteria and screening process?	Purpose and Need, Existing Conditions, Environmental Resources& Project Description, Public Involvement, Recommendations	Recommendations that were deemed "feasible" were included in the report and will move forward for further study. To be deemed feasible the recommendations must meet the project needs , while being feasible for design and construction.
c.	For alternative(s) that were screened out, briefly summarize the reasons for eliminating the alternative(s). (During the initial screenings, this generally will focus on fatal flaws.)	Recommendations	Fatal flaws on recommendations that did not move forward included recommendations that did not meet the purpose and need statement, recommendations that were too costly or required a large amount of

Appendix D – PEL Checklist

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	Topic	Section Reference	Comments
			right-of-way versus the benefit that the recommendation provided. Also, if recommendations were not supported by multiple agencies and the community they were not chosen to move forward either.
d.	Which alternatives should be brought forward into NEPA and why?	Recommendations	As funding becomes available all of the recommendations in this Study should move forward for further study.
e.	Did the public, stakeholders, and agencies have an opportunity to comment during this process?	Public Involvement	Yes
f.	Were there unresolved issues with the public, stakeholders, and/or agencies?	Public Involvement	The community would like more detailed information as the recommendations move into further study particularly related to parking and flooding.
7.			
a.	What is the forecast year used in the PEL study?	N/A	N/A
b.	What method was used for forecasting traffic volumes?	N/A	N/A
c.	Are the planning assumptions and the corridor vision/purpose and need statement consistent with each other and with the long-range transportation plan? Are the assumptions still valid?	Project Need	Yes and Yes
d.	What were the future year policy and/or data assumptions used in the transportation planning process related to land use, economic development, transportation costs, and network expansion?	Cost Estimates	Costs were preparing using 2021 unit costs
8.	Environmental resources (wetlands, cultural, etc.) reviewed.		
a.	In the PEL study, at what level of detail was the resource reviewed and what was the method of review?	Existing Conditions, Environmental Resources& Project Description	Desktop Review and Field Verification
b.	Is this resource present in the area and what is the existing environmental condition for this resource?	Existing Conditions, Environmental Resources& Project Description	Based on desk top research and field verification, the study area is primarily a built environment and as such does not lend itself to supporting much in the way of natural resources.

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	Topic	Section Reference	Comments
			One small tract of deciduous forest does exist in the study area and the presence/absence of wetlands will need to be confirmed, as well as the presence/absence of any Rare, Threatened or Endangered Species. No active farmland appears to be present in the study area. The presence/absence of any historic architectural and/or archaeological resource in the study area will also need to be confirmed.
c.	What are the issues that need to be considered during NEPA, including potential resource impacts and potential mitigation requirements (if known)?	Existing Conditions, Environmental Resources& Project Description	Based on desk top research and field verification, the study area is primarily a built environment and as such does not lend itself to supporting much in the way of natural resources. One small tract of deciduous forest does exist in the study area and the presence/absence of wetlands will need to be confirmed, as well as the presence/absence of any Rare, Threatened or Endangered Species. No active farmland appears to be present in the study area. The presence/absence of any historic architectural and/or archaeological resource in the study area will also need to be confirmed.
d.	How will the planning data provided need to be supplemented during NEPA?	Existing Conditions, Environmental Resources& Project Description	If any conceptual alternatives advance to the design phase, and if any federal funds are used and/or any federally protected resources are impacted, the requirements of the National Environmental Policy Act of 1969 (NEPA) will need to be to be satisfied.

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	Topic	Section Reference	Comments
9.	List environmental resources you are aware of that were not reviewed in the PEL study and why. Indicate whether they will need to be reviewed in NEPA and explain why.	N/A	N/A
10.	Were cumulative impacts considered in the PEL study? If yes, provide the information or reference where the analysis can be found.	N/A	N/A
11.	Describe any mitigation strategies discussed at the planning level that should be analyzed during NEPA.	N/A	N/A
12.	What needs to be done during NEPA to make information from the PEL study available to the agencies and the public? Are there PEL study products which can be used or provided to agencies or the public during the NEPA scoping process?		The PEL Study will be available to agencies involved in the planning and design processes and will be posted on websites of the Dover Kent County MPO, City of Dover and DeIDOT.
13.	Are there any other issues a future project team should be aware of?	N/A	N/A