Maryland Department of the Environment

Antidegradation Review Report Form

Alternatives Analysis – Minimization Alternatives

Purpose

This form is designed to help applicants assemble a complete Tier II Review report. This form specifically addresses calculating Tier II resource impacts, and evaluating alternatives that minimize water quality degradation from unavoidable impacts to Tier II watersheds and streams. This analysis is applicable to all areas of the **whole and complete project** within a Tier II watershed.

The Department will use this information to determine whether or not the applicant evaluated all reasonable alternatives to minimize water quality degradation. MDE may provide additional comments, conditions, or requirements, during the course of the review.

Fill in all that apply:

1. **Project Name:** I-95 at Belvidere Road Interchange
2. **County ESC Plan Identifier:** _____
3. **Nontidal Wetlands & Waterways Construction Tracking Number: 20206**1 1 2 3
4. **General Permit Number:** 20-NT-0180 (AI: 168890)
5. **Other Application Type and Number:** MDE SSPRD: 20-SF-0102

Applicant Signature: _____ **Date Complete:** 6/28/22

Background

Code of Maryland Regulations (COMAR) 26.08.02.04-1 (G(3)) states that "If the Department determines that the alternatives that do not require direct discharge to a Tier II water body are not cost effective, the applicant shall: (a) Provide the Department with plans to configure or structure the discharge to minimize the use of the assimilative capacity of the water body".

To demonstrate that appropriate minimization practices have been considered and implemented, applicants must identify any minimization practices used when developing the project, calculate major Tier II resource impacts, consider alternatives for impacts, and adequately justify unavoidable impacts. Further water quality impact minimization such as mitigation or out-of-kind offsets may be required.

Additionally, applicants are required to coordinate with the County or appropriate approval authority when developing construction plans, and incorporate additional practices as indicated by the guidance provided in the *Construction Stormwater Antidegradation Checklist*. This checklist, as well as the other portions of the Tier II Review Report are required prior to receiving many permits and authorizations from MDE.

Instructions and Notes

1. Review all of the information in this document carefully. Prepare a report to address all of the analysis required by this document. Submit all Tier II analysis and documentation together.

2. Do not leave any response blank. Please mark "N/A" for any questions or sections that are not applicable until you reach the end of the document.

3. Provide sufficient supporting documentation for narratives.

4. The level of analysis necessary, and amount of documentation that may be needed to determine if impacts have been adequately addressed, is dependent upon project size, scope, and scale of relative impacts to Tier II resources. Please develop responses accordingly.

5. Reports/responses shall be submitted in electronic format, as well as paper. Full plans are not required unless requested over the course of the review.

6. Direct any questions regarding this form to Angel Valdez at angel.valdez@maryland.gov, or by phone at 410-537-3606.

Minimization Alternative Analysis Final Documentation Checklist

☑ Signature & Date MDE Tier II Alternatives Analysis – Minimization Alternative form (page 1)

☑ Resource Impact Analysis (**Complete the analysis for each Tier II watershed affected**)

- ☑ Tier II Stream Buffer Impacts
  - Impact Calculation
  - Impact Minimization
  - Impact Mitigation
  - Impact Justification
  - Stream Buffer Exhibit

  A memo is attached for additional Resource Impact Analysis details and justification.
- ☑ Forest Cover Impacts
  - Impact Calculation
  - Impact Minimization
  - Impact Mitigation
  - Impact Justification
  - Forest Cover Exhibit
- ☐ Impervious Cover N/A
  - Impact Calculation
  - Impact Minimization
  - Impact Mitigation
  - Impact Justification
  - Impervious Cover Exhibit
- ☑ Mitigation & Other Potential Requirements
  - Plans
  - Signature & Date (Page 8)

☐ Construction Stormwater Antidegradation Checklist To be completed by Design Builder

Tier II Resource Impacts

Sufficient riparian buffers, ample watershed forest cover, and lower levels of impervious cover are essential to maintaining high quality waters. This project may permanently reduce riparian buffers and forest cover, or increase impervious cover within Tier II watersheds leading to a decrease in water quality. Depending upon project specific impacts, MDE may require monitoring, additional BMPs, expanded buffers in Table 1, and other studies prior to approval. This analysis is applicable to all areas of the **whole and complete project** within a Tier II watershed.

MDE will use the following information to determine **permanent** impacts to Tier II watershed resources. Complete the analysis for each Tier II watershed the proposed project may impact.

A. Tier II Stream Buffers

1. Instructions:

- **a. If no stream buffer impacts are proposed (within 100' of stream), mark this section N/A and proceed to Section B, Forest Cover.**
- **b. Insert the Tier II watershed name at the top of each box.**
- **c. "Impacted" stream segments are those disrupted by road crossings, other infrastructure, construction (ex. sewer lines), or otherwise buried**
- **d. Calculate buffer averages for 2(f) below on a stream segment-by-segment basis.**
- **e. Explain in detail alternatives considered, and any actions taken**

A. Tier II Stream Buffers - - Tier II Watershed: Principio Creek 2 (02130609)

2. Calculation of Permanent Riparian Buffer Impacts to State Regulated Waters	**Linear Feet +/-**	
	LEFT Bank	**Right Bank**
a. Combined length of on-site stream segments:	4,641	4,640
b. Combined length of EXISTING, pre-development, impacted stream segments:	869	880
c. Combined length of PROPOSED, post-development, impacted stream segments:	1,096	1,078
d. Total post-development impacted stream segments 2(b) + 2(c)=	1,897*	1,890*
e. Total post-development unimpacted stream segments 2(a) - 2(d) =	2,744	2,750
f. Combined length of streams, post-development, with an average 100' buffer, based on the value in 2(e):	1,487	2,226
g. Potential Tier II Buffer Impacts 2(e) - 2(f) =	1,257	524

*68 linear feet of LB and RB not included here because of existing culvert removal in Waters L.
LEFT Bank: 869+1,096-68=1,897
RIGHT Bank: 880+1,078-68=1,890

A. Tier II Stream Buffers - - Tier II Watershed: Principio Creek 2 (02130609)

3. Buffer Impact Minimization:

Evaluate on-site alternatives for buffer impacts for segments identified in 2(g). Examples include minimizing ROW, narrowing paths, alternate routes for walkways, roads, crossings, etc. to avoid buffer impacts.

4. Buffer Impact Mitigation:

Mitigation or offsets can occur both on and off-site. On-site, the intent is to achieve a 100' average stream buffer width.

Per segment, locate areas where impacts to the 100' buffer are unavoidable. Include those impacts in the mitigation/offset alternatives analysis. Conditions under section D shall apply.

a) Evaluate on-site alternatives to identify areas where buffers could be expanded beyond the minimum 100' to offset areas of unavoidable buffer width constraints.
b) If there are no on-site areas, evaluate off-site areas, within the Tier II watershed, where buffers could be improved, expanded, or established.

5. Buffer Impact Justification:

If there are any remaining unavoidable impacts, provide narrative justification and supporting documentation for impacts. Reasons may include existing infrastructure, clearance necessary to comply with regulation, no alternative location for stormwater management, property boundary, etc.

6. Buffer Exhibit

Prepare a Tier II Buffer Exhibit for on-site streams. Dependent upon the number of segments, multiple sheets (8 ½" by 11") may be used. On an overview, label each segment (a, b, c…) and provide a tabular summary, per bank-segment (e.g., left bank of segment a), of average buffer width.

In addition to on-site streams, the exhibit shall display the following information:

- 100- foot riparian buffer. (symbolize with a line)
- Areas where the post-construction stream buffer are +/- 100 feet. (symbolize with shading, hatches, or dots, etc.)
- On-site areas where buffers could be maintained at a distance of greater than a 100' if there are unavoidable constraints in some locations. (symbolize with shading, hatches, or dots, etc.)

Table 1: Expanded Tier II Riparian Buffer

N/A

Adjusted Average Optimal Buffer Width Key (in Feet)				
	Slopes (%)			
Soils	0-5%	5-15%	15-25%	>25%
ab	100	130	160	190
c	120	150	180	210
d	140	170	200	230

B. Tier II Forest Cover

1. Instructions:

- **a. If there is no net forest cover loss within the impacted Tier II watershed, mark this section N/A and proceed to Section C, Impervious Cover.**
- **b. Insert the Tier II watershed name at the top of each box.**
- **c. "Potential Constraints" include forest loss due to ROW, property boundaries, regulatory requirements, etc.**
- **d. Explain in detail alternatives considered, and any actions taken**

B. Tier II Forest Cover - - Tier II Watershed: Principio Creek 2 (02130609)	
2. **Calculation of Permanent Forest Cover Impacts**	**Acres +/-**
a. Total on-site forest cover, EXISTING:	56.68
b. Total on-site forest cover, POST-PROJECT:	18.68
c. Total off-site reforestation or restoration, IN the Tier II Watershed listed above:	0.00
d. Permanent forest loss due to potential constraints:	38.00
e. Total forest cover retained in Tier II Watershed 2(b) + 2(c) =	18.68
f. Total forest cover ~~loss~~ change in Tier II Watershed 2(e) – 2(a) =	-38.00

B. Tier II Forest Cover - - Tier II Watershed: Principio Creek 2 (02130609)

3. Forest Cover Loss Minimization

If 2(d) is greater than 0, or if 2(f) is a negative value, evaluate on-site alternatives for forest cover impact minimization. Examples include minimizing ROW, alternate routes for roads, crossings, etc. to avoid forest cover impacts.

4. Forest Cover Loss Mitigation

To achieve no net negative impact as a result of the proposed activity, the applicant shall consider alternatives to mitigate impacts 'in-kind', for forest cover loss, to the maximum extent economically feasible. Provide additional information regarding the value in 2(c). Once those options are exhausted, applicants shall evaluate out-of-kind alternatives within the Tier II watershed that will help offset water quality impacts. These out-of-kind alternatives include impervious cover disconnection or retrofits, stream restoration, buffer enhancement, etc.

5. Forest Cover Loss Justification

If there are any remaining unavoidable impacts to forest cover, provide narrative justification and supporting documentation for impacts. Reasons may include existing infrastructure, clearance necessary to comply with regulation, no alternative location for stormwater management, property boundary, etc.

6. Forest Cover Exhibit

On an 8 ½" by 11" sheet(s), prepare an on-site Tier II Forest Cover Exhibit. Using varying symbology, show a basic site layout relative to 2(a), 2(b), and 2(d) above. Prepare a separate exhibit regarding any off-site reforestation, or out-of-kind mitigation opportunities in accordance with Section D.

C. Impervious Cover
1. Instructions: **a. If ESD is used to treat all new, on-site, post-construction stormwater, mark this section N/A and proceed to Section D, Mitigation and Other Potential Requirements.** **b. Insert the Tier II watershed name at the top of each box.** **c. Explain in detail alternatives considered, and any actions taken.**

C. Tier II Impervious Cover - - Tier II Watershed: Principio Creek 2 (02130609)	
2. Calculation of Impervious Cover Increase	**Acres +/-**
a. Total additional (new) impervious cover, POST-PROJECT:	N/A
b. Total additional (new) impervious cover treated with ESD practices, POST PROJECT:	N/A
c. Total impervious cover not treated with ESD practices, POST-PROJECT: *2(a) – 2(b) =*	N/A

C. Tier II Impervious Cover - - Tier II Watershed: Principio Creek 2 (02130609)
3. Impervious Cover Minimization
If 2(c) is greater than 0, evaluate on-site alternatives for impervious cover impact minimization by identifying additional areas where ESD stormwater management practices can be utilized.
4. Impervious Cover Offsets
Add the area-acres of remaining unavoidable impervious cover increases (not treated with ESD) to the total targeted for mitigation under Section B(4). Increases such as these can be mitigated with forest cover restoration/afforestation, or through off-site mitigation alternatives such as impervious cover disconnection or retrofits, stream restoration, buffer enhancement, etc.
5. Impervious Cover Justification
If there is any remaining unavoidable addition of impervious surface acreage (not treated with ESD) and which is not offset, provide narrative justification and supporting documentation for impacts. Reasons may include existing infrastructure, clearance necessary to comply with regulation, no alternative location for stormwater management, property boundary, etc.
6. Impervious Cover Exhibit
On an 8 ½" by 11" sheet(s), prepare an on-site Tier II Impervious Cover Exhibit. Using varying symbology, show a basic site layout relative to 2(a), 2(b), and 2(c) above. Prepare a separate exhibit regarding any off-site reforestation, or out-of-kind mitigation opportunities in accordance with Section D.

D. Tier II Mitigation and Other Potential Requirements

1. If mitigation is necessary:

- **a. In-kind mitigation shall occur at a target ratio of 1:1.**
- **b. In order to satisfy the requirements of the Antidegradation Review, an applicant must demonstrate that they have conducted a robust alternatives analysis, <u>including mitigation</u> as a means for additional minimization of unavoidable impact to Tier II resources.**
- **c. MDE strongly recommends pre-application meetings.**
- **d. Regardless of application status, prepare preliminary analysis, including:**
  - **i. Preliminary site search for potential properties**
  - **ii. Basic exploration of out-of-kind possibilities, such as restoration, impervious cover retrofit or removal, etc.**
- **e. Mitigation is required for unavoidable net forest cover loss.**
- **f. The greater the net loss, the higher the restoration target.**

D. Tier II Mitigation and Other Potential Requirements

2. Mitigation Plan Components

a. <u>Statement of unavoidable impacts to Tier II waters</u>. This is total loss calculated in Section A (2)h, Section A(2)i, Section B (2)f, and Section C (2)c. Identify values specifically associates with stream buffers, forest cover, and impervious cover. Tabular totals shall be broken according to resource type and Tier II watershed impacted. The accompanying narrative shall include a summary of why impacts are considered unavoidable.

b. <u>Preferred mitigation alternatives analysis within the impacted Tier II watershed</u>. The order of mitigation alternatives is as follows:
   i. In-kind, on-site
   ii. In-kind, off-site
   iii. Out-of-kind, on-site
   iv. Out-of-kind, off-site

c. <u>Mitigation site alternative analysis</u>. Establish site search criteria. All locations must be located within the affected Tier II watershed identified for each unavoidable impact calculated in 2(a). Tabular totals shall include the amount of mitigation/offset selected alternatives achieve. Include maps of each mitigation property.

d. <u>Protection Mechanism</u>. Explain the plan proposed to ensure that all areas identified for mitigation shall be protected in perpetuity. Permittees shall be required to provide documentation in the form of covenants, landowner agreements, deed details, etc. as well as financial assurances. This shall be provided no more than 60 days after completion.

e. <u>Site Description</u>. Provide site address, name of property if known, map and parcel number, and centroid coordinates in latitude/longitude. Include maps of each mitigation property. Maps shall include natural resources (i.e. existing forest cover, streams, wetlands, etc.), roads, railways, and any other important identifying features. Maps shall include natural resources (i.e. existing forest cover, streams, wetlands, etc.), roads, railways, and any other important identifying features.

f. <u>Planting plan</u>: Reforestation shall incorporate optimum vegetation selection guidance provided in the *State Forest Conservation Technical Manual, 3rd edition, 1997 by Maryland Department of Natural Resources*.

D. Tier II Mitigation and Other Potential Requirements
2. Mitigation Plan Components, Continued
g. Monitoring Reports. Properties shall be monitored for a minimum of five years to ensure site success. Reports shall provide visuals of establishment progress, as well as narrative descriptions. Include any issues encountered, overcome, and potential changes that may be necessary to meet objectives.

D. Tier II Mitigation and Other Potential Requirements
3. Other Potential Requirements
a. pH Monitoring and Corrective Action Plan. Often associated with in-stream grout activities. b. Compaction Management Plan. Often associated with linear activities, such as pipelines. c. Water Quality Monitoring and Corrective Action Plan. Associated with projects with in-stream impacts. d. Biological Monitoring. Project requirement for complex projects with direct or significant impacts. e. Hydraulic Analysis. Projects may include direct or significant near-stream disturbances, such as grading, vegetative removal, watershed boundary changes, etc. f. Other requirements. To address unique impacts specific to the activity or site. g. Social and Economic Justification. Depending upon the scope of impacts to Tier II resources and streams, applicants may be required to provide additional documentation to justify the permitting of an activity that will degrade Tier II streams, on an socio-economic basis.

Applicant Signature: _____ **Date:** 6/28/22

Provide a hardcopy responses to:

Maryland Department of the Environment
Environmental Assessment and Standards Program
Antidegradation Implementation Coordinator
ATTN: Angel D. Valdez
1800 Washington Blvd
Baltimore, Maryland 21230

Provide an electronic response, by CD to the address above, or a way to download the response from secure cloud-based site, email: to Angel Valdez at angel.valdez@maryland.gov.

MEMORANDUM

DATE: January 29, 2021; February 25, 2021; April 7, 2021; **Revised June 28, 2022**

TO: Angel Valdez

FROM: Jason Harris

SUBJECT: I-95 at Belvidere Road Interchange
Cecil County, Maryland
MDTA Contract No: KH 3024-0000
FAP No.: BDG-95-1(517)N

RE: Tier II Alternatives Analysis - Minimization Alternatives

1.0 INTRODUCTION

This minimization analysis details minimization practices that have been used during the design of the project. It also calculates major Tier II resource impacts, alternatives to those impacts, justifies unavoidable impacts, and details mitigation measures being taken to offset the unavoidable impacts.

This memo accompanies the MDE Antidegradation Review Report Form: Alternatives Analysis – Minimization Alternatives. This narrative along with the Alternatives Analysis - No Discharge Alternative form demonstrates the minimization practices that have been considered in designing the project.

1.1 Project Summary

Maryland Transportation Authority (MDTA) is proposing the I-95 at Belvidere Road Interchange Project (Contract No. KH-3024-0000) which consists of constructing a new interchange between I-95 and Belvidere Road at the current overpass (Figure 1). Improvements will include roadway widening, new ramps, new culverts and culvert extensions, utility relocations, and other construction work related to the new interchange. The entirety of the project site is located within the Principio Creek 2 Tier II Watershed.

2.0 TIER II STREAM BUFFER IMPACTS

The stream buffers were drawn by buffering each side of the delineated streams within the project's currently proposed Limits of Disturbance (LOD) by 100 feet. Based on coordination with the MDE Tier II Antidegradation Coordinator, the expanded Tier II riparian buffer does not apply.

2.1 Impact Calculation

The length of the streams within the LOD were calculated based on the delineated stream lines. Measurements were completed separately for the left bank and the right bank. Streams that are in culverts throughout the project area and will not be impacted by the project were not included. Streams that are in culverts and will be impacted by the project were included. Streams proposed for restoration were included but streams proposed for preservation were not. There are 4,641 linear feet of left banks of streams in the project area and 4,640 linear feet of right banks of streams in the project area.

Once the length of on-site stream segments was calculated, the lengths of currently impacted (existing, pre-development) stream segments were calculated separately for left and right banks. Stream segments were considered

currently impacted if they are in a culvert, in a concrete channel, or have a riprap substrate. The project site has 869 linear feet of currently impacted left stream banks and 880 linear feet of currently impacted right stream banks.

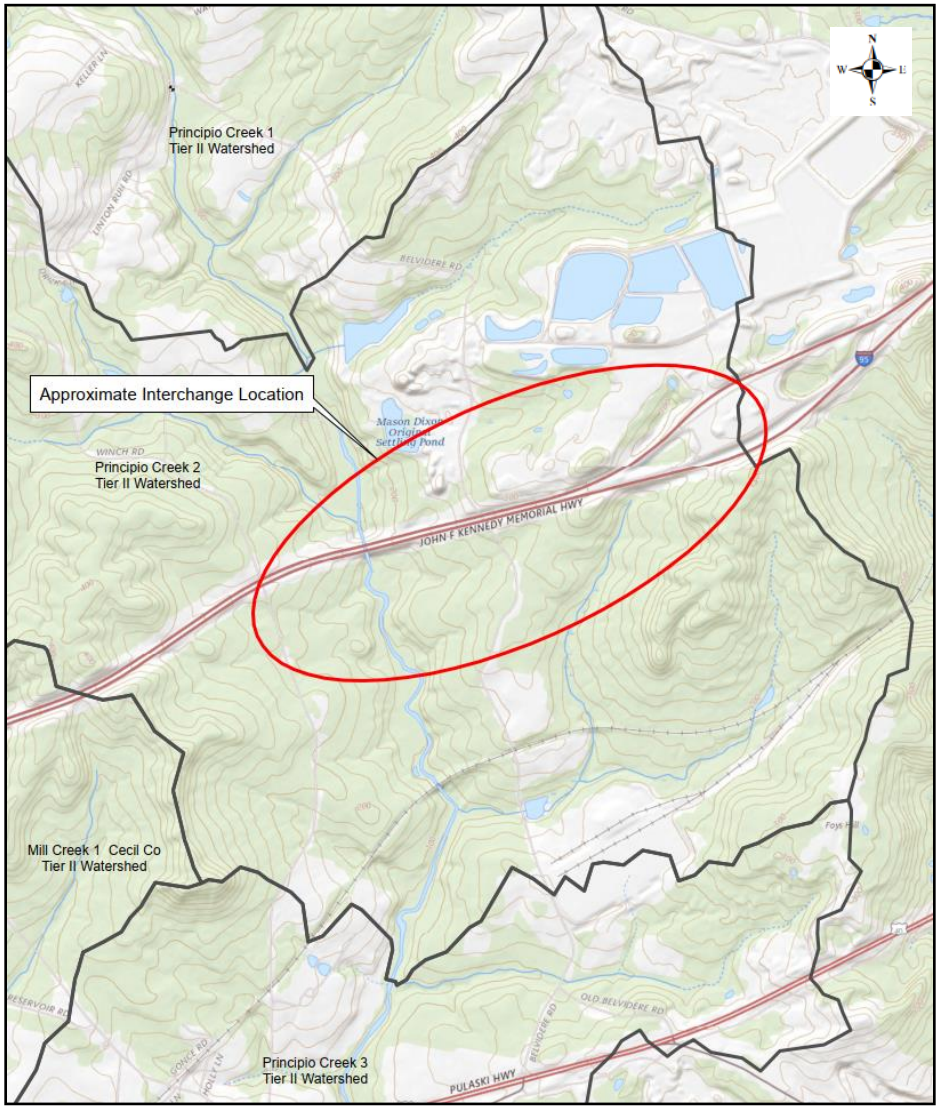


Figure 1: Location Map

Stream lengths of proposed, post-development impacted stream segments were then calculated. These stream segment lengths include permanent impacts due to proposed new culverts, culvert extensions, fill, and new riprap. However, one existing culvert is being removed as part of the project. The length of that culvert is not included in the post-development impacted stream segments, so the addition and subtraction in Section A.2. of the form will appear to be off by the 68 linear feet of the culvert. The project site has 1,096 linear feet of proposed impacted left stream banks and 1,078 linear feet of proposed impacted right stream banks. These numbers are based on the current (approximately 30%) design plans and may change as the design progresses.

The total post-development impacted stream segments consist of 1,897 linear feet of left banks and 1,890 linear feet of right banks. The total post-development unimpacted stream segments consist of 2,744 linear feet of left banks and 2,750 linear feet of right banks.

In addition to calculating impacts to streams themselves, impacts to stream buffers were calculated. The combined length of streams, post-development, with an average 100-foot buffer was then calculated based on the total un-impacted stream segments. The project site is proposed to have 1,487 linear feet of left stream banks and 2,226 linear feet of right stream banks with an average 100-foot buffer. This results in a total of 1,257 linear feet of left stream banks and 524 linear feet of right stream banks with potential Tier II Buffer Impacts. It is important to note that due to the location of the delineated streams relative to the existing roads (I/95 and Belvidere Road) and mining operations, there are numerous streams without an average 100-foot buffer in the existing (pre-development) condition. The calculations in this submittal do not consider whether the stream has a 100-foot buffer in the existing condition.

See *Appendix 1: Tier II Buffer Exhibit* for an overview of the on-site streams and calculation of permanent riparian buffer impacts to state regulated waters.

2.2 Impact Minimization

The following avoidance and minimization measures were enacted during preliminary design to reduce impacts to streams and their buffers:

- The original interchange configuration was modified to use existing Belvidere Road as much as possible, which minimized impacts to Waters O and its buffer.
- Maintenance of traffic will be designed so a temporary bridge to carry traffic on Belvidere Road over I-95 is not required, which also minimized impacts to Waters O and possibly Waters U along with their buffers.
- The entire in-fields of both loop ramps were originally included in the LOD for staging and stockpiling. The LOD has been reduced within the loop ramps, which reduces impacts to Waters O and the buffer of Waters O and L. Waters L is proposed for restoration, so it remains within the LOD (to allow the restoration to occur).
- The typical section of Belvidere Road has been reduced near Waters O and Wetlands 16, 17, 23, 24, 25, and 34 through removal of one northbound travel lane; reduction of shoulders from 8 feet to 5 feet; and reduction of the median from 6 feet to 4 feet. This change reduced impacts to Waters O and its buffer.
- The originally proposed culvert carrying Waters O under Belvidere Road has been shortened and realigned to further reduce impacts to Waters O and its buffer.
- Retaining walls have been provided:
    - along I-95 at Principio Creek to avoid impacts to Principio Creek (Waters A) and one of its tributaries (Waters J) as well as reduce stream buffer impacts;
    - along I-95 northbound lanes near the travel plaza to minimize impacts to Waters P, Q, and R and their buffers;
    - and along both sides of Belvidere Road to minimize impacts to Waters O and its buffer. The retaining walls along Belvidere Road will primarily be built from the road to minimize the need for equipment and impact within the stream and its buffer.

Impacts may be reduced further as the design progresses. The projects Request for Proposal (RFP) provides a financial incentive to minimize permanent impacts to wetlands, streams, and forests.

2.3 Impact Mitigation

Please see Section 5.

2.4 Impact Justification

Impacts that are proposed to the streams and their buffers are mainly from roadway widening, new ramps, stormwater management (SWM) facilities and outfalls, and stream stabilization and restoration. There are many wetlands and waterways along the existing roadways, which makes avoiding the resources difficult. The roadway typical section was selected based on roadway design standards and safety. The Design-Builder may find locations to reduce the roadway cross section to reduce impacts as the design progresses. The SWM concept design is based on MDE requirements. This plan may change as the design progresses. The number of wetlands and waterways in the project area make it difficult to find sites for SWM facilities, a problem that is compounded by the steep slopes that are found along the corridor. The facilities have been located to reduce resource impacts as much as possible at this stage of the design.

Waters A (Principio Creek) is outside the LOD and will not be impacted by the project. Its buffer will be impacted by the project in a few locations to provide stable conveyance of stormwater to the stream. The buffer impacts are not included in impact calculations because the stream itself is beyond the LOD. (See *Appendix 1, Sheet 4*.)

Waters F is outside the LOD and will not be impacted by the project. Its buffer will be impacted by the construction of a SWM facility. The buffer impacts are not included in impact calculations because the stream itself is beyond the LOD. (See *Appendix 1, Sheet 3*.)

Waters H and its buffer are proposed to be impacted for a SWM facility. (See *Appendix 1, Sheets 3 and 4*.)

Impacts to Waters J were avoided through including a retaining wall in the design along most of its length. The stream buffer will be impacted through installation of the retaining wall and a slight increase in pavement width in this area. The buffer impacts are not included in impact calculations because the stream itself is beyond the LOD. (See *Appendix 1, Sheets 3 and 4*.)

Waters L will be impacted by Belvidere Road widening, a new loop ramp, removal of an existing culvert and gravel road crossing, and proposed stream restoration efforts. Its buffer will be impacted by these activities and a SWM facility and outlet. The length of stream in the culvert to be removed is not counted as a post-development impacted stream segment. (See *Appendix 1, Sheets 5 and 6*.)

Waters N and its buffer will be impacted through grading required by roadway widening. The widening is necessary for lane separation to keep drivers from exiting Chesapeake House and trying to move across I-95 to exit at Belvidere Road. In addition, this grading will require moving overhead utility lines that are currently at the top/toe of the existing slope from I-95. Moving the lines will require forest clearing around Waters N. Waters N is currently in a culvert from approximately Station 2068+50 left until it is south of I-95. When it exits the culvert, it is called Waters Q. The buffer of Waters N on the south side of I-95 (adjacent to the culvert) will be impacted by minor roadway widening, SWM, and a retaining wall. The retaining wall is being installed to avoid impacts to Wetland 15 and Waters Q. (See *Appendix 1, Sheet 10*.)

Waters O will be impacted by a new loop ramp, widening of Belvidere Road (including a replacement culvert under the road), and a small portion may be impacted during the stream restoration that is proposed for Waters U. The buffer of Waters O will be impacted by SWM facilities, a SWM facility access road, a new loop ramp, widening of Belvidere Road, and stream restoration to Waters U. (See *Appendix 1, Sheets 7 through 9*.)

Waters P is proposed for stabilization to the right-of-way (ROW) line. This stabilization is not part of the waterway compensatory mitigation package for the wetland and waterway permit. Additionally, the buffer of Waterway P will be impacted by minor roadway widening, SWM, and a retaining wall. The retaining wall is being installed to avoid impacts to Wetland 15 and Waters Q. (See *Appendix 1, Sheet 11*.)

Waters Q (the downstream section of Waters N) will not be impacted by the project. (See *Appendix 1, Sheet 12*.)

Waters R will be impacted by measures to provide stable conveyance from SWM facilities to the stream. Its buffer will also be impacted by those activities, as well as minor roadway widening, SWM, and a retaining wall. The retaining wall is being installed to avoid impacts to Wetland 15 and Waters Q. (See *Appendix 1, Sheet 12.*)

Waters T is the downstream section of Waters X (after it exits the culvert under I-95). It will be impacted by stabilization methods at the culvert outlet. Its buffer (adjacent to the culvert) will be impacted by a SWM facility and stable conveyance of the facility outflow to Waters T as well as the stabilization methods at the culvert outlet. (See *Appendix 1, Sheet 6.*)

Waters U will be impacted by stable conveyance of stormwater from a SWM facility to the waterway. The stream is also proposed for stream restoration. The buffer will be impacted by SWM facilities and stable conveyance of stormwater from one SWM facility to the waterway as well as the stream restoration activities. The projects Request for Proposal (RFP) states that tree clearing for stream restoration must be kept to a minimum. Access will only be allowed along the right bank for most of the stream length. (See *Appendix 1, Sheet 9.*)

Waters V is proposed for stream restoration in conjunction with the Waters U restoration. The buffer will be impacted by the stream restoration activities. The projects Request for Proposal (RFP) states that tree clearing for stream restoration must be kept to a minimum. Access will only be allowed along the left bank. (See *Appendix 1, Sheet 9.*)

Waters W and its buffer will be impacted by the same grading as Waters N north of I-95. (See *Appendix 1, Sheet 10.*)

Waters X is the upstream section of Waters T. Waters X and its buffer are being impacted by a new ramp and SWM facility. The culvert this stream flows through under I-95 is also proposed for replacement. (See *Appendix 1, Sheet 6.*)

Waters Y and its buffer are proposed to be impacted for construction of a SWM facility. (See *Appendix 1, Sheet 3.*)

3.0 FOREST COVER IMPACTS

The total forest cover impact was determined by comparing the edge of existing forest to the project's currently proposed LOD. Please see *Appendix 2: Forest Cover Exhibit*. The impact numbers are based on the current (approximately 30%) design plans and may change as the design progresses.

3.1 Impact Calculation

The area of total on-site forest cover (existing forest) within the LOD was calculated to be 56.68 acres. For this calculation, at this point in the design, the entire LOD is anticipated to be cleared. However, the Design-Builder may minimize forest impacts in final design and is required to only selectively cut the existing forest adjacent to the Waters U and Waters V stream restoration. Approximately 18.68 acres of reforestation can be accomplished on-site within the interchange LOD (on-site forest cover, post-project). However, the Design-Builder may revise the LOD and the amount of on-site reforestation is subject to change.

Upon maximizing the on-site reforestation opportunities, a reforestation site search was conducted to identify tree planting opportunities within the Principio Creek 1, 2, and 3 Watersheds (MDE 8-digit 02130609). The site search located one property owner that was willing to consider off-site reforestation on their property. See *Appendix 3* for details of the site search. MDTA held an on-site meeting with the property owner and developed a draft plat and restrictive covenants for the landowner's review. However, after months of no response from the landowner, MDTA sent a letter on April 12, 2022 requesting a response by May 15, 2022 otherwise it would be assumed they are no longer interested (See *Appendix 3.*) A response has not been received; therefore, the potential off-site reforestation area has been removed from consideration.

In addition, WM reached out to DNR representatives and Cecil County Planning and Zoning reviewers to identify potential existing Forest Banks within the Principio Creek Tier II Watersheds. Cecil County Planning and Zoning confirmed that there are no existing forest mitigation banks within the Principio Creek 1, 2, or 3 Tier II Watersheds.

The total forest cover retained in the Tier II watershed is 18.68 acres. Conversely, the total permanent forest cover change in the Tier II watershed is -38 acres, see Table 1. The proposed forest cover loss within MDTA ROW is due to potential constraints.

3.2 Impact Minimization

The following avoidance and minimization measures were enacted during planning and preliminary design and reduced impacts to existing forest cover:

- The original interchange configuration was modified to use existing Belvidere Road as much as possible, which minimized impacts to the existing forest cover.
- Maintenance of traffic will be designed so a temporary bridge to carry traffic on Belvidere Road over I-95 is not required, which also minimized impacts to existing forest cover.
- The entire in-fields of both loop ramps were originally included in the LOD for staging and stockpiling; the LOD has been reduced within the loop ramps, which reduces impacts to existing forest cover. Waters L is proposed for restoration, so it remains within the LOD (to allow the restoration to occur).
- The typical section of Belvidere Road has been reduced near Waters O and Wetlands 16, 17, 23, 24, 25, and 34 through removal of one northbound travel lane; reduction of shoulders from 8 feet to 5 feet; and reduction of the median from 6 feet to 4 feet. This change reduced impacts to the existing forest cover.
- The originally proposed culvert carrying Waters O under Belvidere Road has been shortened and realigned to further reduce impacts to existing forest cover.
- Retaining Walls have been provided in the following locations which resulted in a reduction in impacts to existing forest cover:
    - along I-95 at Principio Creek to avoid impacts to Principio Creek (Waters A) and one of its tributaries (Waters J);
    - along I-95 northbound lanes near the travel plaza;
    - and along both sides of Belvidere Road to minimize impacts to Waters O and its buffer. The retaining walls along Belvidere Road will primarily be built from the road to minimize the need for equipment and impact within the stream, its buffer, and the existing forest cover.

Impacts may be reduced further as the design progresses. The projects Request for Proposal (RFP) provides a financial incentive to minimize permanent impacts to existing upland forest.

3.3 Impact Mitigation

Please see Section 5 for details.

3.4 Impact Justification

The unavoidable impacts to forest cover that remain after minimization are primarily due to roadway widening, new ramps, safety measures (such as clear zones, sight lines, and traffic barriers), stormwater management (SWM) facilities and outfalls, and stream stabilization and restoration. The majority of the areas adjacent to the existing roadways are forested, which makes avoiding impacts difficult. The roadway typical section was selected based on roadway design standards and safety. The Design-Builder may find locations to reduce impacts as the design progresses. The SWM concept design is based on MDE requirements. This plan may change as the design progresses. The lack of open land in the project area makes it difficult to find sites for SWM facilities that do not impact forest cover, a problem that is compounded by the steep slopes that are found along the corridor. The facilities have been located to reduce resource impacts as much as possible at this stage of the design. In addition, the existing infrastructure for the adjacent mining operation incudes a conveyor belt alignment that was taken into consideration when selecting the proposed roadway alignment. For details regarding the existing forest cover impacts see *Appendix 2*.

4.0 IMPERVIOUS COVER

Environmental Site Design is being used to treat all new impervious surface stormwater.

5.0 MITIGATION

The following is a summary of the proposed mitigation for impacts to Tier II Stream Buffers and existing forest cover within the Principio Creek 2 Tier II Watershed as a result of the I-95 at Belvidere Road Interchange project. Impacts that are proposed to the streams and their buffers are mainly from roadway widening, new ramps, stormwater management (SWM) facilities and outfalls, and stream stabilization and restoration. Due to the location of the many wetlands and waterways along the existing roadways, avoiding all resources is not feasible if the project is to meet the purpose and need. The Design-Builder may find locations to reduce the impacts as the design progresses. A summary of the total Tier II impacts for the currently proposed LOD is shown in Table 1.

Table 1: Summary of Tier II Impacts

I-95 at Belvidere Road Interchange		
Tier II Stream Buffer Impacts	Left Bank: 1,257 LF	Right Bank: 524 LF
Forest Cover Impacts	-38 Acres	
Impervious Cover	0 Acres	

To achieve no net negative impact as a result of the proposed activity, MDTA has proposed the following to mitigate Tier II Impacts, to the maximum extent economically feasible.

Table 2: Summary of Tier II Mitigation

I-95 at Belvidere Road Interchange				
Proposed Tier II Mitigation Type		**Mitigation Amount**	**Mitigation Location**	**Map Location**
In-kind, on-site	Reforestation	18.68 Acres	Principio Creek Tier II Watershed	Appendix 2
Out-of-kind, on-site	Stream Restoration	1,928 LF	Principio Creek Tier II Watershed	Appendix 4, Figure 1
Out-of-kind, on-site	Stream Buffer Preservation	14.87 Acres	Principio Creek Tier II Watershed	Appendix 4, Figure 1
Out-of-kind, on-site	Wetland Preservation	2.20 Acres	Principio Creek Tier II Watershed	Appendix 4, Figure 1
Out-of-kind, on-site	Wetland Recharge Protection	3.56 Acres	Principio Creek Tier II Watershed	Appendix 4, Figure 1
Out-of-kind, on-site	Stream Stabilization	181 LF	Principio Creek Tier II Watershed	Appendix 4, Figure 2

MDTA proposes 18.68 acres of on-site, in-kind Reforestation in the Principio Creek Tier II Watershed through reforestation within the project LOD. Please note that the amount of available in-kind, on-site reforestation is subject to change due to the Design-Builder's final design. MDTA then conducted a reforestation site search to identify tree planting opportunities within the Principio Creek 1, 2, and 3 Watersheds (*Appendix 3*). The site search resulted in no interested private property owners within the Tier II Watershed.

In addition to the proposed in-kind mitigation, MDTA also proposes out-of-kind mitigation alternatives within the Tier II watershed that will help offset water quality impacts. These on-site, out-of-kind alternatives include stream restoration, stream and stream buffer preservation, wetland preservation (including wetlands containing RTE plant species), wetland recharge protection area preservation, and stream channel stabilization (*Appendix 4*). The stream channel stabilization, approximately 181 linear feet, is proposed for Waters P downstream to the ROW line. This stabilization is not part of the waterway compensatory mitigation package for the wetland and waterway permit. For detailed information on the proposed mitigation listed as on-site, out-of-kind in this document please refer to

the I-95 at Belvidere Road Interchange Phase I Mitigation Plan submitted with the Joint Permit Application. The proposed mitigation amounts in Table 2 may be revised as the Design-Builder continues to avoid and minimize impacts to wetlands and waterways throughout the design and development of a Phase II Mitigation plan.

5.1 Protection Mechanism

MDTA will purchase the proposed mitigation sites via fee simple or purchase perpetual easements on the sites. A combination of these methods may be used, since there are numerous areas proposed for mitigation. The acquisition coordination is underway between MDTA and the current landowner. MDTA shall provide documentation in the form of protection mechanisms and financial assurances no more than 60 days after construction completion.

5.2 Monitoring Reports

Sites shall be monitored for a minimum of five years to ensure success. Reports shall provide visuals of establishment progress, as well as narrative descriptions. Issues encountered, overcome, and potential changes that may be necessary to meet objectives will also be included.

Post construction monitoring, adaptive management, and long-term maintenance of the mitigation sites are MDTA's responsibility, and MDTA will also be responsible for any remedial actions that may be necessary. On an annual basis MDTA reviews its need for funding and includes costs associated with monitoring, management, and remediation. The sites' monitoring, maintenance, and management will be included in this annual review. See *Appendix H* of the *I-95 at Belvidere Road Interchange Phase I Mitigation Plan* submitted with the Joint Permit Application for MDTA's letter of financial commitment to the project's mitigation.

5.3 Planting Plan

Reforestation shall incorporate vegetation selection guidance provided in the State Forest Conservation Technical Manual, 3rd edition, 1997 by Maryland Department of Natural Resources. A detailed planting plan will be developed by the Design-Builder at final design.

6.0 CONCLUSION

The above narrative accompanies the MDE Antidegradation Review Report Form: Alternatives Analysis – Minimization Alternatives. This narrative along with the Alternatives Analysis - No Discharge Alternative form demonstrates the minimization practices that have been considered in designing the project. The proposed mitigation will compensate for the unavoidable impacts to water quality for the I-95 at Belvidere Road Interchange project to the maximum extent practicable through in-kind and out-of-kind mitigation (Table 2) in accordance with MDE Tier II requirements and the Code of Maryland Regulations.

7.0 APPENDICES

Appendix 1 – Stream Buffer Exhibit
Appendix 2 – Forest Cover Exhibit
Appendix 3 – Reforestation Site Search Memo
Appendix 4 – On-site Out-of-kind Mitigation Exhibit

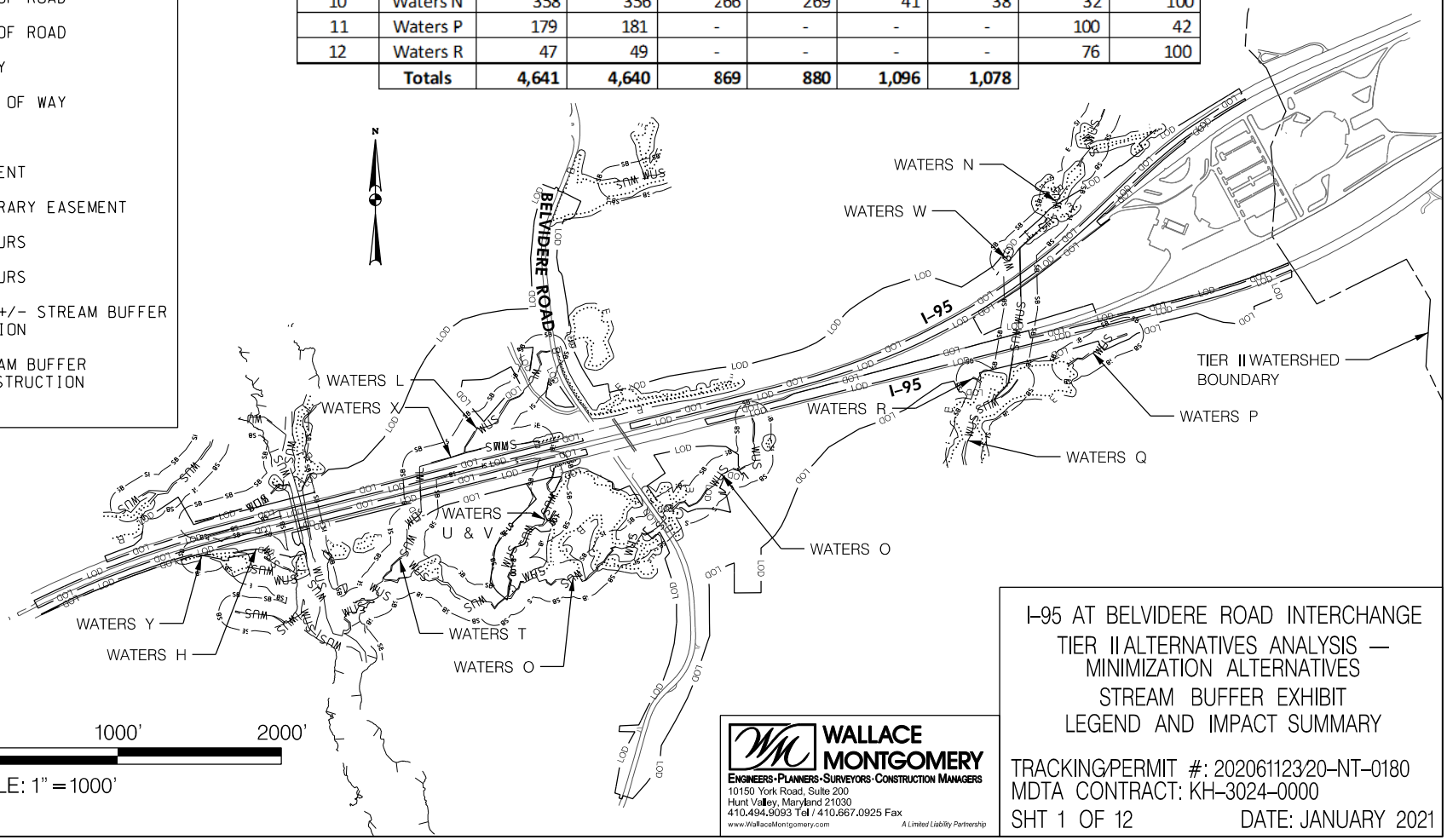
APPENDIX 1
STREAM BUFFER EXHIBIT
(Same as previous submittal)

LEGEND

- +50 — BASELINE OF CONSTRUCTION
- LOD — LIMITS OF DISTURBANCE
- R-LOD — RESTORATION LOD
- 100-YEAR FLOODPLAIN
- WUS — WATERS OF THE US
- SB — 100FT STREAM BUFFER
- NON-TIDAL WETLAND BOUNDARY
- B — 25FT NON-TIDAL WETLAND BUFFER
- TIER II WATERSHED BOUNDARY
- EXTENTS OF EXISTING MINING PERMIT
- EDGE OF WOODS
- EXISTING EDGE OF ROAD
- PROPOSED EDGE OF ROAD
- PARCEL BOUNDARY
- EXISTING RIGHT OF WAY
- PROPOSED ROW
- EXISTING EASEMENT
- PROPOSED TEMPORARY EASEMENT
- EXISTING CONTOURS
- PROPOSED CONTOURS
- REMAINING 100'+/- STREAM BUFFER POST-CONSTRUCTION
- REMAINING STREAM BUFFER >100' POST-CONSTRUCTION

CALCULATION OF PERMANENT RIPARIAN BUFFER IMPACTS

Sheet #'s	On-Site Stream Segments	Total Stream Segment Length on-site		Total Stream Segment Length Existing Impacted		Total Stream Segment Length Proposed Impacted		Average Stream Buffer Width Post-Construction	
		Linear Feet +/-		Linear Feet +/-		Linear Feet +/-		Feet +/-	
		Left Bank	Right Bank	Left Bank	Right Bank	Left Bank	Right Bank	Left Bank	Right Bank
3	Waters Y	55	53	-	-	-	-	15	100
3, 4	Waters H	206	196	-	-	151	143	3	100
5, 6	Waters L	898	915	68	68	223	227	76	99
6	Waters X	1,013	1,013	261	261	374	377	50	100
6	Waters T	43	45	43	45	-	-	-	-
7,8, 9	Waters O	691	675	81	81	306	293	26	85
9	Waters U	938	944	20	19	-	-	99	96
9	Waters V	83	76	-	-	-	-	100	100
10	Waters W	130	137	130	137	-	-	-	-
10	Waters N	358	356	266	269	41	38	32	100
11	Waters P	179	181	-	-	-	-	100	42
12	Waters R	47	49	-	-	-	-	76	100
	Totals	**4,641**	**4,640**	**869**	**880**	**1,096**	**1,078**		



1000' 0 1000' 2000'

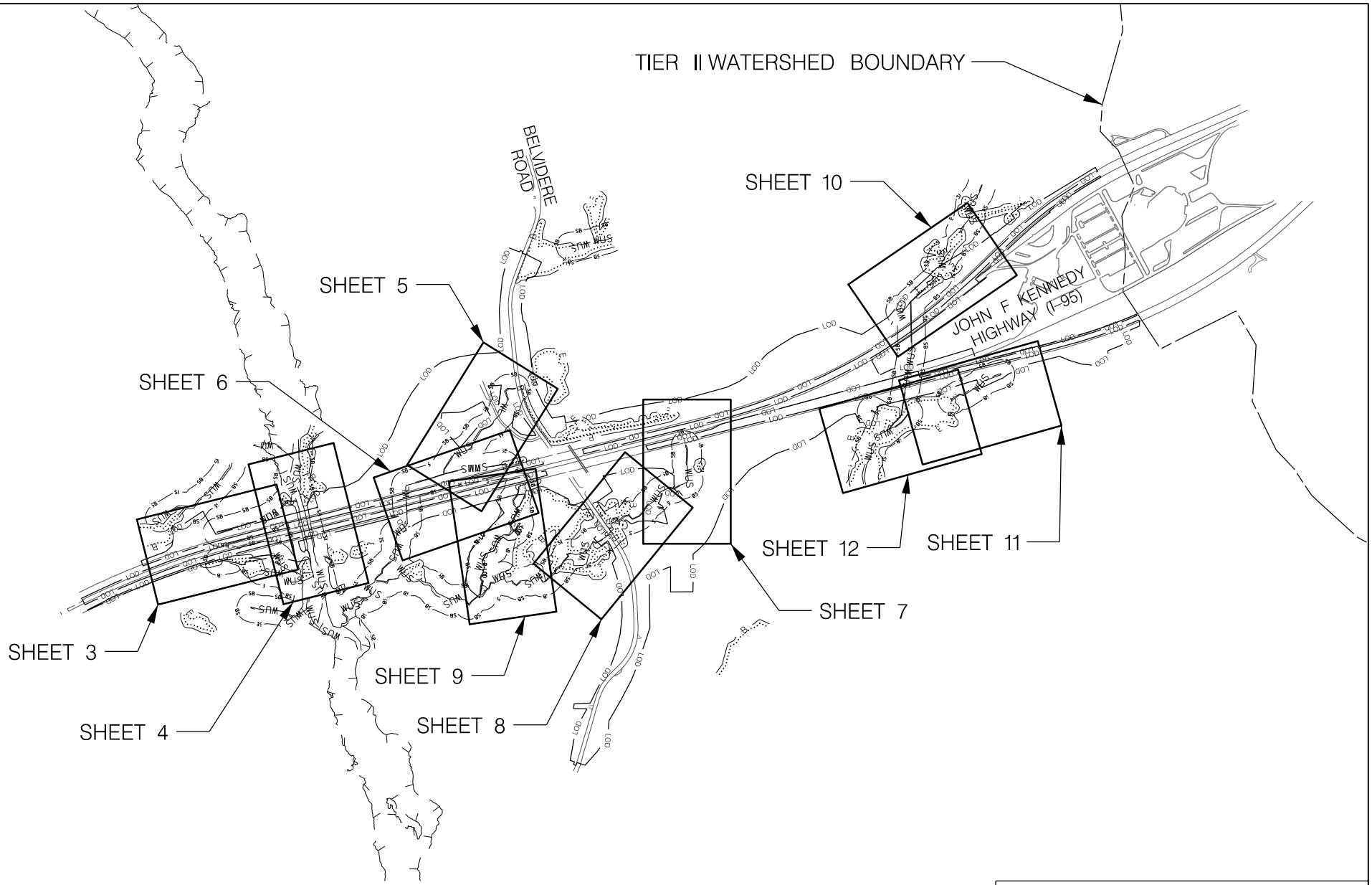
SCALE: 1" = 1000'

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

I-95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
STREAM BUFFER EXHIBIT
LEGEND AND IMPACT SUMMARY

TRACKING/PERMIT #: 20206123/20-NT-0180
MDTA CONTRACT: KH-3024-0000
SHT 1 OF 12 DATE: JANUARY 2021

$FILE$
1/15/2021



I-95 AT BELVIDERE ROAD INTERCHANGE

TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES

STREAM BUFFER EXHIBIT

KEY MAP

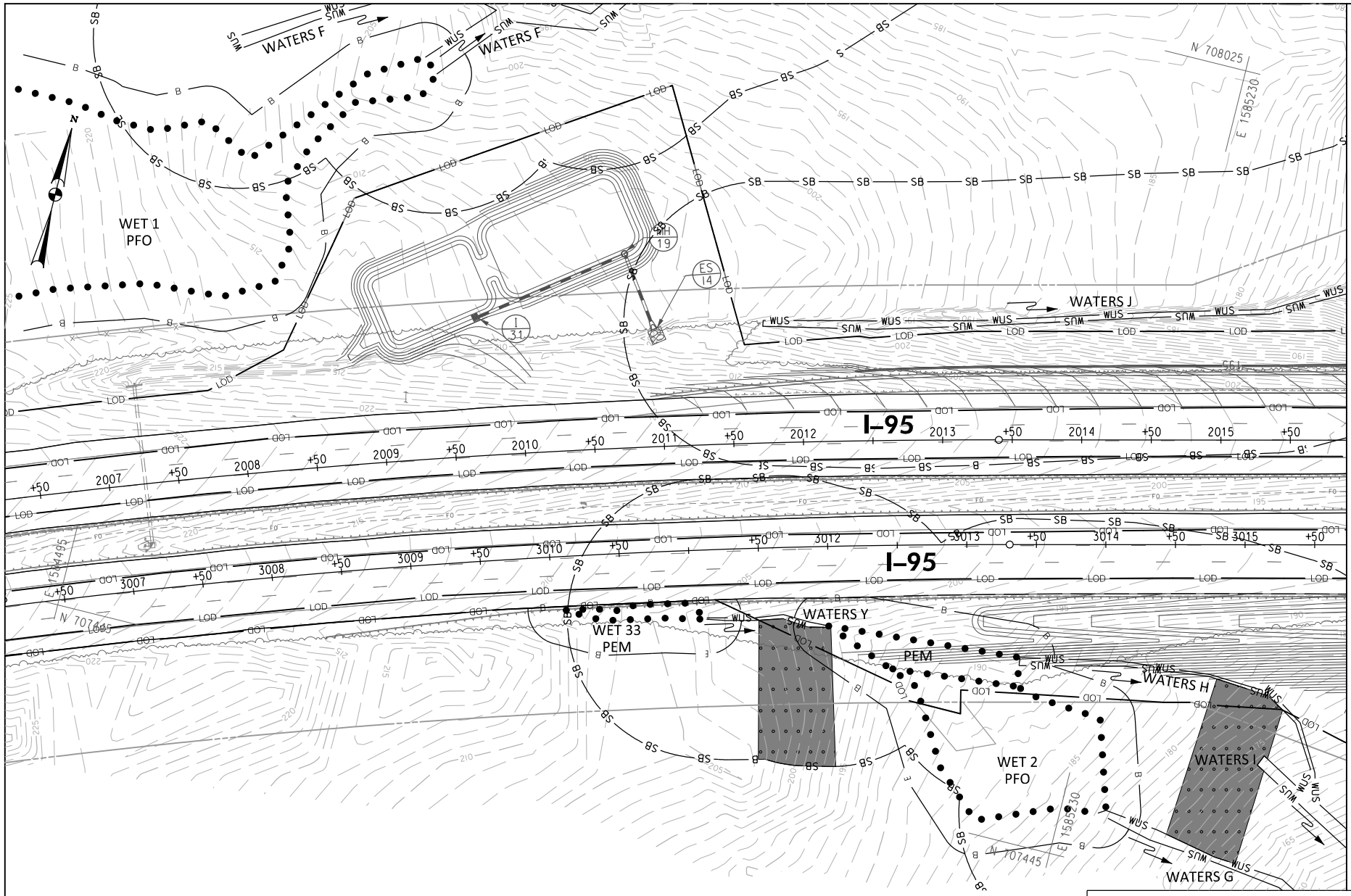
TRACKING/PERMIT #: 20206112320-NT-0180

MDTA CONTRACT: KH-3024-0000

SHT 2 OF 12 DATE: JANUARY 2021

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

$FILEL$
1/15/2021



100' 0 100' 200'

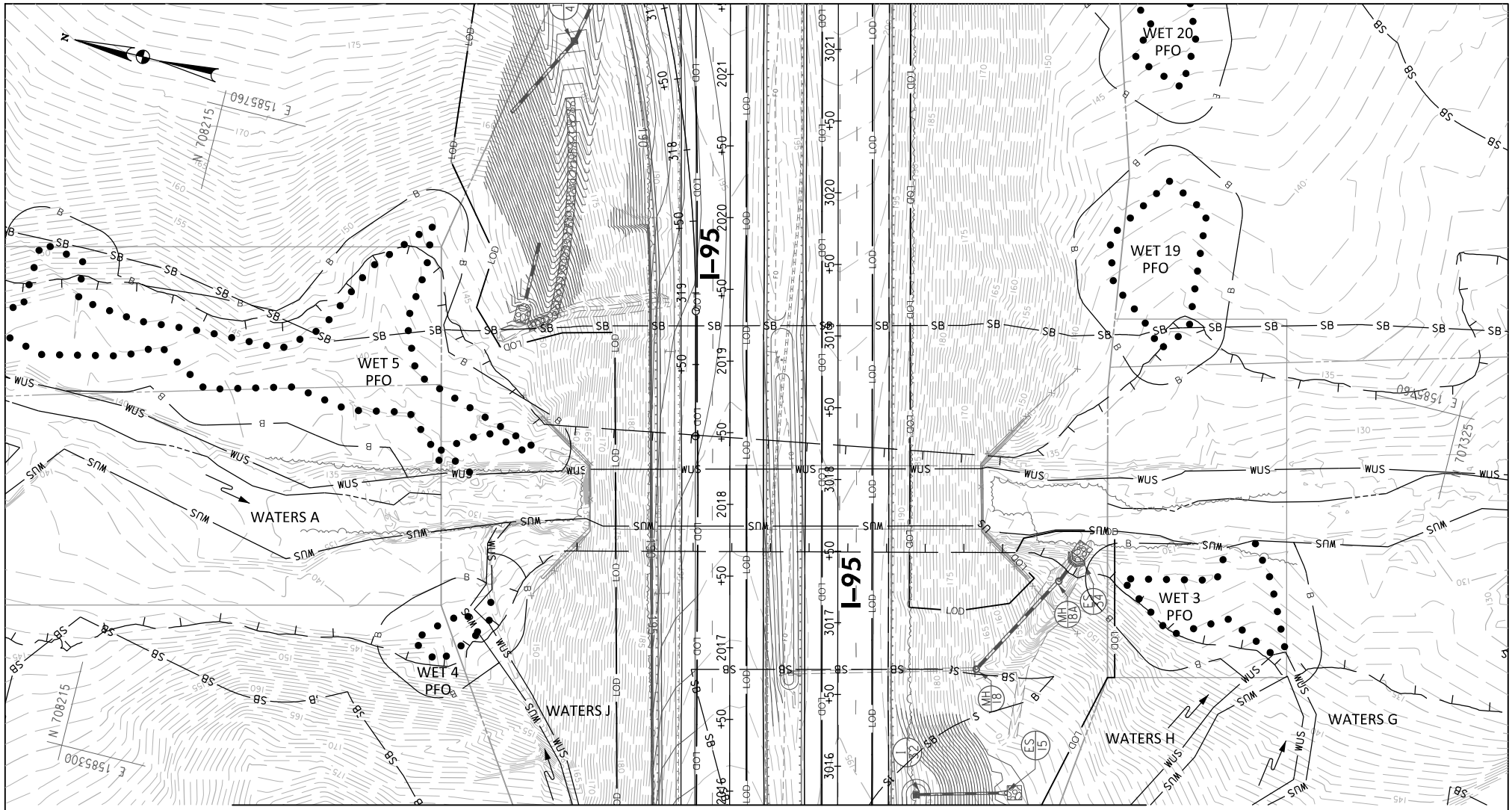
SCALE: 1" = 100'

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

I–95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
STREAM BUFFER EXHIBIT

TRACKING/PERMIT #: 20206112320–NT–0180
MDTA CONTRACT: KH–3024–0000
SHT 3 OF 12 DATE: JANUARY 2021

$FILEL$
1/15/2021



MATCH LINE – SEE SHEET 3

100' 0 100' 200'

SCALE: 1" = 100'

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

I–95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
STREAM BUFFER EXHIBIT

TRACKING/PERMIT #: 20206112320–NT–0180
MDTA CONTRACT: KH–3024–0000
SHT 4 OF 12 DATE: JANUARY 2021

$FILEL$
1/15/2021

100' 0 100' 200'

SCALE: 1" = 100'

I-95 AT BELVIDERE ROAD INTERCHANGE

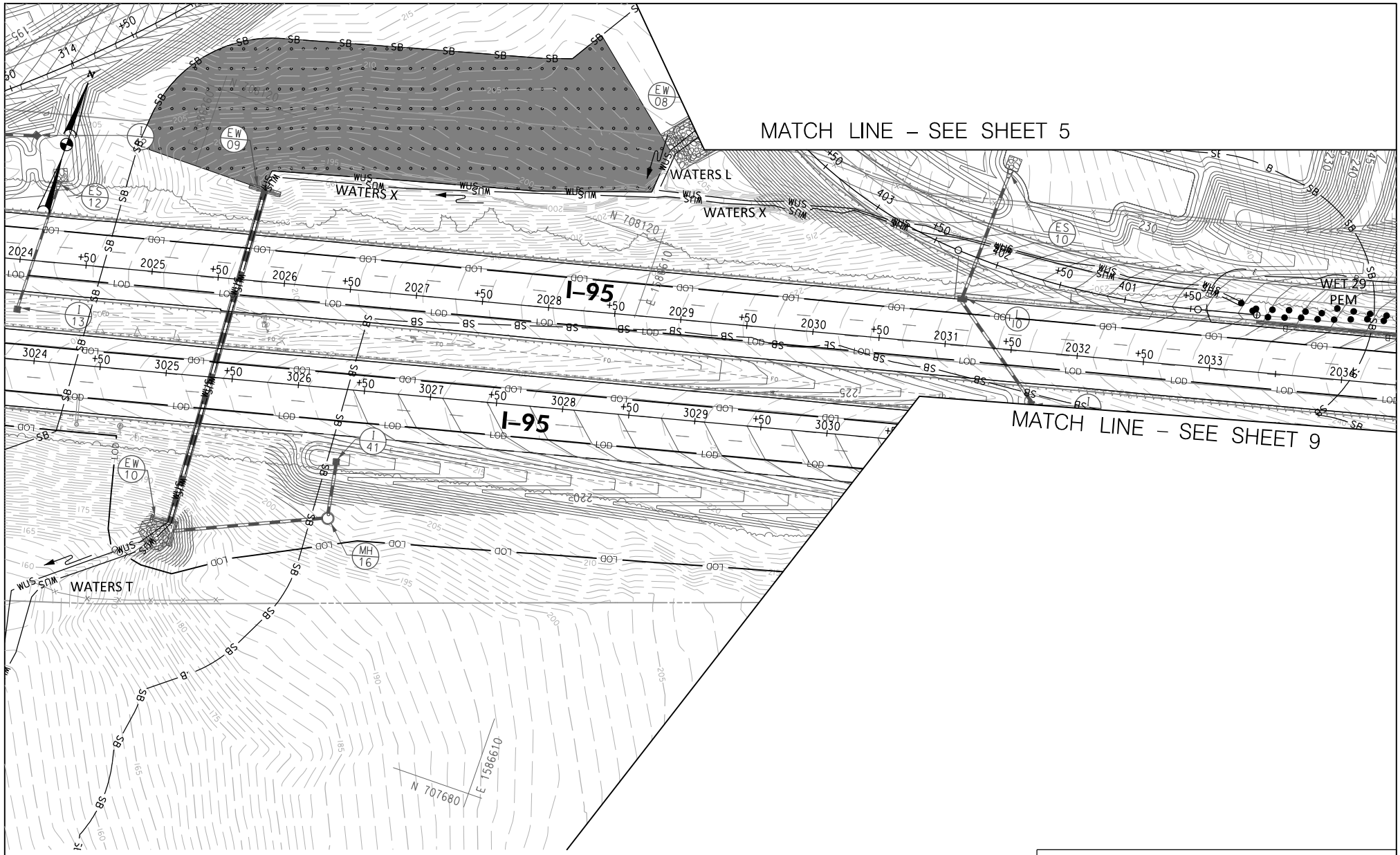
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES

STREAM BUFFER EXHIBIT

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

TRACKING/PERMIT #: 20206112320-NT-0180
MDTA CONTRACT: KH-3024-0000
SHT 5 OF 12 DATE: JANUARY 2021

$FILE$
1/15/2021



100' 0 100' 200'

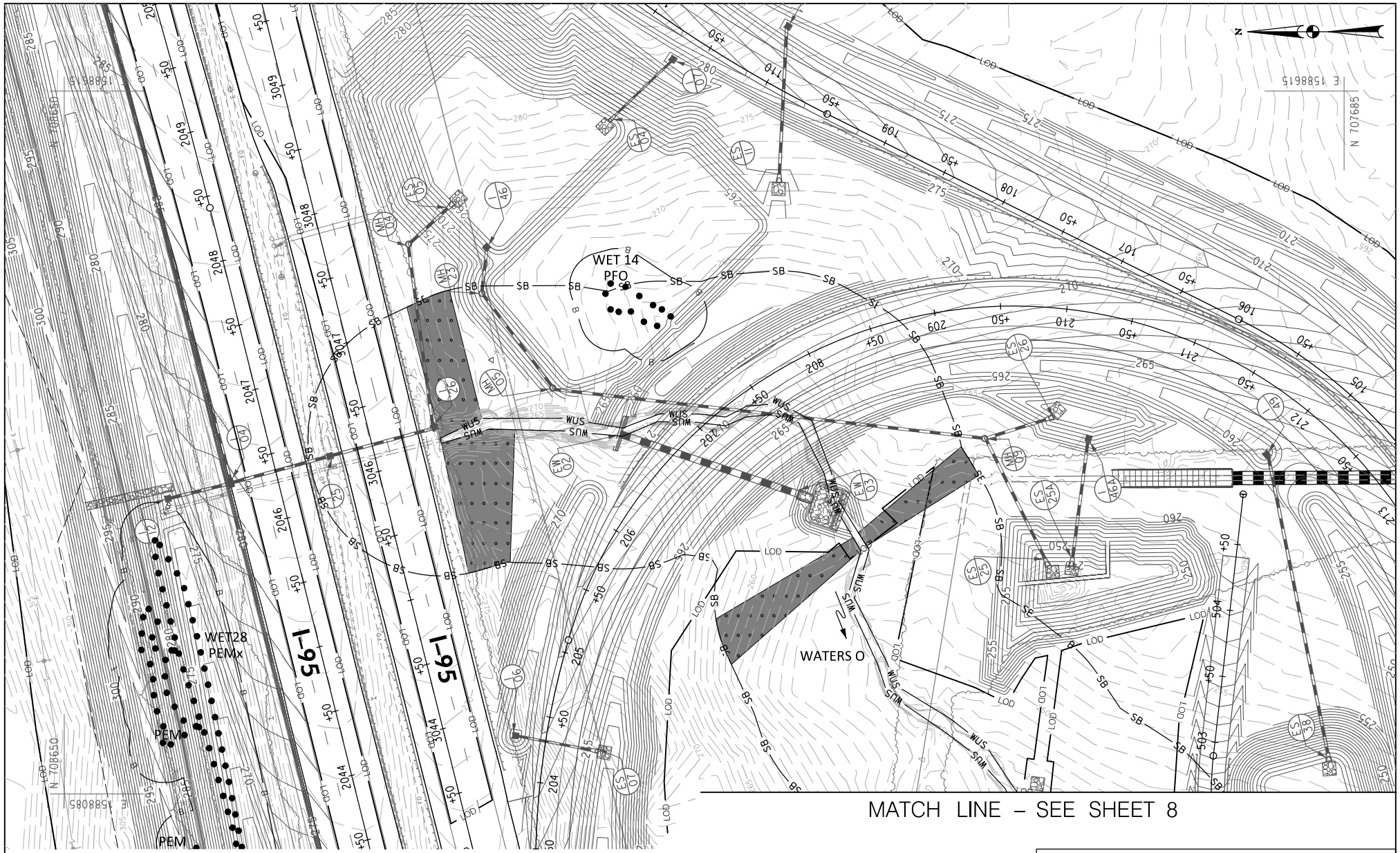
SCALE: 1" = 100'

I-95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
STREAM BUFFER EXHIBIT

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

TRACKING/PERMIT #: 20206112320-NT-0180
MDTA CONTRACT: KH-3024-0000
SHT 6 OF 12 DATE: JANUARY 2021

$FILE$
1/15/2021



100' 0 100' 200'

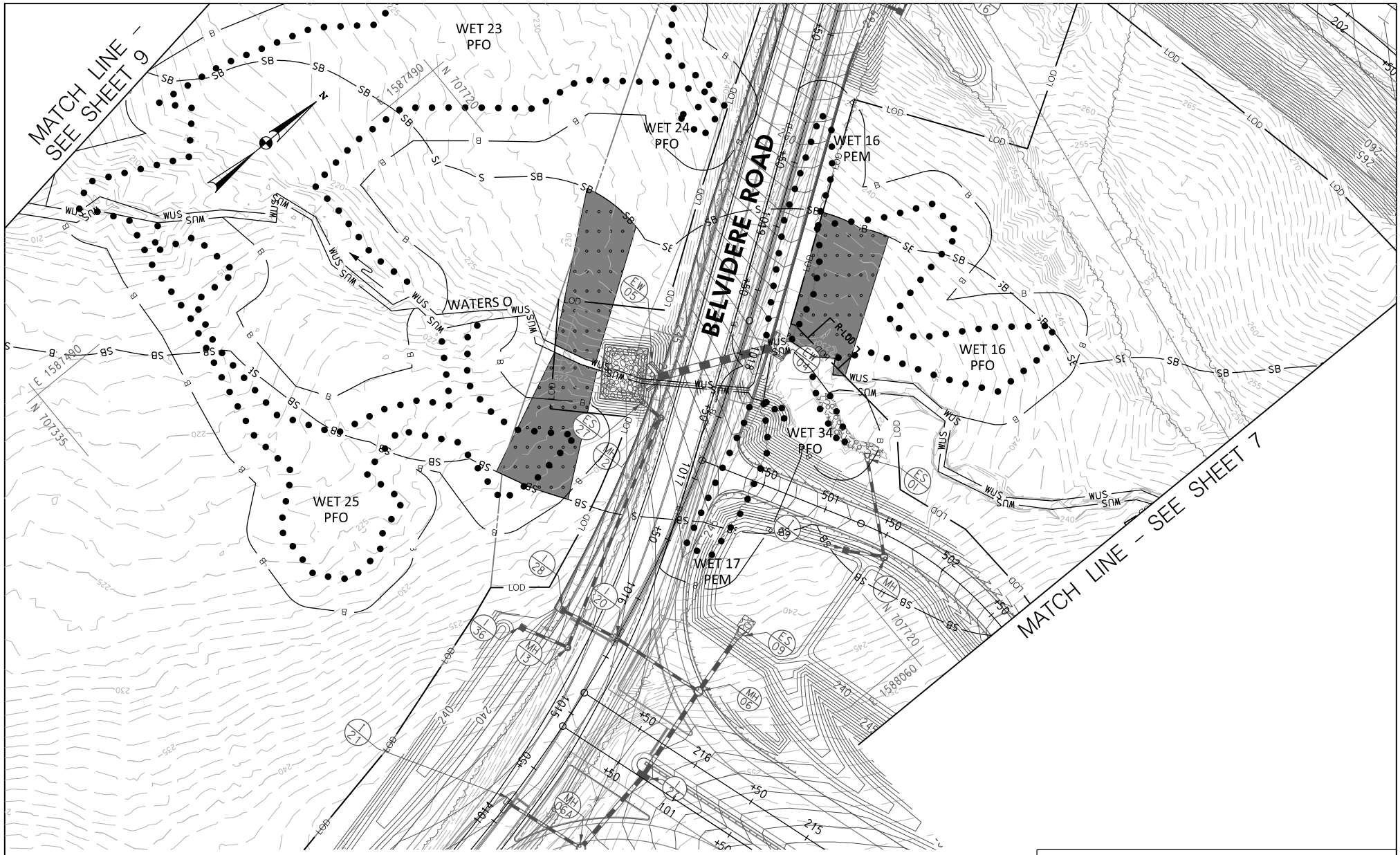
SCALE: 1" = 100'

I-95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
STREAM BUFFER EXHIBIT

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Sulte 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

TRACKING/PERMIT #: 202061123/20-NT-0180
MDTA CONTRACT: KH-3024-0000
SHT 7 OF 12 DATE: JANUARY 2021

$FILE$
1/15/2021



100' 0 100' 200'

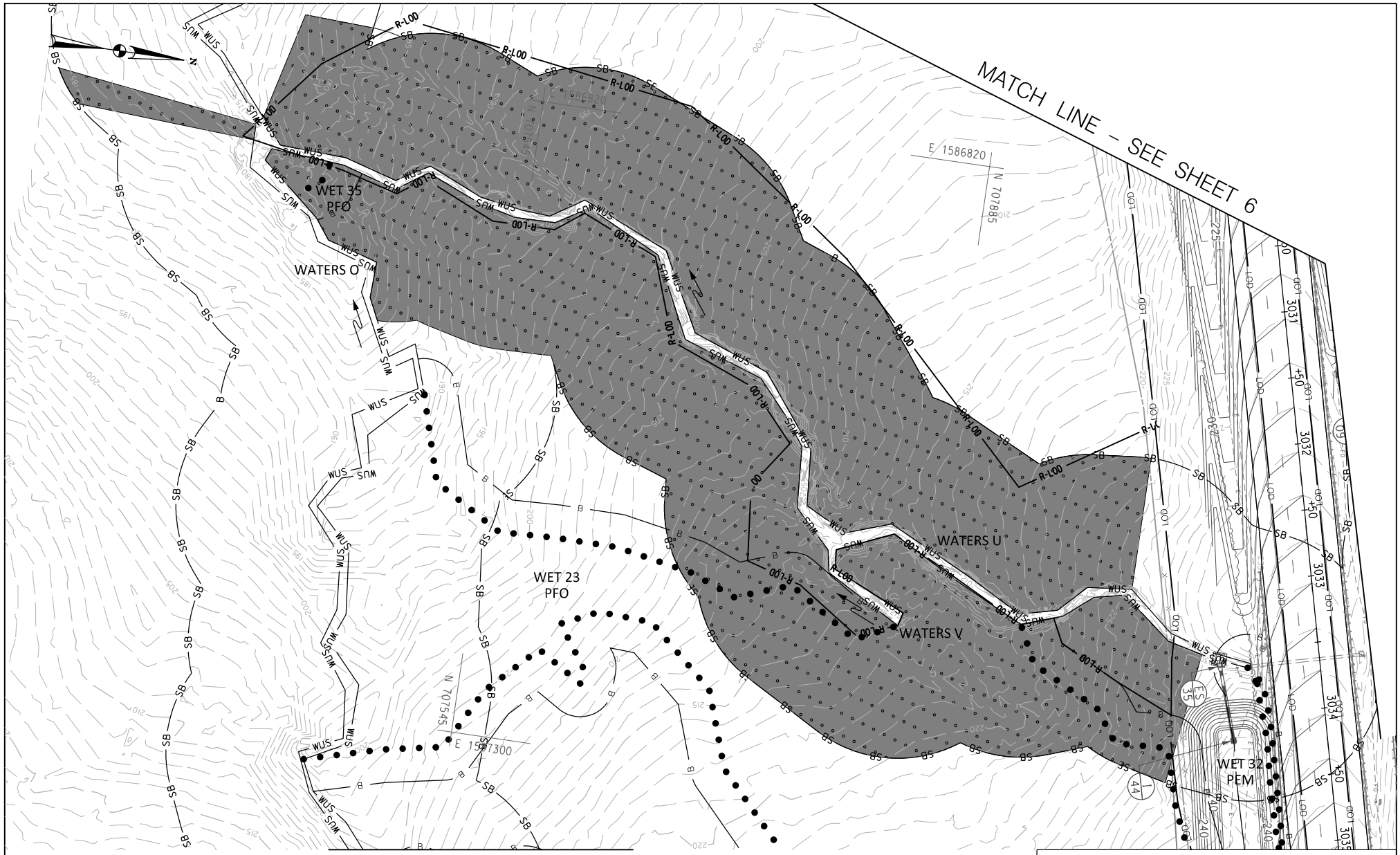
SCALE: 1" = 100'

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

I–95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
STREAM BUFFER EXHIBIT

TRACKING/PERMIT #: 20206112320–NT–0180
MDTA CONTRACT: KH–3024–0000
SHT 8 OF 12 DATE: JANUARY 2021

$FILE$
1/15/2021



100’ 0 100’ 200’

SCALE: 1” = 100’

I-95 AT BELVIDERE ROAD INTERCHANGE

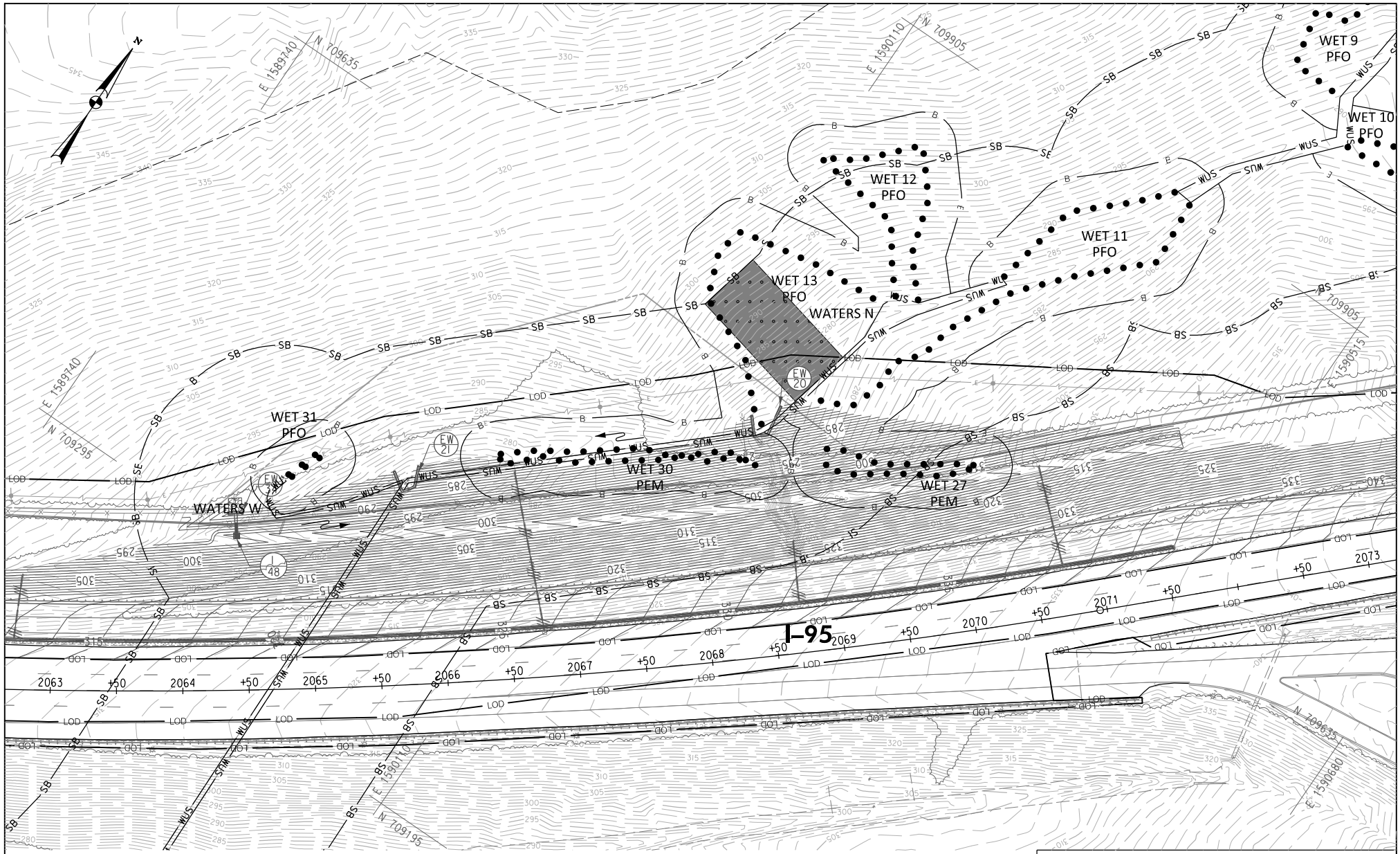
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES

STREAM BUFFER EXHIBIT

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

TRACKING/PERMIT #: 20206112320-NT-0180
MDTA CONTRACT: KH-3024-0000
SHT 9 OF 12 DATE: JANUARY 2021

$FILE$
1/15/2021



100’ 0 100’ 200’

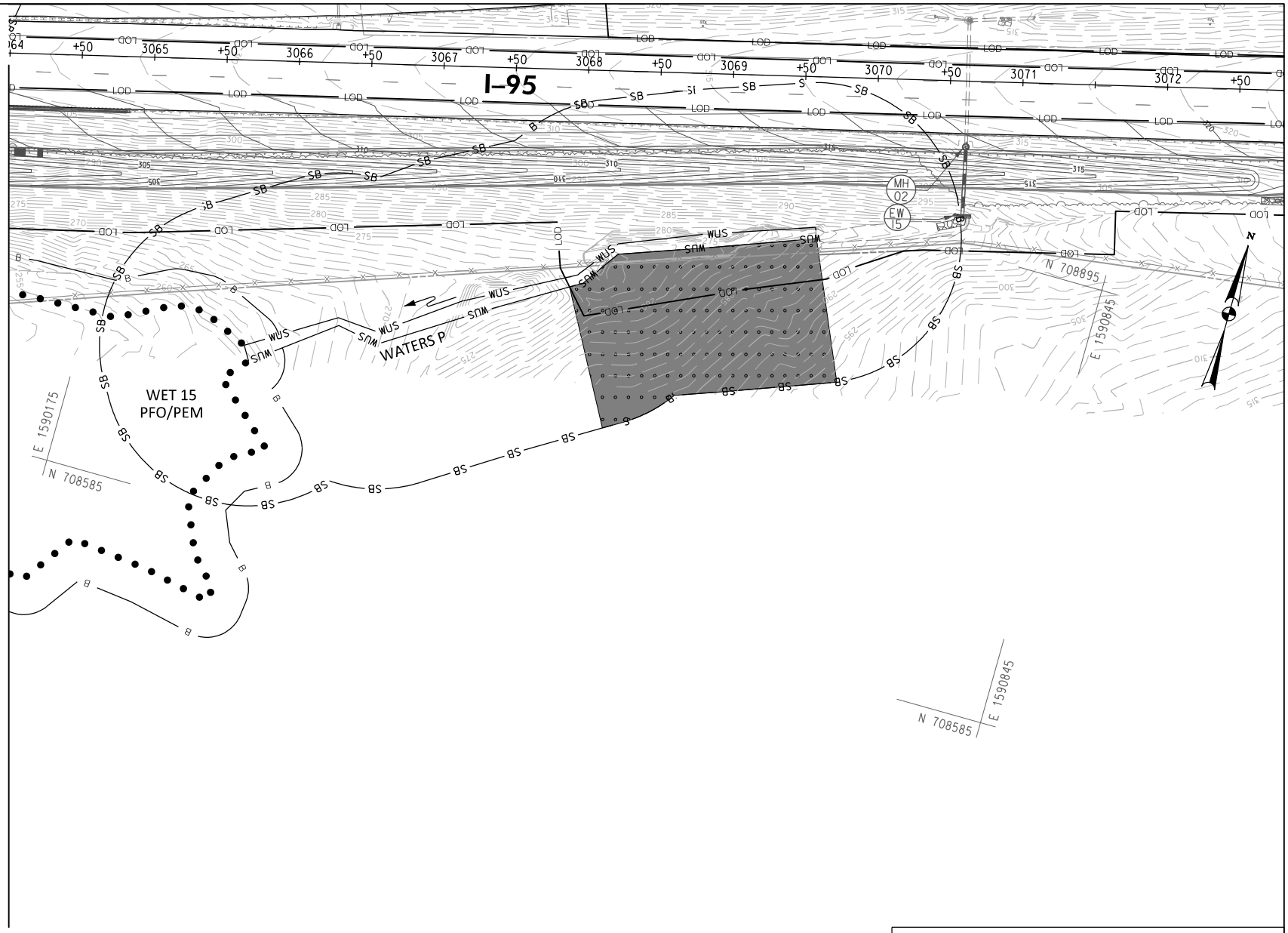
SCALE: 1” = 100’

I–95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
STREAM BUFFER EXHIBIT

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

TRACKING/PERMIT #: 20206112320–NT–0180
MDTA CONTRACT: KH–3024–0000
SHT 10 OF 12 DATE: JANUARY 2021

$FILE$
1/15/2021



MATCH LINE – SEE SHEET 12

100' 0 100' 200'

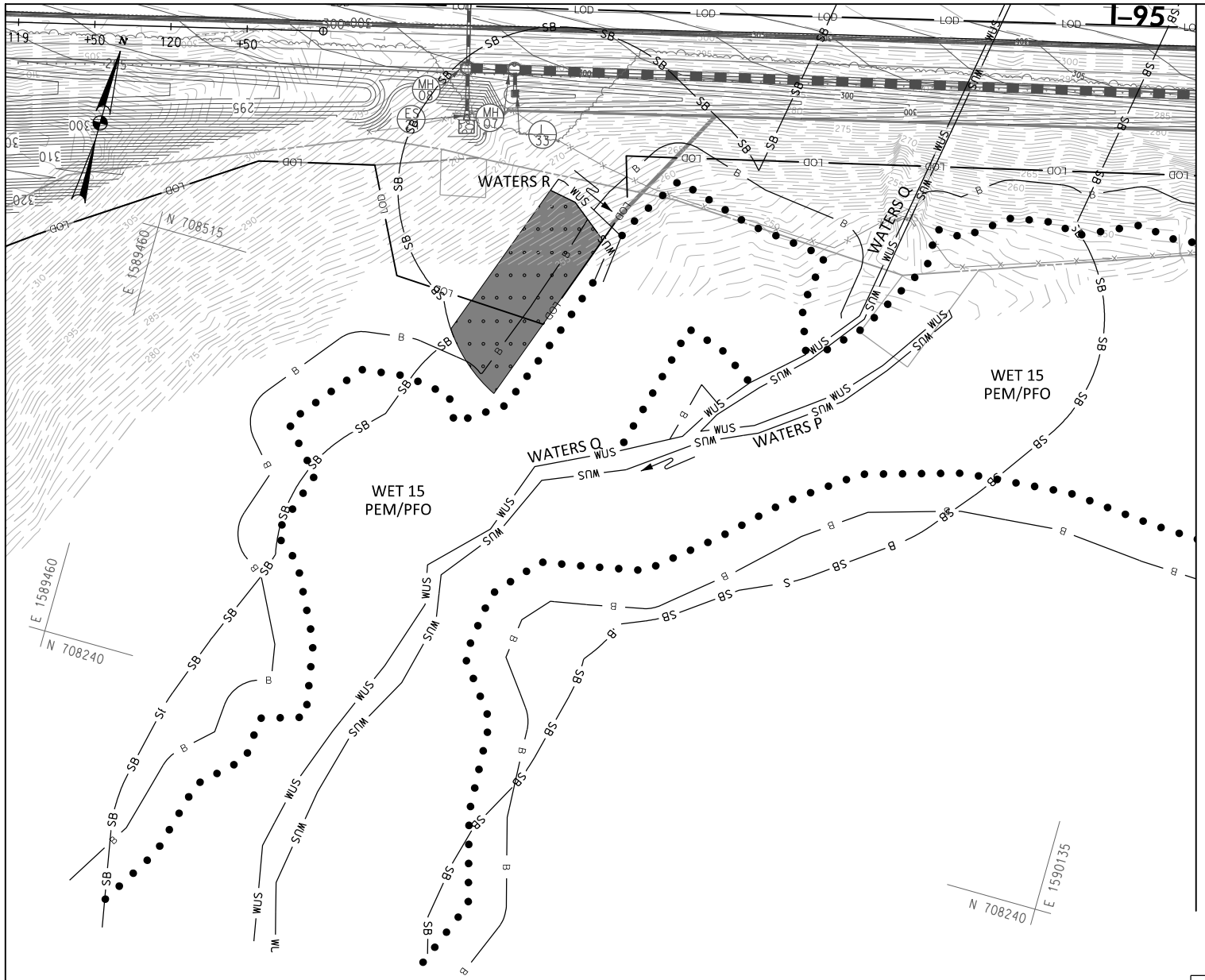
SCALE: 1" = 100'

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

I-95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
STREAM BUFFER EXHIBIT

TRACKING/PERMIT #: 20206112320-NT-0180
MDTA CONTRACT: KH-3024-0000
SHT 11 OF 12 DATE: JANUARY 2021

$FILE$
1/15/2021



100' 0 100' 200'

SCALE: 1" = 100'

I-95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
STREAM BUFFER EXHIBIT

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

TRACKING/PERMIT #: 202061123/20-NT-0180
MDTA CONTRACT: KH-3024-0000
SHT 12 OF 12 DATE: JANUARY 2021

$FILE$
1/15/2021

APPENDIX 2
FOREST COVER EXHIBIT
(Updated)

LEGEND

- +50 — BASELINE OF CONSTRUCTION
- LOD — LIMITS OF DISTURBANCE
- R-LOD — RESTORATION LOD
- 100-YEAR FLOODPLAIN
- WUS — WATERS OF THE US
- SB — 100FT STREAM BUFFER
- NON-TIDAL WETLAND BOUNDARY
- B — 25FT NON-TIDAL WETLAND BUFFER
- TIER II WATERSHED BOUNDARY
- EXTENTS OF EXISTING MINING PERMIT
- EDGE OF WOODS
- EXISTING EDGE OF ROAD
- PROPOSED EDGE OF ROAD
- PARCEL BOUNDARY
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED TEMPORARY EASEMENT
- EXISTING CONTOURS (5')

CALCULATION OF PERMANENT FOREST COVER IMPACTS

TOTAL ON-SITE FOREST COVER (EXISTING)
(56.68 ACRES)

TOTAL ON-SITE FOREST COVER POST-PROJECT (REFORESTATION)
(18.68 ACRES)

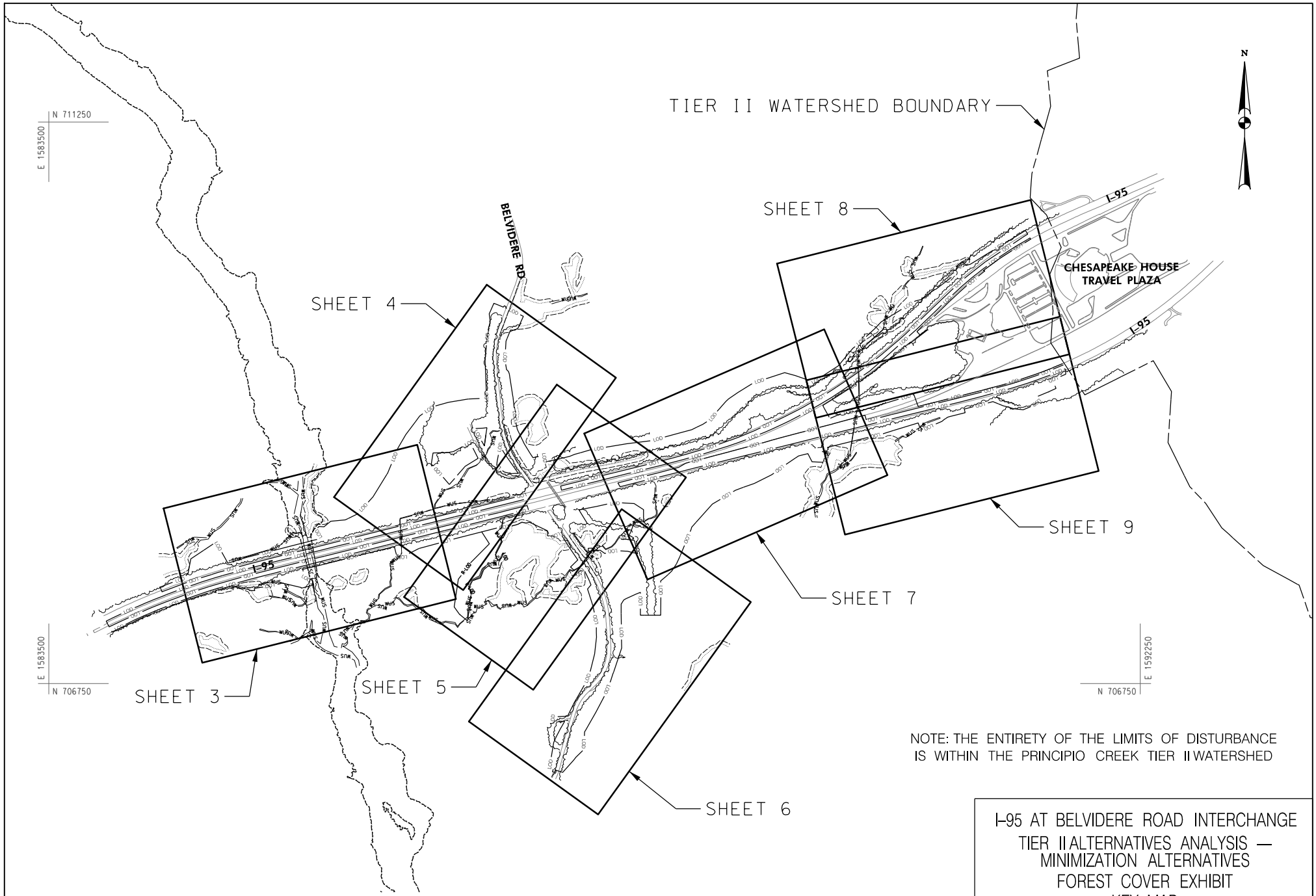
ON-SITE PERMANENT FOREST LOSS DUE TO POTENTIAL CONSTRAINTS
(38.00 ACRES)

WALLACE MONTGOMERY
ENGINEERS · PLANNERS · SURVEYORS · CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

I-95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
FOREST COVER EXHIBIT
LEGEND AND IMPACT SUMMARY

TRACKING/PERMIT #: 20206112320-NT-0180
MDTA CONTRACT: KH-3024-0000
SHT 1 OF 9 DATE: JUNE 2022

$FILE$
6/28/2022



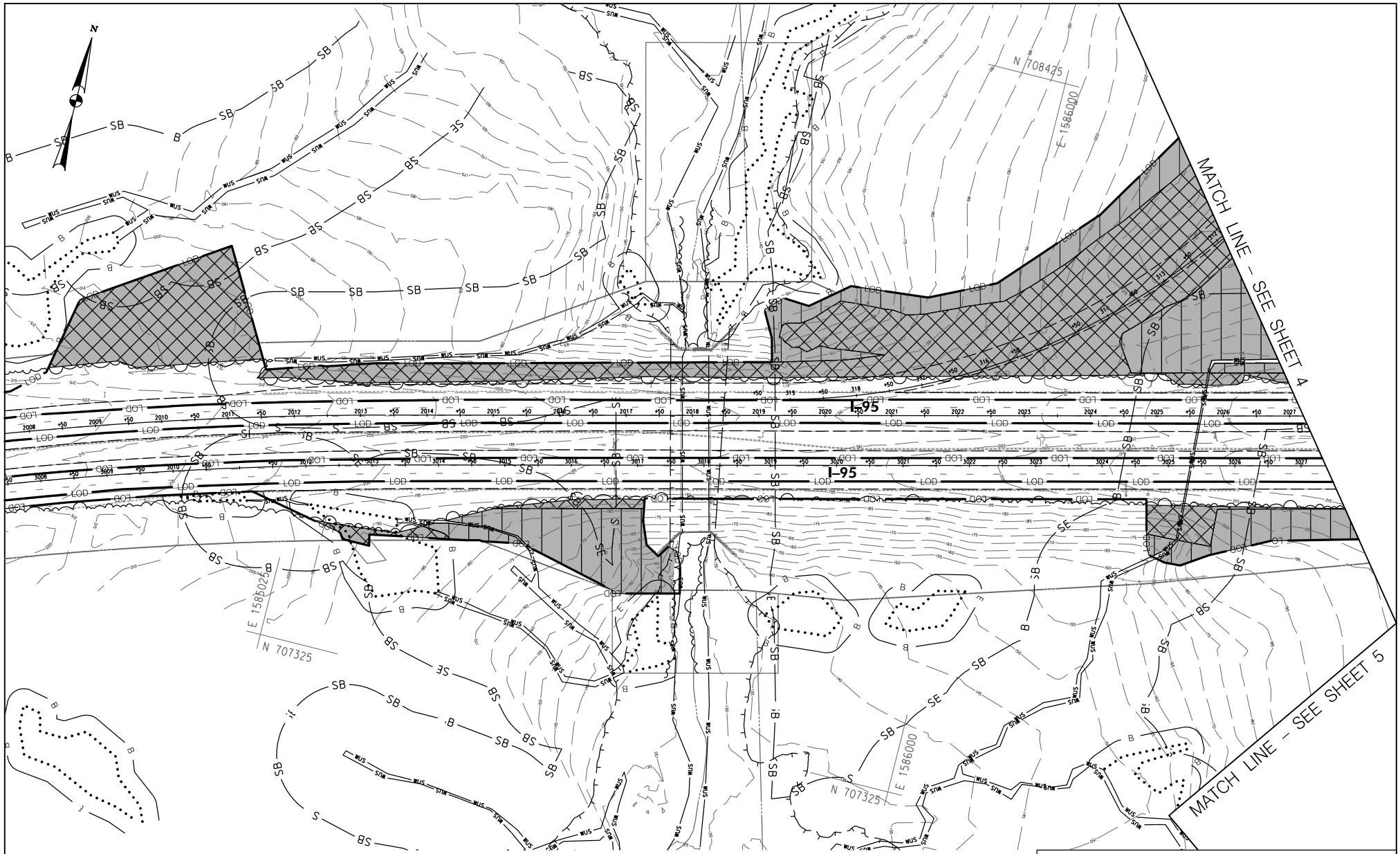
NOTE: THE ENTIRETY OF THE LIMITS OF DISTURBANCE IS WITHIN THE PRINCIPIO CREEK TIER II WATERSHED

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

I-95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
FOREST COVER EXHIBIT
KEY MAP

TRACKING/PERMIT #: 20206112320-NT-0180
MDTA CONTRACT: KH-3024-0000
SHT 2 OF 9 DATE: JANUARY 2021

$FILE$
1/15/2021



200' 0 200' 400'

SCALE: 1" = 200'

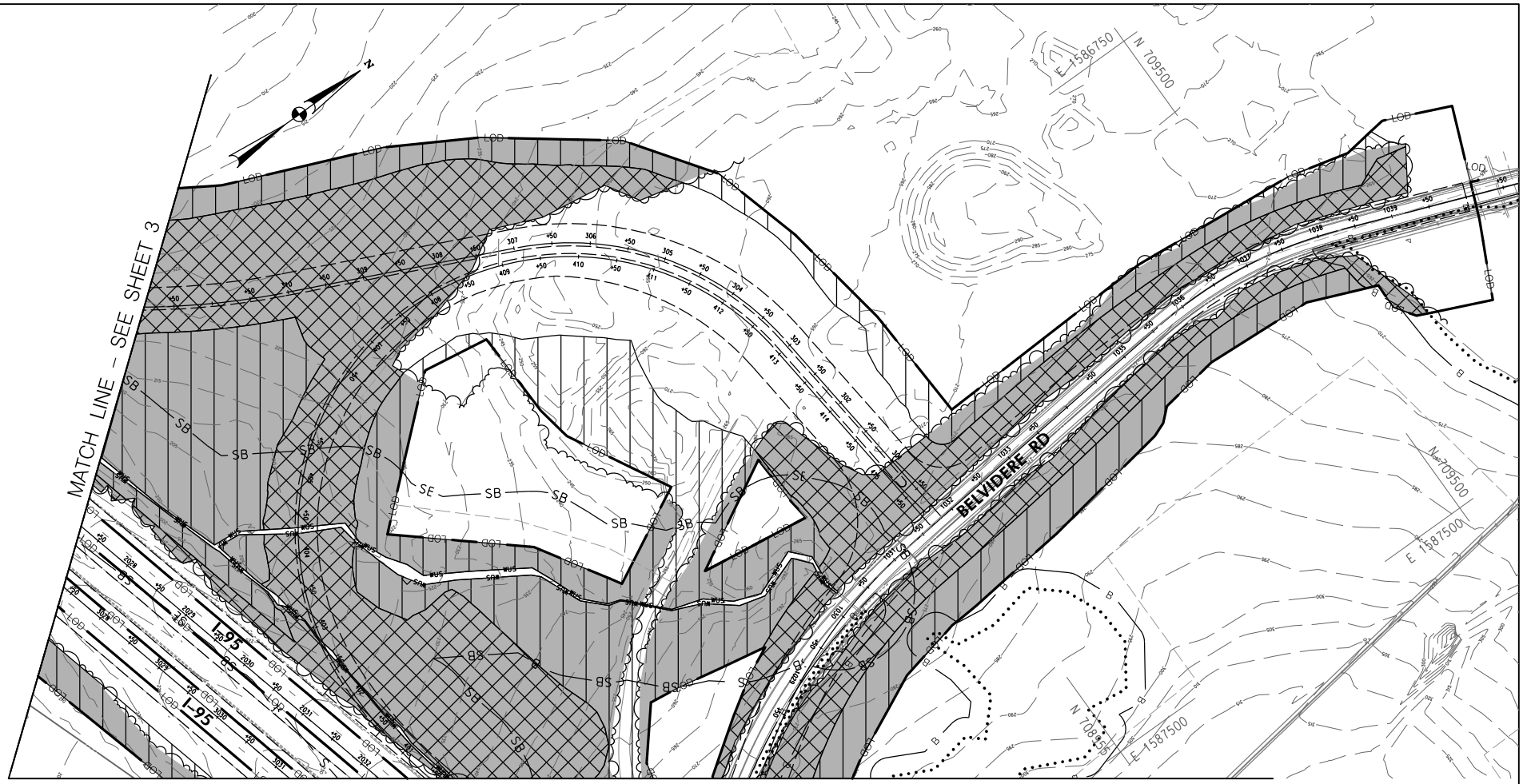
I-95 AT BELVIDERE ROAD INTERCHANGE

TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES FOREST COVER EXHIBIT

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

TRACKING/PERMIT #: 202061123/20-NT-0180
MDTA CONTRACT: KH-3024-0000
SHT 3 OF 9 DATE: JANUARY 2021

$FILE$
1/15/2021



200’ 0 200’ 400’

SCALE: 1” = 200’

I–95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
FOREST COVER EXHIBIT

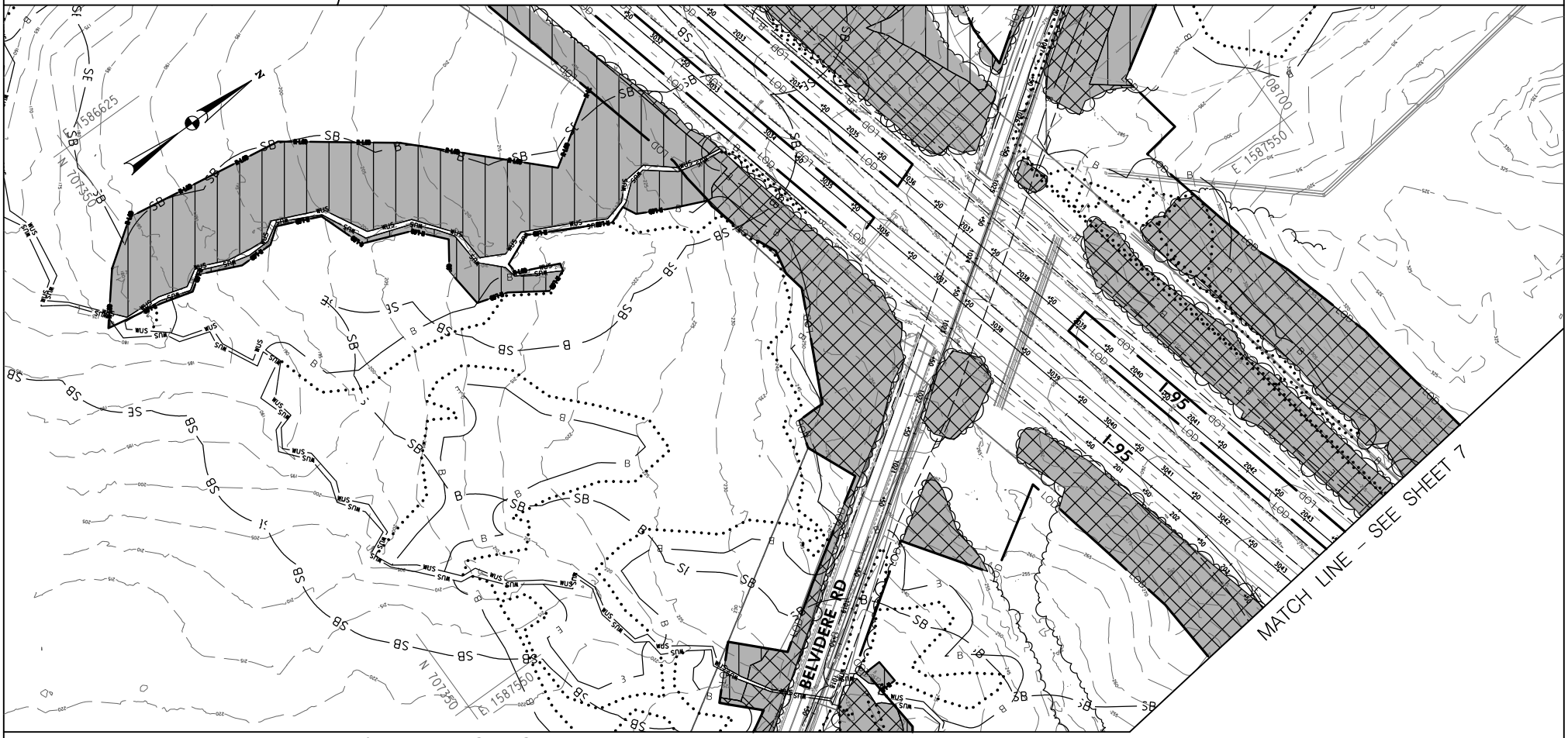
WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

TRACKING/PERMIT #: 202061123/20–NT–0180
MDTA CONTRACT: KH–3024–0000
SHT 4 OF 9 DATE: JANUARY 2021

$FILE$
1/15/2021

MATCH LINE – SEE SHEET 3

MATCH LINE – SEE SHEET 4



200' 0 200' 400'

SCALE: 1" = 200'

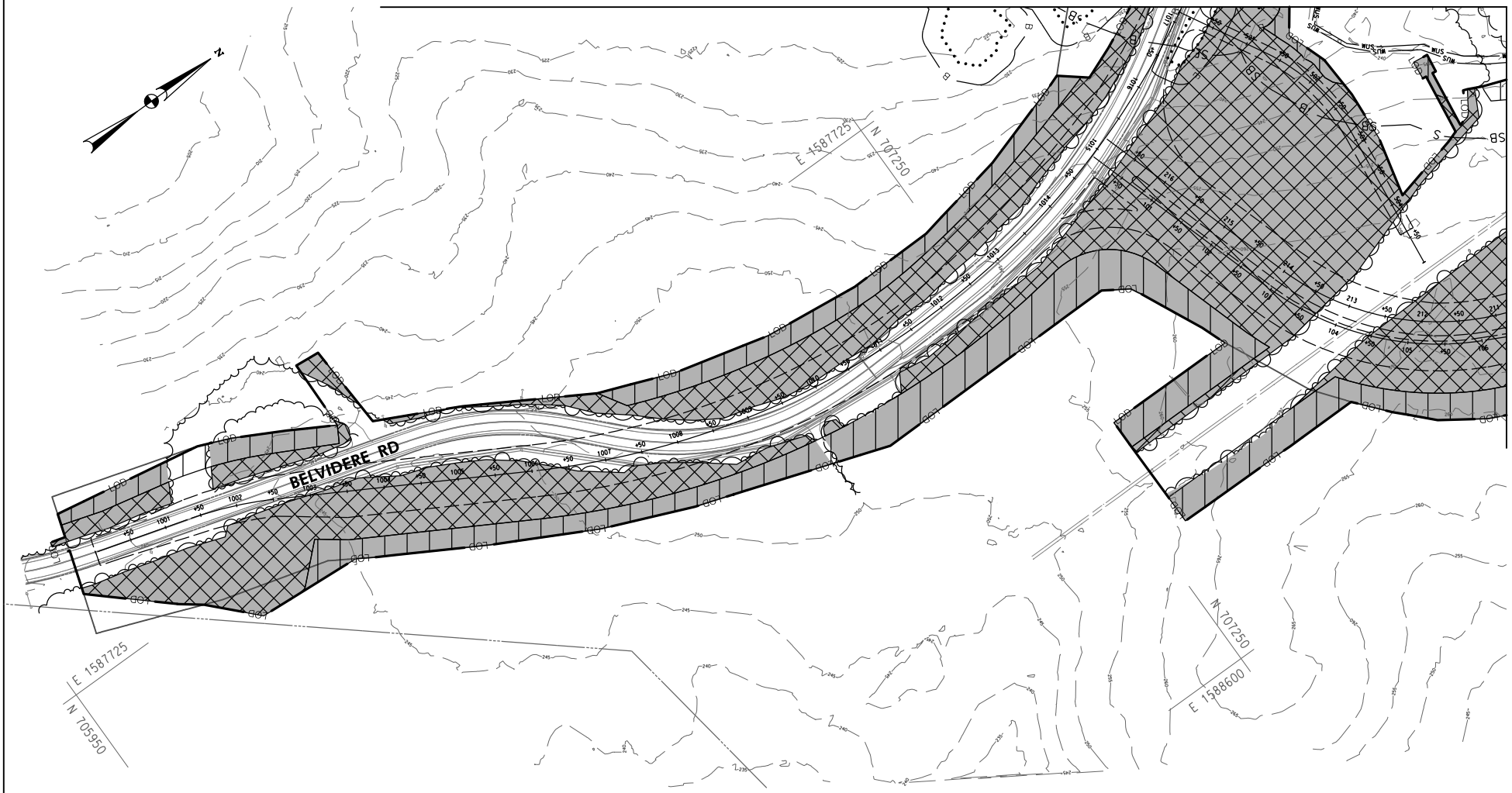
I–95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
FOREST COVER EXHIBIT

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

TRACKING/PERMIT #: 202061123/20–NT–0180
MDTA CONTRACT: KH–3024–0000
SHT 5 OF 9 DATE: JANUARY 2021

$FILE$
1/15/2021

MATCH LINE – SEE SHEET 5



200' 0 200' 400'

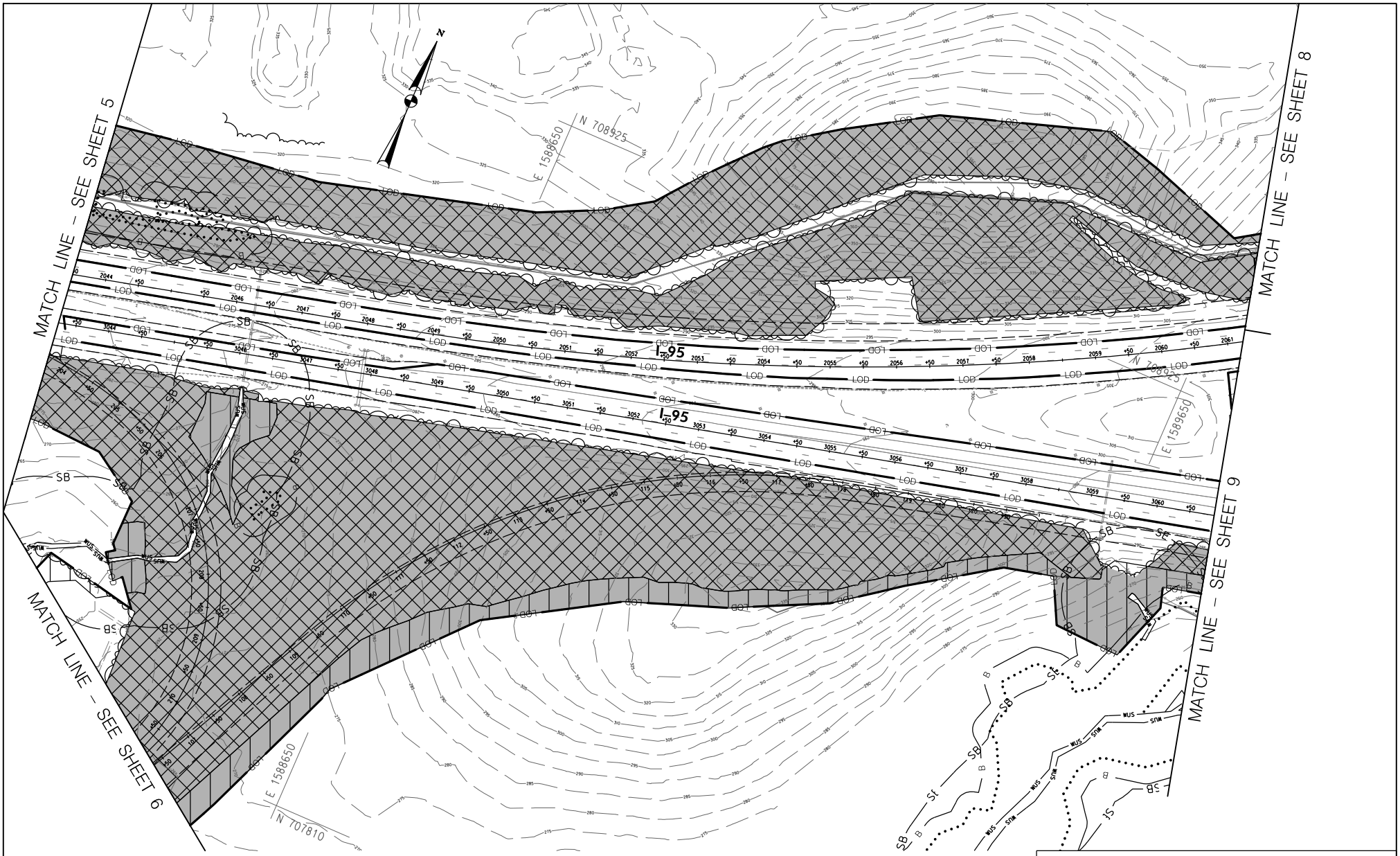
SCALE: 1" = 200'

I–95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
FOREST COVER EXHIBIT

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

TRACKING/PERMIT #: 202061123/20–NT–0180
MDTA CONTRACT: KH–3024–0000
SHT 6 OF 9 DATE: JANUARY 2021

$FILE$
1/15/2021



200’ 0 200’ 400’

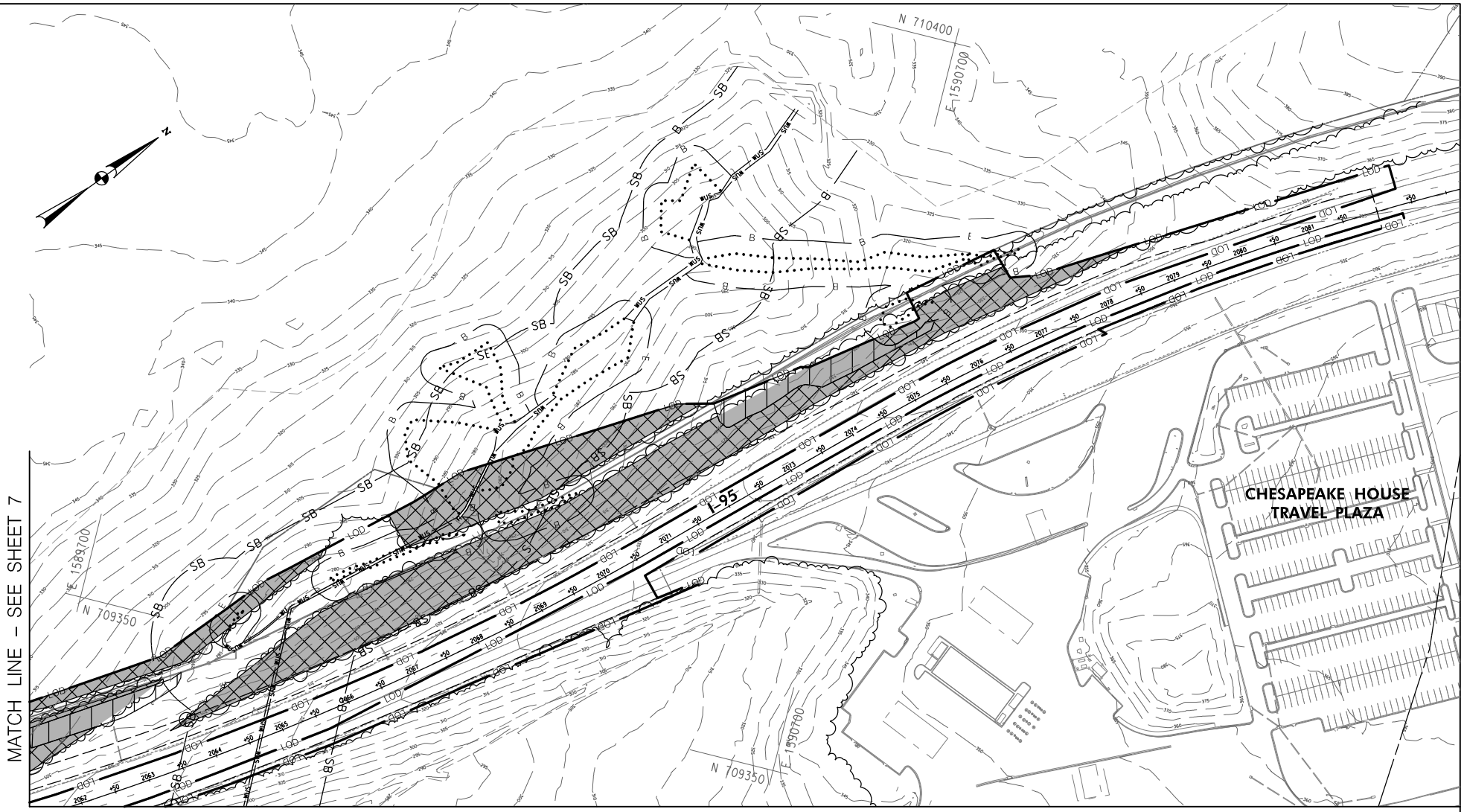
SCALE: 1” = 200’

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

I-95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
FOREST COVER EXHIBIT

TRACKING/PERMIT #: 20206112320-NT-0180
MDTA CONTRACT: KH-3024-0000
SHT 7 OF 9 DATE: JANUARY 2021

$FILE$
1/15/2021



200' 0 200' 400'

SCALE: 1" = 200'

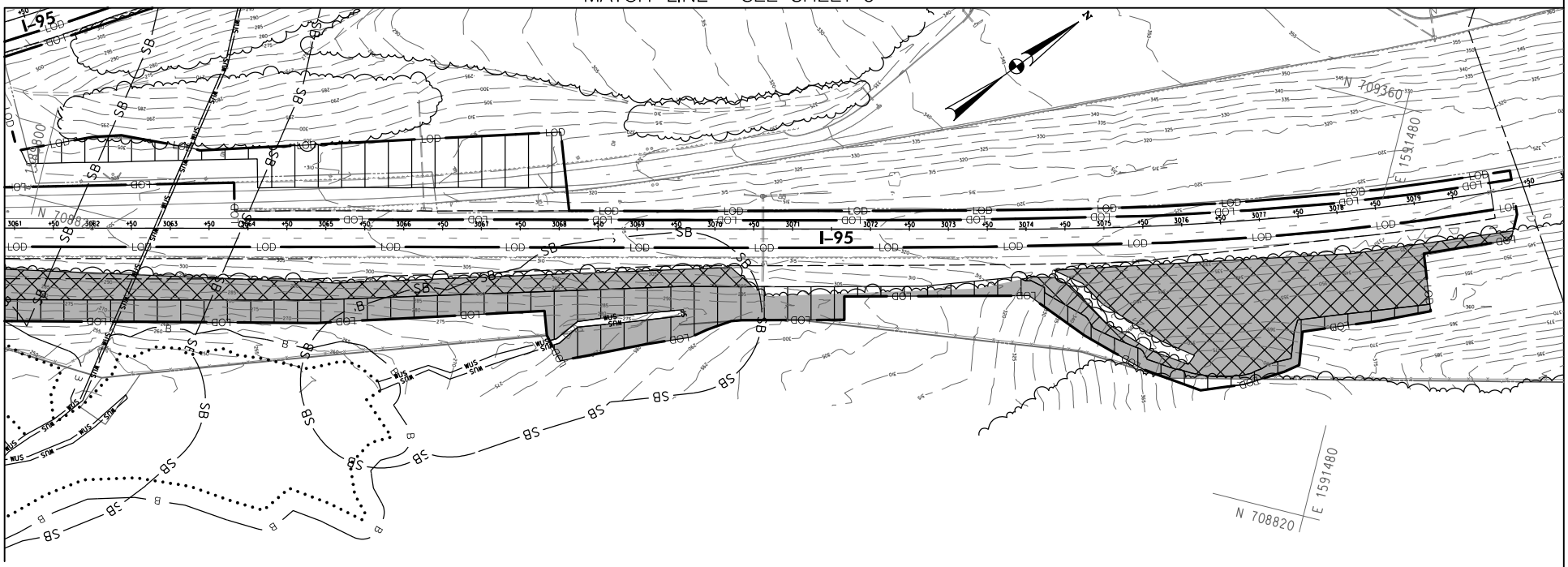
I-95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
FOREST COVER EXHIBIT

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

TRACKING/PERMIT #: 20206112320-NT-0180
MDTA CONTRACT: KH-3024-0000
SHT 8 OF 9 DATE: JANUARY 2021

$FILE$
1/15/2021

MATCH LINE – SEE SHEET 8



200' 0 200' 400'

SCALE: 1" = 200'

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

I-95 AT BELVIDERE ROAD INTERCHANGE
TIER II ALTERNATIVES ANALYSIS — MINIMIZATION ALTERNATIVES
FOREST COVER EXHIBIT

TRACKING/PERMIT #: 20206123/20-NT-0180
MDTA CONTRACT: KH-3024-0000
SHT 9 OF 9 DATE: JANUARY 2021

$FILE$
1/15/2021

APPENDIX 3
REFORESTATION SITE SEARCH MEMO
(Updated)

WALLACE MONTGOMERY
ENGINEERS · PLANNERS · SURVEYORS · CONSTRUCTION MANAGERS

10150 York Road, Suite 200
Hunt Valley, Maryland 21030
(410) 494-9093
Fax: (410) 667-0925

www.WallaceMontgomery.com

MEMORANDUM

TO: Jason Harris, PE (Maryland Transportation Authority)

FROM: Jessica Klinefelter, Wallace Montgomery

DATE: February 23, 2021; April 9, 2021; **Revised June 28, 2022**

RE: Tier II Reforestation Site Search Memo

WM PROJ. No.: 214007.0114

WM PROJ. DESCR.: I-95 at Belvidere Road Interchange (Contract No. KH-3024-0000)

1.0 INTRODUCTION

The Maryland Transportation Authority (MDTA) is proposing a new interchange between I-95 and Belvidere Road at the current overpass (Figure 1). This project, the I-95 at Belvidere Road Interchange project, will include roadway widening, new ramps, new culverts and culvert extensions, utility relocations, and other construction work related to the new interchange. The interchange construction is located within the Principio Creek Tier II Watershed (Figure 1). The Maryland Department of the Environment (MDE) Antidegradation Program requires no net negative impact to forests as a result of the proposed activity. MDTA has conducted a reforestation site search to look for areas in which trees can be planted to mitigate for those being removed by the project.

This reforestation site search seeks to identify tree planting opportunities within the Principio Creek 1, 2, and 3 Watersheds (MDE 8-digit 02130609). The project is currently projected to impact **56.68** acres of forest. Approximately **18.68** acres of reforestation can be accomplished on-site within the interchange limit of disturbance; leaving a **38**-acre balance. MDTA has contracted Wallace Montgomery (WM) to conduct a Tier II Reforestation site search to identify and recommend sites that would have the greatest success for reforestation.

2.0 SITE SEARCH METHODOLOGY

Wallace Montgomery conducted a reforestation site search, utilizing a combination of GIS-based desktop investigations and public entity coordination. The Principio Creek Tier II Watershed is approximately 11,628 acres in size, of which 7,404 acres (~63%) are currently mined, developed, or forested, leaving 4,244 acres (~36%) of active agricultural land and barren land. WM assembled the following readily available GIS data:

- Aerial imagery (MD iMAP, 2019), National Wetlands Inventory (MD iMAP, 1992), Maryland Department of Natural Resources Wetlands (Rivers and Streams) (MD iMAP, 1995), Maryland Geology - hydric soils (MD iMAP, 2019), FEMA floodplains (MD iMAP, 2017), Parcel Boundaries (MD iMAP, SDAT), Cecil County Land Use Cover (2010), and Cecil County owned lands (2017).

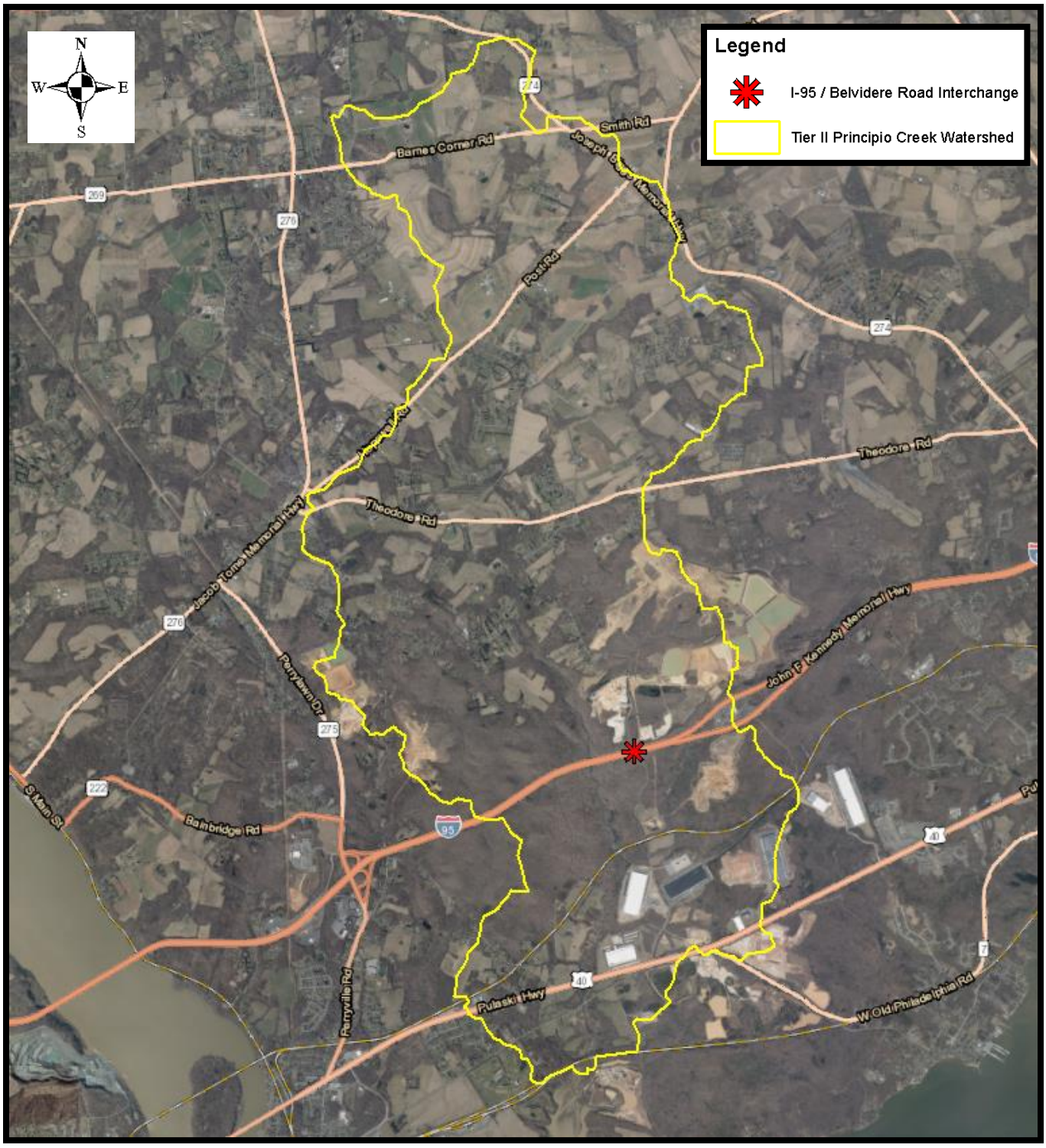


Figure 1 – Site Search Location Map

2.1 Desktop Review

Using the readily available GIS data described above, the first phase was to evaluate potential areas for reforestation by identifying open lands such as agriculture, barren lands and low density residential. Areas of existing streams, wetlands and forests were omitted. This resulted in 217 sites with potential opportunities for tree plantings (*Attachment 1, Map 1*).

In the second phase, Wallace Montgomery utilized aerial photography and additional GIS data to further evaluate and refine the 217 sites to determine which sites had the greatest potential for reforestation and which sites were constrained. WM identified several potential limitations that are likely to prohibit sites from being available for reforestation. These limitations included existing preservation easements, large parcels of active agriculture, a large high voltage utility easement, and properties with future development or mining plans (*Attachment 1, Map 2*). Due to the large number of parcels in active agriculture there is a potential for minimal landowner/farmer interest as the conversion of large tracts of productive agricultural land would create a financial burden on the farmer.

With these limitations in mind, WM focused the site evaluation to prioritize sites that consisted of greater than one acre of reforestation potential within a 300-foot riparian buffer on residential and agricultural land. To maximize the amount of riparian buffer opportunities WM used the aerial imagery to identify stream systems not captured on the iMAP data (*Attachment 1, Map 3*).

WM categorized each of the 217 GIS identified sites as having No Potential, Potential – Low Priority, or Potential. WM used the following criteria to categorize a site as having No Potential:

- Existing preservation easements
- Active agriculture areas
- Large high voltage utility easements
- Active mining areas
- Sites within the Critical Area - as these are a higher priority for future MDTA projects with Critical Area Impacts.
- Sites located within Maryland Priority Funding Areas and Enterprise Zones.
- Sites on Cecil County owned land – as these were identified by the County as not available.
- Sites identified by the Cecil Soil Conservation District as encumbered by a recent stream restoration project and easement.

The remaining sites with some potential were further evaluated and downgraded to Low Priority if the following occurred:

- Sites with less than one acre of reforestation potential within a 300-foot riparian buffer on residential and agricultural land.
- Sites consisting of active agricultural fields without opportunities for riparian buffer plantings within 300 feet of streams.

The remaining sites were categorized as having Potential. This designation was given to sites with greater than one acre of reforestation potential within a 300-foot riparian buffer on residential and agricultural land. This gives priority to plantings that will improve water quality and are likely located on less productive fields that landowners/farmers may be more interested in planting in trees.

2.2. Public Entity Coordination

To identify potential sites on public owned land, WM coordinated with Chris Homeister, DNR liaison, who determined no DNR properties were available in Principio Creek Tier II Watersheds. DNR has also confirmed that there no DNR properties available for reforestation within any Tier II Watershed in Cecil County.

WM also consulted Stephen O'Connor, Chief of Cecil County Planning and Zoning who confirmed that there is no public land available for reforestation within the Principio Creek Tier II watershed. WM reached out to Chris Brown, District Manager of the Cecil Soil Conservation District to inquire about knowledge of potentially willing farmers. Chris provided information on recent stream restorations that were completed on farms which are now encumbered by easements; these sites were dropped.

In addition, WM reached out to DNR representatives and Cecil County Planning and Zoning reviewers to identify potential existing forest banks within the Principio Creek Tier II Watersheds. Cecil County Planning and Zoning confirmed that there are no existing forest mitigation banks within the Principio Creek 1, 2, or 3 Tier II Watersheds.

3.0 RESULTS

The desktop review of the 217 GIS identified sites resulted in 113 No Potential sites, 47 Potential – Low Priority sites, and 57 Potential sites (*Attachment 1, Map 4*). The 57 Potential sites contain a potential of 370 acres of land available for reforestation according to the criteria described in *2.1 Desktop Review* and are owned by 41 landowners. On December 17, 2020 MDTA sent letters to the 41 landowners of the 57 Potential sites expressing interest in planting trees on the identified properties. The letters requested a timely response via email if they were interested in further discussing the reforestation opportunity. If no response was provided by January 8, 2021, WM assumed the property owner was not interested. These properties and correspondence with the property owners are summarized in *Attachment 2*.

3.1 Reforestation Opportunities

Following the mailing of the site search letters, MDTA received responses from six property owners who were interested in discussing the potential of reforestation with MDTA. Based on property owner responses, WM coordinated with the six potentially interested landowners to determine the potential planting areas on the property and the level of interest. The property owner of site P1195 expressed interest in plantings. The property owner of site P2676 reached out to express interest in plantings as screenings along the property line; however, due to the area of interest being well under the minimum 1.0 acre, the site was not recommended for planting. Site P1365 expressed an initial interest in tree plantings; however, after multiple attempts to contact the owner with no response it is assumed the owner is no longer interested. Site P2806 had the potential for tree plantings; however, on February 9, 2021 an email was received that the landowner was no longer interested. Two property owners were interested in further information, but following initial coordination were not interested in moving forward.

Following initial coordination only one property owner, site P1195, expressed continued interest in having trees planted on a portion of their property. MDTA moved forward with coordination and held an on-site meeting with site P1195's property owner. At the meeting the property owner expressed interest in getting more information and moving forward in the process but reserved the right to withdraw interest at

any time. As a result, MDTA developed a draft planting plan for 3.32 acres of reforestation, draft plat, and restrictive covenants for the landowner to review. However, after months attempting to contact via email and phone there was no response from the landowner. MDTA then sent a letter on April 12, 2022 requesting a response by May 15, 2022 otherwise it would be assumed they were no longer interested (*Attachment 2*). A response has not been received; therefore, MDTA considers site P1195's property owner to not be interested. As a result, no off-site reforestation opportunities have been identified.

4.0 CONCLUSION

The memo provides the results of a site search conducted within the Principio Creek Tier II watershed. Based on this site search, **no off-site reforestation areas are available**. Table 1 provides a summary of the overall Tier II impacts and reforestation needs and opportunities for the project. MDTA is attempting to provide in-kind mitigation to the maximum extent economically feasible; however, once those options are exhausted, MDTA will evaluate and propose out-of-kind alternatives to offset remaining water quality impacts. The values in Table 1 are subject to change as the project design is further refined.

Table 1: Summary of Reforestation

I-95 at Belvidere Road Interchange	
Total on-site Forest Cover Impacts	56.68 acres
Total on-site Reforestation Available	18.68 acres
Total Other Reforestation Required	**38 acres**
Total off-site Reforestation Available	0 acres
Total forest cover loss in Tier II Watershed	**38 acres**

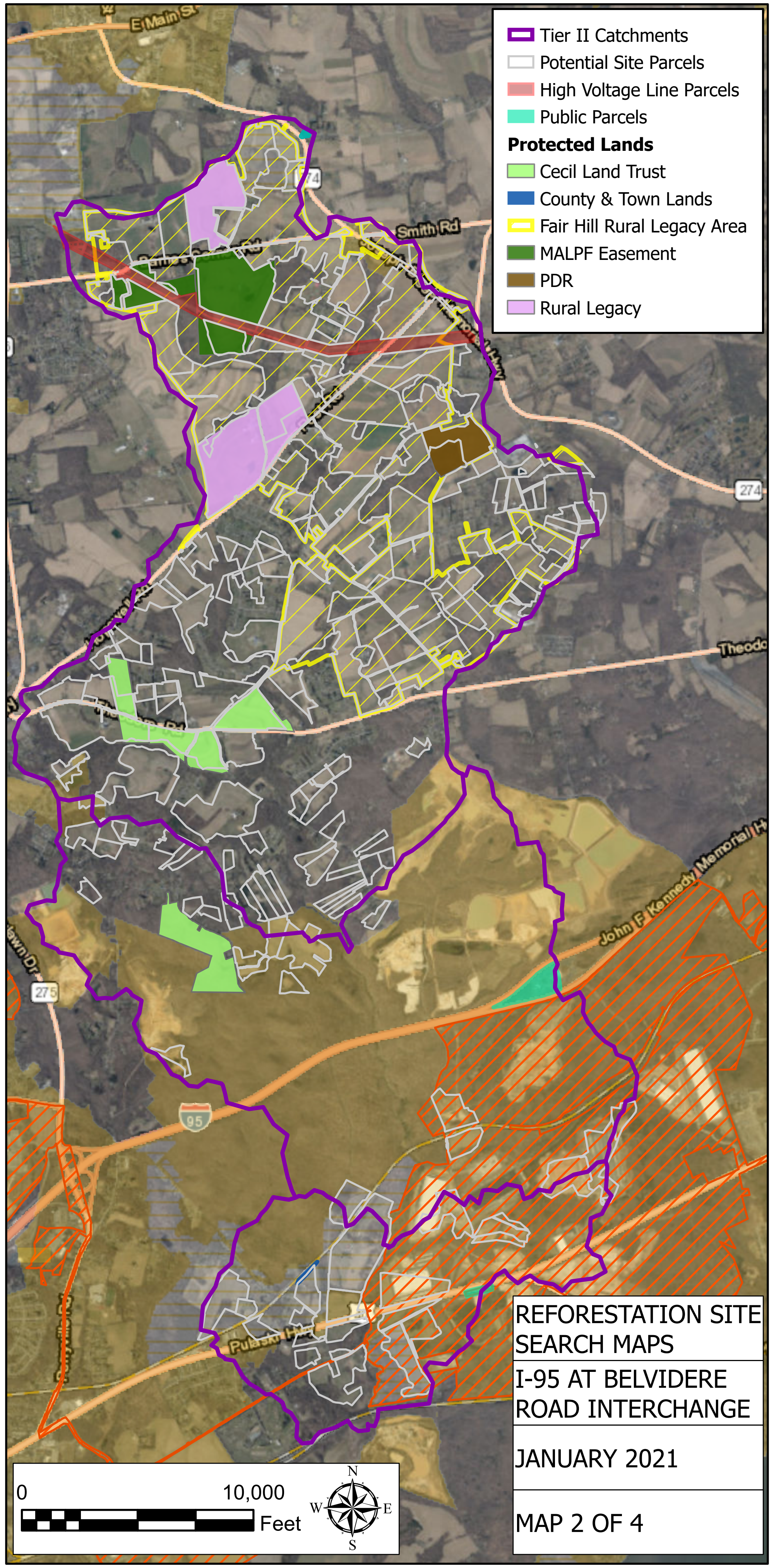
Please note: The values in Table 1 are subject to change.

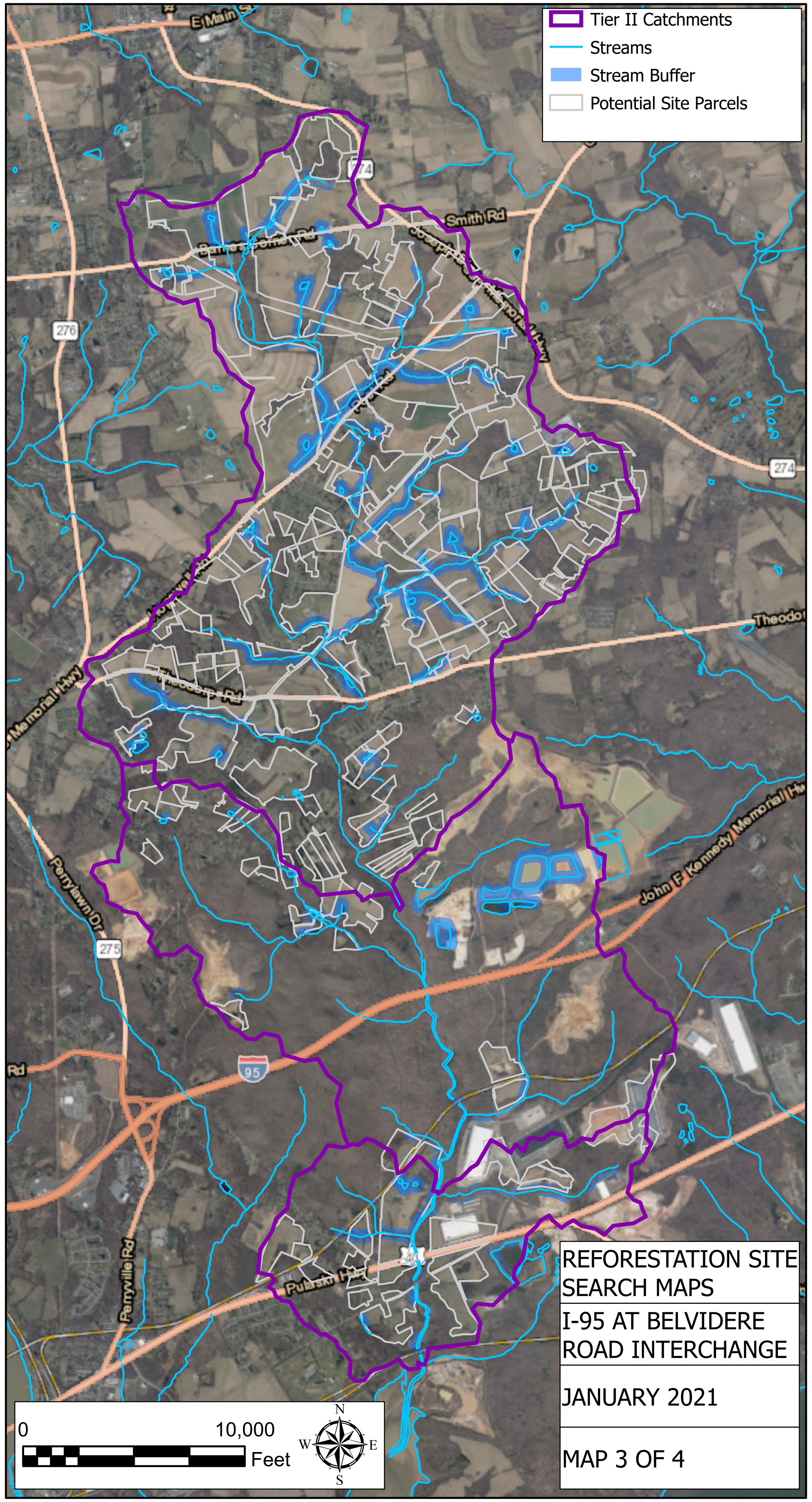
5.0 ATTACHMENTS

Attachment 1: Reforestation Site Search Maps
Attachment 2: Reforestation Site Search Coordination Summary

ATTACHMENT 1
Reforestation Site Search Maps


Tier II Catchments
Potential Site Parcels
REFORESTATION SITE SEARCH MAPS
I-95 AT BELVIDERE ROAD INTERCHANGE
JANUARY 2021
MAP 1 OF 4
0
10,000
Feet


Tier II Catchments
Potential Site Parcels
High Voltage Line Parcels
Public Parcels
Protected Lands
Cecil Land Trust
County & Town Lands
Fair Hill Rural Legacy Area
MALPF Easement
PDR
Rural Legacy
REFORESTATION SITE SEARCH MAPS
I-95 AT BELVIDERE ROAD INTERCHANGE
JANUARY 2021
MAP 2 OF 4
0
10,000
Feet


Tier II Catchments
Streams
Stream Buffer
Potential Site Parcels
REFORESTATION SITE SEARCH MAPS
I-95 AT BELVIDERE ROAD INTERCHANGE
JANUARY 2021
MAP 3 OF 4
0
10,000
Feet

Site Search Results Summary	
Potential	57 Sites Identified
Potential - Low Priority	47 Sites Identified
No Potential	113 Sites Identified

Streams
Tier II Catchments
Site Potential
Potential
Potential - Low Priority
No Potential

0 10,000 Feet

N W E S

REFORESTATION SITE SEARCH MAPS
I-95 AT BELVIDERE ROAD INTERCHANGE
JANUARY 2021
MAP 4 OF 4

ATTACHMENT 2
Reforestation Site Search Coordination Summary

Belvidere Tier II Reforestation Site Search Coordination Summary

Number of Sites	Site ID	Site Potential Category	Potential Riparian Planting Acres	Property Information								Owner Contact Tracking									
				Property Owner Name	Property Address	Mailing Address	Parcel Account ID	Parcel Acres	MAP	GRID	PARCEL	Initial MDTA Letter Requesting Interest - 12/17/2020 Certified Mailing Status	Property Owner Response Received	Initial Phone Conversation	Property Owner Interest After Initial Conversation	MDTA Email Sent with Proposed Planting Map	MDTA Followup Email Attempts	MDTA Followup Call Attempts	Property Owner Interest After Reviewing Proposed Map	Site Moving Forward - Reasoning	MDTA Perpetual Easement Coordination
1	P1195	Potential	5.37	HUEGEL JOSHUA A	249 FLORAL WAY RISING SUN 21911	249 FLORAL WAY, RISING SUN, MD 21911	805129591	21	'0023	'0006	'0073	Delivered	Email 12/23/2020	1/4/2021	Yes	2/1/2021	2/4/2021, 2/18/2021	2/8/2021, 2/18/2021	Yes, interested, via email 2/18/21	No, assumed not interested after no response to letter	Drafted plat and language. Landowner did not respond.
2	P2676	Potential	1.75	KEFAUVER MICHAEL P	381 JACKSON PARK RD PORT DEPOSIT 21904	381 JACKSON PARK ROAD, PORT DEPOSIT, MD 21904	807006195	19	'0023	'0011	'0082	Delivered	Email 1/11/2021	1/15/2021	Yes	1/15/2021	2/1/2021, 2/18/2021	2/1/2021, 2/18/2021	Interested in only property line screening, potential 0.1 to 0.3 acres, via email 2/18/2021	No, potential is less then 1 acre minimum	N/A
3	P1365	Potential	3.27	RYAN MICHAEL P	2516 RED TOAD RD RISING SUN 21911	2516 RED TOAD RD, RISING SUN, MD 21911	806003966	6	'0018	'0001	'0018	Delivered	Email 12/29/2020	1/5/2021	Yes	1/5/2021	2/1/2021, 2/18/2021	2/1/2021, 2/18/2021	No Response Received	No, assumed not interested	N/A
4	P2086	Potential	3.16	BROWN MARY K & JOHN SMITH	68 TOWERS LN RISING SUN 21911	68 TOWERS LANE, RISING SUN, MD 21911	806043828	13	'0018	'0008	'0010	Delivered	Email 1/7/2021	1/12/2021	Yes	1/12/2021	2/1/2021	2/1/2021	Not Interested, via phone call 2/1/2021	No, not Interested, owner decided no longer interested in planting pasture	N/A
5	P3433	Potential	4.38	THOMAS WARREN EDWARD & LAURIE ANN	1532 BELVIDERE RD PORT DEPOSIT 21904	2305 TIMBER RIDGE RD, SAINT JACOB, IL 62281-1050	805024617	22	'0017	'0023	'0017	Delivered	Email 1/6/2021	1/12/2021	Yes	1/12/2021	None	1/13/2021	Not Interested, via phone call 1/13/2021	No, not interested in Perpetual Easement, limited access to crop field	N/A
6	P1544	Potential	8.44	MINK JAMES E & LILLIAN A	2159 PRINCIPIO RD RISING SUN 21911	2159 PRINCIPIO RD, RISING SUN, MD 21911-2410	806012035	53	'0024	'0001	'0024	Delivered	Email 1/8/2021	1/12/2021	No	N/A	N/A	N/A	N/A	Owner attempting to sell property under an estate, not interested	N/A
7	P1544	Potential		MINK JAMES E & LILLIAN A	2159 PRINCIPIO RD RISING SUN 21911	2159 PRINCIPIO RD, RISING SUN, MD 21911-2410	806012035	53	'0018	'0007	'0018		Email 1/8/2021	1/12/2021	No	N/A	N/A	N/A	N/A	Owner attempting to sell property under an estate, not interested	N/A
8	P1262	Potential	7.51	ASTLE NORMAN E & HELEN L	65 ASTLE LN PORT DEPOSIT 21904	65 ASTLE LN, PORT DEPOSIT, MD 21904-1372	806000495	176	'0018	'0001	'0007	Out for Delivery	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
9	P1265	Potential	4.58	ASTLE NORMAN E & HELEN L	927 HOPEWELL RD PORT DEPOSIT 21904	65 ASTLE LN, PORT DEPOSIT, MD 21904-1372	806000509	145	'0024	'0008	'0007		No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
10	P1277	Potential	19.43	AYERS FARM LLC	560 BARNES CORNER RD RISING SUN 21911	560 BARNES CORNER ROAD, RISING SUN, MD 21911	806000541	150	'0018	'0002	'0008	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
11	P1277	Potential		AYERS FARM LLC	560 BARNES CORNER RD RISING SUN 21911	560 BARNES CORNER ROAD, RISING SUN, MD 21911	806000541	150	'0018	'0002	'0008		No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
12	P1280	Potential	9.09	AYERS FARM LLC	324 BARNES CORNER RD RISING SUN 21911	560 BARNES CORNER ROAD, RISING SUN, MD 21911	806000568	43	'0017	'0005	'0008	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
13	P1280	Potential		AYERS FARM LLC	324 BARNES CORNER RD RISING SUN 21911	560 BARNES CORNER ROAD, RISING SUN, MD 21911	806000568	43	'0017	'0006	'0009		No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
14	P1280	Potential		AYERS FARM LLC	324 BARNES CORNER RD RISING SUN 21911	560 BARNES CORNER ROAD, RISING SUN, MD 21911	806000568	43	'0017	'0006	'0009		No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
15	P1280	Potential		AYERS FARM LLC	324 BARNES CORNER RD RISING SUN 21911	560 BARNES CORNER ROAD, RISING SUN, MD 21911	806000568	43	'0018	'0007	'0009		No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
16	P1702	Potential	9.94	BELL RICHARD F SR	2616 RED TOAD RD RISING SUN 21911	2616 RED TOAD RD, RISING SUN, MD 21911-2403	806016405	24	'0023	'0004	'0010	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
17	P1357	Potential	2.92	COOK BETTYLEE LIFE ESTATE	793 HOPEWELL RD RISING SUN 21911	793 HOPEWELL ROAD, RISING SUN, MD 21911-2130	806003583	29	'0018	'0008	'0010	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
18	P3828	Potential	3.52	FARMER TERRY L & RITA D	1449 EBENEZER CHURCH RD RISING SUN 21911	1449 EBENEZER CHURCH ROAD, RISING SUN, MD 21911-2548	806037909	7	'0017	'0012	'0010	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
19	P1614	Potential	13.05	FARMINGTON ACRES LLC	755 BARNES CORNER RD COLORA 21917	755 BARNES CORNER RD, RISING SUN, MD 21911	806014321	145	'0018	'0013	'0011	In-Transit	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
20	P1614	Potential		FARMINGTON ACRES LLC	755 BARNES CORNER RD COLORA 21917	755 BARNES CORNER RD, RISING SUN, MD 21911	806014321	145	'0018	'0013	'0011		No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
21	P334	Potential	3.03	GAMBOA ABEL	56 EDMUNDSON LN RISING SUN 21911	2464 LEWISVILLE RD, OXFORD, PA 19363	805023068	38	'0018	'0014	'0018	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
22	P1318	Potential	2.85	GIFFORD MARY V - LE	650 HARRINGTON RD RISING SUN 21911	650 HARRINGTON RD, RISING SUN, MD 21911	806001750	97	'0018	'0015	'0020	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
23	P2240	Potential	2.87	GILBERT DENNIS R SR &	21 DISTRICT LN PORT DEPOSIT 21904	21 DISTRICT LN, PORT DEPOSIT, MD 21904-1437	806046975	53	'0017	'0004	'0033	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
24	P1215	Potential	3.63	GOINS ALVIS S	WATERWHEEL DR PORT DEPOSIT 21904	3130 CHURCHVILLE RD, CHURCHVILLE, MD 21028	805138112	7	'0010	'0023	'0033	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
25	P3841	Potential	4.77	GUETHLER JOHN F & JULIE L	220 POST RD RISING SUN 21911	220 POST RD, RISING SUN, MD 21911-2418	806038530	37	'0010	'0024	'0035	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
26	P1438	Potential	2.57	HARRINGTON KENNETH SR	362 HARRINGTON RD RISING SUN 21911	508 HARRINGTON ROAD, RISING SUN, MD 21911	806007678	11	'0010	'0024	'0036	Alert	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
27	P1271	Potential	14.39	HARTLAND HOLDINGS LLC	MONTGOMERY RD RISING SUN 21911	176 PUSEYVILLE RD, QUARRYVILLE, PA 17566	806000533	84	'0010	'0024	'0036	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
28	P2335	Potential	4.68	HASSON SUSAN	HARRINGTON RD RISING SUN 21911	362 HARRINGTON RD, RISING SUN, MD 21911	806048943	20	'0024	'0007	'0039	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
29	P1301	Potential	11.38	HEPBRON HARRY A & JANET A	513 HARRINGTON RD RISING SUN 21911	645 HARRINGTON RD, RISING SUN, MD 21911-2422	806001114	74	'0018	'0015	'0045	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
30	P1301	Potential		HEPBRON HARRY A & JANET A	513 HARRINGTON RD RISING SUN 21911	645 HARRINGTON RD, RISING SUN, MD 21911-2422	806001114	74	'0017	'0006	'0053		No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
31	P1458	Potential	17.28	HIGGINS JAMES J & ANN E	559 THEODORE RD PORT DEPOSIT 21904	559 THEODORE RD, PORT DEPOSIT, MD 21904-1547	806008178	117	'0017	'0006	'0053	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
32	P1458	Potential		HIGGINS JAMES J & ANN E	559 THEODORE RD PORT DEPOSIT 21904	559 THEODORE RD, PORT DEPOSIT, MD 21904-1547	806008178	117	'0023	'0006	'0073		No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
33	P1894	Potential	6.72	HUNT MARGARET C -LIFE ESTATE &	447 POST RD RISING SUN 21911	447 POST RD, RISING SUN, MD 21911-2442	806034128	20	'0011	'0019	'0073	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
34	P405	Potential	1.17	JOHNSON MONTY D & DOROTHY A	559 MCGRADY RD RISING SUN 21911	PO BOX 1099, RISING SUN, MD 21911	805032938	6	'0023	'0011	'0082	In-Transit	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
35	P1740	Potential	15.47	KILBY'S INC	HOPEWELL RD RISING SUN 21911	795 FIRETOWER RD, COLORA, MD 21917-1505	806017339	123	'0017	'0005	'0091	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
36	P2398	Potential	5.23	KILBY'S INC	HOPEWELL RD RISING SUN 21911	795 FIRETOWER RD, COLORA, MD 21917-1505	806052568	54	'0017	'0005	'0091		No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
37	P438	Potential	7.67	LAWDER PROPERTIES # 4 LLC	BELVIDERE RD PORT DEPOSIT 21904	512 GREEN ST, HAVRE DE GRACE, MD 21078-2916	805036240	22	'0017	'0005	'0091	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
38	P3837	Potential	6.64	LUNDGREN CYNTHIA A	115 MONTGOMERY RD RISING SUN 21911	115 MONTGOMERY ROAD, RISING SUN, MD 21911-2105	806037984	16	'0017	'0005	'0091	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
39	P1108	Potential	1.65	MATTHEWS ROBIN LYNN	17 GRAVEL PIT RD PORT DEPOSIT 21904	17 GRAVEL PIT RD, PORT DEPOSIT, MD 21904-1466	805104963	8	'0018	'0007	'0114	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
40	P1560	Potential	7.44	MCADAMS HUGH JR & PATRICIA	1547 HOPEWELL RD PORT DEPOSIT 21904	1547 HOPEWELL ROAD, PORT DEPOSIT, MD 21904-1452	806012604	32	'0017	'0024	'0114	Forwarded	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
41	P512	Potential	15.50	MCDOWELL GRACE E TRUSTEE &	186 MCGRADY RD RISING SUN 21911	255 MCGRADY RD, RISING SUN, MD 21911-2552	805041309	109	'0030	'0019	'0030	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
42	P1099	Potential	2.78	MCMULLEN WILLIAM & SANDRA Y	92 O'LEARY LN PORT DEPOSIT 21904	92 OLEARY LN, PORT DEPOSIT, MD 21904-1470	805101832	21	'0024	'0007	'0024	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
43	P1726	Potential	8.87	MEULENBERG DIRK - TRUSTEE &	360 POST RD RISING SUN 21911	360 POST RD, RISING SUN, MD 21911-2433	806016928	172	'0024	'0013	'0024	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
44	P1726	Potential		MEULENBERG DIRK - TRUSTEE &	360 POST RD RISING SUN 21911	360 POST RD, RISING SUN, MD 21911-2433	806016928	172	'0018	'0014	'0018		No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
45	P1573	Potential	26.41	MEULENBERG EMIEL SEBASTIAAN	1783 PRINCIPIO RD RISING SUN 21911	360 POST RD, RISING SUN, MD 21911	806013066	108	'0018	'0015	'0018	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
46	P1573	Potential		MEULENBERG EMIEL SEBASTIAAN	1783 PRINCIPIO RD RISING SUN 21911	360 POST RD, RISING SUN, MD 21911	806013066	108	'0018	'0013	'0018		No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
47	P3031	Potential	20.76	MILLER AARON S	308 THEODORE RD PORT DEPOSIT 21904	96 FARMLAND RD, LEOLA, PA 17540	807012616	98	'0023	'0011	'0023	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
48	P1341	Potential	20.01	ORR DORIS L	791 POST RD RISING SUN 21911	791 POST RD, RISING SUN, MD 21911-2222	806002889	132	'0018	'0007	'0018	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
49	P1341	Potential		ORR DORIS L	791 POST RD RISING SUN 21911	791 POST RD, RISING SUN, MD 21911-2222	806002889	132	'0018	'0002	'0018		No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
50	P1592	Potential	8.64	ORR SAMUEL L & SHIRLEY I &	510 POST RD RISING SUN 21911	1265 BIGGS HWY, RISING SUN, MD 21911-2222	806013732	15	'0018	'0007	'0018	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
51	P1587	Potential	18.67	ORR SAMUEL LEE	510 POST RD RISING SUN 21911	1265 BIGGS HWY, RISING SUN, MD 21911-2222	806013678	69	'0017	'0018	'0017		No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
52	P3071	Potential	4.49	PRINCIPIO IRON COMPANY	1723 PRINCIPIO FURNACE RD PERRYVILLE 21903	YORK CITY INDUSTRIAL PARK, 950 SMILE WAY, YORK, PA 17404-1798	807013205	142	'0018	'0001	'0018	In-Transit	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
53	P1133	Potential	4.99	RISING SUN INVESTMENTS LLC	EBENEZER CHURCH RD RISING SUN 21911	501 N MAIN ST, CULPEPER, VA 22701-2607	805114764	35	'0018	'0014	'0018	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
54	P2951	Potential	11.10	SHERRARD WARWICK C	1039 PRINCIPIO RD PORT DEPOSIT 21904	385 CAMP MEETING GROUND RD, PORT DEPOSIT, MD 21904-1508	807011180	109	'0017	'0018	'0017	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
55	P2443	Potential	3.37	WILSON DAVID G & DONNA K	576 THEODORE RD PORT DEPOSIT 21904	6152 ENM-ELLWOOD RD, E NEW MARKET, MD 21631	807000596	52	'0023	'0016	'0023	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
56	P2443	Potential		WILSON DAVID G & DONNA K	576 THEODORE RD PORT DEPOSIT 21904	6152 ENM-ELLWOOD RD, E NEW MARKET, MD 21631	807000596	52	'0010	'0024	'0010	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A
57	P271	Potential	7.60	ZARTLER JOHN RAYMOND	MCGRADY RD RISING SUN 21911	2063 RED TOAD RD, PORT DEPOSIT, MD 21904	805017262	64	'0010	'0023	'0010	Delivered	No	N/A	N/A	N/A	N/A	N/A	Not Interested - No Response	No - No Response	N/A

April 12, 2022

Joshua A. and Tracy A. Huegel
249 Floral Way
Rising Sun, MD 21911

Re: Final Notice to Property Owner for Interest in Reforestation
Parcel Account ID Numbers(s): 0805129591
MDTA Contract No: KH 3024-0000
I-95 at Belvidere Road Interchange

The Maryland Transportation Authority (MDTA) has coordinated with you, the property owners, for opportunities to plant trees on your property as mitigation for forest impacts for the I-95 at Belvidere Road Interchange project. MDTA representatives met with you on March 25, 2021 to discuss the steps involved with the process and confirmed your initial interest to move forward. On January 10, 2022, a draft Declaration of Restrictive Covenants along with the proposed Plats were provided to you via email (huegelj@yahoo.com) for your review. The email included a request to set up a meeting to discuss. You responded via email on January 27, 2022 that you would review the materials and provide your availability for a meeting.

MDTA would like to continue in the process and further discuss the next steps; however, MDTA representatives have made multiple attempts to contact you since your January 27th email and have not received a response. You are not mandated to allow tree plantings on your property or to respond, but we appreciate your consideration. If you are still interested or have any questions, please contact Mr. John Wedemeyer, whose contact information is below.

If no response is provided by May 15, 2022, we will assume you are not interested, and MDTA will no longer pursue reforestation on your property unless informed otherwise.

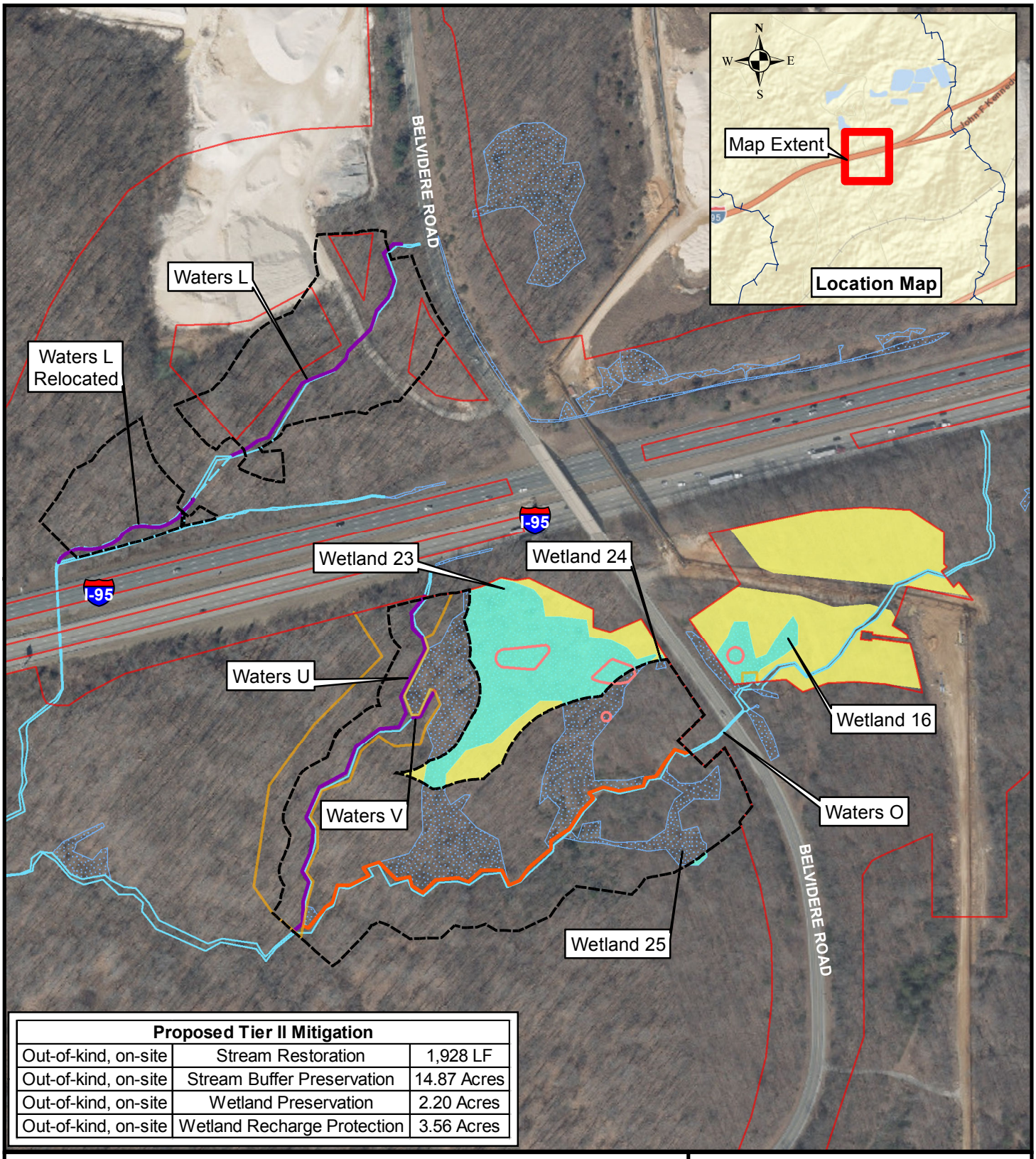
If you are still interested, please contact:
Mr. John Wedemeyer, Real Estate Services Manager
Maryland Transportation Authority
2310 Broening Highway, Baltimore, MD 21201
Jwedemeyer1@mdta.state.md.us
410-537-7894

Sincerely,

on behalf of Melissa Williams

Ms. Melissa Williams, Director
Division of Planning & Program Development
Maryland Transportation Authority

APPENDIX 4
ON-SITE OUT-OF-KIND MITIGATION EXHIBIT
(Same as previous submittal)



Proposed Tier II Mitigation		
Out-of-kind, on-site	Stream Restoration	1,928 LF
Out-of-kind, on-site	Stream Buffer Preservation	14.87 Acres
Out-of-kind, on-site	Wetland Preservation	2.20 Acres
Out-of-kind, on-site	Wetland Recharge Protection	3.56 Acres

LEGEND

- LOD
- Restoration LOD
- Proposed Stream Preservation
- Proposed Stream Restoration
- Proposed Stream Realignment
- Proposed Stream Buffer Preservation
- Proposed Wetland Preservation
- Wetland Recharge Protection
- Delineated Streams
- Delineated Wetlands
- Swamp Pink

0 150 300 600 FEET

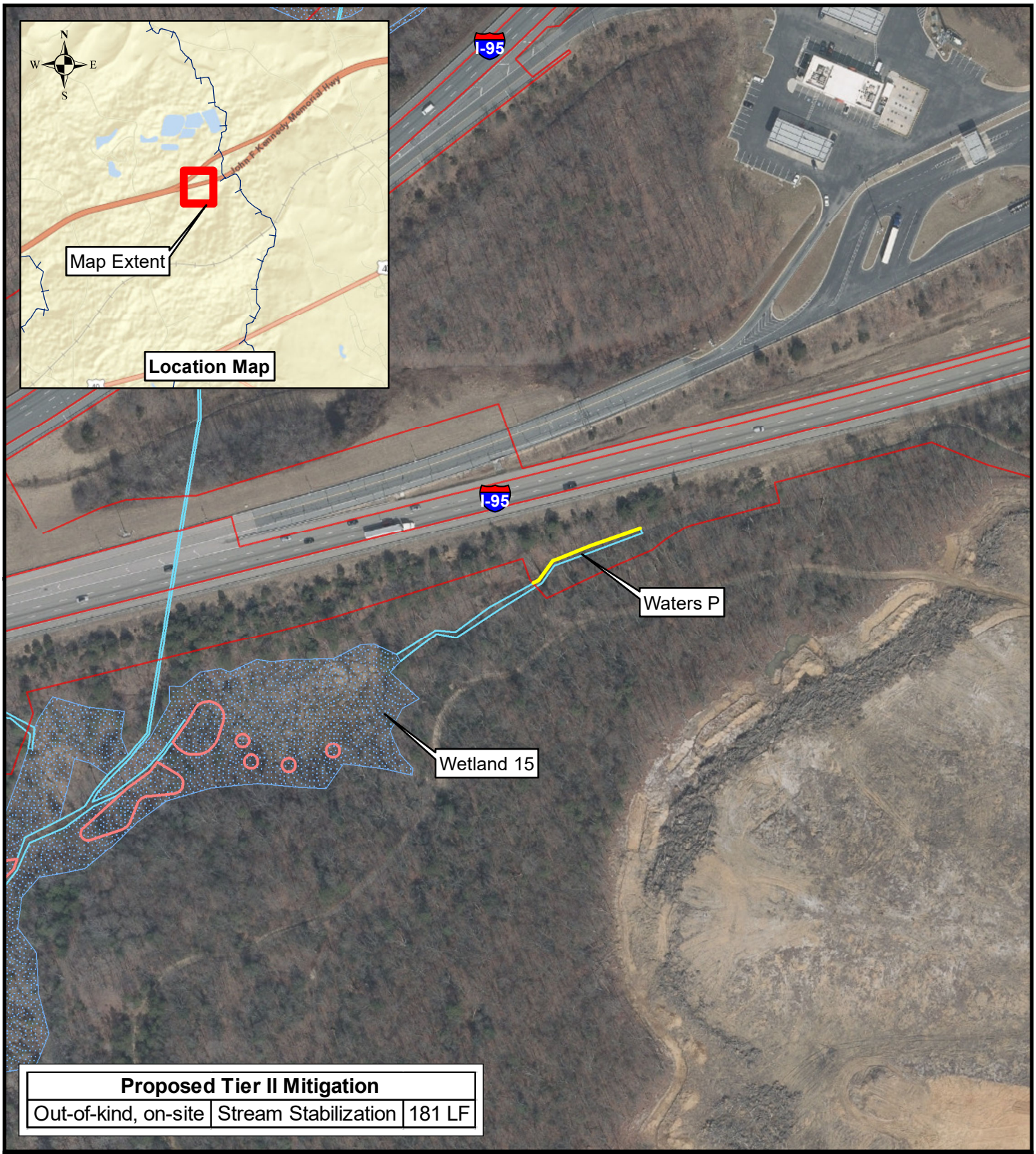
WALLACE MONTGOMERY

APPENDIX 4: FIGURE 1
ON-SITE OUT-OF-KIND MITIGATION

I-95 AT BELVIDERE ROAD INTERCHANGE

JANUARY 2021

DATE OF AERIAL: 2017



LEGEND

- Stream Stabilization
- LOD
- Delineated Streams
- Delineated Wetlands
- Swamp Pink

0 100 200 400 FEET

WALLACE MONTGOMERY

APPENDIX 4: FIGURE 2
ON-SITE OUT-OF-KIND MITIGATION

I-95 AT BELVIDERE ROAD INTERCHANGE

JANUARY 2021

DATE OF AERIAL: 2017