

# TAYLOR SPRING DETENTION BASIN PROGRESS REPORT

August 22

2022

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Director of Engineering, Rockingham County

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## I. BACKGROUND

In recent years, residential neighborhoods that border the headwaters of Congers Creek (a major tributary to Lake Shenandoah) have experienced localized flooding, some severely inundating their homes. Timmons Group was retained by Rockingham County to determine and analyze alternative solutions for improving drainage and reducing flooding within these neighborhoods.

Engineers modeled watershed hydrology and channel/culvert hydraulics to confirm areas of existing drainage problems and to determine anticipated future conditions associated with development within the upper watershed. Based on the results of this evaluation, various engineering and land-use alternatives strategies were presented to improve drainage along Conger's Creek and throughout the greater watershed of Lake Shenandoah. The first and most-beneficial solution the County elected to pursue was to construct a regional stormwater detention basin.

## II. PROJECT LOCATION

The project site is located south of Taylor Spring Lane between Boyers Road and Cumberland Drive in Rockingham County. The 28.9-acre parcel was purchased from Mr. David O'Donnell in October 2020.

## III. PROJECT DESCRIPTION

The proposed project will be the construction of a 6.7-acre regional detention basin. Proposed work includes a 19-foot-high earth dam embankment with an emergency spillway, riser structure, and a 54-inch diameter pipe extending through the embankment. The proposed detention basin is not designed to permanently store water and is expected to drain within a few days after a rain event.

Mass grading will require cuts of up to 8 feet and fills of up to 5 feet outside the proposed embankment area. Fills of up to 20 feet will be required to construct the proposed embankment. Work will also be performed to replace approximately 300 linear feet of sanitary sewer main and to raise existing manhole lids.

Additional projects on-site may be requested such as demolition, debris and tree removal, construction of walking trails, and others. Such additional projects may be added to the project scope on a negotiated change order.

## IV. PROFESSIONAL DESIGNS

Timmons Group performed professional engineering designs and prepared construction documents for a contracted amount of \$115,715. Designs and specifications were reviewed and approved in October 2020.

## V. GRANT FUNDING

On February 24, 2022, the County was awarded a Hazard Mitigation Grant (FEMA-DR-4411-VA-017) from the Federal Emergency Management Agency (FEMA) through the Virginia Department of Emergency Management (VDEM) in the total amount of \$730,000. Rockingham County's share for the grant is \$36,500.

## VI. BID INVITATION AND SELECTION

Bid invitation documents were posted on the County's website on April 20, 2022 with a due date of May 18, 2022. The County received a single proposal for \$1,868,000. Deeming this bid higher than anticipated and significantly over budget, the Board of Supervisors rejected the bid on May 25, 2022.

Bid invitation documents were reposted on the County's website on May 26, 2022 with a due date of June 16, 2022. The County received five proposals. The winning bid (based on the lowest construction cost) was Partners Excavating with a proposal of \$854,460. The Board of Supervisors approved the winning bid on June 22, 2022. A contract for construction with Partners was finalized on July 11, 2022.

## VII. ANTICIPATED PROJECT TIMELINE

Project completion is anticipated to be prior to December 31, 2022.

## VIII. PREVIOUS INSPECTIONS AND COMPLETED TASKS

*(Reports may be produced upon request)*

May 26, 2021: Thorough inspection of site performed to collect data and photos for FEMA grant application.

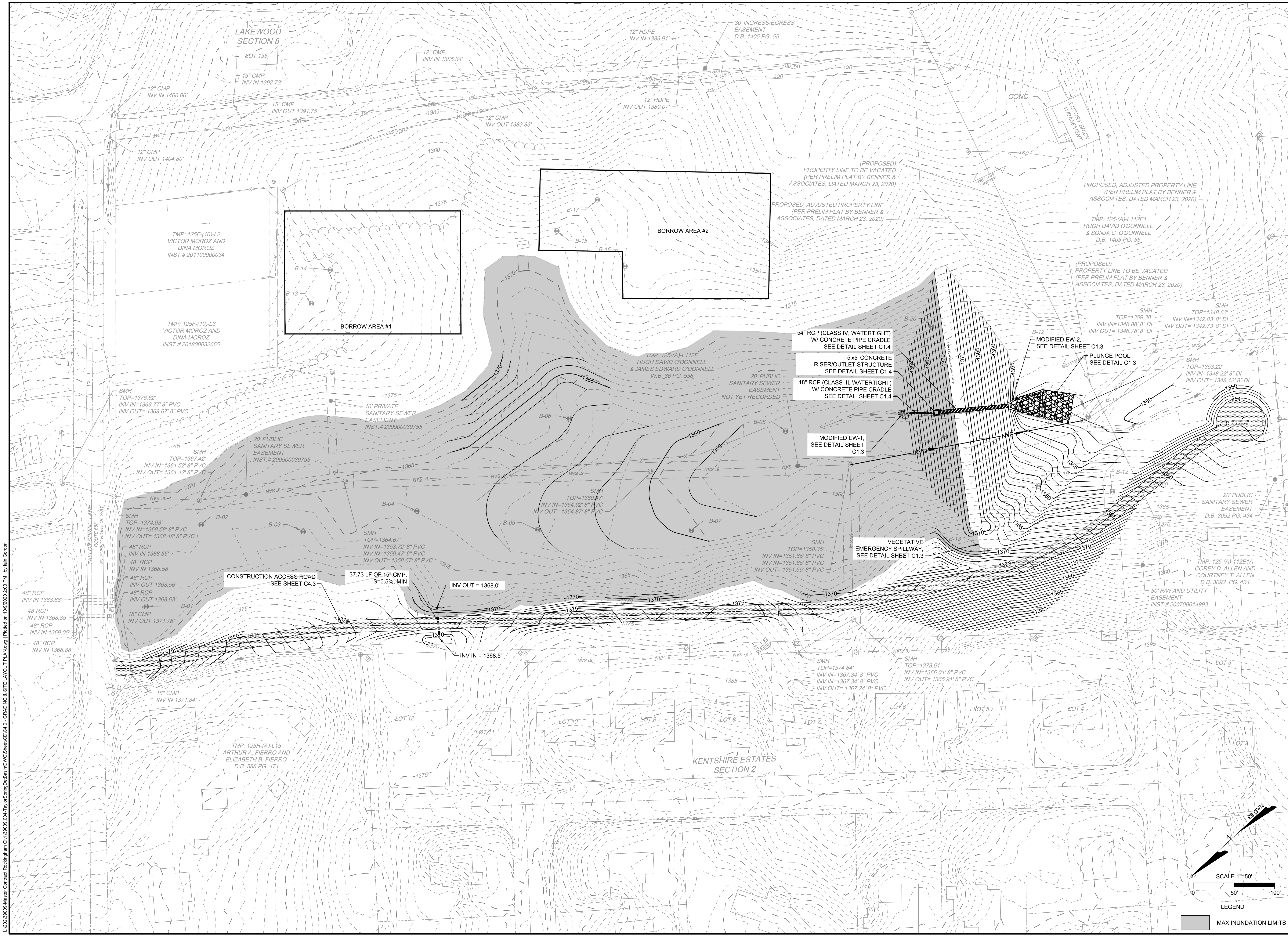
July 29, 2022: Limits of disturbance and key project components surveyed. Site is approximately 33% cleared of vegetation in preparation for earthwork activities. Existing culvert at construction entrance to be replaced to allow for better drainage from ditch along Taylor Spring Lane.

## IX. CURRENT PROJECT STATUS

August 22, 2022: Site is approximately 80% cleared of vegetation in preparation for earthwork activities. Replacement sanitary sewer pipe was delivered today and scheduled for installation this week. Installation of construction entrance and graveled maintenance road to begin this week as well.

## X. APPENDIX

- A. PROJECT DESIGNS
- B. CONSTRUCTION INSPECTION PHOTOS



COMMONWEALTH OF VIRGINIA

SHIRLEY A. STALLINGS REEVES

Reg. No. 049765

10/9/2020

PROFESSIONAL ENGINEER

THIS DRAWING PREPARED AT THE  
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APPROVED

BY ROCKINGHAM COUNTY

DEPARTMENT OF

COMMUNITY DEVELOPMENT

|                                    |           |
|------------------------------------|-----------|
| YOUR VISION ACHIEVED THROUGH OURS. |           |
| DATE                               | DATE      |
|                                    | 10/9/2020 |
| DRAWN BY                           | I. GORDON |
| DESIGNED BY                        | I. GORDON |
| CHECKED BY                         | S. REEVES |
| SCALE                              | 1" = 50'  |

TIMMONS GROUP

TAYLOR SPRINGS STORMWATER BASIN

HARRISONBURG - VA

GRADING & SITE LAYOUT PLAN

JOB NO.  
39009.004

SHEET NO.  
C4.0

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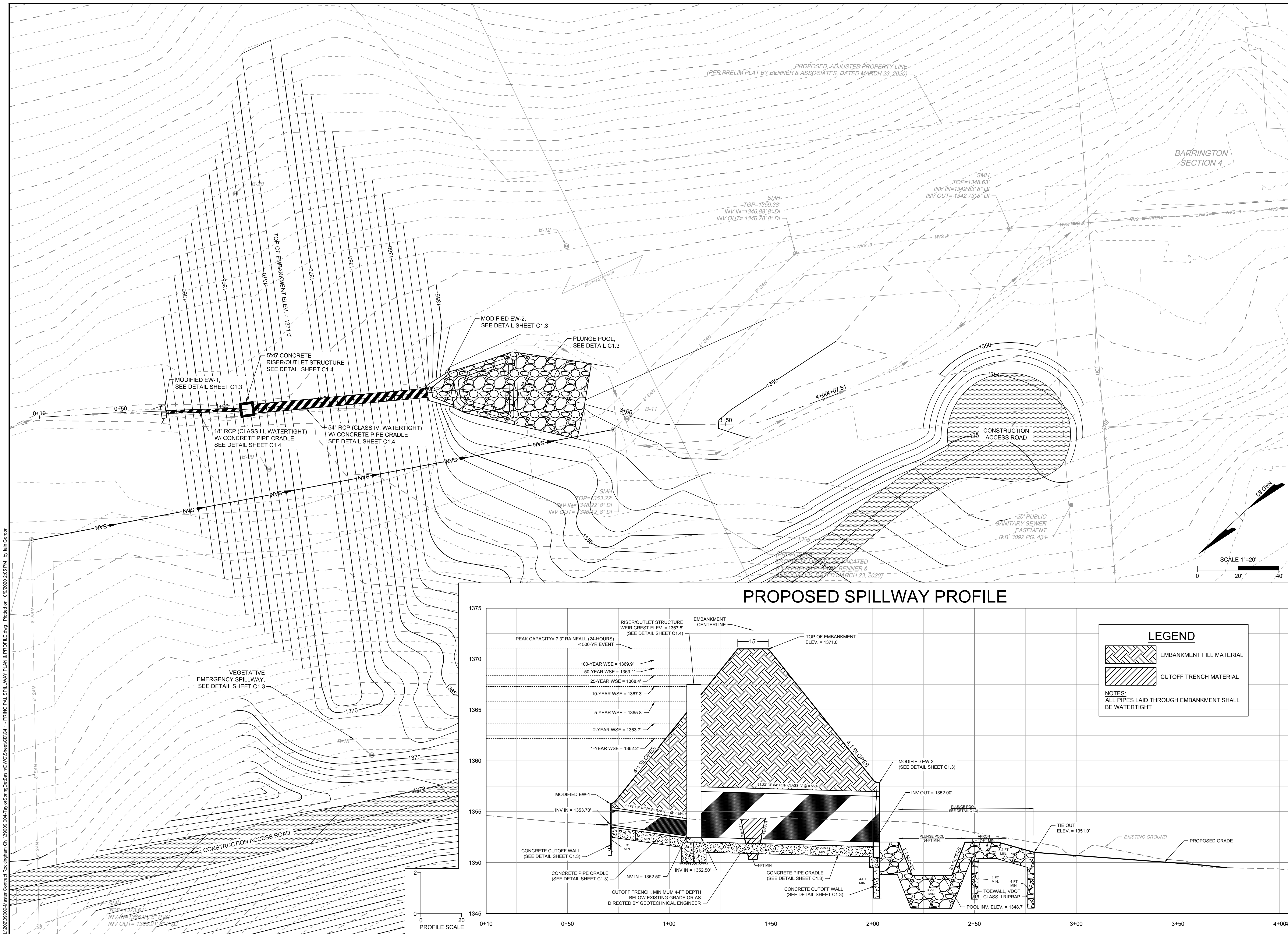
L:\2020\39009-Master Contract Rockingham Cwn\39009-004-TaylorSpringsBasinDWG\SheetC04.dwg GRADING & SITE LAYOUT PLAN.dwg Plotted on 10/8/2020 2:03 PM by Ian Gordon



|      |          |  |  |  |
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| DATE |          |  |  |  |
|      | DATE     |  |  |  |
|      | 10/9/2   |  |  |  |
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|      | AS SH    |  |  |  |

JOB NO.  
39009.004

SHEET NO.  
C4.1





Not To Scale



Culverts under Taylor Spring Lane and construction entrance





Taylor Spring Lane construction entrance





Maintenance road construction progress (above) and existing Kentshire stormwater basin discharge (below)





Maintenance road construction progress





Maintenance road construction progress





Maintenance road construction progress





Earthen embankment construction progress





Site clearing and grubbing progress





Site clearing and grubbing progress





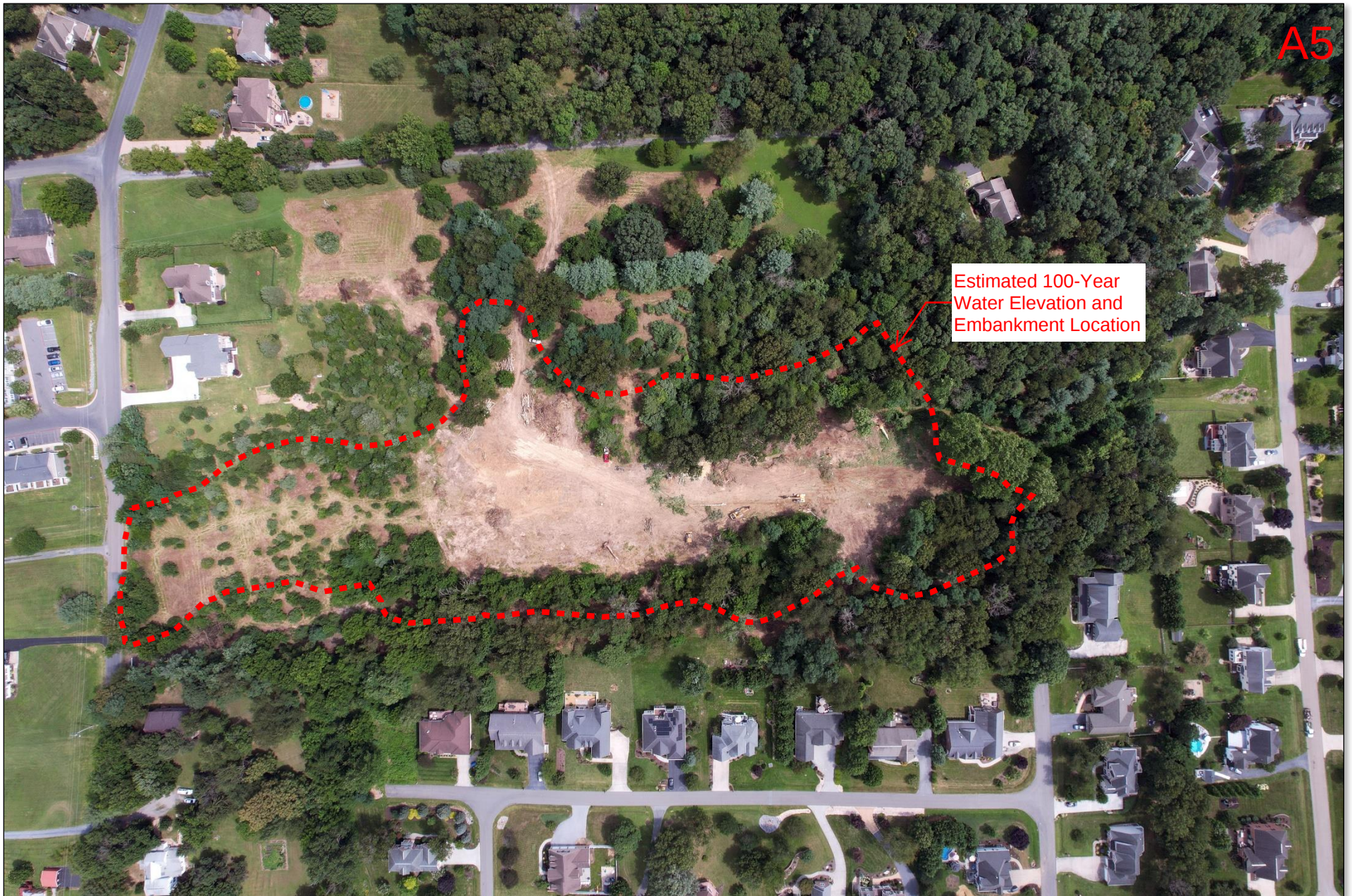
Site clearing and grubbing progress





Aerial photos from cardinal directions (8/5/22)





Estimated 100-Year  
Water Elevation and  
Embankment Location

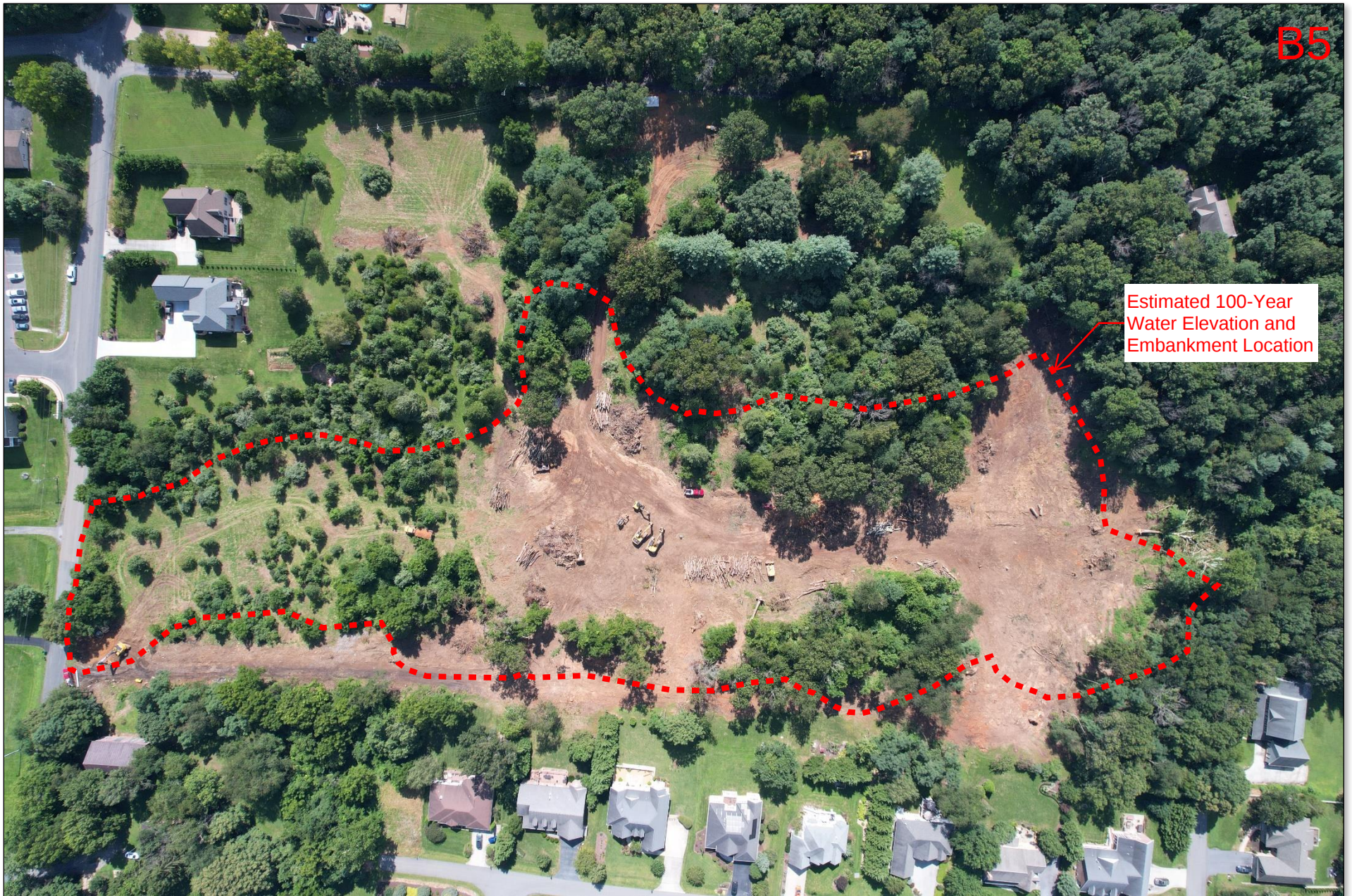
A5

Aerial photo straight down (8/5/22)



Aerial photos from cardinal directions (8/22/22)





B5

Estimated 100-Year  
Water Elevation and  
Embankment Location

Aerial photo straight down (8/22/22)