

ECOVILLAGE CHARLOTTESVILLE

SPECIAL USE PERMIT: SUPPLIMENTARY DOCUMENTATION

- NARRATIVE SUMMARY
- PRESERVED SLOPE DISTURBANCE
- EXISTING AND PROPOSED STORMWATER

SPECIAL USE PERMIT: NARRATIVE SUMMARY

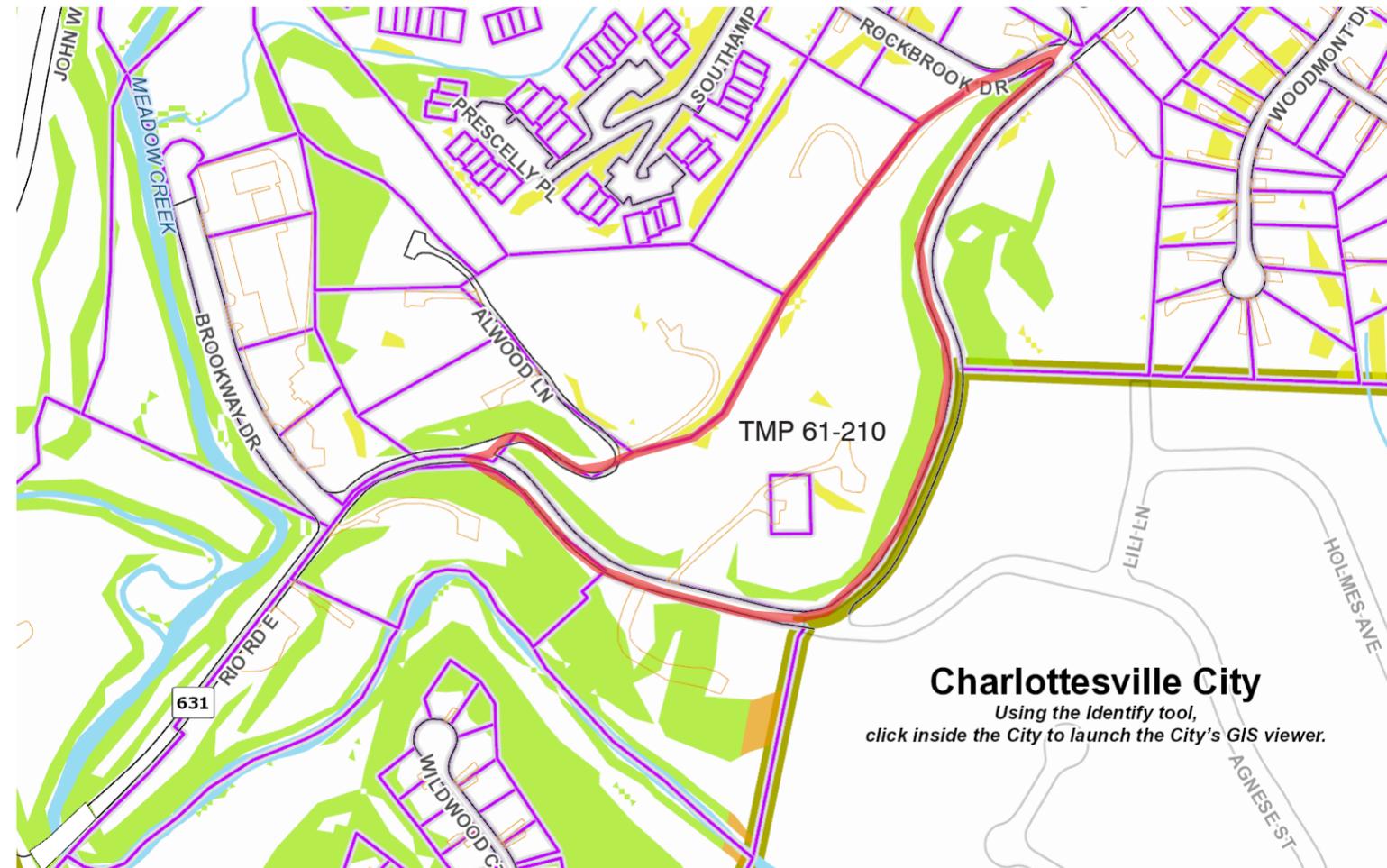
Requested Zoning: Special Use Permit per Sec. 30.7.4(2) to allow for disturbance of preserved slopes for a private accessway

'We envision humanity living in a peaceful, healthy, joyful, sustainable, just, compassionate and very alive world. We envision people living intentional, passionate, and compassionate lives that nurture themselves, others, and the earth.'

– Ecovillage Charlottesville Vision Statement

Ecovillage is a unique and innovative subdivision development, that is looking to promote appropriate density, pedestrian friendly access, and community oriented housing within the development areas of Albemarle County. The proposal is for 36 units on a 6.518 AC parcel. A special use permit to allow disturbance of steep slopes (preserved) is requested to allow for a new entrance to be located at a safe distance along Rio Road East. The layout of the development provides for pedestrian oriented streetscape frontage for the homes by locating all vehicular traffic and parking areas along the outer rim of the development. A network of pedestrian paths weave through the development, promoting connectivity and walkability across the site's 70 FT elevation change. Granting of this request will allow Ecovillage to develop in a manner that is appropriately scaled, cognizant of the safety of residents and guests when accessing the site, and primarily pedestrian where vehicles are secondary to the internal pedestrian connections.

The property has 18,609 SF of managed steep slopes and 56,871 SF of preserved slopes. To develop this property at a density that is appropriate, efficient for the development areas, and provide a safe point of access, the preserved slopes are projected to be disturbed.



Charlottesville City
Using the Identify tool,
click inside the City to launch the City's GIS viewer.

Image from Albemarle County GIS

Parcel: TMP 61-210
Existing Zoning: R-4 Residential
Total Acreage: 6.518 AC

Proposed: 11 Single Family Homes
25 Townhomes

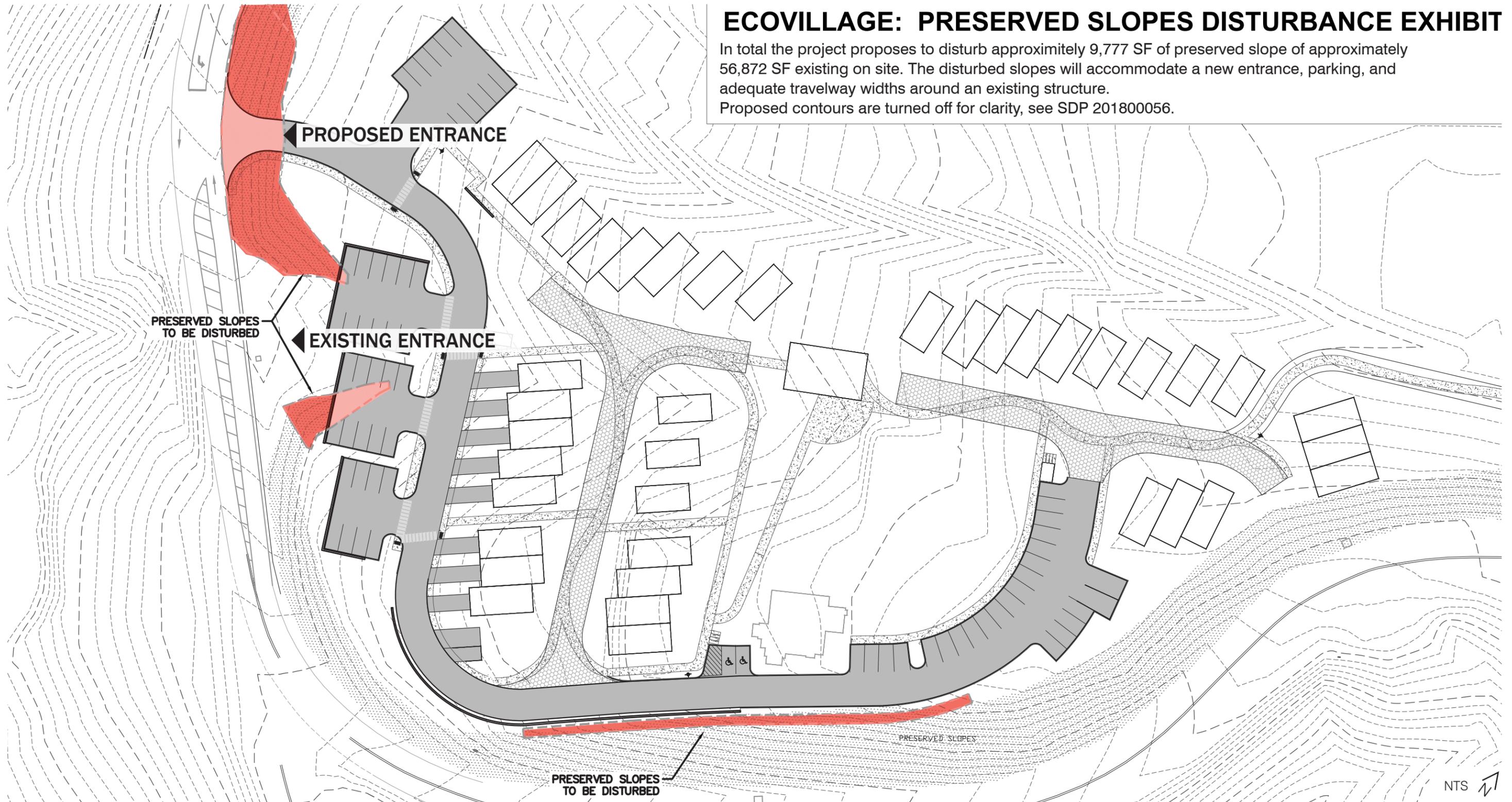
* Copy sampled from Special Use Permit Application.
Full letter has been provided to County separately.

STEEP SLOPES: **PRESERVED SLOPES**

- Existing entrance does not meet VDOT standards for sight distance (recorded speed) or stopping distance
- Proposed entrance meets VDOT standards for sight distance (recorded speed) and stopping distance

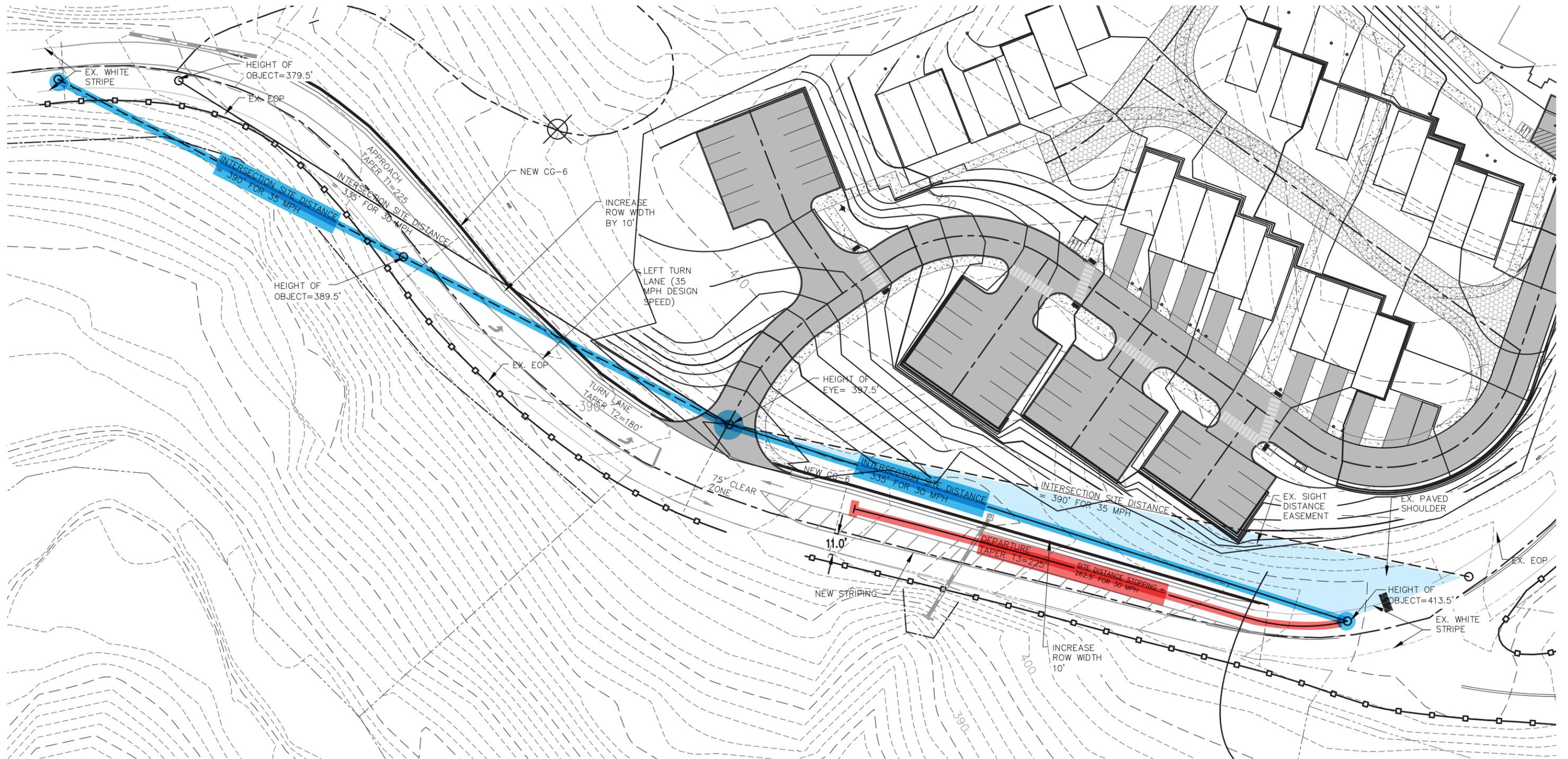
ECOVILLAGE: **PRESERVED SLOPES DISTURBANCE EXHIBIT**

In total the project proposes to disturb approximately 9,777 SF of preserved slope of approximately 56,872 SF existing on site. The disturbed slopes will accommodate a new entrance, parking, and adequate travelway widths around an existing structure. Proposed contours are turned off for clarity, see SDP 201800056.



PROPOSED ENTRANCE - SIGHT DISTANCE & STOPPING DISTANCE

- VDOT has been contacted concerning a sight distance waiver



POTENTIAL AREA OF DISTURBANCE
REMOVED WITH RECEIPT OF VDOT
WAIVER

1"=50' N

ENTRANCE: SPEED STUDY

- Rio Rd E. average recorded speed is below the posted speed



MEMORANDUM

TO: JUSTIN SHIMP, P.E. FROM: BILL WUENSCH, P.E., PTOE
ORGANIZATION: SHIMP ENGINEERING DATE: MAY 11, 2018
PHONE NUMBER: SENDER'S REFERENCE NUMBER:
Re: Rio Road Speed Study YOUR REFERENCE NUMBER:

URGENT FOR YOUR USE PLEASE COMMENT PLEASE REPLY PLEASE RECYCLE

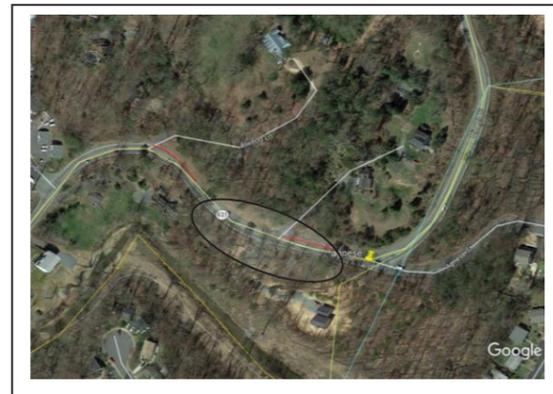
PURPOSE

EPR was asked to perform a speed study along Rio Road in the vicinity of a proposed entrance that will be located in the section between Agnese Road and Alwood Lane.

SPEED STUDY

Rio Road is a rural typical section two lane roadway that connects downtown Charlottesville's Park Street on the south to Route 29, and points west, on the north. Rio Road is classified as a minor arterial roadway per the VDOT roadway classification mapping. The posted speed limit is 35 mph.

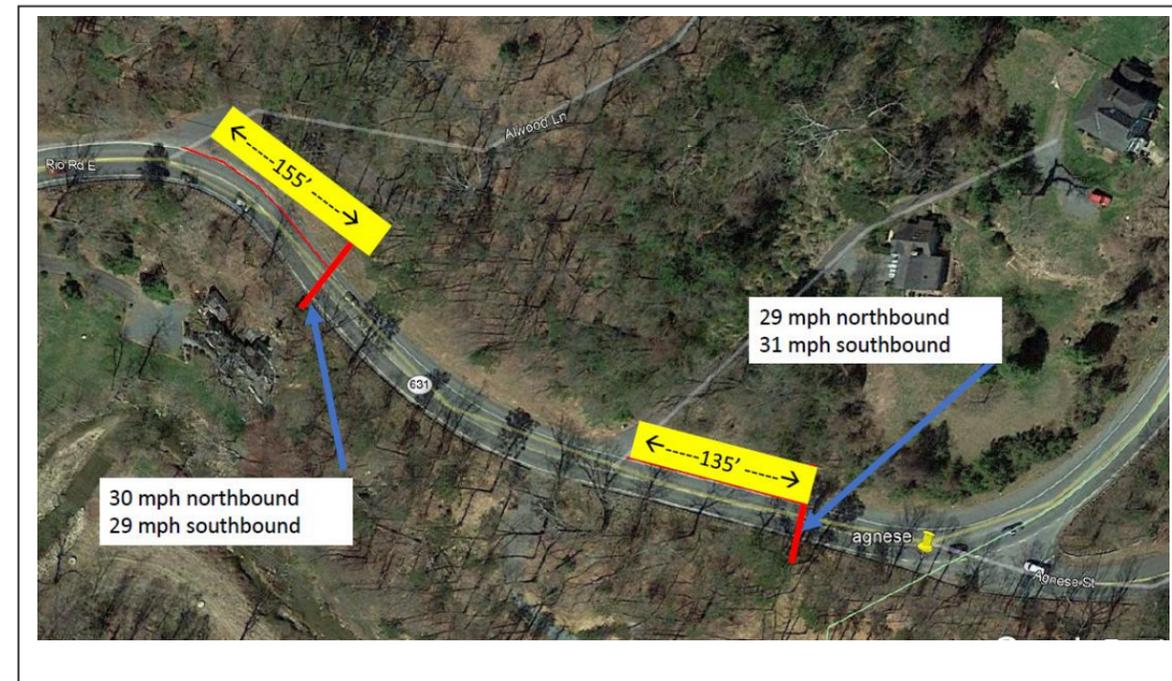
The speed study was conducted utilizing two automated tube counters. The tubes were installed approximately 155' east of Alwood Lane (westerly count) and also 135' west of Agnese Street (easterly count). The easterly counter was in place from Wednesday 4-18-18 through Thursday 4-19-18, and the westerly counter was in place from Tuesday 5-1-18 through Wednesday 5-2-18. Note that both counters were originally placed on the same day but the westerly counter had a tube failure thus had to be re-set for the 2nd count. This data provides 48 hours of counting at each location.



The speed report for this data indicates that the 85th percentile speed is:

- Easterly Count just west of Agnese Street was 29mph for NB and 31 mph for SB Rio Road.
- Westerly County just east of Alwood Lane was 30mph for NB and 29 mph for SB Rio Road.

A graphic illustrating the locations and findings is shown below. The speed study data reports are attached.



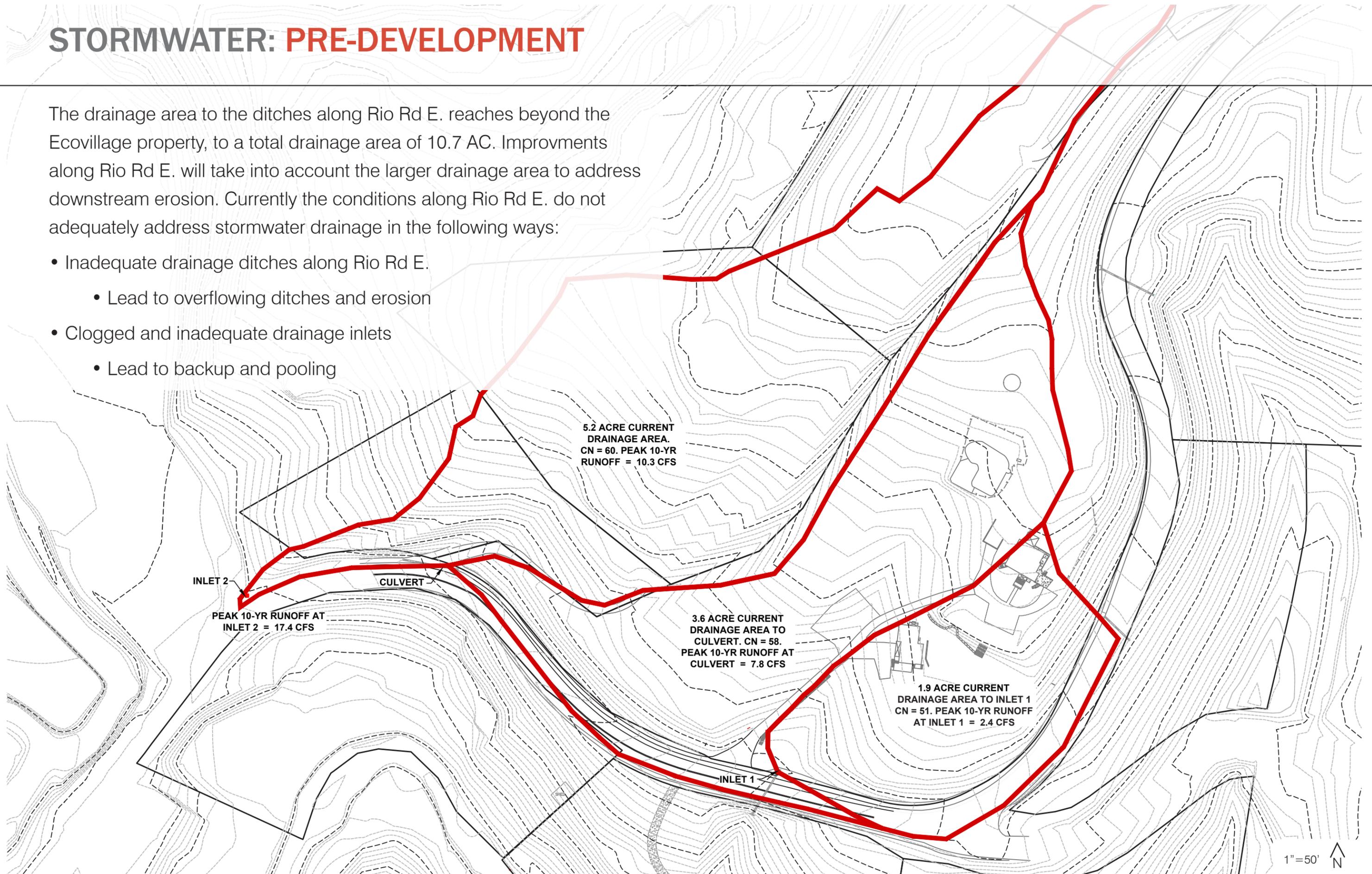
END OF MEMORANDUM
Attachments – Speed reports

*Full EPR PC report has been provided to VDOT. Full report can be provided to County upon request.

STORMWATER: PRE-DEVELOPMENT

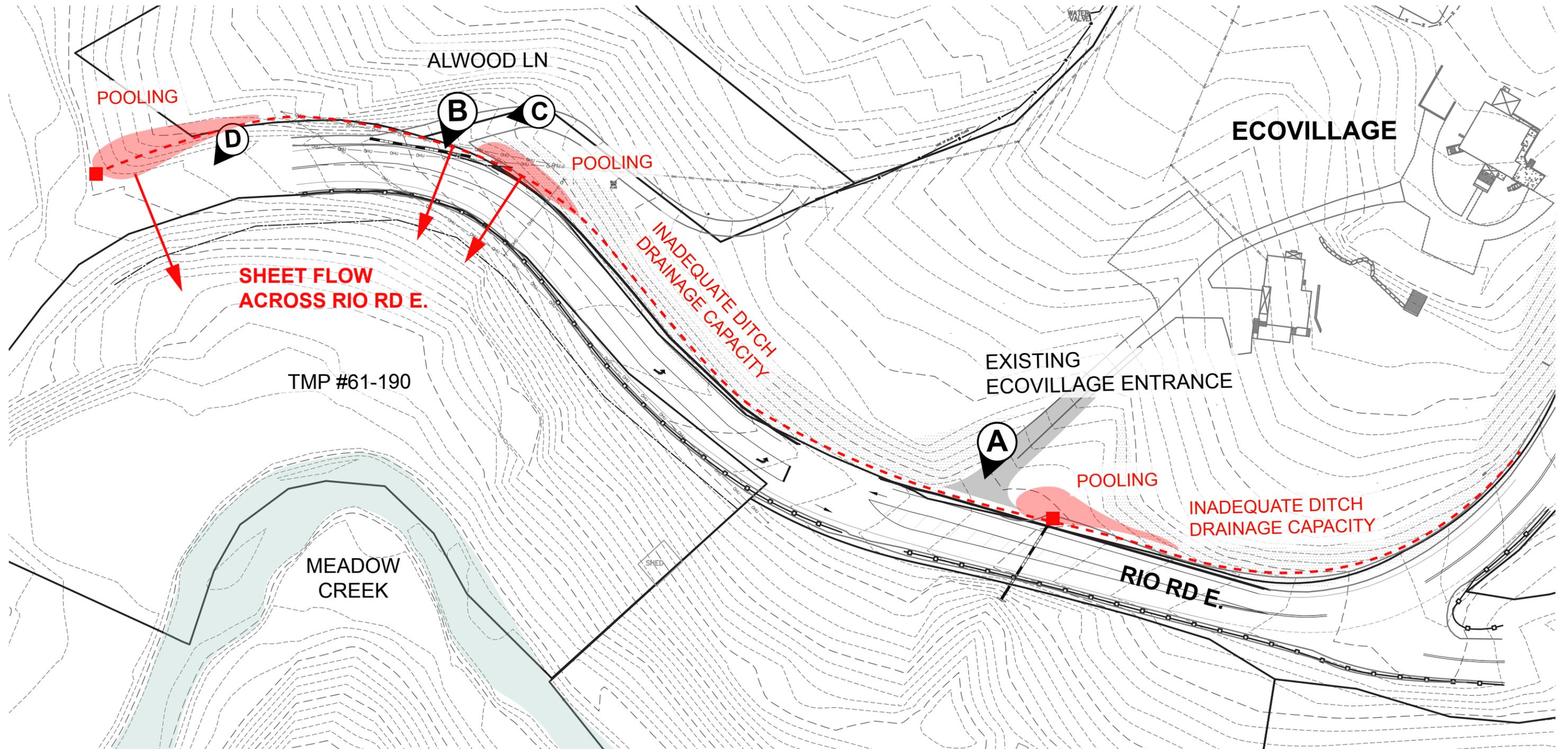
The drainage area to the ditches along Rio Rd E. reaches beyond the Ecovillage property, to a total drainage area of 10.7 AC. Improvements along Rio Rd E. will take into account the larger drainage area to address downstream erosion. Currently the conditions along Rio Rd E. do not adequately address stormwater drainage in the following ways:

- Inadequate drainage ditches along Rio Rd E.
 - Lead to overflowing ditches and erosion
- Clogged and inadequate drainage inlets
 - Lead to backup and pooling



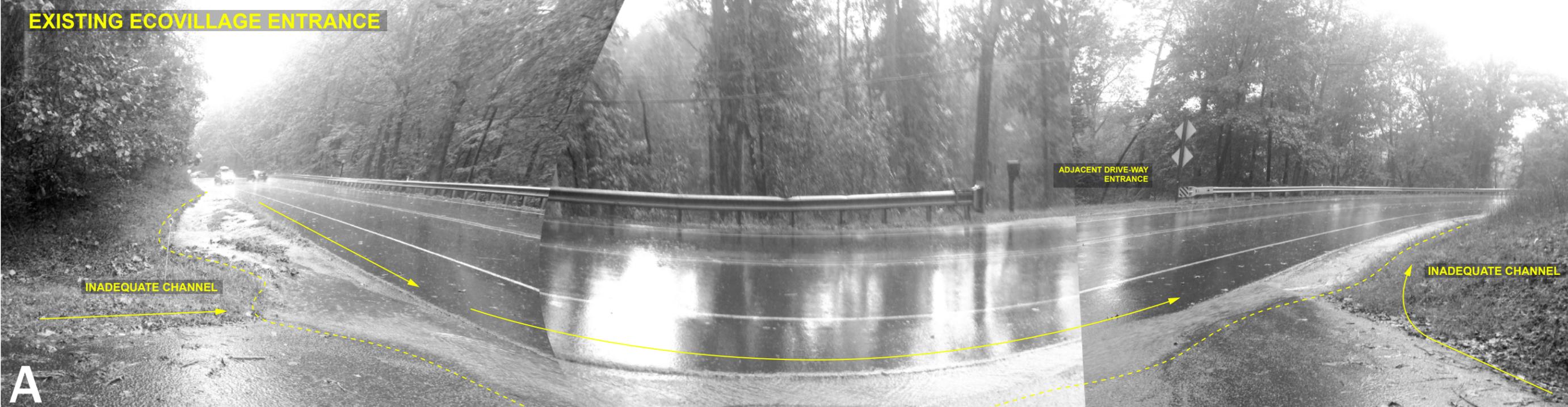
STORMWATER: EXISTING CONDITION SCHEMATIC

- Existing inadequate drainage along Rio Rd East is causing adverse impacts to downhill properties, specifically TMP#61-190.
- See following sheets for photo evidence at locations A-D



NTS ↑
N

STORMWATER: SITE DOCUMENTATION 01



RAIN IMAGES CAPTURED ON 10/22/2018

STORMWATER: SITE DOCUMENTATION 02



STORMWATER IMPROVEMENTS

Stormwater improvements along Rio Rd. E. will address the entire contributing drainage area as well as post-development drainage calculations for Ecovillage.

Four approaches will be implemented to immediately improve Rio Rd East Drainage, which tie into future Ecovillage runoff calculations.

- Improve ditch capacity and velocity (prevent erosion)
- Improve size of drainage inlets (better conveyence)
- Regrade portion of Allwood Lane entrance (within ROW for better conveyence)
- Convey stormwater to Moores Creek floodplain (prevent erosion)

All channel sizing shall account for post-development conditions from the Ecovillage site and contributing drainage areas. All storm runoff shall comply with DEQ and VDOT regulations.

SUMMARY:

Overall objective is to capture more stormwater run off further upstream of existing inadequate areas.

INLET 1 - FLOW INCREASED BY 12.9 CFS (740%)

- More area rooted to inlet 1, inlet size increased

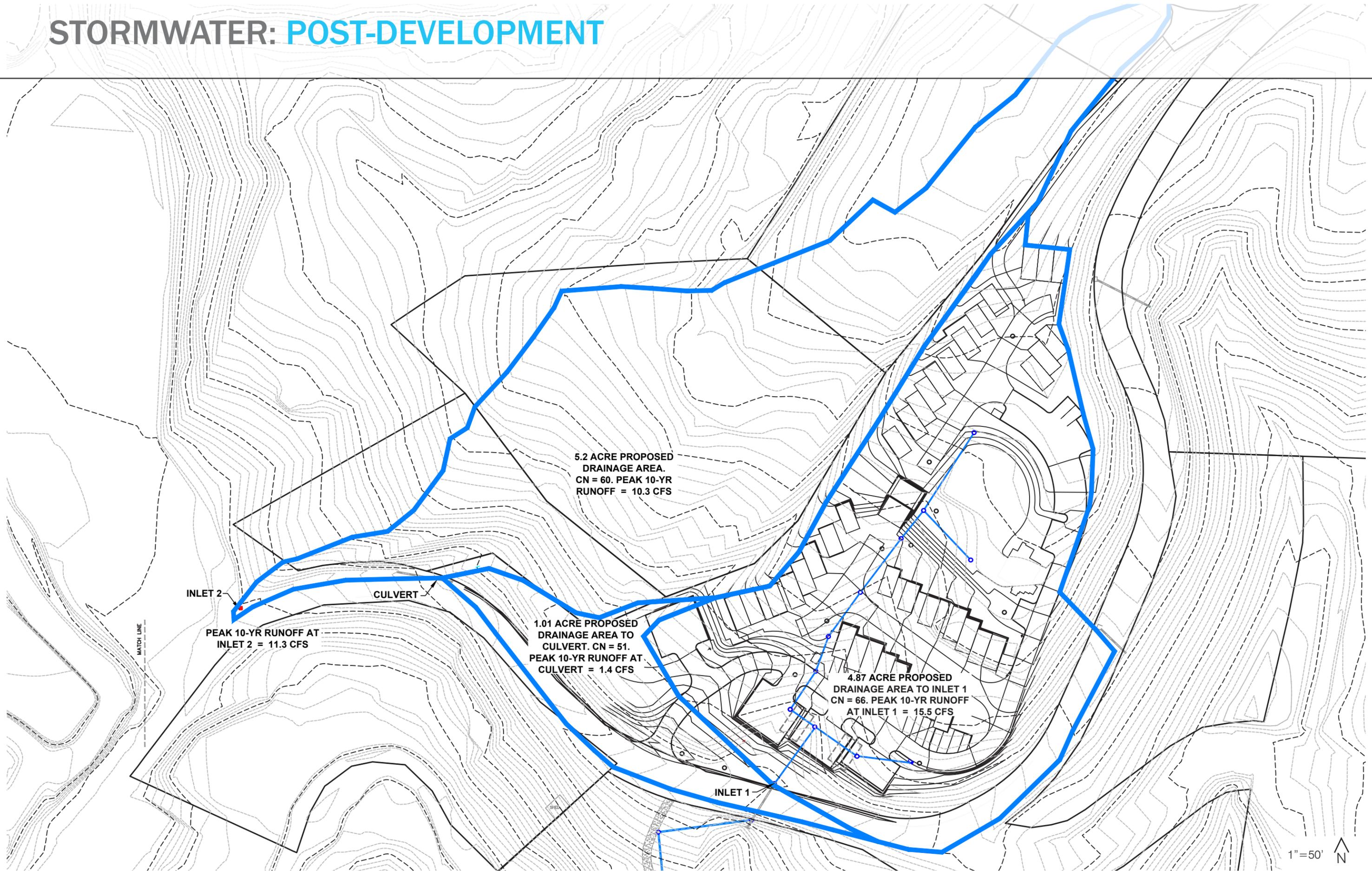
CULVERT - FLOW REDUCED BY 5.0 CFS (22%)

- less area to culvert, improve ditch

INLET 2 - FLOW REDUCED BY 4.8 CFS (56%)

- less total area to inlet

STORMWATER: POST-DEVELOPMENT



STORMWATER: PROPOSED CONDITION SCHEMATIC

Existing inadequate drainage along Rio Rd East is causing damage to downhill properties, specifically TMP#61-190.

