

Preliminary Hydrology Study

for

3410 Atlanta Road

In

**Land Lot 700, 17th District, 2nd Section,
City of Smyrna, Cobb County, Georgia**

For

Butler Development Group

Contact

Frans van Leeuwen

404-277-3774

March 2024

1 Site Description

This preliminary report studies the Hydrological impact of developed run-off on this subject property.

This 0.95 acre site is proposed to be developed with six new attached residential town homes with all related infrastructure.

Access to the property is from Atlanta Road.

Typical on-site slopes ranged from flat to some 30% slopes to the rear of the parcel. Drainage is typically from the rear of the property in a northerly direction towards Atlanta Road.

2 Purpose

The purpose of this study is to do preliminary calculations of the Pre vs Post development drainage basins and determine approximate location/s of detention facilities. Should this development be approved for the proposed rezoning, a detailed hydrology study will be performed during the LDP permitting process.

3 Methodology

Watershed area was determined by planimeter from topographic information supplied by the Cobb County GIS topo maps.

4 Basin Information

As mentioned above, the parcel drains in a generally northerly direction. It does, however, split into two sub basins, each basin being captured by a perimeter headwall tying into existing drainage systems.

In its Pre-Developed stage, the first, larger basin, **PRE A**, captures 0.82 acres. It then discharges into an 18" metal headwall along the northwesterly property line at a point labeled **SP A** (study point A).

The smaller pre-developed basin, **PRE B**, captures 0.27 acres and discharges into an 18" concrete pipe along the R/W at **SP B**

In the Post-development stage, basin A, now called **DEV A**, slightly increases to 0.92 acres, still discharging at SP A.

Basin B, now called **DEV B**, discharges into SP B, as before, while capturing 0.17 acres.

5 Recommendations & Water Quality Measures

Due to the anticipated increase in run-off due to the introduction of impervious surface (rooftops, walkways and driveways), run-off from these surfaces will have to be captured, attenuated and treated by means of some water quality device, prior to leaving the property.

Basin B decreases in size and may not require detention, however, final determination will be made during final design and the LDP permitting process.

Basin A increases in size, and with the additional impervious surfaces being added to the site, a detention/WQ facility will be required. This pond location will be along the northwesterly property line, just prior to entering the existing pipe system at SP A

6 Conclusions

With the site developed as shown, and detention/WQ facilities in place, run-off from all impervious surfaces will be captured, treated and detained.

With proper design and construction, no adverse effects are being anticipated to any other properties, downstream of this property.

ATLANTA ROAD
(RW VARIES)

DEVONSHIRE COURT S/DIV
ZONED: RAD

BELRIDGE DRIVE
(RW VARIES)

DEVONSHIRE COURT S/DIV
ZONED: RAD



256.09'

N26°16'51"E

7.5' S/B

N71°11'09"W

S38°24'03"E

EX. 5FT WIDE S/WALK

SIGHT DISTANCE
LEFT > 450FT

24FT SHARED DRIVEWAY

MAIL KIOSK

COMMUNITY GREENSPACE

20' PRIVATE
W&S ESMT

S47°47'25"W

H.O.A.
OPEN SPACE

S77°19'32"E

S34°46'44"E

EX. R/W

SIGHT DISTANCE
RIGHT > 500FT

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25' S/B

20' LANDSCAPE BUFFER

20FT SHARED DRIVEWAY

VISITORS

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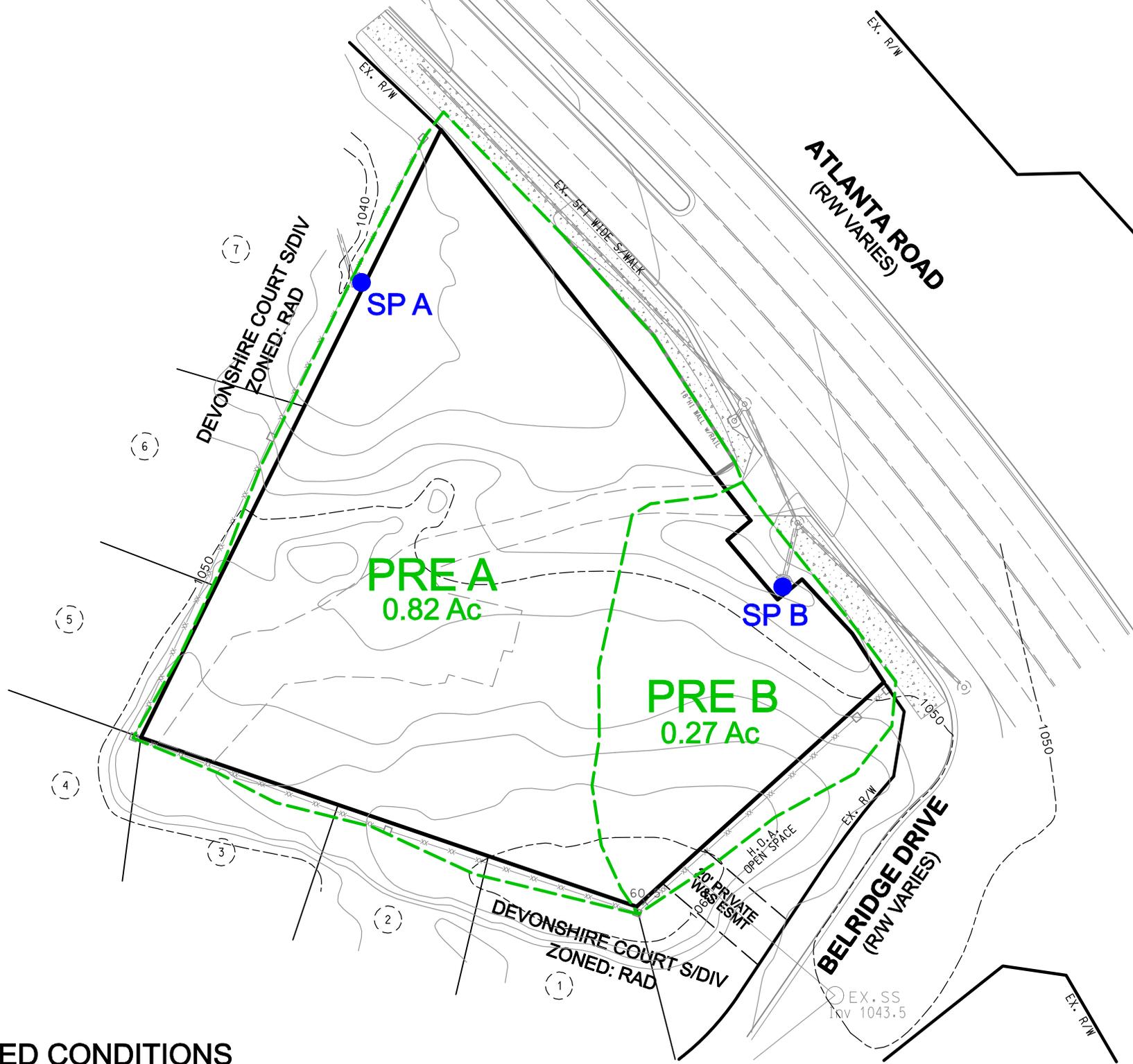
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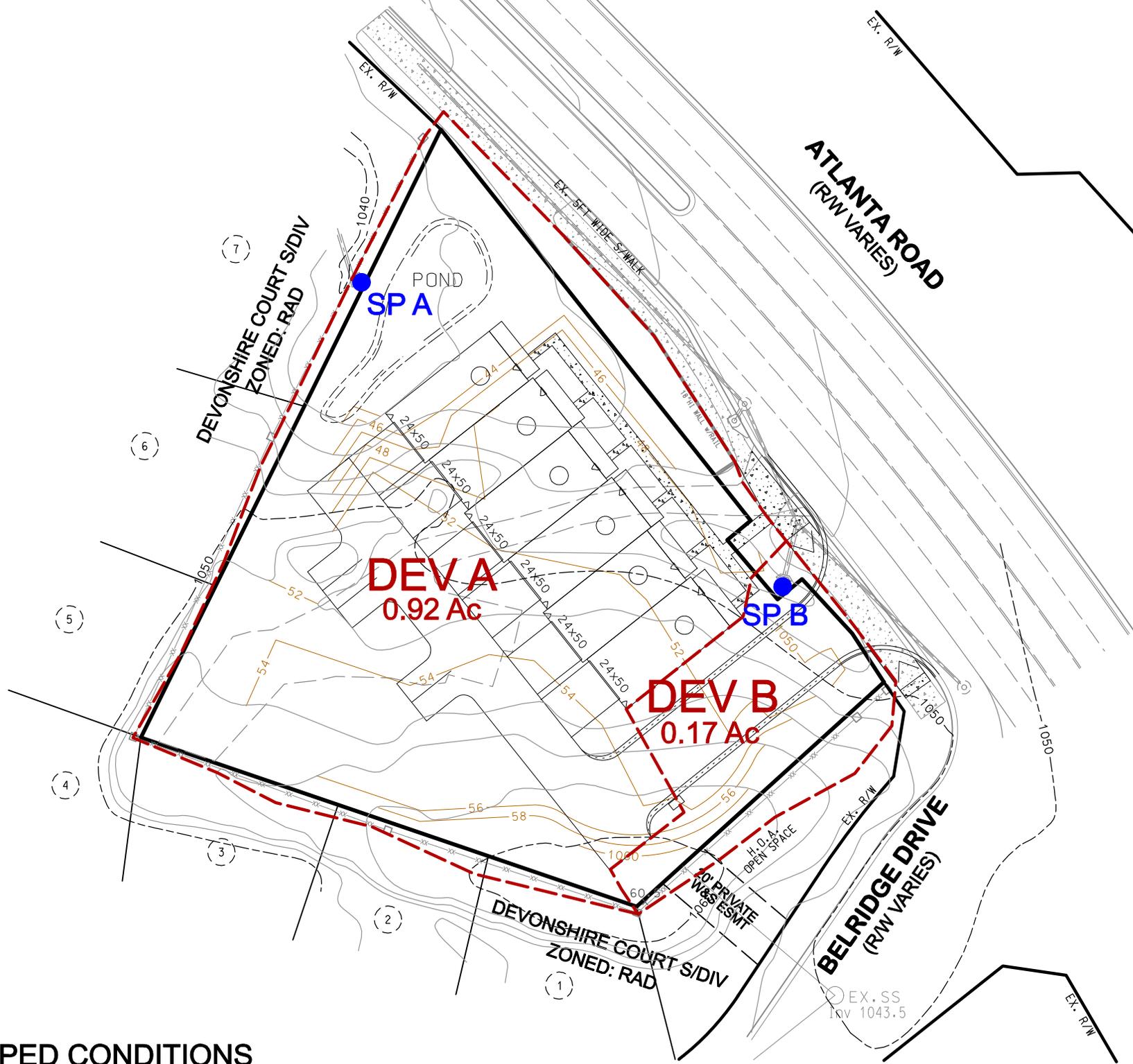
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PRE-DEVELOPED CONDITIONS



POST-DEVELOPED CONDITIONS

EX. SS
REV. 1043.5