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March 3, 2021

Reid A. Dunn  
455 State Rd. PMB 108  
Vineyard Haven, MA  
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Mr. Dunn:

Following are my calculations of the storm water absorption of the proposed "Stone Bank" project at 16 Main St., AP 7-D-7+ 10, Tisbury, MA.

The rainfall used in the past by the Martha's Vineyard Commission for stormwater retention is a 25 year storm, which for this area is 1.5 inches /hr for 2 hrs, 0.5 inches /hr for 12 hrs, and 0.3 inches /hr for 24 hrs. The total rain for those three events is 3", 6" and 7" in a day.

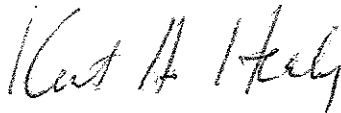
I have roughly measured the areas shown on your 2/7/21 plan to be 10,000 ft<sup>2</sup> of roofs, and 4700 ft<sup>2</sup> of impervious sidewalks. I would treat the 8000 ft<sup>2</sup> D2 parking area separately.

I roughly measured the available percolation areas, lawn etc., to be 5700 ft<sup>2</sup>.

The percolation areas would be designed and constructed over the naturally occurring sand to have an infiltration rate of one foot /hr.

All the rain falling on the impervious areas of 10,000 ft<sup>2</sup> x 1.5/12 ft = 1250 ft<sup>3</sup> per hour and would be absorbed by the 5700 ft<sup>3</sup> per hr capacity of the percolation areas.

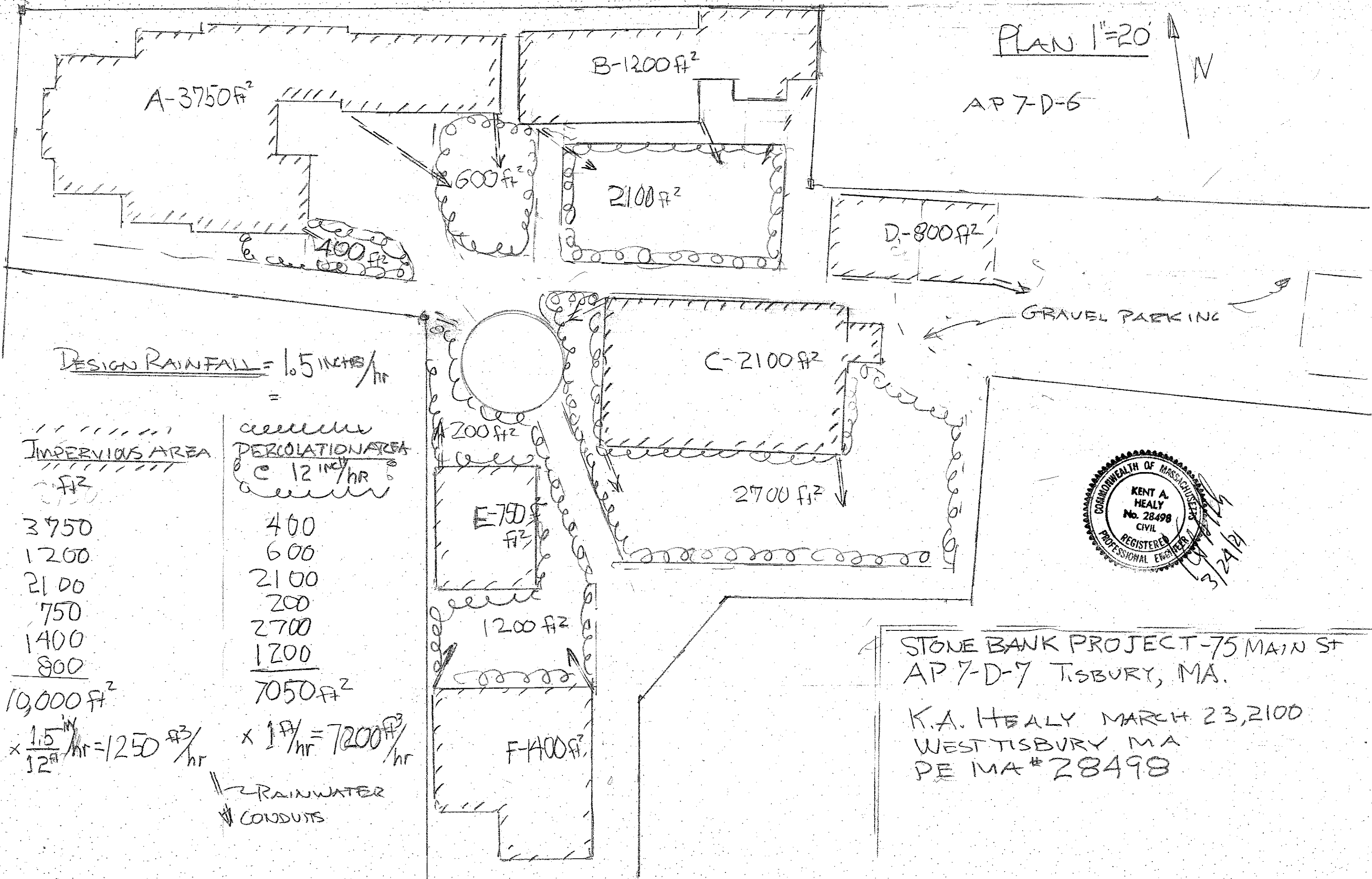
The D2 parking area could have a pervious gravel surface and not contribute and runoff.



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MAIN ST.

PLAN 1"=20'



DESIGN RAINFALL = 1.5 INCHES/hr

IMPERVIOUS AREA

PERCOLATION AREA @ 12 INCH/hr

- 3750
- 1200
- 2100
- 750
- 1400
- 800

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- 10,000 ft<sup>2</sup>

- 400
- 600
- 2100
- 200
- 2700
- 1200

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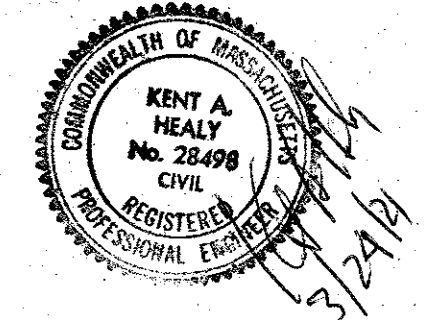
- 7050 ft<sup>2</sup>

$\times \frac{1.5 \text{ in}}{12 \text{ in}} \text{ hr} = 1250 \text{ ft}^3/\text{hr}$

$\times 1 \text{ ft}^3/\text{hr} = 7200 \text{ ft}^3/\text{hr}$

RAINWATER  
CONDUITS

GRAVEL PARKING



STONE BANK PROJECT - 75 MAIN ST  
AP 7-D-7 TISBURY, MA.

K.A. HEALY MARCH 23, 2021  
WEST TISBURY MA  
PE MA # 28498