PINKHAM & GREER
CIVIL ENGINEERS
28 VANNAH AVE. PORTLAND, ME. 04103
Tel: 207.781.5242 Fax: 207.781.4245

File: 17131

August 1, 2017

Ms. Carla Nixon
Town of Cumberland
290 Tuttle Rd
Cumberland, ME 04021

RE: STRATTON WOODS, RESPONSE TO PEER REVIEW COMMENTS

Dear Carla,

We have revised the plans for Stratton Woods. Attached is a Subdivision Plan and a Road Plan and Profile Sheet to respond to the peer reviewer comments.

Below are responses to the comments:

Section 250-28 Water Supply

The project is in the West Cumberland Well Advisory Zone. Notes are added to the Subdivision Plan consistent with another project recently approved by the Board.

Section 32 to 34 Street Design

On Sheet 2 of 2 we have provided a detail of the road section. It is the intent of the applicant to keep this road private. The work on the road to be completed by the applicant will be:

a. Regrade the road to create the crown.
b. Add 3" of crushed, Type A gravel to provide a new surface.

See attached Report by S.W. Cole for the existing Road. Note the underlying soils are sands and gravels. This road has an excellent base.

Section 250-40 Storm Drain

The existing road has one 15" PE culvert. Attached is a drainage analysis for the culvert.

Section 250-44

The homes will be constructed using the current building code. No formal fire protection system is planned for the project.

PINKHAM & GREER
CIVIL ENGINEERS

Section 250-45 Soil Erosion

Attached is an Erosion Control Plan for the home construction.

Section 250-49

We request the following waivers:

1. Stratton Lane remains a private gravel road. No paving is required. See Plan and Profile Sheet 2 of 2 for road geometry.
2. The Board grant a waiver for the review by CCSWCS. Review by the two peer reviewers is adequate.
3. The soil boundaries from the Cumberland County Medium Intensity Soils Mapping are attached. They include Hi-Hinckley, gravely sand and Wm-Windsor loamy sands. The test pits from Mark Hampton also provide soils data for the Board as does the S.W. Cole Report. We request a waiver from the High Intensity Soils Mapping.
4. We request a waiver for the road not being in the center of the right of way. It is currently, existing.

General Comments

Building setbacks have been added to the plans.

Note 8, requires a minimum separation of 100 feet between wells and septic systems. Note indicates that the Town of Cumberland is not responsible for maintenance of road.

Hopefully this addresses any concerns the Board may have. Thank you for your assistance with the project.

Sincerely,

PINKHAM & GREER,
CIVIL ENGINEERS

Thomas S. Greer, P.E.

cc: (1) Steve Crotty, (1) File

Enclosures

TSG/rjs

PINKHAM & GREER
CIVIL ENGINEERS
28 VANNAH AVE. PORTLAND, ME. 04103
Tel: 207.781.5242 Fax: 207.781.4245

STORMWATER MEMO

TO: Carla Nixon

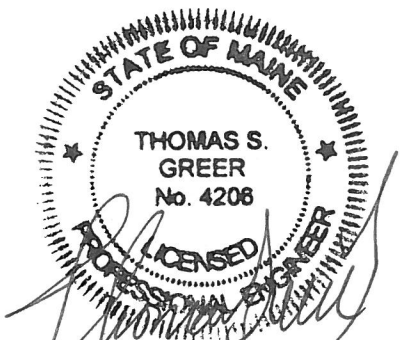
FROM: Thomas Greer

RE: CHECK CULVERT SIZE, STRATTON WOODS

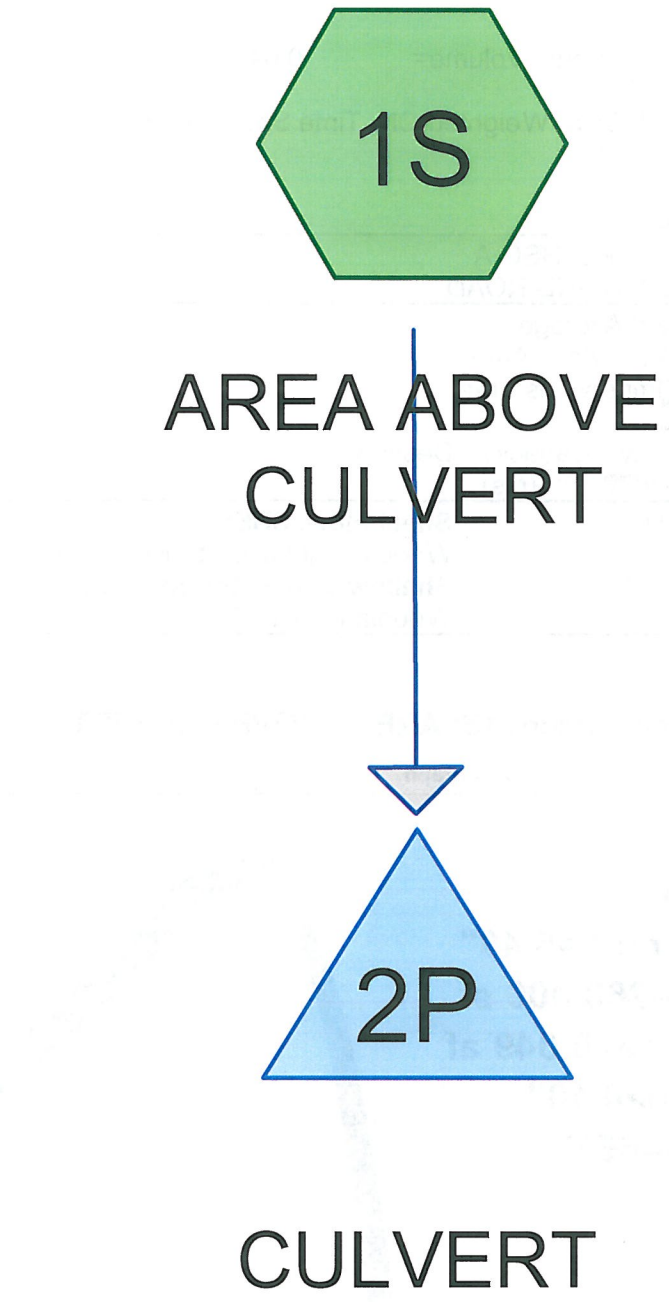
There in one 15" culvert crossing Stratton Woods Lane. It is PE smooth wall pipe. The area draining to it is approximately 6 acres of woods and half of Stratton Woods Lane. The soils for this are hydrologic Group A. Very little runoff from these soils is expected.

Attached is a model showing flows from the 25 year, 5.4" rain fall. I estimated between 20,000 sq. ft. of impervious surface in the watershed and 40,000 sq. ft. Both scenarios show the culvert has capacity to handle the flow. No additional culvers are required.

Let me know if you have any questions.



Thomas S. Greer, P.E.
8/1/17



Subcat Reach Pond Link

Routing Diagram for STRATTON WOODS CULVERT 17131
Prepared by Hewlett-Packard Company, Printed 7/31/2017

Summary for Subcatchment 1S: AREA ABOVE CULVERT

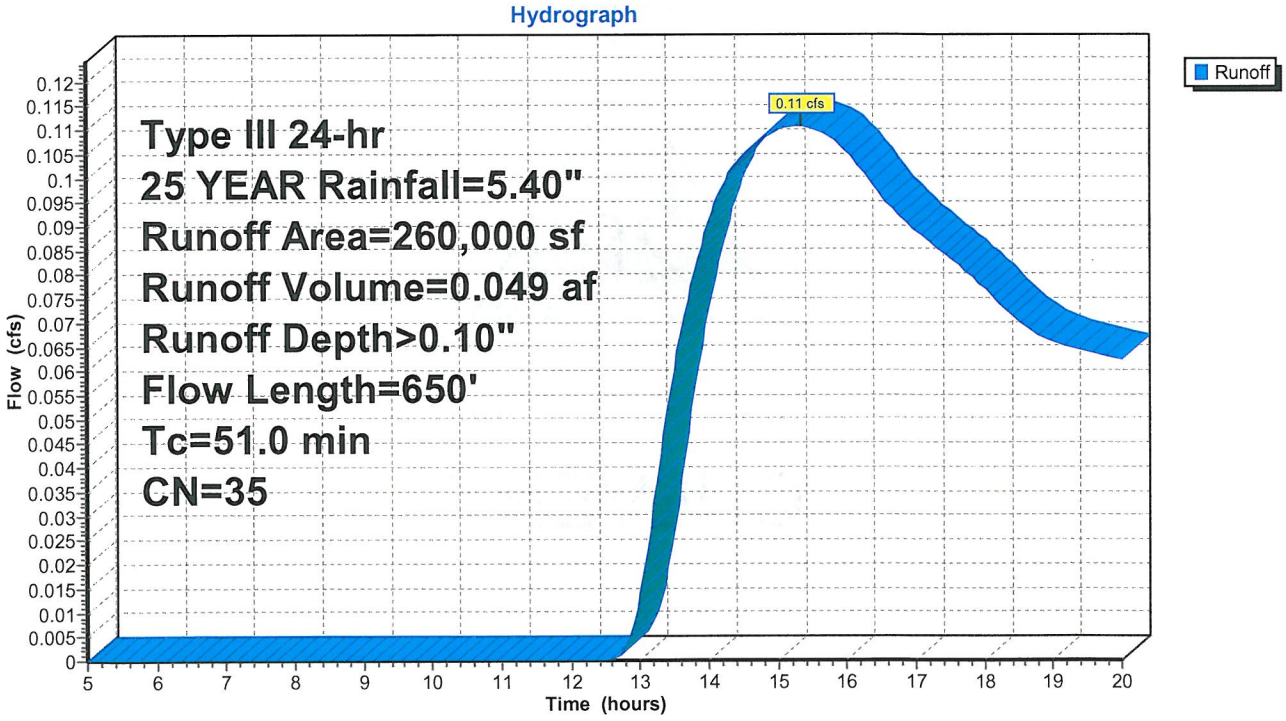
Runoff = 0.11 cfs @ 15.34 hrs, Volume= 0.049 af, Depth> 0.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.40"

	Area (sf)	CN	Description
	240,000	30	Woods, Good, HSG A
*	20,000	98	TWO LOTS AND ROAD
	260,000	35	Weighted Average
	240,000		92.31% Pervious Area
	20,000		7.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
39.2	150	0.0100	0.06		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.20"
11.8	500	0.0200	0.71		**Shallow Concentrated Flow, SHALLOW** Woodland Kv= 5.0 fps
51.0	650	Total			

Subcatchment 1S: AREA ABOVE CULVERT



Summary for Pond 2P: CULVERT

Inflow Area = 5.969 ac, 7.69% Impervious, Inflow Depth > 0.10" for 25 YEAR event
Inflow = 0.11 cfs @ 15.34 hrs, Volume= 0.049 af
Outflow = 0.11 cfs @ 15.37 hrs, Volume= 0.048 af, Atten= 0%, Lag= 1.9 min
Primary = 0.11 cfs @ 15.37 hrs, Volume= 0.048 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 232.65' @ 15.37 hrs Surf.Area= 340 sf Storage= 48 cf

Plug-Flow detention time= 8.1 min calculated for 0.048 af (98% of inflow)
Center-of-Mass det. time= 4.5 min (987.6 - 983.1)

Volume	Invert	Avail.Storage	Storage Description
#1	232.50'	1,700 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

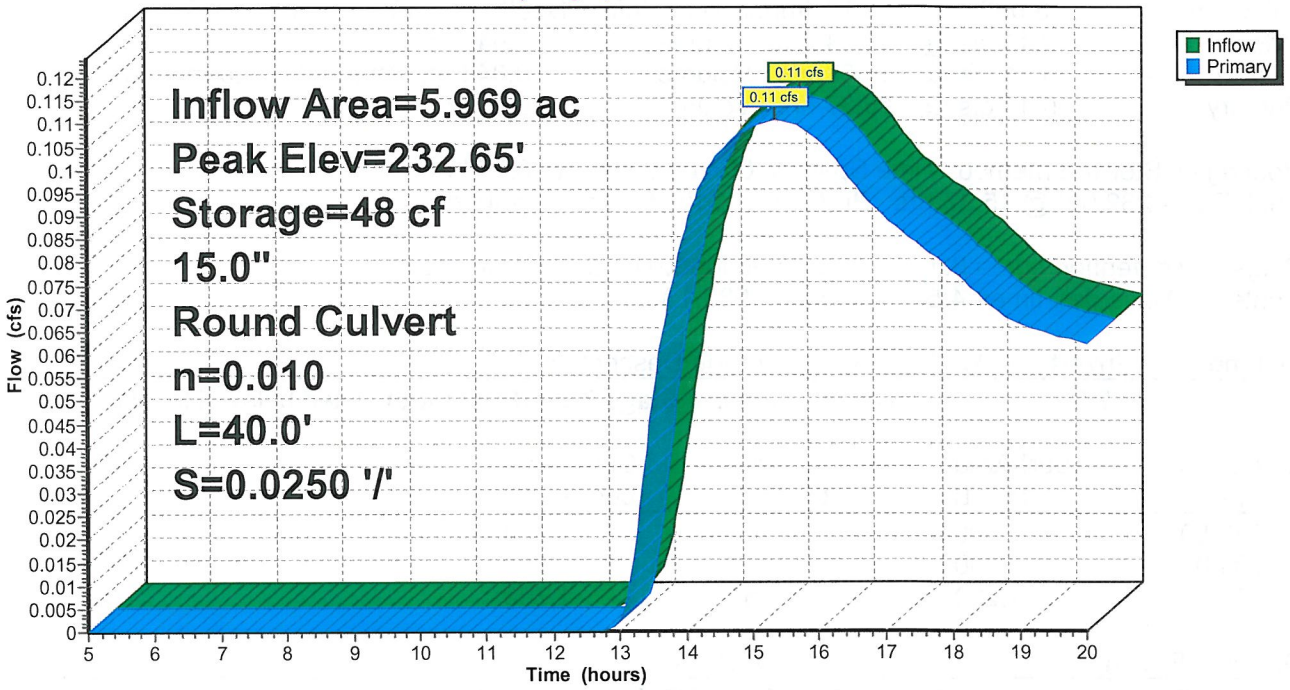
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
232.50	300	0	0
234.00	700	750	750
235.00	1,200	950	1,700

Device	Routing	Invert	Outlet Devices
#1	Primary	232.50'	**15.0" Round Culvert** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 232.50' / 231.50' S= 0.0250 '/' Cc= 0.900 n= 0.010, Flow Area= 1.23 sf

Primary OutFlow Max=0.11 cfs @ 15.37 hrs HW=232.65' (Free Discharge)
↑**1=Culvert** (Inlet Controls 0.11 cfs @ 1.32 fps)

Pond 2P: CULVERT

Hydrograph



Summary for Subcatchment 1S: AREA ABOVE CULVERT

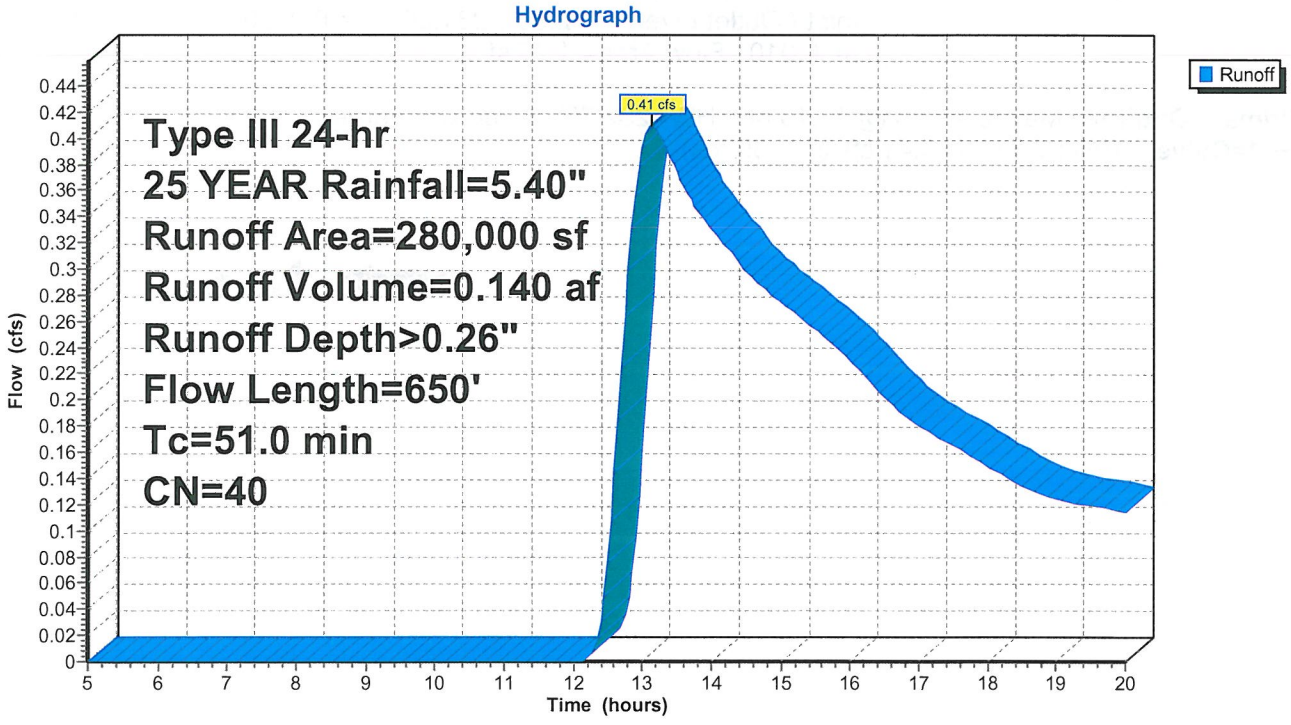
Runoff = 0.41 cfs @ 13.14 hrs, Volume= 0.140 af, Depth> 0.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=5.40"

	Area (sf)	CN	Description
	240,000	30	Woods, Good, HSG A
*	40,000	98	TWO LOTS AND ROAD
	280,000	40	Weighted Average
	240,000		85.71% Pervious Area
	40,000		14.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
39.2	150	0.0100	0.06		**Sheet Flow, SHEET** Woods: Light underbrush n= 0.400 P2= 3.20"
11.8	500	0.0200	0.71		**Shallow Concentrated Flow, SHALLOW** Woodland Kv= 5.0 fps
51.0	650	Total			

Subcatchment 1S: AREA ABOVE CULVERT



Summary for Pond 2P: CULVERT

Inflow Area = 6.428 ac, 14.29% Impervious, Inflow Depth > 0.26" for 25 YEAR event
Inflow = 0.41 cfs @ 13.14 hrs, Volume= 0.140 af
Outflow = 0.41 cfs @ 13.19 hrs, Volume= 0.138 af, Atten= 0%, Lag= 2.9 min
Primary = 0.41 cfs @ 13.19 hrs, Volume= 0.138 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 232.79' @ 13.19 hrs Surf.Area= 379 sf Storage= 100 cf

Plug-Flow detention time= 5.2 min calculated for 0.138 af (99% of inflow)
Center-of-Mass det. time= 3.0 min (932.8 - 929.8)

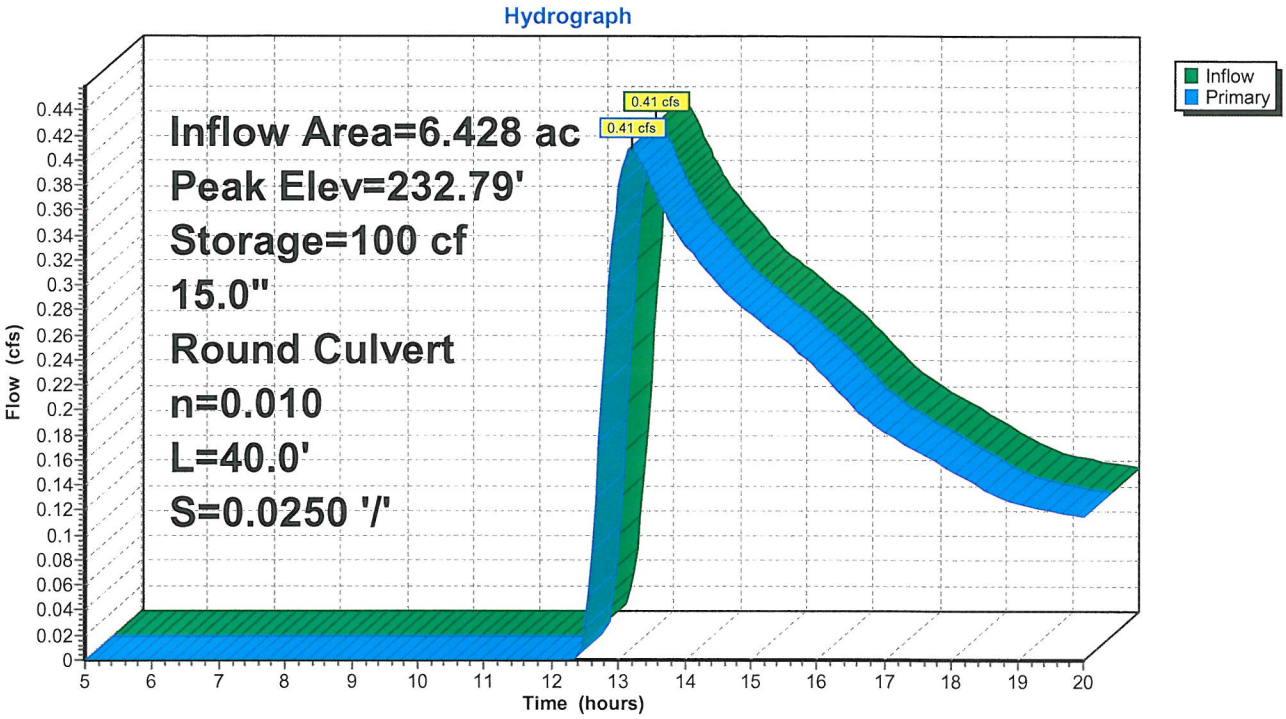
Volume	Invert	Avail.Storage	Storage Description
#1	232.50'	1,700 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

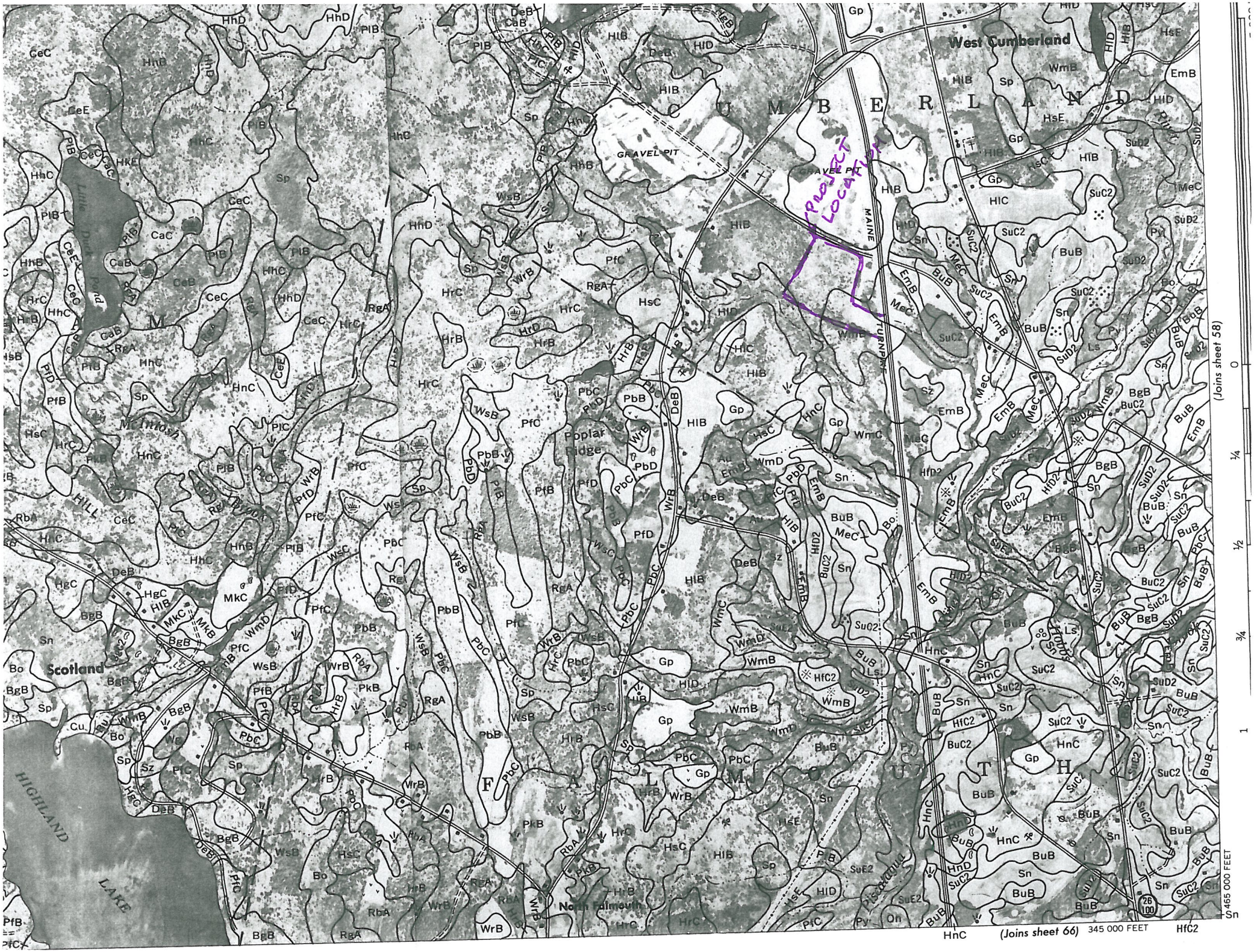
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
232.50	300	0	0
234.00	700	750	750
235.00	1,200	950	1,700

Device	Routing	Invert	Outlet Devices
#1	Primary	232.50'	**15.0" Round Culvert** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 232.50' / 231.50' S= 0.0250 '/' Cc= 0.900 n= 0.010, Flow Area= 1.23 sf

Primary OutFlow Max=0.41 cfs @ 13.19 hrs HW=232.79' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 0.41 cfs @ 1.85 fps)

Pond 2P: CULVERT




PROJECT LOCATION
GRAVEL PIT
GRAVEL PIT
Little Duck Pond
McIntosh
Poplar Ridge
North Falmouth
Scotland
West Cumberland
CUMBERLAND
FALMOUTH
HIGHLAND LAKE
MAINE TURNPIKE
(Joins sheet 58)
(Joins sheet 66)
345 000 FEET
465 000 FEET
0
¼
½
¾
1

MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

4868

April 15, 2017

Mr. Steve Crotty
P.O. Box 1449
Gray, ME 04039

Re: Preliminary soil evaluation, Stratton Woods Subdivision, Cumberland, ME

Dear Steve,

I completed a preliminary soil evaluation on a proposed 4 lot subdivision located on Stratton Woods Lane Cumberland, Maine. The lot is proposed to be developed into 4 single family houses. The soil evaluation was conducted in accordance with the Maine Subsurface Wastewater Disposal Rules dated August 2011, as amended at the time. I evaluated two hand excavated soil test pits on each proposed lot. The soils found on the parcel are glacial outwash sand soils with a limiting factor at greater than 48 inches except for Lot 4 which was glacial outwash soils overlying marine lacustrine soils. I was able to find suitable soils and area for a septic system on each proposed lot.

The soils as evaluated meet the minimum requirements of the state rules and as such are suitable for the location of a septic system. The disposal bed for a 3 bedroom home would possibly be a 700 square feet stone bed, 20 feet wide and 35 feet long on lots 1, 2 and 3. Lot 4 would require a 900 square foot bed, or 20 feet wide and 45 feet lond. In my opinion, there are suitable soils and area on each proposed lot for a septic system. A subsurface wastewater disposal design can be prepared at a future date.

If you have any questions or require additional information, please contact me.

Sincerely,

Mark J. Hampton L.S.E., C.S.S.
Licensed Site Evaluator #263
Certified Soil Scientist #216

P.O. BOX 1931 • PORTLAND, ME 04104-1931 • 207-756-2900 • mhampto1@maine.rr.com

PAGE ___ OF ___

4868

FORM F Rev. 07/11

SOIL PROFILE / CLASSIFICATION INFORMATION

DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES

Project Name: Strattan Woods Subdivision | Applicant Name: Steve Crotty | Project Location (municipality): Cumberland

Exploration Symbol # TP5

☒ Test Pit ☐ Boring ☐ Probe

___" Organic horizon thickness Ground surface elev. ___

___" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Loamy Sand	Friable	Dark Brown	
10	Sand	Friable	Red Brown	
20				None
30	Sand	Friable	Tan	Wetness
40				
50				
60				

Soil Details by S.E. ▸▸ S.S. ▸▸

Soil Classification	Slope	Limiting Factor	
5 (Profile) / B (Condition)	2 (Percent)	>48" (Depth)	☐ Groundwater ☐ Restrictive Layer ☐ Bedrock

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group

Exploration Symbol # TP6

☒ Test Pit ☐ Boring ☐ Probe

___" Organic horizon thickness Ground surface elev. ___

___" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Loamy Sand	Friable	Dark Brown	
10	Sand	Friable	Red Brown	
20				None
30	Sand	Friable	Tan	Wetness
40				
50				
60				

Soil Details by S.E. ▸▸ S.S. ▸▸

Soil Classification	Slope	Limiting Factor	
5 (Profile) / B (Condition)	2 (Percent)	>48" (Depth)	☐ Groundwater ☐ Restrictive Layer ☐ Bedrock

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group

Exploration Symbol # TP7

☒ Test Pit ☐ Boring ☐ Probe

___" Organic horizon thickness Ground surface elev. ___

___" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Loamy Sand	Friable	Dark Brown	
10	Sand	Friable	Red Brown	
20				
30	Silty Clay Loam	Firm	Olive Gray	Common Distinct
40				
50				
60				

Soil Details by S.E. ▸▸ S.S. ▸▸

Soil Classification	Slope	Limiting Factor	
7 (Profile) / C (Condition)	2 (Percent)	26" (Depth)	☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group

Exploration Symbol # TP8

☒ Test Pit ☐ Boring ☐ Probe

___" Organic horizon thickness Ground surface elev. ___

___" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Loamy Sand	Friable	Dark Brown	
10	Sand	Friable	Red Brown	
20				
30	Silty Clay Loam	Firm	Olive Gray	Common Distinct
40				
50				
60				

Soil Details by S.E. ▸▸ S.S. ▸▸

Soil Classification	Slope	Limiting Factor	
7 (Profile) / C (Condition)	2 (Percent)	28" (Depth)	☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE

Signature: Mary Hampton Date: 4/15/16

Name Printed: Mary Hampton Cert/Lic/Reg. # 263/216

Title: ☒ Licensed Site Evaluator ☒ Certified Soil Scientist ☐ Certified Geologist ☐ Professional Engineer

affix professional seal

PAGE ___ OF ___

4868

FORM F Rev. 07/11

SOIL PROFILE / CLASSIFICATION INFORMATION

DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES

Project Name: Stratton Woods | Applicant Name: Steve Crafty | Project Location (municipality): Cumberland

Exploration Symbol # P1

☒ Test Pit ☐ Boring ☐ Probe

___" Organic horizon thickness Ground surface elev. ___

___" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Loamy Sand	Friable	Dark Brown	
10			Red	
20	Sand	Friable	Brown	None
30				Mottled
40	Sand	Friable	Tan	
50				
60				

Soil Details by ▸▸ S.E. ▸▸ S.S.

Soil Classification: Profile	Condition	Slope: Percent	Limiting Factor: Depth	Groundwater	Restrictive Layer	Bedrock
S	B	2	>48"	☐	☐	☒

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group: ___

Exploration Symbol # P2

☒ Test Pit ☐ Boring ☐ Probe

___" Organic horizon thickness Ground surface elev. ___

___" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Loamy Sand	Friable	Dark Brown	
10			Red	
20	Sand	Friable	Brown	None
30				Mottled
40	Sand	Friable		
50				
60				

Soil Details by ▸▸ S.E. ▸▸ S.S.

Soil Classification: Profile	Condition	Slope: Percent	Limiting Factor: Depth	Groundwater	Restrictive Layer	Bedrock
S	B	2	>48"	☐	☐	☒

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group: ___

Exploration Symbol # P3

☒ Test Pit ☐ Boring ☐ Probe

___" Organic horizon thickness Ground surface elev. ___

___" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Loamy Sand	Friable	Dark Brown	
10			Red	
20	Sand	Friable	Brown	None
30				Mottled
40	Sand	Friable	Tan	
50				
60				

Soil Details by ▸▸ S.E. ▸▸ S.S.

Soil Classification: Profile	Condition	Slope: Percent	Limiting Factor: Depth	Groundwater	Restrictive Layer	Bedrock
S	B	2	>48"	☐	☐	☒

Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group: ___

Exploration Symbol # P4

☒ Test Pit ☐ Boring ☐ Probe

___" Organic horizon thickness Ground surface elev. ___

___" Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Loamy Sand	Friable	Dark Brown	
10			Red	
20	Sand	Friable	Brown	None
30				Mottled
40	Sand	Friable	Tan	
50				
60				

Soil Details by ▸▸ S.E. ▸▸ S.S.

Soil Classification: Profile	Condition	Slope: Percent	Limiting Factor: Depth	Groundwater	Restrictive Layer	Bedrock
S	B	2	>48"	☐	☐	☒

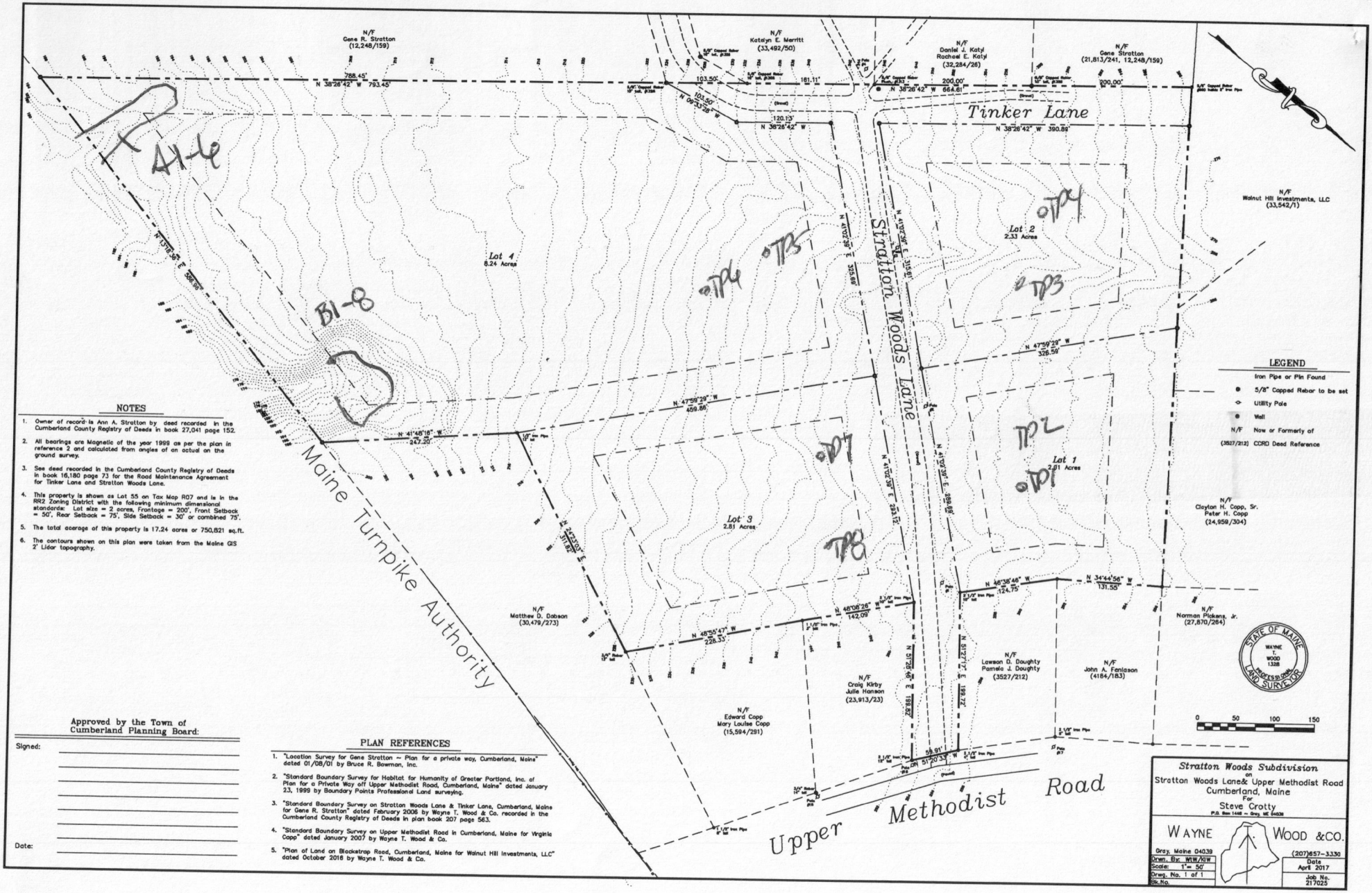
Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic Soil Group: ___

INVESTIGATOR INFORMATION AND SIGNATURE

Signature: Marc J. Hampton	Date: 4/15/16
Name Printed: MARC J. Hampton	Cert/Lic/Reg. #: 263/216

Title: ☒ Licensed Site Evaluator ☒ Certified Soil Scientist ☐ Certified Geologist ☐ Professional Engineer

affix professional seal



NOTES

1. Owner of record is Ann A. Stratton by deed recorded in the Cumberland County Registry of Deeds in book 27,041 page 152.
2. All bearings are Magnetic of the year 1999 as per the plan in reference 2 and calculated from angles of an actual on the ground survey.
3. See deed recorded in the Cumberland County Registry of Deeds in book 16,180 page 73 for the Road Maintenance Agreement for Tinker Lane and Stratton Woods Lane.
4. This property is shown as Lot 55 on Tax Map R07 and is in the RR2 Zoning District with the following minimum dimensional standards: Lot size = 2 acres, Frontage = 200', Front Setback = 50', Rear Setback = 75', Side Setback = 30' or combined 75'.
5. The total acreage of this property is 17.24 acres or 750,821 sq.ft.
6. The contours shown on this plan were taken from the Maine GIS 2' Lidar topography.

Approved by the Town of Cumberland Planning Board:

Signed: _____

Date: _____

PLAN REFERENCES

1. "Location Survey for Gene Stratton ~ Plan for a private way, Cumberland, Maine" dated 01/08/01 by Bruce R. Bowman, Inc.
2. "Standard Boundary Survey for Habitat for Humanity of Greater Portland, Inc. of Plan for a Private Way off Upper Methodist Road, Cumberland, Maine" dated January 23, 1999 by Boundary Points Professional Land surveying.
3. "Standard Boundary Survey on Stratton Woods Lane & Tinker Lane, Cumberland, Maine for Gene R. Stratton" dated February 2006 by Wayne T. Wood & Co. recorded in the Cumberland County Registry of Deeds in plan book 207 page 563.
4. "Standard Boundary Survey on Upper Methodist Road in Cumberland, Maine for Virginia Copp" dated January 2007 by Wayne T. Wood & Co.
5. "Plan of Land on Blackstrap Road, Cumberland, Maine for Walnut Hill Investments, LLC" dated October 2016 by Wayne T. Wood & Co.

LEGEND

- Iron Pipe or Pin Found
- 5/8" Capped Rebar to be set
- Utility Pole
- Well
- N/F Now or Formerly of
- (3527/212) CCRD Deed Reference

STATE OF MAINE — WAYNE T. WOOD 1328 — REGISTERED PROFESSIONAL LAND SURVEYOR

Stratton Woods Subdivision
on
Stratton Woods Lane& Upper Methodist Road
Cumberland, Maine
For
Steve Crotty
P.O. Box 1448 ~ Gray, ME 04039

WAYNE WOOD &CO.
(207)657-3330

Gray, Maine 04039	
Drwn. By: WTW/KLW	Date April 2017
Scale: 1"= 50'	
Dwg. No. 1 of 1	Job No. 217025
Bk. No.	

17-0640

June 27, 2017

Steve Crotty
P.O. Box 1449
Gray, ME 04039

Subject: Report of Findings
Shallow Explorations and Soils Testing
Stratton Woods
Cumberland, Maine

Dear Steve,

In accordance with our Proposal dated June 20th and as requested, we made a site visit on June 23rd to perform shallow test pit work at two locations along the Stratton Woods Subdivision road. As agreed, we hand excavated through the existing gravels comprising the current road section to document in-situ strata thicknesses and material types.

We understand the road was originally constructed about 15-years ago and as part of discussions with the town regarding additional development, it has been requested that the existing road section be compared to town standards. A plan showing the approximate locations of the hand explorations is attached as "sheet 1".

FIELD WORK

At each of the test pit exploration locations, we advanced through the existing gravel using an open face bucket auger manufactured by AMS in combination with hand tools including a shovel, pry bar and pick axe. The various soil stratum were visually identified in the field and samples were retained for laboratory grain size analysis and classification. Material types and strata changes encountered at each of the test pits were drafted on test pit logs and are attached to this document as "sheet 2" and photos showing the excavations are attached as "sheet 3".

FINDINGS & TESTING

Conditions encountered at test pits 1 and 2 were found to be similar, consisting of approximately one inch of gravel shim material overlying several inches of reclaimed base material overlying what appeared to be imported subbase gravel overlying both reworked and undisturbed native gravelly soils. Five laboratory gradation tests (ASTM C-117) were performed on the various material types encountered using composite samples where

stratum were found to be similar. Laboratory test results are attached as “sheet 4 through sheet 8”.

The particle size distributions of the gradations are shown compared to the state standards for MDOT 703.06 Type A (base) and MDOT 703.06 Type D (subbase). We understand the Town of Cumberland references these state standards as part of their typical road section. At the first test pit, soils meeting the gradation requirement for Type D subbase were found between depths of 4 inches and 40 inches (bottom of exploration). Similarly, at the second test pit material classified as Type D subbase was encountered between 4 inches and 27 inches. The first 4 inches of gravel at each of the two test pits was not found to meet the gradation requirement for Type A or Type D, however, we recommend discussing the suitability of this surficial layer of gravel with the town as it may meet the intent for base gravel on an unpaved roadway. No unsuitable soils such as organics were noted at either exploration area and both explorations were dry with road section gravel appearing compacted.

Thank you for allowing us to work with you on this project, if we can be of any further assistance, please feel free to contact either Roger Domingo or Karl Gimpel at our Gray, Maine office.

Sincerely,

S. W. Cole Engineering, Inc.

Roger E. Domingo
Construction Services Manager

NOTES

1. Owner of record is Ann A. Stratton by deed recorded in the Cumberland County Registry of Deeds in book 27,041 page 152.
2. All bearings are Magnetic of the year 1999 as per the plan in reference 2 and calculated from angles of an actual on the ground survey.
3. See deed recorded in the Cumberland County Registry of Deeds in book 16,180 page 73 for the Road Maintenance Agreement for Tinker Lane and Stratton Woods Lane.
4. This property is shown as Lot 55 on Tax Map R07 and is in the RR2 Zoning District with the following minimum dimensional standards: Lot size = 2 acres, Frontage = 200', Front Setback = 50', Rear Setback = 75', Side Setback = 30' or combined 75'.
5. The total acerage of this property is 17.24 acres or 750,821 sq.ft.
6. The contours shown on this plan were taken from the Maine GIS 2' Lidar topography.

Approved by the Town of Cumberland Planning Board:

Signed: _____

Date: _____

PLAN REFERENCES

1. "Location Survey for Gene Stratton ~ Plan for a private way, Cumberland, Maine" dated 01/08/01 by Bruce R. Bowman, Inc.
2. "Standard Boundary Survey for Habitat for Humanity of Greater Portland, Inc. of Plan for a Private Way off Upper Methodist Road, Cumberland, Maine" dated January 23, 1999 by Boundary Points Professional Land surveying.
3. "Standard Boundary Survey on Stratton Woods Lane & Tinker Lane, Cumberland, Maine for Gene R. Stratton" dated February 2006 by Wayne T. Wood & Co. recorded in the Cumberland County Registry of Deeds in plan book 207 page 563.
4. "Standard Boundary Survey on Upper Methodist Road in Cumberland, Maine for Virginia Copp" dated January 2007 by Wayne T. Wood & Co.
5. "Plan of Land on Blackstrap Road, Cumberland, Maine for Walnut Hill Investments, LLC" dated October 2016 by Wayne T. Wood & Co.

N/F Gene R. Stratton (12,248/159)

N/F Katelyn E. Merritt (33,492/50)

N/F Daniel J. Katyl Rachael E. Katyl (32,284/26)

N/F Gene Stratton (21,813/241, 12,248/159)

N/F Walnut Hill Investments, LLC (33,542/1)

N/F Clayton H. Copp, Sr. Peter H. Copp (24,959/304)

N/F Norman Pickens, Jr. (27,870/264)

N/F John A. Fenlason (4184/183)

N/F Lawson D. Doughty Pamela J. Doughty (3527/212)

N/F Craig Kirby Julie Hanson (23,913/23)

N/F Edward Copp Mary Louise Copp (15,594/291)

N/F Matthew D. Dobson (30,479/273)

Tinker Lane

Stratton Woods Lane

Upper Methodist Road

Maine Turnpike Authority

Lot 1 2.01 Acres

Lot 2 2.33 Acres

Lot 3 2.81 Acres

Lot 4 8.24 Acres

Test Pit 1

Test Pit 2

788.45' N 38°26'42" W 793.45'

103.50'

N 09°33'28" W 103.50'

120.13' N 38°26'42" W

161.11'

200.00'

N 38°26'42" W 664.61'

200.00'

N 38°26'42" W 390.89'

N 10°18'35" E 356.96'

N 41°02'39" E 305.69'

N 41°02'39" E 315.61'

N 47°59'29" W 459.86'

N 47°59'29" W 326.59'

N 41°48'16" W 247.20'

N 24°23'00" E 311.82'

N 48°55'47" W 228.33'

N 48°08'26" W 142.09'

N 46°38'46" W 124.75'

N 34°44'56" W 131.55'

N 41°02'39" E 293.12'

N 51°27'12" E 198.72'

N 51°20'33" W 59.91'

N 51°20'33" W 198.28'

1/2" Iron Pipe 8" tall

5/8" Capped Rebar 10" tall, #1328

5/8" Capped Rebar flush, #1313

5/8" Capped Rebar #600 inside 2" Iron Pipe

3/4" Rebar 15" tall

3/4" Rebar 14" tall

2 1/2" Iron Pipe 10" tall

2 1/2" Iron Pipe 3" tall

2 1/2" Iron Pipe 12" tall

2 1/2" Iron Pipe 4" tall

2 1/2" Iron Pipe 8" tall

Pole #1

Pole #17

Pole #16

Pole #15

(Gravel)

(Paved)

LEGEND

- Iron Pipe or Pin Found
- 5/8" Capped Rebar to be set
- Utility Pole
- Well
- N/F Now or Formerly of
- (3527/212) CCRD Deed Reference

STATE OF MAINE WAYNE T. WOOD 1328 PROFESSIONAL LAND SURVEYOR

0 50 100 150

Stratton Woods Subdivision
on
Stratton Woods Lane& Upper Methodist Road
Cumberland, Maine
For
Steve Crotty
P.O. Box 1449 ~ Gray, ME 04039

WAYNE WOOD &CO.
Gray, Maine 04039 (207)657-3330

Drwn. By: WtW/KtW	Date April 2017
Scale: 1"= 50'	Job No. 217025
Drwg. No. 1 of 1	
Bk.No.	

S.W.COLE ENGINEERING, INC.

TEST PIT LOGS

PROJECT/CLIENT: STRATTON WOODS SUBDIVISION / STEVE CROTTY
PROJECT NO.: 17-0640
LOCATION: CUMBERLAND, MAINE
S.W.COLE REP: K. GIMPEL

TEST PIT TP-1

DATE: 6/23/2017 SURFACE ELEVATION: EXISTING LOCATION: STATION 330', 5' L

SAMPLE NO.	SAMPLE DEPTH	DEPTH (IN)	STRATUM DESCRIPTION	TEST RESULTS
S-1	0-1"	1	LIGHT BROWN/TAN GRAVELLY SAND SOME SILT (BASE/IMPORTED FILL)	
S-2	1-4"	4	BLACK GRAVELLY SAND SOME SILT (BASE/IMPORTED RECLAIM FILL)	
S-3	4-12"	12	BROWN GRAVELLY SAND TRACE SILT (SUBBASE/IMPORTED FILL)	
S-4	12-40"	40	BROWN GRAVELLY SAND TRACE TO SOME SILT (SUBBASE) (REWORKED NATIVE SOILS)	
			BOTTOM OF EXPLORATION	

COMPLETION DEPTH: 40 INCHES DEPTH TO WATER: NO FREEWATER OBSERVED

TEST PIT TP-2

DATE: 6/23/2017 SURFACE ELEVATION: EXISTING LOCATION: STATION 550', 6' R

SAMPLE NO.	SAMPLE DEPTH	DEPTH (IN)	STRATUM DESCRIPTION	TEST RESULTS
S-1	0-1"	1	BROWN/TAN GRAVELLY SAND SOME SILT (BASE/IMPORTED FILL)	
S-2	1-4"	4	BLACK GRAVELLY SAND SOME SILT (BASE/IMPORTED RECLAIM FILL)	
S-3	4-7"	7	BROWN GRAVELLY SAND TRACE SILT (SUBBASE/IMPORTED FILL)	
S-4	7-12"	12	BROWN/ORANGE GRAVELLY SAND TRACE SILT (SUBBASE/REWORKED NATIVE)	
S-5	12-27"	27	BROWN GRAVELLY SAND TRACE SILT (SUBBASE/REWORKED NATIVE SOILS)	
		29	DARK BROWN SILTY SAND SOME GRAVEL TRACE ORGANICS (RELIC GROUND SURFACE)	
		42	BROWN SAND SOME GRAVEL TRACE SILT (NATIVE SOILS)	
			BOTTOM OF EXPLORATION	

COMPLETION DEPTH: 42 INCHES DEPTH TO WATER: NO FREE WATER OBSERVED

S.W.COLE ENGINEERING, INC.

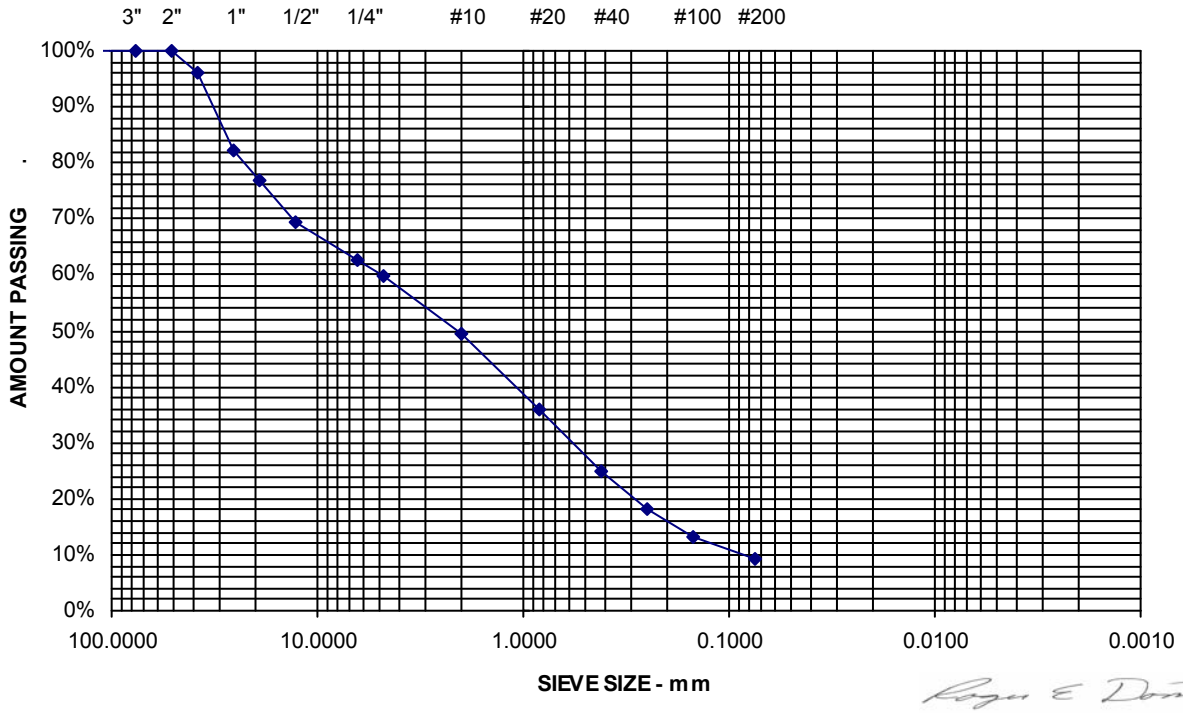
Report of Gradation

ASTM C-117 & C-136

Project Name	CUMBERLAND ME - STRATTON WOODS - CONSTRUCTION MATERIALS TESTING SERVICES	Project Number	17-0640
Client	STEVE CROTTY	Lab ID	22527G
Material Type	EXISTING GRAVEL/BASE	Date Received	6/23/2017
Material Source	COMPOSITE TP1, S-1 AND TP2, S-1	Date Completed	6/26/2017
		Tested By	PAUL SHAFFER

STANDARD DESIGNATION (MM/µM)	SIEVE SIZE	AMOUNT PASSING(%)	2015 MDOT 703_06 Type A Specifications (%)	2015 MDOT 703_06 Type D Specifications (%)
150 mm	**6"**	**100**		**100**
125 mm	**5"**	**100**		
100 mm	**4"**	**100**		
75 mm	**3"**	**100**		
50 mm	**2"**	**100**	**100**	
38.1 mm	**1-1/2"**	**96**		
25.0 mm	**1"**	**82**		
19.0 mm	**3/4"**	**77**		
12.5 mm	**1/2"**	**69**	**45 - 70**	**35 - 80**
6.3 mm	**1/4"**	**63**	**30 - 55 †**	**25 - 65**
4.75 mm	**No. 4**	**60**		
2.00 mm	**No. 10**	**49**		
850 um	**No. 20**	**36**		
425 um	**No. 40**	**25**	**0 - 20 †**	**0 - 30**
250 um	**No. 60**	**18**		
150 um	**No. 100**	**13**		
75 um	**No. 200**	**9.2**	**0 - 6 †**	**0 - 7 †**

† SAMPLE DOES NOT MEET SPECIFICATION



Comments

Roger E. Domingo

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

S.W.COLE ENGINEERING, INC.

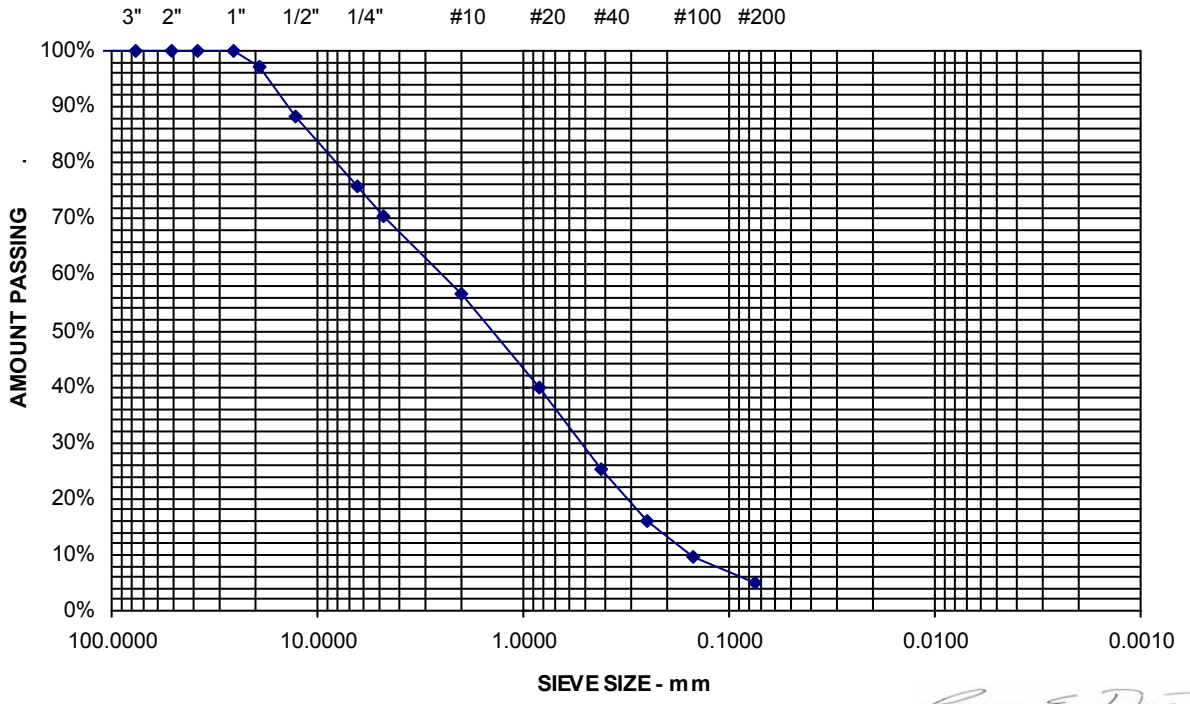
Report of Gradation

ASTM C-117 & C-136

Project Name	CUMBERLAND ME - STRATTON WOODS - CONSTRUCTION MATERIALS TESTING SERVICES	Project Number	17-0640
Client	STEVE CROTTY	Lab ID	22528G
Material Type	EXISTING GRAVEL/BASE	Date Received	6/23/2017
Material Source	COMPOSITE TP1, S-2 AND TP2, S-2	Date Completed	6/26/2017
		Tested By	PAUL SHAFFER

STANDARD DESIGNATION (MM/µM)	SIEVE SIZE	AMOUNT PASSING(%)	2015 MDOT 703_06 Type A Specifications (%)	2015 MDOT 703_06 Type D Specifications (%)
150 mm	**6"**	**100**		**100**
125 mm	**5"**	**100**		
100 mm	**4"**	**100**		
75 mm	**3"**	**100**		
50 mm	**2"**	**100**	**100**	
38.1 mm	**1-1/2"**	**100**		
25.0 mm	**1"**	**100**		
19.0 mm	**3/4"**	**97**		
12.5 mm	**1/2"**	**88**	**45 - 70 †**	**35 - 80 †**
6.3 mm	**1/4"**	**76**	**30 - 55 †**	**25 - 65 †**
4.75 mm	**No. 4**	**70**		
2.00 mm	**No. 10**	**57**		
850 um	**No. 20**	**40**		
425 um	**No. 40**	**25**	**0 - 20 †**	**0 - 30**
250 um	**No. 60**	**16**		
150 um	**No. 100**	**10**		
75 um	**No. 200**	**4.9**	**0 - 6**	**0 - 7**

† SAMPLE DOES NOT MEET SPECIFICATION



Comments

Roger E. Domingo

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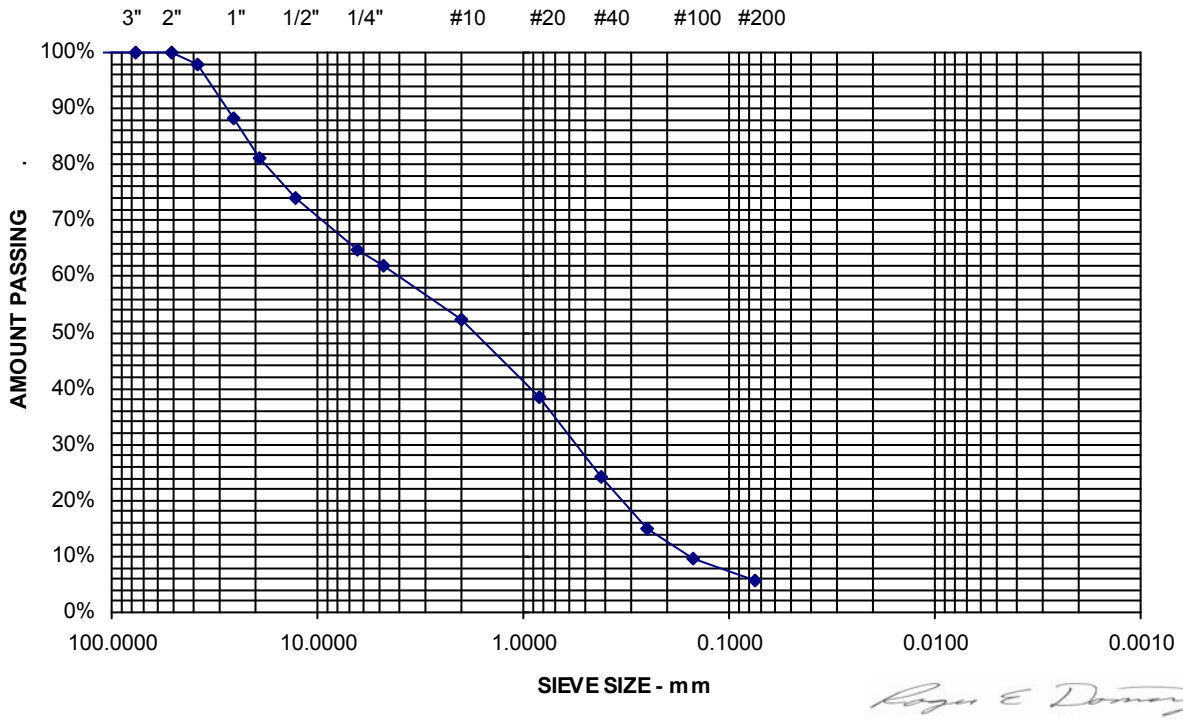
Report of Gradation

ASTM C-117 & C-136

Project Name	CUMBERLAND ME - STRATTON WOODS - CONSTRUCTION MATERIALS TESTING SERVICES	Project Number	17-0640
Client	STEVE CROTTY	Lab ID	22529G
Material Type	EXISTING GRAVEL/SUBBASE	Date Received	6/23/2017
Material Source	COMPOSITE TP1, S-3 AND TP2, S-3	Date Completed	6/26/2017
		Tested By	PAUL SHAFFER

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	2015 MDOT 703.06 TYPE D SPECIFICATIONS (%)
150 mm	**6"**	**100**	**100**
125 mm	**5"**	**100**	
100 mm	**4"**	**100**	
75 mm	**3"**	**100**	
50 mm	**2"**	**100**	
38.1 mm	**1-1/2"**	**98**	
25.0 mm	**1"**	**88**	
19.0 mm	**3/4"**	**81**	
12.5 mm	**1/2"**	**74**	**35 - 80**
6.3 mm	**1/4"**	**65**	**25 - 65**
4.75 mm	**No. 4**	**62**	
2.00 mm	**No. 10**	**52**	
850 um	**No. 20**	**38**	
425 um	**No. 40**	**24**	**0 - 30**
250 um	**No. 60**	**15**	
150 um	**No. 100**	**10**	
75 um	**No. 200**	**5.6**	**0.0 - 7.0**

SAMPLE MEETS SPECIFICATION



Comments

Roger E. Domingo

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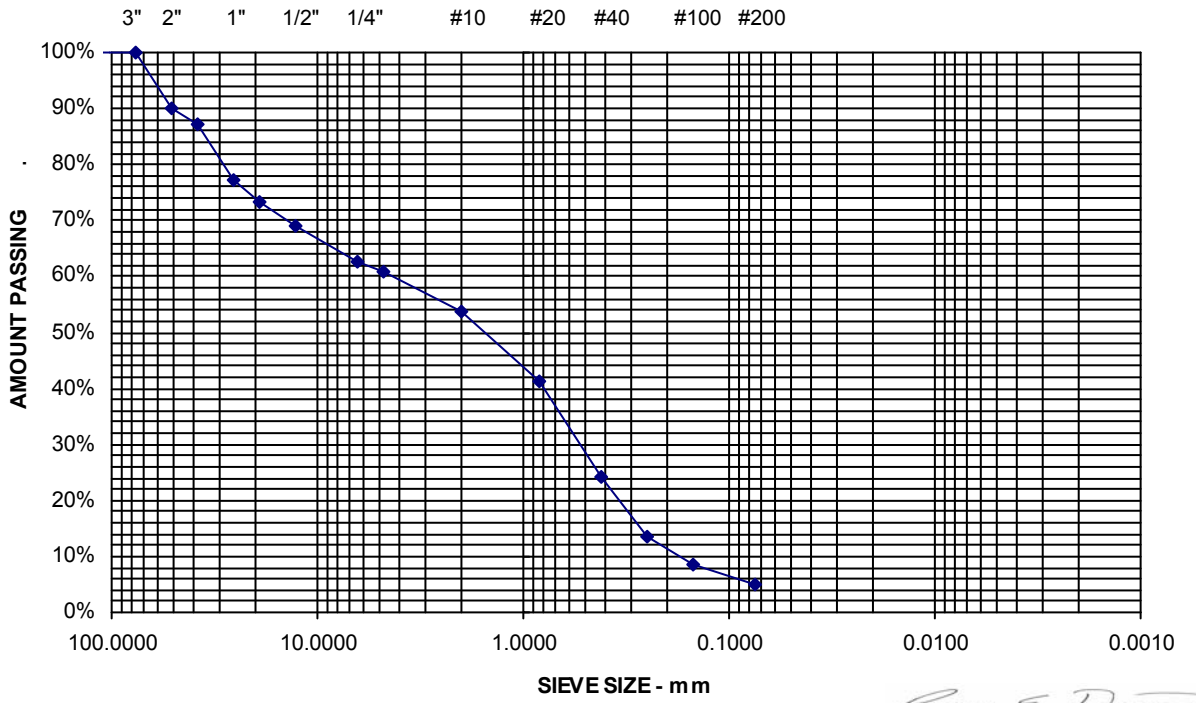
Report of Gradation

ASTM C-117 & C-136

Project Name	CUMBERLAND ME - STRATTON WOODS - CONSTRUCTION MATERIALS TESTING SERVICES	Project Number	17-0640
Client	STEVE CROTTY	Lab ID	22530G
Material Type	EXISTING GRAVEL/SUBBASE	Date Received	6/23/2017
Material Source	COMPOSITE TP1, S-4 AND TP2, S-4	Date Completed	6/26/2017
		Tested By	PAUL SHAFFER

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	2015 MDOT 703.06 TYPE D SPECIFICATIONS (%)
150 mm	**6"**	**100**	**100**
125 mm	**5"**	**100**	
100 mm	**4"**	**100**	
75 mm	**3"**	**100**	
50 mm	**2"**	**90**	
38.1 mm	**1-1/2"**	**87**	
25.0 mm	**1"**	**77**	
19.0 mm	**3/4"**	**73**	
12.5 mm	**1/2"**	**69**	**35 - 80**
6.3 mm	**1/4"**	**63**	**25 - 65**
4.75 mm	**No. 4**	**61**	
2.00 mm	**No. 10**	**54**	
850 um	**No. 20**	**41**	
425 um	**No. 40**	**24**	**0 - 30**
250 um	**No. 60**	**14**	
150 um	**No. 100**	**8**	
75 um	**No. 200**	**4.9**	**0.0 - 7.0**

SAMPLE MEETS SPECIFICATION



Comments

Roger E. Domingo

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S.W.COLE ENGINEERING, INC.

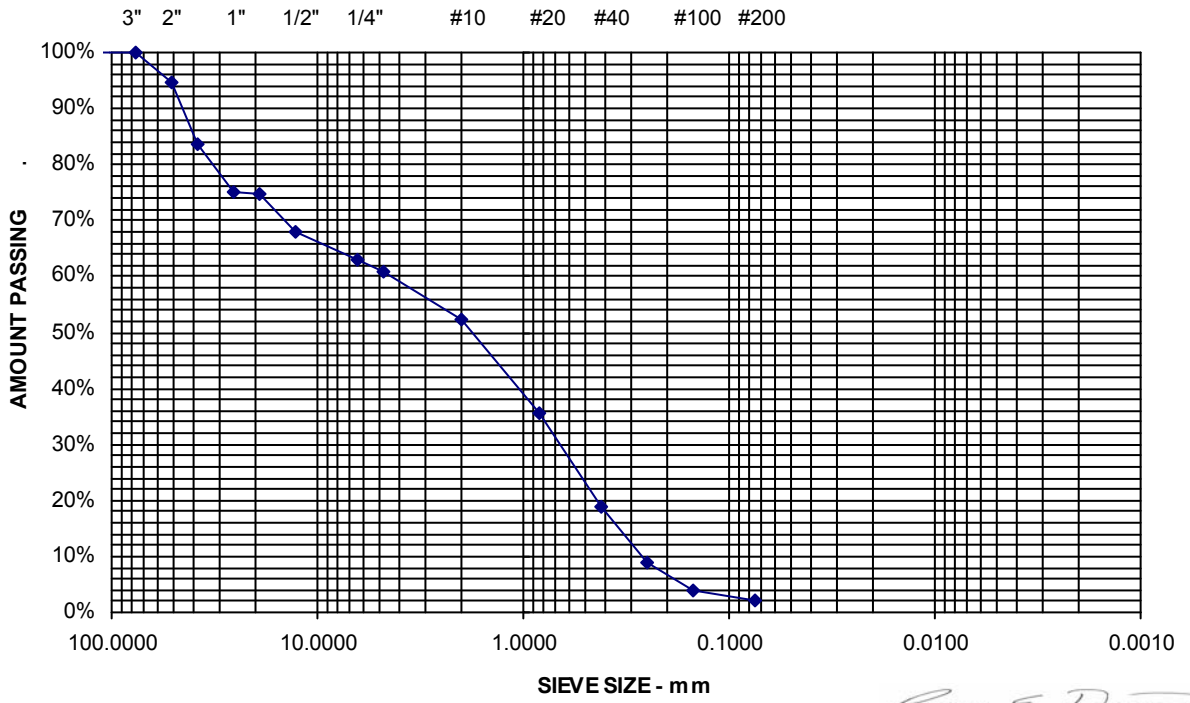
Report of Gradation

ASTM C-117 & C-136

Project Name	CUMBERLAND ME - STRATTON WOODS - CONSTRUCTION MATERIALS TESTING SERVICES	Project Number	17-0640
Client	STEVE CROTTY	Lab ID	22531G
Material Type	EXISTING GRAVEL/SUBBASE	Date Received	6/23/2017
Material Source	TP-2, S-5	Date Completed	6/26/2017
		Tested By	PAUL SHAFFER

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	2015 MDOT 703.06 TYPE D SPECIFICATIONS (%)
150 mm	**6"**	**100**	**100**
125 mm	**5"**	**100**	
100 mm	**4"**	**100**	
75 mm	**3"**	**100**	
50 mm	**2"**	**95**	
38.1 mm	**1-1/2"**	**84**	
25.0 mm	**1"**	**75**	
19.0 mm	**3/4"**	**75**	
12.5 mm	**1/2"**	**68**	**35 - 80**
6.3 mm	**1/4"**	**63**	**25 - 65**
4.75 mm	**No. 4**	**61**	
2.00 mm	**No. 10**	**52**	
850 um	**No. 20**	**35**	
425 um	**No. 40**	**19**	**0 - 30**
250 um	**No. 60**	**9**	
150 um	**No. 100**	**4**	
75 um	**No. 200**	**2.1**	**0.0 - 7.0**

SAMPLE MEETS SPECIFICATION



Comments

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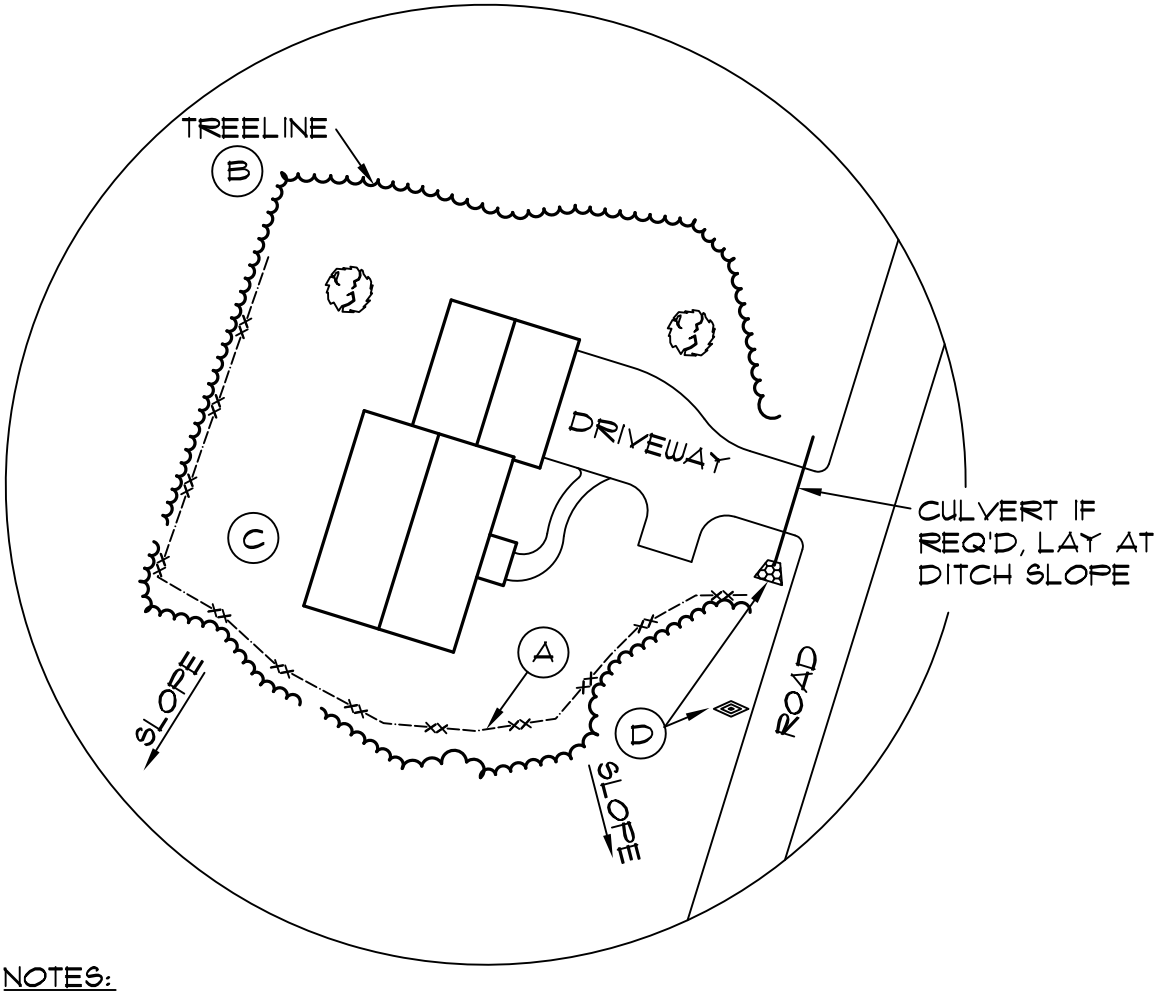


NOTES:
THIS SKETCH INDICATES THE INTENT OF THE SOIL EROSION MEASURES. ACTUAL SITE CONDITIONS AND LAYOUTS WILL VARY FROM SITE TO SITE.

BUILDING CONTRACTORS MUST COMPLY WITH THE EROSION CONTROL NOTES SHOWN ON THESE DRAWINGS AND WITH "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES".

A - INSTALL SILT FENCE OR EROSION CONTROL BERM BELOW ALL DISTURBED AREAS.
B - KEEP CLEARING TO A MINIMUM.
C - RESEED ALL DISTURBED AREAS.
D - INSTALL STONE CHECK DAM(S) AND RIPRAP APRONS DOWNSTREAM OF CULVERT AS NECESSARY.

BUILDING SITE EROSION CONTROL

NOT TO SCALE

N/F
Daniel J. Katyl
Rachael E. Katyl
(32,284/26)

N/F
Katelyn E. Merritt
(33,492/50)

N/F
Lawson D. Doughty
Pamela J. Doughty
(3527/212)

N/F
Craig Kirby
Julie Hanson
(23,913/23)

Tinker Lane (Gravel)

Stratton Woods Lane (Gravel)

Upper Methodist Road (Paved)

Lot 1
2.01 Acres

Lot 2
2.33 Acres

Lot 3
2.81 Acres

N 38°26'42" W 664.61'

N 38°26'42" W 390.89'

200.00'

N 38°26'42" W 161.11'

N 38°26'42" W 120.13'

N 41°02'39" E 315.61'

N 41°02'39" E 289.69'

N 41°02'39" E 325.69'

N 41°02'39" E 293.12'

N 46°38'46" W

N 51°27'17" E 199.72'

N 51°28'46" E 199.82'

N 51°20'33" W 69.91'

Existing Ditch Line

15" Plastic Culvert

Pole #1

Pole #2

Pole #3

Pole #4

Pole #16

Pole #17

5/8" Capped Rebar Flush, #1313

5/8" Capped Rebar 10" tall, #1328

2 1/2" Iron Pipe 10" tall

2 1/2" Iron Pipe 4" tall

2 1/2" Iron Pipe 12" tall

TP #1

TP #2

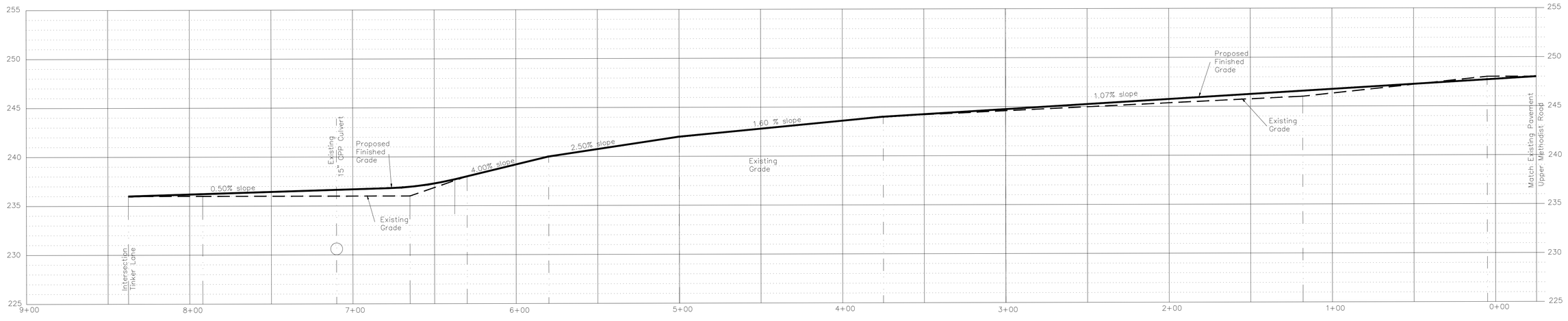
TP #5

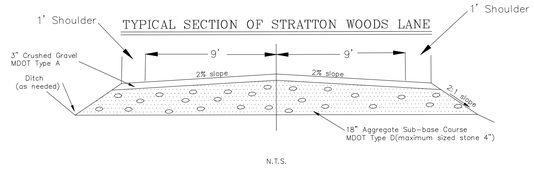
TP #7

TP #8

Sight Distance 335' to end of Road 350+

0 30 60 90



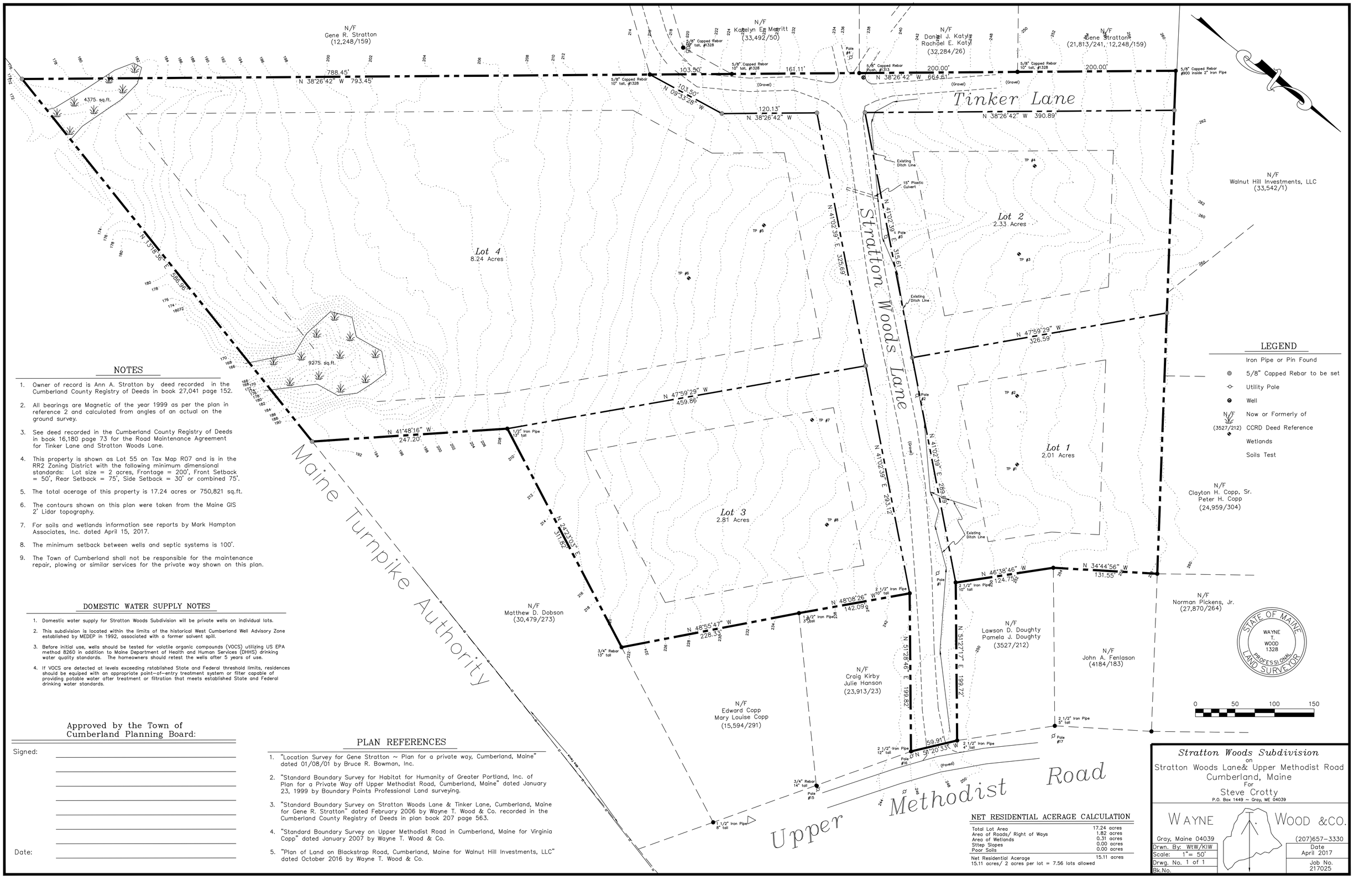


STATE OF MAINE
WAYNE T. WOOD
1328
PROFESSIONAL LAND SURVEYOR

Plan & Profile
of
Stratton Woods Lane
Cumberland, Maine
For
Steve Crotty
P.O. Box 1449 ~ Gray, ME 04039

WAYNE WOOD &CO.
Gray, Maine 04039
(207)657-3330

Drwn. By: WLW/KIW	Date July 2017
Scale: As Noted	
Drwg. No. 2 of 2	Job No. 217025
Bk.No.	



NOTES

1. Owner of record is Ann A. Stratton by deed recorded in the Cumberland County Registry of Deeds in book 27,041 page 152.
2. All bearings are Magnetic of the year 1999 as per the plan in reference 2 and calculated from angles of an actual on the ground survey.
3. See deed recorded in the Cumberland County Registry of Deeds in book 16,180 page 73 for the Road Maintenance Agreement for Tinker Lane and Stratton Woods Lane.
4. This property is shown as Lot 55 on Tax Map R07 and is in the RR2 Zoning District with the following minimum dimensional standards: Lot size = 2 acres, Frontage = 200', Front Setback = 50', Rear Setback = 75', Side Setback = 30' or combined 75'.
5. The total acreage of this property is 17.24 acres or 750,821 sq.ft.
6. The contours shown on this plan were taken from the Maine GIS 2' Lidar topography.
7. For soils and wetlands information see reports by Mark Hampton Associates, Inc. dated April 15, 2017.
8. The minimum setback between wells and septic systems is 100'.
9. The Town of Cumberland shall not be responsible for the maintenance repair, plowing or similar services for the private way shown on this plan.

DOMESTIC WATER SUPPLY NOTES

1. Domestic water supply for Stratton Woods Subdivision will be private wells on individual lots.
2. This subdivision is located within the limits of the historical West Cumberland Well Advisory Zone established by MEDEP in 1992, associated with a former solvent spill.
3. Before initial use, wells should be tested for volatile organic compounds (VOCS) utilizing US EPA method 8260 in addition to Maine Department of Health and Human Services (DHHS) drinking water quality standards. The homeowners should retest the wells after 5 years of use.
4. If VOCS are detected at levels exceeding rstablished State and Federal threshold limits, residences should be equiped with an appropriate point–of–entry treatment system or filter capable of providing potable water after treatment or filtration that meets established State and Federal drinking water standards.

Approved by the Town of Cumberland Planning Board:

Signed: _____

Date: _____

PLAN REFERENCES

1. "Location Survey for Gene Stratton ~ Plan for a private way, Cumberland, Maine" dated 01/08/01 by Bruce R. Bowman, Inc.
2. "Standard Boundary Survey for Habitat for Humanity of Greater Portland, Inc. of Plan for a Private Way off Upper Methodist Road, Cumberland, Maine" dated January 23, 1999 by Boundary Points Professional Land surveying.
3. "Standard Boundary Survey on Stratton Woods Lane & Tinker Lane, Cumberland, Maine for Gene R. Stratton" dated February 2006 by Wayne T. Wood & Co. recorded in the Cumberland County Registry of Deeds in plan book 207 page 563.
4. "Standard Boundary Survey on Upper Methodist Road in Cumberland, Maine for Virginia Copp" dated January 2007 by Wayne T. Wood & Co.
5. "Plan of Land on Blackstrap Road, Cumberland, Maine for Walnut Hill Investments, LLC" dated October 2016 by Wayne T. Wood & Co.

NET RESIDENTIAL ACERAGE CALCULATION

Total Lot Area	17.24 acres
Area of Roads/ Right of Ways	1.82 acres
Area of Wetlands	0.31 acres
Steep Slopes	0.00 acres
Poor Soils	0.00 acres
Net Residential Acerage	15.11 acres

15.11 acres/ 2 acres per lot = 7.56 lots allowed

LEGEND

- Iron Pipe or Pin Found
- 5/8" Capped Rebar to be set
- Utility Pole
- Well
- N/F Now or Formerly of
- (3527/212) CCRD Deed Reference
- Wetlands
- Soils Test

STATE OF MAINE
WAYNE T. WOOD 1328
PROFESSIONAL LAND SURVEYOR

Stratton Woods Subdivision

on

Stratton Woods Lane& Upper Methodist Road
Cumberland, Maine

For

Steve Crotty
P.O. Box 1449 ~ Gray, ME 04039

WAYNE WOOD &CO.
Gray, Maine 04039
(207)657–3330

Drwn. By: WtW/KlW	Date
Scale: 1"= 50'	April 2017
Drwg. No. 1 of 1	Job No.
Bk.No.	217025