ITEM 1

Town of Kittery
Planning Board Meeting
April 11, 2019

ITEM 1 - Andrews Cluster Subdivision – Final Plan Review

Action: Accept and deny application. Approve, approve with conditions, disapprove, postpone action or continue plan. Owner /Applicant, Arthur W. Andrews Rev. Trust requests consideration of a 11-lot cluster subdivision on 93.32 acres located off Deer Ridge Lane (Tax Map 60, Lot 10) in the Residential Rural (R-RL) and Shoreland Overlay and Resource Protection (OZ-RP & OZ-SL 250') Zones. Agent is Jeff Clifford, P.E., Altus Engineering.

PROJECT TRACKING

REQ'D	ACTION	COMMENTS	STATUS
Yes	Sketch Plan Review / Concept Approval	8/9/2018	APPROVED
No	Site Visit	9/11/18	HELD
Yes	Preliminary Plan Review Completeness/Acceptance	11/8/18	ACCEPTED
Yes	Public Hearing	12/13/18	HELD
Yes	Preliminary Plan Approval	12/13/18	APPROVED
Yes	Final Plan Review	4/11/19	PENDING
Prior to the signing of the approved Plan any **Conditions of Approval related to the Findings of Fact along with waivers and variances (by the BOA) must be placed on the Final Plan and, when applicable, recorded at the York County Registry of Deeds. PLACE THE MAP AND LOT NUMBER IN 1/4" HIGH LETTERS AT LOWER RIGHT BORDER OF ALL PLAN SHEETS.** Per Section 16.4.4.L - Grading/Construction Final Plan Required. - Grading or construction of roads, grading of land or lots, or construction of buildings is prohibited until the original copy of the approved final plan has been duly recorded in the York County registry of deeds, when applicable.			

Background

Planning Board review of the proposed development is required by 16.10.3.1, General Development, Site and Subdivision Plans Review, because it is a cluster subdivision. The first lot was subdivided from the Andrews family parcel in 1982 with additional lots that followed in 1987, 2000, 2004 and 2017 thereby defining the current parcel and Deer Ridge Lane right-of-way. The proposed development is an 11-lot cluster subdivision that will consist of seven (7) lots serviced by a proposed 640 foot roadway off of Deer Ridge Lane. The other four (4) lots will be serviced by the existing Deer Ridge Lane.

At the August 9, 2018 meeting, the Board voted accept and approve the Sketch plan concept for the project and a site walk was attended by members on September 11, 2018. At the November 8, 2018 meeting, the Board accepted the preliminary cluster subdivision plan application as complete and scheduled a public hearing on the application for the December 13, 2018 meeting.

At the December 13, 2018 meeting, the Board approved the preliminary plan with the condition that all of CMA Engineers comments must be addressed to their satisfaction.

On March 20, 2019, a lot line adjustment was performed to convey Parcel "X" consisting of 13.47 ac. to Arthur W. Andrews, Jr. & Anne Andrews.

Staff Review

1. Zoning. The applicant is proposing an 11-lot cluster subdivision with modified street frontage, minimum lot size and minimum front, side and rear yard setback standards. A cluster subdivision is a permitted use in the R-RL zone. All requested modified dimensional standards are depicted on sheet S – 1.2. The applicant has provided a list of deductions to determine the lot's Net

Residential Area (NRA) and open space requirements. The proposed dimensional modifications per Section 16.8.11.3 are as follows:

a. 16.3.2.1.D2 – Minimum lot area: 23,512 sf * vs 40,000 sf *;
b. 16.3.2.1.D2 – Street frontage: 40' vs 150 minimum;
c. 16.3.2.1.D2 – Front yard setback: 20' vs. 40' minimum;
d. 16.3.2.1.D2 – Side and rear yard setback: 10' vs 20'.

2. All of the required submittal items have been provided per 16.10.5.2. A standard boundary survey has been completed for the subject parcel and is include with the plan set.

3. Updated: Open Space. Per 16.8.11.6.E.1, 50% of the total property, approximately 46.7 acres, is required to be maintained as designated open space. The applicant is proposing 84.25 acres of reserve common open space or 90% of the parcel. The applicant states that the open space is configured to maximize the sensitivity to the natural resources within and near the property by providing significant forested buffers to wetlands. The Kittery Land Trust will take ownership of the open space parcel and manage it in accordance with an approved management plan and in conjunction with their abutting protected land and easements.

4. Floodplain, Resource Protection Areas, Wetlands. Flood Hazard Zone A per FIRM map #23031C0663G, dated preliminary November 5, 2013 is shown along the Cutts Ridge Brook corridor. Zone A has no defined 100-year flood elevation. No filling or development is proposed within the floodplain.

   The proposed lots are within a significant sand and gravel aquifer and/or the Shoreland Water Body/Wetlands Protection Area (OZ-SL-250), therefore the lots will require an advance pre-treatment aeration at each subsurface wastewater disposal system. Seven (7) of the lots and a portion of the Turkeytail Lane roadway are partially located in the Shoreland Water Body/Wetlands Protection Area (OZ-SL-250') overlay zone, therefore a Special Exception is being requested. No wetlands will be impacted by the development. Per 16.8.11.6.I.5, all wetland setbacks must be maintained as a no-cut no-disturb area.

   According to the applicant, Joseph Noel has surveyed the property for vernal pools. With assistance from MDIFW staff, it was determined that only one (1) of the five (5) vernal pools qualified as a Significant Vernal Pool (SVP) under MDEP regulations. The other vernal pools did not contain a significant enough number of egg masses to be regulated. There will be no development within 250 feet of any vernal pools.

5. All lots appears to be regularly shaped and meet the lot shape standards (16.8.16.1).

6. The lots will be serviced by municipal water: an existing 8" main along Deer Ridge Lane and a proposed 6" main extended along the new roadway. There are two (2) existing fire hydrants on Remick's Lane within 470 feet of Deer Ridge Lane entrance. A new hydrant will be proposed at the intersection of Deer Ridge Lane and the new roadway.

7. Updated: Roads. A proposed 640 foot roadway will be constructed off Deer Ridge Lane to service seven (7) of the proposed lots. Based upon the estimated ADT of 70 trips per day, Turkeytail Lane would be classified under *16.8 Attachment 1*, Table 1 Design and Construction Standards for Streets and Pedestrianways as a Class II street.

   Deer Ridge Lane is a private roadway that is maintained by an existing *Declaration of Rights, Restrictions and Covenants, Deer Ridge Lane Associates*, recorded at Y.C.R.D book 17344 pages

667-676. It is proposed to be extended 100+- feet to an overall length of 1,033 feet with a turnaround tee provided. Based upon Table 1, Deer Ridge Lane is considered a Class III street with a maximum cul-de-sac length of 1,200-feet so it appears that requirement will be met.

The existing entrance to Deer Ridge Lane was reviewed by the Planning Board during the September 11, 2018 site walk. According to the applicant, the existing paved travel way was not built within the center of the right-of-way to preserve existing large trees. The applicant believes the rural character of the existing layout reduces roadway speed and is aesthetically desirable. The proposed roadway improvement will soften the initial curves of Deer Ridge Lane and widen the travelled way to 20 feet while minimizing cutting trees at the entrance. Update: The applicant is requesting a waiver from 16.8.4.6 Center line. Deer Ridge Lane Sta. 0+00 to Sta. 3+00 to preserve existing vegetation by not aligning the centerline of the travelled way with the centerline of the right-of-way for the first 300' of Deer Ridge Lane.

The proposed street does not include sidewalks and Deer Ridge Lane does not contain sidewalks. The applicant has submitted a waiver request from 16.8.4.13, Table 1. In addition, waivers are requested from 16.8.4.4., Table 1:

a. Street Width Design: d. Paved shoulder – Deer Ridge Lane Sta. 0+00 to Sta. 5+50. Propose 2' gravel shoulders on each side in lieu of the Minor Streets standard of 2' and 8' paved to maintain the existing rural character of the neighborhood.
b. Street Width Design: c. Travel pavement – Deer Ridge Lane Sta. 5+50 to Sta. 10+33 and Turkeytail Lane. The roadways will be privately owned and maintained, therefore the applicant proposes 18' and 20' wide paved traveled ways.
c. Street Gradients: a. Longitudinal (Max) The applicant proposes to reconstruct the steepest section of Deer Ridge Road to match the existing grade and preserve minimum cover over the existing water main. The proposed grade is 10.6% where the maximum grade is listed as 9%..
d. Cul-de-Sac: a. Street length to radius, b. Boundary radius & c. Paved radius to permit turnaround tees in lieu of cul-de-sacs.

A note has been added to Plan Sheet C-1.0 that states "Deer Ridge Lane and Turkeytail Lane shall remain private roads to be maintained by the Deer Ridge Lane Association".

A street naming application has been submitted as part of the final plan application.

8. Stormwater management. Stormwater from impervious and disturbed areas on the site will be treated by the use of stormwater BMP's designed to remove fine particulates and suspended sediments. A grassed underdrain soil filter, wooded buffers, grass swales, level spreaders and rip rap protection will be utilized to obtain the required stormwater treatment. The applicant has stated that preliminary stormwater practices were discussed during a MDEP *Stormwater Law License* pre-application meeting. A comprehensive review of the stormwater management plans will be done by MDEP. Updated: The HydroCAD drainage analysis was revised to ensure that stormwater Best Management Practices (BMPs) met MDEP sizing and post-development runoff criteria.

9. Peer Review. CMA has reviewed the latest plan set and offered the attached review comments.

10. Updated: We have received two letters from the Kittery Water District: one dated October 23, 2018 verifying capacity to serve the proposed development and the other dated February 14, 2019 stating that the design of the water infrastructure and the proposed materials meets their specifications.

11. The applicant has requested a waiver of Section 16.10.5.2.B(2) for drawings scale:
    a. 1"=200' for Soils Plan; an enlargement is included, showing the area of interests and coinciding with the Lot Plans.

Recommendation

At the December 13, 2018 meeting the Planning Board approved the Preliminary Plan for the subdivision with the following conditions:

1. A note be added to the plan that the roads will remain forever private;

2. Written justification must be supplied for the proposed roadway waivers;

3. The actual amount of open space shall be designated on the plan; and

4. All CMA Engineers comments must be addressed to their satisfaction.

The Final Plan submission addresses the above-mentioned conditions to the satisfaction of staff. CMA Engineers has reiterated its recommendation regarding adding 1-foot of pavement in the shoulders for Turkeytail Lane to provide pavement edge stability.

Move to approve the special exception request for the eight lots that are partially within the Shoreland Overlay Zone (OZ-SL-250').

Approve the following waivers from Title 16:

1. ***Section 16.10.5.2.B (2) for drawings scale to allow the scale to be 1" = 200' for the Soils Plan.***

2. ***Section 16.9.2.2 (B) Clearing or removal of vegetation in Resource Protection Zone to construct a centralized stormwater treatment BMP.***

3. ***Section 16.8.4.6 Center line. To preserve mature trees in the right-of-way to the extent possible, allow the center line of the travelled way to be not be aligned with the center line of the right-of-way.***

4. ***Section 16.8.4.4 and Table 1 Class III Private Street – Street Width Design: c. Sidewalk/pedestrian way to not require the construction of a sidewalk along Deer Ridge Lane and the proposed Turkeytail Lane.***

5. ***Section 16.8.4.4, and Table 1 Cul-de-Sac: a. Street length to radius b. Boundary radius & c. Paved radius to permit turnaround tees in lieu of cul-de-sacs.***

6. ***Section 16.8.4.4 and Table 1 Street Width Design: c. Travel pavement to allow 18 feet of width with 2' gravel shoulders for Deer Ridge Lane from Sta. 0+00 to Sta. 5+50 and for Turkeytail Lane.***

7. ***Section 16.8.4.4 and Table 1 Street Width Design: d. Paved shoulder to allow 2' gravel shoulders for Deer Ridge Lane Sta. 5+50 to Sta. 10+33.***

Move to approve the final cluster subdivision plan application, dated March 27, 2019, from owner / applicant Arthur W. Andrews Rev. Trust for an 11-lot cluster subdivision located off of Deer Ridge

Lane (Tax Map 60 Lot 10) in the Residential Rural (R-RL) and Shoreland Overlay and Resource Protection (OZ-RP & OZ-SL 250') Zones.

Accept and approve a street naming application from Jeffrey Clifford, dated February 20, 2019, to name a new private road off of Deer Ridge Lane (Map 60, Lot 10), Turkeytail Lane.

KITTERY PLANNING BOARD
FINDINGS OF FACT - **Unapproved**
for
Andrews Cluster Subdivision
Major Cluster Subdivision Plan

Note: This approval by the Planning Board constitutes an agreement between the Town and the Developer incorporating the Development plan and supporting documentation, the Findings of Fact, and all waivers and/or conditions approved and required by the Planning Board.

WHEREAS: Owner/applicant Owner /Applicant, Arthur W. Andrews Rev. Trust requests consideration of a 11-lot cluster subdivision on 93.32 acres located off Deer Ridge Lane (Tax Map 60, Lot 10) in the Residential Rural (R-RL) and Shoreland Overlay and Resource Protection (OZ-RP & OZ-SL 250') Zones. Agent is Jeff Clifford, Altus Engineering.

Hereinafter the "Development".

Pursuant to the Plan Review meetings conducted by the Planning Board as duly noted in the Plan Review Notes dated 04/11/2019;

Sketch Plan Review	Approved	8/9/2018
Site Visit	Held	9/11/2018
Preliminary Plan Completeness Review	Held, Accepted	11/8/2018
Public Hearing	Held	12/13/2018
Preliminary Plan Approval	Granted (with conditions)	12/13/2018
Final Plan Approval	Granted (with conditions)	4/11/2019

and pursuant to the Project Application and Plan and other documents considered to be a part of the approval by the Planning Board in this finding consist of the following and as noted in the Plan Review Notes dated 04/11/2019 (Hereinafter the "Plan").

1. Final Plan Review Documents, Altus Engineering, Inc. letter dated March 28, 2019
2. Andrews Subdivision Plans and Site Details, Altus Engineering, Inc. dated March 27, 2019
3. Standard Boundary Survey & Existing Conditions Plan, dated 3/27/19

NOW THEREFORE, based on the entire record before the Planning Board as and pursuant to the applicable standards in the Land Use and Development Code, the Planning Board makes the following factual findings as required by Section **16.10.8.3.D. and as recorded below:**

FINDINGS OF FACT

Action by the Board shall be based upon findings of fact which certify or waive compliance with all the required standards of this title, and which certify that the development satisfies the following requirements:

A. Development Conforms to Local Ordinances.

The proposed development conforms to a duly adopted comprehensive plan as per adopted provisions in the Town Code, zoning ordinance, subdivision regulation or ordinance, development plan or land use plan, if any. In making this determination, the municipal reviewing authority may interpret these ordinances and plans.

Finding: The proposed development conforms to Title 16, Article XI Cluster Residential Development, Section 16.8.11.

Conclusion: This standard appears to be met.

Vote of __ in favor _ against _ abstaining

B. Freshwater Wetlands Identified.

All freshwater wetlands within the project area have been identified on any maps submitted as part of the application, regardless of the size of these wetlands.

Finding: The wetlands boundaries have been delineated/flagged by Joseph W. Noel, Maine Certified Soil Scientist #209 and depicted on the subdivision plans. No wetlands will be impacted by the development.

Conclusion: This standard is appears to be met.

Vote of __ in favor __ against __ abstaining

C. River, Stream or Brook Identified.

Any river, stream or brook within or abutting the proposed project area has been identified on any maps submitted as part of the application. For purposes of this section, "river, stream or brook" has the same meaning as in 38 M.R.S. §480-B, Subsection 9.

Finding: Cutts Ridge Brook headwaters begin on the property and flow northwesterly from the parcel onto abutting Johnson Farm property. The brook has been identified on the subdivision plans.

Conclusion: This standard appears to be met.

Vote of __ in favor __ against __ abstaining

D. Water Supply Sufficient. *{and}*

The proposed development has sufficient water available for the reasonably foreseeable needs of the development.

E. Municipal Water Supply Available.

The proposed development will not cause an unreasonable burden on an existing water supply, if one is to be used.

Finding: The proposed lots are being serviced by an existing 8-inch municipal water main along Deer Ridge Lane and a proposed 6-inch water main along the new roadway. The applicant has submitted a letters from the Kittery Water District, dated October 23, 2018 and February 14, 2019, indicating that it will be capable of servicing this project and that the design of the water infrastructure and materials meets their specifications.

Conclusion: This standard appears to be met.

Vote of __ in favor __ against __ abstaining

F. Sewage Disposal Adequate.

The proposed development will provide for adequate sewage waste disposal and will not cause an unreasonable burden on municipal services if they are utilized.

Finding: Wastewater will be disposed of by an engineered system that consists of a septic tank and advanced treatment system for each lot. The project will require a Stormwater Law License from MDEP. The applicant is proposing extensive use of best management practices, including a grassed underdrain soil filter, level speaders and "buffer easements" to address stormwater quality and quantity requirements of MDEP's regulations.

Conclusion: This standard appears to be met.

Vote of __ in favor _ against __ abstaining

G. Municipal Solid Waste Disposal Available.

The proposed development will not cause an unreasonable burden on the municipality's ability to dispose of solid waste, if municipal services are to be used.

Finding: The proposed development doesn't not require any changes to municipal solid waste services.

Conclusion: This standard appears to be met.

Vote of __ in favor __ against _ abstaining

H. Water Body Quality and Shoreline Protected.

Whenever situated entirely or partially within two hundred fifty (250) feet of any wetland, the proposed development will not adversely affect the quality of that body of water or unreasonably affect the shoreline of that body of water.

Finding: The eleven (11) proposed lots are within a significant sand and gravel aquifer and/or the Shoreland – Wetlands protection Area (OZ-SL-250") at the northeasterly end of the project. The lots will require advance pre-treatment aeration at each subsurface wastewater disposal system. Therefore, the proposed development should not adversely affect the quality or quantity of surface water.

Conclusion: This standard appears to be met.

Vote of __ in favor __ against __ abstaining

I. Groundwater Protected.

The proposed development will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater.

Finding: The eleven (11) proposed lots are within a significant sand and gravel aquifer and/or the Shoreland – Wetlands protection Area (OZ-SL-250") at the northeasterly end of the project. The lots will require advance pre-treatment aeration at each subsurface wastewater disposal system. Therefore, the proposed development should not adversely affect the quality or quantity of groundwater.

Conclusion: This standard appears to be met.

Vote of __ in favor __ against __ abstaining

J. Flood Areas Identified and Development Conditioned.

All flood-prone areas within the project area have been identified on maps submitted as part of the application based on the Federal Emergency Management Agency's Flood Boundary and Floodway Maps and Flood Insurance Rate Maps, and information presented by the applicant. If the proposed development, or

any part of it, is in such an area, the applicant must determine the one hundred (100) year flood elevation and flood hazard boundaries within the project area. The proposed plan must include a condition of plan approval requiring that principal structures in the development will be constructed with their lowest floor, including the basement, at least one foot above the one hundred (100) year flood elevation.

Finding: Flood Hazard Zone A per FIRM Map #23031C0663G, dated preliminary November 5, 2013 is shown along the Cutts Ridge Brook corridor. Zone A has no defined 110-year flood elevation. No buildings will be constructed within this zone.

Conclusion: This standard appears to be met.

Vote of __ in favor __ against __ abstaining

K. Stormwater Managed.

Stormwater Managed. The proposed development will provide for adequate stormwater management

The design was prepared by Altus Engineering, Inc. and reviewed by CMA Engineers, Town peer-review engineer. CMA reported that the applicant has prepared a complete stormwater design and associated analysis and the proposed development meets the requirements of the Title 16.

Finding: Stormwater from impervious and disturbed areas on the site will be treated by the use of stormwater BMPs designed to remove fine particulates and suspended sediments. A grassed underdrain soil filter, wooded buffers, grass swales, level spreaders and riprap protection are utilized to obtain the required stormwater treatment. A comprehensive review of the stormwater management plan will be performed by MDEP under the *Stormwater Law License* permit.

Conclusion: This standard appears to be met.

Vote of __ in favor __ against __ abstaining

L. Erosion Controlled.

The proposed development will not cause unreasonable soil erosion or a reduction in the land's capacity to hold water so that a dangerous or unhealthy condition results.

The Contractor shall follow MDEP best management practices for erosion and sediment control (silt fencing, silt sacks, etc.), and CMA Engineers will be notified to observe application during construction.

Finding: Runoff is primarily maintained as sheet flow and minimized concentrated flow. Other best management practices include the use of undisturbed wooded buffers, grass swales, riprap protection, minimization of pavement widths, stabilized construction exit and silt barriers. Best management practices for erosion control will be reviewed as part of the MDEP *Stormwater Law License* permit.

Conclusion: This standard appears to be met.

Vote of __ in favor __ against __ abstaining

M. Traffic Managed.

The proposed development will:

1. Not cause unreasonable highway or public road congestion or unsafe conditions with respect to the use of the highways or public roads existing or proposed; and

2. Provide adequate traffic circulation, both on-site and off-site.

Finding: The applicant has provided a Traffic Generator Summary for the development and the ADT peak hour and peak day is appropriate for Cutts Road.

Conclusion: This standard appears to be met.

Vote of __ in favor __ against __ abstaining

N. Water and Air Pollution Minimized.

The proposed development will not result in undue water or air pollution. In making this determination, the following must be considered:

1. *Elevation of the land above sea level and its relation to the floodplains;*
2. *Nature of soils and sub-soils and their ability to adequately support waste disposal;*
3. *Slope of the land and its effect on effluents;*
4. *Availability of streams for disposal of effluents;*
5. *Applicable state and local health and water resource rules and regulations; and*
6. *Safe transportation, disposal and storage of hazardous materials.*

Finding: 1. No filling or development is proposed within the 100-year floodplain.
2. Applicant has provided a Class A High Intensity Soil Survey, test pit logs, proposed subsurface disposal area locations, and reserve locations for the proposed lots.
3. Proposed subsurface disposal areas are located outside of steep slope areas.
4. There will be no activity with 500' of Cutts Ridge Brook.
5. The applicant has received an MDEP *Stormwater Law License permit.*
6. N/A.

Conclusion: This standard appears to be met.

Vote of __ in favor __ against __ abstaining

O. Aesthetic, Cultural and Natural Values Protected.

The proposed development will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, significant wildlife habitat identified by the department of inland fisheries and wildlife or the municipality, or rare and irreplaceable natural areas or any public rights for physical or visual access to the shoreline.

Finding: The proposed development will create an 84.25 acre lot designated as reserved open space, protecting over 90% of the parent parcel. The Kittery land Trust will take ownership of the open space lot and manage it in accordance with an approved management plan and in conjunction with their abutting protected land and easements. There are a number of vernal pools on the parcel. MDEP determined that only one (1) vernal pool meets the standards of a significant vernal pool (SVP). All development will be outside the 250 foot MDEP buffer to the SVP.

Conclusion: This standard appears to be met.

Vote of __ in favor __ against __ abstaining

P. Developer Financially and Technically Capable.

Developer is financially and technically capable to meet the standards of this section.

Finding: The developer will provide an inspection escrow in an amount suitable to cover the costs of on-site inspection by the Peer Review Engineer to ensure the proposed development is constructed according to the approved plan.

Conclusion: This standard appears to be met.

Vote of __ in favor __ against __ abstaining
Chapter 16.6 DECISION APPEAL, VARIANCE and OTHER REQUESTS **16.6.4.4Special Exception Use Request.**
B. The Planning Board will review, decide and may approve an applicant's Special Exception Use request where the proposed project requires Planning Board review as defined in Section 16.10.3.2 or is located in a Shoreland or Resource Protection Overlay Zone. The Planning Board must find the proposed project and use meets the criteria set forth in Section 16.10.8.3.4 and 16.6.6.
Finding: Lots 2, 3, 4, 5, 6, 7, 8, 9 and 11 are either partially or entirely located in the Shoreland Overlay Zone (OZ-SL-250'). The lots will require advanced pre-treatment (aeration) at each subsurface wastewater disposal system. No wetlands will be impacted by the development. The proposed project of the appears to have no adverse impact with consideration of the conditions and factors outlined in 16.6.6, including: 1. Proposed use will not prevent the orderly and reasonable use of adjacent properties or of properties in adjacent use zones; 2. Use will not prevent the orderly and reasonable use of permitted or legally established uses in the zone wherein the proposed use is to be located, or of permitted or legally established uses in adjacent use zones; 3. Safety, the health, and the welfare of the Town will not be adversely affected by the proposed use or its location; and 4. Use will be in harmony with and promote the general purposes and intent of this Code.
Conclusion: The special exception can be met.
Vote of __ in favor __ against __ abstaining

NOW THEREFORE the Kittery Planning Board adopts each of the foregoing Findings of Fact and based on these Findings determines the proposed Development will have no significant detrimental impact, and the Kittery Planning Board hereby grants final approval for the Development at the above referenced property, including any waivers granted or conditions as noted.

Waivers:

1. Section 16.10.5.2.B (2) for drawings scale to allow the scale to be 1" = 200' for the Soils Plan.
2. Section 16.9.2.2 (B) Clearing or removal of vegetation in Resource Protection Zone to construct a centralized stormwater treatment BMP.
3. Section 16.8.4.6 Center line. To preserve mature trees in the right-of-way to the extent possible, allow the center line of the travelled way to be not be aligned with the center line of the right-of-way.
4. Section 16.8.4.4 and Table 1 Class III Private Street – Street Width Design: c. Sidewalk/pedestrian way to not require the construction of a sidewalk along Deer Ridge Lane and the proposed Turkeytail Lane.

5. Section 16.8.4.4, and Table 1 Cul-de-Sac: a. Street length to radius b. Boundary radius & c. Paved radius to permit turnaround tees in lieu of cul-de-sacs.

6. Section 16.8.4.4 and Table 1 Street Width Design: c. Travel pavement to allow 18 feet of width with 2' gravel shoulders for Deer Ridge Lane from Sta. 0+00 to Sta. 5+50 and for Turkeytail Lane.

7. Section 16.8.4.4 and Table 1 Street Width Design: d. Paved shoulder to allow 2' gravel shoulders for Deer Ridge Lane Sta. 5+50 to Sta. 10+33.

Conditions of Approval (to be included as notes on the final plan in addition to the existing notes):

1. No changes, erasures, modifications or revisions may be made to any Planning Board approved final plan. (Title 16.10.9.1.2)
2. Applicant/contractor will follow Maine DEP *Best Management Practices* for all work associated with site and building construction to ensure adequate erosion control and slope stabilization.
3. Prior to the commencement of grading and/or construction within a building envelope, as shown on the Plan, the owner and/or developer must stake all corners of the envelope. These markers must remain in place until the Code Enforcement Officer determines construction is completed and there is no danger of damage to areas that are, per Planning Board approval, to remain undisturbed.
4. All Notices to Applicant contained in the Findings of Fact (dated: 03/14/2019).

Conditions of Approval (Not to be included as notes on the final plan):

5. Incorporate any plan revisions on the final plan as recommended by Staff, Planning Board, or Peer Review Engineer, and submit for Staff review prior to presentation of final Mylar.
6. The Home Owners Association (HOA) document must be reviewed and found satisfactory by the Shoreland Resource Officer and the Town Attorney prior to the final Mylar being signed by the Chair.
7. Provide the additional documents and/or responses to all CMA comments prior to presentation of final Mylar.

Notices to Applicant: (not to be included on the final plan)

1. Prior to the release of the signed plans, the applicant must pay all outstanding fees associated with review, including, but not limited to, Town Attorney fees, peer review, newspaper advertisements and abutter notification.
2. State law requires all subdivision and shoreland development plans, and any plans receiving waivers or variances, be recorded at the York County Registry of Deeds within 90 days of the final approval.
3. One (1) Mylar copy and one (1) paper copy of the final plan (recorded plan if applicable) and any and all related state/federal permits or legal documents that may be required, must be submitted to the Town Planning Department. Date of Planning Board approval shall be included on the final plan in the Signature Block.

4. The owner and/or developer, in an amount and form acceptable to the Town Manager, must file with the municipal treasurer an instrument to cover the cost of all infrastructure and right-of-way improvements and site erosion and stormwater stabilization, including inspection fees for same.
5. This approval by the Town Planning Board constitutes an agreement between the Town and the Developer, incorporating the Plan and supporting documentation, the Findings of Fact, and any Conditions of Approval.

The Planning Board authorizes the Planning Board Chair, or Vice Chair, to sign the Final Plan and the Findings of Fact upon confirmation of compliance with any conditions of approval.

Vote of __in favor__ against __ abstaining

APPROVED BY THE KITTERY PLANNING BOARD ON April 11, 2019

_____

Dutch Dunkelberger, Planning Board Chair

Per Title 16.6.2.A - An aggrieved party with legal standing may appeal a final decision of the Planning Board to the York County Superior Court in accordance with Maine Rules of Civil Procedures Section 80B, within forty-five (45) days from the date the decision by the Planning Board was rendered.

Attachment - B

Waiver Requests (revision 2, dated: 4/3/2019)

Andrews Subdivision – Cluster Subdivision

Map 60, Lot 10

The following waivers are being requested:

Ordinance Section	Description
16.8.4.13 Sidewalks	No sidewalks are proposed to be installed at Deer Ridge Lane nor at the proposed Turkeytail Lane right-of-way. These are dead end streets with very low traffic volume. Deer Ridge Lane connects to Remicks Lane which does not have a sidewalk, therefore there is a lack of connecting facilities adjacent or in proximity to the subdivision,
16.10.5.2.B.2 Plan Size	Drawing scale: 1" = 200' is used for the overall site on the Soils Plan, Sheet G-1.0. An enlargement at plan scale 1" = 100' is also shown on G-1.0 to depict the test pits and proposed lots.
16.9.2.2 (B) Clearing or Removal of Vegetation in Resource Protection Zone	A grassed underdrained soil filter is proposed adjacent to the topographic low of Turkeytail Lane. This centralized stormwater best management practice (BMP) treats and detains runoff from the roadway and house lots before the flow enters the wetlands. Construction of the BMP's southerly embankment encroaches 2,340 s.f. into the 100 foot resource buffer. This encroachment averages 20' in width along the BMP, therefore the remaining woodland buffer will average 80' to the wetland. The cleared area will be revegetated during the construction of the BMP.

Deer Ridge Lane Sta. 0+00 to Sta. 3+00	
16.8.4.6 Centerline	The applicant proposes to upgrade Deer Ridge Lane, the existing private roadway, by widening the paved travelled way and reposition its centerline to better align with the existing right-of-way. However, the applicant and current residents also seek to maintain the rural character of Deer Ridge Lane and preserve mature trees in the right-of-way to the extent possible. As depicted on Sheet C-1.0, the proposed alignment in this section of the roadway will flatten two existing curves to improve the sight distance and facilitate maintenance, but existing vegetation is being preserved by not aligning the centerline of the travelled way with the centerline of the right-of-way for the first 300' of Deer Ridge Lane.

Deer Ridge Lane Sta. 0+00 to Sta. 5+60 (intersection with Turkeytail Lane)	
16.8.4.4 and Table 1 Class III Private Streets Standards	*Street Width Design: c. Sidewalk/Pedestrian Way:* *Street Width Design: d. Paved Shoulder:* The applicant proposes to upgrade Deer Ridge Lane, the existing private roadway, from its current 16' wide paved surface to a 20' paved travelled way with 2' gravel shoulders on each side. This roadway cross section deviates from the Minor Streets standard of a 5' wide sidewalk and 20' paved travelled way with 2' and 8' paved shoulders. As has been noted throughout the application process, the applicant and current residents prefer to maintain the rural character of the subdivision and have experienced that the existing narrow road reduces the speed of traffic and is aesthetically desirable. Installing a roadway with 30' of pavement would inappropriately change the character of the subdivision and result in unnecessary impervious surfaces.. The roadway's ADT is 169 and the proposed design with a 20' paved travel way conforms to recommendations in the AASHTO publication titled *"Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT ≤ 400)"*. For reference, Deer Ridge Lane connects to Remicks Lane which as a paved travel way that is 18.5' wide and has gravel shoulders. Therefore, a waiver from the paved shoulder requirement is requested. A separate waiver is requested above from 16.8.4.13 to omit sidewalks on Deer Ridge Lane and Turkeytail Lane.
Deer Ridge Lane Sta. 5+60 to Sta. 10+33 and Turkeytail Lane	
16.8.4.4 and Table 1 Class II Private Streets Standards	*Street Width Design: c. Travel Way:* *Street Width Design: e. Sidewalk/Pedestrian Way:* West of the intersection with Turkeytail Lane, Deer Ridge Lane will have an ADT of 60 and is classified in the LUDC as a Class II Private Street. Turkeytail Lane will have an ADT of 70 and has the same Class II classification. The applicant proposes to upgrade the westerly section of Deer Ridge Lane (which currently has only a 12' paved travelled way) to a roadway section comprised of an 18' wide paved traveled way and 2' wide gravel shoulders on each side. Turkeytail Lane is a similar road and as such an 18' wide paved travelled way with 2' wide gravel shoulder is also proposed. This is in lieu of the Class II standard of a 20' paved travelled way with 5' sidewalk (there is no specific gravel shoulder width specified in Table 1). These roadways will have very low ADT and this design conforms with the recommendations of the AASHTO publication titled *"Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT ≤ 400)"*.

16.8.4.4 and Table 1 Class II Private Streets Standards (cont.)	*Street Gradients: a. Longitudinal (Max):* The applicant proposes to reconstruct the steepest section of Deer Ridge Road to match the existing grade and preserve minimum cover over the existing watermain. The proposed 10.6 % grade is in lieu of the maximum grade of 9% for a Class II Private Street. We note that the provisions of LUDC Sec. 16.8.4.8 encourage grades of streets to conform to the terrain so that cut and fill are minimized.
	Cul-de-sac: a. Street Length to Radius A turn tee is proposed in lieu of a cul-de-sac at Turkeytail Lane, see waiver request below. The right-of-way length of Turkeytail Lane from the south side of the Deer Ridge Lane right-of-way to the turn tee intersection is 543'. The end of the proposed right-of-way at Lot 8 is 609' from the Deer Ridge right-of-way. The LUDC defines street length as being to the center radius of a cul-de-sac (600' for a Class II street), but does not define the street length of a road with a turn tee. Considering that the right-of-way of a Class II street with a cul-de-sac could extend 660' to the outside radius, Turkeytail Lane is effectively no longer than the Class II standard.
	Cul-de-sac: b. Boundary Radius *c. Paved Radius* Turn tees are proposed at the end of both Deer Ridge Lane (where no turning area currently exists) and at Turkeytail Lane (a new road). A turn tee is recognized as an acceptable alternative to a cul-de-sac by American Association of State Highway and Transportation Officials (AASHTO) and Federal Highway Administration (FHWA). Turn tees have been successful used at dead end streets in Kittery including Jefferson Lane, Hacket Way, King's Court, Seward Farm Lane and others. It is our understanding that the Kittery Fire Department often prefers turn tees and they have no issues with the proposed design for the Andrews Subdivision.

Attachment D

COMPLETE RESTATEMENT OF THE
Declaration of Rights, Restrictions and Covenants
Deer Ridge Lane Association
Town of Kittery, York County, Maine

This Restatement is intended to replace and supersede the Declaration recorded in the York County Registry of Deeds at Book 17344, Pages 667 – 676.

Property Affected by Declaration

This Declaration of Rights, Restrictions and Covenants shall bind the owners of lots abutting Deer Ridge Lane and shown on the Town of Kittery Tax Map 65, Lots 10, 10A, 10B, 10C, 10D and 10E; as well as all of the newly created lots shown and delineated on the plan entitled, "Andrews Subdivision, Map 60, Lot 10" which subdivision will be approved by the Kittery Planning Board and recorded in the York County Registry Deeds (hereinafter collectively referred to as the Lots).

This Declaration is created to assure all owners and purchasers of lots along Deer Ridge Lane and Turkeytail Lane, their heirs, personal representatives, successors and assigns that the use, development, benefit and enjoyment of said Lots, roads and Common Areas (e.g., the Retention Pond area along Turkeytail Lane) shall be in accordance with a harmonious plan, and to this end, the undersigned Lot Owners deem that all Lots be subjected to the restrictions, reservation, servitudes, covenants, agreements and easements as hereinafter set forth.

Article A. General Restrictions

Each of the Lots shall be subject to the following rights, restrictions and covenant which shall run with the land.

1. Each Lot shall be used exclusively for single family residential purposes. No lot shall be further divided, whether by lease, conveyance or condominiumization.

2. No commercial, industrial, business, professional use or enterprise of any nature or description shall be carried on upon any Lot unless (a) its conduct on the lots is wholly within the residence located on the Lot, (b) it has no more than one employee, other than the Lot owner, (c) there is no signage or advertising on the Lot or roads approaching the Lot suggesting the existence of the business activity; (d) such use does not require regular client/customer contact at the dwelling; and (e) any client/customer visiting the Lot shall not park on Deer Ridge Lane or Turkeytail Lane.

3. Boats, snowmobiles and trailers may be stored on any lot so long as they are properly screened, i.e., the lot owner has used reasonable efforts create a physical or vegetative screen (from Deer Ridge Lane or Turkeytail Lane).

4. No structure shall be erected on any lot except one detached, single family residential dwelling, hereinafter referred to as the Dwelling. No Dwelling shall not exceed two and one-half stories in height. One free-standing storage shed shall be permitted.

5. Each Dwelling shall be supported by a solid masonry foundation or slab. All exterior portions of chimneys and fireplaces shall be of brick or stone construction. No cinder block chimneys are allowed on the exterior of any dwelling or structure located on the Lot.

6. Construction of a Dwelling, once begun, shall be pursued diligently and completed within two year. All construction equipment and material used during construction upon a Lot shall be off-loaded on the Lot and not upon Deer Ridge Lane or Turkeytail Lane. In addition, all Lot owners shall extend the pavement of their individual driveways accessing Deer Ridge Road or Turkeytail Lane at least 8 feet (from the sideline of either Deer Ridge Lane or Turkeytail Lane) into their lot in order to prevent the deterioration of the pavement of Deer Ridge Lane or Turkeytail Lane; Lot owners shall have two years from the initial development of their lot to complete this work.

7. All utility line servicing lots having Turkeytail Lane as their primary access shall be installed underground.

8. It shall be the responsibility of the Lot owner to repair any damage to Deer Ridge Lane and /or Turkeytail Lane and adjacent slopes and common areas resulting from the transportation and delivery of any building/construction materials.

9. All dwellings shall be constructed making an effort to retain and preserve the natural vegetation, trees, shrubs and other beneficial flora existing on the Lot. Vegetation which is hazardous to the Lot owner (e.g., dead trees or invasive species such as sumac, bittersweet or Japanese Knotweed) or that may impede proper drainage of the Lot may be removed.

10. No Lot owner shall park vehicles on Deer Ridge Lane or Turkeytail Lane. Guests of lot owners may temporarily park on Deer Ridge Lane or Turkeytail Lane for not more than 24 hours; provide, however, such parked cars shall not obstruct passage by other vehicles.

11. No Lot owner may grant easements benefitting real property located outside of the Deer Ridge Lane and Turkeytail Lane Development unless approved by the Association described in Article B, below.

12. No livestock or farm animals shall be kept, bred, maintained or allowed on any Lot. Domestic pets are permitted; provided, however, the keeping or breeding of any animals, domestic or otherwise, for commercial purposes is not permitted on any Lot.

13. Propane tanks, satellite dishes and other communications equipment are permitted; however, such equipment must be properly screened (i.e., the lot owner must use reasonable efforts create a physical or vegetative screen) so as to minimize the visual impact on adjacent Lots and from Deer Ridge Land and Turkeytail Lane.

14. No Lot owner may do or permit anything to be done on their Lot which is or may constitute a nuisance, or violate any Rule established by the Association.

15. No informational signs of any nature shall be displayed to public view on a Lot or on the common area except one customary name and address sign of not more than four square feet.

16. No trash, ashes or other refuse, junk, vehicles in disrepair, brushwood or other unsightly objects shall be kept or permitted on any Lot or in the common areas except in sanitary containers concealed from public view.

17. Children's swing sets, jungle gyms, wading pools and similar play equipment may only be maintained in the rear yards. (For the purpose of this provision, the term "rear yard" shall mean that area located on the opposite side of the house from the front door.)

18. Drone operation shall be allowed so long as the drone does not leave the airspace directly over the Lot upon which the drone is being operated. Operation of a drone in the airspace over any Lot not belonging to the drone operator shall be considered a nuisance and subject the operator to civil suit and penalties (unless permission has been granted by the owner of the Lot above which the drone is operating).

19. House shall be painted, sided or stained in "earth-tones" colors. In the event there is any question as to the nature of a particular color and whether it meets the definition of "earth-tones," then the Board of Director of the Association shall have the absolute right to make a final decision.

20. No snow, ice gravel, loam compost, leaves, fertilizers or other mineral waste products or commodities shall be piled or stored within ten (10) feet of boundaries of any Lot; and snow and ice shall not be deposited on roadways or sidewalks so as to obstruct motor vehicles or pedestrian passage by other Lot owners.

21. Lot owners shall properly and regularly maintain drainage swales (if any) across their Lot so that water properly drains through the Lots. Failure to do so shall subject a Lot owner to fines and corrective action by the Association, including entry upon their Lot by the Association to correct the drainage and the assessment against the Lot owner for the cost of such corrective action.

Article B: Easement

Each Lot owner, their heirs, personal Representatives, successors and assigns is hereby granted a perpetual easement, to be used by foot or by motor vehicle, and for all utilities, in common over Deer Ridge Lane and Turkeytail Lane.

The Kittery Land Trust (KTL) shall have an easement for 2 parking spaces at the terminus of Deer Ridge Lane for the sole and exclusive purpose of parking vehicles of KLT volunteers and staff or their agents who are accessing the adjacent land under ownership of the KLT.

Article C: Homeowners' Association

1. Creation and Purpose:

The Deer Ridge Lane Association, Inc. is a non-profit Maine corporation established for the following purposes:

1) To hold title to Deer Ridge Lane and Turkeytail Lane for the benefit of all Lot owners;

2) To hold title to any additional Common Areas required by the Town of Kittery Planning Board, e.g., the Retention Pond area;
3) To maintain and repair the roadway until such time as title to the roadway has been turned over to the Town of Kittery, if ever;
4) To facilitate the collection of fees from Lot owners for snow removal, road maintenance for Deer Ridge Lane Turkeytail Lane and maintenance of the Retention Pond area;
5) To administer, maintain and repair any internal drainage system;
6) To enforce and administer the Declaration of Rights, Restrictions and Covenants;
7) To administer all other the common areas;
8) Generally, to preserving property values and amenities along and within the Deer Ridge Lane and Turkeytail Lane development; and
9) To undertake any other activities authorized by Title 13 – B, the Maine Nonprofit Corporation Act.;

In addition, to the provisions set forth herein, the Association shall be governed by Articles of Incorporation, Bylaws and any amendments thereto or any rules and regulations subsequently adopted by the Association. In the event of a conflict the provisions of this Declaration and the Articles of Incorporation Bylaws or Rules and Regulation, the provisions of this Declaration shall govern.

2. Membership in the Association and Voting:

a. Every record owner of a Lot (a Lot Owner) shall be members of the Association and each lot shall be entitled to one vote. Lot Owners in arrears in paying their annual dues or assessments shall not have the right to vote.

b. Meetings of the Association membership shall be held at a time and place to be established by the Board, as shall be specified in the notice of the meeting.

c. **Annual Meetings**. The annual meetings of the Association members shall be held each year on the _____. In the event that the day for which an annual meeting is scheduled is a legal holiday, then the meeting shall be held on the first day thereafter which is not a legal holiday. At such meetings there shall be elected by ballot of the members a Board of Directors in accordance with the provisions of these Bylaws. The Association Members shall also transact such other business as may properly come before them. All matters to come before any meeting of the association shall be determined by a vote of a Majority of members in attendance at the meeting.

d. **Meeting by Remote Communication.** Any one or more Association member may participate in a meeting of the Association by means of a conference telephone, video conference, or similar communications equipment. Participation by such means shall constitute presence in person at a meeting provided that all persons participating in the meeting can hear each other at the same time and each director can participate in all matters before the Association, including, without limitation, the ability to propose, object to, and vote upon a specific action to be taken by the Association.

3. Power of the Association:

The Association shall have all of the powers of a Maine non-profit corporation, including the authority to:

a. Acquire, own, convey, mortgage, pledge or lease such property as may be necessary in order to carry out the purposes of the Association and to hold title or an easement to Deer Ridge Lane and Turkeytail Lane;

b. The power and duty to determine an annual budget.

c. To elect a Board of Directors;

ARTICLE D: Board of Directors

1. **Creation and Purpose.**

The affairs of the Association will be carried out by a three-person Board of Directors elected annually by the Lot Owners Board members shall be owners of lots along Deer Ridge Lane or Turkeytail Lane (or their spouse is the spouse is not a title holder). The Board members so chosen shall vote to establish the three positions: President, Secretary and Treasurer (the Officers). The officers may, but need not, be chosen from among the Board Members. Homeowners may nominate any Lot Owner (or spouse of a Lot Owner) member to be elected to the Board. Elections will be made by a majority vote at the annual meeting of the Association. Each board member will serve for a three-year term. Board Members may be reelected at the end of their three-year term.

2. **Powers and Duties**. The Board shall have the duty and power to:

a. enforce the terms of the Declaration and Bylaws;

b. open bank accounts on behalf of the Association and designate the signatories thereon.

c. determine fines for violations of the Declaration of Rights, Restrictions and Covenant and the Rules and Regulations;

d. create and enforce Rules and Regulations for the administration of the Association, the roadways and other Common Areas, e.g., the Retention Pond area;

e. to designate, hire and dismiss the personnel necessary for the maintenance, operation, repair and replacement of the Common Areas;

f. to prepare and present to the Association at the annual meeting a proposed budget for the coming year;

g. to establish a capital reserve account if the Board deems it necessary for the management of the Association and its Common areas, i.e., Deer Ridge Lane, Turkeytail Lane and the Retention Pond area;

h. based upon the budget established by the Association, to make assessments against Lot Owners to defray the costs and expenses of the Association, establish the means and methods of collecting such assessments from the Lot Owners and establish the period of the installment payment of annual dues and assessments;

i. to collect the assessments for Common Expenses against the Lot Owners, deposit the proceeds thereof in any bank depositories or money market funds designated by the Board of Directors and use the proceeds to carry out the administration of the Common Areas;

j. to provide for the operation, care, upkeep and maintenance of all of the Common Areas including improvement, maintenance, repair, street sweeping, sealcoating, snow plowing and snow removal from Deer Ridge Lane and Turkeytail Lane, any other Common Areas (e.g., the Retention Pond area) and storm water drainage facilities;

k. carry out the business of the Association in any manner the Board deems necessary and appropriate;

3. **Notice of Meetings.** Notice of a meeting may be sent by mail, telephone, facsimile transmission, telegraph, courier service, electronic mail or hand delivery, directed to each director at his or her address or contact information as it appears on the records of the President. Such notice shall state the time and place where the meeting is to be held and, need not specify the purpose(s) for which the meeting is called. Notice shall be deemed to have been given when sent, and if by mail, when deposited in the United States mail with prepaid postage thereon. No notice shall be required for any regular meeting for which the time and place has been previously fixed by the Board of Directors. Notice of any regular meeting for which the time and place is not fixed by the Board of Directors must be given to each director not less than thirty (30) days before such meeting. Notice of a special meeting of the Board of Directors must be given to each director not less than seven (7) days before such meeting, provided, however, that notice of special meetings relating to an emergency which must, in the reasonable judgment of the President, be resolved in a shorter time frame shall be given as promptly as possible. Notice of a regular or special meeting need not be given to a director who submits a signed waiver of notice before or at the meeting's commencement, or who attends the meeting without protesting (not later than the commencement of the meeting) the lack of notice to him or her.

4. **Quorum.** At each meeting of the Board of Directors, the presence of two-thirds (2/3) of the directors in office immediately prior to the commencement of the meeting shall constitute a quorum for the transaction of business or any specified item of business. If a quorum is not present at any meeting of the Board of Directors, the meeting shall be adjourned to another time without notice other than by announcement at the meeting, until such a quorum is present, except that notice of such adjournment shall be given to any directors who were not present at the time of the adjournment.

5. **Voting.** Except as otherwise provided by statute, the Articles of Organization or these by-laws, the vote of a majority of the directors present at the time of a vote, if a quorum is present at such time, shall be the act of the Board of Directors.

a. **Presumption of Assent.** A director of the Association who is present at a meeting of the Board of Directors when action is taken is deemed to have assented to the action taken unless: (i) the director objects at the beginning of the meeting (or promptly upon arrival) to holding the meeting or transacting business at it; (ii) the director's dissent or abstention from the action taken is entered in the minutes of the meeting; or (iii) the director files written notice of the dissent or abstention with the presiding officer of the meeting before its adjournment or with the Association immediately after adjournment of the meeting. This right of dissent or abstention is not available to a director who votes in favor of the action taken.

b. **Meeting by Remote Communication.** Any one or more members of the Board of Directors or any committee thereof may participate in a meeting of the Board of Directors or such committee by means of a conference telephone, video conference, or similar communications equipment. Participation by such means shall constitute presence in person at a meeting provided that all persons participating in the meeting can hear each other at the same time and each director can participate in all matters before the Board of Directors, including, without limitation, the ability to propose, object to, and vote upon a specific action to be taken by the Board of Directors or committee.

c. **Action Without Meeting.** Any action required or permitted to be taken by the Board of Directors or any committee thereof may be taken without a meeting if all members of the Board of Directors or committee consent in writing to the adoption of a resolution authorizing the action. Such consent may be written or electronic. The resolution and written consents thereto by the members of the Board of Directors or such committee shall be filed with the minutes of the proceedings of the Board of Directors or such committee.

ARTICLE E: Method of Providing General Funds:

For the purpose of providing a general fund to enable the Association to exercise the powers and make and maintain the improvement and render the services herein provided, the Board of Directors of the Association shall determine for each year the total amount required for such fund for such year to be approved by the Association Members at the Annual Meeting by majority vote of those in attendance at the annual meeting. Once approved by the Association Members, the Board of Directors shall levy an annual assessment uniformly against each of Lot, hereinafter called the Association Fee.

The yearly Association Fee shall be assessed to each Lot Owner by November 1 of each year. (Lot owners may choose to make payments on a monthly basis; however, failure to make a monthly payment shall constitute a breach and entitle the Association to collect a late charge of $25.00 as well as interest, at the rate of eighteen percent (18%) per annum, from the due date thereof, plus costs of collection, including without limitation attorney fees.) In the event of failure of any owner to pay any assessment on or before thirty (30) days following notice to such Lot owner of such assessment of the scheduled due date thereof, then such assessment shall become delinquent and shall bear interest at the rate of eighteen percent (18%) per annum from the due date thereof, plus costs of collection, including without limitation attorney fees. When delinquent, payment of principal, interest and costs may thereafter be enforced against the owner personally, and as a lien upon the delinquent Lot Owner's Lot. The Board of Directors

shall have the power and duty to place a Certificate of Lien in the York County Registry of Deeds upon the lot of any delinquent Lot Owner. The Board of Directors shall establish a written policy for the enforcement of the annual assessment. It shall be the duty of the Association, acting through its Board, to bring suits to enforce such liens before the expiration thereof. For each certificate so filed, the Association shall be entitled to collect from the delinquent Lot Owner, in addition to the unpaid assessment, an administration fee based upon the cost of preparing and processing the Certificate of Lien. Such fee shall be collectable in the same manner as the original assessment.

The liens for such assessments shall be subordinate to the lien of any valid mortgage now existing or that may hereafter encumber a Lot. The event of the issuance of a deed pursuant to foreclosures of such mortgage or in lieu of such foreclosure, the Grantee of such deed shall take title free and clear from any liens herein provided which accrue prior to the recording of such deed.

Such liens shall continue for a period of five years from the date of delinquency and no longer, unless within such time suit shall have been filed for the collection of the assessment, in which case the lien shall continue until the termination of the suit and until the sale of the property under execution of the judgment in such suit.

Expenditures Limited to Assess for Current Year. The Association shall not expend more money within one than the total amount of the assessment for that particular year, plus any surplus which it may have on hand from previous assessments; nor shall said Association enter into any contract whatsoever binding the assessment of any future year, and no such contract shall be valid or enforceable against the Association

ARTICLE F: General Provisions

1. Each of the Restrictions set forth in **ARTICLE A** of this Declaration shall continue and remain binding for a period of fifty (50) years from the date hereof, and thereafter shall continue automatically in effect for two additional periods of twenty (20) years, unless otherwise agreed to in writing by two-thirds of the lot owners. This Declaration may be amended by written consent of ***two-thirds*** of the Lot Owners. Said written consent to amend shall be prepared and signed by the President and Secretary of the Association and recorded in the York County Registry of Deeds.

2. **ARTICLES C, D AND E** may be amended by with the written consent of a ***majority*** of the Lot Owners. Said written consent to amend shall be prepared and signed by the President and Secretary of the Association and recorded in the York County Registry of Deeds.

3. The provisions herein set forth shall run with the land and bind the Lot Owner, their heirs, personal representative, successors and assigns, and all parties claiming by, through or under them. Each Lot Owner shall have the right, but not the obligation, jointly and separately, to sue for and obtain a prohibitive and mandatory injunction to prevent the breach of or to enforce the observance of, the provisions of this Declaration or any of them, in addition to the right to bring an ordinary legal action for damages. If any Lot Owner or the Association engages the services of an attorney to enforce the provisions set forth herein and is successful in establishing that a breach of these covenants by defendant has occurred, then the Lot Owner or Association shall be entitled to recover from the defendant reasonable attorney's fees. In no event shall the

failure of Lot to enforce any of the provisions herein set forth as to a particular violation be deemed to be a waiver of the right to do so as to any subsequent violation. A Lot Owner aggrieved by the beach of these covenants may in the absence of enforcement action by the Association, initiate his own enforcement action.

4. If a court of competent jurisdiction shall hold invalid or unenforceable any provision contained in this Declaration, such holdings shall not impair, invalidate or otherwise affect the remainder of this Declaration which shall remain in full force and effect.

5. A written or printed notice, deposited in the United States Post Office, postage prepaid, and addressed to any Lot Owner at the address on file with the Town of Kittery Tax Assessor's office shall be sufficient and proper notice to such owner wherever notices are required in the Declaration; a mailing by United States Postal Service "return receipt" to this address shall be deemed delivery of notice to a lot owner.

6. By acceptance of a deed of conveyance to a Lot, notice is thereby given notice of this Declaration and these Bylaws of the Deer Ridge Lane' Association, Inc. whether or not it shall be so expressed in the deed. By acceptance of a deed, each Lot Owner agrees to become and remain an member in good standing in the Association and to comply with the Declaration, Bylaws and Rules and Regulations. Each Lot Owner is entitled to the rights and privileges of membership in the Association, as provided in this Declaration and the Bylaws, and shall be responsible for the duties of membership, including the duty to pay Association assessments and the duty to remain in good standing.

7. This Declaration shall be governed by, construed, and enforced in accordance with the laws of the State of Maine.

IN WITNESS WHEREOF, **MARY THRON, Trustee, David Tozier and Theresa Tozier, MICHAEL F. SCARPONE, KRISTINE I. SCARPONE, JOHN P. HIPPERN, LISA K. HIPPERN, MARIA WYKA, CHRIS ANDREWS, RACHAEL ANDREWS and Endeavor Properties, LLC** have caused this instrument to be signed this 20 day of March 2019.

Arthur W. Andrews Revocable Trust

Witness

By: _____ Trustee
MARY THRON, TRUSTEE

Witness

DAVID TOZIER

Witness

THERESA TOZIER

Witness

MICHAEL F. SCARPONE

Witness

KRISTINE I. SCARPONE

Witness

JOHN P. HIPPERN

Witness

LISA K. HIPPERN

Witness

CHRIS ANDREWS

Witness

RACHAEL ANDREWS

Witness

MARIA WYKA

Endeavor Properties, LLC

Witness

By: _____ Member
Robert Mahoney, Member

STATE OF MAINE
County of YORK

March
~~February~~ 20, 2019

Then personally appeared the above-named, **MARY THRON, Trustee of the Arthur W. Andrews Revocable Trust**, and acknowledged the foregoing instrument to be her free act and deed in said capacity.

Before me,

Betty J Cormier

Notary Public

Print Name Betty J. Cormier

BETTY J. CORMIER
NOTARY PUBLIC
State of Maine
My Commission Expires
October 22, 2022

CMA ENGINEERS, INC.
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April 3, 2019

Jamie Steffen, Town Planner
Town of Kittery
200 Rogers Road
Kittery, Maine 03904

RE: Town of Kittery, Planning Board Services
Andrews Subdivision (Residential Cluster Subdivision)
Deer Ridge Lane (Tax Map 60, Lot 10)
Final Plan Approval Application
CMA #591.122

Dear Jamie:

CMA Engineers has received the following information for Assignment #122, review of the Andrews Subdivision (Residential Cluster Subdivision) on Deer Ridge Lane (Tax Map 60, Lot 10).

1) Andrews Subdivision, Map 60 Lot 10, Deer Ridge Lane, Kittery, Maine by Altus Engineering, Inc. of Portsmouth, NH, Issued March 27, 2019 for Final Approval Submission.

2) Supporting documentation prepared by Altus Engineering, Inc. dated March 28, 2019.

We have reviewed the information submitted for conformance with the Kittery Land Use and Development Code (LUDC) and general engineering practices, and we offer the comments below that correspond directly to the Town's Ordinances.

The proposed project includes an 11-lot single family residential cluster subdivision on the south side of Deer Ridge Lane and west of Remicks Lane. The project includes construction of a 640-foot private roadway and improvements to Deer Ridge Lane. The project creates an 84.25-acre lot that is reserved open space.

The project is in the Rural Residential Zone and has portions in the Resource Protection Overlay Zone and the Shoreland Overlay Water body/Wetland Protection Area-250' Zone.

The subdivision is proposed to be served by an extension of an existing water main on Deer Ridge Lane. Individual septic systems are proposed for each lot.

There are multiple dimensional standards modifications proposed in accordance with Article XIII, Section 16.8.11.3 including minimum lot area, minimum street frontage, front yard setback and side and rear yard setback. These dimensional changes were discussed in our previous letter, they have not changed and have been accepted by the Planning Board.

The Applicant is requesting several waivers from the Town standards, several of which are related to roadway construction including: elimination of sidewalks, constructing a turnaround tee rather than a cul-

de-sac, narrowed street width and shoulders, substitution of gravel shoulders instead of paved and a proposed roadway grade in excess of 10% (10.6%). Other waivers include temporary removal of vegetation in the Resource Protection Overlay Zone within 100' of the wetland.

16.3 Zoning Regulations

16.3.2.17 Shoreland Overlay Zone (OZ-SL)

A large portion of the lot falls within the Shoreland-Wetland Protection Overlay Zone located primarily south of Deer Ridge Lane. Lots 2, 3, 4, 5, 6, 7, 8, 9 and 11 are either partially or entirely located in the overlay. The proposed use (dwellings) is a special exception use in the overlay zone. The Planning Board should to consider this special exception.

A portion of the proposed roadway is located within the Resource Protection Overlay Zone. In supporting that there are "no reasonable alternative route or location available" as required by the Zoning Ordinance, the Applicant describes that the configuration of the new roadway is governed by proximity to an existing lot and cannot be located elsewhere. The Applicant also states that only 20% of the roadway's pavement falls within the overlay zone. We reiterate our previous comment that the approval of the site plan is required by the Planning Board.

16.8 Design and Performance Standards-Built Environment

Article IV. Streets and Pedestrian Ways

The Applicant provided trip count information and is constructing the roadway to Class III Private Street standards. There are several roadway standards proposed, and the applicant has provided waiver requests.

One of the waivers is of paved shoulders. In our previous letter, we recommended that sincethe proposed roadway is narrow, 1' of the shoulder should be considered for paving for pavement edge stability. We reiterate this comment.

The Planning Board, Commissioner of Public Works, and Fire department should review the appropriateness of these waiver requests, including the adequacy of emergency vehicles access and turnarounds.

Article VI Water Supply

The project is to be served by an extension of the Kittery Water District's system on Deer Ridge Lane. Confirmation from the KWD of ability to serve has been provided. The Kittery Fire Department has not commented on the hydrant placement, but the Applicant has added a note to the plan indicating that KFD should approve the location prior to installation.

Article VII Sewage Disposal

The project includes individual septic systems for each lot. Test pits have been excavated for each lot and the results have been provided for review. Lots #3 and #4 require reserve leach fields, and these locations have been shown on the plans.

Article VIII. Surface Drainage

Stormwater is managed through a combination of methods including the use of a grassed underdrained soil filter, wooded buffers and grassed swale. The grassed underdrained soil filter outlets to a level spreader.

Post construction stormwater flows are the same or lower than pre-construction levels except for a negligible increase of 0.1 cfs at one of the points of analysis.

The proposed stormwater management system appears thorough and well designed, and in conformance with both Town and State standards.

Should you have any questions, please do not hesitate to call.

Very truly yours,

CMA ENGINEERS, INC.

Jodie Bray Strickland, P.E.
Project Engineer

cc: Jeff Clifford, P.E., Altus Engineering, Inc.

ALTUS
ENGINEERING, INC.

Civil
Site Planning
Environmental
Engineering

133 Court Street
Portsmouth, NH
03801-4413

March 28, 2019

Jamie Steffen, Town Planner
Town of Kittery
200 Rogers Road
Kittery, Maine 03904

Re: **Andrews Subdivision**
Map 60, Lot 10
Deer Ridge Road
Kittery, Maine
P-4795

Dear Mr. Steffen:

The Planning Board voted to grant Preliminary Approval for the subject project at their December 13, 2018 meeting. We respectively request that the project be considered for Final Approval at the April 11, 2019 Planning Board meeting. The final plans reflect revisions from the preliminary plans to address comments received to date and the recent lot line revision conveying 13.47 acres of Map 60, Lot 10 to Arthur W. Andrews, Jr. and Anne Andrews, owners of the abutting parcel identified as Map 60, Lot 10-3. Please note that the proposed road name application was submitted as part of the Preliminary Plan Review Application and was approved by all departments on or about February 26, 2019.

Enclosed are the following documents (15 copies):

- Updated plan set dated March 27, 2019 (5 full size and 10 half size sets)
- Project Narrative – Final Plan
- List of revisions subsequent to preliminary approval
- List of Dimensional Standards Modifications
- Test Pit Logs
- Attachment A – Response to CMA Engineer's Comments
- Attachment B – Waiver Requests
- Attachment C – Municipal Impact Statement
- Attachment D – Complete Restatement of the Declaration of Right, Restrictions and Covenants
- Attachment E – Draft of "Andrews Land-KLT Management Plan Outline", revision dated March 20
- Attachment F – Trustee Deed, executed March 20, 2019 and referenced plan titled "Proposed Lot Line Adjustment for Property at Cutts Road", dated March 19, 2019

- Attachment G – Kittery Water District letters, dated October 23, 2018 and February 14, 2019
- Attachment H – Supplemental drainage calculations

Please call if you have any questions or require additional information.

Sincerely,

ALTUS ENGINEERING, INC.

FOR

Jeffrey K. Clifford, P.E.
Vice President

JKC/RMB:jkc/4795.005.JS.ltr.draft.doc

Enclosures

e-copies (w/encl.): Mary Thron, Trustee

PROJECT NARRATIVE – FINAL PLAN

ANDREWS SUBDIVISION

Map 60 – Lot 10

Deer Ridge Lane

Kittery, Maine

March 27, 2019

The owner/applicant, Arthur W. Andrews Revocable Trust, is proposing a clustered subdivision on a 93.32 acre parcel on the southeast side of Deer Ridge Lane in the northerly portion of Kittery, Maine. The easterly boundary of the subject property (Map 60, Lot 10) was modified in March 2019 via a lot line adjustment transferring 13.47 acres of the former 106.79 acre parent parcel to the abutting parcel identified as map 60, lot 10-3 (owned by Arthur W. Andrews, Jr. and Anne Andrews). The remaining 93.32 acre parent parcel consists of vacant woodlands and is abutted to the north, northeast and south by single family homes. The Johnson Farm property abuts the westerly property line. An undeveloped parcel abutting to the north is owned by the Kittery Land Trust.

Located off Remicks Lane, a public road, Deer Ridge Lane is a private roadway created by the Andrews family over several years. The first lot was subdivided from the Andrews family holdings in 1982 with additional lots being created in 1987, 2000, 2004 and 2017, thereby defining the current parcel and the 60-foot wide right-of-way.

The proposed clustered subdivision creates eleven (11) single family residential lots. The project has been designed to fit harmoniously into the landscape and maintain the rural woodland character of the surrounding area using concepts and guidelines developed for conservation subdivision design. Through the flexibility provided in the Town ordinance's cluster provisions, the project team found that carefully locating the house lots, and minimizing pavement and clearing respected the land's natural features, and provides a community atmosphere.

The proposed project will create an 84.25 acre lot designated as reserved open space, protecting over 90% of the parent parcel. The open space is configured to maximize sensitivity to the natural resources within the site by providing significant forested buffers to wetlands. The Kittery Land Trust will take ownership of the open space lot and manage it in accordance with an approved management plan and in conjunction with their abutting protected land and easements.

The project does not maximize the allowed density. Based on Kittery Land Use and Development Code (LUDC), the Net Residential Acreage calculation allows for 34 residential lots on the property, whereas only eleven (11) residential lots are proposed.

A detailed topography survey and a Class A soils survey was performed within the area of the proposed subdivision. Utilizing the Town of Kittery topographic data based on lidar survey, a Class C soils survey was performed for the remainder of the site that will remain undisturbed and protected as reserved open space.

Under the clustered subdivision provisions, the Kittery Land Use and Development Code Zoning Ordinance provides for modifications of certain dimensional standards. This project includes proposed modifications regarding lot size and yard setbacks. The modifications allow for the efficient and desirable cluster lot configurations as presented on Sheet C-1.0, thereby maximizing the function and effectiveness of the large reserved open space.

Deer Ridge Lane is a private roadway that is maintained under the provisions of the *Complete Restatement of the Declaration of Rights, Restrictions and Covenants, Deer Ridge Lane Association.* This document will replace the existing one recorded at Y.C.R.D. book 17344 pages 667-676.

The first 550 feet of Deer Ridge Lane, which is currently no wider than 16 feet of pavement, will be upgraded to a 20-foot wide paved roadway. The remainder of Deer Ridge Lane and the new roadway will be paved at a width of 18 feet to maintain the rural character of the area, to minimize impervious surfaces, and for traffic calming. For reference, Remicks Lane has a paved surface that is approximately 18.5 feet wide.

The existing entrance into Deer Ridge Lane was reviewed with Planning Board members during the September 11, 2018 site walk. To preserve large trees, the existing paved traveled way was not built within the center of the right-of-way. The applicant notes that the rural character of the existing layout reduces roadway speed and is aesthetically desirable. While seeking to minimizing trees removal at the entrance, proposed roadway improvements will soften the initial tight curves of Deer Ridge Lane and widen the travelled way to 20 feet. The roadway will be extended approximately 100± feet to an overall length of 1,033 feet and provide an emergency vehicle turnaround area. A proposed 640 foot roadway, named Turkeytail Line, will be constructed off Deer Ridge Lane to service seven (7) of the proposed lots. Each lot will be sold off for development by individuals, and will be part of the Deer Ridge Lane Association.

The proposed lots are being serviced by an existing 8-inch municipal watermain along Deer Ridge Lane and a proposed 6-inch water main along the new roadway. There are two (2) existing fire hydrants on Remicks Lane within 470 feet of Deer Ridge Lane entrance. A new hydrant will be proposed at the intersection of Deer Ridge Lane and the new roadway. Electric and communications utilities will be installed underground.

The eleven (11) proposed lots are located within a mapped significant sand and gravel aquifer. Therefore, the lots require advanced pre-treatment (aeration) at each subsurface wastewater disposal system. Eight (8) of the lots are partially located in the Shoreland Water Body/Wetlands Protection Area (OZ-SL-250') overlay zone, therefore a Special Exception is being requested. <u>No wetlands will be impacted by the development</u>.

Federal, state and local documents and maps associated with the site were reviewed. Flood Insurance Rate Maps and Town maps indicate that the only designated floodplain area on the property is located several hundred feet from the area of development. The *Beginning with Habitat – High Value Plant and Animal Habitat* depicts a potential corridor of New England Cottontail habitat on the southeasterly portion of the property located over 1,500 feet from the proposed residential lots. Joseph Noel surveyed the property for vernal pools. With assistance from MDIFW staff, it was determined that only one (1) of the five (5) vernal pools on the subject property qualified as a Significant Vernal Pool (SVP) under Maine Department of Environmental Projection (MDEP) regulations. The other vernal pools, including those considered natural, did not contain a sufficient number of egg masses to be regulated as vernal pools by MDEP. A letter dated April 13, 2018 from MDEP confirmed the findings. There will be no development will be within 250 feet of any vernal pools. As part of the field work for the Andrews Trust property, other non-significant vernal pools were identified on the 13.47 acre land that was transferred to the abutting property (map 60, lot 10-3).

On-site and off-site wetland areas are protected by preserving existing buffers to the extent possible. The design addresses runoff from the developed areas by incorporating several Best Management Practices (BMPs) to treat stormwater discharges and prevent erosion during and after construction. The roadway design intent was to promote sheet flow runoff to wooded buffer wherever possible.

To balance pre- and post-development stormwater runoff rates, the runoff from the house lots and roadways is managed and peak flows attenuated via detention at a grassed underdrain soil filter (a structural control best management practice). The woodland down gradient of the development provides additional treatment before runoff enters the wetlands areas. Over 90% of the property will be remain undeveloped. It will be owned and managed by the Kittery Land Trust, creating permanent woodland buffers that provide treatment of stormwater from the roadways and residential lots.

The design also promotes treatment of stormwater prior to release into wetland areas by reducing flow velocities which allows sediment to settle while also increasing the time runoff is in contact with the site's natural treatment capabilities. Points where concentrated flow could cause erosion (e.g. at culverts) are provided with riprap protection at both the drain inlets and outlets. Level spreaders enable any run-off directed towards them to be spread evenly into sheet flow prior to discharge, allowing for better treatment efficiency and less potential for erosive velocities.

The construction and upgrade of the roadway along with the construction of the grass underdrained soil filter will impact a total of 2.19 acres, of which 0.90 acres was previously disturbed. The total impervious area of the roadway will be 36,101 square feet, of which 17,991 square feet of existing roadway that being widened. Pavement widths have been minimized where practical to reduce the overall increase in impervious area.

Permanent and temporary measures for erosion and sediment control are shown on the plans. Temporary erosion control measures include the construction of silt fences, inlet sediment filters, stone check dams, temporary sediment traps and a stabilized construction entrance to minimize the transport of sediments and to prevent erosion during construction. Permanent erosion control measures will include riprap outlet protection, loam and seed, grassed swale, stone berm level lip spreader, stormwater detention, reinforced grass swale, and vegetated filter strips.

The project team believes that this development concept has been developed with significant sensitivity to the environment. The cluster subdivision provisions in the Land Use and Development Code, and the applicant's willingness to create only 1/3 of the lots allowed by the density calculation, resulted in 90% of the land being permanently preserved in an 84.25 acre open space lot which will be owned and managed by the Kittery Land Trust.

LIST OF REVISIONS SUBSEQUENT TO PRELIMINARY APPROVAL
for
ANDREWS SUBDIVISION
DEER RIDGE LANE, KITTERY, MAINE

Sheet S-1.0 & S-1.1 – Standard Boundary & Existing Conditions Plan

- Update parcel boundary and area to reflect lot line adjustment

Sheet S-1.2 & S-1.3 – Subdivision Plan-Sheet 1& 2 of 3

- Update parcel boundary and area to reflect lot line adjustment
- Updated Zoning Summary parcel and R.O.W. areas
- Added Notes, Plan Reference & Approvals
- Added Monumentation Note and Monument Legend
- Labeled "Reserved Open Space"
- Updated plan references

Sheet S-1.4 – Subdivision Plan-Sheet 3 of 3

- Expanded Turkeytail Lane R.O.W. limits to include Grassed Underdrain Soil Filter (G.U.S.F.)

Sheet G-1.1 – General Notes

- Delete Site Note #8
- Revised Construction Note #14

Sheet C-1.0 – Lot Plan-A

- Enlarged G.U.S.F. to meet MDEP stormwater standards
- Provided 20' edge of pavement radii at intersecting roadway and at turnarounds
- Expanded R.O.W. limits to include G.U.S.F.
- Added note "Deer Ridge Lane and Turkeytail Lane shall remain private roads to be maintained by the Deer Ridge Lane Association.

Sheet C-2.1 – Deer Ridge Lane Plan & Profile

- Extend existing watermain, 310 linear feet with 2" HDPE pipe
- Relocate existing blowoff valve
- Added (2) 9' by 20' reinforced turf parking spaces for KLT

Sheet C-2.2 – Turkeytail Lane Plan & Profile

- Provide Permanent Erosion Control Matting for ditch greater than 3:1
- Enlarged G.U.S.F. to meet MDEP stormwater standards

Sheet C-3.0 – Stormwater Management Plan

- Added G.U.S.F. construction observation requirement notes
- Labeled BMPs that require long term maintenance
- Added a typical driveway layout on Lot #5
- Added Note: "Install and maintain silt barriers at toe of material stockpiles. Stabilized stockpile surface per MDEP requirements"

- Added double sedimentation barrier south of G.U.S.F. and south side of Deer Ridge Lane turning tee

Sheet C-4.2 – Erosion Control Details

- Relocated G.U.S.F. from Sheet C-5.0
- Moved Drop Inlet Detail to Sheet C-5.0

Sheet C-5.0 – Detail Sheet

- Relocated Drop Inlet Detail from Sheet C-4.1
- Moved G.U.S.F. to Sheet C-4.1
- Added Reinforced Grassed Strip Detail

Sheet C-7.0 – Water Details

- Updated water details to meet K.W.D. standards

Town of Kittery, Maine

Planning Office

P.O. Box 808, Kittery, Maine 03904
Phone 439-0452

ANDREWS SUBDIVISION

LIST OF DIMENSIONAL STANDARDS MODIFICATIONS

Proposed Dimensional Modifications per Article XIII, Clustered Residential Development, Section 16.8.11.3

16.3.2.1.D2	Minimum lot area: 23,512 s.f. vs 40,000 s.f.
16.3.2.1.D2	Street frontage: 40’ vs. 150’ minimum
16.3.2.1.D2	Front yard setback: 20’ vs. 40’ minimum
16.3.2.1.D2	Side and read yard setback: 10’ vs. 20’

ANDREWS SUBDIVISION	Agent: Altus Engineering, Inc.	for
Name of Development	~~Owner or~~ Agent	Jeffrey K. Clifford, P.E.

SOIL PROFILE/CLASSIFICATION INFORMATION

Project Name: | Applicant Name: *ARTHUR ANDREWS, TR* | Project Location (municipality) *DEER RIDGE LANE - KITTERY, MAINE*

Observation Hole *1* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM (0–20)	FRIABLE (0–20)	DARK BROWN (0–10); DARK YELLOWISH BROWN (10–20)	NONE (0–20)
LOAMY SAND (20–40)	FIRM (20–40)	LIGHT OLIVE BROWN (20–40)	COMMON FAINT (20–40)
L.O.E. @ 40" (40–50)			

Soil Classification	Slope	Limiting Factor	Perched
3 Profile / C Condition	____ %	27 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole *2* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM (0–20)	FRIABLE (0–20)	DARK BROWN (0–10); DARK YELLOWISH BROWN (10–20)	NONE (0–20)
SANDY LOAM (20–40)	FIRM (20–40)	LIGHT OLIVE BROWN (20–40)	COMMON FAINT (20–40)
L.O.E. @ 42" (40–50)			

Soil Classification	Slope	Limiting Factor	Perched
3 Profile / C Condition	____ %	25 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Backhoe excavated test pits were conducted on May 25, 2018.
Refer to project plans for slope information.

Observation Hole *3* ■ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM (0–20)	FRIABLE (0–20)	DARK BROWN (0–10); DARK YELLOWISH BROWN (10–20)	NONE (0–20)
SANDY LOAM (20–40)	FIRM (20–40)	LIGHT OLIVE BROWN (20–30); FAINT FEW DISTINCT (30–40)	COMMON (20–40)
L.O.E. @ 42" (40–50)			

Soil Classification	Slope	Limiting Factor	Perched
3 Profile / C Condition	____ %	20 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole *4* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM (0–20)	FRIABLE (0–20)	VERY DARK BROWN (0–10); DARK YELLOWISH BROWN (10–20)	NONE (0–20)
SANDY LOAM (20–40)	FIRM (20–40)	LIGHT OLIVE BROWN (20–30); COMMON DISTINCT (20–30); BROWN (30–40)	
L.O.E. @ 40" (40–50)			

Soil Classification	Slope	Limiting Factor	Perched
3 Profile / C Condition	____ %	23 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Joseph W. Noël
Signature

221 209
SE # SS#

6/4/18
Date

SOIL PROFILE/CLASSIFICATION INFORMATION

Project Name:

Applicant Name: *ARTHUR ANDREWS, TR*

Project Location (municipality): *DEER RIDGE LANE - KITTERY, MAINE*

Observation Hole 5 ■ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0–10	FINE SANDY LOAM	FRIABLE	DARK BROWN / STRONG BROWN	NONE
10–20				
20–30	SANDY LOAM	FIRM	LIGHT OLIVE BROWN	COMMON FAINT. FEW DISTINCT
30–40		L.O.E. @ 38"		
40–50				

Soil Classification		Slope	Limiting Factor	Perched
3 Profile	C Condition	%	25 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole 6 ■ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0–10	FINE SANDY LOAM	FRIABLE	DARK BROWN / DARK YELLOWISH BROWN	NONE
10–20				
20–30	SANDY LOAM	FIRM	LIGHT OLIVE BROWN	COMMON FAINT. FEW DISTINCT
30–40		L.O.E. @ 38"		
40–50				

Soil Classification		Slope	Limiting Factor	Perched
3 Profile	C Condition	%	23 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Backhoe excavated test pits were conducted on May 25, 2018.
Refer to project plans for slope information.

Observation Hole 7 ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0–10	FINE SANDY LOAM	FRIABLE	DARK BROWN / STRONG BROWN	NONE
10–20				
20–30	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT	
30–40		L.O.E. @ 40"		
40–50				

Soil Classification		Slope	Limiting Factor	Perched
3 Profile	C Condition	%	24 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole 8 ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

	Texture	Consistency	Color	Mottling
0–10	FINE SANDY LOAM	FRIABLE	DARK BROWN / STRONG BROWN	NONE
10–20				
20–30	FIRM	LIGHT OLIVE BROWN	COMMON DISTINCT	
30–40		L.O.E. @ 40"		
40–50				

Soil Classification		Slope	Limiting Factor	Perched
3 Profile	C Condition	%	20 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Joseph W. Noël
Signature

221 209
SE # SS#

6/4/18
Date

SOIL PROFILE/CLASSIFICATION INFORMATION

Project Name:

Applicant Name: *ARTHUR ANDREWS, TR*

Project Location (municipality): *DEER RIDGE LANE - KITTERY, MAINE*

Observation Hole *9* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM	FRIABLE	VERY DARK BROWN; STRONG BROWN	NONE
FIRM		LIGHT OLIVE BROWN	COMMON DISTINCT
L.O.E. @ 42"			

Soil Classification	Slope	Limiting Factor	Perched
3 Profile / C Condition	%	22 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole *10* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM	FRIABLE	VERY DARK BROWN; STRONG BROWN	NONE
FIRM		LIGHT OLIVE BROWN	COMMON DISTINCT
L.O.E. @ 42"			

Soil Classification	Slope	Limiting Factor	Perched
3 Profile / C Condition	%	22 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Backhoe excavated test pits were conducted on May 25, 2018.
Refer to project plans for slope information.

Observation Hole *11* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM	FRIABLE	STRONG BROWN; DARK YELLOWISH BROWN	NONE
SANDY LOAM	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
L.O.E. @ 40"			

Soil Classification	Slope	Limiting Factor	Perched
3 Profile / C Condition	%	25 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole *12* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM	FRIABLE	STRONG BROWN; DARK YELLOWISH BROWN	NONE
SANDY LOAM	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
L.O.E. @ 46"			

Soil Classification	Slope	Limiting Factor	Perched
3 Profile / C Condition	%	29 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Joseph W. Noël
Signature

221 209
SE # SS#

6/4/18
Date

SOIL PROFILE/CLASSIFICATION INFORMATION

Project Name: | Applicant Name: *ARTHUR ANDREWS, TR* | Project Location (municipality) *DEER RIDGE LANE - KITTERY, MAINE*

Observation Hole *13* ■ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
LOAMY SAND (0–10)	FRIABLE	LIGHT OLIVE BROWN	NONE
SAND (10–30)		OLIVE	COMMON DISTINCT
	L.O.E. @ 30"		
			OBWT @ 24"

Soil Classification	Slope	Limiting Factor	
5 Profile / E Condition	%	6 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole *14* ■ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
VERY FINE SANDY LOAM (0–10)	FRIABLE	DARK YELLOWISH BROWN	NONE
LOAMY FINE SAND TO LOAMY SAND (10–20)	FIRM	OLIVE TO OLIVE GRAY	COMMON. PROMINENT
TO VERY FINE SANDY LOAM (20–30)			
	L.O.E. @ 30"		

Soil Classification	Slope	Limiting Factor	
7 Profile / E Condition	%	7 "	■ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Backhoe excavated test pits were conducted on May 25, 2018.
Refer to project plans for slope information.

Observation Hole *15* ■ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM (0–20)	FRIABLE	DARK BROWN / DARK YELLOWISH BROWN	NONE
SANDY LOAM (20–30)	FIRM	LIGHT OLIVE BROWN	COMMON DISTINCT
	L.O.E. @ 40"		

Soil Classification	Slope	Limiting Factor Perched	
3 Profile / C Condition	%	25 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole *16* ■ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM (0–20)	FRIABLE	DARK BROWN / DARK YELLOWISH BROWN	NONE
SANDY LOAM (20–30)	FIRM	LIGHT OLIVE BROWN	COMON DISTINCT
	L.O.E. @ 40"		

Soil Classification	Slope	Limiting Factor Perched	
3 Profile / C Condition	%	24 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

John W. Noël
Signature

221 209
SE # SS#

6/4/18
Date

SOIL PROFILE/CLASSIFICATION INFORMATION

Project Name:

Applicant Name: *ARTHUR ANDREWS, TR*

Project Location (municipality): *DEER RIDGE LANE - KITTERY, MAINE*

Observation Hole *17* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM (0–20)	FRIABLE (0–30)	DARK BROWN (0–10); DARK YELLOWISH BROWN (10–30)	NONE (0–30)
FIRM (30–40)	FIRM (30–40)	YELLOWISH BROWN (30–40)	COMMON FAINT FEW DISTINCT (30–40)
L.O.E. @ 40"			

Soil Classification	Slope	Limiting Factor	Perched
Profile: *3* Condition: *C*	%	*25* "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole *18* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM (0–20)	FRIABLE (0–30)	DARK BROWN (0–10); DARK YELLOWISH BROWN (10–30)	NONE (0–30)
FIRM (30–40)	FIRM (30–40)	LIGHT OLIVE BROWN (30–40)	COMMON FAINT FEW DISTINCT (30–40)
POTENTIAL BEDROCK FROM 28" TO 35"			

Soil Classification	Slope	Limiting Factor	Perched
Profile: *3* Condition: *C/AIII*	%	*24* "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Backhoe excavated test pits were conducted on May 25, 2018.
Refer to project plans for slope information.

Observation Hole *19* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM (0–20)	FRIABLE (0–30)	STRONG BROWN (0–10); DARK YELLOWISH BROWN (10–30)	NONE (0–30)
SANDY LOAM (30–40)	FIRM (30–40)	LIGHT OLIVE BROWN (30–40)	COMMON FAINT FEW DISTINCT (30–40)
L.O.E. @ 42"			

Soil Classification	Slope	Limiting Factor	Perched
Profile: *3* Condition: *C*	%	*29* "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole *20* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM (0–20)	FRIABLE (0–30)	STRONG BROWN (0–10); DARK YELLOWISH BROWN (10–30)	NONE (0–30)
SANDY LOAM (30–40)	FIRM (30–40)	LIGHT OLIVE BROWN (30–40)	COMMON DISTINCT (30–40)
L.O.E. @ 44"			

Soil Classification	Slope	Limiting Factor	Perched
Profile: *3* Condition: *C*	%	*25* "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Signature

221 209
SE # SS#

6/4/18
Date

SOIL PROFILE/CLASSIFICATION INFORMATION

Project Name:

Applicant Name: *ARTHUR ANDREWS, IR*

Project Location (municipality): *DEER RIDGE LANE - KITTERY, MAINE*

Observation Hole *21* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
GRAVELLY SANDY LOAM	FRIABLE	DARK BROWN	NONE
		DARK YELLOWISH BROWN	
GRAVELLY LOAMY SAND	LOOSE	STRONG BROWN	
LOAMY FINE SAND	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
	L.O.E. @ 40"		

Soil Classification		Slope	Limiting Factor	Perched
7 Profile	*C* Condition	____ %	*22* "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole *22* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM	FRIABLE	DARK BROWN	NONE
		DARK YELLOWISH BROWN	
LOAMY SAND	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
	L.O.E. @ 44"		

Soil Classification		Slope	Limiting Factor	Perched
3 Profile	*C* Condition	____ %	*30* "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Backhoe excavated test pits were conducted on May 25, 2018.
Refer to project plans for slope information.

Observation Hole *23* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM	FRIABLE	DARK BROWN	NONE
		DARK YELLOWISH BROWN	
GRAVELLY SAND	LOOSE		
	L.O.E. @ 45"		

Soil Classification		Slope	Limiting Factor	
4 Profile	*B* Condition	____ %	*45* "	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ■ Pit Depth

Observation Hole *24* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM	FRIABLE	DARK BROWN	NONE
		DARK YELLOWISH BROWN	
SANDY LOAM	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
	L.O.E. @ 40"		

Soil Classification		Slope	Limiting Factor	Perched
3 Profile	*C* Condition	____ %	*21* "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Josh W. Noil
Signature

221 209
SE # SS#

6/4/18
Date

SOIL PROFILE/CLASSIFICATION INFORMATION

Project Name:

Applicant Name: *ARTHUR ANDREWS, TR*

Project Location (municipality): *DEER RIDGE LANE - KITTERY, MAINE*

Observation Hole *25* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM (0–10)	FRIABLE	DARK BROWN	NONE
		DARK YELLOWISH BROWN (10–20)	
SANDY LOAM (20–30)	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
L.O.E. @ 40" (40–50)			

Soil Classification	Slope	Limiting Perched Factor	
3 Profile / C Condition	____ %	22 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole *26* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE		DARK BROWN	
SANDY LOAM (10–20)	FRIABLE	DARK YELLOWISH BROWN	NONE
	FIRM (30–40)	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
L.O.E. @ 44" (40–50)			

Soil Classification	Slope	Limiting Perched Factor	
3 Profile / C Condition	____ %	30 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Backhoe excavated test pits were conducted on May 25, 2018.
Refer to project plans for slope information.

Observation Hole *27* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE		DARK BROWN	
SANDY LOAM (10–20)	FRIABLE	DARK YELLOWISH BROWN	NONE
SANDY LOAM (30–40)	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
L.O.E. @ 40" (40–50)			

Soil Classification	Slope	Limiting Perched Factor	
3 Profile / C Condition	____ %	25 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole *28* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE		DARK BROWN	
SANDY LOAM (10–20)	FRIABLE	DARK YELLOWISH BROWN	NONE
SANDY LOAM (30–40)	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
L.O.E. @ 45" (40–50)			

Soil Classification	Slope	Limiting Perched Factor	
3 Profile / C Condition	____ %	28 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Joseph W. Noel — Signature

221 209 — SE # SS#

6/4/18 — Date

SOIL PROFILE/CLASSIFICATION INFORMATION

Project Name:

Applicant Name: *ARTHUR ANDREWS, TR*

Project Location (municipality): *DEER RIDGE LANE - KITTERY, MAINE*

Observation Hole *29* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
FINE SANDY LOAM (0–20)	FRIABLE	DARK BROWN (0–10); DARK YELLOWISH BROWN (10–20)	NONE
SANDY LOAM (20–40)	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
L.O.E. @ 42"			

Soil Classification	Slope	Limiting Perched Factor	
Profile: 3 / Condition: C	____ %	25 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole *30* ■ Test Pit ☐ Boring

2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
GRAVELLY FINE SANDY LOAM (0–20)	FRIABLE	STRONG BROWN (0–10); DARK YELLOWISH BROWN (10–20)	NONE
FINE SANDY LOAM (20–40)	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
L.O.E. @ 40"			

Soil Classification	Slope	Limiting Perched Factor	
Profile: 3 / Condition: C	____ %	24 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Backhoe excavated test pits were conducted on May 25, 2018.
Refer to project plans for slope information.

Observation Hole *31* ■ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
GRAVELLY FINE SANDY LOAM (0–20)	FRIABLE	STRONG BROWN (0–10); DARK YELLOWISH BROWN (10–20)	NONE
FINE SANDY LOAM (20–40)	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
L.O.E. @ 40"			

Soil Classification	Slope	Limiting Perched Factor	
Profile: 3 / Condition: C	____ %	22 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole *32* ■ Test Pit ☐ Boring

3 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
GRAVELLY FINE SANDY LOAM (0–20)	FRIABLE	STRONG BROWN (0–10); DARK YELLOWISH BROWN (10–20)	NONE
FINE SANDY LOAM (20–40)	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
L.O.E. @ 40"			

Soil Classification	Slope	Limiting Perched Factor	
Profile: 3 / Condition: C	____ %	24 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Signature

221 209
SE # SS#

6/4/18
Date

SOIL PROFILE/CLASSIFICATION INFORMATION

Project Name:

Applicant Name: *ARTHUR ANDREWS, TR*

Project Location (municipality): *DEER RIDGE LANE - KITTERY, MAINE*

Observation Hole *33* ■ Test Pit ☐ Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
GRAVELLY FINE SANDY LOAM	FRIABLE	DARK BROWN / DARK YELLOWISH BROWN	NONE
GRAVELLY SANDY LOAM	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
	L.O.E. @ 34"		

Soil Classification	Slope	Limiting Factor	
Profile: 3 / Condition: C	%	27 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole *34* ■ Test Pit ☐ Boring

1 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling
GRAVELLY FINE SANDY LOAM	FRIABLE	DARK BROWN / DARK YELLOWISH BROWN	NONE
GRAVELLY SANDY LOAM	FIRM	LIGHT OLIVE BROWN	COMMON FAINT FEW DISTINCT
	L.O.E. @ 34"		

Soil Classification	Slope	Limiting Factor	
Profile: 3 / Condition: C	%	30 "	■ Ground Water ■ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Hand excavated test pits were conducted on June 12, 2018 for stormwater planning.
Refer to project plans for slope information. Both test pits are the Peru Soil Series and are Hydrologic Group C/D.

Observation Hole _____ ☐ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling

Soil Classification	Slope	Limiting Factor	
Profile / Condition	%	"	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Observation Hole _____ ☐ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)

Texture	Consistency	Color	Mottling

Soil Classification	Slope	Limiting Factor	
Profile / Condition	%	"	☐ Ground Water ☐ Restrictive Layer ☐ Bedrock ☐ Pit Depth

Joseph W. Noël

Signature

221 209

SE # SS#

6/13/18

Date

Attachment - A

Response to Technical Comments
Andrews Subdivision
Map 60, Lot 10
Kittery, Maine

The following responses are provided to peer review comments received from CMA Engineers in their letter dated December 6, 2018. These responses supplement the responses provided at the Planning Board's December 13, 2018 Public Hearing.

16.3 Zoning Regulations

16.3.2.1 Residential-Rural (R-RL)
B. The proposed use (dwellings) is a permitted use.

D.2. Dimensional Standards:
The applicant is requesting modifications to the following dimensional standards under Article XIII, Clustered Residential Development:
a) Public sewer is not available. The minimum land area per dwelling unit is 40,000 sf for un-sewered lots, except in a cluster subdivision where the minimum is 20,000 sf. Lots are a minimum of 22,771 sf.
c) Minimum street frontage-150 feet required, 40 feet proposed,
f) Minimum rear and side yards-20 feet required, 10 feet proposed.

> **Response:** The proposed dimensional modifications allow for efficient use of the land most suitable for development on the property. Creating clustered lots under 40,000 sf reduces the development footprint and maximizes the land area being designated as reserved open space.

16.3.2.17 Shoreland Overlay Zone (OZ-SL)
A large portion of the lot falls within the shoreland-wetland protection overlay zone located primarily south of Deer Ridge Lane. Lots 2, 3, 4, 5, 6, 7, 8, 9 and 11 are either partially or entirely located in the overlay. The proposed use (dwellings) is a special exception use in the overlay zone. The Planning Board needs to consider a special exception.

A portion of the proposed roadway is located within the Resource Protection Overlay Zone. It is not clear that there is "no reasonable alternative route or location available" as required by the Zoning Ordinance. The applicant should specifically address this issue. Approval of the site plan is required by the Planning Board.

> **Response:** The right-of-way of Deer Ridge Lane was established prior to this subdivision. The configuration of Turkeytail Lane is governed by its proximity to the southwest corner of the existing residential lot identified as Map 65, Lot 10C. The proposed roadway alignment results in only 20% of Turkeytail Lane's pavement being located within the Shoreland Zone.

16.8 Design and Performance Standards-Built Environment

Article IV. Streets and Pedestrian Ways
While average daily trip counts are not given, it appears that the road should be constructed to Class III Private Street standards.

The Applicant is requesting several waivers that are not part of those allowed by the cluster subdivision standards:

Street Width Design:
b.) Travel Pavement-20' required, 18' proposed in some areas.
c.) Sidewalk/Pedestrian way-5' required, none proposed.
e.) Gravel Shoulder-2' required opposite the sidewalk, 2' both sides proposed.

Since the proposed roadway is narrow, 1' of the shoulder should be considered for paving for pavement edge stability.

The Planning Board, Commissioner of Public Works, and Fire department should review the appropriateness of these waiver requests.

Response: The table below is part of the Traffic Generator Summary that was submitted as part of the Preliminary application.

Section 210 - single family detached housing – residential traffic
Peak day 9.91 trips per day (Saturday)
Peak hour 1.02 trips per day

Road Name	Single-Family Houses	Peak day ADT	Peak hour ADT
Deer Ridge Lane * Sta. 5+50 to Sta. 10+33	6	60	6
Turkeytail Lane	7	70	7
Deer Ridge Lane * Sta. 0+00 to Sta. 5+50	17	169	17

- Includes existing house lots

It is our understanding that there are no issues from the town departments with the proposed design of these private roadways. A waiver request has been submitted.

There are other proposed roadway dimensional modifications that are allowable under Article XIII, Clustered Development, Section 16.8.11.3:

Street Width Design:
d.) Paved Shoulder-2' walk side and 8" opposite side required, none proposed.

Street Gradients:
b.) Side Slope (horiz. to vert.)-3 to 1 required, 2 to 1 required.

Under the ordinance, a standard cul-de-sac with radius is required for the subdivision. The applicant is proposing a turnaround tee. A cul-de-sac should be included in the roadway design or a waiver requested.

The applicant is proposing to make improvements to existing Deer Ridge Lane including relocating the roadway within the center of the right-of-way and constructing a turnaround tee at the western end of the roadway.

16.8.4.13 Sidewalks are required along a "Minor Street". A waiver has been requested.

Response: It is our understanding that the fire department has no issues with a turnaround tee as shown on the plan. Also, it is an acceptable recognized by the American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA) as an alternative to a cul-de-sac. A waiver has been request for use of the turning tee. A waiver is requested regarding the paved shoulder requirements. For consistency within the project and to facilitate maintenance, 3 to 1 side slopes are proposed for both roadways.

Article VI Water Supply
The project is to be served by an extension of the Kittery Water District's system on Deer Ridge Lane. Confirmation from the KWD of ability to serve, and hydrant placement should be demonstrated. The Kittery Fire Department should comment on fire hydrant locations and spacing.

Response: The Kittery Water District has provided a letter dated October 23, 2018 indicating their ability to service the new lots and a second letter dated February 14, 2019 indicating that the design meets their specifications, see Attachment G. There has been no comment from the Kittery Fire Department (KFD) regarding the hydrant location. A note has been added to the plan indicating that the hydrant location shall be approved by KFD prior to installation.

Article VII Sewage Disposal
The project includes individual septic systems for each lot. Test pits have been excavated for each lot. Test pit results were not provided for review.

16.8.7.2.D. Do any of the lots have conditions that would require reserve leach fields? If so, which ones, pit results were not provided for review.

Response: Attached is the test pit logs performed by Joseph W. Noel, CSS. Only lots #3 and #4 require a reserve field as depicted on Sheet C-1.0, Lot Plan.

Article VIII. Surface Drainage
Stormwater is managed through a combination of methods including the use of a grassed underdrained soil filter, wooded buffers and grassed swale. The grassed underdrained soil filter outlets to a level spreader.

Post construction stormwater flows are the same or lower than pre-construction levels with the exception of a negligible increase of 0.1 cfs at one of the points of analysis.

16.8.8.2 The post-construction stormwater management plan has been provided. The Applicant should ensure that all requirements of the Ordinance are addressed.

Response: These stormwater practices proposed are preferred methods of the M.D.E.P. and meet the requirements of the Town Ordinance. The noted negligible increase is associated with first 400 feet of Deer Ridge Lane roadway improvements. Updated stormwater modelling calculations are presented in Attachment H.

General Engineering Comments:
We note that a large portion of the site has steep slopes. Preliminary locations of houses and driveways should be shown for constructability review.

Response: Each lot owner has many options to design/configure the layout at their site. Preservation of trees, orientation and size of the house and garage, and final wastewater system design will all play a role in the final configuration of the developed lot. Sheet C-3.0, Stormwater Management Plan shows a typical driveway at Lot #5, which in this case is show graded with a slope of 12.5%, however, it is likely the finish grade will be higher and the slope shallower once final grading for the house is completed

Attachment - B

Waiver Requests

Andrews Subdivision – Cluster Subdivision

Map 60, Lot 10

The following waivers are being requested:

Ordinance Section	**Description**
16.8.4.13 Sidewalks	No sidewalk is proposed.
16.10.5.2.B.2 Plan Size	Drawing scale: 1"=200' for Soils Plan; An enlargement is included, showing the area of interests and coinciding with the Lot Plans.
16.8.4.7 Dead End Street	Turnaround Tee is an acceptable recognized by AASHTO and FHWA as alternative to the cul-de-sac and the fire department has no issues with the proposed designed.
16.9.2.2 (B) Clearing or Removal of Vegetation in Resource Protection Zone	To utilize the existing low area to provide a centralized stormwater treatment BMP to treat the development runoff before entering into the wetlands in lieu of the 100 ft wetlands setback. The proposed BMP embankment will encroach by 2,340 s.f. The impact area will be revegetated following construction of the BMP.
Deer Ridge Lane Sta. 0+00 to Sta. 5+50	
16.8.4.4 and Table 1 Class III Private Streets Standards	*Street Width Design: c. Sidewalk/Pedestrian Way:* *Street Width Design: d. Paved Shoulder:* The applicant proposes to upgrade the existing private roadway 20' with 2' gravel shoulders on each side in lieu of the Minor Streets standard of 2' and 8' paved shoulders. The roadway will have 169 ADT and this design meets the American Association of State Highway and Transportation Officials (AASHTO) publication titled *"Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT ≤ 400)"*. Also, the residences preference is to maintain the rural character where the narrow layout reduces roadway speed and is aesthetically desirable.
Deer Ridge Lane Sta. 5+50 to Sta. 10+33 and Turkeytail Lane	
16.8.4.4 and Table 1 Class II Private Streets Standards	*Street Width Design: c. Travel Way:* *Street Width Design: e. Sidewalk/Pedestrian Way:* The applicant proposes to construct an 18' roadway with 2' gravel shoulders on each side in lieu of the Class II standard of 20' travelled way with 5' sidewalk/pedestrian way. These roadways will have 60 and 70 ADT and this design meets the American Association of State Highway and Transportation Officials (AASHTO) publication titled *"Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT ≤ 400)"*.

16.8.4.4 and Table 1 Class II Private Streets Standards (cont.)	*Street Gradients: a. Longitudinal (Max):* To maintain the existing roadway grade while preserving minimum cover over the existing watermain, the applicant proposes to construct a 10.6% grade in lieu of the standards max grade of 9%.
	Cul-de-sac: a. Street Length to Radius and b. Boundary Radius A turn tee is proposed in lieu of a cul-de-sac. See waiver request 16.8.4.7 above. The street length of Turkeytail Lane from the south side of the Deer Ridge Lane right-of-way to the turn tee center is 543 feet and 609 feet to the end of the proposed right-of-way at Lot 8

Attachment - C

Municipal Impact Statement

Andrews Cluster Subdivision
Map 60, Lot 10
Kittery, Maine

The Maine Department of Education lists the average cost per pupil in Kittery as $13,831. Maine Demographics and Statistics data indicates that 27% of homes have children, therefore the proposed 11 houses at the Andrews Cluster Subdivision can be expected to have, on average, 3 homes with school age children. Assuming 2 children in school from these homes, an average of 6 children is calculated equating to annual cost of $82,986 to the town. This analyses conservatively assumes that all of the children are attending public school, but it can be expected that some children may be home schooled or attend private school. Buses will pick up students at the intersection of Remicks Lane and Deer Ridge Lane. Remicks Lane is currently on the list of bus routes so no additional busing cost is expected. The current tax rate in Kittery is $16.80. With an anticipated average value of $500,000, the 11 homes are expected to generate approximately $92,400 in tax revenue which exceeds the expected school costs by 11%.

There is no roadway cost to the Town since the roadways will be privately owned and maintained by the homeowners association. The roadway will provide appropriate and safe access to the properties for emergency vehicles. The 11 new homes are not expected to require significant costs for fire and police protection. Solid waste will either be transported by residents to the Kittery Resource and Recovery Facility (KRRF) or residents will hire a private hauler. At an average of 4.3 pounds of trash per person per day, and 2.3 people per household, the 11 homes are expected to generate about 20 tons of trash per year. The property tax generated by the homes will offset the Town's costs for processing solid waste taken to KRRF.

The Town's recreational facilities will not be overburdened by the addition of 11 homes. Use of the Kittery Community Center by the residents will generate additional revenue for the Town. The proposed stormwater management and wastewater facilities will be maintained by the homeowners association. The development will generate revenue for the Sewer Department when septage disposal fees are incurred at the wastewater treatment plant.

This analysis of the costs and revenues associated with the 11 proposed homes demonstrates that there is expected to be a positive cash flow to the Town.

Prepared by: Jeffrey K. Clifford, P.E. Vice President
Altus Engineering, Inc.

Attachment D

COMPLETE RESTATEMENT OF THE
Declaration of Rights, Restrictions and Covenants
Deer Ridge Lane Association
Town of Kittery, York County, Maine

This Restatement is intended to replace and supersede the Declaration recorded in the York County Registry of Deeds at Book 17344, Pages 667 – 676.

Property Affected by Declaration

This Declaration of Rights, Restrictions and Covenants shall bind the owners of lots abutting Deer Ridge Lane and shown on the Town of Kittery Tax Map 65, Lots 10, 10A, 10B, 10C, 10D and 10E; as well as all of the newly created lots shown and delineated on the plan entitled, "Andrews Subdivision, Map 60, Lot 10" which subdivision will be approved by the Kittery Planning Board and recorded in the York County Registry Deeds (hereinafter collectively referred to as the Lots).

This Declaration is created to assure all owners and purchasers of lots along Deer Ridge Lane and Turkeytail Lane, their heirs, personal representatives, successors and assigns that the use, development, benefit and enjoyment of said Lots, roads and Common Areas (e.g., the Retention Pond area along Turkeytail Lane) shall be in accordance with a harmonious plan, and to this end, the undersigned Lot Owners deem that all Lots be subjected to the restrictions, reservation, servitudes, covenants, agreements and easements as hereinafter set forth.

Article A. General Restrictions

Each of the Lots shall be subject to the following rights, restrictions and covenant which shall run with the land.

1. Each Lot shall be used exclusively for single family residential purposes. No lot shall be further divided, whether by lease, conveyance or condominiumization.

2. No commercial, industrial, business, professional use or enterprise of any nature or description shall be carried on upon any Lot unless (a) its conduct on the lots is wholly within the residence located on the Lot, (b) it has no more than one employee, other than the Lot owner, (c) there is no signage or advertising on the Lot or roads approaching the Lot suggesting the existence of the business activity; (d) such use does not require regular client/customer contact at the dwelling; and (e) any client/customer visiting the Lot shall not park on Deer Ridge Lane or Turkeytail Lane.

3. Boats, snowmobiles and trailers may be stored on any lot so long as they are properly screened, i.e., the lot owner has used reasonable efforts create a physical or vegetative screen (from Deer Ridge Lane or Turkeytail Lane).

4. No structure shall be erected on any lot except one detached, single family residential dwelling, hereinafter referred to as the Dwelling. No Dwelling shall not exceed two and one-half stories in height. One free-standing storage shed shall be permitted.

5. Each Dwelling shall be supported by a solid masonry foundation or slab. All exterior portions of chimneys and fireplaces shall be of brick or stone construction. No cinder block chimneys are allowed on the exterior of any dwelling or structure located on the Lot.

6. Construction of a Dwelling, once begun, shall be pursued diligently and completed within two year. All construction equipment and material used during construction upon a Lot shall be off-loaded on the Lot and not upon Deer Ridge Lane or Turkeytail Lane. In addition, all Lot owners shall extend the pavement of their individual driveways accessing Deer Ridge Road or Turkeytail Lane at least 8 feet (from the sideline of either Deer Ridge Lane or Turkeytail Lane) into their lot in order to prevent the deterioration of the pavement of Deer Ridge Lane or Turkeytail Lane; Lot owners shall have two years from the initial development of their lot to complete this work.

7. All utility line servicing lots having Turkeytail Lane as their primary access shall be installed underground.

8. It shall be the responsibility of the Lot owner to repair any damage to Deer Ridge Lane and /or Turkeytail Lane and adjacent slopes and common areas resulting from the transportation and delivery of any building/construction materials.

9. All dwellings shall be constructed making an effort to retain and preserve the natural vegetation, trees, shrubs and other beneficial flora existing on the Lot. Vegetation which is hazardous to the Lot owner (e.g., dead trees or invasive species such as sumac, bittersweet or Japanese Knotweed) or that may impede proper drainage of the Lot may be removed.

10. No Lot owner shall park vehicles on Deer Ridge Lane or Turkeytail Lane. Guests of lot owners may temporarily park on Deer Ridge Lane or Turkeytail Lane for not more than 24 hours; provide, however, such parked cars shall not obstruct passage by other vehicles.

11. No Lot owner may grant easements benefitting real property located outside of the Deer Ridge Lane and Turkeytail Lane Development unless approved by the Association described in Article B, below.

12. No livestock or farm animals shall be kept, bred, maintained or allowed on any Lot. Domestic pets are permitted; provided, however, the keeping or breeding of any animals, domestic or otherwise, for commercial purposes is not permitted on any Lot.

13. Propane tanks, satellite dishes and other communications equipment are permitted; however, such equipment must be properly screened (i.e., the lot owner must use reasonable efforts create a physical or vegetative screen) so as to minimize the visual impact on adjacent Lots and from Deer Ridge Land and Turkeytail Lane.

14. No Lot owner may do or permit anything to be done on their Lot which is or may constitute a nuisance, or violate any Rule established by the Association.

15. No informational signs of any nature shall be displayed to public view on a Lot or on the common area except one customary name and address sign of not more than four square feet.

16. No trash, ashes or other refuse, junk, vehicles in disrepair, brushwood or other unsightly objects shall be kept or permitted on any Lot or in the common areas except in sanitary containers concealed from public view.

17. Children's swing sets, jungle gyms, wading pools and similar play equipment may only be maintained in the rear yards. (For the purpose of this provision, the term "rear yard" shall mean that area located on the opposite side of the house from the front door.)

18. Drone operation shall be allowed so long as the drone does not leave the airspace directly over the Lot upon which the drone is being operated. Operation of a drone in the airspace over any Lot not belonging to the drone operator shall be considered a nuisance and subject the operator to civil suit and penalties (unless permission has been granted by the owner of the Lot above which the drone is operating).

19. House shall be painted, sided or stained in "earth-tones" colors. In the event there is any question as to the nature of a particular color and whether it meets the definition of "earth-tones," then the Board of Director of the Association shall have the absolute right to make a final decision.

20. No snow, ice gravel, loam compost, leaves, fertilizers or other mineral waste products or commodities shall be piled or stored within ten (10) feet of boundaries of any Lot; and snow and ice shall not be deposited on roadways or sidewalks so as to obstruct motor vehicles or pedestrian passage by other Lot owners.

21. Lot owners shall properly and regularly maintain drainage swales (if any) across their Lot so that water properly drains through the Lots. Failure to do so shall subject a Lot owner to fines and corrective action by the Association, including entry upon their Lot by the Association to correct the drainage and the assessment against the Lot owner for the cost of such corrective action.

Article B: Easement

Each Lot owner, their heirs, personal Representatives, successors and assigns is hereby granted a perpetual easement, to be used by foot or by motor vehicle, and for all utilities, in common over Deer Ridge Lane and Turkeytail Lane.

The Kittery Land Trust (KTL) shall have an easement for 2 parking spaces at the terminus of Deer Ridge Lane for the sole and exclusive purpose of parking vehicles of KLT volunteers and staff or their agents who are accessing the adjacent land under ownership of the KLT.

Article C: Homeowners' Association

1. Creation and Purpose:

The Deer Ridge Lane Association, Inc. is a non-profit Maine corporation established for the following purposes:

1) To hold title to Deer Ridge Lane and Turkeytail Lane for the benefit of all Lot owners;

2) To hold title to any additional Common Areas required by the Town of Kittery Planning Board, e.g., the Retention Pond area;
3) To maintain and repair the roadway until such time as title to the roadway has been turned over to the Town of Kittery, if ever;
4) To facilitate the collection of fees from Lot owners for snow removal, road maintenance for Deer Ridge Lane Turkeytail Lane and maintenance of the Retention Pond area;
5) To administer, maintain and repair any internal drainage system;
6) To enforce and administer the Declaration of Rights, Restrictions and Covenants;
7) To administer all other the common areas;
8) Generally, to preserving property values and amenities along and within the Deer Ridge Lane and Turkeytail Lane development; and
9) To undertake any other activities authorized by Title 13 – B, the Maine Nonprofit Corporation Act.;

In addition, to the provisions set forth herein, the Association shall be governed by Articles of Incorporation, Bylaws and any amendments thereto or any rules and regulations subsequently adopted by the Association. In the event of a conflict the provisions of this Declaration and the Articles of Incorporation Bylaws or Rules and Regulation, the provisions of this Declaration shall govern.

2. **Membership in the Association and Voting**:

a. Every record owner of a Lot (a Lot Owner) shall be members of the Association and each lot shall be entitled to one vote. Lot Owners in arrears in paying their annual dues or assessments shall not have the right to vote.

b. Meetings of the Association membership shall be held at a time and place to be established by the Board, as shall be specified in the notice of the meeting.

c. **Annual Meetings**. The annual meetings of the Association members shall be held each year on the _____. In the event that the day for which an annual meeting is scheduled is a legal holiday, then the meeting shall be held on the first day thereafter which is not a legal holiday. At such meetings there shall be elected by ballot of the members a Board of Directors in accordance with the provisions of these Bylaws. The Association Members shall also transact such other business as may properly come before them. All matters to come before any meeting of the association shall be determined by a vote of a Majority of members in attendance at the meeting.

d. **Meeting by Remote Communication.** Any one or more Association member may participate in a meeting of the Association by means of a conference telephone, video conference, or similar communications equipment. Participation by such means shall constitute presence in person at a meeting provided that all persons participating in the meeting can hear each other at the same time and each director can participate in all matters before the Association, including, without limitation, the ability to propose, object to, and vote upon a specific action to be taken by the Association.

3. **Power of the Association**:

The Association shall have all of the powers of a Maine non-profit corporation, including the authority to:

a. Acquire, own, convey, mortgage, pledge or lease such property as may be necessary in order to carry out the purposes of the Association and to hold title or an easement to Deer Ridge Lane and Turkeytail Lane;

b. The power and duty to determine an annual budget.

c. To elect a Board of Directors;

ARTICLE D: Board of Directors

1. **Creation and Purpose**.

The affairs of the Association will be carried out by a three-person Board of Directors elected annually by the Lot Owners Board members shall be owners of lots along Deer Ridge Lane or Turkeytail Lane (or their spouse is the spouse is not a title holder). The Board members so chosen shall vote to establish the three positions: President, Secretary and Treasurer (the Officers). The officers may, but need not, be chosen from among the Board Members. Homeowners may nominate any Lot Owner (or spouse of a Lot Owner) member to be elected to the Board. Elections will be made by a majority vote at the annual meeting of the Association. Each board member will serve for a three-year term. Board Members may be reelected at the end of their three-year term.

2. **Powers and Duties**. The Board shall have the duty and power to:

a. enforce the terms of the Declaration and Bylaws;

b. open bank accounts on behalf of the Association and designate the signatories thereon.

c. determine fines for violations of the Declaration of Rights, Restrictions and Covenant and the Rules and Regulations;

d. create and enforce Rules and Regulations for the administration of the Association, the roadways and other Common Areas, e.g., the Retention Pond area;

e. to designate, hire and dismiss the personnel necessary for the maintenance, operation, repair and replacement of the Common Areas;

f. to prepare and present to the Association at the annual meeting a proposed budget for the coming year;

g. to establish a capital reserve account if the Board deems it necessary for the management of the Association and its Common areas, i.e., Deer Ridge Lane, Turkeytail Lane and the Retention Pond area;

h. based upon the budget established by the Association, to make assessments against Lot Owners to defray the costs and expenses of the Association, establish the means and methods of collecting such assessments from the Lot Owners and establish the period of the installment payment of annual dues and assessments;

i. to collect the assessments for Common Expenses against the Lot Owners, deposit the proceeds thereof in any bank depositories or money market funds designated by the Board of Directors and use the proceeds to carry out the administration of the Common Areas;

j. to provide for the operation, care, upkeep and maintenance of all of the Common Areas including improvement, maintenance, repair, street sweeping, sealcoating, snow plowing and snow removal from Deer Ridge Lane and Turkeytail Lane, any other Common Areas (e.g., the Retention Pond area) and storm water drainage facilities;

k. carry out the business of the Association in any manner the Board deems necessary and appropriate;

3. **Notice of Meetings.** Notice of a meeting may be sent by mail, telephone, facsimile transmission, telegraph, courier service, electronic mail or hand delivery, directed to each director at his or her address or contact information as it appears on the records of the President. Such notice shall state the time and place where the meeting is to be held and, need not specify the purpose(s) for which the meeting is called. Notice shall be deemed to have been given when sent, and if by mail, when deposited in the United States mail with prepaid postage thereon. No notice shall be required for any regular meeting for which the time and place has been previously fixed by the Board of Directors. Notice of any regular meeting for which the time and place is not fixed by the Board of Directors must be given to each director not less than thirty (30) days before such meeting. Notice of a special meeting of the Board of Directors must be given to each director not less than seven (7) days before such meeting, provided, however, that notice of special meetings relating to an emergency which must, in the reasonable judgment of the President, be resolved in a shorter time frame shall be given as promptly as possible. Notice of a regular or special meeting need not be given to a director who submits a signed waiver of notice before or at the meeting's commencement, or who attends the meeting without protesting (not later than the commencement of the meeting) the lack of notice to him or her.

4. **Quorum.** At each meeting of the Board of Directors, the presence of two-thirds (2/3) of the directors in office immediately prior to the commencement of the meeting shall constitute a quorum for the transaction of business or any specified item of business. If a quorum is not present at any meeting of the Board of Directors, the meeting shall be adjourned to another time without notice other than by announcement at the meeting, until such a quorum is present, except that notice of such adjournment shall be given to any directors who were not present at the time of the adjournment.

5. **Voting.** Except as otherwise provided by statute, the Articles of Organization or these by-laws, the vote of a majority of the directors present at the time of a vote, if a quorum is present at such time, shall be the act of the Board of Directors.

a. **Presumption of Assent.** A director of the Association who is present at a meeting of the Board of Directors when action is taken is deemed to have assented to the action taken unless: (i) the director objects at the beginning of the meeting (or promptly upon arrival) to holding the meeting or transacting business at it; (ii) the director's dissent or abstention from the action taken is entered in the minutes of the meeting; or (iii) the director files written notice of the dissent or abstention with the presiding officer of the meeting before its adjournment or with the Association immediately after adjournment of the meeting. This right of dissent or abstention is not available to a director who votes in favor of the action taken.

b. **Meeting by Remote Communication.** Any one or more members of the Board of Directors or any committee thereof may participate in a meeting of the Board of Directors or such committee by means of a conference telephone, video conference, or similar communications equipment. Participation by such means shall constitute presence in person at a meeting provided that all persons participating in the meeting can hear each other at the same time and each director can participate in all matters before the Board of Directors, including, without limitation, the ability to propose, object to, and vote upon a specific action to be taken by the Board of Directors or committee.

c. **Action Without Meeting.** Any action required or permitted to be taken by the Board of Directors or any committee thereof may be taken without a meeting if all members of the Board of Directors or committee consent in writing to the adoption of a resolution authorizing the action. Such consent may be written or electronic. The resolution and written consents thereto by the members of the Board of Directors or such committee shall be filed with the minutes of the proceedings of the Board of Directors or such committee.

ARTICLE E: Method of Providing General Funds:

For the purpose of providing a general fund to enable the Association to exercise the powers and make and maintain the improvement and render the services herein provided, the Board of Directors of the Association shall determine for each year the total amount required for such fund for such year to be approved by the Association Members at the Annual Meeting by majority vote of those in attendance at the annual meeting. Once approved by the Association Members, the Board of Directors shall levy an annual assessment uniformly against each of Lot, hereinafter called the Association Fee.

The yearly Association Fee shall be assessed to each Lot Owner by November 1 of each year. (Lot owners may choose to make payments on a monthly basis; however, failure to make a monthly payment shall constitute a breach and entitle the Association to collect a late charge of $25.00 as well as interest, at the rate of eighteen percent (18%) per annum, from the due date thereof, plus costs of collection, including without limitation attorney fees.) In the event of failure of any owner to pay any assessment on or before thirty (30) days following notice to such Lot owner of such assessment of the scheduled due date thereof, then such assessment shall become delinquent and shall bear interest at the rate of eighteen percent (18%) per annum from the due date thereof, plus costs of collection, including without limitation attorney fees. When delinquent, payment of principal, interest and costs may thereafter be enforced against the owner personally, and as a lien upon the delinquent Lot Owner's Lot. The Board of Directors

shall have the power and duty to place a Certificate of Lien in the York County Registry of Deeds upon the lot of any delinquent Lot Owner. The Board of Directors shall establish a written policy for the enforcement of the annual assessment. It shall be the duty of the Association, acting through its Board, to bring suits to enforce such liens before the expiration thereof. For each certificate so filed, the Association shall be entitled to collect from the delinquent Lot Owner, in addition to the unpaid assessment, an administration fee based upon the cost of preparing and processing the Certificate of Lien. Such fee shall be collectable in the same manner as the original assessment.

The liens for such assessments shall be subordinate to the lien of any valid mortgage now existing or that may hereafter encumber a Lot. The event of the issuance of a deed pursuant to foreclosures of such mortgage or in lieu of such foreclosure, the Grantee of such deed shall take title free and clear from any liens herein provided which accrue prior to the recording of such deed.

Such liens shall continue for a period of five years from the date of delinquency and no longer, unless within such time suit shall have been filed for the collection of the assessment, in which case the lien shall continue until the termination of the suit and until the sale of the property under execution of the judgment in such suit.

Expenditures Limited to Assess for Current Year. The Association shall not expend more money within one than the total amount of the assessment for that particular year, plus any surplus which it may have on hand from previous assessments; nor shall said Association enter into any contract whatsoever binding the assessment of any future year, and no such contract shall be valid or enforceable against the Association

ARTICLE F: General Provisions

1. Each of the Restrictions set forth in **ARTICLE A** of this Declaration shall continue and remain binding for a period of fifty (50) years from the date hereof, and thereafter shall continue automatically in effect for two additional periods of twenty (20) years, unless otherwise agreed to in writing by two-thirds of the lot owners. This Declaration may be amended by written consent of ***two-thirds*** of the Lot Owners. Said written consent to amend shall be prepared and signed by the President and Secretary of the Association and recorded in the York County Registry of Deeds.

2. **ARTICLES C, D AND E** may be amended by with the written consent of a ***majority*** of the Lot Owners. Said written consent to amend shall be prepared and signed by the President and Secretary of the Association and recorded in the York County Registry of Deeds.

3. The provisions herein set forth shall run with the land and bind the Lot Owner, their heirs, personal representative, successors and assigns, and all parties claiming by, through or under them. Each Lot Owner shall have the right, but not the obligation, jointly and separately, to sue for and obtain a prohibitive and mandatory injunction to prevent the breach of or to enforce the observance of, the provisions of this Declaration or any of them, in addition to the right to bring an ordinary legal action for damages. If any Lot Owner or the Association engages the services of an attorney to enforce the provisions set forth herein and is successful in establishing that a breach of these covenants by defendant has occurred, then the Lot Owner or Association shall be entitled to recover from the defendant reasonable attorney's fees. In no event shall the

failure of Lot to enforce any of the provisions herein set forth as to a particular violation be deemed to be a waiver of the right to do so as to any subsequent violation. A Lot Owner aggrieved by the beach of these covenants may in the absence of enforcement action by the Association, initiate his own enforcement action.

4. If a court of competent jurisdiction shall hold invalid or unenforceable any provision contained in this Declaration, such holdings shall not impair, invalidate or otherwise affect the remainder of this Declaration which shall remain in full force and effect.

5. A written or printed notice, deposited in the United States Post Office, postage prepaid, and addressed to any Lot Owner at the address on file with the Town of Kittery Tax Assessor's office shall be sufficient and proper notice to such owner wherever notices are required in the Declaration; a mailing by United States Postal Service "return receipt" to this address shall be deemed delivery of notice to a lot owner.

6. By acceptance of a deed of conveyance to a Lot, notice is thereby given notice of this Declaration and these Bylaws of the Deer Ridge Lane' Association, Inc. whether or not it shall be so expressed in the deed. By acceptance of a deed, each Lot Owner agrees to become and remain an member in good standing in the Association and to comply with the Declaration, Bylaws and Rules and Regulations. Each Lot Owner is entitled to the rights and privileges of membership in the Association, as provided in this Declaration and the Bylaws, and shall be responsible for the duties of membership, including the duty to pay Association assessments and the duty to remain in good standing.

7. This Declaration shall be governed by, construed, and enforced in accordance with the laws of the State of Maine.

IN WITNESS WHEREOF, **MARY THRON, Trustee, David Tozier and Theresa Tozier, MICHAEL F. SCARPONE, KRISTINE I. SCARPONE, JOHN P. HIPPERN, LISA K. HIPPERN, MARIA WYKA, CHRIS ANDREWS, RACHAEL ANDREWS** and **Endeavor Properties, LLC** have caused this instrument to be signed this 20 day of March 2019.

Arthur W. Andrews Revocable Trust

Witness

By: _____ Trustee
MARY THRON, TRUSTEE

Witness

DAVID TOZIER

Witness

THERESA TOZIER

Witness

MICHAEL F. SCARPONE

Witness

KRISTINE I. SCARPONE

Witness

JOHN P. HIPPERN

Witness

LISA K. HIPPERN

Witness

CHRIS ANDREWS

Witness

RACHAEL ANDREWS

Witness

MARIA WYKA

Endeavor Properties, LLC

Witness

By: _____
Robert Mahoney, Member

STATE OF MAINE
County of YORK

March
~~February~~ 20, 2019

Then personally appeared the above-named, **MARY THRON, Trustee of the Arthur W. Andrews Revocable Trust**, and acknowledged the foregoing instrument to be her free act and deed in said capacity.

Before me,

Betty J Cormier

Notary Public

Print Name Betty J. Cormier

BETTY J. CORMIER
NOTARY PUBLIC
State of Maine
My Commission Expires
October 22, 2022

Attachment E

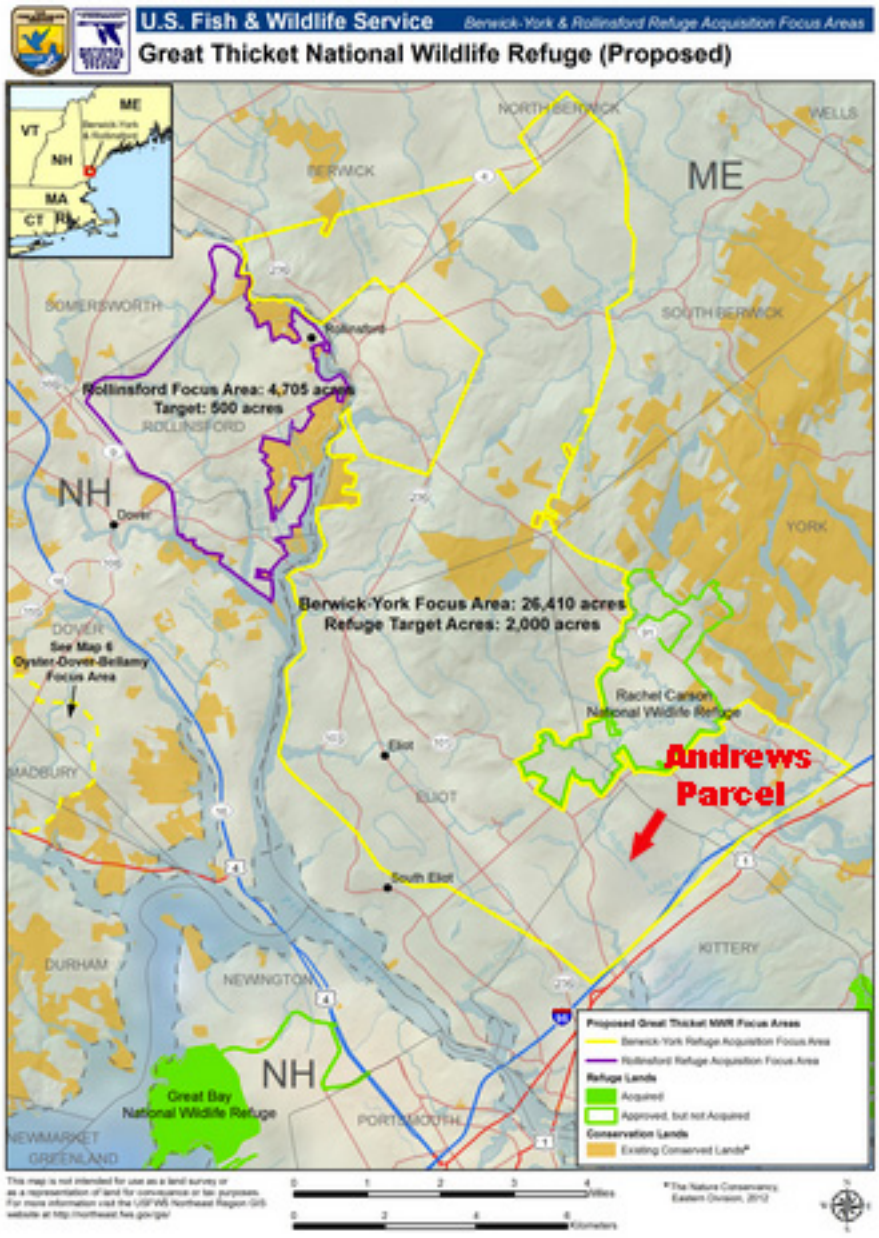
Andrews Land
KLT Management Plan Outline:

DRAFT 3/20/19

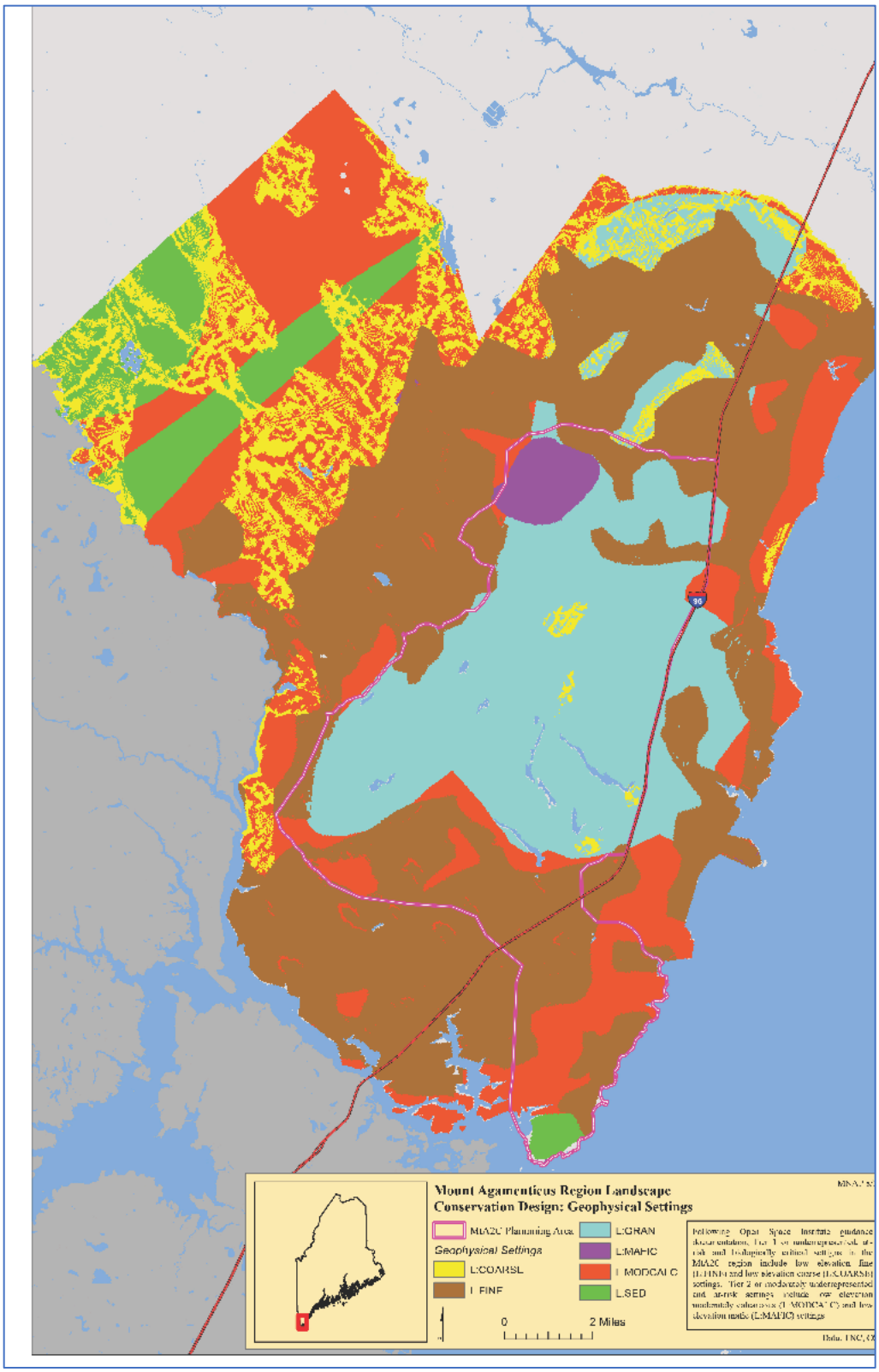
- INTRODUCTION
  - Location
  - Property Description
  - Property History
  - Landscape Association
  - Adjacent Land Use
- PHYSICAL FEATURES
  - Soils
  - Geology
  - Hydrology
  - Vegetation
- BIOLOGICAL RESOURCES
  - York River Wild & Scenic Fish Study 2018
  - USFWS Great Thicket National Wildlife Refuge
  - Maine Natural Areas Program- Habitat Assessment
- SPECIAL FEATURES
  - Significant Vernal Pools
  - Early Successional-Scrub/Shrub Habitat
- MANAGEMENT GOALS & OBJECTIVES
  - Management Goals
  - Management Objectives
- MANAGEMENT CHALLENGES
  - Access
  - Invasive Species
- MANAGEMENT ACTIONS
  - Property Maintenance
  - Public Use
  - Resource Monitoring
- MANAGEMENT FUNDING/STEWARDSHIP BUDGET
- MODIFICATIONS TO THE RESOURCE MANAGEMENT PLAN
- REFERENCES
- APPENDICES

- INTRODUCTION
    - **Location**
        - The Andrews Open Space Land lies to the Southwest of Cutts Ridge, a glacial drumlin that overlies Kittery's only named and protected groundwater resource. The approximately 82-acre parcel being conveyed to the Kittery Land Trusts (KLT) is located off a private road off Remick Lane. It is adjacent to the KLT-owned Clayton Lane parcel and KLT-eased Rustlewood Farm CE#1 parcel. Both of which are located on the northern boundary of the Andrews Open Space Land.
    - **Property Description** – The property is characterized by a recently cut (75-85%) forest with numerous, relatively large wetlands interspersed across the property. There are historic tote roads across the property and newer trails created during the logging process. (Add number and description of vernal pools). The underlying geophysical characteristic is defined as low lying and fine grained soil structure. This is a geophysical type that was determined to be under-represented in the regional conservation holdings of the Mt Agamenticus to the Sea Conservation Initiative(MtA2C) partners. Collectively the 10 partner organizations of MtA2C are working to provide a biological buffer for our region to climate change in addition to pursuing other conservation values such as education, recreation & scientific study.
    - **Property History** – (needs title research and some more anecdotal interviews). Hunting & forestry. Historic drinking water springs, edible plants (blueberries and wild cranberries)
    - **Landscape Association**- The property lies within a KLT Conservation Focus area, Maine Coast Heritage Trust (MCHT) and USFWS- Great Thicket National Wildlife Refuge Area. It is part of matrix of relatively unfragmented land that is characterized by agriculturally valuable soils and sensitive water resources. The land lies wholly within the York River Watershed with the tributary called Cutts Ridge Brook beginning on the Andrews land and running across Rustlewood Farm.
    - **Adjacent Land Use**. The lands immediately adjacent to the property are either conserved or reserved open spaces associated with residential subdivisions or single family home, residential uses.
- PHYSICAL FEATURES (need a good shape file of the donated land to overlay onto Soilweb & other GIS data layers to properly complete these sections.)
    - Soils
    - Geology
    - Hydrology
    - Vegetation
- BIOLOGICAL RESOURCES
    - York River Wild & Scenic Fish Study 2018

- USFWS Great Thicket National Wildlife Refuge



- Open Space Institute/The Nature Conservancy Climate Resiliency 2015 Climate Resiliency Model for the Mt Agamenticus to the Sea Conservation Initiative


Mount Agamenticus Region Landscape
Conservation Design: Geophysical Settings
MA2C Planning Area
Geophysical Settings
L:COARSL
L:FINE
L:GRAN
L:MAFIC
L:MODCALC
L:SED
0
2 Miles

- Maine Natural Areas Program- Habitat Assessment – (pending 2019 site assessment season).

- SPECIAL FEATURES
  - Significant Vernal Pools
  - Early Successional-Scrub/Shrub Habitat

- MANAGEMENT GOALS & OBJECTIVES
  - **Management Goals**- Protect sensitive ecological wetland resources and minimize establishment of invasive species.
  - **Management Objectives –** The primary management objective is to maximize the ecological values of this property. At this time those values include: habitat for rare and endangered species which require scrub-shrub/early successional habitat; protection of High-value/significant vernal pools and the surrounding uplands that support keystone species during key portions of their lifecycle; and provide a refugia for plants and animals to migrate to as the climate changes.
- MANAGEMENT CHALLENGES
  - Access- The predominance of wetlands on the property make accessing the property a challenge. The largest wetland feature and headwater to Cutts Ridge Brook is shared with the 2 adjacent KLT properties. The donors of the land have agreed to establish a parking area off the hammer head designed to facilitate emergency vehicle access to the neighborhood. This should allow 2 vehicles to pull off the pavement for KLT stewardship activities. KLT Volunteers and staff will travel south along the ridge adjacent to this wetland to gain access to the remaining property. The public will not be allowed to utilize these parking spaces.

Invasive Species – an initial survey of the property in February 2019 indicates the presence of Invasive plant species.

KLT Stewardship Report from sitewalk 1-19-19

1-13-19

Clayton Smith
Steve Ostrow
Eric Waleryszak
Gary Mitchell

We started the walk at about the midpoint of the property near where everything was clear cut and walked in a counterclockwise direction following the property line as best we could.

The clear cut near the western side was relatively free of invasive species. The following species were observed growing Acer rubrum (red maple), Betula alleghaniensis (yellow birch), Pinus strobus (white pine), Rubus sp. (blackberry) fern species, possibly hay scented, and Picea sp. (spruce).

The three wetlands located in the southern part of the property were mostly vegetated with Ilex verticulata (winterberry), Acer rubrum, and Vaccinium corymbosum (highbush blueberry) with a few scattered Frangula alnus (glossy false buckthorn). Of the three wetlands, the most eastern one had the densest population of buckthorn. However, most of the trees were not much over an inch in diameter and probably not producing many berries if at all. These and all others located elsewhere should be removed as soon as possible to prevent the spread to the clear cut area.

The northern wetland had a similar composition as the three southern wetlands with the addition of Lyonia ligustrina (maleberry), and small numbers of Berberis thunbergii (Japanese barberry). I did not get to explore the swamp except near the edge, but it looked to be in good shape, especially where it looked like the water might be the deepest. The further west we travelled, the more glossy false buckthorn I saw, but the amounts were relatively small and control should be relatively easy if action is taken before the growing season begins.

The uplands had a mixture of yellow birch and Betula lenta (black birch) red maple, white pine, Tsuga canadensis (eastern hemlock), Fagus grandifolia (American beech), Prunus serotina (black birch) along with small numbers of Ulmus americana (American elm). Many of the beech trees exhibited various stages of beech bark disease. Around these damage trees grew many shoots most like growing as shoots from the parent tree. These should be continually monitored to make sure that beech does not become the dominant tree in the forest. It's ironic that a diseased tree can gain dominance in a forest, but beech is very shade tolerant and casts deep shade over other trees that are not so shade tolerant. The shoots that the diseased parent tree sends up are clones of itself and are certainly going to be affected by beech bark disease, but this could be several decades later. In the mean time, they stop the growth of other trees in the area. It is not uncommon for forest with mostly diseased trees to be predominantly beech. This should be stopped well before it becomes a problem.

I examined a few hemlock trees and I did not see any signs of hemlock wooly adelgid. It might have been that I just did not examine enough trees

All the wetlands have significant ecological value and should be protected as much as possible. Buffer zones should be established and any invasive species should be controlled.

In the woodlands, there was little evidence of forest regeneration except for beech, yellow or black birch and spruce. The lack of regeneration is probably due to a very high deer population. Evidence of this was seen in numerous deer pellets and browse on young trees and shrubs even those such as beech and white pine that are very low on a deers preference

- MANAGEMENT ACTIONS
    - Property Maintenance – KLT will mark the boundaries of the property and monitor those boundaries on an annual basis. This property will be put into the rotation of bi-weekly stewardship work days upon KLT preserves. These work days focus upon invasive species and trail maintenance. Because this will be a limited-access property, trails will only be maintained to the extent necessary to allow for stewardship activities.
        - Given KLT's limited financial assets and professional staff, it will retain the right to transfer management responsibilities to another qualified conservation organization.
    - Public Use – There will be no public access allowed on the property. Access will be limited to KLT staff, volunteers and assignees or those that can access the property on foot.
    - Resource Monitoring – beyond routine annual monitoring of the property, this property has unique features that warrant more study and description. Partner organizations such as the US Fish and Wildlife Service, Maine Coast Heritage Trust, and the Wells National Estuarine Research Reserve have expressed interest in conducting resource inventories (vernal pools) and specific habitat management plans (New England Cottontail Rabbit).

- MANAGEMENT FUNDING/STEWARDSHIP BUDGET

ANDREWS LAND STEWARDSHIP BUDGET		
Completion of Management Plan		
	Contract Services - MNAP	$1,000
	Contract Services - GIS	$1,500
Stewardship Endowment to be Raised		
	10% of Assessed Value	$12,000
	estimated @ $1,500/acre	
		$14,500

- MODIFICATIONS TO THE RESOURCE MANAGEMENT PLAN
    - This Management will be reviewed periodically by the KLT Stewardship Committee. Changing conditions may necessitate a modification of goals and objectives.

- REFERENCES
    - (Need to cite the Beginning With Habitat data, OSI/TNC Climate Resiliency Study (2015), MNAP Potential Vernal Pool Model Report (2019) and York River Fish Study 2007 & 2018.

- APPENDICES

Attachment F

TRUSTEE'S DEED

KNOW ALL BY THESE PRESENT that **MARY THRON**, **Trustee of Arthur W. Andrews Revocable Trust**, with a mailing address of P.O. Box 96, Kittery, Maine by the power conferred by 18-A Maine Revised Statutes Annotated, and every other power, for consideration paid, *Grants* to **ARTHUR W. ANDREWS, JR. and ANNE ANDREWS**, both with a mailing address of 65 Cutts Rd, Kittery, Maine, as *Joint Tenants*, a parcel of land in the Town of Kittery, York County, Maine, lying on the westerly side of, but not adjacent to, Cutts Road shown and delineated as "**PROPOSED PARCEL "X" TO BE CONVEYED TO ARTHUR W. ANDREWS, JR. & ANNE ANDREWS**" on a plan entitled "***PROPOSED LOT LINE ADJUSTMENT FOR PROPERTY AT CUTTS ROAD, KITTERY, YORK COUNTY, MAINE, OWNED BY ARTHUR W. ANDREWS, JR., ANNE ANDREWS AND ARTHUR W. ANDREWS REVOCABLE TRUST***", prepared by North Easterly Surveying, Inc., Project No. 16702, dated 2/26/19 which may be recorded at the York County Registry of Deeds, being more particularly described as follows:

BEGINNING at an iron pipe found at the southwest corner of land of the grantees at land now or formerly of Steven E. Brake;

thence, by land of said Brake, partially along a stone wall, S 52°19'25" E 176.94 feet to an iron pipe found in a stone wall at land now or formerly of Elizabeth A. Delio;

thence, by land of said Delio, along said stone wall, S 53°31'28" E 173.65 feet to an iron pipe found at the corner of a stone wall at land now or formerly of the heirs of Joseph Kozlowski;

thence, by land of said heirs of Joseph Kozlowski, along said stone wall, S 32°58'37" W 354.15 feet to a point in said stone wall;

thence, continuing by land of said heirs of Joseph Kozlowki and by land now or formerly of the Marsh Family Irrevocable Trust, along said stone wall, S 32°05'03" W 165.76 feet to an iron rod found in said stone wall at land now or formerly of Jodie L. Nielsen and James R. Nielsen;

thence, by land of said Nielsen, N 41°25'57" W 120.08 feet to an iron rod found;

thence, continuing by land of said Nielsen, N 46°18'01" W 310.03 feet to an iron rod found;

thence, continuing by land of said Nielsen, N 47°24'16" W 255.09 feet to an iron rod found at land of the grantor;

thence, by land of the grantor, N 08°54'20" E 1483.37 feet to an iron rod set at land of the grantee;

thence, by land of the grantee, S 11°29'19" E 1319.89 feet to the POINT OF BEGINNING and containing 13.47 acres of land.

Meaning and intending to convey and hereby conveying a portion of the same premises conveyed to the Grantor by deed of the Roseann Andrews Revocable Trust dated December 8, 2014 and recorded in the York County Registry of Deeds at Book 16935, Page 411.

IN WITNESS WHEREOF, **MARY THRON, Trustee of the Arthur W. Andrews Revocable Trust,** has caused this instrument to be signed this 20th day of March, 2019.

ARTHUR W. ANDREWS REVOCABLE TRUST

Witness

By: _____
MARY THRON, Trustee

STATE OF MAINE
County of YORK

March 20, 2019

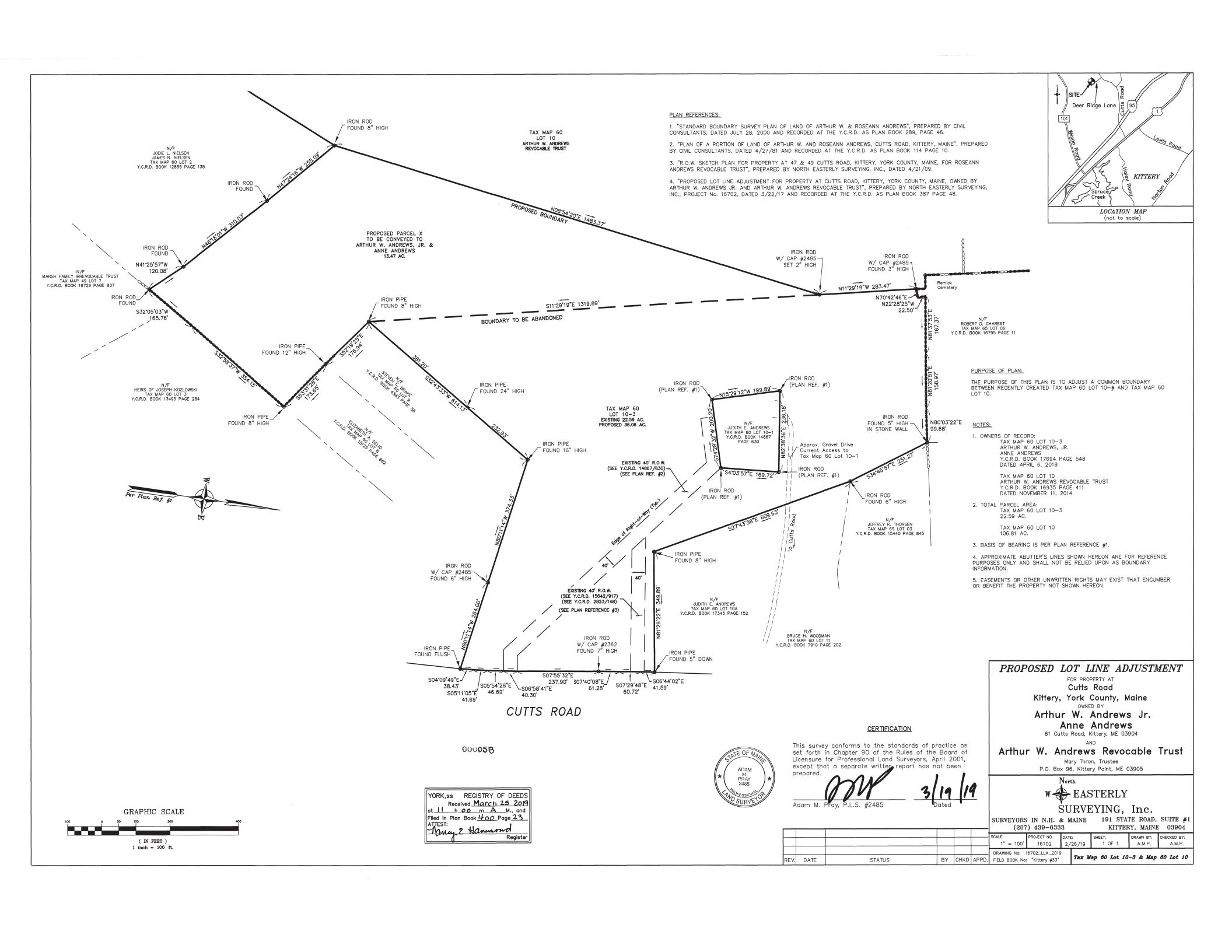
Then personally appeared the above-named, **MARY THRON, Trustee of the Arthur W. Andrews Revocable Trust**, and acknowledged the foregoing instrument to be her free act and deed in their said capacity.

Before me,

_____
Notary Public

Betty J. Cormier
Print Name

BETTY J. CORMIER
NOTARY PUBLIC
State of Maine
My Commission Expires
October 22, 2022


PLAN REFERENCES:
1. "STANDARD BOUNDARY SURVEY PLAN OF LAND OF ARTHUR W. & ROSEANN ANDREWS", PREPARED BY CIVIL CONSULTANTS, DATED JULY 28, 2000 AND RECORDED AT THE Y.C.R.D. AS PLAN BOOK 289, PAGE 46.
2. "PLAN OF A PORTION OF LAND OF ARTHUR W. AND ROSEANN ANDREWS, CUTTS ROAD, KITTERY, MAINE", PREPARED BY CIVIL CONSULTANTS, DATED 4/27/81 AND RECORDED AT THE Y.C.R.D. AS PLAN BOOK 114 PAGE 10.
3. "R.O.W. SKETCH PLAN FOR PROPERTY AT 47 & 49 CUTTS ROAD, KITTERY, YORK COUNTY, MAINE, FOR ROSEANN ANDREWS REVOCABLE TRUST", PREPARED BY NORTH EASTERLY SURVEYING, INC., DATED 4/21/09.
4. "PROPOSED LOT LINE ADJUSTMENT FOR PROPERTY AT CUTTS ROAD, KITTERY, YORK COUNTY, MAINE, OWNED BY ARTHUR W. ANDREWS JR. AND ARTHUR W. ANDREWS REVOCABLE TRUST", PREPARED BY NORTH EASTERLY SURVEYING, INC., PROJECT No. 16702, DATED 3/22/17 AND RECORDED AT THE Y.C.R.D. AS PLAN BOOK 387 PAGE 48.
SITE
Deer Ridge Lane
Cutts Road
Wilson Road
Lewis Road
Harris Road
Norton Road
KITTERY
Spruce Creek
LOCATION MAP
(not to scale)
TAX MAP 60
LOT 10
ARTHUR W. ANDREWS
REVOCABLE TRUST
PROPOSED PARCEL X
TO BE CONVEYED TO
ARTHUR W. ANDREWS, JR. &
ANNE ANDREWS
13.47 AC.
PROPOSED BOUNDARY
N08°54'20"E 1483.37'
BOUNDARY TO BE ABANDONED
S11°29'19"E 1319.89'
N11°29'19"W 283.47'
IRON ROD FOUND 8" HIGH
IRON ROD FOUND
IRON ROD W/ CAP #2485 SET 2" HIGH
IRON ROD W/ CAP #2485 FOUND 3" HIGH
IRON PIPE FOUND 8" HIGH
IRON PIPE FOUND 12" HIGH
IRON PIPE FOUND 24" HIGH
IRON PIPE FOUND 16" HIGH
IRON PIPE FOUND 8" HIGH
IRON ROD FOUND 6" HIGH
IRON PIPE FOUND 8" HIGH
IRON PIPE FOUND 5" DOWN
IRON PIPE FOUND FLUSH
IRON ROD W/ CAP #2485 FOUND 6" HIGH
IRON ROD W/ CAP #2362 FOUND 7" HIGH
IRON ROD FOUND 5" HIGH IN STONE WALL
IRON ROD (PLAN REF. #1)
N/F
JODIE L. NIELSEN
JAMES R. NIELSEN
TAX MAP 60 LOT 2
Y.C.R.D. BOOK 12855 PAGE 135
N47°24'16"W 2559.09'
N46°18'01"W 3100.03'
N41°25'57"W 120.08'
N/F
MARSH FAMILY IRREVOCABLE TRUST
TAX MAP 49 LOT 7
Y.C.R.D. BOOK 16729 PAGE 837
S32°05'03"W 165.76'
S32°58'37"W 354.15'
S55°31'08"E 173.65'
S52°19'25"E 176.94'
S32°43'33"W 614.13'
381.20'
232.83'
N/F
HEIRS OF JOSEPH KOZLOWSKI
TAX MAP 60 LOT 3
Y.C.R.D. BOOK 13495 PAGE 284
N/F
STEVEN A. BRAKE
TAX MAP 60 LOT 4
Y.C.R.D. BOOK 4363 PAGE 39
N/F
ELIZABETH A. REILLY
TAX MAP 60 LOT 5
Y.C.R.D. BOOK 15129 PAGE 882
TAX MAP 60
LOT 10-3
EXISTING 22.59 AC.
PROPOSED 36.06 AC.
N15°29'12"W 199.89'
N82°38'35"E 236.18'
S4°03'57"E 169.72'
N25°26'47"W 200.00'
N/F
JUDITH E. ANDREWS
TAX MAP 60 LOT 10-1
Y.C.R.D. BOOK 14867
PAGE 630
Approx. Gravel Drive
Current Access to
Tax Map 60 Lot 10-1
EXISTING 40' R.O.W.
(SEE Y.C.R.D. 14867/630)
(SEE PLAN REF. #2)
Edge of Right-of-Way (typ.)
to Cutts Road
N80°03'22"E 99.68'
N81°20'51"E 158.97'
N81°37'53"E 167.37'
S34°45'57"E 251.27'
S27°43'38"E 609.63'
N/F
ROBERT D. CHAREST
TAX MAP 65 LOT 06
Y.C.R.D. BOOK 16795 PAGE 11
Remick Cemetery
N/F
JEFFREY R. THORSEN
TAX MAP 65 LOT 03
Y.C.R.D. BOOK 15440 PAGE 845
N/F
JUDITH E. ANDREWS
TAX MAP 60 LOT 10A
Y.C.R.D. BOOK 17345 PAGE 152
N/F
BRUCE H. WOODMAN
TAX MAP 60 LOT 11
Y.C.R.D. BOOK 7910 PAGE 202
EXISTING 40' R.O.W.
(SEE Y.C.R.D. 15642/917)
(SEE Y.C.R.D. 2823/148)
(SEE PLAN REFERENCE #3)
40'
40'
N81°29'22"E 349.89'
N80°11'14"W 374.33'
N80°11'14"W 284.00'
S07°55'32"E 237.90'
S07°40'08"E 61.28'
S07°29'48"E 60.72'
S06°44'02"E 41.59'
S04°09'49"E 38.43'
S05°11'05"E 41.69'
S05°54'28"E 46.69'
S06°58'41"E 40.30'
Per Plan Ref. #1
CUTTS ROAD
PURPOSE OF PLAN:
THE PURPOSE OF THIS PLAN IS TO ADJUST A COMMON BOUNDARY BETWEEN RECENTLY CREATED TAX MAP 60 LOT 10-# AND TAX MAP 60 LOT 10.
NOTES:
1. OWNERS OF RECORD:
TAX MAP 60 LOT 10-3
ARTHUR W. ANDREWS, JR.
ANNE ANDREWS
Y.C.R.D. BOOK 17694 PAGE 548
DATED APRIL 6, 2018
TAX MAP 60 LOT 10
ARTHUR W. ANDREWS REVOCABLE TRUST
Y.C.R.D. BOOK 16935 PAGE 411
DATED NOVEMBER 11, 2014
2. TOTAL PARCEL AREA:
TAX MAP 60 LOT 10-3
22.59 AC.
TAX MAP 60 LOT 10
106.81 AC.
3. BASIS OF BEARING IS PER PLAN REFERENCE #1.
4. APPROXIMATE ABUTTER'S LINES SHOWN HEREON ARE FOR REFERENCE PURPOSES ONLY AND SHALL NOT BE RELIED UPON AS BOUNDARY INFORMATION.
5. EASEMENTS OR OTHER UNWRITTEN RIGHTS MAY EXIST THAT ENCUMBER OR BENEFIT THE PROPERTY NOT SHOWN HEREON.
CERTIFICATION
This survey conforms to the standards of practice as set forth in Chapter 90 of the Rules of the Board of Licensure for Professional Land Surveyors, April 2001, except that a separate written report has not been prepared.
Adam M. Pray, P.L.S. #2485
3/19/19
Dated
STATE OF MAINE
ADAM M PRAY 2485
Professional LAND SURVEYOR
000058
YORK, ss REGISTRY OF DEEDS
Received March 25 2019
at 11 h 00 m A M., and
Filed in Plan Book 400 Page 23
ATTEST:
Nancy E. Hammond
Register
GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.
REV. DATE STATUS BY CHKD APPD.
PROPOSED LOT LINE ADJUSTMENT
FOR PROPERTY AT
Cutts Road
Kittery, York County, Maine
OWNED BY
Arthur W. Andrews Jr.
Anne Andrews
61 Cutts Road, Kittery, ME 03904
AND
Arthur W. Andrews Revocable Trust
Mary Thron, Trustee
P.O. Box 96, Kittery Point, ME 03905
North
NORTH EASTERLY SURVEYING, Inc.
SURVEYORS IN N.H. & MAINE
(207) 439-6333
191 STATE ROAD, SUITE #1
KITTERY, MAINE 03904
SCALE: 1" = 100'
PROJECT NO. 16702
DATE: 2/26/19
SHEET: 1 OF 1
DRAWN BY: A.M.P.
CHECKED BY: A.M.P.
DRAWING No: 16702_LLA_2019
FIELD BOOK No: "Kittery #33"
Tax Map 60 Lot 10-3 & Map 60 Lot 10

Attachment G

4795

OFFICE OF

KITTERY WATER DISTRICT

17 State Road
Kittery, Maine 03904-1565
TEL: 207-439-1128
FAX: 207-439-8549
Email: kitterywater@comcast.net

Jamie Steffen, Town Planner
Town of Kittery
200 Rogers Road
Kittery, ME 03904

October 23, 2018

Re: Proposed Andrews Subdivision – Map 60, Lot 10

Dear Jamie,

Please accept this letter as verification that the Kittery Water District does have the capacity to supply municipal water service for both domestic and fire protection purposes to the proposed Andrews Subdivision, Map 60 Lot 10.

Sincerely,

Michael S. Rogers
Superintendent

cc: Ronald M. Beal, P.E., Altus Engineering, Inc.

OFFICE OF

KITTERY WATER DISTRICT

17 State Road
Kittery, Maine 03904-1565
TEL: 207-439-1128
FAX: 207-439-8549
Email: kitterywater@comcast.net

William A. Straub, P.E.
CMA Engineers
35 Bow Street
Portsmouth, NH 03801

February 14, 2019

Re: Andrews Subdivision, Kittery

Dear Bill,

I have reviewed the Andrews Subdivision plans dated October 18, 2018 submitted to me from Altus Engineering, Inc and find the design of the water infrastructure and the proposed materials to meet our specifications. Prior to construction, we will require submittals for all materials and the District will be providing a full-time inspector during the installation.

Sincerely,

Michael S. Rogers
Superintendent

cc: Jeff Clifford, P.E., Altus Engineering, Inc.

Attachment - H

Supplemental Drainage Calculations
Andrews Subdivision
Map 60, Lot 10
Kittery, Maine

The HydroCAD drainage analysis was revised to ensure that stormwater Best Management Practices (BMPs) met MDEP sizing and post-development runoff criteria. The grassed underdrain soil filter was modified to provide a filter area (pond bottom) of 2,129 square feet and a treatment volume of 3,549 cubic feet. The proposed design provides 2,696 square feet filter area and 10,538 cubic feet treatment volume.

A complete summary of the flow conditions and modeling is included. The following compares pre- and post-development peak flow rates at the point of analysis:

		2-Year Storm (3.21 in.)	**10-Year Storm (4.87 in.)**	**25-Year Storm (6.17 in.)**
		Qout (cfs)	**Qout (cfs)**	**Qout (cfs)**
POA 1	Pre	9.7	20.8	30.2
	Post	9.7	20.2	29.8
	Net Change	**-0.0**	**-0.6**	**-0.4**
POA 2	**Pre**	5.8	11.7	16.7
	Post	5.9	11.8	16.6
	Net Change	**0.1**	**0.1**	**-0.1**

Stormwater Treatment Spreadsheet

Sta. from	Sta. To		Post Devel. SC Id.	Existing Roadway & Shoulder (sf)	Existing Vegetated Shoulder (sf)	Existing Wooded Shoulder	Proposed Roadway & Shoulder (sf)	Proposed Vegetated Shoulder (sf)	Total	Redevel. Wt'd Average Polluntant Ranking		Total Devel. Area (sf)	Proposed BMP Type	Lawn (sf)	Impervious Area (sf)	Treated Devel. Area (sf)	Grassed Underdrain	
																	Treatment Volume (cf)	Minimum Filter Area (sf)
0+00R 0+10L	5+25R 4+70L		20	**10,640**	**8,176**	**2,350**	**11,669**	**9,497**	**21,166**	0.3		4,522	Redevelopment of roadway. None	3,493	1,029	0		
5+25R	9+75R		12	**2,718**	**6,237**	**83**	**4,651**	**4,387**	**9,038**	0.4		48,788	12' Level Spreader to 100' wooded buffer	31,387	17,401	48,788		
4+70L	5+75L		11	**263**	**1,093**	**1,242**	**1,427**	**1,171**	**2,598**	1.9		58,336	Grassed Underdrained Soil Filter, 12' Long Levelspreader & 100' Wooded Buffer	39,085	19,251	58,336	3,549	2,129
20+00	26+40		11	**0**	**0**	**37,488**	**12,074**	**25,414**	**37,488**									
5+75L 9+75R	10+33L 10+33R		10	**3,652**	**5,920**	**2,660**	**6,280**	**5,952**	**12,232**	0.9		125,482	100' wooded buffer	81,452	44,030	125,482		
20+00	26+40		10	**0**	**0**	**13,003**	**0**	**13,003**	**13,003**									
Total				**17,273**	**21,426**	**56,826**	**36,101**	**59,424**	**95,525**	**0.9**		**237,128**		**155,417**	**81,711**	**232,606**		
							18,828								**80,682**			

Total Impervious Area (s.f.) **81,711** *
Percentage Imperv. Area Treated **98.7%**
Total Developed Area (s.f.) **232,606** *
Percentage Devel. Area Treated **98.1%**

* Number based on net change of lawn and impervious areas only for redevelopment within Post Devel. SC #20

Sizing Formulas

Grassed Undersdrain Soil Filter

Treatment Volume (cf) = [(total imperv. area * 1") + (lawn area * 0.4")]* (1'/12") **3,549**

Filter Area (sf) = (total imperv. area * 0.05) + (lawn area * 0.02) **2,129**

Level Spreader

Length = 1 foot per 0.25 cfs * 10-yr storm runoff

Summary for Pond 11P: G.U.S.F.

Inflow Area = 2.208 ac, 18.53% Impervious, Inflow Depth = 4.00" for 25 event
Inflow = 6.98 cfs @ 12.24 hrs, Volume= 0.735 af
Outflow = 3.31 cfs @ 12.53 hrs, Volume= 0.735 af, Atten= 53%, Lag= 17.3 min
Primary = 3.31 cfs @ 12.53 hrs, Volume= 0.735 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 79.78' @ 12.53 hrs Surf.Area= 5,766 sf Storage= 10,786 cf

Plug-Flow detention time= 74.4 min calculated for 0.735 af (100% of inflow)
Center-of-Mass det. time= 74.2 min (894.7 - 820.5)

Volume	Invert	Avail.Storage	Storage Description
#1	75.17'	20,503 cf	**Custom Stage Data (Prismatic)** Listed below

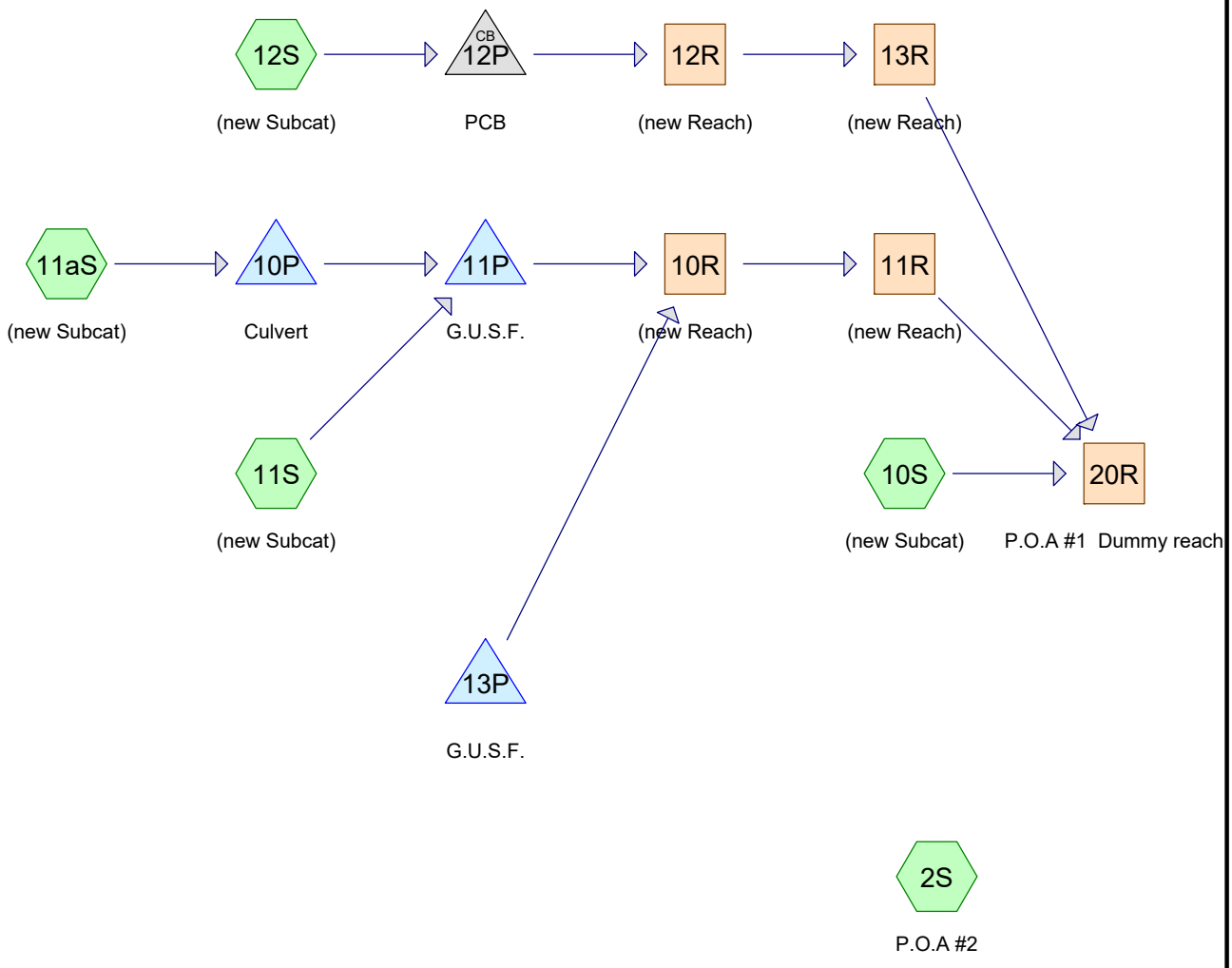
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
75.17	2,695	0.0	0	0
76.17	2,695	40.0	1,078	1,078
77.67	2,695	20.0	809	1,887
78.00	2,695	100.0	889	2,776
79.00	4,844	100.0	3,770	6,545
80.00	6,026	100.0	5,435	11,980
81.00	7,304	100.0	6,665	18,645
81.25	7,554	100.0	1,857	20,503

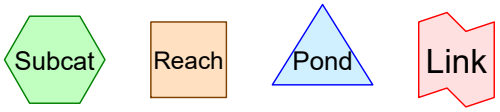
Device	Routing	Invert	Outlet Devices
#1	Primary	74.00'	**15.0" Round Culvert** L= 35.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 74.00' / 73.00' S= 0.0286 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	75.17'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	78.25'	**1.5" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#4	Primary	79.35'	**24.0" W x 24.0" H Vert. Orifice/Grate** C= 0.600
#5	Primary	80.25'	**6.0' long x 8.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74

Primary OutFlow Max=3.30 cfs @ 12.53 hrs HW=79.78' (Free Discharge)
- **1=Culvert** (Passes 1.49 cfs of 13.42 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.89 cfs @ 10.15 fps)
  - **3=Orifice/Grate** (Orifice Controls 0.60 cfs @ 4.84 fps)
- **4=Orifice/Grate** (Orifice Controls 1.81 cfs @ 2.11 fps)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 11P: G.U.S.F.

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
75.17	2,695	0
75.27	2,695	108
75.37	2,695	216
75.47	2,695	323
75.57	2,695	431
75.67	2,695	539
75.77	2,695	647
75.87	2,695	755
75.97	2,695	862
76.07	2,695	970
76.17	2,695	1,078
76.27	2,695	1,132
76.37	2,695	1,186
76.47	2,695	1,240
76.57	2,695	1,294
76.67	2,695	1,348
76.77	2,695	1,401
76.87	2,695	1,455
76.97	2,695	1,509
77.07	2,695	1,563
77.17	2,695	1,617
77.27	2,695	1,671
77.37	2,695	1,725
77.47	2,695	1,779
77.57	2,695	1,833
77.67	2,695	1,887
77.77	2,695	2,156
77.87	2,695	2,426
77.97	2,695	2,695
78.07	2,845	3,040
78.17	3,060	3,417
78.27	3,275	3,794
78.37	3,490	4,171
78.47	3,705	4,548
78.57	3,920	4,924
78.67	4,135	5,301
78.77	4,350	5,678
78.87	4,565	6,055
78.97	4,780	6,432
79.07	4,927	6,926
79.17	5,045	7,469
79.27	5,163	8,013
79.37	5,281	8,556
79.47	5,400	9,100
79.57	5,518	9,643
79.67	5,636	10,187
79.77	5,754	10,730
79.87	5,872	11,274
79.97	5,991	11,817
80.07	6,115	12,447
80.17	6,243	13,113
80.27	6,371	13,780
80.37	6,499	14,446
80.47	6,627	15,113
80.57	6,754	15,779
80.67	6,882	16,446
80.77	7,010	17,112
80.87	7,138	17,779
80.97	7,266	18,445
81.07	7,374	19,165
81.17	**7,474**	**19,908**
81.27	**7,554**	**20,503**





Routing Diagram for 4795 Post2 GUSF.w.buffer.impact
Prepared by {enter your company name here}, Printed 3/28/2019

Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 2S: P.O.A #2 Runoff Area=235,556 sf 11.96% Impervious Runoff Depth=1.41"
Flow Length=250' Tc=20.4 min CN=80 Runoff=5.89 cfs 0.635 af

Subcatchment 10S: (new Subcat) Runoff Area=1,026,302 sf 4.29% Impervious Runoff Depth=1.28"
Flow Length=1,915' Tc=112.6 min CN=78 Runoff=8.89 cfs 2.514 af

Subcatchment 11aS: (new Subcat) Runoff Area=82,509 sf 21.60% Impervious Runoff Depth=1.48"
Flow Length=260' Tc=14.8 min CN=81 Runoff=2.47 cfs 0.233 af

Subcatchment 11S: (new Subcat) Runoff Area=13,664 sf 0.00% Impervious Runoff Depth=1.41"
Flow Length=50' Slope=0.1200 '/' Tc=4.0 min CN=80 Runoff=0.55 cfs 0.037 af

Subcatchment 12S: (new Subcat) Runoff Area=67,648 sf 25.72% Impervious Runoff Depth=1.62"
Flow Length=510' Tc=17.6 min CN=83 Runoff=2.08 cfs 0.209 af

Reach 10R: (new Reach) Avg. Flow Depth=0.05' Max Vel=1.60 fps Inflow=0.72 cfs 0.265 af
n=0.040 L=140.0' S=0.1000 '/' Capacity=38.65 cfs Outflow=0.72 cfs 0.265 af

Reach 11R: (new Reach) Avg. Flow Depth=0.07' Max Vel=0.30 fps Inflow=0.72 cfs 0.265 af
n=0.040 L=1,300.0' S=0.0023 '/' Capacity=17.98 cfs Outflow=0.62 cfs 0.258 af

Reach 12R: (new Reach) Avg. Flow Depth=0.11' Max Vel=2.02 fps Inflow=2.08 cfs 0.209 af
n=0.040 L=220.0' S=0.0636 '/' Capacity=30.83 cfs Outflow=2.07 cfs 0.209 af

Reach 13R: (new Reach) Avg. Flow Depth=0.09' Max Vel=0.46 fps Inflow=2.07 cfs 0.209 af
n=0.040 L=760.0' S=0.0039 '/' Capacity=23.52 cfs Outflow=1.30 cfs 0.208 af

Reach 20R: P.O.A #1 Dummy reach Avg. Flow Depth=0.17' Max Vel=1.11 fps Inflow=9.69 cfs 2.981 af
n=0.040 L=1.0' S=0.0100 '/' Capacity=60.70 cfs Outflow=9.69 cfs 2.981 af

Pond 10P: Culvert Peak Elev=85.23' Storage=288 cf Inflow=2.47 cfs 0.233 af
Outflow=2.47 cfs 0.228 af

Pond 11P: G.U.S.F. Peak Elev=78.28' Storage=3,816 cf Inflow=2.73 cfs 0.265 af
Outflow=0.72 cfs 0.265 af

Pond 12P: PCB Peak Elev=72.20' Inflow=2.08 cfs 0.209 af
12.0" Round Culvert n=0.013 L=45.0' S=0.0056 '/' Outflow=2.08 cfs 0.209 af

Pond 13P: G.U.S.F. Peak Elev=0.00' Storage=0 cf
Primary=0.00 cfs 0.000 af

Total Runoff Area = 32.729 ac Runoff Volume = 3.629 af Average Runoff Depth = 1.33"
92.47% Pervious = 30.263 ac 7.53% Impervious = 2.466 ac

Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 2S: P.O.A #2 Runoff Area=235,556 sf 11.96% Impervious Runoff Depth=2.78"
Flow Length=250' Tc=20.4 min CN=80 Runoff=11.78 cfs 1.253 af

Subcatchment 10S: (new Subcat) Runoff Area=1,026,302 sf 4.29% Impervious Runoff Depth=2.60"
Flow Length=1,915' Tc=112.6 min CN=78 Runoff=18.64 cfs 5.108 af

Subcatchment 11aS: (new Subcat) Runoff Area=82,509 sf 21.60% Impervious Runoff Depth=2.87"
Flow Length=260' Tc=14.8 min CN=81 Runoff=4.85 cfs 0.453 af

Subcatchment 11S: (new Subcat) Runoff Area=13,664 sf 0.00% Impervious Runoff Depth=2.78"
Flow Length=50' Slope=0.1200 '/' Tc=4.0 min CN=80 Runoff=1.10 cfs 0.073 af

Subcatchment 12S: (new Subcat) Runoff Area=67,648 sf 25.72% Impervious Runoff Depth=3.06"
Flow Length=510' Tc=17.6 min CN=83 Runoff=3.94 cfs 0.396 af

Reach 10R: (new Reach) Avg. Flow Depth=0.07' Max Vel=1.97 fps Inflow=1.29 cfs 0.521 af
n=0.040 L=140.0' S=0.1000 '/' Capacity=38.65 cfs Outflow=1.29 cfs 0.521 af

Reach 11R: (new Reach) Avg. Flow Depth=0.10' Max Vel=0.36 fps Inflow=1.29 cfs 0.521 af
n=0.040 L=1,300.0' S=0.0023 '/' Capacity=17.98 cfs Outflow=1.08 cfs 0.513 af

Reach 12R: (new Reach) Avg. Flow Depth=0.16' Max Vel=2.51 fps Inflow=3.94 cfs 0.396 af
n=0.040 L=220.0' S=0.0636 '/' Capacity=30.83 cfs Outflow=3.92 cfs 0.396 af

Reach 13R: (new Reach) Avg. Flow Depth=0.14' Max Vel=0.62 fps Inflow=3.92 cfs 0.396 af
n=0.040 L=760.0' S=0.0039 '/' Capacity=23.52 cfs Outflow=2.80 cfs 0.395 af

Reach 20R: P.O.A #1 Dummy reach Avg. Flow Depth=0.26' Max Vel=1.47 fps Inflow=20.16 cfs 6.016 af
n=0.040 L=1.0' S=0.0100 '/' Capacity=60.70 cfs Outflow=20.16 cfs 6.016 af

Pond 10P: Culvert Peak Elev=85.37' Storage=336 cf Inflow=4.85 cfs 0.453 af
Outflow=4.84 cfs 0.448 af

Pond 11P: G.U.S.F. Peak Elev=79.34' Storage=8,405 cf Inflow=5.36 cfs 0.521 af
Outflow=1.29 cfs 0.521 af

Pond 12P: PCB Peak Elev=73.14' Inflow=3.94 cfs 0.396 af
12.0" Round Culvert n=0.013 L=45.0' S=0.0056 '/' Outflow=3.94 cfs 0.396 af

Pond 13P: G.U.S.F. Peak Elev=0.00' Storage=0 cf
Primary=0.00 cfs 0.000 af

Total Runoff Area = 32.729 ac Runoff Volume = 7.282 af Average Runoff Depth = 2.67"
92.47% Pervious = 30.263 ac 7.53% Impervious = 2.466 ac

Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 2S: P.O.A #2 Runoff Area=235,556 sf 11.96% Impervious Runoff Depth=3.93"
Flow Length=250' Tc=20.4 min CN=80 Runoff=16.63 cfs 1.773 af

Subcatchment 10S: (new Subcat) Runoff Area=1,026,302 sf 4.29% Impervious Runoff Depth=3.73"
Flow Length=1,915' Tc=112.6 min CN=78 Runoff=26.84 cfs 7.322 af

Subcatchment 11aS: (new Subcat) Runoff Area=82,509 sf 21.60% Impervious Runoff Depth=4.04"
Flow Length=260' Tc=14.8 min CN=81 Runoff=6.79 cfs 0.638 af

Subcatchment 11S: (new Subcat) Runoff Area=13,664 sf 0.00% Impervious Runoff Depth=3.93"
Flow Length=50' Slope=0.1200 '/' Tc=4.0 min CN=80 Runoff=1.55 cfs 0.103 af

Subcatchment 12S: (new Subcat) Runoff Area=67,648 sf 25.72% Impervious Runoff Depth=4.25"
Flow Length=510' Tc=17.6 min CN=83 Runoff=5.44 cfs 0.550 af

Reach 10R: (new Reach) Avg. Flow Depth=0.13' Max Vel=2.75 fps Inflow=3.31 cfs 0.735 af
n=0.040 L=140.0' S=0.1000 '/' Capacity=38.65 cfs Outflow=3.30 cfs 0.735 af

Reach 11R: (new Reach) Avg. Flow Depth=0.14' Max Vel=0.46 fps Inflow=3.30 cfs 0.735 af
n=0.040 L=1,300.0' S=0.0023 '/' Capacity=17.98 cfs Outflow=1.98 cfs 0.728 af

Reach 12R: (new Reach) Avg. Flow Depth=0.20' Max Vel=2.79 fps Inflow=5.44 cfs 0.550 af
n=0.040 L=220.0' S=0.0636 '/' Capacity=30.83 cfs Outflow=5.42 cfs 0.550 af

Reach 13R: (new Reach) Avg. Flow Depth=0.18' Max Vel=0.71 fps Inflow=5.42 cfs 0.550 af
n=0.040 L=760.0' S=0.0039 '/' Capacity=23.52 cfs Outflow=4.06 cfs 0.549 af

Reach 20R: P.O.A #1 Dummy reach Avg. Flow Depth=0.33' Max Vel=1.70 fps Inflow=29.79 cfs 8.599 af
n=0.040 L=1.0' S=0.0100 '/' Capacity=60.70 cfs Outflow=29.79 cfs 8.599 af

Pond 10P: Culvert Peak Elev=85.83' Storage=555 cf Inflow=6.79 cfs 0.638 af
Outflow=6.35 cfs 0.633 af

Pond 11P: G.U.S.F. Peak Elev=79.78' Storage=10,786 cf Inflow=6.98 cfs 0.735 af
Outflow=3.31 cfs 0.735 af

Pond 12P: PCB Peak Elev=74.17' Inflow=5.44 cfs 0.550 af
12.0" Round Culvert n=0.013 L=45.0' S=0.0056 '/' Outflow=5.44 cfs 0.550 af

Pond 13P: G.U.S.F. Peak Elev=0.00' Storage=0 cf
Primary=0.00 cfs 0.000 af

Total Runoff Area = 32.729 ac Runoff Volume = 10.386 af Average Runoff Depth = 3.81"
92.47% Pervious = 30.263 ac 7.53% Impervious = 2.466 ac

CUTTS RIDGE BROOK
(APPROX. LOCATION)

POINT OF ANALYSIS #1

10

8 7 6 5 4 3 2 1 9 11 12

4

11a

20

PROP. GRASSED UNDERDRAIN SOIL FILTER

DEER RIDGE LANE

TURKEYTAIL LANE

REMICKS LANE

HOUSE

HOUSE (approx. loc.)

APPROX. LEACHFIELD

POINT OF ANALYSIS #2

SUBCATCHMENT BOUNDARY (TYP.)

SUBCATCHMENT IDENTIFIER (TYP.)

GRAPHIC SCALE
60 0 30 60 120 240
(IN FEET)

STATE OF MAINE
JEFFREY K. CLIFFORD
No. 9947
LICENSED PROFESSIONAL ENGINEER

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: APPROVAL

ISSUE DATE: MARCH 27, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TOWN SUBMISSION	JKC	10/18/18
1	REV. G.U.S.F. CALC.S	JKC	3/27/19

DRAWN BY: RMB
APPROVED BY: JKC
DRAWING FILE: 4795SUB.DWG

SCALE: 1" = 60"

OWNERS/APPLICANT:

ARTHUR W. ANDREWS REV. TRUST
c/o MARY THRON
P.O. BOX 96
KITTERY POINT, MAINE 03905

PROJECT:

ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

TITLE:

POST-DEVELOPMENT STORMWATER PLAN

SHEET NUMBER:

DS - 2

P4795

ANDREWS SUBDIVISION

MAP 60 LOT 10

DEER RIDGE LANE

KITTERY, MAINE

Issued:

October 18, 2018 — *Preliminary Approval Submission*
March 27, 2019 — *Final Approval Submission*

LEGEND:

	WETLANDS SYMBOL
. . . . .	WETLANDS BOUNDARY
— · — · —	WETLANDS "NO CUT" SETBACK
	APPROX. RESOURCE PROTECTION OVERLAY ZONE (OZ-RP)
(12)	PROPOSED LOT NUMBER
— — — — —	PROPOSED LOT LINE
— — — — —	PROPOSED BUILDING SETBACK
UGC UGC	PROPOSED UNDERGROUND ELECTRIC, TELEPHONE & CABLE
PW PW	PROPOSED WATERMAIN
L.S.	PROPOSED LEVEL SPREADER
G.U.S.F.	GRASSED UNDERDRAIN SOIL FILTER
SVP #1	SIGNIFICANT VERNAL POOL
VP #2	VERNAL POOL (NOT SIGNIFICANT PER MDEP)
TP #6	TEST PIT
PDI	PROPOSED DROP INLET STRUCTURE
	PROPOSED LEVEL SPREADER
MFES	METAL FLARED END SECTION

Owner/Applicant:

ARTHUR W. ANDREWS REV. TRUST
c/o MARY THRON, TRUSTEE
P.O. BOX 96
KITTERY POINT, MAINE 03905

Civil Engineer:

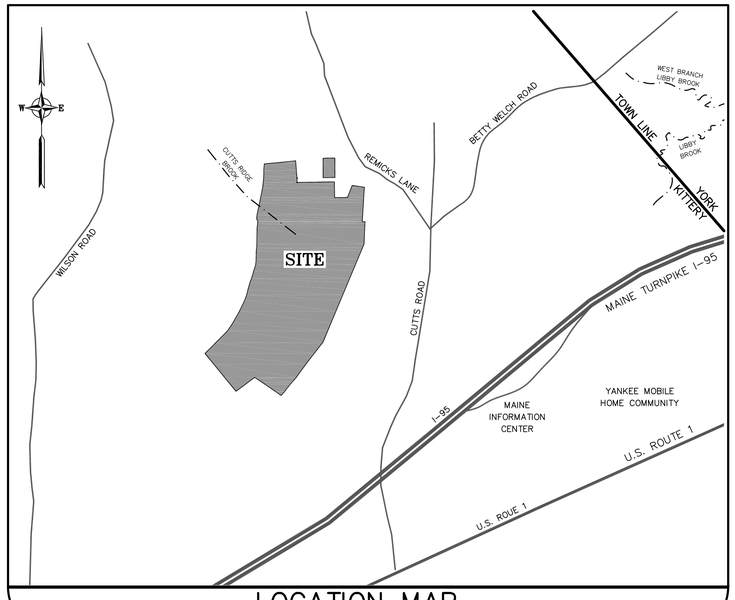
ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

Surveyor:

North
EASTERLY
SURVEYING, Inc.
191 STATE ROAD, SUITE #1
KITTERY, MAINE 03904
(207) 439-6333

Soils/Wetlands Scientist:

Joseph W. Noel, CPSS
P.O. Box 174
South Berwick, Maine 03908

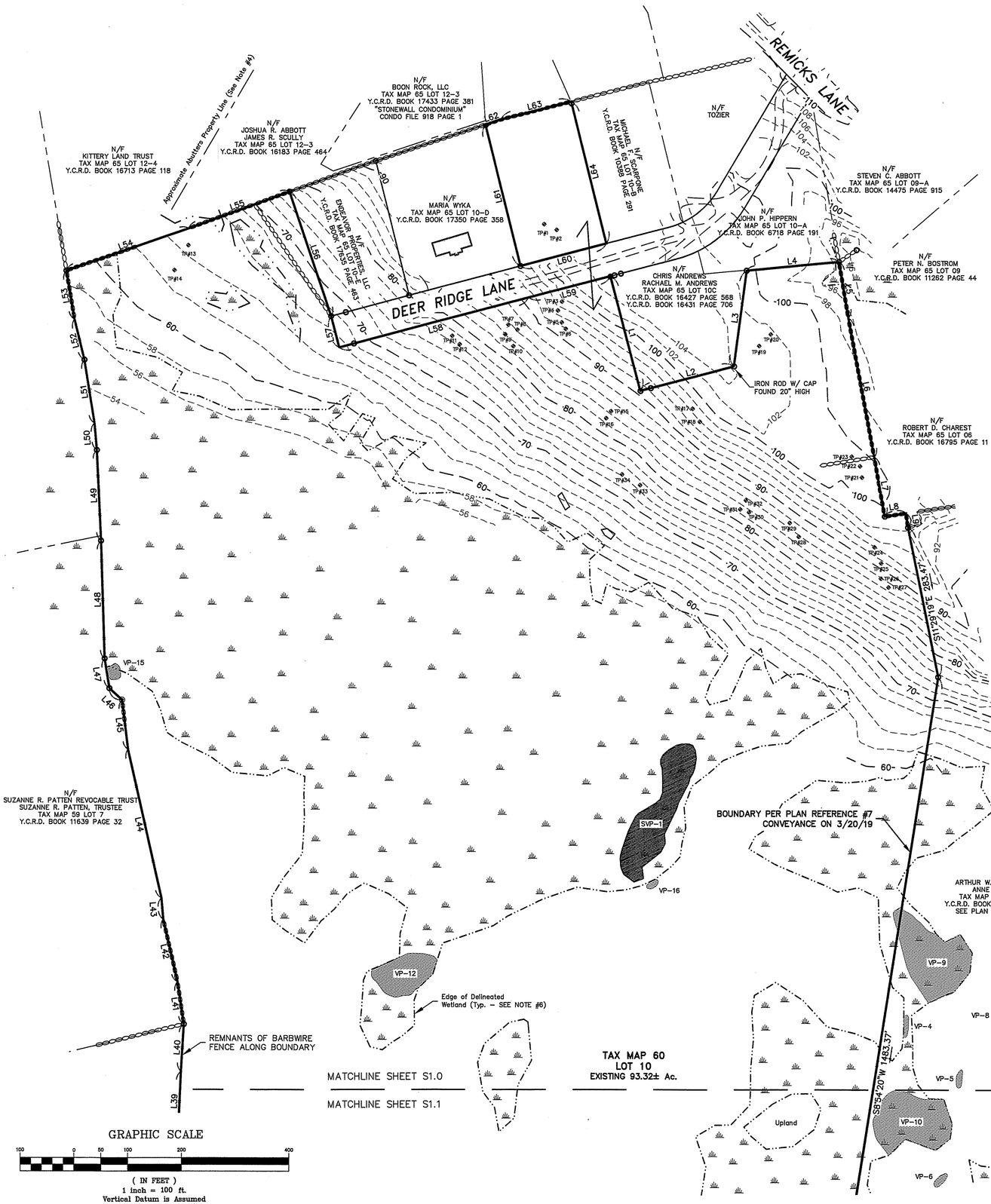


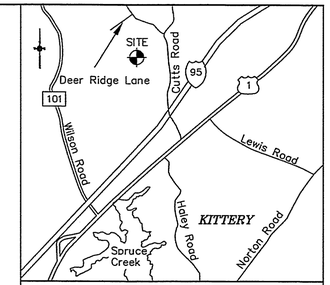
LOCATION MAP
SCALE: 1" = 1000' (+/-)

Sheet Index

Title	***Sheet No.:***	***Rev.***
Standard Boundary Survey and Existing Conditions Plan	S1.0	–
Standard Boundary Survey and Existing Conditions Plan	S1.1	–
Andrews Subdivision Plan – Sheet 1 of 3	S1.2	1
Andrews Subdivision Plan – Sheet 2 of 3	S1.3	1
Andrews Subdivision Plan – Sheet 3 of 3	S1.4	1
Soils Plan	G-1.0	0
General Notes	G-1.1	1
Lot Plan	C-1.0	1
Deer Ridge Lane Plan & Profile	C-2.0	1
Deer Ridge Lane Plan & Profile	C-2.1	1
Turkeytail Lane Plan & Profile	C-2.2	1
Stormwater Management Plan	C-3.0	1
Erosion Control Notes	C-4.0	1
Erosion Control Details	C-4.1	1
Erosion Control Details	C-4.2	1
Detail Sheet	C-5.0	1
Water Details	C-6.0	1

P4795





LOCATION MAP
(not to scale)

PLAN REFERENCES:

1. "STANDARD BOUNDARY SURVEY PLAN OF LAND OF ARTHUR W. & ROSEANN ANDREWS", PREPARED BY CIVIL CONSULTANTS, DATED JULY 28, 2000 AND RECORDED AT THE Y.C.R.D. AS PLAN BOOK 289, PAGE 46.

2. "PLAN OF A PORTION OF LAND OF ARTHUR W. AND ROSEANN ANDREWS, CUTTS ROAD, KITTERY, MAINE", PREPARED BY CIVIL CONSULTANTS, DATED 4/27/81 AND RECORDED AT THE Y.C.R.D. AS PLAN BOOK 114 PAGE 10.

3. "R.O.W. SKETCH PLAN FOR PROPERTY AT 47 & 49 CUTTS ROAD, KITTERY, YORK COUNTY, MAINE, FOR ROSEANN ANDREWS REVOCABLE TRUST", PREPARED BY NORTH EASTERLY SURVEYING, INC., DATED 4/21/09.

4. "PROPOSED LOT LINE ADJUSTMENT FOR PROPERTY AT CUTTS ROAD, JITTERY, YORK COUNTY, MAINE, OWNED BY ARTHUR W. ANDREWS JR. AND ARTHUR W. ANDREWS REVOCABLE TRUST", PREPARED BY NORTH EASTERLY SURVEYING, INC., PROJECT No. 16702, DATED 3/22/17 AND RECORDED AT THE Y.C.R.D. AS PLAN BOOK 387 PAGE 48.

5. "PROPOSED DIVISION OF LAND FOR PROPERTY AT 8 DEER RIDGE LANE, KITTERY, YORK COUNTY, MAINE, OWNED BY ARTHUR W. ANDREWS JR., ANNE L. ANDREWS", PREPARED BY NORTH EASTERLY SURVEYING, INC., PROJECT No. 16666, DATED 10/4/16 AND RECORDED AT THE Y.C.R.D. AS PLAN BOOK 385 PAGE 14.

6. "PLAN SHOWING RIGHT-OF-WAY EXTENSION AND DIVISION OF LAND OF ARTHUR W. & ROSEANN ANDREWS, LOCATED ON REMICK'S LANE, KITTERY, MAINE", PREPARED BY CIVIL CONSULTANTS AND RECORDED AT THE Y.C.R.D. AS PLAN BOOK 258 PAGE 27.

7. "PROPOSED LOT LINE ADJUSTMENT FOR PROPERTY AT CUTTS ROAD, KITTERY, YORK COUNTY, MAINE, OWNED BY ARTHUR W. ANDREWS JR., ANNE ANDREWS AND ARTHUR W. ANDREWS REVOCABLE TRUST", PREPARED BY NORTH EASTERLY SURVEYING, INC., DATED 2/28/19 AND RECORDED AT THE Y.C.R.D. AS PLAN BOOK 400 PAGE 23.

NOTES:

1. OWNERS OF RECORD:

   TAX MAP 60 LOT 10
   ARTHUR W. ANDREWS REVOCABLE TRUST
   MARY THRON, TRUSTEE
   Y.C.R.D. BOOK 16935 PAGE 411
   DATED NOVEMBER 11, 2014

2. TOTAL PARCEL AREA:

   TAX MAP 60 LOT 10
   93.32± AC.

3. BASIS OF BEARING IS PER PLAN REFERENCE #1.

4. APPROXIMATE ABUTTER'S LINES SHOWN HEREON ARE FOR REFERENCE PURPOSES ONLY AND SHALL NOT BE RELIED UPON AS BOUNDARY INFORMATION.

5. EASEMENTS OR OTHER UNWRITTEN RIGHTS MAY EXIST THAT ENCUMBER OR BENEFIT THE PROPERTY NOT SHOWN HEREON.

6. THE WETLAND BOUNDARY AS DEPICTED ON THIS PLAN WAS DELINEATED/FLAGGED BY JOSEPH W. NOEL, ME CERTIFIED SOIL SCIENTIST #209, FROM JULY TO SEPTEMBER 2016 AND JUNE 2018. THE FLAGS WERE SURVEY LOCATED BY NORTH EASTERLY SURVEYING INC. IN SEPTEMBER 2016 AND JUNE 2018. THE DELINEATION WAS CONDUCTED IN ACCORDANCE WITH THE U.S. ARMY CORPS OF ENGINEERS DOCUMENT CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, (1987) ALONG WITH THE REQUIRED REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND MANUAL: NORTHCENTRAL AND NORTHEAST REGION, (VERSION 2, JANUARY 2012).

   HYDRIC SOIL DETERMINATIONS WERE CONDUCTED IN ACCORDANCE WITH THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE DOCUMENT FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 7.0 (2010) ALONG WITH THE MANUAL FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND (VERSION 3, APRIL 2004).

   PLANT SPECIES INDICATOR STATUS WAS BASED ON THE U.S. ARMY CORPS OF ENGINEERS PUBLICATION THE NATIONAL WETLAND PLANT LIST (VERSION 3.3).

7. PERIMETER BOUNDARY BASED ON PLAN REFERENCES #1 AND #7. SEE PLAN REFERENCE FOR BOUNDARY INFORMATION.

MONUMENT LEGEND:

- ○ MONUMENT FOUND
- ◉ DRILL HOLE FOUND

PERIMETER LINE TABLE

Line	Length	Bearing
L1	220.06'	S14°42'20"E
L2	179.91'	N75°14'58"E
L3	179.41'	N07°35'56"E
L4	172.53'	N84°35'31"E
L5	105.76'	S09°34'23"E
L6	262.40'	S10°34'45"E
L7	111.97'	S10°01'19"E
L8	40.15'	N81°22'24"E
L9	26.83'	S08°16'33"E
L10	n/a	n/a
L40	87.99'	N03°30'06"E
L41	79.35'	N08°33'34"W
L42	118.88'	N12°56'06"W
L43	39.83'	N04°58'14"W
L44	282.93'	N12°43'25"W
L45	92.73'	N06°56'43"W
L46	32.04'	N47°26'18"W
L47	55.90'	N09°05'02"W
L48	218.79'	N01°48'39"W
L49	168.35'	N02°42'27"W
L50	50.14'	N05°05'45"W
L51	119.11'	N09°05'21"W
L52	77.22'	N13°44'42"W
L53	91.72'	N09°33'56"W
L54	240.65'	N70°58'59"E
L55	199.70'	N69°53'03"E
L56	243.64'	S18°31'27"E
L57	60.00'	S14°29'31"E
L58	364.18'	N75°13'19"E
L59	157.22'	N75°25'29"E
L60	165.01'	S75°21'14"W
L61	270.23'	N13°58'52"W
L62	30.28'	N71°38'38"E
L63	134.81'	N75°44'27"E
L64	271.28'	S13°58'52"E

CERTIFICATION

This survey conforms to the standards of practice as set forth in Chapter 90 of the Rules of the Board of Licensure for Professional Land Surveyors, April 2001, except that a separate written report has not been prepared.

STATE OF MAINE
ADAM M. PRAY 2485
PROFESSIONAL LAND SURVEYOR

Adam M. Pray, P.L.S. #2485 — Dated 3/27/19

STANDARD BOUNDARY SURVEY & EXISTING CONDITIONS PLAN

FOR PROPERTY AT
Deer Ridge Lane
Kittery, York County, Maine

OWNED BY
Arthur W. Andrews Revocable Trust
Mary Thron, Trustee
P.O. Box 96, Kittery Point, ME 03905

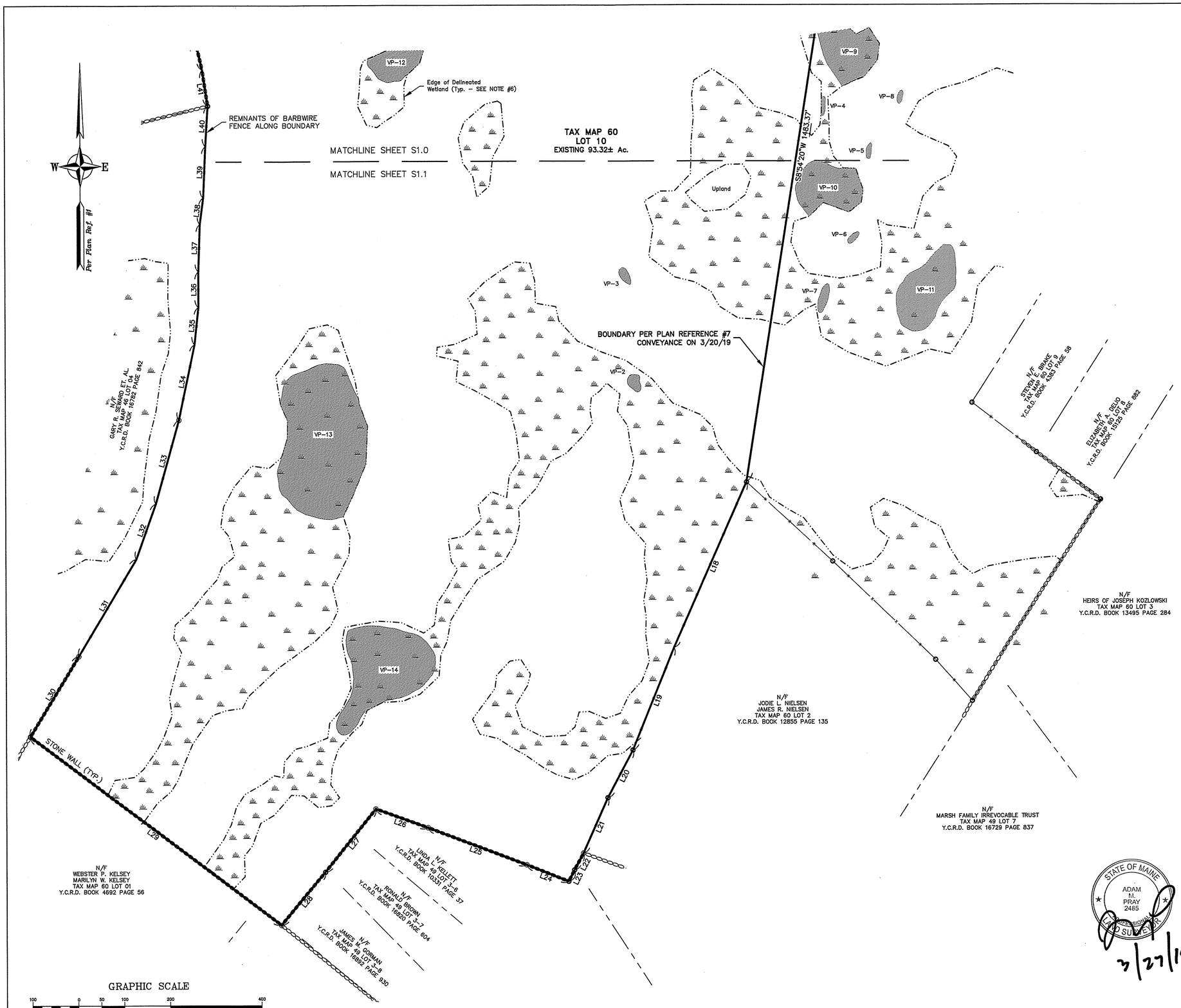
North Easterly Surveying, Inc.
SURVEYORS IN N.H. & MAINE
(207) 439-6333
191 STATE ROAD, SUITE #1
KITTERY, MAINE 03904

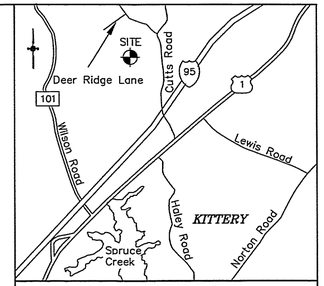
REV.	DATE	STATUS	BY	CHKD	APPD.
A	3/27/19	UPDATE EC PER LLA CONVEYANCE	A.M.P.	P.L.A.	A.M.P.

SCALE:	PROJECT NO.	DATE:	SHEET:	DRAWN BY:	CHECKED BY:
1" = 100'	16702	2/26/19	S1.0	A.M.P.	P.L.A.

DRAWING No: 16702_Existing_Conditions
FIELD BOOK No: "Kittery #33"

Tax Map 60 Lot 10





LOCATION MAP
(not to scale)

PERIMETER LINE TABLE		
Line	Length	Bearing
L10	n/a	n/a
L11	n/a	n/a
L12	n/a	n/a
L13	n/a	n/a
L14	n/a	n/a
L15	n/a	n/a
L16	n/a	n/a
L17	n/a	n/a
L18	393.83'	S23°50'47"W
L19	240.22'	S22°06'16"W
L20	117.15'	S27°57'04"W
L21	132.28'	S23°50'48"W
L22	41.63'	S28°29'18"W
L23	27.87'	S26°38'04"W
L24	98.28'	N68°27'58"W
L25	230.30'	N69°18'14"W
L26	121.16'	N70°15'38"W
L27	175.56'	S38°53'42"W
L28	149.97'	S39°54'01"W
L29	683.69'	N53°06'59"W
L30	204.77'	N31°17'14"E
L31	245.88'	N30°50'47"E
L32	127.76'	N19°38'47"E
L33	189.24'	N15°37'53"E
L34	167.84'	N11°56'54"E
L35	81.62'	N06°00'01"E
L36	77.43'	N00°11'26"E
L37	103.22'	N01°54'30"E
L38	57.87'	N07°35'06"E
L39	112.06'	N02°34'22"E
L40	87.99'	N03°30'06"E
L41	79.35'	N08°33'34"W

MONUMENT LEGEND:

- ○ MONUMENT FOUND
- ◉ DRILL HOLE FOUND

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.
Vertical Datum is Assumed
Contour Interval = 2'

STATE OF MAINE
ADAM M. PRAY
2465
REGISTERED LAND SURVEYOR

3/27/19

REV.	DATE	STATUS	BY	CHKD	APPD.
A	3/27/19	UPDATE EC PER LLA CONVEYANCE	A.M.P.	P.L.A.	A.M.P.

STANDARD BOUNDARY SURVEY & EXISTING CONDITIONS PLAN

FOR PROPERTY AT
Deer Ridge Lane
Kittery, York County, Maine

OWNED BY
Arthur W. Andrews Revocable Trust
Mary Thron, Trustee
P.O. Box 96, Kittery Point, ME 03905

North
EASTERLY
SURVEYING, Inc.
SURVEYORS IN N.H. & MAINE
(207) 439-6333
191 STATE ROAD, SUITE #1
KITTERY, MAINE 03904

SCALE:	PROJECT NO.	DATE:	SHEET:	DRAWN BY:	CHECKED BY:
1" = 100'	16702	2/26/19	S1.1	A.M.P.	P.L.A.

DRAWING No: 16702_Existing_Conditions
FIELD BOOK No: "Kittery #33"

Tax Map 60 Lot 10

ZONING SUMMARY

OWNERS OF RECORD: ARTHUR W. ANDREWS REV. TRUST
C/O MARY THRON, TRUSTEE
BOOK 16935 PAGE 411, DATED 11/11/14

MAP 60 LOT 10 — 93.32 AC.

ZONE: RESIDENTIAL RURAL (R-RL)

NET RESIDENTIAL CALCULATIONS:

TOTAL UPLANDS AREA	57.18 AC. MIN.
LESS R.O.W.	1.15 AC.
"REMICK" CEMETARY SETBACK	0.03 AC.
LESS 50% OF S.P.D. SOILS	4.57 AC.
LESS 50% WETLANDS BUFFER	20.11 AC.
NET RESIDENTIAL ACREAGE	31.32 AC.

ALLOWABLE LOTS PER NET RESIDENTIAL DENSITY
(31.32 AC * 43,560 SF/AC / 40,000 S.F./LOT) = 34 LOTS
(11 RESIDENTIAL LOTS PROPOSED)

PROPOSED RESERVED OPEN SPACE LOT 84.25 AC.

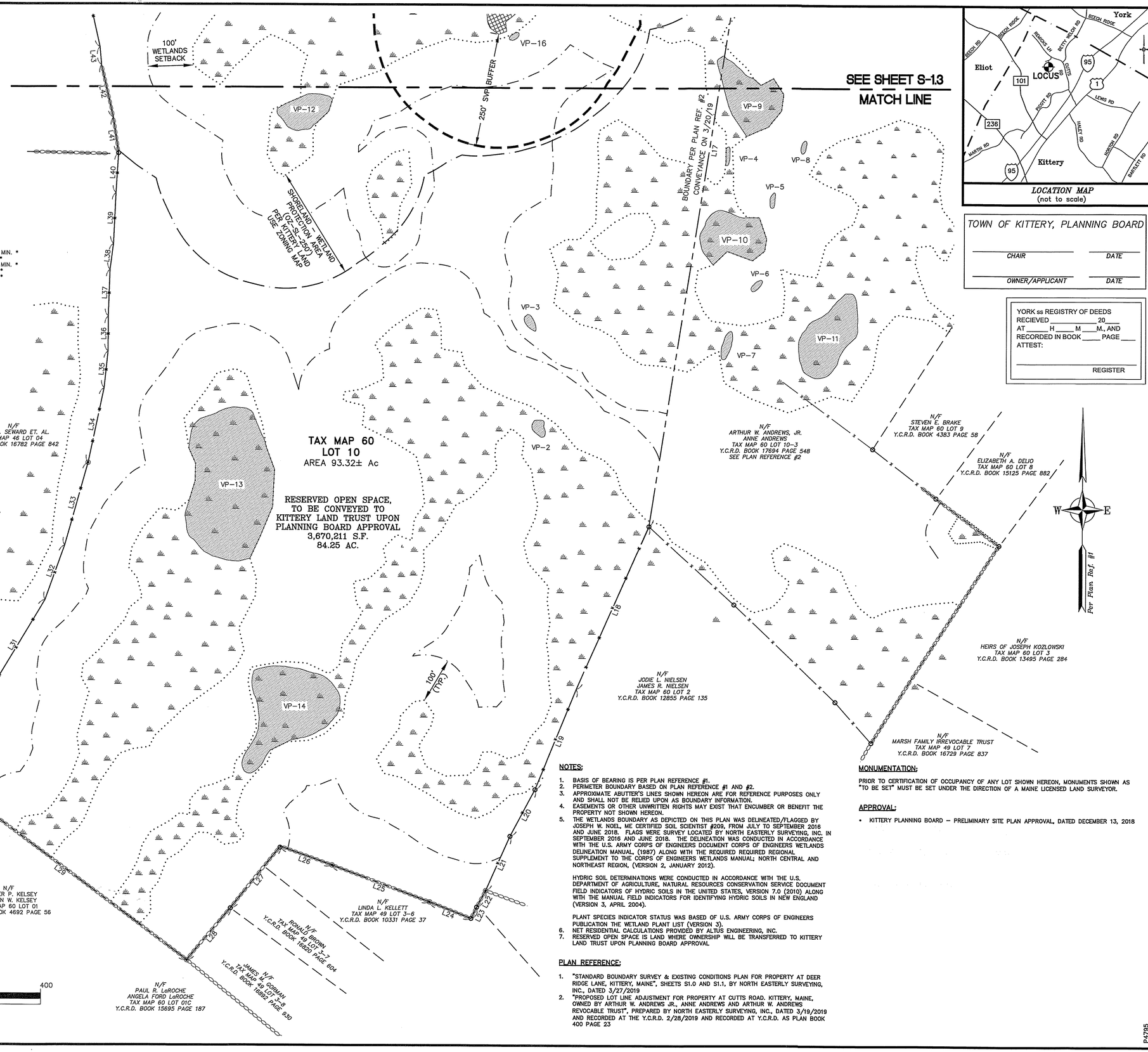
CLUSTER RESIDENTIAL DEVELOPMENT	REQUIRED	PROVIDED
OPEN SPACE TOTAL (50% OF TOTAL LOT AREA) (0.50 * 93.32 AC.)	46.7 AC.	84.25 AC.
OPEN SPACE UPLANDS – 30% OF NET RESIDENTIAL ACREAGE (0.30 * 31.32 AC.)	9.4 AC.	27.5 AC.

SETBACKS	STANDARD	CLUSTER
LOT SIZE	40,000 S.F.	23,512 S.F. MIN. *
FRONTAGE	150 FT.	40.0 FT. *
FRONT YARD	40 FT.	20 FT. MIN. *
SIDE YARD	20 FT.	10 FT. *
REAR YARD	20 FT.	10 FT. *
WETLANDS		
1 AC. OR MORE	100 FT.	100 FT.
LESS THAN 1 AC.	50 FT.	50 FT.

* DIMENSIONAL MODIFICATIONS ALLOWED

PERIMETER LINE TABLE

Line	Bearing	Length
L17	S08°54'20"W	1483.37'
L18	S23°50'47"W	393.83'
L19	S22°06'16"W	240.22'
L20	S27°57'04"W	117.15'
L21	S23°50'48"W	132.28'
L22	S28°29'18"W	41.63'
L23	S26°38'04"W	27.87'
L24	N68°27'58"W	98.28'
L25	N69°18'14"W	230.30'
L26	N70°15'38"W	121.16'
L27	S38°53'42"W	175.56'
L28	S39°54'01"W	149.97'
L29	N53°06'59"W	683.69'
L30	N31°17'14"E	204.77'
L31	N30°50'47"E	245.88'
L32	N19°38'47"E	127.76'
L33	N15°37'53"E	189.24'
L34	N11°56'54"E	167.84'
L35	N06°00'01"E	81.62'
L36	N00°11'26"E	77.43'
L37	N01°54'30"E	103.22'
L38	N07°35'06"E	57.87'
L39	N02°34'22"E	112.06'
L40	N03°30'06"E	87.99'
L41	N08°33'34"W	79.35'



MONUMENT LEGEND:

- ○ *MONUMENT FOUND*
- ◉ *DRILL HOLE FOUND*

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)

NOTES:

1. BASIS OF BEARING IS PER PLAN REFERENCE #1.
2. PERIMETER BOUNDARY BASED ON PLAN REFERENCE #1 AND #2.
3. APPROXIMATE ABUTTER'S LINES SHOWN HEREON ARE FOR REFERENCE PURPOSES ONLY AND SHALL NOT BE RELIED UPON AS BOUNDARY INFORMATION.
4. EASEMENTS OR OTHER UNWRITTEN RIGHTS MAY EXIST THAT ENCUMBER OR BENEFIT THE PROPERTY NOT SHOWN HEREON.
5. THE WETLANDS BOUNDARY AS DEPICTED ON THIS PLAN WAS DELINEATED/FLAGGED BY JOSEPH W. NOEL, ME CERTIFIED SOIL SCIENTIST #209, FROM JULY TO SEPTEMBER 2016 AND JUNE 2018. FLAGS WERE SURVEY LOCATED BY NORTH EASTERLY SURVEYING, INC. IN SEPTEMBER 2016 AND JUNE 2018. THE DELINEATION WAS CONDUCTED IN ACCORDANCE WITH THE U.S. ARMY CORPS OF ENGINEERS DOCUMENT CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, (1987) ALONG WITH THE REQUIRED REQUIRED REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLANDS MANUAL; NORTH CENTRAL AND NORTHEAST REGION, (VERSION 2, JANUARY 2012).

   HYDRIC SOIL DETERMINATIONS WERE CONDUCTED IN ACCORDANCE WITH THE U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE DOCUMENT FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 7.0 (2010) ALONG WITH THE MANUAL FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND (VERSION 3, APRIL 2004).

   PLANT SPECIES INDICATOR STATUS WAS BASED OF U.S. ARMY CORPS OF ENGINEERS PUBLICATION THE WETLAND PLANT LIST (VERSION 3).
6. NET RESIDENTIAL CALCULATIONS PROVIDED BY ALTUS ENGINEERING, INC.
7. RESERVED OPEN SPACE IS LAND WHERE OWNERSHIP WILL BE TRANSFERRED TO KITTERY LAND TRUST UPON PLANNING BOARD APPROVAL

PLAN REFERENCE:

1. "STANDARD BOUNDARY SURVEY & EXISTING CONDITIONS PLAN FOR PROPERTY AT DEER RIDGE LANE, KITTERY, MAINE", SHEETS S1.0 AND S1.1, BY NORTH EASTERLY SURVEYING, INC., DATED 3/27/2019
2. "PROPOSED LOT LINE ADJUSTMENT FOR PROPERTY AT CUTTS ROAD. KITTERY, MAINE, OWNED BY ARTHUR W. ANDREWS JR., ANNE ANDREWS AND ARTHUR W. ANDREWS REVOCABLE TRUST, PREPARED BY NORTH EASTERLY SURVEYING, INC., DATED 3/19/2019 AND RECORDED AT THE Y.C.R.D. 2/28/2019 AND RECORDED AT Y.C.R.D. AS PLAN BOOK 400 PAGE 23

MONUMENTATION:

PRIOR TO CERTIFICATION OF OCCUPANCY OF ANY LOT SHOWN HEREON, MONUMENTS SHOWN AS "TO BE SET" MUST BE SET UNDER THE DIRECTION OF A MAINE LICENSED LAND SURVEYOR.

APPROVAL:

- KITTERY PLANNING BOARD – PRELIMINARY SITE PLAN APPROVAL, DATED DECEMBER 13, 2018

LOCATION MAP
(not to scale)

TOWN OF KITTERY, PLANNING BOARD

_____ _____
CHAIR *DATE*

_____ _____
OWNER/APPLICANT *DATE*

YORK ss REGISTRY OF DEEDS
RECIEVED _____ 20____
AT ____ H ____ M ____M., AND
RECORDED IN BOOK ____ PAGE ____
ATTEST:

_____
REGISTER

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

North
EASTERLY SURVEYING, Inc.
SURVEYORS IN N.H. & MAINE
191 STATE ROAD, SUITE #1
KITTERY, MAINE 03904
(207) 439-6333

STATE OF MAINE
ADAM M. PRAY 2485
PROFESSIONAL LAND SURVEYOR
3/27/19

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR:
FINAL APPROVAL

ISSUE DATE:
MARCH 27, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TOWN SUBMISSION	JKC	10/18/18
1	REV. TURKEYTAIL R.O.W.	JKC	3/27/19

DRAWN BY: RMB
APPROVED BY: JKC
DRAWING FILE: 4795SUB.DWG

SCALE: 1" = 100"

OWNERS/APPLICANT:

ARTHUR W. ANDREWS REV. TRUST
c/o MARY THRON, TRUSTEE
P.O. BOX 96
KITTERY POINT, MAINE 03905

PROJECT:

ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

TITLE:

ANDREWS SUBDIVISION PLAN - SHEET 1 OF 3

SHEET NUMBER:

S - 1.2

P4795

YORK ss REGISTRY OF DEEDS
RECIEVED ______________ 20____
AT ______ H ______ M ____M., AND
RECORDED IN BOOK ______ PAGE ____
ATTEST:

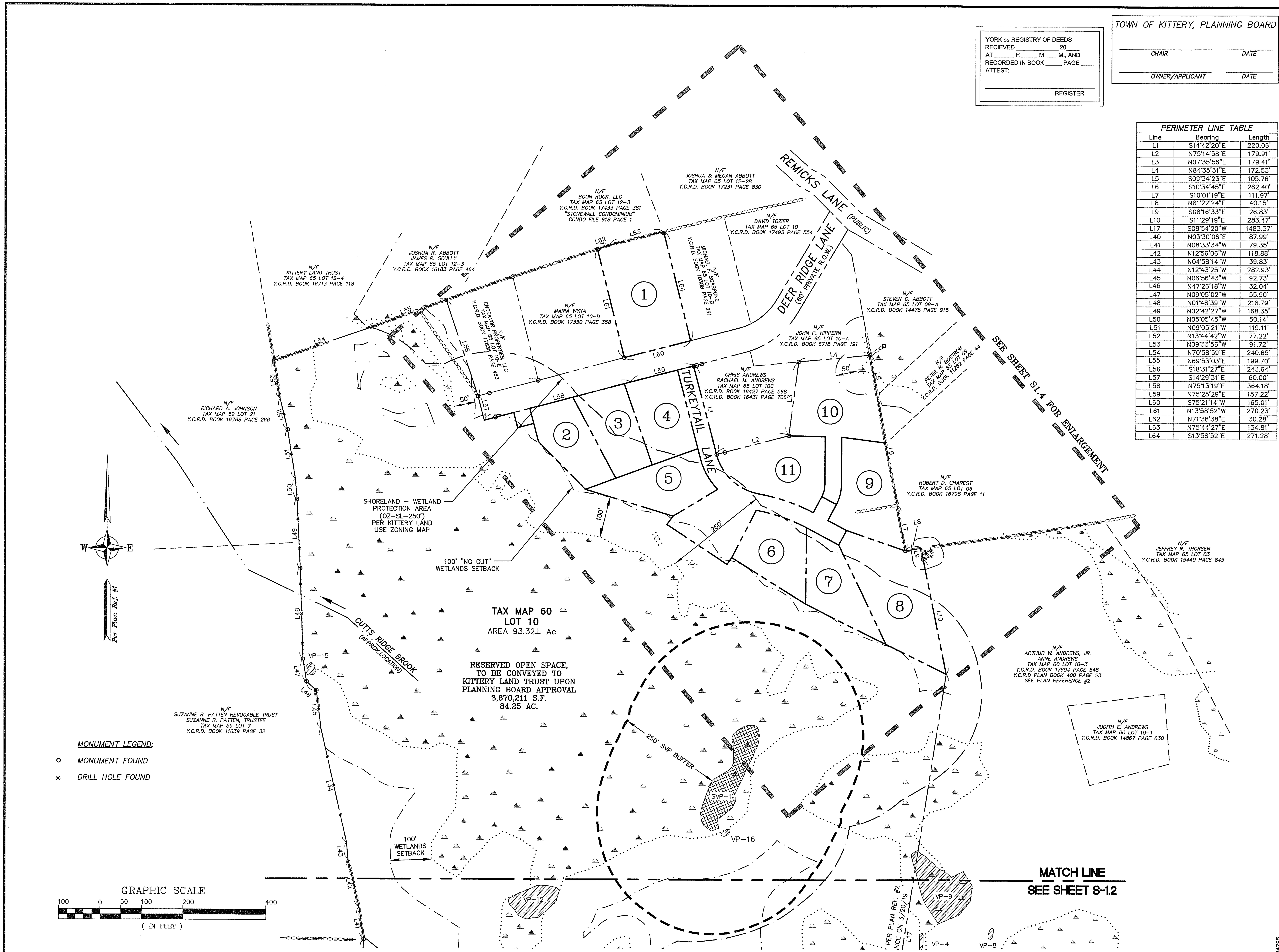
____
REGISTER

TOWN OF KITTERY, PLANNING BOARD

______________________ CHAIR ______________ DATE

______________________ OWNER/APPLICANT ______________ DATE

PERIMETER LINE TABLE		
Line	Bearing	Length
L1	S14°42'20"E	220.06'
L2	N75°14'58"E	179.91'
L3	N07°35'56"E	179.41'
L4	N84°35'31"E	172.53'
L5	S09°34'23"E	105.76'
L6	S10°34'45"E	262.40'
L7	S10°01'19"E	111.97'
L8	N81°22'24"E	40.15'
L9	S08°16'33"E	26.83'
L10	S11°29'19"E	283.47'
L17	S08°54'20"W	1483.37'
L40	N03°30'06"E	87.99'
L41	N08°33'34"W	79.35'
L42	N12°56'06"W	118.88'
L43	N04°58'14"W	39.83'
L44	N12°43'25"W	282.93'
L45	N06°56'43"W	92.73'
L46	N47°26'18"W	32.04'
L47	N09°05'02"W	55.90'
L48	N01°48'39"W	218.79'
L49	N02°42'27"W	168.35'
L50	N05°05'45"W	50.14'
L51	N09°05'21"W	119.11'
L52	N13°44'42"W	77.22'
L53	N09°33'56"W	91.72'
L54	N70°58'59"E	240.65'
L55	N69°53'03"E	199.70'
L56	S18°31'27"E	243.64'
L57	S14°29'31"E	60.00'
L58	N75°13'19"E	364.18'
L59	N75°25'29"E	157.22'
L60	S75°21'14"W	165.01'
L61	N13°58'52"W	270.23'
L62	N71°38'38"E	30.28'
L63	N75°44'27"E	134.81'
L64	S13°58'52"E	271.28'



REMICKS LANE (PUBLIC)
DEER RIDGE LANE (60' PRIVATE R.O.W.)
TURKEYTAIL LANE
SEE SHEET S1.4 FOR ENLARGEMENT
SHORELAND – WETLAND PROTECTION AREA (OZ-SL-250') PER KITTERY LAND USE ZONING MAP
100' "NO CUT" WETLANDS SETBACK
TAX MAP 60 LOT 10 AREA 93.32± Ac
RESERVED OPEN SPACE, TO BE CONVEYED TO KITTERY LAND TRUST UPON PLANNING BOARD APPROVAL 3,670,211 S.F. 84.25 AC.
CUTTS RIDGE BROOK (APPROX.LOCATION)
250' SVP BUFFER
SVP-1
VP-15
VP-16
VP-12
VP-9
VP-4
VP-8
100' WETLANDS SETBACK
MATCH LINE SEE SHEET S-1.2
N/F KITTERY LAND TRUST TAX MAP 65 LOT 12-4 Y.C.R.D. BOOK 16713 PAGE 118
N/F JOSHUA R. ABBOTT JAMES R. SCULLY TAX MAP 65 LOT 12-3 Y.C.R.D. BOOK 16183 PAGE 464
N/F BOON ROCK, LLC TAX MAP 65 LOT 12-3 Y.C.R.D. BOOK 17433 PAGE 381 "STONEWALL CONDOMINIUM" CONDO FILE 918 PAGE 1
N/F JOSHUA & MEGAN ABBOTT TAX MAP 65 LOT 12-2B Y.C.R.D. BOOK 17231 PAGE 830
N/F DAVID TOZIER TAX MAP 65 LOT 10 Y.C.R.D. BOOK 17495 PAGE 554
N/F MARIA WYKA TAX MAP 65 LOT 10-D Y.C.R.D. BOOK 17350 PAGE 358
N/F STEVEN C. ABBOTT TAX MAP 65 LOT 09-A Y.C.R.D. BOOK 14475 PAGE 915
N/F JOHN P. HIPPERN TAX MAP 65 LOT 10-A Y.C.R.D. BOOK 6718 PAGE 191
N/F CHRIS ANDREWS RACHAEL M. ANDREWS TAX MAP 65 LOT 10C Y.C.R.D. BOOK 16427 PAGE 568 Y.C.R.D. BOOK 16431 PAGE 706
N/F ROBERT D. CHAREST TAX MAP 65 LOT 06 Y.C.R.D. BOOK 16795 PAGE 11
N/F JEFFREY R. THORSEN TAX MAP 65 LOT 03 Y.C.R.D. BOOK 15440 PAGE 845
N/F RICHARD A. JOHNSON TAX MAP 59 LOT 21 Y.C.R.D. BOOK 16768 PAGE 266
N/F ARTHUR W. ANDREWS, JR. ANNE ANDREWS TAX MAP 60 LOT 10-3 Y.C.R.D. BOOK 17694 PAGE 548 Y.C.R.D. PLAN BOOK 400 PAGE 23 SEE PLAN REFERENCE #2
N/F JUDITH E. ANDREWS TAX MAP 60 LOT 10-1 Y.C.R.D. BOOK 14867 PAGE 630
N/F SUZANNE R. PATTEN REVOCABLE TRUST SUZANNE R. PATTEN, TRUSTEE TAX MAP 59 LOT 7 Y.C.R.D. BOOK 11639 PAGE 32
Per Plan Ref. #1
MONUMENT LEGEND:
MONUMENT FOUND
DRILL HOLE FOUND
GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

North EASTERLY SURVEYING, Inc.
SURVEYORS IN N.H. & MAINE
191 STATE ROAD, SUITE #1
KITTERY, MAINE 03904
(207) 439-6333

STATE OF MAINE
ADAM M. PRAY 2485
PROFESSIONAL LAND SURVEYOR
3/27/19

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: FINAL APPROVAL

ISSUE DATE: MARCH 27, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TOWN SUBMISSION	JKC	10/18/18
1	REV. TURKEYTAIL R.O.W.	JKC	3/27/19

DRAWN BY: RMB
APPROVED BY: JKC
DRAWING FILE: 4795SUB.DWG

SCALE: 1" = 100"

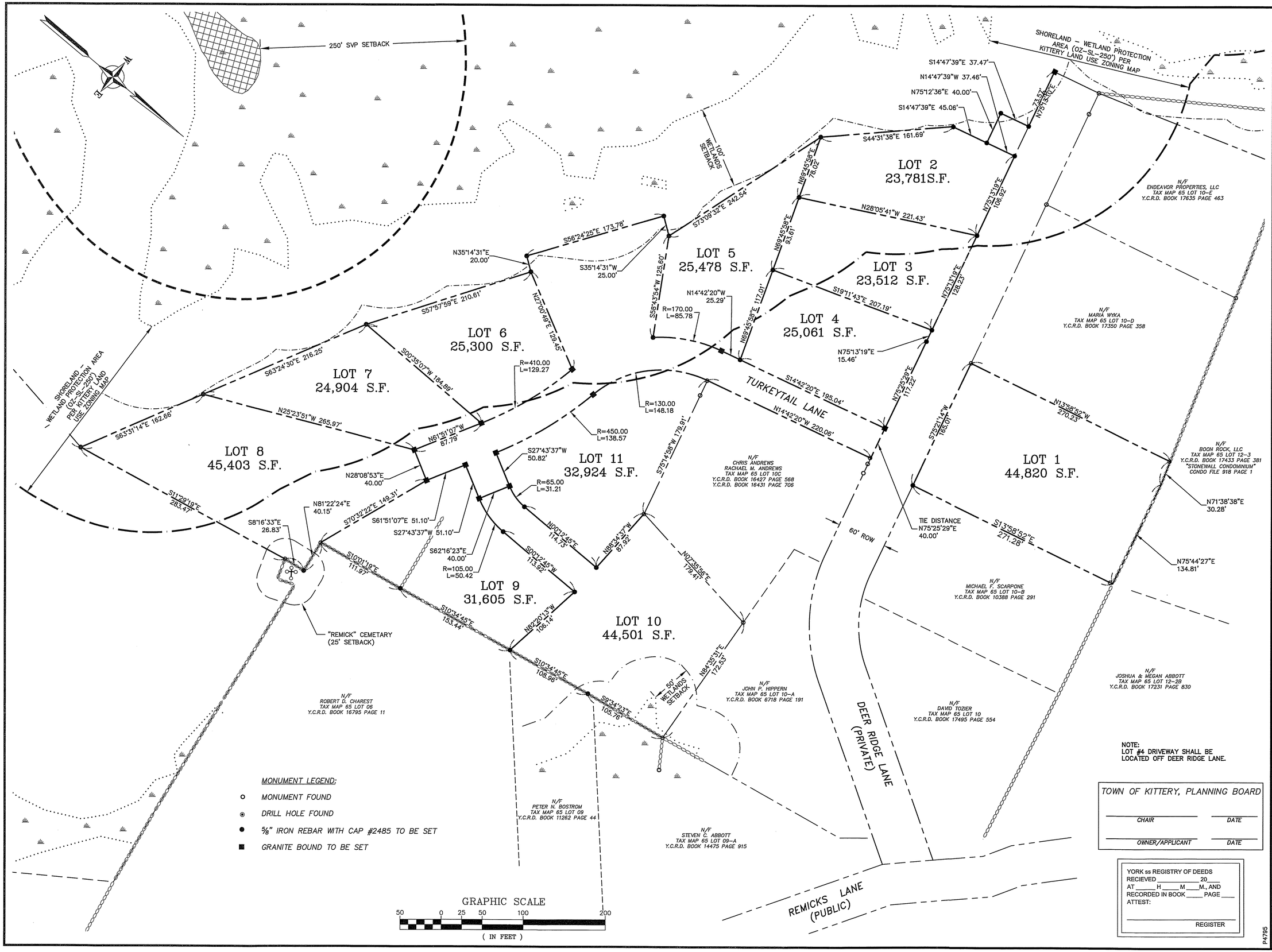
OWNERS/APPLICANT:
ARTHUR W. ANDREWS REV. TRUST
c/o MARY THRON, TRUSTEE
P.O. BOX 96
KITTERY POINT, MAINE 03905

PROJECT:
ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

TITLE:
ANDREWS SUBDIVISION PLAN - SHEET 2 OF 3

SHEET NUMBER:
S - 1.3

P4795



NOTE:
LOT #4 DRIVEWAY SHALL BE LOCATED OFF DEER RIDGE LANE.

TOWN OF KITTERY, PLANNING BOARD

_____ CHAIR _____ DATE

_____ OWNER/APPLICANT _____ DATE

YORK ss REGISTRY OF DEEDS
RECIEVED _____ 20____
AT _____H _____M ____M., AND
RECORDED IN BOOK _____ PAGE ____
ATTEST:

_____ REGISTER

P4795

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KITTERY, MAINE 03904
(207) 439-6333

STATE OF MAINE ADAM M. GRAY 2485 LICENSED LAND SURVEYOR

3/27/19

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: FINAL APPROVAL

ISSUE DATE: MARCH 27, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TOWN SUBMISSION	JKC	10/18/18
1	REV. TURKEYTAIL R.O.W.	JKC	3/27/19

DRAWN BY: RMB
APPROVED BY: JKC
DRAWING FILE: 4795SUB.DWG

SCALE: 1" = 50"

OWNERS/APPLICANT:

ARTHUR W. ANDREWS REV. TRUST
c/o MARY THRON, TRUSTEE
P.O. BOX 96
KITTERY POINT, MAINE 03905

PROJECT:

ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

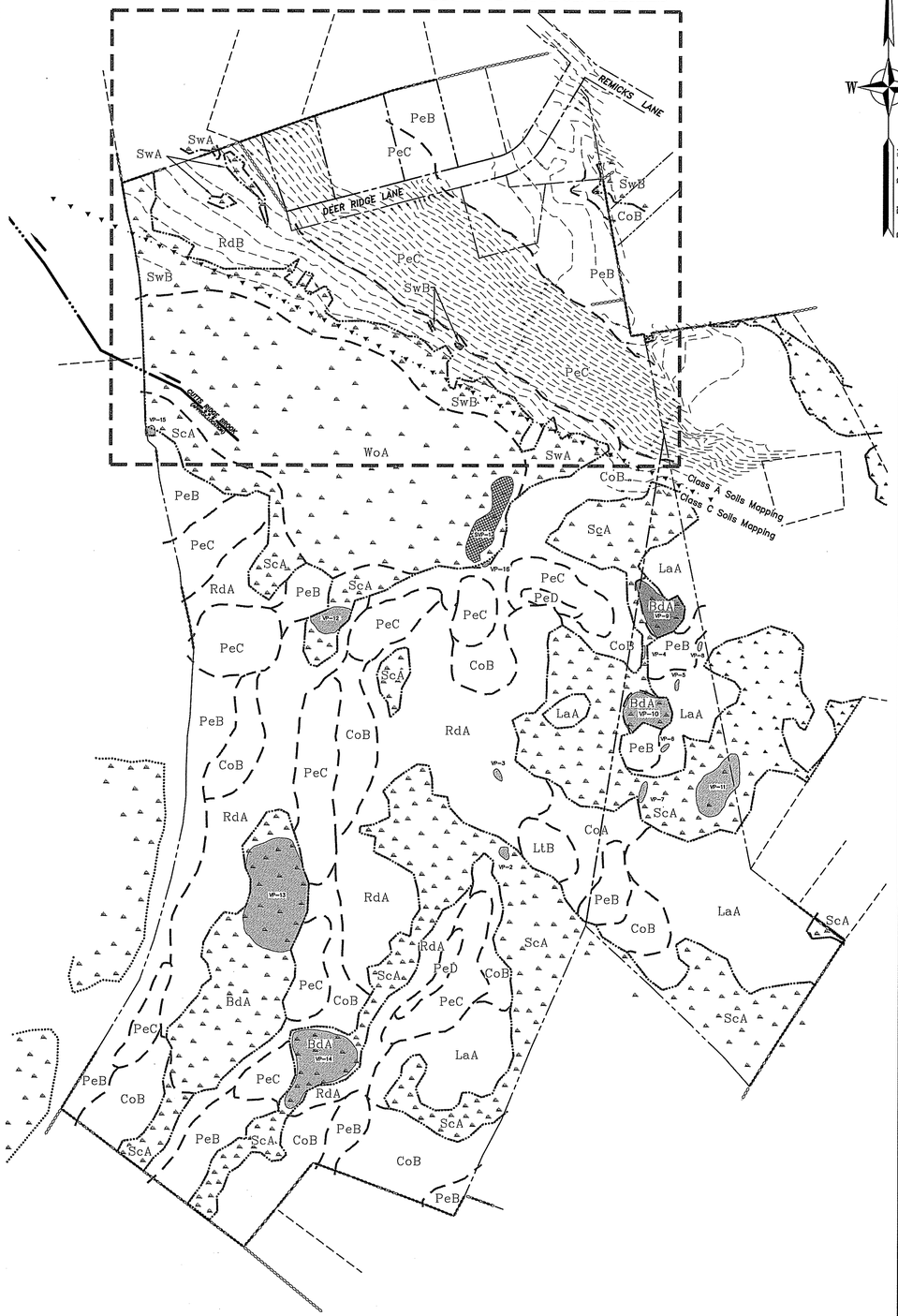
TITLE:

ANDREWS SUBDIVISION PLAN - SHEET 3 OF 3

SHEET NUMBER:

S - 1.4

SEE INSERT FOR DETAILS



GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)

W E

Per Plan Ref. #1

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

HIGH INTENSITY SOIL SURVEY

CLASS A (WHERE DEVELOPMENT IS PLANNED)
CLASS C (REMAINING AREAS)

STATE OF MAINE JOSEPH W. VIOLETTE #209 CERTIFIED SOIL SCIENTIST

I HEREBY CERTIFY THAT THIS CLASS A HIGH INTENSITY SOIL SURVEY & CLASS C HIGH INTENSITY SOIL SURVEY WAS CONDUCTED IN CONFORMANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS ON MAY AND JUNE 2018.

Joseph W. Violette — NAME — #209 M.C.S.S. — 10/18/18 DATE

▼ ▼ ▼ CLASS A / CLASS C SOILS DIVISION LINE

HISS BOUNDARY

TP#1 TEST PIT

SOIL LEGEND

Symbol	Soil Type	Drainage Class	HSG	Slopes
Bd	Biddeford	very poorly drained	D	A 0–3%
Co	Colonel	somewhat poorly drained	D	B 3–8%
La	Lamoine	somewhat poorly drained	D	C 8–15%
Lt	Lyman/Tunbridge	somewhat excessively drained & well drained	D	D 15–25%
Pe	Peru	moderately well drained	D	E >25%
Rd	Roundabout	somewhat poorly drained	D	
Sc	Scantic	poorly drained	D	
Sw	Swanton	poorly drained	D	
Wo	Wonsqueak	very poorly drained	D	

Notes:

1. Bd, Sc, Sw and Wo are hydric soil types.
2. The hydrologic soil groups for the soil map are taken from the NRCS Web Soil Survey on July 11, 2018.
3. This soil survey may be revised/fine-tuned as additional test pits are conducted.

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ISSUED FOR: APPROVAL

ISSUE DATE: OCTOBER 18, 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TOWN SUBMISSION	JKC	10/18/18

DRAWN BY: RMB
APPROVED BY: JKC
DRAWING FILE: 4795SUB.DWG

SCALE: AS SHOWN

OWNERS/APPLICANT:

ARTHUR W. ANDREWS REV. TRUST
c/o MARY THRON TRUSTEE
P.O. BOX 96
KITTERY POINT, MAINE 03905

PROJECT:

ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

TITLE:

SOILS PLAN

SHEET NUMBER:

G - 1.0

P4795

SITE NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL PERMITS OBTAINED FOR THIS PROJECT.
2. TURKEYTAIL LANE IS PROPOSED AS A PRIVATE ROAD.
3. PROPOSED TELEPHONE, ELECTRIC AND CABLE SERVICES AND CONDUITS SHALL BE INSTALLED UNDERGROUND.
4. ALL LOT SHALL BE SERVED BY MUNICIPAL WATER AND AND INDIVIDUAL WASTEWATER DISPOSAL SYSTEM. EACH LOT CONTAINS SUITABLE AREA FOR A SUBSURFACE DISPOSAL SYSTEM IN ACCORDANCE TO MAINE SUBSURFACE WASTEWATER DISPOSAL RULES. RESERVE AREAS ARE SHOWN, WHERE REQUIRED.
5. THE ROAD SHALL HAVE A POSTED SPEED LIMIT OF 20 MPH. THE DEVELOPER SHALL CLEAR EXISTING VEGETATION AND TREES WITHIN SIGHT DISTANCE ENVELOPE.
6. DURING MAY AND JUNE 2018, WETLANDS WERE DELINEATED BY JOSEPH W. NOEL, MAINE CERTIFIED SOIL SCIENTIST #209, IN CONFORMANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS.
7. AS SHOWN ON FIRM FOR THE TOWN OF KITTERY, PANEL NO. 23031C0663G, THE PROPOSED LOTS ARE NOT WITHIN 100-YEAR FLOOD ZONE.
8. ~~"BUFFER EASEMENTS" AS REQUIRED BY MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, STORMWATER MANAGEMENT LAW, SHALL BE MAINTAINED PER THE PERMIT CONDITIONS AND HOMEOWNER ASSOCIATION DOCUMENTS.~~
9. ACCUMULATED SNOW WILL BE PLOWED TO AREAS ADJACENT TO PAVEMENT. SNOW WILL NOT BE DUMPED INTO WETLAND AREAS.
10. COMMON OPEN SPACE SHALL NOT BE USED FOR FUTURE BUILDING LOTS. COMMON OPEN SPACE SHALL BE MANAGED BY THE HOMEOWNER ASSOCIATION OR AN EASEMENT HOLDER AS MAY BE APPROVED BY THE PLANNING BOARD.
11. BOUNDARY SURVEY PERFORMED BY NORTH EASTERLY SURVEY, INC., KITTERY, MAINE.
12. LOCATION OF NEIGHBORHOOD MAILBOX, IF INSTALLED, IS SUBJECT TO APPROVAL OF THE U.S. POSTAL SERVICE.
13. BUFFER AREAS SHALL BE CLEARLY DELINEATED AND PROTECTED DURING CONSTRUCTION. TOWN APPROVED DISKS SHALL BE MOUNTED ON TREES OR BY OTHER SUITABLE MEANS TO PROVIDE LINE OF SIGHT DELINEATION OF BUFFER LIMITS.
14. ROADWAY MONUMENTATION SHALL BE A MINIMUM OF FOUR (4) INCHES SQUARE STONE MONUMENTS AND INSTALLED AS SHOWN ON SUBDIVISION PLAN AND PER TOWN STANDARDS.
15. ELEVATIONS ARE BASED ON ASSUMED DATUM.

PHASING NOTE:

THE PROJECT WILL BE CONSTRUCTED IN ONE PHASE, EXCLUSIVE OF HOUSE CONSTRUCTION AND LOT LANDSCAPING. LOT SHALL BE DEVELOPED SEPARATELY BY INDIVIDUAL LAND OWNERS.

WASTEWATER DISPOSAL NOTE:

A HIGH INTENSITY SOIL SURVEY REPORT HAS COMPLETED THAT PROVIDES ADDITIONAL SOIL INFORMATION. STATE REGULATIONS REQUIRE THAT NEW WASTEWATER DISPOSAL SYSTEMS BE INSTALLED OVER SOILS THAT HAVE AT LEAST 9 INCHES OF NATURAL MINERAL SOIL MATERIAL FREE OF RESTRICTIVE FEATURES (15 INCHES IN SHORELAND ZONE AREAS) WHERE THE NATURAL GRADE IS 20% OR LESS; AND THAT MEET ALL RELEVANT SETBACKS. SEE SUMMARY OF THE TEST PITS RESULTS. THE TEST PIT SUMMARY TABLE PASS OR FAIL COLUMN IS ONLY FOR THE SOIL CONDITIONS AND SLOPE ISSUES. THE PASS OR FAIL COLUMN DOES NOT TAKE INTO ACCOUNT NECESSARY STATE AND LOCAL SETBACK REQUIREMENTS. REFER TO PROJECT PLANS FOR SETBACK INFORMATION. LOT # COLUMN DESIGNATES WHICH TEST PITS ARE BEING UTILIZED FOR THE SEPTIC SYSTEM.

DUE TO THE PROJECT AREA BEING MAPPED OVER A SAND AND GRAVEL AQUIFER, THE PROPOSED WASTEWATER DISPOSAL SYSTEMS WILL USE PRETREATMENT AS REQUIRED IN THE KITTERY CODE SECTION 16.8.7.2(E). THE EXAMPLE PROVIDED ON THE SUBDIVISION PLAN IS A FUJI CLEAN. WHILE THE FUJI CLEAN IS USED AS AN EXAMPLE, OTHER PRETREATMENT SYSTEMS, CERTIFIED TO NSF/ANSI STANDARD 40 AND APPROVED FOR USE IN MAINE, MAY BE UTILIZED DEPENDING ON THE SIZE AND CONFIGURATION OF THE PROPOSED HOMES.

WASTEWATER DISPOSAL SIZING:

THE SIZING OF THE DISPOSAL AREAS THAT ARE DEPICTED ON THE PROJECT PLANS (SHEET C-1.0, LOT PLAN) WILL REQUIRE A MEDIUM-LARGE DISPOSAL RATING FOR ALL THE SYSTEMS (3.3 SQ. FT./GPD). THE EXAMPLE SYSTEMS ARE SIZED FOR 3 BEDROOM HOMES. THE FUJI CLEAN PRETREATMENT PRODUCT WILL UTILIZE A FUJI CLEAN CE-5 TANK. THE FUJI CLEAN PRODUCT ALLOWS FOR A 75% REDUCTION IN A CONVENTIONAL STONE BED.

270 GPD x 3.3 (DISPOSAL RATING) = 891 SQUARE FEET REQUIRED
891 SQUARE FEET / 4 = 223 SQUARE FEET (75% REDUCTION)
A 10' x 25' STONE BED IS DEPICTED ON THE PLAN (250 SQUARE FEET PROVIDED)

CONSTRUCTION NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL PERMITS OBTAINED FOR THE PROJECT. DO NOT BEGIN CONSTRUCTION UNTIL ALL PERMITS HAVE BEEN OBTAINED.
2. CONTRACTOR SHALL OBTAIN A "DIGSAFE NUMBER" AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATE AND THE LOCATIONS OR COMPLETENESS ARE NOT GUARANTEED BY THE ENGINEER, SURVEYOR OR OWNER/DEVELOPER. THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC., FROM THESE PLANS, BUT IN EXISTENCE IS NOT INTENDED OR IMPLIED. IT IS THE SITE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES AT NO ADDITIONAL COST TO THE DEVELOPER/OWNER.
3. ALL CONSTRUCTION SHALL CONFORM TO THE MINIMUM CONSTRUCTION STANDARDS OF THE TOWN OF KITTERY AND THE M.D.O.T. STANDARD SPECIFICATIONS FOR ROAD CONSTRUCTION, LATEST EDITION.
4. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO ADA REQUIREMENTS AND THE MINIMUM REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS," LATEST EDITIONS.
5. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE
6. CULVERTS SHALL BE CORRUGATED POLYETHYLENE PIPE (CPE), TYPE ADS N-12 OR HANCOR H1-Q, WITH METAL FLARED END SECTIONS, UNLESS INDICATED OTHERWISE.
7. UPON COMPLETION OF THE ROADWAY CONSTRUCTION, THE DRAINAGE INFRASTRUCTURE SHALL BE CLEANED OF ALL DEBRIS AND SEDIMENT.
8. INSTALL UNDERGROUND TELEPHONE, ELECTRIC AND CABLE SERVICES AND CONDUITS TO THE REQUIREMENTS OF THE RESPECTIVE UTILITY. ALL UNDERGROUND CONDUIT SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING OF CABLES.
9. GRIND STUMPS AND REUSE GRINDINGS FOR EROSION CONTROL WHERE POSSIBLE. NO STUMPS WILL BE BURIED ON SITE.
10. IF ENCOUNTERED, DISPOSE OF EXCESS ROCK AND BOULDERS BY BLASTING, CRUSHING OR BURYING IN APPROVED UPLAND AREAS, OR OFF-SITE DISPOSAL AREAS.
11. CONTRACTOR TO ESTABLISH AND MAINTAIN TEMPORARY BENCHMARKS (TBMS) AND PERFORM CONSTRUCTION LAYOUT.
12. CONTRACTOR SHALL MAINTAIN AND PROVIDE RECORD DRAWINGS TO THE OWNER/DEVELOPER. CONTRACTOR SHALL PROVIDE TIES FROM PROPERTY BOUNDS TO UTILITY LOCATIONS.
13. STORMWATER AND EROSION CONTROL BEST MANAGEMENT PRACTICES (BMPS) SHALL BE INCORPORATED AND MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
14. ROADWAY CONSTRUCTION ~~AND LOT DEVELOPMENT~~ IS SUBJECT THE REQUIREMENTS OF THE MAINE CONSTRUCTION GENERAL PERMIT. CONTRACTORS/OWNERS SHALL FILE A "NOTICE OF INTENT" WITH MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION PRIOR TO COMMENCEMENT OF CONSTRUCTION.
15. TEMPORARY EROSION CONTROL MEASURES TO CONTROL EROSION AND PREVENT SEDIMENT CONTAMINATION OF DOWN GRADIENT AREAS SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING ACTIVITIES.
16. ALL AREAS OF THE SITE WHICH ARE DISTURBED SHALL BE LOAMED AND SEEDED WITH A MINIMUM OF 4" DEPTH OF TOPSOIL, UNLESS NOTED OTHERWISE.
17. BLASTING OPERATIONS, IF USED, SHALL MEET THE AIR BLAST STANDARDS OF THE MDEP RULES, CHAPTER 375.10(C)(4)(C), GROUND VIBRATION AT STRUCTURES NOT OWNED OR CONTROLLED BY THE DEVELOPER MUST BE NO GREATER THAN THE FREQUENCY-DEPENDENT LIMITS DEFINED IN FIGURE B-1 OF APPENDIX B, U.S. BUREAU OF MINES RI 8507, AND THAT FLYROCK MAY NOT LEAVE PROPERTY OWNED OR CONTROLLED BY THE DEVELOPER OR ENTER A PROTECTED RESOURCE.
18. THE LOCATION AND CONSTRUCTION OF EACH DRIVEWAY SHALL ENSURE THAT ADEQUATE DRAINAGE IS MAINTAINED. INSTALL 12"ø MIN. CULVERT WHERE NECESSARY.
19. PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES FOR FOUNDATIONS, PAVEMENT AREAS, UTILITY TRENCHES, AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL.
20. IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER, EXPOSED SUBGRADES ARE SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN GROUND. THIS WILL LIKELY REQUIRE REMOVAL OF FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATION. THE FINAL SUBGRADE ELEVATION WOULD ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST FREEZING.
21. EXCAVATED MATERIALS SHALL BE PLACED AS FILL MATERIALS WITHIN UPLAND AREAS ONLY AND SHALL NOT BE PLACED WITHIN THE 100-YEAR FLOOD ZONE OR BUFFER EASEMENTS.
22. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING ON-SITE STRUCTURES, BITUMINOUS CONCRETE, DEBRIS, AND CONSTRUCTION WASTE PRODUCTS WHICH ARE NOT AUTHORIZED TO BE USED AS PART OF CONSTRUCTION.
23. PLACEMENT OF BORROW MATERIALS SHALL BE PERFORMED IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION. VOIDS BETWEEN STONES AND CLUMPS OF MATERIAL SHALL BE FILLED WITH FINE MATERIALS.
24. WORK HOURS FOR CONSTRUCTION WILL BE AS APPROVED BY TOWN OF KITTERY. STANDARDS WORK HOURS SHALL BE 7AM TO 7PM.

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF MAINE
JEFFREY K. CLIFFORD
No. 5967
LICENSED
PROFESSIONAL ENGINEER

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR:
FINAL APPROVAL

ISSUE DATE:
MARCH 27 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TOWN SUBMISSION	JKC	10/18/18
1	GENERAL REVISIONS	JKC	3/27/19

DRAWN BY: RMB
APPROVED BY: JKC
DRAWING FILE: 4795SUB.DWG

SCALE: N.T.S.

OWNERS/APPLICANT:

ARTHUR W. ANDREWS REV. TRUST
c/o MARY THRON, TRUSTEE
P.O. BOX 96
KITTERY POINT, MAINE 03905

PROJECT:

ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

TITLE:

GENERAL NOTES

SHEET NUMBER:

G - 1.1

P4795

250' SVP BUFFER
CRITICAL TERRESTRIAL HABITAT

100' WETLANDS SETBACK

RESERVED OPEN SPACE

SHORELAND WETLAND PROTECTION AREA PER (OZ-SL-250) KITTERY LAND USE ZONING MAP

RESERVED OPEN SPACE

PROP. GRASSED UNDERDRAIN SOIL FILTER

DEER RIDGE LANE

EX. DRIVE

HOUSE (approx. loc.)

APPROX. LEACHFIELD

HOUSE

TREELINE, TYP. (APPROX. LOC.)

TURKEYTAIL LANE

EX. 8" WATER MAIN (APPROX. LOCATION)

HOUSE

HOUSE

HOUSE

HOUSE

60' WETLANDS SETBACK

HOUSE (approx. loc.)

REMICKS LANE

EXIST. HYDRANTS (2 TOTAL) 470'(±) NORTH & SOUTH ON REMICK'S LANE

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)

TEST PIT SUMMARY TABLE –
Andrews Subdivision – Remicks Lane & Deer Ridge Lane – Kittery, Maine

TEST PIT #	LOT # used for septic	SOIL PROFILE & CONDTION	LIMITING FACTOR DEPTH (inches)	PASS (P) OR FAIL (F)	RESERVE REQUIRED town requirement	COMMENTS
1	1	3 C	27	P	No	
2	1	3 C	25	P	No	
3	4	3 C	20	P	Yes	Primary
4	4	3 C	23	P	Yes	Primary
5	4	3 C	25	P	No	Reserve
6	4	3 C	23	P	Yes	Reserve
7	3	3 C	24	P	No	Primary
8	3	3 C	20	P	Yes	Primary
9	3	3 C	22	P	Yes	Reserve
10	3	3 C	22	P	Yes	Reserve
11	2	3 C	25	P	No	
12	2	3 C	29	P	No	
13		5 E	6	F	N/A	
14		7 E	7	F	N/A	
15	5	3 C	25	P	No	
16	5	3 C	24	P	No	
17	11	3 C	25	P	No	
18	11	3 C/AIII	24	P	No	Potential Bedrock ranging From 28" to 35"
19	10	3 C	29	P	No	
20	10	3 C	25	P	No	
21		7 C	22	P	Yes	
22	9	3 C	30	P	No	
23	9	4 B	45	P	No	Limiting Factor Pit Depth
24		3 C	21	P	Yes	
25		3 C	22	P	Yes	
26	8	3 C	30	P	No	
27	8	3 C	25	P	No	
28	7	3 C	28	P	No	
29	7	3 C	25	P	No	
30	6	3 C	24	P	No	
31		3 C	22	P	Yes	
32	6	3 C	24	P	No	
33		3 C	27	P	No	
34		3 C	30	P	No	

NOTE:
1. DEER RIDGE LANE AND TURKEYTAIL LANE SHALL REMAIN PRIVATE ROADS TO BE MAINTAINED BY THE DEER RIDGE LANE ASSOCIATION.
2. LOT #4 DRIVEWAY SHALL BE LOCATED OFF DEER RIDGE LANE.

TOWN OF KITTERY, PLANNING BOARD

CHAIR	DATE
OWNER/APPLICANT	DATE
OWNER/APPLICANT	DATE

P4795

ALTUS ENGINEERING, INC.
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STATE OF MAINE
JEFFREY K. CLIFFORD
No. 5967
LICENSED
PROFESSIONAL ENGINEER

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ISSUED FOR:
FINAL APPROVAL

ISSUE DATE:
MARCH 27, 2019

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1	REV. TURKEYTAIL R.O.W.	JKC	3/27/19

DRAWN BY: RMB
APPROVED BY: JKC
DRAWING FILE: 4795SUB.DWG

SCALE: 1" = 50"

OWNERS/APPLICANT:

ARTHUR W. ANDREWS REV. TRUST
c/o MARY THRON, TRUSTEE
P.O. BOX 96
KITTERY POINT, MAINE 03905

PROJECT:

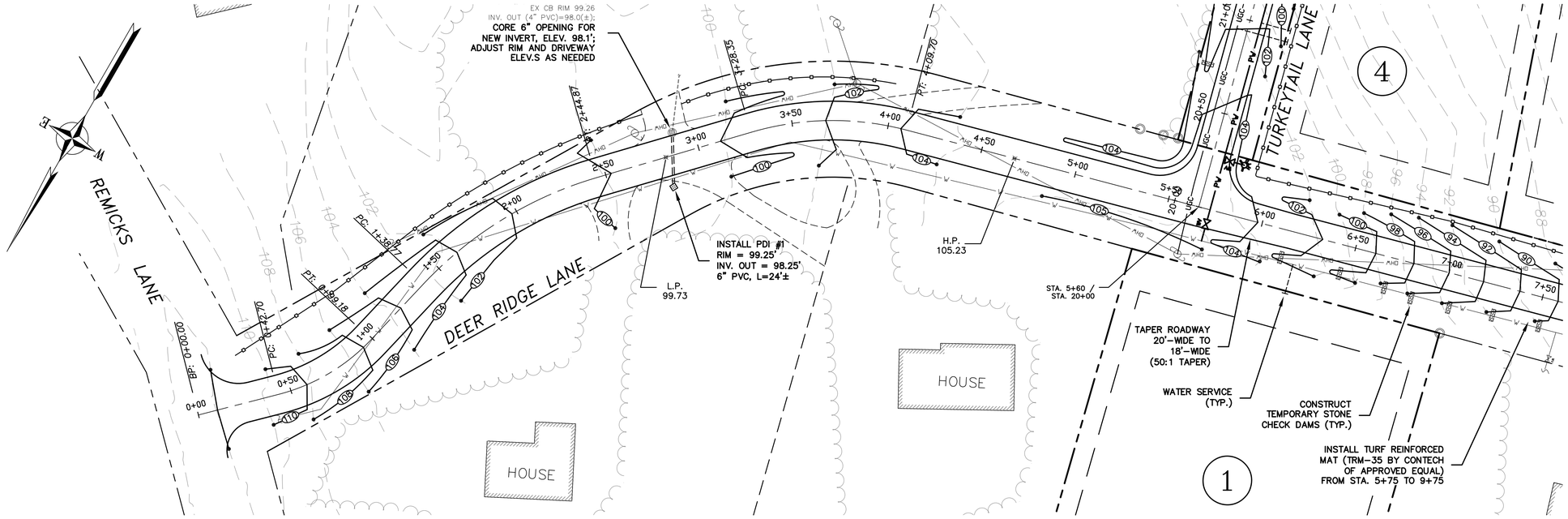
ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

TITLE:

LOT PLAN

SHEET NUMBER:

C - 1.0



GRAPHIC SCALE

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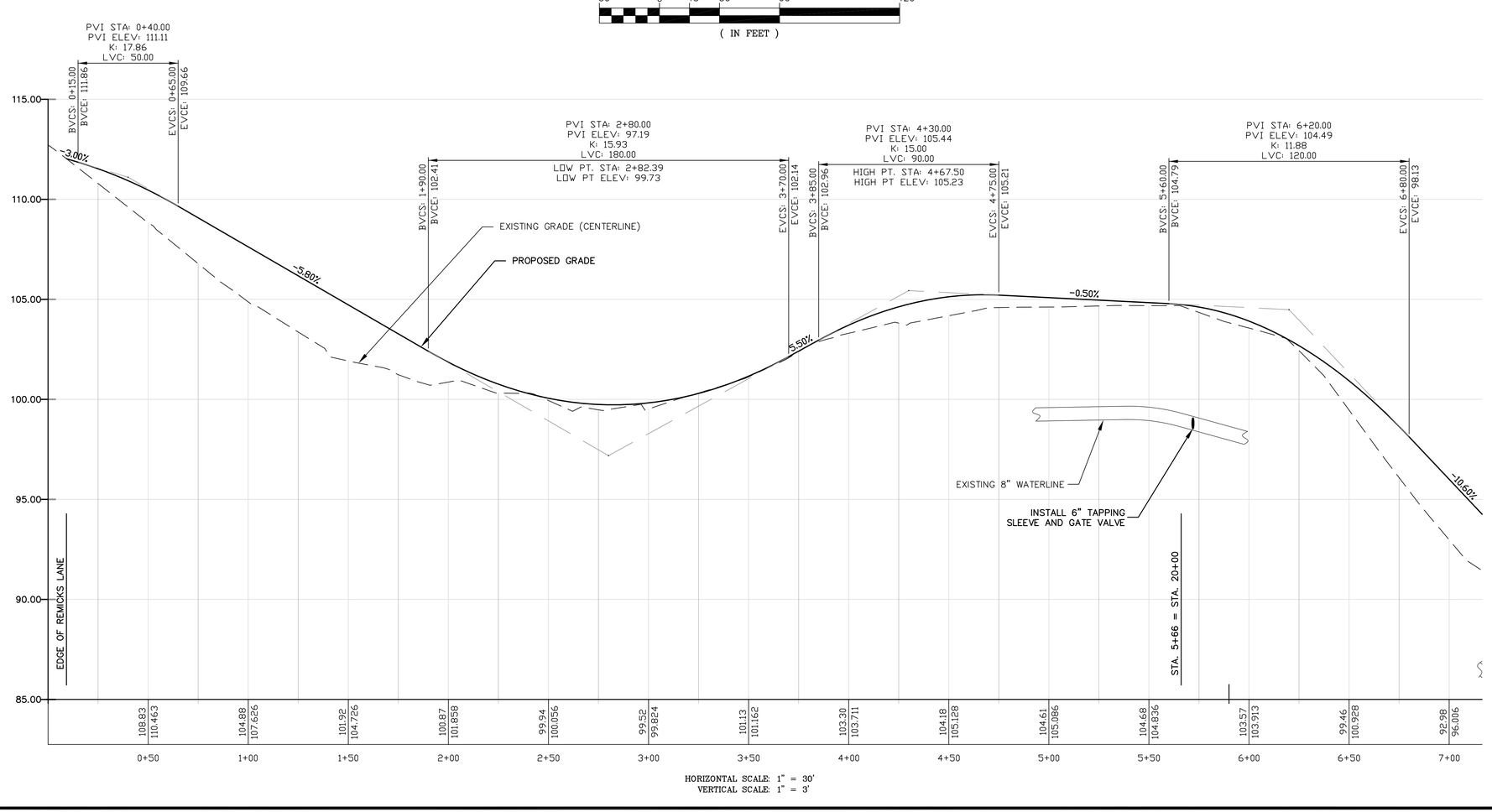
(IN FEET)



HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'

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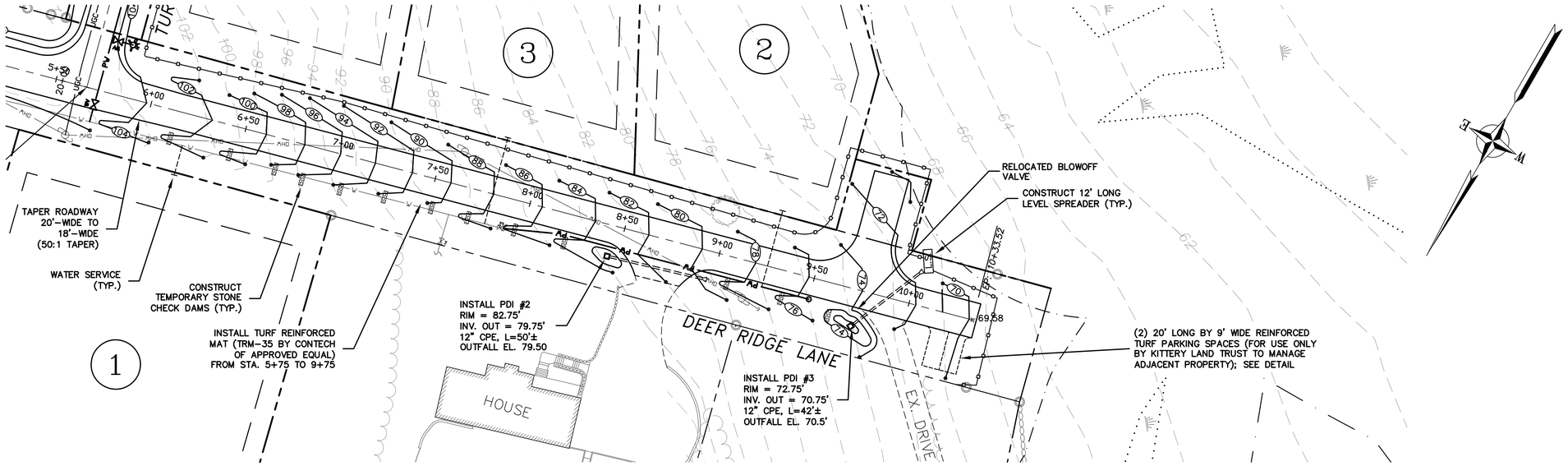
KITTERY POINT, MAINE 03905

PROJECT:
ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

TITLE:
DEER RIDGE LANE PLAN & PROFILE

SHEET NUMBER:
C - 2.0

P4795



GRAPHIC SCALE

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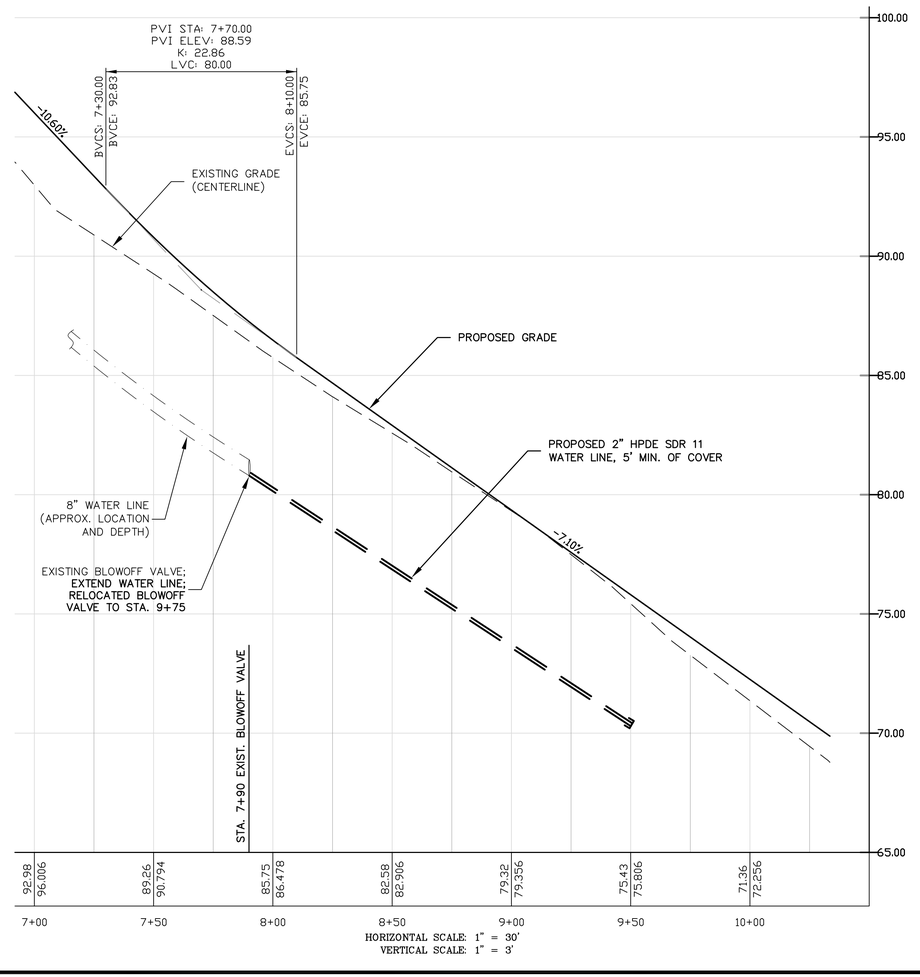
(IN FEET)



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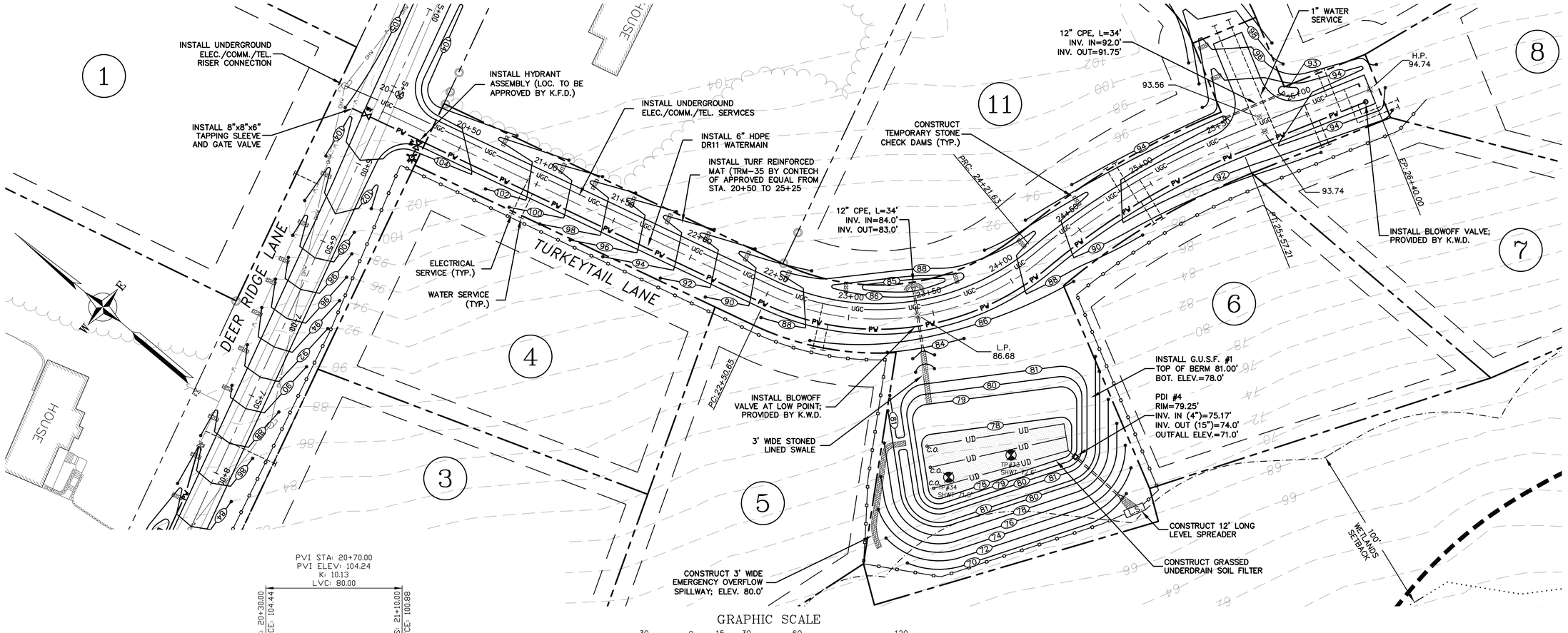
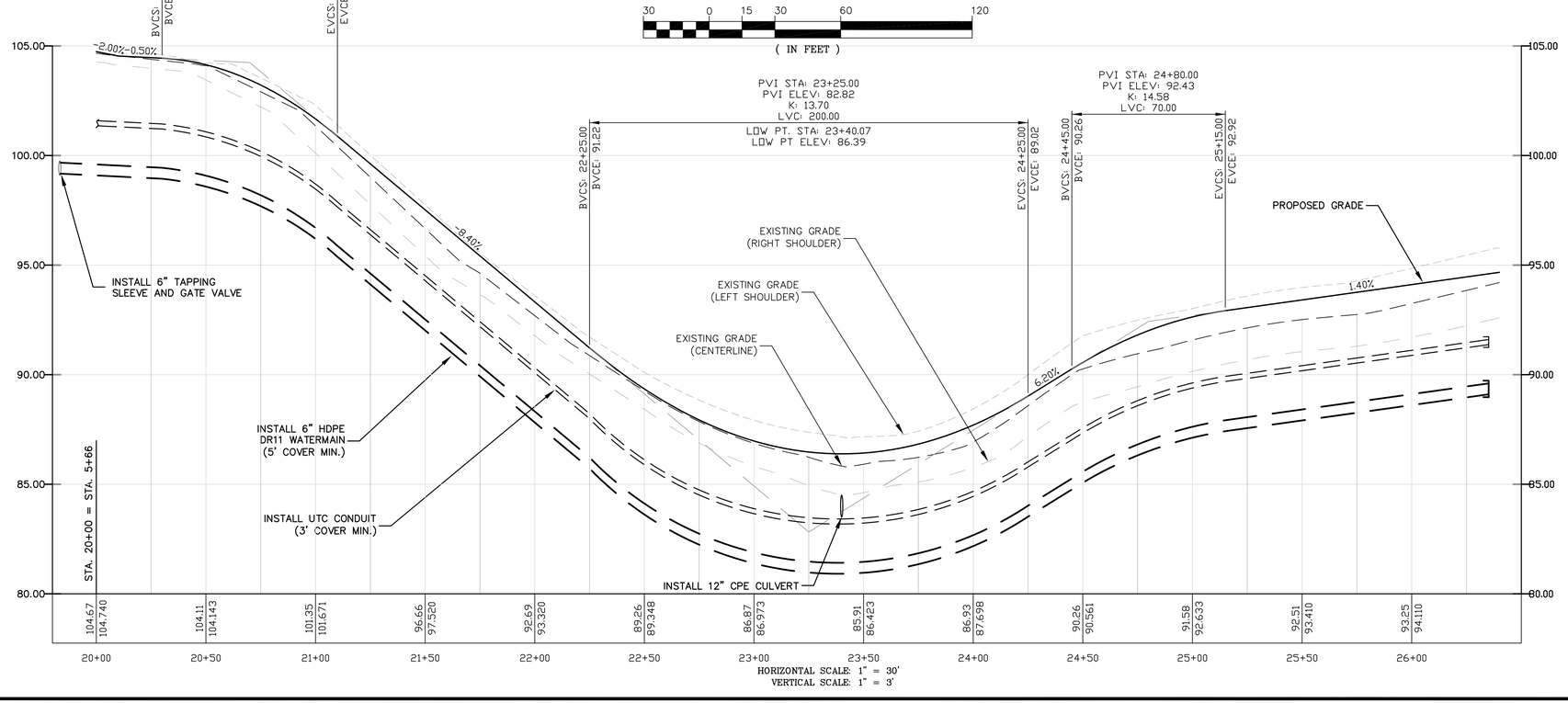
PROJECT:
ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

TITLE:
DEER RIDGE LANE PLAN & PROFILE

SHEET NUMBER:
C - 2.1

P4795





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KITTERY POINT, MAINE 03905

PROJECT:
ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

TITLE:
TURKEYTAIL LANE PLAN & PROFILE

SHEET NUMBER:
C - 2.2

P4795

250' SVP BUFFER
CRITICAL TERRESTRIAL HABITAT

PROPOSED 3' WIDE EMERGENCY OVERFLOW SPILLWAY

LIMIT OF SOIL FILTER MEDIA

PROPOSED DOUBLE SEDIMENTATION BARRIER SOUTH OF GRASSED UNDERDRAINED SOIL FILTER

100' WETLANDS SETBACK

PROPOSED RIP RAP OUTLET PROTECTION, TYP.

PROPOSED LEVEL SPREADER, TYP.

GRASSED UNDERDRAIN SOIL FILTER

TYPICAL DRIVEWAY

PROPOSED SEDIMENTATION BARRIER, TYP.

INSTALL AND MAINTAIN SILT BARRIERS AT TOE OF MATERIAL STOCKPILES. STABILIZED STOCKPILE SURFACE PER MDEP REQUIREMENTS

TEMPORARY INLET PROTECTION, TYP.

TEMPORARY STONE CHECK DAMS, TYP.

PROP. PERMANENT TURF REINFORCED GRASSED SWALE

SHORELAND - WETLAND PROTECTION AREA (OZ-SL-250') PER KITTERY LAND USE ZONING MAP

LOCATION

PROPOSED DOUBLE SEDIMENTATION BARRIER ALONG SOUTH SIDE EDGE OF TURNING TEE

PROPOSED LEVEL SPREADER, TYP.

PROPOSED REINFORCED TURF PARKING SPACE FOR KITTERY LAND TRUST EMPLOYEES

EX. DRIVE

DEER RIDGE LANE

HOUSE (approx. loc.)

APPROX. LEACHFIELD

HOUSE

PROPOSED PERMANENT TURF REINFORCED GRASSED SWALE

TEMPORARY STONE CHECK DAMS, TYP.

TURKEYTAIL LANE

PROPOSED 100' LONG STABILIZED CONSTRUCTION ENTRANCE

HOUSE

HOUSE

HOUSE

DEER RIDGE LANE

HOUSE

INSTALL STORM DRAIN INLET PROTECTION, TYP.

HOUSE (approx. loc.)

PROP. CLEARING LIMITS, TYP.

REMICKS LANE

CONSTRUCTION OBSERVATION REQUIREMENTS:

CONSTRUCTION OF THE GRASSED UNDERDRAINED SOIL FILTER WILL BE FIELD MONITORED BY A QUALIFIED PROFESSIONAL ENGINEER LICENSED IN MAINE AT EACH PHASE OF CONSTRUCTION AND REPORTED TO MAINE DEP PER APPLICABLE PERMIT CONDITIONS. ALL MATERIAL INTENDED FOR THE PRACTICE MUST BE REVIEWED FOR APPROVAL BY THE PROFESSION ENGINEER AFTER TESTS BY A CERTIFIED LABORATORY DEMONSTRATE THE MATERIAL CONFORMS TO ALL MAINE DEP SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE THE PROFESSION ENGINEER 72 HOURS NOTICE IN ORDER THAT FIELD OBSERVATIONS CAN OCCUR:

- AFTER THE PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED (NOT BACKFILLED);
- AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE SOIL FILTER MEDIA;
- AFTER THE SOIL FILTER MEDIA HAS BEEN INSTALLED , SEEDED AND MULCHED; AND
- AFTER ONE YEAR, TO CONFIRM ADEQUATE VEGETATION IS ESTABLISHED OR IDENTIFY DEFICIENCIES FOR CORRECTION.

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)

TOWN OF KITTERY, PLANNING BOARD

CHAIR	DATE
OWNER/APPLICANT	DATE
OWNER/APPLICANT	DATE

P4795

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STATE OF MAINE
JEFFREY K. CLIFFORD
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DRAWN BY: RMB
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DRAWING FILE: 4795SUB.DWG

SCALE: 1" = 50"

OWNERS/APPLICANT:

ARTHUR W. ANDREWS REV. TRUST
c/o MARY THRON, TRUSTEE
P.O. BOX 96
KITTERY POINT, MAINE 03905

PROJECT:

ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

TITLE:

STORMWATER MANAGEMENT PLAN

SHEET NUMBER:

C - 3.0

PROJECT NAME AND LOCATION

Andrews Subdivision
Map 60 Lot 10
Kittery, Maine

LATITUDE: 043° 08' 02.8" N
LONGITUDE: 070° 43' 47.0" W

DESCRIPTION

The project consists of a new 11–lot single family subdivision and one (1) reserved open space lot. The project will be completed in a single phase.

DISTURBED AREA

The total area to be disturbed is approximately 2.4 acres for re–construction and new construction of roadways (not including lot development). Each lot will be sold to and developed by others. Prior to lot clearing and soil disturbance, sedimentation barrier shall be installed to prevent sediment leaving the lot.

SEQUENCE OF MAJOR ACTIVITIES

1. Contractor shall file a Notice of Intent (N.O.I.) to the Maine Department of Environmental Protection (MDEP).
2. Install temporary erosion control measures, including silt fences and stabilized construction entrances.
3. Upon completion of items 1 through 2, clear and grub wooded areas, strip and stockpile loam. Stockpiles shall be temporarily stabilized with hay bales mulch and surrounded by a hay bale or silt fence barrier until material is removed and final grading is complete.
4. Construct ditches and stabilize prior to directing flow to them.
5. Construct drainage structures, swales & road base materials.
6. Ditches and swales with grades over 5% shall have sides and bottom reinforced with excelsior matting.
7. Grade and shape lots to finish elevations.
8. Stabilize disturbed areas.
9. When all construction activity is complete and site is stabilized, remove all hay bales, storm check dams, silt fences and sediment that has been trapped by these devices.
10. File a Notice of Termination (N.O.T.) with MDEP.

NAME OF RECEIVING WATER

Unnamed wetlands complex to Cutts Ridge Brook and York River.

TEMPORARY EROSION AND SEDIMENT CONTROLS AND STABILIZATION PRACTICES

All work shall be in accordance with state and local permits. Work shall conform to the practices described in the "Maine Erosion and Sediment Control BMPs, 2003" published by the Maine Department of Environmental Protection.

As indicated in the sequence of Major Activities, the hay bales and silt fences shall be installed prior to commencing any clearing or grading of the site. Structural controls shall be installed concurrently with the applicable activity. Once construction activity ceases permanently in an area, silt fences and hay bale barriers and any earth/dikes will be removed once permanent measures are established.

During construction, runoff will be diverted around the site with stabilized channels where possible. Sheet runoff from the site will be filtered through hay bale barriers, stone check dams, and silt fences. All storm drain inlets shall be provided with hay bale filters or stone check dams. Stone rip rap shall be provided at the outlets of drain pipes and culverts where shown.

Temporary and permanent vegetation and mulching is an integral component of the erosion and sedimentation control plan. All areas shall be inspected and maintained until desires vegetative cover is established. These control measures are essential to erosion prevention and also reduce costly rework of graded and shaped areas.

Temporary vegetation shall be maintained in these areas until permanent seeding is applied. Additionally, erosion sedimentation measures shall be maintained until permanent vegetation is established.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

A. GENERAL

These are the general inspection and maintenance practices that will be used to implement the plan.

1. The smallest practical portion of the site will be denuded at one time. All disturbed areas must be stabilized be temporary measures within 5 days of initial disturbance and stabilized by permanent measures immediately after final grading.
2. All control measures will be inspected at least once each week and following any storm event of 0.50 inches or greater. A maintenance inspection report will be made after each inspection and made available to the Town officials.
3. The Contractor's site superintendent will be responsible for inspections, maintenance and repair activities, and filling out the inspection and maintenance report.
4. Built up sediment will be removed from silt fence, stone check dams, or hay bale barriers when it has reached one third the height of the fence, check dam, or bale, or when "bulges" occur.
5. All diversion dikes will be inspected and any breaches promptly repaired.
6. Temporary seeding and planting will be inspected for bare spots, washouts, and unhealthy growth.
7. All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours and completed within 72 hours.

B. MULCHING

Considerations

* In sensitive areas (within 100 ft of streams, wetlands and in lake watersheds) temporary mulch shall be applied within 7 days of exposing soil or prior to any storm event.
* Areas, which have been temporarily or permanently seeded, shall be mulched immediately following seeding.
* Areas which cannot be seeded within the growing season shall be mulched for over–winter protection and the area should be seeded at the beginning of the growing season.
* Mulch anchoring should be used on slopes greater than 5% in late fall (past September 15), and over–winter (September 15 – April 15).

Type of Mulch

Hay or Straw Mulches

Organic mulches, including hay and straw, shall be air–dried, free of undesirable seeds and coarse materials. Application rate shall be 2 bales (70–90 pounds) per 1000 SQ FT or 1.5 to 2 tons (90–100 bales) per acre to cover 75 to 90% of the ground surface. Hay mulch subject to wind blowing shall be anchored via: netting; peg and twine or tracking.

Erosion Control Mix

Erosion control mix shall consist primarily of organic material and shall include any of the following: shredded bark, stump grindings, composted bark or other acceptable products based on a similar raw source. Wood or bark chips, ground construction debris or reprocessed wood products shall not be acceptable as the organic component of the mix.

It can be used as a stand–alone reinforcement:

* On slopes 2 horizontal to 1 vertical or less.
* On frozen ground or forested areas.
* At the edge of gravel parking areas and areas under construction.

Other reinforcement BMPs (i.e. riprap) should be used:

* On slopes with groundwater seepage;
* At low points with concentrated flows and in gullies;
* At the bottom of steep perimeter slopes exceeding 100 feet in length;
* Below culvert outlet aprons; and
* Around catch basins and closed storm systems.

Composition

Erosion control mix shall contain a well–graded mixture of particle sizes and may contain rocks less than 4" in diameter. Erosion control mix must be free of refuse, physical contaminants, and material toxic to plant growth. The mix composition shall meet the following standards:

* The organic matter content shall be between 80 and 100%, dry weight basis.
* Particle size by weight shall be 100% passing a 6" screen and a minimum of 70%, maximum of 85%, passing a 0.75" screen.
* The organic portion needs to be fibrous and elongated.
* Large portions of silts, clays or fine sands are not acceptable in the mix.

Installation

* Erosion control mix shall not be used on slopes steeper than 2:1.
* On slopes of 3:1 or less; 2 inches plus an additional 1/2 inch per 20 feet of slope up to 100 feet.
* On slopes between 3:1 and 2:1, 4 inch plus an additional 1/2 inch per 20 feet of slope up to 100 feet.

The thickness of the mulch at the bottom of the slope needs to be:

	< 3:1 slope	slopes between 3:1 and 2:1
< 20' of slope	2.0"	4.0"
< 60' of slope	3.0"	5.0"
< 100' of slope	4.0"	6.0"

* It shall be placed evenly and must provide 100 % soil coverage, with the soil totally invisible.

Any required repairs shall be made immediately, with additional erosion control mix placed on top of the mulch to reach the recommended thickness. When the mix is decomposed, clogged with sediment, eroded or ineffective, it shall be replaced or repaired. Erosion control mix mulch shall be left in place. If the mulch needs to be removed spread it out into the landscape.

Maintenance

All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied. Nets shall be inspected after rain events for dislocation or failure. If washouts or breakage occur, re–install the nets as necessary after repairing damage to the slope. Inspections shall take place until grasses are firmly established (95% soil surface covered with grass). Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface. Repair as needed.

C. TEMPORARY VEGETATION

Considerations

* Proper seedbed preparation and the use of quality seed are important in this practice just as in permanent seeding. Failure to carefully follow sound agronomic recommendations will often result in an inadequate stand of vegetation that provides little or no erosion control.
* Nutrients and pesticides used to establish and maintain a vegetation cover shall be managed to protect the surface and ground water quality.
* Temporary seeding shall be used extensively in sensitive areas (ponds and lake watersheds, steep slopes, streambanks, etc.).
* Late fall seeding may fail and cause water quality deterioration in spring runoff events, thus other measures such as mulching shall be implemented.

Specifications

Seedbed Preparation

Apply limestone and fertilizer according to soil test recommendations. If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 600 pounds per acre or 13.8 pounds per 1,000 square feet of 10–10–10 (N–P2O5–K20) or equivalent. Apply limestone (equivalent to 50 percent calcium plus magnesium oxide) at a rate of 3 tons per acre (138 lb. per 1,000 square feet).

Seeding

* Select seed from recommendations in enclosed table.
* Where the soil has been compacted by construction operations, loosen soil to a depth of 2 inches before applying fertilizer, lime and seed.
* Apply seed uniformly by hand, cyclone seeder, drill, cultipacker type seeder or hydroseeder (slurry including seed and fertilizer). Hydroseeding that includes mulch may be left on soil surface. Seeding rates must be increased 10% when hydroseeding.

Mulching

Apply mulch over seeded area according to the MULCHING BMP.

Maintenance

Temporary seeding shall be periodically inspected. At a minimum, 95% of the soil surface should be covered by vegetation. If any evidence of erosion or sedimentation is apparent, repairs shall be made and other temporary measures used in the interim (mulch, filter barriers, check dams, etc.).

Temporary Seeding Rates and Dates

Seed	Lb./Ac	Seeding Depth	Recommended Seeding Dates	Remarks
Winter Rye	112 (2.0 bu)	1–1.5 in	8/15–10/1	Good for fall seeding. Select a hardy species, such as Aroostook Rye.
Oats	80 (2.5 bu)	1–1.5 in	4/1–7/1 8/15–9/15	Best for spring seeding. Early fall seeding will die when winter weather moved in, but mulch will provide protection.
Annual Ryegrass	40	.25 in	4/1–7/1	Grows quickly but is of short duration. Use where appearance is important. With mulch, seeding may be done throughout growing season.
Sudangrass	40 (1.0 bu)	.5–1 in	5/15–8/15	Good growth during hot summer periods.
Perennial	40 (2.0 bu)	.25 in	8/15–9/15	Good cover, longer lasting than Annual Ryegrass. Mulching will allow seeding throughout growing season.
Temporary mulch with or without dormant seeding			10/1–4/1	Refer to TEMPORARY MULCHING BMP and/or PERMANENT VEGETATION BMP.

D. FILTERS

Silt Fences

a. Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

Physical Property	Test	Requirements
Filtering Efficiency	VTM–51	75% minimum
Tensile Strength at 20% Maximum Elongation **	VTM–52	Extra Strength – 50 ib/lin in (min.) Standard Strength – 30 ib/lin in (min.)
Flow Rate	VTM–51	0.3 gal/sf/min

** Requirements reduced by 50% after 6 months on installations.

Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six (6) months of expected usable construction life at a temperature range of 0 degrees F to 120° F.

b. Posts shall be spaced a maximum of ten (10) feet apart at the barrier location or as recommended by the manufacturer and driven securely into the ground (minimum of 16 inches).
c. A trench shall be excavated approximately six (6) inches wide and six (8) inches deep along the line of posts and upslope from the barrier.
d. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one (1) inch long, tie wires or hog rings. The wire shall extend no more than 36 inches above the original ground surfaces.
e. The "standard strength" filter fabric shall be stapled or wired to the fence, and eight (8) inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.
f. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of item (g) applying.
g. The trench shall be backfilled and the soil compacted over the filter fabric.
h. Silt fences shall be removed when they have served their useful purpose but not before the upslope areas has been permanently stabilized.

Straw/Hay Bales

* Bales shall be placed in a single row, lengthwise on the contour, with ends of adjacent bales tightly abutting one another.
* All bales shall be either wire–bound or string–tied. Bales shall be installed so that bindings are oriented around the sides, parallel to the ground surface to prevent deterioration of the bindings.
* The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches.
* After the bales are staked and chinked, the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill side and shall be build up to 4 inches against the uphill side of the barrier.
* At least two stakes or rebars driven through the bale shall securely anchor each bale. The first stake in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or re–bars shall be driven deep enough into the ground to securely anchor the bales.
* The gaps between bales shall be chinked (filled by wedging) with hay to prevent water from escaping between the bales.

Installation

* Sediment barriers shall be installed prior to any soil disturbance of the contributing drainage uplope of them.
* The barrier must be placed along a relatively level contour.

Maintenance

* Hay bale barriers, silt fences and filter berms shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. They shall be repaired immediately if there are any signs of erosion or sedimentation below them. If there are signs of undercutting at the center or the edges of the barrier, or impounding of large volumes of water behind them, sediment barriers shall be replaced with a temporary check dam.
* Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier still is necessary, the fabric shall be replaced promptly.
* Sediment deposits should be removed when deposits reach approximately one third (1/3) the height of the barrier.
* Filter berms should be reshaped as needed.
* Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed or removed to conform to the existing grade, prepared and seeded.
* Additional stone may have to be added to the construction stabilized entrance, rock barriers, stone lined swales, etc., periodically to maintain propoer function of the erosion control structure.

E. PERMANENT SEEDING

* Seeding shall be performed in accordance with USDA, Soil Conservation Service guidelines.
* Bedding – stones larger than 1 1/8", trash, roots, and other debris that will interfere with seeding and future maintenance of the area shall be removed. Where feasible, the soil should be tilled to a depth of 4" to prepare a seedbed and mix fertilizer into the soil.
* Fertilizer – lime and fertilizer should be applied evenly over the area prior to or at the time of seeding and incorporated into the soil. Kinds and amounts of lime and fertilizer shall be based on an evaluation of soil tests. When a soil test is not available, the following minimum amounts should be applied:
  Limestone @ 3 tons per acre 10–20–20 and fertilizer (N–P205–K201) @ 800 lbs. per acre
* Seed Mixture:

  Rate:

Type	LBS. per Acre	LBS per 1,000 sf	Use
Kentucky Bluegrass	20	0.46	Lawn Areas / Loam Areas (non–slope work)
Creeping Red Fescue	20	0.46	
Perennial Ryegrass	5	0.11	
Total	45	1.03	
Tall Fescue	20	0.46	Drainage Swales All Slope Work (3 : 1 or steeper)
Creeping Red Fescue	20	0.46	
Redtop	2	0.05	
Total	42	0.97	

* Sodding – sodding is done where it is desirable to rapidly establish cover on a disturbed area. Sodding an area may be substituted for permanent seeding procedures anywhere on site. Bed preparation, fertilizing, and placement of sod shall be performed according to the Maine Erosion and Sediment Control BMPs. Sodding is recommended for steep sloped areas, areas immediately adjacent to sensitive water coursed, easily erodible soils (fine sand/silt) etc.

F. OVER WINTER STABILIZATION

a. If a construction site is not stabilized with pavement, a road gravel base, 75 % mature vegetation cover or riprap by November 15 then the site shall be protected with over–winter stabilization. An area considered open is any area not stabilized with pavement; vegetation, mulching, erosion control mix, erosion control mats, riprap or gravel base on a road. The winter construction period is from November 1 through April 15.
b. Winter excavation and earthwork shall be completed such that no more than 1 acre of the site is without stabilization at any one time. Limit the exposed area to those areas in which work is to occur during the following 15 days and that can be mulched in one day prior to any snow event.
c. During winter construction, a double row of sediment barriers (i.e. silt fence backed with hay bales or erosion control mix) shall be placed between any natural resource and the disturbed area.
d. During frozen conditions, sediment barriers shall consist of erosion control mix berms or any other recognized sediment barriers.
e. Hay and straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75–1bs./1,000 s.f. or 1.5 tons/acre) and shall be properly anchored. Erosion control mix shall be applied with a minimum 4 inch thickness. Mulch shall not be spread on top of snow.
f. Between the dates of November 1 and April 15, all mulch shall be anchored by either mulch netting, asphalt emulsion chemical, tracking or wood cellulose fiber. After November 1st, mulch and anchoring of all exposed soil shall occur at the end of each final grading workday.
g. Stockpiles of soil or subsoil will be mulched for over winter protection with hay or straw at twice the normal rate or with a four–inch layer of erosion control mix.
h. Seeding – Between the dates of October 15 and April 1st, loam or seed will not be required. If the date is after November 1st, and if the exposed area has been loomed, final graded with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5lbs/1000 s.f. All areas seeded during the winter will be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75 % catch) shall be revegetated by replacing loam, seed and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.
i. All stone–lined ditches and channels shall be constructed and stabilized by November 15. All grass–lined ditches and channels shall be constructed and stabilized by September 1. If a ditch or channel is not grass–lined by September 1, then one of the following actions must be taken to stabilize the ditch for late fall and winter.
   Install a sod lining in the ditch: A ditch must be lined with properly installed sod by October 1.
   Install a stone lining in the ditch: A ditch must be lined with stone riprap by November 15.
j. All stone–covered slopes must be constructed and stabilized by November 15. And all slopes to be vegetated must be seeded and mulched by September 1. If a slope to be vegetated is not stabilized by September 1, then one of the following actions must be taken to stabilize the slope for late fall and winter.
   Stabilize the soil with temporary vegetation and erosion control mats: By October 1 the disturbed slope shall be seeded with winter rye at a seeding rate of 3 pounds per 1000 square feet and then install erosion control mats or anchored mulch over the seeding. If the rye fails to grow at least three inches or fails to cover at least 75% of the slope by November 1, then the contractor shall cover the slope with a layer of erosion control mix or with stone riprap as described in the following standards.
   Stabilize the soil with sod: The disturbed slope shall be stabilized with properly installed sod by October 1. Proper installation includes pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The contractor will not use late–season sod installation to stabilize slopes having a grade greater than 33% (3H:1V) or having groundwater seeps on the slope face.
   Stabilize the soil with erosion control mix: Erosion control mix shall be properly installed by November 15. The contractor shall not use erosion control mix to stabilize slopes having grades greater than 50% (2H:1V) or having groundwater seeps on the slope face.
   Stabilize the soil with stone riprap: Place a layer of stone riprap on the slope by November 15.
k. By September 15, all disturbed soils on areas having a slope less than 15% shall be seeded and mulched. If the disturbed areas are not stabilized by this date, then one of the following actions shall be taken to stabilize the soil for late fall and winter.
   Stabilize the soil with temporary vegetation: By October 1, seed the disturbed soil with winter rye at a seeding rate of 3 pounds per 1000 square feet, lightly mulch the seeded soil with hay or straw at 75 pounds per 1000 square feet, and anchor the mulch with plastic netting. Monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or fails to cover at least 75% of the disturbed soil before November 1, then mulch the area for over–winter protection as described below.
   Stabilize the soil with sod: Stabilize the disturbed soil with properly installed sod by October 1. Proper installation includes pinning the sod onto the soil with wire pins, rolling by the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.
   Stabilize the soil with mulch: By November 15, mulch the disturbed soil by spreading hay or straw at a rate of at least 150 pounds per 1000 square feet on the area so that no soil is visible through the mulch. Immediately after applying the mulch, anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

Maintenance

Maintenance measures shall be applied as needed during the entire construction season. After each rainfall, snow storm or period of thawing and runoff, the site contractor shall perform a visual inspection of all installed erosion control measures and perform repairs as needed to insure their continuous function. Following the temporary and/or final seeding and mulching, the contractor shall, in the spring, inspect and repair any damages and/or bare spots. An established vegetative cover means a minimum of 85 to 90 % of areas vegetated with vigorous growth.

Stabilization Schedule before Winter

September 15	All disturbed areas shall be seeded and mulched.
	All slopes shall be stabilized, seeded and mulched.
	All grass–lined ditches and channels shall be stabilized with mulch or an erosion control blanket.
October 1	If the slope is stabilized with an erosion control blanket and seeded.
	All disturbed areas to be protected with an annual grass shall be seeded at a seeding rate of 3 pounds per 1000 square feet and mulched.
November 15	All stone–lined ditches and channels shall be constructed and stabilized.
	Slopes that are covered with riprap shall be constructed by that date.
December 1	All disturbed areas where the growth of vegetation fails to be at least three inches tall or at least 75% of the disturbed soil is covered by vegetation, shall be protected for over–winter.

HOUSEKEEPING

1. Spill prevention. Controls must be used to prevent pollutants from construction and waste materials stored on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.

   NOTE: Any spill or release of toxic or hazardous substances must be reported to the Maine Department of Environmental Protection.

2. Groundwater protection. During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre–treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

3. Fugitive sediment and dust. Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE) should be included to minimize tracking of mud and sediment. If off–site tracking occurs, public roads should be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

4. Debris and other materials. Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.

5. Excavation de–watering. Excavation de–watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Department.

6. Authorized Non–stormwater discharges. Identify and prevent contamination by non–stormwater discharges. Where allowed non–stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non–stormwater component(s) of the discharge. Authorized non–stormwater discharges are:

   (a) Discharges from firefighting activity;

   (b) Fire hydrant flushings;

   (c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);

   (d) Dust control runoff in accordance with permit conditions and Appendix (C)(3);

   (e) Routine external building washdown, not including surface paint removal, that does not involve detergents;

   (f) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;

   (g) Uncontaminated air conditioning or compressor condensate;

   (h) Uncontaminated groundwater or spring water;

   (i) Foundation or footer drain–water where flows are not contaminated;

   (j) Uncontaminated excavation dewatering;

   (k) Potable water sources including waterline flushings; and

   (l) Landscape irrigation.

7. Unauthorized non–stormwater discharges. MDEP's approval does not authorize a discharge that is mixed with a source of nonstormwater, other than those discharges in compliance with item in section 6. Specifically, MDEP's approval does not authorize discharges of the following:

   (a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;

   (b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;

   (c) Soaps, solvents, or detergents used in vehicle and equipment washing; and

   (d) Toxic or hazardous substances from a spill or other release.

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STATE OF MAINE
JEFFREY K. CLIFFORD
No. 5987
LICENSED
PROFESSIONAL ENGINEER

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: FINAL APPROVAL

ISSUE DATE: MARCH 27, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TOWN SUBMISSION	JKC	10/18/18
1	GENERAL REVISIONS	JKC	3/27/19

DRAWN BY: RMB
APPROVED BY: JKC
DRAWING FILE: 4795SUB.DWG

SCALE: N.T.S.

OWNERS/APPLICANT:

ARTHUR W. ANDREWS REV. TRUST
c/o MARY THRON, TRUSTEE
P.O. BOX 96
KITTERY POINT, MAINE 03905

PROJECT:

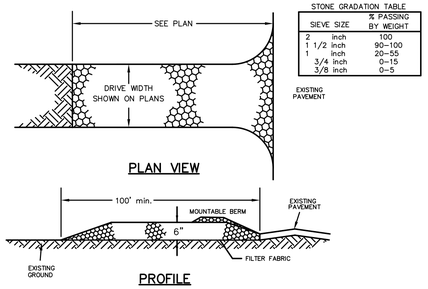
ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

TITLE:

EROSION CONTROL NOTES

SHEET NUMBER: C–4.0

P4795



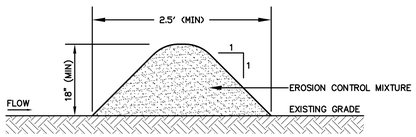
STONE GRADATION TABLE	
SIEVE SIZE	% PASSING BY WEIGHT
2 inch	100
1 1/2 inch	90–100
1 inch	20–55
3/4 inch	0–15
3/8 inch	0–5

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE – SEE GRADATION TABLE
2. LENGTH – DETAILED ON PLANS (75 FOOT MINIMUM).
3. THICKNESS – SIX (6) INCHES (MINIMUM).
4. WIDTH – FULL DRIVE WIDTH
5. FILTER FABRIC – MIRAFI 600X OR APPROVED EQUAL.
6. SURFACE WATER CONTROL – ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION EXIST SHALL BE PIPED BENEATH THE EXIST. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. MAINTENANCE – THE EXIST SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

STABILIZED CONSTRUCTION EXIT

NOT TO SCALE



NOTES

1. ORGANIC FILTER BERMS MAY BE UTILIZED IN LIEU OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
2. THE EROSION CONTROL MIXTURE USED IN FILTER BERMS SHALL BE A WELL–GRADED MIX OF PARTICLE SIZES THAT MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER, STUMP GRINDINGS, SHREDDED OR COMPOSTED BARK, AND/OR ACCEPTABLE MANUFACTURED PRODUCTS AND SHALL BE FREE OF REFUSE, PHYSICAL CONTAMINANTS AND MATERIAL TOXIC TO PLANT GROWTH. EROSION CONTROL MIXTURE SHALL MEET THE FOLLOWING STANDARDS:
   a) THE ORGANIC CONTENT SHALL BE 80–100% OF DRY WEIGHT.
   b) PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN, AND 70–85% PASSING A 0.75" SCREEN.
   c) THE ORGANIC PORTION SHALL BE FIBROUS AND ELONGATED.
   d) LARGE PORTIONS OF SILTS, CLAYS, OR FINE SANDS SHALL NOT BE INCLUDED IN THE MIXTURE.
   e) SOLUBLE SALTS CONTENT SHALL BE >4.0mmhos/cm.
   f) THE pH SHALL BE BETWEEN 5.0 AND 8.0.
3. ORGANIC FILTER BERMS SHALL BE INSTALLED ALONG A RELATIVELY LEVEL CONTOUR. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BERM.
4. ON SLOPES LESS THAN 5%, OR AT THE BOTTOM OF SLOPES NO STEEPER THAN 3:1 AND UP TO 20' LONG, THE BERM SHALL BE A MINIMUM OF 12" HIGH (AS MEASURED ON THE UPHILL SIDE) AND A MINIMUM OF 36" WIDE. ON LONGER AND/OR STEEPER SLOPES, THE BERM SHALL BE TALLER AND WIDER TO ACCOMMODATE THE POTENTIAL FOR ADDITIONAL RUNOFF (MAXIMUM HEIGHT SHALL NOT EXCEED 2').
5. FROZEN GROUND, OUTCROPS OF BEDROCK, AND VERY ROOTED FORESTED AREAS PRESENT THE MOST PRACTICAL AND EFFECTIVE LOCATIONS FOR ORGANIC FILTER BERMS. OTHER BMP'S SHOULD BE USED AT LOW POINTS OF CONCENTRATED RUNOFF, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS, AND AT THE BOTTOM OF STEEP PERIMETER SLOPES THAT HAVE A LARGE CONTRIBUTING AREA.
6. SEDIMENT SHALL BE REMOVED FROM BEHIND THE FILTER BERMS WHEN IT HAS ACCUMULATED TO ONE HALF THE ORIGINAL HEIGHT OF THE BERM.
7. ORGANIC FILTER BERMS MAY BE LEFT IN PLACE ONCE THE SITE IS STABILIZED PROVIDED ANY SEDIMENT DEPOSITS TRAPPED BY THEM ARE REMOVED AND DISPOSED OF PROPERLY.

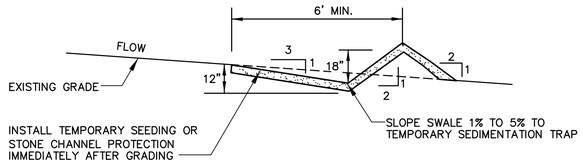
ORGANIC FILTER BERM

NOT TO SCALE

TEMPORARY EROSION CONTROL BMP's

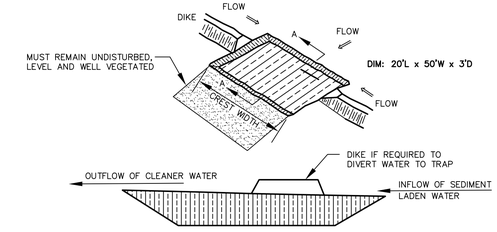
(USE TO CONTROL SEDIMENT AND EROSION AT TEMPORARY CONSTRUCTION LAYDOWN AND STOCKPILE AREAS, OR AS NEEDED TO COMPLY WITH MAINE CONSTRUCTION GENERAL PERMIT)

SWALE SHALL BE FREE OF IRREGULARITIES WHICH MAY CAUSE PONDING. COMPACT FILLS AS NECESSARY TO STABILIZE MATERIAL.



TEMPORARY DIVERSION SWALE

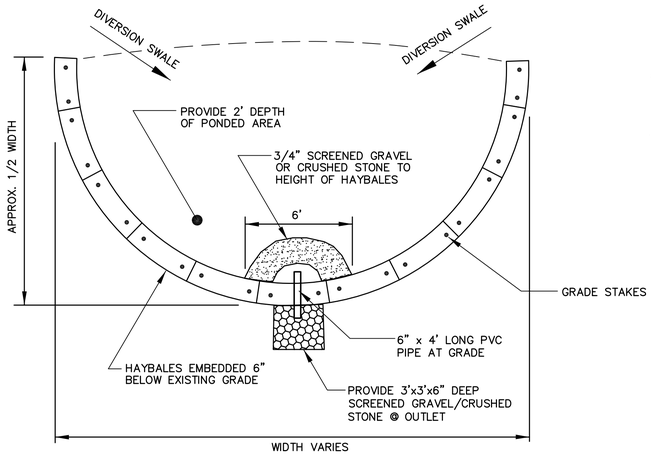
NOT TO SCALE



NOTE:
SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSION WHEN SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.

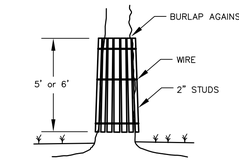
EXCAVATED GRASS OUTLET SEDIMENT TRAP

NOT TO SCALE



TYPICAL TEMPORARY SEDIMENT BASIN (TSB)

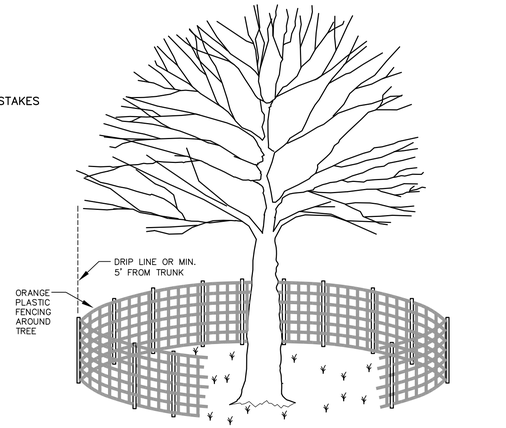
NOT TO SCALE



NOTE:
IF SOIL BECOMES COMPATCED OVER THE ROOT ZONE OF ANY TREE, THE GROUND SHOULD BE AERATED BY PUNCHING SMALL HOLES IN IT WITH SUITABLE AERATING EQUIPMENT.

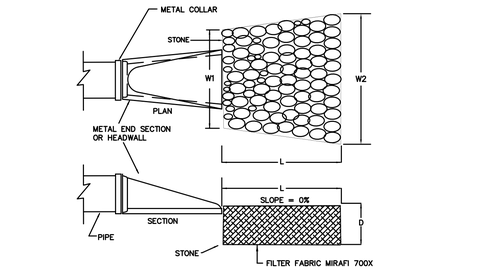
ANY DAMAGE TO THE CROWN, TRUNK OR ROOT SYSTEM OF ANY TREE RETAINED ON SITE SHOULD BE REPAIRED IMMEDIATELY. CONSULT A FORESTER OR TREE SPECIALIST FOR MORE SERIOUS DAMAGE OF TREES.

TRUNK ARMORING



TREE PROTECTION

NOT TO SCALE

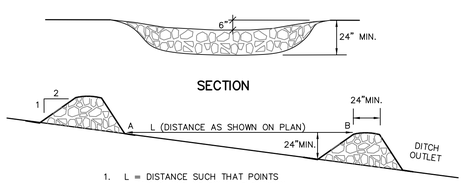


NOTES:

1. STONE SIZE AND MAT DIMENSIONS DETAILED ON GRADING, DRAINAGE & EROSION CONTROL PLAN
2. FIELD STONE, QUARRY STONE, OR ROCK FRAGMENTS SHALL BE SOUND, OF APPROVED QUALITY, AND FREE FROM STRUCTURAL DEFECTS. THE STONES SHALL BE ANGULAR AND APPROXIMATELY RECTANGULAR IN SHAPE. FLAT OR ROUND ROCKS ARE NOT ACCEPTABLE.
3. A WELL GRADED MIXTURE OF ROCK SIZES SHALL BE USED FOR STONE. FIFTY PERCENT BY WEIGHT OF THE STONE MIXTURE SHALL BE SMALLER THAN THE MEDIAN SIZE STONE (d50). THE LARGEST STONE SIZE IN THE MIXTURE SHALL BE 1.5 TIMES THE d50 SIZE.

RIP RAP OUTLET PROTECTION

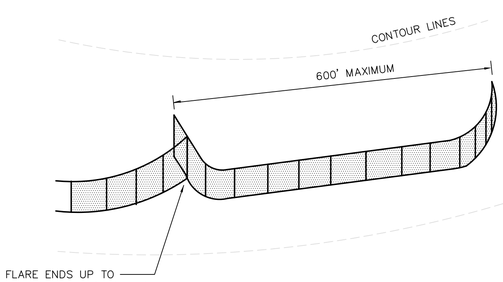
NOT TO SCALE



1. L = DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION
2. CHECK DAM SHALL BE CONSTRUCTED OF 2" TO 3" STONE WITH COMPLETE COVERAGE OF DITCH OR SWALE TO INSURE THAT THE CENTER OF THE STRUCTURE IS LOWER THAN THE EDGES.

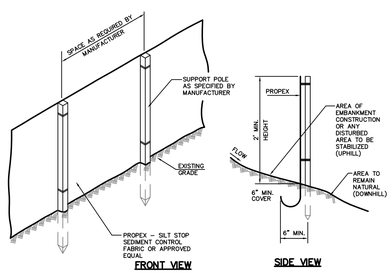
STONE CHECK DAM DETAIL

NOT TO SCALE



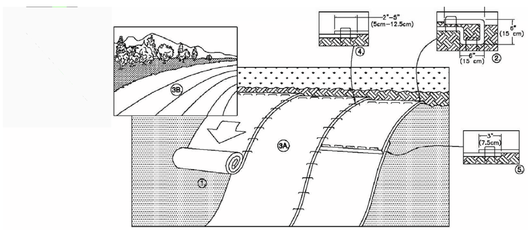
SILT FENCE LAYOUT

NOT TO SCALE



SILT FENCE DETAIL

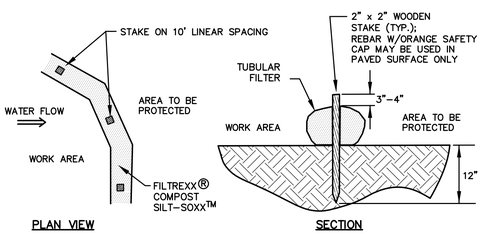
NOT TO SCALE



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
   NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
   NOTE:
   *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

EROSION CONTROL BLANKET

NOT TO SCALE



NOTES:
1. SILTSOXX OR APPROVED EQUAL SHALL BE USED FOR TUBULAR SEDIMENT BARRIERS.
2. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
3. COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
4. ALL SEDIMENT TRAPPED BY BARRIER SHALL BE DISPOSED OF PROPERLY.

TUBULAR SEDIMENT BARRIER DETAIL

NOT TO SCALE

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STATE OF MAINE
JEFFREY K. CLIFFORD
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PROFESSIONAL ENGINEER

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR:
FINAL APPROVAL

ISSUE DATE:
MARCH 27, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TOWN SUBMISSION	JKC	10/18/18
1	GENERAL REVISIONS	JKC	3/27/19

DRAWN BY: RMB
APPROVED BY: JKC
DRAWING FILE: 4795SUB.DWG

SCALE: N.T.S.

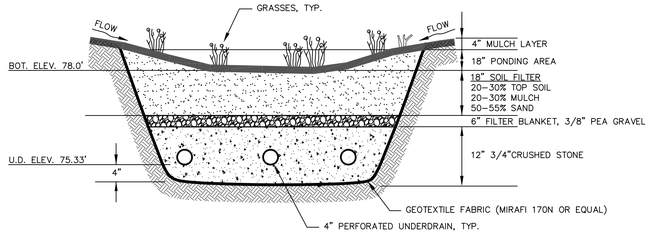
OWNERS/APPLICANT:
ARTHUR W. ANDREWS REV. TRUST
c/o MARY THRON, TRUSTEE
P.O. BOX 96
KITTERY POINT, MAINE 03905

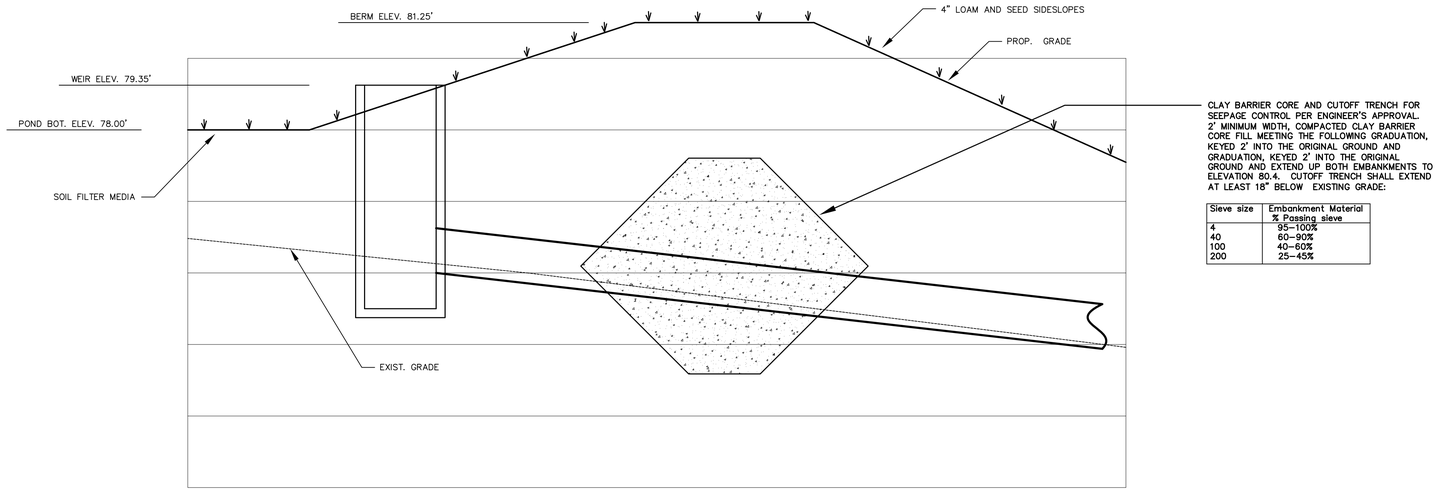
PROJECT:
ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

TITLE:
EROSION CONTROL DETAILS

SHEET NUMBER:
C-4.1

P4795





Sieve size	Embankment Material % Passing sieve
4	95–100%
40	60–90%
100	40–60%
200	25–45%

GRASSED UNDERDRAIN SOIL FILTER BERM
SCALE: 1" = 2'

SOIL FILTER MEDIA

FILTER MEDIA	MIXUTRE BY VOLUME	SPECIFICATION
SAND	50–55%	MEDOT SPECICATION #703.01 FINE AGGREGATE FOR CONCRETE
TOPSOIL	20–30%	LOAMY SAND TOPSOIL WITH MINIMAL CLAY CONTENT AND BETWEEN 15 TO 25% FINES PASSING THE #200 SIEVE
MULCH	20–30%	MODERATELY FINE, SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING #200 SIEVE

MEDOT #703.01 AGGREGATE

SIEVE SIZE	% BY WEIGHT
3/8"	100
#4	95–100
#8	80–100
#16	50–85
#30	25–60
#60	10–30
#100	2–10
#200	0–5

SEEDING (CONSERVATION MIX)

Creeping red fescue	20 lb/acre
Tall fescue	20 lb/acre
Bird's foot treefoil	8 lb/acre
Annual Rye	20 lb/acre
Total	68 lb/acre

Straw mulch or erosion control blanket after seeding

GRASSED UNDERDRAIN SOIL FILTER (GUSF) NOTES

The applicant will retain the services of a qualified professional to inspect the construction and stabilization of all stormwater management structures. If necessary, the qualified professional shall interpret the pond's construction plan for the contractor. Once all stormwater management structures are constructed and stabilized, the qualified professional will notify the department in writing within 30 days to state that the pond has been completed. Accompanying the notification must be a log of the inspections giving the date of each inspection, the time of each inspection, and the items inspected on each visit, and include any testing data or sieve analysis data of every mineral soil and soil media specified in the plans and used on site.

Construction Sequence: Erosion and sedimentation from unstable construction areas is the most common reason for filter failure. The soil filter media shall not be installed until the area that drains to it has been permanently stabilized or unless the runoff is diverted around the filter.

- Basin Excavation: The basin area may be excavated for underdrain installation and can be used as a sediment trap during construction. After excavation of the basin, the outlet structure and piping system may be installed if protected with a sediment barrier.
- Sacrificial Mulch cover: If the basin will be used as a sediment trap, the sides of the embankments must be stabilized and maintained to prevent erosion. The basin will need to be restored for its planned purpose after construction. Before final stabilization of the drainage area to the basin, a 2–inch to 3–inch layer of sandy loam (with less than 2% clay content) shall be spread on the surface of the soil filter media as a sacrificial layer. The sacrificial layer will need to be removed at the end of construction, and the soil filter media will need to be seeded and mulched.
- Compaction of Soil Filter: Filter soil media and underdrain bedding material shall be applied to reach a bulk density of between 90% and 92% standard proctor. The soil filter media shall be installed in at least two lifts of 9 inches to prevent pockets of loose media.
- Remedial Loam Cover: If vegetation is not established within the first year, the basin may be rototilled, reseeded and protected with a well–anchored erosion control blanket. Or, a 2–inch to 3–inch layer of fine sandy loam may be applied before seeding and mulching.

Construction Oversight: Inspection of the filter basin shall be provided for each phase of construction by a qualified professional with required reporting to the DEP. All material intended for the filter basin must be approved by the qualified professional after tests by a certified laboratory show that the material conforms to all DEP specifications. At a minimum, inspections will occur:

- o After the preliminary construction of the filter grades and once the underdrain pipes are installed (not backfilled);
- o After the drainage layer is constructed and prior to the installation of the soil filter media;
- o After the soil filter media has been installed, seeded and mulched.

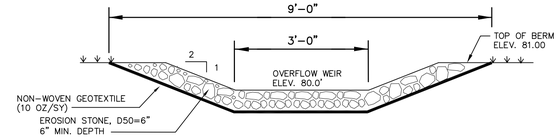
Testing and Submittals: The source of each component of the soil filter media needs to be identified prior to construction. All results of field and laboratory testing must be submitted to the DEP for approval.

- Media Source: Samples of each type of material shall be blended for the mixed filter media and underdrain bedding material. Samples must be a composite of three different locations (grabs) from the stockpile or pit face. Sample size requirements will be determined by the testing laboratory.
- Sieve Analysis: A sieve analysis conforming to ASTM C136 shall be performed on each type of the sample material.
- Permeability Testing: Testing the permeability of the soil filter media mixture is recommended with the mixture at a measured bulk dry density of 90–92% based on ASTM D698.

Maintenance: The basin shall be inspected semi–annually and following major storm events. debris and sediment buildup shall be removed from the forebay and basin as needed. any bare area or erosion rills shall be repaired with new filter media, seeded and mulched.

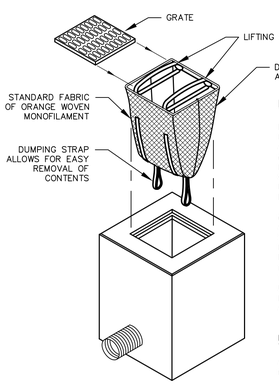
- Maintenance Agreement: A legal entity shall be established with responsibility for inspecting and maintaining any underdrained filter. The legal agreement establishing the entity lists the specific maintenance responsibilities (including timetables) and provide for the funding to cover long–term inspection and maintenance. (See Declaration of Covenants, Conditions and Restrictions for Huntington Run Subdivision)
- Inlets and Outlets: The inlets and outlets of the pond shall be checked to ensure that flow structures are not blocked by debris.
- Drainage: The filter shall drain within 24 to 48 hours following a one–inch storm or greater. If the system drains too fast, an orifice may need to be added on the underdrain outlet or may need to be modified if already present.
- Sediment Removal: Sediment and plant debris shall be removed from the pretreatment structure at least annually.
- Mowing: If mowing is desired, only hand–held string trimmers or push–mowers are allowed on the filter (no tractor) and the grass bed shall be mowed no more than 2 times per growing season to maintain grass heights of no less than 6 inches.
- Fertilization: Fertilization of the underdrained filter area shall be avoided unless absolutely necessary to establish vegetation.
- Harvesting and Weeding: Harvesting and pruning of excessive growth shall be done occasionally. weeding to control unwanted or invasive plants may also be necessary.
- Grass Cover: Maintaining a healthy cover of grass will minimize clogging with fine sediments. If ponding exceeds 48 hours, the top of the filter bed shall be rototilled to reestablish the soil's filtration capacity.
- Soil Filter Replacement: The top several inches of the filter shall be replaced with fresh material if water is ponding for more than 72 hours, or the basin can be rototilled, seeded and mulched. Once the filter is mature, adding new material (a 1–inch to 2–inch cover of mature compost) can compensate for subsidence.

GRASSED UNDERDRAINED SOIL FILTER
NOT TO SCALE



1. CONSTRUCT OVERFLOW WEIR TO THE WIDTHS AND LENGTHS SHOWN ON THE PLAN.
2. THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIPRAP SHALL BE PREPARED TO LINES AND GRADES SHOWN ON THE PLANS.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE EROSION STONE. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 18 INCHES.
4. THE EROSION STONE MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

EMERGENCY OVERFLOW WEIR
NOT TO SCALE



INSTALLATION AND MAINTENANCE:

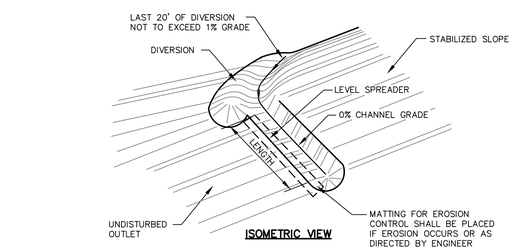
INSTALLATION: REMOVE THE GRATE FROM CATCH BASIN. IF USING OPTIONAL OIL ABSORBENTS; PLACE ABSORBENT PILLOW IN UNIT. STAND GRATE ON END. MOVE THE TOP LIFTING STRAPS OUT OF THE WAY AND PLACE THE GRATE INTO CATCH BASIN INSERT SO THE GRATE IS BELOW THE TOP STRAPS AND ABOVE THE LOWER STRAPS. HOLDING THE LIFTING DEVICES, INSERT THE GRATE INTO THE INLET.

MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM VICINITY OF THE UNIT AFTER EACH STORM EVENT. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE CATCH BASIN INSERT. IF THE CONTAINMENT AREA IS MORE THAN 1/3 FULL OF SEDIMENT, THE UNIT MUST BE EMPTIED. TO EMPTY THE UNIT, LIFT THE UNIT OUT OF THE INLET USING THE LIFTING STRAPS AND REMOVE THE GRATE. IF USING OPTIONAL ABSORBENTS, REPLACE ABSORBENT WHEN NEAR SATURATION.

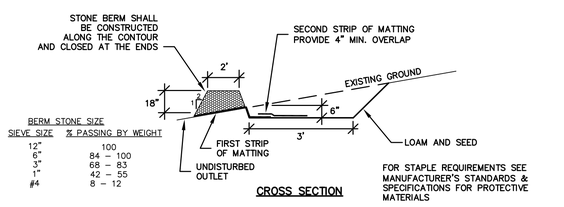
UNACCEPTABLE INLET PROTECTION METHOD:

A SIMPLE SHEET OF GEOTEXTILE UNDER THE GRATE IS NOT ACCEPTABLE.

STORM DRAIN INLET PROTECTION
NOT TO SCALE



ISOMETRIC VIEW



BERM STONE SIZE	
SIEVE SIZE	% PASSING BY WEIGHT
12"	100
6"	84 – 100
3"	68 – 83
1"	42 – 55
#4	8 – 12

CROSS SECTION

FOR STAPLE REQUIREMENTS SEE MANUFACTURER'S STANDARDS & SPECIFICATIONS FOR PROTECTIVE MATERIALS

LEVEL SPREADERS SHALL BE CONSTRUCTED PER STORMWATER MANAGEMENT FOR MAINE, "VOLUME III BMPS TECHNICAL DESIGN MANUAL, CHAPTER 5.2.2, BUFFER WITH STONE BERMED LEVEL LIP SPREADER", JANUARY 2006 SPECIFICATIONS.

LEVEL SPREADER
NOT TO SCALE

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(603) 433–2335 www.ALTUS–ENG.com

STATE OF MAINE
JEFFREY K. CLIFFORD
No. 5967
LICENSED
PROFESSIONAL ENGINEER

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ISSUED FOR:
FINAL APPROVAL

ISSUE DATE:
MARCH 27, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TOWN SUBMISSION	JKC	10/18/18
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DRAWN BY: RMB
APPROVED BY: JKC
DRAWING FILE: 4795SUB.DWG

SCALE:
N.T.S.

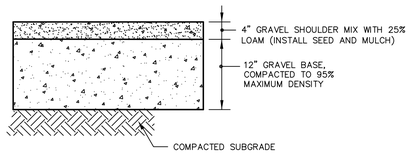
OWNERS/APPLICANT:
ARTHUR W. ANDREWS REV. TRUST
c/o MARY THRON, TRUSTEE
P.O. BOX 96
KITTERY POINT, MAINE 03905

PROJECT:
ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

TITLE:
EROSION CONTROL DETAILS

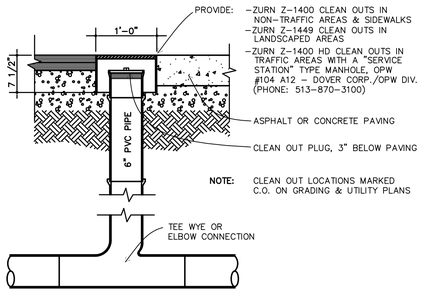
SHEET NUMBER:
C-4.2

P4795



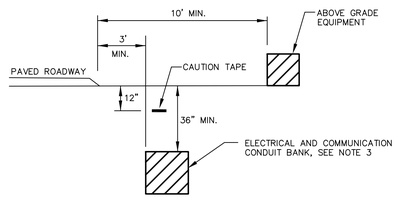
REINFORCED GRASSED PARKING (K.L.T.)

NOT TO SCALE



CLEANOUT DETAIL

NOT TO SCALE

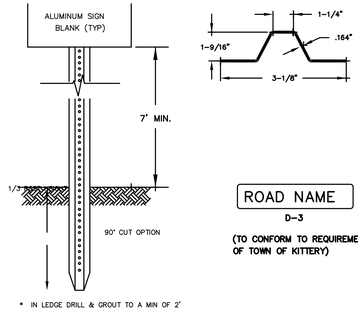


NOTES:

1) ELECTRICAL AND COMMUNICATION CONDUIT SIZE, MATERIALS AND SPACING SHALL BE IN ACCORDANCE WITH THE APPLICABLE UTILITY COMPANY STANDARDS.
2) CONDUIT SHALL CROSS PAVED AREAS AT 90°.
3) BACKFILL NOTES:
   A) SELECTED SAND BACKFILL SHALL CONSIST OF A FINE GRANULAR MATERIAL OF WHICH 100% SHALL PASS THROUGH A 1/4" SIEVE.
   B) EXCEPTION: NATURALLY OCCURRING SMOOTH ROUND PEBBLES NO GREATER THAN 3/8" IN DIAMETER ARE PERMITTED AS LONG AS THEIR TOTAL VOLUME PER CUBIC FOOT OF SAND DOES NOT EXCEED 1%.
   C) THE SAND SHALL BE COMPLETELY FREE OF FROZEN LUMPS, ROCKS, STONES, DEBRIS AND RUBBISH.

UNDERGROUND CONDUIT BANK DETAIL

NOT TO SCALE



LENGTH: AS REQUIRED
WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH
STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070 - 1080)
FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

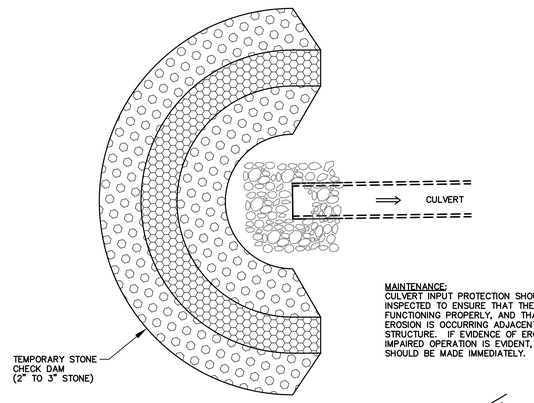
NOTE:
ALL SIGNS TO BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

SIGN LEGEND

NOT TO SCALE

SIGN POST DETAIL

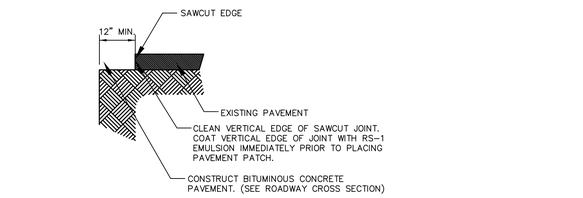
NOT TO SCALE



MAINTENANCE:
CULVERT INPUT PROTECTION SHOULD BE INSPECTED TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY, AND THAT NO EROSION IS OCCURRING ADJACENT TO THE STRUCTURE. IF EVIDENCE OF EROSION OR IMPAIRED OPERATION IS EVIDENT, REPAIRS SHOULD BE MADE IMMEDIATELY.

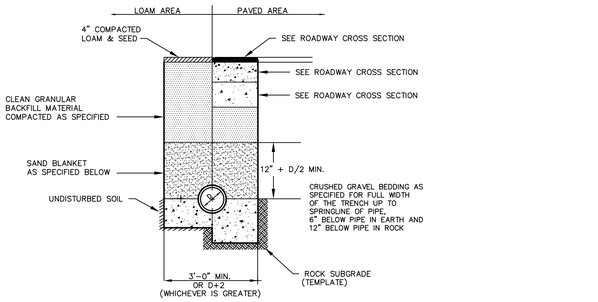
PIPE INLET PROTECTION

NOT TO SCALE



TYPICAL PAVEMENT SAWCUT DETAIL

NOT TO SCALE



SAND BLANKET		CRUSHED GRAVEL BEDDING	
SIEVE SIZE	% FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1/2"	90 - 100	3"	100
200	0 - 15	2"	95 - 100
		1"	55 - 85
		# 4	27 - 52
		# 200	0 - 12

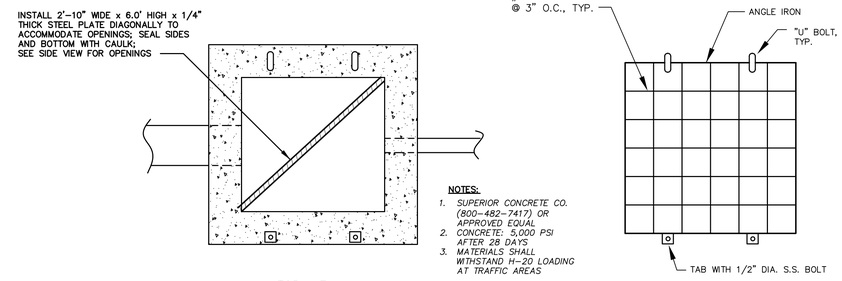
MDOT TYPE A, CRUSHED GRAVEL

*(IN SAND PORTION) FRACTION PASSING THE #4 SIEVE.

BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

TRENCH SECTION

NOT TO SCALE



NOTES:

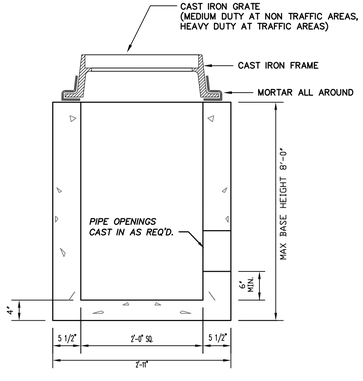
1. *SUPERIOR CONCRETE CO. (800-482-7417) OR APPROVED EQUAL*
2. *CONCRETE: 5,000 PSI AFTER 28 DAYS*
3. *MATERIALS SHALL WITHSTAND H-20 LOADING AT TRAFFIC AREAS*

TOP VIEW

OUTLET STRUCTURE COVER

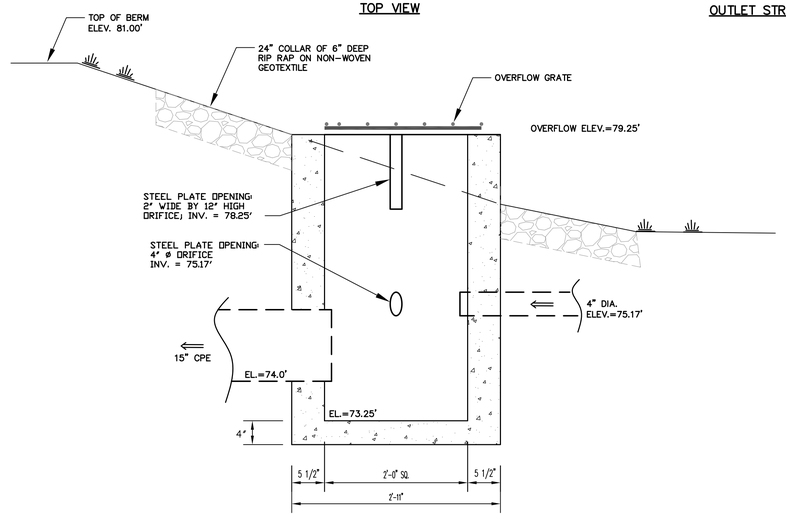
NOTES:

1. TO ACCOMMODATE A 24" SQ. C.I. FRAME AND GRATE.
2. SUPERIOR CONCRETE CO. (800-482-7417) OR APPROVED EQUAL
3. CONCRETE: 5,000 PSI AFTER 28 DAYS
4. MATERIALS SHALL WITHSTAND H-20 LOADING AT TRAFFIC AREAS



DROP INLET

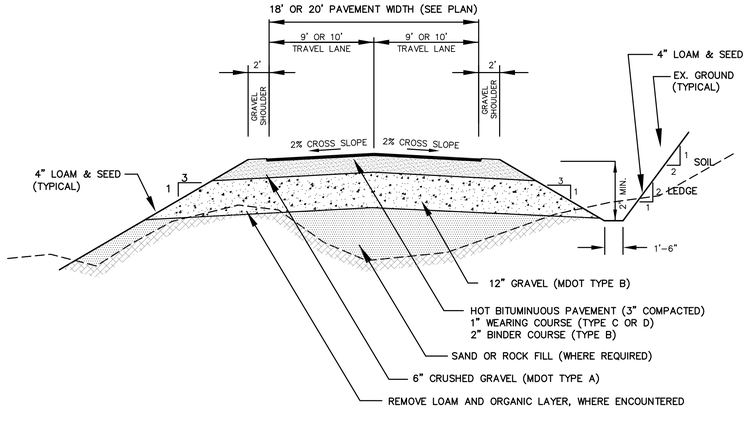
NOT TO SCALE



SIDE VIEW

PDI #4 OUTLET STRUCTURE

NOT TO SCALE



TYPICAL ROADWAY CROSS SECTION

NOT TO SCALE

P4795

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF MAINE
JEFFREY K. CLIFFORD
No. 5987
LICENSED PROFESSIONAL ENGINEER

THIS DRAWING HAS NOT BEEN RELEASED FOR CONSTRUCTION

ISSUED FOR: *FINAL APPROVAL*

ISSUE DATE: *MARCH 27, 2019*

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	TOWN SUBMISSION	JKC	10/18/18
1	GENERAL REVISIONS	JKC	3/27/19

DRAWN BY: RMB
APPROVED BY: JKC
DRAWING FILE: 4795SUB.DWG

SCALE: N.T.S.

OWNERS/APPLICANT:

ARTHUR W. ANDREWS REV. TRUST
c/o MARY THRON, TRUSTEE
P.O. BOX 96
KITTERY POINT, MAINE 03905

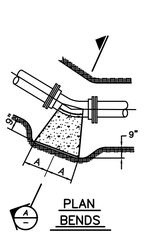
PROJECT:

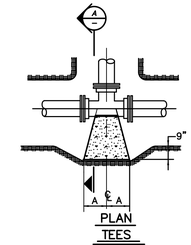
ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

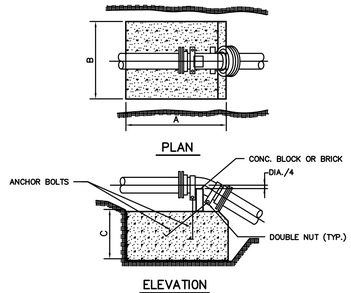
TITLE:

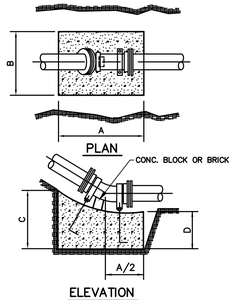
DETAIL SHEET

SHEET NUMBER: **C-5.0**









TYPE	SIZE	90° BENDS		45° BENDS		22-1/2°& 11-1/4°BENDS		TEES		PLUGS	
		A	B	A	B	A	B	A	B	C	D
2000 P.S.F. SOIL	6" *	18"	11"	10"	11"	6"	9"	11"	13"	10"	24"
	8"	25"	14"	14"	14"	9"	11"	15"	17"	12"	32"
	10"	27"	20"	16"	19"	10"	15"	18"	22"	14"	40"
	12"	33"	23"	18"	23"	12"	18"	21"	26"	16"	47"
	14"	39"	26"	22"	26"	13"	22"	24"	30"	18"	54"
	16"	43"	30"	24"	30"	14"	26"	28"	33"	20"	61"
	20"	50"	39"	27"	39"	17"	32"	33"	42"	24"	74"
	24"	60"	45"	33"	45"	20"	38"	40"	49"	28"	88"

*6" OR LESS

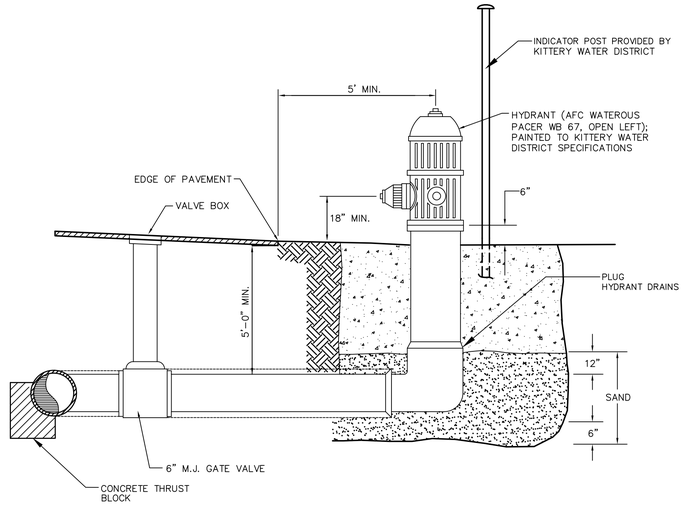
NOTE
BASED ON 150 P.S.I. STATIC PRESSURE PLUS A.W.W.A. WATER HAMMER.
ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.

VERTICAL BENDS

TYPE	SIZE	TYPE A			TYPE B				STRAPS	ANCH. BOLT SIZE (DIA.)	L_1
		A	B	C	A	B	C	D			
2000 P.S.F. SOIL	6"*	38"	32"	27"	27"	27"	27"	16"	(1) 1/4"x 1 1/8"	5/8"	1'-0"
	8"	44"	38"	27"	30"	30"	30"	18"	" "	"	"
	10"	50"	44"	34"	37"	37"	33"	18"	(2) 1/4"x 1 1/4"	5/8"	1'-0"
	12"	57"	51"	40"	41"	41"	40"	21"	" "	"	"
	14"	57"	51"	67"	47"	47"	47"	24"	(2) 3/8"x 1 1/2"	3/4"	1'-0"
	16"	64"	57"	67"	54"	54"	49"	24"	" "	"	"
	20"	78"	63"	80"	64"	64"	64"	30"	(2) 1/2"x 1 3/4"	7/8"	2'-0"
	24"	93"	75"	83"	78"	78"	78"	36"	(2) 1/2"x 2 1/2"	1"	2'-0"

*6" OR LESS

NOTE
BASED ON 150 P.S.I. STATIC PRESSURE PLUS A.W.W.A. WATER HAMMER.
ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.
ALL STRAPS, BOLTS AND ANCHORS SHALL BE MADE OF GALVANIZED STEEL AND SHALL CONFORM TO ASTM 123 AND 153

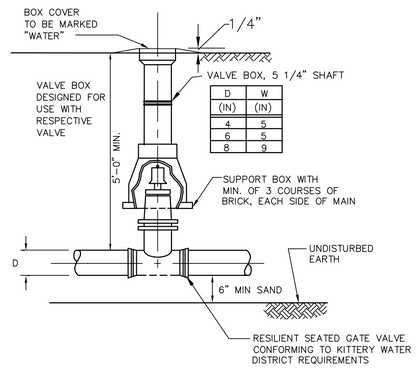


FIRE HYDRANT

NOT TO SCALE

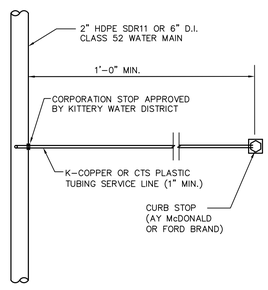
WATER MAIN NOTES:

1. OPERATION OF HYDRANTS AND VALVES SHALL BE AS DETERMINED BY KITTERY WATER DISTRICT AND KITTERY FIRE DEPARTMENT.
2. ALL WORK SHALL CONFORM TO KITTERY WATER DISTRICT "WATER MAIN MATERIAL AND INSTALLATION SPECIFICATIONS, MARCH 2009". CONTRACTOR SHALL OBTAIN A COPY OF SAID SPECIFICATIONS AND MEET WITH THE KITTERY WATER DISTRICT PRIOR TO PURCHASING MATERIALS OR COMMENCING CONSTRUCTION.
3. MECHANICAL JOINT FITTINGS ARE TO BE CLASS 350 AND HAVE ROMAC "GRIP RING" RETAINER GLANDS WITH CORTEN LOW ALLOY STEEL NUTS AND BOLTS OR MEGALUG RETAINER GLANDS.



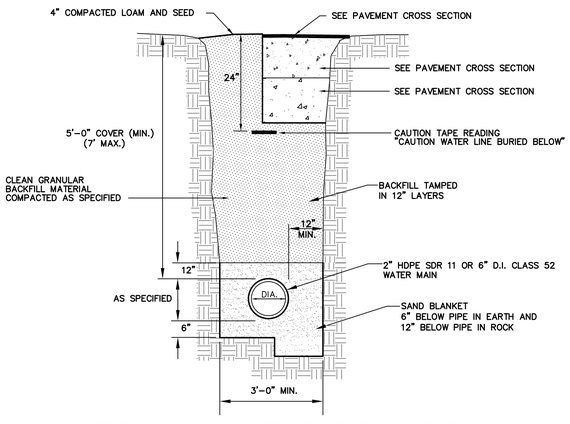
WATER VALVE DETAIL

NOT TO SCALE



TYPICAL SERVICE CONNECTION

NOT TO SCALE



WATER MAIN AND SERVICE TRENCH DETAIL

NOT TO SCALE

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STATE OF MAINE
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P.O. BOX 96
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PROJECT:
ANDREWS SUBDIVISION
MAP 60 LOT 10
KITTERY, MAINE

TITLE:
WATER DETAILS

SHEET NUMBER:
C-6.0

P-4383