

APPLICANT:

ROBIE HOLDINGS, LLC P.O. BOX 1508 WINDHAM, MAINE 04062

OWNER:

ROBIE HOLDINGS, LLC P.O. BOX 1508 WINDHAM, MAINE 04062

PROJECT PARCEL SITE TOWN OF WINDHAM TAX ASSESSOR'S MAP & LOT NUMBERS

<u>LOT</u> 8

<u>MAP</u> 19

PREPARED BY:

CIVIL ENGINEER: TERRADYN CONSULTANTS, LLC P.O. BOX 339 NEW GLOUCESTER, MAINE 04260 (207) 632-9010

SURVEYOR: WAYNE WOOD & CO. 30 WOOD DRIVE GRAY MAINE 04039 207-657-3330

SEPTIC DESIGN & SOIL EVALUATION: MARK CENCI GELOLOGIC 93 MILL ROAD NORTH YARMOUTH, MAINE 04097

KETTLE ESTATES

A 42 UNIT CONDOMINIUM DEVELOPMENT DUSTY RHODES LANE - WINDHAM, MAINE

LOCATION MAP SCALE: 1"=150'

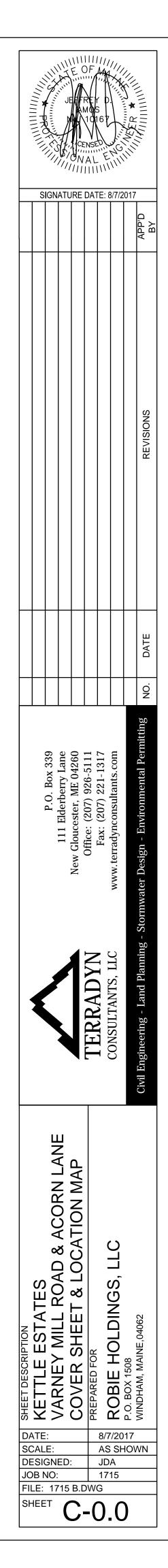
PERMITS		
TYPE OF PERMIT	GOVERNING BODY	STATUS
SITE PLAN & SUBDIVISION APPROVAL	TOWN OF WINDHAM, MAINE PLANNING DEPARTMENT 8 SCHOOL ROAD WINDHAM, ME 04062 TEL. 207-892-1900	SUBMITTED: 8/7/2017 APPROVED:
BUILDING PERMIT	TOWN OF WINDHAM, MAINE CODE ENFORCEMENT OFFICER 8 SCHOOL ROAD WINDHAM, ME 04062 TEL. 207-892-1900	TO BE SUBMITTED BY OWNER/CONTRACTOR

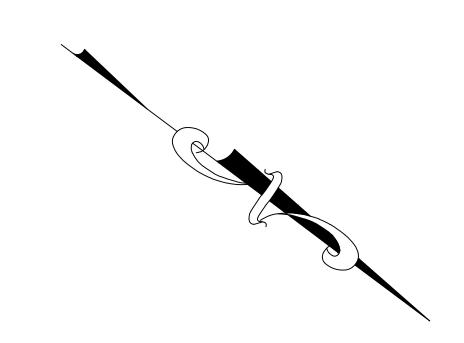
SHEET INDEX

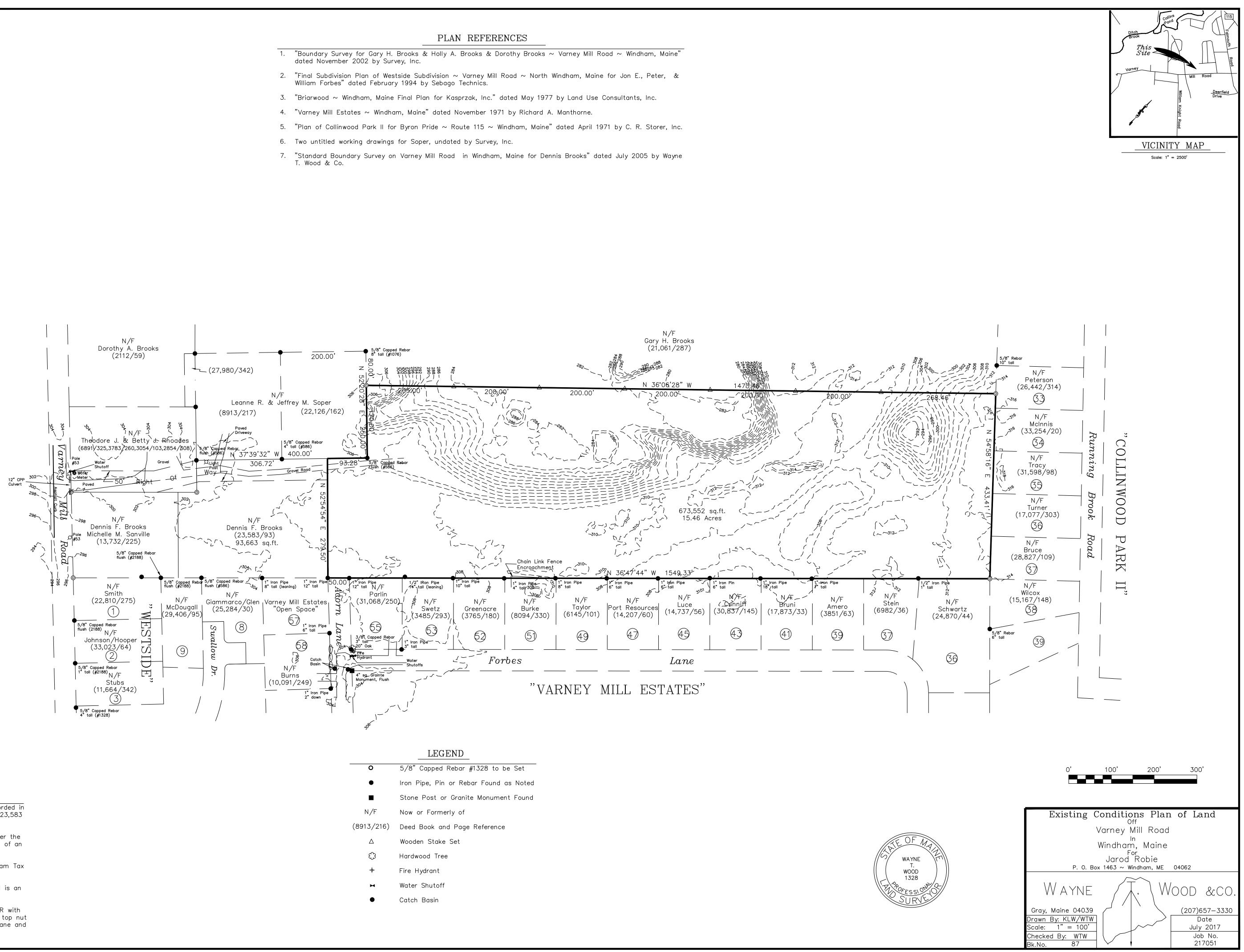
C-0.0	COVER SHEET & LOCATION MAP
C-1.0	SITE & LANDSCAPING PLAN
C-1.1	SITE & LANDSCAPING PLAN
C-2.0	GRADING & EROSION CONTROL PLAN
C-2.1	GRADING & EROSION CONTROL PLAN
C-3.0	UTILITY PLAN
C-3.1	UTILITY PLAN
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C-5.0	DETAILS & NOTES
C-5.1	DETAILS & NOTES
C-5.2	DETAILS & NOTES

LEGEND

LEGEND		
	EXISTING PROPERTY LINE	
	PROJECT SITE BOUNDARY	
	EXISTING SETBACK LINE	
· ·	PROPOSED EASEMENT	
124	EXISTING MINOR CONTOUR	
124	EXISTING MAJOR CONTOUR	
124	PROPOSED CONTOUR	
SD	EXISTING STORMDRAIN	
SD	PROPOSED STORMDRAIN	
S	EXISTING SANITARY SEWER	
s	PROPOSED SANITRY SEWER	
W	EXISTING WATER LINE	
W	PROPOSED WATER LINE	
UD	EXISTING UNDERDRAIN	
	PROPSED UNDERDRAIN	
OHE	EXISTING OVERHEAD ELECTRIC	
	& TELEPHONE	
OHE	PROPOSED OVERHEAD ELECTRIC	
	& TELEPHONE	
	ELECTRIC & TELEPHONE	
——— UGE ———		
002	ELECTRIC & TELEPHONE	
	EXISTING EDGE OF PAVEMENT	
	PROPOSED EDGE OF PAVEMENT	
	EXISTING EDGE OF GRAVEL	
	PROPOSED EDGE OF GRAVEL	
	EXISTING CURB	
	PROPOSED CURB	
	PROPOSED FENCE	
SF	SILT FENCE	
- TP-A	TEST PIT	
	PROPOSED VALVE	
-Q-	EXISTING HYDRANT	
¢.	EXISTING LIGHT POLE	
*	PROPOSED LIGHT POLE	
-0-	EXISTING UTILITY POLE	
	EXISTING CATCH BASIN	
•	PROPOSED CATCH BASIN	
D	EXISTING DRAIN MANHOLE	
Ø	PROPOSED DRAIN MANHOLE	
S	EXISTING SEWER MANHOLE	
Ś	PROPOSED SEWER MANHOLE	
+ 30.20	EXISTING SPOT GRADE	
×30.20	PROPOSED SPOT GRADE	
^ 🛆	SURVEY CONTROL POINT	
•	EXISTING MONUMENT	
0	EXISTING IRON PIPE	
	EXISTING SIGN	
	PROPOSED SIGN	
	EXISTING BUILDING	
	PROPOSED BUILDING	
	PROPOSED CONCRETE PAD	
	PROPOSED PAVEMENT	
	PROPOSED ROOF DRAIN FILTER	
	TURF REINFORCEMENT BLANKET	
	RIPRAP	

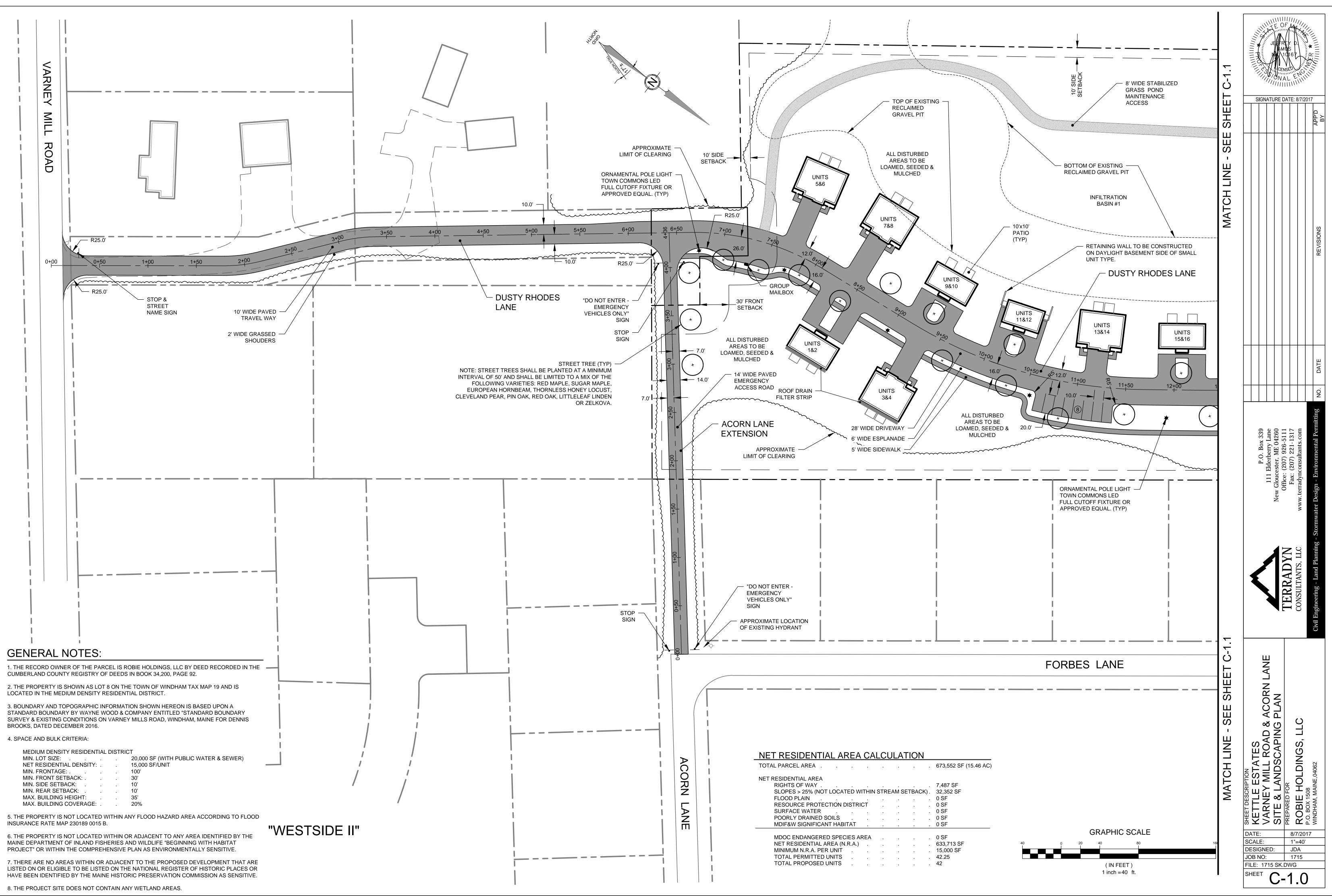


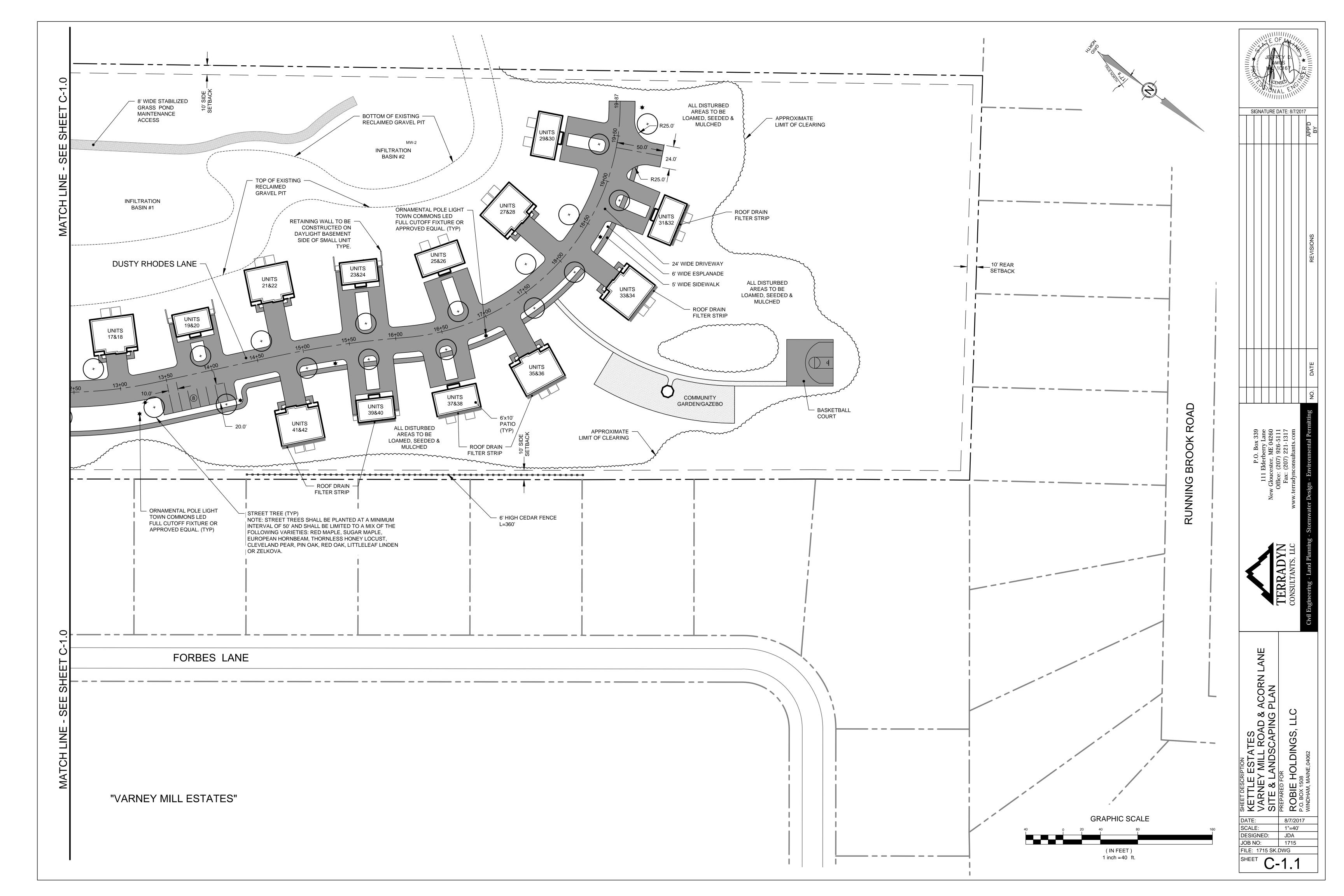


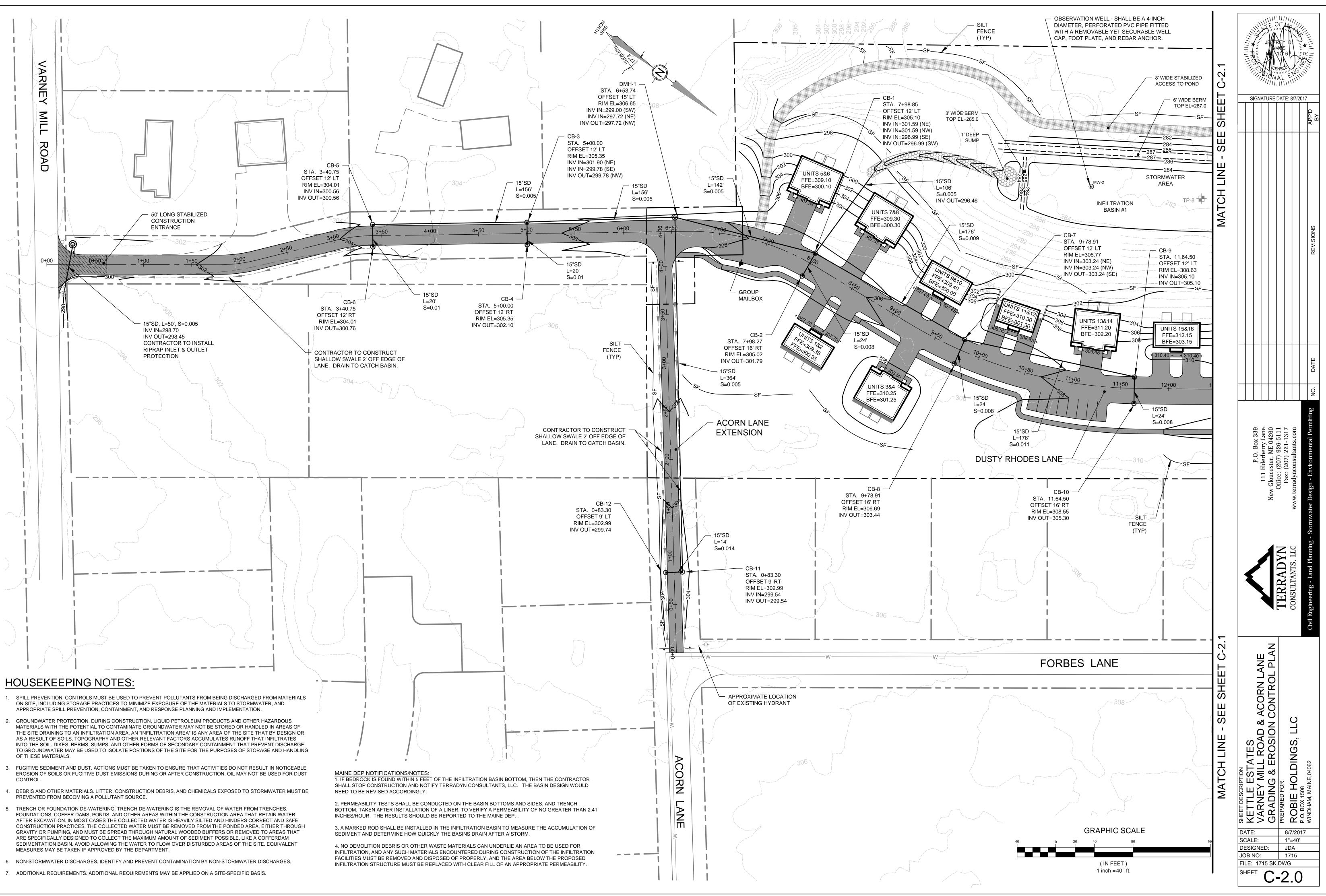


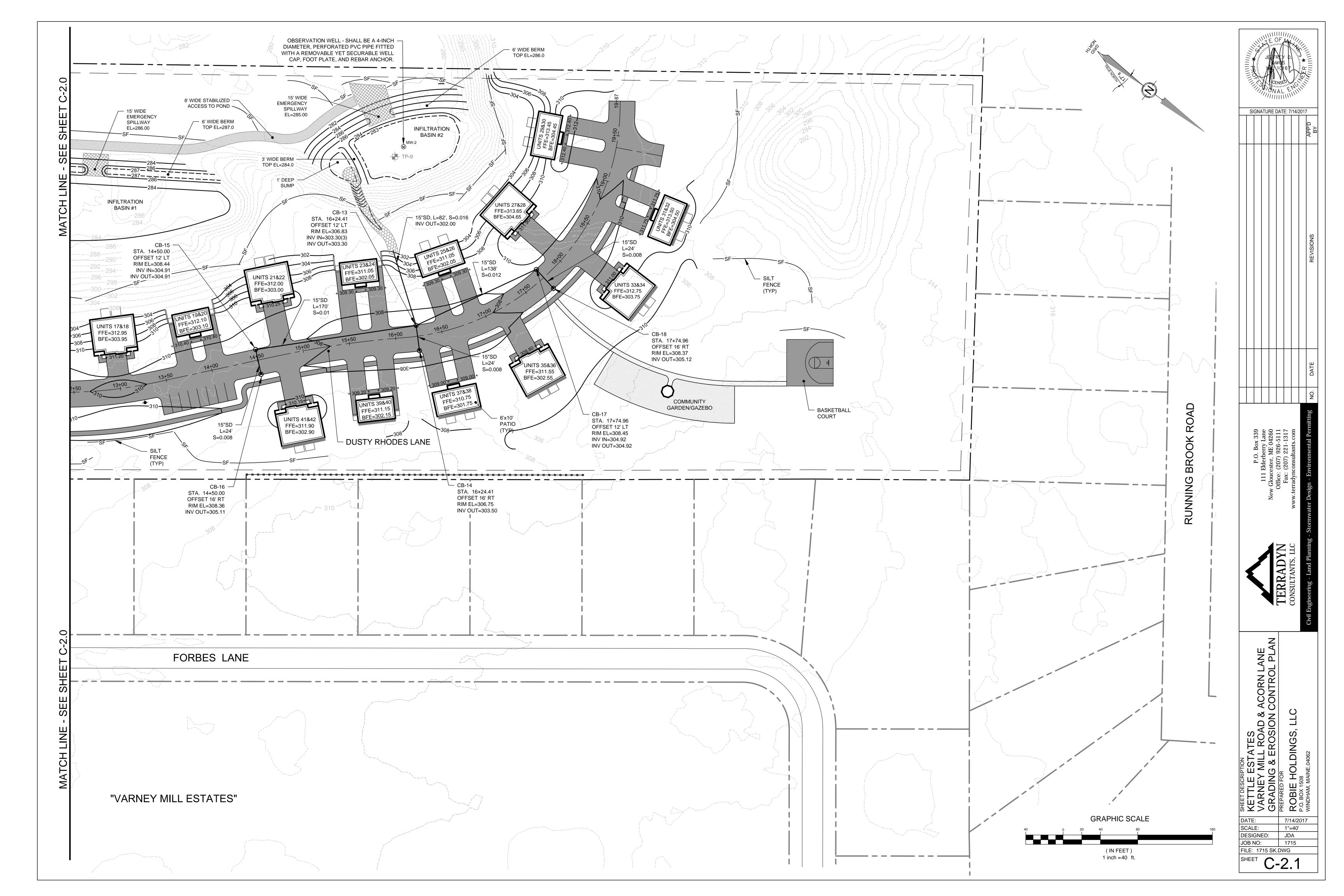
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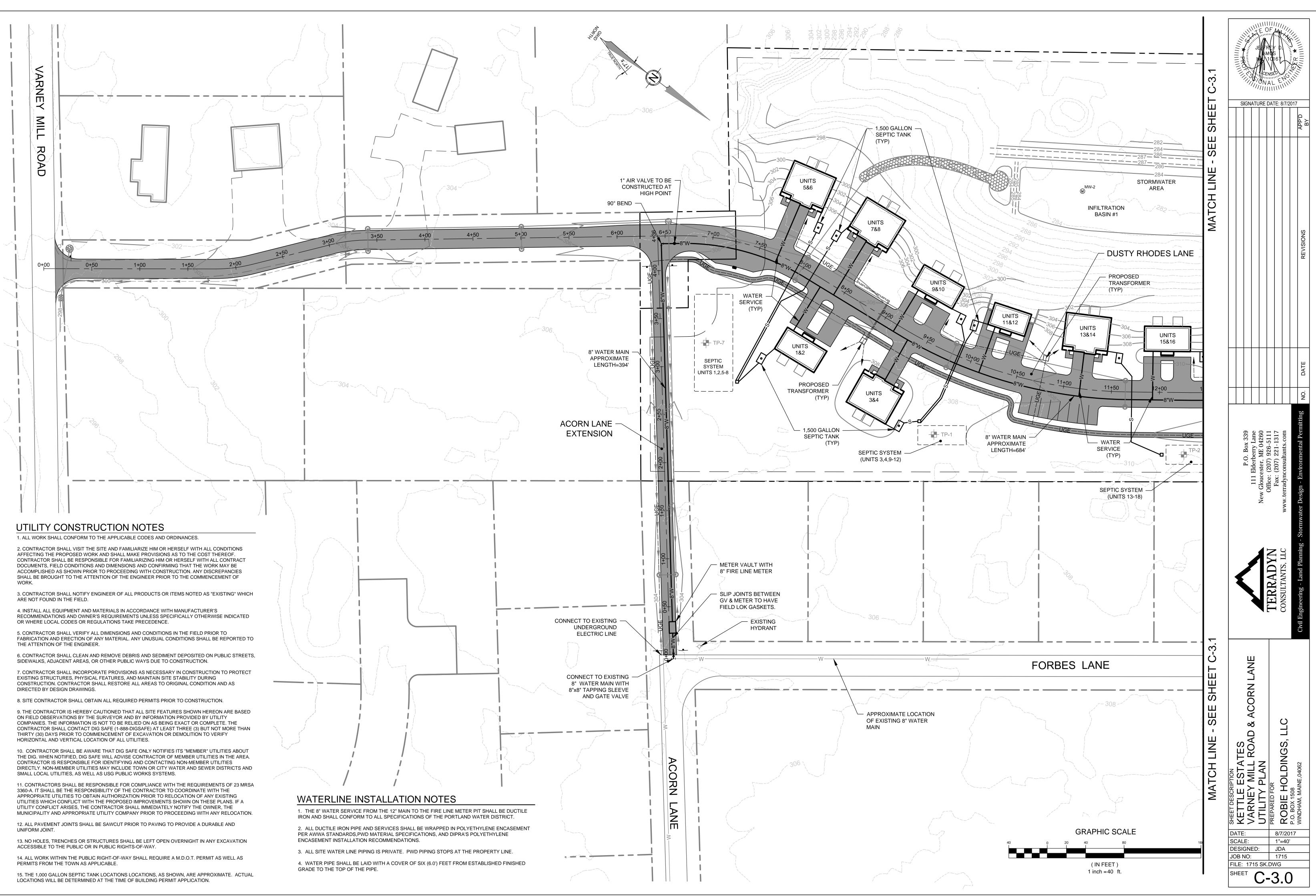
- 1. Owner of record is Dennis F. Brooks by deed recorded in the Cumberland County Registry of Deeds in book 23,583 page 552.
- 2. All bearings are Magnetic of the year 2001 as per the Plan Reference #1 and are calculated from angles of an actual on the ground survey.
- 3. The subject parcel is shown on the Town of Windham Tax Map #19 as Lot #8-2-1 and is in the RM Zone.
- 4. The end of Acron Lane as it abuts this parcel is an unbuilt Town Road.
- 5. Topography shown on this plan is from MEGIS LIDAR with on the ground field verification. Bench Mark is the top nut on the fire hydrant at the intersection of Forbes Lane and Acorn Lane, elevation 306.74 NGVD 1988.

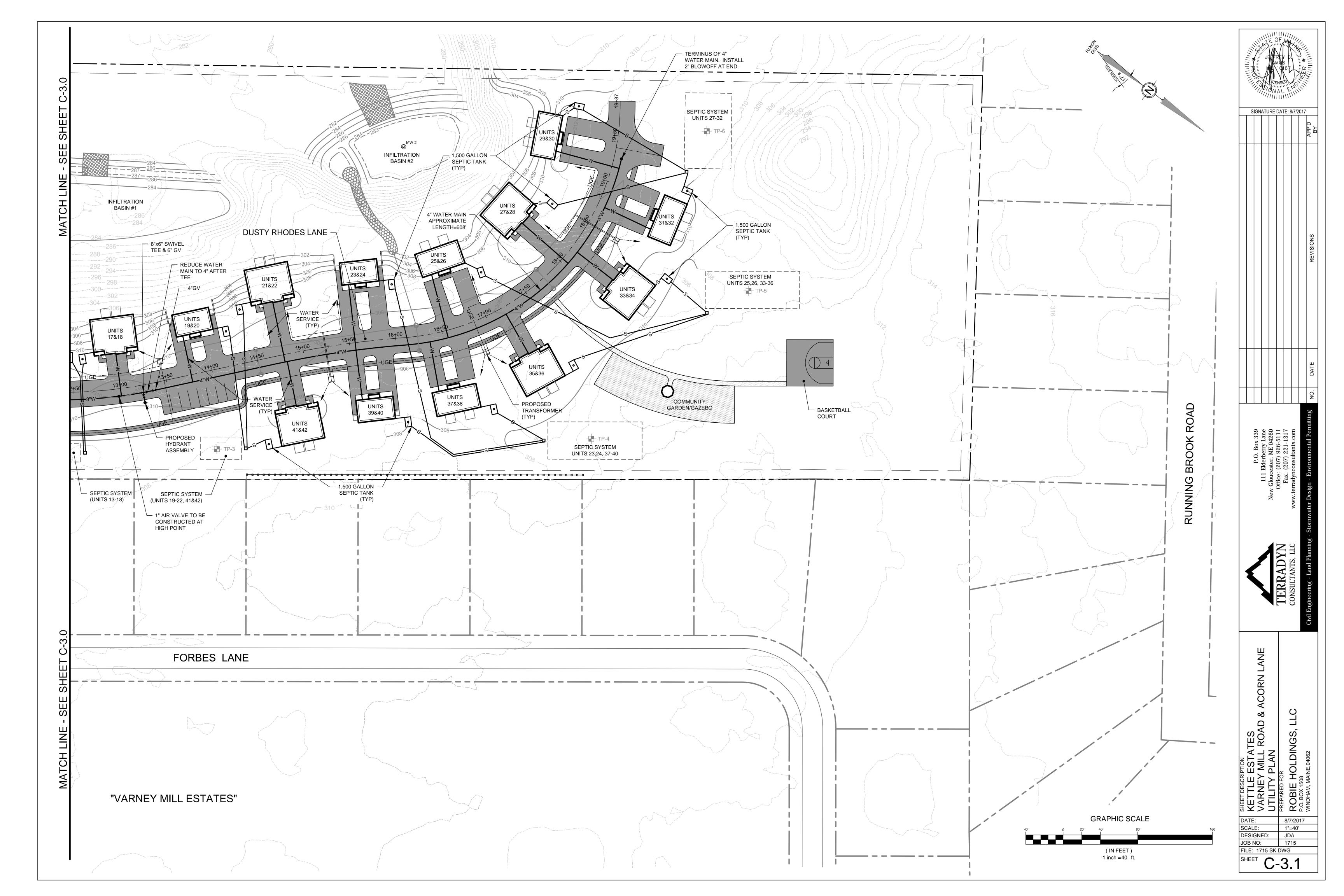


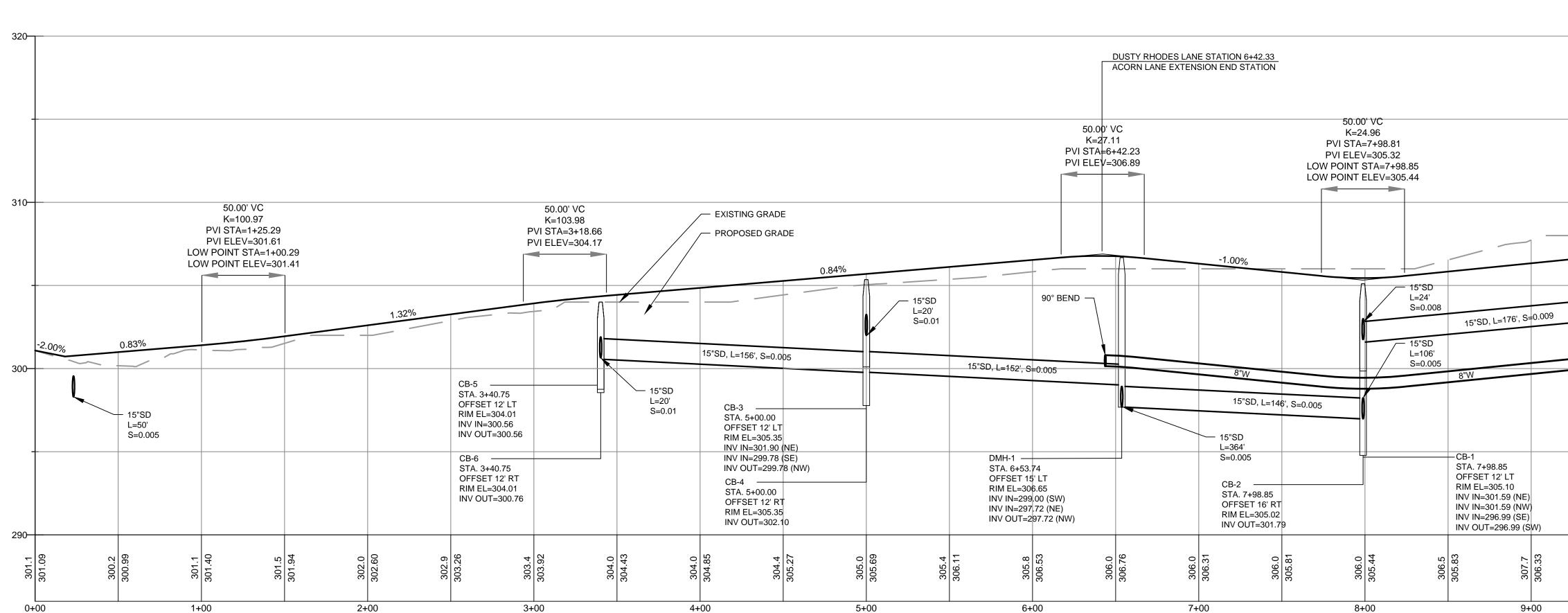


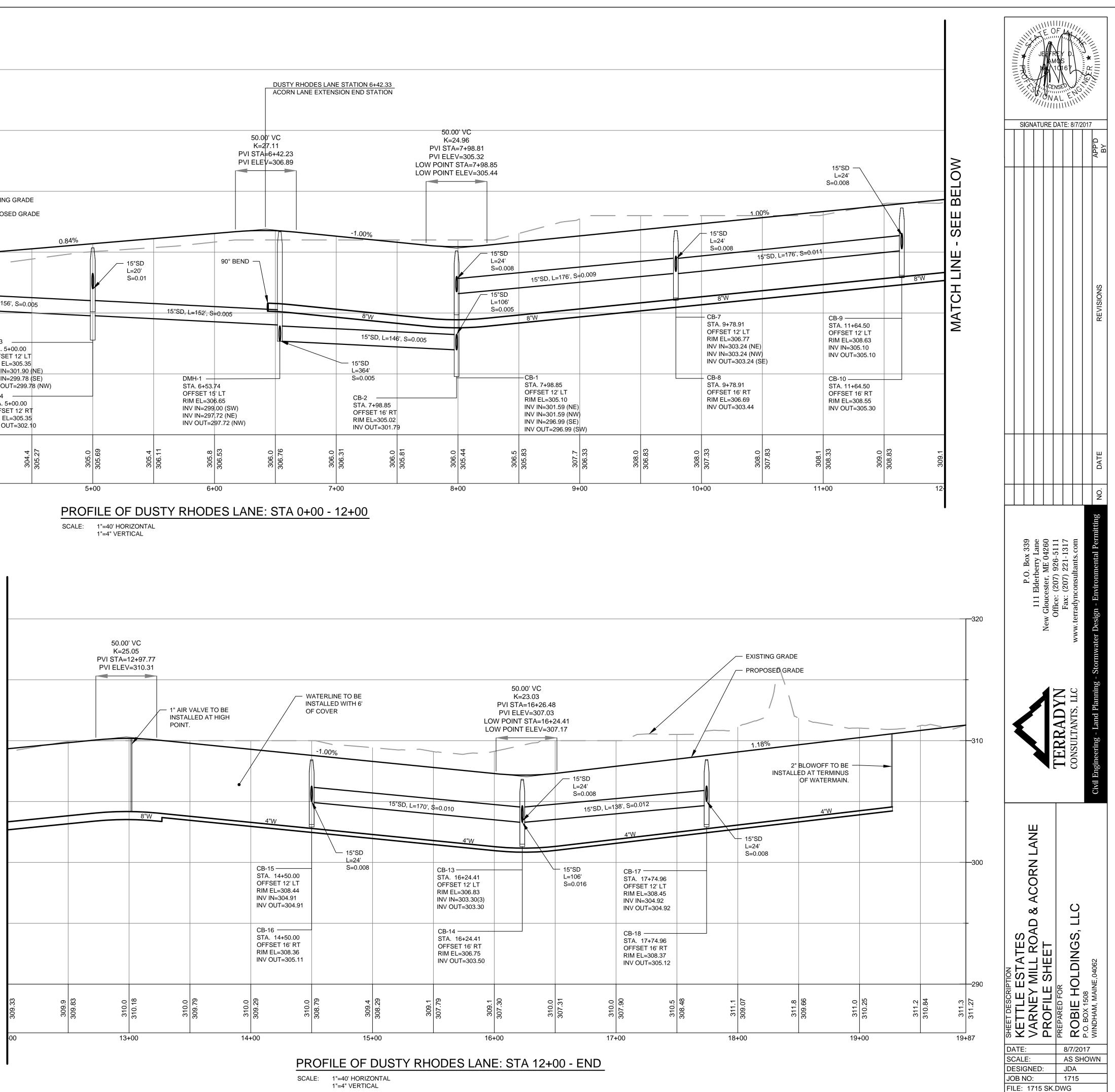






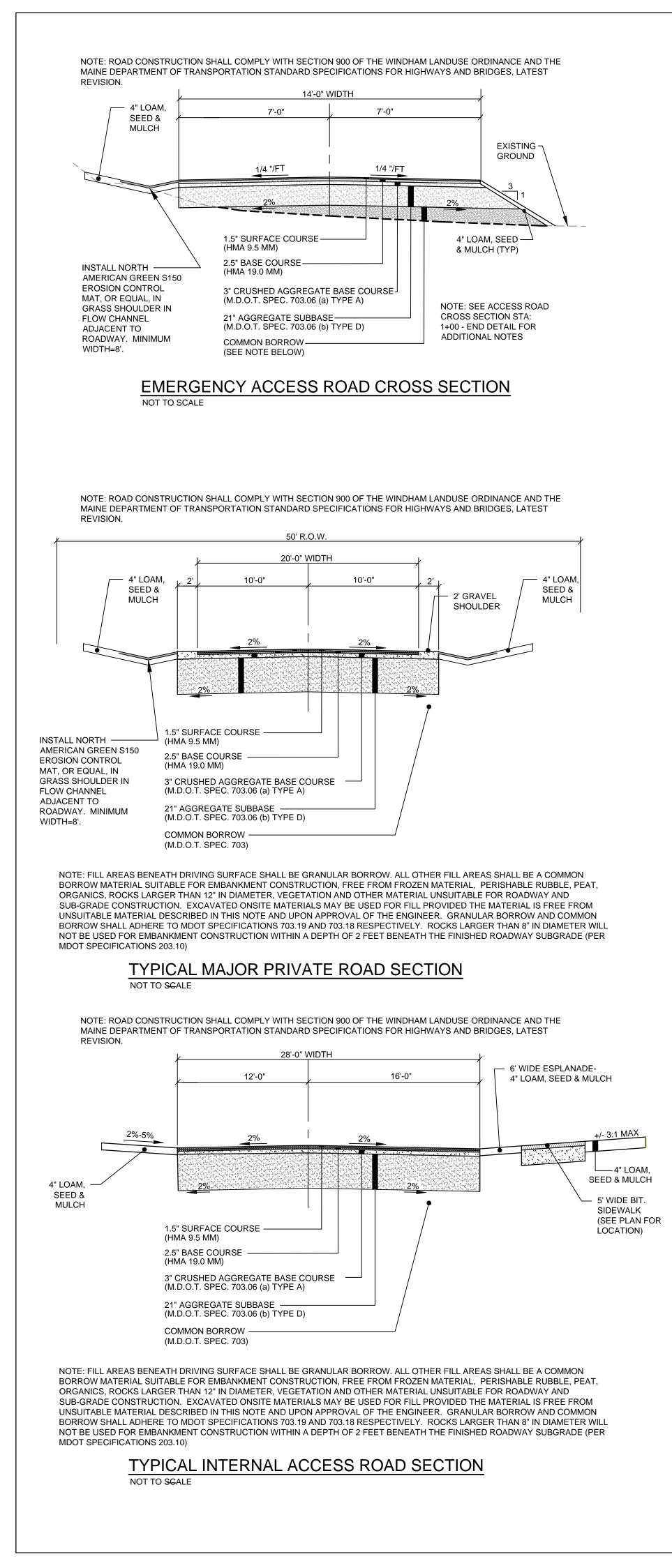






SHEET

C-4.0



CONSTRUCTION NOTES 1. All work shall conform to the applicable codes and ordinances.

2. Contractor shall visit the site and familiarize him or herself with all conditions affecting the proposed work and shall make provisions as to the cost thereof. Contractor shall be responsible for familiarizing him or herself with all contract documents, field conditions and dimensions and confirming that the work may be accomplished as shown prior to proceeding with construction. Any discrepancies shall be brought to the attention of the engineer prior to the commencement of work.

5. Contractor shall verify all dimensions and conditions in the field prior to fabrication and erection of any material. Any unusual conditions shall be reported to the attention of the engineer.

6. Contractor shall clean and remove debris and sediment deposited on public streets, sidewalks, adjacent areas, or other public ways due to construction.

7. Contractor shall incorporate provisions as necessary in construction to protect existing structures, physical features, and maintain site stability during construction. Contractor shall restore all areas to original condition and as directed by design drawings.

8. Site contractor shall obtain all required permits prior to construction.

9. All erosion and sediment control measures shall be installed in accordance with "Maine Erosion and Sedimentation Control BMP's" published by the Maine DEP in 2003. A copy of the manual can be found at http://maine.gov/dep/blwq/docstand/escbmps/index.htm. It shall be the responsibility of the contractor to possess a copy of the erosion control plan at all times.

10. The contractor is hereby cautioned that all site features shown hereon are based on field observations by the surveyor and by information provided by utility companies. The information is not to be relied on as being exact or complete. The contractor shall contact dig safe (1-888-digsafe) at least three (3) but not more than thirty (30) days prior to commencement of excavation or demolition to verify horizontal and vertical location of all utilities. Contractor shall be aware that dig safe only notifies its "member" utilities about the dig. When notified, dig safe will advise contractor of member utilities in the area. Contractor is responsible for identifying and contacting non-member utilities directly. Non-member utilities may include town or city water and sewer districts and small local utilities, as well as usg public works systems.

11. Contractors shall be responsible for compliance with the requirements of 23 mrsa 3360-a. It shall be the responsibility of the contractor to coordinate with the appropriate utilities to obtain authorization prior to relocation of any existing utilities which conflict with the proposed improvements shown on these plans. If a utility conflict arises, the contractor shall immediately notify the owner, the municipality and appropriate utility company prior to proceeding with any relocation.

12. All pavement markings and directional signage shown on the plan shall conform to the manual of uniform traffic control devices (mutcd) standards.

13. All pavement joints shall be sawcut prior to paving to provide a durable and uniform joint.

14. No holes, trenches or structures shall be left open overnight in any excavation accessible to the public or in public rights-of-way.

15. All work within the public right-of-way shall require a M.D.O.T. Permit as well as permits from the town as applicable.

16. The proposed limits of clearing shown hereon are approximate based upon the proposed limits of site grading. The applicant reserves the right to perform normal forest management activities outside of the clearing limit as shown. Tree removal outside of the limits of clearing may be necessary to remove dead or dying trees or tree limbs. This removal is due to potential safety hazards and to promote proper forest growth.

notes and as specified on plans.

18. The contractor shall be fully and solely responsible for the removal, replacement and rectification of all damaged and defective material and workmanship in connection with the contract work. The contractor shall replace or repair as directed by the owner all such damaged or defective materials which appear within a period of one year from the date of substantial completion.

19. All work performed by the general contractor and/or trade subcontractor shall conform to the requirements of local, state or federal laws, as well as any other governing requirements, whether or not specified on the drawings.

21. Where the terms "approved equal", "other approved", "equal to", "acceptable" or other general qualifying terms are used in these notes, it shall be understood that reference is made to the ruling and judgment of Terradyn Consultants, LLC.

22. The general contractor shall provide all necessary protection for the work until turned over to the owner. Before the final acceptance of the project, the contractor shall remove all equipment and materials, repair or replace private or public property which may have been damaged or destroyed during construction, clean the areas within and adjacent to the project which have been obstructed by his/her operations, and leave the project area neat and presentable.

23. The general contractor shall maintain a current and complete set of construction drawings on site during all phases of construction for use of all trades.

24. The contractor shall take full responsibility for any changes and deviation of approved plans not authorized by the architect/engineer and/or client/owner.

25. Details are intended to show end result of design. Any modification to suit field dimension and condition shall be submitted to the engineer for review and approval prior to any work.

26. The applicant will retain the services of a professional engineer to inspect the construction and stabilization of all stormwater management structures. If necessary, the inspecting engineer will interpret the pond's construction plan for the contractor. Once all stormwater management structures are constructed and stabilized, the inspecting engineer will notify the department in writing within 30 days to state that the pond has been completed. Accompanying the engineer's notification must be a log of the engineer's 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.

1" HOT BITUMINOUS PAVING (HMA 9.5 MM)

2" HOT BITUMINOUS PAVING (HMA 19.0 MM)

3" AGGREGATE BASE COURSE- CRUSHED

15" AGGREGATE SUBBASE COURSE- GRAVEL

BRING TO SUBGRADE AS REQUIRED W/ COMMON

BORROW COMPACTED TO 90% OF MAXIMUM DENSITY.

(M.D.O.T. spec. 703.06 (a), TYPE A)

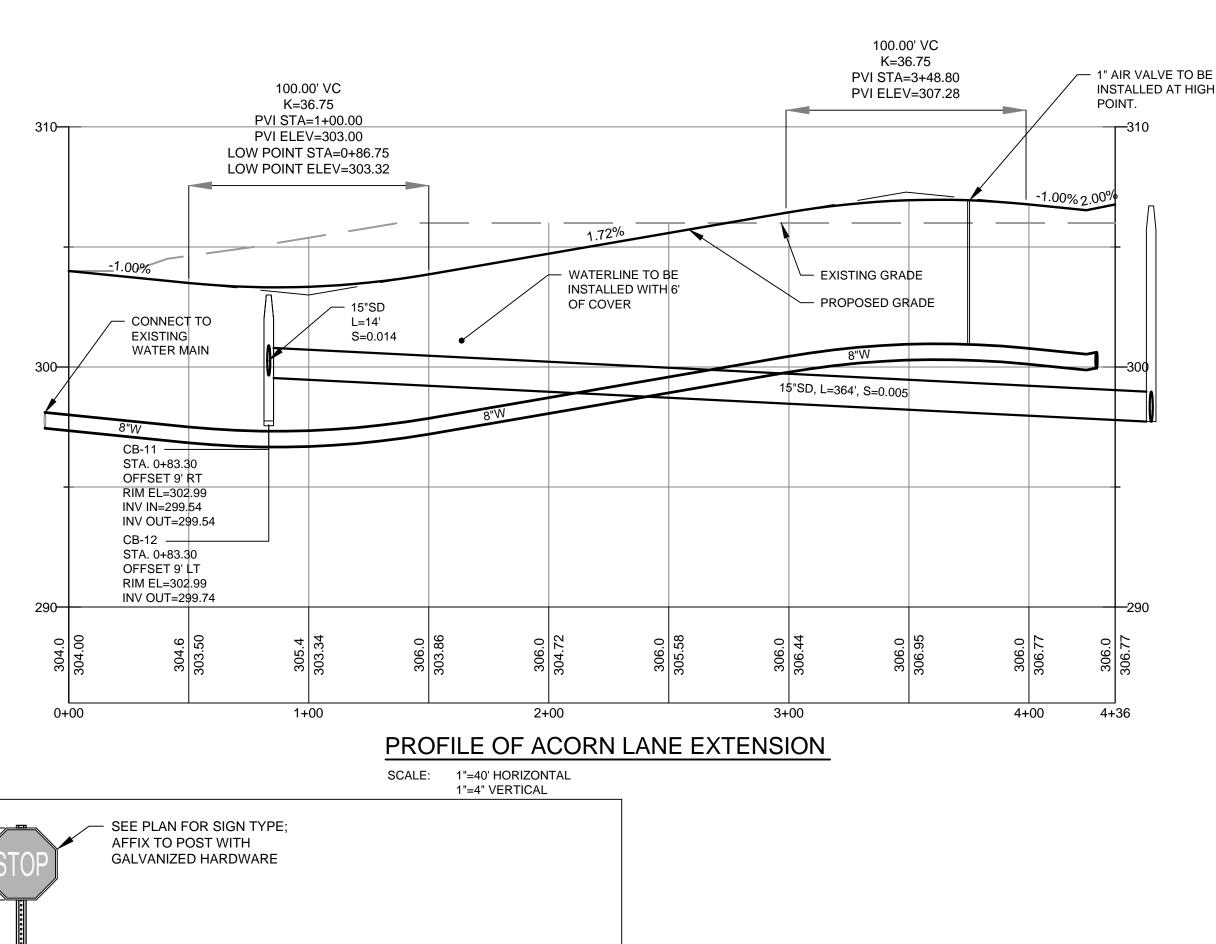
(M.D.O.T. spec. 703.06 (b), TYPE D)

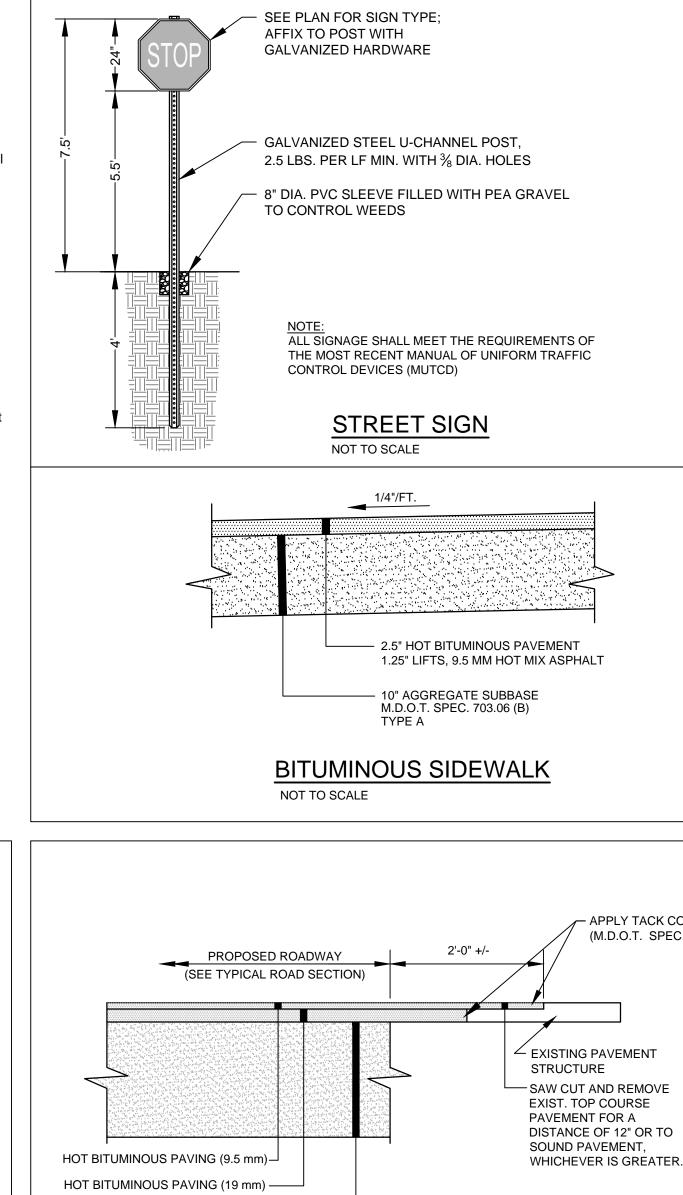
NOTES:

3. Contractor shall notify engineer of all products or items noted as "existing" which are not found in the field.

4. Install all equipment and materials in accordance with manufacturer's recommendations and owner's requirements unless specifically otherwise indicated or where local codes or regulations take precedence.

17. Immediately upon completion of cuts/fills, the contractor shall stabilize disturbed areas in accordance with erosion control



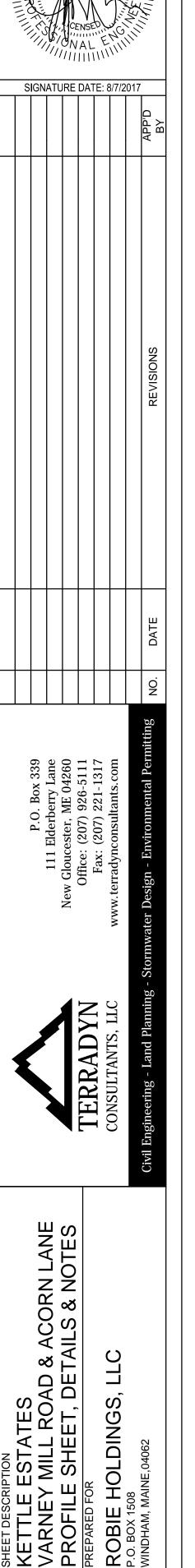


AGGREGATE SUBBASE COURSE-GRAVEL (M.D.O.T. spec. 703.06 (b) TYPE "D")

1. COMPACT GRAVEL SUBBASE COURSE TO 92% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION. 2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.



NOT TO SCALE



DATE:

SCALE:

DESIGNED:

FILE: 1715 B.DWG

JOB NO:

8/7/2017

JDA

1715

C-4.'

AS SHOWN

APPLY TACK COAT (M.D.O.T. SPEC. SECTON 409)

EROSION AND SEDIMENT CONTROL PLAN

Pre-Construction Phase

A person who conducts, or causes to be conducted, an activity that involves filling, displacing or exposing soil or other earthen materials shall take measures to prevent unreasonable erosion of soil or sediment beyond the project site or into a protected natural resource as defined in 38 mrsa § 480-b. Erosion control measures must be in place before the activity begins. Measures must remain in place and functional until the site is permanently stabilized. Adequate and timely temporary and permanent stabilization measures must be taken. The site must be maintained to prevent unreasonable erosion and sedimentation. Minimize disturbed areas and protect natural downgradient buffer areas to the extent practicable.

BMP Construction Phase

A. Sediment barriers. Prior to the beginning of any construction, properly install sediment barriers at the edge of any downgradient disturbed area and adjacent to any drainage channels within the proposed disturbed area. Maintain the sediment barriers until the disturbed area is permanently stabilized.

B. Construction entrance: Prior to any clearing or grubbing, a construction entrance shall be constructed at the intersection with the proposed access drive and the existing roadway to avoid tracking of mud, dust and debris from the site.

C. Riprap: Since riprap is used where erosion potential is high, construction must be sequenced so that the riprap is put in place with the minimum delay. Disturbance of areas where riprap is to be placed should be undertaken only when final preparation and placement of the riprap can follow immediately behind the initial disturbance. Where riprap is used for outlet protection, the riprap should be placed before or in conjunction with the construction of the pipe or channel so that it is in place when the pipe or channel begins to operate. Maintain temporary riprap, such as temporary check dams until the disturbed area is permanently stabilized.

D. Temporary stabilization. Stabilize with temporary seeding, mulch, or other non-erodable cover any exposed soils that will remain unworked for more than 14 days except, stabilize areas within 100 feet of a wetland or waterbody within 7 days or prior to a predicted storm event, whichever comes first. If hay or straw mulch is used, the application rate must be 2 bales (70-90 pounds) per 1000 sf or 1.5 to 2 tons (90-100 bales) per acre to cover 75 to 90% of the ground surface. Hay mulch must be kept moist or anchored to prevent wind blowing. An erosion control blanket or mat shall be used at the base of grassed waterways, steep slopes (15% or greater) and on any disturbed soil within 100 feet of lakes, streams and wetlands. Grading shall be planned so as to minimize the length of time between initial soil exposure and final grading. On large projects this should be accomplished by phasing the operation and completing the first phase up to final grading and seeding before starting the second phase, and so on.

E. Vegetated waterway. Upon final grading, the disturbed areas shall be immediately seeded to permanent vegetation and mulched and will not be used as outlets until a dense, vigorous vegetative cover has been obtained. Once soil is exposed for waterway construction, it should be immediately shaped, graded and stabilized. Vegetated waterways need to be stabilized early during the growing season (prior to september 15). If final seeding of waterways is delayed past september 15, emergency provisions such as sod or riprap may be required to stabilize the channel. Waterways should be fully stabilized prior to directing runoff to them.

Permanent stabilization defined

A. Seeded areas. For seeded areas, permanent stabilization means an 90% cover of the disturbed area with mature, healthy plants with no evidence of washing or rilling of the topsoil.

B. Sodded areas. For sodded areas, permanent stabilization means the complete binding of the sod roots into the underlying soil with no slumping of the sod or die-off.

C. Permanent mulch. For mulched areas, permanent mulching means total coverage of the exposed area with an approved mulch material. Erosion control mix may be used as mulch for permanent stabilization according to the approved application rates and limitations.

D. Riprap. For areas stabilized with riprap, permanent stabilization means that slopes stabilized with riprap have an appropriate backing of a well-graded gravel or approved geotextile to prevent soil movement from behind the riprap. Stone must be sized appropriately. It is recommended that angular stone be used.

E. Agricultural use. For construction projects on land used for agricultural purposes (e.G., pipelines across crop land), permanent stabilization may be accomplished by returning the disturbed land to agricultural use.

F. Paved areas. For paved areas, permanent stabilization means the placement of the compacted gravel subbase is completed.

G. Ditches, channels, and swales. For open channels, permanent stabilization means the channel is stabilized with mature vegetation at least three inches in height, with well-graded riprap, or with another non-erosive lining capable of withstanding the anticipated flow velocities and flow depths without reliance on check dams to slow flow. There must be no evidence of slumping of the lining, undercutting of the banks, or down-cutting of the channel.

General Construction Phase

The following erosion control measures shall be followed by the contractor throughout construction of this project:

A. All topsoil shall be collected, stockpiled, seeded with rye at 3 pounds/1,000 sf and mulched, and reused as required. Silt fencing shall be placed down gradient from the stockpiled loam. Stockpile to be located by designation of the owner and nspecting enginee

B. The inspecting engineer at his/her discretion, may require additional erosion control measures and/or supplemental vegetative provisions to maintain stability of earthworks and finish graded areas. The contractor shall be responsible for providing and installing any supplemental measures as directed by the inspecting engineer. Failure to comply with the engineer's directions will result in discontinuation of construction activities.

C. Erosion control mesh shall be applied in accordance with the plans over all finish seeded areas as specified on the design plans.

D. All graded or disturbed areas including slopes shall be protected during clearing and construction in accordance with the approved erosion and sediment control plan until they are adequately stabilized.

E. All erosion, and sediment control practices and measures shall be constructed, applied and maintained in accordance with the approved erosion and sediment control plan.

F. Areas to be filled shall be cleared, grubbed and stripped of topsoil to remove trees, vegetation, roots or other objectionable materials.

G. Areas shall be scarified to a minimum depth of 3 inches prior to placement of topsoil.

H. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc., shall be compacted in accordance with local requirements or codes.

I. All fills shall be placed and compacted in layers not to exceed 8 inches in thickness.

J. Except for approved landfills or non-structural fills, fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris and other objectionable materials that would interfere with or prevent construction of satisfactory lifts.

K. Frozen material or soft, mucky or highly compressible materials shall not be incorporated into fill slopes or structural fills.

L. Fill shall not be placed on a frozen foundation.

M. Seeps or springs encountered during construction shall be handled appropriately.

N. All graded areas shall be permanently stabilized immediately following finished grading.

O. Remove any temporary control measures, such as silt fence, within 30 days after permanent stabilization is attained. Remove any accumulated sediments and stabilize.

Permanent vegetation

Permanent vegetative cover should be established on disturbed areas where permanent, long lived vegetative cover is needed to stabilize the soil, to reduce damages from sediment and runoff, and to enhance the environment.

Seedbed preparation

A. Grade as feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring, and maintenance.

B. Apply limestone and fertilizer according to soil tests such as those offered by the university of maine soil testing laboratory. Soil sample mailers are available from the local cooperative extension service office. If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 800 pounds per acre or 18.4 pounds per 1,000 square feet using 10-20-20 (n-p2o5-k2o) or equivalent. Apply ground limestone (equivalent to 50% calcium plus magnesium oxide) at

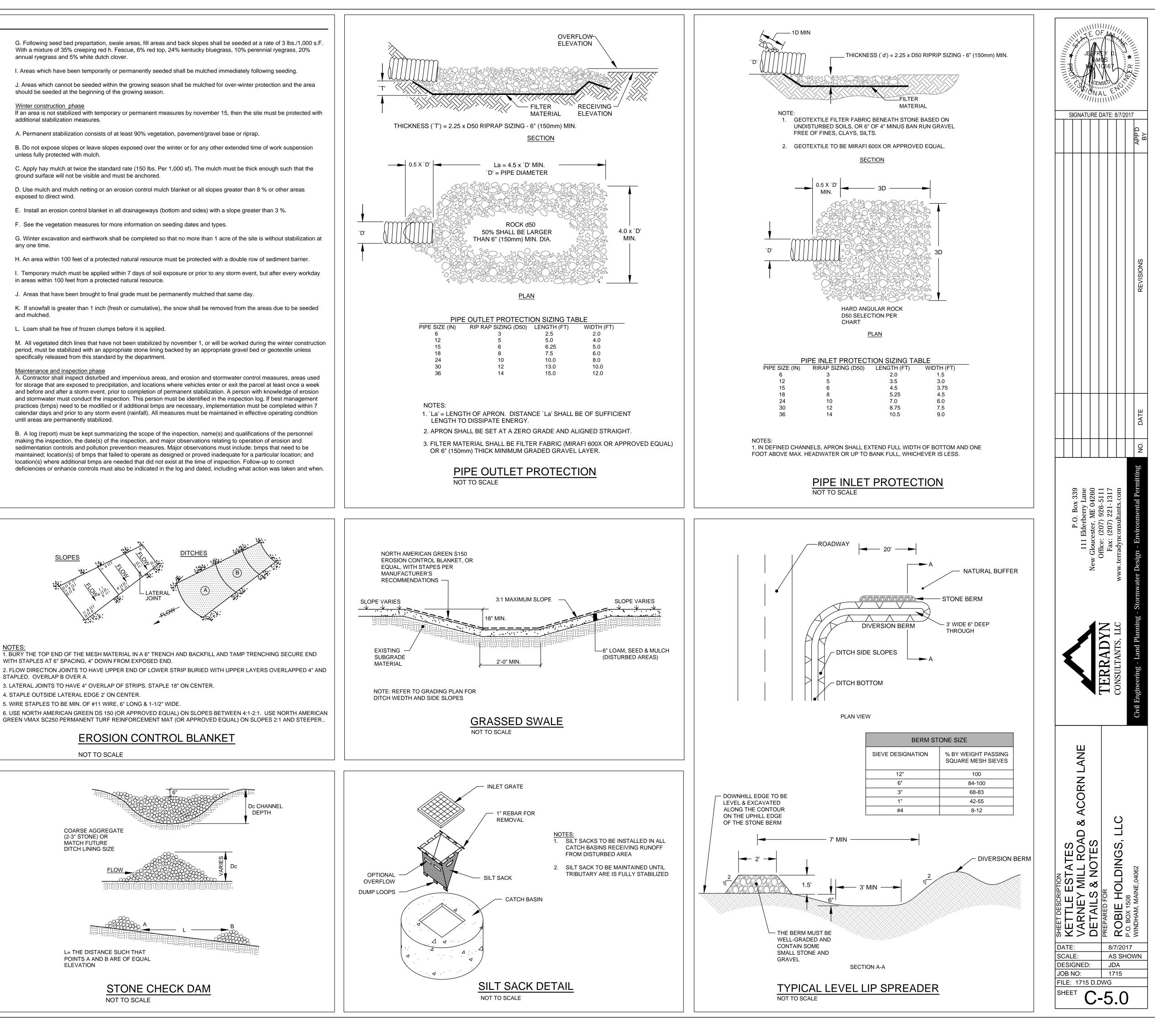
a rate of 3 tons per acre (138 lb. Per 1,000 sq. Ft).

C. Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, spring tooth harrow or other suitable equipment. The final harrowing operation should be on the general contour. Continue tillage until a reasonably uniform, fine seedbed is prepared. All but clay or silty soils and coarse sands should be rolled to firm the seedbed wherever feasible.D. Remove from the surface all stones 2 inches or larger in any dimension. Remove all other debris, such as wire, cable, tree roots, concrete, clods, lumps or other unsuitable material.

E. Inspect seedbed just before seeding. If traffic has left the soil compacted; the area must be tilled and firmed as above.

F. Permanent seeding should be made 45 days prior to the first killing frost or as a dormant seeding with mulch after the first killing frost and before snowfall. When crown vetch is seeded in later summer, at least 35% of the seed should be hard seed (unscarified). If seeding cannot be done within the seeding dates, mulch according to the temporary mulching bmp and overwinter stabilization and construction to protect the site and delay seeding until the next recommended seeding period.

Maintenance and inspection phase



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