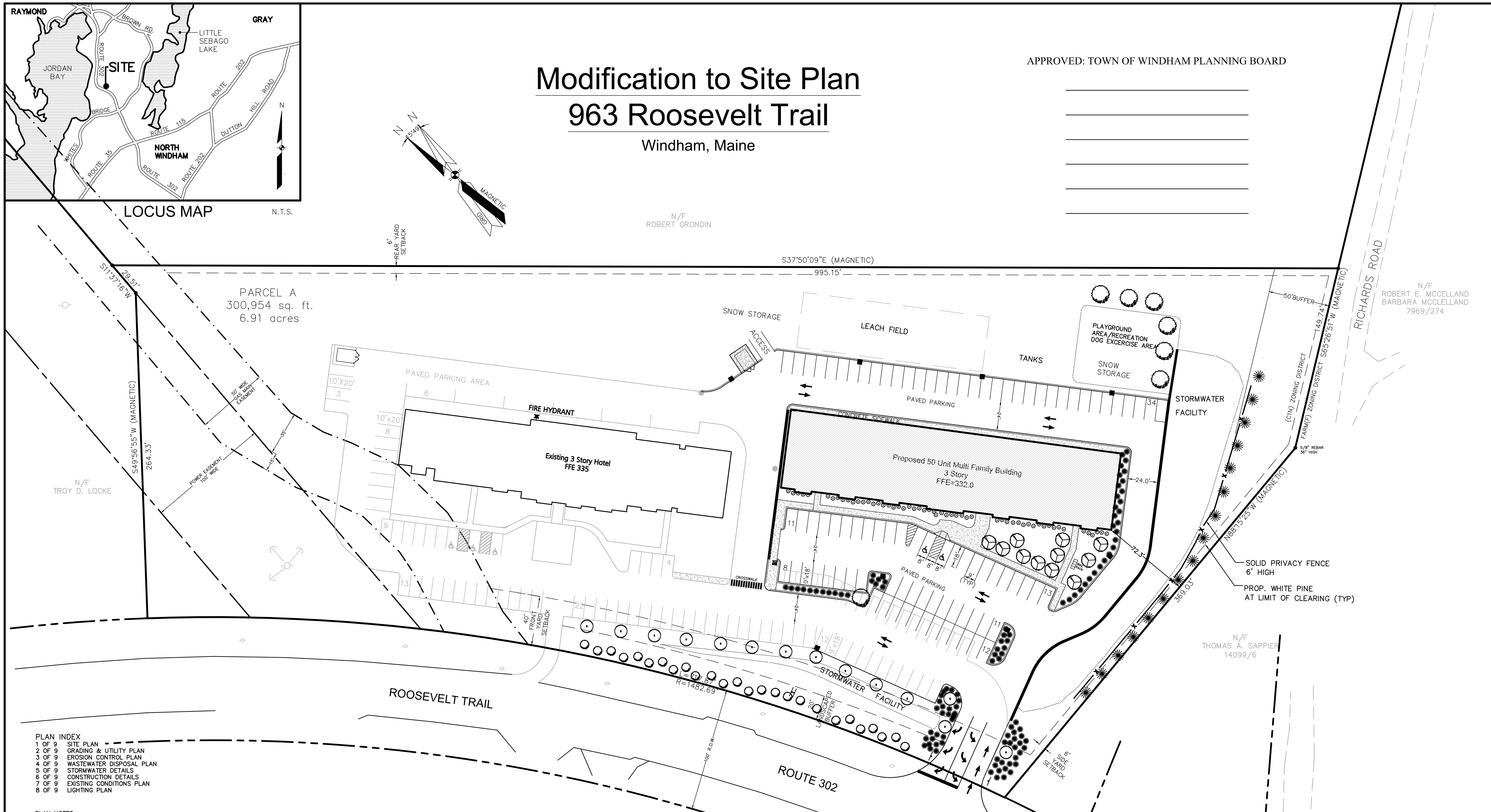
Modification to Site Plan
963 Roosevelt Trail

Windham, Maine

APPROVED: TOWN OF WINDHAM PLANNING BOARD



PLAN INDEX

PLAN NOTES

1. PROPERTY: 965 ROOSEVELT TRAIL
   ROUTE 302, WINDHAM, MAINE
   TAX MAP 21, LOT 19A
   OWNER: WINDHAM HOTEL HOLDINGS, LLC UNIT 2
   PO BOX 407
   MOODY, ME 04054
2. APPLICANT: HEYLAND DEVELOPMENT, LLC
   PO Box 407
   Moody, ME 04054

3. ZONING DISTRICT: COMMERCIAL DISTRICT 1 NORTH (C1N)
   PERMITTED USE: DWELLING, MULTIFAMILY
   MINIMUM LOT SIZE: NONE
   NET RESIDENTIAL DENSITY: NONE
   MINIMUM FRONTAGE: 100 FT
   MINIMUM FRONT SETBACK: 40 FT
   MINIMUM LANDSCAPED BUFFER STRIP: 20 FT
   MINIMUM SIDE SETBACK: 6 FT
   MINIMUM REAR SETBACK: 6 FT
   MAXIMUM BUILDING HEIGHT: NONE

4. PROPERTY CONSISTS OF A TOTAL OF 6.91 ACRES
5. USES
   74 ROOM HOTEL (EXISTING)
   50 UNIT MULTIFAMILY APARTMENT BUILDING (PROPOSED)

6. PARKING

Building Description	Use	No. Spaces
Hotel (1.25 per room)	74 rooms	93
Apartment (1.4 per unit)	50 units	70
TOTAL PARKING SPACES PROVIDED		166 SPACES

7. LANDSCAPING AREA MINIMUM 15% REQUIRED: PROVIDED 20%

8. BUFFER STRIP
   THE 20' WIDE LANDSCAPED BUFFER STRIP LOCATED ALONG ROUTE 302 AS IDENTIFIED SHALL BE COVERED WITH TREES OR SHRUBS FOR AT LEAST 10% OF ITS AREA

Approved waivers:

Approved waiver request of §120-812C(1)(d) to allow a reduction of the required 30% of the parking spaces to be 10' x 20' to 10%.

CONDITIONS OF APPROVAL

1. Approval is dependent upon, and limited to, the proposals and plans contained in the application dated May 25, 2022, amended October 24, 2022, supporting documents and oral representations submitted and affirmed by the applicant, and conditions, if any, imposed by the Staff Review Committee, and any variation from such plans, proposals and supporting documents and representations are subject to review and approval by the Staff Review Committee or the Town Planner in accordance with §120-814G of the Land Use Ordinance.
2. Approval is subject to the requirements of the Post-Construction Stormwater Ordinance, per Chapter 210 Any person owning, operating, leasing, or having control over stormwater management facilities required by the post-construction stormwater management plan must annually engage the services of a qualified third-party inspector who must certify compliance with the post-construction stormwater management plan on or by May 1st of each year.
3. Per §120-814C1(b), construction of improvements covered by any site plan approval shall be completed within two (2) years of the date upon which the performance guarantee is accepted by the Town Manager. If construction has not been completed within a specified period, the Town shall, at the Town Manager's discretion, use the performance guarantee to either reclaim and stabilize the site or to complete the improvements as shown on the approved plan.
4. Any change of use that requires a greater number or ratio of parking spaces than the approved uses shall require approval of the Windham Planning Board.
5. The development is subject to the following Article 12 Impact Fees, to be paid with the issuance of a building: North Windham Side Impact Fee of (The Town shall determine the fee from the Town Engineer prior the Planning Board approval), North Route 302 Road Improvements Impact Fee of $12,244.80, Recreation Impact Fee, Open Space Impact Fee, Public Safety Impact Fee, and Municipal Office Impact Fee. All fees will be determined and collected any building, plumbing, or other permit for the development subject to the fee.to the Planning Department, §120-1201C.

PLANT LIST

	BOTANICAL NAME	COMMON NAME	QTY	SIZE
	CORNUS AMOMUM	SILKY DOGWOOD	11	2"CAL
	CORNUS SERICEA	RED TWIG DOGWOOD	26	#1POT
	PYRUS CALLERYANA	CHANTICLEER PEAR	14	2"CAL
	HEMEROCLLIS	DAYLILLY	56	#1POT
	PENNISETUM	FOUNTAIN GRASS	110	#1POT
	PINUS STROBUS	WHITE PINE	16	2"CAL
	ACER RUBRUM	RED MAPLE	7	2"CAL

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

DATE	REVISION
12/22/22	ADDRESS PEER REVIEW COMMENTS
10/14/22	UPDATED SITE PLAN
9/20/22	ADDED FENCE AND PLANTINGS
8/17/22	UPDATE ZONING DISTRICT TO COMMERCIAL DISTRICT 1 NORTH (C1N)
2/28/22	MODIFY DRAINAGE

PREPARED BY:
Engineering Alliance, Inc.
Land Planning Consultants
194 Central Street
Saugus, MA 01906
(781) 231-1349

PROJECT:
Roosevelt Apartment Homes
963 Roosevelt Trail
Windham, Maine
Tax Map 21 Lot 19A

SCALE: AS NOTED
DATE: February 26, 2021
DESIGN BY: Richard Salvo
Checked By: Erik Heyland, P.E.

Professional Engineer for Engineering Alliance, Inc.

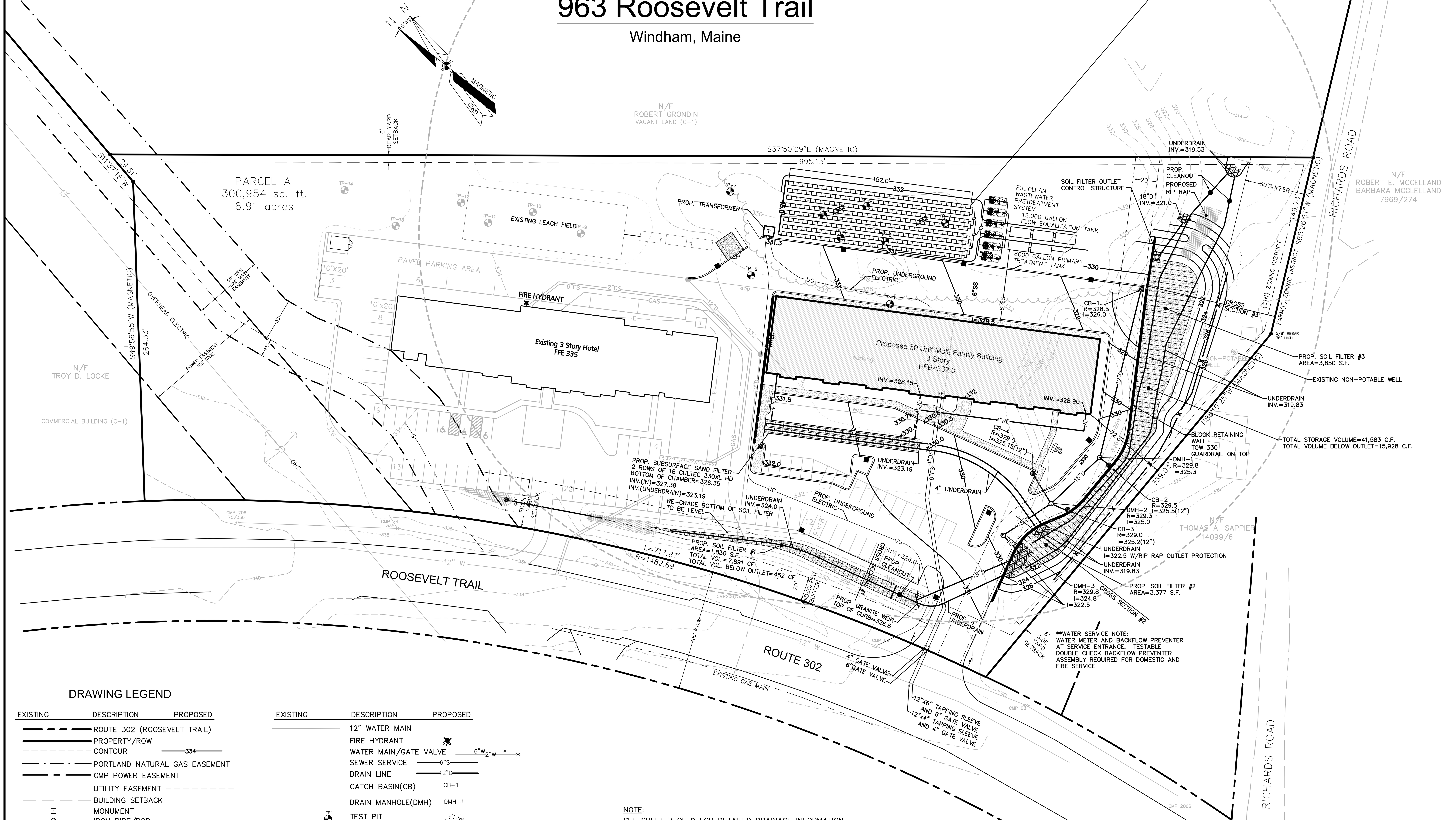
APPLICANT:
Heyland Development, LLC
PO Box 407
Moody, ME 04054

DRAWING TITLE:
SITE PLAN

DWG. NO.
1 OF 9

Modification to Site Plan
963 Roosevelt Trail

Windham, Maine



N
MAGNETIC
GRID
N/F
ROBERT GRONDIN
VACANT LAND (C-1)
S37°50'09"E (MAGNETIC)
995.15'
PARCEL A
300,954 sq. ft.
6.91 acres
EXISTING LEACH FIELD
PAVED PARKING AREA
FIRE HYDRANT
Existing 3 Story Hotel
FFE 335
PROP. TRANSFORMER
PROP. UNDERGROUND ELECTRIC
Proposed 50 Unit Multi Family Building
3 Story
FFE=332.0
FUJICLEAN WASTEWATER PRETREATMENT SYSTEM
12,000 GALLON FLOW EQUALIZATION TANK
8000 GALLON PRIMARY TREATMENT TANK
SOIL FILTER OUTLET CONTROL STRUCTURE
300' WELL RADIUS
UNDERDRAIN INV.=319.53
PROP. CLEANOUT
PROPOSED RIP RAP
N/F
ROBERT E. MCCELLAND
BARBARA MCCLELLAND
7969/274
RICHARDS ROAD
CROSS SECTION #3
PROP. SOIL FILTER #3
AREA=3,850 S.F.
EXISTING NON-POTABLE WELL
UNDERDRAIN INV.=319.83
BLOCK RETAINING WALL
TOW 330
GUARDRAIL ON TOP
TOTAL STORAGE VOLUME=41,583 C.F.
TOTAL VOLUME BELOW OUTLET=15,928 C.F.
PROP. SUBSURFACE SAND FILTER
2 ROWS OF 18 CULTEC 330XL HD
BOTTOM OF CHAMBER=326.35
INV.(IN)=327.39
INV.(UNDERDRAIN)=323.19
RE-GRADE BOTTOM OF SOIL FILTER TO BE LEVEL
UNDERDRAIN INV.=324.0
PROP. SOIL FILTER #1
AREA=1,830 S.F.
TOTAL VOL.=7,891 CF
TOTAL VOL. BELOW OUTLET=452 CF
PROP. GRANITE WEIR
TOP OF CURB=326.5
PROP. SOIL FILTER #2
AREA=3,377 S.F.
N/F
THOMAS A. SAPPIER
14099/6
N/F
TROY D. LOCKE
COMMERCIAL BUILDING (C-1)
ROOSEVELT TRAIL
ROUTE 302
L=717.87'
R=1482.69'
EXISTING GAS MAIN
4" GATE VALVE
6" GATE VALVE
12"X6" TAPPING SLEEVE AND 6" GATE VALVE
12"x4" TAPPING SLEEVE AND 4" GATE VALVE
**WATER SERVICE NOTE:
WATER METER AND BACKFLOW PREVENTER AT SERVICE ENTRANCE. TESTABLE DOUBLE CHECK BACKFLOW PREVENTER ASSEMBLY REQUIRED FOR DOMESTIC AND FIRE SERVICE

DRAWING LEGEND

EXISTING	DESCRIPTION	PROPOSED
	ROUTE 302 (ROOSEVELT TRAIL)	
	PROPERTY/ROW	
	CONTOUR	334
	PORTLAND NATURAL GAS EASEMENT	
	CMP POWER EASEMENT	
	UTILITY EASEMENT	
	BUILDING SETBACK	
	MONUMENT	
	IRON PIPE/ROD	
	P/K NAIL	
	EDGE PAVEMENT	
	CURBING	
	GRAVEL ROAD	
	TREELINE	
	GAS	
OHE	OVERHEAD ELEC. & TEL.	UG
CMP 77	UTILITY POLE/DESIGNATION	
	BLOCK RETAINING WALL	
	POLE LIGHT FIXTURE	

EXISTING	DESCRIPTION	PROPOSED
	12" WATER MAIN	
	FIRE HYDRANT	
	WATER MAIN/GATE VALVE	6"W 2"W
	SEWER SERVICE	6"S
	DRAIN LINE	12"D
	CATCH BASIN(CB)	CB-1
	DRAIN MANHOLE(DMH)	DMH-1
TP-1	TEST PIT	
	DUMPSTER LOCATION	
	RIP-RAP STONE	
	SIGN	
	CONCRETE SIDEWALK	
	GRASS	
	TREE	
	SHRUB/MULCH BED	
	EROSION CONTROL SILT SOCK OR HAYBALES & SILT FENCE LIMIT OF WORK	

NOTE:

SEE SHEET 7 OF 9 FOR DETAILED DRAINAGE INFORMATION

THE OWNER/CONTRACTOR SHALL CONTACT THE TOWN AT LEAST 48 HOURS PRIOR TO UTILITY WORK AND SCHEDULE THE INSPECTION OF THE TRENCH BACKFILL, GRAVEL PLACEMENT AND COMPACTION, AND PAVING OF THE UTILITY TRENCH IN THE ROUTE 302 RIGHT-OF-WAY.

GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

DATE	REVISION
5/15/2023	UPDATED WASTEWATER PRETREATMENT UNIT
3/30/2023	ADDRESS ADDITIONAL STAFF COMMENTS
3/21/2023	ADDRESS ADDITIONAL STAFF COMMENTS
3/2/2023	ADDRESS ADDITIONAL STAFF COMMENTS
12/22/22	ADDRESS PEER REVIEW COMMENTS
12/2/22	ADDRESS PEER REVIEW COMMENTS
10/14/22	UPDATED PLAN
8/17/22	UPDATE ZONING DISTRICT TO COMMERCIAL DISTRICT 1 NORTH (C1N)
2/28/22	MODIFY DRAINAGE

PREPARED BY:
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PROJECT:
Roosevelt Apartment Homes
963 Roosevelt Trail
Windham, Maine
Tax Map 21 Lot 19A

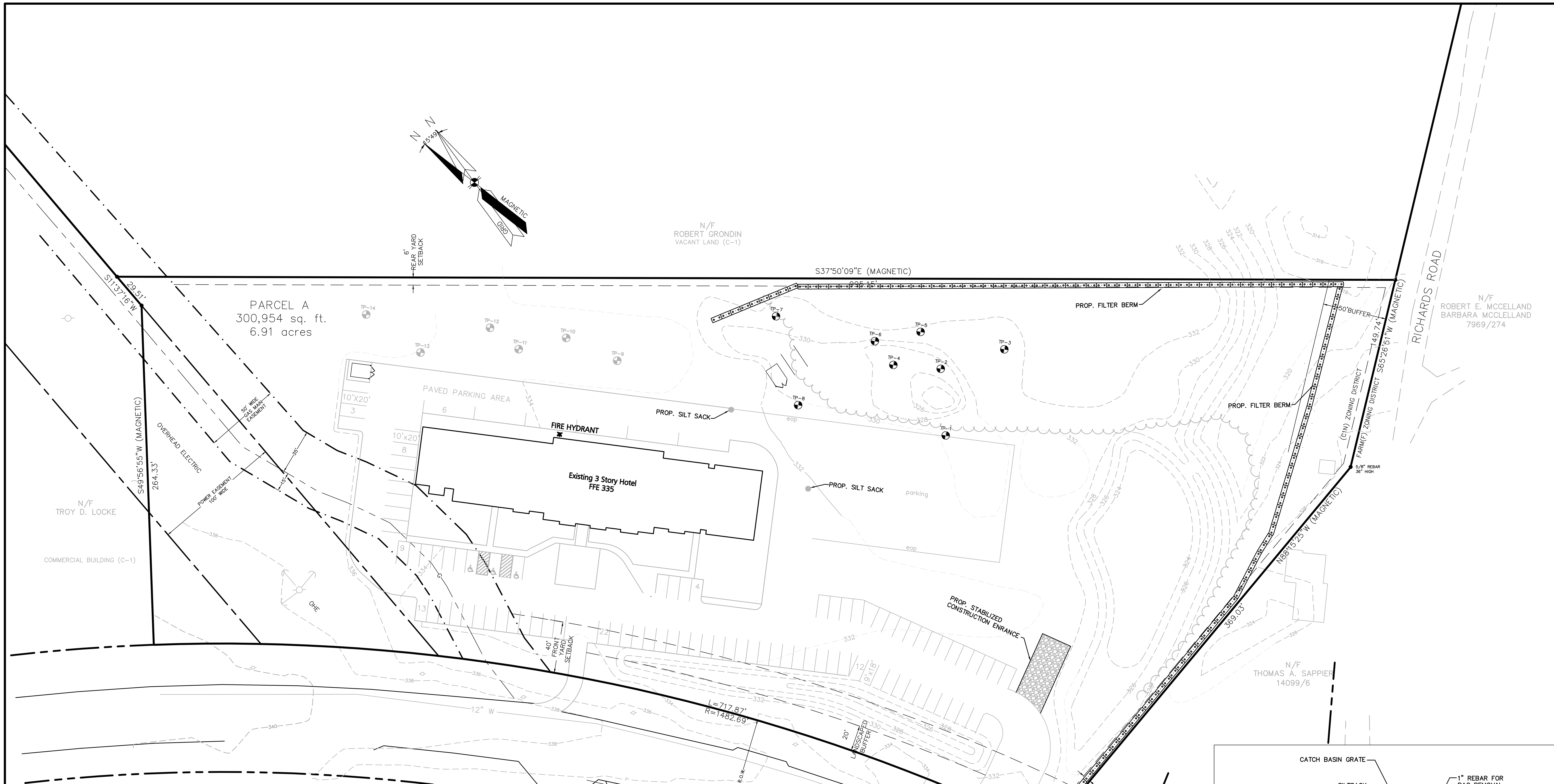
SCALE: AS NOTED | DATE: February 26, 2021
DESIGN BY: Richard Salvo | Checked By: Erik Heyland, P.E.

Professional Engineer for Engineering Alliance, Inc.

APPLICANT:
Heyland Development, LLC
PO Box 407
Moody, ME 04054

DRAWING TITLE:
GRADING & UTILITY PLAN

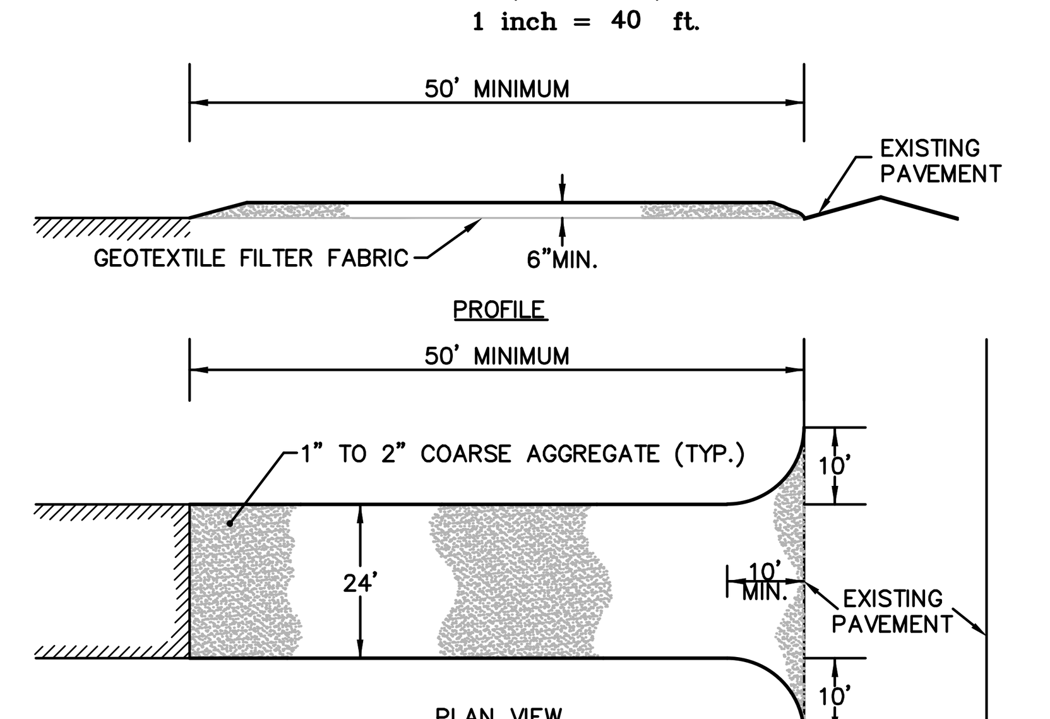
DWG. NO.
2 OF 9



GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

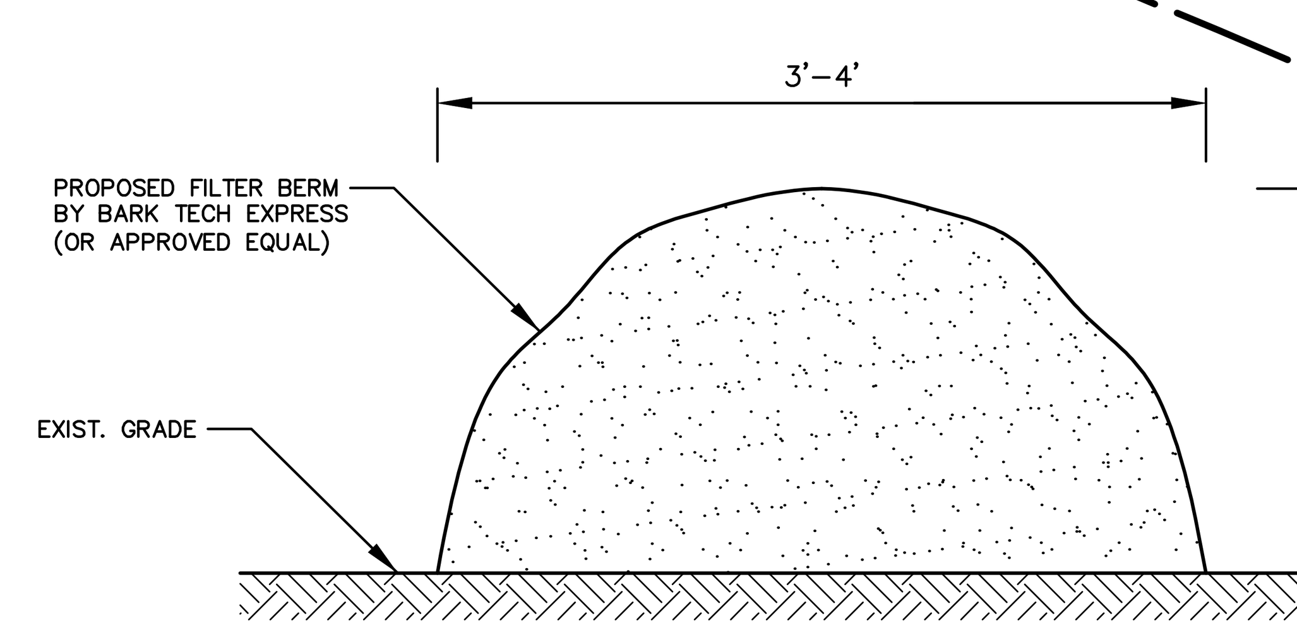
1. STONE FOR A STABILIZATION CONSTRUCTION ENTRANCE SHALL BE 1 TO 2 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN A FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENTIAL LOT.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DEVERTED TOWARDS THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE, IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.



STABILIZED CONSTRUCTION ENTRANCE

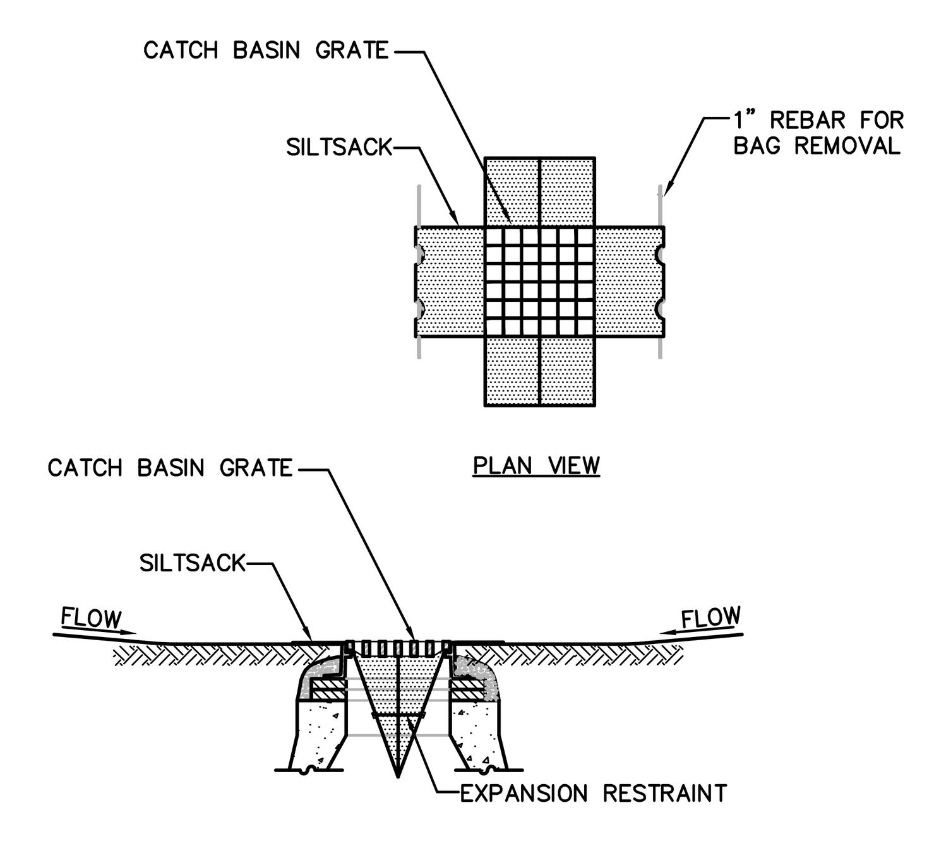
SCALE: N.T.S.

APPROVED: TOWN OF WINDHAM PLANNING BOARD



FILTER BERM DETAIL

SCALE: N.T.S.



1. INSTALL SILTSACK IN ALL EXISTING CATCH BASINS IN THE VICINITY OF THE PROJECT BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND HAY BALES HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED

SILTSACK DETAIL

SCALE: N.T.S.

DATE	REVISION
12/22/22	ADDRESS PEER REVIEW COMMENTS
8/17/22	UPDATE ZONING DISTRICT TO COMMERCIAL DISTRICT 1 NORTH (C1N)
2/28/22	ISSUE FOR REVIEW

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APPLICANT:
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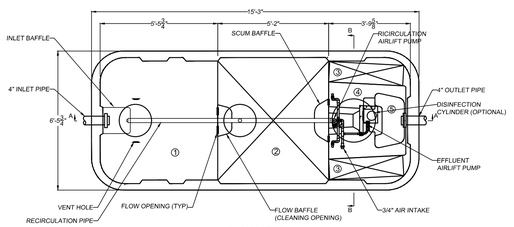
Moody, ME 04054

DRAWING TITLE:
EROSION CONTROL PLAN

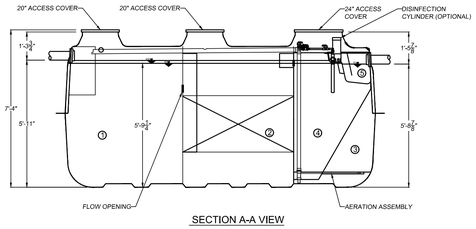
DWG. NO.
3 OF 9



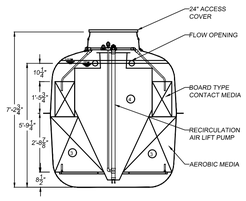
PLAN VIEW

CHAMBER	Volume (gal)
① Sedimentation Chamber	1,200
② Anaerobic Filtration Chamber	1,198
③ Aerobic Contact Filtration Chamber	550
④ Clarification Chamber	268
⑤ Disinfection Chamber	17
Total Volume	3,233

SPECIFICATIONS	
Anaerobic Media	PP / PE
Board Type Aerobic Media	PVC / PP / PE
Aerobic Media	PP / PE
Blower	7 cfm
Tank	FRP
Piping	PVC / PP / PE
Access Covers	Plastic / Cast Iron
Disinfectant (Optional)	Chlorine Tablets



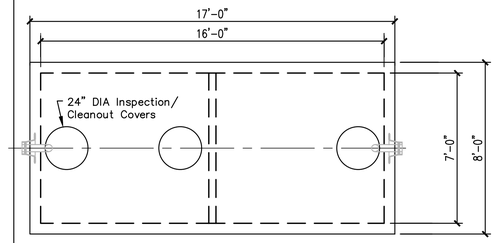
SECTION A-A VIEW



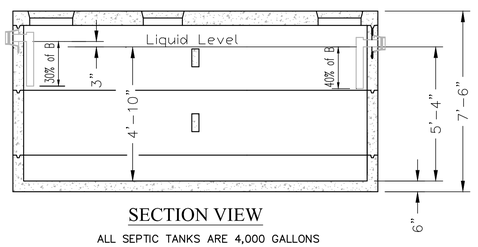
SECTION B-B VIEW

FUJICLEAN CEN21 TANK DETAIL

N.T.S



PLAN VIEW



SECTION VIEW

ALL SEPTIC TANKS ARE 4,000 GALLONS

SEPTIC TANK DETAIL

SOIL TEST PIT DATA

Test Pit 1 5B

0–12 Dark Brown, Coarse Stony Sand, Friable
12–32 Red Brown, Coarse Stony Sand, Friable
32–77 Brown, Coarse Stony Sand, Friable

Test Pit 2 5B

0–11 Dark Brown, Coarse Stony Sand, Friable
11–39 Brown, Coarse Stony Sand Friable
39–74 Olive Brown, Coarse Stony Sand, Friable

Test Pit 3 3B

0–10 Dark Brown, Coarse Stony Sand, Friable
10–22 Red Brown, Coarse Stony Sand, Friable
22–43 Brown, Coarse Stony Sand, Friable
43–79 Olive Gray, Coarse Stony Sandy Loam, Firm

Test Pit 4 5B

0–13 Dark Brown, Coarse Stony Sand, Friable
13–33 Red Brown, Coarse Stony Sand, Friable
33–78 Brown, Coarse Stony Sand, Friable

Test Pit 5 5B

0–18 Dark Brown, Coarse Stony Sand, Friable
18–30 Red Brown, Coarse Stony Sand, Friable
30–72 Olive Brown, Coarse Stony Sand, Friable

Test Pit 6 5B

0–20 Red Brown, Coarse Stony Sand, Friable
20–60 Brown, Coarse Stony Sand, Friable
60–80 Olive, Coarse Stony Sand, Friable

Test Pit 7 4B

0–30 Red Brown, Coarse Stony Sand, Friable
30–74 Olive Gray, Coarse Stony Sandy Loam Firm

Test Pit 8 5B

0–24 Red Brown, Coarse Stony Sand, Friable
24–81 Brown, Coarse Stony Sand, Friable

Test Pit 9 5B

0–36 Red Brown, Coarse Stony Sand, Friable
36–72 Brown, Coarse Stony Sand, Friable

Test Pit 10 5B

0–26 Red Brown, Coarse Stony Sand, Friable
26–41 Olive Gray, Coarse Sand, Friable
41–78 Brown, Coarse Stony Sand, Friable

Test Pit 11 5B

0–36 Red Brown, Coarse Stony Sand, Friable
36–80 Olive Gray, Coarse Sand, Friable

Test Pit 12 5B

0–12 Dark Brown, Coarse Stony Sand, Friable
12–36 Red Brown, Coarse Stony Sand, Friable
36–48 Brown, Coarse Stony Sand, Friable
48–78 Olive Brown, Coarse Stony Sand, Friable

Test Pit 13 5B

0–10 Dark Brown, Coarse Stony Sand, Friable
10–24 Red Brown, Coarse Stony Sand, Friable
24–77 Olive Brown, Coarse Stony Sand, Friable

Test Pit 14 5B

0–10 Dark Brown, Coarse Stony Sand, Friable
10–24 Red Brown, Coarse Stony Sand, Friable
24–77 Olive Brown, Coarse Stony Sand Friable

Test Pit 15 5B within proposed stormwater basin at elevation 328 down to 320
Groundwater not observed in TP
0–9 Dark Brown, Stony Coarse Sand, Friable
9–36 Red Brown, Stony Coarse Sand, Friable
36–47 Tan, Coarse Sand, Friable
47–96 Olive Brown, Stony Coarse Sand, Friable

DESIGN FLOW

27 ONE BEDROOMS X 120 = 3240 GPD/BEDROOM
23 TWO BEDROOMS X 180 = 4140 GPD/BEDROOM
TOTAL DESIGN FLOW 7,380 GPD

DISPOSAL AREA CALCULATION

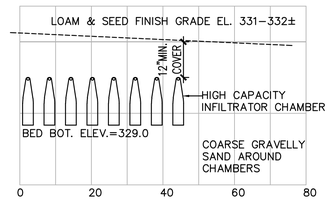
Soil Profile – 5 Glacial Outwash
Soil Condition – C Limiting Factor at 24 inches
Sizing Factor – 2.6 square feet per gallon of wastewater

Disposal Area

Design Flow 7380 gallons x 2.6 sf/gallon = 19,188 SF

Total Disposal Area Required 19,188 SF

Use Pretreatment
50% reduction in disposal bed allowed
19,188 SF x.5=9,594 SF
use Infiltrator Quick 4 Plastic Chambers
32 SF/chamber 9,594/32 = 300 chambers
use 38 chambers with 8 rows total=304 chambers



DISPOSAL BED CROSS SECTION (TYP)

SCALE: 1"=20' HORIZ.
1"=2' VERT.

DATE	REVISION
5/15/23	UPDATED PRETREATMENT UNIT TO FUJICLEAN
12/22/22	ADDRESS PEER REVIEW COMMENTS
8/17/22	UPDATE ZONING DISTRICT TO COMMERCIAL DISTRICT 1 NORTH (C1N)

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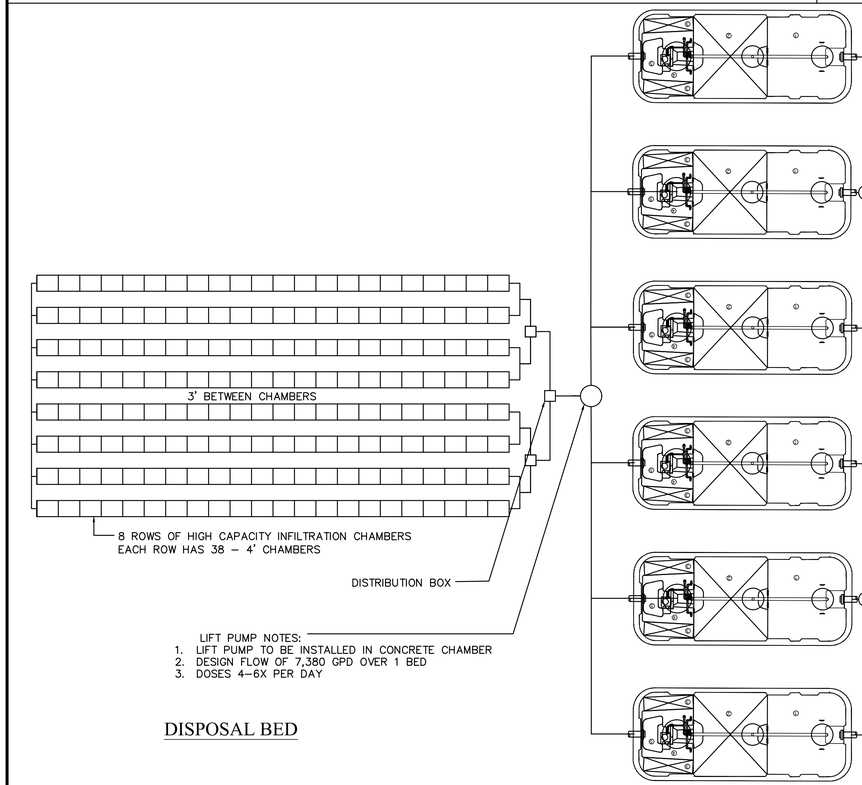
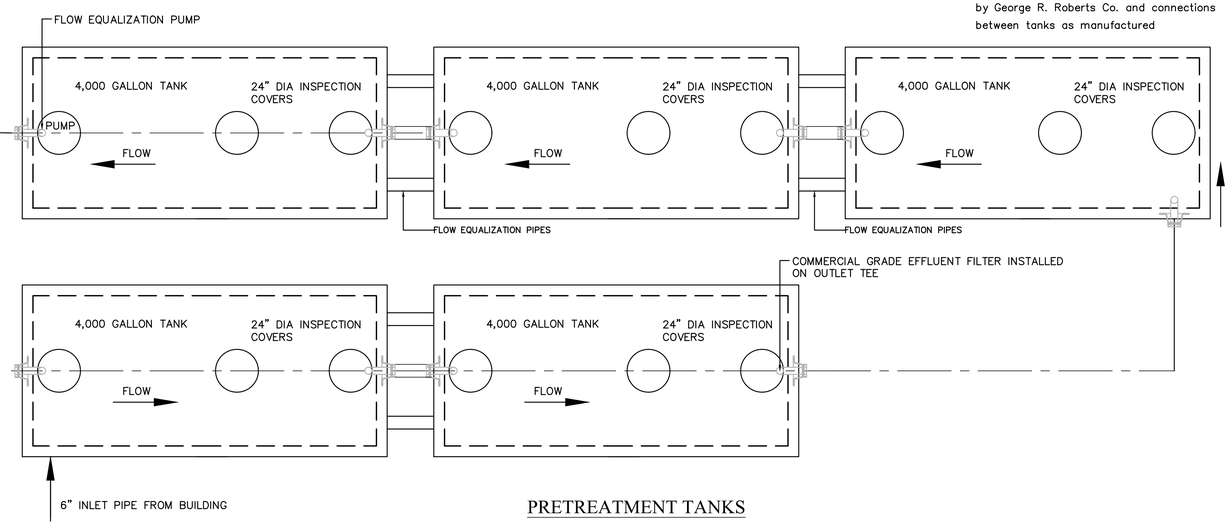


DISPOSAL BED

NOT TO SCALE

FUJICLEAN CEN21 (6 UNITS)

FUJICLEAN WASTEWATER PRETREATMENT SYSTEM



PRETREATMENT TANKS

NOTES:

1. Concrete Compressive Strength 5,000 P.S.I @ 28 Days with Steel Reinforcement
2. Designed to meet ACI 318 with AASHTO HS–20 Loading
3. Provided With Wall Sleeves & Sch.40 PVC Tees.
4. If Tees are Larger Than 6" Invert Height will be Adjusted
5. Tongue and Groove Joints are Sealed with Butyl Rubber
6. Precast tanks shall be as manufactured by George R. Roberts Co. and connections between tanks as manufactured

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Tax Map 21 Lot 19A

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DATE: February 26, 2021
DESIGN BY: Richard Salvo
Checked By:Erik Heyland, P.E.

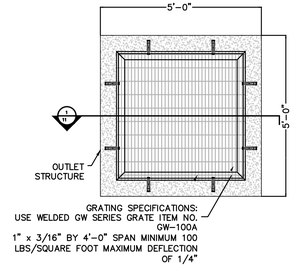
STATE OF MAINE
ERIK D. HEYLAND
No. 7249
REGISTERED PROFESSIONAL ENGINEER

Professional Engineer for Engineering Alliance, Inc.

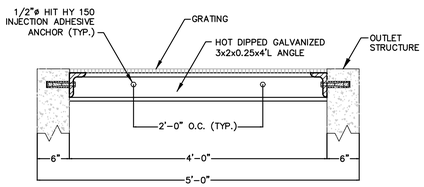
APPLICANT:
Heyland Development, LLC
PO Box 407
Moody, ME 04054

DWG. NO.
4 OF 9

DRAWING TITLE:
WASTEWATER DISPOSAL PLAN



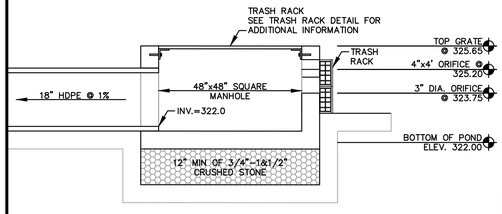
TRASH RACK DETAIL
TOP VIEW



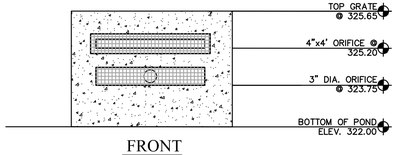
SECTION 1
INSTALLATION DETAIL

1. BAR GRATE TO BE GALVANIZED OR PAINTED (2 COATS WITH RUST INHIBITOR BLACK PAINT)

2. BAR GRATE BEARING BARS TO BE 4'-8" LONG. IF MORE THAN 2 GRATE PANELS ARE USED, PANELS ARE TO BE BOLTED TO ANGLES WITH GALV. BOLTS AT EACH CORNER.

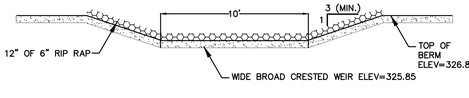


CROSS SECTIONAL VIEW

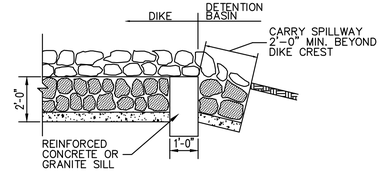


FRONT VIEW

SOIL FILTER OUTLET CONTROL STRUCTURE
SCALE: N.T.S.



EMERGENCY OVERFLOW WEIR CONFIGURATION
NOT TO SCALE



EROSION AND SEDIMENTATION CONTROL

In the development of this site, widely accepted practices for reducing erosion and sedimentation will be observed at all times.

1) The development has been planned to enhance the existing topography, vegetative cover, and natural drainage of the site.
2) Steep slopes, where possible, will not be disturbed.
3) Natural waterways will be preserved and protected, and existing vegetation will be retained and protected.
4) The smallest portion of land to be disturbed shall be exposed at one time.
5) Sediment control measures will be applied to control any sediment that may be produced. Erosion and sediment will be monitored throughout the construction.
6) Temporary control measures will include hay bale check dams, seeding and mulching, and seeded filter strips.

WINTER CONSTRUCTION

1. Winter construction period: November 1 through April 15.

2. Winter excavation and earthwork shall be done in such a way that no more than 1 acre of the site is without stabilization at any one time.

3. Exposed area should be limited to that which can be mulched in one day prior to any snow event.

4. Continuation of earthwork operations on additional areas shall not begin until the exposed soil surface on the area being worked has been stabilized such that no more than 1 acre of the site is without erosion control protection.

5. An area shall be considered to have been stabilized when exposed surfaces have been either mulched with straw or hay at a rate of 100 lb. per 1,000 square feet (with or without seeding) or dormant seeded, mulched and adequately anchored by an approved anchoring technique. In all cases mulch shall be applied such that the soil surface is not visible through the mulch.

6. Between the dates of November 1 and April 1, loam and seed will not be required. During the periods of above freezing temperatures, the slopes shall be fine graded and either protected with mulch or temporarily seeded and mulched until such time as the final treatment can be applied. If the date is after November 1st and if the exposed area has been loamed, final graded and is smooth, then the area may be dormant seeded at a rate of 200 – 300% higher than specified for permanent seed and then mulched. If construction continues during freezing weather all exposed areas shall be continuously graded before freezing and the surface temporarily protected from erosion by the application of mulch. Slopes shall not be left unexposed over the winter or any other extended time of work suspension unless treated in the above manner. Until such time as weather conditions allow ditches to be finished with the permanent surface treatment, erosion shall be controlled by the installation of bales of hay or stone check dams in accordance with the standard details.

7 A). Between the dates of November 1st and April 15th all mulch shall be anchored by either peg line, mulch netting, asphalt emulsion chemical, track or wood cellulose fiber.
7 B). Mulch netting shall be used to anchor mulch in all drainage ways with a slope greater than 3% for slopes exposed to direct winds and for all other slopes greater than 8%.

8. After November 1st the contractor shall apply dormant seeding or mulch and anchoring on all bare earth at the end of each working day.

9. During the winter construction period all snow shall be removed from areas of seeding and mulching prior to placement. Additional temporary seed rates (for periods less than 12 months) Winter (November 1 through April 1) mulch with dormant seed 50 lbs per acre.

DANDY BAG INSTALLATION

1. Stand the grate on end.
2. Place the Dandy Bag over the grate.
3. Roll the grate over so that the open end is up.
4. Pull up the slack.
5. Tuck the flap in.
6. Press the velcro strips together.
7. Be sure that the end of the grate is completely covered by the flap or the Dandy Bag will not work properly.
8. Holding the handles, carefully place the Dandy Bag with the grate inserted into the catch basin frame.

MAINTENANCE

To insure proper operation remove silt, sediment, and debris from the surface and the vicinity of the unit with a square point shovel or stiff bristle broom away from environmentally sensitive areas and waterways in manner satisfactory to the engineer/inspector. Remove fine material from inside Dandy Bag as needed. Dispose of Dandy Bag no longer in use at an appropriate recycling or solid waste facility.

INLET INSPECTION

To inspect inlet, remove Dandy Bag with grate inside, inspect catch basin and replace Dandy Bag back into grate frame.

GENERAL NOTES

1. Ponding is likely if sediment is not removed regularly. The Dandy Bag must never be used where overflow may endanger an exposed slope. The Dandy Bag is not intended for any other use and should not be used for any other purpose.
2. Filter at each catch basin should be installed as soon as backfilling around the catch basin is complete and maintained until the area draining to the catch basin is stabilized with permanent measures.

MAINTENANCE OF COMMON FACILITIES OR PROPERTY

FILTER/SWALE

1. MAINTENANCE AGREEMENT: A LEGAL ENTITY SHOULD BE ESTABLISHED WITH RESPONSIBILITY FOR INSPECTING AND MAINTAINING ANY UNDERDRAINED FILTER. THE LEGAL AGREEMENT ESTABLISHING THE ENTITY SHOULD LIST SPECIFIC MAINTENANCE RESPONSIBILITIES (INCLUDING TIMETABLES) AND PROVIDE FOR THE FUNDING TO COVER LONG-TERM INSPECTION AND MAINTENANCE.
2. SOIL FILTER INSPECTION: THE SOIL FILTER SHOULD BE INSPECTED AFTER EVERY MAJOR STORM IN THE FIRST FEW MONTHS TO ENSURE PROPER FUNCTION. THEREAFTER, THE FILTER SHOULD BE INSPECTED AT LEAST ONCE EVERY SIX MONTHS TO ENSURE THAT IT IS DRAINING WITHIN 24 HOURS.
3. SOIL FILTER REPLACEMENT: THE TOP SEVERAL INCHES OF THE FILTER SHALL BE REPLACED WITH FRESH MATERIAL WHEN WATER PONDS ON THE SURFACE OF THE BED FOR MORE THAN 72 HOURS. THE REMOVED SEDIMENTS SHOULD BE DISPOSED IN AN ACCEPTABLE MANNER.
4. SEDIMENT REMOVAL: SEDIMENT AND PLANT DEBRIS SHOULD BE REMOVED FROM THE PRETREATMENT AT LEAST ANNUALLY.
5. MOWING: FILTERS WITH GRASS COVER SHOULD BE MOWED NO MORE THAN 2 TIMES PER GROWING SEASON TO MAINTAIN GRASS HEIGHTS LESS THAN 12 INCHES.
6. FERTILIZATION: FERTILIZATION OF THE UNDERDRAINED FILTER AREA SHOULD BE AVOIDED UNLESS ABSOLUTELY NECESSARY TO ESTABLISH VEGETATION.
7. HARVESTING AND WEEDING: HARVESTING AND PRUNING OF EXCESSIVE GROWTH WILL NEED TO BE DONE OCCASIONALLY. WEEDING UNWANTED OR INVASIVE PLANTS MAY ALSO BE NECESSARY.

Catch Basins
Catch basin grates shall be checked monthly and following heavy rainfalls to verify that the inlet openings are not clogged by debris. Debris shall be removed from the grates and disposed of properly. Deep sump catch basins shall be inspected and cleaned semi-annually of all accumulated sediments. Catch basins with hoods shall be inspected semi-annually to check oil build-up and outlet obstructions. Material shall be removed from catch basins and disposed of in accordance with all applicable regulations.

Outlet Structures
All outfall protection structures shall be inspected semi-annually and following major storm events to check for signs for erosion. Any necessary repairs shall be performed promptly. All outlet protection structures shall be inspected twice per year and cleaned to remove accumulated sediment as necessary. Rip-Rap overflow structure shall be weeded and cleaned on a semiannually basis to ensure that water overflowing the spillway will not become obstructed by debris.

Culverts
If sediment in culverts or piped drainage systems exceeds 20% of the diameter of the pipe, it will be removed. Hydraulic flushing or other mechanical means; however, care will be taken to not flush the sediments into the retention/detention pond as it will reduce the pond's capacity and hasten the time when it must be cleaned. All pipes will be inspected on an annual basis.

Street Maintenance
Paved areas shall be swept by vacuum sweepers periodically during dry weather to remove excess sediments, reducing the amount of sediments that the drainage system shall have to remove from the runoff.
Salt used for de-icing on the roadway during winter months should be limited as much as possible as this will reduce the need for removal and treatment. However, difficulties may arise in the enforcement of such restrictions.
Sand containing the minimum amount of calcium chloride (or approved equivalent) needed for handling may be applied as part of the routine winter maintenance activities.

FILTER BERM

Filter berm mix can be manufactured on or off the project site. It must consist primarily of organic material, separated at the point of generation, and may include: shredded bark, stump grindings, composted bark, or acceptable manufactured products. Wood and bark chips, ground construction debris or reprocessed wood products will not be acceptable as the organic component of the mix.

COMPOSITION

Erosion control mix shall contain a well–graded mixture of particle sizes and may contain rocks less than 4" 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 95%, 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.
–Soluble salts content shall be <4.0 mmhas/cm.
–The pH should fall between 5.0 and 8.0.

INSTALLATION

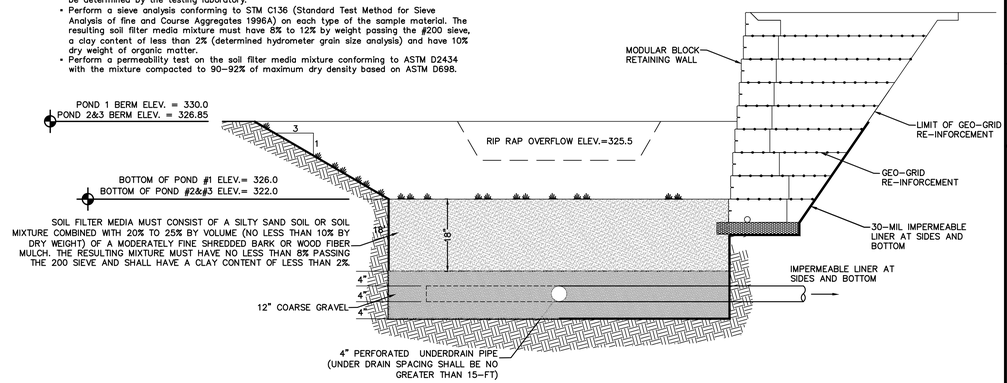
–The barrier must be placed along a relatively level contour. It may be necessary to cut tall grasses or woody vegetation to avoid creating voids and bridges that would enable fines to wash under the barrier through the grass blades or plant stems.
–On slopes less than 5% or at the bottom of steeper slopes (<2:1) up to 20 feet long, the barrier must be a minimum of 12" high, as measured on the uphill side of the barrier, and a minimum of two feet wide. On longer or steeper slopes, the barrier should be wider to accommodate the additional runoff.
–Frozen ground, outcrops of bedrock and very rotted forested areas are locations where berms of erosion control mix are most practical and effective.
–Other BMPs should be used at low points of concentrated runoff, below culvert outlet aprons, around catch basins and closed storm systems, and at the bottom of steep perimeter slopes that are more than 50 feet from top to bottom (i.e., a large gradient contributing watershed).

UNDERDRAINED FILTER BASINS

Construction Sequence:
The soil filter media and vegetation must not be installed until the area that drains to the filter has been permanently stabilized with pavement or other structure, 90% vegetation cover, or other permanent stabilization unless the runoff from the contributing drainage area is diverted around the filter until stabilization is completed.

Compaction of Soil Filter:
Filter soil media and underdrain bedding material must be compacted to between 90% and 92% standard proctor. The bed should be installed in at least 2 lifts of 9 inches to prevent pockets of loose media.
Construction Oversight: Inspection by a professional engineer will occur at a minimum:
- After the preliminary construction of the filter grades and once the underdrain pipes are installed but not backfilled,
- After the drainage layer is constructed and prior to the installation of the filter media,
- After the filter media has been installed and seeded. Bio–retention cells must be stabilized per the provided planting scheme and density for the canopy coverage of 30 and 50%.
- After one year to inspect health of the vegetation and make corrections, and
- All the material used for the construction of the filter basin must be confirmed as suitable by the design engineer. Testing must be done by a certified laboratory to show that they are passing DEP specifications.

Testing and Submittals:
The contractor shall identify the location of the source of each component of the filter media. All results of field and laboratory testing shall be submitted to the project engineer for confirmation. The contractor shall:
- Select samples for sampling of each type of material to be blended for the mixed filter media and samples of the underdrain bedding material. Samples must be a composite of three different locations (grabs) from the stockpile or pit face. Sample size required will be determined by the testing laboratory.
- Perform a sieve analysis conforming to STM C136 (Standard Test Method for Sieve Analysis of fine and Course Aggregates 1996A) on each type of the sample material. The resulting soil filter media mixture must have 8% to 12% by weight passing the #200 sieve, a clay content of less than 2% (determined hydrometer grain size analysis) and have 10% dry weight of organic matter.
- Perform a permeability test on the soil filter media mixture conforming to ASTM D2434 with the mixture compacted to 90–92% of maximum dry density based on ASTM D698.



GRASSED UNDERDRAIN SOIL FILTER DETAIL
NOT TO SCALE

GENERAL NOTES

1) The erosion control measures shall conform to the State of Maine "Stormwater Management Manual." During construction and thereafter erosion control measures are to be implemented as noted. The smallest area of land possible is to be exposed at one time during development. When land is exposed during development, the exposure should be kept to a maximum period of 3 months or as approved by The Engineer. Land should not be left exposed during the winter months. All filling is to take place during summer months.
2) Filter berm barriers shall be installed where shown prior to any on–site grading or disturbance of existing surface material. It should be maintained during and after development to remove sediment from runoff water and from land undergoing development. Where possible natural drainage ways should be utilized and left open to remove excess surface water. The silt fence is to be maintained and cleaned until all slopes have a healthy stand of grass.
3) The fill material shall be approved soil type free from stumps, roots, wood, etc. to be placed in 12" lifts or as specified. Bulldozers, trucks, tractors, or rollers may be used for compaction by routing the equipment to all areas of each layer.
4) All disturbed areas and side slopes which are finish graded with no further construction to take place shall be loamed and seeded. A minimum 4 inches of loam shall be installed.
5) Any disturbed areas which are to be left temporarily, and which will be regraded later during construction, shall be machine hay mulched and seeded with rye grass to prevent erosion. Hay or straw mulch shall be applied to all freshly seeded areas at the rate of 2 tons per acre. Bales shall be unspoiled, air–dried, and free from weed, seeds and any coarse material.
6) All swales, ponds and ditches must be fully stabilized prior to any runoff directed to these areas.
7) The contractor shall stabilize all exposed slopes on a weekly basis except when a rainfall in excess of 1 inch is expected, at which time, additional measures are to be taken. The Contractor shall employ the services of a weather bureau for such expected rainfalls.
8) The contractor is to install pipe bedding and filter media only after all permanent stabilization measures have been installed on the portion of the site draining to the filter basin.

MAINTENANCE SPECIFICATIONS:

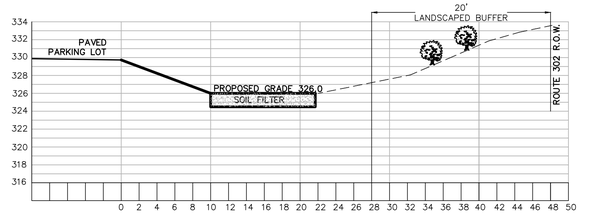
Temporary grade stabilization structures should be checked after each rainfall and at least daily during prolonged storms. Any necessary repairs should be made immediately. Particular attention should be given to end run and erosion at the downstream toe of the structure. When the structures are removed, the disturbed portion should be brought to the existing channel grade and the areas prepared, seeded, and mulched. While this practice is not intended to be used primarily for sediment trapping, some sediment will accumulate behind the structures. Sediment shall be removed from behind the structures when it has accumulated to one half of the original height of the structure.

CONSTRUCTION OVERSIGHT

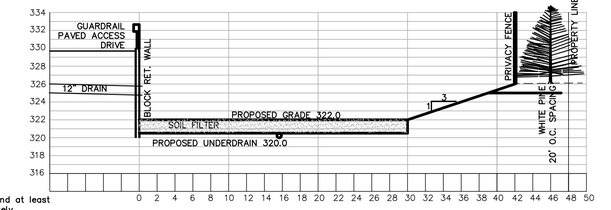
The applicant will retain the services of a professional engineer to inspect the construction and stabilization of all stormwater management structures. If necessary, the inspecting engineer will interpret the pond's construction plan for the contractor. Once all stormwater management structures are 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.

STORMWATER CONTROL

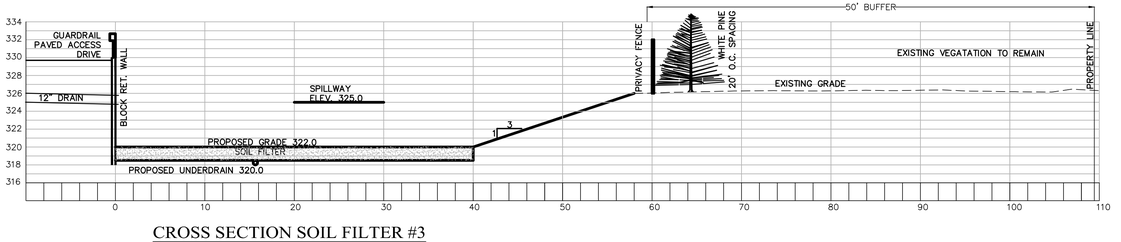
Stormwater management measures shall be taken to direct stormwater runoff during construction into the existing detention basin. Should the construction of the building impede the detention basin then a new temporary detention basin shall be constructed and used for stormwater management controls until the permanent infiltration basin is complete.



CROSS SECTION SOIL FILTER #1



CROSS SECTION SOIL FILTER #2



CROSS SECTION SOIL FILTER #3

DATE	REVISION
4/3/2023	ADDRESS ADDITIONAL STAFF COMMENTS
3/21/2023	ADDRESS ADDITIONAL STAFF COMMENTS
3/2/2023	ADDRESS ADDITIONAL STAFF COMMENTS
12/22/22	ADDRESS PEER REVIEW COMMENTS
10/14/22	ADDED SOIL FILTER CROSS SECTIONS
8/17/22	UPDATE ZONING DISTRICT TO COMMERCIAL DISTRICT 1 NORTH (C1N)
4/11/22	MODIFY UNDERDRAIN SOIL DETAIL
2/28/22	MODIFY DRAINAGE

PREPARED BY:
Engineering Alliance, Inc.
Land Planning Consultants
194 Central Street
Saugus, MA 01906
(781) 231-1349

PROJECT:
Roosevelt Apartment Homes
963 Roosevelt Trail
Windham, Maine
Tax Map 21 Lot 19A

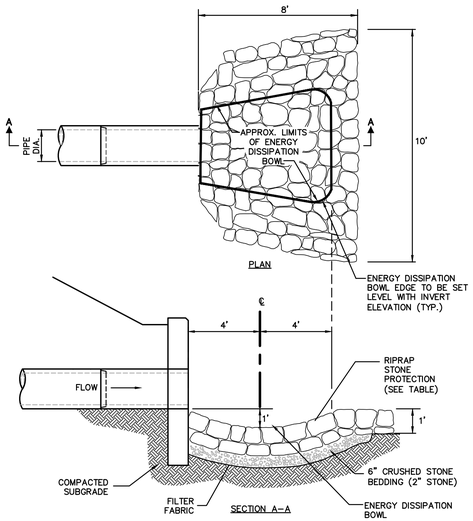
DATE: February 26, 2021
SCALE: AS NOTED
DESIGN BY: Richard Salvo
Checked By:Erik Heyland, P.E.

STATE OF MAINE ERIK D. HEYLAND No. 7019 REGISTERED PROFESSIONAL ENGINEER
Professional Engineer for Engineering Alliance, Inc.

APPLICANT:
Heyland Development, LLC
PO Box 407
Moody, ME 04054

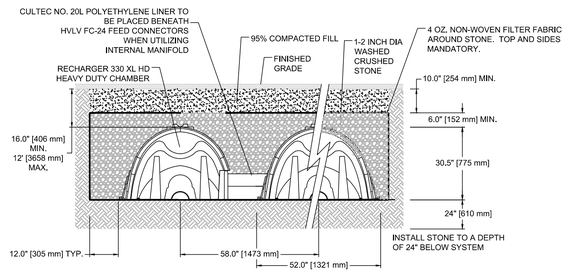
DRAWING TITLE:
STORMWATER DETAILS

DWG. NO.
5 OF 9



STONE OUTLET PROTECTION

SCALE: N.T.S.



GENERAL NOTES

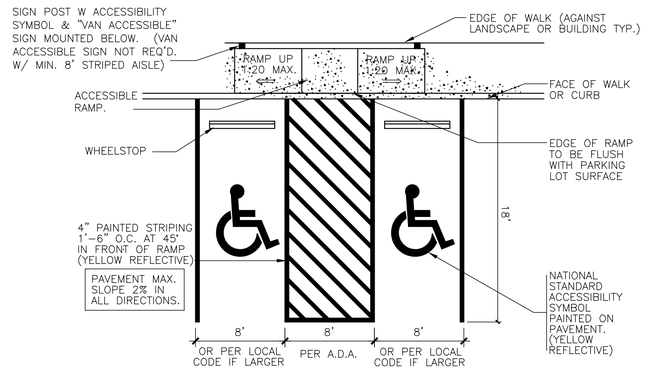
RECHARGER 330XL HD BY CULTEC, INC. OF BROOKFIELD, CT.
STORAGE PROVIDED = 11.32 CF/FT PER DESIGN UNIT.
REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
USE RECHARGER 330XL HD HEAVY DUTY FOR TRAFFIC AND/OR H-25 APPLICATIONS.

ALL RECHARGER 330XL HD HEAVY DUTY UNITS ARE MARKED WITH A COLOR STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER.
ALL RECHARGER 330XL HD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

CHAMBER DETAIL

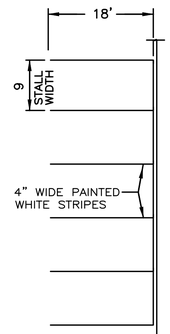
SUB-SURFACE SAND FILTER (ROOF INFILTRATION SSYTEM)

SCALE: N.T.S.



ACCESSIBLE PARKING STALLS DETAIL

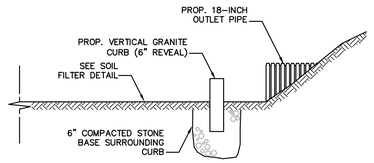
SCALE: N.T.S.



NOTE:
SEE PLANS FOR OVERSIZED (10'x20') PARKING SPACE LOCATIONS.

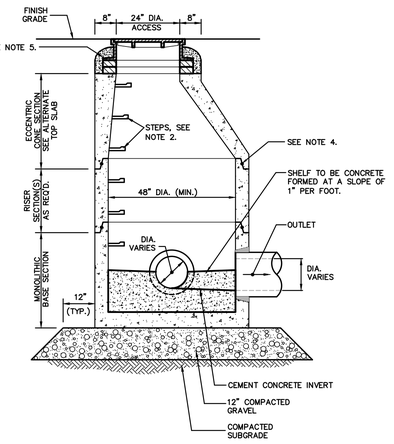
TYPICAL STRIPING DETAIL

SCALE: N.T.S.



SOIL FILTER #1 WEIR DETAIL

SCALE: N.T.S.



TYPICAL DRAIN MANHOLE

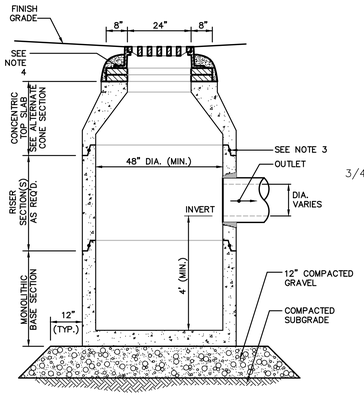
SCALE: N.T.S.

DRAIN MANHOLE NOTES:

1. ALL SECTIONS SHALL BE DESIGNED FOR HS–20 LOADING.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)

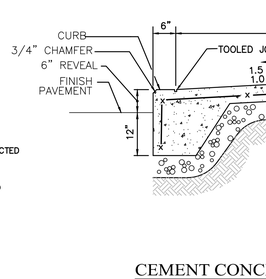
CATCH BASIN NOTES:

1. ALL SECTIONS SHALL BE DESIGNED FOR HS–20 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)



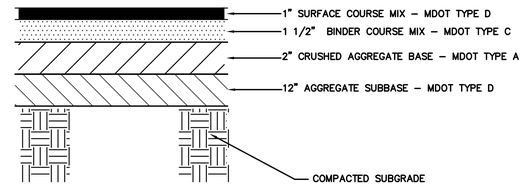
TYPICAL CATCH BASIN

SCALE: N.T.S.



CEMENT CONCRETE SIDEWALK

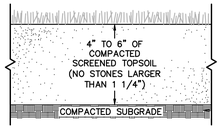
SCALE: N.T.S.



1. ALL MATERIALS TO CONFORM TO MDOT STANDARD SPECIFICATIONS.

BITUMINOUS CONCRETE PAVEMENT DETAIL

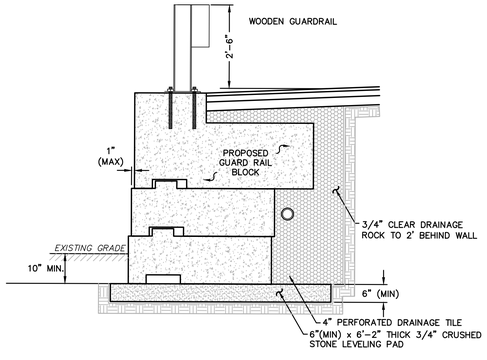
SCALE: N.T.S.



NOTES:	SIEVE	% PASSING
1. TOP OF LOAM (TOPSOIL) IS FINISHED GRADE.	1 1/4 INCH	100
	No.4	85–100
2. TOPSOIL SHALL CONTAIN BETWEEN 5% AND 12% ORGANIC MATTER AND SHALL HAVE A MAXIMUM STONE SIZE OF 1 1/4" AND SHALL CONFORM TO THE FOLLOWING GRADATION:	No.40	60–85
	No.100	38–60
	No.200	28–40

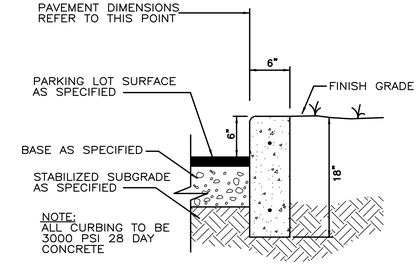
LOAM & SEED DETAIL

SCALE: N.T.S.



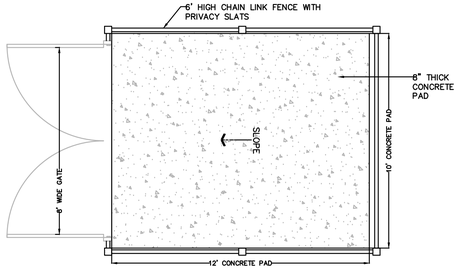
GRAVITY PRECAST MODULAR BLOCK WALL (TYP)

SCALE: N.T.S.



PRECAST CEMENT CONCRETE CURB DETAIL

SCALE: N.T.S.



TYPICAL SOLID WASTE ENCLOSURE

SCALE: N.T.S.

DATE	REVISION
3/30/2023	ADDRESS ADDITIONAL STAFF COMMENTS
3/2/2023	ADDRESS ADDITIONAL STAFF COMMENTS
12/22/22	ADDRESS PEER REVIEW COMMENTS
8/17/22	UPDATE ZONING DISTRICT TO COMMERCIAL DISTRICT 1 NORTH (C1N)
2/28/22	MODIFY DRAINAGE

PREPARED BY:
Engineering Alliance, Inc.
Land Planning Consultants
194 Central Street
Saugus, MA 01906
(781) 231-1349

PROJECT:
Roosevelt Apartment Homes
963 Roosevelt Trail
Windham, Maine
Tax Map 21 Lot 19A

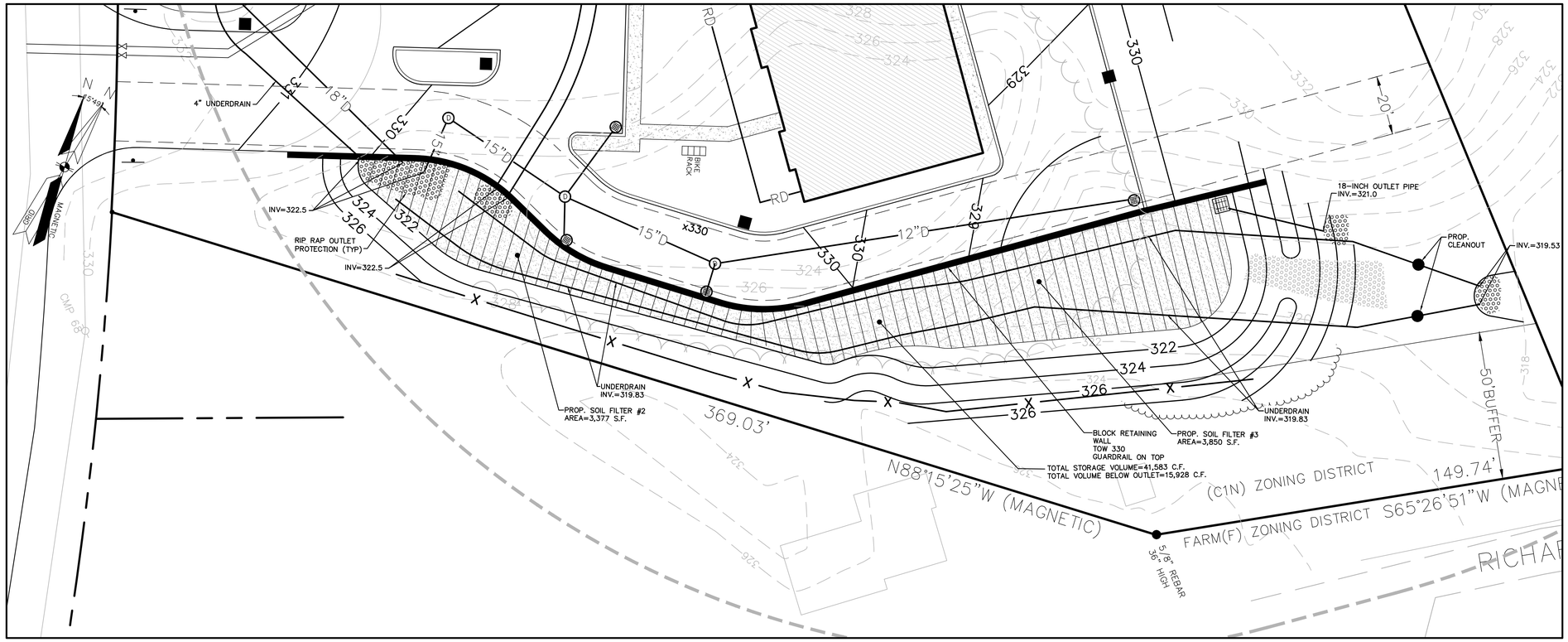
DATE: February 26, 2021
SCALE: AS NOTED
Checked By:Erik Heyland, P.E.
DESIGN BY: Richard Salvo

STATE OF MAINE — ERIK D. HEYLAND — No. 7949 — REGISTERED PROFESSIONAL ENGINEER
Professional Engineer for Engineering Alliance, Inc.

APPLICANT:
Heyland Development, LLC
PO Box 407
Moody, ME 04054

DRAWING TITLE:
CONSTRUCTION DETAILS

DWG. NO.
6 OF 9



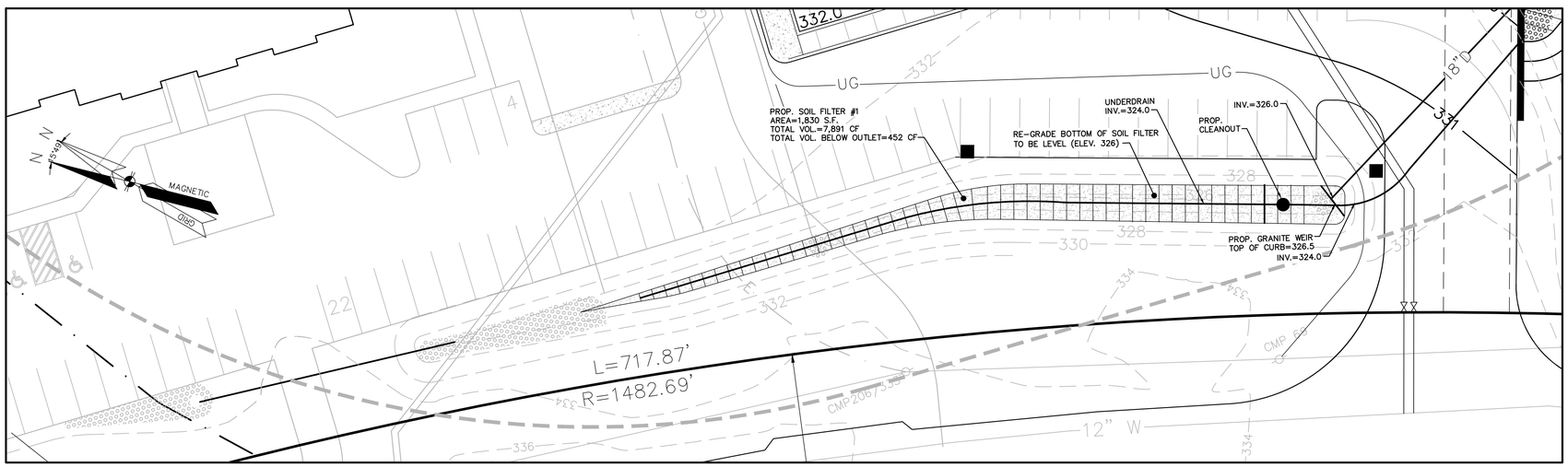
GUSF-2

SCALE: 1"=20'

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.



GUSF-1

SCALE: 1"=20'

DATE	REVISION
3/30/2023	ADDRESS ADDITIONAL STAFF COMMENTS
3/21/2023	ADDRESS ADDITIONAL STAFF COMMENTS
3/2/2023	ADDRESS ADDITIONAL STAFF COMMENTS
1/22/22	ADDRESS PEER REVIEW COMMENTS

PREPARED BY:

Engineering Alliance, Inc.
Land Planning Consultants
194 Central Street
Saugus, MA 01906
(781) 231-1349

PROJECT:
Roosevelt Apartment Homes
963 Roosevelt Trail
Windham, Maine
Tax Map 21 Lot 19A

SCALE: AS NOTED
DESIGN BY: Richard Salvo
DATE: February 26, 2021
Checked By:Erik Heyland, P.E.

ERIK D. HEYLAND No. 7949 STATE OF MAINE REGISTERED PROFESSIONAL ENGINEER LICENSED

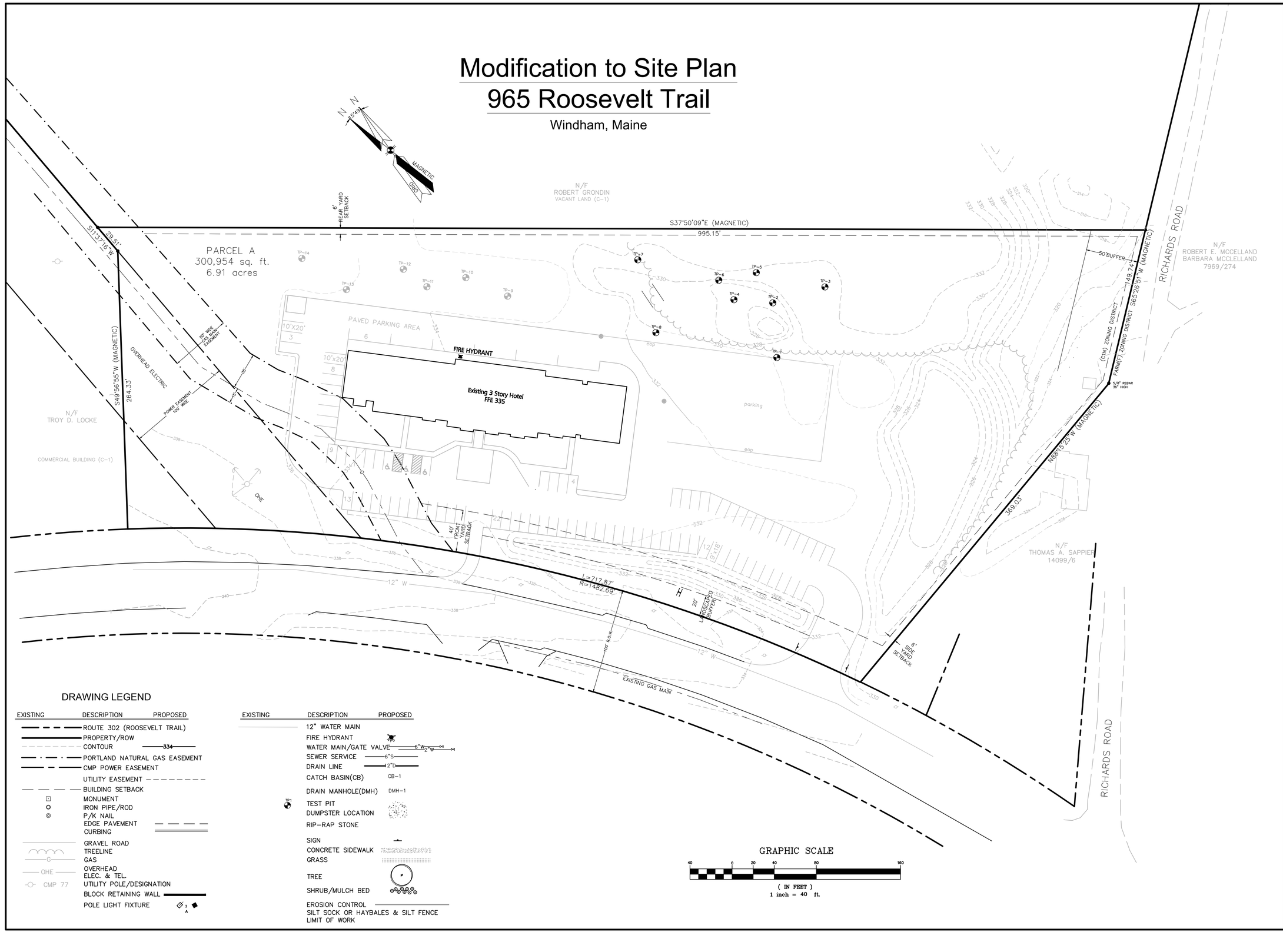
Professional Engineer for Engineering Alliance, Inc.

APPLICANT:
Heyland Development, LLC
PO Box 407
Moody, ME 04054

DRAWING TITLE:
DRAINAGE DETAILS

DWG. NO.
7 OF 9

Modification to Site Plan
965 Roosevelt Trail
Windham, Maine



DRAWING LEGEND

EXISTING	DESCRIPTION	PROPOSED
	ROUTE 302 (ROOSEVELT TRAIL)	
	PROPERTY/ROW	
	CONTOUR	334
	PORTLAND NATURAL GAS EASEMENT	
	CMP POWER EASEMENT	
	UTILITY EASEMENT	
	BUILDING SETBACK	
⊡	MONUMENT	
○	IRON PIPE/ROD	
◎	P/K NAIL	
	EDGE PAVEMENT	
	CURBING	
	GRAVEL ROAD	
	TREELINE	
G	GAS	
OHE	OVERHEAD ELEC. & TEL.	
CMP 77	UTILITY POLE/DESIGNATION	
	BLOCK RETAINING WALL	
	POLE LIGHT FIXTURE	

EXISTING	DESCRIPTION	PROPOSED
	12" WATER MAIN	
	FIRE HYDRANT	
	WATER MAIN/GATE VALVE	6"W 2"W
	SEWER SERVICE	6"S
	DRAIN LINE	12"D
	CATCH BASIN(CB)	CB-1
	DRAIN MANHOLE(DMH)	DMH-1
TP1	TEST PIT	
	DUMPSTER LOCATION	
	RIP-RAP STONE	
	SIGN	
	CONCRETE SIDEWALK	
	GRASS	
	TREE	
	SHRUB/MULCH BED	
	EROSION CONTROL SILT SOCK OR HAYBALES & SILT FENCE	
	LIMIT OF WORK	

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

DATE	REVISION
12/22/22	ADDRESS PEER REVIEW COMMENTS
8/17/22	UPDATE ZONING DISTRICT TO COMMERCIAL DISTRICT 1 NORTH (C1N)
2/28/22	MODIFY DRAINAGE

PREPARED BY:
Engineering Alliance, Inc.
Land Planning Consultants
194 Central Street
Saugus, MA 01906
(781) 231-1349

PROJECT:
Roosevelt Apartment Homes
963 Roosevelt Trail
Windham, Maine
Tax Map 21 Lot 19A

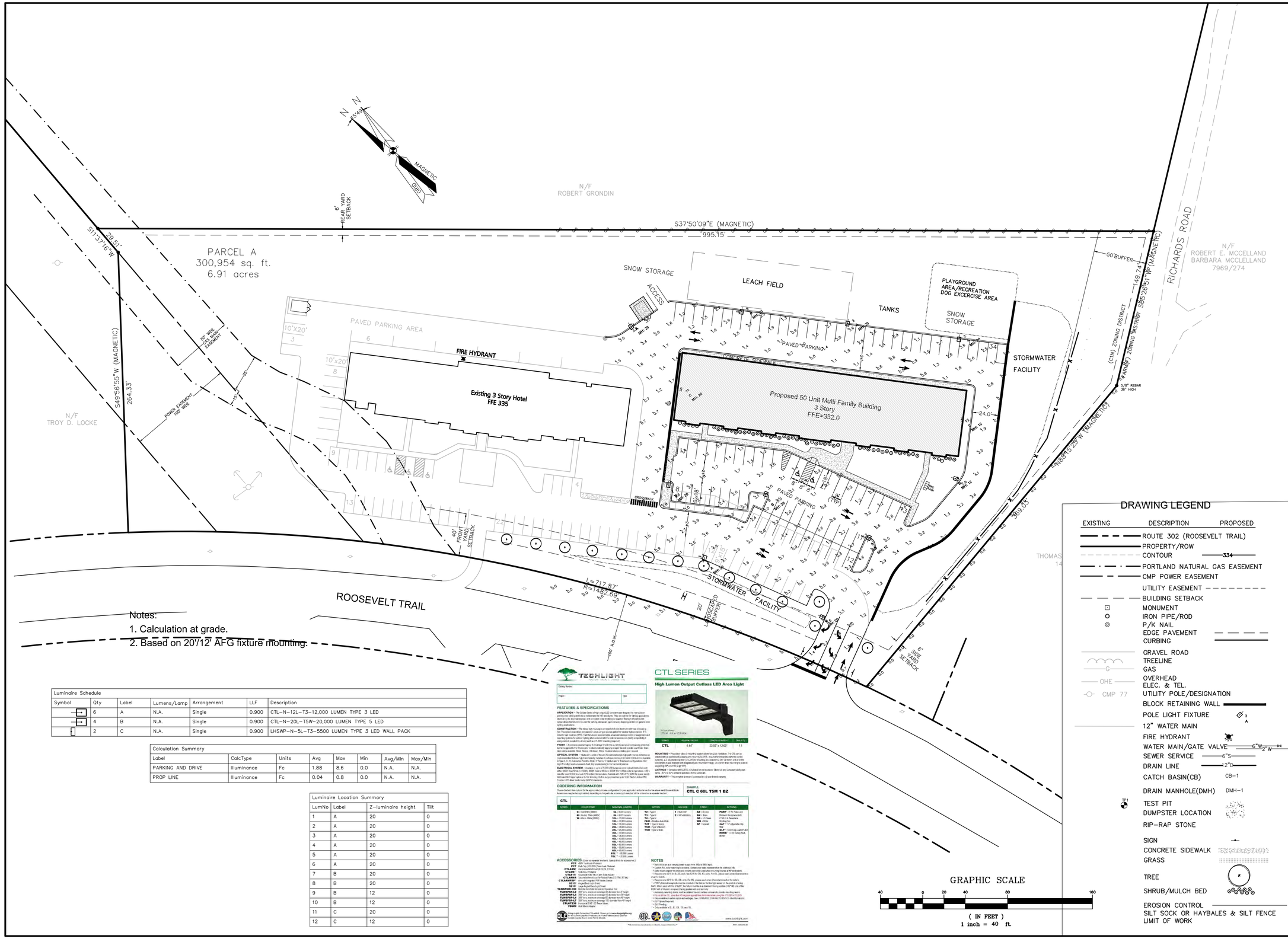
SCALE: AS NOTED
DATE: February 26, 2021
DESIGN BY: Richard Salvo
Checked By:Erik Heyland, P.E.

STATE OF MAINE ERIK D. HEYLAND No. 7419 REGISTERED PROFESSIONAL ENGINEER
Professional Engineer for Engineering Alliance, Inc.

APPLICANT:
Heyland Development, LLC
PO Box 407
Moody, ME 04054

DWG. NO.
8 OF 9

DRAWING TITLE:
EXISTING CONDITIONS PLAN



Notes:

1. Calculation at grade.
2. Based on 20'/12' AFG fixture mounting.

Luminaire Schedule						
Symbol	Qty	Label	Lumens/Lamp	Arrangement	LLF	Description
	6	A	N.A.	Single	0.900	CTL-N-12L-T3-12,000 LUMEN TYPE 3 LED
	4	B	N.A.	Single	0.900	CTL-N-20L-T5W-20,000 LUMEN TYPE 5 LED
	2	C	N.A.	Single	0.900	LHSWP-N-5L-T3-5500 LUMEN TYPE 3 LED WALL PACK

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PARKING AND DRIVE	Illuminance	Fc	1.88	8.6	0.0	N.A.	N.A.
PROP LINE	Illuminance	Fc	0.04	0.8	0.0	N.A.	N.A.

Luminaire Location Summary			
LumNo	Label	Z-luminaire height	Tilt
1	A	20	0
2	A	20	0
3	A	20	0
4	A	20	0
5	A	20	0
6	A	20	0
7	B	20	0
8	B	20	0
9	B	12	0
10	B	12	0
11	C	20	0
12	C	12	0

DRAWING LEGEND

EXISTING	DESCRIPTION	PROPOSED
	ROUTE 302 (ROOSEVELT TRAIL)	
	PROPERTY/ROW	
	CONTOUR	334
	PORTLAND NATURAL GAS EASEMENT	
	CMP POWER EASEMENT	
	UTILITY EASEMENT	
	BUILDING SETBACK	
	MONUMENT	
	IRON PIPE/ROD	
	P/K NAIL	
	EDGE PAVEMENT	
	CURBING	
	GRAVEL ROAD	
	TREELINE	
G	GAS	
OHE	OVERHEAD ELEC. & TEL.	
CMP 77	UTILITY POLE/DESIGNATION	
	BLOCK RETAINING WALL	
	POLE LIGHT FIXTURE	3 A
	12" WATER MAIN	
	FIRE HYDRANT	
	WATER MAIN/GATE VALVE	6"W 2"W
	SEWER SERVICE	6"S
	DRAIN LINE	12"D
	CATCH BASIN(CB)	CB-1
	DRAIN MANHOLE(DMH)	DMH-1
TP1	TEST PIT	
	DUMPSTER LOCATION	
	RIP-RAP STONE	
	SIGN	
	CONCRETE SIDEWALK	
	GRASS	
	TREE	
	SHRUB/MULCH BED	
	EROSION CONTROL SILT SOCK OR HAYBALES & SILT FENCE	
	LIMIT OF WORK	

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

REVISION	DATE
ADDRESS PEER REVIEW COMMENTS	12/22/22
UPDATED LIGHT POLE LAYOUT	9/20/22
UPDATE ZONING DISTRICT TO COMMERCIAL DISTRICT 1 NORTH (C1N)	8/17/22
MODIFY DRAINAGE	2/28/22

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PROJECT:
Roosevelt Apartment Homes
963 Roosevelt Trail
Windham, Maine
Tax Map 21 Lot 19A

SCALE: AS NOTED
DATE: February 26, 2021
DESIGN BY: Richard Salvo
Checked By:Erik Heyland, P.E.

Professional Engineer for Engineering Alliance, Inc.

APPLICANT:
Heyland Development, LLC
PO Box 407
Moody, ME 04054

DWG. NO.
9 OF 9

DRAWING TITLE:
LIGHTING PLAN