October 25, 2022

North Yarmouth Planning Board 10 Village Square Road North Yarmouth, Maine



Re: Updates to Proposed Village Green Apartments, Walnut Hill Road

Dear Board Members,

At the October Planning Board meeting, a public hearing was completed with questions and answers about the project provided to the Board. The Board then determined the application materials complete but tabled the project for review of additional comments from the Yarmouth Water District and potentially relocating the sidewalk on the other side of Walnut Hill.

During the Planning Board meeting, we listened to public comment and have voluntarily revised our plan accordingly. Abutter Lucey had concerns with drainage from their driveway culvert and a large tree that may be impacted during construction of Lot 3 house. We have relocated the sidewalk to the other side of Walnut Hill Road allowing the existing ditch to remain "as is". Water flows from their driveway culvert will continue to flow as it does currently. We have relocated the proposed houses and property lines for Lots 1, 2, and 3. We are able to shift the house construction allowing 18' to the property sideline (rather than the earlier version of 6') to help minimize potential conflicts with tree roots during construction.

As noted above, there were several comments pertaining to proposed location for sidewalk construction. Ben Grover has spoken with the Public Works Director and has agreed to relocate the sidewalk to the Fire Station side of Walnut Hill Road rather than in front of the proposed development. This accomplishes several concerns with regard to drainage (see above) and saving trees along Walnut Hill Road ROW.

The Planning Board wanted to allow the Yarmouth Water District an opportunity to review an updated nitrate study for the one proposed septic system for Lots 1, 2, and 3. We have sent the study and updated plans to Eric and have attached his email reply that he is OK with the one disposal system.

We look forward to presenting this plan to the Planning Board at the November 8 meeting for final approval.

Sincerely yours,

Steve Roberge, PE



From:	Eric Gagnon
To:	steve@sjreng.com
Cc:	Ben Grover; Tracey Cox; Benjamin Scipione; Ben Smith; Tim Herrick
Subject:	Re: Updated Nitrate study Village Green Apts 10132022
Date:	Monday, October 17, 2022 10:59:54 AM

Hi Steve,

Thanks for providing the updated plans and hydrogeologic study for the Village Green Apartments. We do not have any additional concerns with the revised plan and hydrogeologic study.

After conversations with the developer and in reference to our response on 9/26/22 regarding the recommendation that an easement is written between all parties for the water service for lot 4 it is understood that the developer plans to own all the lots within the project so an easement would not be necessary at this time. If ownership changes an easement to protect and allow repair/maintenance of the private side of the water service line is highly recommended. It was also discussed that the developer plans to follow through with our comments listed in number three of the letter referenced above which include the protection of the groundwater.

Feel free to reach out if you have any questions.

Eric Gagnon Superintendent Yarmouth Water District **Our current work schedule is Monday through Thursday 7 am to 5 pm and I typically do not check my emails regularly outside of those hours.** 207.846.5821 phone 207.846.1240 fax

http://YarmouthWaterDistrict.org/

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On Thu, Oct 13, 2022 at 4:18 PM <<u>steve@sjreng.com</u>> wrote:

Hi Eric,

I've attached the updated nitrate study done by Steve Marcotte. No significant changes are reported due to the combined systems. This will be part of the submission package for the next PB meeting. I would like to include your comments/approval letter with the submission. Let me know if you have questions.

Steve Roberge, PE

SJR Engineering Inc.

16 Thurston Drive

Monmouth, Maine 04259

Cell: 207-242-6248

http://www.sjreng.com

Be kinder than necessary, for everyone you meet is fighting some kind of battle.

UBSURFAC	SE WASTE	WATER DISPOSAL ST	STEWATEOAT		
F	PROPERTY	LOCATION	>> CAUT	ION: LPI APPF	ROVAL REQUIRED <<
City, Town, or Plantation	North Yarmo	buth	Town/City		_ Permit #
Street or Road	Walnut Hill Road Lots 23		Date Permit Issued	_// Fee: \$	Double Fee Charged 1
ubdivision. Lot #	Units 1-3		Local Plumbing I	nspector Signature	L.P.I. #
OWNE		IT INFORMATION	Fee: \$	state prin fee	\$Locally adopted fee State
ame (last, first, M	I) Constructior	Aggregat Owner	The Subsurface Wa	stewater Disposal	System shall not be installed until a
Aailing Address	82 Doughty	Road	Permit is issued by t	he Local Plumbing	Inspector. The Permit shall
of '	North Yarmo	outh 04097	authorize the owner with this application	or installer to instal and the Maine Sub	ll the disposal system in accordance osurface Wastewater Disposal Rules.
Doutimo Tol #	233-6463		Municipal -	Гах Мар #	Lot #
Daytime Tel. #	EP OP APPLICAN	T STATEMENT		CAUTION: INSPECTIC	ON REQUIRED
state and acknowled ny knowledge and un and/or Local Plumbin	tge that the information of the stand that any tig Inspector to deny	alsification is reason for the Department a Permit.	I have inspected with the Subsurf	the installation authorize ace Wastewater Disposa	al Rules Application. (1st) date approved
Sig	nature of Owner or	Applicant Date		Plumbing Inspector Sign	ature (2nd) date approved
				DISPOS	SAL SYSTEM COMPONENTS
TYPE OF AF	PLICATION	1 No Rule Variance	KEQUIKES	1. Comp	blete Non-engineered System
2. Replacemen	nt System	2. First Time System Variance		2. Primit 3. Altern	tive System (graywater & alt. tollet) native Toilet, specify:
Type replaced: _		a. Local Plumbing Inspector b. State & Local Plumbing In	Approval hspector Approval	4. Non-e	engineered Treatment Tank (only)
Year installed:		 3. Replacement System Variar 	nce	6. Non-e	engineered Disposal Field (only)
3. Expanded S a. <25% Exp b. ≥25% Exp	System Dansion Dansion	a. Local Plumbing Inspector b. State & Local Plumbing Ir	Approval hspector Approval	7. Sepa 8. Comp	rated Laundry System blete Engineered System (2000 gpd or more
4. Experimenta	al System	4. Minimum Lot Size Variance		9. Engi 10. Engi	neered Disposal Field (only)
5. Seasonal C	onversion	5. Seasonal Conversion Permi	SERVE	12 Misc	treatment, specify: Fui Clean CE15
SIZE OF P	ROPERTY	1. Single Eamily Dwelling Unit,	No. of Bedrooms:		E OF WATER SUPPLY
2.33	ACRES	S. Multiple Family Dwelling, No	of Units: 3-2BJM	1 Drilled V	
SHORELA	ND ZONING	3. Other:(specify)	01	1. Drilled V	5 Other
Yes	(No) .	Current Use Seasonal Yea		HOWN ON PAG	F 3)
		DESIGN DETAILS (S	SIZE CARRACE D		
TREATME 1 Concrete	NT TANK	1. Stone Bed 2. Stone Tre	nch (1, No) 2.	es 3. Maybe	E40
a. Regular	N/A	3. Proprietary Device	If Yes or Maybe,	specify one below:	BASED ON:
 b. Low Profile 2. Plastic 		a. cluster array c. Linear	a. multi-compa	irtment tank	1. Table 4A (dwelling unit(s))
3. Other:		b. regular load d. H-201	b tanks in	series	SHOW CALCULATIONS for other facil
CAPACITY: _	GAL.	SIZE: 600 (sq. ft,)	lin. ft. d. Filter on Ta	nk Outlet	
SOIL DATA & D	ESIGN CLASS	DISPOSAL FIELD SIZING	G EFFLUENT/EJE	CTOR PUMP	3. Section 4G (meter readings)
PROFILE CON	DITION		1. Not Required	-	
<u> </u>	TP1	<u>Medium2.6 sq. ft. / dpa</u>	2. May Be Require	a	at center of disposal area
Donth 36 "		2. MediumLarge 5.5 sq. i.t	Specify only for end	ineered systems:	Lat. 43 d 49 m 45 s
of Most Limiting	Soil Factor	4. Extra Large5.0 sg. ft. / g	DOSE:	_ gallons	if g.p.s, state margin of error: <u>15</u>
		SITE EV	ALUATOR STATEM	ENT	
	0/17/202		evaluation on this prop	erty and state that	the data reported are accurate and
I certify that on	9/17/202	<u>compliance with the State of</u>	Maine Subsurface Was	stewater Disposal	Rules (10-144A CMR 241).
that the propos	sed system is i		263	9/1	17/2022
-M	W M	r Signature		#	Date
\cup	Mark Ha	noton	207-756-2	2900	
	Site Evaluate	or Name Printed		e Number	E-mail Address
	Uno Lvaluati				

SUBSURFACE WASTEWA	ATER DISPOSAL SYSTE		5700 Department of Health & Human Services Division of Environmental Health (207) 287-5672 Fax: (207) 287-3165
Town, City, Plantation	Street, Road	d, Subdivision	Owner's Name
North Yarmouth	Walnut Hill Road Lot	23/1	Construction Aggregates, Inc.
North Yarmouth	Walnut Hill Road Lot Scale $1" = 100$ 2π 5 π^{1} π^{1} 160	23/1 ft. or as shown	Construction Aggregates, Inc. SITE LOCATION PLAN (map from Maine Atlas recommended)
SOIL DESCRIPTIC Observation Hole TP1 "Depth of Organic Ho	DN AND CLASSIFICATIO Test Pit Boring Drizon Above Mineral Soil	N (Location of Obser Observation Hole " Depth of Texture	rvation Holes Shown Above) Test Pit Boring of Organic Horizon Above Mineral Soil Consistency
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Color Mottling	0 0 0 0 0 0 0 0 0 0 0 0 0 0	Slope Limiting [] Ground Water
Site Evaluator Signature	263	9/17/2022 Date	Page 2 of 3 HHE-200 Rev. 02/11



MARCOTTE ENVIRONMENTAL

Wastewater
 Groundwater
 Permitting
 Environmental Compliance

October 13, 2022

PN: #22033

SJR Engineering, Inc. 16 Thurston Drive Monmouth, ME 04259 Attn: Steve Roberge

REFERENCE: Nitrate-Nitrogen Assessment Rev 1 Lot 23, Village Center Estates Walnut Hill Road (Rt 115), North Yarmouth, Maine

Dear Steve:

Marcotte Environmental (Marcotte) completed a Nitrate-Nitrogen Assessment for the proposed subsurface wastewater disposal field to serve the above referenced 4-unit residential development in North Yarmouth, Maine. The site and vicinity are served by public water and subsurface wastewater disposal fields (leachfields).

Information used to complete the analysis includes septic system designs provided by Mark Hampton Associates, plans prepared by SJR Engineering Inc. (SJR), and published geologic maps and literature.

PROPOSED SUBSURFACE WASTEWATER DISPOSAL SYSTEMS

The proposed development includes four (4) two-bedroom dwelling units. Wastewater will be treated at the point of generation by a FujiClean CEN advanced treatment tank and discharged to a subsurface wastewater disposal field.

Units 1, 2 and 3 are served by a common 20-foot by 30-foot stone bed disposal field with a design flow of 540 GPD. The loading rate is 0.9 GPD per square foot or 0.12 feet per day. Unit 4 is served by a 15-foot by 25-foot stone bed disposal field each with a design flow of 180 gallons per day (GPD). The loading rate is 0.48 GPD per square foot or 0.064 feet per day.

SITE SETTING

Topographic and geologic maps showing the site and vicinity are provide as Attachment 1. The proposed development is located on gently to moderately sloping ground at the foot of the Bruce Hill / Walnut Hill. The nearest surface water is Toddy Brook to the east of the site boundary.

The Maine Geological Survey has mapped the surficial geology at the site and vicinity as marine regressive deposits over the Presumpscot Formation. Marine regressive sands were deposited in shallow marine waters during regression of the sea from the coastal area of Maine. The sands are commonly interbedded with upper layers of the Presumpscot Formation. The Presumpscot Formation consists of fine-grained silt and clay deposited in deep marine waters.

The Maine Geological Survey has not mapped the surficial deposits at the site as a significant sand and gravel aquifer. The nearest sand and gravel aquifer is located on the east side of Walnut Hill Road approximately 500 feet from the site boundary / roughly coincident with Toddy Brook.

Soils test pits at disposal field locations revealed sands to four feet below the ground surface with an estimated seasonal high-water table at approximately 2 feet below the ground surface.

NITRATE-NITROGEN IMPACT ASSESSMENT

A nitrate-nitrogen assessment was performed to estimate the distance from the disposal field at which the concentration in groundwater would reach the local groundwater protection standard of 5 milligrams nitrogen per liter (mg-N/L). The average concentration of nitrate-nitrogen in FujiClean CEN treated effluent used in this assessment is 10 mg-N/L. The background concentration of nitrate-nitrogen in groundwater and precipitation recharge are assumed to be 1 mg-N/L and 0.5 mg-N/L, respectively.

The model was constructed and solved using United States Geological Survey (USGS) ModelMuse¹ graphical user interface, MODFLOW 6², and MT3D-USGS³. A three-dimensional grid representing the model top and top/bottom of model layers was generated based upon LiDAR data from the Maine Office of GIS, and information presented on the enclosed topographic and geologic maps. Model layers from top to bottom, layer thickness, and hydrology properties are summarized below.

Model Layer/ Material	Layer Thickness (feet)	Horizontal Hydraulic Conductivity (Kh) (feet/day)	Vertical Hydraulic Conductivity (Kz) (based on Kh)	Specific Yield / Effective Porosity unitless	Longitudinal Dispersity (feet)
Sediment	2	10	Kh	0.3	5
Upper Sand	Varies	10	Kh/3	0.15	5
Silt	Varies	1	Kh/10	0.1	5
Glacial Till	4	0.5	Kh/3	0.05	5
Bedrock, upper	25	0.001	Kh/5	0.01	3
Bedrock, lower	25	0.0001	Kh/10	0.001	2

Toddy Brook and the intermittent stream / wetland area onsite were simulated in the sediment layer with river boundary condition cells. Constant head boundary cells were used to simulate head conditions on the western/upgradient model boundary.

Recharge is estimated to be 0.005 feet per day, or 50% of an estimated average annual precipitation of 48 inches. The model was solved with a 10-to-20-foot grid size and 18-layer discretizations. Figures showing the model construction and results are provided as Attachment 2. Model results are for 10 years of loading at the design flow.

The estimated 5 mg-N/L nitrate-nitrogen plume length ranges from approximately 35 to 50 feet.

¹ ModelMuse 5.0.0.0 (3/18/2022), https://www.usgs.gov/software/modelmuse-graphical-user-interface-groundwater-models

² MODFLOW 6.3.0, (3/4/2022), https://www.usgs.gov/software/modflow-6-usgs-modular-hydrologic-model

³ MT3DMS-USGS 1.1, (6/28/2019), https://www.usgs.gov/software/mt3d-usgs-groundwater-solute-transport-simulator-modflow

CLOSURE

Results of this analysis indicate the proposed engineered subsurface wastewater disposal system will not result in an increase of nitrate-nitrogen above 5 mg/L in groundwater at the property boundary.

The findings discussed herein are based on an interpretation of site conditions and information provided by others. If there are changes to the disposal field design flow, or significant changes in layout, I request the opportunity to review the changes and conduct further analysis as necessary to confirm the changes do not alter the conclusions and recommendations provided herein.

Sincerely yours, Marcotte Environmental

Stave Mapates

Stephen B. Marcotte, LG, LSE Principal Geologist



Enclosures

ATTACHMENT 1

TOPOGRAPHIC & GEOLOGICAL MAPS









ATTACHMENT 2

NITRATE-NITROGEN ASSESSMENT MODEL RESULTS



GIS Background with 2 ft topography (black) & google aerial photograph.

Nitrate-Nitrogen Plume Map









STORMWATER CONSTRUCTION OVERSIGHT NOTES

THE CONTRACTOR SHALL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER TO INSPECT THE CONSTRUCTION AND STABILIZATION OF ALL STORMWATER MANAGEMENT STRUCTURES TO BE BUILT AS PART OF THIS PROJECT. IF NECESSARY, THE INSPECTING ENGINEER WILL INTERPRET THE CONSTRUCTION PLANS FOR THE CONTRACTOR. ONCE ALL STORMWATER MANAGEMENT STRUCTURES ARE CONSTRUCTED AND STABILIZED, THE INSPECTING ENGINEER SHALL NOTIFY THE TOWN OF NORTH YARMOUTH AND THE DEPARTMENT OF ENVIRONMENTAL PROTECTION IN WRITING WITHIN 30 DAYS TO STATE THAT THE STRUCTURES HAVE BEEN COMPLETED. ACCOMPANYING THE ENGINEER'S NOTIFICATION SHALL BE A COPY OF THE TEST RESULTS FOR ANY SOIL FILL, AGGREGATE OR MULCH MATERIALS USED IN THE CONSTRUCTION OF THE STORMWATER MANAGEMENT STRUCTURES AND A LOG OF THE ENGINEER'S INSPECTIONS GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION AND THE TIME INSPECTED ON EACH VISIT.

VEGETATED UNDERDRAINED SOIL FILTER BASING CONSTRUCTION INSPECTIONS - AT A MINIMUM, THE PROFESSIONAL ENGINEER'S INSPECTION SHALL OCCUR AFTER FOUNDATION SOIL PREPARATION BUT PRIOR TO PLACEMENT OF THE EMBANKMENT FILL, AFTER THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED, AFTER THE PIPE BEDDING IS PLACED BUT PRIOR TO THE PLACEMENT OF THE FILTER MEDIA, AND AFTER THE FILTER MEDIA HAS BEEN PLACED AND THE FILTER SURFACE SEEDED.

TESTING AND SUBMITTALS - ALL THE SOIL, MULCH, AND AGGREGATE USED FOR THE CONSTRUCTION OF THE VEGETATED UNDERDRAINED SOIL FILTER BASIN SHALL BE CONFIRMED AS SUITABLE BY TESTING. THE CONTRACTOR SHALL IDENTIFY THE SOURCE OF EACH MATERIAL AND OBTAIN SAMPLES FROM EACH MATERIAL FOR TESTING. ALL TESTING SHALL BE DONE BY A CERTIFIED LABORATORY. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE COMPLETION OF THE FOLLOWING SAMPLING AND TESTING BEFORE THE FILL OR AGGREGATE IS PLACED AS PART OF THE VEGETATED UNDERDRAINED SOIL FILTER BASIN'S CONSTRUCTION.

OBTAIN A SAMPLE OF THE FILTER MEDIA CONSISTING OF A BLEND OF SAND, TOPSOIL AND WOOD FIBER MULCH (OR OTHER APPROVED ORGANIC SOURCE). THE SAMPLE MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE. THE SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY. PERFORM ANALYSES OF THE BLENDED FILTER MEDIA SHOWING IT HAS 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE AS DETERMINED BY ASTM CI36 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COURSE AGGREGATES 1996A), HAS A CLAY CONTENT OF LESS THAN 2% AND HAS AN ORGANIC MATTER CONTENT OF NO LESS THAN 10% BY DRY WEIGHT.

IF THE UNDERDRAIN PIPES WILL BE BEDDED IN GRAVEL, OBTAIN A SAMPLE OF THE GRAVEL FILL TO BE USED FOR THE PIPE BEDDING. THE SAMPLE MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. THE SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY. PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM CI36 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COURSE AGGREGATES 1996A) OF THE GRAVEL TO BE USED FOR THE UNDERDRAIN PIPE BEDDING. THE GRAVEL FILL MUST CONFORM TO MEDOT SPECIFICATION 103.22 UNDERDRAIN TYPE B.

IF THE UNDERDRAIN PIPE WILL BE BEDDED IN CRUSHED STONE, OBTAIN A SAMPLE OF THE CRUSHED STONE TO BE USED FOR THE PIPE BEDDING. THE SAMPLE MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE. THE SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY. PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM CI36 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COURSE AGGREGATES 1996A) OF THE CRUSHED STONE TO BE USED FOR THE UNDERDRAIN PIPE BEDDING. THE CRUSHED STONE FILL MUST CONFORM TO MEDOT SPECIFICATION 103.22 UNDERDRAIN TYPE C.

SOIL FILTER NOTES

- 1) THE SOIL FILTER IS PART OF A NORTH YARMOUTH SITE PERMIT. CONSTRUCTION SHALL FOLLOW CURRENT MAINE DEP GUIDELINES WHICH INCLUDE APPROVAL OF MATERIAL PRIOR TO PLACEMENT AND CONSTRUCTION OVERSIGHT BY THE DESIGN ENGINEER.
- 2) SUBMIT SAMPLES AND GRADATIONS FOR EACH MATERIAL TO BE USED. PROVIDE EXPECTED DESIGN MIX. PERFORM AND PROVIDE STANDARD PROCTOR ON COMBINED MIXTURE AS WELL AS A PERMEABILITY TEST.
- 3) SCARIFY TO LOOSEN EXISTING SOIL AT LEAST 8" PRIOR TO LAYING FIRST LAYER OF THE SOIL FILTER SECTION.
- 4) MAXIMUM SPACING OF UNDERDRAIN PIPING IS 4' O.C., END CAPS SHALL BE INSTALLED ON ALL UNDER DRAIN PIPES.
- 5) AFTER APPROVAL OF MATERIAL, PLACE FILTER MEDIA IN TWO LIFTS WITH LOW WEIGHT VEHICLES TO 92% STANDARD PROCTOR.
- 6) PROVIDE 2" OF BARK MULCH OR EROSION CONTROL MIX ON TOP OF THE FILTER BED UNTIL THE SITE HAS PROPOSED HARDSCAPE PLACED AND HAS VEGETATION WELL ESTABLISHED EVERYWHERE ELSE. ONCE THE SITE IS STABILIZED, REMOVE THE MULCH AND ACCUMULATED SEDIMENT FROM THE FILTER AND ESTABLISH VEGETATION PER THE FILTER BED SEEDING PLAN.
- 1) PRIOR TO TURNING OVER TO OWNER, REMOVE SEDIMENT AND DEBRIS FROM FILTER SURFACE, OVERFLOW WEIR, INSIDE OVERFLOW STRUCTURE AND DISCHARGE PIPE.

SOIL F	ILTER MED	IA SPECIFIC	ATIONS *
FILTER MEDIA	SAND	TOPSOIL	MULCH
MIXTURE BY VOL.	5Ø% (±5%)	25% (±5%)	25% (±5%)
SPECIFICATION	MEDOT SPEC. #103.01 FINE AGGREGATE FOR CONCRETE	USDA LOAMY SANDY TOPSOIL	WOODY FIBER & MODERATEL' FINE, SHREDDED BARK SUPERHUMMUS OR EQUAL, ADJUSTED FOR MINERAL SOIL CONTENT WITH LESS THAN 5% PASSING THE #200 SIEVE
	GRAD	ATION	
SIEVE SIZE	% BY WEIGHT	% BY WEIGHT	% BY WEIGHT
3/8 "	100	-	-
4	90-100	75-95	-
8	80-100	-	-
10	-	60-90	-
16	50-85	-	-
3Ø	25-60	-	-
4Ø	-	35-85	-
60	10-30	-	-
100	2-1Ø	-	-
200	Ø-5	15-25	-
200 CLAY	< 2% * *	< 2% * *	< 2% * *
* FOR GRASSED VOLUME III : BI	UNDERDRAINED S MP'S TECHNICAL D	OIL FILTER BMP, F ESIGN MANUAL, MA	PER THE MAINE DEP AT 2014
* * COMBINED MIX	TURE CLAY CONTE	ENT SHALL NOT EX	CEED 2%
NOTE: THE SOIL FILTE	R SHALL DRAIN IN N	NO LESS THAN 24 bra	BUT NOT MORE THAN 48 br

NOTE:
FILTER POND SOIL FILTER DETAILS D
PERIMETER OF THE POND AND NOT TH
PLAN GRADING AND SECTION FOR LO
NEAR THE CONTROL STRUCTURE)

EROSION CONTROL MAT DETAIL NOT TO SCALE

SJR

SHEET 4

N.T.S.

GENERAL NOTES

- 1) THE CONTRACTOR IS REFERRED TO THE SPECIFICATIONS REGARDING COORDINATION WITH OTHERS, INCLUDING RESPONSIBILITIES AND RELATED COSTS. ALL UTILITY CONSTRUCTION IS SUBJECT TO APPROVAL INSPECTION BY UTILITY COMPANY PERSONNEL PRIOR TO BACKFILL OF TRENCHES.
- 2) BELOW GRADE UTILITY INFORMATION IS BASED UPON FIELD SURVEY, MOOT PLANS, TOWN OF NORTH YARMOUTH PLANS, TOWN OF NORTH YARMOUTH GIS WEBSITE, AND INFORMATION PROVIDED BY INDIVIDUAL UTILITY COMPANIES. LOCATIONS AND ELEVATIONS OF PUBLIC UTILITIES SHOWN ARE ONLY APPROXIMATE AND MAY NOT BE COMPLETE. PRIVATE UNDERGROUND UTILITIES SUCH AS, BUT NOT LIMITED TO, SEWER LINES, WATER LINES AND BURIED ELECTRICAL SERVICE ENTRANCES ARE NOT SHOWN. THE CONTRACTOR SHALL ASCERTAIN THE LOCATION AND SIZE OF EXISTING UTILITIES IN THE FIELD WITH THE RESPECTIVE UTILITY REPRESENTATIVE PRIOR TO COMMENCING WORK. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES, INCLUDING SERVICES. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED UTILITIES BE FOUND, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY FOR DIRECTION BEFORE PROCEEDING FURTHER WITH THE WORK IN THIS AREA. ADDITIONAL TEST PITS, BEYOND THOSE SHOWN, MAY BE REQUIRED. UTILITY CONTACTS ARE AS FOLLOWS:

<u>DIG SAFE</u>: 1-888-344-7233

ELECTRICAL: CENTRAL MAINE POWER 162 CANCO RD. PORTLAND, ME Ø41Ø3

TELECOMMUNICATIONS: CONSOLIDATED COMMUNICATIONS 5 DAVIS FARM ROAD PORTLAND, ME Ø41Ø3

JATER YARMOUTH WATER DISTRICT 181 SLIGO RD. YARMOUTH, ME. 04096

<u>GAS</u> UNITIL 1075 FOREST AVENUE PORTLAND, ME Ø41Ø4 TEL. (207) 797-8002

SPECTRUM CABLE: 118 BUXTON RD. PORTLAND, ME Ø4102

- 3) 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.
- 4) 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 CITY WATER AND SEWER DISTRICTS AND SMALL LOCAL UTILITIES, AS WELL AS USG PUBLIC WORKS SYSTEMS.
- 5) 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 ENGINEER, THE CITY, AND APPROPRIATE UTILITY COMPANY PRIOR TO PROCEEDING WITH ANY RELOCATION.
- 6) ALL EXISTING STORM DRAIN LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE. ANY EXISTING STORM DRAIN LINES OR CULVERTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY AND OWNER. ALL TEST PITS SHALL BE EXCAVATED PRIOR TO CONSTRUCTION LAYOUT AND RESULTS REPORTED TO ENGINEER FOR REVIEW FOR CONFORMANCE WITH PLANS.
- 1) THE CONTRACTOR MAY ENCOUNTER ASBESTOS CEMENT PIPE DURING PROSECUTION OF THE WORK. CONTRACTOR SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF OSHA, USEPA, MDEP AND ALL OTHER FEDERAL, STATE AND LOCAL REGULATIONS WHEN HANDLING AND/OR DISPOSING OF ASBESTOS CEMENT PRODUCTS.
- 8) ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURES CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY.
- 3) ALL TEST PITS SHALL BE COMPLETED A MINIMUM OF TWO WEEKS PRIOR TO ORDERING THE ADJACENT STRUCTURES. THE INFORMATION FROM THE TEST PITS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND REVISION.
- 10) IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO CMP OR FAIRPOINT, RESPECTIVELY. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.
- 1) IN THOSE INSTANCES THAT A UTILITY NEEDS TO BE RELOCATED, THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY DIVISION/COMPANY TO SCHEDULE THE WORK AFTER THE COMPLETION OF THE TEST PITS.
- 12) CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL SIGNS IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- 13) THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRAFFIC FLOW AT ALL TIMES. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY OR THEIR REPRESENTATIVE AT THE PRE-CONSTRUCTION MEETING. THE NORTH YARMOUTH PUBLIC WORKS DIRECTOR OR HIS DESIGNATE SHALL BE NOTIFIED AT THE PRE-CONSTRUCTION MEETING OF ANY PLANNED STREET CLOSINGS OR DETOURS. ALL TRAFFIC CONTROL SHALL BE IN COMPLIANCE WITH THE MUTCO.
- 14) THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL PERMITS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH PERMIT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL POST ALL BONDS AS REQUIRED, PAY ALL FEES & PROVIDE PROOF OF INSURANCE AS NECESSARY FOR THIS WORK
- 15) THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RIGHTS OF WAY AND EASEMENTS. THE CONTRACTOR SHALL VERIFY THAT THE NECESSARY EASEMENTS HAVE BEEN SECURED BY THE OWNER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH EASEMENT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION. COPIES OF ALL RIGHTS-OF-WAY AND EASEMENTS ARE AVAILABLE FOR REVIEW AT THE OWNER'S OFFICE.
- 16) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF ALL PROPOSED LINES AND GRADES AS SHOWN ON THE DRAWINGS. THE HORIZONTAL ALIGNMENT OF THE NEW STORM DRAINS AND SANITARY SEWER MAY BE ADJUSTED IN THE FIELD SUBJECT TO PRIOR APPROVAL BY THE ENGINEER.
- 17) THE SURVEYOR SHALL PROVIDE THE NECESSARY HORIZONTAL AND VERTICAL CONTROL POINTS FOR THE CONTRACTOR FOR WORK OUTSIDE THE STREET RIGHT-OF-WAY AND CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THIS INFORMATION THROUGHOUT CONSTRUCTION. ALL ELEVATIONS REFER TO THE 1988 NATIONAL GEODETIC VERTICAL DATUM UNLESS OTHERWISE NOTED ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL ELEVATION REFERENCE INFORMATION PRIOR TO USE IN CONSTRUCTION.
- 18) THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESETTING ALL EXISTING PROPERTY MONUMENTATION THAT IS DISTURBED BY HIS OPERATIONS AT NO EXPENSE TO THE CITY. THIS WORK IS TO BE DONE BY A LAND SURVEYOR REGISTERED IN THE STATE OF MAINE.
- 19) THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEDIMENT CONTROL AND THE PREVENTION OF EROSION. ALL DISTURBED EARTH SURFACES ARE TO BE STABILIZED IN THE SHORTEST PRACTICAL TIME AND TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES SHALL BE EMPLOYED UNTIL SUCH TIME AS ADEQUATE SOIL STABILIZATION HAS BEEN ACHIEVED. TEMPORARY STORAGE OF EXCAVATED MATERIAL IS TO BE IN A MANNER THAT WILL MINIMIZE EROSION. MATERIALS AND METHODS USED FOR TEMPORARY SEDIMENT AND EROSION CONTROL SHALL BE AS SPECIFIED BY THE LATEST EDITION OF THE "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES" PREPARED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- 20) COMPACTION TESTS SHALL BE PERFORMED IN ACCORDANCE WITH MOOT SPECIFICATIONS WITH RESULTS OF TESTING SUBMITTED TO THE OWNER. ANY SETTLEMENT OCCURRING WITHIN ONE YEAR OF SUBSTANTIAL COMPLETION OF THE PROJECT WILL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
- 21) OPEN TRENCHES OUTSIDE OF THE RIGHT OF WAY MAY BE LEFT OPEN IF THE CONTRACTOR PROVIDES SAFE BARRICADING AND LIGHTS.
- 22) PROPER IMPLEMENTATION AND MAINTENANCE OF EROGION CONTROL MEASURES ARE OF PARAMOUNT IMPORTANCE FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS, ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTIONS OF THE OWNER, THEIR REPRESENTATIVES, OR STATE/LOCAL/ FEDERAL INSPECTORS AT NO ADDITIONAL COST TO THE OWNER.

GENERAL NOTES CONTINUED

- 23) CONTRACTOR SHALL CONTROL DUST WITH APPROPRIATE DUST CONTROL MEASURES. CONTRACTOR SHALL NOT TRACK OR SPILL EARTH AND DEBRIS ON PUBLIC STREETS OUTSIDE THE PROJECT AREA. STREETS OPENED TO THE PUBLIC SHALL BE KEPT SWEPT AND FREE OF DEBRIS.
- 24) ALL ROAD SURFACES SHALL PITCH 1/4 INCH PER FOOT MINIMUM FROM CENTERLINE TO GUTTER UNLESS OTHERWISE NOTED. ALL VEGETATED AREAS THAT ARE EXCAVATED, FILLED OR OTHERWISE DISTURBED BY THE CONTRACTOR AND ARE NOT TO BE PAVED OR FILLED WITH RIP-RAP SHALL BE LOAMED, GRADED, LIMED, FERTILIZED, SEEDED AND MULCHED AT NO ADDITIONAL EXPENSE TO THE CITY/OWNER.
- 25) THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND ALL OTHER APPLICABLE LOCAL STATE AND FEDERAL RULES. REGULATIONS AND LAWS.
- 26) THE CONTRACTOR SHALL NOT HAVE ANY RIGHT OF PROPERTY IN ANY SUITABLE MATERIALS TAKEN FROM ANY EXCAVATION. SUITABLE EXCAVATED MATERIAL, AS APPROVED BY THE ENGINEER, MAY BE INCORPORATED IN THE PROJECT, WITH EXCESS MATERIAL DISPOSED OF AT A LOCATION APPROVED BY THE CITY/OWNER. THESE PROVISIONS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS TO PROPERLY DISPOSE OF AND REPLACE ANY MATERIAL DETERMINED BY THE ENGINEER TO BE UNGUITABLE FOR BACKFILLING. THE CONTRACTOR SHALL DISPOSE OF UNSUITABLE AND EXCESS MATERIAL IN ACCORDANCE WITH THE APPLICABLE RULES AND REGULATIONS.
- 21) THE CONTRACTOR IS TO TAKE SPECIAL CARE NOT TO DAMAGE TREES WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED.
- 28) EXISTING STORM MANHOLES OR CATCH BASING NOT TO REMAIN IN SERVICE SHALL BE REMOVED BY THE CONTRACTOR.
- 23) PROVIDE 2" RIGID INSULATION OVER WATER AND SEWER MAINS AND SERVICES WHEN COVER IS LESS THAN 4 FEET AND WHERE DIRECTED BY THE ENGINEER. CONTRACTOR SHALL SUPPLY INSULATION.
- 30) MINOR ADJUSTMENTS TO THE ALIGNMENT OF PROPOSED UTILITIES SHALL BE ALLOWED TO ACCOMMODATE EXISTING UTILITIES WHERE APPROPRIATE AS APPROVED BY THE ENGINEER.
- 31) A MINIMUM VERTICAL OR HORIZONTAL SEPARATION OF 6 INCHES BETWEEN THE WATER LINES (INCLUDING SERVICES) AND STORM DRAINAGE PIPES AND STRUCTURES, SHALL BE MAINTAINED, 2" RIGID INSULATION SHALL BE INSTALLED WHEN SEPARATION IS LESS THAN IS INCHES.
- 32) EXISTING SIGNS THAT ARE IMPACTED BY THIS PROJECT SHALL BE RESET IN ACCORDANCE WITH MUT.C.D.
- 33) CONTRACTOR SHALL RESET OR REBUILD WALKWAY STEPS WHEN NECESSARY. WORK SHALL BE CONSIDERED INCIDENTAL.
- 34) ALL TEST PITS SHALL BE EXCAVATED PRIOR TO CONSTRUCTION LAYOUT AT THE APPROXIMATE LOCATIONS NOTED ON THE PLANS AND ACTUAL LOCATIONS OF SUBSURFACE UTILITIES SHALL BE REPORTED TO THE CITY ENGINEER WHERE APPROPRIATE, MINOR ADJUSTMENTS TO THE ALIGNMENTS OF PROPOSED LINES SHALL BE MADE TO ACCOMMODATE EXISTING UTILITIES.
- 35) THE INVERTS INDICATED ON THE PLAN AND PROFILE SHEETS ARE TO THE INSIDE FACE OF THE MANHOLE.
- 36) STATIONS AND OFFSETS INDICATED ON THE PLAN AND PROFILE SHEETS ARE TO THE CENTER OF THE CATCH BASIN GRATE AND THE CENTER OF THE SEWER AND STORM DRAIN MANHOLE COVER.
- 37) DEWATERING EFFORTS FROM SANITARY OR COMBINED SEWERS SHALL NOT BE DISCHARGED TO THE STORMORAIN. DEWATERING EFFORTS FROM STORMWATER SHALL NOT BE DISCHARGED TO THE SEWER OR COMBINED SYSTEM.
- 38) STORM DRAIN INVERTS FOR CROSS STREET CONNECTIONS SHALL BE BASED ON ELEVATIONS OF EXISTING UTILITIES AS DETERMINED IN THE FIELD. CONTRACTOR SHALL COORDINATE PROPOSED STORM DRAIN INVERTS WITH THE ENGINEER.
- 39) CONTRACTOR TO VERIFY TYPE (BRICK OR PRECAST CONCRETE) AND CONDITION OF ALL SMH'S AND DMH'S IMPACTED AS PART OF THIS WORK. CONTRACTOR TO MAINTAIN THE INTEGRITY OF ALL STRUCTURES TO BE REUSED. DAMAGE TO EXISTING STRUCTURES SHALL BE REPAIRED AT CONTRACTORS EXPENSE.
- 40) CONTRACTOR TO REPLACE OR RESET ALL DISTURBED CURBING UPON COMPLETION OF UNDERGROUND UTILITY WORK.
- 41) CONTRACTOR TO RESTORE SIDEWALKS AND DRIVEWAYS IMPACTED BY CONSTRUCTION.
- 42) CONTRACTOR TO REGRADE AND REPLANT ESPLANADE AREAS IMPACTED BY CONSTRUCTION.
- 43) CONTRACTOR TO SAWCUT PAVEMENT AS NECESSARY TO INSTALL UTILITY IMPROVEMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AREAS WHERE THE EXISTING PAVEMENT WAS REMOVED FOR PAVING, INCLUDING GRADING AND ADDITIONAL SAWCUTTING AS REQUIRED BY THE ENGINEER.
- 44) CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING, FURNISHING, INSTALLING AND MONITORING ANY SHORING, BRACING OR OTHER EXCAVATION SUPPORT THAT MAY BE REQUIRED TO PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENT OR OTHER FACILITIES THAT COULD BE DAMAGED BY SETTLEMENT, LATERAL MOVEMENTS, UNDERMINING, WASHOUT OR OTHER HAZARDS THAT COULD DEVELOP DURING EXCAVATION SUPPORT AND PROTECTION OPERATIONS.
- 45) 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.
- 46) 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.
- 47) CONTRACTOR SHALL CLEAN AND REMOVE DEBRIS AND SEDIMENT DEPOSITED ON PUBLIC STREETS, SIDEWALKS, ADJACENT AREAS, OR OTHER PUBLIC WAYS DUE TO CONSTRUCTION DAILY.
- 48) THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ENGINEER AND/OR OWNER.
- 49) 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.
- 50) 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 AS DETERMINED BY THE CITY, CLEAN THE AREAS WITHIN AND ADJACENT TO THE PROJECT WHICH HAVE BEEN OBSTRUCTED BY HIG/HER OPERATIONS, AND LEAVE THE PROJECT AREA NEAT AND PRESENTABLE.
- 51) THE CONTRACT WORK TO BE PERFORMED ON THIS PROJECT CONSISTS OF FURNISHING ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, IMPLEMENTS, PARTS AND SUPPLIES NECESSARY FOR, OR APPURTENANT TO, THE INSTALLATION OF CONSTRUCTION IMPROVEMENTS IN ACCORDANCE WITH THESE DRAWINGS AND AS FURTHER ELABORATED IN ANY ACCOMPANYING SPECIFICATIONS.
- 52) THE WORK SHALL BE PERFORMED IN A THOROUGH WORKMANLIKE MANNER. ANY REFERENCE TO A SPECIFICATION OR DESIGNATION OF THE AMERICAN SOCIETY FOR TESTING MATERIALS, FEDERAL SPECIFICATIONS, OR OTHER STANDARDS, CODES OR ORDERS, REFERS TO THE MOST RECENT OR LATEST SPECIFICATION OR DESIGNATION.
- 53) THE CONTRACTOR SHALL GUARANTEE THE FAITHFUL REMEDY OF ANY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP AND GUARANTEES PAYMENT FOR ANY RESULTING DAMAGE WHICH SHALL APPEAR WITHIN A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE PROJECT.
- 54) THE CONTRACTOR SHALL NOT USE PRIVATE PROPERTY FOR STOCKPILING MATERIALS OR PARKING EQUIPMENT OR VEHICLES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY DAMAGE DONE TO PRIVATE PROPERTY RESULTING FROM THESE ACTIVITIES SHALL BE THE RESPONSIBLITY OF THE CONTRACTOR TO REPAIR AT NO ADDITIONAL COST TO THE CITY/OWNER.

- RUNOFF PROBLEMS.

- RESTRICTIONS.

LAYOUT NOTES

PERMITTING NOTE

THIS PROJECT WILL BE SUBJECT TO THE TERMS AND CONDITIONS OF TOWN OF NORTH YARMOUTH, MAINE SITE PLAN APPROVAL. THE CONTRACTOR SHALL BECOME KNOWLEDGEABLE WITH THE LAND USE ORDINANCE REQUIREMENTS, THE PERMIT REQUIREMENTS, AND AGENCY APPROVALS.

GRADING AND DRAINAGE NOTES

EROSION & SEDIMENTATION CONTROL NOTES

1) THE CONTRACTOR SHALL INSPECT EROSION & SEDIMENT CONTROL MEASURES WEEKLY AND AFTER HEAVY RAINFALLS THROUGHOUT THE DURATION OF THE PROJECT INCLUDING WEEKENDS AND HOLIDAYS. INSPECTION REPORTS MUST BE PROVIDED TO THE CITY AND OWNER WITHIN 48-HOURS OF INSPECTION. ALL EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED PER BEST MANAGEMENT PRACTICES.

2) THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING THE EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES", DEPARTMENT OF ENVIRONMENTAL PROTECTION, DATED MARCH 2015 (DEPLW 588) AND IN ACCORDANCE WITH THE STORMWATER REPORT INCLUDED WITH THE PERMIT APPLICATION APPROVED BY THE TOWN OF NORTH YARMOUTH. ADDITIONAL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY DURING ON-SITE INSPECTIONS BY THE OWNER, THEIR REPRESENTATIVES OR STATE/LOCAL/FEDERAL INSPECTORS AT NO ADDITIONAL COST TO THE OWNER.

3) PRIOR TO CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE DOWN GRADIENT EDGE OF THE DISTURBED AREA AND ADJACENT TO DRAINAGE CHANNELS WITHIN THIS AREA.

4) SILT FENCE AND BARK MULCH BERM LOCATIONS SHOWN ARE APPROXIMATE. INSTALL WHERE APPROPRIATE TO CONTROL SEDIMENTATION ON AND OFF SITE. SILT FENCE SHALL BE REMOVED AFTER THE SITE IS STABILIZED WITH AT LEAST 90% VEGETATED GROWTH.

5) NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO TO ONE (2 TO 1).

6) AREAS DISTURBED DURING CONSTRUCTION SHALL BE MINIMIZED. AREAS SHALL BE TEMPORARILY STABILIZED WITH MULCH OR NON-ERODABLE COVER IF EXPOSED SOILS WILL NOT BE WORKED FOR MORE THAN I DAYS. PERMANENT SEEDING SHALL TAKE PLACE WITHIN I DAYS OF FINAL GRADING.

1) IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCHING (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

8) TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED BY AUGUST 15th OR 45 DAYS PRIOR TO THE FIRST KILLING FROST (OCT. 1) TO PROTECT FROM SPRING

9) REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED AND PREPARED FOR FINAL SEEDING AS FOLLOWS

A) 4" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE. B) APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 200 POUNDS PER ACRE OR 15 POUNDS PER SQUARE FOOT USING 10-20-20 (N-P205-K20) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3.3 TONS PER ACRE (150 lbs. PER 1000 s.f.)

C) FOLLOWING SEED BED PREPARATION, DITCHES AND BARK SLOPES WILL BE SEEDED TO A MIXTURE OF 47% CREEPING RED FESCUE, 5% REDTOP AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEEDED TO A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUEGRAGG, 44% CREEPING RED FEGCUE AND 12% PERENNIAL RYEGRASS: SEEDING RATE IS ONE POUND PER 1000 S.F. LAWN QUALITY SOD MAY BE SUBSTITUTED FOR SEED. SEED MIX SHALL CONTAIN 10% ANNUAL RYEGRASS.

D) HAY MULCH AT THE RATE OF 70-90 Ibs PER 1000 s.f. OR A HYDRO-APPLICATION OF ASPHALT, WOOD OR PAPER FIBER SHALL BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUG WILL BE USED ON HAY MULCH FOR WIND CONTROL.

WINTER CONSTRUCTION NOTES

1) WINTER CONSTRUCTION IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 -APRIL 15. IF DISTURBED AREAG ARE NOT STABILIZED WITH PERMANENT MEASURES BY NOVEMBER I OR NEW SOIL DISTURBANCE OCCURS AFTER NOVEMBER 1, BUT BEFORE APRIL 15, THEN THESE AREAS MUST BE PROTECTED AND RUNOFF FROM THEM MUST BE CONTROLLED BY ADDITIONAL MEASURES AND

2) SITE STABILIZATION - FOR WINTER STABILIZATION, HAY MULCH IS APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY, AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE STABILIZED. MULCH MAY NOT BE SPREAD ON TOP OF SNOW.

3) SEDIMENT BARRIERS - ALL AREAS WITHIN 15' OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS.

4) DITCH - ALL VEGETATIVE DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE DEPARTMENT.

5) SLOPES - MULCH NETTING MUST BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROGION CONTROL BLANKETS OR EROGION CONTROL MIX IS BEING USED ON THESE SLOPES.

1) ALL SIGNS INDICATED ON THE PLANS ARE TO MEET ALL REQUIREMENTS AND STANDARDS OF THE MDOT AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

2) PROPERTY LINE AND RIGHT OF WAY MONUMENTS SHALL NOT BE DISTURBED BY CONSTRUCTION. IF DISTURBED, THEY SHALL BE RESET TO THEIR ORIGINAL LOCATIONS AT THE CONTRACTORS EXPENSE BY A MAINE PROFESSIONAL LAND SURVEYOR.

3) PROPOSED RIGHT-OR-WAY MONUMENTS AND PROPERTY LINES PINS SHALL BE INSTALLED UNDER THE DIRECTION OF A MAINE PROFESSIONAL LAND SURVEYOR.

1) UNLESS OTHERWISE NOTED, STORM DRAIN PIPE SHALL BE IN ACCORDANCE WITH MDOT SPECIFICATIONS SECTION 603 PIPE CULVERTS AND STORM DRAINS, LATEST REVISION WITH THE EXCEPTION THAT THE ONLY ACCEPTABLE TYPES OF PIPE ARE AS FOLLOWS: REINFORCED CONCRETE PIPE, HDPE/SMOOTH INTERIOR CORRUGATED PLASTIC PIPE.

2) HDPE/SMOOTH INTERIOR CORRUGATED PLASTIC PIPE (SICP) MAY ONLY BE USED FOR PIPE SIZES 48" DIAMETER AND SMALLER

3) TOPSOIL STRIPPED IN AREAS OF CONSTRUCTION THAT IS SUITABLE FOR REUSE AS LOAM SHALL BE STOCKPILED ON SITE AT A LOCATION DESIGNATED BY THE OWNER. UNSUITABLE SOIL SHALL BE SEPARATED, REMOVED AND DISPOSED OF AT AN APPROVED DISPOSAL LOCATION OFFSITE.

4) ALL EXISTING STRUCTURES, FENCING, TREES, ETC., WITHIN THE CONSTRUCTION AREA, UNLESS OTHERWISE NOTED TO REMAIN, SHALL BE REMOVED AND DISPOSED OF OFFSITE. ANY BURNING ONSITE SHALL BE SUBJECT TO LOCAL ORDINANCES AND PROJECT SPECIFICATIONS.

5) THE SITE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND PIPING ON-SITE OR IN THE RIGHT OF WAY PRIOR TO EXCAVATION. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING/EXCAVATION START.

6) SITE EXCAVATION AND FILL-IN-PLACE TO ESTABLISH THE DESIRED SUB-GRADE SHALL BE SCHEDULED SUCH THAT EROSION CONTROL PRACTICES ARE IN PLACE AND FUNCTIONING DOWN-GRADIENT OF THE EARTHWORK PRIOR TO THE START OF EARTHMOVING ACTIVITIES.

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SUR ENGINEERING, INC. BAR ENGINEERING, INC. Is THURSTON DRIVE MONMOUTH, MAINE Ø4259 (207) 622-1676 tel & fax steve@sjreng.com
CONSTRUCTION NOTES 23, VILLAGE CENTER ESTATES MALNUT HILL ROAD - NORTH YARMOUTH MAINE PREPARED FOR PREPARED FOR STRUCTION AGGREGATE, INC. NORTH YARMOUTH, MAINE

