

135 River Road • Woolwich, ME 04579 207-615 - 1527 • Iisa@atlanticenviromaine.com www.atlanticenviromaine.com

May 13, 2020

Mr. Bill Butler Town of China 571 Lakeview Drive China, ME 04358

Re: Additional Information Related to a Conditional Use Permit Application on behalf of Sunraise Development, LLC, Route 3, China, Maine (Tax Map #33, Lot #16).

Dear Mr. Butler

On behalf of SunRaise Development, LLC Atlantic Environmental, LLC (AE) is pleased to submit additional information and modifications as it relates to the proposed construction of a 3.0 mega-watt AC solar energy generation project located off Route 3.

**LOT COVERAGE:** The previously submitted lot coverage calculation was based on 507 solar arrays. This was a miscalculation of the number of arrays and the actual number is 505 solar arrays. The corrected calculations reduce the overall square footage of the lot coverage to 19,3735.5 square feet or 19.3%. This provides approximately 7,030.26 square feet of remaining lot coverage. AE has updated the lot coverage analysis and the Phosphorus Export summary and this information is included in the attached material.

**VEGETATIVE BUFFERS:** In order to limit shading impacts on the solar arrays located along the westerly property boundary, the Applicant proposes to remove vegetation to the property line; however, vegetation that is shared with the abutting property (i.e. located on the property line) will not be removed. In order to meet Section 4 of the Town of China's Conditional Use requirements, the Applicant proposes to plant an evergreen vegetative buffer along approximately two hundred (200) feet of the property line. The buffer will include native, evergreen species such as White Spruce (*Picea glauca*) and/or Arborvitae (*Thuja occidentalis*). The location of the buffer is shown in the updated project plans.

Thank you in advance for your consideration of this Application. If you require any additional information or clarifications, please feel free to contact me at 207-615-1527 or by email at lisa@atlanticenviromaine.com.

Sincerely,

Atlantic Environmental LLC.

Lisa Vickers

Senior Project Manager

LOT COVERAGE (NOT INCLUDING SOLAR ARRAYS)					
GROUND SCREWS	134.9	S.F.			
CONCRETE PADS	1313.6	S.F.			
TOTAL STRUCTURE	1449.0	S.F.			
TOTAL LOT AREA	1004323.0	S.F.			
% LOT COVERAGE	0.1%				

LOT COVERAGE (NOT INC	CLUDING SOLAR ARRAYS)	
SOLAR PANELS	192421.9	S.F.
GROUND SCREWS	134.9	S.F.
CONCRETE PADS	1313.6	S.F.
TOTAL STRUCTURE	193870.4	S.F.
TOTAL LOT AREA	1004323.0	S.F.
% LOT COVERAGE	19.3%	

	NUMBER OF ARRAYS	AREA OF ARRAY* (S.F.)	TOTAL AREA (S.F.)
SOLAR PANELS	505	381.03	192556.8
	MIN	US GROUND SCREW AREA	(134.9)
		CONCRETE PADS	1313.6
		TOTAL AREA	193735.5
		% LOT COVERAGE	19.3%

<sup>\*</sup>Includes 30 degree tilt.

This leaves approximately .7% or 7,030.26 sq. ft. of remaining lot coverage.



W	orksł	neet 1	_ F	PR	cal	cul	ations	
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Project Name: Solar Array, Belfast Road (Route 3)

Lake Watershed: China Lake, East Basin

Town: China

#### **Standard Calculations**

Watershed per acre phosphorus budget (Appendix C)	PAPB	0.034	lbs P/acre/year
Total acreage of development parcel:	TA	10.56	acres
NWI wetland acreage:	WA	0.0034	acres
Steep slope acreage:	SA	0	acres
Project acreage: A = TA - (WA+ SA)	Α	10.56	acres
Project Phosphorus Budget: PPB = P x A	PPB	0.36	lbs P/year

#### Small Watershed Adjustment

If Project Acreage (A) is greater than the threshold acreage for the small watershed threshold (SWT, from pertinent lake and town info in the table in Appendix C), calculate an alternative PPB using the analysis below and use this value if it is less than the the Standard Calculation PPB.

Small Watershed Threshold (Appendix C):	SWT	acres
Project acreage:	Α	acres
Allowable increase in town's share of annual phosphorus load to lake (Appendix C):	FC	lbs P/year
Area available for development (Appendix C):	AAD	acres
Ratio of A to AAD (R=A/AAD)	R	

#### Project Phosphorus Budget

If R < 0.5,	PPB = [(FC x R)/2] + [FC/4]	PPB	lbs P/year
If R> 0.5,	PPB = FC x R	PPB	lbs P/year

# Worksheet 2 Pre-PPE and Post-PPE Calculations

Use as many sheets as needed for each development type (commercial, roads, residential lots, etc.) Calculate phosphorus export from development for before and after treatment

Project name: Solar Array, Belfast Road (Route 3) Development

Development type: Solar Array

Sheet #

Land Surface Type o Lot #(s) description	or Acres	Export Coefficient from Table 3.1 Table 3.2	Pre- treatment Algal Av. P Export (lbs P/year)	Treatment Factor for BMP(s) from Chapter 6	Post- treatment Algal Av. P Export (lbs P/year)	Description of BMPs
Riprap/Crushed Rock	0.09	9.0	0.05	0.1	0.01	INFILTRATION
Concrete Pads	0.03	0.5	0.02	0.1	0.00	INFILTRATION
Ground Screws	0.003	0.5	0.00	0.3	0.00	MEADOW BUFFER
Solar Panels	1.43	0.0	0.00	1	0.00	NONE
		Total Pre-PPE (lbs P/year)	0.07	Total PostPPE (lbs P/year)	0.01	

WORKSHEET 4 - PROJECT PHOSPHORUS EXPORT SUMMARY					
Summarizing the project's algal available phosphorus export	(PPE)				
Project Name: Solar Array, Belfast Road (Route 3)					
Project Phosphorus Budget - Worksheet 1	PPB	0.36	lbs P/year		
Total Pre-Treatment Phosphorus Export - Worksheet 2	Pre-PPE	0.07	lbs P/year		
Total Post-Treatment Phosphorus Export - Worksheet 2	Post-PPE	0.01	lbs P/year		
Total Phosphorus Mitigation Credit - Worksheet 3 TMC			lbs P/year		
Project Phosphorus Export (Post-PPE - TMC) PPE			lbs P/year		
Is the Project Phosphorus Export ≤ the Project Phosphorus Budget? (PPE≤PPB)					
If <b>YES</b> , PPE is less than or equal to PPB and the project meets its phosphorus budget.  If <b>NO</b> , PPE is greater than PPB, more reduction in phosphorus exprequired or the payment of a compensation fee may be an option		YES			
The amount of phosphorus that needs further treatment or compen-	sation		lbs P/year		
Has Project Phosphorus Export been sufficiently reduced?  Is (Pre-PPE - Post-PPE)/Pre-PPE greater than 0.60?					
If <b>YES</b> , in some watersheds the compensation fee is an available of <b>NO</b> , more treatment must be provided. PPE must be further redu					
The post-treatment phosphorus export must be less than 40% of the treatment export (Post-PPE < 0.4*Pre-PPE)	e pre-		%		
If the project is located in a watershed that is eligible for residential subdivision with buffers), a compensation fee follows:					
If Project Export has been reduced by greater than 60% and less th \$25,000 per pound minus \$833 per 1% Percent Export	an 75%,				
If Project Export has been reduced by greater than 75%, \$12,500 p minus \$500 per 1% Project Export	er pound				

#### **GENERAL NOTES:**

#### 1. DRAWINGS ARE BASED ON BOUNDARY INFORMATION BY SITELINES, PA.

- 2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION HAS NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES AND IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-800-DIG-SAFE) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IN AREAS OF POTENTIAL CONFLICTS TEST PITS SHALL BE REQUIRED TO VERIFY EXISTING UTILITY LOCATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- 3. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, CABLE AND FIRE ALARM). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH CONSTRUCTION MANAGER AND ARCHITECT.
- 4. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, SIZE, INVERTS AND TYPES OF EXISTING PIPES AT ALL PROPOSED POINTS OF CONNECTION PRIOR TO ORDERING MATERIALS. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK. THE LOCATIONS, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR. AND THE INFORMATION FURNISHED IN WRITING TO THE CONSTRUCTION MANAGER REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT.
- 5. THE CONTRACTOR SHALL VERIFY ALL CRITICAL DIMENSIONS AND GRADES BEFORE WORK BEGINS. CONTRACTOR SHALL CONFIRM LOCATION AND DEPTH ALL UTILITY LINE CROSSINGS WITH TEST PITS PRIOR TO BEGINNING WORK. CONFLICTS SHALL BE REPORTED IN WRITING TO CONSTRUCTION MANAGER FOR RESOLUTION OF THE CONFLICT.
- 6. ALL AREAS OUTSIDE THE LIMIT OF WORK THAT ARE DISTURBED SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. ALL AREAS DISTURBED DURING CONSTRUCTION NOT COVERED WITH BUILDINGS, STRUCTURES, OR PAVEMENT SHALL RECEIVE 4 INCHES OF LOAM AND SEED.
- 7. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS AND SHALL BE RESPONSIBLE FOR PAYING ANY FEES FOR ANY POLE RELOCATION AND FOR THE ALTERATION OR ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, CABLE, FIRE ALARM AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
- 8. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY PERMITS, PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS AND AS SPECIFIED.
- 9. ALL PROPERTY MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE RESET TO THEIR ORIGINAL LOCATION BY A MAINE REGISTERED LICENSED PROFESSIONAL LAND SURVEYOR (PLS) AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PREPARE AN AS-BUILT PLAN SURVEY SHOWING LOCATIONS OF ALL SURFACE FEATURES AND SUBSURFACE UTILITY SYSTEMS INCLUDING THE LOCATION
- 10. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES PRIOR TO EARTHWORK OPERATION AND MAINTAIN ALL EROSION CONTROL MEASURES AND SEEDED EMBANKMENTS DURING CONSTRUCTION. EROSION CONTROL SHALL BE REMOVED ONLY UPON THE ESTABLISHMENT OF ALL LANDSCAPED AREAS. ALL WORK SHALL BE IN COMPLIANCE WITH THE ENVIRONMENTAL QUALITY HANDBOOK FOR EROSION AND SEDIMENT CONTROL, LATEST EDITION, AS ADOPTED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- 11. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. ALL CONSTRUCTION ACTIVITY SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
- 12. ALL MATERIALS AND CONSTRUCTION METHODS USED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO ALL LOCAL MUNICIPAL STANDARDS AND MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
- 13. THE CONTRACTOR IS REQUIRED TO CONTROL DUST DURING CONSTRUCTION. EXPOSED SOIL AREAS SHALL BE SPRAYED WITH WATER AS NEEDED TO CONTROL DUST EMISSIONS. COVER EXPOSED SOIL AREAS AS QUICKLY AS PRACTICAL TO PREVENT WINDS FROM GENERATING
- 14. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY. NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING.
- 15. ALL MATERIALS SHALL BE NEW AND PROVIDED BY THE CONTRACTOR.

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

2. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY. NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING.

# SOLAR ARRAY

# BELFAST RD (ROUTE 3), CHINA, MAINE

# PREPARED FOR: SUNRAISE DEVELOPMENT, LLC 26 MARKET SQUARE, PORTSMOUTH, NH 03801

#### UTILITY CONTACTS

#### **CODE ENFORCEMENT**

WILLIAM BUTLER **571 LAKEVIEW DRIVE** CHINA, MAINE 04358 207-445-3540

#### **ELECTRIC SERVICE**

CENTRAL MAINE POWER 280 BATH ROAD BRUNSWICK, MAINE 04011 207-721-8054

SHAWN REED 211 ALDER PARK ROAD CHINA, MAINE 04358 207-445-2014

#### CHINA FIRE DEPARTMENT

**PUBLIC WORKS DEPARTMENT** 

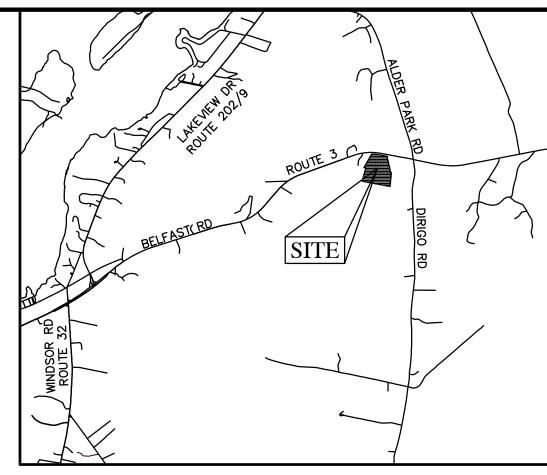
CHIEF RICHARD E. MORSE, FIRE CHIEF SOUTH CHINA FIRE DEPARTMENT PO BOX 325 CHINA, MAINE 04358

### PROJECT TEAM

CIVIL ENGINEER/SURVEYOR SITELINES P.A. ATTN: JOSEPH J. MARDEN. P.E. 119 PURINTON ROAD, SUITE A BRUNSWICK, MAINE 04011 207-725-1200

WWW.SITELINESPA.COM

**WETLANDS:** ATLANTIC ENVIRONMENTAL LLC TIM FORRESTER 135 RIVER ROAD WOOLWICH, MAINE 04579 207-837-2199



LOCATION MAP

	<b>LEGEND</b>	
EXISTING		PROPOSED
•	IRON MARKER FOUND	
	GRANITE MONUMENT SET	ro .
П	CATCH BASIN	
_	SEWER MANHOLE	
	FIRE HYDRANT	
© HYD W 0	WATER GATE VALVE	
#\$0	WATER SHUT-OFF	***
0	BLOW-OFF/CLEAN-OUT	0
——————————————————————————————————————	UTILITY POLE	
OHE ERHEAD UTILITY LINE)	UTILITY LINE	OHE (OVERHEAD UTILITY LINE)
— — — ——	PROPERTY LINE	
	EASEMENTS	
	SETBACK/BUFFER	
WmB	SOILS BOUNDARY	
Au	WETLAND BOUNDARY	
	STREAM	
	CURB	
	EDGE OF PAVEMENT	
	BUILDING	
	SLOPE ARROW	<u>-1.5%</u>
- — — -100 <i>-</i> — -	CONTOURS	100
<b>Y Y Y Y</b> .	TREE LINE	
	SEDIMENT BARRIER	SB
	RIPRAP	
	PROPOSED GRAVEL	

#### PERMITTING REQUIREMENTS:

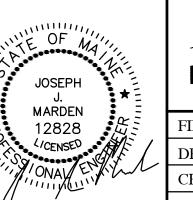
AGENCY:	PERMIT:	STATUS:
TOWN OF CHINA	SITE PLAN APPROVAL	SUBMITTED 01/28/20
MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION	STORMWATER PERMIT-BY-RULE	PENDING
MAINE DEPARTMENT OF TRANSPORTATION	DRIVEWAY/ENTRANCE PERMIT	PENDING

	SHEET INDEX	
SHEET#	SHEET TITLE:	SCALE:
C1	COVER SHEET	NTS
C2	EXISTING CONDITIONS PLAN	1"=60'
C3	SITE LAYOUT & UTILITY PLAN	1"=60'
C4	GRADING, DRAINAGE, & EROSION CONTROL PLAN	1"=60'
C5	SITE DETAILS	NTS
С6	EROSION CONTROL DETAILS AND NOTES	NTS

PROGRESS PRINT THIS PLAN IS ISSUED FO REVIEW AND INFORMATION PURPOSES ONLY. THE PLAN IS SUBJECT TO CHANGE AND IS NOT FOR MARDEN PRICING OR CONSTRUCTION. PRICING BASED ON THIS PLAN IS NOT BINDING UNLESS SIGNED BY BOTH CONTRACTOR AND OWNER.

	1. 01-27-20 SUBMISSION TO TOWN FOR PRELIMINARY REVIEW	JJM	
	COVER SHEET		
	PROJECT: SOLAR ARRAY BELFAST RD (ROUTE 3), CHINA, ME 04358		
	OWNER: SUNRAISE DEVELOPMENT, LLC 26 MARKET SQUARE, PORTSMOUTH, NH 03801		
1			

3. 05-13-20 REMOVED TWO SOLAR TABLES 2. 03-09-20 REVISED SOLAR ARRAY LAYOUT

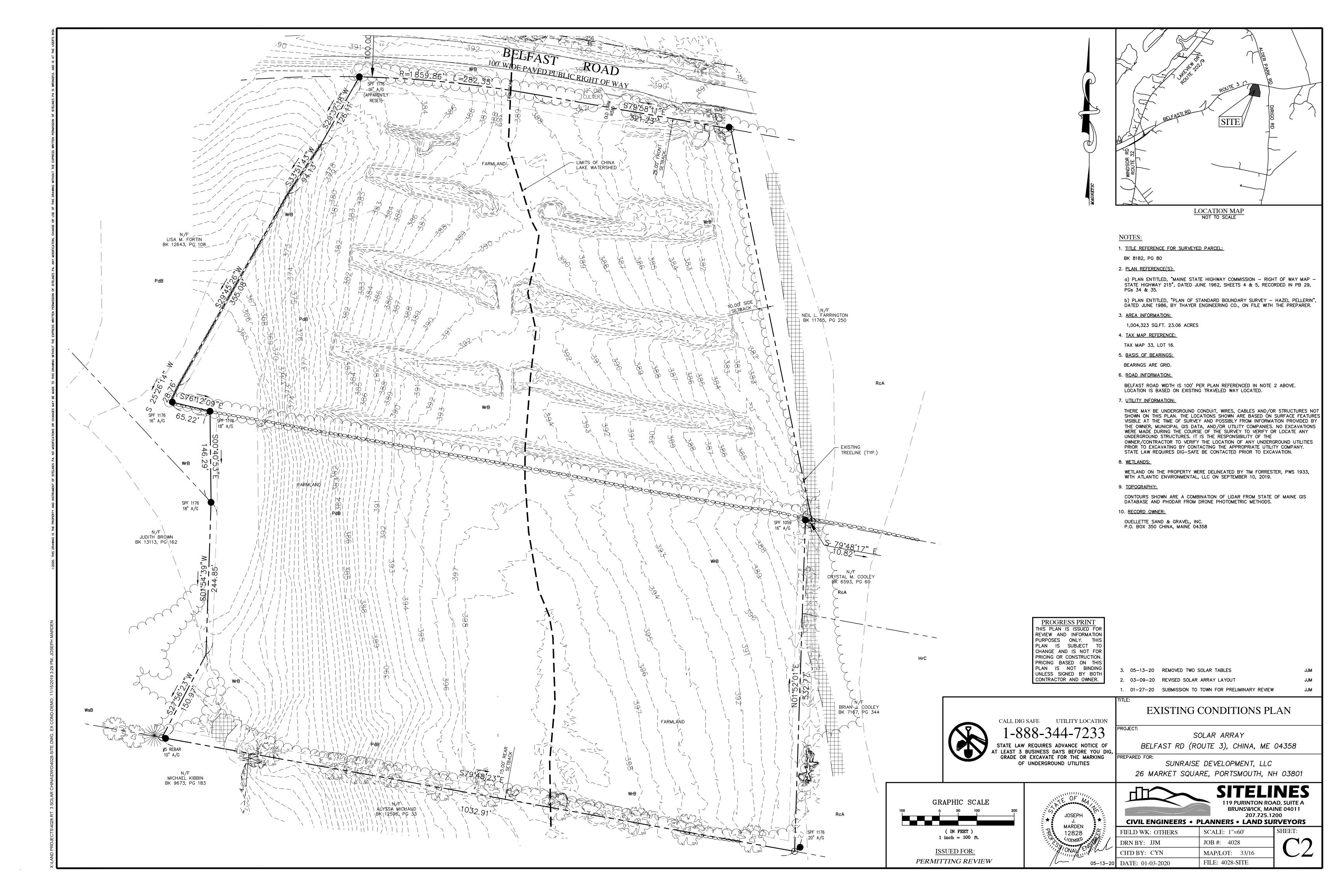


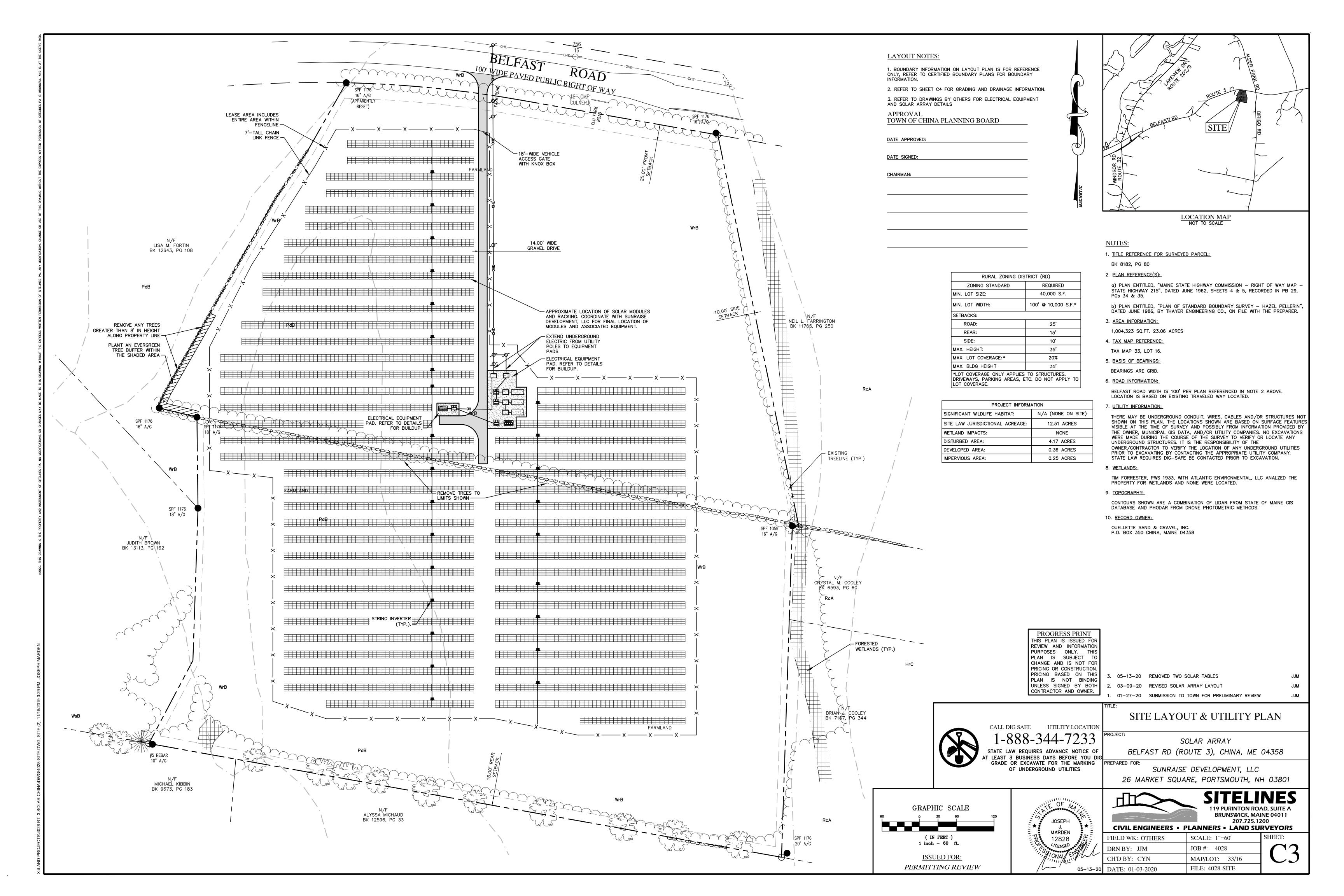
·	*		
<b>П</b>	SITELINES		
	119 PURINTON ROAD, SUITE A		
	BRUNSWICK, MAINE 04011		
	207.725.1200		
CIVIL ENGINEERS • PLANNERS • LAND SURVEYORS			

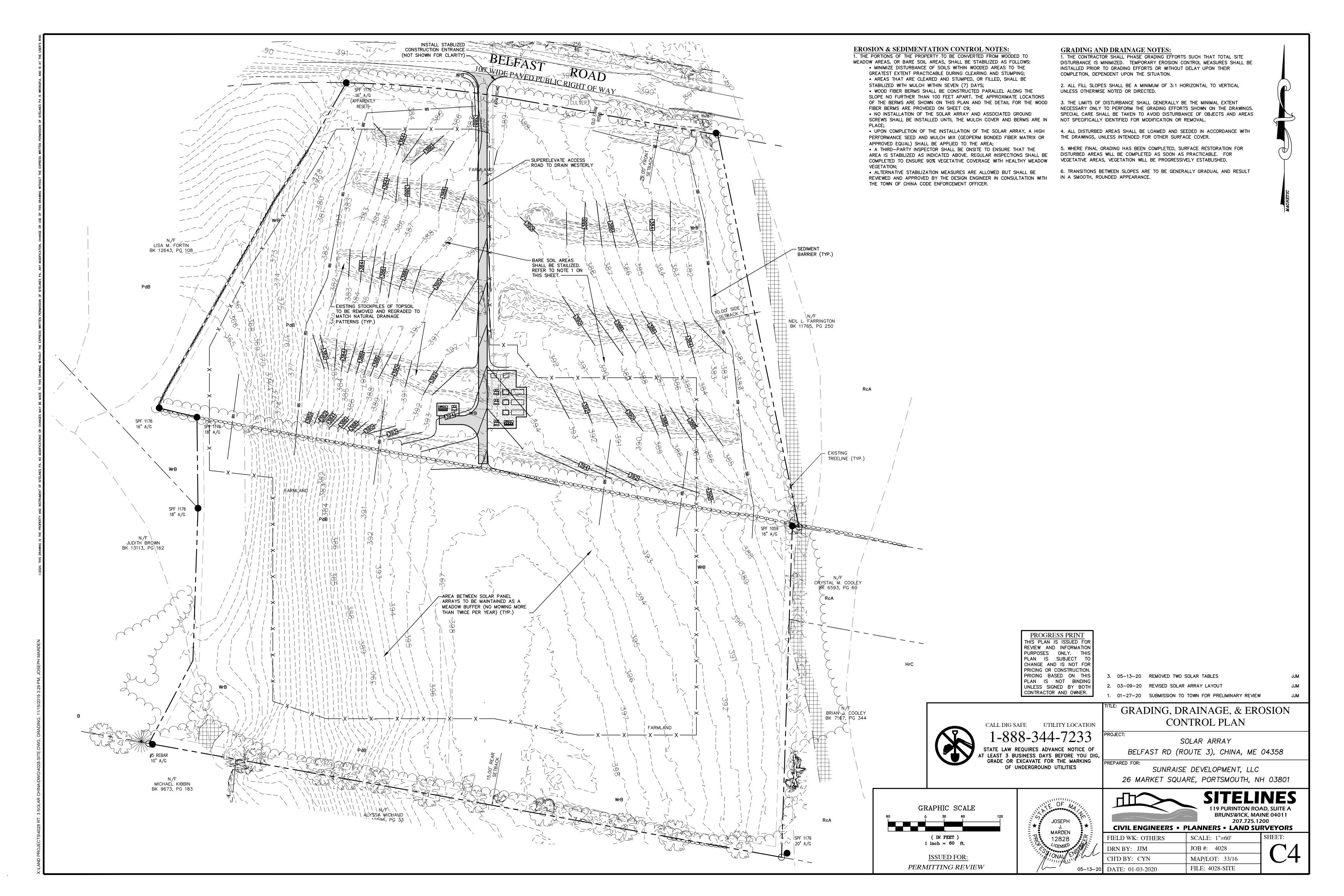
SHEET: SCALE: NTS FIELD WK: OTHERS DRN BY: JJM JOB #: 4028 CH'D BY: CYN MAP/LOT: 33/16 FILE: 4028-COVER-DET DATE: 01-03-2020

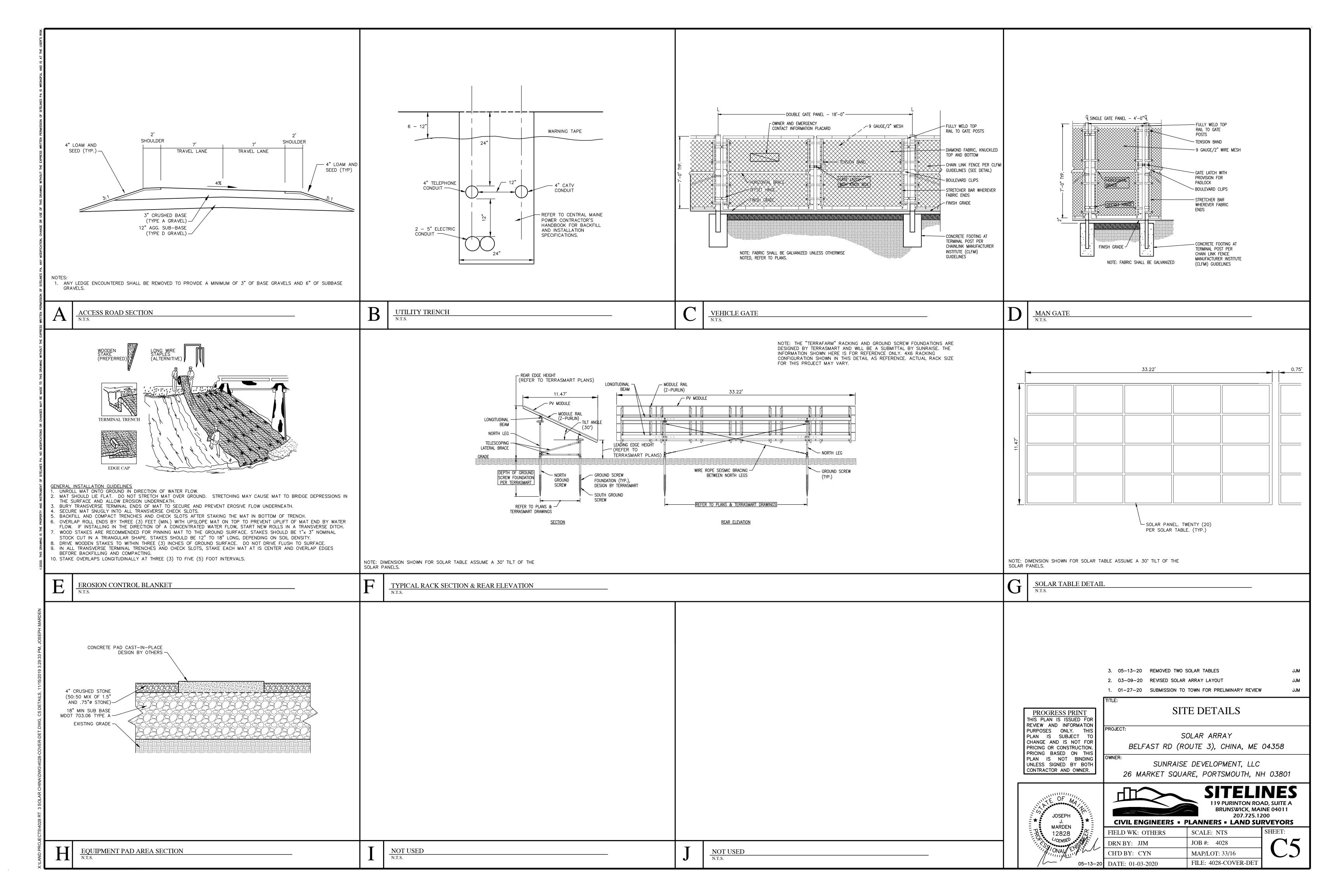
STATE LAW REQUIRES ADVANCE NOTICE OF AT LEAST 3 BUSINESS DAYS BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND UTILITIES

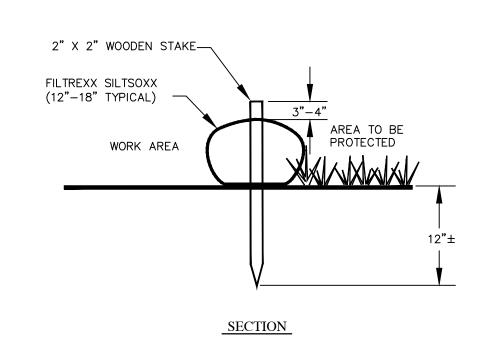
CALL DIG SAFE UTILITY LOCATION

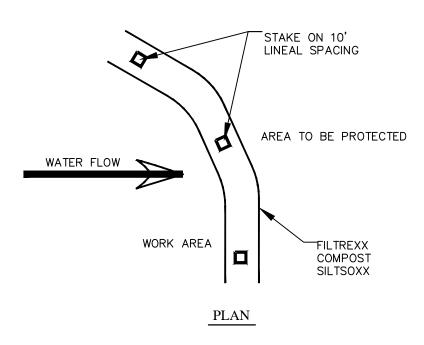












1. ALL MATERIALS TO MEET FILTREXX SPECIFICATIONS 2. SILTSOXX COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION

FILTREXX SILTSOXX DETAIL "SEDIMENT BARRIER OPTION"

SEDIMENT BARRIER (EROSION

24" MIN. BOTTOM WIDTH

REPLACED OR REPAIRED. THE BARRIER SHOULD BE RESHAPED AS NECESSARY.

PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH.

- FROZEN GROUND, BEDROCK OR ROOTED FORESTED AREAS.

- THE EDGE OF GRAVEL AND AREAS UNDER CONSTRUCTION.

1. THE EROSION CONTROL MIX SHALL CONTAIN A WELL GRADED MIXTURE OF PARTICLE SIZES AND MAY

2.PLACE BARRIER ALONG A RELATIVELY FLAT CONTOUR. CUT TALL GRASSES OR WOODY VEGETATION

TO AVOID CREATING VOIDS AND BRIDGES WHERE FINES CAN WASH UNDER THE BARRIER THROUGH

4. REMOVE SEDIMENT DEPOSITS WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE

5. WHEN BARRIER IS DECOMPOSED, CLOGGED WITH SEDIMENT, ERODED OR INEFFECTIVE, IT MUST BE

CONTAIN ROCKS LESS THAN 4" DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE,

CONTROL MIX) -

GRASS BLADES AND BRANCHES.

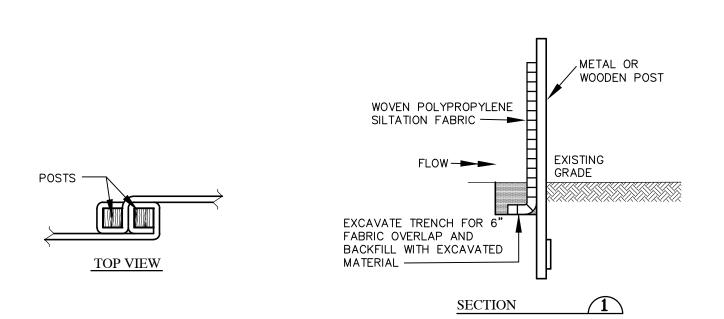
- AT TOE OF THE SLOPE.

BARRIER.

3.PLACEMENT OF BARRIER SHOULD BE:

- REQUIREMENTS 3. SILTSOXX DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE
- LARGER SOCKS PER THE ENGINEER. 4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER
- 5. THE SILTSOXX SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

8'-0" (MAX.) SEE NOTE 7 METAL OR WOODEN POST WOVEN POLYPROPYLENE SILTATION FABRIC WITH SILTATION FABRIC EXISTING INTEGRAL MESH AND POSTS GRADE MAY BE USED.



- 1. EXCAVATE A 6" X 6" TRENCH ALONG THE LINE OF PLACEMENT FOR THE FILTER BARRIER. UNROLL A SECTION AT A TIME AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH. DRIVE POSTS INTO THE GROUND UNTIL APPROXIMATELY 2" OF FABRIC IS LYING ON THE TRENCH BOTTOM.
- 4. LAY THE TOE—IN FLAP OF FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH. BACK FILL THE TRENCH AND TAMP 5. JOIN SECTION AS SHOWN IN TOP VIEW.
- 6. BARRIER SHALL BE MIRAFI SILT FENCE (100X) OR APPROVED EQUIVALENT.
- 7. A STONE "FILLET" MAY BE USED FOR ANCHORING FABRIC IF IT CANNOT BE KEYED IN.

SILT FENCE DETAIL "SEDIMENT BARRIER OPTION"

**EROSION AND SEDIMENTATION NOTES:** 

**ELEVATION** 

CONTRACTOR SHALL FOLLOW BEST MANAGEMENT PRACTICES OF THE CUMBERLAND COUNTY SOIL CONSERVATION SERVICE AND THE MAINE DEP BEST MANAGEMENT PRACTICES HANDBOOK.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES:

EROSION/SEDIMENT CONTROL DEVICES: THE FOLLOWING EROSION SEDIMENTATION CONTROL DEVICES ARE PROPOSED FOR CONSTRUCTION ON THIS PROJECT. INSTALL THESE DEVICES AS INDICATED ON THE PLANS.

1. SEDIMENT BARRIER: SILTSOXX OR APPROVED EQUAL WILL BE INSTALLED ALONG THE DOWN GRADING EDGES OF DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE SITE IS STABILIZED. IN AREAS WHERE STORMWATER DISCHARGES THE SEDIMENT BARRIER WILL BE REINFORCED WITH HAY BALES TO HELP MAINTAIN THE INTEGRITY OF THE SEDIMENT BARRIER AND TO PROVIDE ADDITIONAL TREATMENT.

2. HAY BALES: HAY BALES TO BE PLACED IN LOW FLOW DRAINAGE SWALES AND PATHS TO TRAP SEDIMENTS AND REDUCE RUNOFF VELOCITIES. DO NOT PLACE HAY BALES IN FLOWING WATER OR STREAMS.

3. RIPRAP: PROVIDE RIPRAP IN AREAS WHERE CULVERTS DISCHARGE OR AS SHOWN ON THE PLANS.

4. LOAM, SEED, & MULCH: ALL DISTURBED AREAS, WHICH ARE NOT OTHERWISE TREATED, SHALL RECEIVE PERMANENT SEEDING AND MULCH TO STABILIZE THE DISTURBED AREAS. THE DISTURBED AREAS WILL BE REVEGETATED WITHIN 5 DAYS OF FINAL GRADING. SEEDING REQUIREMENTS ARE PROVIDED AT THE END OF THIS SPECIFICATION.

5. STRAW AND HAY MULCH: USED TO COVER DENUDED AREAS UNTIL PERMANENT SEED OR EROSION CONTROL MEASURES ARE IN PLACE. MULCH BY ITSELF CAN BE USED ON SLOPES LESS THAN 15% IN SUMMER AND 8% IN WINTER. JUTE MESH IS TO BE USED OVER MULCH ONLY.

6. IN LIEU OF MULCH, USE EROSION CONTROL BLANKET (EQUAL TO NORTH AMERICAN GREEN SC150) TO STABILIZE AREAS OF CONCENTRATED FLOW AND DRAINAGE WAYS.

TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES: PROVIDE THE FOLLOWING TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION OF THE

DEVELOPMENT: . SEDIMENT BARRIER ALONG THE DOWNGRADIENT SIDE OF THE PARKING AREAS AND OF ALL FILL SECTIONS. THE SEDIMENT

BARRIER WILL REMAIN IN PLACE UNTIL THE SITE IS 85% REVEGETATED.

2. HAY BALES PLACED AT KEY LOCATIONS TO SUPPLEMENT THE SEDIMENT BARRIER.

3. PROTECT TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, OR COMMON EXCAVATION AS FOLLOWS: A. SOIL STOCKPILE SIDE SLOPES SHALL NOT EXCEED 2:1.

B. AVOID PLACING TEMPORARY STOCKPILES IN AREAS WITH SLOPES OVER 10 PERCENT, OR NEAR DRAINAGE SWALES. SEE ITEM 3 IN CONSTRUCTION PHASE NOTES BELOW. C. STABILIZE STOCKPILES WITHIN 7 DAYS BY TEMPORARILY SEEDING WITH A HYDROSEED METHOD CONTAINING AN

EMULSIFIED MULCH TACKIFIER OR BY COVERING THE STOCKPILE WITH MULCH. D. SURROUND STOCKPILE SOIL WITH SEDIMENT BARRIER AT BASE OF PILE.

4. ALL DENUDED AREAS WHICH HAVE BEEN ROUGH GRADED AND ARE NOT LOCATED WITHIN THE BUILDING PAD, OR PARKING AND DRIVEWAY SUBBASE AREA SHALL RECEIVE MULCH WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL OR WITHIN 7 DAYS AFTER COMPLETING THE ROUGH GRADING OPERATIONS. IN THE EVENT THE CONTRACTOR COMPLETES FINAL GRADING AND INSTALLATION OF LOAM AND SOD WITHIN THE TIME PERIODS PRESENTED ABOVE, INSTALLATION OF MULCH AND NETTING, WHERE APPLICABLE, IS NOT REQUIRED.

5. IF WORK IS CONDUCTED BETWEEN OCTOBER 15 AND APRIL 15, ALL DENUDED AREAS ARE TO BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE, AND ANCHORED WITH FABRIC NETTING. THE PERIOD BETWEEN FINAL GRADING AND MULCHING SHALL BE REDUCED TO A 15 DAY MAXIMUM.

6. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE HAS BEEN STABILIZED OR IN AREAS WHERE PERMANENT EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

7. WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY WETLAND. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY WETLAND, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE WETLAND, PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE. AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.

8. AREAS WITHIN 75 FT OF A WETLAND WILL BE STABILIZED WITHIN 48 HOURS OF INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.

9. ALL AREAS WITHIN 75 FEET OF A WETLAND MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS DURING WINTER CONSTRUCTION (NOVEMBER 1 THROUGH APRIL 15).

10. TEMPORARY SEDIMENT BASINS MAY BE INSTALLED DOWNGRADIENT OF THE DISTURBED AREAS. THESE BASINS MUST BE DESIGNED TO PROVIDE STORAGE FOR EITHER THE CALCULATED RUNOFF FROM A 2-YEAR, 24-HOUR STORM OR PROVIDE FOR 3,600 CUBIC FEET OF CAPACITY PER ACRE DRAINING TO THE BASIN. OUTLET STRUCTURES MUST DISCHARGE WATER FROM THE SURFACE OF THE BASIN WHENEVER POSSIBLE. EROSION CONTROLS AND VELOCITY DISSIPATION DEVICES MUST BE USED IF THE DISCHARGING WATERS ARE LIKELY TO CREATE EROSION. ACCUMULATED SEDIMENT MUST BE REMOVED AS NEEDED FROM THE BASIN TO MAINTAIN AT LEAST 1/2 OF THE DESIGN CAPACITY OF THE BASIN.

PERMANENT EROSION CONTROL MEASURES:

THE FOLLOWING PERMANENT CONTROL MEASURES ARE REQUIRED BY THIS EROSION/SEDIMENTATION CONTROL PLAN:

1. ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.), WILL BE CONSTRUCTION PHASE: LOAMED, LIMED, FERTILIZED AND SEEDED. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.

2. SLOPES GREATER THAN 2:1 WILL RECEIVE RIPRAP. (NONE ANTICIPATED)

**POST-CONSTRUCTION REVEGETATION:** 

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL

1. A MINIMUM OF 6" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE, OR STONE WILL BE PLACED ON SLOPES TO STABILIZE SURFACES.

2. IF FINAL GRADING IS REACHED DURING THE NORMAL GROWING SEASON (4/15 TO 9/15), PERMANENT SEEDING WILL BE DONE AS SPECIFIED BELOW. PRIOR TO SEEDING, LIMESTONE SHALL BE APPLIED AT A RATE OF 138 LBS/1000 SQ. FT. AND 10:20:20 FERTILIZER AT A RATE OF 18.4 LBS/1000 SQ.FT WILL BE APPLIED. BROADCAST SEEDING AT THE FOLLOWING RATES:

LAWNS SHALL BE: ALLEN, STERLING & LATHROP 'TUFFTURF', 70% DIAMOND TALL FESCUE, 20% PLEASURE OLUS PERENNIAL RYEGRASS, 10% BARON KENTUCKY BLUEGRASS. SEEDING RATE SHALL BE 7-LBS./1,000 SQ. FT.

SWALES SHALL BE: WILDFLOWER MEADOW: (SEED) FESTUCA OVINA SHEEP FESCUE; SOW AT A RATE OF 12 OZ. PER 1,000 SQFT. TRIFOLIUM REPENS WHITE CLOVER; SOW AT A RATE OF 1/2 OZ.PER 1,000 SQFT. (FLOWERS) ACHILLEA MILLEFOLIUM YARROW, AQUILEGEA CANADENSIS COLUMBINE, ASCLEPIAS TUBEROSE BUTTERFLY MILKWEED, ASTER NOVAE-ANGLIAE NEW-ENGLAND ASTER, BAPTISIA AUSTRALIS WILD INDIGO, BOLTONIA ASTEROIDS FALSE ASTER, CHRYSANTHEMUM LEUCANTHEMUM OXEYE DAISY, DIGITALIS PURPUREA FOXGLOVE, ECHINACEA PURPUREA PURPLE CONEFLOWER, LUPINUS PERENNIS LUPINE, MONARDA FISTULOSA BERGAMOT, PAPAVER ORIENTALE ORIENTAL POPY, RUDBECKIA HIRTA BLACK-EYED SUSAN, SALVIA OFFICINALIS SAGE; SOW AT A RATE OF 1/3 OZ. EACH PER 1,000 SQFT. OR 4 OZ. PER 1,000 SQFT. IN COMBINATION

3. AN AREA SHALL BE MULCHED IMMEDIATELY AFTER IS HAS BEEN SEEDED. MULCHING SHALL CONSIST OF HAY MULCH, HYDRO-MULCH, JUTE NET OVER MULCH, PRE-MANUFACTURED EROSION MATS OR ANY SUITABLE SUBSTITUTE DEEMED ACCEPTABLE BY THE DESIGNER.

A. HAY MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. HAY MULCH SHALL BE SECURED BY EITHER: (NOTE: SOIL SHALL NOT BE VISIBLE) I. BEING DRIVEN OVER BY TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.

II. BLANKETED BY TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING, OR WITH SPRAY, ON GRADES GREATER THAN 5%. III. SEE NOTE 6, GENERAL NOTES, AND NOTE 8, WINTER CONSTRUCTION.

B. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF EITHER ASPHALT, WOOD FIBER OR PAPER FIBER AND WATER SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 9/15 AND 4/15.

4. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN SEPTEMBER 15 AND APRIL 15. SHOULD SEEDING BE NECESSARY BETWEEN SEPTEMBER 15 AND APRIL 15 THE FOLLOWING PROCEDURE SHALL BE FOLLOWED. ALSO REFER TO NOTE 9 OF WINTER CONSTRUCTION.

A. ONLY UNFROZEN LOAM SHALL BE USED. B. LOAMING, SEEDING AND MULCHING WILL NOT BE DONE OVER SNOW OR ICE COVER. IF SNOW EXISTS, IT MUST BE REMOVED PRIOR TO PLACEMENT OF SEED.

C. WHERE PERMANENT SEEDING IS NECESSARY, ANNUAL WINTER RYE (1.2 LBS/1000 SQ.FT) SHALL BE ADDED TO THE PREVIOUSLY NOTED AREAS.

D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.6 LBS/1000 SQ. FT.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.

E. FERTILIZING, SEEDING AND MULCHING SHALL BE APPLIED TO LOAM THE DAY THE LOAM IS SPREAD BY MACHINERY. F. ALTERNATIVE HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE.

5. FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 85% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE ENGINEER THAT THE EXISTING CATCH IS INADEQUATE.

MONITORING SCHEDULE:

THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MONITORING, MAINTAINING, REPAIRING, REPLACING AND REMOVING ALL OF THE EROSION AND SEDIMENTATION CONTROLS OR APPOINTING A QUALIFIED SUBCONTRACTOR TO DO SO. MAINTENANCE MEASURES WILL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

1. HAY BALE BARRIERS, SEDIMENT BARRIER, AND STONE CHECK DAMS SHALL BE INSPECTED AND REPAIRED ONCE A WEEK OR IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING. SHOULD THE HAY BALE BARRIERS PROVE TO BE INEFFECTIVE, THE CONTRACTOR SHALL INSTALL SEDIMENT BARRIER BEHIND THE HAY BALES.

2. VISUALLY INSPECT RIPRAP ONCE A WEEK OR AFTER EACH SIGNIFICANT RAINFALL AND REPAIR AS NEEDED. REMOVE SEDIMENT TRAPPED BEHIND THESE DEVICES ONCE IT ATTAINS A DEPTH EQUAL TO 1/2 THE HEIGHT OF THE DAM OR RISER. DISTRIBUTE REMOVED SEDIMENT OFF-SITE OR TO AN AREA UNDERGOING FINAL GRADING.

3. REVEGETATION OF DISTURBED AREAS WITHIN 25' OF DRAINAGE-COURSE/STREAM WILL BE SEEDED WITH THE "MEADOW AREA MIX" AND INSPECTED ON A WEEKLY BASIS OR AFTER EACH SIGNIFICANT RAINFALL AND RESEEDED AS NEEDED. EXPOSED AREAS WILL BE RESEEDED AS NEEDED UNTIL THE AREA HAS OBTAINED 100% GROWTH RATE. PROVIDE PERMANENT RIPRAP FOR SLOPES IN EXCESS OF 3:1 AND WITHIN 25' OF DRAINAGE COURSE.

**HOUSEKEEPING:** 

SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR MUST DEVELOP. AND IMPLEMENT AS NECESSARY. APPROPRIATE SPILL PREVENTION. CONTAINMENT. AND RESPONSE PLANNING MEASURES.

NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS. CALL 1-800-482-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT: HTTP: //WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/

GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS. TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER SWALES AND STRUCTURES PRIOR TO TURNING PROJECT OVER. TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

NOTE: LACK OF APPROPRIATE POLLUTANT REMOVAL BEST MANAGEMENT PRACTICES (BMPS) MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARD ESTABLISHED BY 38 M.R.S.A. \$465-C(1).

FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHALL BE INSTALLED AT THE END OF THE EXIST PAVED ACCESS TO THE SITE TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

DEBRIS AND OTHER MATERIALS. MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

EXCAVATION DE-WATERING. EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. NO EXCAVATION DEWATERING IS ANTICIPATED FOR THIS PROJECT. SHOULD IT BE NECESSARY. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. A DEWATERING DISCHARGE PLAN SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.

AUTHORIZED NON-STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES ARE NECESSARY, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:

(a) DISCHARGES FROM FIREFIGHTING ACTIVITY; (b) PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL

SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED; c) UNCONTAMINATED GROUNDWATER OR SPRING WATER;

 d) FOUNDATION OR FOOTER DRAIN—WATER WHERE FLOWS ARE NOT CONTAMINATED; e) UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5)); f) POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND

g) LANDSCAPE IRRIGATION.

UNAUTHORIZED NON-STORMWATER DISCHARGES. THE CONTRACTOR IS NOT AUTHORIZED A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON STORMWATER. SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE

(a) WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS

OR OTHER CONSTRUCTION MATERIALS; (b) FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;

(c) SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND

(d) TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION DURING CONSTRUCTION OF THIS PROJECT.

2. ONLY THOSE AREAS NECESSARY FOR CONSTRUCTION WILL BE DISTURBED.

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE AND MAINTAIN UNTIL SITE IS PAVED.

PRIOR TO THE START OF CONSTRUCTION, SEDIMENT BARRIER WILL BE INSTALLED ACROSS THE SLOPE(S), ON THE CONTOUR AT OR JUST BELOW THE LIMITS OF CLEARING OR GRUBBING, AND/OR JUST ABOVE ANY ADJACENT TRAVELLED WAY TO PROTECT IT FROM CONSTRUCTION-RELATED EROSION.

4. CLEAR AND GRUB WORK SITE AS NEEDED TO EXECUTE PLANS USING CAUTION NOT TO OVER EXPOSE THE SITE.

5. STORMWATER MANAGEMENT SYSTEM WILL BE INSTALLED PRIOR TO CONSTRUCTION OF SITE ELEMENTS THAT DISCHARGE TO THESE SYSTEMS. CATCH BASIN INLET PROTECTION SHALL BE INSTALLED IN ALL NEW AND EXISTING CATCH BASINS THAT WILL RECEIVE RUNOFF FROM THE PROJECT. NO STORMWATER SHOULD BE DIRECTED TO ANY STORMWATER BASINS UNTIL THE SITE IS

6. DISTURBED AREAS WILL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 30 DAYS OF THE INITIAL DISTURBANCES OF SOILS. DISTURBED AREAS WILL BE STABILIZED BEFORE STORMS. LOAM WILL BE SAVED FOR LATER USE WHERE POSSIBLE. EXCESS SOIL MATERIALS WILL BE USED AS FILL OR REMOVED FROM SITE TO AN APPROVED LOCATION.

AT A MINIMUM, THE EROSION CONTROL MEASURES SHALL BE REVIEWED AND REPAIRED ONCE A WEEK OR IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOWMELT. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6 INCHES AND BE DISCARDED ON THE SITE. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS.

8. CONSTRUCT PAVEMENT AREAS AND BUILDINGS.

9. LOAM, LIME, FERTILIZE, SEED, AND MULCH LANDSCAPED AND OTHER DISTURBED AREAS.

10. ONCE THE SITE IS STABILIZED AND A 90% CATCH OF VEGETATION HAS BEEN OBTAINED, REMOVE ALL TEMPORARY EROSION

11. TOUCH UP LOAM AND SEED.

NOTE: ALL DENUDED AREAS NOT SUBJECT TO FINAL PAVING, RIPRAP OR GRAVEL SHALL BE REVEGETATED.

**EROSION CONTROL DURING WINTER CONSTRUCTION:** 

WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.

2. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.

3. EXPOSED AREA SHALL BE LIMITED TO THOSE AREAS TO BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. AT THE END OF EACH WORK WEEK NO AREAS MAY BE LEFT UNSTABILIZED OVER THE WEEKEND.

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 LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.

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 150 LB. PER 1000 S.F. (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ANCHORED SUCH THAT SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH. NOTE: AN AREA IS ALSO CONSIDERED STABLE IF SODDED, COVERED WITH GRAVEL (PARKING LOTS) OR STRUCTURAL SAND.

6. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING 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 1 AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF 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, SEDIMENT BARRIER OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS SHOWN ON THE DESIGN DRAWINGS. NOTE: DORMANT SEEDING SHOULD NOT BE ATTEMPTED UNLESS SOIL TEMPERATURE REMAINS BELOW 50 DEGREES AND DAY TIME TEMPERATURES REMAIN IN THE 30'S.

7. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS. SLOPES GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%. VEGETATED DRAINAGE SWALES SHALL BE LINED WITH STRAW-COCONUT EROSION CONTROL BLANKET (NORTH AMERICAN GREEN SC150 OR APPROVED EQUAL).

8. BETWEEN THE DATES OF OCTOBER 15 TO NOVEMBER 1, WINTER RYE IS RECOMMENDED FOR STABILIZATION. AFTER NOVEMBER 1, WINTER RYE IS NOT EFFECTIVE. AROUND NOVEMBER 15 OR LATER, ONCE TEMPERATURES OF THE AIR AND SOIL PERMIT, DORMANT SEEDING IS EFFECTIVE.

9. IN THE EVENT OF SNOWFALL (FRESH OR CUMULATIVE) GREATER THAN 1 INCH DURING WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM THE AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.

SITE INSPECTION AND MAINTENANCE:

WEEKLY INSPECTIONS, AS WELL AS ROUTINE INSPECTIONS FOLLOWING RAIN FALLS, SHALL BE CONDUCTED BY THE GENERAL CONTRACTOR OF ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES UNTIL FINAL ACCEPTANCE OF THE PROJECT (85% GRASS CATCH). NECESSARY REPAIRS SHALL BE MADE TO CORRECT UNDERMINING OR DETERIORATION. FINAL ACCEPTANCE SHALL INCLUDE A SITE INSPECTION TO VERIFY THE STABILITY OF ALL DISTURBED AREAS AND SLOPES. UNTIL FINAL INSPECTION, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL IMMEDIATELY BE CLEANED, AND REPAIRED BY THE GENERAL CONTRACTOR AS REQUIRED. DISPOSAL OF ALL TEMPORARY EROSION AND CONTROL DEVICES SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

IT IS RECOMMENDED THAT THE OWNER HIRE THE SERVICES OF THE DESIGN ENGINEER TO PROVIDE COMPLIANCE INSPECTIONS (DURING ACTIVE CONSTRUCTION) RELATIVE TO IMPLEMENTATION OF THE STORMWATER AND EROSION CONTROL PLANS. SUCH INSPECTIONS SHOULD BE LIMITED TO ONCE A WEEK OR AS NECESSARY AND BE REPORTABLE TO THE OWNER, TOWN AND DEP.

SHORT-TERM SEDIMENTATION MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAN OUT ALL

3. LONG-TERM PROVISIONS FOR PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROL DEVICES AFTER ACCEPTANCE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE OWNER.

> 3. 05-13-20 REMOVED TWO SOLAR TABLES 2. 03-09-20 REVISED SOLAR ARRAY LAYOUT

#### **EROSION CONTROL** PROGRESS PRINT THIS PLAN IS ISSUED FOR REVIEW AND INFORMATION PROJECT: PURPOSES ONLY. THIS PLAN IS SUBJECT TO CHANGE AND IS NOT FOR

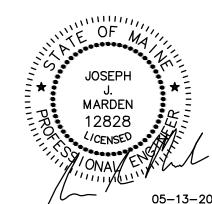
## **DETAILS AND NOTES** SOLAR ARRAY

BELFAST RD (ROUTE 3), CHINA, ME 04358 OWNER:

1. 01-27-20 SUBMISSION TO TOWN FOR PRELIMINARY REVIEW

SUNRAISE DEVELOPMENT, LLC 26 MARKET SQUARE, PORTSMOUTH, NH 03801

119 PURINTON ROAD, SUITE A BRUNSWICK, MAINE 04011



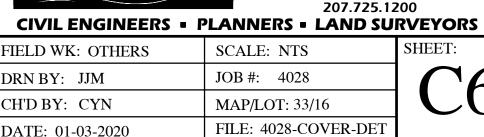
PRICING OR CONSTRUCTION.

PRICING BASED ON THIS

PLAN IS NOT BINDING

UNLESS SIGNED BY BOTH

CONTRACTOR AND OWNER.



HEET: FILE: 4028-COVER-DET

JJM

EROSION CONTROL BERM "SEDIMENT BARRIER OPTION"