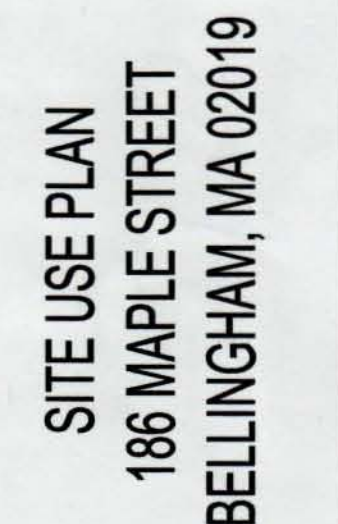


186 MAPLE STREET, BELLINGHAM, MA 02019
4,000.00 kW AC STC RATED SOLAR ELECTRIC SYSTEM

BEING A MAJORITY



T-1
TITLE PAGE

V.7

2017 MASSACHUSETTS ELECTRICAL CODE 527 CMR12.00
MASSACHUSETTS BUILDING CODE 9TH EDITION
UL-1703 – SOLAR MODULES
UL-1741 – INVERTERS, COMBINER BOXES
UL-2703 – RACKING MOUNTING SYSTEMS AND CLAMPING DEVICES FOR PV MODULES
UL-1642 – STANDARD FOR LITHIUM BATTERIES
UL-1973 – STANDARD FOR BATTERIES FOR USE IN LIGHT ELECTRIC RAIL (LER) APPLICATIONS
AND STATIONARY APPLICATIONS
UL-9540 – STANDARD FOR ENERGY STORAGE SYSTEMS AND EQUIPMENT

ENERGY STORAGE SYSTEM DESCRIPTION	
SYSTEM AC POWER	2310 KW
SYSTEM ENERGY CAPACITY	4620 KWH
POWER CONVERSION SYSTEM INFORMATION	(1) POWER ELECTRONICS FREEMAQ PCS FP2310, UL LISTED
TRANSFORMER CAPACTY	2310 KVA

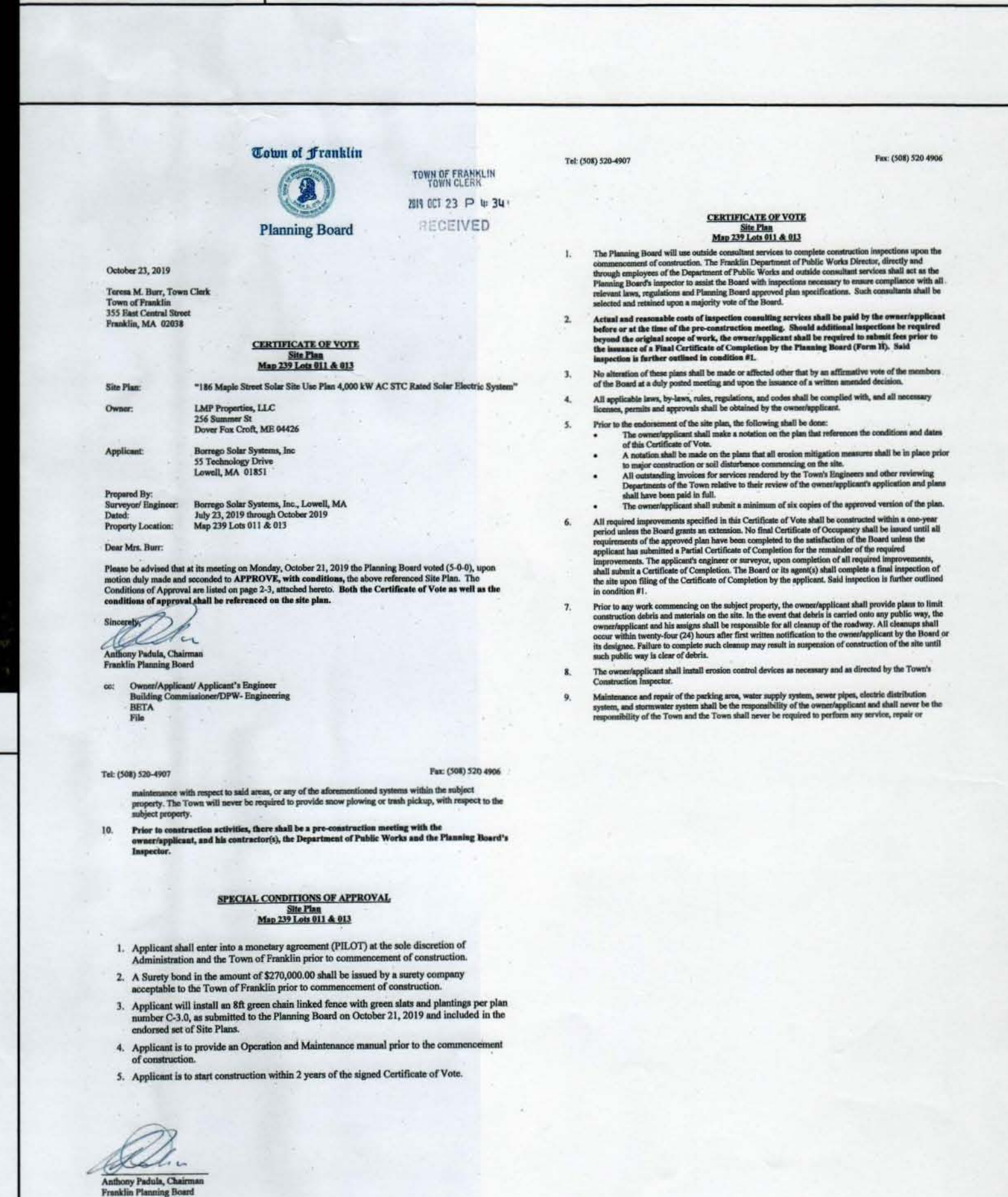
<p><u>SYSTEM / PROJECT OWNER</u></p> <p>TBD</p>	<p><u>CIVIL ENGINEER</u></p> <p>FIRM: BORREGO SOLAR SYSTEMS, INC.</p> <p>CONTACT: DAVID ALBRECHT, P.E.</p> <p>PHONE: (978)-513-2621</p>
<p><u>LAND OWNER / HOST</u></p> <p>LMP PROPERTIES, LLC</p> <p>(207) 831-1030</p> <p>186 MAPLE STREET</p> <p>BELLINGHAM, MA 02019</p>	<p><u>STRUCTURAL ENGINEER</u></p> <p>FIRM: BORREGO SOLAR SYSTEMS, INC.</p> <p>CONTACT: MIKE KLUG, PE</p> <p>PHONE: (603)-315-0126</p>
<p><u>AUTHORITY HAVING JURISDICTION</u></p> <p>TOWN OF BELLINGHAM</p> <p>10 MECHANIC STREET</p> <p>BELLINGHAM, MA 02019</p>	<p><u>ELECTRICAL ENGINEER</u></p> <p>FIRM: BORREGO SOLAR SYSTEM, INC.</p> <p>CONTACT: AHARON WRIGHT, PE</p> <p>PHONE: (978)-726-3496</p>
<p><u>UTILITY</u></p> <p>EVERSOURCE EAST</p>	<p><u>DESIGN ENGINEER</u></p> <p>FIRM: BORREGO SOLAR SYSTEMS, INC.</p> <p>CONTACT: RYAN STAIR</p> <p>PHONE: (207)-636-0311</p>

(E)	EXISTING	NS	NORTH-SOUTH
AHJ	AUTHORITY HAVING JURISDICTION	NTS	NOT TO SCALE
AL	ALUMINUM	OAE	OR APPROVED EQUAL
APPROX	APPROXIMATE	OC	ON CENTER
ARY	ARRAY	OD	OUTSIDE DIAMETER
BLDG	BUILDING	OFCl	OWNER FURNISHED CONTRACTOR
BSS	BORREGO SOLAR SYSTEM		INSTALLED
CL	CENTERLINE	PV	PHOTOVOLTAIC
DAS	DATA ACQUISITION SYSTEM	PVC	POLY VINYL CHLORIDE
DIA	DIAMETER	SCH	SCHEDULE
DO	DIITO	SS	STAINLESS STEEL
EW	EAST-WEST	SSS	SOLAR SUPPORT STRUCTURE
FBO	FURNISHED BY OTHERS	STC	STANDARD TEST CONDITIONS
FF	FORWARD FACING	TBD	TO BE DETERMINED
GALV	GALVANIZED	TP	TAMPER PROOF
HDG	HOT DIP GALVANIZED	TYP	TYPICAL
HVAC	HEATING VENTILATION AND AIR CONDITIONING	UON	UNLESS OTHERWISE NOTED
	INSIDE DIAMETER	VIF	VERIFY IN FIELD
ID	INSIDE DIAMETER	WP	WEATHER PROOF
MFR	MANUFACTURER		
MOD	SOLAR MODULE		

REV 1.0

REV 1.0

SHEET NUMBER	SHEET TITLE
T-1	TITLE PAGE
CIVIL	
C-0.0	CIVIL NOTES & LEGEND
C-1.0	EXISTING CONDITIONS PLAN
C-2.0	TREE CLEARING PLAN
C-3.0	LAYOUT AND MATERIALS PLAN
C-4.0	GRADING AND EROSION CONTROL PLAN
C-5.0	DEMOLITION PLAN
C-6.0	CIVIL DETAILS
C-6.1	BASIN DETAILS
C-6.2	CIVIL DETAILS
C-8.0	LANDSCAPING PLAN
C-8.1	LANDSCAPING PLAN DETAILS
C-8.2	BUFFER ZONE REMEDIATION PLANS
W-1.0	PRE-DEVELOPMENT WATERSHED PLAN
W-2.0	POST-DEVELOPMENT WATERSHED PLAN
ELECTRICAL	
E-1.0	ELECTRICAL SITE PLAN
E-6.0	PLACARDS
PV-1.2	SINGLE LINE



- STABILIZE SLOPES GREATER THAN 3:1 (HORIZONTAL: VERTICAL) WITH SEED, SECURED GEOTEXTILE FABRIC, SPRAYED COMPOST BLANKET, OR RIP-RAP AS REQUIRED TO PREVENT EROSION DURING CONSTRUCTION.
9. SEDIMENT BARRIERS SHALL BE CONSTRUCTED AROUND ALL SOIL STOCKPILE AREAS.
10. CLEAN OUT PROJECT DRAINAGE FEATURES AND STRUCTURES (I.E. CULVERTS, BASINS, SWALES, ETC.) AFTER COMPLETION OF CONSTRUCTION.
11. SEDIMENT COLLECTED DURING CONSTRUCTION BY THE VARIOUS EROSION CONTROL SYSTEMS SHALL BE DISPOSED OF ON THE SITE ON A REGULAR BASIS. SEDIMENT SHALL BE REMOVED FROM EROSION CONTROL SYSTEMS WHEN THE HEIGHT OF THE SEDIMENT EXCEEDS ONE-HALF OF THE HEIGHT OF THE SEDIMENT CONTROL MEASURE.
12. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE SUBCONTRACTOR(S) SHALL REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AT THE CONTRACTOR/CEOR DIRECTION.
13. AFTER THE REMOVAL OF TEMPORARY EROSION CONTROL MEASURES, THE SUBCONTRACTOR(S) SHALL GRADE AND SEED AREA OF TEMPORARY EROSION CONTROL MEASURE.
14. DAMAGED OR DETERIORATED ITEMS WILL BE REPAIRED IMMEDIATELY AFTER IDENTIFICATION OR AS DIRECTED BY THE CONTRACTOR/CEOR.
15. THE CONTRACTOR'S SITE SUPERINTENDENT IS RESPONSIBLE FOR DAILY INSPECTIONS, MAINTENANCE, AND DIRECTING REPAIR ACTIVITIES. IN ACCORDANCE WITH THE SPDES REQUIREMENTS, THE CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES TWICE EVERY SEVEN (7) CALENDAR DAYS (IF GREATER THAN 5 ACRES IS TO BE DISTURBED AT ANY ONE TIME) OR ONCE EVERY FOURTEEN (14) DAYS AND WITHIN 24 HOURS OF ANY STORM EXCEEDING 1/2 INCH PRECIPITATION. DAMAGED AND INEFFECTIVE EROSION CONTROL MEASURES SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS.
16. PIPE OUTLETS (IF ANY) SHALL BE STABILIZED WITH STONE. REFER TO DETAILS.
17. TEMPORARY SEEDING SHALL BE AT A RATE OF 45 LBS PER ACRE. ERODABLE AREAS OUTSIDE AND DOWN SLOPE FROM THE CONSTRUCTION LIMITS SHALL BE SIMILARLY SEED. REFER TO SITE PLANS FOR SEEDING SPECIFICATIONS.
18. WATER PUMPED OR OTHERWISE DISCHARGED FROM THE SITE DURING CONSTRUCTION DEWATERING SHALL BE FILTERED. DEWATERING PLAN SHALL BE SUBMITTED FOR APPROVAL BY THE CEOR AND ADDED TO THE SWPPP.
19. WHEN TEMPORARY DRAINAGE IS ESTABLISHED, EROSION AND SEDIMENTATION CONTROL MEASURES MAY BE REQUIRED BY CONTRACTOR/CEOR.
20. GRAVEL ROADS, ACCESS DRIVES, PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH, AND VEHICLE WASH DOWN FACILITIES, SHALL BE PROVIDED TO PREVENT SOIL FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. ANY SOIL REACHING A PUBLIC OR PRIVATE ROADWAY SHALL BE REMOVED BEFORE THE END OF EACH WORKDAY.
21. NECESSARY MEASURES SHALL BE TAKEN TO CONTAIN ANY FUEL OR POLLUTION RUNOFF. NO RE-EQUIPMENT SHALL OCCUR WITHIN 100 FEET OF ANY WETLAND RESOURCE AREA. LEAKING FUELING OR SUPPLIES SHALL BE IMMEDIATELY REPAIRED OR REMOVED FROM THE SITE.
22. THE COST OF REPAIRING EROSION CONTROL MEASURES OR REMOVING SEDIMENT FROM EROSION CONTROL SYSTEMS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE APPLICABLE EROSION CONTROL ITEM.
23. EROSION CONTROL MEASURES SHALL BE KEPT OPERATIONAL AND MAINTAINED CONTINUOUSLY THROUGHOUT THE PERIOD OF LAND DISTURBANCE UNTIL PERMANENT SEDIMENT AND EROSION CONTROL MEASURES ARE OPERATIONAL. CONTRACTOR SHALL PROVIDE TO THE CONSERVATION COMMISSION MEASURES (EROSION AND SEDIMENTATION CONTROL) FOR WORK DURING WINTER CONDITIONS.
24. CONTRACTOR SHALL SPRAY WATER FROM A WATER TRUCK ON DRY AND WINDY DAYS TO PREVENT DUST FROM FORMING. OTHER ALLOWED FORMS OF DUST CONTROL SHALL BE SUBMITTED TO CONTRACTOR/CEOR PRIOR TO USE.
25. EROSION CONTROL MEASURES AS SHOWN ON THESE DRAWINGS IS INTENDED TO CONVEY MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL MEASURES AS NECESSARY TO PREVENT SOIL EROSION AND TO COMPLY WITH THE PROJECT'S CONSTRUCTION GENERAL PERMIT STORMWATER POLLUTION PREVENTION PLAN.
26. SOILS ON SLOPES THAT ARE 3:1 OR STEEPER SHOULD BE ROUGHENED PER THE EPA'S NPDES SOIL ROUGHENING FACT SHEET IF THEY ARE TO BE SEED WITHIN 2 WEEKS OF DISTURBANCE. IF NOT, EROSION CONTROL BLANKETS SHOULD BE INSTALLED ON THESE SLOPES.

VI. PLANTING NOTES

1. REFER TO LANDSCAPING PLANS FOR SPECIFIC NOTES.

PHASE I

- HOLD A PRE-CONSTRUCTION MEETING WITH THE TOWN OF BELLINGHAM/FRANKLIN PRIOR TO ANY SITE DISTURBANCE.
- INSTALL CONSTRUCTION EXIT 1 ONTO MAPLE STREET
- INSTALL SEDIMENTATION CONTROL ALONG OUTSIDE OF PROPOSED FENCE.
- APPLICANT TO CONTACT TOWN OF BELLINGHAM/FRANKLIN A MINIMUM OF TWO (2) DAYS PRIOR TO FINAL SEDIMENTATION CONTROL COMPLETION.
- LAYOUT LIMIT OF WORK (FENCE LINE) AND GRAVEL ACCESS ROAD.

- CONSTRUCT BERM FOR MAPLE STREET FENCING.
- EXCAVATE ELECTRICAL TRENCHES.
- INSTALL SOLAR MODULE RACKING.
- CONSTRUCT CONCRETE WASHOUTS.
- EXCAVATE AND POUR ELECTRICAL EQUIPMENT PAD.
- INSTALL PERIMETER SECURITY FENCE.

- COMMENCE PLANTINGS. MAPLE STREET FENCING SHALL NOT BE INSTALLED UNTIL ALL PLANTINGS ALONG MAPLE STREET ARE COMPLETED.
- HYDROSEED DISTURBED AREAS ONCE WORK IN THESE AREAS ARE COMPLETED. [COMPLETED MEANS THAT VEHICULAR TRAFFIC IS NO LONGER NECESSARY].
- REMOVE EROSION/SEDIMENT CONTROL MEASURES ONCE PROPER STABILIZATION IS ACHIEVED.
- APPLICANT TO CONTACT TOWN OF BELLINGHAM/FRANKLIN PLANNING DEPARTMENT A MINIMUM OF TWO (2) DAYS PRIOR TO PROJECT COMPLETION.
- CONTRACTOR TO COMPLETE AN AS-BUILT (RECORD) SURVEY OF THE PROJECT AREA.

(INCLUDE BUT ARE NOT LIMITED TO:)

- MULCH TUBE (FILTREXX SOCK)
- SILT FENCE
- STONE FOR STABILIZED CONSTRUCTION EXIT
- GEOTEXTILE ROAD STABILIZATION FABRIC FOR ROAD
- STONE FOR ROADWAY
- CHAIN LINK FENCE
- CHAIN LINK GATES (VEHICULAR/MAN)
- FORESTRY ACCESS GATES
- DRAINAGE CULVERT
- DRAINAGE PIPE END
- OUTLET CONTROL STRUCTURE
- ROCK RIP RAP
- TRENCH BEDDING MATERIAL
- TRENCH BACKFILL MATERIAL
- PLANTING MATERIALS (TREES/SHRUBS)

3.

1. ORDER OF CONDITIONS (TBD)
2. SITE PLAN APPROVAL (TBD)

1. REQUEST FOR DETERMINATION OF APPLICABILITY APPROVED ON AUGUST 22, 2019
2. SITE PLAN APPROVAL APPROVED ON OCTOBER 21, 2019. CERTIFICATE OF VOTE SIGNED ON OCTOBER 23, 2019. SEE CONDITIONS ON SHEET T-1.0.

- AS CONTAINED HEREIN, "CONTRACTOR" IS ASSUMED TO BE BORREGO SOLAR SYSTEMS, INC., "SUBCONTRACTOR" IS BORREGO'S INSTALLATION SUBCONTRACTORS (INCLUDING SITE WORK SUBCONTRACTOR) AND CIVIL ENGINEER OF RECORD (CEOR) IS BORREGO SOLAR SYSTEMS, INC.'S IN-HOUSE CIVIL ENGINEER.
2. EXISTING CONDITIONS SURVEY INFORMATION WAS PREPARED BY NORTHEAST SURVEY CONSULTANTS PERFORMED ON 01/02/2019. HORIZONTAL DATUM IS REFERENCED TO THE MASSACHUSETTS COORDINATE SYSTEM NORTH AMERICAN DATUM 1983. THE VERTICAL DATUM IS REFERENCED TO NORTH AMERICAN VERTICAL DATUM 1988.
3. THERE IS NO GUARANTEE THAT ALL THE EXISTING UTILITIES, WHETHER FUNCTIONAL OR ABANDONED WITHIN THE PROJECT LIMITS ARE ON THIS DRAWING. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES BEFORE STARTING WORK AND SHALL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM THIS WORK. BEFORE COMMENCING WORK CONTACT "DIG SAFE SYSTEM, INC." AT 1-888-344-7233 AND PROVIDE 72 HOURS NOTICE.
4. THE SUBCONTRACTORS SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD AND REPORT TO BORREGO.
5. THE MIDDLESEX COUNTY APPROVAL SHALL BE KEPT ON SITE AT ALL TIMES.
6. PRIOR TO CONSTRUCTING THE SITE ENTRANCE ONTO MAPLE STREET THE CONTRACTOR SHALL OBTAIN A HIGHWAY/DRIVEWAY PERMIT FROM THE BELLINGHAM DEPARTMENT OF PUBLIC WORKS.
7. THE CONTRACTOR SHALL ALLOW BELLINGHAM/FRANKLIN OFFICIALS ON SITE DURING CONSTRUCTION HOURS ONLY AND AS LONG AS ALL SAFETY MEASURES ARE IN PLACE.
8. THE CONTRACTOR SHALL CONTACT "DIG SAFE SYSTEM, INC." AT 1-888-344-7233 AND THE PROPER LOCAL AUTHORITIES OR RESPECTIVE UTILITY COMPANIES TO CONFIRM THE LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. ANY DAMAGE DUE TO FAILURE OF THE CONTRACTOR TO CONTACT THE PROPER AUTHORITIES SHALL BE BORNE BY THE CONTRACTOR.
9. SUBCONTRACTOR(S) SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL CONSTRUCTION DOCUMENTS, SPECIFICATIONS, AND SITE CONDITIONS PRIOR TO BIDDING AND PRIOR TO CONSTRUCTION.
10. ANY DISCREPANCIES BETWEEN DRAWINGS, SPECIFICATIONS, AND SITE CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE CONTRACTOR/CEOR FOR CLARIFICATION AND RESOLUTION PRIOR TO BIDDING OR CONSTRUCTION.
11. CONTRACTOR PARKING AREA(S) SHALL BE AS DESIGNATED ON THESE PLANS UNLESS OTHER AREAS APPROVED BY BORREGO SOLAR SITE SUPERINTENDENT. PARKING AREAS SHALL BE CONSTRUCTED USING A MINIMUM OF 6-INCHES OF GRAVEL 3-INCH MINUS) AND SURROUNDED BY AN ORANGE SNOW FENCE. POST-CONSTRUCTION THE PARKING AREA(S) SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS, INCLUDING, BUT NOT LIMITED TO REGRADING, LOAMING AND SEEDING. IN NO CASE SHALL PARKING AREAS, LAYDOWN AREAS, CONSTRUCTION TRAILERS, AND PORTABLE TOILETS BE LOCATED WITHIN A WETLAND RESOURCE AREA AND/OR ANY BUFFER ZONES.





1. AREAS DESIGNATED FOR CLEARING SHALL BE CLEARED ONLY. NO GRUBBING OR STRIPPING OF TOPSOIL IS NECESSARY, UNLESS SPECIFICALLY SHOWN OTHERWISE AND APPROVAL HAS BEEN GIVEN BY THE CONTRACTOR.
2. TREE REMOVAL SHALL BE IN ACCORDANCE WITH APPROVED LOCAL, STATE, AND FEDERAL PERMITS. TREES TO BE REMOVED SHALL BE MARKED BY BORREGO SUPERINTENDENT OR AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK ON-SITE.
3. NOT USED.
4. THE SUBCONTRACTOR(S) IS/ARE RESPONSIBLE FOR ANY DAMAGE TO EXISTING CONDITIONS TO REMAIN THAT ARE DUE TO SUBCONTRACTOR(S) OPERATIONS.
5. ITEMS TO BE REMOVED THAT ARE NOT STOCKPILED FOR LATER REUSE ON THE PROJECT OR DELIVERED TO THE OWNER SHALL BE LEGALLY DISPOSED OF OFF SITE BY THE SUBCONTRACTOR(S).
6. THE SUBCONTRACTOR(S) SHALL BE RESPONSIBLE FOR COORDINATING THEIR EFFORTS WITH ALL TRADES.
7. THE SUBCONTRACTOR(S) SHALL COORDINATE ALL ADJUSTMENT OR ABANDONMENT OF UTILITIES WITH THE RESPECTIVE UTILITY COMPANY.
8. THE SUBCONTRACTOR(S) SHALL MAINTAIN OR ADJUST TO NEW FINISH GRADE AS NECESSARY. ALL UTILITY AND SITE STRUCTURES SUCH AS LIGHT POLES, SIGN POLES, MAN HOLES, CATCH BASINS, HAND HOLES, WATER AND GAS GATES, HYDRANTS, ETC., FROM MAINTAINED UTILITY AND SITE SYSTEMS UNLESS OTHERWISE NOTED OR DIRECTED BY THE CONTRACTOR/CEOR.
9. THE PAVEMENT GRINDINGS IN THE PORTION OF THE SITE IN FRANKLIN SHALL BE SWEEP CLEAN OF LOOSE GRANULAR MATERIALS PRIOR TO COMPLETION OF THE DETENTION BASIN.

1. (MA) A CONSTRUCTION GENERAL PERMIT SHALL BE IN PLACE PRIOR TO COMMENCING ANY EARTH DISTURBANCE. THE CGP PERMIT # IS _____, ISSUED ON _____, 2019.
2. EROSION CONTROLS SHALL BE PROVIDED IN ACCORDANCE WITH THE SEQUENCE OF STAGED CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A DETAILED EROSION CONTROL PLAN INCLUDING SCHEDULE FOR APPROVAL BY THE TOWN OF BELLINGHAM/FRANKLIN. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE.
3. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR DISTURBANCE AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
4. SEDIMENT BARRIERS SHALL BE INSPECTED AND APPROVED BY THE TOWNS OF BELLINGHAM AND FRANKLIN, OR THEIR AUTHORIZED REPRESENTATIVE AND THE CONTRACTOR/CEOR BEFORE CONSTRUCTION CAN START.
5. STRAW BALES AND MULCH SHALL BE MOWINGS OF ACCEPTABLE HERBACEOUS GROWTH, FREE OF NOXIOUS WEEDS OR WOODY STEMS, AND SHALL BE DRY WHEN INSTALLED.
6. THE UNDERSIDE OF STRAW BALES SHOULD BE KEPT IN CLOSE CONTACT (TRENCHED IN 3-INCHES MINIMUM) WITH THE EARTH AND RESET AS NECESSARY.
7. DISTURBED AREAS SHALL BE BLANKETED OR SEEDED AND MULCHED AS SOON AS PRACTICAL AFTER CONSTRUCTION ACTIVITIES IN THAT AREA HAVE CONCLUDED. ALL ERODABLE/BARE AREAS SHALL BE BLANKETED OR SEEDED AND MULCHED WITHIN 7 DAYS WITH TEMPORARY EROSION CONTROL SEEDING.

BC	BOTTOM OF CURB
BW	BORDERING VEGETATED WETLANDS
CB	CHAIN BASIN
CLF	CHAIN LINK FENCE
CD	DUCTILE IRON PIPE
DMH	DRAIN MANHOLE
ECB	EROSION CONTROL BARRIER
FES	FLORED END SECTION
FH	FIRE HYDRANT
FOG	FACE OF CURB
GG	GAS GATE
HW	HEADWALL
ILSF	ISOLATED LANDS SUBJECT TO FLOODING
ISW	ISOLATED WETLANDS (FEDERAL JURISDICTION)
LA	LANDSCAPED AREA
LOW	LIMIT OF WORK
NTS	NOT TO SCALE
OCS	OUTLET CONTROL STRUCTURE
PCC	PRECAST CONCRETE CURB
RPC	REINFORCED CONCRETE PIPE
SLC	STREET LIGHT CIRCUIT
SMH	SEWER MANHOLE
TC	TOP OF CURB
TEL	TELEPHONE CABLE
VGC	VERTICAL GRANITE CURB
WG	WATER GATE

REV 1.0

	SOLAR MODULES
	ROAD (GRAVEL)
	FENCE LINE
	PROPERTY LINE
	FLOW DIRECTION
	BANK LINE/FLAG
	WETLAND LINE/FLAG
	(E) MAJOR CONTOUR
	(E) MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	100' WETLAND BUFFER ZONE
	200' RIVERFRONT AREA
	100-YEAR FLOOD LINE
	WATER RESOURCE OVERLAY DISTRICT
	EDGE OF WATER
	TREELINE
	STONE WALL
	SILT FENCE
	LIMIT OF WORK
	DRAIN PIPE
	ELECTRICAL TRENCH
	OVERHEAD ELECTRIC
	SEWER LINE
	WATER LINE
	GAS MAIN

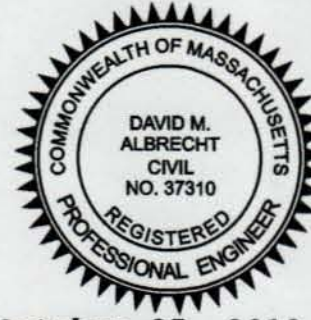
	OMITTED MODULE		ASSESSORS MAP-LOT
	SPARE MODULE	CB/DH	CONCRETE BOUNDDRILL/HOLE
	NON-ACTIVE MODULE	DH	DRILLHOLE
SB/DH	STONE BOUND DRILL/HOLE	FND	FOUND
N/F	NOW OR FORMERLY	CMP	CORRUGATED METAL PIPE
IP	IRON PIPE	BIT CONC	BITUMINOUS CONCRETE
SS	SNOW STORAGE AREA	RET WALL	RETAINING WALL

THIS DOCUMENT IS PROVIDED BY BORRERO SOLAR SYSTEMS, INC. TO FACILITATE THE SALE AND INSTALLATION OF A SOLAR POWER SYSTEM FROM BORRERO SOLAR SYSTEMS, INC. REPRODUCTION, RELEASE OR UTILIZATION FOR ANY OTHER PURPOSE, WITHOUT PRIOR WRITTEN CONSENT IS STRICTLY PROHIBITED.



BORREGO SOLAR

55 TECHNOLOGY DRIVE, SUITE 102
LOWELL, MA 01851
PHONE: (888) 898-6273
FAX: (888) 843-6778
WWW.BORREGOSOLAR.COM



October 25, 2019

David Alcot

SITE USE PLAN
186 MAPLE STREET
BELLINGHAM, MA 02019

PROJECT NUMBER:
905-2400

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
7/23/19	RJD	DA	SUBMISSION	
7/29/19	RJD	DA	CONSERVATION SUBMISSION	
9/11/19	--	DA	CONSERVATION SUBMISSION	
9/25/19	WS	DA	LANDSCAPING PLAN UPDATES	
9/26/19	WS	DA	PLAN REVISIONS	
10/11/19	WS	DA	REVISIONS PER PEER REVIEW	
10/25/19	WS	DA	FINAL SET	

SCALES STATED ON DRAWINGS
ARE VALID ONLY WHEN PLOTTED
ARCH D 24" X 36"

C-0.0

CIVIL NOTES & LEGEN

- SURVEY NOTES:**
- 1: Field survey by EDM Total Station & RTK GPS.
 - 2: The horizontal datum of this plan is the Massachusetts Coordinate System North American Datum 1983, the vertical datum is North American Vertical Datum 1988, both are based on RTK GPS observations taken on site.
 - 3: According to Federal Emergency Management Agency maps, the locus properties are located in areas designated as "Zone X" (areas of minimal flooding). Community Panel No. 25021C 0302 E - Effective Date: 7/17/2012.
 - 5: The proposed facilities are located within the Town of Franklin Industrial zoning district & the Town of Bellingham Industrial zoning district.
 - 6: The location of utility structures shown hereon are from observed field evidence only, this plan does not depict the exact location of underground utilities & does not show all of the utilities which exist within the premises surveyed, please contact dig-safe at 1-888-344-7233 before excavation.
 - 7: At the time of the ALTA survey there was no observed evidence active earth moving work. At the time of the ALTA survey there was no observed evidence of building construction or building additions.
 - 8: As allowed under Section 3.E.v and 6.B of the 2016 ALTA/NSPS Minimum Standard Detail Requirements, this survey exceeds the maximum allowable Relative Positional Precision due to the size and configuration of the surveyed property, and the relief, vegetation and improvements on the surveyed property.
 - 9: Wetlands shown hereon were delineated by SWCA and field located by this survey.
 - 10: Gross land area of locus parcels = 10.130 acres ±.

RECORD DESCRIPTION:

From title report prepared by Joel A. Stein file # 198105 dated 7/25/2018:
OWNER: LMP Properties, LLC, by virtue of a Deed from 186 Maple Street, LLC, dated January 30, 2014, recorded with said Deeds, Book 32050, Page 98.

DESCRIPTION: See the metes and bounds description of the first parcel in the above referenced vesting Deed. Said parcel is shown on Plan entitled, "Plan of Land in Bellingham and Franklin, Mass. (Norfolk County)", dated September 8, 1988, by Jim Troupes, P.L.S., recorded with said Deeds, Plan Book 380, Page 419. Said parcel comprises Bellingham Assessor's Parcel 32-7 and Franklin Assessor's Parcels 239-11 and 239-13.

CERTIFICATION:

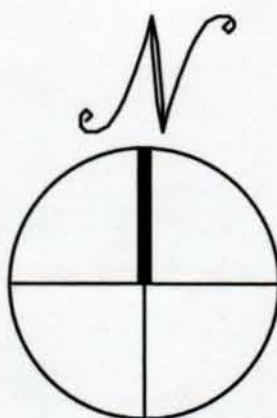
To: Borrego Solar Systems, Inc.

This is to certify that this map of plot and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 2, 3, 4, 5, 6a, 8, 11, 13, 16, & 20 of Table A thereof. The fieldwork was completed on 10/1/2018.

11-1-2018

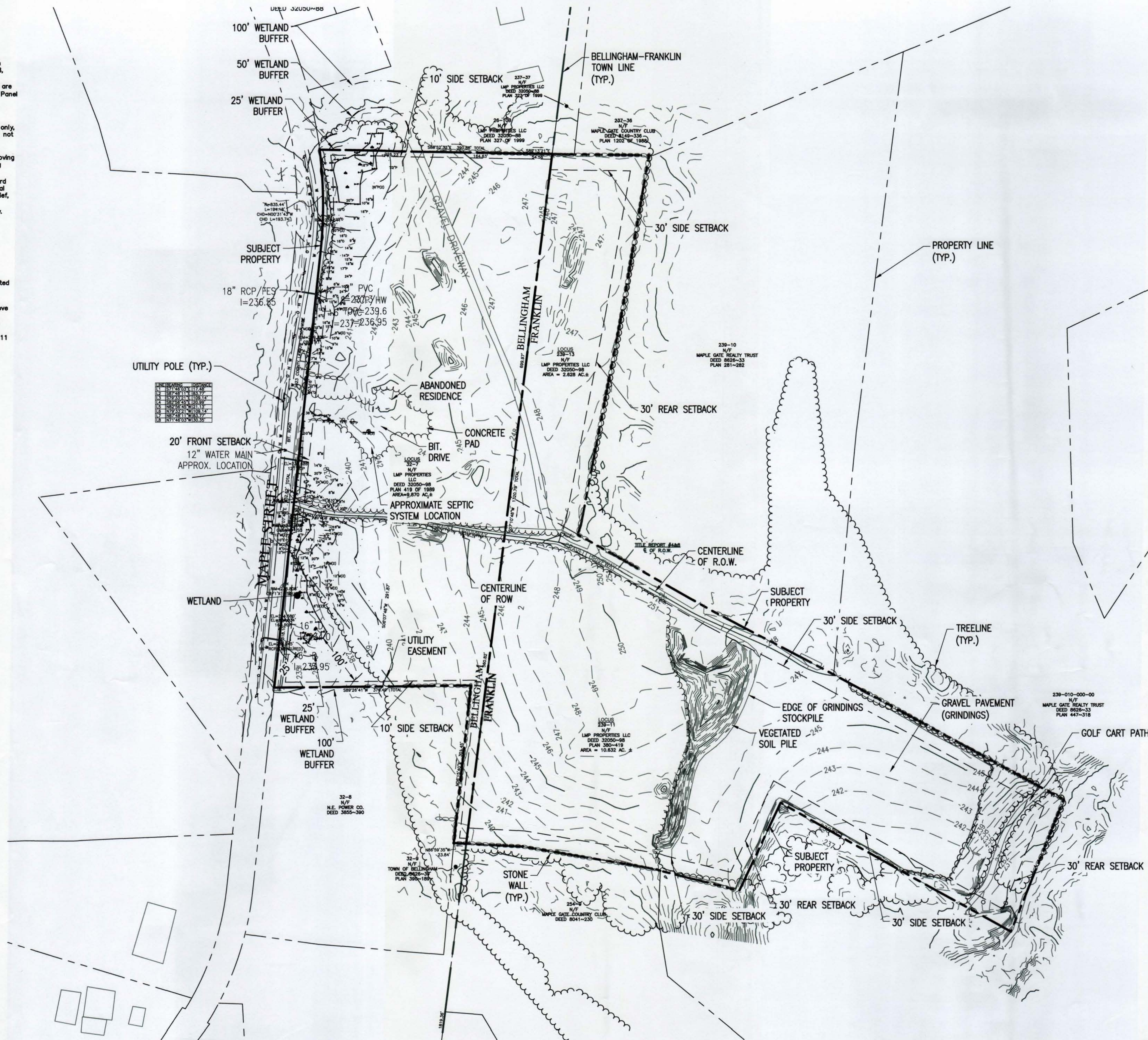
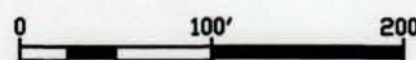
Date of map or plat

Daniel F. Stasz PLS #47160
dan@northeastssurvey.com



EXISTING CONDITIONS PLAN

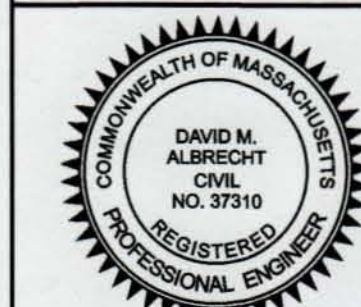
SCALE: 1" = 100'



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October 25, 2019

David Albrecht

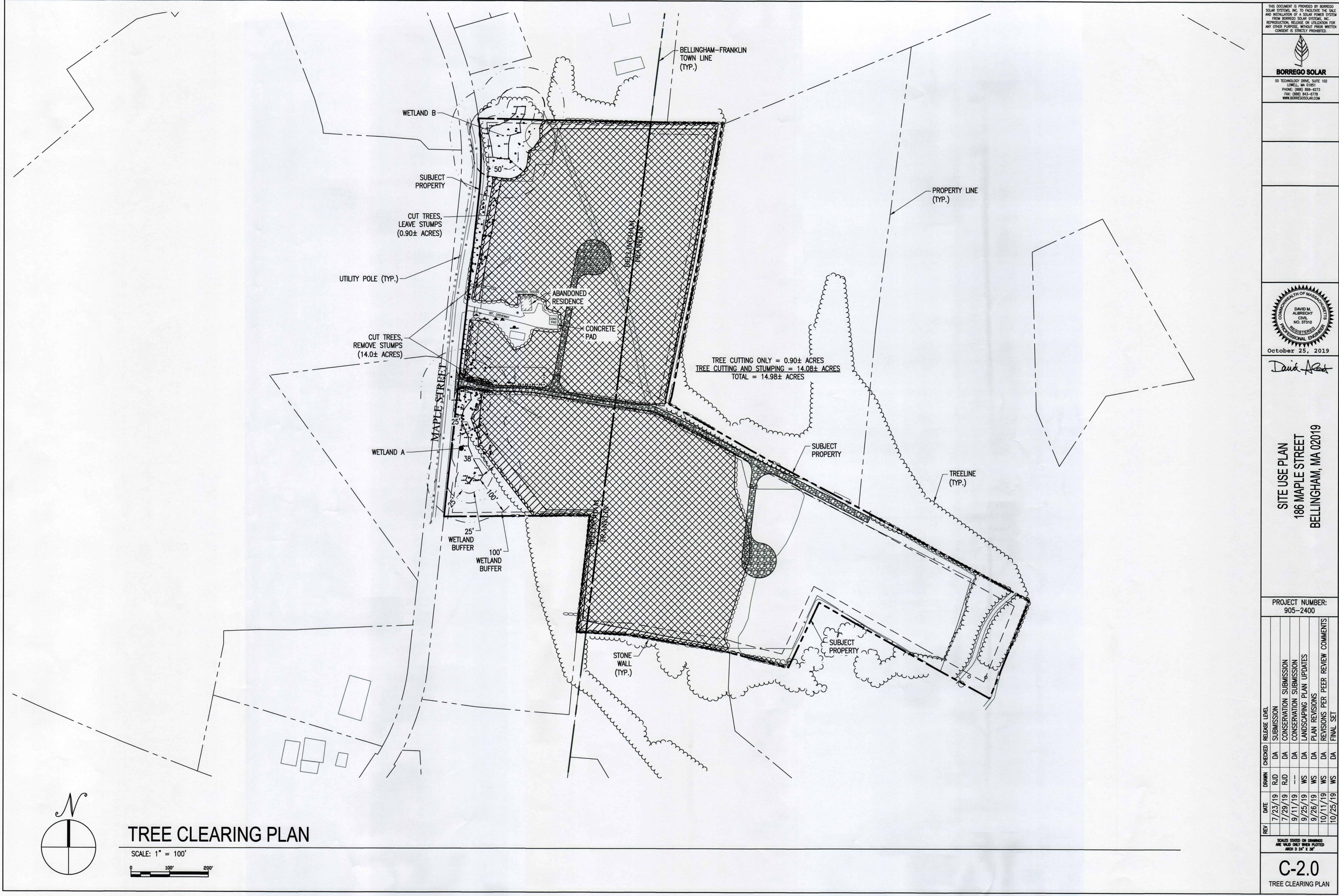
SITE USE PLAN
186 MAPLE STREET
BELLINGHAM, MA 02019

PROJECT NUMBER:
905-2400

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL	COMMENTS
7/23/19	RJD	DA	DA	SUBMISSION	
7/29/19	RJD	DA	DA	CONSERVATION SUBMISSION	
9/11/19	WS	DA	DA	CONSERVATION SUBMISSION	
9/25/19	WS	DA	DA	LANDSCAPING PLAN UPDATES	
9/26/19	WS	DA	DA	PLAN REVISIONS	
10/11/19	WS	DA	DA	REVISIONS PER PEER REVIEW	
10/25/19	WS	DA	DA	FINAL SET	

SCALES SHOWN ON DRAWINGS
ARE VALID ONLY WHEN PLOTTED
ARCH D 24" X 36"


C-1.0
EXISTING CONDITIONS PLAN



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October 25, 2019

David Albrecht

SITE USE PLAN
186 MAPLE STREET
BELLINGHAM, MA 02019

PROJECT NUMBER:
905-2400

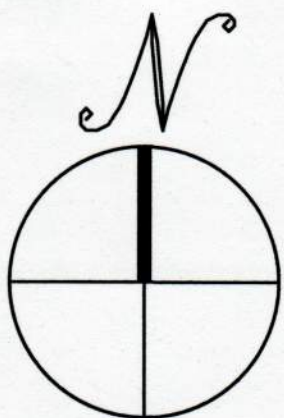
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	7/29/19	RJD	DA	CONSERVATION SUBMISSION
	9/11/19	—	DA	CONSERVATION SUBMISSION
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	10/11/19	WS	DA	REVISIONS PER PEER REVIEW
	10/25/19	WS	DA	FINAL SET

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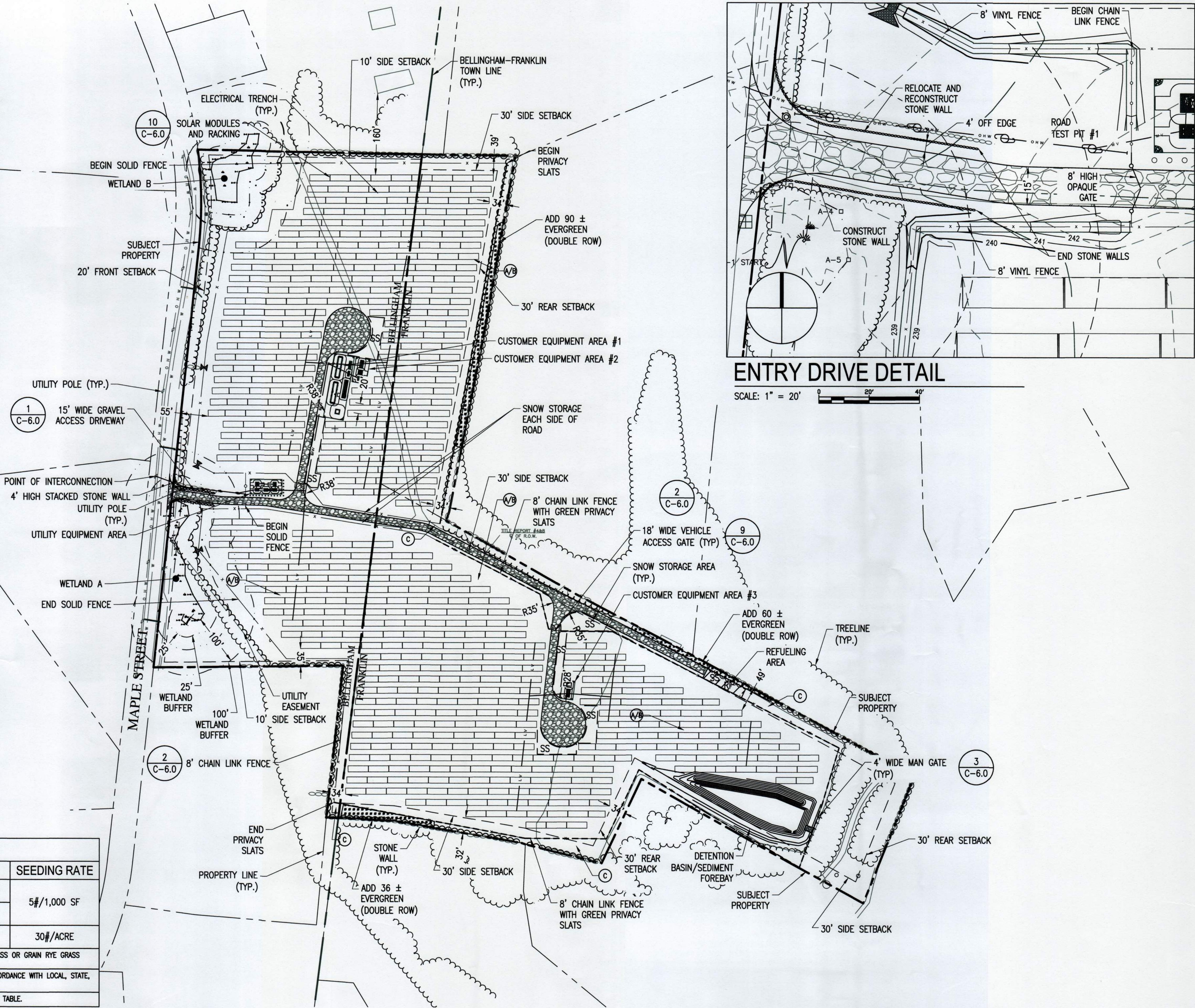
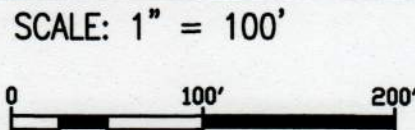
C-2.0
TREE CLEARING PLAN

Franklin Assessors Parcels 239-011/239-013 Zoned I - Industrial				
Large ground-mount systems		Required	Provided	Notes/Bylaw Section
Minimum Lot Area	square feet	40,000	577,600	
Frontage	feet	175'	N/A	No Frontage
Lot Depth	feet	200'	1,100'	
Front Yard	feet	40'	N/A	
Side Yard	feet	30'	34'	
Rear Yard	feet	30'	49'	
Max. Height of Bldg/Stories	feet	40/3	9.5' Racking	15' Energy Storage Units
Max. Impervious Coverage of Existing Upland	%	70%/80%	28.0%	2.9 acres of the 10.5 acres
Bellingham Assessors Parcel 32-007 Zoned I - Industrial				
Large ground-mount systems		Required	Provided	Notes/Bylaw Section
Minimum Lot Area	square feet	60,000	429,937	
Frontage	feet	200'	1,026'	
Front Yard	feet	20' / 100'	55'	
Side Yard	feet	10' / 30'	39'	See note 2.
Rear Yard	feet	20' / 100'	34'	See note 1.
Maximum Bldg. Height	feet	45'	9.5' Racking	15' Energy Storage
Notes:				
1. Increase to 100 feet for industrial buildings facing or adjoining a Residential, Suburban, or Agricultural District.				
2. For industrial or commercial uses, increase to 30 feet where adjoining an Agricultural, Suburban, Residential, or Multifamily District or residential use.				

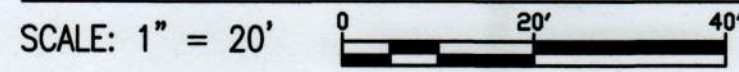
SEEDING SPECIFICATIONS				
	LOCATION	NAME/SPECIES	SUPPLIER	SEEDING RATE
A/B	BETWEEN AND UNDER SOLAR PANELS	REBEL TALL FESCUE, CHEWINGS FESCUE OR HARD FESCUE	SEEDLAND.COM	5#/1,000 SF
		ERNMX-129: CONSERVATION SHADE MIX	ERNST	
C	OUTSIDE OF FENCE	ERNMX-179: BUTTERFLY & HUMMINGBIRD GARDEN MIX	ERNST	30#/ACRE
1. BETWEEN DECEMBER 1ST AND APRIL 1ST, EACH TYPE OF SEED SHALL HAVE AN ADDITIONAL 1#/1,000 SF OF WINTER RYEGRASS OR GRAIN RYE GRASS SEED.				
2. IT SHALL BE THE SUB-CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE PROJECT LIMIT OF WORK IS STABILIZED (IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS/REQUIREMENTS/PERMIT APPROVALS) DURING THE LENGTH OF THE PROJECT.				
3. ALL DISTURBED AREAS SHALL BE RESTORED WITH 4" MINIMUM TOPSOIL & SEED PER SEEDING SPECIFICATIONS LISTED IN THIS TABLE.				



LAYOUT AND MATERIALS PLAN



ENTRY DRIVE DETAIL



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COMMONWEALTH OF MASSACHUSETTS
DAVID M. ALBRECHT
CIVIL
NO. 37310
REGISTERED PROFESSIONAL ENGINEER

October 25, 2019

David Albrecht

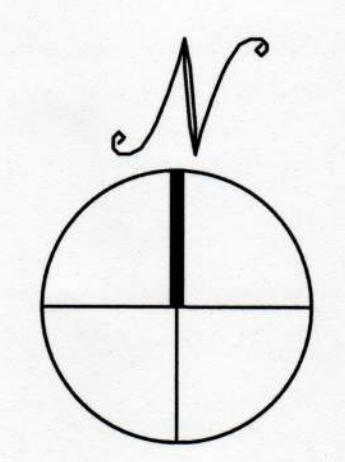
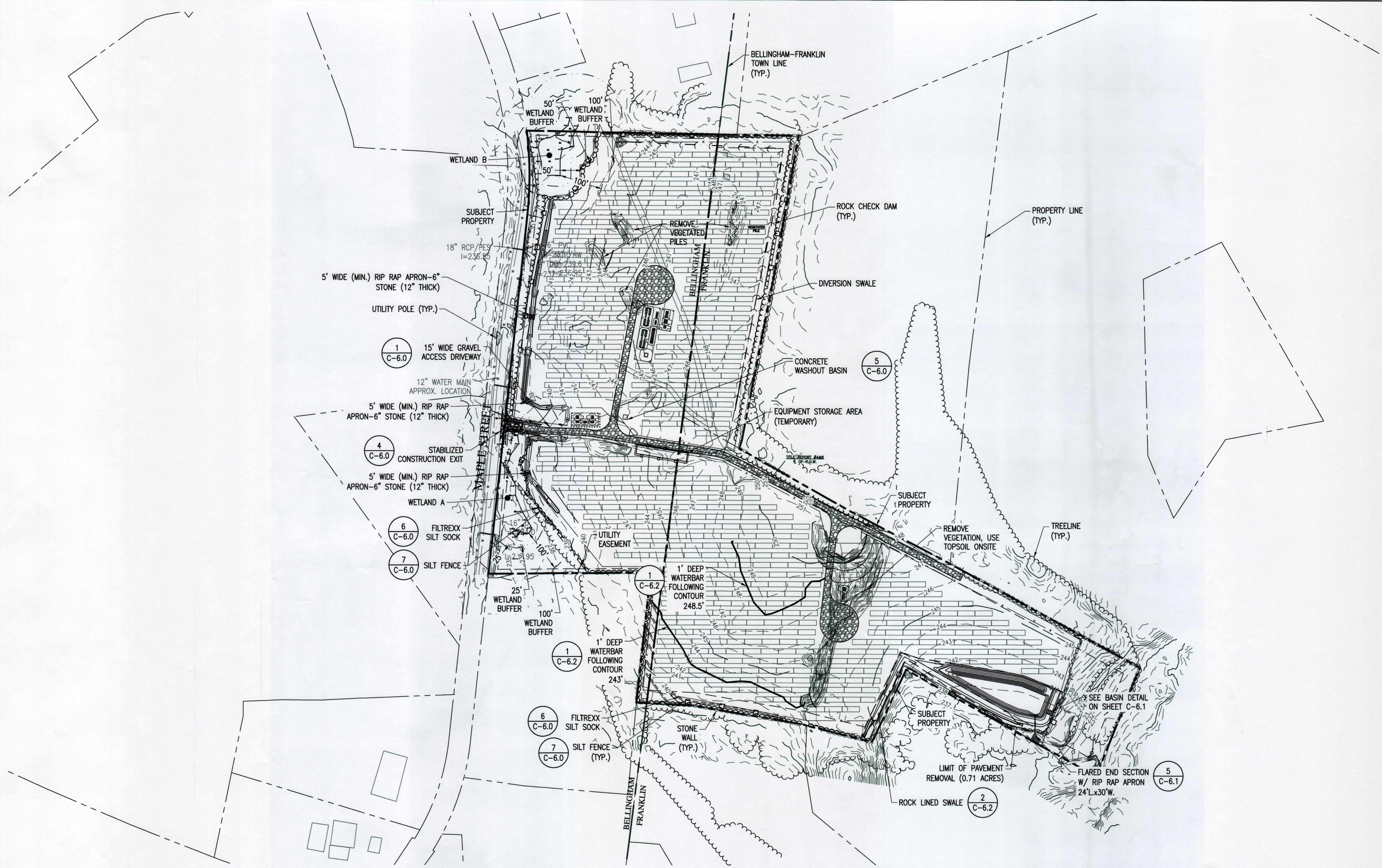
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SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED AT 11" X 17" & 30"

C-3.0
LAYOUT AND MATERIALS PLAN



GRADING AND EROSION CONTROL PLAN

SCALE: 1" = 100'

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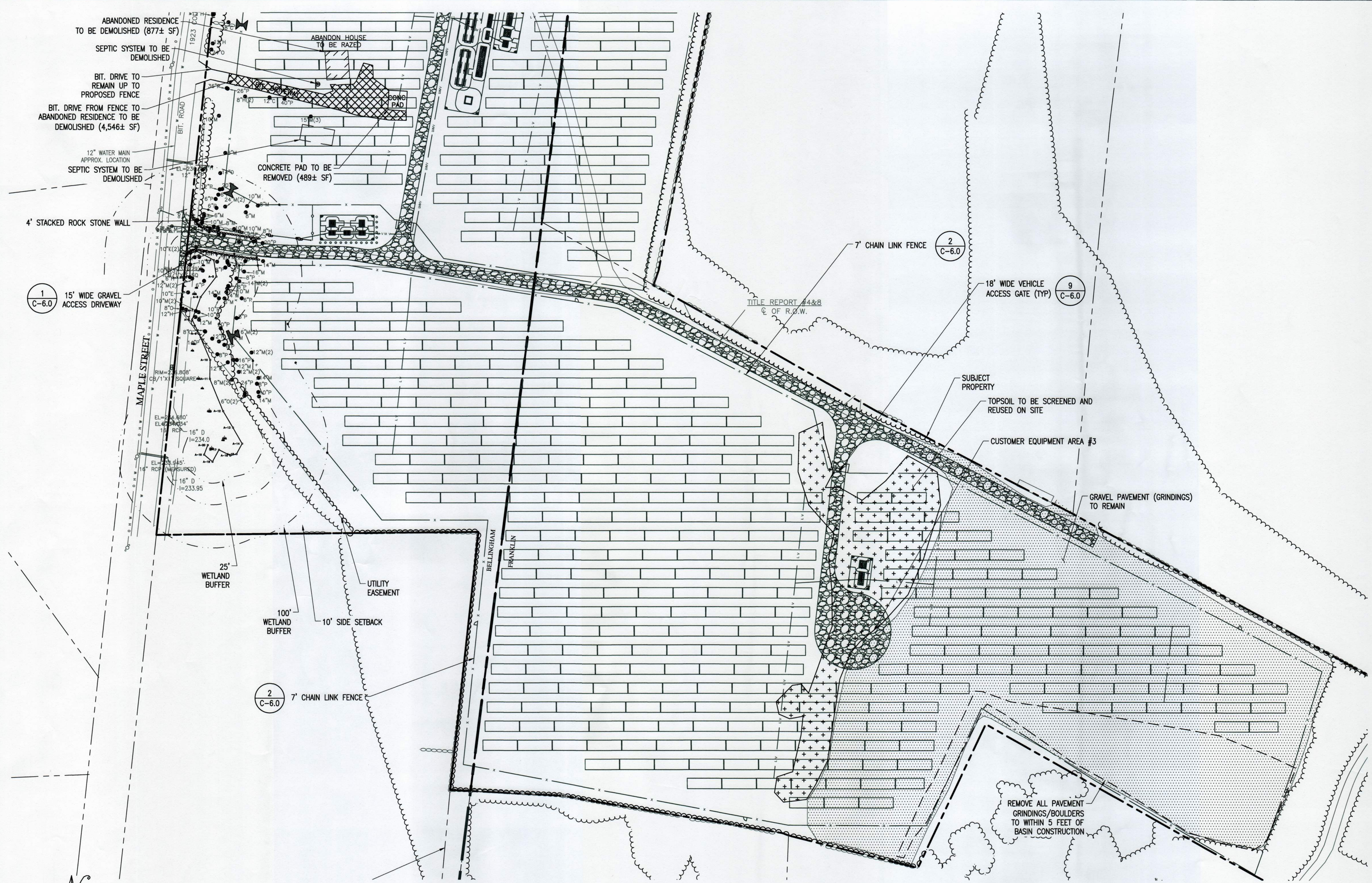
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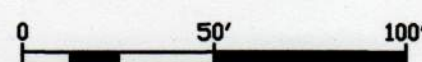
SCALE: 1" = 100'
AS SHOWN ON DRAWINGS
ARE VALID ONLY WHEN PLOTTED
ARCH D 24" X 36"

C-4.0
GRADING AND EROSION
CONTROL PLAN



DEMOLITION PLAN

SCALE: 1" = 100'

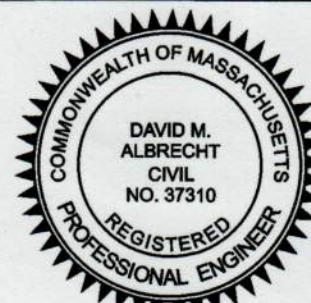


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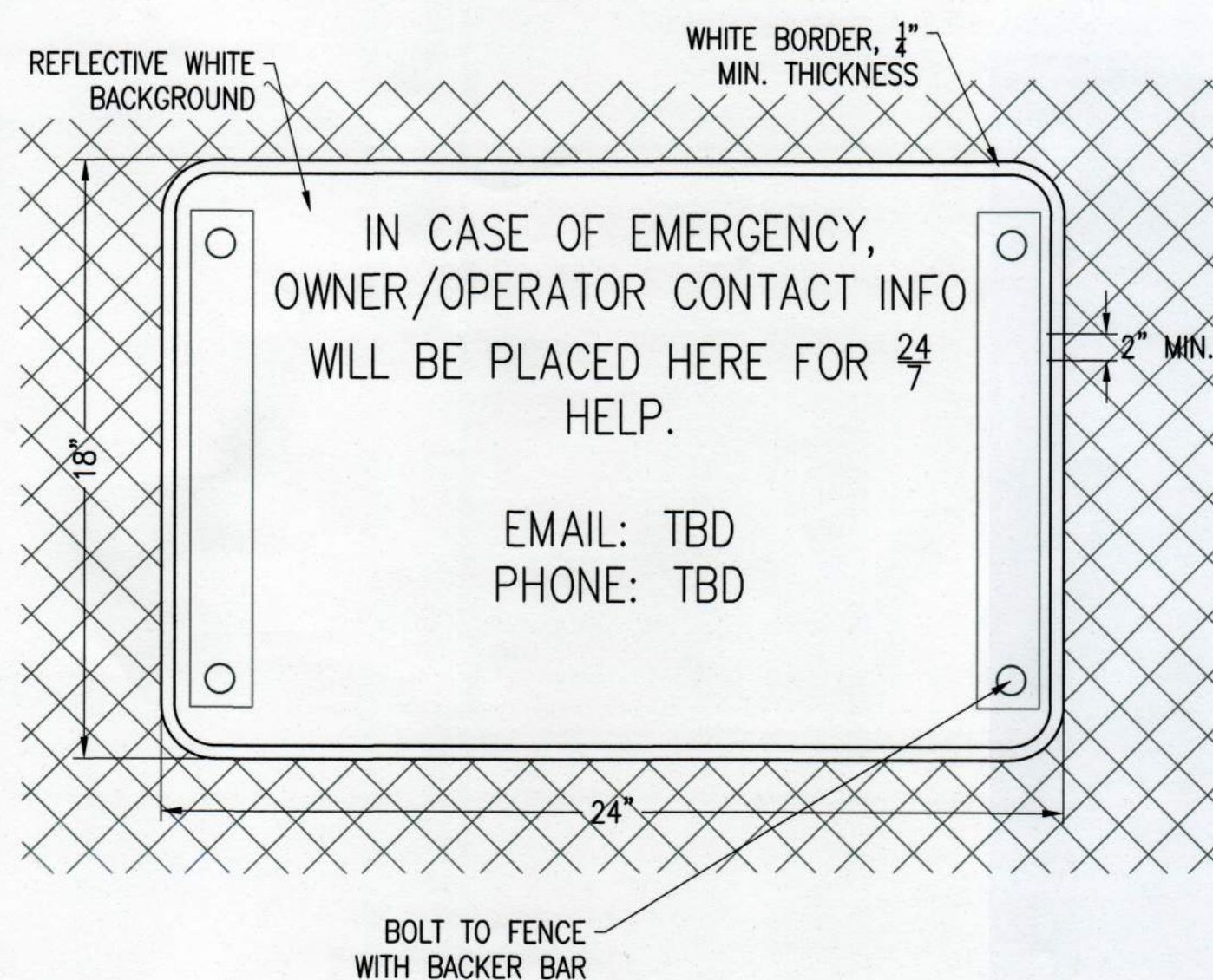
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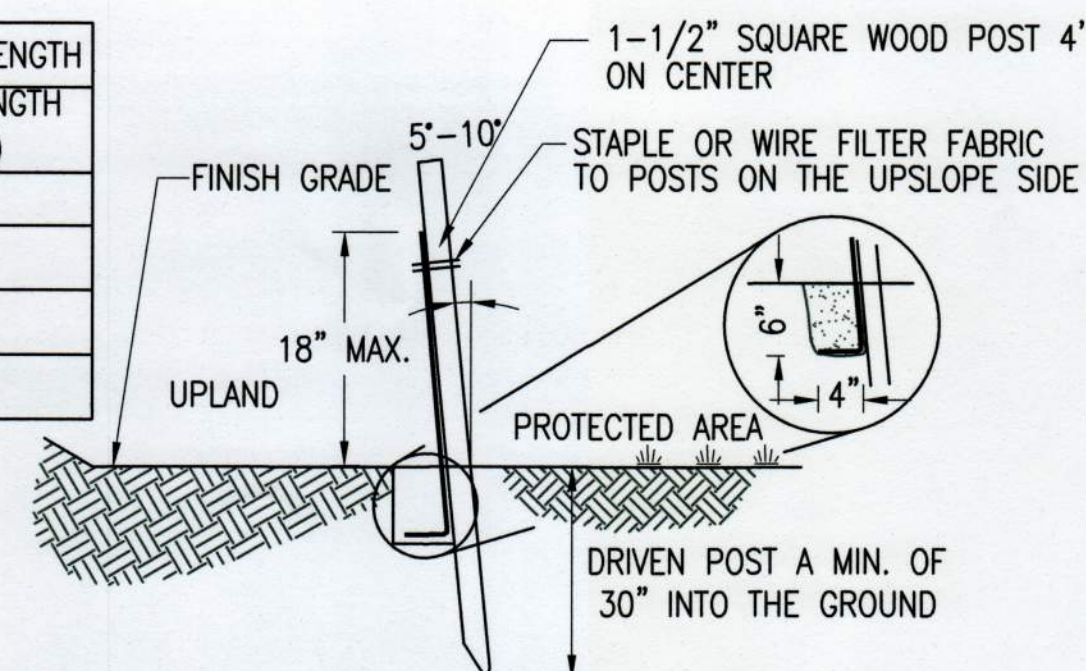
SCALES STATED ON DRAWINGS
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C-5.0

DEMOLITION PLAN

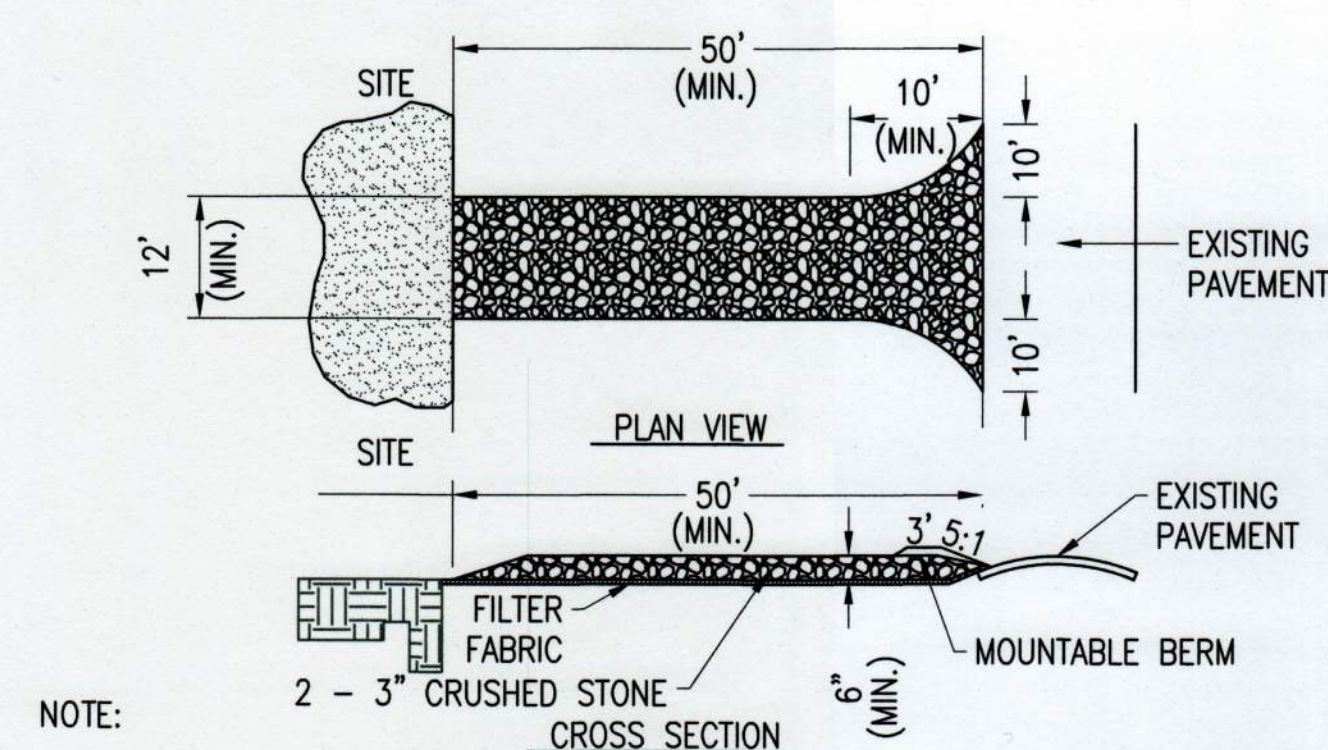


MAX ALLOWABLE SLOPE LENGTH	
STEEPNESS	MAX LENGTH (FT.)
2:1	25
3:1	50
4:1	75
5+:1	100



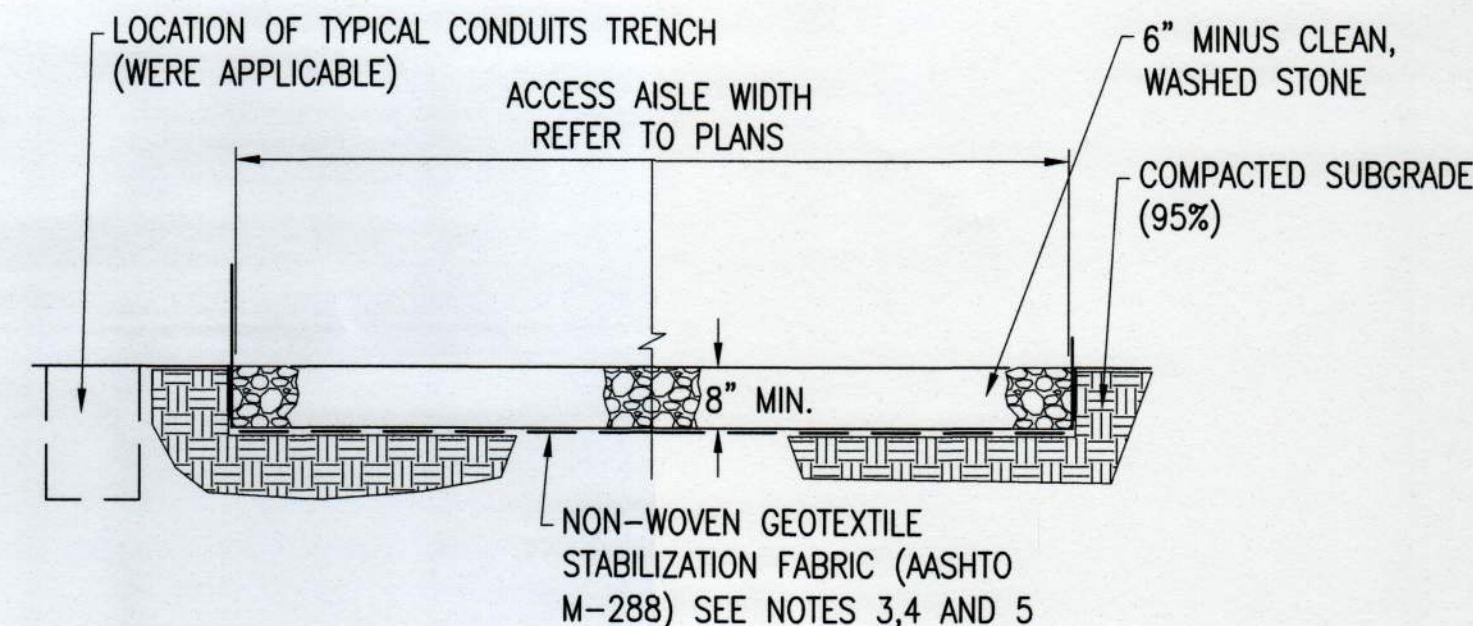
NOTES:

- MAX DRAINAGE AREA FOR OVERLAND FLOW SHALL NOT EXCEED 1/4 ACRE-FOOT PER 100 FEET OF FENCE.
- FILTER FABRIC TO BE FASTENED SECURELY TO FENCE POST WITH WIRE TIES OR STAPLES. POST SHALL BE STEEL EITHER "I" OR "U" SHAPED OR HARDWOOD.
- FILTER CLOTH SHALL BE FASTENED SECURELY WITH TIES SPACED EVERY 24" AT TOP AND MID-SECTION.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6 INCHES AND FOLDED. FILTER CLOTH SHALL BE FILTER X, MIRAFI 100X, STABILENKA T140N, OR APPROVED EQUAL.
- PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SEDIMENT FENCE.



NOTE:

- ENTRANCE WIDTH SHALL BE A TWENTY-FOUR (24) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.



NOTES:

- SUBCONTRACTOR SHALL EXCAVATE TO SUITABLE MATERIAL FOR SUBGRADE.
- SUBCONTRACTOR SHALL COMPACT SUBGRADE TO PROVIDE SUITABLE SURFACE TO PLACE ROAD.
- GEOTEXTILE FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS:
 - TENSILE STRENGTH: 150 LB MIN.
 - ELONGATION: 50%
 - CBR PUNCTURE: 400 LB MIN.
 - MINIMUM WATER FLOW RATE: 120 GPM / FT²
- SUBCONTRACTOR SHALL FOLLOW GEOTEXTILE FABRIC MANUFACTURER INSTALLATION PROCEDURES.
- WHERE OVERLAPPING OF GEOTEXTILE FABRIC IS REQUIRED, SUBCONTRACTOR SHALL OVERLAP A MINIMUM OF 24".
- SUBCONTRACTOR SHALL REMOVE TEMPORARY CONSTRUCTION ACCESS ROADS, AND RESTORE TO PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE CEOR AND THE GOVERNING AGENCIES.

8 EMERGENCY CONTACT SIGN

LOCATED AT VEHICLE GATES

SCALE: NTS
XD_CIVIL_ADR_SIGNAGE_EMERGENCY 2016-2-22

7 SILT FENCE

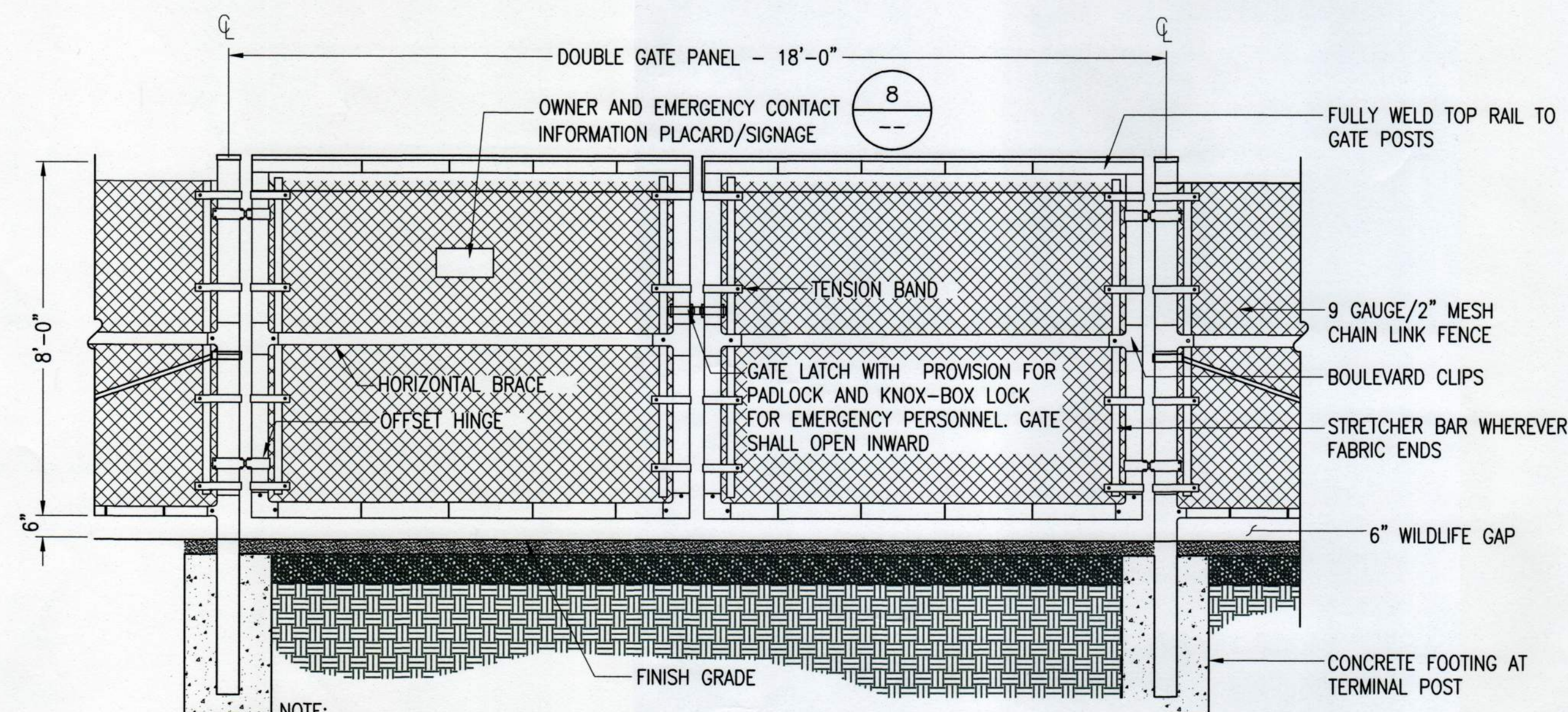
SCALE: NTS
XD_CIVIL_EROSION_SILT_FENCE_P 2014-10-17

4 STABILIZED CONSTRUCTION EXIT

SCALE: NTS

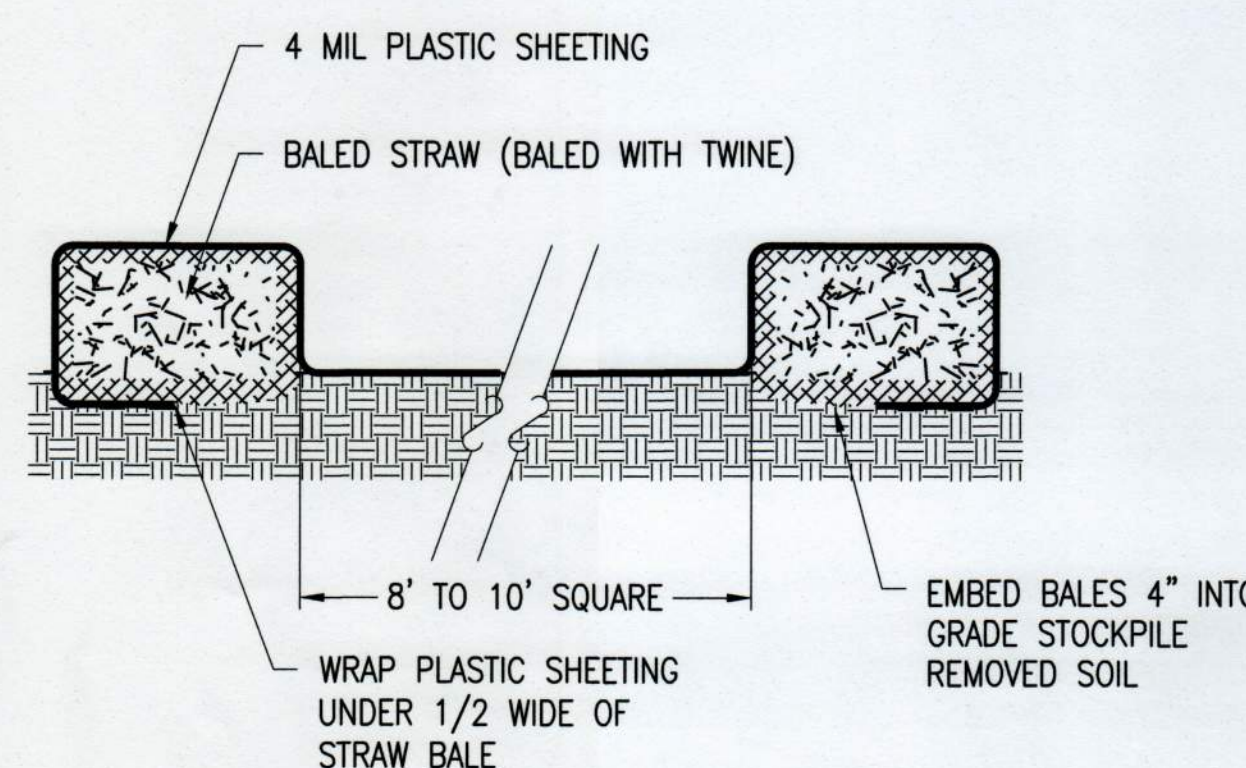
1 GRAVEL ACCESS ROAD

SCALE: NTS
XD_CIVIL_GRAVEL_ROAD_NY 07-24-2017



9 VEHICLE GATE - WILDLIFE GAP

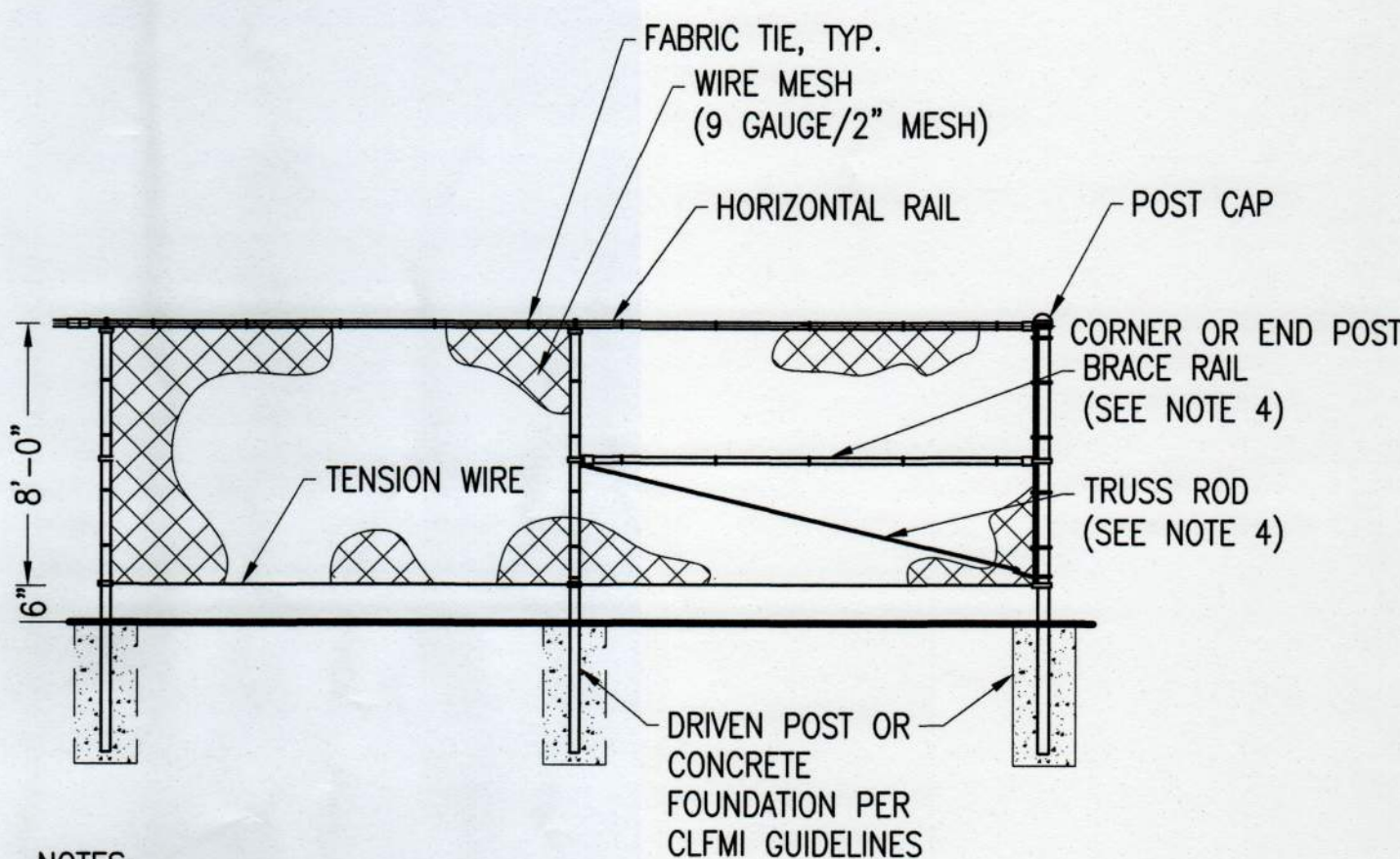
SCALE: NTS
XD_CIVIL_FENCE_VEHICLE_GATE_T 10-23-2016



NOTE: PLASTIC SHEETING SHALL BE FREE OF TEARS OR HOLES. AFTER BASIN IS USED, WASHWATER FROM WASHOUT BASIN SHALL EVAPORATE OR BE VACUUMED OUT. REMOVE REMAINING HARDENED SOLIDS. REPLACE PLASTIC SHEETING AND STRAWBALES AS REQUIRED.

5 CONCRETE WASHOUT BASINS

SCALE: NTS
XD_CIVIL_CONCRETE_WASHOUT_BASINS 07-24-2017

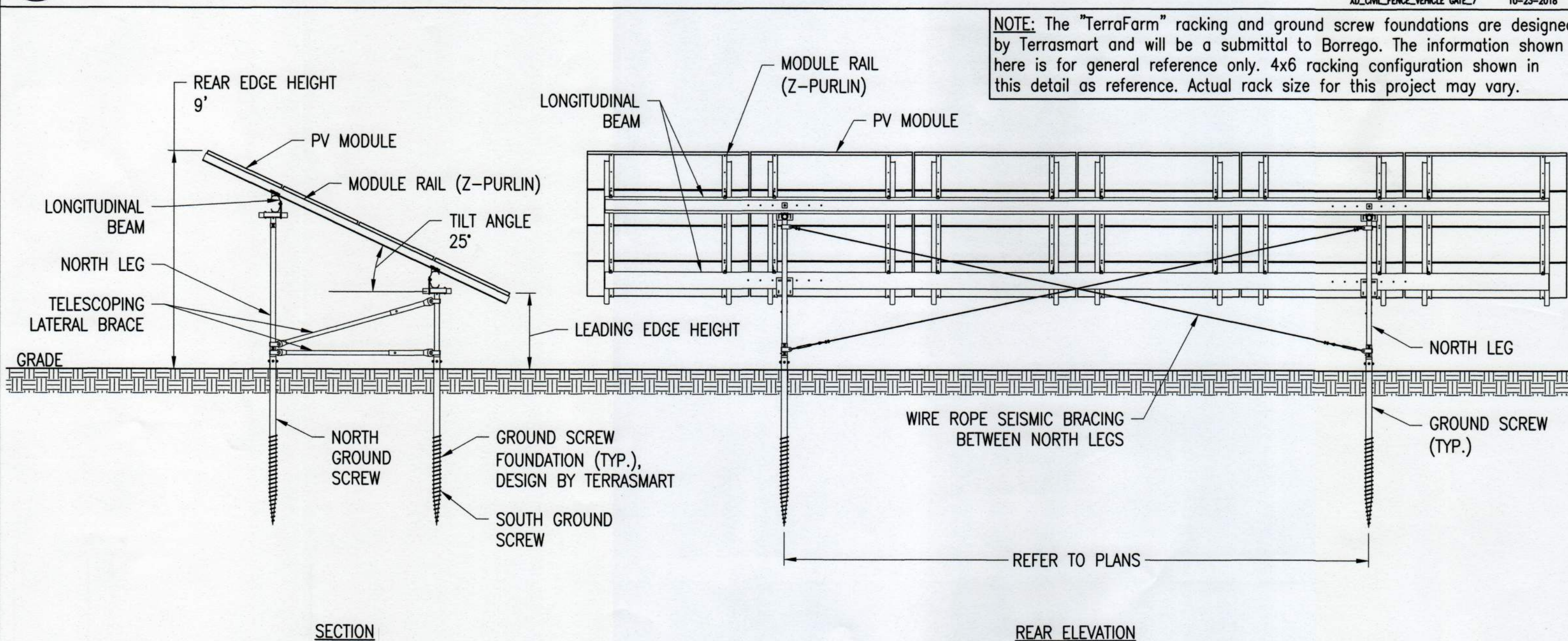


NOTES:

- THE FENCE SHALL MEET OR EXCEED THE CHAIN LINK FENCE MANUFACTURER INSTITUTE (CLFMI) GUIDELINES AND RELATED FEDERAL SPECIFICATIONS FOR SECURITY CHAIN LINK FENCE MATERIALS AND INSTALLATION.
- FENCE MATERIAL AND COMPONENTS SHALL BE GALVANIZED, UNLESS OTHERWISE NOTED.
- THIS DETAIL NOT APPLICABLE FOR PRIVACY FENCE OR FENCE WITH SLATS.
- ADJUSTABLE TRUSS ROD AND BRACE RAIL AT CORNER OR END POSTS ONLY, IF REQUIRED BY CLFMI GUIDELINES.

2 CHAIN LINK FENCE - WILDLIFE GAP

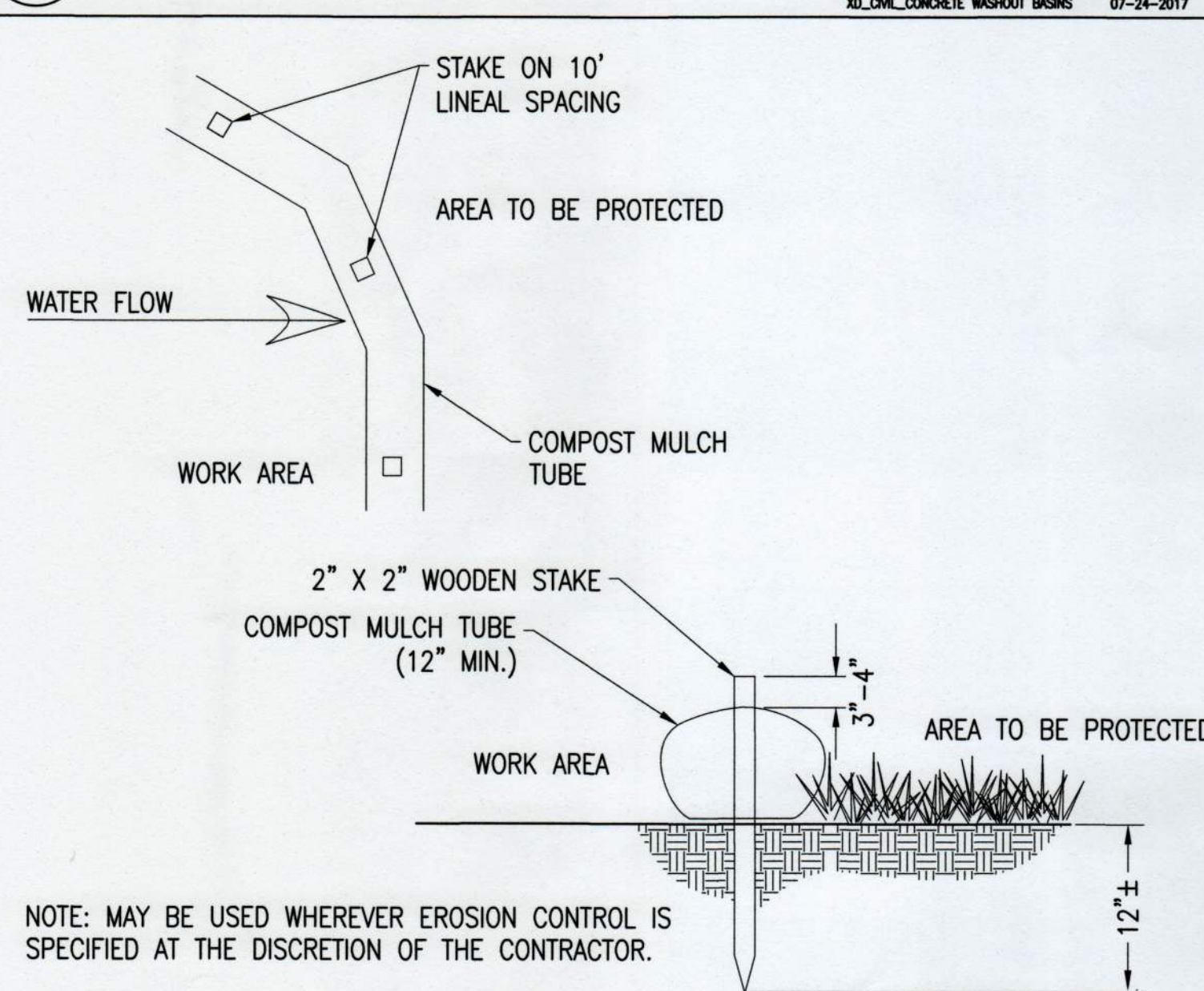
SCALE: NTS
XD_CIVIL_FENCE_2_CHAIN_LINK_WILDLIFE_GAP 06-27-2016



10 TYPICAL RACK SECTION & REAR ELEVATION

TERRASMAST TF3L

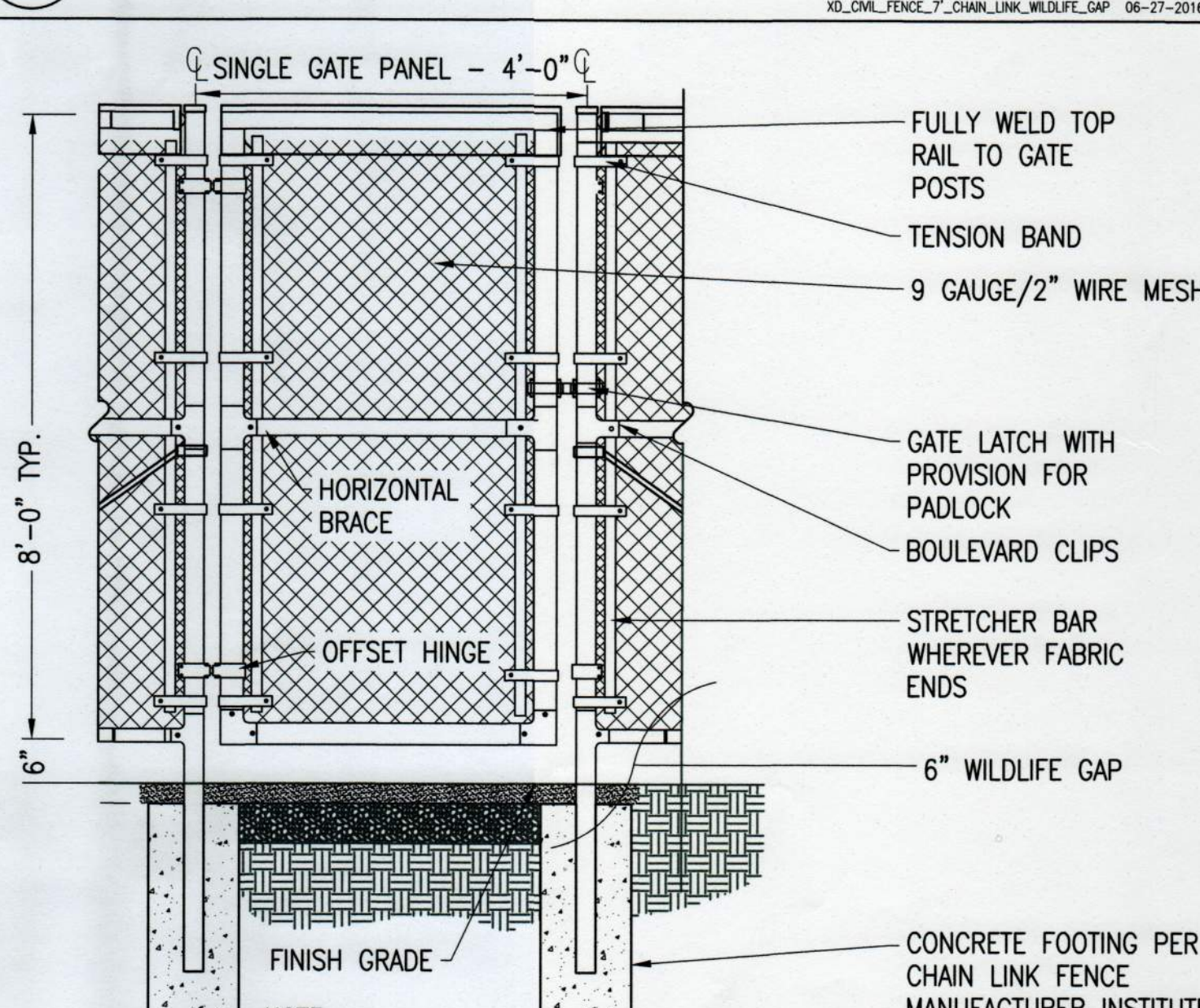
SCALE: NTS
XD_STRUCT_TERRASMAST_TF3L_RACK_SECTION_REAR_ELEV 2016-12-03



NOTE: MAY BE USED WHEREVER EROSION CONTROL IS SPECIFIED AT THE DISCRETION OF THE CONTRACTOR.

6 MULCH TUBE

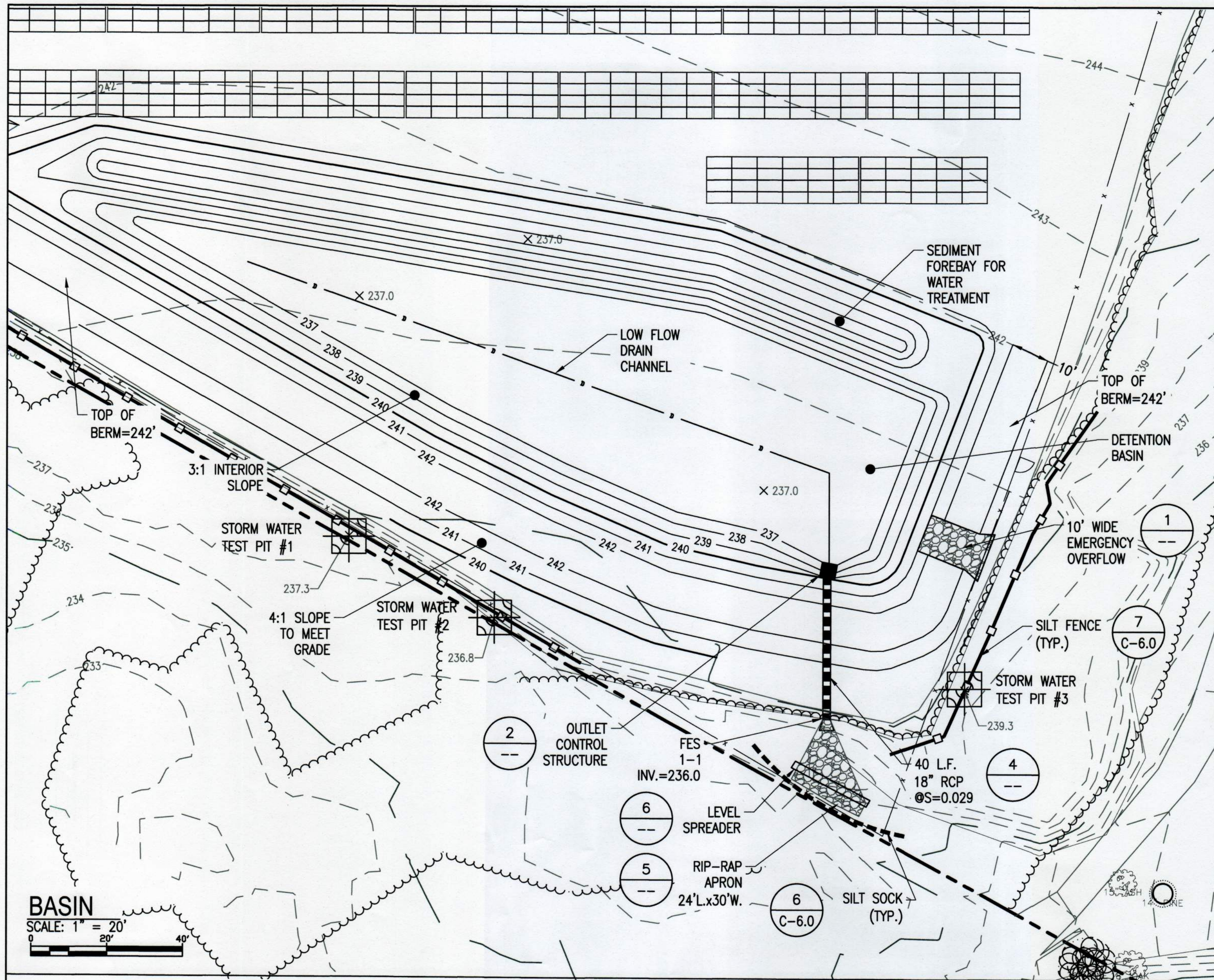
SCALE: NTS
XD_CIVIL_FILTER_FILT_SOCK 03-29-2016



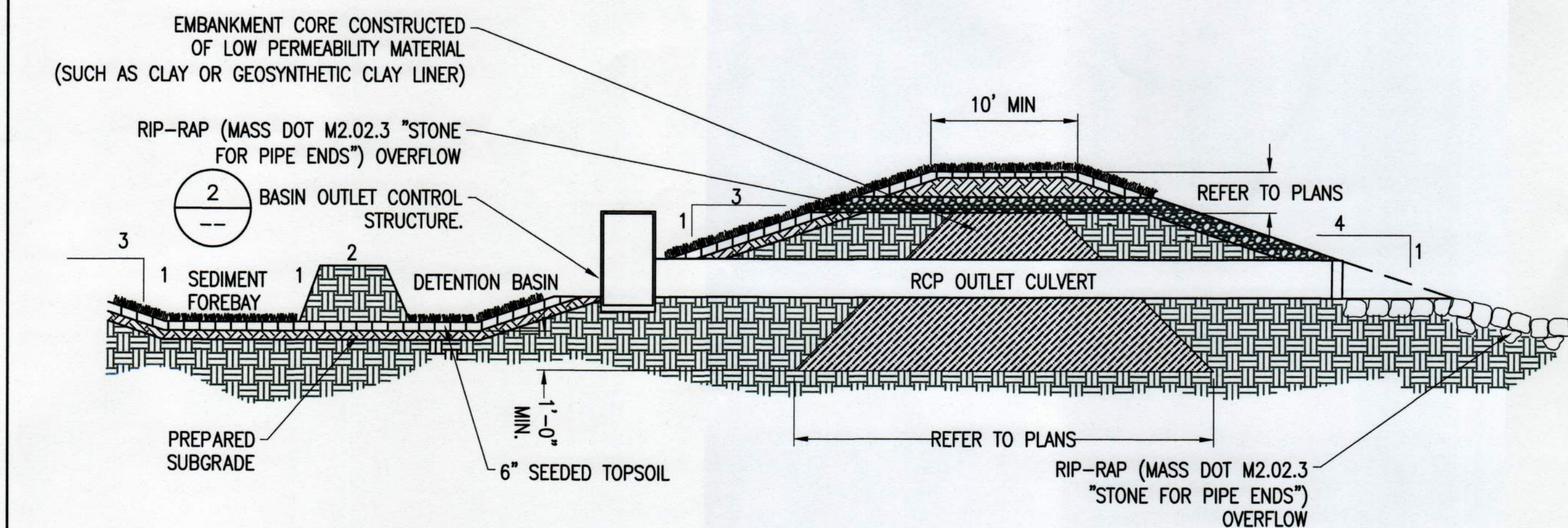
3 4' MAN GATE - WILDLIFE GAP

SCALE: NTS

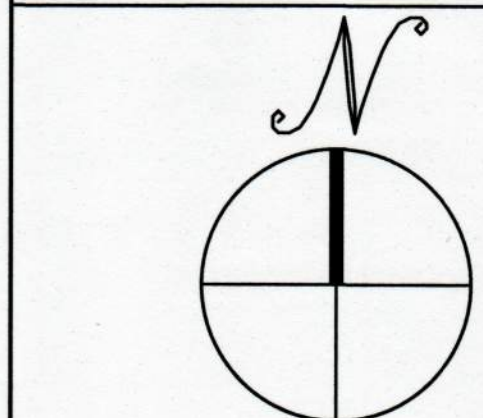
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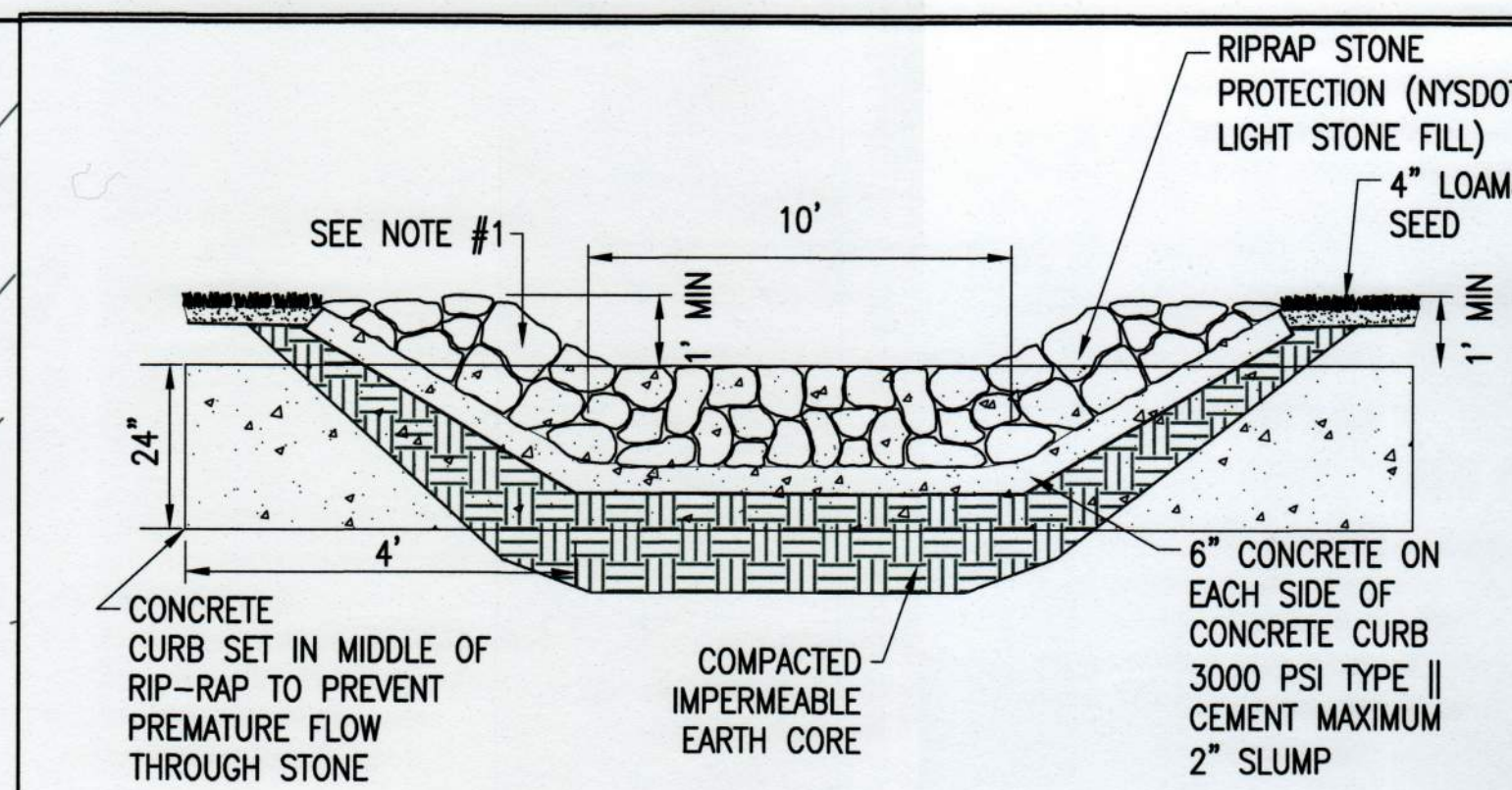
- NOTES:
1. ALL DIMENSIONS TO BE COORDINATED WITH PLANS
2. THE BOTTOM AND SIDE SLOPES SHALL BE SEEDED WITH A MIX OF [2#/AC RED TOP, 15#/AC CREEPING RED FESCUE, 20#/AC TALL FESCUE] THE MIX SHALL NOT HAVE GREATER THAN 10% ANNUAL RYE GRASS.



3 DETENTION BASIN WITH OUTLET CONTROL STRUCTURE

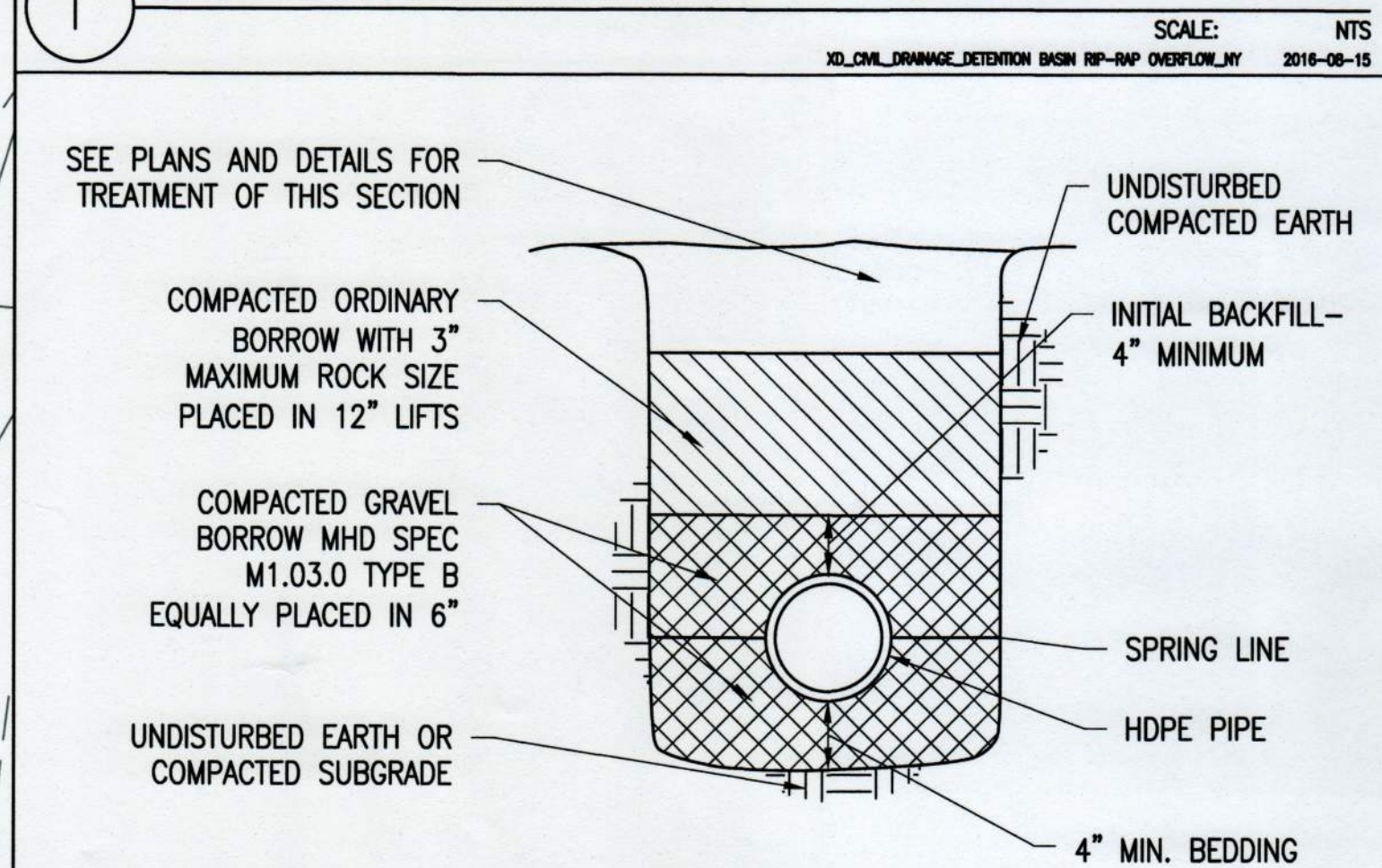


BASIN DETAILS



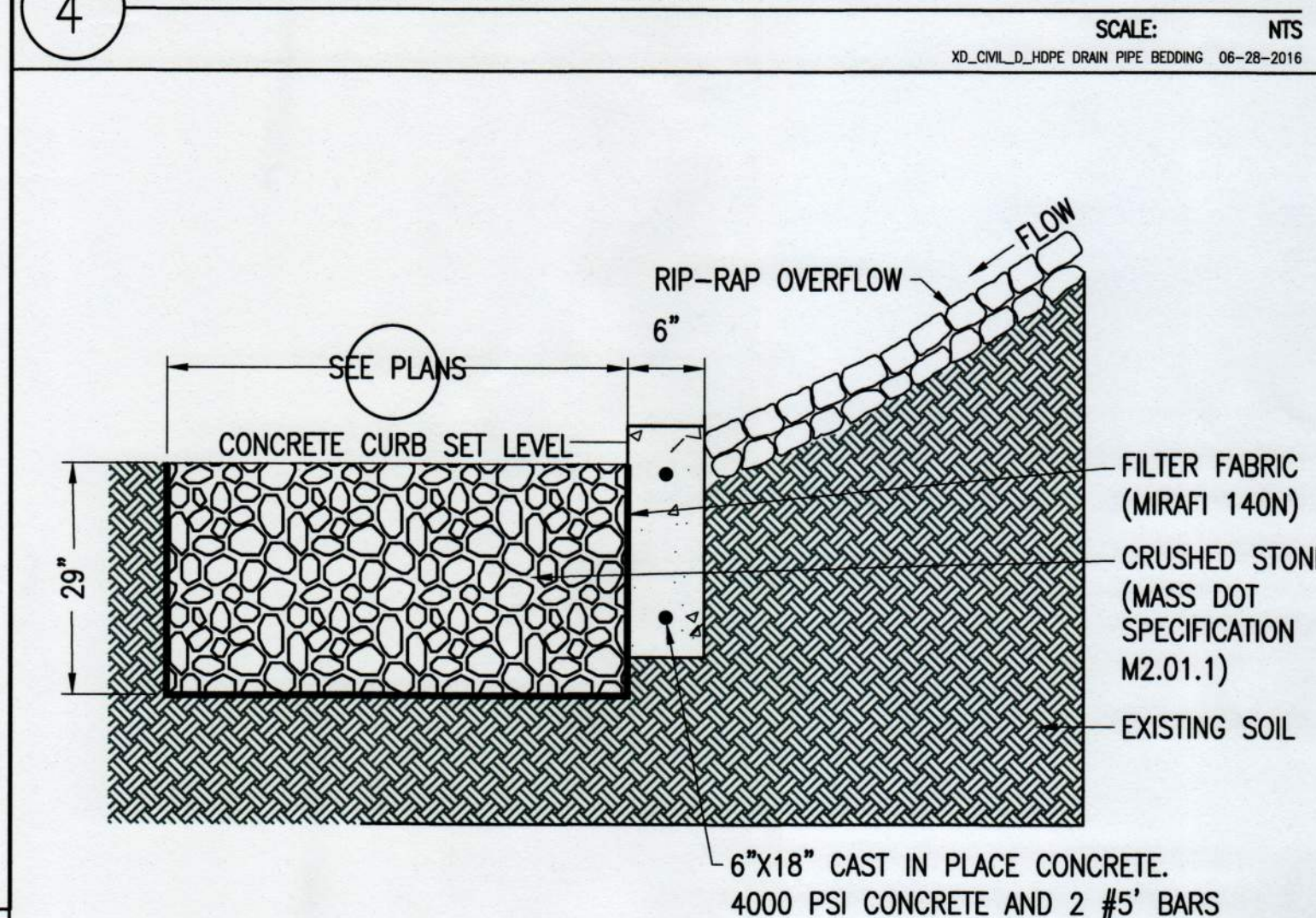
- NOTES:
1. HAND SET FIRST LAYER OF RIPRAP INTO CONCRETE TO APPROXIMATELY MID-DEPTH OF THE LAYER.
2. HAND PLACE REMAINING RIPRAP AFTER CONCRETE HAS SET AND CHINK WITH SMALLER STONES.

1 DETENTION BASIN RIP-RAP OVERFLOW

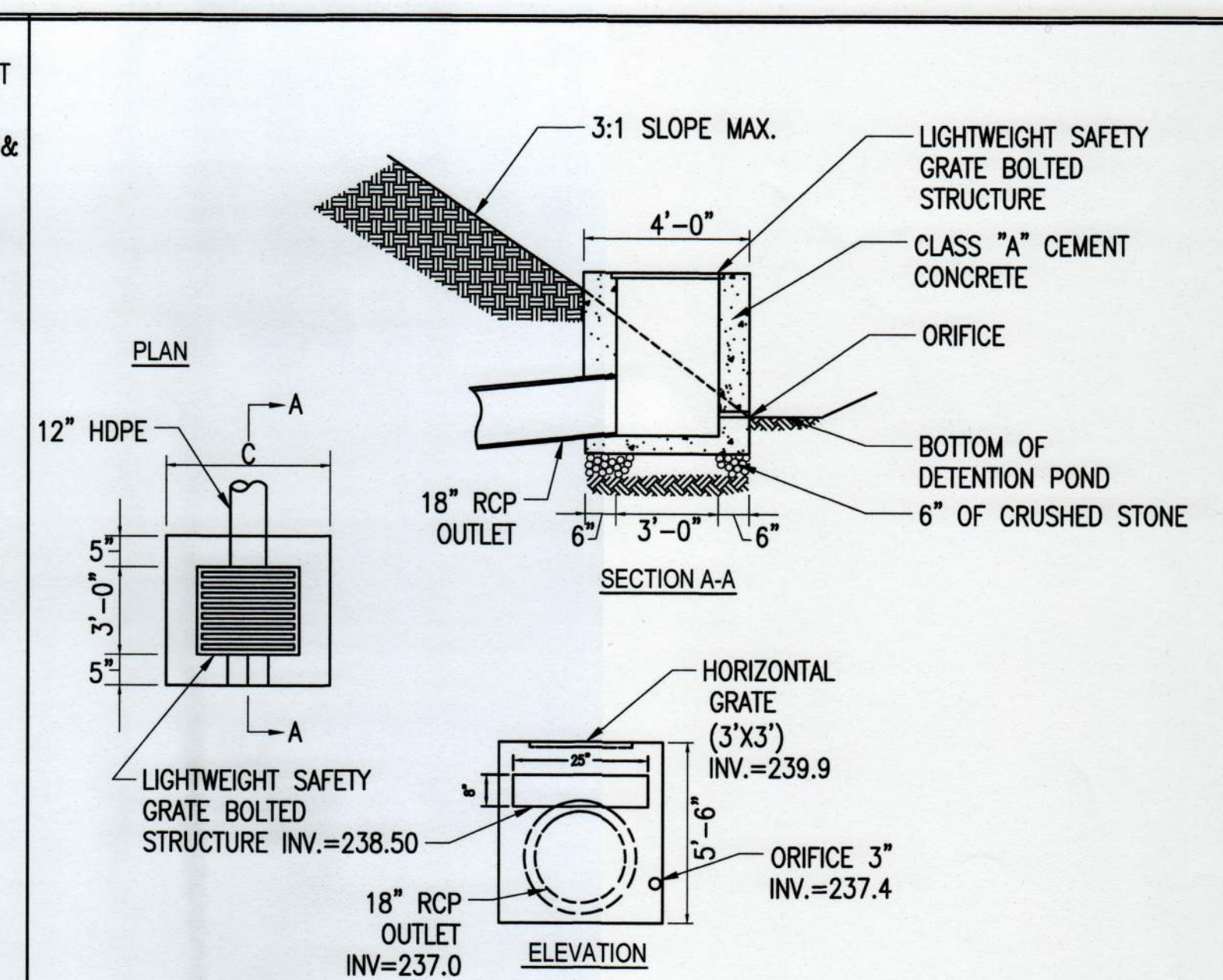


- NOTES:
1. TRENCH EXCAVATION WIDTH TO ALLOW FOR FREE TRAVEL OF COMPACTION EQUIPMENT.
2. ALL COMPACTION TO A MINIMUM 95 PERCENT DRY DENSITY DETERMINED BY ASTM D1557 SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

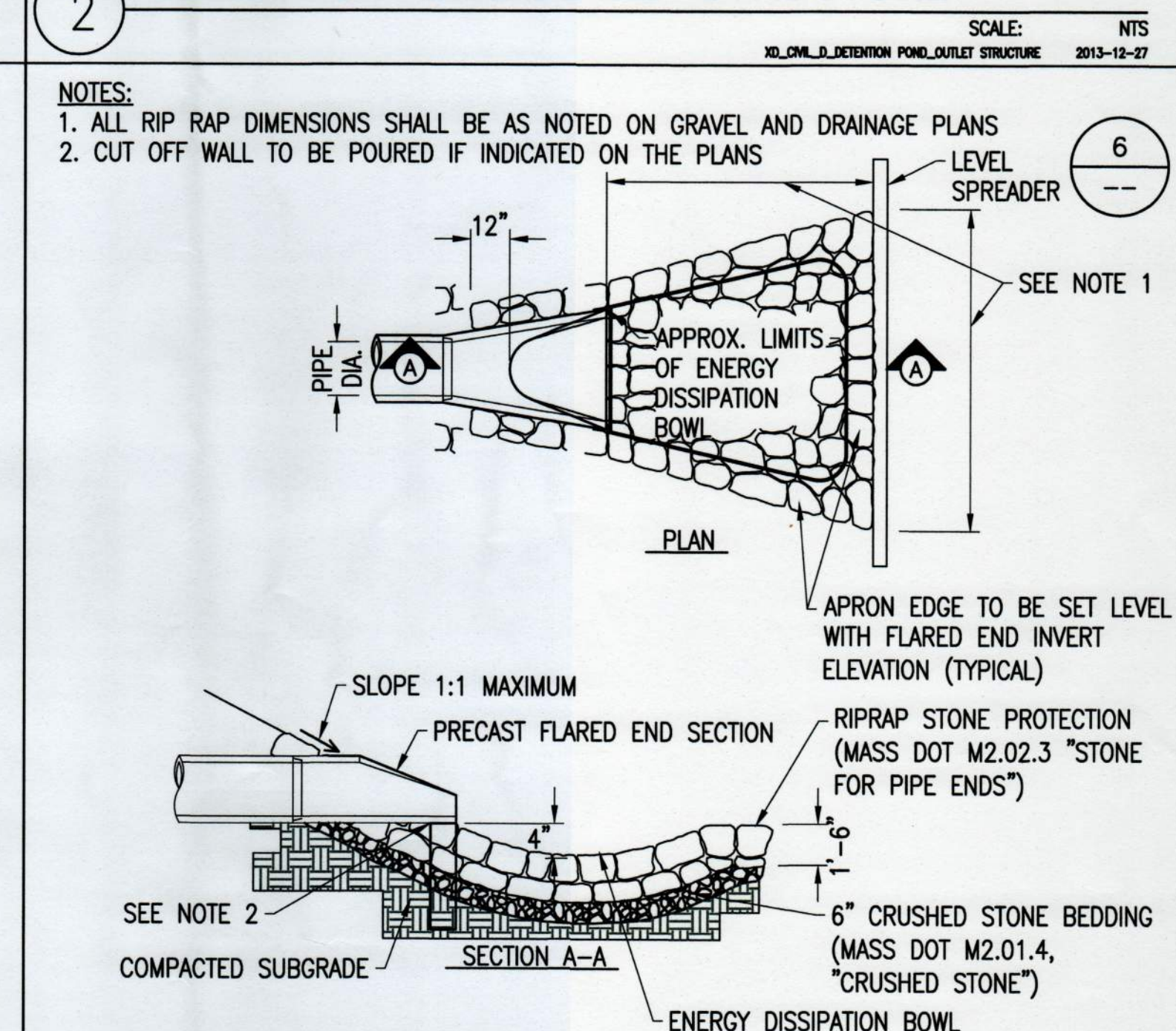
4 RCP DRAIN PIPE BEDDING



6 LEVEL SPREADER



2 DETENTION POND OUTLET STRUCTURE



5 FLARED END SECTION/RIP-RAP APRON

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REGISTERED PROFESSIONAL ENGINEER
October 25, 2019

David A. [Signature]

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5	9/26/19	WS	DA	DA	DA	DA	DA	DA	DA	DA	
6	10/11/19	WS	DA	DA	DA	DA	DA	DA	DA	DA	
7	10/25/19	WS	DA	DA	DA	DA	DA	DA	DA	DA	

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C-6.1
BASIN DETAILS



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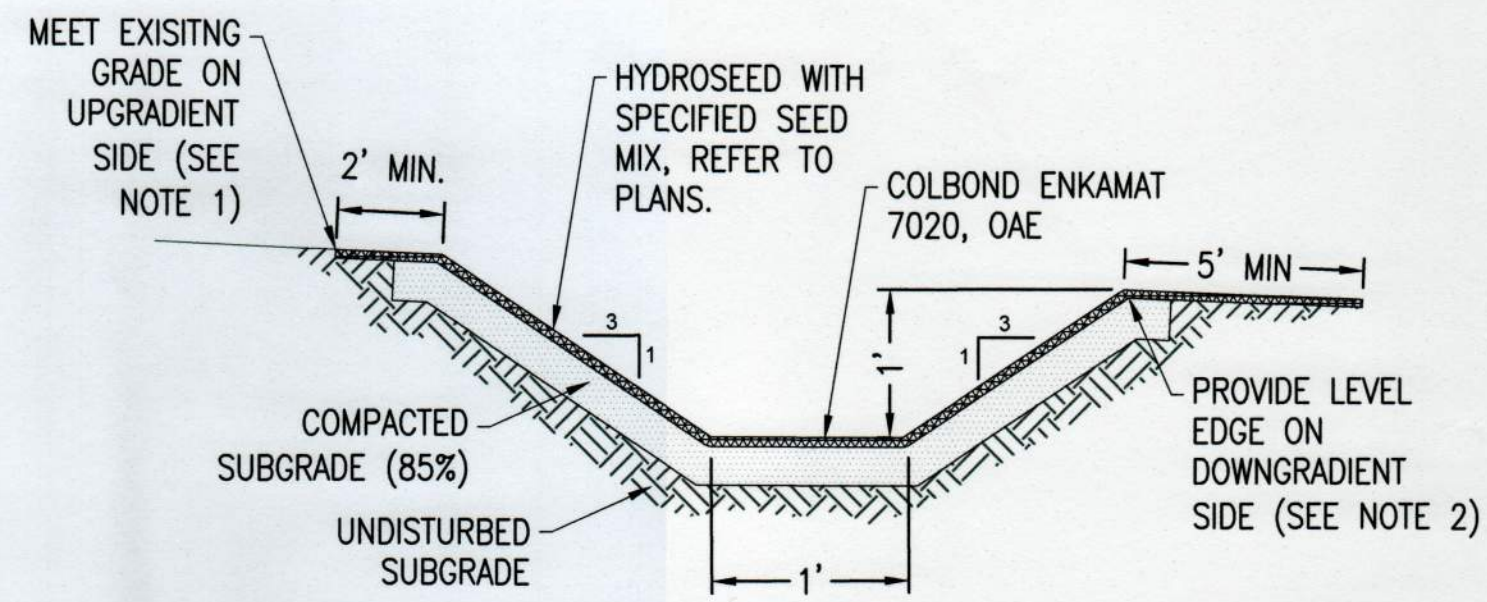
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C-6.2
CIVIL DETAILS

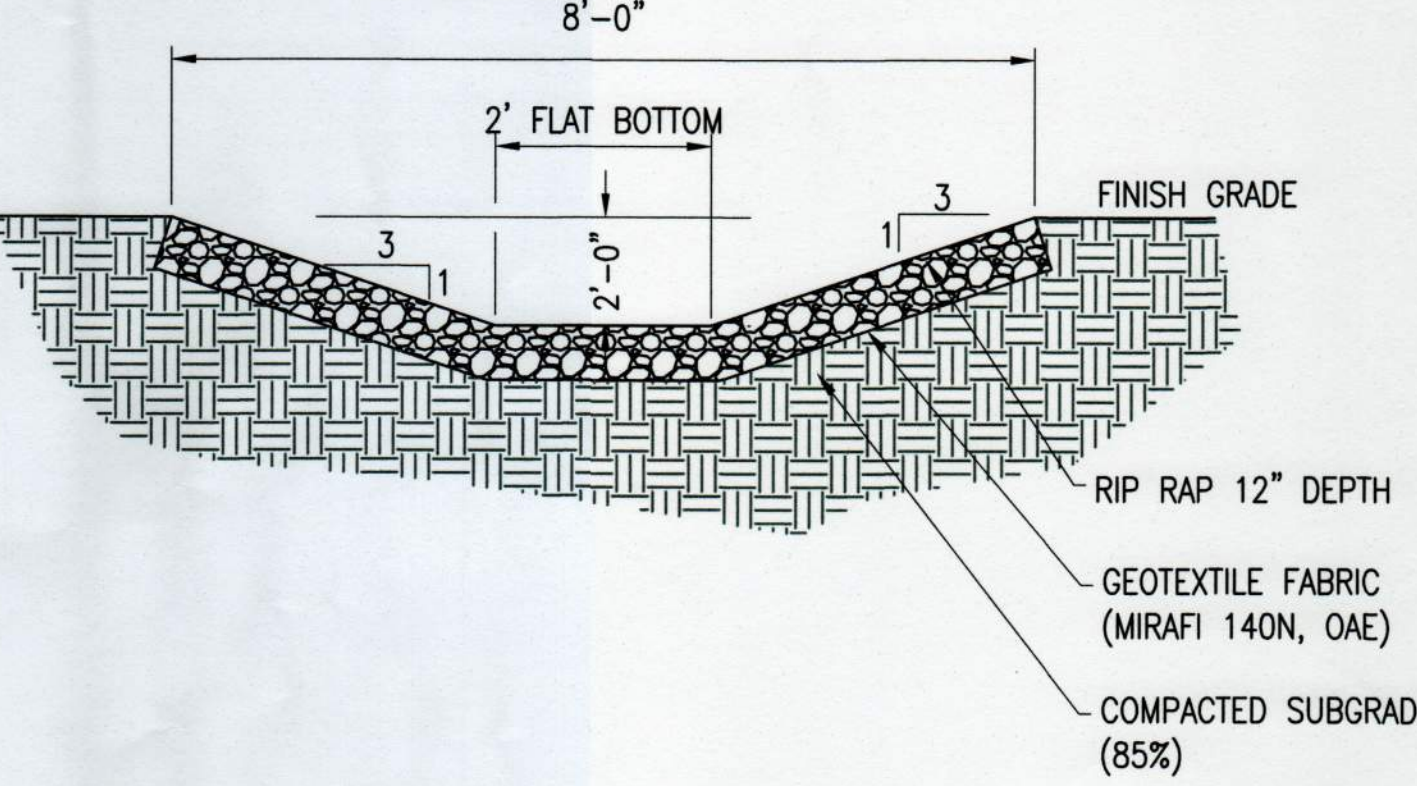


NOTES:

1. UPGRADIENT SIDE OF WATER BAR SHALL MEET EXISTING GRADE.
2. DOWNGRADIENT SIDE OF WATER BAR SHALL BE CONSTRUCTED TO PROVIDE A LEVEL EDGE AT A SINGLE, CONSISTENT ELEVATION. REFER TO PLANS FOR WATER BAR ELEVATION.
3. PRIOR TO INSTALLING ENKAMAT, THE WATER BAR LOCATION AND CONTOUR ELEVATION SHALL BE STAKED OUT AND APPROVED BY THE CIVIL ENGINEER.

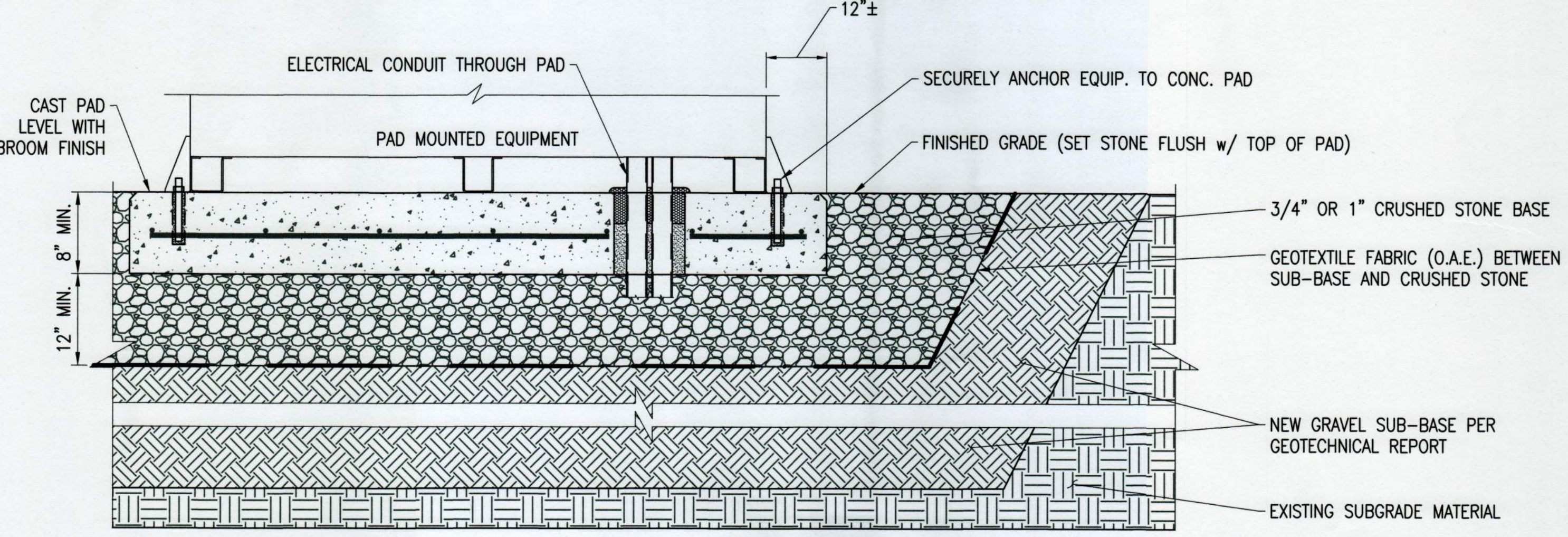
1 WATERBAR DETAIL

SCALE: NTS
XD_CIVIL_DRAINAGE_WATER_BAR_ENKAMAT 7020 UNED 2019-08-20



2 ROCK-LINED SWALE

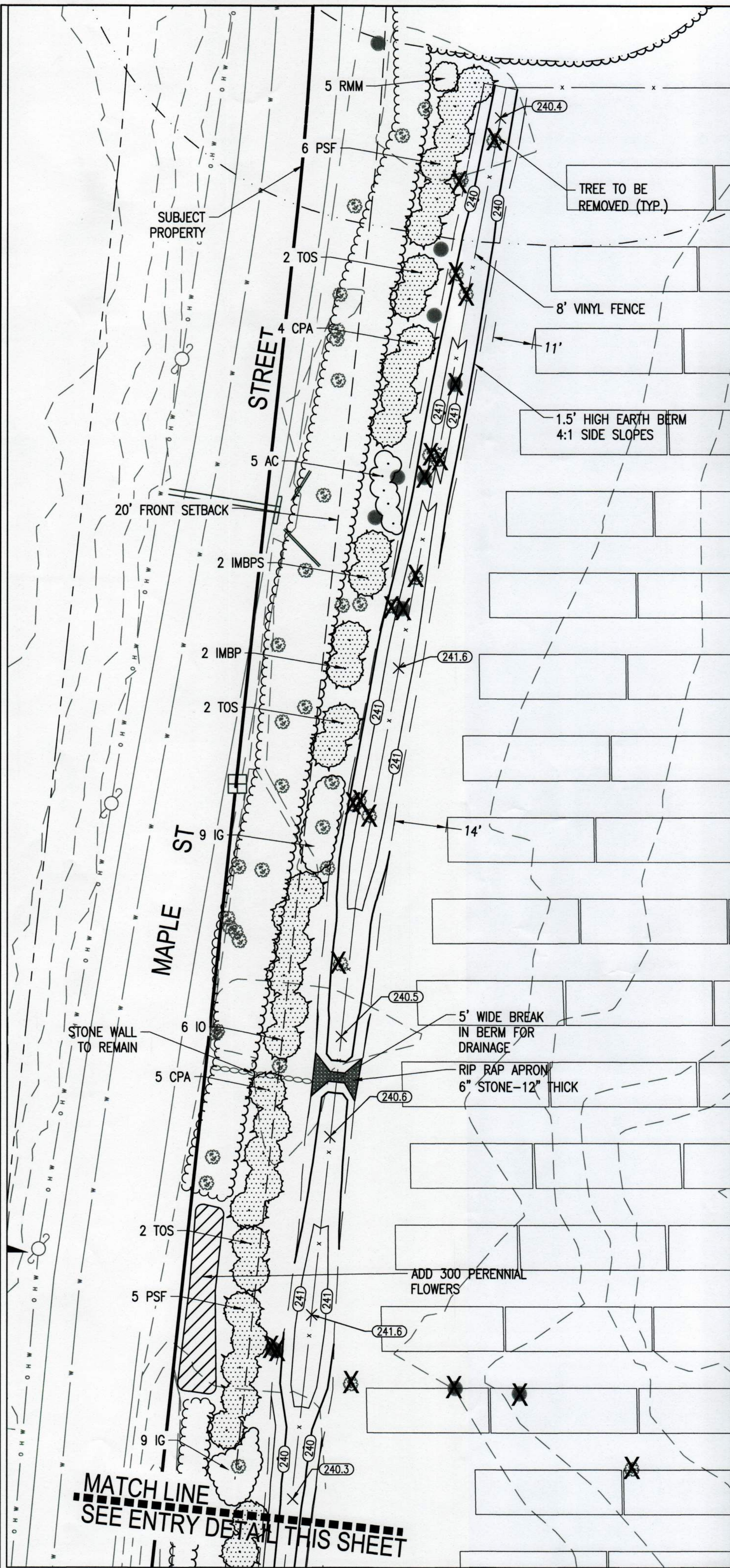
SCALE: NTS
XD_CIVIL_DRAINAGE_ROCK-LINED_SWALE 08-27-2016



NOTE: CONSTRUCTION LEVEL DETAIL WILL INCORPORATE FINAL EQUIPMENT SPECIFICATIONS AND GEOTECHNICAL RECOMMENDATIONS

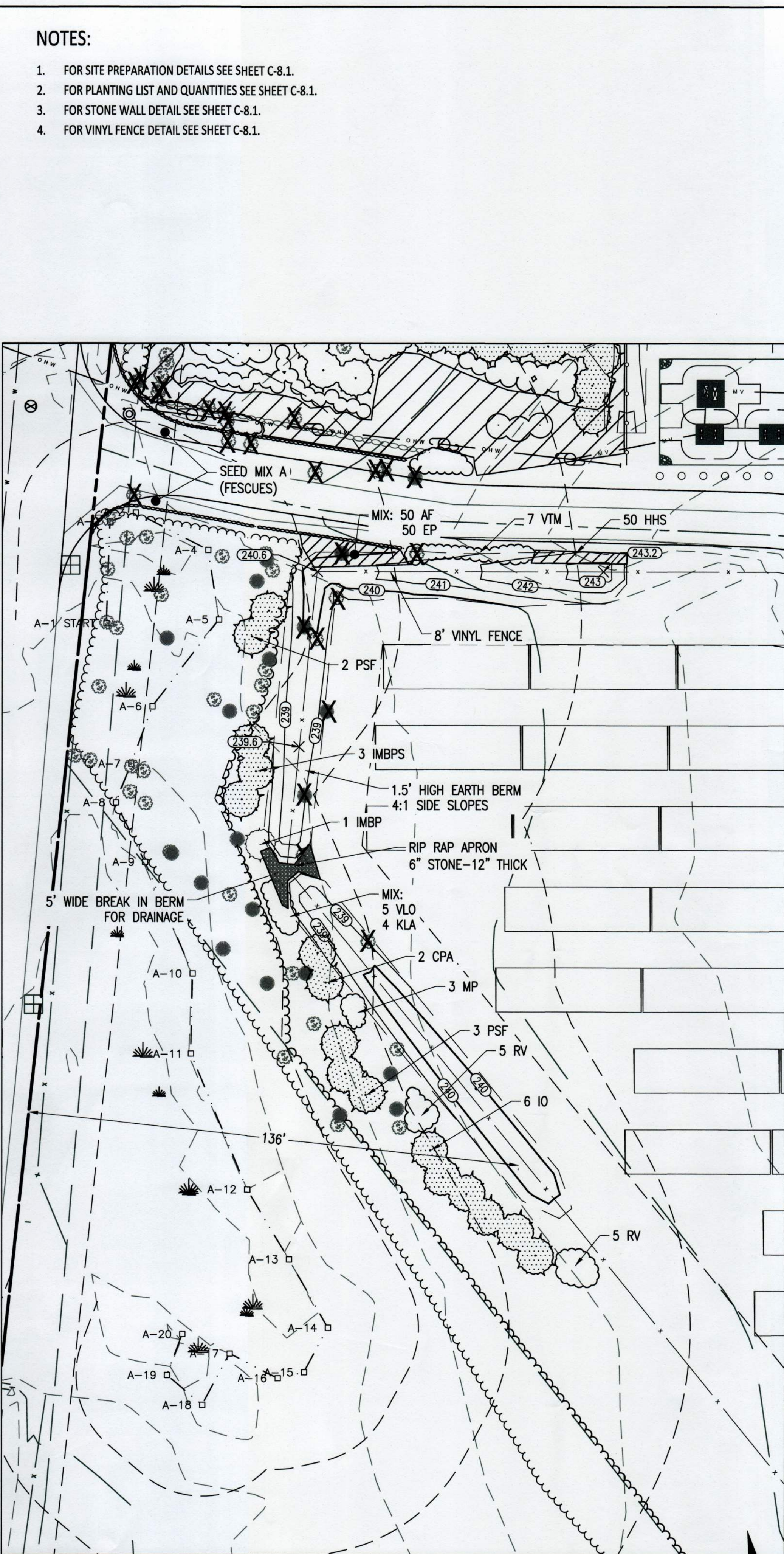
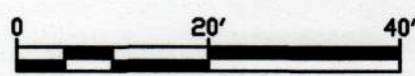
3 CONCRETE EQUIPMENT PAD - SECTION

SCALE: N.T.S.
XD_CIVIL_EQUIPMENT_PAD 2018-08-06



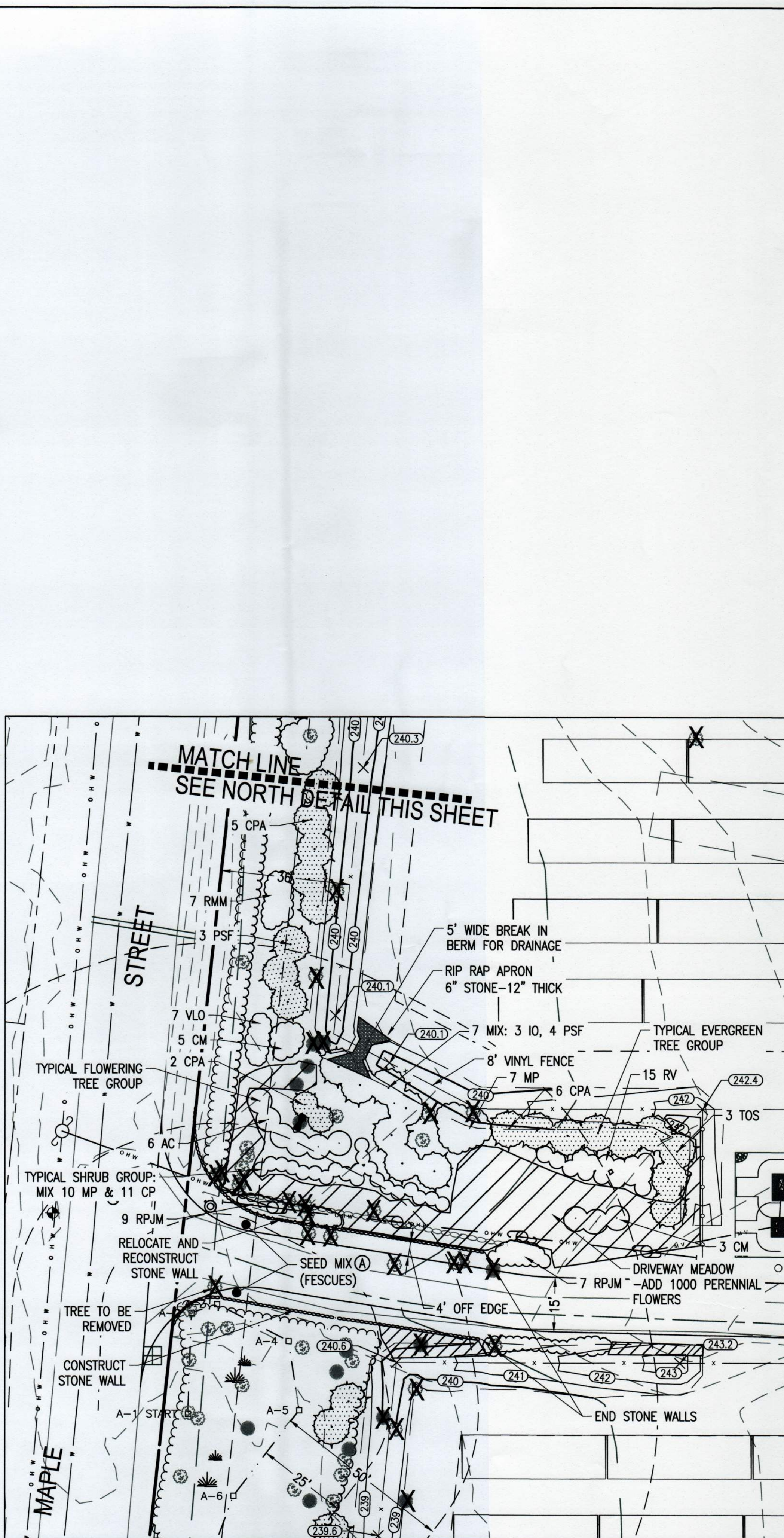
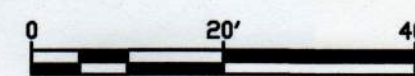
NORTH LANDSCAPING

SCALE: 1" = 20'



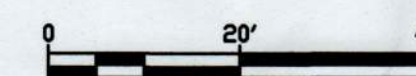
SOUTH LANDSCAPING

SCALE: 1" = 20'



ENTRY DRIVE DETAIL

SCALE: 1" = 20'



- NOTES:
1. FOR SITE PREPARATION DETAILS SEE SHEET C-8.1.
 2. FOR PLANTING LIST AND QUANTITIES SEE SHEET C-8.1.
 3. FOR STONE WALL DETAIL SEE SHEET C-8.1.
 4. FOR VINYL FENCE DETAIL SEE SHEET C-8.1.

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DAVID M. ALBRECHT
CIVIL
NO. 37310
REGISTERED PROFESSIONAL ENGINEER
October 25, 2019

David Albrecht

SITE USE PLAN
186 MAPLE STREET
BELLINGHAM, MA 02019

PROJECT NUMBER:
905-2400

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL
7/23/19	RJD	DA	DA	SUBMISSION
7/29/19	RJD	DA	DA	CONSERVATION SUBMISSION
9/11/19	WS	DA	DA	CONSERVATION SUBMISSION
9/25/19	WS	DA	DA	LANDSCAPING PLAN UPDATES
9/26/19	WS	DA	DA	PLAN REVISIONS
10/11/19	WS	DA	DA	REVISIONS PER PEER REVIEW COMMENTS
10/25/19	WS	DA	DA	FINAL SET

SCALES SHOWN ON DRAWINGS ARE VALID ONLY WHEN PLOTTED AT 11" x 17" & 24" x 36"

C-8.0
LANDSCAPING PLAN

Site Preparation:

- Refer to Tree Clearing Plan (Sheet No. C-2.0) for site preparation instructions related to tree clearing.
- Cut trees shall be chipped to provide on-site shredded bark/wood chip mulch to be applied to planted areas. Shredded bark/wood chips shall be stockpiled until planting activities completed, then uniformly applied over planting areas to a 3"-4" depth. Shredded bark mulch sourced from on site shall be supplemented by outside sources of same if necessary to get full surface coverage.
- Planting Contractor shall prepare planting and seeding areas to reduce future weed growth of unintended species to the maximum extent possible. Contractor shall have an unexpired current and valid Massachusetts Herbicide Applicators license. Contractor may only used legally permitted herbicide products, including acetic acid the active ingredient in vinegar.
- If permitted by municipal by-laws, Contractor may conduct controlled burning to reduce the presence or future growth of weed species. In all cases, Contractor shall contact Construction Manager for permission to conduct controlled burning prior to commencing any burning activities. Contractor shall comply with all local regulations, such as receiving required burn permit from local Fire Department. Contractor may only used legally permitted herbicide products, including acetic acid the active ingredient in vinegar.
- Thoroughly de-compact existing soils in planting and/or seeding areas prior to installing plants and/or applying seed. De-compact soils with a York rake or similar equipment to a minimum 6" depth prior to planting or seeding.
- Assume that no water source will be available on-site during planting and seeding activities. Plan accordingly to provide ample water for delivered, stockpiled, and newly installed plants.

Planting:

- Plants specified by name, size and quantity on the Drawings shall be used. Plant substitution requests, if any, must be submitted to the Landscape Architect in writing, and approved by the Landscape Architect not less than five (5) business days prior to delivery on site.
- All plants shall be delivered to the site in a healthy, vigorous condition in thoroughly moist soil within containers. Nursery stock shall not be root bound within containers. Plants shall not be delivered to the site in a diseased, damaged or otherwise compromised, stressed or weakened condition.
- All delivered plants and particularly root zones shall be maintained in a thoroughly moistened condition prior to, during, and after planting.
- Trees, shrubs and perennial plants (flowers, grasses, ferns) shall be planted according to Planting Details shown on the Drawings.
- Planting holes (pits) shall be dug according to Planting Details shown on the Drawings. Planting holes shall be thoroughly saturated at time of plant placement in holes.
- Plants shall be inserted into holes such that root flare is located 1"-2" above the average surface of surrounding grade. Planting backfill shall be added around inserted plants. Backfill shall be a mix of native soil dug from the planting hole mixed and enriched with raised planter compost mix, worm castings, organic 5-3-4 (N-P-K) slow-release fertilizer, biochar and mycorrhizal fungi inoculant. Native soil shall be amended at the following rates by volume:

- Native Soil to Raised Planter Compost:	3:1
- Native Soil to Worm Castings:	10:1
- Native Soil to Organic 5-3-4 Slow-Release Fertilizer:	15:1
- Native Soil to Biochar:	20:1
- Native Soil to Mycorrhizal Fungi Inoculant	50:1

- Backfill planting holes immediately following plant placement. Thoroughly tamp backfill around installed plants to maximize soil contact and minimize air spaces.
- Provide bermed water catching basin around EACH INDIVIDUAL PLANT as shown in Planting Details on Drawings.
- Following completion of planting apply shredded bark/wood chip mulch to a uniform 3"-4" depth across entire planted area. Feather back mulch 3"-6" from stems/trunks of planted shrubs and trees such that mulch is not in contact with stems/trunks.

Seeding:

- Apply specified seed mixes at specified application rates as shown on Drawings.
- Apply seed with a tackifier or other stabilizing agent such as clean straw or biodegradable matting that effectively prevents seed from mobilizing once applied.
- Lightly compact seeded area surface immediately following seed application to insure maximum seed-to-soil bond.

BORREGO SOLAR SYSTEMS, INC
PROJECT SITE: 186 Maple Street, BELLINGHAM, MA
RECOMMENDED PLANT LIST
10-Sep-19

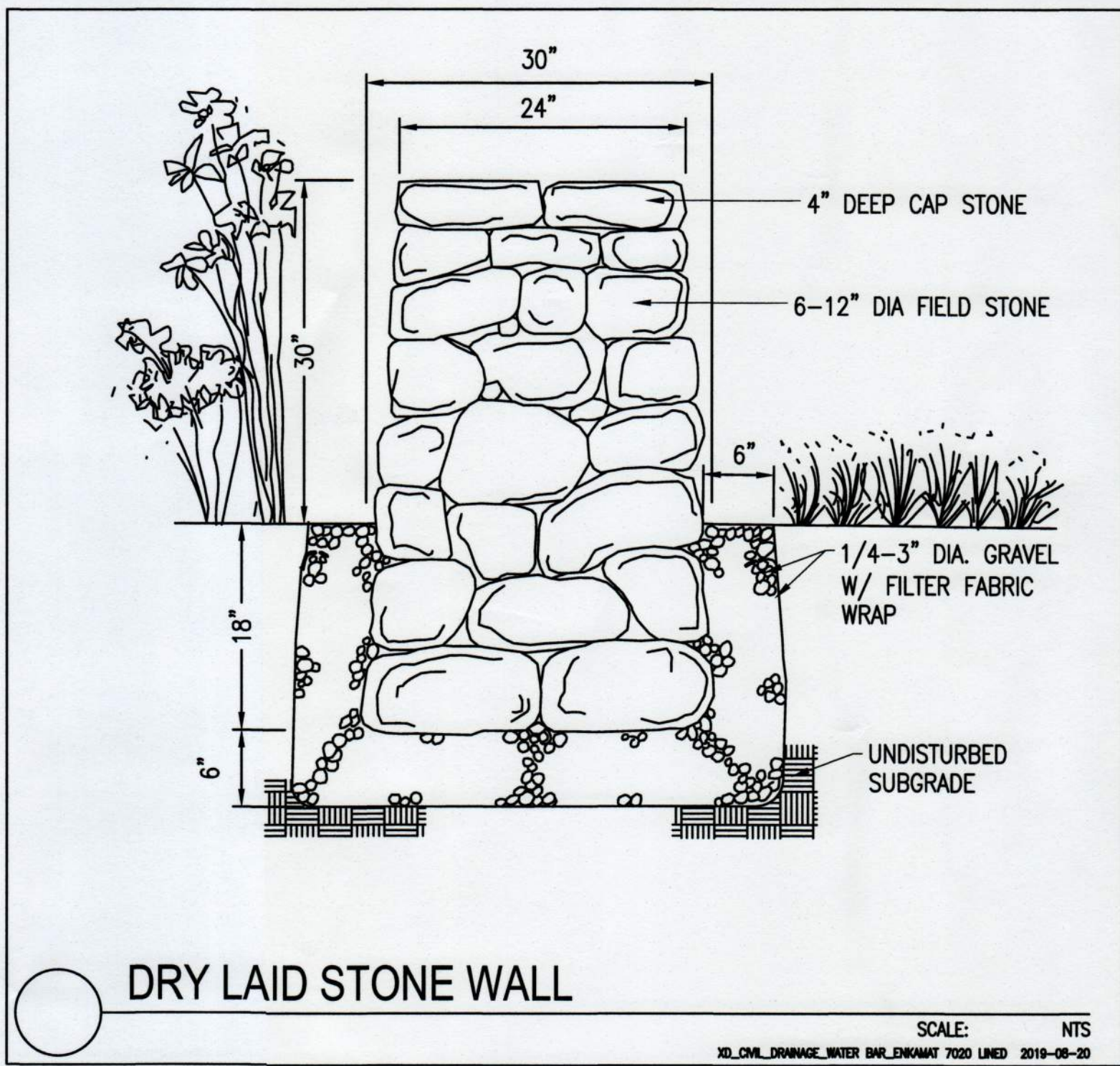
Prepared By: Thomas S. Benjamin, RLA, LEED-AP BD+C
Sustainable Designer/Landscape Architect
Email: tom@wellnessscapes.com
Tel: (413) 687-1135

RECOMMENDED PLANT LIST					
Type	Symbol	Botanical Name	Common Name	Size/Form	Spacing
Flowering Groundcovers/Perennials:					
50	AFA	Achillea filipendulina	Fern-leaf Yarrow	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	AMM	Achillea millefolium	Common Yarrow	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
100	AF	Agastache foeniculum	Anise Hyssop	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	AI	Asclepias incarnata	Swamp Milkweed	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	APS	Asclepias purpurascens	Purple Milkweed	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	ASA	Asclepias syriaca	Common Milkweed	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	AT	Asclepias tuberosa	Butterfly Weed	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
25	BA	Baptisia australis	Wild Indigo	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	CLB	Caryopteris 'Longwood Blue'	Blue Mist Shrub	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	CLA	Coreopsis lanceolata	Lance-leaf Coreopsis	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
100	EP	Echinacea purpurea	Purple Coneflower	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	EM	Eutrochium maculatum	Joe Pyeweed	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
100	HS	Helleborus helianthoides	Smooth Oxeye	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	LB	Leucanthemum 'Becky'	Becky Shasta Daisy	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	LP	Lupinus perennis	Wild Blue Lupine	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	MDIC	Monarda didyma 'Jacob Cline'	Jacob Cline Bee Balm	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	MFA	Monarda fastlosa	Wild Bergamot	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	PAU	Packera aurea	Golden Ground-sel	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	PSD	Penstemon digitalis	Beardtongue	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	PRR	Penstemon 'Red Riding Hood'	Red Riding Hood Beardtongue	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	PAA	Perovskia atriplicifolia	Russian Sage	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	PPRP	Phlox paniculata 'Robert Poore'	Robert Poore Phlox	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	PVPM	Physostegia virginiana 'Pink Manners'	Obedient Plant	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	PMM	Pyranthemum muticum	Short-toothed Mt. Mint	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	RH	Rudbeckia hirta	Black-eyed Susan	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	SNAE	Symphoricarpos novae-angliae	New England Aster	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
50	SNBI	Symphoricarpos novae-belgii	New York Aster	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
25	VNS	Vernonia novaeboracensis	New York Ironweed	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
500					
Grasses:					
200	CLM	Chasmanthium latifolium	Northern Sea Oats	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
100	PVHM	Panicum virgatum 'Heavy Metal'	Heavy Metal Switchgrass	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
200	SSM	Schizachyrium scoparium	Little Bluestem	5" Plug or #1 Pot	18-30" o.c., As Directed By L.A.
500					
Shrubs:					
50	CP	Comptonia peregrina	Sweetfern	#5 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
15	IG	Ilex glabra	Inkberry	#5 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
15	RS	Ilex 'Red Sprite'	Red Sprite Holly	#5 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
12	KLA	Kalmia latifolia	Mt. Laurel	#5 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
39	MP	Morella pennsylvanica	Bayberry	#5 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
12	RMM	Rhododendron maximum	Rosebay Rhododendron	#5 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
15	RPJM	Rhododendron 'PJM'	PJM Rhododendron	#5 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
20	RA	Rhus aromatica 'Gro-Low'	Low Grow Fragrant Sumac	#5 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
25	RC	Rosa caroliniana	Pasture Rose	#5 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
25	RV	Rosa virginiana	Virginia Rose	#5 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
12	VLO	Viburnum lentago	Nannyberry	#5 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
17	VTM	Viburnum trilobum	Highbush Cranberry	#5 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
250					
Small Evergreen & Flowering Trees:					
11	AC	Amelanchier canadensis	Shadbush (Shrub Form)	#7 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
9	TDS	Thuja occidenta 'Smargd'	Emerald Green Arborvitae	#7 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
24	CPA	Chamaecyparis pisifera	Soft Serve False Cypress	#7 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
9	CM	Cornus mas	Cornelian Cherry Dogwood	#7 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
15	IO	Ilex opaca	American Holly	#7 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
3	IMBP	Ilex meserveae 'Blue Prince'	Blue Prince Holly	#7 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
6	IMBPS	Ilex meserveae 'Blue Princess'	Blue Princess Holly	#7 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
23	PSF	Pinus strobus 'Fastiglata'	Fastigiate White Pine	#7 Pot, 3-4' Ht./Spread	As Directed in the Field by L.A.
100					

Note: In case of discrepancy between plant quantities shown on Drawing versus quantity shown in the Plant Schedule, the quantity shown on the Drawing shall be used.

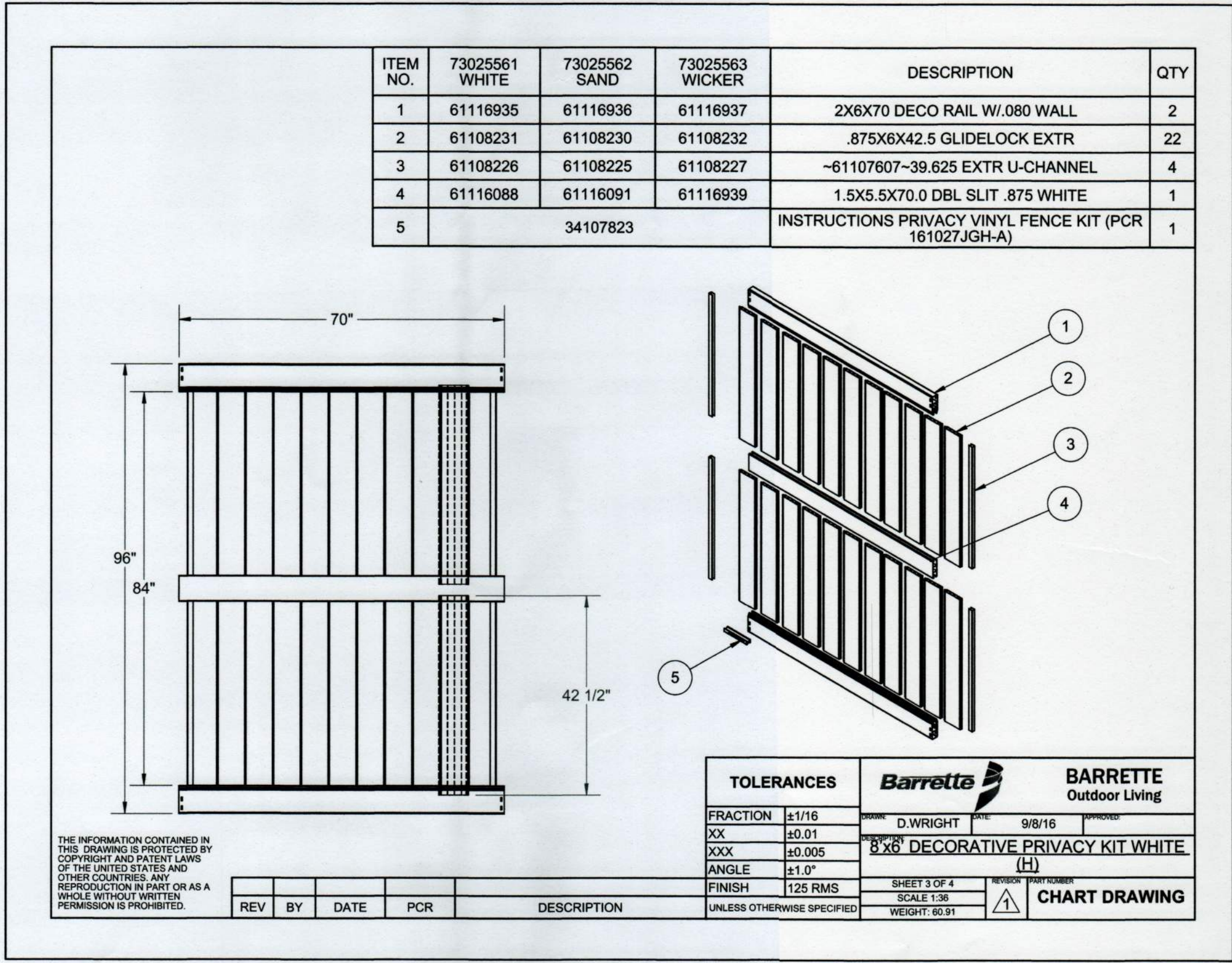
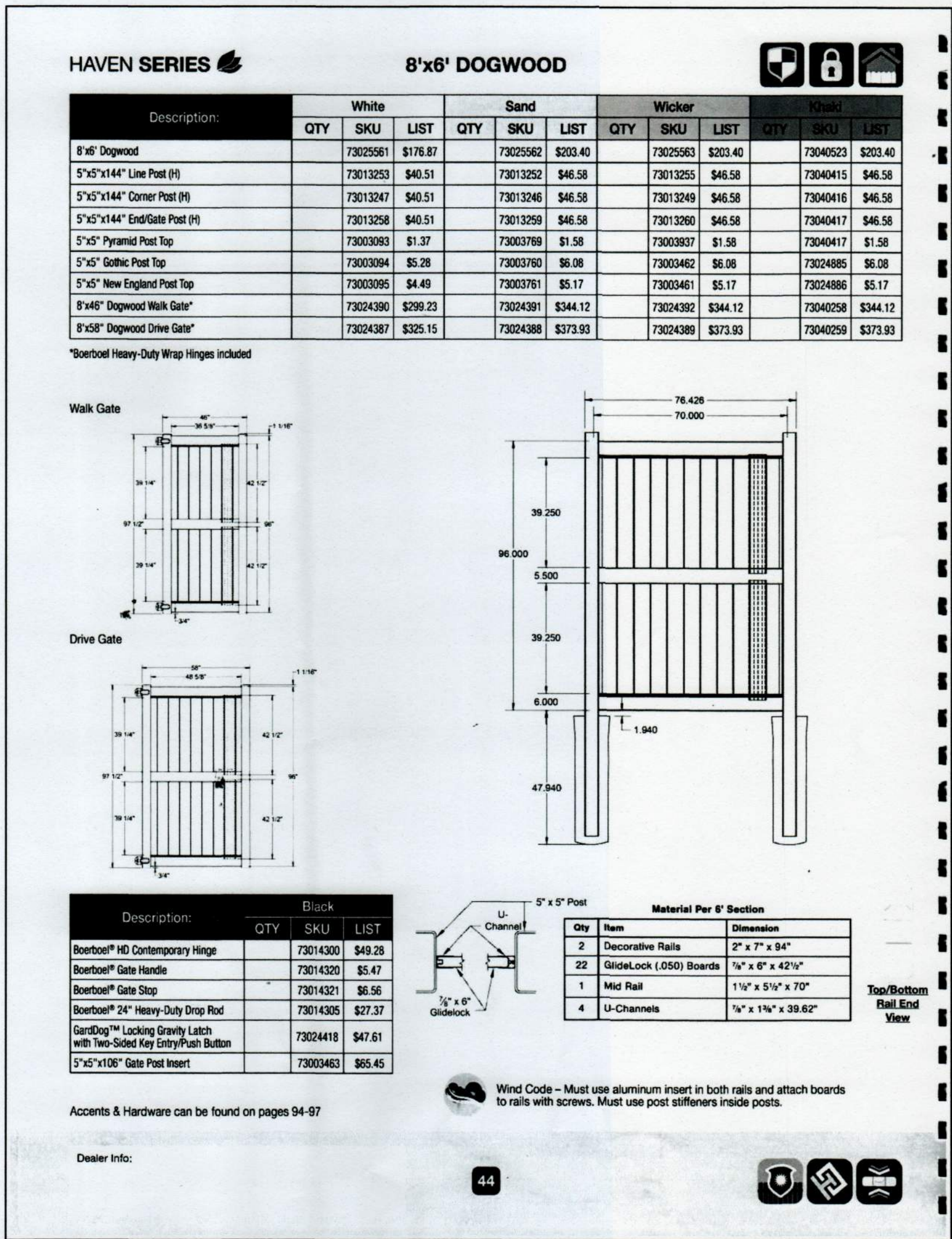
SEED MIXES:

- A Rebel, Chewings and/or Hard Fescue, supplied by Seedland.com, at an application rate of 5 lbs./1,000 sf. Add Dutch white clover at a rate of 1 lb./5,000 sf. Apply to landscape strips on both sides of driveway in front of proposed stone walls.



LANDSCAPING NOTES AND DETAILS

N.T.S.



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COMMONWEALTH OF MASSACHUSETTS
DAVID M. ALBRECHT
CIVIL
NO. 37310
REGISTERED PROFESSIONAL ENGINEER

October 25, 2019
David Albrecht

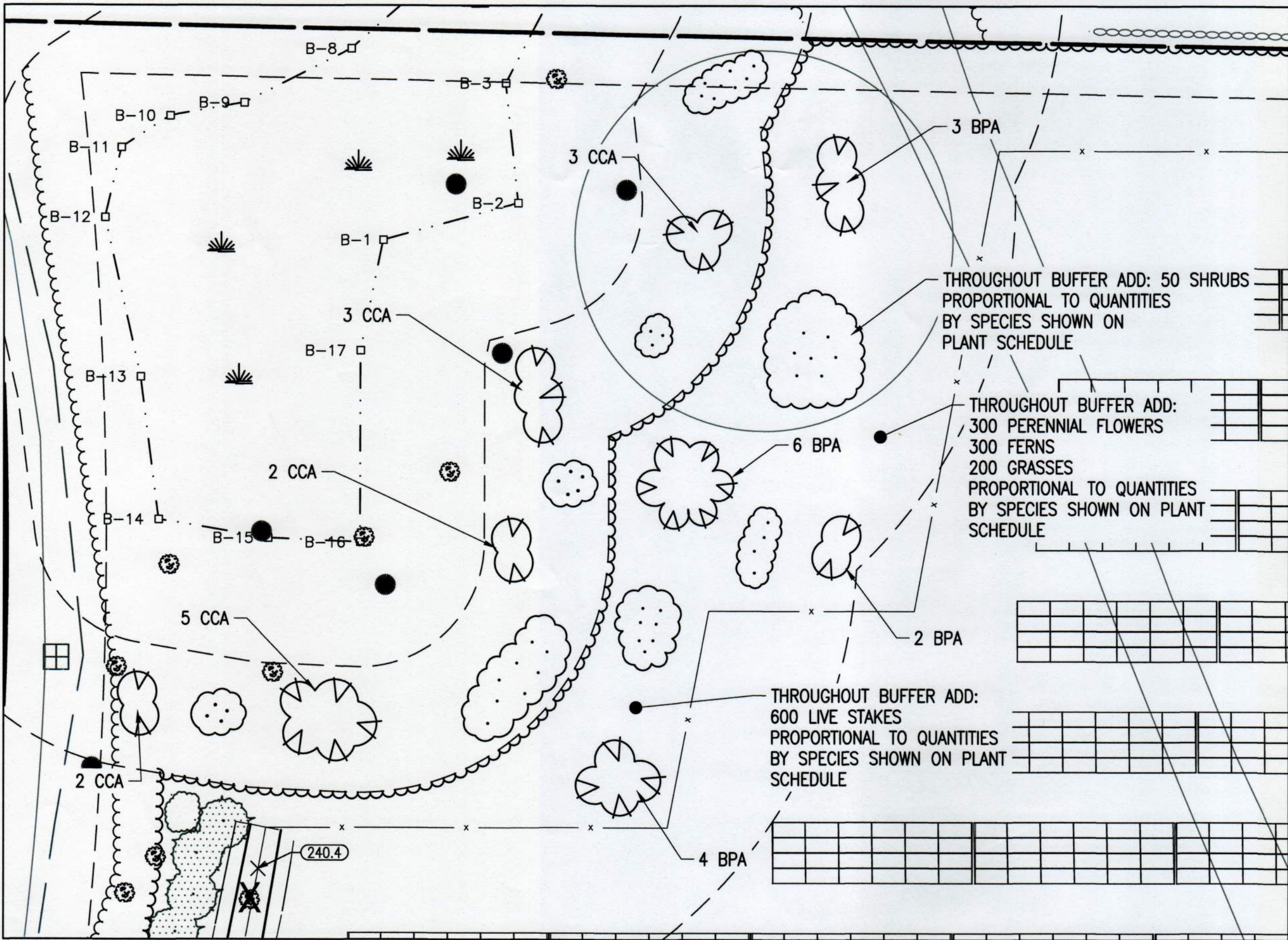
SITE USE PLAN
186 MAPLE STREET
BELLINGHAM, MA 02019

PROJECT NUMBER:
905-2400

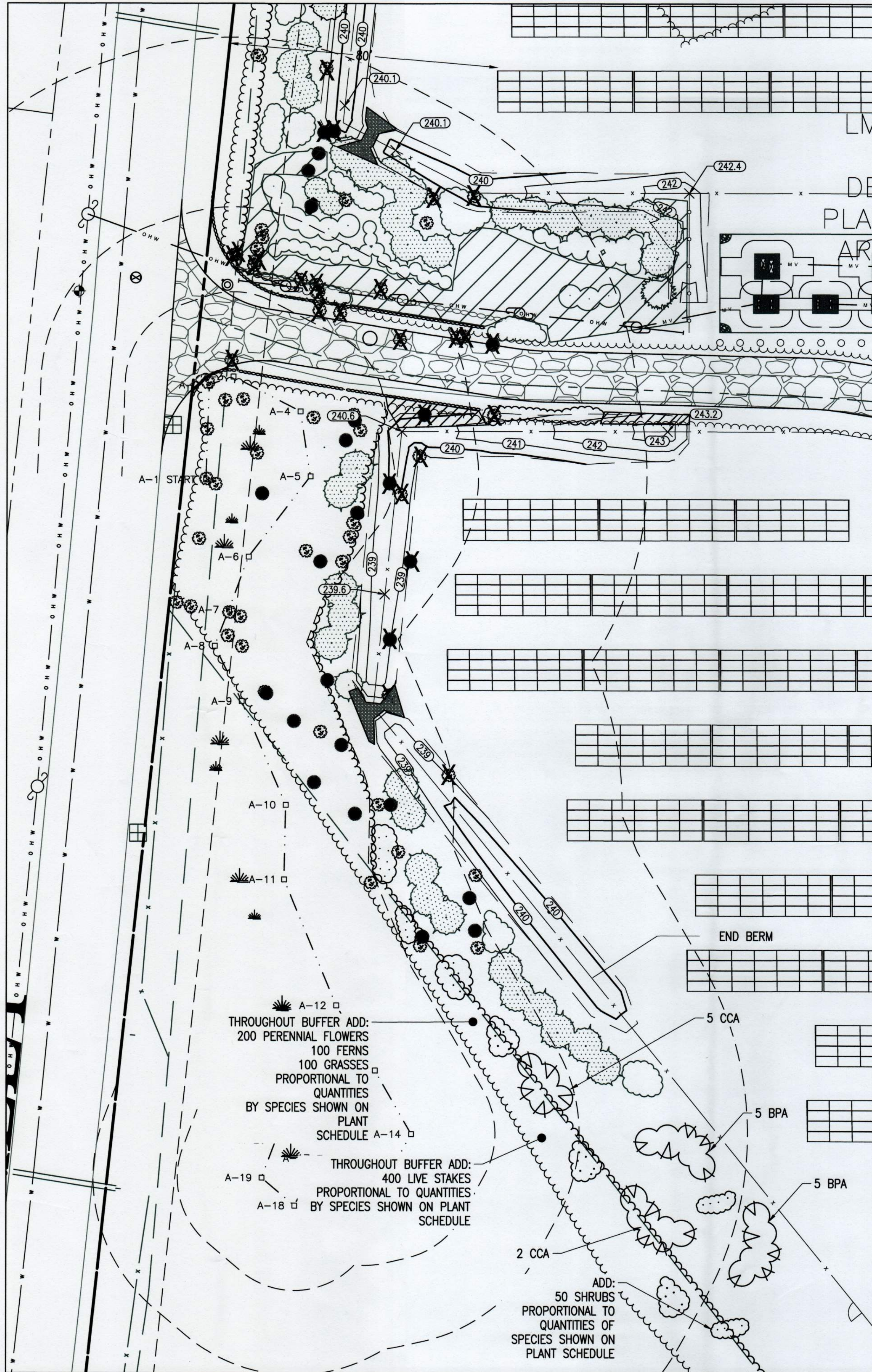
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7/23/19	DA	SUBMISSION	DA	SUBMISSION	DA	SUBMISSION
7/29/19	DA	CONSERVATION SUBMISSION	DA	CONSERVATION SUBMISSION	DA	CONSERVATION SUBMISSION
8/23/19	DA	LANDSCAPE DESIGN/CONSTRUCTION	DA	LANDSCAPE DESIGN/CONSTRUCTION	DA	LANDSCAPE DESIGN/CONSTRUCTION
9/26/19	DA	PLAN REVISIONS	DA	PLAN REVISIONS	DA	PLAN REVISIONS
10/11/19	DA	REVISIONS PER PEER REVIEW	DA	REVISIONS PER PEER REVIEW	DA	REVISIONS PER PEER REVIEW
10/25/19	DA	FINAL SET	DA	FINAL SET	DA	FINAL SET

SCALES SHOWN ON DRAWINGS
ARE VALID ONLY WHEN PLOTTED
AT 11" X 17" OR LARGER
C-8.1
LANDSCAPING PLAN
DETAILS

BORREGO SOLAR SYSTEMS, INC. PROJECT SITE: 186 Maple Street, Bellingham, MA RECOMMENDED BUFFER ZONE PLANT LIST 10-Sep-19 Prepared By: Thomas S. Benjamin, RLA, LEED-AP BD+C Sustainable Designer/Landscape Architect Email: tom@wellscape.com Tel: (617) 627-1135				
Type	Symbol	Botanical Name	Common Name	Size/Form
Flowering Groundcovers/Perennials:				
25 JA		<i>Asclepias incarnata</i>	Swamp Milkweed	5" Plug or #1 Pot
25 JAS		<i>Aster cordifolius</i>	Blue Wood Aster	5" Plug or #1 Pot
25 CC		<i>Chelone glabra</i>	Turtlehead	5" Plug or #1 Pot
25 CCS		<i>Cornus canadensis</i>	Bunchberry	5" Plug or #1 Pot
25 JP		<i>Echinacea purpurea</i>	Purple Coneflower	5" Plug or #1 Pot
25 JPM		<i>Eupatorium perfoliatum</i>	Wine Weed	5" Plug or #1 Pot
25 JM		<i>Eutrochium maculatum</i>	Joe Pyeweed	5" Plug or #1 Pot
25 OM		<i>Gentiana maculatum</i>	Wild Geranium	5" Plug or #1 Pot
25 IM		<i>Hieracium</i>	White Dead Nettle	5" Plug or #1 Pot
25 LC		<i>Lobelia cardinalis</i>	Cardinal Flower	5" Plug or #1 Pot
25 MPA		<i>Monarda fistulosa</i>	Wild Bergamot	5" Plug or #1 Pot
25 PAU		<i>Prickles aurea</i>	Golden Ground-ell	5" Plug or #1 Pot
25 PMM		<i>Pachyrhizum medium</i>	Short rooted Mt. Mint	5" Plug or #1 Pot
25 RH		<i>Rudbeckia hirta</i>	Black-eyed Susan	5" Plug or #1 Pot
25 SPM		<i>Symphoricarpos panicum</i>	Swamp Aster	5" Plug or #1 Pot
25 SMC		<i>Symphoricarpos novae-angliae</i>	New England Aster	5" Plug or #1 Pot
25 SNR		<i>Symphoricarpos novae-angliae</i>	New York Aster	5" Plug or #1 Pot
25 VH		<i>Verbena hastata</i>	Vervain	5" Plug or #1 Pot
25 VNS		<i>Vernonia noveboracensis</i>	New York Ironweed	5" Plug or #1 Pot
25 JA		<i>Zizia aurea</i>	Golden Alexander	5" Plug or #1 Pot
Grasses:				
50 CLM		<i>Chasmodon latifolium</i>	Northern Sea Oats	5" Plug or #1 Pot
50 CAM		<i>Carex amphibia</i>	Creek Sedge	5" Plug or #1 Pot
50 CCA		<i>Carex crinita</i>	Fringed Sedge	5" Plug or #1 Pot
50 JE		<i>Juncus effusus</i>	Salt Rush	5" Plug or #1 Pot
50 SES		<i>Scirpus setosus</i>	Woolgrass	5" Plug or #1 Pot
50 SSM		<i>Schizanthus scoparium</i>	Little Bluestem	5" Plug or #1 Pot
Ferns:				
50 AF		<i>Adiantum filix-femina</i>	Lady Fern	5" Plug or #1 Pot
50 DPA		<i>Dennstaedtia punctiloba</i>	Hair-scented Fern	5" Plug or #1 Pot
50 DMS		<i>Dryopteris marginalis</i>	Marginal Wood Fern	5" Plug or #1 Pot
50 MSS		<i>Massecia stratiolites</i>	Ostrich Fern	5" Plug or #1 Pot
50 OCA		<i>Osmunda cinnamomea</i>	Cinnamon Fern	5" Plug or #1 Pot
50 OCL		<i>Osmunda claytoniana</i>	Interrupted Fern	5" Plug or #1 Pot
50 PAS		<i>Polystichum acrostichoides</i>	Christmas Fern	5" Plug or #1 Pot
50 TNS		<i>Thelypteris noveboracensis</i>	New York Fern	5" Plug or #1 Pot
Shrubs:				
10 JA		<i>Alnus incana</i>	Speckled Alder	#3 Pot, 2-3' Ht./Spread
10 AA		<i>Amorpha arbutifolia</i>	Chokeberry	#3 Pot, 2-3' Ht./Spread
10 CA		<i>Cornus alternifolia</i>	Summersweet	#3 Pot, 2-3' Ht./Spread
10 IB		<i>Ilex glabra</i>	Boxwood	#5 Pot, 3-4' Ht./Spread
10 IV		<i>Ilex verticillata</i>	Winterberry	#3 Pot, 2-3' Ht./Spread
10 IS		<i>Ilex 'Sparkleberry'</i>	Sparkleberry	#3 Pot, 2-3' Ht./Spread
10 IV		<i>Ilex virginica</i>	Virginia Sweetpire	#3 Pot, 2-3' Ht./Spread
10 LB		<i>Lindera benzoin</i>	Sweetgum	#3 Pot, 2-3' Ht./Spread
10 RP		<i>Rosa palustris</i>	Swamp Rose	#3 Pot, 2-3' Ht./Spread
10 VC		<i>Vaccinium corymbosum</i>	Highbush Blueberry	#3 Pot, 2-3' Ht./Spread
4 VO		<i>Viburnum dentatum</i>	Arrowwood	#5 Pot, 3-4' Ht./Spread
Live Stakes:				
100		<i>Cornus amomum</i>	Silky Dogwood	2-3' Long 1/2-2" Dia. Stakes
200		<i>Cornus racemosa</i>	Gray Dogwood	2-3' Long 1/2-2" Dia. Stakes
100		<i>Cornus stolonifera</i>	Red Osier Dogwood	2-3' Long 1/2-2" Dia. Stakes
200		<i>Salix discolor</i>	Plumywillow	2-3' Long 1/2-2" Dia. Stakes
200		<i>Sambucus canadensis</i>	Elderberry	2-3' Long 1/2-2" Dia. Stakes
200		<i>Viburnum dentatum</i>	Arrowwood	2-3' Long 1/2-2" Dia. Stakes
Trees:				
25 BP		<i>Betula populifolia</i>	Gray Birch	#7 Pot, 3-4' Ht./Spread
25 CA		<i>Carpinus caroliniana</i>	Mockernut	#7 Pot, 3-4' Ht./Spread
50				



WETLAND B BUFFER ZONE REMEDIATION PLAN



WETLAND A BUFFER ZONE REMEDIATION PLAN

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BORREGO SOLAR
55 TECHNOLOGY DRIVE, SUITE 102
LOWELL, MA 01851
PHONE: (888) 888-6273
FAX: (888) 843-6778
WWW.BORREGOSOLAR.COM

DAVID M. ALBRECHT
CIVIL
NO. 37310
REGISTERED
PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

October 25, 2019

David Albrecht

SITE USE PLAN
186 MAPLE STREET
BELLINGHAM, MA 02019

PROJECT NUMBER:
905-2400

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL	COMMENTS
	7/23/19	RJD	DA	SUBMISSION	
	7/29/19	RJD	DA	CONSERVATION SUBMISSION	
	9/11/19	WS	DA	CONSERVATION SUBMISSION	
	9/25/19	WS	DA	LANDSCAPING PLAN UPDATES	
	9/26/19	WS	DA	PLAN REVISIONS	
	10/11/19	WS	DA	REVISIONS PER PEER REVIEW	
	10/25/19	WS	DA	FINAL SET	

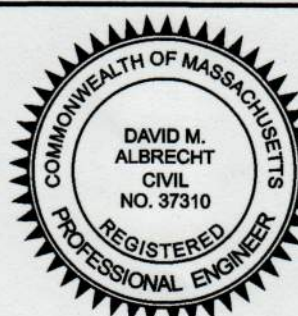
SCALES SHOWN ON DRAWINGS ARE VALID ONLY WHEN PLOTTED AT 1" = 20' X 30'

C-8.2
BUFFER ZONE
REMEDICATION PLANS



BORREGO SOLAR

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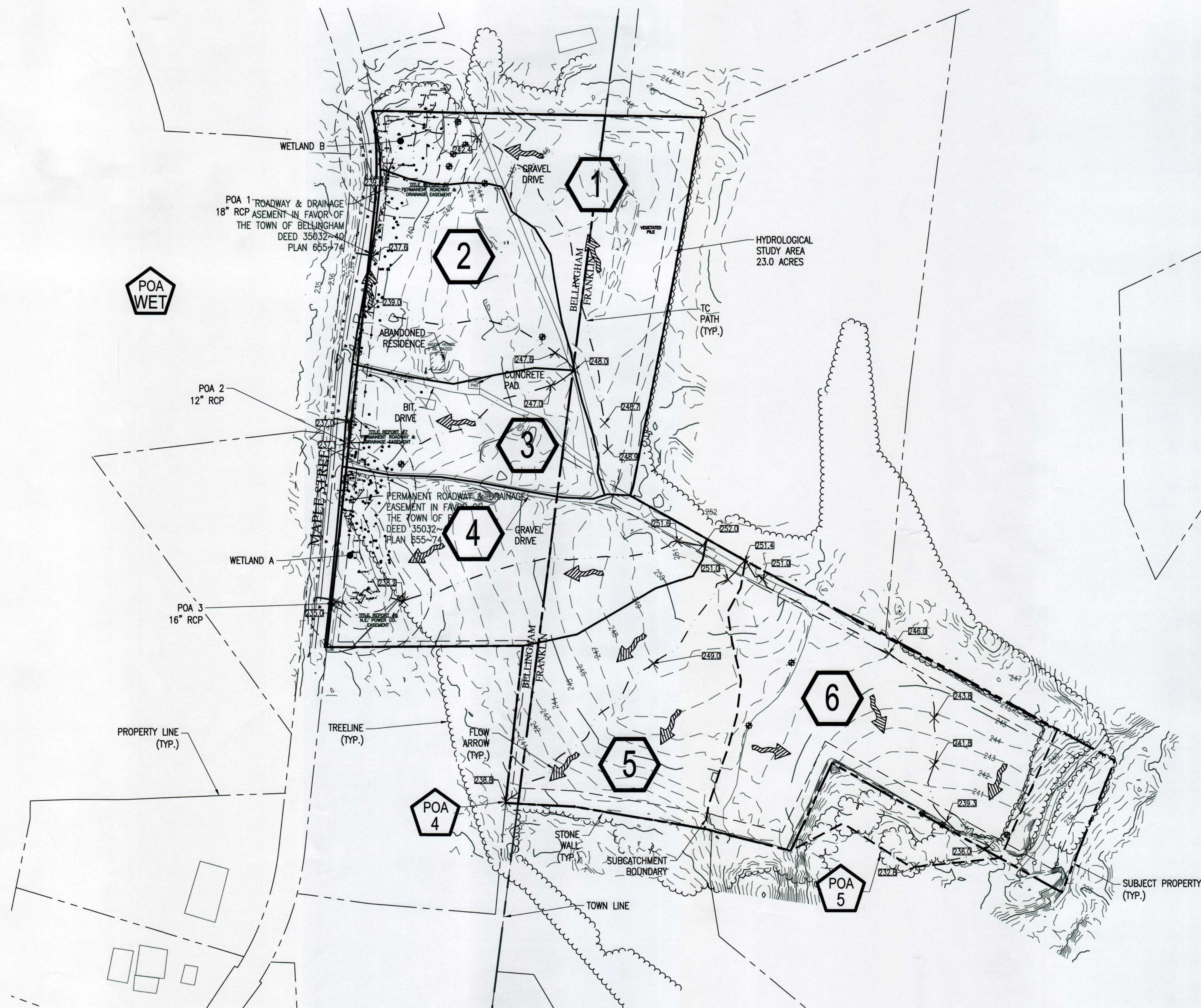
SITE USE PLAN
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PROJECT NUMBER:
905-2400

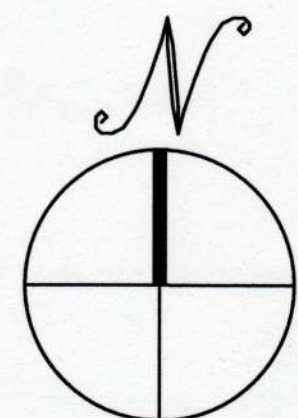
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	10/11/19	WS	DA	REVISIONS PER PEER REVIEW COMMENTS	
	10/25/19	WS	DA	FINAL SET	

SCALES STATED ON DRAWINGS
ARE VALID ONLY WHEN PLOTTED
ARCH D 24" X 36"

W-1.0
PRE-DEVELOPMENT
WATERSHED PLAN

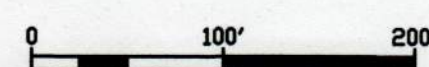


- LEGEND**
- WOODS, GOOD
 - GRASS, FAIR
 - GRASS, POOR
 - WOODS/GRASS, FAIR
 - WOODS/GRASS, GOOD
 - GRAVEL, ROAD
 - DIRT, ROAD
 - BRUSH, GOOD
 - FALLOW, BARE SOIL



PRE-DEVELOPMENT WATERSHED PLAN

SCALE: 1" = 100'



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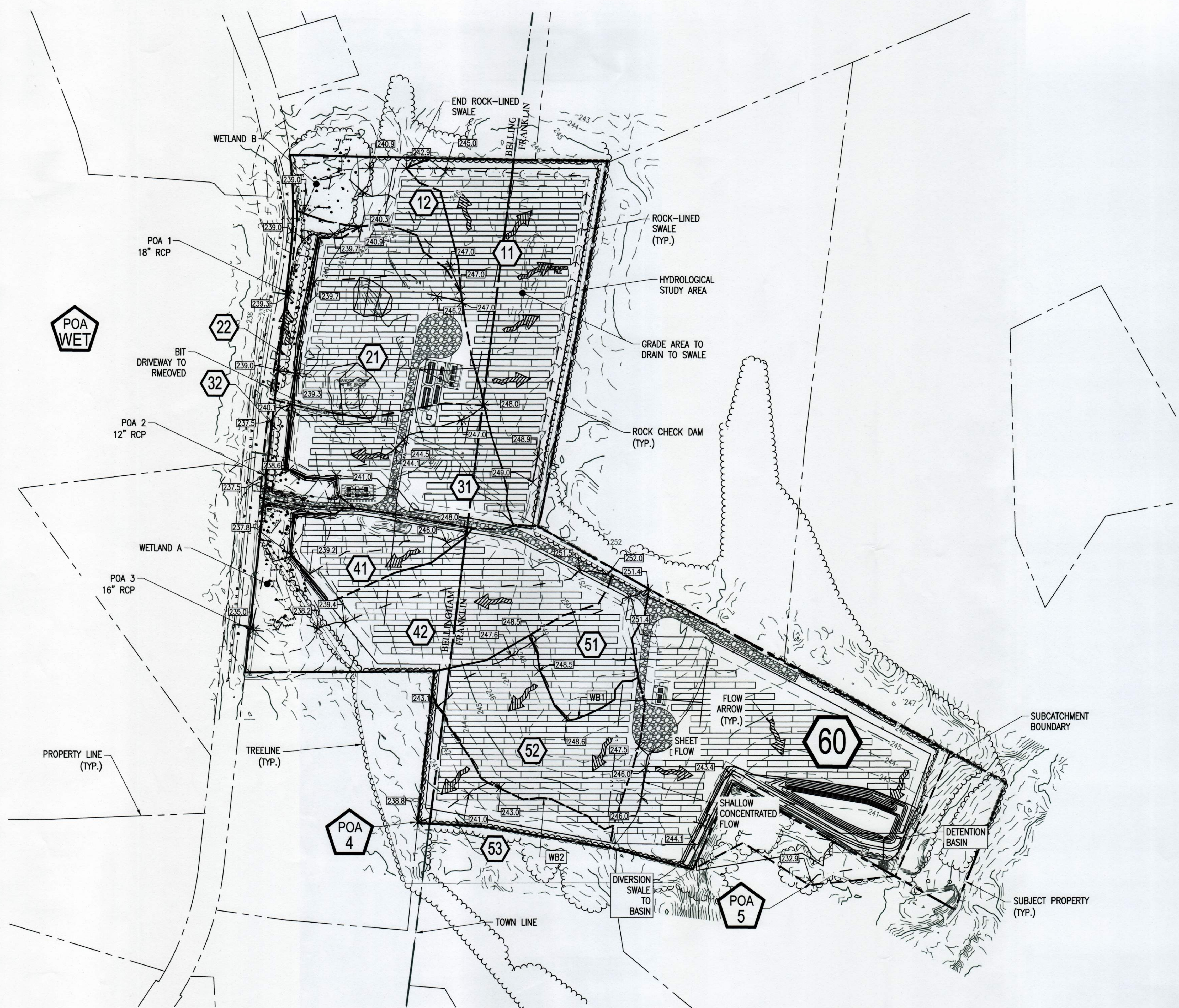
SITE USE PLAN
186 MAPLE STREET
BELLINGHAM, MA 02019

PROJECT NUMBER:
905-2400

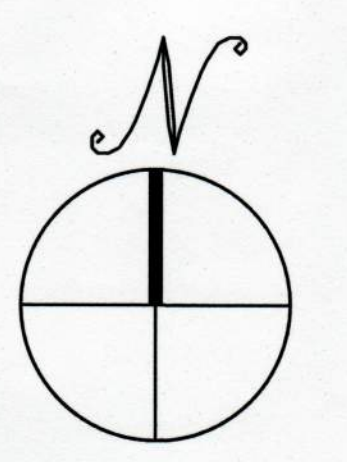
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	7/29/19	RJD	DA	CONSERVATION SUBMISSION
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	10/11/19	WS	DA	REVISIONS PER PEER REVIEW COMMENTS
	10/25/19	WS	DA	FINAL SET

SCALES SHOWN ON DRAWINGS
ARE VALID ONLY WHEN PLOTTED
ARCH D 24" x 36"

W-2.0
POST-DEVELOPMENT
WATERSHED PLAN

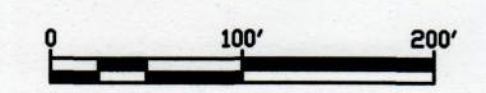


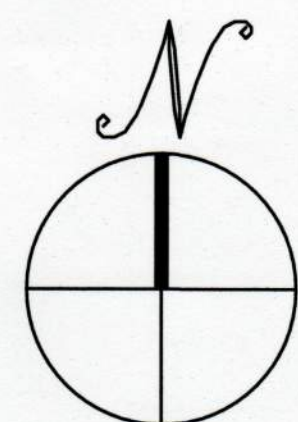
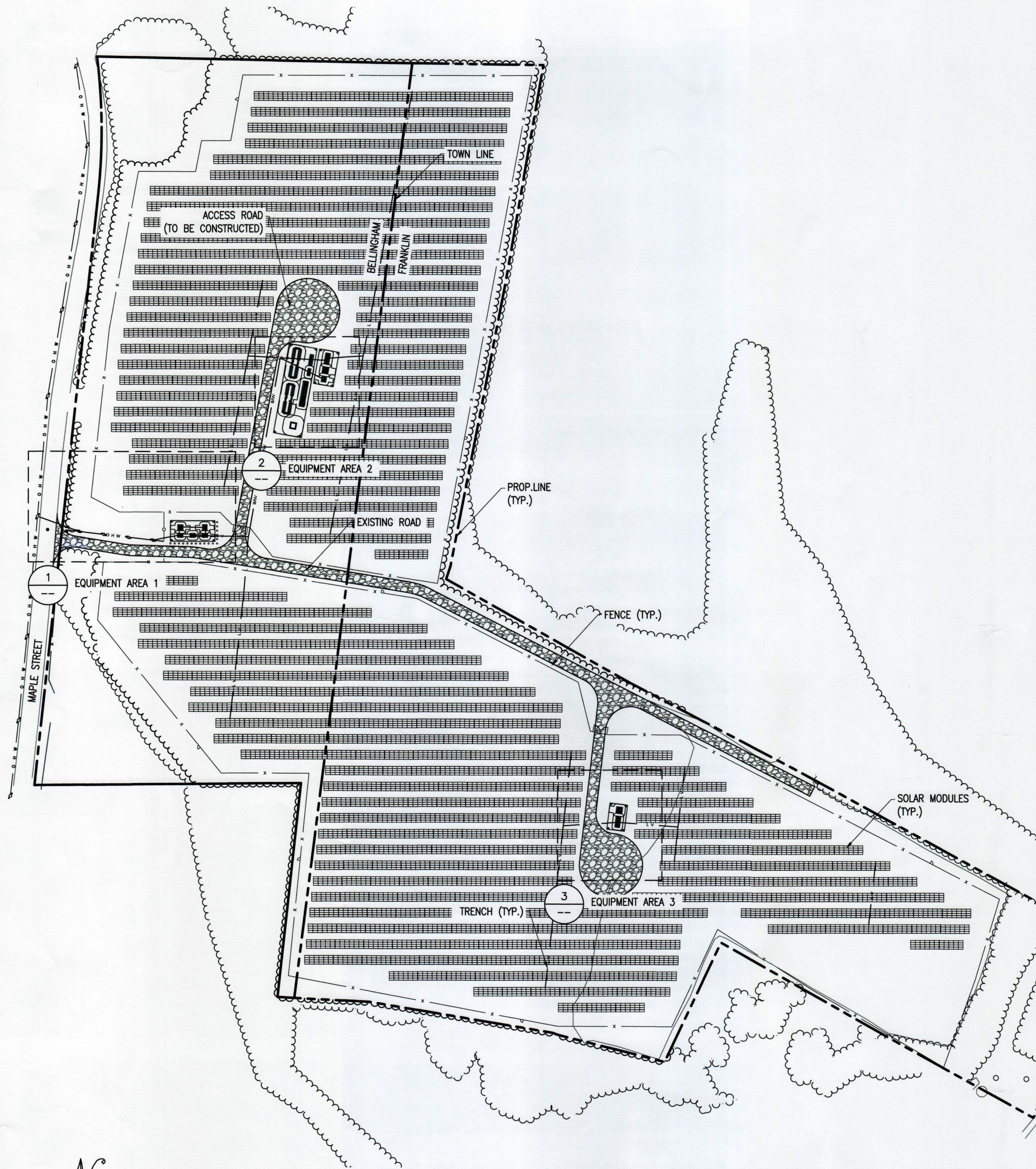
- LEGEND**
- WOODS, GOOD
 - GRASS, FAIR
 - >75% GRASS
 - BRUSH, GOOD
 - GRAVEL, ROAD
 - DIRT, ROAD
 - MEADOW, GOOD
 - PAVED PARKING



POST DEVELOPMENT WATERSHED PLAN

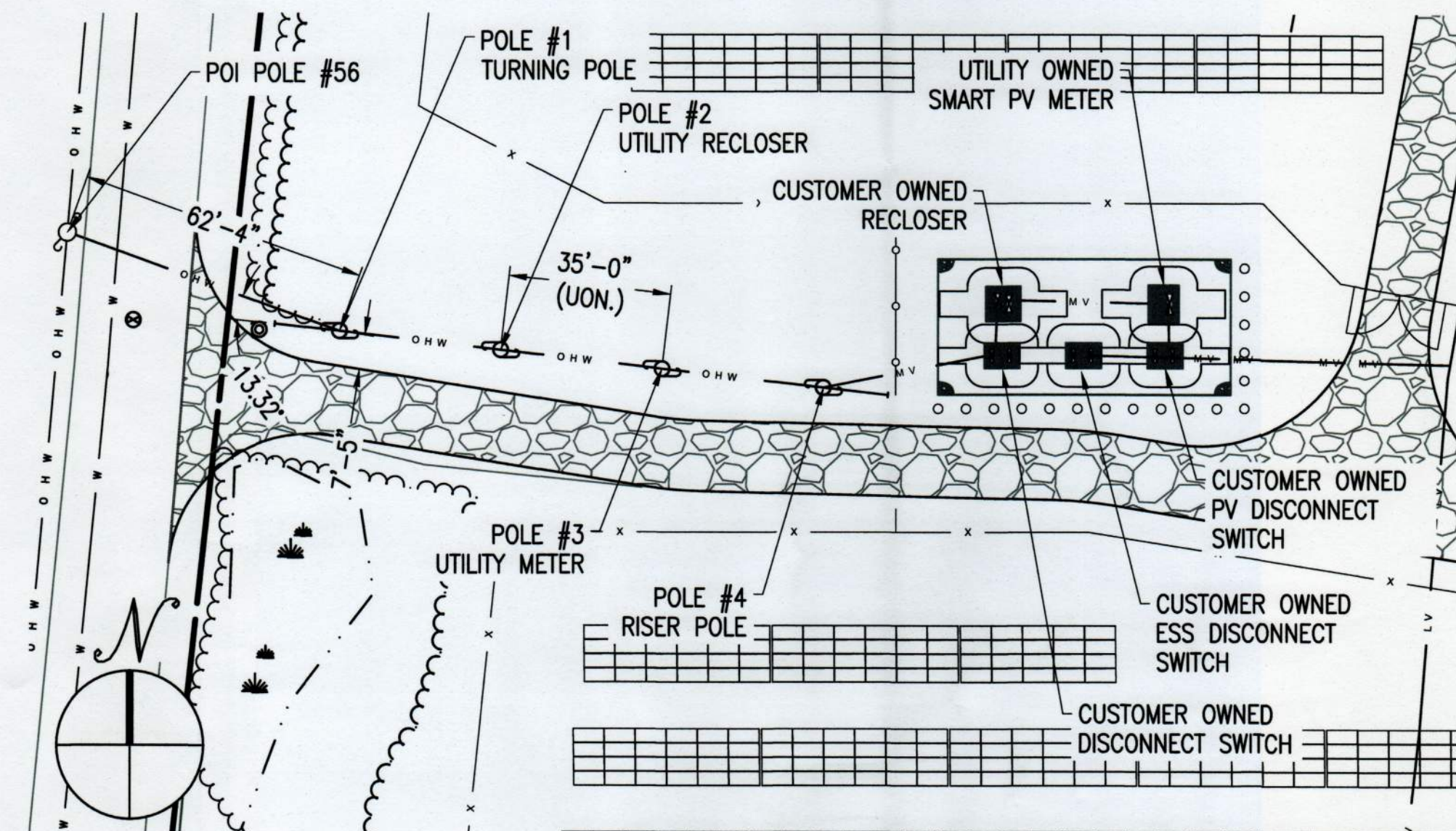
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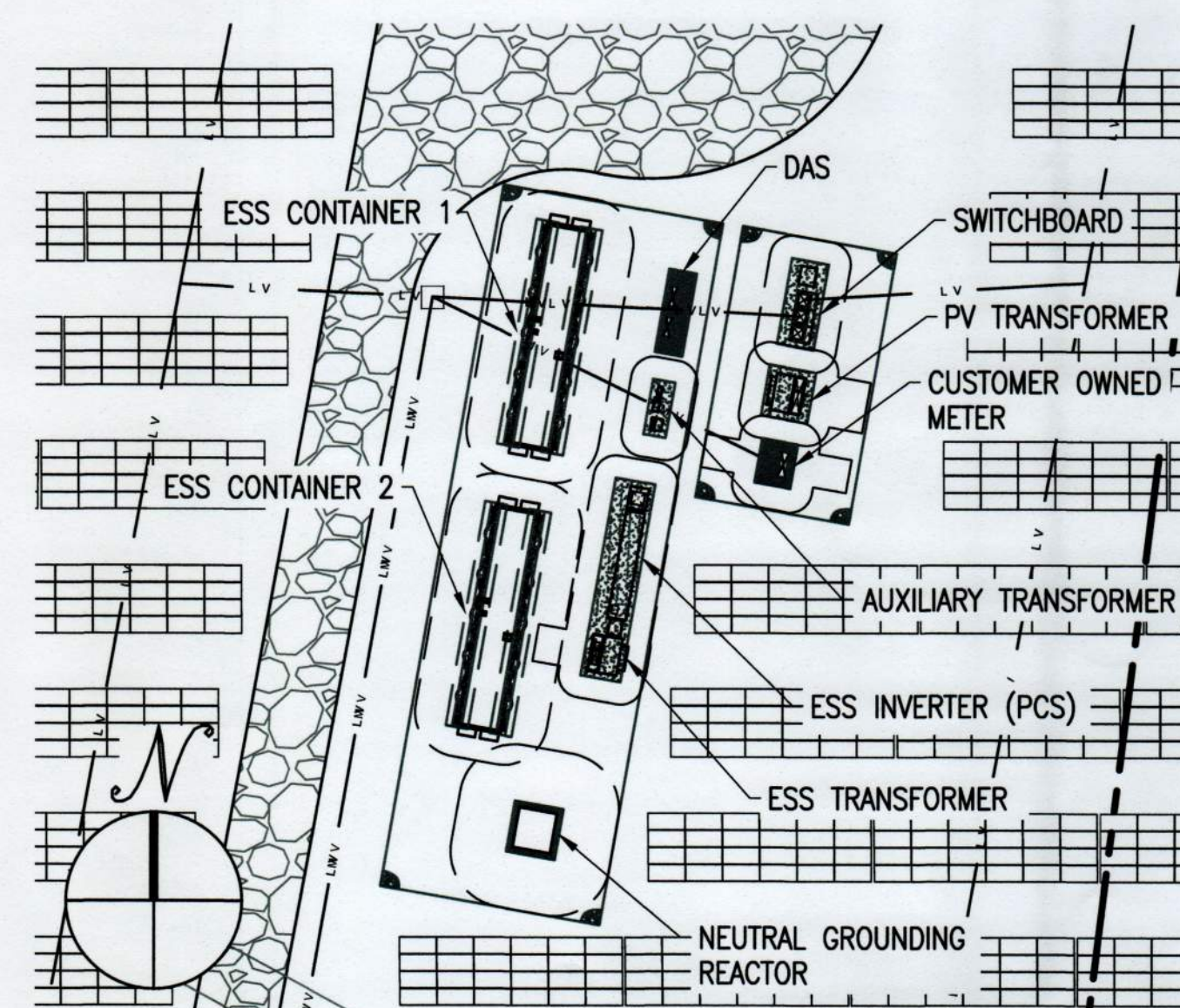


ELECTRICAL SITE PLAN

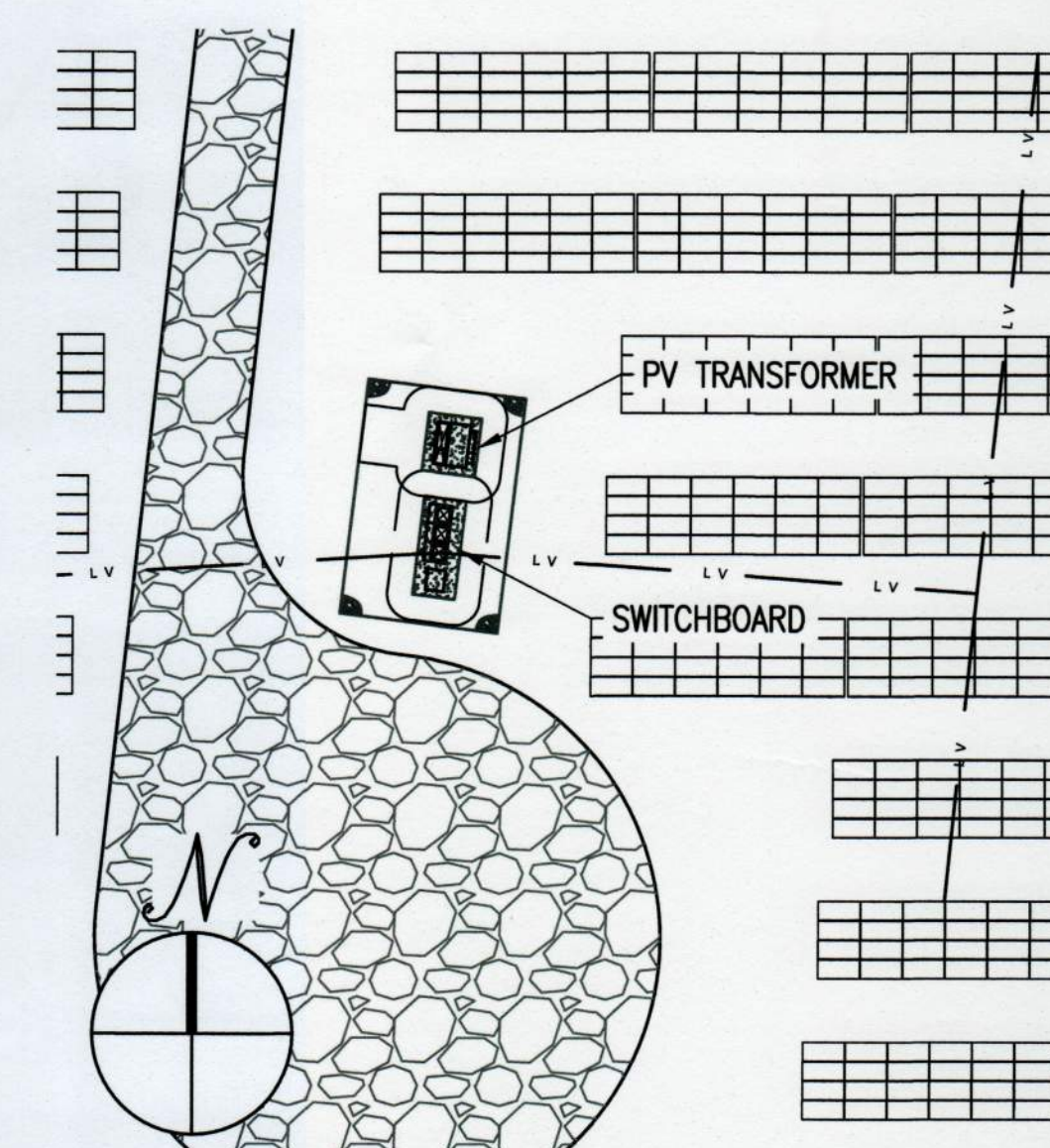
SCALE: 1" = 80'



1 EQUIPMENT AREA 1
SCALE: 1" = 30'



2 EQUIPMENT AREA 2
SCALE: 1" = 30'



3 EQUIPMENT AREA 3
SCALE: 1" = 30'

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SITE USE PLAN
186 MAPLE STREET
BELLINGHAM, MA 02019

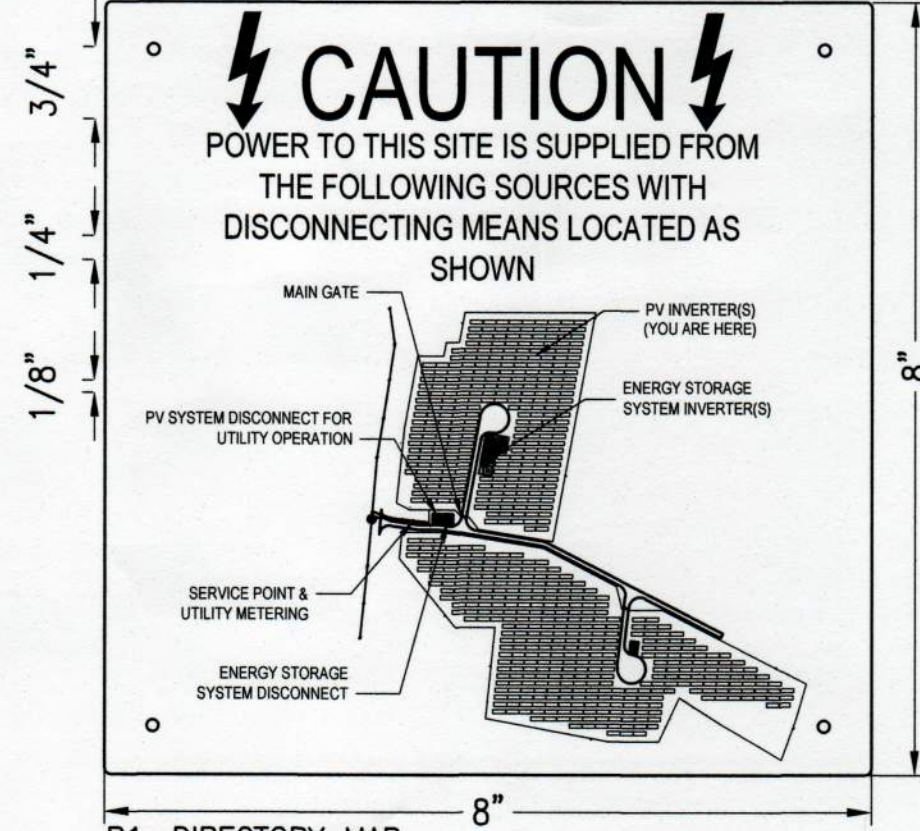
PROJECT NUMBER:
905-2400

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL	DESCRIPTION
1	7/23/19	RJD	DA	SUBMISSION	DA SUBMISSION
2	7/29/19	RJD	DA	CONSERVATION SUBMISSION	DA CONSERVATION SUBMISSION
3	9/11/19	WS	DA	CONSERVATION SUBMISSION	DA CONSERVATION SUBMISSION
4	9/25/19	WS	DA	LANDSCAPING PLAN UPDATES	DA LANDSCAPING PLAN UPDATES
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6	10/11/19	WS	DA	REVISIONS PER PEER REVIEW COMMENTS	DA REVISIONS PER PEER REVIEW COMMENTS
7	10/25/19	WS	DA	FINAL SET	DA FINAL SET

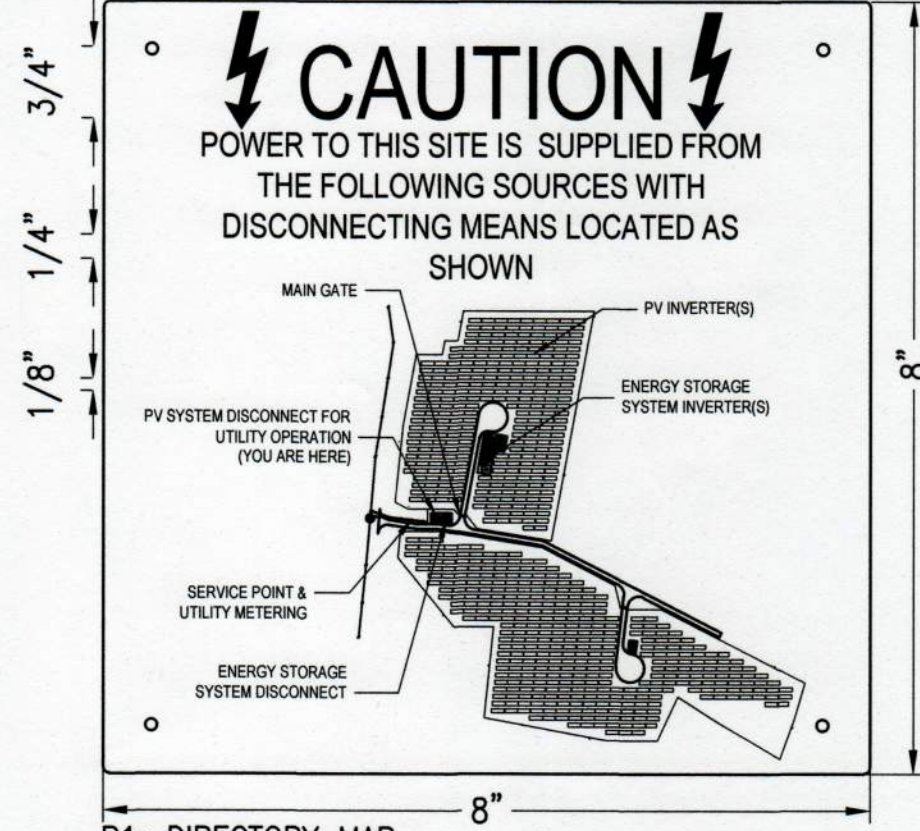
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ARE VALID ONLY WHEN PLOTTED
ARCH D 24" X 36"

E-1.0
ELECTRICAL SITE PLAN

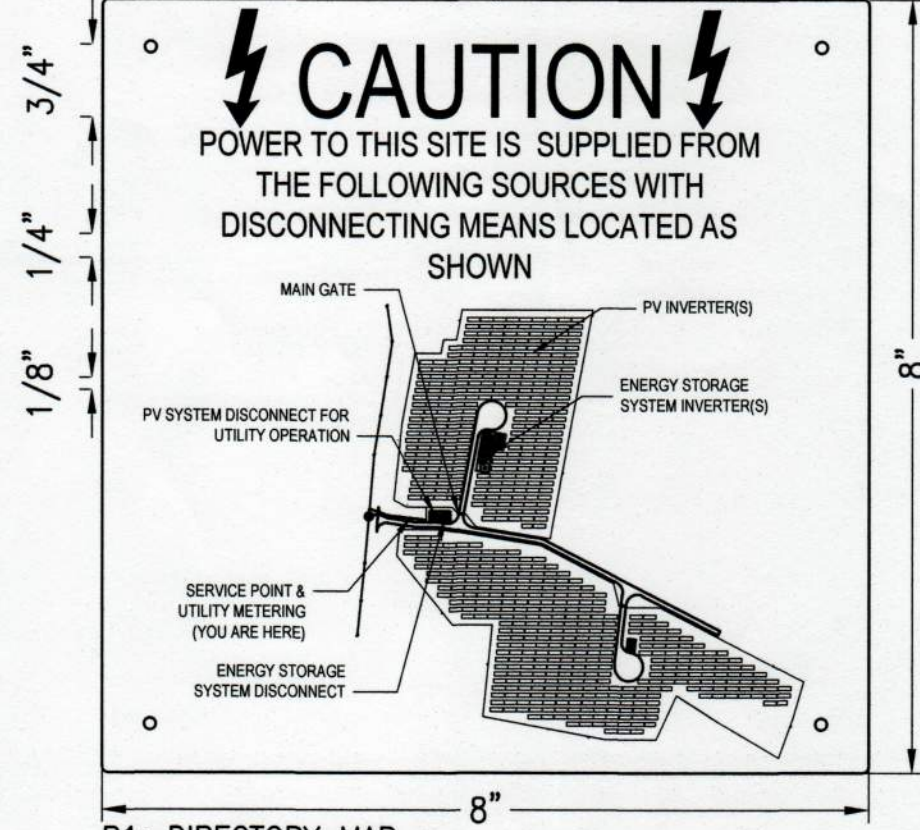
P1: DIRECTORY MAP
LOCATION: EQUIPMENT PAD
BACKGROUND COLOR: RED; TEXT COLOR: WHITE



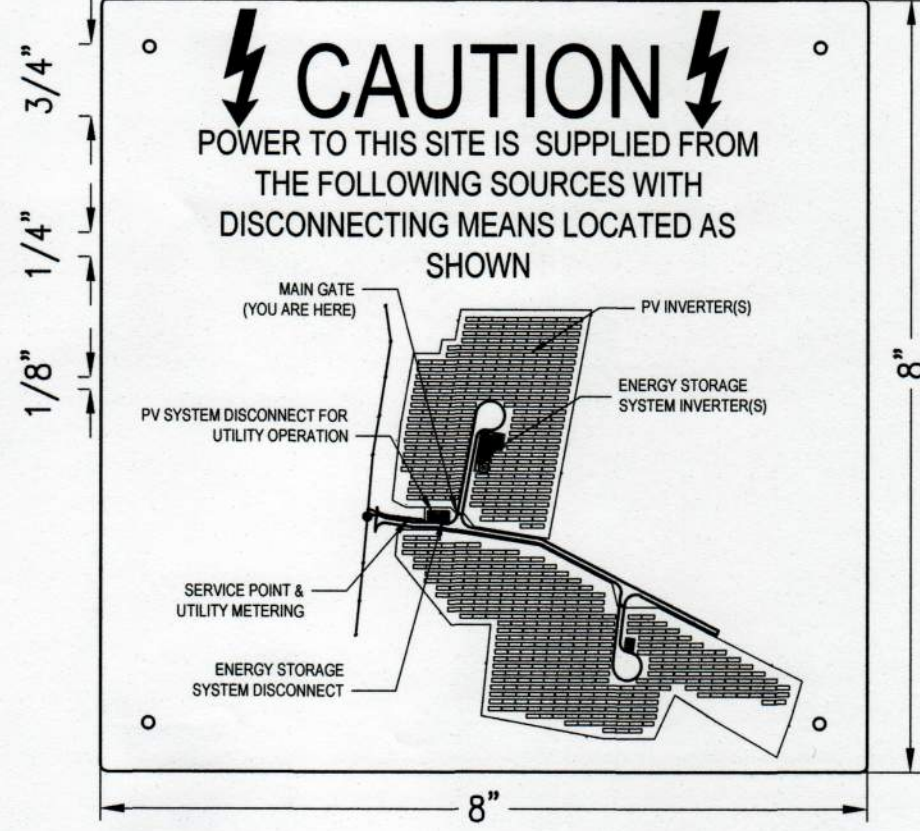
P1: DIRECTORY MAP
LOCATION: AC DISCONNECT
BACKGROUND COLOR: RED; TEXT COLOR: WHITE



P1: DIRECTORY MAP
LOCATION: UTILITY METER
BACKGROUND COLOR: RED; TEXT COLOR: WHITE



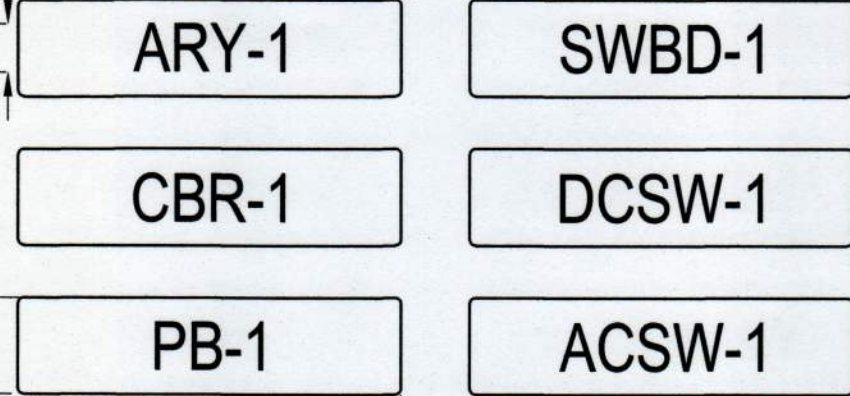
P1: DIRECTORY MAP
LOCATION: MAIN GATE
BACKGROUND COLOR: RED; TEXT COLOR: WHITE



P2: BORREGO O&M CONTACT INFO
LOCATION: UTILITY ACSW, POI, INV-#, DAS
BACKGROUND COLOR: RED
TEXT COLOR: WHITE



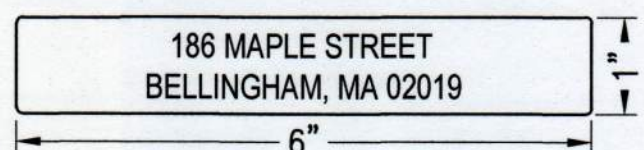
ARRAY AND EQUIPMENT ID
BACKGROUND COLOR: RED; TEXT COLOR: WHITE



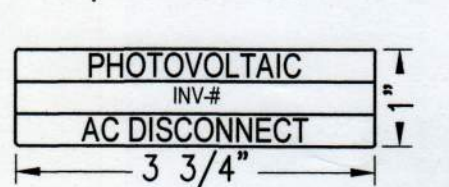
PAC1: UTILITY PHOTOVOLTAIC DISCONNECTING MEANS
LOCATION: ACSW-X
NEC: 690.54
BACKGROUND COLOR: RED; TEXT COLOR: WHITE
HT P/N: 596-00892



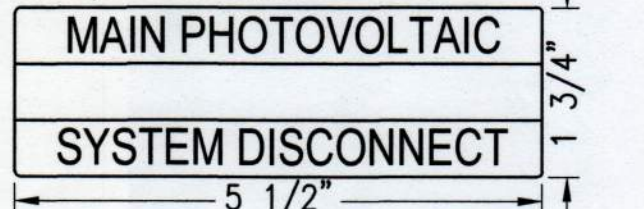
PAC2: SITE ADDRESS
LOCATION: UTILITY ACSW-X
BACKGROUND COLOR: RED
TEXT COLOR: WHITE



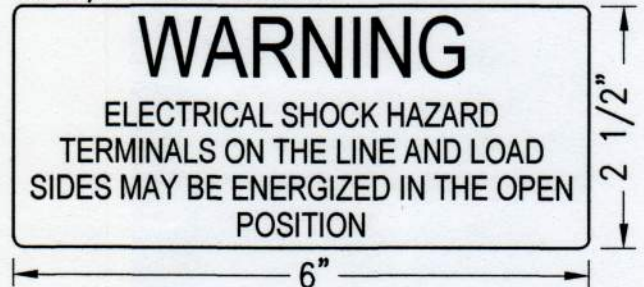
PAC3: AC EQUIPMENT DISCONNECTING MEANS
LOCATION: ACSW-X OR INV-# (IF INTEGRAL ACSW)
NEC: 690.13(B)
BACKGROUND COLOR: RED, WHITE
TEXT COLOR: WHITE
HT P/N: 596-00237



PAC4: PV SYSTEM DISCONNECTING MEANS
LOCATION: ACSW-X OR INV-# (IF CENTRAL INV.)
NEC: 690.13(B)
BACKGROUND COLOR: RED REFLECTIVE, WHITE
TEXT COLOR: WHITE
HT P/N: 596-00243



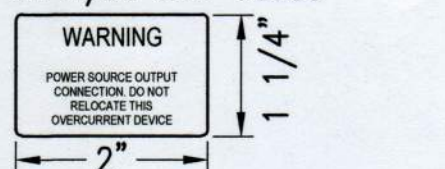
PAC5: AC DISCONNECT MEANS ENERGIZED
LOCATION: ACSW-X, PNL-X
NEC: 690.13(B)
BACKGROUND COLOR: ORANGE AND WHITE
TEXT COLOR: BLACK
HT P/N: 596-00878



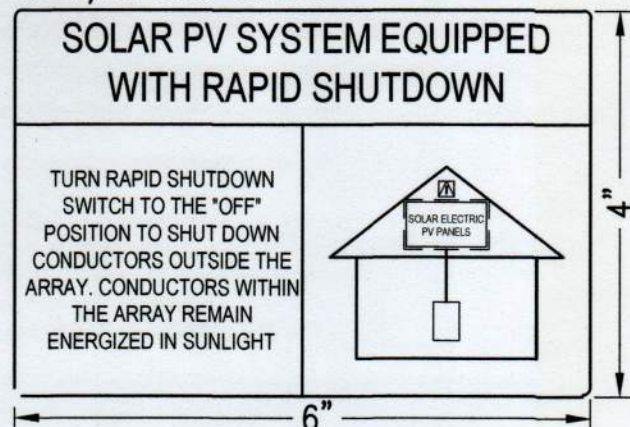
PAC7: SOLAR PANELBOARD/SWITCHBOARD
LOCATION: PNL-X, SWBD-X
NEC: 705.12(B)(2)(c)
BACKGROUND COLOR: ORANGE
TEXT COLOR: BLACK
http://www.pvlabs.com/05-108-label/



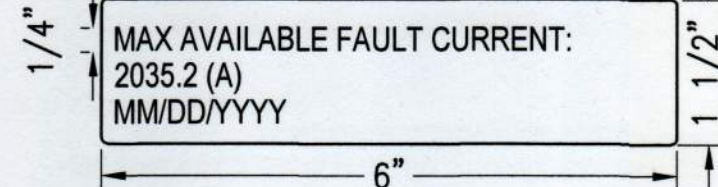
PAC8: LOADBREAK INTX BREAKER
LOCATION: PV BREAKER AT LOADSIDE INTX
NEC: 705.12(B)(2)(3)(b)
BACKGROUND COLOR: ORANGE; TEXT COLOR: BLACK
HT P/N: 596-00883



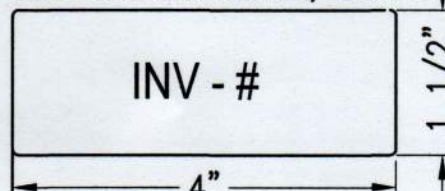
PAC11: RAPID SHUTDOWN
LOCATION: RAPID SHUTDOWN SWITCH
NEC: 690.56(C)(1)(b)
BACKGROUND COLOR: RED REFLECTIVE, WHITE
TEXT COLOR: WHITE, BLACK
HT P/N: 596-00886



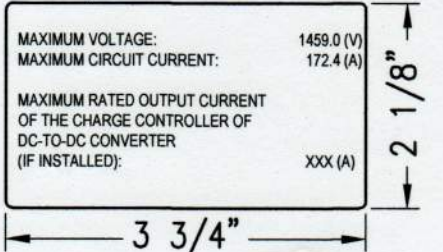
PAC13: FAULT CURRENT
LOCATION: PNL-X, MAIN SERVICE
NEC: 110.24(A)
BACKGROUND COLOR: WHITE
TEXT COLOR: BLACK, ENGRAVED



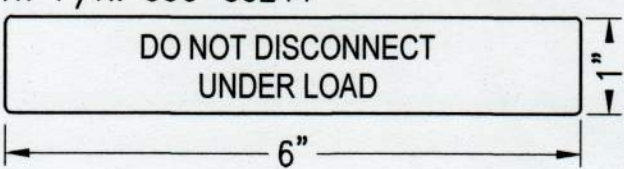
PAC14: SOURCE OF SUPPLY
LOCATION: AT EACH INV BREAKER
OF PNL AND SWBD, MAIN SERVICE
NEC: 408.4(B)
BACKGROUND COLOR: WHITE
TEXT COLOR: BLACK, ENGRAVED



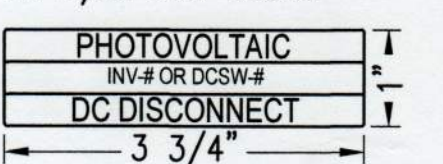
PDC1: DC DISCONNECTS
LOCATION: CBR-1 THRU CBR-X, DCSW-X,
RCBR-X, DCCT-X
NEC: 690.53
BACKGROUND COLOR: RED; TEXT COLOR: WHITE
HT P/N: 596-00891



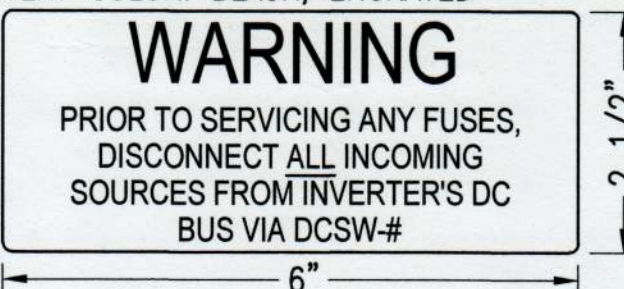
PDC2: DC ENERGIZED CONNECTION AND SYSTEM DISCONNECT
LOCATION: ALL DC JB'S
NEC: 690.33(E)(2), 690.15(C)
BACKGROUND COLOR: RED, REFLECTIVE
TEXT COLOR: WHITE
HT P/N: 596-00244



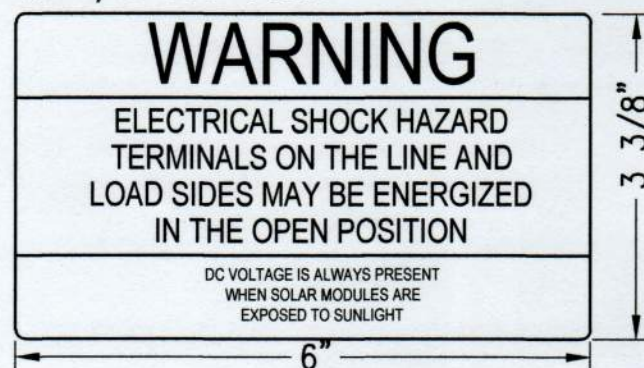
PDC3: DC EQUIPMENT DISCONNECTING MEANS
LOCATION: DCSW-X OR INV-# (IF INTEGRAL DCSW)
NEC: 690.13(B)
BACKGROUND COLOR: RED, WHITE
TEXT COLOR: WHITE
HT P/N: 596-00238



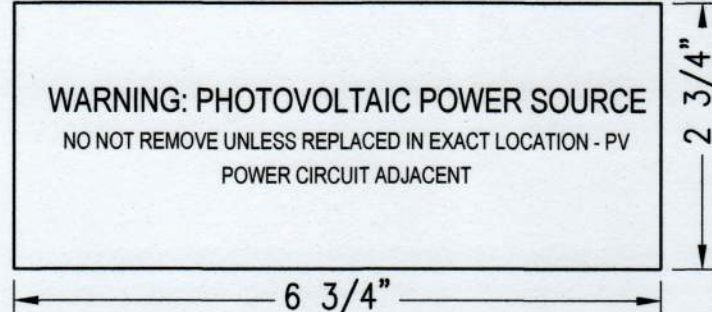
PDC4: FUSE SERVICE WARNING
LOCATION: INV-X
BACKGROUND COLOR: ORANGE AND WHITE
TEXT COLOR: BLACK, ENGRAVED



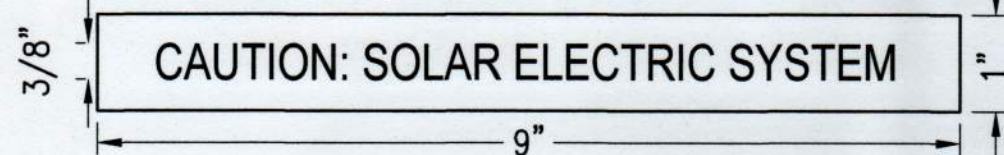
PDC6: DC DISCONNECT MEANS ENERGIZED
LOCATION: DCSW-X, CBR-X, RCBR-X
NEC: 690.13(B)
BACKGROUND COLOR: ORANGE AND WHITE
TEXT COLOR: BLACK
HT P/N: 596-00854



PDC5: GENERAL DC AND/OR CONCEALED DC CONDUIT
LOCATION: ALL EXPOSED DC RACEWAYS, CABLE TRAYS, PB-X, JB-X,
EVERY 10', WITHIN 1' OF BENDS, ON CONDUITS BETWEEN ALL
ENCLOSURES, AND ABOVE/BELOW PENETRATIONS OF ROOF/CEILING,
WALLS OR BARRIERS, ON THE ROOF SURFACE ABOVE EMBEDDED
CONDUIT, EVERY 10'
NEC: 690.31(G)(3), 690.31(G)(4), 690.31(G)(1)
BACKGROUND COLOR: RED REFLECTIVE
TEXT: WHITE REFLECTIVE
HT P/N: 506-00257



FS2: MAIN SERVICE DISCONNECT
LOCATION: ACSW-X
CALFIRE REQUIREMENT
BACKGROUND COLOR: RED, REFLECTIVE
TEXT COLOR: WHITE, REFLECTIVE



SHEET NOTES

GENERAL PLACARD NOTES:

1. NOT ALL PLACARDS DESCRIBED IN THESE NOTES MAY APPLY TO THIS PROJECT.
2. ELECTRICAL SUBCONTRACTOR SHALL PROVIDE ALL PLACARDS AS REQUIRED BY THE NEC, LOCAL FIRE DEPARTMENT, THE AUTHORITY HAVING JURISDICTION, AND LOCAL UTILITY REQUIREMENTS. PLACARDS IN ADDITION TO THOSE SHOWN HERE MAY BE REQUIRED BY THE NEC AND ARE THE RESPONSIBILITY OF THE ELECTRICAL SUBCONTRACTOR.
3. PLACARDS SHALL USE ARIAL OR SIMILAR FONT, NON-BOLD.
4. FONT SIZES SHALL BE THE MINIMUM SHOWN IN THESE DRAWINGS.
5. PLACARDS SHALL HAVE LETTERING IN CAPITAL LETTERS.
6. PLACARDS SHALL BE WEATHER RESISTANT AND SUITABLE FOR THE ENVIRONMENT AND COMPLY WITH ANSI Z535.4-2011.
7. PLACARDS SHALL BE ADHERED WHEN POSSIBLE AND MEET WITH UL969 STANDARDS. IF MECHANICALLY AFFIXED TO EQUIPMENT, USE RIVETS OR SCREWS. SEALANTS AND GASKETED HARDWARE SHALL BE USED TO MAINTAIN EQUIPMENT LISTINGS WHERE REQUIRED. NEMA 4R EQUIPMENT SHALL NOT BE DRILLED.
8. SUBMITTALS REQUIRED FOR PLACARDS AND FOR ADHESIVES USED TO SECURE PLACARDS TO EQUIPMENT.
9. PLACARDS WITH MOUNTING HOLES SHOULD BE 1/8" THICKNESS AND HOLES SHOULD BE 1/2" INSIDE FROM THE EDGE.

EQUIPMENT ID PLACARDS:

1. SUBCONTRACTOR SHALL LABEL ALL ARRAYS, PULL BOXES, JUNCTION BOXES, COMBINER BOXES, DC SAFETY SWITCHES, CIRCUIT BREAKER SAFETY SWITCHES, MULTIPLE DISCONNECT SAFETY SWITCHES, DC CONTACTOR DISCONNECTS, REMOTE PV TIES, BI-POLAR ARRAY COMBINERS, INVERTERS, AC SAFETY SWITCHES, TRANSFORMERS, PANELBOARDS, CIRCUIT BREAKERS, SWITCHGEAR, RECTIFIERS, DATA MONITORING ENCLOSURES, AND METERING CABINETS. A PARTIAL LIST OF PLACARDS IS SHOWN HERE.
2. EQUIPMENT ID PLACARDS - THE FIRST TYPE OF EACH REQUIRED EQUIPMENT ID PLACARD IS SHOWN HERE. ELECTRICAL SUBCONTRACTOR SHALL GENERATE PLACARDS FOR EACH PIECE OF EQUIPMENT AND NUMBER ALL EQUIPMENT PER THE NAMING AND NUMBERING CONVENTION DEFINED IN THESE PLANS.
3. ARRAY ID PLACARD - SHALL BE AFFIXED TO THE REAR CORNERS OF EACH ARRAY AND NUMBERED PER PLANS. IF ATTACHING TO MODULE FRAME ADHESIVE SHALL BE USED; DO NOT DRILL OR RIVET THE MODULE FRAMES.

V17

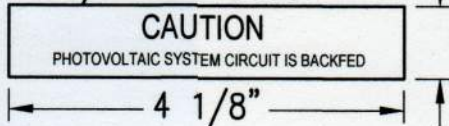
P4: DANGEROUS VOLTAGE

LOCATION: ALL ACCESS POINTS TO THE SITE AND EVERY 250' AROUND THE PERIMETER (ON FENCES AS NECESSARY)
NEC: 110.27(C)
BACKGROUND COLOR: ORANGE; TEXT COLOR: BLACK



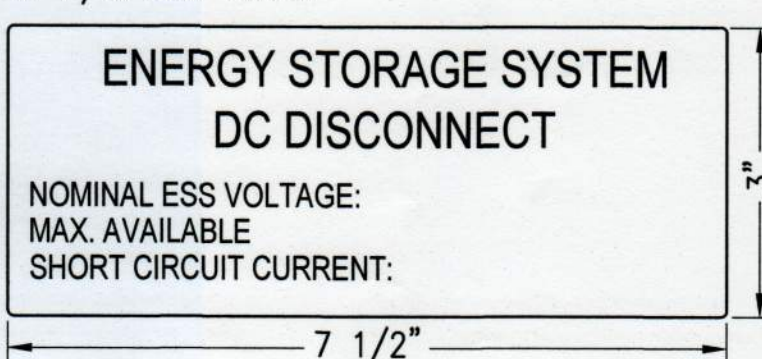
P5: BACKFED CIRCUIT

LOCATION: MAIN SERVICE, PVCB-X
NEC: 690.13(F), 690.59, 705.12(B)(3-4)
BACKGROUND COLOR: YELLOW
TEXT COLOR: BLACK
HT P/N: 596-00587

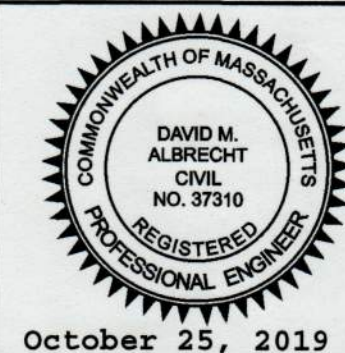
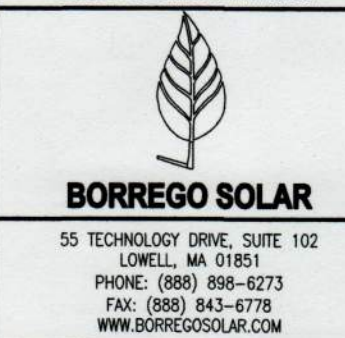


ESS1: ENERGY STORAGE SYSTEM DISCONNECTING MEANS

LOCATION: ESS SW-X
NEC: 706.7(D)
BACKGROUND COLOR: RED; TEXT COLOR: WHITE
HT P/N: 596-00987



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October 25, 2019

David Albrecht

SITE USE PLAN
186 MAPLE STREET
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PROJECT NUMBER:
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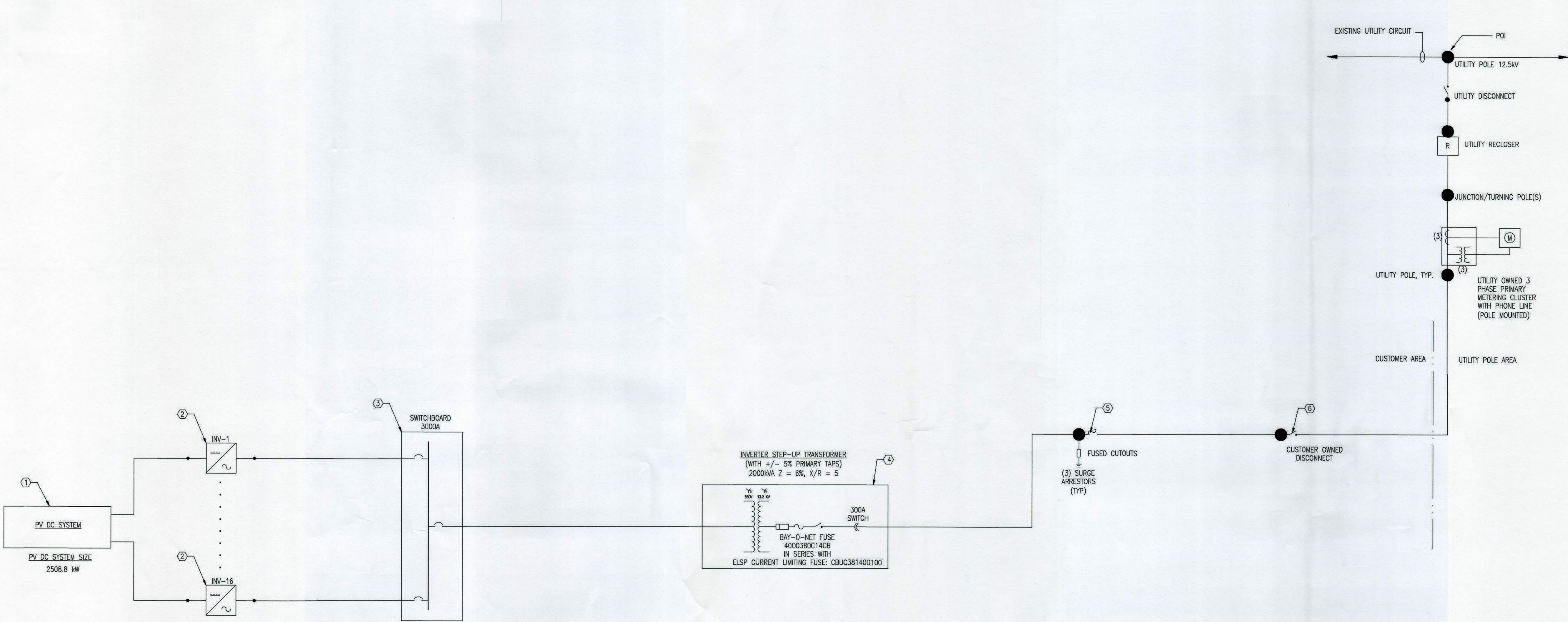
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	7/29/19	RJD	DA	CONSERVATION SUBMISSION	
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SCALES STATED ON DRAWINGS
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E-6.0
PLACARDS

PRESALE AC SINGLE LINE DIAGRAM - SWANSON ROAD - ROSCOE IL - SITE A - 2MWAC

SCALE: NTS



ELECTRICAL EQUIPMENT SCHEDULE		
REF. #	TOTAL	DESCRIPTION
①	18441	HANWHA Q.PEAK DUO L-G5.3 390W MODULES (27 MODULES PER STRING)
②	32	CHINT CPS SCH125KTL-D0/US-600 STRING INVERTER
③	1	2500A SWITCHBOARD, 600VAC
④	1	2000KVA TRANSFORMER, 3 PHASE
⑤	1	15KV POLE MOUNTED, 900A, 65KAIC, DISCONNECT LOAD BREAK SWITCH, GANG OPERATED, LOCKABLE, WITH FUSED CUTOUTS

PROPOSED INVERTER SETTINGS				
DEVICE	PICKUP	UNITS	TIME DELAY	DESCRIPTION
27-1	300	Volts	1.5	UNDERVOLTAGE RELAY
27-2	420	Volts	11	
27-3	528	Volts	21	
59-1	660	Volts	13	OVERVOLTAGE RELAY
59-2	720	Volts	0.16	
81U-1	57.0	Hz	0.16	UNDERFREQUENCY
81U-2	58.5	Hz	300	
81O-1	60.5	Hz	300	OVERFREQUENCY
81O-2	62.0	Hz	0.16	

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PROJECT NAME
15047 WEST KENT SCHOOL ROAD
STEPHENSON, IL 61044

PROJECT NUMBER:
XXX-XXXX

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL	PSD FOR PB3 PACKAGE
1	2/21/2018	JAI			

SCALE:
VALID ONLY WHEN PLOTTED
ANSI FULL BLEED B 11" X 17"

E-0.0
INTERCONNECTION SINGLE LINE