PRELIMINARY
CIVIL SITE PLAN
TITCOMB LANDFILL SOLAR PROJECT

SOUTH HUNT ROAD
AMESBURY
ESSEX COUNTY
MASSACHUSETTS

LOCATION MAP
SCALE: 1"=1000'

LAND OWNER/APPLICANT:
CITY OF AMESBURY
PREPARED FOR:

SunEdison

179 LINCOLN STREET, SUITE 500
BOSTON, MA 02111

PREPARED BY:

TRC

WANNALANCIT MILLS
650 SUFFOLK STREET, SUITE 200
LOWELL, MA 01854

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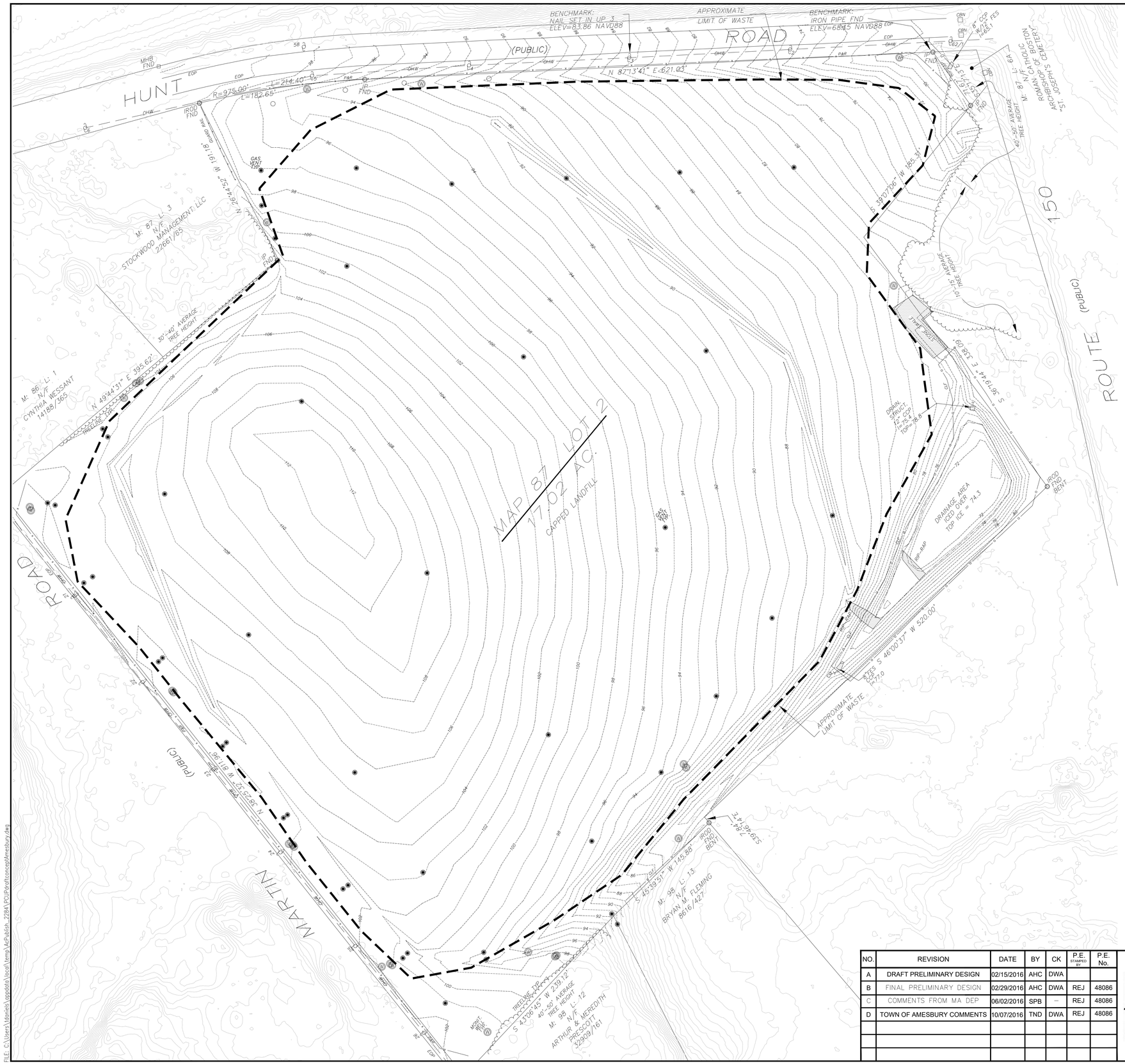

PROJECT ADDRESS:
SOUTH HUNT ROAD
AMESBURY, MA

APPLICANT:
CITY OF AMESBURY
62 FRIEND STREET
AMESBURY, MA 01913

PREPARED BY:
TRC
WANNALANCIT MILLS
650 SUFFOLK STREET, SUITE 200
LOWELL, MA 01854

SITE LOCATION

GENERAL NOTES:

1. SUBJECT PARCEL IS LOCATED IN ZONE OP - OFFICE PARK ZONE
2. THE FOLLOWING DATUMS ARE REPRESENTED HEREON:

   HORIZONTAL: MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, NAD 83, MAINLAND ZONE, US FEET.
   VERTICAL: NORTH AMERICAN VERTICAL DATUM 88.
3. TOPOGRAHICAL SURVEY PERFORMED BY LAND PLANNING, INC, HANSON, MA. EXISTING CONDITIONS PLAN PROVIDED ON DECEMBER 8, 2015.
4. SITE TOPOGRAPHY IS SUPPLEMENTED BY LIDAR DATA OBTAINED BY USGS.
5. UNDERGROUND UTILITIES ARE SHOWN BASED ON VISIBLE SURFACE EVIDENCE ONLY AND ARE NOT CERTIFIED.

LEGEND (EXISTING)

- OHW — OVERHEAD WIRES
- 670 EXISTING CONTOUR LINE
- GAS VENT
- TREE/BRUSH LINE
- 16 UTILITY POLE
- W MONITORING WELL
- STONE SWALE
- APPROXIMATE EXTENT OF LANDFILL CAP
- DRAINAGE BASIN FENCELINE
- PARCEL BOUNDARIES
- PERIMETER FENCELINE

50 0 50 100 FT
SCALE: 1"=50'

FOR PERMITTING
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NO.	REVISION	DATE	BY	CK	P.E. STAMPED BY	P.E. No.
A	DRAFT PRELIMINARY DESIGN	02/15/2016	AHC	DWA		
B	FINAL PRELIMINARY DESIGN	02/29/2016	AHC	DWA	REJ	48086
C	COMMENTS FROM MA DEP	06/02/2016	SPB	–	REJ	48086
D	TOWN OF AMESBURY COMMENTS	10/07/2016	TND	DWA	REJ	48086

COMMONWEALTH OF MASSACHUSETTS ROBERT E. JACKSON ENVIRONMENTAL No. 48086 REGISTERED PROFESSIONAL ENGINEER

CLIENT APPROVAL
JL APPROVED BY
SUNEDISON COMPANY
02/19/2016 DATE

AHC DESIGNED
AHC DRAWN
DWA CHECKED
REJ APPROVED
REVIEWED
TRC
TRC

TITCOMB LANDFILL

SunEdison

EXISTING CONDITIONS PLAN

AMESBURY MASS

TRC Wannalancit Mills 650 Suffolk Street, Suite 200 Lowell, MA 01854

SCALE: 1"=50" DATE: MAY 2016

C-1

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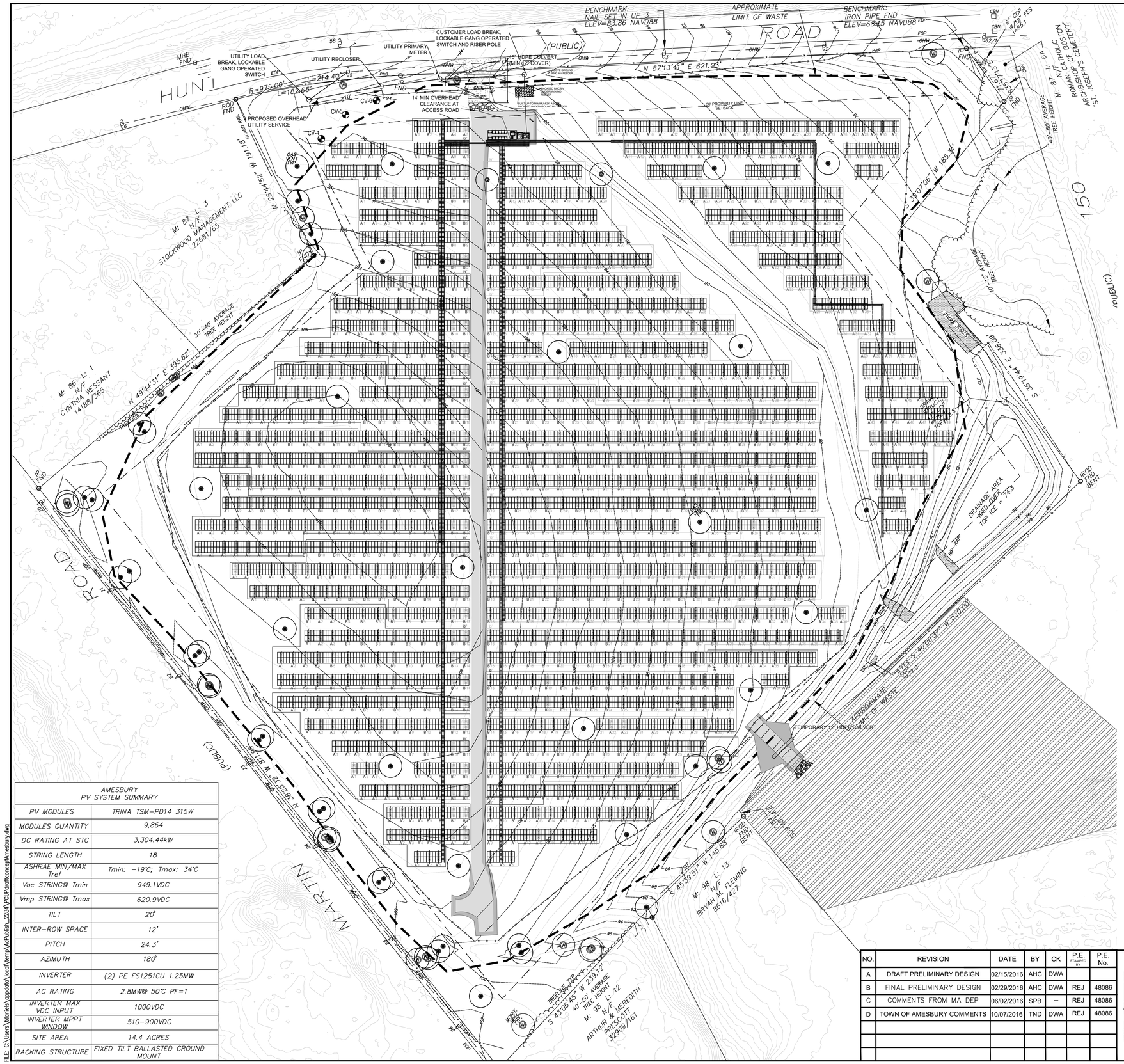

AMESBURY PV SYSTEM SUMMARY	
PV MODULES	TRINA TSM-PD14 315W
MODULES QUANTITY	9,864
DC RATING AT STC	3,304.44kW
STRING LENGTH	18
ASHRAE MIN/MAX Tref	Tmin: -19°C; Tmax: 34°C
Voc STRING@ Tmin	949.1VDC
Vmp STRING@ Tmax	620.9VDC
TILT	20°
INTER-ROW SPACE	12'
PITCH	24.3'
AZIMUTH	180°
INVERTER	(2) PE FS1251CU 1.25MW
AC RATING	2.8MW@ 50°C PF=1
INVERTER MAX VDC INPUT	1000VDC
INVERTER MPPT WINDOW	510-900VDC
SITE AREA	14.4 ACRES
RACKING STRUCTURE	FIXED TILT BALLASTED GROUND MOUNT

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LOWELL, MA 01854

SITE LOCATION

GENERAL NOTES:

1. SUBJECT PARCEL IS LOCATED IN ZONE OP - OFFICE PARK ZONE
2. THE MINIMUM FRONT AND SIDE YARD SETBACKS SHALL BE FIFTY (50) FEEL FROM THE PROPERTY LINE
3. THE FOLLOWING DATUMS ARE REPRESENTED HEREON:
   HORIZONTAL: MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, NAD 83, MAINLAND ZONE, US FEET.
   VERTICAL: NORTH AMERICAN VERTICAL DATUM 88.
4. TOPOGRAHICAL SURVEY PERFORMED BY LAND PLANNING, INC, HANSON, MA. EXISTING CONDITIONS PLAN PROVIDED ON DECEMBER 8, 2015.
5. SITE TOPOGRAPHY IS SUPPLEMENTED BY LIDAR DATA OBTAINED FROM USGS.
6. THE PHOTOVOLTAIC LAYOUT WAS PRODUCED BY NEO VIRTUS ENGINEERING, INC. DATED FEBRUARY 10, 2016
7. THE BALLAST BLOCK DESIGN WAS PRODUCED BY RBI SOLAR, INC. DATED JANUARY 21, 2015.
8. UNDERGROUND UTILITIES ARE SHOWN BASED ON VISIBLE SURFACE EVIDENCE ONLY AND ARE NOT CERTIFIED.
9. CONSTRUCTION STAGING AREA WILL BE LOCATED IN THE PROPERTY ADJACENT TO THE SITE FROM THE EAST. THIS PROPERTY IS ALSO OWNED BY THE TOWN OF AMESBURY AND IS CURRENTLY USED AS A PAVED VACANT LOT OFF OF ROUTE 150.

LEGEND (PROPOSED)

- SOLAR PANEL ARRAY
- INVERTER PAD
- PERIMETER FENCE GATE
- PERIMETER FENCE
- TEMPORARY CONSTRUCTION ENTRANCE
- STRINGS
- CB 1-9 — COMBINER BOX
- DC TRENCH
- AC UNDERGROUND WIRE
- AC OVERHEAD WIRE
- VENT AND WELL OFFSET
- ZONING OFFSET
- PERMANENT GRAVEL ROAD
- 3:1 SIDE SLOPE OFF ACCESS ROAD
- NEW UTILITY POLES
- STAGING AREA
- PAVED APRON
- A 10 — BALLAST BLOCKS
- CV-4 — PROPOSED VENTS TO BE INSTALLED IN 2016
- CABLE TRAYS
- PROPOSED CONTOURS

LEGEND (EXISTING)

- OHW — OVERHEAD WIRES
- 670 — EXISTING CONTOUR LINE
- GAS VENT
- TREE/BRUSH LINE
- 16 — UTILITY POLE
- MONITORING WELL
- STONE SWALE
- APPROXIMATE EXTENT OF LANDFILL CAP
- DRAINAGE BASIN FENCELINE
- PARCEL BOUNDARIES
- PERIMETER FENCELINE

50 0 50 100 FT
SCALE: 1"=50'

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COMMONWEALTH OF MASSACHUSETTS — ROBERT E. JESSOP ENGINEERING INC. No. 48086 — REGISTERED PROFESSIONAL ENGINEER

CLIENT APPROVAL
JL — APPROVED BY
SUNEDISON — COMPANY
02/19/2016 — DATE

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REJ — APPROVED
REVIEWED
TRC
TRC

TITCOMB LANDFILL

SunEdison

SITE PLAN

AMESBURY MASS

TRC — Wannalancit Mills, 650 Suffolk Street, Suite 200, Lowell, MA 01854
SCALE: 1" = 50' DATE: MAY 2016

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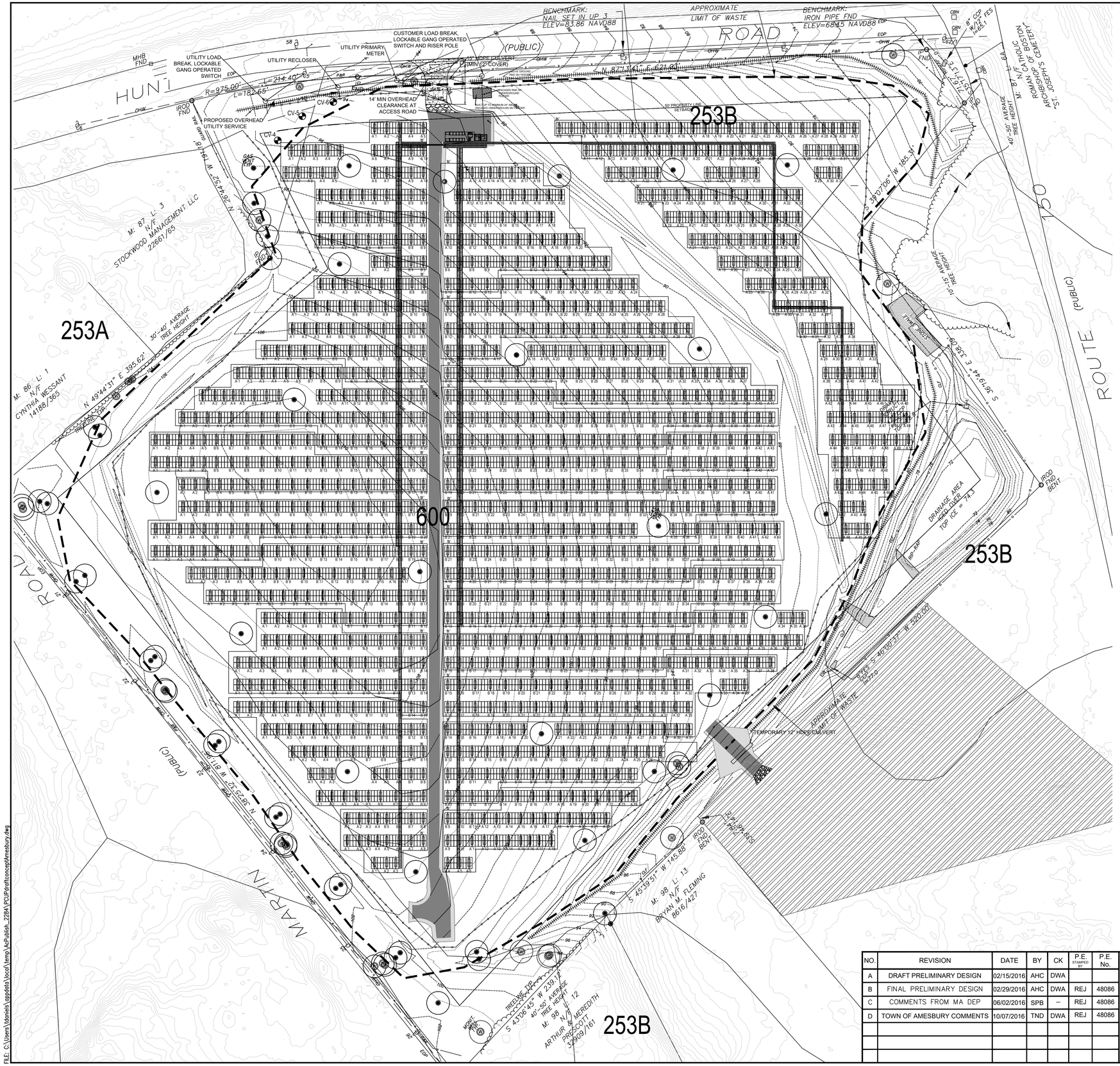

CONSTRUCTION NOTES:

1. BEFORE THE START OF CONSTRUCTION, THE LIMITS OF WORK MUST BE CLEARLY MARKED.
2. ALL CONSTRUCTION SHALL FOLLOW THE COMMONWEALTH OF MASSACHUSETTS, DEPARTMENT OF PUBLIC WORKS "STANDARD SPECIFICATION FOR HIGHWAYS, BRIDGES AND WATERWAYS", 1973 EDITION, AS AMENDED (TO BE REFERRED HERETO AS THE "STANDARD SPECIFICATIONS'S), "CONSTRUCTION STANDARDS", 1977, AS AMENDED (TO BE REFERRED HERETO AS THE "CONSTRUCTION STANDARDS") AND THE FOLLOWING:
   IN A CUT AREA ALL MATERIAL SHALL BE REMOVED TO SUBGRADE. ALL UNSUITABLE MATERIAL, SUCH AS PEAT, HIGHLY ORGANIC SILT OR CLAY, OR ANY OTHER MATERIAL CONSIDERED TO BE DETRIMENTAL TO THE SUBGRADE, SHALL BE REMOVED AND SHALL BE REPLACED BY BANK-RUN GRAVEL, AND BE BROUGHT TO PROPER COMPACTION WITH A TEN-TON ROLLER. TOPSOIL, DEFINED AS FERTILE, FRIABLE, NATURAL MATERIAL WHICH HAS DEMONSTRATED VEGETATIVE GROWTH, AND FOUND ON THE SITE, CAN BE USED AS RECYCLED MATERIAL PROVIDED IT CONFORMS WITH THE RELATIVE PROVISIONS OF THE STANDARD SPECIFICATIONS. IN FILL AREAS THE EMBANKMENT SHALL BE ORDINARY. BORROW SPECIFIED AND PLACED, AS IN THE RELEVANT PROVISIONS OF THE STANDARD SPECIFICATIONS. OTHER FILL SHALL BE ORDINARY BORROW SPECIFIED AND PLACED AS IN THE RELEVANT PROVISIONS OF THE STANDARD SPECIFICATIONS. A TOLERANCE OF ONE-HALF (1/2) INCH ABOVE OR BELOW FINISHED SUBGRADE WILL BE PERMITTED, PROVIDED THIS DIFFERENCE IS NOT MAINTAINED OVER FIFTY (50) FEET AND THE REQUIRED CROSS SECTION IS MAINTAINED.
3. ALL APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN PLACE PRIOR TO INSTALLATION OF THE PROPOSED SOLAR GENERATING FACILITY AND UTILITIES.
4. APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND/OR THE AREA IS STABILIZED.
5. THE CONTRACTOR SHALL PERFORM ALL WORK, FURNISH ALL MATERIALS, AND INSTALL ALL MEASURES REQUIRED TO REASONABLY CONTROL SOIL EROSION RESULTING FROM CONSTRUCTION OPERATIONS AND PREVENT EXCESSIVE FLOW OF SEDIMENT FROM THE CONSTRUCTION SITE AT THE CONTRACTOR'S EXPENSE.
6. ANY DISTURBED AREA THAT IS TO BE LEFT EXPOSED FOR MORE THAN FOURTEEN (14) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING AND FERTILIZATION IN ACCORDANCE WITH MASSACHUSETTS STANDARDS AND THEIR RATES SHOULD BE INCLUDED IN THE SPECIFICATION. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH SALT HAY OR THE EQUIVALENT AND ANCHORED IN ACCORDANCE WITH MASS STANDARDS.
7. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
8. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE MAINTAINED ON THE PROJECT SITE DURING CONSTRUCTION AND WILL BE SUBMITTED AS PART OF PERMITTING IN COORDINATION WITH THE DEVELOPER.
9. ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.25" OF RAIN PER 24-HOUR PERIOD.
10. CLEANING OF CATCHBASINS AND STORMWATER BASINS ARE REQUIRED TO BE CLEANED FOLLOWING CONSTRUCTION.
11. DUST SHALL BE CONTROLLED BY AN APPROVED METHOD ACCORDING TO MASSACHUSETTS STANDARDS.
12. USE STAGED CONSTRUCTION METHODS TO MINIMIZE EXPOSED SURFACES, WHERE APPLICABLE.
13. FOLLOWING CONSTRUCTION, A PERMANENT PERIMETER FENCE SHALL BE INSTALLED ALONG WITH A SIGN SHOWING THE NAME AND ADDRESS OF SUNEDISON, LLC AND A TELEPHONE NUMBER WHERE A RESPONSIBLE REPRESENTATIVE OF THE OPERATOR MAY BE REACHED AT ANY TIME.

LEGEND (PROPOSED)

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- PERIMETER FENCELINE

50 0 50 100 FT

SCALE: 1"=50'

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D	TOWN OF AMESBURY COMMENTS	10/07/2016	TND	DWA	REJ	48086

COMMONWEALTH OF MASSACHUSETTS — ROBERT E. JACKSON — ENGINEERING INC. — No. 48086 — 02/19/16 — REGISTERED PROFESSIONAL ENGINEER

CLIENT APPROVAL

JL — APPROVED BY
SUNEDISON — COMPANY
02/19/2016 — DATE

AHC — DESIGNED
AHC — DRAWN
DWA — CHECKED
REJ — APPROVED
REVIEWED
TRC
TRC

TITCOMB LANDFILL

SunEdison

SITE/SOIL EROSION/SEDIMENT CONTROL PLAN

AMESBURY MASS

TRC — Wannalancit Mills, 650 Suffolk Street, Suite 200, Lowell, MA 01854

SCALE: 1' = 75' DATE: MAY 2016

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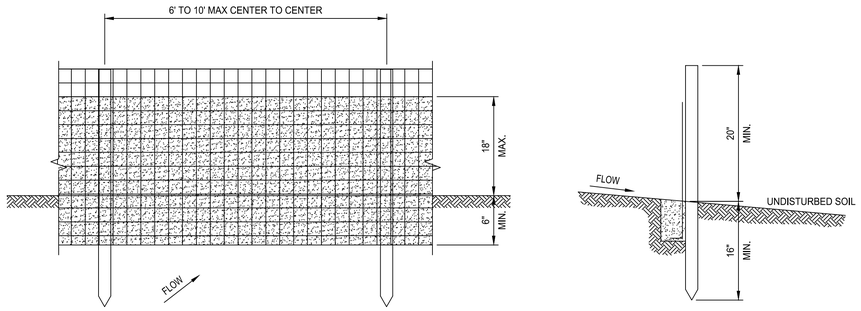


ELEVATION

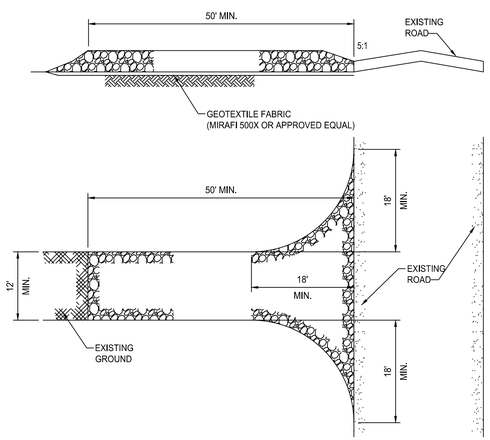
SECTION

1. WOVEN WIRE FENCE TO BE FASTENED TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MIDSECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN BUILD-UP REACHES ½ THE HEIGHT OF THE FENCE.

POSTS:	STEEL "T" OR "U" TYPE OR 2" HARDWOOD.
FENCE:	WOVEN WIRE. 14½ GA 6" MAX MESH OPENING.
FILTER CLOTH:	FILTER X, MIRAFI 100X. STABLINKA T140N OR APPROVED EQUAL.
PREFABRICATED UNIT:	ENVIROFENCE OR APPROVED EQUAL

SILT FENCE DETAILS

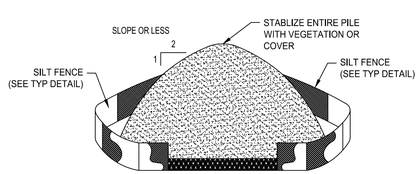
NOT TO SCALE



1. STONE SIZE - USE 2" STONE.
2. LENGTH - NOT LESS THAN 50 FEET.
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MIN. BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE FABRIC - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



INSTALLATION NOTES:
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2H:1V.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAW BALES, THEN STABILIZED WITH VEGETATION OR COVERED.

TYPICAL TOPSOIL STOCKPILE

NOT TO SCALE

SOIL EROSION & SEDIMENT CONTROL NOTES:

1. ALL APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN PLACE PRIOR TO ANY INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES.
2. SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THE PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN MASSACHUSETTS.
3. ALL APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND/OR THE AREA IS STABILIZED.
4. ANY DISTURBED AREA THAT WILL BE LEFT EXPOSED FOR MORE THAN FOURTEEN (14) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING AND FERTILIZATION IN ACCORDANCE WITH THE MASSACHUSETTS STANDARDS AND APPLICATION RATES SHALL BE INCLUDED IN THE NARRATIVE. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE MASSACHUSETTS STANDARDS (I.E. PEG AND TWINE, MULCH MATTING, OR LIQUID MULCH BINDER.
5. ALL CRITICAL AREAS SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH AT A RATE OF 2 TONS PER ACRE, ACCORDING TO THE MASSACHUSETTS STANDARDS IMMEDIATELY FOLLOWING A ROUGH GRADING.
6. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
7. ALL SOIL EROSION AND SEDIMENTATION STRUCTURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AND AFTER EVERY STORM EVENT.
8. SOIL STOCKPILES ARE NOT TO BE LOCATED WITHIN FIFTY (50) FEET OF A FLOODPLAIN, SLOPE, ROADWAY, OR DRAINAGE FACILITY. THE BASE OF ALL STOCKPILES SHOULD BE PROTECTED BY A SILT FENCE. PROPOSED LOCATIONS SHOULD BE DELINEATED ON THE PLAN.
9. A CRUSHED STONE TIRE CLEANING PAD WILL BE INSTALLED WHEREVER A CONSTRUCTION ENTRANCE EXISTS. THE RIP-RAP PAD MUST BE FIFTY (50) IN LENGTH AND THE STONE MUST BE 1.5" TO 4" IN SIZE PLACED 12" THICK AND THE FULL WIDTH OF THE ENTRANCE. IT SHOULD BE UNDERLAIN WITH A SUITABLE SYNTHETIC FILTER FABRIC AND MAINTAINED.
10. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
11. OFFSITE SEDIMENT DISTURBANCE MAY REQUIRE ADDITIONAL CONTROL MEASURES TO BE DETERMINED BY THE EROSION CONTROL INSPECTOR.
12. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE MAINTAINED ON THE PROJECT SITE DURING CONSTRUCTION.
13. ANY CONVEYANCE OF THIS PROJECT PRIOR TO ITS COMPLETION WILL TRANSFER FULL RESPONSIBILITY FOR COMPLIANCE WITH THE CERTIFIED PLAN TO ALL SUBSEQUENT OWNERS.
14. THE SOIL EROSION INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION MEASURES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR.

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COMMONWEALTH OF MASSACHUSETTS ROBERT E. JOHNSON PROFESSIONAL ENGINEERING No. 48086 10/7/16 PROFESSIONAL ENGINEER

CLIENT APPROVAL

JL
APPROVED BY

SUNEDISON
COMPANY

02/19/2016
DATE

AHC DESIGNED
AHC DRAWN
DWA CHECKED
REJ APPROVED
REVIEWED
TRC
TRC

TITCOMB LANDFILL

SunEdison

SOIL EROSION & SEDIMENT CONTROL DETAILS

AMESBURY MASS

TRC Wannalancit Mills 650 Suffolk Street, Suite 200 Lowell, MA 01854

SCALE: NOT TO SCALE DATE: MAY 2016

C-4

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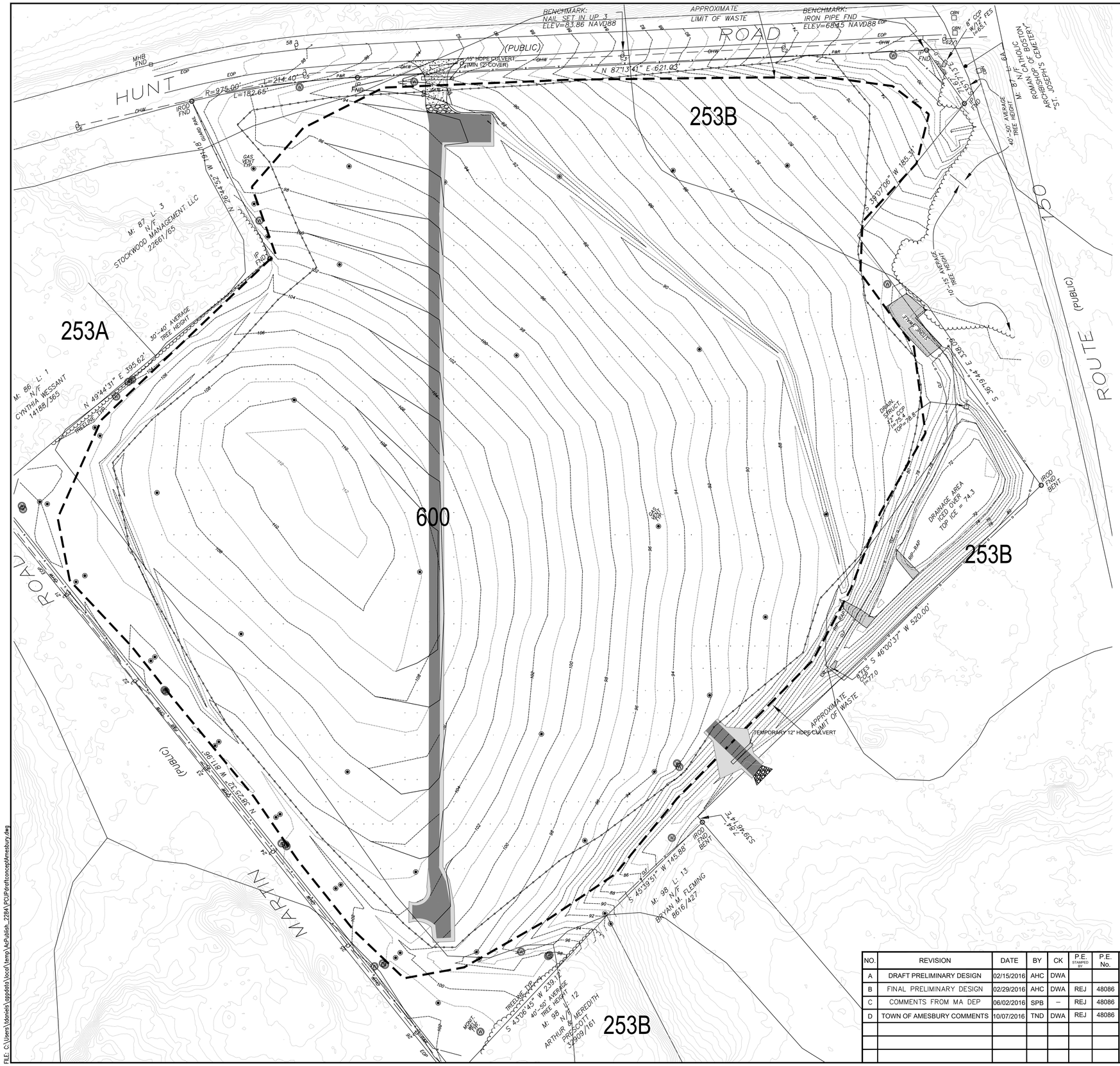

PROJECT SITE CONSTRUCTION SEQUENCE & LEGEND

1. LIMITS OF DISTURBANCE AREA SHALL BE FIELD MARKED PRIOR TO INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES, CONSTRUCTION, OR ANY OTHER LAND DISTURBING ACTIVITY.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE. INSTALL ALL PERIMETER SEDIMENT CONTROLS INCLUDING SILT FENCE. INSTALL PERMANENT PROTECTIVE RING ON ALL MONITORING WELLS AND VAPOR SAMPLING POINTS WITHIN THE LIMIT OF WORK.
3. CONTRACTOR SHALL NOTIFY ENVIRONMENTAL INSPECTOR AND OBTAIN APPROVAL, IF REQUIRED, BEFORE PROCEEDING FURTHER.
4. INSPECT AND MAINTAIN EROSION AND SEDIMENT CONTROLS THROUGHOUT CONSTRUCTION UNTIL FINAL SITE STABILIZATION.
5. GRADE AREAS AS SHOWN ON PLAN IN ANTICIPATION OF GRAVEL ROAD CONSTRUCTION
6. CONSTRUCT PERMANENT GRAVEL ROAD AND THE TEMPORARY ACCESS ROAD WITH APPROPRIATE SIDE SLOPES.
7. CONSTRUCT SOLAR ARRAYS AND ELECTRICAL INFRASTRUCTURE.
8. STABILIZE AREAS DISTURBED BY CONSTRUCTION (ONGOING, AS CONSTRUCTION PERMITS).
9. COLLECT ALL SILT AND SEDIMENT AND DISPOSE OF IN AN APPROVED AREA ON-SITE.
10. REMOVE EROSION AND SEDIMENT CONTROL MEASURES. REGRADE AND REVEGETATE THE AREAS DISTURBED DURING REMOVAL.

NOTE: THE COVER THICKNESS SHALL BE VERIFIED USING HAND EXCAVATED TEST PITS IN ADVANCE OF EXCAVATING IN TRENCHES. TEST PITS SHALL BE CONDUCTED AT A SPACING OF AT LEAST 1 EVERY 20 FEET IN TRENCHES. THE TEST PITS SHALL BE DUG 16 INCHES BELOW GRADE. EXCAVATION TO 14 INCHES SHALL BE APPROVED ONLY IF THE TEST PIT CAN BE EXCAVATED FULL 16-INCH DEPTH. IF CLAY BARRIER OR GEOMEMBRANE IS ENCOUNTERED, THE DESIGN ENGINEER SHALL BE NOTIFIED IMMEDIATELY. NO EXCAVATION SHALL EXCEED 14 INCHES BELOW GRADE.

NOTE: EXCAVATIONS SHALL BE CLOSELY MONITORED AND DOCUMENTED BY ON-SITE OVERSIGHT PERSONNEL. IF THE CLAY BARRIER OR GEOMEMBRANE IS ENCOUNTERED, THE EXCAVATION WORK SHALL STOP AND THE DESIGN ENGINEER SHALL BE NOTIFIED.

LEGEND (PROPOSED)

- PERIMETER FENCE GATE
- PERIMETER FENCE
- CONSTRUCTION ENTRANCE
- PERMANENT GRAVEL ROAD
- 3:1 SIDE SLOPE OFF ACCESS ROAD
- CULVERT
- PROPOSED CONTOURS
- PAVED APRON

LEGEND (EXISTING)

- OHW — — OVERHEAD WIRES
- 670 EXISTING CONTOUR LINE
- GAS VENT
- TREE/BRUSH LINE
- T.L/B.L. 12'± TREE/BRUSH LINE HEIGHT
- UTILITY POLE
- MONITORING WELL
- STONE SWALE
- APPROXIMATE EXTENT OF LANDFILL CAP

SOILS DATA

ABBREV.	NAME, DESCRIPTION	SLOPES	HSG
253A	FREETOWN MUCK	0–3%	A
253B	FREETOWN MUCK	3–8%	A
600	PITS, GRAVEL		

50 0 50 100 FT

SCALE: 1"=50'

FOR PERMITTING
NOT FOR CONSTRUCTION

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D	TOWN OF AMESBURY COMMENTS	10/07/2016	TND	DWA	REJ	48086

COMMONWEALTH OF MASSACHUSETTS
ROBERT E. JOHNSON
No. 48086
PROFESSIONAL ENGINEER

CLIENT APPROVAL
JL APPROVED BY
SUNEDISON COMPANY
02/19/2016 DATE

AHC DESIGNED
AHC DRAWN
DWA CHECKED
REJ APPROVED
REVIEWED
TRC
TRC

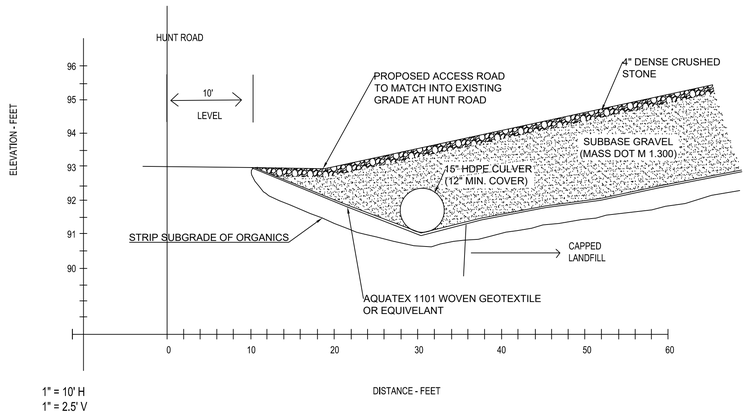
TITCOMB LANDFILL
SunEdison
GRADING PLAN
AMESBURY MASS

TRC
Wannalancit Mills
650 Suffolk Street, Suite 200
Lowell, MA 01854
SCALE: 1"=50'
DATE: MAY 2016

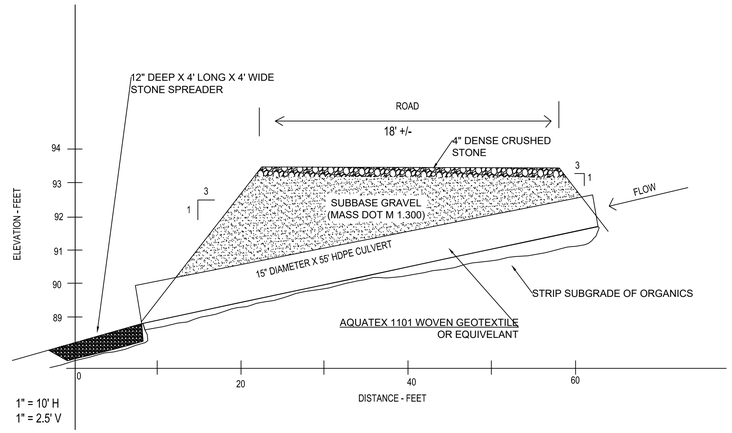
C-5

REV. D

FILE: C:\Users\tdaniels\appdata\local\temp\AcPublish_2284\PCUPdrafttconceptAmesbury.dwg



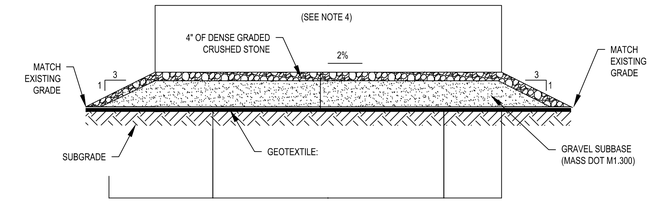
ENTRANCE ROAD CROSS SECTION

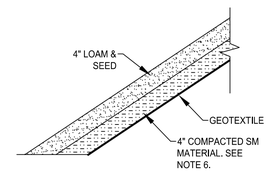


HUNT ROAD ENTRANCE - CROSS SECTION AT CULVERT

TYPICAL ACCESS ROAD SECTION

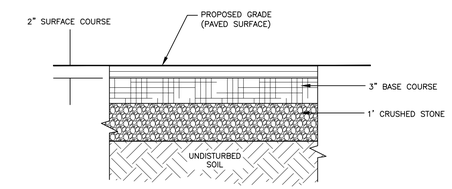
NOT TO SCALE





CONSTRUCTION NOTES:

1. SUBGRADE SHALL BE COMPACTED TO 90% OF ASTM D1557.
2. GEOTEXTILE SHALL BE MIRAFI 500X OR APPROVED EQUAL.
3. AGGREGATE BACKFILL SHALL BE M2.01.1. AGGREGATE SHALL DURABLE CRUSHED ROCK CONSISTING OF THE ANGULAR FRAGMENTS OBTAINED BY BREAKING AND CRUSHING SOLID OR SHATTERED NATURAL ROCK, AND FREE FROM A DETRIMENTAL QUANTITY OF THIN, FLAT, ELONGATED, OR OTHER OBJECTIONABLE PIECES.
4. THERE WILL BE NO FILLING OF ROADWAY WITHIN THE DEFINED FEMA 100 YEAR FLOODWAY. FINISH GRADE WILL MATCH EXISTING GRADE.
5. PROVIDE 4" LAYER OF SM (PER ASTM D2487) MATERIAL ON UPSTREAM ROAD BANK FROM STA. 21+00 TO STA. 23+00 AND FROM STA. 28+50 TO STA. 29+75. COMPACT TO 90% ASTM D1557.
6. GEOTEXTILE: SEPARATES AND PREVENTS SETTLING BETWEEN SUBGRADE AND GRAVEL SUBBASE



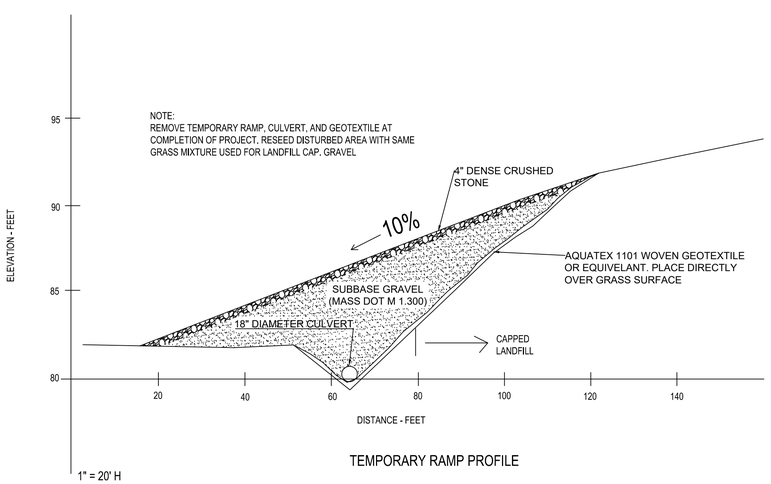
NOT TO SCALE

NOTES:

1. PAVEMENT SHALL CONFORM TO THE MOST RECENT REQUIREMENTS IN THE MASSACHUSETTS HIGHWAY STANDARDS AND SPECIFICATIONS.
2. ASPHALT SHALL BE CLASS I BITUMINOUS PAVEMENT, 5-INCHES IN DEPTH (DENSE BINDER AND TOP), DENSE BINDER WILL BE 3-INCHES AND TOP 2-INCHES IN THICKNESS.

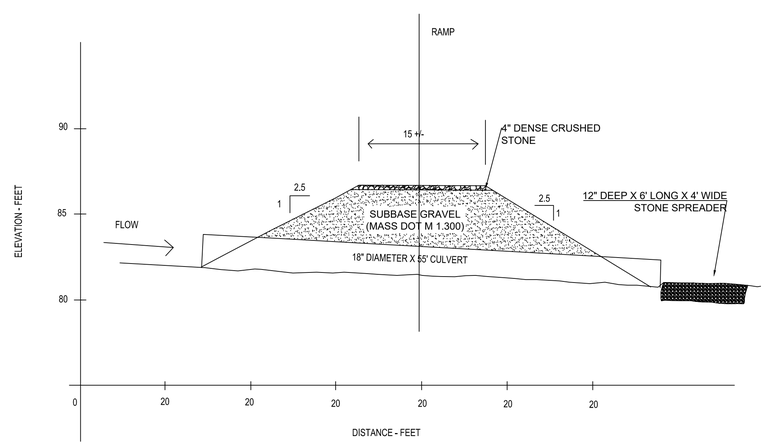
TYPICAL PAVEMENT & ENTRANCE DETAIL

NOT TO SCALE



TEMPORARY RAMP PROFILE

1" = 20' H
1" = 5' V



1" = 10' H
1" = 5' V

TEMPORARY ACCESS - CROSS SECTION AT CULVERT

GENERAL NOTES:

1. CULVERTS SIZED TO ADEQUATELY CONVEY THE 100-YR, 24-HR STORM EVENT FOR AMESBURY, MA.

FOR PERMITTING
NOT FOR CONSTRUCTION

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D	TOWN OF AMESBURY COMMENTS	10/07/2016	TND	DWA	REJ	48086

COMMONWEALTH OF MASSACHUSETTS ROBERT E. JOHNSON ENGINEERING INC. No. 48086 REGISTERED PROFESSIONAL ENGINEER

CLIENT APPROVAL

JL
APPROVED BY

SUNEDISON
COMPANY

02/19/2016
DATE

AHC
DESIGNED

AHC
DRAWN

DWA
CHECKED

REJ
APPROVED

REVIEWED

TRC

TRC

TITCOMB LANDFILL

SunEdison

CONSTRUCTION DETAILS

AMESBURY MASS

TRC
Wannalancit Mills
650 Suffolk Street, Suite 200
Lowell, MA 01854

SCALE: NOT TO SCALE DATE: MAY 2016

C-6.1

REV. D

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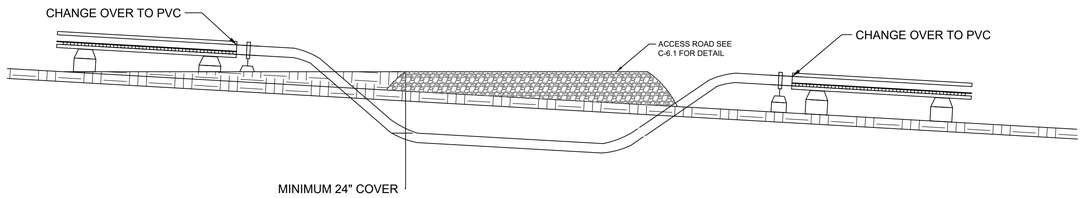
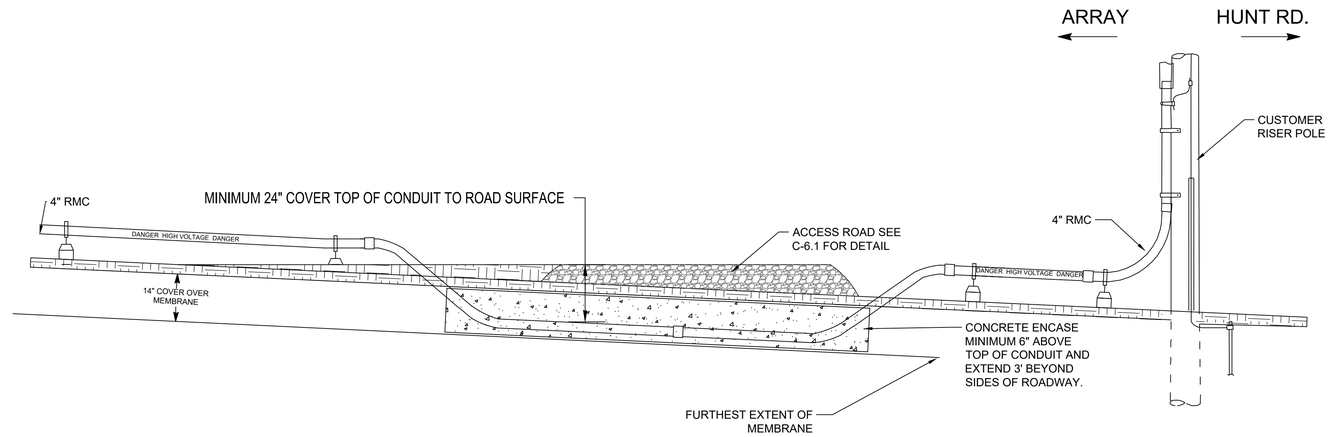


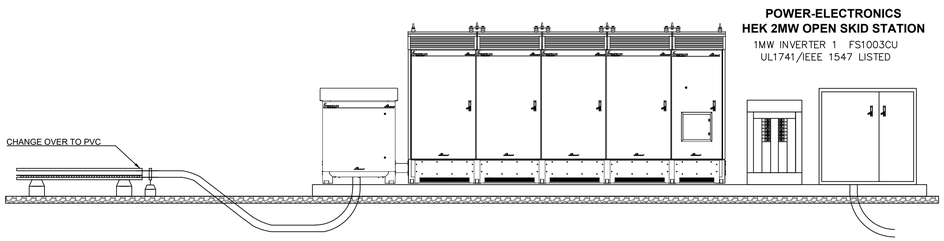
CABLE TRAY TRANSITION TO CONDUIT FOR ROAD CROSSING

NOT TO SCALE



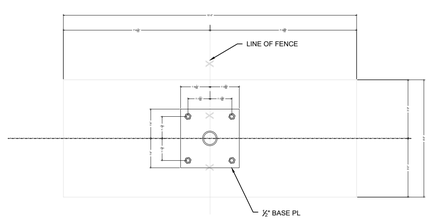
MV RMC CONDUIT DETAIL

NOT TO SCALE



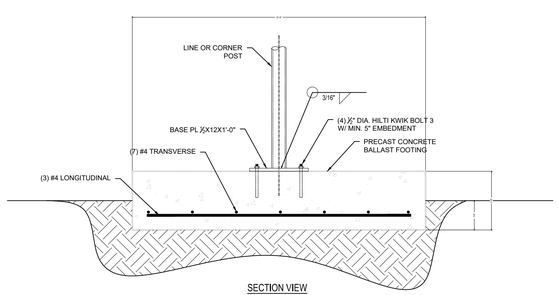
INVERTER MOUNT: PAD POURED IN PLACE

NOT TO SCALE



FENCE BALLAST
PLAN VIEW

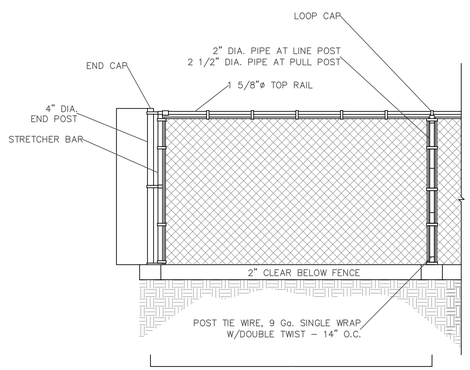
SCALE: ½" = 1'-0"



SECTION VIEW

SCALE: ½" = 1'-0"

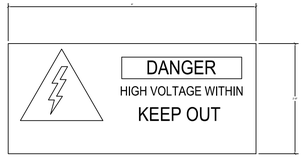
NOTE: DETAIL APPLIES ONLY WHERE FENCE OCCURS OVER LANDFILL CAP



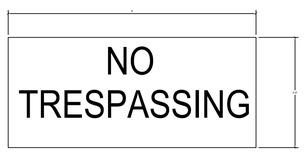
NOTES:
1. FENCE FABRIC INSTALLED OUTSIDE FENCE AS NEEDED FOR VISUAL SCREENING.
2. FENCE SHALL BE INSTALLED WITH X BRACING AT THE CORNERS.

CHAIN LINK FENCE DETAIL

NOT TO SCALE



"TYPE A"



"TYPE B"

PV FENCE SIGN DETAIL

NOT TO SCALE

FOR PERMITTING
NOT FOR CONSTRUCTION

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D	TOWN OF AMESBURY COMMENTS	10/07/2016	TND	DWA	REJ	48086

COMMONWEALTH OF MASSACHUSETTS ROBERT E. JACKSON ELECTRICAL ENGINEER No. 48086 10/7/16 REGISTERED PROFESSIONAL ENGINEER

CLIENT APPROVAL

JL
APPROVED BY

SUNEDISON
COMPANY

02/19/2016
DATE

AHC DESIGNED
AHC DRAWN
DWA CHECKED
REJ APPROVED
REVIEWED
TRC
TRC

TITCOMB LANDFILL

SunEdison

CONSTRUCTION DETAILS

AMESBURY MASS

TRC
Wannalancit Mills
650 Suffolk Street, Suite 200
Lowell, MA 01854

SCALE: NOT TO SCALE DATE: MAY 2016

C-6.2

REV. D

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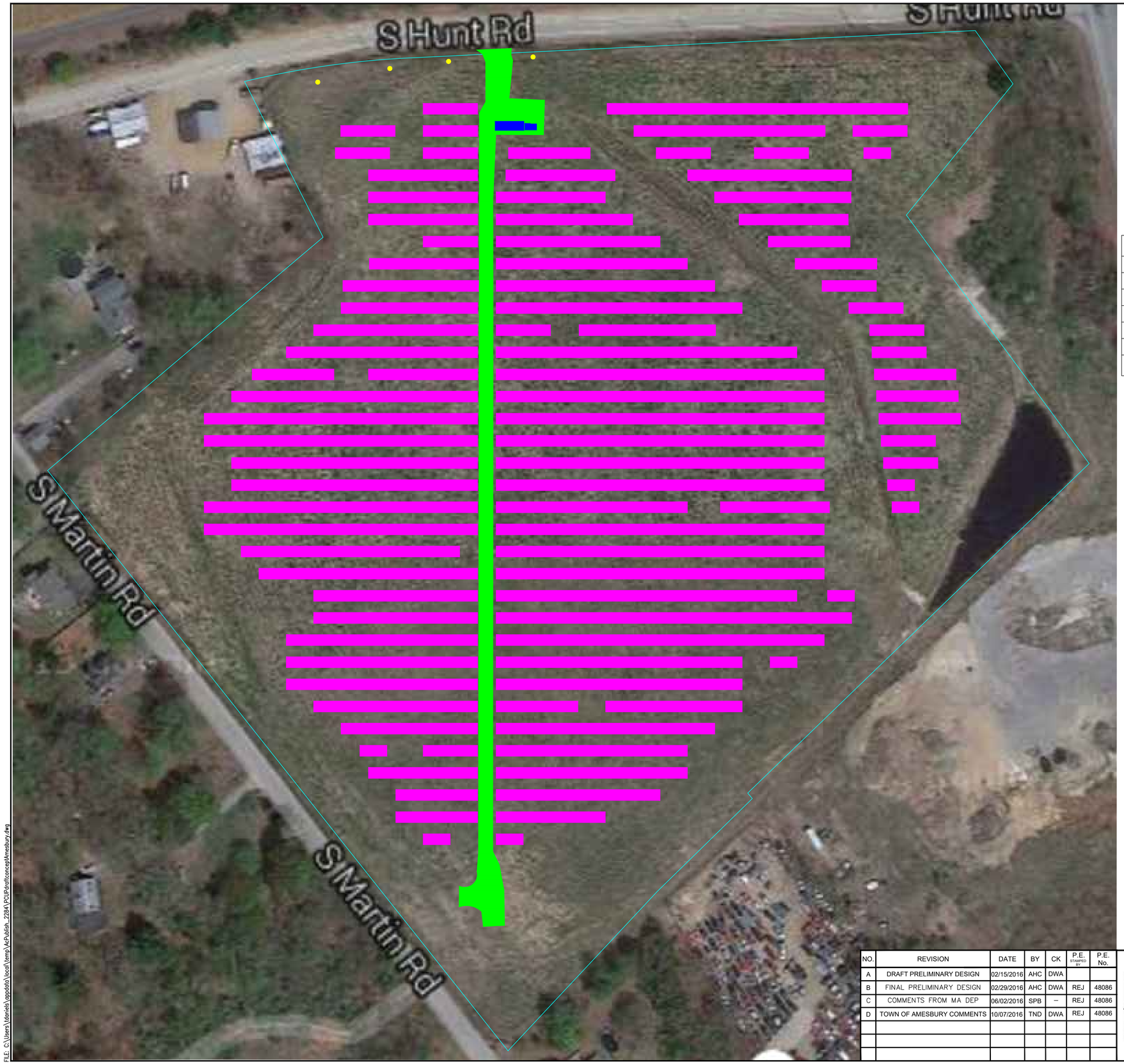

MASS COORD

PROJECT ADDRESS:
SOUTH HUNT ROAD
AMESBURY, MA

APPLICANT:
SunEdison, LLC
179 LINCOLN STREET, SUITE 500
BOSTON, MA 02111

PREPARED BY:
TRC
WANNALANCIT MILLS
650 SUFFOLK STREET, SUITE 200
LOWELL, MA 01854

SITE LOCATION

OPEN SPACE CALCULATIONS

OBSTRUCTION	COLOR	AREA (SQ FT)	AREA (ACRES)
PANELS		201,484	4.63
INVERTERS		421	0.01
POLES		82	~0.00
GRAVEL ROAD		18,924	0.43
TOTAL	-	**220,911**	**5.07**

THERE IS 11.95 ACRES AND 70% OPEN SPACE

GENERAL NOTES:

THE LANDFILL PARCEL, KNOWN BY THE AMESBURY ASSESSOR AS MAP 87, LOT 2 IS A TOTAL OF 17.02 ACRES.

ACCORDING THE CITY OF AMESBURY, MASSACHUSETTS: OPEN SPACE IS DEFINED AS THE SPACE ON A LOT UNOCCUPIED BY BUILDINGS, UNOBSTRUCTED BY THE SKY, NOT DEVOTED TO STREETS, DRIVEWAYS, OR OFF-STREET PARKING OR LOADING SPACES AND EXPRESSED AS PERCENTAGE OF TOTAL LOT.

LEGEND

PARCEL BOUNDARY

PANEL OUTLINE

INVERTER OUTLINE

GRAVEL ROAD OUTLINE

UTILITY POLE OUTLINE

50 0 50 100 FT

SCALE: 1"=50'

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COMMONWEALTH OF MASSACHUSETTS
ROBERT E. JACKSON
ENGINEER
No. 48086
REGISTERED
PROFESSIONAL ENGINEER

CLIENT APPROVAL

JL
APPROVED BY

SUNEDISON
COMPANY

02/19/2016
DATE

AHC
DESIGNED

AHC
DRAWN

DWA
CHECKED

REJ
APPROVED

REVIEWED

TRC

TRC

TITCOMB LANDFILL

SunEdison

OPEN SPACE CALCULATIONS

AMESBURY MASS

TRC
Wannalancit Mills
650 Suffolk Street, Suite 200
Lowell, MA 01854

SCALE: 1" = 50'
DATE: MAY 2016

C-7

REV. D

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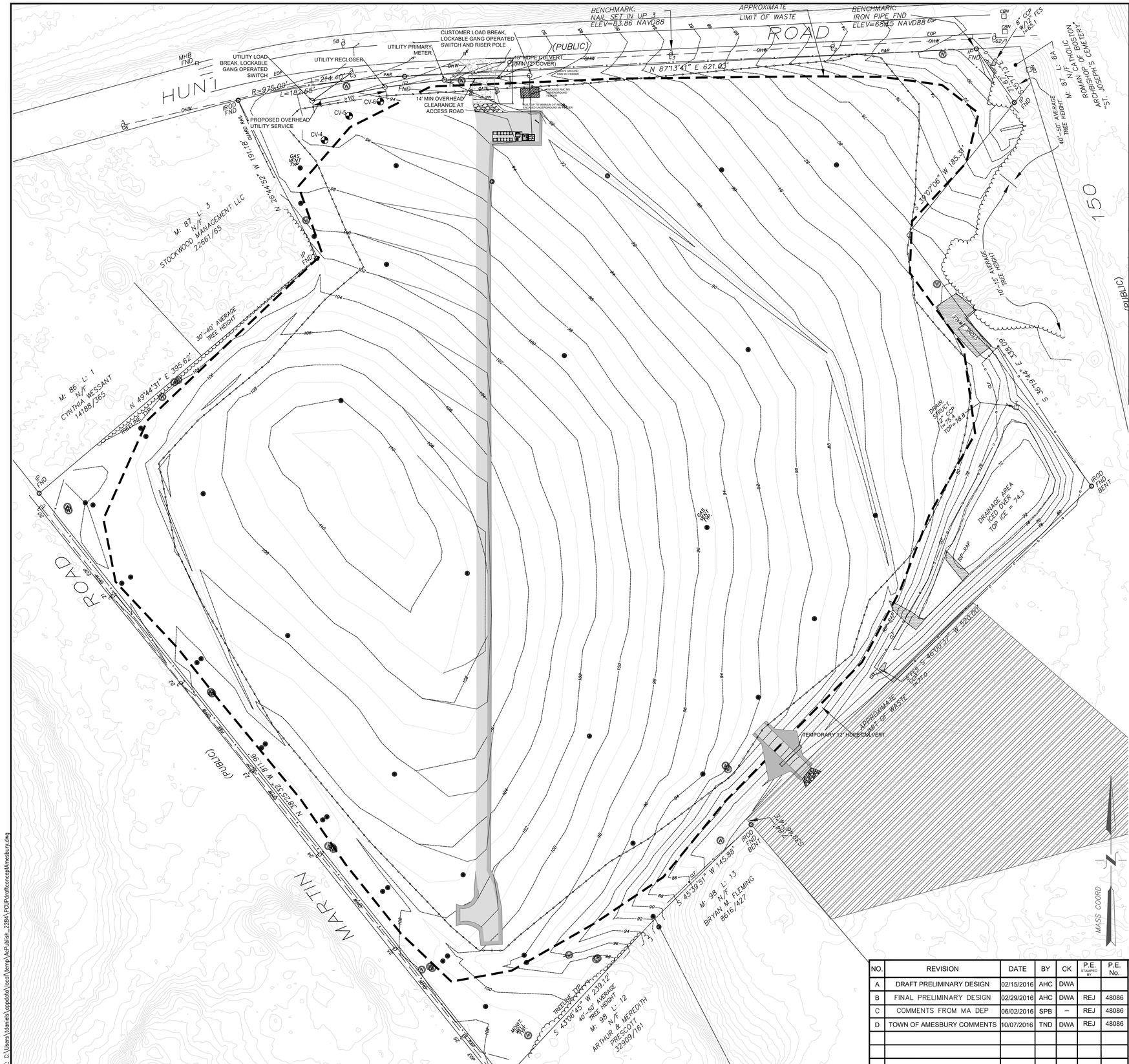

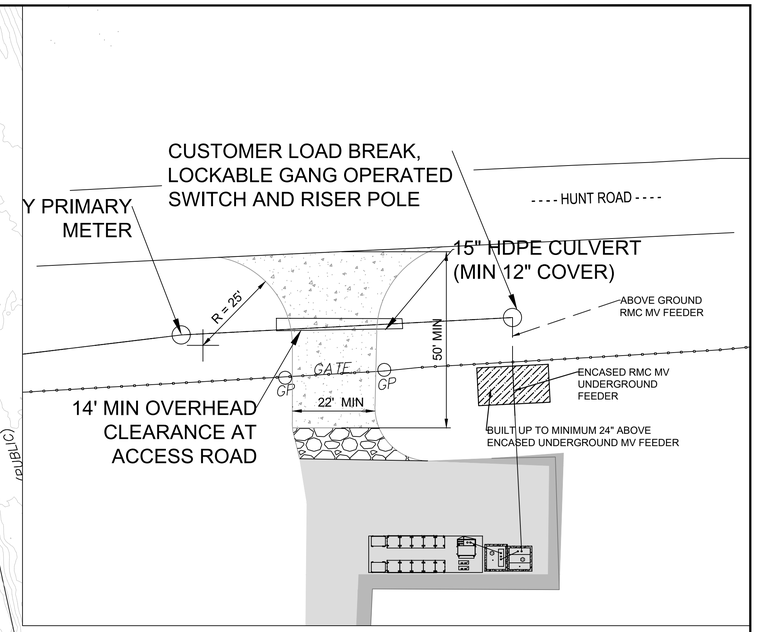

ACCESS ROAD APRON AT HUNT ROAD

SCALE: 1" = 20'

LEGEND (PROPOSED)

- SOLAR PANEL ARRAY
- INVERTER PAD
- PERIMETER FENCE GATE
- PERIMETER FENCE
- TEMPORARY CONSTRUCTION ENTRANCE
- AC UNDERGROUND WIRE
- AC OVERHEAD WIRE
- PERMANENT GRAVEL ROAD
- 3:1 SIDE SLOPE OFF ACCESS ROAD
- NEW UTILITY POLES
- STAGING AREA
- PAVED APRON
- PROPOSED CONTOURS

LEGEND (EXISTING)

- OHW — — OVERHEAD WIRES
- 670 --- --- EXISTING CONTOUR LINE
- GAS VENT
- TREE/BRUSH LINE
- UTILITY POLE
- MONITORING WELL
- STONE SWALE
- APPROXIMATE EXTENT OF LANDFILL CAP
- DRAINAGE BASIN FENCELINE
- PARCEL BOUNDARIES
- PERIMETER FENCELINE

50 0 50 100 FT

SCALE: 1"=50'

FOR PERMITTING
NOT FOR CONSTRUCTION

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COMMONWEALTH OF MASSACHUSETTS ROBERT E. JACKSON ENGINEER No. 48086 REGISTERED PROFESSIONAL ENGINEER

CLIENT APPROVAL
JL APPROVED BY
SUNEDISON COMPANY
02/19/2016 DATE

AHC DESIGNED
AHC DRAWN
DWA CHECKED
REJ APPROVED
REVIEWED
TRC
TRC

TITCOMB LANDFILL
SunEdison
INSTALLATION PLAN
AMESBURY MASS

TRC Wannalancit Mills 650 Suffolk Street, Suite 200 Lowell, MA 01854
SCALE: 1" = 50' DATE: MAY 2016

C-8

REV. D

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ARRAY SETBACK INFORMATION		
STRUCTURE ID	STRUCTURE PURPOSE	DISTANCE TO NEAREST ARRAY MODULE (FT)
1	STORAGE	206.20
2	INDUSTRIAL	131.50
3	STORAGE	142.50
4	STORAGE	65.20
5	RESIDENCE	131.60
6	RESIDENCE	158.00
7	GARAGE/SHED	344.00
8	RESIDENCE	231.50
9	RESIDENCE	156.40
10	RESIDENCE	176.30
11	RESIDENCE	291.40
12	RESIDENCE	291.80
13	RESIDENCE	459.10
14	RESIDENCE	222.10
15	INDUSTRIAL	415.10
16	GARAGE	353.50

100 0 100 200 FT

SCALE: 1"=100'

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COMMONWEALTH OF MASSACHUSETTS
ROBERT E. JASON
ENGINEERING
No. 48086
REGISTERED
PROFESSIONAL ENGINEER

CLIENT APPROVAL

JL
APPROVED BY

SUNEDISON
COMPANY

02/19/2016
DATE

AHC
DESIGNED

AHC
DRAWN

DWA
CHECKED

REJ
APPROVED

REVIEWED

TRC

TRC

TITCOMB LANDFILL

SunEdison

SOLAR GENERATION FACILITY

AMESBURY SETBACK PLAN MASS

TRC
Wannalancit Mills
650 Suffolk Street, Suite 200
Lowell, MA 01854

SCALE: 1"=100'

DATE: MAY 2016

C-9

REV. D