

# SUNPIN SOLAR

## BROOKFIELD ROAD ACCESS ROUTE

BROOKFIELD ROAD  
BRIMFIELD, MASSACHUSETTS

DECEMBER 2019



**Applicant:**  
Sunpin Solar Development, LLC  
3 Corporate Park, Suite 168  
Irvine, CA 92606  
(201) 774-7996  
info@sunpinsolar.us

**Emergency Contact:**  
Bill Behling  
3 Corporate Park, Suite 168  
Irvine, CA 92606  
(617) 456-8694  
bbehling@sunpinsolar.us

**Owner of Record:**  
Denis and Susan Hache  
375 Brookfield Road  
Brimfield, MA 01010  
413-237-5559

**Existing Use:**  
Vacant (Woods)

**Proposed Use:**  
Access Road

**Project  
Location**



ASSESSOR'S MAP  
REFERENCE: LOT 4B-A-18

**LOCATION MAP**  
SCALE: 1" = 500'

BRIMFIELD ZONING DISTRICT:  
AGRICULTURAL-RESIDENTIAL

### PLAN INDEX

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	COVER SHEET
2	EXISTING CONDITIONS PLAN
3	GENERAL SITE PLAN
4	GRADING, DRAINAGE, AND EROSION CONTROL PLAN
5 - 6	DETAILS

PERMITTING  
SUBMISSION

**DRAWING SET: SITE PLANS  
ISSUED FOR: LOCAL APPROVALS**

BOARD APPROVAL _____

DATE \_\_\_\_\_

PREPARED BY:



www.BETA-Inc.com

BETA Group Inc.  
1 Springfield Street, Suite 4  
Chicopee, MA 01013  
413-331-5326

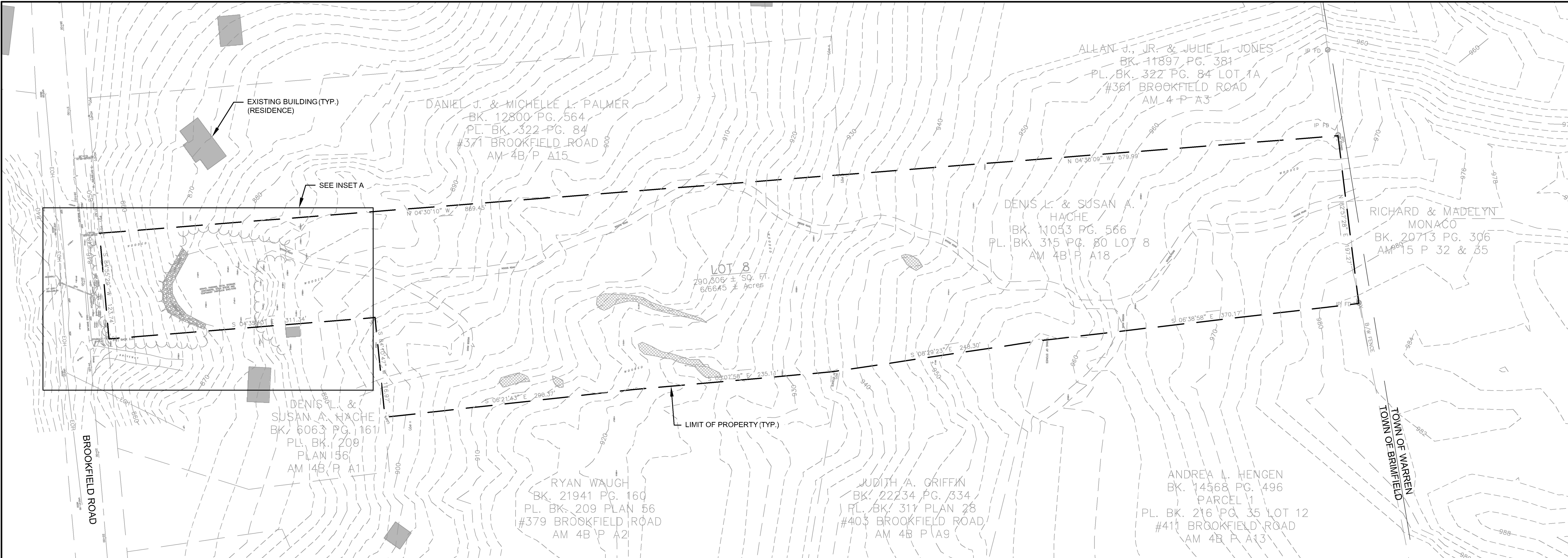
ISSUE DATE: DECEMBER 4, 2019



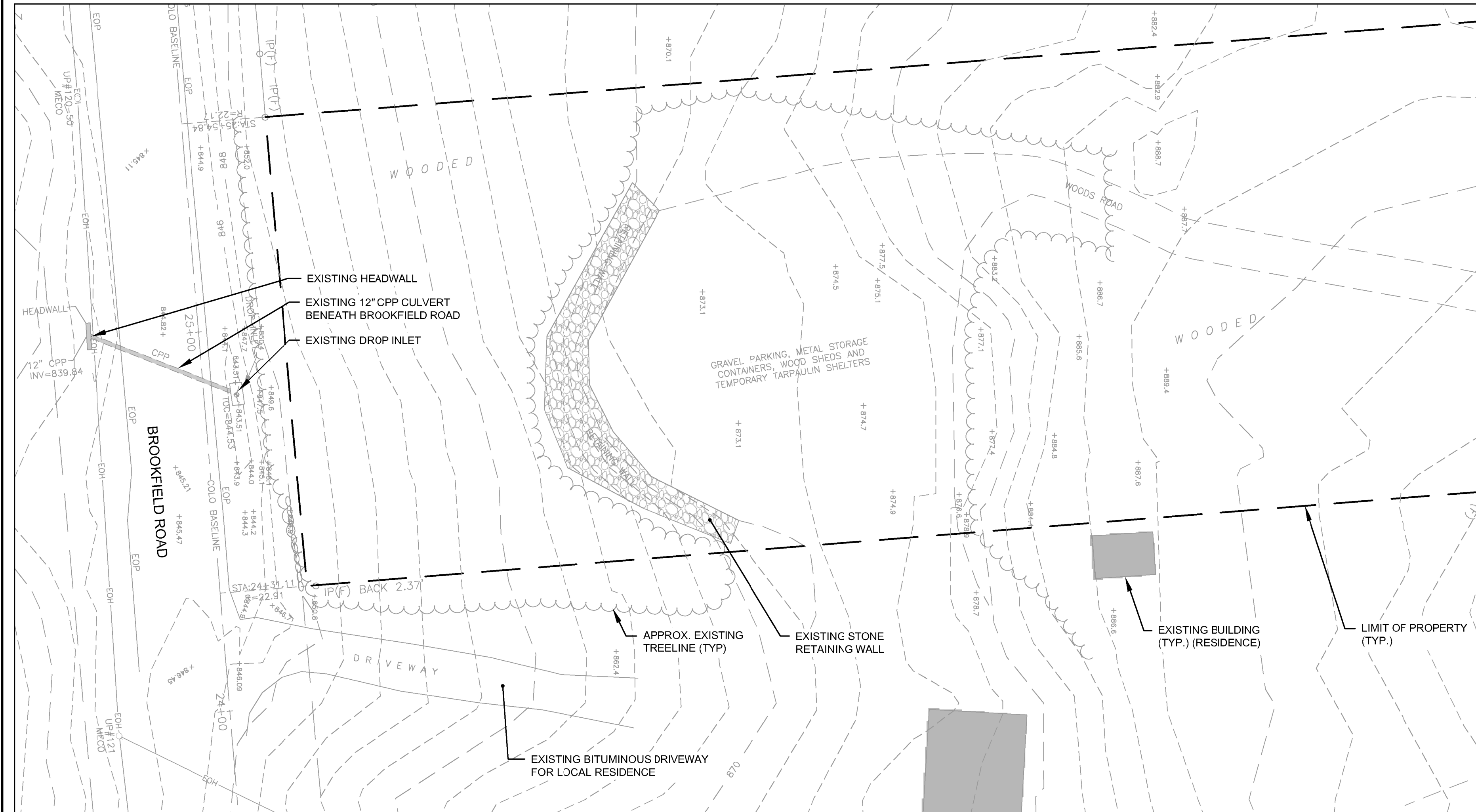
REGISTERED PROFESSIONAL      DATE



9/10/2019 9:43 AM: Q:\60005\6081 - SUNPIN SOLAR - WARREN DRAWING FILES\PLANSET\2019-12-4 BRIMFIELD SITE PLAN REVIEW\BROOKFIELD ROAD ACCESS ROUTE-EXISTING CONDITIONS.DWG



PLAN  
SCALE: 1" = 60'



INSET A  
SCALE: 1" = 20'

BRIMFIELD DENSITY REQUIREMENTS		
ZONING DISTRICT: AGRICULTURAL-RESIDENTIAL		
	REQUIRED	PROVIDED
MIN. LOT AREA (SF)	65,340	290,306
MIN. LOT FRONTAGE (FT)	150	123*
MIN. FRONT YARD (FT)	35	1452
MIN. SIDE YARD (FT)	15 OR 50**	120
MIN. REAR YARD (FT)	40 OR 50**	1140
MAX BUILDING HEIGHT (FT)	35	N/A
MAX LOT COVERAGE (%)	20	10.9

NOTES:

- \* THESE DENSITY REGULATIONS ARE SHOWN FOR REFERENCE PURPOSES ONLY. PER THE TOWN OF BRIMFIELD ZONING BYLAW, CONFORMANCE TO THESE REQUIREMENTS IS NECESSARY ONLY FOR A LOT ON WHICH A DWELLING, BUILDING, OR STRUCTURE IS ERRECTED.
- \*\* SIDE AND REAR YARDS SHALL BE 50' WHEN ADJACENT TO AGRICULTURAL/RESIDENTIAL DISTRICTS.

#### LEGEND

EXISTING	
—	PROPERTY LINE
○ R.B. FD.	PROPERTY MARKER
□ CB FD	CATCH BASIN OR DROP INLET
— 217 —	ELEVATION CONTOUR
+ 100	SPOT GRADE
~~~~~	WOODED AREA / LIMIT OF CLEARING
○○○○○	STONE WALL
⊗	UTILITY POLE
— EOH —	OVERHEAD ELECTRIC CABLE
▨	APPROX. LEDGE OUTCROP

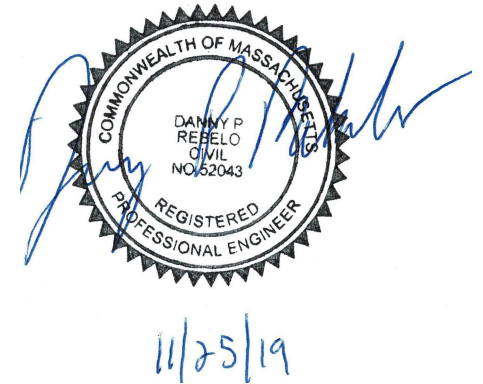
#### PROPERTY LINE, TOPOGRAPHIC, AND WETLAND INFORMATION

- BASE MAP PROVIDED BY DGT ASSOCIATES, DATED OCTOBER 29, 2019. EXISTING CONDITIONS DEVELOPED BY ON-THE-GROUND SURVEY AND SUPPLEMENTED BY LIDAR DATA.
- ADDITIONAL EXISTING CONDITIONS INFO PROVIDED BY SHERMAN AND FRYDRYK, LLC DATED DECEMBER 4, 2018. TOPOGRAPHY BEYOND THE LIMITS OF THE PROPERTY TO THE EAST AND WEST IS APPROXIMATE ONLY AND OBTAINED VIA MASSGIS.
- THE COORDINATES, IN FEET, ARE BASED UPON THE NORTH AMERICAN DATUM OF 1983 (NAD 83). THE VERTICAL DATUM IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- LIMITS OF WETLANDS BASED ON FIELD DELINEATION PERFORMED BY BETA GROUP INC. IN SEPTEMBER OF 2019. NO WETLANDS OR OTHER RESOURCE AREAS HAVE BEEN IDENTIFIED ON THE SUBJECT PARCEL.
- LOCATIONS OF UTILITIES SHOWN HEREON ARE THE RESULT OF SURFACE EVIDENCE AS LOCATED BY FIELD SURVEY, PLANS OR RECORD, AND OTHER AVAILABLE SOURCES. THIS PLAN DOES NOT NECESSARILY DEPICT THE EXISTING LOCATIONS OF ALL UTILITIES WHICH MAY EXIST AT THIS TIME WITHIN THE PREMISES SURVEYED.

PREPARED BY



PREPARED FOR:



#### BROOKFIELD ROAD ACCESS ROUTE

Brookfield Road  
Brimfield, MA

#### EXISTING CONDITIONS PLAN

NO.	REVISIONS	DATE
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DRAWN BY: SLB

DESIGNED BY: SLB

CHECKED BY: DPR

ISSUE DATE: DECEMBER 4, 2019

BETA JOB NO.: 6081



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SCALE IN FEET: 1"=60'

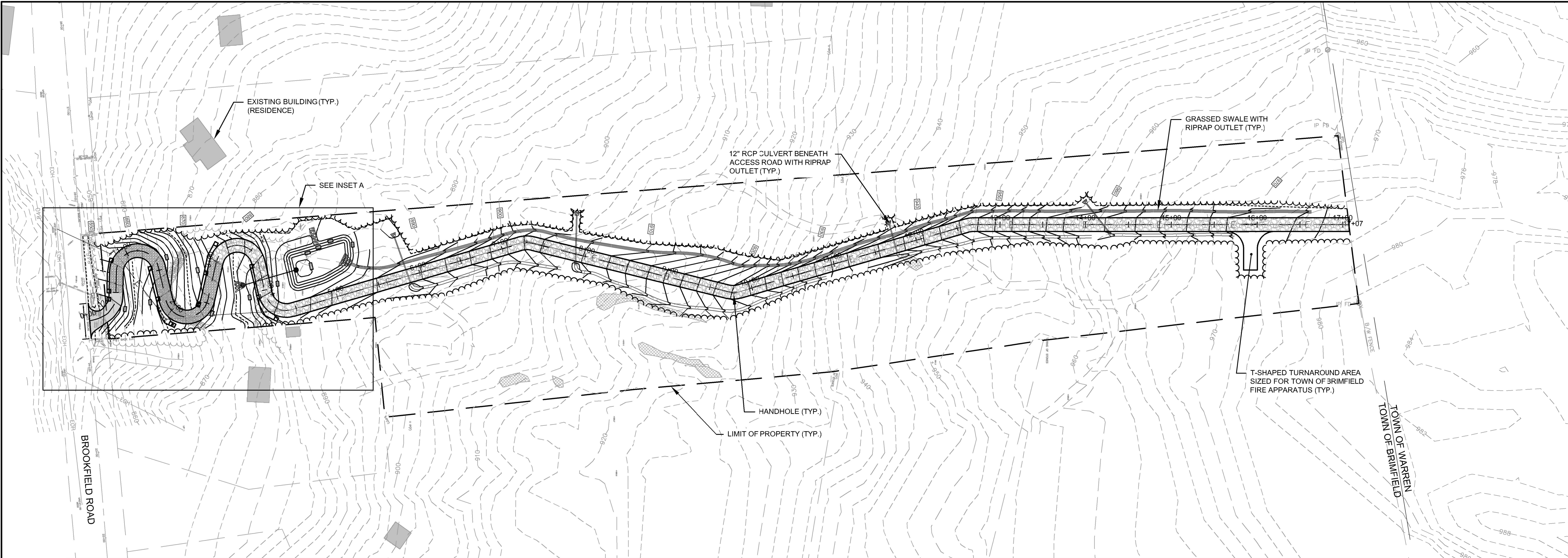
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INSET SCALE IN FEET: 1"=20'

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SHEET NO.



1/11/2019 1:56 PM O:\60005\6081 - SUNPIN SOLAR - WARREN\DRAWING FILES\PLANSET\2019-12-4 BRIMFIELD SITE PLAN REVIEW\BROOKFIELD ROAD ACCESS ROUTE-GENERAL SITE PLAN.DWG



PLAN  
SCALE: 1" = 60'

LEGEND

EXISTING

PROPOSED

	R.B. FD.	PROPERTY LINE
	CB FD	PROPERTY MARKER
	217'	DRAINAGE STRUCTURE
	+100'	ELEVATION CONTOUR
		SPOT GRADE
		WOODED AREA / LIMIT OF CLEARING
		STONE WALL
		GUARDRAIL
		UTILITY POLE
		OVERHEAD ELECTRIC CABLE
		UNDERGROUND ELECTRIC CONDUIT
		APPROX. LEDGE OUTCROP
		RIPPRAP OR GRAVEL

GENERAL

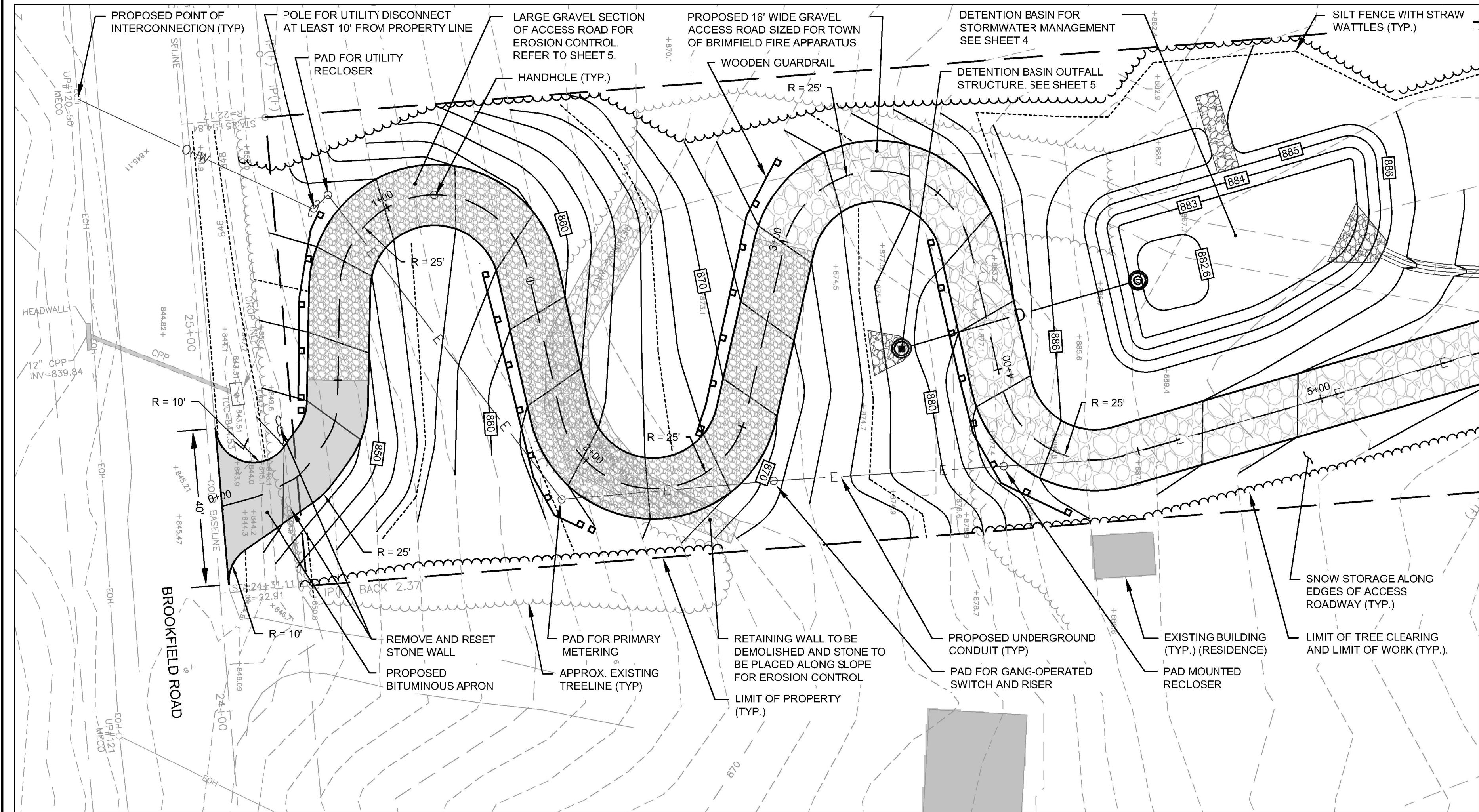
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION LAYOUT SURVEYS.
- ALL AREAS OUTSIDE THE LIMITS OF THE PROPOSED WORK THAT HAVE BEEN DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER AND THE PROPERTY OWNER.
- ALL WORK SHALL COMPLY WITH OSHA'S LATEST STANDARDS. ALL REQUIREMENTS OF OSHA'S SAFETY STANDARDS SHALL BE PROVIDED BY THE CONTRACTOR, INCLUDING BUT NOT LIMITED TO THE PROVISION FOR A COMPETENT PERSON TO SERVE AS ON-SITE SAFETY MANAGER.
- ALL PERSONNEL WORKING THE JOB SITE ARE REQUIRED TO HAVE COMPLETED OSHA 10 HOUR TRAINING.
- PRIOR TO COMMENCING ANY EXCAVATION, THE CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS, WITH PARTICULAR ATTENTION TO SUBSURFACE AND ABOVE GRADE UTILITIES.

LANDSCAPE AND PLANTING

- EXCEPT AS NOTED ON THE PLANS, DISTURBED AREAS SHALL RECEIVE A MINIMUM OF 4 INCHES OF SCREENED TOPSOIL (IF NEEDED) THEN HYDROSEEDING IN ACCORDANCE WITH THE FOLLOWING:
  - SEED SHALL BE NORTHEASTERN POLLINATOR MIX AS PRODUCED BY ERNST CONSERVATION SEEDS MEADVILLE, PA OR APPROVED EQUIVALENT.
  - APPLY SEED AT A RATE OF 7 LB PER ACRE
  - FERTILIZER SHALL NOT BE USED
- EXISTING VEGETATION SHALL BE PRESERVED TO EXTENT POSSIBLE UNLESS NECESSARY FOR CONSTRUCTION OR OTHERWISE DEPICTED ON THE PLANS.
- NO PESTICIDES OR HERBICIDES SHALL BE USED WITHIN 200 FEET OF ANY AREA DEFINED BY 333 CMR 11.00 AND 14.00. THESE AREAS INCLUDE, BUT ARE NOT LIMITED TO, ROADWAYS, AGRICULTURAL AREAS, SENSITIVE AREAS, WETLANDS, AND VERNAL POOLS.

CONSTRUCTION

- THE PROPOSED GRAVEL ACCESS ROAD SHALL BE INSTALLED ON A SUITABLE SUBGRADE. VEGETATION, TOPSOIL AND OTHER UNSUITABLE MATERIALS SHALL BE REMOVED PRIOR TO INSTALLATION.
- TOPSOIL SHALL BE STRIPPED WITHIN THE LIMITS OF THE PROPOSED FENCE AS DEEMED NECESSARY BY THE ENGINEER, STOCKPILED ON SITE, AND SCREENED FOR RE-USE.
- SCREENED TOPSOIL SHALL BE RE-SPREAD UNIFORMLY TO DISTURBED AREAS AT A MINIMUM THICKNESS OF 4 INCHES, AND THE AREA SHALL BE SEED PER THE LANDSCAPE AND PLANTING REQUIREMENTS BELOW.
- SAMPLES AND GRAIN SIZE DISTRIBUTION ANALYSES FOR PROPOSED MATERIALS SHALL BE PROVIDED TO ENGINEER FOR REVIEW APPROVAL PRIOR TO USE.
- A MINIMUM OF 12 INCHES OF SOIL COVER SHALL BE PROVIDED FOR ALL DISTURBED AREAS WHERE BEDROCK IS ENCOUNTERED.
- THE AREA OF WORK SHALL NOT INCLUDE MORE THAN FIVE (5) ACRES OF OPEN SPACE AT ANY ONE TIME. PRIOR TO OPENING MORE LAND, AT LEAST 75% OF THE EXISTING WORK AREA SHALL BE STABILIZED.
- LAYOUT OF UTILITY POLES AND EQUIPMENT ARE FOR ILLUSTRATIVE PURPOSES. FINAL LAYOUT MAY VARY BASED ON THE FINAL ELECTRICAL DESIGN AND UTILITY COMPANY REQUIREMENTS.
- FOLLOWING COMPLETION OF WORK ANY AND ALL DAMAGE TO TOWN WAYS CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED UNDER THE DIRECTION OF THE TOWN'S HIGHWAY SURVEYOR.
- THE CONTRACTOR SHALL NOTIFY DIG SAFE 72 HOURS PRIOR TO COMMENCING WORK.

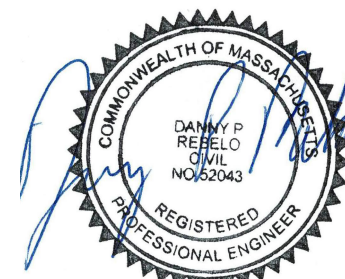


INSET A  
SCALE: 1" = 20'

PREPARED BY



PREPARED FOR:



11/25/19

BROOKFIELD ROAD  
ACCESS ROUTE

Brookfield Road  
Brimfield, MA

GENERAL SITE PLAN

NO.	REVISIONS	DATE
DRAWN BY:	SLB	
DESIGNED BY:	SLB	
CHECKED BY:	DPR	
ISSUE DATE:	DECEMBER 4, 2019	
BETA JOB NO.:	6081	

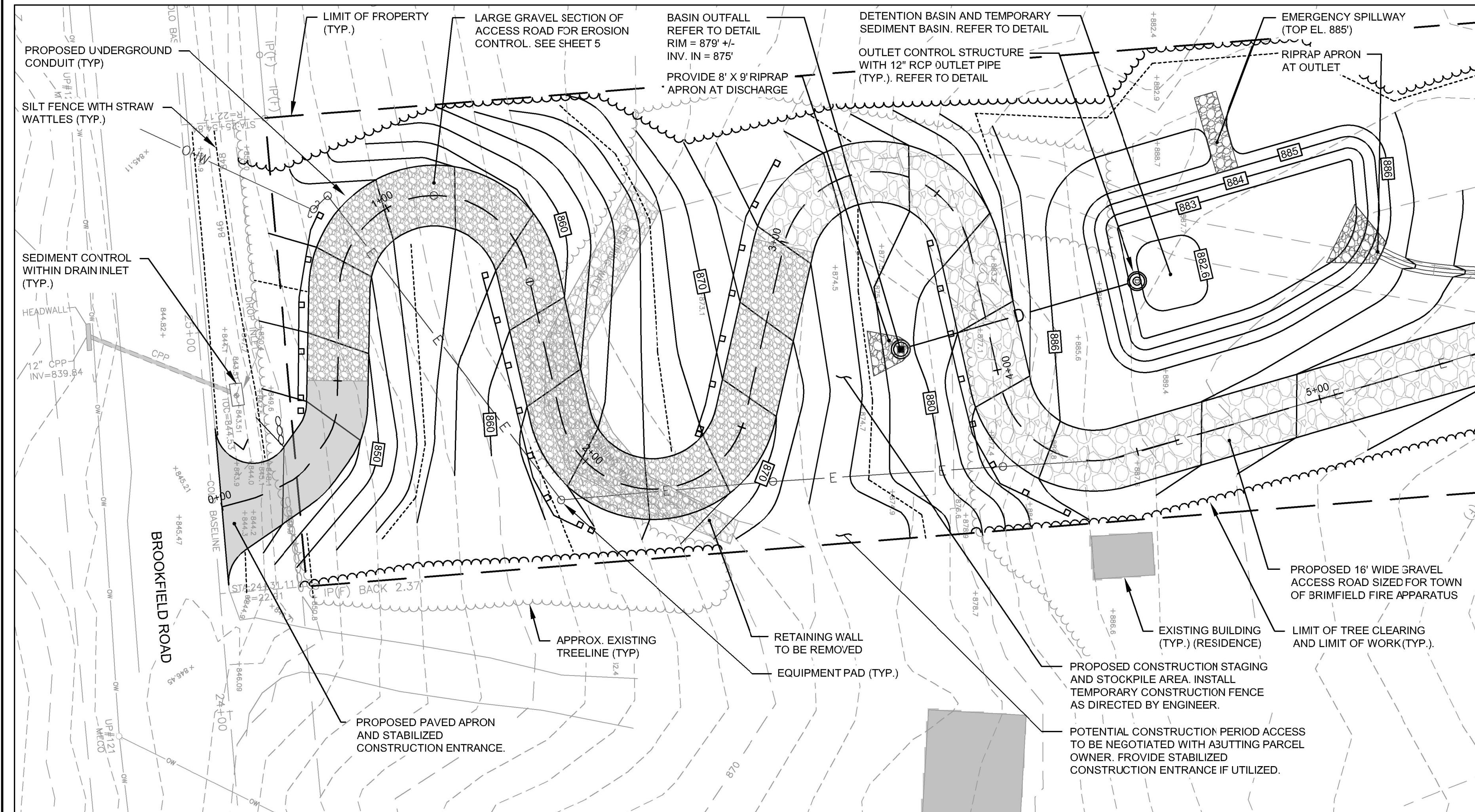
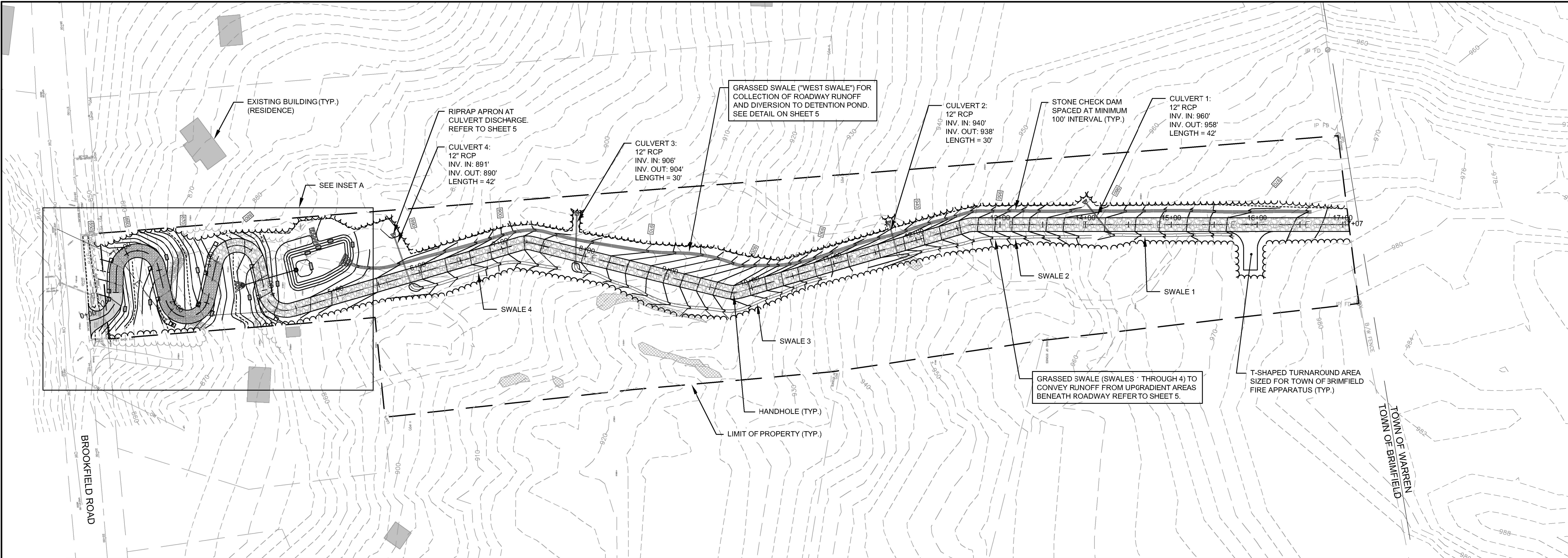


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11/18/2019 12:59 PM C:\60005\6081 - SUNPIN SOLAR - WARREN\DRAWING FILES\PLANSET\2019-12-4 BRIMFIELD SITE PLAN REVIEW\BROOKFIELD ROAD ACCESS ROUTE DRAINAGE GRADING EROSION.DWG



**INSET A**  
**SCALE: 1" = 20'**

#### CONCEPTUAL CONSTRUCTION SEQUENCE

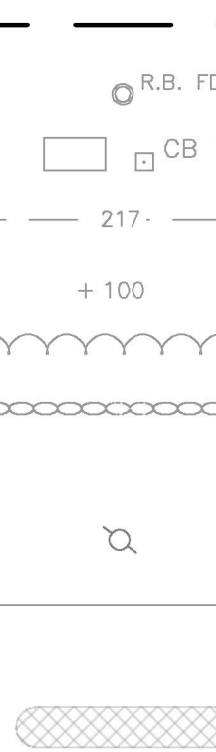
- PHASE 1:**
- INSTALL SITEWIDE PERIMETER EROSION CONTROLS AND STABILIZED CONSTRUCTION ENTRANCE. ESTABLISH STAGING AND STOCKPILE AREAS.
  - INSTALL SILT SACKS WITHIN CATCH BASINS ALONG BROOKFIELD ROAD.
  - CONFIRM AND MARK LIMITS OF PROPERTY LINES.
- PHASE 2:**
- COMPLETE TREE CLEARING AND GRUBBING.
  - CONSTRUCT DETENTION POND, GRASSSED SWALES, RIPRAP APRONS, AND CHECK DAMS.
  - INSTALL GRAVEL ACCESS ROAD AND CULVERTS.
  - INSTALL UTILITIES.
- PHASE 3:**
- CONSTRUCT OUTLET CONTROL STRUCTURE AND CATCH BASIN
  - REMOVE SEDIMENT FROM SWALES, DETENTION POND, AND CULVERTS
  - COMPLETE PERMANENT STABILIZATION.
  - REMOVE EROSION CONTROLS ONCE FINAL STABILIZATION IS ACHIEVED.
  - INSTALL PAVED APRON.

#### SITE PREPARATION AND EROSION CONTROL

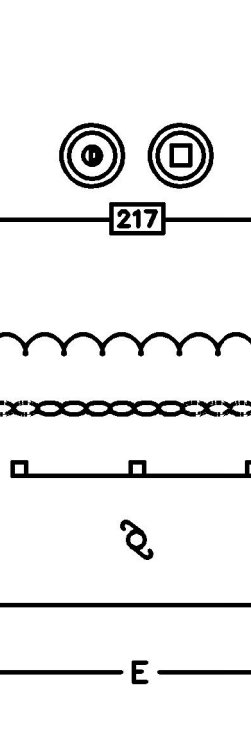
- ENGINEER WILL PROVIDE A STORMWATER POLLUTION PREVENTION PLAN (SWPPP), INCLUDING THE FILING OF A NOTICE OF INTENT WITH THE U.S. EPA TO OBTAIN A NPDES CONSTRUCTION GENERAL PERMIT (CGP) PRIOR TO THE CONTRACTOR COMMENCING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM INSPECTIONS, MONITORING, AND MAINTENANCE, IF WARRANTED, IN ACCORDANCE WITH THE SWPPP TO COMPLY WITH THE CGP. THE SOIL EROSION SEDIMENT CONTROL PROCEDURES AND DETAILS SHOWN AND DESCRIBED IN THE SWPPP SHALL BE STRICTLY FOLLOWED AND INSTALLED IN A MANNER TO MINIMIZE EROSION FROM DISTURBED AREAS.
- THE CONTRACTOR'S ACCESS, STAGING, AND STORAGE AREAS SHALL BE LOCATED WITHIN THE LIMITS OF THE WORK AREA. NO WORK, STOCKPILING OF MATERIALS, STORAGE OF EQUIPMENT, OR OTHER OPERATIONS OF THE CONTRACTOR SHALL TAKE PLACE OUTSIDE THE LIMITS OF WORK UNLESS AUTHORIZED IN WRITING BY THE ENGINEER.
- EROSION CONTROL DEVICES SHALL BE FULLY INSTALLED PRIOR TO THE START OF CONSTRUCTION, AND SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. THESE DEVICES SHALL BE REMOVED AND LEGALLY DISPOSED OF UPON COMPLETION OF ALL WORK WHEN ALL DISTURBED AREAS ARE STABILIZED AND PERMANENT GROUND COVER IS ESTABLISHED, TO THE SATISFACTION OF THE ENGINEER AND THE TOWN.
- THE CONTRACTOR SHALL MONITOR ALL AREAS WITHIN THE LIMIT OF THE WORK FOR SIGNS OF EROSION, AND REPAIR/STABILIZE ANY ERODED AREAS, AS REQUIRED, UNTIL FINAL STABILIZATION CAN BE ACHIEVED.
- THE CONTRACTOR IS RESPONSIBLE FOR MONITORING DOWNSTREAM CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD AND CLEARING ANY DEBRIS AND/OR SEDIMENT IMPEDING PROPER DRAINAGE DURING CONSTRUCTION.
- NO SEDIMENT SHALL BE PERMITTED TO LEAVE THE SITE DURING CONSTRUCTION. IF HEAVY RAIN AND/OR UNUSUAL SITE CONDITIONS RESULT IN THE POLLUTION OF ROADWAYS, BUFFER ZONES, RESOURCE AREAS, OR ADJACENT PARCELS, CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. CONTRACTOR SHALL CLEAN ANY DISTURBED AREAS AS SOON AS PRACTICABLE AND RESTORE THEIR ORIGINAL CONDITIONS.

#### LEGEND

##### EXISTING



##### PROPOSED



- PROPERTY LINE
- PROPERTY MARKER
- DRAINAGE STRUCTURE
- ELEVATION CONTOUR
- SPOT GRADE
- WOODED AREA / LIMIT OF CLEARING
- STONE WALL
- GUARDRAIL
- UTILITY POLE
- OVERHEAD ELECTRIC CABLE
- UNDERGROUND ELECTRIC CONDUIT
- APPROX. LEDGE OUTCROP
- RIPRAP OR GRAVEL

PREPARED BY



PREPARED FOR:



## BROOKFIELD ROAD ACCESS ROUTE

Brookfield Road  
Brimfield, MA

## DRAINAGE, GRADING, & EROSION CONTROL

NO.	REVISIONS	DATE
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DRAWN BY: SLB

DESIGNED BY: SLB

CHECKED BY: DPR

ISSUE DATE: DECEMBER 4, 2019

BETA JOB NO.: 6081



60 0 60 120  
SCALE IN FEET: 1"=60'

20 0 20 40  
INSET SCALE IN FEET: 1"=20'

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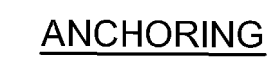
SHEET NO.





1. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL
2. TOP DRESS WITH CLEAN STONE AS NEEDED.

## SCALE: NTS



SCALE: NTS



1. PROVIDE A MINIMUM WATTLE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50. FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL WATTLES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. CONFIGURE WATTLES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.

SCALE: NTS



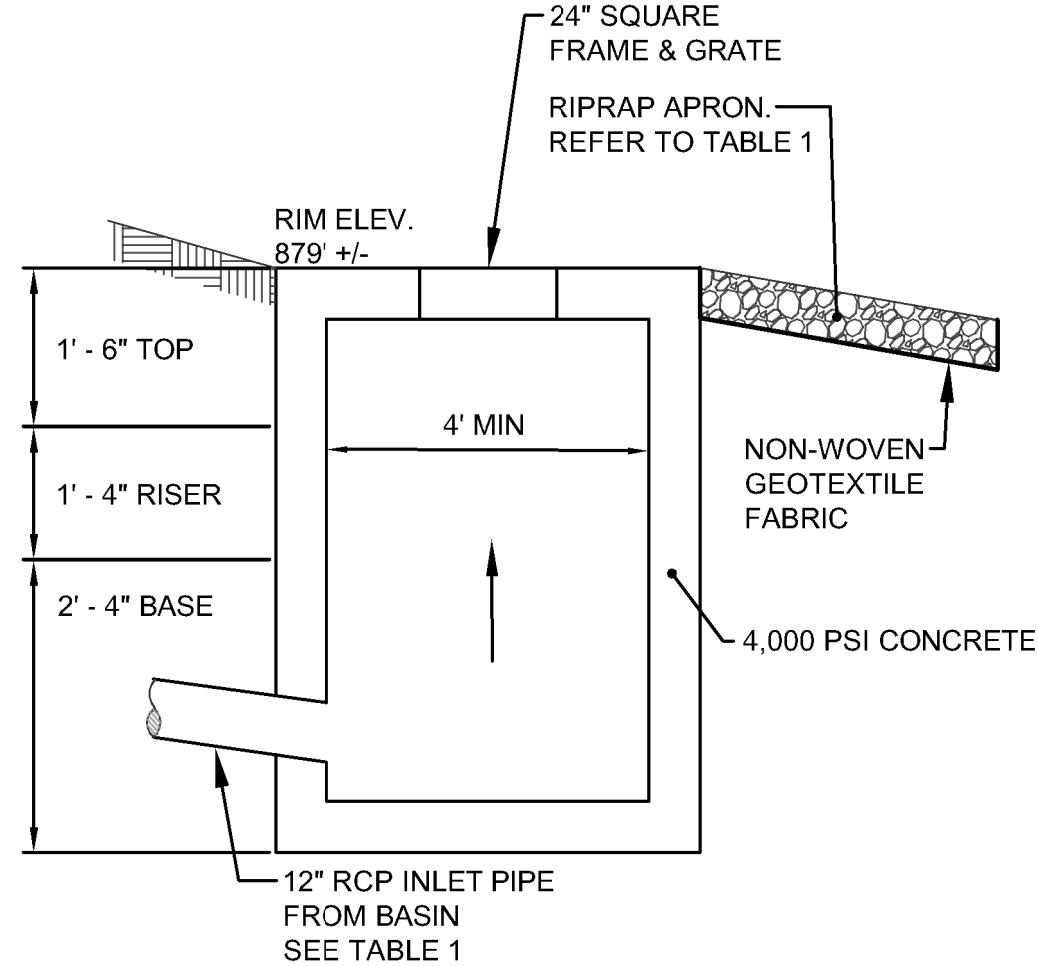
HORIZONTAL SCALE: 1" = 60'  
VERTICAL SCALE: 1" = 20'



Brookfield Road  
Brimfield, MA

NO.	REVISIONS	DATE
DRAWN BY:	SLB	
DESIGNED BY:	SLB	
CHECKED BY:	DPR	
ISSUE DATE:	DECEMBER 4, 2019	
BETA JOB NO.:	6081	





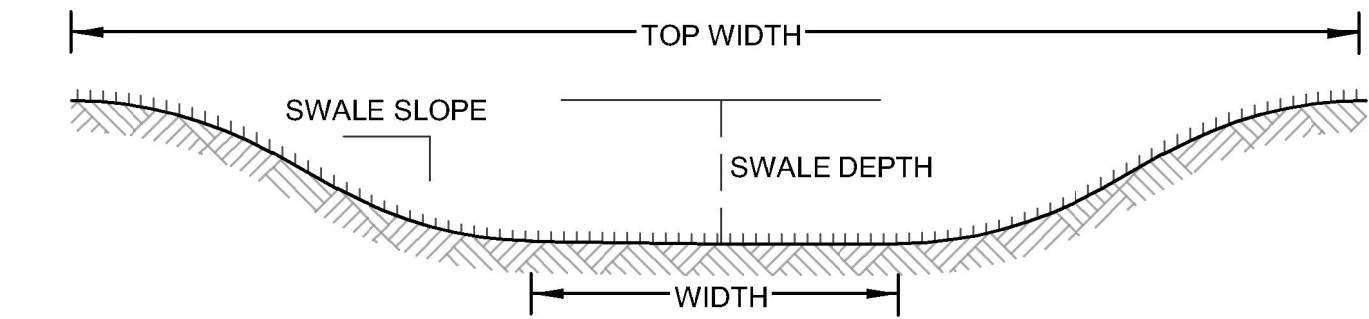
SURFACE AREA	3,610 SF
STORAGE VOLUME	5,085 CF
BOTTOM OF BASIN EL.	882.60'
TOP OF BASIN BERM EL.	886.00'
EMERGENCY SPILLWAY EL.	885.00'
UPPER CIRCULAR ORIFICE EL.	884.7'
UPPER CIRCULAR ORIFICE DIAMETER	6"
LOWER CIRCULAR ORIFICE EL.	882.6'
LOWER CIRCULAR ORIFICE DIAMETER	3"
OUTLET PIPE INV. IN	881.5'
OUTLET PIPE INV. OUT	875.0'
OUTLET RIPRAP D50	0.3
OUTLET RIPRAP THICKNESS	8.4"
OUTLET RIPRAP LENGTH	8'
OUTLET RIPRAP WIDTH	12'

**SEED MIX NOTES:**

1. SEED SHALL BE CONSERVATION WILDLIFE MIX AS PRODUCED BY NEW ENGLAND WETLAND PLANTS, INC., AMHERST MA OR APPROVED EQUIVALENT.
2. APPLY SEED AT A RATE OF 1 LB/1,750 S.F. OR 25 LBS / ACRE.
3. FERTILIZER SHALL NOT BE USED.



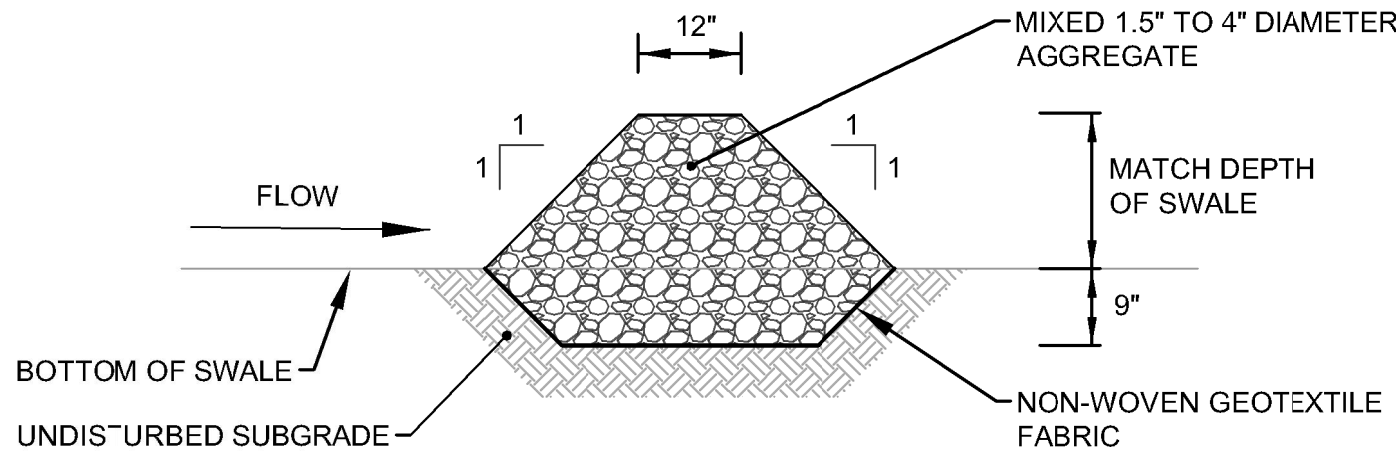
	WEST	1	2	3	4
BOTTOM WIDTH	1.0'	1.0'	1.0'	1.0'	1.0'
TOP WIDTH	3.0'	3.0'	3.0'	3.0'	3.0'
DEPTH	0.5'	0.5'	0.5'	0.5'	0.5'
SIDE SLOPE (H:V)	2:1	2:1	2:1	2:1	2:1
AVG. LONG. SLOPE (FT/FT)	0.08	0.085	0.1	0.17	0.08
MIN VEGETATION HEIGHT	2"	2"	2"	2"	2"
OUTLET RIPRAP LENGTH	12'	4'	4'	4'	4'
OUTLET RIPRAP WIDTH	17'	6'	6'	6'	6'
OUTLET RIPRAP DEPTH	12.6"	12.6"	12.6"	12.6"	12.6"
OUTLET RIPRAP D50	0.3	0.3	0.3	0.3	0.3



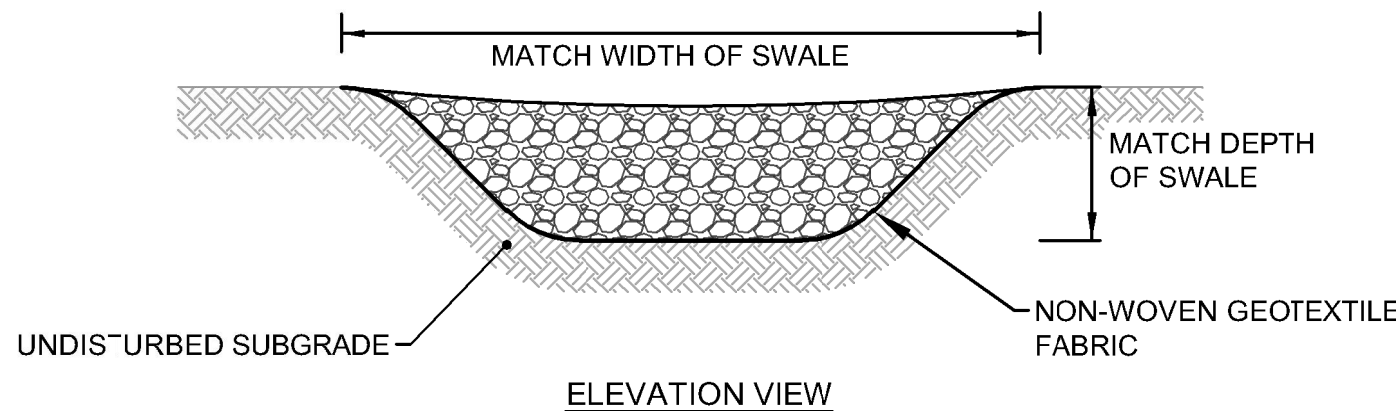
**NOTES:**

1. SEE TABLE 2 FOR DESIGN PARAMETERS
2. INSTALL STONE CHECK DAMS ALONG SWALE 15 FEET FROM OUTFALL AND AS DEPICTED ON SITE PLANS.
3. LINE CHANNEL BOTTOM WITH VEGETATION HEIGHT PER TABLE 2 AND IN ACCORDANCE WITH SEED MIX NOTES

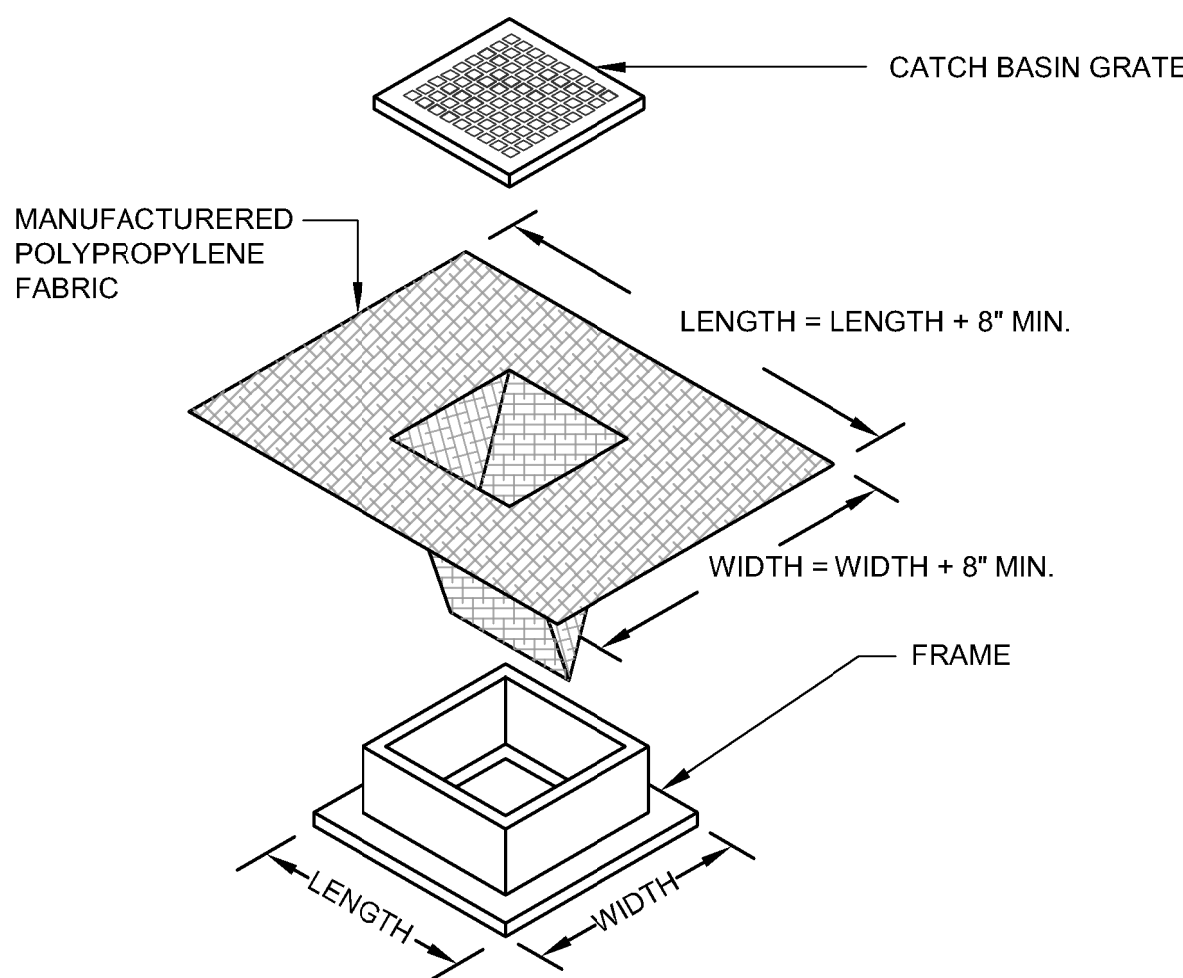
GRASSED SWALE FOR DIVERSION  
OR EROSION CONTROL  
SCALE: NTS



### PROFILE VIEW



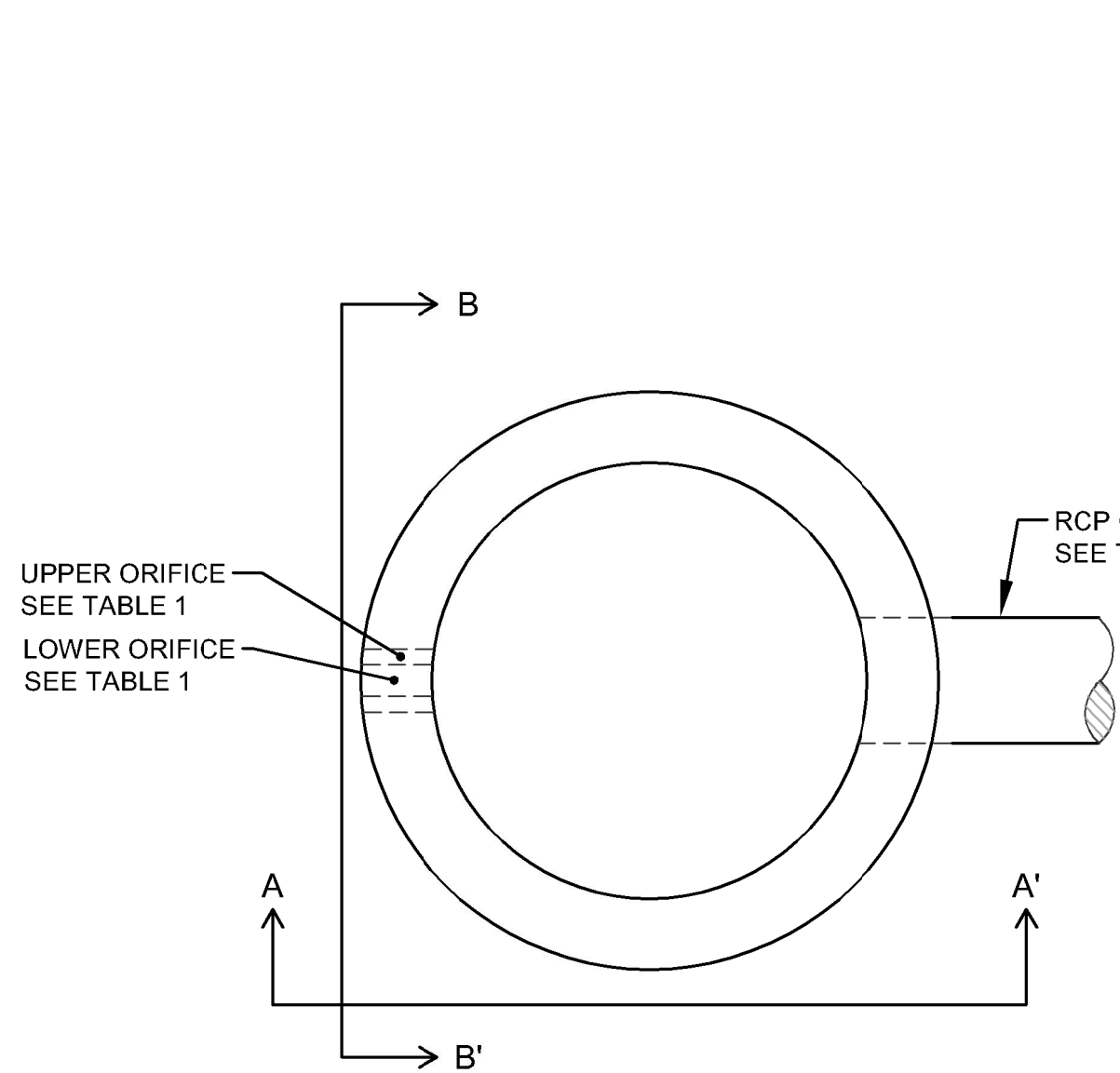
**STONE CHECK DAM**  
SCALE: NTS



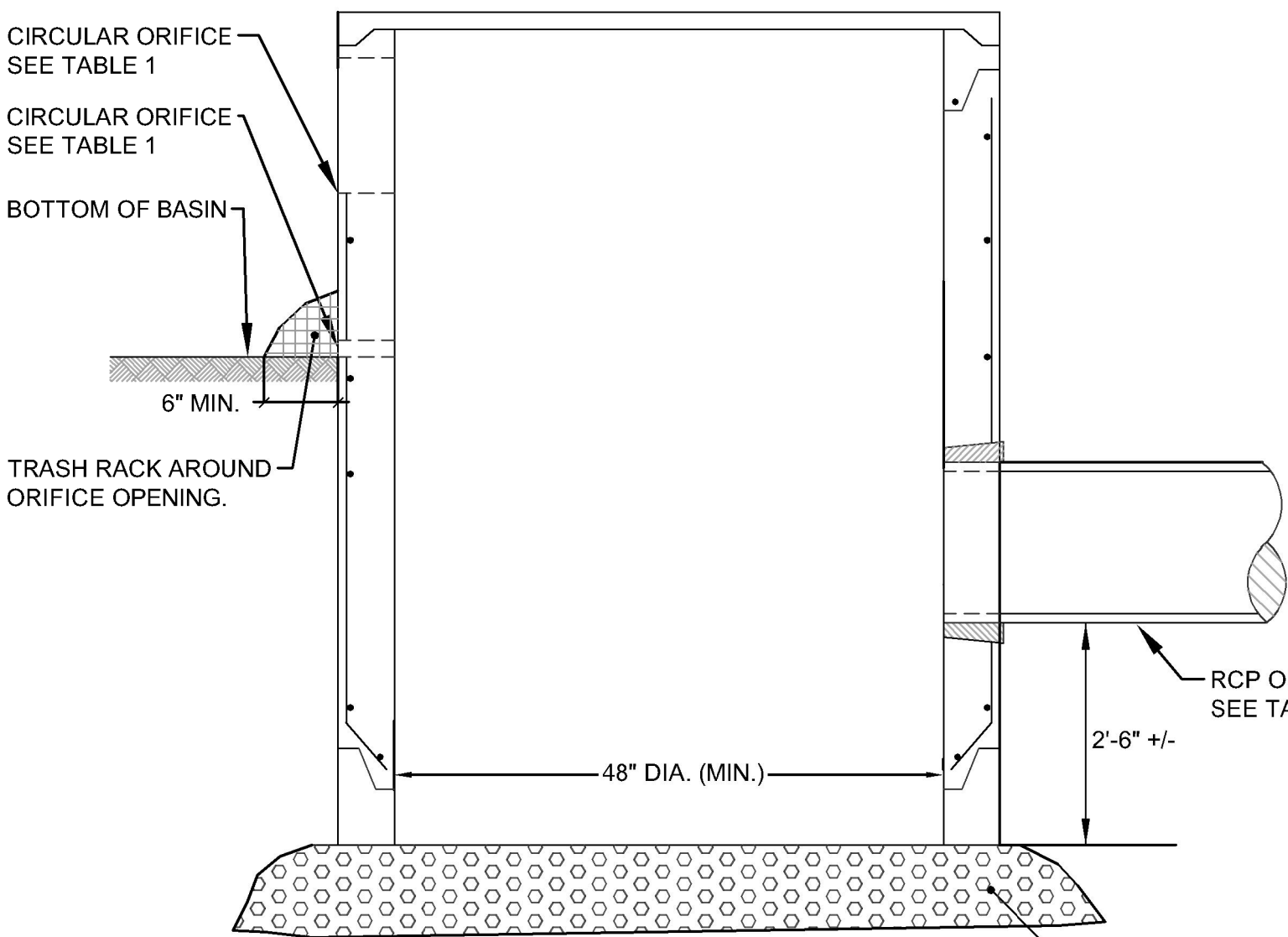
**NOTES:**

1. LENGTH AND WIDTH OF POLYPROPYLENE FABRIC MUST EXCEED EXISTING CATCH BASIN FRAME DIMENSIONS BY A MINIMUM OF 8".
2. REMOVE CATCH BASIN GRATE AND INS'ALL POLYPROPYLENE FABRIC OVER CATCH BASIN FRAME. REPLACE CATCH BASIN GRATE TO SECURE POLYPROPYLENE FABRIC IN PLACE.
3. CATCH BASIN EROSION CONTROL TO BE PLACED AT ALL CATCH BASINS WITHIN PROJECT LIMITS.

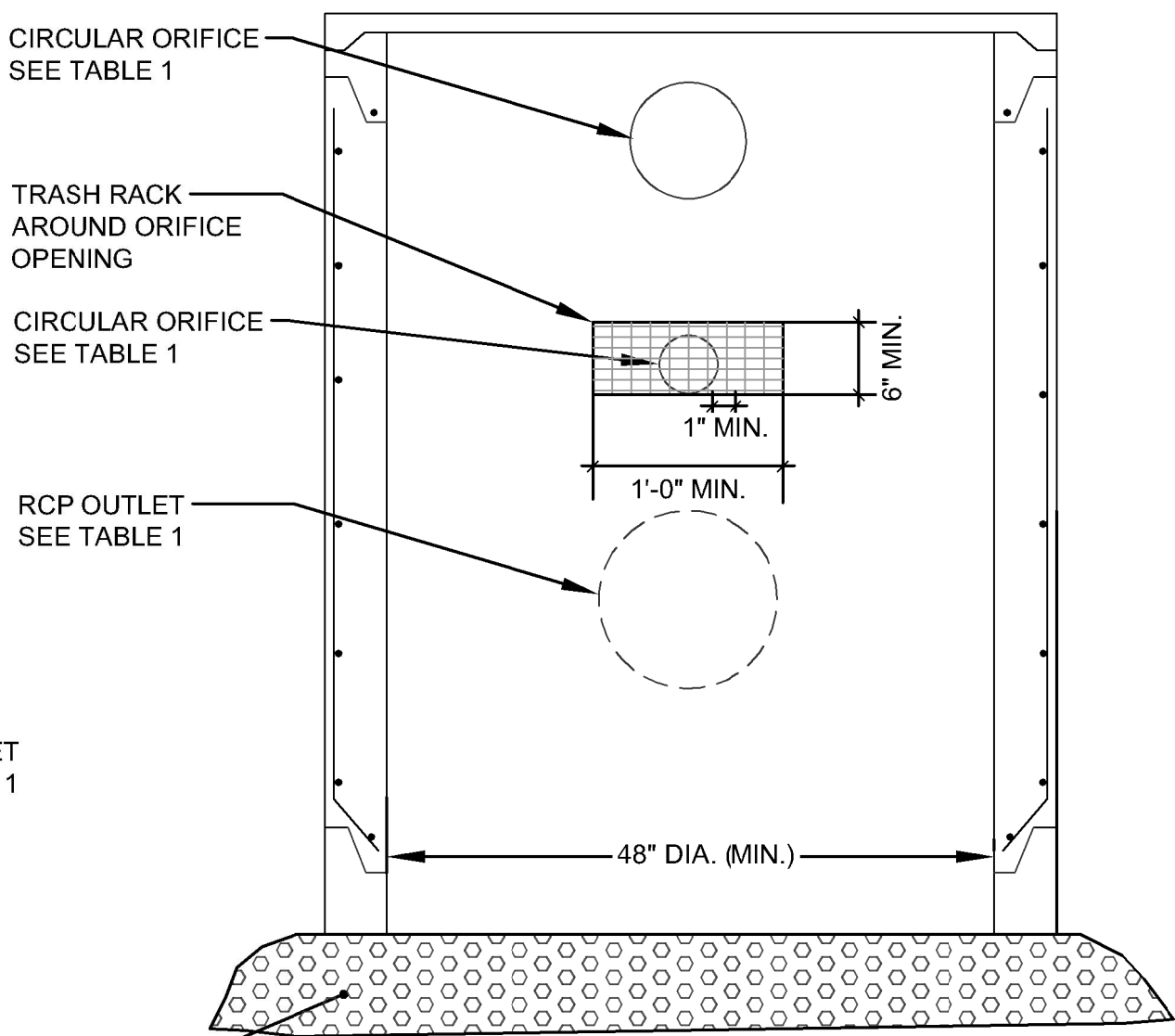
CATCH BASIN SEDIMENTATION  
CONTROL PROTECTION - SILT SACK  
SCALE: NTS



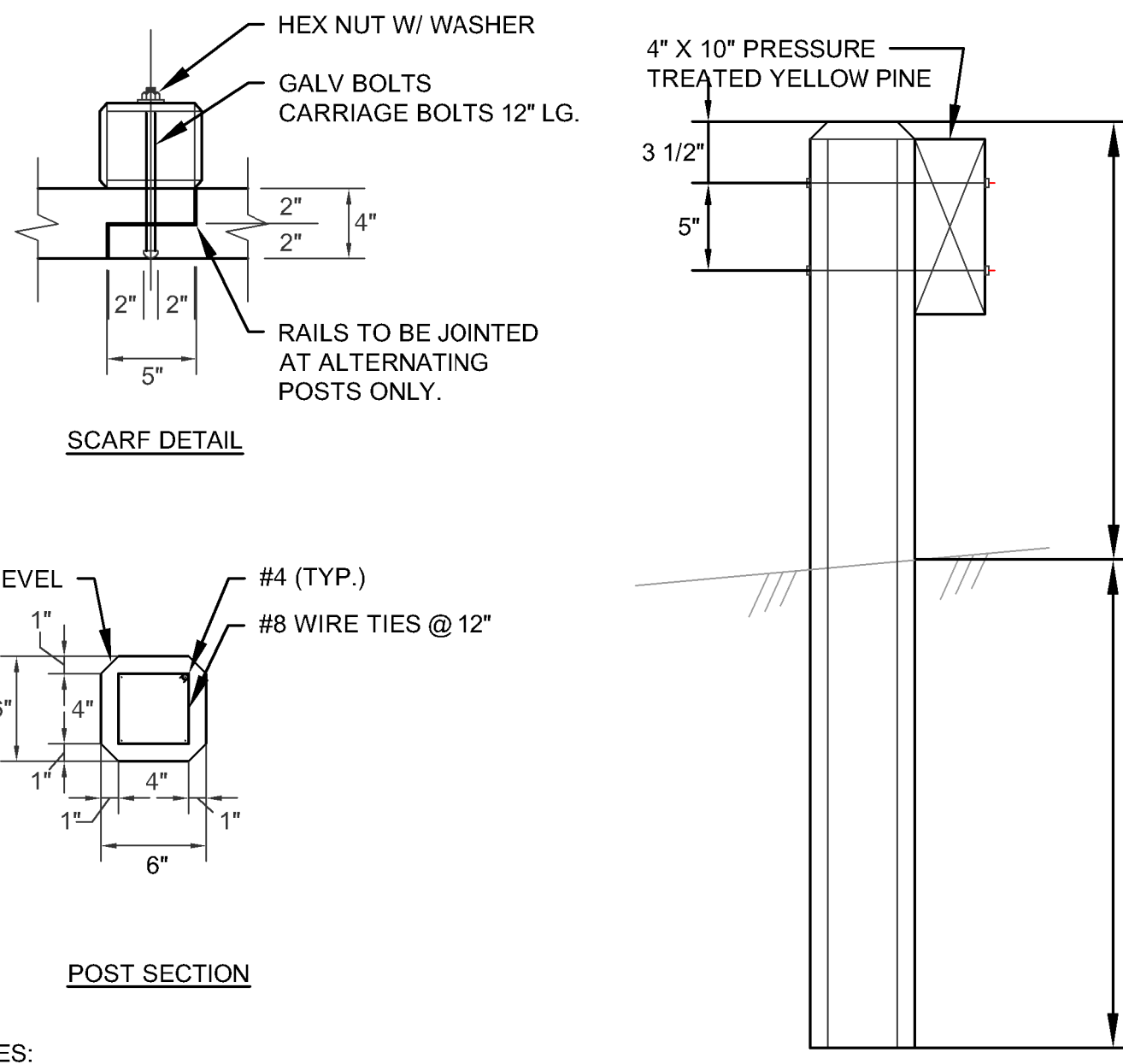
### PLAN VIEW



**SECTION A-A'**  
**OUTLET CONTROL STRUCTURE**  
SCALE: NTS



### SECTION B-B'



NOTES:  
1. POST SPACING SHALL NOT EXCEED 8'-0" C.C.

WOOD BEAM GUARD RAIL WITH CONCRETE POSTS  
NOT TO SCALE