

SITE DEVELOPMENT PLAN SOLAR ENERGY STORAGE SYSTEM (ESS)

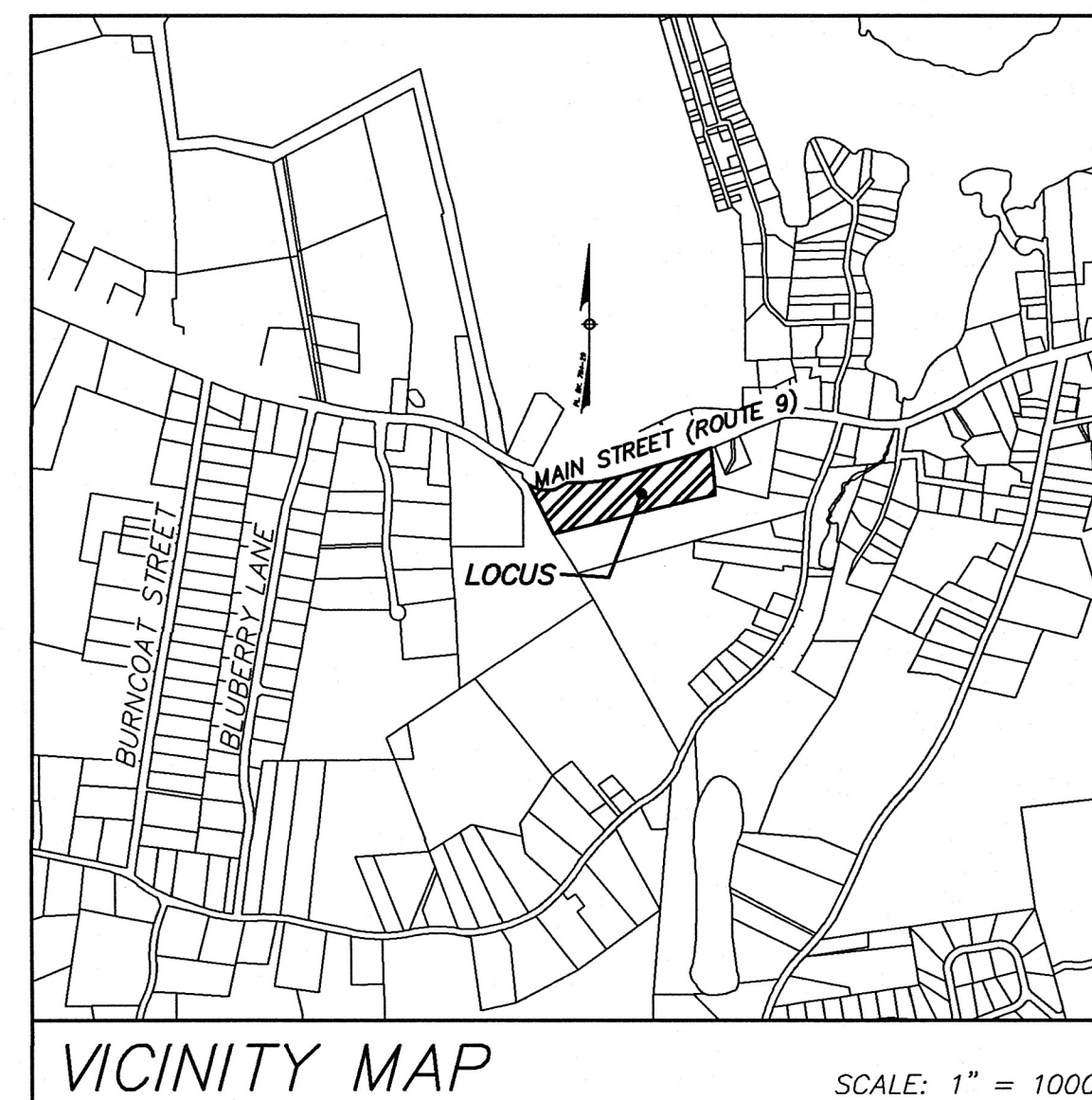
1355 MAIN STREET

IN

LEICESTER, MASSACHUSETTS

SEPTEMBER 21, 2021

REVISIONS THROUGH OCTOBER 19, 2021



APPLICANT:

***ZP BATTERY DEVCO, LLC
BRENDON GOVE
10 E. WORCESTER STREET, SUITE 3A
WORCESTER, MASSACHUSETTS 01604***

OWNER:

***WR ENTERPRISES, LLC
1323 MAIN STREET
LEICESTER, MASSACHUSETTS 01420***

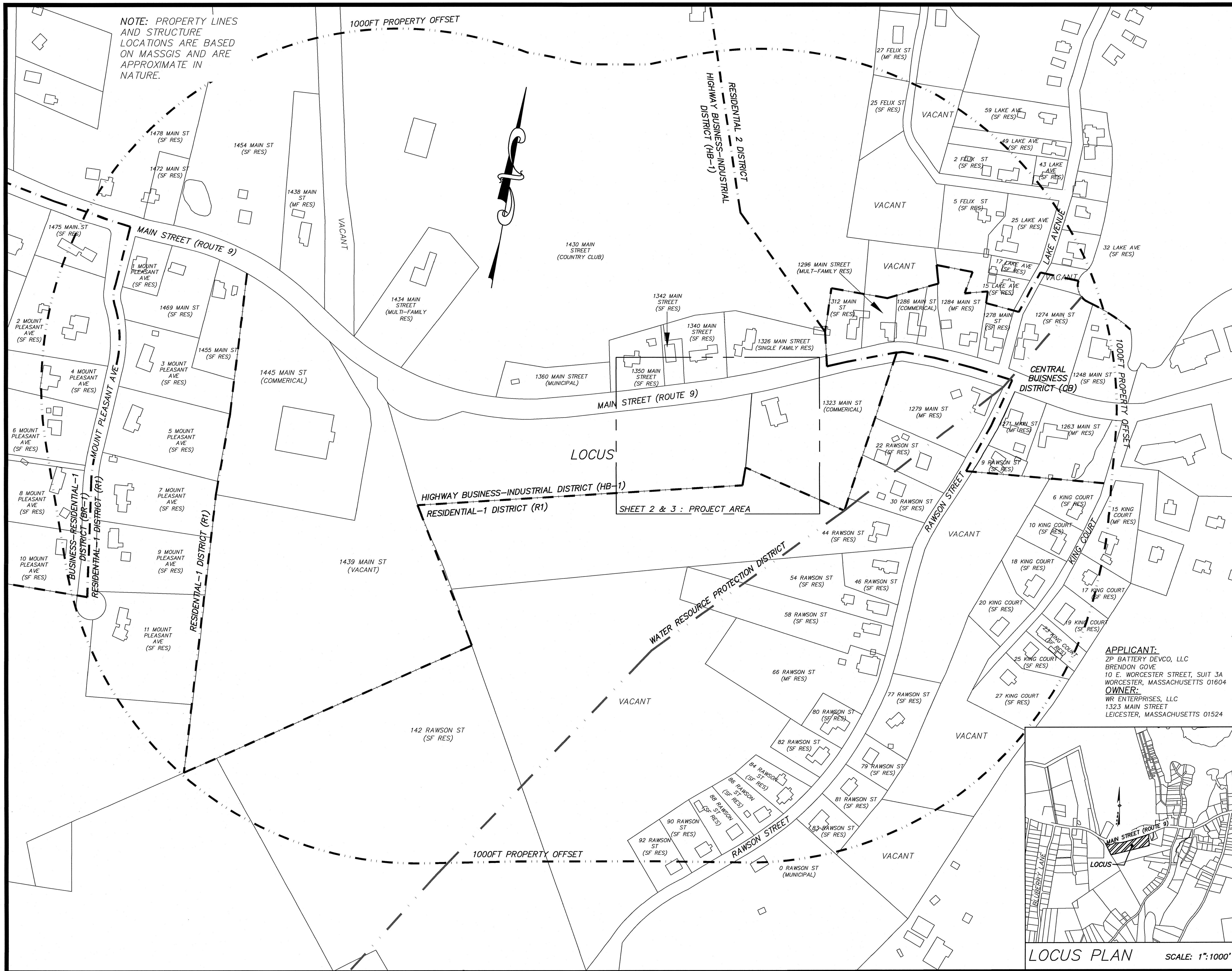
CIVIL ENGINEER & LAND SURVEYOR:

***HANNIGAN ENGINEERING, INC.
8 MONUMENT SQUARE
LEOMINSTER, MASSACHUSETTS 01453
TEL: (978) 534-1234***

PLAN INDEX

<i>SHEET 1</i>	<i>LOCUS PLAN</i>
<i>SHEET 2</i>	<i>INDEX PLAN</i>
<i>SHEET 3</i>	<i>EXISTING CONDITIONS PLAN</i>
<i>SHEET 4</i>	<i>SITE DEVELOPMENT PLAN</i>
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PERMITTING SET - NOT FOR CONSTRUCTION



NOTE: PROPERTY LINES AND STRUCTURE LOCATIONS ARE BASED ON MASSGIS AND ARE APPROXIMATE IN NATURE.

PROJECT INFORMATION

LAND INFORMATION

MAP/PARCEL: 26B/A1
DEED BOOK-PAGE: 65218/149
EXISTING FRONTAGE: 794.29'
EXISTING AREA: 5.44 ACRES

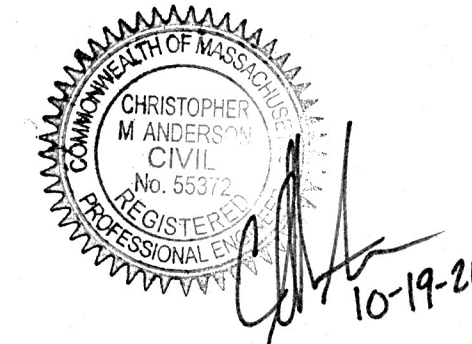
ZONING INFORMATION

ZONING DISTRICT: HIGHWAY BUSINESS-INDUSTRIAL 1 (HB-1)
DIMENSIONAL REQUIREMENTS:
MINIMUM AREA: 60,000 S.F.
MINIMUM FRONTAGE: 200'
MAXIMUM HEIGHT: 55'
MINIMUM SETBACKS:
FRONT YARD: 50'
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GENERAL NOTES:

1. PROPERTY LINE INFORMATION BASED DEEDS AND PLANS OF RECORD. NO CERTIFICATION OF PROPERTY LINES SHOWN ON THIS PLAN IS INTENDED OR IMPLIED BY HANNIGAN ENGINEERING, INC. TOPOGRAPHIC INFORMATION IS THE RESULT OF AN ON-THE-GROUND TOPOGRAPHIC SURVEY BY HANNIGAN ENGINEERING, INC. IN JULY OF 2021.
2. AREAS SUBJECT TO PROTECTION UNDER THE WETLANDS PROTECTION ACT HAVE BEEN Delineated BY CARON ENVIRONMENTAL CONSULTING ON MARCH 26, 2021. THESE AREAS ARE DEPICTED ON THE PLANS BASED ON FIELD SURVEY LOCATION DURING THE TOPOGRAPHIC SURVEY.
3. LOCATION OF ALL UTILITIES ARE APPROXIMATE AS SHOWN AND BASED UPON VISIBLE STRUCTURES AT THE TIME OF THE FIELD SURVEY. LOCATION OF EXISTING UTILITIES AND SUBSURFACE STRUCTURES, WHETHER OR NOT SHOWN ON THESE PLANS, SHALL BE DETERMINED BY THE CONTRACTOR, MARKED IN THE FIELD, AND REVIEWED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL BE AWARE OF THE OBLIGATION TO ALL UTILITY COMPANIES AND AGENCY AS WELL AS DIG-SAFE PRIOR TO EXCAVATION. (SEE NOTE)
4. NOTIFICATION REQUIREMENTS SHOWN ON THIS PLAN SHALL NOT RELIEVE THE CONTRACTOR OF ANY OTHER REQUIREMENTS WHICH MAY EXIST UNDER LOCAL, STATE, OR FEDERAL JURISDICTION TO WHICH THE CONTRACTOR IS OBLIGATED.
5. RELOCATION OF AND/OR CONNECTION TO EXISTING UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH PROVISIONS OF THE APPROPRIATE UTILITY COMPANY AND/OR REGULATORY AGENCY.
6. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE REQUIREMENTS OF THE TOWN OF LEICESTER AND THE MASS DOT SPECIFICATIONS OF HIGHWAYS AND BRIDGES.
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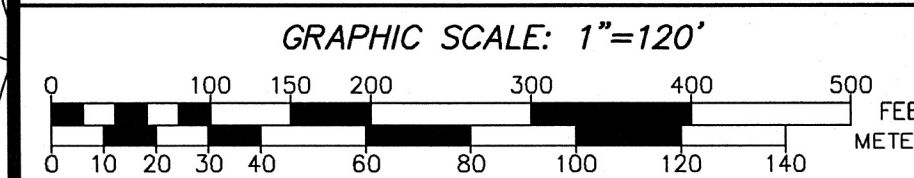


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CIVIL ENGINEERS & LAND SURVEYORS

8 MONUMENT SQUARE (978) 534-1234 (T)
LEOMINSTER, MASSACHUSETTS 01453 (978) 534-6060 (F)
WWW.HANNIGANENGINEERING.COM

LOCUS PLAN IN LEICESTER, MASSACHUSETTS

PREPARED FOR:
ZP BATTERY DEVCO, LLC
BRENDAN GOVE
10 E WORCESTER STREET SUITE 3A
WORCESTER, MASSACHUSETTS 01604
TEL:



CALC: CMA	DRWN: CMA	SCALE: 1"=120'
CHKD: WDH	APPD: WDH	DATE: SEP 21, 2021
SRV: JEF	FB: 71-22	JOB NO: 3010
TAB: (1) LOCUS	SHEET 1 OF 6	PLAN NO: C-17-38

LOCUS PLAN SCALE: 1"=1000'

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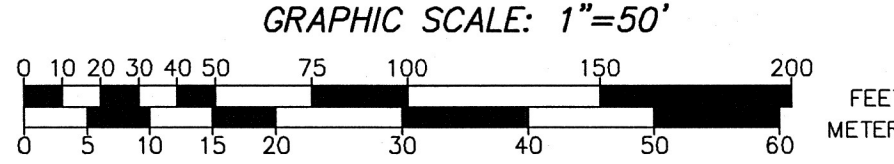
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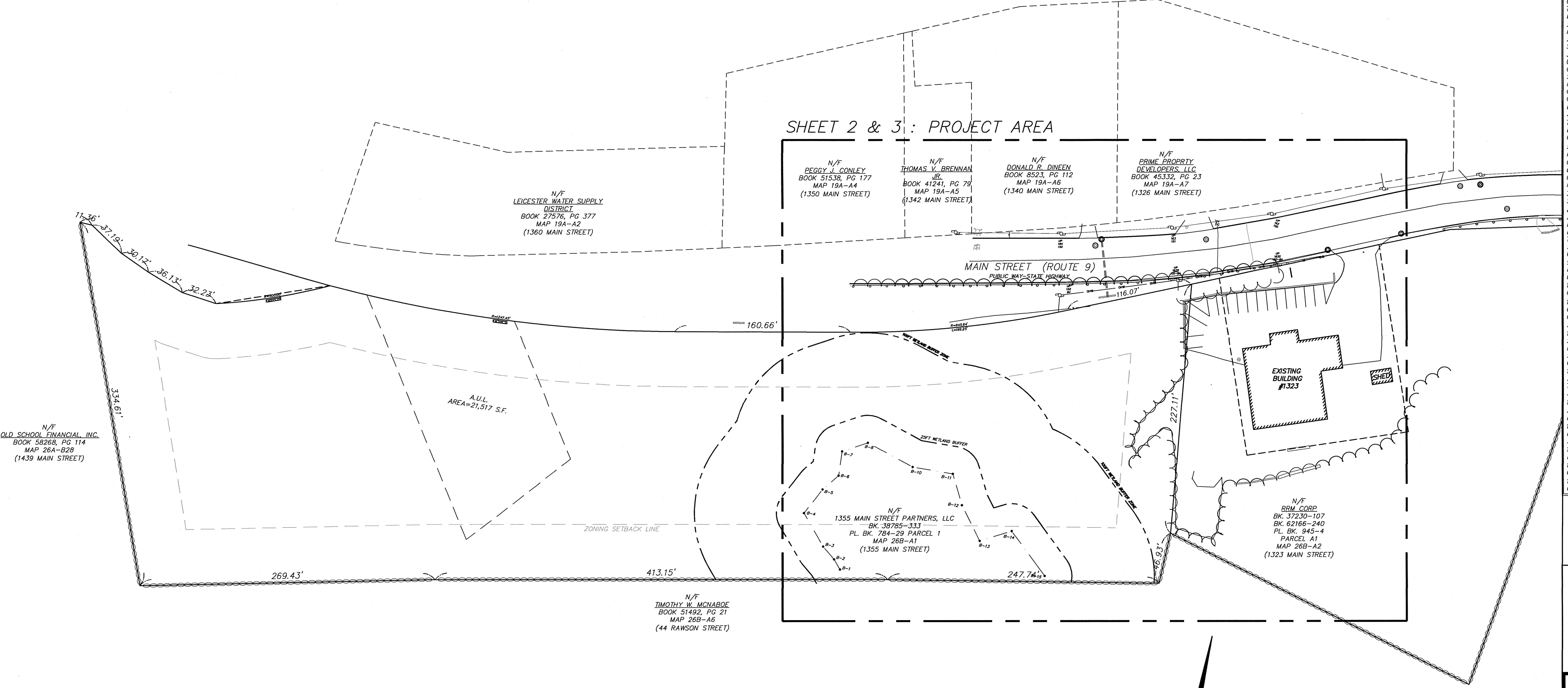
INDEX PLAN
IN
LEICESTER, MASSACHUSETTS

PREPARED FOR:
ZP BATTERY DEVCO, LLC
BRENDAN GOVE
10 E WORCESTER STREET SUITE 3A
WORCESTER, MASSACHUSETTS 01604
TEL:



CALC: CMA	DRWN: CMA	SCALE: 1"=50'
CHKD: WDH	APPD: WDH	DATE: SEP 21, 2021
SRV: JEF	FB: 71-22	JOB NO: 3010
TAB: (2) INDEX	SHEET 2 OF 6	PLAN NO: C-17-38

SHEET 2 & 3: PROJECT AREA



APPLICANT:
ZP BATTERY DEVCO, LLC
BRENDAN GOVE
10 E. WORCESTER STREET, SUITE 3A
WORCESTER, MASSACHUSETTS 01604
OWNER:
WR ENTERPRISES, LLC
1323 MAIN STREET
LEICESTER, MASSACHUSETTS 01524



LOCUS PLAN SCALE: 1"=1000'

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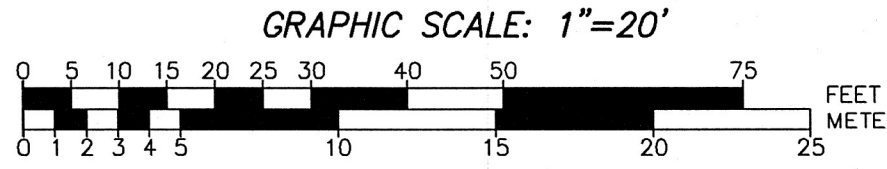
David J. LeRoy 10-22-21

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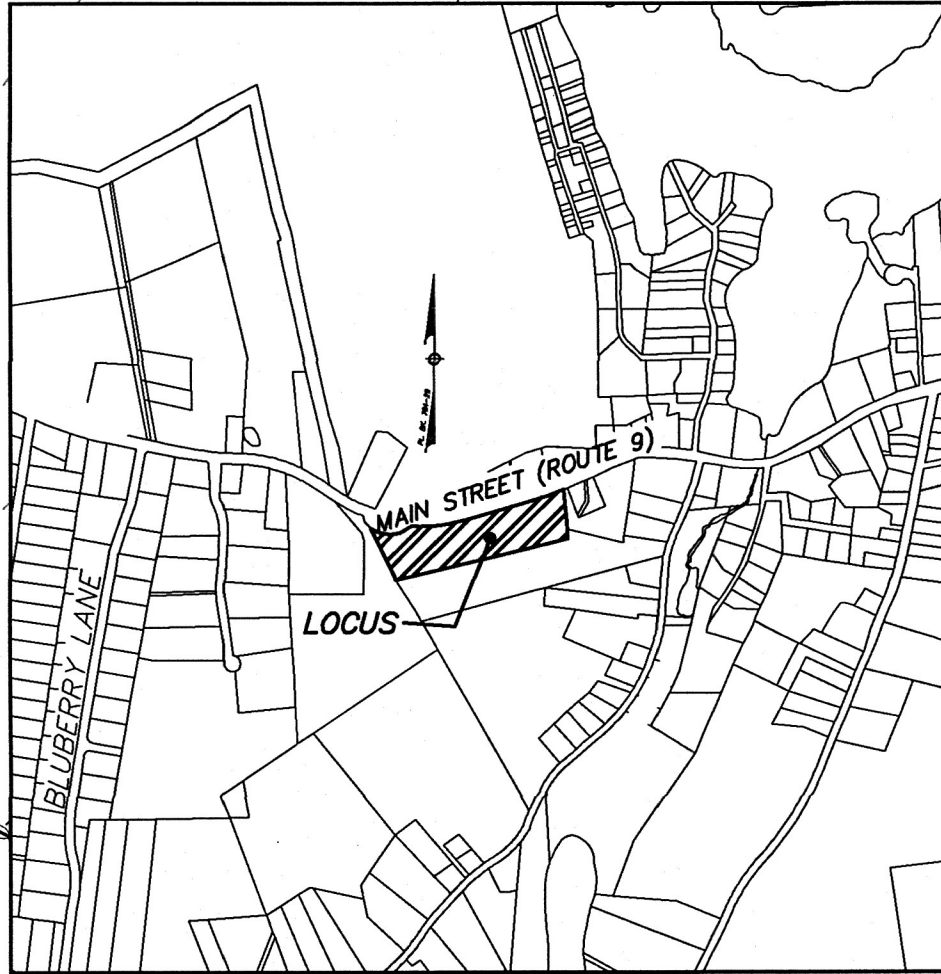
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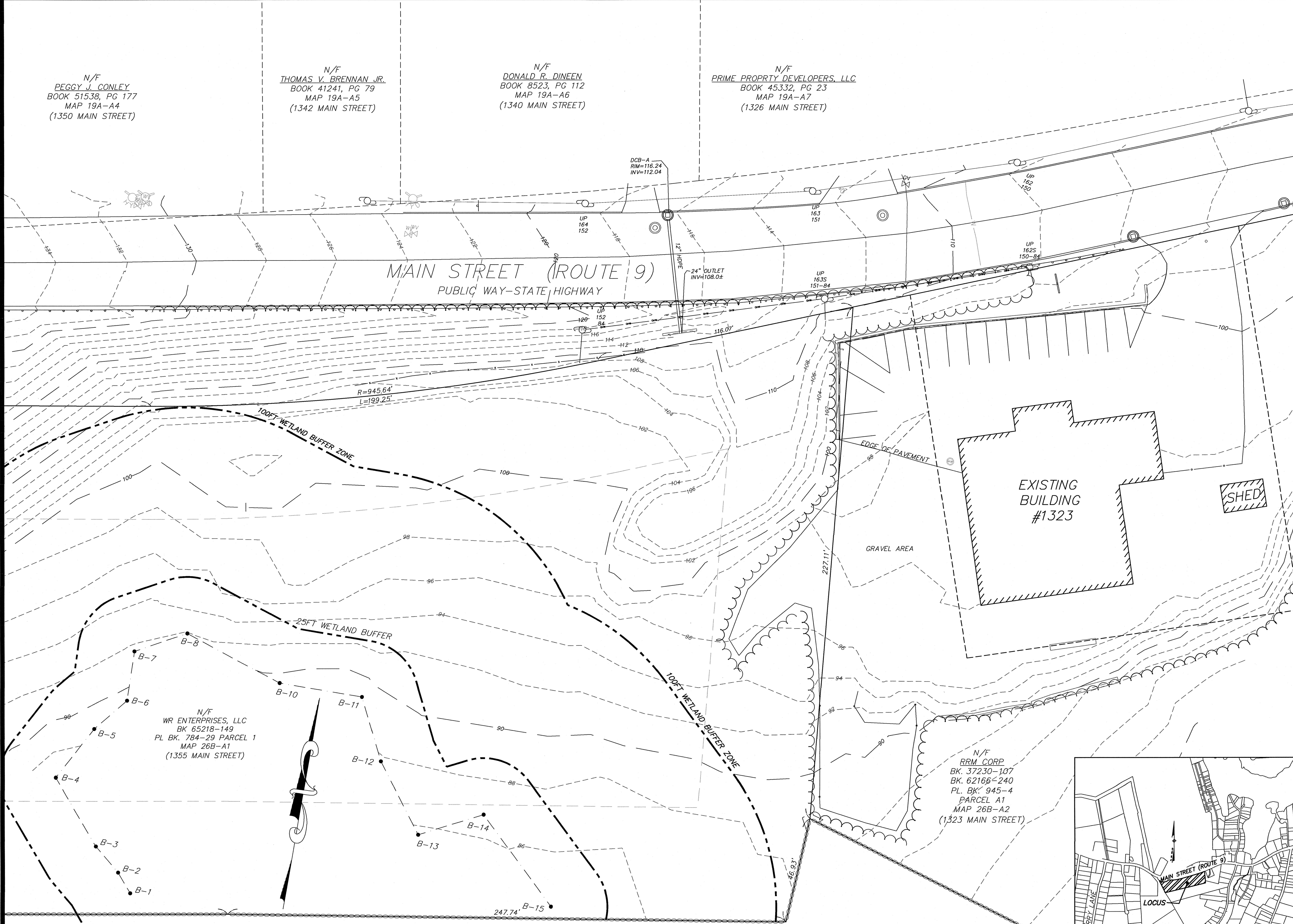


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LOCUS PLAN SCALE: 1"=1000'



N/F
PEGGY J. CONLEY
BOOK 51538, PG 177
MAP 19A-A4
(1350 MAIN STREET)

N/F
THOMAS V. BRENNAN JR.
BOOK 41241, PG 79
MAP 19A-A5
(1342 MAIN STREET)

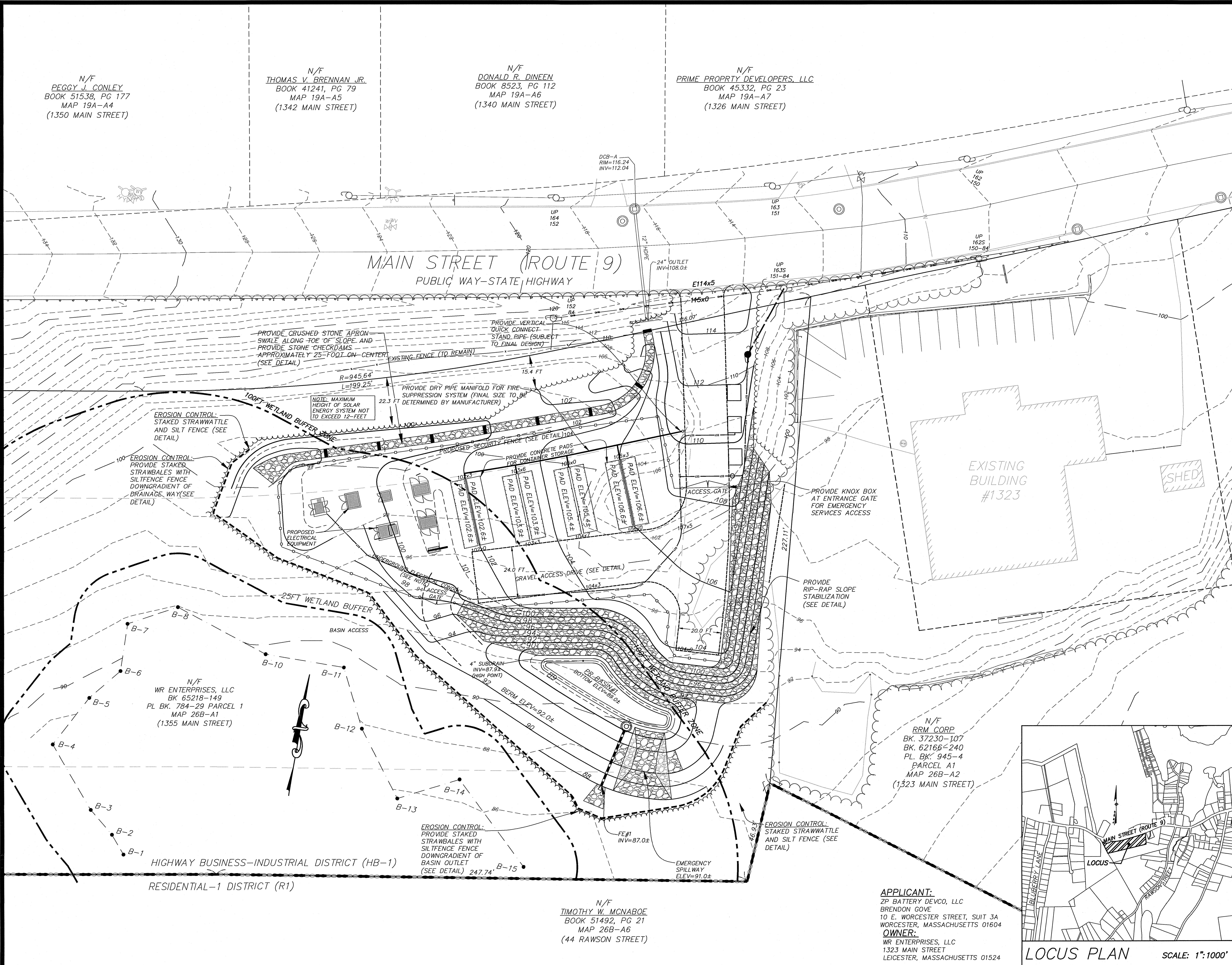
N/F
DONALD R. DINEEN
BOOK 8523, PG 112
MAP 19A-A6
(1340 MAIN STREET)

N/F
PRIME PROPERTY DEVELOPERS, LLC
BOOK 45332, PG 23
MAP 19A-A7
(1326 MAIN STREET)

N/F
WR ENTERPRISES, LLC
BK 65218-149
PL BK. 784-29 PARCEL 1
MAP 26B-A1
(1355 MAIN STREET)

N/F
RRM CORP
BK. 37230-107
BK. 62166-240
PL. BK. 945-4
PARCEL A1
MAP 26B-A2
(1323 MAIN STREET)

N/F
TIMOTHY W. MCNABOE
BOOK 51492, PG 21
MAP 26B-A6
(44 RAWSON STREET)



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10. PLANS TO BE REVIEWED BY APPLICABLE UTILITY AGENCIES FOR COMPLIANCE WITH REGULATIONS. FINAL LOCATION IS SUBJECT TO CHANGE.

11. APPLICANT SHOULD BE AWARE OF OBLIGATIONS TO COMPLY WITH CHAPTER 131, SECTION 40 OF THE MASSACHUSETTS GENERAL LAWS, OTHERWISE KNOWN AS THE WETLANDS PROTECTION ACT, AND THE ASSOCIATED REGULATIONS (310 CMR 10.00).

12. STOCKPILING OF MATERIAL SHALL NOT BE PERMITTED WITHIN ANY AREAS SUBJECT TO PROTECTION UNDER THE WETLANDS PROTECTION ACT WITHOUT PRIOR APPROVAL BY THE LOCAL CONSERVATION COMMISSION. STOCKPILES SHALL BE PLACED IN A SUITABLE LOCATION AND SURROUNDED BY A ROW OF STAKED FILL BALES FOR EROSION CONTROL.

13. AREAS OF FILL TO BE COMPACTED TO A MINIMUM 95% DRY DENSITY IN AREAS WITHIN ROADWAYS AND UTILITY EASEMENTS. OTHER AREAS OF FILL TO BE COMPACTED TO A MINIMUM 90% DRY DENSITY. ALL FILL MATERIALS ARE TO BE CLEAN FILL, FREE OF DELETERIOUS MATERIALS AND DEBRIS.

14. ALL SIDEWALKS AND RAMPS TO CONFORM TO REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA), AS REQUIRED. SEE ARCHITECTURAL PLANS FOR CONFORMANCE REQUIREMENTS FOR PROPOSED BUILDINGS.

15. THE AREA PROPOSED FOR DEVELOPMENT IS NOT WITHIN A 100 YEAR FLOOD PLAIN PER F.E.M. PLAN #250313 0781 E, DATED: JULY 4, 2011. COMPLIANCE WITH APPLICABLE REGULATIONS IS REQUIRED.

16. ALL REINFORCED CONCRETE PIPE TO BE CLASS III UNLESS OTHERWISE NOTED.

17. PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

18. ALL UTILITIES ARE TO BE INSTALLED BY A LICENSED UTILITY CONTRACTOR LICENSED BY THE TOWN OF LEICESTER.

1	10/19/21	PEER-REVIEW COMMENT	CMA
NO.	DATE	REVISIONS	BY

10-19-21

HANNIGAN ENGINEERING, INC.

CIVIL ENGINEERS & LAND SURVEYORS

8 MONUMENT SQUARE
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(978) 534-1234 (T)
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SITE DEVELOPMENT PLAN
IN
LEICESTER, MASSACHUSETTS

PREPARED FOR:
ZP BATTERY DEVCO, LLC
BRENDAN GOVE
10 E WORCESTER STREET SUITE 3A
WORCESTER, MASSACHUSETTS 01604
TEL:

GRAPHIC SCALE: 1"=20'
0 5 10 15 20 25 30 40 50 75 FEET
0 1 2 3 4 5 10 15 20 25

CALC: CMA	DRWN: CMA	SCALE: 1"=20'
CHKD: WDH	APPD: WDH	DATE: SEP 21, 2021
SRV: JEF	FB: 71-22	JOB NO: 3010
TAB: (4) SDP	SHEET 4 OF 6	PLAN NO: C-17-38

N/F
PEGGY J. CONLEY
BOOK 51538, PG 177
MAP 19A-A4
(1350 MAIN STREET)

N/F
THOMAS V. BRENNAN JR.
BOOK 41241, PG 79
MAP 19A-A5
(1342 MAIN STREET)

N/F
DONALD R. DINEEN
BOOK 8523, PG 112
MAP 19A-A6
(1340 MAIN STREET)

N/F
PRIME PROPERTY DEVELOPERS, LLC
BOOK 45332, PG 23
MAP 19A-A7
(1326 MAIN STREET)

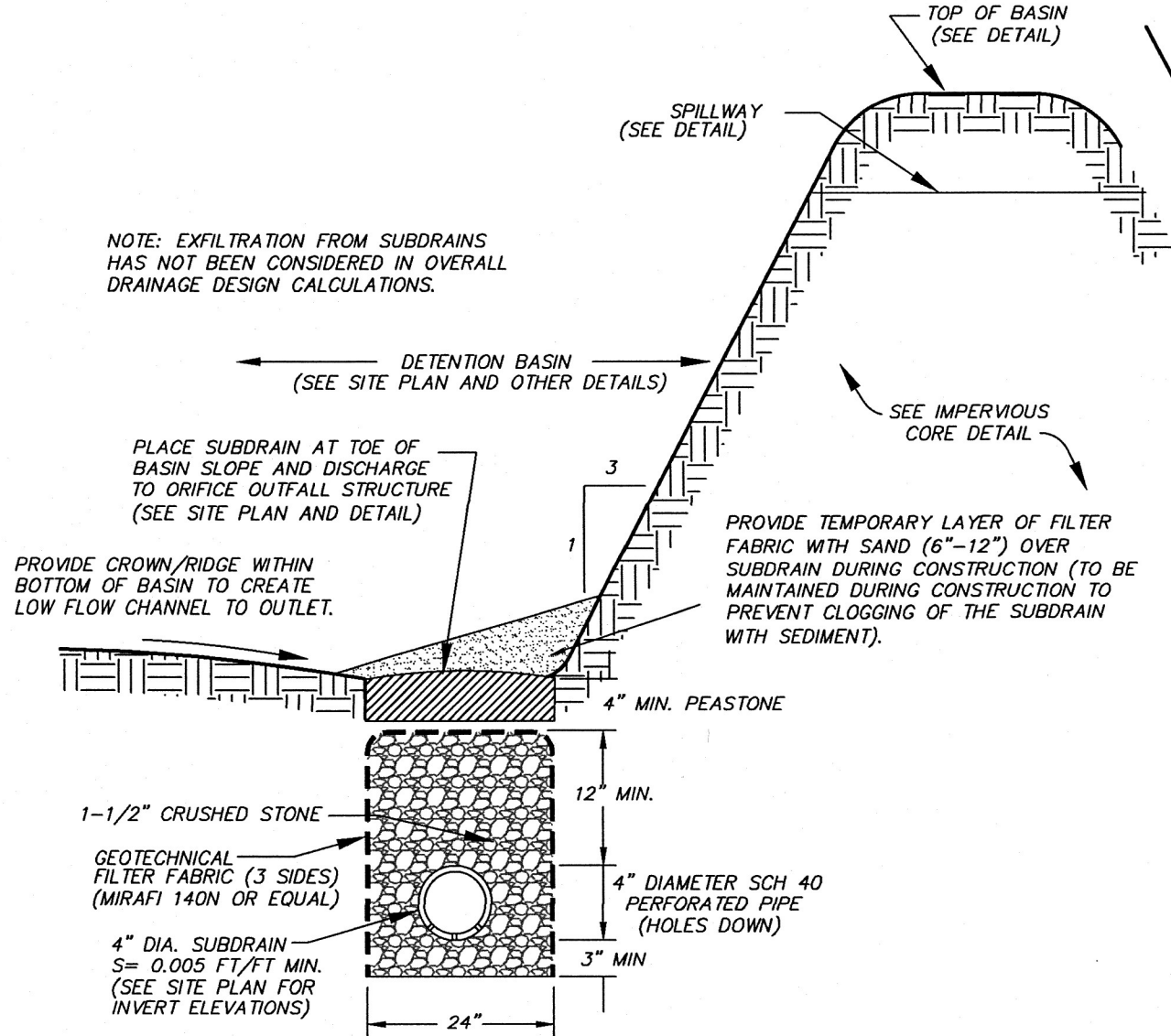
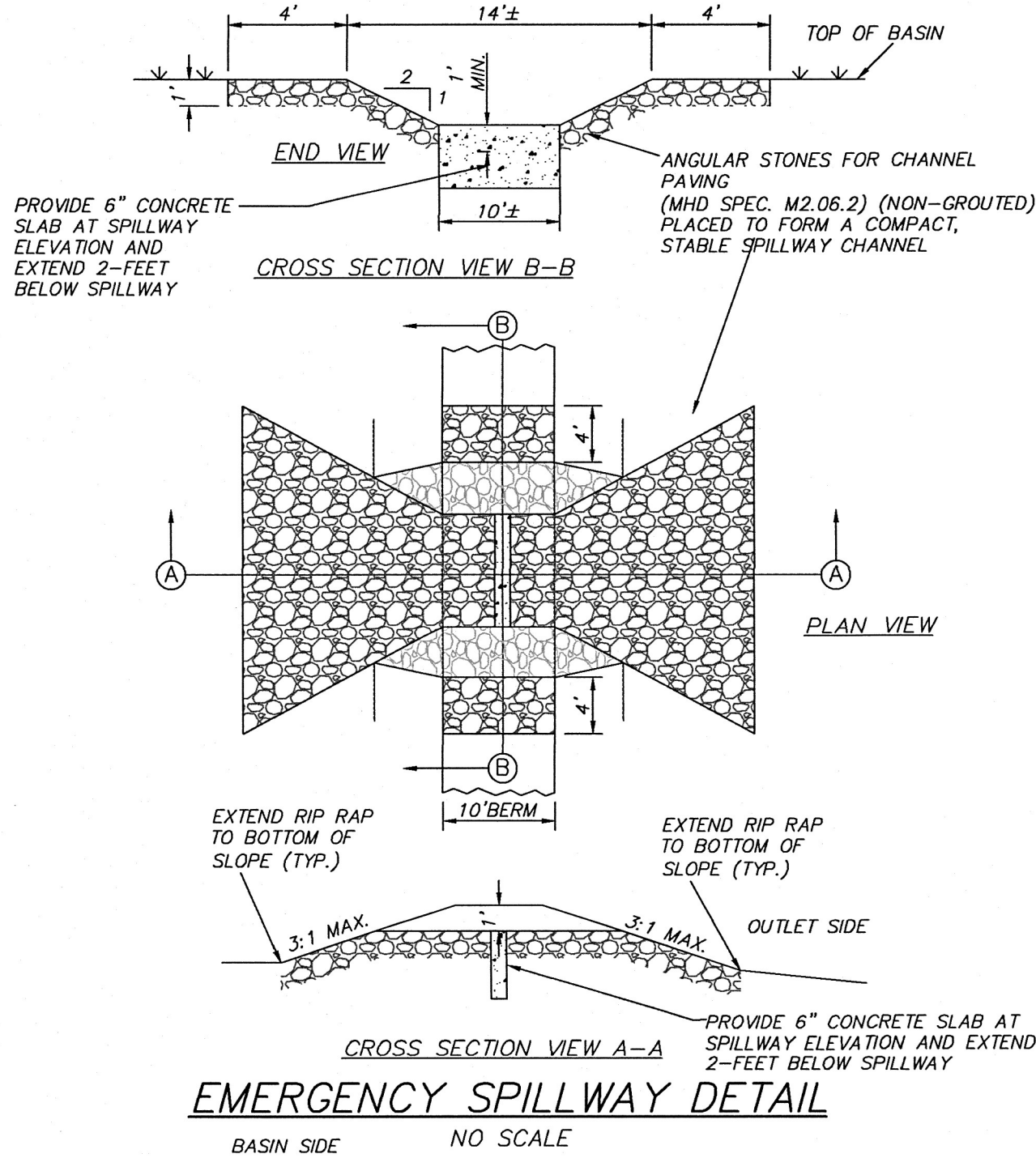
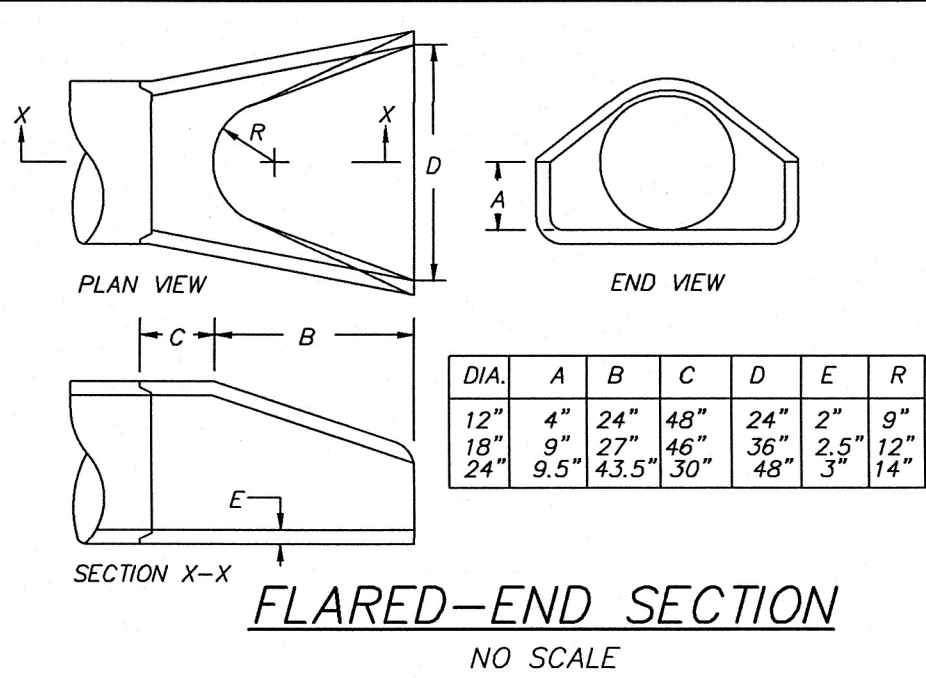
N/F
WR ENTERPRISES, LLC
BK 65218-149
PL BK 784-29 PARCEL 1
MAP 26B-A1
(1355 MAIN STREET)

N/F
RRM CORP
BK. 37230-107
BK. 62166-240
PL. BK. 945-4
PARCEL A1
MAP 26B-A2
(1323 MAIN STREET)

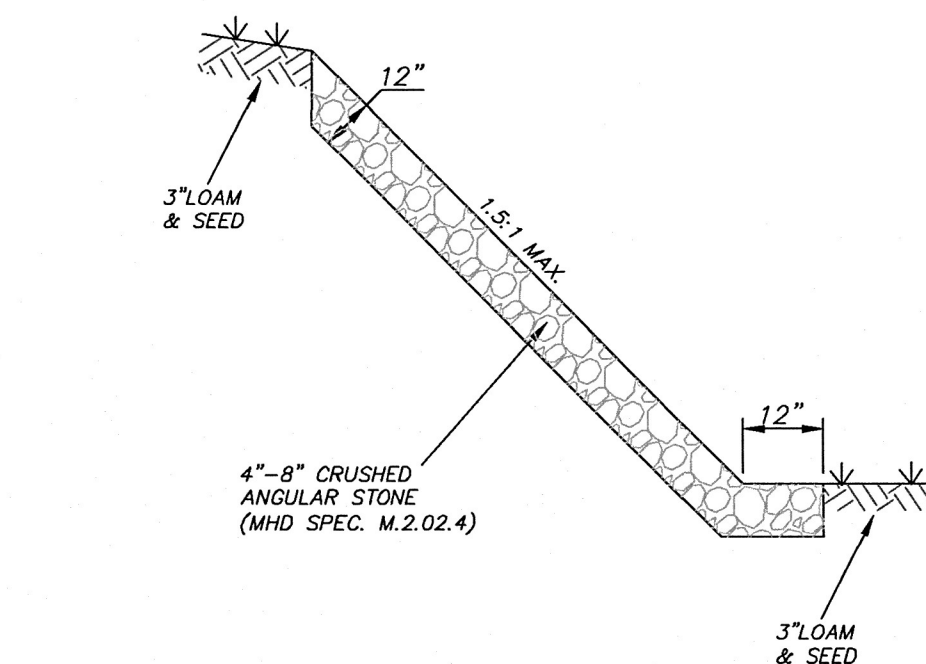
N/F
TIMOTHY W. MCNABOE
BOOK 51492, PG 21
MAP 26B-A6
(44 RAWSON STREET)

APPLICANT:
ZP BATTERY DEVCO, LLC
BRENDAN GOVE
10 E. WORCESTER STREET, SUITE 3A
WORCESTER, MASSACHUSETTS 01604
OWNER:
WR ENTERPRISES, LLC
1323 MAIN STREET
LEICESTER, MASSACHUSETTS 01524

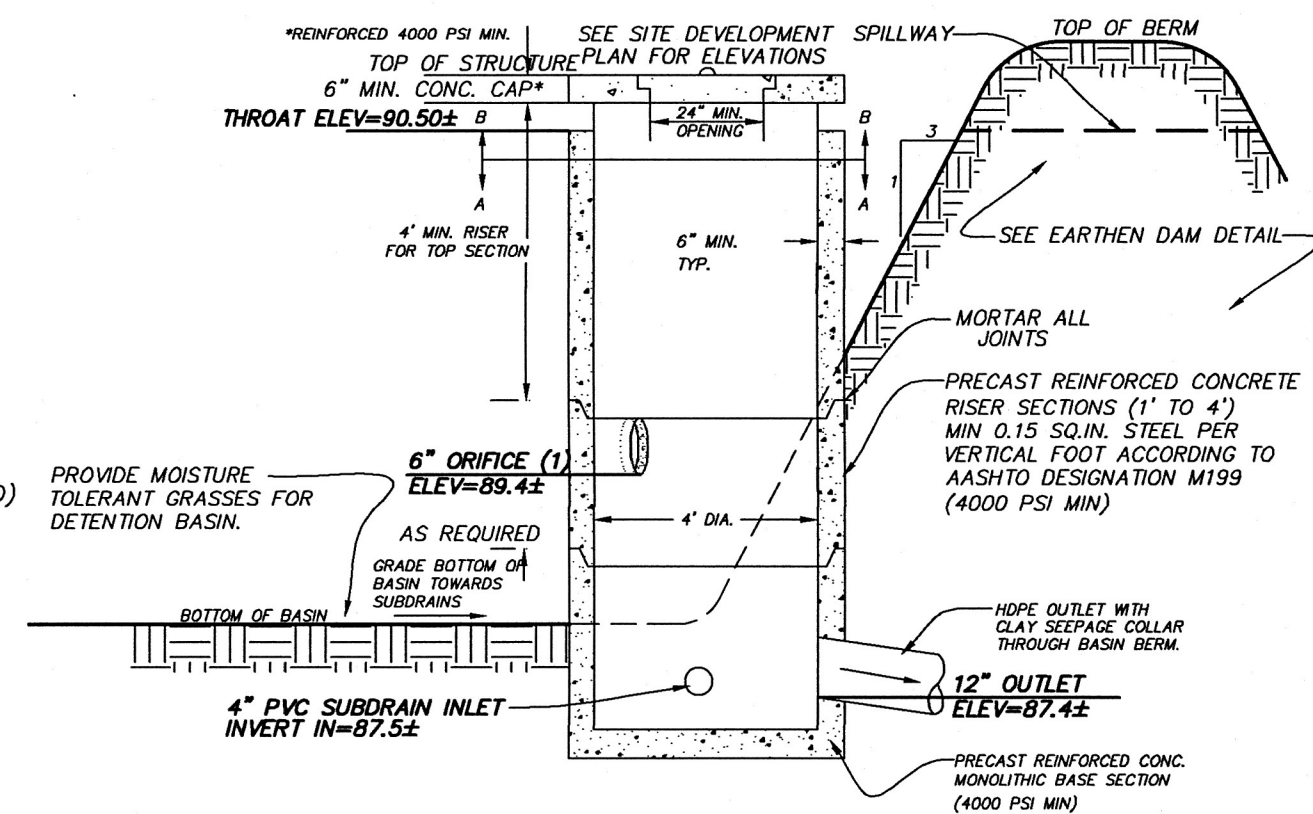
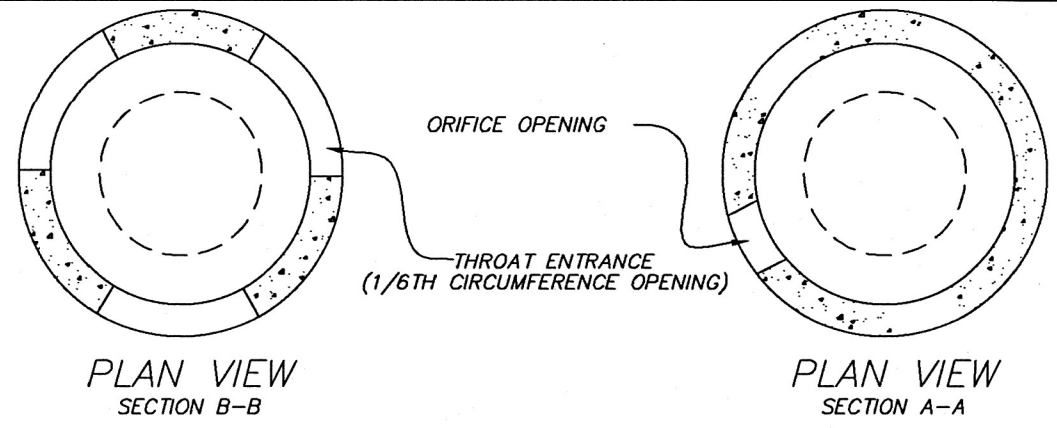
LOCUS PLAN SCALE: 1"=1000'



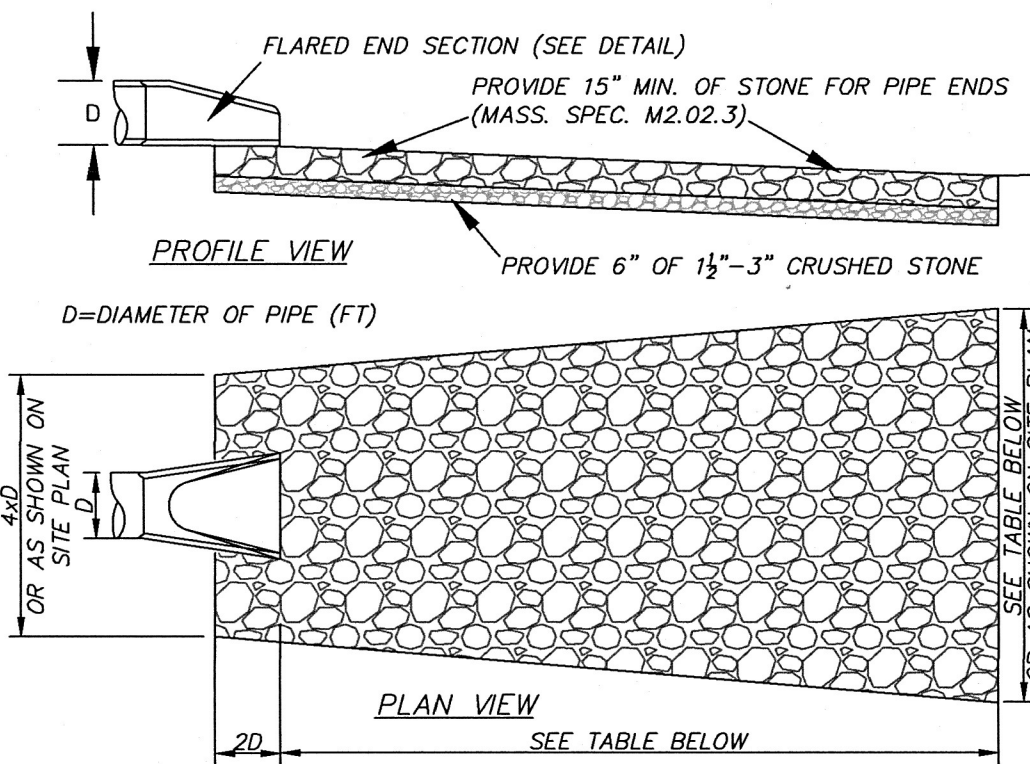
DETENTION BASIN 4\"/>



1.5:1 RIP RAP SLOPE DETAIL NO SCALE

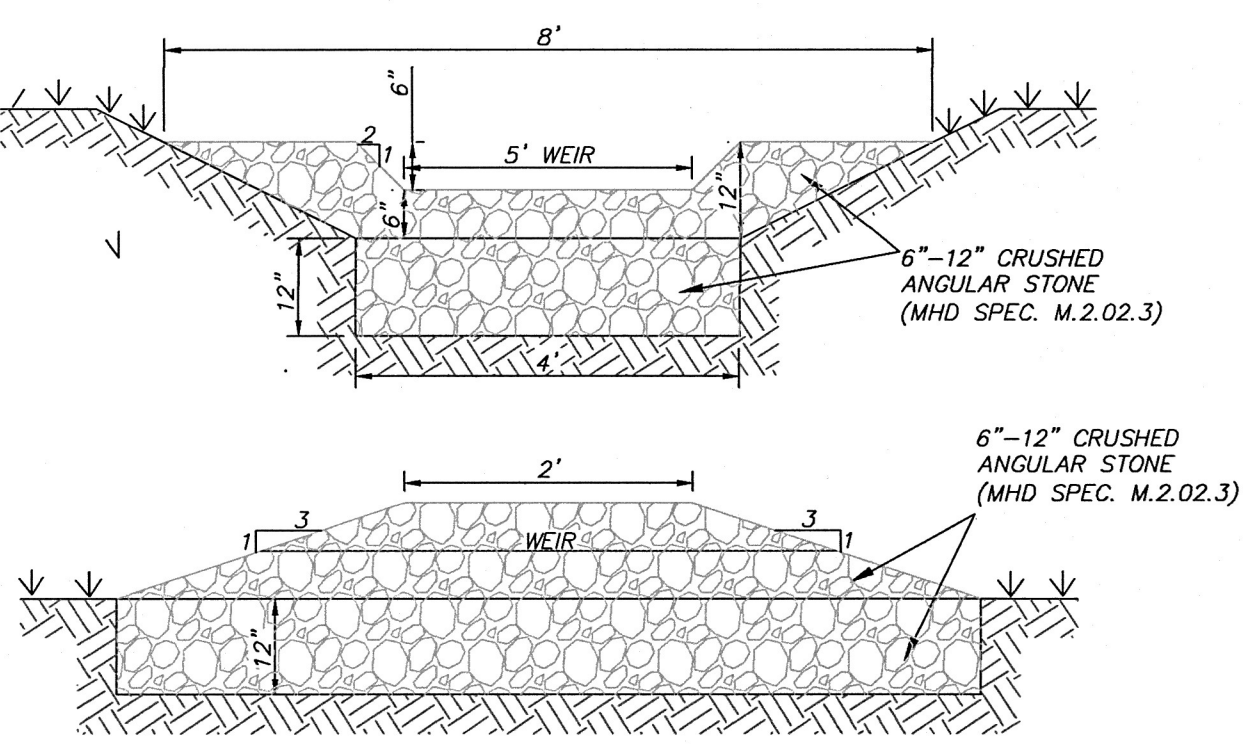


D-BASIN OUTLET STRUCTURE #11 WITH 1/6TH CIRCUMFERENCE THROAT OPENINGS NO SCALE



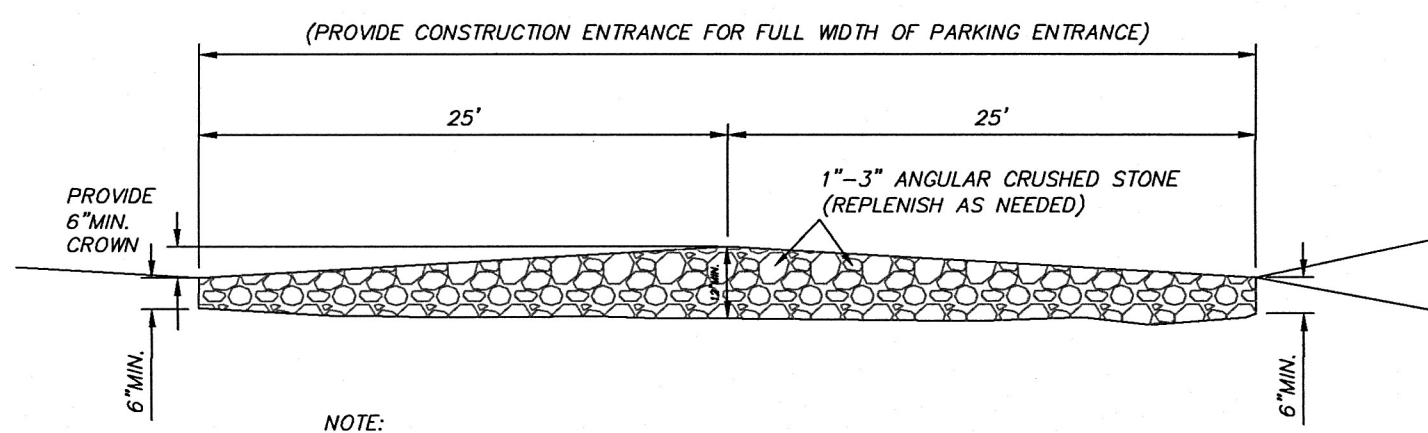
RIP RAP APRON DETAIL NO SCALE

PIPE DIAMETER	LENGTH	TERMINUS WIDTH
12-INCH (FE#1)	10.0 FEET	10.0 FEET



ROCK CHECK DAM NO SCALE

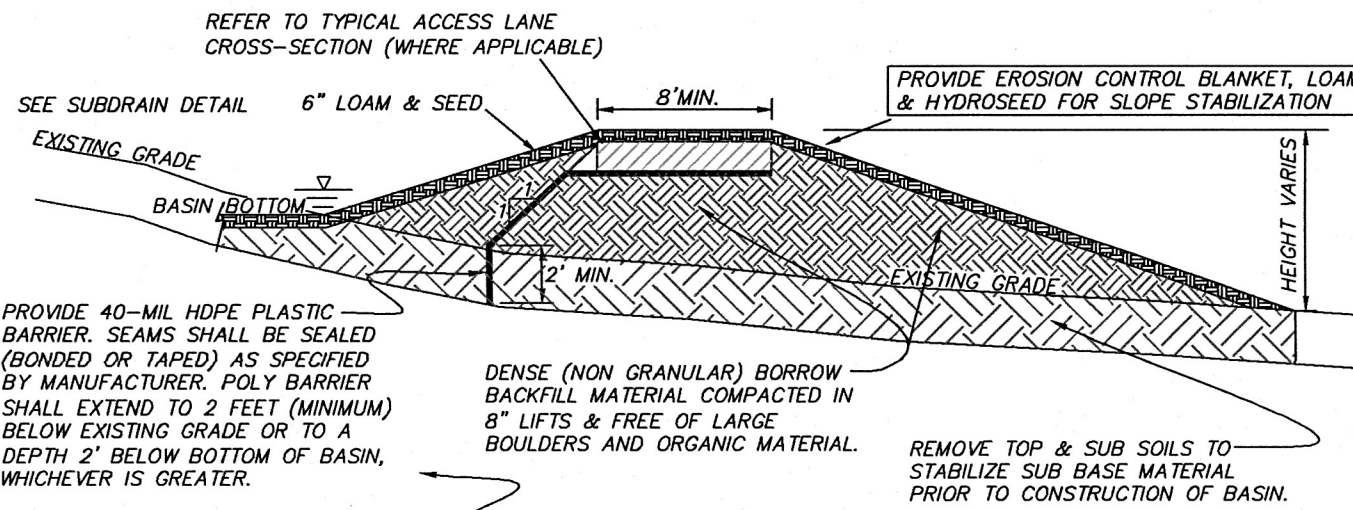
(SEE PLAN FOR LOCATIONS AND ELEVATIONS)



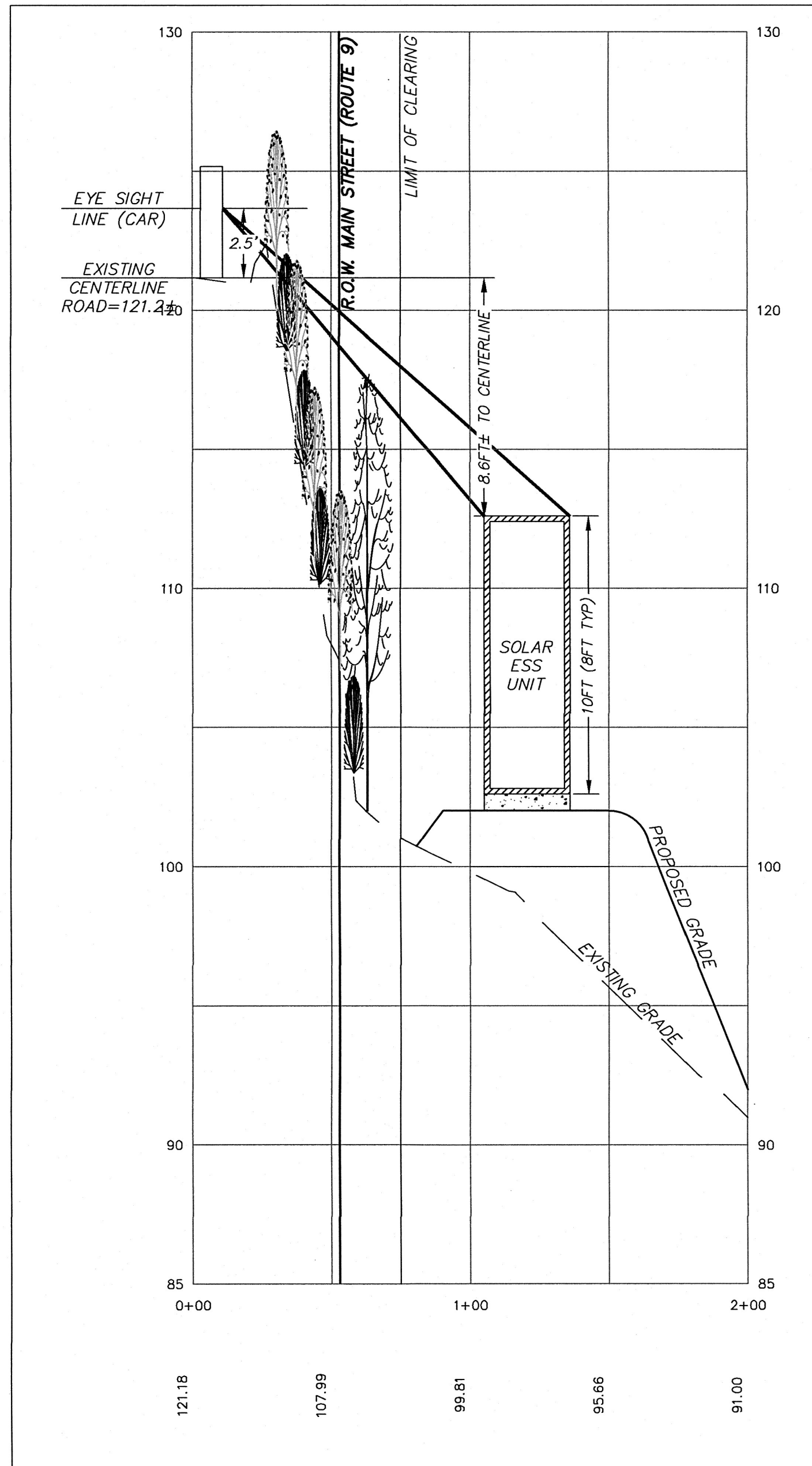
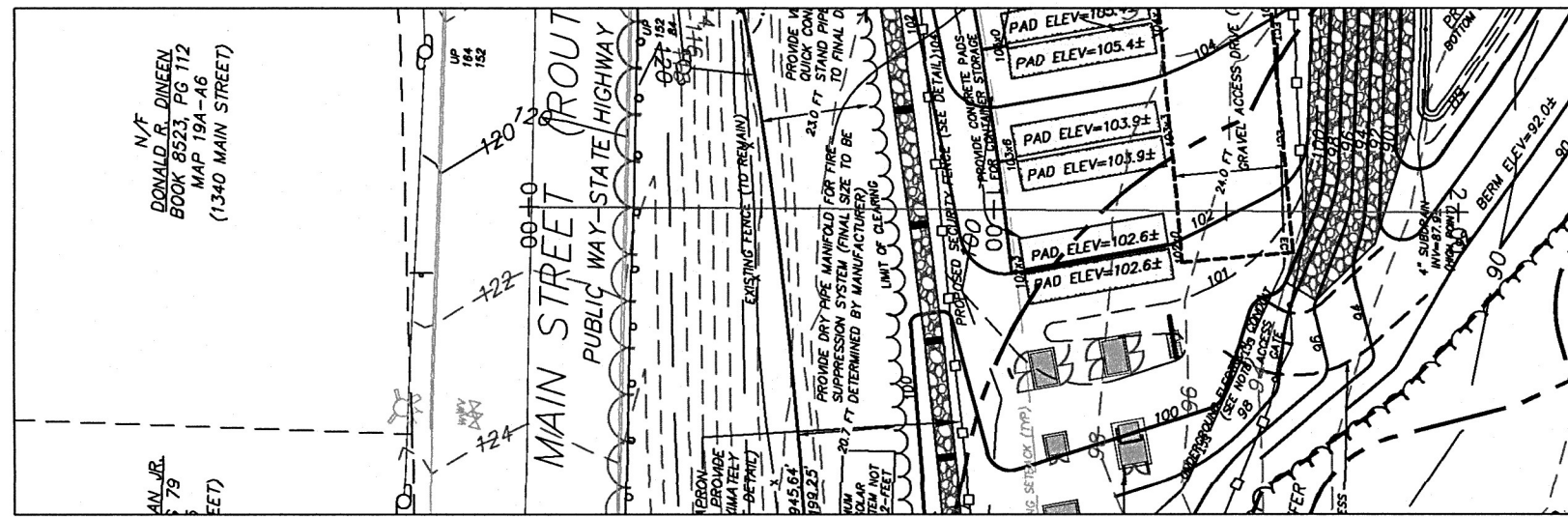
NOTE: THE PURPOSE OF THIS CONSTRUCTION ENTRANCE IS TO REMOVE MUD FROM CONSTRUCTION VEHICLES. CONTRACTOR TO REPLENISH STONE AS NEEDED TO MAINTAIN EFFECTIVENESS.

CONSTRUCTION ENTRANCE NO SCALE

NOTE: FOUNDATION FOR BERM CONSTRUCTION SHALL BE CLEARED OF ALL TOP SOIL, ROCKS, DEBRIS, STUMPS, ETC. TO A FIRM SURFACE. IN NO CASE SHALL THIS EXCAVATION BE LESS THAN 12 INCHES SUBGRADE SHALL BE SCARIFIED AND MOISTENED TO A DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF FILL.



DETENTION BASIN BERM (REQUIRED FOR DETENTION BASIN CONSTRUCTION) NO SCALE



PROJECT SIGHT LINE HORIZONTAL SCALE=1": 40' VERTICAL SCALE=1": 4'

STORMWATER OPERATION AND MAINTENANCE PLAN

THE FOLLOWING SHALL BE CONSIDERED THE OPERATION & MAINTENANCE PLAN (OMP) FOR THE STORMWATER COLLECTION FACILITY FOR THIS DEVELOPMENT. THIS OMP HAS BEEN PREPARED IN ACCORDANCE WITH THE STORMWATER MANAGEMENT POLICY AS ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

I. SYSTEM OWNERSHIP

THE SYSTEM SHALL INCLUDE THE DRAINAGE INFRASTRUCTURE AND ALL OF ITS COMPONENTS AS SHOWN ON THE SITE DEVELOPMENT PLANS, INCLUDING THE DETENTION FACILITIES AND OUTFALL AREAS OF THE DRAINAGE SYSTEM. THE STRUCTURES OF THE SYSTEM SHALL INCLUDE THE DRAINAGE SWALES AND THE OUTFALL & CONTROL STRUCTURES. THE SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DETAILS AND THE APPROVED PLANS.

UPON THE COMPLETION OF CONSTRUCTION THE DRAINAGE SYSTEM DESCRIBED ABOVE AND AS DEPICTED ON THE SITE PLANS SHALL BECOME PROPERTY OF THE LAND OWNER, WITH SPECIFIC EASEMENT RIGHTS TO THE OPERATOR OF THE SOLAR SYSTEM TO MAINTAIN THE DRAINAGE SYSTEM AS DEPICTED ON THE APPROVED PLANS. SAID EASEMENT RIGHTS SHALL BE SPECIFICALLY DESCRIBED IN LEASE DOCUMENTS FOR THE PROJECT.

II. RESPONSIBLE PARTIES

THE OPERATOR OF THE SOLAR SYSTEM SHALL BE CONSIDERED THE RESPONSIBLE PARTY FOR THE OPERATION AND MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM. THE SYSTEM SHALL INCLUDE THE DRAINAGE INFRASTRUCTURE AND ALL OF ITS COMPONENTS AS SHOWN ON THE APPROVED PLANS. THE SYSTEM SHALL ALSO INCLUDE THE DETENTION FACILITIES AND THE OUTFALL AREAS OF THE DRAINAGE SYSTEM.

III. INSPECTION & MAINTENANCE SCHEDULE

THE FOLLOWING MAINTENANCE SCHEDULE SHALL BE FOLLOWED IN ORDER TO MAINTAIN THE EFFECTIVENESS OF THE STORMWATER MANAGEMENT SYSTEM.

STRUCTURE TYPE	INSPECTION	MAINTENANCE	TASK
RIP/RAP APRONS	TWICE A YEAR	EVERY 10 YEARS	REMOVE DEBRIS & ADD STONE
SUBDRAINS	TWICE A YEAR	EVERY 4 YEARS	REPLACE PEASTONE
DETENTION BASINS	MONTHLY (MAY-OCT)	MONTHLY (MAY-OCT)	MOW GRASS AREAS & REMOVE DEBRIS
OUTFALL STRUCTURES:			REMOVE SEDIMENT IF PRESENT
SPILLWAYS	TWICE A YEAR	EVERY 10 YEARS	REMOVE DEBRIS & ADD STONE

NOTE: THE DETENTION BASINS ON THIS PROJECT MAY GROW VEGETATION IN THE BOTTOM WHICH MAY INCLUDE SPECIES PART OF THE WETLAND PROTECTION ACT. THESE PLANTS SHALL NOT BE CONSTRUED AS HAVING PROTECTION UNDER THE ACT AND SHALL BE CONSIDERED OPPORTUNISTIC GROWTH PLANTS. ADDITIONALLY, THIS AREA SHALL NOT BE CONSIDERED A CONSTRUCTED WETLAND.

SEEDING OPERATION AND MAINTENANCE PLAN

I. RESPONSIBLE PARTIES

THE OPERATOR OF THE SOLAR SYSTEM SHALL BE CONSIDERED THE RESPONSIBLE PARTY FOR THE OPERATION AND MAINTENANCE OF THE GRASS & VEGETATION. THE VEGETATION SHALL INCLUDE ALL OF ITS AREAS AS SHOWN ON THE APPROVED PLANS. THE SYSTEM SHALL ALSO INCLUDE THE GRASSED AREAS AROUND THE PANELS AND DRAINAGE STRUCTURES.

II. INSPECTION & MAINTENANCE SCHEDULE

THE FOLLOWING MAINTENANCE SCHEDULE SHALL BE FOLLOWED IN ORDER TO MAINTAIN THE VEGETATED AREAS

ACTIVITY	MAINTENANCE	TASK
GRASS CUTTING	MONTHLY	GRASS HEIGHT TO BE ALLOWED TO GROW TO A HEIGHT OF NO MORE THAN 18 INCHES AND BE CUT TO A HEIGHT OF 4 TO 6 INCHES.

III. APPROPRIATE SEED MIX AND APPLICATION RATES

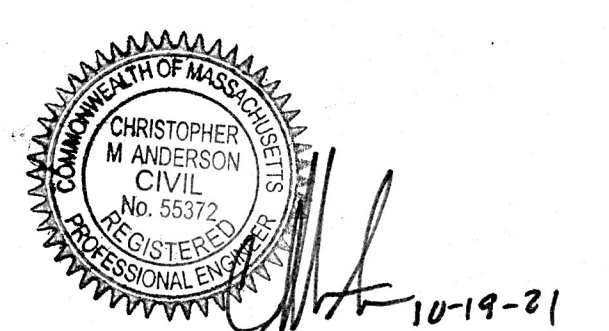
THE FOLLOWING SEED SCHEDULE SHALL BE FOLLOWED IN ORDER TO PROPERLY MAINTAIN VEGETATED AREAS

SEED TYPE (NATIVE SEED REQUIRED)	APPLICATION RATE	% OF MIX
WILDFLOWER SEED MIX	5 TO 10 POUNDS PER ACRE	50%
WHITE CLOVER SEED MIX	3 TO 5 POUNDS PER ACRE	10%
KENTUCKY BLUEGRASS	80 TO 100 POUNDS PER ACRE	40%

IV. HERBICIDES & PESTICIDES

THERE WILL NO HERBICIDES OR PESTICIDES USED ON THIS PROJECT.

NO.	DATE	PEER-REVIEW COMMENT	CMA
1	10/19/21	REVISIONS	BY



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CIVIL ENGINEERS & LAND SURVEYORS

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CONSTRUCTION DETAILS IN LEICESTER, MASSACHUSETTS

PREPARED FOR:
ZP BATTERY DEVCO, LLC
BRENDAN GOVE
10 E WORCESTER STREET SUITE 3A
WORCESTER, MASSACHUSETTS 01604
TEL:

CALC: CMA	DRWN: CMA	SCALE: NA
CHKD: WDH	APPD: WDH	DATE: SEP 21, 2021
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TAB: (5-6) DET	SHEET 6 OF 6	PLAN NO: C-17-38

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