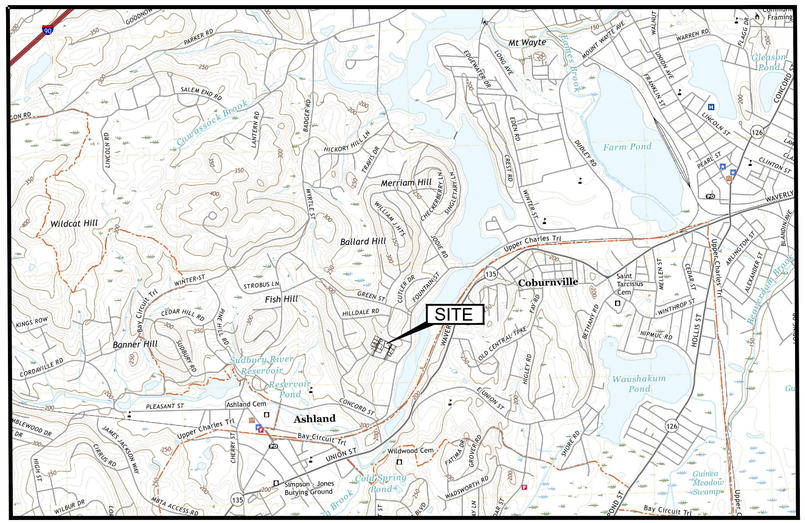
HIGHLAND RD AND BALLARD RD
PROPOSED DEVELOPMENT PLANS

LOCUS MAP



0 1000' 2000' 4000'

SCALE: 1" = 2000'

SHEET NO.	SHEET TITLE
-	COVER SHEET
SV-1	EXISTING CONDITIONS SURVEY (PFS LAND SURVEYING, BRYAN PARMENTER, PLS)
C-101	DEMOLITION, EROSION AND SEDIMENTATION CONTROL PLAN
C-111	LAYOUT AND MATERIALS PLAN
C-121	GRADING AND DRAINAGE PLAN
C-131	UTILITY PLAN
C-141	LANDSCAPING PLAN
C-201 - C-202	PRIVATE WAY PROFILES
C-501	EROSION CONTROL DETAILS
C-502 - C-503	CONSTRUCTION DETAILS

MP DESIGN CONSULTANTS
118 TURNPIKE ROAD, SUITE 200
SOUTHBOROUGH, MA 01772
CONTACT@MPDCONSULTANTS.COM

OWNER:
DEPIETRI GROUP
118 TURNPIKE ROAD,
SOUTHBOROUGH, MA 01772

PROJECT:
HIGHLAND RD & BALLARD RD
HIGHLAND RD & BALLARD RD,
ASHLAND, MA 01721

REVISIONS:

No.	DATE	DESCRIPTION

DRAWN BY:	EP
CHECKED BY:	MA
DATE:	02/04/2026
SCALE:	-

SHEET TITLE:
COVER PAGE

SHEET:
-

COMMONWEALTH OF MASSACHUSETTS
BRYAN E. PARMENTER
No. 40193
REGISTERED PROFESSIONAL LAND SURVEYOR

COMMONWEALTH OF MASSACHUSETTS
CARLOS FERREIRA
No. 41423
REGISTERED PROFESSIONAL ENGINEER

Digitally signed by Carlos Ferreira
DN: C=US, E=contact@mpdcconsultants.com, O=MP Design Consultants, CN=Carlos Ferreira
Reason: I have reviewed this document
Date: 2026.02.03 16:34:00-05'00'

FIELD RESULTS:
BY CARLOS FERREIRA
DATE OF TESTS: 12/15/2025

TP-1 (EL. 241.50 +/-)
0" - 18" Ap LOAM 10YR4/3
18" - 28" Bw LOAMY SAND 10YR6/6
28" - 64" C1 SAND W/ COBBLES 10YR6/3
64" - 70" C2 FINE SAND 10YR6/1
70" - 80" C3 COARSE SAND W/ STONES 10YR6/1
80" - 120" C4 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-2 (EL. 242.00 +/-)
0" - 9" Ap LOAM 10YR4/3
9" - 18" Bw LOAMY SAND 10YR6/6
18" - 48" C1 SAND W/ COBBLES 10YR6/3
48" - 63" C2 FINE SAND 10YR6/1
63" - 75" C3 COARSE SAND W/ STONES 10YR6/1
75" - 120" C4 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-3 (EL. 241.50 +/-)
0" - 12" Ap LOAM 10YR4/3
12" - 32" Bw LOAMY SAND 10YR6/6
32" - 40" C1 FINE SAND 10YR6/1
40" - 58" C2 COARSE SAND W/ STONES 10YR6/1
58" - 120" C3 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-4 (EL. 236.50 +/-)
0" - 12" Ap LOAM 10YR4/3
12" - 30" Bw LOAMY SAND 10YR6/6
30" - 66" C1 GRAVELLY LOAMY SAND 10YR6/1
66" - 120" C2 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-5 (EL. 226.50 +/-)
0" - 9" Ap LOAM 10YR4/3
9" - 29" Bw LOAMY SAND 10YR6/6
29" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-6 (EL. 218.50 +/-)
0" - 12" Ap LOAM 10YR4/3
12" - 34" Bw LOAMY SAND 10YR6/6
34" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-7 (EL. 207.90 +/-)
0" - 18" Ap LOAM 10YR4/3
18" - 38" Bw LOAMY SAND 10YR6/6
38" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-8 (EL. 207.15 +/-)
0" - 15" Ap LOAM 10YR4/3
15" - 32" Bw LOAMY SAND 10YR6/6
32" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-9 (EL. 216.80 +/-)
0" - 12" Ap LOAM 10YR4/3
12" - 36" Bw LOAMY SAND 10YR6/6
36" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-10 (EL. 215.85 +/-)
0" - 10" Ap LOAM 10YR4/3
10" - 38" Bw LOAMY SAND 10YR6/6
38" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-11 (EL. 209.20 +/-)
0" - 15" Ap LOAM 10YR4/3
15" - 38" Bw LOAMY SAND 10YR6/6
38" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
35" - 38" REDOX 7.5YR5/8

TP-12 (EL. 208.50 +/-)
0" - 18" Ap LOAM 10YR4/3
18" - 38" Bw LOAMY SAND 10YR6/6
38" - 108" C1 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
34" - 38" REDOX 7.5YR5/8

TP-13 (EL.205.10 +/-)
0" - 12" Ap LOAM 10YR4/3
12" - 30" Bw LOAMY SAND 10YR6/6
30" - 66" C1 GRAVELLY LOAMY SAND 10YR6/1
66" - 120" C2 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
27" - 30" REDOX 7.5YR5/8

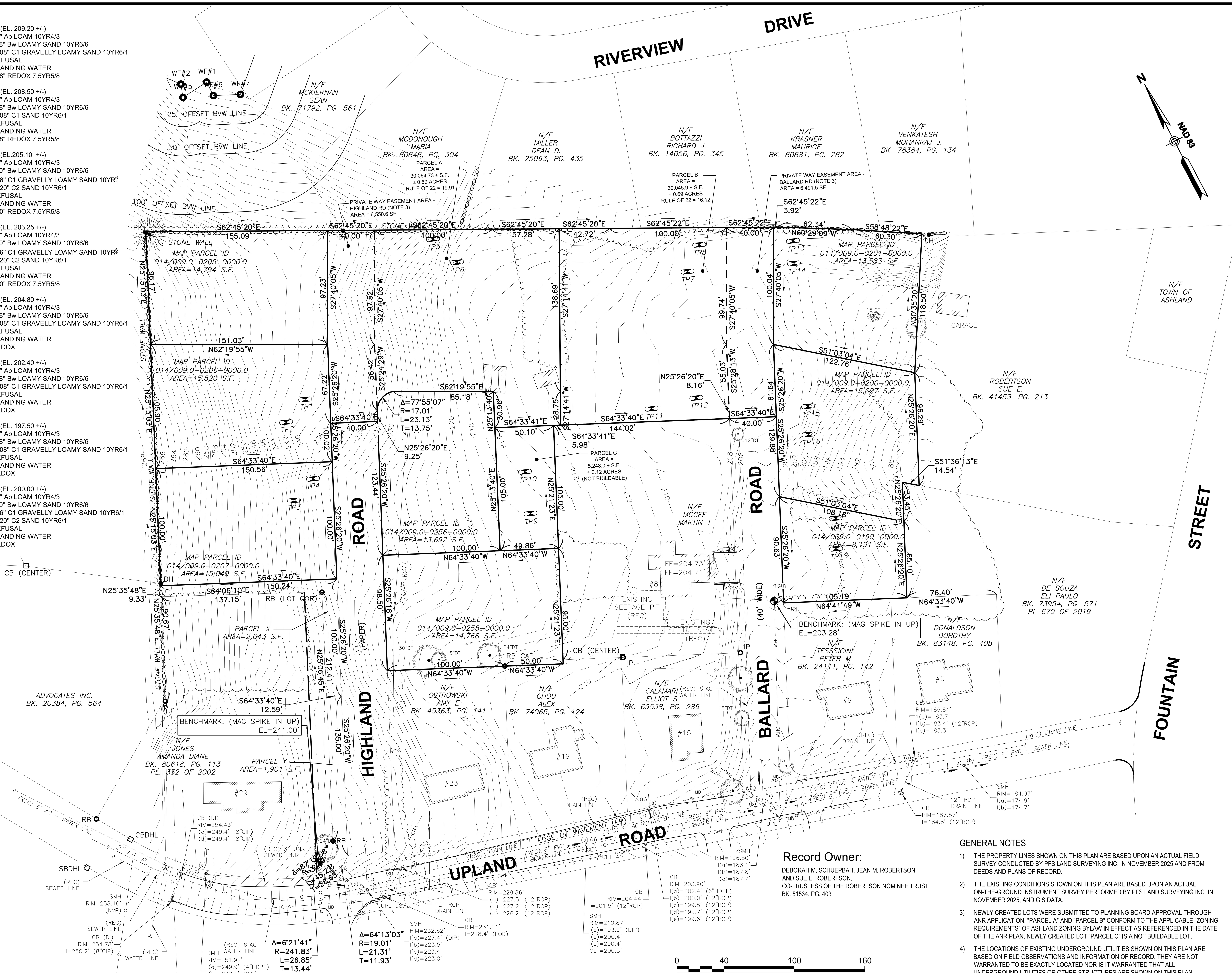
TP-14 (EL. 203.25 +/-)
0" - 12" Ap LOAM 10YR4/3
12" - 30" Bw LOAMY SAND 10YR6/6
30" - 66" C1 GRAVELLY LOAMY SAND 10YR6/1
66" - 120" C2 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
26" - 30" REDOX 7.5YR5/8

TP-15 (EL. 204.80 +/-)
0" - 18" Ap LOAM 10YR4/3
18" - 38" Bw LOAMY SAND 10YR6/6
38" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-16 (EL. 202.40 +/-)
0" - 18" Ap LOAM 10YR4/3
18" - 38" Bw LOAMY SAND 10YR6/6
38" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-17 (EL. 197.50 +/-)
0" - 18" Ap LOAM 10YR4/3
18" - 38" Bw LOAMY SAND 10YR6/6
38" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-18 (EL. 200.00 +/-)
0" - 12" Ap LOAM 10YR4/3
12" - 30" Bw LOAMY SAND 10YR6/6
30" - 66" C1 GRAVELLY LOAMY SAND 10YR6/1
66" - 120" C2 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX



Record Owner:
DEBORAH M. SCHUEPBAH, JEAN M. ROBERTSON
AND SUE E. ROBERTSON,
CO-TRUSTESS OF THE ROBERTSON NOMINEE TRUST
BK. 51534, PG. 403

Plan References:
PLAN 108 OF 1965
PLAN 76 OF 1950
PLAN 65 OF 1985
PLAN 36 OF 1991
PLAN 214 OF 2003
PLAN 332 OF 2002
PLAN 670 OF 2019
PLAN 741 OF 1989
PLAN 898 OF 1998
PLAN 957 OF 1997
PLAN 1088 OF 1984

GENERAL NOTES
1) THE PROPERTY LINES SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL FIELD SURVEY CONDUCTED BY PFS LAND SURVEYING INC. IN NOVEMBER 2025 AND FROM DEEDS AND PLANS OF RECORD.
2) THE EXISTING CONDITIONS SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL ON-THE-GROUND INSTRUMENT SURVEY PERFORMED BY PFS LAND SURVEYING INC. IN NOVEMBER 2025, AND GIS DATA.
3) NEWLY CREATED LOTS WERE SUBMITTED TO PLANNING BOARD APPROVAL THROUGH ANR APPLICATION. "PARCEL A" AND "PARCEL B" CONFORM TO THE APPLICABLE "ZONING REQUIREMENTS" OF ASHLAND ZONING BYLAW IN EFFECT AS REFERENCED IN THE DATE OF THE ANR PLAN. NEWLY CREATED LOT "PARCEL C" IS A NOT BUILDABLE LOT.
4) THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD OBSERVATIONS AND INFORMATION OF RECORD. THEY ARE NOT WARRANTED TO BE EXACTLY LOCATED NOR IS IT WARRANTED THAT ALL UNDERGROUND UTILITIES OR OTHER STRUCTURES ARE SHOWN ON THIS PLAN.
5) HORIZONTAL DATUM IS BASED ON MASS. GRID SYSTEM, NAD 1983. ELEVATIONS SHOWN ON THIS PLAN REFER TO NAVD OF 1988.
6) THE LOT LIES ENTIRELY WITHIN ZONE X UNSHADED (AREA OF MINIMAL FLOODING) AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR THE TOWN OF ASHLAND, MASSACHUSETTS, COMMUNITY PANEL NUMBER 25017C0514F, EFFECTIVE DATE JULY 7, 2014.
7) WETLAND FLAGS WERE OBSERVED ON SITE AT THE TIME OF THE SURVEY AND FIELD LOCATED BY PFS LAND SURVEYING INC.

PFS Land Surveying Inc.
20 Balch Avenue
Groveland, MA 01834
978.891.5203
www.pfsland.com

LEGEND
BM #	BENCHMARK
	BOUND (CONC, STONE, ETC.)
DSK	DISK (CA/T, USC&GS, ETC.)
DH	DRILL HOLE
RB	REBAR MARKER
CB	CATCH BASIN
	DRAIN MANHOLE
	ELECTRIC MANHOLE
	SEWER MANHOLE
	TELEPHONE MANHOLE
	OTHER MANHOLE
	ROOF DRAIN
EHH	ELECTRIC HANDHOLE
EM	ELECTRIC METER
GG	GAS GATE
GM	GAS METER
	LIGHT
	FIRE HYDRANT
WG	WATER GATE
WSO	WATER SHUTOFF
	SIGN
OHW	OVERHEAD WIRE
	GUY WIRE ANCHOR
UPL#	UTILITY POLE
ULT#	UTILITY POLE w/ LIGHT
	HANDICAP SYMBOL
MB	MAIL BOX
BIT	BITUMINOUS
CONC	CONCRETE
CLF	CHAIN LINK FENCE
CT	CONIFEROUS TREE
DT	DECIDUOUS TREE
DYL	DOUBLE YELLOW LINE
EM	ELECTRIC METER
EP	EDGE OF PAVEMENT
FF	FINISHED FLOOR
FNC	FENCE
LSA	LANDSCAPE AREA
OH	OVERHANG
RET	RETAINING
SGC	SLOPED GRANITE CURB
VGC	VERTICAL GRANITE CURB
SWL	SINGLE WHITE LINE
TYP	TYPICAL
WD	WOODEN

No.	Revision	Date	Appvd.

Designed by BGP	Drawn by BGP
Checked by BGP	CAD checked by BGP
Approved by BGP	Scale 1"=40'
Date 12/19/2025	

Project Title
Existing Conditions Plan of Land Ballard Road Ashland, MA 01721

Issued for
Review

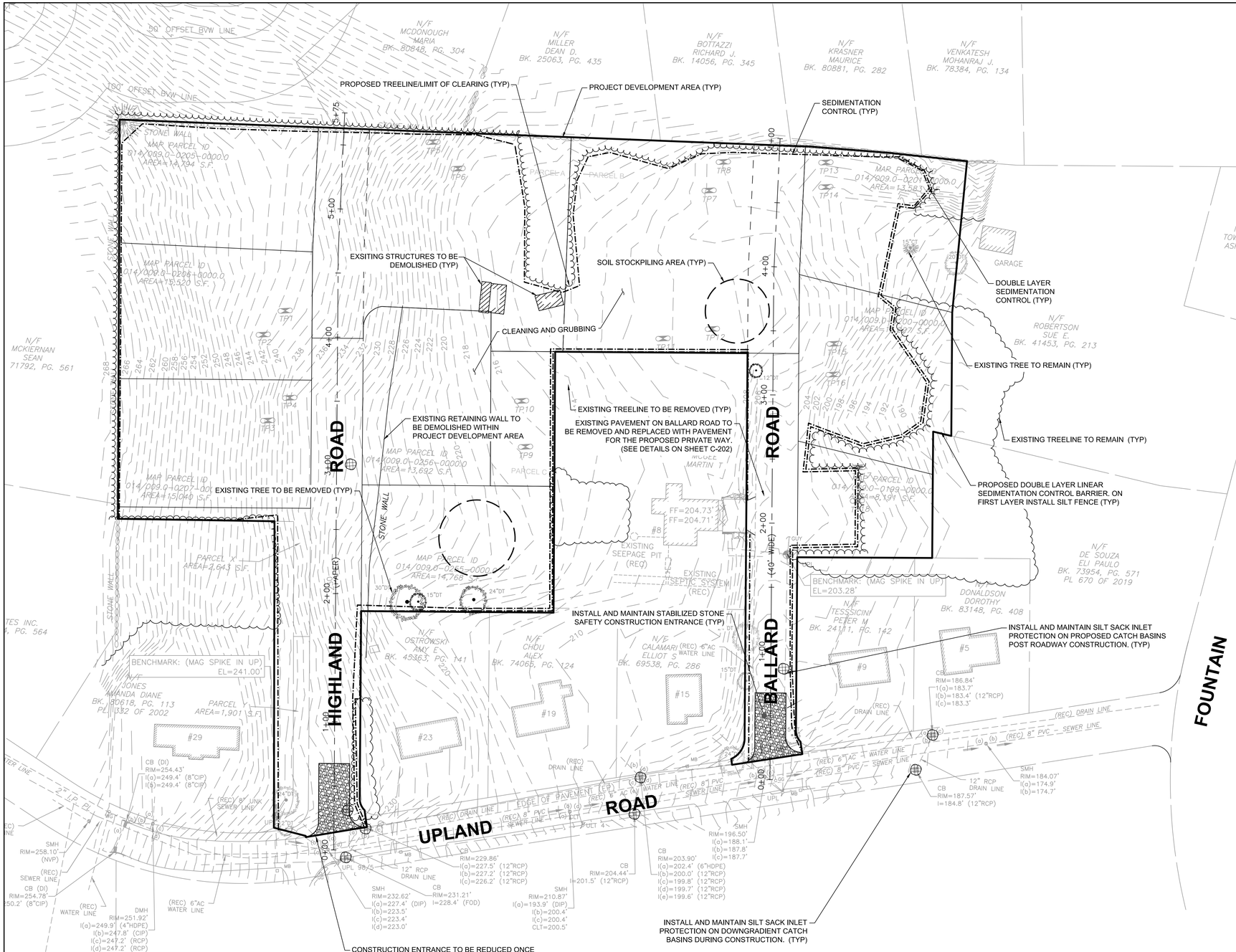
Drawing Title
Existing Conditions

COMMONWEALTH OF MASSACHUSETTS BRYAN G. PARMENTER NO. 48193 REGISTERED PROFESSIONAL LAND SURVEYOR

Drawing Number
SV-1

Sheet
1 of 1

Project Number
25110



LEGEND

SUBJECT PARCEL	
EXISTING MINOR CONTOUR	291
EXISTING MAJOR CONTOUR	290
PROPOSED SPOT GRADE	X 132
PROPOSED CONTOUR	290
TEST PITS	TP-X

GENERAL NOTES

1. THE PROPERTY LINES SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL FIELD SURVEY CONDUCTED NOVEMBER 2025 BY BRYAN PARMENTER PLS STAMPED LICENSE NUMBER 48193.
2. PROJECT REFERENCES MASSACHUSETTS HORIZONTAL DATUM NAD83 AND TOPOGRAPHICAL ELEVATIONS VERTICAL DATUM NAVD88.
3. ALL SURVEY INFORMATION IS BACKGROUND INFORMATION FOR DESIGN ENGINEER PLANS.
4. GENERAL CONTRACTOR SHALL COORDINATE PROPOSED UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, MATERIAL AND SUITABILITY OF EXISTING UTILITIES. COORDINATE WITH UTILITY PROVIDER AND NOTIFY THE DESIGNER ENGINEER OF ANY CONFLICTS. IF EXISTING SERVICES CANNOT BE REUSED, A NEW SERVICE CONNECTION SHALL BE MADE TO THE EXISTING MAIN OR LINE IN ACCORDANCE TO THE TOWN/CITY REQUIREMENTS INCLUDING PATCHING WHERE DEEMED NECESSARY.
5. AT THE END OF CONSTRUCTION, ALL DRAINAGE STRUCTURES ARE TO BE CLEANED OF SILT, STONES AND OTHER DEBRIS.
6. CIVIL ENGINEER DESIGN BASED ON PROVIDED SURVEY BY SURVEYOR. ENGINEER NOT RESPONSIBLE FOR ANY DISCREPANCY IN THE PROVIDED SURVEY.
7. ALL SLOPES, UNLESS OTHERWISE SPECIFIED, SHALL BE LOAMED AND SEEDED FOR STABILIZATION AS SOON AS POSSIBLE TO PREVENT EROSION INTO WETLAND RESOURCE AREAS, ABUTTING PROPERTIES, OR PUBLIC WAYS. EROSION CONTROL BLANKETS ARE REQUIRED FOR ALL 2H:1V SLOPES. SLOPES MAY NOT EXCEED 2H:1V.
8. DIG SAFE NOTE: IN ACCORDANCE WITH MGL. CH. 82, SEC. 40 INCLUDING AMENDMENTS, ALL CONTRACTORS SHALL NOTIFY UTILITY COMPANIES AND GOVERNMENT AGENCIES, IN WRITING, OF THE INTENT TO EXCAVATE, BLAST, DEMOLISH, BORE, OR PERFORM OTHER EARTH MOVING OPERATIONS NO LESS THAN 72 HOURS AND NO MORE THAN 30 DAYS PRIOR TO THE COMMENCEMENT OF SUCH WORK (EXCLUSIVE OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS) OR CALL "DIG SAFE" AT 1-888-DIG-SAFE.
9. LOCATION OF UNDERGROUND UTILITIES ON THIS PLAN ARE APPROXIMATE ONLY AND ARE BASED ON A COMBINATION OF ACTUAL FIELD LOCATIONS OF VISIBLE STRUCTURES AND RECORD PLAN COMPILATIONS. EXISTING UTILITY LOCATIONS AND ELEVATIONS SHOWN SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. TEST PITS SHALL BE PERFORMED BY CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INFORM THE DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO THE START OF ANY CONSTRUCTION.

CONSTRUCTION NOTES

1. CONTRACTOR SHALL REPORT SIGNIFICANT CONFLICTS TO THE OWNER AND DESIGN ENGINEER.
2. THE CONTRACTOR SHALL VERIFY EXISTING GRADES IN THE FIELD AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER AND DESIGN ENGINEER.
3. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND.CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS.
4. PITCH EVENLY BETWEEN SPOT GRADES. GRADE ALL AREAS TO DRAIN. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM OF 1/8" PER FOOT UNLESS OTHERWISE SPECIFIED. ANY DISCREPANCIES NOT ALLOWING THIS MINIMUM PITCH SHALL BE REPORTED TO THE OWNER OR HIS REPRESENTATIVE PRIOR TO CONTINUING WORK.
5. ALL SITE WORK SHALL CONFORM TO THE CONTRACT DOCUMENTS AND SHALL COMPLY WITH APPLICABLE CODES AND REGULATIONS.
6. DURING THE PROGRESS OF THE WORK, THE CONTRACTOR MAY BE REQUIRED TO EXCAVATE ADDITIONAL TEST PITS FOR THE PURPOSE OF LOCATING UNDERGROUND UTILITIES OR STRUCTURES AS AN AID IN ESTABLISHING THE PRECISE LOCATION OF NEW WORK. THIS WORK IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER. TEST PITS SHALL BE BACKFILLED, AS SOON AS THE DESIRED INFORMATION HAS BEEN OBTAINED.
7. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS CREATED BY CONTRACTOR OPERATIONS.
8. PAVING, CONCRETE WORK AND BASE COURSE PREPARATION SHALL BE DONE ONLY AFTER EXCAVATION AND CONSTRUCTION WORK WHICH MIGHT INJURE THEM HAS BEEN COMPLETED. DAMAGE CAUSED DURING CONSTRUCTION SHALL BE REPAIRED BEFORE ACCEPTANCE.
9. PAVEMENT OR BASE MATERIALS SHALL NOT BE PLACED ON A MUDDY OR FROZEN SUBGRADE.
10. ESTABLISHMENT OF GRADES, GRADE CONTROL, AND CONFORMANCE TO REQUIRED GRADE TOLERANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. PROTECT GRADED, FINISHED OR PAVED AREAS FROM DAMAGE AND KEEP THEM FREE OF TRASH AND DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS. REPAIR AND RE-ESTABLISH GRADES IN SETTLED, ERODED AND RUTTED AREAS.
12. PAVEMENT EXCAVATED DURING UTILITY CONSTRUCTION, WHETHER ON THE SITE OR ADJACENT PROPERTIES, SHALL BE RESTORED AND MATCHED WITH EXACTLY THE SAME MATERIALS AND TOLERANCES AS PRIOR TO DISRUPTION, AT NO ADDITIONAL COST TO THE OWNER, OR ADJACENT PROPERTY OWNERS.
13. STONE USED FOR MACHINE PLACED RIP-RAP SHALL BE REASONABLY WELL GRADED, HARD, DURABLE, ANGULAR IN SHAPE, RESISTANT TO WEATHERING AND FREE FROM ORGANIC MATERIAL. ROUNDED STONES OR BOULDERS ARE NOT ACCEPTABLE. THE MINIMUM WEIGHT OF THE STONE SHALL BE 155 POUNDS PER CUBIC FOOT. STONE SHALL BE PLACED IN CONFORMANCE WITH THE LINES, GRADES AND THICKNESS SHOWN ON THE DRAWINGS.
14. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT, CURBS AND EARTHWORK SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
15. ALL RIP RAP STONE SHALL BE HAND CHINKED AND SHALL CONFORM TO MASSACHUSETTS HIGHWAY DEPARTMENT STANDARDS.
16. PROTECT PROPOSED INFILTRATION CHAMBERS FROM SEDIMENTATION THROUGHOUT CONSTRUCTION OPERATIONS. INFILTRATION CHAMBERS ARE NOT TO BE USED UNTIL DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONAL.

Digitally signed by Carlos Ferreira
DN: C=US, E=contact@mpdconsultants.com, O=MP Design Consultants, CN=Carlos Ferreira
Reason: I have reviewed this document
Date: 2026.02.03 16:34:00-05'00'

0 20' 40' 80'
SCALE: 1" = 40'

MP DESIGN CONSULTANTS
118 TURNPIKE ROAD, SUITE 200
SOUTHBOROUGH, MA 01772
CONTACT@MPDCONSULTANTS.COM

OWNER/APPLICANT:
DEPIETRI GROUP
118 TURNPIKE ROAD,
SOUTHBOROUGH, MA 01772

PROJECT:
HIGHLAND RD & BALLARD RD
HIGHLAND RD & BALLARD RD,
ASHLAND, MA 01721

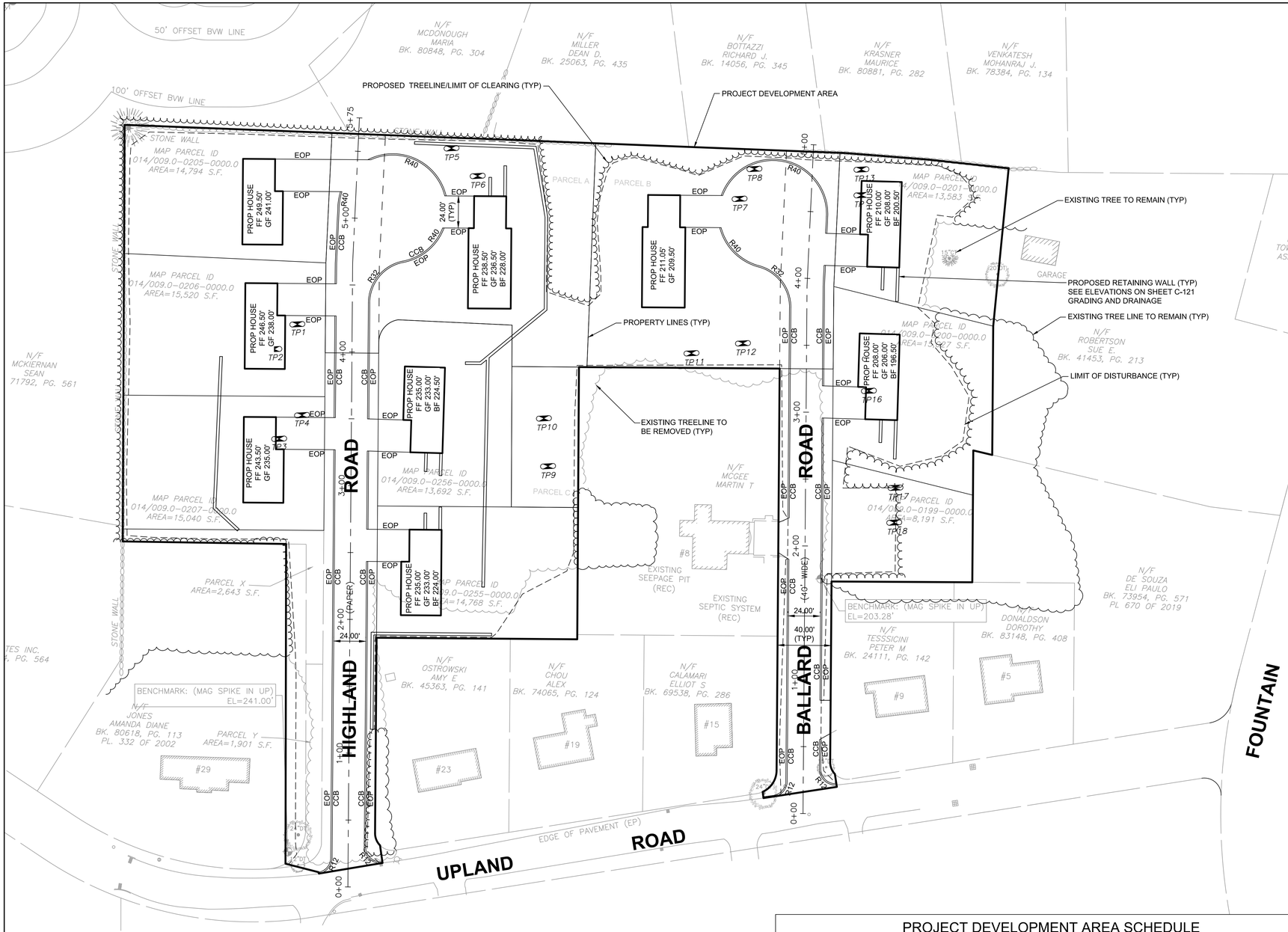
REVISIONS:

No.	DATE	DESCRIPTION

DRAWN BY:	EP
CHECKED BY:	MDC
DATE:	02/04/2026
SCALE:	1" = 40'

SHEET TITLE:
DEMOLITION, EROSION AND SEDIMENTATION CONTROL PLAN

SHEET:
C-101



LEGEND	
SUBJECT PARCEL	
EXISTING MINOR CONTOUR	291
EXISTING MAJOR CONTOUR	290
PROPOSED SPOT GRADE	X 132
PROPOSED CONTOUR	290
TEST PITS	TP-X

GENERAL NOTES

1. THE PROPERTY LINES SHOWN ON THIS PLAN ARE BASED UPON AN ACTUAL FIELD SURVEY CONDUCTED NOVEMBER 2025 BY BRYAN PARMENTER PLS STAMPED LICENSE NUMBER 48193.
2. PROJECT REFERENCES MASSACHUSETTS HORIZONTAL DATUM NAD83 AND TOPOGRAPHICAL ELEVATIONS VERTICAL DATUM NAVD88.
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6. CIVIL ENGINEER DESIGN BASED ON PROVIDED SURVEY BY SURVEYOR. ENGINEER NOT RESPONSIBLE FOR ANY DISCREPANCY IN THE PROVIDED SURVEY.
7. ALL SLOPES, UNLESS OTHERWISE SPECIFIED, SHALL BE LOAMED AND SEEDED FOR STABILIZATION AS SOON AS POSSIBLE TO PREVENT EROSION INTO WETLAND RESOURCE AREAS, ABUTTING PROPERTIES, OR PUBLIC WAYS. EROSION CONTROL BLANKETS ARE REQUIRED FOR ALL 2H:1V SLOPES. SLOPES MAY NOT EXCEED 2H:1V.
8. DIG SAFE NOTE: IN ACCORDANCE WITH MGL. CH. 82, SEC. 40 INCLUDING AMENDMENTS, ALL CONTRACTORS SHALL NOTIFY UTILITY COMPANIES AND GOVERNMENT AGENCIES, IN WRITING, OF THE INTENT TO EXCAVATE, BLAST, DEMOLISH, BORE, OR PERFORM OTHER EARTH MOVING OPERATIONS NO LESS THAN 72 HOURS AND NO MORE THAN 30 DAYS PRIOR TO THE COMMENCEMENT OF SUCH WORK (EXCLUSIVE OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS) OR CALL "DIG SAFE" AT 1-888-DIG-SAFE.
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CONSTRUCTION NOTES

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4. PITCH EVENLY BETWEEN SPOT GRADES. GRADE ALL AREAS TO DRAIN. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM OF 1/8" PER FOOT UNLESS OTHERWISE SPECIFIED. ANY DISCREPANCIES NOT ALLOWING THIS MINIMUM PITCH SHALL BE REPORTED TO THE OWNER OR HIS REPRESENTATIVE PRIOR TO CONTINUING WORK.
5. ALL SITE WORK SHALL CONFORM TO THE CONTRACT DOCUMENTS AND SHALL COMPLY WITH APPLICABLE CODES AND REGULATIONS.
6. DURING THE PROGRESS OF THE WORK, THE CONTRACTOR MAY BE REQUIRED TO EXCAVATE ADDITIONAL TEST PITS FOR THE PURPOSE OF LOCATING UNDERGROUND UTILITIES OR STRUCTURES AS AN AID IN ESTABLISHING THE PRECISE LOCATION OF NEW WORK. THIS WORK IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER. TEST PITS SHALL BE BACKFILLED, AS SOON AS THE DESIRED INFORMATION HAS BEEN OBTAINED.
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9. PAVEMENT OR BASE MATERIALS SHALL NOT BE PLACED ON A MUDDY OR FROZEN SUBGRADE.
10. ESTABLISHMENT OF GRADES, GRADE CONTROL, AND CONFORMANCE TO REQUIRED GRADE TOLERANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. PROTECT GRADED, FINISHED OR PAVED AREAS FROM DAMAGE AND KEEP THEM FREE OF TRASH AND DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS. REPAIR AND RE-ESTABLISH GRADES IN SETTLED, ERODED AND RUTTED AREAS.
12. PAVEMENT EXCAVATED DURING UTILITY CONSTRUCTION, WHETHER ON THE SITE OR ADJACENT PROPERTIES, SHALL BE RESTORED AND MATCHED WITH EXACTLY THE SAME MATERIALS AND TOLERANCES AS PRIOR TO DISRUPTION, AT NO ADDITIONAL COST TO THE OWNER, OR ADJACENT PROPERTY OWNERS.
13. STONE USED FOR MACHINE PLACED RIP-RAP SHALL BE REASONABLY WELL GRADED, HARD, DURABLE, ANGULAR IN SHAPE, RESISTANT TO WEATHERING AND FREE FROM ORGANIC MATERIAL. ROUNDED STONES OR BOULDERS ARE NOT ACCEPTABLE. THE MINIMUM WEIGHT OF THE STONE SHALL BE 155 POUNDS PER CUBIC FOOT. STONE SHALL BE PLACED IN CONFORMANCE WITH THE LINES, GRADES AND THICKNESS SHOWN ON THE DRAWINGS.
14. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT, CURBS AND EARTHWORK SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
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PROJECT DEVELOPMENT AREA SCHEDULE		
ZONING DISTRICT: RESIDENTIAL A DISTRICT		
CRITERIA	EXISTING CONDITIONS	PROPOSED CONDITIONS
IMPERVIOUS COVER AREA	10,294 SF (4.85%)	59,791 SF (28.14%)
OPEN SPACE AREA	202,211 SF (95.15%)	152,714 SF (71.86%)
UNDISTURBED OPEN SPACE	202,211 SF (95.15%)	30,344.41 (7.00%)

Digitally signed by Carlos Ferreira
DN: C=US, E=contact@mpdconsultants.com, O=MP Design Consultants, CN=Carlos Ferreira
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Date: 2026.02.03 16:34:00-05'00'

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OWNER/APPLICANT:
DEPIETRI GROUP
118 TURNPIKE ROAD,
SOUTHBOROUGH, MA 01772

PROJECT:
HIGHLAND RD & BALLARD RD
HIGHLAND RD & BALLARD RD,
ASHLAND, MA 01721

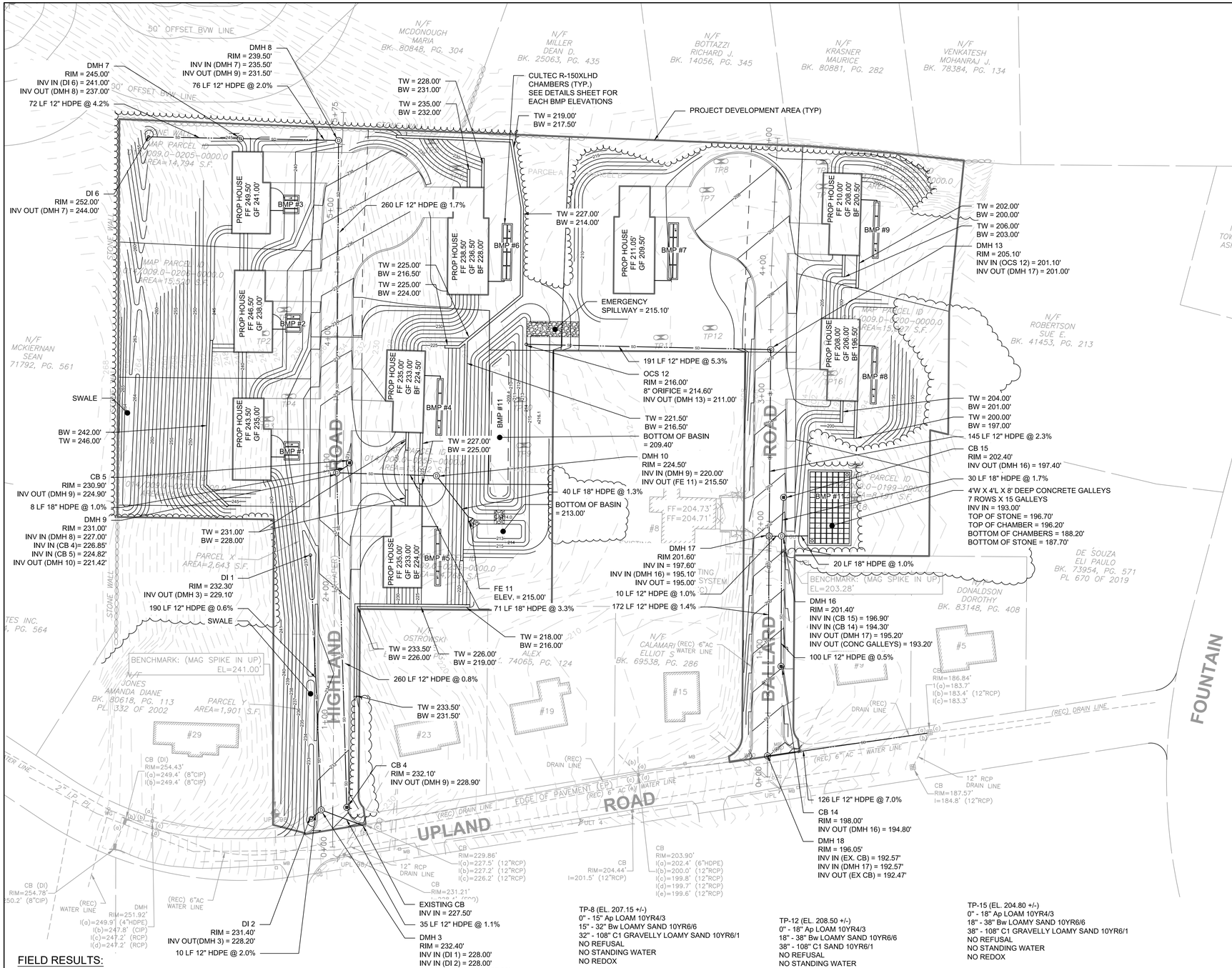
REVISIONS:

No.	DATE	DESCRIPTION

DRAWN BY:	EP
CHECKED BY:	MA
DATE:	02/04/2026
SCALE:	1" = 40'

SHEET TITLE:
LAYOUT AND MATERIALS PLAN

SHEET:
C-111



LEGEND

SUBJECT PARCEL	
EXISTING MINOR CONTOUR	291
EXISTING MAJOR CONTOUR	290
PROPOSED SPOT GRADE	X 132
PROPOSED CONTOUR	290
TEST PITS	TP-X

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3. ALL SURVEY INFORMATION IS BACKGROUND INFORMATION FOR DESIGN ENGINEER PLANS.
4. GENERAL CONTRACTOR SHALL COORDINATE PROPOSED UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, MATERIAL AND SUITABILITY OF EXISTING UTILITIES. COORDINATE WITH UTILITY PROVIDER AND NOTIFY THE DESIGNER ENGINEER OF ANY CONFLICTS. IF EXISTING SERVICES CANNOT BE REUSED, A NEW SERVICE CONNECTION SHALL BE MADE TO THE EXISTING MAIN OR LINE IN ACCORDANCE TO THE TOWN/CITY REQUIREMENTS INCLUDING PATCHING WHERE DEEMED NECESSARY.
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6. DURING THE PROGRESS OF THE WORK, THE CONTRACTOR MAY BE REQUIRED TO EXCAVATE ADDITIONAL TEST PITS FOR THE PURPOSE OF LOCATING UNDERGROUND UTILITIES OR STRUCTURES AS AN AID IN ESTABLISHING THE PRECISE LOCATION OF NEW WORK. THIS WORK IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER. TEST PITS SHALL BE BACKFILLED, AS SOON AS THE DESIRED INFORMATION HAS BEEN OBTAINED.
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FIELD RESULTS:

BY CARLOS FERREIRA
DATE OF TESTS: 12/15/2025

TP-1 (EL. 241.50 +/-)
0" - 18" Ap LOAM 10YR4/3
18" - 28" Bw LOAMY SAND 10YR6/6
28" - 64" C1 SAND W/ COBBLES 10YR6/3
64" - 70" C2 FINE SAND 10YR6/1
70" - 80" C3 COARSE SAND W/ STONES 10YR6/1
80" - 120" C4 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-2 (EL. 242.00 +/-)
0" - 9" Ap LOAM 10YR4/3
9" - 18" Bw LOAMY SAND 10YR6/6
18" - 48" C1 SAND W/ COBBLES 10YR6/3
48" - 63" C2 FINE SAND 10YR6/1
63" - 75" C3 COARSE SAND W/ STONES 10YR6/1
75" - 120" C4 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-3 (EL. 241.50 +/-)
0" - 12" Ap LOAM 10YR4/3
12" - 32" Bw LOAMY SAND 10YR6/6
32" - 40" C1 FINE SAND 10YR6/1
40" - 58" C2 COARSE SAND W/ STONES 10YR6/1
58" - 120" C3 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-4 (EL. 236.50 +/-)
0" - 12" Ap LOAM 10YR4/3
12" - 30" Bw LOAMY SAND 10YR6/6
30" - 66" C1 GRAVELLY LOAMY SAND 10YR6/1
66" - 120" C2 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-5 (EL. 226.50 +/-)
0" - 9" Ap LOAM 10YR4/3
9" - 29" Bw LOAMY SAND 10YR6/6
29" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-6 (EL. 218.50 +/-)
0" - 12" Ap LOAM 10YR4/3
12" - 34" Bw LOAMY SAND 10YR6/6
34" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-7 (EL. 207.90 +/-)
0" - 18" Ap LOAM 10YR4/3
18" - 38" Bw LOAMY SAND 10YR6/6
38" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-8 (EL. 207.15 +/-)
0" - 15" Ap LOAM 10YR4/3
15" - 32" Bw LOAMY SAND 10YR6/6
32" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-9 (EL. 216.80 +/-)
0" - 12" Ap LOAM 10YR4/3
12" - 36" Bw LOAMY SAND 10YR6/6
36" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-10 (EL. 215.85 +/-)
0" - 10" Ap LOAM 10YR4/3
10" - 38" Bw LOAMY SAND 10YR6/6
38" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-11 (EL. 209.20 +/-)
0" - 15" Ap LOAM 10YR4/3
15" - 38" Bw LOAMY SAND 10YR6/6
38" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
35" - 38" REDOX 7.5YR5/8

TP-12 (EL. 208.50 +/-)
0" - 18" Ap LOAM 10YR4/3
18" - 38" Bw LOAMY SAND 10YR6/6
38" - 108" C1 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
34" - 38" REDOX 7.5YR5/8

TP-13 (EL.205.10 +/-)
0" - 12" Ap LOAM 10YR4/3
12" - 30" Bw LOAMY SAND 10YR6/6
30" - 66" C1 GRAVELLY LOAMY SAND 10YR6/1
66" - 120" C2 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
27" - 30" REDOX 7.5YR5/8

TP-14 (EL. 203.25 +/-)
0" - 12" Ap LOAM 10YR4/3
12" - 30" Bw LOAMY SAND 10YR6/6
30" - 66" C1 GRAVELLY LOAMY SAND 10YR6/1
66" - 120" C2 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
26" - 30" REDOX 7.5YR5/8

TP-15 (EL. 204.80 +/-)
0" - 18" Ap LOAM 10YR4/3
18" - 38" Bw LOAMY SAND 10YR6/6
38" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-16 (EL. 202.40 +/-)
0" - 18" Ap LOAM 10YR4/3
18" - 38" Bw LOAMY SAND 10YR6/6
38" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-17 (EL. 197.50 +/-)
0" - 18" Ap LOAM 10YR4/3
18" - 38" Bw LOAMY SAND 10YR6/6
38" - 108" C1 GRAVELLY LOAMY SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

TP-18 (EL. 200.00 +/-)
0" - 12" Ap LOAM 10YR4/3
12" - 30" Bw LOAMY SAND 10YR6/6
30" - 66" C1 GRAVELLY LOAMY SAND 10YR6/1
66" - 120" C2 SAND 10YR6/1
NO REFUSAL
NO STANDING WATER
NO REDOX

Digitally signed by Carlos Ferreira
DN: C=US, E=contact@mpdconsultants.com, O=MP Design Consultants, CN=Carlos Ferreira
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HIGHLAND RD & BALLARD RD,
ASHLAND, MA 01721

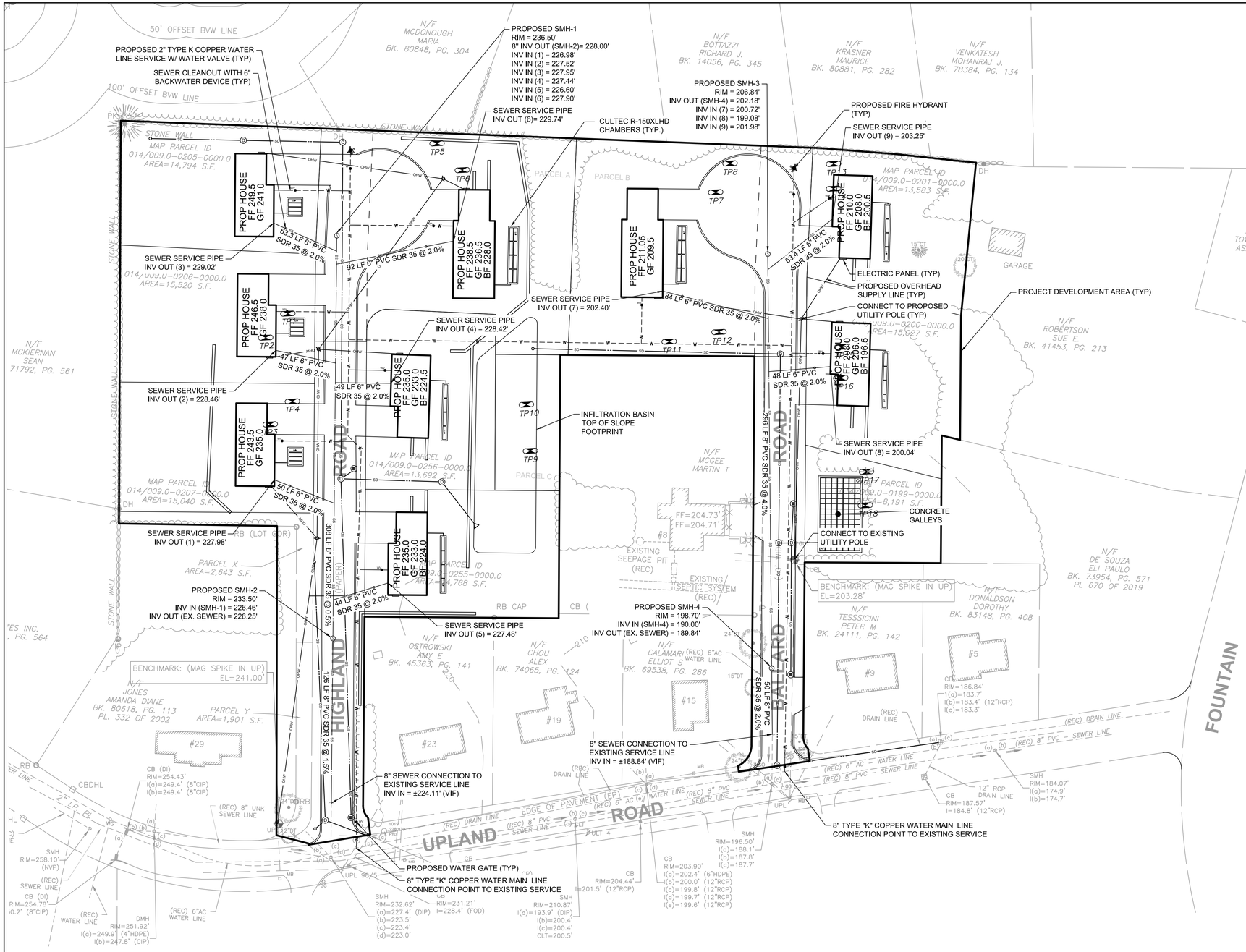
REVISIONS:

No.	DATE	DESCRIPTION

DRAWN BY:	EP
CHECKED BY:	MDC
DATE:	02/04/2026
SCALE:	1" = 40'

SHEET TITLE:
GRADING AND DRAINAGE PLAN

SHEET:
C-121



LEGEND

SUBJECT PARCEL	
EXISTING MINOR CONTOUR	291
EXISTING MAJOR CONTOUR	290
PROPOSED SPOT GRADE	X 132
PROPOSED CONTOUR	290
TEST PITS	TP-X

GENERAL NOTES

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COMMONWEALTH OF MASSACHUSETTS — CARLOS FERREIRA — No. 41423 — REGISTERED PROFESSIONAL ENGINEER

Digitally signed by Carlos Ferreira
DN: C=US, E=contact@mpdconsultants.com, O=MP Design Consultants, CN=Carlos Ferreira
Reason: I have reviewed this document
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PROJECT:
HIGHLAND RD & BALLARD RD
HIGHLAND RD & BALLARD RD,
ASHLAND, MA 01721

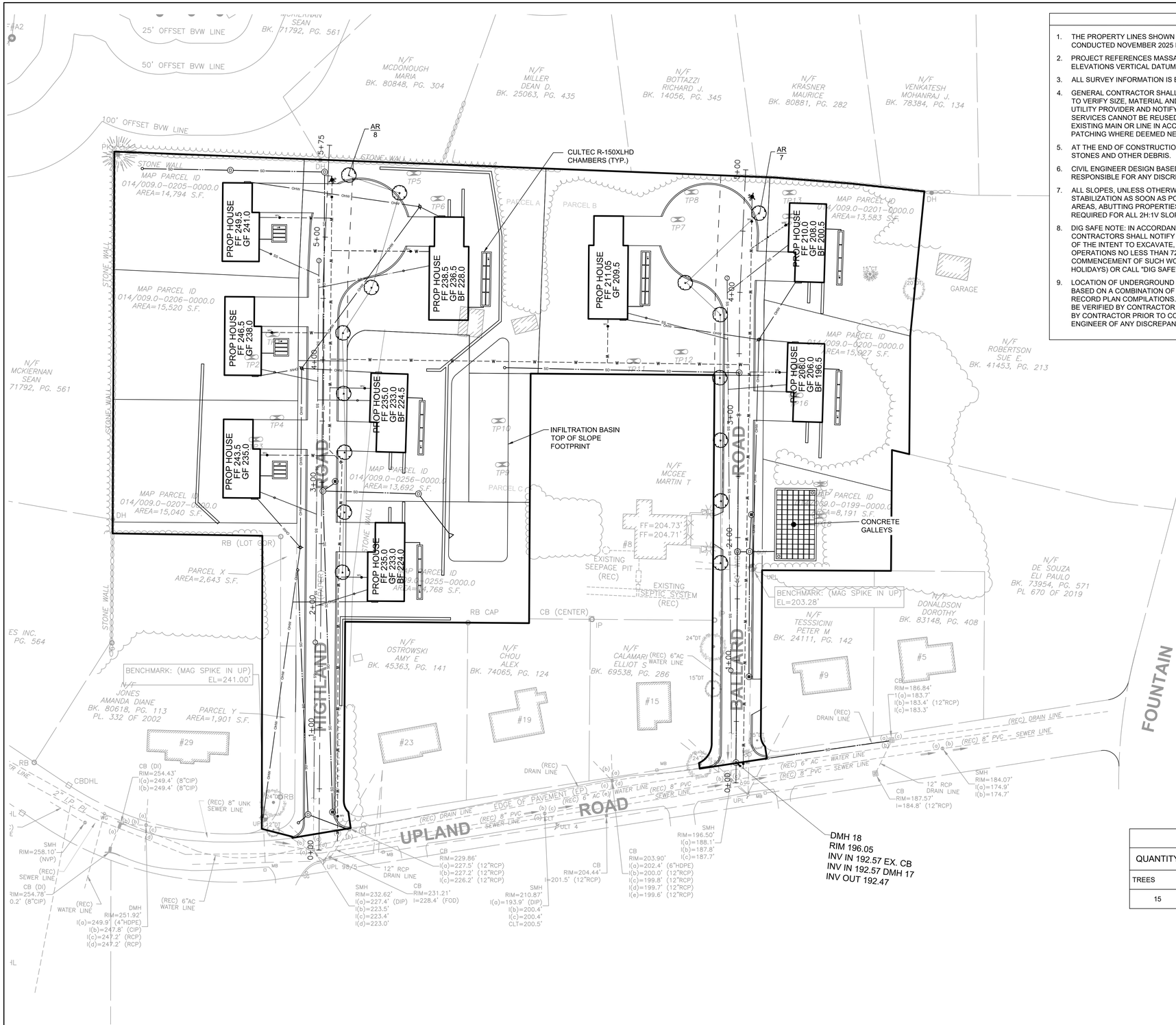
REVISIONS:

No.	DATE	DESCRIPTION

DRAWN BY:	EP
CHECKED BY:	MDC
DATE:	02/04/2026
SCALE:	1" = 40'

SHEET TITLE:
UTILITY PLAN

SHEET:
C-131



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5. AT THE END OF CONSTRUCTION, ALL DRAINAGE STRUCTURES ARE TO BE CLEANED OF SILT, STONES AND OTHER DEBRIS.
6. CIVIL ENGINEER DESIGN BASED ON PROVIDED SURVEY BY SURVEYOR. ENGINEER NOT RESPONSIBLE FOR ANY DISCREPANCY IN THE PROVIDED SURVEY.
7. ALL SLOPES, UNLESS OTHERWISE SPECIFIED, SHALL BE LOAMED AND SEEDED FOR STABILIZATION AS SOON AS POSSIBLE TO PREVENT EROSION INTO WETLAND RESOURCE AREAS, ABUTTING PROPERTIES, OR PUBLIC WAYS. EROSION CONTROL BLANKETS ARE REQUIRED FOR ALL 2H:1V SLOPES. SLOPES MAY NOT EXCEED 2H:1V.
8. DIG SAFE NOTE: IN ACCORDANCE WITH MGL. CH. 82, SEC. 40 INCLUDING AMENDMENTS, ALL CONTRACTORS SHALL NOTIFY UTILITY COMPANIES AND GOVERNMENT AGENCIES, IN WRITING, OF THE INTENT TO EXCAVATE, BLAST, DEMOLISH, BORE, OR PERFORM OTHER EARTH MOVING OPERATIONS NO LESS THAN 72 HOURS AND NO MORE THAN 30 DAYS PRIOR TO THE COMMENCEMENT OF SUCH WORK (EXCLUSIVE OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS) OR CALL "DIG SAFE" AT 1-888-DIG-SAFE.
9. LOCATION OF UNDERGROUND UTILITIES ON THIS PLAN ARE APPROXIMATE ONLY AND ARE BASED ON A COMBINATION OF ACTUAL FIELD LOCATIONS OF VISIBLE STRUCTURES AND RECORD PLAN COMPILATIONS. EXISTING UTILITY LOCATIONS AND ELEVATIONS SHOWN SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. TEST PITS SHALL BE PERFORMED BY CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INFORM THE DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO THE START OF ANY CONSTRUCTION.

LEGEND

SUBJECT PARCEL	
EXISTING MINOR CONTOUR	291
EXISTING MAJOR CONTOUR	290
PROPOSED SPOT GRADE	X 132
PROPOSED CONTOUR	290
PERMEABILITY TEST	TP-X

LANDSCAPE NOTES

1. TREE SPECIES WILL BE ANALYZED AND DETERMINED BY THE CONSERVATION COMMISSION OF ABINGTON.
2. NO IRRIGATION NOR MINOR LANDSCAPE FEATURES. DURING CONSTRUCTION IF ANYTHING CHANGES FROM THE SUBMITTED PLANS ADDITIONAL INFORMATION WILL BE PROVIDED BY THE CONTRACTOR AND APPROVED BY THE CONSERVATION COMMISSION.
3. CLEAN DRAINAGE CHANNEL ALONG ROAD OF ALL UNNATURAL MATERIALS AND INVASIVE SPECIES. STABILIZE BANKS AND PLANT WITH NATIVE SPECIES SUITABLE FOR THE PURPOSE. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ASHLAND CONSERVATION COMMISSION AGENT AND LANDSCAPE ARCHITECT TO EVALUATE PLANT MATERIAL TO BE SAVED OR REMOVED PRIOR TO COMMENCING DRAINAGE CHANNEL CLEANUP, PRUNING OR PLANTING.
4. ALL TREE PRUNING OR TRIMMING ON ANY TREE TO BE RETAINED MUST BE PERFORMED BY AN ARBORIST CERTIFIED BY THE AMERICAN SOCIETY OF ARBORICULTURE (ASA).
5. COORDINATE LOCATIONS OF TREES THAT ARE WITHIN 5 FEET OF UTILITIES AND DRAINAGE INFRASTRUCTURE. FIELD LOCATE AND STAKE PLANTING LOCATIONS PRIOR TO UTILITY AND DRAINAGE INFRASTRUCTURE INSTALLATION.
6. PRIOR TO PLANTING VERIFY ALIGNMENT AND LOCATION OF UNDERGROUND AND ABOVE-GRADE UTILITIES AND DRAINAGE INFRASTRUCTURE, AND PROVIDE PROTECTION AS NEEDED. HAND DIG IN VICINITY OF UTILITIES.
7. DO NOT BRING PLANTS ONTO SITE UNTIL FINAL GRADING AND CONSTRUCTION HAS BEEN COMPLETED NEAR PLANTINGS.
8. ALL DISTURBED AREAS NOT SCHEDULED FOR IMPROVEMENT MUST BE LOAMED AND SEEDED PER SPECIFICATIONS.

PLANT SCHEDULE

QUANTITY	KEY	BOTANICAL NAME	COMMON NAME	MINIMUM DIAMETER	MINIMUM HEIGHT
TREES					
15	AR	ACER RUBRUM	RED MAPLE	2.5 INCHES	4 FEET

Digitally signed by Carlos Ferreira
DN: C=US, E=contact@mpdconsultants.com, O=MP Design Consultants, CN=Carlos Ferreira
Reason: I have reviewed this document
Date: 2026.02.03 16:34:00-05'00'

0 20' 40' 80'
SCALE: 1" = 40'

MP DESIGN CONSULTANTS
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CONTACT@MPDCONSULTANTS.COM

OWNER/APPLICANT:
DEPIETRI GROUP
118 TURNPIKE ROAD,
SOUTHBOROUGH, MA 01772

PROJECT:
HIGHLAND RD & BALLARD RD
HIGHLAND RD & BALLARD RD,
ASHLAND, MA 01721

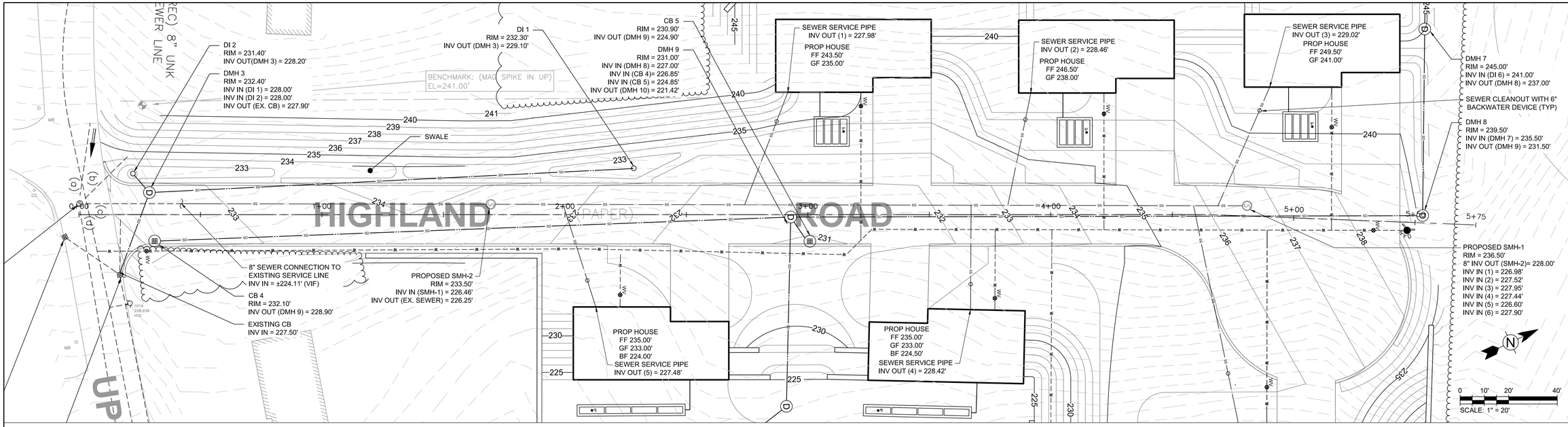
REVISIONS:

No.	DATE	DESCRIPTION

DRAWN BY:	EP
CHECKED BY:	MDC
DATE:	02/02/2026
SCALE:	1" = 40'

SHEET TITLE:
LANDSCAPING PLAN

SHEET:
C-141



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VERT. SCALE IN FEET
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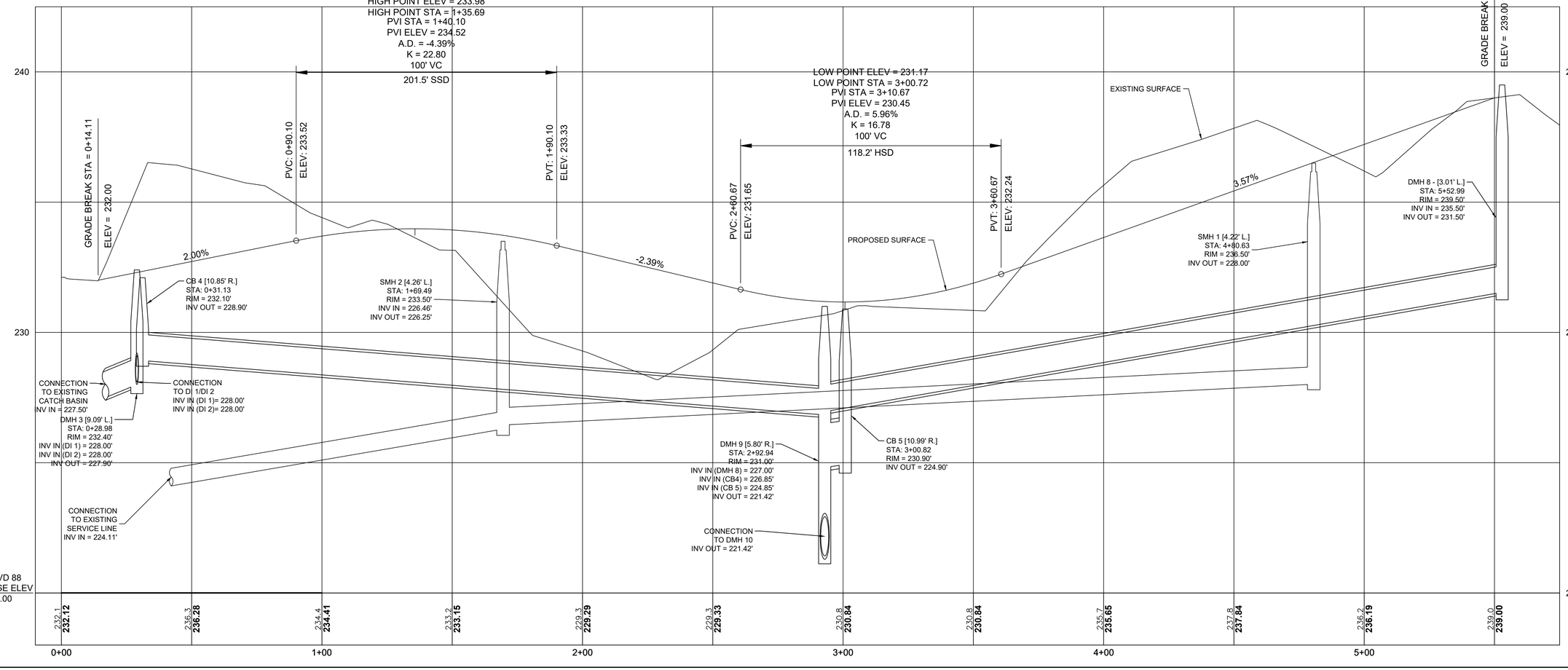
HIGHLAND ROAD CL



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HIGHLAND RD & BALLARD RD,
ASHLAND, MA 01721

COMMONWEALTH OF MASSACHUSETTS
CARLOS FERREIRA
No. 41423
REGISTERED PROFESSIONAL ENGINEER

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Reason: I have reviewed this document
Date: 2026.02.03 16:34:00-05'00'

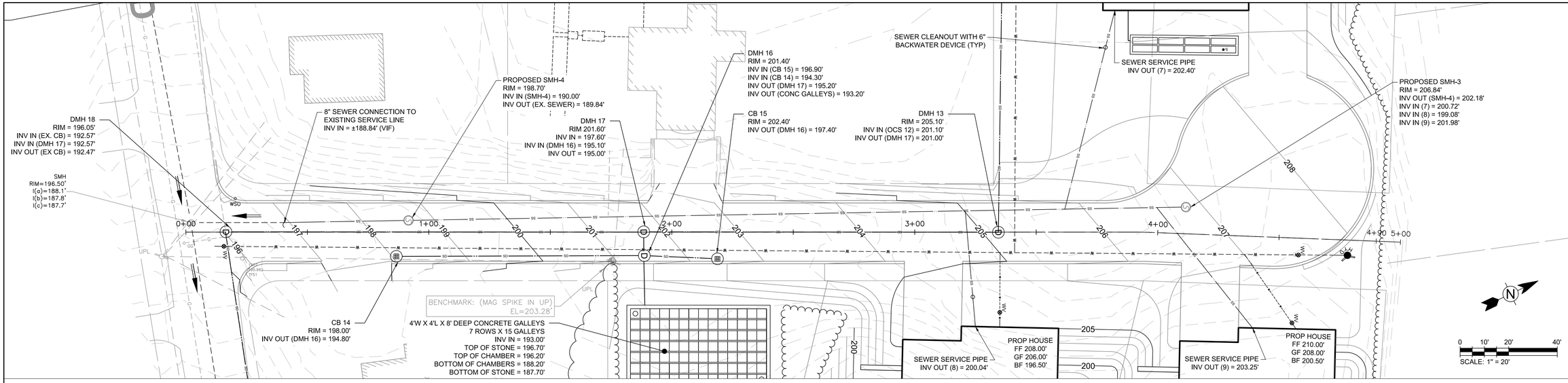
REVISIONS:

No.	DATE	DESCRIPTION

DRAWN BY:	LB
CHECKED BY:	EP
DATE:	02/04/2026
SCALE:	1" = 20'

SHEET TITLE:
PRIVATE WAY
PROFILE PLAN

SHEET:
C-201



HOR. SCALE IN FEET
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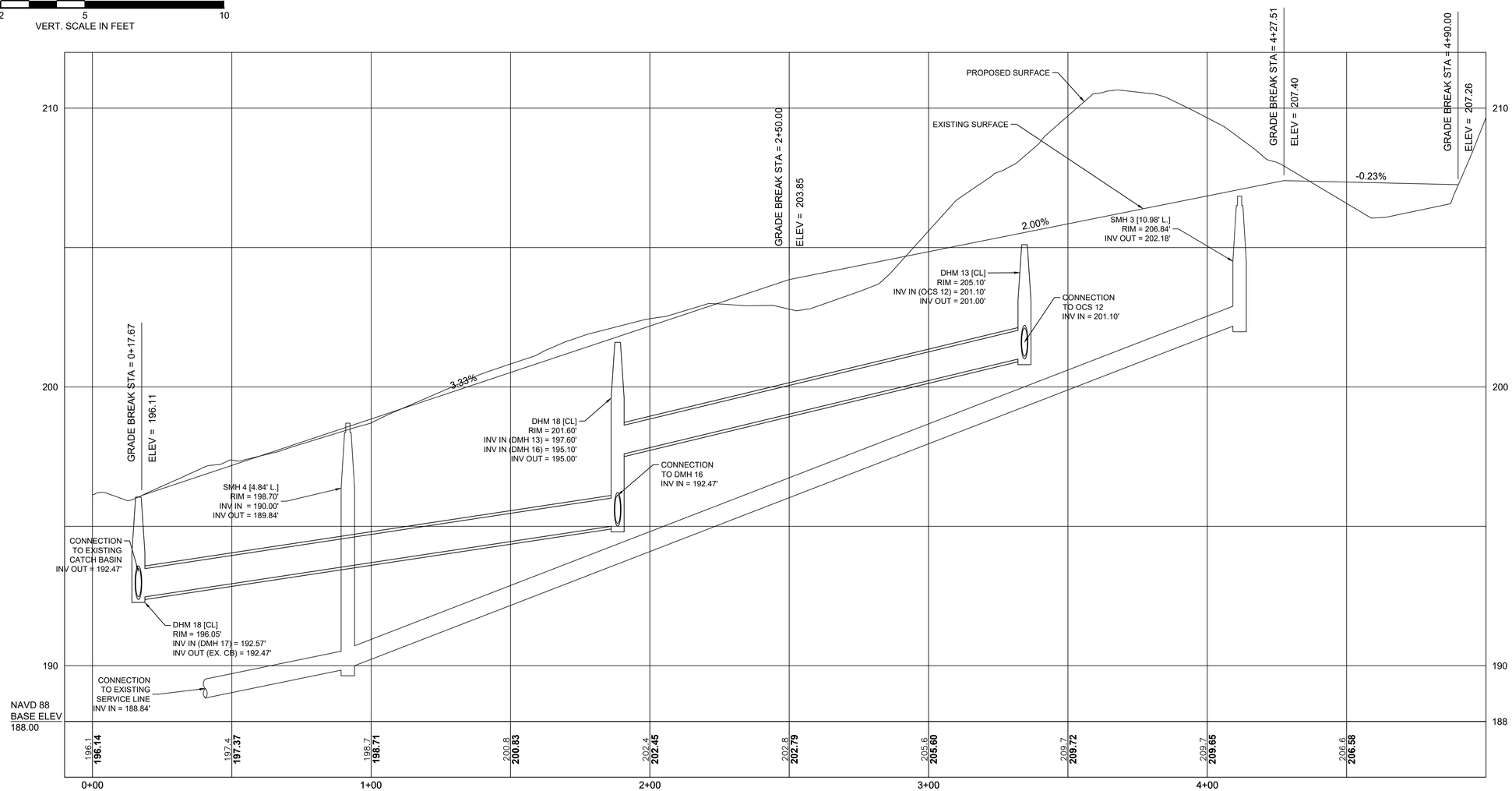
VERT. SCALE IN FEET
0 2 5 10

BALLARD ROAD CL



Digitally signed by Carlos Ferreira
DN: C=US, E=contact@mpdconsultants.com, O=MP Design Consultants, CN=Carlos Ferreira
Reason: I have reviewed this document
Date: 2026.02.03 16:34:00-05'00'

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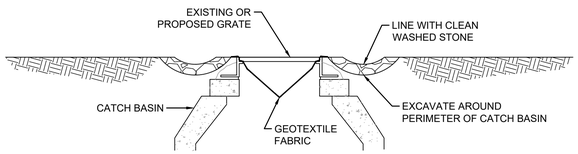
HIGHLAND RD & BALLARD RD,
ASHLAND, MA 01721

REVISIONS:		
No.	DATE	DESCRIPTION

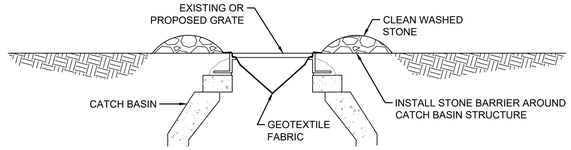
DRAWN BY:	LB
CHECKED BY:	EP
DATE:	02/04/2026
SCALE:	1" = 20'

SHEET TITLE:
PRIVATE WAY PROFILE PLAN

SHEET:
C-202

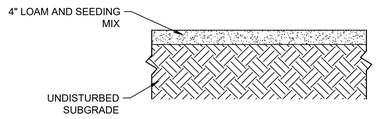


EXCAVATION



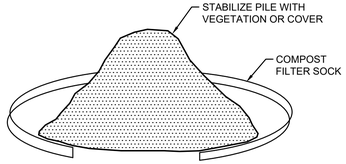
GRAVEL/STONE BARRIER

COMBINATION INLET PROTECTION FOR USE WHERE
CONTRIBUTING AREAS ARE UN-STABLIZED



LOAM AND SEEDING

NOT TO SCALE



NOTE:
STOCKPILES MUST BE PHYSICALLY SEPARATED
FROM OTHER STORMWATER CONTROLS.

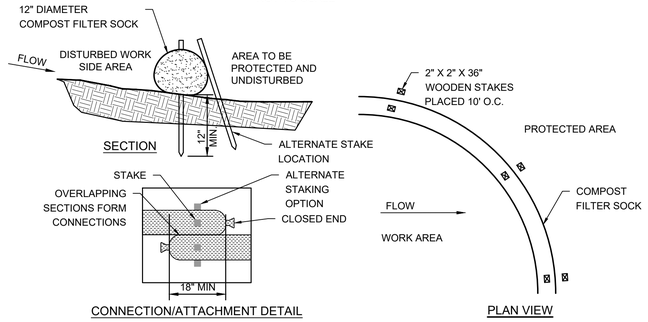
NOTE:
STOCKPILES MUST BE PHYSICALLY SEPARATED FROM OTHER STORMWATER CONTROLS.

SOIL STOCKPILES: FOR ANY STOCKPILED OR LAND CLEARING DEBRIS COMPOSED, IN WHOLE OR IN PART, OF SEDIMENT OR SOIL, THE FOLLOWING MEASURES MUST BE FOLLOWED:

- LOCATE THE PILES OUTSIDE OF ANY NATURAL BUFFERS AND PHYSICALLY SEPARATED FROM OTHER STORMWATER CONTROLS.
- PROTECT FROM CONTACT WITH STORMWATER (INCLUDING RUN-ON) USING A TEMPORARY PERIMETER SEDIMENT BARRIER;
- PROVIDE COVER OR APPROPRIATE TEMPORARY STABILIZATION TO AVOID DIRECT CONTACT WITH PRECIPITATION OR TO MINIMIZE SEDIMENT DISCHARGE;
- DO NOT HOSE DOWN OR SWEEP SOIL OR SEDIMENT ACCUMULATED ON PAVEMENT OR OTHER IMPERVIOUS SURFACES INTO ANY STORMWATER CONVEYANCE (UNLESS CONNECTED TO A SEDIMENT BASIN, SEDIMENT TRAP, OR SIMILARLY EFFECTIVE CONTROL), STORM DRAIN INLET, OR SURFACE WATER;

SOIL STOCKPILING CONTROL

NOT TO SCALE

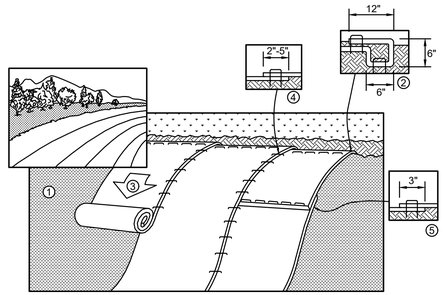


NOTES:

1. LINEAR SEDIMENTATION CONTROL SHALL BE PREFABRICATED COMPOST SOCK (FILTREXX SOXX) OR APPROVED EQUAL.
2. MATERIAL FOR SOCKS SHALL CONSIST OF SANITIZED MATURE COMPOST, FREE OF VIABLE WEED SEEDS AND FOREIGN DEBRIS SUCH AS GLASS AND PLASTIC. COMPOST SHALL BE IN SHREDDED OR GRANULAR FORM AND FREE FROM HARD LUMPS. IN ADDITION, NO KILN-DRIED WOOD OR CONSTRUCTION DEBRIS SHALL BE ALLOWED. CONTRACTOR SHALL REFER TO MASSDOT SPECIFICATIONS M1.06.0 FOR MATERIAL SPECIFICATIONS.
3. SOCK SHALL CONSIST OF JUTE MESH OR OTHER APPROVED BIODEGRADABLE MATERIAL.
4. COMPOST SOCKS SHALL BE INSTALLED PRIOR TO THE BEGINNING OF CONSTRUCTION AND REMAIN IN PLACE UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED WITH SUFFICIENT VEGETATION TO PREVENT EROSION.
5. COMPOST SOCKS SHALL BE INSPECTED WEEKLY AT A MINIMUM AS WELL AS AFTER EACH STORM EVENT
6. ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE THE SEDIMENT HEIGHT HAS REACHED A MAXIMUM OF 50% OF THE HEIGHT OF THE COMPOST SOCK.

LINEAR SEDIMENTATION CONTROL

NOT TO SCALE



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACK FILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO PREPARED SOIL AND FOLD REMAINING 12" PORTION OF THE BLANKET BACK OVER SEED AND SOIL. SECURE BLANKET OVER SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS DOWN ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH THE APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN
4. GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
5. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
6. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
7. EROSION CONTROL BLANKETS SHALL BE INSTALLED FOLLOWING MANUFACTURERS SPECIFICATIONS.

NOTE:
IN LOOSE SOIL CONDITIONS THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS

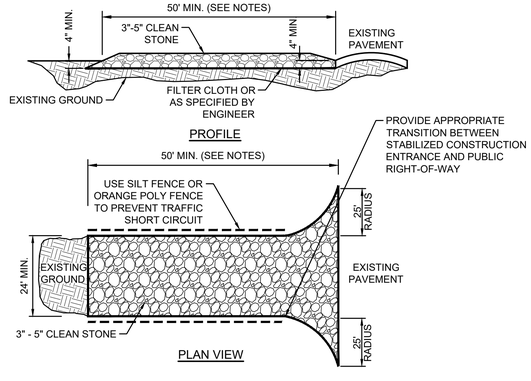
PRACTICE: EROSION CONTROL BLANKETS. EROSION CONTROL BLANKETS ARE AN EROSION CONTROL PRACTICE CONSISTING OF NATURAL, BIODEGRADABLE MATERIALS FORMED INTO LONG SHEETS OR MATS THAT ARE ROLLED OUT OVER EXPOSED SOILS AND FASTENED WITH STAKES, PEGS OR STAPLES. THEY ARE USED IN AREAS WHERE HIGH RUNOFF VELOCITY MAKES TRADITIONAL MULCHING INEFFECTIVE. BLANKETS PROVIDE IMMEDIATE PROTECTION FROM SURFACE EROSION AND ALSO HELPS RETAIN SOIL MOISTURE IMPROVING SEED GERMINATION AND VEGETATION ESTABLISHMENT. BLANKETS ARE HIGHLY EFFECTIVE AT STABILIZING STEEP SLOPES (3:1 OR GREATER) AND CAN BE USED TO STABILIZE AREAS OF CONCENTRATED FLOW SUCH AS CHANNELS OR SWALES. TYPES OF BIODEGRADABLE BLANKETS ARE JUTE (NATURAL YARN FIBER); EXCELSIOR (CURLED WOOD FIBER); STRAW BLANKET; WOOD FIBER; AND COCONUT FIBER.

INSTALLATION: TO ENSURE THE EFFECTIVE USE OF BLANKETS, KEEP FIRM, CONTINUOUS CONTACT BETWEEN THE FABRIC AND THE SOIL AND PROPERLY ANCHOR. PREPARE THE SOIL BY REMOVING THE ROCKS, VEGETATION OR OTHER OBSTRUCTIONS SO THAT BLANKETS WILL HAVE COMPLETE DIRECT CONTACT WITH SOIL. SEEDING MAY BE APPLIED PRIOR TO BLANKET INSTALLATION. FOLLOW MANUFACTURER SPECIFICATIONS FOR INSTALLATION. DETAILS ARE PROVIDED ON THE EROSION AND SEDIMENT CONTROL DETAIL SHEET FOR BOTH CHANNEL AND SLOPE APPLICATIONS.

MAINTENANCE: INSPECT FABRIC TO DETERMINE IF TEARS OR BREACHES HAVE FORMED; IF SO, REPAIR OR REPLACE THE FABRIC IMMEDIATELY. IT IS NECESSARY TO MAINTAIN CONTACT BETWEEN THE GROUND AND THE FABRIC AT ALL TIMES. REMOVE TRAPPED SEDIMENT AFTER EACH STORM EVENT.

EROSION CONTROL BLANKET DETAIL FOR SLOPE INSTALLATION

NOT TO SCALE

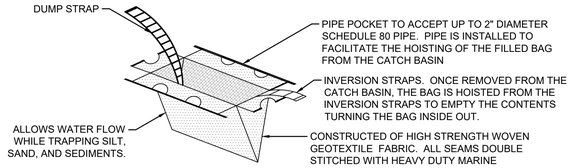


NOTES:

1. STONE - USE COARSE AGGREGATE (3"-5" STONE).
2. LENGTH - AS EFFECTIVE, BUT NOT LESS THAN 50 FEET UNLESS IMPRACTICABLE.
3. THICKNESS - NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. WASHING - WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, BOARDS OR OTHER APPROVED METHODS.
6. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO ADJACENT PAVED ROAD SURFACES MUST BE REMOVED IMMEDIATELY.

50' LONG STABILIZED CONSTRUCTION ENTRANCE / EXIT

NOT TO SCALE



FOR USE WHERE
CONTRIBUTING AREAS ARE PAVED

GEOTEXTILE CATCH BASIN INLET PROTECTION

NOT TO SCALE

CONSTRUCTION SEQUENCE RECOMMENDED:

1. INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCE/EXIT (AS SHOWN).
2. INSTALLATION OF EROSION CONTROL BARRIER
3. INSTALLATION OF INLET PROTECTION IN STREET
4. EARTHWORK AND EXCAVATION/FILLING AS NECESSARY
5. CONSTRUCTION OF UTILITIES BEGINNING WITH STORMWATER MEASURES
6. CONSTRUCTION OF BUILDINGS
7. PLACE 6" TOPSOIL ON SLOPES AFTER FINAL GRADING COMPLETED. FERTILIZE, SEED, AND MULCH SEED MIXTURE TO BE INSTALLED AS REQUIRED.
8. REMOVE EROSION CONTROLS AS DISTURBED AREAS BECOME STABILIZED TO 70% STABILIZATION OR GREATER.

PRACTICE DEWATERING: THE CONTRACTOR IS PROHIBITED FROM DISCHARGING GROUNDWATER OR ACCUMULATED STORMWATER THAT IS REMOVED FROM EXCAVATIONS, TRENCHES, FOUNDATIONS, VAULTS, OR OTHER POINTS OF ACCUMULATION ASSOCIATED WITH A CONSTRUCTION ACTIVITY, UNLESS SUCH WATERS ARE FIRST TREATED BY AN APPROPRIATE CONTROL FOR SEDIMENT. APPROPRIATE CONTROLS INCLUDE, BUT ARE NOT LIMITED TO, SEDIMENT BASINS OR TRAPS, DEWATERING TANKS, WEIR TANKS, OR FILTRATION SYSTEMS (E.G., BAG OR SAND FILTERS) THAT ARE DESIGNED TO REMOVE SEDIMENT. UNCONTAMINATED, NON-TURBID DEWATERING WASTEWATER, SUCH AS WELL-POINT GROUND WATER, CAN BE DISCHARGED WITHOUT BEING ROUTED TO A CONTROL PROVIDED THE DEWATERING FLOW COMPLIES WITH THE VELOCITY DISSIPATION REQUIREMENTS OF PART 2.1.4.1 OF THE CONSTRUCTION GENERAL PERMIT.

***NOTE: THE C.G.P. ALLOWS FOR THE DISCHARGE OF UNCONTAMINATED WATER ONLY.

THE FOLLOWING DISCHARGE REQUIREMENTS FOR DEWATERING ACTIVITIES MUST BE MET:

I. DO NOT DISCHARGE FLOATING SOLIDS OR VISIBLE FOAM;

II. USE AN OIL-WATER SEPARATOR OR SUITABLE FILTRATION DEVICE (SUCH AS A CARTRIDGE FILTER) THAT IS DESIGNED TO REMOVE OIL, GREASE, OR OTHER PRODUCTS IF DEWATERING WASTEWATER IS FOUND TO CONTAIN THESE MATERIALS;

III. UTILIZE VEGETATED AREAS OF THE SITE TO INFILTRATE WASTEWATER FROM DEWATERING ACTIVITIES, UNLESS INFEASIBLE;

IV. PROVIDE ENERGY DISSIPATION AT ALL POINTS WHERE DEWATERING WASTEWATER IS DISCHARGED. DEWATERING DISCHARGES MUST NOT CAUSE EROSION AT THE DISCHARGE POINT OR SCOURING OF THE BANKS OF THE WATER OF THE U.S.;

V. WITH SEDIMENT THAT HAS BEEN REMOVED DURING THE MAINTENANCE OF A DEWATERING DEVICE, YOU MUST MANAGE SUCH SEDIMENT IN ACCORDANCE WITH AIII, ABOVE;

VI. WITH BACKWASH WATER, EITHER HAUL AWAY FOR DISPOSAL OR RETURN IT TO THE BEGINNING OF THE TREATMENT PROCESS FOR ANOTHER PASS THROUGH THE SERIES OF DEWATERING DEVICES; AND

VII. REPLACE AND CLEAN THE FILTER MEDIA USED IN DEWATERING DEVICES WHEN THE PRESSURE DIFFERENTIAL EQUALS OR EXCEEDS THE MANUFACTURER'S SPECIFICATIONS.

THE OWNER IS NOT APPLYING FOR A CONSTRUCTION DEWATERING PERMIT, AND NO DIRECT DISCHARGE OF WATER GENERATED FROM CONSTRUCTION DEWATERING ACTIVITIES TO THE CITY STORMWATER/SEWER SYSTEM WILL BE ALLOWED. DEWATERING EFFLUENT GENERATED BY THE CONSTRUCTION SHALL BE MANAGED ON SITE, INCLUDING TEMPORARY STORAGE/CONTAINERIZATION, IF NECESSARY, AND IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

1. THE BEST MANAGEMENT PRACTICES PROVIDED HEREIN REPRESENT THE MINIMUM MEASURES TO BE EMPLOYED DURING EACH PHASE OF CONSTRUCTION. SPECIFIC SEQUENCING PLANS WILL BE DEVELOPED FOR EACH PHASE OF CONSTRUCTION AS DESIGN IS ADVANCED.
2. THE CONTRACTOR MUST PERFORM ACTIVITIES IN ACCORDANCE WITH THE REQUIREMENTS OF THE GENERAL PERMIT FOR DISCHARGES FROM CONSTRUCTION ACTIVITIES.
3. THESE EROSION AND SEDIMENTATION PLANS ARE PART OF THE STORMWATER POLLUTION PREVENTION PLAN.
4. NO LAND CLEARING, GRUBBING OR GRADING ACTIVITIES, EXCEPT THAT REQUIRED FOR INSTALLATION OF THE CONSTRUCTION EXIT, SHALL BEGIN UNTIL PERIMETER SEDIMENT CONTROL MEASURES AND STORMWATER MANAGEMENT PRACTICES ARE CONSTRUCTED AND STABILIZED.
5. TEMPORARY STABILIZATION PRACTICES MUST BE INITIATED AS SOON AS PRACTICABLE ON PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
6. SEDIMENT MUST BE REMOVED FROM TRAPS OR PONDS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
7. SEDIMENT MUST BE REMOVED FROM A SILT FENCE, COMPOST FILTER SOCK OR STRAW WATTLE WHEN IT REACHES 50% OF THE ABOVE-GROUND HEIGHT.
8. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED BY THE CONTRACTOR IF DEEMED NECESSARY BY ON- SITE INSPECTION.
9. IF ADDITIONAL EROSION OR SEDIMENT CONTROL MEASURES ARE NECESSARY, THEY MUST BE IMPLEMENTED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF NOT PRACTICABLE BEFORE THE NEXT STORM EVENT, THEY MUST BE IMPLEMENTED AS SOON AS POSSIBLE.
10. OFF SITE SEDIMENT TRACKING MUST BE MINIMIZED. SEDIMENT TRACKED ONTO ADJACENT PUBLIC WAYS MUST BE SWEPT BY THE END OF THE SAME WORK DAY.
11. STORMWATER RUNOFF FROM EXPOSED SURFACES MUST BE DIVERTED, RETAINED/DETAINED TO MINIMIZE THE DISCHARGE OF POLLUTANTS.
12. VELOCITY DISSIPATION DEVICES MUST BE INSTALLED AT DISCHARGE LOCATIONS OF ANY OUTFALL TO PROVIDE NON-EROSIVE FLOW VELOCITY.
13. PREVENT LITTER, CONSTRUCTION DEBRIS AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORMWATER FROM BECOMING A POLLUTANT SOURCE IN STORMWATER DISCHARGES.

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HIGHLAND RD & BALLARD RD,
ASHLAND, MA 01721

COMMONWEALTH OF MASSACHUSETTS
CARLOS FERREIRA
No. 41423
REGISTERED PROFESSIONAL ENGINEER

Digitally signed by Carlos Ferreira
DN: C=US, E=contact@mpdconsultants.com, O=MP Design Consultants, CN=Carlos Ferreira
Reason: I have reviewed this document
Date: 2026.02.03 16:34:00-05'00'

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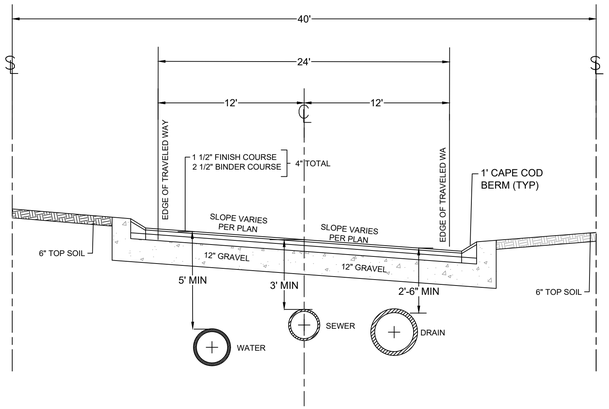
No.	DATE	DESCRIPTION

DRAWN BY:	EP
CHECKED BY:	MA
DATE:	02/04/2026
SCALE:	-

SHEET TITLE:
EROSION
DETAILS

SHEET:
C-501



HIGHLAND RD & BALLARD RD PRIVATE WAYS DETAIL

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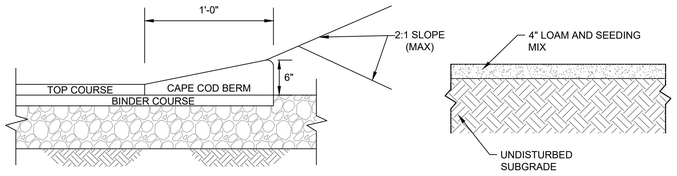
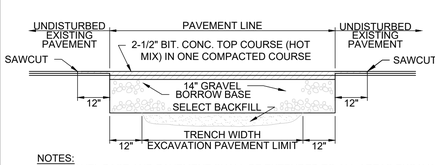


CAPE COD BERM

NOT TO SCALE

LOAM AND SEEDING

NOT TO SCALE

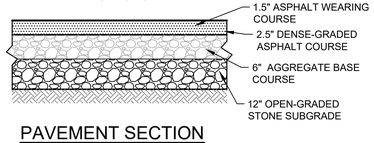


NOTES:

1. GRAVEL BASE AND PAVEMENT SHALL BE EXTENDED TO ALL AREAS EXCAVATED OUTSIDE THE PAVEMENT LIMIT LINE AT NO ADDITIONAL COST TO THE OWNER.
2. SAW CUTS SHALL BE MADE PRIOR TO ANY TRENCH EXCAVATION.

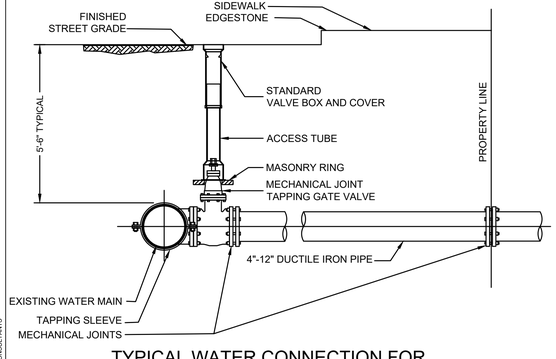
PERMANENT PAVEMENT PATCH AND SAWCUT

NOT TO SCALE



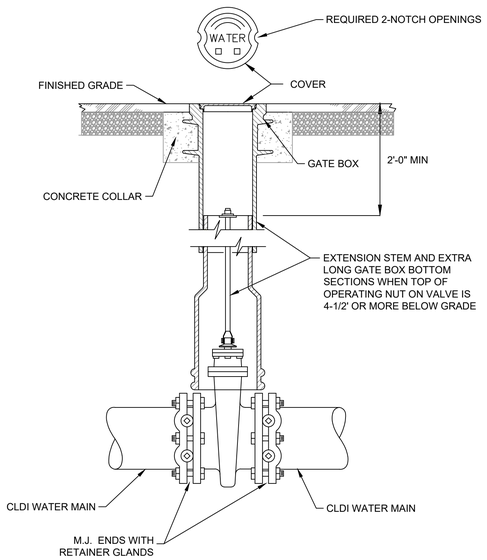
PAVEMENT SECTION

NOT TO SCALE



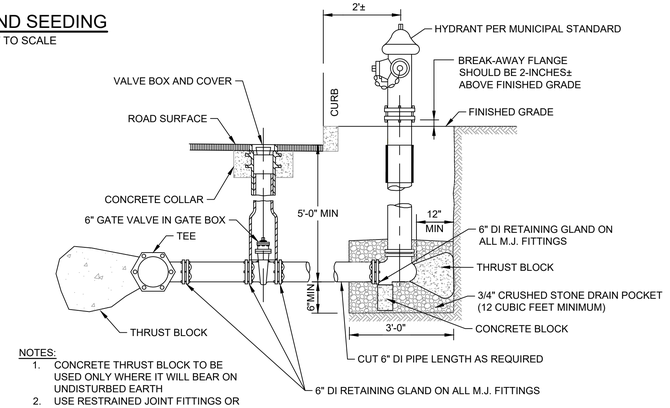
TYPICAL WATER CONNECTION FOR 4"-12" SERVICE PIPE

NOT TO SCALE



TYPICAL GATE VALVE INSTALLATION 12" & SMALLER

NOT TO SCALE

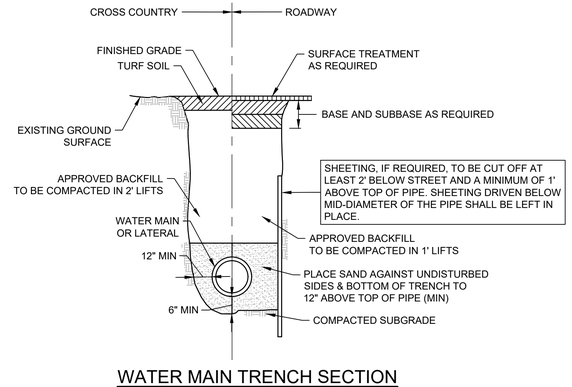


NOTES:

1. CONCRETE THRUST BLOCK TO BE USED ONLY WHERE IT WILL BEAR ON UNDISTURBED EARTH
2. USE RESTRAINED JOINT FITTINGS OR TIE RODS WHERE CONCRETE THRUST BLOCK IS UNACCEPTABLE
3. SIZE OF BLOCK OR MEGALUG TO BE DESIGNED FOR SPECIFIC CONDITIONS

FIRE HYDRANT ASSEMBLY

NOT TO SCALE



WATER MAIN TRENCH SECTION

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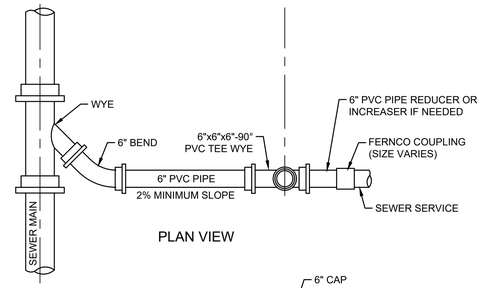
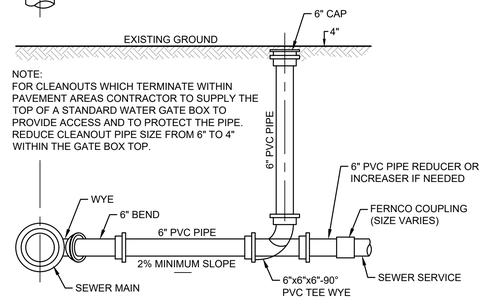


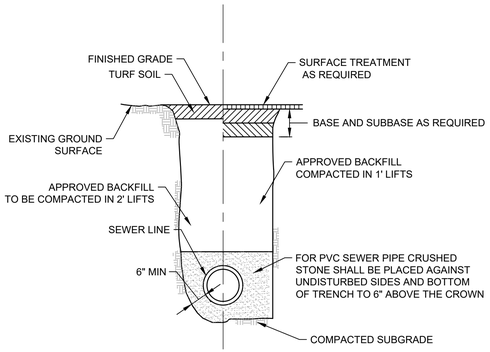
PLAN VIEW



PROFILE

SEWER SERVICE WYE CONNECTION

NOT TO SCALE



SEWER TRENCH SECTION

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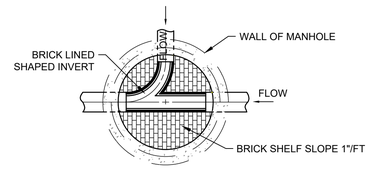
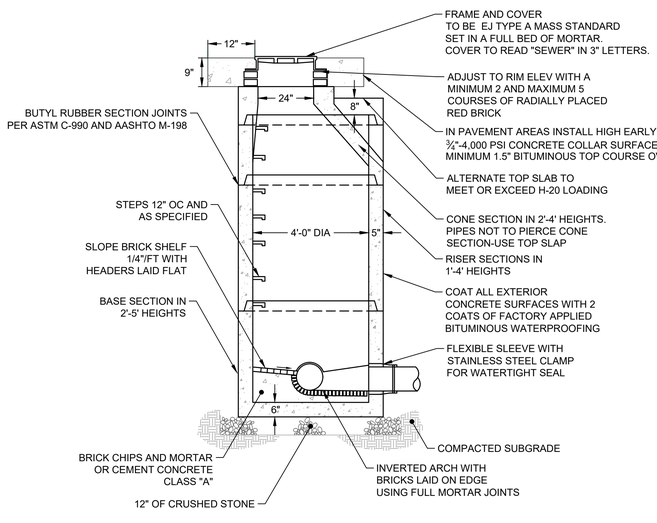


TYPICAL SEWER INVERT

NOT TO SCALE

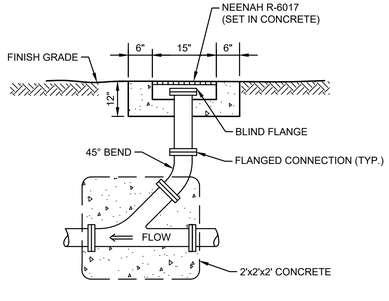


NOTES:

1. MANHOLES SHALL BE 48" INSIDE DIAMETER (ID) UNLESS OTHERWISE INDICATED ON PLANS.
2. EXCAVATION TO ALLOW FOR FREE TRAVEL OF COMPACTION EQUIPMENT.
3. ALL COMPACTION TO A MINIMUM 95 PERCENT DRY DENSITY DETERMINED BY ASTM D1557. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. ALL PRECAST TO MEET OR EXCEED ASTM C-478 AND AASHTO M 199 SPECIFICATIONS.
5. REINFORCED STEEL TO MEET OR EXCEED ASTM A185 AND H-20 LOADING REQUIREMENTS.
6. ALL PRECAST CONCRETE TO BE 4,000 PSI MINIMUM AND MEET ASTM C-478 (6.1).
7. IF NO STEPS ARE SPECIFIED THAN AS THE LOCAL MUNICIPALITY REQUIRES OR IF NO MUNICIPALITY REQUIREMENTS THEN COPOLYMER POLYPROPYLENE COATED REINFORCED PER ASTM C-478 AND OSHA (STD 1-1.9).
8. FILL ALL INTERNAL AND EXTERNAL HOLES WITH NON-SHRINK GROUT.

PRECAST SEWER MANHOLE

NOT TO SCALE



SEWER CLEANOUT

NOT TO SCALE

MP DESIGN CONSULTANTS
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SOUTHBOROUGH, MA 01772
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OWNER:

DEPIETRI GROUP

118 TURNPIKE ROAD,
SOUTHBOROUGH, MA 01772

PROJECT:

HIGHLAND & BALLARD RD

HIGHLAND & BALLARD RD,
ASHLAND, MA XXXX

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CONSTRUCTION DETAILS

SHEET:

C-502

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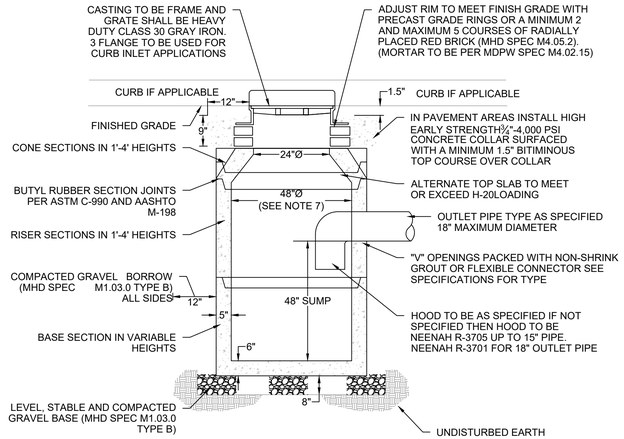
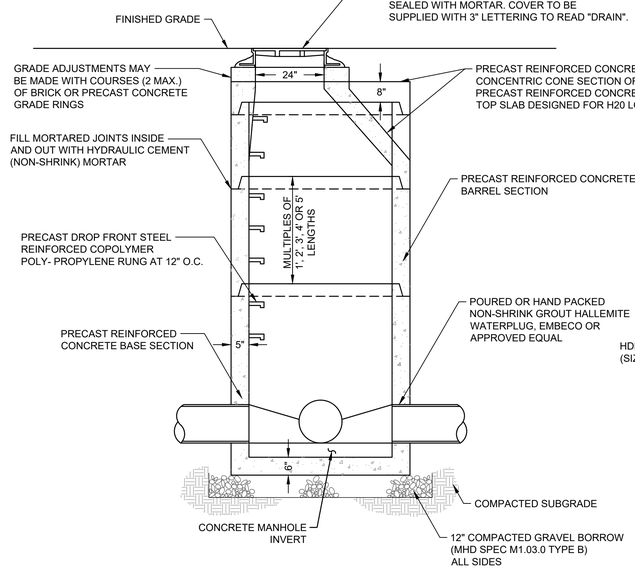


NOTES:

1. EXCAVATION 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.
3. ALL PRECAST TO MEET OR EXCEED ASTM C-478 AND AASHTO M 199 SPECIFICATIONS.
4. REINFORCED STEEL TO MEET OR EXCEED ASTM A185 AND H-20 LOADING REQUIREMENTS.
5. ALL PRECAST CONCRETE TO BE 4,000 P.S.I. MINIMUM AND MEET ASTM C-478 (6.1).
6. FILL ALL INTERNAL AND EXTERNAL HOLES WITH NON-SHRINK GROUT.
7. WHERE DOUBLE CATCH BASIN (I.D. 60") IS SPECIFIED ON PLAN, PROVIDE MINIMUM WALL DIMENSION OF 6", MINIMUM BASE DIMENSION OF 8" AND A 24"X48" DOUBLE FRAME AND GRATE.

CATCH BASIN (DEEP SUMP)

NOT TO SCALE



NOTES:

1. MANHOLES SHALL BE 48" INSIDE DIAMETER (I.D.) UNLESS OTHERWISE INDICATED ON PLANS.
2. EXCAVATION TO ALLOW FOR FREE TRAVEL OF COMPACTION EQUIPMENT.
3. ALL COMPACTION TO A MINIMUM 95 PERCENT DRY DENSITY DETERMINED BY ASTM D1557.
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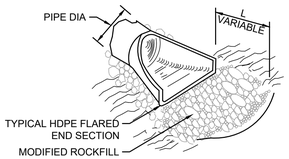
5. REINFORCED STEEL TO MEET OR EXCEED ASTM A185 AND H-20 LOADING REQUIREMENTS.
6. ALL PRECAST CONCRETE TO BE 4,000 PSI MINIMUM AND MEET ASTM C-478 (6.1).
7. FILL ALL INTERNAL AND EXTERNAL HOLES WITH NON-SHRINK GROUT.

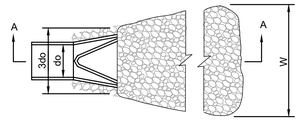
PRECAST CONCRETE DRAIN MANHOLE

NOT TO SCALE

FLARED END SECTION	LENGTH	W1	W2
FE-11	6'	4.5'	8.5'

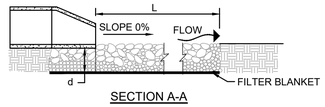


ISOMETRIC VIEW



PLAN

do = PIPE DIA.
L = APRON LENGTH
W = 3do + 2/3L
d = APRON DEPTH



SECTION A-A

NOTES:

1. d = 3.5 TIMES THE MEDIAN STONE DIAMETER (16.5" MIN).
2. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIP-RAP AND SOIL FOUNDATION.

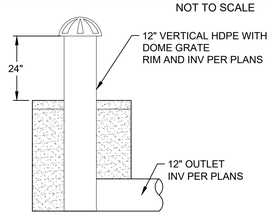
PRACTICE: OUTLET STABILIZATION AND VELOCITY DISSIPATION. OUTLET STABILIZATION AND VELOCITY DISSIPATION MEASURES WILL BE INSTALLED AT THE OUTLETS OF DRAINAGE CHANNELS, CONVEYANCES, SWALES, OR DIVERSIONS, AND BASIN OUTLETS, WHERE THE VELOCITY OF THE DISCHARGE MAY RESULT IN EROSION AT THE OUTLET OR RECEIVING CHANNEL OR DEVELOPMENT OF A PLUNGE POOL. OUTLET STABILIZATION/VELOCITY DISSIPATION MEASURES WILL INCLUDE THE PLACEMENT OF RIPRAP OR CONSTRUCTION OF A CONCRETE DISSIPATION STRUCTURE AT THE DISCHARGE LOCATION.

INSTALLATION REQUIREMENTS: DURABLE ANGULAR ROCK SHALL BE UNDERLAIN FILTER FABRIC AND ALIGNED WITH THE RECEIVING WATER OR BASIN.

MAINTENANCE REQUIREMENTS: INSPECT THE APRON FOR DISPLACEMENT OF RIPRAP AND ANY DAMAGE TO UNDERLYING FABRIC. REPAIR FABRIC AND REPLACE RIP RAP THAT HAS WASHED AWAY. IF RIPRAP CONTINUES TO WASH AWAY, REPLACE WITH LARGER DIAMETER ROCK. INSPECT FOR SCOUR BENEATH THE RIP RAP AND AROUND THE OUTLET AND REPAIR DAMAGE TO SLOPE.

FLARED END SECTION (FES) OUTLET PROTECTION

NOT TO SCALE



OUTLET CONTROL STRUCTURE (OCS)

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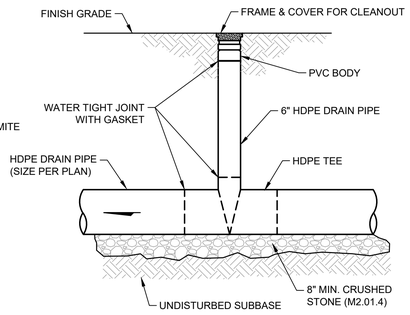
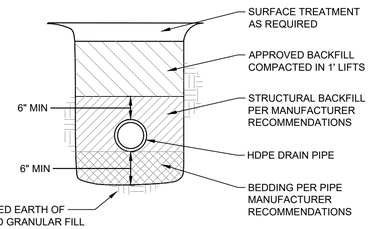


IN-LINE

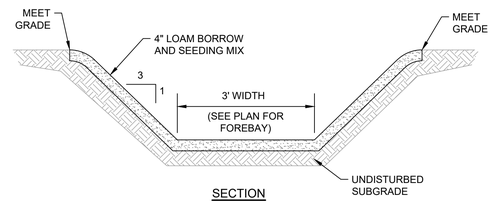
YARD HDPE CLEANOUT

NOT TO SCALE



DRAIN PIPE BEDDING

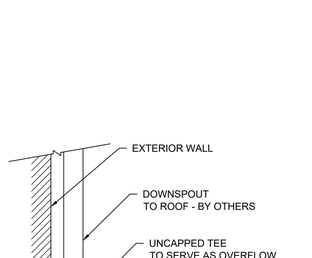
NOT TO SCALE



SECTION

VEGETATED DRAINAGE SWALE/SEDIMENT FOREBAY

NOT TO SCALE



DOWNSPOUT CONNECTION

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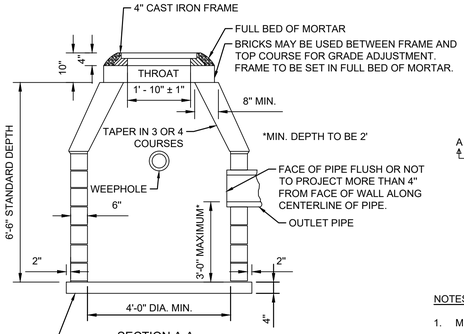
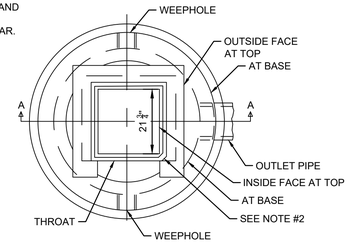


SECTION A-A

4000 PSI CEMENT CONCRETE (SEE MASSDOT SPECIFICATIONS FOR DESIGN REQUIREMENTS) OR PRECAST CONCRETE SECTIONAL PLATES



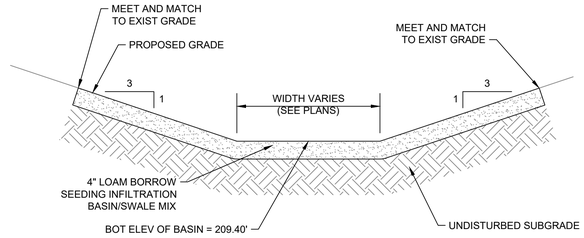
PLAN

NOTES:

1. MINIMUM CAST IRON FRAME MASS - 205 LBS.
2. STANDARD PARALLEL BAR GRATE TO BE USED.
3. FOR DESCRIPTION, MATERIAL, AND CONSTRUCTION METHODS, SEE STANDARD SPECIFICATIONS.

DROP INLET TYPE "C"

NOT TO SCALE

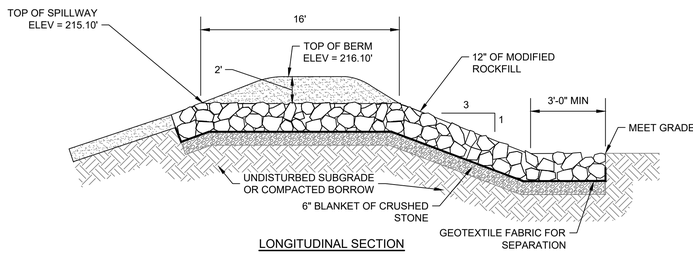


NOTES:

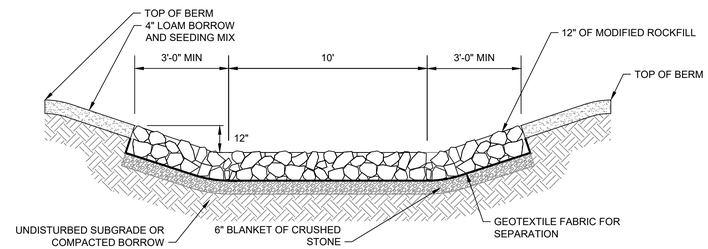
1. CONTRACTOR SHALL TAKE EXTRA PRECAUTION NOT TO OVER COMPACT BASIN BOTTOM AND EMBANKMENTS AND REDUCE THE INFILTRATIVE CAPACITY OF THE SOILS.
2. CONTRACTOR SHALL MINIMIZE THE WEIGHT AND USE OF CONSTRUCTION EQUIPMENT ON THE BASIN BOTTOM.
3. CONTRACTOR SHALL DEEPLY TILL SUBBASE MATERIAL AT THE BASIN BOTTOM PRIOR TO ADDITION OF LOAM BORROW. TILLING SHALL BE TO A MINIMUM DEPTH OF 12 INCHES.

INFILTRATION BASIN SECTION

NOT TO SCALE



LONGITUDINAL SECTION



CROSS SECTION

EMERGENCY SPILLWAY SECTION

NOT TO SCALE

MP DESIGN CONSULTANTS
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DEPIETRI GROUP

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SOUTHBOROUGH, MA 01772

PROJECT:

HIGHLAND & BALLARD RD

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CONSTRUCTION DETAILS

SHEET:

C-503

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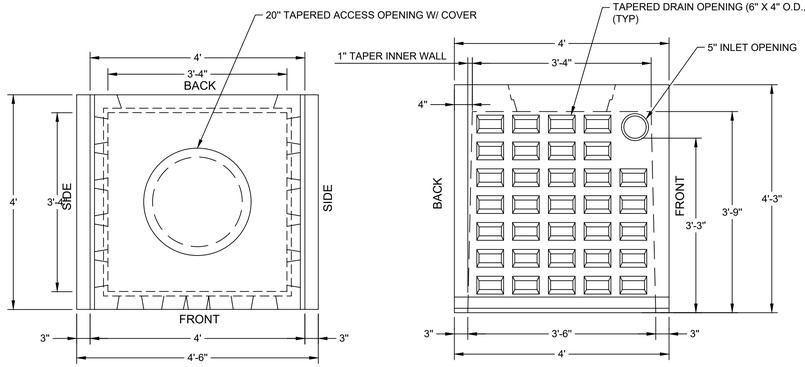
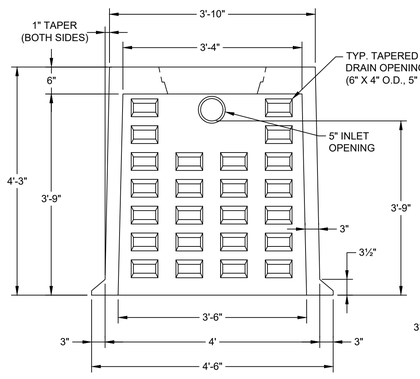
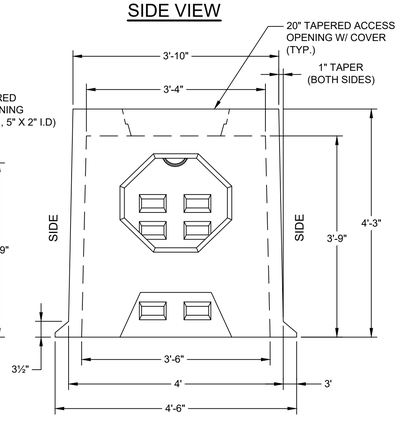


PLAN VIEW

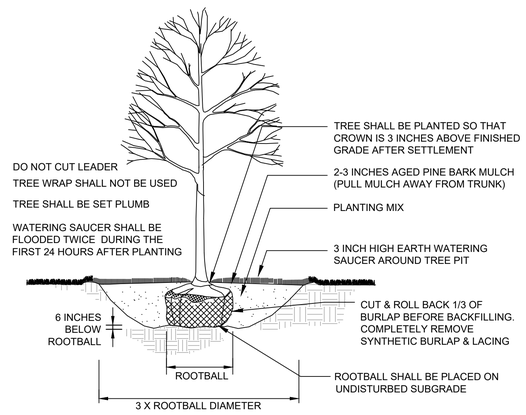
SIDE VIEW



FRONT VIEW



BACK VIEW



TREE PLANTING

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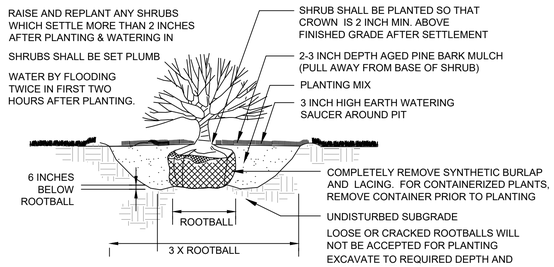

SHRUB PLANTING

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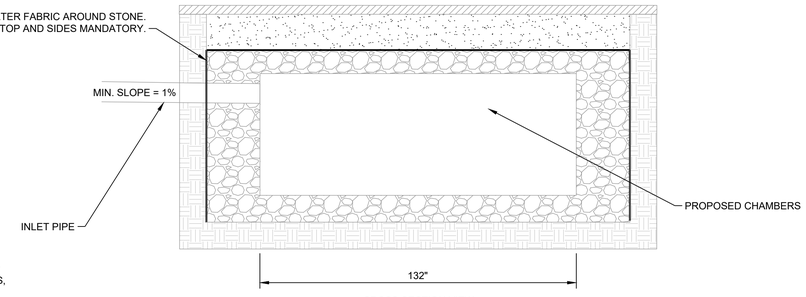
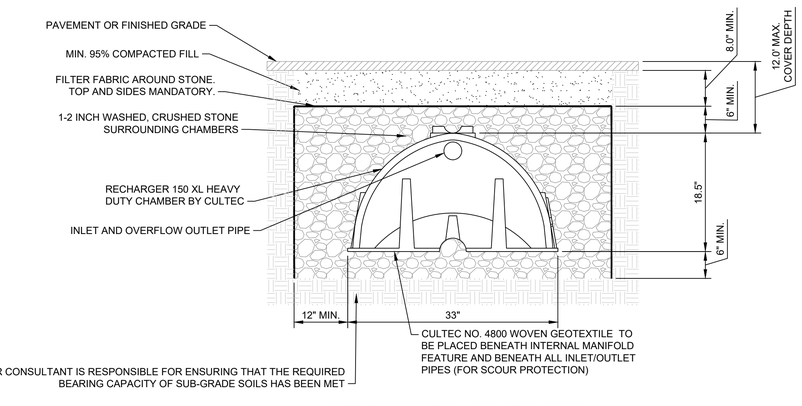


CROSS SECTION VIEW

INFILTRATION SYSTEM (CULTEC RECHARGER)

NOT TO SCALE

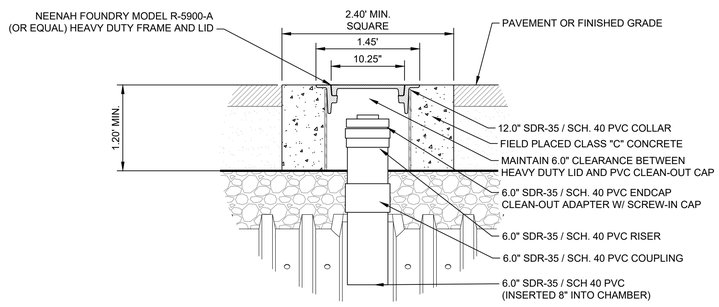


CROSS SECTION THROUGH LEACHING FIELD VIEW

DESIGN DATA

1. CONCRETE 4.000 PSI @ 27 DAYS
2. CEMENT: TYPE III PER ASTM C150-81
3. DESIGNED FOR H-20 LOADING
4. AVAIABLE IN END END AND CENTER SECTIONS HAVE LARGE OPENINGS IN BOTH BACK AND FRONT SIDES
5. WEIGHTS:
   END SECTION 2.430 LBS
   CENTER SECTION 2.300 LBS

BMP ELEVATIONS	EXISTING	PROPOSED	EST. SEASONAL GROUNDWATER	TOP OF STONE	TOP OF CHAMBER	BOTTOM OF CHAMBER	BOTTOM OF STONE
#1	236.00'	234.00'	-	232.54'	232.04'	230.50'	230.00'
#2	240.00'	236.50'	-	235.54'	235.04'	233.50'	233.00'
#3	242.50'	240.00'	-	239.54'	239.04'	237.50'	237.00'
#4	220.50'	224.30'	-	223.54'	223.04'	221.50'	221.00'
#5	220.50'	224.30'	-	223.54'	223.04'	221.50'	221.00'
#6	214.20'	226.00'	-	226.54'	226.04'	224.50'	224.00'
#7	209.50'	209.00'	-	207.54'	207.04'	205.50'	205.00'
#8	194.50'	196.00'	-	195.54'	195.04'	193.50'	193.00'
#9	200.00'	200.00'	-	199.54'	199.04'	197.50'	197.00'
CONCRETE GALLEYS	202.00'	201.00'	-	-	-	188.20'	187.70'



INSPECTION PORT

NOT TO SCALE

Digitally signed by Carlos Ferreira
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Reason: I have reviewed this document
Date: 2026.02.03 16:34:00-05'00'

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REVISIONS:

No.	DATE	DESCRIPTION

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CHECKED BY:	EP
DATE:	02/04/2026
SCALE:	N.T.S

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET:
C-504

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