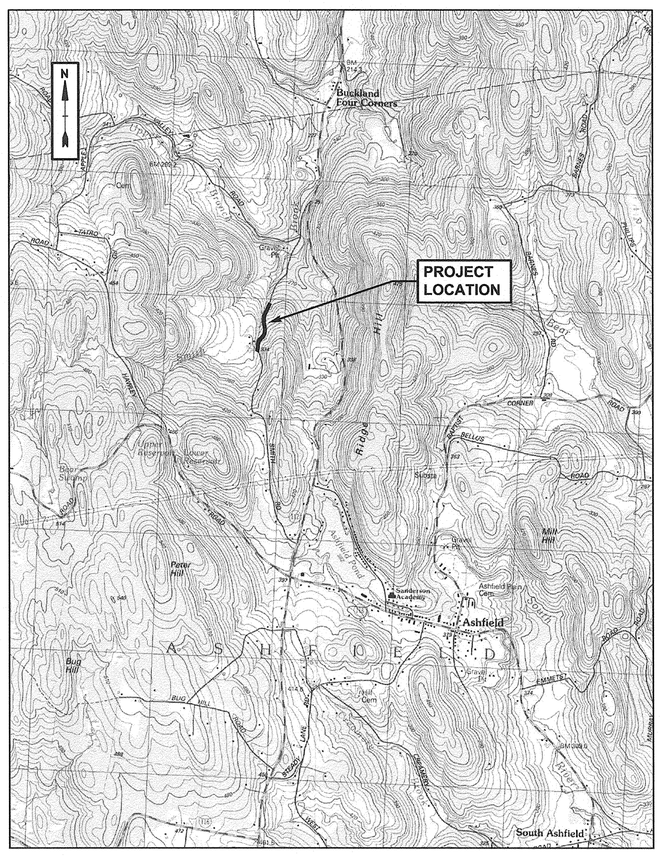
SMITH BRANCH ROAD
EMBANKMENT STABILIZATION PROJECT
ASHFIELD, MASSACHUSETTS

APRIL 2015

SHEET NO.	TITLE
1	COVER SHEET
2	LEGEND, ABBREVIATIONS AND GENERAL NOTES
3	EXISTING CONDITIONS & CONTROL PLAN STA 0+00 TO STA 4+50
4	EXISTING CONDITIONS & CONTROL PLAN STA 4+50 TO STA 9+50
5	PLAN & PROFILE - STA 0+00 TO STA 4+50
6	PLAN & PROFILE - STA 4+50 TO STA 9+50
7 - 9	DETAILS
10 - 11	CROSS SECTIONS



SCALE: 1:24000

BOARD OF SELECTMEN

TOM CARTER, CHAIRMAN
RON COLER, VICE CHAIRMAN
TODD OLANYK

HIGHWAY DEPARTMENT

TOM POISSANT,
SUPERINTENDENT

ENGINEER

Tighe&Bond
Consulting Engineers
53 SOUTHAMPTON ROAD
WESTFIELD, MA 01085

COMMONWEALTH OF MASSACHUSETTS
DAVID I. LORING
CIVIL
No. 39818
REGISTERED PROFESSIONAL ENGINEER
4/29/15

COMMONWEALTH OF MASSACHUSETTS
MICHAEL R. PETRIN
CIVIL
No. 45895
REGISTERED PROFESSIONAL ENGINEER
4/29/15

COMPLETE SET 11 SHEETS

A1038\Drawings\COVER

GENERAL CONSTRUCTION NOTES

1. BASE PLAN PREPARED BY NORTHEAST SURVEY CONSULTANTS IN AUGUST OF 2014. FIELD SURVEY CONDUCTED BY EDM TOTAL STATION. ABUTTING PROPERTY LINES ARE BASED ON THE TOWN OF ASHFIELD GIS, AND ARE APPROXIMATE AND FOR ORIENTATION PURPOSES ONLY. SMITH BRANCH ROAD (FORMERLY KNOWN AS SMITH ROAD) IS A TOWN WAY IDENTIFIED AS ROAD #52 ON A LIST OF PUBLIC ROADS PREPARED BY THE TOWN OF ASHFIELD SELECTMEN'S OFFICE, DATED 8-22-1944. NO LAYOUT OR WIDTH HAS BEEN FOUND. LAID OUT 49.5' WIDE BY THIS SURVEY BASED ON STONEWALLS AND CENTERLINE OF TRAVELED WAY.
2. THE HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83). THE VERTICAL DATUM IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). BOTH WERE ESTABLISHED WITH A DUAL FREQUENCY GPS SURVEY.
3. WETLAND RESOURCE AREAS DELINEATED BY TIGHE & BOND ON AUGUST 6, 2014.
4. BOLD LINES AND TEXT REPRESENT PROPOSED WORK. LIGHT LINES AND TEXT INDICATE EXISTING CONDITIONS.
5. NOTIFY "DIGSAFE" AT 1-888-344-7233 TO ARRANGE FOR MARKING OUT EXISTING UNDERGROUND UTILITIES AT LEAST 72 HOURS (EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS) PRIOR TO BEGINNING EXCAVATION AT ANY GIVEN LOCATION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE ALLOWED TO START ANY KIND OF EXCAVATION WORK PRIOR TO OBTAINING ALL THE NECESSARY INFORMATION REGARDING THE LOCATION OF UNDERGROUND UTILITIES AT THE SITE. ACCOMPLISH ALL EXCAVATION SO THAT UNDERGROUND UTILITIES OR STRUCTURES ARE NOT DAMAGED. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE INCURRED DURING EXCAVATION OPERATIONS. REPAIR ANY EXISTING PIPE OR UTILITY DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
6. THE OWNER AND ENGINEER ASSUME NO RESPONSIBILITY FOR THE LOCATION OF EXISTING UTILITIES. THE ENGINEER AND OWNER MAKE NO GUARANTEE AS TO THE UNDERGROUND CONDITIONS THAT MAY BE ENCOUNTERED.
7. FIELD MEASURE TO VERIFY EXISTING AND CONTRACT INTERFACE DIMENSIONS, LOCATIONS, AND OTHER CONDITIONS.
8. TEST PITS TO LOCATE EXISTING UTILITIES ARE STRONGLY ENCOURAGED AND MAY BE ORDERED BY THE ENGINEER.
9. IF LOCATIONS, SIZES, ETC. CHANGE FROM THESE PLANS, THE NEW CHANGES SHALL BE SUBMITTED TO THE OWNER/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
10. TAKE ALL NECESSARY MEASURES AND PROVIDE ALL NECESSARY CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE, AND STRENGTH TO PREVENT ACCESS TO ALL OPEN EXCAVATIONS AT THE COMPLETION OF EACH DAY'S WORK.
11. STORE FUEL, OIL, PAINT, OR OTHER HAZARDOUS MATERIALS IN A SECONDARY CONTAINER AND REMOVE FROM THE SITE TO A LOCKED INDOOR AREA WITH AN IMPERVIOUS FLOOR DURING NON-WORK HOURS.
12. IMMEDIATELY REPORT SPILLS OF OIL AND/OR HAZARDOUS MATERIALS (OHM) TO THE MASS DEP.
13. PROVIDE A SUFFICIENT SUPPLY OF ABSORBENT SPILL RESPONSE MATERIALS, SUCH AS BOOMS OR BLANKETS, AT THE CONSTRUCTION SITES AT ALL TIMES TO CLEAN UP POTENTIAL SPILLS OF HAZARDOUS MATERIALS.

GENERAL SYMBOLS

EXISTING	NEW	
		BOUND
		BENCHMARK (TBM)
		CONTROL POINT
		GUY WIRE ANCHOR
		MAILBOX
		LARGE BOULDER
		WOOD POST
		DRAIN PIPE / CROSS CULVERT
		FENCE (SIZE AND TYPE NOTED)
		GUARDRAIL
℄		RIGHT OF WAY LINE
		ABUTTING PROPERTY LINE
	1+00 N00° 00' 00"E	CONSTRUCTION BASELINE
		SIGN AND POST
		STONE WALL
		TREE LINE
		TREE (SIZE AS NOTED)
	490	INDEX CONTOUR
		INTERMEDIATE CONTOUR
345.4		PROFILE ELEVATIONS
		BORDERING LAND SUBJECT TO FLOODING (CROSS-SECTIONS)
		ORDINARY HIGH WATER (CROSS-SECTIONS)
		ORDINARY LOW WATER (CROSS-SECTIONS)
A-1 A-2		WETLAND DELINEATION OR TOP OF BANK/OHW
		WETLAND SYMBOL
		SURVEYED EDGE OF WATER (8/14)
		100-FOOT BUFFER ZONE
		EROSION CONTROL BARRIER
		APPROXIMATE LIMITS OF WORK
		STONE SLOPED RET WALL
		GABION BASKET RET WALL

ABBREVIATIONS

GENERAL

ABAN	ABANDON
ADJ	ADJUST
APPROX	APPROXIMATE
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS
BIT	BITUMINOUS
BLDG	BUILDING
BLSF	BORDERING LAND SUBJECT TO FLOODING
BOS	BOTTOM OF SLOPE
BVW	BORDERING VEGETATIVE WETLANDS
CEM	CEMENT
CLF	CHAIN LINK FENCE
CONC	CONCRETE
CS	CUT SPIKE
DEP	DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIM	DIMENSION
DPW	DEPARTMENT OF PUBLIC WORKS
EOP	EDGE OF PAVEMENT
EXIST	EXISTING
'	FEET/FOOT
FDN	FOUNDATION
FND	FOUND
GRAN	GRANITE
HMA	HOT MIX ASPHALT
"	INCH
IFO	IN FRONT OF
IP	IRON PIN
LUW	LAND UNDER WATERBODIES AND WATERWAYS
MASS	MASSACHUSETTS
MAX	MAXIMUM
MIN	MINIMUM
MHD	MASSACHUSETTS HIGHWAY DEPARTMENT
MHW	MEAN HIGH WATER
MLW	MEAN LOW WATER
M	MHD MATERIAL REFERENCE
MISC	MISCELLANEOUS
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OHW	ORDINARY HIGH WATER
OLW	ORDINARY LOW WATER
PREF	PREFERRED
PROP	PROPOSED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVMT	PAVEMENT
QTY	QUANTITY
REM	REMOVE
REQD	REQUIRED
RET	RETAIN/RETAINING
RFA	RIVERFRONT AREA
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
SB	STONE BOUND
SF	SQUARE FEET
TBM	TEMPORARY BENCHMARK
TOS	TOP OF SLOPE
TR	TREE REMOVAL
TYP	TYPICAL
YD	YARD

UTILITIES

AC	ASBESTOS CEMENT PIPE
ACCMP	ASPHALT COATED CORRUGATED METAL PIPE
CAP	CORRUGATED ALUMINUM PIPE
CI	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
COND	CONDUIT
CPP	CORRUGATED PLASTIC PIPE
DIA	DIAMETER
DI	DUCTILE IRON PIPE
INV	INVERT ELEVATION
PVC	POLYVINYLCHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
RP	RECORD PLAN
SD	STORM DRAIN LINE
UP	UTILITY POLE

ALIGNMENT/PROFILE

℄	CONSTRUCTION BASELINE
E	EAST
EL/ELEV	ELEVATION
GB	GRANITE BOUND
L	LENGTH
LT	LEFT
N	NORTH
OC	ON CENTER
PK#	SURVEY NAIL
℄	PROPERTY LINE
ROW	RIGHT OF WAY
RT	RIGHT
S	SOUTH
STA	STATION
W	WEST

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Smith Branch Road Embankment Stabilization Project

Town of Ashfield

Ashfield, Massachusetts

Mark	Date	Description
2	4/15	Issued for Bidding
1	3/15	MADEP Comments
0	10/14	Permit Set

PROJECT NO:	J:\A1038\Drawings
FILE:	LEGABBREV
DRAWN BY:	ADF; TMP
CHECKED:	MRP; JJC
APPROVED BY:	DLL

LEGEND, ABBREVIATIONS AND GENERAL NOTES

SCALE: NO SCALE

SHEET 2

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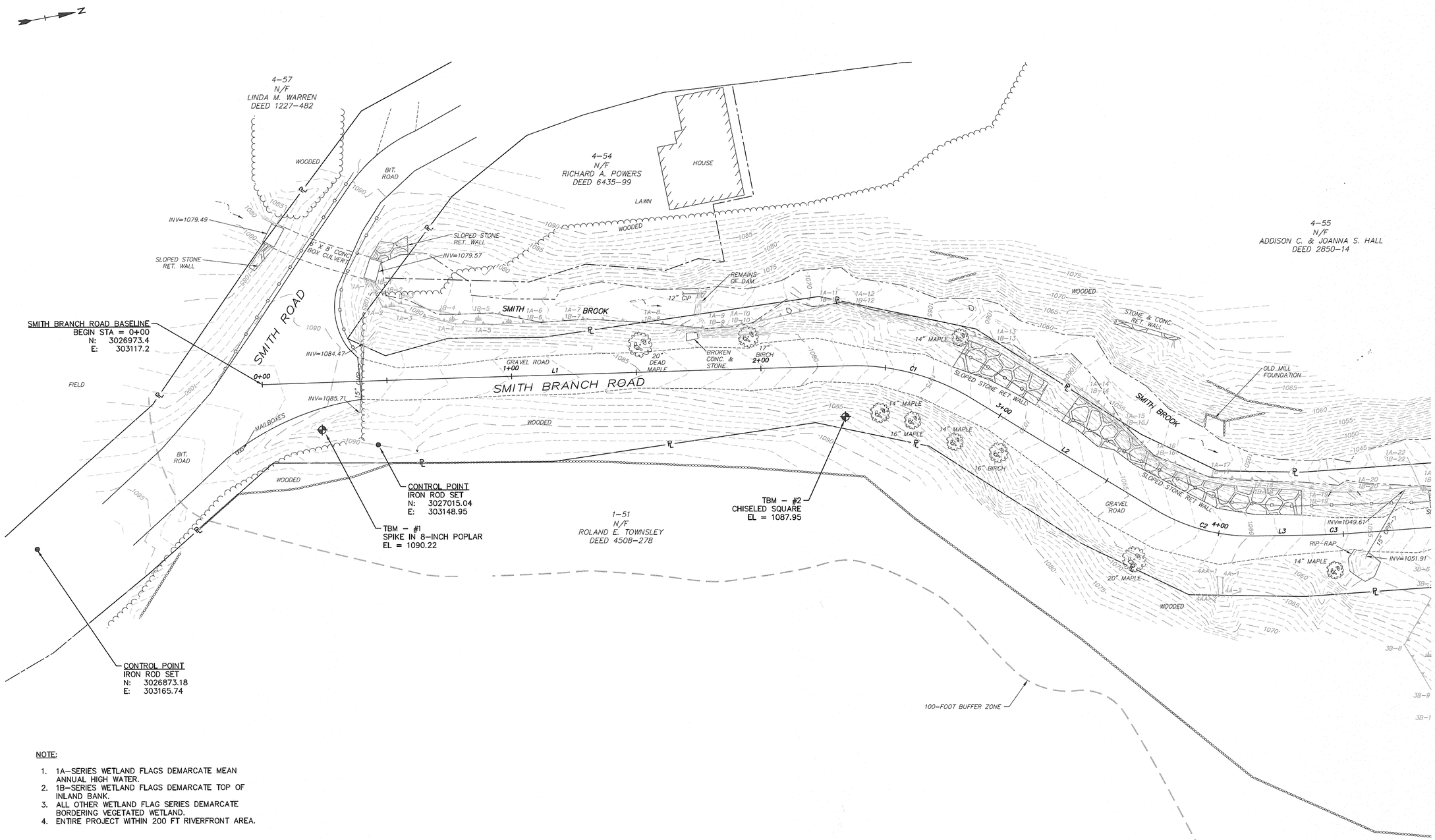

NOTE:

1. 1A-SERIES WETLAND FLAGS DEMARCATE MEAN ANNUAL HIGH WATER.
2. 1B-SERIES WETLAND FLAGS DEMARCATE TOP OF INLAND BANK.
3. ALL OTHER WETLAND FLAG SERIES DEMARCATE BORDERING VEGETATED WETLAND.
4. ENTIRE PROJECT WITHIN 200 FT RIVERFRONT AREA.

Smith-Branch-BL							
NUMBER	LINE/CHORD BEARING	LENGTH	RADIUS	DELTA ANGLE	PC STATION	PI STATION	PT STATION
L1	N8° 12' 11.20"E	234.91					
C1	N24° 36' 36.90"E	51.95	90.72	32°48'51"	2+34.91	2+61.62	2+86.87
L2	N41° 01' 02.60"E	85.62					
C2	N25° 08' 03.09"E	41.70	75.22	31°45'59"	3+72.48	3+93.89	4+14.19
L3	N9° 15' 03.57"E	22.79					
C3	N7° 35' 57.67"E	18.61	322.87	3°18'12"	4+36.98	4+46.29	4+55.60

20' 0 10' 20' 40'
SCALE: 1"=20'

FILENAME: J:\A\A1038 SMITH BRANCH RD\DRAWINGS\EXISTCOND.DWG

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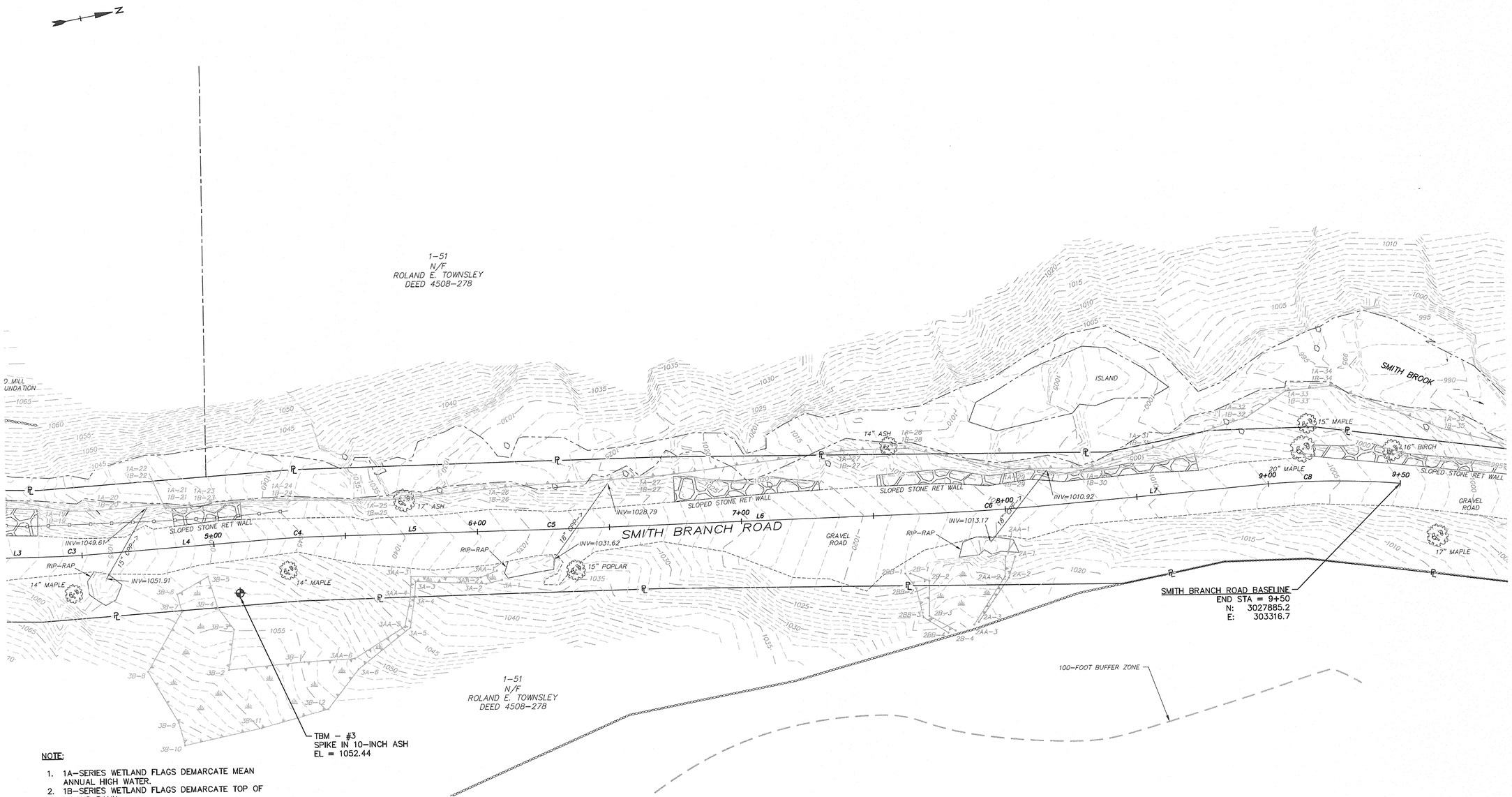
APPROVED BY:	DLL

EXISTING CONDITIONS & CONTROL PLAN
STA 0+00 TO STA 4+50

SCALE: 1"=20

SHEET 3



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Smith–Branch–BL

NUMBER	LINE/CHORD BEARING	LENGTH	RADIUS	DELTA ANGLE	PC STATION	PI STATION	PT STATION
L4	N5° 56' 51.76"E	68.19					
C4	N7° 26' 34.03"E	16.40	314.20	2°59'25"	5+23.78	5+31.98	5+40.18
L5	N8° 56' 16.30"E	70.41					
C5	N8° 32' 53.14"E	34.96	2569.71	0°46'46"	6+10.59	6+28.07	6+45.55
L6	N8° 09' 29.98"E	123.35					
C6	N6° 35' 19.33"E	49.82	909.25	3°08'21"	7+68.91	7+93.82	8+18.72
L7	N5° 01' 08.68"E	75.78					
C8	N10° 00' 07.05"E	55.49	319.04	9°57'57"	8+94.51	9+22.32	9+50.00

20' 0 10' 20' 40'

SCALE: 1"=20'

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4/22/15

Smith Branch Road Embankment Stabilization Project

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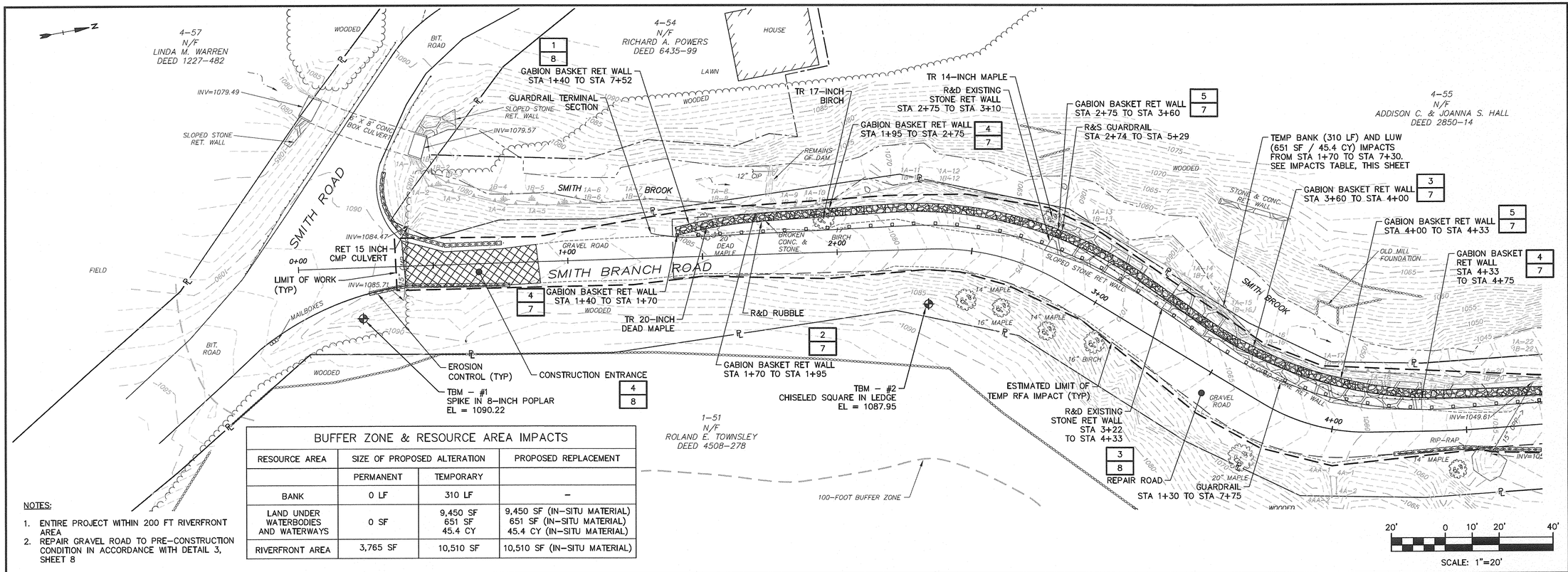
APPROVED BY:	DLL

EXISTING CONDITIONS & CONTROL PLAN
STA 4+50 TO STA 9+50

SCALE: 1"=20'

SHEET 4

FILENAME: J:\A1038 SMITH BRANCH RD\DRAWINGS\EXISTCOND.DWG

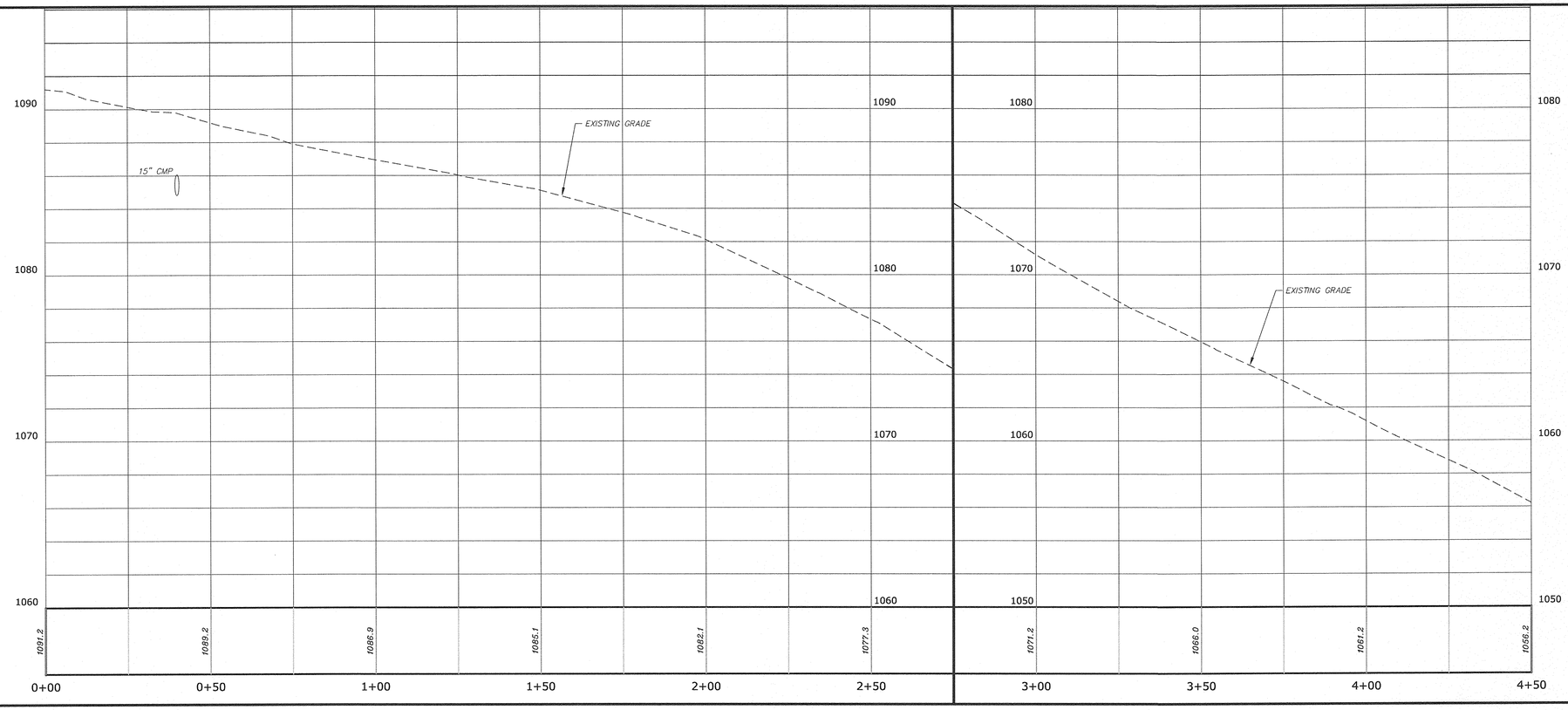


NOTES:

1. ENTIRE PROJECT WITHIN 200 FT RIVERFRONT AREA
2. REPAIR GRAVEL ROAD TO PRE-CONSTRUCTION CONDITION IN ACCORDANCE WITH DETAIL 3, SHEET 8

BUFFER ZONE & RESOURCE AREA IMPACTS

RESOURCE AREA	SIZE OF PROPOSED ALTERATION		PROPOSED REPLACEMENT
	PERMANENT	TEMPORARY	
BANK	0 LF	310 LF	-
LAND UNDER WATERBODIES AND WATERWAYS	0 SF	9,450 SF 651 SF 45.4 CY	9,450 SF (IN-SITU MATERIAL) 651 SF (IN-SITU MATERIAL) 45.4 CY (IN-SITU MATERIAL)
RIVERFRONT AREA	3,765 SF	10,510 SF	10,510 SF (IN-SITU MATERIAL)



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PROJECT NO:	J:\A1038\Drawings
FILE:	PlanProf
DRAWN BY:	ADF; TMP
CHECKED:	MRP; JJC
APPROVED BY:	DLL

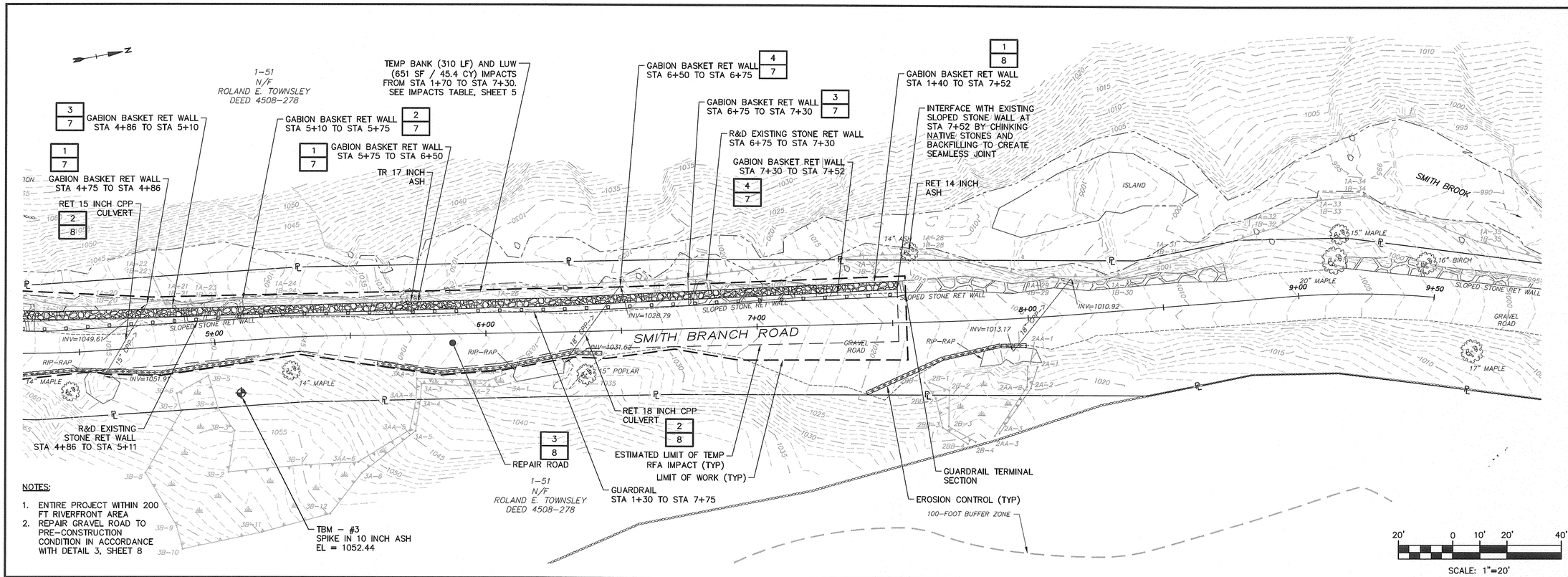
PLAN AND PROFILE
STA 0+00 TO STA 4+50

SCALE: HORIZ. 1"=20, VERT. 1"=4'

SHEET 5

FILENAME: J:\A1038 SMITH BRANCH RD\DRAWINGS\PLANPROF.DWG

8/21/14



NOTES:

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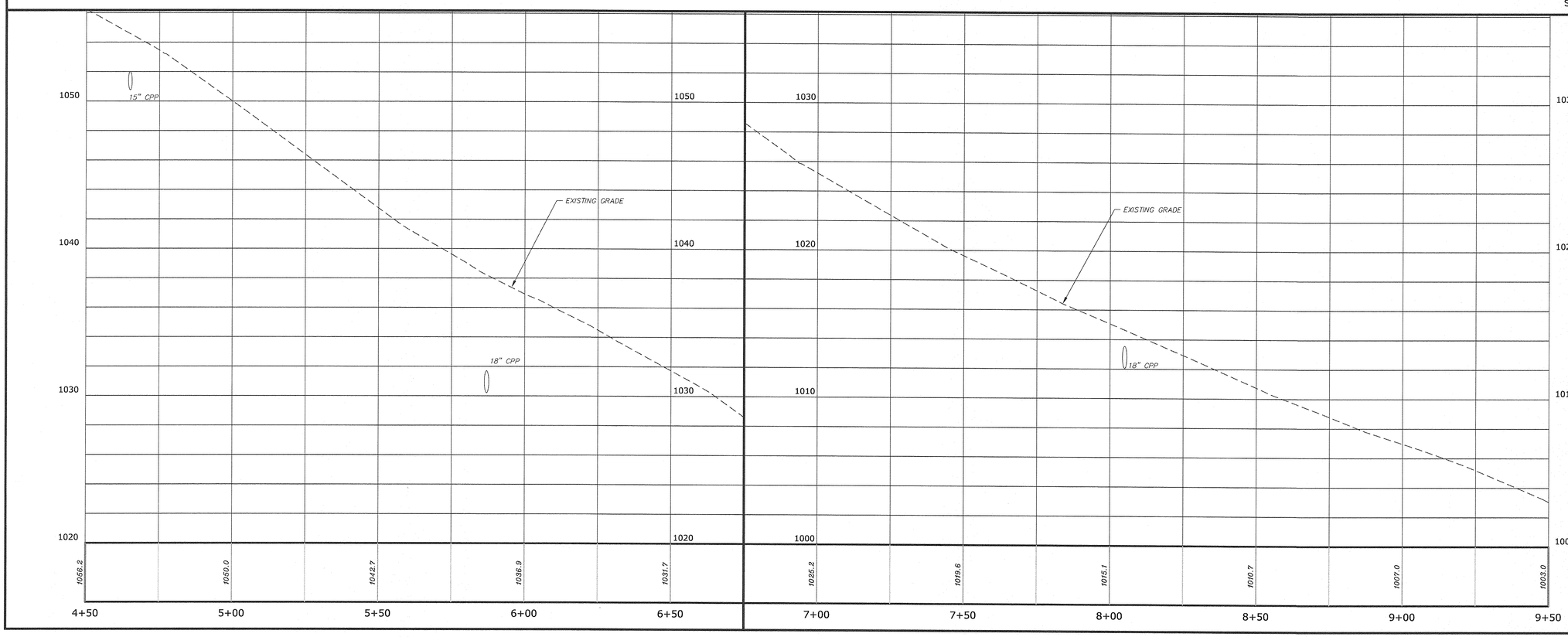
2. REPAIR GRAVEL ROAD TO PRE-CONSTRUCTION CONDITION IN ACCORDANCE WITH DETAIL 3, SHEET 8



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Ashfield, Massachusetts

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PROJECT NO:	J:\A1038\Drawings
FILE:	PlanProf
DRAWN BY:	ADF; TMP
CHECKED:	MRP; JJC
APPROVED BY:	DLL

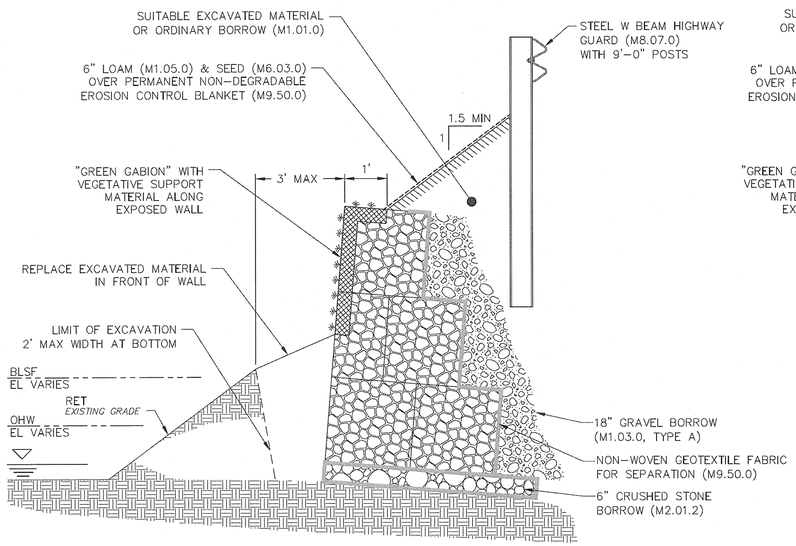
PLAN AND PROFILE
STA 4+50 TO STA 9+50

SCALE: HORIZ. 1"=20, VERT. 1"=4'

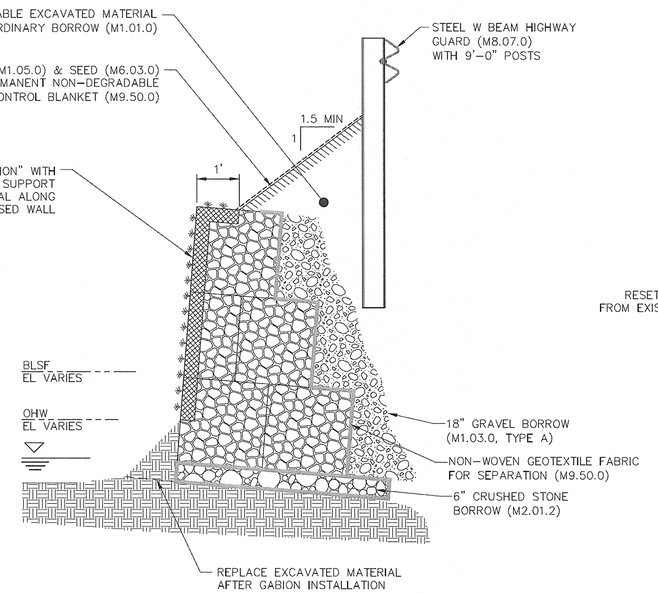
SHEET 6

FILENAME: J:\A\A1038 SMITH BRANCH RD\DRAWINGS\PLANPROF.DWG

8/21/14



1 – EXPOSED RETAINING WALL WITH IN-SITU MATERIAL
NO SCALE



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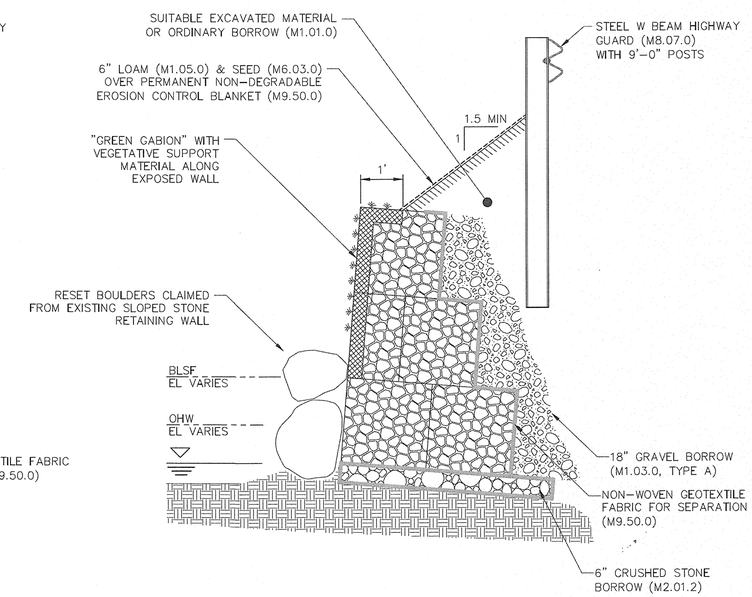
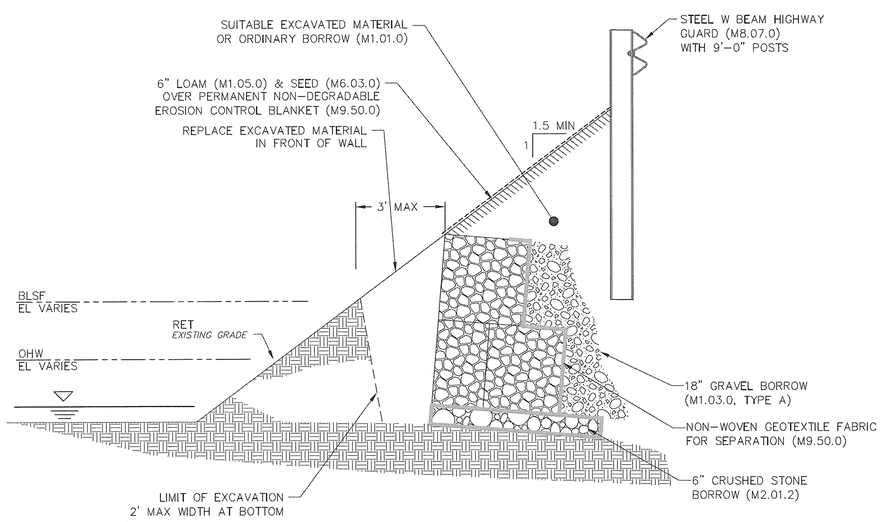
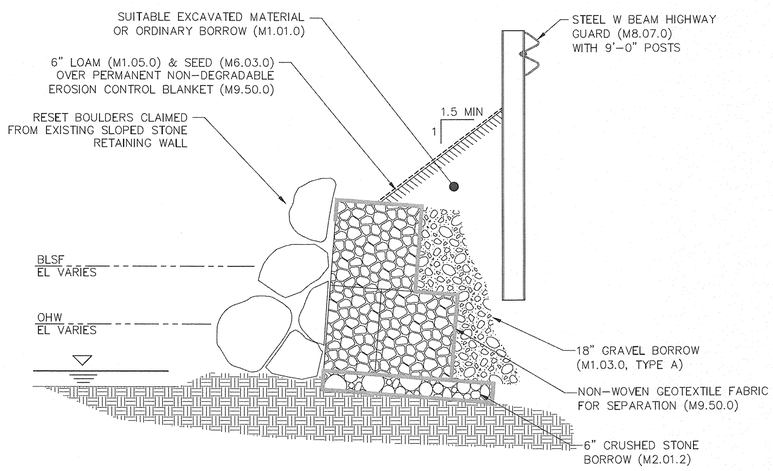
NO SCALE



3 – EXPOSED RETAINING WALL WITH RESET BOULDERS
NO SCALE



4 – BURIED RETAINING WALL WITH IN-SITU MATERIALS
NO SCALE



5 – BURIED RETAINING WALL WITH RESET BOULDERS
NO SCALE

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0	10/14	Permit Set

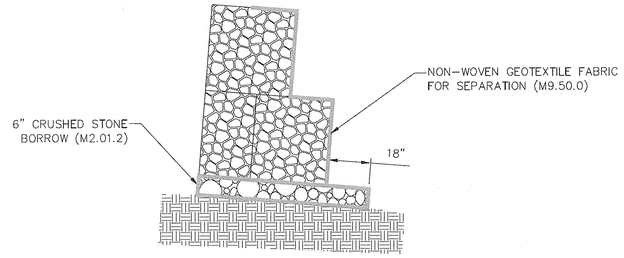
PROJECT NO:	J:\A1038\Drawings
FILE:	Details
DRAWN BY:	ADF
CHECKED:	MRP
APPROVED BY:	DLL

DETAILS - 1

SCALE: NO SCALE

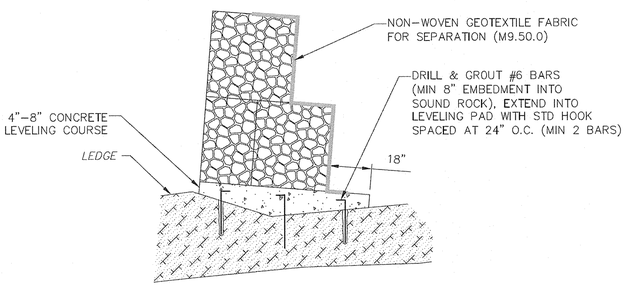
SHEET 7

FILENAME: J:\A\A1038 SMITH BRANCH RD\DRAWINGS\DETAILS.DWG



IN-SITU SOIL INSTALLATION

NO SCALE

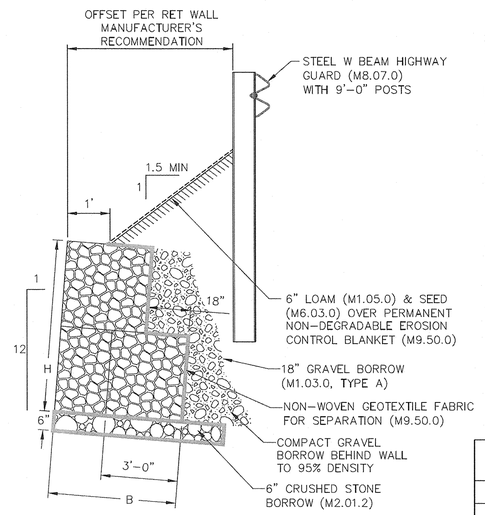


NOTE:

1. WHERE CONCRETE LEVELING COURSE IS REQUIRED, NO. 6 BARS SHALL BE PLACED 36" O.C. PARALLEL TO THE CONSTRUCTION BASELINE
2. CONTRACTOR TO PROVIDE ENGINEER WITH TOP OF LEDGE AND TOP OF LEVELING PAD ELEVATIONS PRIOR TO GABION BASKET CONSTRUCTION.

IN-SITU LEDGE INSTALLATION

NO SCALE



1 — TYPICAL GABION BASKET RETAINING WALL

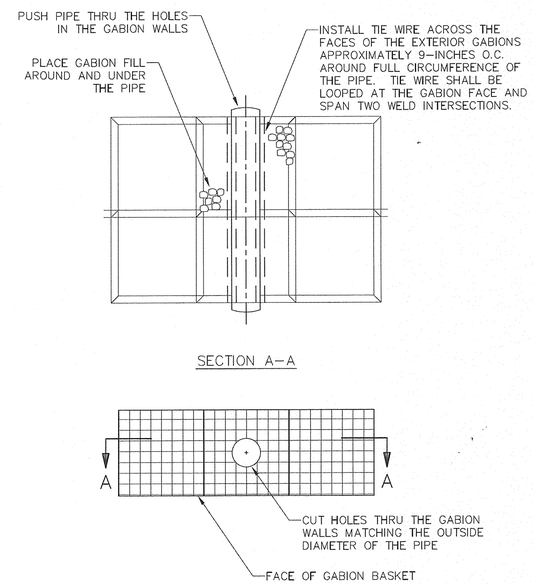
NO SCALE

NOTES:

1. GABION BASKET RETAINING WALL TO BE CONSTRUCTED SO THAT THE VERTICAL SEAMS OF ADJACENT COURSES ARE OFFSET BY ONE-HALF OF A BASKET LENGTH.
2. GABION BASKET RETAINING WALL TO BE SELECTED BY CONTRACTOR AND SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
3. SUBMITTAL SHALL INCLUDE DETAILED DESIGN COMPUTATIONS AND ALL DETAILS, DIMENSIONS, QUANTITIES, AND CROSS SECTIONS NECESSARY TO CONSTRUCT THE WALL.
4. DESIGN DRAWINGS AND CALCULATIONS SHALL BE PREPARED, STAMPED, AND SIGNED BY A REGISTERED PROFESSIONAL ENGINEER IN THE COMMONWEALTH OF MASSACHUSETTS.

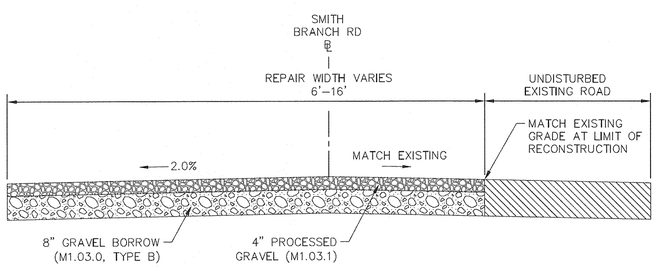
FRONT FACE ON 1:12 BATTER

NO. OF COURSES	H	B	REMARKS
1	3'-0"	3'-0"	FRONT FACE MAY BE VERTICAL
2	6'-0"	4'-6"	
3	9'-0"	6'-0"	



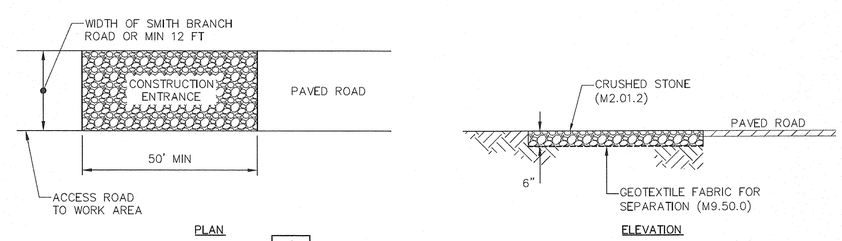
2 — TYPICAL GABION BASKET PENETRATION

NO SCALE



3 — TYPICAL GRAVEL ROAD REPAIR SECTION FOR TEMPORARY CONSTRUCTION IMPACTS

NO SCALE



4 — CONSTRUCTION ENTRANCE

NO SCALE

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COMMONWEALTH OF MASSACHUSETTS MICHAEL R. PETRIN CIVIL No. 46895 REGISTERED PROFESSIONAL ENGINEER 4/29/15

COMMONWEALTH OF MASSACHUSETTS DAVID L. LORING CIVIL No. 39818 REGISTERED PROFESSIONAL ENGINEER 4/29/15

Smith Branch Road Embankment Stabilization Project

Town of Ashfield

Ashfield, Massachusetts

Mark	Date	Description
2	4/15	Issued for Bidding
1	3/15	MADEP Comments
0	10/14	Permit Set

PROJECT NO:	J:\A1038\Drawings
FILE:	Details
DRAWN BY:	ADF
CHECKED:	MRP
APPROVED BY:	DLL

DETAILS - 2

SCALE: NO SCALE

SHEET 8

FILENAME: J:\A1038 SMITH BRANCH RD\DRAWINGS\DETAILS.DWG

EROSION CONTROL NOTES:

1. ALL EROSION CONTROL MEASURES SHOWN, SPECIFIED AND REQUIRED BY THE ENGINEER SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION OR IMMEDIATELY UPON REQUEST. MAINTAIN ALL SUCH CONTROL MEASURES UNTIL FINAL SURFACE TREATMENTS ARE IN PLACE AND/OR UNTIL PERMANENT VEGETATION IS ESTABLISHED.
2. PRIOR TO STARTING WORK, CLEARLY STAKE WORK LIMIT LINE(S). DO NOT DISTURB VEGETATION AND TOPSOIL BEYOND THE PROPOSED LIMIT LINE(S). COORDINATE WITH THE ENGINEER THE LOCATIONS FOR THE TEMPORARY STOCKPILING OF TOPSOIL DURING CONSTRUCTION.
3. SIDE SLOPES, SHOULDER AREAS AND DISTURBED VEGETATED AREAS, TO BE A MAXIMUM GRADE OF 2:1, COMPACTED, STABILIZED, LOAMED AND SEEDED AS SHOWN ON PLANS. ALL SIDE SLOPES SHALL BE IMMEDIATELY FINE GRADED AND SEEDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
4. SILT TRAPPED AT BARRIERS SHALL BE REMOVED AND DISPOSED OF IN UPLAND AREAS OUTSIDE BUFFER ZONES. MATERIALS DEPOSITED IN ANY TEMPORARY SETTLING BASIN SHALL BE REMOVED AT THE COMPLETION OF PROJECT. ALL DISTURBED AREAS TO BE RESTORED.
5. ALL SILT-LADEN WATER MUST BE SETTLED OR FILTERED TO REMOVE SEDIMENTS PRIOR TO RELEASE TO THE WATERWAY IN A SEDIMENTATION OR FILTER BAG LOCATED DOWNSTREAM OF THE DEWATERED AREA.
6. DEWATER AS NECESSARY TO KEEP CONSTRUCTION AREAS FREE OF WATER. DISCHARGE WATER FROM DEWATERING TO APPROPRIATE LOCATION WITHOUT SEDIMENTATION.
7. ANY SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS SHALL BE SWEPT AWAY AT THE END OF EACH DAY.
8. PLACE EROSION AND SEDIMENTATION CONTROLS ALONG THE DOWNHILL SIDE OF ANY CONSTRUCTION RELATED (TEMPORARY) STOCKPILE OF MATERIAL. SURROUND STAGING AREAS WITH EROSION AND SEDIMENTATION CONTROLS TO PREVENT EROSION AND SEDIMENTATION, OR SECONDARY IMPACT OF WETLAND AREAS.

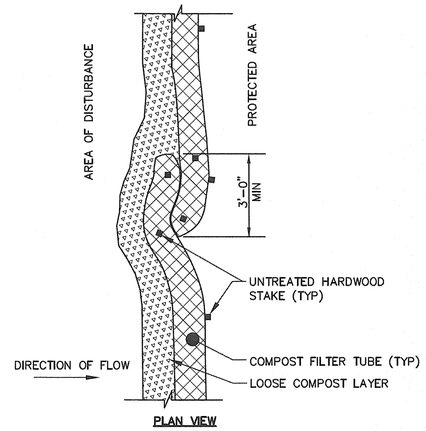
FILTER TUBE NOTES:

1. TUBES FOR COMPOST FILTERS SHALL BE JUTE MESH OR APPROVED BIODEGRADABLE MATERIAL.
2. MINIMUM TUBE DIAMETER SHALL BE 12" FOR SLOPES UP TO 50' IN LENGTH WITH A GRADE OF 3H:1V OR LESS. SITES WITH A GRADE STEEPER THAN 3H:1V OR A SLOPE LONGER THAN 50' MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITES WITH LONGER OR STEEPER SLOPES.
3. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
4. CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF. PLACING TUBES AGAINST THE UPHILL SIDE OF WELL-ANCHORED STATIONARY FEATURES, SUCH AS EXISTING TREES, CAN PROVIDE ADDITIONAL BRACING.
5. CURVE TUBE ENDS UPHILL TO PREVENT DIVERSION OF UNFILTERED RUN-OFF.
6. PROVIDE 3' MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER AND MINIMIZE UNIMPEDED FLOW.
7. TAMP TUBES IN PLACE TO ENSURE GOOD CONTACT WITH SOIL SURFACE. IT IS NOT NECESSARY TO TRENCH TUBES INTO EXISTING GRADE.
8. STAKE JOINING TUBES SNUGLY AGAINST EACH OTHER TO PREVENT UNFILTERED FLOW BETWEEN THEM.
9. SECURE ENDS OF TUBES WITH STAKES SPACED 18" APART THROUGH TOPS OF TUBES.
10. WHEN STAKING IS NOT POSSIBLE, SUCH AS WHEN TUBES MUST BE PLACED ON PAVEMENT, HEAVY CONCRETE OR CINDER BLOCKS CAN BE USED BEHIND TUBES UP TO 5' APART OR AS REQUIRED TO SECURE TUBES IN PLACE.

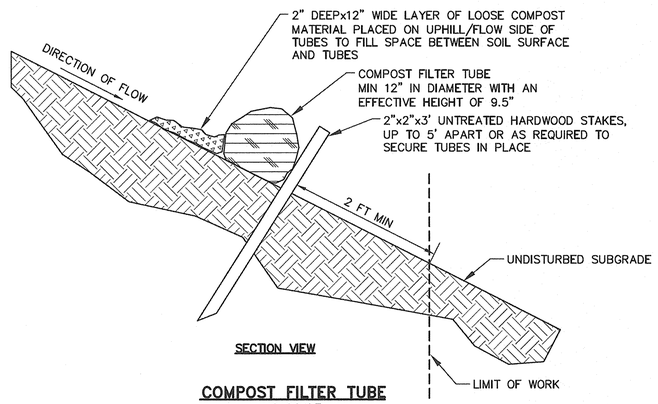
DEWATERING REQUIREMENTS

PREPARE A DEWATERING PLAN TO ADDRESS THE FOLLOWING CONCERNS AND ADHERE TO THE FOLLOWING REQUIREMENTS:

1. IF THE WATER TABLE IS INTERCEPTED DURING EXCAVATION, WATER COLLECTED IN THE TRENCH SHALL BE PUMPED OUT SO THAT THE WORK CAN BE PERFORMED "IN THE DRY." PROVIDE ADEQUATELY SIZED DEWATERING EQUIPMENT WITH 100% BACKUP AND SEDIMENTATION/EROSION CONTROL STRUCTURES AS DETAILED ON THE CONTRACT DRAWINGS TO ENSURE CONSTRUCTION "IN THE DRY" AND ADEQUATELY PROTECT ADJACENT WETLAND AREAS AND WATERWAYS.
2. ALL GROUNDWATER REMOVED (PUMPED) FROM THE TRENCH EXCAVATION AND DISCHARGED TOWARD OR INTO DESIGNATED INLAND WETLANDS SHALL BE A "CLEAN DISCHARGE." PROVIDE WHATEVER DEVICES ARE REQUIRED TO ACHIEVE THE "CLEAN DISCHARGE." IF THE OWNER'S REPRESENTATIVE DETERMINES THE PUMPED DISCHARGE IS CLEAN (LESS THAN 50 NTU), THE FLOW CAN BE DIRECTED OVERLAND TOWARD THE RECEIVING BODY OF WATER. IF THE OWNER'S REPRESENTATIVE DETERMINES THAT THE FLOW IS NOT CLEAN, DIRECT THAT FLOW TO ONE OR MORE FILTRATION DEVICES FOR THE PURPOSE OF SUBSTANTIALLY REMOVING SUSPENDED SOLIDS FROM THE WATER. THE FILTRATION DEVICES SHALL BE AS SHOWN ON THE DRAWINGS OR APPROVED ALTERNATES SUGGESTED BY THE CONTRACTOR, OR AS REQUIRED BY THE LOCAL PERMITS.
3. OBTAIN ALL NECESSARY STATE AND LOCAL PERMITS RELATING TO DEWATERING ACTIVITIES.
4. DEWATERING DISCHARGE LOCATIONS ARE TO BE REVIEWED AND APPROVED BY THE OWNER'S REPRESENTATIVE.
5. REFER TO THE SPECIFICATIONS FOR FURTHER DIRECTION ON DEWATERING AND CONTROL OF WATER.



PLAN VIEW



SECTION VIEW

COMPOST FILTER TUBE
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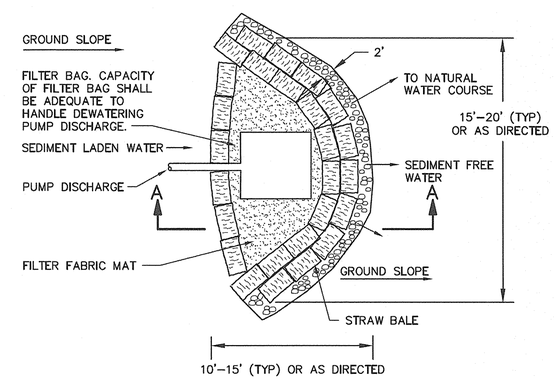

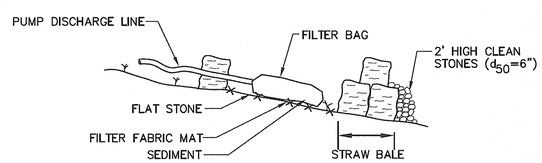

SECTION A-A

SEDIMENT TRAP
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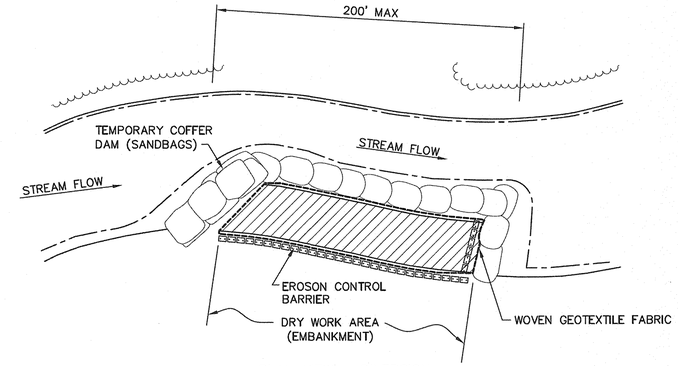
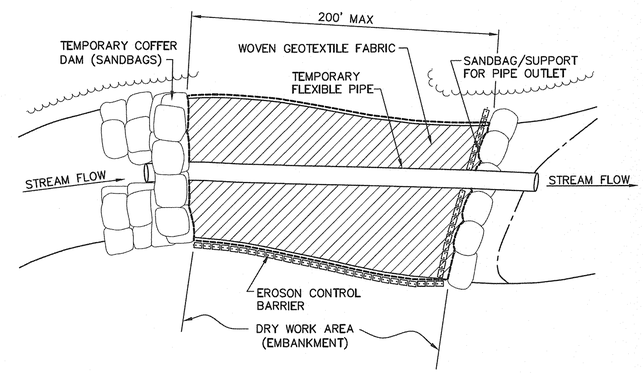
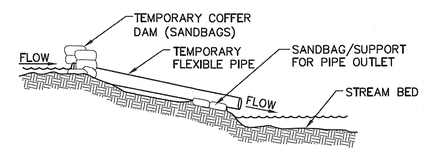


PLAN VIEW – DIVERSION



PLAN VIEW – COFFERDAM



ELEVATION VIEW

COFFERDAM AND STREAM DIVERSION REQUIREMENTS

1. INSTALL TEMPORARY COFFER DAMS (SAND BAG, JERSEY BARRIER, WATER FILLED BARRIER OR EQUIVALENT) TO MAINTAIN A DRY WORK AREA FOR CONSTRUCTION ACTIVITIES AND TO PREVENT SEDIMENTATION AS A RESULT OF THE PROPOSED WORK.
2. ONE COFFER DAM SHALL BE LOCATED UPSTREAM OF THE WORK AREA WITH A SECOND COFFER DAM DOWNSTREAM OF THE WORK AREA. A FLUME PIPE SHALL CONVEY FLOW BETWEEN THE COFFER DAMS.
3. SIZE AND PROVIDE A FLUME PIPE TO BE WITH ADEQUATE CAPACITY TO MAINTAIN BASE STREAM FLOW.
4. THE WORK AREA LOCATED WITHIN THE COFFER DAMS SHALL BE DEWATERED AS NEEDED TO PERFORM WORK "IN THE DRY." ANY DEWATERING ACTIVITIES SHALL BE PERFORMED USING A DISCHARGE HOSE, FILTER BAG, AND SEDIMENT TRAP.
5. PRIOR TO BEGINNING ANY CONSTRUCTION, SUBMIT TO THE OWNER A WORK SEQUENCE INDICATING ANTICIPATED COFFER DAM LOCATIONS IN SMITH BROOK. ALSO SUBMIT A DEWATERING PLAN IN ACCORDANCE WITH THE DEWATERING REQUIREMENTS TO THE OWNER FOR APPROVAL.

STREAM BYPASS
NO SCALE

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COMMONWEALTH OF MASSACHUSETTS DAVID L. LORING CIVIL No. 39816 REGISTERED PROFESSIONAL ENGINEER 4/29/15

Smith Branch Road Embankment Stabilization Project

Town of Ashfield

Ashfield, Massachusetts

Mark	Date	Description
2	4/15	Issued for Bidding
1	3/15	MADEP Comments
0	10/14	Permit Set

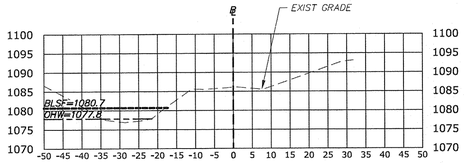
PROJECT NO:	J:\A1038\Drawings
FILE:	Details
DRAWN BY:	ADF; TMP
CHECKED:	MRP
APPROVED BY:	DLL

DETAILS - 3

SCALE: NO SCALE

SHEET 9

FILENAME: J:\A1038 SMITH BRANCH RD\DRAWINGS\DETAILS.DWG



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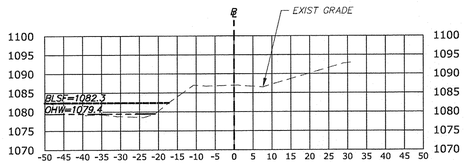

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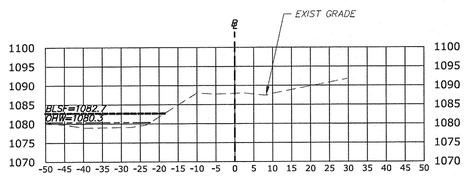

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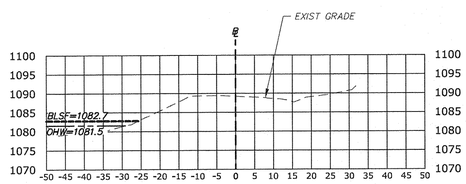

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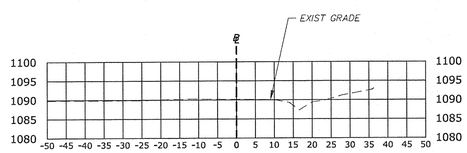

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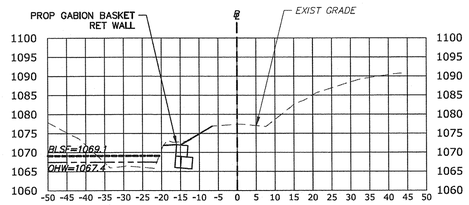

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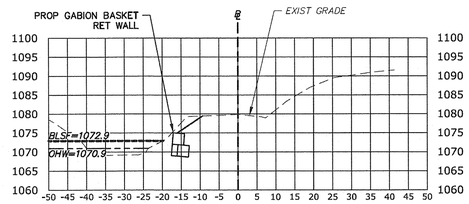

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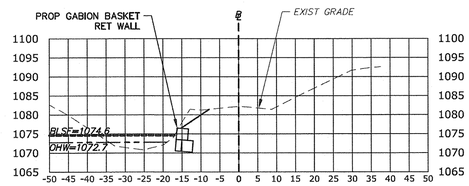

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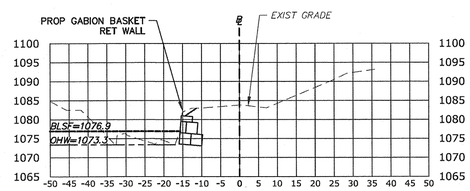

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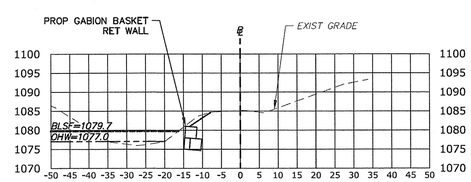

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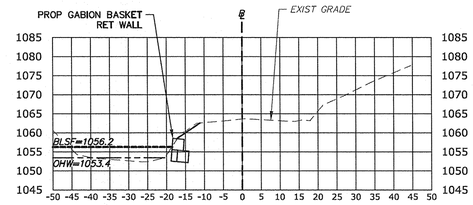

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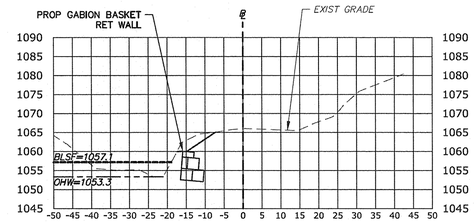

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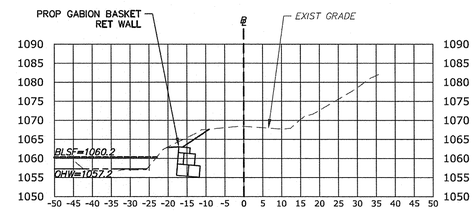

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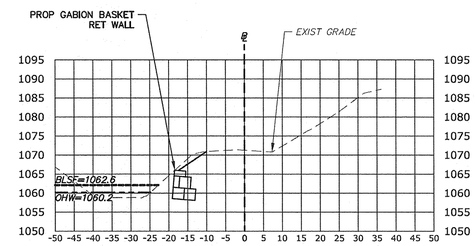

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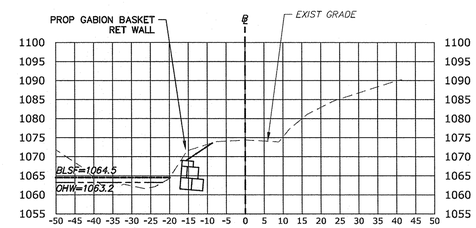

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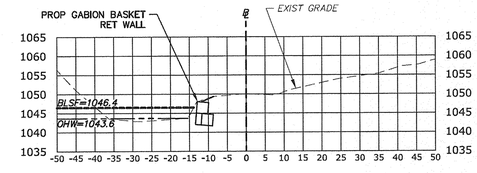

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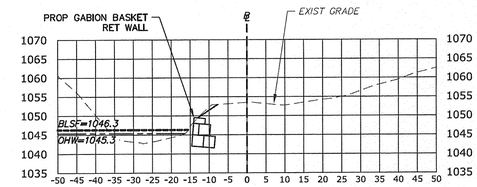

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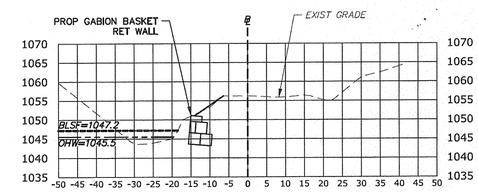

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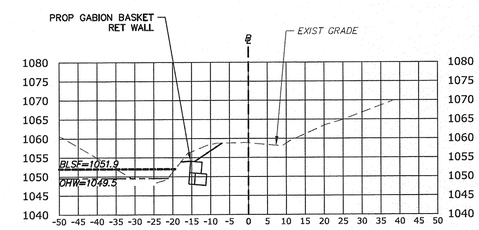

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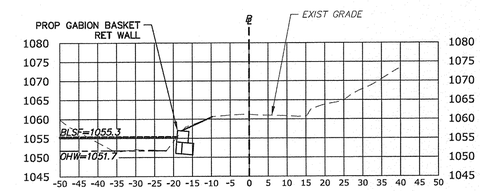

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NOTE:

OHW / MHW / TOP OF BANK ARE COINCIDENTAL

20' 0 10' 20' 40'

SCALE: 1"=20'

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COMMONWEALTH OF MASSACHUSETTS
MICHAEL R. PETRIN
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No. 45885
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4/29/15

COMMONWEALTH OF MASSACHUSETTS
DAVID L. LORING
CIVIL
No. 39818
REGISTERED PROFESSIONAL ENGINEER
4/29/15

Smith Branch Road Embankment Stabilization Project

Town of Ashfield

Ashfield, Massachusetts

Mark	Date	Description
2	4/15	Issued for Bidding
1	3/15	MADEP Comments
0	10/14	Permit Set

PROJECT NO:	J:\A1038\Drawings
FILE:	ExistCond
DRAWN BY:	ADF; TMP
CHECKED:	MRP; JJC
APPROVED BY:	DLL

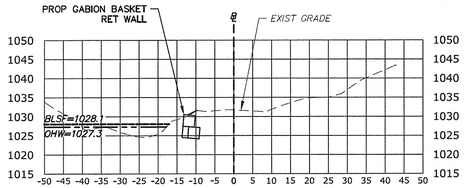
CROSS SECTIONS
STA 0+25 TO STA 5+00

SCALE: 1"=20

SHEET 10

8/21/14

FILENAME: J:\A\A1038 SMITH BRANCH RD\DRAWINGS\SECTION.DWG



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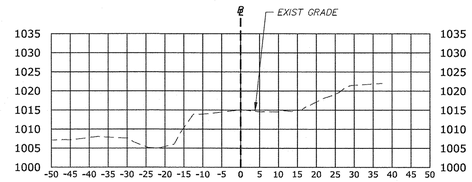

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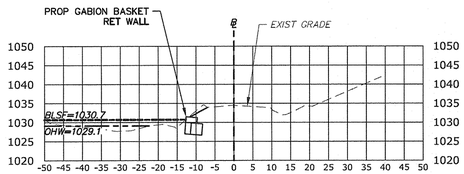

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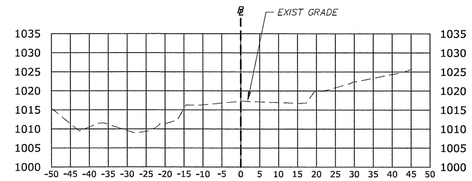

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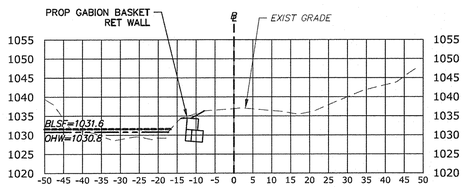

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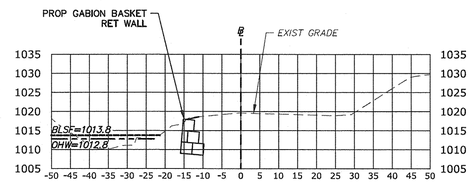

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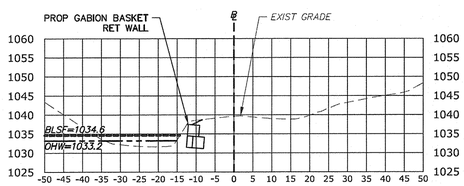
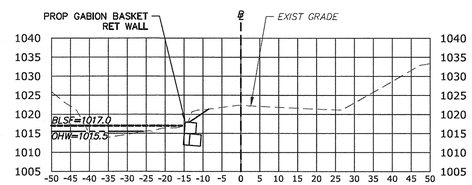


STATION: 5+75



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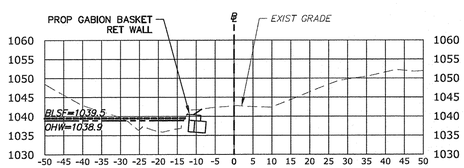

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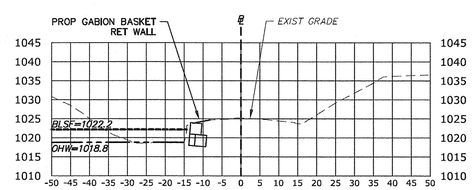

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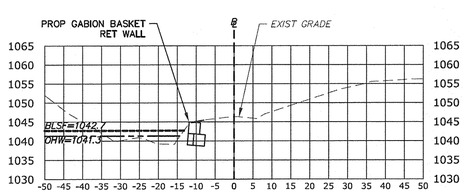

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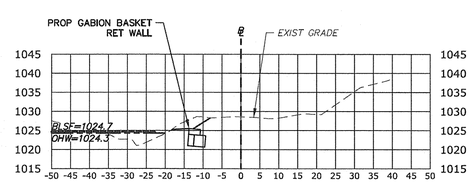

STATION: 6+75

NOTE:

OHW / MHW / TOP OF BANK ARE COINCIDENTAL

20' 0 10' 20' 40'

SCALE: 1"=20'

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4/29/15

Smith Branch Road Embankment Stabilization Project

Town of Ashfield

Ashfield, Massachusetts

Mark	Date	Description
2	4/15	Issued for Bidding
1	3/15	MADEP Comments
0	10/14	Permit Set

PROJECT NO:	J:\A1038\Drawings
FILE:	ExistCond
DRAWN BY:	ADF; TMP
CHECKED:	MRP; JJC
APPROVED BY:	DLL

CROSS SECTIONS
STA 5+25 TO STA 8+00

SCALE: 1"=20

SHEET 11

FILENAME: J:\A\A1038 SMITH BRANCH RD\DRAWINGS\XSECTION.DWG

8/21/14