MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

PLAN AND PROFILE OF

TRAPELO ROAD AND BELMONT STREET

IN THE TOWNS OF

BELMONT & WATERTOWN

MIDDLESEX COUNTY

FEDERAL AID PROJECT NO. XXX-XXXX

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	1	214
PROJ. FILE NO. 604688			

TITLE SHEET & INDEX

ALL WORK DONE UNDER THIS CONTRACT SHALL BE IN CONFORMANCE WITH THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 1988 AND THE ENGLISH SUPPLEMENTAL SPECIFICATIONS DATED FEBRUARY 25, 2010; THE STANDARD SPECIAL PROVISIONS, THE 2010 CONSTRUCTION STANDARDS DETAILS (ENGLISH EDITION); THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES WITH MASSACHUSETTS AMENDMENTS; THE 1995 CONSTRUCTION AND TRAFFIC STANDARD DETAILS; THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING; THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORT; THE LATEST EDITION OF AMERICAN STANDARD FOR NURSERY STOCK; THE PLANS AND SPECIAL PROVISIONS.

DESIGN DESIGNATION - TRAPELO ROAD (RTE. 60)

DESIGN SPEED	=	35 M.P.H.
ADT (2012)	=	30,055
ADT (2032)	=	32,550
K	=	7.9%
D	=	55%
T (PEAK HOUR)	=	5.6%
T (AVERAGE DAY)	=	4.7%
DHV	=	2,571
DDHV	=	1,414
FUNC. CLASS	=	URBAN PRINCIPAL ARTERIAL

DESIGN DESIGNATION - TRAPELO ROAD

DESIGN SPEED	=	35 M.P.H.
ADT (2012)	=	15,950
ADT (2032)	=	17,275
K	=	7.6%
D	=	62%
T (PEAK HOUR)	=	6.3%
T (AVERAGE DAY)	=	5.6%
DHV	=	1,313
DDHV	=	814
FUNC. CLASS	=	URBAN PRINCIPAL ARTERIAL

DESIGN DESIGNATION - BELMONT STREET

DESIGN SPEED	=	35 M.P.H.
ADT (2012)	=	23,700
ADT (2032)	=	25,670
K	=	7.1%
D	=	68%
T (PEAK HOUR)	=	5.3%
T (AVERAGE DAY)	=	5.4%
DHV	=	1,823
DDHV	=	1,239
FUNC. CLASS	=	URBAN PRINCIPAL ARTERIAL

DESIGN DESIGNATION - SIDE STREETS

DESIGN SPEED	=	30 M.P.H.
FUNC. CLASS	=	LOCAL

BEGIN PROJECT
STATION 17+40.00
N 2967460.7350
E 738144.8003

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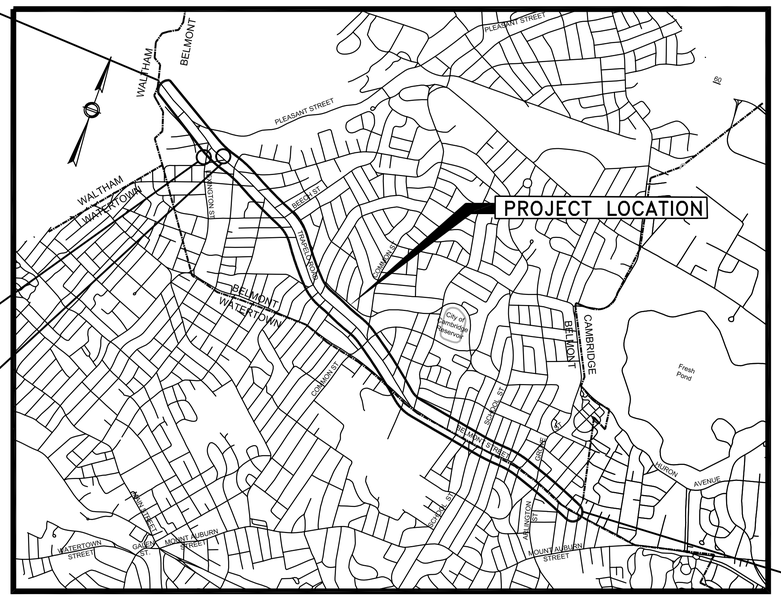
MHD BRIDGE B-7-6

MHD BRIDGE B-7-4



END PROJECT
STATION 147+30.18
N 2961926.5323
E 749560.5137

LOCATION MAP

1500 0 1500 3000

SCALE 1" = 1500'

LENGTH OF PROJECT = 12,990.18 FEET = 2.460 MILES

CONVENTIONAL SIGNS

COUNTY, CITY, OR TOWN BOUNDARY

COUNTY, CITY, OR TOWN SIDE LINE

FENCE LINE

BASE LINE OR SURVEY LINE — 74 — N57°-18'-41"E — 59.57

RIGHT OF WAY LINE

CULVERT

ELEVATIONS — PROPOSED SURFACE; EXIST. SURFACE; PRES. 222.40; PROP. 223.681; 74

UTILITY POLE

100% SUBMISSION
MARCH 1, 2012

SUBCONSULTANT:
BSC GROUP
15 ELKINS STREET
BOSTON, MASSACHUSETTS 02127
(617) 896-4300
www.bscgroup.com

RECOMMENDED FOR APPROVAL

CHIEF ENGINEER DATE

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

APPROVED

DIVISION ADMINISTRATOR DATE

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	2	214
PROJ. FILE NO. 604688			

KEY PLAN & BORING LOCATIONS

BEGIN PROJECT
STA. 17+40.00
MEET EXISTING
N 2967460.7350
E 738144.8003

4+79.86

BEAVER BROOK

WAVERLEY OAKS ROAD (RTE 60)

TRAPELO ROAD (RTE 60)

MILL STREET

BELMONT / WALTHAM

AGASSIZ STREET

PLEASANT STREET (RTE 60)

MORAINE STREET

MASSDOT BRIDGE # B-7-4
(NO WORK ON BRIDGE)

SHAW'S DRIVE

LEXINGTON STREET

CHURCH STREET

MASSDOT BRIDGE # B-7-6
(NO WORK ON BRIDGE)

THAYER ROAD

WHITE STREET

CONT. BELOW

LEGEND

- XX — CONSTRUCTION PLAN
- XX — PROFILE PLAN
- XX — GRADING & TIE PLAN
- XX — DRAINAGE AND UTILITY PLAN
- XX — PAVEMENT MARKING PLAN
- B-3 — EXISTING BORING LOCATION
- P-1 — EXISTING PROBE LOCATION

CONT. ABOVE

WHITE STREET

WAVERLEY STREET

HAWTHORNE STREET

DAVIS ROAD

SYCAMORE STREET

MAPLE STREET

BEECH STREET

HULL STREET

WALNUT STREET

FLETT ROAD

SLADE STREET

BARTLETT AVENUE

CONT. ON SHEET # 3

HOR. SCALE IN FEET
0 100 250 500

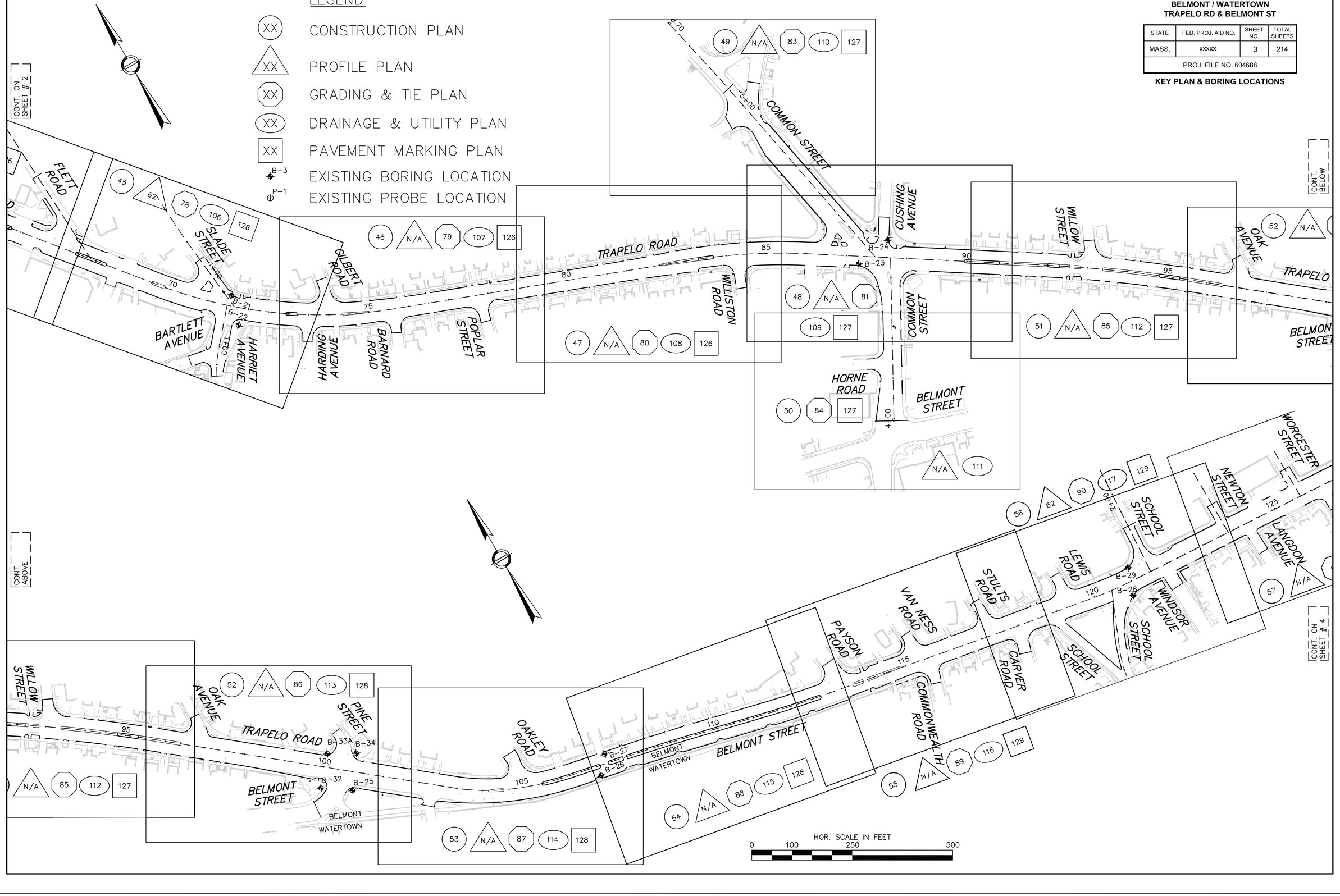
BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	3	214
PROJ. FILE NO. 604688			

KEY PLAN & BORING LOCATIONS

LEGEND

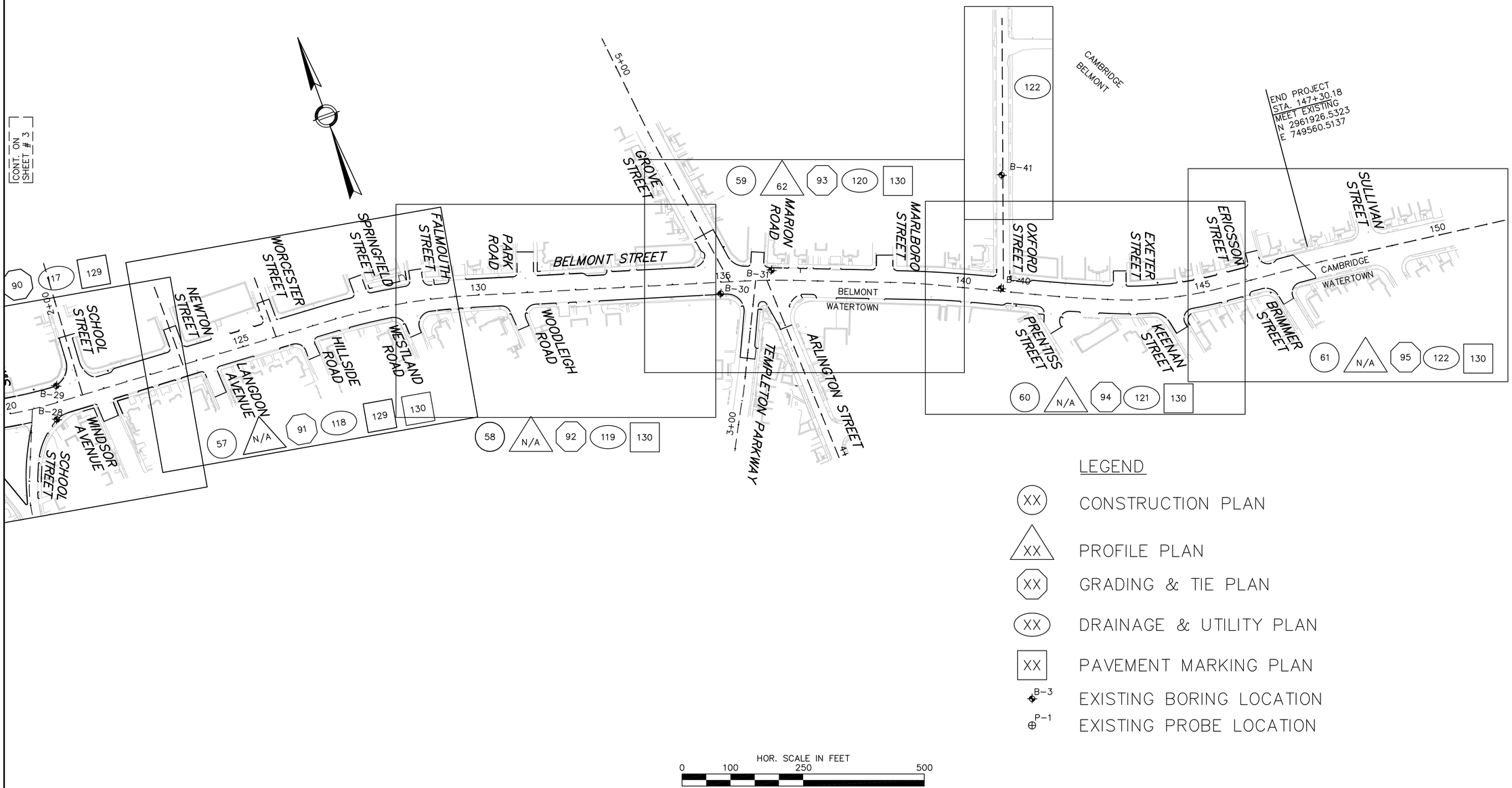
- XX — CONSTRUCTION PLAN
- XX — PROFILE PLAN
- XX — GRADING & TIE PLAN
- XX — DRAINAGE & UTILITY PLAN
- XX — PAVEMENT MARKING PLAN
- B-3 — EXISTING BORING LOCATION
- P-1 — EXISTING PROBE LOCATION



BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	4	214
PROJ. FILE NO. 604688			

KEY PLAN & BORING LOCATIONS



LEGEND

- (XX) CONSTRUCTION PLAN
- XX PROFILE PLAN
- (XX) GRADING & TIE PLAN
- (XX) DRAINAGE & UTILITY PLAN
- [XX] PAVEMENT MARKING PLAN
- B-3 EXISTING BORING LOCATION
- P-1 EXISTING PROBE LOCATION

HOR. SCALE IN FEET
0 100 250 500

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	5	214
PROJ. FILE NO. 604688			

BORING LOGS

BORING NOTES:

1. LOCATION OF BORINGS SHOWN ON THE PLAN THUS: ⊕ B-X

2. BORINGS TAKEN FOR THE PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.

3. WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY SHOW THE TRUE GROUND WATER LEVEL.

4. FIGURES TO THE LEFT OF COLUMNS INDICATE DEPTH BELOW SURFACE AT BORING POINT.

5. FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS PRODUCED BY A 30" FALL OF 140 POUND MASS HAMMER REQUIRED TO DRIVE 2" I.D. SPOON 6 INCHES.

6. BORING SAMPLE TAKEN 7/28/09 – 8/14/09.

7. BORING CONTRACTOR: NEW HAMPSHIRE BORING INC.

8. BORING SAMPLES MAY BE SEEN AT 1215 WEST CHESTNUT ST, BROCKTON, MA 02301

BORING #B-1
STA 19+00-46 LT
GROUND EL = 82.67

NEW HAMPSHIRE BORING, INC.
1215 West Chestnut Street Brockton, MA 02301

PROJECT
Trapelo Road
Belmont, Ma

REPORT OF BORING No. B-1
SHEET 1 OF 1
FILE No. 17141

DRILLER: Don Dunklee
HELPER: Scott Healey
INSPECTOR:

BORING LOCATION
GROUND SURFACE ELEVATION DATUM
DATE START 7/28/2009 DATE END 7-28-09

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: HSA OTHER:

GROUNDWATER READINGS				
DATE	TIME	WATER	CASING	STABILIZATION TIME
7/28/2009		14'	2 1/4	5 mins

DEPTH (Ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S-1	24/10	0-1	88-42	Concrete Thickness 4" dry, blackish, very dense fine SAND some coarse sand,		
				38-19	trace fine gravel		
5	S-2	24/8	5-6	6-5	moist, dense brown, loose fine SAND and SILT trace		
				5-7	coarse sand		
10	S-3	9/3	10-11	63-100/3"	dry, dense brown, very dense fine SAND some coarse		
			11-17		sand, trace fine gravel		
15	S-4	24/10	15-16	42-27	wet, gray, very dense fine SAND and SILT trace fine		
			16-17	31-39	gravel		
20					Bottom of Boring 17'		
25							
30							

GRANULAR SOILS Blows/Ft Density		COHESIVE SOILS Blows/Ft Density	
0 - 4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

REMARKS: offsets from "A" locations
16' S.W.on roadway B-1 is on grass (no tar)

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TC OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-1

BORING #B-2
STA 18+45-33LT
GROUND EL = 84.1

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT
Traffic Signal Improvements
Belmont, MA
BSC Group

REPORT OF BORING No. B-2
SHEET 1 OF 1
FILE No. 17141
CHKD. BY

Driller: Don Dunklee
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION DATUM
DATE START 7/28/2009 DATE END 8/11/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 2.25" - 3" OTHER:

GROUNDWATER READINGS				
DATE	TIME	WATER	CASING	STABILIZATION TIME

DEPTH (Ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/8	0-2	1-2	No tar, on grass dry, brown, loose, fine SAND, some silt (organics)		
				3-3			
5	S2	24/6	4-6	8-17	dry, brown, very dense, fine SAND, some silt		
				50-92			
10	S3	24/3	9-11	10-18	wet, brown, very dense, fine GRAVEL, some coarse		
				39-41	sand, trace fine SAND		
15	S4	24/2	14-16	26-42	dry, gray, very dense, fine GRAVEL, trace fine sand		
				75-98			
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density		COHESIVE SOILS Blows/Ft Density	
0 - 4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

REMARKS: First attempt with 2.25" HSA
2' north of "A" mark
Second attempt with 3" casing
2.8' northwest of "A" mark

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TC OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-2

BORING #B-3
STA 17+61-34LT
GROUND EL = 81.2

NEW HAMPSHIRE BORING, INC.
1215 West Chestnut Street Brockton, MA 02301

PROJECT
Trapelo Rd
Belmont, MA

REPORT OF BORING No. B-3
SHEET 1 OF 1
FILE No. 17141

DRILLER: Don Dunklee
HELPER: Scott Healey
INSPECTOR:

BORING LOCATION
GROUND SURFACE ELEVATION DATUM
DATE START 7/28/2009 DATE END 7-28-09

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS				
DATE	TIME	WATER	CASING	STABILIZATION TIME
7/28/2009		4.9'	5'	5 mins

DEPTH (Ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S-1	24/8	0-1	2-2	Concrete Thickness = 6 dry, black loose fine SAND some Silt, trace coarse		
			1-2	3-5	sand		
5	S-2	24/9	4-5	4-3	moist, dense brown, medium dense some coarse SAND		
			5-6	8-9	trace of fine gravel		
10	S-3	24/7	9-10	30-24	wet, dense brown, very dense fine SAND and fine		
			11-12	32-33	GRAVEL, trace coarse sand		
15	S-4	24/10	14-15	30-19	wet, dense brown, dense coarse SAND some fine		
			15-16	17-17	GRAVEL, trace fine sand		
20					Bottom Of Boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density		COHESIVE SOILS Blows/Ft Density	
0 - 4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TC OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-3

BORING #B-4
STA 19+14-28RT
GROUND EL = 83.2

NEW HAMPSHIRE BORING, INC.
1215 West Chestnut Street Brockton, MA 02301

PROJECT
Trapelo RD
Belmont, MA

REPORT OF BORING No. B-4
SHEET 1 OF 1
FILE No. 17141

DRILLER: Don Dunklee
HELPER: Scott Healey
INSPECTOR:

BORING LOCATION
GROUND SURFACE ELEVATION DATUM
DATE START 7/29/2009 DATE END 7-29-09

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS				
DATE	TIME	WATER	CASING	STABILIZATION TIME
7/29/2009		4 1/2	10'	5 mins

DEPTH (Ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S-1	24/14	0-1	44-28	dry, blackish, very dense fine, SAND some coarse sand		
			1-2	47-26	trace fine gravel		
5	S-2	24/12	4-5	22-35	wet, brown, very dense, fine SAND some coarse sand,		
			5-6	37-63	trace fine gravel		
10	S-3	24/10	9-10	18-28	wet, brown, very dense fine SAND		
			10-11	29-31			
15	S-4	11/5	14-15	46-100/3"	wet, brown, very dense, coarse SAND some fine		
			15-16		gravel, trace fine sand		
20					Bottom of Boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density		COHESIVE SOILS Blows/Ft Density	
0 - 4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

REMARKS: Offsets from "A" locations
5 1/2' N.G. of Hole

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TC OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-4

BORING #B-5
STA 24+19-26RT
GROUND EL = 90.6

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT
Traffic Signal Improvements
Belmont, MA
BSC Group

REPORT OF BORING No. B-5
SHEET 1 OF 1
FILE No. 17141
CHKD. BY

Driller: Anthony Casaletto
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION DATUM
DATE START 8/13/2009 DATE END 8/13/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS				
DATE	TIME	WATER	CASING	STABILIZATION TIME
8/13/2009		8.5	10	

DEPTH (Ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/12	0-2	30-22	9" Asphalt dry, brown, dense, fine to medium SAND, trace fine		
				19-14	gravel		
5	S2	24/9	4-6	17-16	damp, brown, medium dense, fine to medium SAND,		
				12-15	some fine gravel and silt		
10	S3	24/4	9-11	16-29	wet, brown, medium dense, fine to medium SAND,		
				19-14	some fine gravel and silt		
15	S4	24/10	14-16	21-25	wet, brown, medium dense, SILT and CLAY, trace		
				28-27	fine gravel		
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density		COHESIVE SOILS Blows/Ft Density	
0 - 4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

REMARKS: Offsets from "A" locations
10' off of "A" location

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TC OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-5

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	6	214
PROJ. FILE NO. 604688			

BORING LOGS

BORING #B–6
STA 23+67–22LT
GROUND EL = 92.0

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT: Traffic Signal Improvements, Belmont, MA, BSC Group

REPORT OF BORING No. B-6; SHEET 1 OF 1; FILE No. 17141; CHKD. BY

Driller: Don Dunklee
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION
DATUM
DATE START 8/11/2009 DATE END 8/11/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/11/2009		6	10'	5 minutes

DEPTH (ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft.)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/10	0-2	24-20	8" Asphalt		
				10-16	dry, brown, dense, fine SAND, some coarse sand		
5	S2	24/3	4-6	7-7	wet, brown, medium dense, fine SAND, some fine		
				7-7	gravel, trace coarse sand		
10	S3	24/5	9-11	9-7	wet, gray, medium dense, coarse SAND, some fine		
				10-14	sand, trace fine gravel		
15	S4	24/8	14-16	40-21	dry, gray, dense, coarse SAND, some fine sand,		
				20-20	trace fine gravel		
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density: 0 - 4 V. LOOSE; 4-10 LOOSE; 10-30 M. DENSE; 30-50 DENSE; >50 V. DENSE

COHESIVE SOILS Blows/Ft Density: <2 V. SOFt; 2-4 SOFT; 4-8 M. STIFF; 8-15 STIFF; 15-30 V. STIFF; >30 HARD

REMARKS: Offsets from "A" locations 10' North of "A" mark.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TC OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-6

BORING #B–7
STA 29+76–19RT
GROUND EL = 81.1

NEW HAMPSHIRE BORING, INC.
1215 West Chestnut Street Brockton, MA 02301

PROJECT: Trapelo Road, Belmont, MA

REPORT OF BORING No. B-7; SHEET 1 OF 1; FILE No. 17141

DRILLER: Don Dunklee
HELPER: Scott Healey
INSPECTOR:

BORING LOCATION
GROUND SURFACE ELEVATION
DATUM
DATE START 7/29/2009 DATE END 7-29-2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
7/29/2009		9'	10'	5 mins

DEPTH (ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S-1	24/10	0-1	32-51	Concrete Thickness=6"		
			1-2	25-31	dry, brown, very dense fine SAND some fine gravel, trace coarse sand		
5	S-2	24/11	4-5	18-24	wet, gray, very dense fine SAND and coarse sand		
			5-6	30-39			
10	S-3	21/9	9-10	28-30	wet, gray, very dense coarse SAND some fine sand,		
			10-11	95-100/3"	trace fine gravel		
15	S-4	0/0	14-15	100/0"	Refusal		
			15-16		rollerbit 14'-15'.		
20					Bottom of Boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density: 0 - 4 V. LOOSE; 4-10 LOOSE; 10-30 M. DENSE; 30-50 DENSE; >50 V. DENSE

COHESIVE SOILS Blows/Ft Density: <2 V. SOFt; 2-4 SOFT; 4-8 M. STIFF; 8-15 STIFF; 15-30 V. STIFF; >30 HARD

REMARKS: on the Mark

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TC OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-7

BORING #B–8
STA 29+38–23LT
GROUND EL = 82.6

NEW HAMPSHIRE BORING, INC.
1215 West Chestnut Street Brockton, MA 02301

PROJECT: Trapelo Road, Belmont, MA

REPORT OF BORING No. B-8; SHEET 1 OF 1; FILE No. 17141

DRILLER: Don Dunklee
HELPER: Scott Healey
INSPECTOR:

BORING LOCATION
GROUND SURFACE ELEVATION
DATUM
DATE START 7/29/2009 DATE END 7-29-2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
7/29/2009		0	0	0

DEPTH (ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S-1	24/8	0-1	1-2	Concrete Thickness= 0		
			1-2	7-19	dry, medium dense brown, loose fine SAND some coarse sand		
5	S-2	24/7	4-5	22-27	wet, gray, very dense fine SAND some coarse sand,		
			5-6	33-31	trace of fine gravel		
10	S-3	16/5	9-10	26-39	wet, gray, very dense coarse SAND some fine gravel		
			10-11	100/3"	trace of fine sand		
15	S-4	13/4	14-15	17-35	wet, gray, very dense SAND		
			15-16	100/3"			
20					Bottom of Boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density: 0 - 4 V. LOOSE; 4-10 LOOSE; 10-30 M. DENSE; 30-50 DENSE; >50 V. DENSE

COHESIVE SOILS Blows/Ft Density: <2 V. SOFt; 2-4 SOFT; 4-8 M. STIFF; 8-15 STIFF; 15-30 V. STIFF; >30 HARD

REMARKS: Offsets From "A" Locations 18" north of mark

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TC OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-8

BORING #B–9
STA 34+12–43RT
GROUND EL = 74.9

NEW HAMPSHIRE BORING, INC.
1215 West Chestnut Street Brockton, MA 02301

PROJECT: Trapelo Road, Belmont, MA

REPORT OF BORING No. B-9; SHEET 1 OF 1; FILE No. 17141

DRILLER: Don Dunklee
HELPER: Scott Healey
INSPECTOR:

BORING LOCATION
GROUND SURFACE ELEVATION
DATUM
DATE START 7/30/2009 DATE END 7/30/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
7/30/2009		9	10'	

DEPTH (ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/10	0-1	5-8	Concrete Thickness 6"		
			1-2	18-21	dry, gray, medium dense, medium to fine SAND and GRAVEL		
5	S2	24/12	4-5	12-11	dry, brown, medium dense, medium to fine SAND and		
			5-6	10-16	GRAVEL and silt		
10	S3	24/8	9-10	18-84	wet, brown, very dense, medium to fine SAND and		
			10-11	37-32	GRAVEL and some silt		
15	S4	24/10	14-15	17-18	wet, brown, fine to medium SAND and GRAVEL,		
			15-16	23-24	little silt		
20					Bottom of Boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density: 0 - 4 V. LOOSE; 4-10 LOOSE; 10-30 M. DENSE; 30-50 DENSE; >50 V. DENSE

COHESIVE SOILS Blows/Ft Density: <2 V. SOFt; 2-4 SOFT; 4-8 M. STIFF; 8-15 STIFF; 15-30 V. STIFF; >30 HARD

REMARKS: Offsets from "A" locations 6" s/w of A mark

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TC OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-9

BORING #B–10
STA 0+64–11RT
GROUND EL = 74.4

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT: Traffic Signal Improvements, Belmont, MA, BSC Group

REPORT OF BORING No. B-10; SHEET 1 OF 1; FILE No. 17141; CHKD. BY

Driller: Anthony Casaletto
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION
DATUM
DATE START 8/12/2009 DATE END 8/12/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/12/2009		6	10'	5 minutes

DEPTH (ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/10	0-2	26-22	5" Asphalt		
				13-9	dry, brown, dense, fine SAND, some coarse sand		
5	S2	24/6	4-6	8-10	dry, brown, medium dense, fine SAND, some silt,		
				15-30	trace coarse sand		
10	S3	21/6	9-11	59-82	wet, brown, very dense, fine SAND, some silt, trace		
				92-100/3"	coarse sand		
15	S4	24/12	14-16	31-32	dry, brown, very dense, fine SAND, trace fine gravel		
				23-18			
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density: 0 - 4 V. LOOSE; 4-10 LOOSE; 10-30 M. DENSE; 30-50 DENSE; >50 V. DENSE

COHESIVE SOILS Blows/Ft Density: <2 V. SOFt; 2-4 SOFT; 4-8 M. STIFF; 8-15 STIFF; 15-30 V. STIFF; >30 HARD

REMARKS: Offsets from "A" locations 20' south of "A"

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TC OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-10

BORING #B–11
STA 35+50–44RT
GROUND EL = 74.7

NEW HAMPSHIRE BORING, INC.
1215 West Chestnut Street Brockton, MA 02301

PROJECT: Trapelo Road, Belmont, MA

REPORT OF BORING No. B-11; SHEET 1 OF 1; FILE No. 17141

DRILLER: Don Dunklee
HELPER: Scott Healey
INSPECTOR:

BORING LOCATION
GROUND SURFACE ELEVATION
DATUM
DATE START 7/30/2009 DATE END 7-30-09

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
7/30/2009		0	0	

DEPTH (ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S-1	24/12	0-1	8-8	Concrete Thickness = 3"		
			1-2	10-16	dry, brown, medium dense, fine SAND some coarse sand		
5	S2	24/9	4-5	10-14	wet, brown , medium dense, fine SAND and coarse		
			5-6	13-17	sand trace silt.		
10	S3	2/0	9-10	100/2"	No Recovery 6" coble (rollerbitted)		
			10-11				
15	S4	24/10	14-15	24-38	wet, olive, very dense, fine SAND some coarse sand		
			15-16	42-48	trace of silt		
20					Bottom of Boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density: 0 - 4 V. LOOSE; 4-10 LOOSE; 10-30 M. DENSE; 30-50 DENSE; >50 V. DENSE

COHESIVE SOILS Blows/Ft Density: <2 V. SOFt; 2-4 SOFT; 4-8 M. STIFF; 8-15 STIFF; 15-30 V. STIFF; >30 HARD

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TC OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-11

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	7	214
PROJ. FILE NO. 604688			

BORING LOGS

BORING #B–12
STA 35+11–34LT
GROUND EL = 74.1

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT
Traffic Signal Improvements
Belmont, MA.
BSC Group

REPORT OF BORING No. B-12
SHEET 1 OF 1
FILE No. 17141
CHKD. BY

Driller: Anthony Casalletto
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION DATUM
DATE START 8/12/2009 DATE END 8/12/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/12/2009		11.5'	10'	5 minutes

DEPTH (Ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/6	0-2	21-29	4" Asphalt		
				19-17	wet, brown, dense, fine SAND, some coarse sand, trace fine gravel		
5	S2	24/4	4-6	10-10	wet, brown, dense, fine SAND, trace silt and fine gravel		
				20-35			gray material 8'
10	S3	24/3	9-11	27-34	wet, gray, very dense, fine SAND, some coarse sand, trace silt		
				28-41			
15	S4	24/9	14-16	33-39	wet, gray, very dense, fine SAND, some coarse sand, trace fine gravel		
				57-21			
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density
0 - 4 V. LOOSE
4-10 LOOSE
10-30 M. DENSE
30-50 DENSE
>50 V. DENSE

COHESIVE SOILS Blows/Ft Density
<2 V. SOFt
2-4 SOFT
4-8 M. STIFF
8-15 STIFF
15-30 V. STIFF
>30 HARD

REMARKS: Offsets from "A" locations
2.5' north of "A"

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-12

BORING #B–13
STA 34+30–24LT
GROUND EL = 73.8

NEW HAMPSHIRE BORING, INC.
1215 West Chestnut Street Brockton, MA 02301

PROJECT
Trapelo Road
Belmont, MA

REPORT OF BORING No. B-13
SHEET 1 OF 1
FILE No. 17141

DRILLER: Steve Bolduc
HELPER:
INSPECTOR:

BORING LOCATION
GROUND SURFACE ELEVATION DATUM
DATE START 8/3/2009 DATE END 8/3/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/3/2009	12:00	8.5	0	

DEPTH (Ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S-1	24/1	0-1	10-12	Concrete Thickness= 2"		
			1-2	17-27	wet, dense brown , medium dense fine GRAVEL trace fine sand		
5	S-2	24/8	4-5	12-25	wet, dense brown, very dense coarse SAND and fine sand trace fine gravel		
			5-6	38-32			
10	S-3	24/8	9-11	29-24	wet, brown, very dense coarse SAND and GRAVEL		
				31-33			
15	S-4	24/12	14-16	20-25	wet, brown, very dense, medium to coarse SAND and GRAVEL		
				33-40			
20					Bottom Of Boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density
0 - 4 V. LOOSE
4-10 LOOSE
10-30 M. DENSE
30-50 DENSE
>50 V. DENSE

COHESIVE SOILS Blows/Ft Density
<2 V. SOFt
2-4 SOFT
4-8 M. STIFF
8-15 STIFF
15-30 V. STIFF
>30 HARD

REMARKS: Offsets From "A" Locations
11.5' west of Mast Arm Location

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-13

BORING #B–14
STA 33+26–24LT
GROUND EL = 75.5

NEW HAMPSHIRE BORING, INC.
1215 West Chestnut Street Brockton, MA 02301

PROJECT
Trapelo Road
Belmont, MA

REPORT OF BORING No. B-14
SHEET 1 OF 1
FILE No. 17141

DRILLER: Steve Bolduc
HELPER:
INSPECTOR:

BORING LOCATION
GROUND SURFACE ELEVATION DATUM
DATE START 8/3/2009 DATE END 8/3/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/3/2009	3:30	8'	10	Upon Completion

DEPTH (Ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/7	0-2	6-5	Concrete Thickness = 4"		
				8-18	dry, gray, medium dense, fine SAND and Gravel		
5	S2	24/3	4-6	8-7	dry, brown, medium dense, fine SAND gravel some silt		
				7-9			
10	S3	24/7	9-11	23-28	wet, brown, very dense, fine to medium SAND and GRAVEL		
				24-26			
15	S4	19/6	14-15.7	23-64	wet, brown very dense, fine to medium SAND and GRAVEL		
				91-100/1"			
20					Bottom of Boring 15.7'		
25							
30							

GRANULAR SOILS Blows/Ft Density
0 - 4 V. LOOSE
4-10 LOOSE
10-30 M. DENSE
30-50 DENSE
>50 V. DENSE

COHESIVE SOILS Blows/Ft Density
<2 V. SOFt
2-4 SOFT
4-8 M. STIFF
8-15 STIFF
15-30 V. STIFF
>30 HARD

REMARKS: Offsets from "A" Locations
Drilled on "A" Location

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-14

BORING #B–15
STA 3+91–20LT
GROUND EL = 70.5

NEW HAMPSHIRE BORING, INC.
1215 West Chestnut Street Brockton, MA 02301

PROJECT
Trapelo RD
Belmont, MA

REPORT OF BORING No. B-15
SHEET 1 OF 1
FILE No. 17141

DRILLER: Steve Bolduc
HELPER:
INSPECTOR:

BORING LOCATION
GROUND SURFACE ELEVATION DATUM
DATE START 8/3/2009 DATE END 8/3/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/3/2009	9:00	8'	10'	

DEPTH (Ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/11	0-2	15-9	wet, brown, medium dense, fine to coarse SAND and GRAVEL, little silt		
				4-7			
5	S2	24/14	4-6	14-9	damp, brown, medium dense, fine SAND and SILT		
				5-7			
10	S3	24/10	9-11	25-35	dry, brown, very dense, fine SAND		
				22-20			
15	S4	10/5	14-14.10	32/100/4"	wet, gray, very dense GRAVEL some medium to fine SAND		
					Bottom of Boring 15'		
20							
25							
30							

GRANULAR SOILS Blows/Ft Density
0 - 4 V. LOOSE
4-10 LOOSE
10-30 M. DENSE
30-50 DENSE
>50 V. DENSE

COHESIVE SOILS Blows/Ft Density
<2 V. SOFt
2-4 SOFT
4-8 M. STIFF
8-15 STIFF
15-30 V. STIFF
>30 HARD

REMARKS: Offsets From "A" Locations
6' N/W from Mast Arm Location

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-15

BORING #B–16
STA 3+78–15RT
GROUND EL = 70.2

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT
Traffic Signal Improvements
Belmont, MA
BSC Group

REPORT OF BORING No. B-16
SHEET 1 OF 1
FILE No. 17141
CHKD. BY

Driller: Anthony Casalletto
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION DATUM
DATE START 8/12/2009 DATE END 8/12/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/12/2009		6	10'	5 minutes

DEPTH (Ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/7	0-2	27-20	8' Asphalt		
				14-12	dry, brown, dense, fine SAND, some coarse sand, trace fine gravel		
5	S2	24/10	4-6	7-12	dry, brown, dense, fine SAND, some silt, trace coarse sand		
				20-24			
10	S3	5/3	9-9'5"	100/5"	wet, gray, very dense, fine GRAVEL		
15	S4	24/8	14-16	27-38	wet, gray, very dense, coarse SAND, some fine sand, trace fine gravel		
				24-17			
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density
0 - 4 V. LOOSE
4-10 LOOSE
10-30 M. DENSE
30-50 DENSE
>50 V. DENSE

COHESIVE SOILS Blows/Ft Density
<2 V. SOFt
2-4 SOFT
4-8 M. STIFF
8-15 STIFF
15-30 V. STIFF
>30 HARD

REMARKS: Offsets from "A" locations
1' north of "A"

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-16

BORING #B–17
STA 40+11–27RT
GROUND EL = 69.3

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT
Traffic Signal Improvements
Belmont, MA
BSC Group

REPORT OF BORING No. B-17
SHEET 1 OF 1
FILE No. 17141
CHKD. BY

Driller: Don Dunklee
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION DATUM
DATE START 8/6/2009 DATE END 8/6/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/6/2009		7	10'	5 minutes

DEPTH (Ft)	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/4	0-2	18-23	8" Asphalt		
				16-11	dry, brown, dense, fine SAND, some coarse sand, trace fine gravel		
5	S2	24/8	4-6	6-21	wet, brown, dense, fine SAND, some fine gravel, trace silt		sand and gravel
				20-29			
10	S3	24/14	9-11	35-55	wet, olive, very dense, fine SAND, some coarse sand, trace silt		
				39-35			
							sand and silt till
15	S4	24/12	14-16	32-22	wet, brown, dense, coarse SAND, some fine gravel, trace fine sand		sand and gravel till
				17-23			
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density
0 - 4 V. LOOSE
4-10 LOOSE
10-30 M. DENSE
30-50 DENSE
>50 V. DENSE

COHESIVE SOILS Blows/Ft Density
<2 V. SOFt
2-4 SOFT
4-8 M. STIFF
8-15 STIFF
15-30 V. STIFF
>30 HARD

REMARKS: Offsets from "A" locations
7.5' East of "A" mark

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR I DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-17

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	8	214
PROJ. FILE NO. 604688			

BORING LOGS

BORING #B-18
STA 39+23-31LT
GROUND EL = 70.3

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT: Traffic Signal Improvements, Belmont, MA, BSC Group

REPORT OF BORING No. B-18 | SHEET 1 OF 1 | FILE No. 17141 | CHKD. BY

Driller: Don Dunklee
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION DATUM
DATE START 8/6/2009 DATE END 8/6/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.
CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/6/2009		7'	10'	5 minutes

DEPTH (FT)	SAMPLE NO.	SAMPLE PEN/REC	SAMPLE DEPTH (FT)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/7	0-2	3-3	3" Asphalt		
				3-3	dry, brown, loose, fine SAND, some coarse sand, trace fine gravel		
5	S2	24/8	4-6	3-2	wet, reddish brown, loose, fine SAND, some silt, trace coarse sand		
				5-8			
10	S3	24/7	9-11	29-39	wet, gray, very dense, fine SAND, some coarse sand, trace fine gravel		sand and gravel till
				59-31			
15	S4	24/5	14-16	26-31	wet, gray, very dense, coarse SAND, some fine sand, trace fine gravel		
				35-30			
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density: 0-4 V. LOOSE; 4-10 LOOSE; 10-30 M. DENSE; 30-50 DENSE; >50 V. DENSE
COHESIVE SOILS Blows/Ft Density: <2 V. SOFT; 2-4 SOFT; 4-8 M. STIFF; 8-15 STIFF; 15-30 V. STIFF; >30 HARD

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-18

BORING #B-19
STA 55+89-30RT
GROUND EL = 73.1

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT: Traffic Signal Improvements, Belmont, MA, BSC Group

REPORT OF BORING No. B-19 | SHEET 1 OF 1 | FILE No. 17141 | CHKD. BY

Driller: Don Dunklee
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION DATUM
DATE START 8/6/2009 DATE END 8/6/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.
CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/6/2009		9'	10'	5 minutes

DEPTH (FT)	SAMPLE NO.	SAMPLE PEN/REC	SAMPLE DEPTH (FT)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/6	0-2	6-5	8" Asphalt		
				8-7	dry, brown, medium dense, fine SAND, some coarse sand, trace fine gravel		
5	S2	24/10	4-6	10-12	wet, gray, medium dense, fine SAND, some coarse sand, trace fine gravel		sand and gravel
				15-12			
10	S3	24/5	9-11	13-20	wet, gray, dense, fine SAND and SILT, trace coarse sand		silty sand
				28-16			
15	S4	24/5	14-16	15-14	wet, brown, medium dense, fine SAND, some coarse sand, trace fine gravel		sand and gravel
				16-16			
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density: 0-4 V. LOOSE; 4-10 LOOSE; 10-30 M. DENSE; 30-50 DENSE; >50 V. DENSE
COHESIVE SOILS Blows/Ft Density: <2 V. SOFT; 2-4 SOFT; 4-8 M. STIFF; 8-15 STIFF; 15-30 V. STIFF; >30 HARD

REMARKS: Offsets from "A" locations
7' Northwest of "A" mark

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-19

BORING #B-20
STA 55+67-34LT
GROUND EL = 74.0

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT: Traffic Signal Improvements, Belmont, MA, BSC Group

REPORT OF BORING No. B-20 | SHEET 1 OF 1 | FILE No. 17141 | CHKD. BY

Driller: Anthony Casalletto
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION DATUM
DATE START 8/14/2009 DATE END 8/14/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.
CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/14/2009		6'	10'	

DEPTH (FT)	SAMPLE NO.	SAMPLE PEN/REC	SAMPLE DEPTH (FT)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/11	0-2	8-9	6" Concrete		
				11-7	dry, loose, fine to medium SAND, trace gravel		
5	S2	24/12	4-6	21-35	wet, dense, fine SAND, some fine to medium gravel, trace silt and clay		
				37-32			
10	S3	24/14	9-11	45-48	wet, dense, very fine SAND and SILT, trace gravel		
				52-49			
15	S4	24/12	14-16	49-52	wet, dense, very fine SAND and SILT, trace gravel		
				53-56			
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density: 0-4 V. LOOSE; 4-10 LOOSE; 10-30 M. DENSE; 30-50 DENSE; >50 V. DENSE
COHESIVE SOILS Blows/Ft Density: <2 V. SOFT; 2-4 SOFT; 4-8 M. STIFF; 8-15 STIFF; 15-30 V. STIFF; >30 HARD

REMARKS: Offsets from "A" locations
14.5' northwest from "A"

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-20

BORING #B-21
STA 71+51-26LT
GROUND EL = 90.5

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT: Traffic Signal Improvements, Belmont, MA, BSC Group

REPORT OF BORING No. B-21 | SHEET 1 OF 1 | FILE No. 17141 | CHKD. BY

Driller: Don Dunklee
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION DATUM
DATE START 8/7/2009 DATE END 8/7/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.
CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/7/2009		8.5	10'	5 minutes

DEPTH (FT)	SAMPLE NO.	SAMPLE PEN/REC	SAMPLE DEPTH (FT)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/6	0-2	16-10	3" Asphalt		
				5-3	dry, brown, dense, fine SAND, some coarse sand, trace silt		
5	S2	24/8	4-6	6-8	wet, brown, medium dense, fine SAND, some coarse sand, trace fine gravel		
				8-7			
10	S3	4/2	9-9'4"	100/2"	wet, brown, very dense, fine SAND and SILT, trace fine gravel		
15	S4	24/10	14-16	23-12	wet, brown, medium dense, fine SAND, some silt, trace coarse sand		
				12-11			
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density: 0-4 V. LOOSE; 4-10 LOOSE; 10-30 M. DENSE; 30-50 DENSE; >50 V. DENSE
COHESIVE SOILS Blows/Ft Density: <2 V. SOFT; 2-4 SOFT; 4-8 M. STIFF; 8-15 STIFF; 15-30 V. STIFF; >30 HARD

REMARKS: Offsets from "A" locations
8' West of "A" mark

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-21

BORING #B-22
STA 71+82-43RT
GROUND EL = 91.9

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT: Traffic Signal Improvements, Belmont, MA, BSC Group

REPORT OF BORING No. B-22 | SHEET 1 OF 1 | FILE No. 17141 | CHKD. BY

Driller: Anthony Casalletto
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION DATUM
DATE START 8/12/2009 DATE END 8/12/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.
CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/12/2009		4'	15'	5 minutes

DEPTH (FT)	SAMPLE NO.	SAMPLE PEN/REC	SAMPLE DEPTH (FT)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/11	0-2	8-7	8" Asphalt		
				6-7	dry, brown, medium dense, fine SAND, trace fine gravel and coarse sand		
5	S2	24/12	4-6	7-7	dry, brown, medium dense, fine SAND, some silt,		
				8-9	trace coarse sand		
10	S3	24/14	9-11	50-45	wet, brown, very dense, CLAY and fine SAND, trace coarse sand		
				42-52			
15	S4	24/14	14-16	26-21	wet, olive, dense, CLAY, some fine sand		
				25-28			
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density: 0-4 V. LOOSE; 4-10 LOOSE; 10-30 M. DENSE; 30-50 DENSE; >50 V. DENSE
COHESIVE SOILS Blows/Ft Density: <2 V. SOFT; 2-4 SOFT; 4-8 M. STIFF; 8-15 STIFF; 15-30 V. STIFF; >30 HARD

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-22

BORING #B-23
STA 87+31-19RT
GROUND EL = 147.1

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT: Traffic Signal Improvements, Belmont, MA, BSC Group

REPORT OF BORING No. B-23 | SHEET 1 OF 1 | FILE No. 17141 | CHKD. BY

Driller: Don Dunklee
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION DATUM
DATE START 8/7/2009 DATE END 8/7/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.
CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/7/2009		2'	9'	5 minutes

DEPTH (FT)	SAMPLE NO.	SAMPLE PEN/REC	SAMPLE DEPTH (FT)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/5	0-2	28-42	8" Asphalt		
				64-21	dry, gray, very dense, fine SAND, some coarse sand, trace fine gravel		
5	S2	24/9	4-6	7-3	wet, brown, loose, fine SAND, some silt, trace coarse sand		
				7-13			
10	S3	24/14	9-11	12-19	wet, reddish brown, dense, fine SAND, some clay, trace coarse sand		
				18-19			
15	S4	24/16	14-16	22-31	wet, brown, very dense, fine SAND, some clay, trace fine gravel		
				22-25			
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density: 0-4 V. LOOSE; 4-10 LOOSE; 10-30 M. DENSE; 30-50 DENSE; >50 V. DENSE
COHESIVE SOILS Blows/Ft Density: <2 V. SOFT; 2-4 SOFT; 4-8 M. STIFF; 8-15 STIFF; 15-30 V. STIFF; >30 HARD

REMARKS: Offsets from "A" locations
7' Northeast of "A" mark

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-23

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	9	214
PROJ. FILE NO. 604688			

BORING LOGS

BORING #B-24
STA 88+01-43LT
GROUND EL = 148.2

NEW HAMPSHIRE BORING, INC. — 1215 W. CHESTNUT ST., BROCKTON, MA 02301
PROJECT: Traffic Signal Improvements — Belmont, MA — BSC Group
REPORT OF BORING No. B-24 | SHEET 1 OF 1 | FILE No. 17141 | CHKD. BY
Driller: Don Dunklee | Helper: | INSPECTOR:
BORING LOCATION Trapelo Road | GROUND SURFACE ELEVATION | DATUM | DATE START 8/7/2009 | DATE END 8/7/2009
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.
CASING SIZE: 3" | OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/7/2009		16'	10'	5 minutes

DEPTH (Ft.)	SAMPLE NO.	SAMPLE PEN/REC	SAMPLE DEPTH (Ft.)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/8	0-2	28-19	5" Asphalt dry, brown, medium dense, fine SAND, some coarse		
				9-4	sand, trace fine gravel		
5	S2	24/1	4-6	5-10	wet, brown, medium dense, fine SAND, some fine		
				17-20	gravel, trace coarse sand		
10	S3	24/9	9-11	14-16	wet, brown, medium dense, fine SAND, some coarse		
				20-20	sand, trace silt		
15	S4	24/6	14-16	30-29	wet, brown, very dense, fine GRAVEL, some clay,		
				33-35	trace fine sand		
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density		COHESIVE SOILS Blows/Ft Density	
0 - 4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

REMARKS: Offsets from "A" locations
17' Northeast of "A" mark

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-24

BORING #B-25
100+79-74 RT
GROUND EL = 150.47

NEW HAMPSHIRE BORING, INC. — 1215 W. CHESTNUT ST., BROCKTON, MA 02301
PROJECT: Traffic Signal Improvements — Belmont, MA — BSC Group
REPORT OF BORING No. B-25 | SHEET 1 OF 1 | FILE No. 17141 | CHKD. BY
Driller: Anthony Casaletto | Helper: | INSPECTOR:
BORING LOCATION Trapelo Road | GROUND SURFACE ELEVATION | DATUM | DATE START 8/13/2009 | DATE END 8/13/2009
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.
CASING SIZE: 3" | OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/13/2009		10	10	

DEPTH (Ft.)	SAMPLE NO.	SAMPLE PEN/REC	SAMPLE DEPTH (Ft.)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/12	0-2	3-5	8" Asphalt dry, brown, loose, medium to coarse SAND, some		
				7-8	fine gravel		
5	S2	24/12	4-6	6-9	dry, brown, fine SAND, trace silt		
				9-12			
10	S3	24/12	9-11	39-53	wet, brown, dense, fine SAND and SILT, trace fine		
				59-40	gravel		
15	S4	24/16	14-16	18-20	wet, brown, dense, very fine SAND, some silt, trace		
				25-25	fine gravel		
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density		COHESIVE SOILS Blows/Ft Density	
0 - 4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

REMARKS: Offsets from "A" locations
moved 2' south of "A" because of a utility.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-25

BORING #B-26
STA 106+95-24RT
GROUND EL = 136.7

NEW HAMPSHIRE BORING, INC. — 1215 W. CHESTNUT ST., BROCKTON, MA 02301
PROJECT: Traffic Signal Improvements — Belmont, MA — BSC Group
REPORT OF BORING No. B-26 | SHEET 1 OF 1 | FILE No. 17141 | CHKD. BY
Driller: Anthony Casaletto | Helper: | INSPECTOR:
BORING LOCATION Trapelo Road | GROUND SURFACE ELEVATION | DATUM | DATE START 8/14/2009 | DATE END 8/14/2009
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.
CASING SIZE: 3" | OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/14/2009		16.5'	10'	

DEPTH (Ft.)	SAMPLE NO.	SAMPLE PEN/REC	SAMPLE DEPTH (Ft.)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/18	0-2	29-25	5" Asphalt medium dense, brown, SAND		
				20-14			
5	S2	24/4	4-6	21-15	dry, medium dense, SAND, trace gravel		
				11-13			
10	S3	24/12	9-11	29-25	wet, dense, brown medium SAND, some very fine		
				18-22	sand, trace gray silt and fine gravel		
15	S4	24/14	14-16	31-37	wet, dense, brown, fine SAND and SILT, trace gravel		
				33-39			
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density		COHESIVE SOILS Blows/Ft Density	
0 - 4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

REMARKS: Offsets from "A" locations
moved 6' from lot "B", 14' from "A"

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-26

BORING #B-27
STA 107+20-23LT
GROUND EL = 135.9

NEW HAMPSHIRE BORING, INC. — 1215 W. CHESTNUT ST., BROCKTON, MA 02301
PROJECT: Traffic Signal Improvements — Belmont, MA — BSC Group
REPORT OF BORING No. B-27 | SHEET 1 OF 1 | FILE No. 17141 | CHKD. BY
Driller: Don Dunklee | Helper: | INSPECTOR:
BORING LOCATION Trapelo Road | GROUND SURFACE ELEVATION | DATUM | DATE START 8/10/2009 | DATE END 8/10/2009
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.
CASING SIZE: 3" | OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/10/2009		11.5'	10'	5 minutes

DEPTH (Ft.)	SAMPLE NO.	SAMPLE PEN/REC	SAMPLE DEPTH (Ft.)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/6	0-2	18-30	5" Asphalt dry, brown, dense, fine SAND, some coarse sand		
				19-14			
5	S2	24/7	4-6	7-3	wet, brown, loose, fine SAND, some coarse sand,		
				4-4	trace silt		
10	S3	24/9	9-11	25-72	wet, brown, very dense, fine SAND, some clay,		
				65-92	trace fine gravel		
15	S4	4/4	14-16	100/4"	Roller bit 14'-15', very dense wet, olive, very dense, fine SAND, some clay, trace		
					fine gravel		
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density		COHESIVE SOILS Blows/Ft Density	
0 - 4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

REMARKS: Offsets from "A" locations
12.5' Southeast from "A" mark

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-27

BORING #B-28
STA 120+89-33RT
GROUND EL = 84.5

NEW HAMPSHIRE BORING, INC. — 1215 W. CHESTNUT ST., BROCKTON, MA 02301
PROJECT: Traffic Signal Improvements — Belmont, MA — BSC Group
REPORT OF BORING No. B-28 | SHEET 1 OF 1 | FILE No. 17141 | CHKD. BY
Driller: Don Dunklee | Helper: | INSPECTOR:
BORING LOCATION Trapelo Road | GROUND SURFACE ELEVATION | DATUM | DATE START 8/10/2009 | DATE END 8/10/2009
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.
CASING SIZE: 3" | OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
8/10/2009		4'	10'	5 minutes

DEPTH (Ft.)	SAMPLE NO.	SAMPLE PEN/REC	SAMPLE DEPTH (Ft.)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/10	0-2	16-8	8" Asphalt dry, brown, medium dense, fine SAND, some coarse		
				8-14	sand, trace fine gravel		
5	S2	24/15	4-6	26-20	wet, brown, dense, fine SAND, trace coarse sand,		
				20-19	trace silt		
10	S3	24/10	9-11	29-56	wet, brown, very dense, fine SAND, some coarse		
				22-65	sand, trace silt		
15	S4	24/11	14-16	22-24	wet, brown, dense, fine SAND, some coarse sand,		
				21-29	trace silt		
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density		COHESIVE SOILS Blows/Ft Density	
0 - 4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

REMARKS: Offsets from "A" locations
26' West of "A" mark

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-28

BORING #B-29
STA 121+08-34LT
GROUND EL = 83.0

NEW HAMPSHIRE BORING, INC. — 1215 W. CHESTNUT ST., BROCKTON, MA 02301
PROJECT: Traffic Signal Improvements — Belmont, MA — BSC Group
REPORT OF BORING No. B-29 | SHEET 1 OF 1 | FILE No. 17141 | CHKD. BY
Driller: Anthony Casaletto | Helper: | INSPECTOR:
BORING LOCATION Trapelo Road | GROUND SURFACE ELEVATION | DATUM | DATE START 8/13/2009 | DATE END 8/13/2009
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.
CASING SIZE: 3" | OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME

DEPTH (Ft.)	SAMPLE NO.	SAMPLE PEN/REC	SAMPLE DEPTH (Ft.)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/18	0-2	12-21	7" Asphalt dry, brown, medium to coarse SAND, trace fine		
				18-22	gravel		
5	S2	24/13	4-6	19-37	wet, gray, medium dense to dense, medium SAND,		
				38-25	trace silt and fine gravel		
10	S3	24/10	9-11	55-50	wet, brown, very dense, medium SAND, some coarse		
				53-51	gravel, trace silt and clay		
15	S4	24/14	14-16	55-56	wet, brown, dense, fine to medium SAND, trace silt		
				55-60	and fine gravel		
20					Bottom of boring 16'		
25							
30							

GRANULAR SOILS Blows/Ft Density		COHESIVE SOILS Blows/Ft Density	
0 - 4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

REMARKS: Offsets from "A" locations
7' southeast from "A"

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-29

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	10	214
PROJ. FILE NO. 604688			

BORING LOGS

BORING #B-30
STA 134+98-23RT
GROUND EL = 48.8

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT: Traffic Signal Improvements, Belmont, MA, BSC Group

REPORT OF BORING No. B-30
SHEET 1 OF 1
FILE No. 17141
CHKD. BY

Driller: Anthony Casalletto
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION DATUM
DATE START 8/14/2009 DATE END 8/14/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.
CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
		NA		

DEPTH	CLASSIFICATION	SAMPLE NO.	PEN / REC	DEPTH (ft.)	BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0		S1	24/14	0-2	29-28	dry, dense, brown, fine SAND, trace medium gravel,		
					14-17	trace silt		
5		S2	24/16	4-6	19-17	wet, medium dense, gray, brown, SAND and GRAVEL,		
					9-10	trace silt		
10		S3	24/10	9-11	75-66	wet, very dense, brown, gray, medium SAND and		
					46-52	GRAVEL, trace silt		
15		S4	24/12	14-16	71-88	wet, very dense, fine to coarse SAND and GRAVEL,		
					100/5"	trace silt		
20						Bottom of boring 16'		
25								
30								

GRANULAR SOILS Blows/Ft Density		COHESIVE SOILS Blows/Ft Density	
0 - 4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

REMARKS: Offsets from "A" locations
Did "C" boring location. 14' Northeast from "A" locatior

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING No B-30

BORING #B-31
STA 136+05-21LT
GROUND EL = 47.9

NEW HAMPSHIRE BORING, INC.
1215 W. CHESTNUT ST., BROCKTON, MA 02301

PROJECT: Traffic Signal Improvements, Belmont, MA, BSC Group

REPORT OF BORING No. B-31
SHEET 1 OF 1
FILE No. 17141
CHKD. BY

Driller: Anthony Casalletto
Helper:
INSPECTOR:

BORING LOCATION Trapelo Road
GROUND SURFACE ELEVATION DATUM
DATE START 8/14/2009 DATE END 8/14/2009

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.
CASING SIZE: 3" OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME

DEPTH	CLASSIFICATION	SAMPLE NO.	PEN / REC	DEPTH (ft.)	BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0		S1	24/18	0-2	22-21	dry, dense, gray, brown, fine to coarse SAND and		
					23-30	GRAVEL		
5		S2	24/13	4-6	31-28	wet, dense, brown, fine SAND and GRAVEL, trace		
					26-14	silt		
10		S3	24/18	9-11	63-66	wet, very dense, gray, brown, fine SAND and		
					60-55	GRAVEL lll, trace silt		
15		S4	24/10	14-16	51-57	wet, very dense, brown, fine SAND and TILL, trace		
					62-48	silt		
20						Bottom of boring 16'		
25								
30								

GRANULAR SOILS Blows/Ft Density		COHESIVE SOILS Blows/Ft Density	
0 - 4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING No B-31

BORING #B-32
STA 100+01-53RT
GROUND EL = 151.6

(603) 437-1610 **New Hampshire Boring, Inc.** **Fax: (603) 437-0034**
P.O. Box 165
Derry, NH 03038
E-Mail: nhb@nhboring

Boring # B-32 **Project**: BSC Group – Roadway Improvements **Project #** 95611

Project Address: Trapelo Road **City:** Belmont **State:** MA **Zip:**

Date Start: 9/27/10 9:00 am **Date End:** 9/27/10 11:00 am **Location:** See Plan

Auger: HSA Type: Hammer: **Sampler:** S/S 140 lbs. **Casing:** 2-1/4" ID Size: Fall: **Sampler:** 1-3/8 in. I.D. 30 in.

GROUNDWATER OBSERVATION

Date:	Depth:	Casing:	Stabilization Period
09-27-10			

DP	S.#	DEPTH	PEN	REC	BLOWS/6"	S/C	SAMPLE DESCRIPTION
-	S-1	0' – 2'	24"	11"	2-3-6-9		Dry, loose, brown fine to coarse SAND, trace fine
-							to medium coarse gravel, trace inorganic silt.
-							
-							
5'0"	S-2	5'-7'	24"	18"	32-54-55-50		Dry, very dense, brown fine to coarse SAND and fine
-							to coarse GRAVEL, trace inorganic silt.
-							
-							
10'0"	S-3	10'-12'	24"	14"	18-28-22-20		Dry, very dense, brown fine to coarse SAND and
-							fine to coarse GRAVEL, trace inorganic silt
-							
-							
15'0"	S-4	15'-15'3"	3"	3"	120/3"		Dry, very dense, gray, coarse GRAVEL, possible
-							boulder. Advanced auger past boulder from 15'3"
-							To 16'.
-							Auger stopped at 19'6". Sent split spoon,
-	S-5	19'6'-19'6"	0"	0"	120/0"	19'6"	No penetration, No recovery.
20'0"							Bottom of Exploration – 19'6"
-							
-							
-							
-							
25'0"							
-							
-							
-							
-							
30'0"							
-							

Drillers: R. Burke **Helper:** Pat Schofield **Inspector:**
Remarks: 2 ¼" Auger

S#: Sample **PEN:** Penetration **REC:** Recovery **S/C:** Strata Change

BORING #B-33A
STA 100+02-45 LT
GROUND EL = 151.72

(603) 437-1610 **New Hampshire Boring, Inc.** **Fax: (603) 437-0034**
P.O. Box 165
Derry, NH 03038
E-Mail: nhb@nhboring

Boring # B-33A **Project**: BSC Group – Roadway Improvements **Project #** 95611

Project Address: Trapelo Road **City:** Belmont **State:** MA **Zip:**

Date Start: 9/25/10 9:30am **Date End:** 9/25/10 11:30 am **Location:** See Plan

Augers: HSA Type: Hammer: **Sampler:** S/S 140 lbs. **Casing:** 2-1/4" ID Size: Fall: **Sampler:** 1-3/8 in. I.D. 30 in.

GROUNDWATER OBSERVATION

Date:	Depth:	Casing:	Stabilization Period
09-25-10	14'		

DP	S.#	DEPTH	PEN	REC	BLOWS/6"	S/C	SAMPLE DESCRIPTION
						3"	Concrete
-	S-1	1' – 3'	24"	4"	2-3-6-9		Dry, medium dense, brown fine to coarse SAND and
-							coarse GRAVEL, trace inorganic silt
-							
-							
5'0"	S-2	5'-7'	24"	6"	21-29-27-30		Dry, very dense, brown fine to coarse SAND, trace
-							fine to medium gravel, trace inorganic silt.
-							
-							
-							
10'0"	S-3	10'-12'	24"	7"	17-27-27-29		Dry, very dense, brown, fine to coarse SAND and fine
-							to medium GRAVEL, trace inorganic silt
-							
-							
-							
15'0"	S-4	15'-15'6"	2"	2"	120/6"		Moist, very dense, gray, fine to coarse SAND and
-							fine to coarse GRAVEL, some inorganic silt
-							
-							
-	S-5	19'-19'	0"	0"	120/0"		No penetration, No recovery,
20'0"							Bottom of Exploration – 19'
-							
-							
-							
-							
25'0"							
-							
-							
-							
-							
30'0"							
-							

Drillers: R. Burke **Helper:** Pat Schofield **Inspector:**
Remarks:

S#: Sample **PEN:** Penetration **REC:** Recovery **S/C:** Strata Change

BORING #B-34
STA 100+74-47LT
GROUND EL = 151.1

(603) 437-1610 **New Hampshire Boring, Inc.** **Fax: (603) 437-0034**
P.O. Box 165
Derry, NH 03038
E-Mail: nhb@nhboring

Boring # B-34 **Project**: BSC Group – Roadway Improvements **Project #** 95611

Project Address: Trapelo Road **City:** Belmont **State:** MA **Zip:**

Date Start: 9/27/10 12:50 pm **Date End:** 9/27/10 2:45 pm **Location:** See Plan

Augers: HSA Type: Hammer: **Sampler:** S/S 140 lbs. **Casing:** 2-1/4" ID Size: Fall: **Sampler:** 1-3/8 in. I.D. 30 in.

GROUNDWATER OBSERVATION

Date:	Depth:	Casing:	Stabilization Period
09-27-10	13'		

DP	S.#	DEPTH	PEN	REC	BLOWS/6"	S/C	SAMPLE DESCRIPTION
						3"	Concrete
-	S-1	1' – 3'	24"	17"	5-4-5-6		Dry, loose, brown fine to coarse SAND and fine to
-							coarse GRAVEL, trace inorganic silt.
-							
-							
5'0"	S-2	5'-7'	24"	7"	3-4-3-3		Dry, loose, brown fine to coarse SAND and fine to
-							coarse GRAVEL, trace inorganic silt.
-							
-							
-						10'	
10'0"	S-3	10'-12'	24"	14"	22-26-20-21		Dry, dense, brown/gray coarse GRAVEL, trace
-							fine to medium sand.
-							
-							
-							
15'0"	S-4	15'-17'	24"	13"	18-15-13-10		Wet, medium dense, brown fine to coarse SAND,
-							trace fine to medium gravel, some inorganic silt.
-							
-							
-	S-5	19'6'-19'6"	0"	0"	120/0"	19'6"	No penetration, no recovery
20'0"							Bottom of Exploration – 19'6"
-							
-							
-							
-							
25'0"							
-							
-							
-							
-							
30'0"							
-							

Drillers: R. Burne **Helper:** Pat Schofield **Inspector:**
Remarks: 2 1/4" auger

S#: Sample **PEN:** Penetration **REC:** Recovery **S/C:** Strata Change

BORING #B-37
STA 16+95-20RT
GROUND EL = 80.4

(603) 437-1610 **New Hampshire Boring, Inc.** **Fax: (603) 437-0034**
P.O. Box 165
Derry, NH 03038
E-Mail: nhb@nhboring

Boring # B-37 **Project**: BSC Group – Roadway Improvements **Project #** 95611

Project Address: Trapelo Road **City:** Belmont **State:** MA **Zip:**

Date Start: 9/29/10 9:00 am **Date End:** 9/29/10 3:00 pm **Location:** See Plan

Auger: HSA Type: Hammer: **Sampler:** S/S 140 lbs. **Casing:** 4-1/4" ID Size: Fall: **Sampler:** 1-3/8 in. I.D. 30 in.

GROUNDWATER OBSERVATION

Date:	Depth:	Casing:	Stabilization Period

DP	S.#	DEPTH	PEN	REC	BLOWS/6"	S/C	SAMPLE DESCRIPTION
						6"	Concrete
-	S-1	1' – 3'	24"	6.5"	25-27-14-6		Dry, dense, dark brown/black coarse to fine GRAVEL
-						3'	and fine to coarse SAND, trace inorganic silt.
-	S-2	3'-5'	24"	12"	20-15-15-13		Dry, med dense, dark brown, fine to coarse SAND
5'0"						5'	and fine to coarse GRAVEL, trace inorganic silt
-	S-3	5'-7'	24"	8.5"	43-24-19-14		Dry, dense, dark brown coarse to fine GRAVEL and
-							fine to coarse SAND, trace inorganic silt
-	S-4	7'-9'	24"	6"	24-25-7-10		Moist, medium dense, dark brown fine to coarse
10'0"							SAND, some fine to coarse gravel, trace inorganic
-	S-5	10'-12'	24"	12"	7-8-8-12		silt.
-	S-6	12'-14'	24"	4"	14-26-25-15		Wet, medium dense, coarse to fine GRAVEL, some
-							fine to coarse sand, trace inorganic silt.
15'0"	S-7	15'-17'	24"	8.5"	7-15-19-21		Wet, very dense, dark brown, coarse to fine SAND, some
-							coarse to fine gravel, trace inorganic silt.
-							
-							
20'0"	S-8	20'-22'	24"	0"	9-14-9-9		No recovery due to coarse GRAVEL
-							Second attempt with split spoon still no recovery
-							due to blow in. Advanced to 25'
-							
-							
25'0"	S-9	25'-27'	24"	11"	39-29-21-35		Wet, very dense, brown fine to coarse SAND, trace
-						26'	Fine to coarse gravel, trace inorganic silt.
-							Bottom of Exploration – 26'
-							
-							
30'0"							
-							

Drillers: Roger Burne **Helper:** Patrick Schofield **Inspector:**
Remarks:

S#: Sample **PEN:** Penetration **REC:** Recovery **S/C:** Strata Change

BORING #B-38
STA 17+49-35LT
GROUND EL = 81.3

(603) 437-1610 **New Hampshire Boring, Inc.** Fax: (603) 437-0034
P.O. Box 165
Derry, NH 03038
E-Mail: nhb@nhboring

Boring # B-38 **Project**: BSC Group – Roadway Improvements **Project #** 95611

Project Address: Trapelo Road **City:** Belmont **State:** MA **Zip:**

Date Start: 9/29/10 9:00 am **Date End:** 9/29/10 3:00 pm **Location:** See Plan

Casing: HSA	**Sampler:**	**Casing:** 4-1/4" ID	**Sampler:**
Type:	S/S	Size:	1-3/8 in. I.D.
Hammer:	140 lbs.	Fall:	30 in.

G R O U N D W A T E R O B S E R V A T I O N

Date: 09-29-10	**Depth:** 14'	**Casing:**	**Stabilization Period**

DP	S.#	DEPTH	PEN	REC	BLOWS/6"	S/C	SAMPLE DESCRIPTION
-						1"	Asphalt
-	S-1	1' – 3'	24"	3"	7-6-6-4		Dry, medium dense, dark brown fine to coarse SAND and fine to coarse GRAVEL, trace inorganic silt
-	S-2	3'-5'	24"	6.5"	3-5-12-7		Dry, medium dense,dark brown, fine to coarse SAND some coarse GRAVEL, trace inorganic silt
5'0"							
-	S-3	5'-7'	24"	9"	80-30-14-8		Dry, dense, gray, coarse to fine GRAVEL, some fine to coarse sand.
-	S-4	7'-9'	24"	6.5"	34-16-17-15		Moist, medium dense, brown fine to coarse SAND, some fine to coarse gravel, trace inorganic silt.
10'0"	S-5	10'-12'	24"	9"	50-32-22-26		Wet, very dense, dark brown fine to coarse SAND, some fine to coarse gravel, trace inorganic silt
-							
-							
-							
15'0"	S-6	15'-17'	24"	12"	16-10-14-14		Wet, medium dense, dark brown fine to coarse SAND, trace fine gravel, trace inorganic silt.
-							
-							
-							
20'0"	S-7	20'-22'	24"	10.5"	10-8-7-6		Wet, medium dense, dark brown fine to coarse SAND, some fine gravel, trace coarse gravel, trace Inorganic silt.
-							
-							
-							
25'0"	S-8	25'-27'	24"	6"	9-5-8-18		Wet, medium dense, dark brown fine to coarse SAND, some fine gravel, trace inorganic silt
-							
-	S-9	28'-29'9"		5"	40-52-70-100/3"		Wet, very dense, brown fine to coarse SAND, trace Inorganic silt
-						29'9"	
30'0"							Bottom of Exploration – 29'9"
-							

Drillers: Roger Burne **Helper:** Patrick Schofield **Inspector:**

Remarks:

S/#: Sample **PEN:** Penetration **REC:** Recovery **S/C:** Strata Change

BORING #B-40
STA 140+78-5LT
GROUND EL = 46.4

(603) 437-1610 **New Hampshire Boring, Inc.** Fax: (603) 437-0034
P.O. Box 165
Derry, NH 03038
E-Mail: nhb@nhboring

Boring # B-40 **Project**: BSC Group – Roadway Improvements **Project #** 95611

Project Address: Trapelo Road **City:** Belmont **State:** MA **Zip:**

Date Start: 9/28/10 1:35 pm **Date End:** 9/28/10 3:00 pm **Location:** See Plan

Augers: HSA	**Sampler:**	**Casing:** 2-1/4" ID	**Sampler:**
Type:	S/S	Size:	1-3/8 in. I.D.
Hammer:	140 lbs.	Fall:	30 in.

G R O U N D W A T E R O B S E R V A T I O N

Date:	**Depth:**	**Casing:**	**Stabilization Period**

DP	S.#	DEPTH	PEN	REC	BLOWS/6"	S/C	SAMPLE DESCRIPTION
-						4"	Asphalt
-	S-1	1'6" – 3'6"	24"	14"	7-6-6-4		Possible rails from railroad 0'-1' & cobblestones. Dry, medium dense, brown coarse GRAVEL and fine to coarse SAND, trace inorganic silt.
-							
-							
5'0"							
-	S-2	5'-7'	24"	14"	41-51-59-44		Dry, very dense, brown, fine to coarse SAND, some fine to coarse gravel, trace inorganic silt.
-							
-							
-							
10'0"	S-3	10'-12'	24"	14"	13-13-16-16		Dry, very dense, brown, fine to coarse SAND, some fine to coarse gravel, trace inorganic silt.
-							
-							
-							
15'0"	S-4	15'-17'	24"	18"	19-23-20-19	15"	Dry, dense, brown fine to coarse GRAVEL, some Fine to coarse sand
-							
-	S-5	17'-19'	24"	18"	19-19-21-29		Dry, dense, brown fine to coarse GRAVEL, some Fine to coarse sand
-						19"	
20'0"							Bottom of Exploration – 19'
-							
-							
-							
25'0"							
-							
-							
-							
30'0"							
-							

Drillers: Roger Burne **Helper:** Patrick Schofield **Inspector:**

Remarks: 2 ¼" auger

S/#: Sample **PEN:** Penetration **REC:** Recovery **S/C:** Strata Change

BORING #B-41
STA 140+58-239LT
GROUND EL = 42.0

(603) 437-1610 **New Hampshire Boring, Inc.** Fax: (603) 437-0034
P.O. Box 165
Derry, NH 03038
E-Mail: nhb@nhboring

Boring # B-41 **Project**: BSC Group – Roadway Improvements **Project #** 95611

Project Address: Trapelo Road **City:** Belmont **State:** MA **Zip:**

Date Start: 9/25/10 12:00 pm **Date End:** 9/25/10 1:30 pm **Location:** See Plan

Casing: HSA	**Sampler:**	**Casing:** 4-1/4" ID	**Sampler:**
Type:	S/S	Size:	1-3/8 in. I.D.
Hammer:	140 lbs.	Fall:	30 in.

G R O U N D W A T E R O B S E R V A T I O N

Date:	**Depth:**	**Casing:**	**Stabilization Period**

DP	S.#	DEPTH	PEN	REC	BLOWS/6"	S/C	SAMPLE DESCRIPTION
-						4"	Asphalt
-	S-1	1'– 3'	24"	14"	7-7-9-11		Dry, medium dense, brown, fine to coarse SAND and fine to coarse GRAVEL
-							
-							
5'0"	S-2	5'-7'	24"	20"	14-14-13-14		Dry, medium dense, brown fine to coarse SAND and fine to coarse GRAVEL, trace inorganic silt.
-							
-							
-							
10'0"	S-3	10'-12'	24"	18"	17-20-13-19		Dry, dense, brown, fine to coarse SAND and fine to coarse GRAVEL, trace inorganic silt.
-							
-							
-							
15'0"	S-4	15'-17'	24"	18"	20-20-19-20		Dry, dense, brown, coarse GRAVEL and fine to coarse SAND, trace inorganic silt.
-							
-	S-5	17'-19'	24"	18"	24-23-19-18		Dry, dense, brown, coarse GRAVEL and fine to coarse SAND, trace inorganic silt. No water.
-						19	
20'0"							Bottom of Exploration – 19'
-							
-							
-							
25'0"							
-							
-							
-							
30'0"							
-							

Drillers: Roger Burne **Helper:** Patrick Schofield **Inspector:**

Remarks:

S/#: Sample **PEN:** Penetration **REC:** Recovery **S/C:** Strata Change

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	11	214
PROJ. FILE NO. 604688			

BORING LOGS

PROBE	ADDRESS	ASPHALT	WATER	ACTUAL DEPTH	NOTES
P-1	TRAPELO ROAD	0	0	13'	FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, SEEN FROM DRILL CUTTINGS, POSSIBLE BEDROCK.
P-2	TRAPELO ROAD	0	0	8'	FINE TO COARSE SAND, SOME GRAVEL, TRACE INORGANIC SILT.
P-3	TRAPELO ROAD	0	0	FIRST ATTEMPT 2.5'	SECOND ATTEMPT 3.5'. COARSE GRAVEL, SOME FINE TO COARSE SAND. BOTH ATTEMPTS WERE AUGER REFUSAL.
P-4	TRAPELO ROAD	0	0	2'	OUT CROP NEXT TO HOLE. AUGER REFUSAL.

LEGEND

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	12	214
PROJ. FILE NO. 604688			

LEGEND & GENERAL NOTES

UTILITIES

EXISTING	PROPOSED	DESCRIPTION
□	CB	CATCH BASIN (OR GUTTER INLET)
⊓	CBCI	CATCH BASIN WITH CURB INLET
⊓		CATCH BASIN TYPE 3
⊓		CATCH BASIN WITH OFFSET CONE
⊡	⊡	CATCH BASIN TO BE RETAINED
□	□ GI	GUTTER INLET
12" D	12" R.C.P.	DRAIN PIPE
Ⓓ	DMH	DRAINAGE MANHOLE
UGE	12" ELEC.	ELECTRIC DUCT
Ⓔ	EMH	ELECTRIC MANHOLE
GG	□ GG	GAS GATE
4" G	12" GAS	GAS MAIN
ⓂMBTA	MBTA	MBTA MANHOLE
OHW	OHW	OVERHEAD WIRES
		MBTA CATENARY WIRES
TW	TW	MBTA TROLLEY WIRES
15" S	12" P.V.C. SEWER	SEWER MAIN
Ⓢ	SMH	SEWER MANHOLE
8" SD	8" SD	SUBDRAIN
4-3" T	12" P.V.C. TELE.	TELEPHONE DUCT
Ⓣ	TMH	TELEPHONE MANHOLE
[	[	UTILITY PLUG
WG	○	WATER SERVICE BOX
WG	WG	WATER GATE
Ⓦ	WMH	WATER MANHOLE
8" W	12" DICL WATER	WATER MAIN

SURFACE DETAILS/TOPO

EXISTING	PROPOSED	DESCRIPTION
12 N00°00'00"E +57.59	74+00 N57° 18' 41"E 300.00'	BASE/SURVEY LINE
(NAME)		CITY, TOWN OR COUNTY BOUNDARY
		CURB (OR BERM) – TYPE NOTED
		EDGE OF ROAD
		LINE OF EASEMENT
		FENCE (SIZE AND TYPE NOTED)
		HIGHWAY GUARD (TYPE NOTED)
SB	SB	HIGHWAY/PROPERTY BOUND
P	P	PROPERTY LINE
S.H.L.O	R.O.W	STATE HIGHWAY LAYOUT LINE
TOWN L.O	R.O.W	TOWN HIGHWAY LAYOUT LINE
12"		TREE (ON CONSRTUCTION PLAN ONLY)
12"		TREE
		WHEEL CHAIR RAMP
		HEDGE
		SHRUBS

MISCELLANEOUS

EXISTING	PROPOSED	DESCRIPTION
B-#	B-#	BORING
F	F	FIRE ALARM BOX
		HYDRANT
M	M	MAILBOX – COMMERCIAL
M		MAILBOX – RESIDENTIAL
		STREET LIGHT
		WOODEN POLE
		MBTA CATENARY POLE
		UTILITY POLE WITH STREET LIGHT
		MBTA CATENARY POLE WITH LIGHT
BS	BS	BARBER SHOP POST
		SAWCUT
		ROOT PATHS
		SIDEWALK W/ SPECIAL SCORING PATTERN
		TOWN BOUNDARY LINE

TRAFFIC, PAVEMENT MARKINGS & SIGNING

EXISTING	PROPOSED	DESCRIPTION
	=======	CONDUIT
		CONTROL CABINET – GROUND MOUNTED
		CONTROL CABINET – POLE MOUNTED
ø1	ø1	CONTROLLER PHASE
	CW	CROSSWALK
		DIRECTION OF FLOW
EHH	■EHH	ELECTRIC HANDHOLE
		EMERGENCY CONFIRMATION BEACON
		FLASHING BEACON (ALPHA–NUMERIC DESIGNATION NOTED)
		INTERCONNECT CABLE
		VIDEO DETECTION AREA
		LIMIT OF VISIBILITY OF OPTICALLY PROGRAMMED SIGNAL HEAD
	30'	MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		OPTICAL EMERGENCY DETECTOR
OHW	OHW	OVERHEAD CABLE
		PAVEMENT ARROW AND LEGEND
		PEDESTRIAN PUSH BUTTON
		PEDESTRIAN SIGNAL HEAD (ALPHA–NUMERIC DESIGNATION NOTED)
PB	■	PULL BOX 12" X 12"
PB		PULL BOX 8" X 23", 12" X 24"
		RAISED PAVEMENT MARKER: TWO–WAY YELLOW
		RAISED PAVEMENT MARKER: ONE–WAY WHITE
		RAISED PAVEMENT MARKER: YELLOW/RED
		SIGN AND POST
R1–1	R1–1	SIGN LEGEND
		SIGNAL POST AND BASE
		VEHICULAR SIGNAL HEAD (ALPHA–NUMERIC DESIGNATION NOTED)
		VEHICULAR SIGNAL HEAD OPTICALLY PROGRAMMED (ALPHA–NUMERIC DESIGNATION NOTED)
	=X=X=	" X " DUCT (CONCRETE ENCASED)
		VIDEO CAMERA
		TOP OR BOTTOM OF SLOPE
		FULL DEPTH RECONSTRUCTION
	A89	AAB/ADA RAMP TYPE REFERENCE
		CHANGE IN PVM'T TYPE

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	13	214
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LEGEND & GENERAL NOTES

ABBREVIATIONS

R	CIRCULAR RED
Y	CIRCULAR AMBER
G	CIRCULAR GREEN
FR	FLASHING CIRCULAR RED
FY	FLASHING CIRCULAR AMBER
	45° ARROW RED
	45° ARROW AMBER
	45° ARROW GREEN
	135° ARROW RED
	135° ARROW AMBER
	135° ARROW GREEN
	LEFT ARROW RED
	LEFT ARROW AMBER
	LEFT ARROW GREEN
	RIGHT ARROW RED
	RIGHT ARROW AMBER
	RIGHT ARROW GREEN
	VERTICAL ARROW RED
	VERTICAL ARROW AMBER
	VERTICAL ARROW GREEN
	WALK – LUNAR WHITE
FD	FLASHING DON'T WALK – PORTLAND ORANGE
D	DON'T WALK – PORTLAND ORANGE

ABAN	ABANDON (BY CONTRACTOR)
(A)	ABANDONED (WAS RECENTLY ABANDONED BO)
ADJ	ADJUST
BO	BY OTHERS
BOC	BEGINNING OF CURB
BOS	BOTTOM OF SLOPE
CAT	CATENARY POLE
CIT	CHANGE IN TYPE
DIP	DUCTILE IRON PIPE
EOC	END OF CURB
FE	FLARED END
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
HMA	HOT MIX ASPHALT
MA	MAST ARM
MOUP	MOUNTED ON UTILITY POLE
MOP	MOUNTED ON POLE
MOLP	MOUNTED ON LIGHT POLE
MOTSP	MOUNTED ON TRAFFIC SIGNAL POLE
MOMA	MOUNTED ON MAST ARM
MOMAP	MOUNTED ON MAST ARM POST
NIC	NOT IN CONTRACT
PBS	PAINTED BOTH SIDES
PWW	PAVED WATERWAY
RCP	REINFORCED CONCRETE PIPE
REC	FROM RECORD PLANS
REMOD	REMODEL
RET	RETAIN
R,R&R	REMOVE, RELOCATE & RESET
R&D	REMOVE & DISCARD
R&R	REMOVE & RESET
R&S	REMOVE & STACK
R&T	REMOVE & TRANSPORT
SGE	SLOPED GRANITE EDGING
SHLD	SHOULDER
TOS	TOP OF SLOPE
TS	TRAFFIC SIGNAL
VGC	VERTICAL GRANITE CURB
WTX	EXISTING WAVERELY TRAIL SIGN OR KIOSK

BWLL	BROKEN WHITE LANE LINE, 4" (10' MARK – 30' SKIP)
BYCL	BROKEN YELLOW CENTER LINE, 4" (10' MARK – 30' SKIP)
CW	CROSSWALK (12" WHITE)
DWLL	DOTTED WHITE LANE LINE, 4" (2' MARK – 4' SKIP)
DYCL	DOUBLE YELLOW CENTER LINE, 4"
SL	STOP LINE, 12", 5' BEHIND CW OR AS NOTED
SWCHL	SOLID WHITE CHANNELIZATION LINE, 8"
SWEL	SOLID WHITE EDGE LINE, 6" UNLESS OTHERWISE NOTED
SWLL	SOLID WHITE LANE LINE, 4"
SYCHL	SOLID YELLOW CHANNELIZATION LINE, 8"
SYEL	SOLID YELLOW EDGE LINE, 4" (6" AT BICYCLE LANE)
WCL	WHITE CHEVRON LINE, 12" (SPACED 10' O.C. UNLESS OTHERWISE NOTED)
WTL	WHITE TRANSVERSE LINE, 12" (SPACED 10' O.C. UNLESS OTHERWISE NOTED)
YTL	YELLOW TRANSVERSE LINE, 12" (SPACED 10' O.C. UNLESS OTHERWISE NOTED)
R1–1	EXISTING SIGN
R1–1	PROPOSED SIGN

GENERAL NOTES

1. ALL NEW GRANITE CURB SHALL BE TYPE VB UNLESS OTHERWISE NOTED.
2. ALL GRANITE CURB SHALL BE SET TO HAVE A 6" REVEAL ABOVE FINAL PAVEMENT GRADES (UNLESS OTHERWISE NOTED).
3. ALL BASELINE TIES FOR CURB CORNERS AND RADII ARE TO THE P.C.'S OR P.T.'S, UNLESS OTHERWISE NOTED. WHERE PROPOSED CURB MEETS EXISTING CURB, BERM, ROADWAY, AND/OR DRIVEWAY PAVEMENT EDGES, MINOR FIELD ADJUSTMENTS TO EITHER THE DESIGNATED RADIUS OR THE DESIGNATED STATION OF THE P.C. OR P.T. FOR THE PROPOSED CURB OR BERM MAY BE REQUIRED. THESE ADJUSTMENTS SHALL BE MADE IN THE FIELD BY THE CONTRACTOR AS DIRECTED BY THE RESIDENT ENGINEER.
4. ALL EXISTING MUNICIPAL, MWRA, AND MBTA UTILITY CASTINGS THAT ARE TO REMAIN WITHIN AREAS TO BE REPAVED SHALL BE ADJUSTED TO LINE AND GRADE BY THE CONTRACTOR UNLESS OTHERWISE NOTED. ALL PRIVATE TELEPHONE, GAS, AND ELECTRICAL CASTINGS SHALL BE ADJUSTED BY OTHERS.
5. THE LOCATIONS OF EXISTING SUBSURFACE UTILITIES SHOWN ON THE PLANS WERE COMPILED FROM AVAILABLE RECORD DRAWINGS AND ARE NOT WARRANTED TO BE CORRECT. THE LOCATIONS ARE APPROXIMATE ONLY AND IN SOME CASES MAY BE INCOMPLETE. THE CONTRACTOR SHALL NOTIFY ALL AGENCIES REQUIRED AND VERIFY THE LOCATIONS OF ALL EXISTING SUBSURFACE UTILITIES PRIOR TO PERFORMING ANY WORK.
6. PRIOR TO THE INSTALLATION OF PROPOSED UTILITIES, THE CONTRACTOR SHALL EXCAVATE TEST PITS AT LOCATIONS OF UTILITY CROSSINGS TO VERIFY DEPTHS OF EXISTING PIPES, CONDUITS OR OTHER FACILITIES, AS DIRECTED BY ENGINEER.
7. THE CONTRACTOR SHALL ENSURE THAT ALL ROADWAY RUNOFF SHALL BE DIRECTED TO CATCH BASINS.
8. THE CONTRACTOR SHALL VERIFY ALL OUTLET GRADES OF DRAINAGE STRUCTURES PRIOR TO CONSTRUCTING THE DRAINAGE IMPROVEMENTS.
9. THE CONTRACTOR SHALL SAWCUT TO THE FULL PAVEMENT DEPTH AT BOUNDARIES BETWEEN FULL DEPTH CONSTRUCTION AND EXISTING PAVEMENT.
10. EXCEPT AS NOTED, ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
11. ALL WHEELCHAIR RAMPS SHALL BE CONSTRUCTED TO COMPLY WITH THE LATEST MASSDOT STANDARDS.
12. ALL AREAS OUTSIDE OF THE LIMIT OF WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S OWN EXPENSE.
13. ALL EXISTING TREES TO REMAIN SHALL BE PROTECTED FROM DAMAGE CAUSED BY CONTRACTORS OPERATIONS.
14. THE CONTRACTOR SHALL NOTIFY UTILITY COMPANY OF SCHEDULE OF REQUIRED POLE RELOCATIONS AS SOON AS THE NOTICE TO PROCEED IS RECEIVED.
15. BASE MAPPING PREPARED BY BSC GROUP, INC. BETWEEN FEBRUARY AND JUNE OF 2006 AND SUPPLEMENTED WITH SPOT SURVEYS AFTER THAT DATE. HORIZONTAL DATUM: MASS. STATE PLANE COORD. SYSTEM MAINLAND ZONE. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988(NAVD88)
16. THE TOWN OF BELMONT USES A PLOW WITH A 52" WIDE BLADE TO CLEAN SNOW FROM THE SIDEWALKS IN RESIDENTIAL AREAS IN BELMONT. WHEN CONSTRUCTION IS COMPLETE THERE MUST BE A 56" CLEAR WIDTH IN THE RESIDENTIAL SECTION OF TRAPELO ROAD AND BELMONT STREET(BELMONT SIDE ONLY) TO ALLOW FOR THIS TO CONTINUE. THE INSTALLATION OF UTILITY POLES, HYDRANTS, AND SIGN POLES MUST BE ACCOMPLISHED WITH THIS IN MIND. LOCATIONS IN BELMONT WHERE THE 56" CLEAR PATH DOES APPLY ARE: TRAPELO ROAD AND SIDE STREETS LEFT SIDE (17+77 TO 18+70, 20+78 TO 29+24, 41+20 TO 52+00, 58+00 TO 62+22, 69+00 TO 84+50, 90+00 TO 120+20, 127+75 TO 133+12, 135+88 TO 140+64, 142+50 TO 143+50, 144+50 TO 146+90), TRAPELO ROAD AND SIDE STREETS RIGHT SIDE (17+77 TO 38+00, 42+90 TO 51+55, 58+50 TO 65+24, 71+62 TO 84+14, 90+58 TO 104+00), MILL STREET RIGHT SIDE (0+00 TO 2+50), MILL STREET LEFT SIDE (0+00 TO 4+00), LEXINGTON STREET RIGHT SIDE (1+00 TO 2+85, 4+00 TO 4+60), LEXINGTON STREET LEFT SIDE (0+00 TO 5+50), CHURCH STREET RIGHT SIDE (0+50 TO 4+00). COMMON STREET BOTH SIDES (3+57 TO 5+10), HARRIET AVE BOTH SIDES (0+50 TO 1+78).
17. THE CONTRACTOR IS ADVISED OF THE EXISTENCE OF A FRAGILE MWRA 56" STEEL AQUEDUCT CLOSE TO THE SURFACE OF TRAPELO ROAD STATION 22+00 RT TO STATION 30+00 LT
18. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO AVOID DISTURBING THE EXISTING STONE WALLS AT THE EDGE OF THE ROADWAY LAYOUT.
19. THE CONTRACTOR IS ADVISED THAT THERE ARE MBTA TROLLEY WIRES ABOUT 18' ABOVE THE TRAVEL LANES THROUGHOUT MOST OF THIS PROJECT AND THE CONTRACTOR MUST TAKE THIS INTO CONSIDERTATION WHEN PLANNING WORK.
20. THE CONTRACTOR MUST NOTIFY THE MBTA POWER DISPATCHER (617–222–5546) IF ANY MACHINERY OR DEBRIS HITS THE CATENARY SYSTEM, DC FEEDERS, WAYSIDE SWITCHES, CONTROLS, OR CATENARY POLES.
21. THE CATENARY SYSTEM AND DC FEEDERS MAY BE ALIVE DURING SOME PHASES OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE MBTA POWER DISPATCHER AND OCC (TRACKLESS TROLLEY) FOR CONFIRMATION.
22. THE CONTRACTOR IS REQUIRED TO SUPPORT MBTA POLES IN PLACE DURING EXCAVATION FOR DRAINAGE LINES. THE MBTA POWER DEPT. WILL NEED TO REVIEW AND APPROVE THE PROPOSED SUPPORT METHOD PRIOR TO USE.
23. ANY DAMAGE TO EXISTING UTILITIES CAUSED BY CONTRACTOR'S WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AT ITS OWN COST.
24. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY POLE OWNER AS NECESSARY BEFORE STARTING WORK WHICH COULD UNDERMINE POLES.
25. THE CONTRACTOR IS MADE AWARE THAT THERE ARE NUMEROUS UTILITY LINES AND SERVICES UNDERGROUND AND THE EXACT LOCATION EITHER HORIZONTALLY OR VERTICALLY IS NOT KNOWN. TEST PITS HAVE BEEN CALLED FOR ON THE PLANS WHERE IT APPEARS THAT THERE IS A GOOD POSSIBILITY THAT A CONFLICT WITH THE PROPOSED DRAINAGE SYSTEM MAY OCCUR. IT IS POSSIBLE CONFLICTS MAY OCCUR WHERE CROSSINGS ARE SHOWN AND NO TEST PITS ARE PROPOSED. BEFORE INSTALLING A PARTICULAR DRAINAGE SYSTEM THE CONTRACTOR SHALL SUBMIT A PROPOSED PLAN AND PROFILE OF THE PROPOSED SYSTEM SHOWING THE HORIZONTAL AND VERTICAL LOCATIONS OF THE EXISTING UTILITIES AND HOW THE CONTRACTOR PROPOSES TO AVOID THEM. THE CONTRACTOR SHALL ALSO SUBMIT A PLAN OF HIS PROPOSED TEST PITS FOR REVIEW. THE DEPARTMENT IS NOT RESPONSIBLE FOR THE RELAYING OF ANY DRAINAGE LINE THAT HAS BEEN INSTALLED AND THEN NEEDS TO BE RELAID BECAUSE THE CONTRACTOR'S PLAN IS NOT ACCURATE.
26. ANY DAMAGE TO THE MBTA CATENARY SYSTEM SHALL BE REPORTED TO JACK MARTIN OF MBTA POWER DEPT (617–222–3199) AS SOON AS IT OCCURS.
27. THE CONTRACTOR IS ADVISED THAT IN MANY SECTIONS OF THE CORRIDOR THERE EXISTS RAILROAD TRACKS SET IN CONCRETE (AND POSSIBLE COBBLE) AND WOOD TIES AT VARYING DEPTHS BELOW THE SURFACE AND HE SHALL ADJUST HIS MILLING ACCORDINGLY. IT IS REQUIRED THAT THE MILLING OPERATION WILL EXPOSE THE TRACKS AND ITS SURROUNDING SYSTEM (COBBLES/CONCRETE).
28. CONTACT NATIONAL GRID (508–424–7509) AT LEAST TWO DAYS PRIOR TO EXCAVATING WITHIN 200 FEET OF THEIR REGULATOR VAULT LOCATED AT STA. 104+50 RT. NATIONAL GRID HAS SPECIAL RESTRICTIONS AROUND THIS SENSITIVE FACILITY.
29. IF ANY OF THE GAS FACILITIES BECOME EXPOSED DURING CONSTRUCTION NATIONAL GRID MUST BE NOTIFIED BEFORE THE PIPE IS BACKFILLED.
30. IF ANY OF THE GAS LINES ARE DAMAGED OR THE COATING SCRATCHED THE CONTRACTOR SHALL CALL 800–233–5325 IMMEDIATELY AND THE GAS COMPANY WILL REPAIR THE DAMAGED PIPE.
31. CARE SHOULD BE USED WHEN SAWCUTTING OVER GAS SERVICES WHICH ARE USUALLY ON AVERAGE 18 INCHES DEEP.
32. IN SOME AREAS THE PLANS CALL FOR AN ABANDONED GAS LINE TO BE CUT AND CAPPED. BEFORE CUTTING THE LINE THE CONTRACTOR SHALL HAVE THE GAS COMPANY COME OUT AND CONFIRM THAT THE GAS LINE IS TRULY ABANDONED AND EMPTY OF GAS.
33. SOME EXISTING GAS LINES ARE LABELED AS ABANDONED ON THE PLANS. THESE LINES SHOULD NOT BE DISTRUBED WITHOUT VERIFICATION BY THE GAS COMPANY THAT THEY ARE TRULY ABANDONED.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	14	214
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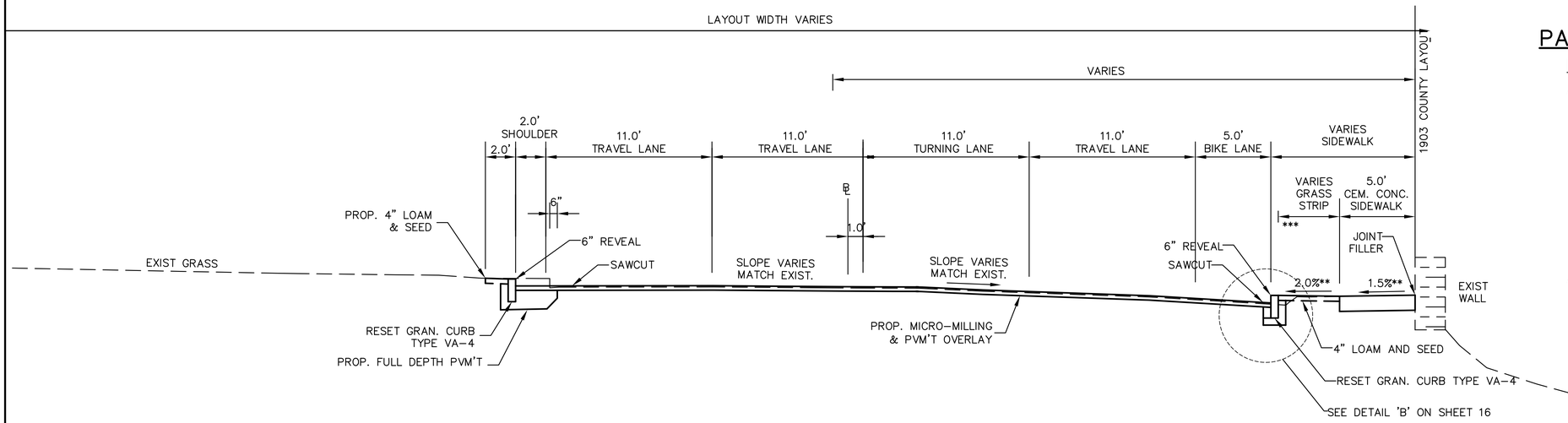
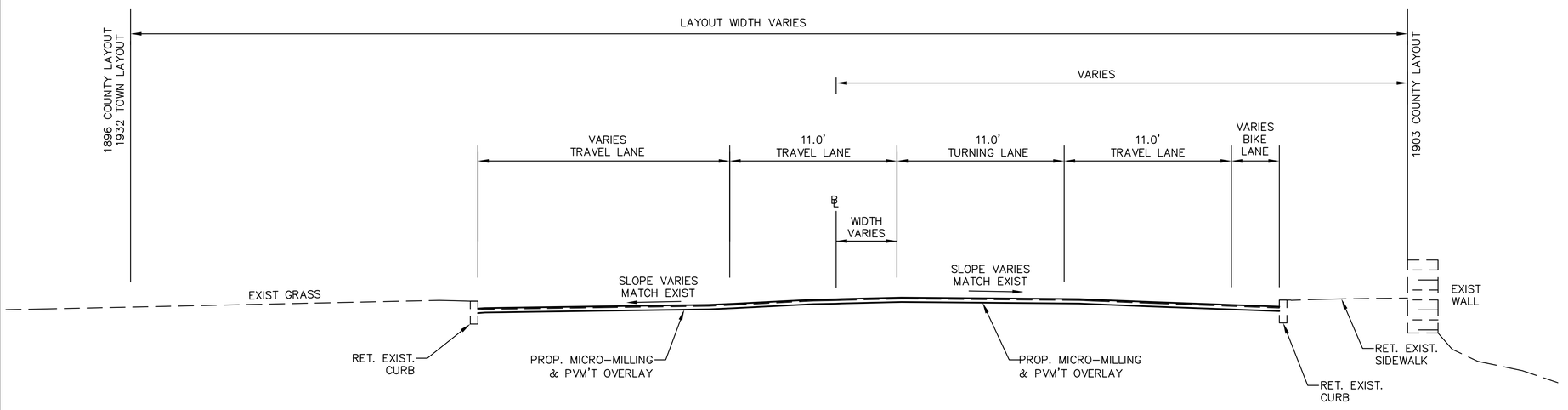
TYPICAL SECTIONS & PAVEMENT NOTES



TRAPELO ROAD (STA 18+00 TO 19+50)

SCALE: 1" = 4'

*** STA 18+00 TO 18+40. FOR STA 18+40 TO 19+50 SEE TYPICAL SECTION STA 19+50 TO 21+00



TRAPELO ROAD (STA 17+40 TO 18+00)

SCALE: 1" = 4'

*1.5% PREFERRED

**CONSTRUCTION TOLERANCE ±0.5%

PAVEMENT NOTES

MAIN LINE:

PROP. MICRO-MILLING & PVM'T OVERLAY

SURFACE: 3½" HOT MIX ASPHALT PLACED IN 2 LAYERS; 1½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5), OVER BITUMEN FOR TACK COAT (RS-1) AT 0.05GAL/SY, OVER 2" SUPERPAVE INTERMEDIATE COURSE 12.5(SIC-12.5), OVER

BITUMEN FOR TACK COAT (RS-1) AT 0.07GAL/SY OVER EXISTING MILLED PAVEMENT, OVER

MICRO-MILLING TO A DEPTH OF 2¼" (AN ADDITIONAL 0" TO 1" VARIABLE DEPTH MICRO-MILLING ALONG THE CURB WHERE NOTED).

PROP. VARIABLE DEPTH MICRO-MILLING & PVM'T OVERLAY

SURFACE: 3½" TO 6" HOT MIX ASPHALT PLACED IN 2 OR 3 LAYERS; 1½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5), OVER BITUMEN FOR TACK COAT (RS-1) AT 0.05GAL/SY, OVER 2" TO 3" SUPERPAVE INTERMEDIATE COURSE 12.5(SIC-12.5), OVER BITUMEN FOR TACK COAT (RS-1) AT 0.05GAL/SY, OVER 1½" SUPERPAVE LEVELING COURSE 9.5(SIC-9.5) IF REQUIRED, OVER

BITUMEN FOR TACK COAT (RS-1) AT 0.07GAL/SY OVER EXISTING MILLED PAVEMENT, OVER

MICRO-MILLING TO A DEPTH OF ½" TO 2¼" TO ESTABLISH CROSS SLOPE AS INDICATED ON THE PLANS.

PROP. FULL DEPTH PVM'T

SURFACE: 3½" HOT MIX ASPHALT PLACED IN 2 LAYERS; 1½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5), OVER BITUMEN FOR TACK COAT (RS-1) AT 0.05GAL/SY, OVER 2" SUPERPAVE INTERMEDIATE COURSE 12.5(SIC-12.5), OVER BITUMEN FOR TACK COAT (RS-1) AT 0.05GAL/SY, OVER

BASE: 4½" SUPERPAVE BASE COURSE 37.5 (SBC-37.5), OVER

SUBBASE: EXIST. MATERIAL MEETING SPECIFICATIONS OR BE REPLACED WITH 4" DENSE GRADED CRUSHED STONE FOR SUBBASE OVER 8" GRAVEL.

PROP. FULL DEPTH PVM'T < 4'

SURFACE: 3½" HOT MIX ASPHALT PLACED IN 2 LAYERS; 1½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5), OVER BITUMEN FOR TACK COAT (RS-1) AT 0.05GAL/SY, OVER 2" SUPERPAVE INTERMEDIATE COURSE 12.5(SIC-12.5), OVER

BASE: 6" HIGH EARLY STRENGTH CEMENT CONCRETE BASE, OVER

SUBBASE: EXIST. MATERIAL MEETING SPECIFICATIONS OR BE REPLACED WITH 8" GRAVEL.

PROP. BRIDGE APPROACH TRANSITION

SURFACE: 3½" HOT MIX ASPHALT PLACED IN 2 LAYERS; 1½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5), OVER BITUMEN FOR TACK COAT (RS-1) AT 0.05GAL/SY, OVER 2" SUPERPAVE INTERMEDIATE COURSE 12.5(SIC-12.5), OVER

BITUMEN FOR TACK COAT (RS-1) AT 0.07GAL/SY OVER EXISTING MILLED PAVEMENT, OVER

2¼" TO 3½" VARIABLE DEPTH MICRO-MILLING.

PROP. COLORED SCORED CEM. CONC. PVM'T (SD E 105.2.0)

SURFACE: 8" CEMENT CONCRETE AIR ENTRAINED 5000 PSI, ¾", 705 LB/CY, OVER

SUBBASE: 12" GRAVEL

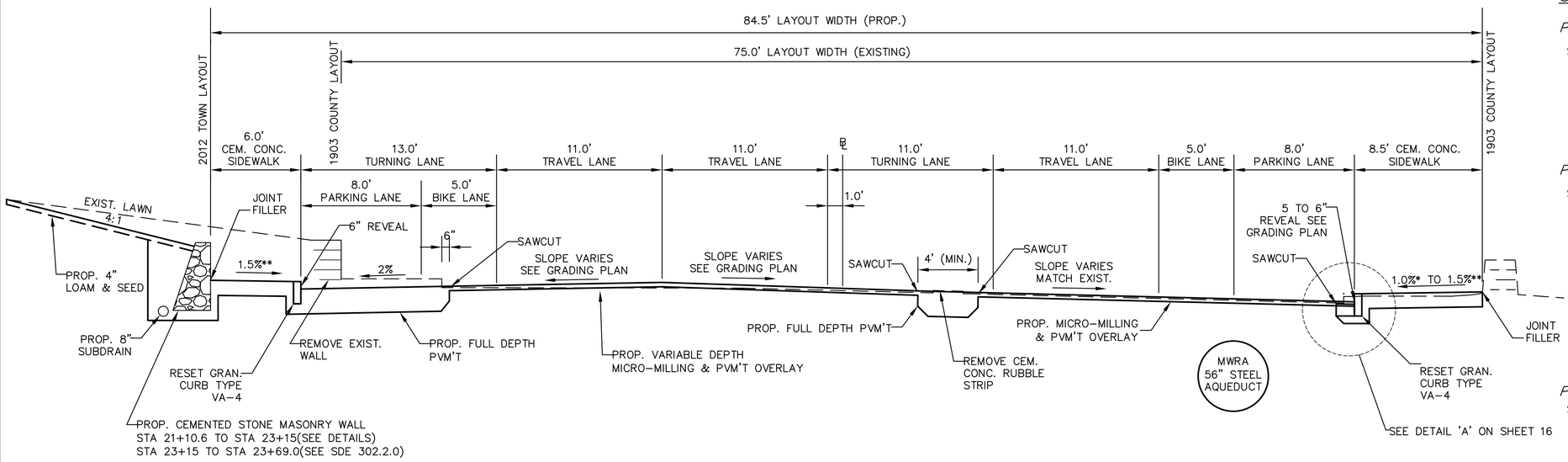
(NOTES CONTINUED ON NEXT SHEET)

NOTE: THIS NEW SUBBASE TO BE PLACED ONLY WHERE EXISTING SUBBASE MATERIAL FAILS TO MEET SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

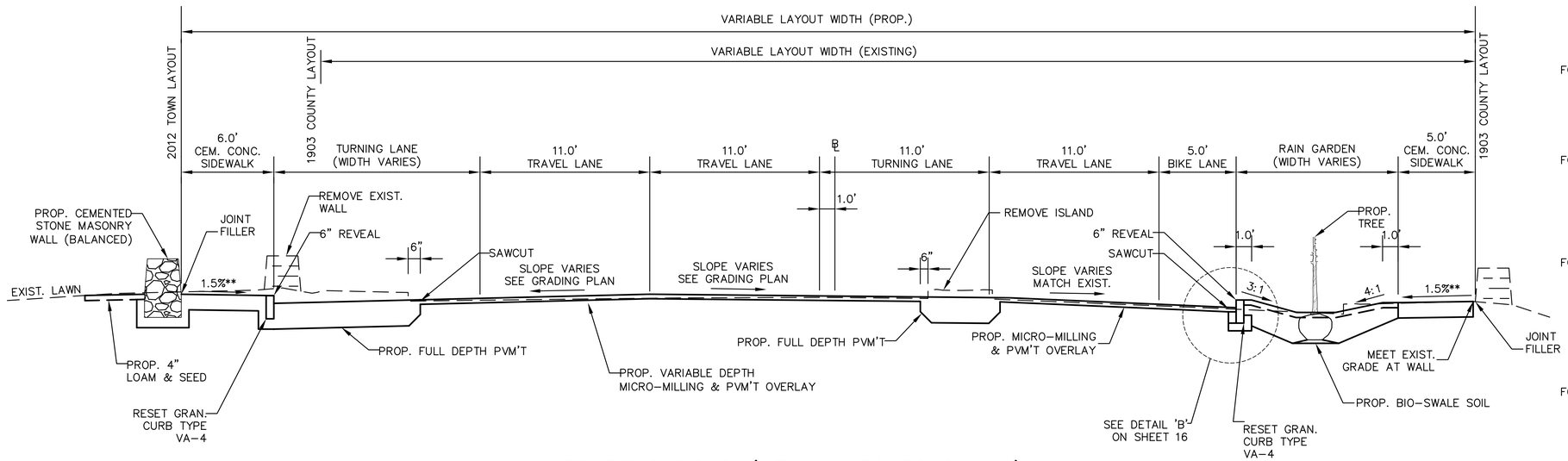
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	15	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



TRAPELO ROAD (STA 21+00 TO 24+00)

SCALE: 1" = 4'



TRAPELO ROAD (STA 19+50 TO 21+00)

SCALE: 1" = 4'

* 1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

PAVEMENT NOTES (CONT'D)

SIDE STREETS:

PROP. MICRO-MILLING & PVM'T OVERLAY

SURFACE: 1½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5), OVER

BITUMEN FOR TACK COAT (RS-1) AT 0.07GAL/SY OVER EXISTING MILLED PAVEMENT, OVER

MICRO-MILLING TO A DEPTH OF ½", 1", OR 1½" AS NOTED ON THE PLANS.

PROP. VARIABLE DEPTH MICRO-MILLING & PVM'T OVERLAY

SURFACE: 1½" TO 4¾" HOT MIX ASPHALT PLACED IN 2 LAYERS; 1½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER, BITUMEN FOR TACK COAT (RS-1) AT 0.05GAL/SY, OVER 2" TO 3" SUPERPAVE INTERMEDIATE COURSE 12.5(SIC-12.5), OVER

BITUMEN FOR TACK COAT (RS-1) AT 0.07GAL/SY OVER EXISTING MILLED PAVEMENT, OVER

1¼" SUPERPAVE LEVELING COURSE 9.5(SIC-9.5) IF REQUIRED, OVER

MICRO-MILLING TO A DEPTH OF ½" TO 2¼" TO ESTABLISH CROSS SLOPE AS INDICATED ON THE PLANS.

PROP. FULL DEPTH PVM'T

SURFACE: 3½" HOT MIX ASPHALT PLACED IN 2 LAYERS; 1½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER BITUMEN FOR TACK COAT (RS-1) AT 0.05GAL/SY, OVER 2" SUPERPAVE INTERMEDIATE COURSE 12.5(SIC-12.5) OVER BITUMEN FOR TACK COAT (RS-1) AT 0.05GAL/SY, OVER

BASE: 4½" SUPERPAVE BASE COURSE 37.5 (SBC-37.5) OVER

SUBBASE: 4" DENSE GRADED CRUSHED STONE FOR SUBBASE OVER 8" GRAVEL.

PROP. CEM. CONC. SIDEWALK/WHEELCHAIR RAMP:

SURFACE: 4" CEMENT CONCRETE AIR INTRAINED 4000 PSI, ¾", 610, OVER

FOUNDATION: 8" GRAVEL.

PROP. SCORED CEM. CONC. SIDEWALK:

SURFACE: 4" CEMENT CONCRETE AIR INTRAINED 4000 PSI, ¾", 610, OVER

FOUNDATION: 8" GRAVEL.

PROP. CEM. CONC. SIDEWALK AT DRIVEWAY:

SURFACE: 6" CEMENT CONCRETE AIR INTRAINED 4000 PSI, ¾", 610, OVER

FOUNDATION: 8" GRAVEL.

PROP. HMA DRIVEWAY:

SURFACE: 3½" HOT MIX ASPHALT DRIVEWAY MATERIAL PLACED IN 2 LAYERS; 1½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5), OVER 2" SUPERPAVE INTERMEDIATE COURSE 12.5(SIC-12.5).

FOUNDATION: 8" GRAVEL.

PROP. HMA SIDEWALK:

SURFACE: 2½" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5), OVER

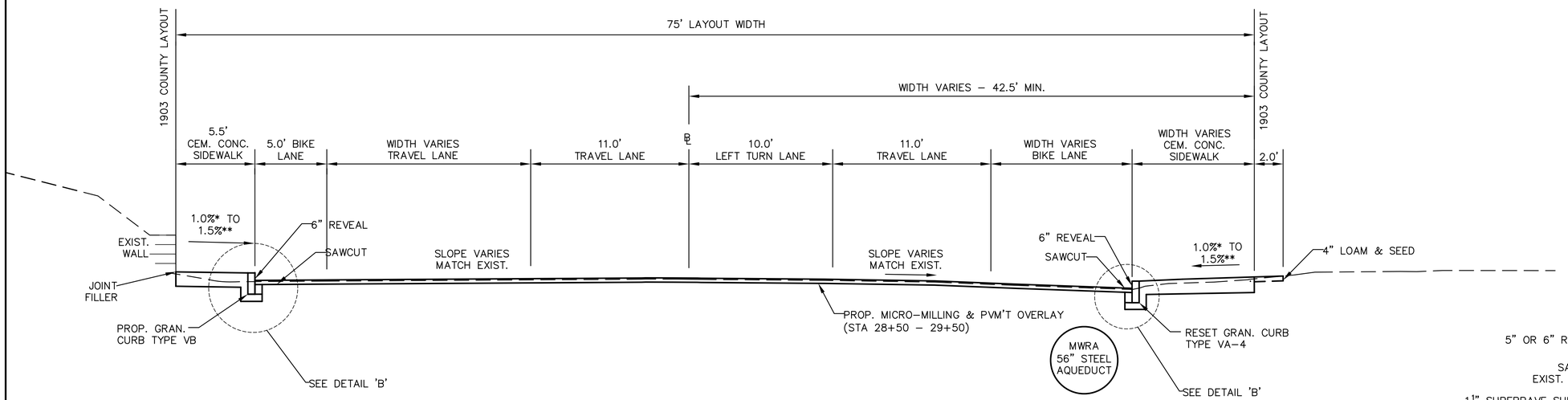
FOUNDATION: 8" GRAVEL.

NOTE: THIS NEW SUBBASE TO BE PLACED ONLY WHERE EXISTING SUBBASE MATERIAL FAILS TO MEET SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

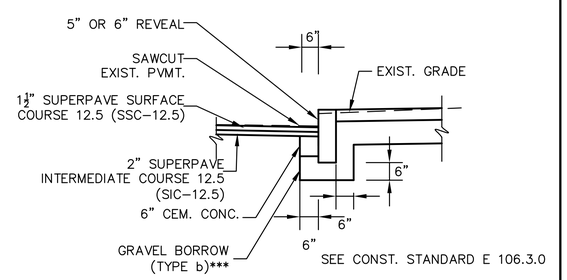
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	16	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



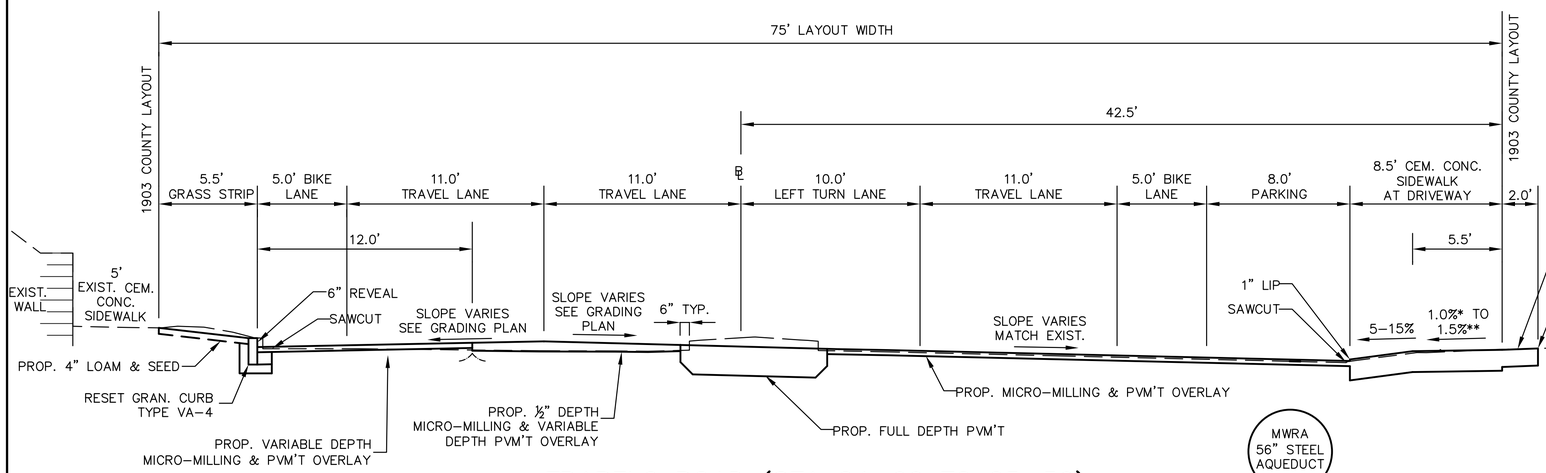
TRAPELO ROAD (STA 25+50 TO 29+50)

SCALE: 1" = 4'



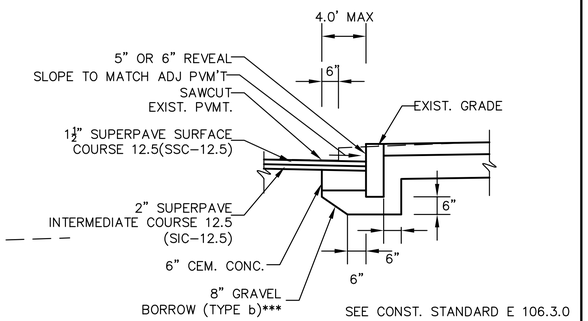
DETAIL B
RESET CURB

N.T.S.



TRAPELO ROAD (STA 24+00 TO 25+50)

SCALE: 1" = 4'



DETAIL A
FULL DEPTH PVM'T WIDENING < 4'

N.T.S.

* 1.5% PREFERRED

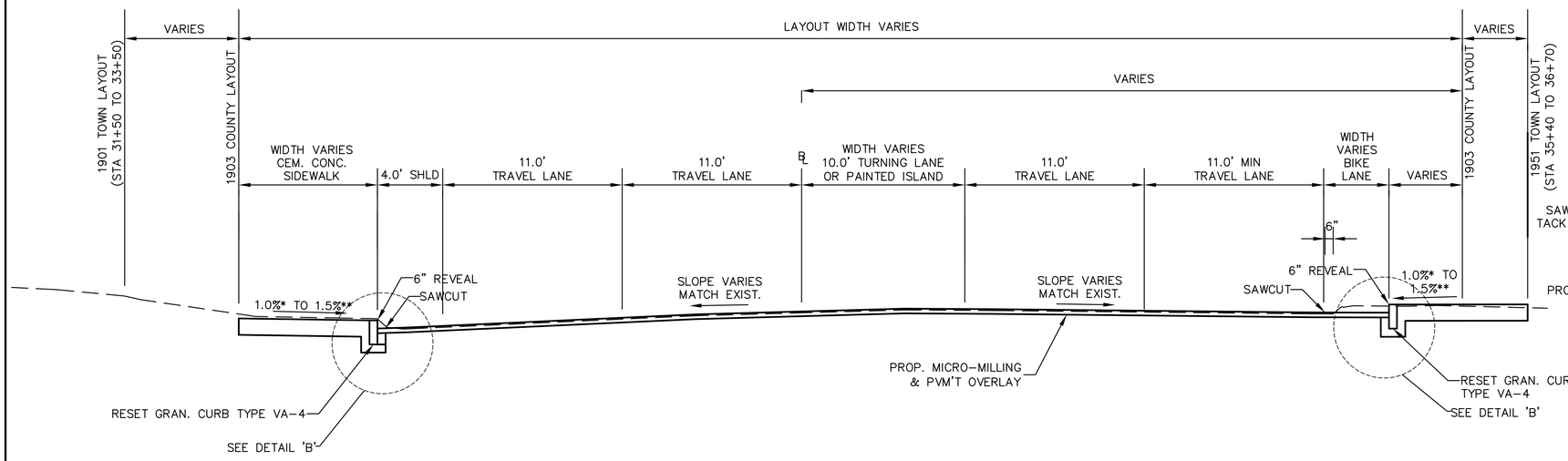
** CONSTRUCTION TOLERANCE ±0.5%

*** THIS NEW SUBBASE TO BE PLACED ONLY WHERE EXISTING SUBBASE MATERIAL FAILS TO MEET REQUIREMENTS OF M1.03.0 TYPE b AND AS DIRECTED BY THE ENGINEER.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

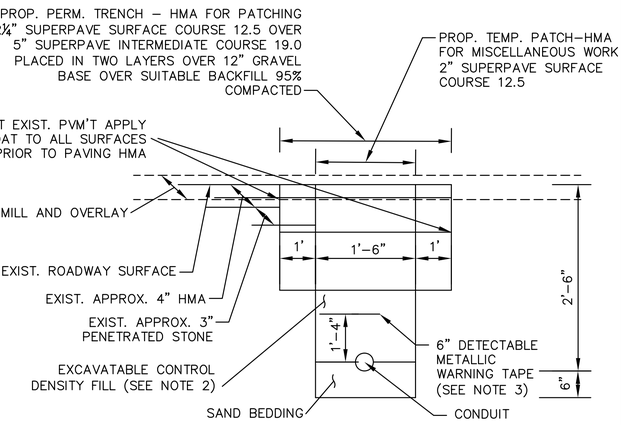
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	17	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



TRAPELO ROAD (STA 31+50 TO 36+25)

SCALE: 1" = 4'

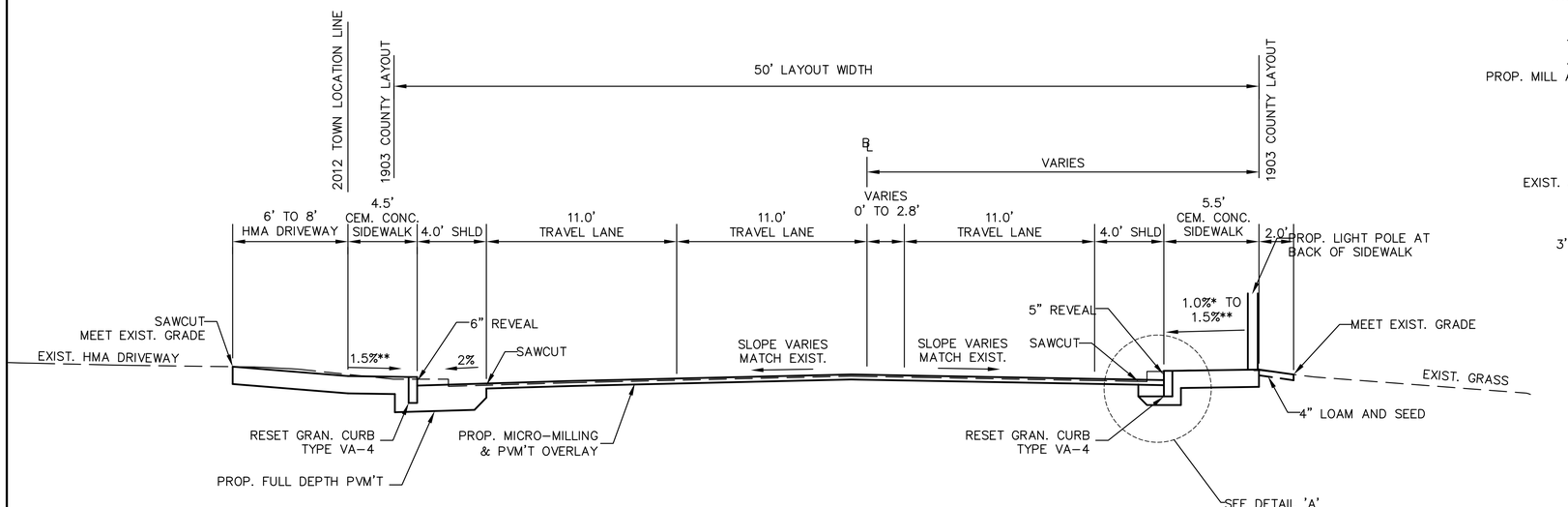


CONDUIT CROSSING ROADWAY

N.T.S.

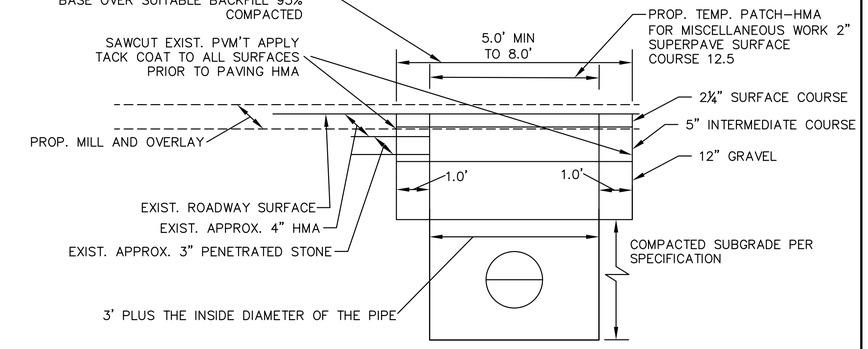
NOTES:

1. SCHEDULE 80 ELECTRICAL CONDUIT TYPE NM–PLASTIC (UL), WITH PULL ROPE, UNLESS OTHERWISE NOTED BY MASSDOT.
2. CONTROL DENSITY FILL SHALL MEET THE REQUIREMENTS OF SUBSECTION M4.08.0.
3. WARNING TAPE SHALL BE PER CURRENT APWA STANDARDS.



TRAPELO ROAD (STA 29+50 TO 31+50)

SCALE: 1" = 4'



TEMPORARY AND PERMANENT TRENCH PATCH DETAIL (PRIOR TO MILLING AND OVERLAY)

N.T.S.

TRENCH PATCH NOTES:

1. TEMPORARY TRENCH AND HMA PATCH AS REQUIRED SHALL BE REPAIRED WITH PERMANENT PAVEMENT TRENCH PATCH 5' MIN WIDTH.
2. HMA SHALL BE SPREAD BY APPROVED SPREADING EQUIPMENT OR ACCEPTABLE HAND METHODS.
3. COMPACTION OF TRENCH PAVEMENT SHALL BE BY A MINIMUM OF A 3 TON VIBRATORY ROLLER.
4. THE 2" SUPERPAVE SURFACE COURSE 12.5 SHALL BE TEMPORARY PATCH DEPTH TO BE REMOVED TO BUILD PERMANENT PATCH OR TO BE MILLED OFF WITH PROP MILL AND OVERLAY.

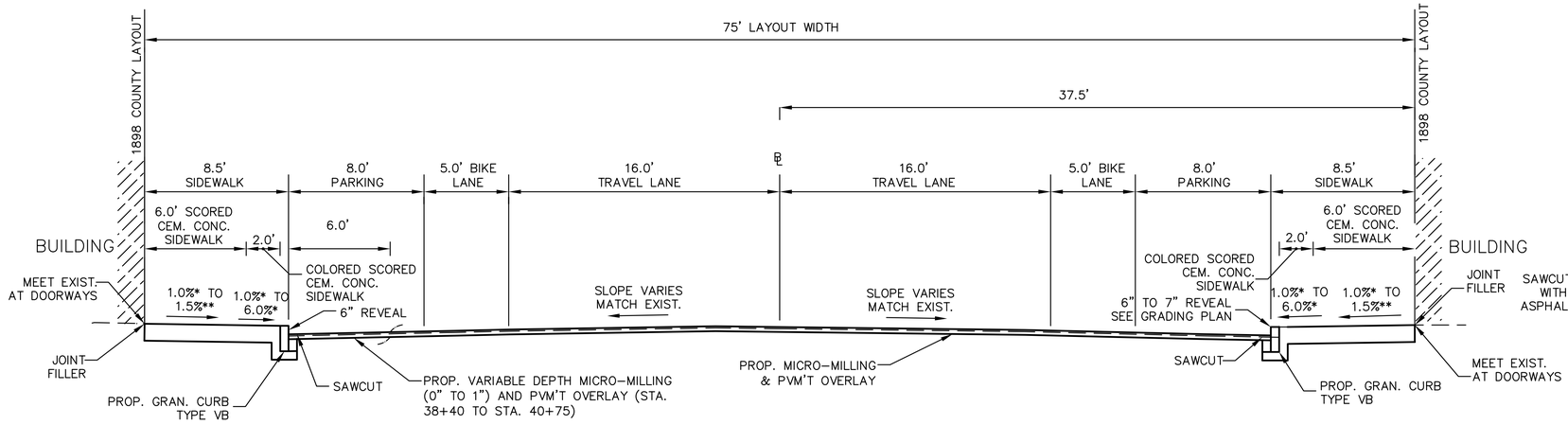
* 1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

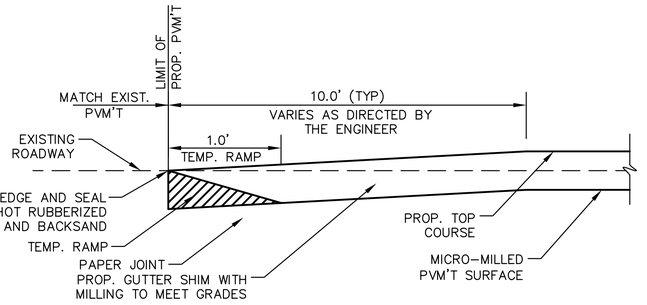
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	18	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



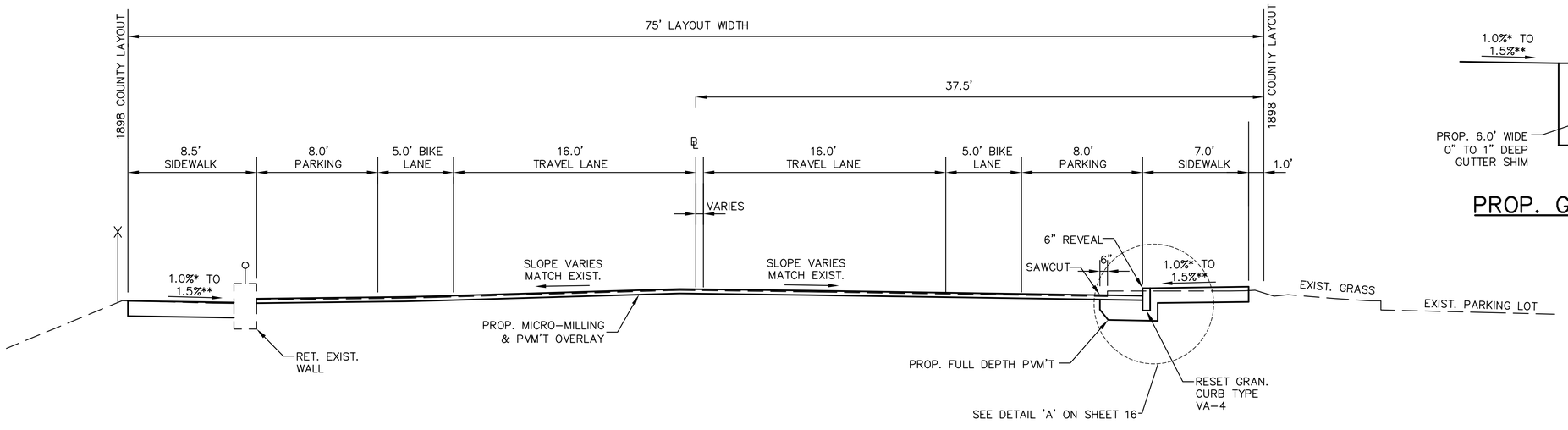
TRAPELO ROAD (STA 38+35 TO 43+00)

SCALE: 1" = 4'



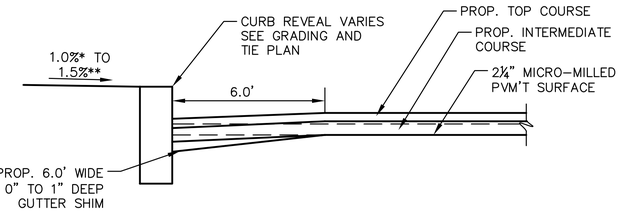
PVM'T TRANSITION FOR SIDE STREETS

N.T.S.



TRAPELO ROAD (STA 37+15 TO 38+35)

SCALE: 1" = 4'



PROP. GUTTER SHIM ON MAIN STREET

N.T.S.

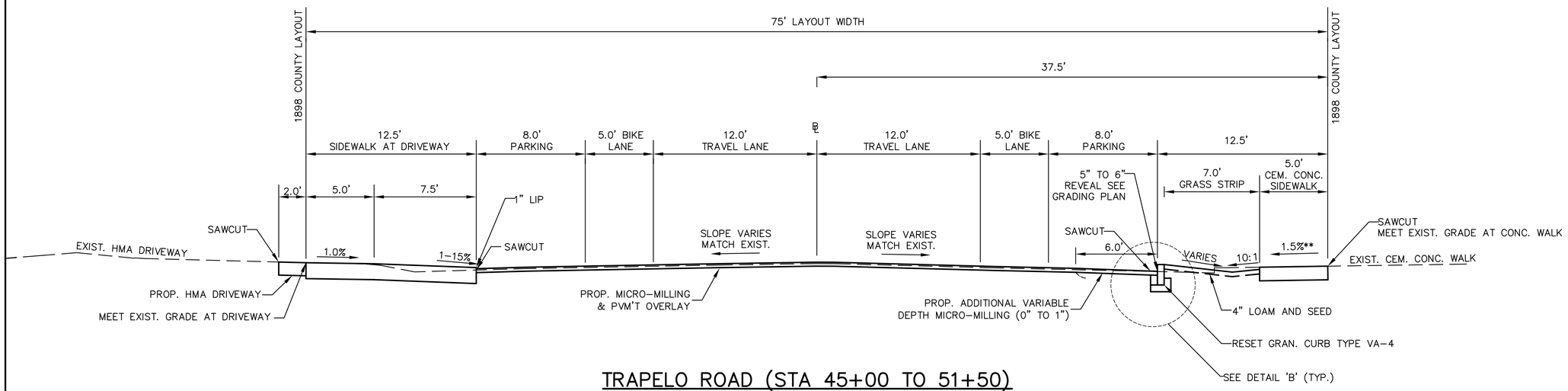
* 1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

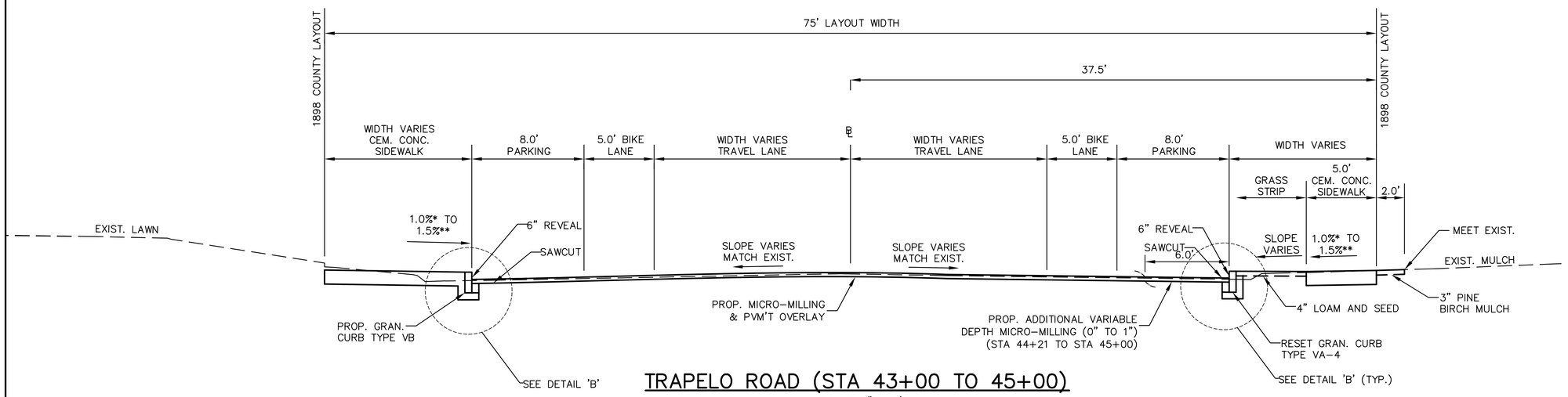
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	19	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



TRAPELO ROAD (STA 45+00 TO 51+50)

SCALE: 1" = 4'



TRAPELO ROAD (STA 43+00 TO 45+00)

SCALE: 1" = 4'

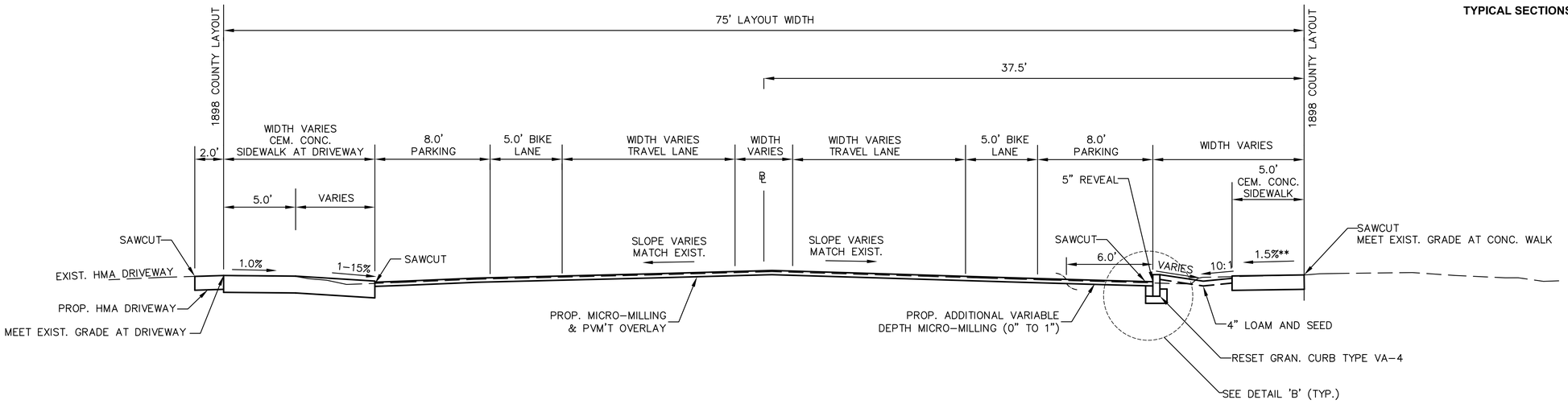
* 1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

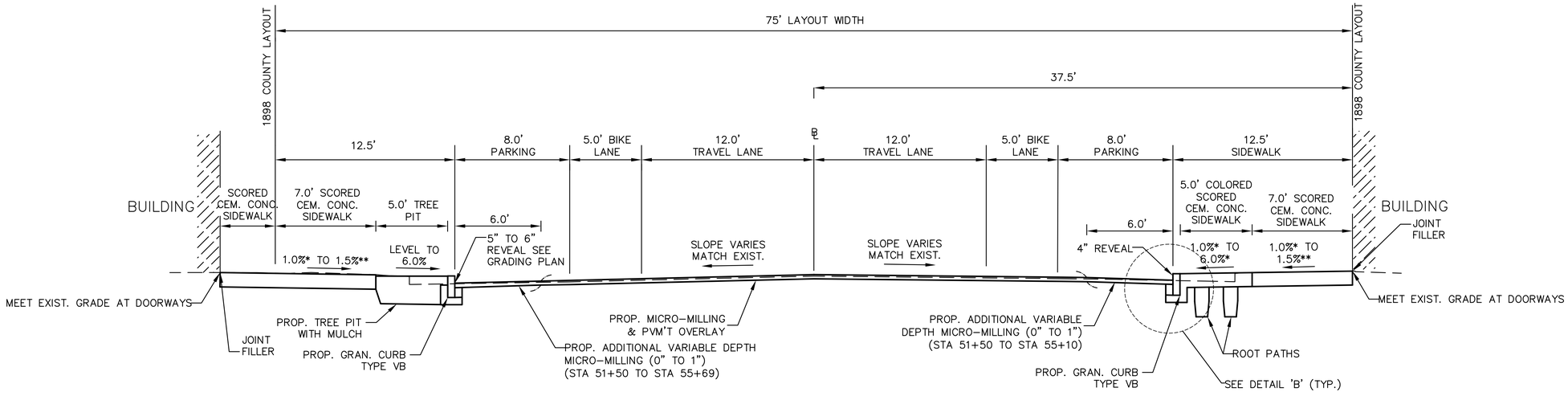
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	20	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



TRAPELO ROAD (STA 58+00 TO 61+05)

SCALE: 1" = 4'



TRAPELO ROAD (STA 51+50 TO 58+00)

SCALE: 1" = 4'

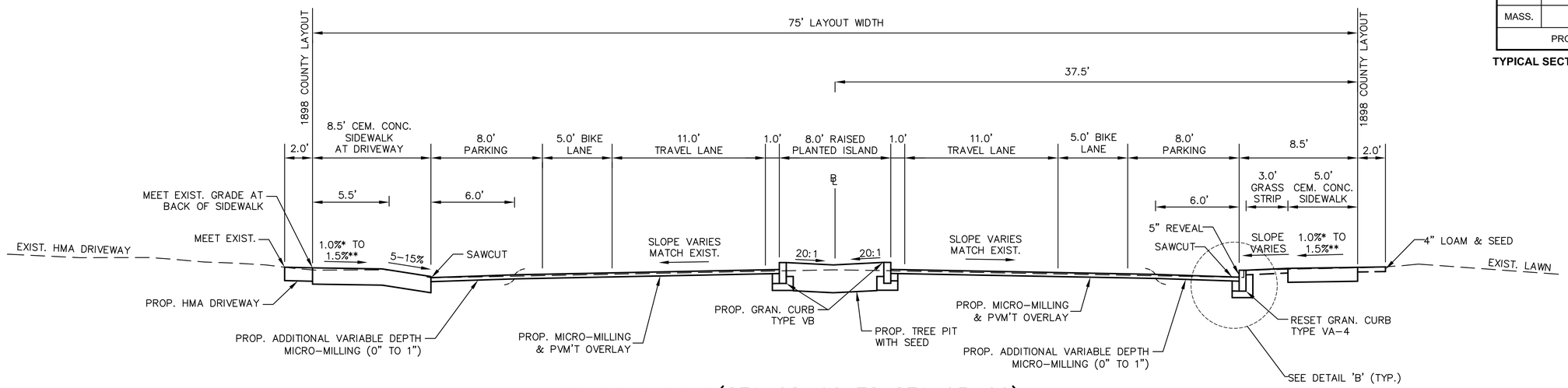
*1.5% PREFERRED

**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

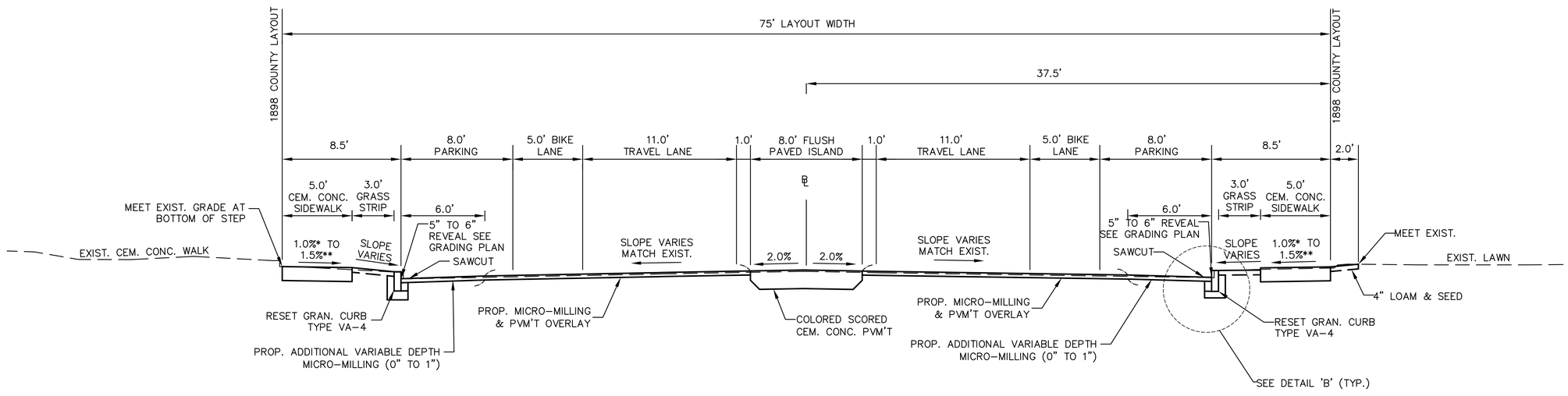
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	21	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



TRAPELO ROAD(STA 62+90 TO STA 63+60)
(STA 65+50 TO STA 65+75)
(STA 67+45 TO STA 68+30)
(STA 72+90 TO STA 73+25)

SCALE: 1" = 4'



TRAPELO ROAD(STA 61+05 TO STA 62+90)
(STA 64+10 TO STA 65+15)
(STA 69+50 TO STA 69+85)

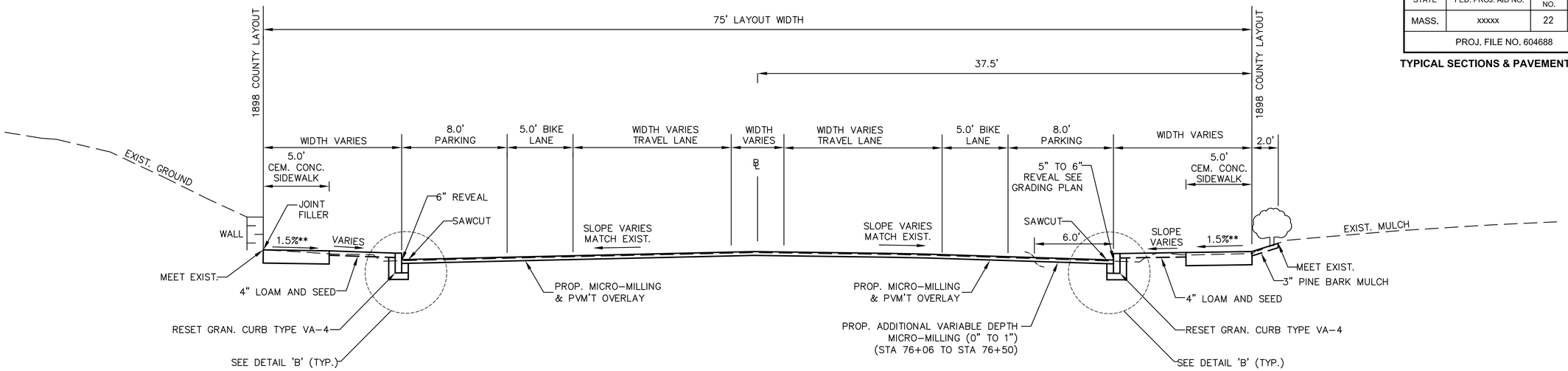
SCALE: 1" = 4'

*1.5% PREFERRED
**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

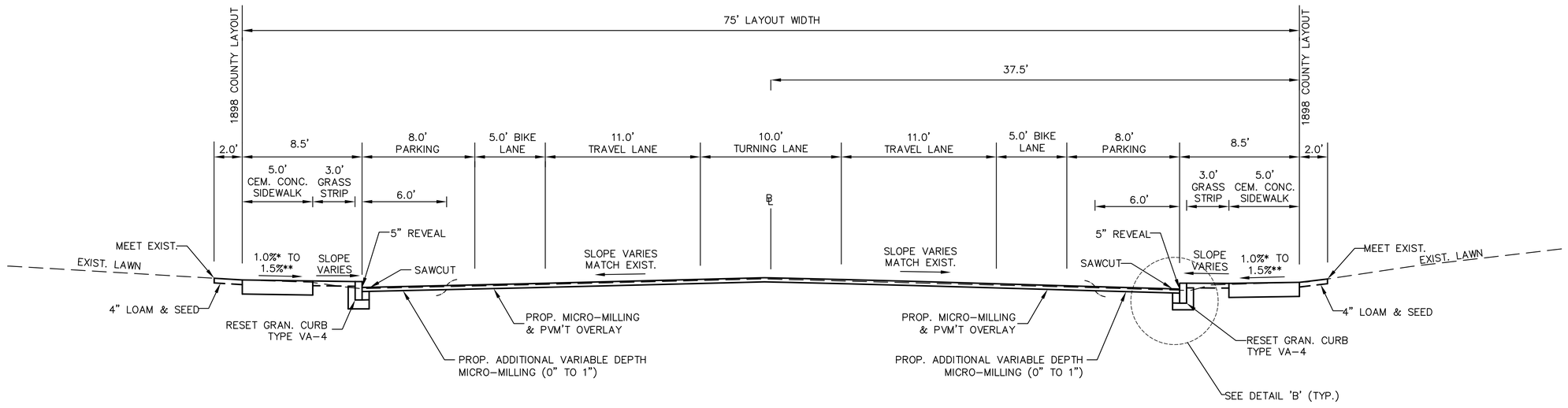
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	22	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



TRAPELO ROAD (STA 73+25 TO 76+50)

SCALE: 1" = 4'



TRAPELO ROAD(STA 63+60 TO STA 64+10)
(STA 65+15 TO STA 65+50)
(STA 65+75 TO STA 67+45)
(STA 68+30 TO STA 69+50)
(STA 69+85 TO STA 72+90)

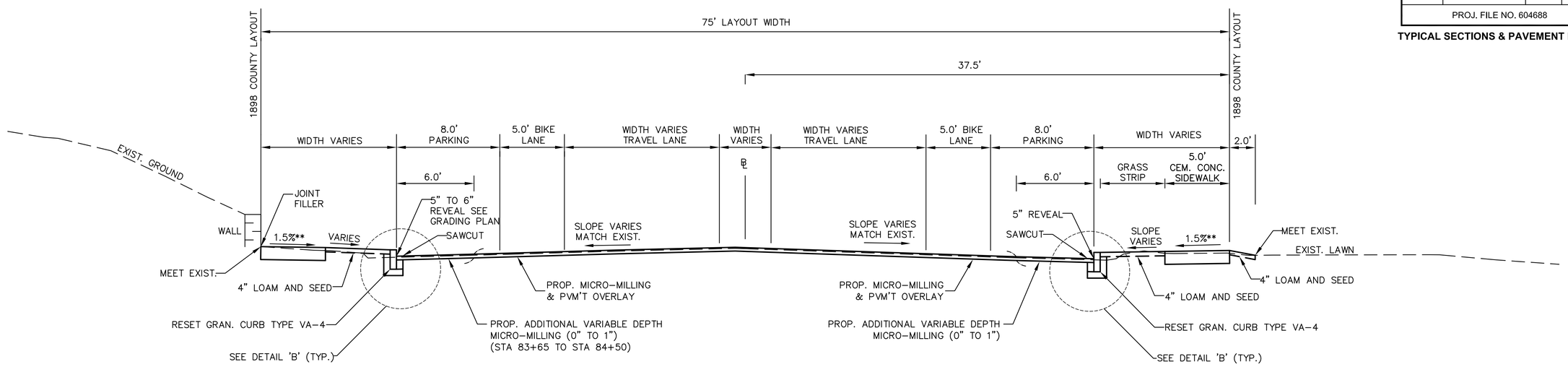
SCALE: 1" = 4'

*1.5% PREFERRED
** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

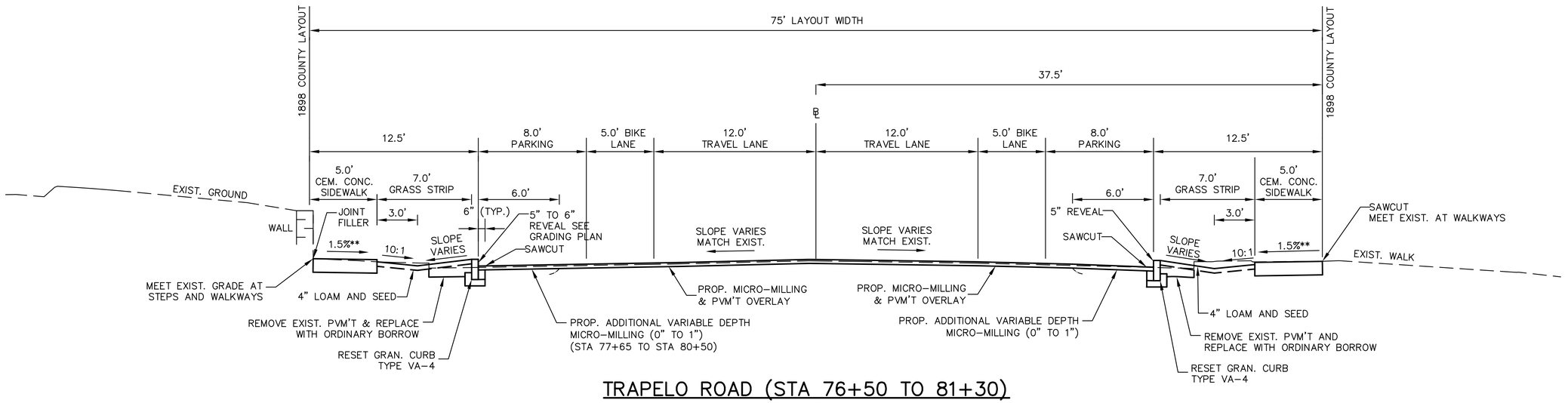
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	23	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



TRAPELO ROAD (STA 81+30 TO 84+50)

SCALE: 1" = 4'



TRAPELO ROAD (STA 76+50 TO 81+30)

SCALE: 1" = 4'

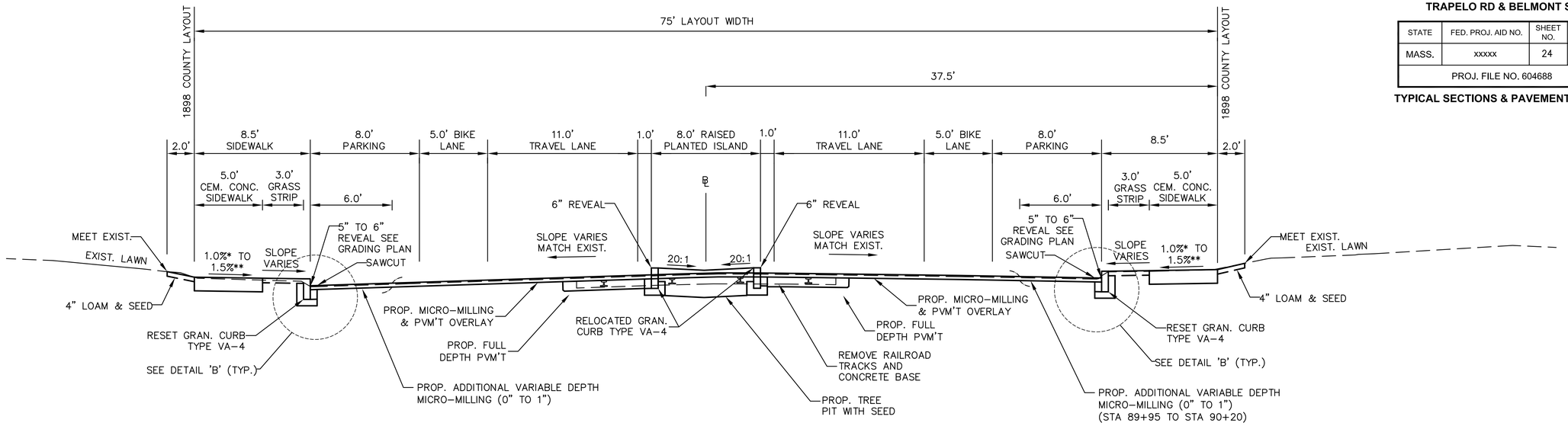
*1.5% PREFERRED

**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

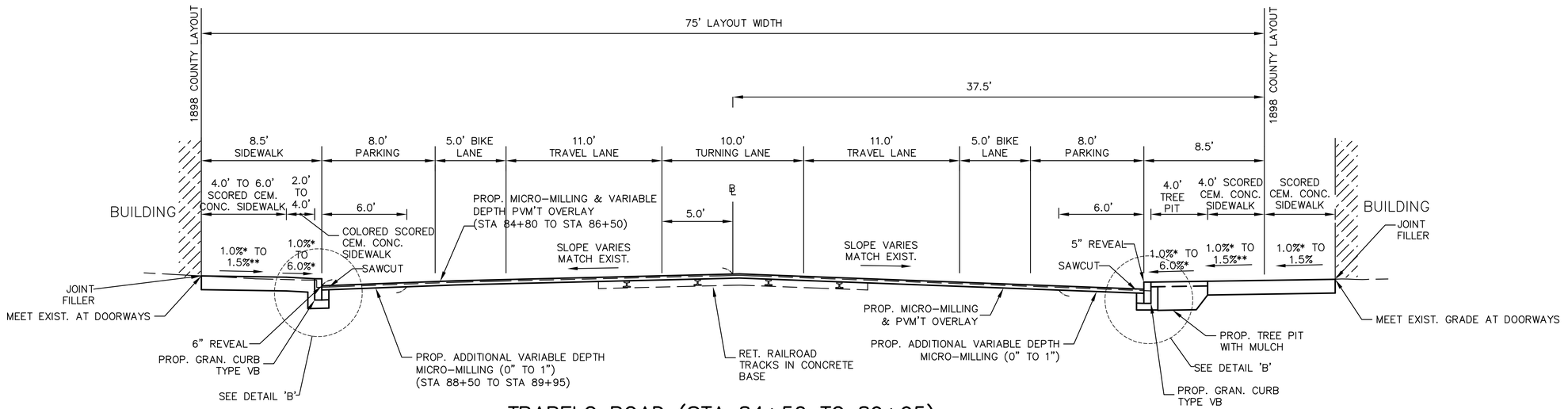
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	24	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



TRAPELO ROAD(STA 89+95 TO STA 90+80) (STA 92+00 TO STA 92+30) (STA 94+80 TO STA 95+30)

SCALE: 1" = 4'



TRAPELO ROAD (STA 84+50 TO 89+95)

SCALE: 1" = 4'

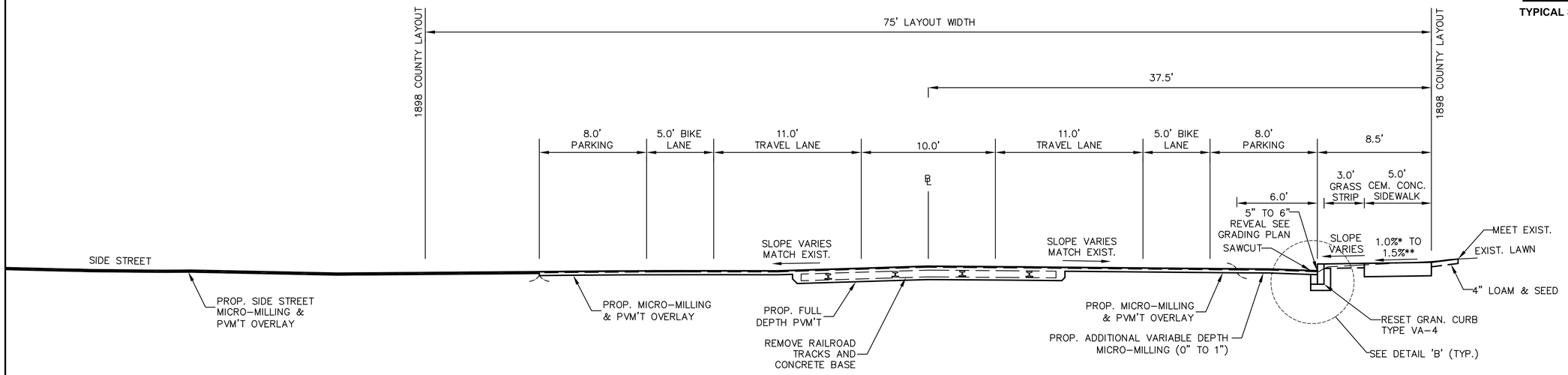
*1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

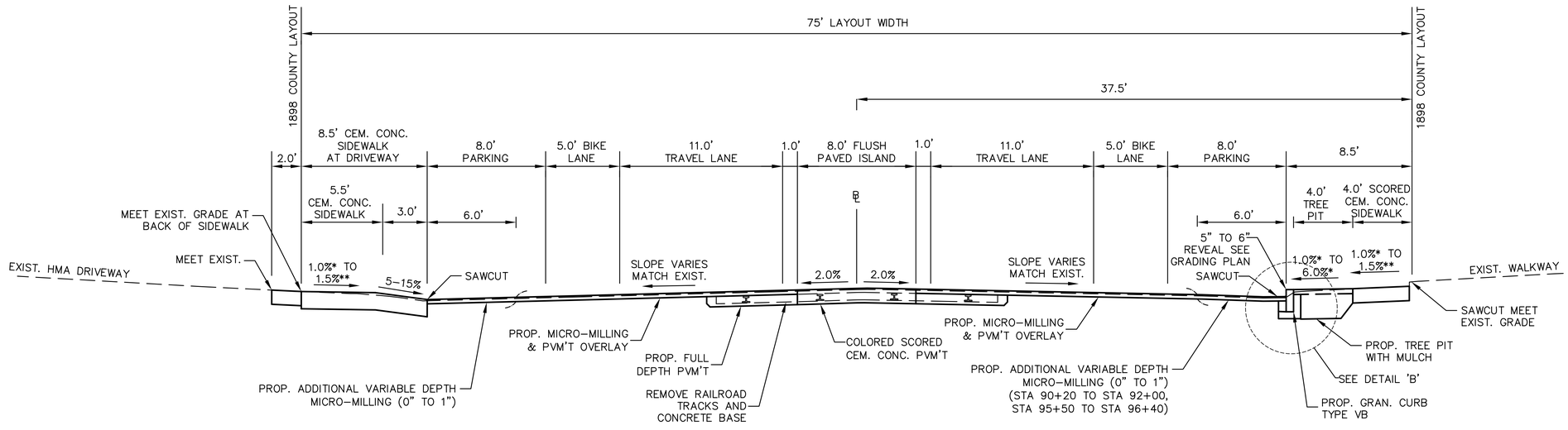
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	25	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



TRAPELO ROAD(STA 92+85 TO STA 93+40)
(STA 96+40 TO STA 98+00)

SCALE: 1" = 4'



TRAPELO ROAD(STA 90+80 TO STA 92+00)
(STA 92+30 TO STA 92+85)
(STA 93+40 TO STA 94+80)
(STA 95+30 TO STA 96+40)

SCALE: 1" = 4'

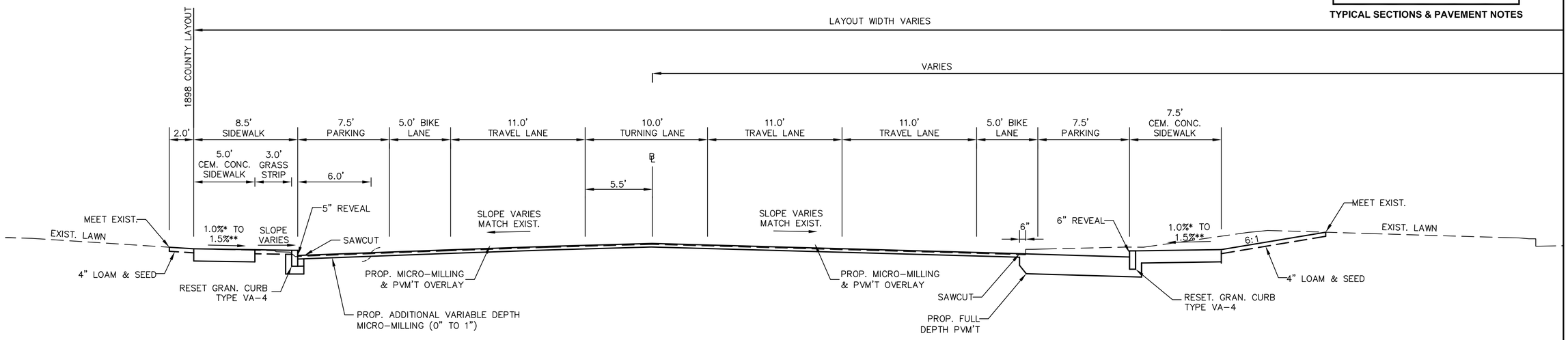
*1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

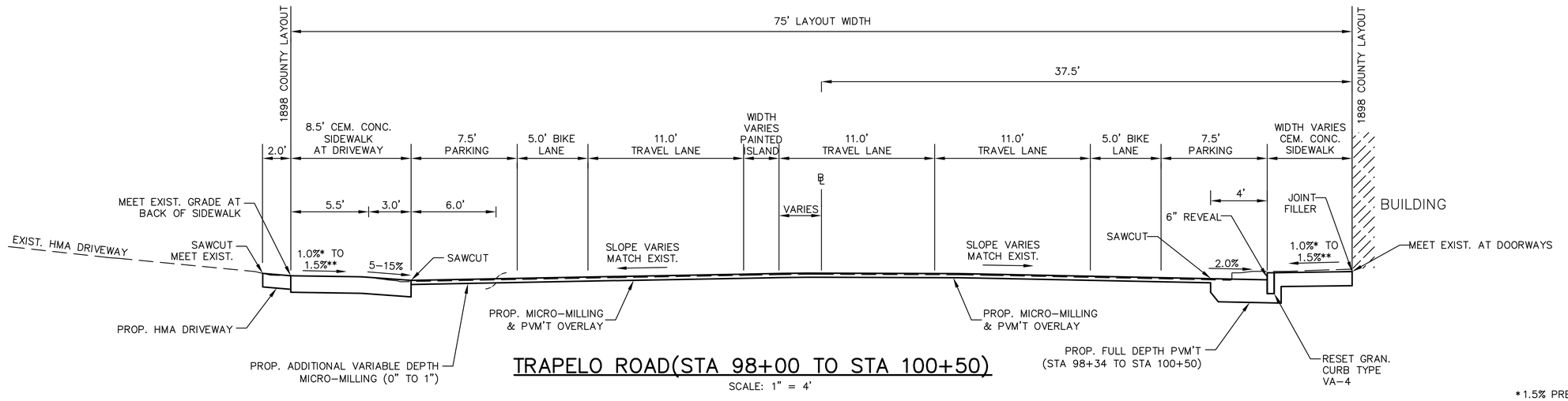
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	26	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



TRAPELO ROAD(STA 100+50 TO STA 102+50)

SCALE: 1" = 4'



TRAPELO ROAD(STA 98+00 TO STA 100+50)

SCALE: 1" = 4'

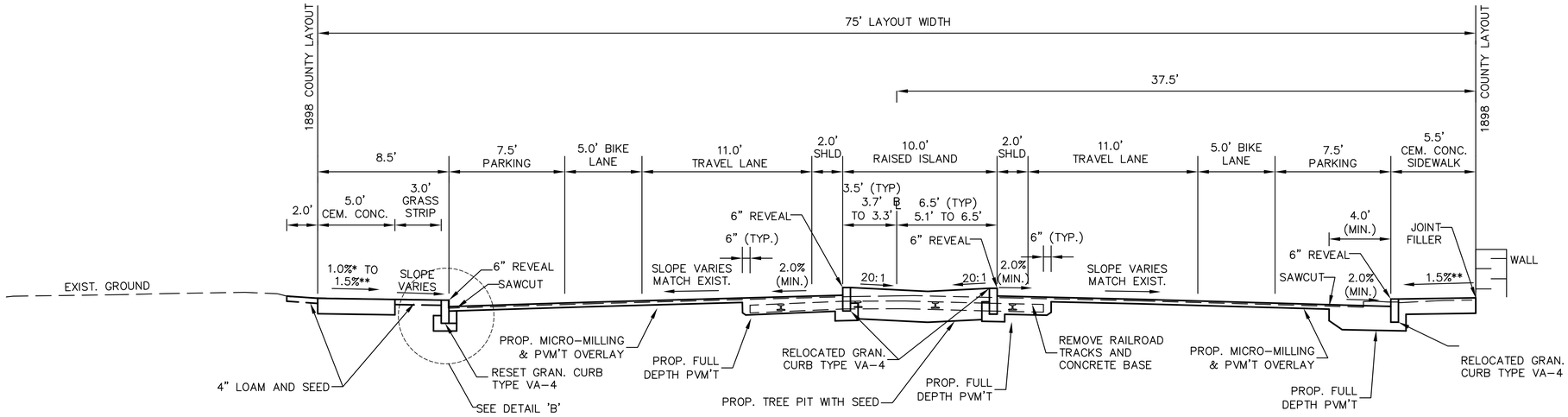
*1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

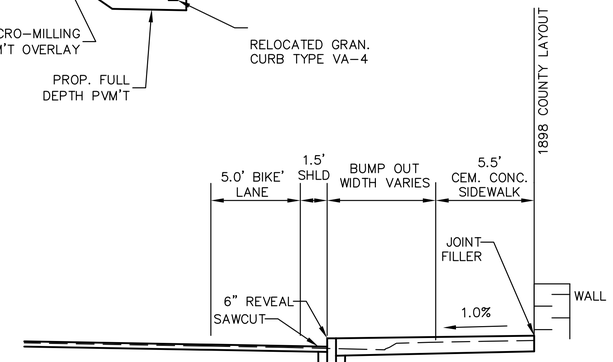
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	27	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



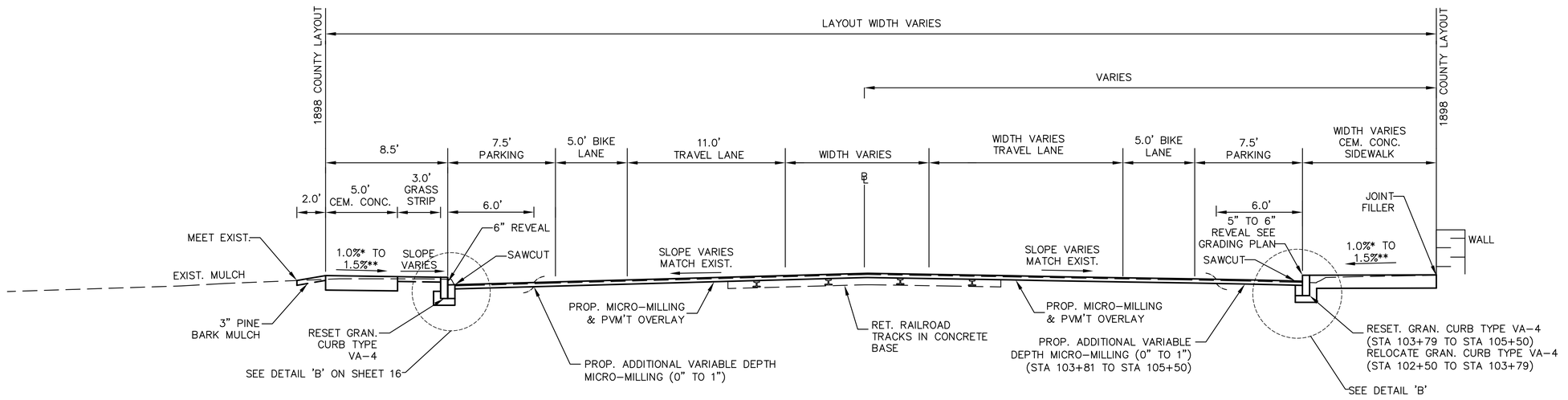
BELMONT STREET (STA 106+00 TO 112+75)

SCALE: 1" = 4'



BUMP OUTS

(STA 106+00 TO STA 112+75)



TRAPELO ROAD(STA 102+50 TO STA 105+50)

SCALE: 1" = 4'

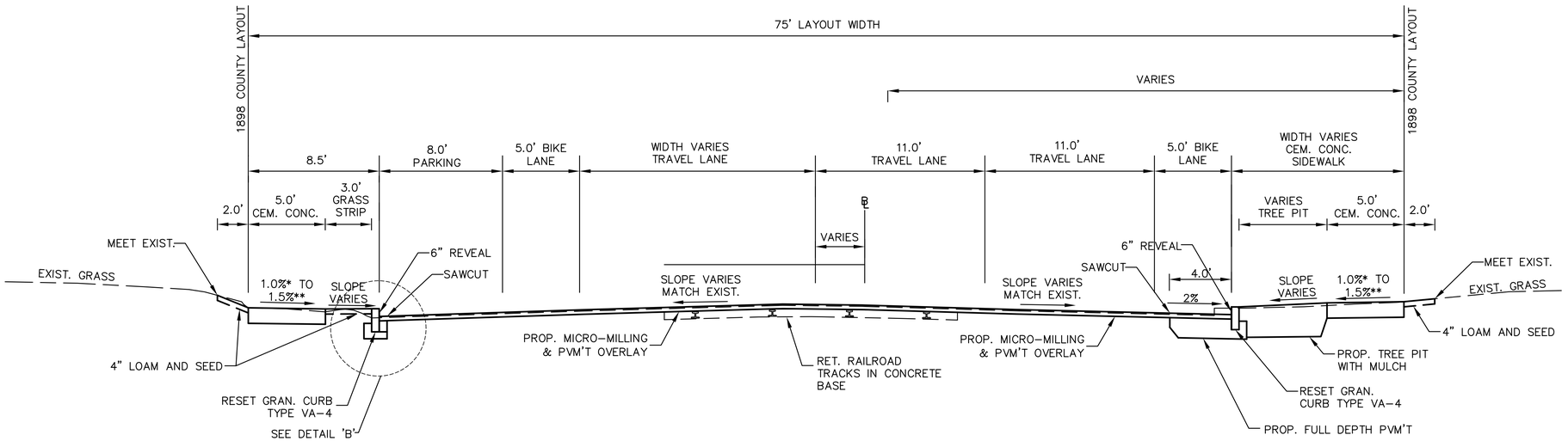
*1.5% PREFERRED

**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

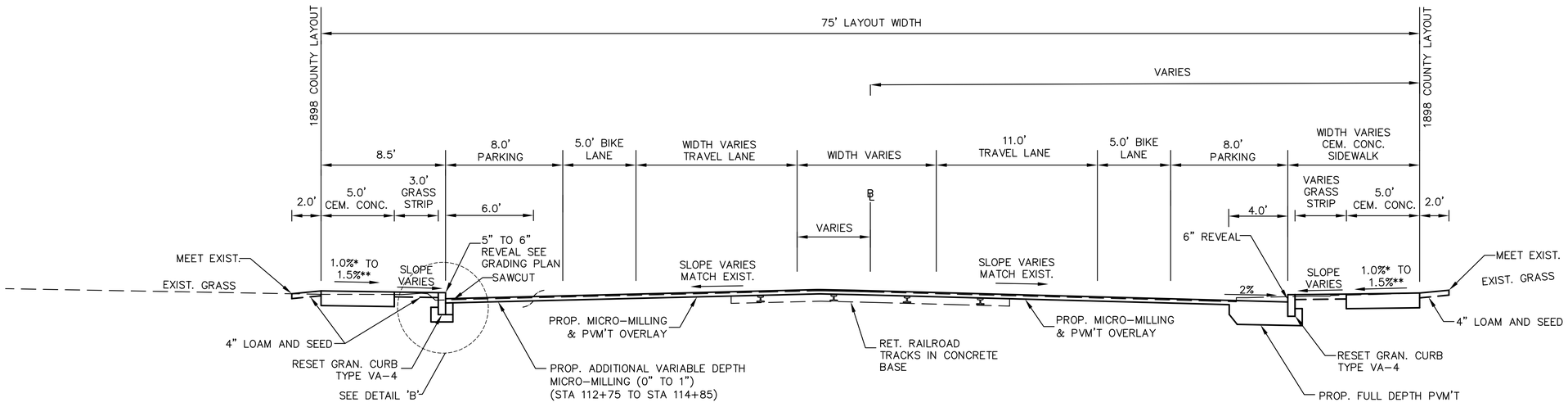
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	28	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



BELMONT STREET (STA 116+00 TO 118+00)

SCALE: 1" = 4'



BELMONT STEET (STA 112+75 TO 116+00)

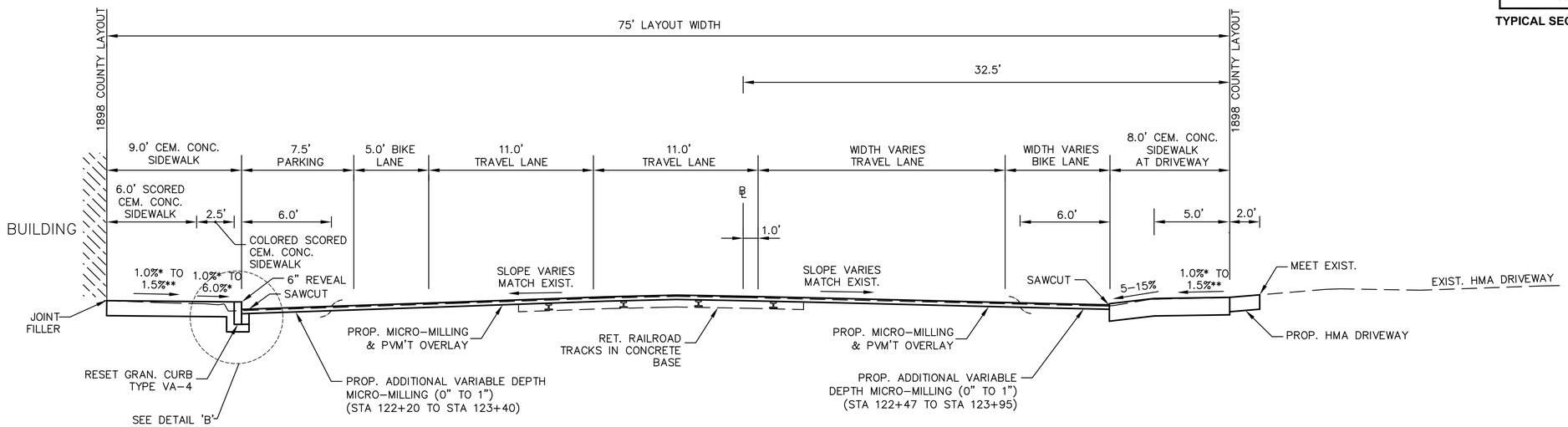
SCALE: 1" = 4'

*1.5% PREFERRED
**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

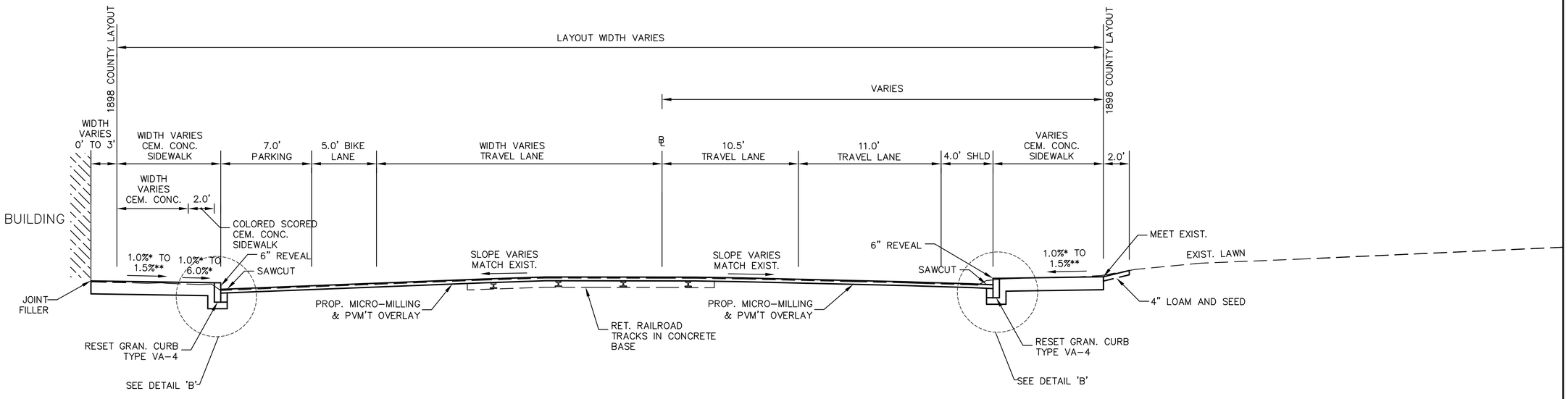
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	29	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



BELMONT STREET (STA 121+50 TO 124+50)

SCALE: 1" = 4'



BELMONT STREET (STA 118+00 TO 121+50)

SCALE: 1" = 4'

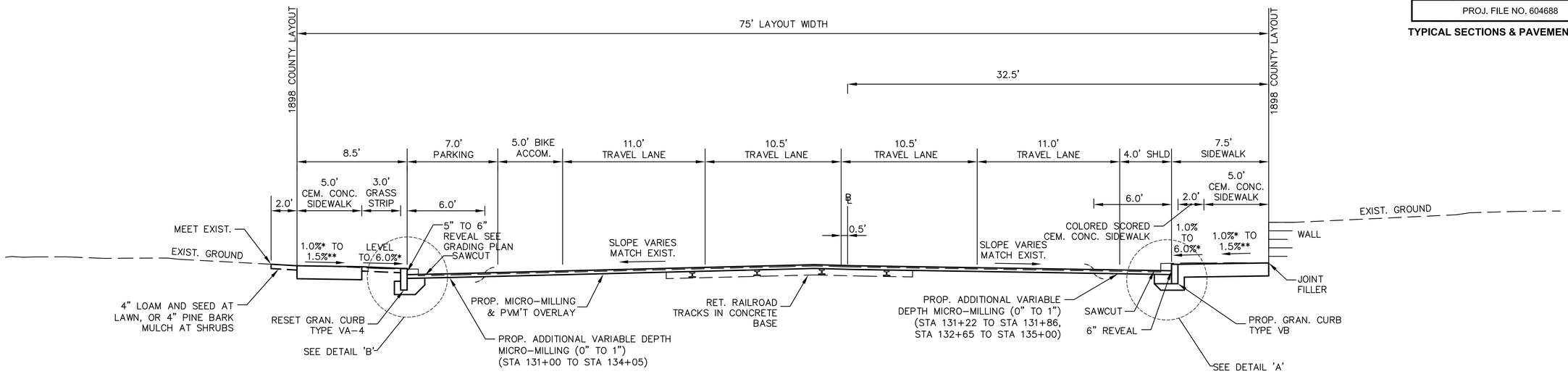
*1.5% PREFERRED

**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

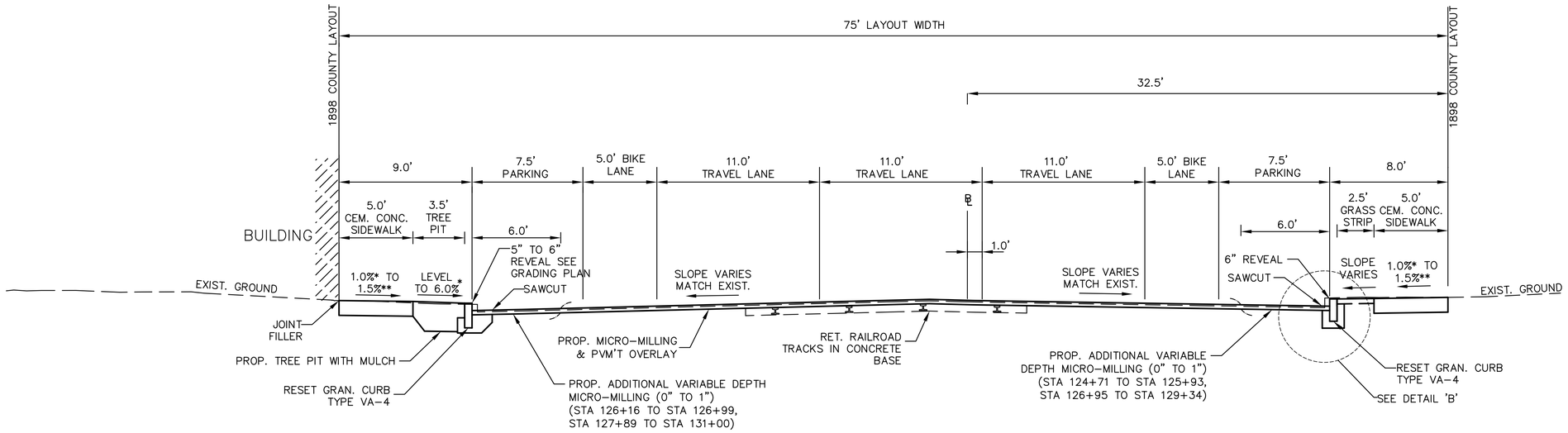
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	30	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



BELMONT STREET (STA 131+00 TO 135+00)

SCALE: 1" = 4'



BELMONT STREET (STA 124+50 TO 131+00)

SCALE: 1" = 4'

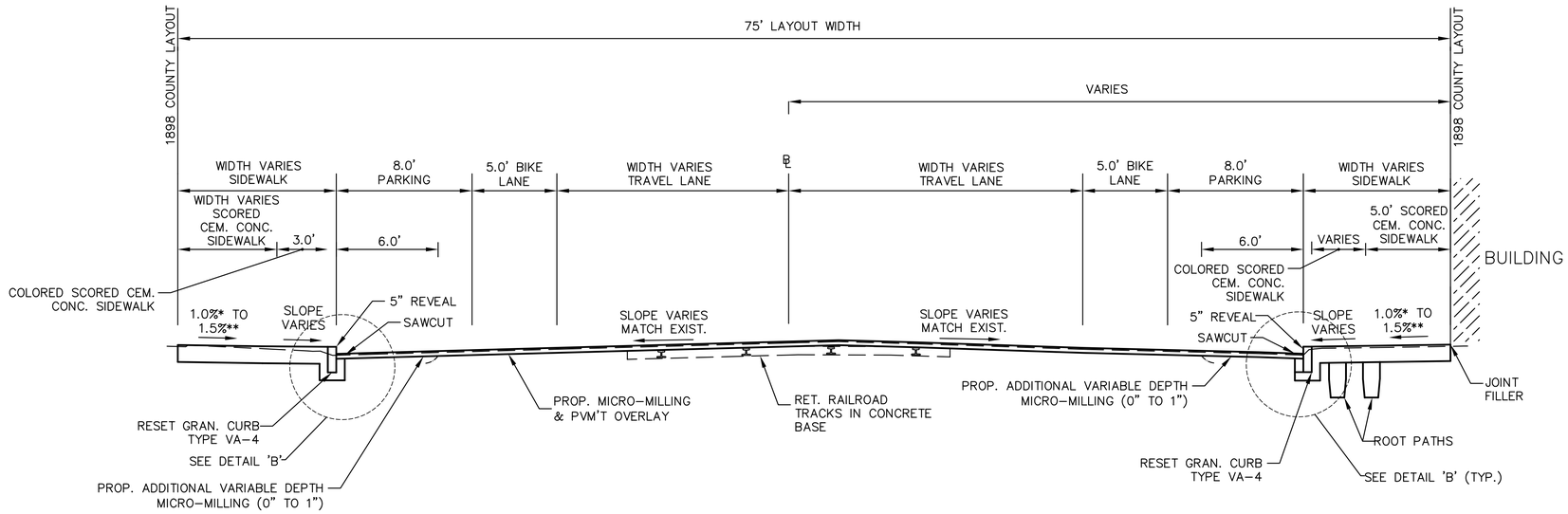
*1.5% PREFERRED

**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

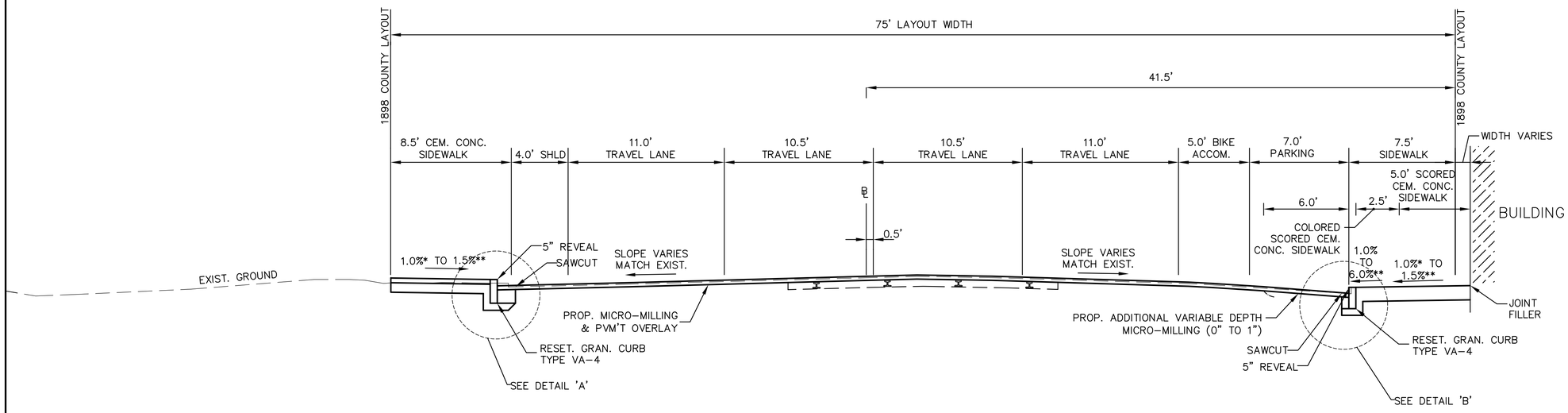
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	31	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



BELMONT STREET (STA 138+00 TO 141+00)

SCALE: 1" = 4'



BELMONT STREET (STA 135+00 TO 138+00)

SCALE: 1" = 4'

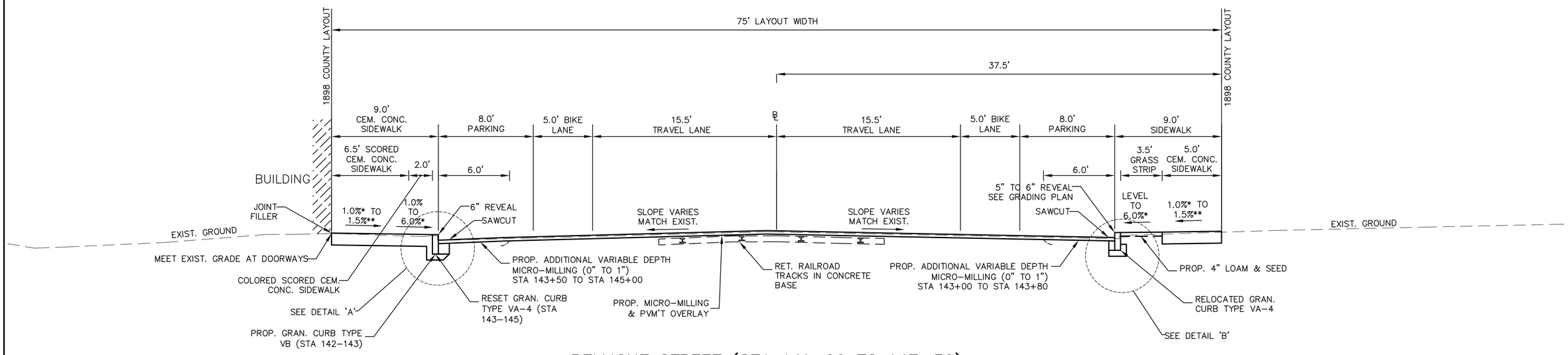
*1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	32	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



BELMONT STREET (STA 141+00 TO 147+30)

SCALE: 1" = 4'

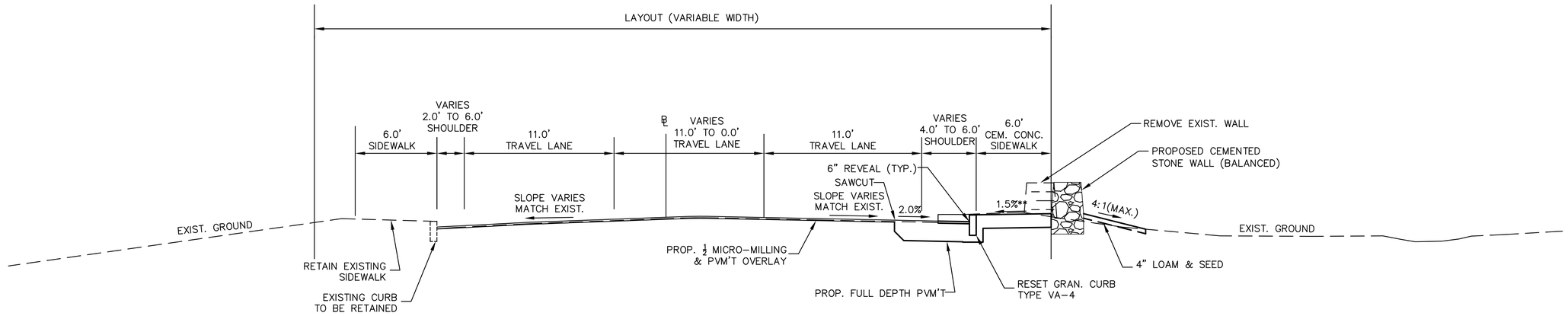
*1.5% PREFERRED

**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

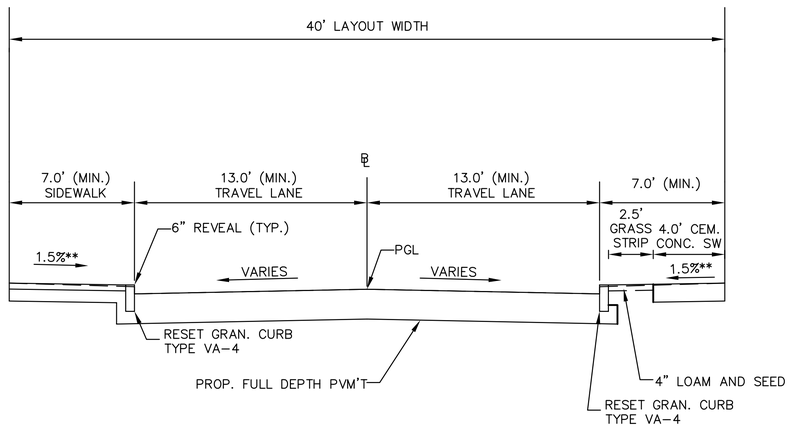
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	33	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



MILL STREET (STA 1+78 TO STA 3+70)

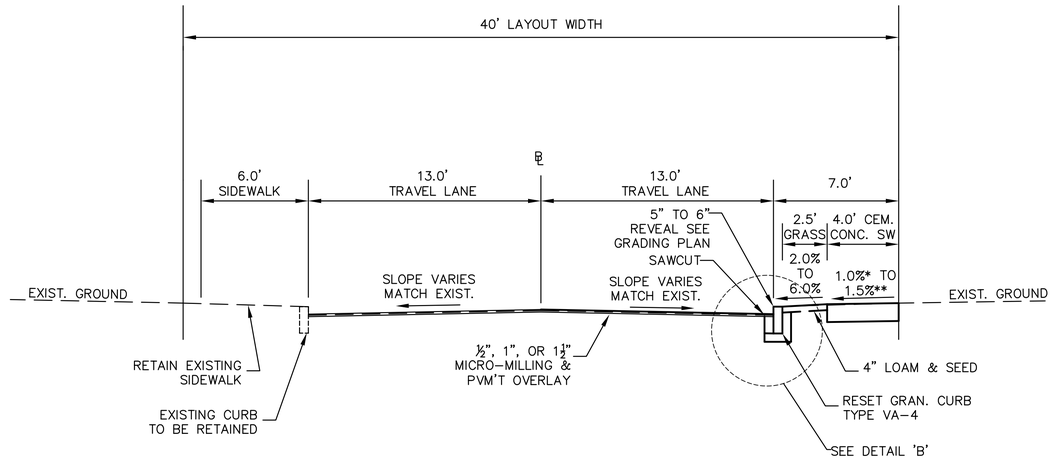
SCALE: 1" = 4'



SIDE STREET (FULL DEPTH RECONSTRUCTION)

SCALE: 1" = 4'

BEECH STREET (STA 0+25 TO STA 0+94)
HARRIET AVENUE (STA 0+30 TO STA 1+78)
SCHOOL STREET (STA 0+35 TO STA 1+25)
GROVE STREET (STA 0+36 TO STA 1+11)
WORCESTER STREET (STA 0+35 TO STA 0+79)
NEWTON STREET (STA 0+35 TO STA 0+80)



SIDE STREET (MICRO-MILLING AND OVERLAY)

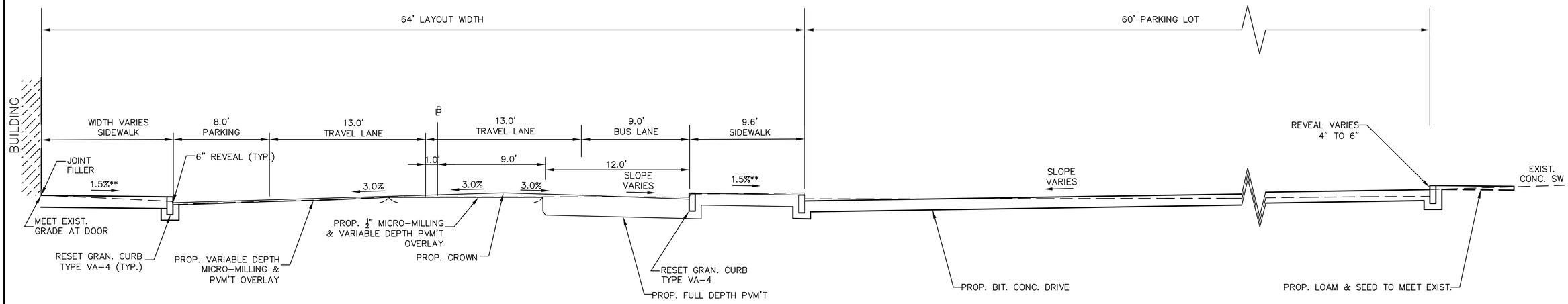
SCALE: 1" = 4'

*1.5% PREFERRED
**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	34	214
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



CHURCH STREET (STA 1+23 TO STA 2+80)

SCALE: 1" = 4'

*1.5% PREFERRED
**CONSTRUCTION TOLERANCE ±0.5%

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 136 & 162

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 96

DRAINAGE DETAILS
SEE SHEET NO. 96

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	35	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

CONT'D BELOW

MILL STREET

100 FT BUFFER ZONE

PROP. WHEELCHAIR RAMP

PROP. FULL DEPTH PVM'T

PROP. ½" MICRO–MILLING & PVM'T OVERLAY

BEAVER BROOK RESERVATION

PROP HAYBALES w/SILT FENCE

PROP. GRANITE CURB FROM RESET

PROP. 16' – 5.5' CEM. CONC. SW (BO)

PROP. 4" LOAM & SEED

BEGIN PROP. 5.5' CEM. CONC. SW

HAND EXCAVATION AROUND ROOTS

HAND EX. AROUND ROOTS & PROP. TREE PROTECTION

PROP. WHEELCHAIR RAMP (TYP.)

PROP. 1½" TO 2" MICRO–MILLING & PVM'T OVERLAY

PROP. 1½" MICRO–MILLING & PVM'T OVERLAY

PROP. 1½" TO 2¼" MICRO–MILLING & PVM'T OVERLAY

APPROX. LIMIT OF 100 YEAR FLOODPLAIN (FIRM MAP#25017C0414E) (BLSF)

BEAVER BROOK

WORK AREA WITHIN BLSF (375 SF)

BEGIN PROJECT
STA. 17+40.00
MEET EXISTING
N 2967460.7350
E 738144.8003

100 FT BUFFER ZONE

HOR. SCALE IN FEET
0 20 50 100

PROP. FULL DEPTH WIDENING

PROP. 2¼" MICRO–MILLING & PVM'T OVERLAY

PROP. 4" LOAM & SEED

TRAPELO ROAD (RTE 60)

BELMONT / WALTHAM

BEAVER BROOK

APPROX. LIMIT OF 100 YEAR FLOODPLAIN (EL=75')(BLSF)

STA. 18+96.70 TRAPELO ROAD ℄ =
STA. 0+00.00 MILL STREET ℄
N=2967375.5977 E=738276.3501

PROP. 24" BIO–SWALE SOIL & SOD

PROP. GRAN. CURB TYPE VB

PROP. BOUND

PROP. 4" LOAM & SEED

PROP. HMA DRIVE

PROP. 4" LOAM & SEED

PROP. 6.0' CEM. CONC.SW

PROP. GRAN. CURB FROM RESET

PROP. CEMENTED STONE MASONRY WALL (BALANCED)

PROP. GRAN. CURB FROM RESET

PROP. TREE PROTECTION (TYP.)

HAND EX. ROOT ZONE (TYP.)

LINE OF TEMP. EASEMENT

PROP. UTILITY POLE (BO)(TYP)

PROP. CEM. CONC. WALK SURFACE

PROP. WHEELCHAIR RAMP

PROP. 4" LOAM & SEED

PROP. GRAN. CURB TYPE VB

PROP. SAW CUT & HMA DRIVE

PROP. 6.0' CEM. CONC. SW

PROP. TOWN LOCATION LINE

PROP. GRAN. CURB TYPE VB

PROP. 6' CEM. CONC. SW

PROP. 4" LOAM & SEED (TYP.)

HAND EX. AROUND ROOT ZONES

PROP. SAWCUT (TYP)

PROP. CHANGE IN PVM'T TYPE (TYP)

CONST. ℄

PROP. GRAN. CURB FROM RESET

PROP. TREE (TYP.)

PROP. 24" BIO–SWALE SOIL & SOD

PROP. 5.0' CEM. CONC. SW

INSTALL 12" WAVERLEY TRAIL MEDALLION(TYP)

INSTALL 3" WAVERLEY TRAIL MEDALLION (TYP)

100 FT BUFFER ZONE

BEAVER BROOK RESERVATION

LIMIT OF 200 FT RIVERFRONT AREA

STA. 3+97.4
LIMIT OF WORK
MEET EXISTING

PROP. 6.5' GRAN. TRANS. STONE TYPE VB

PROP. FULL DEPTH PVM'T

PROP. VARIABLE DEPTH MICRO–MILLING & PVM'T OVERLAY

PROP. FULL DEPTH PAVEMENT

PROP. 2 ¼" MICRO–MILLING & PVM'T OVERLAY

PROP. 4" LOAM & SEED

PROP. TREE PROTECTION (TYP.)

PROP. CEMENTED STONE MASONRY WALL (LOW) SEE DETAILS

REM. CONC. PAD

MATCH LINE

CONT. ON SHEET 36

+10.60 BEGIN WALL

+84.88 END WALL

99.70'
S56°27'53"E

PC +75.48

BEGIN WALL +31.30
516.86'
N02°30'35"W

281.90'
S57°05'22"E

+63.66

+77.44

+97.0

+69.78

CONT'D ABOVE

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	36	214
PROJ. FILE NO. 604688			

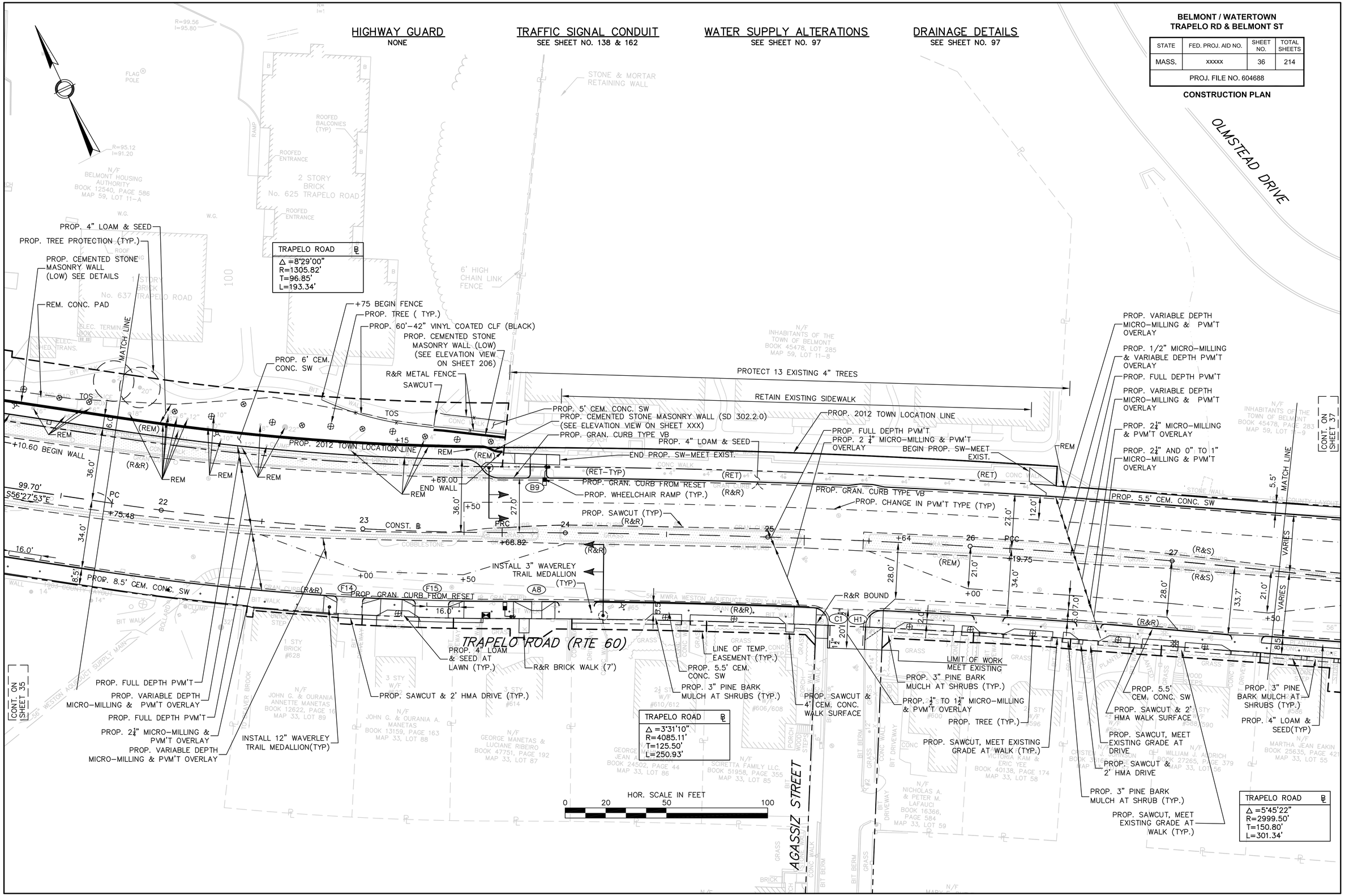
CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 138 & 162

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 97

DRAINAGE DETAILS
SEE SHEET NO. 97



BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	37	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 140 & 162

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 98

DRAINAGE DETAILS
SEE SHEET NO. 98

OLMSTEAD DRIVE

PLEASANT STREET (RTE 60)

TRAPELO ROAD (RTE 60)

TRAPELO ROAD

MORAINE STREET

PROP. HMA WALK SURFACE

PROP. SAWCUT & 7' HMA DRIVE (SEE DETAIL SHEET 98)

PROP. CEM. CONC. WALK SURFACE

PROP. TREE (TYP.)

PROP. VARIABLE DEPTH MICRO-MILLING & PVM'T OVERLAY

PROP. 1/2" MICRO-MILLING & VARIABLE DEPTH OVERLAY

PROP. FULL DEPTH PVM'T

PROP. VARIABLE DEPTH MICRO-MILLING & PVM'T OVERLAY

PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY

PROP. GRAN. CURB TYPE VB

PROP. ½" TO 1½" MICRO-MILLING & PVM'T OVERLAY

PROP. CEM. CONC. SW

TRAPELO ROAD ℄
△ =5°01'32"
R=2700.50'
T=118.51'
L=236.86'

STA 14+27.41 LIMIT OF WORK MEET EXISTING

PROP. BOUNDS

PROP. 6' CEM. CONC. SW AT DRIVE

113.17'
N86°52'59"E

PC +99.76

R&R CURB

186.59'
N86°52'59"E

R&R GRAN. CURB

PROP. 1½" MICRO-MILLING & PVM'T OVERLAY

PROP. ½" TO 1½" MICRO-MILLING & PVM'T OVERLAY

PROP. WHEELCHAIR RAMP (TYP.)

PROP. BOUND

PROP. 6' FULL DEPTH PVM'T.

PROP. VARIABLE DEPTH OVERLAY

PROP. 2012 TOWN LOCATION LINE

SAWCUT-MEET EXIST. GRADE AT BACK OF SIDEWALK

PROP. FULL DEPTH PVM'T

PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY

PROP. 8' FULL DEPTH PVM'T.

BEGIN SCORED CEM. CONC. SW

PROP. 6:1 SLOPE

PROP. 8.5' SCORED CEM. CONC. SIDEWALK (TYP.)

PROP. 4" LOAM & SEED AT LAWN

3" PINE BARK MULCH AT SHRUBS (TYP.)

INSTALL 3" WAVERLEY TRAIL MEDALLION (TYP)

PROP. GRAN. CURB TYPE VB

CONST. ℄

PRC +21.09

PROP. BOUND

PROP. SAWCUT (TYP)

PT +57.95

48.12'
S60°41'53"E

32 PC +06.07

PROP. SAWCUT & 2' HMA DRIVE

PROP. GRAN. CURB FROM RESET

PT +59.87

26.37'
S49°17'53"E
PC +86.

½" TO 1½" MICRO-MILLING & PVM'T OVERLAY

PROP. 3" PINE BARK MULCH AT SHRUBS (TYP.)

PROP. 4" LOAM & SEED(TYP)

REM

MEET EXISTING GRADE AT WALK

MEET EXISTING GRADE AT DRIVE

PROP. 4" LOAM & SEED AT LAWN (TYP.)

PROP. SAWCUT & 2.0' HMA DRIVE (TYP.)

PROP. 4.0' CEM. CONC. WALK SURF. (TYP.)

R&R BRICK WALK (6')

PROP. SAWCUT & 2.0' HMA DRIVE (TYP.)

LINE OF TEMP. EASEMENT (TYP.)

R&R BRICK WALK (4')

PROP. 2.0' LOAM & SEED AT LAWN (TYP.)

PROP. SAWCUT & 2.0' HMA DRIVE (TYP.)

PROP. SAWCUT & 2' HMA DRIVE (TYP.)

PROP. GRAN. CURB FROM RESET

PROP. SAWCUT & 2' HMA DRIVE (TYP.)

PROP. 4" LOAM & SEED AT LAWN (TYP.)

PROP. CEM. CONC. SW

PROP. SAWCUT & 2' HMA DRIVE

PROP. SAWCUT & 3.5' HMA WALK SURFACE

MEET EXISTING

PROP. SAWCUT & 6.5' CEM. CONC. WALK SURFACE*

PROP. 4" LOAM & SEED AT LAWN (TYP.)

PROP. 4' CEM. CON. SW

PROP. TREE PIT W/SEED

PROP. ½" TO 1½" MICRO-MILLING & PVM'T OVERLAY

PROP. TREE PIT W/SEED

PROP. 4' CEM. CON. SW

LIMIT OF WORK MEET EXISTING

MATCH LINE

TRAPELO ROAD ℄
△ =5°45'22"
R=2999.50'
T=150.80'
L=301.34'

STA. 28+79.49 TRAPELO ROAD ℄ =
STA. 0+00.00 PLEASANT STREET ℄
N=2966881.6019 E=739124.6298

TRAPELO ROAD ℄
△ =11°24'00"
R=773.00'
T=77.16'
L=153.80'

HOR. SCALE IN FEET
0 20 50 100

CONT. ON SHEET 36

CONT. ON SHEET 38

N/F INHABITANTS OF THE TOWN OF BELMONT BOOK 45478, PAGE 283 MAP 59, LOT 9

N/F MARTHA JEAN EAKIN BOOK 25635, PAGE 421 MAP 33, LOT 55

N/F AJM BELMONT TRUST BOOK 53390, PAGE 213 MAP 33, LOT 54

N/F KATHLEEN P. & MICHELLE ANN KENNEY BOOK 29 PAGE 196 MAP 33 LOT 53

N/F JEAN A. CHAPMAN & GEORGE M. MAHNKE BOOK 20901, PAGE 524 MAP 33, LOT 52

N/F CARL ATTARDO BOOK 52956, PAGE 303 MAP 33, LOT 51

N/F WAVERLY SQUARE TOWNHOUSE CONDOMINIUMS BOOK 52322, PAGE 264 MAP 33, LOT 50

N/F WAVERLY SQUARE TOWNHOUSE CONDOMINIUMS BOOK 52322, PAGE 264 MAP 33, LOT 49

N/F 556 TRAPELO BOOK 41811 PAGE 266 MAP 33, LOT 48

N/F KEVIN G. TREANOR BOOK 51888, PAGE 162 MAP 33, LOT 44

N/F JINRONG ZHANG & SHENG GUODING BOOK 54346, PAGE 66 MAP 33, LOT 14

N/F FRED PEARSON TRUST ETAL BOOK 20081, PAGE 596 MAP 32, LOT 4

56" MWRA WESTON AQUEDUCT SUPPLY MAIN

48" MWRA WESTON AQUEDUCT SUPPLY MAIN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 142 & 162

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 99

DRAINAGE DETAILS
SEE SHEET NO. 99

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	38	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

TRAPELO ROAD ℄
Δ =17°57'51"
R=658.00'
T=104.01'
L=206.30'

TRAPELO ROAD ℄
Δ =2°28'09"
R=2000.00'
T=43.10'
L=86.19'

STA. 34+87.32 TRAPELO ROAD ℄ =
STA. 0+00.00 LEXINGTON STREET ℄
N=2966544.9486 E=739629.4696

STA. 38+65.65 TRAPELO ROAD ℄ =
STA. 0+00.00 CHURCH STREET ℄
N=2966394.5463 E=739976.0919

TRAPELO ROAD

SHAW'S DRIVE

LEXINGTON STREET

CHURCH STREET

MBTA ROW

3" PINE BARK MULCH AT SHRUBS (TYP.)

PROP. 8.5' SCORED CEM. CONC. SIDEWALK (TYP.)

PROP. 3" PINE BARK MULCH

PROP. ½" TO 1½" MICRO–MILLING AND PVM'T OVERLAY

PROP. TRASH BARREL

LIMIT OF WORK MEET EXISTING

R&S BENCH (3)

PROP. BENCH (3)

PROP. TREE PROTECTION (TYP.)

PROP. GRAN. TRANSITION STONES

PROP. 2 ¼" AND 0" TO 2" MICRO–MILLING & PVM'T OVERLAY

PROP. SAWCUT & 4' HMA DRIVE

LINE OF TEMP. EASEMENT (TYP.)

PROP. 2 ¼" AND 0" TO 1" MICRO–MILLING & PVM'T OVERLAY

PROP. 2 ¼" MICRO–MILLING AND PVM'T OVERLAY

END SCORED CEM. CONC. SW

BEGIN SCORED CEM. CONC. SW

PROP. SCORED CEM. CONC. SW AT DRIVE

PROP. SCORED CEM. CONC. SW

PROP. VARIABLE DEPTH MICRO–MILLING & PVM'T OVERLAY

PROP. SAWCUT & 2' HMA DRIVE

PROP. 2' COLORED SCORED CEM. CONC. SW

PROP. SCORED CEM. CONC. SW

PROP. TRASH BARREL R&S EXIST.

PROP. GRAN. CURB TYPE VB

PROP. 2 ½" MICRO–MILLING & PVM'T OVERLAY

PROP. 2 ½" TO 3½" BRIDGE APPROACH TRANSITION

PROP. FULL DEPTH PVM'T

PROP. WHEELCHAIR RAMP (TYP.)

PROP. SAWCUT (TYP)

PROP. RESIN INLAY

PROP. BIKE RACK

R&R MB(BO)

PROP. GRAN CURB TYPE VB

INSTALL 12" WAVERLEY TRAIL MEDALLION (TYP)

MEET EXISTING GRADE AT DOORWAY (TYP.)

PROP. 2' COLORED CEM. CONC. SW (TYP.)

PROP. 6' SCORED CEM. CONC. SW

PROP. ROOT PATHS (2 TYP.)

PROP. TRASH BARREL

PROP. VARIABLE DEPTH MICRO–MILLING & PVM'T OVERLAY

PROP. TREE PIT W/MULCH (TYP.)

MEET EXISTING GRADE AT DOORWAY (TYP.)

PROP. TREE PROTECTION (TYP.)

PROP. 5.5' COLORED SCORED CEM. CONC. SW

PROP. 5' SCORED CEM. CONC. SW

PROP. TRASH BARREL

PROP. 4.5' COLORED SCORED CEM. CONC. SW

PROP. ROOT PATHS (2 TYP.)

PROP. VARIABLE DEPTH MICRO–MILLING & PVM'T OVERLAY

PROP. FULL DEPTH PVM'T

PROP. 4' CEM. CONC. WALK SURFACE

PROP. 5.5' COLORED SCORED CEM. CONC. SW

PROP. FULL DEPTH PVM'T

PROP. 4' HMA DRIVE

PROP. TREE PIT W/MULCH (TYP.)

PROP. 3" PINE BARK MULCH

PROP. 5.5' COLORED CEM. CONC. SW (TYP.)

PROP. ROOT PATHS (2 TYP.)

PROP. 4' CEM. CON. SW

PROP. STRUCTURAL SOIL

MEET EXISTING GRADE AT DOORWAY

PROP. VARIABLE DEPTH MICRO–MILLING & PVM'T OVERLAY

PROP. VARIABLE WIDTH CEM. CONC. SW

PROP. 4" LOAM & SEED (TYP.)

PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE

PROP. TREE PIT WITH SEED

PROP. SAWCUT, MEET EXISTING GRADE AT WALK

PROP. SAWCUT & 2' HMA WALK SURFACE

PROP. 4" LOAM & SEED

PROP. SAWCUT & 2' HMA DRIVE

PROP. 1½" MICRO–MILLING & PVM'T OVERLAY

PROP. 10' CEM. CONC. SW

END PROP. CEM. CONC. SW

MHD BRIDGE # B–7–6 (NO WORK ON BRIDGE)

BEGIN PROP. 9' CEM. CONC. SW

PROP. 4" LOAM & SEED

PROP. 5' CEM. CONC. SW

PROP. GRAN. CURB FROM RESET

PROP. 9.5' SCORED CEM. CONC. SW

MHD BRIDGE # B–7–4 (NO WORK ON BRIDGE)

PROP. CEM. CONC. WALK SURFACE

INSTALL BUS SHELTER

BEGIN SCORED CEM. CONC. SW

PROP. TRASH BARREL

END SCORED CEM. CONC. SW

BEGIN SCORED CEM. CONC. SW

PROP. 7' SCORED CEM. CONC. SW

PROP. GRAN. CURB FROM RESET

REM. TRACKS & CONC. BASE – 2 RAIL

PROP. TREE PIT WITH SEED

PROP. TREE (TYP.)

R&S EXIST. TRASH BARREL

PROP. HMA DRIVE

PROP. BENCH

PROP. GRAN CURB FROM RESET

PROP. 4" LOAM & SEED

PROP. 5' SCORED CEM. CONC. SW

PROP. GRANITE CURB FROM RESET

R&R BUS SHELTER

PROP. TRASH BARREL

END SCORED CEM. CONC. SW

PROP. CEM. CONC. SW

PROP. VARIABLE DEPTH OVERLAY

PROP. ½" TO 1½" MICRO–MILLING & PVM'T OVERLAY

PROP. 1½" MICRO–MILLING & PVM'T OVERLAY

PROP. 1/2" TO 1½" MICRO–MILLING & PVM'T OVERLAY

PROP. 4" LOAM & SEED

PROP. 2" RESURFACING

PROP. 4" CEM. CONC. SW

PROP. 5' CEM. CONC. SW

PROP. 4" LOAM & SEED

PROP. 3" PINE BARK MULCH

PROP. 5' SCORED CEM. CONC. SW

PROP. 4" LOAM & SEED

PROP. 3" PINE BARK MULCH

PROP. 4' CEM. CONC. SW

PROP. 5' SCORED CEM. CONC. SW

PROP. 3" PINE BARK MULCH

PROP. 4' CEM. CONC. SW

PROP. 3" PINE BARK MULCH

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 144 & 162

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 100

DRAINAGE DETAILS
SEE SHEET NO. 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	39	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

LEXINGTON STREET
THAYER ROAD
CHURCH STREET
THAYER STREET
MBTA ROW
MATCH LINE
PROP. 4' CEM. CON. SW
PROP. STRUCTURAL SOIL
MEET EXISTING GRADE AT DOORWAY
PROP. VARIABLE DEPTH MICRO-MILLING & PVM'T OVERLAY
PROP. VARIABLE WIDTH CEM. CONC. SW
PROP. 4" LOAM & SEED (TYP.)
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
PROP. TREE PIT WITH SEED
PROP. SAWCUT, MEET EXISTING GRADE AT WALK
PROP. SAWCUT & 2' HMA WALK SURFACE
PROP. 4" LOAM & SEED
PROP. SAWCUT & 2' HMA DRIVE
PROP. 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. 10' CEM. CONC. SW
END PROP. CEM. CONC. SW
MHD BRIDGE # B-7-6 (NO WORK ON BRIDGE)
BEGIN PROP. 9' CEM. CONC. SW
PROP. TREE (TYP.)
R&S EXIST. TRASH BARREL
PROP. 4" LOAM & SEED
PROP. HMA DRIVE
PROP. BENCH
PROP. GRAN CURB FROM RESET
R&R BUS SHELTER
PROP. TRASH BARREL
END SCORED CEM. CONC. SW
PROP. CEM. CONC. SW
CONT. ON SHEET 38
PROP. 5' SCORED CEM. CONC. SW
PROP. GRANITE CURB FROM RESET
PROP. VARIABLE DEPTH MICRO-MILLING & PVM'T OVERLAY
PROP. TREE PIT W/MULCH (TYP.)
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. TREE PROTECTION (TYP.)
PROP. 5.5' COLORED SCORED CEM. CONC. SW
PROP. 5' SCORED CEM. CONC. SW
PROP. TRASH BARREL
PROP. 4.5' COLORED SCORED CEM. CONC. SW
PROP. ROOT PATHS (2 TYP.)
PROP. VARIABLE DEPTH MICRO-MILLING & PVM'T OVERLAY
PROP. FULL DEPTH PVM'T
PROP. 4' CEM. CONC. WALK SURFACE
PROP. 5.5' COLORED SCORED CEM. CONC. SW
PROP. FULL DEPTH PVM'T
PROP. 4' HMA DRIVE
PROP. TREE PIT W/MULCH (TYP.)
PROP. 3" PINE BARK MULCH
PROP. 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. VARIABLE DEPTH OVERLAY
PROP. 1/2" TO 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. 5.5' COLORED CEM. CONC. SW (TYP.)
PROP. ROOT PATHS (2 TYP.)
MEET EXISTING
PROP. GRAN. CURB TYPE VB
R&S EXIST. TRASH BARREL
PROP. TRASH BARREL
END PROP. SCORED CEM. CONC. SW
LINE OF TEMP. EASEMENT (TYP.)
PROP. CEM. CONC. WALK SURFACE
PROP. WHEELCHAIR RAMP (TYP.)
PROP. GRAN. CURB FROM RESET
PROP. 8' CEM. CONC. SW
PROP. VARIABLE DEPTH MICRO-MILLING & PVM'T OVERLAY
PROP. 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. SAWCUT & 2' HMA DRIVE
PROP. 73' TIMBER EDGING
PROP. 3" PINE BARK MULCH
PROP. 8' CEM. CONC. SW
PROP. 2' COLORED SCORED CEM. CONC. SW
STA. 3+76.84 LEXINGTON STREET ℄ = STA. 4+17.17 CHURCH STREET ℄
N=2966188.0878 E=739613.5887
R&R WOODEN RR TIES
R&R
PROP. GRAN. CURB TYPE VB
R&R CHAIN LINK FENCE
PROP. 4" LOAM & SEED
STA. 4+80.1 LIMIT OF WORK MEET EXISTING
LIMIT OF WORK MEET EXISTING
R=1381.73'
T=196.44'
L=390.27'
Δ =16°11'00"
LEXINGTON STREET ℄

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	40	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 146 & 162

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 101

DRAINAGE DETAILS
SEE SHEET NO. 101

WHITE STREET

TRAPELO ROAD

WAVERLEY STREET

THAYER STREET

PROP. VARIABLE DEPTH MICRO–MILLING & PVM'T OVERLAY

END PROP. COLORED SCORED CEM. CONC. SW

PROP. SAWCUT & 2' HMA DRIVE

PROP. 2' COLORED SCORED CEM. CONC. SW

PROP. SCORED CEM. CONC. SW

PROP. 3" PINE BARK MULCH

PROP. SAWCUT & HMA DRIVE

PROP. CEM. CONC. WALK SURFACE

PROP. GRAN. CURB TYPE VB

PROP. RESIN INLAY

PROP. BIKE RACK

PROP. BIKE RACK

INSTALL 12" WAVERLEY TRAIL MEDALLION (TYP)

MEET EXISTING GRADE AT DOORWAY (TYP.)

PROP. 2' COLORED CEM. CONC. SW (TYP.)

PROP. 6' SCORED CEM. CONC. SW

MATCH LINE

PROP. ½" MICRO–MILLING AND PVM'T OVERLAY

PROP. 6.5' GRAN. TRANS. STONE

PROP. 7' CEM. CONC. SW

LIMIT OF WORK MEET EXISTING

PROP. SAWCUT & 2' HMA WALK SURFACE

PROP. 2 ¼" MICRO–MILLING & PVM'T OVERLAY

PROP. 4" LOAM & SEED AT LAWN (TYP.)

PROP. 4" LOAM & SEED (TYP.)

PROP. 5' CEM. CONC. SW

PROP. SAWCUT & 2' HMA WALK SURFACE

PROP. 3" WAVERLEY TRAIL MEDALLION (TYP)

PROP. WHEELCHAIR RAMP (TYP.)

PROP. 2½" AND 0" TO 2" MICRO–MILLING & PVM'T OVERLAY

PROP. TRASH BARREL

PROP. TREE (TYP.)

PROP. ROOT PATHS (2)

LINE OF TEMP. EASEMENT (TYP.)

PROP. 3' COLORED SCORED CEM. CONC. SW

PROP. 5' SCORED CEM. CONC. SW

END PROP. SCORED CEM. CONC. SW

PROP. CEM. CONC. SW

LIMIT OF WORK MEET EXISTING

PROP. 4" LOAM & SEED

PROP. 1½" MICRO–MILLING & PVM'T OVERLAY

PROP. 4' CEM. CONC. WALK SURFACE

PROP. 3" PINE BARK MULCH AT SHRUBS (TYP.)

PROP. TREE PIT W/SEED

PROP. 4' CEM. CONC. SW

PROP. SAWCUT & 2' HMA DRIVE

PROP. TREE (TYP.)

PROP. 4" LOAM & SEED

PROP. 5' CEM. CONC. SW

PROP. 2 ¼" MICRO–MILLING & PVM'T OVERLAY

PROP. 4" LOAM & SEED AT LAWN (TYP.)

PROP. 4" LOAM & SEED (TYP.)

PROP. 5' CEM. CONC. SW

PROP. SAWCUT & 2' HMA WALK SURFACE

PROP. 3" PINE BARK MULCH

REM

R&R MB (BO)

PROP. TREE PIT W/SEED

PROP. GRAN. CURB TYPE VB

PROP. GRAN. CURB FROM RESET

PROP. 5' CEM. CONC. SW

PROP. ½" TO 1½" MICRO–MILLING & PVM'T OVERLAY

BEGIN COLORED SCORED CEM. CONC. SW

PROP. ½" TO 1½" MICRO–MILLING AND PVM'T OVERLAY

PROP. TREE PIT W/SEED

PROP. 4' CEM. CONC. WALK SURFACE

END SCORED CEM. CONC. SW

PROP. TREE PIT W/MULCH (TYP.)

PROP. ROOT PATHS (2)

PROP. 4' COLORED SCORED CEM. CONC. SW

PROP. 4' SCORED CEM. CONC. SW

PROP. ADDITIONAL 0" TO 1" MICRO–MILLING AND PVM'T OVERLAY

PROP. 2 ¼" AND 0" TO 2" MICRO–MILLING & PVM'T OVERLAY

PROP. SAWCUT & 2' HMA DRIVE

R&R GRAN. CURB

PROP. 2 ¼" AND 0" TO 1" MICRO–MILLING & PVM'T OVERLAY

PROP. 2 1/4" MICRO–MILLING & PVM'T OVERLAY

PROP. 4" LOAM & SEED

PROP. CEM. CONC. SW

PROP. TREE PIT W/SEED

INSTALL 12" WAVERLEY TRAIL MEDALLION (TYP)

LIMIT OF WORK MEET EXISTING

PROP. TREE PIT W/SEED

TRIM HEDGES

PROP. 4" LOAM & SEED (TYP.)

PROP. SAWCUT & 2' HMA DRIVE

PROP. TREE PIT W/SEED (TYP.)

PROP. 5' CEM. CONC. SW

PROP. 3" PINE BARK MULCH AT SHRUBS

MATCH LINE

PROP. SAWCUT & 2' HMA DRIVE

1185.84'
S64°16'45"E

497.05'
S69°43'53"E

CONT. ON SHEET 38

CONT. ON SHEET 41

TRAPELO ROAD ℄
△ =2°28'09"
R=2000.00'
T=43.10'
L=86.19'

TRAPELO ROAD ℄
△ =5°27'08"
R=1211.63'
T=57.69'
L=115.30'

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	41	214
PROJ. FILE NO. 604688			

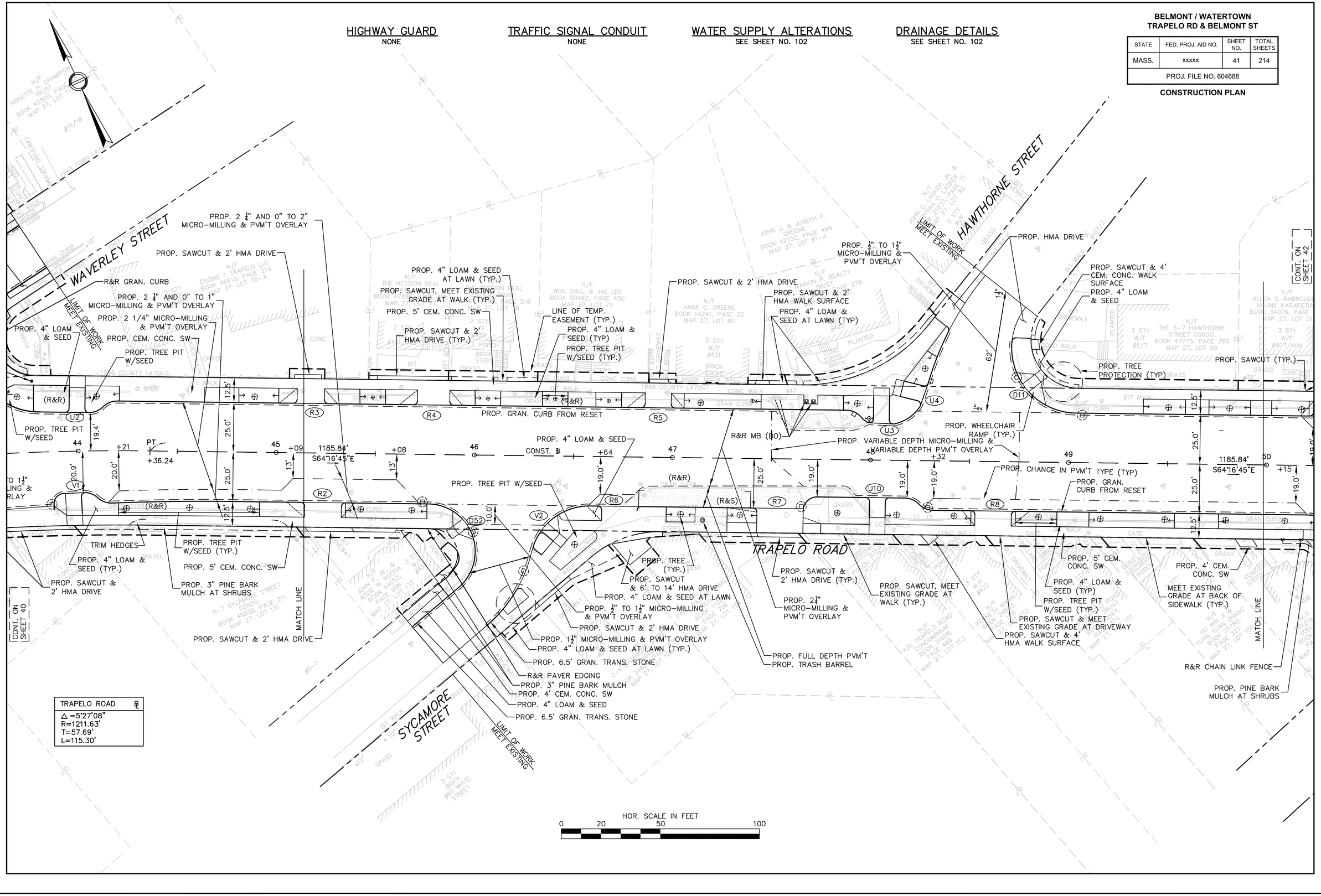
CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 102

DRAINAGE DETAILS
SEE SHEET NO. 102



HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

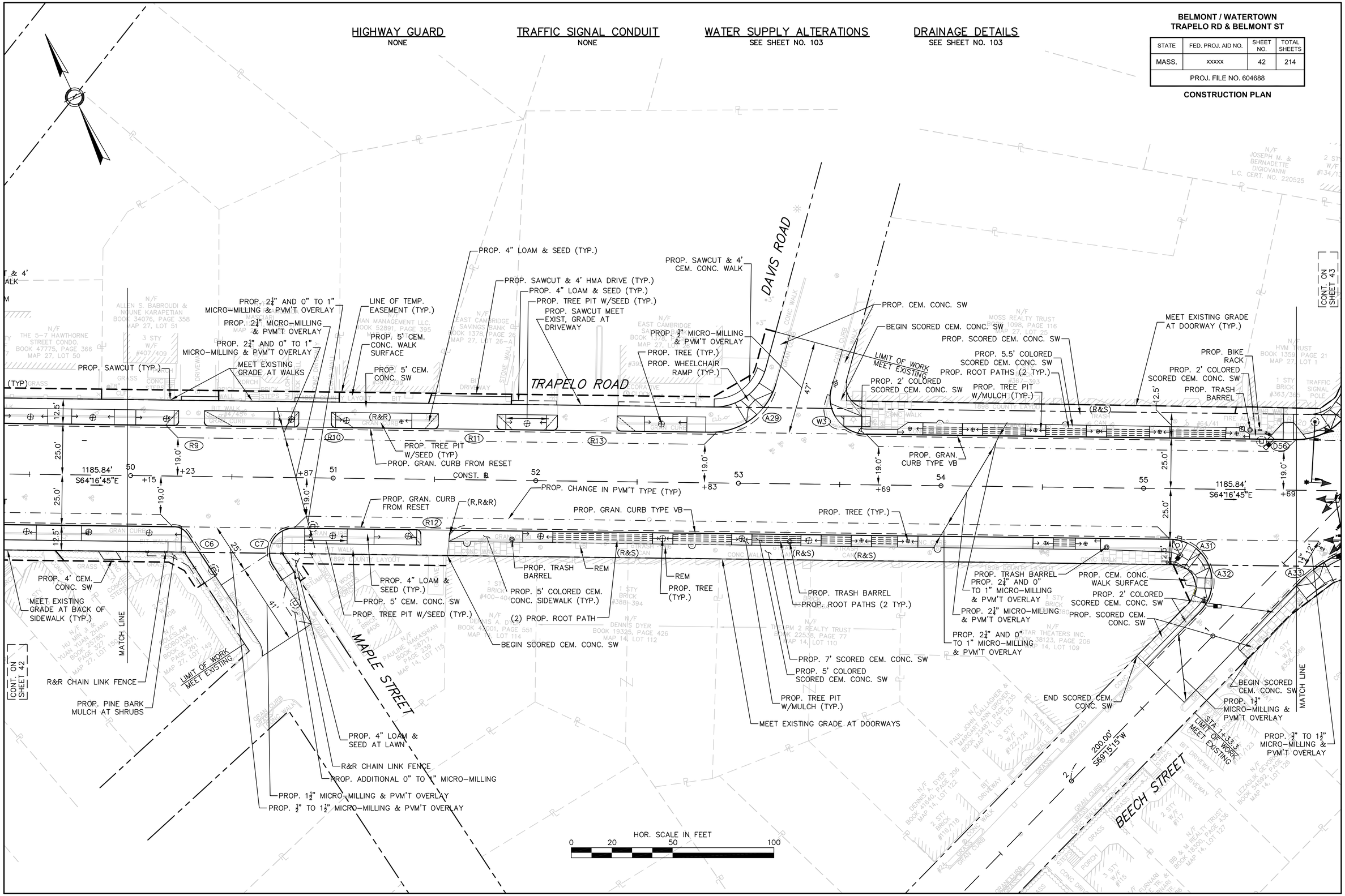
WATER SUPPLY ALTERATIONS
SEE SHEET NO. 103

DRAINAGE DETAILS
SEE SHEET NO. 103

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	42	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN



HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 148

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 104

DRAINAGE DETAILS
SEE SHEET NO. 104

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	43	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

STA. 56+09.67 TRAPELO ROAD ℄ =
STA. 0+00.00 BEECH STREET ℄
N=2965682.5466 E=741566.4532

STA. 56+03.98 TRAPELO ROAD ℄ =
STA. 0+00.00 BEECH STREET ℄
N=2965685.0171 E=741561.3247

TRAPELO ROAD ℄
Δ =25°20'00"
R=956.62'
T=215.00'
L=422.97'

HOR. SCALE IN FEET
0 20 50 100

CONT. ON SHEET 42
CONT. ON SHEET 44
FOR PROFILE: SEE SHEET NO. 62

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	44	214
PROJ. FILE NO. 604688			

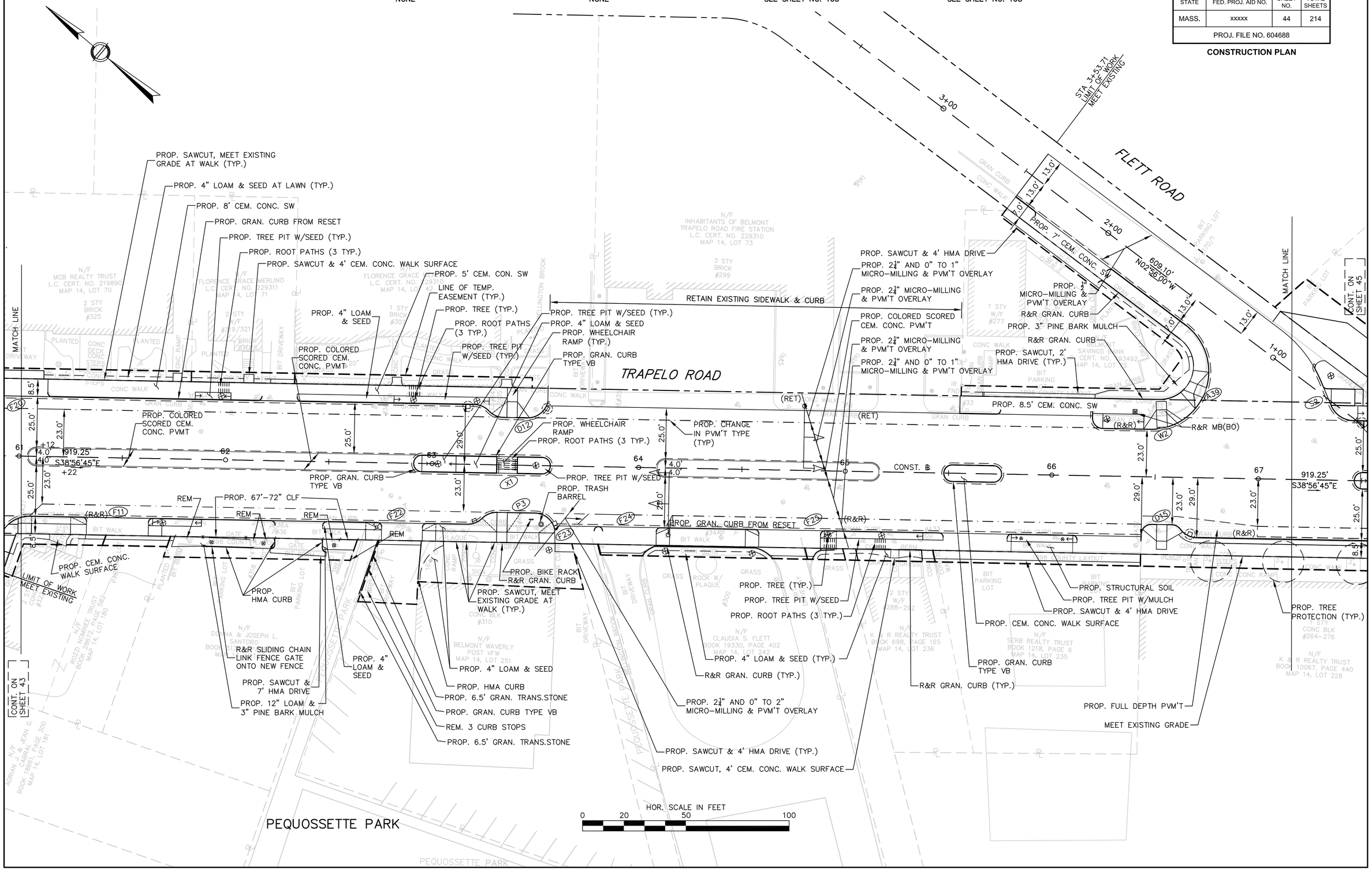
CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 105

DRAINAGE DETAILS
SEE SHEET NO. 105



BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	45	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 150

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 106

DRAINAGE DETAILS
SEE SHEET NO. 106

STA. 67+86.96 TRAPELO ROAD ℄ =
STA. 0+00.00 FLETT ROAD ℄
N=2964839.6268 E=742372.8300

STA. 71+63.55 TRAPELO ROAD ℄ =
STA. 0+00.00 SLADE STREET ℄
N=2964558.5824 E=742622.5579

TRAPELO ROAD ℄
△ =30°21'30"
R=1127.30'
T=305.84'
L=597.30'

3+38.17
L=475.53'
R=2365.49'
SLADE STREET
PC +62.63
STA 1+44.9 LIMIT OF WORK MEET EXISTING
144.91' N06°06'35"W
MATCH LINE
1+00
TRAPELO ROAD
919.25' S38°56'45"E
CONST. ℄
PC +64.30
PC +20.82
R=200.00'
L=41.97'
PT +62.79
S28°37'23"W 174.24'
STA 1+78.7 LIMIT OF WORK MEET EXISTING
GILBERT ROAD
MATCH LINE
BARTLETT AVENUE
HARRIET AVENUE
CONT. ON SHEET 46
CONT. ON SHEET 44

HARRIET AVENUE ℄
△ =12°01'23"
R=200.00'
T=21.06'
L=41.97'

STA. 71+45.30 TRAPELO ROAD ℄ =
STA. 0+00.00 HARRIET AVENUE ℄
N=2964570.6500 E=742608.8655

PROP. SAWCUT & 15' HMA DRIVE
PROP. TREE PIT W/SEED
PROP. SAWCUT & 4' HMA DRIVE
PROP. 5' CEM. CONC. SIDEWALK
LINE OF TEMP. EASEMENT (TYP.)
PROP. SAWCUT & 2' HMA DRIVE
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY
PROP. TREE PROTECTION (TYP.)
PROP. 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 8.5' CEM. CONC. SW (R&R)
PROP. GRAN. CURB FROM RESET
PROP. CHANGE IN PVM'T TYPE (TYP)
PROP. COLORED SCORED CEM. CONC. PVM'T
PROP. TREE PIT W/SEED
PROP. GRAN. CURB TYPE VB
PROP. TREE PROTECTION (TYP.)
MEET EXISTING GRADE AT WALK
PROP. CEM. CONC. WALK SURFACE
PROP. FULL DEPTH PVM'T
PROP. 6' CEM. CONC. SW
MEET EXISTING GRADE AT DRIVE
BEGIN SCORED CEM. CONC. SW
PROP. 3" PINE BARK MULCH
PROP. HMA DRIVE
PROP. 2' COLORED CEM. CONC. SW (TYP.)
PROP. CEM. CONC. WALK SURFACE
PROP. 4' COLORED SCORED CEM. CONC. SW
PROP. SCORED CEM. CONC. SW (TYP.)
PROP. SCORED CEM. CONC. WALK SURFACE AT DRIVEWAY
PROP. ROOT PATHS (3 TYP.)
PROP. TREE PIT W/MULCH (TYP.)
PROP. TREE (TYP.)
REM
PROP. 4" LOAM & SEED (TYP.)
PROP. SAWCUT, 2' HMA DRIVE
PROP. 4' CEM. CONC. SW
MEET EXISTING AT WALK
PROP. TREE PIT W/SEED
PROP. WHEELCHAIR RAMP
MEET EXISTING GRADE AT WALK (TYP.)
PROP. TRASH BARREL
PROP. WHEELCHAIR RAMP (TYP.)
PROP. FULL DEPTH PVM'T
PROP. 4" LOAM & SEED
PROP. 5' CEM. CONC. SW
PROP. TREE PIT W/SEED
PROP. STRUCTURAL SOIL
PROP. TREE PIT W/SEED
PROP. TREE (TYP.)
PROP. STRUCTURAL SOIL
PROP. 6.5' GRAN. TRANS. STONE
PROP. 4" LOAM & SEED
PROP. 4' CEM. CONC. SW
PROP. 1" MICRO-MILLING & PVM'T OVERLAY
PROP. STRUCTURAL SOIL
PROP. GRAN. CURB TYPE VB
PROP. CEM. CONC WALK SURFACE
PROP. HAND EX. ROOT ZONE
R&R MB(BO)
PROP. TRASH BARREL
PROP. SAWCUT & 4' HMA DRIVE
PROP. 5' CEM. CONC. SW
PROP. 4" LOAM & SEED
MEET EXISTING GRADE AT WALK (TYP.)
PROP. BIKE RACK
INSTALL BUS SHELTER
PROP. 4" LOAM & SEED
PROP. TREE (TYP.)
PROP. 7.5' CEM CONC. SW
PROP. SAWCUT 2' TO 11' CEM. CONC. DRIVE
MEET EXISTING GRADE AT WALK
PROP. 3" PINE BARK MULCH
PROP. CEM. CONC. SW
PROP. TREE PIT W/SEED
PROP. 5' CEM. CONC. SW
PROP. 4" LOAM & SEED
PROP. 3" PINE BARK MULCH
PROP. 7' CEM. CONC. SW
PROP. 2" MICRO-MILLING & PVM'T OVERLAY
MEET EXISTING GRADE AT DOORWAY (TYP.)
LIMIT OF WORK MEET EXISTING

HOR. SCALE IN FEET
0 20 50 100

FOR PROFILE: SEE SHEET NO. 62

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 107

DRAINAGE DETAILS
SEE SHEET NO. 107

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	46	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

GILBERT ROAD
TRAPELO ROAD
HARDING AVENUE
BARNARD ROAD
POPLAR STREET
MATCH LINE
LIMIT OF WORK MEET EXISTING
PROP. TREE PIT W/SEED
PROP. TREE (TYP.)
PROP. STRUCTURAL SOIL
PROP. 6.5' GRAN. TRANS. STONE
PROP. 4" LOAM & SEED
PROP. 4' CEM. CONC. SW
PROP. ½" MICRO-MILLING & PVM'T OVERLAY
PROP. 4" LOAM & SEED
PROP. 4' CEM. CONC. SW
MEET EXISTING GRADE AT STEPS (TYP.)
PROP. COLORED SCORED CEM. CONC. PVM'T
PROP. HAND EX. ROOT ZONE (TYP.)
PROP. SAWCUT & 4' HMA DRIVE (TYP.)
PROP. 4" LOAM & SEED (TYP.)
LINE OF TEMP. EASEMENT (TYP.)
PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. TREE (TYP.)
PROP. GRAN. CURB FROM RESET
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. TREE PROTECTION (TYP.)
PROP. 5' CEM. CONC. SW
PROP. TREE PIT W/SEED (TYP.)
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. FULL DEPTH PVM'T
PROP. SAWCUT, MEET EXISTING AT WALK
PROP. SAWCUT & 4' HMA DRIVE
PROP. SAWCUT (TYP)
743.80' S69°18'15"E
PROP. CHANGE IN PVM'T TYPE
PROP. FULL DEPTH PVM'T R&R MB(BO)
PROP. WHEELCHAIR RAMP (TYP.)
PROP. HAND EX. ROOT ZONE (TYP.)
PROP. 3" PINE BARK MULCH AT SHRUBS (TYP.)
PROP. ½" TO 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. 4" LOAM & SEED AT LAWN (TYP.)
MEET EXISTING GRADE AT STEPS (TYP.)
PROP. SAWCUT & 2' HMA DRIVE (TYP.)
PROP. 4' CEM. CONC. SW
PROP. 4" LOAM & SEED
PROP. ½" MICRO-MILLING & PVM'T OVERLAY
PROP. 6.5' GRAN. TRANS. STONE
PROP. 4" LOAM & SEED
PROP. 4' CEM. CONC. SW
PROP. 4" LOAM & SEED
PROP. 5' CEM. CONC. SW
PROP. TREE PIT W/SEED (TYP.)
PROP. TREE (TYP.)
PROP. SAWCUT & MEET EXISTING AT WALK (TYP.)
PROP. TREE PROTECTION (TYP.)
PROP. ½" MICRO-MILLING & PVM'T OVERLAY
PROP. 4' CEM. CONC SW.
PROP. 4" LOAM & SEED
PROP. 6.5' GRAN. TRANS. STONE
PROP. SAWCUT & 4" CEM. CONC. WALK SURFACE
PROP. 3" PINE BARK MULCH
PROP. CEM. CONC. SW
PROP. TREE PIT W/SEED
PROP. GRAN. CURB TYPE VB
PROP. CEM. CONC WALK SURFACE
PROP. STRUCTURAL SOIL
CONST. ℄
PT. +61.60
CONT. ON SHEET 45
CONT. ON SHEET 47
HOR. SCALE IN FEET
0 20 50 100

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 108

DRAINAGE DETAILS
SEE SHEET NO. 108

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	47	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

TRAPELO ROAD

WILLISTON ROAD

PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. SAWCUT, 2' HMA DRIVE (TYP.)
PROP. 2¼ AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 2¼ MICRO-MILLING & PVM'T OVERLAY
PROP. 2¼ AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
MEET EXISTING GRADE AT STAIRS (TYP.)
PROP. TREE (TYP.)
PROP. 5' CEM. CONC. SW
PROP. HAND EX. ROOT ZONE (TYP.)
PROP. TREE PROTECTION (TYP.)
PROP. 4" LOAM & SEED (TYP.)
PROP. TREE PIT W/SEED (TYP.)
PROP. COLORED SCORED CEM. CONC. PVM'T
PROP. GRANITE CURB TYPE VB
PROP. TREE PIT W/SEED (TYP.)
R&R MAIL BOXES
PROP. CEM. CONC. WALK SURFACE
BEGIN SCORED CEM. CONC. SW
PROP. 3' COLORED SCORED CEM. CONC. SW
REM
MEET EXISTING GRADE AT DOORWAYS (TYP.)
PROP. SCORED CEM. CONC. SW (TYP.)
PROP. 4' COLORED SCORED CEM. CONC. SW (TYP.)
PROP ROOT PATH (2 TYP.)
PROP. TREE PIT W/MULCH (TYP.)
PROP. TRASH BARREL R&S EXIST.
CONT. ON SHEET 48
PROP. TREE (TYP.)
PROP. GRAN. CURB (RELOCATED)
PROP. GRAN. CURB FROM RESET
PROP. CHANGE IN PVM'T TYPE (TYP)
743.80' S69°18'15"E
CONST. ℄
MATCH LINE
LINE OF TEMP. EASEMENT (TYP.)
PROP. 4" LOAM & SEED
PROP. HAND EX. ROOT ZONE (TYP.)
PROP. TREE PROTECTION (TYP.)
PROP. SAWCUT, 2' HMA DRIVE (TYP.)
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)
PROP. BUS SHELTER (BO)
PROP. BIKE RACK
PROP. TRASH BARREL.
INSTALL BUS SHELTER
PROP. WHEELCHAIR RAMP (TYP.)
PROP. 1" TO 1½" MICRO-MILLING & PVM'T OVERLAY
LIMIT OF WORK MEET EXISTING
PROP. 4" LOAM & SEED
PROP. 4' CEM. CONC. SW
PROP. 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. 6.5' GRAN. TRANS. SLOPE
PROP. TREE (TYP.)
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
PROP. 5' CEM. CONC. SW
PROP. 4" LOAM & SEED (TYP.)
PROP. 3" PINE BARK MULCH AT SHRUBS (TYP.)
PROP. TREE PIT W/SEED (TYP.)
PROP. 6' SCORED CEM. CONC. SW
PROP. 3" PINE BARK MULCH
PROP. TREE PIT W/MULCH
PROP. BUILDING (BO)
CONT. ON SHEET 46

TRAPELO ROAD ℄
△ =12°03'00"
R=1421.19'
T=150.00'
L=298.89'

HOR. SCALE IN FEET
0 20 50 100

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 152

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 109

DRAINAGE DETAILS
SEE SHEET NO. 109

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	48	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

TRAPELO ROAD
COMMON STREET
CUSHING AVENUE
PROP. 3' COLORED SCORED CEM. CONC. SW
PROP. 6.5' SCORED CEM. CONC. SW
PROP. TRASH BARREL R&S EXIST.
MATCH LINE
CONT. ON SHEET 49
PROP. GRAN. CURB TYPE VB
PROP. 4' TREE PIT W/MULCH
MEET EXISTING GRADE AT DOORWAYS (TYP.)
PROP. 1" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. TREE (TYP.)
PROP. SCORED CEM. CONC. SW (TYP.)
PROP. 3.5' COLORED CEM. CONC. SW (TYP.)
PROP. ROOT PATH (TYP.)
PROP. TREE PIT W/MULCH (TYP.)
PROP. TRASH BARREL, R&S EXIST.
PROP. TREE PROTECTION (TYP.)
PROP. VARIABLE DEPTH MICRO-MILLING & PVM'T OVERLAY
(1) PROP. ROOT PATH
(3) PROP. ROOT PATH
PROP. 12" LOAM & 3" PINE BARK MULCH
PROP. 4' COLORED SCORED CEM. CONC. SW (TYP.)
PROP ROOT PATH (2 TYP.)
PROP. TRASH BARREL R&S EXIST.
PROP. 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 4' COLORED CEM. CONC. SW (TYP.)
PROP. 2' COLORED CEM. CONC. SW (TYP.)
MEET GRADE AT TOP OF STEP (TYP.)
PROP. TRASH BARREL
PROP. BENCH
MEET EXIST. GRADE
PROP. TREE PIT W/MULCH
PROP. 4' COLORED SCORED CEM. CONC. SW
PROP. ROOT PATH (2TYP.)
TRANSITION OF REVEAL AT BACK OF SW
MEET EXIST. GRADE AT BACK OF SW
PROP. SCORED CEM. CONC. SW (TYP.)
PROP. 2' COLORED CEM. CONC. SW (TYP.)
PROP. FULL DEPTH PVM'T
PROP. TREE PIT W/MULCH
PROP. 12" LOAM & 3" PINE BARK MULCH
PROP. RESIN INLAY
PROP. 12" LOAM & 3" PINE BARK MULCH
PROP. 2' COLORED CEM. CONC. SW
PROP. RESIN INLAY
PROP. FULL DEPTH PVM'T
PROP. RESIN INLAY
PROP. BUILDING (BO)
PROP. CEM. CONC. WALK SURFACE
PROP. TRASH BARREL
PROP. 4' COLORED CEM. CONC. SW
PROP. GRAN. CURB TYPE VB
PROP. HAND EX. ROOT ZONE (TYP.)
PROP. 4' COLORED CEM. CONC. SW (TYP.)
PROP. ROOT PATH (2TYP.)
PROP. TREE PIT W/MULCH (TYP.)
PROP. GRAN. CURB TYPE VB
END SCORED CEM. CONC. SW
BEGIN SCORED CEM. CONC. SW
PROP. 2" MICRO-MILLING & VARIABLE DEPTH OVERLAY
LIMIT OF WORK MEET EXISTING
PROP. 2" MICRO-MILLING & PVM'T OVERLAY
PROP. RESIN INLAY
R&R MB(BO)
PROP. ADDITIONAL 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
STA. 88+09.89 TRAPELO ROAD ℄ = STA. 0+00.00 COMMON STREET ℄
N=2963847.5350 E=744097.8541
PROP. TREE (TYP.)
PROP. TREE PIT W/MULCH
PROP. TRASH BARREL R&S EXIST
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. BENCH, R&S EXIST.
PROP. BIKE RACK
PROP. TIMBER EDGING
END SCORED CEM. CONC. SW
PROP. SAWCUT & 2' HMA WALK SURFACE (TYP.)
LINE OF TEMP. EASEMENT (TYP.)
PROP. 6' SCORED CEM. CONC. SW (TYP.)
PROP. 2' COLORED CEM. CONC. SW (TYP.)
PROP. TRASH BARREL R&S EXIST
PROP. SAWCUT & 4' HMA WALK SURFACE
PROP. 3" PINE BARK MULCH AT SHRUBS (TYP.)
PROP. SAWCUT & MEET EXISTING GRADE AT WALK (TYP.)
PROP. TREE PIT W/SEED (TYP)
PROP. TIMBER EDGING
CONT. ON SHEET 51
PROP. GRAN. CURB TYPE VB
PROP. GRAN. CURB (RELOCATED)
PROP. TREE (TYP.)
PROP. CHANGE IN PVM'T TYPE (TYP)
BEGIN SCORED CEM. CONC. SW
PROP. RESIN INLAY
PROP. GRAN. CURB TYPE VB
CONST. ℄
86PT +04.30
87
89
+79
578.34'
S57°15'15"E
REMOVE TRACKS & CONC. BASE - 4 RAIL
PROP. SAWCUT (TYP)
PROP. GRAN. CURB TYPE VB
PROP. BIKE RACK
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. 6' SCORED CEM. CONC. SW
PROP. 3" PINE BARK MULCH
PROP. TREE PIT W/MULCH
PROP. BUILDING (BO)
MATCH LINE
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
R&S EXIST. TRASH BARREL
PROP. 2' COLORED CEM. CONC. SW
PROP. 6' SCORED CEM. CONC. SW
MEET EXISTING GRADE AT WALK
MEET EXISTING GRADE AT DRIVEWAY
PROP. 4' HMA DRIVE
PROP. WHEELCHAIR RAMP (TYP.)
PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY
PROP. VARIABLE DEPTH MICRO-MILLING & PVM'T OVERLAY
PROP. TREE PROTECTION (TYP.)
PROP. HAND EX. ROOT ZONE (TYP.)
PROP. 3" PINE BARK MULCH
TO UNDERGROUND GARAGE
PROP. CURB (BO) (TYP)
PROP. DRIVEWAY (BO)
PROP. 12" LOAM & 3" PINE BARK MULCH
PROP. SCORED CEM. CONC. SW
PROP. 2' COLORED CEM. CONC. SW
PROP. 12" LOAM & 3" PINE BARK MULCH
TRAPELO ROAD ℄
△ =12°03'00"
R=1421.19'
T=150.00'
L=298.89'
STA. 87+71.83 TRAPELO ROAD ℄ = STA. 0+00.00 COMMON STREET ℄
N=2963868.1193 E=744065.8471
CONT. ON SHEET 47
CONT. ON SHEET 50
MATCH LINE
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. SCORED CEM. CONC. SW (TYP.)
PROP. 4' COLORED CEM. CONC. SW (TYP.)
PROP. ROOT PATH (2TYP.)
PROP. TREE PIT W/MULCH (TYP.)
PROP. GRAN. CURB TYPE VB
PROP. SAWCUT & 4' HMA DRIVE
BEGIN SCORED CEM. CONC. SW
PROP. TREE (TYP.)
PROP. TREE PIT W/MULCH
PROP. 3" PINE BARK MULCH
R&R CONC. CURB
PROP. SAWCUT & 4' HMA DRIVE
PROP. 1" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 5' CEM. CONC.SW
PROP. GRAN. CURB FROM RESET
PROP. 2.5' COLORED CEM. CONC. SW (TYP.)
PROP. SAWCUT & 2' HMA DRIVE (TYP.)
PROP. TREE PIT W/MULCH (TYP.)
PROP. ROOT PATHS (3 TYP.)
PROP. 4" LOAM & SEED AT LAWN
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. BENCH R&S EXIST.
PROP. TRASH BARREL R&S EXIST.
MATCH LINE
PROP. TREE PIT W/ MULCH
PROP. SAWCUT & 2' HMA DRIVE
PROP. ROOT PATHS (4 TYP.)
MEET EXISTING GRADE AT STEP
PROP. TREE PIT W/SEED
PROP. 3" PINE BARK MULCH AT SHRUBS (TYP.)
END SCORED CEM. CONC. SW
HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	49	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 110

DRAINAGE DETAILS
SEE SHEET NO. 110

HOR. SCALE IN FEET
0 20 50 100

PAYSON ROAD
PALFREY ROAD
COMMON STREET

199.66'
N12°37'18"W

579.04'
N11°04'18"W

PROP. 4" LOAM & SEED
PROP. WHEELCHAIR RAMP
PROP. TREE PROTECTION (TYP.)
LIMIT OF WORK MEET EXISTING
PROP. 4" LOAM & SEED (TYP.)
PROP. 1" MICRO-MILLING & PVM'T OVERLAY
PROP. GRAN. CURB FROM RESET
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. SAWCUT & 2' HMA DRIVE
PROP. WHEELCHAIR RAMP (TYP.)
END SCORED CEM. CONC. SW
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
PROP. 2' COLORED CEM. CONC. SW (TYP.)
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
PROP. 4' TREE PIT W/MULCH
PROP. SAWCUT & MEET EXISTING GRADE AT WALK
PROP. 8' SCORED CEM. CONC. SW (TYP.)
PROP. TRASH BARREL R&S EXIST.
PROP. ROOT PATH (2)
PROP. 4' COLORED SCORED CEM. CONC. SW
LINE OF TEMP. EASEMENT (TYP.)
PROP. TRASH BARREL R&S EXIST.
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. GRAN. CURB FROM RESET
STA 5+56.4 LIMIT OF WORK MEET EXISTING
R&R MB(BO)
PROP. CEM. CONC. SW
PROP. 1" MICRO-MILLING & PVM'T OVERLAY
LIMIT OF WORK MEET EXISTING
END SCORED CEM. CONC. SW MEET EXISTING GRADE AT STEPS
PROP. 5.5' SCORED CEM. CONC. SW (TYP.)
PROP. 2' COLORED CEM. CONC. SW (TYP.)
PROP. 1" MICRO-MILLING & PVM'T OVERLAY
PROP. SAWCUT & MEET EXISTING GRADE AT WALK
PROP. 3' COLORED SCORED CEM. CONC. SW
PROP. 6.5' SCORED CEM. CONC. SW
PROP. TRASH BARREL R&S EXIST.
PROP. GRAN. CURB TYPE VB
PROP. 4' TREE PIT W/MULCH
MATCH LINE
MEET EXISTING GRADE AT DOORWAYS (TYP.)
PROP. TREE (TYP.)
PROP. 1" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
MEET EXIST. GRADE
PROP. TREE PIT W/MULCH
PROP. 4' COLORED SCORED CEM.
PROP. ROOT PATH (2TYP.)

CONT. ON SHEET 48

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	50	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 111

DRAINAGE DETAILS
SEE SHEET NO. 111

TO UNDERGROUND GARAGE

CONT. ON SHEET 48

MATCH LINE

PROP. CURB (BO) (TYP)

PROP. DRIVE (BO)

MEET EXISTING GRADE AT DOORWAY (TYP.)

PROP. SCORED CEM. CONC. SW (TYP.)

PROP. 4' COLORED CEM. CONC. SW (TYP.)

PROP. ROOT PATH (2TYP.)

PROP. TREE PIT W/MULCH (TYP.)

PROP. GRAN. CURB TYPE VB

8.0'

22.0'

22.0'

8.0'

REM

408.42'

S28°48'35"W

2 Φ

3 Φ

LIMIT OF WORK MEET EXISTING

HORNE ROAD

A62

A63

PROP. 6.5" GRAN. TRANS. CURB

PROP. GRAN. CURB FROM RESET

PROP. DRIVEWAY (BO)

PROP. WHEELCHAIR RAMP (TYP.)

PROP. SAWCUT & 2' HMA DRIVE

PROP. 8' CEM. CONC. SW

PROP. STRUCTURAL SOIL

PROP. SAWCUT & 13' CEM. CONC. WALK SURFACE

PROP. BUILDING (BO)

2 STY BRICK #527

PROP. SAWCUT & 2' HMA DRIVE

COMMON STREET

PROP. GRAN. CURB FROM RESET

STA 4+06.0
LIMIT OF WORK
MEET EXISTING

PROP. TREE PIT W/MULCH (TYP.)

PROP. ROOT PATHS (3 TYP.)

PROP. 4" LOAM & SEED AT LAWN

PROP. SAWCUT & 2' HMA DRIVE

LINE OF TEMP. EASEMENT (TYP.)

PROP. 8' CEM. CONC. SW

PROP. SAWCUT & 2' HMA DRIVE

PROP. TREE (TYP.)

PROP. SAWCUT, PROP. CEM. CONC. SW AT DRIVE

PROP. STRUCTURAL SOIL

PROP. 1" MICRO-MILLING & PVM'T OVERLAY

BELMONT STREET

BELMONT

WATERTOWN

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	51	214
PROJ. FILE NO. 604688			

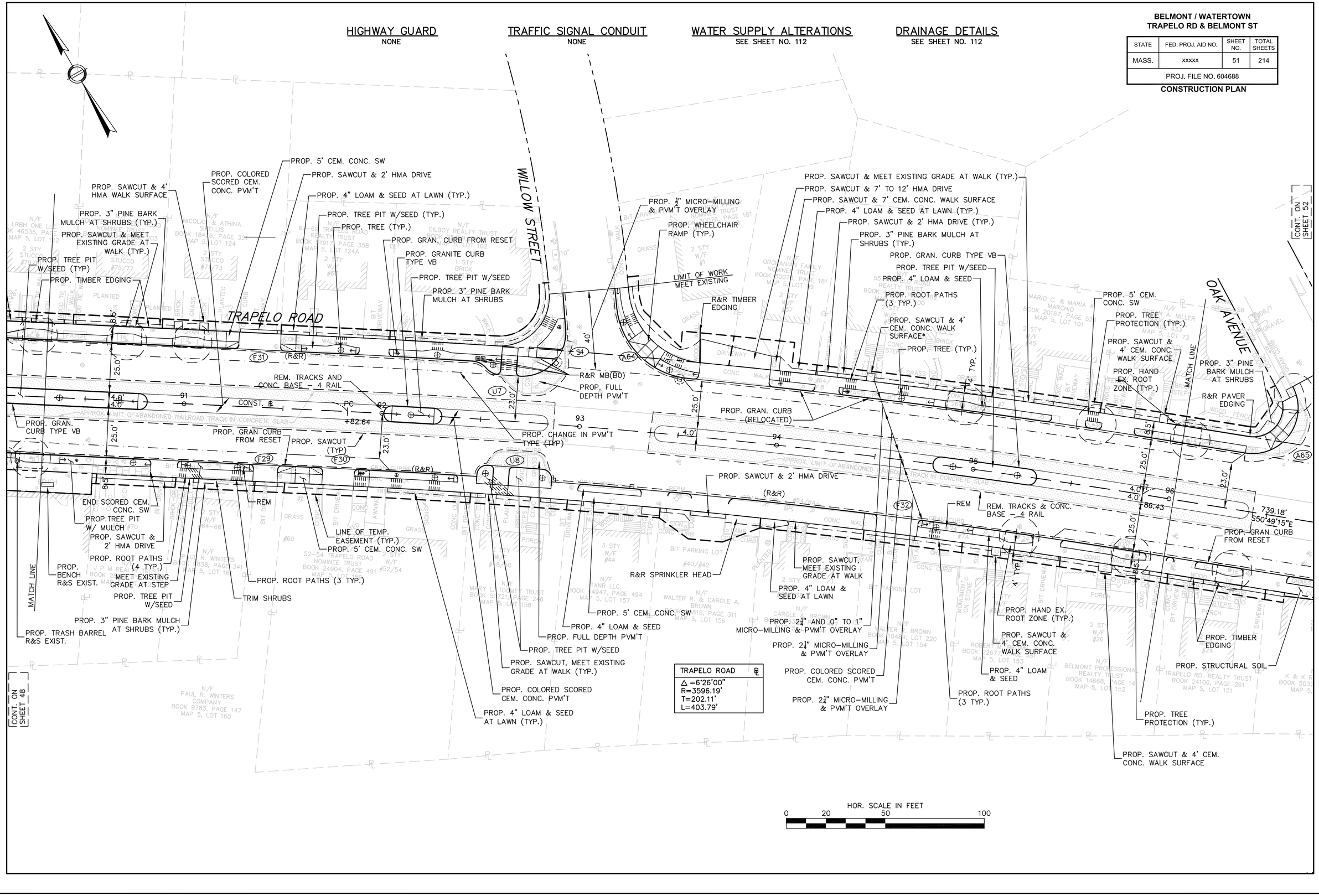
CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 112

DRAINAGE DETAILS
SEE SHEET NO. 112



BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	52	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 154

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 113

DRAINAGE DETAILS
SEE SHEET NO. 113

OAK AVENUE
PINE STREET
TRAPELO ROAD
BELMONT STREET
BELMONT
WATERTOWN
CONST. ℄
ABANDONED RAILROAD TRACK
APPROX. LIMIT OF ABANDONED RAILROAD TRACK IN CONCRETE SLAB
1910 COUNTY LAYOUT
MATCH LINE
LIMIT OF WORK MEET EXISTING
PROP. 5' CEM. CONC. SW
PROP. TREE PROTECTION (TYP.)
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
PROP. HAND EX. ROOT ZONE (TYP.)
PROP. 3" PINE BARK MULCH AT SHRUBS
R&R PAVER EDGING
PROP. ½" MICRO-MILLING & PVM'T OVERLAY
PROP. SAWCUT & 2' HMA DRIVE (TYP.)
PROP. 3" PINE BARK MULCH AT SHRUBS (TYP.)
PROP. 4' CEM. CONC. SW AT DRIVE
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. TREE (TYP.)
PROP. 2½" MICRO-MILLING & PVM'T OVERLAY
PROP. FULL DEPTH PAVEMENT
MEET EXISTING GRADE AT STEP (TYP.)
PROP. TREE PIT W/SEED (TYP.)
REM
PROP. 4" LOAM & SEED (TYP.)
LINE OF TEMP. EASEMENT (TYP.)
PROP. SAWCUT & 4' HMA DRIVE
PROP. 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. ROOT PATHS (3)
PROP. 1" to 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. GRANITE CURB FROM RESET
PROP. CHANGE IN PVM'T TYPE (TYP)
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)
R&R MB(BO)
PROP. WHEELCHAIR RAMP (TYP.)
PROP. SAWCUT & 2' HMA DRIVE
PROP. GRAN. CURB FROM RESET
PROP. SAWCUT (TYP)
PROP. BIKE RACK
PROP. 7.5' CEM. CONC. SW (R&R)
PROP. TRASH BARREL
R&R EXIST. BUS SHELTER
PROP. CEM. CONC. WALK SURFACE
PROP. BENCH
PROP. GRAN CURB FROM RESET
PROP. TIMBER EDGING
PROP. STRUCTURAL SOIL
PROP. TREE PIT W/SEED
MEET EXISTING GRADE AT STEPS (TYP.)
PROP. SAWCUT & 2' HMA DRIVE (TYP.)
PROP. TREE PIT W/MULCH
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
PROP. TREE PROTECTION (TYP.)
PROP. TREE PIT W/SEED
PROP. STRUCTURAL SOIL
PROP. TIMBER EDGING
REM
PROP. SAWCUT
PROP. COLORED SCORED CEM. CONC. WALK SURFACE
R&S EXIST. TRASH BARREL
PROP. 7.5' CEM. CONC. SW
PROP. BIKERACK
PROP. TRASH BARREL
PROP. 4" LOAM & SEED
PROP. 12" LOAM & PINE BARK MULCH
PROP. TREE (TYP.)
PROP. 4" LOAM & SEED
PROP. BENCHES (2)
PROP. 4" LOAM & SEED
PROP. 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. ½" TO 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. TRASH BARREL
PROP. 4" LOAM & SEED
PROP. STRUCTURAL SOIL
739.18' S50°49'15"E
CONT. ON SHEET 51
CONT. ON SHEET 53
HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	53	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 156

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 114

DRAINAGE DETAILS
SEE SHEET NO. 114

TRAPELO ROAD ℄
Δ =15°29'00"
R=519.16'
T=70.58'
L=140.30'

TRAPELO ROAD ℄
Δ =12°11'30"
R=692.96'
T=74.01'
L=147.45'

BELMONT STREET
OAKLEY ROAD
MATCH LINE
PROP. BUILDING (BO)
PROP. DRIVEWAY (BO)
PROP. DRIVEWAY (BO)
PROP. TREE (BY OTHERS TYP.)
PROP. 6.5' GRAN. TRANS. STONE
PROP. SAWCUT & 2' HMA DRIVE (TYP.)
PROP. 4" LOAM & SEED AT LAWN (TYP.)
LINE OF TEMP. EASEMENT (TYP.)
PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)
PROP. TREE PROTECTION (TYP.)
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
PROP. TREE PIT W/SEED (TYP.)
PROP. 4" LOAM & SEED
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)
PROP. ½" MICRO-MILLING & PVM'T OVERLAY
PROP. 4' CEM. CONC. SW
PROP. 4" LOAM & SEED
PROP. TREE PIT W/SEED
LIMIT OF WORK, MEET EXISTING
PROP. 4" LOAM & SEED (TYP.)
PROP. 5' CEM. CONC. SW
PROP. TREE PIT W/SEED (TYP.)
PROP. 3" PINE BARK MULCH (TYP.)
PROP. ROOT PATHS (3 TYP.)
PROP. SAWCUT & 2' HMA DRIVE (TYP.)
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. GRAN. CURB FROM RESET
MEET EXIST. GRADE AT WALK
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE @ DRIVEWAY
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
PROP. ROOT PATHS (3 TYP.)
PROP. WHEELCHAIR RAMP (TYP.)
PROP. SAWCUT, MEET EXISTING GRADE AT WALK
PROP. TREE (TYP.)
PROP. 5' CEM. CONC. SW
REM
PROP. CHANGE IN PVM'T TYPE (TYP)
PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY
PROP. TREE PIT W/SEED
PROP. GRAN. CURB TYPE VB
PROP. SAWCUT (TYP)
PROP. BIKE RACK
PROP. 7.5' CEM. CONC. SW
REM
PROP. GRAN. CURB FROM RESET
PROP. FULL DEPTH PVM'T
PROP. HMA DRIVE
SAWCUT
R&R EXIST. BUS SHELTER
PROP. CEM. CONC. WALK SURFACE
PROP. BENCH
PROP. 4" LOAM & SEED
PROP. TREE PIT W/SEED
PROP. TREE (TYP.)
PROP. 2¼" AND 0" TO 1" MICRO-MILLING AND PVM'T OVERLAY
PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY
PROP. FULL DEPTH PAVEMENT
PROP. COLORED SCORED CEM. CONC. PVM'T
PROP. CEM CONC. SW
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
REM. TRACKS & CONC. BASE – 4 RAIL
PROP. GRAN. CURB (RELOCATED)
PROP. GRAN. CURB (RELOCATED)
PROP. 5.5' CEM. CONC. SW
PROP. FULL DEPTH PVM'T (TYP.)
MATCH LINE
CONT. ON SHEET 52
CONT. ON SHEET 54

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	54	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 156

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 115

DRAINAGE DETAILS
SEE SHEET NO. 115

TRAPELO ROAD ℄
△ =3°21'00"
R=2603.31'
T=76.13'
L=152.21'

TRAPELO ROAD ℄
△ =2°03'00"
R=5552.10'
T=99.34'
L=198.65'

PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY
PROP. FULL DEPTH PVM'T
PROP. TREE PIT W/SEED
PROP. FULL DEPTH PVM'T
PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY
PROP. FULL DEPTH PVM'T
PROP. SAWCUT & 2" HMA DRIVE
PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)
PROP. SAWCUT & 2' HMA DRIVE
PROP. SAWCUT, MEET EXISTING GRADE AT DRIVE
PROP. TREE PIT W/SEED (TYP.)
R&R 4' FLAGSTONE WALK
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE @ DRIVEWAY
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
PROP. ROOT PATHS (3 TYP.)
MEET EXIST. GRADE AT WALK
PROP. WHEELCHAIR RAMP (TYP.)
PROP. SAWCUT, MEET EXISTING GRADE AT WALK
PROP. TREE (TYP.)
PROP. 5' CEM. CONC. SW
PROP. TIMBER EDGING
PROP. TREE PIT W/SEED
107
155.47'
S78°29'45"E
108
109
CONST. ℄
PT
+67.48
110
161.70'
S76°26'45"E
111
PC
+29.18
112
PT
113
51.99'
S79°47'45"E
+81.39
+58
(R&R)
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. SAWCUT , MEET EXISTING GRADE AT DRIVE
PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)
LINE OF TEMP. EASEMENT (TYP.)
PROP. 4" LOAM & SEED (TYP)
PROP. 5' CEM. CONC. SW
PROP. GRAN. CURB FROM RESET
PROP. CHANGE IN PVM'T TYPE (TYP.)
PROP. TREE PIT W/SEED
PROP. ½" MICRO-MILLING & PVM'T OVERLAY
LIMIT OF WORK MEET EXISTING
PROP. SAWCUT (TYP)
REM. TRACKS & CONC. BASE - 4 RAIL
REMOVE TRACKS & CONC. BASE - 4 RAIL
PROP. 5.5' CEM. CONC. SW
PROP. SAW CUT (TYP.)
PROP. GRAN. CURB (RELOCATED)
PROP. GRAN. CURB (RELOCATED)
PROP. GRAN. CURB FROM RESET
PROP. GRAN. CURB TYPE VB
PROP. GRAN. CURB TYPE VB (TYP)
PROP. FULL DEPTH PVM'T (TYP.)
PROP. GRAN. CURB (RELOCATED)
PROP. FULL DEPTH PVM'T
PROP. GRAN. CU FROM RESET
BELMONT
WATERTOWN
APPROX. LIMIT OF ABANDONED RAILROAD TRACK IN CONCRETE SLAB
GRAVEL CART PATH
STONE WALL
IRRIGATION MANHOLE
1898 COUNTY LAYOUT
OAKLEY COUNTRY CLUB BOOK 4486, PAGE 75 MAP 12, LOT 1
N/F NORTH SHORE CONSTRUCTION AND DEVELOPMENT INC. BOOK 34537, PAGE 350 MAP 3, LOT 193-A
N/F JAMES P. & KATHLEEN H. MURPHY BOOK 24756, PAGE 589 MAP 3, LOT 200
N/F BEAVERBROOK STEP INC. BOOK 25153, PAGE 495 MAP 3, LOT 201
N/F JOHN L. MILEY MAP 3, LOT 202
N/F PETER J. & ELISE BELLO BOOK 32921, PAGE 366 MAP 3, LOT 203
N/F KASPER M. & SUSAN BOOK 30671, PAGE 304 MAP 3, LOT 204
N/F CONCORD PARK CONDO TRUST BOOK 13179, PAGE 197 MAP 3, LOT 197
2 STY STONE BLDG #351
2 STY BRICK #371
2 STY W/F #379/381
2 STY W/F #383/385
2 STY W/F #387/389
2 STY W/F #393
#407
#405
#92
CONT. ON SHEET 55
CONT. ON SHEET 53
MATCH LINE
MATCH LINE
HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	55	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 116

DRAINAGE DETAILS
SEE SHEET NO. 116

TRAPELO ROAD (℄)
△ =3°21'00"
R=2603.31'
T=76.13'
L=152.21'

TRAPELO ROAD (℄)
△ =0°56'23"
R=5000.00'
T=41.01'
L=82.01'

PROP. 1" MICRO–MILLING & PVM'T OVERLAY
PROP. TREE PIT W/SEED
LIMIT OF WORK MEET EXISTING
PROP. SAWCUT (TYP)
REM. TRACKS & CONC. BASE – 4 RAIL
PROP. FULL DEPTH PVM'T
PROP. 5.5' CEM. CONC. SW
PROP. GRAN. CURB FROM RESET
MATCH LINE
TRIM TREES OVER SIDEWALK
CONT. ON SHEET 54

PROP. 2¼" AND 0" TO 1" MICRO–MILLING & PVM'T OVERLAY
PROP. SAWCUT & 4' HMA DRIVE
PROP. 6.5' GRAN. TRANS. STONE
PROP. 4" LOAM & SEED (TYP)
PROP. TREE (TYP.)
PROP. 5' CEM. CONC. SW
HAND EX. ROOT ZONE(TYP)
PROP. WHEELCHAIR RAMP (TYP.)
PAYSON ROAD
INSTALL BUS SHELTER
PROP. FULL DEPTH PVM'T
PROP. COLORED SCORED CEM. CONC. PVM'T
PROP. GRAN. CURB TYPE VB
PROP. BIKERACK
PROP. CHANGE IN PVM'T TYPE (TYP.)
PROP. GRAN. CURB FROM RESET (TYP.)
HAND EX. ROOT ZONE(TYP)
PROP. SAWCUT (TYP)
PROP. 5' CEM. CONC. SW
PROP. SAWCUT & 4' HMA DRIVE
PROP. TREE PROTECTION (TYP.)
PROP. HAND EXC. ROOT ZONE
PROP. 4" LOAM & SEED (TYP.)
PROP. FULL DEPTH PVM'T
PROP. GRAN. CURB FROM RESET (TYP.)
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE (TYP.)
R&R PAVER EDGING (TYP.)
PROP. 4" LOAM & SEED AT LAWN
PROP. 2¼" AND 0" TO 1" MICRO–MILLING & PVM'T OVERLAY

PROP. 1" MICRO–MILLING & PVM'T OVERLAY
R&R QUARTER ROUND CURB
PROP. 4" LOAM & SEED AT LAWN
LIMIT OF WORK MEET EXISTING
BELMONT STREET
PROP. GRAN CURB (RELOCATED)
PROP. GRAN CURB FROM RESET (TYP.)
BELMONT WATERTOWN
COMMONWEALTH ROAD
PROP. TREE PROTECTION (TYP.)

PROP. 6' CURB INLET
PROP. TREE PROTECTION (TYP.)
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. 6.5' GRAN. TRANS. STONE
PROP. SAWCUT, MEET EXISTING GRADE AT STEPS
PROP. HAND EX. ROOT ZONE
PROP. FULL DEPTH PVM'T
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. 4" LOAM & SEED (TYP)
PROP. 5' CEM. CONC. SW
PROP. TREE PIT W/SEED (TYP.)
PROP. SAWCUT & 2' HMA DRIVE
VAN NESS ROAD
PROP. SAWCUT, MEET EXISTING GRADE AT WALK
PROP. 1" MICRO–MILLING & PVM'T OVERLAY
LIMIT OF WORK MEET EXISTING
PROP. 1" MICRO–MILLING & PVM'T OVERLAY
PROP. FULL DEPTH PVM'T
LINE OF TEMP. EASEMENT (TYP.)
PROP. SAWCUT & 2' HMA DRIVE (TYP.)
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE (TYP.)
PROP. TREE PIT W/SEED (TYP.)
PROP. 2¼" MICRO–MILLING & PVM'T OVERLAY
PROP. TREE (TYP.)
PROP. 6.5' GRAN. TRANS. STONE
MATCH LINE

STUL TS ROAD
PROP. 2¼" AND 0" TO 1" MICRO–MILLING & PVM'T OVERLAY
LIMIT OF WORK MEET EXISTING
PROP. SAWCUT, MEET EXISTING GRADE AT WALK
PROP. 5' CEM. CONC. SW
PROP. TREE PIT W/SEED (TYP.)
PROP. SAWCUT & 2' CEM. CONC. WALK
PROP. 1" MICRO–MILLING & PVM'T OVERLAY
PROP. 4" LOAM & SEED (TYP.)
REM
PROP. 5' CEM. CONC. SW
PROP. FULL DEPTH PVM'T
R&R MB(BO)
PROP. SAWCUT & CEM. CONC. WALK SURFACE
LIMIT OF WORK MEET EXISTING
PROP. 4" LOAM & SEED AT LAWN (TYP.)
CARVER ROAD
PROP. 6.5' GRAN. TRANS. STONE
PROP. 5' CEM. CONC. SW
PROP. 6.5' GRAN. TRANS. STONE
PROP. 1" MICRO–MILLING & PVM'T OVERLAY
PROP. 4" LOAM & SEED (TYP.)
PROP. 5' CEM. CONC. SW
CONT. ON SHEET 56

CONST. ℄
113 51.99' S79°47'45"E +81.39
114
115 +10
116 410.86' S79°33'28"E
117 PC +44.24
118 PT +26.25

HOR. SCALE IN FEET
0 20 50 100

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 158

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 117

DRAINAGE DETAILS
SEE SHEET NO. 117

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	56	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

STULTS ROAD
LEWIS ROAD
BELMONT STREET
SCHOOL STREET
CARVER ROAD
WINDSOR AVENUE
BELMONT
WATERTOWN
MATCH LINE
CONT. ON SHEET 55
CONT. ON SHEET 57

TRAPELO ROAD ℄
△ =0°56'23"
R=5000.00'
T=41.01'
L=82.01'

TRAPELO ROAD ℄
△ =6°12'54"
R=1001.00'
T=54.34'
L=108.58'

SCHOOL STREET ℄
△ =23°05'11"
R=275.00'
T=56.17'
L=110.81'

STA. 120+46.52 TRAPELO ROAD ℄ = STA. 0+00.00 SCHOOL STREET ℄ N=2962548.1604 E=746976.4569

STA. 121+54.17 TRAPELO ROAD ℄ = STA. 0+00.00 SCHOOL STREET ℄ N=2962540.2966 E=747083.8001

PROP. 2¼" AND 0" TO 1" MICRO–MILLING & PVM'T OVERLAY
LIMIT OF WORK MEET EXISTING
PROP. SAWCUT, MEET EXISTING GRADE AT WALK
PROP. ½" MICRO–MILLING & PVM'T OVERLAY
PROP. 5' CEM. CONC. SW
PROP. TREE PIT W/SEED (TYP.)
PROP. SAWCUT & 2' CEM. CONC. WALK
PROP. SAWCUT & 4' HMA DRIVE
PROP. 4" LOAM & SEED (TYP.)
PROP. TREE PROTECTION (TYP.)
PROP. VAR. WIDTH COLORED CEM. CONC. SW
PROP. 5' CEM. CONC. SW
PROP. FULL DEPTH PVM'T
PROP. GRAN. CURB. FROM RESET
PROP. .5' CONC. SW
PROP. 4" LOAM & SEED
PROP. SAWCUT & CEM. CONC. WALK SURFACE
PROP. CEM. CONC. SW
PROP. 6.5' GRAN. TRANS. STONE
PROP. ½" MICRO–MILLING & PVM'T OVERLAY
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. 5' CEM. CONC. SW
PROP. 1" MICRO–MILLING & PVM'T OVERLAY
PROP. GRAN. CURB FROM RESET
PROP. 4" LOAM & SEED (TYP.)
PROP. ½" TO 1½" MICRO–MILLING & PVM'T OVERLAY
PROP. GRAN CURB TYPE VB
PROP. GRAN CURB FROM RESET
PROP. 7' CEM. CONC. SW
PROP. FULL DEPTH CONSTRUCTION
PROP. WHEELCHAIR RAMP (TYP.)
END SCORED CEM. CONC. SW
BEGIN SCORED CEM. CONC. SW
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. 2' COLORED CEM. CONC. SW
PROP. TRASH BARREL R&S EXIST.
PROP. SCORED CEM. CONC. SW
R&R MB(BO)
PROP. FULL DEPTH PVM'T
PROP. 6' CEM. CONC. SW
PROP. GRAN CURB FROM RESET
R&R QUARTER ROUND CURB
MEET EXISTING GRADE AT STEPS
PROP. ½" MICRO–MILLING & PVM'T OVERLAY
LINE OF TEMP. EASEMENT (TYP.)
PROP. SAWCUT & 4' HMA DRIVE
PROP. 4" LOAM & SEED (TYP.)
PROP. 3" PINE BARK MULCH AT SHRUBS
PROP. TREE PIT W/SEED (TYP.)
PROP. 4' CEM. CONC. SW
PROP. ½" MICRO–MILLING & PVM'T OVERLAY
PROP. TIMBER EDGING
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
PROP. ROOT PATHS (3 TYP.)
PROP. SAWCUT & 4' HMA DRIVE (TYP.)
PROP. STRUCTURAL SOIL
PROP. ROOT PATHS (4)
PROP. ROOT PATH (1)
PROP. SAW CUT & HMA DRIVE
PROP. 2 1/4" AND 0" TO 1" MICRO–MILLING & PVM'T OVERLAY
PROP. 3' COLORED SCORED CEMC. CONC. SW
PROP. SCORED CEM. CONC. SW
PROP. 2 1/4" MICRO–MILLING & PVM'T OVERLAY
PROP. 2½" AND 0" TO 1" MICRO–MILLING & PVM'T OVERLAY
PROP. 2' COLORED SCORED CEM. CONC. SW
MEET EXISTING GRADE AT DOORWAY (TYP.)
BEGIN SCORED CEM. CONC. SW
PROP. TRASH BARREL R&S EXIST.
PROP. GRAN. CURB TYPE VB
PROP. 3' COLORED SCORED CEM. CONC. SW
PROP. SAWCUT & 4' CEM. CONC. SW WALK SURFACE
PROP 8" QUARTER ROUND CURB
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE AT DRIVEWAY
HAND EX. ROOT ZONE
PROP. 6.5' GRAN. TRANS. STONE
PROP. 4" LOAM & SEED (TYP.)
PROP. 3" PINE BARK MULCH AT SHRUBS
PROP. SAWCUT & 4' HMA DRIVE (TYP.)
PROP. 4" LOAM & SEED (TYP)
PROP. 5' CEM. CONC. SW
PROP. SAWCUT, MEET EXISTING GRADE AT WALK
PROP. 6.5' GRAN. TRANS. STONE
PROP. CEM. CONC. SW
END SCORED CEM. CONC SW
PROP. 3' COLORED SCORED CEM. CONC. SW

PC +44.24
PT +26.25
PC120 CONST. ℄ +96.20
PT +58.72
+04.79
+47.92
+47
118
119
120
121
122
123
169.95' S80°29'51"E
293.32' N03°29'15"E
584.41' S86°42'45"E
61'
52'
50'
38'
34.0'
23.3'
9.2'
17.0'
33.5'
27.5'
19.9'
9.0'
6.5'
13.0'
VARIES
REM
(R&R)
(REM)
(TYP)

HOR. SCALE IN FEET
0 20 50 100

FOR PROFILE: SEE SHEET NO. 62

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	57	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 118

DRAINAGE DETAILS
SEE SHEET NO. 118

CONT. ON SHEET 56

NEWTON STREET

WORCESTER STREET

STA. 123+70.32 TRAPELO ROAD ℄ =
STA. 0+00.00 NEWTON STREET ℄
N=2962527.9015 E=747299.5888

STA. 125+71.12 TRAPELO ROAD ℄ =
STA. 0+00.00 WORCESTER STREET ℄
N=2962516.3864 E=747500.0571

1+70.87

170.87'
N00°13'15"W

1+29.58

129.58'
N00°13'15"W

584.41'
S86°42'45"E

BELMONT STREET

SPRINGFIELD STREET

FALMOUTH STREET

BELMONT

WATERTOWN

HILL-SIDE ROAD

WESTLAND ROAD

LANGDON AVENUE

MATCH LINE

MATCH LINE

BEGIN SCORED CEM. CONC. SW

MEET EXISTING GRADE AT DOORWAY (TYP.)

PROP. FULL DEPTH PVM'T

PROP. 6.5' GRAN TRANS STONE

PROP. CEM. CONC. SW

PROP. 2' COLORED SCORED CEM. CONC. SW

PROP. 6.5' SCORED CEM. CONC. SW

PROP. SAWCUT & 4' HMA DRIVE

PROP. STRUCTURAL SOIL

PROP. 9' CEM. CONC. SW

LINE OF TEMP. EASEMENT (TYP.)

LIMIT OF WORK MEET EXISTING

PROP. 6.5' GRAN. TRANS. STONE

PROP. CEM. CONC. SW

END SCORED CEM. CONC. SW

END PROP. SCORED CEM. CONC. SW

PROP. GRAN. CURB TYPE VB

PROP. 4" LOAM & SEED (TYP.)

PROP. TREE PIT W/MULCH (TYP.)

PROP. 6.5' SCORED CEM. CONC. SW (TYP.)

PROP. 2' COLORED CEM. CONC. SW (TYP.)

PROP. 5.5' SCORED CEM. CONC. SW

PROP. 3' COLORED SCORED CEM. CONC. SW (TYP.)

MEET EXISTING GRADE AT DOORWAY (TYP.)

BEGIN PROP. SCORED CEM. CONC. SW

PROP. 6.5' GRAN. TRANS. STONE

PROP. CEM. CONC. SW

R&R MB(BO)

PROP. GRAN. CURB TYPE VB

PROP. ROOT PATHS (2 TYP.)

PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY

PROP. ½" MICRO-MILLING & VARIABLE DEPTH PVM'T OVERLAY

PROP. 6.5' GRAN TRANS STONE

PROP. CEM. CONC. SW

END PROP. SCORED CEM. CONC. SW

PROP. CEM. CONC. WALK SURFACE

PROP. ½" MICRO-MILLING & PVM'T OVERLAY

PROP. CEM. CONC. SW

PROP. TREE (TYP.)

R&R QUARTER ROUND CURB (TYP.)

PROP. 5' CEM. CONC. SW

PROP. 3" PINE BARK MULCH

LIMIT OF WORK MEET EXISTING

PROP. TREE PIT W/SEED

PROP. GRAN. CURB FROM RESET

PROP. 6.5' GRAN. TRANS. STONE

PROP. ½" MICRO-MILLING & PVM'T OVERLAY

PROP. 5' GRAN. TRANS. STONE

PROP. HMA DRIVE

PROP. TIMBER EDGING

PROP. CEM. CONC. WALK SURFACE

LIMIT OF WORK MEET EXISTING

R&R MB(BO)

PROP. BIT

PROP. TREE PIT W/MULCH

PROP. CHANGE IN PVM'T TYPE (TYP.)

PROP. WHEELCHAIR RAMP (TYP.)

PROP. BOUND

R&R PAVERS AND METAL FENCE

PROP. GRAN. CURB TYPE VB

PROP. 5.0' CEM. CONC. SW

PROP. 3" COLORED SCORED CEM. CONC. SW

PROP. 4" LOAM & SEED (TYP.)

PROP. ½" MICRO-MILLING & PVM'T OVERLAY

PROP. FULL DEPTH PVM'T

PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE

LIMIT OF WORK MEET EXISTING

PROP. 6.5' GRAN. TRANS. STONE

PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE

PROP. 2012 TOWN LOCATION LINE

PROP. 4" LOAM & SEED (TYP.)

PROP. 6.5' GRAN TRANS. STONE

PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)

PROP. SAWCUT & 2' HMA DRIVE (TYP.)

PROP. 4" LOAM & SEED AT LAWN (TYP.)

PROP. TREE PIT W/SEED (TYP.)

PROP. 3" PINE BARK MULCH AT SHRUBS

PROP. 5' CEM. CONC. SW

PROP. SAWCUT & 8' CEM. CONC. WALK SURFACE

R&R CHAIN LINK FENCE

PROP. 3" PINE BARK MULCH AT SHRUBS

PROP. SAWCUT & 4' HMA DRIVE (TYP.)

PROP. 4" LOAM & SEED (TYP)

PROP. 5' CEM. CONC. SW

PROP. SAWCUT, MEET EXISTING GRADE AT WALK

PROP. 2012 TOWN LOCATION LINE

PROP. 4" LOAM & SEED (TYP.)

PROP. TREE PROTECTION

PROP. FULL DEPTH PVM'T <4'

PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY

PROP. SAWCUT & 4' TO 18' HMA DRIVE

PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY

PROP. 7' CEM. CONC. WALK SURFACE

PROP. 4" LOAM & SEED (TYP.)

PROP. 4" LOAM & SEED AT LAWN (TYP.)

PROP. 6.5' GRAN. TRANS. STONE

PROP. ½" MICRO-MILLING & PVM'T OVERLAY

PROP. 2012 TOWN LOCATION LINE

PROP. SAWCUT & 4' HMA DRIVE

PROP. BOUND

LIMIT OF WORK MEET EXISTING

PROP. 6.5' GRAN. TRANS. STONE

TRAPELO ROAD ℄
Δ =13°40'00"
R=1267.66'
T=151.91'
L=302.37'

CONT. ON SHEET 58

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	58	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 119

DRAINAGE DETAILS
SEE SHEET NO. 119

CONT. ON SHEET 57

CONT. ON SHEET 59

FALMOUTH STREET

PROP. CEM. CONC. SW
PROP. 6.5' GRAN. TRANS. STONE
PROP. 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. 5' GRAN. TRANS. STONE
PROP. HMA DRIVE
PROP. TIMBER EDGING
PROP. CEM. CONC. WALK SURFACE
LIMIT OF WORK MEET EXISTING
PROP. BIKERACK (R&R)
R&R MB(BO)
PROP. SAWCUT & 13' HMA DRIVE
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. SAWCUT & 13' CEM. CONC. WALK SURFACE
PROP. 4" LOAM & SEED AT LAWN (TYP.)
HAND EXC. ROOT ZONE
PROP. TREE PIT W/ SEED (TYP.)
PROP. 5' CEM. CONC. SW
PROP. 3" PINE BARK MULCH AT SHRUBS
PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)
PROP. ½" MICRO-MILLING & PVM'T OVERLAY
PROP. 6.5' GRAN. TRANS. STONE
PROP. 4" LOAM & SEED
PROP. 4' CEM. CONC. SW
PROP. GRAN. CURB FROM RESET (TYP.)
PROP. TREE PIT W/MULCH
PROP. GRAN. CURB TYPE VB
PROP. 5.0' CEM. CONC. SW
PROP. 4" LOAM & SEED (TYP.)
PROP. 6.5' GRAN. TRANS. STONE
MEET EXISTING GRADE AT STEPS (TYP.)
PROP. WHEELCHAIR RAMP (TYP.)
LIMIT OF WORK MEET EXISTING
R&R CHAIN LINK FENCE
R&R QUARTER ROUND CURB
PROP. FULL DEPTH PVM'T 4'
PROP. CHANGE IN PVM'T TYPE (TYP)
PROP. 4" LOAM & SEED (TYP.)
PROP. 4" LOAM & SEED AT LAWN
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE AT DRIVEWAY
PROP. 4" LOAM & SEED (TYP.)
PROP. CEM. CONC. SW
PROP. 6.5' GRAN. TRANS. STONE
PROP. ½" MICRO-MILLING & PVM'T OVERLAY
PROP. 6.5' GRAN. TRANS. STONE
PROP. CEM. CONC. SW
PROP. 2½" MICRO-MILLING & PVM'T OVERLAY
PROP. 2½" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
MEET EXISTING GRADE AT STEPS (TYP.)
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. TREE PIT W/MULCH
PROP. 2' COLORED SCORED CEM. CONC. SW
BEGIN SCORED CEM. CONC. SW
PROP. TREE PROTECTION (TYP.)
PROP. 4' HMA DRIVE
PROP. TREE PIT W/SEED
PROP. TREE (TYP.)
PROP. SAWCUT & 4' HMA DRIVE
R&R TIMBER EDGING
PROP. SAWCUT (TYP)
PROP. FULL DEPTH PVM'T
PROP. 5.0' CEM. CONC. SW
PROP. GRAN. CURB TYPE VB
PROP. FULL DEPTH PVM'T
MEET EXISTING GRADE AT STEPS
PROP. TREE PROTECTION (TYP.)
PROP. HAND EXC. ROOT ZONE
LINE OF TEMP. EASEMENT (TYP.)
PROP. SAWCUT & 4' HMA DRIVE
PROP. FULL DEPTH PVM'T
END SCORED CEM. CONC. SW
PROP. 2' COLORED SCORED CEM. CONC. SW
PROP. TREE PIT W/MULCH
PROP. 5' SCORED CEM. CONC. SW
PROP. STRUCTURAL MEET EXISTING SOIL GRADE AT DOORWAY (TYP.)
PROP. GRAN. CURB TYPE VB
PROP. 2' COLORED CEM. CONC. SW
PROP. CEM. CONC. SW
PROP. 4" LOAM & SEED (TYP.)
PROP. GRAN. CURB TYPE VB
R&R MB(BO)
PROP. 2012 TOWN LOCATION LINE
PROP. BOUND
LIMIT OF WORK MEET EXISTING
PROP. 2½" MICRO-MILLING & PVM'T OVERLAY
PROP. SAWCUT & 4' HMA DRIVE
PROP. 6.5' GRAN. TRANS. STONE
PROP. 4" LOAM & SEED AT LAWN
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE AT DRIVEWAY
MATCH LINE
MATCH LINE
PARK ROAD
BELMONT STREET
GROVE STREET
WESTLAND ROAD
WOODLEIGH ROAD
CONST. ℄
PT. 130 +91.56
545.77' S73°02'45"E
APPROX. LIMIT OF ABANDONED RAILROAD TRACK IN CONCRETE SLAB
APPROX. LIMIT OF ABANDONED RAILROAD TRACK IN CONCRETE SLAB
BELMONT
WATERTOWN

TRAPELO ROAD ℄
Δ=13°40'00"
R=1267.66'
T=151.91'
L=302.37'

STA. 135+18.09 TRAPELO ROAD ℄ =
STA. 0+00.00 GROVE STREET ℄
N=2962303.0696 E=748418.5394

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	59	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 160

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 120

DRAINAGE DETAILS
SEE SHEET NO. 120

GROVE STREET
MARION ROAD
MARLBORO STREET
BELMONT STREET
TEMPLETON PARKWAY
ARLINGTON ST
MATCH LINE
APPROX. LIMIT OF ABANDONED RAILROAD TRACK IN CONCRETE SLAB
CONST. ℄
BELMONT
WATERTOWN

CONT. ON SHEET 58
CONT. ON SHEET 60

STA. 135+71.84 TRAPELO ROAD ℄ =
STA. 0+00.00 TEMPLETON PARKWAY ℄
N=2962287.0170 E=748469.8353

STA. 135+95.15 TRAPELO ROAD ℄ =
STA. 0+00.00 ARLINGTON STREET ℄
N=2962279.5351 E=748491.9176

STA. 135+18.09 TRAPELO ROAD ℄ =
STA. 0+00.00 GROVE STREET ℄
N=2962303.0696 E=748418.5394

TRAPELO ROAD ℄
Δ = 4°14'01"
R=1500.00'
T=55.44'
L=110.84'

TRAPELO ROAD ℄
Δ = 4°15'59"
R=1000.50'
T=37.27'
L=74.50'

545.77' S73°02'45"E
214.51' S68°48'44"E
227.43' S64°32'45"E

PC +37.34
PT +48.17
PC +62.68
PT +37.18

STA 1+11.1 LIMIT OF WORK MEET EXISTING
STA 1+04.5 LIMIT OF WORK MEET EXISTING
STA 1+61 LIMIT OF WORK MEET EXISTING
LIMIT OF WORK MEET EXISTING

PROP. FULL DEPTH PVM'T
END SCORED CEM. CONC. SW
PROP. 2' COLORED SCORED CEM. CONC. SW
PROP. TREE PIT W/MULCH
PROP. 5' SCORED CEM. CONC. SW
PROP. STRUCTURAL SOIL
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. GRAN. CURB TYPE VB
PROP. GRAN. CURB FROM RESET
PROP. STRUCTURAL SOIL
PROP. 1" MICRO-MILLING & VARIABLE DEPTH PVM'T OVERLAY
END PROP. SCORED CEM. CONC. PVM'T
PROP. SCORED CEM. CONC. SW
PROP. TRASH BARREL
PROP. 6.5' GRAN. TRANS. STONE
R&R CHAIN LINK FENCE & GATE
R&R PAVER EDGING
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. SAWCUT, MEET EXISTING GRADE AT WALK
PROP. TREE PROTECTION (TYP.)
FULL DEPTH PVM'T <4'
PROP. 2½" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 2½" MICRO-MILLING & PVM'T OVERLAY
PROP. 2½" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. SAWCUT & 4' HMA DRIVE (TYP.)
PROP. 8.5' CEM. CONC. SW
PROP. CEM. CONC. SW
PROP. TREE PIT W/SEED
PROP. TREE (TYP.)
PROP. ROOT PATHS (4)
PROP. 8' HMA WALK SURFACE
PROP. 3" PINE BARK MULCH AT SHRUBS (TYP.)
PROP. SAWCUT & 4' HMA WALK SURFACE (TYP.)
PROP. SAWCUT & 4' HMA DRIVE (TYP.)
PROP. 5' CEM. CONC. SW
PROP. GRAN. CURB FROM RESET (TYP.)
PROP. 3' COLORED SCORED CEM. CONC. SW
PROP. ROOT PATHS (2)
PROP. TREE PIT W/MULCH
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. SCORED CEM. CONC. SW
PROP. CEM. CONC. SW AT DRIVEWAY
BEGIN PROP. SCORED CEM. CONC. SW
PROP. SAWCUT & 2' TO 6' HMA DRIVE
PROP. 2' COLORED SCORED CEM. CONC. SW
PROP. CHANGE IN PVM'T TYPE (TYP)
PROP. 12" LOAM & 3" PINE BARK MULCH
PROP. 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 4" LOAM & SEED (TYP.)
PROP. GRAN. CURB TYPE VB
PROP. CEM. CONC. SW
PROP. GRAN. CURB (RELOCATED)
PROP. 4" LOAM & SEED
PROP. TREE PIT W/SEED
PROP. FULL DEPTH PVM'T
PROP. ½" MICRO-MILLING & PVM'T OVERLAY
PROP. 5' CEM. CONC. SW
PROP. 6.5' GRAN. TRANS STONE
R&R MB(BO)
PROP. MICRO-MILLING & VARIABLE DEPTH OVERLAY
PROP. 2' COLORED SCORED CEM. CONC. SW
BEGIN SCORED CEM. CONC. SW
PROP. 4" LOAM & SEED
PROP. TREE PIT W/MULCH
PROP. WHEELCHAIR RAMP (TYP.)
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE AT DRIVE (TYP.)
PROP. SAWCUT & 4' HMA DRIVE
LINE OF TEMP. EASEMENT (TYP.)
PROP. STRUCTURAL SOIL
PROP. 2.5' COLORED SCORED CEM. CONC. SW
PROP. SCORED CEM. CONC. SW (TYP.)
PROP. TREE PIT W/MULCH (TYP.)
PROP. ROOT PATHS (2 TYP.)
PROP. TREE (TYP.)
PROP. 2' COLORED SCORED CEM. CONC. SW (TYP.)
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. STRUCTURAL SOIL

FOR PROFILE: SEE SHEET NO. 62

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	60	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 121

DRAINAGE DETAILS
SEE SHEET NO. 121

TRAPELO ROAD
$\Delta = 2°28'00"$
R=2044.09'
T=44.01'
L=88.00'

TRAPELO ROAD
$\Delta = 17°48'30"$
R=753.97'
T=118.12'
L=234.34'

STA. 140+80.76 TRAPELO ROAD B =
STA. 0+00.00 OXFORD AVENUE B
N=2962091.1031 E=748942.7184

CONT. ON SHEET 61

CONT. ON SHEET 59

OXFORD AVENUE

BELMONT STREET

EXETER STREET

PRENTISS STREET

KEENAN STREET

BELMONT WATERTOWN

PROP. 3' COLORED SCORED CEM. CONC. SW
PROP. ROOT PATHS (2)
PROP. TREE PIT W/MULCH
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. SCORED CEM. CONC. SW
MEET EXISTING GRADE AT DOORWAY
PROP. 1½" MICRO-MILLING & PVM'T OVERLAY
R&R CHAIN LINK FENCE
PROP. SAWCUT & MEET EXISTING GRADE AT WALK (TYP.)
PROP. GRAN. CURB TYPE VB
R&R
PROP. 6.5' SCORED CEM. CONC. SW (TYP.)
PROP. 2' COLORED CEM. CONC. SW (TYP.)
R&R MB(BO)
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. ROOT PATHS (3)
PROP. TREE (TYP.)
PROP. TREE PIT (TYP.) W/ SEED
PROP. 2½" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. GRAN. CURB TYPE VB (TYP.)
PROP. SAWCUT (TYP)
PROP. FULL DEPTH PVM'T <4'
INSTALL BUS SHELTER
CONST. Ⓑ
PROP. GRAN. CURB FROM RESET
PROP. CHANGE IN PVM'T TYPE (TYP)
PROP. BIKERACK
PROP. 2' COLORED SCORED CEM. CONC. SW (TYP.)
PROP. SCORED CEM. CONC. SW
PROP. 2' COLORED SCORED CEM. CONC. SW
PROP. WHEELCHAIR RAMP (TYP.)
END PROP. SCORED CEM. CONC. SW
PROP. HMA WALK SURFACE
PROP. ROOT PATH (2)
PROP. TREE PIT W/MULCH (TYP.)
PROP. CEM. CONC. SW
PROP. ½" TO 1½" MICRO-MILLING & PVM'T OVERLAY
LIMIT OF WORK MEET EXISTING
PROP. SAWCUT & 4' HMA DRIVE
PROP. STRUCTURAL SOIL
MATCH LINE
LINE OF TEMP. EASEMENT (TYP.)
PROP. SAWCUT & 4' HMA WALK SURFACE
PROP. 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 6.5' GRAN. TRANS. STONE
PROP. 7' CEM. CONC. SW
PROP. PINE BARK MULCH AT SHRUBS
R&R CHAIN LINK FENCE
PROP. HAND EX. ROOT ZONE
PROP. CEM. CONC. WALK SURFACE (TYP.)
PROP. SAWCUT & 4' HMA DRIVE (TYP.)
END PROP. SCORED CEM. CONC. SW
PROP. 2' COLORED SCORED CEM. CONC. SW
PROP. CEM. CONC. SW
PROP. 3.5' COLORED SCORED CEM. CONC. SW
LIMIT OF WORK MEET EXISTING
PROP. ROOT PATH (2)
PROP. TREE PIT W/MULCH (TYP.)
PROP. TRASH BARREL
PROP. GRAN. CURB TYPE VB
PROP. GRAN. CURB (RELOCATED)
R&R MB(BO)
PROP. TREE PIT W/SEED
PROP. 5' CEM. CONC. SW
PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)
LIMIT OF WORK MEET EXISTING
PROP. TREE PIT W/MULCH
PROP. TREE (TYP.)
PROP. 4" LOAM & SEED (TYP.)
PROP. SAWCUT& 4' CEM. CONC. WALK SURFACE
PROP. 5' CEM. CONC. SW
PROP. 4" LOAM & SEED
PROP. 4" LOAM & SEED AT LAWN
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY
PROP. SAWCUT & 4' HMA DRIVE
PROP. HAND EX. ROOT ZONE
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. TREE PROTECTION
PROP. 6.5' GRAN. TRANS. STONE
PROP. ½" MICRO-MILLING & PVM'T OVERLAY
PROP. 6.5' GRAN. TRANS. STONE
PROP. 6.5' GRAN. TRANS. STONE
R&R QUARTER ROUND CURB
PROPOSED PINE BARK MULCH AT SHRUBS
PROP. ROOT PATHS (3 TYP.)
MEET EXISTING GRADE AT STEPS (TYP.)
PROP. 4' HMA DRIVE (TYP.)
PROP. 5' CEM. CONC. SW
PROP. TREE PIT W/SEED (TYP.)
PROP. 4" LOAM & SEED
PROP. GRAN. CURB FROM RESET
PROP. GRAN. CURB (RELOCATED)
REM
PROP. 4" LOAM & SEED
PROP. SAWCUT & 4' HMA DRIVE
PROP. 4" LOAM & SEED AT LAWN
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE AND 5" STEP
PROP. 30'-48" CHAIN LINK FENCE & GATE
PROP. TREE PIT W/SEED
PROP. 5' CEM. CONC. SW
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE AND 6" STEP
PROP. 25'-8" QUARTER ROUND CURB
PROP. 6' CEM. CONC. SW
MATCH LINE

227.43' S64°32'45"E
PT +37.18
PC +64.62
50.30' S67°00'45"E
PT +52.62
PC +02.92
192.89' S84°49'15"E
PT +37.26
140
141
142
143
144
145

HOR. SCALE IN FEET
0 20 50 100

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 122

DRAINAGE DETAILS
SEE SHEET NO. 122

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	61	214
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

END PROJECT
STA. 147+30.18
MEET EXISTING
N 2961926.5323
E 749560.5137

CAMBRIDGE
BELMONT
WATERTOWN

ERICSSON STREET
SULLIVAN STREET
BELMONT STREET
BRIMMER STREET
KEENAN STREET

PROP. 6.5' GRAN. TRANS. STONE
R&R QUARTER ROUND CURB
PROPOSED PINE BARK MULCH AT SHRUBS
PROP. ROOT PATHS (3 TYP.)
MEET EXISTING GRADE AT STEPS (TYP.)
PROP. 4' HMA DRIVE (TYP.)
PROP. 5' CEM. CONC. SW
PROP. TREE PIT W/SEED (TYP.)
PROP. 4" LOAM & SEED
PROP. GRAN. CURB FROM RESET
PROP. GRAN. CURB (RELOCATED) REM
PROP. 5' CEM. CONC. SW
PROP. TREE PIT W/SEED
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. ROOT PATHS (3)
PROP. TREE (TYP.)
PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY
PROP. ½" TO 1½" MICRO-MILLING & PVM'T OVERLAY
LIMIT OF WORK MEET EXISTING
PROP. 2¼" TO 1½" MICRO-MILLING & VARIABLE DEPTH OVERLAY
PROP. GRAN. CURB FROM RESET
PROP WHEELCHAIR RAMP (TYP.)
PROP. TRASH BARREL R&S EXIST.
PROP. TREE PROTECTION (TYP.)
PROP. 4" LOAM & SEED
PROP. SAWCUT, MEET EXISTING GRADE AT WALK
PROP. 5' CEM. CONC. SW
PROP. ½" TO 1½" MICRO-MILLING & PVM'T OVERLAY
RET. CB
INSTALL BUS SHELTER
LINE OF TEMP. EASEMENT (TYP.)
PROP. SAWCUT & 4' HMA DRIVE
PROP. BIKE RACK
PROP. SAWCUT & 4' HMA DRIVE
PROP. 4" LOAM & SEED AT LAWN
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE AND 5" STEP
PROP. TREE PIT W/SEED
MATCH LINE
PROP. 30'-48" CHAIN LINK FENCE & GATE
PROP. TREE PIT W/SEED
PROP. 5' CEM. CONC. SW
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE AND 6" STEP
PROP. 25'-8" QUARTER ROUND CURB
PROP. 6' CEM. CONC. SW

TRAPELO ROAD ℄
△ =2°09'40"
R=1270.74'
T=23.97'
L=47.93'

PC +30.15
PT +78.08
CONST. ℄
PT +57.26
192.89' S84°49'15"E
563.93' N19°42'33"E
10.0'
33'
28.5'
147
148
149
146
145

HOR. SCALE IN FEET
0 20 50 100

CONT. ON SHEET 60

5+63.93
BIT BERM
LIMIT OF WORK MEET EXISTING
PROP. 1½" MICRO-MILLING & PVM'T OVERLAY
OXFORD AVENUE
GRAN CURB (RET)
CONC WALK
5
4
3
2

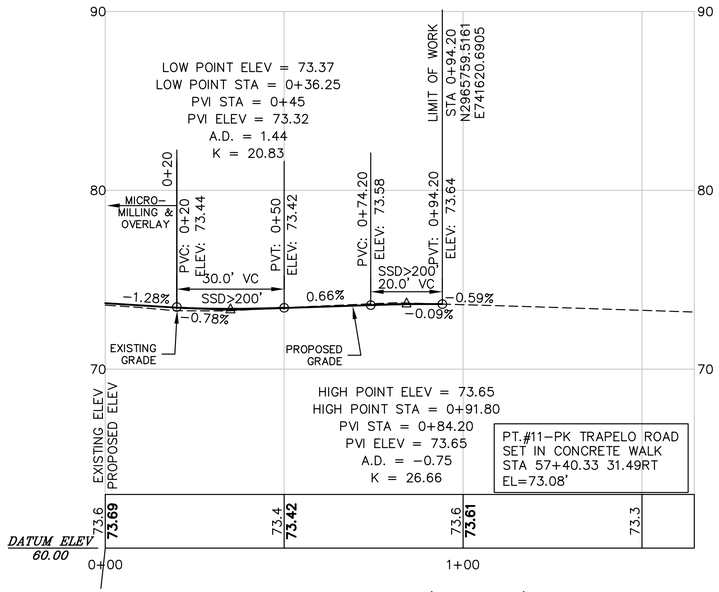
HOR. SCALE IN FEET
0 20 50

CONT. ON SHEET 60

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	62	214
PROJ. FILE NO. 604688			

PROFILE SIDE STREETS

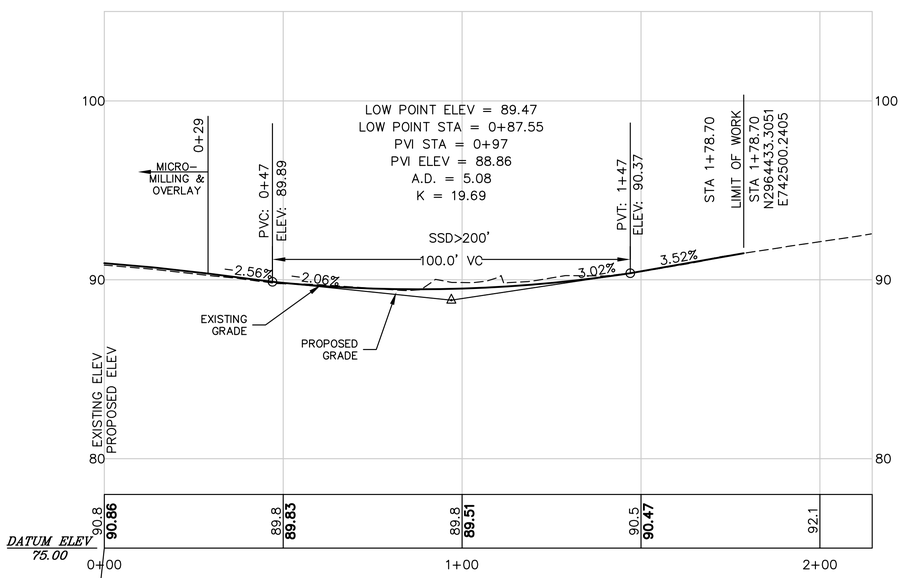


BEECH STREET (NORTH)

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=4'

STA. 56+09.67 TRAPELO ROAD ℄ =
STA. 0+00.00 BEECH STREET ℄

NOTE:
FOR CONSTRUCTION PLANS SEE
SHEET NO. 42



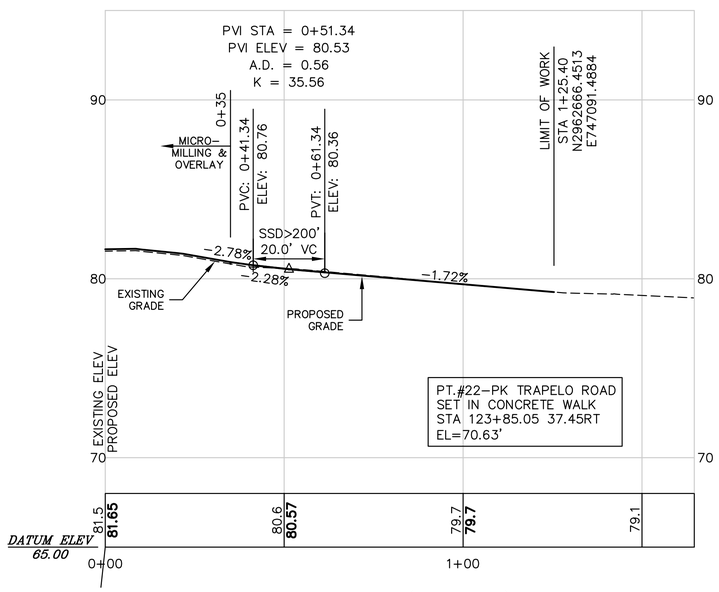
HARRIET AVENUE

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=4'

PT.#13-PK TRAPELO ROAD
SET IN CONCRETE WALK
STA 70+44.99 31.92LT
EL=87.34'

STA. 71+45.30 TRAPELO ROAD ℄ =
STA. 0+00.00 HARRIET AVENUE ℄

NOTE:
FOR CONSTRUCTION PLANS SEE
SHEET NO. 45

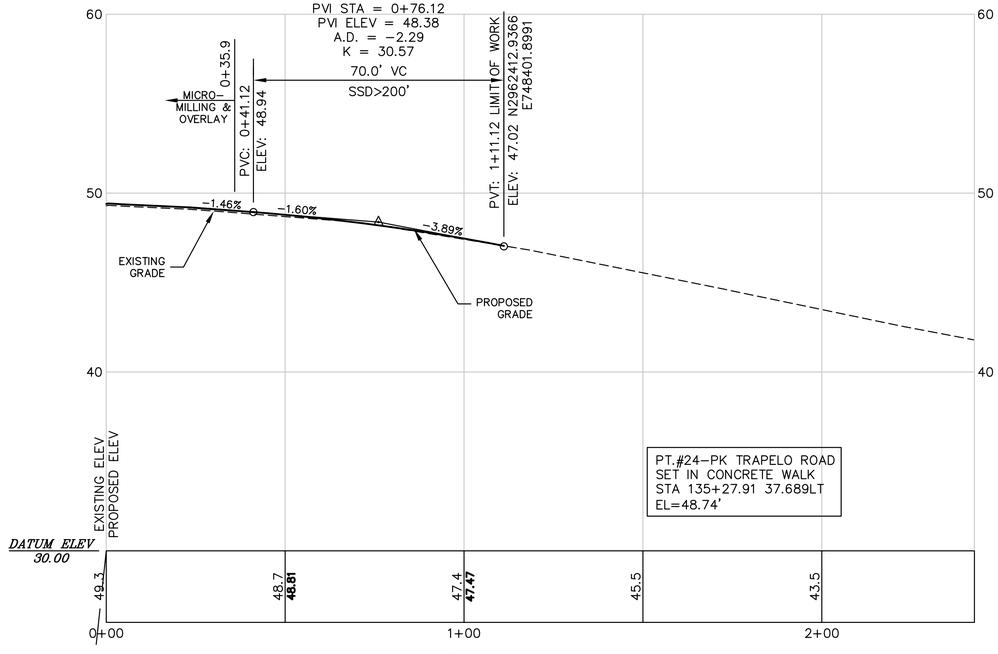


SCHOOL STREET (NORTH)

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=4'

STA. 121+54.17 TRAPELO ROAD ℄ =
STA. 0+00.00 SCHOOL STREET ℄

NOTE:
FOR CONSTRUCTION PLANS SEE
SHEET NO. 56



GROVE STREET

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=4'

STA. 135+18.09 TRAPELO ROAD ℄ =
STA. 0+00.00 GROVE STREET ℄

NOTE:
FOR CONSTRUCTION PLANS SEE
SHEET NOS. 58-59

HOR. SCALE IN FEET
0 20 50 100
0 4 10 20
VERT. SCALE IN FEET

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	63	214
PROJ. FILE NO. 604688			

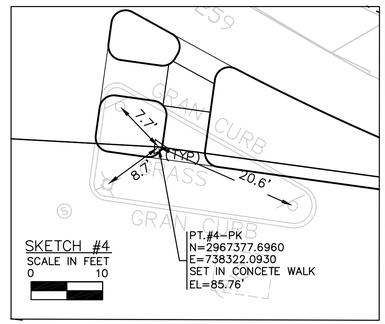
GRADING AND TIE PLAN

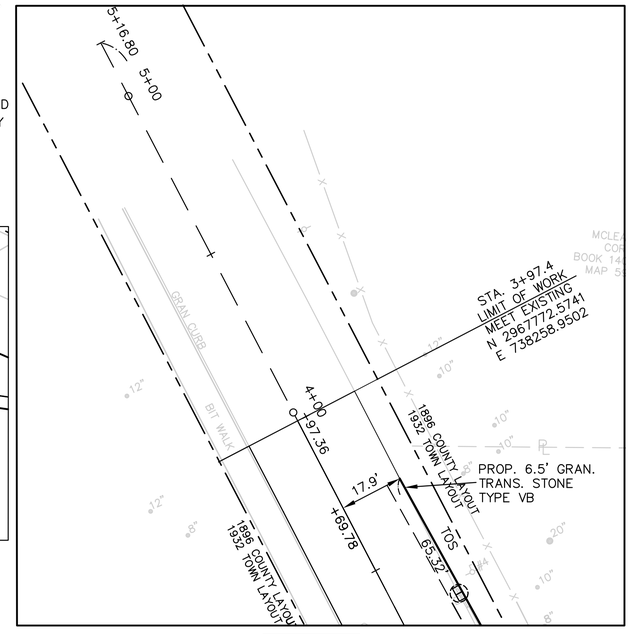
CONT'D BELOW

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C1	10.00	9.34	5.04	53°31'09"
C2	10.00	9.23	4.97	52°53'42"
C199	31.00	40.69	23.87	75°12'02"
C200	27.00	47.10	32.16	99°57'40"
C201	315.00	289.63	155.96	52°40'55"
C202	70.00	105.04	65.25	85°58'50"
C203	5.00	10.96	9.73	125°35'21"
C204	102.00	49.93	25.48	28°02'56"
C205	6.00	14.03	14.11	133°56'21"
C206	5.00	11.22	10.37	128°31'12"
C208	2.00	3.88	2.91	111°05'08"
C209	2.00	3.14	2.00	90°00'00"
C210	319.00	27.05	13.53	4°51'31"
C211	3.00	8.65	23.08	165°11'06"
C858	2.00	3.82	2.84	109°40'25"
C859	2.00	3.20	2.05	91°35'56"
C860	2.00	3.22	2.09	92°23'48"
C861	2.00	3.05	1.92	87°36'08"
C862	2.00	3.17	2.03	90°44'05"
C863	2.00	3.11	1.97	89°15'55"
C900	11.00	10.57	5.74	55°23'45"
C901	5.00	7.79	4.93	89°14'09"
C902	5.00	8.78	6.03	100°39'57"

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.
2. PRIOR TO FINAL SETTINGS OF ROADSIDE CURBING CONTRACTOR SHALL CHECK THE RESULTING BACK OF SIDEWALK GRADES TO VERIFY THAT THE WORK OR LACK OF WORK ON THE ABUTTING PRIVATE PROPERTIES WILL BE CONSISTANT WITH WHAT IS SHOWN ON THE CONSTRUCTION PLANS.
3. PROP. CURB REVEAL SHALL TRANSITION AT A RATE NO GREATER THAN 1" REVEAL FOR EVERY 6 FEET OF CURB LENGTH.
4. ALL EXIST. AND PROPOSED DRIVEWAY CURB CORNERS ARE 2' RADIUS. IF ANY EXISTING 3' CURB CORNERS ARE FOUND, THEY SHOULD BE RELOCATED TO A DRIVEWAY WITH A WIDE PLANTING STRIP.

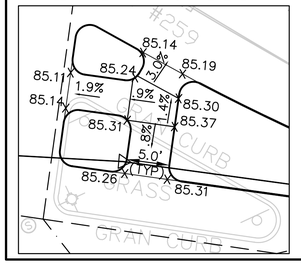
ABBREVIATIONS:
REV = PROPOSED CURB REVEAL
XXX.XX(P) = PROPOSED ELEVATION AFTER MILLING AND STANDARD (3½" MAIN LINE, 1½" SIDE STREET) OVERLAY
XXX.XX(E) = EXISTING ELEVATION
XXX.XX = PROPOSED ELEVATION AFTER MILLING AND VARIABLE DEPTH OVERLAY
TC= TOP OF CURB
BC= BOTTOM OF CURB-GUTTER ELEVATION
LP= LOW POINT





CONT'D ABOVE

CONT. ON SHEET # 64



BEGIN PROJECT
STA. 17+40.00
MEET EXISTING
N 2967460.7350
E 738144.8003

STA. 18+96.70 TRAPELO ROAD ℄ =
STA. 0+00.00 MILL STREET ℄
N=2967375.5977 E=738276.3501

HOR. SCALE IN FEET
0 20 50 100

BEAVER BROOK RESERVATION

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	64	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

TRAPELO ROAD ℄
△ =8°29'00"
R=1305.82'
T=96.85'
L=193.34'

TRAPELO ROAD ℄
△ =3°31'10"
R=4085.11'
T=125.50'
L=250.93'

TRAPELO ROAD ℄
△ =5°45'22"
R=2999.50'
T=150.80'
L=301.34'

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C3	1339.82	198.38	99.37	8°29'00"
C4	4051.11	153.30	76.67	2°10'06"
C5	8.00	12.45	7.89	89°11'07"
C6	8.00	12.54	7.98	89°50'32"
C7	4051.11	112.56	56.28	1°35'31"
C212	1269.82	169.80	85.03	7°39'42"
C213	10.00	9.84	5.36	56°23'36"
C214	10.00	9.97	5.44	57°08'44"
C215	4087.11	306.57	153.36	4°17'52"
C849	10.00	5.02	2.56	28°44'15"
C850	10.00	5.10	2.61	29°12'35"
C857	2.00	3.13	1.98	89°32'34"

HOR. SCALE IN FEET
0 20 50 100

CONT. ON SHEET # 64
CONT. ON SHEET # 65

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	65	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

PLEASANT STREET (RTE 60)

TRAPELO ROAD (RTE 60)

TRAPELO ROAD

LEXINGTON STREET

TRAPELO ROAD ℄
△ =5°01'32"
R=2700.50'
T=118.51'
L=236.86'

TRAPELO ROAD ℄
△ =5°45'22"
R=2999.50'
T=150.80'
L=301.34'

TRAPELO ROAD ℄
△ =11°24'00"
R=773.00'
T=77.16'
L=153.80'

STA. 28+79.49 TRAPELO ROAD ℄ =
STA. 0+00.00 PLEASANT STREET ℄
N=2966881.6019 E=739124.6298

N=2966897.9012
E=739423.9467

N=2966891.7476
E=739310.9441

N=2966858.3834
E=739159.1434

N=2966733.5549
E=739360.3560

N=2966710.0051
E=739402.3180

PROP. BOUND
STA. 30+18.83, 30.50' LT
N2966831.5293
E739240.8438

PROP. BOUND
STA. 31+63.18, 30.50' LT
N2966757.5896
E739379.8498

SEE DETAIL B BELOW

SEE DETAIL C BELOW

PROP CROWN LINE

TRAVERSE LINE
S61°33'59"E

LIMIT OF WORK MEET EXISTING STA 27+28

1903 COUNTY LAYOUT

1991 TOWN LAYOUT

1913 TOWN LAYOUT

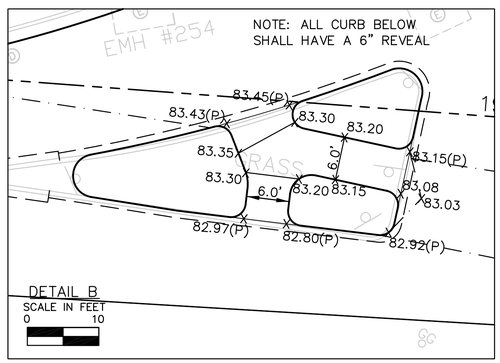
1885 COUNTY LAYOUT

2008 TOWN LAYOUT

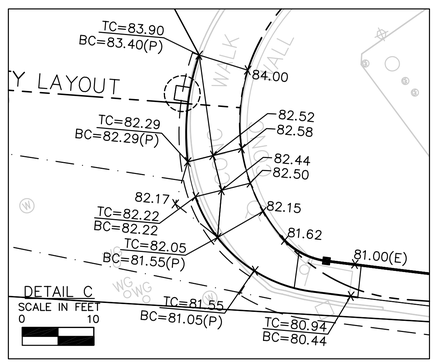
CONT. ON SHEET # 63

CONT. ON SHEET # 66

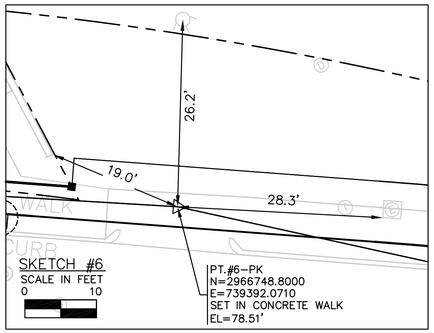
CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C10	1004.00	28.30	14.15	1°36'54"
C11	425.00	181.64	92.23	24°29'17"
C12	10.00	17.06	11.46	97°46'25"
C216	200.76	117.79	60.64	33°36'59"
C217	3.00	8.39	17.36	160°23'43"
C218	3026.50	12.23	6.12	0°13'54"
C219	246.36	43.93	22.02	10°12'57"
C220	2.00	2.96	1.82	84°42'39"
C221	3.26	7.11	6.27	125°09'02"
C222	34.00	16.62	8.48	28°00'21"
C223	20.00	25.68	14.95	73°34'48"
C224	2674.50	139.17	69.60	2°58'53"
C225	799.00	158.98	79.75	11°24'00"
C851	2.00	3.14	2.00	90°00'00"
C852	5.00	2.45	1.25	28°06'23"
C853	2.00	2.92	1.79	83°36'04"
C854	2.00	5.23	7.47	150°01'22"
C855	3.00	4.99	3.29	95°17'21"
C856	2.00	3.14	2.00	89°59'56"



DETAIL B
SCALE IN FEET
0 10



DETAIL C
SCALE IN FEET
0 10



HOR. SCALE IN FEET
0 20 50 100

NOTES:
1. FOR GRADING OF CHURCH STREET AND MBTA PARKING LOT SEE NEXT SHEET.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	66	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

TRAPELO ROAD ℄
△ =17°57'51"
R=658.00'
T=104.01'
L=206.30'

TRAPELO ROAD ℄
△ =2°28'09"
R=2000.00'
T=43.10'
L=86.19'

STA. 34+87.32 TRAPELO ROAD ℄ =
STA. 0+00.00 LEXINGTON STREET ℄
N=2966544.9486 E=739629.4696

STA. 38+65.65 TRAPELO ROAD ℄ =
STA. 0+00.00 CHURCH STREET ℄
N=2966394.5463 E=739976.0919

STA: 1+28.25
N=2966432.4374
E=739567.9004

N=2966604.7350
E=739548.0830
N=2966621.9291
E=739528.0944
N=2966496.7105
E=739722.8538
N=2966409.0117
E=739936.9209
N=2966440.6032
E=739856.7344

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C13	10.00	15.48	9.77	88°40'18"
C14	425.00	25.47	12.74	3°26'01"
C15	3.00	8.03	12.68	153°22'54"
C16	695.00	70.11	35.08	5°46'47"
C18	5.00	7.46	4.62	85°30'19"
C19	40.00	40.16	21.96	57°31'30"
C20	20.00	7.80	3.95	22°19'55"
C21	20.00	7.80	3.95	22°19'54"
C22	22.00	49.93	47.21	130°01'46"
C23	6.61	13.05	10.01	113°08'54"
C24	5.00	15.71	INFINITE	180°00'00"
C33	2.00	4.43	4.00	126°54'13"
C34	50.00	43.57	23.28	49°55'54"
C226	632.00	41.11	20.56	3°43'37"
C227	25.00	42.32	28.25	96°58'59"
C228	28.00	42.29	26.35	86°31'51"
C229	632.00	26.99	13.50	2°26'50"
C800	5.00	7.75	4.91	88°54'01"
C840	5.00	5.83	3.30	66°47'48"
C845	425.00	85.99	43.14	11°35'34"
C846	2.00	5.11	6.62	146°23'18"
C847	80.98	36.04	18.33	25°30'13"
C864	2.00	1.95	1.06	55°55'07"

CONT. ON SHEET # 65
CONT. ON SHEET # 67
CONT. ON SHEET # 70

HOR. SCALE IN FEET
0 20 50 100

SKETCH #7
SCALE IN FEET
0 10

PT.#7-PK
N=2966417.7300
E=739825.3620
SET IN CONCRETE WALK
EL=74.73'

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	67	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

TRAPELO ROAD

1951 TOWN LAYOUT

1954 TOWN LAYOUT

1898 COUNTY LAYOUT

1926 TOWN LAYOUT

CHURCH STREET

1+00

2+00

PROP. CROWN LINE

CONT. ON SHEET # 68

SCALE IN FEET
0 5 10 20 30

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	68	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

NOTES:
1. FOR GRADING OF CHURCH AND LEXINGTON STREET SEE NEXT SHEET.

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C25	5.00	15.71	INFINITE	180°00'00"
C26				
C27	25.00	21.20	11.28	48°34'31"
C28	37.00	39.05	21.57	60°28'29"
C29	5.00	6.95	4.17	79°41'40"
C30	11.00	18.66	12.47	97°10'18"
C31	20.00	24.83	14.30	71°08'39"
C32	5.00	9.79	7.44	112°12'41"
C801	5.00	15.56	INFINITE	178°02'38"
C802	2.00	4.16	3.41	119°11'50"
C903	2.00	3.03	1.891	86°52'35"

STA. 3+76.84 LEXINGTON STREET ℄ =
STA. 4+17.17 CHURCH STREET ℄
N=2966188.0878 E=739613.5887

N=2966161.8062
E=739618.5029

N=2966106.4921
E=739630.0207

LEXINGTON STREET ℄
△ =16°11'00"
R=1381.73'
T=196.44'
L=390.27'

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	69	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

CONT. ON SHEET # 67

1885 COUNTY LAYOUT

1926 TOWN LAYOUT

LEXINGTON STREET

THAYER ROAD

3+00

4+00

4+05.5

STA. 4+05.5
70.50

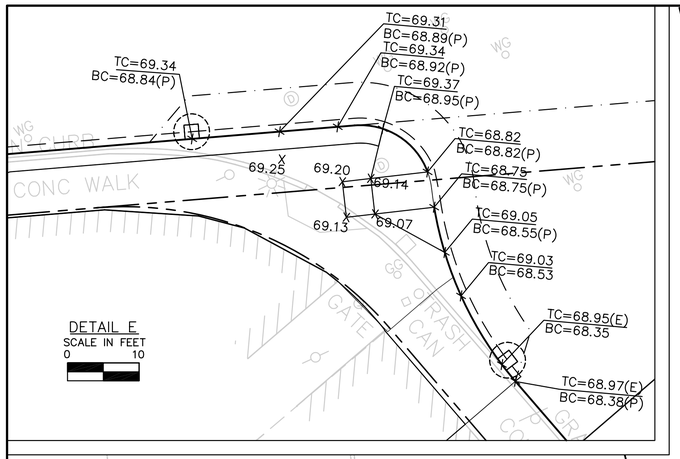
SCALE IN FEET
0 5 10 20 30

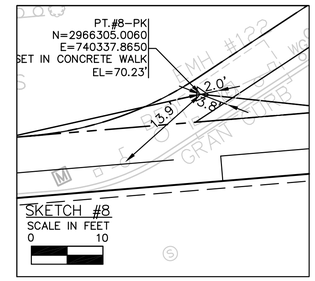
BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	70	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C35	10.00	7.95	4.20	45°34'23"
C36	10.00	7.95	4.20	45°34'23"
C37	10.00	7.95	4.20	45°34'23"
C38	10.00	7.95	4.20	45°34'23"
C39	10.00	15.41	9.71	88°17'58"
C40	28.00	38.56	23.04	78°54'22"
C41	5.00	7.66	4.81	87°45'04"
C42	10.00	6.75	3.51	38°40'29"
C43	10.00	7.89	4.17	45°13'48"
C44	1186.00	60.91	30.46	2°56'32"
C230	10.00	7.95	4.20	45°34'23"
C231	10.00	7.95	4.20	45°34'23"
C232	10.00	7.95	4.20	45°34'23"
C233	10.00	7.95	4.20	45°34'23"
C234	10.00	17.32	11.76	99°15'00"
C235	25.00	34.64	20.75	79°23'36"
C236	20.00	30.06	18.69	86°07'39"
C237	60.00	60.19	32.90	57°28'47"
C238	32.00	81.49	104.34	145°54'00"
C239	10.00	7.95	4.20	45°34'23"
C240	10.00	7.95	4.20	45°34'23"
C803	50.00	29.79	15.35	34°08'22"
C865	2.00	3.14	2.00	90°00'00"
C866	2.00	3.40	2.28	97°29'01"





CONT. ON SHEET # 71

CONT. ON SHEET # 66

TRAPELO ROAD ℄
△ =2°28'09"
R=2000.00'
T=43.10'
L=86.19'

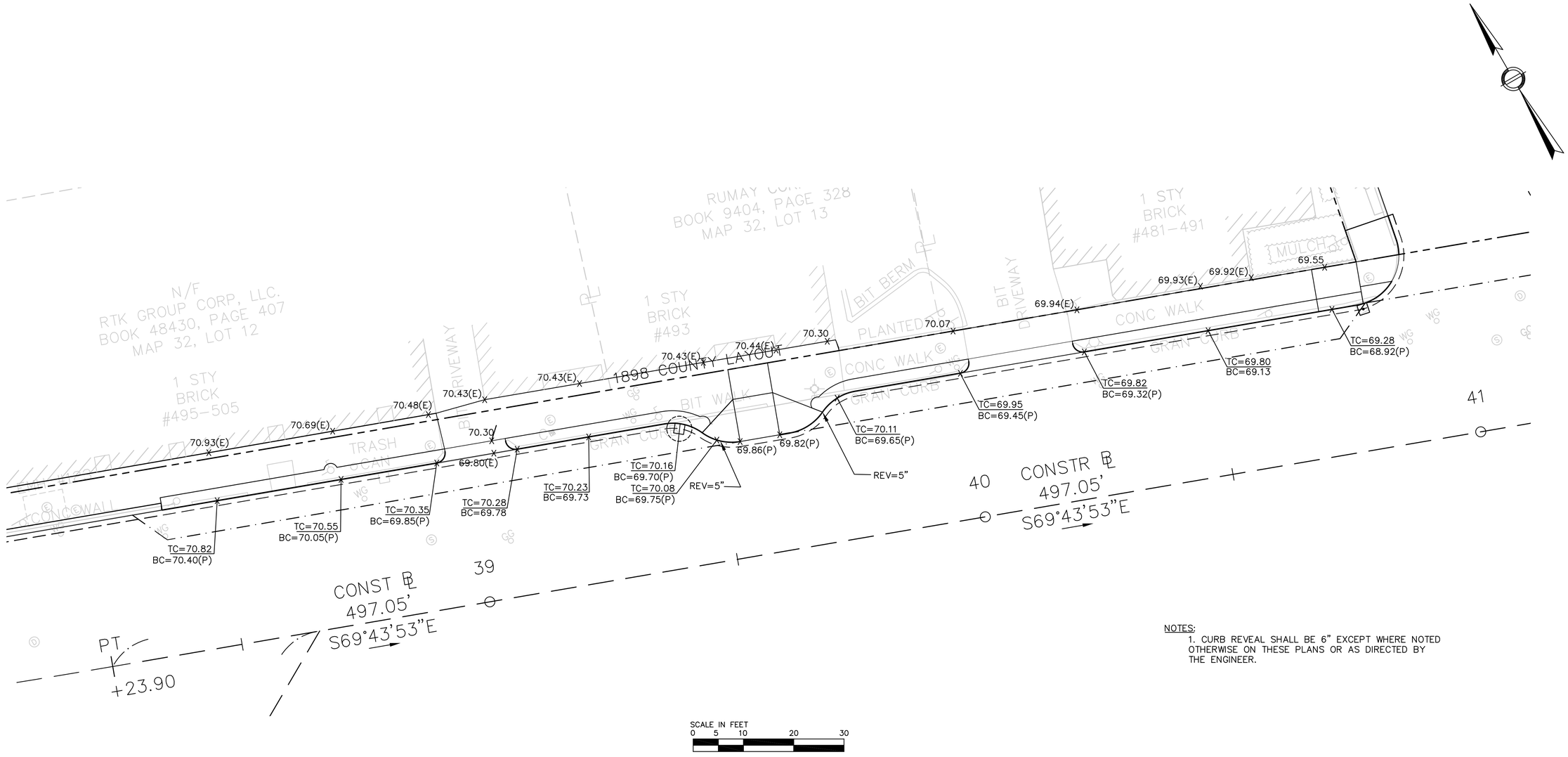
HOR. SCALE IN FEET
0 20 50 100

DETAIL D
SCALE IN FEET
0 10

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	71	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN



SCALE IN FEET
0 5 10 20 30

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	72	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

PT.#9–PK
N=2966031.1200
E=740793.6230
SET IN CONCRETE WALK
EL=64.25'

SKETCH #9
SCALE IN FEET
0 10

6.6'
6.7'
15.6'

WAVERLEY STREET
HAWTHORNE STREET
TRAPELO ROAD
SYCAMORE STREET

1943 TOWN LAYOUT
1898 COUNTY LAYOUT
LIMIT OF WORK MEET EXISTING
CONT. ON SHEET # 73
CONT. ON SHEET # 70

TRAPELO ROAD ℄
△ =5°27'08"
R=1211.63'
T=57.69'
L=115.30'

N=2966191.8000
E=740509.2867

TRAVERSE LINE S58°59'47"E 531.72'
CONSTR ℄ 1185.84' S64°16'45"E
TRAVE S70

STA. 46+34.65, 49.93' RT

HOR. SCALE IN FEET
0 20 50 100

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

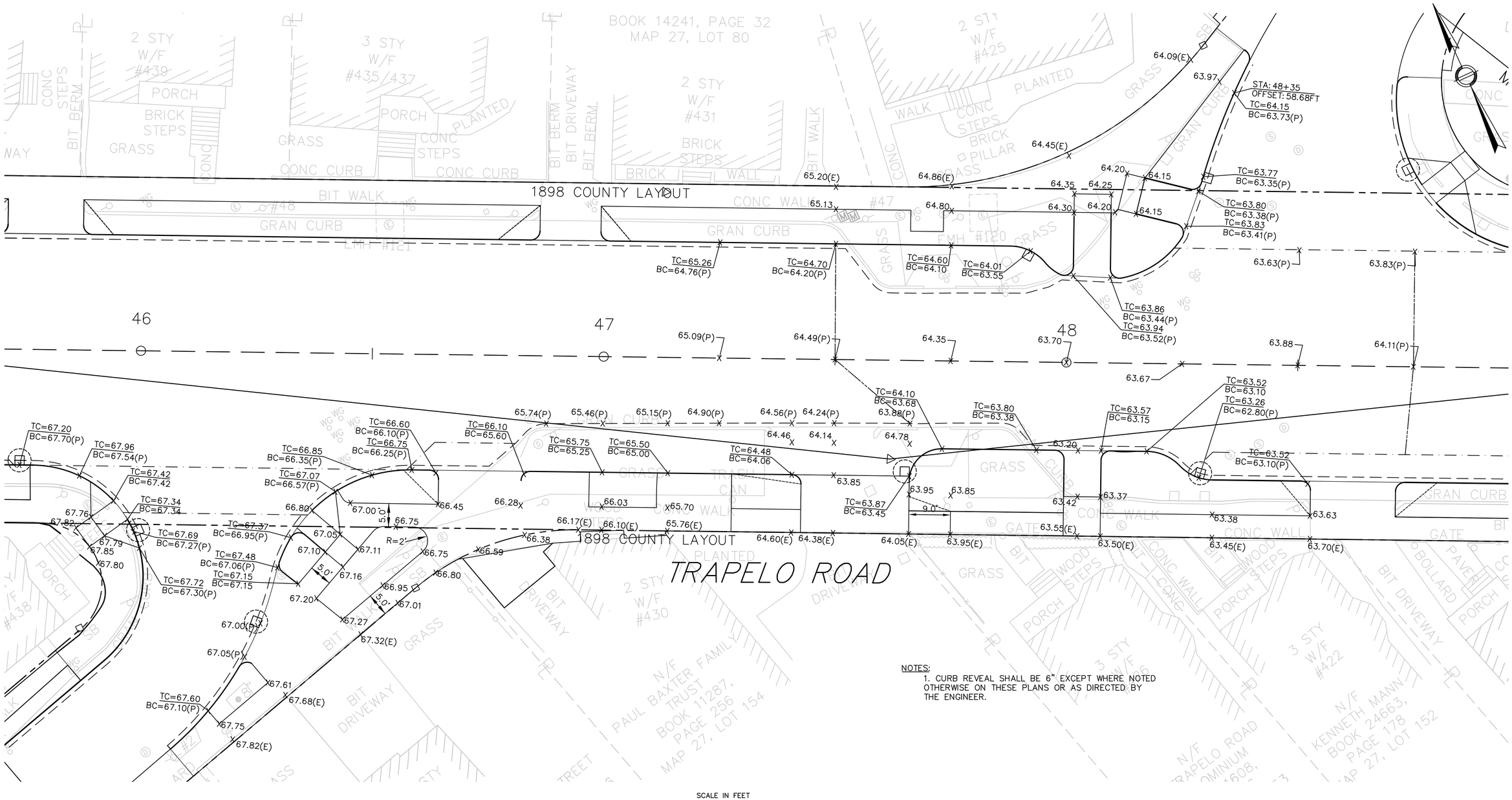
2. FOR GRADING FROM STA 45+50 – STA 48+50 SEE NEXT SHEET.

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C45	24.00	58.22	64.18	138°59'39"
C46	70.00	44.22	22.88	36°11'39"
C47	30.00	40.60	24.10	77°32'57"
C48	7.00	11.00	7.00	90°00'00"
C49	10.00	7.95	4.20	45°34'23"
C50	10.00	7.95	4.20	45°34'23"
C241	10.00	8.63	4.61	49°27'30"
C242	10.00	4.10	2.08	23°30'50"
C243	20.00	16.13	8.53	46°11'42"
C244	150.00	27.92	14.00	10°39'52"
C245	33.00	54.64	35.93	94°52'30"
C867	2.00	3.46	2.35	99°14'54"
C868	2.00	3.14	2.00	89°59'40"
C869	2.00	4.05	3.20	115°56'40"
C870	2.00	3.16	2.02	90°35'06"
C871	2.00	3.82	2.82	109°28'16"
C872	2.00	3.06	1.92	87°44'01"

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	73	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

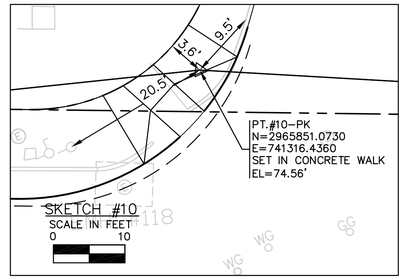


BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	74	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C51	8.00	7.79	4.24	55°47'01"
C52	12.00	25.98	22.58	124°02'00"
C53	21.00	48.94	48.92	133°32'00"
C246	33.00	43.25	25.36	75°05'15"
C247	18.00	33.12	23.64	105°25'11"



CONT. ON SHEET # 75

CONT. ON SHEET # 72

HOR. SCALE IN FEET
0 20 50 100

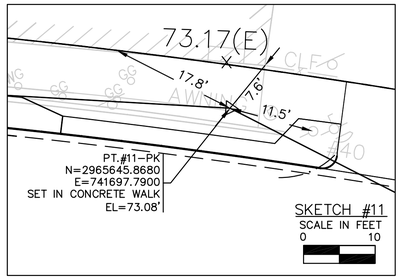
NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

NOTES:

1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

2. FOR GRADING OF BEECH STREET INTERSECTION SEE NEXT SHEET.

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C54	65.00	53.46	28.35	47°07'23"
C55	892.00	185.92	93.30	11°56'33"
C56	10.00	21.17	17.78	121°17'52"
C57	20.00	17.50	9.35	50°07'29"
C58	892.00	144.50	72.41	9°16'54"
C59	9.00	16.99	12.42	108°08'51"
C60	15.00	18.81	10.87	71°51'00"
C248	30.00	42.18	25.42	80°33'01"
C249	30.00	50.86	33.99	97°08'36"
C250	981.62	209.70	105.25	12°14'24"
C251	1208.00	227.42	114.05	10°47'12"
804	2.00	6.18	INFINITE	177°03'54"
805	918.00	33.13	16.56	2°04'03"
806	1182.00	64.07	32.04	3°06'21"
807	3.65	11.49	INFINITE	180°00'00"
808	4.00	12.56	INFINITE	180°00'00"



BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

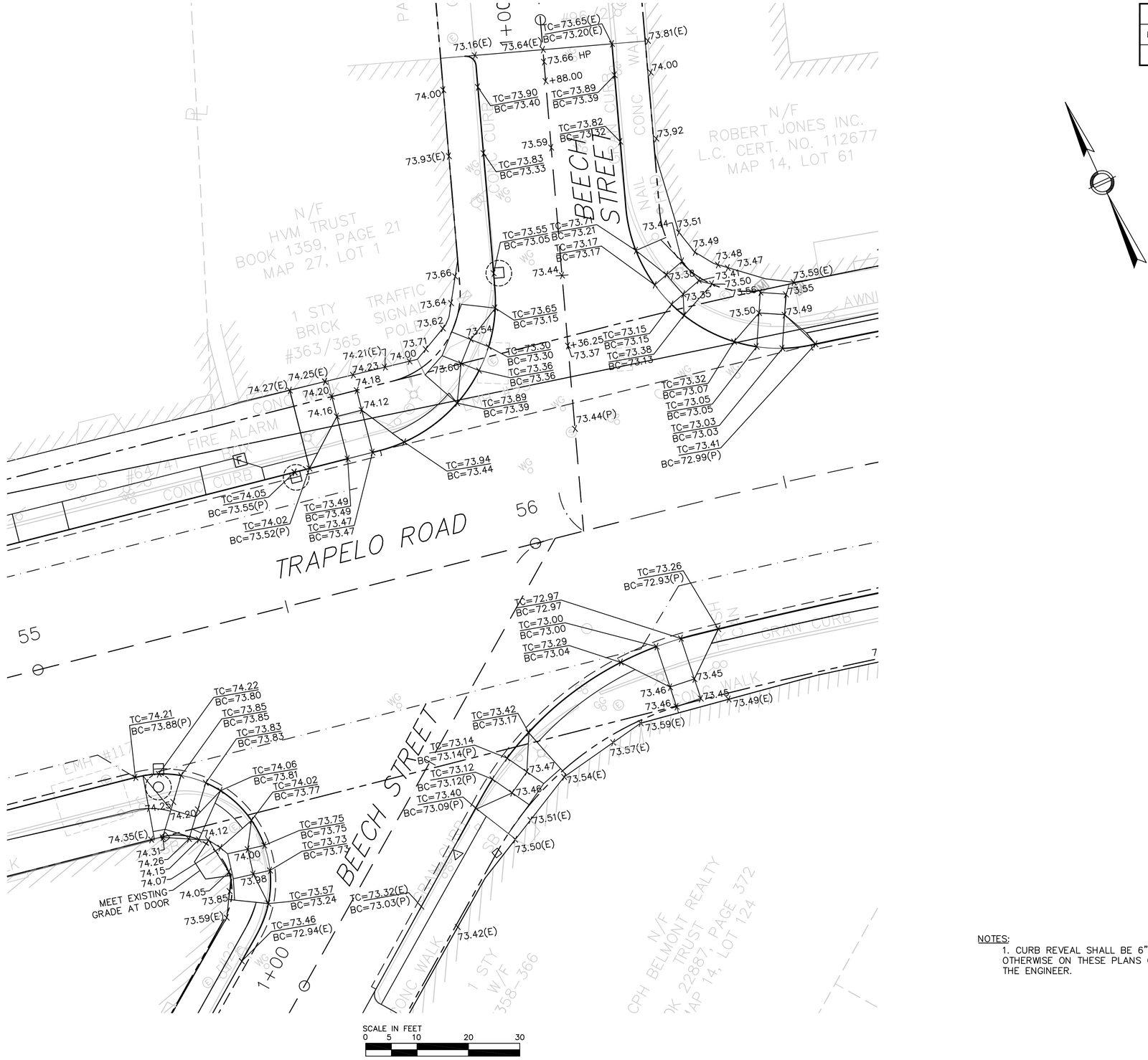
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	75	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	76	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN



SCALE IN FEET
0 5 10 20 30

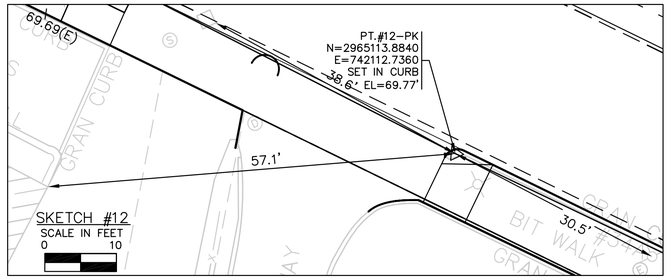
NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	77	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C61	4.00	12.57	INFINITE	180°00'00"
C62	10.00	7.95	4.20	45°34'23"
C63	4.00	12.57	INFINITE	180°00'00"
C64	10.00	13.69	8.17	78°27'47"
C65	4.00	12.57	INFINITE	180°00'00"
C66	4.00	12.57	INFINITE	180°00'00"
C67	5.00	7.85	5.00	90°00'00"
C68	5.00	4.64	2.50	53°07'48"
C69	10.00	9.27	5.00	53°07'48"
C252				
C253				
C254	10.00	7.95	4.20	45°34'23"
C255	10.00	7.95	4.20	45°34'23"
C256	10.00	13.69	8.17	78°27'47"
C257	5.00	7.85	5.00	90°00'00"
C258	28.00	70.37	86.14	143°59'15"
C809	4.00	12.56	INFINITE	180°00'00"
C810	4.00	12.56	INFINITE	180°00'02"
C894	10.00	7.95	4.20	45°34'23"



CONT. ON SHEET # 75

CONT. ON SHEET # 78

TRAPELO ROAD

FLETT ROAD

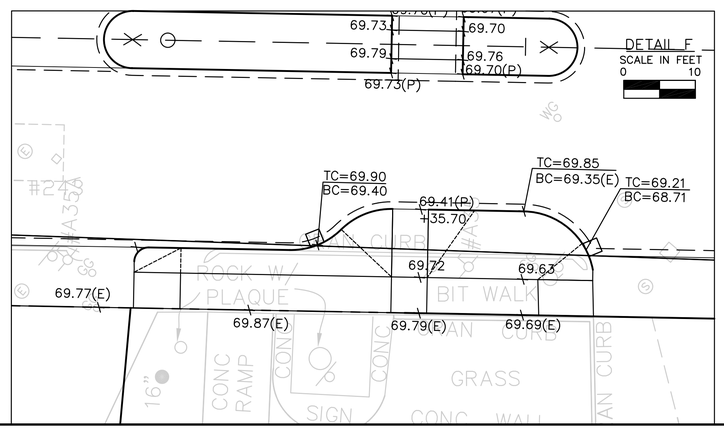
1898 COUNTY LAYOUT

CONST ℄ S38°56'45"E 919.25'

TRAVERSE LINE S37°57'15"E 674.68'

LIMIT OF WORK MEET EXISTING

SEE DETAIL F



HOR. SCALE IN FEET
0 20 50 100

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	78	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C70	4.00	12.57	INFINITE	180°00'00"
C71	4.00	12.57	INFINITE	180°00'00"
C72	5.00	7.85	5.00	89°59'59"
C73	5.00	7.85	5.00	89°59'59"
C74	1156.30	121.20	60.66	6°00'20"
C75	10.00	8.00	4.23	45°55'44"
C76	10.00	7.89	4.16	45°13'09"
C77	1150.30	7.65	3.83	0°22'52"
C78	23.00	34.80	21.71	86°41'18"
C79	15.00	13.80	7.43	52°42'24"
C80	20.00	37.50	27.24	107°25'02"
C81	20.00	31.22	19.80	89°25'41"
C82	1000.00	35.09	17.55	2°00'37"
C83	1156.30	97.98	49.02	4°51'18"
C84	3.50	11.00	INFINITE	180°00'00"
C85	3.50	10.96	INFINITE	179°26'27"
C86	23.00	34.56	21.48	86°05'11"
C259	60.00	31.65	16.20	30°13'29"
C260	12.00	13.93	7.87	66°30'49"
C261	1098.30	59.53	29.77	3°06'20"
C262	28.00	70.38	86.24	144°01'37"
C263	3.00	6.07	4.80	116°00'52"
C264	54.00	23.01	11.68	24°24'58"
C265	2.00	4.43	4.00	126°49'25"
C266	1105.30	19.46	9.73	1°00'31"
C267	2.00	2.72	1.62	77°59'19"
C268	3.00	3.28	1.82	62°34'54"
C269	40.00	30.37	15.96	43°30'19"
C270	10.00	8.02	4.24	45°56'45"
C271	10.00	7.89	4.16	45°12'09"
C272	1098.30	150.51	75.37	7°51'06"
C366	1130.80	23.84	11.92	1°12'28"
C367	1123.80	23.61	11.80	1°12'13"
C369	1104.31	5.00	2.50	0°15'34"
C811	4.00	12.56	INFINITE	180°00'00"
C812	1123.00	17.68	8.84	0°54'07"
C813	1131.30	17.80	8.90	0°54'07"
C814	4.00	12.56	INFINITE	180°00'00"

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C873	2.00	2.86	1.74	82°03'45"
C875	2.00	2.97	1.83	84°58'39"
C876	2.00	3.33	2.20	95°23'16"
C877	2.00	4.05	3.21	116°07'30"

SKETCH #13
SCALE IN FEET 0 10
PT.#13-PK
N=2964582.2450
E=742549.8200
IN CONCRETE WALK
EL=87.34'
PILASTER
2.9'
17.9'
26.2'

TRAPELO ROAD ℄
△ =30°21'30"
R=1127.30'
T=305.84'
L=597.30'

STA. 71+63.55 TRAPELO ROAD ℄ =
STA. 0+00.00 SLADE STREET ℄
N=2964558.5824 E=742622.5579

STA. 71+45.30 TRAPELO ROAD ℄ =
STA. 0+00.00 HARRIET AVENUE ℄
N=2964570.6500 E=742608.8655

HARRIET AVENUE ℄
△ =12°01'23"
R=200.00'
T=21.06'
L=41.97'

DETAIL G
SCALE IN FEET 0 10

HOR. SCALE IN FEET
0 20 50 100

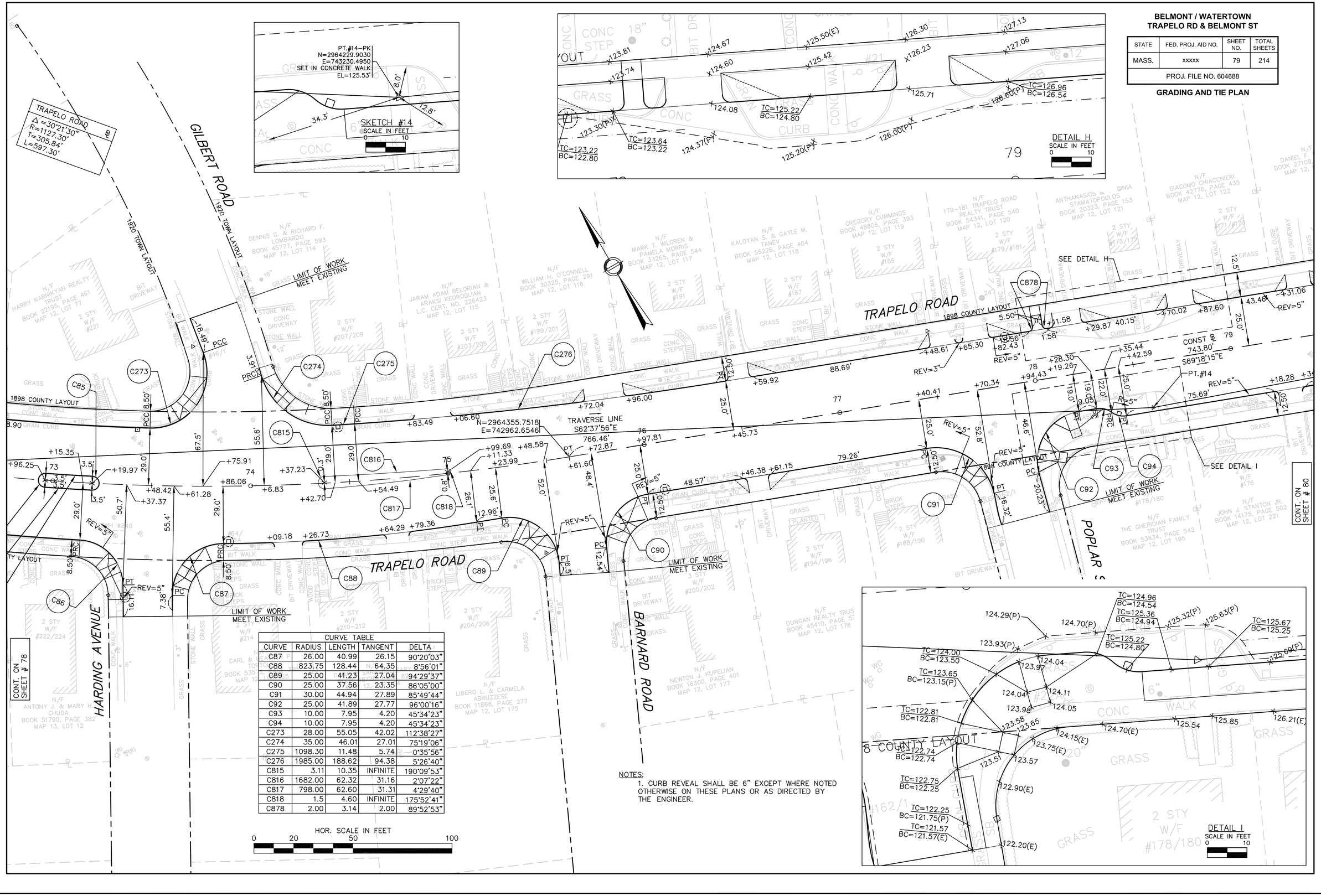
NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

CONT. ON SHEET # 77
CONT. ON SHEET # 79

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	79	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN



CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C87	26.00	40.99	26.15	90°20'03"
C88	823.75	128.44	64.35	8°56'01"
C89	25.00	41.23	27.04	94°29'37"
C90	25.00	37.56	23.35	86°05'00"
C91	30.00	44.94	27.89	85°49'44"
C92	25.00	41.89	27.77	96°00'16"
C93	10.00	7.95	4.20	45°34'23"
C94	10.00	7.95	4.20	45°34'23"
C273	28.00	55.05	42.02	112°38'27"
C274	35.00	46.01	27.01	75°19'06"
C275	1098.30	11.48	5.74	0°35'56"
C276	1985.00	188.62	94.38	5°26'40"
C815	3.11	10.35	INFINITE	190°09'53"
C816	1682.00	62.32	31.16	2°07'22"
C817	798.00	62.60	31.31	4°29'40"
C818	1.5	4.60	INFINITE	175°52'41"
C878	2.00	3.14	2.00	89°52'53"

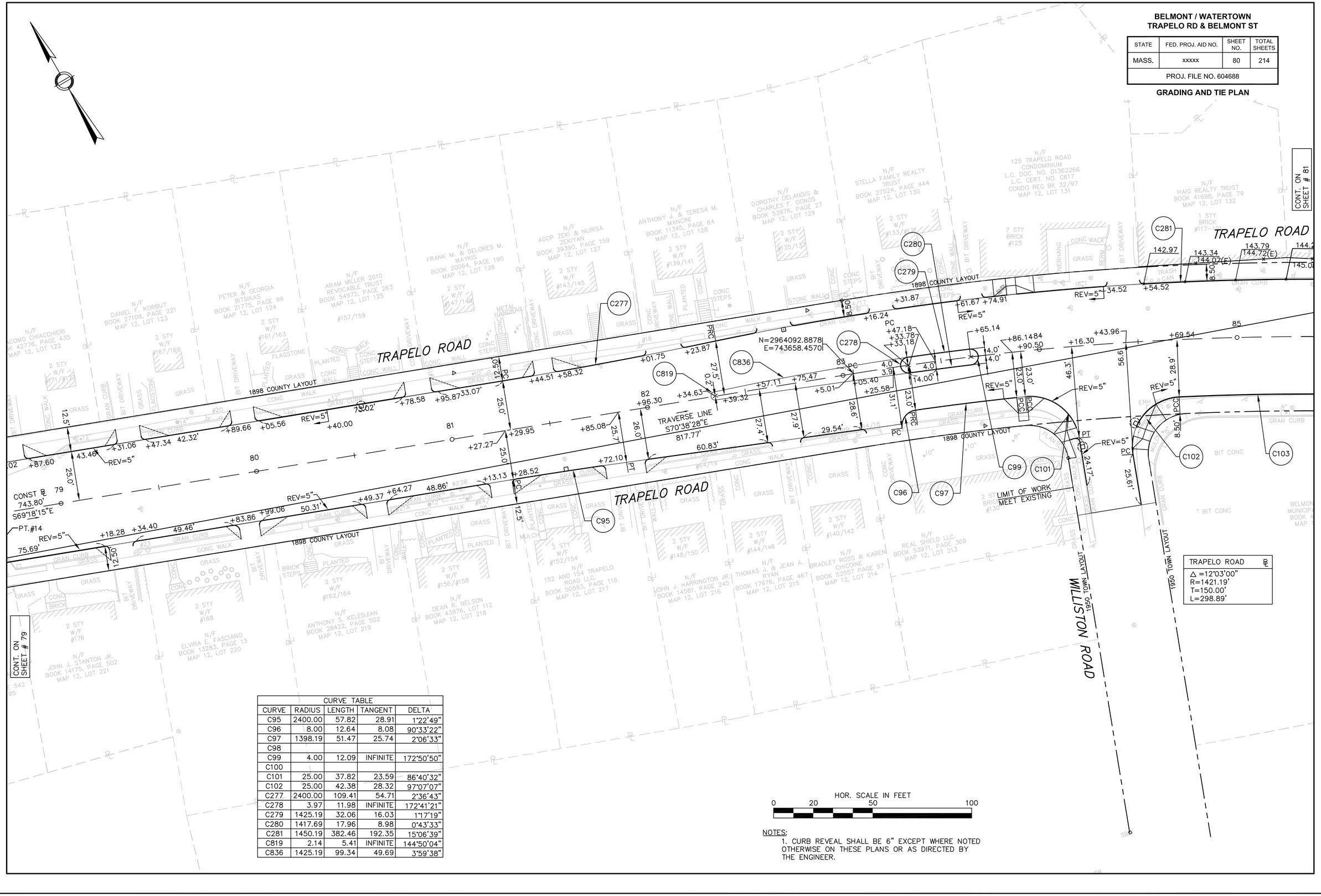
HOR. SCALE IN FEET
0 20 50 100

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	80	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN



CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C95	2400.00	57.82	28.91	1°22'49"
C96	8.00	12.64	8.08	90°33'22"
C97	1398.19	51.47	25.74	2°06'33"
C98				
C99	4.00	12.09	INFINITE	172°50'50"
C100				
C101	25.00	37.82	23.59	86°40'32"
C102	25.00	42.38	28.32	97°07'07"
C277	2400.00	109.41	54.71	2°36'43"
C278	3.97	11.98	INFINITE	172°41'21"
C279	1425.19	32.06	16.03	1°17'19"
C280	1417.69	17.96	8.98	0°43'33"
C281	1450.19	382.46	192.35	15°06'39"
C819	2.14	5.41	INFINITE	144°50'04"
C836	1425.19	99.34	49.69	3°59'38"

TRAPELO ROAD ℄
△ =12°03'00"
R=1421.19'
T=150.00'
L=298.89'

HOR. SCALE IN FEET
0 20 50 100

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	81	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C26	22.46	16.82	8.83	42°53'52"
C103	1392.19	126.20	63.14	5°11'37"
C104	5.00	7.84	4.99	89°51'02"
C105	60.00	71.64	40.78	68°24'28"
C106	274.33	84.54	42.61	17°39'22"
C109	35.00	58.44	38.65	95°40'22"
C110	4.00	12.57	INFINITE	180°00'00"
C111	4.00	12.57	INFINITE	180°00'00"
C282	31.00	72.65	73.51	134°15'59"
C283	2.00	3.88	2.92	111°11'54"
C284	3.00	7.01	7.04	133°49'03"
C285	3.00	6.02	4.71	114°59'03"
C292	10.00	7.95	4.20	45°34'23"
C293	10.00	7.95	4.20	45°34'23"
C294	15.00	35.77	37.72	136°37'55"
C295	20.00	31.25	19.84	89°32'45"
C296	10.00	7.95	4.20	45°34'23"
C297	10.00	7.95	4.20	45°34'23"
C879	2.00	3.14	2.00	90°00'00"

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.
2. FOR GRADING OF CUSHING AVENUE AND INTERSECTION WITH COMMON STREET SEE NEXT SHEET

CONT. ON SHEET # 83

CONT. ON SHEET # 85

CONT. ON SHEET # 80

CONT. ON SHEET # 84

TRAPELO ROAD
△ =12°03'00"
R=1421.19'
T=150.00'
L=298.89'

STA. 88+09.89 TRAPELO ROAD ℄ =
STA. 0+00.00 COMMON STREET ℄
N=2963847.5350 E=744097.8541

STA. 87+71.83 TRAPELO ROAD ℄ =
STA. 0+00.00 COMMON STREET ℄
N=2963868.1193 E=744065.8471

HOR. SCALE IN FEET
0 20 50 100

DETAIL J
SCALE IN FEET
0 10

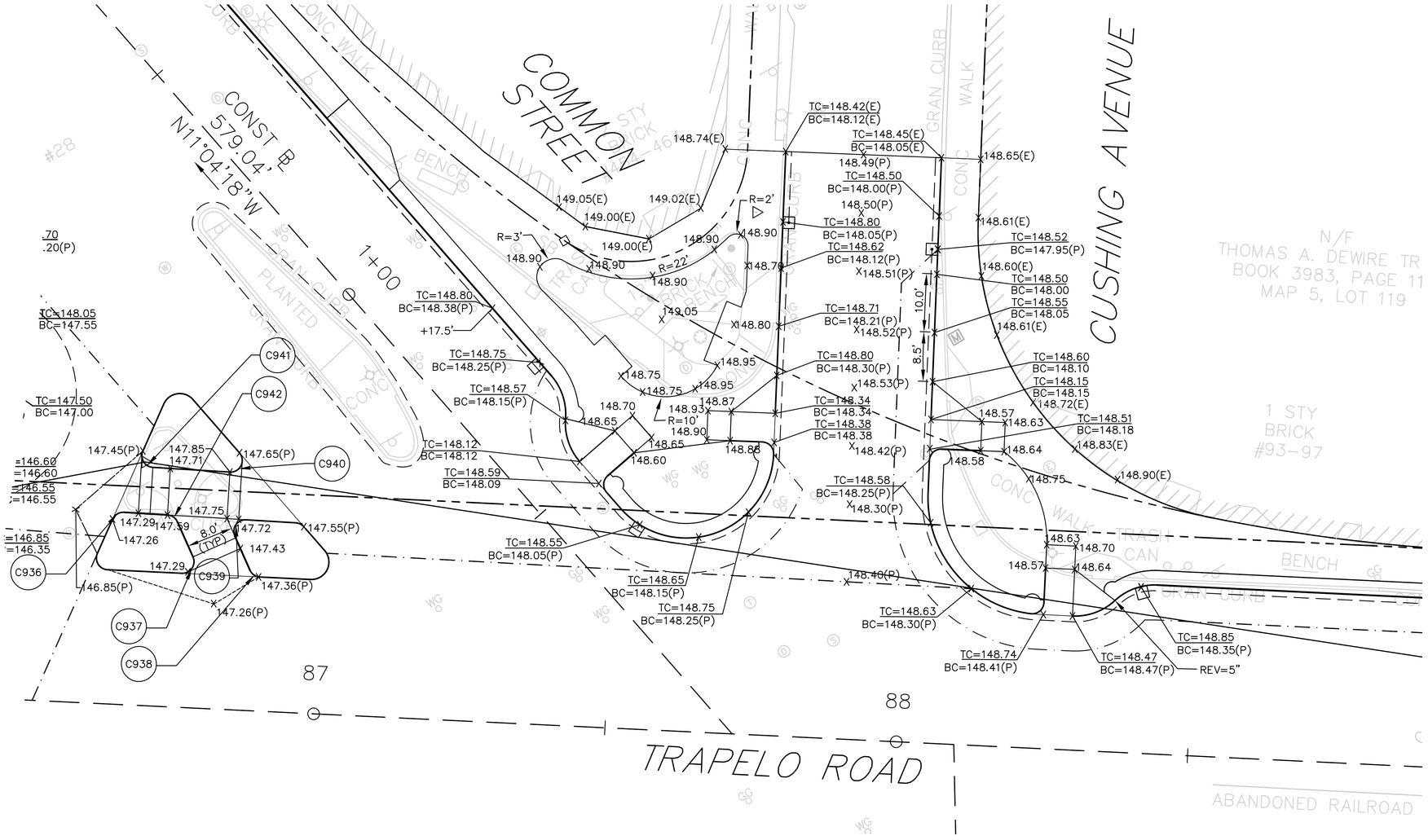
SKETCH #15
SCALE IN FEET
0 10

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C936	2.00	2.43	1.39	69°34'19"
C937	2.00	4.10	3.30	117°30'18"
C938	2.00	2.32	1.31	66°30'32"
C939	2.00	4.10	3.30	117°28'19"
C940	2.00	4.70	4.78	154°35'13"
C941	2.00	3.85	2.88	110°25'47"
C942	2.00	2.18	1.21	62°31'41"

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	82	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN



NOTES:

1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	83	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

HOR. SCALE IN FEET
0 20 50 100

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C286	34.00	53.56	34.15	90°15'00"
C287	56.00	62.20	34.75	63°38'22"
C288	656.58	50.43	25.23	4°24'01"
C289	70.00	54.49	28.71	44°36'08"
C290	10.00	6.75	3.51	38°41'15"
C291	10.00	7.00	3.65	40°06'18"

PAYSON ROAD
PALFREY ROAD
COMMON STREET
1891 COUNTY LAYOUT
1925 TOWN LAYOUT
CONST. ℄ N12°37'18"W 199.66'
N=2964436.3836 E=743954.6499
LIMIT OF WORK MEET EXISTING
STA 5+56.4 LIMIT OF WORK MEET EXISTING N 2964414.1155 E 743959.0072
N11°04'18"W 579.04'
PCC
CONT. ON SHEET # 81

CONT. ON SHEET # 81

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	84	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C107	25.00	38.48	24.22	88°11'00"
C108	25.00	43.62	29.78	99°58'30"

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

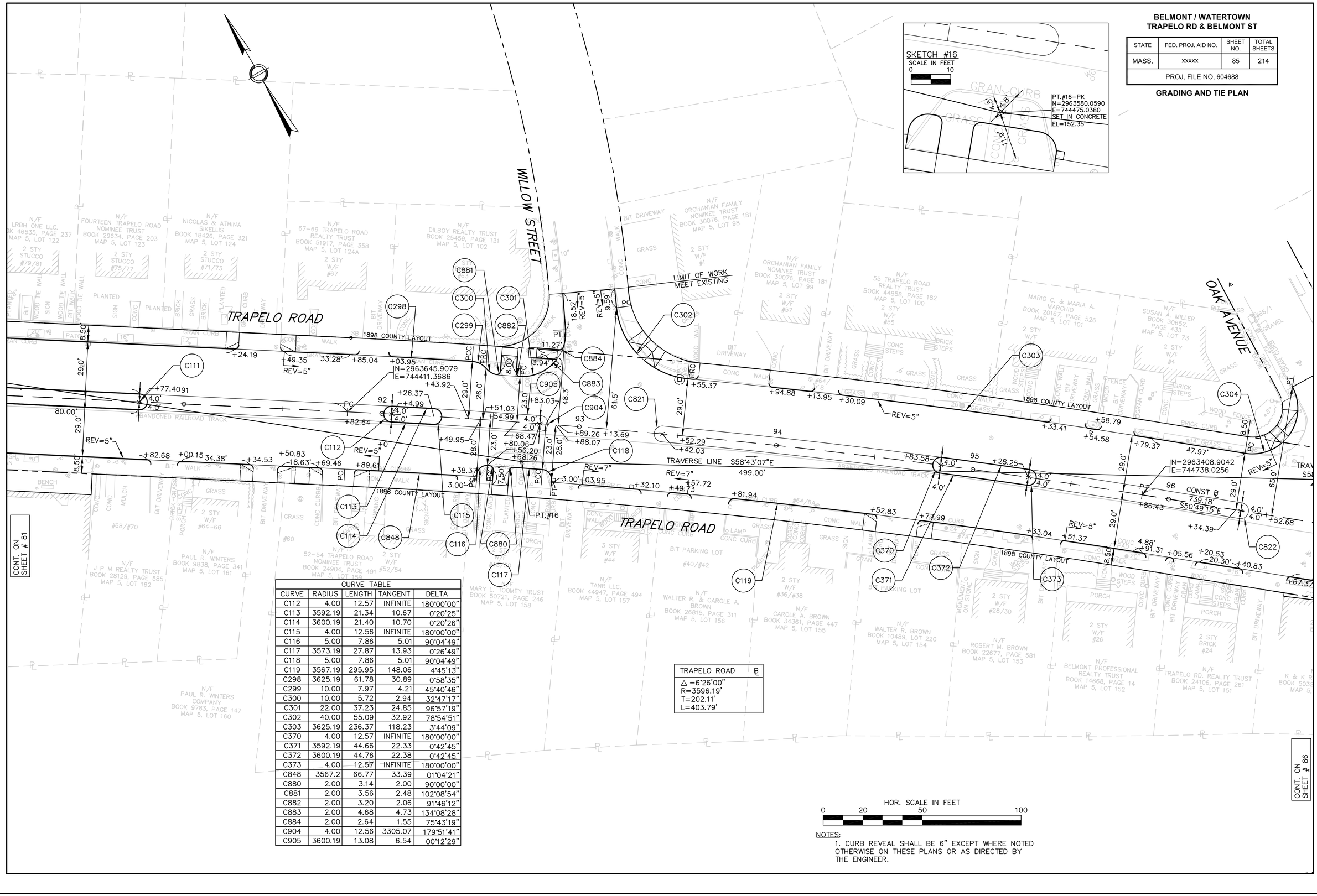
HORNE ROAD
BELMONT STREET
COMMON STREET
1948 TOWN LAYOUT
1941 TOWN LAYOUT
1891 COUNTY LAYOUT
1910 COUNTY LAYOUT
LIMIT OF WORK MEET EXISTING
STA 4+06.0 LIMIT OF WORK MEET EXISTING
N=2963491.8193 E=743902.2191
REV=5"
CONST ℄ S28°48'35"W 405.96'
N/F 495-501 COMMON STREET SER./SMITH LEGACY PARTNERS SER. BOOK 47242, PAGE 343 MAP 12, LOT 209 2 STY BRICK #495-501
N/F 505-507 COMMON STREET LLC. BOOK 49728, PAGE 483 MAP 12, LOT 232
N/F 527 COMMON STREET LLC. BOOK 49728, PAGE 483 MAP 12, LOT 233 2 STY BRICK #527
N/F PAUL WINTERS BOOK 21309, PAGE 253 MAP 5, LOT 127 2 STY STUCCO #490/#492
N/F GRIGORIAN BROTHERS CORPORATION BOOK 44528, PAGE 46 MAP 5, LOT 128
#494-500 COMMON STREET
WILLIAM A. & MARINA GIANOUKOS BOOK 52466, PAGE 403 MAP 12, LOT 232 2 STY BRICK #569
N/F JRAYER & SILVA V. TEKEIAN BOOK 11337, PAGE 83 MAP 1118A, LOT 14-15A 2 STY W/F #532
N/F JOHN C. & MARK S. CARRIG BOOK 41407, PAGE 308 MAP 1118A, LOT 26 4 STY BRICK #550
N/F MARK R. KOHLER #192 LOVELL ROAD
#324 COMMON STREET
#46/54
#46/52
#18/40

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	85	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN



CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C112	4.00	12.57	INFINITE	180°00'00"
C113	3592.19	21.34	10.67	0°20'25"
C114	3600.19	21.40	10.70	0°20'26"
C115	4.00	12.56	INFINITE	180°00'00"
C116	5.00	7.86	5.01	90°04'49"
C117	3573.19	27.87	13.93	0°26'49"
C118	5.00	7.86	5.01	90°04'49"
C119	3567.19	295.95	148.06	4°45'13"
C298	3625.19	61.78	30.89	0°58'35"
C299	10.00	7.97	4.21	45°40'46"
C300	10.00	5.72	2.94	32°47'17"
C301	22.00	37.23	24.85	96°57'19"
C302	40.00	55.09	32.92	78°54'51"
C303	3625.19	236.37	118.23	3°44'09"
C370	4.00	12.57	INFINITE	180°00'00"
C371	3592.19	44.66	22.33	0°42'45"
C372	3600.19	44.76	22.38	0°42'45"
C373	4.00	12.57	INFINITE	180°00'00"
C848	3567.2	66.77	33.39	01°04'21"
C880	2.00	3.14	2.00	90°00'00"
C881	2.00	3.56	2.48	102°08'54"
C882	2.00	3.20	2.06	91°46'12"
C883	2.00	4.68	4.73	134°08'28"
C884	2.00	2.64	1.55	75°43'19"
C904	4.00	12.56	3305.07	179°51'41"
C905	3600.19	13.08	6.54	00°12'29"

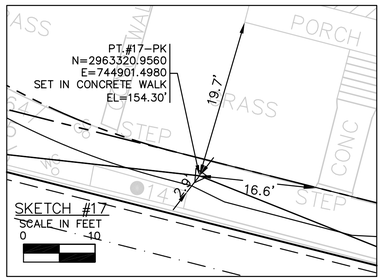
NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	86	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C120	2000.00	74.86	37.44	2°08'41"
C121	20.00	37.57	27.35	107°39'13"
C122	45.00	12.13	6.10	15°26'53"
C123	20.00	17.12	9.12	49°02'26"
C304	23.00	51.12	46.49	127°20'58"
C305	75.00	21.13	10.64	16°08'39"
C306	15.00	18.01	10.27	68°47'52"
C307	28.00	70.17	84.20	143°05'51"
C308	30.00	39.17	72.00	136°07'21"
C822	4.00	12.57	INFINITE	180°00'00"
C835	84.50	40.37	20.58	27°22'32"
C906	10.00	7.95	4.20	45°34'25"
C907	10.00	8.12	4.30	46°29'33"
C908	2.00	3.14	2.00	90°0'0"



CONT. ON SHEET # 87

CONT. ON SHEET # 85

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

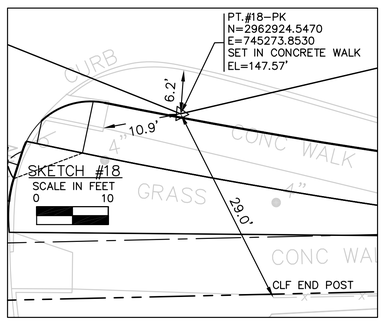
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	87	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

TRAPELO ROAD ℄
△ =15°29'00"
R=519.16'
T=70.58'
L=140.30'

TRAPELO ROAD ℄
△ =12°11'30"
R=692.96'
T=74.01'
L=147.45'

BELMONT STREET
OAKLEY ROAD
BELMONT
WATERTOWN
TRAVERSE LINE
S43°12'28"E
543.86'
CONST ℄
739.18'
S50°49'15"E
LIMIT OF WORK
MEET EXISTING
1898 COUNTY LAYOUT
N=2962941.9291
E=745311.0189
N=2962824.4773
E=745570.6405
N=2962793.4705
E=745727.9871
PT.#18
PT.#19
S78°05'07"E
506.49'
S78°29'45"E
64.39'
155.47'
80.35'
83.30'
137.42'
40.71'
47.55'
REV=5"
REV=5"
REV=5"
REV=5"
SEE DETAIL K
CONT. ON SHEET # 86
CONT. ON SHEET # 88
N/F CHARLES W. LEPINE BOOK 49405, PAGE 448 MAP 5, LOT 39
N/F MANOOG & BARBARA J. YOUNG BOOK 11523, PAGE 172 MAP 5, LOT 40
N/F JENNIFER L. BELOK BOOK 18071, PAGE 218 MAP 5, LOT 41
N/F NORTH SHORE CONSTRUCTION AND DEVELOPMENT INC. BOOK 54231, PAGE 360 MAP 5, LOT 1
N/F NORTH SHORE CONSTRUCTION AND DEVELOPMENT INC. BOOK 54231, PAGE 355 MAP 3, LOT 198
N/F NORTH SHORE CONSTRUCTION AND DEVELOPMENT INC. BOOK 54231, PAGE 350 MAP 3, LOT 193-A
N/F JEAN A. CONNERS BOOK 19455, PAGE 72 MAP 3, LOT 199
N/F OAKLEY COUNTRY CLUB BOOK 4488, PAGE 75 MAP 1120, LOT 1



HOR. SCALE IN FEET
0 20 50 100

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C124	10.00	11.86	6.74	67°58'35"
C125	5.00	6.36	3.69	72°50'09"
C126	15.00	3.21	1.61	12°16'06"
C127	10.00	14.63	8.98	83°49'22"
C128	805.00	349.86	177.74	24°54'04"
C129	2.00	5.76	15.28	165°05'07"
C130	522.50	33.87	16.94	3°42'53"
C131	3.41	10.72	INFINITE	180°00'00"
C132	4.42	13.98	INFINITE	181°14'13
C133	779.50	78.98	39.52	5°48'19"
C134	689.21	62.36	31.20	5°11'02"
C135	10.00	7.95	4.20	45°34'23"
C136	10.00	15.91	10.20	91°08'46"
C309	490.16	111.57	56.03	13°02'30"
C310	98.00	21.01	10.54	12°16'57"
C311	516.16	13.24	6.62	1°28'13"
C312	25.00	53.13	44.88	121°45'38"
C313	75.00	26.24	13.25	20°02'41"
C314	40.00	61.16	38.36	87°35'53"
C315	663.96	38.46	19.23	3°19'07"
C909	10.00	7.95	4.20	45°34'24"

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	88	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

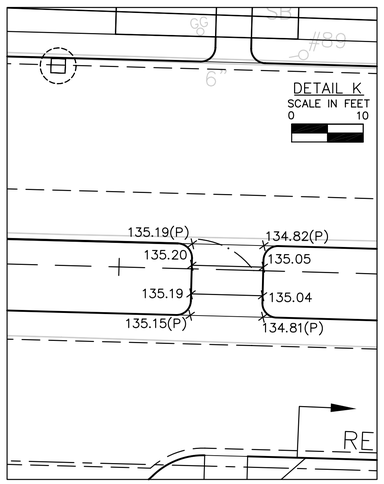
TRAPELO ROAD ℄
△ =3°21'00"
R=2603.31'
T=76.13'
L=152.21'

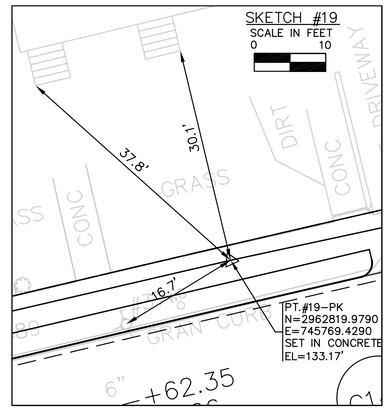
CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C914	10.00	7.95	4.20	45°34'23"
C915	10.00	15.91	10.20	91°08'46"
C916	10.00	7.95	4.20	45°34'24"
C917	5520.10	56.76	28.38	0°35'21"
C918	10.00	7.20	3.77	41°16'50"
C919	10.00	15.91	10.20	91°08'46"
C920	10.00	7.95	4.20	45°34'24"
C921	10.00	7.95	4.20	45°34'24"
C922	10.00	15.91	10.20	91°08'46"
C923	10.00	7.24	3.79	41°28'01"

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C136	10.00	15.91	10.20	91°08'46"
C137	2.00	3.14	2.00	90°00'00"
C138	2.00	3.14	2.00	90°00'00"
C139	10.00	7.94	4.19	45°28'21"
C140	10.00	7.95	4.20	45°32'41"
C141	5193.35	77.02	38.51	0°50'59"
C142	5555.60	195.50	97.76	2°00'58"
C143	5545.60	195.08	97.55	2°00'56"
C144	2599.81	112.21	56.11	2°28'22"
C145	2609.81	142.18	71.11	3°07'17"
C146	2635.31	82.82	41.41	1°48'02"
C147	4.92	15.11	144.65	176°06'24"
C316	5.00	15.71	INFINITE	180°00'00"
C317	5.00	15.71	INFINITE	180°00'00"
C318	5581.10	199.69	99.85	2°03'00"
C319	2574.31	111.11	55.56	2°28'22"
C320	30.00	56.33	40.98	107°34'48"
C842	2.00	3.14	2.00	90°00'00"
C843	2.00	3.14	2.00	90°00'00"
C885	2.00	3.14	2.00	90°00'00"
C909	10.00	7.95	4.20	45°34'24"
C910	5526.10	20.80	10.40	0°12'57"
C912	10.00	7.97	4.21	45°39'56"
C913	10.00	8.21	4.35	47°00'40"

TRAPELO ROAD ℄
△ =2°03'00"
R=5552.10'
T=99.34'
L=198.65'

HOR. SCALE IN FEET
0 20 50 100





NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

CONT. ON SHEET # 87
CONT. ON SHEET # 89

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	89	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

TRAPELO ROAD
△ =3°21'00"
R=2603.31'
T=76.13'
L=152.21'

TRAPELO ROAD
△ =0°56'23"
R=5000.00'
T=41.01'
L=82.01'

PAYSON ROAD
VAN NESS ROAD
BELMONT STREET
STULTS ROAD
BELMONT STREET
COMMONWEALTH ROAD
CARVER ROAD
BELMONT WATERTOWN

1898 COUNTY LAYOUT
1923 TOWN LAYOUT
1917 TOWN LAYOUT

LIMIT OF WORK MEET EXISTING

TRAVERSE LINE S73°06'28"E 557.69'

N=2962671.9424 E=746274.1950
N=2962681.1535 E=746223.0232
N=2962583.2741 E=746759.0227
N=2962597.4756 E=746678.2543

PT.#20
PT.#21

COSNT ℄ 410.86' S79°33'28"E

CONT. ON SHEET # 88
CONT. ON SHEET # 90

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C148	10.00	8.19	4.34	46°54'52"
C149	10.00	8.03	4.25	46°0'39"
C150	1230.80	39.89	19.95	1°51'25"
C151	10.00	7.93	4.18	45°25'04"
C152	10.00	7.98	4.22	45°43'43"
C153	2635.81	3.24	1.62	0°04'14"
C154	4976.00	95.28	47.64	1°05'50"
C155	30.00	50.22	33.26	95°54'14"
C156	20.00	28.27	17.07	80°58'26"
C157	4973.00	166.55	58.28	1°20'34"
C158	20.00	33.58	22.29	96°12'42"
C159	28.00	40.68	24.88	84°14'21"
C321	40.00	51.87	30.30	74°17'32"
C322	10.00	8.23	4.37	47°09'51"
C323	10.00	8.35	4.44	47°51'57"
C324	28.00	51.02	36.10	104°23'33"
C325	26.00	34.35	20.20	75°41'59"
C326	27.00	48.36	33.72	102°37'03"
C327	26.00	35.43	21.10	78°05'11"
C837	5.05	15.83	INFINITE	179°33'28"
C838	5001.00	68.72	34.36	0°47'14"
C839	2.00	6.19	INFINITE	177°26'18"
C886	2.00	3.14	2.00	90°00'00"
C889	2.00	3.44	2.29	97°40'28"

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C924	10.00	7.95	4.20	45°34'23"
C925	10.00	15.91	10.20	91°08'46"
C926	10.00	7.95	4.20	45°34'23"
C927	2635.31	46.91	23.45	1°01'11"
C928	2629.84	9.91	4.96	0°12'57"
C929	2.00	3.66	2.58	104°12'33"
C930	2.00	3.41	2.30	98°08'36"
C936	2610.81	17.98	9.00	0°23'41"
C937	2610.81	23.06	11.53	0°30'22"

SKETCH #20
SCALE IN FEET 0 10
PT.#20–PK
N=2962713.8010
E=746234.8150
SET IN CONCRETE WALK
EL=113.18'

HOR. SCALE IN FEET
0 20 50 100

NOTES:
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BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	90	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

STA. 120+46.52 TRAPELO ROAD ℄ =
STA. 0+00.00 SCHOOL STREET ℄
N=2962548.1604 E=746976.4569

TRAPELO ROAD ℄
△ =0°56'23"
R=5000.00'
T=41.01'
L=82.01'

TRAPELO ROAD ℄
△ =6°12'54"
R=1001.00'
T=54.34'
L=108.58'

STA. 121+54.17 TRAPELO ROAD ℄ =
STA. 0+00.00 SCHOOL STREET ℄
N=2962540.2966 E=747083.8001

SCHOOL STREET ℄
△ =23°05'11"
R=275.00'
T=56.17'
L=110.81'

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C160	35.00	36.50	20.10	59°44'50"
C161	8.00	16.78	13.90	120°09'04"
C162	1021.71	57.81	28.91	3°14'31"
C163	650.00	40.64	20.33	3°34'57"
C164	430.00	94.60	47.49	12°36'16"
C165	2.0	4.03	3.17	115°52'24"
C166	2.00	5.04	6.21	144°17'06"
C167	258.00	34.42	17.23	7°38'34"
C168	150.00	85.03	43.69	32°28'38"
C169	50.00	26.78	13.72	30°41'01"
C170	2.50	3.63	2.22	83°09'34"
C171	6.00	9.85	6.44	94°03'48"
C328	26.00	45.52	31.15	100°18'13"
C329	25.00	34.43	20.58	78°55'05"
C330	966.00	70.26	35.15	4°10'02"
C331	45.00	71.13	45.44	90°33'38"
C332	50.00	37.05	19.42	42°27'20"
C823	10.00	7.95	4.20	45°34'24"
C824	10.00	7.95	4.20	45°34'23"
C887	10.00	7.95	4.20	45°34'23"

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C931	966.00	34.48	17.24	2°02'42"
C932	20.00	16.67	8.85	47°44'40"

HOR. SCALE IN FEET
0 20 50 100

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

SKETCH #21
SCALE IN FEET
0 10

PT.#21–PK
N=2962551.7520
E=746768.4430
SET IN CONCRETE WA
EL=96.60'

CONT. ON SHEET # 89
CONT. ON SHEET # 91

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	91	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

STA. 123+70.32 TRAPELO ROAD ℄ =
STA. 0+00.00 NEWTON STREET ℄
N=2962527.9015 E=747299.5888

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C172	8.00	11.67	7.15	83°36'38"
C173	8.00	13.49	8.98	96°38'00"
C174	22.00	33.45	20.92	87°07'12"
C175	10.00	17.14	11.55	98°13'37"
C176	1243.16	121.33	60.71	5°35'31"
C177	27.00	37.11	22.16	78°44'41"
C333	8.00	13.07	8.52	93°37'04"
C334	10.00	15.08	9.40	86°25'36"
C335	8.00	13.05	8.50	93°27'18"
C336	2.00	3.01	1.87	86°14'23"
C337	1301.16	53.47	26.73	2°21'16"
C338	8.00	13.35	8.82	95°36'04"
C339	10.00	14.35	8.72	82°12'32"
C340	1301.66	70.28	35.15	3°05'36"
C341	12.00	18.65	11.80	89°03'22"
C890	2.00	3.52	2.41	100°29'43"

CONT. ON SHEET # 90

CONT. ON SHEET # 92

N=2962645.9633
E=747499.5577

1+70.87

170.87'
N00°13'15"W

N=2962645.9633
E=747499.5577

STA. 125+71.12 TRAPELO ROAD ℄ =
STA. 0+00.00 WORCESTER STREET ℄
N=2962516.3864 E=747500.0571

1+29.58

1 CONST ℄
129.58'
N00°13'15"W

NEWTON STREET

WORCESTER STREET

SPRINGFIELD STREET

FALMOUTH STREET

BELMONT STREET

LANGDON AVENUE

HILLSIDE ROAD

WESTLAND ROAD

BELMONT WATERTOWN

1905 TOWN LAYOUT

1898 COUNTY LAYOUT

99.38' TRAVERSE LINE
S83°52'42"E

561.84'

N=2962509.6152
E=747617.9390

584.41'
S86°42'45"E

CONST ℄
584.41'
S86°42'45"E

PROP. BOUND
STA. 126+99.48, 32.50' RT
N2962482.3129
E747526.5187

PROP. BOUND
STA. 128+98.37, 32.50' RT
N2962448.7836
E747817.6703

LIMIT OF WORK
MEET EXISTING

SEE DETAIL L

SEE DETAIL M

SEE DETAIL N

N/F
1-275 BELMONT STREET LLC
L.C. CERT. 240882
MAP 2, LOT 141

N/F
G & M LIMITED PARTNERSHIP
L.C. CERT. 207470
MAP 2, LOT 112

N/F
G & M LIMITED PARTNERSHIP
L.C. CERT. 208487
MAP 2, LOT 140

N/F
P&S REALTY TRUST
L.C. CERT. 780608
MAP 2, LOT 87

N/F
LRBH TWO LLC
BOOK 46535, PAGE 210
MAP 2, LOT 61

N/F
JOAN O. MURPHY & CLAIRE TAYLOR
BOOK 25766, PAGE 477
MAP 2, LOT 59

N/F
PATRICIA M. TAVITIAN & MARY F. CUNNINGHAM
BOOK 37590, PAGE 421
MAP 1141, LOT 12

N/F
BRIAN SROKA
BOOK 51379, PAGE 177
MAP 1141, LOT 1

N/F
TRS. JACQUE EDWARD ORCHANIAN/ORCHANIAN FAMILY NOMINEE TRUST
BOOK 30076, PAGE 181
MAP 1142, LOT 14

DETAIL L
SCALE IN FEET
0 10

DETAIL M
SCALE IN FEET
0 10

DETAIL N
SCALE IN FEET
0 10

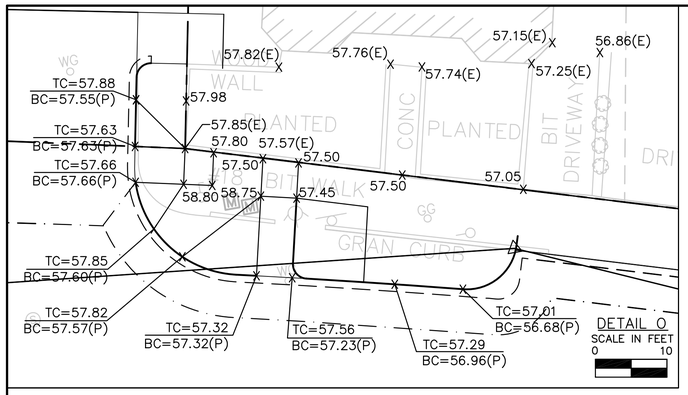
HOR. SCALE IN FEET
0 20 50 100

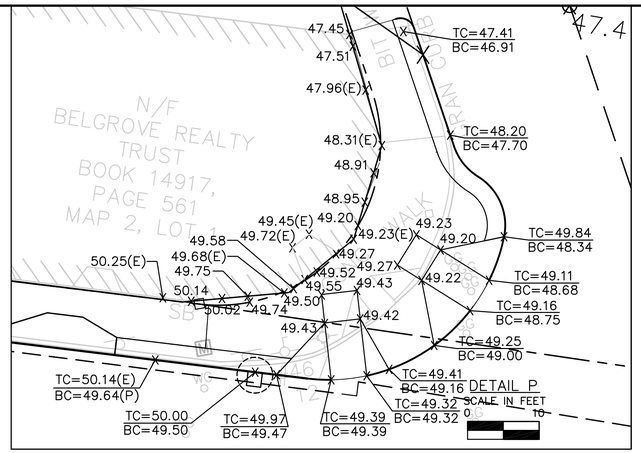
NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

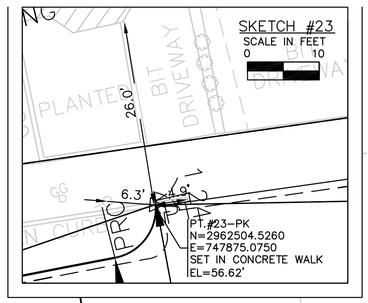
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	92	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN





CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C178	27.00	50.06	35.98	106°13'46"
C179	1243.16	93.62	46.83	04°18'53"
C180	20.00	23.69	13.46	67°52'05"
C181	22.00	42.73	32.18	111°17'03"
C342	15.00	23.11	14.56	88°16'38"
C343	1296.66	2.81	1.40	0°07'27"
C344	1296.66	21.93	10.96	0°58'08"
C345	10.00	8.01	4.23	45°53'19"
C346	1302.66	54.95	27.48	2°25'01"
C347	10.00	15.29	9.60	87°36'25"
C348	2.50	4.05	2.65	92°42'55"
C827	10.00	7.95	4.20	45°34'24"
C828	10.00	7.95	4.20	45°34'23"
C830	8.00	12.66	8.10	90°39'07"
C887	2.00	3.14	2.00	90°00'00"
C891	2.00	3.11	1.96	88°57'06"
C892	2.00	3.58	2.50	102°38'34"
C933	10.00	7.95	4.20	45°34'23"
C934	7.00	10.79	6.79	88°16'40"



CONT. ON SHEET # 91

FALMOUTH STREET

PARK ROAD

BELMONT STREET

GROVE STREET

WESTLAND ROAD

WOODLEIGH ROAD

BELMONT WATERTOWN

1898 COUNTY LAYOUT

SEE DETAIL O

SEE DETAIL P

PT.#23

LIMIT OF WORK MEET EXISTING

PROP. BOUND 32.50' RT
STA. 128+98.37
N2962448.7836
E747817.6703

TRAPELO ROAD
Δ =13°40'00"
R=1267.66'
T=151.91'
L=302.37'

TRAVERSE LINE
S66°04'46"E
592.79'

CONST
N08°36'45"W
220.62'

CONST
545.77'
S73°02'45"E

STA 2+20.7
LIMIT OF WORK
MEET EXISTING

STA. 135+18.09 TRAPELO ROAD =
STA. 0+00.00 GROVE STREET
N=2962303.0696 E=748418.5394

CONT. ON SHEET # 93

HOR. SCALE IN FEET
0 20 50 100

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	93	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

SKETCH #24
SCALE IN FEET 0 10

PT.#24–PK
N=2962264.1670
E=748416.9480
SET IN CONCRETE
EL=48.74'

DETAIL Q
SCALE IN FEET 0 10

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

STA. 135+71.84 TRAPELO ROAD ℄ =
STA. 0+00.00 TEMPLETON PARKWAY ℄
N=2962287.0170 E=748469.8353

STA. 135+95.15 TRAPELO ROAD ℄ =
STA. 0+00.00 ARLINGTON STREET ℄
N=2962279.5351 E=748491.9176

STA. 135+18.09 TRAPELO ROAD ℄ =
STA. 0+00.00 GROVE STREET ℄
N=2962303.0696 E=748418.5394

TRAPELO ROAD ℄
△ =4°14'01"
R=1500.00'
T=55.44'
L=110.84'

TRAPELO ROAD ℄
△ =4°15'59"
R=1000.50'
T=37.27'
L=74.50'

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C182	35.00	59.91	40.32	98°04'35"
C186	40.00	26.01	13.48	37°15'28"
C187	25.00	14.84	7.64	34°0'03"
C188	1000.00	56.30	28.16	3°13'33"
C349	25.00	37.27	23.07	85°24'28"
C350	40.00	41.64	22.93	59°39'00"
C351	7.00	10.84	6.85	88°45'25"
C352	12.00	19.22	12.37	91°45'20"
C353	10.00	15.94	10.23	91°18'02"
C354	10.00	15.45	9.75	88°32'54"
C355	2476.30	182.41	91.25	4°13'14"
C368	8.00	12.40	7.84	88°48'44"
C827	10.00	7.95	4.20	45°34'24"
C828	10.00	7.95	4.20	45°34'23"
C829	8.00	9.74	5.58	69°46'46"
C830	8.00	12.66	8.10	90°39'07"
C887	2.00	3.14	2.00	89°59'07"

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C183	6.00	8.45	5.10	80°40'41"
C184	9.00	22.84	28.90	145°23'59"
C185	600.00	35.10	17.55	3°21'05"
C842	25.00	24.33	13.23	55°46'11"

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	94	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

TRAPELO ROAD
△ =2°28'00"
R=2044.09'
T=44.01'
L=88.00'

TRAPELO ROAD
△ =17°48'30"
R=753.97'
T=118.12'
L=234.34'

STA. 140+80.76 TRAPELO ROAD B =
STA. 0+00.00 OXFORD AVENUE B
N=2962091.1031 E=748942.7184

OXFORD STREET
EXETER STREET
ERICSSON STREET
BELMONT STREET
BELMONT WATERTOWN
1898 COUNTY LAYOUT
PRENTISS STREET
1889 TOWN LAYOUT
KEENAN STREET

N=2962154.2334
E=748810.0900

SEE DETAIL R

N=2962056.4849
E=749015.4467

N=2962020.3848
E=749095.6949

TRAVERSE LINE
S58°20'49"E
315.47'

CONST ℄
50.30'
S67°00'45"E

N=2962000.7411
E=749142.0006

CONST ℄
192.89'
S84°49'15"E

N=2961943.9467
E=749368.3875

LIMIT OF WORK
MEET EXISTING

TRANSITION
REV 5" TO 3"

TRANSITION
REV 3" TO 5"

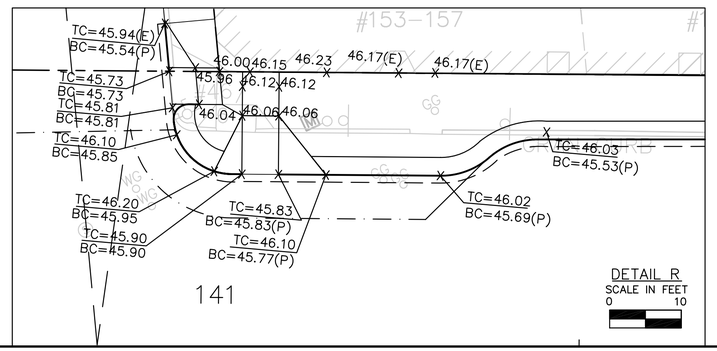
CONT. ON
SHEET # 93

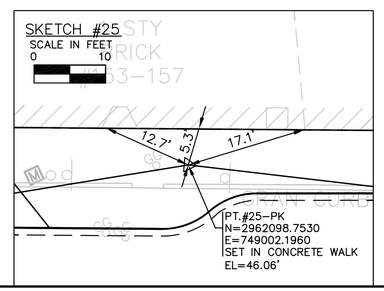
CONT. ON
SHEET # 95

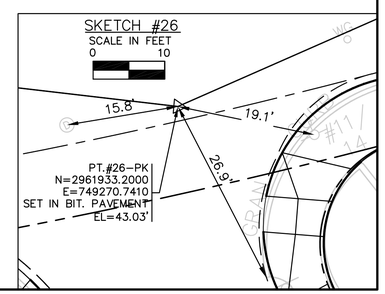
HOR. SCALE IN FEET
0 20 50 100

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C189	15.00	19.21	11.18	73°22'59"
C191	20.00	44.15	39.67	126°29'35"
C193	782.47	90.14	546.12	6°36'01"
C194	40.00	43.31	24.05	62°02'01"
C195	21.00	40.99	31.03	111°49'28"
C196	782.47	69.22	34.63	5°04'07"
C356	8.00	13.57	9.07	97°10'50"
C357	8.00	11.77	7.24	84°19'40"
C359	8.00	13.44	8.92	96°14'13"
C360	4.00	6.29	4.01	90°09'38"
C361	725.47	187.98	94.52	14°50'45"
C831	10.00	7.28	3.81	41°41'41"
C832	10.00	7.19	3.76	41°13'26"
C833	10.00	7.23	3.78	41°24'36"
C834	10.00	7.23	3.78	41°24'35"
C888	2.00	3.43	2.31	98°08'57"
C893	2.00	3.62	2.54	103°34'59"
C935	2015.00	70.20	35.10	1°59'46"

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.







BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	95	214
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

SKETCH #27
SCALE IN FEET
0 10

PT.#27-PK
N=2961919.8570
E=749880.7810
SET IN CONCRETE WALK
EL=39.63'
19.3'
10.5'
7.4'
CLF POST
MAIL BOX

CONT. ON SHEET # 94

CAMBRIDGE
BELMONT

ERICSSON STREET

SULLIVAN STREET

BELMONT STREET

END PROJECT
STA. 147+30.18
MEET EXISTING
N 2961926.5323
E 749560.5137

LIMIT OF WORK
MEET EXISTING

898 COUNTY LAYOUT

TRAVERSE LINE
S88°44'49"E
610.19'

N=2961921.3086
E=749608.1324
N=2961926.5342
E=749560.4920

CONST ℄
192.89'
S84°49'15"E

N=2961943.9467
E=749368.3875

TRAPELO ROAD ℄
△ =2°09'40"
R=1270.74'
T=23.97'
L=47.93'

BELMONT STREET

CAMBRIDGE
WATERTOWN

BRIMMER STREET

KEENAN STREET

LIMIT OF WORK
MEET EXISTING

898 COUNTY LAYOUT

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C197	30.00	38.35	22.30	73°14'30"
C198	22.00	40.99	29.60	106°45'30"
C362	8.00	12.47	7.90	89°18'20"
C363	20.00	31.87	20.46	91°17'20"
C364	10.00	7.23	3.78	41°24'35"
C365	10.00	7.23	3.78	41°24'35"
C844	7.50	11.64	7.36	88°56'46"

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	96	214
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

BEGIN PROJECT
STA. 17+40.00
MEET EXISTING
N 2967460.7350
E 738144.8003

NOTES:

1. PROP TEST PIT. RELOCATE ELECTRIC DUCT BANK BO IF NECESSARY.
2. PROP TEST PIT. RELOCATE TELEPHONE DUCT BANK BO IF NECESSARY.
3. PROP TEST PIT. RELOCATE GAS LINE BO IF NECESSARY.
4. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

HOR. SCALE IN FEET
0 20 50 100

BEAVER BROOK RESERVATION

TRAPELO ROAD (RTE 60)

MILL STREET

BELMONT

WALTHAM

100 FT BUFFER ZONE

LIMIT OF 200 FT RIVERFRONT AREA

CONT'D BELOW

CONT'D ABOVE

CONT. ON SHEET # 97

N/F COMMONWEALTH OF MASSACHUSETTS BEAVER BROOK RESERVATION MAP 60, LOT 1

INHABITANTS OF THE TOWN OF BELMONT BOOK 45478, LOT 283 MAP 59, LOT 11-9

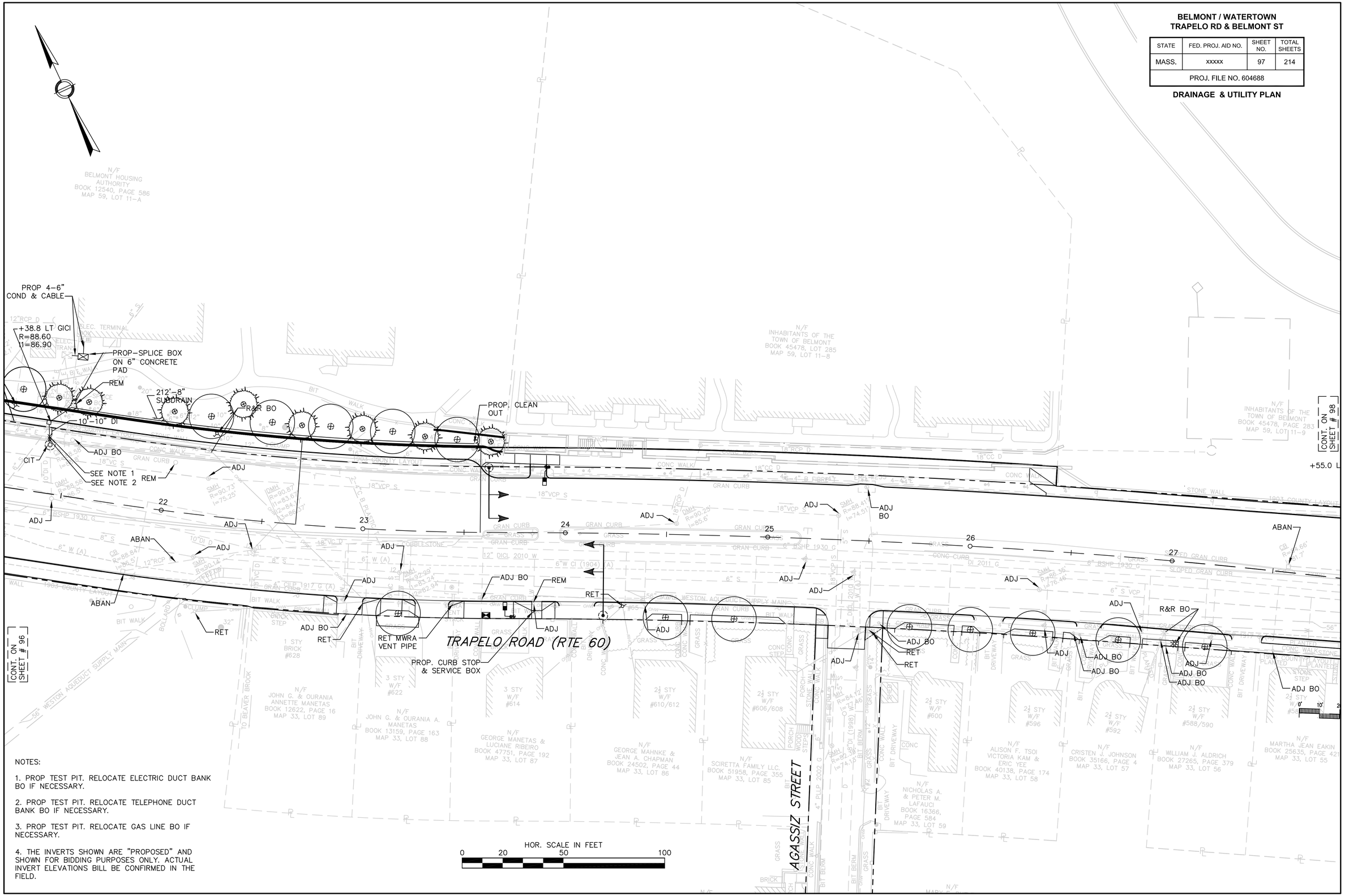
N/F BELMONT HOUSING AUTHORITY BOOK 12540, PAGE 586 MAP 59, LOT 11-A

13'-12" RCP
RET
+33.6 RT CBCI TYPE 2 R=92.34 I=88.84
REM
ADJ
ADJ BO
RET
ABAN
EXIST. SWALE
+42.7 RT CBCI TYPE 3 R=84.40 I=80.90
25'-12" RCP
+14.3-34.6' RT DMH R=85.00 I1=78.55 I2=80.50 I3=78.65 I4=78.55 I5=80.30
10'-18" RCP REM
+16.2 RT DI TYPE BF
SEE NOTE 2
+9.2 RT CBCI R=84.05 I=80.55
31'-18" RCP PROP PLUG (TYP)
35'-12" RCP
21'-12" RCP
+65.8 RT DI TYPE CF R=81.80 I=79.90
+76.6-53.4' RT DMH R=85.10 I1=79.75 I2=79.85 I3=80.65
R&R BO
1'-12" RCP
+69.6 RT CBCI TYPE 3 R=84.30 I=80.80
4'-12" RCP
+3.9 LT CBCI R=82.28 I=78.78
112'-12" RCP
SEE NOTE 3
+55.6-31.2'± RT DI TYPE CF R=82.00 I=78.50
12" FLARED END I=82.90
12" FLARED END I=83.30
+56.3 RT CBCI TYPE 4 R=84.20
PROP SWALE (TYP)
+77.6 RT CBCI TYPE 4 R=86.35
ABANDONED 6" WATER
12'-10" DI
PROP 4-6" COND & CABLE
+38.8 LT GICI R=88.60 I=86.90
PROP-SPLICE BOX ON 6" CONCRETE PAD
RET HYD
212'-8" SUBDRAIN
10'-10" DI
CIT
SEE NOTE 1
SEE NOTE 2

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	97	214
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN



NOTES:

1. PROP TEST PIT. RELOCATE ELECTRIC DUCT BANK BO IF NECESSARY.

2. PROP TEST PIT. RELOCATE TELEPHONE DUCT BANK BO IF NECESSARY.

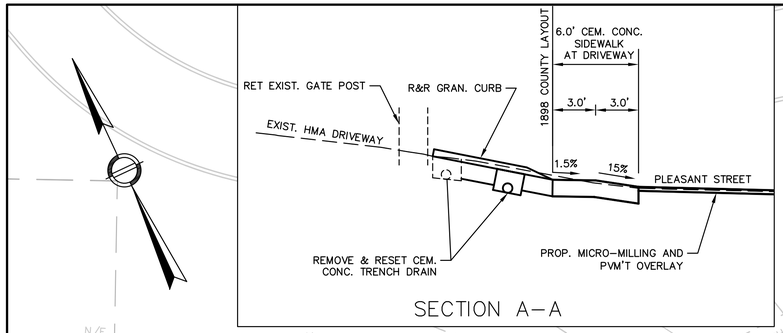
3. PROP TEST PIT. RELOCATE GAS LINE BO IF NECESSARY.

4. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	98	214
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN



SECTION A–A

PLEASANT STREET (RTE 60)

TRAPELO ROAD (RTE 60)

TRAPELO ROAD

LEXINGTON STREET

MORAINE STREET

R&R TRENCH DRAIN & 6" PVC

+51.9 LT GICI
R=83.07
I=81.07

+55.0 LT CB W/FT & F&C
R=83.40
I1=81.00
I2=79.85

ADJ BO

ABAN

18'–10" DIP

4'–10" DIP

38'–15" RCP

CIT & REMOD
R=82.25
I1=79.90
I2=79.80

INSERT 15" RCP OVER EXIST. 12" RCP & SEAL W/ MORTAR

+17.8 RT CBCI TYPE 3
R=81.88
I=78.38

4'–12" RCP

+19.2–21.6'± RT DMH
R=81.90
I1=78.30
I2=78.30
I3=78.20

112'–15" RCP

R&R ELECTRIC & CABLE (BO)

SEE NOTE 5

+29.6 RT CBCI TYPE 2
R=80.50
I=77.00

4'–12" RCP

+95.4 LT CB
R=83.10
I=79.60

26'–10" DIP

REM

+8.7–23.3' LT DMH W/FT
R=81.05
I1=77.95
I2=77.85

SEE NOTE 4

SEE NOTE 3

SEE NOTE 2

50'–10" DIP

PROP. GALVANIZED CURB COVER

+37.8–13.4'± RT DMH
R=80.40
I1=74.00
I2=73.90
I3=76.80

105'–18" RCP

+47.4–11.3'± RT DMH
R=78.75
I1=72.35
I2=72.25

+53.2 LT CB
R=78.25
I=76.25

12'–10" DIP

82'–18" RCP

+33.7–20.6'± RT DMH
R=77.42
I1=70.97
I2=70.87

75'–18" RCP

+7.7 RT CBCI
R=75.98
I=72.48

2'–12" RCP

+12.8–41.7'± RT DMH
R=76.28
I1=69.83
I2=72.46
I3=69.73

32'–18" RCP

+48.6–29.2'± RT DMH
R=75.80
I1=69.35
I2=69.30

116'–18" RCP

16'–8" DIP
4–45° BENDS
8'–1½"COPPER TUBING TYPE K

SEE NOTE 1

RET

ADJ

ADJ BO

R&R BO

ADJ ABAN

CONT. ON SHEET # 97

CONT. ON SHEET # 99

N/F INHABITANTS OF THE TOWN OF BELMONT BOOK 45478, PAGE 283 MAP 59, LOT 11-9

N/F MARTHA JEAN EAKIN BOOK 25635, PAGE 421 MAP 33, LOT 55

N/F AJM BELMONT TRUST BOOK 53390, PAGE 213 MAP 33, LOT 54

N/F KATHLEEN P. & MICHELLE ANN KENNEY BOOK 29317, PAGE 196 MAP 33, LOT 53

N/F JEAN A. CHAPMAN & GEORGE M. MAHNKE BOOK 20901, PAGE 524 MAP 33, LOT 52

N/F CARL ATTARDO BOOK 50756, PAGE 303 MAP 33, LOT 51

N/F WAVERLY SQUARE TOWNHOUSE CONDOMINIUMS BOOK 52322, PAGE 264 MAP 33, LOT 50

N/F WAVERLY SQUARE TOWNHOUSE CONDOMINIUMS BOOK 52322, PAGE 264 MAP 33, LOT 49

N/F 556 TRAPELO ROAD LLC. BOOK 41817, PAGE 266 MAP 33, LOT 48

N/F POWER TEST REALTY COMPANY BOOK 16160, PAGE 68 MAP 32, LOT 8

N/F FRED PEARSON TRUST ETAL BOOK 20081, PAGE 596 MAP 32, LOT 4

N/F YOSRY MOHAMED BOOK 30116, PAGE 53 MAP 33, LOT 47

N/F DENNIS G. & LORRAINE LOMBARDO BOOK 42382, PAGE 46 MAP 33, LOT 46

N/F KEVIN G. TREANOR BOOK 51588, PAGE 162 MAP 33, LOT 44

N/F JINRONG ZHANG & SHENG GUOQING BOOK 54346, PAGE 66 MAP 33, LOT 14

NOTES:

1. PROP TEST PIT. RELOCATE GAS LINE BO IF NECESSARY.

2. PROP TEST PIT. RELOCATE TELEPHONE DUCT BANK BO IF NECESSARY.

3. PROP TEST PIT. RELOCATE ELECTRIC DUCT BANK BO IF NECESSARY.

4. REMOVE HYDRANT TEE AND REPLACE WITH A SECTION OF 8" DUCTILE IRON PIPE WITH TWO COUPLINGS.

5. PROP TEST PIT. RELOCATE CABLE DUCTS BO IF NECCASARRY.

6. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	99	214
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

TRAPELO ROAD
SHAW'S DRIVE
LEXINGTON STREET
CHURCH STREET
MBTA ROW
ABANDONED 6" GAS
PROP. 8.0' TRAFFIC SIGNAL POST 34+67.3, 54.09' RT
PROP. 20' MAST ARM (FDN #10) 34+75.4, 41.77' RT
+60.4 RT CBCI R=74.30 I=70.70 R&R METER CHAMBER
+99.0–61.0'± RT DMH R=71.75 I1=66.1± I2=66.1± I3=67.45
+43.2 LT CB R=69.70 I=66.20
+45.8'–9.3'± LT DMH R=69.70 I1=65.2± I2=65.15 I3=65.1± I4=65.15
+42.4 RT CBCI R=69.90 I=66.40
+82.8–49.3'± RT DMH R=74.04 I1=67.64 I2=67.54 I3=68.20
+54.16–1.0'± RT DMH R=74.70 I1=62.88 I2=62.86 I3=66.20
+32.9 RT CBCI R=71.20 I=67.70
+34.6'–11.0'± RT DMH W/FT R=71.46 I1=67.55 I2=68.50 I3=67.55 I4=67.60
+5.3 RT CBCI R=71.10 I=67.60
I1=65.80 I2=65.80± I3=65.8±
PROP. PLUGS
SEE NOTE 1
SEE NOTE 2
SEE NOTES 1, 3
SEE NOTE 3
PROP. MBTA CAT POLE
PROP 18'–10" DICL PROP (4) 45° BENDS
16'–8" DIP 4–45° BENDS 8'–1½"COPPER TUBING TYPE K
16'–10" DICL 4–45° BENDS
16'–8" DICL 4–45° BENDS
116'–18" RCP
2'–12" RCP
6'–12" RCP
90'–18" RCP
69'–18" RCP
133'–18" RCP
14'–12" RCP
133'–21" RCP
33'–12" RCP
3'–12" RCP
13'–12" RCP
47'–10" DIP
PROP TEST PIT
PROP 1 Φ
PROP 2 Φ
PROP 3 Φ
REMOD.
ABAN
R&S
RET
ADJ
ADJ BO

CONT. ON SHEET # 98
CONT. ON SHEET # 100
CONT. ON SHEET # 101

NOTES:

1. PROP TEST PIT. RELOCATE GAS LINE BO IF NECESSARY.
2. PROP TEST PIT. RELOCATE TELEPHONE DUCT BANK BO IF NECESSARY.
3. PROP TEST PIT. RELOCATE ELECTRICAL DUCT BANK BO IF NECESSARY.
4. PROP TEST PIT. RELOCATE WATER LINE IF NECESSARY.
5. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	xxxxx	100	214
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

CONT. ON SHEET # 99

PROP. 8.0' TRAFFIC SIGNAL POST
34+67.3, 54.09' RT

+32.9 RT CBCI
R=71.20
I=67.70
ABAN
6'-12" RCP

+34.6'-11.0'± RT DMH W/FT
R=71.46
I1=67.55
I2=68.50
I3=67.55
I4=67.60

47'-10" DIP

+74.9 LT CBCI
R=70.60
I=67.75

+38.5 LT CBCI
R=69.77
I=66.27

+93.3 RT CB
R=70.37
I1=66.60
I2=66.10
24'-12" RCP

+10.2 RT CB
R=70.22
I=66.72

64'-12" RCP

28'-12" RCP

PROP. MBTA CAT POLE

PROP. MBTA CAT POLE

ADJ 13'-12" RCP

PROP PLUG

CHURCH STREET

THAYER ROAD

THAYER STREET

NOTES:

1. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

HOR. SCALE IN FEET
0 20 50 100