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. CM/STP-002S(410)

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	1	240
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. THE SUPPLEMENTAL SPECIFICATIONS DATED JUNE 15, 2012; THE STANDARD SPECIAL PROVISIONS, THE 2012 CONSTRUCTION STANDARD DETAILS (ENGLISH EDITION); THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES WITH MASSACHUSETTS AMENDMENTS; THE 1996 CONSTRUCTION AND TRAFFIC STANDARD DETAILS (AS RELATED TO TRAFFIC STANDARD DETAILS ONLY); THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING; THE LATEST EDITION OF AMERICAN STANDARD FOR NURSERY STOCK; THE PLANS AND SPECIAL PROVISIONS.

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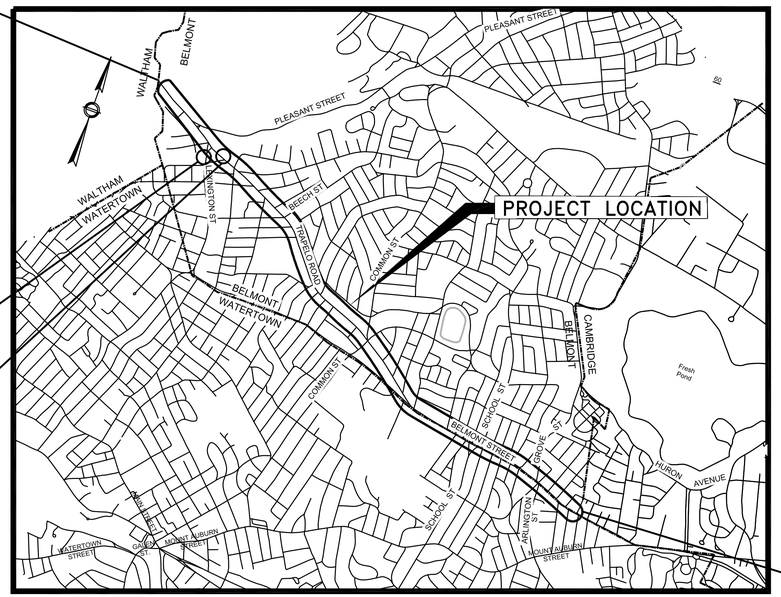
BEGIN PROJECT
STATION 17+40.00
N 2967460.7350
E 738144.8003

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

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

SUBCONSULTANT:
BSC GROUP
15 ELKINS STREET
BOSTON, MASSACHUSETTS 02127
(617) 896-4300
www.bscgroup.com
PLAN SHEET RESPONSIBILITY
1-208, 233-240

HNTB
300 APOLLO DRIVE
CHELMSFORD, MA 01824
USA 978-905-4000
PLAN SHEET RESPONSIBILITY
209-232

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR **DATE**

RECOMMENDED FOR APPROVAL

CHIEF ENGINEER **DATE**

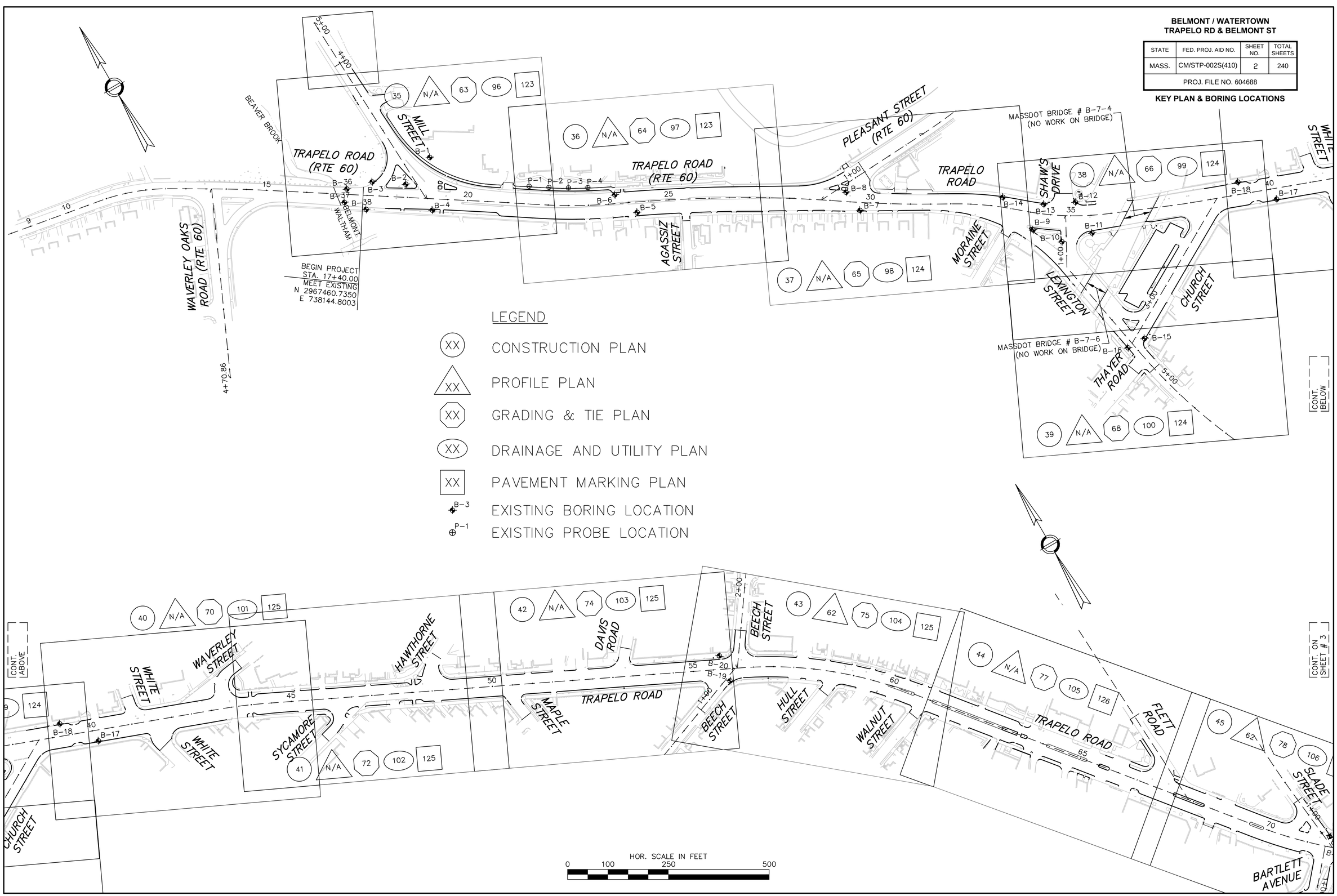
APPROVED

DIVISION ADMINISTRATOR **DATE**

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	2	240
PROJ. FILE NO. 604688			

KEY PLAN & BORING LOCATIONS



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

HOR. SCALE IN FEET
0 100 250 500

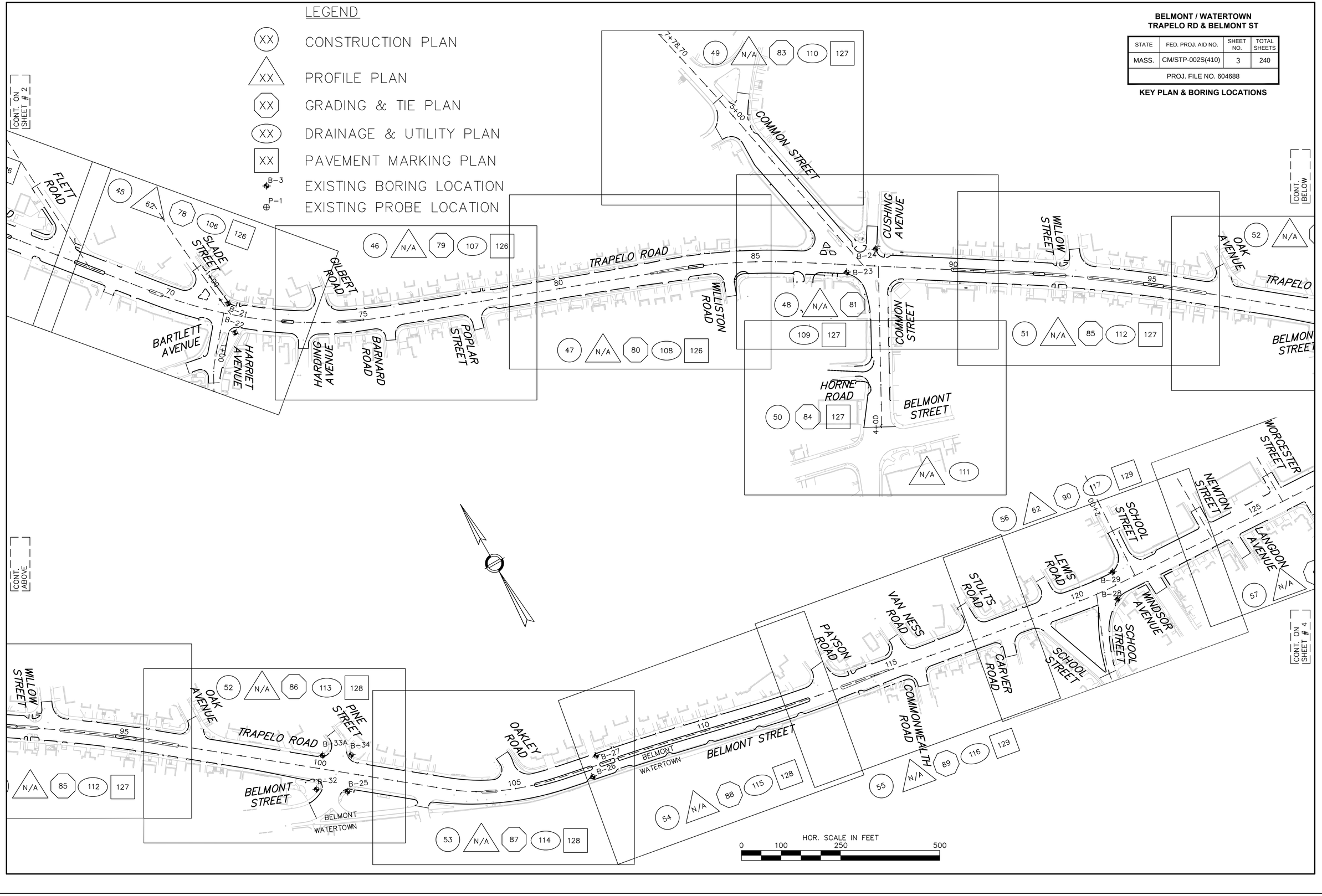
BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	3	240
PROJ. FILE NO. 604688			

KEY PLAN & BORING LOCATIONS

LEGEND

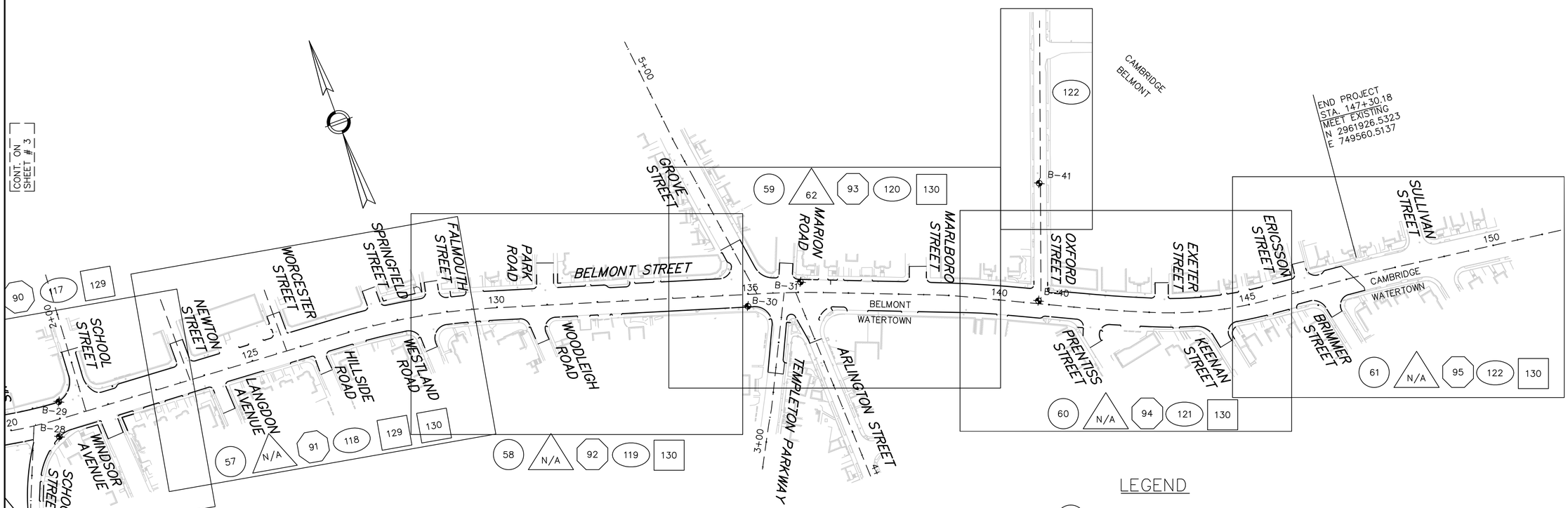
- XX — CONSTRUCTION PLAN
- XX — PROFILE PLAN
- XX — GRADING & TIE PLAN
- XX — DRAINAGE & UTILITY PLAN
- XX — PAVEMENT MARKING PLAN
- B-3 — EXISTING BORING LOCATION
- P-1 — EXISTING PROBE LOCATION



BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	4	240
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.	CM/STP-002S(410)	5	240
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 Hooley
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 IN FEET	SAMPLE NO.	PEN/ REC	DEPTH (Ft.)	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,		
			1-2	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: 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
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 IN FEET	SAMPLE NO.	PEN/ REC	DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/8	0-2	1-2	No tar, on grass		
				3-3	dry, brown, loose, fine SAND, some silt (organics)		
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: 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: First attempt with 2.25" HSA
2' north of "A" mark
Second attempt with 3" casing
2.5' 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 Hooley
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		4.5'	5'	5 mins

DEPTH IN FEET	SAMPLE NO.	PEN/ REC	DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S-1	24/6	0-1	2-2	Concrete Thickness = 0		
			1-2	3-5	dry, black loose fine SAND some Silt, trace coarse 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: 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-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 Hooley
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 IN FEET	SAMPLE NO.	PEN/ REC	DEPTH (Ft.)	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: 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
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 IN FEET	SAMPLE NO.	PEN/ REC	DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	REMARKS	STRATUM DESCRIPTION
0	S1	24/12	0-2	30-22	5" Asphalt		
				19-14	dry, brown, dense, fine to medium SAND, trace fine 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		
				26-27	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' 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

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		0	10'	5 minutes

DEPTH	SAMPLE NO.	PEN / REC	DEPTH (Ft.)	BLOWS/6"	SAMPLE DESCRIPTION	REMKS	STRATUM DESCRIPTION
0	S1	24/10	0-2	24-20	8" Asphalt dry, brown, dense, fine SAND, some coarse sand		
				10-16			
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 TI. 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 Hooley
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		5'	10'	5 mins

DEPTH	SAMPLE NO.	PEN / REC	DEPTH (Ft)	BLOWS/6"	SAMPLE DESCRIPTION	REMKS	STRATUM DESCRIPTION
0	S-1	24/10	0-1	32-51	Concrete Thickness=8" dry, brown, very dense fine SAND some fine gravel,		
			1-2	25-31	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	98-100/3"	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 TI. 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 Hooley
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	SAMPLE NO.	PEN / REC	DEPTH (Ft)	BLOWS/6"	SAMPLE DESCRIPTION	REMKS	STRATUM DESCRIPTION
0	S-1	24/8	0-1	1-2	Concrete Thickness= 0 dry, medium dense brown, loose fine SAND some		
			1-2	7-19	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 TI. 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 Hooley
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	SAMPLE NO.	PEN / REC	DEPTH (Ft)	BLOWS/6"	SAMPLE DESCRIPTION	REMKS	STRATUM DESCRIPTION
0	S1	24/10	0-1	5-8	Concrete Thickness 6" dry, gray, medium dense, medium to fine SAND and		
			1-2	18-21	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 TI. 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		0	10'	5 minutes

DEPTH	SAMPLE NO.	PEN / REC	DEPTH (Ft)	BLOWS/6"	SAMPLE DESCRIPTION	REMKS	STRATUM DESCRIPTION
0	S1	24/10	0-2	26-22	5" Asphalt dry, brown, dense, fine SAND, some coarse sand		
				13-9			
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 TI. 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 Hooley
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	SAMPLE NO.	PEN / REC	DEPTH (Ft)	BLOWS/6"	SAMPLE DESCRIPTION	REMKS	STRATUM DESCRIPTION
0	S-1	24/12	0-1	8-8	Concrete Thickness = 3" dry, brown, medium dense, fine SAND some coarse		
			1-2	10-16	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 TI. 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.	CM/STP-002S(410)	6	240
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 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		11.5'	10'	5 minutes

DEPTH	BLOWS	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft.)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMKS	STRATUM DESCRIPTION
0		S1	24/6	0-2	21-29	4" Asphalt wet, brown, dense, fine SAND, some coarse sand,		
					19-17	trace fine gravel		
5		S2	24/4	4-6	10-10	wet, brown, dense, fine SAND, trace silt and fine		
					20-35	gravel		gray material 8'.
10		S3	24/3	9-11	27-34	wet, gray, very dense, fine SAND, some coarse		
					28-41	sand, trace silt		
15		S4	24/9	14-16	33-39	wet, gray, very dense, fine SAND, some coarse sand,		
					57-21	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
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 TI. 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	BLOWS	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMKS	STRATUM DESCRIPTION
0		S-1	24/1	0-1	10-12	Concrete Thickness= 2" wet, dense brown , medium dense fine GRAVEL trace		
				1-2	17-27	fine sand		
5		S-2	24/8	4-5	12-25	wet, dense brown, very dense coarse SAND and fine		
				5-6	38-32	sand trace fine gravel		
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		
					33-40	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
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 TI. 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	9'	10	Upon Completion

DEPTH	BLOWS	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMKS	STRATUM DESCRIPTION
0		S1	24/7	0-2	6-5	Concrete Thickness = 4" dry, gray, medium dense, fine SAND and Gravel		
					8-18			
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		
					24-26	GRAVEL		
15		S4	19/6	14-15.7	23-64	wet, brown very dense, fine to medium SAND and		
					91-100/1"	GRAVEL		
20						Bottom of Boring 15.7'		
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
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 TI. 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	0:00	8'	10'	

DEPTH	BLOWS	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMKS	STRATUM DESCRIPTION
0		S1	24/11	0-2	15-9	wet, brown, medium dense, fine to coarse SAND and		
					4-7	GRAVEL, little silt		
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		
20						Bottom of Boring 15'		
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
6' NW 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 TI. 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 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		0	10'	5 minutes

DEPTH	BLOWS	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMKS	STRATUM DESCRIPTION
0		S1	24/7	0-2	27-20	8" Asphalt dry, brown, dense, fine SAND, some coarse sand,		
					14-12	trace fine gravel		
5		S2	24/10	4-6	7-12	dry, brown, dense, fine SAND, some silt, trace coarse		
					20-24	sand		
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,		
					24-17	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
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 TI. 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	BLOWS	SAMPLE NO.	SAMPLE PEN / REC	SAMPLE DEPTH (Ft)	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	REMKS	STRATUM DESCRIPTION
0		S1	24/4	0-2	18-23	8" Asphalt dry, brown, dense, fine SAND, some coarse sand,		
					16-11	trace fine gravel		
5		S2	24/8	4-6	6-21	wet, brown, dense, fine SAND, some fine gravel,		
					20-29	trace silt		sand and gravel
10		S3	24/14	9-11	35-55	wet, olive, very dense, fine SAND, some coarse sand,		
					39-35	trace silt		
								sand and silt till
15		S4	24/12	14-16	32-22	wet, brown, dense, coarse SAND, some fine gravel,		sand and gravel till
					17-23	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
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 TI. 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.	CM/STP-002S(410)	7	240
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 BSG 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			sand and gravel till
10	S3	24/7	9-11	29-39	wet, gray, very dense, fine SAND, some coarse sand, trace fine gravel		
				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		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 TI. 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 BSG 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		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	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		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' 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 TI. 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 BSG Group	REPORT OF BORING No. B-20 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		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,		
				37-32	trace silt and clay		
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		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
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 I DUE TI. 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 BSG 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		9.5'	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	5" 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		
				8-7	sand, trace fine gravel		
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,		
				12-11	trace coarse 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
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 I DUE TI. 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 BSG Group	REPORT OF BORING No. B-22 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		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		
				42-52	coarse sand		
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		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 TI. 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 BSG 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		7'	0'	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		
				7-13	sand		
10	S3	24/14	9-11	12-19	wet, reddish brown, dense, fine SAND, some clay,		
				18-19	trace coarse sand		
15	S4	24/16	14-16	22-31	wet, brown, very dense, fine SAND, some clay, trace		
				22-25	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
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 I DUE TI. 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.	CM/STP-002S(410)	8	240
PROJ. FILE NO. 604688			

BORING LOGS

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	9	240
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		10'	10'	5 minutes

DEPTH (Ft)	ELEVATION	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 I DUE TI. 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)	ELEVATION	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 I DUE TI. 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		10.5'	10'	

DEPTH (Ft)	ELEVATION	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 I DUE TI. 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)	ELEVATION	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 I DUE TI. 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)	ELEVATION	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 I DUE TI. 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)	ELEVATION	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 I DUE TI. OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

BORING No B-29

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 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
		N/A		

DEPTH	SAMPLE NO.	PEN / REC	DEPTH (ft.)	BLOWS/6"	SAMPLE DESCRIPTION	BLOWS	STRATUM DESCRIPTION
0	S1	24/14	0-2	29-28	5" Asphalt 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
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
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 I DUE TI. 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 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

DEPTH	SAMPLE NO.	PEN / REC	DEPTH (ft.)	BLOWS/6"	SAMPLE DESCRIPTION	BLOWS	STRATUM DESCRIPTION
0	S1	24/18	0-2	22-21	5" Asphalt 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 till, 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
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 TI. 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: 30 in. **Sampler:** 1-3/8 in. I.D.

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'.
-	S-5	19'6'-19'6"	0"	0"	120/0"	19'6"	Auger stopped at 19'6". Sent split spoon, 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

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	10	240
PROJ. FILE NO. 604688			

BORING LOGS

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: 30 in. **Sampler:** 1-3/8 in. I.D.

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: 30 in. **Sampler:** 1-3/8 in. I.D.

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**
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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: 30 in. **Sampler:** 1-3/8 in. I.D.

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 silt.
-	S-5	10'-12'	24"	12"	7-8-8-12		Wet, medium dense, coarse to fine GRAVEL, some
-							fine to coarse sand, trace inorganic silt.
-	S-6	12'-14'	24"	4"	14-26-25-15		Wet, very dense, dark brown, 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, 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:	**Depth:**	**Casing:**	**Stabilization Period**
09-29-10	14'		

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"	29'9"	Wet, very dense, brown fine to coarse SAND, trace Inorganic silt
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**
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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	19'	Dry, dense, brown fine to coarse GRAVEL, some Fine to coarse sand
20'0" - - - -							Bottom of Exploration – 19'
25'0" - - - -							
30'0" -							

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

Remarks: 2 ½" 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	19	Dry, dense, brown, coarse GRAVEL and fine to coarse SAND, trace inorganic silt. No water.
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.	CM/STP-002S(410)	11	240
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'	LEDGE OUT CROP NEXT TO HOLE. AUGER REFUSAL.

LEGEND

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	12	240
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
E	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
S	SMH	SEWER MANHOLE
8" SD	8" SD	SUBDRAIN
4-3" T	12" P.V.C. TELE.	TELEPHONE DUCT
T	TMH	TELEPHONE MANHOLE
		UTILITY PLUG
WG		WATER SERVICE BOX
WG	WG	WATER GATE
W	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
PL	PL	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
		TOWN BOUNDARY LINE
		TOP OR BOTTOM OF SLOPE
		FULL DEPTH RECONSTRUCTION
	A89	AAB/ADA RAMP TYPE REFERENCE
		CHANGE IN PVM'T TYPE

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 " DUCT (CONCRETE ENCASED)
		VIDEO CAMERA

ABBREVIATIONS

R	CIRCULAR RED
Y	CIRCULAR AMBER
G	CIRCULAR GREEN
FR	FLASHING CIRCULAR RED
FY	FLASHING CIRCULAR AMBER
↗R	45° ARROW RED
↗Y	45° ARROW AMBER
↗G	45° ARROW GREEN
→R	135° ARROW RED
→Y	135° ARROW AMBER
→G	135° ARROW GREEN
←R	LEFT ARROW RED
←Y	LEFT ARROW AMBER
←G	LEFT ARROW GREEN
→R	RIGHT ARROW RED
→Y	RIGHT ARROW AMBER
→G	RIGHT ARROW GREEN
↑R	VERTICAL ARROW RED
↑Y	VERTICAL ARROW AMBER
↑G	VERTICAL ARROW GREEN
🚶	WALK – LUNAR WHITE
F🚶	FLASHING DON'T WALK – PORTLAND ORANGE
🚶	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
DR	DRIVE
EOC	END OF CURB
EX	EXCAVATE
FE	FLARED END
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
HMA	HOT MIX ASPHALT
LP	LIGHT POLE
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/(R)	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
SW	SIDEWALK
TOS	TOP OF SLOPE
TS	TRAFFIC SIGNAL
TYP.	TYPICAL
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

0. STARTING ON AUGUST 31, 2013 THE MBTA WILL REPLACE THE ELECTRIC TROLLEYS ALONG THE CORRIDOR WITH DIESEL BUSES, REMOVE ALL MBTA TROLLEY POWER AND SUPPORT WIRES OVER THE ROADWAY, AND SHUT OFF POWER TO THE MBTA FEEDER LINES OVER THE SIDEWALK AND UNDER THE ROADWAY. THE MBTA ELECTRIC TROLLEY SERVICE AND OVERHEAD POWER/SUPPORT LINES WILL NOT BE REINSTALLED UNTIL ALL CONFLICTING PROJECT WORK IS COMPLETED.

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 SECTIONS 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 REQUIREMENT 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 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.

NIC 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.

NIC 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.~~

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	13	240
PROJ. FILE NO. 604688			

LEGEND & GENERAL NOTES

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. 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). THE INTENTION IS TO NOT DISTURB THE RR TRACKS AND ITS SUPPORT SYSTEM AS IT FORMS A SOLID BASE FOR THE PAVEMENT. THE RR TRACKS SHALL NOT BE DISTURBED EXCEPT WHERE SHOWN THE PLANS OR AT THE DIRECTION OF THE ENGINEER.

27. 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.

28. IF ANY OF THE GAS FACILITIES BECOME EXPOSED DURING CONSTRUCTION NATIONAL GRID MUST BE NOTIFIED BEFORE THE PIPE IS BACKFILLED.

29. 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.

30. CARE SHOULD BE USED WHEN SAWCUTTING OVER GAS SERVICES WHICH ARE USUALLY ON AVERAGE 18 INCHES DEEP.

31. 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.

32. 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.

33. THE CONTRACTOR IS ADVISED THAT MANY OF THE OLDER MBTA CATENARY POLES HAVE A LEAD PAINT COATING AND THE CONTRACTOR NEEDS TO USE ADEQUATE PRECAUTIONS BEFORE CUTTING THEM.

34. FOR TREES PROPOSED TO BE INSTALLED ON PRIVATE PROPERTIES AGREEMENTS ARE IN PLACE TO ALLOW THIS.

35. TRANSITION CURBS AT TYPE "F" AND "R" SIDEWALK THROUGH DRIVEWAYS AND AT END OF CURBING ON SIDE STREET WILL BE PAID UNDER ITEM 509.1.

36. ALL AREAS TO BE EXCAVATED SHALL BE DIG SAFE CLEARED PRIOR TO EXCAVATION.

37. "PROP. GRAN. CURB FROM RESET" IS EXISTING GRANITE CURB REMOVED FROM THE IMMEDIATE VICINITY AND RESET AT THE LOCATION NOTED ON THE PLANS. "PROP. GRAN. CURB (RELOCATED)" IS EXISTING GRANITE CURB REMOVED FROM SOME OTHER LOCATION WITHIN THE PROJECT AREA AND RESET AT THE LOCATION NOTED ON THE PLANS. "PROP. GRAN. CURB TYPE VB" IS NEW CURB PURCHASED FOR THIS PROJECT AND INSTALLED AT THE LOCATION NOTED ON THE PLANS.

38. WHERE THE EXISTING CURB IS TO BE R&R THE EXISTING CURB CORNERS AND CURB INLETS ARE TO BE R&R. WHERE THE EXISTING CURB IS TO BE R,R&R THE EXISTING CURB CORNERS AND CURB INLETS ARE TO BE R,R&R. WHERE PLANS PROPOSE NEW GRANITE CURB THE PROPOSSED CURB CORNERS AND CURB INLETS ARE PROPOSED TO BE NEW.

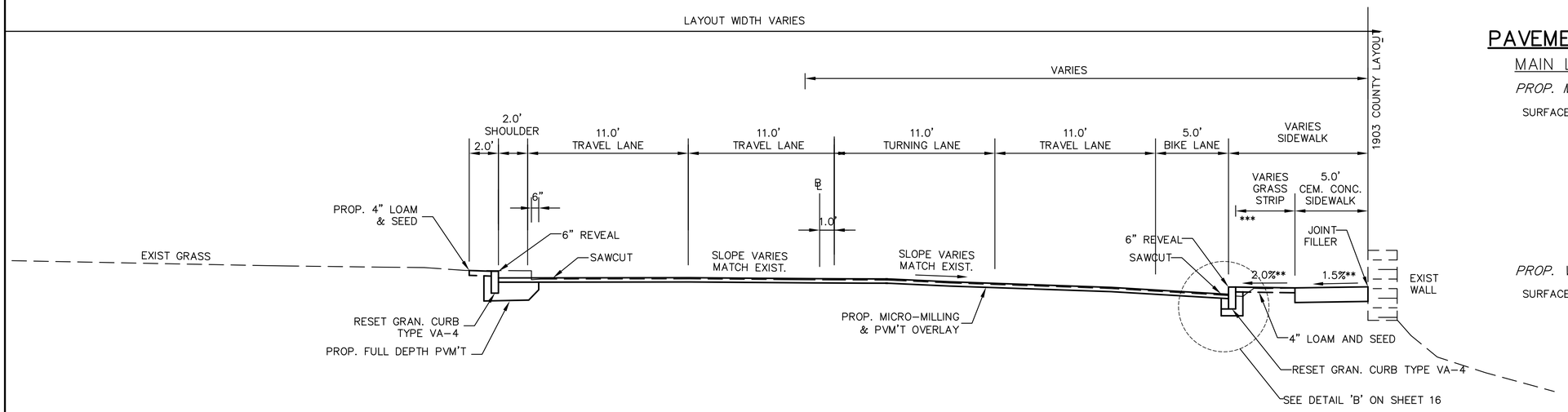
39. THE CONTRACTOR SHALL COORDINATE THE EFFORT OF INSTALLING THE TREE PITS, ROOT PATHS, AND STRUCTURAL SOIL WITH THE LANDSCAPE CONTRACTOR.

40. MBTA OVERHEAD WIRES AS SHOWN ON PLANS ARE APPROXIMATE ONLY. LOCATION TO BE VERIFIED IN FIELD. THESE WIRES THAT ARE OVER THE ROADWAY WILL BE REMOVED BY THE MBTA FROM JUNE 22, 2013 UNTIL THE COMPLETION OF ANY WORK THAT COULD BE HINDERED BY THEIR PRESENCE.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	14	240
PROJ. FILE NO. 604688			

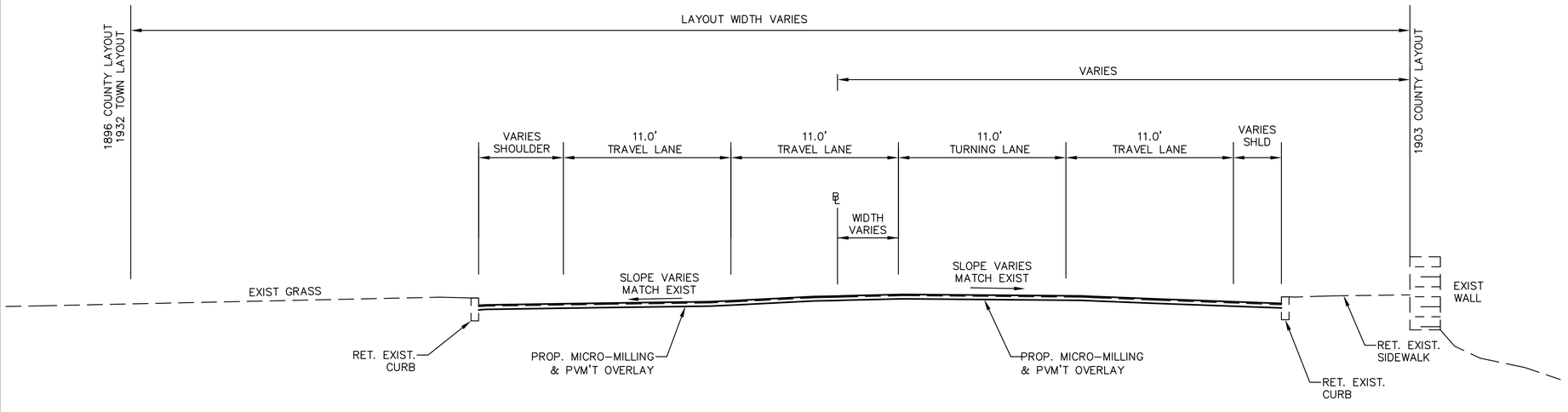
TYPICAL SECTIONS & PAVEMENT NOTES



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'

** 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 TO 4 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 2" SUPERPAVE INTERMEDIATE COURSE 12.5(SIC-12.5), OVER BITUMEN FOR TACK COAT (RS-1) AT 0.05GAL/SY, OVER 1" TO 1½" SUPERPAVE LEVELING COURSE 9.5(SLC-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 BITUMEN FOR TACK COAT (RS-1) AT 0.07 GAL/SY, 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

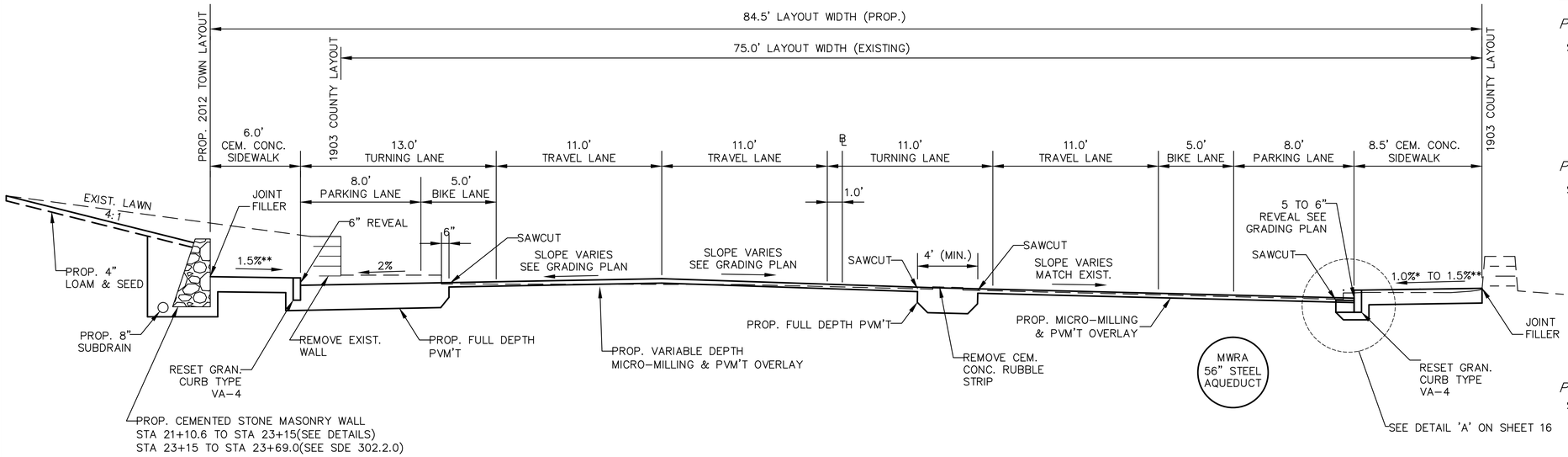
SUBBASE: 12" GRAVEL (NOTES CONTINUED ON NEXT SHEET)

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

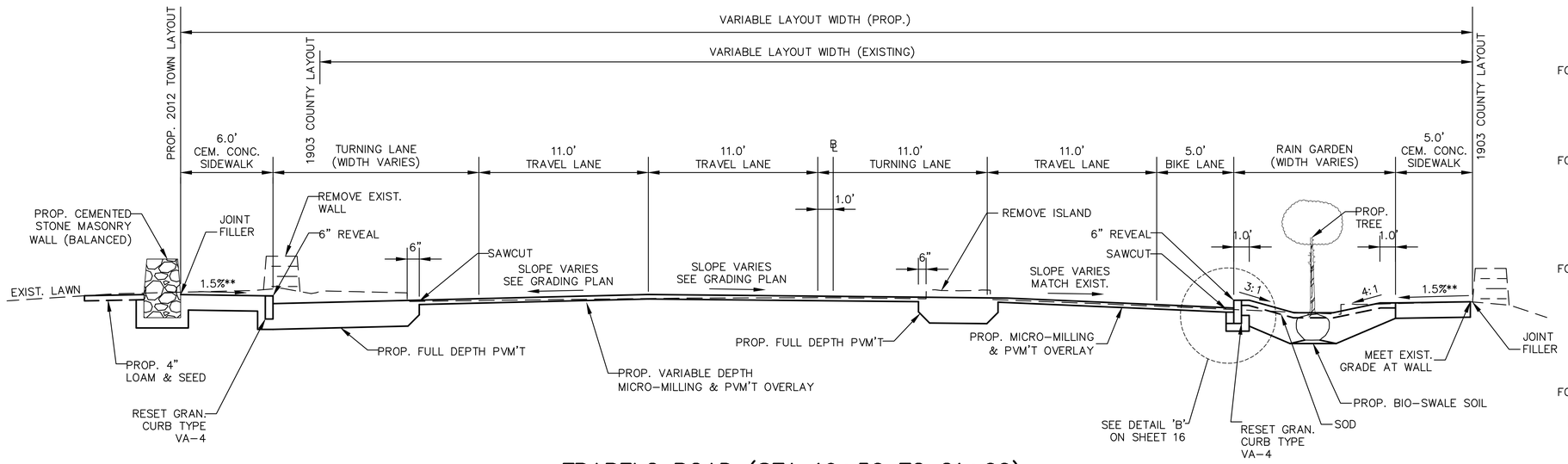
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	15	240
PROJ. FILE NO. 604688			

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 1 TO 3 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

1 TO 1½" 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: PROP. CEM. CONC. 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; 1" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5), OVER 2½" SUPERPAVE INTERMEDIATE COURSE 12.5(SIC-12.5), OVER

FOUNDATION: 8" GRAVEL.

PROP. HMA SIDEWALK:

SURFACE: 2½" HOT MIX ASPHALY OVER, SIDEWALK MATERIAL PLACED IN 2 LAYERS, 1" SUPERPAVE SURFACE COURSE 9.5(SSC-9.5), OVER 1½" SUPERPAVE INTERMEDIATE COURSE 12.5(SIC-12.5)

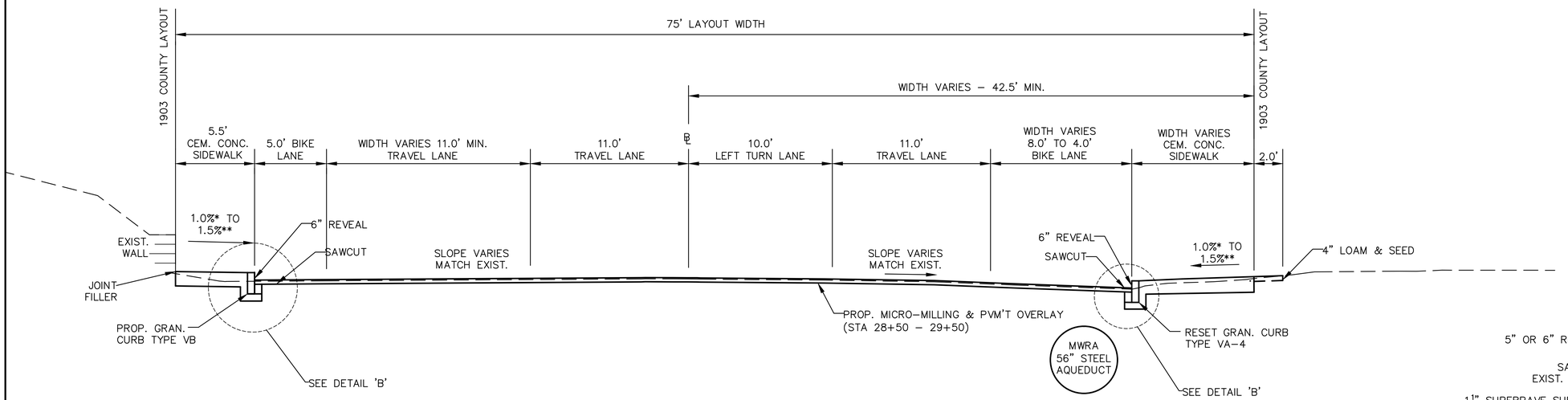
FOUNDATION: 8" GRAVEL.

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

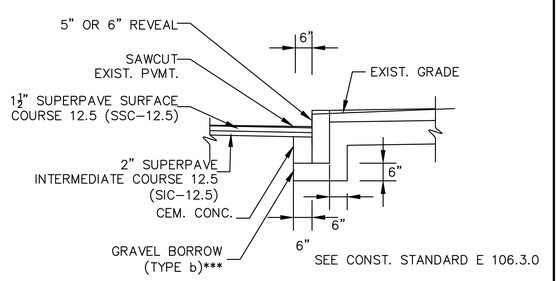
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	16	240
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



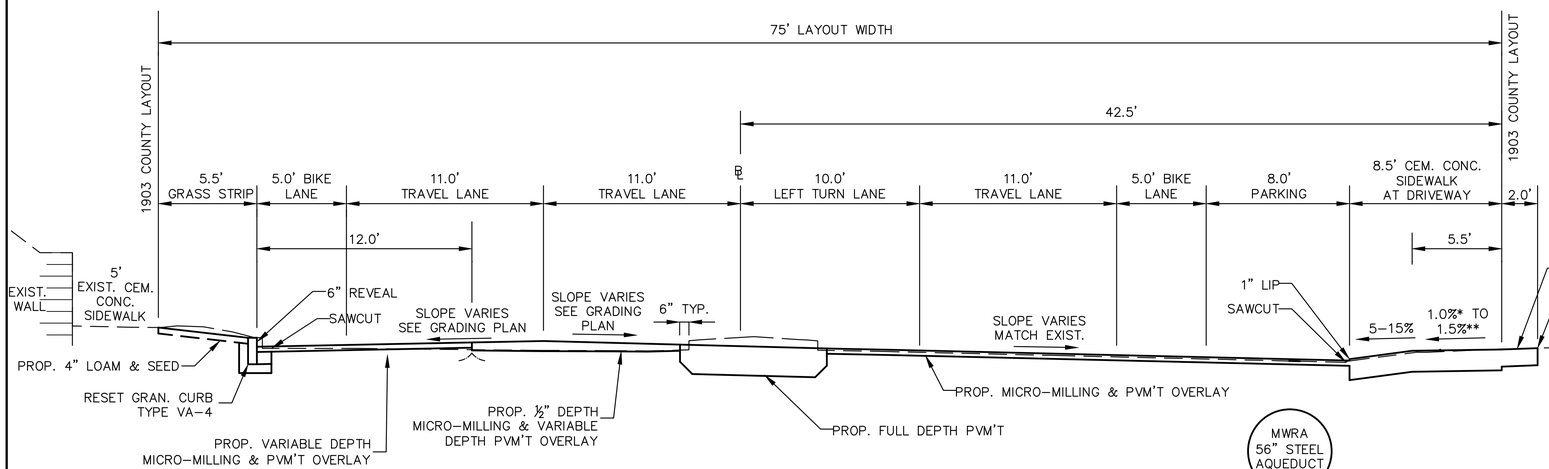
TRAPELO ROAD (STA 25+50 TO 29+50)

SCALE: 1" = 4'



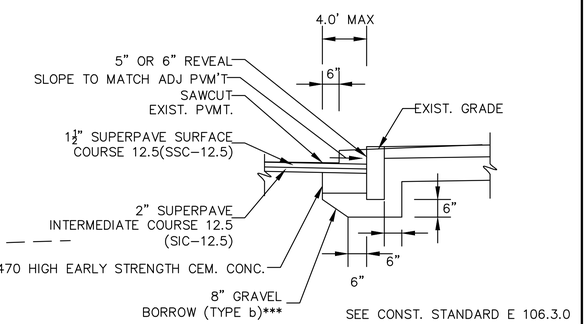
DETAIL B
RESET CURB

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

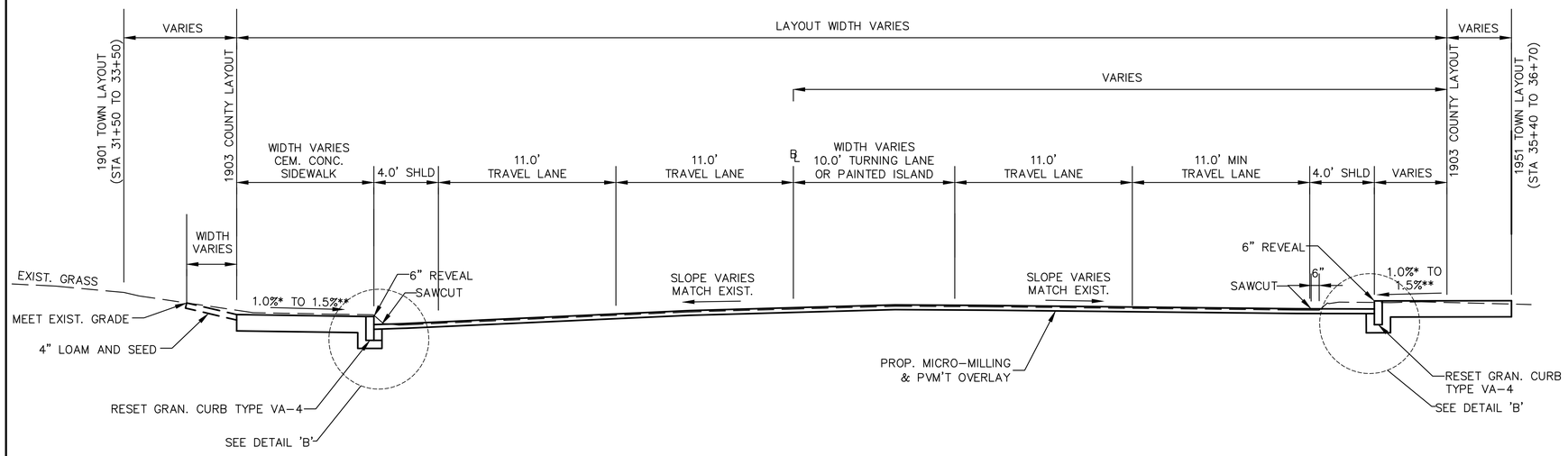
** CONSTRUCTION TOLERANCE ±0.5%

*** 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

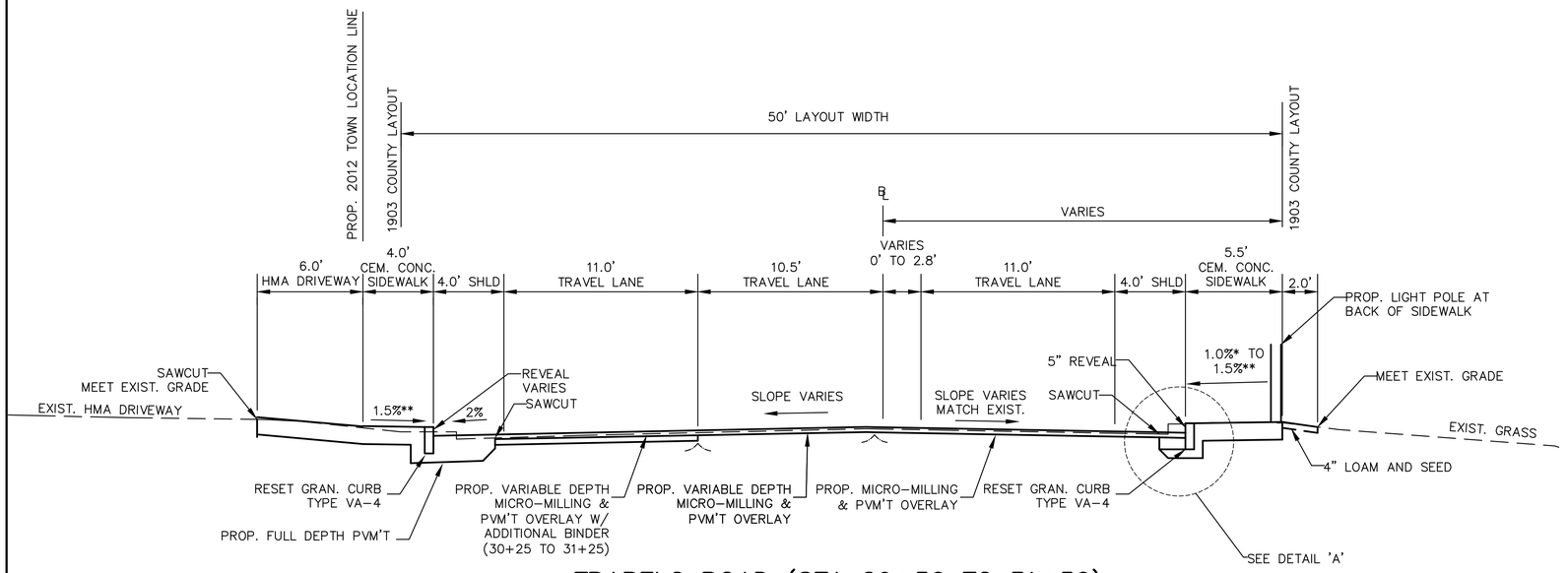
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	17	240
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



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

SCALE: 1" = 4'



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

SCALE: 1" = 4'

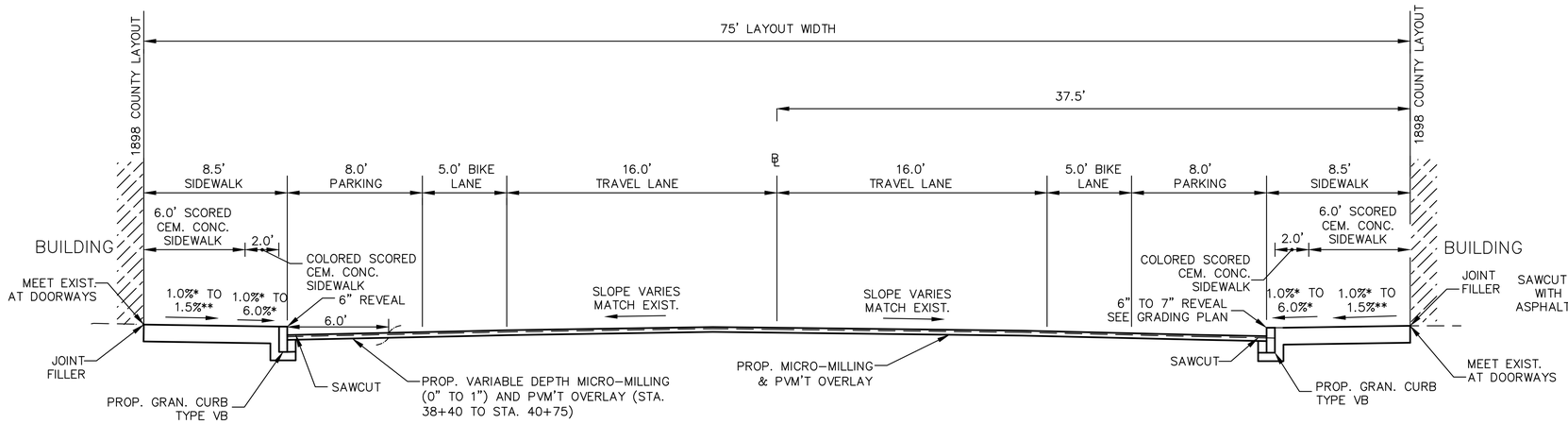
* 1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

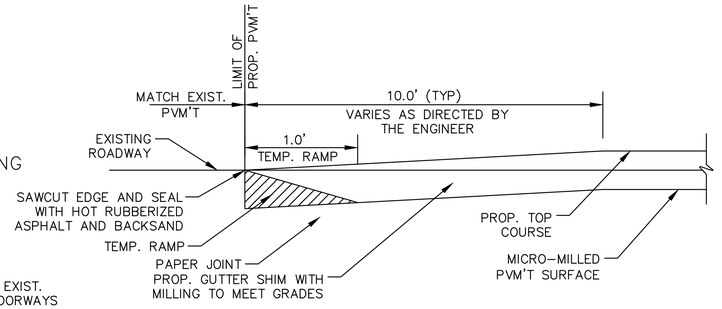
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	18	240
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



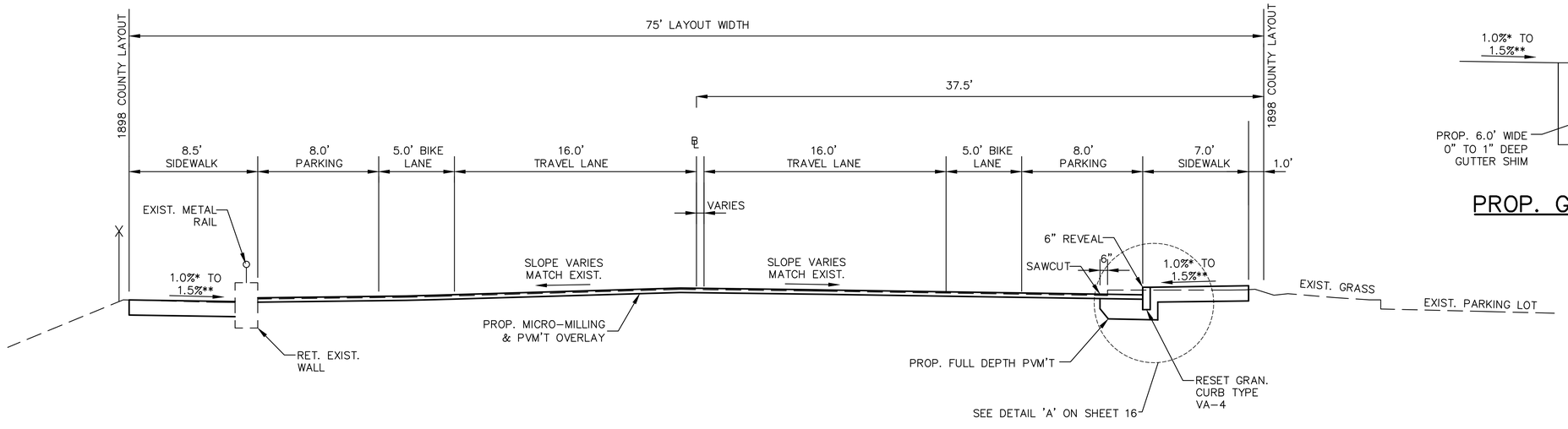
TRAPELO ROAD (STA 38+35 TO 43+00)

SCALE: 1" = 4'



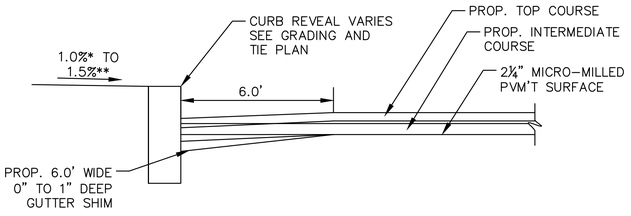
PVM'T TRANSITION FOR SIDE STREETS

N.T.S.



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

SCALE: 1" = 4'



PROP. GUTTER SHIM ON MAIN STREET

N.T.S.

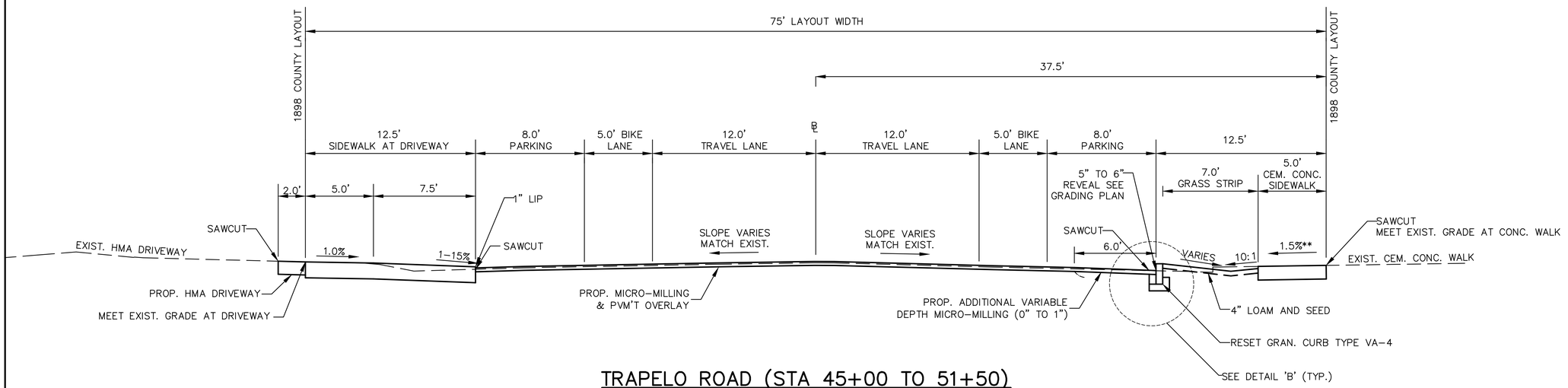
* 1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

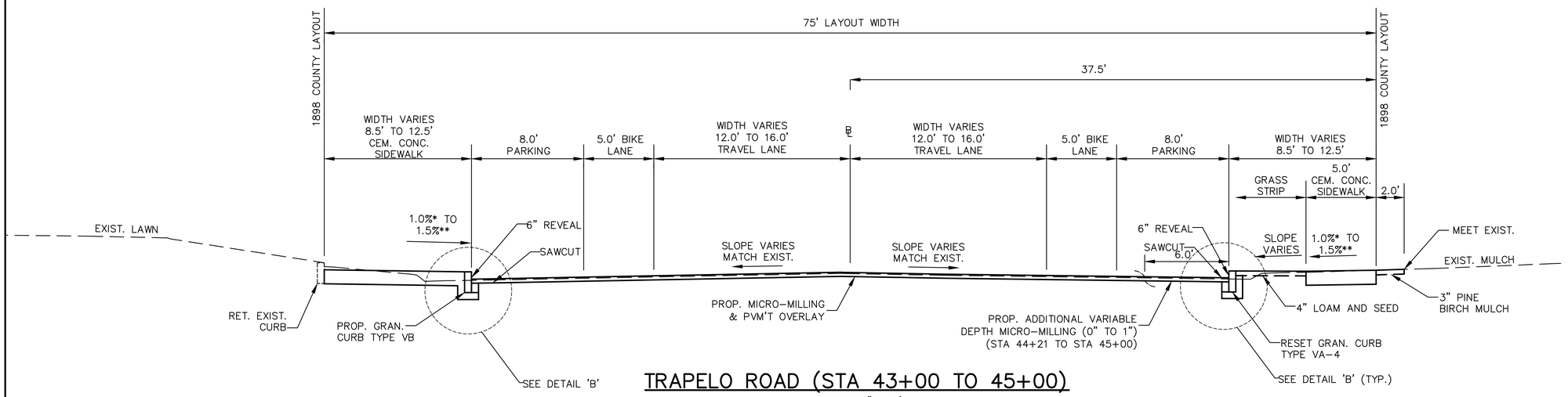
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	19	240
PROJ. FILE NO. 604688			

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'

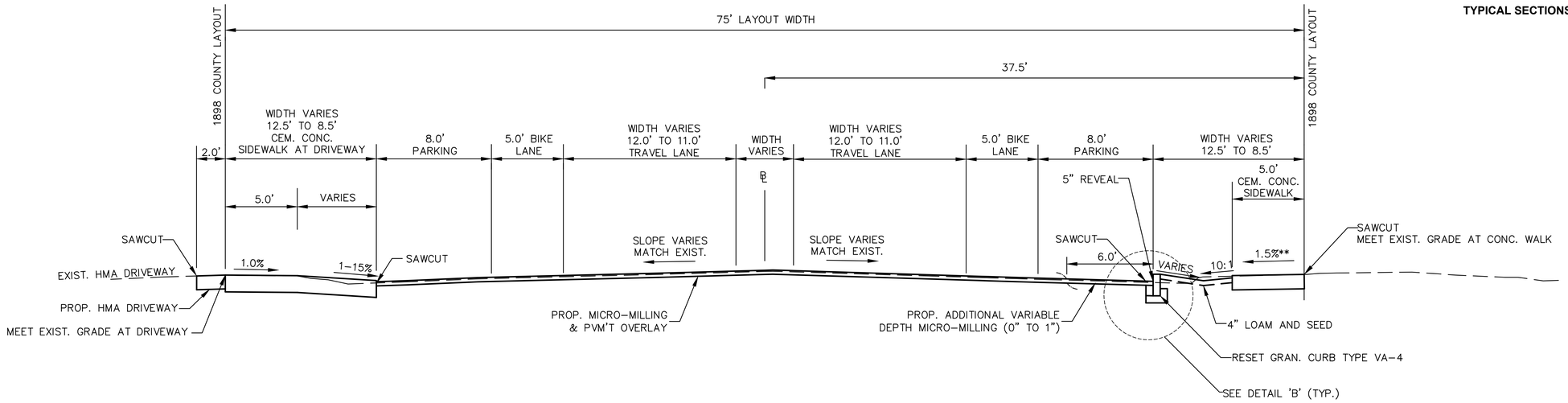
* 1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

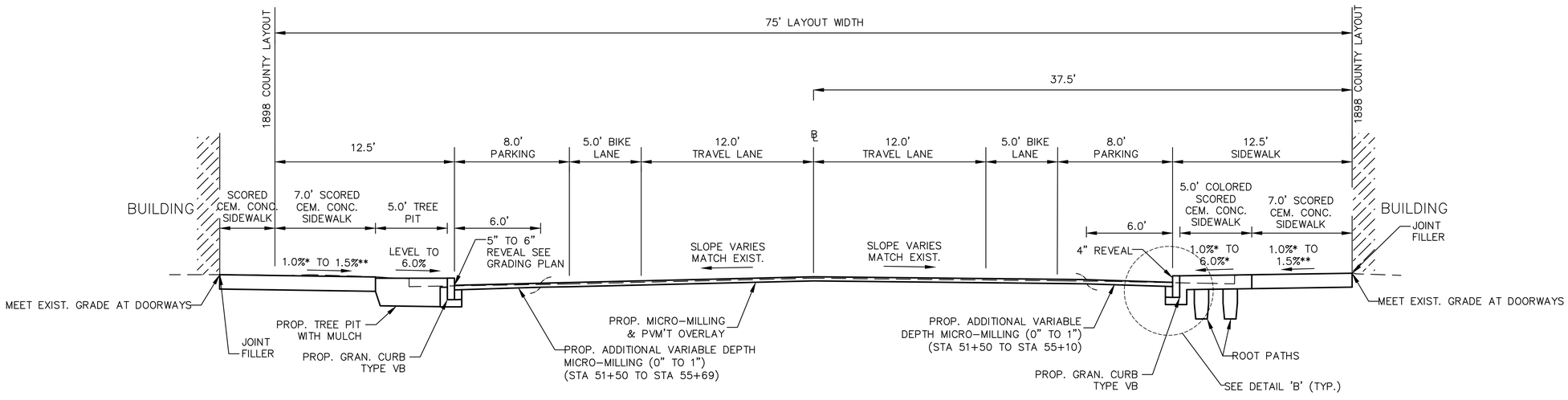
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	20	240
PROJ. FILE NO. 604688			

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'

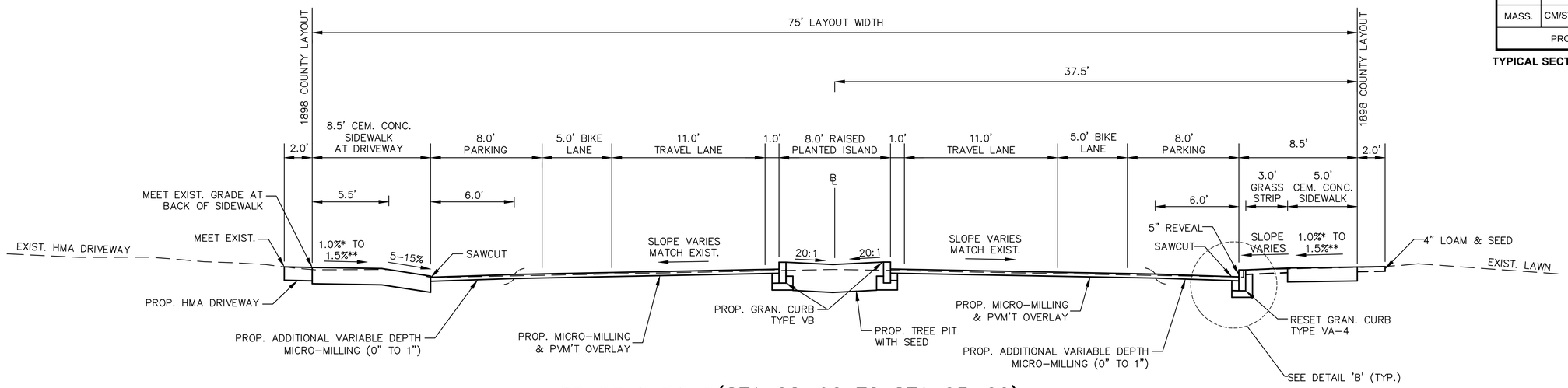
*1.5% PREFERRED

**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

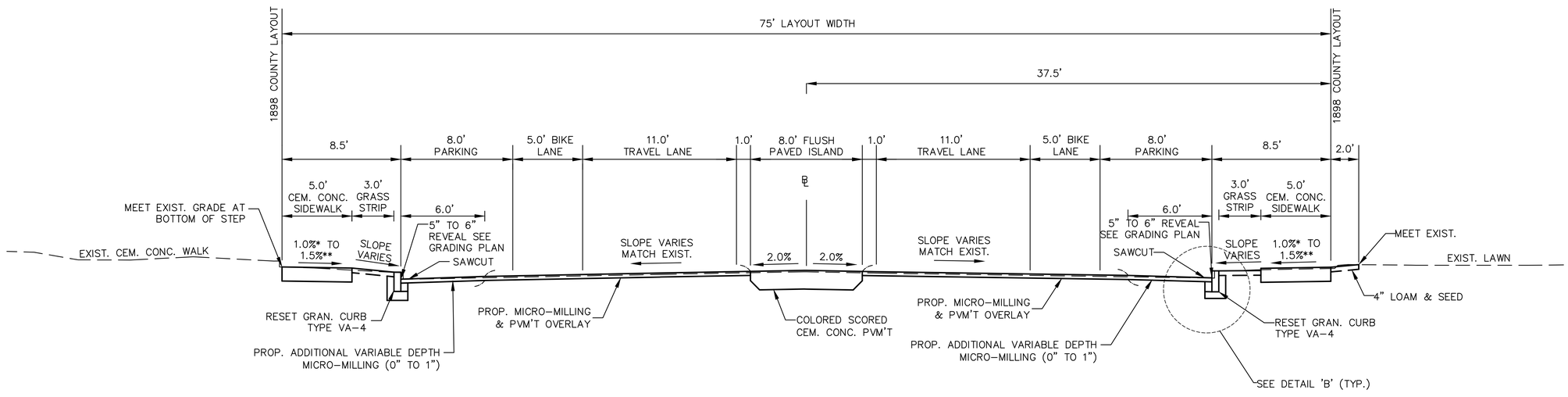
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	21	240
PROJ. FILE NO. 604688			

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'

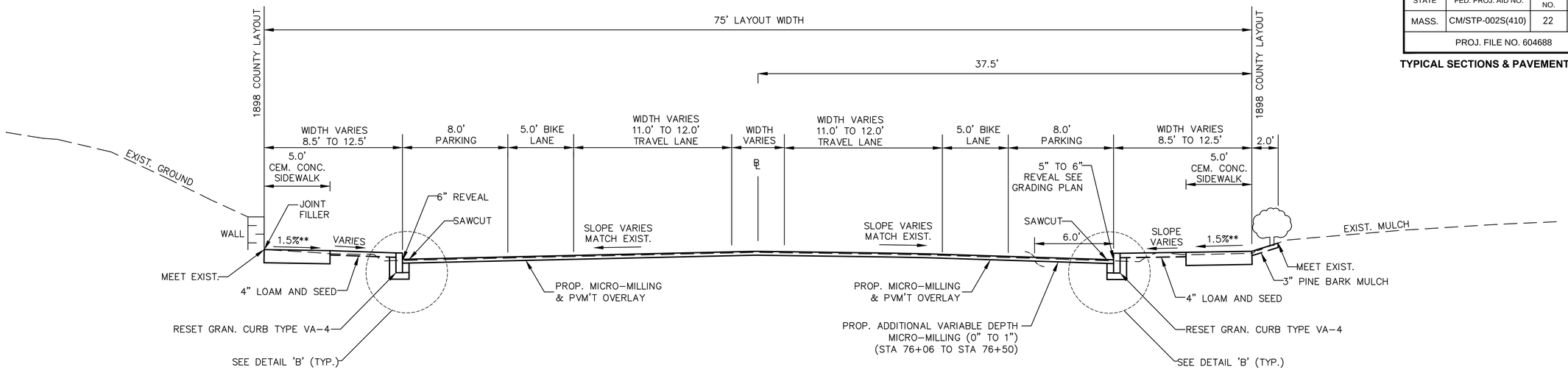
*1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

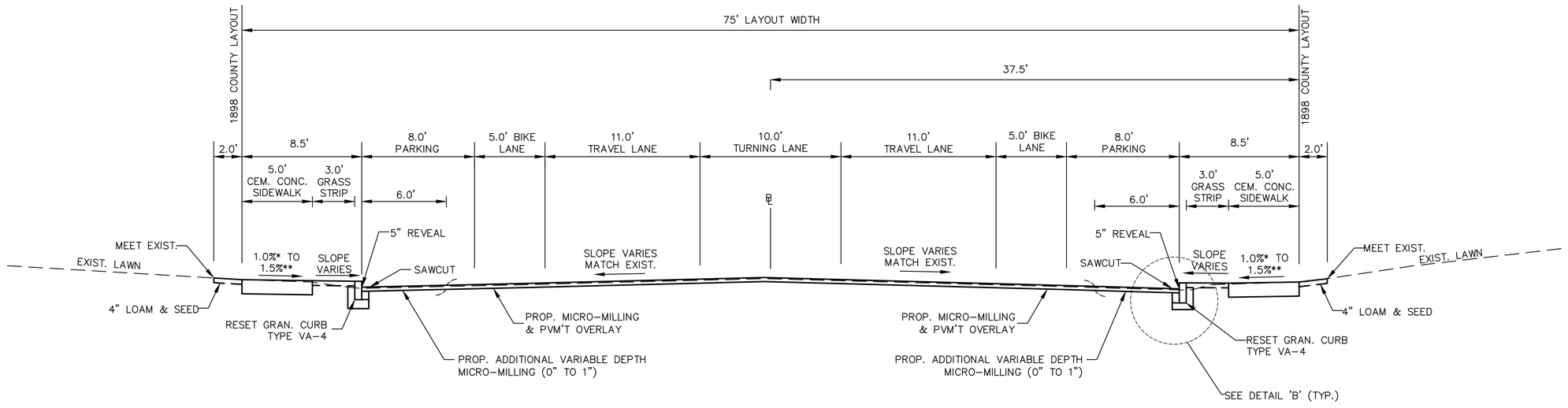
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	22	240
PROJ. FILE NO. 604688			

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)

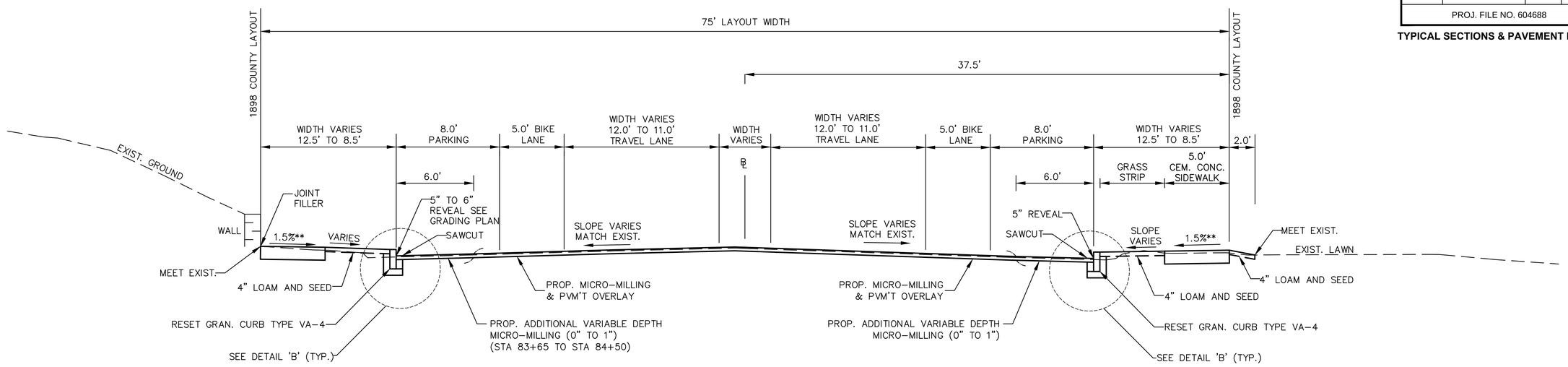
SCALE: 1" = 4'

*1.5% PREFERRED
**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

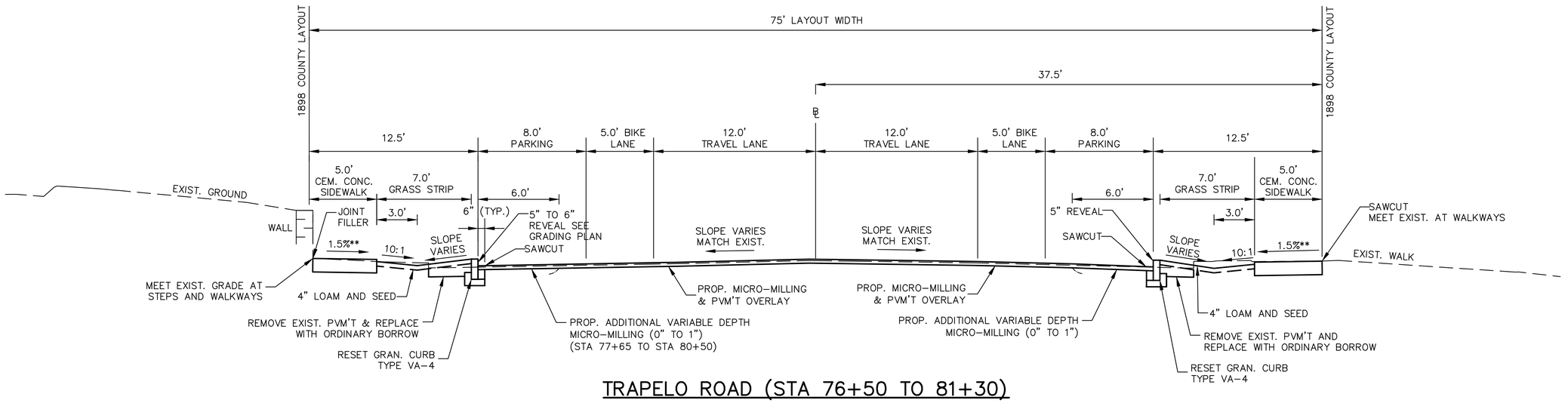
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	23	240
PROJ. FILE NO. 604688			

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'

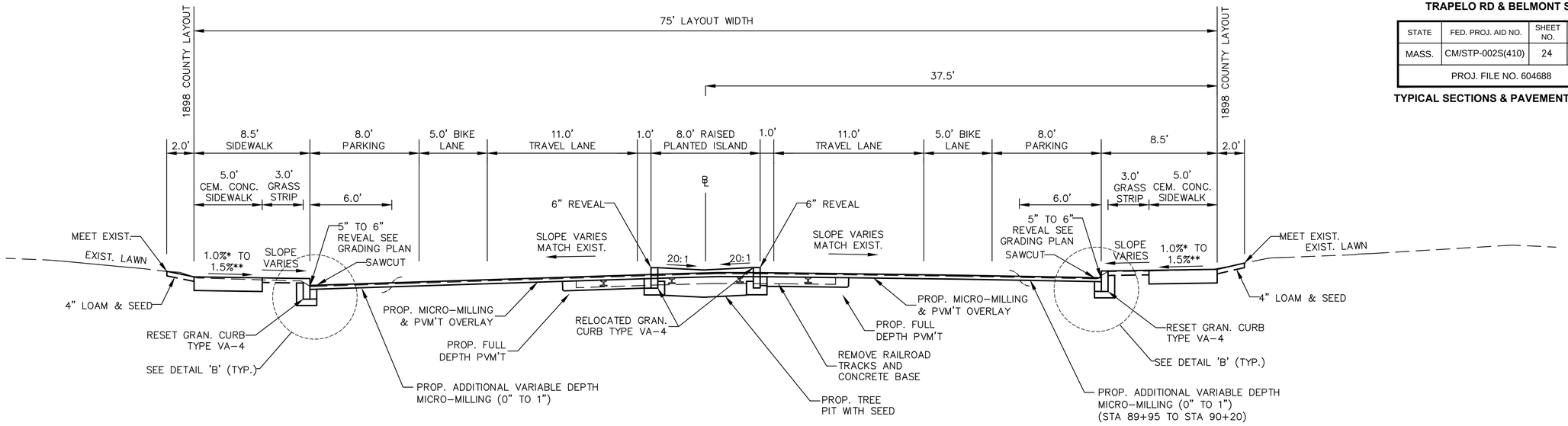
*1.5% PREFERRED

**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

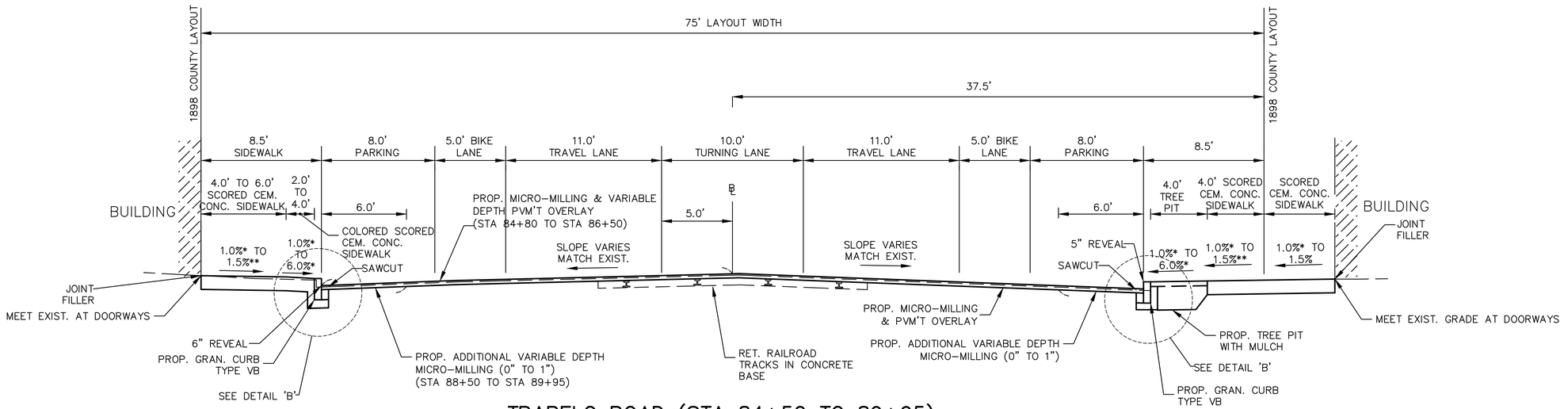
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	24	240
PROJ. FILE NO. 604688			

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)

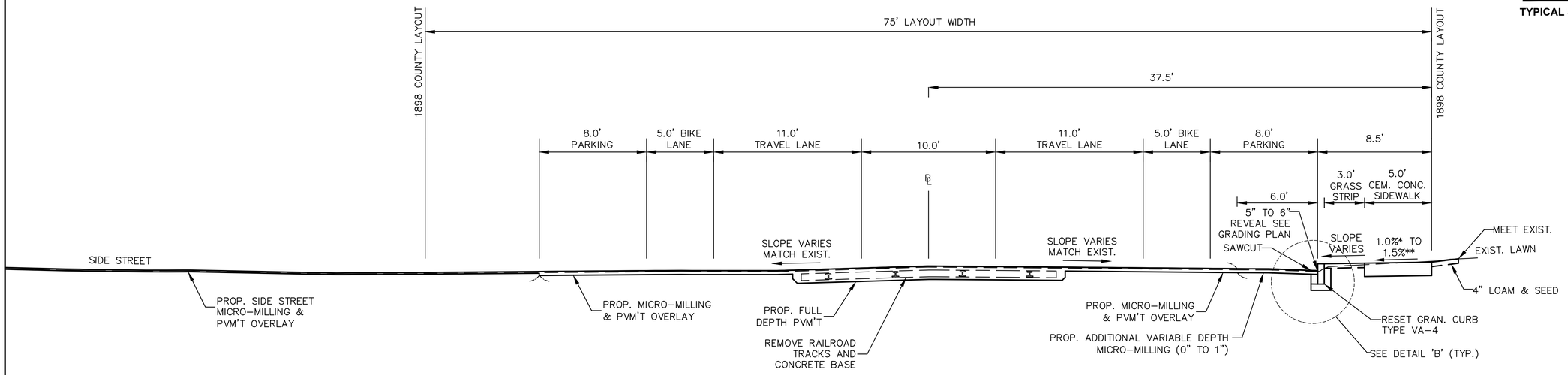
SCALE: 1" = 4'

*1.5% PREFERRED
**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

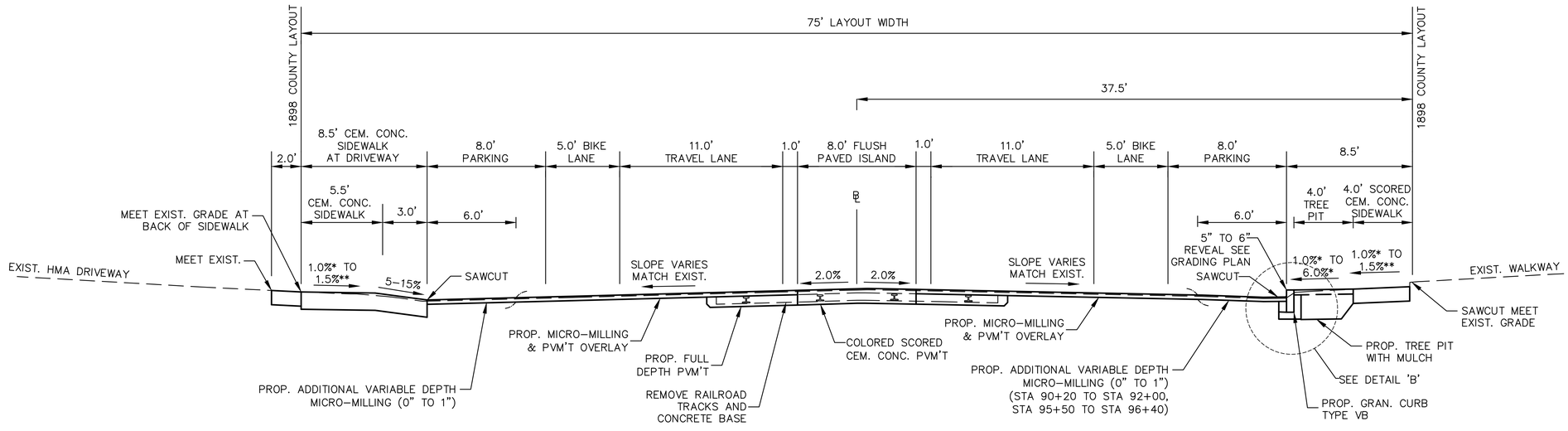
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	25	240
PROJ. FILE NO. 604688			

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'

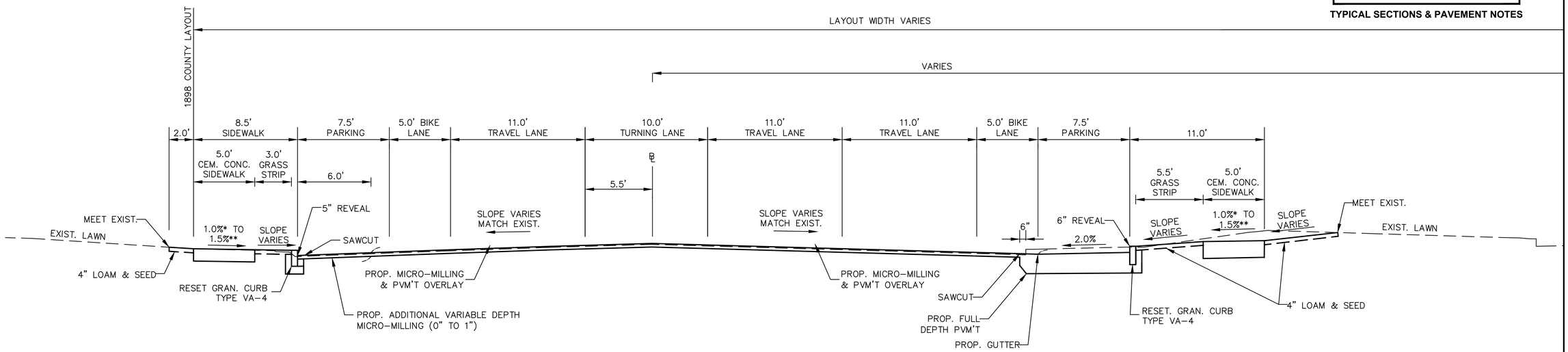
*1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

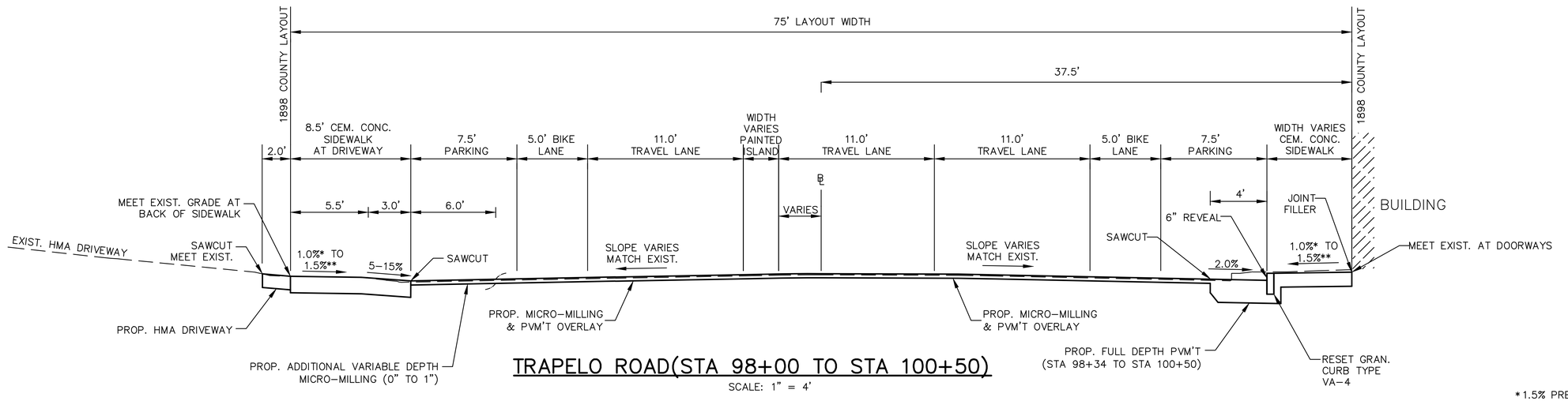
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	26	240
PROJ. FILE NO. 604688			

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'

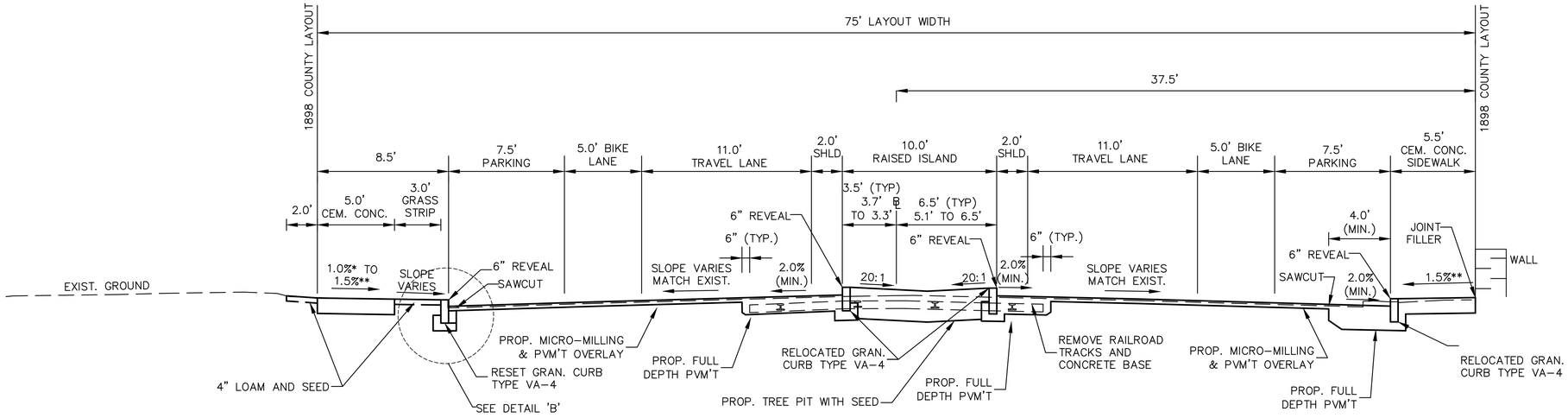
*1.5% PREFERRED

**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

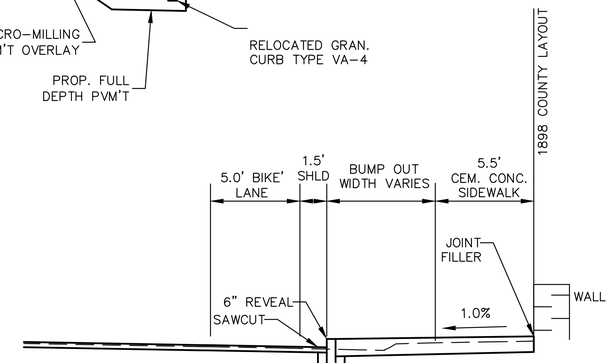
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	27	240
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



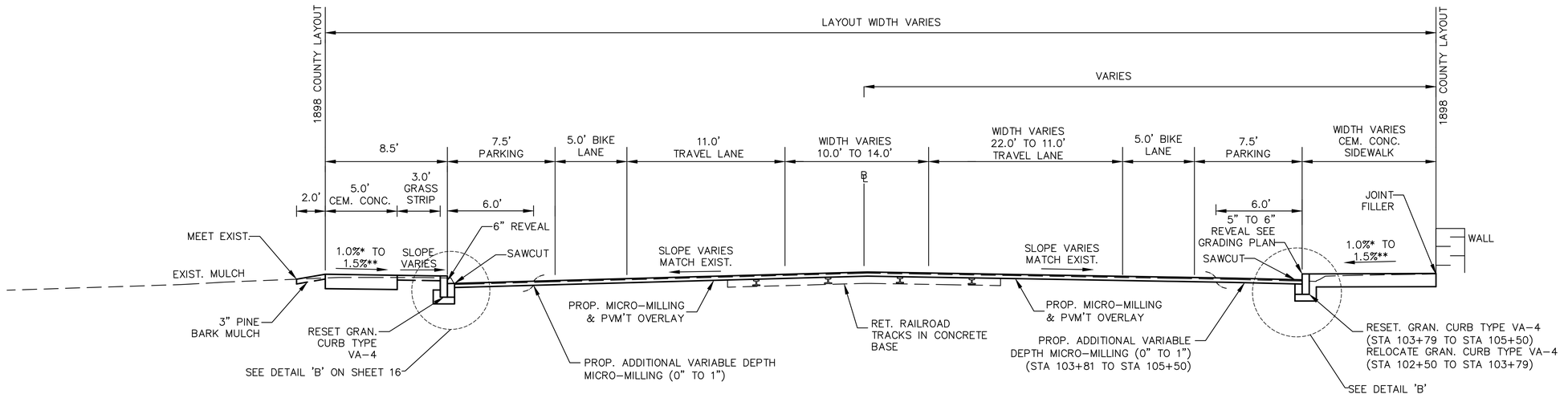
BELMONT STREET (STA 106+00 TO 112+75)

SCALE: 1" = 4'



BUMP OUTS

(STA 106+00 TO STA 112+75)



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

SCALE: 1" = 4'

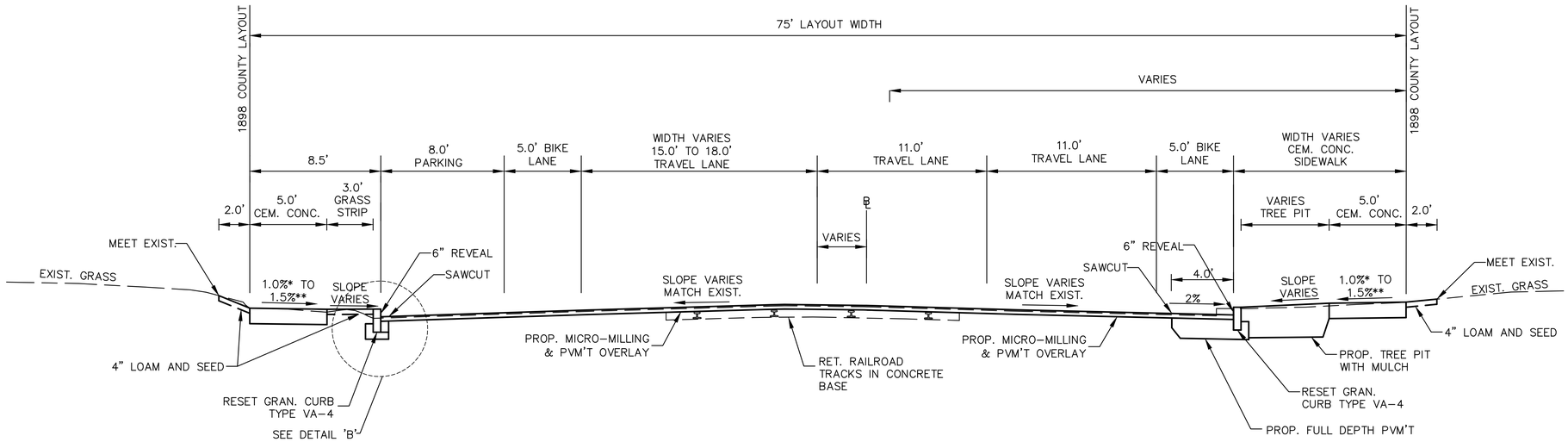
*1.5% PREFERRED

**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

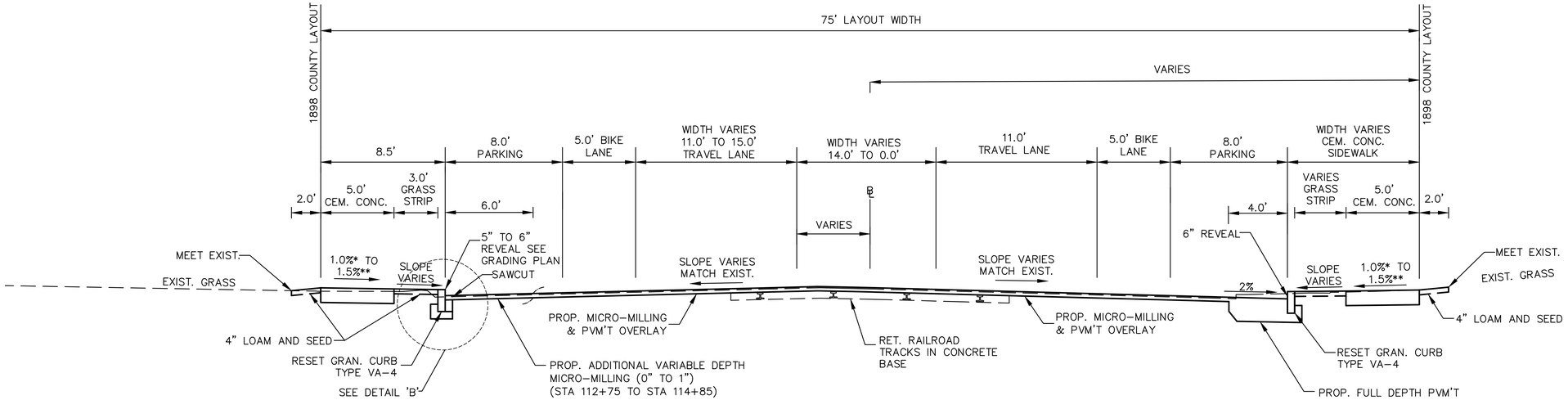
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	28	240
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



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

SCALE: 1" = 4'



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

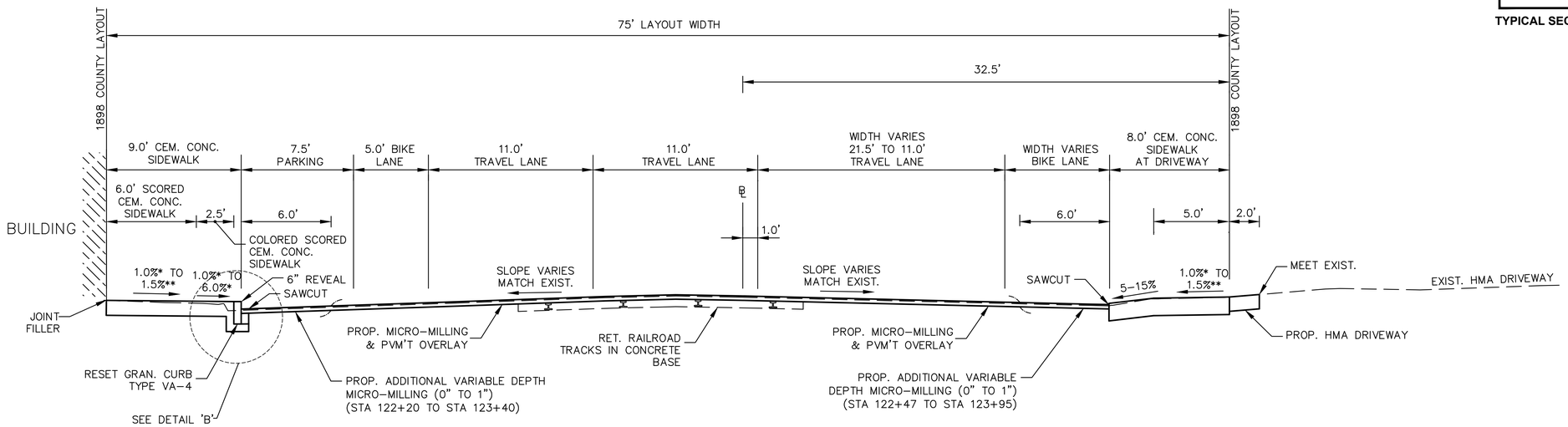
SCALE: 1" = 4'

*1.5% PREFERRED
**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

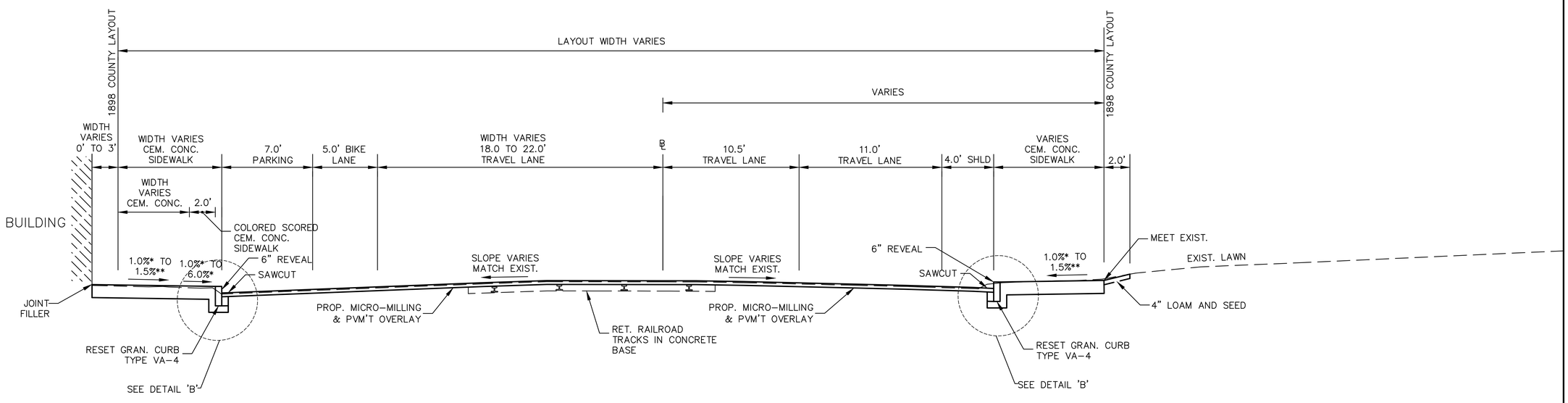
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	29	240
PROJ. FILE NO. 604688			

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'

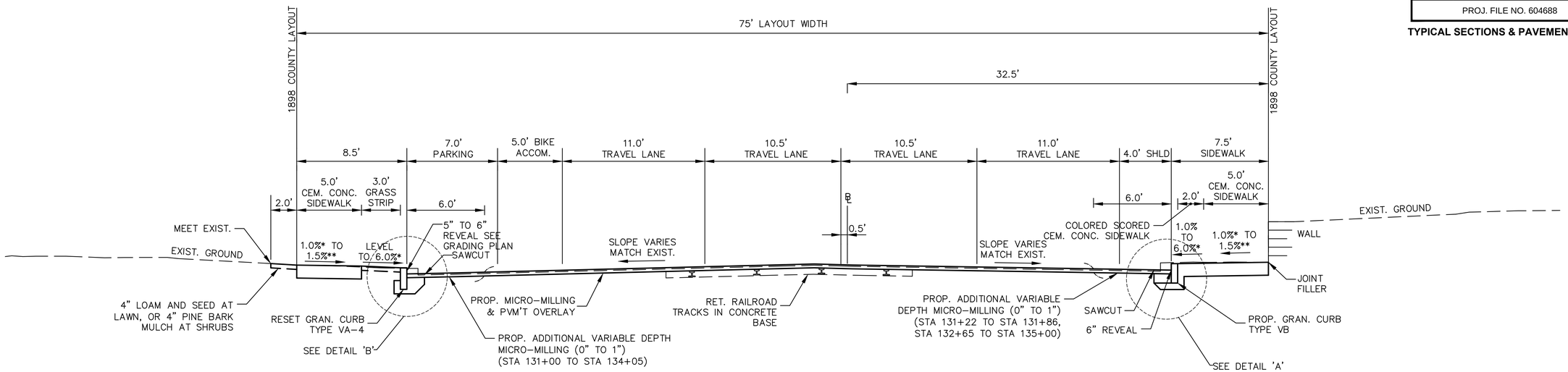
*1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

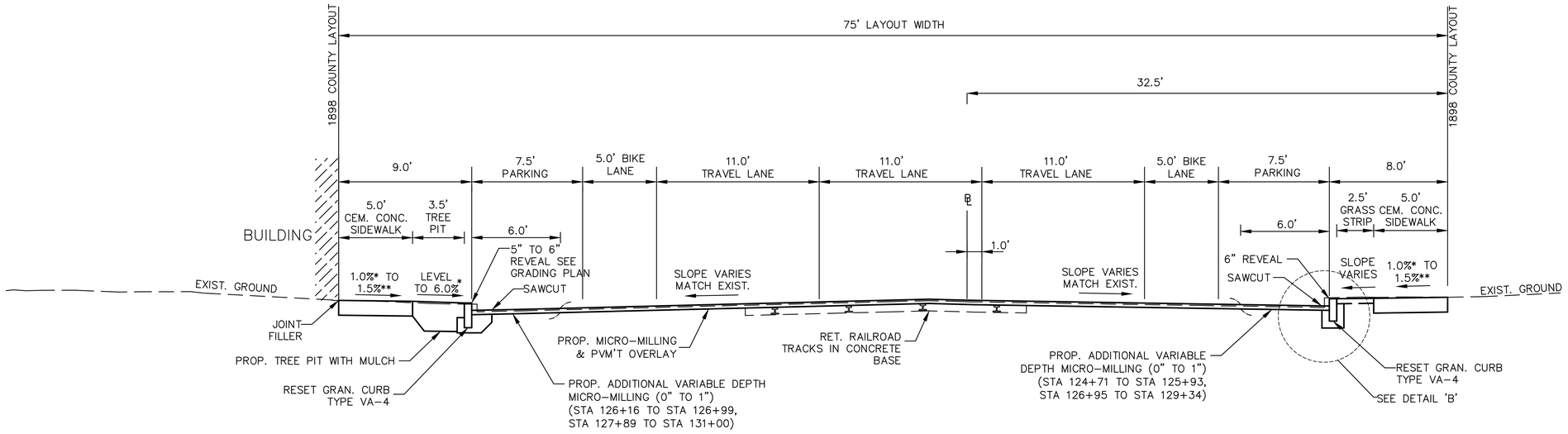
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	30	240
PROJ. FILE NO. 604688			

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'

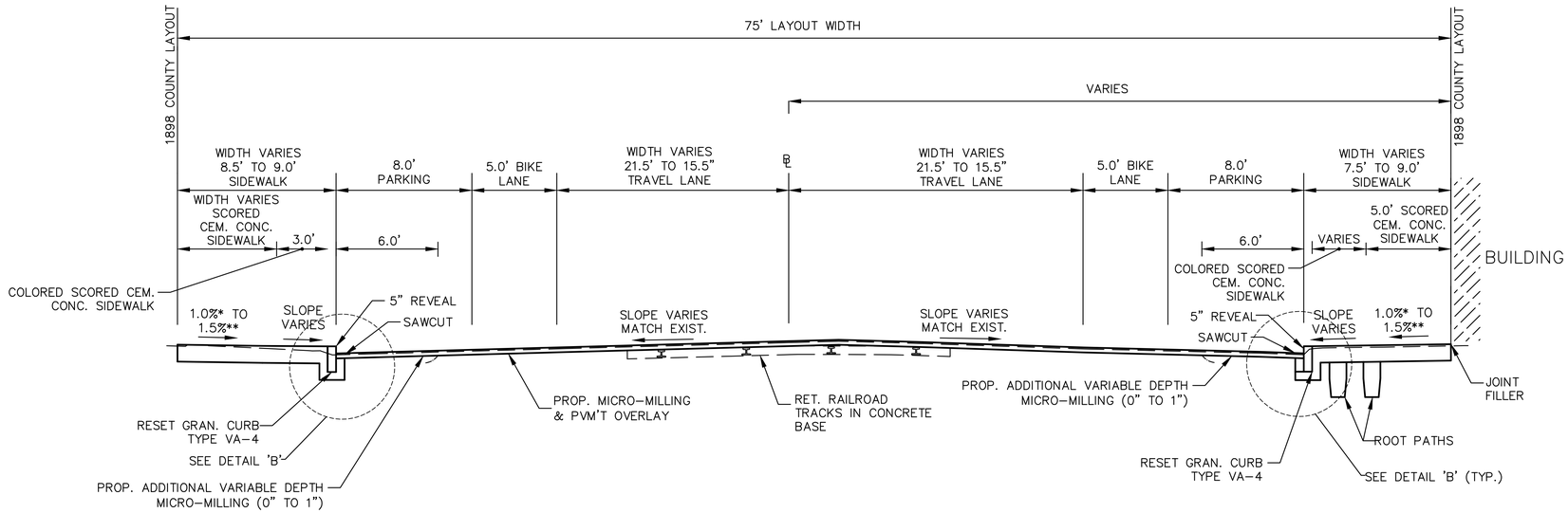
*1.5% PREFERRED

**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

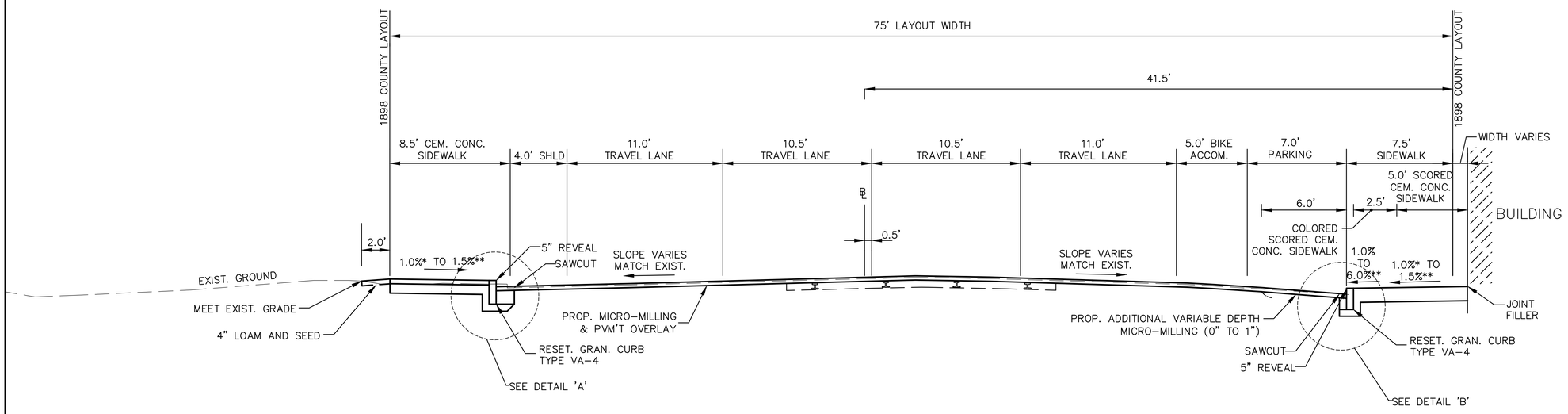
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	31	240
PROJ. FILE NO. 604688			

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'

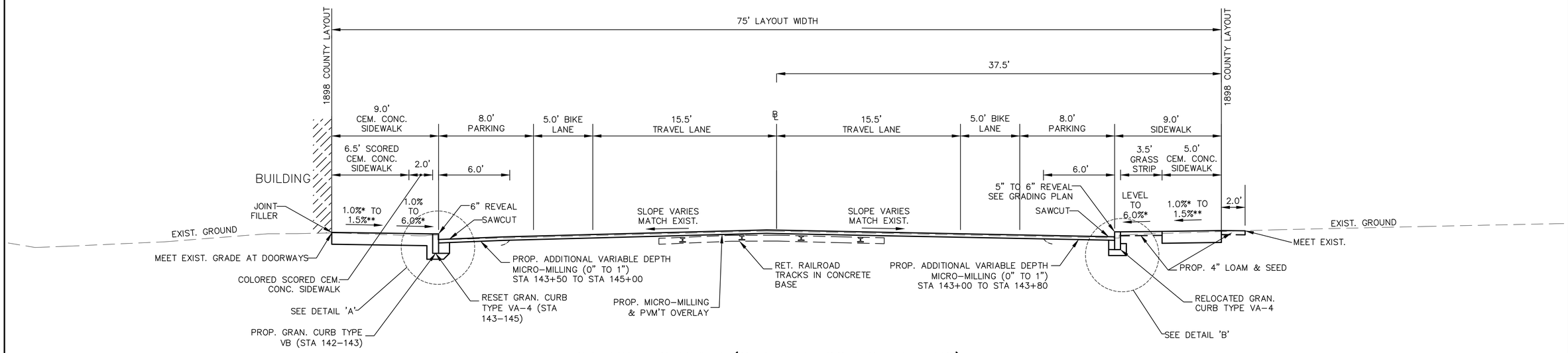
*1.5% PREFERRED

** CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	32	240
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



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

SCALE: 1" = 4'

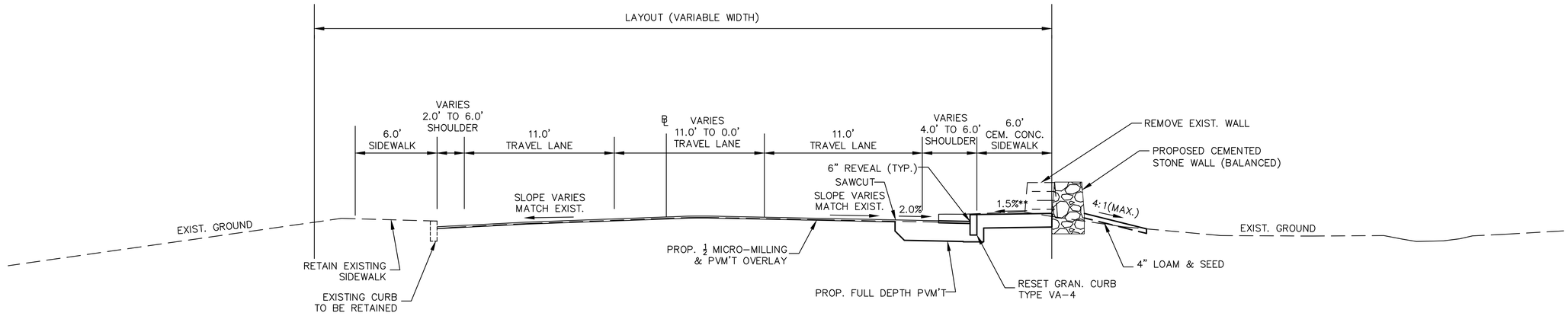
*1.5% PREFERRED

**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

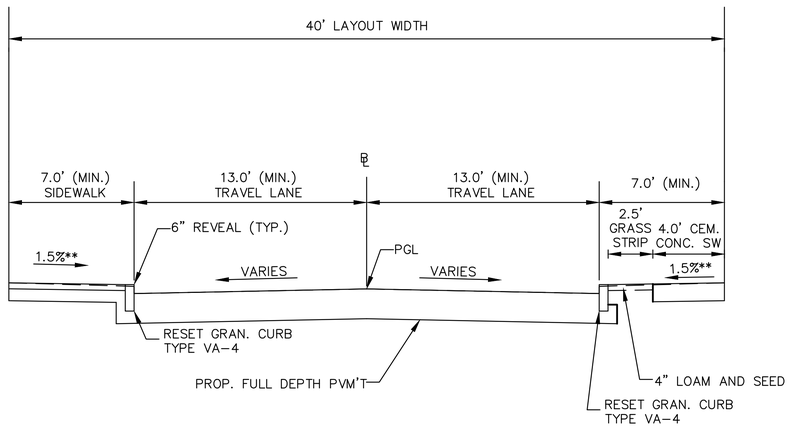
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	33	240
PROJ. FILE NO. 604688			

TYPICAL SECTIONS & PAVEMENT NOTES



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

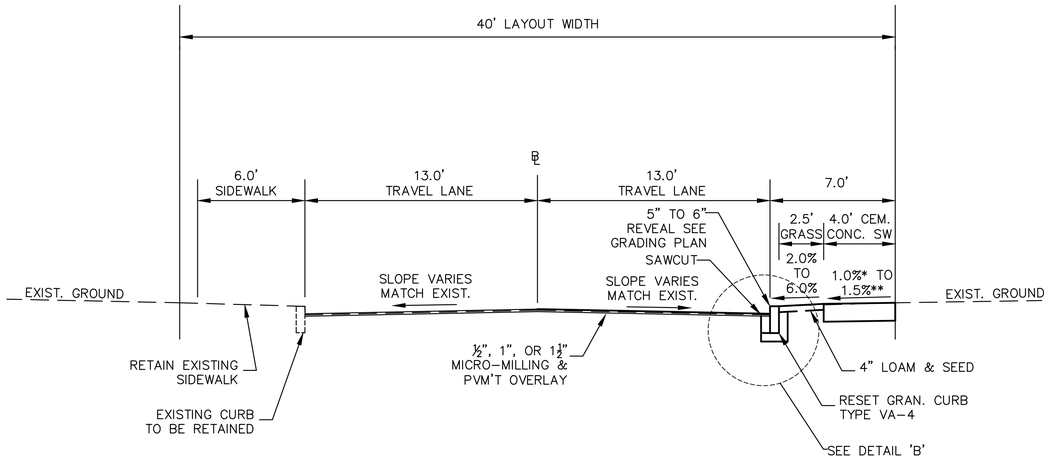
SCALE: 1" = 4'



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)

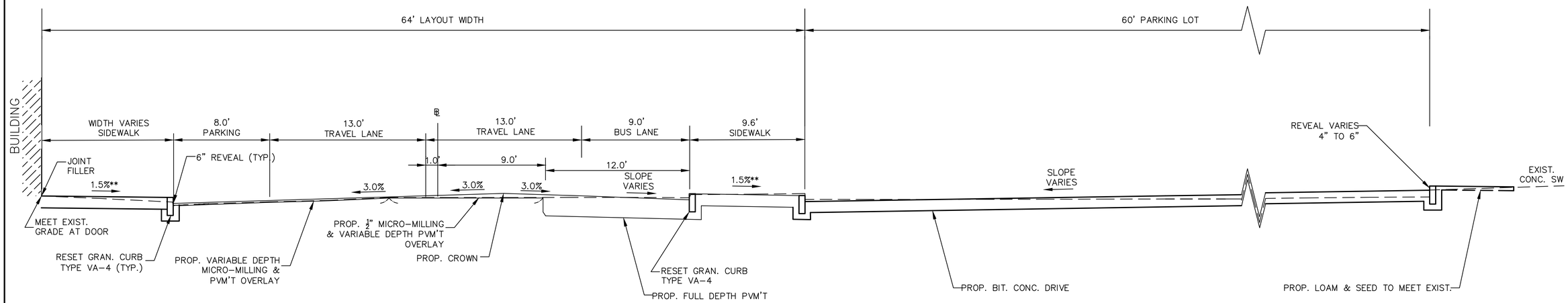
SCALE: 1" = 4'

*1.5% PREFERRED
**CONSTRUCTION TOLERANCE ±0.5%

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	34	240
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.	CM/STP-002S(410)	35	240
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

NOTE:
THE CONTRACTOR SHALL COORDINATE THE WORK OF INSTALLING THE TREE PITS, ROOT PATHS, AND THE STRUCTURAL SOIL WITH THE LANDSCAPE CONTRACTOR.

CONT'D BELOW

CONT'D ABOVE

MILL STREET

100 FT BUFFER ZONE

BEAVER BROOK RESERVATION

PROP. WHEELCHAIR RAMP

PROP. FULL DEPTH PVM'T

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

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 1" MICRO–MILLING & PVM'T OVERLAY

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

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

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

WORK AREA WITHIN BLSF (375 SF)

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

HOR. SCALE IN FEET
0 20 50 100

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 TYPE VB

PROP. 6' CEM. CONC. SW

PROP. 4" LOAM & SEED (TYP.)

HAND EX. AROUND ROOT ZONES

PROP. FULL DEPTH WIDENING

PROP. 2½" MICRO–MILLING & PVM'T OVERLAY

PROP. 4" LOAM & SEED

TRAPELO ROAD (RTE 60)

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

PROP. 24" BIO–SWALE SOIL & SOD

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

PROP. TREE PROTECTION (TYP.)

HAND EX. ROOT ZONE (TYP.)

LINE OF TEMP. EASEMENT

PROP. FULL DEPTH PVM'T

PROP. CEM. CONC. SW. AT DW.

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

PROP. FULL DEPTH PAVEMENT

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

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. SAWCUT (TYP)

PROP. CHANGE IN PVM'T TYPE (TYP)

PROP. GRAN. CURB TYPE VB

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)

100 FT BUFFER ZONE

PROP. 4" LOAM & SEED

PROP. TREE PROTECTION (TYP.)

PROP. CEMENTED STONE MASONRY WALL SEE DETAILS ON SHEETS 202 & 207

PROP. 4" LOAM & SEED

PROP. GRAN. CURB TYPE VB

REM STUMP

REM. CONC. PAD

PROP. 8.5' CEM. CONC. SW

CONT. ON SHEET 136

PROP. 6.5' GRAN. TRANS. STONE TYPE VB

STA. 3+97.4
LIMIT OF WORK
MEET EXISTING

LIMIT OF 200 FT RIVERFRONT AREA

BEAVER BROOK RESERVATION

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	36	240
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

OLMSTEAD DRIVE

TRAPELO ROAD (RTE 60)

AGASSIZ STREET

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

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

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

HOR. SCALE IN FEET
0 20 50 100

CONT. ON SHEET 35
CONT. ON SHEET 37

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	37	240
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

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

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. 2½" MICRO–MILLING & PVM'T OVERLAY

PROP. GRAN. CURB (RELOCATED)

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

PROP. CEM. CONC. SW

STA 1+27.41 LIMIT OF WORK MEET EXISTING

PROP. BOUNDS

PROP. 6' CEM. CONC. SW AT DR

113.17' N86°52'59"E

+99.76 PC

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. VARIABLE DEPTH OVERLAY

PROP. 6' FULL DEPTH PVM'T.

PROP. 2012 TOWN LOCATION LINE

PROP. FULL DEPTH PVM'T

PROP. VARIABLE DEPTH MICRO–MILLING & PVM'T OVERLAY W/ ADDITIONAL BINDER

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

PROP. 6' FULL DEPTH PVM'T.

BEGIN SCORED CEM. CONC. SW

PROP. 6:1 SLOPE

PROP. TREE (TYP.)

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

PROP. 4" LOAM & SEED AT LAWN

3" PINE BARK MULCH AT SHRUBS (TYP.)

PROP. GRAN. CURB TYPE VB

CONST. ℄

PROP. 2½" MICRO–MILLING & PVM'T OVERLAY

PROP. BOUND

PROP. SAWCUT (TYP)

PT +57.95 48.12' S60°41'53"E 32 PC +06.07

PROP. GRAN. CURB FROM RESET

PROP. SAWCUT & 2' HMA DRIVE

PROP. 5.5' CEM. CONC. SW

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

PROP. 4" LOAM & SEED(TYP)

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

MEET EXISTING GRADE AT WALK

MEET EXISTING GRADE AT DRIVE

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

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

PROP. CEM. CONC. SW. AT DR.

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

R&R BRICK WALK (6')

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

PROP. CEM. CONC. SW

PROP. SAWCUT & 2' HMA DRIVE

PROP. SAWCUT & 3.5' HMA WALK SURFACE

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

MEET EXISTING

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

PROP. 4' CEM. CON. SW

PROP. TREE PIT W/SEED

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

PROP. TREE PIT W/SEED

PROP. 4' CEM. CON. SW

PROP. CEM. CONC. SW. AT DR

PT 26.37 +86 PC S49°17'53"E +59.87

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

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.	CM/STP-002S(410)	38	240
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

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

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

HOR. SCALE IN FEET
0 20 50 100

CONT. ON SHEET 37
CONT. ON SHEET CP-5
CONT. ON SHEET 40

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.	CM/STP-002S(410)	39	240
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

LEXINGTON STREET
CHURCH STREET
THAYER ROAD
THAYER STREET
MBTA ROW
MBTA
CONT. ON SHEET 38
PROP. TREE (TYP.)
R&S EXIST. TRASH BARREL
PROP. HMA DRIVE
PROP. TREE PIT WITH SEED
INSTALL BENCH
PROP. GRAN CURB FROM RESET
PROP. 4" LOAM & SEED
R&R BUS SHELTER
R&R BY TOWN
END SCORED CEM. CONC. SW
PROP. CEM. CONC. SW
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. 4.5' COLORED SCORED CEM. CONC. SW
PROP. ROOT PATHS (2 TYP.)
PROP. FULL DEPTH PVM'T
PROP. 4' CEM. CONC. WALK SURFACE
PROP. 4' HMA DRIVE
PROP. TREE PIT W/MULCH (TYP.)
PROP. 3" PINE BARK MULCH
PROP. STRUCTURAL SOIL
PROP. CEM. CONC. SW. AT DR
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. 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. 1/2" TO 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. CEM. CONC. SW. AT DR
PROP. SAWCUT & 2' HMA DRIVE
PROP. 73' TIMBER EDGING
PROP. 3" PINE BARK MULCH
PROP. 1/2" TO 1½" MICRO-MILLING & PVM'T OVERLAY
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
PROP. GRAN. CURB TYPE VB
R&R CHAIN LINK FENCE
PROP. 4" LOAM & SEED
STA. 4+80.1
LIMIT OF WORK
MEET EXISTING
PROP. VARIABLE DEPTH 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
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.	CM/STP-002S(410)	40	240
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. ½" MICRO–MILLING AND PVM'T OVERLAY

PROP. 6.5' GRAN. TRANS. STONE

PROP. 7' CEM. CONC. SW

LIMIT OF WORK MEET EXISTING

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

PROP. 4" LOAM & SEED (TYP.)

PROP. 5' CEM. CONC. SW

PROP. SAWCUT & 2' HMA WALK SURFACE

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

PROP. 4" LOAM & SEED

PROP. 5' CEM. CONC. SW

PROP. SAWCUT & 2' HMA WALK SURFACE

PROP. 4" LOAM & SEED

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

MEET EXIST. SW

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. 3" PINE BARK MULCH

R&R GRAN. CURB

INSTALL 12" WAVERLEY TRAIL MEDALLION (TYP)

REM

R&R MB (BO)

PROP. TREE PIT W/SEED

PROP. GRAN. CURB FROM RESET

PROP. GRAN. CURB TYPE VB

PROP. WHEELCHAIR RAMP (TYP.)

PROP. 5' CEM. CONC. SW

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

PROP. 2½" AND 0" TO 1" MICRO–MILLING & PVM'T OVERLAY

PROP. TRASH BARREL

PROP. BIKE RACK

INSTALL 12" WAVERLEY TRAIL MEDALLION (TYP)

PROP. ROOT PATHS (2)

PROP. TREE (TYP.)

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

MEET EXISTING GRADE AT DOORWAY (TYP.)

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

PROP. 6' SCORED CEM. CONC. SW

BEGIN COLORED SCORED CEM. CONC. SW

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

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

END SCORED CEM. CONC. SW

PROP. TREE PIT W/SEED

PROP. 4' CEM. CONC. WALK SURFACE

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

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

PROP. SAWCUT & 2' HMA DRIVE

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

PROP. CEM. CONC. SW. AT DR

PROP. TREE PIT W/SEED (TYP.)

PROP. 5' CEM. CONC. SW

PROP. 3" PINE BARK MULCH AT SHRUBS

PROP. CEM. CONC. SW. AT DR

PROP. SAWCUT & 2' HMA DRIVE

TRIM HEDGES

PROP. 4" LOAM & SEED (TYP.)

PROP. SAWCUT & 2' HMA DRIVE

PROP. GRAN. CURB TYPE VB

R&R MB(BO)

497.05'
S69°43'53"E

1185.84'
S64°16'45"E

PC

PT.
+36.24

+75

+21

+09

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'

CONT. ON SHEET 41

CONT. ON SHEET 38

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	41	240
PROJ. FILE NO. 604688			

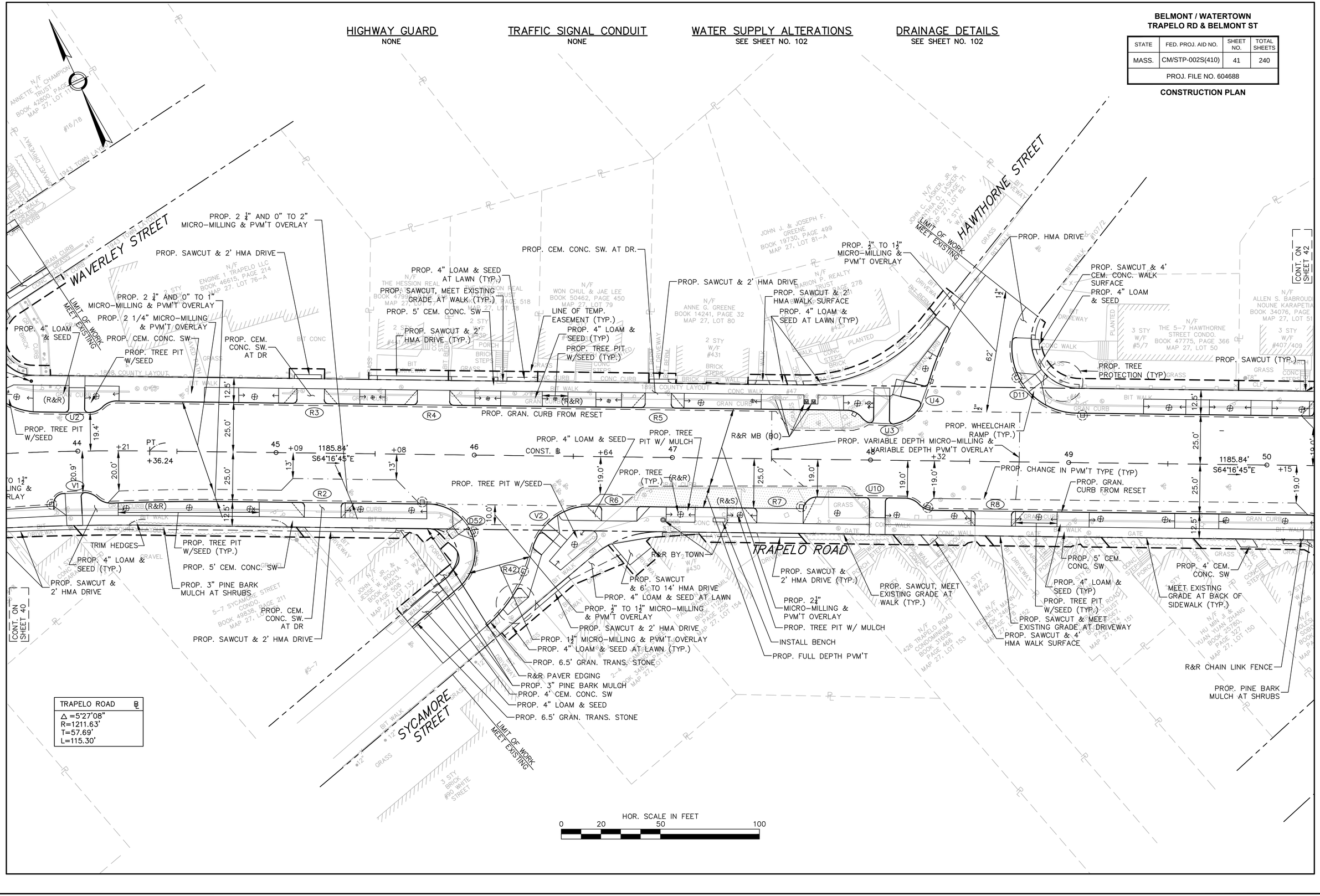
CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 102

DRAINAGE DETAILS
SEE SHEET NO. 102



BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	42	240
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 103

DRAINAGE DETAILS
SEE SHEET NO. 103

TRAPELO ROAD
DAVIS ROAD
MAPLE STREET
BEECH STREET
1185.84' S64°16'45"E
200.00' S69°15'15"W
PROP. SAWCUT (TYP.)
PROP. 2¼" AND 0" TO 1" MICRO–MILLING & PVM'T OVERLAY
PROP. SAWCUT & 2' CEM. CONC. WALK SURFACE AT DRIVEWAY
PROP. 2¼" MICRO–MILLING & PVM'T OVERLAY
MEET EXISTING GRADE AT WALKS
LINE OF TEMP. EASEMENT (TYP.)
PROP. 5' CEM. CONC. WALK
PROP. 5' CEM. CONC. SW
PROP. 4" LOAM & SEED (TYP.)
PROP. CEM. CONC. SW. AT DR.
PROP. SAWCUT & 4' HMA DRIVE (TYP.)
PROP. TREE PIT W/SEED (TYP.)
PROP. SAWCUT MEET EXIST. GRADE AT DRIVEWAY
PROP. SAWCUT & 4' CEM. CONC. WALK
PROP. 2¼" MICRO–MILLING & PVM'T OVERLAY
PROP. TREE (TYP.)
PROP. WHEELCHAIR RAMP (TYP.)
PROP. TREE PIT W/SEED (TYP)
PROP. GRAN. CURB FROM RESET
PROP. CHANGE IN PVM'T TYPE (TYP)
PROP. GRAN. CURB TYPE VB
PROP. GRAN. CURB FROM RESET
(R,R&R)
PROP. 4" LOAM & SEED (TYP.)
PROP. 5' CEM. CONC. SW
*NOTE: NOTIFY OWNER 3 WEEKS BEFORE WORKING ON PROPERTY
PROP. 5' COLORED CEM. CONC. SIDEWALK (TYP.)
(2) PROP. ROOT PATH
BEGIN SCORED CEM. CONC. SW
REM
PROP. TREE (TYP.)
R&R BY TOWN
PROP. ROOT PATHS (2 TYP.)
PROP. 7' SCORED CEM. CONC. SW
PROP. 5' COLORED SCORED CEM. CONC. SW
PROP. TREE PIT W/MULCH (TYP.)
MEET EXISTING GRADE AT DOORWAYS
PROP. CEM. CONC SW
BEGIN SCORED CEM. CONC. SW
PROP. SCORED CEM. CONC. SW
PROP. 5.5' COLORED SCORED CEM. CONC. SW
PROP. ROOT PATHS (2 TYP.)
PROP. TREE PIT W/MULCH (TYP.)
PROP. 2' COLORED SCORED CEM. CONC. SW
LIMIT OF WORK MEET EXISTING
PROP. GRAN. CURB TYPE VB
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. CEM. CONC. WALK SURFACE
PROP. 2' COLORED SCORED CEM. CONC. SW
PROP. SCORED CEM. CONC. SW
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. BIKE RACK
PROP. 2' COLORED SCORED CEM. CONC. SW
R&R BY TOWN
END SCORED CEM. CONC. SW
PROP. 1½" MICRO–MILLING & PVM'T OVERLAY
PROP. ½" TO 1½" MICRO–MILLING & PVM'T OVERLAY
PROP. 4' CEM. CONC. SW
MEET EXISTING GRADE AT BACK OF SIDEWALK (TYP.)
R&R CHAIN LINK FENCE
PROP. PINE BARK MULCH AT SHRUBS
LIMIT OF WORK MEET EXISTING
PROP. 4" LOAM & SEED AT LAWN
R&R CHAIN LINK FENCE
PROP. ADDITIONAL 0" TO 1" MICRO–MILLING
PROP. 1½" MICRO–MILLING & PVM'T OVERLAY
PROP. ½" TO 1½" MICRO–MILLING & PVM'T OVERLAY
CONST. ℄
HOR. SCALE IN FEET
0 20 50 100
CONT. ON SHEET 43
CONT. ON SHEET 42

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	43	240
PROJ. FILE NO. 604688			

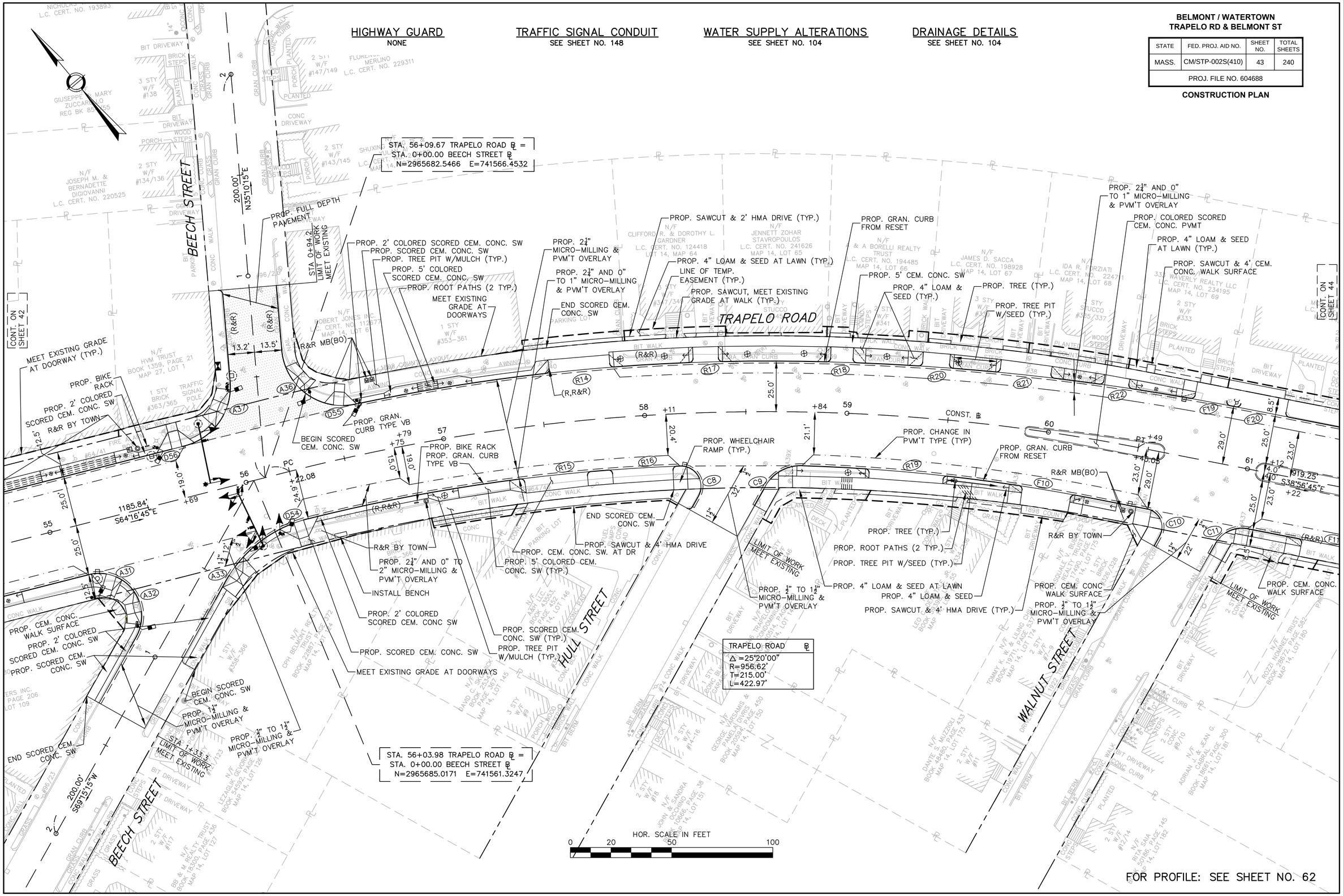
CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 148

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 104

DRAINAGE DETAILS
SEE SHEET NO. 104



FOR PROFILE: SEE SHEET NO. 62

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	44	240
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

FLETT ROAD
TRAPELO ROAD
PEQUOSSETTE PARK
STA. 3+53.71 LIMIT OF WORK MEET EXISTING
3+00
2+00
1+00
609.10' N02°56'00"W
919.25' S38°56'45"E
PROP. 7' CEM. CONC. SW
PROP. 8.5' CEM. CONC. SW
PROP. SAWCUT & 4' HMA DRIVE
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY
PROP. COLORED SCORED CEM. CONC. PVM'T
PROP. 1" MICRO-MILLING & PVM'T OVERLAY
R&R GRAN. CURB
PROP. 3" PINE BARK MULCH
PROP. SAWCUT, 2' HMA DRIVE (TYP.)
R&R MB(BO)
RETAIN EXISTING SIDEWALK & CURB
PROP. BUILDING (BO)
PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. 8' CEM. CONC. SW
PROP. GRAN. CURB FROM RESET
PROP. TREE PIT W/MULCH
PROP. ROOT PATHS (3 TYP.)
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
PROP. 5' CEM. CON. SW
LINE OF TEMP. EASEMENT (TYP.)
PROP. CEM. CONC. SW. AT DR
PROP. TREE (TYP.)
PROP. DRIVE (BO)
PROP. WALK (BO)
PROP. ROOT PATHS (3 TYP.)
PROP. TREE PIT W/SEED (TYP.)
PROP. TREE PIT W/SEED (TYP.)
PROP. 4" LOAM & SEED
PROP. WHEELCHAIR RAMP (TYP.)
PROP. GRAN. CURB TYPE VB
PROP. DRIVE (BO)
PROP. COLORED SCORED CEM. CONC. PVM'T
PROP. WHEELCHAIR RAMP
PROP. ROOT PATHS (3 TYP.)
PROP. GRAN. CURB TYPE VB
PROP. TREE PIT W/SEED
PROP. CHANGE IN PVM'T TYPE (TYP)
CONST. ℄
PROP. GRAN. CURB FROM RESET
PROP. 4" LOAM & SEED
PROP. BIKE RACK
R&R GRAN. CURB
PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)
PROP. HMA CURB
PROP. 6.5' GRAN. TRANS.STONE
PROP. GRAN. CURB TYPE VB
REM. 3 CURB STOPS
PROP. 6.5' GRAN. TRANS.STONE
PROP. SAWCUT & 4' HMA DRIVE
PROP. CEM. CONC. WALK SURFACE
LIMIT OF WORK MEET EXISTING
PROP. SAWCUT & 4' HMA DRIVE (TYP.)
PROP. SAWCUT, 4' CEM. CONC. WALK SURFACE
PROP. 2¼" AND 0" TO 2" MICRO-MILLING & PVM'T OVERLAY
PROP. TREE (TYP.)
PROP. TREE PIT W/SEED
PROP. ROOT PATHS (3 TYP.)
PROP. 4" LOAM & SEED (TYP.)
R&R GRAN. CURB (TYP.)
R&R GRAN. CURB (TYP.)
PROP. GRAN. CURB TYPE VB
PROP. CEM. CONC. SW. AT DR
PROP. CEM. CONC. WALK SURFACE
PROP. STRUCTURAL SOIL
PROP. TREE PIT W/MULCH
PROP. SAWCUT & 4' HMA DRIVE
PROP. TREE PROTECTION (TYP.)
PROP. FULL DEPTH PVM'T
MEET EXISTING GRADE
CONT. ON SHEET 45
CONT. ON SHEET 43
HOR. SCALE IN FEET
0 20 50 100
N/F MCB REALTY TRUST L.C. CERT. NO. 219890 MAP 14, LOT 70
N/F FLORENCE GRACE MERLINO L.C. CERT. NO. 229311 MAP 14, LOT 71
N/F INHABITANTS OF BELMONT TRAPELO ROAD FIRE STATION L.C. CERT. NO. 229310 MAP 14, LOT 73
N/F 307 TRAPELO ROAD L.C. CERT. NO. 229310 MAP 14, LOT 42
N/F CLAUDIA S. FLETT BOOK 19330, PAGE 402 MAP 14, LOT 242
N/F K & R REALTY TRUST BOOK 698, PAGE 165 MAP 14, LOT 236
N/F SERB REALTY TRUST BOOK 1218, PAGE 6 MAP 14, LOT 235
N/F K & R REALTY TRUST BOOK 10067, PAGE 440 MAP 14, LOT 228
N/F DONNA & JOSEPH L. SANTORO BOOK 51357, PAGE 157 MAP 14, LOT 252
N/F BELMONT WAVERLY POST VFW MAP 14, LOT 251
N/F ROZZI NOMINEE TRUST BOOK 28672, PAGE 382 MAP 14, LOT 180
N/F ADRIAN A. & JEAN G. CABRAL BOOK 18661, PAGE 300 MAP 14, LOT 181

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	45	240
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'

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

SLADE STREET
TRAPELO ROAD
GILBERT ROAD
BARTLETT AVENUE
HARRIET AVENUE

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. ½" MICRO-MILLING & PVM'T OVERLAY
PROP. 8.5' CEM. CONC. SW
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
919.25' S38°56'45"E
PROP. TREE PROTECTION (TYP.)
RET. TRASH BARREL
PROP. CEM. CONC. WALK SURFACE
PROP. FULL DEPTH PVM'T
PROP. 6' CEM. CONC. SW
MEET EXISTING GRADE AT WALK
BEGIN SCORED CEM. CONC. SW
PROP. 3" PINE BARK MULCH
PROP. HMA DRIVE
PROP. 2' COLORED CEM. CONC. SW (TYP.)
MEET EXISTING GRADE AT DRIVE
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.)
PROP. GRAN. CURB FROM RESET
REM
R&R MB(BO)
R&R BY TOWN
PROP. WHEELCHAIR RAMP (TYP.)
PROP. FULL DEPTH PVM'T
PROP. 4" LOAM & SEED
PROP. TREE PIT W/SEED
PROP. 4" LOAM & SEED (TYP.)
PROP. SAWCUT, 2' HMA DRIVE
PROP. 4' CEM. CONC. SW
MEET EXISTING AT WALK
RET. EXISTING WALL (TYP)
PROP. TREE PIT W/SEED
PROP. GRAN. CURB TYPE VB
PROP. WHEELCHAIR RAMP
MEET EXISTING GRADE AT WALK (TYP.)
PROP. CEM. CONC. SW. AT DR.
PROP. 5' CEM. CONC. SW
PROP. SAWCUT, 2' HMA DRIVE
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. STRUCTURAL SOIL
PROP. GRAN. CURB TYPE VB
PROP. CEM. CONC WALK SURFACE
PROP. HAND EX. ROOT ZONE
PROP. SAWCUT & 4' HMA DRIVE
PROP. 5' CEM. CONC. SW
PROP. 4" LOAM & SEED
PROP. 3" PINE BARK MULCH
PROP. CEM. CONC. SW
INSTALL TYPE "B" BUS SHELTER AND FOUNDATION
MEET EXISTING GRADE AT WALK (TYP.)
PROP. BIKE RACK
PROP. 4" LOAM & SEED
PROP. TREE (TYP.)
PROP. 7.5' CEM CONC. SW
PROP. SAWCUT 2' TO 11' CEM. CONC. WALK SURFACE AT DRIVEWAY
MEET EXISTING GRADE AT WALK
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. 3" PINE BARK MULCH
PROP. 7' CEM. CONC. SW
PROP. 1½" MICRO-MILLING & PVM'T OVERLAY
LIMIT OF WORK MEET EXISTING
STA 1+44.6
STA 1+78.7

CONT. ON SHEET 44
CONT. ON SHEET 46

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.	CM/STP-002S(410)	46	240
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 107

DRAINAGE DETAILS
SEE SHEET NO. 107

GILBERT ROAD
TRAPELO ROAD
HARDING AVENUE
BARNARD ROAD
POPLAR STREET
1920 TOWN LAYOUT
1938 COUNTY LAYOUT
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. STRUCTURAL SOIL
PROP. GRAN. CURB TYPE VB
PROP. CEM. CONC WALK SURFACE
PROP. 3" PINE BARK MULCH
PROP. CEM. CONC. SW
INSTALL TYPE "B" BUS SHELTER AND FOUNDATION
PROP. 1" TO 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. 4" LOAM & SEED
PROP. 6.5" GRAN. TRANS. STONE
PROP. HAND EX. ROOT ZONE (TYP.)
PROP. 4" LOAM & SEED
PROP. 4' CEM. CONC. SW
MEET EXISTING GRADE AT STEPS (TYP.)
PROP. COLORED SCORED CEM. CONC. PVM'T
PROP. SAWCUT & 4' HMA DRIVE (TYP.)
PROP. 4" LOAM & SEED (TYP.)
PROP. CEM. CONC. SW AT DR
PROP. HAND EX. ROOT ZONE (TYP.)
PROP. 4" LOAM & SEED AT LAWN (TYP.)
MEET EXISTING GRADE AT STEPS (TYP.)
PROP. SAWCUT & 2' HMA DRIVE (TYP.)
PROP. CEM. CONC. SW AT DR
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. WHEELCHAIR RAMP (TYP.)
PROP. 3" PINE BARK MULCH AT SHRUBS (TYP.)
PROP. 4' CEM. CONC. SW
PROP. 4" LOAM & SEED
PROP. ½" MICRO-MILLING & PVM'T OVERLAY
PROP. 6.5' GRAN. TRANS. STONE
PROP. CEM. CONC. SW AT DR
*OWNER REQUEST: DO NOT TOUCH OR DISTURB TREE
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.)
RET EXIST. WALL (TYP.)
PROP. CHANGE IN PVM'T TYPE
PROP. GRAN. CURB FROM RESET
PROP. FULL DEPTH PVM'T R&R MB(BO)
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)
PROP. ½" MICRO-MILLING & PVM'T OVERLAY
PROP. 4' CEM. CONC SW.
PROP. 4" LOAM & SEED
PROP. 4' CEM. CONC. SW.
PROP. 4" LOAM & SEED
PROP. SAWCUT & 4" CEM. CONC. WALK SURFACE
PROP. 6.5' GRAN. TRANS. STONE
PROP. SAWCUT & MEET EXISTING AT WALK (TYP.)
PROP. TREE PROTECTION (TYP.)
PROP. 4" LOAM & SEED (TYP.)
PROP. LINE OF TEMP. EASEMENT (TYP.)
PROP. 5' CEM. CONC. SW
PROP. TREE PIT W/SEED (TYP.)
PROP. TREE (TYP.)
PROP. 4' CEM. CONC. SW
PROP. 4" LOAM & SEED
PROP. ½" MICRO-MILLING & PVM'T OVERLAY
PROP. 4" LOAM & SEED AT LAWN (TYP.)
LIMIT OF WORK MEET EXISTING
PT. +61.60
CONST. ℄
743.80' S69°18'15"E
CONT. ON SHEET 45
CONT. ON SHEET 47
HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	47	240
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 108

DRAINAGE DETAILS
SEE SHEET NO. 108

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. 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
MEET EXISTING GRADE AT STAIRS (TYP.)
PROP. GRAN. CURB FROM RESET
PROP. CHANGE IN PVM'T TYPE (TYP)
CONST. ℄ 80
743.80'
S69°18'15"E
79
PROP. TREE (TYP.)
PROP. 5' CEM. CONC. SW
PROP. HAND EX. ROOT ZONE (TYP.)
PROP. TREE PROTECTION (TYP.)
PROP. 4" LOAM & SEED
PROP. TREE PIT W/SEED (TYP.)
PROP. COLORED SCORED CEM. CONC. PVM'T
PROP. CEM. CONC. SW AT DR
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.)
R&R BY TOWN
PROP. TREE (TYP.)
PROP. GRAN. CURB (RELOCATED)
PROP. 6' SCORED CEM. CONC. SW
PROP. 3" PINE BARK MULCH
PROP. TREE PIT W/MULCH
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. BIKE RACK
INSTALL TYPE "A" BUS SHELTER AND FOUNDATION R&R BY TOWN FROM 85+82
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. SAWCUT, 2' HMA DRIVE (TYP.)
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)
LINE OF TEMP. EASEMENT (TYP.)
PROP. TREE PROTECTION (TYP.)
PROP. 4" LOAM & SEED
PROP. CEM. CONC. SW AT DR
PROP. HAND EX. ROOT ZONE (TYP.)
PROP. TREE PIT W/SEED (TYP.)
PROP. 3" PINE BARK MULCH AT SHRUBS (TYP.)
PROP. 4" LOAM & SEED (TYP.)
PROP. 5' CEM. CONC. SW
PROP. TREE (TYP.)
PROP. GRAN. CURB FROM RESET
PROP. GRAN. CURB (R&R)
PROP. TREE (TYP.)
PROP. GRAN. CURB (R&R)
PROP. WHEELCHAIR RAMP (TYP.)
PROP. 6.5' GRAN. TRANS. SLOPE
PROP. 4' CEM. CONC. SW
PROP. 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. 4" LOAM & SEED
PROP. TREE PIT W/MULCH
PROP. 3" PINE BARK MULCH
PROP. 6' SCORED CEM. CONC. SW
PROP. TREE (TYP.)
PROP. GRAN. CURB (RELOCATED)
PROP. TREE (TYP.)
REM
R&R BY TOWN
(R,R&R)
SEE NOTE 1
85 PC
+05.40
+65
+90
82
81
80
84
85
R29
R30
R31
R32
R33
R34
R35
R36
R37
R38
R39
L27
L28
L29
L30
L31
L32
A52
A53
M12
D22
25.0'
19.0'
29.0'
23.0'
29.4'
8.5'
8.6'
28'
12'

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

CONT. ON SHEET 46

CONT. ON SHEET 48

NOTE 1 – PROBABLE CURB ALIGNMENT IF ABUTTING DEVLEOPMENT IS APPROVED. CONTRACTOR WILL INSTALL FINAL CURB AND SIDEWALK IN THE PROPOSED LOCATION OR THE ALTERNATE LOCATION IF THE DEVELOPMENT IS APPROVED. COORDINATION WITH DEVELOPER WILL BE REQUIRED.

HOR. SCALE IN FEET
0 20 50 100

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 152

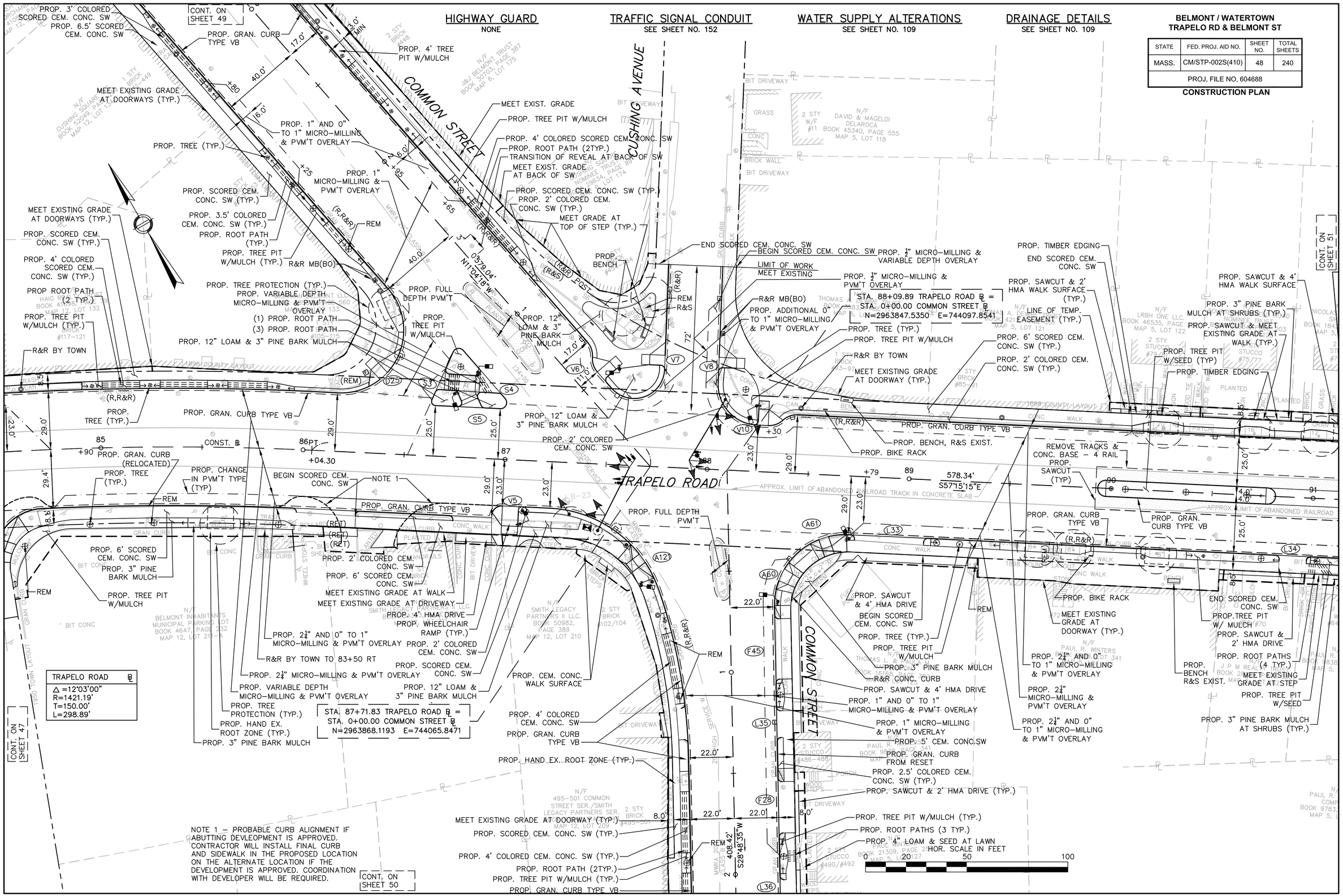
WATER SUPPLY ALTERATIONS
SEE SHEET NO. 109

DRAINAGE DETAILS
SEE SHEET NO. 109

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	48	240
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN



BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	49	240
PROJ. FILE NO. 604688			

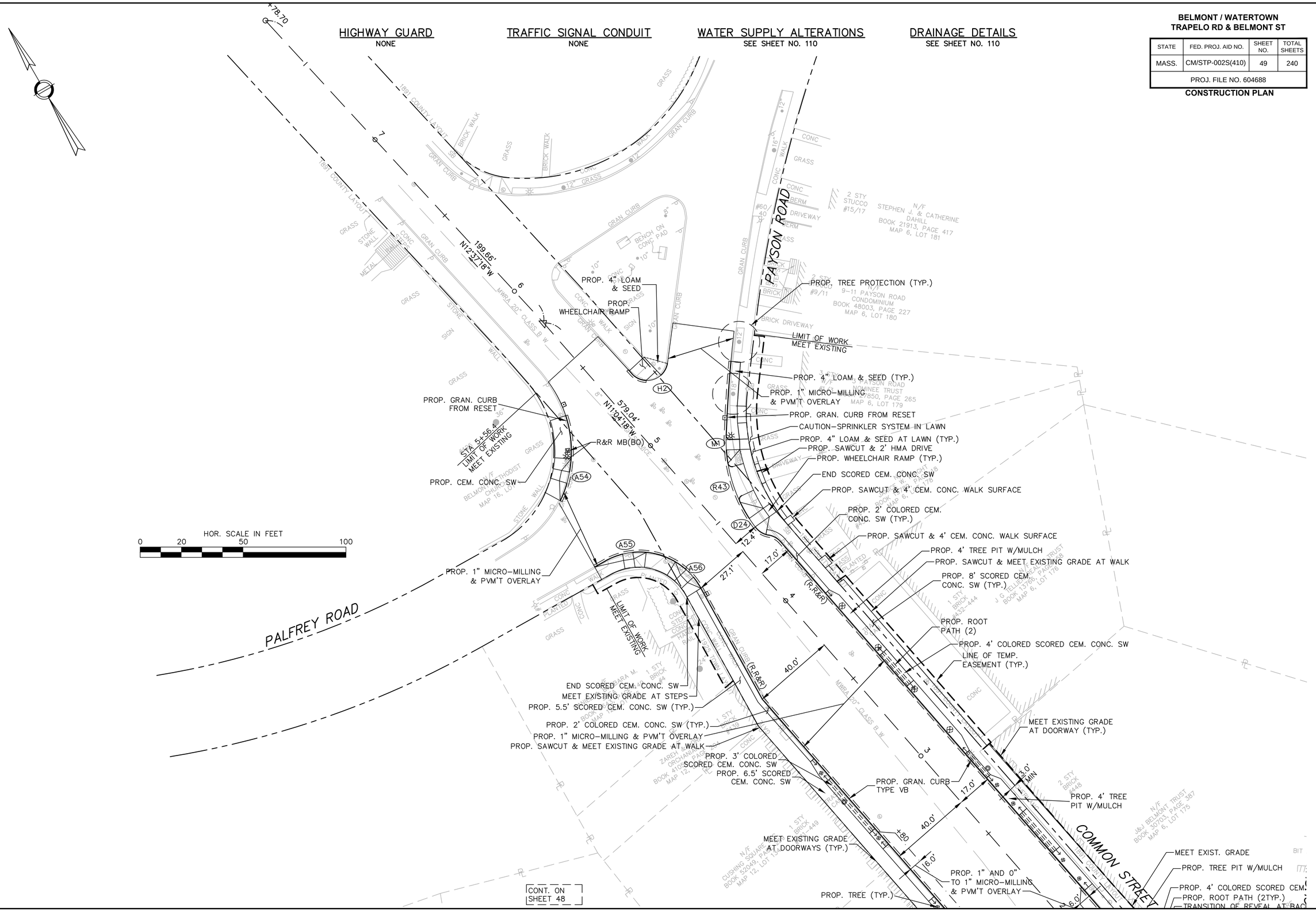
CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 110

DRAINAGE DETAILS
SEE SHEET NO. 110



BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	50	240
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

CONT. ON SHEET 48

NOTE 1 – PROBABLE CURB ALIGNMENT IF ABUTTING DEVLEOPMENT IS APPROVED. CONTRACTOR WILL INSTALL FINAL CURB AND SIDEWALK IN THE PROPOSED LOCATION ON THE ALTERNATE LOCATION IF THE DEVELOPMENT IS APPROVED. COORDINATION WITH DEVELOPER WILL BE REQUIRED.

HORNE ROAD
COMMON STREET
BELMONT STREET
BELMONT
WATERTOWN

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
LIMIT OF WORK MEET EXISTING
PROP. 6.5' GRAN. TRANS. CURB
PROP. GRAN. CURB FROM RESET
SEE NOTE 1
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. GRAN. CURB FROM RESET
PROP. SAWCUT & 2' HMA DRIVE
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 AT DR.
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

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	51	240
PROJ. FILE NO. 604688			

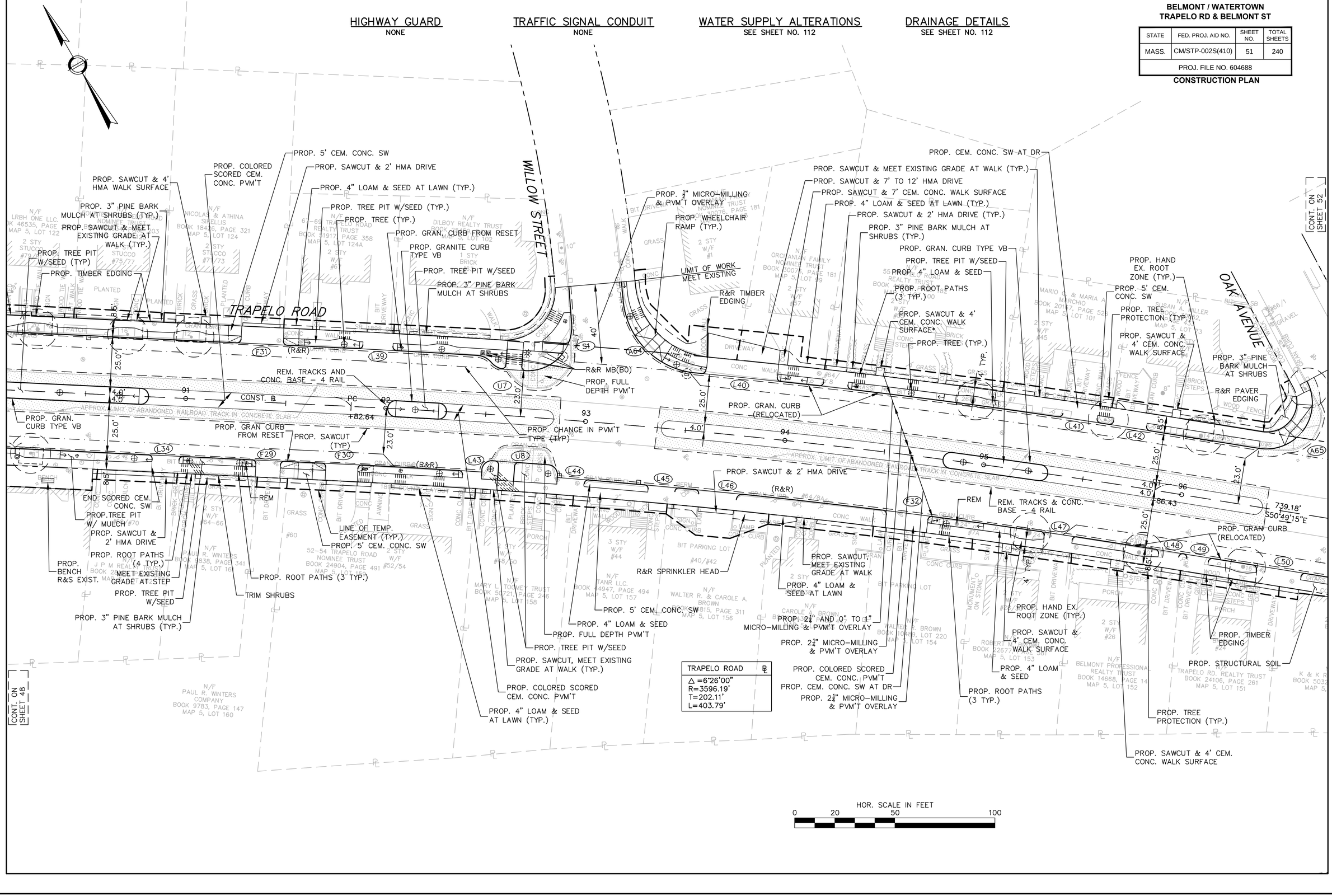
CONSTRUCTION PLAN

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.	CM/STP-002S(410)	52	240
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
1910 COUNTY LAYOUT
ABANDONED RAILROAD TRACK
APPROX. LIMIT OF ABANDONED RAILROAD TRACK IN CONCRETE SLAB
CONST. ℄
LIMIT OF WORK MEET EXISTING
PROP. HAND EX. ROOT ZONE (TYP.)
PROP. 5' CEM. CONC. SW
PROP. TREE PROTECTION (TYP.)
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
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. 2¼" 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. CEM. CONC. SW AT DR
PROP. ROOT PATHS (3)
PROP. 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. ½" to 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. GRANITE CURB FROM RESET
PROP. 4" LOAM & SEED (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. CHANGE IN PVM'T TYPE (TYP)
PROP. GRAN. CURB FROM RESET
PROP. 4" LOAM & SEED (TYP.)
PROP. COLORED SCORED CEM. CONC. WALK SURFACE
SAWCUT
PROP. SAWCUT (TYP)
PROP. BIKE RACK
PROP. 5' CEM. CONC. SW (R&R)
PROP. CEM. CONC. WALK SURFACE
R&R EXIST. BUS SHELTER
R&R BY TOWN
INSTALL BENCH
PROP. 1" TO 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. 1½" MICRO-MILLING & PVM'T OVERLAY
PROP. GRAN CURB (RELOCATED)
PROP. TIMBER EDGING
PROP. STRUCTURAL SOIL
PROP. TREE PROTECTION (TYP.)
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
PROP. TREE PIT W/SEED
PROP. CEM. CONC. SW AT DR
PROP. SAWCUT & 2' HMA DRIVE (TYP.)
PROP. TIMBER EDGING
PROP. STRUCTURAL SOIL
REM
MEET EXISTING GRADE AT STEPS (TYP.)
PROP. TREE PIT W/SEED
PROP. TREE PIT W/MULCH
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. STRUCTURAL SOIL
R&R BY TOWN
PROP. 7.5" CEM. CONC. SW
PROP. BIKERACK
R&R BY TOWN
PROP. 4" LOAM & SEED
PROP. 12" LOAM & PINE BARK MULCH
PROP. TREE (TYP.)
PROP. 4" LOAM & SEED
PROP. BENCH (2)
CONT. ON SHEET 53
CONT. ON SHEET 51
N/F RICKLAND & YVONNE CARTS-POWELL BOOK 36736, PAGE 474 MAP 5, LOT 70
N/F SUSAN A. MILLER BOOK 52[illegible] MAP 5, LOT 73
N/F PETER J. COYNE BOOK 27526, PAGE 72 MAP 5, LOT 72
N/F HUAMIN PATRICK & FANG ANGELA LIU BOOK 50847, PAGE 143 MAP 5, LOT 37
N/F KARSTEN KLEPPENBENDER & SIOBHAN [illegible] BOOK [illegible] MAP 5, LOT [illegible]
N/F WOON KI PARK BOOK 44211, PAGE 275 MAP 5, LOT 33
N/F CHARLES W. LEPINE BOOK 49405, PAGE 448 MAP 5, LOT 39
N/F MANOOG [illegible] BOOK 11[illegible] MAP 5, LOT 4
N/F TRAPELO RD. REALTY TRUST BOOK 24106, PAGE 261 MAP 5, LOT 151
N/F K & K REALTY, LLC BOOK 50320, PAGE 457 MAP 5, LOT 150
N/F FOURTEEN TRAPELO COMMINEE TRUST BOOK 35861, PAGE 113 MAP 5, LOT 148A
N/F SMITH LEGACY PARTNERS SERIES, LLC. BOOK 47242, PAGE 341 MAP 5, LOT 148
N/F OAKLEY COUNTRY CLUB BOOK 4488, PAGE 75 MAP 1120, LOT 1
739.18' S50°49'15"E
HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	53	240
PROJ. FILE NO. 604688			

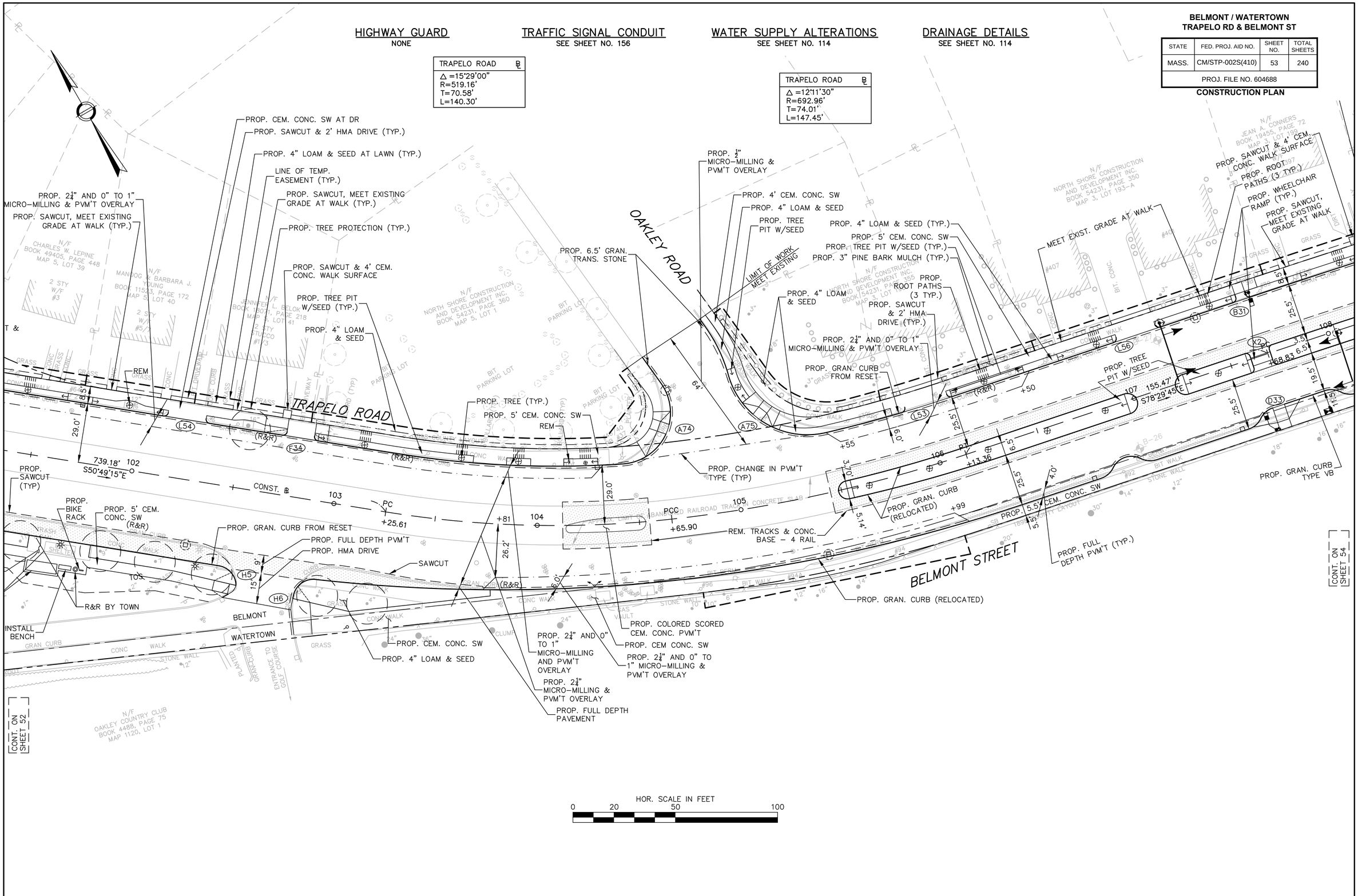
CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 156

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 114

DRAINAGE DETAILS
SEE SHEET NO. 114



BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	54	240
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 ℄
Δ =3°21'00"
R=2603.31'
T=76.13'
L=152.21'

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

*NOTE: NO STORAGE OF MATERIALS ON CHURCH PROPERTY OR ENTRY INTO BUILDING

BELMONT STREET

BELMONT STREET

OAKLEY COUNTRY CLUB

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	55	240
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'

CONT. ON SHEET 56
CONT. ON SHEET 54

PAYSON ROAD
BELMONT STREET
VAN NESS ROAD
STULTS ROAD
COMMONWEALTH ROAD
CARVER ROAD

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. 5.5' CEM. CONC. SW
PROP. GRAN. CURB FROM RESET
PROP. FULL DEPTH PVM'T
INSTALL TYPE "A" BUS SHELTER AND FOUNDATION
PROP. COLORED SCORED CEM. CONC. PVM'T
PROP. GRAN. CURB TYPE VB
PROP. BIKERACK
TRIM TREES OVER SIDEWALK
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.)
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
R&R QUARTER ROUND CURB
PROP. 4" LOAM & SEED AT LAWN
REM. TRACKS & CONC. BASE – 4 RAIL
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
PROP. CEM. CONC. SW AT DR
PROP. GRAN CURB (RELOCATED)
PROP. GRAN CURB FROM RESET (TYP.)
PROP. SAWCUT, MEET EXISTING GRADE AT WALK
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 5' CEM. CONC. SW
PROP. TREE PIT W/SEED (TYP.)
PROP. SAWCUT & 2' CEM. CONC. WALK (TYP.)
PROP. 4" LOAM & SEED (TYP.)
PROP. 1" MICRO-MILLING & PVM'T OVERLAY
PROP. SAWCUT (TYP)
PROP. 5' CEM. CONC. SW
PROP. TREE PIT W/SEED (TYP.)
PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY
PROP. TREE (TYP.)
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 PROTECTION (TYP.)
PROP. 6.5' GRAN. TRANS. STONE
PROP. 5' CEM. CONC. SW
PROP. FULL DEPTH PVM'T
R&R BRICK WALK
R&R MB(BO)
PROP. SAWCUT & CEM. CONC. WALK SURFACE
LIMIT OF WORK MEET EXISTING
PROP. 4" LOAM & SEED AT LAWN (TYP.)
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

APPROX. LIMIT OF ABANDONED RAILROAD TRACK IN CONCRETE SLAB
PT +81.39
113
51.99'
S79°47'45"E
114
115 +10
CONST. ℄
116
410.86'
S79°33'28"E
117
PC +44.24
118
PT +26.25
BELMONT WATERTOWN
1915 TOWN LAYOUT
1917 TOWN LAYOUT
1923 TOWN LAYOUT
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.	CM/STP-002S(410)	56	240
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	57	240
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
SPRINGFIELD STREET
FALMOUTH STREET
BELMONT STREET
WATERTOWN
LANGDON AVENUE
HILLSIDE ROAD
WESTLAND ROAD

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
N00°13'15"W 170.87'
1+29.58
N00°13'15"W 129.58'
S86°42'45"E 584.41'

BEGIN SCORED CEM. CONC. SW
MEET EXISTING GRADE AT DOORWAY (TYP.)
PROP. 2' COLORED SCORED CEM. CONC. SW
PROP. 6.5' SCORED CEM. CONC. SW
PROP. STRUCTURAL SOIL
PROP. 9' CEM. CONC. SW
LINE OF TEMP. EASEMENT (TYP.)
PROP. FULL DEPTH PVM'T
PROP. 6.5' GRAN TRANS STONE
PROP. CEM. CONC. SW
PROP. SAWCUT & 4' HMA DRIVE
LIMIT OF WORK MEET EXISTING
PROP. 6.5' GRAN. TRANS. STONE
END SCORED CEM. CONC. SW
PROP. GRAN. CURB TYPE VB
PROP. 4" LOAM & SEED (TYP.)
END PROP. SCORED CEM. CONC. SW
R&R BOUND
CONST. ℄
PROP. 3' COLORED SCORED CEM. CONC. SW
PROP. GRAN. CURB TYPE VB
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
R&R MB(BO)
PROP. ROOT PATHS (2 TYP.)
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. GRAN. CURB (RELOCATED)
PROP. WHEELCHAIR RAMP (TYP.)
R&R PAVERS AND METAL FENCE
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. SW
PROP. CEM. CONC. WALK SURFACE
PROP. ½" MICRO-MILLING & PVM'T OVERLAY
PROP. 5' CEM. CONC. SW
PROP. CEM. CONC. SW
PROP. TREE (TYP.)
R&R QUARTER ROUND CURB (TYP.)
PROP. 3" PINE BARK MULCH
LIMIT OF WORK MEET EXISTING
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
PROP. TREE PIT W/SEED
PROP. GRAN. CURB FROM RESET
R&R MB(BO)
PROP. TREE PIT W/MULCH
PROP. GRAN. CURB (RELOCATED)
PROP. CHANGE IN PVM'T TYPE (TYP.)
APPROX. LIMIT OF ABANDONED RAILROAD TRACK IN CONCRETE SLAB
PROP. 5.0' CEM. CONC. SW
PROP. 4" LOAM & SEED (TYP.)
PROP. TREE PROTECTION
PROP. 6.5' GRAN. TRANS. STONE
PROP. FULL DEPTH PVM'T <4'
PROP. 2½" 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. SAWCUT & 4' HMA DRIVE
PROP. 2½" MICRO-MILLING & PVM'T OVERLAY
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
PROP. 4" LOAM & SEED (TYP.)
PROP. 2½" MICRO-MILLING & PVM'T OVERLAY
INSTALL BENCH
PROP. SAWCUT & 4' CEM. CONC. WALK SURFACE
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. CEM. CONC. SW
PROP. SAWCUT & 8' CEM. CONC. WALK SURFACE
R&R CHAIN LINK FENCE
PROP. SAWCUT & 4' CEM. CONC WALK SURFACE
PROP. 4" LOAM & SEED (TYP.)
PROP. 6.5' GRAN. TRANS. STONE
PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)
PROP. CEM. CONC. SW AT DR
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. 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 4" LOAM & SEED AT LAWN (TYP.)
PROP. 6.5' GRAN. TRANS. STONE

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

HOR. SCALE IN FEET
0 20 50 100

CONT. ON SHEET 58

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
NONE

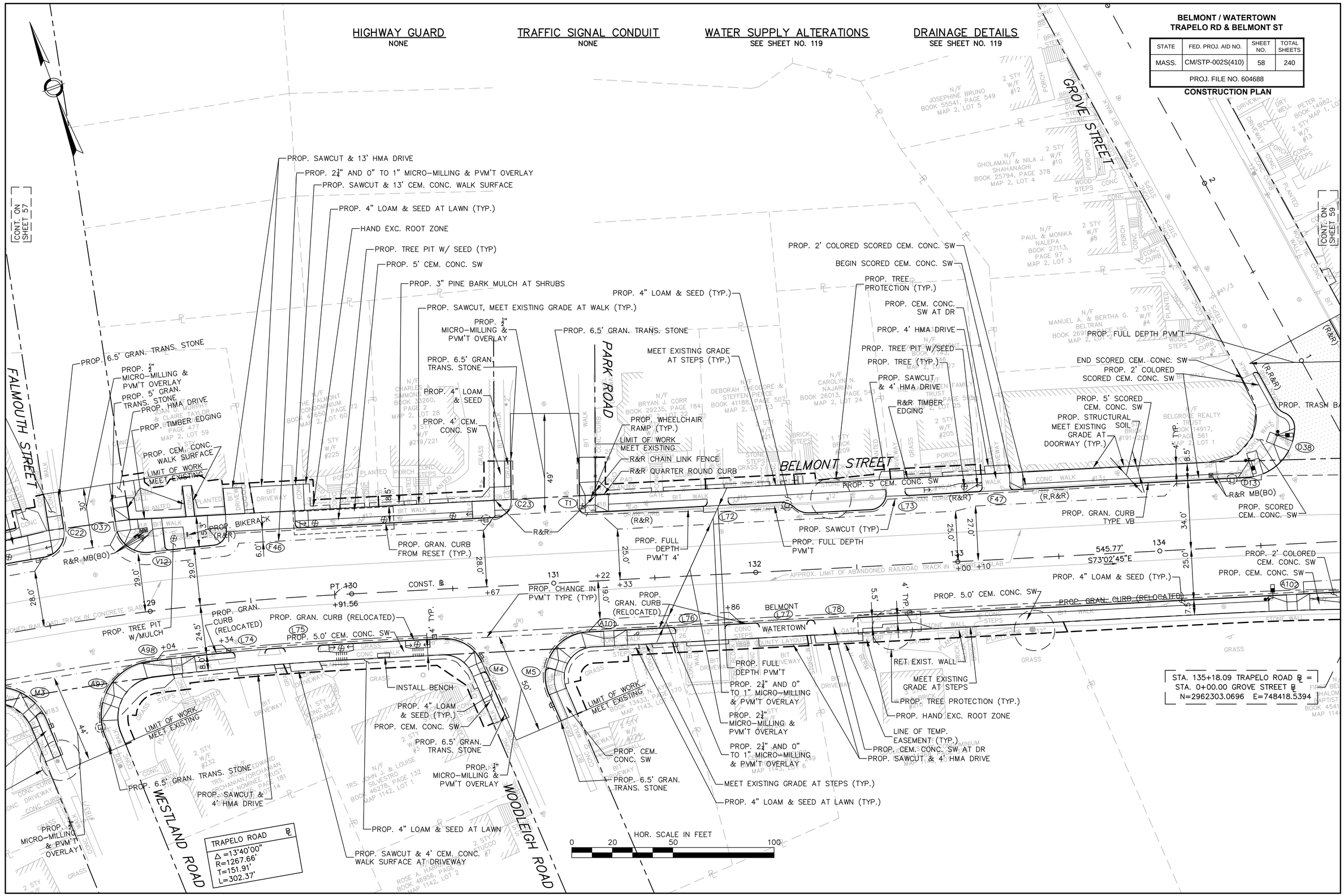
WATER SUPPLY ALTERATIONS
SEE SHEET NO. 119

DRAINAGE DETAILS
SEE SHEET NO. 119

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	58	240
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN



BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	59	240
PROJ. FILE NO. 604688			

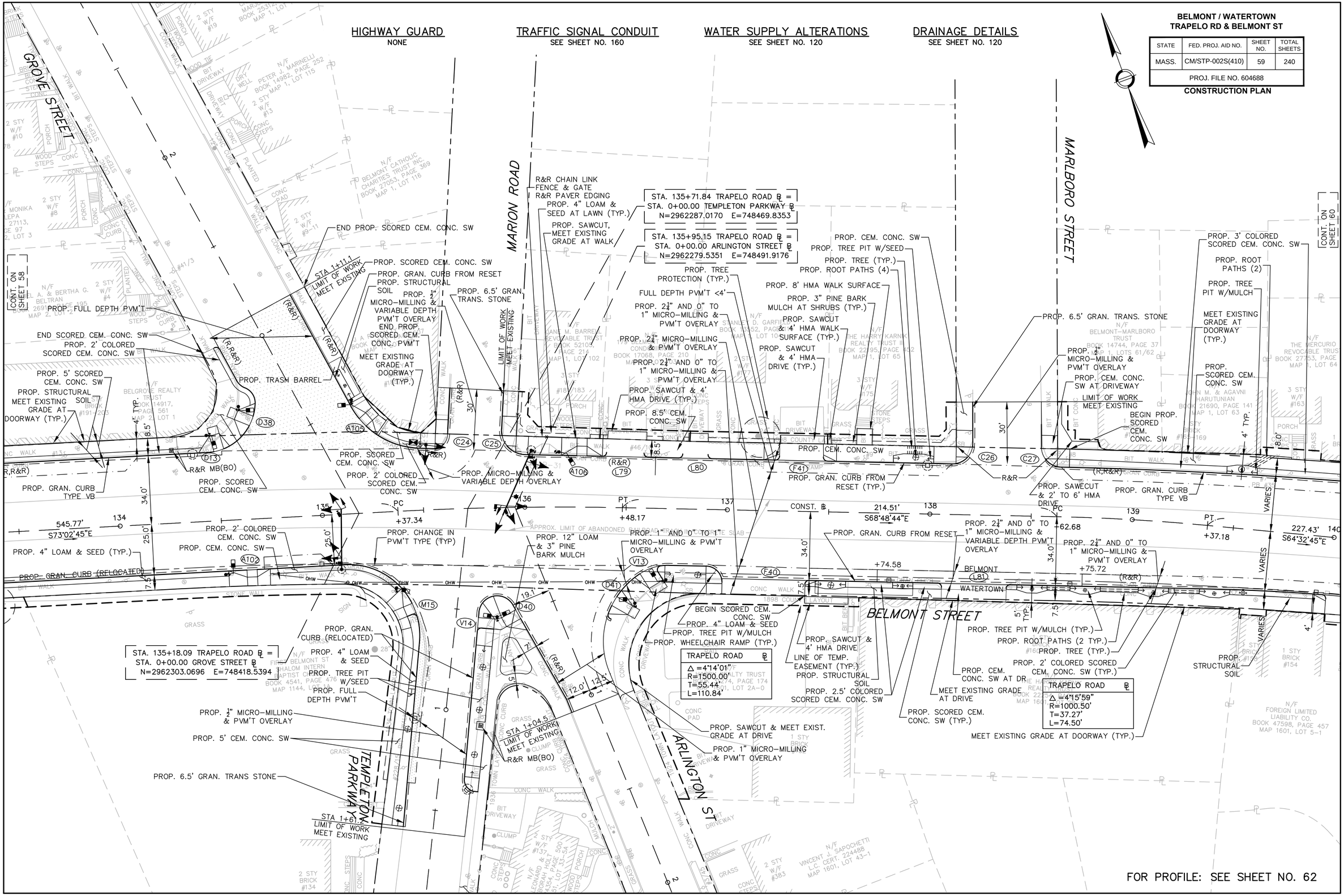
CONSTRUCTION PLAN

HIGHWAY GUARD
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET NO. 160

WATER SUPPLY ALTERATIONS
SEE SHEET NO. 120

DRAINAGE DETAILS
SEE SHEET NO. 120



BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	60	240
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

CONT. ON SHEET 61

CONT. ON SHEET 59

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 AVENUE

EXETER STREET

BELMONT 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. 2¼" 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 TYPE "A" BUS SHELTER AND FOUNDATION PAD
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
PROP. SAWCUT& 4' CEM. CONC. WALK SURFACE
PROP. 5' CEM. CONC. SW
PROP. 4" LOAM & SEED
PROP. 4" LOAM & SEED AT LAWN
LINE OF TEMP. EASEMENT (TYP.)
PROP. SAWCUT & 4' HMA WALK SURFACE
PROP. 2" MICRO-MILLING & PVM'T OVERLAY
PROP. PINE BARK MULCH AT SHRUBS
R&R CHAIN LINK FENCE
PROP. HAND EX. ROOT ZONE
PROP. 7' CEM. CONC. SW
PROP. 6.5' GRAN. TRANS. STONE
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. 6.5' GRAN. TRANS. STONE
PROP. 7' CEM. CONC. SW
PROP. TREE (TYP.)
PROP. 3.5' COLORED SCORED CEM. CONC. SW
LIMIT OF WORK MEET EXISTING
PROP. ROOT PATH (2)
PROP. TREE PIT W/MULCH (TYP.)
PROP. GRAN. CURB TYPE VB
R&R BY TOWN
PROP. TREE PIT W/MULCH
PROP. TREE (TYP.)
PROP. 4" LOAM & SEED (TYP.)
PROP. SAWCUT, MEET EXISTING GRADE AT WALK (TYP.)
PROP. TREE PIT W/SEED
PROP. 5' CEM. CONC. SW
LIMIT OF WORK MEET EXISTING
PROP. 2¼" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 6.5' GRAN. TRANS. STONE
PROP. 1" MICRO-MILLING & PVM'T OVERLAY
PROP. 2¼" MICRO-MILLING & PVM'T OVERLAY
PROP. SAWCUT & 4' HMA DRIVE
PROP. HAND EX. ROOT ZONE
PROP. 2¾" AND 0" TO 1" MICRO-MILLING & PVM'T OVERLAY
PROP. TREE PROTECTION
R&R QUARTER ROUND CURB
PROPOSED PINE BARK MULCH AT SHRUBS
PROP. 5' CEM. CONC. SW.
PROP. ROOT PATHS (3 TYP.)
PROP. TREE PIT W/SEED (TYP.)
MEET EXISTING GRADE AT STEPS (TYP.)
PROP. 4" HMA DRIVE (TYP.)
PROP. 4" LOAM & SEED
PROP. GRAN. CURB FROM RESET
PROP. GRAN. CURB (RELOCATED)
PROP. GRAN. CURB (RELOCATED)
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

PT. +37.18
227.43' S64°32'45"E
PC +64.62
CONST. ℄
PT. +52.62
50.30' S67°00'45"E
PC +02.92
192.89' S84°49'15"E
PT. +37.26

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.	CM/STP-002S(410)	61	240
PROJ. FILE NO. 604688			

CONSTRUCTION PLAN

CAMBRIDGE
BELMONT
ERICSSON STREET
SULLIVAN STREET
BELMONT STREET
CAMBRIDGE
WATERTOWN
BELMONT
BRIMMER STREET
KEENAN STREET
OXFORD AVENUE

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

PROP. 6.5' GRAN. TRANS. STONE
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
R&R QUARTER ROUND CURB
PROPOSED PINE BARK MULCH AT SHRUBS
PROP. 5' CEM. CONC. SW
PROP. ROOT PATHS (3 TYP.)
PROP. ½" TO 1½" MICRO-MILLING & PVM'T OVERLAY
LIMIT OF WORK MEET EXISTING
PROP. TREE PIT W/SEED (TYP.)
MEET EXISTING GRADE AT STEPS (TYP.)
PROP. 4" HMA DRIVE (TYP.)
PROP. 4" LOAM & SEED
PROP. 2¼" TO 1½" MICRO-MILLING & VARIABLE DEPTH OVERLAY
PROP. GRAN. CURB FROM RESET
PROP. GRAN. CURB FROM RESET
PROP WHEELCHAIR RAMP (TYP.)
R&R BY WATERTOWN
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
PROP. 4" LOAM & SEED
PROP. GRAN. CURB (RELOCATED)
RET. CB
LIMIT OF WORK MEET EXISTING
LINE OF TEMP. EASEMENT (TYP.)
PROP. SAWCUT & 4' HMA DRIVE
PROP. CEM. CONC. SW AT DR
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
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

PC +30.15
PT +78.08
PT +57.26
192.89'
S84°49'15"E
145
146
147
148
149
CONST. ℄

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

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
GRAN CURB (RET)
CONC WALK
563.93'
N19°42'33"E
5
4
3
2

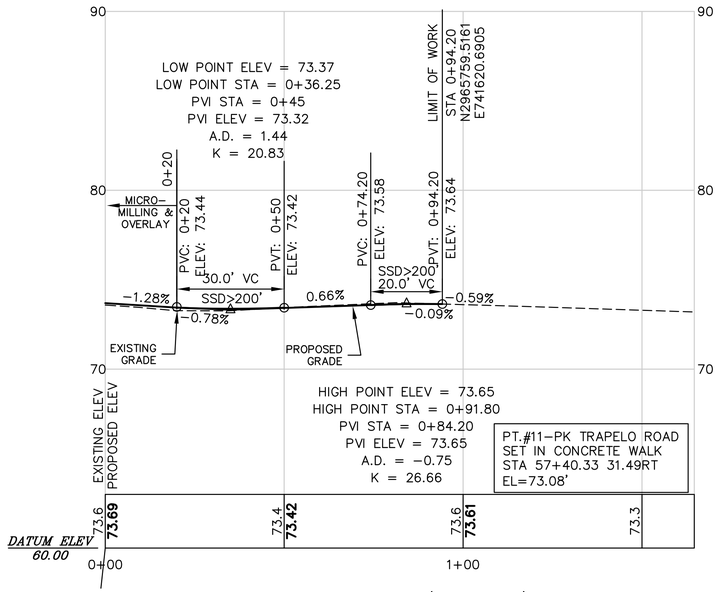
HOR. SCALE IN FEET
0 20 50

CONT. ON SHEET 60

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	62	240
PROJ. FILE NO. 604688			

PROFILE SIDE STREETS

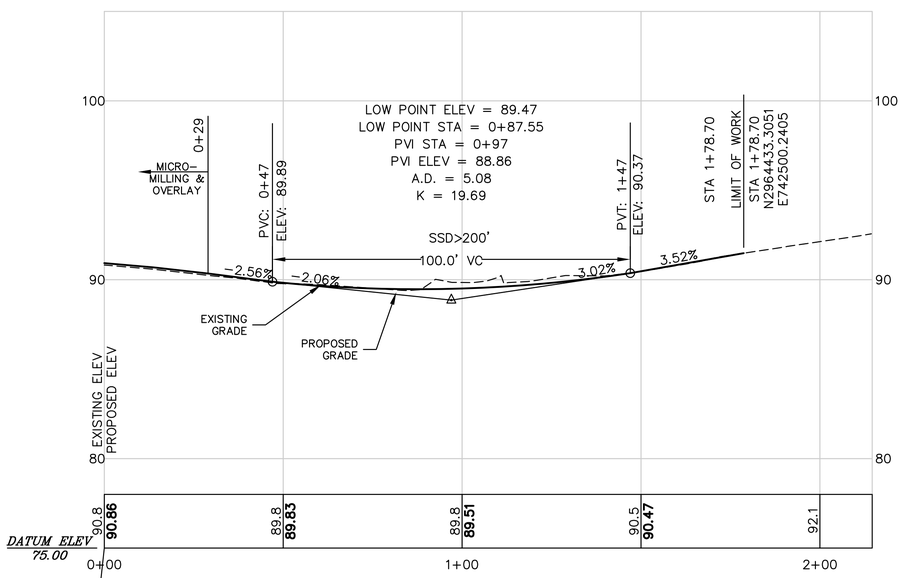


BEECH STREET (NORTH)

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

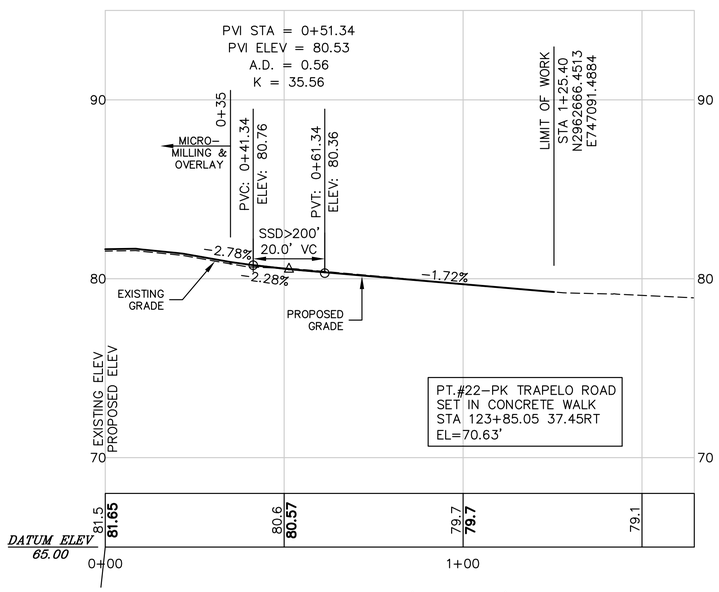


HARRIET AVENUE

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

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

NOTE:
FOR CONSTRUCTION PLANS SEE SHEET NO. 45

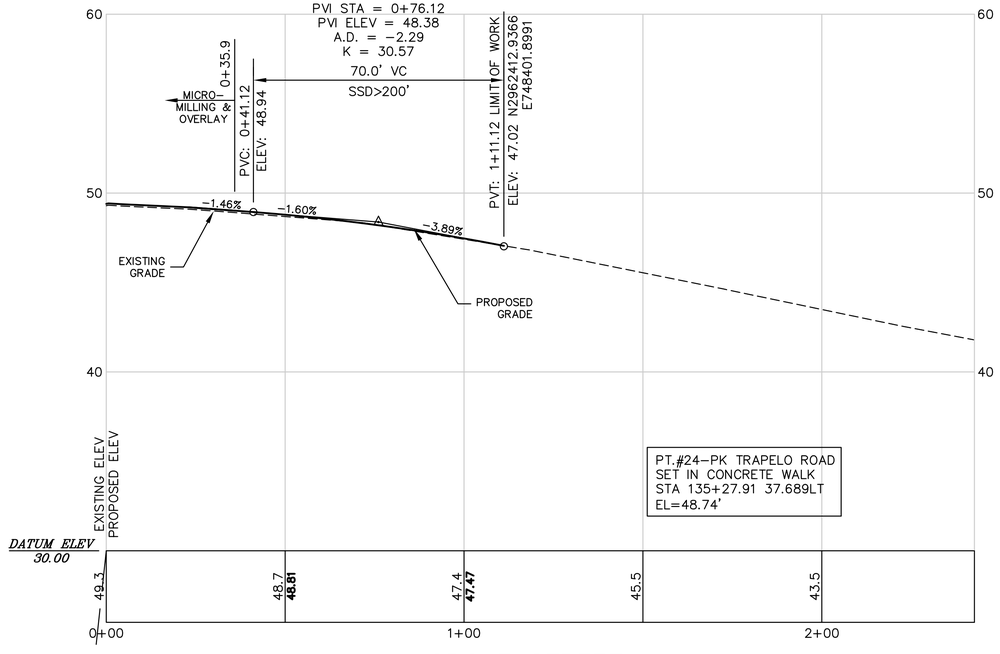


SCHOOL STREET (NORTH)

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.	CM/STP-002S(410)	63	240
PROJ. FILE NO. 604688			

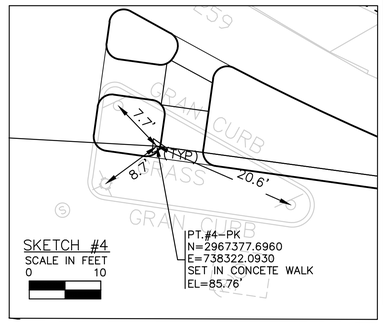
GRADING AND TIE PLAN

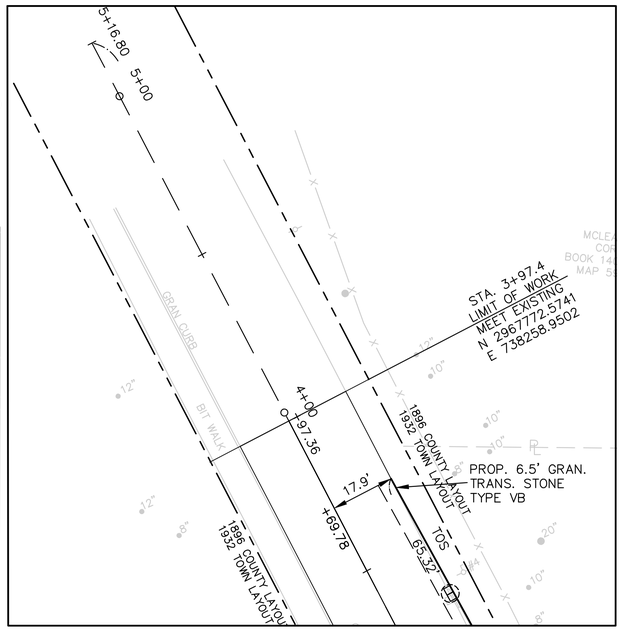
NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.
2. PRIOR TO FINAL SETTINGS OF ROADSIDE CURBING CONTRACTOR SHALL CHECK THE RESULTING BACK OF SIDEWALK GRADES TO VERIFY THAT THE WORK OR LACK OF WORK ON THE ABUTTING PRIVATE PROPERTIES WILL BE 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 BELOW

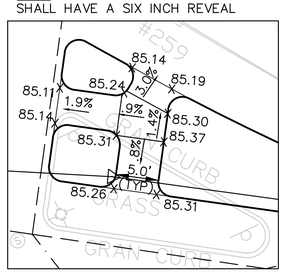
CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C1	10.00	9.34	5.04	53°31'09"
C2	10.00	9.23	4.97	52°53'42"
C199	5.00	4.64	2.50	53°07'48"
C200	15.00	70.65	15.86	93°11'25"
C201	315.00	289.63	155.96	52°40'55"
C202	70.00	105.04	65.25	85°58'50"
C203	5.00	10.96	9.73	125°35'21"
C204	102.00	49.93	25.48	28°02'56"
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"





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

N=2967278.2955
E=738426.6961

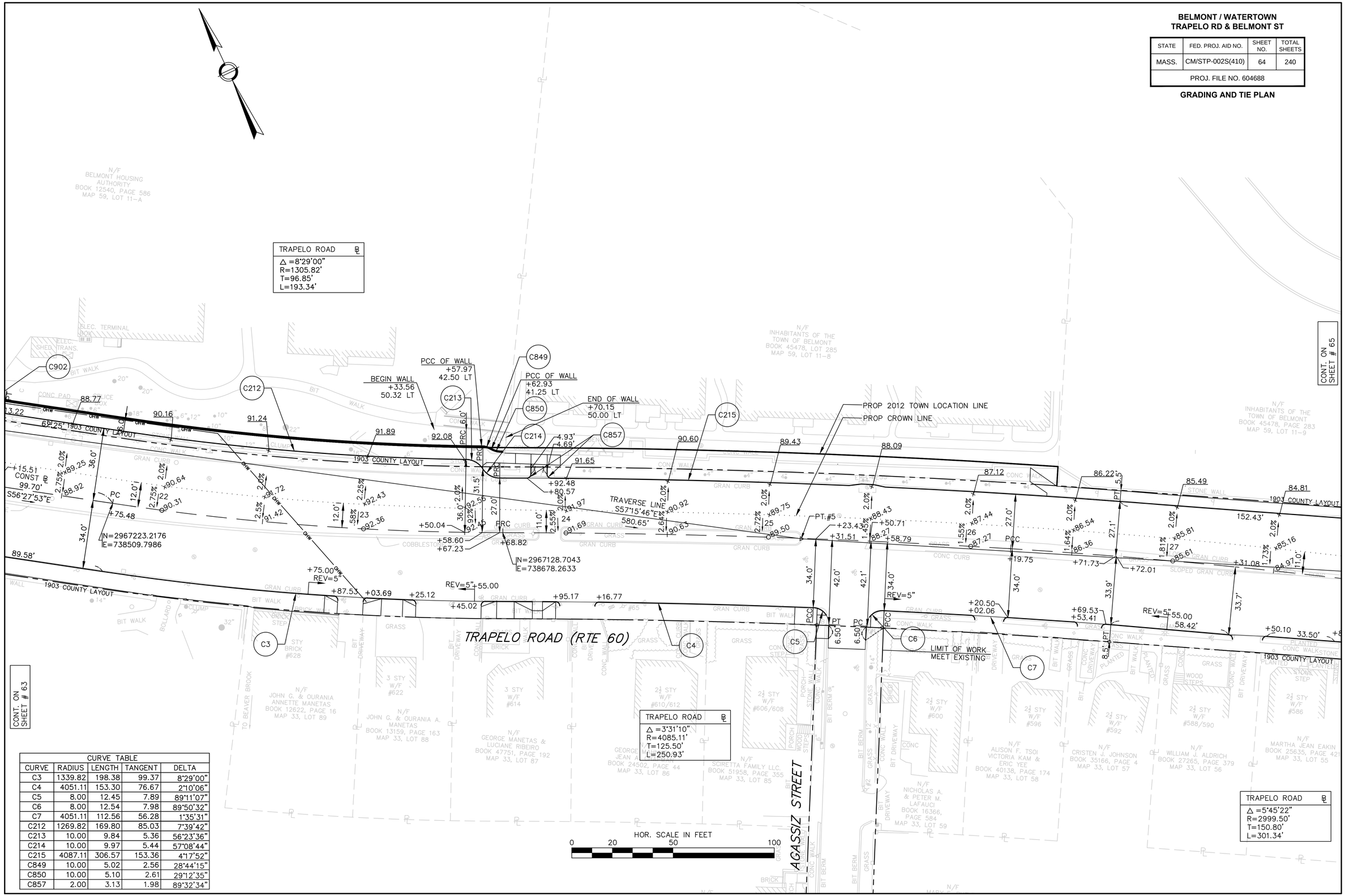
N=2967223.2176
E=738509.7986

BEAVER BROOK RESERVATION

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	64	240
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN



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"

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	65	240
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

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

PLEASANT STREET (RTE 60)
2008 TOWN LAYOUT
N=2966897.9012
E=739423.9467
3+00 PC
+99.76
N=2966891.7476
E=739310.9441
2+00
113.17'
N86°52'59"E
STA. 2+28 LIMIT OF WORK MEET EXISTING
SEE DETAIL B BELOW
SEE DETAIL C BELOW
PROP CROWN LINE
TRAVERSE LINE
S61°33'59"E
661.33'
1903 COUNTY LAYOUT
1991 TOWN LAYOUT
1913 TOWN LAYOUT
1885 COUNTY LAYOUT
PROP. BOUND
STA. 30+18.46, 29.50' LT
N2966829.8778
E739256.2793
PROP. BOUND
STA. 31+63.81, 29.50' LT
N2966757.4174
E739379.9084
PT.#6
N=2966604.7350
E=739548.0830
N=2966621.9291
E=739528.0944
N=2966733.5549
E=739360.3560
N=2966710.0051
E=739402.3180
N=2966858.3834
E=739159.1434
TRAPELO ROAD
CONST ℄
48.12'
S60°41'53"E
LEXINGTON STREET
CONT. ON SHEET # 64
CONT. ON SHEET # 66

SKETCH #6
SCALE IN FEET
0 10
PT.#6-PK
N=2966748.8000
E=739392.0710
SET IN CONCRETE WALK
EL=78.51'

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'

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	17.89	9.15	30°09'05"
C223	20.00	24.97	14.41	71°32'00"
C224	2675.00	139.04	69.53	2°58'41"
C225	815	162.158	81.35	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
NOTE: ALL CURB BELOW SHALL HAVE A 6" REVEAL

DETAIL C
SCALE IN FEET
0 10

HOR. SCALE IN FEET
0 20 50 100

TRAPELO ROAD (RTE 60)
TRAPELO ROAD
LEXINGTON STREET

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.	CM/STP-002S(410)	66	240
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

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	40.71	20.36	3°41'25"
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

SKETCH #7
SCALE IN FEET
0 10

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

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	67	240
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

TRAPELO ROAD
1898 COUNTY LAYOUT
1951 TOWN LAYOUT
1954 TOWN LAYOUT
1926 TOWN LAYOUT
CHURCH STREET
PROP. CROWN LINE
1+00
2+00
STA 00+60, 10.60' RT
STA 00+80, 19.00' RT
STA 00+90, 12.00' RT
CONT. ON SHEET # 68
SCALE IN FEET 0 5 10 20 30
N/F ANTHONY J. & JEAN P. OLIVERI BOOK 48138, PAGE 191 MAP 28, LOT 133
N/F BELMONT INHABITANTS MUNICIPAL PARKING LOT CHURCH STREET BOOK 7791, PAGE 242 MAP 33, LOT 90-B
N/F CHOBANIAN NOMINEE TRUST BOOK 37211, PAGE 562 MAP 28, LOT 136-A
N/F CHURCH STREET REALTY TRUST BOOK 22237, PAGE 69 MAP 28, LOT 135
N/F ALEXANDER E. CORBETT III BOOK 22662, PAGE 117 MAP 28, LOT 134
N/F COMMONWEALTH OF MASSACHUSETTS BOOK 1117, PAGE 113 MAP 33, LOT 90

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	68	240
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.	CM/STP-002S(410)	69	240
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

STA. 4+05.5
70.50

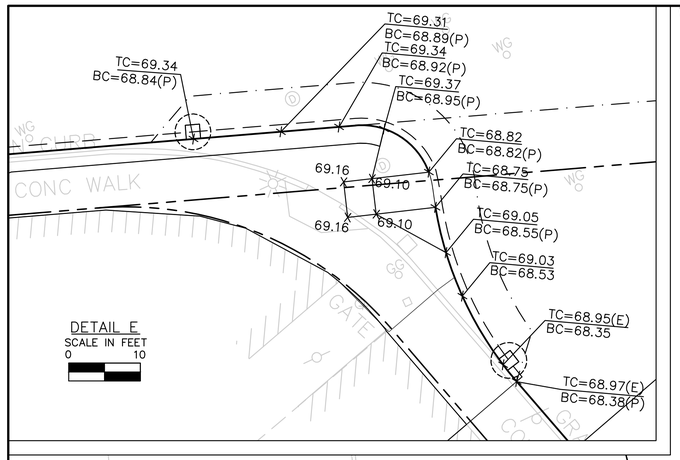
SCALE IN FEET
0 5 10 20 30

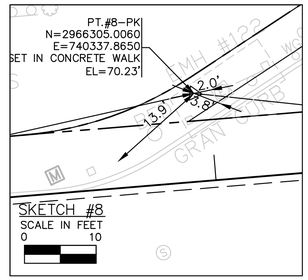
BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	70	240
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

WHITE STREET

TRAPELO ROAD

WAVERLEY STREET

THAYER STREET

1943 TOWN LAYOUT

1898 COUNTY LAYOUT

LIMIT OF WORK MEET EXISTING

SEE DETAIL D

SEE DETAIL E

TRAVERSE LINE 77°35'44"E 524.75'

CONSTR ℄ 497.05' S69°43'53"E

CONSTR ℄ 1185.84' S64°16'45"E

N=2966191.8000 E=740509.2867

N=2966236.8237 E=740403.1905

PT.#8

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

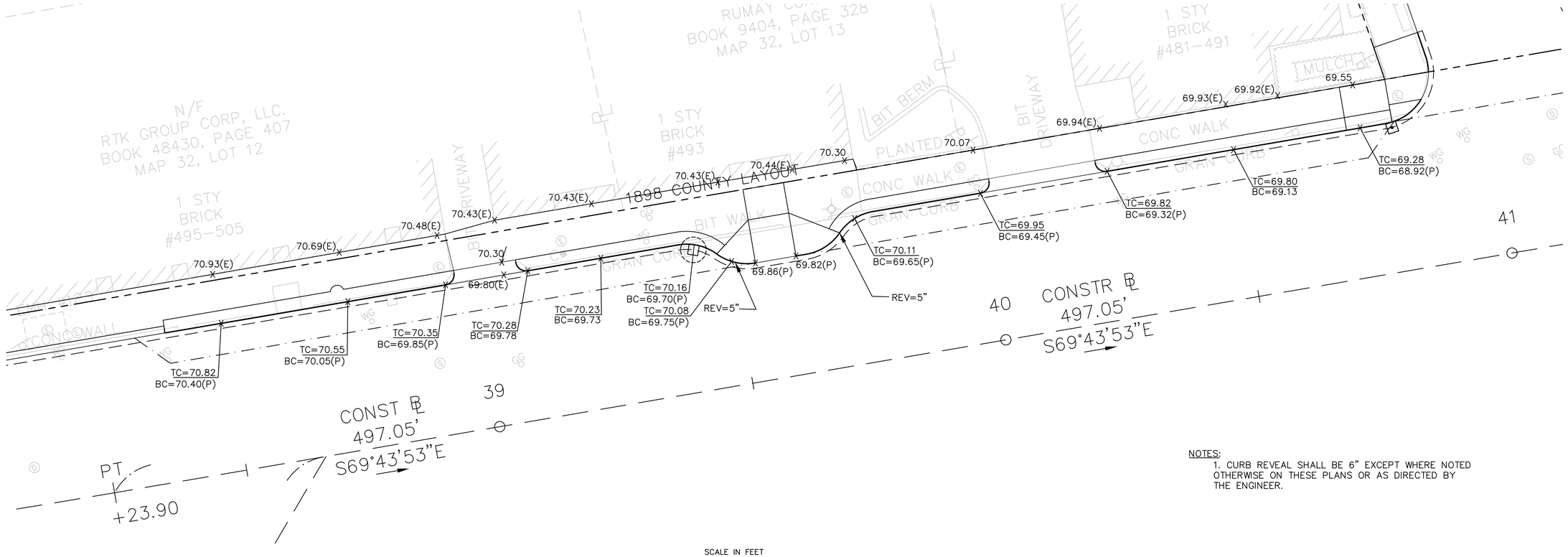
HOR. SCALE IN FEET
0 20 50 100

DETAIL D
SCALE IN FEET
0 10

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	71	240
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.	CM/STP-002S(410)	72	240
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

6.7'
6.6'
18.8'

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'

TRAVERSE LINE
S58°59'47"E
531.72'

CONSTR ℄
1185.84'
S64°16'45"E

N=2966191.8000
E=740509.2867

PT.#9

STA. 46+34.65, 49.93' RT

REV=5"

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.

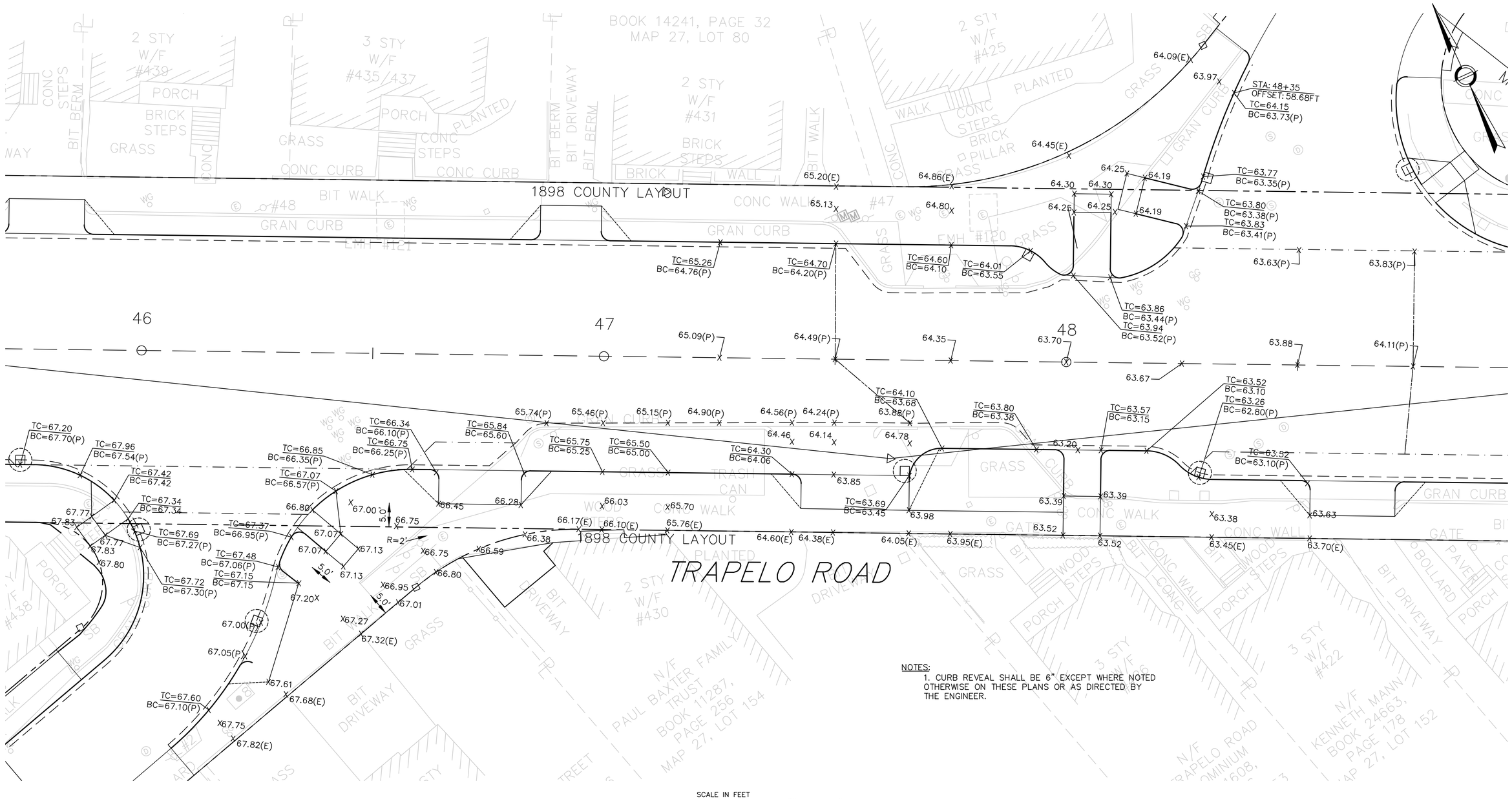
2. FOR GRADING FROM STA 45+50 – STA 48+50 SEE NEXT SHEET.

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.	CM/STP-002S(410)	73	240
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN



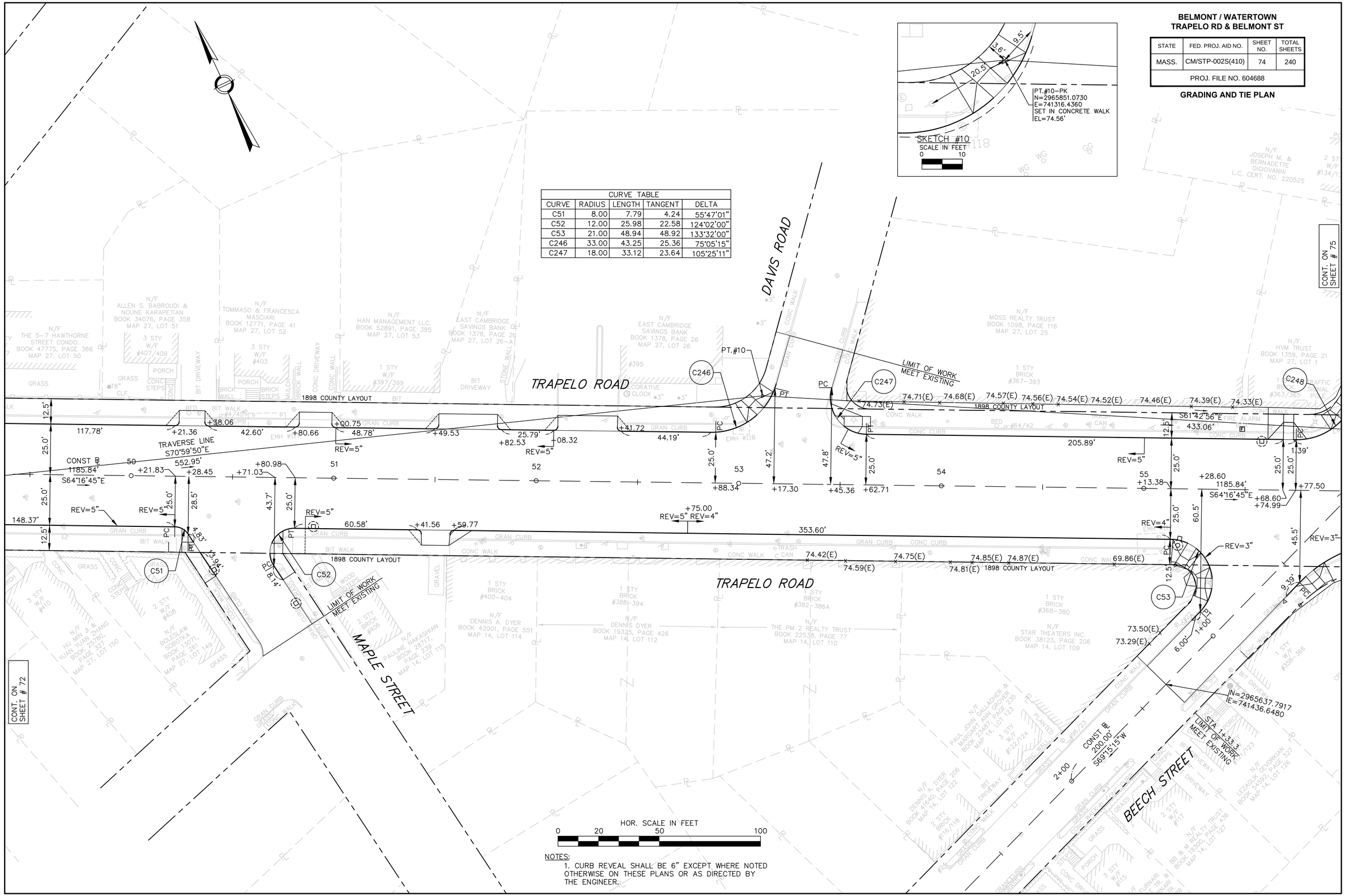
NOTES:

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.	CM/STP-002S(410)	74	240
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"

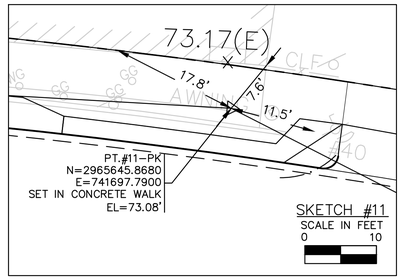
NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

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.	CM/STP-002S(410)	75	240
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

CONT. ON SHEET # 74

CONT. ON SHEET # 77

N=2965846.0343
E=741681.6565

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

N=2965677.1605
E=741577.6342

N=2965637.7917
E=741436.6480

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

N=2965416.6405
E=741906.4761

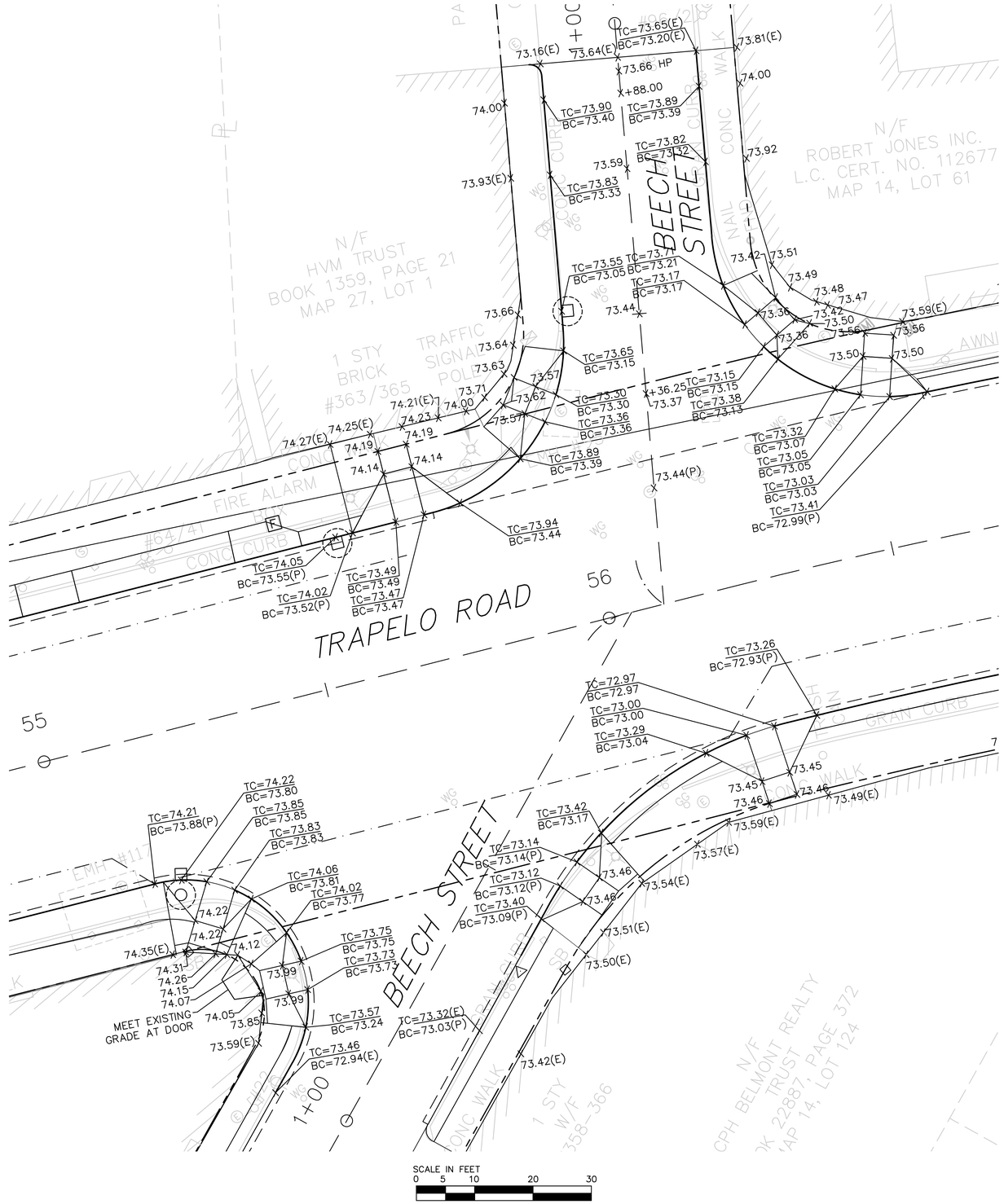
TRAPELO ROAD ℄
△ =25°20'00"
R=956.62'
T=215.00'
L=422.97'

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	76	240
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN



NOTES:

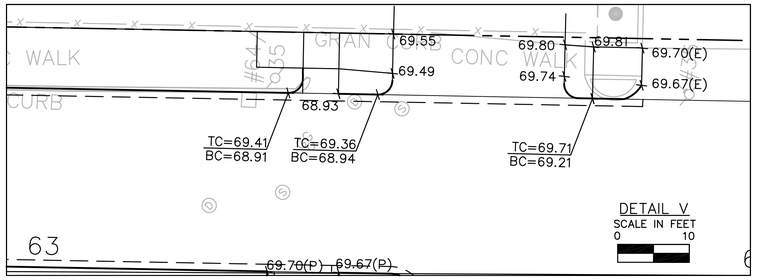
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

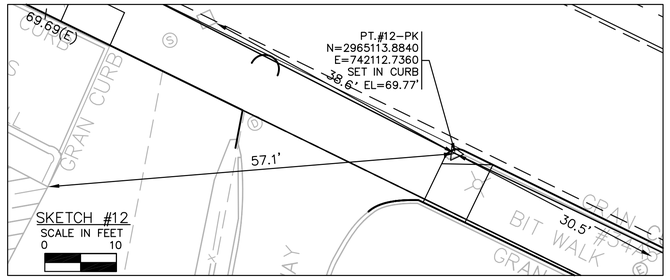
BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

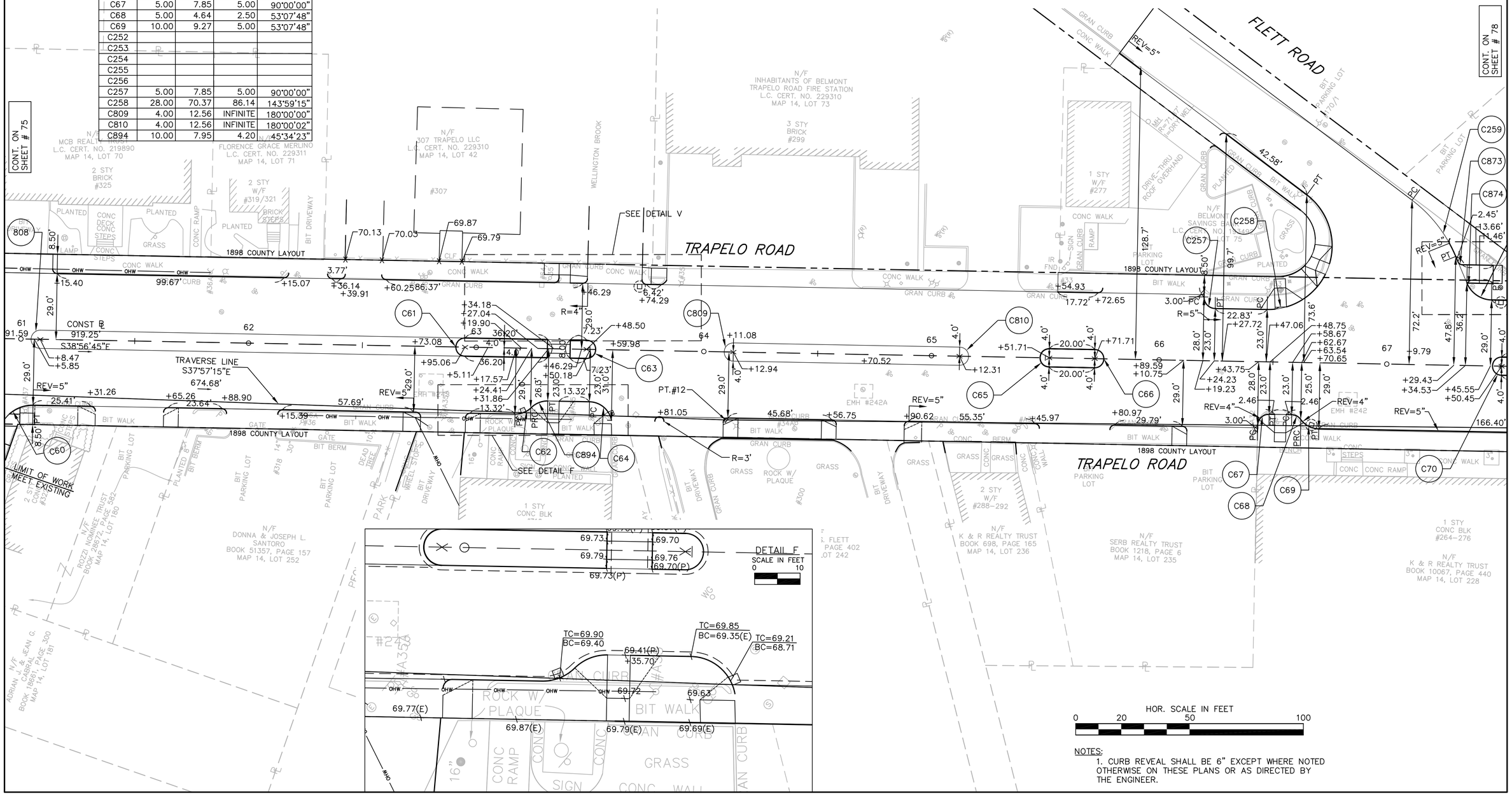
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	77	240
PROJ. FILE NO. 604688			

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				
C255				
C256				
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"







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.	CM/STP-002S(410)	78	240
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

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 1+44.9
LIMIT OF WORK
MEET EXISTING

N=2964702.6711
E=742607.1346

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'

N=2964444.5069
E=742530.1624

STA: 01+00.92
OFFSET: 21.00FT

STA: 01+39.92
OFFSET: 20.18FT

STA: 01+94.69
OFFSET: 15.69FT

STA 1+78.7
LIMIT OF WORK
MEET EXISTING

N=2964478.9749
E=742506.3538

N=2964430.5271
E=742498.7245

N=2964701.7025
E=742484.3032

CONT. ON SHEET # 77

CONT. ON SHEET # 79

SLADE STREET
TRAPELO ROAD
HARRIET AVENUE
BARTLETT AVENUE
HARDING AVENUE

1920 TOWN LAYOUT
1898 COUNTY LAYOUT
1916 TOWN LAYOUT

CONST ℄
144.91'
N06°06'35"W

TRAVERSE LINE
S39°25'31"E
688.25'

919.25'
S38°56'45"E

CONST ℄
919.25'
S38°56'45"E

CONST ℄
120.82'
S40°38'46"W

S62°37'56"E
766.46'

L=175.53'
R=2365.49'

SEE DETAIL G

DETAIL G
SCALE IN FEET
0 10

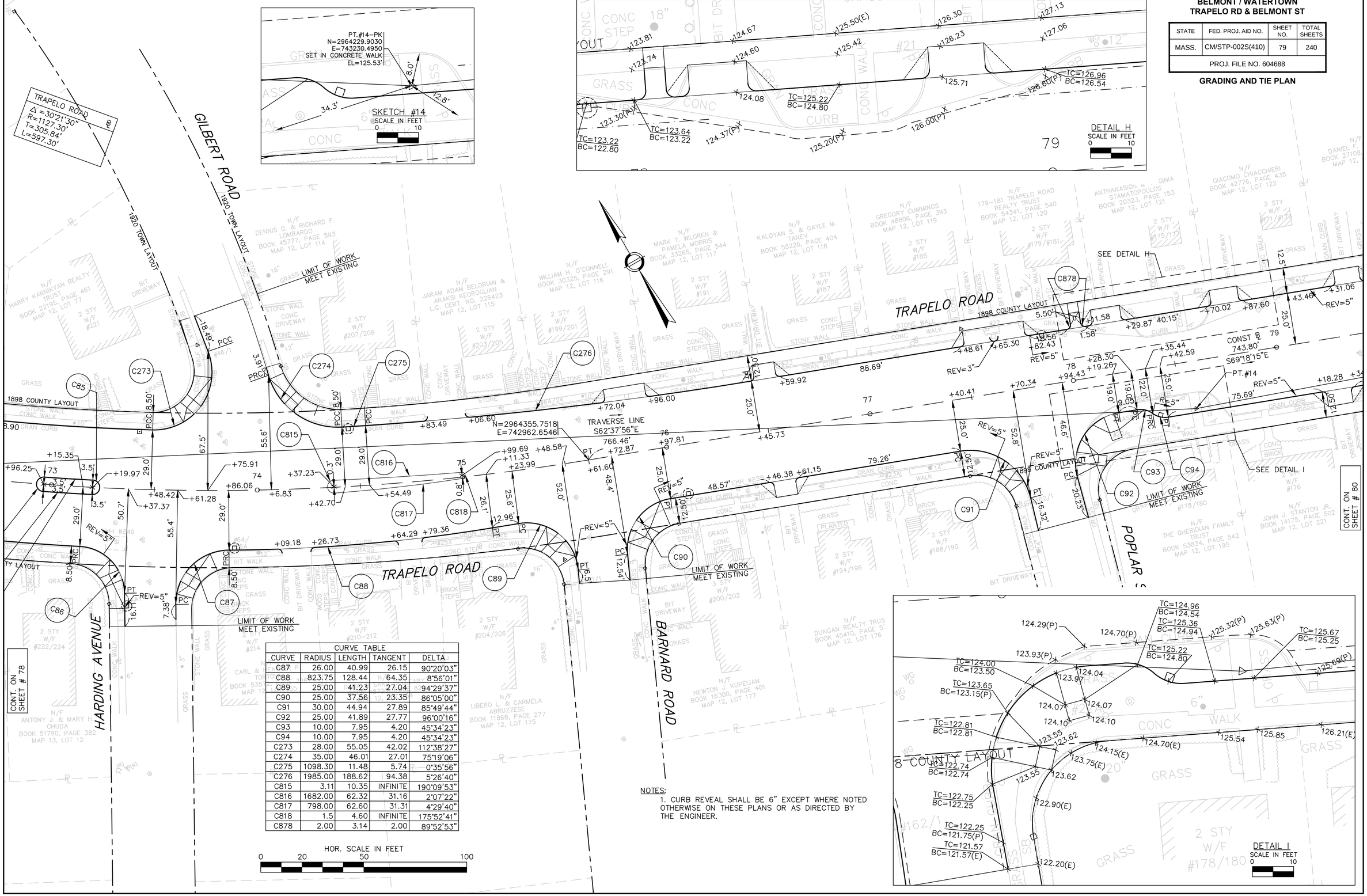
HOR. SCALE IN FEET
0 20 50 100

NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	79	240
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"

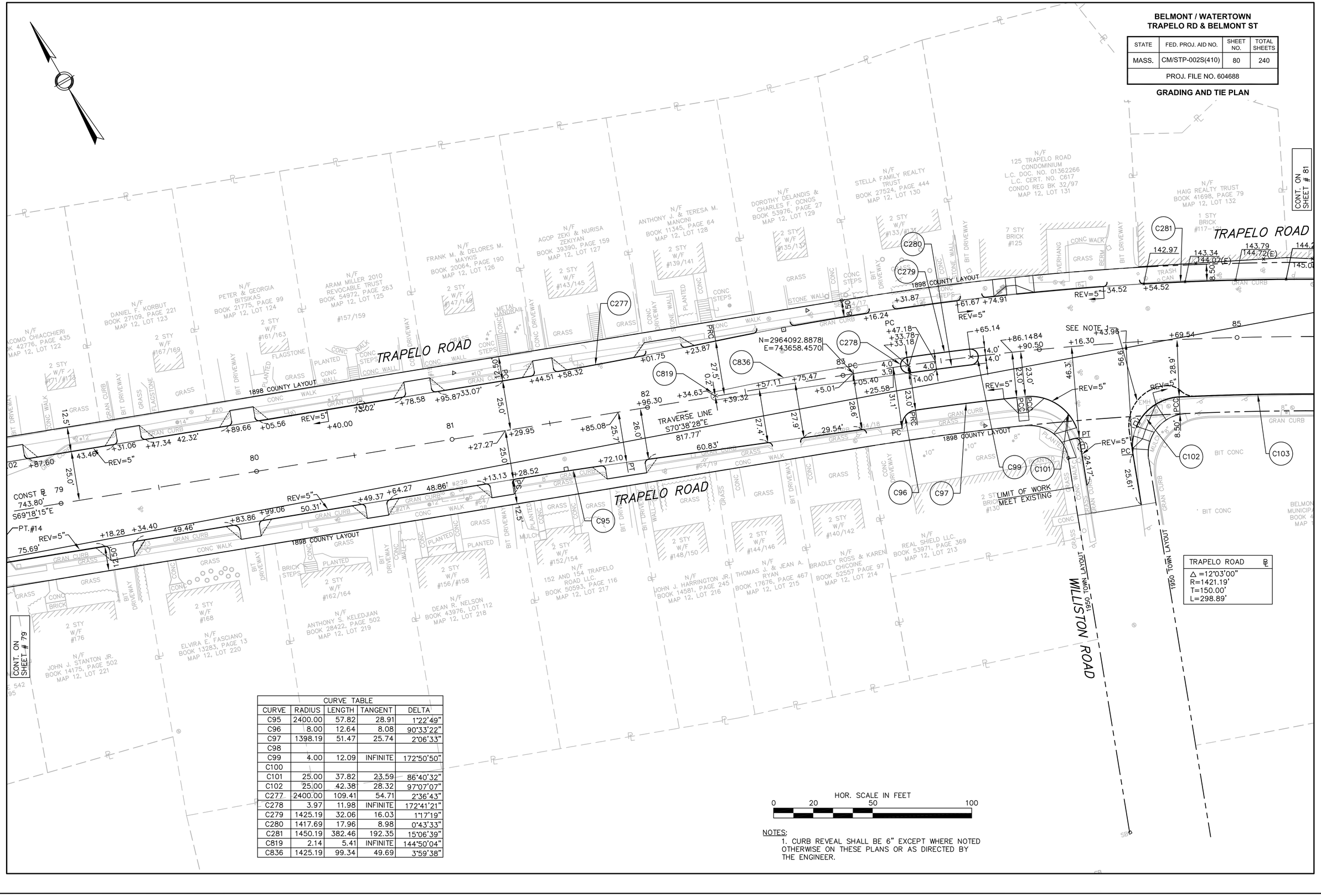
HOR. SCALE IN FEET
0 20 50 100

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.	CM/STP-002S(410)	80	240
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"

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.	CM/STP-002S(410)	81	240
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	3.96	3.04	113°20'11"
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

STA. 88+09.89 TRAPELO ROAD ℄ =
STA. 0+00.00 COMMON STREET ℄
N=2963847.5350 E=744097.8541

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. 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

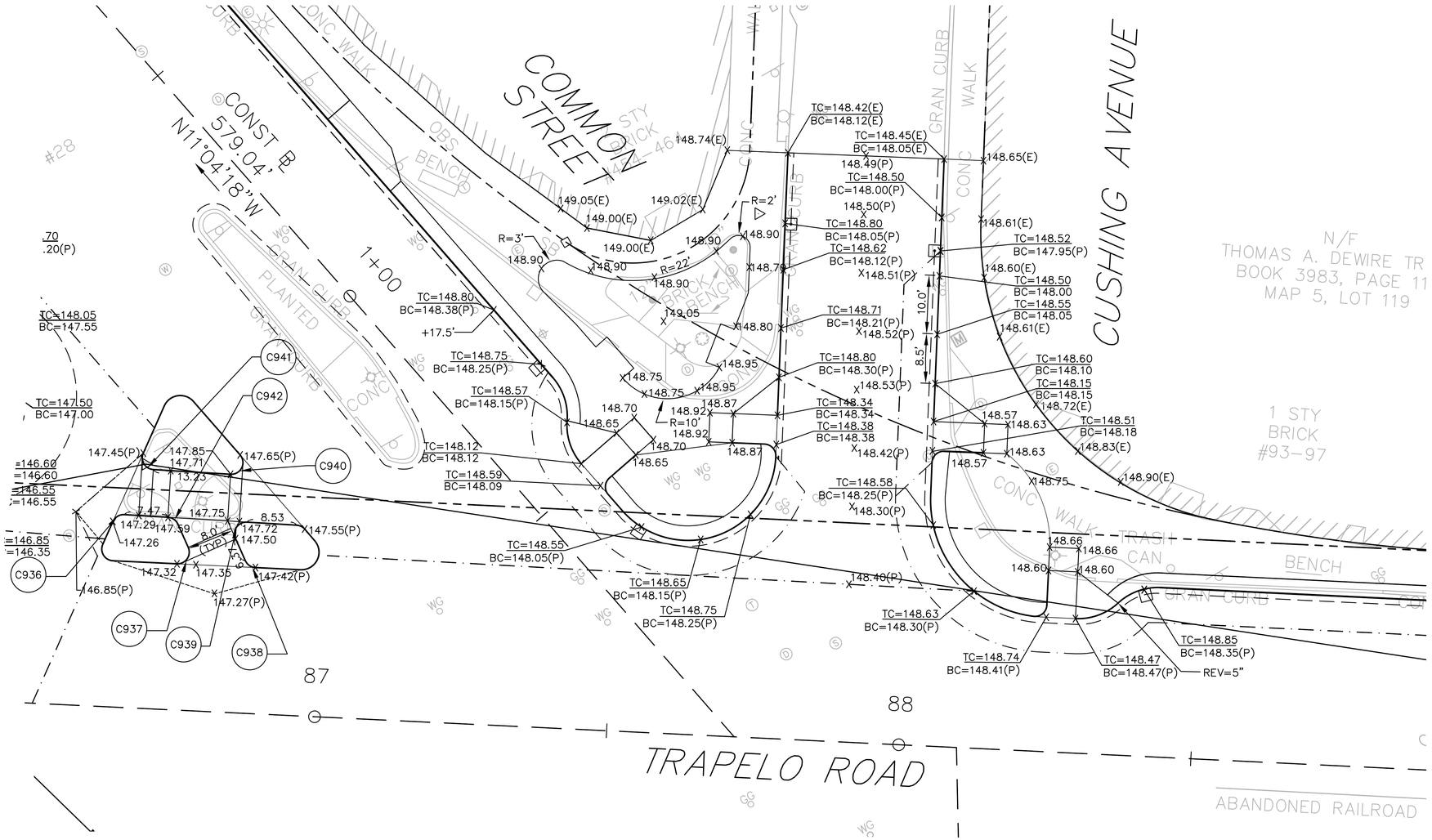
PT.#15-PK
N=2963958.8240
E=744002.0290
SET IN CONCRETE WALK
EL=147.32'

CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C936	2.00	2.43	1.39	69°34'19"
C937	2.00	4.08	3.24	116°42'05"
C938	2.00	2.21	1.23	63°17'52"
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.	CM/STP-002S(410)	82	240
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.	CM/STP-002S(410)	83	240
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"

CONT. ON SHEET # 81

CONT. ON SHEET # 81

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	84	240
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"

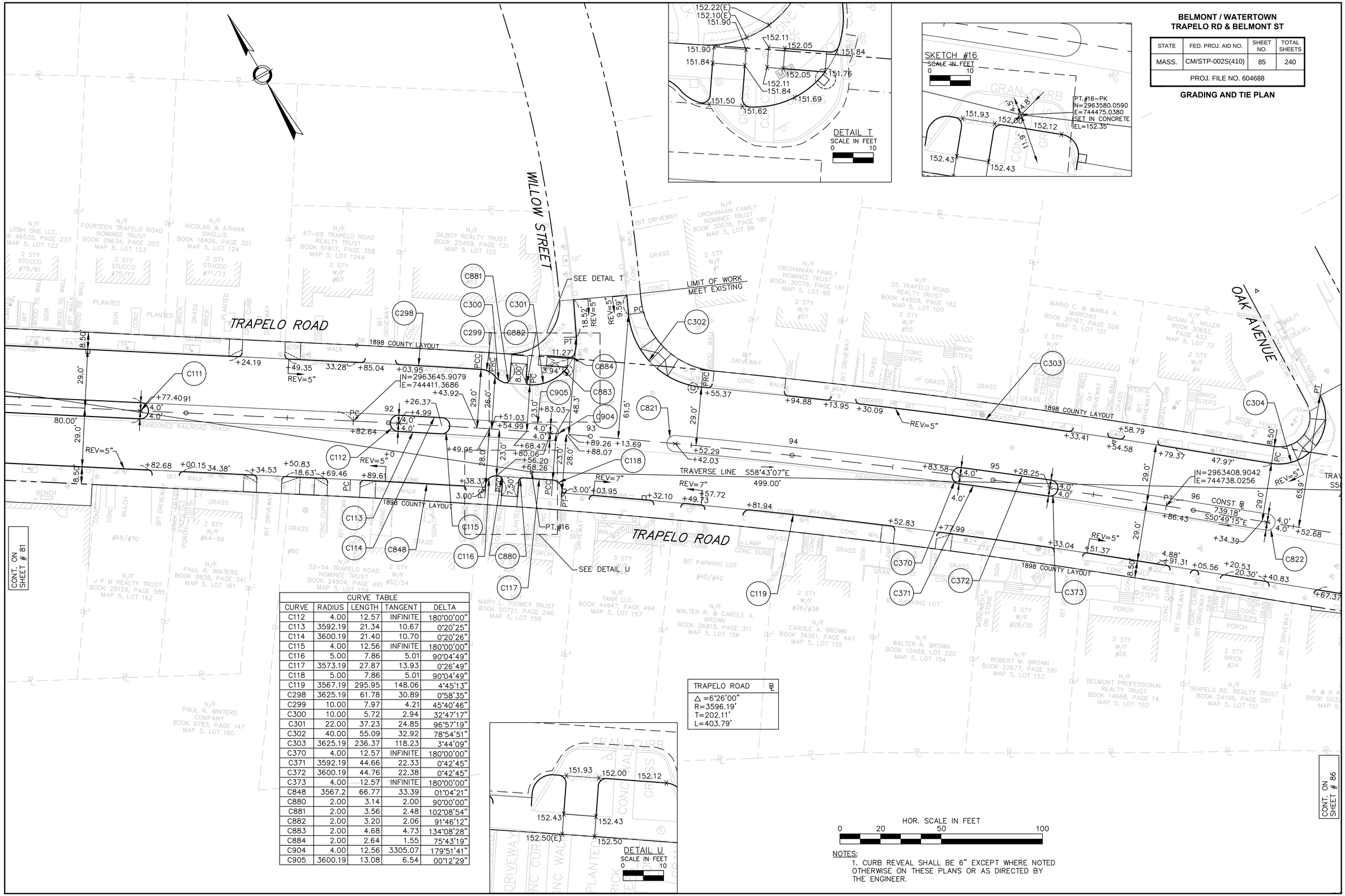
NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

HORNE ROAD
BELMONT STREET
COMMON STREET
1948 TOWN LAYOUT
1941 TOWN LAYOUT
1891 COUNTY LAYOUT
1910 COUNTY LAYOUT
BELMONT
WATERTOWN
LIMIT OF WORK MEET EXISTING
STA 4+06.0
LIMIT OF WORK
MEET EXISTING
N=2963491.8193
E=743902.2191
HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	85	240
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"

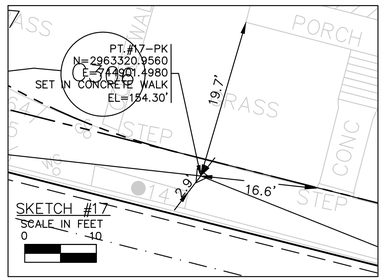
NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	86	240
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

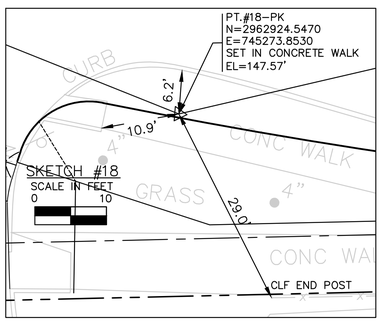
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	87	240
PROJ. FILE NO. 604688			

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'

TRAPELO ROAD
BELMONT
WATERTOWN
OAKLEY ROAD
BELMONT STREET
LIMIT OF WORK MEET EXISTING
CONST ℄ 739.18' S50°49'15"E
TRAVERSE LINE S43°12'28"E 543.86'
N=2962941.9291 E=745311.0189
N=2962824.4773 E=745570.6405
N=2962793.4705 E=745722.9871
S78°05'07"E 506.49'
S78°29'45"E 155.47'
1898 COUNTY LAYOUT
REV=5"
PT.#18
PT.#19
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.	CM/STP-002S(410)	88	240
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

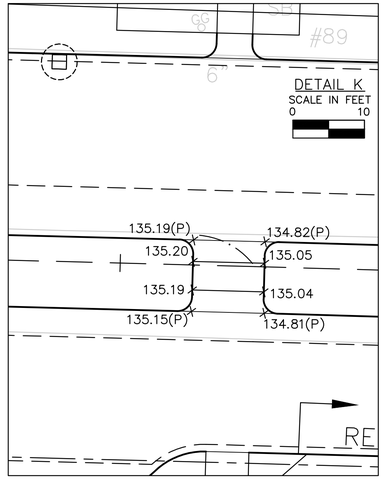
TRAPELO ROAD ℄
Δ =3°21'00"
R=2603.31'
T=76.13'
L=152.21'

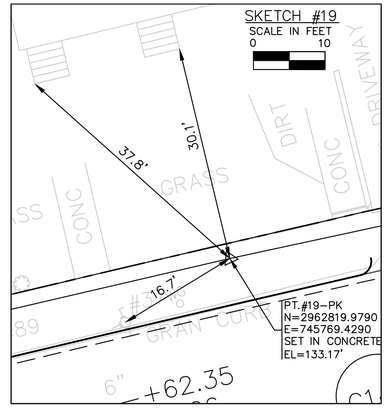
CURVE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
C914	10.00	7.95	4.20	45°34'23"
C915	10.00	15.91	10.20	91°08'46"
C916	10.00	7.95	4.20	45°34'24"
C917	5520.10	56.76	28.38	0°35'21"
C918	10.00	7.20	3.77	41°16'50"
C919	10.00	15.91	10.20	91°08'46"
C920	10.00	7.95	4.20	45°34'24"
C921	10.00	7.95	4.20	45°34'24"
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 ℄
Δ =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.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	89	240
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN

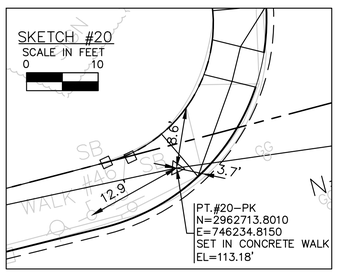
TRAPELO ROAD
△ =3°21'00"
R=2603.31'
T=76.13'
L=152.21'

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

PAYSON ROAD
VAN NESS ROAD
BELMONT STREET
STULTS ROAD
COMMONWEALTH ROAD
CARVER ROAD
BELMONT
WATERTOWN
1898 COUNTY LAYOUT
1923 TOWN LAYOUT
1917 TOWN LAYOUT
LIMIT OF WORK MEET EXISTING
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
TRAVERSE LINE S73°06'28"E 557.69'
COSNT ℄ 410.86' S79°33'28"E
S79°47'45"E 51.99'
1.00RT
1.60RT
1.80LT
TYP 0.98'
REV=5"
PC
PT
PRC
PCC
PCCR
PPT
CONC CURB
BIT DRIVEWAY
GRASS
CONC WALK
STONE WALL
BRICK STEPS
CONC STEPS
PLANTED
FLAGSTONE
LIMIT OF WORK MEET EXISTING

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"

CONT. ON SHEET # 88



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"

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 # 90

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	90	240
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"

N/F 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

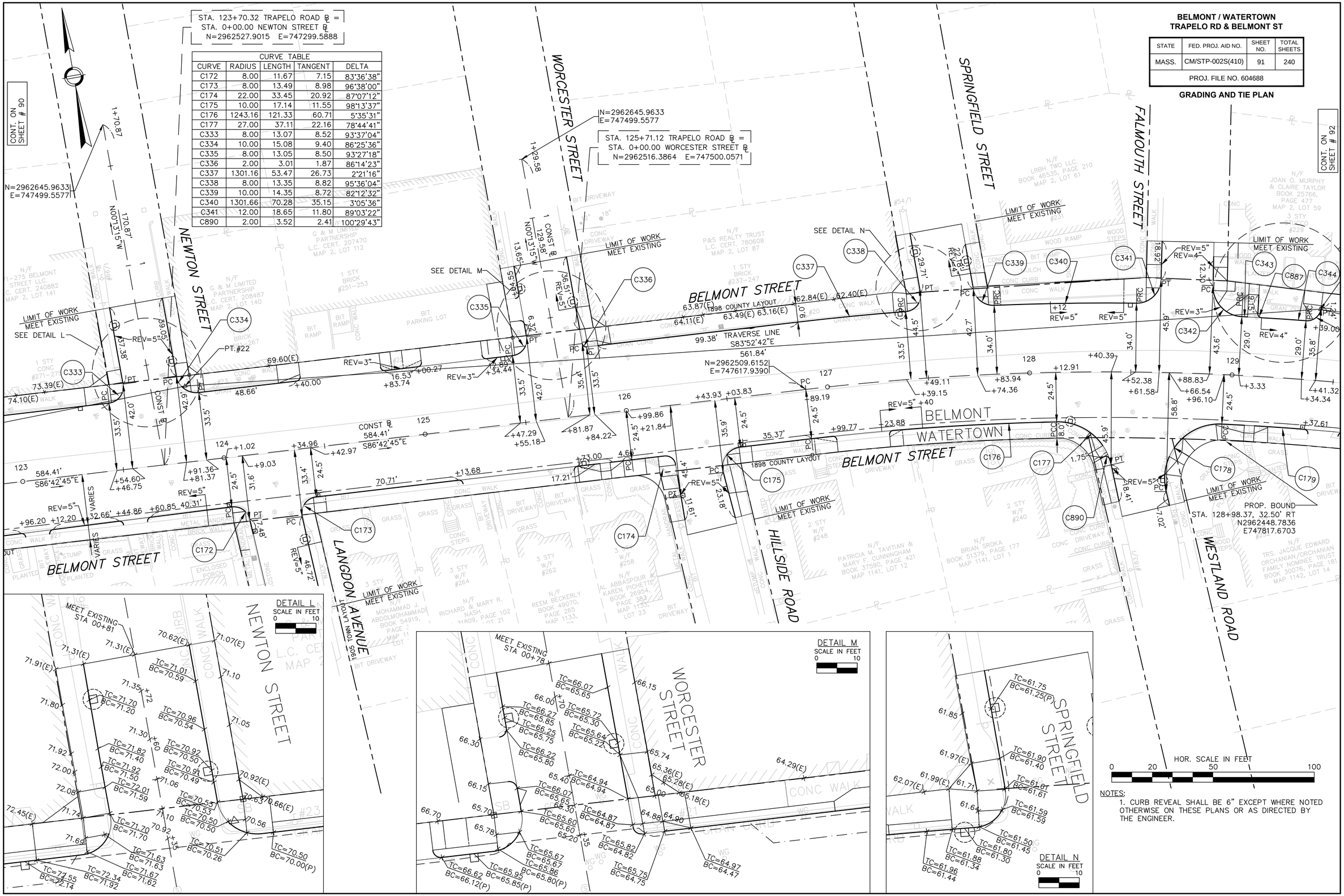
BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	91	240
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"



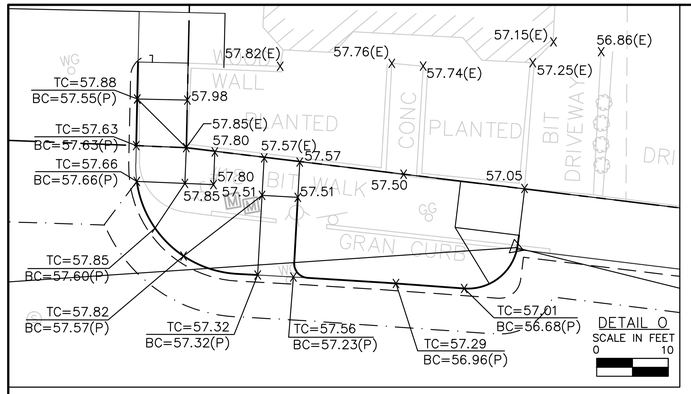
NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

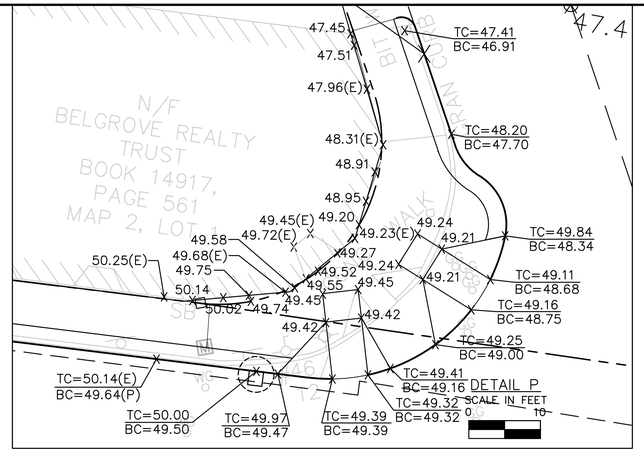
BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

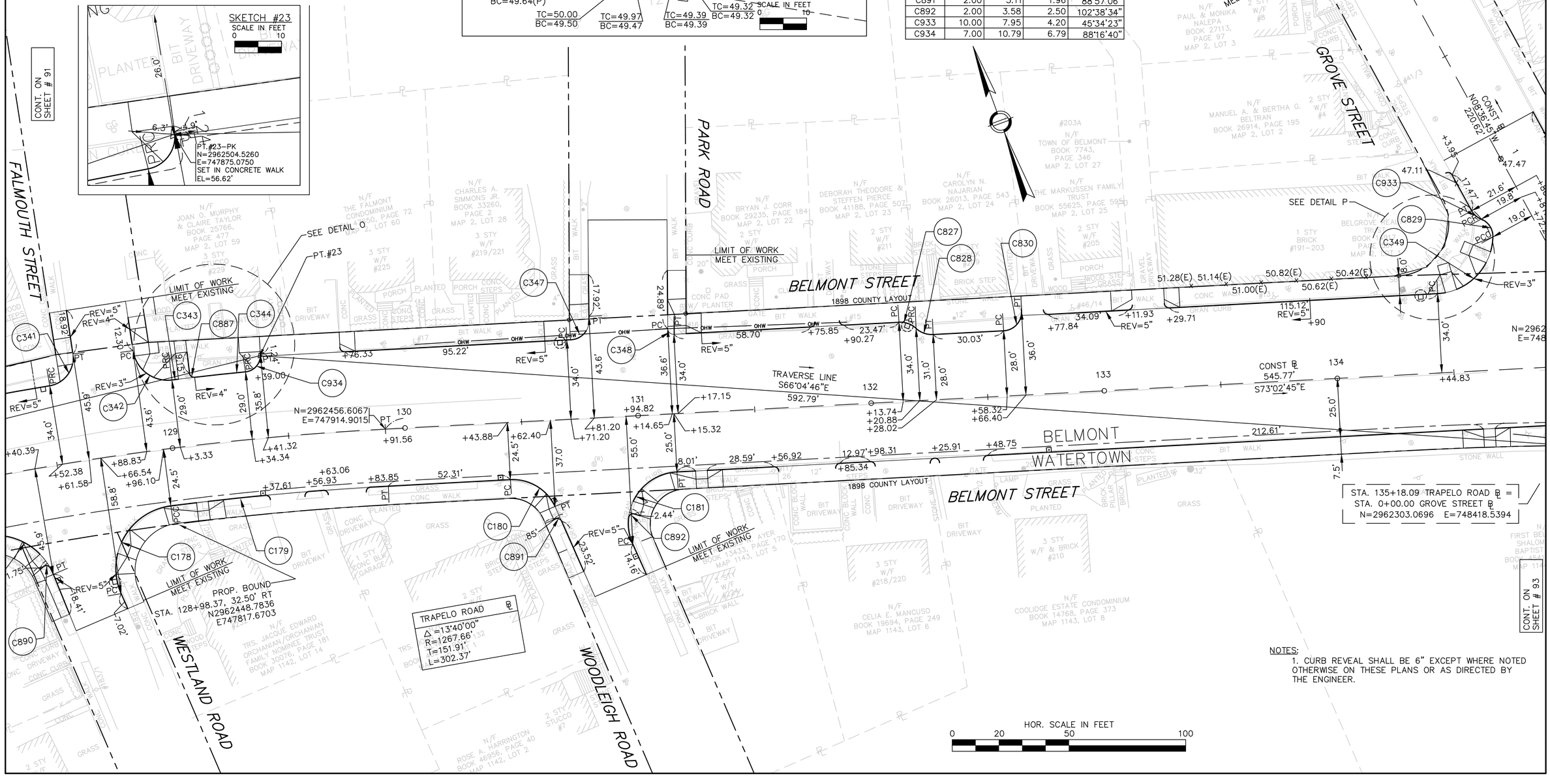
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	92	240
PROJ. FILE NO. 604688			

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"







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.	CM/STP-002S(410)	93	240
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"

DETAIL S
SCALE IN FEET 0 10

HOR. SCALE IN FEET 0 20 50 100

CONT. ON SHEET # 92

CONT. ON SHEET # 94

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	94	240
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
PRENTISS STREET
KEENAN STREET
1898 COUNTY LAYOUT
1899 TOWN LAYOUT

SEE DETAIL R

N=2962154.2334
E=748810.0900

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 3" TO 5"

CONT. ON SHEET # 93

CONT. ON SHEET # 95

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	7.47	3.88	42°29'02"
C832	10.00	6.78	3.52	38°52'27"
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.

HOR. SCALE IN FEET
0 20 50 100

FEET

DETAIL R
SCALE IN FEET
0 10

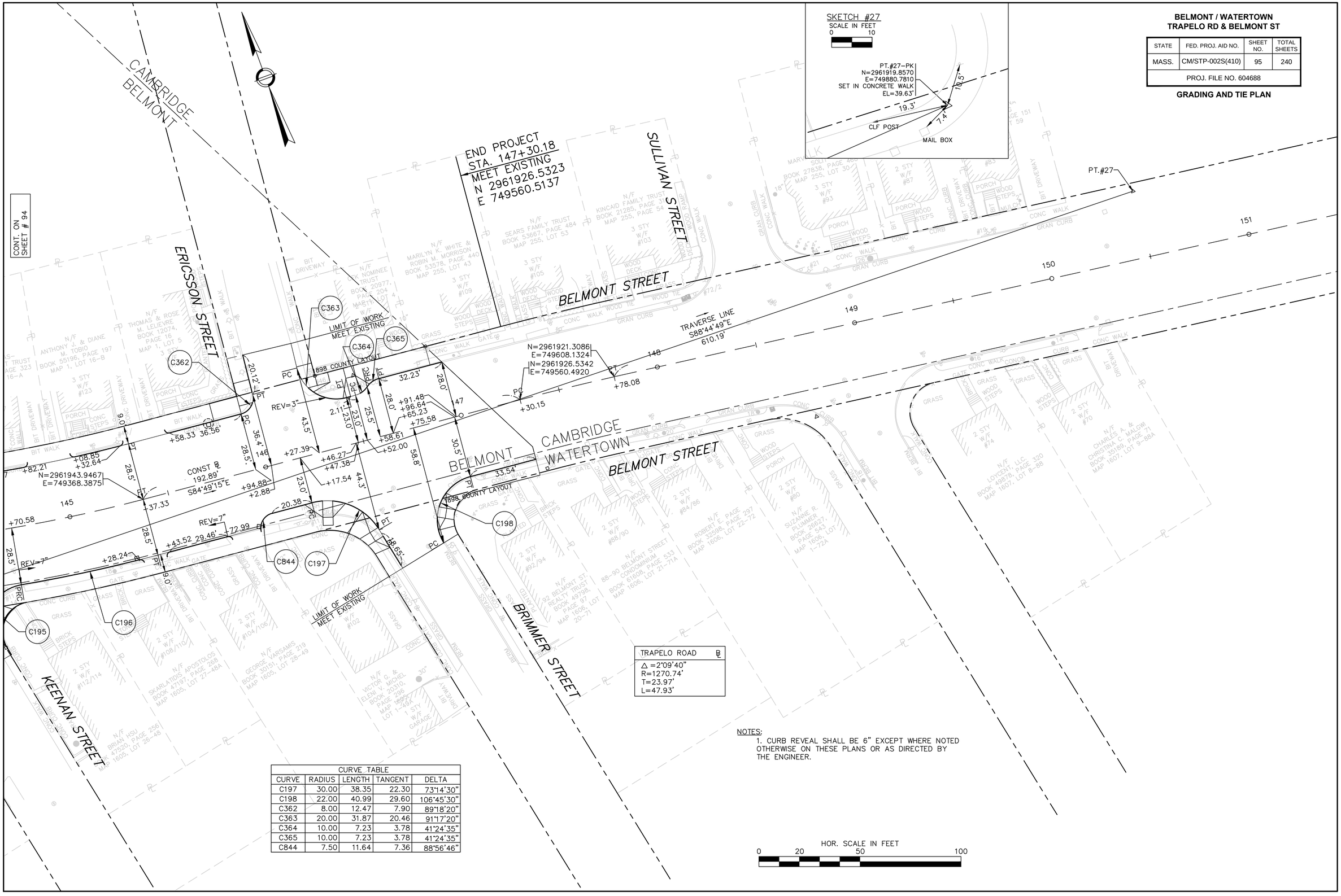
SKETCH #25
SCALE IN FEET
0 10
PT.#25-PK
N=2962098.7530
E=749002.1960
SET IN CONCRETE WALK
EL=46.06'

SKETCH #26
SCALE IN FEET
0 10
PT.#26-PK
N=2961933.2000
E=749270.7410
SET IN BIT. PAVEMENT
EL=43.03'

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	95	240
PROJ. FILE NO. 604688			

GRADING AND TIE PLAN



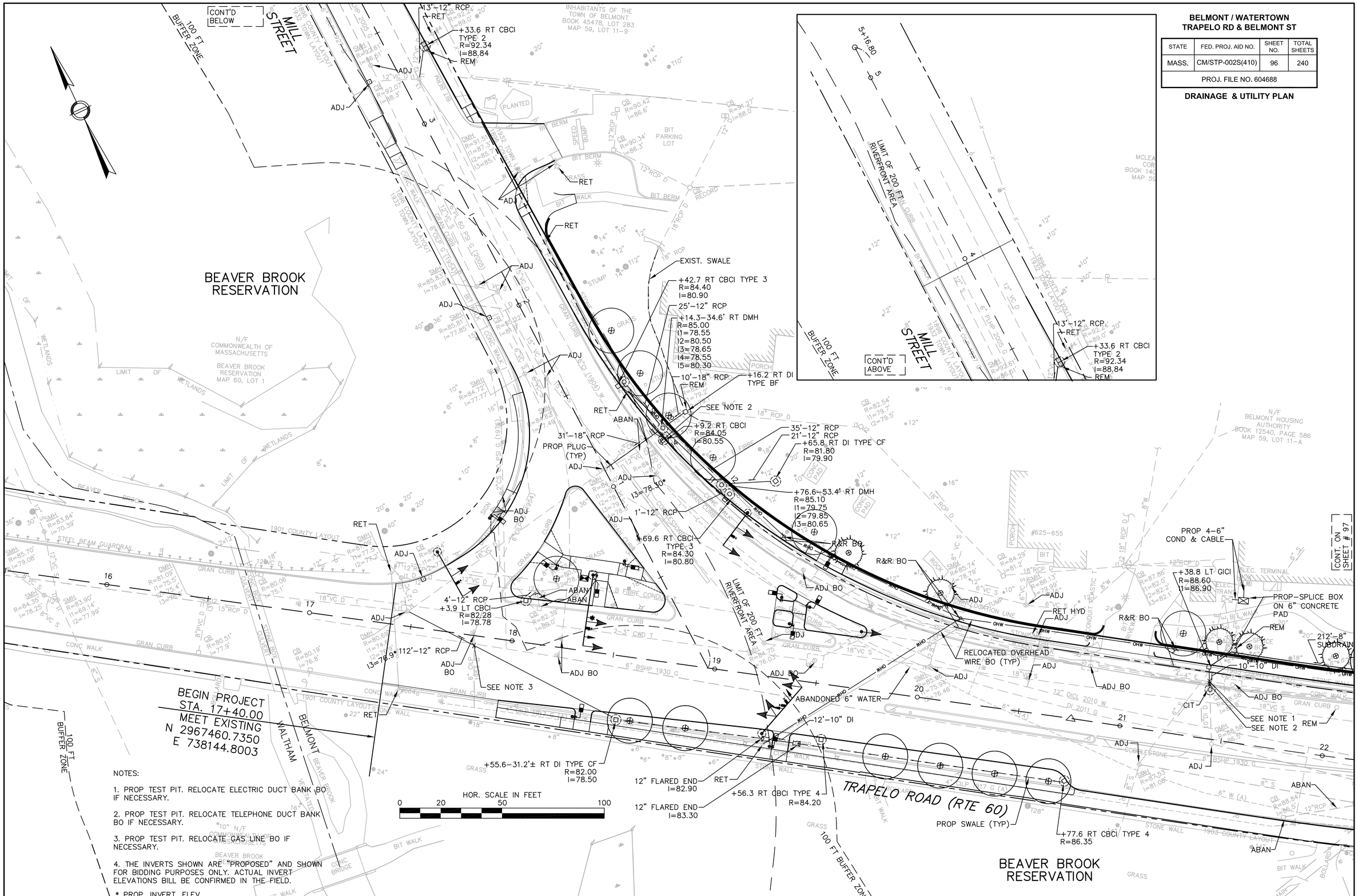
NOTES:
1. CURB REVEAL SHALL BE 6" EXCEPT WHERE NOTED OTHERWISE ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

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"

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	96	240
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.

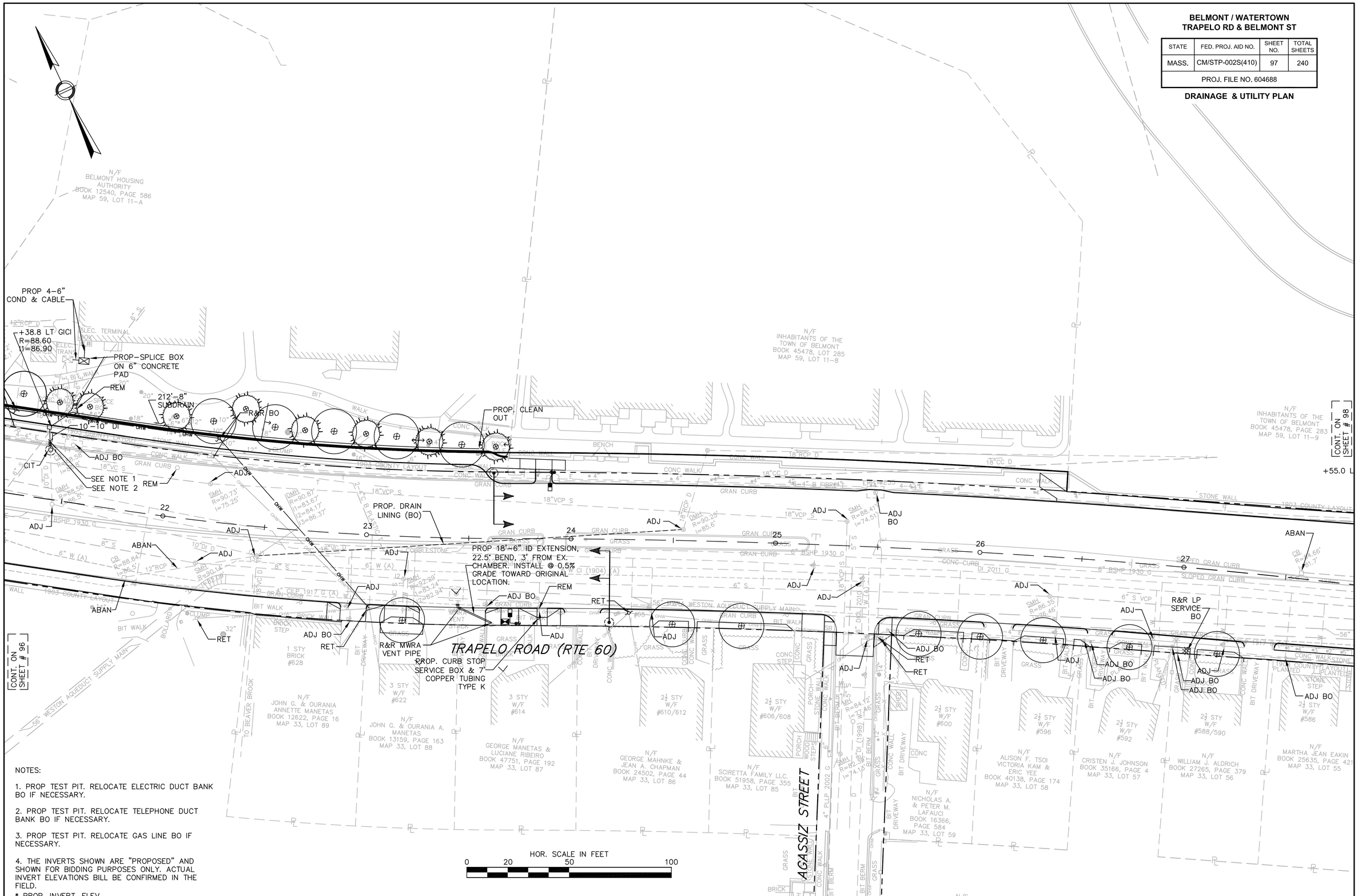
4. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

* PROP. INVERT. ELEV.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	97	240
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.

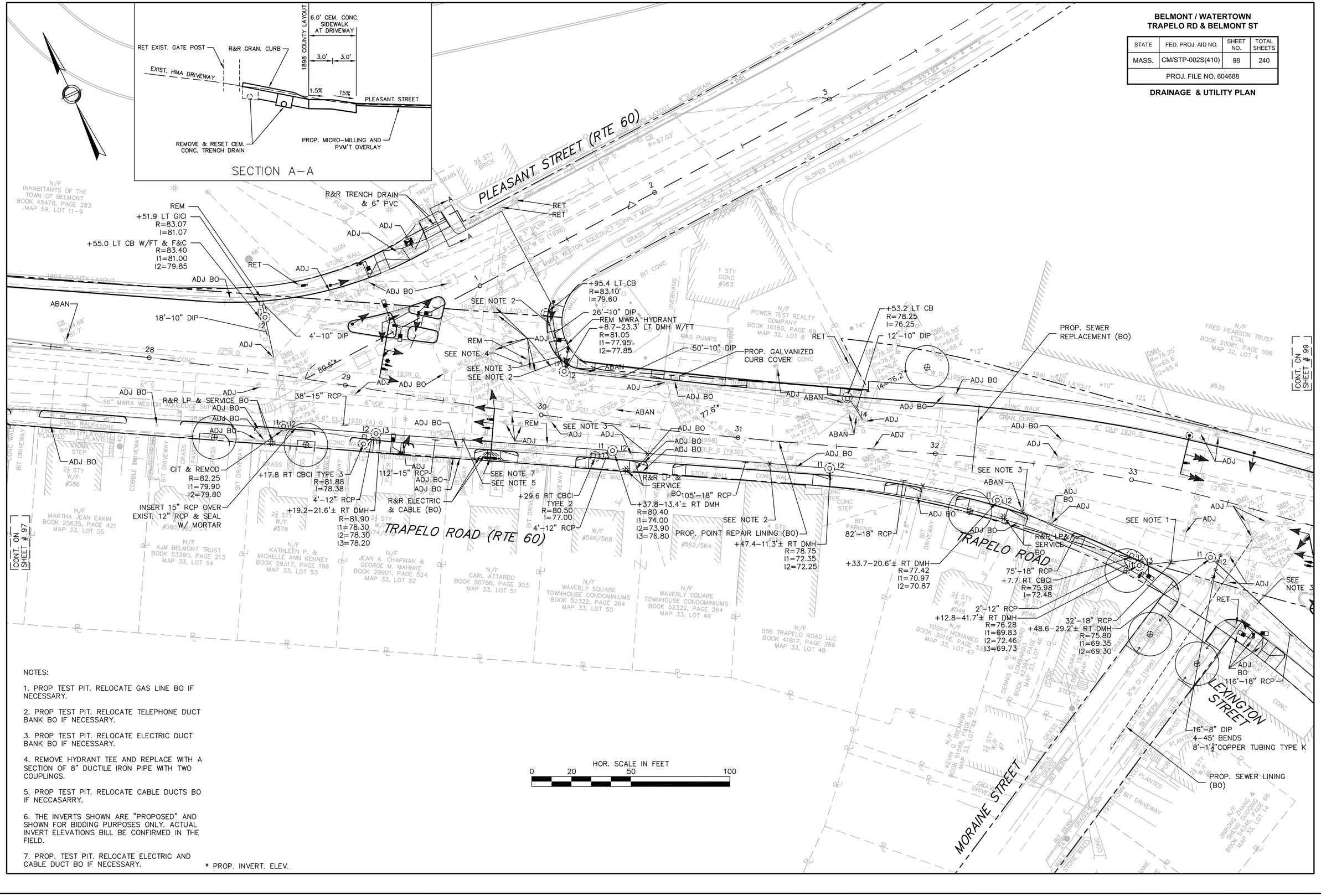
* PROP. INVERT. ELEV.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	98	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

SECTION A–A



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.

7. PROP. TEST PIT. RELOCATE ELECTRIC AND CABLE DUCT BO IF NECESSARY.

* PROP. INVERT. ELEV.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	99	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

SHAW'S DRIVE
TRAPELO ROAD
LEXINGTON STREET
CHURCH STREET
MBTA ROW
ABANDONED 6" GAS
PROP. SEWER LINING (BO)
16'-8" DIP
4-45° BENDS
8'-1 1/2"COPPER TUBING TYPE K
116'-18" RCP
2'-12" RCP
REMOD.
+60.4 RT CBCI
R=74.30
I=70.70
R&R METER CHAMBER
SEE NOTE 3
PROP PLUG
6'-12" RCP
+82.8-49.3'± RT DMH
R=74.04
I1=67.64
I2=67.54
I3=68.20
90'-18" RCP
+54.16-1.0'± RT DMH
R=74.70
I1=62.88±
I2=62.86±
I3=66.20
+99.0-61.0'± RT DMH
R=71.75
I1=66.1±
I2=66.1±
I3=67.45
69'-18" RCP
SEE NOTE 6
PROP. MBTA CAT POLE
PROP. LP & SERVICE (BO)
+32.9 RT CBCI
R=71.20
I=67.70
ABAN
6'-12" RCP
16'-8" DICL
4-45° BENDS
3'-12" RCP
+5.3 RT CBCI
R=71.10
I=67.60
16'-10" DICL
4-45° BENDS
+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
PROP. PLUGS
SEE NOTE 1
SEE NOTE 2
14'-12" RCP
SEE NOTES 1, 3
133'-18" RCP
133'-21" RCP
33'-12" RCP
I1=65.80*
I2=65.80*
I3=65.8±*
+42.4 RT CBCI
R=69.90
I=66.40
13'-12" RCP
67.3*
+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
PROP 18'-10" DICL
PROP (4) 45° BENDS
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.
6. THE OVERHEAD MBTA CATENARY SYSTEM WILL B REMOVED BY THE MBTA FOR THE DURATION OF TH PROJECT.

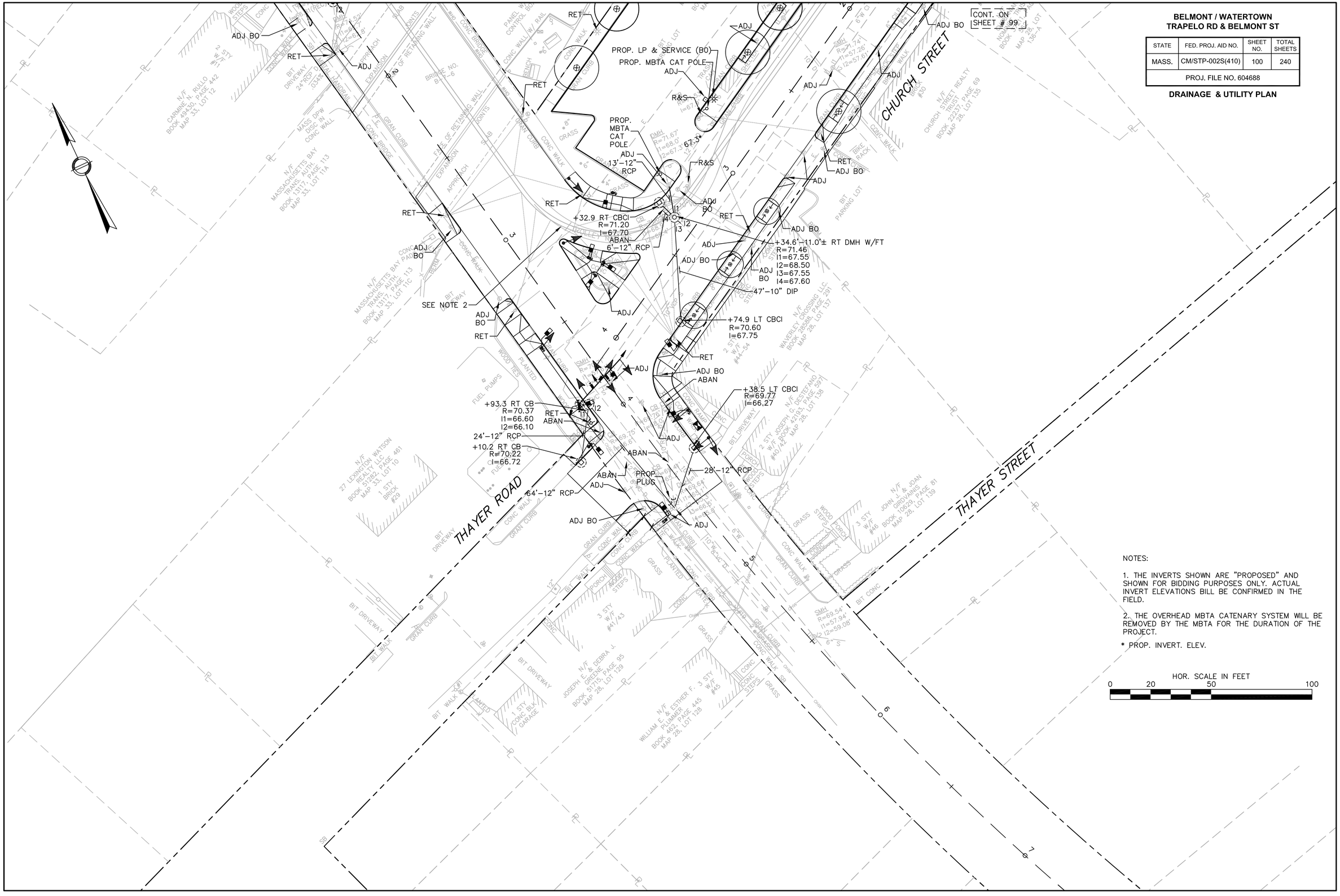
* PROP. INVERT. ELEV.

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	100	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN



NOTES:

1. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

2. THE OVERHEAD MBTA CATENARY SYSTEM WILL BE REMOVED BY THE MBTA FOR THE DURATION OF THE PROJECT.

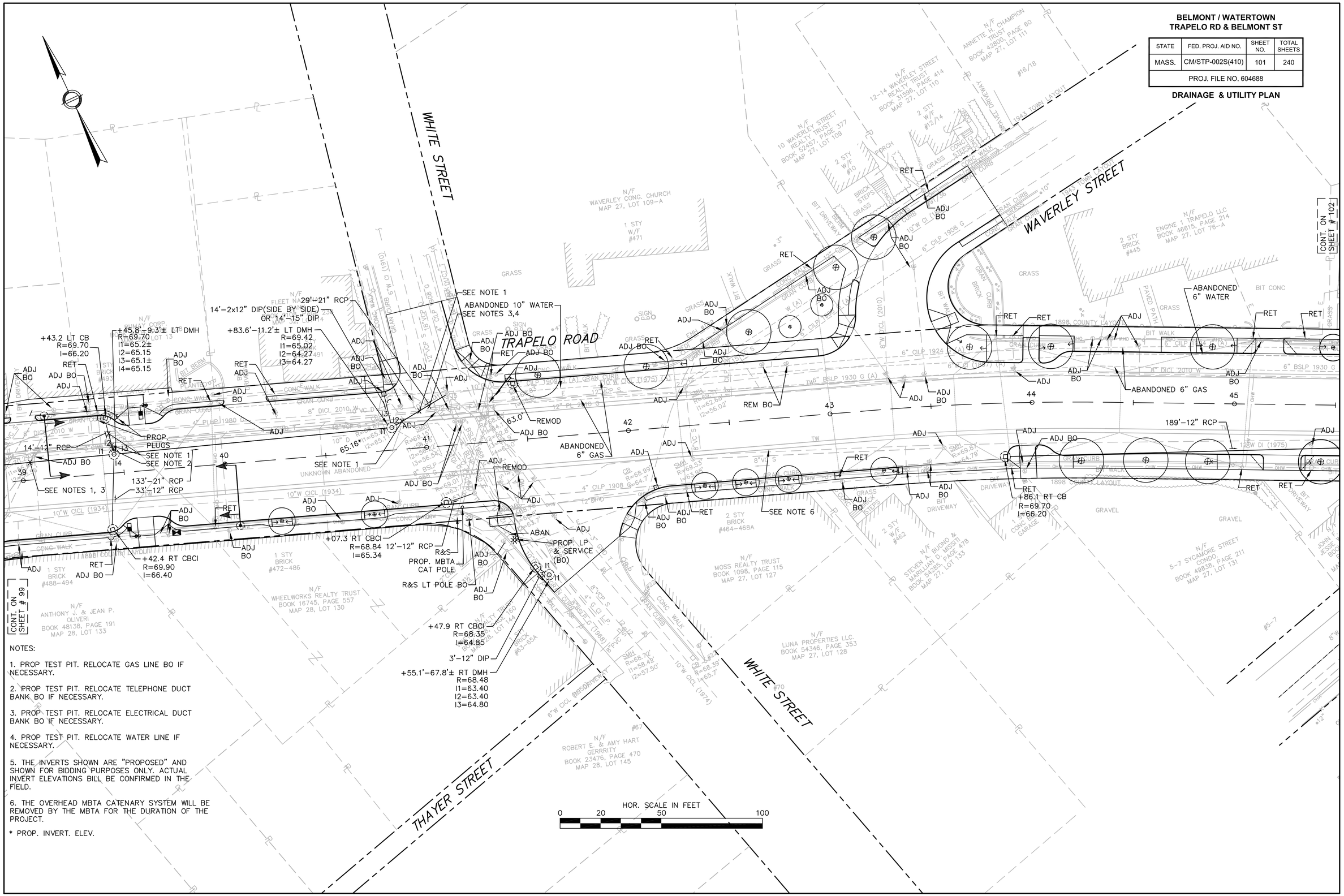
* PROP. INVERT. ELEV.

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	101	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN



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.

6. THE OVERHEAD MBTA CATENARY SYSTEM WILL BE REMOVED BY THE MBTA FOR THE DURATION OF THE PROJECT.

* PROP. INVERT. ELEV.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	102	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

WAVERLEY STREET
HAWTHORNE STREET
TRAPELO ROAD
SYCAMORE STREET

CONT. ON SHEET # 103
CONT. ON SHEET # 101

NOTES:

1. PROP TEST PIT. RELOCATE ELECTRICAL DUCT BANK BO IF NECESSARY.

2. PROP TEST PIT. RELOCATE GAS LINE BO IF NECESSARY.

3. PROP TEST PIT. RELOCATE MBTA DUCTS IF NECESSARY.

4. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

5. THE OVERHEAD MBTA CATENARY SYSTEM WILL BE REMOVED BY THE MBTA FOR THE DURATION OF THE PROJECT.

* PROP. INVERT. ELEV.

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	103	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

TRAPELO ROAD
DAVIS STREET
MAPLE STREET
BEECH STREET

PROP. SEWER LINING (BO)
ABANDONED 4" GAS
ABANDONED 6" GAS
ABANDONED 8" WATER
204'–12" RCP
L55.8 R=68.55 I1=62.05 I2=64.65 I3=62.15
SEE NOTES 1,2,&3
23.0' RT DMH
SEE NOTE 5
PROP 14'–6" DICL, 8"x6" TAPPING SLEEVE & VALVE, PROP. 6" GATE & GATE BOX
ADJ BO REM GATE BOX
R & R HYDRANT
PROP. PLUG
43'–12" RCP
+57.9 LT CBCI R=73.55 I=70.05
ABANDONED 8" WATER
R&R FIRE ALARM BOX (BO)
SEE NOTE 1
PROP. PLUGS
SEE NOTE 2
65'–10" DIP
+95.5 – 23.4'± RT DMH R=73.30 I1=66.8± I2=66.90 I3=66.8±
+17.1 RT CB TYPE 3 R=73.80 I=70.30
ABANDONED 2" WATER
+90.3 RT CBCI R=69.10 I=65.60
30'–12" RCP
15'–12" RCP
23'–12" RCP
+83.0–61.4' RT CBCI R=69.35 I=65.85
+66.7–39.2 RT DMH R=68.78 I1=62.55 I2=65.25 I3=64.30
21'–12" RCP
+40.7–46.6 RT CBCI R=68.10 I=64.60
ABANDONED 2" AND 6" WATER
40'–12" RCP
RELOCATE GAS LINE BO
29'–15" RCP
+51.9 – 25.3'± RT DMH R=73.67 I1=70.10 I2=67.14 I3=67.04

CONT. ON SHEET # 102

CONT. ON SHEET # 104

HOR. SCALE IN FEET
0 20 50 100

NOTES:

1. PROP TEST PIT. RELOCATE ELECTRICAL DUCT BANK BO IF NECESSARY.

2. PROP TEST PIT. RELOCATE GAS LINE BO IF NECESSARY.

3. PROP TEST PIT. RELOCATE CABLE DUCTS IF NECESSARY.

4. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

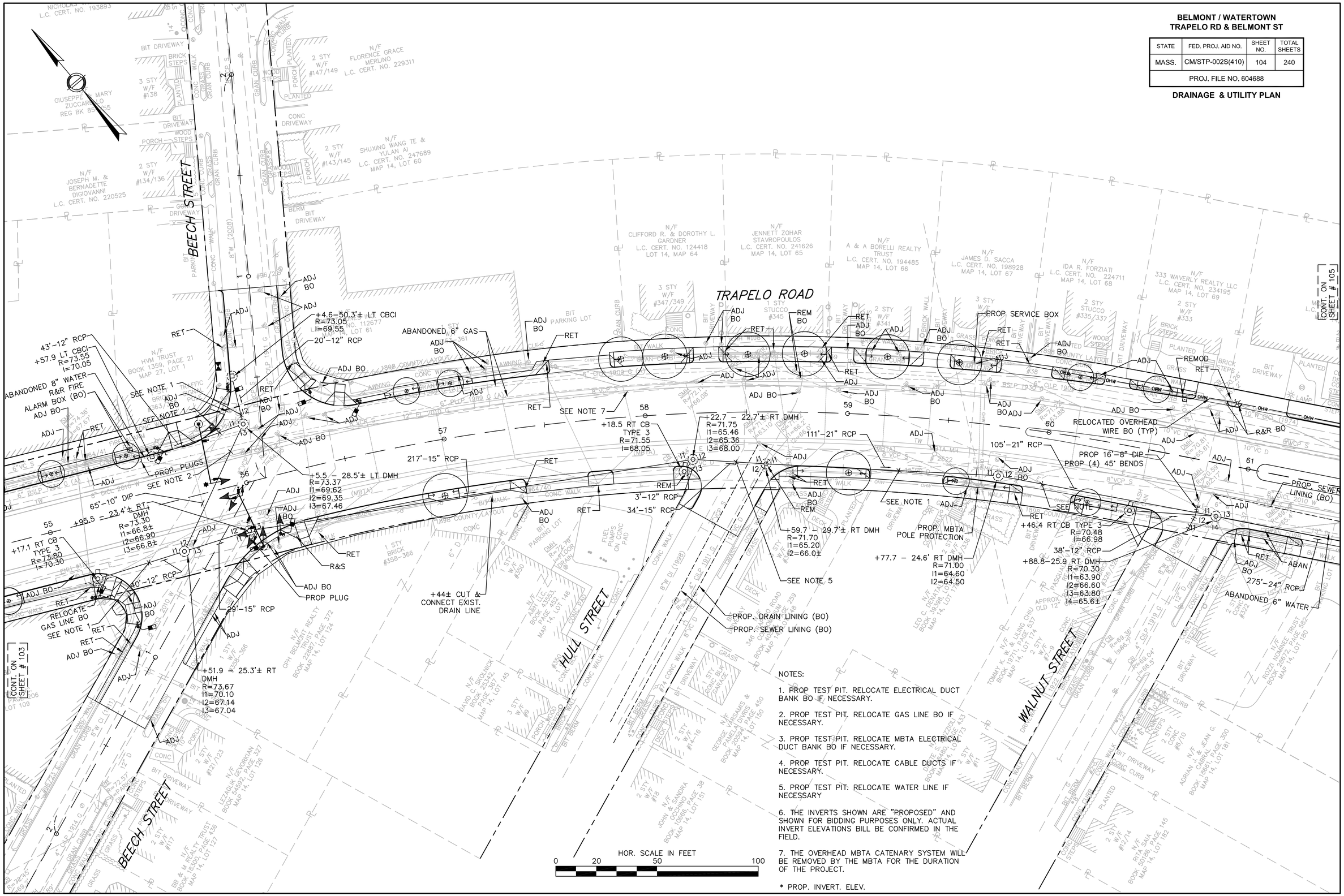
5. THE OVERHEAD MBTA CATENARY SYSTEM WILL BE REMOVED BY THE MBTA FOR THE DURATION OF THE PROJECT.

* PROP. INVERT. ELEV.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	104	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN



NOTES:

1. PROP TEST PIT. RELOCATE ELECTRICAL DUCT BANK BO IF NECESSARY.
2. PROP TEST PIT. RELOCATE GAS LINE BO IF NECESSARY.
3. PROP TEST PIT. RELOCATE MBTA ELECTRICAL DUCT BANK BO IF NECESSARY.
4. PROP TEST PIT. RELOCATE CABLE DUCTS IF NECESSARY.
5. PROP TEST PIT. RELOCATE WATER LINE IF NECESSARY
6. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.
7. THE OVERHEAD MBTA CATENARY SYSTEM WILL BE REMOVED BY THE MBTA FOR THE DURATION OF THE PROJECT.

* PROP. INVERT. ELEV.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	105	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

TRAPELO ROAD

FLETT ROAD

PEQUOSSETTE PARK

PEQUOSSETTE PARK

HOR. SCALE IN FEET
0 20 50 100

[CONT. ON SHEET # 104]

[CONT. ON SHEET # 106]

NOTES:

1. PROP TEST PIT. RELOCATE ELECTRICAL DUCT BANK BO IF NECESSARY.

2. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

3. THE OVERHEAD MBTA CATENARY SYSTEM WILL BE REMOVED BY THE MBTA FOR THE DURATION OF THE PROJECT.

* PROP. INVERT. ELEV.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	106	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

CONT. ON SHEET # 107

CONT. ON SHEET # 105

NOTES:

1. PROP TEST PIT. RELOCATE ELECTRICAL DUCT BANK BO IF NECESSARY.

2. PROP TEST PIT. RELOCATE GAS LINE BO IF NECESSARY.

3. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

4. THE OVERHEAD MBTA CATENARY SYSTEM WILL BE REMOVED BY THE MBTA FOR THE DURATION OF THE PROJECT.

* PROP. INVERT. ELEV.

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	107	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

GILBERT ROAD
TRAPELO ROAD
HARDING AVENUE
BARNARD ROAD
POPLAR STREET

+31.8–16.7± RT DMH
R=101.97
I1=95.27
I2=95.17
I3=95.67

CUT & PLUG ABANDONED 15" VCP DRAIN
EXTEND RETAINED DRAIN W/ 15" RCP

ABANDONED 6" GAS

+83.7–17.7± RT DMH
R=105.00
I1=97.1±
I2=97.6±
I3=101.50

43'–15" RCP

+54.9–32.2± LT DMH
R=109.80
I1=102.4±
I2=102.4±
I3=104.75

ABAN EXIST. 15" DRAIN

5'–12" RCP
PROP PLUGS

+45.8 LT CBCI
R=108.28
I=104.78

65'–15" RCP

ABANDONED 6" GAS

+06.7–16.9± RT DMH
R=116.65
I1=107.9±
I2=108.7±
I3=112.60

SEE NOTE 3

77
160'–27" RCP

PROP PLUGS (TYP.)

76
51'–27" RCP

104.3*
106.1*

75
168'–27" RCP

PROP PLUG

73
167'–27" RCP

PROP. PLUG
ABAN

48'–27" RCP

74
7'–12" RCP
SEE NOTE 1

SEE NOTE 1

+88.7 RT CBCI
R=105.10
I=101.60

+37.7–56.8'± RT CBCI
R=102.60
I=99.10

9'–12" RCP

PROP. DRAIN LINING (BO)

ABANDONED 6" WATER

+82.7–27.1± LT DMH
R=123.10
I1=118.4±
I2=118.4±
I3=119.10

RELOCATE GAS LINE BO

2'–12" RCP

+06.7 RT CBCI
R=116.40
I=112.90

21'–10" DICL
(4) 45° BENDS
10" GATE VALVE & BOX

112.10* 78
118.40*
56'–27" RCP

+88.4 LT CBCI
R=122.80
I=119.30

+29.1–17.2±
RT DMH
R=123.10
I1=118.4±
I2=118.4±
I3=119.10

SEE NOTE 1
+45.6 RT CBCI
TYPE 3
R=124.80
I=121.40

79

ABANDONED 6" WATER

8'–12" RCP
PROP PLUGS

[CONT. ON SHEET # 106]

[CONT. ON SHEET # 108]

NOTES:

1. PROP TEST PIT. RELOCATE ELECTRICAL DUCT BANK BO IF NECESSARY.

2. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

3. THE OVERHEAD MBTA CATENARY SYSTEM WILL BE REMOVED BY THE MBTA FOR THE DURATION OF THE PROJECT.

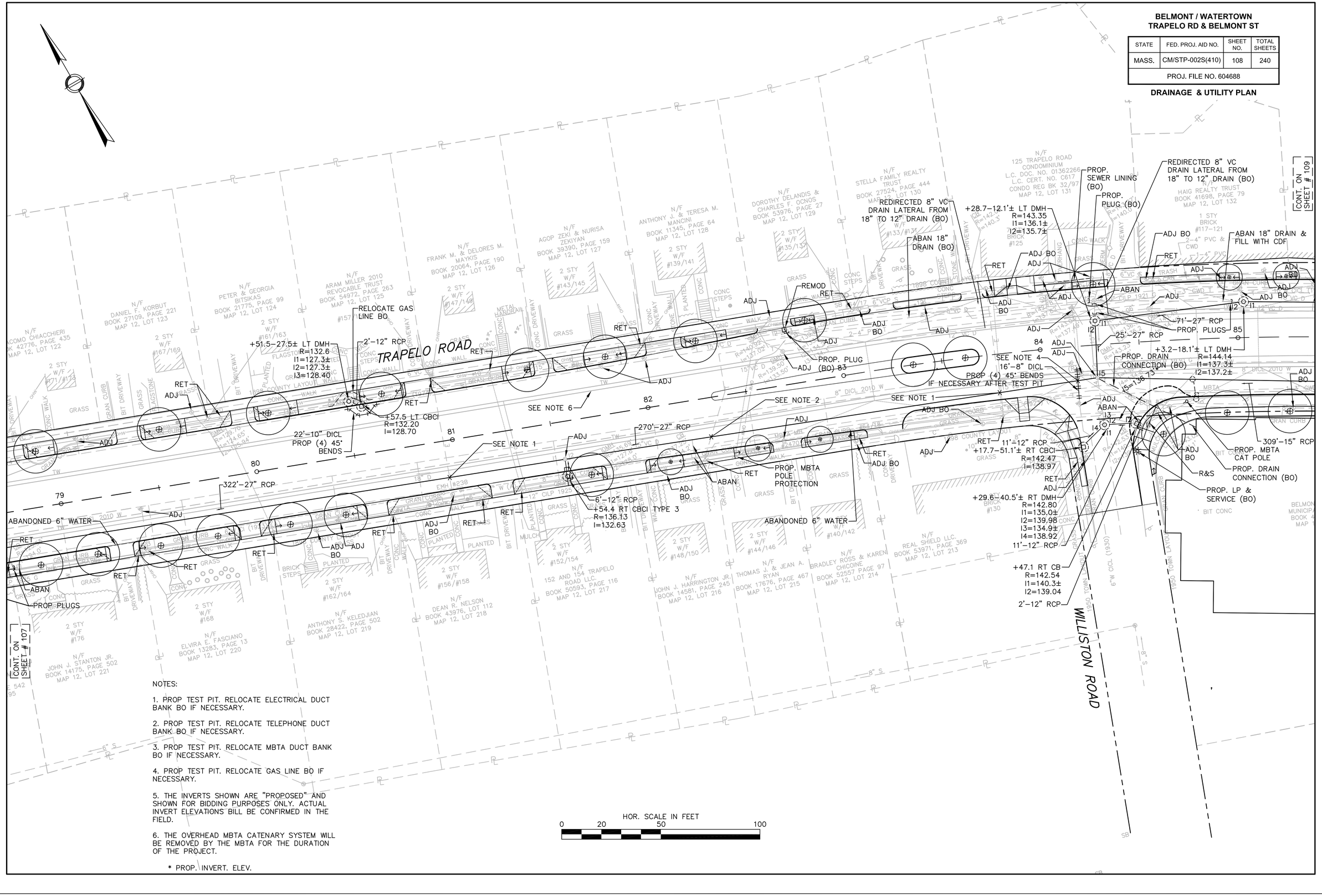
* PROP. INVERT. ELEV.

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	108	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN



NOTES:

1. PROP TEST PIT. RELOCATE ELECTRICAL DUCT BANK BO IF NECESSARY.

2. PROP TEST PIT. RELOCATE TELEPHONE DUCT BANK BO IF NECESSARY.

3. PROP TEST PIT. RELOCATE MBTA DUCT BANK BO IF NECESSARY.

4. PROP TEST PIT. RELOCATE GAS LINE BO IF NECESSARY.

5. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

6. THE OVERHEAD MBTA CATENARY SYSTEM WILL BE REMOVED BY THE MBTA FOR THE DURATION OF THE PROJECT.

* PROP. INVERT. ELEV.

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

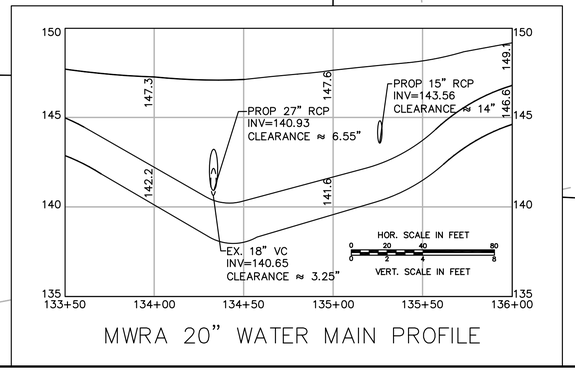
STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	109	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

NOTES:

1. PROP TEST PIT. RELOCATE ELECTRICAL 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. PROP TEST PIT. RELOCATE MBTA DUCT BANK BO IF NECESSARY.
5. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.
6. PROBABLE ALIGNMENT OF DRAIN LINE BY OTHERS IF ADJACENT DEVELOPMENT IS APPROVED.
7. THE OVERHEAD MBTA CATENARY SYSTEM WILL BE REMOVED BY THE MBTA FOR THE DURATION OF THE PROJECT.

* PROP. INVERT. ELEV.



MWRA 20" WATER MAIN PROFILE

CONT. ON SHEET # 110
CONT. ON SHEET # 112
CONT. ON SHEET # 108
CONT. ON SHEET # 111

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	110	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

NOTES:

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* PROP. INVERT. ELEV.

HOR. SCALE IN FEET
0 20 50 100

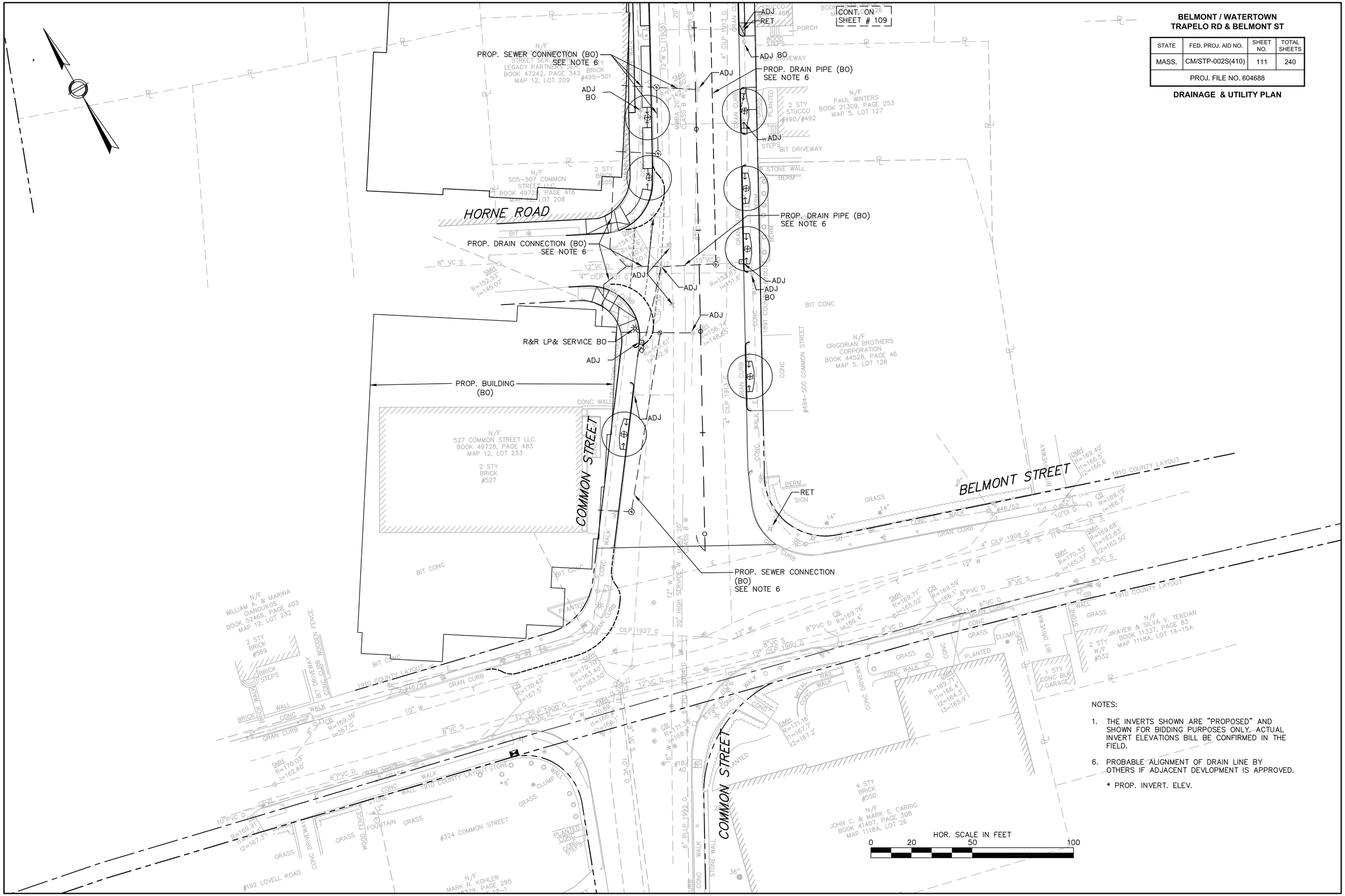
PAYSON ROAD
COMMON STREET
PALFREY ROAD
TRAPELO ROAD

CONT. ON SHEET # 109

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	111	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN



NOTES:

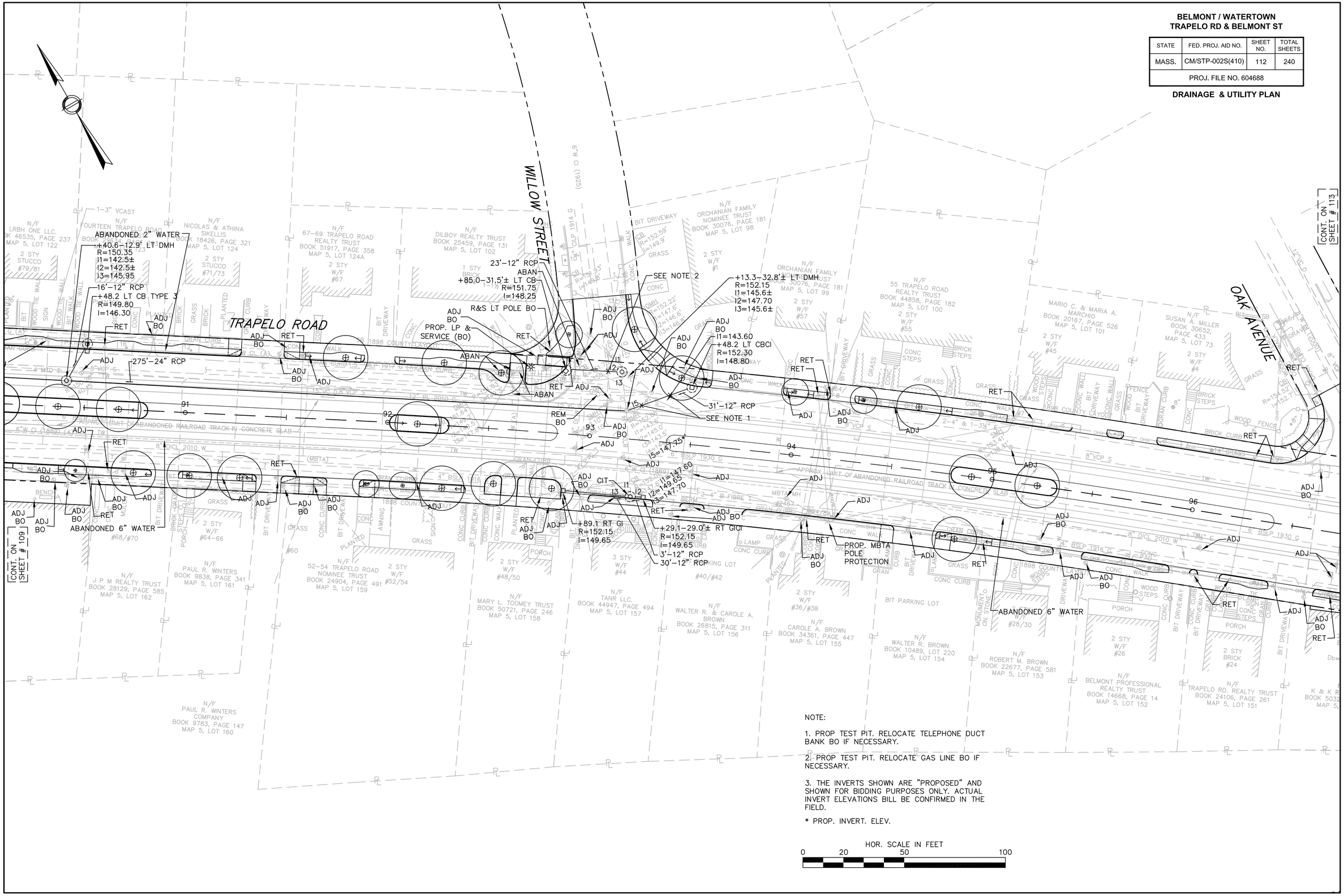
1. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.
6. PROBABLE ALIGNMENT OF DRAIN LINE BY OTHERS IF ADJACENT DEVLOPMENT IS APPROVED.

* PROP. INVERT. ELEV.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	112	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN



NOTE:

1. PROP TEST PIT. RELOCATE TELEPHONE DUCT BANK BO IF NECESSARY.

2. PROP TEST PIT. RELOCATE GAS LINE BO IF NECESSARY.

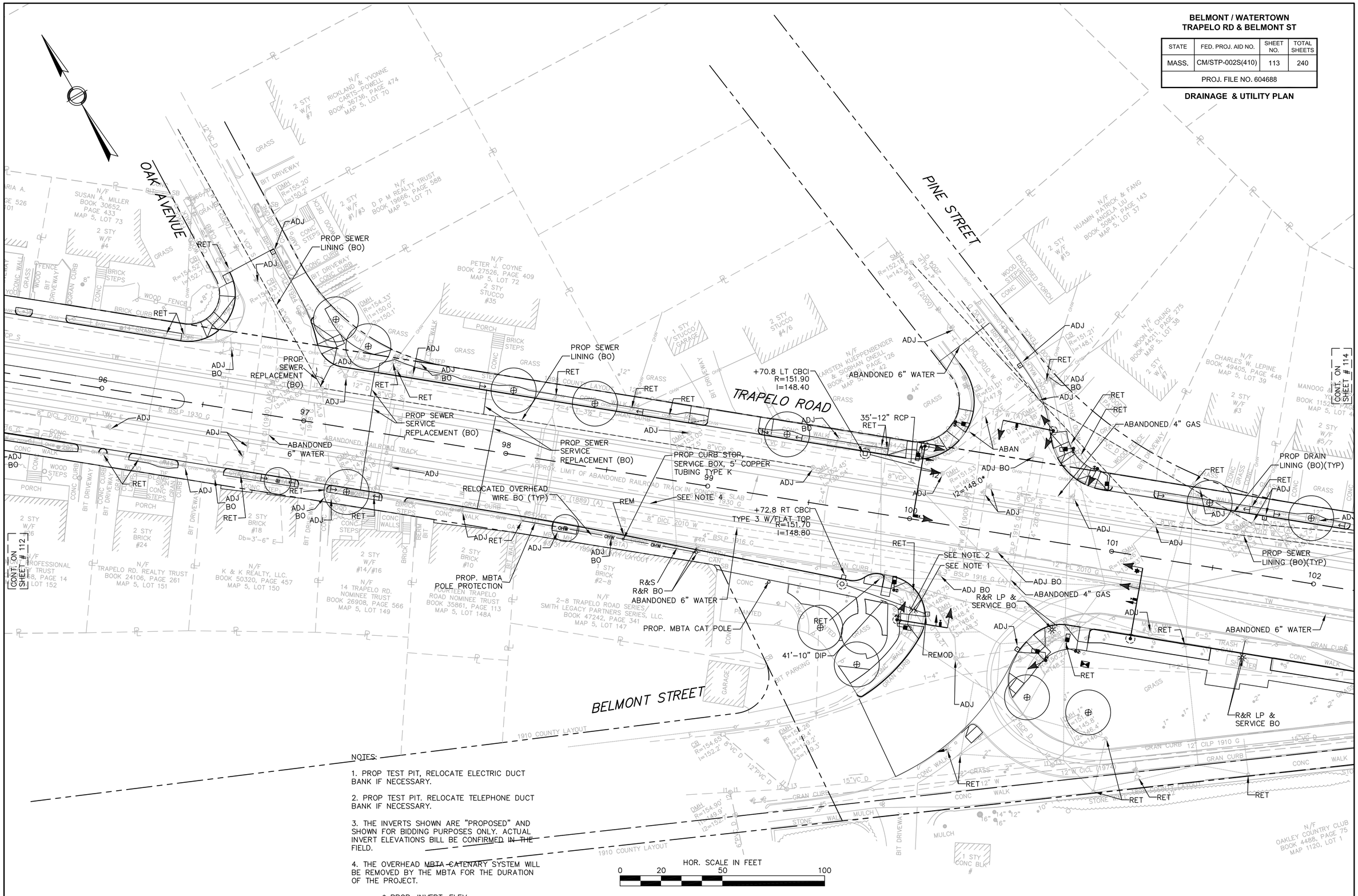
3. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

* PROP. INVERT. ELEV.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	113	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN



NOTES:

1. PROP TEST PIT, RELOCATE ELECTRIC DUCT BANK IF NECESSARY.

2. PROP TEST PIT. RELOCATE TELEPHONE DUCT BANK IF NECESSARY.

3. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

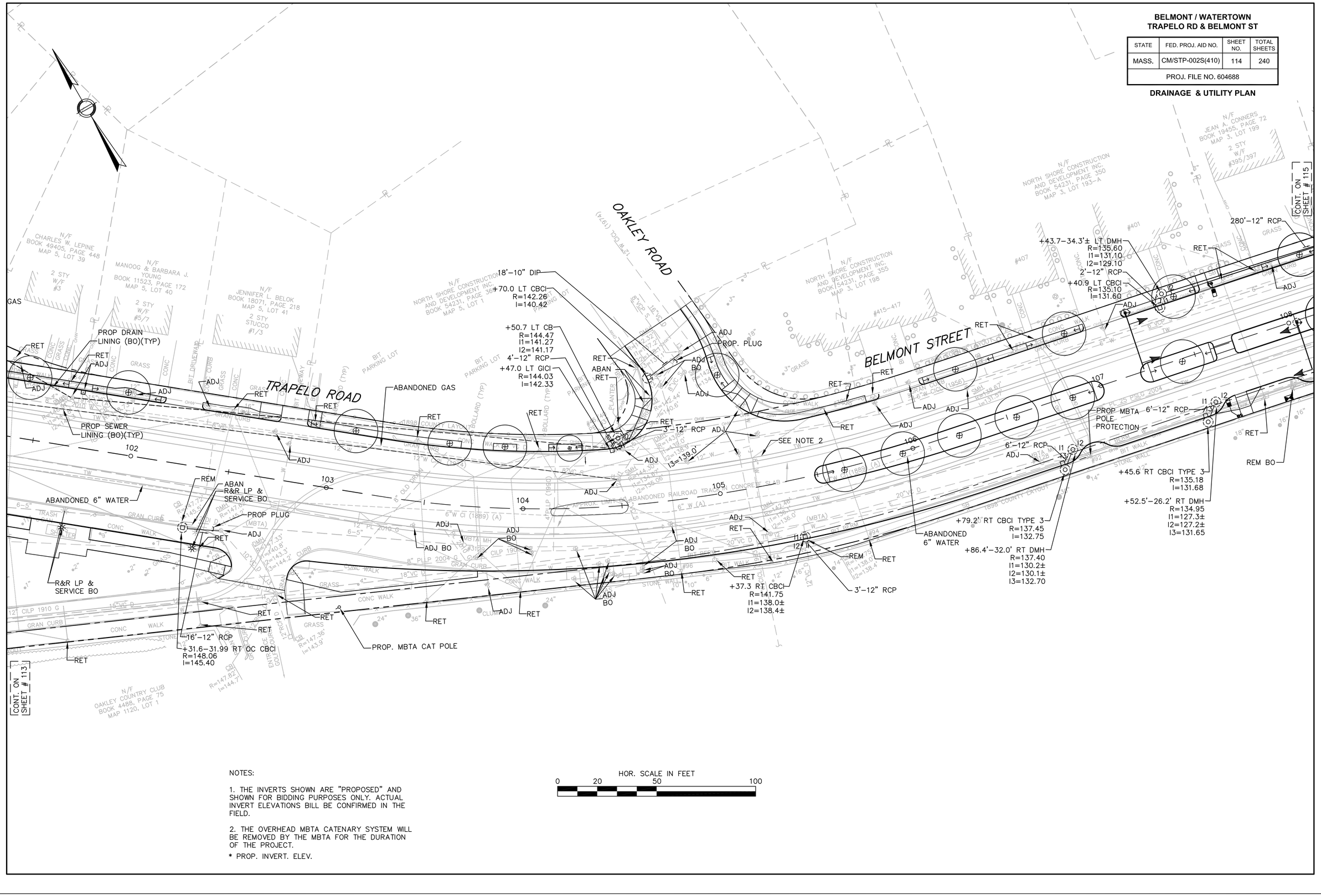
4. THE OVERHEAD MBTA CATENARY SYSTEM WILL BE REMOVED BY THE MBTA FOR THE DURATION OF THE PROJECT.

* PROP. INVERT. ELEV.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	114	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN



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* PROP. INVERT. ELEV.

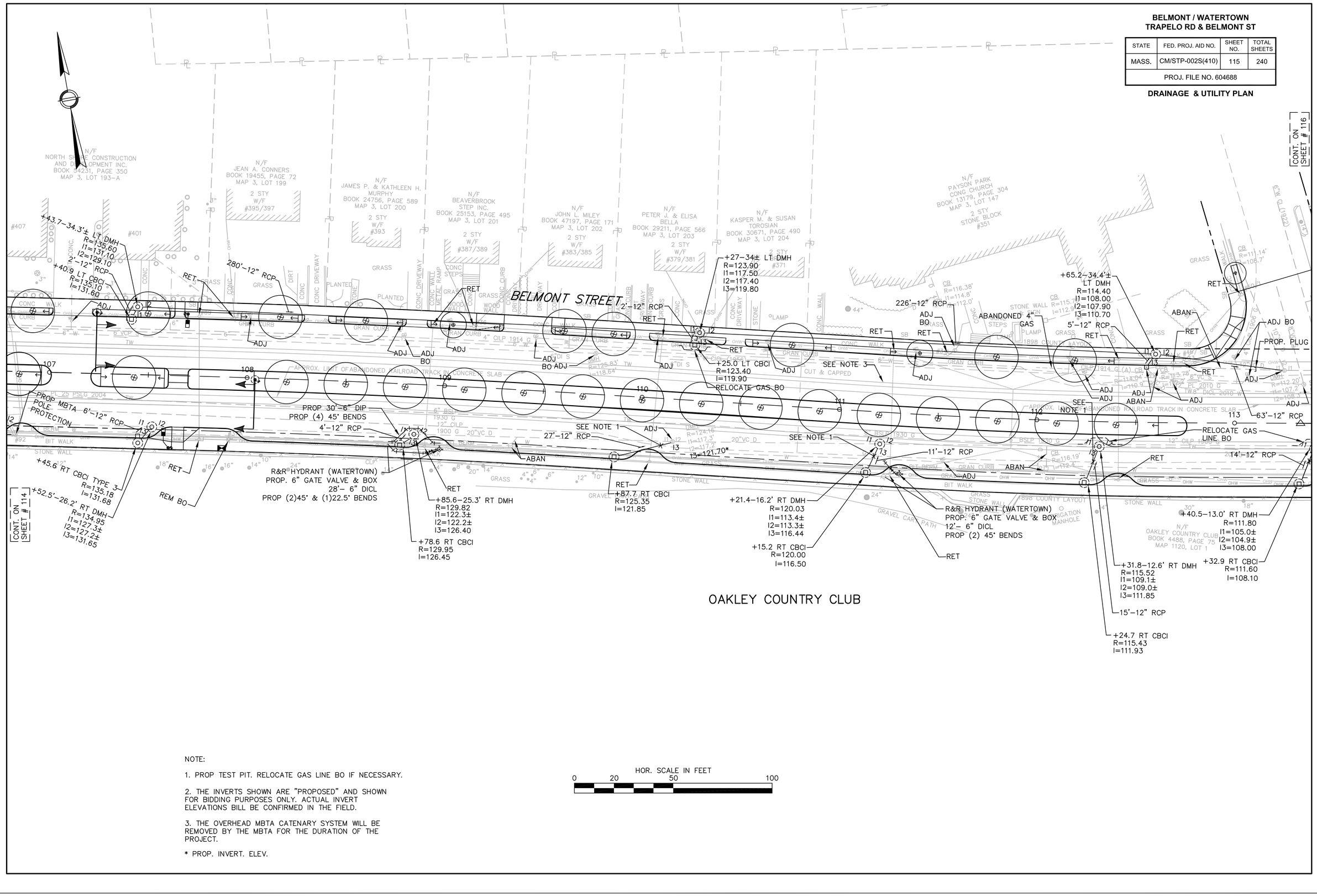
HOR. SCALE IN FEET

0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	115	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN



NOTE:

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* PROP. INVERT. ELEV.

HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	116	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

BELMONT STREET
PAYSON ROAD
VAN NESS ROAD
STULTS ROAD
COMMONWEALTH ROAD
CARVER ROAD

+65.2–34.4' LT DMH R=114.40 I1=108.00 I2=107.90 I3=110.70
5'–12" RCP
+16.1–62.0'± LT CBCI R=106.30 I=102.80
49'–12" RCP
+85.8–34.6± LT CB WITH FRAME AND COVER R=107.28 I1=102.85 I2=102.75
3'–12" RCP
+85.9 LT GICI R=106.71 I=103.21
32'–12" RCP
+46.0–52.4' LT CBCI R=105.60 I=102.10
14'–12" RCP
+39.6–33.8' LT DMH R=105.45 I1=101.60 I2=99.50 I3=102.30 I4=102.00
2'–12" RCP
+41.7–27.9' LT DMH R=105.45 I1=99.3± I2=99.40 I3=99.3±
+3.9–87.5'± LT CBCI R=100.70 I=97.20
+28.2–53± LT DMH R=99.60 I1=93.10 I2=95.90 I3=96.00
37'–12" RCP
5'–12" RCP
+37.5–56.6'± LT CBCI R=99.50 I=96.00
24'–12" RCP
+44.9–29.0' LT DMH R=98.95 I1=93.9± I2=92.90 I3=92.45
ABANDONED 6" WATER
184'–15" RCP
+89.8
63'–12" RCP
14'–12" RCP
41'–12" RCP
+56.4 RT CBCI R=98.50 I=95.00
+40.5–13.0' RT DMH R=111.80 I1=105.0± I2=104.9± I3=108.00
+32.9 RT CBCI R=111.60 I=108.10
+31.8–12.6' RT DMH R=115.52 I1=109.1± I2=109.0± I3=111.85
15'–12" RCP
+24.7 RT CBCI R=115.43 I=111.93
+77.1 RT CBCI R=94.31 I=90.81
+01.7–20.4' RT DMH R=97.12 I1=93.8± I2=93.9± I3=94.75
+07.5 RT CBCI R=97.12 I=93.75
RELOCATE GAS LINE BO
RELOCATED OVERHEAD WIRE BO
R&R BO
PROP. PLUG
ABAN
RET
ADJ
ADJ BO
SEE NOTE 1
SEE NOTE 3
CONT. ON SHEET # 115
CONT. ON SHEET # 117

HOR. SCALE IN FEET
0 20 50 100

NOTE:

1. PROP TEST PIT. RELOCATE GAS LINE BO IF NECESSARY.

2. THE INVERTS SHOWN ARE "PROPOSED" AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS BILL BE CONFIRMED IN THE FIELD.

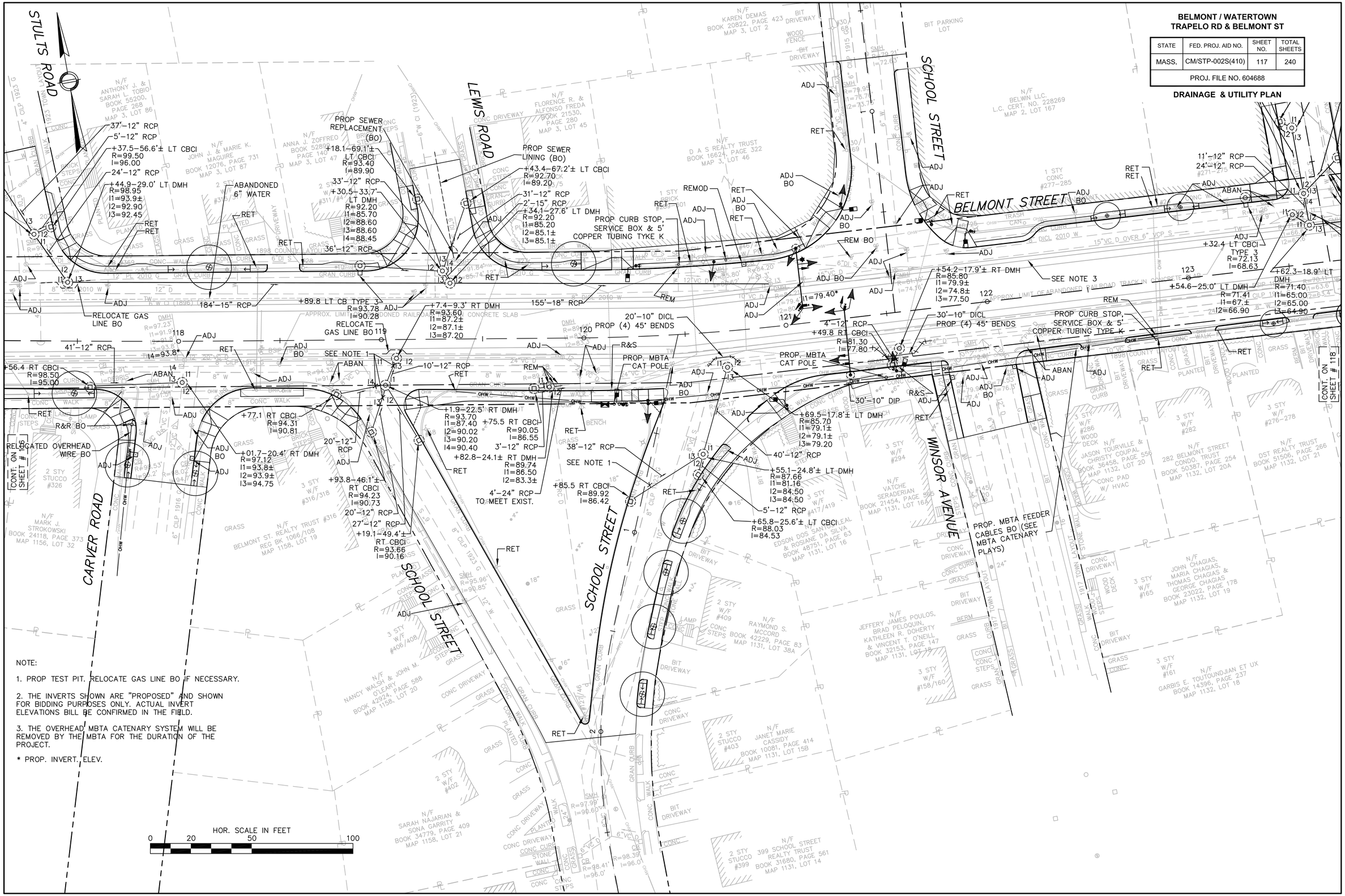
3. THE OVERHEAD MBTA CATENARY SYSTEM WILL BE REMOVED BY THE MBTA FOR THE DURATION OF THE PROJECT.

* PROP. INVERT. ELEV.

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	117	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN



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BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	118	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

NEWTON STREET
WORCESTER STREET
SPRINGFIELD STREET
FALMOUTH STREET
BELMONT STREET
LANGDON AVENUE
HILLSIDE ROAD
WESTLAND ROAD

[CONT. ON SHEET # 119]
[CONT. ON SHEET # 117]

NOTE:

1. PROP TEST PIT. RELOCATE GAS LINE BO IF NECESSARY.

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HOR. SCALE IN FEET
0 20 50 100

BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	119	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

CONT. ON SHEET # 118

CONT. ON SHEET # 120

FALMOUTH STREET

GROVE STREET

PARK ROAD

BELMONT STREET

WESTLAND ROAD

WOODLEIGH ROAD

PROP. DRAIN LINING (BO)

PROP. DMH (BO)

PROP. 12" PVC (BO)

MEET EXISTING PIPE AT I=48.2±

+49.4 LT CB TYPE 3 R=58.56 I=55.06

24'-12" RCP

+70.2-17.7' LT DMH R=58.62 I1=52.22 I2=54.90 I3=52.12

14'-6" DICL PROP (2) 45° BENDS

221'-24" RCP

7'-12" RCP

11'-12" RCP

+68.0-53.2'± RT CBCI R=58.55 I=55.05

SEE NOTE 1

+56.7-47'± RT DMH R=58.90 I1=54.0± I2=54.60 I3=54.1± I4=55.00

45'-12" RCP

+68.2 LT CBCI R=54.28 I=50.78

+94.5-17.1' LT DMH R=54.79 I1=48.39 I2=48.54 I3=48.29 I4=50.50

R&R BO

RELOCATED OVERHEAD WIRE BO

118'-24" RCP

26'-12" RCP

+17.5 LT CBCI R=52.80 I=49.30

+17.5-18.3' LT DMH R=53.18 I1=46.78 I2=49.00 I3=46.68

PROP. MBTA CAT POLE

RELOCATE GAS BO

9'-12" RCP

SEE NOTE 1

SEE NOTE 3

APPROX. LIMIT OF ABANDONED RAILROAD TRACK IN CONCRETE SLAB

262'-24" RCP

+37.5 LT CBCI R=49.50 I=46.00

+84.4-15.7' ± LT DMH R=49.65 I1=43.15 I2=45.45 I3=43.05

+98.4 RT CBCI TYPE 3 R=48.88 I=45.38

HOR. SCALE IN FEET

0 20 50 100

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BELMONT / WATERTOWN
TRAPELO RD & BELMONT ST

STATE	FED. PROJ. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CM/STP-002S(410)	120	240
PROJ. FILE NO. 604688			

DRAINAGE & UTILITY PLAN

GROVE STREET
MARION ROAD
MARLBORO STREET
BELMONT STREET
TEMPLETON PARKWAY
ARLINGTON STREET

[CONT. ON SHEET # 121]
[CONT. ON SHEET # 119]
CONT. ON SHEET DU-26

NOTE:

1. PROP TEST PIT. RELOCATE GAS LINE BO IF NECESSARY.

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HOR. SCALE IN FEET
0 20 50 100