MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

PLAN & PROFILE OF

MASSACHUSETTS AVENUE ROADWAY IMPROVEMENTS

IN THE TOWN OF

LEXINGTON

MIDDLESEX COUNTY

FEDERAL AID PROJECT NO. HSI/TAP-002S(917)X

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	1	126
	PROJECT FILE NO. 607409		

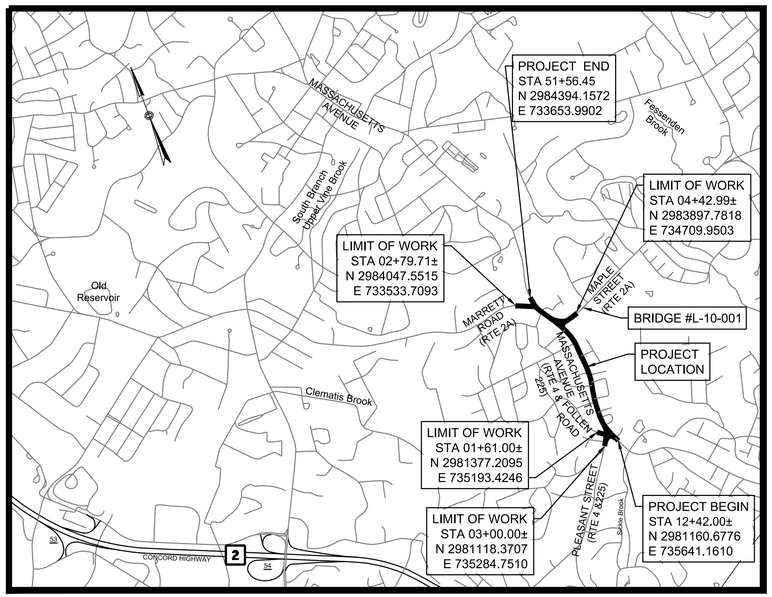
TITLE SHEET & INDEX

607409_HDITLI.DWG 23-Sep-2016

THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 1988, AS AMENDED, THE SUPPLEMENTAL SPECIFICATIONS DATED JULY 1, 2015, THE 2014 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET & INDEX
2	KEY & BORING LOCATION
3	BORING LOGS
4	LEGEND & GENERAL NOTES
5-9	TYPICAL SECTIONS
10-17	CONSTRUCTION PLANS
18-28	PROFILE PLANS
29-37	GRADING & TIE PLANS
38-45	DRAINAGE & UTILITY PLANS
46-53	PAVEMENT MARKING & SIGN PLANS
54-57	SIGN SUMMARY
58-62	TRAFFIC SIGNAL PLANS
63-66	TEMPORARY TRAFFIC CONTROL PLANS
67-68	LANDSCAPING PLANS & DETAILS
69-70	WHEELCHAIR RAMP DETAILS
71	DRIVEWAY DETAILS
72-74	CONSTRUCTION DETAILS
75-126	CROSS SECTIONS



DESIGN DESIGNATION (MASSACHUSETTS AVENUE)

DESIGN SPEED	35 MPH
ADT (2013)	20,370
ADT (2023)	21,200
K	8.0%
D	52% WB
T (PEAK HOUR)	3.8%
T (AVERAGE DAY)	7.5%
DHV	1,696
DDHV	882
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL

DESIGN DESIGNATION (MARRETT ROAD)

DESIGN SPEED	30 MPH
ADT (2013)	7,815
ADT (2023)	8,055
K	9.7%
D	52% SB
T (PEAK HOUR)	N/A
T (AVERAGE DAY)	N/A
DHV	781
DDHV	407
FUNCTIONAL CLASSIFICATION	URBAN MINOR ARTERIAL

DESIGN DESIGNATION (MAPLE STREET)

DESIGN SPEED	30 MPH
ADT (2013)	12,760
ADT (2023)	13,280
K	9.6%
D	52% EB
T (PEAK HOUR)	4.6%
T (AVERAGE DAY)	5.6%
DHV	1,275
DDHV	665
FUNCTIONAL CLASSIFICATION	URBAN MINOR ARTERIAL

DESIGN DESIGNATION (PLEASANT STREET)

DESIGN SPEED	30 MPH
ADT (2013)	13,955
ADT (2023)	14,525
K	7.0%
D	54% SB
T (PEAK HOUR)	3.6%
T (AVERAGE DAY)	4.2%
DHV	1,017
DDHV	549
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL

DATE	DESCRIPTION	REV #

1500 0 1500 3000

SCALE 1" = 1500'

100%/PSE SUBMISSION
JULY, 2016

LENGTH OF PROJECT (MASSACHUSETTS AVENUE) = 3914.45 FEET = 0.741 MILES
LENGTH OF PROJECT (PLEASANT STREET) = 300.00 FEET = 0.057 MILES
LENGTH OF PROJECT (MAPLE STREET) = 442.99 FEET = 0.084 MILES
LENGTH OF PROJECT (MARRETT ROAD) = 279.71 FEET = 0.053 MILES

BSC GROUP
803 Summer Street
Boston, Massachusetts 02127
www.bscgroup.com 617 896 4300

massDOT
Massachusetts Department of Transportation
Highway Division

RECOMMENDED FOR APPROVAL

CHIEF ENGINEER DATE

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

APPROVED

HIGHWAY ADMINISTRATOR DATE

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

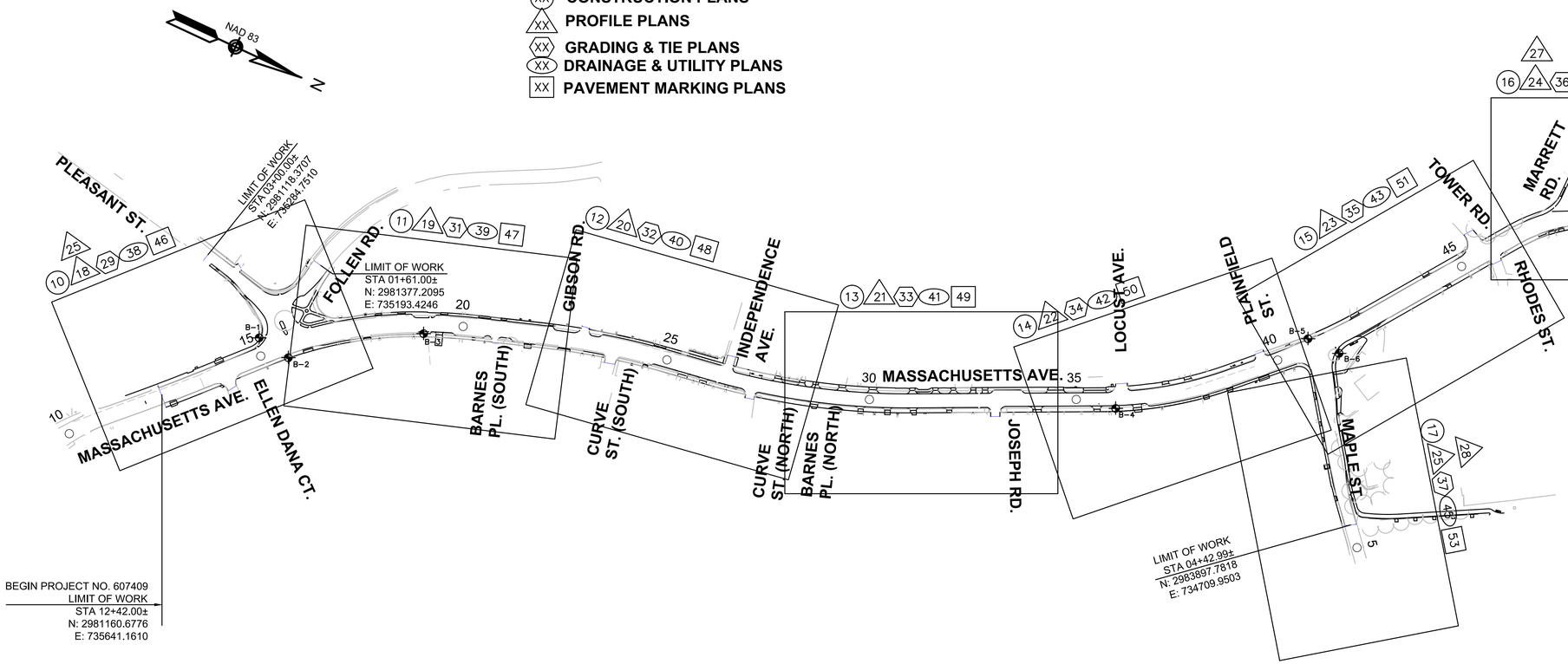
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	2	126
PROJECT FILE NO.	607409		

KEY & BORING LOCATION

607409_HD(KP).DWG Plotted on 23-Sep-2016 1:48 PM

LEGEND

- (XX) CONSTRUCTION PLANS
- XX PROFILE PLANS
- XX GRADING & TIE PLANS
- (XX) DRAINAGE & UTILITY PLANS
- [XX] PAVEMENT MARKING PLANS



BEGIN PROJECT NO. 607409
LIMIT OF WORK
STA 12+42.00±
N: 2981160.6776
E: 735641.1610

LIMIT OF WORK
STA 04+42.99±
N: 2983897.7818
E: 734709.9503

END PROJECT NO. 607409
LIMIT OF WORK
STA 51+56.45±
N: 2984394.1572
E: 733653.9902

HOR. SCALE IN FEET
0 150 375 750

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	3	126
PROJECT FILE NO.	607409		

BORING LOGS

607409_HD(EO).DWG Plotted on 23-Sep-2016 1:48 PM

Geologic - Earth Exploration, Inc.

7 Sherwood Drive, Norfolk, MA 02056
TEL 508-384-4434 FAX 508-384-4452

CLIENT: BSC Group
PROJECT: Mass Ave
LOCATION: Lexington, MA

BORING #: B-1
PAGE 1 OF 1

File #: 16041
Date Started: 03/14/16
Date Completed: 03/14/16
Driller: C. O'Donnell
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HSA	SS	
SIZE	3 1/4"	1 3/8"	
HAMMER		140#	---
FALL		30"	---

Surface Elevation:
Station:
Groundwater level readings
Date 3/14/16 Depth 8.5'
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
0	S-1	0.0-2.0	24	20	4-4-5-6	S-1 Dry loose fine to medium SAND, trace coarse Sand
5	S-2	4.0-6.0	24	12	4-12-13-17	S-2 Dry brown medium dense fine to medium SAND, some coarse Sand, trace fine Gravel
10	S-3	9.0-11.0	24	16	4-4-4-7	S-3 Wet loose light brown fine SAND, trace Silt
15	S-4	14.0-16.0	24	12	8-9-12-10	S-4 Wet medium dense brown fine to medium SAND, trace coarse Sand
20	S-5	19.0-21.0	24	18	8-9-11-10	S-5 Similar to S-4
25						Bottom of exploration at 21.0'
30						

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks: NOTE: All soil descriptions are made in the field by the Drilling Foreman. No laboratory analyses were performed for this purpose.

Geologic - Earth Exploration, Inc.

7 Sherwood Drive, Norfolk, MA 02056
TEL 508-384-4434 FAX 508-384-4452

CLIENT: BSC Group
PROJECT: Mass Ave
LOCATION: Lexington, MA

BORING #: B-2
PAGE 1 OF 1

File #: 16041
Date Started: 03/14/16
Date Completed: 03/14/16
Driller: C. O'Donnell
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HSA	SS	
SIZE	3 1/4"	1 3/8"	
HAMMER		140#	---
FALL		30"	---

Surface Elevation:
Station:
Groundwater level readings
Date 3/14/16 Depth 8.5'
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
0	S-1	0.0-0.0 0.5-2.5	0.5 24	 10	 1-3-4-7	4" Blacktop S-1 Dry loose brown fine SAND, some coarse Sand, trace Silt
5	S-2	4.0-6.0	24	10	11-17-17-6	S-2 Dry dense dark brown fine SAND, some fine Gravel, trace Cobble
10	S-3	9.0-11.0	24	20	5-9-9-18	S-3 Top of sample wet medium dense light brown SILT, trace fine Sand Bottom of sample wet medium dense light brown fine SAND, trace Silt
15	S-4	14.0-16.0	24	21	27-19-18-21	S-4 Wet dense brown fine to medium SAND, trace coarse Sand, trace Silt
20	S-5	19.0-21.0	24	24	23-28-31-35	S-5 Wet very dense brown fine to medium SAND, some Silt, trace coarse Sand
25						Bottom of exploration at 21.0'
30						

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks: NOTE: All soil descriptions are made in the field by the Drilling Foreman. No laboratory analyses were performed for this purpose.

Geologic - Earth Exploration, Inc.

7 Sherwood Drive, Norfolk, MA 02056
TEL 508-384-4434 FAX 508-384-4452

CLIENT: BSC Group
PROJECT: Mass Ave
LOCATION: Lexington, MA

BORING #: B-3
PAGE 1 OF 1

File #: 16041
Date Started: 03/15/16
Date Completed: 03/15/16
Driller: C. O'Donnell
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HSA	SS	
SIZE	3 1/4"	1 3/8"	
HAMMER		140#	---
FALL		30"	---

Surface Elevation:
Station:
Groundwater level readings
Date 3/15/16 Depth NE
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
0	S1	0.0-2.0	24	10	1-2-1-2	S1 Dry loose brown loamy fine SAND, trace Silt and medium Sand
5	S2	4.0-5.5	18	7	21-47-100/6	S2 Dry very dense brown fine SAND, some coarse to medium Sand and fine Gravel Boulder 5.5' - 7.0' Auger refusal at 8.0'
10						Bottom of exploration at 8.0'
15						
20						
25						
30						

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks: NOTE: All soil descriptions are made in the field by the Drilling Foreman. No laboratory analyses were performed for this purpose.

Geologic - Earth Exploration, Inc.

7 Sherwood Drive, Norfolk, MA 02056
TEL 508-384-4434 FAX 508-384-4452

CLIENT: BSC Group
PROJECT: Mass Ave
LOCATION: Lexington, MA

BORING #: B-3A
PAGE 1 OF 1

File #: 16041
Date Started: 03/17/16
Date Completed: 03/17/16
Driller: C. O'Donnell
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE	4"	1 3/8"	
HAMMER		140#	---
FALL		30"	---

Surface Elevation:
Station:
Groundwater level readings
Date 3/17/16 Depth 8.5'
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
0		0.0				No Samples 0 - 8.0'
5						
10	S1	9.0-9.1	1	0	100/1	Boulder at 8.0' - 9.0' S1 No Recovery Boulder at 9.5' - 11.0'
15	S2	14.0-15.1	13	8	37-69-100/1	S2 Wet very dense light brown fine to medium SAND and SILT, some fine Gravel Rollerbit refusal at 16.0', possible bedrock
20						Bottom of exploration at 16.0'
25						
30						

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks: NOTE: All soil descriptions are made in the field by the Drilling Foreman. No laboratory analyses were performed for this purpose.

Geologic - Earth Exploration, Inc.

7 Sherwood Drive, Norfolk, MA 02056
TEL 508-384-4434 FAX 508-384-4452

CLIENT: BSC Group
PROJECT: Mass Ave
LOCATION: Lexington, MA

BORING #: B-4
PAGE 1 OF 1

File #: 16041
Date Started: 03/15/16
Date Completed: 03/15/16
Driller: C. O'Donnell
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HSA	SS	
SIZE	3 1/4"	1 3/8"	
HAMMER		140#	---
FALL		30"	---

Surface Elevation:
Station:
Groundwater level readings
Date 3/15/16 Depth 8.5'
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
0	S1	0.0-2.0	24	8	1-2-1-3	S1 Dry loose brown loamy fine SAND, trace roots and medium Sand, Fill
5	S2	4.0-6.0	24	16	21-35-33-49	S2 Dry very dense light brown fine SAND, little coarse Sand and fine Gravel, trace Cobble Boulder at 7.0' - 8.5'
10	S3	9.0-11.0	24	15	45-60-75-61	S3 Wet very dense brown/gray fine to medium SAND, some coarse Sand and fine Gravel, trace Silt
15	S4	14.0-16.0	24	16	27-35-49-25	S4 Wet very dense brown fine to medium SAND, trace coarse Sand and Silt
20	S5	19.0-20.0	12	10	69-110/6	S5 Wet very dense brown fine SAND, some fine Gravel and coarse Sand, trace Silt
25						Bottom of exploration at 20.0'
30						

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks: NOTE: All soil descriptions are made in the field by the Drilling Foreman. No laboratory analyses were performed for this purpose.

Geologic - Earth Exploration, Inc.

7 Sherwood Drive, Norfolk, MA 02056
TEL 508-384-4434 FAX 508-384-4452

CLIENT: BSC Group
PROJECT: Mass Ave
LOCATION: Lexington, MA

BORING #: B-5
PAGE 1 OF 1

File #: 16041
Date Started: 03/16/16
Date Completed: 03/17/16
Driller: C. O'Donnell
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE	4"	1 3/8"	
HAMMER		140#	---
FALL		30"	---

Surface Elevation:
Station:
Groundwater level readings
Date 3/16/16 Depth 8.5'
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Sample Description
0	S1	0.0-2.0	24	20	2-7-11-12	S1 Dry medium dense fine SAND and SILT, trace Roots, trace medium to coarse Sand
5	S2	4.0-4.7	8	6	63-100/2	S2 Dry very dense brown/gray fine to coarse SAND and SILT, some fine Gravel Boulder 4.8' - 6.5'
10	S3	9.0-11.0	24	7	23-52-41-27	S3 Moist very dense brown fine to coarse SAND, some Silt, trace coarse Gravel
15	S4	14.0-14.7	8	6	23-100/2	S4 Similar to S3 Possible bedrock at 14.7' Rollerbit refusal at 15.5' Bottom of exploration at 15.5'
20						
25						
30						

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks: NOTE: All soil descriptions are made in the field by the Drilling Foreman. No laboratory analyses were performed for this purpose.

Geologic - Earth Exploration, Inc.

7 Sherwood Drive, Norfolk, MA 02056
TEL 508-384-4434 FAX 508-384-4452

CLIENT: BSC Group
PROJECT: Mass Ave
LOCATION: Lexington, MA

BORING #: B-6
PAGE 1 OF 1

File #: 16041
Date Started: 03/16/16
Date Completed: 03/16/16
Driller: C. O'Donnell
Site Rep.:

	CASING	SAMPLER	CORE BARREL
TYPE	HW	SS	
SIZE	4"	1 3/8"	
HAMMER		140#	---
FALL		30"	---

Surface Elevation:
Station:
Groundwater level readings
Date 3/16/16 Depth 12.0'
Date Depth

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Strata Change ft	Sample Description
0	S-1	0.0-2.0	24	2	2-5-2-3		S-1 Dry loose brown loamy Topsoil and fine Gravel
5	S-2	4.0-6.0	24	14	5-11-7-8		S-2 Dry medium dense light brown fine SAND, trace Silt and medium to coarse Sand
10	S-3	9.0-10.0	12	8	13-31-100/0		S-3 Dry very dense brown fine to coarse SAND and GRAVEL, trace Cobble Boulder at 10.0' - 13.0'
15	S-4	14.0-15.5	18	7	31-66-100/6	15.5	S-4 Wet very dense brown fine to coarse SAND, trace Silt and fine Gravel, Till
	C-1	17.0-18.0	12	10			C-1 Weathered Bedrock
	S-5	18.0-18.2	2	1	100/2		S-5 Weathered Bedrock
20	C-2	18.2-19.2	12	2		19.0	C-2 Weathered Bedrock Bottom of exploration at 19.0'
25							
30							

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks: NOTE: All soil descriptions are made in the field by the Drilling Foreman. No laboratory analyses were performed for this purpose.

NOTE:
BORING B-3 & B-3A WERE PERFORMED AT THE SAME LOCATION.

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
JB	JB	JERSEY BARRIER
CB	CB	CATCH BASIN
		CATCH BASIN CURB INLET
	A#	CURB CUT TYPE
FP	FP	FLAG POLE
GP	GP	GAS PUMP
MB	MB	MAIL BOX
		POST SQUARE
		POST CIRCULAR
WELL	WELL	WELL
EHH	EHH	ELECTRIC HANDHOLE
		FENCE GATE POST
GG	GG	GAS GATE
BHL #	BHL #	BORING HOLE
MW #	MW #	MONITORING WELL
TP #	TP #	TEST PIT
		HYDRANT
		LIGHT POLE
CO.BD.		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
MHB	MHB	MASSACHUSETTS HIGHWAY BOUND
MON		MONUMENT
SB		STONE BOUND
TB		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
TPL or GUY	TPL or GUY	TROLLEY POLE OR GUY POLE
HTP		TRANSMISSION POLE
UFB	UFB	UTILITY POLE W/ FIREBOX
UPDL	UPDL	UTILITY POLE WITH DOUBLE LIGHT
ULT	ULT	UTILITY POLE W / 1 LIGHT
UPL	UPL	UTILITY POLE
		BUSH
SIZE & TYPE		TREE
		STUMP
		SWAMP / MARSH
WG	WG	WATER GATE
PM	PM	PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
100 99		CONTOURS (ON-THE-GROUND SURVEY DATA)
100 99		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
x	x	CHAIN LINK OR METAL FENCE
		WOOD FENCE
		HAY BALES/SILT FENCE
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
1	1	CONTROLLER PHASE ACTUATED
		TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
		VIDEO DETECTION CAMERA
		MICROWAVE DETECTOR
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
	*	EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
RRSG	RRSG	RAILROAD SIGNAL
OR		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
	20'	MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
		SIGN AND POST
		SIGN AND POST (2 POSTS)
	20'	MAST ARM WITH LUMINAIRE
		OPTICAL PRE-EMPTION DETECTOR
		CONTROL CABINET, GROUND MOUNTED
		CONTROL CABINET, POLE MOUNTED
		FLASHING BEACON CONTROL AND METER PEDESTAL
		LOAD CENTER ASSEMBLY
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT

PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		PAVEMENT ARROW - WHITE
ONLY	ONLY	LEGEND "ONLY" - WHITE
	SL	STOP LINE
	CW	CROSSWALK
	SWL	SOLID WHITE LINE
	SYL	SOLID YELLOW LINE
	BWL	BROKEN WHITE LINE
	BYL	BROKEN YELLOW LINE
	DWL	DOTTED WHITE LINE
	DYL	DOTTED YELLOW LINE
	DWLEx	DOTTED WHITE LINE EXTENSION
	DYLEx	DOTTED YELLOW LINE EXTENSION
	DBWL	DOUBLE WHITE LINE
	DBYL	DOUBLE YELLOW LINE
		12" YELLOW TRANSVERSE LINES @ 10' O.C. @ 45°

1. 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.
2. ALL EXISTING MUNICIPAL UTILITY CASTINGS THAT ARE TO REMAIN 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.
3. HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83), VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
4. 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.
5. 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.
6. THE CONTRACTOR SHALL ENSURE THAT ALL ROADWAY RUNOFF SHALL BE DIRECTED TO CATCH BASINS.
7. ALL WHEELCHAIR RAMPS SHALL BE CONSTRUCTED TO COMPLY WITH THE LATEST MASSDOT - HIGHWAY DIVISION STANDARDS.
8. 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.
9. ALL EXISTING TREES TO REMAIN SHALL BE PROTECTED FROM DAMAGE CAUSED BY CONTRACTORS OPERATIONS.

ABBREVIATIONS

GENERAL

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CIT	CHANGE IN TYPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LB	LEACH BASIN
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT

ABBREVIATIONS (cont.)

GENERAL

R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
WCR	WHEEL CHAIR RAMP
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

TRAFFIC SIGNAL

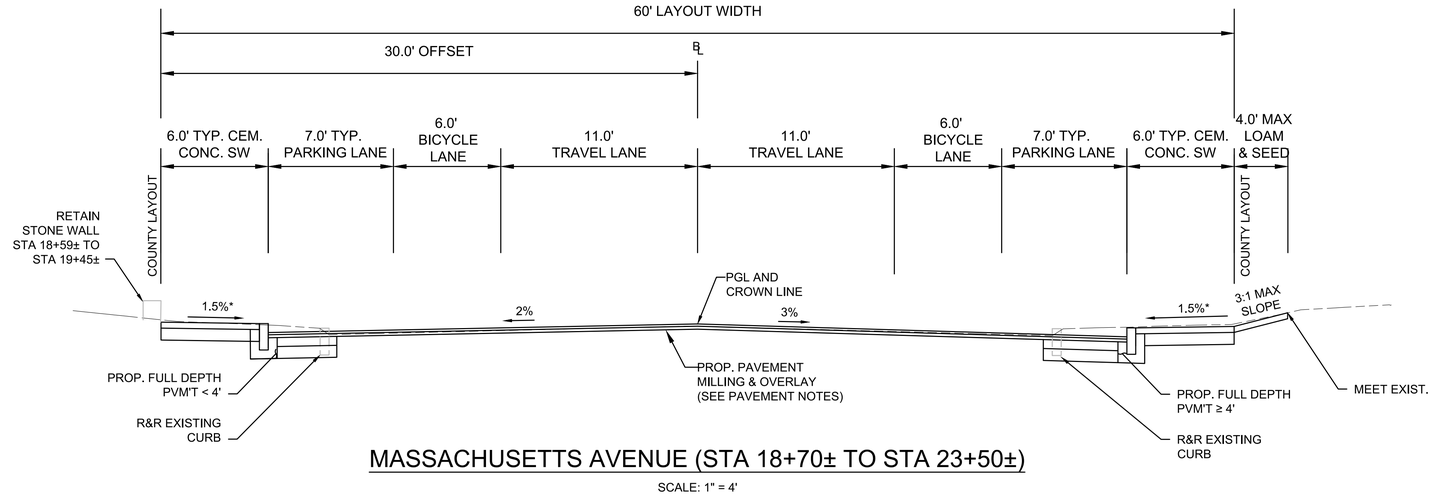
CAB.	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
DW	STEADY DON'T WALK
FDW	FLASHING DON'T WALK
FR	FLASHING CIRCULAR RED
FRL	FLASHING RED LEFT ARROW
FRR	FLASHING RED RIGHT ARROW
FY	FLASHING CIRCULAR AMBER
FYL	FLASHING AMBER LEFT ARROW
FYR	FLASHING AMBER RIGHT ARROW
G	STEADY CIRCULAR GREEN
GL	STEADY GREEN LEFT ARROW
GR	STEADY GREEN RIGHT ARROW
GSL	STEADY GREEN SLASH LEFT ARROW
GSR	STEADY GREEN SLASH RIGHT ARROW
GV	STEADY GREEN VERTICAL ARROW
OL	OVERLAP
PED	PEDESTRIAN
PTZ	PAN, TILE, ZOOM
R	STEADY CIRCULAR RED
RL	STEADY RED LEFT ARROW
RR	STEADY RED RIGHT ARROW
TR SIG	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
W	STEADY WALK
Y	STEADY CIRCULAR AMBER
YL	STEADY AMBER LEFT ARROW

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	4	126
PROJECT FILE NO.	607409		

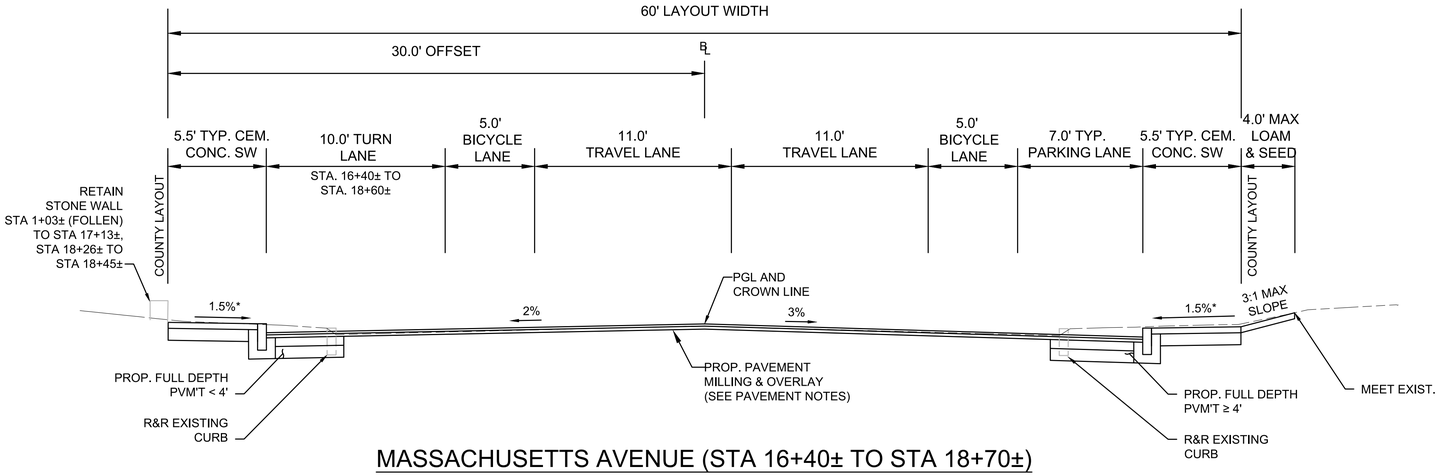
LEGEND & GENERAL NOTES

607409_HD(LN).DWG Plotted on 23-Sep-2016 1:48 PM



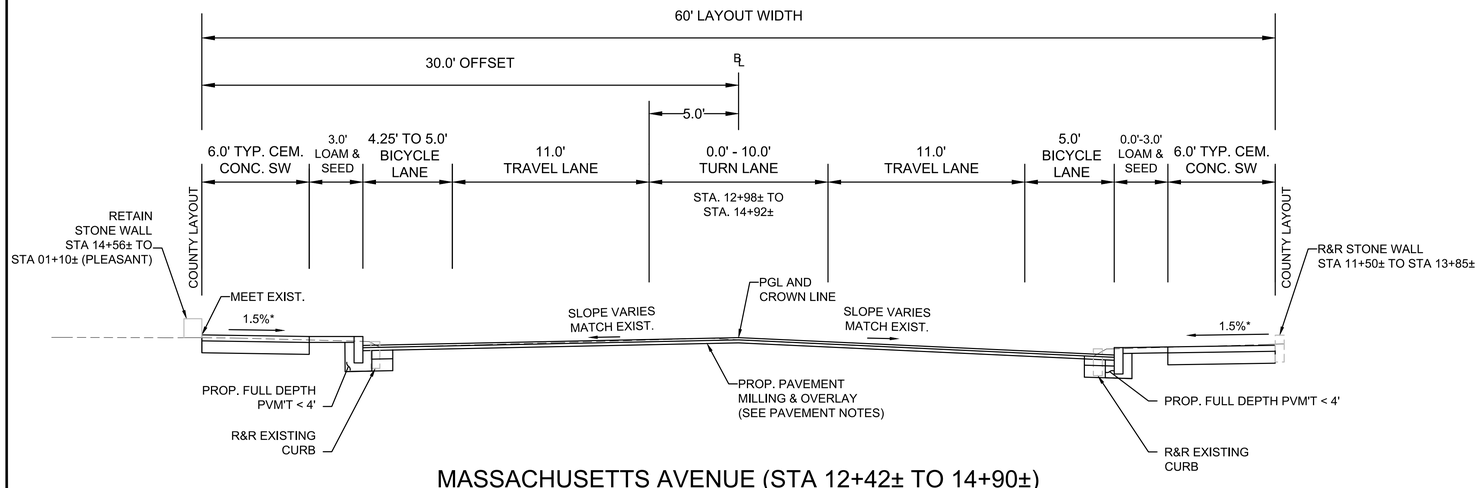
MASSACHUSETTS AVENUE (STA 18+70± TO STA 23+50±)

SCALE: 1" = 4'



MASSACHUSETTS AVENUE (STA 16+40± TO STA 18+70±)

SCALE: 1" = 4'



MASSACHUSETTS AVENUE (STA 12+42± TO 14+90±)

SCALE: 1" = 4'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	5	126
PROJECT FILE NO.	607409		

TYPICAL SECTIONS
SHEET 1 OF 5

PROPOSED PAVEMENT NOTES

PROPOSED PAVEMENT MILLING AND OVERLAY

1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
0.05 GAL/SY TACK COAT OVER
2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER
0.07 GAL/SY TACK COAT OVER
VARIABLE DEPTH PAVEMENT MILLING (MAX. 3")

PROPOSED PAVEMENT MILLING AND OVERLAY WITH LEVELING COURSE

1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
0.05 GAL/SY TACK COAT OVER
2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER
0.05 GAL/SY TACK COAT OVER
2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER
0.07 GAL/SY TACK COAT OVER
VARIABLE DEPTH PAVEMENT MILLING (MAX. 3")

PROPOSED FULL DEPTH RECONSTRUCTION (FULL DEPTH PAVEMENT ≥ 4')

1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
0.05 GAL/SY TACK COAT OVER
2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER
0.05 GAL/SY TACK COAT OVER
2.5" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0) OVER
0.05 GAL/SY TACK COAT OVER
2.5" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0) OVER
4" DENSE GRADED CRUSHED STONE OVER
8" GRAVEL BORROW TYPE B

FULL DEPTH PAVEMENT WIDENING < 4'

1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
0.05 GAL/SY TACK COAT OVER
2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER
0.07 GAL/SY TACK COAT OVER
6" HIGH EARLY STRENGTH CONCRETE BASE COURSE OVER
8" GRAVEL BORROW TYPE B

CEMENT CONCRETE SIDEWALK/WALK/WCR

4" CEMENT CONCRETE AIR ENTRAINED 4000 PSI, ¾", 610 LB/CY, OVER
8" GRAVEL BORROW TYPE B

CEMENT CONCRETE SIDEWALK AT DRIVEWAY

6" CEMENT CONCRETE AIR ENTRAINED 4000 PSI, ¾", 610 LB/CY, OVER
8" GRAVEL BORROW TYPE B

HMA DRIVEWAY

1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER
8" GRAVEL BORROW TYPE B

HMA SIDEWALK

1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER
8" GRAVEL BORROW TYPE B OVER
ORDINARY BORROW AS NEEDED

NOTES:

1. EXISTING GRAVEL BORROW SATISFYING GRADATION REQUIREMENTS SHALL REMAIN IN PLACE. UNSUITABLE MATERIALS SHALL BE REPLACED WITH GRAVEL BORROW FOR BASE COURSE.
2. PREPARATION OF UNDERLYING SURFACE, ASPHALT EMULSION FOR TACK COAT, HMA FOR PATCHING, AND HMA JOINT SEALANT SHALL BE IN ACCORDANCE WITH SECTION 450.
3. ALL PAVEMENT MILLING SHALL ACHIEVE A 2% CROSS SLOPE OR AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

* CONSTRUCTION TOLERANCE ±0.5%

4. PEDESTRIAN PATH CONNECTION FROM MAPLE STREET TO MINUTEMAN BIKEWAY SHALL BE HMA SIDEWALK.
5. ASPHALT EMULSION SHALL BE RS-1H.

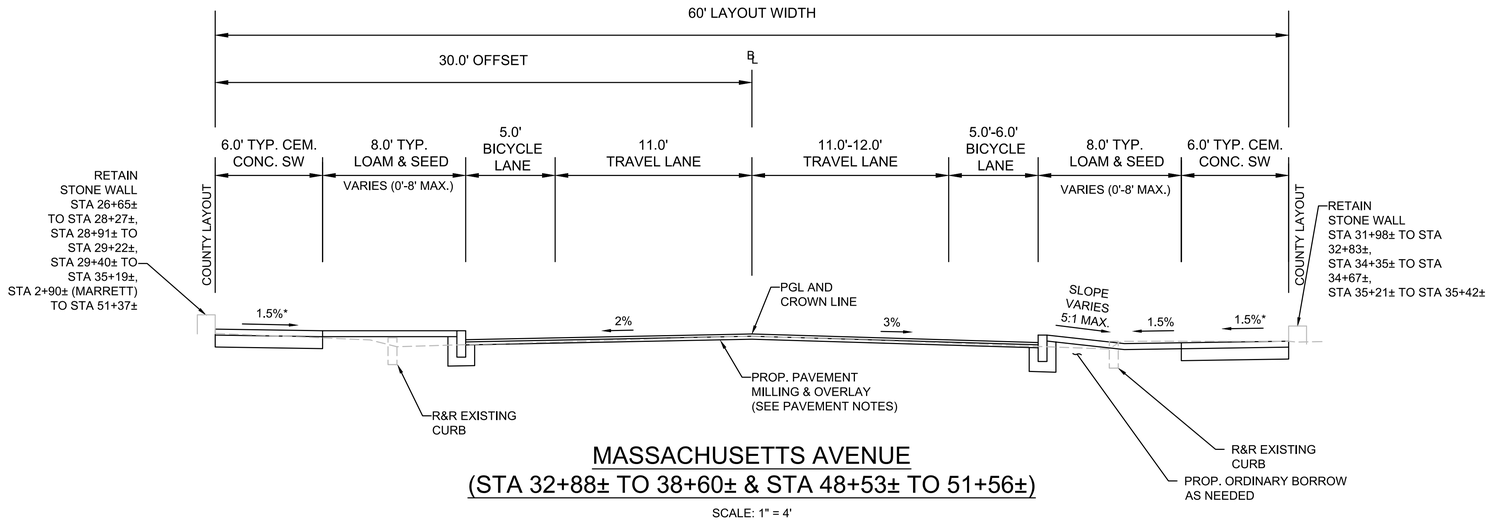
607409_HD(TY).DWG Plotted on 23-Sep-2016 1:49 PM

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	6	126
PROJECT FILE NO.	607409		

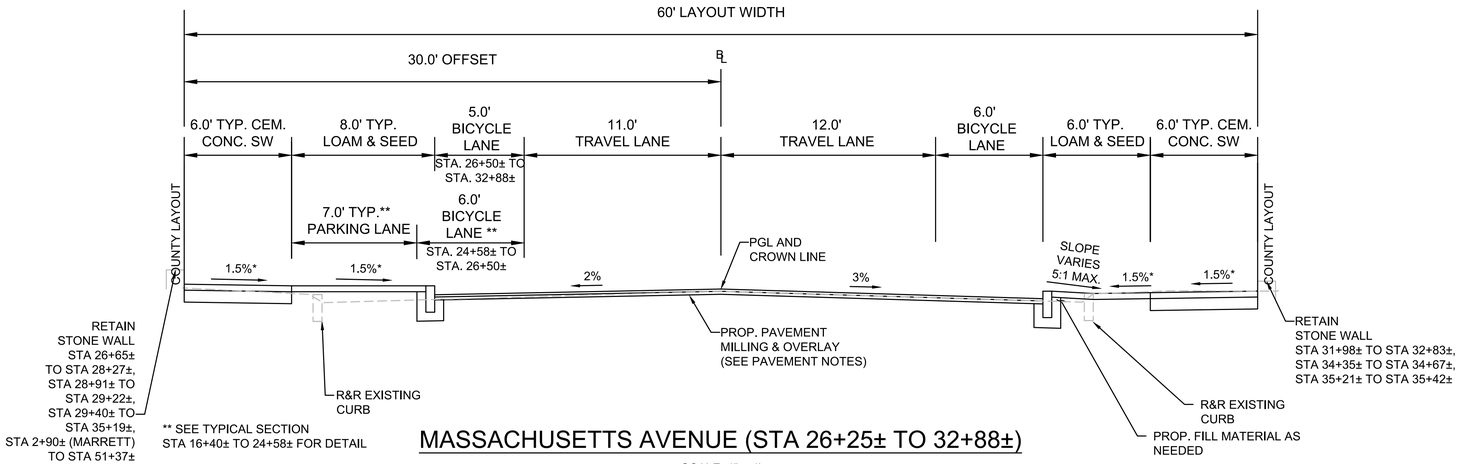
TYPICAL SECTIONS
SHEET 2 OF 5

607409_HD(TY).DWG Plotted on 23-Sep-2016 1:49 PM



MASSACHUSETTS AVENUE
(STA 32+88± TO 38+60± & STA 48+53± TO 51+56±)

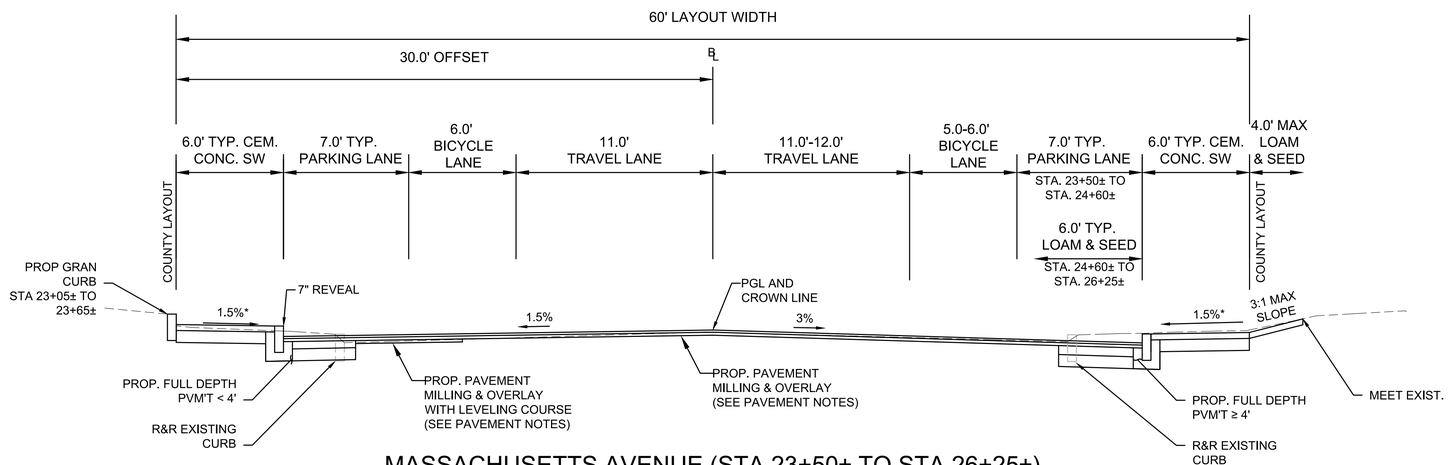
SCALE: 1" = 4'



** SEE TYPICAL SECTION STA 16+40± TO 24+58± FOR DETAIL

MASSACHUSETTS AVENUE (STA 26+25± TO 32+88±)

SCALE: 1" = 4'



MASSACHUSETTS AVENUE (STA 23+50± TO STA 26+25±)

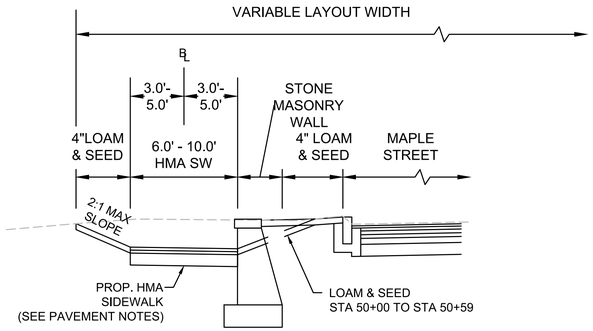
SCALE: 1" = 4'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	7	126
PROJECT FILE NO.	607409		

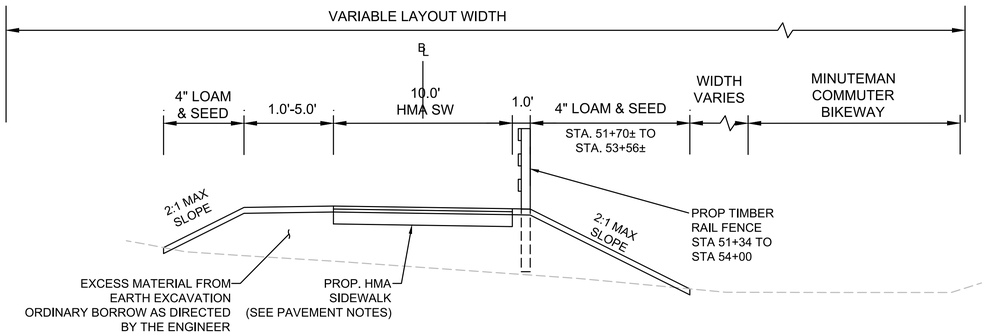
TYPICAL SECTIONS
SHEET 3 OF 5

607409_HD(TY).DWG Plotted on 23-Sep-2016 1:49 PM



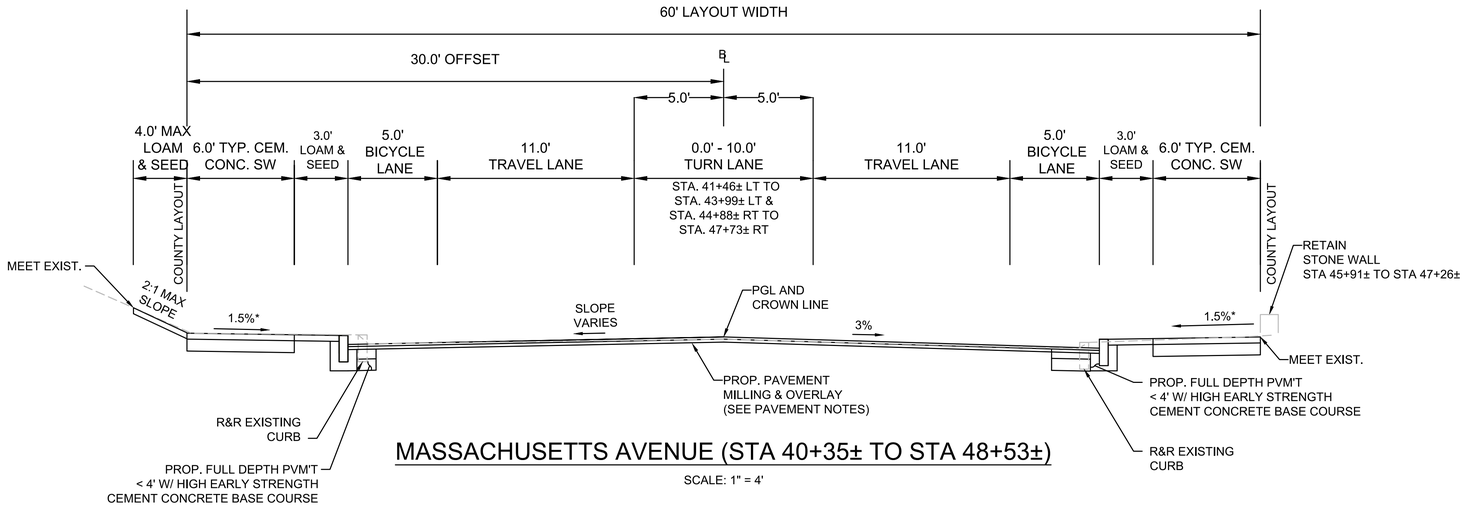
MINUTEMAN COMMUTER BIKEWAY (STA 50+00± TO STA 51+34±)

SCALE: 1" = 4'



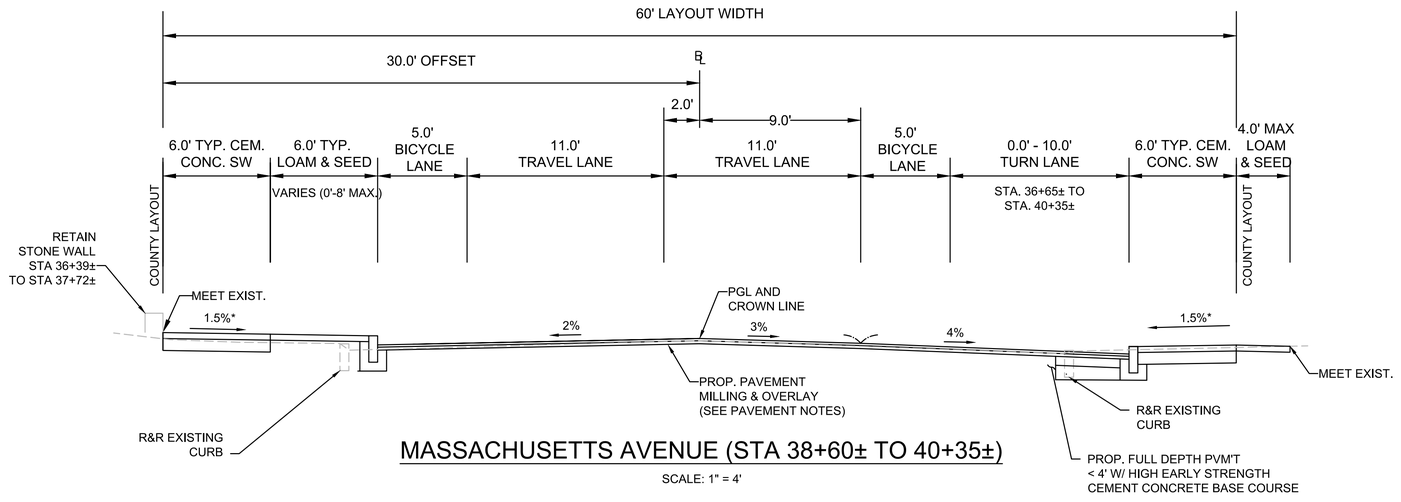
MINUTEMAN COMMUTER BIKEWAY (STA 51+34± TO STA 54+40±)

SCALE: 1" = 4'



MASSACHUSETTS AVENUE (STA 40+35± TO STA 48+53±)

SCALE: 1" = 4'



MASSACHUSETTS AVENUE (STA 38+60± TO 40+35±)

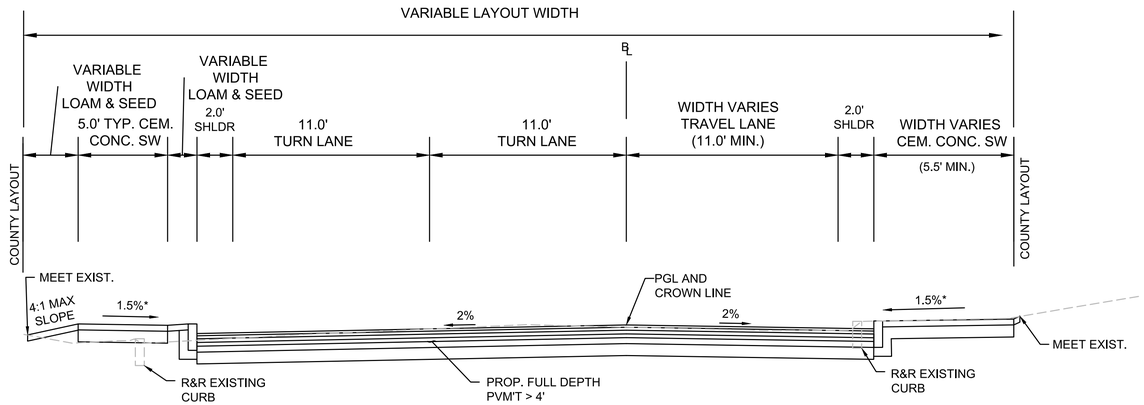
SCALE: 1" = 4'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	8	126
PROJECT FILE NO.	607409		

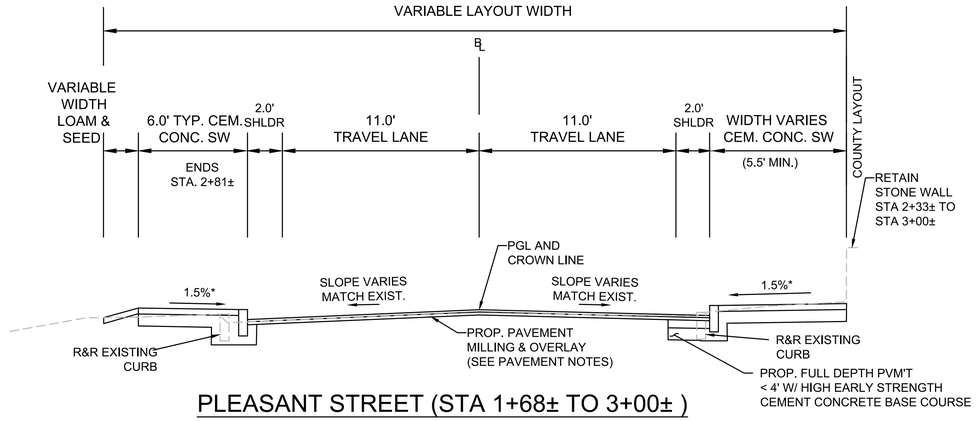
TYPICAL SECTIONS
SHEET 4 OF 5

607409_HD(TY).DWG Plotted on 23-Sep-2016 1:49 PM



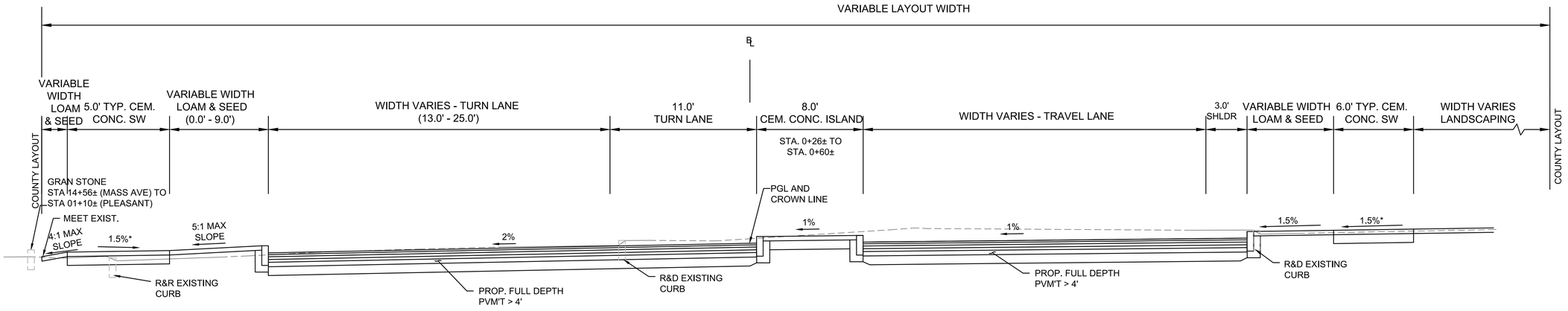
PLEASANT STREET (STA 0+88± TO 1+68±)

SCALE: 1" = 4'



PLEASANT STREET (STA 1+68± TO 3+00±)

SCALE: 1" = 4'



PLEASANT STREET (STA 0+25± TO 0+88±)

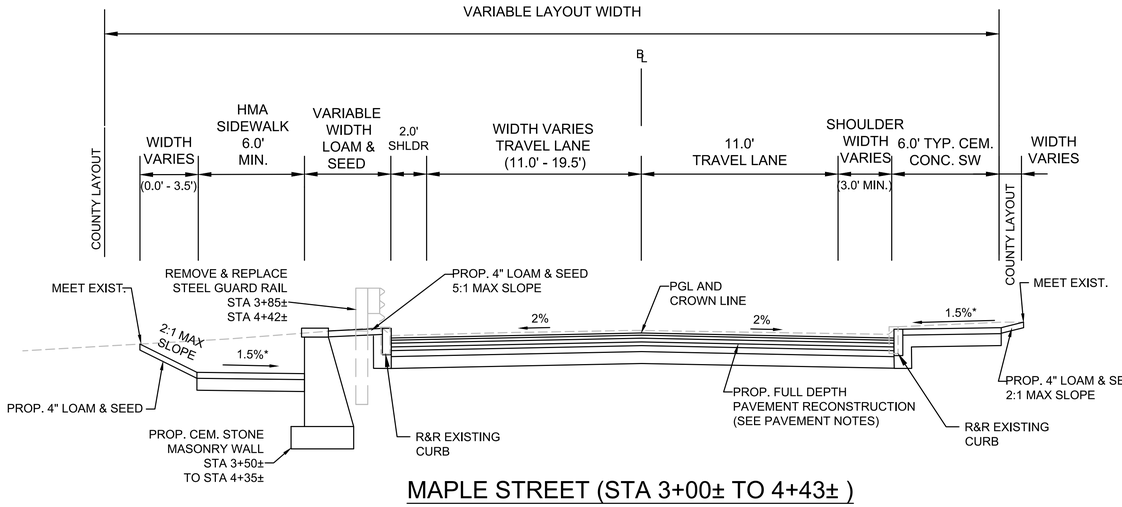
SCALE: 1" = 4'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	9	126
PROJECT FILE NO.	607409		

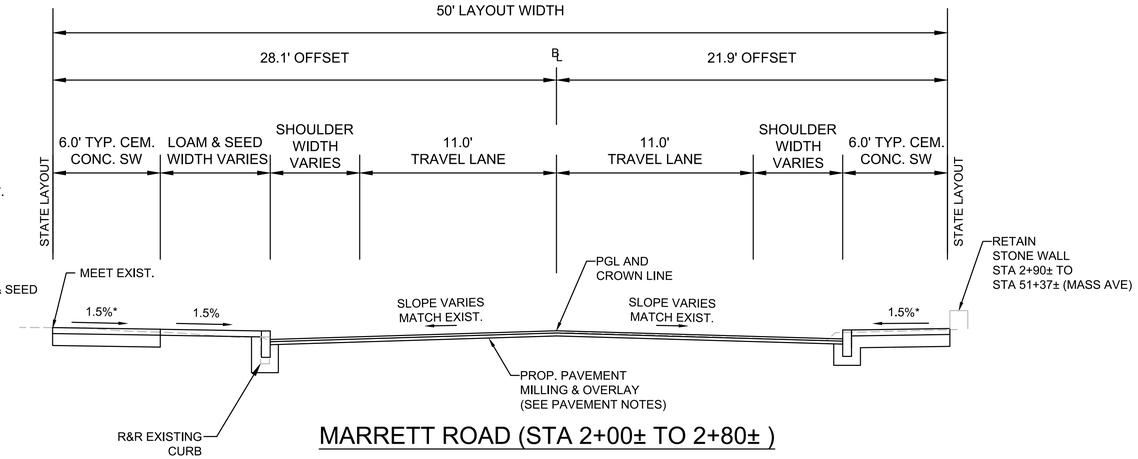
TYPICAL SECTIONS
SHEET 5 OF 5

607409_HD(TY).DWG Plotted on 23-Sep-2016 1:49 PM



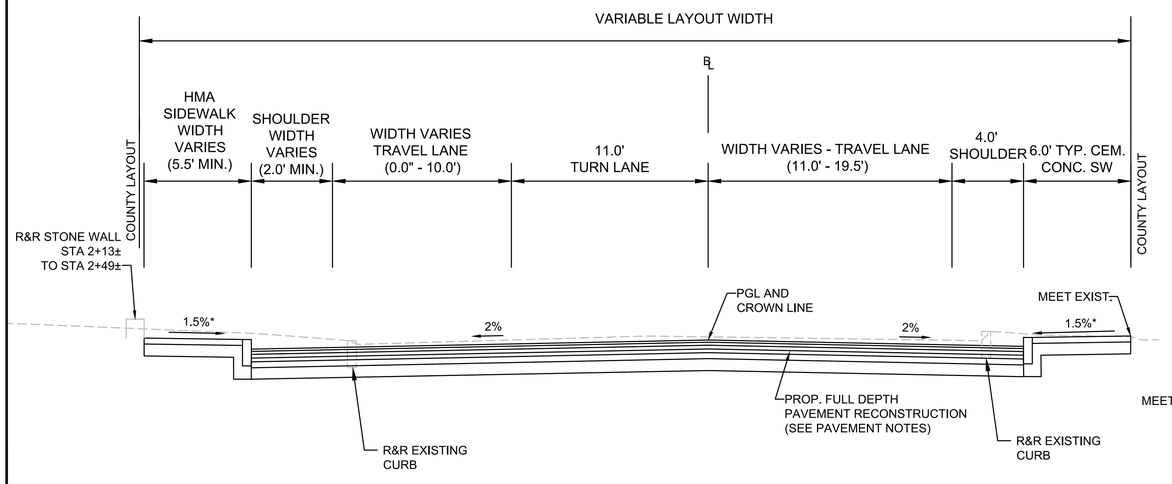
MAPLE STREET (STA 3+00± TO 4+43±)

SCALE: 1" = 4'



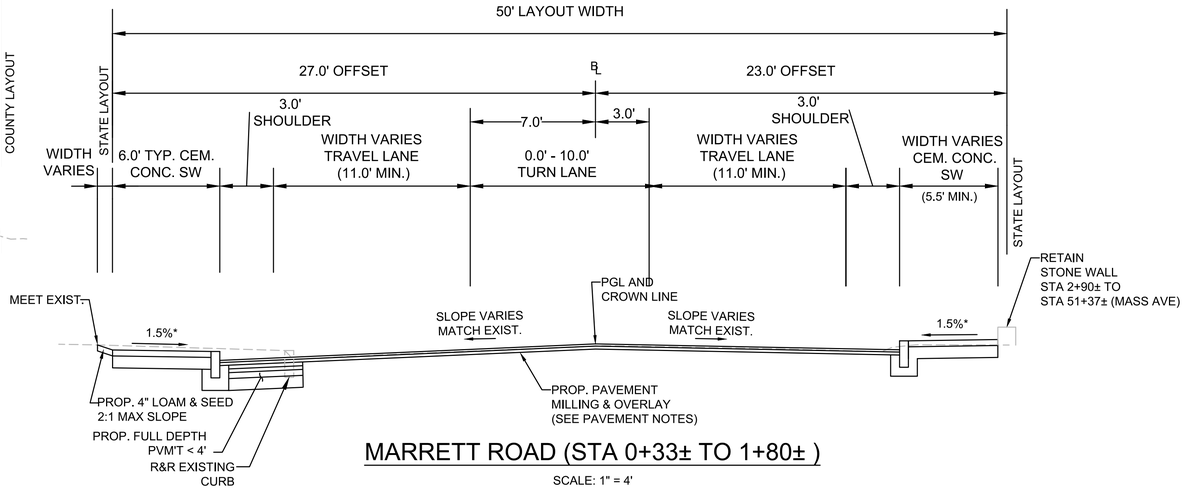
MARRETT ROAD (STA 2+00± TO 2+80±)

SCALE: 1" = 4'



MAPLE STREET (STA 0+63± TO 3+00±)

SCALE: 1" = 4'



MARRETT ROAD (STA 0+33± TO 1+80±)

SCALE: 1" = 4'

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET 58

WHEELCHAIR RAMP DETAILS
SEE SHEET 69,70&71

WATER SUPPLY ALTERATIONS
SEE SHEET 38

DRAINAGE DETAILS
SHEET 38

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	10	126
PROJECT FILE NO.	607409		

CONSTRUCTION PLAN
SHEET 1 OF 8

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM

PLANT SCHEDULE			
SYMBOL	COMMON NAME	BOTANICAL NAME	COUNT
MS	ZUMI CRABAPPLE	MALUS ZUMI CALOCARPA	2
SR	JAPANESE TREE LILAC	SYRINGA RETICULATA (SINGLE STEM)	2

NAD 83

N

BEGIN PROJECT NO. 607409
LIMIT OF WORK / SAWCUT / MEET EXISTING
STA 12+42.00±
N:2981160.6776
E: 735641.1610

LIMIT OF WORK/ MEET EXISTING
STA 03+00.00±
N: 2981118.3707
E: 735284.7510

STA 0+97.58 PLEASANT ST. CONST. ℄ =
STA 0+00.00 FOLLEN RD. CONST. ℄
N: 2981312.0342 E: 735339.7298

STA 14+05.19 MASS. AVE. CONST. ℄ =
STA 10+00.00 ELLEN DANA CT. CONST. ℄
N: 2981272.8222 E: 735522.6220

STA 15+70.60 MASS. AVE. CONST. ℄ =
STA 0+00.00 PLEASANT ST. CONST. ℄
N: 2981386.3126 E: 735402.2987

NOTES:
1. FOR PROPOSED TREE DETAILS, SEE PLANTING SCHEDULE, SHEET 67.
2. ALL EXISTING STRAIGHT CURB, CURB CORNERS, & CURB INLETS SHALL BE USED FOR RESET OR AS REQUIRED BY ENGINEER.

0 20 50 100
SCALE: 1" = 20'

FOR PROFILE MASSACHUSETTS AVE: SEE SHEET 18
FOR PROFILE PLEASANT ST: SEE SHEET 25

CONT. ON SHEET # 11

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	11	126
PROJECT FILE NO.	607409		

CONSTRUCTION PLAN
SHEET 2 OF 8

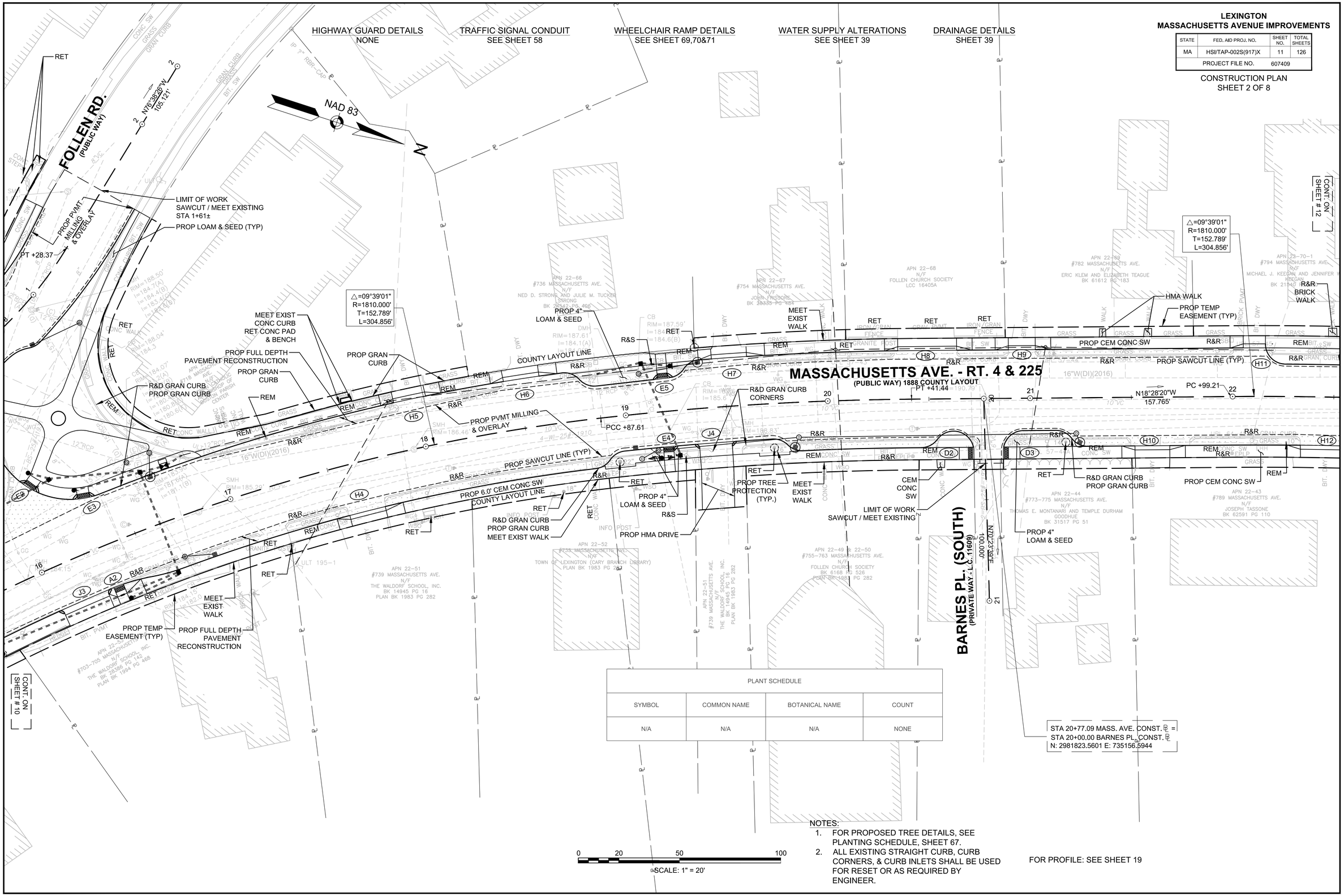
HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET 58

WHEELCHAIR RAMP DETAILS
SEE SHEET 69,70&71

WATER SUPPLY ALTERATIONS
SEE SHEET 39

DRAINAGE DETAILS
SHEET 39



PLANT SCHEDULE			
SYMBOL	COMMON NAME	BOTANICAL NAME	COUNT
N/A	N/A	N/A	NONE

NOTES:
1. FOR PROPOSED TREE DETAILS, SEE PLANTING SCHEDULE, SHEET 67.
2. ALL EXISTING STRAIGHT CURB, CURB CORNERS, & CURB INLETS SHALL BE USED FOR RESET OR AS REQUIRED BY ENGINEER.

FOR PROFILE: SEE SHEET 19

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	12	126
PROJECT FILE NO.	607409		

CONSTRUCTION PLAN
SHEET 3 OF 8

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WHEELCHAIR RAMP DETAILS
SEE SHEET 69,70&71

WATER SUPPLY ALTERATIONS
SEE SHEET 40

DRAINAGE DETAILS
SHEET 40

NAD 83

N

GIBSON RD. (PUBLIC - VARIABLE WIDTH)

INDEPENDENCE AVE. (PUBLIC WAY - VARIABLE WIDTH)

MASSACHUSETTS AVE. - RT. 4 & 225
(PUBLIC WAY) 1888 COUNTY LAYOUT

CURVE ST. (SOUTH) (PUBLIC WAY)

CURVE ST. (NORTH) (PUBLIC WAY)

△=03°43'56"
R=500.000'
T=16.292'
L=32.572'

LIMIT OF WORK
SAWCUT / MEET EXISTING
STA 30+34±

PT +99.24

PC +66.67

STA 22+94.46 MASS. AVE. CONST. ℄ =
STA 30+00.00 GIBSON AVE. CONST. ℄
N: 2982030.4865 E: 735090.1112

PROP GRAN CURB

PROP GRAN CURB

PROP 4" LOAM & SEED

R&R BRICK WALK

PROP TREE (1) MS

PROP GRAN CURB

REM STUMP

CEM CONC SW W/ 1 STEP

PROP TEMP EASEMENT (TYP)

PROP FULL DEPTH PAVEMENT RECONSTRUCTION

R&R GRAN CURB CORNERS

PROP CEM CONC SW

STA 26+46.71 MASS. AVE. CONST. ℄ =
STA 50+00.00 INDEPENDENCE AVE. CONST. ℄
N: 2982376.1872 E: 735023.8194

PROP CEM CONC SW

LIMIT OF WORK
SAWCUT / MEET EXISTING
STA 50+52±

R&D GRAN CURB
PROP GRAN CURB

PROP TREE (1) MS

PROP PARK BENCH

PROP CEM CONC SW

PROP BICYCLE RACK

PROP TRASH RECEPTACLE

PROP 4" LOAM & SEED

MEET EXIST WALK

COUNTY LAYOUT LINE

PROP SAWCUT LINE (TYP)

PROPPVMT MILLING & OVERLAY

PROP TREE PROTECTION (TYP)

REM WALK

PROP 4" LOAM & SEED

PROP BRICK WALK

PROP TREE (1) UA

R&D GRAN CURB
PROP GRAN CURB

PROP 6.0' CEM CONC SW

MEET EXIST WALK

△=09°39'01"
R=1810.000'
T=152.789'
L=304.856'

R&D GRAN CURB
PROP GRAN CURB

CEM CONC SW

PROP 4" LOAM & SEED

PROP TEMP EASEMENT (TYP)

PROP TREE (1) MS

MEET EXIST WALK

REM WALK

PROP BICYCLE RACK

PROP TRASH RECEPTACLE

△=16°31'42"
R=1692.000'
T=245.754'
L=488.095'

R&D GRAN CURB
PROP GRAN CURB

LIMIT OF WORK
SAWCUT / MEET EXISTING
STA 60+38±

STA 23+65.90 MASS. AVE. CONST. ℄ =
STA 40+00.00 CURVE ST. CONST. ℄
N: 2982099.6966 E: 735072.4360

STA 27+13.11 MASS. AVE. CONST. ℄ =
STA 60+00.00 CURVE ST. CONST. ℄
N: 2982441.3268 E: 735010.9938

LIMIT OF WORK
SAWCUT / MEET EXISTING
STA 0+42±

CONT. ON SHEET #11

CONT. ON SHEET # 13

PLANT SCHEDULE			
SYMBOL	COMMON NAME	BOTANICAL NAME	COUNT
MS	ZUMI CRABAPPLE	MALUS ZUMI CALOCARPA	4
UA	PRINCETON ELM	ULMUS AMERICANA 'PRINCETON'	1

NOTES:
1. FOR PROPOSED TREE DETAILS, SEE PLANTING SCHEDULE, SHEET 67.
2. ALL EXISTING STRAIGHT CURB, CURB CORNERS, & CURB INLETS SHALL BE USED FOR RESET OR AS REQUIRED BY ENGINEER.

0 20 50 100
SCALE: 1" = 20'

FOR PROFILE: SEE SHEET 20

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WHEELCHAIR RAMP DETAILS
SEE SHEET 69,70&71

WATER SUPPLY ALTERATIONS
SEE SHEET 41

DRAINAGE DETAILS
SHEET 41

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	13	126
PROJECT FILE NO.	607409		

CONSTRUCTION PLAN
SHEET 4 OF 8

607409_HDI(DET).DWG Plotted on 20-Apr-2016 8:40 AM

NAD 83

N

MASSACHUSETTS AVE. - RT. 4 & 225
(PUBLIC WAY)

BARNES PL. (NORTH)
(PRIVATE WAY)

JOSEPH RD.
(PUBLIC WAY)

PROP 4" LOAM & SEED
MEET EXIST WALK
PROP TEMP EASEMENT (TYP)
PROP TREE (1) MS
PROP TREE PROTECTION (TYP)
PROP PVMT MILLING & OVERLAY
R&R GRAN CURB CORNERS (TYP.)
PROP BRICK WALK
PROP HMA DRIVE
PROP MISC. WALK
PROP BRICK WALK
PROP TREE (1) MA
PROP 6.0' CEM CONC SW
PROP CEM CONC SW
COUNTY LAYOUT LINE
REM WALK
PROP SAWCUT LINE (TYP)
PT +99.59
N25°21'01"W 466.203'
N64°40'29"E 100.000'
△=16°31'42" R=1692.000' T=245.754' L=488.095
STA 33+04.49 MASS. AVE. CONST. ℄ = STA 70+00.00 JOSEPH RD. CONST. ℄ N: 2982991.5540 E: 734798.9430
LIMIT OF WORK SAWCUT / MEET EXISTING STA 0+40±

CONT. ON SHEET # 14
CONT. ON SHEET # 12

PLANT SCHEDULE			
SYMBOL	COMMON NAME	BOTANICAL NAME	COUNT
MA	AMUR MAACKIA	MAACKIA AMURENSIS	2
MS	ZUMI CRABAPPLE	MALUS ZUMI CALOCARPA	4

NOTES:
1. FOR PROPOSED TREE DETAILS, SEE PLANTING SCHEDULE, SHEET 67.
2. ALL EXISTING STRAIGHT CURB, CURB CORNERS, & CURB INLETS SHALL BE USED FOR RESET OR AS REQUIRED BY ENGINEER.

0 20 50 100
SCALE: 1" = 20'

FOR PROFILE: SEE SHEET 21

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	14	126
PROJECT FILE NO.	607409		

CONSTRUCTION PLAN
SHEET 5 OF 8

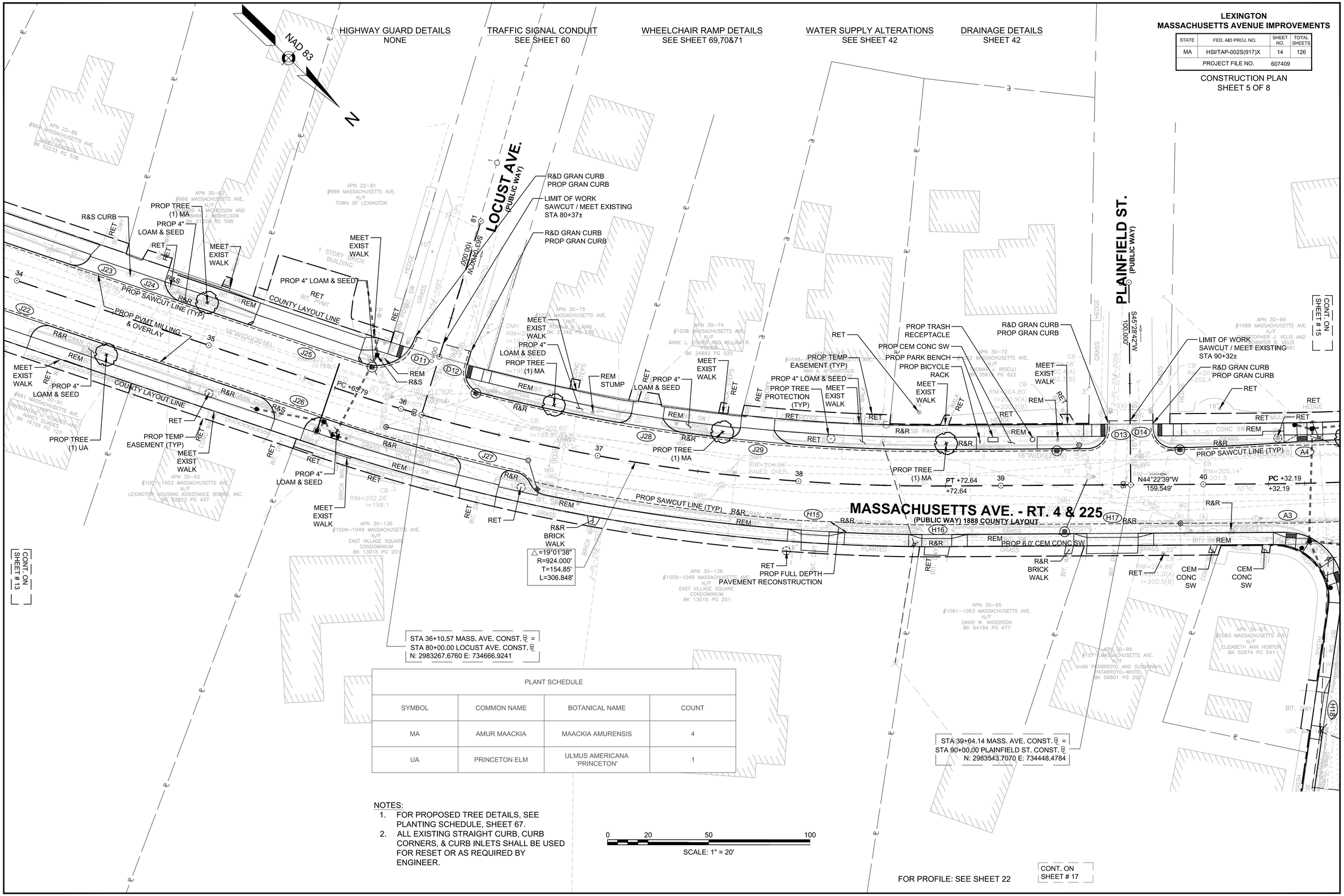
HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET 60

WHEELCHAIR RAMP DETAILS
SEE SHEET 69,70&71

WATER SUPPLY ALTERATIONS
SEE SHEET 42

DRAINAGE DETAILS
SHEET 42



PLANT SCHEDULE			
SYMBOL	COMMON NAME	BOTANICAL NAME	COUNT
MA	AMUR MAACKIA	MAACKIA AMURENSIS	4
UA	PRINCETON ELM	ULMUS AMERICANA 'PRINCETON'	1

NOTES:
1. FOR PROPOSED TREE DETAILS, SEE PLANTING SCHEDULE, SHEET 67.
2. ALL EXISTING STRAIGHT CURB, CURB CORNERS, & CURB INLETS SHALL BE USED FOR RESET OR AS REQUIRED BY ENGINEER.

FOR PROFILE: SEE SHEET 22

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
SEE SHEET 61

WHEELCHAIR RAMP DETAILS
SEE SHEET 69,70&71

WATER SUPPLY ALTERATIONS
SEE SHEET 43

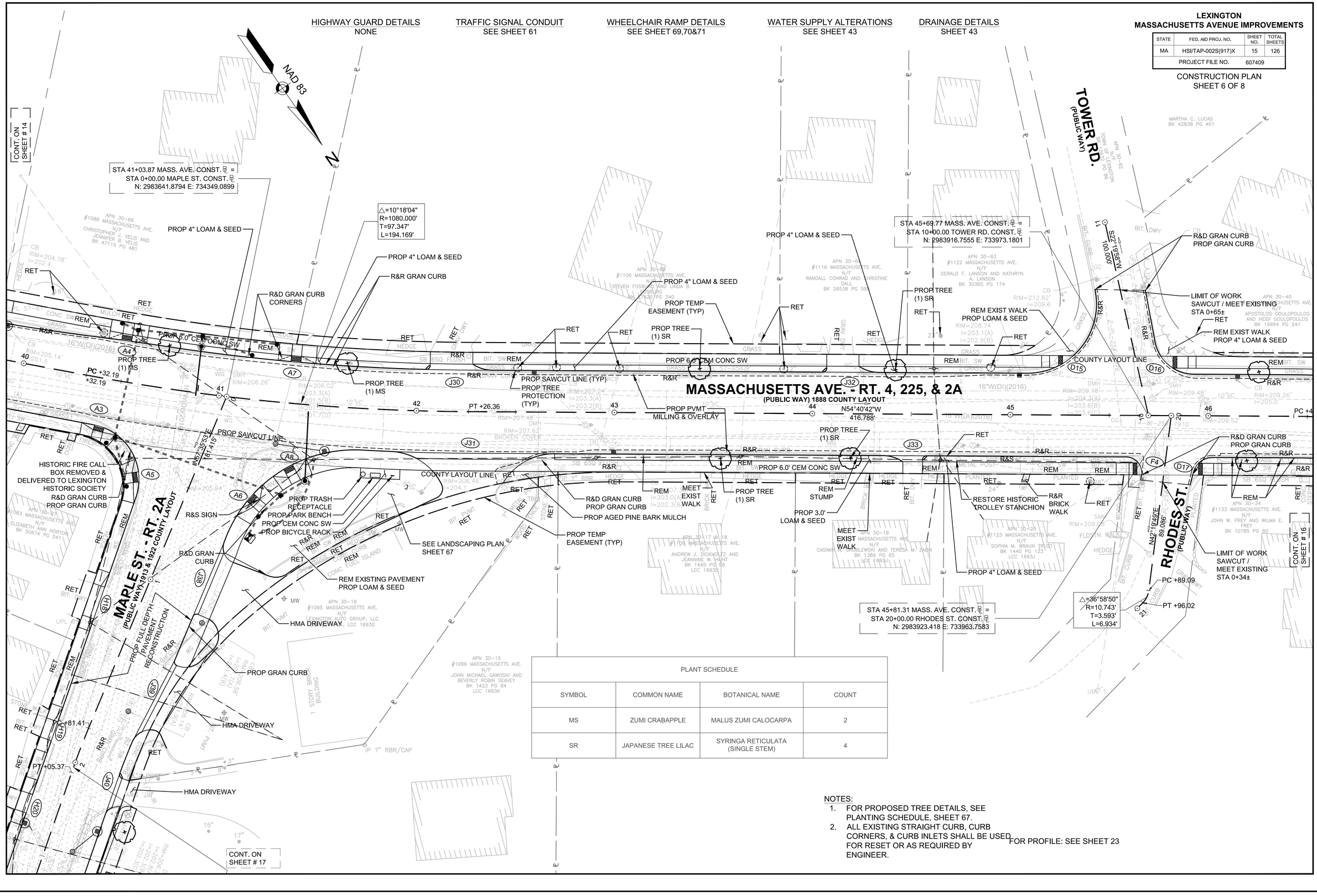
DRAINAGE DETAILS
SHEET 43

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	15	126
PROJECT FILE NO.	607409		

CONSTRUCTION PLAN
SHEET 6 OF 8

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM



PLANT SCHEDULE			
SYMBOL	COMMON NAME	BOTANICAL NAME	COUNT
MS	ZUMI CRABAPPLE	MALUS ZUMI CALOCARPA	2
SR	JAPANESE TREE LILAC	SYRINGA RETICULATA (SINGLE STEM)	4

NOTES:
1. FOR PROPOSED TREE DETAILS, SEE PLANTING SCHEDULE, SHEET 67.
2. ALL EXISTING STRAIGHT CURB, CURB CORNERS, & CURB INLETS SHALL BE USED FOR RESET OR AS REQUIRED BY ENGINEER.

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WHEELCHAIR RAMP DETAILS
SEE SHEET 69,70&71

WATER SUPPLY ALTERATIONS
SEE SHEET 44

DRAINAGE DETAILS
SHEET 44

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	16	126
PROJECT FILE NO.	607409		

CONSTRUCTION PLAN
SHEET 7 OF 8

607409_HDI(DET).DWG Plotted on 20-Apr-2016 8:40 AM

PLANT SCHEDULE			
SYMBOL	COMMON NAME	BOTANICAL NAME	COUNT
GD	KENTUCKY COFFEETREE MALE	GYMNOCLADUS DIOICUS	5
MA	AMUR MAACKIA	MAACKIA AMURENSIS	3
MS	ZUMI CRABAPPLE	MALUS ZUMI CALOCARPA	3
UA	PRINCETON ELM	ULMUS AMERICANA 'PRINCETON'	1
SR	JAPANESE TREE LILAC	SYRINGA RETICULATA (SINGLE STEM)	4

NOTES:
FOR PROPOSED TREE DETAILS,
SEE PLANTING SCHEDULE, SHEET 67.

FOR PROFILE MASSACHUSETTS AVE: SEE SHEET 24
FOR PROFILE MARRETT RD: SEE SHEET 27

HIGHWAY GUARD DETAILS
PROP STEEL THRIE BEAM TERMINAL SECTION (SINGLE FACED) - (STA. 3+70 TO STA. 3+72)
PROP STEEL THRIE BEAM HIGHWAY GUARD (SINGLE FACED) - (STA. 3+72 TO STA. 4+35)
PROP STEEL HIGHWAY GUARD TRANSITION BEAM - (STA. 4+35 TO STA. 4+41)

TRAFFIC SIGNAL CONDUIT
NONE

WHEELCHAIR RAMP DETAILS
SEE SHEET 69,70&71

WATER SUPPLY ALTERATIONS
SEE SHEET 45

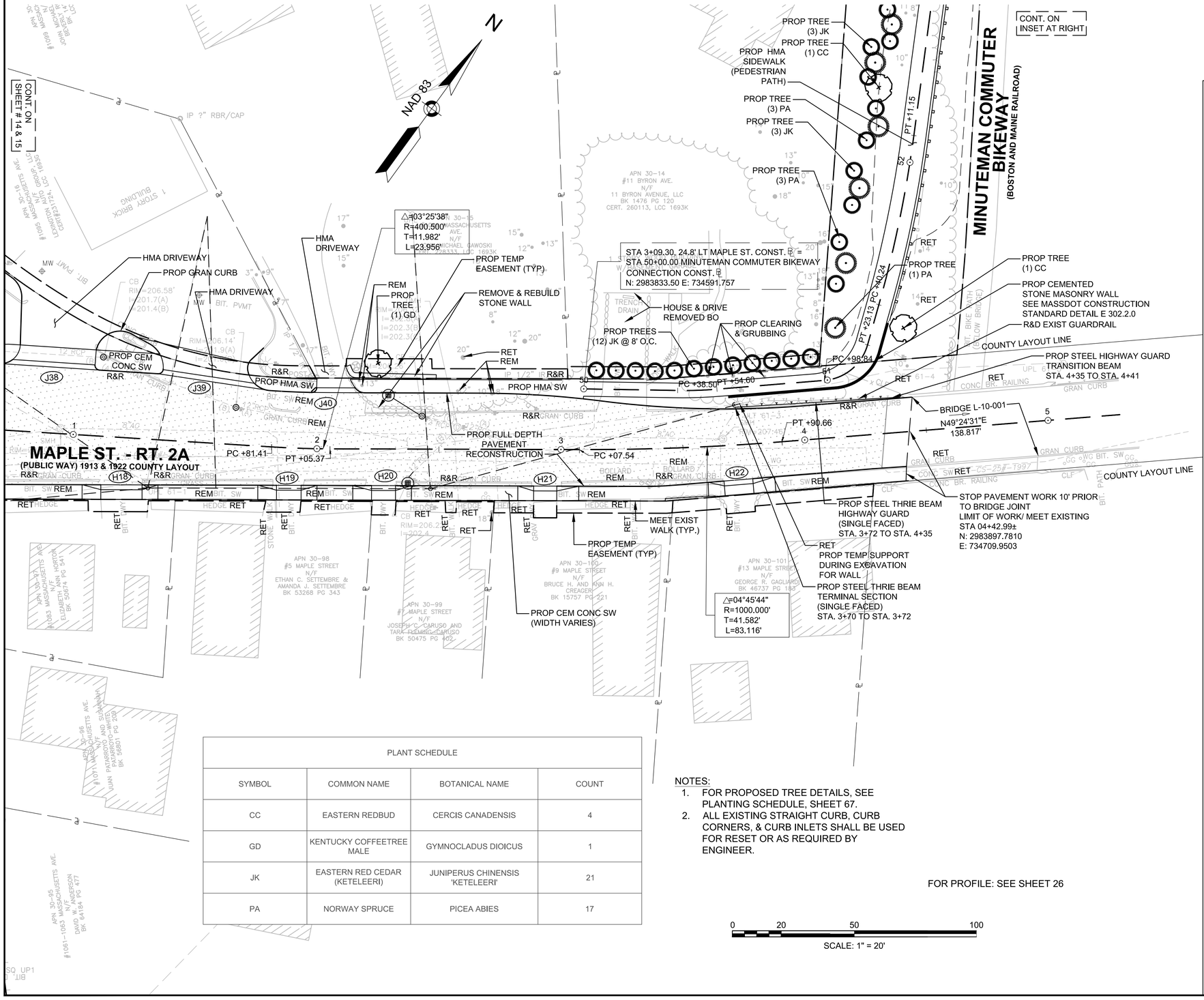
DRAINAGE DETAILS
SHEET 45

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	17	126
PROJECT FILE NO.	607409		

CONSTRUCTION PLAN
SHEET 8 OF 8

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM



PLANT SCHEDULE			
SYMBOL	COMMON NAME	BOTANICAL NAME	COUNT
CC	EASTERN REDBUD	CERCIS CANADENSIS	4
GD	KENTUCKY COFFEETREE MALE	GYMNOCLADUS DIOICUS	1
JK	EASTERN RED CEDAR (KETELEERI)	JUNIPERUS CHINENSIS 'KETELEERI'	21
PA	NORWAY SPRUCE	PICEA ABIES	17

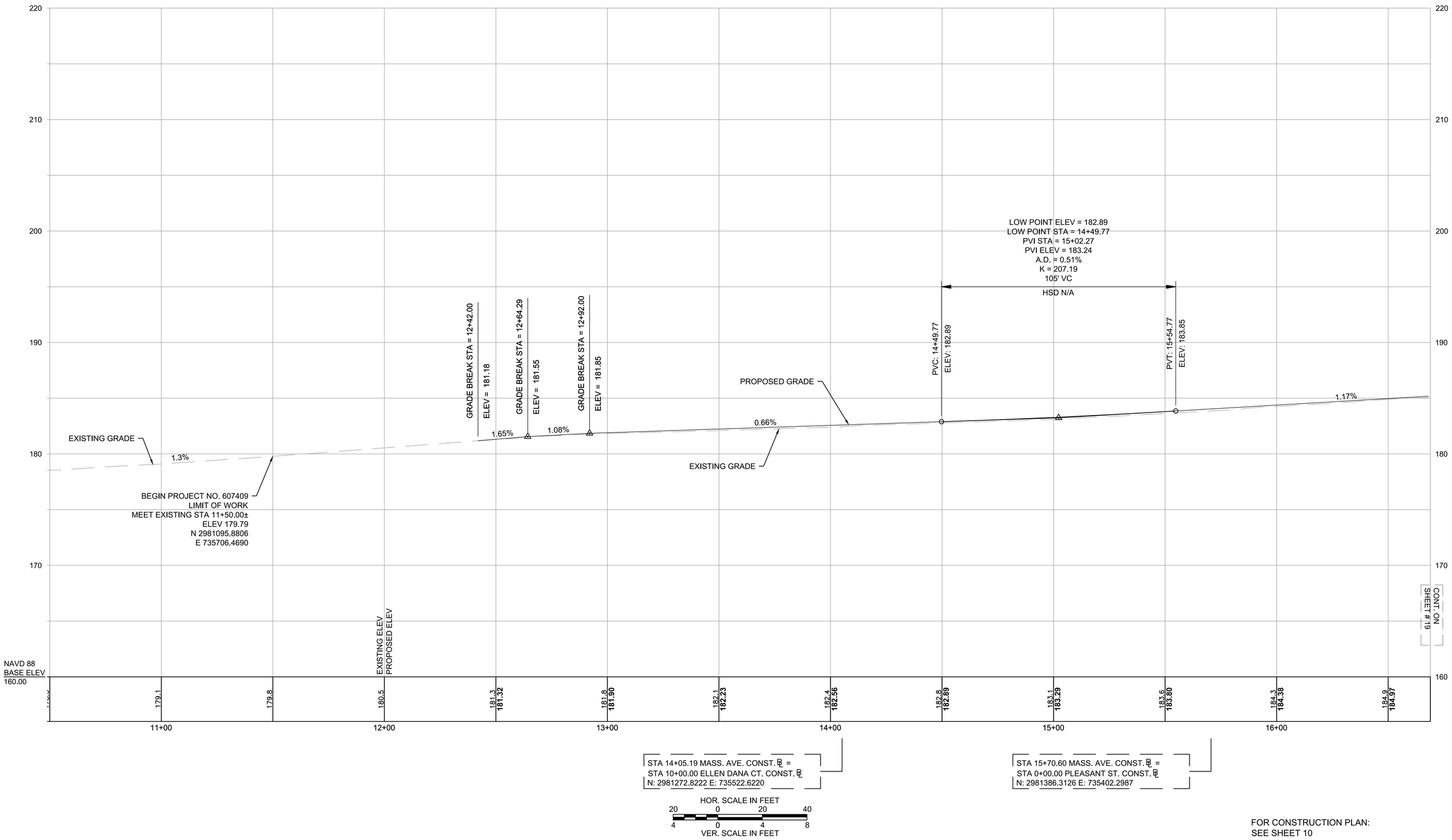
NOTES:
1. FOR PROPOSED TREE DETAILS, SEE PLANTING SCHEDULE, SHEET 67.
2. ALL EXISTING STRAIGHT CURB, CURB CORNERS, & CURB INLETS SHALL BE USED FOR RESET OR AS REQUIRED BY ENGINEER.

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	18	126
PROJECT FILE NO.	607409		

PROFILE PLAN
MASSACHUSETTS AVENUE

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM



STA 14+05.19 MASS. AVE. CONST. ℄ =
STA 10+00.00 ELLEN DANA CT. CONST. ℄
N: 2981272.8222 E: 735522.6220

STA 15+70.60 MASS. AVE. CONST. ℄ =
STA 0+00.00 PLEASANT ST. CONST. ℄
N: 2981386.3126 E: 735402.2987

HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

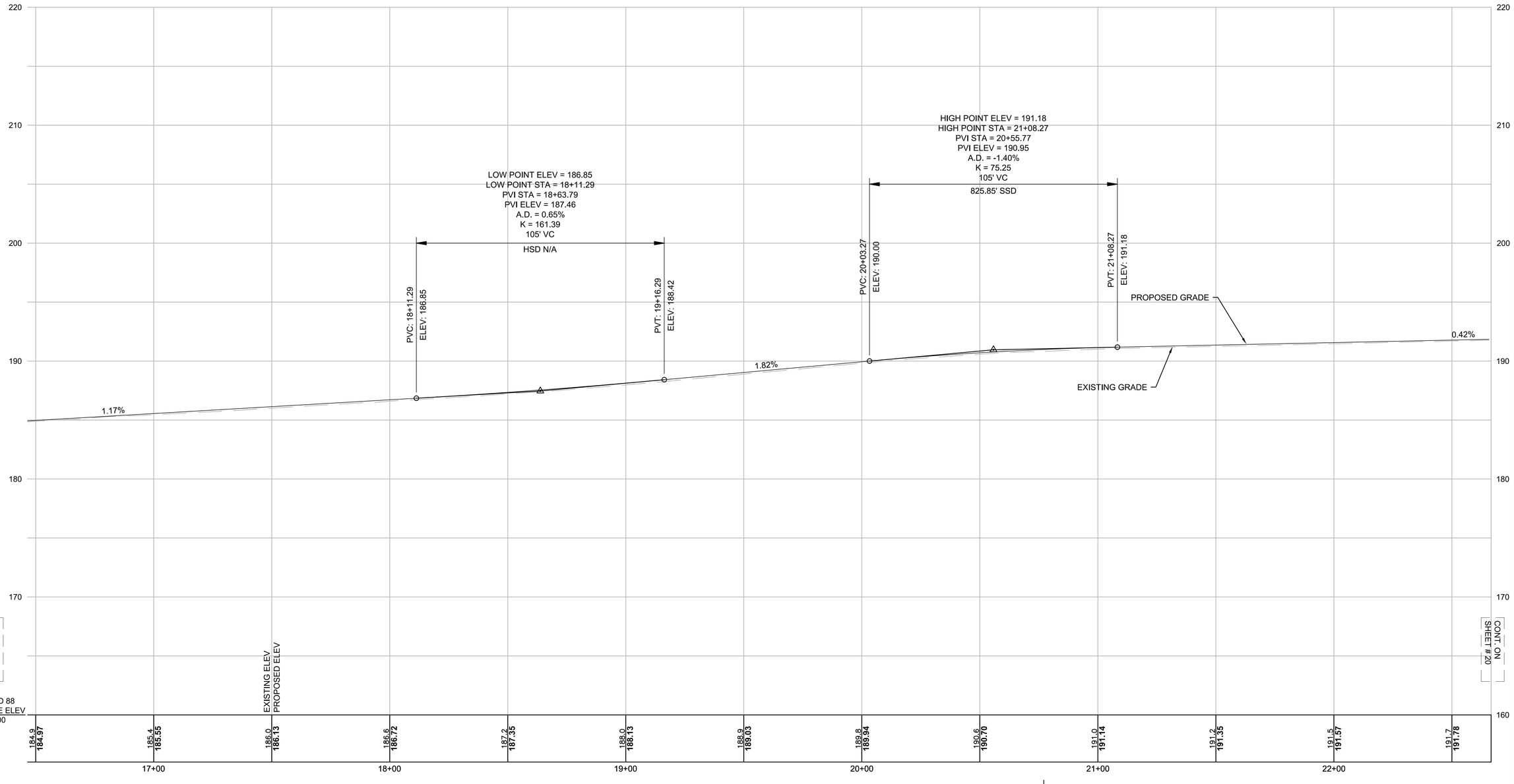
FOR CONSTRUCTION PLAN:
SEE SHEET 10

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	19	126
PROJECT FILE NO.	607409		

PROFILE PLAN
MASSACHUSETTS AVENUE

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM



STA 20+77.09 MASS. AVE. CONST. CL =
STA 20+00.00 BARNES PL. CONST. CL
N: 2981823.5601 E: 735156.5944

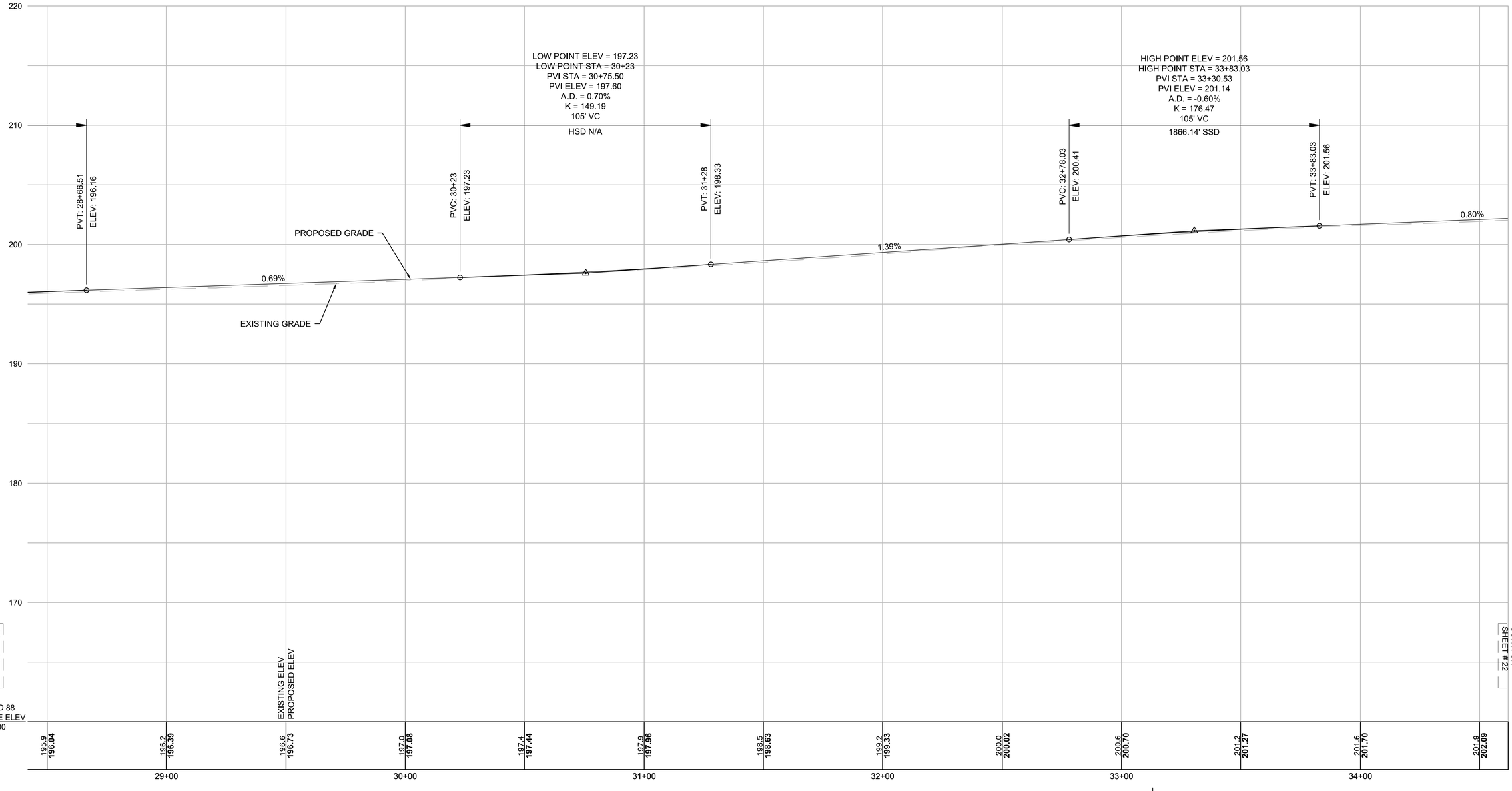
HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

FOR CONSTRUCTION PLAN:
SEE SHEET 11

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	21	126
PROJECT FILE NO.	607409		

PROFILE PLAN
MASSACHUSETTS AVENUE



STA 27+13.11 MASS. AVE. CONST. ℄ =
STA 70+00.00 CURVE ST. CONST. ℄
N: 2982441.3268 E: 735010.9938

HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

FOR CONSTRUCTION PLAN:
SEE SHEET 13

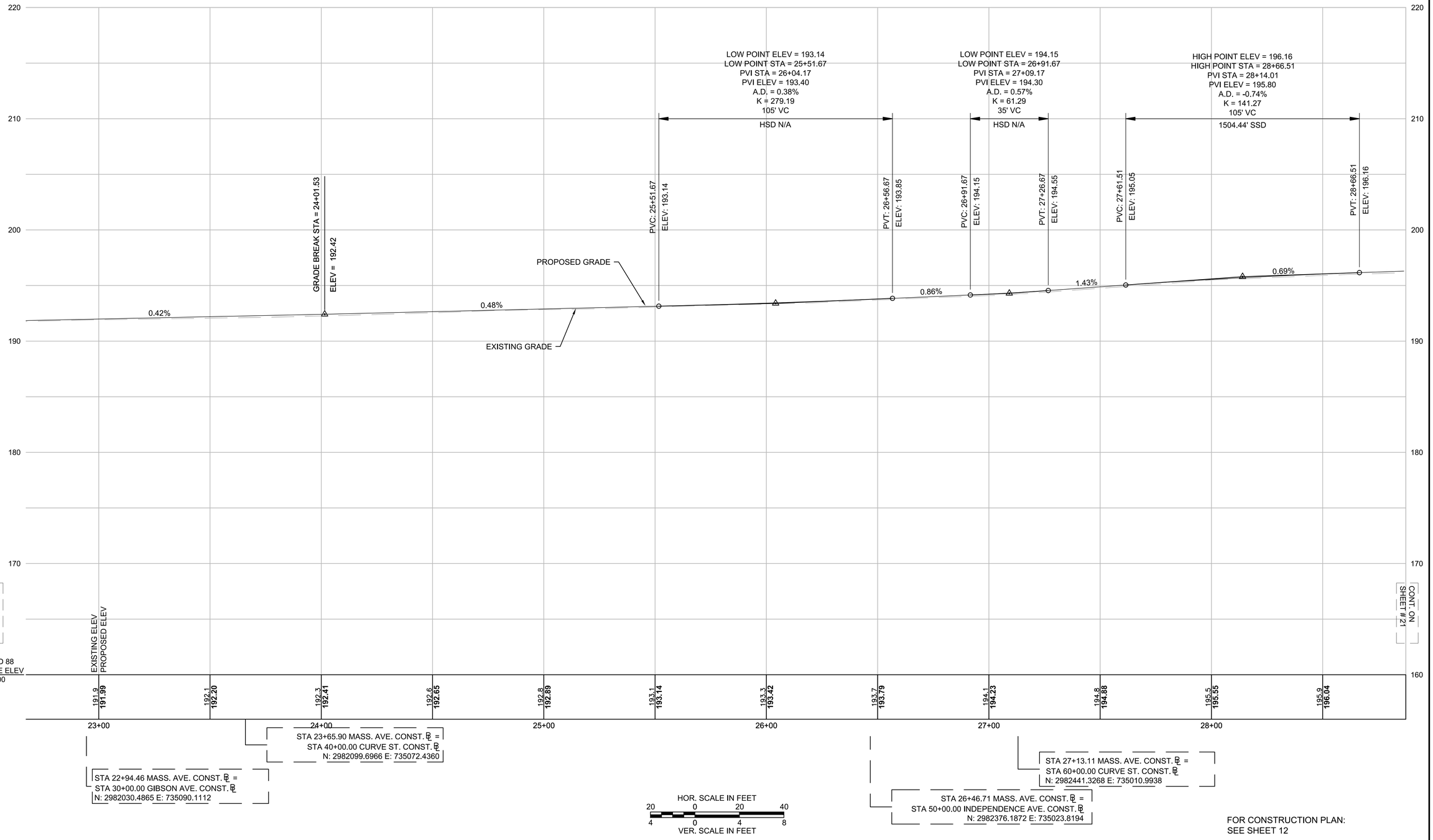
607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	20	126
PROJECT FILE NO.	607409		

PROFILE PLAN
MASSACHUSETTS AVENUE

607409_HDI(DET).DWG Plotted on 20-Apr-2016 8:40 AM

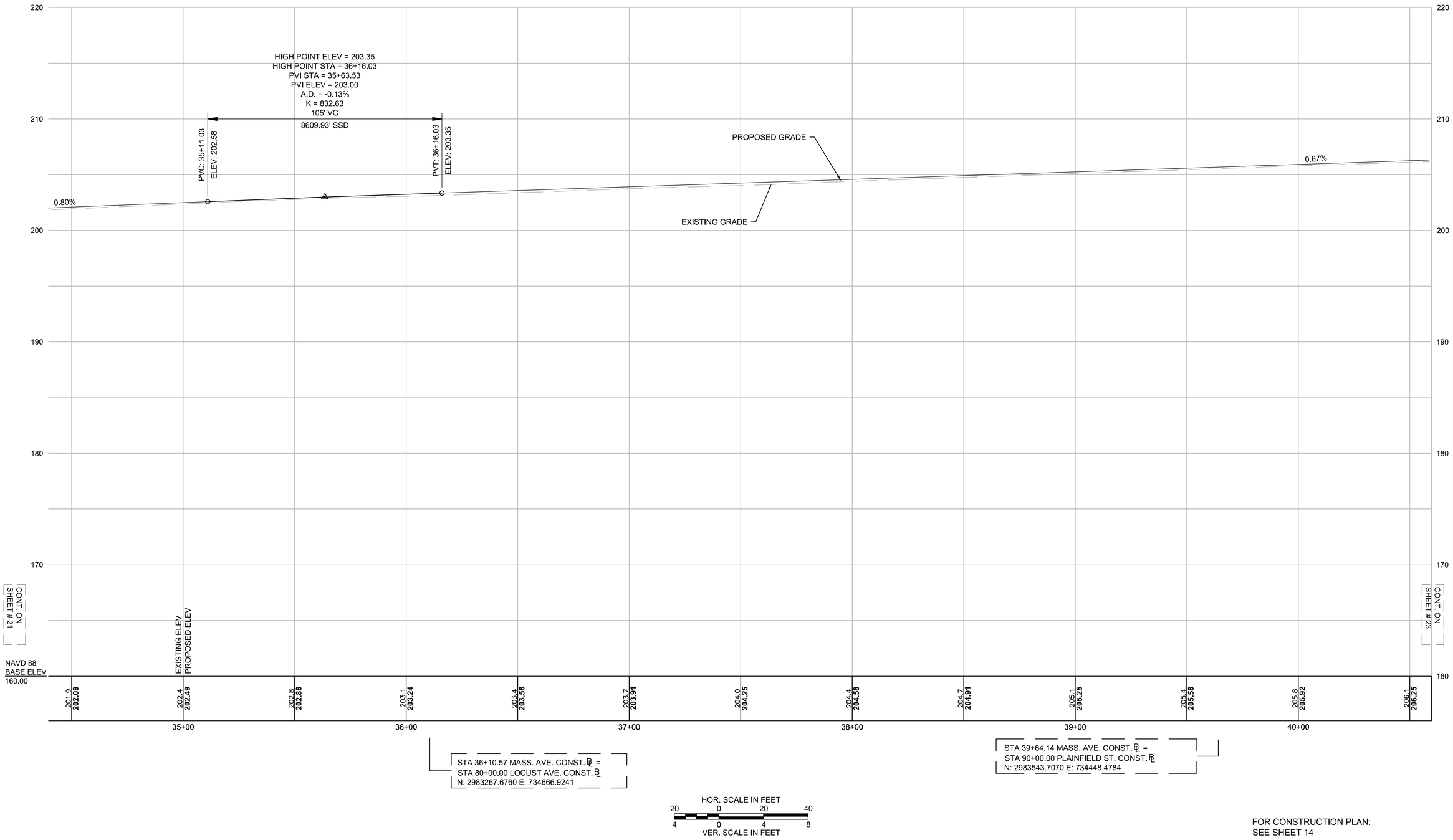


FOR CONSTRUCTION PLAN:
SEE SHEET 12

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	22	126
PROJECT FILE NO.	607409		

PROFILE PLAN
MASSACHUSETTS AVENUE



STA 36+10.57 MASS. AVE. CONST. ℄ =
STA 80+00.00 LOCUST AVE. CONST. ℄
N: 2983267.6760 E: 734666.9241

STA 39+64.14 MASS. AVE. CONST. ℄ =
STA 90+00.00 PLAINFIELD ST. CONST. ℄
N: 2983543.7070 E: 734448.4784

HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

FOR CONSTRUCTION PLAN:
SEE SHEET 14

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	23	126
PROJECT FILE NO.	607409		

PROFILE PLAN
MASSACHUSETTS AVENUE

HIGH POINT ELEV = 210.18
HIGH POINT STA = 46+49.10
PVI STA = 45+96.60
PVI ELEV = 209.91
A.D. = -0.17%
K = 613.01
105' VC
6352.75' SSD

PVC: 45+44.10
ELEV: 209.56

PVT: 46+49.10
ELEV: 210.18

PROPOSED GRADE
EXISTING GRADE

0.67%
0.50%

220
210
200
190
180
170
160

CONT. ON SHEET # 22
CONT. ON SHEET # 24

NAVD 88
BASE ELEV
160.00

EXISTING ELEV
PROPOSED ELEV

41+00	42+00	43+00	44+00	45+00	46+00
206.1 / **206.25**	206.4 / **206.59**	206.9 / **206.92**	207.1 / **207.26**	207.5 / **207.59**	207.8 / **207.93**
			208.2 / **208.26**	208.5 / **208.60**	208.8 / **208.93**
				209.1 / **209.27**	209.5 / **209.60**
					209.6 / **209.91**
					210.0 / **210.18**

STA 41+03.87 MASS. AVE. CONST. ℄ =
STA 0+00.00 MAPLE ST. CONST. ℄
N: 2983641.8794 E: 734349.0899

STA 45+69.77 MASS. AVE. CONST. ℄ =
STA 10+00.00 TOWER RD. CONST. ℄
N: 2983916.7555 E: 733973.1801

STA 45+81.31 MASS. AVE. CONST. ℄ =
STA 20+00.00 RHODES ST. CONST. ℄
N: 2983923.4318 E: 733963.7583

HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

FOR CONSTRUCTION PLAN:
SEE SHEET 15

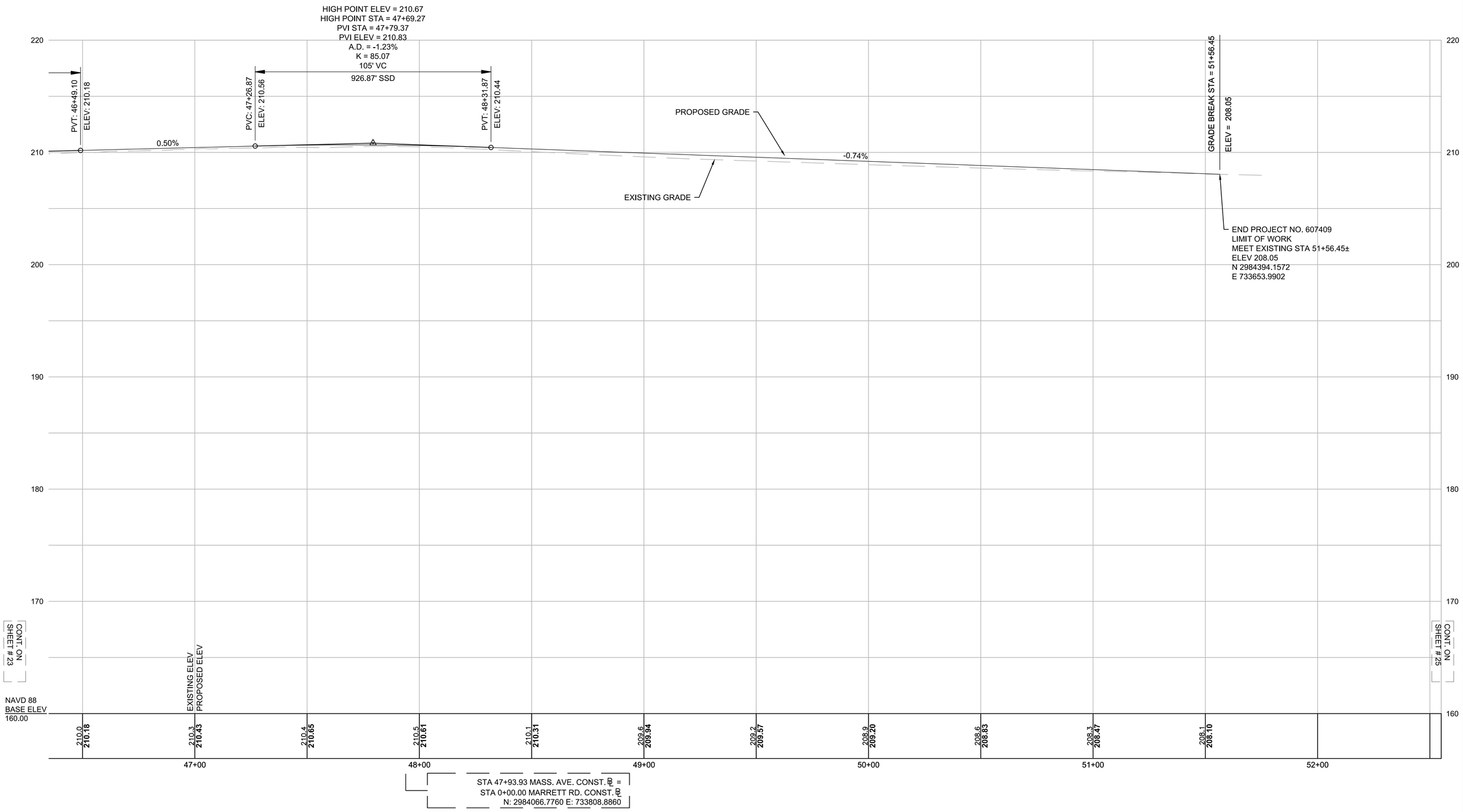
607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	24	126
PROJECT FILE NO.	607409		

PROFILE PLAN
MASSACHUSETTS AVENUE

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM



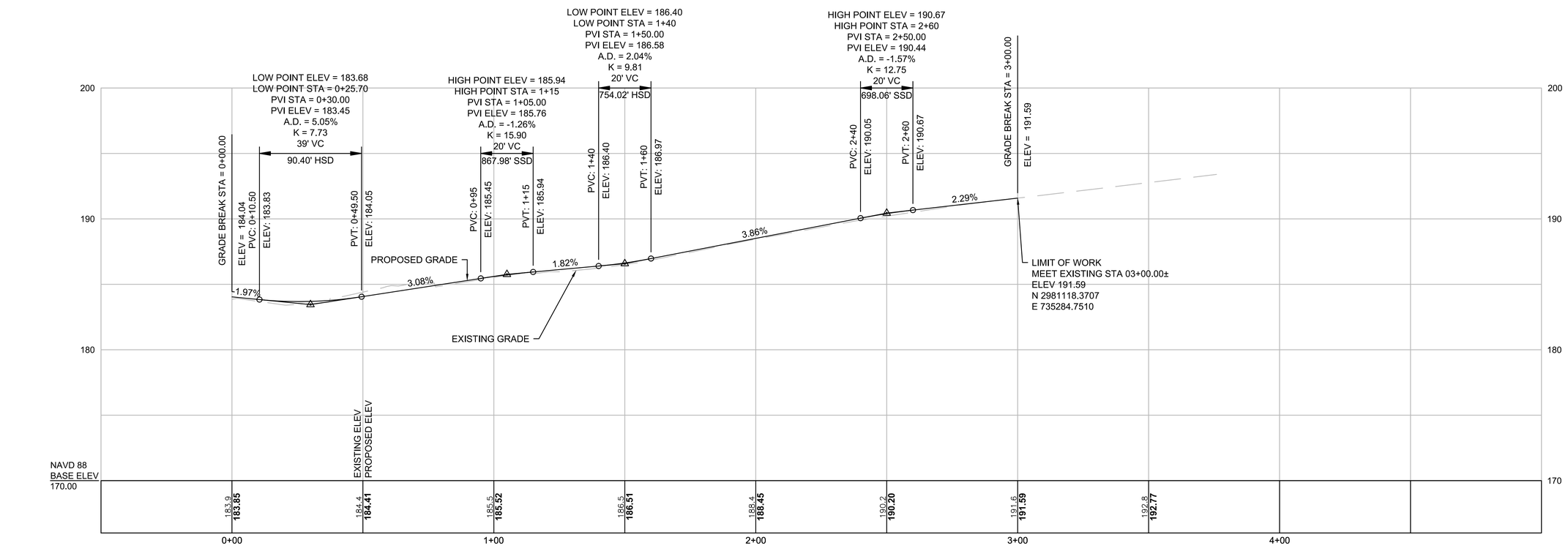
FOR CONSTRUCTION PLAN:
SEE SHEET 16

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	25	126
PROJECT FILE NO.	607409		

PROFILE PLAN
PLEASANT STREET

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM



STA 15+70.60 MASS. AVE. CONST. ℄ =
STA 0+00.00 PLEASANT ST. CONST. ℄
N: 2981386.3126 E: 735402.2987

STA 0+97.58 PLEASANT ST. CONST. ℄ =
STA 0+00.00 FOLLEN RD. CONST. ℄
N: 2981312.0342 E: 735339.7298

HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

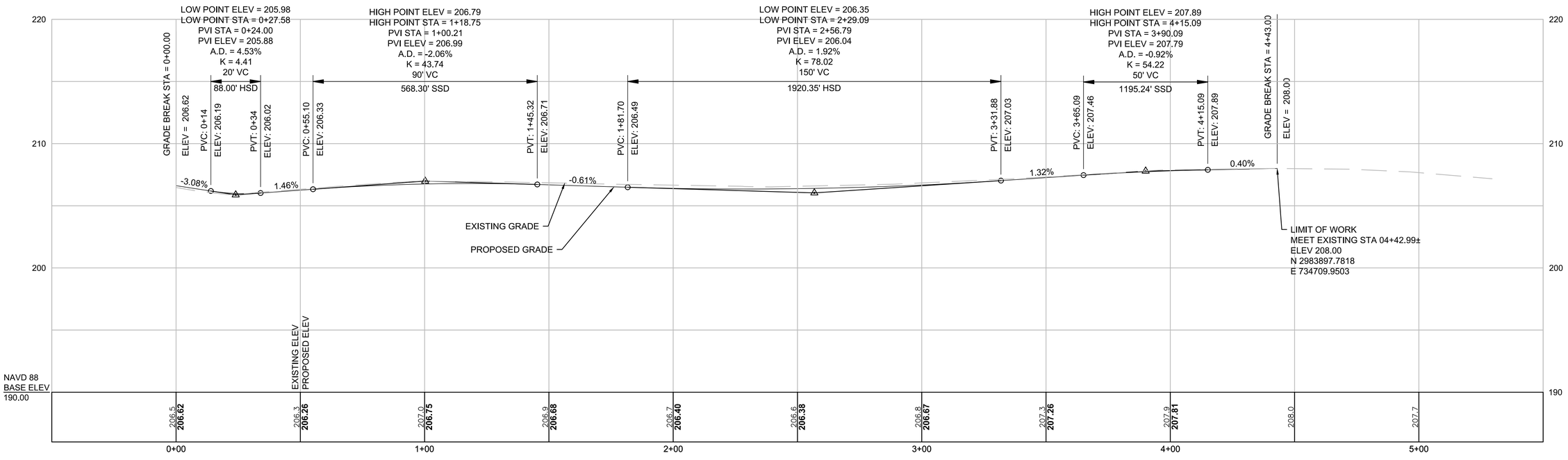
FOR CONSTRUCTION PLAN:
SEE SHEET 10

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	26	126
PROJECT FILE NO.	607409		

PROFILE PLAN
MAPLE STREET

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM



HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

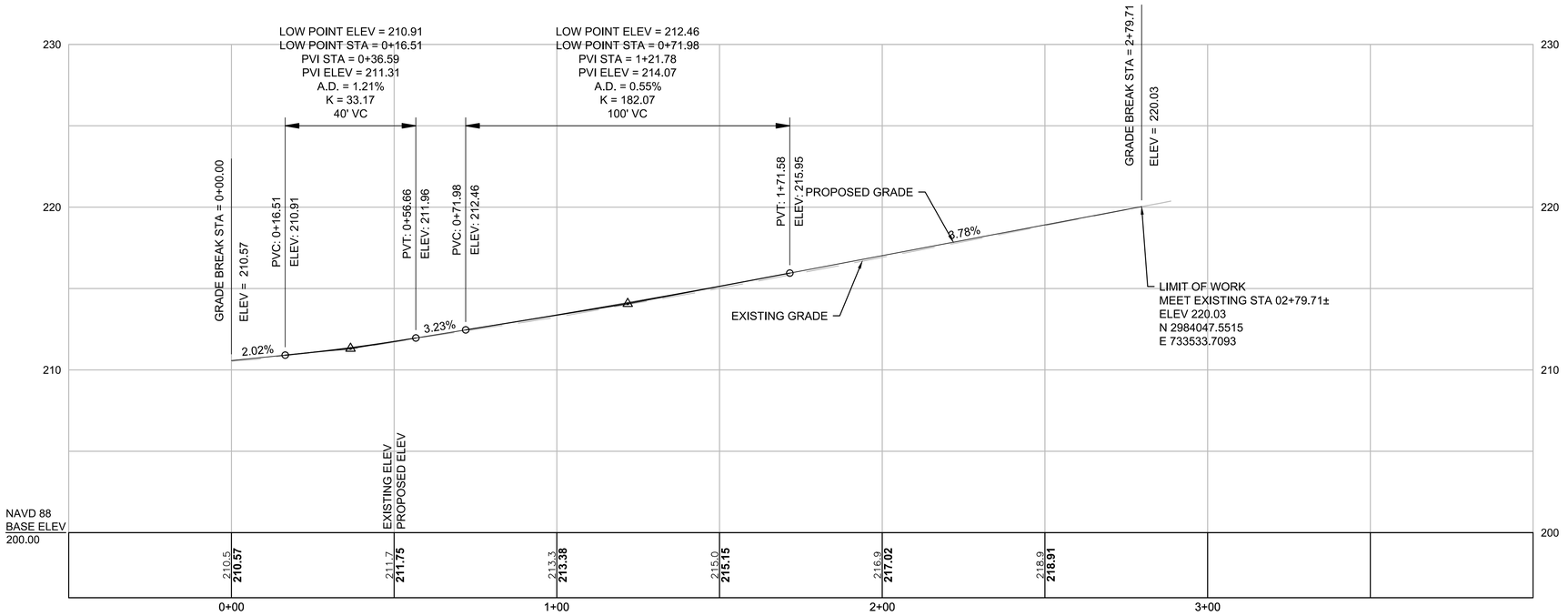
FOR CONSTRUCTION PLAN:
SEE SHEET 17

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	27	126
PROJECT FILE NO.	607409		

PROFILE PLAN
MARRETT ROAD

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM



HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

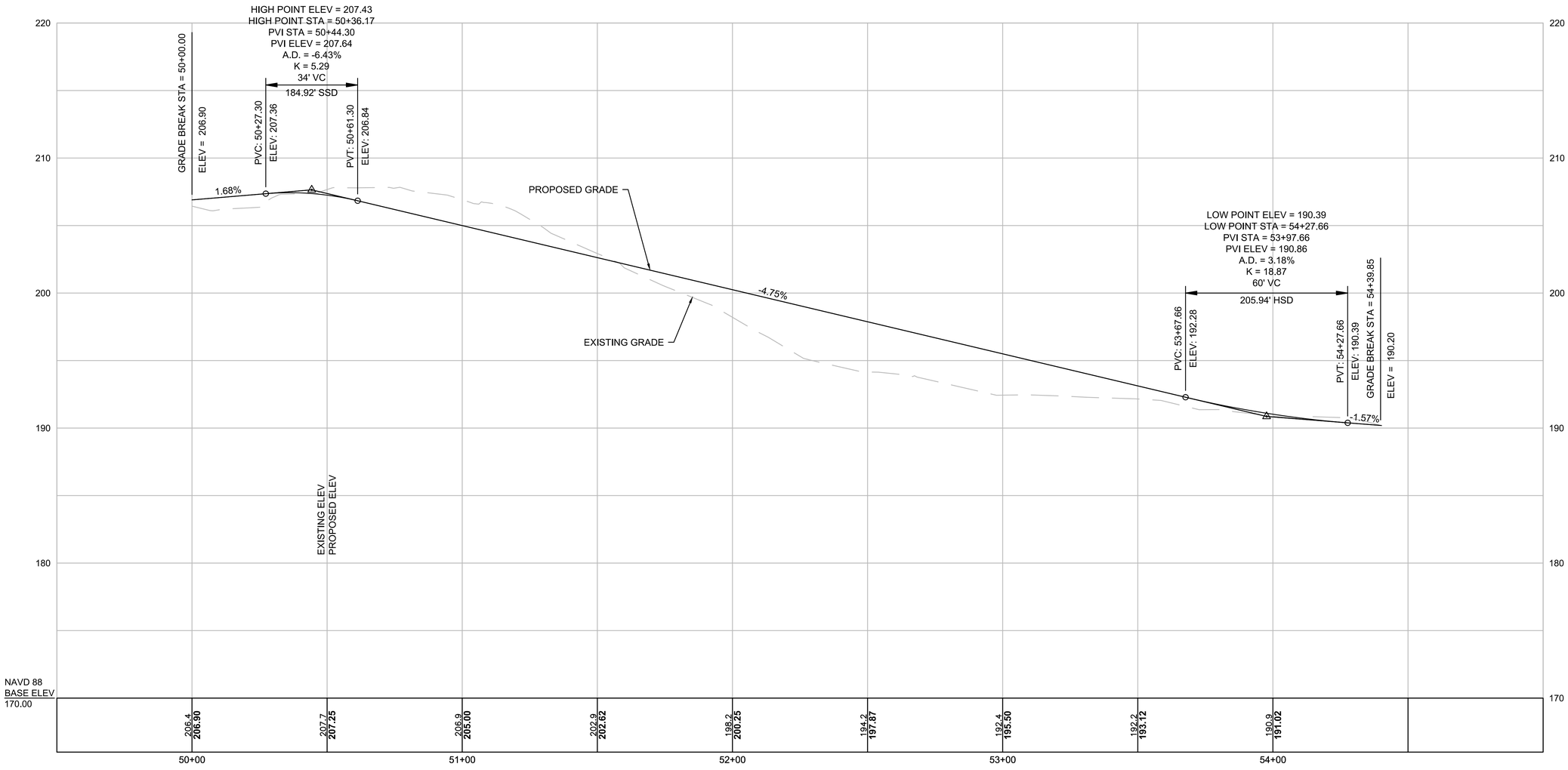
FOR CONSTRUCTION PLAN:
SEE SHEET 16

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	28	126
PROJECT FILE NO.	607409		

PROFILE PLAN
MINUTEMAN COMMUTER BIKEWAY CONNECTION

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM



HOR. SCALE IN FEET
20 0 20 40
VER. SCALE IN FEET
4 0 4 8

FOR CONSTRUCTION PLAN:
SEE SHEET 17

MASS AVE BL CONSTRUCTION BASELINE DATA							
STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
10+00.00	2980997.3108	735818.9873	R=418.00' Δ=12°47'05" L=93.27' T=46.83'		10+93.27	2981055.6325	735746.4485
10+93.27	2981055.6325	735746.4485		N44°48'29"W 66.41'	11+59.68	2981102.7494	735699.6461
11+59.68	2981102.7494	735699.6461	R=5062.00' Δ=2°15'01" L=198.80' T=99.41'		13+58.48	2981241.0044	735556.8122
13+58.48	2981241.0044	735556.8122		N47°03'30"W 166.93'	15+25.41	2981354.7241	735434.6134
15+25.41	2981354.7241	735434.6134	R=920.00' Δ=22°33'27" L=362.21' T=183.48'		18+87.61	2981646.6782	735224.2076

PLEASANT STREET BL CONSTRUCTION BASELINE DATA							
STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
0+00.00	2981386.3126	735402.2987		S46°30'13"W 23.78'	0+23.78	2981369.9479	735385.0517
0+23.78	2981369.9479	735385.0517	R=250.00' Δ=33°29'34" L=146.14' T=75.22'		1+69.91	2981244.8774	735313.5471
1+69.91	2981244.8774	735313.5471		S13°00'39"W 332.97'	5+02.88	2980920.4556	735238.5838

FOLLEN RD BL CONSTRUCTION BASELINE DATA							
STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
0+00.00	2981312.0342	735339.7298		N58°49'29"W 66.18'	0+66.18	2981346.2921	735283.1083
0+66.18	2981346.2921	735283.1083	R=200.00' Δ=17°48'57" L=62.19' T=31.35'		1+28.37	2981369.7627	735225.7882
1+28.37	2981369.7627	735225.7882		N76°38'26"W 105.12'	2+33.49	2981394.0520	735123.5115

CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C-2	0°57'55"	5083.00	85.64
C-3	1°17'45"	5041.75	114.03
C-5	89°42'56"	25.00	39.15
C-6	89°06'17"	24.00	37.32
C-7	102°47'15"	55.00	98.67
C-8	5°29'25"	895.50	85.81
C-10	3°20'19"	250.50	14.60
C-11	3°22'52"	258.50	15.25
C-12	180°00'00"	4.00	12.57
C-13	1°30'17"	258.50	6.79
C-14	163°26'11"	3.00	8.56
C-15	12°48'41"	226.00	50.53
C-16	5°45'05"	200.00	20.08
C-17	71°50'08"	50.00	62.69
C-18	13°46'59"	120.00	28.87
C-21	14°25'23"	300.00	75.52
C-22	36°54'59"	10.00	6.44

CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C-23	86°10'40"	40.00	60.16
C-24	4°48'17"	200.00	16.77
C-25	9°12'13"	944.50	151.72
C-138	9°36'14"	100.00	16.76
C-139	12°00'11"	100.00	20.95
C-140	4°38'32"	899.00	72.84
C-141	45°22'53"	10.00	7.92
C-142	1°25'25"	200.00	4.97
C-143	36°36'39"	10.00	6.39
C-146	77°20'19"	35.00	47.24
C-147	28°13'30"	19.00	9.36
C-149	5°56'27"	200.00	20.74
C-196	359°59'16"	3.50	21.99

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	29	126
PROJECT FILE NO.	607409		

GRADING & TIE PLAN
SHEET 1 OF 9

607409_HDI(DET).DWG Plotted on 20-Apr-2016 8:40 AM

NAD 83
N

PLEASANT ST. RT. 4 & 225
(PUBLIC WAY) 1932 COUNTY LAYOUT

BRIDLE PATH

MASSACHUSETTS AVE.
(PUBLIC WAY) 1888 & 1928 COUNTY LAYOUT

FOLLEN RD.
(PUBLIC WAY)

ELLEN DANA CT.
(PUBLIC WAY)

LIMIT OF WORK +00.04
LIMIT OF WORK +99.53
LIMIT OF WORK +42.00
LIMIT OF WORK +46.60
LIMIT OF WORK +61.58

SEE DETAIL "A" SHEET 30 FOR GRADING DETAILS

PLEASANT STREET BL 0+55.98, 72.22' RT

CONT. ON SHEET # 31

APN 14-49A N/F #632-634 MASSACHUSETTS AVE. JAMES ALEXANDER WILSON BK 8861 PG 163

APN 22-59 #7 PLEASANT ST. EILEEN M. THOMPSON-ISSA TRUSTEE OF THE THOMPSON-ISSA LIVING TRUST DEC. 31, 2014 LCC 93174

APN 22-60 #5 PLEASANT ST. N/F JEFFREY MARSHALL MALLETT AND MARIANA SAMI MARTIN BK 35951 PG 1 PLAN 1251 OF 1951

APN 22-57 #4-6 PLEASANT ST. N/F LORRIANN O'BRIEN AND ELIZABETH MARIA PROULX BK 51883 PG 315 PLAN BK 7773 PG 70

APN 22-64 N/F TOWN OF LEXINGTON (ROBBINS PARK)

APN 22-56 #678 MASSACHUSETTS AVE. N/F QIONG LIN BK 64062 PG 11 PLAN BK 7773 PG 70

APN 22-55 #626 MASSACHUSETTS AVE. N/F WILSON FARM INC BK 12879 PG 721

APN 14-49A #632-634 MASSACHUSETTS AVE. N/F JAMES ALEXANDER WILSON BK 8861 PG 163

APN 22-54A #669 MASSACHUSETTS AVE. N/F TIMOTHY O. AND LISA L. JARRETT BK 64049 PG 61 PLAN BK 1994 PG 468

APN 22-53 #703-705 MASSACHUSETTS AVE. N/F THE WALDORF SCHOOL, INC. BK 28386 PG 142 PLAN BK 1994 PG 468

APN 22-65 #718 MASSACHUSETTS AVE. N/F ROMAN CATHOLIC ARCHBISHOP OF BOSTON PARISH CENTER

APN 21-2 #611 MASSACHUSETTS AVE. N/F WILSON FARM, INC. BK 19672 PG 12

APN 21-1E #627 MASSACHUSETTS AVE. N/F TATJANA MATEJIC AND MIRKO MATEJIC BK 28010 PG 372

APN 21-1D #633 MASSACHUSETTS AVE. N/F MICHAEL E. LEVENTON AND LARISA LEVENTON BK 47571 PG 573

APN 21-1C #639 MASSACHUSETTS AVE. N/F DAVID A. REISHUS BK 64505 PG 20

15 N: 2981049.466' E: 735718.928' EL: 179.204' MAG

17 N: 2981296.619' E: 735299.672' EL: 185.944' MAG

14 N: 2981277.867' E: 735480.001' EL: 182.634' MAG

13 N: 2981496.318' E: 735340.638' EL: 185.242' MAG

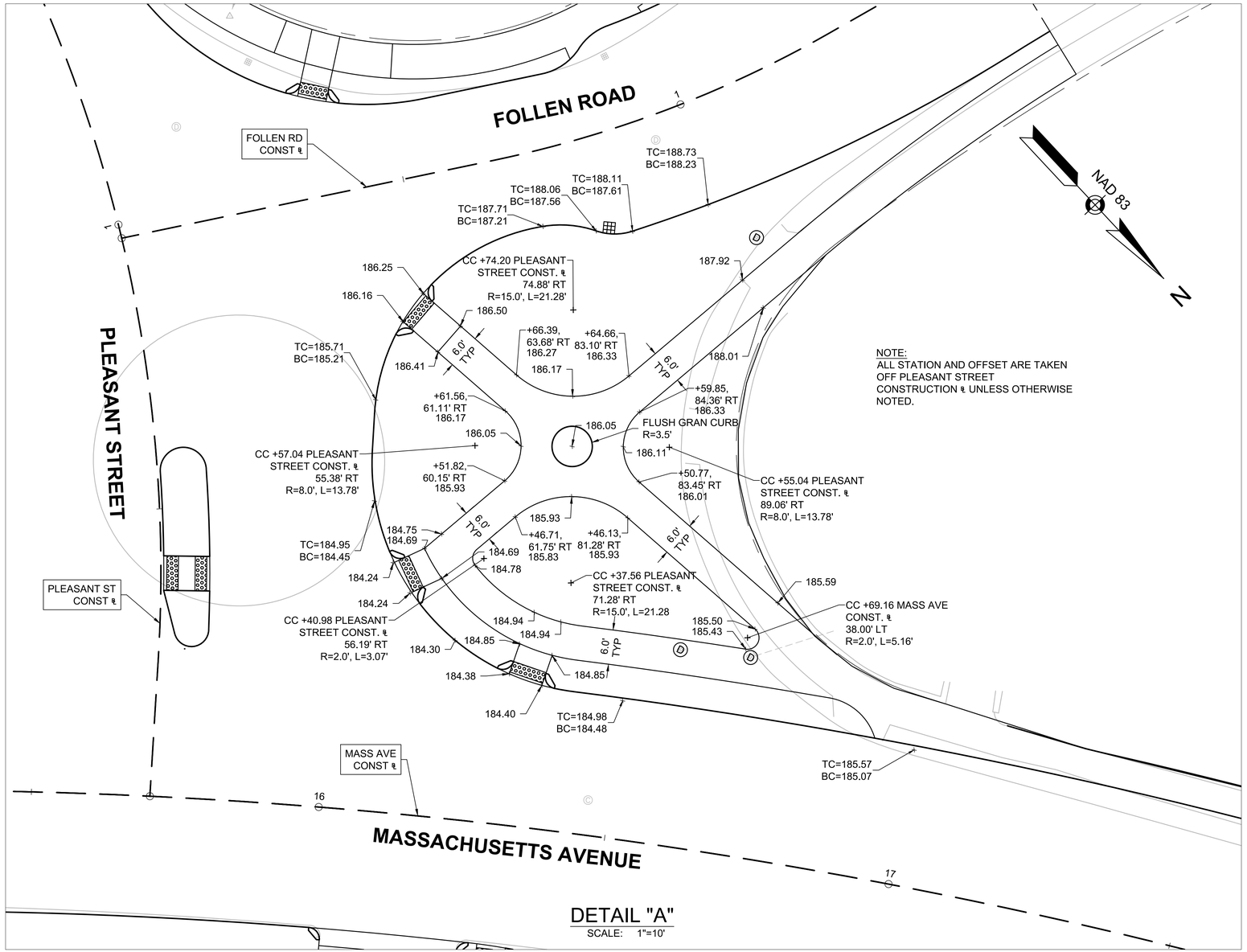
0 20 50 100
SCALE: 1" = 20'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	30	126
PROJECT FILE NO.	607409		

GRADING & TIE PLAN
SHEET 2 OF 9

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM



NOTE:
ALL STATION AND OFFSET ARE TAKEN OFF PLEASANT STREET CONSTRUCTION ℄ UNLESS OTHERWISE NOTED.

DETAIL "A"
SCALE: 1"=10'

0 10 20 30 40
SCALE: 1" = 10'

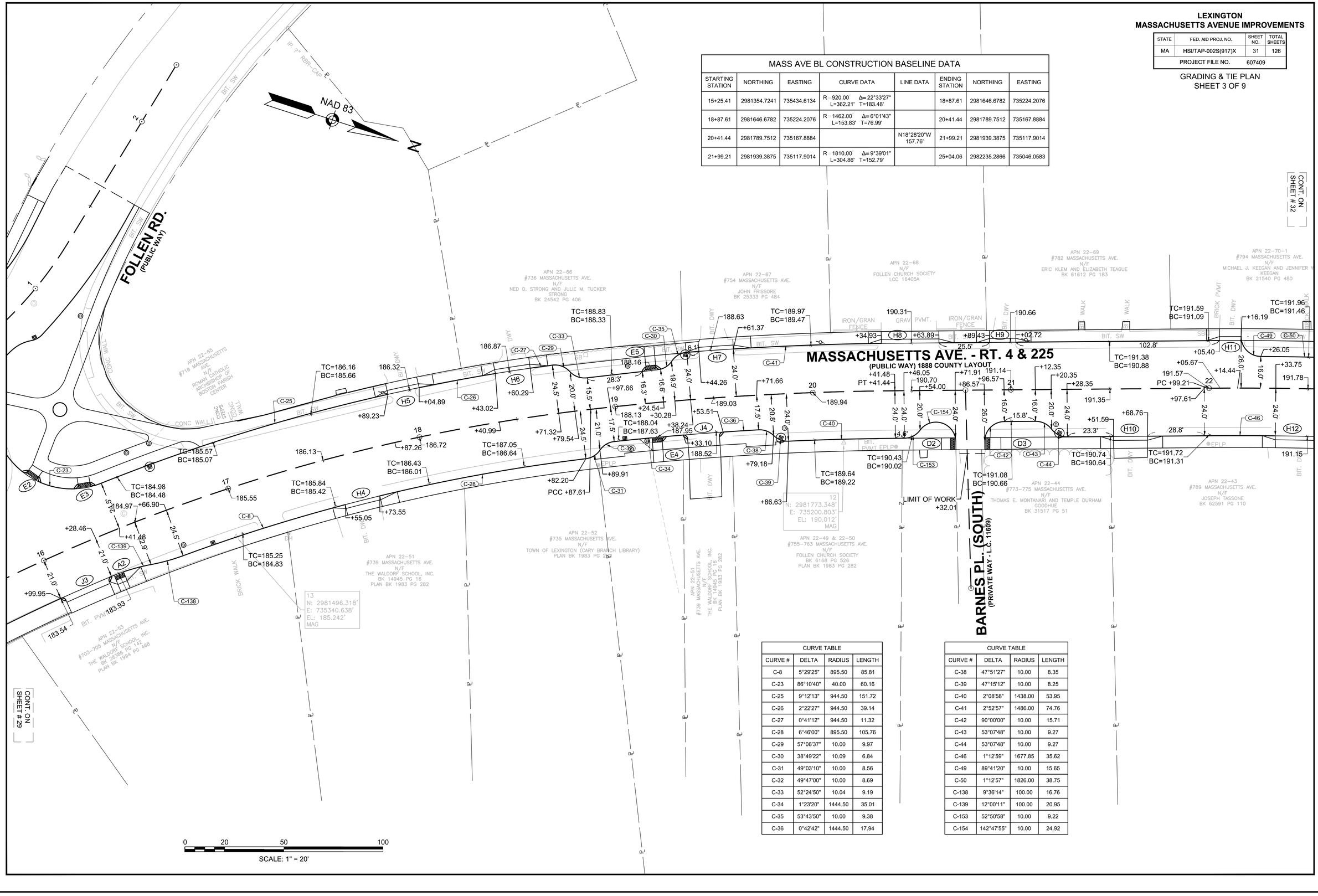
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	31	126
PROJECT FILE NO.	607409		

GRADING & TIE PLAN
SHEET 3 OF 9

607409_HDI(DET).DWG Plotted on 20-Apr-2016 8:40 AM

MASS AVE BL CONSTRUCTION BASELINE DATA							
STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
15+25.41	2981354.7241	735434.6134	R=920.00' Δ=22°33'27" L=362.21' T=183.48'		18+87.61	2981646.6782	735224.2076
18+87.61	2981646.6782	735224.2076	R=1462.00' Δ=6°01'43" L=153.83' T=76.99'		20+41.44	2981789.7512	735167.8884
20+41.44	2981789.7512	735167.8884		N18°28'20"W 157.76'	21+99.21	2981939.3875	735117.9014
21+99.21	2981939.3875	735117.9014	R=1810.00' Δ=9°39'01" L=304.86' T=152.79'		25+04.06	2982235.2866	735046.0583



CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C-8	5°29'25"	895.50	85.81
C-23	86°10'40"	40.00	60.16
C-25	9°12'13"	944.50	151.72
C-26	2°22'27"	944.50	39.14
C-27	0°41'12"	944.50	11.32
C-28	6°46'00"	895.50	105.76
C-29	57°08'37"	10.00	9.97
C-30	38°49'22"	10.09	6.84
C-31	49°03'10"	10.00	8.56
C-32	49°47'00"	10.00	8.69
C-33	52°24'50"	10.04	9.19
C-34	1°23'20"	1444.50	35.01
C-35	53°43'50"	10.00	9.38
C-36	0°42'42"	1444.50	17.94

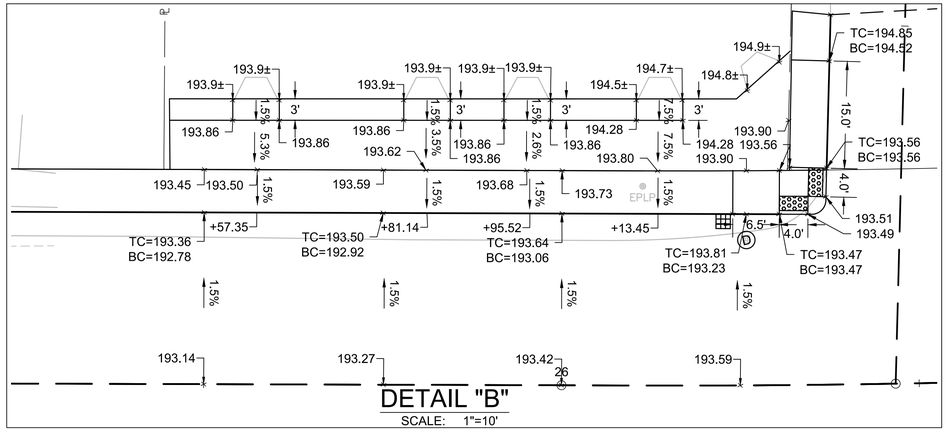
CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C-38	47°51'27"	10.00	8.35
C-39	47°15'12"	10.00	8.25
C-40	2°08'58"	1438.00	53.95
C-41	2°52'57"	1486.00	74.76
C-42	90°00'00"	10.00	15.71
C-43	53°07'48"	10.00	9.27
C-44	53°07'48"	10.00	9.27
C-46	1°12'59"	1677.85	35.62
C-49	89°41'20"	10.00	15.65
C-50	1°12'57"	1826.00	38.75
C-138	9°36'14"	100.00	16.76
C-139	12°00'11"	100.00	20.95
C-153	52°50'58"	10.00	9.22
C-154	142°47'55"	10.00	24.92

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	32	126
PROJECT FILE NO.	607409		

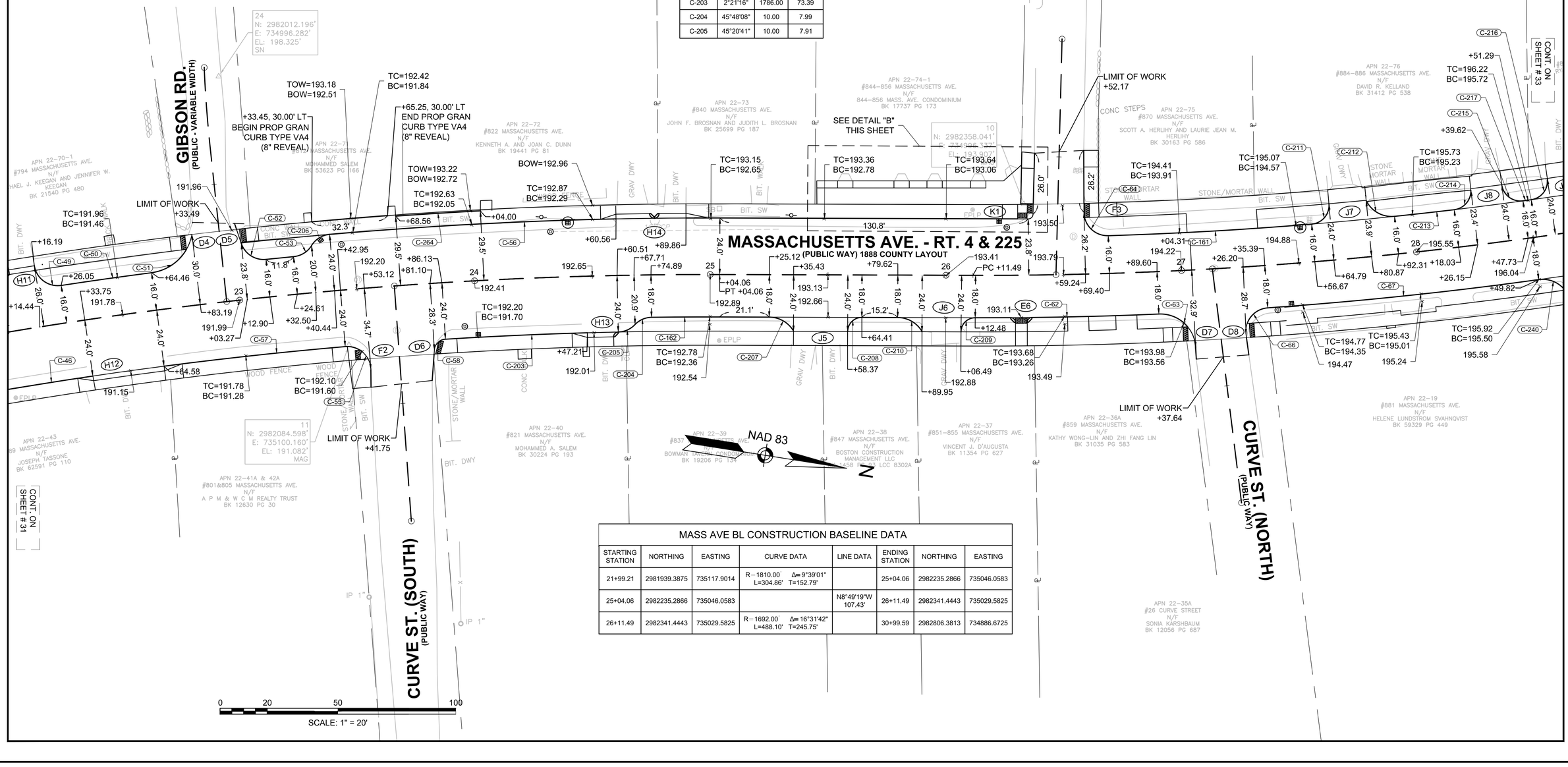
GRADING & TIE PLAN
SHEET 4 OF 9

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM



CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C-46	1°12'59"	1677.85	35.62
C-49	89°41'20"	10.00	15.65
C-50	1°12'57"	1826.00	38.75
C-51	72°14'43"	20.00	25.22
C-52	77°11'55"	10.00	13.47
C-53	52°52'48"	10.00	9.23
C-55	94°21'31"	10.00	16.47
C-56	5°10'46"	1834.00	165.79
C-57	2°28'51"	1786.00	77.33
C-58	82°18'27"	5.00	7.18
C-62	2°53'29"	1544.63	77.95
C-63	89°30'06"	15.00	23.43
C-64	91°36'01"	10.00	15.99
C-66	94°35'12"	9.95	16.42
C-67	3°52'18"	1711.48	115.65
C-161	2°57'19"	1676.00	86.45
C-162	0°55'19"	1790.78	28.82
C-203	2°21'16"	1786.00	73.39
C-204	45°48'08"	10.00	7.99
C-205	45°20'41"	10.00	7.91

CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C-206	53°22'52"	10.00	9.32
C-207	59°11'52"	12.00	12.40
C-208	90°00'00"	6.00	9.42
C-209	89°58'12"	6.00	9.42
C-210	59°22'00"	12.00	12.43
C-211	90°07'08"	8.00	12.58
C-212	70°03'25"	12.00	14.67
C-213	0°52'15"	1676.00	25.47
C-214	85°40'43"	8.00	11.96
C-215	90°08'15"	8.00	12.59
C-216	90°08'15"	8.00	12.59
C-217	0°07'14"	1676.00	3.52
C-240	59°49'06"	12.00	12.53
C-264	1°07'18"	1839.50	36.02



MASS AVE BL CONSTRUCTION BASELINE DATA							
STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
21+99.21	2981939.3875	735117.9014	R=1810.00' Δ=9°39'01" L=304.86' T=152.79'		25+04.06	2982235.2866	735046.0583
25+04.06	2982235.2866	735046.0583		N8°49'19"W 107.43'	26+11.49	2982341.4443	735029.5825
26+11.49	2982341.4443	735029.5825	R=1692.00' Δ=16°31'42" L=488.10' T=245.75'		30+99.59	2982806.3813	734886.6725

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	33	126
PROJECT FILE NO.	607409		

GRADING & TIE PLAN
SHEET 5 OF 9

607409_HDI(DET).DWG Plotted on 20-Apr-2016 8:40 AM

NAD 83

N

MASSACHUSETTS AVE. - RT. 4 & 225
(PUBLIC WAY)

BARNES PL. (NORTH)
(PRIVATE WAY)

JOSEPH RD.
(PUBLIC WAY)

MASS AVE BL CONSTRUCTION BASELINE DATA							
STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
26+11.49	2982341.4443	735029.5825	R=1692.00' Δ=16°31'42" L=488.10' T=245.75'		30+99.59	2982806.3813	734886.6725
30+99.59	2982806.3813	734886.6725		N25°21'01"W 466.20'	35+65.79	2983227.6926	734687.0673

CONT. ON SHEET # 34

CONT. ON SHEET # 32

CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C-74	2°43'06"	1710.00	81.13
C-75	1°10'31"	1723.32	35.35
C-79	89°48'58"	10.00	15.68
C-80	90°28'37"	15.00	23.69
C-81	53°07'48"	10.00	9.27
C-82	53°07'48"	10.00	9.27
C-83	53°07'46"	10.00	9.27
C-84	53°02'04"	10.02	9.27
C-85	88°41'20"	8.00	12.38
C-213	0°52'15"	1676.00	25.47
C-214	85°40'43"	8.00	11.96
C-215	90°08'15"	8.00	12.59
C-216	90°08'15"	8.00	12.59
C-217	0°07'14"	1676.00	3.52
C-218	90°00'02"	8.00	12.57
C-219	70°31'45"	12.00	14.77
C-220	89°59'57"	8.00	12.57
C-221	70°25'52"	12.00	14.75
C-222	90°00'00"	8.00	12.57
C-223	70°25'49"	12.00	14.75
C-224	83°49'34"	8.00	11.70
C-225	2°02'58"	1676.00	59.95

CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C-226	70°44'45"	12.00	14.82
C-227	90°08'15"	8.00	12.59
C-228	1°16'57"	1676.00	37.51
C-229	70°43'24"	12.00	14.81
C-230	90°08'15"	8.00	12.59
C-231	1°02'15"	1676.00	30.35
C-232	70°43'24"	12.00	14.81
C-233	89°57'07"	6.00	9.42
C-234	59°44'25"	12.00	12.51
C-235	89°59'58"	6.00	9.42
C-236	59°52'51"	12.00	12.54
C-237	1°04'08"	1724.97	32.18
C-238	89°53'41"	6.00	9.41
C-239	89°47'59"	6.00	9.40
C-240	59°49'06"	12.00	12.53
C-241	59°49'37"	12.00	12.53
C-242	89°47'54"	6.00	9.40
C-243	59°19'42"	12.00	12.43
C-244	70°31'44"	12.00	14.77
C-245	90°00'00"	8.00	12.57

0 20 50 100
SCALE: 1" = 20'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	34	126
PROJECT FILE NO.	607409		

GRADING & TIE PLAN
SHEET 6 OF 9

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM

NAD 83

N

MASS AVE BL CONSTRUCTION BASELINE DATA

STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
30+99.59	2982806.3813	734886.6725		N25°21'01"W 466.20'	35+65.79	2983227.6926	734687.0673
35+65.79	2983227.6926	734687.0673	R=924.00' Δ=19°01'38" L=306.85' T=154.85'		38+72.64	2983478.3100	734512.4694
38+72.64	2983478.3100	734512.4694		N44°22'39"W 159.55'	40+32.19	2983592.3473	734400.8838
40+32.19	2983592.3473	734400.8838	R=1080.00' Δ=10°18'04" L=194.17' T=97.35'		42+26.36	2983718.2085	734253.3739

MASSACHUSETTS AVE. - RT. 4 & 225
(PUBLIC WAY) 1888 COUNTY LAYOUT

LOCUST AVE. (PUBLIC WAY)

PLAINFIELD ST. (PUBLIC WAY)

CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C-85	88°41'20"	8.00	12.38
C-86	64°35'22"	12.00	13.53
C-90	95°17'35"	20.00	33.26
C-91	4°01'42"	940.00	66.09
C-92	89°30'38"	5.00	7.81
C-93	91°59'06"	10.00	16.05
C-94	4°22'29"	906.00	69.17
C-95	11°20'55"	948.00	187.77
C-99	88°43'40"	10.00	15.49
C-100	90°25'56"	10.00	15.78
C-101	2°49'49"	1000.00	49.40
C-102	1°48'29"	1000.00	31.55
C-163	98°32'54"	28.00	48.16
C-245	90°00'00"	8.00	12.57
C-246	90°10'13"	6.00	9.44
C-247	56°13'54"	12.00	11.78
C-248	1°25'32"	906.00	22.54
C-249	90°21'09"	6.00	9.46
C-250	60°19'57"	12.00	12.64
C-251	4°42'59"	906.00	74.58

CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C-252	70°31'44"	12.00	14.77
C-253	89°59'41"	8.00	12.57
C-254	0°10'21"	940.06	2.83
C-255	88°11'04"	4.00	6.16
C-256	53°37'02"	10.00	9.36
C-257	52°38'46"	10.00	9.19

0 20 50 100
SCALE: 1" = 20'

CONT. ON SHEET # 33
CONT. ON SHEET # 35

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	35	126
PROJECT FILE NO.	607409		

GRADING & TIE PLAN
SHEET 7 OF 9

607409_HDI(DET).DWG Plotted on 20-Apr-2016 8:40 AM

CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C-101	2°49'49"	1000.00	49.40
C-102	1°48'29"	1000.00	31.55
C-103	7°17'10"	1059.00	134.67
C-105	88°34'44"	8.00	12.37
C-106	73°41'31"	70.00	90.03
C-107	0°44'58"	1101.00	14.40
C-108	26°03'43"	30.00	13.65
C-109	16°08'02"	30.00	8.45
C-110	91°18'03"	5.00	7.97
C-113	115°09'16"	10.00	20.10
C-114	64°50'44"	11.00	12.45
C-115	56°36'53"	5.00	4.94
C-116	76°38'05"	10.00	13.38
C-117	2°16'51"	377.50	15.03
C-118	25°15'30"	24.21	10.67
C-121	102°21'44"	35.00	62.53

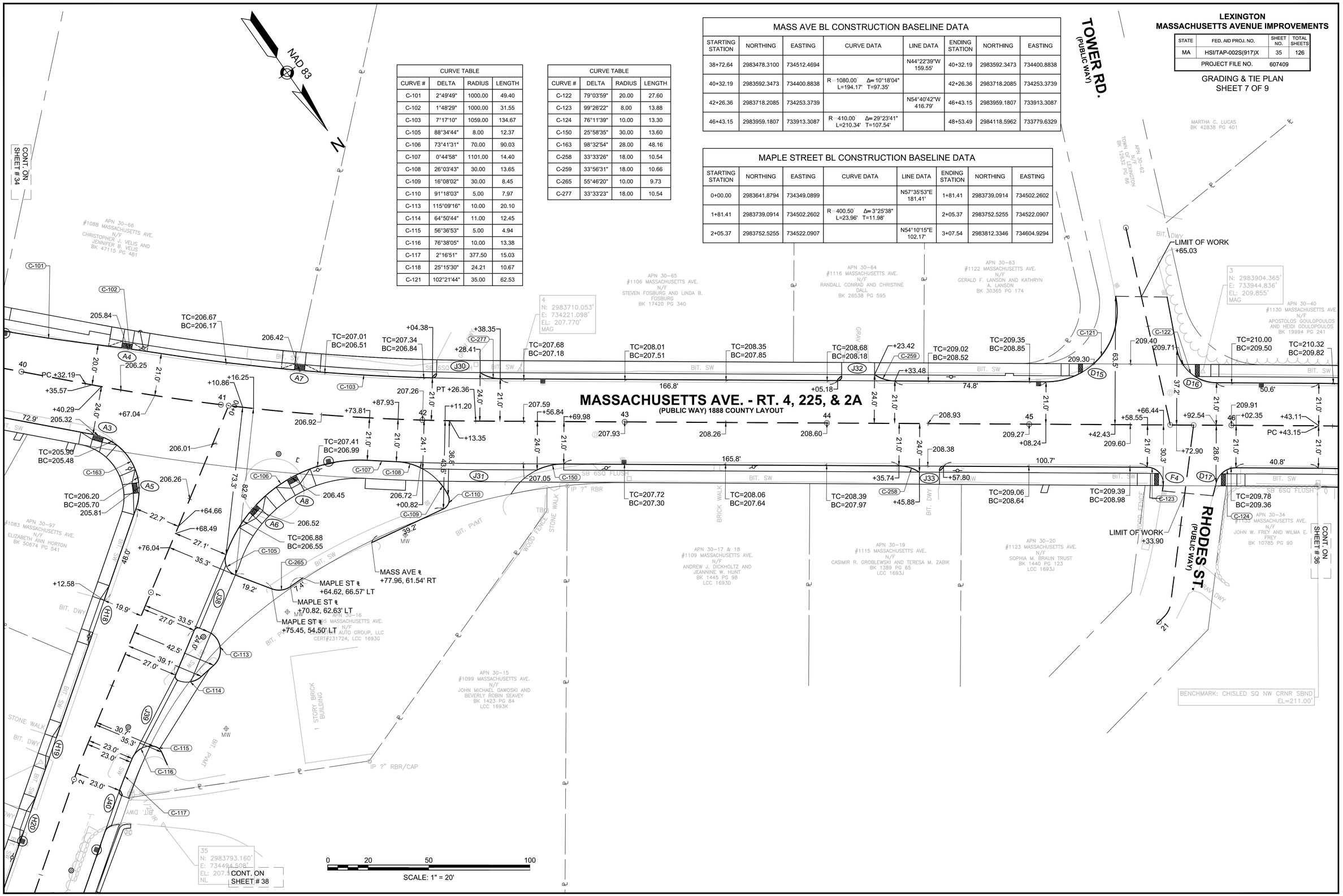
CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C-122	79°03'59"	20.00	27.60
C-123	99°26'22"	8.00	13.88
C-124	76°11'39"	10.00	13.30
C-150	25°58'35"	30.00	13.60
C-163	98°32'54"	28.00	48.16
C-258	33°33'26"	18.00	10.54
C-259	33°56'31"	18.00	10.66
C-265	55°46'20"	10.00	9.73
C-277	33°33'23"	18.00	10.54

MASS AVE BL CONSTRUCTION BASELINE DATA

STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
38+72.64	2983478.3100	734512.4694		N44°22'39"W 159.55'	40+32.19	2983592.3473	734400.8838
40+32.19	2983592.3473	734400.8838	R=1080.00' Δ=10°18'04" L=194.17' T=97.35'		42+26.36	2983718.2085	734253.3739
42+26.36	2983718.2085	734253.3739		N54°40'42"W 416.79'	46+43.15	2983959.1807	733913.3087
46+43.15	2983959.1807	733913.3087	R=410.00' Δ=29°23'41" L=210.34' T=107.54'		48+53.49	2984118.5962	733779.6329

MAPLE STREET BL CONSTRUCTION BASELINE DATA

STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
0+00.00	2983641.8794	734349.0899		N57°35'53"E 181.41'	1+81.41	2983739.0914	734502.2602
1+81.41	2983739.0914	734502.2602	R=400.50' Δ=3°25'38" L=23.96' T=11.98'		2+05.37	2983752.5255	734522.0907
2+05.37	2983752.5255	734522.0907		N54°10'15"E 102.17'	3+07.54	2983812.3346	734604.9294

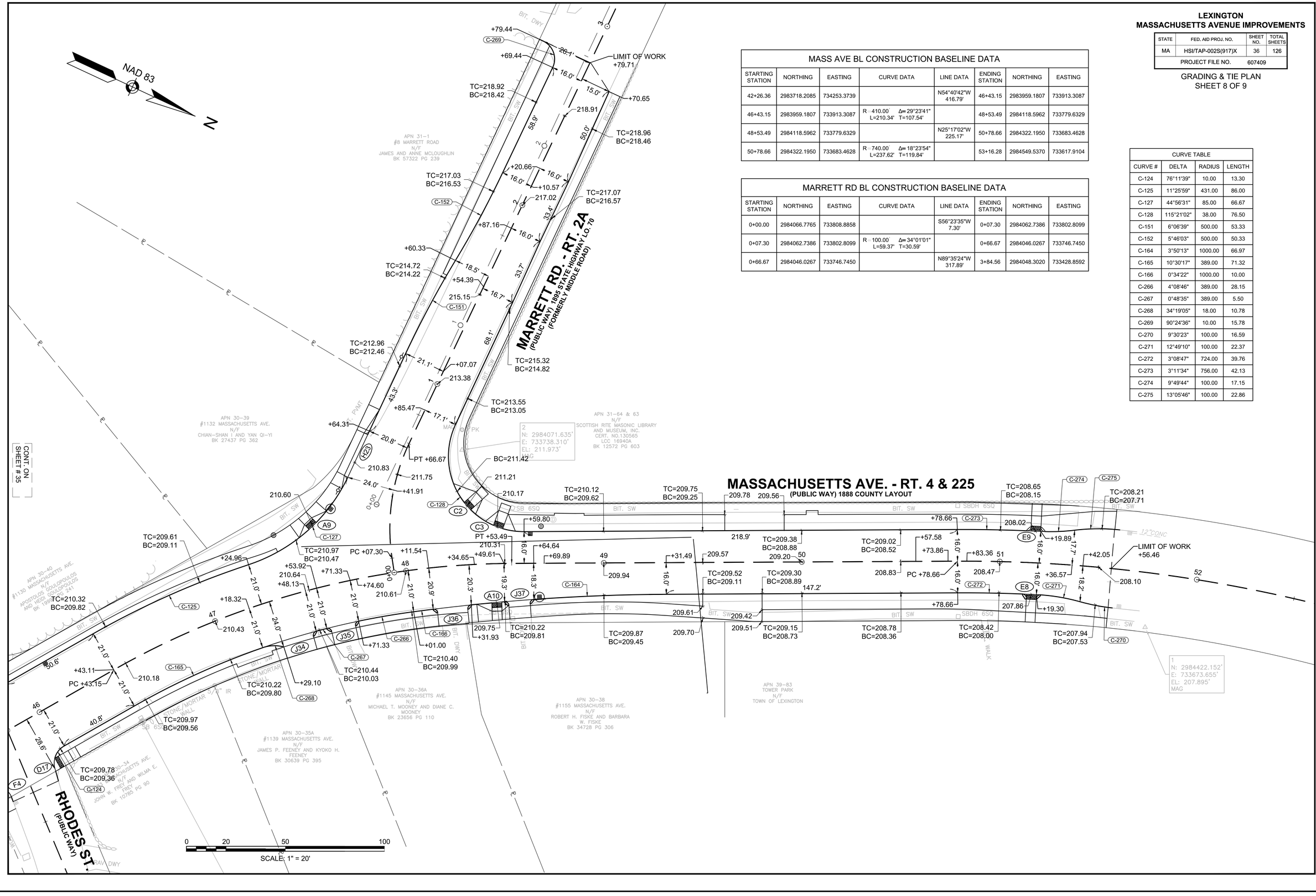


LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	36	126
PROJECT FILE NO.	607409		

GRADING & TIE PLAN
SHEET 8 OF 9

607409_HDI(DET).DWG Plotted on 20-Apr-2016 8:40 AM



MASS AVE BL CONSTRUCTION BASELINE DATA

STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
42+26.36	2983718.2085	734253.3739		N54°40'42"W 416.79'	46+43.15	2983959.1807	733913.3087
46+43.15	2983959.1807	733913.3087	R = 410.00' Δ= 29°23'41" L=210.34' T=107.54'		48+53.49	2984118.5962	733779.6329
48+53.49	2984118.5962	733779.6329		N25°17'02"W 225.17'	50+78.66	2984322.1950	733683.4628
50+78.66	2984322.1950	733683.4628	R = 740.00' Δ= 18°23'54" L=237.62' T=119.84'		53+16.28	2984549.5370	733617.9104

MARRETT RD BL CONSTRUCTION BASELINE DATA

STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
0+00.00	2984066.7765	733808.8858		S56°23'35"W 7.30'	0+07.30	2984062.7386	733802.8099
0+07.30	2984062.7386	733802.8099	R = 100.00' Δ= 34°01'01" L=59.37' T=30.59'		0+66.67	2984046.0267	733746.7450
0+66.67	2984046.0267	733746.7450		N89°35'24"W 317.89'	3+84.56	2984048.3020	733428.8592

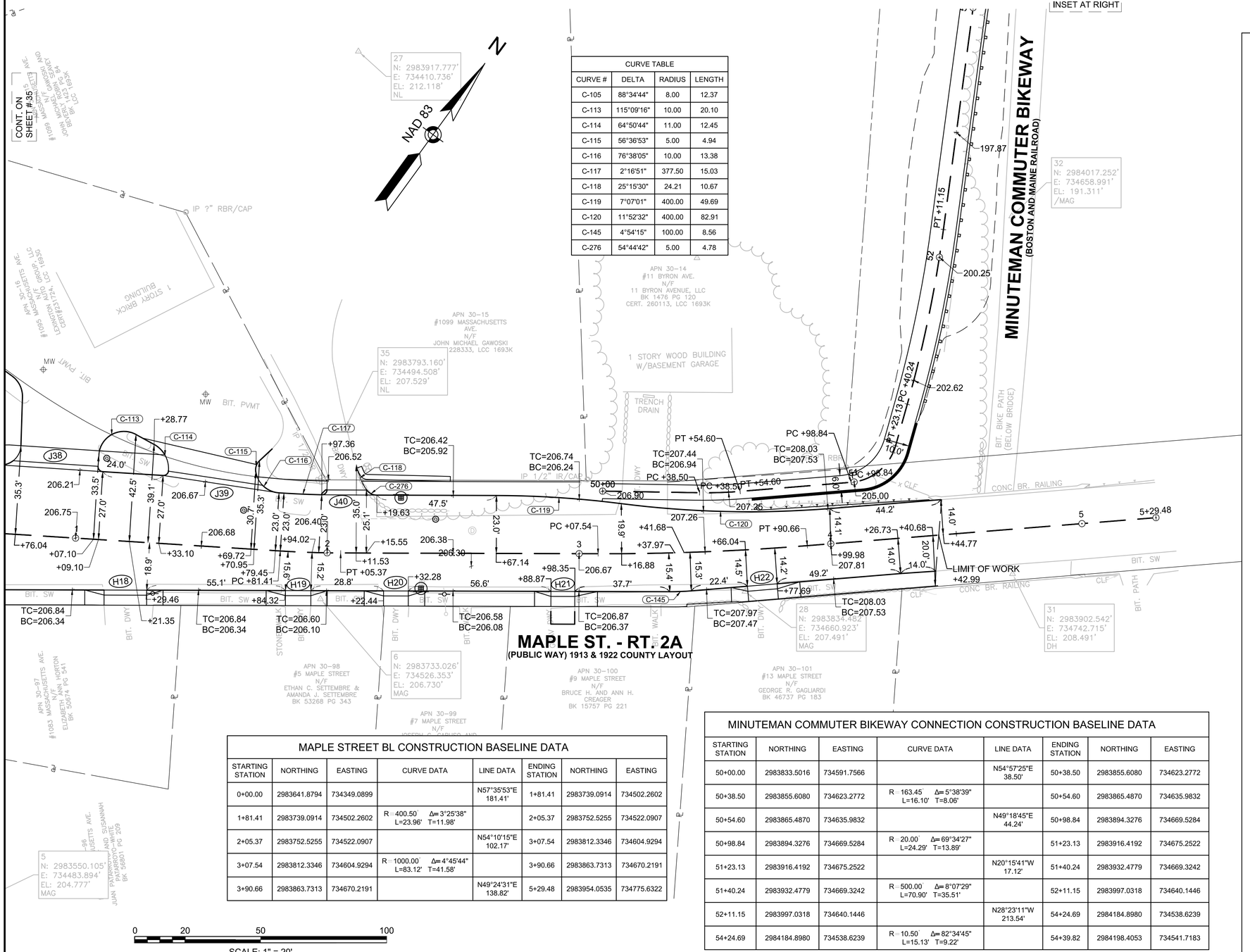
CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C-124	76°11'39"	10.00	13.30
C-125	11°25'59"	431.00	86.00
C-127	44°56'31"	85.00	66.67
C-128	115°21'02"	38.00	76.50
C-151	6°06'39"	500.00	53.33
C-152	5°46'03"	500.00	50.33
C-164	3°50'13"	1000.00	66.97
C-165	10°30'17"	389.00	71.32
C-166	0°34'22"	1000.00	10.00
C-266	4°08'46"	389.00	28.15
C-267	0°48'35"	389.00	5.50
C-268	34°19'05"	18.00	10.78
C-269	90°24'36"	10.00	15.78
C-270	9°30'23"	100.00	16.59
C-271	12°49'10"	100.00	22.37
C-272	3°08'47"	724.00	39.76
C-273	3°11'34"	756.00	42.13
C-274	9°49'44"	100.00	17.15
C-275	13°05'46"	100.00	22.86

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	37	126
PROJECT FILE NO.	607409		

GRADING & TIE PLAN
SHEET 9 OF 9

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM



CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C-105	88°34'44"	8.00	12.37
C-113	115°09'16"	10.00	20.10
C-114	64°50'44"	11.00	12.45
C-115	56°36'53"	5.00	4.94
C-116	76°38'05"	10.00	13.38
C-117	2°16'51"	377.50	15.03
C-118	25°15'30"	24.21	10.67
C-119	7°07'01"	400.00	49.69
C-120	11°52'32"	400.00	82.91
C-145	4°54'15"	100.00	8.56
C-276	54°44'42"	5.00	4.78

MAPLE STREET BL CONSTRUCTION BASELINE DATA

STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
0+00.00	2983641.8794	734349.0899		N57°35'53"E 181.41'	1+81.41	2983739.0914	734502.2602
1+81.41	2983739.0914	734502.2602	R=400.50' Δ=3°25'38" L=23.96' T=11.98'		2+05.37	2983752.5255	734522.0907
2+05.37	2983752.5255	734522.0907		N54°10'15"E 102.17'	3+07.54	2983812.3346	734604.9294
3+07.54	2983812.3346	734604.9294	R=1000.00' Δ=4°45'44" L=83.12' T=41.58'		3+90.66	2983863.7313	734670.2191
3+90.66	2983863.7313	734670.2191		N49°24'31"E 138.82'	5+29.48	2983954.0535	734775.6322

MINUTEMAN COMMUTER BIKEWAY CONNECTION CONSTRUCTION BASELINE DATA

STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
50+00.00	2983833.5016	734591.7566		N54°57'25"E 38.50'	50+38.50	2983855.6080	734623.2772
50+38.50	2983855.6080	734623.2772	R=163.45' Δ=5°38'39" L=16.10' T=8.06'		50+54.60	2983865.4870	734635.9832
50+54.60	2983865.4870	734635.9832		N49°18'45"E 44.24'	50+98.84	2983894.3276	734669.5284
50+98.84	2983894.3276	734669.5284	R=20.00' Δ=69°34'27" L=24.29' T=13.89'		51+23.13	2983916.4192	734675.2522
51+23.13	2983916.4192	734675.2522		N20°15'41"W 17.12'	51+40.24	2983932.4779	734669.3242
51+40.24	2983932.4779	734669.3242	R=500.00' Δ=8°07'29" L=70.90' T=35.51'		52+11.15	2983997.0318	734640.1446
52+11.15	2983997.0318	734640.1446		N28°23'11"W 213.54'	54+24.69	2984184.8980	734538.6239
54+24.69	2984184.8980	734538.6239	R=10.50' Δ=82°34'45" L=15.13' T=9.22'		54+39.82	2984198.4053	734541.7183

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	38	126
PROJECT FILE NO.	607409		

DRAINAGE & UTILITY PLAN
SHEET 1 OF 8

607409_UT(UT).DWG Plotted on 23-Sep-2016 1:55 PM

DRAINAGE STRUCTURE TABLE

NAME	TYPE	ALIGNMENT	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	COMMENTS
1	EX. CB	Mass Ave BL	13+44.97	19.9 R	181.11			ADJ EXIST, PROP F&G
2	GICI	Follen Rd BL	0+82.06	16.3 R	187.73		I=185.50' 5	PROP F&G
3	CBCI	Follen Rd BL	0+89.22	15.6 L	187.95		I=184.80' 4	PROP F&G, CONN. TO EXIST 12" RCP W/ 7'-12" RCP
4	EX. DMH	Follen Rd BL	0+93.87	4.2 R	188.62	I=183.40' 5 I=184.70' 3	I=182.60' 25	ADJ EXIST, PROP F&C
5	CIT	Follen Rd BL	1+03.35	26.4 R	188.54	I=184.40' 2	I=184.30' 4	CIT CB TO DMH, R&D F&G, PROP F&C
6	EX. DMH	Pleasant Street BL	1+13.40	14.2 R	185.80	I=182.40' 21 I=181.80' 9 I=181.80' 8	I=181.20' 25	ADJ EXIST, PROP F&C
8	CBCI	Pleasant Street BL	1+18.03	26.2 R	185.48		I=182.40' 6	PROP F&G, CONN. TO EXIST 12" RCP W/ 2'-12" RCP
9	CBCI	Pleasant Street BL	1+18.01	23.0 L	185.54		I=182.40' 6	PROP F&G, CONN. TO EXIST 12" RCP W/ 4'-12" RCP
12	EX. CB	Mass Ave BL	13+44.37	19.0 L	181.26		I=178.40' 13	ADJ EXIST, PROP F&G
14	EX. CBCI	Mass Ave BL	13+95.88	45.9 R	181.57		I=178.60' 16	ADJ EXIST, PROP F&G
15	EX. DMH	Mass Ave BL	14+07.49	17.5 L	181.82	I=177.10' 19 I=177.40' 17	I=177.10' 13	ADJ EXIST, PROP F&C
16	EX. DMH	Mass Ave BL	14+08.03	66.8 R	182.16	I=178.40' 18 I=178.50' 14		ADJ EXIST, PROP F&C
17	EX. DMH	Mass Ave BL	14+09.50	29.7 R	181.86		I=178.00' 15	ADJ EXIST, PROP F&C
18	EX. CBCI	Mass Ave BL	14+18.95	36.8 R	181.47		I=179.10' 16	ADJ EXIST, PROP F&G
20	EX. CB	Mass Ave BL	14+76.55	20.8 L	183.43		I=181.76' 19	ADJ EXIST, PROP F&G
25	CIT	Mass Ave BL	16+58.48	34.3 L	185.27	I=180.60' 30 I=180.80' 28 I=181.20' 27 I=180.40' 4 I=180.40' 6	I=180.20' 19	CIT CB TO DMH, R&D F&G, PROP F&C
26	CBCI	Mass Ave BL	16+66.54	22.9 L	184.70		I=182.10' 28	PROP F&G
27	CIT	Mass Ave BL	16+69.12	19.4 R	184.16	I=182.00' 29	I=182.00' 25	CIT CB TO DMH, R&D F&G, PROP F&C
28	CIT	Mass Ave BL	16+70.10	34.8 L	185.40	I=182.30' 26	I=181.10' 25	CIT CB TO DMH, R&D F&G, PROP F&C
29	GICI	Mass Ave BL	16+83.76	23.5 R	184.66		I=182.14' 27	PROP F&G

NOTES:
1. ALL DRAINAGE FRAMES AND GRATES/COVERS ARE TO BE REPLACED WITH NEW. REMOVE AND STACK EXISTING.
2. PROPOSED RIM AND INVERT ELEVATIONS ARE SHOWN FOR BIDDING PURPOSE ONLY, ACTUAL ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR.
3. THE TOWN OF LEXINGTON HAS BEGUN A PROJECT TO REPLACE THE WATER MAIN ALONG MASSACHUSETTS AVENUE THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT. THIS WORK WILL COMMENCE IN MAY OF 2016 AND WILL BE COMPLETED PRIOR TO THE END OF THE SUMMER OF 2016. THE ITEMS OF WORK AND ANY SPECIAL PROVISIONS WILL BE ADJUSTED BASED ON THE WORK THAT IS COMPLETED AS PART OF THE WATER MAIN REPLACEMENT.

NAD 83
N

PLEASANT ST. RT. 4 & 225 (PUBLIC WAY) 1934 COUNTY LAYOUT

BRIDLE PATH

FOLLEN RD. (PUBLIC WAY)

MASSACHUSETTS AVE. (PUBLIC WAY) 1888 & 1928 COUNTY LAYOUT

ELLEN DANA CT. (PUBLIC WAY)

BEGIN PROJECT NO. 607409
LIMIT OF WORK / SAWCUT / MEET EXISTING
STA 12+42.00±
N:2981160.6776
E: 735641.1610

STA 0+97.58 PLEASANT ST. CONST. ℄ =
STA 0+00.00 FOLLEN RD. CONST. ℄
N: 2981312.0342 E: 735389.7298

STA 15+70.60 MASS. AVE. CONST. ℄ =
STA 0+00.00 PLEASANT ST. CONST. ℄
N: 2981386.3126 E: 735402.2987

STA 14+05.19 MASS. AVE. CONST. ℄ =
STA 10+00.00 ELLEN DANA CT. CONST. ℄
N: 2981272.8222 E: 735522.6220

S 13° 00' 39" W 332.97'
N 44° 48' 29" W 66.41'
PC +59.68
Δ=2° 15' 01"
L=198.80' R=5062.00'
PT +93.27
PT +58.48
N 47° 03' 30" W 166.93'
PC +25.41
PT +69.91
S 46° 30' 13" W 23.78'
Δ=33° 29' 34"
L=146.14' R=250.00'
PC +23.78
Δ=22° 33' 27"
L=362.21' R=920.00'

2 LF - 12" RCP
REM CB 11 CUT & REM PIPE
7 LF - 12" RCP
REM CB 23 CUT & REM PIPE
4 LF - 12" RCP
REM CB 10 CUT & REM PIPE
22 LF -12" DI
9 LF - 12" DI
11 LF - 12" DI
8" PL LP
4" PL
PROP METER CHAMBER, SERVICE BOX, 1" COPPER
PROP. SERVICE CONNECTION
PROP. OHW (B.O.)(TYP.)
PROP GAS (B.O.)
R&R HYDRANT
PROP 6"-45° BENDS (2)
6" DI

CONT. ON SHEET # 39

0 20 50 100
SCALE: 1" = 20'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	39	126
PROJECT FILE NO.	607409		

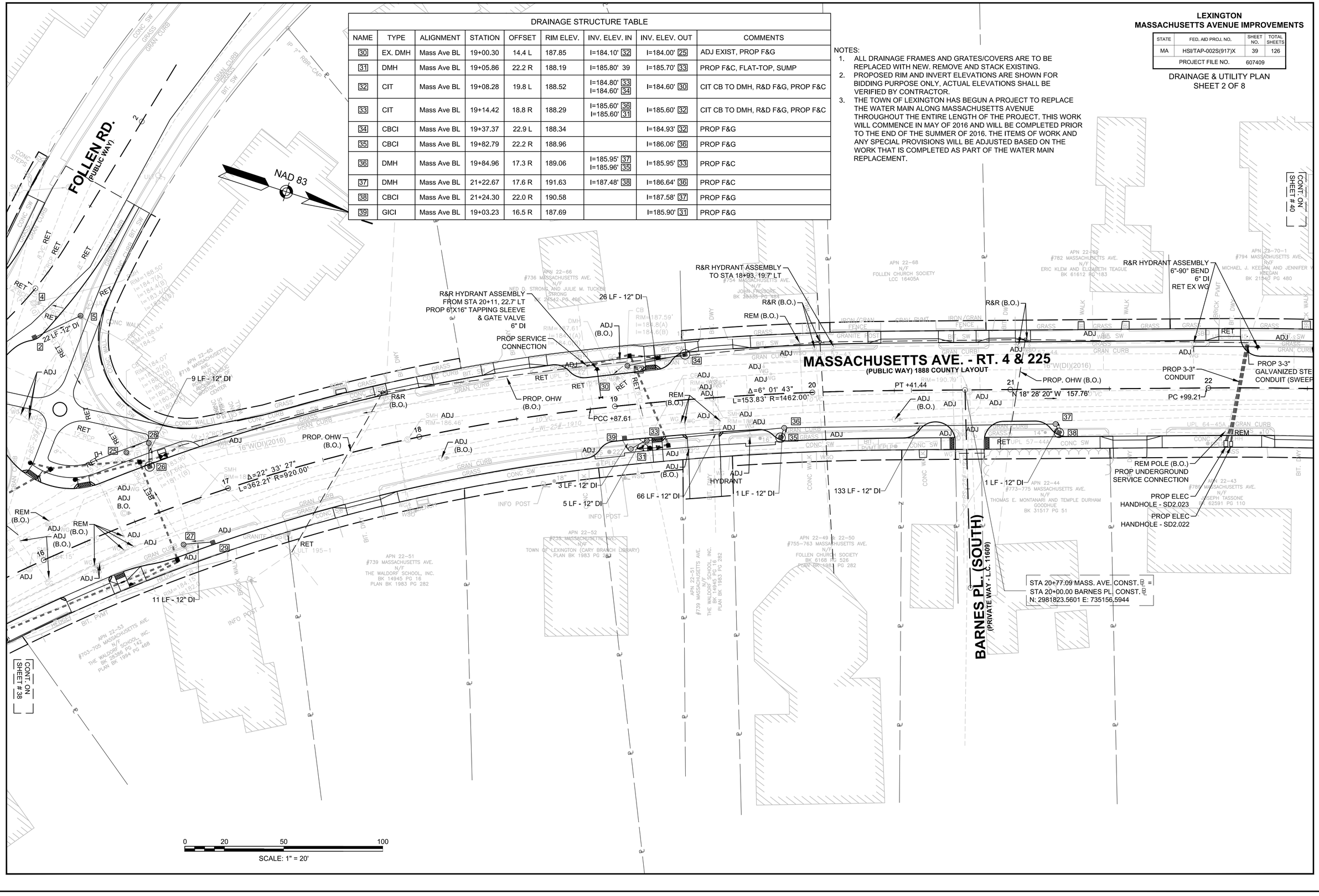
DRAINAGE & UTILITY PLAN
SHEET 2 OF 8

607409_UT(UT).DWG Plotted on 23-Sep-2016 1:55 PM

DRAINAGE STRUCTURE TABLE

NAME	TYPE	ALIGNMENT	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	COMMENTS
30	EX. DMH	Mass Ave BL	19+00.30	14.4 L	187.85	I=184.10' 32	I=184.00' 25	ADJ EXIST, PROP F&G
31	DMH	Mass Ave BL	19+05.86	22.2 R	188.19	I=185.80' 39	I=185.70' 33	PROP F&C, FLAT-TOP, SUMP
32	CIT	Mass Ave BL	19+08.28	19.8 L	188.52	I=184.80' 33 I=184.60' 34	I=184.60' 30	CIT CB TO DMH, R&D F&G, PROP F&C
33	CIT	Mass Ave BL	19+14.42	18.8 R	188.29	I=185.60' 36 I=185.60' 31	I=185.60' 32	CIT CB TO DMH, R&D F&G, PROP F&C
34	CBCI	Mass Ave BL	19+37.37	22.9 L	188.34		I=184.93' 32	PROP F&G
35	CBCI	Mass Ave BL	19+82.79	22.2 R	188.96		I=186.06' 36	PROP F&G
36	DMH	Mass Ave BL	19+84.96	17.3 R	189.06	I=185.95' 37 I=185.96' 35	I=185.95' 33	PROP F&C
37	DMH	Mass Ave BL	21+22.67	17.6 R	191.63	I=187.48' 38	I=186.64' 36	PROP F&C
38	CBCI	Mass Ave BL	21+24.30	22.0 R	190.58		I=187.58' 37	PROP F&G
39	GICI	Mass Ave BL	19+03.23	16.5 R	187.69		I=185.90' 31	PROP F&G

NOTES:
1. ALL DRAINAGE FRAMES AND GRATES/COVERS ARE TO BE REPLACED WITH NEW. REMOVE AND STACK EXISTING.
2. PROPOSED RIM AND INVERT ELEVATIONS ARE SHOWN FOR BIDDING PURPOSE ONLY, ACTUAL ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR.
3. THE TOWN OF LEXINGTON HAS BEGUN A PROJECT TO REPLACE THE WATER MAIN ALONG MASSACHUSETTS AVENUE THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT. THIS WORK WILL COMMENCE IN MAY OF 2016 AND WILL BE COMPLETED PRIOR TO THE END OF THE SUMMER OF 2016. THE ITEMS OF WORK AND ANY SPECIAL PROVISIONS WILL BE ADJUSTED BASED ON THE WORK THAT IS COMPLETED AS PART OF THE WATER MAIN REPLACEMENT.



NOTES:

1. ALL DRAINAGE FRAMES AND GRATES/COVERS ARE TO BE REPLACED WITH NEW. REMOVE AND STACK EXISTING.
2. PROPOSED RIM AND INVERT ELEVATIONS ARE SHOWN FOR BIDDING PURPOSE ONLY, ACTUAL ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR.
3. THE TOWN OF LEXINGTON HAS BEGUN A PROJECT TO REPLACE THE WATER MAIN ALONG MASSACHUSETTS AVENUE THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT. THIS WORK WILL COMMENCE IN MAY OF 2016 AND WILL BE COMPLETED PRIOR TO THE END OF THE SUMMER OF 2016. THE ITEMS OF WORK AND ANY SPECIAL PROVISIONS WILL BE ADJUSTED BASED ON THE WORK THAT IS COMPLETED AS PART OF THE WATER MAIN REPLACEMENT.

DRAINAGE STRUCTURE TABLE

NAME	TYPE	ALIGNMENT	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	COMMENTS
41	EX. DMH	Mass Ave BL	23+65.54	18.8 R	191.77	I=186.40' 42 I=188.70' 81		ADJ EXIST, PROP F&C
42	CIT	Mass Ave BL	23+94.76	19.1 R	191.41	I=187.80' 80	I=187.80' 41	CIT CB TO DMH, R&D F&G, PROP F&C
44	CBCI	Mass Ave BL	24+40.34	23.0 L	192.27		I=189.20' 81	PROP F&G
45	GICI	Mass Ave BL	26+22.68	22.9 L	193.12		I=190.62' 46	PROP F&G
46	CIT	Mass Ave BL	26+25.95	20.3 L	193.20	I=190.52' 45	I=189.20' 81	CIT CB TO DMH, R&D F&G, PROP F&C
47	EX. DMH	Mass Ave BL	26+54.58	16.1 L	193.57	I=189.30' 110	I=189.10' 48	ADJ EXIST, PROP F&C
48	EX. DMH	Mass Ave BL	27+14.03	0.2 L	194.38	I=187.10' 52 I=189.20' 77 I=187.70' 49 I=187.10' 47		ADJ EXIST, PROP F&C
49	CIT	Mass Ave BL	27+39.54	19.2 R	194.16	I=192.00' 50	I=191.10' 48	CIT CB TO DMH, R&D F&G, PROP F&C
50	GICI	Mass Ave BL	27+45.40	17.0 R	194.31		I=192.30' 49	PROP F&G
77	CBCI	Mass Ave BL	27+51.61	15.0 L	194.61		I=190.40' 48	PROP F&G, PROP F&G, CONN. TO EXIST 12" RCP W/ 3'-12" RCP
80	GICI	Mass Ave BL	24+00.35	23.0 R	191.72		I=189.72' 42	PROP F&G
81	CIT	Mass Ave BL	24+32.93	19.4 L	192.30	I=189.10' 46 I=189.10' 44 I=189.09' 105	I=189.09' 41	CIT CB TO DMH, R&D F&G, PROP F&C
105	DMH	Mass Ave BL	23+44.98	19.3 L	191.79	I=189.63' 108	I=189.53' 81	PROP F&C, PROP 4' SUMP
108	GI	Mass Ave BL	23+36.47	22.0 L	191.70		I=189.70' 105	PROP F&G
110	EX. CB	Mass Ave BL	26+56.34	43.8 L	194.68		I=190.00' 47	ADJ EXIST, PROP F&G

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	40	126
PROJECT FILE NO.	607409		

DRAINAGE & UTILITY PLAN
SHEET 3 OF 8

607409_UT(UT).DWG Plotted on 23-Sep-2016 2:42 PM

NAD 83

GIBSON RD. (PUBLIC - VARIABLE WIDTH)

INDEPENDENCE AVE. (PUBLIC WAY - VARIABLE WIDTH)

MASSACHUSETTS AVE. - RT. 4 & 225
(PUBLIC WAY) 1888 COUNTY LAYOUT

CURVE ST. (SOUTH) (PUBLIC WAY)

CURVE ST. (NORTH) (PUBLIC WAY)

STA 22+94.46 MASS. AVE. CONST. ℄ = STA 30+00.00 GIBSON AVE. CONST. ℄
N: 2982030.4865 E: 735090.1112

STA 26+46.71 MASS. AVE. CONST. ℄ = STA 50+00.00 INDEPENDENCE AVE. CONST. ℄
N: 2982376.1872 E: 735023.8194

STA 23+65.90 MASS. AVE. CONST. ℄ = STA 40+00.00 CURVE ST. CONST. ℄
N: 2982099.6966 E: 735072.4360

STA 27+13.11 MASS. AVE. CONST. ℄ = STA 60+00.00 CURVE ST. CONST. ℄
N: 2982441.3268 E: 735010.9938

R&R HYDRANT ASSEMBLY TO STA 26+71, 20.6' LT

R&R HYDRANT ASSEMBLY FROM STA 25+38, 22.8' LT PROP 6"X16" TAPPING SLEEVE & GATE VALVE 6" DI

4 LF - 12" RCP

6 LF - 12" DI

85 LF - 12" DI

3 LF - 12" RCP

REM CB 51 CUT & REM PIPE

REM(BO)

REM (B.O.)

R&R (B.O.)

PROP. OHW (B.O.)

HYDRANT

Δ=9° 39' 01" L=304.86' R=1810.00'

Δ=16° 31' 42" L=488.10' R=1692.00'

PT +04.06

N 8° 49' 19" W 107.43'

PC +11.49

CONT. ON SHEET # 39

CONT. ON SHEET # 41

SCALE: 1" = 20'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	41	126
PROJECT FILE NO.	607409		

DRAINAGE & UTILITY PLAN
SHEET 4 OF 8

NOTES:
1. ALL DRAINAGE FRAMES AND GRATES/COVERS ARE TO BE REPLACED WITH NEW. REMOVE AND STACK EXISTING.
2. PROPOSED RIM AND INVERT ELEVATIONS ARE SHOWN FOR BIDDING PURPOSE ONLY, ACTUAL ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR.
3. THE TOWN OF LEXINGTON HAS BEGUN A PROJECT TO REPLACE THE WATER MAIN ALONG MASSACHUSETTS AVENUE THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT. THIS WORK WILL COMMENCE IN MAY OF 2016 AND WILL BE COMPLETED PRIOR TO THE END OF THE SUMMER OF 2016. THE ITEMS OF WORK AND ANY SPECIAL PROVISIONS WILL BE ADJUSTED BASED ON THE WORK THAT IS COMPLETED AS PART OF THE WATER MAIN REPLACEMENT.

DRAINAGE STRUCTURE TABLE

NAME	TYPE	ALIGNMENT	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	COMMENTS
52	EX. DMH	Mass Ave BL	29+26.46	13.9 L	196.30	I=188.90' 55 I=193.10' 53	I=188.80' 48	ADJ EXIST, PROP F&C
53	EX. CB	Mass Ave BL	29+29.83	34.5 L	196.63		I=193.30' 52	RET EXIST
55	EX. DMH	Mass Ave BL	31+12.51	3.5 L	198.07	I=190.50' 107 I=191.40' 56 I=192.80' 79	I=190.40' 52	ADJ EXIST, PROP F&C
56	CIT	Mass Ave BL	31+24.37	20.7 R	198.16	I=194.14' 82	I=193.40' 55	CIT CB TO DMH, R&D F&G, PROP F&C
79	CBCI	Mass Ave BL	31+24.91	14.9 L	197.98		I=194.48' 55	PROP F&G
82	GICI	Mass Ave BL	31+28.46	17.0 R	197.82		I=194.24' 56	PROP F&G
106	CBCI	Mass Ave BL	33+00.85	21.9 L	200.28		I=196.78' 107	PROP F&G
107	DMH	Mass Ave BL	32+97.86	3.7 L	200.60	I=192.81' 58 I=196.00' 106	I=192.81' 55	PROP F&C, CONSTRUCT OVER 15" CMP

NAD 83

N

MASSACHUSETTS AVE. - RT. 4 & 225 (PUBLIC WAY)

BARNES PL. (NORTH) (PRIVATE WAY)

JOSEPH RD. (PUBLIC WAY)

[CONT. ON SHEET # 42]

[CONT. ON SHEET # 40]

Δ=16° 31' 42"
L=488.10' R=1692.00'

N 25° 21' 01" W 466.20'

PT +99.59

BENCHMARK: USGS DISC NO54G
EL=198.10'

STA 33+04.49 MASS. AVE. CONST. ℄ =
STA 70+00.00 JOSEPH RD. CONST. ℄
N: 2982991.5540 E: 734798.9430

13 LF - 12" RCP

2 LF - 12" RCP

15 LF - 12" RCP

REM CB
PLUG & ABAN. PIPE

0 20 50 100
SCALE: 1" = 20'

607409_UT(UT).DWG Plotted on 23-Sep-2016 1:55 PM

NOTES:

1. ALL DRAINAGE FRAMES AND GRATES/COVERS ARE TO BE REPLACED WITH NEW. REMOVE AND STACK EXISTING.
2. PROPOSED RIM AND INVERT ELEVATIONS ARE SHOWN FOR BIDDING PURPOSE ONLY, ACTUAL ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR.
3. THE TOWN OF LEXINGTON HAS BEGUN A PROJECT TO REPLACE THE WATER MAIN ALONG MASSACHUSETTS AVENUE THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT. THIS WORK WILL COMMENCE IN MAY OF 2016 AND WILL BE COMPLETED PRIOR TO THE END OF THE SUMMER OF 2016. THE ITEMS OF WORK AND ANY SPECIAL PROVISIONS WILL BE ADJUSTED BASED ON THE WORK THAT IS COMPLETED AS PART OF THE WATER MAIN REPLACEMENT.

DRAINAGE STRUCTURE TABLE

NAME	TYPE	ALIGNMENT	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	COMMENTS
58	EX. DMH	Mass Ave BL	35+91.48	3.6 L	203.13	I=197.60' 84 I=197.80' 83 I=197.10' 109 I=196.00' 61	I=195.90' 107	ADJ EXIST, PROP F&C
59	DMH	Mass Ave BL	36+66.96	9.0 R	203.42	I=200.60' 85	I=199.34' 109	PROP F&C
61	EX. DMH	Mass Ave BL	37+65.48	1.0 L	204.33	I=198.00' 63	I=198.00' 58	ADJ EXIST, PROP F&C
62	CIT	Mass Ave BL	39+38.79	18.8 L	205.65	I=200.30' 86	I=200.20' 63	CIT CB TO DMH, R&D F&G, PROP F&C
63	EX. DMH	Mass Ave BL	39+43.32	4.1 L	205.48	I=199.74' 65 I=200.00' 62 I=200.79' 88 I=201.10' 87	I=199.00' 61	ADJ EXIST, PROP F&C
65	CIT	Mass Ave BL	39+88.51	19.2 R	205.15	I=201.00' 66	I=200.50' 63	CIT CB TO DMH, R&D F&G, PROP F&C
83	CBCI	Mass Ave BL	35+80.14	15.4 L	202.81		I=198.00' 58	PROP F&G, CONN. TO EXIST 12" RCP W/ 3'-12" RCP
84	CBCI	Mass Ave BL	36+33.95	17.3 L	203.20		I=198.64' 58	PROP F&G, CONN. TO EXIST 12" RCP W/ 3'-12" RCP
85	GICI	Mass Ave BL	36+74.22	22.0 R	202.82		I=200.81' 59	PROP F&G
86	CBCI	Mass Ave BL	39+27.77	17.0 L	205.10		I=201.60' 62	PROP F&G
87	CBCI	Mass Ave BL	39+31.38	23.0 R	204.65		I=201.40' 63	PROP F&G
88	CBCI	Mass Ave BL	39+88.47	17.2 L	205.50		I=202.00' 63	PROP F&G
109	DMH	Mass Ave BL	35+95.50	10.7 R	202.89	I=197.83' 59	I=197.73' 58	PROP F&C, CONSTRUCT OVER 12" RCP

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	42	126
PROJECT FILE NO.	607409		

DRAINAGE & UTILITY PLAN
SHEET 5 OF 8

607409_UT(UT).DWG Plotted on 23-Sep-2016 1:55 PM

NAD 83

N

LOCUST AVE. (PUBLIC WAY)

PLAINFIELD ST. (PUBLIC WAY)

MASSACHUSETTS AVE. - RT. 4 & 225
(PUBLIC WAY) 1888 COUNTY LAYOUT

3 LF - 12" RCP
REM CB CUT & REM PIPE
REM (B.O.)
ADJ (B.O.)
ADJ HYDRANT
PROP. SERVICE CONNECTION
68 LF - 12" DI
11 LF - 12" DI
PC +16.79
Δ=19° 01' 38"
L=306.85' R=924.00'
PT +72.64
N 44° 22' 39" W 159.55'
7 LF - 12" RCP
26 LF - 12" RCP
R&R(B.O.)
PROP PRIMARY POWER CONDUITS & RISERS (2) (B.O.)
PROP ELEC MANHOLE (B.O.)
REPLACE (B.O.)
R&R HYDRANT ASSEMBLY PROP 6"X16" TAPPING SLEEVE & GATE VALVE 6" DI
PC +32.19
PC +81.41
L=23.96' R=400.50'
Δ=3° 25' 38"

STA 36+10.57 MASS. AVE. CONST. ℄ =
STA 80+00.00 LOCUST AVE. CONST. ℄
N: 2983267.6760 E: 734666.9241

STA 39+64.14 MASS. AVE. CONST. ℄ =
STA 90+00.00 PLAINFIELD ST. CONST. ℄
N: 2983543.7070 E: 734448.4784

CONT. ON SHEET # 41

CONT. ON SHEET # 43

CONT. ON SHEET # 45

0 20 50 100
SCALE: 1" = 20'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	43	126
PROJECT FILE NO.	607409		

DRAINAGE & UTILITY PLAN
SHEET 6 OF 8

607409_UT(UT).DWG Plotted on 23-Sep-2016 1:55 PM

NOTES:
1. ALL DRAINAGE FRAMES AND GRATES/COVERS ARE TO BE REPLACED WITH NEW. REMOVE AND STACK EXISTING.
2. PROPOSED RIM AND INVERT ELEVATIONS ARE SHOWN FOR BIDDING PURPOSE ONLY, ACTUAL ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR.
3. THE TOWN OF LEXINGTON HAS BEGUN A PROJECT TO REPLACE THE WATER MAIN ALONG MASSACHUSETTS AVENUE THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT. THIS WORK WILL COMMENCE IN MAY OF 2016 AND WILL BE COMPLETED PRIOR TO THE END OF THE SUMMER OF 2016. THE ITEMS OF WORK AND ANY SPECIAL PROVISIONS WILL BE ADJUSTED BASED ON THE WORK THAT IS COMPLETED AS PART OF THE WATER MAIN REPLACEMENT.

DRAINAGE STRUCTURE TABLE

NAME	TYPE	ALIGNMENT	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	COMMENTS
66	CIT	Mass Ave BL	41+30.82	21.1 R	206.02	I=201.70' 70 I=201.50' 94 I=203.30' 95	I=201.50' 65	CIT CB TO DMH, R&D F&G, PROP F&C
68	EX. CBCI	Mass Ave BL	42+59.40	20.0 L	207.26		I=203.30' 71	REMOD EXIST, PROP F&G
69	EX. DMH	Mass Ave BL	42+85.54	6.4 R	207.64	I=202.75' 68	I=203.28' 70	ADJ EXIST, PROP F&C
70	EX. CBCI	Mass Ave BL	42+99.77	20.0 R	207.33	I=203.20 69	I=203.20 70	REMOD EXIST, PROP F&G
71	EX. CBCI	Mass Ave BL	45+04.53	20.0 L	208.90	I=202.90' 72 I=203.10' 68		REMOD EXIST, PROP F&G
72	EX. DMH	Mass Ave BL	45+69.73	15.9 L	209.41	I=204.30' 73	I=203.60' 71	ADJ EXIST, PROP F&C
73	EX. CBCI	Mass Ave BL	46+14.76	19.9 L	209.60		I=205.00' 72	REMOD EXIST, PROP F&C
93	CIT	Maple Street BL	1+65.85	15.3 L	206.28	I=201.90'	I=201.60' 94	CIT CB TO DMH, R&D F&G, PROP F&C
94	CIT	Maple Street BL	1+10.30	32.4 L	206.81	I=201.70' 93	I=201.40' 66	CIT CB TO DMH, R&D F&G, PROP F&C
95	CBCI	Mass Ave BL	41+55.12	22.8 R	206.86		I=203.50' 66	PROP F&G

NAD 83
N

CONT. ON SHEET # 42

STA 41+03.87 MASS. AVE. CONST. ℄ =
STA 0+00.00 MAPLE ST. CONST. ℄
N: 2983641.8794 E: 734349.0899

STA 45+69.77 MASS. AVE. CONST. ℄ =
STA 10+00.00 TOWER RD. CONST. ℄
N: 2983916.7555 E: 733973.1801

STA 45+81.31 MASS. AVE. CONST. ℄ =
STA 20+00.00 RHODES ST. CONST. ℄
N: 2983923.418 E: 733963.7583

MASSACHUSETTS AVE. - RT. 4, 225, & 2A
(PUBLIC WAY) 1888 COUNTY LAYOUT

MAPLE ST. - RT. 2A
(PUBLIC WAY) 1913 & 1922 COUNTY LAYOUT

TOWER RD.
(PUBLIC WAY)

RHODES ST.
(PUBLIC WAY)

REM CB CUT & REM PIPE
REM GUY WIRE (B.O.)
REPLACE UP PROP GUY WIRE (B.O.)
PROP. OHW (B.O.)(TYP.)
REPLACE UP R&R FIRE BOX (B.O.)
ADJ (B.O.)
REM(BO)
21 LF - 8" DI
PROP METER CHAMBER, SERVICE BOX, 1" COPPER
R&R (B.O.) PROP SERVICE CONNECTION
REM (B.O.)
REM CB PLUG & ABAN. PIPE
REPLACE (B.O.)
ADJ(B.O.)
REM (B.O.)
R&R (B.O.)
REPLACE UP (B.O.)
ADJ HYDRANT
N 54° 40' 42" W 416.79'
PC +32.19
Δ=10° 18' 04"
L=194.17' R=1080.00'
PT +26.36
PC +81.41
L=23.96' R=400.50'
Δ=3° 25' 38"
PT +05.37
N 57° 35' 53" E 181.41'
PC +43.15

APN 30-66 #1088 MASSACHUSETTS AVE. N/F CHRISTOPHER J. VELIS AND JENNIFER B. VELIS BK 47115 PG 481
APN 30-65 #1106 MASSACHUSETTS AVE. N/F STEVEN FOSBURG AND LINDA B. FOSBURG BK 17920 PG 340
APN 30-64 #1116 MASSACHUSETTS AVE. N/F RANDALL CONRAD AND CHRISTINE DALL BK 26538 PG 595
APN 30-62 TOWN OF LEXINGTON BK 12632 PG 88
APN 30-40 #1130 MASSACHUSETTS AVE. N/F APOSTOLOS GOULOPOULOS AND HEIDI GOULOPOULOS BK 19994 PG 241
APN 30-93 #1083 MASSACHUSETTS AVE. N/F ELIZABETH ANN HORTON BK 50674 PG 341
APN 30-16 #1095 MASSACHUSETTS AVE. N/F LEXINGTON AUTO GROUP, LLC CERT#231724, LCC 1693G
APN 30-15 #1099 MASSACHUSETTS AVE. N/F JOHN MICHAEL GAWOSKI AND BEVERLY ROBIN SEAVEY BK 1423 PG 84 LCC 1693K
APN 30-17 W 18 #1104 MASSACHUSETTS AVE. N/F ANDREW J. DICKHOLTZ AND JEANNINE W. HUNT BK 1445 PG 38 LCC 1693G
APN 30-19 #1115 MASSACHUSETTS AVE. N/F CASIMIR R. GROBLEWSKI AND TERESA M. ZAJAC BK 1389 PG 65 LCC 1693J
APN 30-20 #1123 MASSACHUSETTS AVE. N/F SOPHIA M. BRAUN TRUST BK 1440 PG 123 LCC 1693J
APN 30-34 #1133 MASSACHUSETTS AVE. N/F JOHN W. FREY AND WILMA E. FREY BK 10785 PG 90

1 STORY BRICK BUILDING
1 STORY WOOD FRAME BUILDING
CONC FUEL ISLAND
IP ?" RBR/CAP

BENCHMARK: CHISLED SQ NW CRNR SBND EL=211.00'

CONT. ON SHEET # 44
CONT. ON SHEET # 45

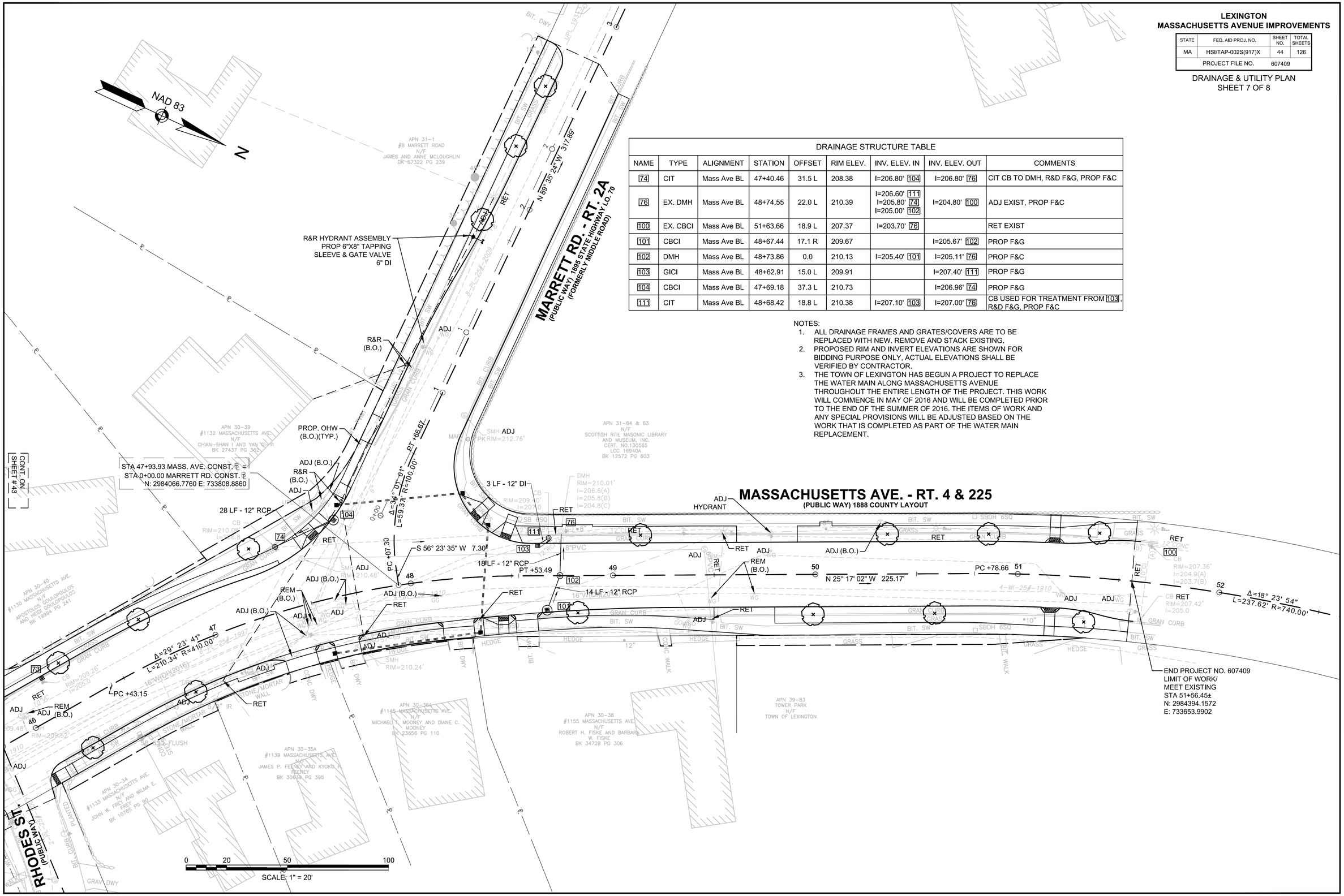
0 20 50 100
SCALE: 1" = 20'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	44	126
PROJECT FILE NO.	607409		

DRAINAGE & UTILITY PLAN
SHEET 7 OF 8

607409_UT(UT).DWG Plotted on 23-Sep-2016 1:55 PM



DRAINAGE STRUCTURE TABLE

NAME	TYPE	ALIGNMENT	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	COMMENTS
74	CIT	Mass Ave BL	47+40.46	31.5 L	208.38	I=206.80' 104	I=206.80' 76	CIT CB TO DMH, R&D F&G, PROP F&C
76	EX. DMH	Mass Ave BL	48+74.55	22.0 L	210.39	I=206.60' 111 I=205.80' 74 I=205.00' 102	I=204.80' 100	ADJ EXIST, PROP F&C
100	EX. CBCI	Mass Ave BL	51+63.66	18.9 L	207.37	I=203.70' 76		RET EXIST
101	CBCI	Mass Ave BL	48+67.44	17.1 R	209.67		I=205.67' 102	PROP F&G
102	DMH	Mass Ave BL	48+73.86	0.0	210.13	I=205.40' 101	I=205.11' 76	PROP F&C
103	GICI	Mass Ave BL	48+62.91	15.0 L	209.91		I=207.40' 111	PROP F&G
104	CBCI	Mass Ave BL	47+69.18	37.3 L	210.73		I=206.96' 74	PROP F&G
111	CIT	Mass Ave BL	48+68.42	18.8 L	210.38	I=207.10' 103	I=207.00' 76	CB USED FOR TREATMENT FROM 103, R&D F&G, PROP F&C

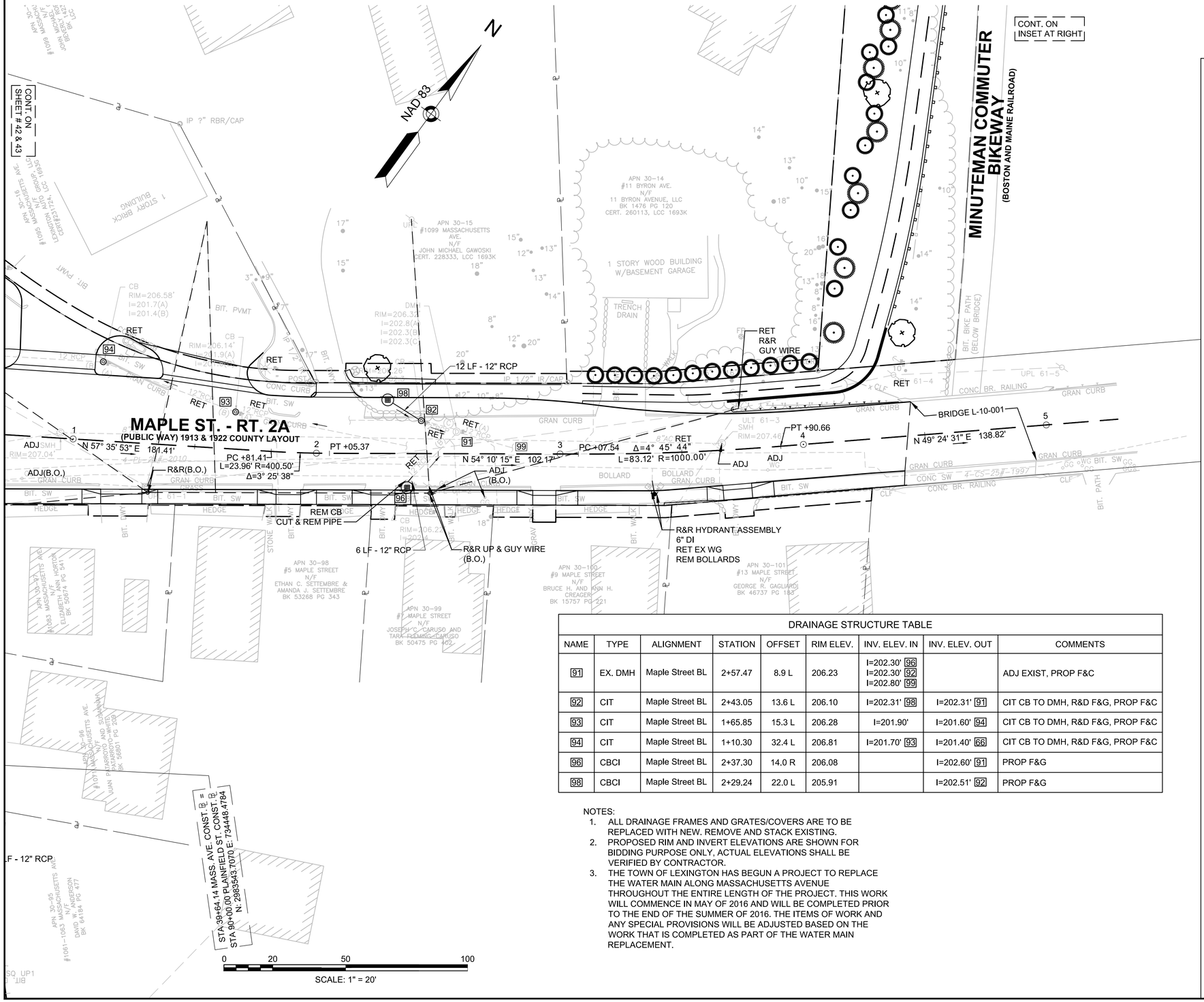
NOTES:
1. ALL DRAINAGE FRAMES AND GRATES/COVERS ARE TO BE REPLACED WITH NEW. REMOVE AND STACK EXISTING.
2. PROPOSED RIM AND INVERT ELEVATIONS ARE SHOWN FOR BIDDING PURPOSE ONLY, ACTUAL ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR.
3. THE TOWN OF LEXINGTON HAS BEGUN A PROJECT TO REPLACE THE WATER MAIN ALONG MASSACHUSETTS AVENUE THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT. THIS WORK WILL COMMENCE IN MAY OF 2016 AND WILL BE COMPLETED PRIOR TO THE END OF THE SUMMER OF 2016. THE ITEMS OF WORK AND ANY SPECIAL PROVISIONS WILL BE ADJUSTED BASED ON THE WORK THAT IS COMPLETED AS PART OF THE WATER MAIN REPLACEMENT.

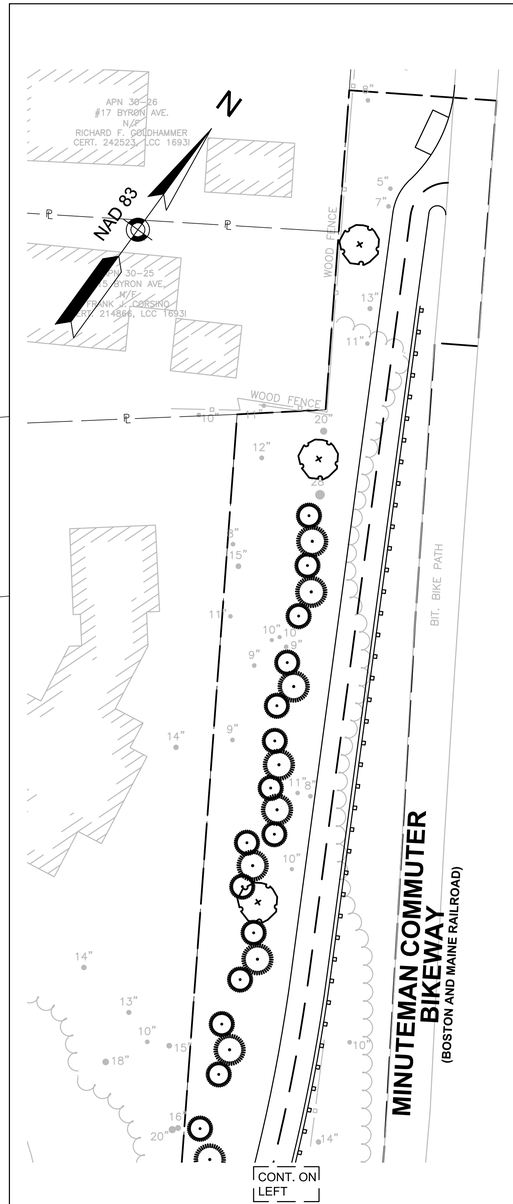
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	45	126
PROJECT FILE NO.	607409		

DRAINAGE & UTILITY PLAN
SHEET 8 OF 8

607409_UT(UT).DWG Plotted on 23-Sep-2016 1:56 PM





DRAINAGE STRUCTURE TABLE								
NAME	TYPE	ALIGNMENT	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	COMMENTS
91	EX. DMH	Maple Street BL	2+57.47	8.9 L	206.23	I=202.30' 96 I=202.30' 92 I=202.80' 99		ADJ EXIST, PROP F&C
92	CIT	Maple Street BL	2+43.05	13.6 L	206.10	I=202.31' 98	I=202.31' 91	CIT CB TO DMH, R&D F&G, PROP F&C
93	CIT	Maple Street BL	1+65.85	15.3 L	206.28	I=201.90'	I=201.60' 94	CIT CB TO DMH, R&D F&G, PROP F&C
94	CIT	Maple Street BL	1+10.30	32.4 L	206.81	I=201.70' 93	I=201.40' 66	CIT CB TO DMH, R&D F&G, PROP F&C
96	CBCI	Maple Street BL	2+37.30	14.0 R	206.08		I=202.60' 91	PROP F&G
98	CBCI	Maple Street BL	2+29.24	22.0 L	205.91		I=202.51' 92	PROP F&G

NOTES:
1. ALL DRAINAGE FRAMES AND GRATES/COVERS ARE TO BE REPLACED WITH NEW. REMOVE AND STACK EXISTING.
2. PROPOSED RIM AND INVERT ELEVATIONS ARE SHOWN FOR BIDDING PURPOSE ONLY, ACTUAL ELEVATIONS SHALL BE VERIFIED BY CONTRACTOR.
3. THE TOWN OF LEXINGTON HAS BEGUN A PROJECT TO REPLACE THE WATER MAIN ALONG MASSACHUSETTS AVENUE THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT. THIS WORK WILL COMMENCE IN MAY OF 2016 AND WILL BE COMPLETED PRIOR TO THE END OF THE SUMMER OF 2016. THE ITEMS OF WORK AND ANY SPECIAL PROVISIONS WILL BE ADJUSTED BASED ON THE WORK THAT IS COMPLETED AS PART OF THE WATER MAIN REPLACEMENT.

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	46	126
PROJECT FILE NO.	607409		

PAVEMENT MARKING & SIGN PLAN
SHEET 1 OF 8

607409_HD(PM).DWG Plotted on 23-Sep-2016 1:56 PM

NAD 83
N

BEGIN PROJECT NO. 607409
LIMIT OF WORK / SAWCUT / MEET EXISTING
STA 12+42.00±
N:2981095.8806
E: 735706.4690

LIMIT OF WORK/ MEET EXISTING
STA 03+00.00±
N: 2981118.3707
E: 735284.7510

PROP. SHARED LANE MARKINGS (PLACED APPROX. 100' APART)

PROP. BICYCLE SYMBOL (TYP)

MASSACHUSETTS AVE.
(PUBLIC WAY) 1888 & 1928 COUNTY LAYOUT

PLEASANT ST. RT. 4 & 225
(PUBLIC WAY) 1934 COUNTY LAYOUT

BRIDLE PATH

FOLLEN RD.
(PUBLIC WAY)

ELLEN DANA CT.
(PUBLIC WAY)

APN 14-49A
#632-634 MASSACHUSETTS AVE.
N/F
JAMES ALEXANDER WILSON
BK 8861 PG 163

APN 22-57
#4-6 PLEASANT ST.
N/F
LORRIANN O'BRIEN AND ELIZABETH MARIA PROULX
BK 51883 PG 30
PLAN BK 7773 PG 70

APN 22-56
#678 MASSACHUSETTS AVE.
N/F
QIONG LIN
BK 64062 PG 11
PLAN BK 7773 PG 70

APN 22-64
N/F
TOWN OF LEXINGTON
(ROBBINS PARK)

APN 22-55
#626 MASSACHUSETTS AVE.
N/F
WILSON FARM INC.
BK 12879 PG 721

APN 21-2
#611 MASSACHUSETTS AVE.
N/F
WILSON FARM, INC.
BK 19672 PG 12

APN 21-1E
#627 MASSACHUSETTS AVE.
N/F
TATJANA MATEJIC AND MIRKO MATEJIC
BK 28010 PG 372

APN 21-1D
#633 MASSACHUSETTS AVE.
N/F
MICHAEL E. LEVENTON AND LARISA LEVENTON
BK 47571 PG 573

APN 21-1C
#639 MASSACHUSETTS AVE.
N/F
DAVID A. REISHUS
BK 64505 PG 20

APN 22-54A
#668 MASSACHUSETTS AVE.
N/F
DOTH O. AND LISA L. JARRETT
BK 64049 PG 61
PLAN BK 1994 PG 468

APN 22-53
#703-705 MASSACHUSETTS AVE.
N/F
THE WALDORF SCHOOL, INC.
BK 28386 PG 142
PLAN BK 1994 PG 468

APN 22-65
#718 MASSACHUSETTS AVE.
N/F
ROMAN CATHOLIC ARCHBISHOP OF BOSTON PARISH CENTER

APN 14-49A
N/F
JAMES ALEXANDER WILSON
BK 8861 PG 163

APN 22-60
#4 PLEASANT ST.
N/F
MARSHALL MARTIN AND MARSHALL MILETTI
BK 35982 PG 574
PLAN 1211 OF 1954

W1-2L
W11-1
W16-19P
R3-17
R3-17aP
R3-7L
R7-1
R10-7
R3-8c
R10-22
R10-12a
MNTD. ON MAST ARM
R4-7
R2-1(30)
R2-1(35)
R3-7R
W11-2
W16-7pL
D3-14
R1-1
D3-15
D3-1
MNTD. ON MAST ARM POST
D3-2
W14-2
S1-1
SCHOOL ZONE AHEAD
S1-1a
S4-3p
R2-1(20)
S4-2p
R7-107a
(BY OTHERS)
R10-7
R4-7a
R7-1D
D3-1
R1-1
W11-2
W16-7pL
S4-3p
R2-1(20)
R7-1

REM.

SOUTH EAST 4 225 Belmont Cambridge D6-3
Arlington Center D8-3

NORTH WEST 4 225 Lexington Bedford D6-1
Arlington Center D8-1

SOUTH EAST 4 225 Belmont Cambridge D6-2
NORTH WEST 4 225 Lexington D8-2

NORTH WEST 4 225 LEXINGTON BEDFORD
ARLINGTON CENTER

SOUTH EAST 4 225 BELMONT CAMBRIDGE
SOUTH EAST 4 225 BELMONT CAMBRIDGE
ARLINGTON CENTER

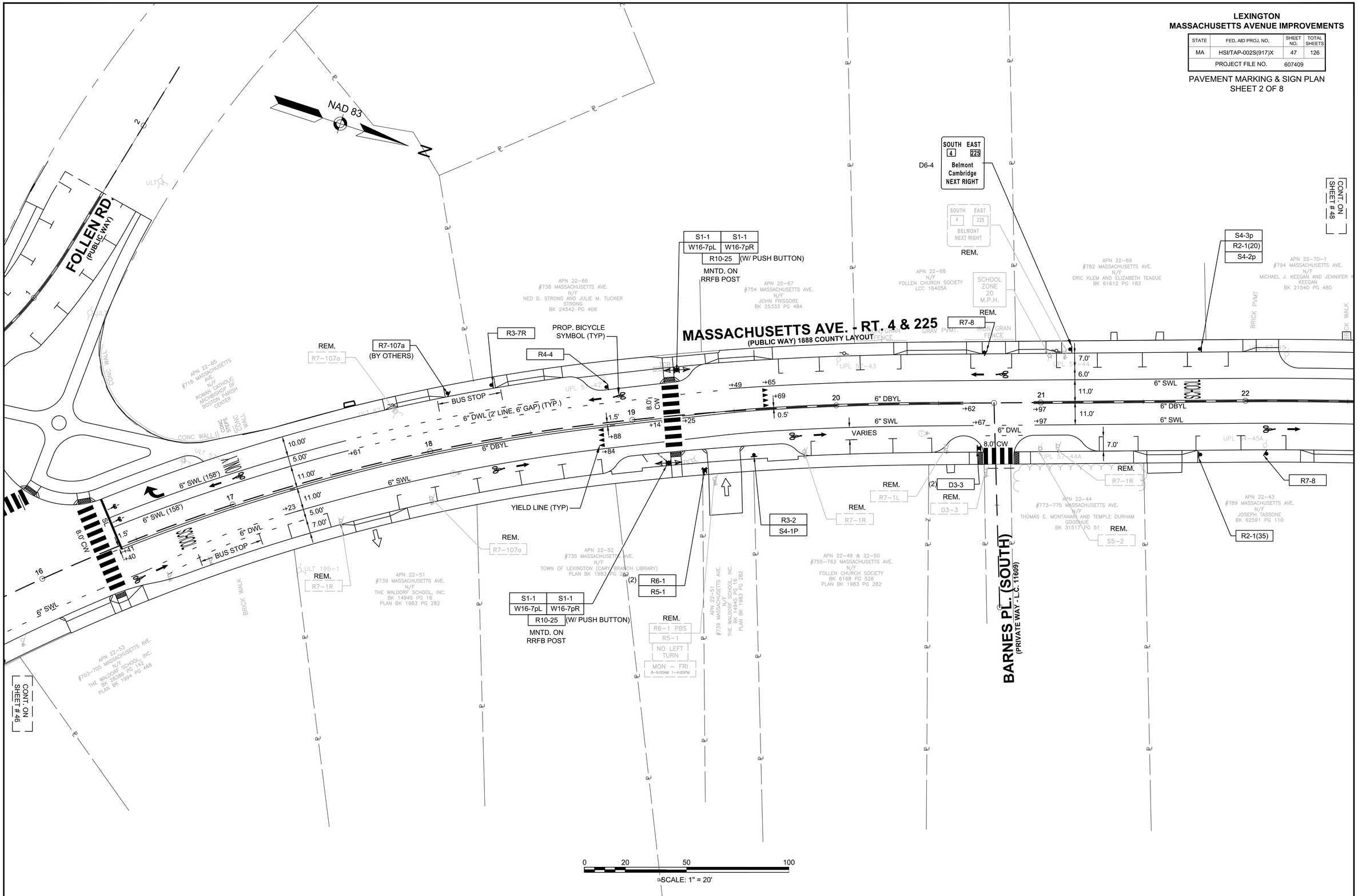
CONT. ON SHEET # 47

0 20 50 100
SCALE: 1" = 20'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	47	126
PROJECT FILE NO.	607409		

PAVEMENT MARKING & SIGN PLAN
SHEET 2 OF 8



607409_HD(PM).DWG Plotted on 23-Sep-2016 1:56 PM

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	48	126
PROJECT FILE NO.	607409		

PAVEMENT MARKING & SIGN PLAN
SHEET 3 OF 8

607409_HD(PM).DWG Plotted on 23-Sep-2016 1:57 PM

NAD 83
N

GIBSON RD.
(PUBLIC - VARIABLE WIDTH)

INDEPENDENCE AVE.
(PUBLIC WAY - VARIABLE WIDTH)

MASSACHUSETTS AVE. - RT. 4 & 225
(PUBLIC WAY) 1888 COUNTY LAYOUT

CURVE ST. (SOUTH)
(PUBLIC WAY)

CURVE ST. (NORTH)
(PUBLIC WAY)

D3-13 REM.
D3-13 (2)
S1-1 REM.
S1-1
SCHOOL ZONE AHEAD
S1-1a
(2) D3-12
REM.
W11-2
W16-7pL
D3-12
R7-107a
REM.
REM.
R2-1(30)
W11-2
W16-9p
R7-1
R7-107a (BY OTHERS)
CONT. ON SHEET # 49
CONT. ON SHEET # 47
D3-4
CAUTION
CHILDREN
R7-1
REM.
(2) D3-4
REM.
R7-107a
REM.
D10-1
D10-1 (2)
R7-1
W11-2
W16-9p
PROP. BICYCLE SYMBOL (TYP)
REM.
W11-2
W16-7pL
W11-2
W16-7pL
R7-107a
(BY OTHERS)
D3-4 (2)
REM.
R7-107a
REM.
D3-4
R2-1(35)

APN 22-70-1
#794 MASSACHUSETTS AVE.
N/F
MICHAEL J. KEEGAN AND JENNIFER W. KEEGAN
BK 21540 PG 480

APN 22-71
#812 MASSACHUSETTS AVE.
N/F
MOHAMMED SALEM
BK 53623 PG 166

APN 22-72
#822 MASSACHUSETTS AVE.
N/F
KENNETH A. AND JOAN C. DUNN
BK 19441 PG 81

APN 22-73
#840 MASSACHUSETTS AVE.
N/F
JOHN F. BROSNAN AND JUDITH L. BROSNAN
BK 25699 PG 187

APN 22-74-1
#844-856 MASSACHUSETTS AVE.
N/F
844-856 MASS. AVE. CONDOMINIUM
BK 17737 PG 173

APN 22-75
#870 MASSACHUSETTS AVE.
N/F
SCOTT A. HERLIHY AND LAURIE JEAN M. HERLIHY
BK 30163 PG 586

APN 22-76
#884-886 MASSACHUSETTS AVE.
N/F
DAVID R. KELLAND
BK 31412 PG 538

APN 22-43
#789 MASSACHUSETTS AVE.
N/F
JOSEPH TASSONE
BK 62591 PG 110

APN 22-41A & 42A
#801&805 MASSACHUSETTS AVE.
N/F
A P M & W C M REALTY TRUST
BK 12630 PG 30

APN 22-40
#821 MASSACHUSETTS AVE.
N/F
MOHAMMED A. SALEM
BK 30224 PG 193

APN 22-39
#837 MASSACHUSETTS AVE.
N/F
BOWMAN TAVERN CONDOMINIUM
BK 19206 PG 134

APN 22-38
#847 MASSACHUSETTS AVE.
N/F
BOSTON CONSTRUCTION MANAGEMENT LLC
BK 1458 PG 93 LCC 8302A

APN 22-37
#851-855 MASSACHUSETTS AVE.
N/F
VINCENT J. D'AUGUSTA
BK 11354 PG 627

APN 22-36A
#859 MASSACHUSETTS AVE.
N/F
KATHY WONG-LIN AND ZHI FANG LIN
BK 31035 PG 583

APN 22-35A
#26 CURVE STREET
N/F
SONIA KARSHBAUM
BK 12056 PG 687

APN 22-19
#881 MASSACHUSETTS AVE.
N/F
HELENE LUNDSTROM SVAHNQVIST
BK 59329 PG 449

8.0' CW
6" DWL
6" SWL
6" DBYL
BUS STOP
6" DWL (2" LINE, 6' GAP) (TYP.)
VARIES
7.00'
6.00'
11.00'
12.00'
5.0'
11.0'
12.0'
6.0'
22
23
24
25
26
27
28
+81
+07
+74
+12
+89
+83
+50
+43
+85
+28
+62
+00
+31
+46
WOOD FENCE
STONE/MORTAR WALL
CONC WALL
CONC STEPS
GRAV DWY
12"RCP
UPL 57-47
UPL 57-48
UPL 57-49
UPL 57-50
ULT 57-45
ULT 57-46
ULT 57-49
UPL 19

0 20 50 100
SCALE: 1" = 20'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	49	126
PROJECT FILE NO.	607409		

PAVEMENT MARKING & SIGN PLAN
SHEET 4 OF 8

607409_HD(PM).DWG Plotted on 23-Sep-2016 1:57 PM

NAD 83

N

MASSACHUSETTS AVE. - RT. 4 & 225
(PUBLIC WAY)

BARNES PL. (NORTH)
(PRIVATE WAY)

JOSEPH RD.
(PUBLIC WAY)

[CONT. ON SHEET # 50]

[CONT. ON SHEET # 48]

APN 22-78-2
#904 MASSACHUSETTS AVE.
N/F
LAWRENCE D. MURRAY AND KAREN F. MURRAY
BK 26793 PG 209

APN 22-76
#886 MASSACHUSETTS AVE.
N/F
DAVID R. KELLAND
BK 31412 PG 538

APN 22-77
#898 MASSACHUSETTS AVE.
RYAN VASAN AND LIESL FINN
BK 1452 PG 60
LCC 6708A

APN 22-79
#910-912 MASSACHUSETTS AVE.
N/F
REDBUD TREE CONDOMINIUM
BK 19232 PG 467
BK 33979 PG 506
BK 51906 PG 219

APN 22-80
#922 MASSACHUSETTS AVE.
N/F
EDWIN J. MCCARTHY AND BRITTA W. MCCARTHY
BK 64461 PG 185

APN 22-81
#924-926 MASSACHUSETTS AVE.
N/F
924-926 MASS. AVE. CONDOMINIUM
BK 20015 PG 424

APN 22-82
#956 MASSACHUSETTS AVE.
N/F
ERIK P. KONDO AND KATHERINE M. VENZKE
BK 44876 PG 537

APN 22-84
#960 MASSACHUSETTS AVE.
N/F
AKRAM H. BHUIYA AND SALINA BHUIYA
BK 52402 PG 536

APN 22-85
#964 MASSACHUSETTS AVE.
N/F
DAVID VENDETTI
BK 52233 PG 538

APN 22-15
#905 MASSACHUSETTS AVE.
N/F
CHERYL KRALEY
BK 63652 PG 492

APN 22-14A
#915-917 MASSACHUSETTS AVE.
N/F
THE FINANCIAL RESOURCES, LLP.
BK 40717 PG 112

APN 22-13
#925-927 MASSACHUSETTS AVE.
N/F
925-927 MASS. AVE. CONDOMINIUM TRUST
BK 64704 PG 328

APN 22-12
#935 MASSACHUSETTS AVE.
N/F
JUDITH E. DENIS AND JOHN F. DENIS
BK 35583 PG 175

APN 22-11
#955 MASSACHUSETTS AVE.
N/F
JOSEPH M. WELCH AND LYNNE J. WELCH
BK 50413 PG 433

APN 30-90
#977 MASSACHUSETTS AVE.
N/F
PATRICIA A. ARDITO AND DAVID P. ARDITO
BK 46704 PG 299

APN 30-91
#991 MASSACHUSETTS AVE.
N/F
CONSTANTINE J. ELIADES AND NANCY ELIADES
BK 16726 PG 127

STONE MORTAR WALL
GRAV DWY
UPL
STONE/MORTAR WALL
BRICK WALK
UPL 57-51
UPL 57-52
UPL 57-53
UPL 57-54
UPL 57-55
UPL 57-56
STONE/MORTAR WALL
BRICK DWK
BRICK WALK
FLDSTN WALL
BRICK STEPS
STONE/MORTAR WALL
STONE/MORTAR WALL
CLF

28 29 30 31 32 33 34

6" SWL
6" DBYL
6" SWL
6" DBYL
6" SWL
6" DBYL
6" SWL
6" DBYL
6" SWL
6" DWL (2' LINE, 6' GAP)

5.0'
11.0'
12.0'
6.0'
8.0' CW
12.0'
7.00'
6.00'
11.00'
11.00'
5.00'
8.0' CW

+89
+20
+78
+30

R7-1
W11-2
W16-7pL
W11-2
W16-9p
R7-1
W11-8
W11-12p
W11-2
W16-7pL
R7-1
REM.
W14-2
D3-5
D3-5 (2)
W14-2
REM.
W11-8
PROP. BICYCLE SYMBOL (TYP)

0 20 50 100
SCALE: 1" = 20'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	50	126
PROJECT FILE NO.	607409		

PAVEMENT MARKING & SIGN PLAN
SHEET 5 OF 8

607409_HD(PM).DWG Plotted on 23-Sep-2016 1:57 PM

NAD 83

N

MASSACHUSETTS AVE. - RT. 4 & 225
(PUBLIC WAY) 1888 COUNTY LAYOUT

LOCUST AVE.
(PUBLIC WAY)

PLAINFIELD ST.
(PUBLIC WAY)

APN 22-85
#964 MASSACHUSETTS AVE.
N/F
DAVID VENDETTI
BK 52233 PG 538

APN 30-82
#996 MASSACHUSETTS AVE.
N/F
RICHARD A. MICHELSON AND
BARBARA J. MICHELSON
BK 21026 PG 288

APN 22-81
#998 MASSACHUSETTS AVE.
N/F
TOWN OF LEXINGTON

APN 30-75
#1024 MASSACHUSETTS AVE.
N/F
RONALD A. LAING
BK 31342 PG 163

APN 30-74
#1038 MASSACHUSETTS AVE.
N/F
ANNE L. FISHER AND WILLIAM R. FISHER
BK 24892 PG 525

APN 30-73
#1048-1050 MASSACHUSETTS AVE.
N/F
NIKI A. AFSHARTOUS
BK 54489 PG 102

APN 30-72
#1062 MASSACHUSETTS AVE.
N/F
THOMAS J. RISELLI
BK 35815 PG 622

APN 30-66
#1088 MASSACHUSETTS AVE.
N/F
CHRISTOPHER J. VELIS AND
JENNIFER B. VELIS
BK 47115 PG 481

APN 30-91
#991 MASSACHUSETTS AVE.
N/F
CONSTANTINE V. ELIADES AND
NANCY ELIADES
BK 16726 PG 127

APN 30-92
#1001-1003 MASSACHUSETTS AVE.
N/F
LEXINGTON HOUSING ASSISTANCE BOARD, INC.
BK 52823 PG 437

APN 30-136
#1009-1049 MASSACHUSETTS AVE.
N/F
EAST VILLAGE SQUARE
CONDOMINIUM
BK 13015 PG 201

APN 30-95
#1061-1063 MASSACHUSETTS AVE.
N/F
DAVID W. ANDERSON
BK 64184 PG 477

APN 30-96
#1071 MASSACHUSETTS AVE.
N/F
JUAN PATARROYO AND SUSANNAH PATARROYO-WHITE
BK 56801 PG 209

APN 30-97
#1083 MASSACHUSETTS AVE.
N/F
ELIZABETH ANN HORTON
BK 50674 PG 541

APN 30-98
#5 WAITE STREET
N/F
ETHAN C. SEPTEMBRE &
AMANDA S. SEPTEMBRE
BK 53268 PG 343

1 STORY BRICK BUILDING

W11-2
W16-9p
PROP. BICYCLE SYMBOL (TYP)

REM.
D3-11
R1-1

REM.
W11-2
W16-7pL

D3-11 (2)
R1-1

REM.
R7-107a

R10-14b

R10-14b

R10-14a
(2) MNTD. ON MAST ARM

W11-8
W11-12p

R7-107a
(BY OTHERS)

D3-10 (2)

R2-1(30)

REM.
D3-10
R7-107a

REM.
W11-2
W16-7pL

REM.
R10-11b

M2-1
M1-5(2A)

R4-4

R3-7R

REM.
R7-107a

R3-7R
R10-22

D6-5

D8-5

NORTH	WEST
4	225 2A
Lexington Concord	
2A EAST Arlington	

34 35 36 37 38 39 40

+83 +04 +47 +68 +78 +52 +76 +86 +33

6" SWL
6" DBYL
6" SWL
6" DWL
8.0' CW
6" DWL (2' LINE, 6' GAP) (TYP.)
6" SWL (274')
6" SWL (274')
6" DBYL
6" DWL
6" SWL
6" DBYL
8.0' CW

5.00'
11.00'
11.00'
5.00'
10.00'

BUS STOP

15"

SL
TS
WALK
BRICK WALK
STONE WALK
UPL 1
UPL 57-584
UPL 57-585
UPL 57-586
UPL 57-587
UPL 57-588
UPL 57-589
UPL 57-590
UPL 57-591
UPL 57-592
UPL 57-593
UPL 57-594
UPL 57-595
UPL 57-596
UPL 57-597
UPL 57-598
UPL 57-599
UPL 57-600
UPL 57-601
UPL 61-60

0 20 50 100
SCALE: 1" = 20'

CONT. ON SHEET # 49

CONT. ON SHEET # 51

CONT. ON SHEET # 53

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	51	126
PROJECT FILE NO.	607409		

PAVEMENT MARKING & SIGN PLAN
SHEET 6 OF 8

607409_HD(PM).DWG Plotted on 23-Sep-2016 1:57 PM

NAD 83

MASSACHUSETTS AVE. - RT. 4, 225, & 2A
(PUBLIC WAY) 1888 COUNTY LAYOUT

MAPLE ST. - RT. 2A
(PUBLIC WAY) 1913 & 1922 COUNTY LAYOUT

TOWER RD.
(PUBLIC WAY)

RHODES ST.
(PUBLIC WAY)

CONT. ON SHEET # 50

CONT. ON SHEET # 52

CONT. ON SHEET # 53

D3-1
D3-7 (2)
MNTD. ON MAST ARM POST

R3-7L
R10-22

R7-1

D6-8
SOUTH 4 EAST 225
Belmont Cambridge

D8-8
2A EAST
Arlington

M3-2
M1-5(2A)
M5-1L

M1-5(2A)
M5-1L
REM.

R3-7L

REM.
S1-1
W16-7pL

R7-1

R7-107a
REM.

(2) D3-9

REM.
D3-9

R10-12a
MNTD. ON MAST ARM

REM.
W11-8

REM.
R7-107a

M1-5(2A)
M6-6R
REM.

W11-1
W16-19p

REM.
R4-7

REM.
OM1-2
R4-7a

D3-7
MNTD. ON MAST ARM POST

R2-1(35)

R3-8c
R10-22

D8-7
NORTH 4 WEST 225 2A
Lexington

D6-7
SOUTH 4 EAST 225
Belmont Cambridge

R10-7a

R3-8c

M3-4
M1-5(2A)
M5-1L

REM.
M6-2R
M1-5(225)
M1-5(4)

M1-5(2A)
M6-2L

SCHOOL BUS STOP
R&R

R7-107a
(BY OTHERS)

PROP. BICYCLE SYMBOL (TYP)

R7-1

REM.
W16-7pL
S1-1

REM.
R7-107a

R10-7

REM.
W14-2
D3-6

(2) D3-6
W14-2

6" SWL
6" DBYL
6" SWL (156')
6" SWL (167')
6" SWL (251')
6" DWL (2' LINE, 6' GAP) (TYP.)
6" DWLEx (2' LINE, 6' GAP) (TYP.)
6" DWLEx
6" SWL (75')
6" SWL (155')
6" DWL

R=200.00'

+98.66 5.00 RT
+43.10 0.00
+87.63 5.00 LT

8.0' CW
SL
VARIES
4.00'
11.00'
10.00'
6.00'
2.00'
32.0'
5.00'

ONLY
ONLY

0 20 50 100
SCALE: 1" = 20'

APN 30-66
#1088 MASSACHUSETTS AVE.
N/F
CHRISTOPHER L. VELIS AND JENNIFER B. VELIS
BK 47115 PG 481

APN 30-65
#1106 MASSACHUSETTS AVE.
N/F
STEVEN FOSBURG AND LINDA B. FOSBURG
BK 17420 PG 340

APN 30-64
#1116 MASSACHUSETTS AVE.
N/F
RANDALL CONRAD AND CHRISTINE DALL
BK 26538 PG 595

APN 30-63
#1122 MASSACHUSETTS AVE.
N/F
GERALD F. LANSON AND KATHRYN A. LANSON
BK 30365 PG 174

APN 30-62
N/F
TOWN OF LEXINGTON
BK 12632 PG 88

MARTHA C. LUCAS
BK 42838 PG 401

APN 30-40
#1130 MASSACHUSETTS AVE.
N/F
APOSTOLOS GOULOPOULOS AND HEIDI GOULOPOULOS
BK 19994 PG 241

APN 30-16
#1095 MASSACHUSETTS AVE.
N/F
LEXINGTON AUTO GROUP, LLC
CERT#231724, LCC 1693G

APN 30-15
#1099 MASSACHUSETTS AVE.
N/F
JOHN MICHAEL GAWOSKI AND BEVERLY ROBIN SEAVEY
BK 1423 PG 84
LCC 1693K

APN 30-17 & 18
#1109 MASSACHUSETTS AVE.
N/F
ANDREW J. DICKHOLTZ AND JEANNINE W. HUNT
BK 1445 PG 98
LCC 1693D

APN 30-19
#1115 MASSACHUSETTS AVE.
N/F
GROBLEWSKI AND TERESA M. ZABIK
BK 1359 PG 65
LCC 1693J

APN 30-20
#1123 MASSACHUSETTS AVE.
N/F
SOPHIA M. BRAUN TRUST
BK 1440 PG 123
LCC 1693J

APN 30-34
#1133 MASSACHUSETTS AVE.
N/F
JOHN W. FREY AND WILMA E. FREY
BK 10785 PG 90

APN 30-83
#1083 MASSACHUSETTS AVE.
N/F
ELIZABETH ANN HORTON
BK 50[illegible] 547

UPL 57-65

GRAV. DWY.

STONE WALK

WOOD FENCE

BRICK WALK

1 STORY BRICK BUILDING

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	52	126
PROJECT FILE NO.	607409		

PAVEMENT MARKING & SIGN PLAN
SHEET 7 OF 8

607409_HD(PM).DWG Plotted on 23-Sep-2016 1:57 PM

NAD 83
N

MARRETT RD. - RT. 2A
(PUBLIC WAY) 1893 STATE HIGHWAY LOC 70
(FORMERLY MIDDLE ROAD)

MASSACHUSETTS AVE. - RT. 4 & 225
(PUBLIC WAY) 1888 COUNTY LAYOUT

RHODES ST.
(PUBLIC WAY)

M2-1
M1-5(4)
M1-5(225)

LIMIT OF WORK/ MEET EXISTING
STA 02+79.71±
N: 2984047.5515
E: 733533.7093

+32.67
0.00

R=511.00'

+69.87
3.87 LT

R2-1(35)

REM.
R2-1(35)

12" YTL @
10' O.C. @ 45°

R=50.00'

TO BE PROVIDED
BY TOWN

LEXINGTON
BATTLE GREEN
HISTORIC ROUTE
TO CONCORD

+30.84
2.23 RT

REM.
NORTH 4 WEST 225
LEXINGTON
BEDFORD
CARLISLE
2A WEST
HANSCOM FIELD
CONCORD
BATTLE GREEN

REM.
M1-5(4)
M1-5(225)
M6-4

R=50.00'

M3-2
M1-5(2A)
M5-1R

+45.92
0.97 LT

REM.
R2-7

REM.
R1-2

R3-7L

+63.82
6.84 RT

R=106.72'

R1-1

+33.90
6.84 RT

+63.58
3.16 LT

R=96.84'

+36.61
3.16 LT

SL

D3-8 (2)
D3-1 (2)

REM.
D3-7
D3-8

W11-2
W16-7pL

SOUTH 4 EAST 225 2A
Belmont
Arlington
D6-11

2A WEST
Concord
D8-11

REM.
R7-107a

R7-107a
(BY OTHERS)

BUS STOP

PROP. BICYCLE
SYMBOL (TYP)

M2-1
M3-4
M1-5(2A)

W11-2
W16-7pL

R3-17
R3-17aP

W11-2
W16-9p
150' AHEAD OF CW

12"CONC

6" SWL
6" DWL (2' LINE, 6' GAP) (TYP.)
6" DBYL
6" DWL
6" SWL (155')
6" SWL (75')

8.0' CW

5.00'
11.00'
10.00'
3.00'
4.00'

+19
+20
+09
+53
+95
+97
+46
+14
+96

48
49
50
51
52
47
46

R&R
Battle Green
Historic District
Munroe Tavern
Visitors Center

STONE/MORTAR WALL

W11-2
W16-7pL

REM.
R7-107a

R7-107a
(BY OTHERS)

M3-4 M1-5(225)
M3-1 M1-5(4)

W11-2
W16-7pL

W11-1
W16-19P

REM.
M3-1
M1-5(4)

END PROJECT NO. 607409
LIMIT OF WORK/
MEET EXISTING
STA 51+56.45±
N: 2984394.1572
E: 733653.9902

D1-1 Battle Green

NORTH 4 WEST 225
Lexington
Bedford
D6-9

WEST 2A
Hanscom Field
Concord
D8-9

SOUTH 4 EAST 225 2A
Belmont
Cambridge
D6-10

NORTH 4 WEST 225
Lexington
D8-10

SOUTH 4 EAST 225
BELMONT
CAMBRIDGE
2A EAST
ARLINGTON

REM.

APN 30-39
#1132 MASSACHUSETTS AVE.
N/F
CHIAN-SHAN I AND YAN QI-YI
BK 27437 PG 362

APN 30-40
#1130 MASSACHUSETTS AVE.
N/F
APOSTOLOS GIULOPOULOS
AND HELEN GIULOPOULOS
BK 18[illegible] PG 241

APN 30-34
#1124 MASSACHUSETTS AVE.
N/F
JOHN W. [illegible] AND WILMA E.
BK 10[illegible] PG 90

APN 30-35A
#1139 MASSACHUSETTS AVE.
N/F
JAMES P. FEENEY AND KYOKO H.
FEENEY
BK 30639 PG 395

APN 30-36A
#1145 MASSACHUSETTS AVE.
N/F
MICHAEL T. MOONEY AND DIANE C.
MOONEY
BK 23656 PG 110

APN 30-38
#1155 MASSACHUSETTS AVE.
N/F
ROBERT H. FISKE AND BARBARA
W. FISKE
BK 34728 PG 306

APN 39-83
TOWER PARK
N/F
TOWN OF LEXINGTON

APN 31-64 & 63
N/F
MASONIC LIBRARY
MUSEUM, INC.
NO.130565
16940A
2572 PG 603

APN 31-1
#8 MARRETT ROAD
N/F
[illegible] AND ANNE MCLOU
BK 6[illegible] PG 239

CONT. ON
SHEET # 51

0 20 50 100
SCALE: 1" = 20'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	53	126
PROJECT FILE NO.	607409		

PAVEMENT MARKING & SIGN PLAN
SHEET 8 OF 8

607409_HD(PM).DWG Plotted on 23-Sep-2016 1:57 PM

NAD 83

N

CONT. ON SHEET # 50 & 51

APN 30-16
#1089 MASSACHUSETTS AVE.
LEXINGTON NEIGHBORHOOD N/F
CENTER21124, LLC 16932
LCC 1693K

1 STORY BRICK BUILDING

APN 30-15
#1099 MASSACHUSETTS AVE.
N/F
JOHN MICHAEL GAWOSKI
CERT. 228333, LCC 1693K

APN 30-14
#11 BYRON AVE.
N/F
11 BYRON AVENUE, LLC
BK 1476 PG 120
CERT. 260113, LCC 1693K

1 STORY WOOD BUILDING W/BASEMENT GARAGE

M3-4
M1-5(2A)
M5-1R

M1-5(2A)
M6-1R
REM.

W11-1
W16-19P

M2-1
M1-5(4)
M1-5(225)
M6-4

50+00

51

52

UPL 61-5

UPL 61-4

CONC BR. RAILING

CLF

UPL 61-3

6" SWL

6" SWL (119')

6" DBYL

6" SWL

6" DBYL

6" SWL

2.00'

10.00'

11.00'

11.00'

11.00'

4.00'

ONLY

ONLY

ONLY

1

2

3

4

5

MAPLE ST. - RT. 2A
(PUBLIC WAY) 1913 & 1922 COUNTY LAYOUT

UPL 61-1

+38

STONE WALK

GRAV

M3-2
M1-5(2A)

M3-2
M1-5(2A)
REM.

W11-1 (X-ING)
REM.

W11-1
W16-19P

LIMIT OF WORK/ MEET EXISTING
STA 04+42.99±
N: 2983897.7818
E: 734709.9503

APN 30-97
#1083 MASSACHUSETTS AVE.
N/F
ELIZABETH ANN HORTON
BK 50674 PG 541

APN 30-98
#5 MAPLE STREET
N/F
ETHAN C. SETTEMBRE &
AMANDA J. SETTEMBRE
BK 53268 PG 343

APN 30-99
#7 MAPLE STREET
N/F
JOSEPH C. CARUSO AND
TARA FLEMING-CARUSO
BK 50475 PG 402

APN 30-100
#9 MAPLE STREET
N/F
BRUCE H. AND ANN H.
CREAGER
BK 15757 PG 221

APN 30-101
#13 MAPLE STREET
N/F
GEORGE R. GAGLIARDI
BK 46737 PG 183

APN 30-96
#1071 MASSACHUSETTS AVE.
N/F
JUAN PATARROYO AND SUSANNAH
PATARROYO-HAYES
BK 56801 PG 109

APN 30-95
#1061-1063 MASSACHUSETTS AVE.
N/F
DAVID W. ANDERSON
BK 64184 PG 477

0 20 50 100
SCALE: 1" = 20'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	54	126
PROJECT FILE NO.	607409		

SIGN SUMMARY
SHEET 1 OF 4

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (in)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA (S.F.)
	WIDTH (in)	HEIGHT (in)		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER			
W1-2L	30	30		SEE 2009 M.U.T.C.D.			1	YELLOW	BLACK	BLACK	P-5 (1)	6.25	6.25
W11-1	30	30					6	YELLOW	BLACK	BLACK	P-5 (6)	6.25	31.25
W11-2	30	30					13	YELLOW	BLACK	BLACK	P-5 (13)	6.25	81.25
W11-8	30	30					2	YELLOW	BLACK	BLACK	P-5 (2)	6.25	12.50
W11-12p	36	30					2	YELLOW	BLACK	BLACK	(2) MNTD. W/ W11-8	7.50	15.00
W14-2	30	30					3	YELLOW	BLACK	BLACK	P-5 (3)	6.25	18.75
W16-7pL	24	12					10	YELLOW	BLACK	BLACK	(8) MNTD. W/ W11-2 (2) MTND. ON RRFB POST	2.00	20.00
W16-7pR	24	12					2	YELLOW	BLACK	BLACK	(2) MTND. ON RRFB POST	2.00	24.00
W16-9P	24	12					5	YELLOW	BLACK	BLACK	(5) MNTD. W/ W11-2	2.00	10.00
W16-19P	30	24		SEE MASSDOT STANDARDS			6	YELLOW	BLACK	BLACK	(6) MNTD. W/ W11-1	5.00	25.00
R1-1	30	30		SEE 2009 M.U.T.C.D.			3	RED	WHITE	WHITE	P-5 (3)	5.19	15.57
R2-1 (20)	24	30					2	WHITE	BLACK	BLACK	P-5 (2)	5.00	10.00
R2-1 (30)	24	30					2	WHITE	BLACK	BLACK	P-5 (2)	5.00	10.00
R2-1 (35)	24	30					4	WHITE	BLACK	BLACK	P-5 (4)	5.00	20.00
R3-2	24	24					1	WHITE	BLACK / RED	BLACK	(1) MNTD. W/ R5-1	4.00	4.00

NOTE: R7-107a SIGNS SHALL BE LOCATED AND INSTALLED BY OTHERS.

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (in)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA (S.F.)
	WIDTH (in)	HEIGHT (in)		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER			
R3-7R	30	30		SEE 2009 M.U.T.C.D.			4	WHITE	BLACK	BLACK	P-5 (3) (1) MNTD. W/ R10-22	6.25	25.00
R3-7L	30	30					6	WHITE	BLACK	BLACK	P-5 (6) (2) MNTD. W/ R10-22	6.25	37.50
R3-8c	36	30					4	WHITE	BLACK	BLACK	P-5 (2) (2) MNTD. W/ R10-22	7.50	30.00
R3-17	24	18					2	WHITE	BLACK	BLACK	P-5 (2)	3.00	6.00
R3-17aP	24	8					2	WHITE	BLACK	BLACK	(2) MTND. W/ R3-17	1.33	2.66
R4-4	36	30					2	WHITE	BLACK	BLACK	P-5 (2)	7.50	15.00
R4-7	24	30					2	WHITE	BLACK	BLACK	P-5 (2) MNTD. @ HEIGHT OF 4'	5.00	10.00
R5-1	30	30					2	WHITE	RED	NONE	P-5 (2)	6.25	6.25
R6-1L	36	12					1	BLACK	WHITE	WHITE	(1) MNTD. W/ R5-1	3.00	3.00
R6-1R	36	12					1	BLACK	WHITE	WHITE	(1) MNTD. W/ R5-1	3.00	3.00
R7-1	12	18					17	WHITE	RED	RED	P-5 (18)	1.50	25.50
R7-8	12	18					2	WHITE	GREEN	GREEN	P-5 (2)	1.50	3.00
R7-107a	12	30					8	WHITE	BLACK / RED	BLACK	P-5 (8)	2.50	20.00
R10-3eR/L	9	15					3 (R) 9 (L)	WHITE	BLACK / ORANGE	BLACK	(10) MNTD. ON SIGNAL POST (2) MNTD. ON MAST ARM POST	0.94	11.28
R10-7	24	30					3	WHITE	BLACK	BLACK	P-5 (3)	5.00	15.00
R10-7a	24	30					1	WHITE	BLACK	BLACK	(1) MNTD. W/ R3-8c	5.00	5.00

607409_TR(SS).DWG Plotted on 23-Sep-2016 1:57 PM

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	55	126
PROJECT FILE NO.	607409		

SIGN SUMMARY
SHEET 2 OF 4

607409_TR(SS).DWG Plotted on 23-Sep-2016 1:57 PM

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (in)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED*	UNIT AREA (S.F.)	AREA (S.F.)
	WIDTH (in)	HEIGHT (in)		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER			
R10-12a	30	36	LEFT TURN YIELD ON FLASHING	SEE MASSDOT STANDARDS			2	WHITE	BLACK / YELLOW	BLACK	(2) MNTD. ON MAST ARM	7.50	15.00
R10-14a	60	24	EMERGENCY SIGNAL STOP ON FLASHING RED	SEE 2009 M.U.T.C.D.			2	WHITE	BLACK	BLACK	(2) MNTD. ON MAST ARM	10.00	20.00
R10-14b	24	36	STOP HERE ON FLASHING RED				2	WHITE	BLACK	BLACK	P-5 (2)	5.00	10.00
R10-22	12	18	TO REQUEST GREEN WAIT ON ON				6	WHITE	BLACK	BLACK	P-5 (6)	1.50	9.00
R10-25	9	12	PUSH BUTTON TO TURN ON WARNING LIGHTS				2	WHITE	BLACK	BLACK	(2) MNTD. W/ PUSH BUTTON ON RRFB POST	0.75	1.50
S1-1	36	36					6	YELLOW - GREEN	BLACK	BLACK	P-5 (2) (4) MNTD. ON RRFB POST	6.75	40.5
S1-1a	24	18	SCHOOL ZONE AHEAD	SEE MASSDOT STANDARDS			2	YELLOW - GREEN	BLACK	BLACK	(2) MNTD. W/ S1-1	3.00	6.00
S4-1P	24	10	MON - FRI 8:30 AM 1:45 PM	SEE 2009 M.U.T.C.D.			1	YELLOW - GREEN	BLACK	BLACK	(1) MNTD. W/ R5-1	1.67	1.67
S4-2P	24	10	WHEN CHILDREN ARE PRESENT				2	YELLOW - GREEN	BLACK	BLACK	(2) MNTD W/ R2-1 (20)	1.67	3.33
S4-3P	24	8	SCHOOL				2	YELLOW - GREEN	BLACK	BLACK	(2) MNTD W/ R2-1 (20)	1.33	2.66
D10-1	10	18	MILE 1	SEE MASSDOT STANDARDS			2	GREEN	WHITE	WHITE	P-5 (1) MNTD. @ HEIGHT OF 4'	1.25	2.50
M1-5(2A)	24	24	2A	SEE 2009 M.U.T.C.D.			7	WHITE	BLACK	BLACK	P-5 (7)	4.00	32.00
M1-5(4)	24	24	4				3	WHITE	BLACK	BLACK	P5-2(3)	4.00	12.00
M1-5(225)	30	24	225				3	WHITE	BLACK	BLACK	P-5 (1) (2) MNTD. W/ M1-5(4)	5.00	15.00
M2-1	21	15	JCT				4	WHITE	BLACK	BLACK	(2) MNTD. W/ M1-5(4) (2) MTND. W/ M1-5(2A)	2.19	8.75
M3-1	24	12	NORTH				1	WHITE	BLACK	BLACK	(1) MNTD. W/ M1-5(4)	2.00	2.00

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (in)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA (S.F.)
	WIDTH (in)	HEIGHT (in)		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER			
M3-2	24	12	EAST	SEE 2009 M.U.T.C.D.			3	WHITE	BLACK	BLACK	(3) MNTD. W/ M1-5(2A)	2.00	6.00
M3-4	24	12	WEST				4	WHITE	BLACK	BLACK	(1) MNTD. W/ M1-5(4) (3) MTND. W/ M1-5(2A)	2.00	8.00
M5-1L	21	15					2	WHITE	BLACK	BLACK	(2) MNTD. W/ M1-5(2A)	2.19	4.38
M5-1R	21	15					2	WHITE	BLACK	BLACK	(2) MNTD. W/ M1-5(2A)	2.19	4.38
M6-4	21	15					1	WHITE	BLACK	BLACK	(1) MNTD. W/ M1-5(4)	2.19	2.19

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	56	126
PROJECT FILE NO.	607409		

SIGN SUMMARY
SHEET 3 OF 4

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (in)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA (S.F.)
	WIDTH (in)	HEIGHT (in)		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER			
D1-1	60	18	Battle Green ↗	9D	4.5 4.5		1	BROWN	WHITE	WHITE	P-5 (1) MNTD. @ HEIGHT OF 4'	7.50	7.50
D3-1	78	12	O Massachusetts Ave	6D/4D	3 3		4	GREEN	WHITE	WHITE	P-5 (1) (2) MNTD. ON MAST ARM POST	6.50	26.00
D3-2	62	12	O Ellen Dana Ct				2				(2) MNTD. W/ W14-2	5.17	5.17
D3-3	47	12	O Barnes Pl				2				P-5 (1)	3.92	3.92
D3-4	44	12	O Curve St				4				P-5 (2)	3.67	7.33
D3-5	49	12	O Joseph Rd				2				(1) MNTD. W/ W14-2	4.08	4.08
D3-6	49	12	O Rhodes St				2				(2) MNTD. W/ W14-2	4.08	4.08
D3-7	44	12	O Maple St				2				(2) MNTD. ON MAST ARM POST	3.67	7.33
D3-8	49	12	O Marrett Rd				2				(2) MNTD. W/ D3-1	4.08	4.08
D3-9	46	12	O Tower Rd				2				P-5 (1)	3.83	3.83
D3-10	56	12	O Plainfield St				2				P-5 (1)	4.67	4.67
D3-11	51	12	O Locust Ave				2				(2) MNTD. W/ R1-1	4.25	4.25
D3-12	78	12	O Independence Ave				2				P-5 (1)	6.50	6.50
D3-13	48	12	O Gibson Rd				2				P-5 (1)	4.00	4.00
D3-14	46	12	O Follen Rd				2				(2) MNTD. W/ R1-1	3.83	3.83
D3-15	53	12	O Pleasant St				2				(2) MNTD. ON MAST ARM POST	4.42	4.42

O Massachusetts Ave

TOWN OF LEXINGTON SEAL -
DETAILS TO BE PROVIDED BY TOWN

607409_TR(SS).DWG Plotted on 23-Sep-2016 1:57 PM

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	57	126
PROJECT FILE NO.	607409		

SIGN SUMMARY
SHEET 4 OF 4

607409_TR(SS).DWG Plotted on 23-Sep-2016 1:57 PM

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH (in)	SIZE OF SIGN HEIGHT (in)	TEXT	TEXT DIMENSIONS (in) LETTER HEIGHT	TEXT DIMENSIONS (in) VERTICAL SPACING	TEXT DIMENSIONS (in) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACKGROUND	COLOR LEGEND	COLOR BORDER	POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA (S.F.)
D6-1	60	66	NORTH WEST 4 225 Lexington Bedford ←	7C/6C 8C/6C 8C/6C	2.5 3 3 2.6 3 2.9	18x18 36x8 @ 180°	1	GREEN	WHITE	WHITE	5 IN NOM STEEL PIPE 4.89 LB/FT 11 FT (1)	27.5	27.5
D6-2	60	66	SOUTH EAST 4 225 Belmont Cambridge ←	7C/6C 8C/6C 8C/6C	2.5 3 3 2.6 3 2.9	18x18 36x8 @ 180°	1				SINGLE STEEL BEAM BREAKAWAY SUPPORT POST (1)	27.5	27.5
D6-3	60	66	SOUTH EAST 4 225 Belmont Cambridge →	7C/6C 8C/6C 8C/6C	2.5 3 3 2.6 3 2.9	18x18 36x8 @ 0°	1				5 IN NOM STEEL PIPE 4.89 LB/FT 11 FT (1)	27.5	27.5
D6-4	60	66	SOUTH EAST 4 225 Belmont Cambridge NEXT RIGHT	7C/6C 8C/6C 8C/6C 8C	2.5 3 3 2.6 3 2.9	18x18	1				5 IN NOM STEEL PIPE 4.89 LB/FT 11 FT (1)	27.5	27.5
D6-5	66	60	NORTH WEST 4 225 2A ↑ Lexington Concord	7C/6C 8C/6C 8C/6C	3 3 3 4 6	18x18 18x8 @ 90°	1				SINGLE STEEL BEAM BREAKAWAY SUPPORT POST (1)	27.5	27.5
D6-7	60	66	SOUTH EAST 4 225 Belmont Cambridge ←	7C/6C 8C/6C 8C/6C	2.5 3 3 2.6 3 2.9	18x18 36x8 @ 180°	1				SINGLE STEEL BEAM BREAKAWAY SUPPORT POST (1)	27.5	27.5
D6-8	60	60	SOUTH EAST 4 225 ↑ Belmont Cambridge	7C/6C 8C/6C 8C/6C	3.6 3 4.5 3 4.9	18x18 20x8 @ 90°	1				5 IN NOM STEEL PIPE 4.89 LB/FT 11 FT (1)	25.0	25.0
D6-9	60	60	NORTH WEST 4 225 Lexington Bedford ↗	7C/6C 8C/6C 8C/6C	3.6 3 4.5 3 4.9	18x18 20x8 @ 45°	1				SINGLE STEEL BEAM BREAKAWAY SUPPORT POST (1)	25.0	25.0
D6-10	66	60	SOUTH EAST 4 225 2A Belmont Cambridge →	7C/6C 8C/6C 8C/6C	3 3 3 4 6	18x18 18x8 @ 0°	1				SINGLE STEEL BEAM BREAKAWAY SUPPORT POST (1)	27.5	27.5
D6-11	66	60	SOUTH EAST 4 225 2A ↑ Belmont Arlington	7C/6C 8C/6C 8C/6C	3 3 3 4 6	18x18 18x8 @ 90°	1				5 IN NOM STEEL PIPE 4.89 LB/FT 11 FT (1)	27.5	27.5

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH (in)	SIZE OF SIGN HEIGHT (in)	TEXT	TEXT DIMENSIONS (in) LETTER HEIGHT	TEXT DIMENSIONS (in) VERTICAL SPACING	TEXT DIMENSIONS (in) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACKGROUND	COLOR LEGEND	COLOR BORDER	POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA (S.F.)
D8-1	48	42	Arlington Center →	8C/6C 8C/6C	5.2 4.5 4 4.2	18x8.1 @ 0°	1	GREEN	WHITE	WHITE	MNTD. W/ D6-1	12.0	12.0
D8-2	60	60	NORTH WEST 4 225 ↑ Lexington Bedford	7C/6C 8C/6C 8C/6C	4 3 6 3 3	18x18 20x8.1 @ 90°	1				MNTD. W/ D6-2	25.0	25.0
D8-3	48	30	↖ Arlington Center	8C/6C 8C/6C	5 5 4	20x8 @ 135°	1				MNTD. W/ D6-3	10.0	10.0
D8-5	48	42	2A EAST Arlington →	7C/6C 8C/6C 8C/6C	2.8 4 4 3.1	18x18 20x8.1 @ 0°	1				MNTD. W/ D6-5	14.0	14.0
D8-7	66	60	NORTH WEST 4 225 2A Lexington →	7C/6C 8C/6C 8C/6C	2.75 4.5 4.5 4.5 2.75	18x18 18x8 @ 0°	1				MNTD. W/ D6-7	27.5	27.5
D8-8	48	42	2A EAST Arlington ←	7C/6C 8C/6C 8C/6C	2.8 4 4 3.1	18x18 20x8.1 @ 180°	1				MNTD. W/ D6-8	14.0	14.0
D8-9	60	60	↖ WEST 2A Hanscom Field Concord	7C/6C 8C/6C 8C/6C	4 3 4 4 4	20x8 @ 135° 18x18	1				MNTD. W/ D6-9	25.0	25.0
D8-10	60	60	NORTH WEST 4 225 Lexington ←	7C/6C 8C/6C 8C/6C	4 3 4 4 4	18x18 20x8.1 @ 0°	1				MNTD. W/ D6-10	25.0	25.0
D8-11	48	42	2A WEST Concord →	7C/6C 8C/6C 8C/6C	2.8 4 4 3.1	18x18 20x8.1 @ 0°	1				MNTD. W/ D6-11	14.0	14.0

NOTE: ALL D6/D8 SIGNS SHALL HAVE A 3.0" RADIUS AND 0.8" BORDER.

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	58	126
PROJECT FILE NO.	607409		

TRAFFIC SIGNAL PLAN
MASSACHUSETTS AVE. AT PLEASANT ST.

607409_TR(SP).DWG Plotted on 23-Sep-2016 1:58 PM

NAD 83

N

PLEASANT STREET

FOLLEN ROAD

ELLEN DANA CT.

MASSACHUSETTS AVENUE

BARNES PLACE

STA 0+97.58 PLEASANT ST. CONST. ℄ =
STA 0+00.00 FOLLEN RD. CONST. ℄
N: 2981312.0342 E: 736931.1258

PROP. 35' MAST ARM
3'6" DIA., 34'-6" DEPTH, 18-#8 BARS
+15.44
OFFSET: 41.25 LT

R3-8c
R10-22

PROP. 8' SIGNAL POST W/ PEDESTRIAN HEAD AND PUSH BUTTON

PROP. 10' SIGNAL POST W/ PEDESTRIAN HEAD AND PUSH BUTTON

R3-7R
R10-22

PROP. CONTROLLER CABINET W/ CEMENT CONCRETE PAD

PROPOSED SERVICE CONNECTION (OVERHEAD) UP #57-40

PROP. EMERGENCY CONFRIMATION STROBE

PROP. OPTICAL EMERGENCY DETECTOR (TYP.)

PROP. VIDEO DETECTION AREA (TYP.)

R10-12a
MNTD. ON MAST ARM

PROP. ALL-WAY VIDEO DETECTION CAMERA

R3-7L
R10-22

PROP. 10' SIGNAL POST

D3-15
D3-1 (2)
MNTD. ON MAST ARM POST

PROP. 8' SIGNAL POST W/ PEDESTRIAN HEAD AND PUSH BUTTON

PROP. 30' MAST ARM
3'6" DIA., 9'0" DEPTH, 18-#8 BARS
+64.88
OFFSET: 28.10 RT

STA 15+70.60 MASS. AVE. CONST. ℄
STA 0+00.00 PLEASANT ST. CONST. ℄
N: 2981386.3126 E: 735402.2987

PROP. 3" CONDUIT (TYP.)

PROP. 12"x12" PULLBOX (TYP.)

PROP. 8' SIGNAL POST W/ PEDESTRIAN HEAD AND PUSH BUTTON

PROP. RECTANGULAR RAPID FLASHING BEACON WITH PUSH BUTTON

PROPOSED SERVICE CONNECTION (OVERHEAD) UP #57-42

S1-1
W16-7pL

S1-1
W16-7pL

R&S EXISTING TRAFFIC SIGNAL REM. FOUNDATION

NOTE:

1. VIDEO DETECTION AREAS ARE SHOWN ON THE PLANS GRAPHICALLY AND SHOULD BE ADJUSTED IN THE FIELD FOR PROPER DETECTION.

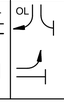
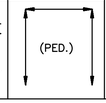
0 20 50 100
SCALE: 1" = 20'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	59	126
PROJECT FILE NO.	607409		

TRAFFIC SIGNAL DATA
MASSACHUSETTS AVE. AT PLEASANT ST.

607409_TR(SQ).DWG Plotted on 23-Sep-2016 1:58 PM

PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9
NOT USED		NOT USED				NOT USED		

SEQUENCE AND TIMING FOR FULL ACTUATED CONTROL (ISOLATED)

STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	FLASH OPER.
MASSACHUSETTS AVENUE	NB	A,N				FYL	YL	RL				RL	RL	RL	GL	YL	RL	RL	RL	RL				RL	RL	RL	RL	RL	RL	FYL
MASSACHUSETTS AVENUE	NB	B,C				G	Y	R				R	R	R	R	R	R	R	R	R				R	R	R	R	R	R	FY
MASSACHUSETTS AVENUE	SB	D,E				R	R	R				R	R	R	R	R	R	G	Y	R				R	R	R	R	R	R	FY
MASSACHUSETTS AVENUE	SB	F,G				R	R	R				R/GR	R/YR	R	R	R	R	G	Y	R				R	R	R	R	R	R	FY
PLEASANT STREET	EB	H,J				RL	RL	RL				GL	YL	RL	RL	RL	RL	RL	RL	RL				RL	RL	RL	RL	RL	RL	FRL
PLEASANT STREET	EB	K				R	R	R				G/GR	Y/YR	R	R/GR	R/YR	R	R	R	R				R	R	R	R	R	R	FR
DRIVEWAY	WB	L,M				R	R	R				R	R	R	R	R	R	R	R	R				G	Y	R	R	R	R	FR
PEDESTRIAN X-ING	ALL	P1-P6				DW	DW	DW				DW	DW	DW	DW	DW	DW	DW	DW	DW				DW	DW	DW	W	FDW	DW	OUT

TIMING IN SECONDS

																													EMERGENCY ONLY
MINIMUM GREEN (INITIAL)						12						8			5			12						5						
PASSAGE TIME (VEHICLE)						2						2			2			2						2						
MAXIMUM GREEN 1 (6AM–9AM), ALL OTHER TIMES						44						24			12			29						7						
MAXIMUM GREEN 2 (3PM–6PM)						42						26			9			30						7						
YELLOW CLEARANCE							3.5						3.0			3			3.5						3					
RED CLEARANCE								2.5						3.0			1			2.5						2				
WALK (W)																											7			
PEDESTRIAN CLEARANCE																												20	4	
RECALL			–			MIN			–			OFF			OFF			MIN			–			OFF			OFF			
MEMORY			–			NON–LOCK			–			NON–LOCK			NON–LOCK			NON–LOCK			–			NON–LOCK			PED			

MAJOR ITEMS REQUIRED

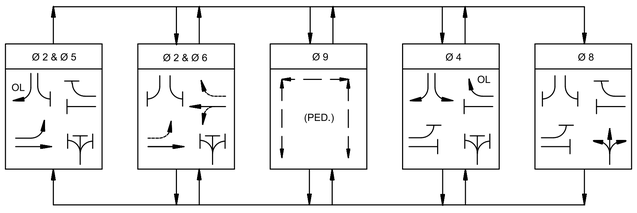
QTY	ITEM 816.01
500	3 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC-(UL) (ITEM #804.3)
5	PULL BOX 12 X 12 INCHES - SD2.031 (ITEM #811.31)
1	TRAFFIC SIGNAL CONTROLLER (TS-2, TYPE 1) TYPE BASE MOUNTED CABINET INCL. FOUNDATION AND CEM. CONCRETE PAD
1	MALFUNCTION MANAGEMENT UNIT (MMU) CAPABLE OF FYA OPERATIONS
1	30' MAST ARM (STEEL), INCLUDE BASE & FOUNDATION
1	35' MAST ARM (STEEL), INCLUDE BASE & FOUNDATION
3	10' TRAFFIC SIGNAL POST, BASE & FOUNDATION
3	8' TRAFFIC SIGNAL POST, BASE & FOUNDATION
4	1-WAY, 3-SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/VISORS)
2	1-WAY, 5-SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/VISORS)
1	2-WAY, 3-SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/VISORS)
1	2-WAY, 3/4-SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/VISORS)
1	3-WAY, 3/4/5-SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/VISORS)
13	5" NON-LOUVERED BACKPLATES W/ 3" REFLECTIVE BORDERS
6	PEDESTRIAN SIGNAL HEAD (16"X18") W/ VISOR (L.E.D. W/ COUNTDOWN)
6	ACCESSIBLE PEDESTRIAN SIGNAL - PUSH BUTTON ASSEMBLY W/ SIGN, LOCATOR TONE, AND VIBROTACTILE ARROW
1	ALL-WAY VIDEO DETECTION CAMERA
1	VIDEO DETECTION PROCESSOR
3	OPTICAL PRE-EMPTION DETECTORS - SINGLE CHANNEL
1	EMERGENCY VEHICLE PRE-EMPTION CONFIRMATION STROBE LIGHT
1	OPTICAL PHASE SELECTOR

PLUS ALL NECESSARY DUCT, CABLE, FOUNDATIONS, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING TRAFFIC SIGNAL.

DETECTOR OPERATION

DETECTOR NUMBER	PROCESSOR NUMBER	CHANNEL NUMBER	NO. OF SECTIONS	DETECTION AREA	Ø CALLED	Ø EXT.	MODE A=PULSE B=PRES.	DELAY TIME	EXT. TIME
Z1	1	1	1	9'x50'	5	5/2	B	0	0
Z2	1	2	2	4'x6' 9'x50'	2	2	B	0	0
Z3	1	3	2	4'x6' 9'x50'	6	6	B	0	0
Z4	1	4	1	8'x50'	6	6	B	5	0
Z5	1	5	1	9'x39'	4	4	B	0	0
Z6	1	6	1	9'x37'	4	4	B	5	0
Z7	1	7	1	8'x8'	8	8	B	0	0

PREFERENTIAL PHASING SEQUENCE



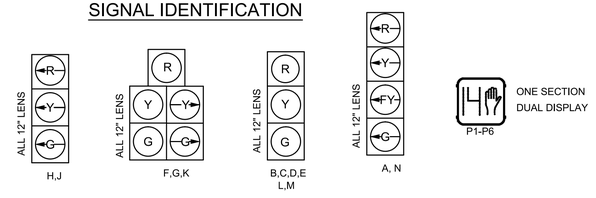
EMERGENCY PREEMPTION SCHEDULE

DETECTOR	APPROACH	PREEMPTION PHASE	NEXT PHASE CALLED
D1	NORTHBOUND	2+FYL	2+6
D2	SOUTHBOUND	6	2+6
D3	WESTBOUND	4	2+5

EMERGENCY VEHICLE PREEMPTION OPERATION:

1. EMERGENCY VEHICLE PREEMPTION SHALL BE ACTUATED BY AN OPTICAL SIGNAL FROM AN OPTICAL EMITTER MOUNTED ON AN EMERGENCY VEHICLE AND RECEIVED BY AN OPTICAL DETECTOR LOCATED AT INTERSECTION. A SEPARATE RECEIVING DETECTOR IS REQUIRED FOR EACH DETECTED APPROACH.
2. PREEMPTION SIGNALS FROM MULTIPLE APPROACHES SHALL BE SERVICED ON A FIRST DETECTED FIRST SERVED BASIS.
3. IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL TIME THE CLEARANCE INTERVALS OF THE ACTIVE PHASE (IF DIFFERENT THAT TO BE SERVICED) AND ADVANCE TO AND/OR HOLD IN EMERGENCY VEHICLE PREEMPTION PHASE UNTIL PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME CLEARANCES AND SIMILARLY SERVICE OTHER EMERGENCY VEHICLE PREEMPTION SEQUENCES IN THE ORDER RECEIVED (IF RECEIVED) OTHERWISE, RESUME NORMAL PREFERENTIAL PHASE SEQUENCE.
4. PREEMPTION MINIMUM GREENS SHALL BE SIX SECONDS.
5. NORMAL CLEARANCES SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY PREEMPTION DEMAND.
6. ACTUAL TIMMING FOR PREEMPTION SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FIRE DEPARTMENT AND SHALL BE APPROVED BY MASSDOT PRIOR TO OPERATION.

SIGNAL IDENTIFICATION



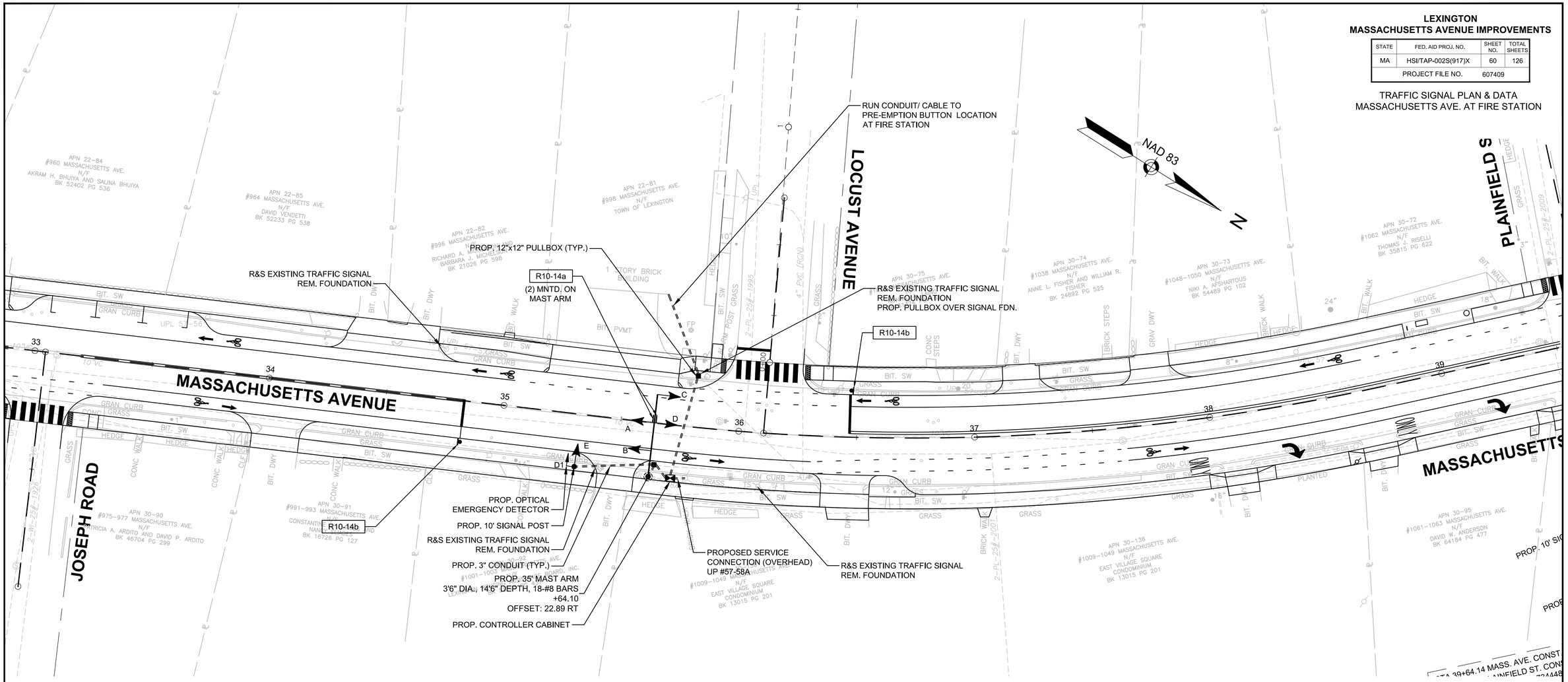
NOTES:

1. ALL SIGNALS SHALL HAVE CUT AWAY VISORS.
2. ALL PROP. SIGNALS SHALL HAVE 5" NON-LOUVERED BACKPLATES W/ 3" REFLECTIVE BORDER.
3. THE SEQUENCE FOR THE FLASHING YELLOW ARROW OPERATION CHANGING FROM PROTECTED TO PERMISSIVE SHALL BE AS FOLLOWS: STEADY GREEN, STEADY YELLOW, FLASHING YELLOW, STEADY YELLOW, STEADY RED.
4. PREEMPTION FOR APPROACHES WITH FLASHING ARROW OPERATION WHEN ACTIVATED SHALL CALL THE LEFT TURN'S PERMISSIVE PHASE AS WELL AS THE THROUGH PHASE.
5. RECTANGULAR RAPID FLASHING BEACON AT STATION 19+20 SHALL FLASH FOR 12 SECONDS UPON PEDESTRIAN PUSH BUTTON ACTIVATION.

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	60	126
PROJECT FILE NO.	607409		

TRAFFIC SIGNAL PLAN & DATA
MASSACHUSETTS AVE. AT FIRE STATION

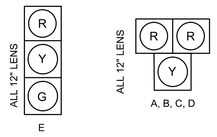


MAJOR ITEMS REQUIRED

QTY	ITEM 816.03
200	3 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC-(UL) (ITEM #804.3)
2	PULL BOX 12 X 12 INCHES - SD2.031 (ITEM #811.31)
1	TRAFFIC SIGNAL CONTROLLER (TS-2, SIZE 5) BASE MOUNTED CABINET INCL. FOUNDATION AND CEM. CONCRETE PAD
1	35' MAST ARM (STEEL), INCLUDE BASE & FOUNDATION
1	10' TRAFFIC SIGNAL POST, BASE & FOUNDATION
5	1-WAY, 3-SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/VISORS)
5	5" NON-LOUVERED BACKPLATES W/ 3" REFLECTIVE BORDERS
1	OPTICAL PRE-EMPTION DETECTOR - SINGLE CHANNEL
1	OPTICAL PHASE SELECTOR

PLUS ALL NECESSARY DUCT, CABLE, FOUNDATIONS, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING TRAFFIC SIGNAL.

SIGNAL IDENTIFICATION



NOTES:

1. ALL SIGNALS SHALL HAVE CUT AWAY VISORS.
2. ALL PROP. SIGNALS SHALL HAVE 5" NON-LOUVERED BACKPLATES W/ 3" REFLECTIVE BORDER.
3. CONNECTION TO PREEMPTION BUTTON LOCATION AT FIRE STATION TO BE COORDINATED WITH TOWN OF LEXINGTON FIRE DEPARTMENT
4. PREEMPTION TIMING SHALL BE COORDINATED AND ADJUSTED WITH THE LEXINGTON FIRE DEPARTMENT.
5. FIRE STATION SIGNAL SHALL REST ON PHASE 1 (MASSACHUSETTS AVE).

0 20 50 100
SCALE: 1" = 20'

SEQUENCE AND TIMING FOR FIRE STATION			PHASE 1			PHASE 2		
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6
MASSACHUSETTS AVENUE	NB	A,B	D*	FY	SY	FR	FR	FR
MASSACHUSETTS AVENUE	SB	C,D	D*	FY	SY	FR	FR	FR
FIRE STATION	EB	E	R	R	R	G	Y	R
TIMING IN SECONDS								
GREEN TIME			-	-	-	30	-	-
YELLOW CLEARANCE			-	3	3	-	3	-
RED CLEARANCE			-	-	-	-	-	2
RECALL			OFF			OFF		
MEMORY			-			-		

* DARK UNTIL ACTIVATED

SEQUENCE FOR EMERGENCY-VEHICLE HYBRID BEACON

R R Y	1. DARK UNTIL ACTIVATED.
R R FY	2. FLASHING YELLOW UPON ACTIVATION.
R R SY	3. STEADY YELLOW.
FR R Y R FR Y	4. ALTERNATING FLASHING RED DURING EGRESS OF EMERGENCY VEHICLE(S).
R R Y	5. DARK AGAIN UNTIL ACTIVATED.

607409_TR(SP).DWG Plotted on 23-Sep-2016 1:59 PM

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	61	126
PROJECT FILE NO.	607409		

TRAFFIC SIGNAL PLAN
MASSACHUSETTS AVE. AT
MAPLE ST. & MARRETT RD.

607409_TR(SP).DWG Plotted on 23-Sep-2016 1:59 PM

NAD 83

N

PLAINFIELD STREET

MASSACHUSETTS AVENUE

MAPLE STREET

PROP. 25' MAST ARM
3'6" DIA., 9'0" DEPTH, 18-#8 BARS
+87.89
OFFSET: 23.50 LT

PROP. EMERGENCY CONFIRMATION STROBE

PROP. ALL-WAY VIDEO DETECTION CAMERA

PROP. 8' SIGNAL POST W/ PEDESTRIAN HEAD AND PUSH BUTTON

PROP. 12"x12" PULLBOX (TYP.)

PROP. 10' SIGNAL POST

STA 41+03.87 MASS. AVE. CONST. ℄ =
STA 0+00.00 MAPLE ST. CONST. ℄
N: 2983641.8794 E: 734349.0899

PROP. 3" CONDUIT (TYP.)

D3-1
D3-7 (2)
MNTD. ON MAST ARM POST

R3-7L
R10-22

PROP. VIDEO DETECTION AREA (TYP.)

R10-12a
MNTD. ON MAST ARM

R3-7R
R10-22

PROP. OPTICAL EMERGENCY DETECTOR (TYP.)

PROP. 10' SIGNAL POST W/ PEDESTRIAN HEAD AND PUSH BUTTON

PROP. 8' SIGNAL POST W/ PEDESTRIAN HEAD AND PUSH BUTTON

STA 39+64.14 MASS. AVE. CONST. ℄ =
STA 90+00.00 PLAINFIELD ST. CONST. ℄
N: 2983543.7070 E: 734448.4784

PROP. 35' MAST ARM
3'6" DIA., 10'6" DEPTH, 18-#8 BARS
+46.68
OFFSET: 38.47 RT

PROP. SERVICE CONNECTION (OVERHEAD) TO RELOCATED UP 57-63

R10-22
R3-8c

PROP. 10' SIGNAL POST W/ PEDESTRIAN HEAD AND PUSH BUTTON

PROP. CONTROLLER CABINET WITH CEMENT CONCRETE PAD

ONLY
ONLY

Z1 Z2 Z3 Z4 Z5 Z6

P1 P2 P3 P4 P5 P6

A B C D D1 D2 D3 E F G H J K

39 40 41 42 43 44

0 20 50 100
SCALE: 1" = 20'

PROP. 12"x12" PULLBOX FOR FUTURE TRAFFIC SIGNAL INSTALLATION (TYP.)

STA 41+03.53 MASS. AVE. CONST. ℄
STA 0+00.00 MARRETT RD. CONST. ℄
N: 2983640.7767 E: 735011.8981

PROP. 3" CONDUIT FOR FUTURE TRAFFIC SIGNAL INSTALLATION (TYP.)

MARRETT ROAD

MASSACHUSETTS AVENUE

47 48 49

MASSACHUSETTS AVE. AT MARRETT RD.

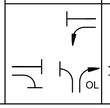
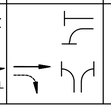
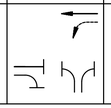
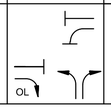
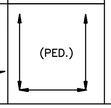
0 40 100 160
SCALE: 1" = 40'

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	62	126
PROJECT FILE NO.	607409		

TRAFFIC SIGNAL DATA
MASSACHUSETTS AVE. AT
MAPLE ST. & MARRETT RD.

607409_TR(SQ).DWG Plotted on 23-Sep-2016 2:00 PM

PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9
		NOT USED	NOT USED	NOT USED		NOT USED		

SEQUENCE AND TIMING FOR FULL ACTUATED CONTROL (ISOLATED)

STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	FLASH OPER.
MASSACHUSETTS AVENUE	NB	A,B	R	R	R	G	Y	R										R	R	R				R	R	R	R	R	R	FY
MASSACHUSETTS AVENUE	NB	C	R	R	R	G	Y	R										R	R	R				R GR	R YR	R	R	R	R	FY
MASSACHUSETTS AVENUE	SB	D,K	GL	YL	RL	RL	RL	RL										FYL	YL	RL				RL	RL	RL	RL	RL	RL	FYL
MASSACHUSETTS AVENUE	SB	E,F	R	R	R	R	R	R										G	Y	R				R	R	R	R	R	R	FY
MAPLE STREET	EB	G	RL	RL	RL	RL	RL	RL										RL	RL	RL				GL	YL	RL	RL	RL	RL	FR
MAPLE STREET	EB	H,J	R GR	R YR	R	R	R	R										R	R	R				G GR	Y YR	R	R	R	R	FR
PEDESTRIAN X-ING	ALL	P1-P6	DW	DW	DW	DW	DW	DW										DW	DW	DW				DW	DW	DW	W	FDW	DW	OUT

TIMING IN SECONDS

																												EMERGENCY ONLY
MINIMUM GREEN (INITIAL)			5			12												12						6						
PASSAGE TIME (VEHICLE)			2			2												2						2						
MAXIMUM GREEN 1 (6AM–9AM), ALL OTHER TIMES			10			34												48						20						
MAXIMUM GREEN 2 (3PM–6PM)			32			36												72						16						
YELLOW CLEARANCE				3.5			4												4						3					
RED CLEARANCE					1			2												2						3				
WALK (W)																											7			
PEDESTRIAN CLEARANCE																												14	4	
RECALL			OFF			MIN			–			–			–			MIN			–			OFF			OFF			
MEMORY			NON–LOCK			NON–LOCK			–			–			–			NON–LOCK			–			NON–LOCK			PED			

MAJOR ITEMS REQUIRED - MASSACHUSETTS AVE. AT MAPLE ST.

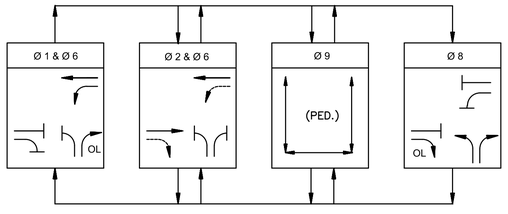
QTY	ITEM 816.04
400	3 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC-(UL) (ITEM #804.3)
4	PULL BOX 12 X 12 INCHES - SD2.031 (ITEM #811.31)
1	TRAFFIC SIGNAL CONTROLLER (TS-2, TYPE 1) BASE MOUNTED CABINET INCL. FOUNDATION AND CEM. CONCRETE PAD
1	MALFUNCTION MANAGEMENT UNIT (MMU) CAPABLE OF FYA OPERATIONS
1	25' MAST ARM (STEEL), INCLUDE BASE & FOUNDATION
1	35' MAST ARM (STEEL), INCLUDE BASE & FOUNDATION
3	10' TRAFFIC SIGNAL POST, BASE & FOUNDATION
3	8' TRAFFIC SIGNAL POST, BASE & FOUNDATION
4	1-WAY, 3-SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/VISORS)
3	1-WAY, 5-SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/VISORS)
1	2-WAY, 3/4-SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/VISORS)
1	1-WAY, 4-SECTION SIGNAL HEAD, 12" L.E.D. LENS (W/VISORS)
10	5" NON-LOUVERED BACKPLATES W/ 3" REFLECTIVE BORDERS
6	PEDESTRIAN SIGNAL HEAD (16"X18") W/ VISOR (L.E.D. W/ COUNTDOWN)
6	ACCESSIBLE PEDESTRIAN SIGNAL - PUSH BUTTON ASSEMBLY W/ SIGN, LOCATOR TONE, AND VIBROTACTILE ARROW
1	ALL-WAY VIDEO DETECTION CAMERA
1	VIDEO DETECTION PROCESSOR
3	OPTICAL PRE-EMPTION DETECTORS - SINGLE CHANNEL
1	EMERGENCY VEHICLE PRE-EMPTION CONFIRMATION STROBE LIGHT
1	OPTICAL PHASE SELECTOR

PLUS ALL NECESSARY DUCT, CABLE, FOUNDATIONS, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING TRAFFIC SIGNAL.

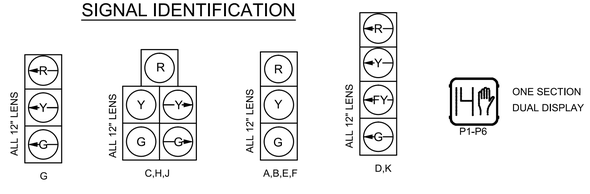
MAJOR ITEMS REQUIRED FOR FUTURE TRAFFIC SIGNAL INSTALLATION - MASSACHUSETTS AVE. AT MARRETT RD.

QTY	
300	3 INCH ELECTRICAL CONDUIT TYPE NM - PLASTIC-(UL) (ITEM #804.3)
5	PULL BOX 12 X 12 INCHES - SD2.031 (ITEM #811.31)

PREFERENTIAL PHASING SEQUENCE



SIGNAL IDENTIFICATION



NOTES:

1. ALL SIGNALS SHALL HAVE CUT AWAY VISORS.
2. ALL PROP. SIGNALS SHALL HAVE 5" NON-LOUVERED BACKPLATES W/ 3" REFLECTIVE BORDER.
3. THE SEQUENCE FOR THE FLASHING YELLOW ARROW OPERATION CHANGING FROM PROTECTED TO PERMISSIVE SHALL BE AS FOLLOWS: STEADY GREEN, STEADY YELLOW, FLASHING YELLOW, STEADY YELLOW, STEADY RED.
4. PREEMPTION FOR APPROACHES WITH FLASHING ARROW OPERATION WHEN ACTIVATED SHALL CALL THE LEFT TURN'S PERMISSIVE PHASE AS WELL AS THE THROUGH PHASE.

EMERGENCY PREEMPTION SCHEDULE

DETECTOR	APPROACH	PREEMPTION PHASE	NEXT PHASE CALLED
D1	NORTHBOUND	2	2+6
D2	SOUTHBOUND	6+FYL	2+6
D3	WESTBOUND	8	1+6

EMERGENCY VEHICLE PREEMPTION OPERATION:

1. EMERGENCY VEHICLE PREEMPTION SHALL BE ACTUATED BY AN OPTICAL SIGNAL FROM AN OPTICAL EMITTER MOUNTED ON AN EMERGENCY VEHICLE AND RECEIVED BY AN OPTICAL DETECTOR LOCATED AT INTERSECTION. A SEPARATE RECEIVING DETECTOR IS REQUIRED FOR EACH DETECTED APPROACH.
2. PREEMPTION SIGNALS FROM MULTIPLE APPROACHES SHALL BE SERVICED ON A FIRST DETECTED FIRST SERVED BASIS.
3. IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL TIME THE CLEARANCE INTERVALS OF THE ACTIVE PHASE (IF DIFFERENT THAT TO BE SERVICED) AND ADVANCE TO AND/OR HOLD IN EMERGENCY VEHICLE PREEMPTION PHASE UNTIL PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME CLEARANCES AND SIMILARLY SERVICE OTHER EMERGENCY VEHICLE PREEMPTION SEQUENCES IN THE ORDER RECEIVED (IF RECEIVED) OTHERWISE, RESUME NORMAL PREFERENTIAL PHASE SEQUENCE.
4. PREEMPTION MINIMUM GREENS SHALL BE SIX SECONDS.
5. NORMAL CLEARANCES SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY PREEMPTION DEMAND.
6. ACTUAL TIMMING FOR PREEMPTION SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FIRE DEPARTMENT AND SHALL BE APPROVED BY MHD PRIOR TO OPERATION.

DETECTOR OPERATION

DETECTOR NUMBER	PROCESSOR NUMBER	CHANNEL NUMBER	NO. OF SECTIONS	DETECTION AREA	Ø CALLED	Ø EXT.	MODE A=PULSE B=PRES.	DELAY TIME	EXT. TIME
Z1	1	1	2	4'x6' 9'x50'	2	2	B	0	0
Z2	1	2	1	8'x50'	2	2	B	0	0
Z3	1	3	1	9'x50'	1	1/6	B	0	0
Z4	1	4	2	4'x6' 9'x50'	6	6	B	0	0
Z5	1	5	1	9'x50'	8	8	B	0	0
Z6	1	6	2	4'x6' 9'x50'	8	8	B	0	0

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	63	126
PROJECT FILE NO.	607409		

TEMPORARY TRAFFIC CONTROL PLAN
SHEET 1 OF 4

NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
2. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
6. CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.
7. THE FIRST FIVE PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH TYPE A LIGHTS.
8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
11. MINIMUM LANE WIDTH IS TO BE 11 FEET (3.3m) UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.

LEGEND:

- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- P/F POLICE/FLAGGER DETAIL
- TYPE III BARRICADE
- CHANGEABLE MESSAGE SIGN
- ARROW BOARD
- WORK ZONE
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR
- MEDIAN BARRIER
- MEDIAN BARRIER WITH WARNING LIGHTS
- WORK VEHICLE
- TRUCK MOUNTED ATTENUATOR
- TRAFFIC OR PEDESTRIAN SIGNAL
- SIGN

THE IDEAL CAPACITY OF A MAJOR HIGHWAY IS GENERALLY CONSIDERED TO BE 1900 PASSENGER CARS PER HOUR PER LANE (PCPHPL). IN WORK ZONES ON A MULTI-LANE DIVIDED HIGHWAY, THE FOLLOWING VOLUME GUIDELINES HAVE BEEN SUGGESTED:

MEASURED AVERAGE WORK ZONE CAPACITIES

NUMBER OF LANES		NUMBER OF STUDIES	AVERAGE CAPACITY	
NORMAL (EXISTING)	OPEN (TO TRAFFIC)		VPH	VPHPL
3	1	7	1,170	1,170
2	1	8	1,340	1,340
5	2	8	2,740	1,370
4	2	4	2,960	1,480
3	2	9	2,980	1,490
4	3	4	4,560	1,520

Source: Dudek, C., Notes on Work Zone Capacity and Level of Service. Texas Transportation Institute, Texas A&M University, College Station, Texas (1984)

BY OBTAINING HOURLY TRAFFIC COUNTS FOR A PARTICULAR ROADWAY (WITH A MINIMUM OF A 48-HOUR AUTOMATIC TRAFFIC RECORDER (ATR) COUNT), THIS WILL HELP TO DETERMINE AT WHAT TIMES OF THE DAY OR NIGHT A CERTAIN NUMBER OF LANES MAY BE CLOSED.

massDOT Highway Division | Notes for Traffic Management | FIGURE GEN-1 GENERAL GUIDELINES

SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS **		
	A	B	C
LOCAL OR LOW VOLUME ROADWAYS*	350 (100)	350 (100)	350 (100)
MOST OTHER ROADWAYS*	500 (150)	500 (150)	500 (150)
FREEWAYS AND EXPRESSWAYS*	1,000 (300)	1,500 (450)	2,640 (800)

* ROAD TYPE TO BE DETERMINED BY MASSDOT OFFICE OF TRANSPORTATION PLANNING.

** DISTANCES ARE SHOWN IN FEET (METERS). THE COLUMN HEADINGS A, B, AND C ARE THE DIMENSIONS SHOWN IN THE DETAIL/ TYPICAL SETUP FIGURES. THE A DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN. THE B DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS. THE C DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS. (THE "THIRD" SIGN IS THE FIRST ONE TYPICALLY ENCOUNTERED BY A DRIVER APPROACHING A TEMPORARY TRAFFIC CONTROL (TTC) ZONE.)

THE "THIRD" SIGN ABOVE IS TYPICALLY REFERRED TO AS AN "ADVANCE WARNING" SIGN ON THE TTCP SETUPS. THESE ADVANCE WARNING SIGNS ARE LOCATED PRIOR TO THE PROJECT LIMITS ON ALL APPROACHES (i.e. THE W20-1 SERIES (ROAD WORK XX FT) SIGNS), AND USUALLY REMAIN FOR THE DURATION OF THE PROJECT. ADDITIONAL SIGNS (i.e. "RIGHT LANE CLOSED 1 MILE" AND "LEFT LANE CLOSED 1 MILE") HAVE BEEN SHOWN IN SOME FIGURES AS EXAMPLES OF REINFORCEMENT SIGN PLACEMENT BUT ARE USED IN RARE OCCASIONS.

THE FIRST AND SECOND WARNING SIGNS ABOVE ARE REFERRED TO AS THE OPERATIONAL (DAY-TO-DAY) WORK ZONE SIGNS AND MAY BE MOVED DEPENDING ON WHERE THE SPECIFIC ROADWAY WORK FOR THAT DAY IS LOCATED.

R2-10a SIGNS SHALL BE PLACED BETWEEN THE SECOND AND THIRD SIGNS AS DESCRIBED ABOVE.

R2-10a, R2-10e, AND W20-1 SERIES SIGNS ARE TO BE INCLUDED ON ALL DETAILS/TYPICAL SETUPS.

Based on: Table 6C-1 MUTCD LATEST EDITION

STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

SPEED* (km/h)	DISTANCE (m)
30	35
40	50
50	65
60	85
70	105
80	130
90	160
100	185
110	220
120	250

SPEED* (mph)	DISTANCE (ft)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

*POSTED SPEED, OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

THESE VALUES MAY BE USED TO DETERMINE THE LENGTH OF LONGITUDINAL BUFFER SPACES.

THE DISTANCES IN THE ABOVE CHART REPRESENT THE MINIMAL VALUES FOR BUFFER SPACING.

Source: Table 6C-2 MUTCD LATEST EDITION

massDOT Highway Division | Notes for Traffic Management | FIGURE GEN-2 NOTES ON WORK ZONE DISTANCES

CONVENTIONAL ROADWAY- A STREET OR HIGHWAY OTHER THAN A LOW-VOLUME ROAD, EXPRESSWAY, OR FREEWAY.

EXPRESSWAY- A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.

FREEWAY- A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS.

LOW-VOLUME ROAD- A FACILITY LYING OUTSIDE OF BUILT-UP AREAS OF CITIES, TOWNS, AND COMMUNITIES, AND IT SHALL HAVE A TRAFFIC VOLUME OF LESS THAN 400 AADT. IT SHALL NOT BE A FREEWAY, EXPRESSWAY, INTERCHANGE RAMP, FREEWAY SERVICE ROAD OR A ROAD ON A DESIGNATED STATE HIGHWAY SYSTEM.

Source: MUTCD LATEST EDITION

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH (L)*
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FT MIN.(15 m) 100 FT(30 m) MAX.
DOWNSTREAM TAPER	50 FT MIN.(15 m) 100 FT MAX.(30 m) PER LANE

Source: Table 6C-3 MUTCD LATEST EDITION

FORMULAS FOR DETERMINING TAPER LENGTHS

SPEED LIMIT (S)	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR MORE	$L = WS$

SPEED LIMIT (S)	TAPER LENGTH (L) Meters
60 KM/H OR LESS	$L = \frac{WS^2}{155}$
70 KM/H OR MORE	$L = \frac{WS}{1.6}$

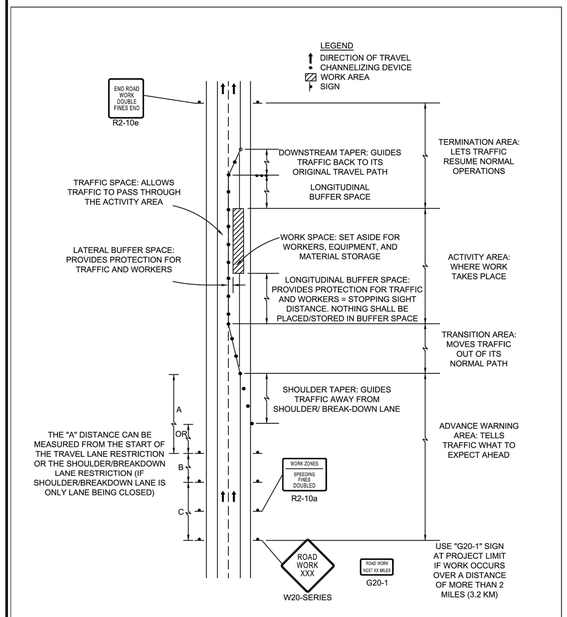
WHERE: L = TAPER LENGTH IN FEET (METERS)

W = WIDTH OF OFFSET IN FEET (METERS)

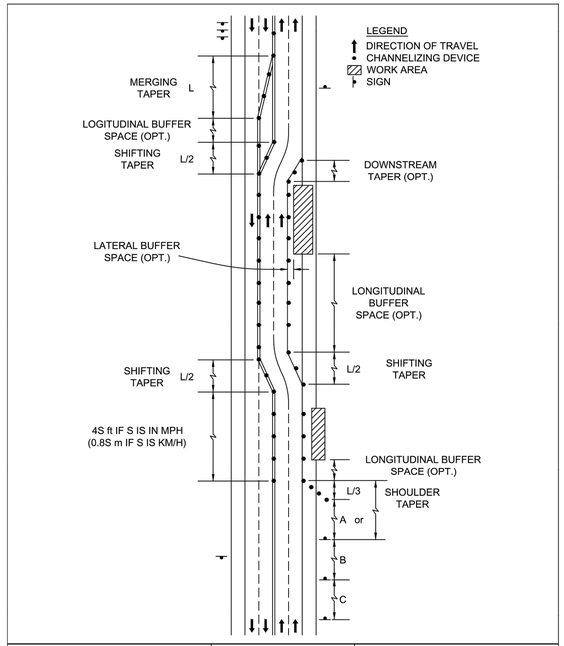
S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICAPATED OPERATING SPEED IN MPH (KM/H)

Source: Table 6C-4 MUTCD LATEST EDITION

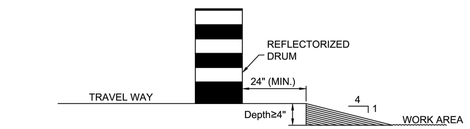
massDOT Highway Division | Notes for Traffic Management | FIGURE GEN-3 NOTES ON WORK ZONE DISTANCES



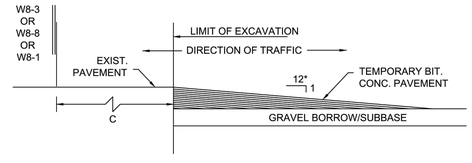
massDOT Highway Division | Standard Details and Drawings for the Development of Temporary Traffic Control Plans | FIGURE GEN-4 COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL (TTC) ZONE — NOT TO SCALE



massDOT Highway Division | Standard Details and Drawings for the Development of Temporary Traffic Control Plans | FIGURE GEN-5 TYPES OF TAPERS AND BUFFER SPACES — NOT TO SCALE



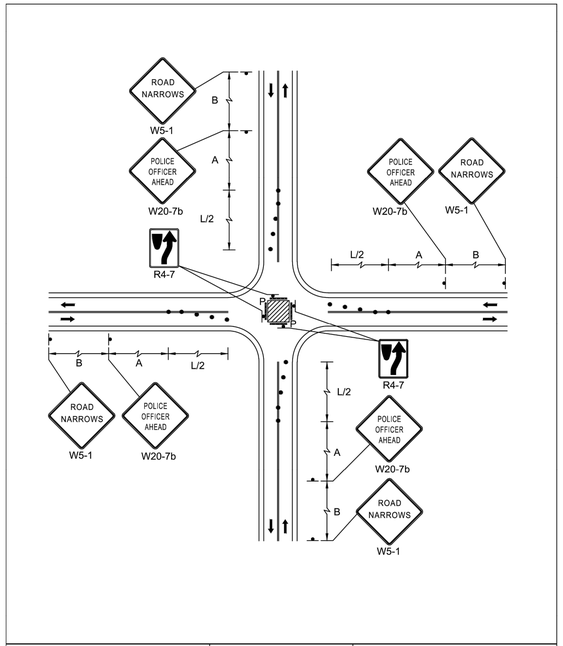
LATERAL DROP-OFF DETAIL
NOT TO SCALE



LONGITUDINAL DROP-OFF DETAIL
NOT TO SCALE

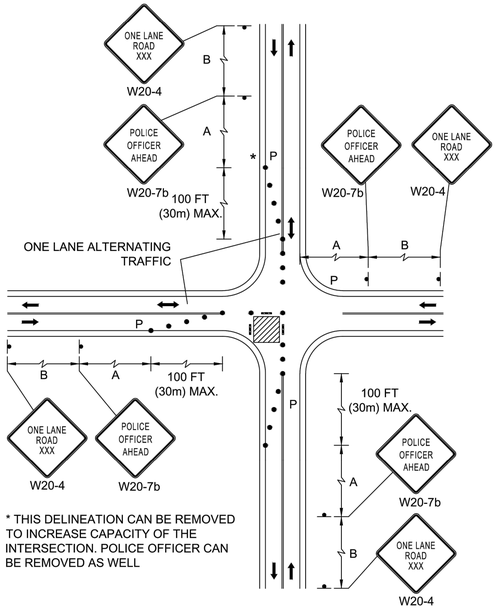
* - INCREASE SLOPE RATIO FOR HIGHER SPEEDS

massDOT Highway Division | Standard Details and Drawings for the Development of Temporary Traffic Control Plans | FIGURE GEN-6 LATERAL AND LONGITUDINAL DROP-OFF DETAILS — NOT TO SCALE



massDOT Highway Division | Standard Details and Drawings for the Development of Temporary Traffic Control Plans | FIGURE INT-1 SINGLE LANE APPROACH CENTER CLOSURE — NOT TO SCALE

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM



Standard Details and Drawings for the Development of Temporary Traffic Control Plans

FIGURE INT-2

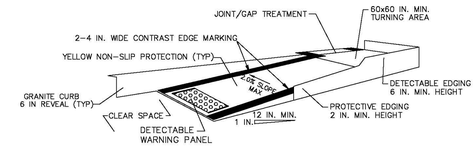
SINGLE LANE APPROACH ONE QUADRANT CLOSURE

NOT TO SCALE

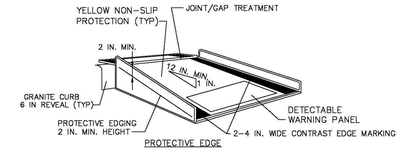
PEDESTRIAN TYPICAL DETAILS

NOTES:

1. CURB RAMPS SHALL BE 60 IN. MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
2. PROTECTIVE EDGING WITH A 2 IN. MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 IN. OR GREATER OR HAS A SIDE APRON SLOP STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3 IN. OR MORE.
3. DETECTABLE EDGING WITH 6 IN. MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
5. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
6. CLEAR SPACE OF 48x48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 IN. LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 IN. HIGH, AND BEVELED AT 1:2 BETWEEN 0.25 IN. AND 0.5 IN. HEIGHT.
10. IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PAD MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.



TEMPORARY CURB RAMP-PARALLEL TO CURB

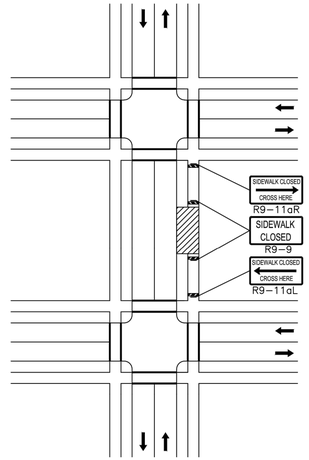


TEMPORARY CURB RAMP-PERPENDICULAR TO CURB

Standard Details and Drawings for the Development of Traffic Management Plans

FIGURE PED-1

PEDESTRIAN TYPICAL DETAILS



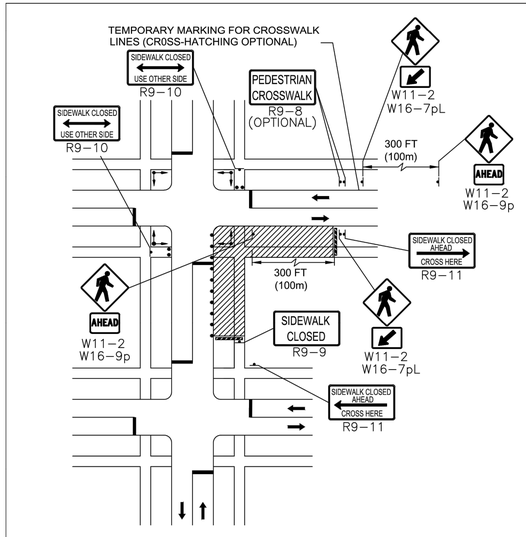
NOTE: IF A MINIMUM WIDTH OF 48" OF SOLID SMOOTH UNOBSTRUCTED SURFACE REMAINS ALONG THE WORK AREA THEN THE DETAIL CAN BE DISREGARDED. DELINEATION OF THE WORK AREA WILL STILL BE REQUIRED. All PEDESTRIAN DETOUR ROUTES SHALL BE ADA/MAAB COMPLIANT IN THEIR ENTIRETY.

Standard Details and Drawings for the Development of Temporary Traffic Control Plans

FIGURE PED-5

SIDEWALK CLOSED WITHOUT DETOUR

NOT TO SCALE



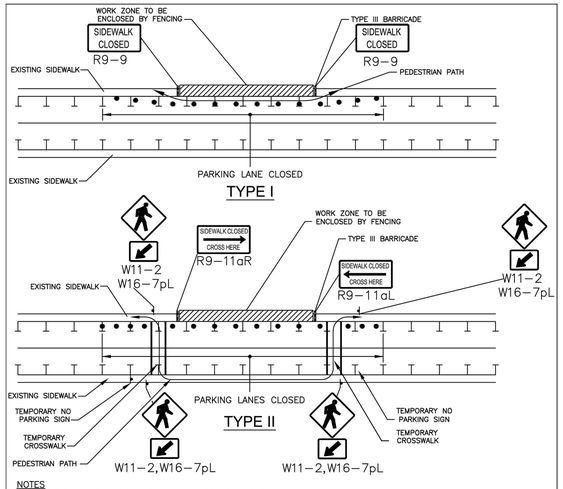
NOTE:
FOR LONG-TERM STATIONARY WORK, THE DOUBLE YELLOW CENTERLINE AND/OR LANE LINES SHOULD BE REMOVED BETWEEN THE CROSSWALK LINES.

Standard Details and Drawings for the Development of Temporary Traffic Control Plans

FIGURE PED-6

PEDESTRIAN DETOUR

NOT TO SCALE



NOTES

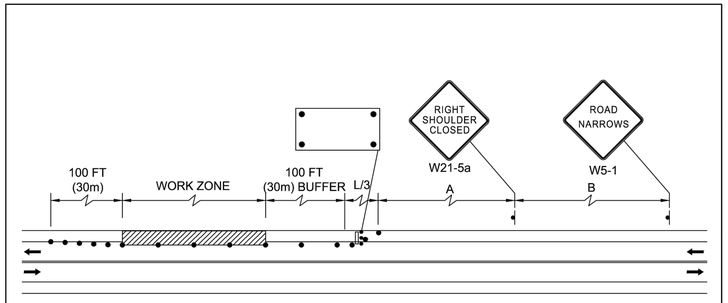
1. ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.
2. CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN. VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE.
3. STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
4. IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN BYPASS TYPE I, TEMPORARY CROSSWALKS WITH APPROPRIATE SIGNS SHOULD BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AS SHOWN IN PEDESTRIAN BYPASS TYPE II, AND AS DIRECTED BY THE ENGINEER. TEMPORARY CURB RAMPS WILL BE REQUIRED AT ALL TEMPORARY CROSSWALK LOCATIONS.
5. BYPASS IS TO BE USED IN CONJUCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DIRECTED BY THE ENGINEER.
6. THE TEMPORARY SIDEWALK SHOULD BE A MINIMUM OF 4 FEET WIDE. IF THIS WALKWAY EXCEEDS 200 FEET THEN A 5 FOOT X 5 FOOT PASSING ZONE. (FOR SHORT TERM SETUPS < 10 HOURS, THIS CONDITION MAY BE WAIVED. A NOTE WOULD NEED TO BE INCLUDED IN THE TTCP THAT STATES HOW THE CONTRACTOR SHOULD ADDRESS THIS ISSUE.)

Standard Details and Drawings for the Development of Temporary Traffic Control Plans

FIGURE PED-7

PEDESTRIAN BYPASS

NOT TO SCALE



Standard Details and Drawings for the Development of Temporary Traffic Control Plans

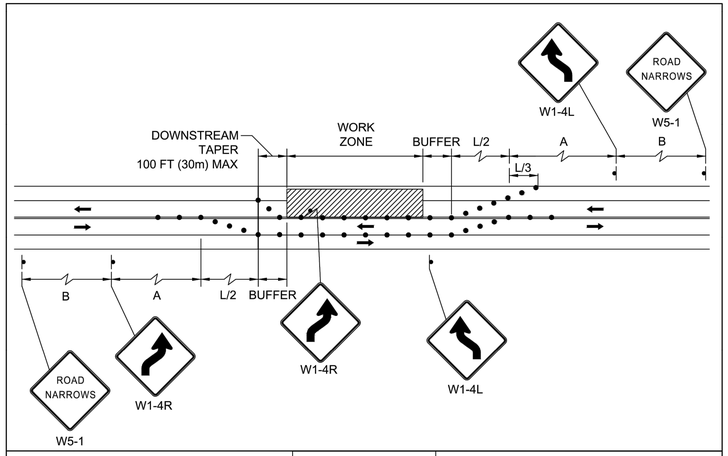
FIGURE TLR-1

TWO LANE ROAD SHOULDER CLOSED

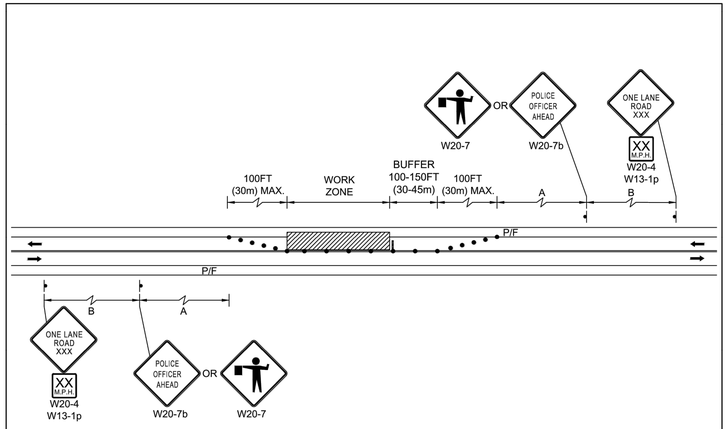
NOT TO SCALE

CHANNELIZING DEVICE SPACING CHART		
	TAPER (FT)	TANGENT (FT)
TUBULAR MARKERS	5	20
DRUMS	20	30

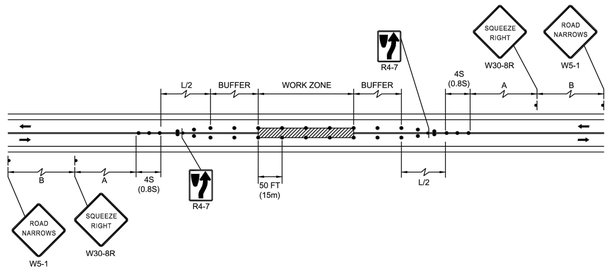
607409_HDI(DET).DWG Plotted on 20-Apr-2016 8:40 AM



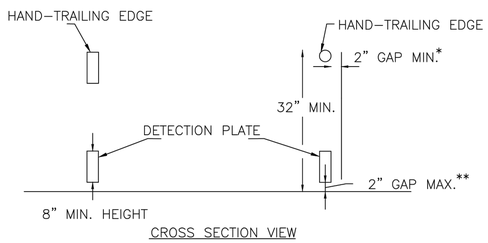
massDOT Massachusetts Department of Transportation Highway Division | Standard Details and Drawings for the Development of Temporary Traffic Control Plans | FIGURE TLR-2 — TWO LANE ROAD SHOULDER AND TRAVEL LANE CLOSED — NOT TO SCALE



massDOT Massachusetts Department of Transportation Highway Division | Standard Details and Drawings for the Development of Temporary Traffic Control Plans | FIGURE TLR-5 — TWO LANE ROAD ONE LANE ALTERNATING TRAFFIC — NOT TO SCALE



massDOT Massachusetts Department of Transportation Highway Division | Standard Details and Drawings for the Development of Temporary Traffic Control Plans | FIGURE TLR-3 — TWO LANE ROAD CENTER OF ROAD CLOSURE — NOT TO SCALE



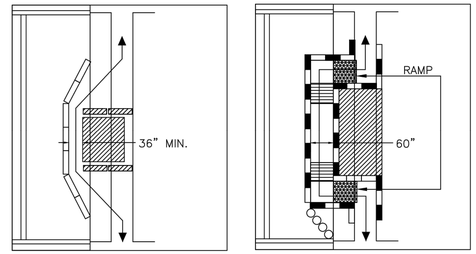
PEDESTRIAN CHANNELIZING DEVICE

NOTES:

* THERE SHALL BE A 2 INCH GAP BETWEEN THE HAND–TRAILING EDGE AND ITS SUPPORT.

** A MAXIMUM 2 INCH GAP BETWEEN THE BOTTOM OF THE BOTTOM RAIL AND THE SURFACE MAY BE USED TO PROVIDE DRAINAGE.

massDOT Massachusetts Department of Transportation Highway Division | Standard Details and Drawings for the Development of Temporary Traffic Control Plans | FIGURE PED-4 — PEDESTRIAN DETAILS — NOT TO SCALE



- When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, temporary facilities shall be provided and they shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
- A pedestrian channelizing device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
- When used, temporary ramps shall comply with Americans with Disabilities Act (see Figures Ped–1 & Ped–2).
- The alternate pathway should have a smooth continuous hard surface for the entire length of the temporary pedestrian facility.
- The protective requirements of a TTC situation have priority in determining the need for temporary traffic barriers and their use in this situation should be based on engineering judgment.
- Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.

AUDIBLE DEVICES

For long term sidewalk closures (at a minimum overnight) a form of speech messaging for pedestrians with visual disabilities shall be provided. Audible information devices such as detectable barriers or barricades and other passive pedestrian activation (motion activated) devices should be considered for these cases. These audible devices can be mountable or stand alone.

massDOT Massachusetts Department of Transportation Highway Division | Standard Details and Drawings for the Development of Temporary Traffic Control Plans | FIGURE PED-3 — PEDESTRIAN DETAILS — NOT TO SCALE

TEMPORARY TRAFFIC CONTROL NOTES

GENERAL:

1. ALL CONSTRUCTION SIGNING, DRUMS, BARRICADES AND OTHER DEVICES SHALL BE FURNISHED AND INSTALLED IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES - 2009 EDITION (M.U.T.C.D.); MASSDOT'S STANDARD SPECIFICATIONS; MASSDOT'S STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TRAFFIC MANAGEMENT PLANS, OCTOBER 2014 EDITION, AND THE LATEST REVISIONS.
2. UNLESS WRITTEN PERMISSION FROM MASSDOT IS OBTAINED, ALL TRAVEL WAYS WITHIN MASSDOT'S RIGHT OF WAY CAN ONLY BE OCCUPIED DURING THE HOURS STATED IN THE SPECIAL PROVISIONS, SUBSECTION 7.09 PUBLIC SAFETY AND CONVENIENCE.
3. WARNING SIGNS SHALL HAVE AN ORANGE BACKGROUND, AND REGULATORY SIGNS SHALL BE BLACK TEXT ON A WHITE BACKGROUND UNLESS OTHERWISE NOTED.

CONSTRUCTION SIGNING:

1. FINAL LOCATION OF SIGNS, DRUMS, AND OTHER TRAFFIC CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. AT THE END OF EACH WORKDAY/SHIFT, THE CONTRACTOR SHALL COVER TEMPORARY TRENCHES WITH STEEL PLATES AND PROVIDE A TEMPORARY SIDEWALK WITH A STABLE AND FIRM SURFACE. TEMPORARY TRAFFIC CONTROL DEVICES, I.E., DRUMS AND CONSTRUCTION FENCES, SHALL BE REMOVED FROM THE TRAVELWAY OR MOVED TO THE BACK OF THE SIDEWALK.
3. FOURTEEN DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL PLACE PORTABLE CHANGEABLE MESSAGE SIGNS ON EACH MAJOR APPROACH.

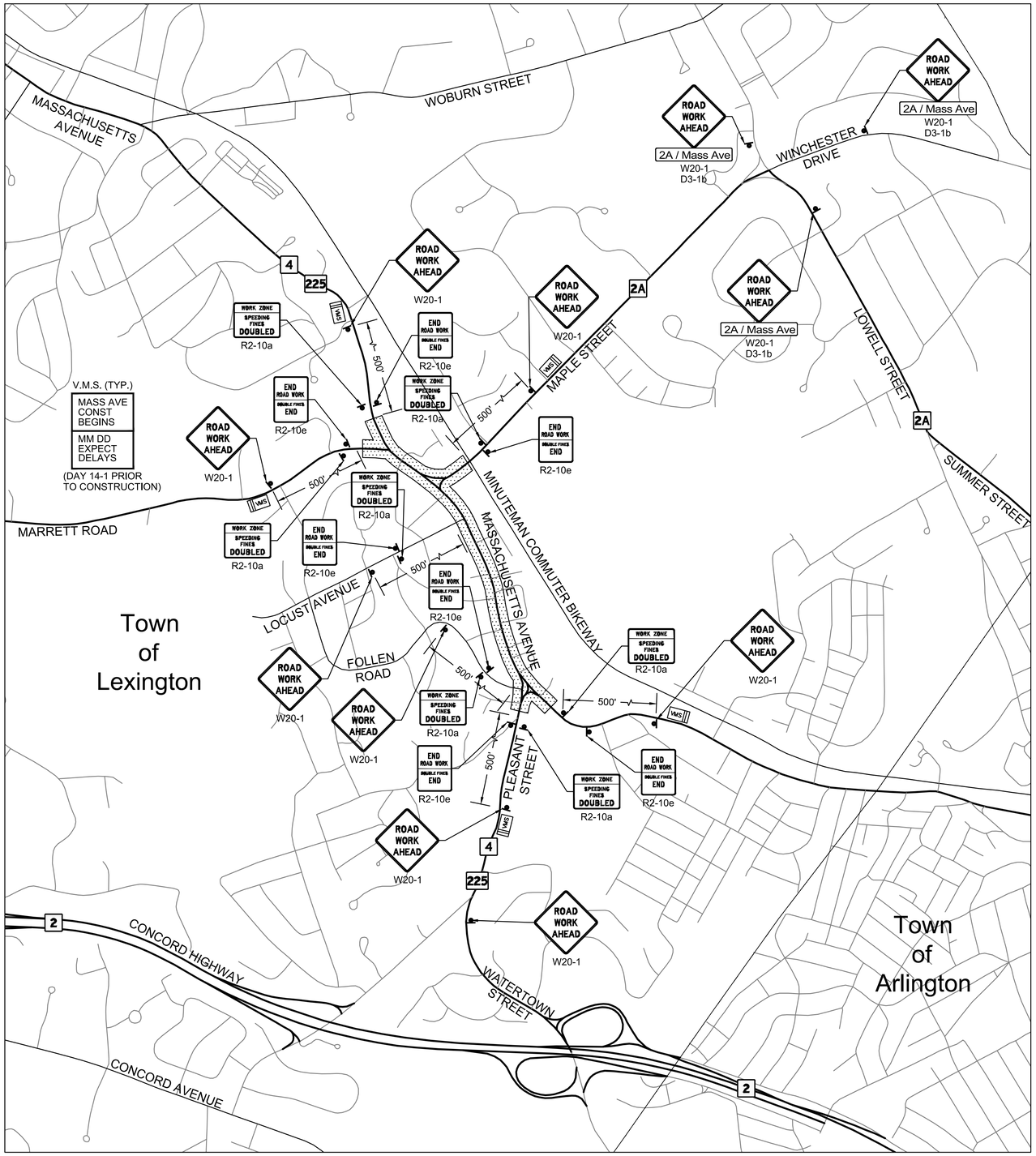
MISCELLANEOUS:

1. THE WORKSITE SHALL BE ADEQUATELY PROTECTED (DURING BOTH WORKING AND NON-WORKING HOURS) TO ENSURE THE SAFETY OF ALL MODES OF TRAFFIC.
2. AT ALL TIMES, MAINTAIN INGRESS AND EGRESS TO ALL STREETS AND DRIVES.
3. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL REMOVE THE TEMPORARY MARKINGS AND RESTORE THE PAVEMENT MARKINGS TO THEIR ORIGINAL LOCATION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PEDESTRIAN ACCESS THROUGH THE WORK ZONE THAT MEETS THE LATEST ADA/AAB GUIDELINES.
5. THE CONTRACTOR SHALL COORDINATE WITH THE MBTA REGARDING SHIPPING/RELOCATING/ADDING OR ELIMINATING ANY BUS STOPS WITHIN THE PROJECT LIMITS.
6. THE CONTRACTOR SHALL PROVIDE A MAXIMUM DETOUR OF 250 FEET OF SIDEWALK ALONG THE LENGTH OF THE PROJECT.

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	66	126
PROJECT FILE NO.	607409		

TEMPORARY TRAFFIC CONTROL PLAN
SHEET 4 OF 4



ADVANCE WARNING SIGN PLAN
N.T.S.

CONSTRUCTION SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH (in)	SIZE OF SIGN HEIGHT (in)	TEXT	TEXT DIMENSIONS (in) LETTER HEIGHT	TEXT DIMENSIONS (in) VERTICAL SPACING	TEXT DIMENSIONS (in) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACKGROUND	COLOR LEGEND	COLOR BORDER	POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA (S.F.)
D3-1b	48	12	2A / Mass Ave	SEE 2009 M.U.T.C.D.			3	ORANGE	BLACK	BLACK		4.00	12.00
R2-10a	48	36	WORK ZONE SPEEDING FINES DOUBLED	SEE MASSDOT STANDARDS			5	ORANGE / WHITE	BLACK	BLACK		12.00	60.00
R2-10e	36	48	END ROAD WORK DOUBLE FINES END				6	ORANGE / WHITE	BLACK	BLACK		12.00	72.00
R4-7	24	30		SEE 2009 M.U.T.C.D.			4	WHITE	BLACK	BLACK		5.00	20.00
R9-9	24	12	SIDEWALK CLOSED				2	WHITE	BLACK	BLACK		2.00	4.00
R9-10	24	12	SIDEWALK CLOSED USE OTHER SIDE				2	WHITE	BLACK	BLACK		2.00	4.00
R9-11L/R	24	12	SIDEWALK CLOSED AHEAD CROSS HERE / SIDEWALK CLOSED AHEAD CROSS HERE				2	WHITE	BLACK	BLACK		2.00	4.00
R9-11aL/R	24	12	SIDEWALK CLOSED CROSS HERE / SIDEWALK CLOSED CROSS HERE				4	WHITE	BLACK	BLACK		2.00	8.00
W5-1	36	36	ROAD NARROWS				4	ORANGE	BLACK	BLACK		9.00	36.00
W8-1	36	36	BUMP				2	ORANGE	BLACK	BLACK		9.00	18.00
W8-3	36	36	PAVEMENT ENDS				2	ORANGE	BLACK	BLACK		9.00	18.00
W8-8	36	36	ROUGH ROAD				4	ORANGE	BLACK	BLACK		9.00	36.00
W11-2	36	36					6	ORANGE	BLACK	BLACK		9.00	54.00
W13-1	24	24	XX M.P.H.				6	ORANGE	BLACK	BLACK		4.00	24.00
W16-7pL	24	12					6	ORANGE	BLACK	BLACK		2.00	12.00
W16-9p	24	12	AHEAD				2	ORANGE	BLACK	BLACK		2.00	4.00
W20-1 (AHD)	36	36	ROAD WORK AHEAD				11	ORANGE	BLACK	BLACK		9.00	99.00
W20-4	36	36	ONE LANE ROAD AHEAD				2	ORANGE	BLACK	BLACK		9.00	18.00
W20-7b (AHD)	36	36	POLICE OFFICER AHEAD	SEE MASSDOT STANDARDS			4	ORANGE	BLACK	BLACK		9.00	36.00
W21-5aR	36	36	RIGHT SHOULDER CLOSED	SEE 2009 M.U.T.C.D.			2	ORANGE	BLACK	BLACK		9.00	18.00

607409_HDI(DET).DWG Plotted on 20-Apr-2016 8:40 AM

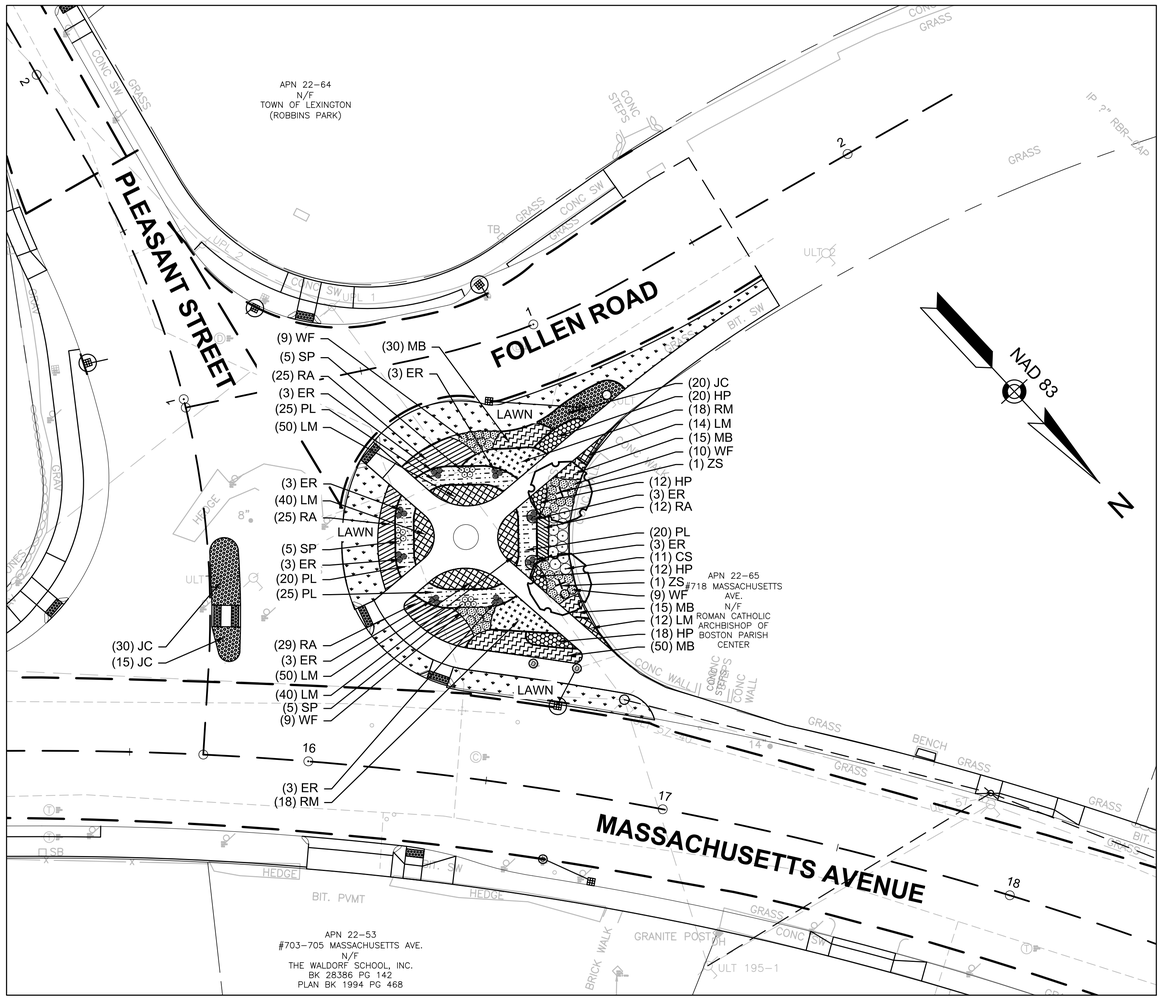
PLANT SCHEDULE (TREES)				
SYMBOL	QTY	COMMON NAME	BOTANICAL NAME	SIZE
JK	21	EASTERN RED CEDAR (KETELEERI)	JUNIPERUS CHINENSIS 'KETELEERI'	5-6' HEIGHT
PA	17	NORWAY SPRUCE	PICEA ABIES	8-10' HEIGHT
UA	3	PRINCETON ELM	ULMUS AMERICANA 'PRINCETON'	3-3.5" CAL.
MA	9	AMUR MAACKIA	MAACKIA AMURENSIS	10-12' HEIGHT
MS	15	ZUMI CRABAPPLE	MALUS ZUMI CALOCARPA	2.5-3" CAL.
GD	8	KENTUCKY COFFEETREE MALE	GYMNOCLADUS DIOICUS	3-3.5" CAL.
SR	10	JAPANESE TREE LILAC	SYRINGA RETICULATA (SINGLE STEM)	2-2.5" CAL.
CC	4	EASTERN REDBUD	CERCIS CANADENSIS	2.5-3" CAL.
ZS	2	GREEN VASE ZELKOVA	ZELKOVA SERRATA 'GREEN VASE'	2-2.5" CAL.

PLANT SCHEDULE (SHRUBS, PERENNIALS AND GROUNDCOVERS)				
SYMBOL	QTY	COMMON NAME	BOTANICAL NAME	SIZE
IG	6	COMPACT SHAMROCK INKBERRY	ILEX GLABRA SHAMROCK	3 GAL. (24" HT.)
JC	115	SARGENT JUNIPER	JUNIPERUS CHINENSIS VAR SARGENTII	3 GAL.
CS	36	YELLOW TWIG DOGWOOD	CORNUS SERICEA SILVER AND GOLD	3 GAL.
RA	161	FRAGRANT SUMAC	RHUS AROMATICA GRO LOW	3 GAL.
WF	37	WEIGELA	WEIGELA FLORIDA ELVERA	3 GAL.
RM	91	WHITE MEIDILAND ROSE	ROSA MEICOUBLAN WHITE MEIDILAND	2 GAL.
LM	206	LILYTURF	LIRIOPE MUSCARI MONROES WHITE	1 GAL.
MB	110	BEE BALM	MONARDA BRADBURIANA	1 GAL.
HP	62	PEACH FAIRY DAYLILY	HEMEROCALLIS PEACH FAIRY	1 GAL.
PL	205	LITTLE SPIRE RUSSIAN SAGE	PEROVSKIA ATRIPLICIFOLIA 'LITTLE SPIRE'	1 GAL.
ER	24	GLOBE THISTLE	ECHINOPS RITRO VEITCH'S BLUE	1 GAL.
SP	40	MEADOW SAGE	SALVIA PRATENSIS INDIGO	1 GAL.

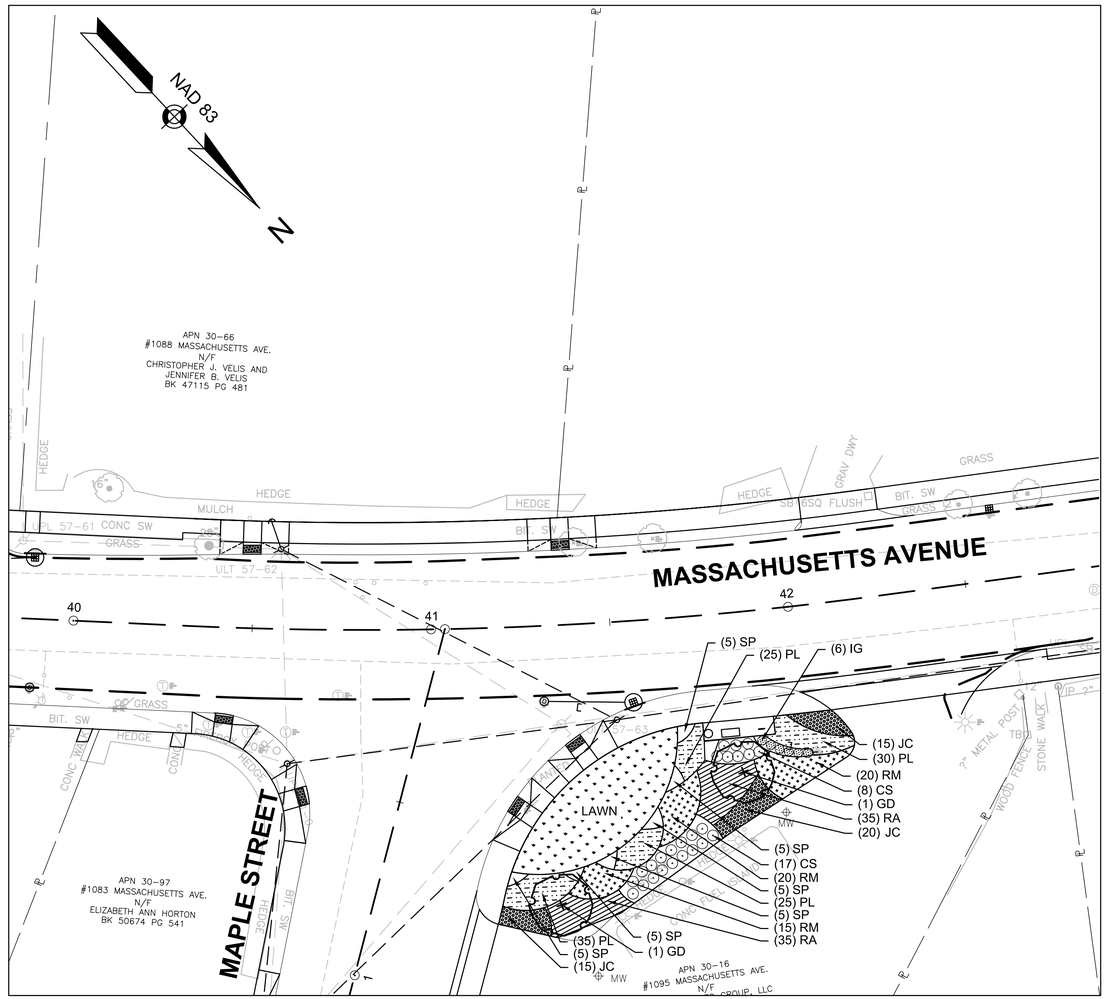
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	67	126
PROJECT FILE NO.	607409		

LANDSCAPING PLAN



PLANTING IMPROVEMENTS AT PLEASANT STREET INTERSECTION



PLANTING IMPROVEMENTS AT MAPLE STREET INTERSECTION

0 20 50 100

SCALE: 1" = 20'

607409_HD(LA).DWG Plotted on 23-Sep-2016 2:01 PM

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	68	126
PROJECT FILE NO.	607409		

LANDSCAPING DETAILS

607409_HD(LA).DWG Plotted on 23-Sep-2016 2:01 PM

EXCAVATE TO REQUIRED DEPTH AND BACKFILL WITH PLANTING MIX

RAISE AND REPLANT ANY PLANTS THAT SETTLE MORE THAN 3 INCHES AFTER PLANTING AND WATERING IN

WATER BY FLOODING TWICE IN FIRST TWO HOURS AFTER PLANTING. WATER & MAINTAIN AS PER STANDARD SPECIFICATIONS

SPACING VARIES
SEE PLANS OR NOTES

CROWN OF PLANT TO BE 2 INCHES MIN. ABOVE FINISHED GRADE AFTER SETTLING

2-3 INCH DEPTH AGED PINE BARK MULCH (PULL AWAY FROM BASE OF SHRUB)

3 INCH HIGH EARTH WATERING SAUCER AROUND PLANTING BED

BACKFILL MIX PER SPECIAL PROVISIONS

REMOVE PLANT FROM CONTAINER EVEN IF 'PLANTABLE CONTAINER'. SCORE SIDES AND BOTTOM OF ROOT BALL TO LOOSEN ROOTS

UNDISTURBED SUBGRADE

PERENNIAL PLANTING

NOT TO SCALE

NO PRUNING OR CUTTING UNLESS DIRECTED BY THE LANDSCAPE ARCHITECT.

EXCAVATE TO REQUIRED DEPTH AND BACKFILL WITH PLANTING MIX

RAISE AND REPLANT ANY PLANTS THAT SETTLE MORE THAN 3 INCHES AFTER PLANTING AND WATERING IN

WATER BY FLOODING TWICE IN FIRST TWO HOURS AFTER PLANTING. WATER & MAINTAIN AS PER STANDARD SPECIFICATIONS

3" DARK PINE BARK MULCH

2"-3" HIGH WATERING SAUCER REMOVE EXTRA SOIL FROM BASE OF STEMS AND TOP OF ROOTBALL

COMPLETELY REMOVE TOP 1/2 BURLAP LACING AND WIRE BASKET. IF CONTAINER GROWN, REMOVE CONTAINER AND LOOSEN ROOTS AT OUTER 1/2" EDGE OF ROOT BALL

AMENDED LOAM BACKFILL 12" MIN THROUGH OUT SHRUB BED OR 3X ROOTBALL WIDTH

ADJACENT MATERIALS VARY SEE PLANS

ROOT BALL SHALL PLACED DIRECTLY ON COMPACTED SUBGRADE

SCARIFY SUBGRADE AND WORK IN PLANTING SOIL IN A 1:1 RATIO

SUBGRADE

SPACING VARIES SEE PLANS

SHRUB PLANTING

NOT TO SCALE

EXISTING TREE (S)

2x4 DIM. LUMBER ATTACHED W/METAL STRAPPING (OPT) AT 2 LOCATIONS (MIN.). CLADDING SHALL BE 8' HIGH WITH 6" SPACING OF BOARDS. WRAP BARK W/BURLAP PRIOR TO ARMORING.

PRUNE PER ISA STANDARDS. REMOVE DEAD & DAMAGED BRANCHES. TIE BRANCHES UP TO AVOID DAMAGE FROM CONSTRUCTION EQUIPMENT.

WOODEN OR METAL POSTS (TYPICAL)

INSTALL FENCING AT EDGE OF DRIPLINE OR AS FAR FROM TRUNK AS POSSIBLE. MIN. DISTANCE IS 6' FROM TRUNK. MAY BE PLASTIC SNOW FENCE OR CHAIN LINK, MIN. 4' HIGH.

LIMIT OF DRIPLINE (VARIES)

ZONE OF CONSTRUCTION IMPACT (CUT/FILL)

EXISTING GRADE

LIMIT OF FENCING (MULTIPLE TREES)

PRUNE DAMAGED OR EXPOSED ROOTS DAMAGED WITH A SHARP SAW.

LIMIT OF FENCING (INDIVIDUAL TREE)

NO STORAGE OF EQUIPMENT OR STOCKPILING OF MATERIALS WITHIN DRIPLINE

WOODEN OR METAL POSTS (MAX. 8' SPACING)

LIMIT OF FENCING (MULTIPLE TREES)

EXISTING TREE

LIMIT OF CANOPY (VARIES)

EXISTING TREE

LIMIT OF CONSTRUCTION IMPACT (REFER TO PLANS)

AREA OF UNDISTURBED ROOT ZONE

LIMIT OF FENCE (INDIVIDUAL TREE)

PLAN VIEW

WATERING SAUCER SHALL BE FLOODED TWICE DURING THE FIRST 24 HOURS AFTER PLANTING

DO NOT CUT LEADER

TREE SHALL BE SET PLUMB

TREE SHALL BE PLANTED SO THAT CROWN IS 2-3 INCHES ABOVE FINISHED GRADE AFTER SETTLEMENT

1V:2H SLOPE

1V:1H SLOPE MAX.

2-3 INCHES AGED PINE BARK MULCH (PULL MULCH AWAY FROM TRUNK OF TREE)

3 INCH HIGH EARTH WATERING SAUCER AROUND TREE PIT

CUT & ROLL BACK 1/3 OF BURLAP BEFORE BACKFILLING. COMPLETELY REMOVE SYNTHETIC BURLAP & LACING

1V:1H SLOPE MAX.

6 INCHES BELOW ROOTBALL

EXCAVATE PLANTING PIT TO DEPTH OF ROOT BALL

BACKFILL MIX PER SPECIAL PROVISIONS

ROOTBALL

1V:2H SLOPE

MIN. 2 X ROOTBALL DIAMETER

TREE PROTECTION-EXISTING TREE(S)

NOT TO SCALE

DO NOT CUT LEADER

TREE WRAP SHALL NOT BE USED

TREE SHALL BE SET PLUMB

WATERING SAUCER SHALL BE FLOODED TWICE DURING THE FIRST 24 HOURS AFTER PLANTING

TREE SHALL BE PLANTED SO THAT CROWN IS 3 INCHES ABOVE FINISHED GRADE AFTER SETTLEMENT

2-3 INCHES AGED PINE BARK MULCH (PULL MULCH AWAY FROM TRUNK OF TREE)

BACKFILL MIX PER SPECIAL PROVISIONS

3 INCH HIGH EARTH WATERING SAUCER AROUND TREE PIT

CUT & ROLL BACK 1/3 OF BURLAP BEFORE BACKFILLING. COMPLETELY REMOVE SYNTHETIC BURLAP & LACING

6 INCHES BELOW ROOTBALL

ROOTBALL SHALL BE PLACED ON UNDISTURBED SUBGRADE

ROOTBALL

MIN. 2 X ROOTBALL DIAMETER

EVERGREEN TREE PLANTING (SLOPE)

NOT TO SCALE

WATERING SAUCER SHALL BE FLOODED TWICE DURING THE FIRST 24 HOURS AFTER PLANTING

TREE SHALL BE SET PLUMB

DO NOT CUT LEADER

TREE SHALL BE PLANTED SO THAT CROWN IS 3 INCHES ABOVE FINISHED GRADE AFTER SETTLEMENT

2-3 INCHES AGED PINE BARK MULCH (PULL MULCH AWAY FROM TRUNK OF TREE)

BACKFILL MIX PER SPECIAL PROVISIONS

3 INCH HIGH EARTH WATERING SAUCER AROUND TREE PIT

CUT & ROLL BACK 1/3 OF BURLAP BEFORE BACKFILLING. COMPLETELY REMOVE SYNTHETIC BURLAP & LACING

6 INCHES BELOW ROOTBALL

ROOTBALL SHALL BE PLACED ON UNDISTURBED SUBGRADE

ROOTBALL

MIN. 2 X ROOTBALL DIAMETER

DECIDUOUS TREE PLANTING

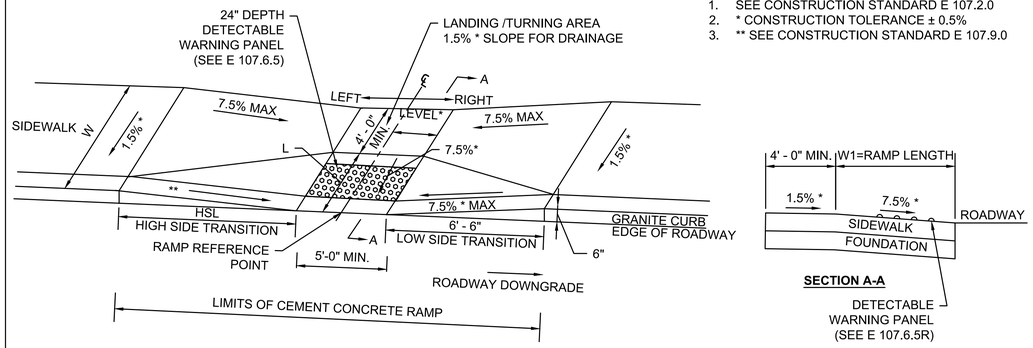
NOT TO SCALE

EVERGREEN TREE PLANTING

NOT TO SCALE

607409_HDI(DET).DWG Plotted on 20-Apr-2016 8:40 AM

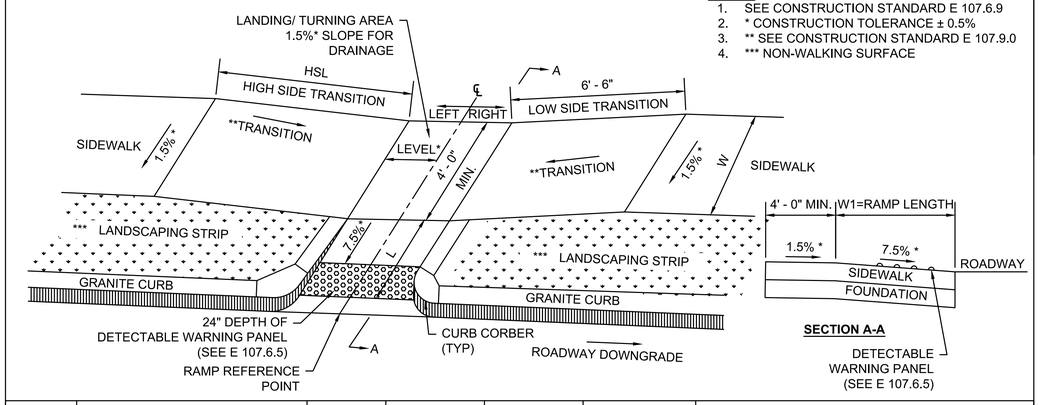
WHEELCHAIR RAMP
STYLE "A" – PARALLEL PERPENDICULAR



NOTES:
1. SEE CONSTRUCTION STANDARD E 107.2.0
2. * CONSTRUCTION TOLERANCE ± 0.5%
3. ** SEE CONSTRUCTION STANDARD E 107.9.0

WCR #	℄ RAMP REFERENCE POINT (STATION/OFFSET) Ref Street for Centerline	WIDTH OF SIDEWALK (W)	LENGTH OF RAMP (L)	WIDTH OF RAMP	DEPTH OF LEVEL LANDING Min. 4'–0"	TRANSITION LENGTH AND ROADWAY GUTTER SLOPE (%)					
						LEFT SIDE			RIGHT SIDE		
						L	%	NON-STD CURB REV	L	%	NON-STD CURB REV
A1	MASS. AVE. 15+03.41/21.00RT	5.50	4.50	5.00	4.00	9.00	-1.2%±	5"	6.50	N/A	5"
A2	MASS. AVE. 16+32.58/21.07RT	VARIES	4.93	5.00	4.00	9.00	-1.2%±	5"	3.50	N/A	3"
A3	MASS. AVE. 40+43.15/24.21RT	VARIES	2.59	5.00	4.38	7.67	-0.7%±	5"	6.50	N/A	5"
A4	MASS. AVE. 40+49.34/20.71LT	VARIES	3.29	5.00	6.00	6.50	N/A		7.67	+0.7%±	
A5	MAPLE ST. 0+54.43/25.35RT	VARIES	2.58	5.00	5.17	11.00	-2.5%±	5"	6.50	N/A	5"
A6	MAPLE ST. 0+42.46/30.60LT	8.30	2.04	5.00	6.30	6.50	N/A		9.00	+1.5%±	
A7	MASS. AVE. 41+37.23/21.00LT	6.00	3.00	5.00	6.00	6.50	N/A		7.67	+0.7%±	
A8	MASS. AVE. 41+37.91/32.17RT	8.64	2.00	5.00	6.62	7.67	-0.7%±	5"	6.50	N/A	5"
A9	MASS. AVE. 47+59.30/30.97LT	VARIES	3.37	5.00	4.20	6.50	N/A		7.67	+0.5%±	
A10*	MASS. AVE. 48+45.52/19.60RT	VARIES	4.40	5.00	4.60	N/A	N/A	5"	7.67	+0.7%±	5"

WHEELCHAIR RAMP
STYLE "B" – PARALLEL PERPENDICULAR W/ LANDSCAPING STRIP

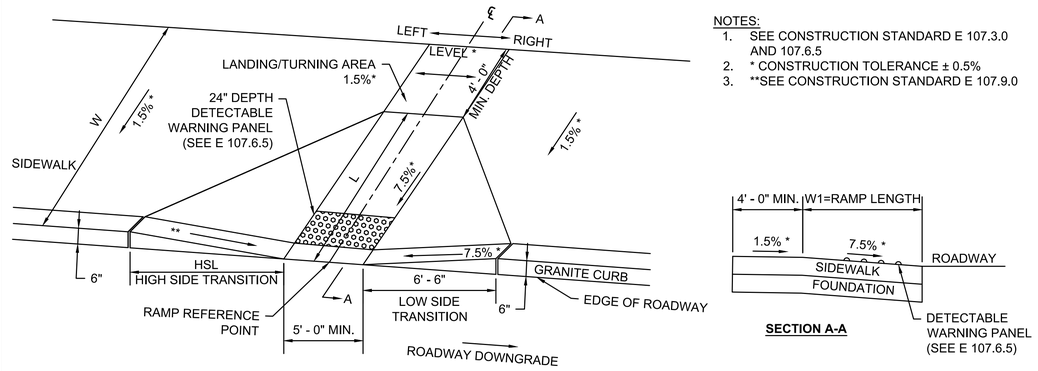


NOTES:
1. SEE CONSTRUCTION STANDARD E 107.6.9
2. * CONSTRUCTION TOLERANCE ± 0.5%
3. ** SEE CONSTRUCTION STANDARD E 107.9.0
4. *** NON-WALKING SURFACE

WCR #	℄ RAMP REFERENCE POINT (STATION/OFFSET) Ref Street for Centerline	WIDTH OF SIDEWALK (W)	LENGTH OF RAMP (L)	WIDTH OF RAMP	DEPTH OF LEVEL LANDING Min. 4'–0"	TRANSITION LENGTH AND ROADWAY GUTTER SLOPE (%)			
						LEFT SIDE		RIGHT SIDE	
						L	%	L	%
B1	MASS. AVE. 14+99.37/21.93LT	6.00	4.16	5.00	5.06	5.58	N/A	5.22	+0.3%±
B2	MASS. AVE. 15+29.91/39.13LT	6.16	5.19	5.00	5.94	5.55	N/A	7.96	+2.6%±
B3	PLEASANT ST. 1+11.31/38.20RT	6.00	5.27	5.00	5.95	4.67	N/A	9.26	+2.1%±

ROADWAY GUTTER SLOPE CONVENTION
NOTE:
GUTTER SLOPE WHEN VIEWED FROM THE CENTER OF ROAD
GUTTER SLOPE (+)SLOPE
GUTTER SLOPE (-)SLOPE

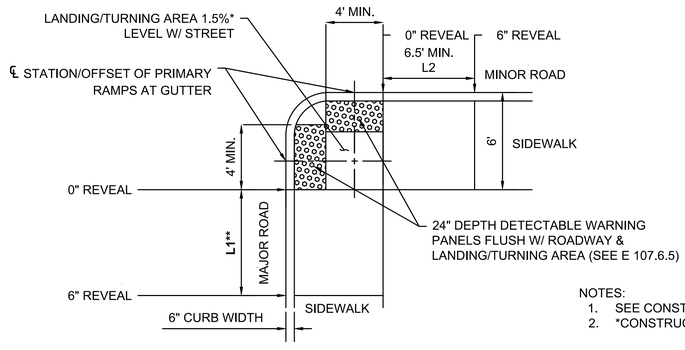
WHEELCHAIR RAMP
STYLE "C" – PERPENDICULAR RAMP FOR WIDE SIDEWALKS



NOTES:
1. SEE CONSTRUCTION STANDARD E 107.3.0 AND 107.6.5
2. * CONSTRUCTION TOLERANCE ± 0.5%
3. **SEE CONSTRUCTION STANDARD E 107.9.0

WCR #	℄ RAMP REFERENCE POINT (STATION/OFFSET) Ref Street for Centerline	WIDTH OF SIDEWALK (W)	LENGTH OF RAMP (L)	WIDTH OF RAMP	DEPTH OF LEVEL LANDING Min. 4'–0"	TRANSITION LENGTH AND ROADWAY GUTTER SLOPE (%)					
						LEFT SIDE			RIGHT SIDE		
						L	%	NON-STD CURB REV	L	%	NON-STD CURB REV
C1	MASS. AVE. 32+65.19/16.00LT	6.00	8.00	5.00	6.00	3.27	N/A		3.27	+1.4%±	
C2	MASS. AVE. 48+32.70/29.53LT	VARIES	8.00	5.00	4.00	11.00	-2.9±		3.25	N/A	3"
C3	MASS. AVE. 48+46.97/18.39LT	VARIES	8.00	5.00	4.00	3.83	-1.8±	3"	6.50	N/A	

WHEELCHAIR RAMP
STYLE "K" – DOUBLE STREET CROSSING W/ LEVEL TURNING AREA

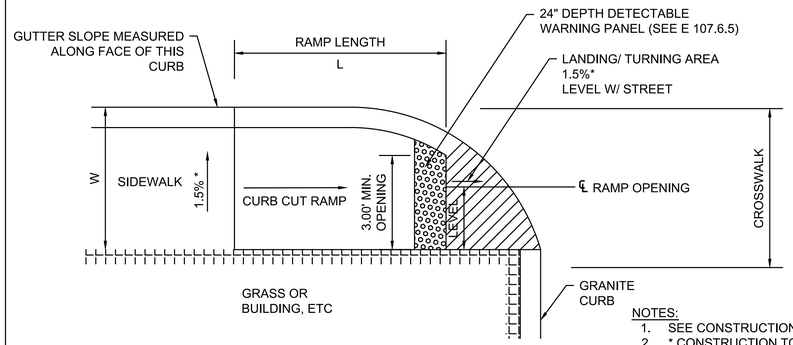


NOTES:
1. SEE CONSTRUCTION STANDARD E 107.6.4
2. *CONSTRUCTION TOLERANCE ± 0.5%

WCR #	℄ MAJOR ROAD RAMP REFERENCE POINT (STATION/OFFSET) Ref Street for Centerline	℄ MINOR ROAD RAMP REFERENCE POINT (STATION/OFFSET) Ref Street for Centerline	WIDTH OF MAJOR ROAD RAMP	WIDTH OF MINOR ROAD RAMP	WIDTH OF MAJOR ROAD SIDEWALK	MAJOR ROAD TRANSITION		WIDTH OF MINOR SIDEWALK	MINOR ROAD TRANSITION	
						GUTTER GRADE	L1		GUTTER GRADE	L2
K1	MASS. AVE. 26+32.67/23.87LT	MASS. AVE. 26+37.36/28.26LT	6.00	6.00	6.00	+0.9%±	6.00	5.31	+6.4%±	15.00

NOTES:
1. ALL WHEELCHAIR RAMPS SHALL CONFORM TO THE REQUIREMENTS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB), THE AMERICANS WITH DISABILITIES ACT (ADA) AND THE LATEST MASSDOT HIGHWAY DIVISION WHEELCHAIR RAMP STANDARDS.
2. THE LOCATIONS OF THE PROPOSED WHEELCHAIR RAMPS ARE SHOWN ON THE CONSTRUCTION ADDITIONAL TYPICAL DETAILS AND WHEELCHAIR RAMP DATA TABLES ARE SHOWN IN THE CONSTRUCTION DETAILS.
3. PROPOSED WHEELCHAIR RAMP SLOPES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE POURING OF CONCRETE, AND ADJUSTED, IF NECESSARY, TO CONFORM TO THE LATEST ADAAG/PROWAG/MAAB STANDARDS, AS DIRECTED BY THE ENGINEER.
4. ALL PROPOSED CURB FOR WHEELCHAIR RAMP TRANSITIONS SHALL BE CUT AND TRANSITIONED AS NECESSARY TO PROVIDE THE CORRECT TRANSITION LENGTHS FOR EACH WHEELCHAIR RAMP, AS SHOWN ON THE WHEELCHAIR RAMP DETAILS OR AS REQUIRED BY THE ENGINEER. ANY EXISTING CURB INLETS IN AREAS OF NEW WHEELCHAIR RAMP TRANSITIONS SHALL BE REMOVED AND REPLACED WITH APPROPRIATE TRANSITION CURB AS DIRECTED BY THE ENGINEER.
5. IN NO CASE, EXCEPT FOR MAXIMUM LENGTH HIGH SIDE TRANSITIONS (SLOPES GREATER THAN 4%) SHALL ANY TRANSITION SLOPE OF ANY WHEELCHAIR RAMP EXCEED 7.5%*
6. WHEN PLACEMENT OF THE PROPOSED WHEELCHAIR RAMP IS SUCH THAT IT IS UNAVOIDABLE FOR EXISTING STRUCTURES, THAT CANNOT BE MOVED OR RESET, TO BE WITHIN THE WHEELCHAIR RAMP, EXTREME CARE SHALL BE TAKEN SUCH THAT THE EXISTING STRUCTURE IS WITHIN THE RAMP TRANSITIONS ONLY, IF POSSIBLE, WHEN THE NEW WHEELCHAIR RAMP IS PLACED AND THAT A FOUR FOOT WIDE (MIN). CLEAR PATH OF TRAVEL EXISTS BETWEEN THE EXISTING STRUCTURE AND EITHER THE CURBLINE OR THE BACK OF SIDEWALK, AS DIRECTED BY THE ENGINEER.
7. IN RARE INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER EXISTING "SURFACE" TYPE STRUCTURE WHICH CANNOT BE REMOVED AND RESET, IS WITHIN THE ACTUAL WHEELCHAIR RAMP PATH, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACES OF THE STRUCTURE COVER SHALL BE FLUSH WITH THE NEW RAMP SURFACE AND SHALL MATCH THE SLOPE OF THE NEW WHEELCHAIR RAMP EXACTLY, AS DIRECTED BY THE ENGINEER.
8. ALL WHEELCHAIR RAMPS WITHIN THE PROJECT LIMITS SHALL HAVE DETECTABLE WARNING PANELS INSTALLED IN ACCORDANCE WITH MASSDOT STANDARD DRAWING E 107.6.5R.
9. *TOLERANCE FOR CONSTRUCTION +/- 0.5%

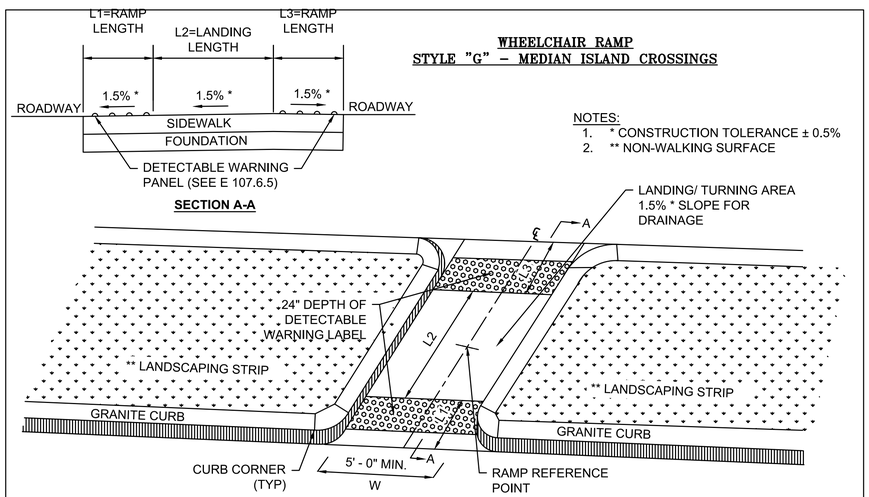
WHEELCHAIR RAMP
STYLE "D" – SINGLE DIRECTION WITH LEVEL ENTRANCE



NOTES:
1. SEE CONSTRUCTION STANDARD E 107.6.0
2. * CONSTRUCTION TOLERANCE ± 0.5%

WCR #	℄ RAMP REFERENCE POINT (STATION/OFFSET) Ref Street for Centerline	WIDTH OF SIDEWALK (W)	WIDTH OF OPENING	ROADWAY GUTTER SLOPE (%)	LENGTH OF RAMP (L)
D1	MASS. AVE. 14+26.30/27.44RT	5.50	3.88	-0.7%±	8.56
D2	MASS. AVE. 20+72.00/27.02RT	6.00	6.00	-0.4%±	6.50
D3	MASS. AVE. 20+86.57/27.00RT	6.00	6.00	-0.4%±	7.69
D4	MASS. AVE. 22+82.01/27.04LT	6.00	6.00	+0.4%±	6.51
D5	MASS. AVE. 23+02.54/27.16LT	5.81	5.69	+0.4%±	7.17
D6	MASS. AVE. 23+81.45/27.06RT	6.00	5.41	-0.4%±	7.68
D7	MASS. AVE. 27+03.05/26.86RT	6.00	6.00	-0.9%±	6.50
D8	MASS. AVE. 27+25.69/26.30RT	6.00	6.00	-1.4%±	9.00
D9	MASS. AVE. 32+92.84/26.51RT	6.00	6.00	-1.4%±	6.50
D10	MASS. AVE. 33+15.89/26.91RT	6.00	6.00	-1.4%±	9.00
D11	MASS. AVE. 35+94.16/26.87LT	6.00	6.00	+0.7%±	6.54
D12	MASS. AVE. 36+26.22/25.87LT	6.00	6.00	+0.7%±	7.67
D13	MASS. AVE. 39+52.69/26.87LT	6.00	6.00	+0.7%±	6.50
D14	MASS. AVE. 39+75.44/26.67LT	6.00	6.00	+0.7%±	7.67
D15	MASS. AVE. 45+29.06/27.87LT	6.00	4.00	+0.7%±	6.60
D16	MASS. AVE. 45+78.59/26.66LT	6.00	6.00	+0.7%±	7.67
D17	MASS. AVE. 45+93.62/26.13RT	6.00	6.00	-0.7%±	7.67
D18	PLEASANT ST. 2+30.81/17.77RT	7.63	5.63	-3.8%±	13.94
D19	PLEASANT ST. 2+13.70/17.21RT	6.48	4.43	-3.8%±	6.48

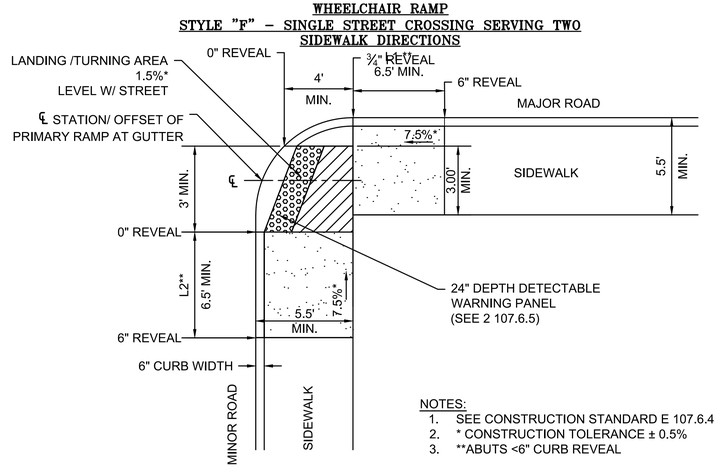
WHEELCHAIR RAMP
STYLE "G" – MEDIAN ISLAND CROSSINGS



NOTES:
1. * CONSTRUCTION TOLERANCE ± 0.5%
2. ** NON-WALKING SURFACE

WCR #	℄ RAMP REFERENCE POINT (STATION/OFFSET) Ref Street for Centerline	WIDTH OF OPENING (W)	LENGTH OF RAMP 1 (L1)	LENGTH OF LANDING (L2)	LENGTH OF RAMP 2 (L3)
G1	PLEASANT ST. 0+38.79/4.48RT	6.00	2.50	3.00	2.50

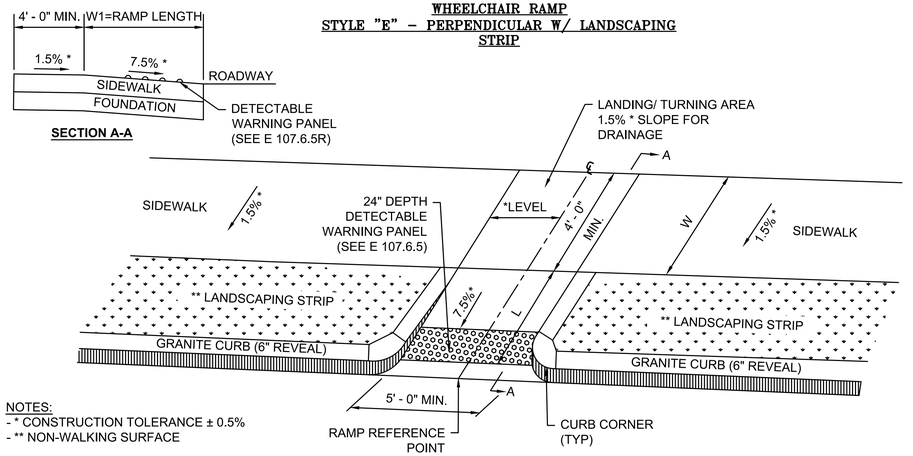
WHEELCHAIR RAMP
STYLE "F" – SINGLE STREET CROSSING SERVING TWO SIDEWALK DIRECTIONS



NOTES:
1. SEE CONSTRUCTION STANDARD E 107.6.4
2. * CONSTRUCTION TOLERANCE ± 0.5%
3. **ABUTS <6" CURB REVEAL

WCR #	℄ RAMP REFERENCE POINT (STATION/OFFSET) Ref Street for Centerline	LENGTH OF LEVEL LANDING	WIDTH OF RAMP	WIDTH OF MAJOR ROAD SIDEWALK	MAJOR ROAD TRANSITION		WIDTH OF MINOR ROAD SIDEWALK	MINOR ROAD TRANSITION	
					GUTTER GRADE	L1		GUTTER GRADE	L2
F1	MASS. AVE. 13+87.02/27.75RT	4.00	4.00	6.00	-0.7%±	6.50	5.33	+1.1%±	5.63
F2	MASS. AVE. 23+49.05/26.00RT	5.00	4.00	6.00	-0.4%±	6.60	7.54	+10.3%±	12.00
F3	MASS. AVE. 26+59.26/27.01LT	6.09	6.00	6.00	+0.9%±	7.67	6.31	-6.5%±	15.00
F4	MASS. AVE. 45+64.79/24.00RT	4.00	6.00	6.00	-0.7%±	6.50	5.66	-0.3%±	6.26

WHEELCHAIR RAMP
STYLE "E" – PERPENDICULAR W/ LANDSCAPING STRIP



NOTES:
- * CONSTRUCTION TOLERANCE ± 0.5%
- ** NON-WALKING SURFACE

WCR #	℄ RAMP REFERENCE POINT (STATION/OFFSET) Ref Street for Centerline	WIDTH OF SIDEWALK (W)	WIDTH OF OPENING	ROADWAY GUTTER SLOPE (%)	LENGTH OF RAMP (L)
E1	PLEASANT ST. 0+77.90/47.28RT	6.00	6.00	-4.8%±	7.98
E2	PLEASANT ST. 0+38.15/42.01RT	6.00	6.00	-1.4%±	5.06
E3	MASS. AVE. 16+33.11/25.47LT	6.00	6.00	+0.5%±	5.03
E4*	MASS. AVE. 19+19.64/17.50RT	6.00	5.00	-1.8%±	6.00
E5	MASS. AVE. 19+19.75/16.36LT	VARIES	5.00	+1.8%±	6.82
E6	MASS. AVE. 26+31.85/18.00RT	6.00	5.00	-0.9%±	5.55
E7	MASS. AVE. 32+65.19/18.00RT	6.00	5.00	-1.4%±	5.46
E8	MASS. AVE. 51+16.74/16.00RT	5.00	5.00	-0.7%±	8.73
E9	MASS. AVE. 51+17.45/16.00LT	VARIES	5.00	+0.7%±	7.24

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	70	126
PROJECT FILE NO.	607409		

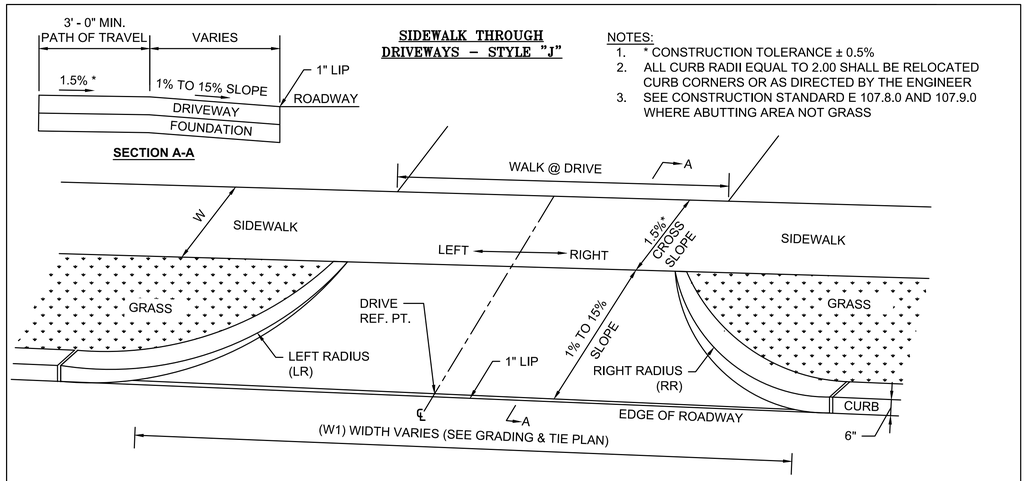
WHEELCHAIR RAMP DETAILS
SHEET 2 OF 2

607409_HD(DET).DWG Plotted on 20-Apr-2016 8:40 AM

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	71	126
PROJECT FILE NO.	607409		

DRIVEWAY DETAILS
SHEET 1 OF 1

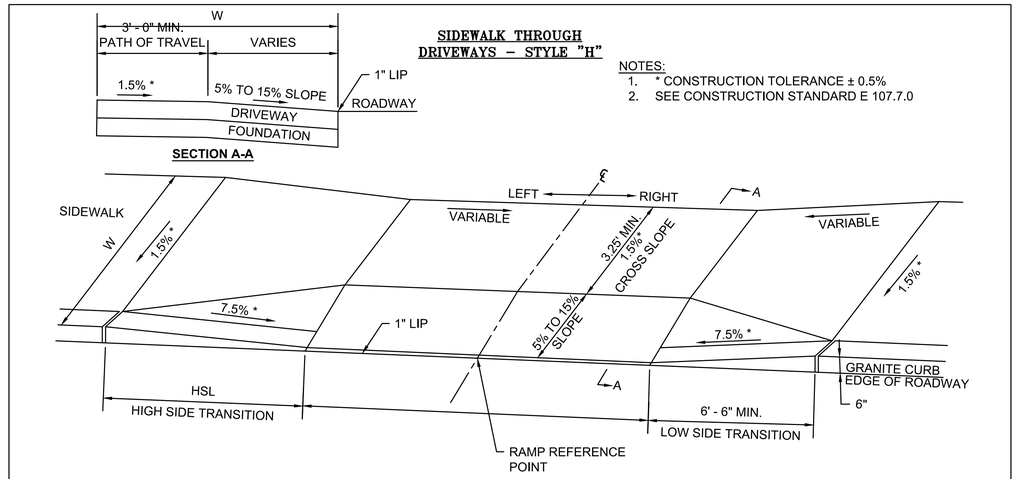
607409_HDI(DET).DWG Plotted on 20-Apr-2016 8:40 AM



SIDEWALK THROUGH DRIVEWAYS – STYLE "J"

NOTES:
1. * CONSTRUCTION TOLERANCE ± 0.5%
2. ALL CURB RADII EQUAL TO 2.00 SHALL BE RELOCATED CURB CORNERS OR AS DIRECTED BY THE ENGINEER
3. SEE CONSTRUCTION STANDARD E 107.8.0 AND 107.9.0 WHERE ABUTTING AREA NOT GRASS

DRIVEWAY #	DRIVEWAY REFERENCE POINT		WIDTH OF SIDEWALK (W)	WIDTH OF TRAVEL PATH ACROSS OPENING (W1)	LEFT SIDE RADIUS (LR)	RIGHT SIDE RADIUS (RR)	ROADWAY GUTTER SLOPE
	STATION	OFFSET					
J1	MASS. AVE. 12+62.82	20.41RT	6.00	20.85	2.00	2.00	-0.7%±
J2	MASS. AVE. 14+01.90	20.63LT	6.00	25.30	2.00	2.00	+0.7%±
J3	MASS. AVE. 16+14.21	21.00RT	7.00	27.86	2.00	2.00	-1.2%±
J4	MASS. AVE. 19+43.30	17.50RT	6.00	20.17	2.00	2.00	-1.8%±
J5	MASS. AVE. 25+44.76	18.00RT	6.00	39.29	6.00	12.00	-0.5%±
J6	MASS. AVE. 25+96.03	18.00RT	6.00	32.87	6.00	12.00	-0.5%±
J7	MASS. AVE. 27+74.49	16.00LT	6.00	35.31	8.00	12.00	+1.4%±
J8	MASS. AVE. 28+32.88	16.00LT	6.00	29.42	8.00	8.00	+0.7%±
J9	MASS. AVE. 28+66.76	18.00RT	6.00	34.24	6.00	12.00	+0.7%±
J10	MASS. AVE. 28+67.91	16.00LT	6.00	32.93	8.00	12.00	+0.7%±
J11	MASS. AVE. 29+33.41	16.00LT	6.00	36.11	8.00	12.00	+0.7%±
J12	MASS. AVE. 29+78.38	18.00RT	6.00	29.11	6.00	12.00	-0.7%±
J13	MASS. AVE. 30+08.93	16.00LT	6.00	38.48	8.00	12.00	+0.7%±
J14	MASS. AVE. 30+42.38	18.00RT	6.00	29.75	6.00	12.00	-0.7%±
J15	MASS. AVE. 31+03.69	16.00LT	VARIES	32.97	8.00	12.00	+1.4%±
J16	MASS. AVE. 31+04.55	18.00RT	6.00	29.76	6.00	12.00	-1.4%±
J17	MASS. AVE. 31+61.74	16.00LT	VARIES	32.30	8.00	12.00	+1.4%±
J18	MASS. AVE. 31+90.92	18.00RT	6.00	28.28	6.00	12.00	-1.4%±
J19	MASS. AVE. 32+04.84	16.00LT	6.00	31.13	8.00	12.00	+1.4%±
J20	MASS. AVE. 32+48.39	16.00LT	6.00	22.06	8.00	2.00	+1.4%±
J21	MASS. AVE. 32+79.86	16.00LT	6.00	17.79	2.00	2.00	+1.4%±
J22	MASS. AVE. 34+03.66	16.00RT	6.00	39.61	8.00	12.00	-0.8%±
J23	MASS. AVE. 34+40.16	16.00LT	6.00	57.70	8.00	N/A	+0.8%±
J24	MASS. AVE. 34+62.45	16.00LT	6.00	57.70	N/A	12.00	+0.8%±
J25	MASS. AVE. 35+40.50	16.00LT	6.00	58.85	2.00	2.00	+0.8%±
J26	MASS. AVE. 35+48.50	16.00RT	6.00	34.66	8.00	12.00	-0.8%±
J27	MASS. AVE. 36+45.23	16.00RT	6.00	29.42	4.00	5.00	-0.7%±
J28	MASS. AVE. 37+23.15	18.00LT	VARIES	32.00	6.00	12.00	+0.7%±
J29	MASS. AVE. 37+79.52	18.00LT	VARIES	33.45	6.00	12.00	+0.7%±
J30	MASS. AVE. 42+15.37	21.00LT	6.00	33.55	2.00	18.00	+0.7%±
J31	MASS. AVE. 42+28.59	21.00RT	6.00	82.79	30.00	30.00	-0.7%±
J32	MASS. AVE. 44+19.33	21.00LT	6.00	28.30	2.00	18.00	+0.7%±
J33	MASS. AVE. 44+49.11	20.93RT	6.00	22.06	2.00	18.00	-0.7%±
J34	MASS. AVE. 47+33.22	21.00RT	6.00	28.28	2.00	18.00	-0.5%±
J35	MASS. AVE. 47+62.63	21.00RT	6.00	16.52	2.00	2.00	-0.5%±
J36	MASS. AVE. 48+21.74	20.70RT	VARIES	19.37	2.00	2.00	+0.7%±
J37	MASS. AVE. 48+57.18	18.77RT	6.00	14.83	2.00	2.00	+0.7%±
J38	MAPLE ST. 0+88.79	27.05LT	8.00	40.61	8.00	2.00	+1.5%±
J39	MAPLE ST. 1+56.28	25.00LT	VARIES	46.53	2.00	10.00	-0.6%±
J40	MAPLE ST. 2+08.72	23.04LT	6.00	21.81	2.00	5.00	-0.6%±

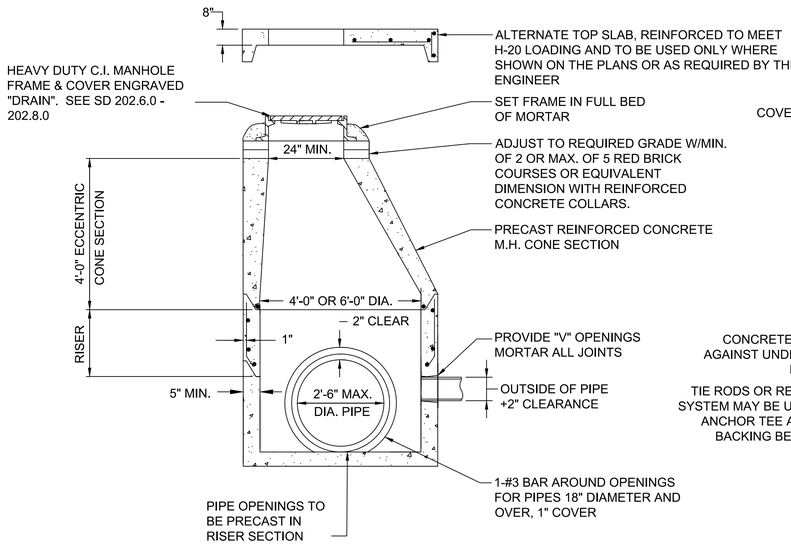


SIDEWALK THROUGH DRIVEWAYS – STYLE "H"

NOTES:
1. * CONSTRUCTION TOLERANCE ± 0.5%
2. SEE CONSTRUCTION STANDARD E 107.7.0

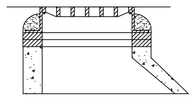
DRIVEWAY #	DRIVEWAY REFERENCE POINT		WIDTH OF SIDEWALK (W)	WIDTH OF TRAVEL PATH ACROSS OPENING	LEFT SIDE TRANSITION LENGTH	RIGHT SIDE TRANSITION LENGTH	ROADWAY GUTTER SLOPE
	STATION	OFFSET					
H1	PLEASANT ST. 2+59.74	13.00LT	6.00	7.34	6.50	11.00	+2.3%±
H2	PLEASANT ST. 2+10.80	14.57LT	6.00	8.74	6.50	14.00	+3.8%±
H3	PLEASANT ST. 1+63.50	23.40LT	6.00	12.69	6.50	14.00	+3.8%±
H4	MASS. AVE. 17+64.30	24.51RT	5.50	18.00	9.00	6.50	-1.2%±
H5	MASS. AVE. 17+97.06	24.50LT	5.50	16.08	6.50	7.67	+1.2%±
H6	MASS. AVE. 18+51.65	24.50LT	5.50	17.74	6.50	9.00	+1.2%±
H7	MASS. AVE. 19+52.82	24.00LT	VARIES	17.39	6.50	9.00	+1.8%±
H8	MASS. AVE. 20+49.35	24.00LT	6.00	29.07	6.50	7.67	+1.8%±
H9	MASS. AVE. 20+96.08	24.00LT	6.00	13.29	6.50	7.67	+0.4%±
H10	MASS. AVE. 21+60.18	24.00RT	6.00	17.17	7.67	6.50	-0.4%±
H11	MASS. AVE. 22+10.89	24.00LT	6.00	11.13	6.50	N/A	+0.4%±
H12	MASS. AVE. 22+49.14	24.00RT	6.00	30.48	7.67	6.50	-0.4%±
H13	MASS. AVE. 24+52.85	26.01RT	6.00	13.00	N/A	6.50	-0.5%±
H14	MASS. AVE. 24+75.21	24.00LT	6.00	29.68	6.50	9.66	+0.5%±
H15	MASS. AVE. 38+09.73	24.00RT	6.00	13.90	7.67	6.50	-0.7%±
H16	MASS. AVE. 38+68.30	24.00RT	6.00	14.73	7.67	6.50	-0.7%±
H17	MASS. AVE. 39+54.98	24.00RT	6.00	25.26	7.67	6.50	-0.7%±
H18	MAPLE ST. 1+21.02	19.36RT	6.00	16.91	6.50	7.67	-0.6%±
H19	MAPLE ST. 1+89.17	15.34RT	6.00	10.09	6.50	7.67	-0.6%±
H20	MAPLE ST. 2+27.36	15.00RT	6.00	9.85	6.50	7.67	-0.6%±
H21	MAPLE ST. 2+93.61	15.00RT	6.00	9.48	9.00	6.50	-1.3%±
H22	MAPLE ST. 3+71.87	14.32RT	6.00	11.82	9.00	6.50	-1.3%±
H23	MARRETT RD. 0+52.89	21.87LT	6.00	23.79	6.50	14.00	+3.2%±

607409_HD(DET).DWG Plotted on 23-Sep-2016 2:01 PM

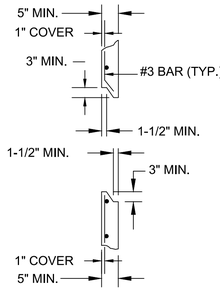


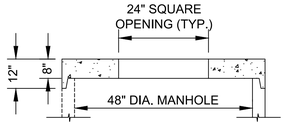
NOTE:
1. PREFORMED BITUMASTIC SEALANT AS SPECIFIED. SHALL FILL AT LEAST 75% OF JOINT CAVITY. RUBBER OR "O" RING SET IN RECESS.
2. PROVIDE STEPS WHEN MH DEPTH IS OVER 8 FEET.

DRAIN MANHOLE
NOT TO SCALE



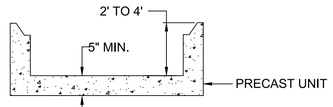
ALTERNATE ECCENTRIC CONE SECTION



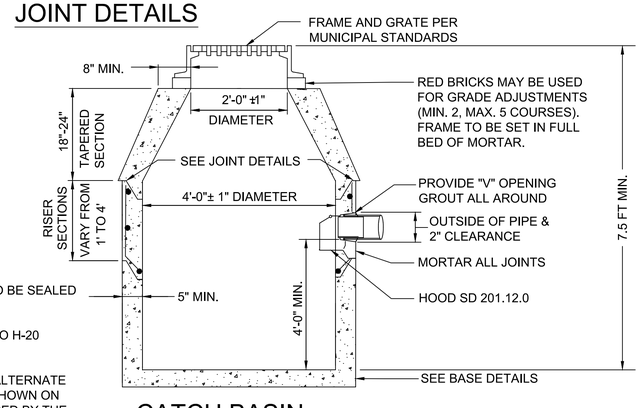


JOINT DETAILS

ALTERNATE TOP SLAB



BASE DETAILS

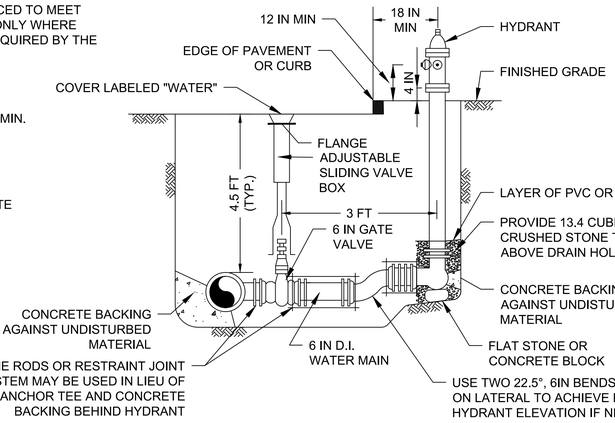


1. ALL PRECAST JOINTS TO BE SEALED WITH BUTYL RUBBER.

2. DESIGN TO CONFORM TO H-20 LOADING.

3. CONTRACTOR TO USE ALTERNATE TOP SLAB ONLY WHERE SHOWN ON THE PLANS OR AS REQUIRED BY THE ENGINEER.

CATCH BASIN
NOT TO SCALE



HYDRANT AND VALVE
NOT TO SCALE

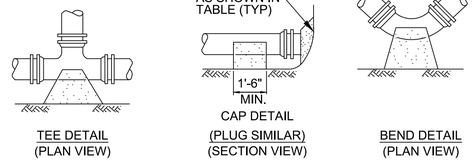
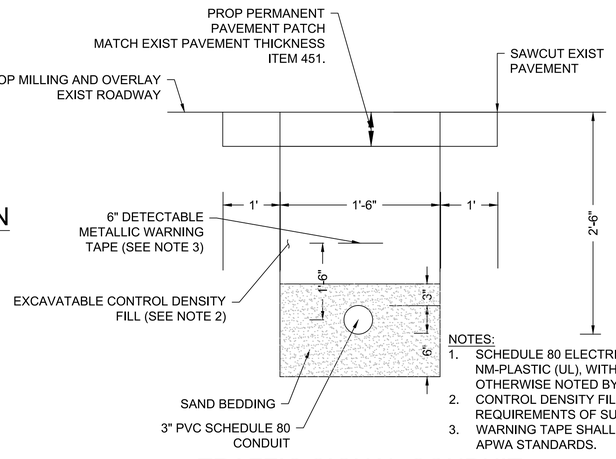


TABLE OF CONCRETE THRUST RESTRAINT MINIMUM BEARING AREAS IN SQUARE FEET AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS				
SIZE OF MAIN	90° BENDS, TEES, CAPS AND PLUGS	45° BENDS AND WYES	22-1/2° BENDS	11-1/4° BENDS
6", 8"	5	4	2	2
10", 12"	12	9	5	2

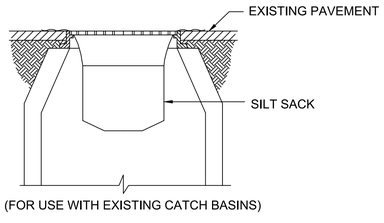
NOTES:
1. CONCRETE THRUST RESTRAINT SHALL ONLY BE USED WHERE OTHER MEANS OF RESTRAINT ARE NOT FEASIBLE.
2. CONTRACTOR SHALL USE CARE TO AVOID PLACEMENT OF CONCRETE ON THE FITTING JOINTS

CONCRETE THRUST BLOCK RESTRAINT FOR FITTINGS
NOT TO SCALE



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

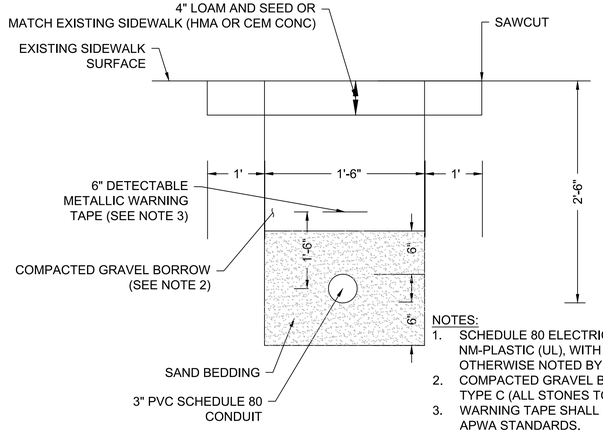
TRAFFIC SIGNAL CONDUIT CROSSING ROADWAY
NOT TO SCALE



(FOR USE WITH EXISTING CATCH BASINS)

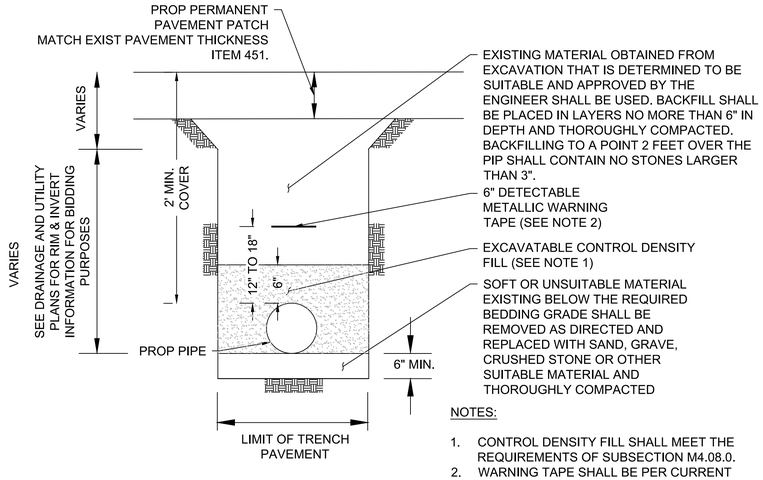
NOTE: SILT SACKS TO BE PLACED IN ALL CATCH BASINS IN THE VICINITY OF NEW CONSTRUCTION. CATCH BASINS ARE TO BE PROTECTED AS SHOWN, WITH MINIMUM WEEKLY MAINTENANCE, OR AS REQUIRED AND REPLACED IF NECESSARY.

SILT SACK INLET PROTECTION DETAIL
NOT TO SCALE



NOTES:
1. SCHEDULE 80 ELECTRICAL CONDUIT TYPE NM-PLASTIC (UL), WITH PULL ROPE, UNLESS OTHERWISE NOTED BY MASSDOT.
2. COMPACTED GRAVEL BORROW - M.1.03.0 TYPE C (ALL STONES TO BE LESS THAN 2")
3. WARNING TAPE SHALL BE PER CURRENT APWA STANDARDS.

TRAFFIC SIGNAL CONDUIT UNDER SIDEWALK OR GRASS AREA
NOT TO SCALE



NOTES:
1. CONTROL DENSITY FILL SHALL MEET THE REQUIREMENTS OF SUBSECTION M4.08.0.
2. WARNING TAPE SHALL BE PER CURRENT APWA STANDARDS.
3. TRENCH WIDTH SHALL BE WIDE ENOUGH TO PERMIT THOROUGH COMPACTION.

DRAINAGE TRENCH
NOT TO SCALE

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	73	126
PROJECT FILE NO.	607409		

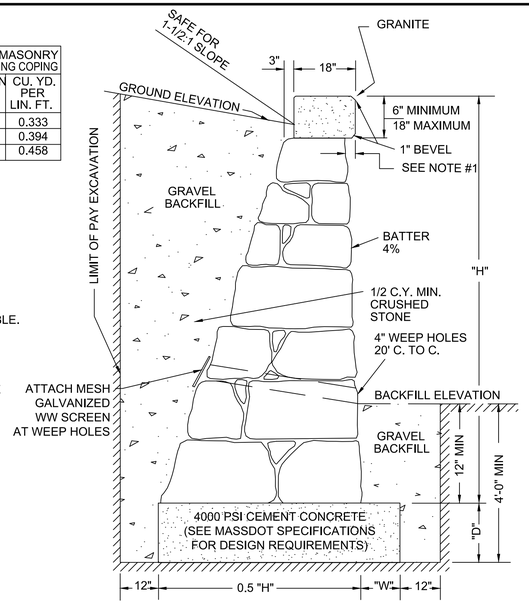
CONSTRUCTION DETAILS
SHEET 2 OF 3

H	W	D	CONC. MASONRY FOOTING		STONE MASONRY EXCLUDING COPING	
			SECTION AREA SQ. FT.	CU. YD. PER LIN. FT.	SECTION AREA SQ. FT.	CU. YD. PER LIN. FT.
5.0	0.75	1.25	4.06	0.150	9.00	0.333
5.5			4.38	0.162	10.63	0.394
6.0			4.69	0.174	12.38	0.458

NOTES:

1. COPING OVERHANG TO BE APPROXIMATELY 3" FOR WALLS 10' OR MORE IN HEIGHT AND APPROXIMATELY 2" FOR WALLS LESS THAN 10' IN HEIGHT; IN A CONTINUOUS WALL OF VARYING HEIGHT THE OVERHANG WILL BE APPROXIMATELY 2" TO 3" FOR THE ENTIRE LENGTH.
2. ALL DIMENSIONS SHOWN ARE MINIMUM.
3. PAYMENT WILL BE BASED ON THE ACCOMPANYING TABLE.
4. TO BE FOUNDED ON SUITABLE SOIL.

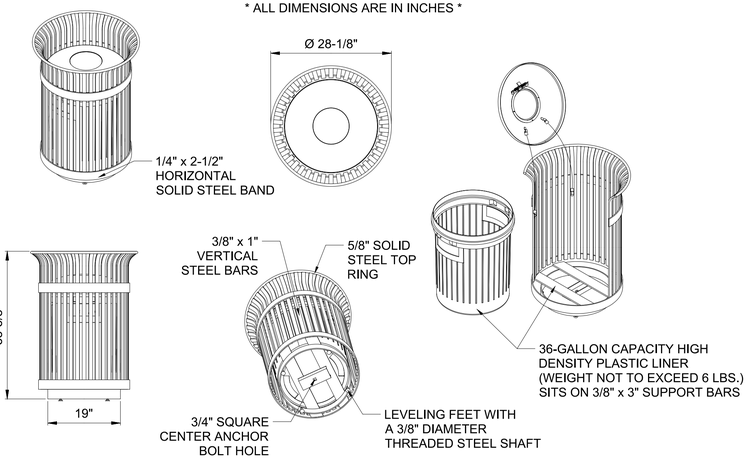
COPING TO BE GRANITE OF UNIFORM DEPTH FOR THE ENTIRE LENGTH. DEPTH OF CONCRETE TO BE 1/12 THE AVERAGE "H" WITHIN THE LIMITS SHOWN. DEPTH OF GRANITE TO BE AS SHOWN ON THE PLANS, 6" OR 9".



CEMENTED STONE MASONRY WALL

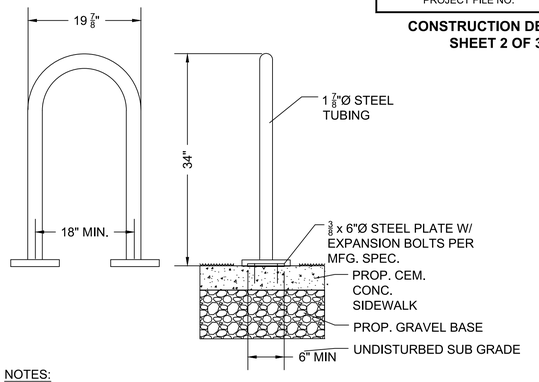
NOT TO SCALE

* ALL DIMENSIONS ARE IN INCHES *



TRASH RECEPTACLE

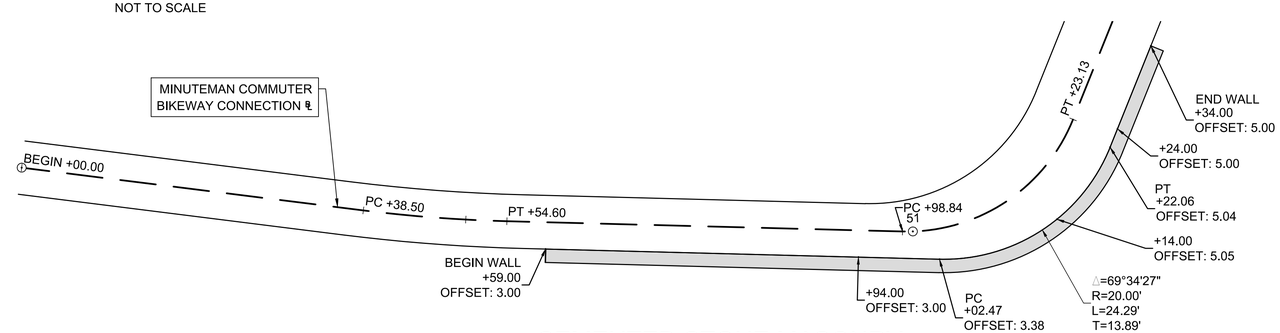
NOT TO SCALE



NOTES:
1. BIKE RACK SHALL BE SURFACE MOUNTED ON CONCRETE PAVEMENT. (SEE SPECIAL PROVISIONS)
2. COLOR SHALL BE BLACK

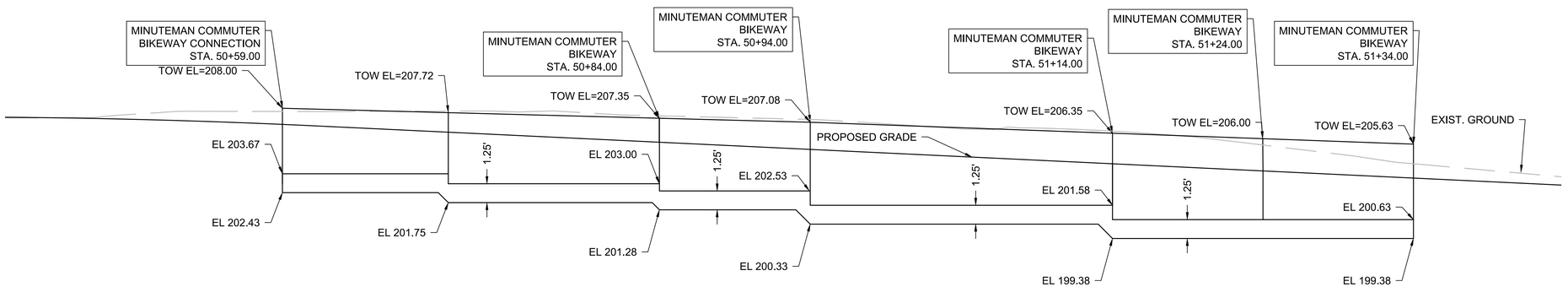
BIKE RACK

NOT TO SCALE



CEMENTED STONE MASONRY WALL - ALIGNMENT

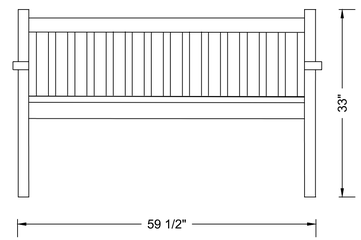
SCALE: 1"=8'

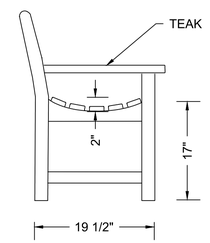


FOR CONSTRUCTION PLANS:
SEE SHEET 16

CEMENTED STONE MASONRY WALL PROFILE

SCALE: 1"=4'





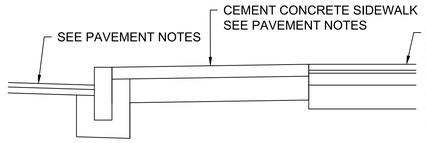
NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

PARK BENCH

NOT TO SCALE

607409_HD(DET).DWG Plotted on 23-Sep-2016 2:01 PM

607409_HDI(DET).DWG Plotted on 23-Sep-2016 2:01 PM

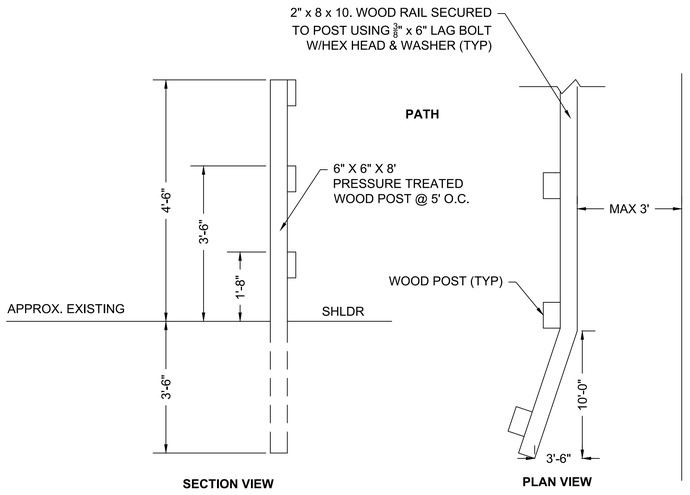


NOTES:

1. * JOINT TYPE SHALL MATCH THAT OF EXISTING (SAND OR MORTAR). SAND JOINTS SHALL BE SWEPT WITH POLYMERIC SAND. THE WIDTH OF THE JOINTS SHALL MATCH THE EXISTING JOINT WIDTH OF ADJACENT WALK OR DRIVE.
2. ** NEW FOUNDATION MATERIAL TO BE PLACED ONLY WHERE EXISTING SUBBASE MATERIAL FAILS TO MEET REQUIREMENTS M1.03.0 TYPE B AND AS REQUIRED BY THE ENGINEER.

BRICK WALK DETAIL
NOT TO SCALE

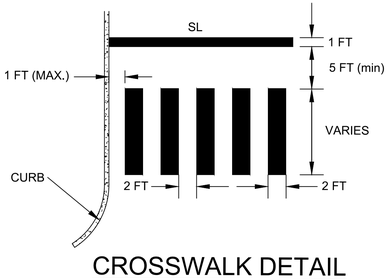
TYPICAL PARKING STALL LAYOUT DETAIL
NOT TO SCALE



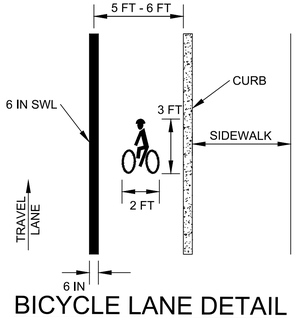
NOTES:

1. THE FACE OF RAIL SHALL BE SET OFF THE EDGE OF WALK, AS SHOWN ON THE PLANS, AND AS REQUIRED BY THE ENGINEER.
2. LAG BOLTS SHALL BE GALVANIZED AND SHALL HAVE 2" OF THREAD (MIN.)
3. WASHERS SHALL BE 1" DIA. CUT STEEL, GALVANIZED.
4. BURIED SECTIONS OF POSTS TO BE BURIED SHALL BE TREATED WITH A WOOD PRESERVATIVE AS APPROVED BY THE ENGINEER.
5. WOOD DIMENSIONS ARE NOMINAL TO MATCH COMMON INDUSTRY SIZES.

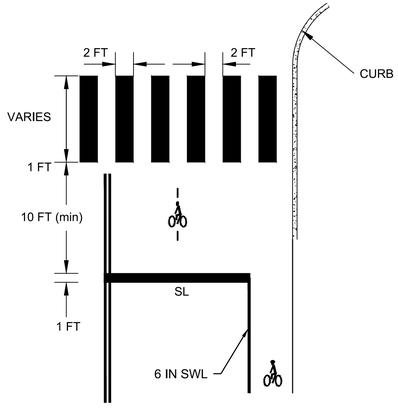
TIMBER RAIL FENCE
NOT TO SCALE



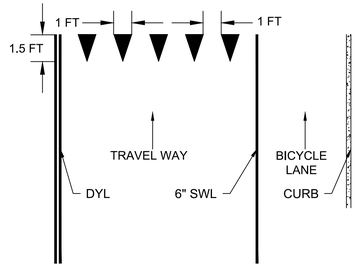
CROSSWALK DETAIL
NOT TO SCALE



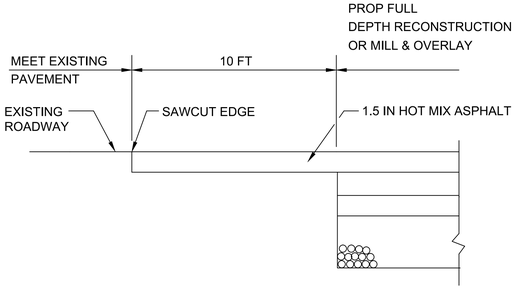
BICYCLE LANE DETAIL
NOT TO SCALE



BICYCLE BOX DETAIL
NOT TO SCALE



YIELD LINE LAYOUT DETAIL
NOT TO SCALE



PAVEMENT TRANSTION (LONGITUDINAL SECTION)
NOT TO SCALE

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

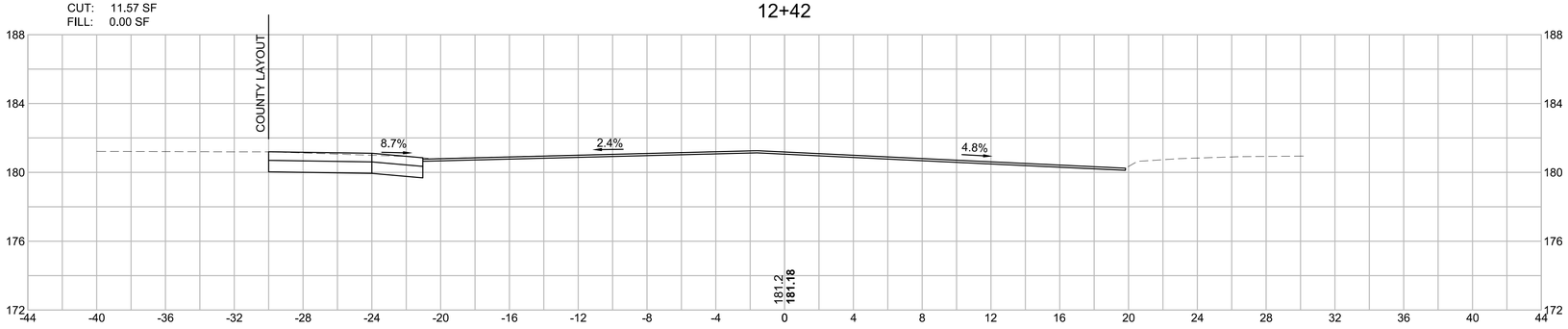
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	75	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD\XS\.DWG Plotted on 19-Apr-2016 5:07 PM

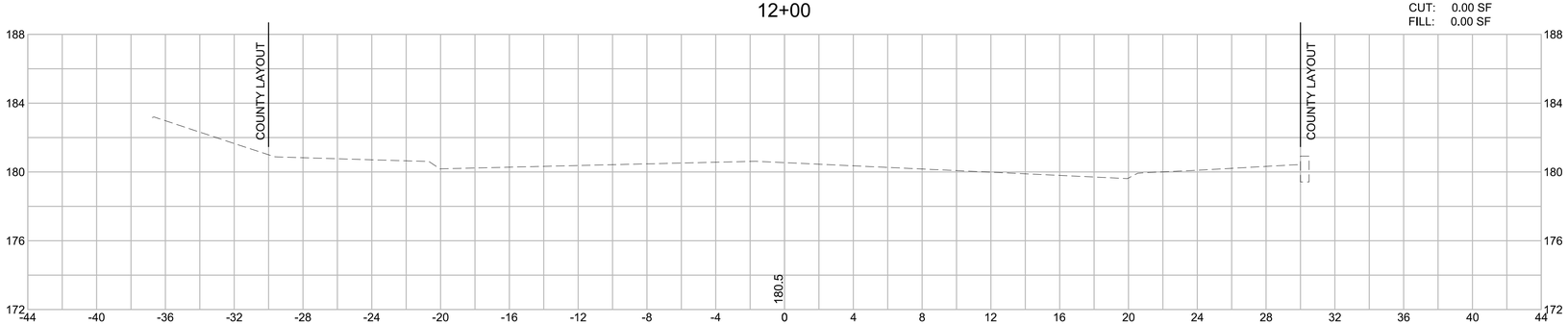
12+42

CUT: 11.57 SF
FILL: 0.00 SF



12+00

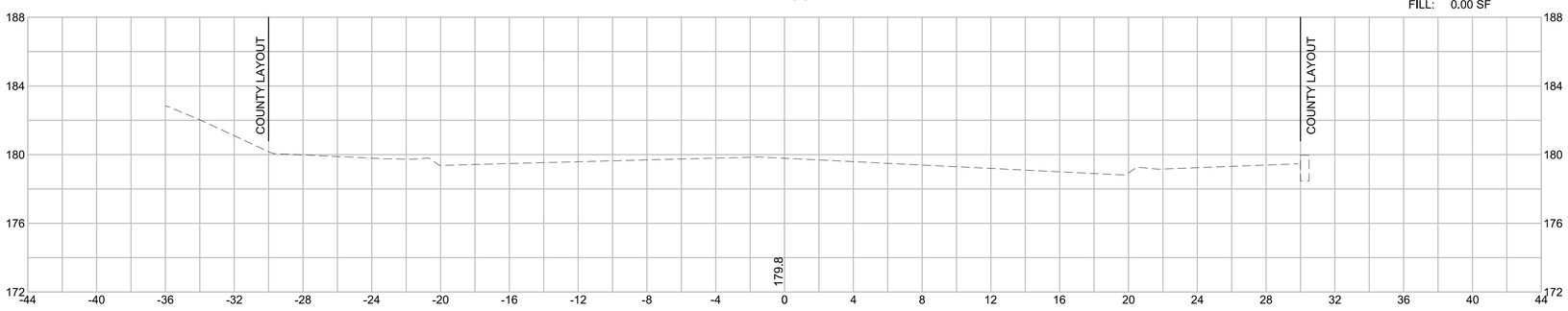
CUT: 0.00 SF
FILL: 0.00 SF



UP #W5 (RET)
STA. 11+50.04
OFFSET: 21.71FT

11+50

CUT: 0.00 SF
FILL: 0.00 SF



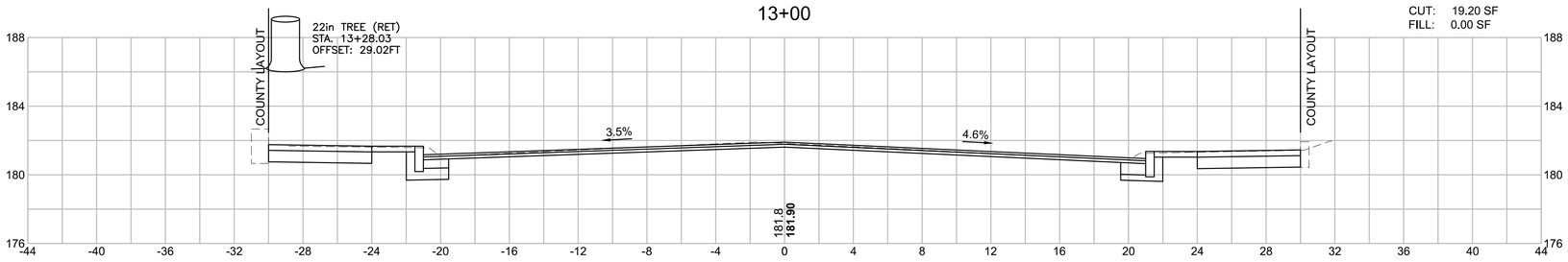
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

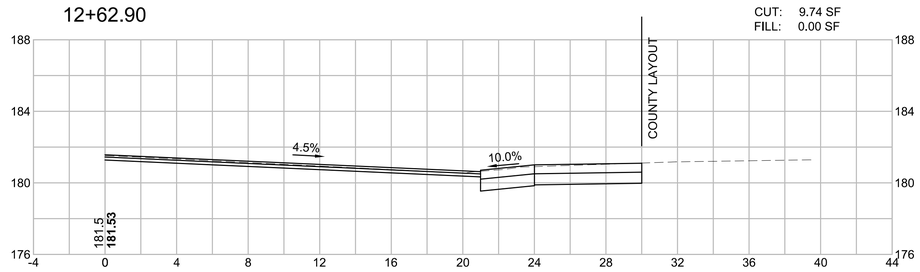
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

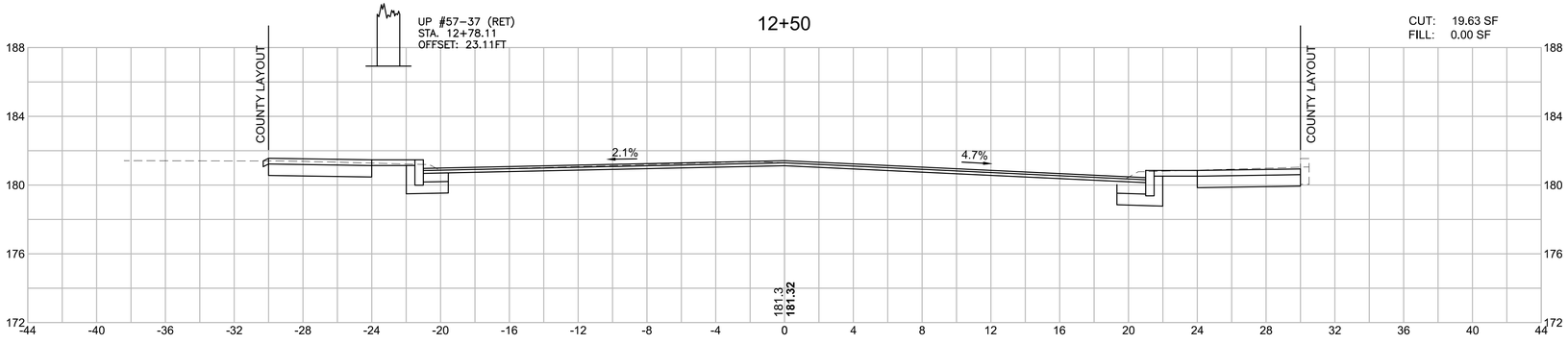
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	76	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD\XS\.DWG Plotted on 19-Apr-2016 5:07 PM







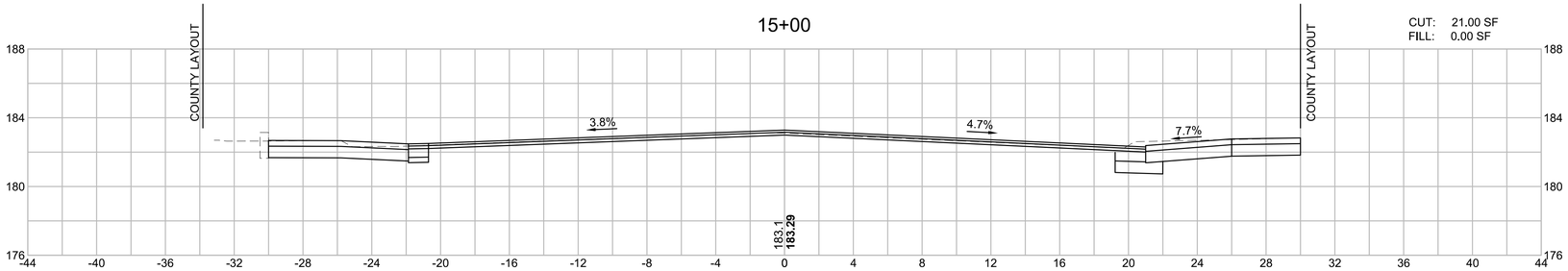
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

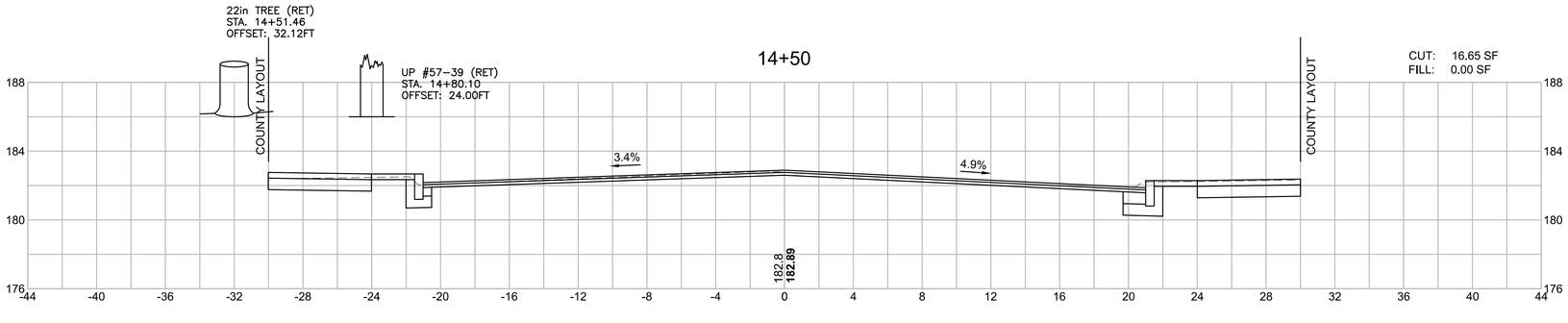
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

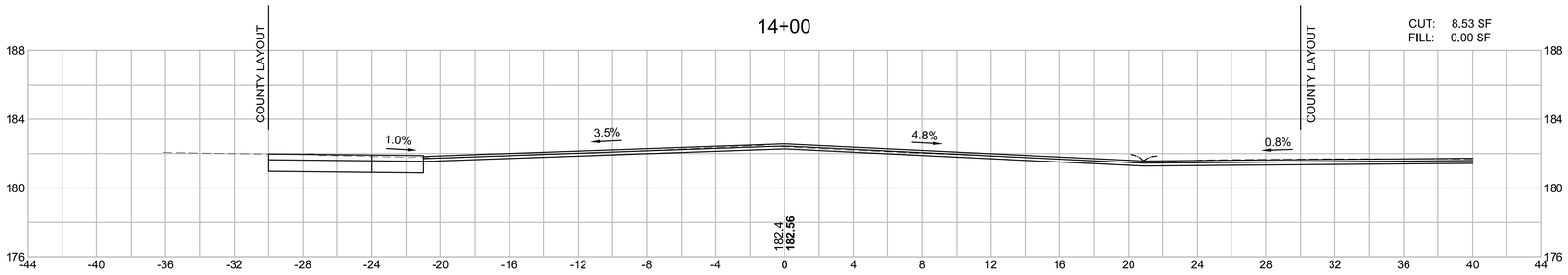
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	77	126
PROJECT FILE NO.	607409		

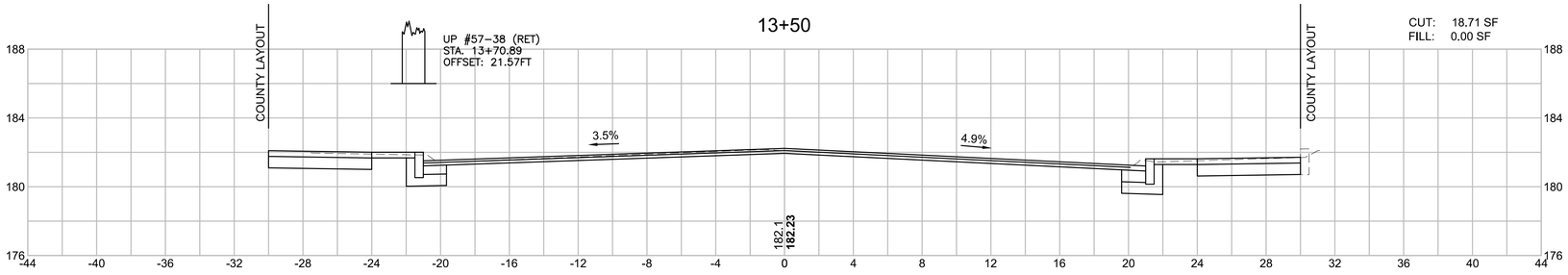
CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM









HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

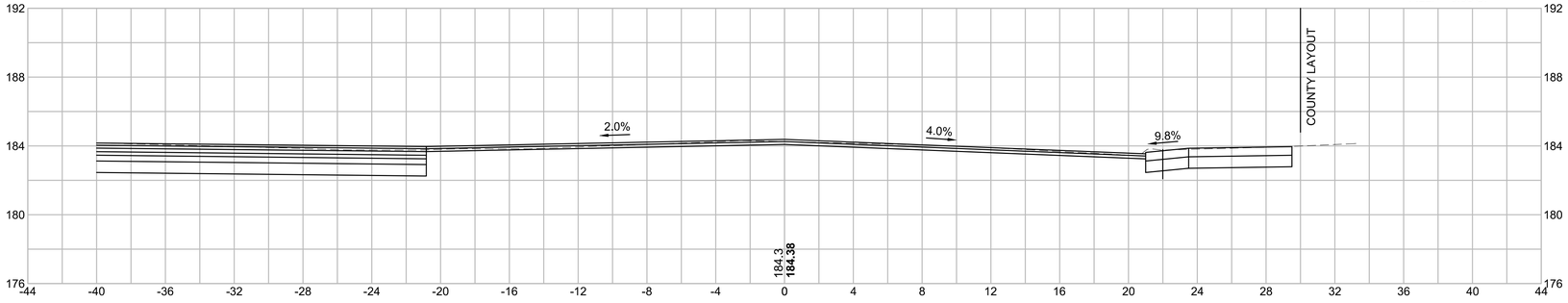
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	78	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM

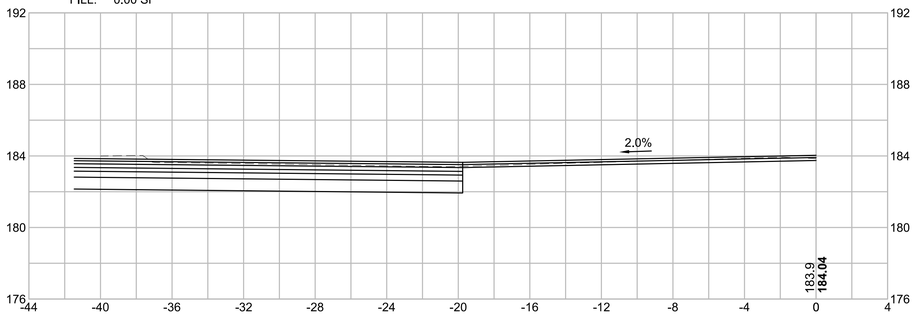
16+00

CUT: 9.82 SF
FILL: 0.00 SF



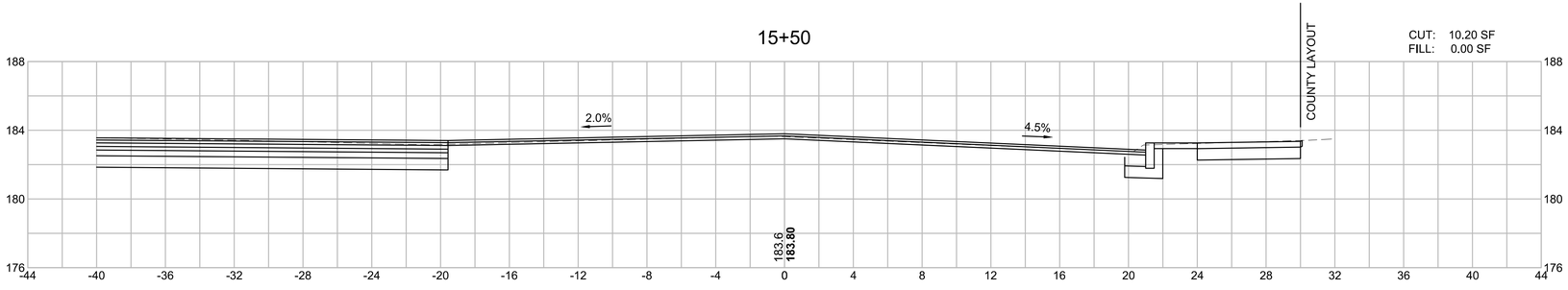
15+70.77

CUT: 0.00 SF
FILL: 0.00 SF



15+50

CUT: 10.20 SF
FILL: 0.00 SF



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

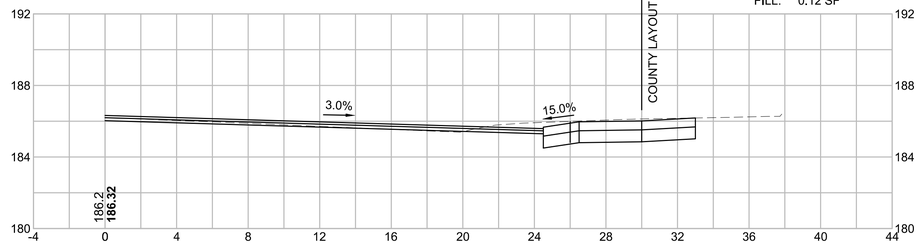
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	79	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM

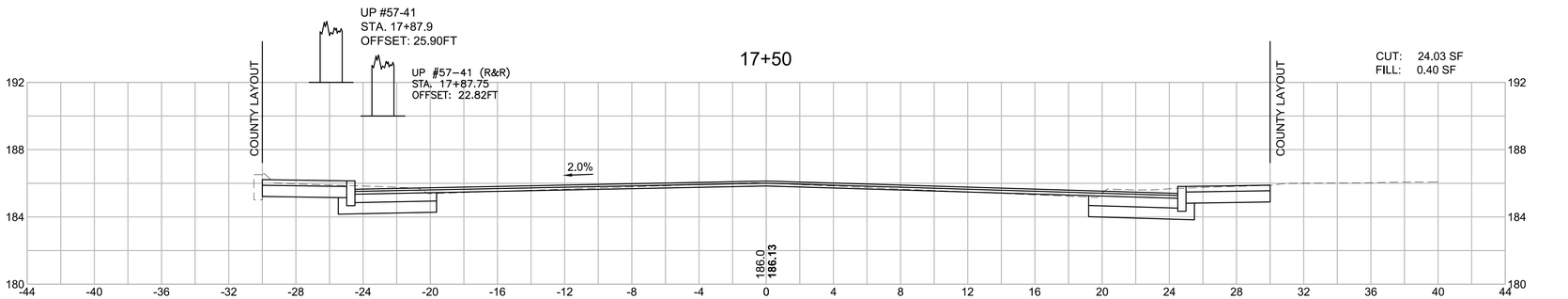
17+66.27

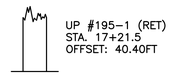
CUT: 6.57 SF
FILL: 0.12 SF



17+50

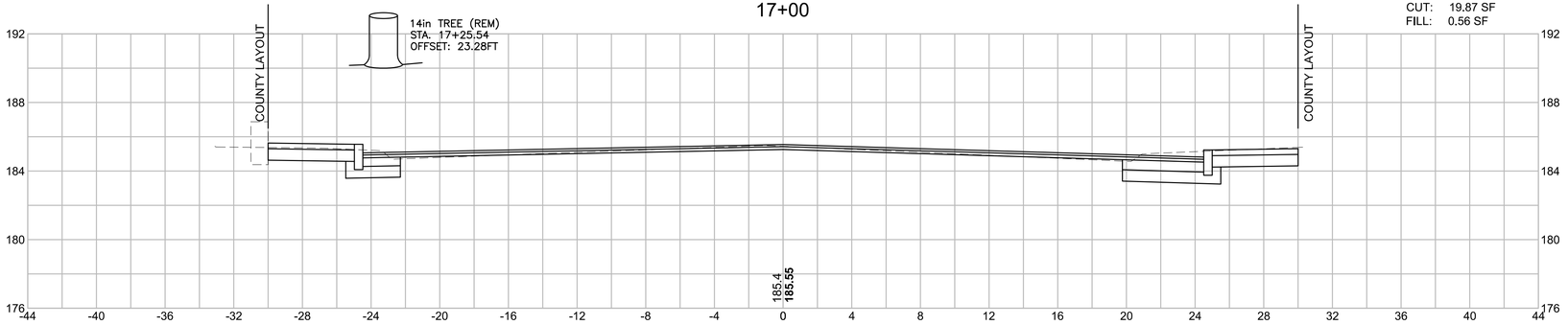
CUT: 24.03 SF
FILL: 0.40 SF





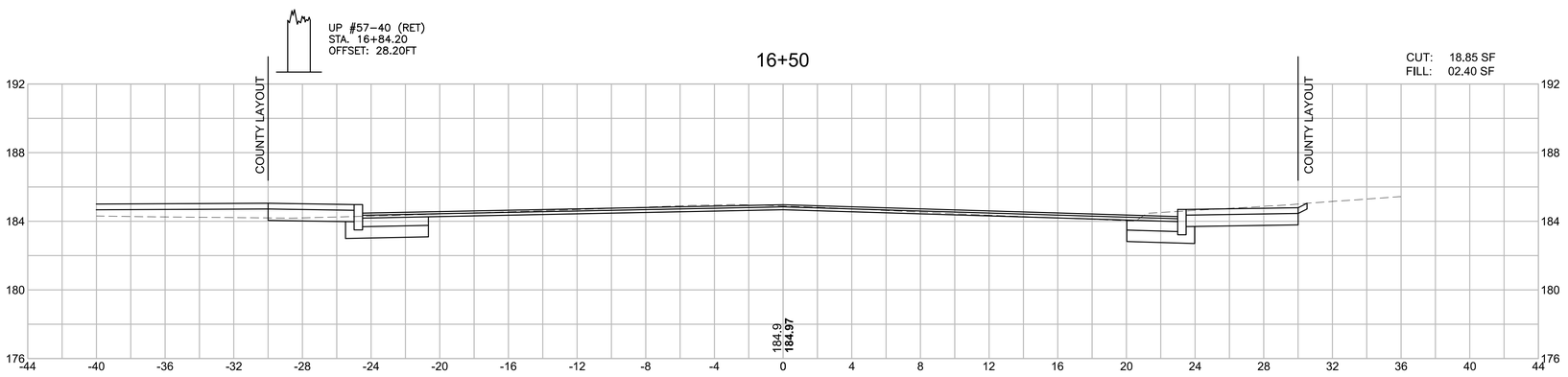
17+00

CUT: 19.87 SF
FILL: 0.56 SF



16+50

CUT: 18.85 SF
FILL: 02.40 SF



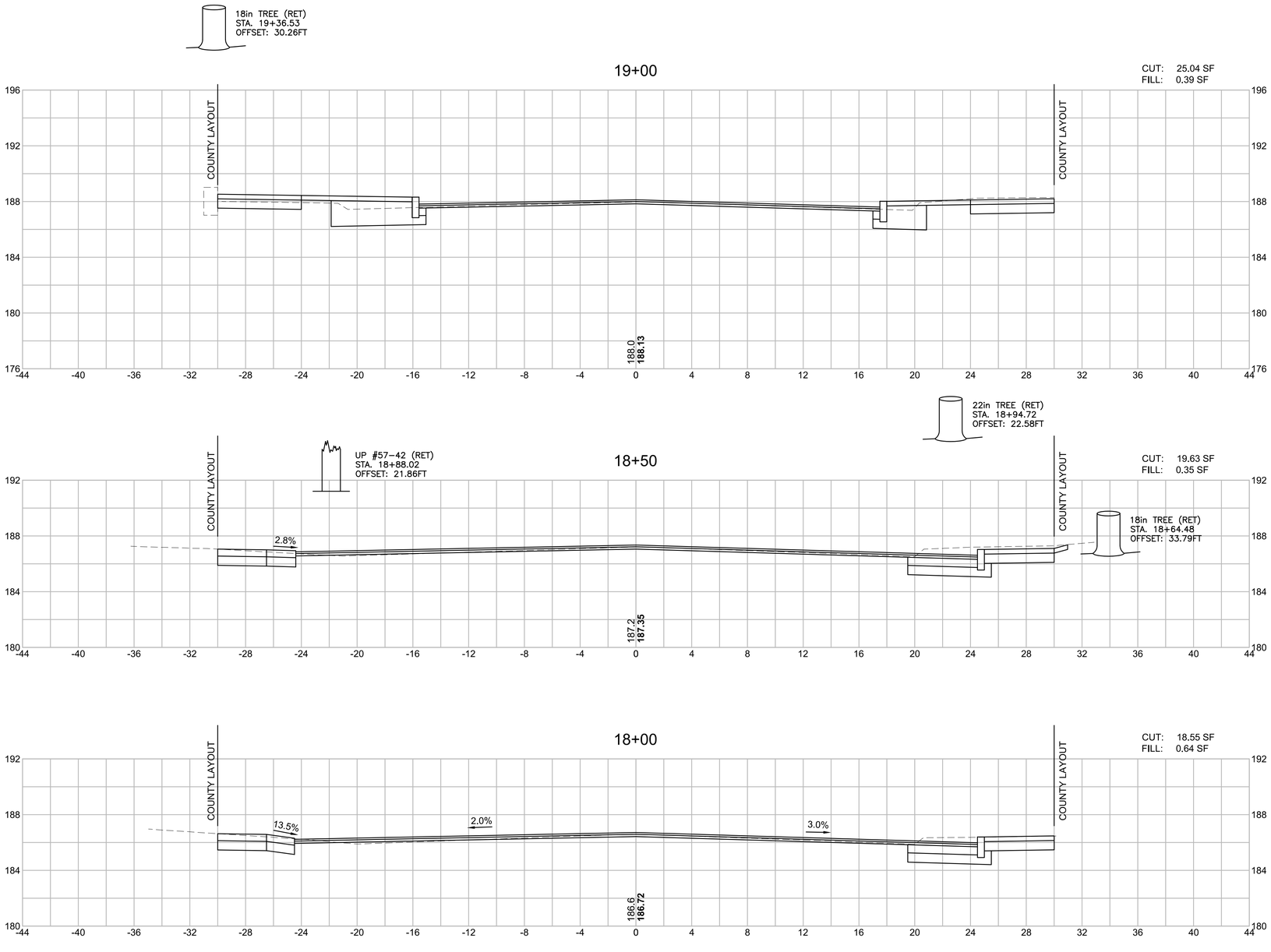
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	80	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD\XS\.DWG Plotted on 19-Apr-2016 5:07 PM



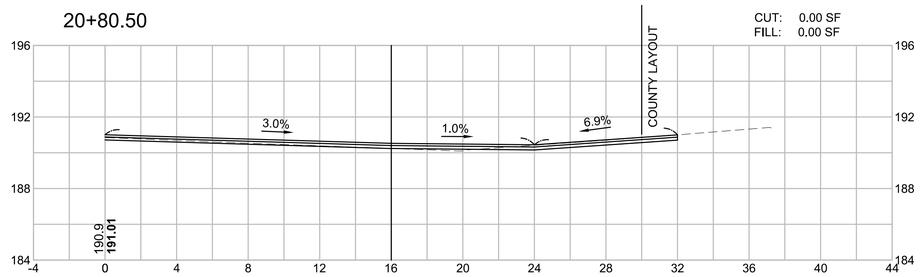
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

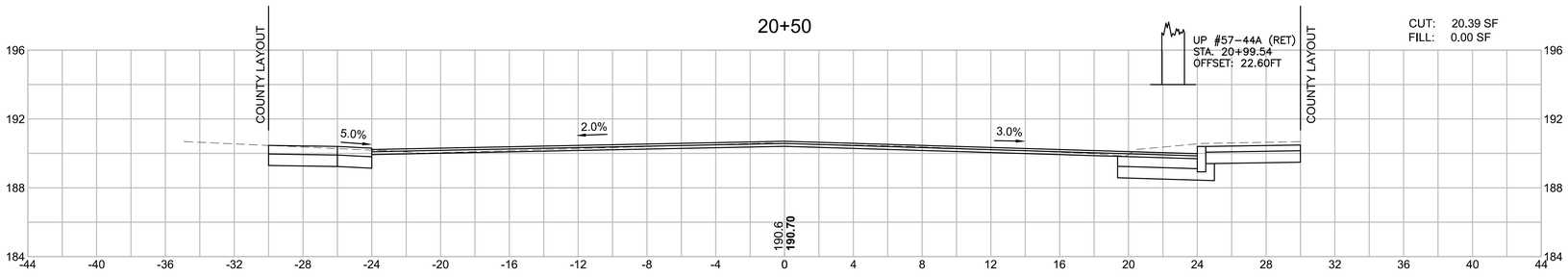
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

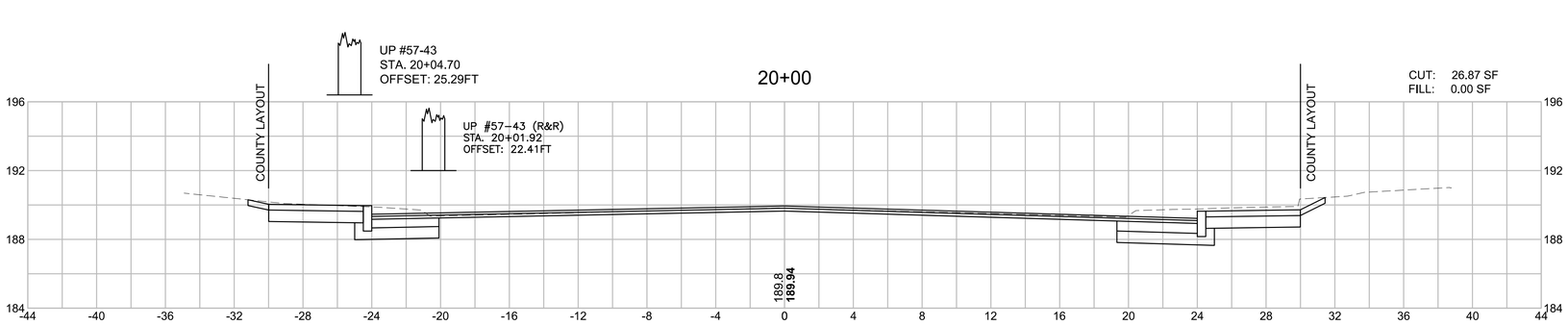
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	81	126
PROJECT FILE NO.	607409		

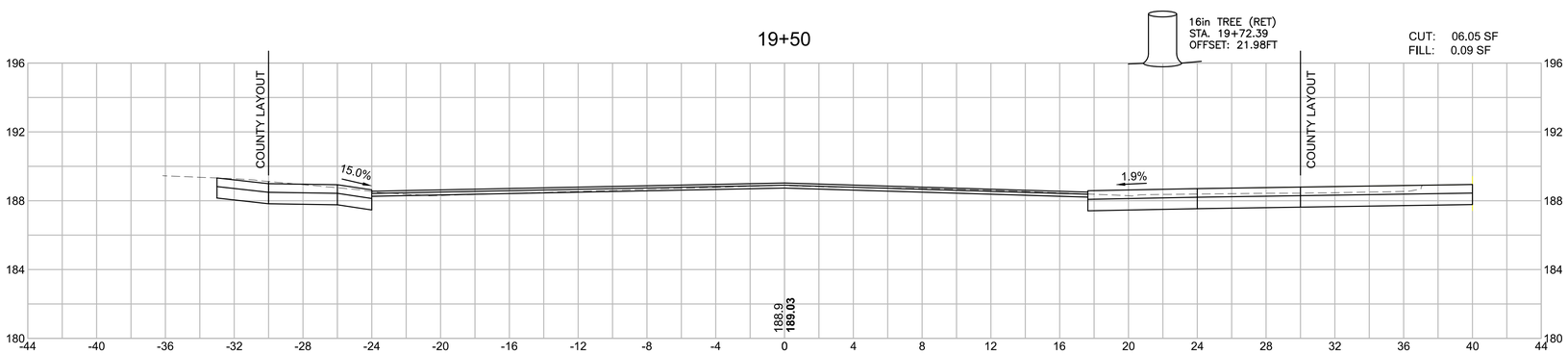
CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM









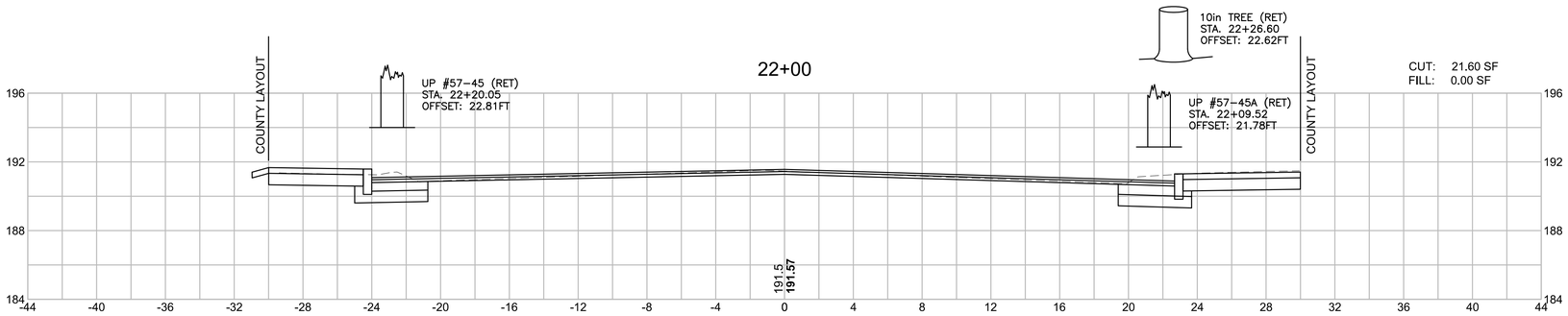
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

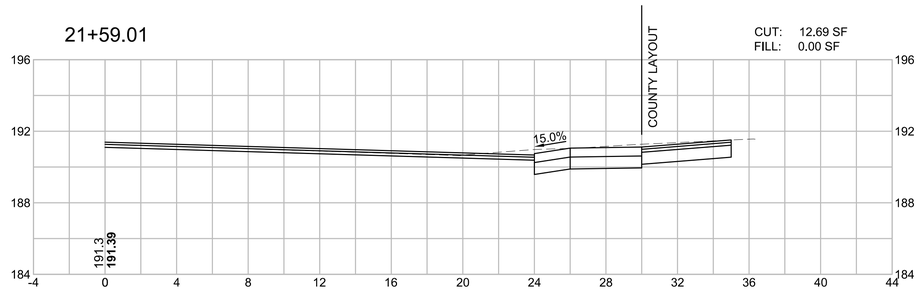
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

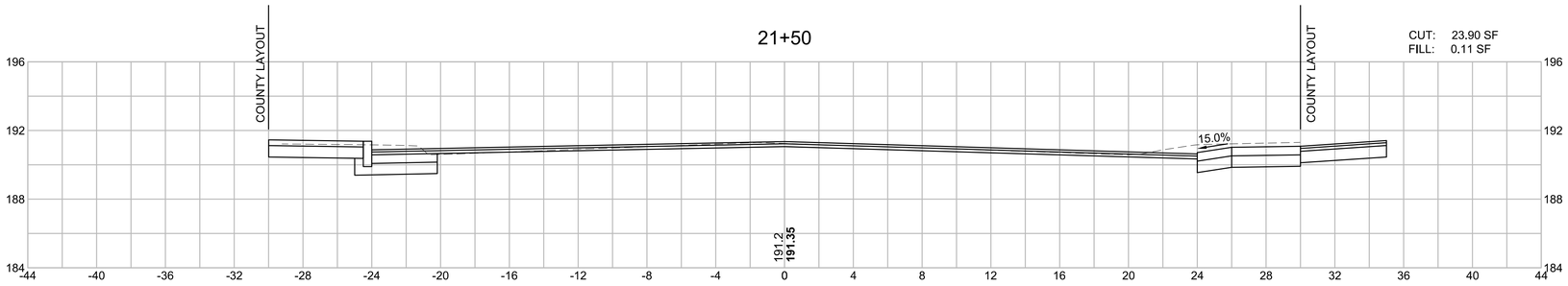
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	82	126
PROJECT FILE NO.	607409		

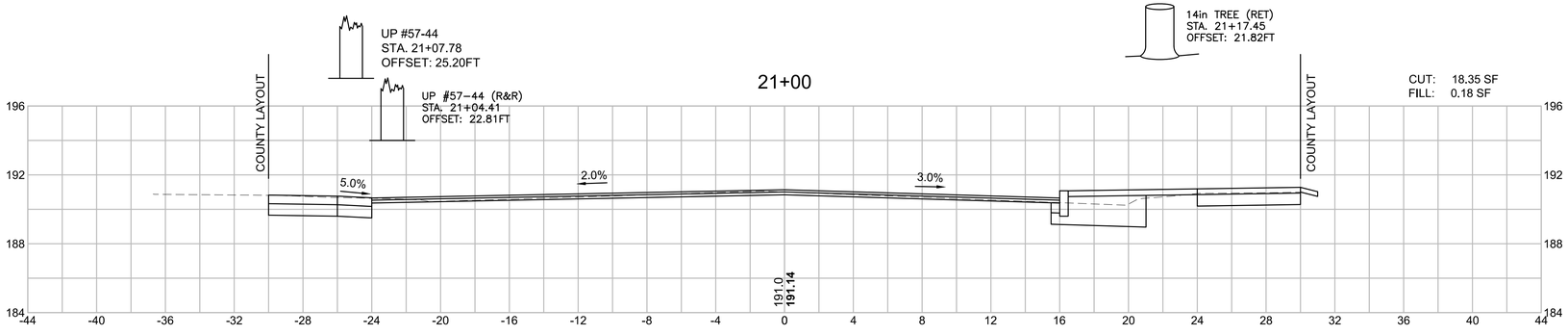
CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM









HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	83	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM

XXin TREE (RET)
STA. 23+05.69
OFFSET: 40.73FT

XXin TREE (RET)
STA. 23+04.27
OFFSET: 35.19FT

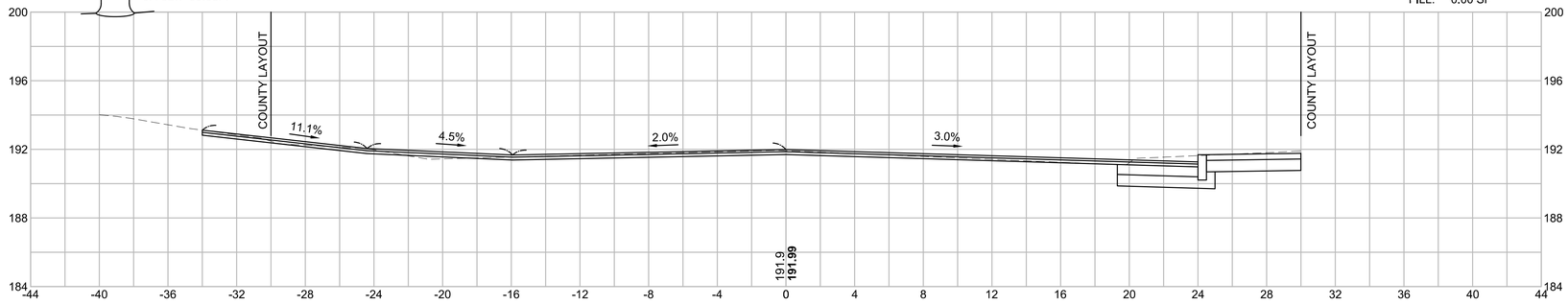
XXin TREE (RET)
STA. 23+04.14
OFFSET: 40.50FT

UP #57-46 (RET)
STA. 23+30.75
OFFSET: 22.93FT

XXin TREE (RET)
STA. 23+0.81
OFFSET: 39.08FT

23+00

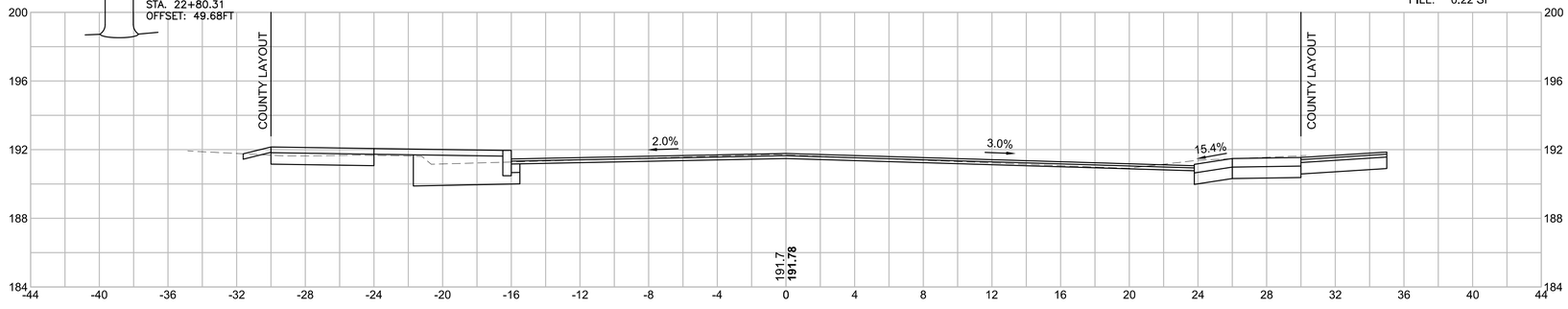
CUT: 13.06 SF
FILL: 0.00 SF



14in TREE (RET)
STA. 22+80.31
OFFSET: 49.68FT

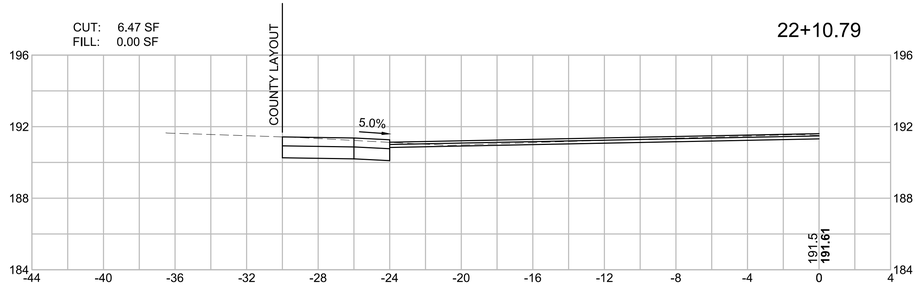
22+50

CUT: 24.31 SF
FILL: 0.22 SF



22+10.79

CUT: 6.47 SF
FILL: 0.00 SF



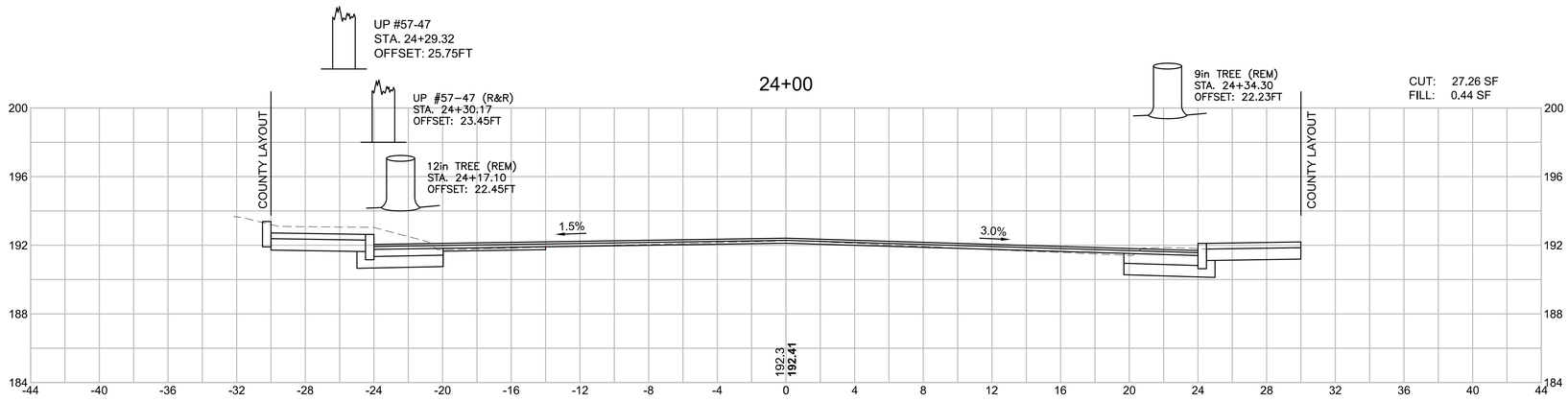
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

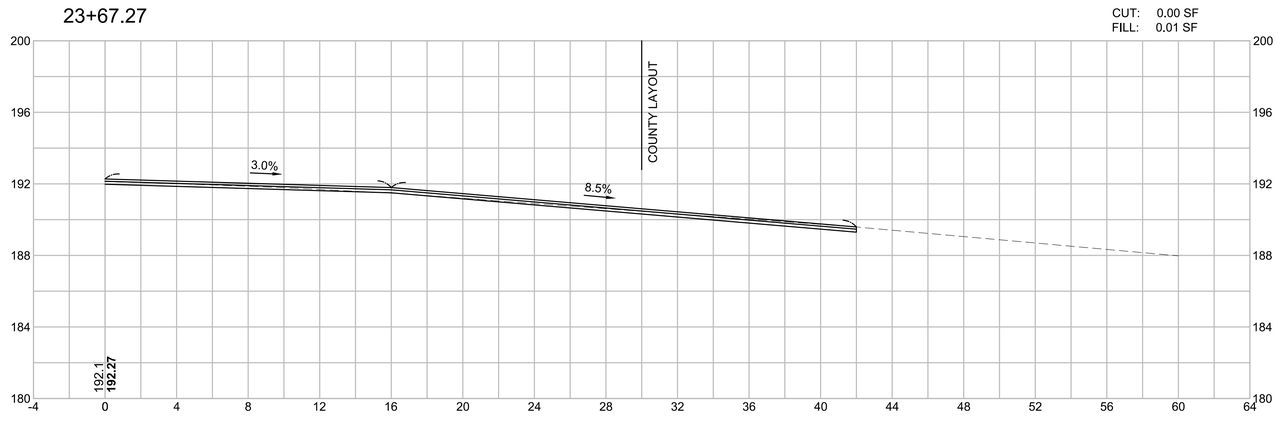
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

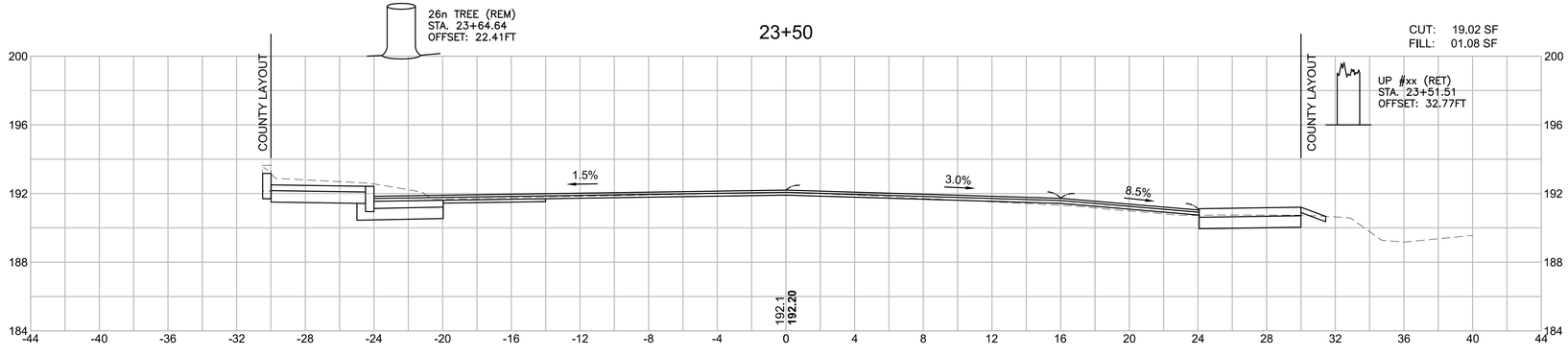
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	84	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM







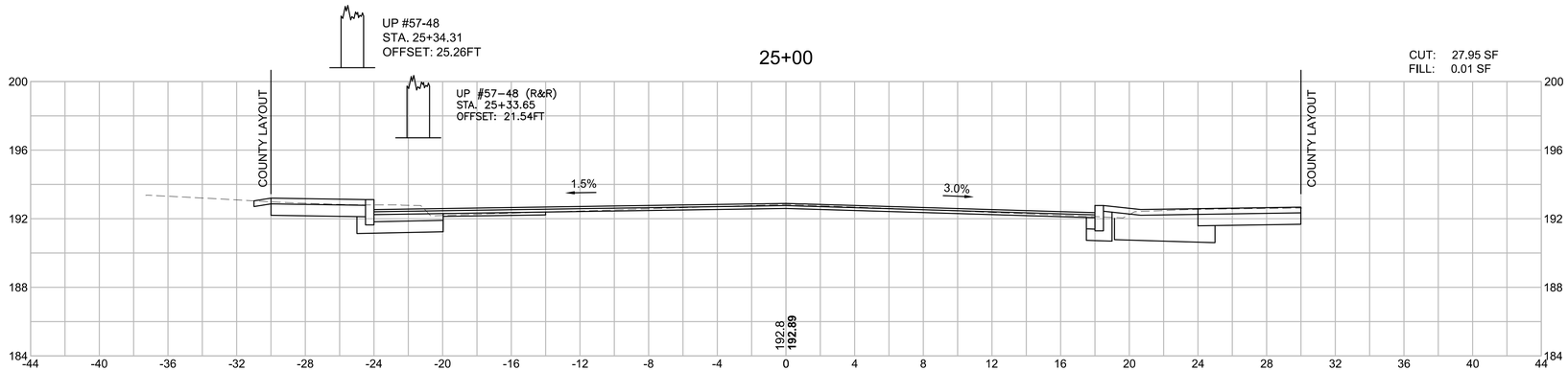
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

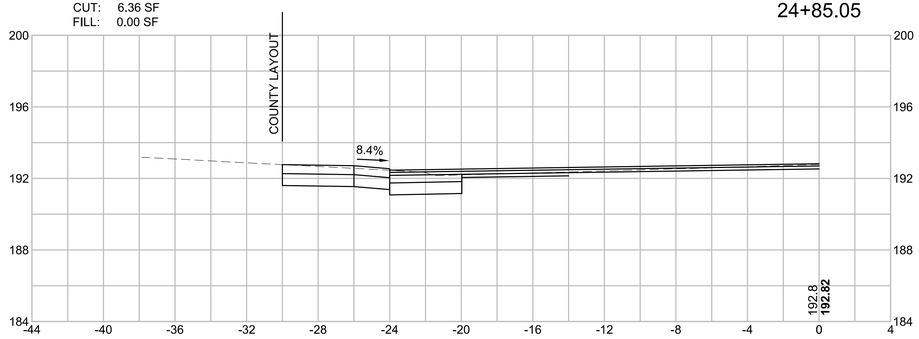
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

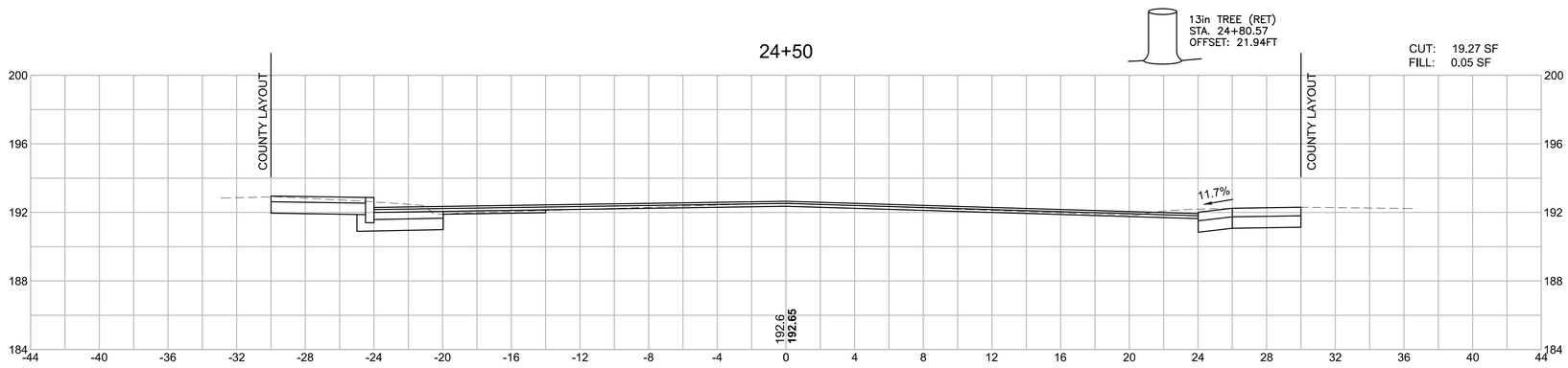
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	85	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM







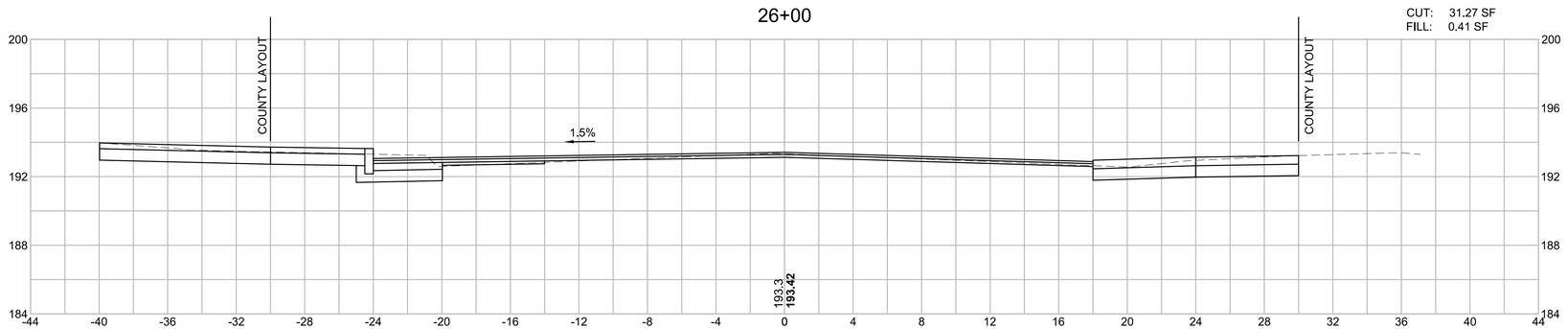
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

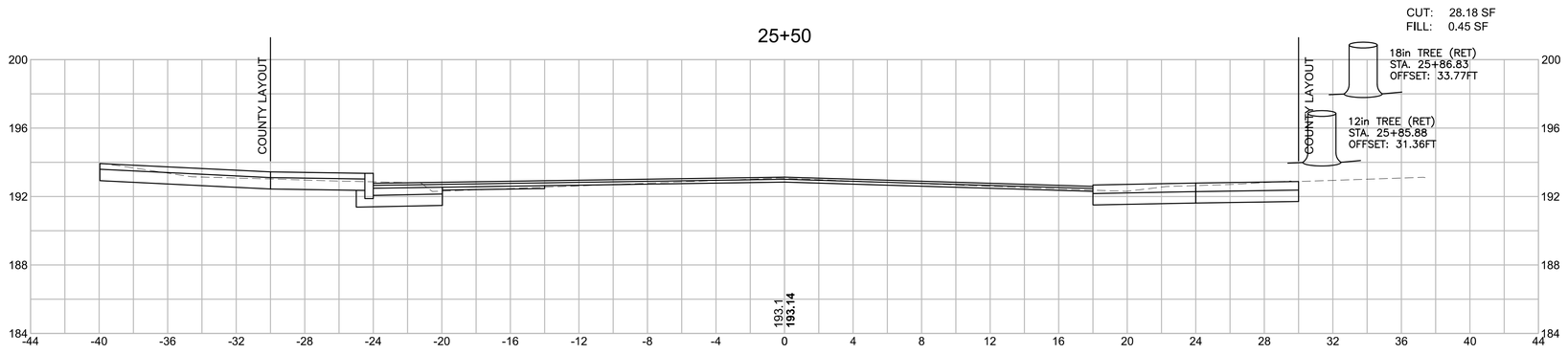
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

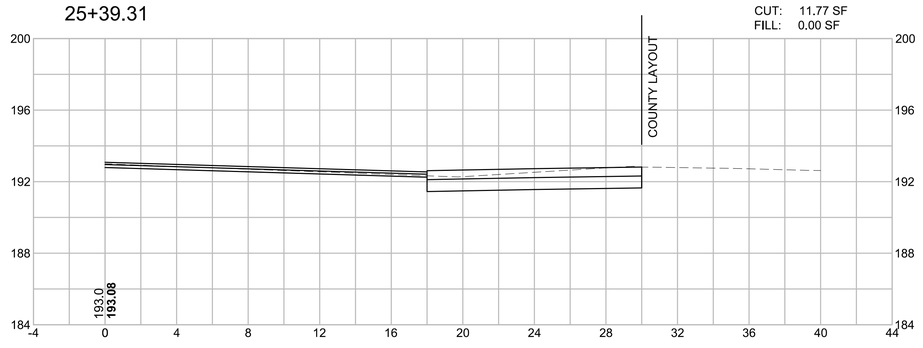
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	86	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD\XS\.DWG Plotted on 19-Apr-2016 5:07 PM







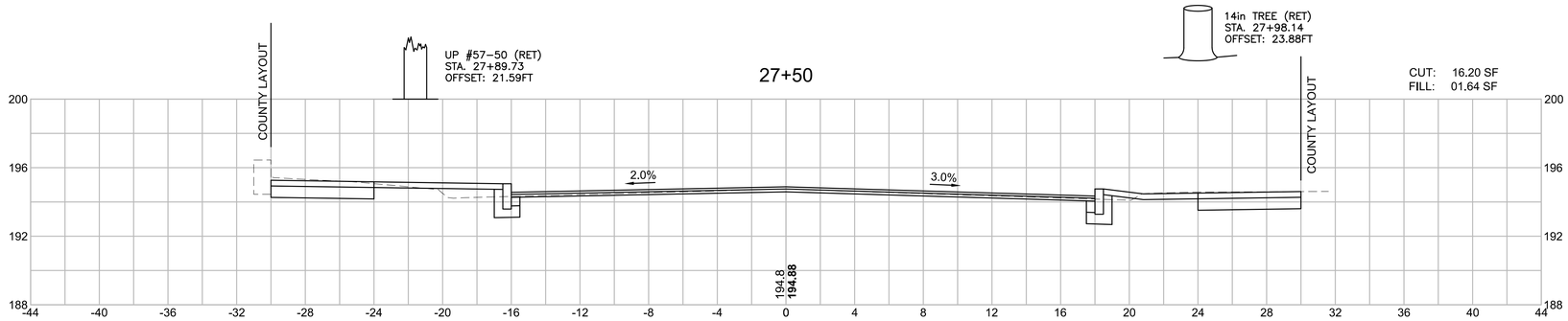
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

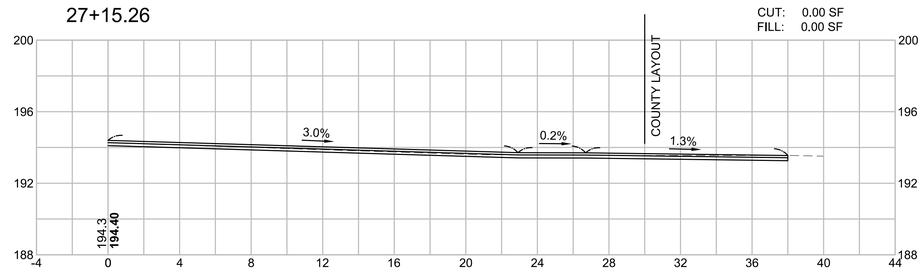
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

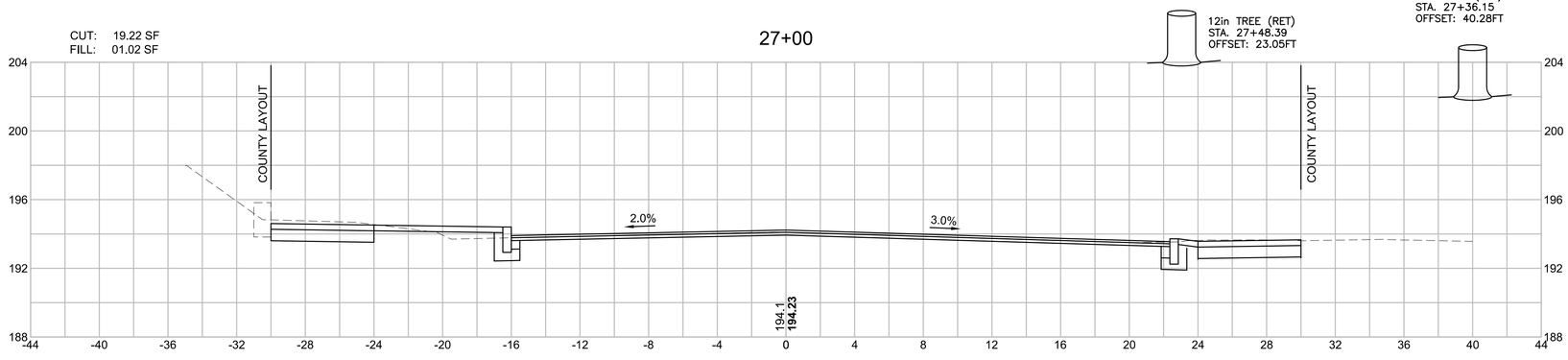
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	87	126
PROJECT FILE NO.	607409		

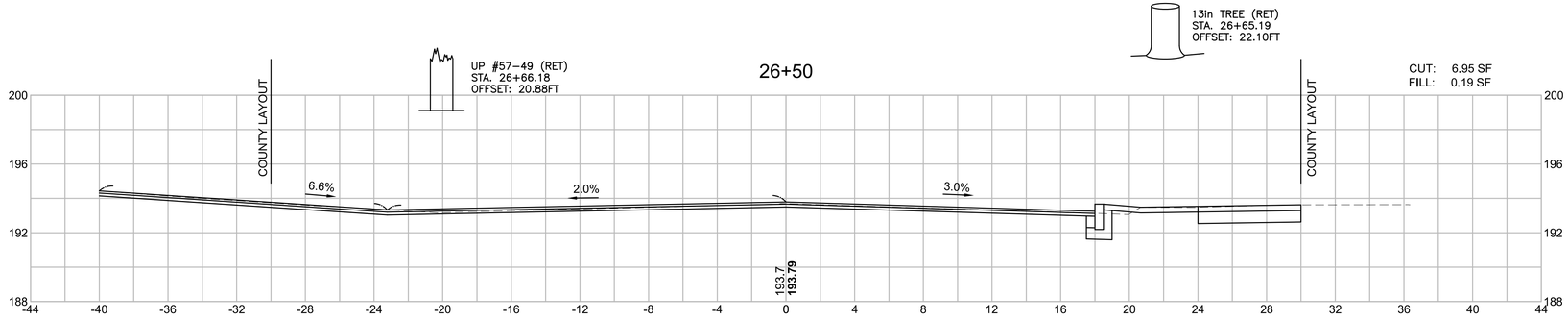
CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM









HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

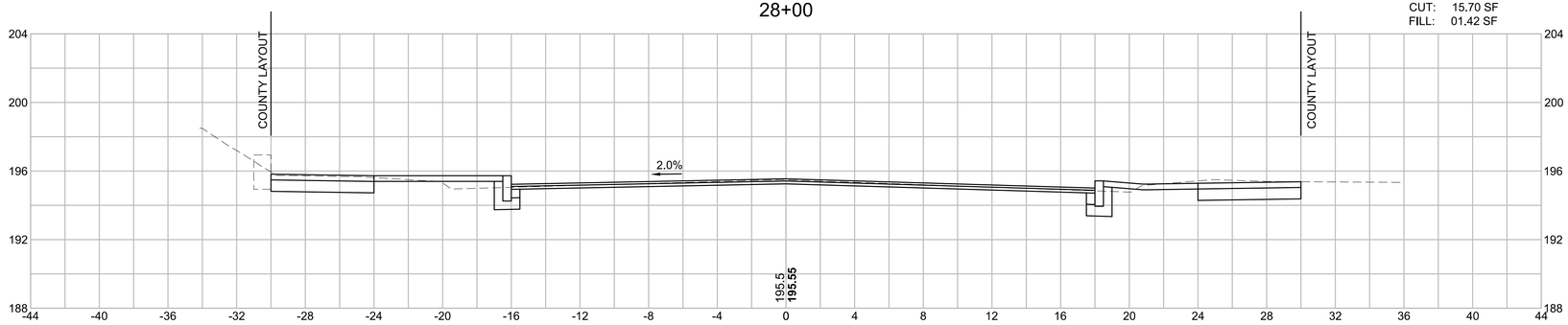
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	88	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM

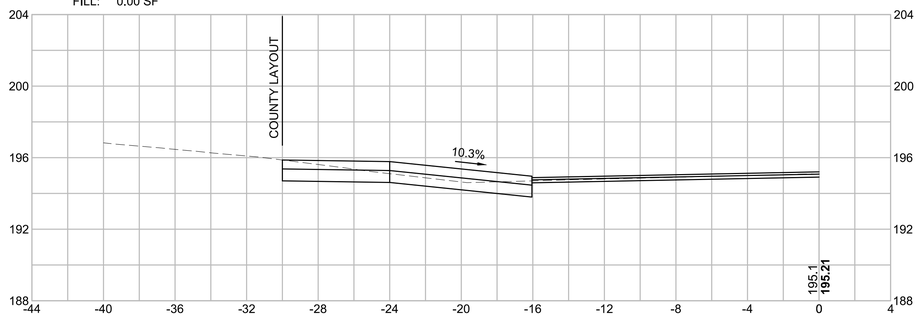
28+00

CUT: 15.70 SF
FILL: 01.42 SF



27+72.90

CUT: 9.40 SF
FILL: 0.00 SF



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

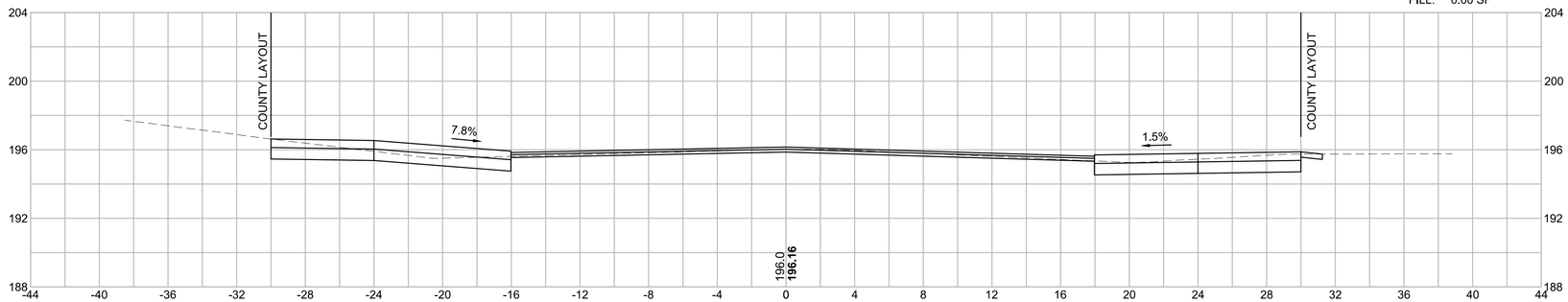
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	89	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM

28+66.14

CUT: 20.06 SF
FILL: 0.00 SF

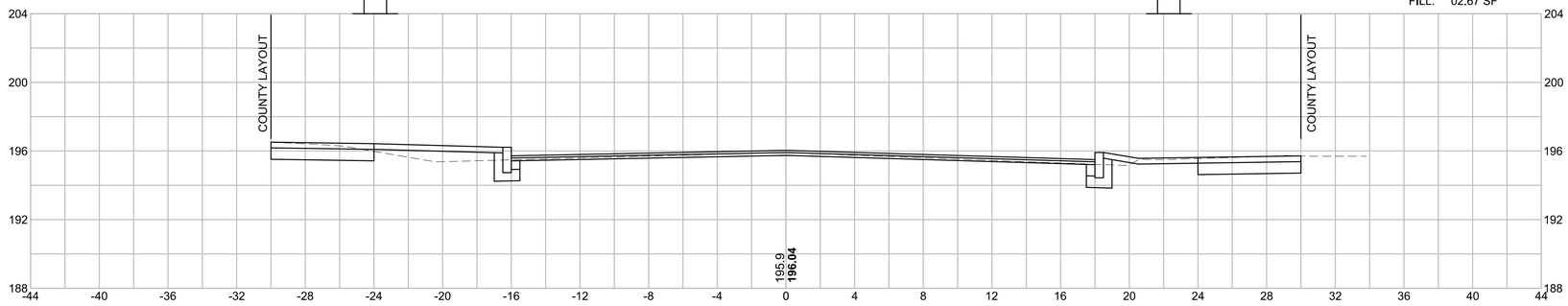


28+50

UP #57-51 (RET)
STA. 28+80.79
OFFSET: 23.92FT

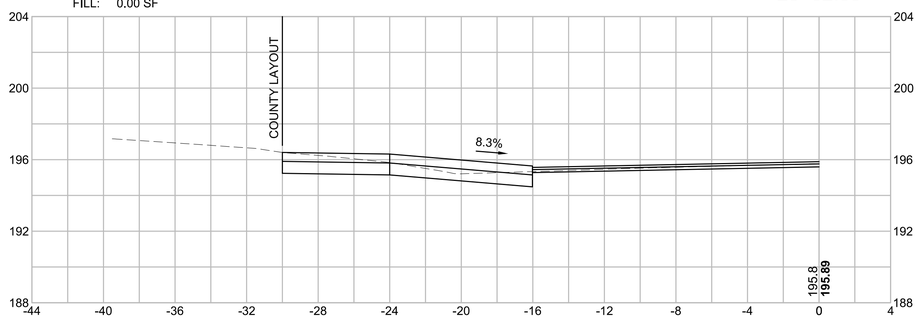
UP #57-51A (RET)
STA. 28+81.60
OFFSET: 22.30FT

CUT: 17.26 SF
FILL: 02.67 SF



28+32.88

CUT: 10.27 SF
FILL: 0.00 SF



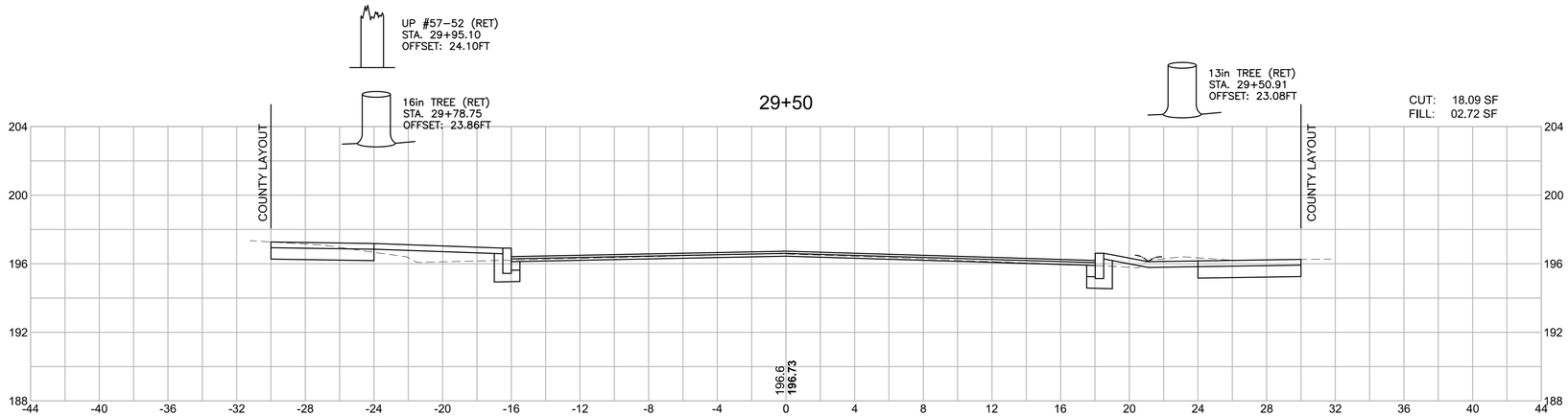
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

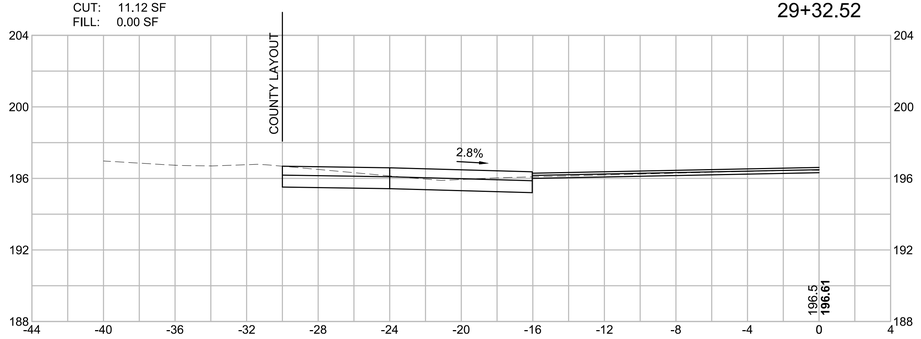
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

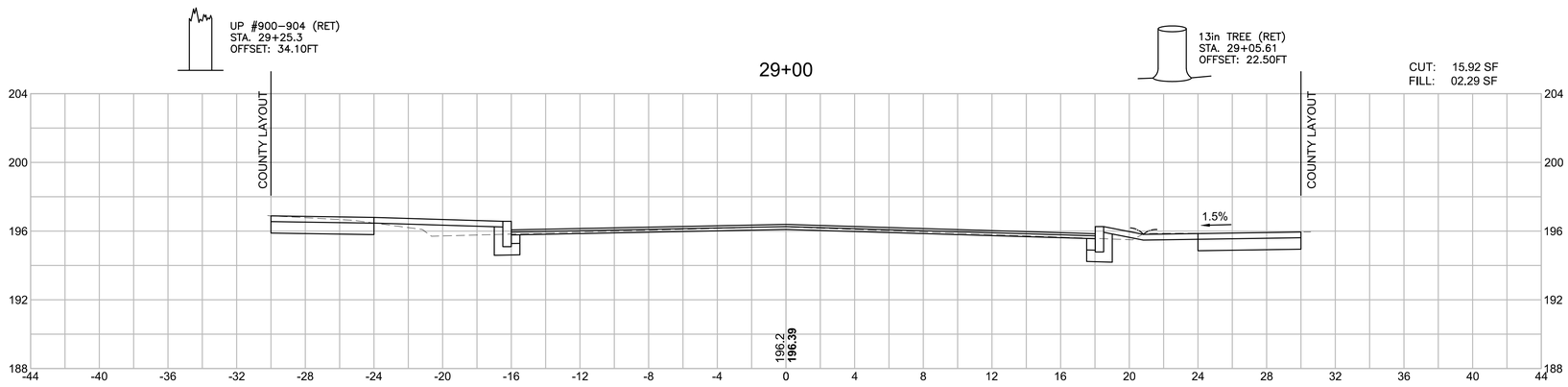
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	90	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM







HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

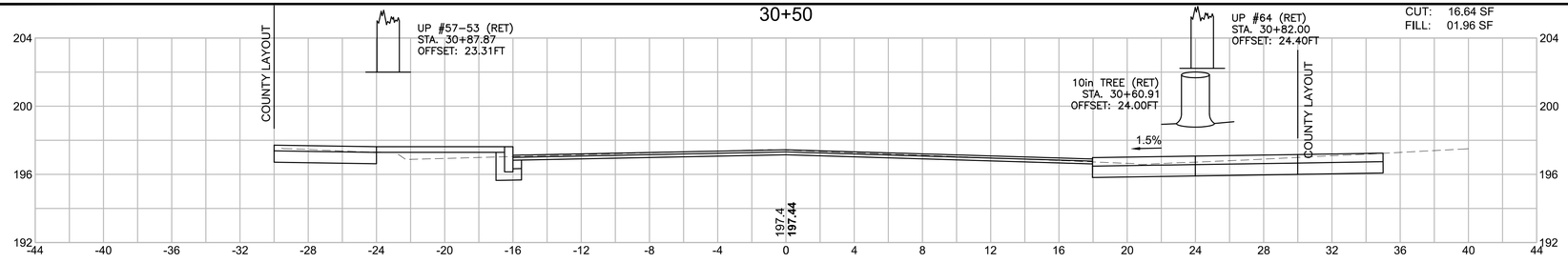
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	91	126
PROJECT FILE NO.	607409		

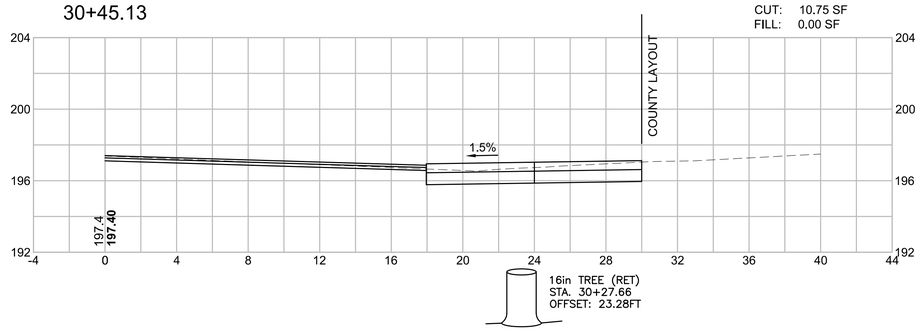
CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM

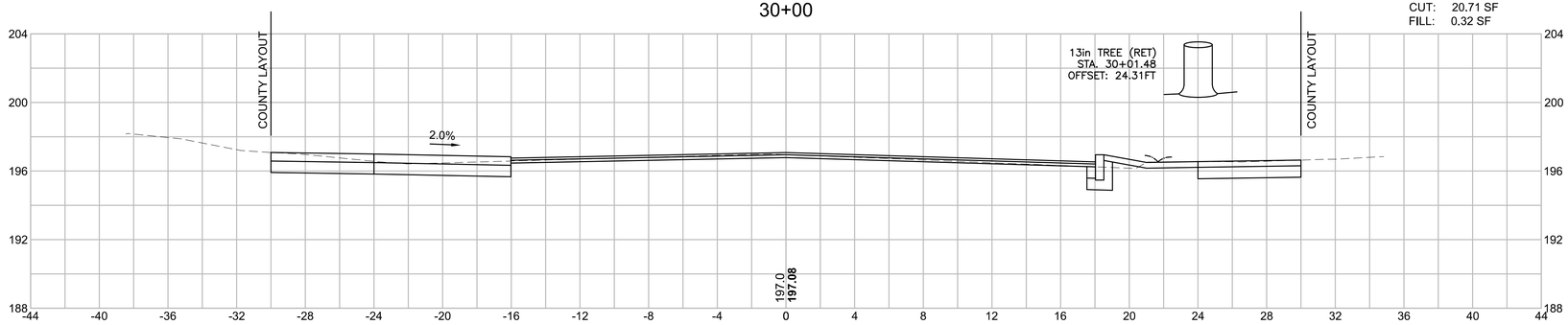
30+50



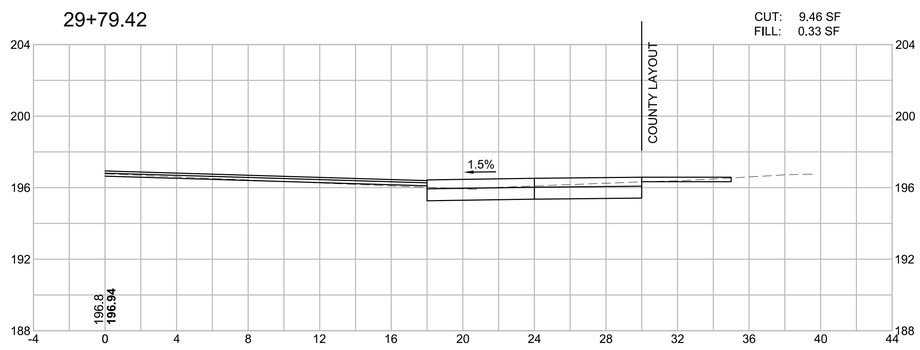
30+45.13



30+00



29+79.42



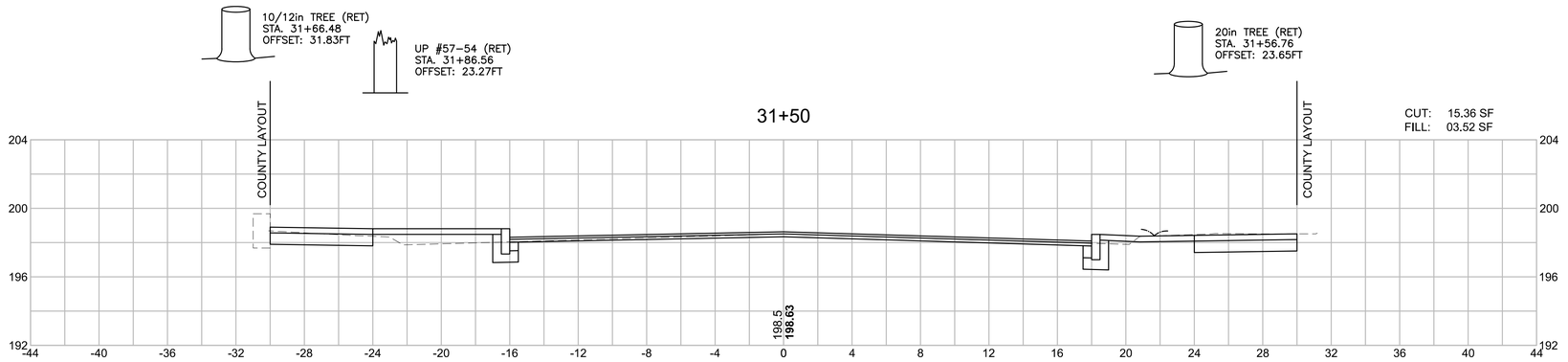
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

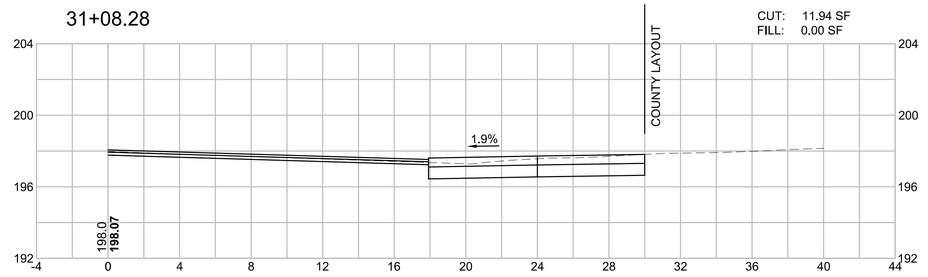
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

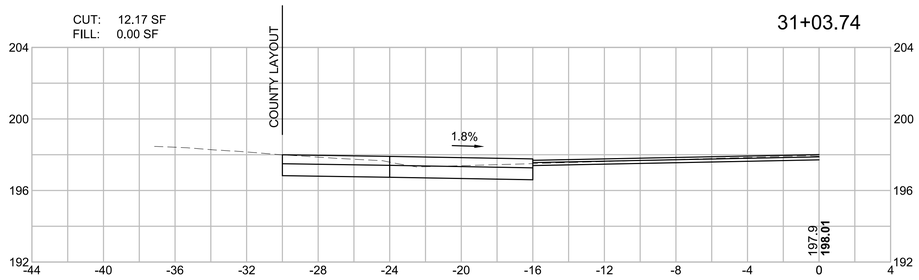
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	92	126
PROJECT FILE NO.	607409		

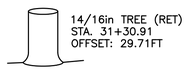
CROSS SECTIONS
MASSACHUSETTS AVENUE

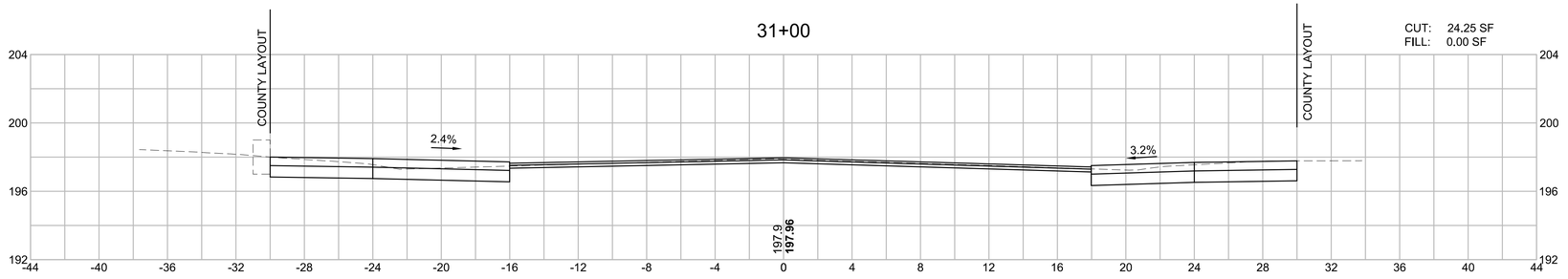
607409_HD\XS\.DWG Plotted on 19-Apr-2016 5:07 PM









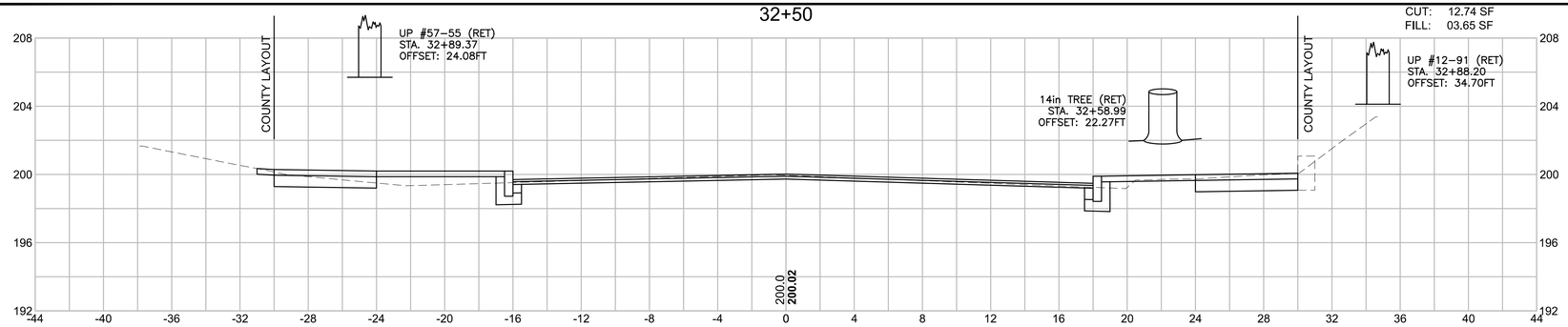


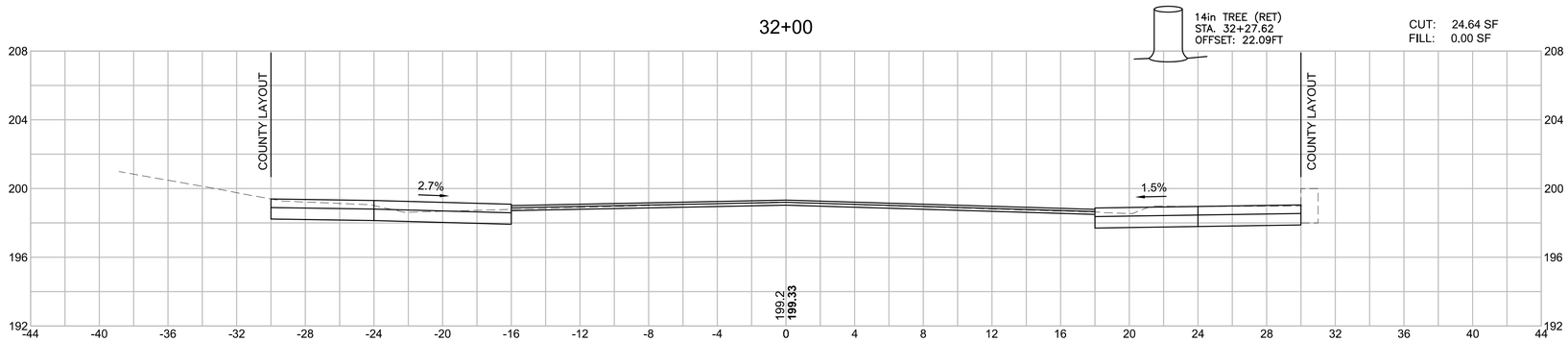
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

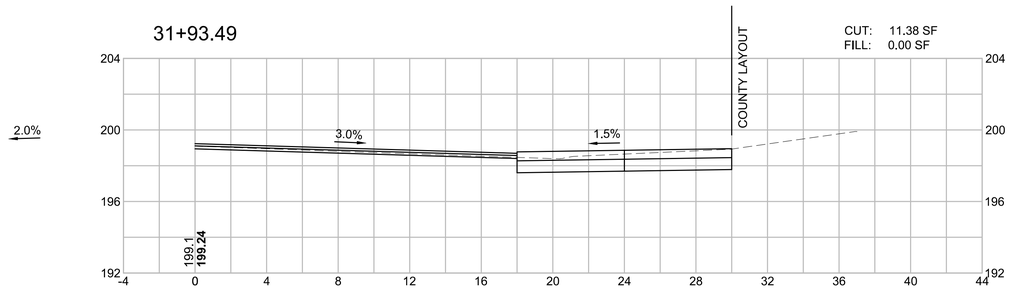
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

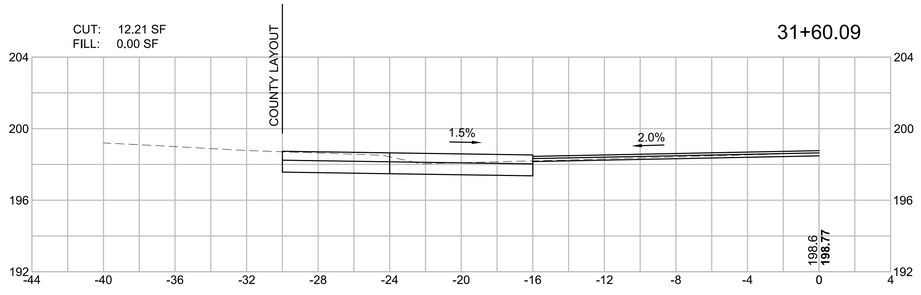
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	93	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE









HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

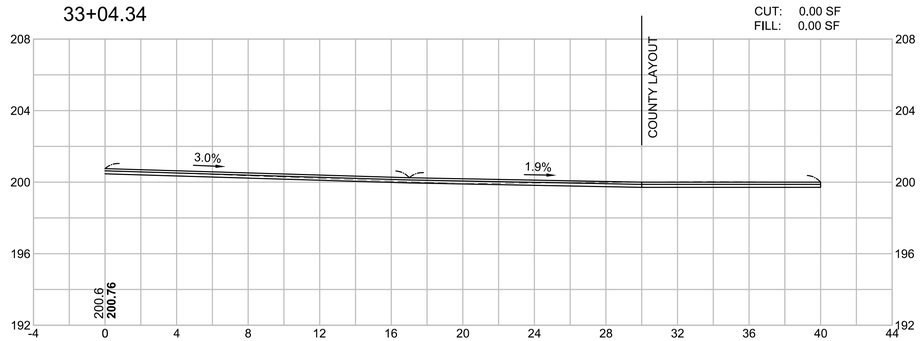
607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM

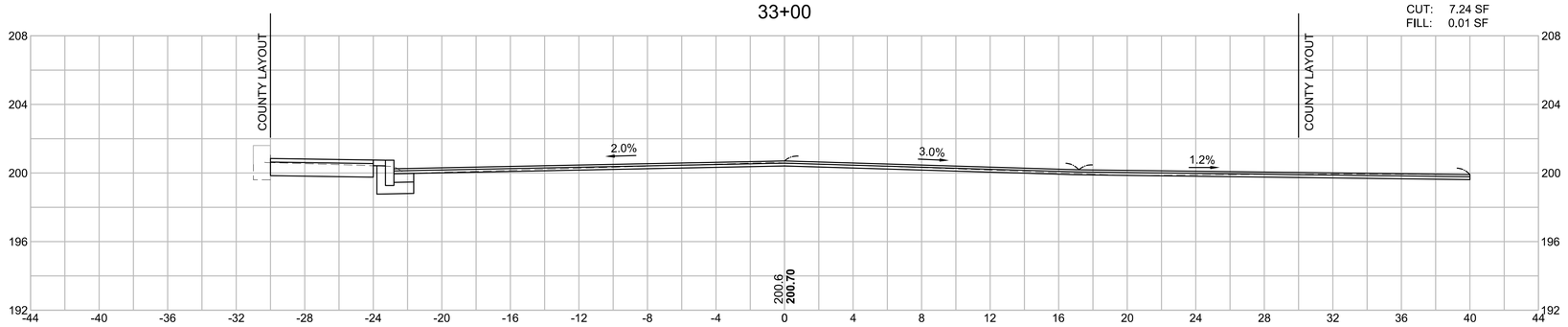
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

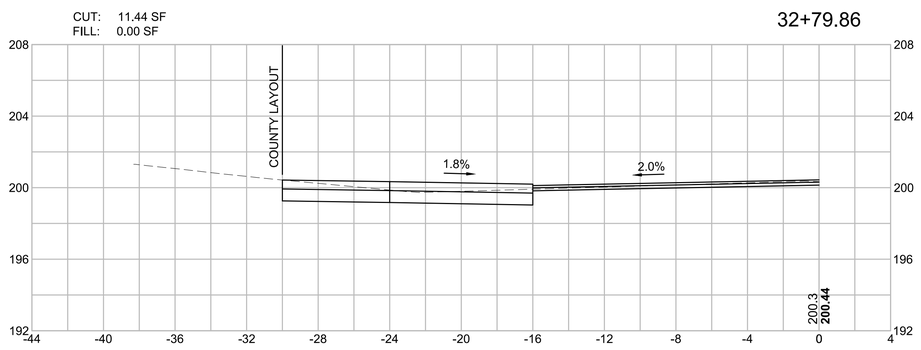
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	94	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM







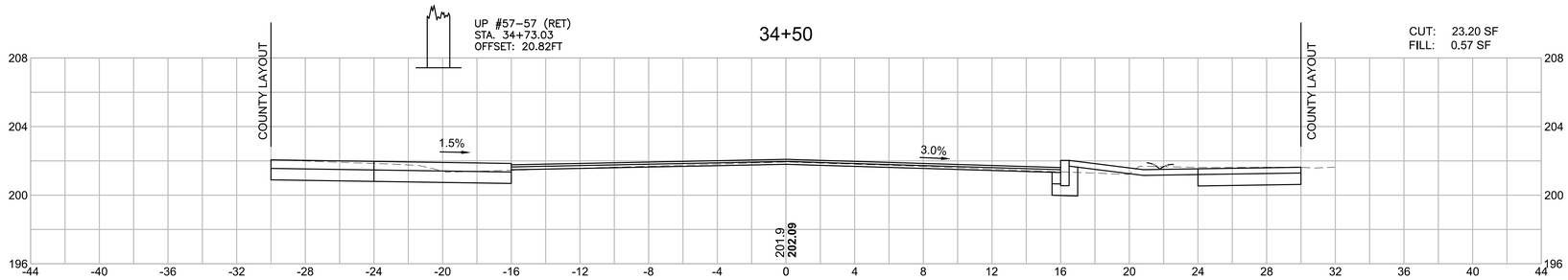
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

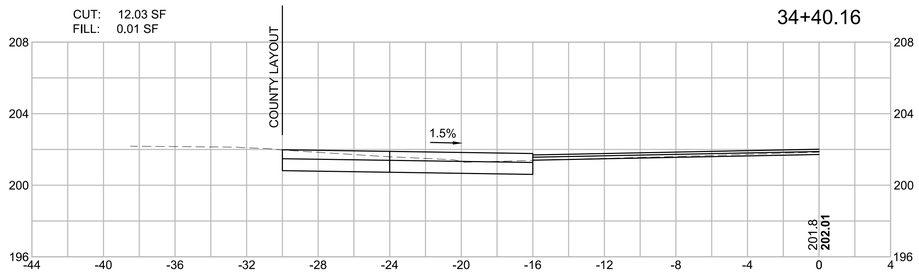
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

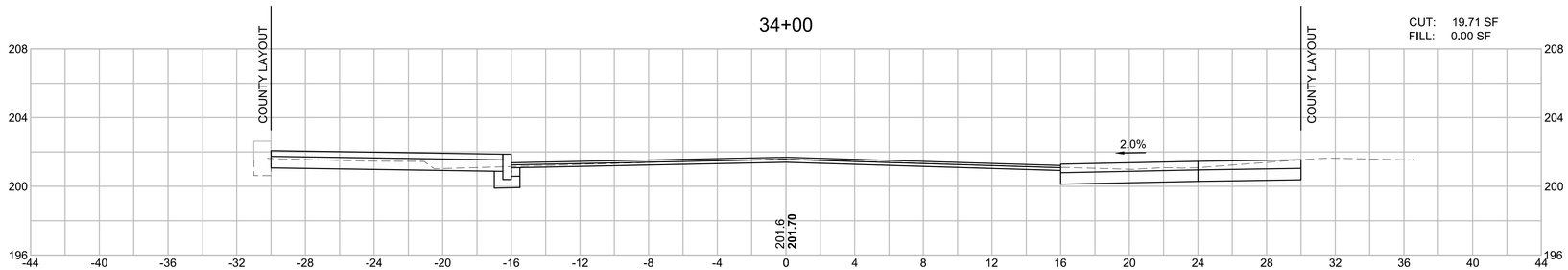
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	95	126
PROJECT FILE NO.	607409		

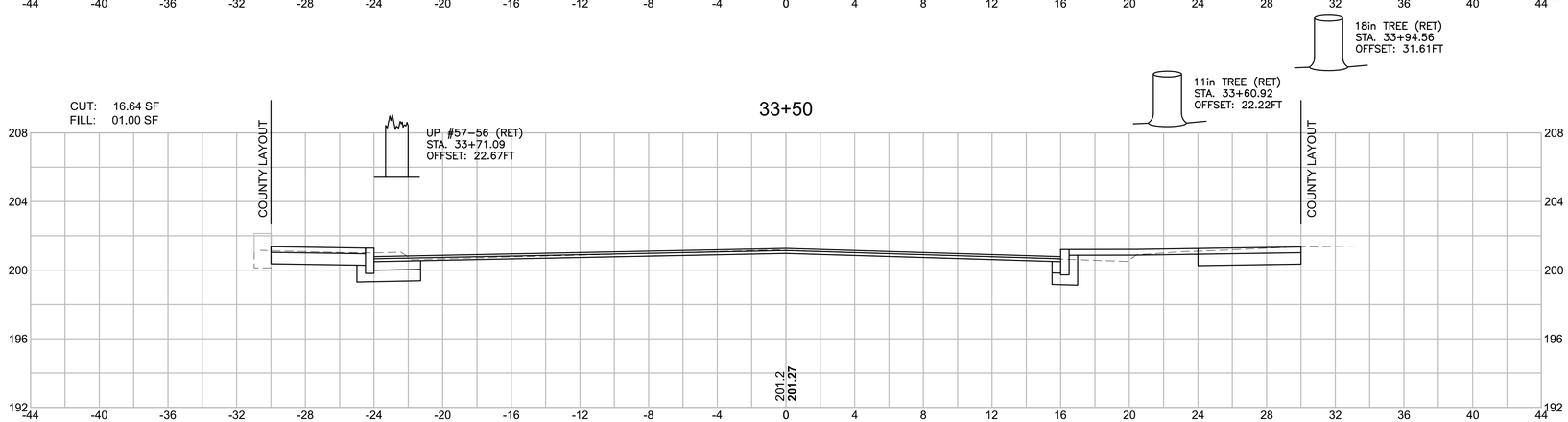
CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM









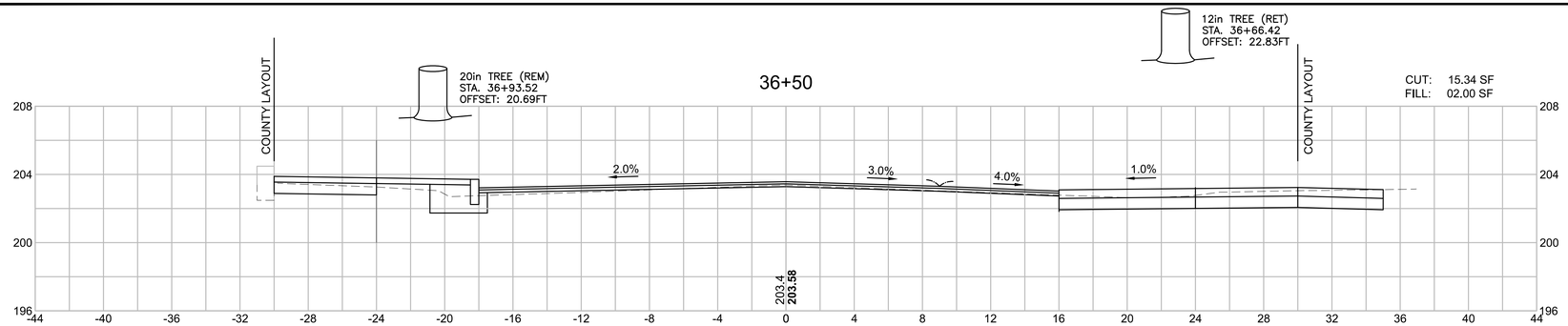
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

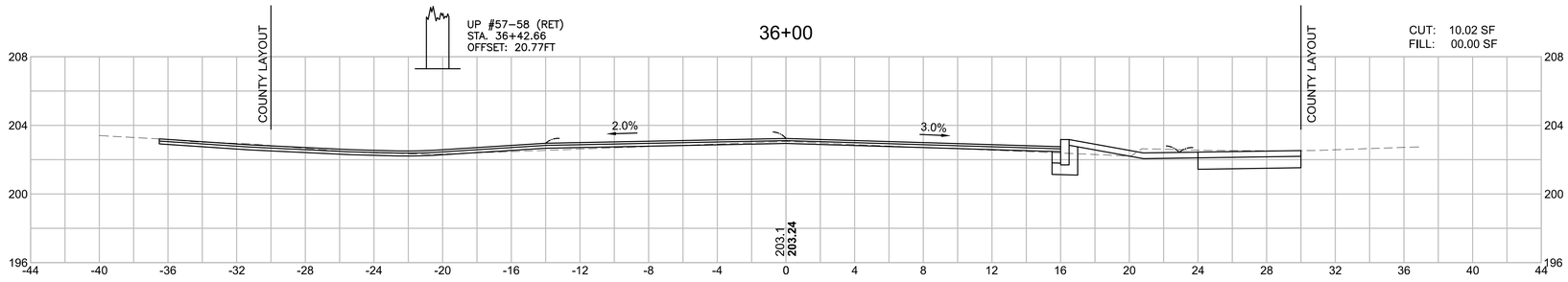
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

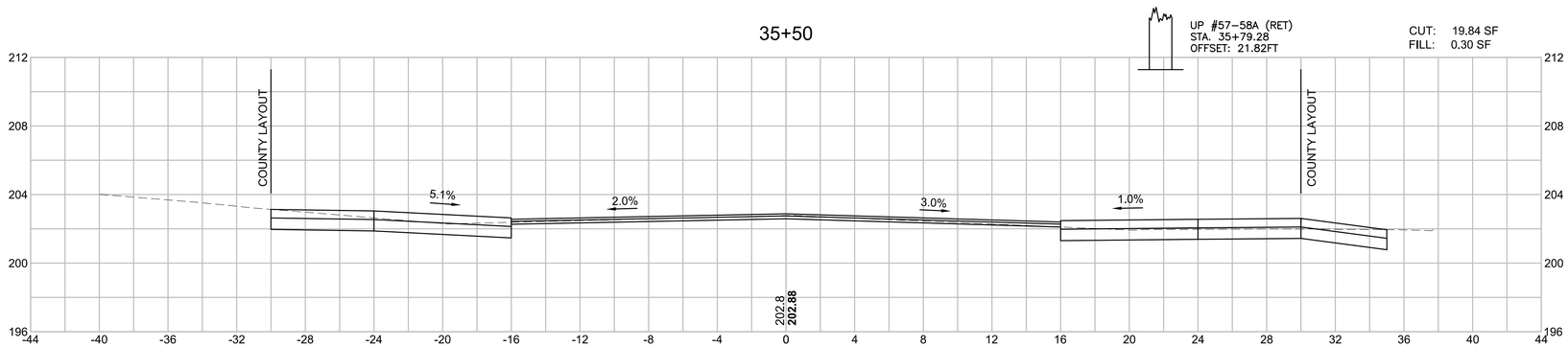
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	96	126
PROJECT FILE NO.	607409		

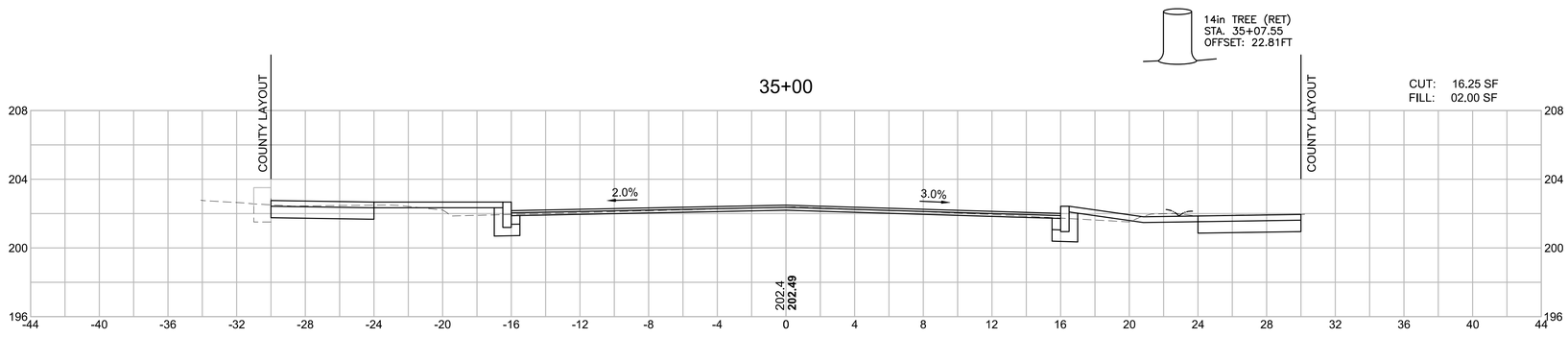
CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM









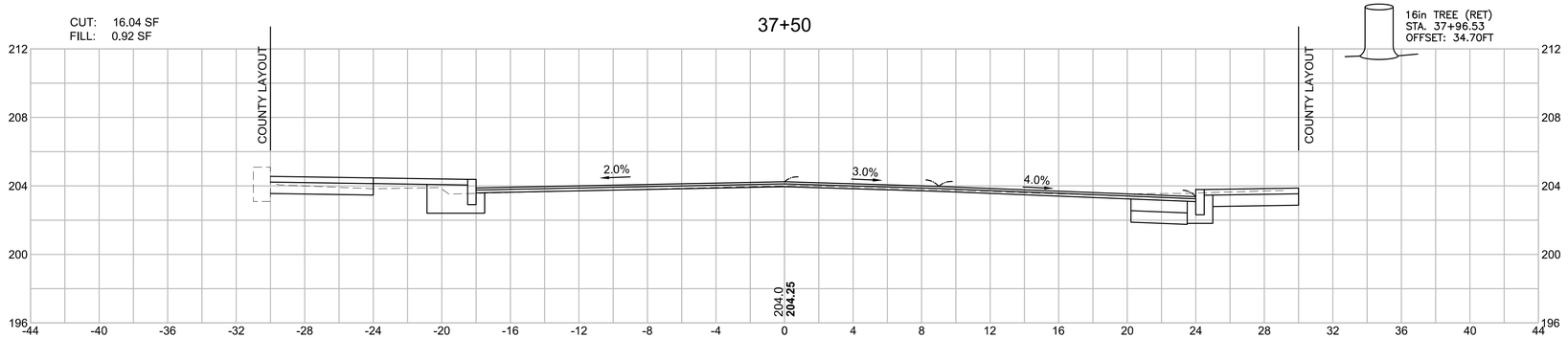
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

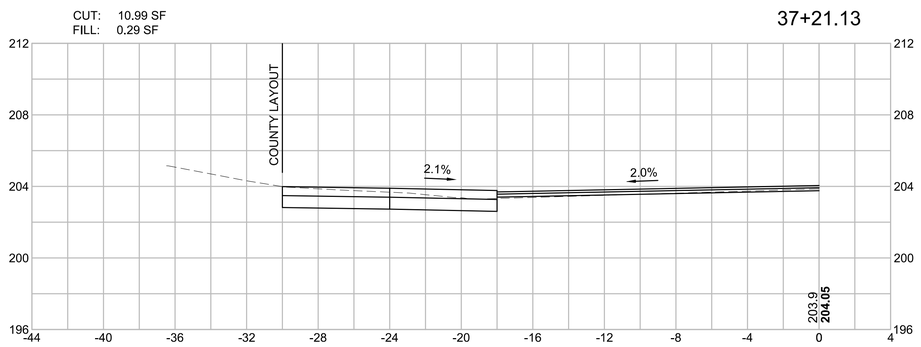
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

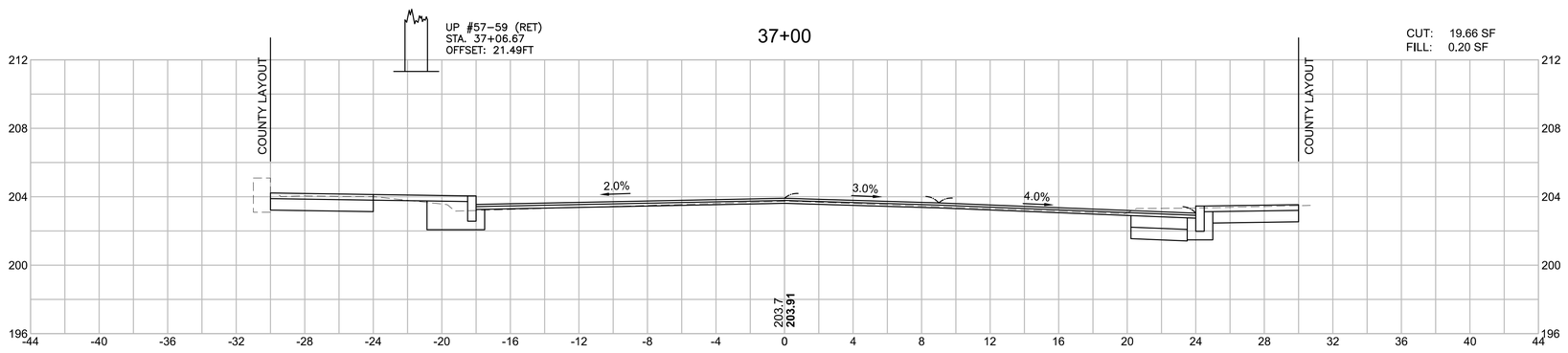
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	97	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM







HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

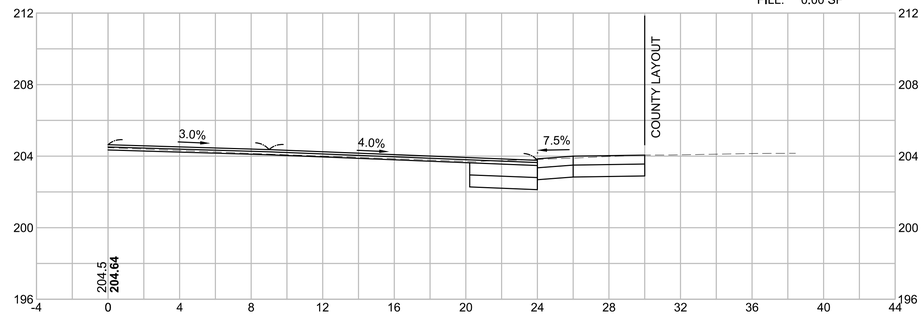
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	98	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM

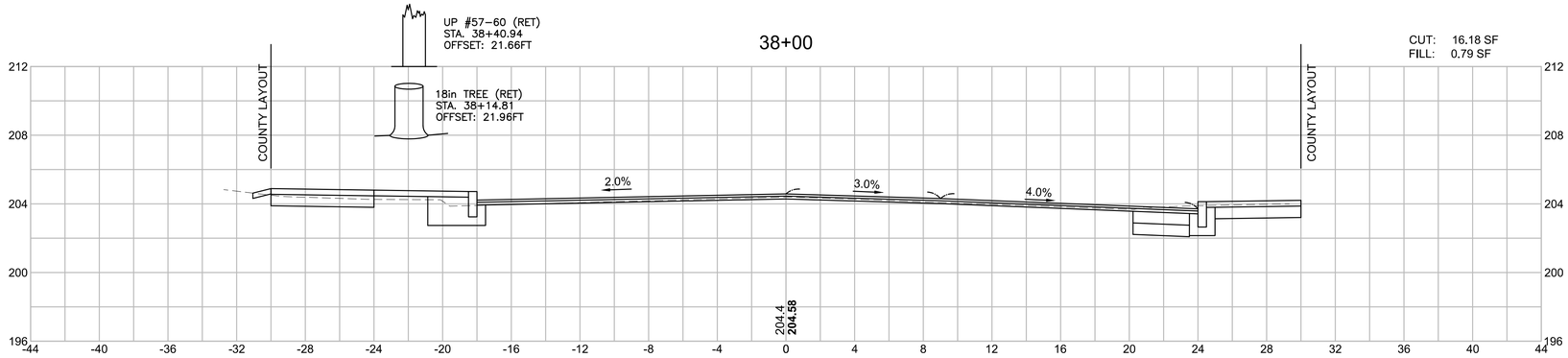
38+08.87

CUT: 8.31 SF
FILL: 0.00 SF



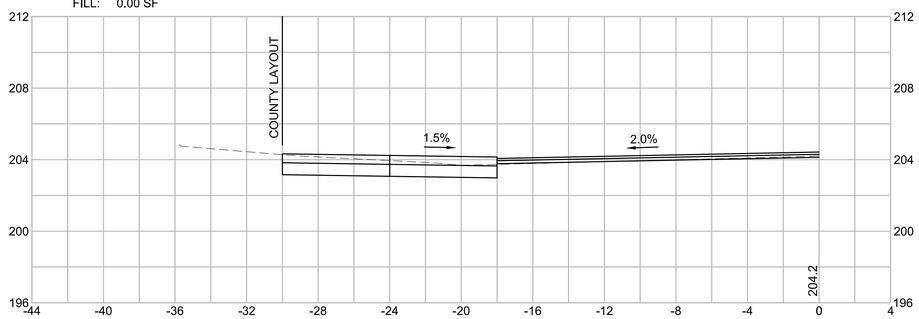
38+00

CUT: 16.18 SF
FILL: 0.79 SF



37+77.18

CUT: 10.55 SF
FILL: 0.00 SF



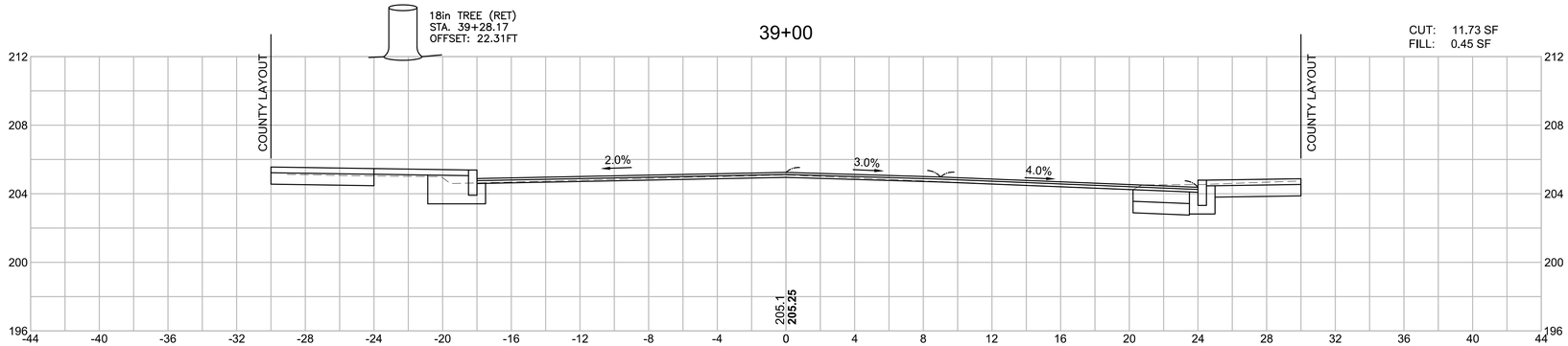
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

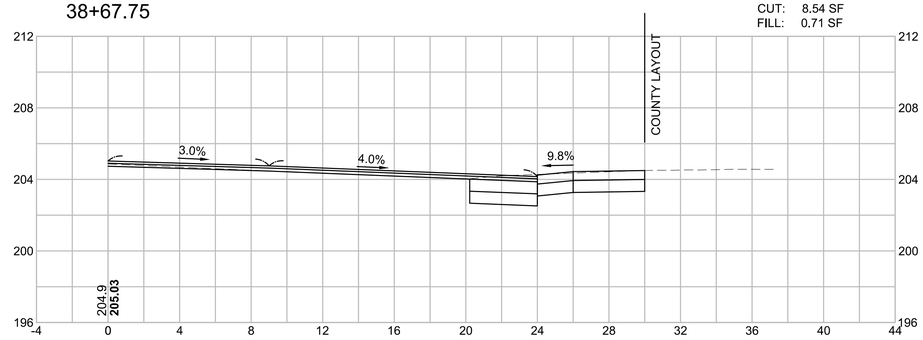
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

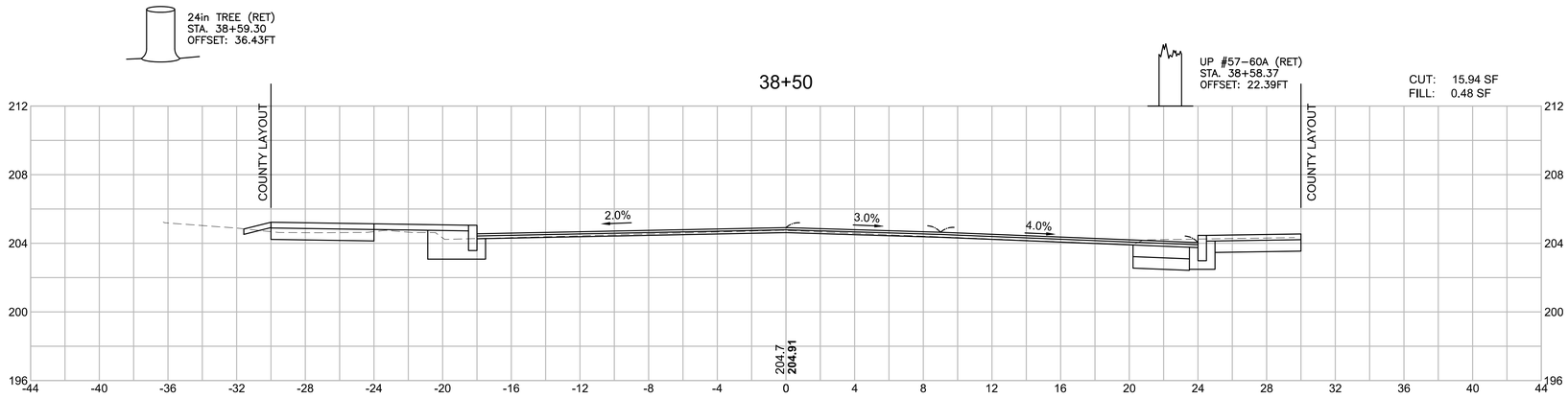
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	99	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM







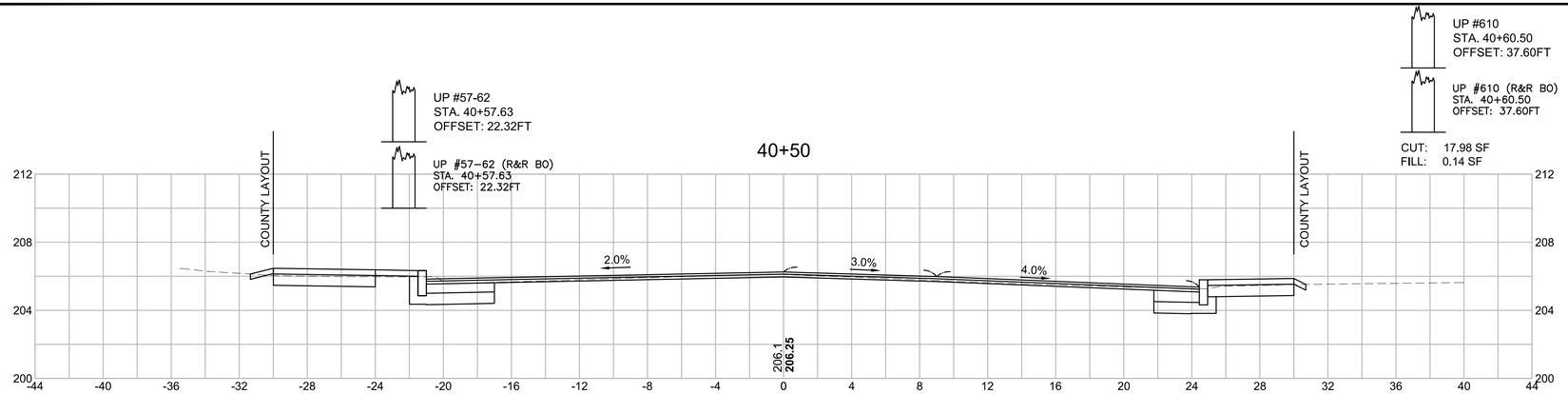
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

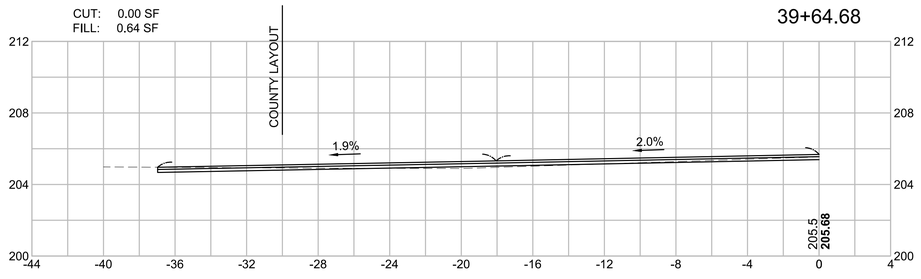
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

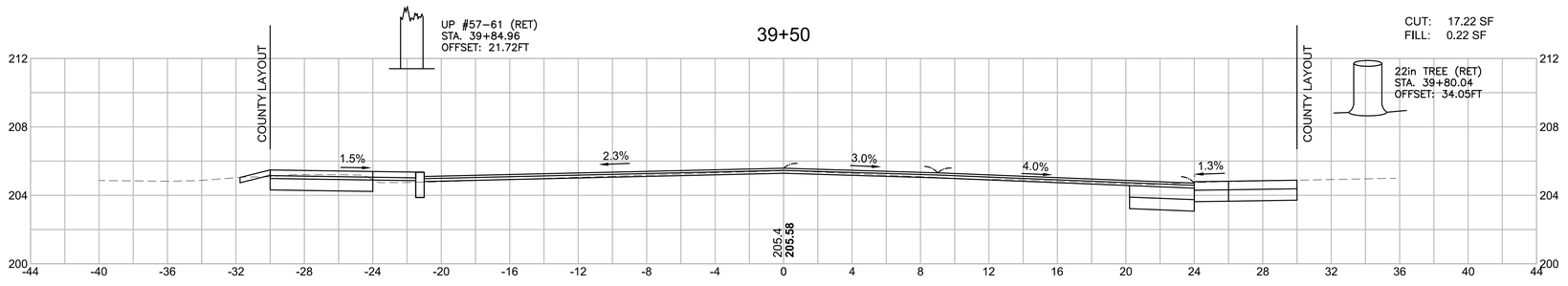
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	100	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD\XS\.DWG Plotted on 19-Apr-2016 5:07 PM







HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

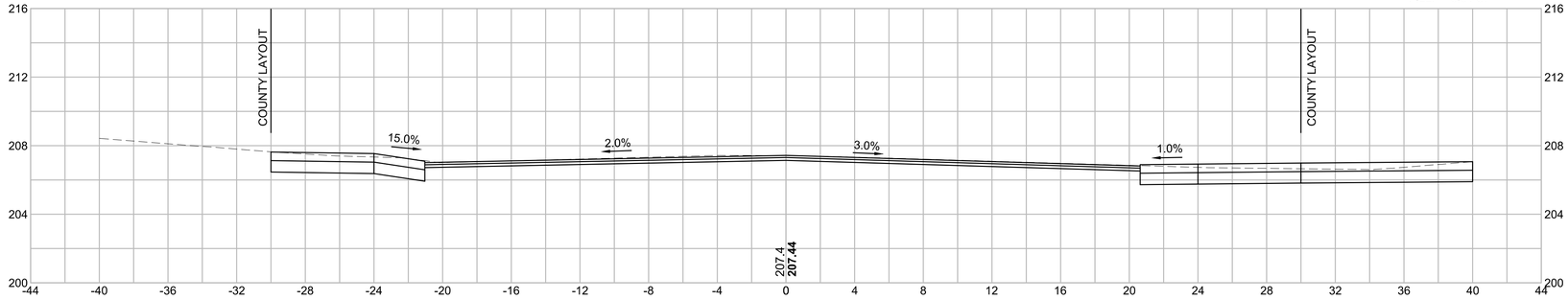
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	101	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM

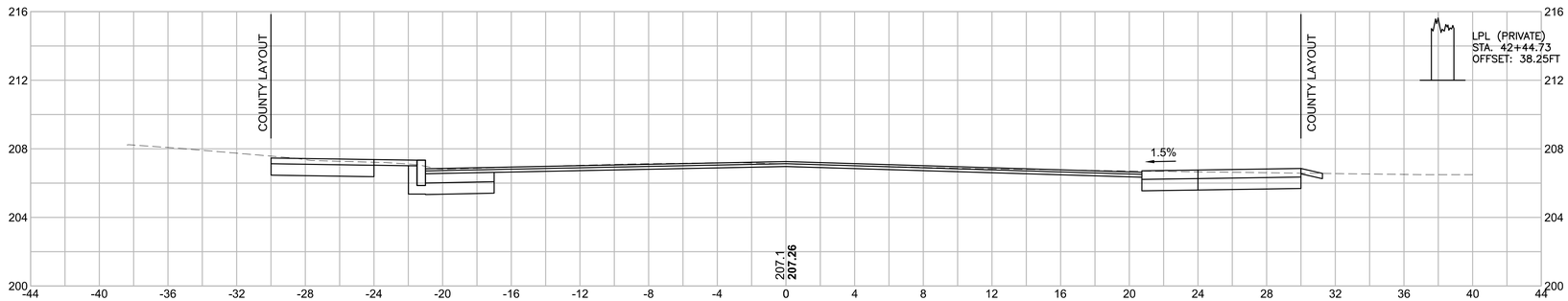
42+26.36

CUT: 18.34 SF
FILL: 0.01 SF



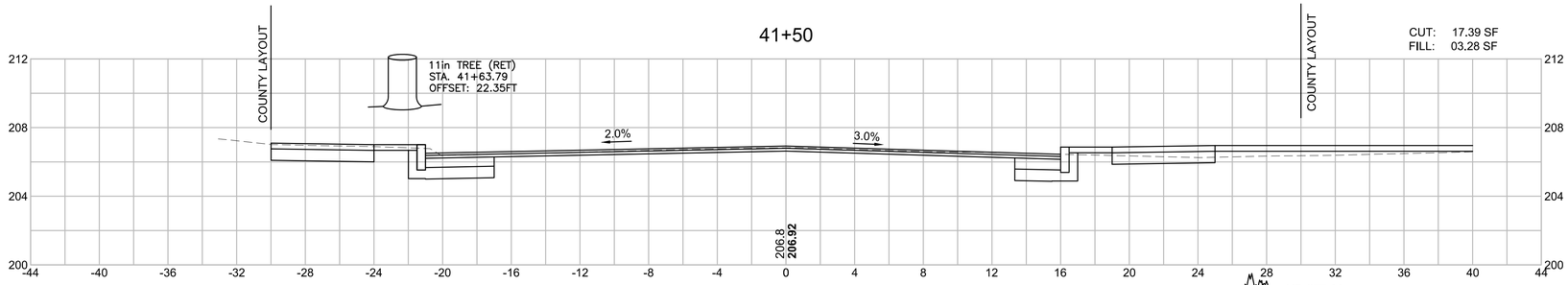
42+00

CUT: 22.06 SF
FILL: 0.00 SF



41+50

CUT: 17.39 SF
FILL: 03.28 SF

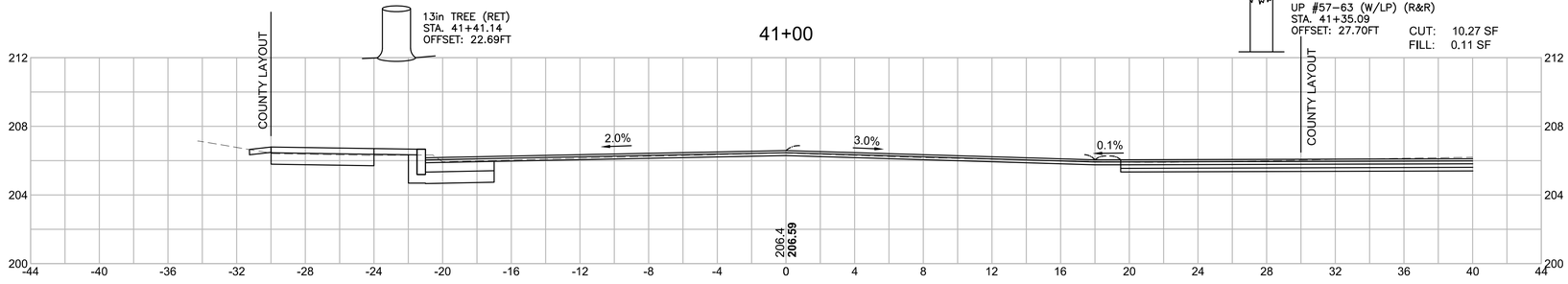


UP #57-63
STA. 41+50.30
OFFSET: 27.40FT

UP #57-63 (W/LP) (R&R)
STA. 41+35.09
OFFSET: 27.70FT

41+00

CUT: 10.27 SF
FILL: 0.11 SF



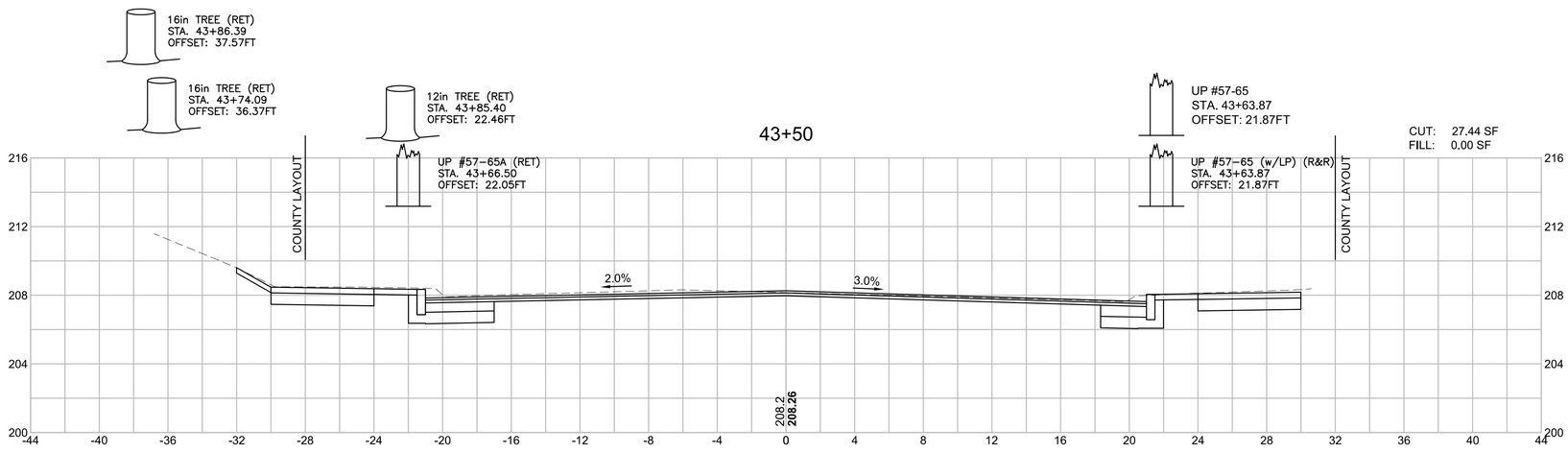
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

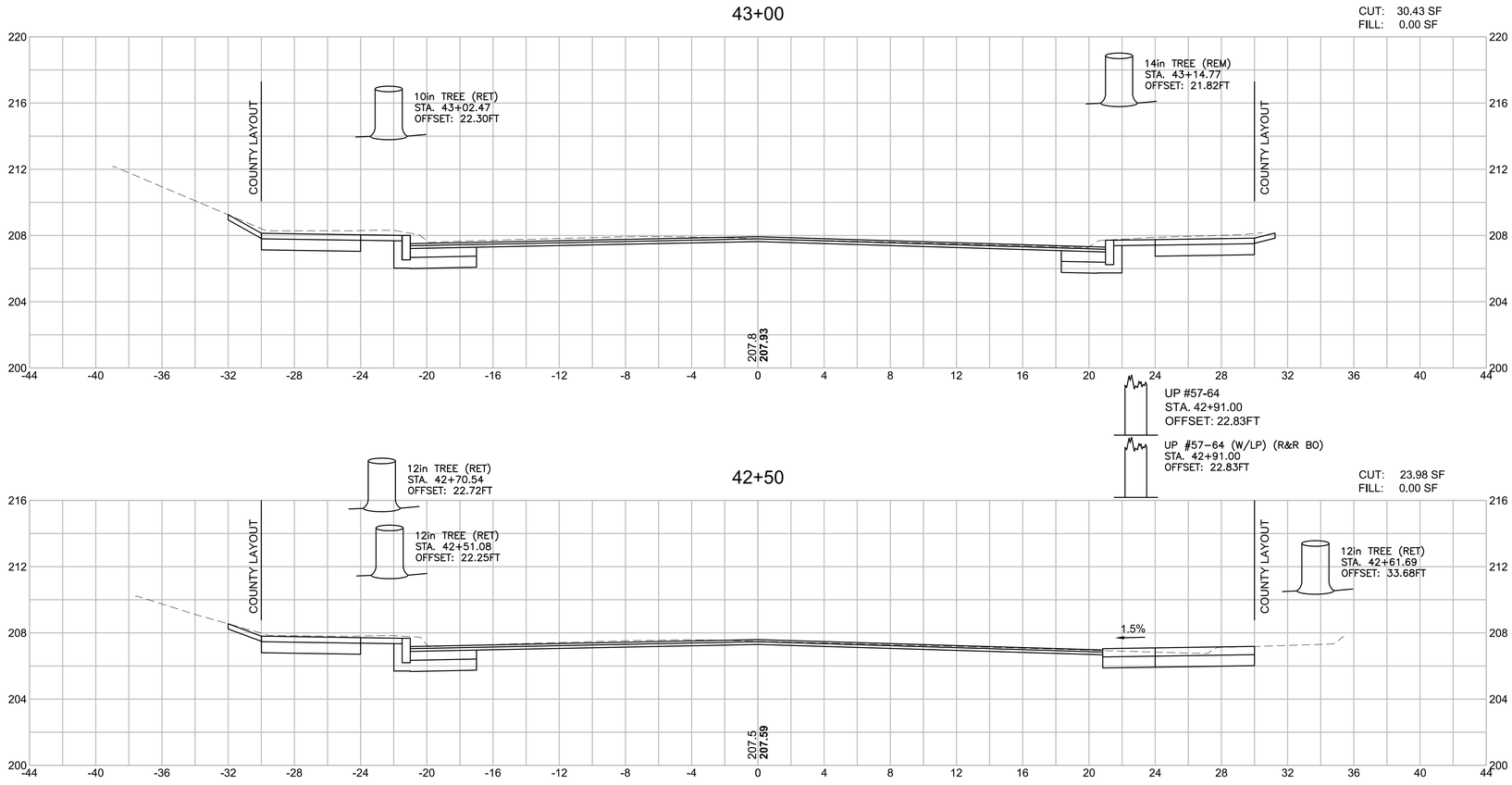
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	102	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM





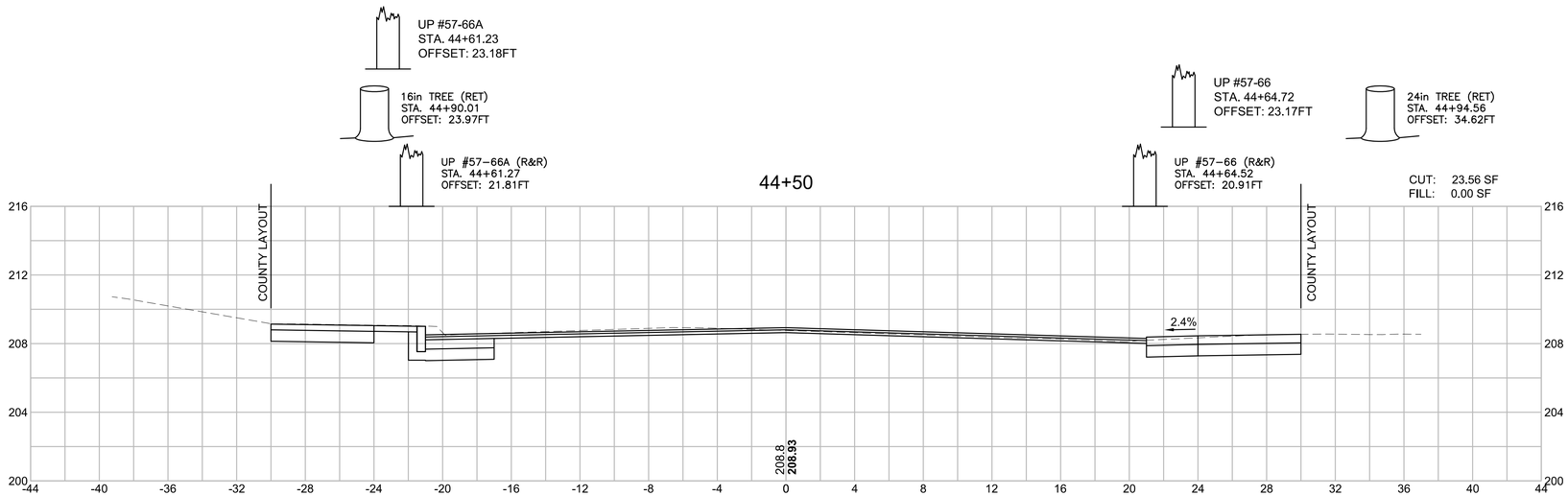
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

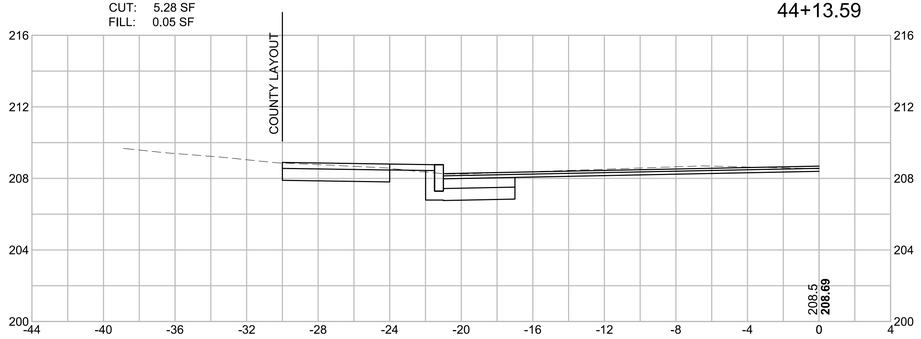
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

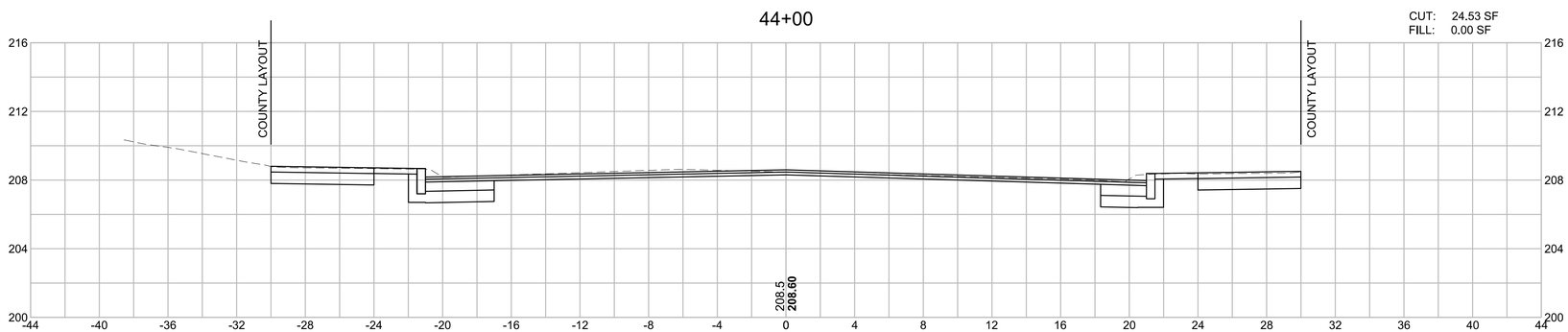
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	103	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM







HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

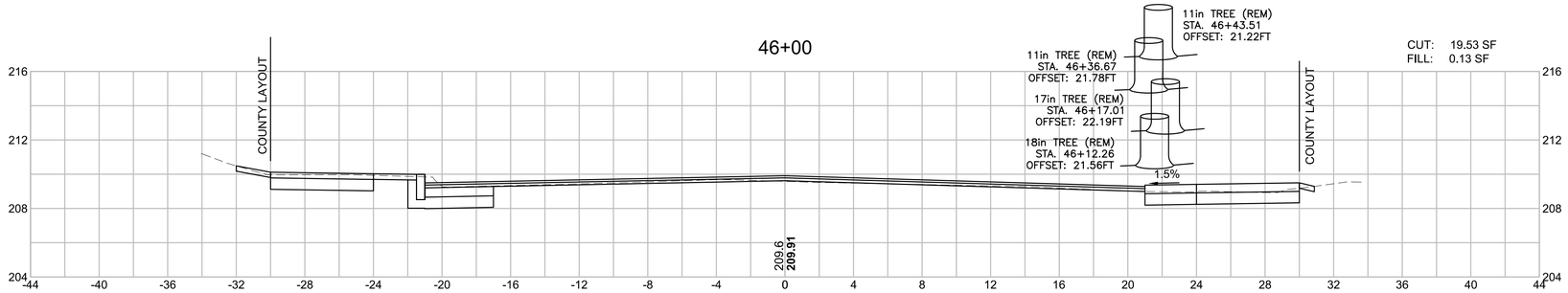
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	104	126
PROJECT FILE NO.	607409		

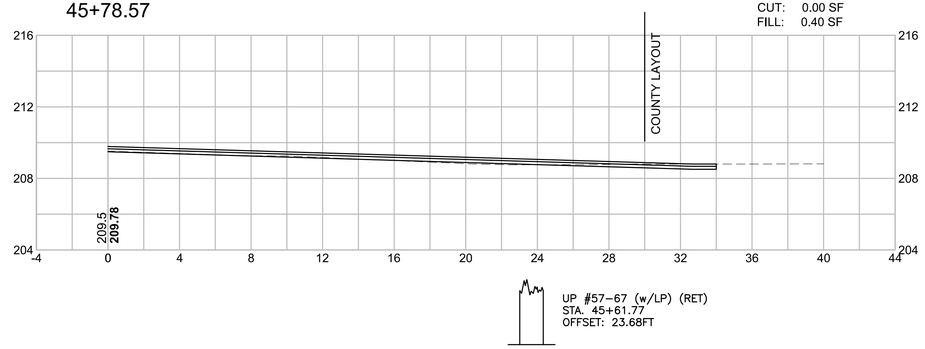
CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD\XS\.DWG Plotted on 19-Apr-2016 5:07 PM

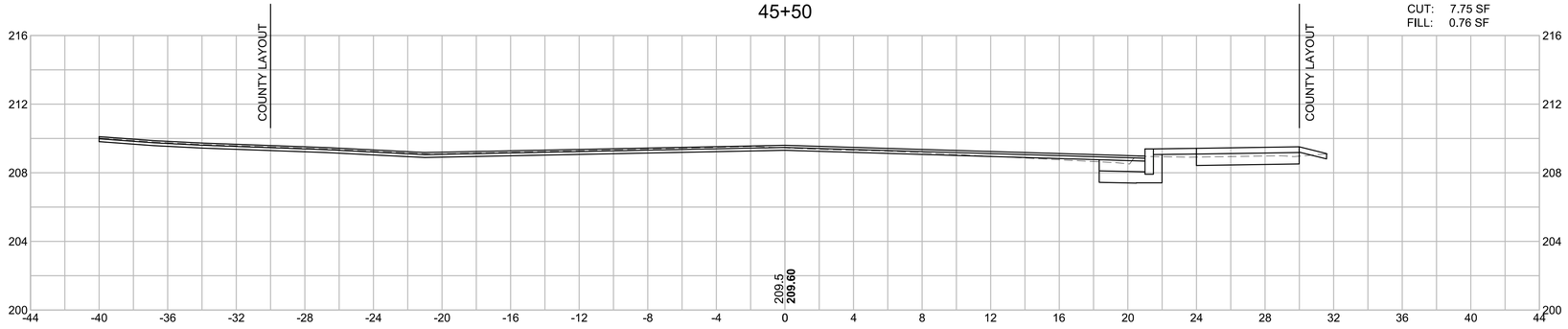
46+00



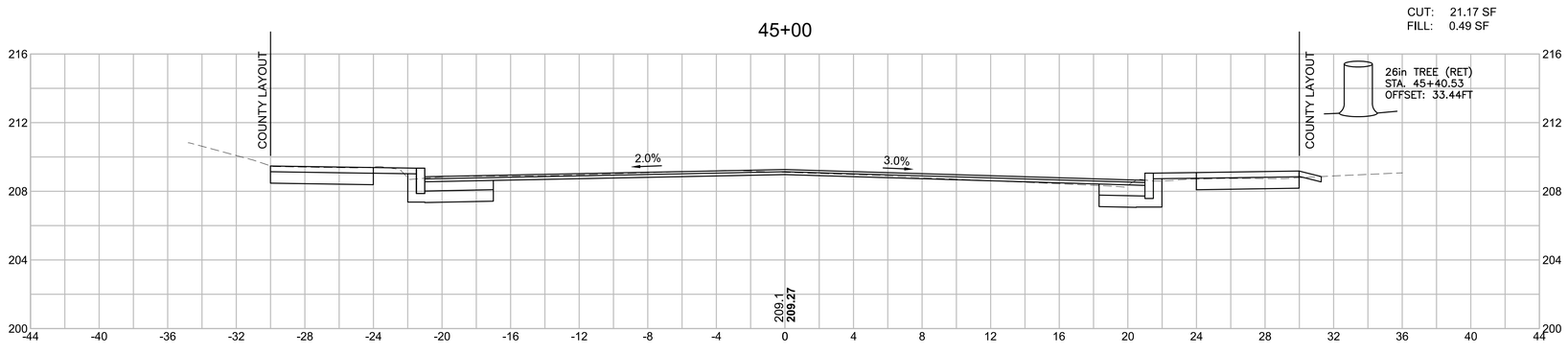
45+78.57



45+50



45+00



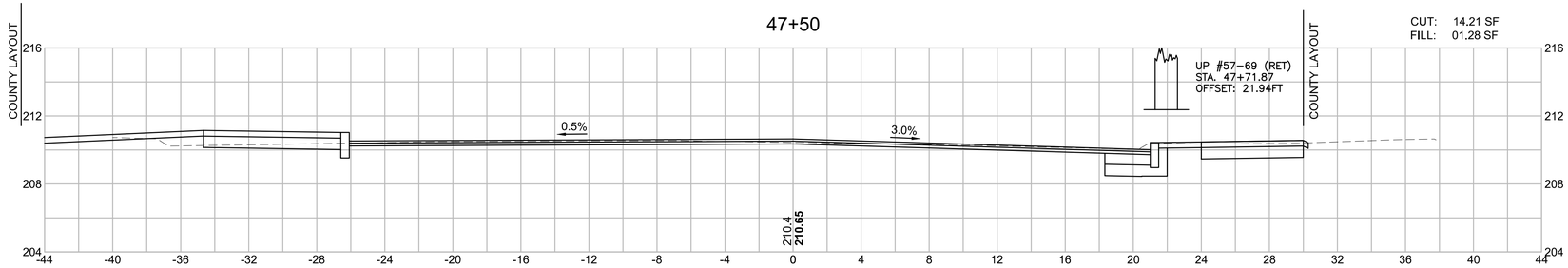
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

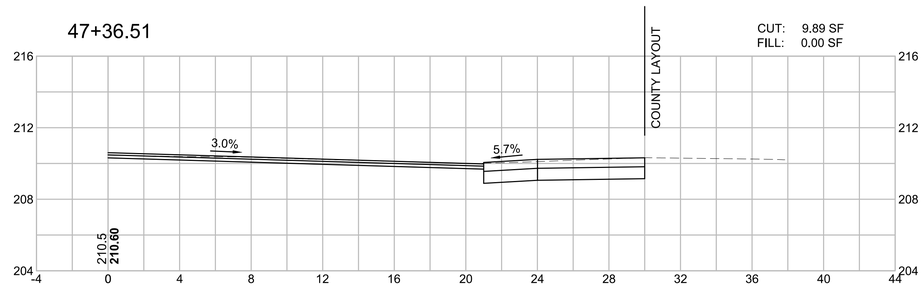
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

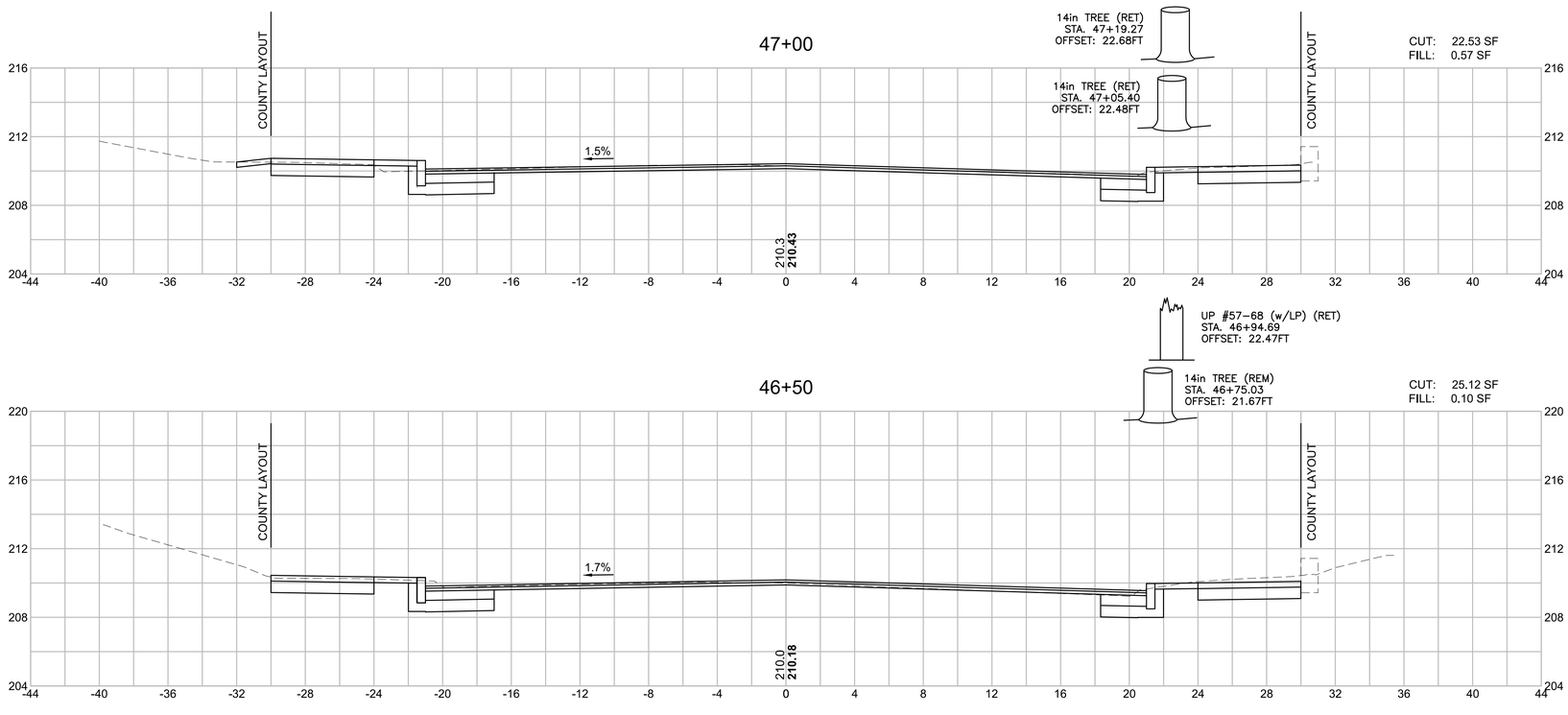
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	105	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD\XS\.DWG Plotted on 19-Apr-2016 5:07 PM







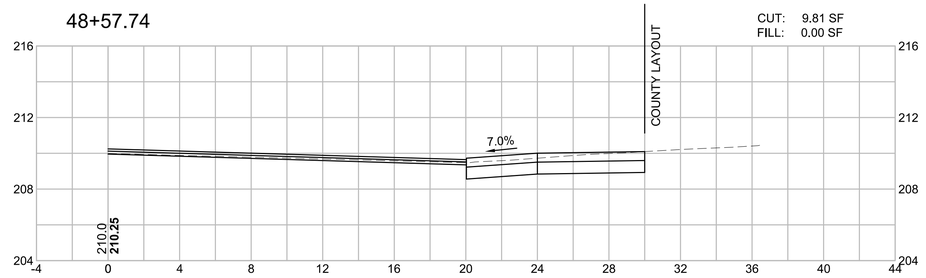
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

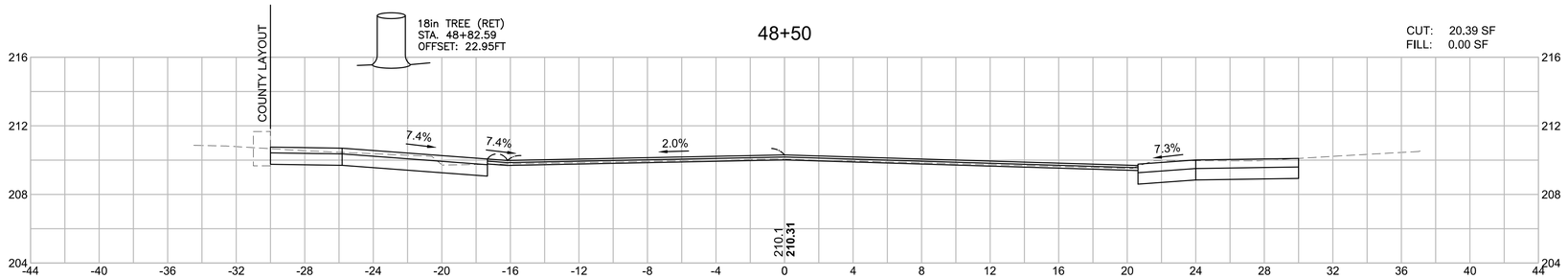
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

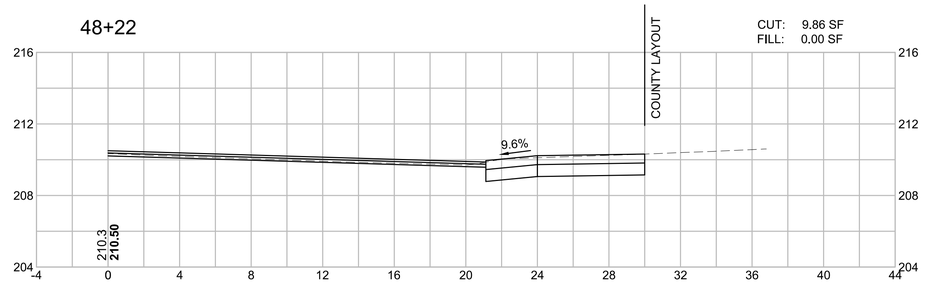
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	106	126
PROJECT FILE NO.	607409		

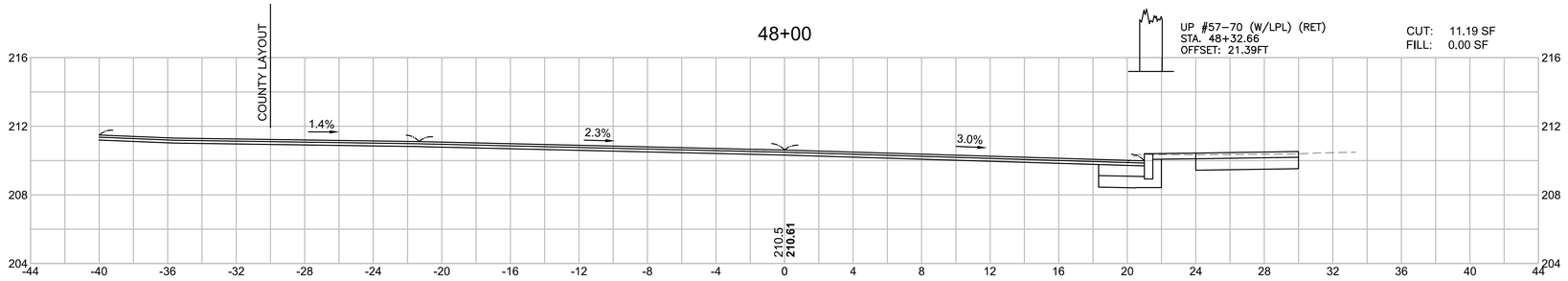
CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM









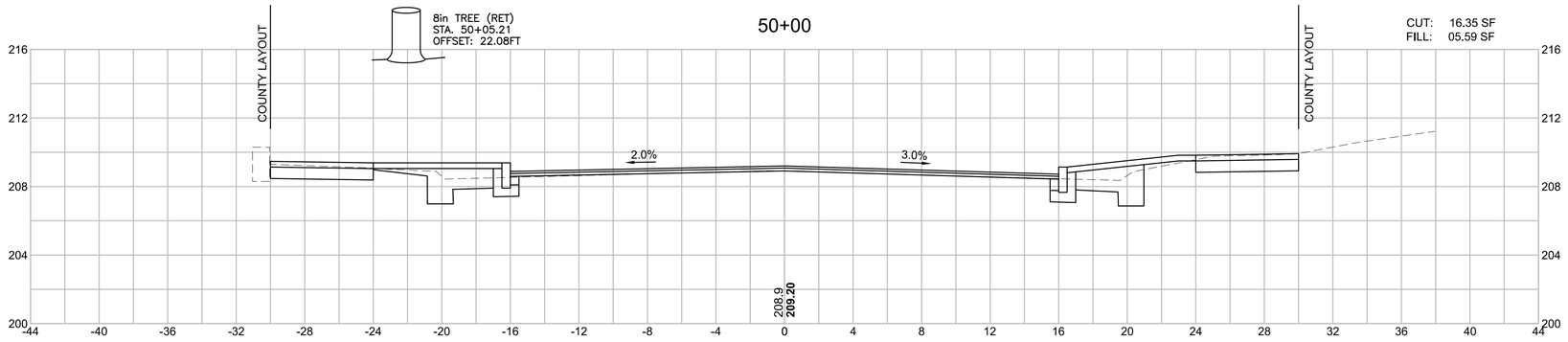
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

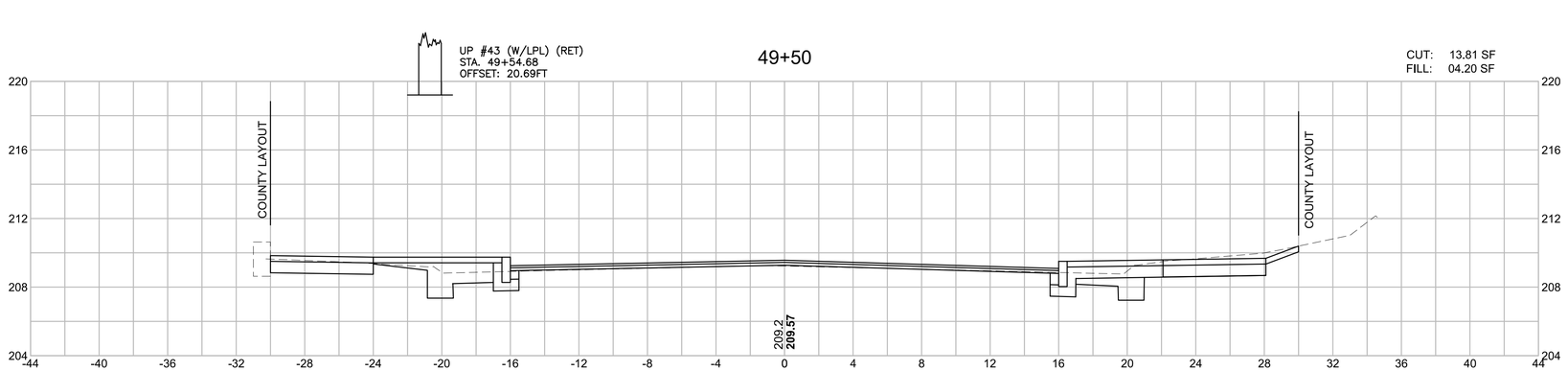
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

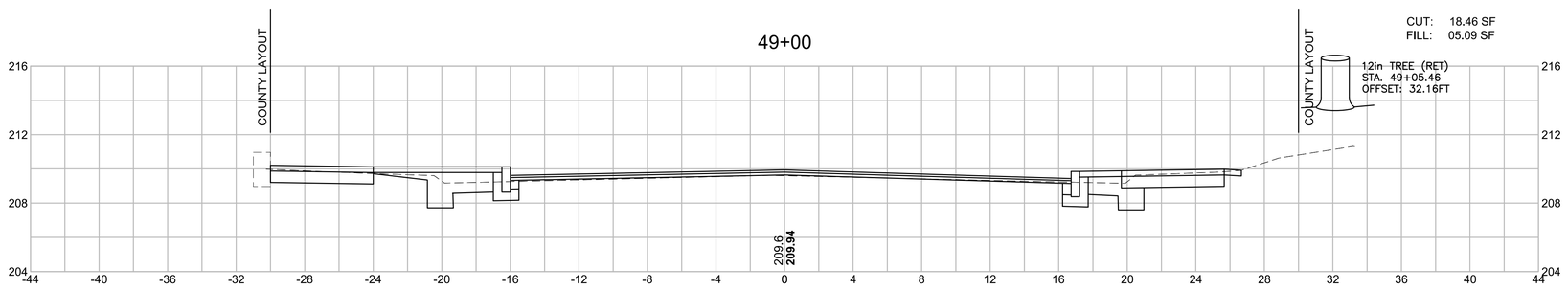
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	107	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM







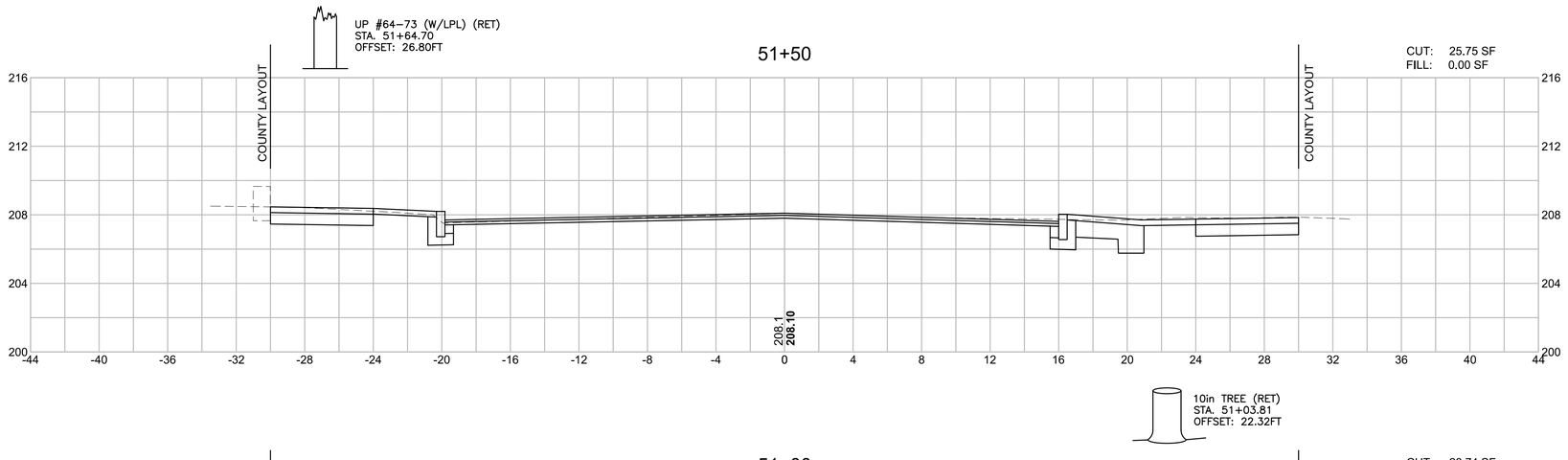
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	108	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM



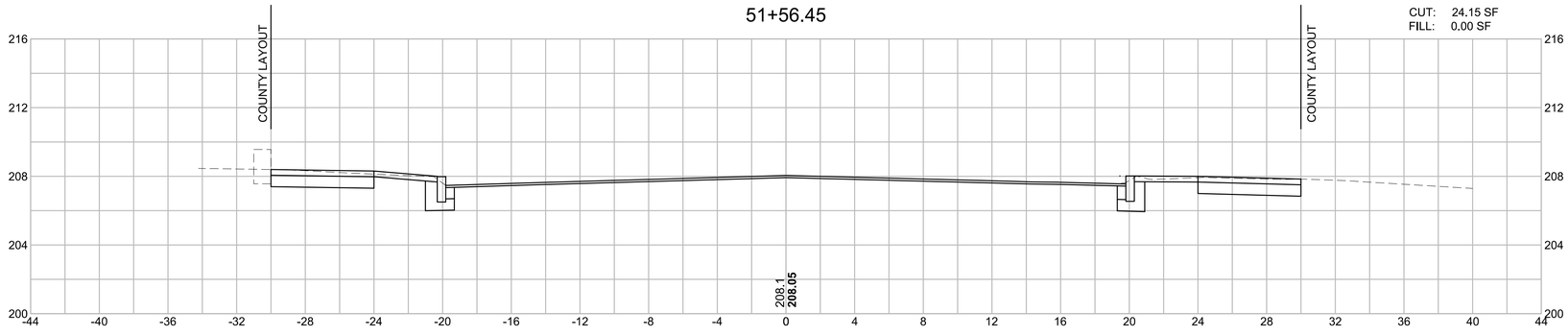
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	109	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MASSACHUSETTS AVENUE

607409_HD\XS\.DWG Plotted on 19-Apr-2016 5:07 PM



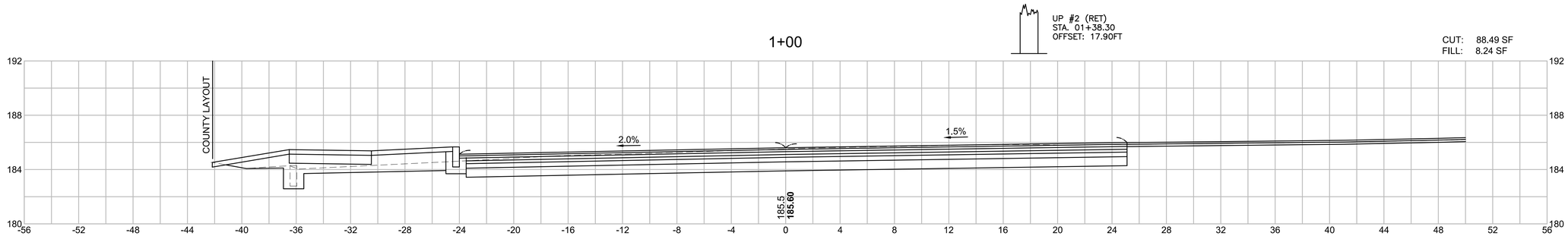
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

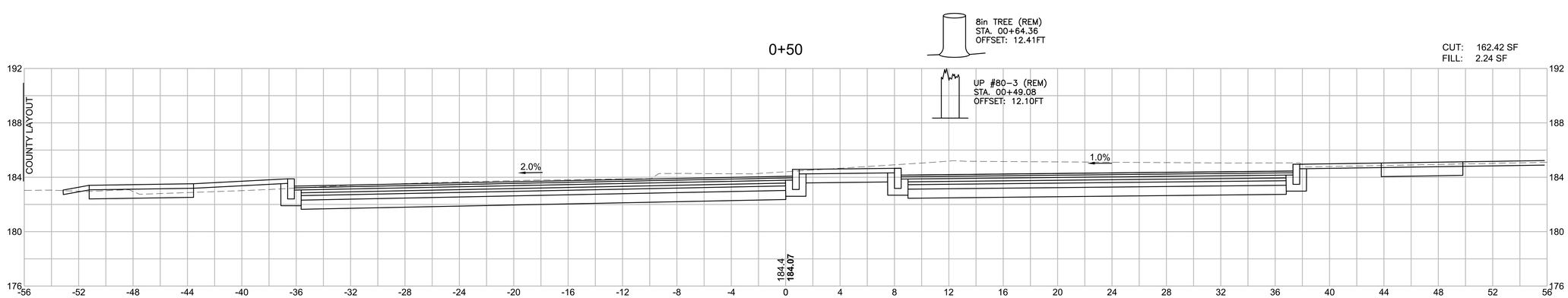
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	110	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
PLEASANT STREET

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM





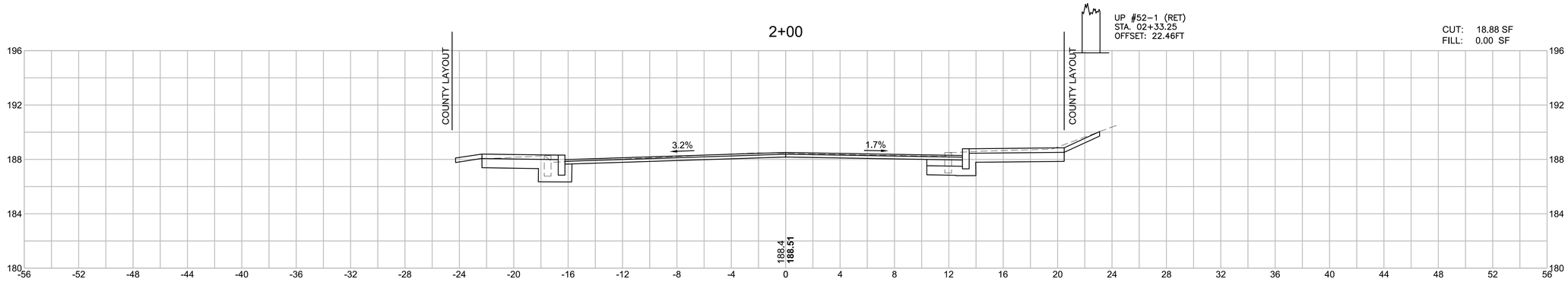
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

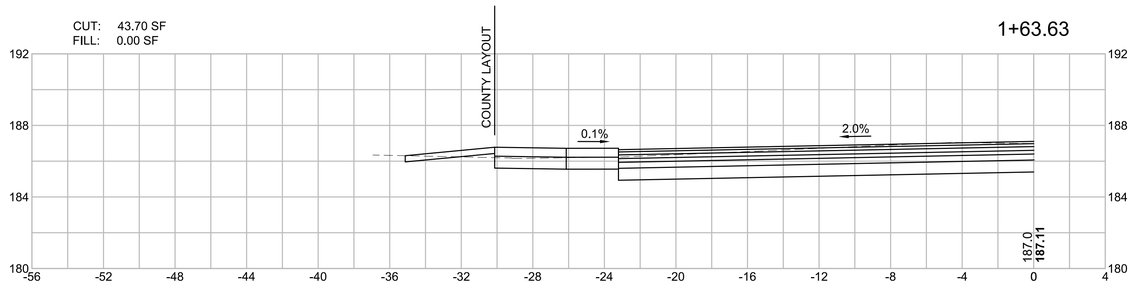
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

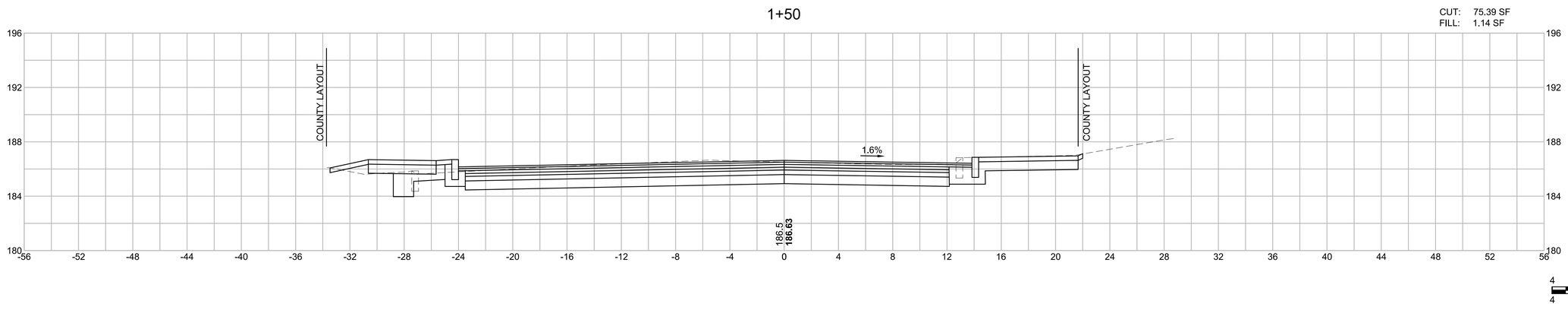
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	111	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
PLEASANT STREET

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM







HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

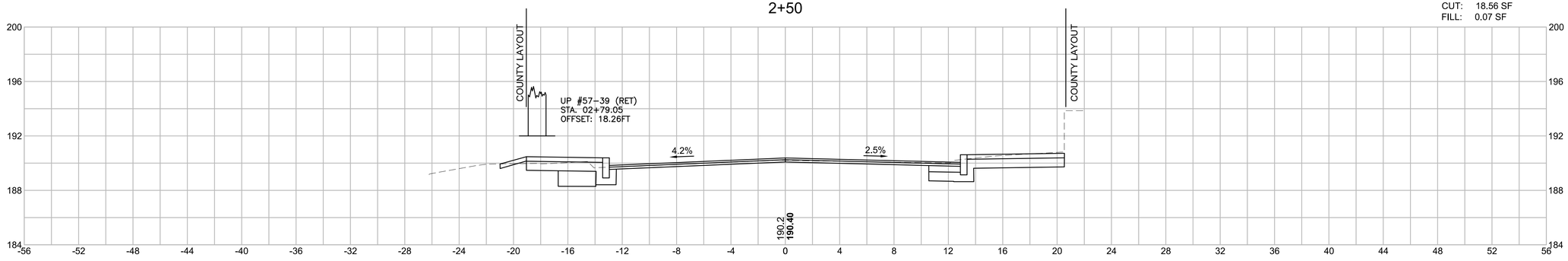
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	112	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
PLEASANT STREET

Plotted on 19-Apr-2016 5:07 PM
607409_HD(XS).DWG

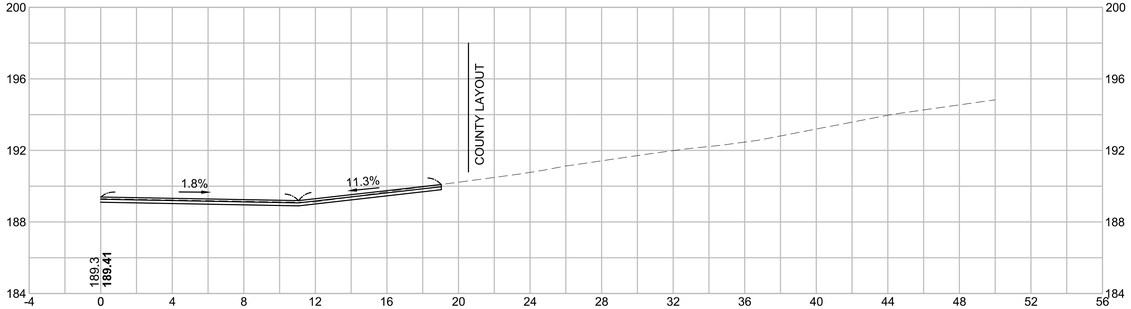
2+50

CUT: 18.56 SF
FILL: 0.07 SF



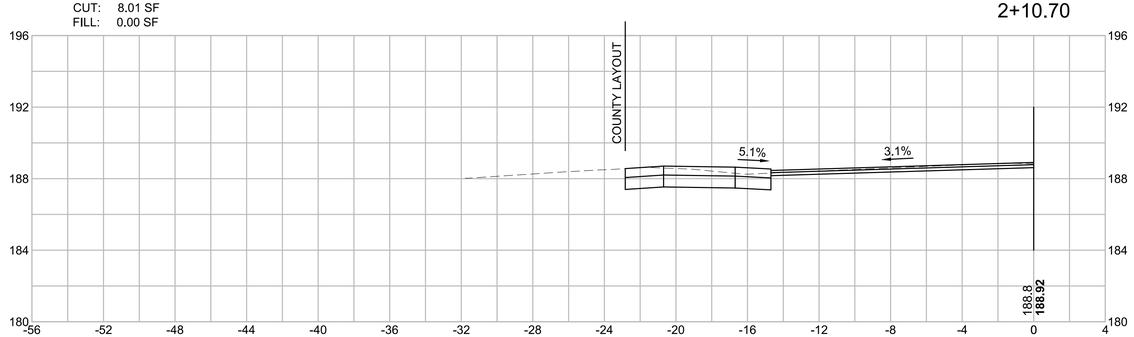
2+23.39

CUT: 0.00 SF
FILL: 0.00 SF



2+10.70

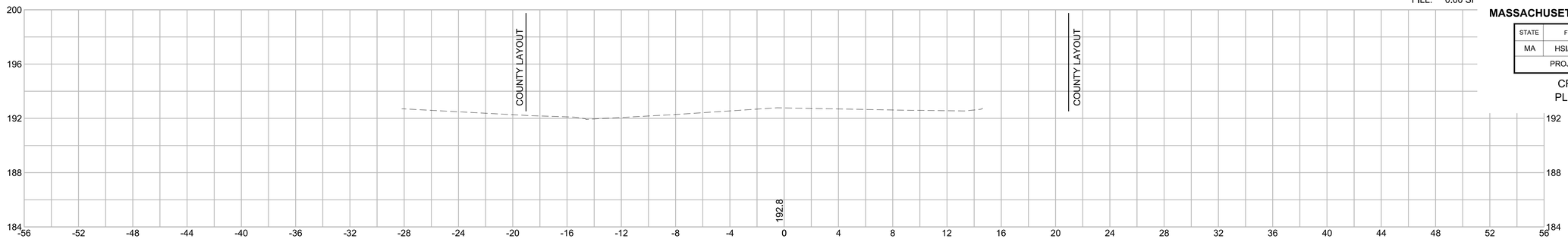
CUT: 8.01 SF
FILL: 0.00 SF



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

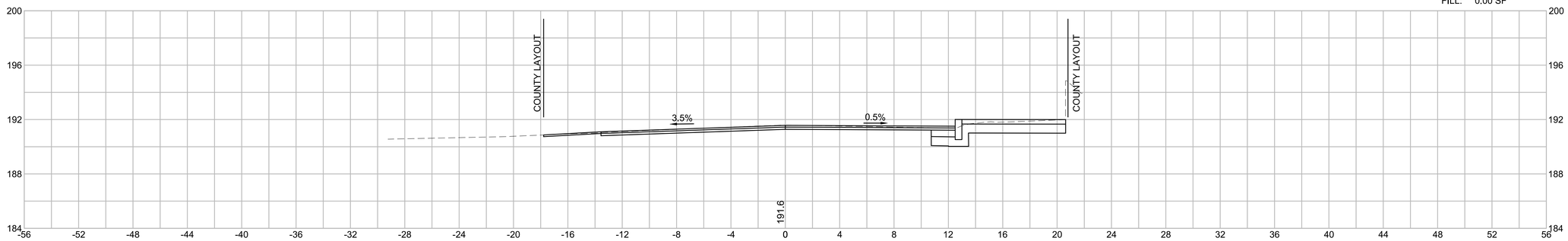
3+50

CUT: 0.00 SF
FILL: 0.00 SF



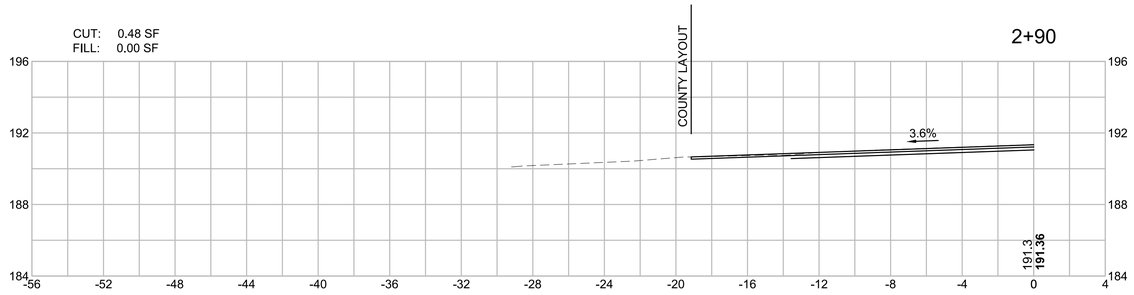
3+00

CUT: 9.98 SF
FILL: 0.00 SF



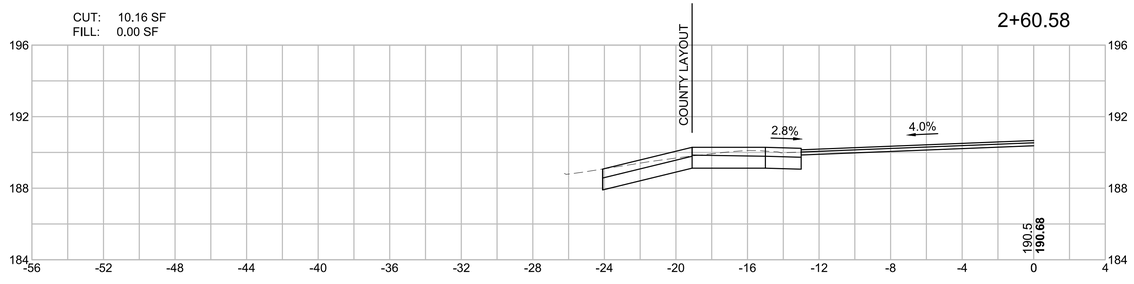
2+90

CUT: 0.48 SF
FILL: 0.00 SF



2+60.58

CUT: 10.16 SF
FILL: 0.00 SF



LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	113	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
PLEASANT STREET

HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

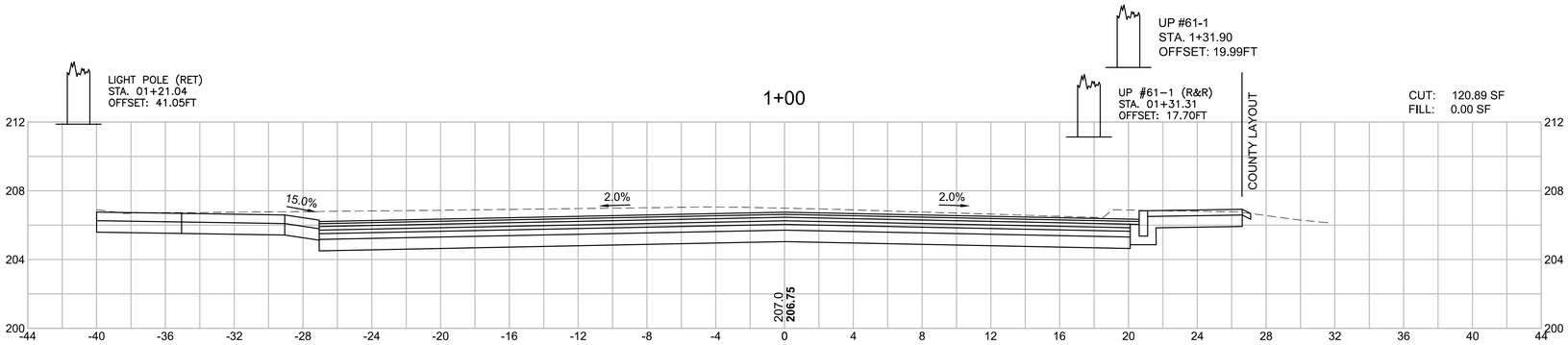
607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM

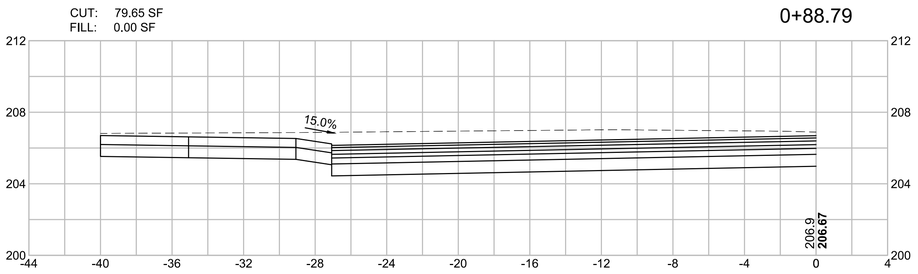
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

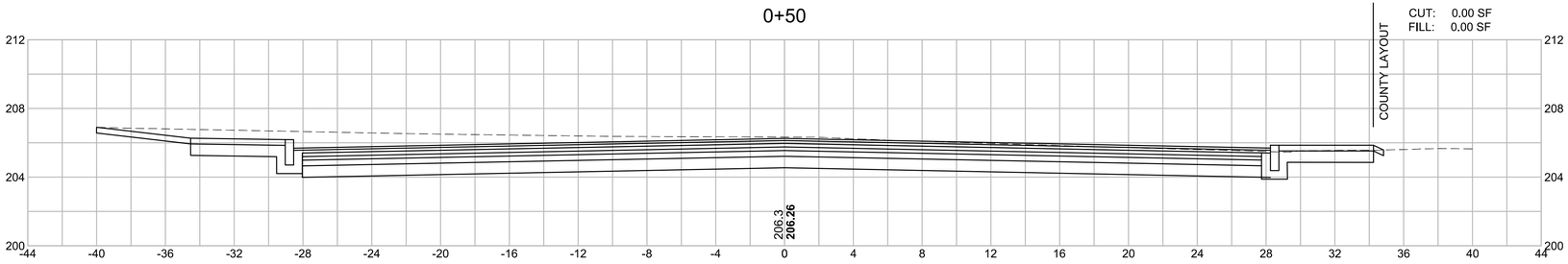
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	114	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MAPLE STREET

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM







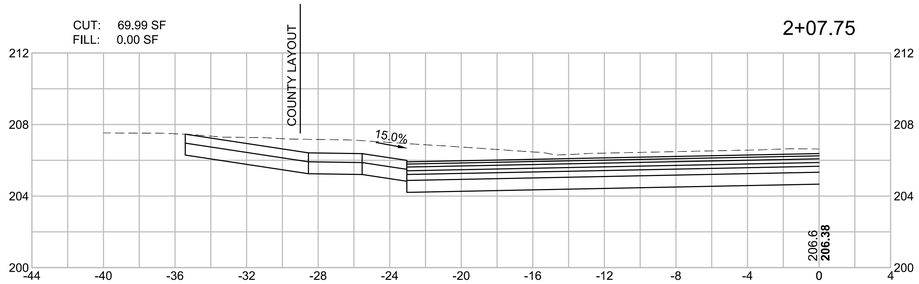
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

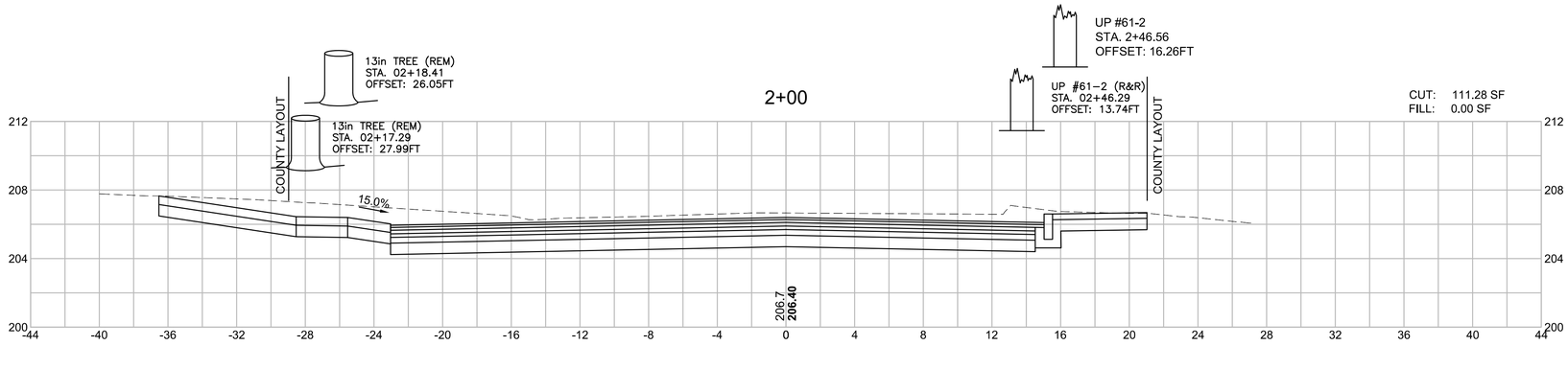
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

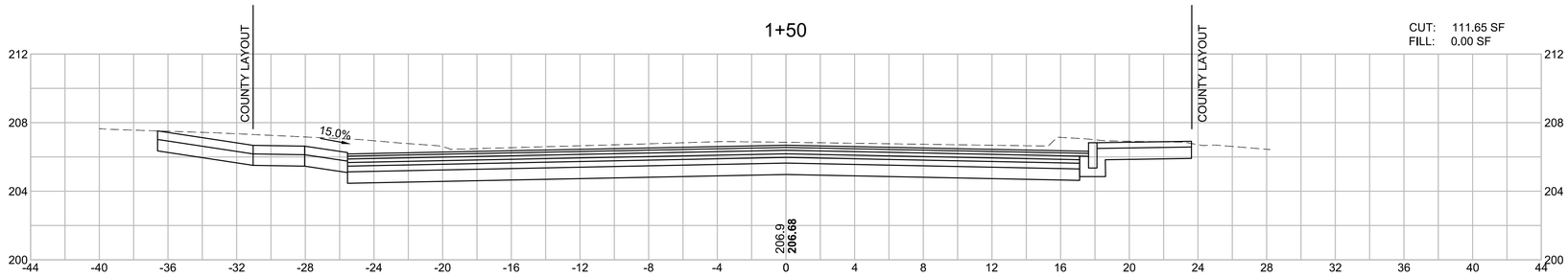
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	115	126
PROJECT FILE NO.	607409		

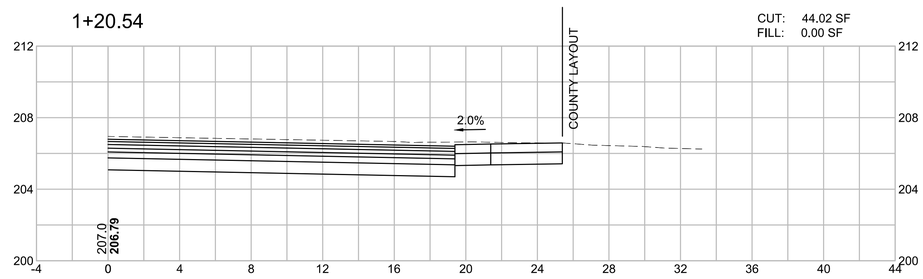
CROSS SECTIONS
MAPLE STREET

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM









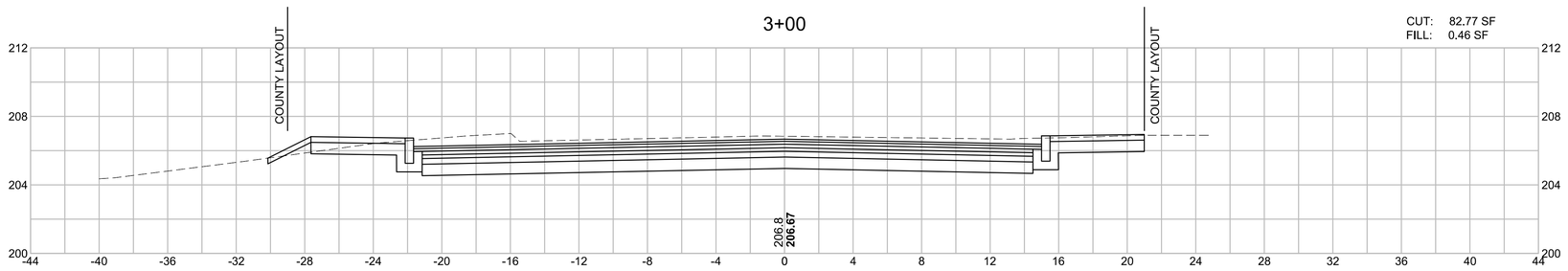
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

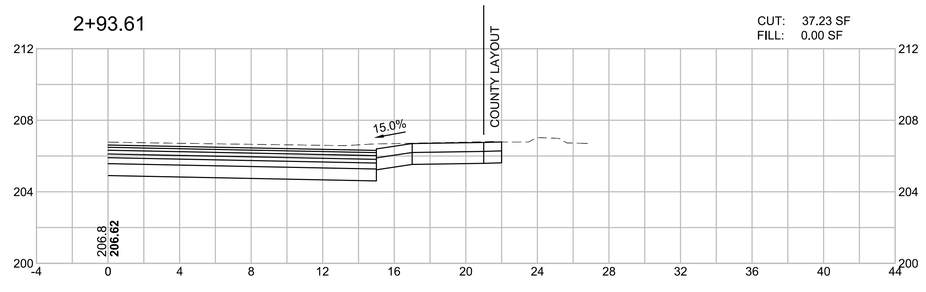
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

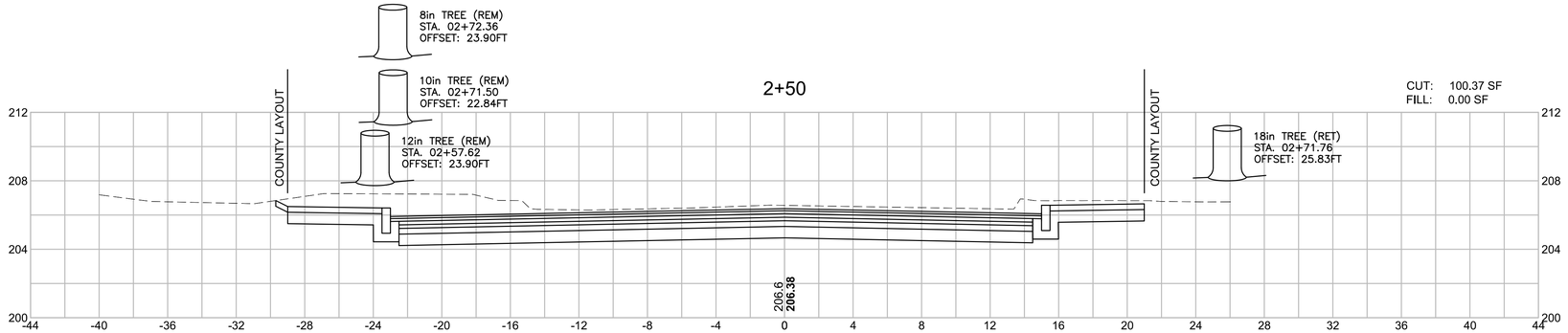
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	116	126
PROJECT FILE NO.	607409		

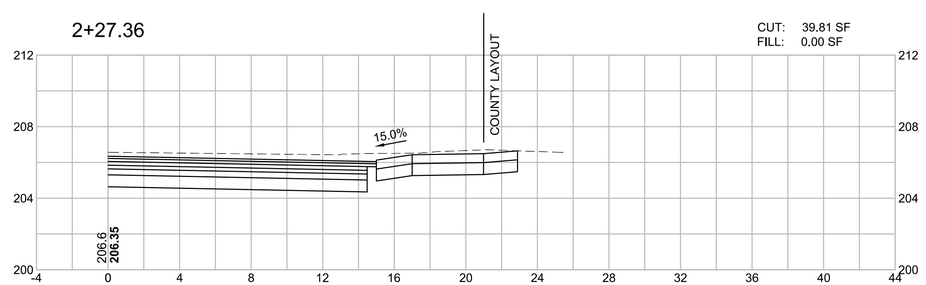
CROSS SECTIONS
MAPLE STREET

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM









HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

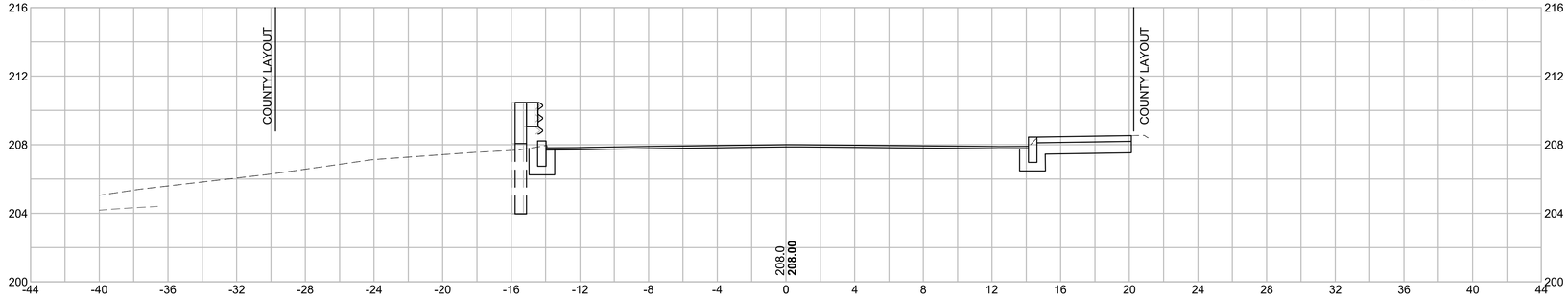
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	117	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MAPLE STREET

607409_HD\XS\.DWG Plotted on 19-Apr-2016 5:07 PM

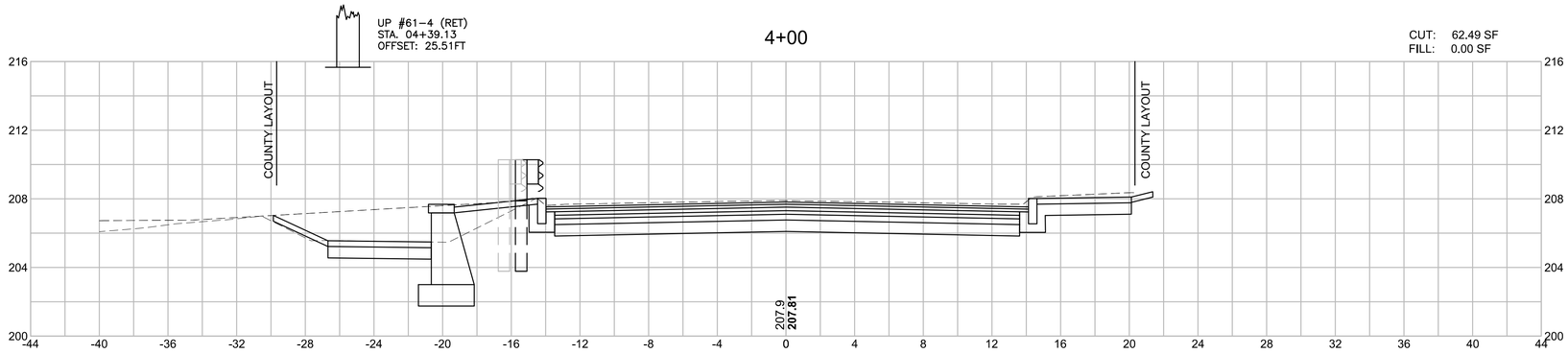
4+42.99

CUT: 59.88 SF
FILL: 0.00 SF



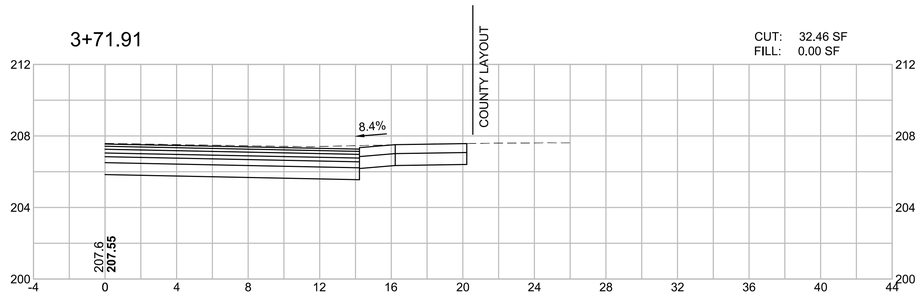
4+00

CUT: 62.49 SF
FILL: 0.00 SF



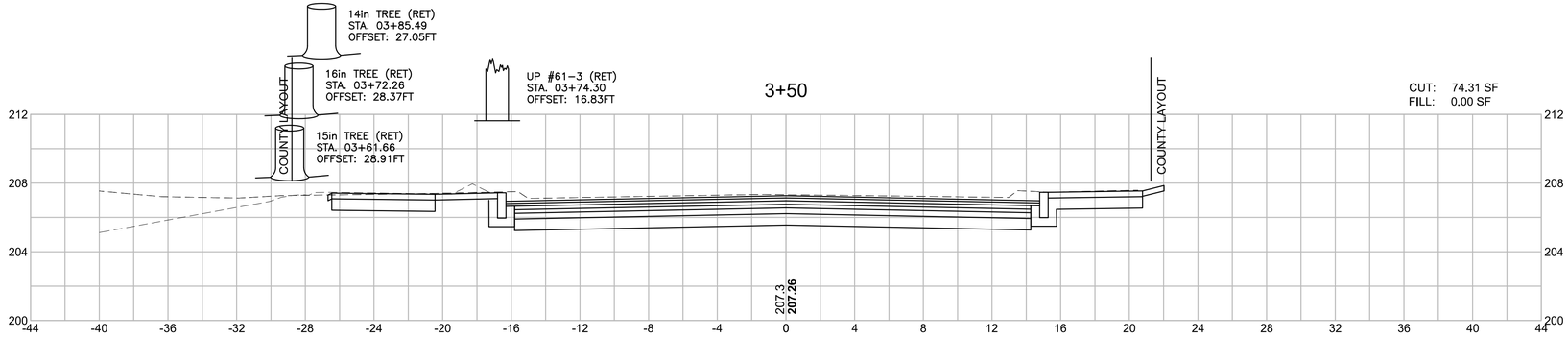
3+71.91

CUT: 32.46 SF
FILL: 0.00 SF



3+50

CUT: 74.31 SF
FILL: 0.00 SF



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

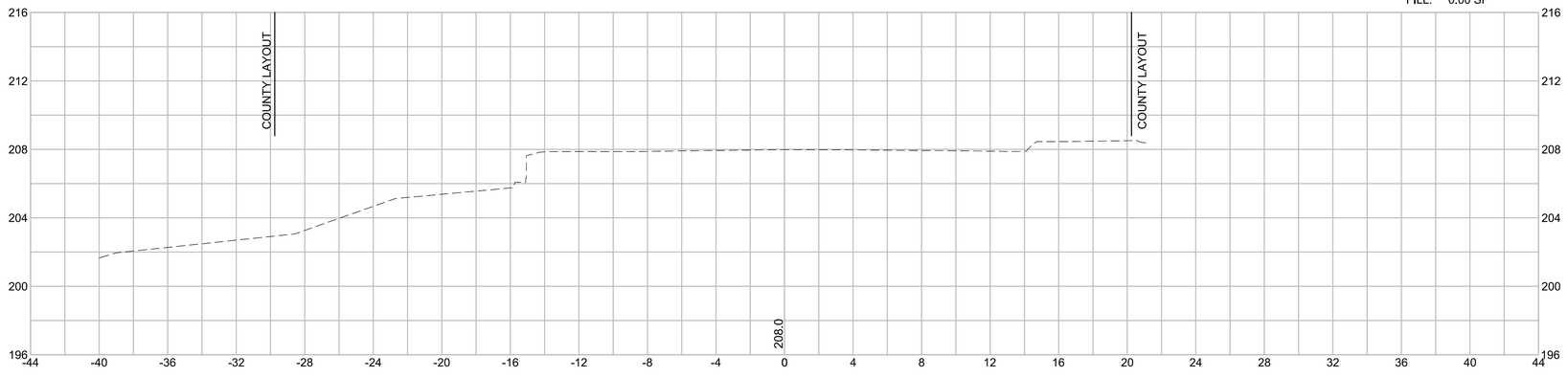
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	118	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MAPLE STREET

607409_HD\XS\.DWG Plotted on 19-Apr-2016 5:07 PM

4+50

CUT: 0.00 SF
FILL: 0.00 SF



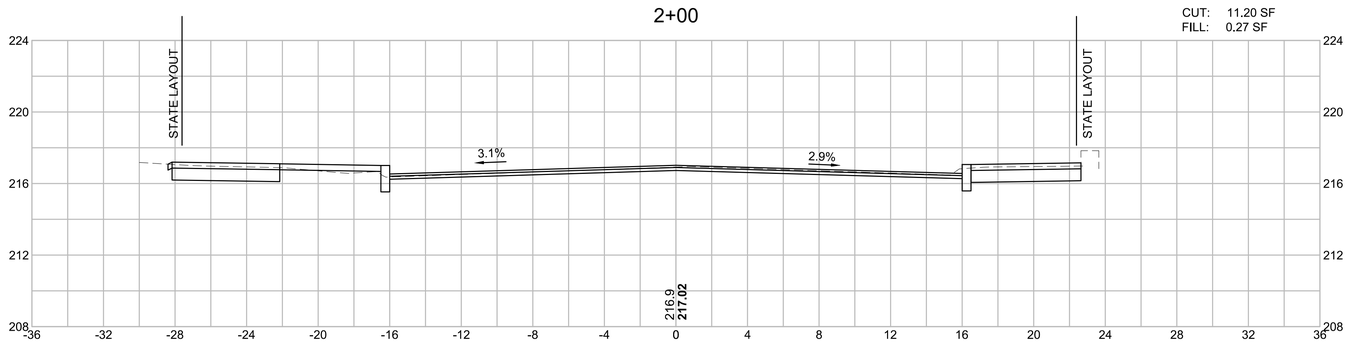
HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

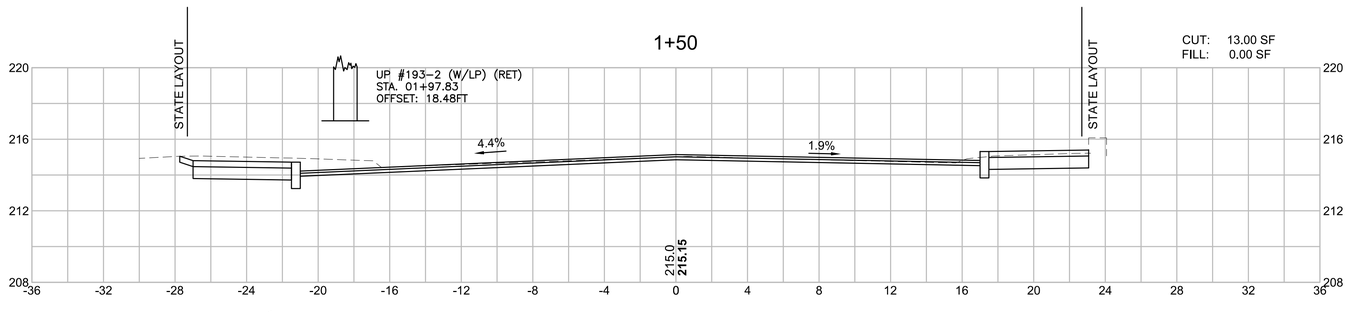
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

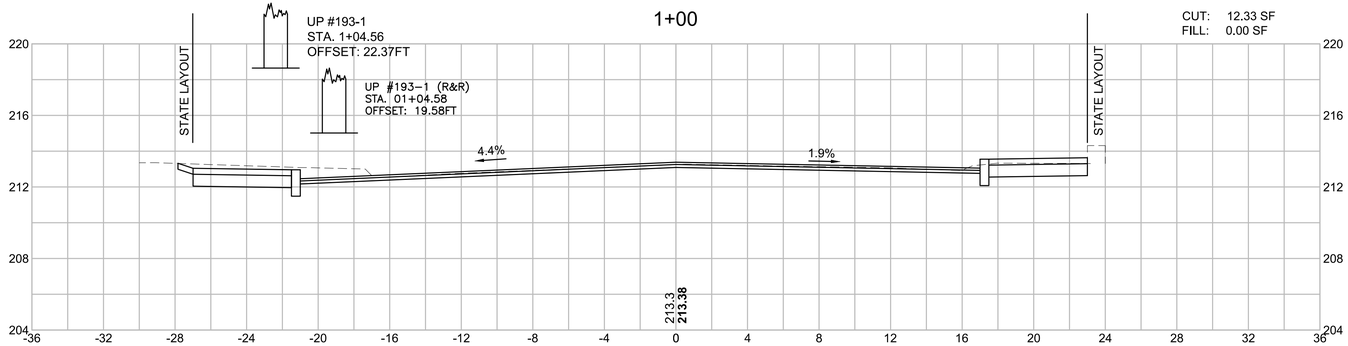
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	119	126
PROJECT FILE NO.	607409		

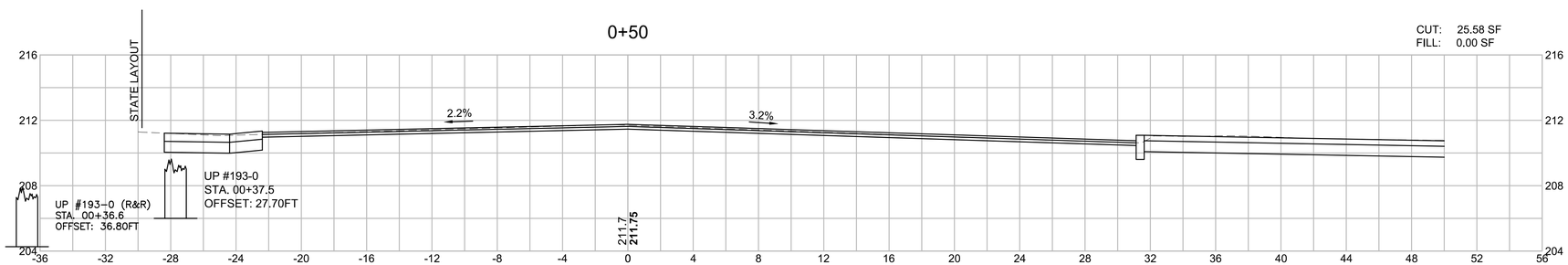
CROSS SECTIONS
MARRETT ROAD

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM









HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

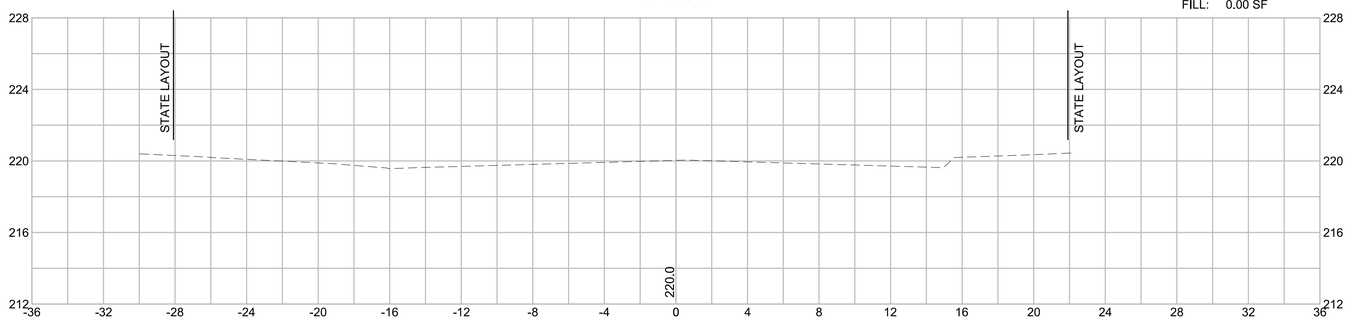
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	120	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MARRETT ROAD

607409_HD\XS\.DWG Plotted on 19-Apr-2016 5:07 PM

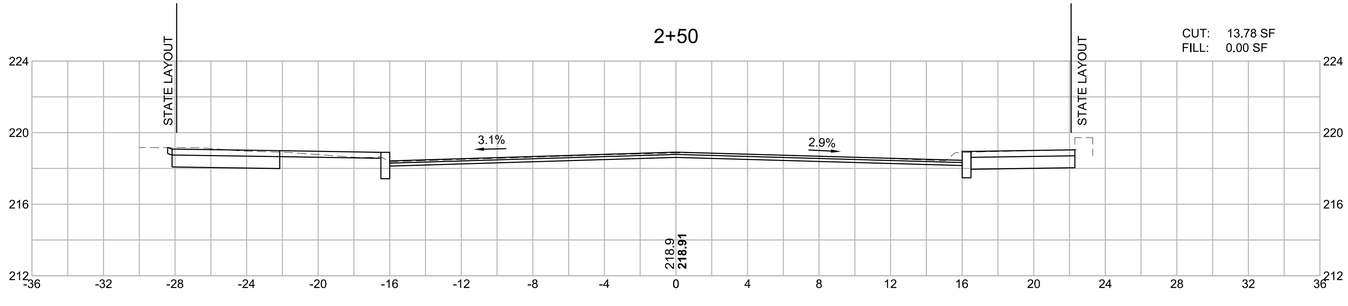
2+79.71

CUT: 0.00 SF
FILL: 0.00 SF



2+50

CUT: 13.78 SF
FILL: 0.00 SF



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

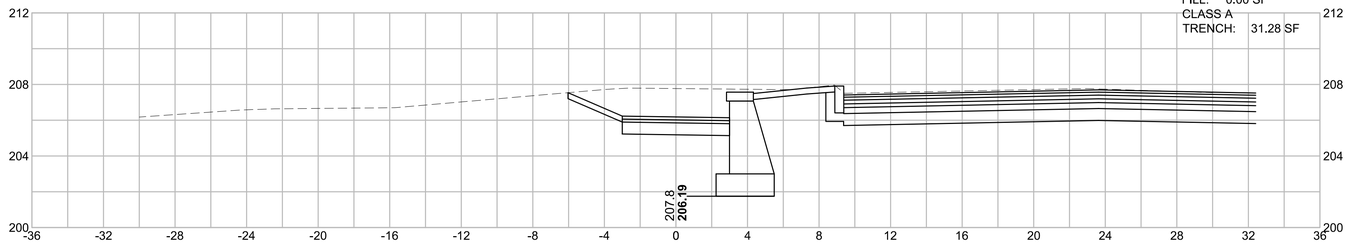
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	121	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MINUTEMAN COMMUTER BIKEWAY CONNECTION

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM

50+75

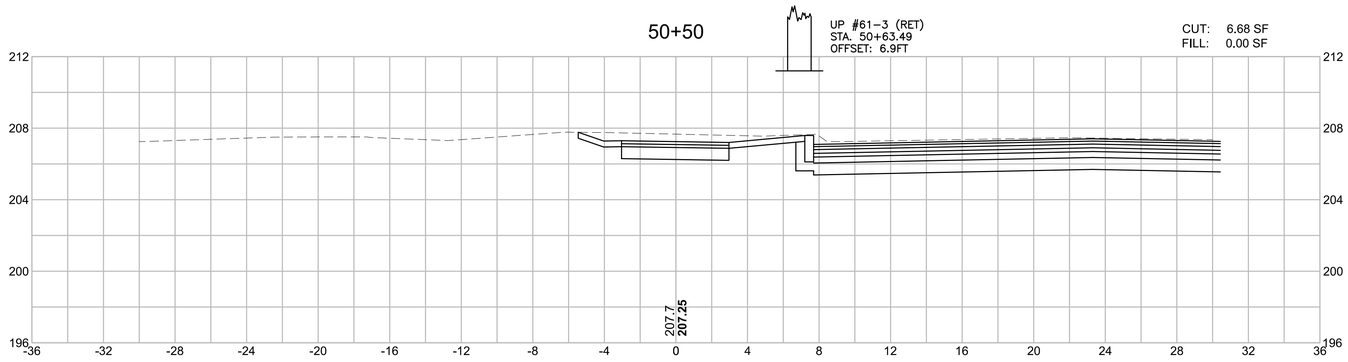
CUT: 14.38 SF
FILL: 0.00 SF
CLASS A
TRENCH: 31.28 SF



50+50

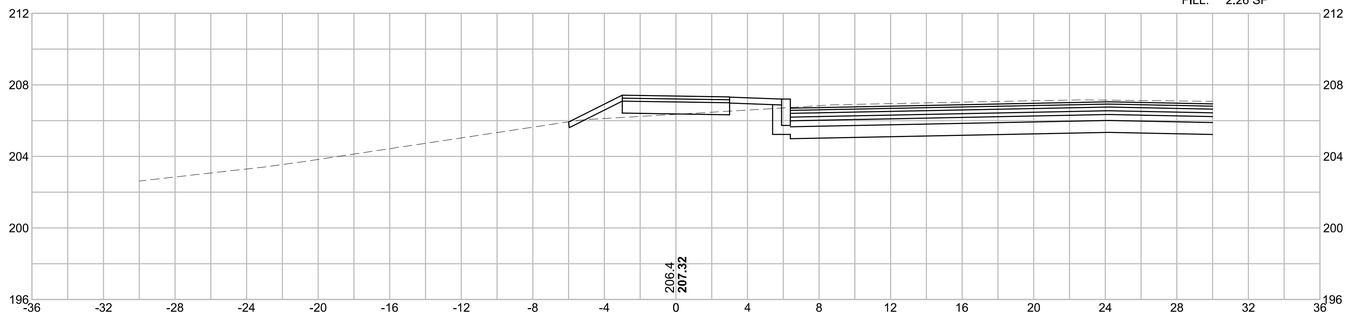
UP #61-3 (RET)
STA. 50+63.49
OFFSET: 6.9FT

CUT: 6.68 SF
FILL: 0.00 SF



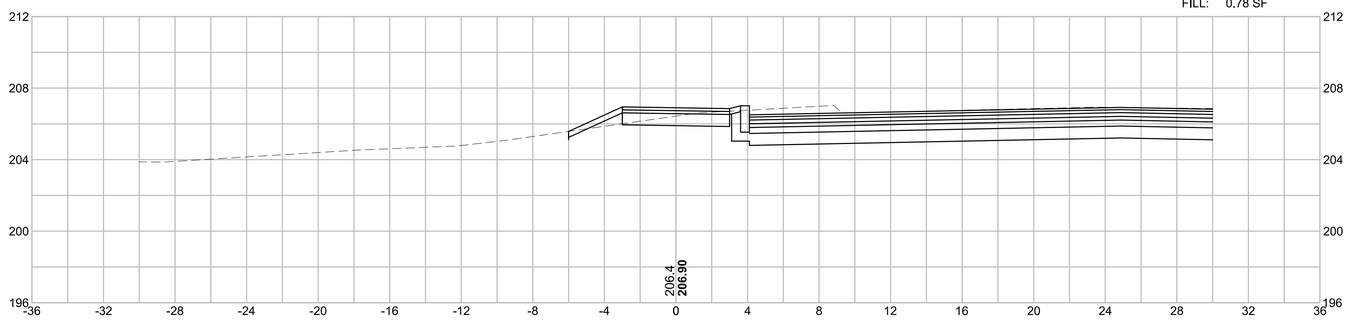
50+25

CUT: 0.28 SF
FILL: 2.26 SF



50+00

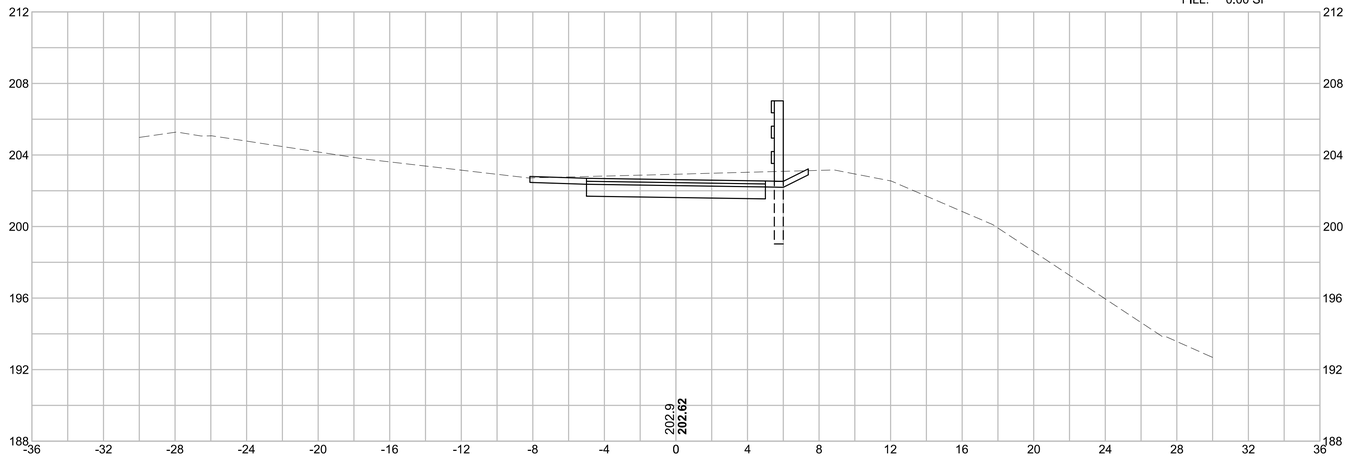
CUT: 2.50 SF
FILL: 0.78 SF



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

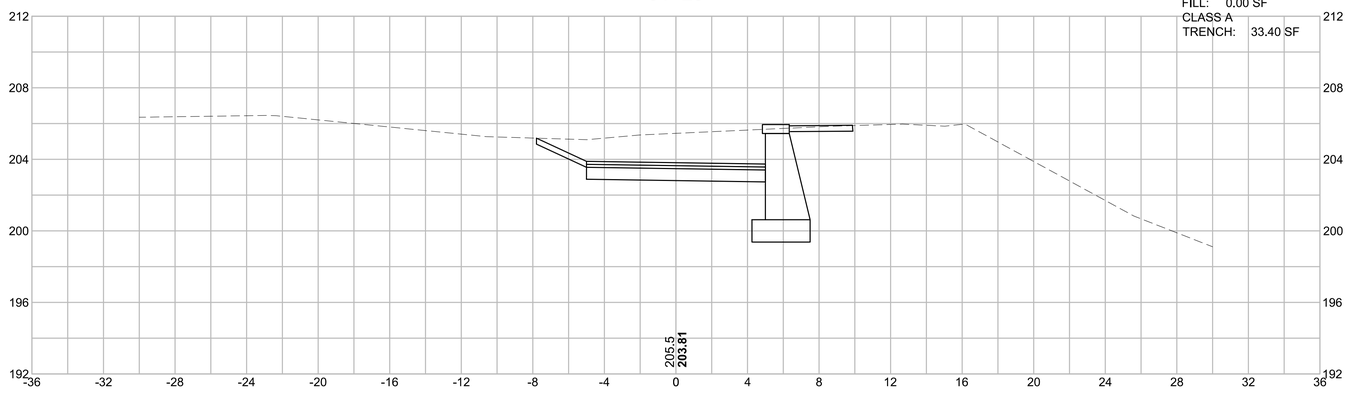
51+50

CUT: 17.17 SF
FILL: 0.00 SF



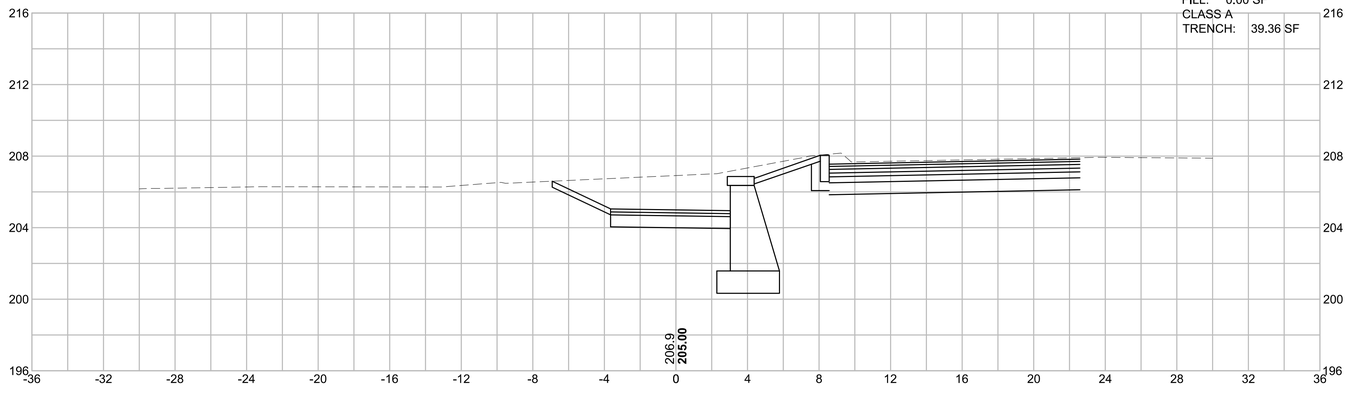
51+25

CUT: 24.89 SF
FILL: 0.00 SF
CLASS A
TRENCH: 33.40 SF



51+00

CUT: 17.79 SF
FILL: 0.00 SF
CLASS A
TRENCH: 39.36 SF



LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	122	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MINUTEMAN COMMUTER BIKEWAY CONNECTION

HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

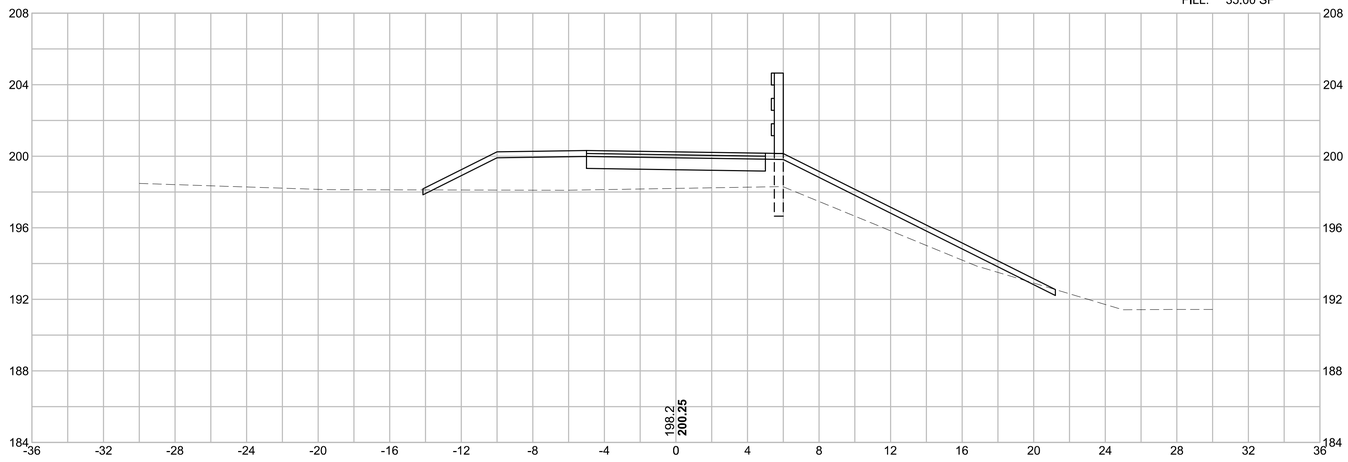
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	123	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MINUTEMAN COMMUTER BIKEWAY CONNECTION

607409_HD(XS).DWG Plotted on 19-Apr-2016 5:07 PM

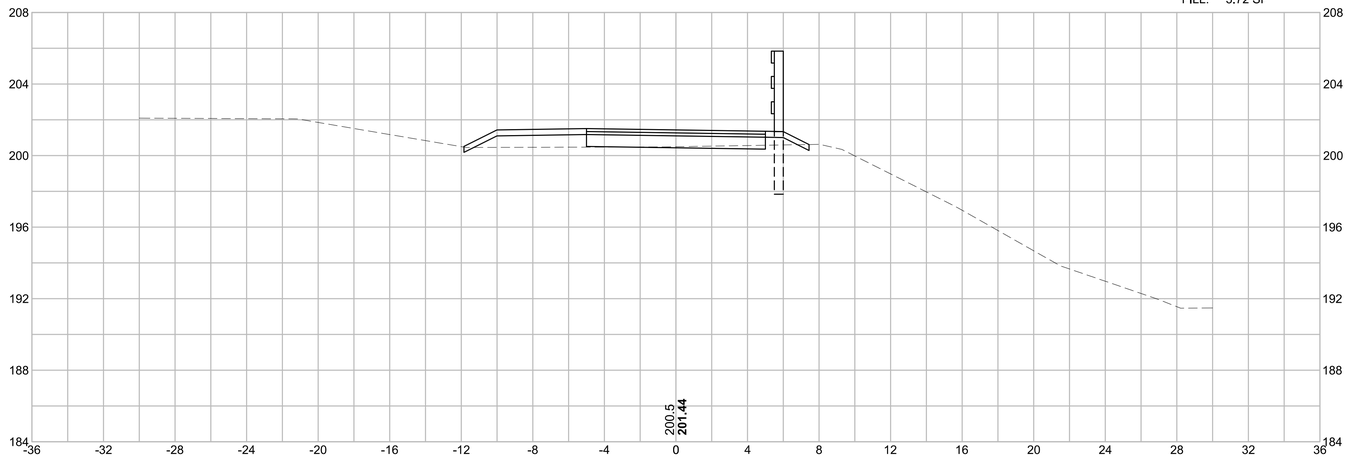
52+00

CUT: 0.19 SF
FILL: 35.00 SF



51+75

CUT: 1.91 SF
FILL: 3.72 SF



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

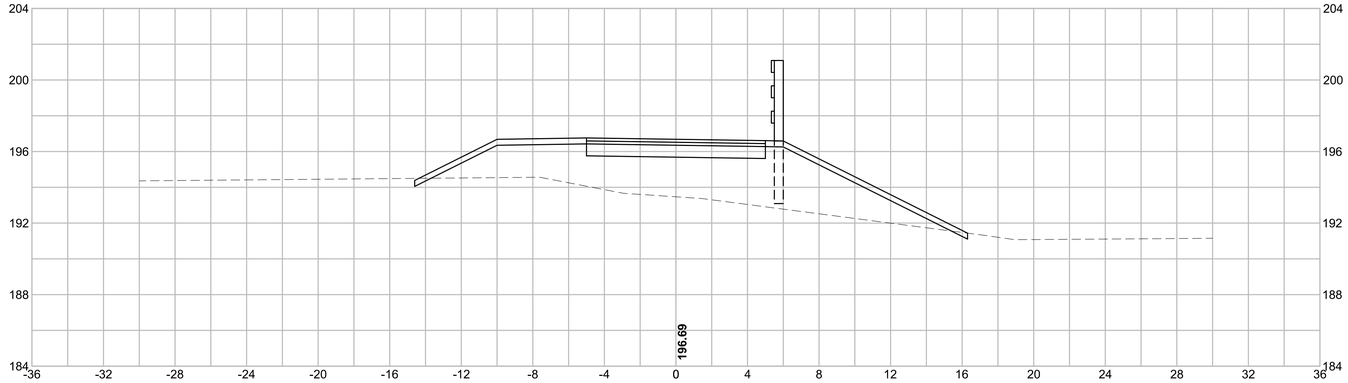
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	124	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MINUTEMAN COMMUTER BIKEWAY CONNECTION

Plotted on 19-Apr-2016 5:07 PM
607409_HD\XS\.DWG

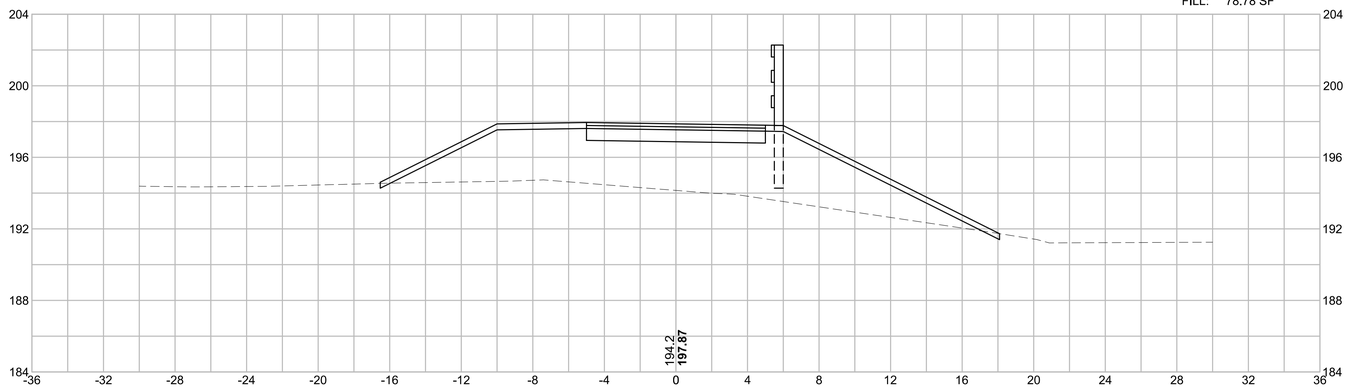
52+75

CUT: 0.22 SF
FILL: 58.50 SF



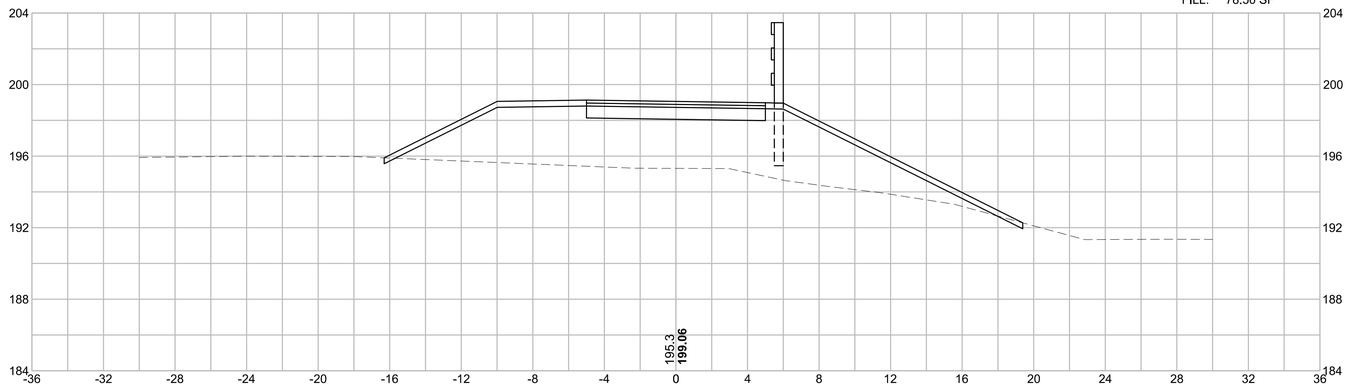
52+50

CUT: 0.22 SF
FILL: 78.78 SF



52+25

CUT: 0.24 SF
FILL: 78.50 SF



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

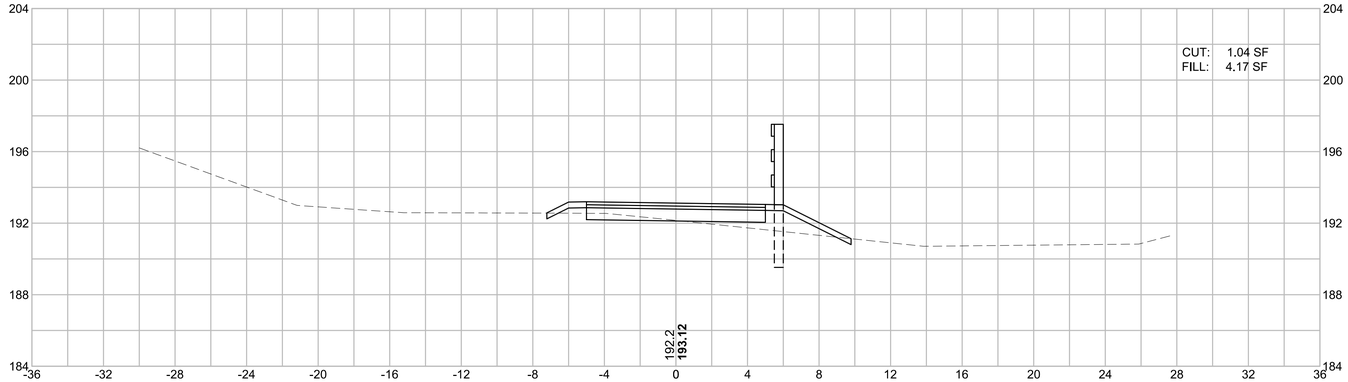
LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	125	126
PROJECT FILE NO.	607409		

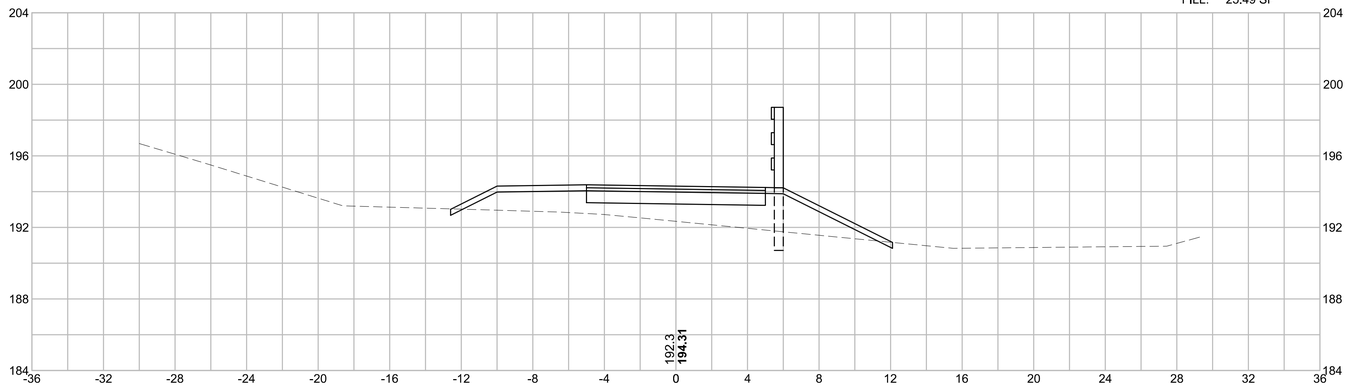
CROSS SECTIONS
MINUTEMAN COMMUTER BIKEWAY CONNECTION

607409_HD\XS\.DWG Plotted on 19-Apr-2016 5:07 PM

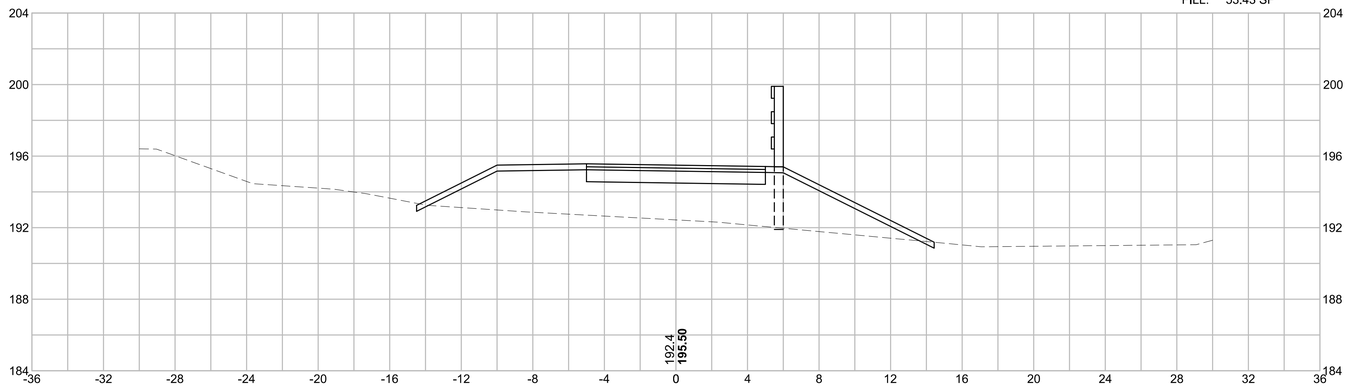
53+50



53+25



53+00



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

LEXINGTON
MASSACHUSETTS AVENUE IMPROVEMENTS

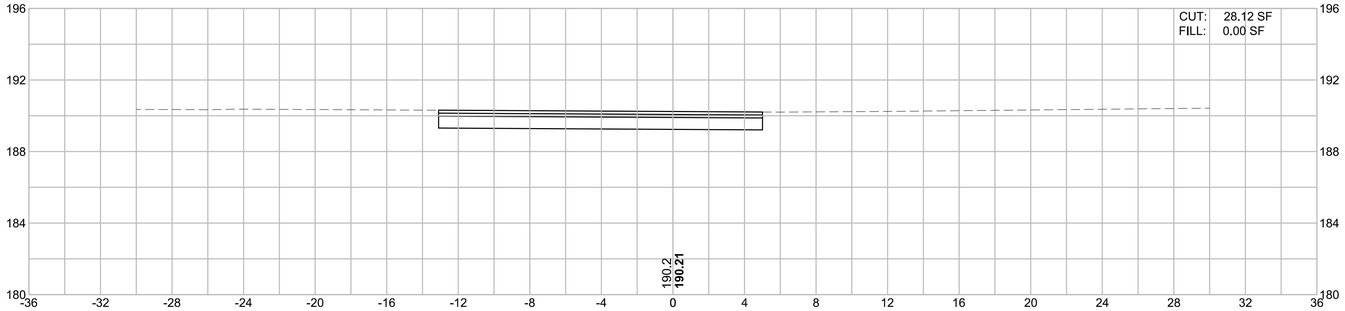
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HSI/TAP-002S(917)X	126	126
PROJECT FILE NO.	607409		

CROSS SECTIONS
MINUTEMAN COMMUTER BIKEWAY CONNECTION

Plotted on 19-Apr-2016 5:07 PM
607409_HD\XS\.DWG

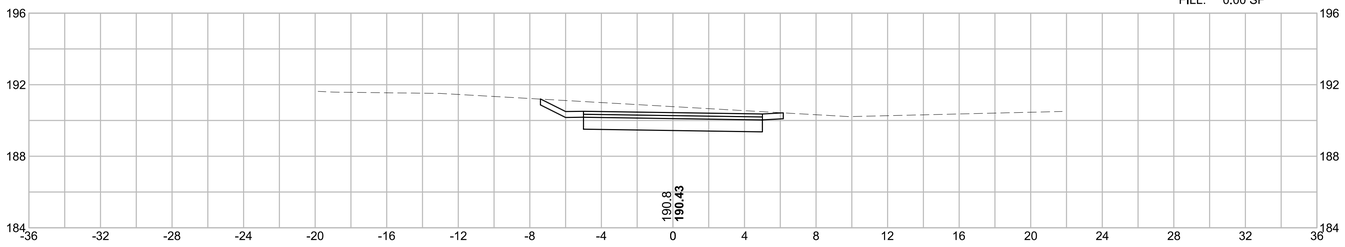
54+39

CUT: 28.12 SF
FILL: 0.00 SF



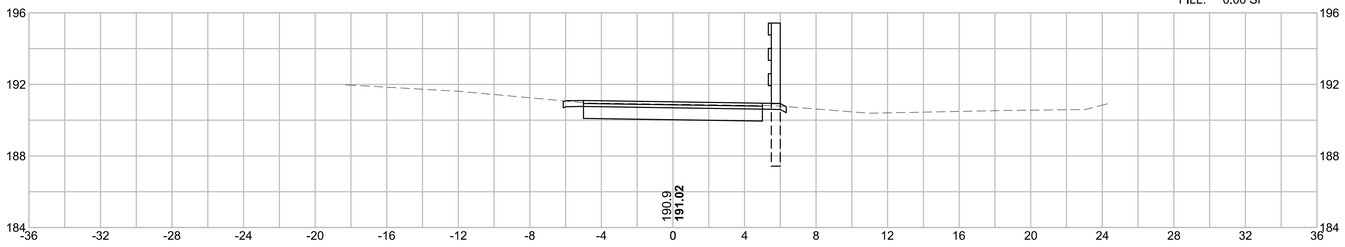
54+25

CUT: 15.71 SF
FILL: 0.00 SF



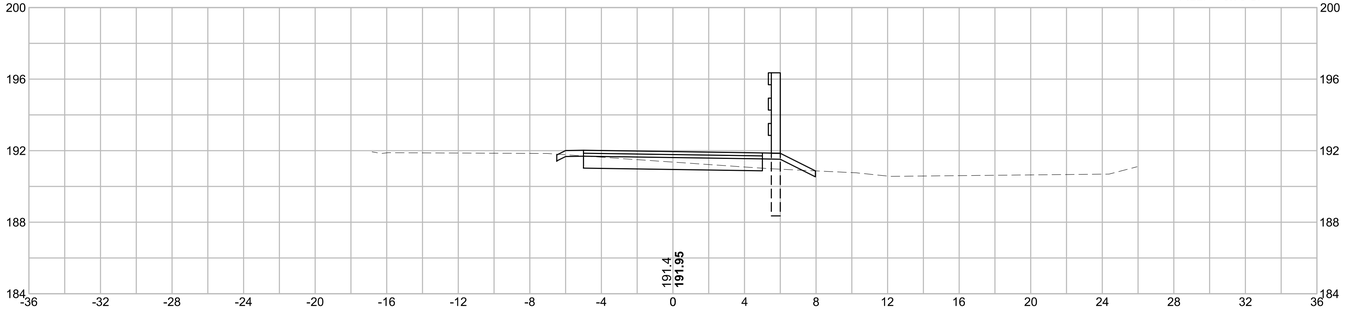
54+00

CUT: 9.44 SF
FILL: 0.00 SF



53+75

CUT: 3.98 SF
FILL: 0.75 SF



HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET