MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	1	208
PROJECT FILE NO. 608227			

TITLE & INDEX SHEET

PLAN AND PROFILE OF

YANKEE DOODLE BIKE PATH

(BRIDGE NO. B-12-026)

IN THE TOWN OF

BILLERICA

MIDDLESEX COUNTY

FEDERAL AID PROJECT NO. : TBD

100% SUBMITTAL

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, 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.

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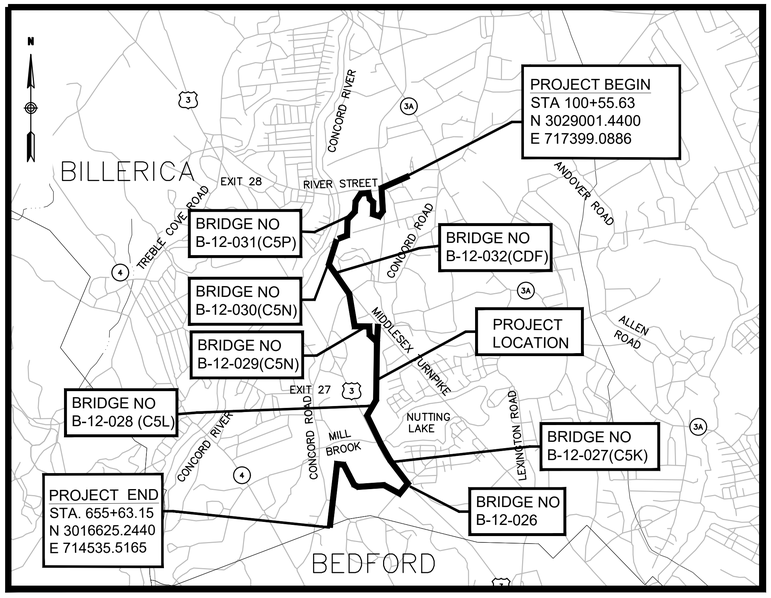


0 2500 5000 7500 10000

SCALE: 1" = 2500'

LENGTH OF PROJECT = 22,083.85 FEET = 4.183 MILES

DESIGN DESIGNATION (YANKEE DOODLE BIKE PATH)

DESIGN SPEED	20 MPH
FUNCTIONAL CLASSIFICATION	MULTI-USE PATH

DESIGN DESIGNATION (RIVER STREET)

DESIGN SPEED	30 MPH
FUNCTIONAL CLASSIFICATION	URBAN MINOR ARTERIAL

DESIGN DESIGNATION (CONCORD ROAD)

DESIGN SPEED	25 MPH
FUNCTIONAL CLASSIFICATION	URBAN MINOR ARTERIAL

DESIGN DESIGNATION (ORCHARD ROAD)

DESIGN SPEED	25 MPH
FUNCTIONAL CLASSIFICATION	URBAN COLLECTOR

DESIGN DESIGNATION (TECHNOLOGY PARK DRIVE)

DESIGN SPEED	25 MPH
FUNCTIONAL CLASSIFICATION	LOCAL

DATE	DESCRIPTION	REV #
01/05/2024	100% SUBMISSION	3
08/15/2022	75% SUBMISSION	2
02/02/2018	25% SUBMISSION	1
07/08/2016	PRE-25% SUBMISSION	0

PLAN PREPARED BY:

vhb

101 WALNUT STREET
WATERTOWN, MA 02471

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**

608227HD (COV).DWG Plotted on 28-Dec-2023 at 9:28:04AM

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
JB	JB	JERSEY BARRIER ON BRIDGE OR JERSEY BARRIER
CB	CB	CATCH BASIN
		CATCH BASIN CURB INLET
		FLARED END SECTION (FES)
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
E	E	CABLE MANHOLE
D	DMH/LB	DRAINAGE MANHOLE OR LEACHING BASIN
E	E	ELECTRIC MANHOLE
G	G	GAS MANHOLE
GT	GT	MISC MANHOLE
S	S	SEWER MANHOLE
T	T	TELEPHONE MANHOLE
W	W	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
		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)
		MSE RETAINING WALL / TEMPORARY SHEETING
		BALANCE STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD RAILING
		SPLIT RAIL WOOD FENCE
		COMPOST FILTER TUBE
		TREE LINE OR LIMIT OF CLEARING AND GRUBBING
		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
		FULL DEPTH PAVEMENT
		RIP RAP SLOPE PROTECTION AND MODIFIED ROCK FILL
WF#XX-XXX		WETLAND FLAG & LIMITS

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
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 (12" LINE WIDTH)
	CW	CROSSWALK (WIDTHS AS NOTED)
	SWL	SOLID WHITE LINE (4" LINE WIDTH UNLESS OTHERWISE NOTED)
	SYL	SOLID YELLOW LINE (4" LINE WIDTH)
	BWL	BROKEN WHITE LINE (4" LINE WIDTH)
	BYL	BROKEN YELLOW LINE 3' LINE, W/ 9' GAP (4" LINE WIDTH)
	DBYL	DOUBLE YELLOW LINE (4" LINE WIDTH)

ABBREVIATIONS

GENERAL

ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
BIT.	BITUMINOUS
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CEM	CEMENT
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
DIA	DIAMETER
DW	DRIVEWAY
ELEV (or EL.)	ELEVATION
EOP	EDGE OF PAVEMENT
EXIST	EXISTING
FDN.	FOUNDATION
GP	GATE POST
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HMA	HOT MIX ASPHALT
L&S	LOAM AND SEED
LT, L	LEFT
MAX	MAXIMUM
MB	MAILBOX
MIN	MINIMUM
NTS	NOT TO SCALE
PROP	PROPOSED

ABBREVIATIONS (CONTINUED)

GENERAL

OD	OUTSIDE DIAMETER
PVM'T	PAVEMENT
REM	REMOVE
REMOD	REMODEL
RET	RETAIN
R&D	REMOVE AND DISCARD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT, R	RIGHT
SGE	SLOPED GRANITE EDGING
STA	STATION
SUP	SHARED USE PATH
TEMP	TEMPORARY
TOS	TOP OF SLOPE
TYP	TYPICAL
PCR	PEDESTRIAN CURB RAMP

UTILITIES

CIP	CAST IRON PIPE
CIT	CHANGE IN TYPE
COND	CONDUIT
DB	DIRECT BURIAL
FES	FLARED END SECTION
F&C	FRAME & COVER
F&G	FRAME & GRATE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HW	HEADWALL
HYD	HYDRANT
INV	INVERT
LB	LEACHING BASIN
PVC	POLYVINYL CHLORIDE PIPE
PWW	PAVED WATER WAY
RCP	REINFORCED CONCRETE PIPE
TSV&B	TAPPING SLEEVE, VALVE, & BODY
UP	UTILITY POLE

GENERAL NOTES:

1. TOPOGRAPHICAL INFORMATION WAS OBTAINED VIA PHOTOGRAMMETRIC METHODS BY EASTERN TOPOGRAPHICS FROM PHOTOGRAPHS TAKEN IN APRIL OF 2014 AND BY COL-EAST, INC. FROM PHOTOGRAPHS TAKEN IN JANUARY 2016 AND SUPPLEMENTED WITH GROUND SURVEY BY HANCOCK ASSOCIATES. (HORIZONTAL DATUM: NAD83, VERTICAL DATUM: NAVD88). ADDITIONAL GROUND SURVEY WAS OBTAINED BY HANCOCK ASSOCIATES IN SUMMER 2017, WINTER 2017, APRIL 2023 AND JUNE 2023.
2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. CONTRACTOR SHALL NOTIFY "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS BEFORE EXCAVATING.
3. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
4. THE CONTRACTOR SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE STRUCTURES AS NECESSARY FOR CHANGES IN GRADE, AND RESET ALL WATER AND DRAINAGE FRAMES, GRATES AND BOXES TO THE PROPOSED FINISH SURFACE GRADE. REQUIRED NEW MASONRY SHALL BE CLAY BRICK CONFORMING TO M4.05.2.
5. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
6. EXISTING UTILITY POLES WILL BE RELOCATED BY OTHERS.
7. TREES AND SHRUBS WITHIN THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON APPROVAL OF THE ENGINEER.
8. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE OWNER. NO TREE/VEGETATION CLEARING SHALL OCCUR FOR THE PURPOSES OF CREATING TEMPORARY STAGING/STOCKPILING AREAS FOR THE PROJECT.
9. TEMPORARY STAGING OF CONSTRUCTION EQUIPMENT AND MATERIALS FOR THE PROJECT ARE PROHIBITED WITHIN 50 FEET OF WETLAND RESOURCE AREAS. EROSION & SEDIMENT CONTROLS SHALL BE PROVIDED AROUND TEMPORARY STAGING/MATERIAL LAYDOWN AREAS THAT ARE WITHIN 100 FEET OF A WETLAND RESOURCE AREA.
10. THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R).
11. JOINTS BETWEEN NEW BITUMINOUS CONCRETE ROADWAY PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH HMA JOINT SEALER, IN ACCORDANCE WITH SUPERPAVE SPECIFICATIONS.
12. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS
13. ALL EXISTING UTILITY STRUCTURES WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS
14. ALL LATERAL DRAIN PIPES SHALL BE INSTALLED WITH A PITCH OF 0.01 FOOT PER FOOT (MINIMUM) UNLESS NOTED OTHERWISE ON THE DRAWINGS.
15. ALL CATCH BASIN STRUCTURES SHALL BE DEEP SUMP CATCH BASINS AS SHOWN IN THE MASSDOT CONSTRUCTION STANDARD DETAILS, DETAIL E201.1.0, UNLESS NOTED OTHERWISE ON THE PLANS.
16. DRAIN INLET PROTECTION SHALL BE INSTALLED AT ALL EXISTING DRAIN INLETS DOWNSTREAM OF SOIL DISTURBANCE AREAS.
17. EXISTING SUITABLE GRANITE CURB & EDGING SHALL BE RE-USED IN THE PROPOSED WORK, EXCEPT CURVED PIECES OF A DIFFERENT RADIUS THAN PROPOSED CURB.
18. ALL EXISTING STATE, COUNTY, CITY, AND TOWN LOCATION LINES AND PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND THEIR EXACT LOCATION ARE NOT GUARANTEED.
19. DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL ANY STRUCTURES BE ORDERED. ANY FIELD ADJUSTMENTS TO LINE & GRADE UP TO A DEPTH OF 5' SHALL BE INCLUDED IN THE COST OF THE PIPE. PIPE EXCAVATION GREATER THAN 5' WILL BE PAID UNDER CLASS B TRENCH EXCAVATION.
20. ALL EXISTING STONE OR WOOD MILE MARKERS SHALL BE REMOVED AND RESET AS DIRECTED BY THE ENGINEER. EXISTING BATTERY BOXES AND OTHER METAL AND CONCRETE RAILROAD ARTIFACTS THAT ARE IN POOR CONDITION ARE PROPOSED TO BE REMOVED. RAILROAD ARTIFACTS NOT SHOWN ON PLANS TO BE REMOVED SHALL BE MADE AWARE TO ENGINEER BEFORE REMOVAL.
21. ALL EXISTING RAILROAD BOUNDS, WITHIN THE LIMITS OF WORK, SHALL BE ADJUSTED TO FINISH GRADE. EXISTING BOUNDS WITHIN THE SHARED USE PATH PAVEMENT SHALL BE SET FLUSH WITH THE FINISH PAVEMENT SURFACE. ALL EXISTING DAMAGED BOUNDS SHALL BE REPLACED WITH NEW BOUNDS AND SET TO FINISH GRADE.

ABBREVIATIONS (CONTINUED)

ALIGNMENT/GRADING

BC	BOTTOM OF CURB
CC	CENTER OF CURVE
HP	HIGH POINT
LP	LOW POINT
PC	POINT OF CURVE
PI	POINT OF INTERSECTION
PNT	POINT
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENT
TEMP	TEMPORARY
25.45	SPOT ELEVATION

PROFILES

AD	ALGEBRAIC DIFFERENCE IN RATES OF GRADE
ELEV (or EL)	ELEVATION
HSD	HORIZONTAL SIGHT DISTANCE
K	RATE OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVC	POINT OF VERTICAL CURVE
PVT	POINT OF VERTICAL TANGENT
PVRC	POINT OF VERTICAL REVERSE CURVE
PVCC	POINT OF VERTICAL COMPOUND CURVE
SSD	STOPPING SIGHT DISTANCE
VC	VERTICAL CURVE

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	2	208
PROJECT FILE NO. 608227			

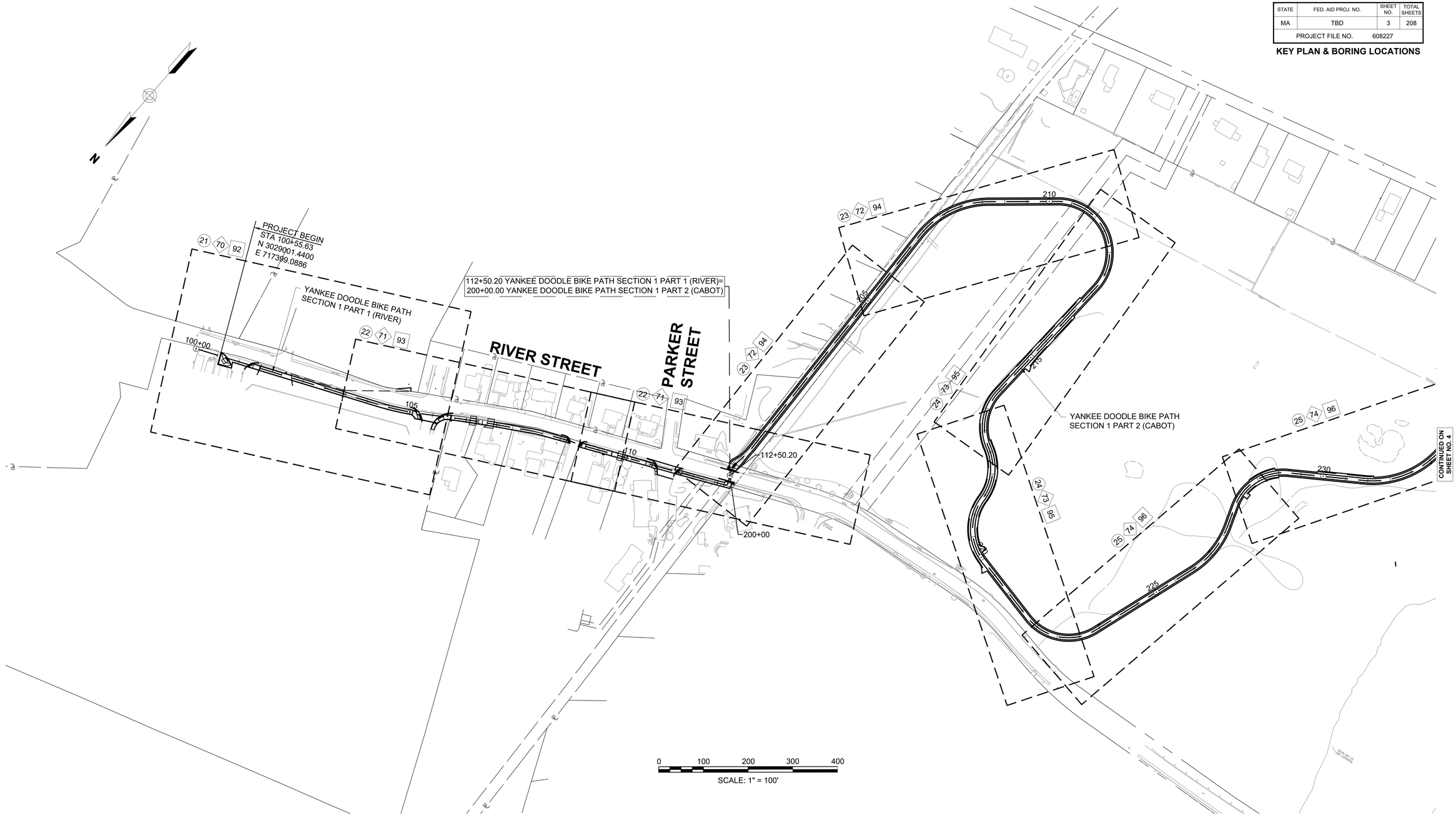
LEGEND, GENERAL NOTES, & ABBREVIATIONS

608227HD (LEG).DWG 28-Dec-2023

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	3	208
PROJECT FILE NO.	608227		

KEY PLAN & BORING LOCATIONS



LEGEND

- XX — CONSTRUCTION PLANS
- XX — ALIGNMENT & GRADING PLANS
- XX — TRAFFIC PLANS
- CX — BORING LOCATION

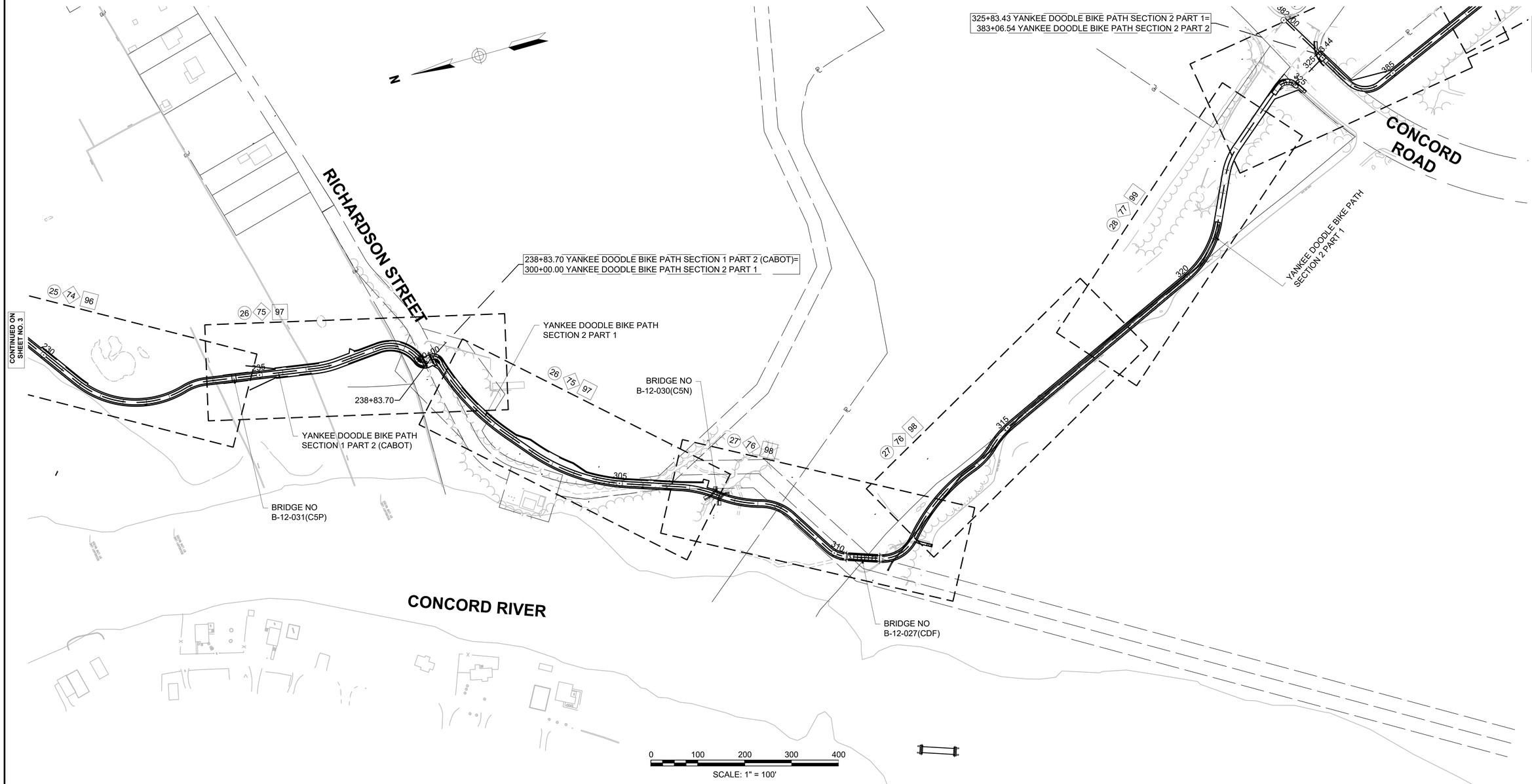
608227HD (KEYPLAN).DWG Plotted on 2-Jan-2024 9:07 AM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	4	208
PROJECT FILE NO.	608227		

KEY PLAN & BORING LOCATIONS

608227HD (KEYPLAN).DWG Plotted on 2-Jan-2024 9:07 AM



LEGEND

- XX — CONSTRUCTION PLANS
- XX — ALIGNMENT & GRADING PLANS
- XX — TRAFFIC PLANS
- CX — BORING LOCATION

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	5	208
PROJECT FILE NO.	608227		

KEY PLAN & BORING LOCATIONS

608227HD (KEYPLAN).DWG Plotted on 2-Jan-2024 9:07 AM

325+83.43 YANKEE DOODLE BIKE PATH SECTION 2 PART 1=
383+06.54 YANKEE DOODLE BIKE PATH SECTION 2 PART 2

MIDDLESEX TURNPIKE

CONTINUED ON SHEET NO. 4

YANKEE DOODLE BIKE PATH SECTION 2 PART 1

CONCORD ROAD

YANKEE DOODLE BIKE PATH SECTION 2 PART 2

BRIDGE NO B-12-029(C5N)

YANKEE DOODLE BIKE PATH SECTION 3

409+13.05 YANKEE DOODLE BIKE PATH SECTION 2 PART 2=
506+74.50 YANKEE DOODLE BIKE PATH SECTION 3

CONTINUED BELOW

CONTINUED ABOVE

YANKEE DOODLE BIKE PATH SECTION 3

BRIDGE NO B-12-028(C5L)

ROUTE 3

CONTINUED ON SHEET NO. 6

LEGEND

- XX — CONSTRUCTION PLANS
- XX — ALIGNMENT & GRADING PLANS
- XX — TRAFFIC PLANS
- CX — BORING LOCATION

0 100 200 300 400
SCALE: 1" = 100'

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	6	208
PROJECT FILE NO.	608227		

KEY PLAN & BORING LOCATIONS

CONTINUED ON SHEET NO. 5

562+42.13 YANKEE DOODLE BIKE PATH SECTION 3=
600+06.55 YANKEE DOODLE BIKE PATH SECTION 4

562+63.69

ROUTE 3

YANKEE DOODLE BIKE PATH SECTION 3

BRIDGE NO B-12-027(C5K)

YANKEE DOODLE BIKE PATH SECTION 4

ORCHARD ROAD CONST ℄

BRIDGE NO. B-12-026

ORCHARD ROAD

TECHNOLOGY PARK DRIVE

WALL STREET

TECHNOLOGY PARK DRIVE

YANKEE DOODLE BIKE PATH SECTION 4

TECHNOLOGY PARK DRIVE CONST ℄

MIDDLESEX COMMUNITY COLLEGE

CONTINUED ON SHEET NO. 7

SCALE: 1" = 100'

LEGEND

- XX — CONSTRUCTION PLANS
- XX — ALIGNMENT & GRADING PLANS
- XX — TRAFFIC PLANS
- CX — BORING LOCATION

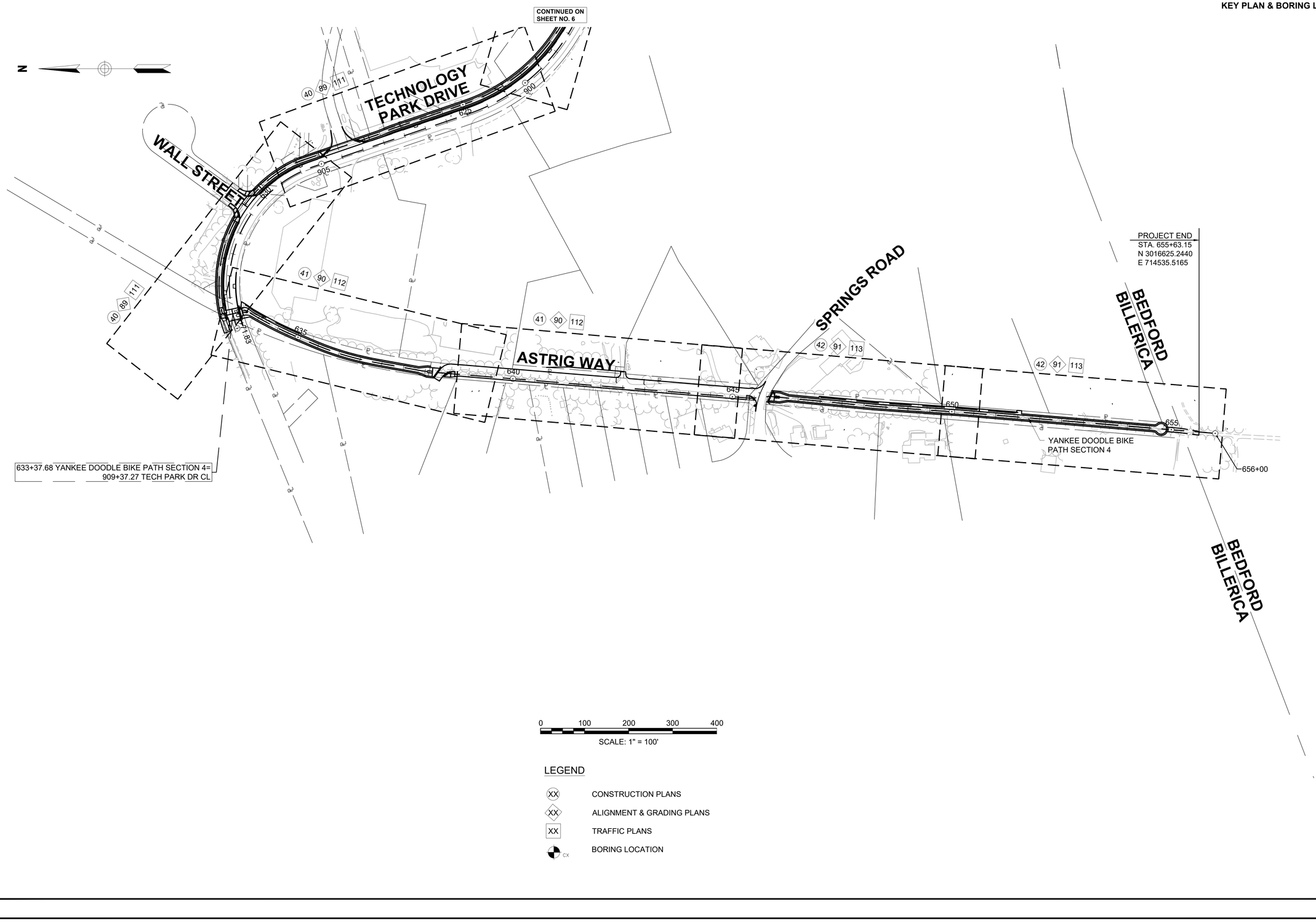
608227HD (KEYPLAN).DWG Plotted on 2-Jan-2024 9:08 AM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	7	208
PROJECT FILE NO.	608227		

KEY PLAN & BORING LOCATIONS

608227HD (KEYPLAN).DWG Plotted on 2-Jan-2024 9:08 AM



LEGEND

- XX — CONSTRUCTION PLANS
- XX — ALIGNMENT & GRADING PLANS
- XX — TRAFFIC PLANS
- CX — BORING LOCATION

BORING B–9

STATION: 542+85
OFFSET: 3.5' LT
GROUND ELEVATION: 196'

BORING B–10

STATION: 543+20
OFFSET: 4.0' LT
GROUND ELEVATION: 197'

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	8	208
PROJECT FILE NO. 608227			

BORING LOGS

608227HD (BORING LOGS).DWG 29-Dec-2023

LGCI Lahlaf Geotechnical Consulting, Inc.

BORING LOG — **Boring B-9** Page 1 of 2

Project: **Proposed Yankee Doodle Bike Path, Billerica, Massachusetts**
Client: **Vanasse Hangen Brustlin, Inc.** LGCI Project No.: 1723

Drilling Subcontractor:	Soil Exploration Corp.	Date Started:	11/20/2017
Drilling Foreman:	Don Leger	Date Completed:	11/20/2017
LGCI Engineer:	Tom Sinnott	Location:	Proposed crossing at headwall culvert
Ground Surface El:	~196 ft. (see remark 1)	Total Depth:	36 feet
Groundwater Depth:	~8.4 ft. at end of drilling	Drill Rig Type:	Geoprobe 6610DT
		Drilling Method:	Drive and wash with 3 inch casing
Hammer Weight:	140 lbs	Split Spoon Diameter:	ID - 1.375", OD - 2"
Hammer Type:	Automatic	Rock Core Barrel Size:	NA
Drop:	30 inches		

Depth Scale	Depth (ft)	Sample No	Blows per 6 inches 0-6	6-12	12-18	18-24	Pen (in)	Rec (in)	Remarks	Strata	Sample Description
	0-2	S1	2	4	2	1	24	8		Topsoil ~2 ft.	S1 - Silty SAND (SM), fine, ~15% fines, trace fine gravel, trace organic fines, trace roots, trace paper and plastic, dark brown, moist
	2-4	S2	1	2	2	2	24	8		Fill	S2 - Silty SAND (SM), fine, 20-25% fines, ~5% fine gravel, trace organic fines, trace roots, brown, wet
5ft	5-7	S3	9	7	13	5	24	11			S3 - Silty SAND with Gravel (SM), fine, trace medium, 15-20% fines, ~20% fine gravel, gray, wet
	7-9	S4	6	5	13	6	24	11			S4 - Top 5": Similar to S3, ~15% fines, trace roots Bot. 6": Silty SAND with Gravel (SM), fine to medium, 20-25% fines, ~40% fine to coarse gravel, gray, wet
10ft	10-12	S5	9	12	5	4	24	7	2		S5 - Silty SAND with Gravel (SM), fine, trace medium, 20-25% fines, 25-30% fine gravel and concrete, gray, wet
15ft	15-17	S6	WOH	WOH	WOH	2	24	11		Swamp Deposits ~20 ft.	S6 - SILT (ML), slightly plastic, trace organic fines, peat fibers, thin non-fibrous peat layer, black, wet (Swamp deposits)
20ft	20-22	S7	1	6	7	6	24	20		Silt	S7 - Top 9": SILT (ML), moderately plastic, gray, wet
										Sand	Bot 11": Silty SAND (SM), 25-30% fines, ~5% fine gravel, gray, wet
30 ft	25-27	S8	WOH	WOH	1	3	24	15		Sand	S8 - Silty SAND with Gravel (SM), fine to medium, ~25% fines, 10-15% fine gravel, gray, wet
	30-32	S9	23	22	20	20	24	18	3		S9 - Silty SAND (SM), fine, trace coarse, 30-35% fines, 5-10% fine gravel, gray, wet
35 ft	34-36	S10	34	24	19	17	24	18	3, 4	~36 ft.	S10 - Silty SAND (SM), fine, trace medium, 25-30% fines, ~5% fine gravel, gray, wet
40 ft											Bottom of boring at 36 feet. Backfilled borehole with soil from the surrounding area.
45 ft											
50 ft											

Remarks:
1. The ground surface elevation was interpolated to the nearest 1/2 foot using a survey plan titled: "Yankee Doodle Pike Bath, Billerica, MA, Boring Locations, page 5 of 6," provided to LGCI by VHB via email on February 9, 2018.
2. Drillers introduced water at 10 feet.
3. Drill chattered at 33 feet.
4. Casing refusal at 34 feet.

EL. 190
EL. 187.6
EL. 180
EL. 170
EL. 160
EL. 150

BOTTOM PILE CAP EL. 189.00

EST. HELICAL ANCHOR TIP EL. 169.00±

LGCI Lahlaf Geotechnical Consulting, Inc.

BORING LOG — **Boring B-10** Page 1 of 2

Project: **Proposed Yankee Doodle Bike Path, Billerica, Massachusetts**
Client: **Vanasse Hangen Brustlin, Inc.** LGCI Project No.: 1723

Drilling Subcontractor:	Soil Exploration Corp.	Date Started:	11/20/2017
Drilling Foreman:	Don Leger	Date Completed:	11/20/2017
LGCI Engineer:	Tom Sinnott	Location:	Proposed crossing at headwall culvert
Ground Surface El:	~197 ft. (see remark 1)	Total Depth:	31 feet
Groundwater Depth:	~10.3 ft. at end of drilling	Drill Rig Type:	Geoprobe 6610DT
		Drilling Method:	Drive and wash with 3 inch casing
Hammer Weight:	140 lbs	Split Spoon Diameter:	ID - 1.375", OD - 2"
Hammer Type:	Automatic	Rock Core Barrel Size:	NA
Drop:	30 inches		

Depth Scale	Depth (ft)	Sample No	Blows per 6 inches 0-6	6-12	12-18	18-24	Pen (in)	Rec (in)	Remarks	Strata	Sample Description
	0-2	S1	2	3	3	3	24	13		Topsoil ~2 ft.	S1 - Top 3": Forest Material Bot 10": Silty SAND (SM), fine, trace medium, ~20% fines, ~5% fine gravel, trace organic fines, trace roots, brown, moist
	2-4	S2	7	15	12	9	24	14		Fill ~10 ft.	S2 - Silty SAND (SM), fine, trace coarse, ~15% fines, ~5% fine gravel, trace organic fines, brown, moist
5ft	5-7	S3	3	10	10	11	24	19			S3 - Top 8": Silty SAND (SM), fine, trace medium, 15-20% fines, trace fine gravel, trace organic fines, brown, wet Bot 11": Silty SAND (SM), fine, trace medium, 15-20% fines, trace fine gravel, brown, wet
	7-9	S4	9	11	11	11	24	24			S4 - Similar to Bot 11" of S3
10ft	10-12	S5	4	2	2	2	24	15	2	Swamp Deposits ~15 ft.	S5 - Silty SAND (SM), fine, 30-35% fines, trace roots, fibrous peat, gray, wet
15ft	15-17	S6	1	1	WOH	WOH	24	18		Sand ~20 ft.	S6 - Well Graded SAND with Silt (SW-SM), fine to medium, 10-15% fines, gray, wet
20ft	20-22	S7	2	1	2	4	24	16	3	Silt ~25 ft.	S7 - SILT (ML), moderately plastic, 10-15% fine sand, gray, wet
30 ft	25-27	S8	1	2	11	5	24	13		Sand	S8 - Silty SAND (SM), fine to medium, ~30% fines, trace fine gravel, gray, wet
	30-31	S9	29	75/6			12	10	4	~31 ft.	S9 - Silty SAND (SM), fine, ~25% fines, trace fine gravel, gray, wet
35 ft											Bottom of boring at 31 feet. Backfilled borehole with soil from the surrounding area.
40 ft											
45 ft											
50 ft											

Remarks:
1. The ground surface elevation was interpolated to the nearest 1/2 foot using a survey plan titled: "Yankee Doodle Pike Bath, Billerica, MA, Boring Locations, page 5 of 6," provided to LGCI by VHB via email on February 9, 2018.
2. Drillers introduced water at 10 feet.
3. Drill chattered at 21 feet.
4. Refusal at 31 feet.

EL. 186.7

NOTES:

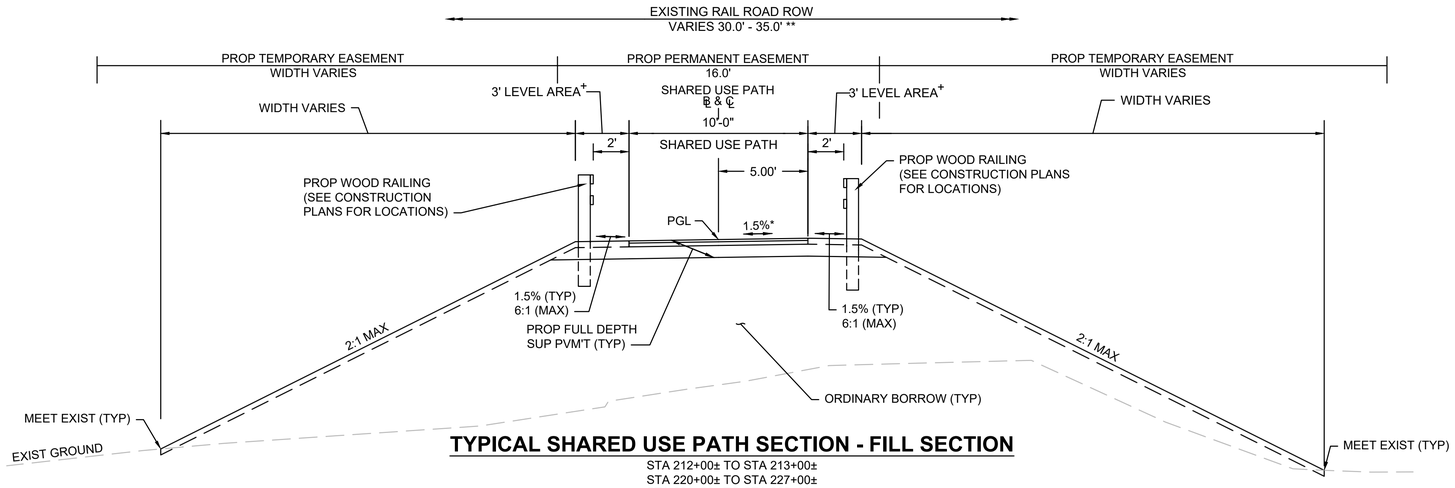
1. LOCATION OF BORINGS FOR PROPOSED BRIDGE SHOWN ON THE KEY PLAN THUS: ⊕ B–9
2. BORINGS ARE TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
3. WATER LEVELS SHOWN ON THE BORING LOGS AND INDICATED THUS: ▽ WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY SHOW THE TRUE GROUND WATER LEVEL.
4. FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 1⅜" I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30", UNLESS OTHERWISE NOTED.
5. BORING B–9 AND B–10 FOR STRUCTURE 5 WERE MADE IN NOVEMBER 2017.
6. BORINGS WERE MADE BY SOIL EXPLORATION CORP, 148 PIONEER DRIVE, LEOMINSTER MA.
7. THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.
8. BORING SAMPLES ARE STORED AT A STORAGE FACILITY LOCATED ON ROUTE 129. THE CONTRACTOR MAY EXAMINE THE SOIL AND ROCK SAMPLES BY CONTACTING LAHLAF GEOTECHNICAL CONSULTING, INC. AT 100 CHELMSFORD ROAD, SUITE 2, BILLERICA, MA.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	9	208
PROJECT FILE NO. 608227			

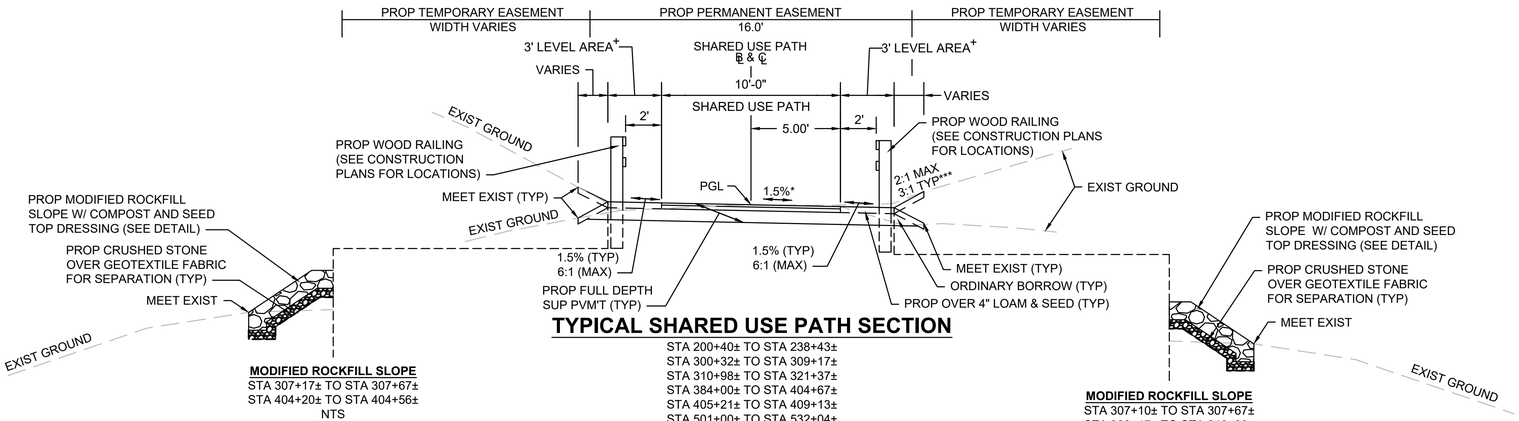
TYPICAL SECTIONS

608227HD (TYP).DWG Plotted on 29-Dec-2023 4:59 PM



TYPICAL SHARED USE PATH SECTION - FILL SECTION

STA 212+00± TO STA 213+00±
STA 220+00± TO STA 227+00±
STA 231+50± TO STA 235+00±
STA 302+50± TO STA 304+50±
NTS

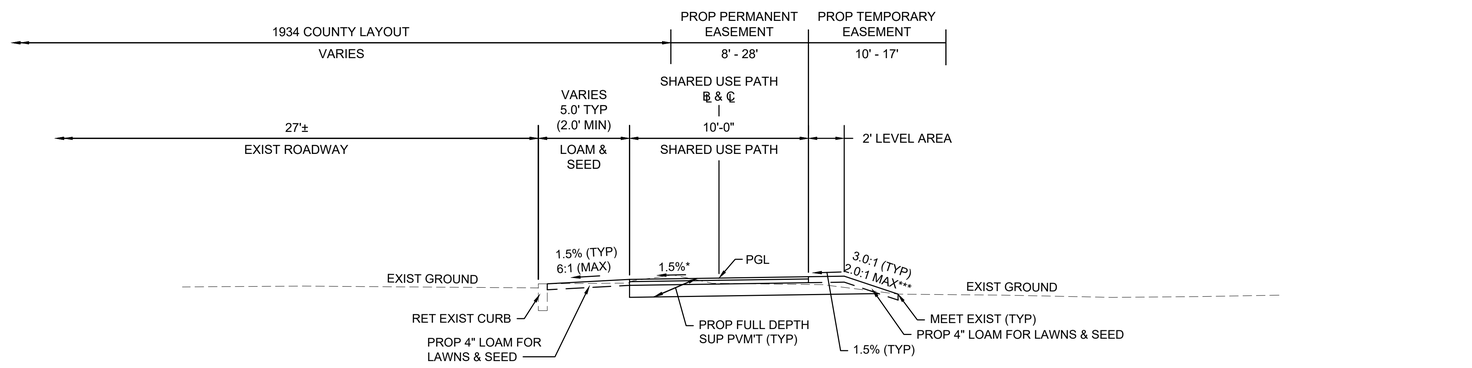


MODIFIED ROCKFILL SLOPE
STA 307+17± TO STA 307+67±
STA 404+20± TO STA 404+56±
NTS

TYPICAL SHARED USE PATH SECTION

STA 200+40± TO STA 238+43±
STA 300+32± TO STA 309+17±
STA 310+98± TO STA 321+37±
STA 384+00± TO STA 404+67±
STA 405+21± TO STA 409+13±
STA 501+00± TO STA 532+04±
STA 633+74± TO STA 637+89±
STA 646+10± TO STA 655+00±
NTS
**STA 500+00± TO 531+50± ONLY

MODIFIED ROCKFILL SLOPE
STA 307+10± TO STA 307+67±
STA 309+17± TO STA 310+30±
NTS



TYPICAL SHARED USE PATH SECTION - RIVER STREET

STA 101+24± TO STA 112+22±
NTS

* ±0.5% CONSTRUCTION TOLERANCE
*** LOAM AND SEED AREAS WITH 2:1 SLOPE REQUIRE MATTING FOR EROSION CONTROL (ITEM 767.9)
+ 3' LEVEL AREA IN SECTIONS WITH WOOD RAILING, 2' LEVEL AREA IN SECTIONS WITHOUT WOOD RAILING

PAVEMENT NOTES

PROPOSED FULL DEPTH SHARED USE PATH (SUP) PAVEMENT

SURFACE: 1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
BASE: 2.5" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER
SUBBASE: 8" GRAVEL BORROW, TYPE b

PROPOSED HOT MIX ASPHALT DRIVEWAY

SURFACE: 1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
2.5" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER
SUBBASE: 8" GRAVEL BORROW, TYPE b

PROPOSED HOT MIX ASPHALT WALK

SURFACE: 1.25" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
1.75" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER
SUBBASE: 8" GRAVEL BORROW, TYPE b

PROPOSED CEMENT CONCRETE WALK, DRIVEWAY, PEDESTRIAN CURB RAMP & MEDIAN

SURFACE: 4" CEMENT CONCRETE AIR ENTRAINED 4000 PSI, ¾", 610
(6.0" AT DRIVEWAY APRONS)
SUBBASE: 8" GRAVEL BORROW, TYPE b

PROPOSED PERMEABLE PAVEMENT PARKING LOT

SURFACE: 4" OPEN GRADED FRICTION COURSE - 9.5 - POLYMER MODIFIED (OGFC-P) OVER
CHOKER COURSE: 4" CRUSHED STONE, 3/4" (M2.01.4)
FILTER COURSE: 12" GRAVEL BORROW, TYPE b
FILTER BLANKET: 3" CRUSHED STONE, 3/8" (M2.01.6)
RESERVOIR BASE: 6" CRUSHED STONE, 3/4" (M2.01.4)

GRAVEL ACCESS DRIVE

8" GRAVEL BORROW, TYPE b

NOTES:

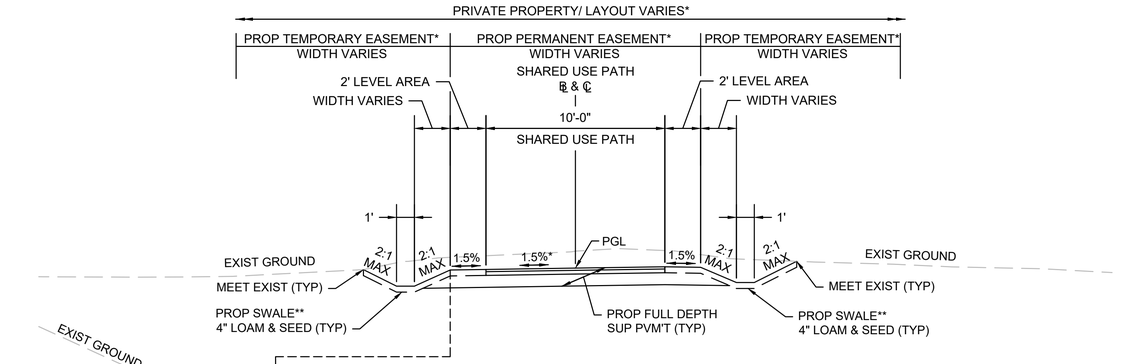
1. ALL HOT MIX ASPHALT PAVEMENTS SHALL BE CONSTRUCTED AND PRODUCED IN ACCORDANCE WITH SECTION 450 HOT MIX ASPHALT PAVEMENT AND SECTION M-3 ASPHALTIC MATERIALS.
2. ASPHALT EMULSION FOR TACK COAT (ITEM 452.) SHALL BE SPRAY APPLIED FOR DOUBLE OVERLAP COVERAGE AT 0.08 GALLONS PER SQUARE YARD OVER MILLED SURFACES AND 0.07 GALLONS PER SQUARE YARD OVER SMOOTH SURFACES.
3. HMA JOINT ADHESIVE (ITEM 453.) SHALL BE APPLIED IN SURFACE COURSE AT ALL VERTICAL COLD JOINTS PRIOR TO HMA PAVING.
4. ALL HOT MIX ASPHALT WALKS AND DRIVEWAYS SHALL BE ESTIMATED AND PAID FOR UNDER ITEM 702. OF STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
5. EXISTING SUBBASE MATERIAL AT SIDEWALKS AND DRIVEWAYS THAT MEETS THE REQUIREMENTS FOR GRAVEL BORROW TYPE b SHALL REMAIN IN PLACE.
6. ALL TEMPORARY HOT MIX ASPHALT PAVEMENT SHALL BE ESTIMATED AND PAID FOR UNDER ITEM 472. OF STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	10	208
PROJECT FILE NO. 608227			

TYPICAL SECTIONS

608227HD (TYP).DWG Plotted on 29-Dec-2023 4:59 PM



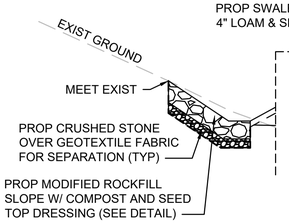
TYPICAL SHARED USE PATH SECTION - WITH SWALE

** LT SWALE - STA 213+75± TO STA 215+15±
** LT SWALE - STA 217+24± TO STA 219+78±
** LT SWALE - STA 228+10± TO STA 228+90±
** LT SWALE - STA 229+90± TO STA 231+10±
** LT SWALE - STA 234+75± TO STA 236+30±
** LT SWALE - STA 237+10± TO STA 238+70±
** LT SWALE - STA 300+15± TO STA 306+75±
** LT SWALE - STA 405+68± TO STA 407+25±
** LT SWALE - STA 503+00± TO STA 504+50±
** LT SWALE - STA 518+20± TO STA 521+50±
** LT SWALE - STA 524+00± TO STA 526+85±
** LT SWALE - STA 550+10± TO STA 551+00±
** LT SWALE - STA 554+50± TO STA 556+20±
** LT SWALE - STA 633+65± TO STA 635+00±
** LT SWALE - STA 647+00± TO STA 651+50±

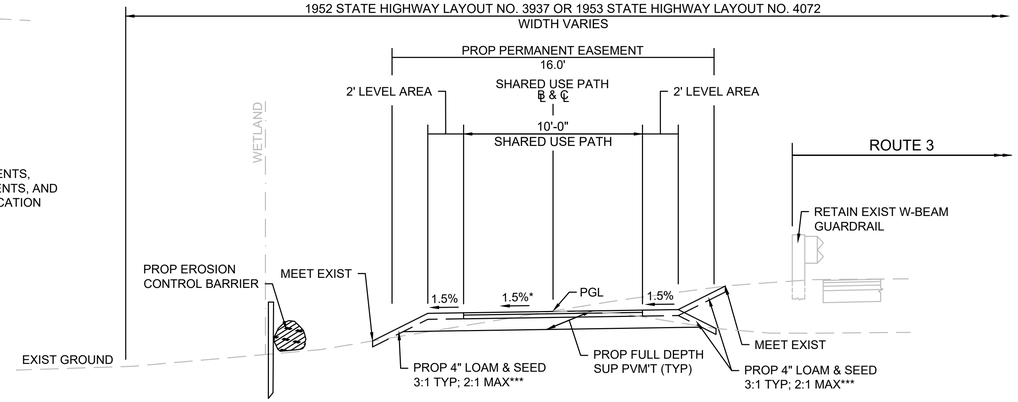
** RT SWALE - STA 213+40± TO STA 220+20±
** RT SWALE - STA 228+10± TO STA 229+95±
** RT SWALE - STA 229+70± TO STA 230+80±
** RT SWALE - STA 234+75± TO STA 238+71±
** RT SWALE - STA 406+22± TO STA 408+80±
** RT SWALE - STA 501+73± TO STA 504+50±
** RT SWALE - STA 519+00± TO STA 520+00±
** RT SWALE - STA 526+50± TO STA 527+50±
** RT SWALE - STA 538+00± TO STA 540+00±

NTS

* TEMPORARY EASEMENTS, PERMANENT EASEMENTS, AND LAYOUT VARY BY LOCATION

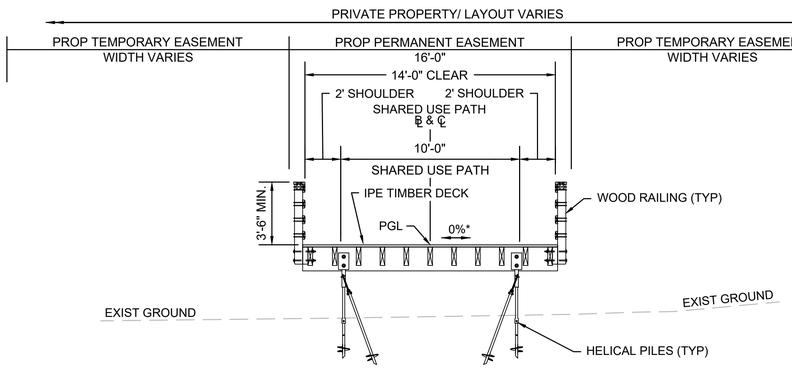


MODIFIED ROCKFILL SLOPE & SWALE
STA 300+70± TO STA 302+20±
NTS



TYPICAL SHARED USE PATH SECTION - ADJACENT TO ROUTE 3

STA 540+50± TO STA 542+50±
NTS



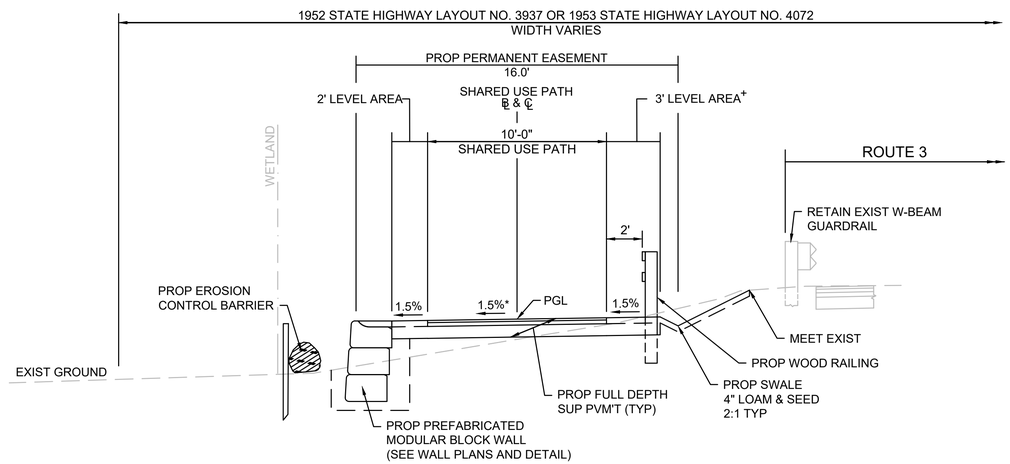
TYPICAL TRUSS BRIDGE SECTION

STA 310+28± TO STA 310+98±
NTS

TYPICAL BOARDWALK SECTION

STA 310+30± TO STA 310+98±
STA 404+67± TO STA 405+21±
STA 532+04± TO STA 533+84±
NTS

* 0.5% CONSTRUCTION TOLERANCE
*** LOAM AND SEED AREAS WITH 2:1 SLOPE REQUIRE MATTING FOR EROSION CONTROL (ITEM 767.9)
\+ 3' LEVEL AREA IN SECTIONS WITH WOOD RAILING, 2' LEVEL AREA IN SECTIONS WITHOUT WOOD RAILING



TYPICAL SHARED USE PATH SECTION - ADJACENT TO ROUTE 3 - WITH SWALE

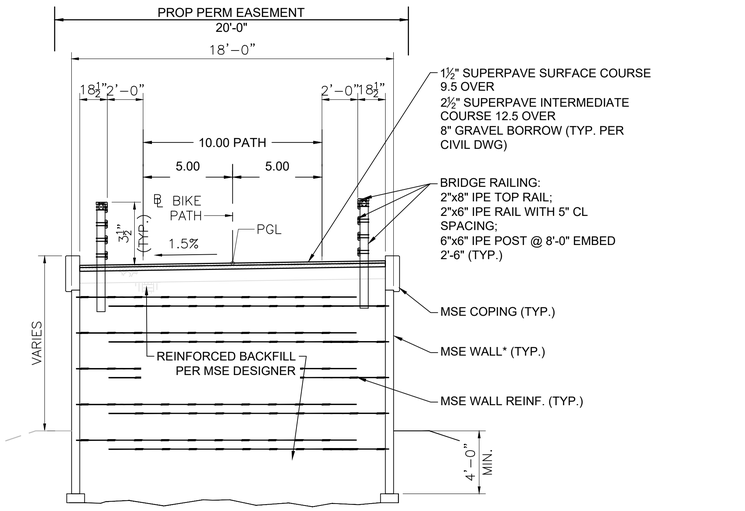
STA 534+00± TO STA 538+00±
NTS

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	11	208
PROJECT FILE NO. 608227			

TYPICAL SECTIONS

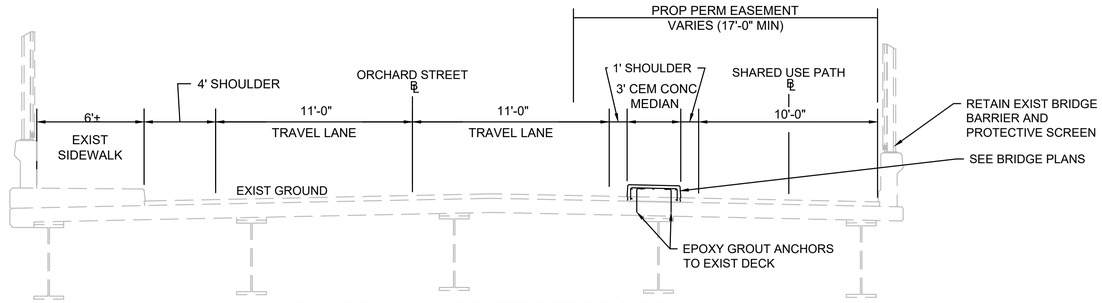
608227HD (TYP).DWG Plotted on 29-Dec-2023 4:59 PM



*MSE WALL ON RIGHT SIDE FROM STA 556+33± TO STA 556+74± AND STA 561+52± TO STA 561+62±

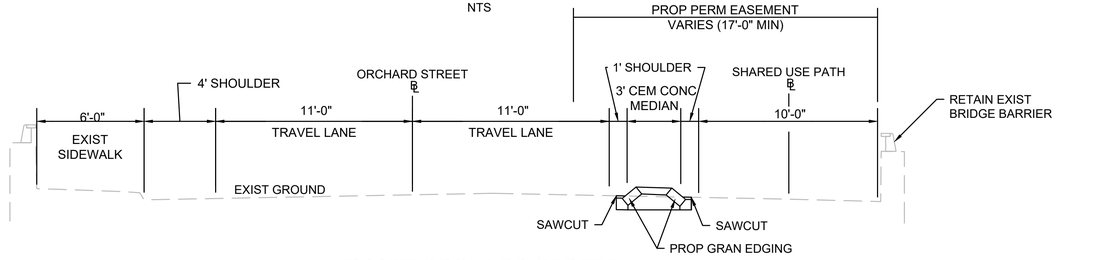
TYPICAL SHARED USE PATH SECTION - MSE WALL

STA 556+33± TO STA 556+74±
STA 561+52± TO STA 562+15±
NTS



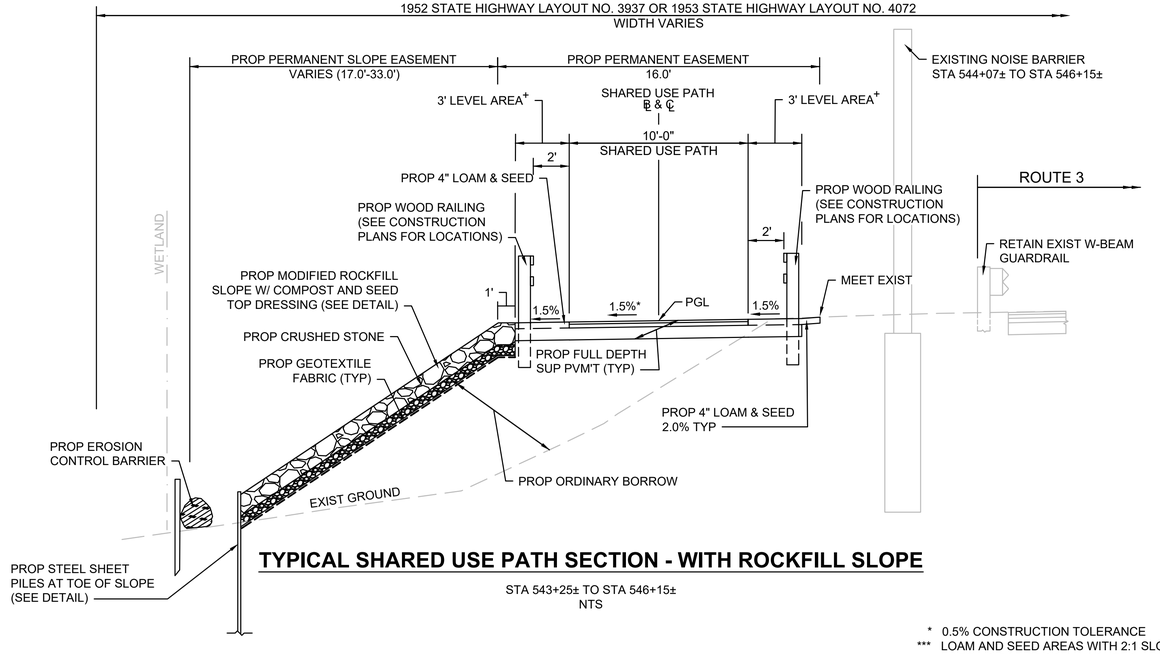
ELLIOT/ORCHARD STREET BRIDGE

STA 601+15± TO STA 603+40±
NTS



ELLIOT/ORCHARD STREET

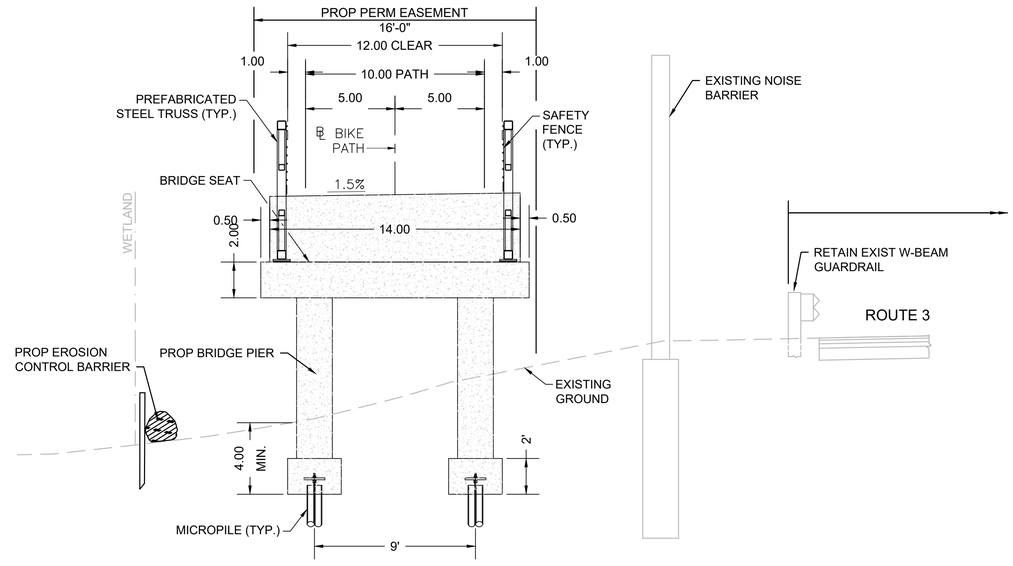
STA 600+25± TO STA 601+15±
STA 603+40± TO STA 605+75±
NTS



TYPICAL SHARED USE PATH SECTION - WITH ROCKFILL SLOPE

STA 543+25± TO STA 546+15±
NTS

* 0.5% CONSTRUCTION TOLERANCE
*** LOAM AND SEED AREAS WITH 2:1 SLOPE REQUIRE MATTING FOR EROSION CONTROL (ITEM 767.9)
\+ 3' SHOULDER IN SECTIONS WITH WOOD RAILING, 2' SHOULDER IN SECTIONS WITHOUT WOOD RAILING



TYPICAL TRUSS BRIDGE SECTION

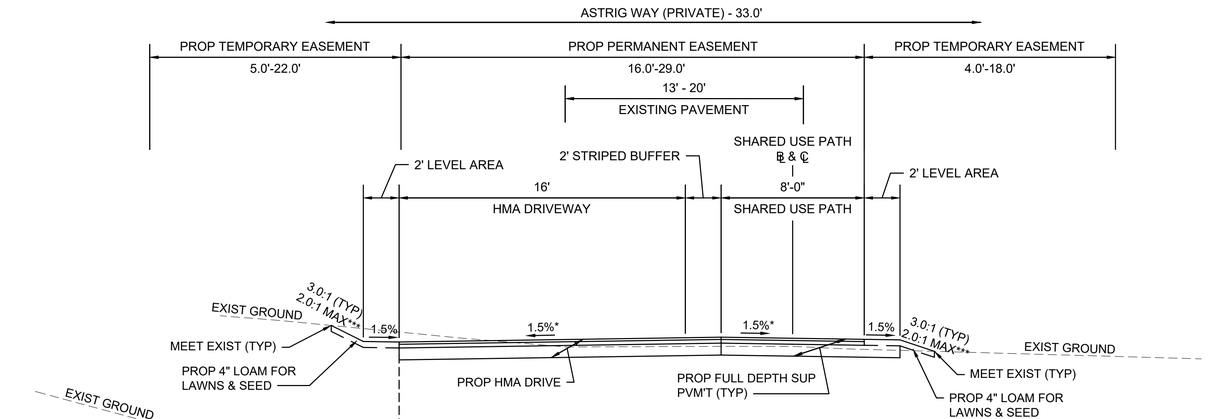
STA 556+74± TO STA 561+52±
NTS

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	12	208
PROJECT FILE NO. 608227			

TYPICAL SECTIONS

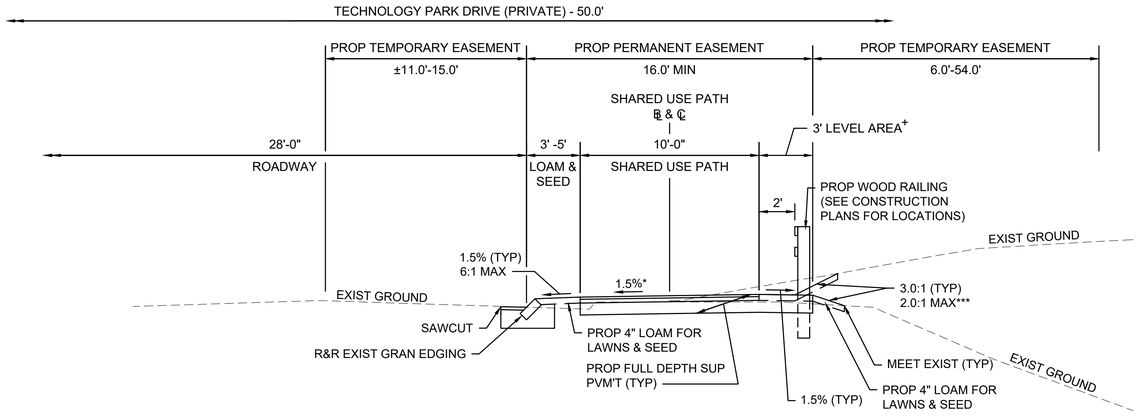
608227HD (TYP).DWG Plotted on 29-Dec-2023 4:59 PM



MODIFIED ROCKFILL SLOPE
STA 640+60± TO STA 642+42±
NTS

TYPICAL SHARED USE PATH SECTION - ASTRIG WAY

STA 638+60± TO STA 645+30±
NTS



TYPICAL SHARED USE PATH SECTION - TECHNOLOGY PARK DRIVE

STA 606+00± TO STA 633+00±
NTS

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	13	208
PROJECT FILE NO.	608227		

CONSTRUCTION BASELINE TIES

608227HD (BASELINE TIES).DWG Plotted on 28-Dec-2023 1:18 PM

BILLERICA HIGH SCHOOL

RIVER STREET

PARKER STREET

RICHARDSON STREET

CONCORD RIVER

LIMIT OF WORK
STA 100+60.57
N 3029007.7074
E 717390.8697

TRAV #202
N24°04'55"W
7.60'

S66°13'24"W 174.86'
SURVEY TRAVERSE

S66°32'11"W 310.70'
SURVEY TRAVERSE

PC +89.74
S33°00'52"E
4.26'

YANKEE DOODLE BIKE PATH
SECTION 1 PART 1 (RIVER)

TRAV #203
N24°04'55"W
6.67'

PC +23.75

TRAV #204

PT +28.31

PT +85.57

PC +69.31

C3

PT +07.44

PI +82.10

L5

PI +66.92

PC +44.12

C4

TRAV #14310

S33°32'36"W
22.69'

PCC +24.35

C5

PT +32.20

L7

S66°17'51"W 160.44'
SURVEY TRAVERSE

N58°44'29"E
120.06'

PC +51.51

C7

PT +33.95

C6

PC +04.76

L8

PT +85.70

L9

TRAV #85

S76°54'30"W 478.47'
SURVEY TRAVERSE

N37°33'29"W
112.96'

TRAV #14300

S66°53'44"W
138.91'

PC +71.30

PT +40.20

S3°58'51"E 515.16'
SURVEY TRAVERSE

PC +85.66

TRAV #34

N1°31'05"W 411.38'
SURVEY TRAVERSE

PT +65.41

PC +19.20

PT +86.51

PC +07.01

YANKEE DOODLE BIKE PATH
SECTION 1 PART 2 (CABOT)

PRC +39.76

PRC +59.63

PT +08.93

S24°36'21"W 1,297.34'
SURVEY TRAVERSE

PT +21.26

PC +69.53

PT +24.83

PC +92.63

PC +90.99

112+50.20 YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)=
200+00.00 YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)

CONTINUED BELOW

CONTINUED ON SHEET NO. 14

CONTINUED ABOVE

S24°36'21"W 1,297.34'
SURVEY TRAVERSE

PC +90.99

PRC +35.97

YANKEE DOODLE BIKE PATH
SECTION 1 PART 2 (CABOT)

TRAV #107
S0°27'17"W
117.20'

PT +85.19

PT +68.59

PC +61.30

PC +20.84

PRC +56.71

C20

PT +77.36

L19

S70°56'44"W 431.80'
SURVEY TRAVERSE

TRAV #106

S4°47'39"E 295.49'
SURVEY TRAVERSE

S20°33'55"W
85.84'

TRAV #90

C19

N73°06'10"E 82.29'
SURVEY TRAVERSE

S70°56'44"W 431.80'
SURVEY TRAVERSE

238+83.70 YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)=
300+00.00 YANKEE DOODLE BIKE PATH SECTION 2 PART 1

C22

YANKEE DOODLE BIKE PATH
SECTION 2 PART 1

PRC +22.22

PT +35.05

L20

S89°25'21"W
131.37'

PC +98.04

PT +17.24

C23

L21

PC +29.55

PRC +11.58

C24

PRC +06.12

PT +28.02

PC +83.64

TRAV #49

S15°25'59"W
230.97'

S1°16'25"E 1,529.67'
SURVEY TRAVERSE

PRC +46.95

PRC +85.49

PRC +87.10

PT +11.72

PC +98.86

PC +40.91

PC +96.32

S19°35'04"E
116.33'

PT +36.97

TRAV #700

S49°56'23"E
87.57'

PC +90.99

0 100 200 300 400

SCALE: 1" = 100'

NOTE: SEE SHEET 69 FOR TRAVERSE POINT TABLE.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	14	208
PROJECT FILE NO.	608227		

CONSTRUCTION BASELINE TIES

608227HD (BASELINE TIES).DWG Plotted on 28-Dec-2023 1:18 PM

CONCORD ROAD

MIDDLESEX TURNPIKE

325+83.43 YANKEE DOODLE BIKE PATH SECTION 2 PART 1=
383+06.54 YANKEE DOODLE BIKE PATH SECTION 2 PART 2

S19°35'04"E 116.33'

PC +96.32

PC +40.91

PC +58.49

PT +02.90

PT +01.26

PT +36.97

TRAV #700

S49°56'23"E 87.57'

YANKEE DOODLE BIKE PATH SECTION 2 PART 1

CONTINUED ON SHEET NO. 13

L29

PC +63.97

C33

PCC +94.21

PT +63.96

C34

PC +71.30

YANKEE DOODLE BIKE PATH SECTION 2 PART 2

PT +05.61

PC +21.47

PT +11.65

PC +89.65

PT +79.83

PC +25.38

S0°03'27"W 1,466.59'
SURVEY TRAVERSE

S31°05'50"W 199.49'
SURVEY TRAVERSE

TRAV #14

PC +00.00

PC +19.33

PT +72.90

PC +44.12

C45

PRC +69.68

TRAV #12

S54°51'35"W 147.66'

TRAV #13

S84°17'08"E 96.84'

PT +24.61

S47°51'55"E 141.81'
SURVEY TRAVERSE

PC +32.03

N61°31'32"E 190.03'

N3°37'55"W 81.56'

S86°42'34"W 55.41'

TRAV #88

TRAV #14190

S54°46'57"E 279.06'
SURVEY TRAVERSE

PT +44.87

PC +10.00

TRAV #87

PT +97.72

TRAV #89

S56°10'18"E 19.80'

PT +48.23

S4°04'41"E 209.58'
SURVEY TRAVERSE

PT +95.25

C46

PT +76.40

S0°15'20"W 316.72'
SURVEY TRAVERSE

S1°24'09"E 102.77'

YANKEE DOODLE BIKE PATH SECTION 3

S2°07'19"W 97.33'

409+13.05 YANKEE DOODLE BIKE PATH SECTION 2 PART 2=
506+74.50 YANKEE DOODLE BIKE PATH SECTION 3

S1°39'20"W 235.60'
SURVEY TRAVERSE

TRAV #1

PC +53.14

C43

S58°56'08"E 179.88'
SURVEY TRAVERSE

PC +96.30

TRAV #94

S88°23'44"E 187.46'
SURVEY TRAVERSE

S0°15'47"E 209.73'
SURVEY TRAVERSE

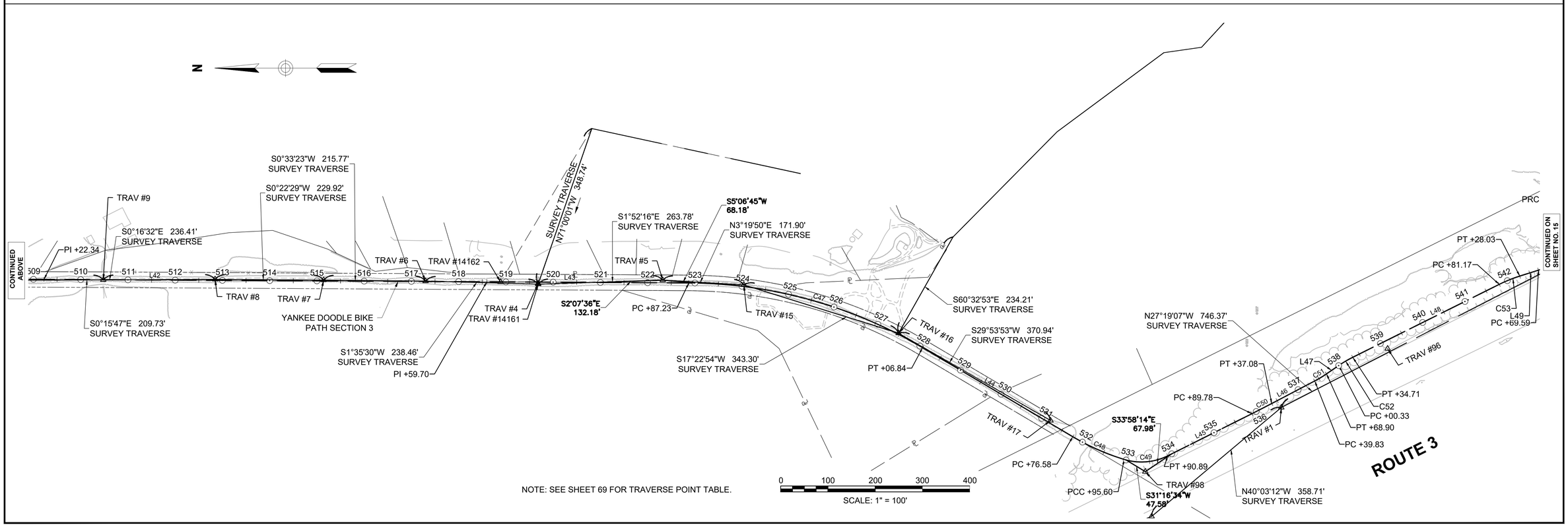
TRAV #10

PI +22.34

TRAV #9

S0°16'32"E 236.41'
SURVEY TRAVERSE

CONTINUED BELOW



NOTE: SEE SHEET 69 FOR TRAVERSE POINT TABLE.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	15	208
PROJECT FILE NO.	608227		

CONSTRUCTION BASELINE TIES

608227HD (BASELINE TIES).DWG Plotted on 28-Dec-2023 1:18 PM

CONTINUED ON SHEET NO. 14

ROUTE 3

YANKEE DOODLE BIKE PATH SECTION 3

YANKEE DOODLE BIKE PATH SECTION 4

562+42.13 YANKEE DOODLE BIKE PATH SECTION 3=
600+06.55 YANKEE DOODLE BIKE PATH SECTION 4

562+63.69 YANKEE DOODLE BIKE PATH SECTION 3=
701+70.20 ORCHARD ROAD

633+37.68 YANKEE DOODLE BIKE PATH SECTION 4=
909+37.27 TECHNOLOGY PARK DRIVE

ORCHARD ROAD CONST ℄

TECHNOLOGY PARK DRIVE CONST ℄

WALL STREET

ORCHARD ROAD

TECHNOLOGY PARK DRIVE

MIDDLESEX COMMUNITY COLLEGE

0 100 200 300 400
SCALE: 1" = 100'

NOTE: SEE SHEET 69 FOR TRAVERSE POINT TABLE.

CONTINUED ON SHEET NO. 16

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	16	208
PROJECT FILE NO.	608227		

CONSTRUCTION BASELINE TIES

CONTINUED ON SHEET NO. 15

N21°37'49"W 187.39'
SURVEY TRAVERSE

TRAV #68

PT +95.01
PC +67.34

PRC +87.35
C88
PT +07.36

S62°39'41"W
21.61'

PC +86.17
C89
PCC +24.99

PT +47.61

S71°11'40"W
16.86'

TRAV #3200

S50°32'27"E
642.39'
SURVEY TRAVERSE

PC +18.06

WALL STREET

633+37.68 YANKEE DOODLE BIKE PATH SECTION 4=
909+37.27 TECHNOLOGY PARK DRIVE

L78
PC +57.66
C93
PRC +80.09

PCC +08.73
C92
PT +24.54
TRAV #77
909+71.83
S22°19'32"E
19.28'

PT +95.85
L79
PC +37.29

PT +85.34

TRAV #76

PT +28.45
C96
PC +79.99

N7°44'09"E 405.38'
SURVEY TRAVERSE

N6°02'00"E 338.47'
SURVEY TRAVERSE

ASTRIG WAY

TRAV #75

N3°33'09"E 484.99'
SURVEY TRAVERSE

N4°51'39"E 574.15'
SURVEY TRAVERSE

SPRINGS ROAD

PI +24.00
PI +42.73
PI +85.27

N72°59'36"W 111.33'
SURVEY TRAVERSE

S78°31'24"W 53.51'
SURVEY TRAVERSE

TRAV #73
TRAV #3229
TRAV #71

CONCORD ROAD

N4°51'39"E 574.15'
SURVEY TRAVERSE

PI +24.02

TRAV #74

YANKEE DOODLE BIKE
PATH SECTION 4

END PROJECT
STA 655+51.31
N 3016630.2268
E 714535.9311

BEDFORD
BILLERICA

0 100 200 300 400
SCALE: 1" = 100'

NOTE: SEE SHEET 69 FOR TRAVERSE POINT TABLE.

608227HD (BASELINE TIES).DWG Plotted on 28-Dec-2023 1:18 PM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	17	208
PROJECT FILE NO.	608227		

CONSTRUCTION BASELINE DATA

608227HD (BASELINE TIES).DWG Plotted on 28-Dec-2023 1:18 PM

YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER) CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	100+00.00	3029032.426	717446.171		S65°55'05"W 423.75'	104+23.75	3028859.518	717059.304
C1	104+23.75	3028859.518	717059.304	R= 620.00' Δ= 9°39'45" L=104.56' T=52.40'		105+28.31	3028809.026	716967.888
L2	105+28.31	3028809.026	716967.888		S56°15'20"W 61.43'	105+89.74	3028774.902	716916.808
C2	105+89.74	3028774.902	716916.808	R= 2000.00' Δ= 2°44'44" L=95.83' T=47.93'		106+85.57	3028723.597	716835.875
L3	106+85.57	3028723.597	716835.875		S59°00'04"W 83.74'	107+69.31	3028680.468	716764.094
C3	107+69.31	3028680.468	716764.094	R= 400.00' Δ= 5°27'43" L=38.13' T=19.08'		108+07.44	3028662.416	716730.522
L4	108+07.44	3028662.416	716730.522		S64°27'47"W 59.48'	108+66.92	3028636.775	716676.854
L5	108+66.92	3028636.775	716676.854		S73°10'50"W 15.18'	108+82.10	3028632.384	716662.328
L6	108+82.10	3028632.384	716662.328		S64°27'47"W 262.03'	111+44.12	3028519.426	716425.898
C4	111+44.12	3028519.426	716425.898	R= 5023.00' Δ= 0°54'54" L=80.22' T=40.11'		112+24.35	3028484.266	716353.794
C5	112+24.35	3028484.266	716353.794	R= 5.00' Δ= 90°03'26" L=7.86' T=5.00'		112+32.20	3028477.558	716351.547
L7	112+32.20	3028477.558	716351.547		S26°30'33"E 18.00'	112+50.20	3028461.453	716359.580

YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L8	200+00.00	3028461.453	716359.580		S26°30'33"E 4.76'	200+04.76	3028457.197	716361.703
C6	200+04.76	3028457.197	716361.703	R= 50.00' Δ= 33°27'11" L=29.19' T=15.03'		200+33.95	3028428.835	716366.593
L9	200+33.95	3028428.835	716366.593		S6°56'38"W 17.56'	200+51.51	3028411.402	716364.470
C7	200+51.51	3028411.402	716364.470	R= 200.00' Δ= 9°47'40" L=34.19' T=17.14'		200+85.70	3028377.277	716363.250
L10	200+85.70	3028377.277	716363.250		S2°51'02"E 599.96'	206+85.66	3027778.058	716393.086
C8	206+85.66	3027778.058	716393.086	R= 200.00' Δ= 51°29'36" L=179.75' T=96.45'		208+65.41	3027617.991	716325.483
L11	208+65.41	3027617.991	716325.483		S48°38'35"W 153.79'	210+19.20	3027516.373	716210.046
C9	210+19.20	3027516.373	716210.046	R= 115.00' Δ= 133°10'50" L=267.31' T=265.62'		212+86.51	3027606.352	716019.118
L12	212+86.51	3027606.352	716019.118		N1°49'24"E 320.50'	216+07.01	3027926.691	716029.316
C10	216+07.01	3027926.691	716029.316	R= 115.00' Δ= 66°08'13" L=132.75' T=74.88'		217+39.76	3028033.986	715964.221
C11	217+39.76	3028033.986	715964.221	R= 115.00' Δ= 59°43'32" L=119.88' T=66.03'		218+59.63	3028128.423	715899.435
C12	218+59.63	3028128.423	715899.435	R= 115.00' Δ= 74°23'05" L=149.30' T=87.27'		220+08.93	3028232.101	715806.801
L13	220+08.93	3028232.101	715806.801		N78°58'21"W 162.37'	221+71.30	3028263.158	715647.432
C13	221+71.30	3028263.158	715647.432	R= 115.00' Δ= 84°08'57" L=168.90' T=103.82'		223+40.20	3028183.670	715515.388
L14	223+40.20	3028183.670	715515.388		S16°52'42"W 252.43'	225+92.63	3027942.112	715442.098
C14	225+92.63	3027942.112	715442.098	R= 200.00' Δ= 37°52'18" L=132.20' T=68.62'		227+24.83	3027812.392	715446.758
L15	227+24.83	3027812.392	715446.758		S20°59'37"E 44.70'	227+69.53	3027770.659	715462.773
C15	227+69.53	3027770.659	715462.773	R= 115.00' Δ= 75°35'45" L=151.73' T=89.20'		229+21.26	3027635.716	715422.020
L16	229+21.26	3027635.716	715422.020		S54°36'08"W 169.73'	230+90.99	3027537.399	715283.663
C16	230+90.99	3027537.399	715283.663	R= 200.00' Δ= 70°10'56" L=244.98' T=140.52'		233+35.97	3027320.652	715206.862
C17	233+35.97	3027320.652	715206.862	R= 115.00' Δ= 24°31'17" L=49.22' T=24.99'		233+85.19	3027271.891	715209.690
L17	233+85.19	3027271.891	715209.690		S8°56'29"W 235.65'	236+20.84	3027039.109	715173.065
C18	236+20.84	3027039.109	715173.065	R= 200.00' Δ= 13°40'50" L=47.75' T=23.99'		236+68.59	3026991.500	715171.318
L18	236+68.59	3026991.500	715171.318		S4°44'21"E 92.71'	237+61.30	3026899.104	715178.978
C19	237+61.30	3026899.104	715178.978	R= 75.00' Δ= 72°52'59" L=95.40' T=55.38'		238+56.71	3026823.299	715132.155
C20	238+56.71	3026823.299	715132.155	R= 15.00' Δ= 78°52'54" L=20.65' T=12.34'		238+77.36	3026806.582	715123.002
L19	238+77.36	3026806.582	715123.002		S10°44'16"E 6.35'	238+83.70	3026800.348	715124.184

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	18	208
PROJECT FILE NO.	608227		

CONSTRUCTION BASELINE DATA

YANKEE DOODLE BIKE PATH SECTION 2 PART 1 CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C22	300+22.22	3026783.126	715113.550	R= 510.00' Δ= 23°54'39" L=212.83' T=107.99'		302+35.05	3026684.481	714926.697
L20	302+35.05	3026684.481	714926.697		S50°12'49"W 62.99'	302+98.04	3026644.172	714878.294
C23	302+98.04	3026644.172	714878.294	R= 400.00' Δ= 31°23'53" L=219.20' T=112.43'		305+17.24	3026465.807	714755.640
L21	305+17.24	3026465.807	714755.640		S18°48'56"W 112.31'	306+29.55	3026359.503	714719.418
C24	306+29.55	3026359.503	714719.418	R= 250.00' Δ= 33°42'11" L=147.06' T=75.72'		307+76.60	3026241.746	714634.904

YANKEE DOODLE BIKE PATH SECTION 2 PART 2 CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L29	382+00.00	3024850.503	715329.571		S59°42'13"W 163.97'	383+63.97	3024767.785	715187.997
C33	383+63.97	3024767.785	715187.997	R= 595.00' Δ= 2°54'44" L=30.24' T=15.12'		383+94.21	3024751.872	715162.284
C34	383+94.21	3024751.872	715162.284	R= 50.00' Δ= 79°55'49" L=69.75' T=41.90'		384+63.96	3024690.390	715143.691
L30	384+63.96	3024690.390	715143.691		S23°08'19"E 407.34'	388+71.30	3024315.819	715303.758
C35	388+71.30	3024315.819	715303.758	R= 650.00' Δ= 11°50'20" L=134.31' T=67.39'		390+05.61	3024187.761	715343.446
L31	390+05.61	3024187.761	715343.446		S11°18'00"E 115.86'	391+21.47	3024074.144	715366.149
C36	391+21.47	3024074.144	715366.149	R= 300.00' Δ= 17°13'23" L=90.18' T=45.43'		392+11.65	3023984.403	715370.363
L32	392+11.65	3023984.403	715370.363		S5°55'23"W 78.00'	392+89.65	3023906.816	715362.314
C37	392+89.65	3023906.816	715362.314	R= 300.00' Δ= 17°13'23" L=90.18' T=45.43'		393+79.83	3023817.075	715366.528
L33	393+79.83	3023817.075	715366.528		S11°18'00"E 145.55'	395+25.38	3023674.346	715395.048
C38	395+25.38	3023674.346	715395.048	R= 125.00' Δ= 102°08'43" L=222.85' T=154.76'		397+48.23	3023584.159	715567.358
L34	397+48.23	3023584.159	715567.358		N66°33'18"E 251.77'	400+00.00	3023684.332	715798.345
C39	400+00.00	3023684.332	715798.345	R= 100.00' Δ= 128°41'23" L=224.61' T=208.20'		402+24.61	3023566.294	715934.613
L35	402+24.61	3023566.294	715934.613		S15°14'41"W 107.42'	403+32.03	3023462.651	715906.367
C40	403+32.03	3023462.651	715906.367	R= 200.00' Δ= 32°19'31" L=112.84' T=57.96'		404+44.87	3023351.319	715908.151
L36	404+44.87	3023351.319	715908.151		S17°04'51"E 65.13'	405+10.00	3023289.061	715927.281
C41	405+10.00	3023289.061	715927.281	R= 80.00' Δ= 62°49'50" L=87.73' T=48.86'		405+97.72	3023233.796	715989.739
L37	405+97.72	3023233.796	715989.739		S79°54'41"E 98.57'	406+96.30	3023216.529	716086.786
C42	406+96.30	3023216.529	716086.786	R= 100.00' Δ= 45°53'42" L=80.10' T=42.34'		407+76.40	3023174.018	716152.157
L38	407+76.40	3023174.018	716152.157		S34°00'59"E 76.74'	408+53.14	3023110.411	716195.086
C43	408+53.14	3023110.411	716195.086	R= 100.00' Δ= 34°19'41" L=59.91' T=30.89'		409+13.05	3023053.924	716212.197

608227HD (BASELINE TIES).DWG Plotted on 28-Dec-2023 1:18 PM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	19	208
PROJECT FILE NO.	608227		

CONSTRUCTION BASELINE DATA

608227HD (BASELINE TIES).DWG Plotted on 28-Dec-2023 1:19 PM

YANKEE DOODLE BIKE PATH SECTION 3 CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L39	500+00.00	3023708.247	716284.174		S31°00'10"W 119.33'	501+19.33	3023605.960	716222.708
C44	501+19.33	3023605.960	716222.708	R= 100.00' Δ= 30°41'28" L=53.57' T=27.44'		501+72.90	3023554.996	716208.423
L40	501+72.90	3023554.996	716208.423		S0°18'42"W 71.22'	502+44.12	3023483.778	716208.036
C45	502+44.12	3023483.778	716208.036	R= 100.00' Δ= 14°38'51" L=25.56' T=12.85'		502+69.68	3023458.474	716211.148
C46	502+69.68	3023458.474	716211.148	R= 100.00' Δ= 14°38'51" L=25.56' T=12.85'		502+95.25	3023433.169	716214.261
L41	502+95.25	3023433.169	716214.261		S0°18'42"W 627.09'	509+22.34	3022806.089	716210.848
L42	509+22.34	3022806.089	716210.848		S0°18'42"W 937.36'	518+59.70	3021868.740	716205.748
L43	518+59.70	3021868.740	716205.748		S0°18'42"W 427.53'	522+87.23	3021441.217	716203.422
C47	522+87.23	3021441.217	716203.422	R= 980.00' Δ= 30°22'45" L=519.61' T=266.07'		528+06.84	3020946.351	716066.171
L44	528+06.84	3020946.351	716066.171		S30°41'27"W 369.74'	531+76.58	3020628.399	715877.453
C48	531+76.58	3020628.399	715877.453	R= 500.00' Δ= 13°38'18" L=119.02' T=59.79'		532+95.60	3020519.821	715829.402
C49	532+95.60	3020519.821	715829.402	R= 125.00' Δ= 43°40'34" L=95.29' T=50.09'		533+90.89	3020427.148	715837.160
L45	533+90.89	3020427.148	715837.160		S26°37'25"E 198.89'	535+89.78	3020249.342	715926.290
C50	535+89.78	3020249.342	715926.290	R= 2500.00' Δ= 1°05'03" L=47.30' T=23.65'		536+37.08	3020207.260	715947.886
L46	536+37.08	3020207.260	715947.886		S27°42'27"E 102.74'	537+39.83	3020116.298	715995.658
C51	537+39.83	3020116.298	715995.658	R= 250.00' Δ= 6°39'43" L=29.07' T=14.55'		537+68.90	3020091.405	716010.637
L47	537+68.90	3020091.405	716010.637		S34°22'11"E 31.43'	538+00.33	3020065.459	716028.383
C52	538+00.33	3020065.459	716028.383	R= 250.00' Δ= 7°52'47" L=34.38' T=17.22'		538+34.71	3020035.837	716045.783
L48	538+34.71	3020035.837	716045.783		S26°29'24"E 346.46'	541+81.17	3019725.752	716200.318
C53	541+81.17	3019725.752	716200.318	R= 300.00' Δ= 8°56'58" L=46.86' T=23.48'		542+28.03	3019682.354	716217.865
L49	542+28.03	3019682.354	716217.865		S17°32'26"E 41.56'	542+69.59	3019642.726	716230.390
C54	542+69.59	3019642.726	716230.390	R= 300.00' Δ= 15°07'20" L=79.18' T=39.82'		543+48.77	3019571.233	716263.883
C55	543+48.77	3019571.233	716263.883	R= 500.00' Δ= 5°16'13" L=45.99' T=23.01'		543+94.76	3019531.428	716286.890
L50	543+94.76	3019531.428	716286.890		S27°23'33"E 172.17'	545+66.93	3019378.560	716366.103
C56	545+66.93	3019378.560	716366.103	R= 400.00' Δ= 8°19'30" L=58.12' T=29.11'		546+25.05	3019329.078	716396.491
L51	546+25.05	3019329.078	716396.491		S35°43'03"E 75.22'	547+00.27	3019268.007	716440.403
C57	547+00.27	3019268.007	716440.403	R= 200.00' Δ= 15°42'50" L=54.85' T=27.60'		547+55.12	3019219.665	716465.956
L52	547+55.12	3019219.665	716465.956		S20°00'13"E 30.20'	547+85.32	3019191.287	716476.287
C58	547+85.32	3019191.287	716476.287	R= 300.00' Δ= 10°53'52" L=57.06' T=28.62'		548+42.38	3019139.842	716500.773
L53	548+42.38	3019139.842	716500.773		S30°54'05"E 40.35'	548+82.73	3019105.219	716521.495
C59	548+82.73	3019105.219	716521.495	R= 325.00' Δ= 22°24'14" L=127.08' T=64.36'		550+09.82	3019011.532	716606.159

YANKEE DOODLE BIKE PATH SECTION 3 CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C60	550+09.82	3019011.532	716606.159	R= 80.00' Δ= 20°19'58" L=28.39' T=14.35'		550+38.21	3018990.924	716625.469
L54	550+38.21	3018990.924	716625.469		S32°58'21"E 269.31'	553+07.51	3018764.995	716772.036
C61	553+07.51	3018764.995	716772.036	R= 1500.00' Δ= 11°42'36" L=306.56' T=153.82'		556+14.08	3018526.585	716963.911
C62	556+14.08	3018526.585	716963.911	R= 350.00' Δ= 10°03'21" L=61.43' T=30.79'		556+75.50	3018479.353	717003.061
L55	556+75.50	3018479.353	717003.061		S29°08'30"E 169.00'	558+44.50	3018331.748	717085.357
L56	558+44.50	3018331.748	717085.357		S41°28'40"E 179.73'	560+24.23	3018197.092	717204.398
L57	560+24.23	3018197.092	717204.398		S52°14'02"E 64.31'	560+88.54	3018157.709	717255.232
L58	560+88.54	3018157.709	717255.232		S83°04'45"E 59.70'	561+48.24	3018150.515	717314.497
C63	561+48.24	3018150.515	717314.497	R= 70.00' Δ= 54°22'12" L=66.43' T=35.95'		562+14.66	3018172.668	717374.499
L59	562+14.66	3018172.668	717374.499		N42°33'03"E 14.18'	562+28.84	3018183.112	717384.086
L60	562+28.84	3018183.112	717384.086		S47°26'57"E 34.85'	562+63.69	3018159.544	717409.760

ORCHARD ROAD CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L61	700+00.00	3018293.583	717514.572		S39°11'41"W 46.18'	700+46.18	3018257.791	717485.386
C64	700+46.18	3018257.791	717485.386	R= 400.00' Δ= 2°38'14" L=18.41' T=9.21'		700+64.59	3018243.259	717474.084
L62	700+64.59	3018243.259	717474.084		S36°33'27"W 63.11'	701+27.70	3018192.568	717436.495
C65	701+27.70	3018192.568	717436.495	R= 500.00' Δ= 9°00'28" L=78.61' T=39.39'		702+06.31	3018133.357	717384.913
L63	702+06.31	3018133.357	717384.913		S45°33'56"W 27.72'	702+34.03	3018113.950	717365.118
C66	702+34.03	3018113.950	717365.118	R= 1005.00' Δ= 2°42'05" L=47.38' T=23.70'		702+81.42	3018081.587	717330.515
L64	702+81.42	3018081.587	717330.515		S48°16'01"W 266.61'	705+48.02	3017904.117	717131.559
C67	705+48.02	3017904.117	717131.559	R= 3077.81' Δ= 3°49'16" L=205.26' T=102.67'		707+53.28	3017772.745	716973.893
L65	707+53.28	3017772.745	716973.893		S54°28'23"W 10.05'	707+63.33	3017766.907	716965.717
L66	707+63.33	3017766.907	716965.717		S51°32'53"W 107.02'	708+70.35	3017700.356	716881.907
C68	708+70.35	3017700.356	716881.907	R= 2075.18' Δ= 1°47'27" L=64.86' T=32.43'		709+35.21	3017659.418	716831.601
C69	709+35.21	3017659.418	716831.601	R= 842.52' Δ= 4°07'25" L=60.64' T=30.33'		709+95.85	3017619.523	716785.953
C70	709+95.85	3017619.523	716785.953	R= 1031.80' Δ= 5°12'26" L=93.77' T=46.92'		710+89.62	3017552.930	716719.977
C71	710+89.62	3017552.930	716719.977	R= 1971.97' Δ= 2°25'34" L=83.50' T=41.76'		711+73.12	3017489.521	716665.656

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	20	208
PROJECT FILE NO.	608227		

CONSTRUCTION BASELINE DATA

608227HD (BASELINE TIES).DWG Plotted on 28-Dec-2023 1:19 PM

YANKEE DOODLE BIKE PATH SECTION 4 CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C72	600+06.55	3018174.126	717393.875	R= 484.00' Δ= 4°59'32" L=42.17' T=21.10'		600+48.72	3018143.328	717365.085
L67	600+48.72	3018143.328	717365.085		S45°33'56"W 20.54'	600+69.26	3018128.945	717350.416
C73	600+69.26	3018128.945	717350.416	R= 984.00' Δ= 2°42'05" L=46.39' T=23.20'		601+15.66	3018097.258	717316.536
L68	601+15.66	3018097.258	717316.536		S48°16'01"W 266.61'	603+82.26	3017919.789	717117.581
C74	603+82.26	3017919.789	717117.581	R= 2984.00' Δ= 3°27'51" L=180.42' T=90.24'		605+62.69	3017803.830	716979.392
L69	605+62.69	3017803.830	716979.392		S51°43'52"W 20.66'	605+83.35	3017791.033	716963.169
C75	605+83.35	3017791.033	716963.169	R= 22.00' Δ= 74°02'21" L=28.43' T=16.59'		606+11.78	3017790.455	716936.683
L70	606+11.78	3017790.455	716936.683		N54°13'47"W 447.49'	610+59.27	3018052.028	716573.607
C76	610+59.27	3018052.028	716573.607	R= 200.00' Δ= 4°01'59" L=14.08' T=7.04'		610+73.34	3018060.652	716562.484
C77	610+73.34	3018060.652	716562.484	R= 200.00' Δ= 12°47'42" L=44.66' T=22.42'		611+18.01	3018085.191	716525.277
C78	611+18.01	3018085.191	716525.277	R= 286.50' Δ= 35°13'32" L=176.14' T=90.95'		612+94.15	3018113.495	716354.223
L72	612+94.15	3018113.495	716354.223		S81°46'58"W 268.88'	615+63.03	3018075.064	716088.102
C80	615+63.03	3018075.064	716088.102	R= 200.00' Δ= 5°43'55" L=20.01' T=10.01'		615+83.04	3018071.219	716068.475
C81	615+83.04	3018071.219	716068.475	R= 200.00' Δ= 5°43'55" L=20.01' T=10.01'		616+03.05	3018067.374	716048.848
L74	616+03.05	3018067.374	716048.848		S81°46'58"W 330.51'	619+33.55	3018020.135	715721.733
C82	619+33.55	3018020.135	715721.733	R= 406.50' Δ= 23°54'23" L=169.61' T=86.06'		621+03.16	3018031.107	715553.708
C83	621+03.16	3018031.107	715553.708	R= 200.00' Δ= 9°49'23" L=34.29' T=17.19'		621+37.45	3018043.157	715521.651
C84	621+37.45	3018043.157	715521.651	R= 200.00' Δ= 3°20'28" L=11.66' T=5.83'		621+49.12	3018047.870	715510.985
C86	621+49.12	3018047.870	715510.985	R= 404.50' Δ= 48°59'42" L=345.90' T=184.32'		624+95.01	3018291.878	715280.790
L75	624+95.01	3018291.878	715280.790		N18°50'02"W 172.33'	626+67.34	3018454.982	715225.157
C87	626+67.34	3018454.982	715225.157	R= 200.00' Δ= 5°43'55" L=20.01' T=10.01'		626+87.35	3018473.564	715217.762
C88	626+87.35	3018473.564	715217.762	R= 200.00' Δ= 5°43'55" L=20.01' T=10.01'		627+07.36	3018492.147	715210.367
L77	627+07.36	3018492.147	715210.367		N18°50'02"W 178.80'	628+86.17	3018661.378	715152.644
C89	628+86.17	3018661.378	715152.644	R= 200.00' Δ= 11°07'17" L=38.82' T=19.47'		629+24.99	3018696.678	715136.635
C91	629+24.99	3018696.678	715136.635	R= 306.50' Δ= 71°44'10" L=383.75' T=221.61'		633+08.73	3018843.776	714808.969
C92	633+08.73	3018843.776	714808.969	R= 10.00' Δ= 90°32'36" L=15.80' T=10.10'		633+24.54	3018831.864	714801.223
L78	633+24.54	3018831.864	714801.223		S12°14'06"E 33.12'	633+57.66	3018799.496	714808.241
C93	633+57.66	3018799.496	714808.241	R= 30.00' Δ= 42°50'21" L=22.43' T=11.77'		633+80.09	3018777.865	714804.744
C94	633+80.09	3018777.865	714804.744	R= 900.00' Δ= 7°22'10" L=115.76' T=57.96'		634+95.85	3018674.719	714752.371
L79	634+95.85	3018674.719	714752.371		S23°14'05"W 41.44'	635+37.29	3018636.643	714736.024
C95	635+37.29	3018636.643	714736.024	R= 650.00' Δ= 13°03'01" L=148.05' T=74.35'		636+85.34	3018495.149	714693.548

YANKEE DOODLE BIKE PATH SECTION 4 CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L80	636+85.34	3018495.149	714693.548		S10°11'04"W 94.65'	637+79.99	3018401.991	714676.813
C96	637+79.99	3018401.991	714676.813	R= 505.00' Δ= 5°29'55" L=48.46' T=24.25'		638+28.45	3018353.952	714670.544
L81	638+28.45	3018353.952	714670.544		S4°41'08"W 714.28'	645+42.73	3017642.061	714612.195
L82	645+42.73	3017642.061	714612.195		S5°42'33"E 42.54'	645+85.27	3017599.733	714616.427
L83	645+85.27	3017599.733	714616.427		S5°26'07"W 238.73'	648+24.00	3017362.076	714593.814
L84	648+24.00	3017362.076	714593.814		S3°53'49"W 200.02'	650+24.02	3017162.516	714580.220
L85	650+24.02	3017162.516	714580.220		S4°45'23"W 575.98'	656+00.00	3016588.521	714532.461

TECHNOLOGY PARK DRIVE CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L71	882+30.83	3017765.071	716940.259		N54°19'47"W 487.36'	887+18.19	3018049.260	716544.335
C79	887+18.19	3018049.260	716544.335	R= 248.50' Δ= 44°00'00" L=190.83' T=100.40'		889+09.02	3018093.261	716363.430
L73	889+09.02	3018093.261	716363.430		S81°40'13"W 646.63'	895+55.65	3017999.584	715723.626
C85	895+55.65	3017999.584	715723.626	R= 426.50' Δ= 79°31'27" L=591.96' T=354.87'		901+47.61	3018284.099	715258.107
L76	901+47.61	3018284.099	715258.107		N18°48'20"W 370.45'	905+18.06	3018634.771	715138.691
C90	905+18.06	3018634.771	715138.691	R= 283.50' Δ= 91°42'31" L=453.77' T=292.08'		909+71.83	3018808.904	714770.975

HIGHWAY GUARD DETAILS

NONE

WATER SUPPLY ALTERATIONS

SEE BELOW

DRAINAGE DETAILS

NONE

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	21	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

608227HD (GEN)-1.DWG Plotted on 2-Jan-2024 7:01 AM

LEGEND:
- # PCR NUMBER
- # DRIVEWAY NUMBER

#16 RIVER STREET
BILLERICA HOUSING AUTHORITY
DEED BOOK 7504, PAGE 101
PLAN BOOK 187, PLAN 52

#30 RIVER STREET
NEW COLONY BAPTIST CHURCH OF BILLERICA
DEED BOOK 1790, PAGE 528
PLAN BOOK 68, PLAN 78

#30 RIVER STREET
NEW COLONY BAPTIST CHURCH OF BILLERICA
DEED BOOK 1790, PAGE 528
PLAN BOOK 68, PLAN 78

#36 RIVER STREET
THE INHABITANTS OF THE TOWN OF BILLERICA – C/O SELECT BOARD
DEED BOOK 1191, PAGE 112

#30 RIVER STREET
NEW COLONY BAPTIST CHURCH OF BILLERICA
DEED BOOK 1790, PAGE 528

#365 BOSTON ROAD
INHABITANTS OF THE TOWN OF BILLERICA – C/O SELECT BOARD
DEED BOOK 1239, PAGE 72

RIVER STREET

PARKER SCHOOL DRIVE

PROJECT BEGIN
STA 100+55.63
N 3029001.4400
E 717399.0886

BEGIN PROP GRAN CURB MEET EXIST
END PROP GRAN CURB MEET EXIST
RET UP #8
RET SMH
RET CB
RET CBCI
RET
RET UP #9
YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)
REM CEM CONC WALK
PROP LOAM & SEED
R&R UP #10 (BO)
R&R LIGHT
RET UP #9X
RET UP #3
RET SMH
RET DMH
RET CB
RET
ADJ CB
BEGIN PROP GRAN CURB MEET EXIST
RET VERT.GRAN
RET CONC WALL
PROP 9'-6" DIP
PROP 10' SUP (TYP)
RET TREE
PROP GUY POLE & GUY ANCHOR (BO)
APPROX LIMIT OF GRADING (TYP)
PROP PERM HWY EASEMENT
PC +23.75
PT +28.31
R&S SIGN & POST
END PROP GRAN CURB & WALK MEET EXIST
PROP GRAN CURB TRANS, MEET EXIST
PROP LOAM & SEED (TYP)
R&R HYDRANT PROP 6" COUPLING & THRUST BLOCK
END PROP GRAN CURB PROP SPLAYED END
RET TREE; PROP TREE PROTECTION
PROP TEMP CONSTR EASEMENT
SAWCUT, MEET EXIST CURB & WALK
RET TREE
RET UP #11-51 & UP #11-52
PROP CLEARING AND GRUBBING ALONG LIMIT OF FENCE REMOVAL
R&R CLF END POST; REM 5' FENCE

CONTINUED ON SHEET NO. 22

20 0 20 40
SCALE IN FEET

FOR PROFILES SEE SHEET NO. 43

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	22	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

608227HD (GEN)-1.DWG Plotted on 2-Jan-2024 7:02 AM

HIGHWAY GUARD DETAILS
NONE

WATER SUPPLY ALTERATIONS
SEE BELOW

DRAINAGE DETAILS
NONE

LEGEND:
[#] PCR NUMBER
<#> DRIVEWAY NUMBER

N

#36 RIVER STREET
THE INHABITANTS OF THE TOWN OF BILLERICA – C/O SELECT BOARD
DEED BOOK 1191, PAGE 112

#30 RIVER STREET
NEW COLONY BAPTIST CHURCH OF BILLERICA
DEED BOOK 1790, PAGE 528

#40 RIVER STREET
MARITA G. FINNEGAN & JEAN ROACH
DEED BOOK 5443, PAGE 136

#42 RIVER STREET
ERIC P. HASSEY
DEED BOOK 29315, PAGE 154

#44 RIVER STREET
DAWN C. GAGNON
DEED BOOK 7332, PAGE 159

#46 RIVER STREET
DENNIS G. & CAROL A. JOHNS
DEED BOOK 2230, PAGE 156

#48 RIVER STREET
RENEE M. & MAXIME EDOUARD
DEED BOOK 32446, PAGE 166
PLAN BOOK 68, PLAN 76

PARKER SCHOOL DRIVE

RIVER STREET

WEDGEWOOD AVE

RET UP #3
1934 COUNTY LAYOUT
PC +89.74
RET SMH
RET DMH
RET CB
RET VGC
RET VERT.GRAN
BEGIN PROP GRAN CURB MEET EXIST
ADJ CB
PT +28.31
PC +23.75
R&S SIGN & POST
RET TREE
PROP PERM HWY EASEMENT
END PROP GRAN CURB PROP SPLAYED END
RET TREE; PROP TREE PROTECTION
SAWCUT, MEET EXIST CURB & WALK
PROP TEMP CONSTR EASEMENT
PROP CLEARING AND GRUBBING ALONG LIMIT OF FENCE REMOVAL
RET TREE
RET UP #11-51 & UP #11-52
R&R CLF END POST; REM 5' FENCE
END PROP GRAN CURB MEET EXISTING
R&D GRAN CURB AT BACK OF EX SW
PROP HMA DRIVE (TYP)
PROP 10' SUP (TYP)
R&R MB
R&R HYDRANT
PROP PERM HWY EASEMENT
PROP SAWCUT & MEET EXIST DWY
APPROX LIMIT OF GRADING (TYP)
RET SHRUBS TRIM TO FENCE LINE
RET CB
RET DMH
RET SMH
R&D EX CURB (TYP)
YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)
REM EXIST SIDEWALK (TYP)
BEGIN PROP GRAN CURB MEET EXIST
ADJ CB
REM EX CURB INLET
PC +69.31
PT +07.44
PI +66.92
PI +82.10
REM STUMP
REM HEDGE
RET HEDGES
RET FENCE
PROP LOAM & SEED (TYP)
PROP TEMP CONSTR EASEMENT
RET TREE
RET FENCE
R&D PLANTER
END PROP GRAN CURB MEET EXIST
PROP HMA DRIVE (TYP)
R&D PLANTER
ADJ TMH (BO, VZ)
REM EX CURB (TYP)
RET
PROP LOAM & SEED (TYP)
RET SIGN
REM TREE
RET HEDGE
MEET EXIST BRICK WALK
R&D EXIST BRICK WALK
PROP BRICK WALK
R&S STONE POST
PROP PERM HWY EASEMENT
CONTINUED ON SHEET NO. 21
CONTINUED BELOW
CONTINUED ON SHEET NO. 23

#39 RIVER STREET
ZHAN JIANG & YUAN ZHU
DEED BOOK 28520, PAGE 212

#41 RIVER STREET
ROHIT & KETNA PATEL
DEED BOOK 28584, PAGE 153

#1 WEDGEWOOD AVENUE
SUSAN CORMAN & MARY O'REILLY
DEED BOOK 7000, PAGE 270

#51 RIVER STREET
JASON D. & NANCY A. KEENAN
DEED BOOK 13537, PAGE 19

SCALE IN FEET 20 0 20 40

LEGEND:
[#] PCR NUMBER
<#> DRIVEWAY NUMBER

#48 RIVER STREET
RENEE M. & MAXIME EDOUARD
DEED BOOK 32446, PAGE 166
PLAN BOOK 68, PLAN 76

#50 RIVER STREET
CHARLES E. & DENISE T. ADAMS
DEED BOOK 2323, PAGE 129

#54 RIVER STREET
SUREN U. SHENOY
DEED BOOK 2587, PAGE 47

RIVER STREET
THE INHABITANTS OF THE TOWN OF BILLERICA
DEED BOOK 19222, PAGE 101
LC DOCUMENT #233795

PARKER STREET

COLUMBUS AVE

COLONIAL DRIVE

RIVER STREET

PT +85.70
PT +33.95 PC +51.51
R&S FENCE
PROP SPLITTER ISLAND
RET UP
RET STONE BOX CULVERT
YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)
PROP TS POST W/ RRFB
REM 8' OF EXIST STONE WALL
PROP BOULDER BARRIER (TYP)
RET STONE WALL
PROP LOAM & SEED (TYP)
PROP GRAN CURB, MEET EXIST
ADJ TMH (BO, VZ)
RET DMH
REM EXIST SIDEWALK (TYP)
REM HEDGES & LANDSCAPE AREA (TYP)
REM BOULDER
PC +04.76
PT +32.20
PC +44.12
R&S EX CURB INLET
ADJ CB
RET
END PROP GRAN CURB MEET EXIST
SAWCUT, MEET EXIST WALK
BENCHMARK: SPIKE (SET) 1' UP IN UP #20 ELEV.=184.81'
YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)
R&D PLANTER
END PROP GRAN CURB MEET EXIST
PROP HMA DRIVE (TYP)
R&D PLANTER
ADJ TMH (BO, VZ)
REM EX CURB (TYP)
RET
PROP LOAM & SEED (TYP)
RET SIGN
REM TREE
RET HEDGE
MEET EXIST BRICK WALK
R&D EXIST BRICK WALK
PROP BRICK WALK
R&S STONE POST
PROP PERM HWY EASEMENT
REM IRRIGATION HEADS (6)
APPROX LIMIT OF GRADING (TYP)
PROP CLEAR & GRUB
PROP TEMP CONSTR EASEMENT
SAWCUT, MEET EXIST WALK
END PROP HMA CURB MEET EXIST
PROP SAWCUT
REM TREE
PROP HMA WALK
PROP HMA CURB
RET CB
RET DMH
SAWCUT
RET TREE
PROP TREE PROTECTION (TYP)
END PROP HMA CURB MEET EXIST
SAWCUT, MEET EXIST DWY
PROP 10' SUP (TYP)
PROP CLEARING & GRUBBING (TYP)
R&S BOULDERS
RET UP
REM EX CURB INLET
PROP CLEARING & GRUBBING
112+50.20 YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER) ℄ =
PCC +00.00 YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) ℄
PROP MICROMILL & OVERLAY
R&S BOULDERS
SAWCUT (TYP)
RET SMH
BEGIN PROP GRAN CURB MEET EXIST
RET DMH
R&R SIGN (BO)
RET CB
RET TREE
SAWCUT
RET
REM IRRIGATION HEADS (6)
REM TREE
PROP HMA WALK
PROP HMA CURB
REM HEDGES
RET
RET SMH
RET DMH
RET CB
RET VERT.GRAN
BEGIN PROP GRAN CURB MEET EXIST
ADJ CB
RET
PROP LOAM & SEED (TYP)
RET SIGN
REM TREE
RET HEDGE
MEET EXIST BRICK WALK
R&D EXIST BRICK WALK
PROP BRICK WALK
R&S STONE POST
PROP PERM HWY EASEMENT
CONTINUED ABOVE
FOR PROFILES SEE SHEET NOS. 43-44

#53 RIVER STREET
CONCORD CROSSING CONDOMINIUM
DEED BOOK 12666, PAGE 231

#51 RIVER STREET
JASON D. & NANCY A. KEENAN
DEED BOOK 13537, PAGE 19

#1COLONIAL DRIVE
KELLY A. NURZYNSKI REVOCABLE TRUST
DEED BOOK 36652, PAGE 7
PLAN BOOK 150, PLAN 113

10' WIDE DRAINAGE EASEMENT PLAN BOOK 205, PLAN 65
BIKE PATH EASEMENT PLAN BOOK 205, PLAN 65
R.R. RIGHT-OF-WAY

SCALE IN FEET 20 0 20 40

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	23	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS: NONE

WATER SUPPLY ALTERATIONS: NONE

DRAINAGE DETAILS: NONE

CONTINUED ON SHEET NO. 22

N

RET STONE WALL

REM 8' OF EXIST STONE WALL

112+50.20 YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER) ℄ = 200+00.00 YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) ℄

PROP SPLITTER ISLAND

R&S FENCE

BEGIN PROP WOOD RAILING STA 200+60

PT +85.70

RET STONE BOX CULVERT PROP 10' SUP (TYP)

APPROX LIMIT OF GRADING (TYP)

PROP CLEARING & GRUBBING (TYP)

PROP CLEARING & GRUBBING (TYP)

PROP TEMP CONSTR EASEMENT

END PROP WOOD RAILING STA 202+80

RET EXIST HEADWALL

PROP LOAM & SEED (TYP)

PC +44.12

ADJ TMH (BO, VZ)

RET UP

PC +04.76
PT +32.20

PT +33.95 PC +51.51

R.R. RIGHT-OF-WAY (VAL MAP)

PROP LOAM & SEED (TYP)

BEGIN PROP WOOD RAILING STA 202+30

RET UP

APPROX LIMIT OF GRADING (TYP)

END PROP WOOD RAILING STA 204+30

RET EXIST 5' CULVERT

RET EXIST HEADWALL

RET UP

PCC +24.35

PROP TS POST W/ RRFB

ADJ CB

RET STONE BOX CULVERT

PROP SEDIMENT CONTROL BARRIER (TYP)

YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) ℄

WETLAND 16

RAIL ROAD (RIVER ST)
BOSTON AND MAINE CORPORATION
DEED BOOK 171, PAGE 196
DEED BOOK 173, PAGE 400
DEED BOOK 173, PAGE 408
DEED BOOK 174, PAGE 130

#13 PARKER STREET
CHARLES J. GUENTHER
DEED BOOK 13256, PAGE 251

#15 PARKER STREET
MICHAEL NAPOLITANO
DEED BOOK 27388, PAGE 65

#17 PARKER STREET
SCOTT & MELISA YAPP
DEED BOOK 31452, PAGE 288
PLAN BOOK 84, PLAN 148A

#54 RIVER STREET
SUREN U. SHENOY
DEED BOOK 2587, PAGE 47

#COLONIAL DRIVE
KELLY A. NURZYNSKI REVOCABLE TRUST
DEED BOOK 35652, PAGE 7
PLAN BOOK 150, PLAN 113

RIVER STREET
THE INHABITANTS OF THE TOWN OF BILLERICA – C/O SELECT BOARD
DEED BOOK 19222, PAGE 101
LC DOCUMENT #233795

1954 COUNTY LAYOUT

LEGEND:
- [#] PCR NUMBER
- <#> DRIVEWAY NUMBER

20 0 20 40
SCALE IN FEET

CONTINUED BELOW

CONTINUED ABOVE

PC +85.66

PROP LOAM & SEED (TYP)

APPROX LIMIT OF GRADING (TYP)

RET UP

RET ROCK

PROP TEMP CONSTR EASEMENT

YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) ℄

PROP SEDIMENT CONTROL BARRIER (TYP)

PT +65.41

PROP 10' SUP (TYP)

PROP PERM HWY EASEMENT

PROP TEMP CONSTR EASEMENT

PROP PERM HWY EASEMENT

APPROX LIMIT OF GRADING (TYP)

PROP CLEARING & GRUBBING (TYP)

PC +19.20

30' WIDE SEWER EASEMENT

30' WIDE TEMPORARY EASEMENT

WETLAND 14

#19 PARKER STREET
HANQI WANG
DEED BOOK 31970, PAGE 93
PLAN BOOK 84, PLAN 148A

#21 PARKER STREET
GARY & ELISSA CASSIE
DEED BOOK 31490, PAGE 96
PLAN BOOK 84, PLAN 428
PLAN BOOK 140, PLAN 38

#17 PARKER STREET
SCOTT & MELISA YAPP
DEED BOOK 31452, PAGE 288
PLAN BOOK 84, PLAN 148A

RAIL ROAD (RIVER ST)
BOSTON AND MAINE CORPORATION
DEED BOOK 171, PAGE 196
DEED BOOK 173, PAGE 400
DEED BOOK 173, PAGE 408
DEED BOOK 174, PAGE 130

RIVER STREET
THE INHABITANTS OF THE TOWN OF BILLERICA – C/O SELECT BOARD
DEED BOOK 19222, PAGE 101
LC DOCUMENT #233795

20 0 20 40
SCALE IN FEET

CONTINUED ON SHEET NO. 24

FOR PROFILE, SEE SHEETS 44-45.

608227HD (GEN)-1.DWG Plotted on 2-Jan-2024 7:02 AM

HIGHWAY GUARD DETAILS

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE BELOW

YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
1	FES	212+60.7 12.8 R		177.73		
2	FES	212+60.7 15.1 L			(1) 177.55	
3	FES	220+45.0 14.0 R		145.98		
4	FES	220+44.9 15.7 L			(3) 145.69	

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	24	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

608227HD (GEN)-1.DWG Plotted on 2-Jan-2024 7:02 AM

RIVER STREET
THE INHABITANTS OF
THE TOWN OF BILLERICA –
C/O SELECT BOARD
DEED BOOK 19222, PAGE 101
LC DOCUMENT #233795

PROP PERM DRAINAGE EASEMENT
PROP STONE FOR PIPE ENDS
17 LF - 18" RCP
APPROX LIMIT OF GRADING (TYP)
PROP LOAM & SEED (TYP)
PROP PLUNGE POOL
PROP MODIFIED ROCKFILL
PROP HMA PAVED WATERWAY
PROP CLEARING & GRUBBING (TYP)
END WOOD RAILING STA 213+20
PROP SEDIMENT CONTROL BARRIER (TYP)
BEGIN GRASS SWALE STA 213+75
PROP TEMP CONSTR EASEMENT
PROP PERM HWY EASEMENT
YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) ℄
PROP 10' SUP (TYP)
END GRASS SWALE STA 215+15
PROP STONE PAD PROTECTION
BEGIN GRASS SWALE STA 217+24
PRC +39.76
BEGIN WOOD RAILING STA 211+80
PT +86.51
PROP STONE FOR PIPE ENDS
PROP PERM DRAINAGE EASEMENT
BEGIN GRASS SWALE STA 213+40
PROP PERM HWY EASEMENT
APPROX LIMIT OF GRADING (TYP)
PROP SEDIMENT CONTROL BARRIER (TYP)
PROP LOAM & SEED (TYP)
PROP TEMP CONSTR EASEMENT
PC +07.01
TEMPORARY EASEMENT
CONTINUED BELOW
CONTINUED ON SHEET NO. 23
CONTINUED ON SHEET NO. 25
SCALE IN FEET
20 0 20 40

CONTINUED ABOVE
RET BOULDER
PROP SEDIMENT CONTROL BARRIER (TYP)
RET BOULDER
PROP CLEARING & GRUBBING (TYP)
PROP LOAM & SEED (TYP)
PROP PERM DRAINAGE EASEMENT
BEGIN GRASS SWALE STA 217+24
PROP PERM HWY EASEMENT
PROP TEMP CONSTR EASEMENT
YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) ℄
APPROX LIMIT OF GRADING (TYP)
PROP LOAM & SEED (TYP)
PRC +39.76
PROP STONE FOR PIPE ENDS
PROP PLUNGE POOL
BEGIN WOOD RAILING STA 220+06
PROP STONE PAD PROTECTION
PC +71.30
1934 COUNTY LAYOUT
PROP LOAM & SEED (TYP)
PROP 10' SUP (TYP)
PROP PERM HWY EASEMENT
PRC +39.62
END GRASS SWALE STA 219+80
19 LF - 18" RCP
BEGIN WOOD RAILING STA 222+00
APPROX LIMIT OF GRADING (TYP)
PT +08.93
RIVER STREET
PROP TEMP CONSTR EASEMENT
END GRASS SWALE STA 220+20
PROP STONE PAD PROTECTION
RET UP & GUY
PROP STONE FOR PIPE ENDS
PROP PERM DRAINAGE EASEMENT
SCALE IN FEET
20 0 20 40
FOR PROFILE, SEE SHEETS 45-47.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	25	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE BELOW

CONTINUED ON SHEET NO. 24

PROP PLUNGE POOL (TYP)
PROP MODIFIED ROCKFILL (TYP)
PROP HMA PAVED WATERWAY (TYP)
APPROX LIMIT OF GRADING (TYP)
PROP LOAM & SEED (TYP)
PROP STONE FOR PIPE ENDS
PROP PERM DRAINAGE EASEMENT
PROP CLEARING & GRUBBING (TYP)
PROP PERM HWY EASEMENT
PROP TEMP CONSTR EASEMENT
PROP PERM FLOODPLAIN EASEMENT
PROP COMPENSATORY STORAGE AREA
PT +40.20
PC +92.63
PT +24.83
PC +69.53
YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) ℄
58 LF - 18" RCP
24 LF - 18" RCP
PROP STONE FOR PIPE ENDS
PROP TEMP CONSTR EASEMENT
PROP PERM DRAINAGE EASEMENT
PROP LOAM & SEED (TYP)
PROP LOAM & SEED
PROP PERM DRAINAGE EASEMENT
PROP STONE FOR PIPE ENDS
END WOOD RAILING STA 226+20
PROP SEDIMENT CONTROL BARRIER (TYP)
PROP 10' SUP (TYP)
BEGIN GRASS SWALE STA 228+37
PROP STONE PAD PROTECTION
BEGIN GRASS SWALE STA 228+09
END WOOD RAILING STA 226+90
APPROX LIMIT OF GRADING (TYP)
PROP SEDIMENT CONTROL BARRIER (TYP)
PROP HMA PAVED WATERWAY
CONTINUED BELOW

RIVER STREET
THE INHABITANTS OF
THE TOWN OF BILLERICA – C/O SELECT BOARD
DEED BOOK 19222, PAGE 101
LC DOCUMENT #233795

1934 COUNTY LAYOUT

20 0 20 40
SCALE IN FEET

ISOLATED WETLAND COMPLEX

YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
5	FES	224+20.0 34.1 L		121.58		
6	FES	224+20.0 35.2 R			(5) 120.88	
7	FES	226+00.0 17.1 L		121.98		
8	FES	226+00.1 17.5 R			(7) 121.63	

CONTINUED ABOVE

BEGIN GRASS SWALE STA 228+37
END GRASS SWALE STA 228+90
PROP PERM HWY EASEMENT
PROP TEMP CONSTR EASEMENT
BEGIN GRASS SWALE STA 229+90
PT +21.26
PROP STONE PAD PROTECTION
BEGIN GRASS SWALE STA 228+09
PROP PERM HWY EASEMENT
PROP TEMP CONSTR EASEMENT
PROP STONE PAD
END GRASS SWALE STA 228+96
PROP LOAM & SEED (TYP)
PROP CLEARING & GRUBBING (TYP)
PROP 10' SUP (TYP)
END GRASS SWALE STA 231+10
YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) ℄
APPROX LIMIT OF GRADING (TYP)
PC +90.99
BEGIN WOOD RAILING STA 231+10
PROP SEDIMENT CONTROL BARRIER (TYP)
PROP SEDIMENT CONTROL BARRIER (TYP)
PROP LOAM & SEED (TYP)
BEGIN WOOD RAILING STA 232+90
APPROX LIMIT OF GRADING (TYP)
PROP BOX CULVERT BRIDGE NO. B-12-031(C5P)
PT +85.19
PRC +35.91
PROP MSE WINGWALL (TYP)
REM 45' OF STONE WALL
PROP PERM DRAINAGE EASEMENT
PROP HMA PAVED WATERWAY
PROP MODIFIED ROCKFILL
PROP PLUNGE POOL
CONTINUED ON SHEET NO. 26

RIVER STREET
THE INHABITANTS OF
THE TOWN OF BILLERICA – C/O SELECT
DEED BOOK 19222, PAGE 101
LC DOCUMENT #233795

20 0 20 40
SCALE IN FEET

FOR PROFILE, SEE SHEETS 47-48.

608227HD (GEN)-1.DWG Plotted on 2-Jan-2024 7:03 AM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	26	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

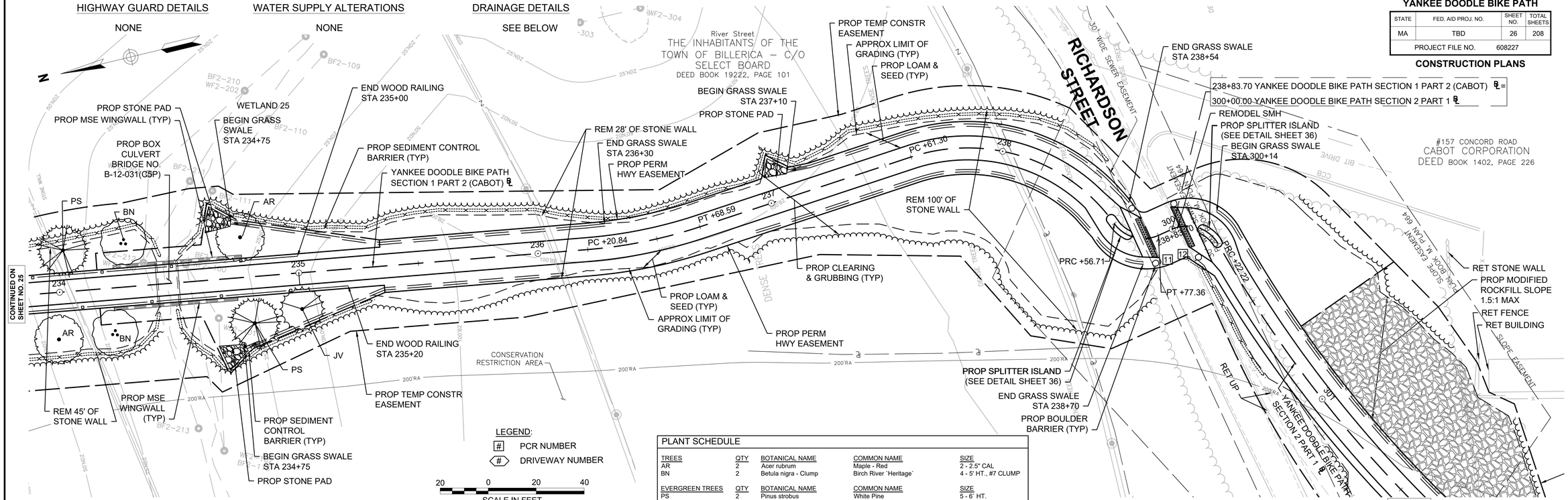
608227HD (GEN)-1.DWG Plotted on 2-Jan-2024 7:03 AM

HIGHWAY GUARD DETAILS
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE BELOW

238+83.70 YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) ℄ =
300+00.00 YANKEE DOODLE BIKE PATH SECTION 2 PART 1 ℄

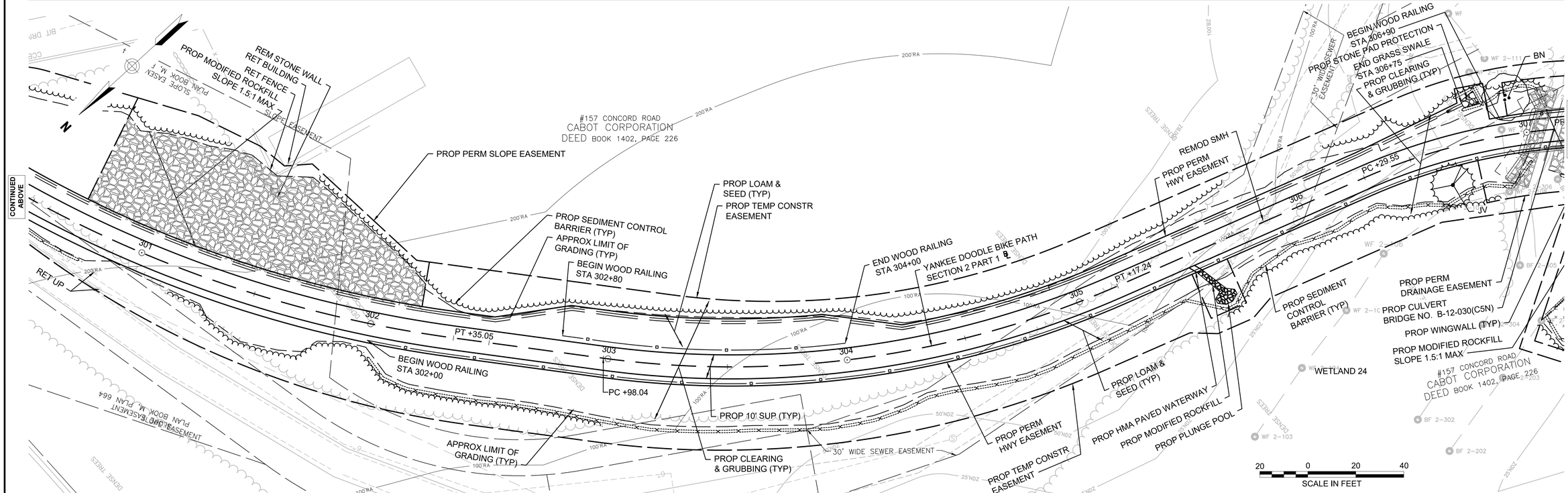


LEGEND:
[#] PCR NUMBER
<#> DRIVEWAY NUMBER

20 0 20 40
SCALE IN FEET

PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AR	2	Acer rubrum	Maple - Red	2 - 2.5" CAL
BN	2	Betula nigra - Clump	Birch River `Heritage`	4 - 5' HT., #7 CLUMP
EVERGREEN TREES	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**
PS	2	Pinus strobus	White Pine	5 - 6' HT.
JV	1	Juniperus Virginiana	Eastern Red Cedar	5 - 6' HT.



20 0 20 40
SCALE IN FEET

FOR PROFILE, SEE SHEETS 48-49.

HIGHWAY GUARD DETAILS

NONE

WATER SUPPLY ALTERATIONS

SEE BELOW

DRAINAGE DETAILS

NONE

PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AR	2	Acer rubrum	Maple - Red	2 - 2.5" CAL
BN	2	Betula nigra - Clump	Birch River `Heritage`	4 - 5' HT., #7 CLUMP
EVERGREEN TREES	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**
PS	2	Pinus strobus	White Pine	5 - 6' HT.
JV	2	Juniperus Virginiana	Eastern Red Cedar	5 - 6' HT.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	27	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

CONTINUED BELOW

CONTINUED ON SHEET NO. 26

WETLAND 24
PROP MODIFIED ROCKFILL SLOPE 1.5:1 MAX
BEGIN WOOD RAILING STA 306+90
TONE PAD PROTECTION
END GRASS SWALE STA 306+75
PROP CLEARING & GRUBBING (TYP)
PROP PERM DRAINAGE EASEMENT
PROP WINGWALL (TYP)
PROP BLSF COMPENSATORY STORAGE AREA #2
30' WIDE SEWER EASEMENT PLAN BOOK 111, PLAN 43
APPROX LIMIT OF GRADING (TYP)
END WOOD RAILING STA 308+50
PROP LOAM & SEED (TYP)
PROP 10' SUP (TYP)
30' WIDE TEMPORARY EASEMENT PLAN BOOK 111, PLAN 43 (STATUS UNKNOWN)
PROP BOARDWALK STRUCTURE BRIDGE NO. B-12-032(CDF)
BEGIN WOOD RAILING STA 308+50
PROP PERM HWY EASEMENT
PROP WETLAND RESTORATION AREA
WETLAND 22
PC +29.55
PRC +06.12
PT +79.71
PRC +11.58
PC +83.06
PT +28.02
PC +98.56
END WOOD RAILING STA 308+50
BEGIN WOOD RAILING STA 309+08
PROP CLEARING & GRUBBING (TYP)
APPROX LIMIT OF GRADING (TYP)
PROP PERM HWY EASEMENT
PROP LOAM & SEED (TYP)
PROP PERM DRAINAGE EASEMENT
PROP CULVERT BRIDGE NO. B-12-030(C5N)
PROP WINGWALL (TYP)
PROP MODIFIED ROCKFILL SLOPE 1.5:1 MAX
PROP TEMP CONSTR EASEMENT
PROP BLSF COMPENSATORY STORAGE AREA #3
PROP WETLAND REPLICATION AREA LOCATION 1
PROP TEMP WETLAND REPLICATION EASEMENT
JV
BN
AR
PS
END WOOD RAILING STA 311+72
PRC +87.10
PROP HMA WALK
PROP CEM CONC WCR
#129 CONCORD ROAD
RIVERTECH OWNER LLC
DEED BOOK 36003, PAGE 191
PLAN BOOK 101, PLAN 34
PLAN BOOK 116, PLAN 108
PLAN BOOK 101, PLAN 160B
PROP 24" DI WATER MAIN
PROP TEMP CONSTR EASEMENT
END WOOD RAILING STA 311+47
30' WIDE TEMPORARY EASEMENT
PROP 11-1/4 BEND
PROP GATE VALVE
PROP PLUG
30' WIDE SEWER EASEMENT
RET SMH (TYP)
20 0 20 40
SCALE IN FEET

CONTINUED ABOVE

CONCORD ROAD
BERKELEY CONCORD RD. OWNER, LLC
DEED BOOK 37031, PAGE 199
PLAN BOOK 249, PLAN 124
PLAN BOOK 89, PLAN 165
YANKEE DOODLE BIKE PATH SECTION 2 PART 1
APPROX LIMIT OF GRADING (TYP)
REM STONE WALL FROM STA 314+39 LT TO 315+10 LT
WETLAND 22
PROP 11-1/4 BEND
PROP 24" DI WATER MAIN
PROP LOAM & SEED (TYP)
PROP SEDIMENT CONTROL BARRIER (TYP)
PROP TEMP CONSTR EASEMENT
PROP PERM HWY EASEMENT
REM ROCK
PRC +87.10
PRC +46.95
PRC +80.49
PT +11.72
PROP 10' SUP (TYP)
PROP CLEARING & GRUBBING (TYP)
PROP PERM HWY EASEMENT
PROP TEMP CONSTR EASEMENT
PROP LOAM & SEED (TYP)
REM STONE WALL STA 316+00 LT TO 319+78 RT
APPROX LIMIT OF GRADING (TYP)
REM ROCK (TYP)
R&R HYDRANT
PROP 24" DI WATER MAIN
WETLAND 23
PROP HMA WALK
PROP CEM CONC WCR
RET CAPE COD BERM
#129 CONCORD ROAD
RIVERTECH OWNER LLC
DEED BOOK 36003, PAGE 191
PLAN BOOK 101, PLAN 34
PLAN BOOK 116, PLAN 108
PLAN BOOK 101, PLAN 160B
20 0 20 40
SCALE IN FEET

CONTINUED ON SHEET NO. 28

FOR PROFILE, SEE SHEETS 49-51.

608227HD (GEN)-1.DWG Plotted on 2-Jan-2024 7:03 AM

HIGHWAY GUARD DETAILS

NONE

WATER SUPPLY ALTERATIONS

SEE BELOW

DRAINAGE DETAILS

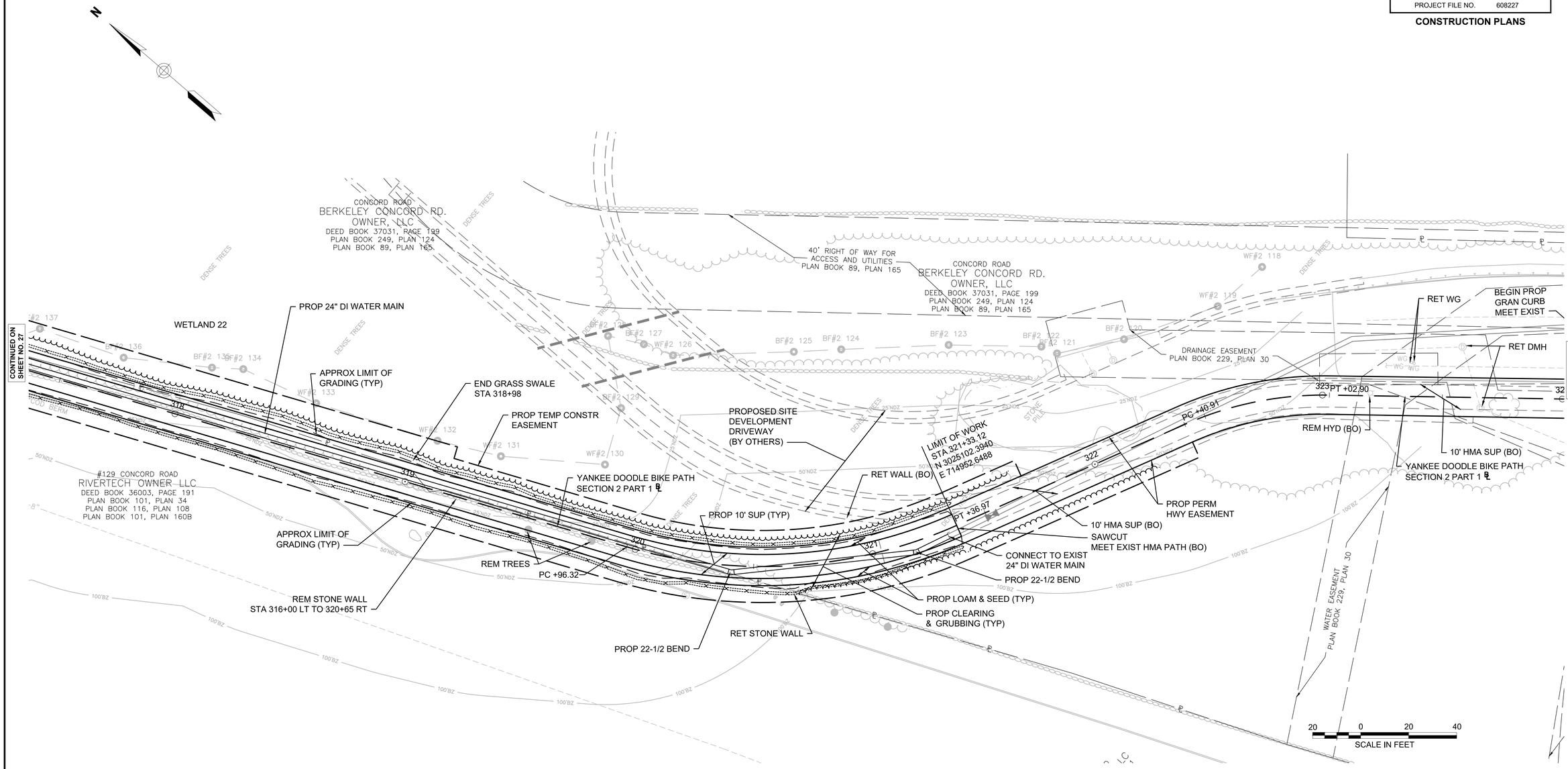
NONE

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	28	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

608227HD (GEN)-1.DWG Plotted on 2-Jan-2024 7:04 AM



FOR PROFILE, SEE SHEETS 51-52.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	29	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE BELOW

LEGEND:
[#] PCR NUMBER
<#> DRIVEWAY NUMBER

608227HD (GEN)-1.DWG Plotted on 2-Jan-2024 7:04 AM

N

RET CEM CONC WALK
RET EXIST 8' TS POST
R&S EXIST PED HEAD
R&S EXIST PED PUSH BUTTON
PROP PED HEAD
PROP APS PED PUSH BUTTON
RET SIGNS
RET CB
MODIFY EXIST TS CONTROLLER & CABINET TO ACCOMMODATE PROP CHANGES AS SHOWN
RET MAST ARM
R&S SIGNAL HEAD A
HIGHWAY EASEMENT PLAN BOOK 217, PLAN 1

CONCORD ROAD
CABOT CORPORATION
DEED BOOK 2393, PAGE 656
PLAN BOOK 129, PLAN 160

MIDDLESEX TURNPIKE
1933 COUNTY LAYOUT
1953 TOWN LAYOUT (LAYOUT NO. 4072)

SAWCUT, MEET EXIST CURB & WALK
ABAN EXIST CONDUIT
RET DMH
RET TMH
RET WG
RET UP
ADJ EHH
PROP GRAN CURB
REM CURB INLET
ADJ CB
PROP FRAME & GRATE
325+83.44 YANKEE DOODLE BIKE PATH SECTION 2 PART 1=
383+15.16 YANKEE DOODLE BIKE PATH SECTION 2 PART 2
R&S TRAFFIC SIGNAL POST
END PROP GRAN CURB MEET EXIST

#401 MIDDLESEX TURNPIKE
RICARDO VERISSIMO DOS REIS & DANIELA DE SOUSA TEIXEIRA
DEED BOOK 34351, PAGE 129
PLAN BOOK 95, PLAN 56B

LIMIT OF WORK
STA 324+37.73
N 2924913.6000
E 715183.9095
ADJ EHH
PROP 10' HMA SUP
SAWCUT
PROP LOAM & SEED
BEGIN PROP GRAN CURB MEET EXIST
PC +58.49
RET WG
RET DMH
RET UP 64 w/ RISER
ADJ EHH
REM CB
RET FO MH
2 LF - 12" RCP
ADJ DMH
PROP LOAM & SEED
SAWCUT, MEET EXIST HMA SUP (BO)
R&S TRAFFIC SIGNAL POST
RET HIGHWAY GUARD
PROP CEM CONC WALK
RET TRAFFIC SIGNAL POST
PROP LIMIT OF GRADING
RET EXIST GUARDRAIL
R&S TRAFFIC SIGNAL POST
PROP GRAN CURB
PROP CEM CONC WALK
SAWCUT, MEET EXIST CURB & WALK
ABAN EXIST LOOPS
RET DMH
PT +02.90
10' HMA SUP (BO)
YANKEE DOODLE BIKE PATH SECTION 2 PART 1 ℄
REM HYD (BO)
CONTINUED ON SHEET NO. 28

1938 COUNTY LAYOUT
1953 TOWN LAYOUT (LAYOUT NO. 4072)
PROP 10' SUP (TYP)
PROP SELECTIVE CLEARING & GRUBBING FOR SIGHT LINE
PROP CLEARING & GRUBBING (TYP)
PROP LOAM & SEED TO CURB
PC +63.97
PCC +94.21
PT +63.96
PROP TEMP CONSTR EASEMENT
PROP PERM HWY EASEMENT
APPROX LIMIT OF GRADING (TYP)
PROP LOAM & SEED (TYP)
APPROX LIMIT GRADING (TYP)
YANKEE DOODLE BIKE PATH SECTION 2 PART 2 ℄
PROP PERM HWY EASEMENT
PROP TEMP CONSTR EASEMENT
CONTINUED BELOW

#2 FEDERAL STREET
REXPAR PROPERTY LLC
DEED BOOK 28863, PAGE 237

YANKEE DOODLE BIKE PATH SECTION 2 PART 1 DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
11	CB	324+94.0 6.6 L	186.21		182.52	
12	EX DMH	325+02.9 7.2 L	186.94	(11) 182.46		

20 0 20 40
SCALE IN FEET

N

RET STONE WALL
STONE WALL
APPROX LIMIT OF GRADING (TYP)
PROP TEMP CONSTR EASEMENT
PROP LOAM & SEED (TYP)
PROP CLEARING & GRUBBING (TYP)
PROP PERM HWY EASEMENT
7 PS
5 PS
PC +71.30
PT +05.61
PC +21.47
PT +11.65
PROP 10' SUP (TYP)
YANKEE DOODLE BIKE PATH SECTION 2 PART 2 ℄
PROP PERM HWY EASEMENT
PROP TEMP CONSTR EASEMENT
PROP LOAM & SEED (TYP)
APPROX LIMIT OF GRADING (TYP)
PC +89.65
CONTINUED ABOVE
CONTINUED ON SHEET NO. 30

#2 FEDERAL STREET
REXPAR PROPERTY LLC

#4 FEDERAL STREET
THE FIELDS REALTY TRUST
DEED BOOK 2673, PAGE 612
PLAN BOOK 144, PLAN 43
PLAN BOOK 108, PLAN 33

PLANT SCHEDULE				
EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
PS	7	Pinus strobus	White Pine	5 - 6' HT.
TG	9	Thuja plicata 'Green Giant'	Arborvitae - Western Green Giant	5 - 6' HT.

20 0 20 40
SCALE IN FEET

FOR PROFILE, SEE SHEETS 52-53.

HIGHWAY GUARD DETAILS

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

NONE

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	30	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

CONTINUED ON SHEET NO. 31

CONTINUED ON SHEET NO. 29

PC +00.00

PT +11.65

PC +89.65

PT +79.83

PT +48.23

PC +25.38

399

398

397

396

395

394

393

PROP SEDIMENT CONTROL BARRIER (TYP)

REM HEDGE (TYP)

RET LP

PROP TEMP CONSTR EASEMENT

PROP PERM HWY EASEMENT

PROP SELECTIVE CLEARING & GRUBBING FOR SIGHT LINE

APPROX LIMIT OF GRADING (TYP)

PROP LOAM & SEED (TYP)

PROP CLEARING & GRUBBING (TYP)

PROP 10' SUP (TYP)

YANKEE DOODLE BIKE PATH SECTION 2 PART 2

REM WALLS

WETLAND 20

EDGE OF PAVEMENT

DENSE TREES

CONC PAD WITH PROPANE TANKS

ALL PURPOSE EASEMENT

FEDERAL STREET
THE FIELDS REALTY TRUST
DEED BOOK 2673, PAGE 612
PLAN BOOK 108, PLAN 33

#4 FEDERAL STREET
THE FIELDS REALTY TRUST
DEED BOOK 2673, PAGE 612
PLAN BOOK 144, PLAN 43
PLAN BOOK 108, PLAN 33

#8 FEDERAL STREET
RHINO 8 FEDERAL LLC
DEED BOOK 37054, PAGE 103
PLAN BOOK 141, PLAN 60

20 0 20 40
SCALE IN FEET

FOR PROFILE, SEE SHEETS 53 - 54 .

608227HD (GEN)-1.DWG Plotted on 2-Jan-2024 7:04 AM

HIGHWAY GUARD DETAILS

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE BELOW

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	31	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

608227HD (GEN)-1.DWG Plotted on 2-Jan-2024 7:05 AM

LEGEND:
- [#] WCR NUMBER
- <#> DRIVEWAY NUMBER

RALPH J. DEED 15

BROOK EASEMENT

#8 FEDERAL STREET
RHINO 8 FEDERAL LLC
DEED BOOK 37054, PAGE 103
PLAN BOOK 141, PLAN 60

30' WIDE SEWER EASEMENT
PLAN BOOK M, PLAN 865

85' WIDE MASSACHUSETTS ELECTRIC COMPANY EASEMENT
PLAN BOOK 157, PLAN 101

REAR MIDDLESEX TPK
THE FIELDS REALTY TRUST
DEED BOOK 2673, PAGE 612
PLAN BOOK 108, PLAN 33

WETLAND 7

PROP BLSF COMPENSATORY STORAGE AREA #4

PROP CLEARING & GRUBBING (TYP)

APPROX LIMIT OF GRADING (TYP)

PROP LOAM & SEED (TYP)

PROP TEMP CONSTR EASEMENT

PROP PERM HWY EASEMENT

PROP SEDIMENT CONTROL BARRIER (TYP)

PROP MODIFIED ROCK FILL SLOPE

PROP BOARDWALK STRUCTURE BRIDGE NO. B-12-029 (C5M)

PROP WETLAND RESTORATION AREA

25 LF - 12" RCP, CLASS V

PROP STONE PAD PROTECTION

RET UPL

BEGIN GRASS SWALE STA 405+68

BEGIN GRASS SWALE STA 406+20

PROP STONE PAD PROTECTION

PROP 10' SUP (TYP)

PROP TREE TRIMMING FOR SIGHT LINE

PROP LOAM & SEED (TYP)

APPROX LIMIT OF GRADING (TYP)

PROP TEMP CONSTR EASEMENT

PROP PERM HWY EASEMENT

YANKEE DOODLE BIKE PATH SECTION 2 PART 2 ℄

PROP GRAVEL ACCESS DRIVE

PROP SEDIMENT CONTROL BARRIER (TYP)

YANKEE DOODLE BIKE PATH SECTION 2 PART 2 ℄

PC +00.00

PC +96.30

PT +97.72

PC +10.00

PT +76.40

PC +32.03

PT +24.61

PT +41.78

#8 FEDERAL STREET
RHINO 8 STREET REALTY LLC
DEED BOOK 25054, PAGE 122

#8 FEDERAL STREET
RHINO 8 FEDERAL LLC
DEED BOOK 37054, PAGE 103
PLAN BOOK 141, PLAN 60

UTILITY EASEMENT

EDGE OF PAVEMENT

CONC PAD WITH PROPANE TANKS

CONTINUED ON SHEET NO. 30

CONTINUED ON SHEET NO. 32

YANKEE DOODLE BIKE PATH SECTION 2 PART 2 DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
88	FES	405+57.3 16.4 L	189.63		184.40	
89	FES	405+21.2 17.5 L	185.87	(88) 184.20		

20 0 20 40
SCALE IN FEET

FOR PROFILE, SEE SHEETS 53 - 54 .

HIGHWAY GUARD DETAILS

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE BELOW

YANKEE DOODLE BIKE PATH SECTION 3 DRAINAGE STRUCTURE DATA						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
13	LB	503+00.0 8.5 L	186.00		185.00	PROP FRAME & GRATE

PLANT SCHEDULE				
EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE
PS	7	Pinus strobus	White Pine	5 - 6' HT.
TG	9	Thuja plicata 'Green Giant'	Arborvitae - Western Green Giant	5 - 6' HT.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	32	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

608227HD (GEN)-2.DWG Plotted on 2-Jan-2024 8:19 AM

N

PROP 5' HMA WALK
MEET EXIST HMA WALK
BICYCLE RACKS ON 7'x7' CEM CONC PAD
END GRANITE CURB
PROP STUB POLE & GUY WIRE (BO)
REM EX GUY WIRE (BO)
MEET EXIST HMA WALK
RET UP #2390-95
RET GUY
PROP PERMEABLE PAVEMENT PARKING LOT
PROP CEM CONC DRIVE
PROP PIPE GATE
MEET EXIST HMA WALK
R&R GPI #61-84
RET UP #89-5
REM HEDGE
PROP GRAVEL DRIVE
WETLAND 7
PROP GRANITE CURB
PROP BOULDER BARRIER (TYP)
PROP SPLITTER ISLAND
PROP TEMP CONSTR EASEMENT
PROP PERM HWY EASEMENT
RET FENCE
PC +19.33
PT +72.90
PROP EDGE OF PAVEMENT
PROP PERM DRAINAGE EASEMENT
BEGIN GRASS SWALE STA 501+73
PROP STONE PAD PROTECTION WETLAND 7
RET POST
MEET EXIST GRAVEL DRIVE
30' WIDE SEWER EASEMENT (PLAN BOOK M, PLAN 665)
7 TG
9 PS
PC +44.12
PRC +69.68
PT +95.25
APPROX LIMIT OF GRADING (TYP)
PROP CLEARING & GRUBBING (TYP)
PROP SEDIMENT CONTROL BARRIER (TYP)
62 LF - 6" DIP
INV=185.0
RET STONE WALL
RET FENCE & STONE WALL
PROP LB
BEGIN GRASS SWALE STA 503+00
APPROX LIMIT OF GRADING (TYP)
PROP LOAM & SEED (TYP)
PROP 10' SUP (TYP)
END GRASS SWALE STA 504+50
RET FENCE
PROP SEDIMENT CONTROL BARRIER (TYP)
PROP SELECTIVE CLEARING & GRUBBING FOR SIGHT LINE
YANKEE DOODLE BIKE PATH SECTION 3 ℄
PROP PERM HWY EASEMENT
PROP TEMP CONSTR EASEMENT
END GRASS SWALE STA 504+50
PROP LOAM & SEED (TYP)
CONTINUED BELOW

MIDDLESEX TURNPIKE
1932 COUNTY LAYOUT

#429 MIDDLESEX TPK
WILLIAM P. MCLEAN & DEBORAH A. MCLEAN
DEED BOOK 4678, PAGE 122

REAR MIDDLESEX TPK
TOWN OF BILLERICA – C/O CONSERVATION COMMISSION
DEED BOOK 3851, PAGE 267

#8 FEDERAL STREET
ATLANTIC FEDERAL STREET REALTY LLC
DEED BOOK 25054, PAGE 122

REAR MIDDLESEX TPK
THE FIELDS REALTY TRUST
DEED BOOK 2673, PAGE 612
PLAN BOOK 108, PLAN 33

LEGEND:
PCR NUMBER
DRIVEWAY NUMBER

20 0 20 40
SCALE IN FEET

CONTINUED ABOVE

#439 MIDDLESEX TPK
FERRARI REALTY TRUST
DEED BOOK 7406, PAGE 66

BEGIN WOOD RAILING STA 506+00
PROP TEMP CONSTR EASEMENT
PROP PERM HWY EASEMENT
APPROX LIMIT OF GRADING (TYP)
PROP LOAM & SEED (TYP)
RET FENCE
PROP SEDIMENT CONTROL BARRIER (TYP)
506+74.50 YANKEE DOODLE BIKE PATH SECTION 3 ℄ =
409+13.05 YANKEE DOODLE BIKE PATH SECTION 2 PART 2 ℄
PROP 10' SUP (TYP)
PROP CLEARING & GRUBBING (TYP)
WETLAND 5
PI +22.34
409+13.05
R&S FENCE STA 505+92 TO 508+01
PROP STONE PAD PROTECTION
END GRASS SWALE STA 408+80
PROP TREE TRIMMING FOR SIGHT LINES
PROP LOAM & SEED (TYP)
APPROX LIMIT OF GRADING (TYP)
PROP TEMP CONSTR EASEMENT
BEGIN WOOD RAILING STA 506+74.50
YANKEE DOODLE BIKE PATH SECTION 3 ℄
PROP PERM HWY EASEMENT
WETLAND 5
PROP SELECTIVE CLEARING & GRUBBING FOR SIGHT LINE

#7 HATTIE LANE
JAMES R. DALFINO
DEED BOOK 2245, PAGE 588

#9 HATTIE LANE
KEITH C. BUTLER
DEED BOOK 2250, PAGE 260

MIDDLESEX TPK
TOWN OF BILLERICA
DEED BOOK 3851, PAGE 267

18"RCP EL=183.07'
18"RCP EL=182.92'
RET PIPE

CONTINUED ON SHEET NO. 31

CONTINUED ON SHEET NO. 33

20 0 20 40
SCALE IN FEET

FOR PROFILE, SEE SHEET 55 - 56.

BILLERICA
YANKEE DOODLE BIKE PATH

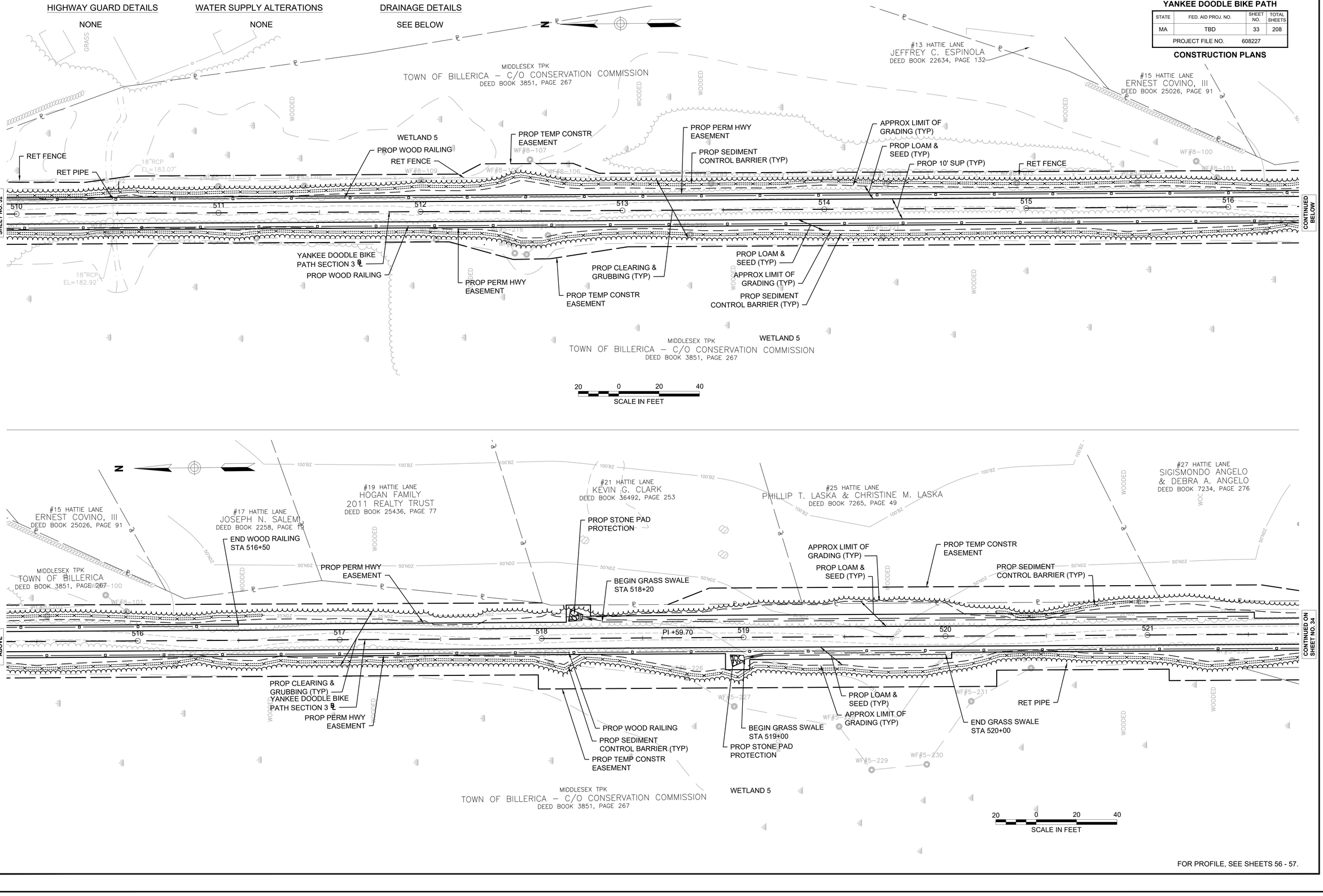
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	33	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE BELOW



608227HD (GEN)-2.DWG Plotted on 2-Jan-2024 7:08 AM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	34	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

608227HD (GEN)-2.DWG Plotted on 2-Jan-2024 7:08 AM

HIGHWAY GUARD DETAILS

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE BELOW

#27 HATTIE LANE
SIGISMONDO ANGELO
& DEBRA A. ANGELO
DEED BOOK 7234, PAGE 276

#29 HATTIE LANE
RAYMOND E. HINXMAN, III
DEED BOOK 26181, PAGE 60

#31 HATTIE LANE
CHRISTINE MARIE KEMP
DEED BOOK 16419, PAGE 163

#33 HATTIE LANE
ROBERT A. SEARS & HEAWON SEARS
DEED BOOK 7380, PAGE 170

MIDDLESEX TPK
TOWN OF BILLERICA – C/O CONSERVATION COMMISSION
DEED BOOK 3851, PAGE 267

MIDDLESEX TPK
TOWN OF BILLERICA – C/O CONSERVATION COMMISSION
DEED BOOK 10217, PAGE 131

REAR BLACKWOOD AVE
TOWN OF BILLERICA – C/O CONSERVATION COMMISSION
DEED BOOK 2285, PAGE 656

REAR BACKWOOD AVE
TOWN OF BILLERICA – C/O CONSERVATION COMMISSION
DEED BOOK 20230, PAGE 285

ROUTE 3
TOWN OF BILLERICA – C/O CONSERVATION COMMISSION
DEED BOOK 19950, PAGE 275

PROP TEMP CONSTR EASEMENT
PROP 10' SUP (TYP)
PROP LOAM & SEED (TYP)
APPROX LIMIT OF GRADING (TYP)
BEGIN GRASS SWALE STA 524+00
PROP PERM HWY EASEMENT
PROP CLEARING & GRUBBING (TYP)
BEGIN WOOD RAILING STA 526+50
END GRASS SWALE STA 526+85
PC +87.23
PROP WOOD RAILING
YANKEE DOODLE BIKE PATH SECTION 3 ℄
WETLAND 5
WETLAND 6
BEGIN GRASS SWALE STA 526+50
END GRASS SWALE STA 527+50
PROP STONE PAD PROTECTION
PROP BLSF COMPENSATORY STORAGE AREA #4
PROP SEDIMENT CONTROL BARRIER (TYP)
PROP WETLAND REPLICATION AREA LOCATION 2
END WOOD RAILING STA 532+02
PT +06.84
PC +76.58
LIMITED ACCESS STATE HIGHWAY LAYOUT (LAYOUT NO. 4072)
LOCATION LINE OF SEPTEMBER 15, 1953

SCALE IN FEET: 20 0 20 40

CONTINUED ON SHEET NO. 33
CONTINUED BELOW
CONTINUED ABOVE
CONTINUED ON SHEET NO. 35
FOR PROFILE, SEE SHEETS 58 - 59.

HIGHWAY GUARD DETAILS

NONE

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE BELOW

BILLERICA
YANKEE DOODLE BIKE PATH

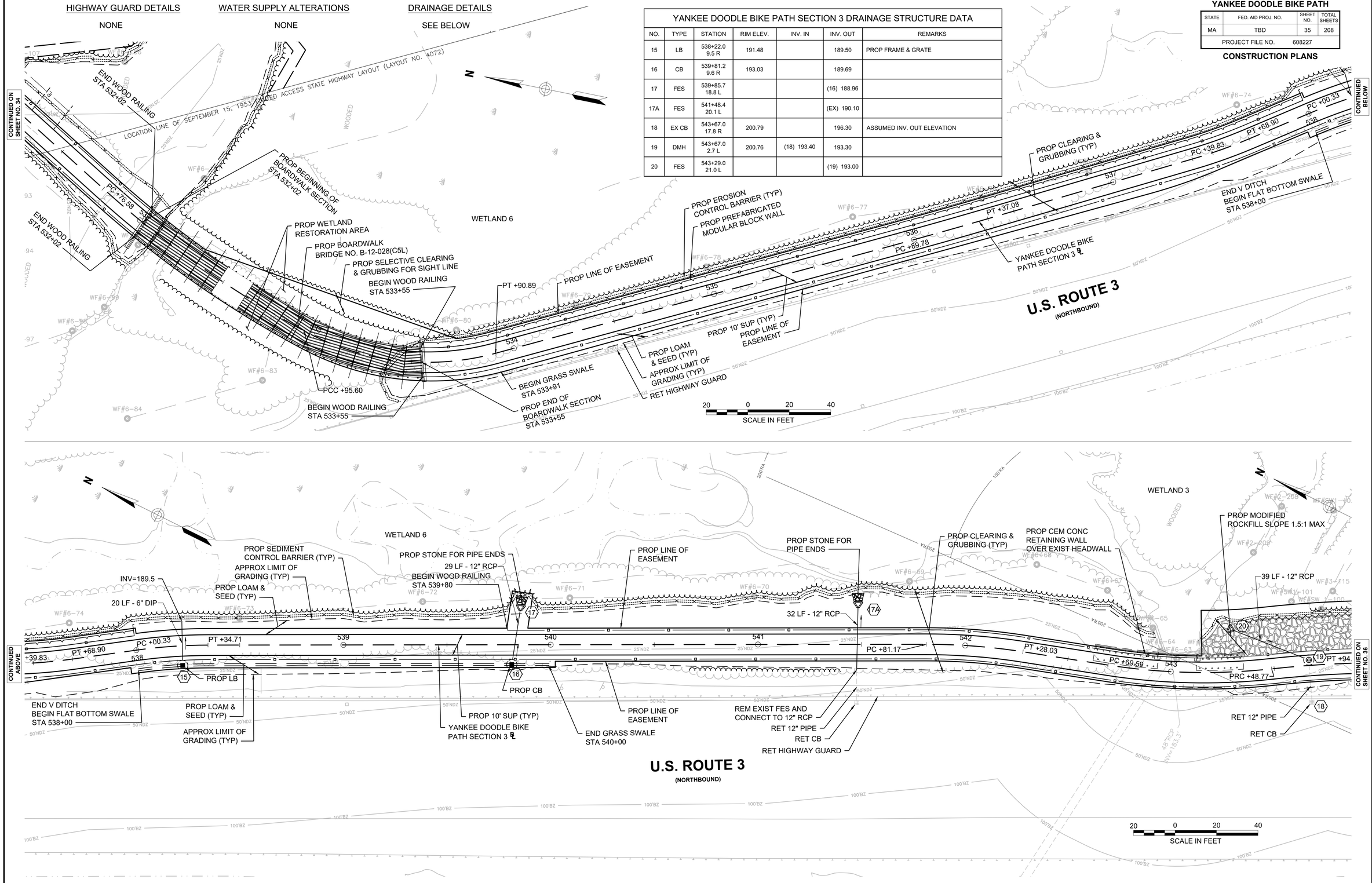
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	35	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

608227HD (GEN)-2.DWG Plotted on 2-Jan-2024 7:09 AM

YANKEE DOODLE BIKE PATH SECTION 3 DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
15	LB	538+22.0 9.5 R	191.48		189.50	PROP FRAME & GRATE
16	CB	539+81.2 9.6 R	193.03		189.69	
17	FES	539+85.7 18.8 L			(16) 188.96	
17A	FES	541+48.4 20.1 L			(EX) 190.10	
18	EX CB	543+67.0 17.8 R	200.79		196.30	ASSUMED INV. OUT ELEVATION
19	DMH	543+67.0 2.7 L	200.76	(18) 193.40	193.30	
20	FES	543+29.0 21.0 L			(19) 193.00	



FOR PROFILE, SEE SHEETS 59 - 60.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	36	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE BELOW

CONTINUED ON SHEET NO. 35

PROP MODIFIED ROCKFILL SLOPE 1.5:1 MAX
39 LF - 12" RCP
PROP MODIFIED ROCKFILL SLOPE 1.5:1 MAX
PROP STEEL SHEETING AT TOE OF SLOPE INSTALLED TO A DEPTH OF 12.0'
PROP CLEARING & GRUBBING (TYP)
PROP LOAM & SEED (TYP)
PROP SEDIMENT CONTROL BARRIER (TYP)
APPROX LIMIT OF GRADING (TYP)
PROP WOOD RAILING (TYP)
END WOOD RAILING STA 547+25
BEGIN WOOD RAILING STA 547+55
100' BUFFER
RET TREES
22 LF - 12" RCP
PRC +48.77
PT +94.76
PC +66.93
PT +25.05
PC +00.27
PT +55.12
PC +85.32
PT +42.38
PC +82.73
RET 12" PIPE
RET CB
END WOOD RAILING STA 544+20
PROP 10' SUP (TYP)
YANKEE DOODLE BIKE PATH SECTION 3 ℄
RET 12" PIPE
RET CB
PROP LOAM & SEED (TYP)
APPROX LIMIT OF GRADING (TYP)
RET EXIST ACCESS DOOR
PROP HMA WALK
RET CONCRETE SOUND WALL
RET HIGHWAY GUARD

U.S. ROUTE 3
(NORTHBOUND)

SCALE IN FEET: 40 0 20 40

CONTINUED BELOW

YANKEE DOODLE BIKE PATH SECTION 3 DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
18	EX CB	543+67.0 17.8 R	200.79		196.30	ASSUMED INV. OUT ELEVATION
19	DMH	543+67.0 2.7 L	200.76	(18) 193.40	193.30	
20	FES	543+29.0 21.0 L		(19) 193.00		
21	EX CB	545+90.1 19.2 R	203.91		199.91	ASSUMED INV. OUT ELEVATION
22	DMH	545+91.0 1.9 L	203.48	(21) 194.87	194.70	
23	FES	546+01.9 23.9 L		(22) 194.20		
24	FES	550+23.3 14.0 R		203.40		
25	FES	549+87.2 17.9 L			(24) 202.04	

CONTINUED ABOVE

N

PROP STONE FOR PIPE ENDS
35 LF - 24" RCP
END WOOD RAILING STA 550+00
PROP STONE PAD PROTECTION
BEGIN GRASS SWALE STA 550+10
APPROX LIMIT OF GRADING (TYP)
END GRASS SWALE STA 551+00
PROP LOAM & SEED (TYP)
PROP SEDIMENT CONTROL BARRIER (TYP)
PROP CLEARING & GRUBBING (TYP)
RET TREES
PRC +09.62
PT +38.21
PC +07.51
WETLAND 2
BEGIN GRASS SWALE STA 554+50
PROP STONE PAD PROTECTION
BEGIN WOOD RAILING STA 550+00
PROP STONE FOR PIPE ENDS
PROP LOAM & SEED (TYP)
APPROX LIMIT OF GRADING (TYP)
PROP SEDIMENT CONTROL BARRIER (TYP)
YANKEE DOODLE BIKE PATH SECTION 3 ℄
PROP 10' SUP (TYP)
CONCRETE SOUND WALL
METAL GUARDRAIL
MAINTAIN EXIST DRAINAGE OUTLETS & EXIST DRAINAGE CHANNEL VEGETATION
RET HWY GUARD
RET WALL
MAINTAIN EXIST DRAINAGE OUTLETS & EXIST DRAINAGE CHANNEL VEGETATION

U.S. ROUTE 3
(NORTHBOUND)

SCALE IN FEET: 20 0 20 40

CONTINUED ON SHEET NO. 37

FOR PROFILE, SEE SHEETS 60 - 61.

608227HD (GEN)-2.DWG Plotted on 2-Jan-2024 7:10 AM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	37	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

608227HD (GEN)-2.DWG Plotted on 2-Jan-2024 8:20 AM

HIGHWAY GUARD DETAILS

TRAILING ANCHORAGE END STA 700+87
STRAIGHT SECTION STA 700+87 TO STA 700+88 (4 FT)
CURVED SECTION STA 700+88 TO STA 700+95 (R=7.5 FT, L=9 FT)
STRAIGHT SECTION STA 700+95 TO STA 701+40 (44 FT)
STRAIGHT SECTION STA 600+12 TO STA 601+02 (62 FT)
TRAILING ANCHORAGE STA 701+55
TRAILING ANCHORAGE STA 600+12

WATER SUPPLY ALTERATIONS

NONE

DRAINAGE DETAILS

SEE BELOW

CONTINUED ON SHEET NO. 36

PROP 10' SUP (TYP)
APPROX LIMIT OF GRADING (TYP)
PROP LOAM & SEED (TYP)
END GRASS SWALE STA 556+20
PROP STONE PAD PROTECTION
PROP HMA PAVED WATERWAY
PROP MSE WALL
PROP ABUTMENT (TYP)
PROP CLEARING & GRUBBING (TYP)
PROP PIER FOOTING (TYP)
PROP BLSF COMPENSATORY STORAGE AREA #5
PROP WETLAND RESTORATION AREA
YANKEE DOODLE BIKE PATH SECTION 3 ℄
PROP PERM HWY EASEMENT
PROP WETLAND RESTORATION AREA
PROP SELECTIVE CLEARING & GRUBBING FOR SIGHT LINE
WETLAND 2
PROP LOAM & SEED (TYP)
APPROX LIMIT OF GRADING (TYP)
PROP WOOD RAILING (TYP)
PROP SEDIMENT CONTROL BARRIER (TYP)
PROP MSE WALL
PROP BRIDGE RAIL ALONG MSE WALL
END WOOD RAILING STA 556+34
MAINTAIN EXIST DRAINAGE OUTLETS & EXIST DRAINAGE CHANNEL VEGETATION
RET EXIST DRAINAGE OUTLET
PROP PERM HWY EASEMENT
PROP TRUSS STRUCTURE BRIDGE NO. B-12-027(C5K) STA 556+33 TO STA 561+85
RET EXIST DRAINAGE OUTLET
CONCRETE SOUND WALL
METAL GUARDRAIL
SWEL
12"RCP EL=223.36'
8"

PRC +14.08
PI +15.50
PI +44.60
PI +88.54
PI +24.25

555 556 557 558 559 560 561

WF#2-123 WF#2-122 WF#2-126 WF#2-124 WF#2-121 WF#2-125 WF#2-120 WF#2-114 WF#2-115 WF#2-119 WF#2-113 WF#2-116 WF#2-118 WF#2-117 WF#2-1 WF#2-103 WF#2-104 WF#2-105 WF#2-108

FEBRUARY 5, 1952 STATE HIGHWAY LAYOUT (LAYOUT NO.3937)
THE COMMONWEALTH OF MASSACHUSETTS
DEED BOOK 1188, PAGE 395

U.S. ROUTE 3
(NORTHBOUND)

SCALE IN FEET: 20 0 20 40

CONTINUED BELOW

SEAN J. FREDERICK & LINDA A. FREDERICK
#59 ELIOT STREET
DEED BOOK 16812, PAGE 170
PLAN BOOK 35, PLAN 76

#60 ELIOT STREET
KATHLEEN McINTOSH
DEED BOOK 10319, PAGE
PLAN BOOK 35, PLAN

WINTER STREET
ELLIOT STREET
ORCHARD ROAD

1946 TOWN LAYOUT
LOCATION LINE OF MAY 26, 1953 TOWN LAYOUT (LAYOUT NO. 4054)
LOCATION LINE OF FEBRUARY 5, 1952 STATE HIGHWAY LAYOUT (LAYOUT NO.3937)

SAWCUT, MEET EXIST CURB & WALK
562+42.13 YANKEE DOODLE BIKE PATH SECTION 3 ℄ = 600+06.55 YANKEE DOODLE BIKE PATH SECTION 4 ℄
RET DMH
RET UPL
RET CB
PROP GRAN CURB
PROP BULLNOSE CURB
PROP CURB CORNER, TYPE A
PROP GRAN TRANS
PROP GRAN EDGING
PROP HIGHWAY GUARD
PROP PERM HWY EASEMENT
PROP 3' CEM CONC MEDIAN
PROP GRAN EDGING (TYP)
RET HIGHWAY GUARD
PROP PERM HWY EASEMENT
YANKEE DOODLE BIKE PATH SECTION 4 ℄
RET WATER
PROP HMA BERM TYPE A MOD.
R&R MB (BO)
RET
RET WG
REM CB
PROP HIGHWAY GUARD
REM HIGHWAY GUARD STA 700+90 TO 701+75
PROP GRAN CURB TRANSITION PIECE
APPROX LIMIT OF GRADING (TYP)
PROP COBBLESTONE WALK
RET ROCK WALL
PROP WOOD RAILING
PROP MSE WALL
PROP CLEARING & GRUBBING (TYP)
PROP BRIDGE RAIL ALONG MSE WALL
PROP SELECTIVE CLEARING & GRUBBING FOR SIGHT LINE
PROP BRIDGE STRUCTURE STA 556+33 TO STA 561+85
PROP PERM HWY EASEMENT
RET WG
RET CB
PROP ABUTMENT (TYP)
RET UPL
R&R GUY (BO)
YANKEE DOODLE BIKE PATH SECTION 3 ℄
PROP PIER FOOTING (TYP)
SAWCUT
END WOOD RAILING STA 562+46

PC +46.18 PT +64.59
PC +27.70
PI +28.84
PT +14.66
PC +34.03 PT +81.42
PT +06.31
PC +69.26 PT +48.72
PT +15.66
PC +48.02
PC +82.26
PI +88.54

700 701 702 703 704 705 706 601 602 603 604 562

U.S. ROUTE 3
(NORTHBOUND)

U.S. ROUTE 3
(SOUTHBOUND)

LEGEND:
[#] PCR NUMBER
<#> DRIVEWAY NUMBER

FEBRUARY 5, 1952 STATE HIGHWAY LAYOUT (LAYOUT NO.3937)
THE COMMONWEALTH OF MASSACHUSETTS
DEED BOOK 1188, PAGE 395

LOCATION LINE OF FEBRUARY 5, 1952 STATE HIGHWAY LAYOUT (LAYOUT NO.3937)

ORCHARD ROAD DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
26	CBCI	701+07.1 13.0 R	246.73			

SCALE IN FEET: 20 0 20 40

CONTINUED ABOVE

CONTINUED ON SHEET NO. 38

FOR PROFILE, SEE SHEET 62

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	38	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS
NONE

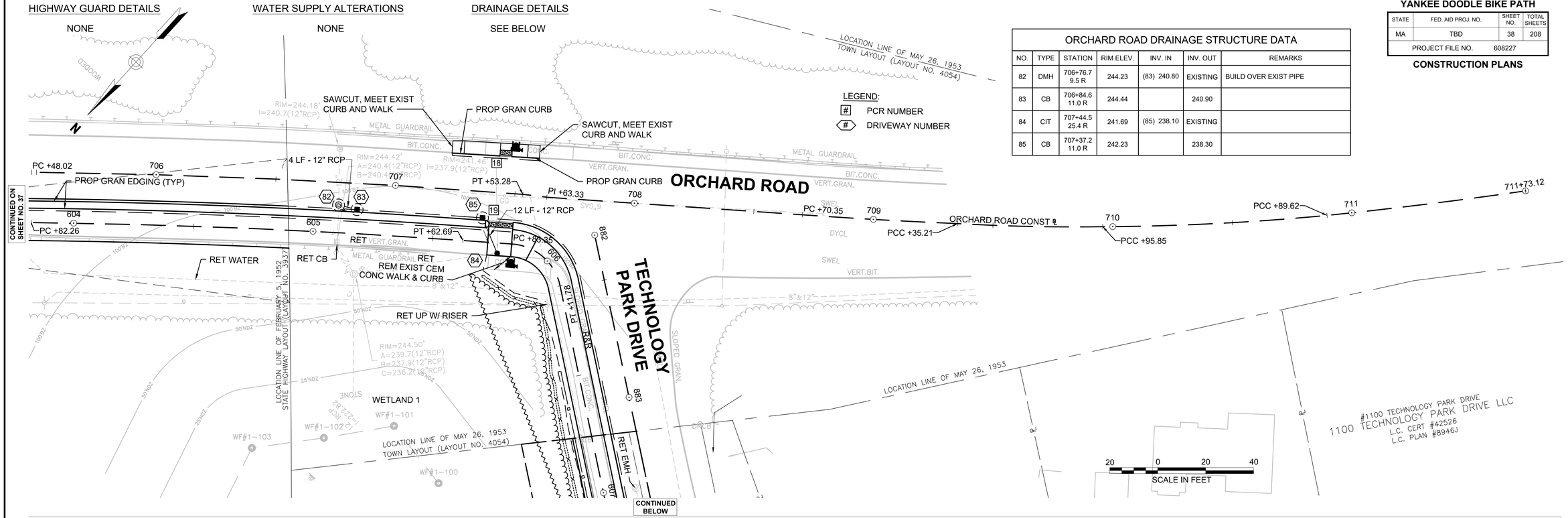
WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE BELOW

ORCHARD ROAD DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
82	DMH	706+76.7 9.5 R	244.23	(83) 240.80	EXISTING	BUILD OVER EXIST PIPE
83	CB	706+84.6 11.0 R	244.44		240.90	
84	CIT	707+44.5 25.4 R	241.69	(85) 238.10	EXISTING	
85	CB	707+37.2 11.0 R	242.23		238.30	

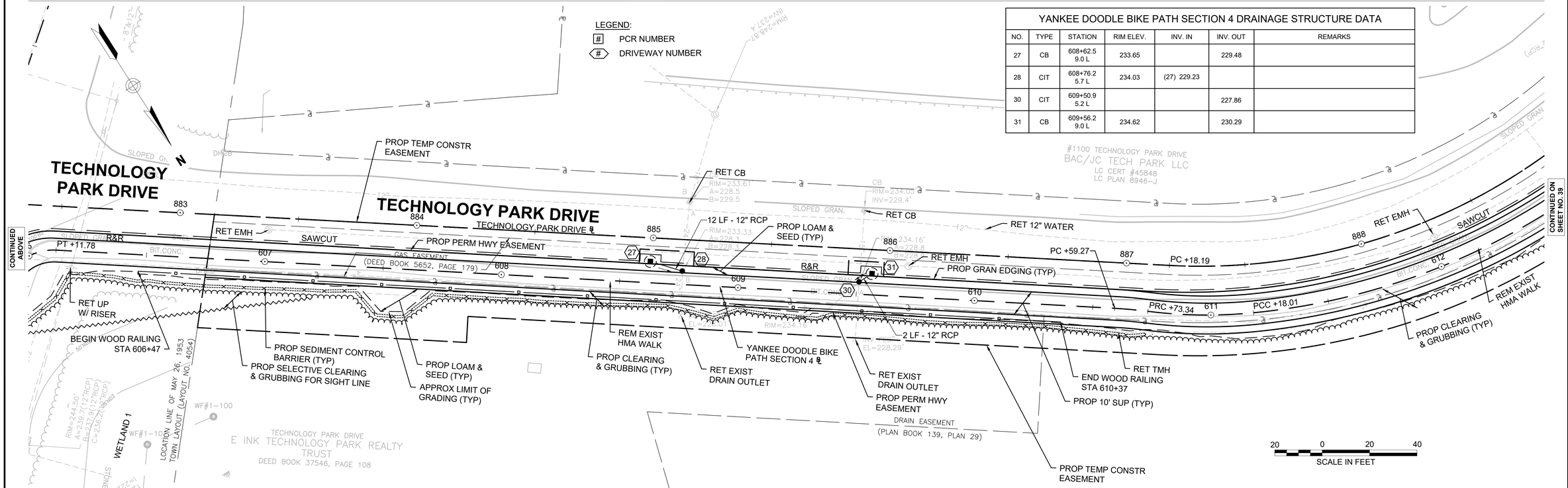
LEGEND:
[#] PCR NUMBER
<#> DRIVEWAY NUMBER



YANKEE DOODLE BIKE PATH SECTION 4 DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
27	CB	608+62.5 9.0 L	233.65		229.48	
28	CIT	608+76.2 5.7 L	234.03	(27) 229.23		
30	CIT	609+50.9 5.2 L			227.86	
31	CB	609+56.2 9.0 L	234.62		230.29	

LEGEND:
[#] PCR NUMBER
<#> DRIVEWAY NUMBER



FOR PROFILE, SEE SHEETS 63 - 64.

608227HD (GEN)-2.DWG Plotted on 2-Jan-2024 7:12 AM

HIGHWAY GUARD DETAILS

NONE

WATER SUPPLY ALTERATIONS

SEE BELOW

DRAINAGE DETAILS

SEE BELOW

LEGEND:

[#] PCR NUMBER

<#> DRIVEWAY NUMBER

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	39	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

608227HD (GEN)-2.DWG Plotted on 2-Jan-2024 7:13 AM

CONTINUED ON SHEET NO. 38

#1100 TECHNOLOGY PARK DRIVE
BAC/JC TECH PARK LLC
LC CERT #45848
LC PLAN 8946-J

N

PROP TEMP CONSTR EASEMENT

RET CB

STONE & MASONRY RET. WALL

SLOPED GRAN.

RET

GAS EASEMENT (DEED BOOK 5652, PAGE 179)

BIT.CONC.

SAWCUT, MEET EXIST EDGING & WALK

PROP HMA WALK

RET HYD

888 RET EMH

PROP PERM WATER EASEMENT

PROP 6" WG & BOX

889 14 LF - 12" RCP

PROP PERM DRAINAGE EASEMENT

RET SMH

890

891

892

893

894

PT +09.02

PROP GRAN EDGING (TYP)

SAWCUT

PROP LOAM & SEED (TYP)

R&R

612

613

614

615

616 PT +03.05

617

PC +63.03

PRC +83.04

RET SMH

TECHNOLOGY PARK DRIVE ℄

PROP PERM HWY EASEMENT

20

21

22

23

32

33

PT +94.15

PROP CLEARING & GRUBBING (TYP)

REM EXIST HMA WALK

R&R HYD

REM WG

RET EXIST DRAIN OUTLET

PROP CLEARING & GRUBBING

RET TREE

RET LP

RET SIGNS

PROP 10' SUP (TYP)

APPROX LIMIT OF GRADING (TYP)

YANKEE DOODLE BIKE PATH SECTION 4 ℄

PROP TREE PROTECTION (TYP)

PROP PERM HWY EASEMENT

PROP TEMP CONSTR EASEMENT

ADJ EMH (BO, NG)

R&S SIGNS

RET TREE

RET SIGN

RET LP

END PROP GRAN EDGING MEET EXIST

RET LP

RET LANDSCAPING

END PROP GRAN EDGING MEET EXIST

REM TREE

RET LP

RET LANDSCAPING & WALK

END PROP GRAN EDGING, MEET EXIST

TECHNOLOGY PARK DRIVE
E INK TECHNOLOGY PARK REALTY TRUST
DEED BOOK 37546, PAGE 108

#1000 TECHNOLOGY PARK DRIVE
E INK CORPORATION
DEED BOOK 37546, PAGE 88

DRIVEWAY EASEMENT (PLAN BOOK 139, PLAN 89)

20 0 20 40
SCALE IN FEET

CONTINUED BELOW

CONTINUED ABOVE

N

TECHNOLOGY PARK DRIVE

RET EXIST LANDSCAPE SHRUBS

RET EXIST TREES

RET EXIST WALL

SAWCUT, MEET EXIST EDGING & WALK

PROP HMA WALK

RET HYD

SAWCUT, MEET EXIST EDGING & WALK

GAS EASEMENT (DEED BOOK 5652, PAGE 179)

RET SMH

895

PROP PERM HWY EASEMENT

PC +55.65

RET CB

896

RET SMH

897

TECHNOLOGY PARK DRIVE ℄

YANKEE DOODLE BIKE PATH SECTION 4 ℄

PROP GRAN EDGING (TYP)

RET CB

898

RET SMH

RET CB

4 LF - 12" RCP

#1100 TECHNOLOGY PARK DRIVE
BAC/JC TECH PARK LLC
LC CERT #45848
LC PLAN 8946-J

SLOPED GRAN.

RET

R&R

PCC +03.16

PROP LOAM & SEED (TYP)

R&R LP PROP HH

PRC +49.12

PROP WOOD RAILING

PRC +37.45

899

PROP PERM DRAINAGE EASEMENT

900

ADJ EMH (BO, NG)

ADJ CMH (BO, COMCAST)

894

619

620

621

622

623

624

24

25

26

27

34

35

PC +33.55

RET LP

BEGIN WOOD RAILING STA 620+27

REM TREES

REM SIGN FOUNDATION

RET LANDSCAPING

STONE MASONRY WALL REMOVED & REBUILT IN CEMENT MORTAR

RET

R&R BOUND, SET FLUSH WITH PATH SURFACE

PROP CLEARING & GRUBBING (TYP)

PROP 10' SUP (TYP)

APPROX LIMIT OF GRADING (TYP)

PROP PERM HWY EASEMENT

PROP TEMP CONSTR EASEMENT

END WOOD RAILING STA 623+57

INV 24" EL=223.17'

DRAIN EASEMENT (PLAN BOOK 139, PLAN 29)

SEWER EASEMENT (PLAN BOOK 139, PLAN 89)

DRAIN EASEMENT (PLAN BOOK 139, PLAN 29)

RET TREE

REM LANDSCAPING

RET LP

REM TREE

RET LANDSCAPING & WALK

PROP CEM CONC WALK

SAWCUT, MEET EXIST

REM TREE

ADJ TMH (BO, VZ)

PROP LOAM & SEED (TYP)

#1000 TECHNOLOGY PARK DRIVE
E INK CORPORATION
DEED BOOK 37546, PAGE 88

20 0 20 40
SCALE IN FEET

YANKEE DOODLE BIKE PATH SECTION 4 DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
32	CIT	613+18.3 7.0 L	250.70	(33) 246.01		
33	CB	613+33.8 7.1 L	250.86		246.70	
34	CB	622+68.6 10.9 L	232.29		228.12	
35	CIT	622+73.0 7.7 L	232.52	(34) 227.83		

LEGEND:

[#] PCR NUMBER

<#> DRIVEWAY NUMBER

CONTINUED ON SHEET NO. 40

FOR PROFILE, SEE SHEETS 64 - 65.

HIGHWAY GUARD DETAILS
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE BELOW

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	40	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

608227HD (GEN)-2.DWG Plotted on 2-Jan-2024 7:14 AM

#900 TECHNOLOGY PARK DRIVE
FLUID MANAGEMENT SYSTEMS INC
DEED BOOK 35077 PAGE 203
PLAN BOOK 150, PLAN 1

#700 TECHNOLOGY PARK DRIVE
700 TECHNOLOGY PARK FMS LLC
DEED BOOK 35963 PAGE 108
PLAN BOOK 150, PLAN 1

TECHNOLOGY PARK DRIVE

TECHNOLOGY PARK DRIVE ℄
PT +47.61
YANKEE DOODLE BIKE PATH SECTION 4 ℄
PT +95.01
SAWCUT
ADJ TMH (BO, VZ)
ADJ EMH (BO, NG)
RET CB
RET SMH
RET
SLOPED GRAN.
BIT.CONC.
GAS EASEMENT (DEED BOOK 5652, PAGE 179)
PROP PERM DRAINAGE EASEMENT
PROP LOAM & SEED (TYP)
PC +67.34
PT +07.35
PRC +87.35
4 LF - 12" RCP
PC +18.06
21 LF - 12" RCP
PCC +24.99
PC +86.17
CONTINUED BELOW
CONTINUED ON SHEET NO. 39
EASEMENT
R&R GRAN CURB
RET TREE
REM LANDSCAPING
END WOOD RAILING STA 623+57
RET LANDSCAPING
PROP PERM HWY EASEMENT
PROP TEMP CONSTR EASEMENT
RET TREE
REM TREE
RET SIGNS
UTILITY EASEMENT
REM HEDGE
PROP LOAM & SEED (TYP)
PROP 10' SUP (TYP)
APPROX LIMIT OF GRADING (TYP)
RET LANDSCAPING
RET LPS & SIGN
RET LANDSCAPING
END PROP GRAN EDGING MEET EXIST
RET SIGN
ADJ TMH (BO, VZ)
RET TREE
RET DMH
RET LP
PROP TREE PROTECTION
RET LANDSCAPING (TYP)
RET TREE
RET LP
END PROP GRAN EDGING MEET EXIST
PROP PERM DRAINAGE EASEMENT

LEGEND:
[#] PCR NUMBER
<#> DRIVEWAY NUMBER

20 0 20 40
SCALE IN FEET

#880 TECHNOLOGY PARK DRIVE
880 TECHNOLOGY PARK OWNER
DEED BOOK 37440, PAGE 148

#800 TECHNOLOGY PARK DRIVE
TECHNOLOGY PARK REALTY TRUST I
DEED BOOK 10302, PAGE 256
PLAN BOOK 168, PLAN 117

CONTINUED ON SHEET NO. 41

PROP BOULDER BARRIER (TYP)
R&R GRAN EDGING
SAWCUT, MEET EXIST WALK AND EDGING STA 897+17
ADJ EMH
ADJ SMH
14 LF - 12" RCP
RET SIGN
BEGIN PROP GRAN EDGING MEET EXIST
PROP GRAN EDGING
TECHNOLOGY PARK DRIVE ℄
YANKEE DOODLE BIKE PATH SECTION 4 ℄
RET SMH
SAWCUT
PROP LOAM & SEED (TYP)
R&R LP, PROP HH
ADJ CMH (BO, VZ)
ADJ TMH (BO, COMCAST)
PROP TEMP CONSTR EASEMENT (TYP)
PROP PERM HWY EASEMENT
DRAIN EASEMENT (PLAN BOOK 139, PLAN 29)
PROP 10' SUP (TYP)
PROP LOAM & SEED (TYP)
APPROX LIMIT OF GRADING (TYP)
RET
RET SIGN
PROP GRAN EDGING
RET LP
RET STONE WALL
R&R BOUND, SET FLUSH WITH PATH SURFACE
PROP TREE PROTECTION FENCE
RET MAILBOX
SAWCUT, MEET EXIST CURB AND EDGING
WALL STREET
CONTINUED ABOVE

#700 TECHNOLOGY PARK DRIVE
700 TECHNOLOGY PARK FMS LLC
DEED BOOK 35963 PAGE 108
PLAN BOOK 150, PLAN 1

#600 TECHNOLOGY PARK DRIVE
TPD 600 EQUITY PARTNERS
DEED BOOK 36008, PLAN 40
PLAN BOOK 139, PLAN 29

KS BILLERICA ROADWAYS, LLC
DEED BOOK 38118, PAGE 71
PLAN BOOK 187, PLAN 94
PLAN BOOK 194, PLAN 119

KS BILLERICA ROADWAYS, LLC
DEED BOOK 38118, PAGE 71

KS BILLERICA ROADWAYS, LLC
DEED BOOK 38118, PAGE 71

20 0 20 40
SCALE IN FEET

YANKEE DOODLE BIKE PATH SECTION 4 DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
36	CB	626+17.0 11.0 L	217.70		213.54	
37	CIT	626+21.9 6.9 L	218.04	(36) 213.37		
38	CB	628+93.8 10.2 L	211.56		206.99	
39	CIT	629+17.5 6.8 L	211.52	(38) 206.61		
40	CB	632+50.7 37.0 L	199.01			REMODEL
41	CIT	632+50.4 7.1 L	199.39	(42) 194.38		
42	CB	632+66.8 11.0 L	198.63		194.47	

FOR PROFILE, SEE SHEETS 65 - 66.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	41	208
PROJECT FILE NO.	608227		

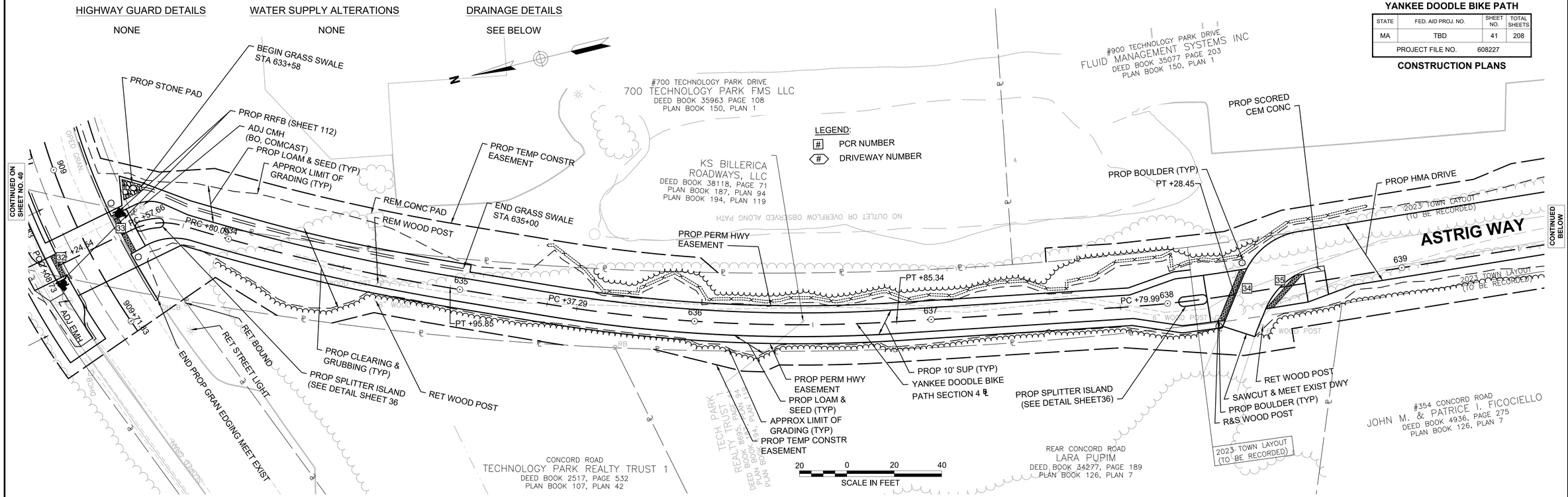
CONSTRUCTION PLANS

608227HD (GEN)-2.DWG Plotted on 2-Jan-2024 7:15 AM

HIGHWAY GUARD DETAILS
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE BELOW

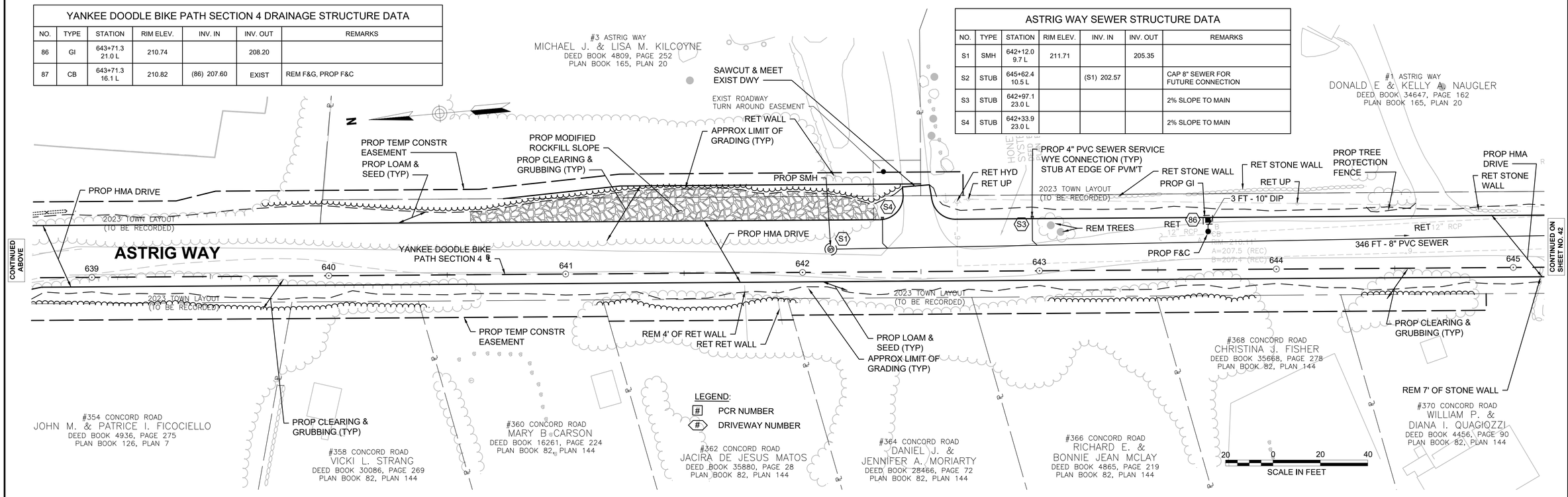


YANKEE DOODLE BIKE PATH SECTION 4 DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
86	GI	643+71.3 21.0 L	210.74		208.20	
87	CB	643+71.3 16.1 L	210.82	(86) 207.60	EXIST	REM F&G, PROP F&C

ASTRIG WAY SEWER STRUCTURE DATA

NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
S1	SMH	642+12.0 9.7 L	211.71		205.35	
S2	STUB	645+62.4 10.5 L		(S1) 202.57		CAP 8" SEWER FOR FUTURE CONNECTION
S3	STUB	642+97.1 23.0 L				2% SLOPE TO MAIN
S4	STUB	642+33.9 23.0 L				2% SLOPE TO MAIN



FOR PROFILE, SEE SHEETS 66 - 67.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	42	208
PROJECT FILE NO.	608227		

CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS: NONE
WATER SUPPLY ALTERATIONS: NONE
DRAINAGE DETAILS: SEE BELOW

LEGEND:
[#] PCR NUMBER
<#> DRIVEWAY NUMBER

#1 ASTRIG WAY
DONALD E & KELLY A NAUGLER
DEED BOOK 34647, PAGE 162
PLAN BOOK 165, PLAN 20

#6 SPRINGS ROAD
LOCUST CONSTRUCTION GROUP, LLC
L.C. CERT #44051
L.C. PLAN #5472D

#3 SPRINGS ROAD
ALISTAIR W. WILSON
DEED BOOK 7211, PAGE 208
PLAN BOOK 105, PLAN 30

#7 SPRINGS ROAD
CARL DWORKIN FAMILY TRUST
DEED BOOK 1834, PAGE 196
PLAN BOOK 105, PLAN 30

#11 SPRINGS ROAD
FRANK J. LUCIANO, III
DEED BOOK 8574, PAGE 214

#370 CONCORD ROAD
WILLIAM P. & DIANA I. QUAGIOZZI
DEED BOOK 4456, PAGE 90
PLAN BOOK 82, PLAN 144

#1 SPRINGS ROAD
JOHN J. CAPORIZZO
DEED BOOK 26754, PAGE 80
PLAN BOOK 167, PLAN 61

#374 CONCORD ROAD
STEPHEN B. MOSS
DEED BOOK 10411, PAGE 10
PLAN BOOK 167, PLAN 61

RAIL ROAD (SPRING ST SOUTH)
BOSTON AND MAINE CORPORATION
DEED BOOK 170, PAGE 15
DEED BOOK 173, PAGE 409

SPRINGS ROAD
ASTRIG WAY

RET POST
8" PVC SEWER STUB FOR FUTURE CONNECTION
RET STONE WALL
RET MB
PROP TREE PROTECTION FENCE
PROP HMA DRIVE
RET STONE WALL
RET UP
ADJ CB
EXIST TOWN LAYOUT
PROP SCORED CEM CONC
SAWCUT
RET 12" RCP
346 FT - 8" PVC SEWER
PROP BOULDER BARRIER (TYP)
PROP SPLITTER ISLAND (SEE DETAIL SHEET 36)
REM EXIST RAILROAD TIES
BEGIN GRASS SWALE STA 647+00
RET BUILDING
R&S EXIST FENCE
WOOD TIE RET PLANTER
PROP TEMP CONSTR EASEMENT
R&D WOOD RET WALL
PROP PERM HWY EASEMENT
APPROX LIMIT OF GRADING (TYP)
PROP LOAM & SEED (TYP)
R&S EXIST FENCE
PROP CLEARING & GRUBBING (TYP)
PI +85.27
PI +42.73
PI +24.00
PI +24.02
2 LF - 10" DIP
RET CURB
YANKEE DOODLE BIKE PATH SECTION 4 ℄
REM HEDGE
REM BOULDER
REM HEDGE
R&R MB
PROP 10' SUP (TYP)
PROP LOAM & SEED (TYP)
APPROX LIMIT OF GRADING (TYP)
PROP PERM HWY EASEMENT
PROP TEMP CONSTR EASEMENT
PROP CLEARING & GRUBBING (TYP)
RET WOOD FENCE
REM 7' OF STONE WALL
RET STONE WALL
645
646
647
648
649
650
36
37
43
44
S2
CONTINUED ON SHEET NO. 41
CONTINUED BELOW

20 0 20 40
SCALE IN FEET

YANKEE DOODLE BIKE PATH SECTION 4 DRAINAGE STRUCTURE DATA

NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
43	GI	645+53.7 7.9 R	209.63	(44) 206.13		
44	Reinforced Concrete	645+50.5 8.8 R	209.63		205.46	REM F&G, PROP F&C

#11 SPRINGS ROAD
FRANK J. LUCIANO, III
DEED BOOK 8574, PAGE 214

#13 SPRINGS ROAD
ANTHONY & ELIZABETH B. PARKES
DEED BOOK 6478, PAGE 85
PLAN BOOK 181, PLAN 93

#9 HOSMER WAY HOMEOWNERS ASSOCIATION
DEED BOOK 72452, PAGE 508
PLAN 487 OF 2017

#11 HOSMER WAY
TOWN OF BEDFORD
DEED BOOK 70984, PAGE 404
PLAN 487 OF 2017

#44 BUEHLER ROAD
TOWN OF BEDFORD
DEED BOOK 70984, PAGE 404
PLAN 487 OF 2017

BEDFORD
BILLERICA

#388 CONCORD ROAD
JODY PAUL PERONI
DEED BOOK 2502, PAGE 332
PLAN BOOK 103, PLAN 171B
PLAN BOOK 103, PLAN 121B

#4 FIELD STREET
LEONARD & MAUREEN CARON
DEED BOOK 36494, PAGE 288
PLAN BOOK 31, PLAN 37

#481-B NORTH ROAD
LEONARD & MAUREEN CARON
DEED BOOK 21138, PAGE 394
PLAN BOOK 31, PLAN 37

PROP SEDIMENT CONTROL BARRIER (TYP)
PROP TEMP CONSTR EASEMENT
PROP PERM HWY EASEMENT
END GRASS SWALE STA 651+50
PROP STONE PAD
PROP CLEARING & GRUBBING (TYP)
PROP 10' SUP (TYP)
BEGIN WOOD RAILING STA 652+07
PROP LOAM & SEED (TYP)
APPROX LIMIT OF GRADING (TYP)
END WOOD RAILING STA 652+87
YANKEE DOODLE BIKE PATH SECTION 4 ℄
PROP SEDIMENT CONTROL BARRIER (TYP)
BEGIN WOOD RAILING STA 653+87
PROP LOAM & SEED (TYP)
APPROX LIMIT OF GRADING(TYP)
PROP PERM HWY EASEMENT
END WOOD RAILING STA 654+60
PROP TEMP CONSTR EASEMENT
RET RB
R&S EXIST GATE
PROP 10' STONE DUST PATH
656+00
MEET EXIST STONE DUST PATH
RET WALL
PROJECT END
STA. 655+63.15
N 3016625.2440
E 714535.5165
650
651
652
653
654
655
CONTINUED ABOVE

20 0 20 40
SCALE IN FEET

FOR PROFILE, SEE SHEETS 67 - 68.

608227HD (GEN)-2.DWG Plotted on 2-Jan-2024 7:16 AM

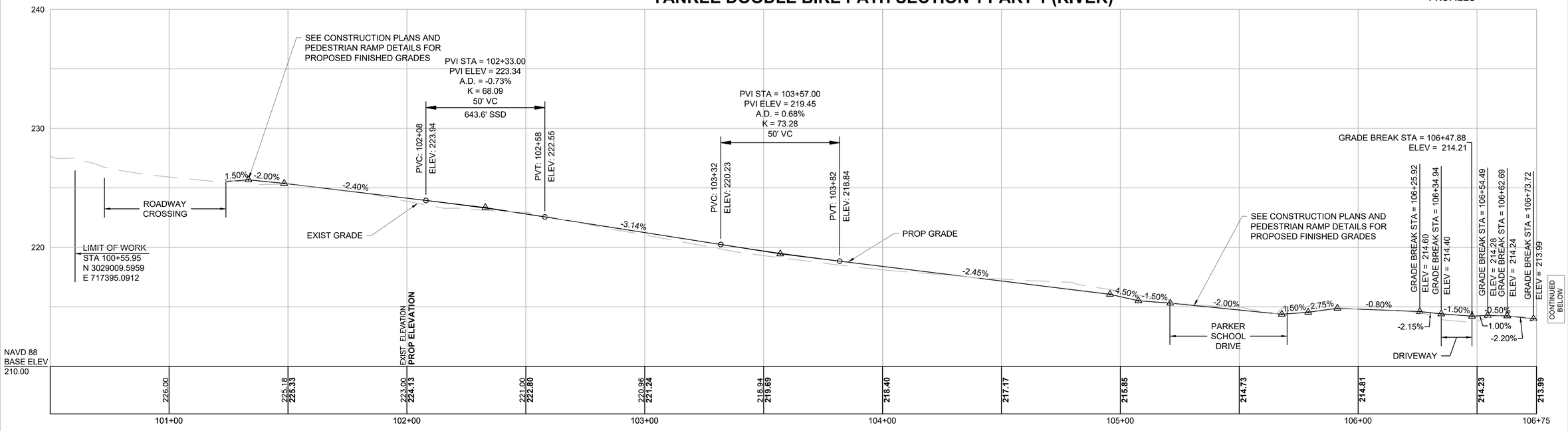
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	43	208
PROJECT FILE NO.	608227		

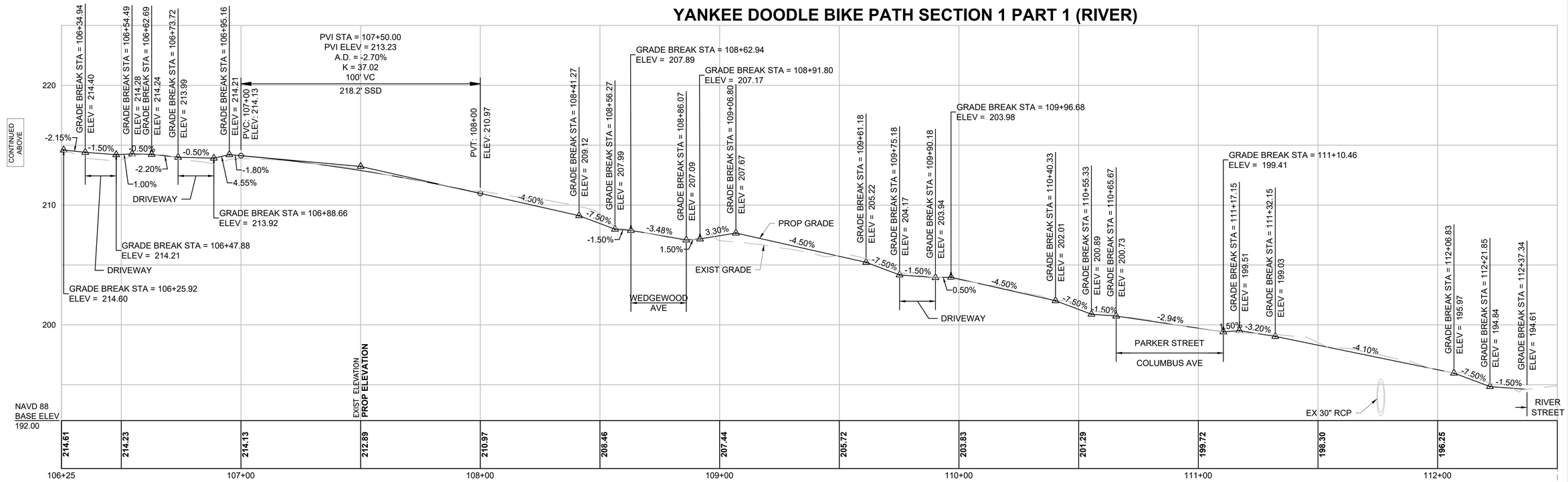
PROFILES

608227HD (PROF)-1.DWG Plotted on 29-Dec-2023 11:33 AM

YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)



YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)



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

112+50.20 YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER) CONSTR ℄ =
200+00.00 YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) ℄

FOR CONSTRUCTION PLANS SEE SHEET NO. 21-22

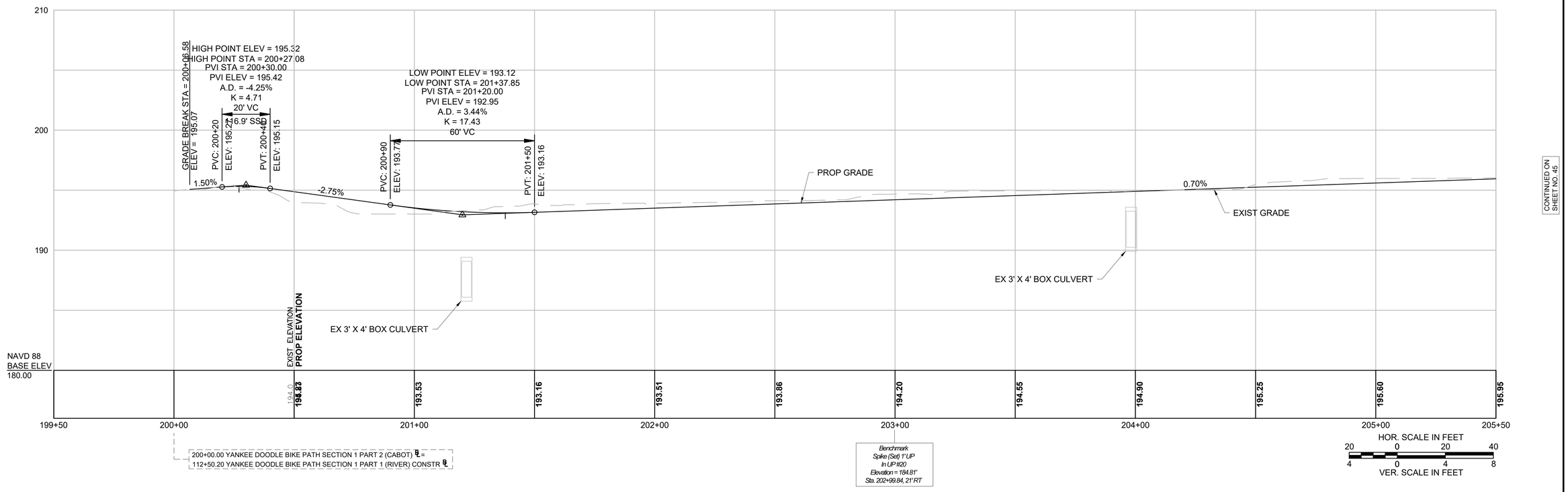
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	44	208
PROJECT FILE NO.	608227		

PROFILES

608227HD (PROF)-1.DWG Plotted on 29-Dec-2023 11:34 AM

YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)



CONTINUED ON SHEET NO. 45

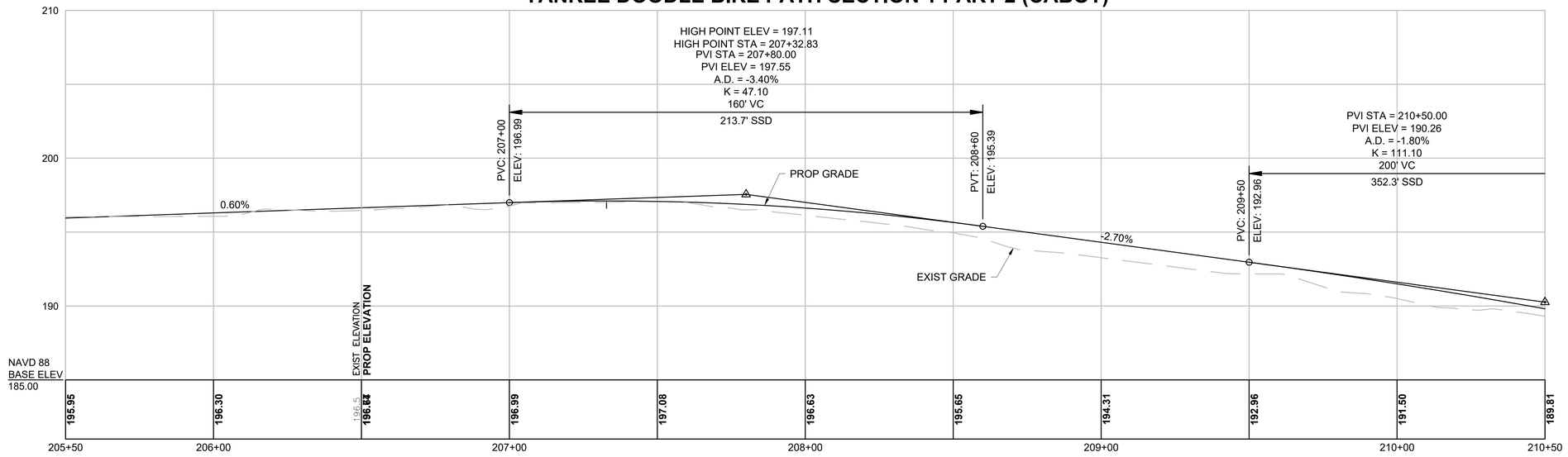
FOR CONSTRUCTION PLANS SEE SHEET NO. 23

BILLERICA
YANKEE DOODLE BIKE PATH

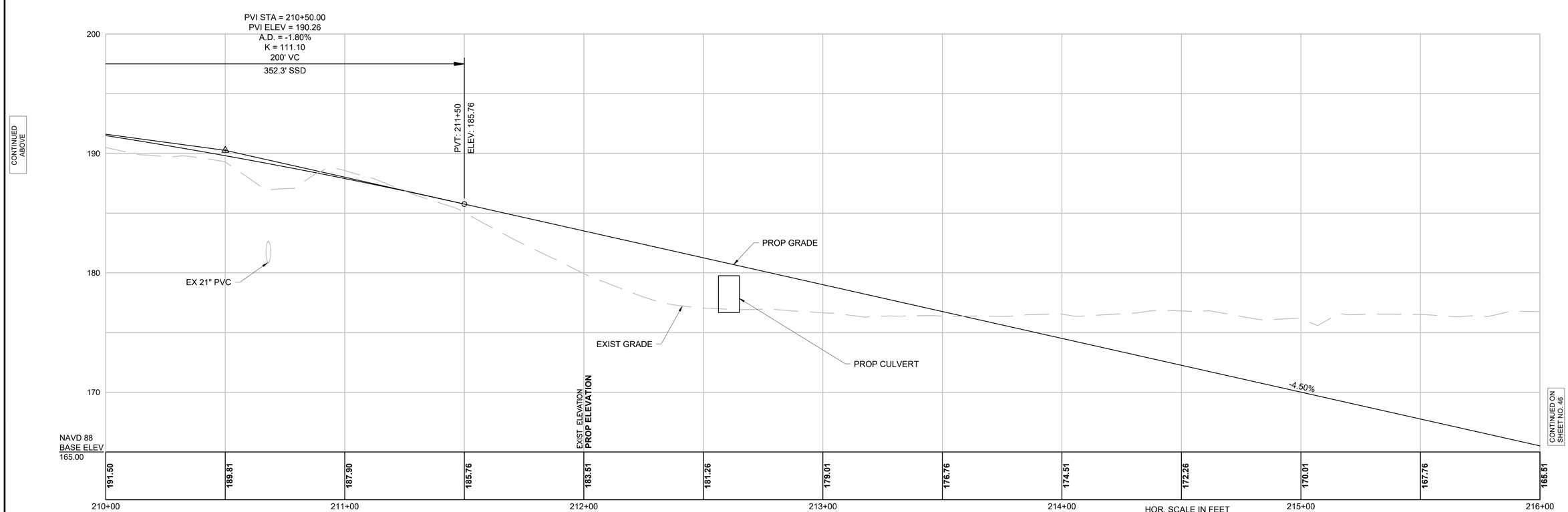
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	45	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)



YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)



FOR CONSTRUCTION PLANS SEE SHEET NO. 23-24

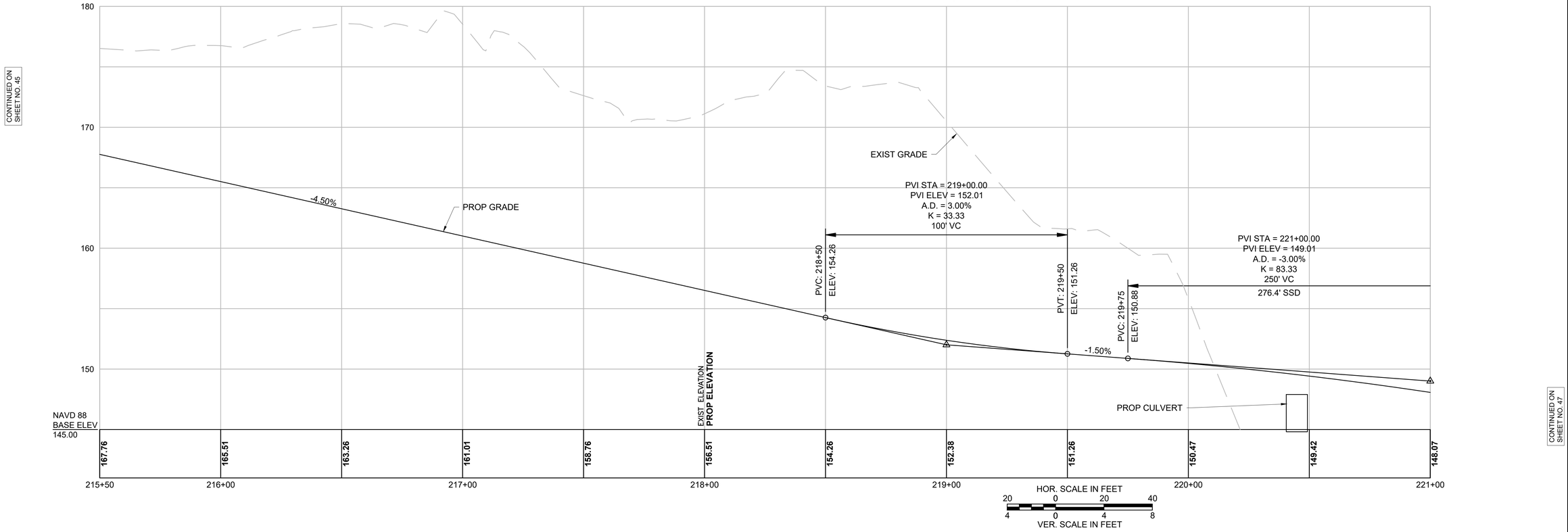
608227HD (PROF)-1.DWG Plotted on 29-Dec-2023 11:35 AM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	46	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)



FOR CONSTRUCTION PLANS SEE SHEET NO. 24

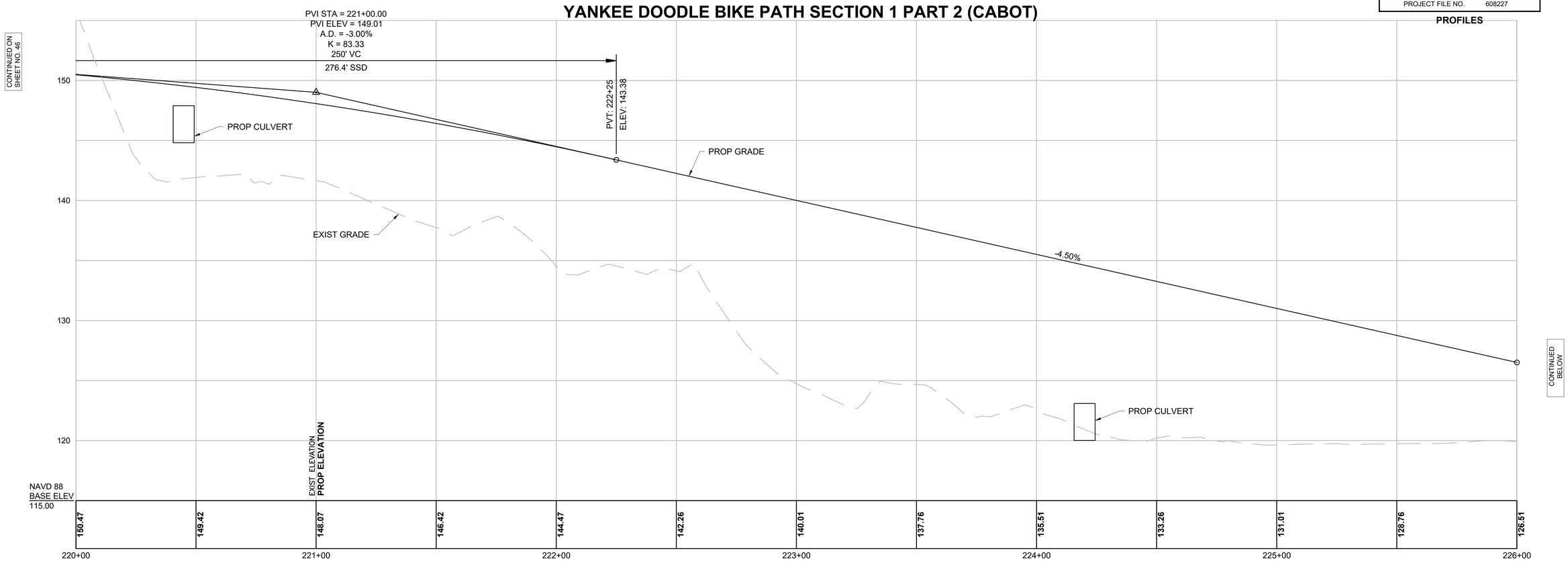
608227HD (PROF)-1.DWG Plotted on 29-Dec-2023 11:35 AM

BILLERICA
YANKEE DOODLE BIKE PATH

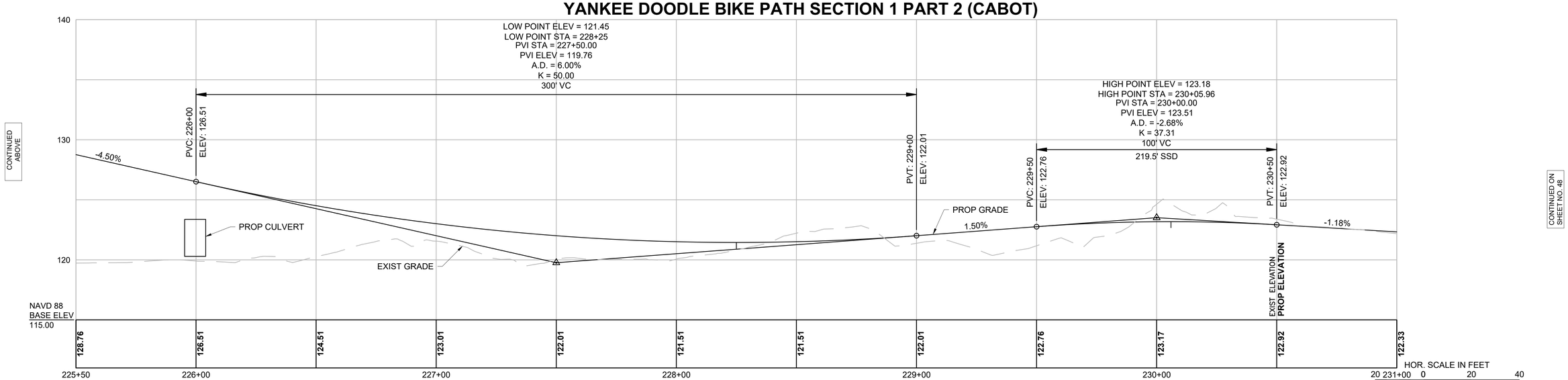
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	47	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)



YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)



FOR CONSTRUCTION PLANS SEE SHEET NOS. 24-25

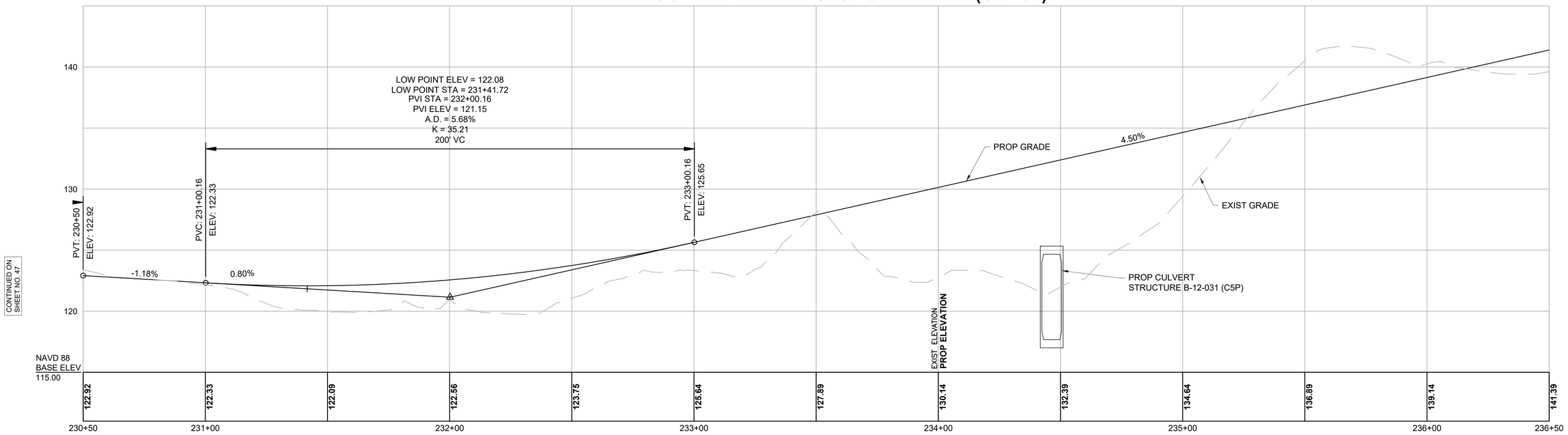
608227HD (PROF)-1.DWG Plotted on 29-Dec-2023 11:36 AM

BILLERICA
YANKEE DOODLE BIKE PATH

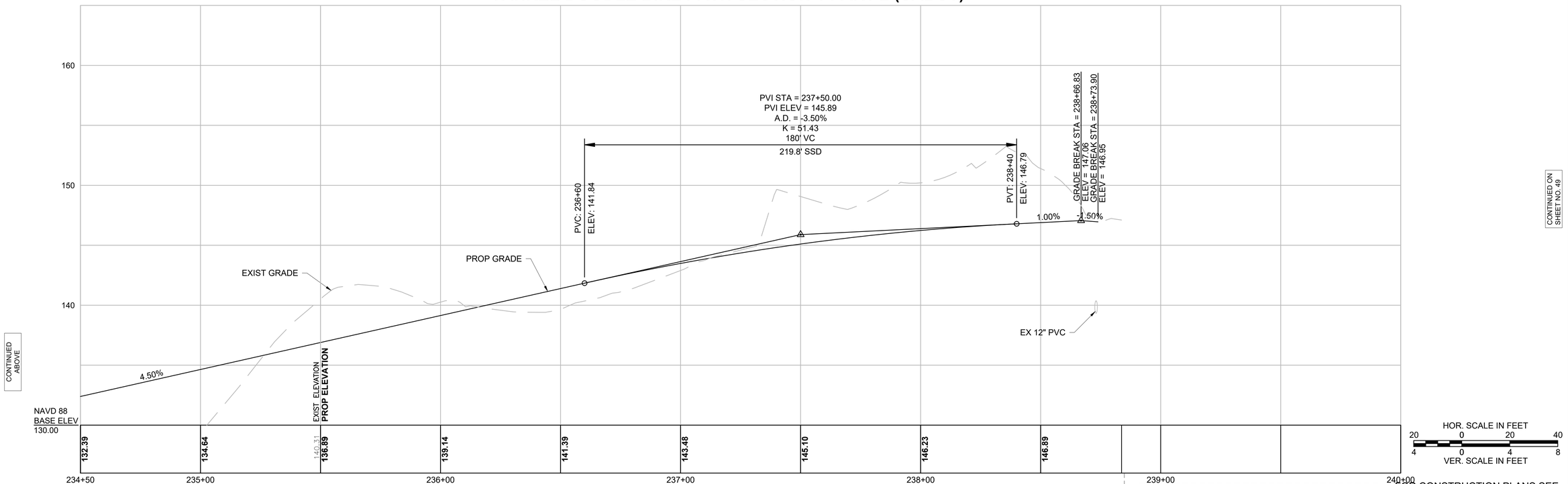
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	48	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)



YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)



238+83.70 YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) P.T. =
300+00.00 YANKEE DOODLE BIKE PATH SECTION 2 PART 1 P.T.

FOR CONSTRUCTION PLANS SEE SHEET NOS. 25-26

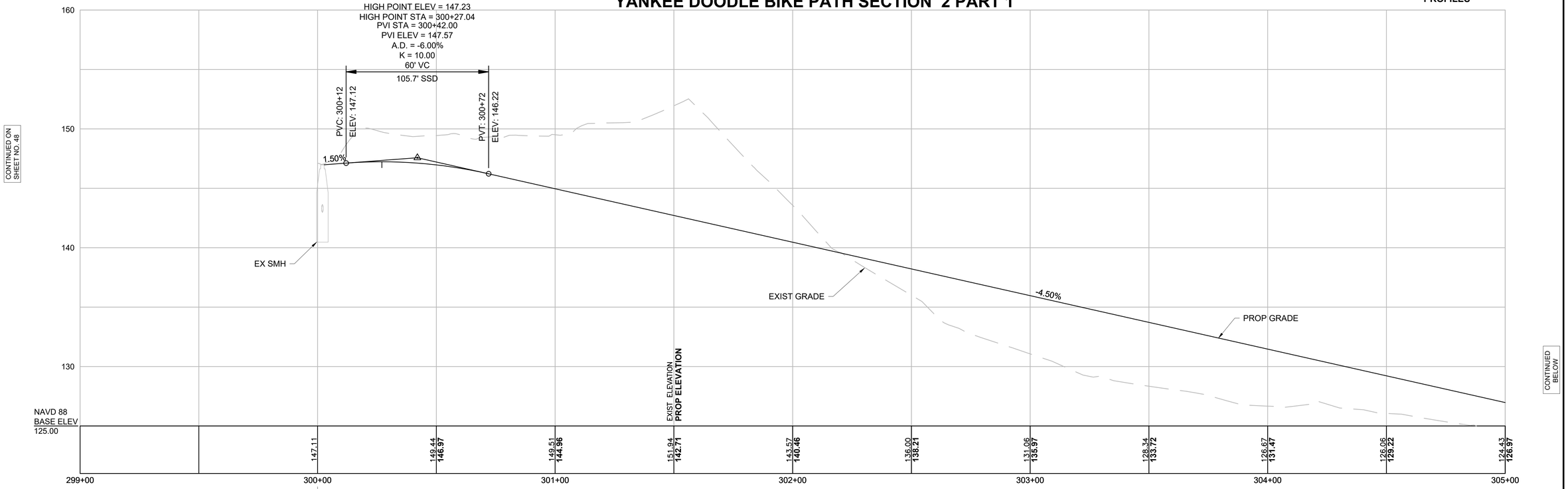
608227HD (PROF)-1.DWG Plotted on 29-Dec-2023 11:37 AM

BILLERICA
YANKEE DOODLE BIKE PATH

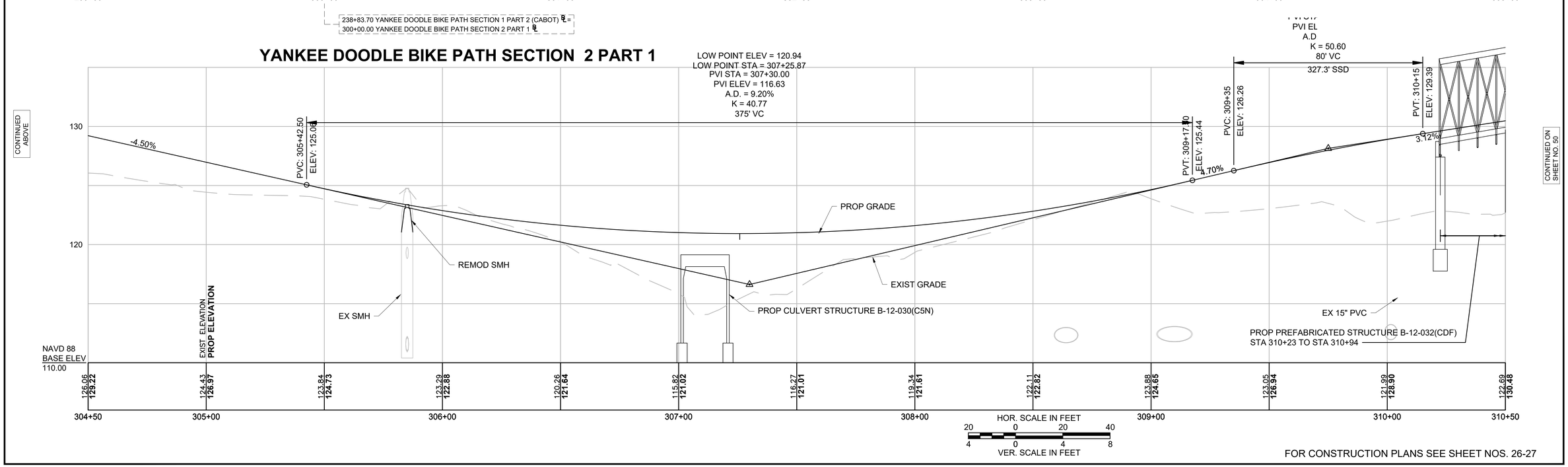
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	49	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 2 PART 1



YANKEE DOODLE BIKE PATH SECTION 2 PART 1



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

FOR CONSTRUCTION PLANS SEE SHEET NOS. 26-27

608227HD (PROF)-2.DWG Plotted on 29-Dec-2023 11:42 AM

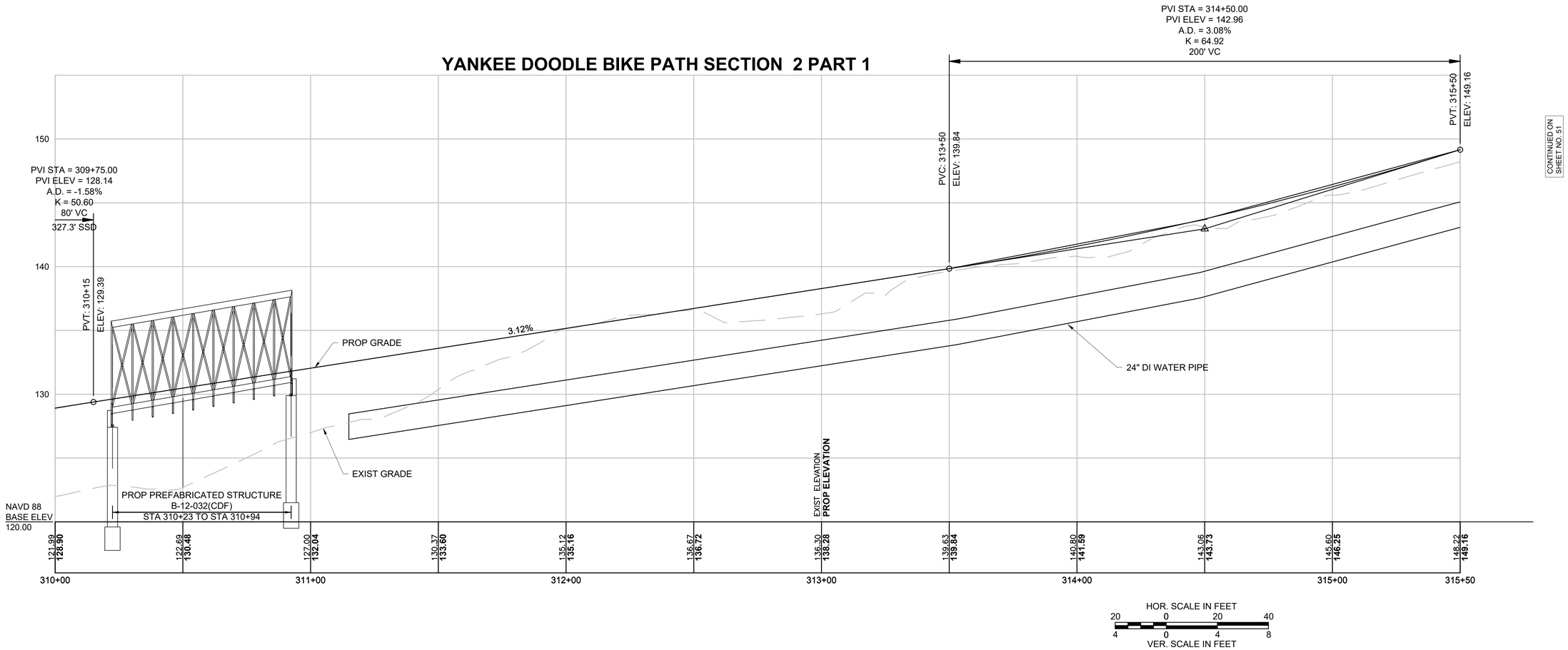
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	50	208
PROJECT FILE NO.	608227		

PROFILES

608227HD (PROF)-2.DWG Plotted on 29-Dec-2023 11:43 AM

YANKEE DOODLE BIKE PATH SECTION 2 PART 1



CONTINUED ON SHEET NO. 49

CONTINUED ON SHEET NO. 51

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

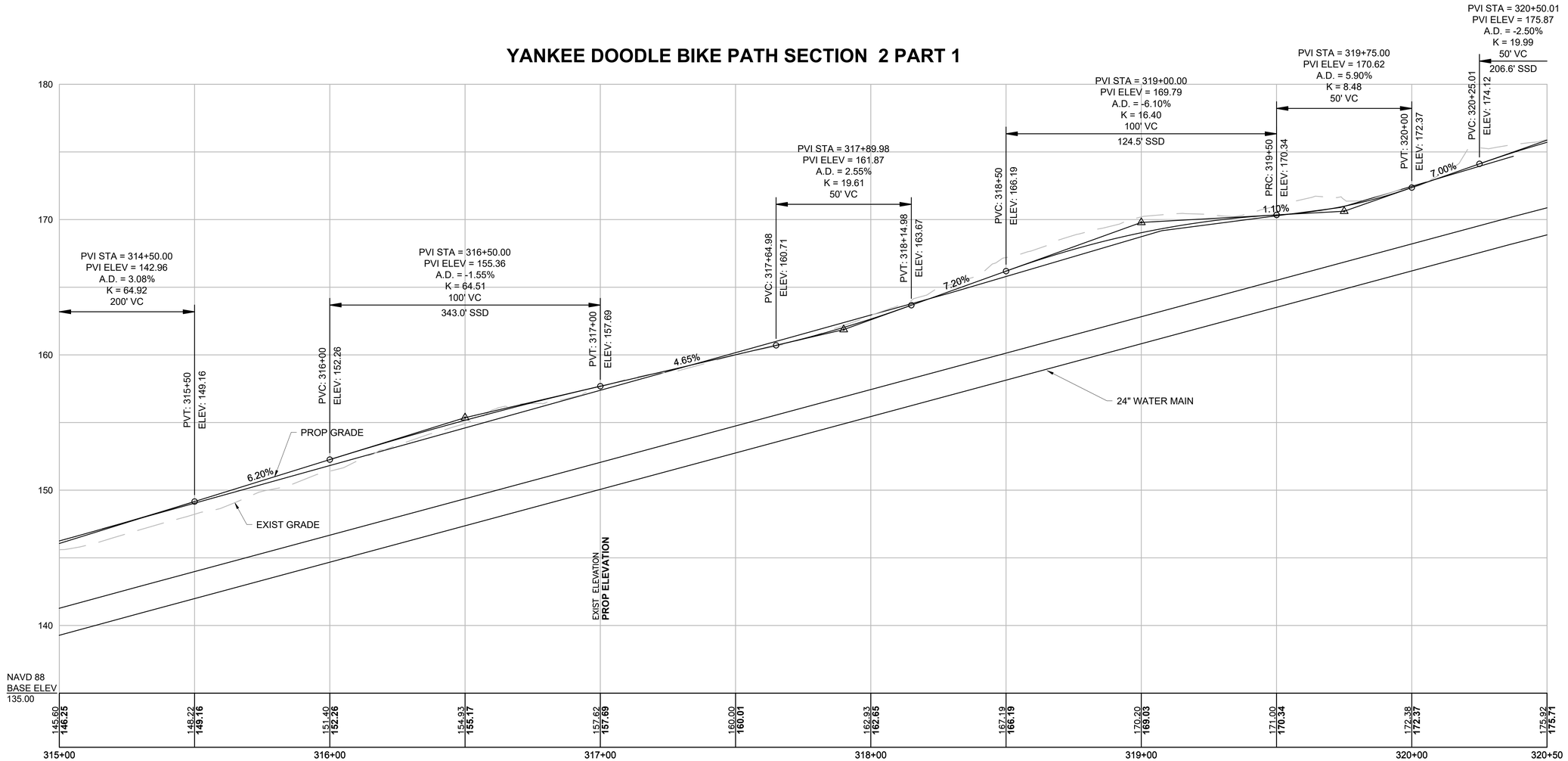
FOR CONSTRUCTION PLANS SEE SHEET NO. 27

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	51	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 2 PART 1



FOR CONSTRUCTION PLANS SEE SHEET NOS. 27-28

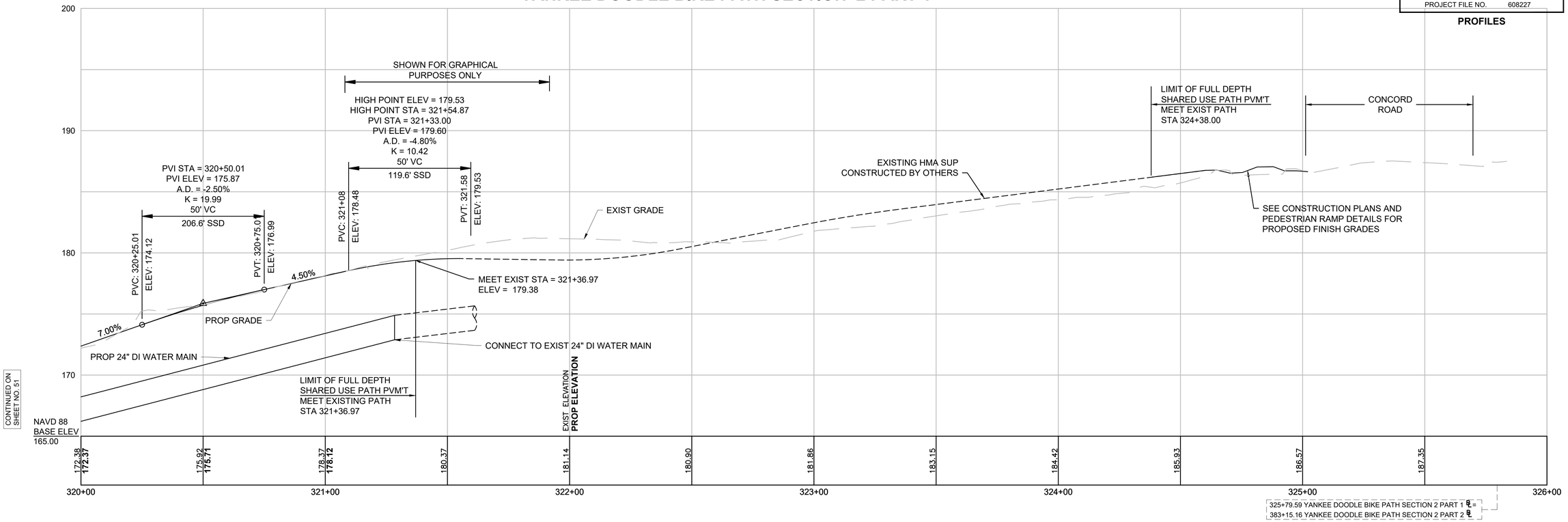
608227HD (PROF)-2.DWG Plotted on 29-Dec-2023 11:44 AM

BILLERICA
YANKEE DOODLE BIKE PATH

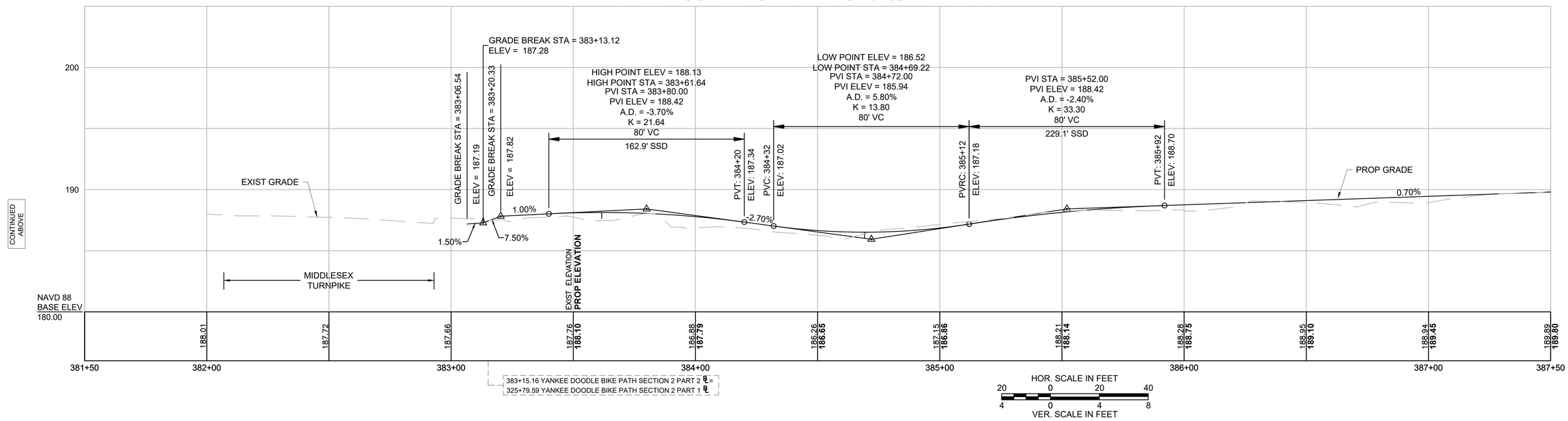
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	52	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 2 PART 1



YANKEE DOODLE BIKE PATH SECTION 2 PART 2



FOR CONSTRUCTION PLANS SEE SHEET NOS. 28-29

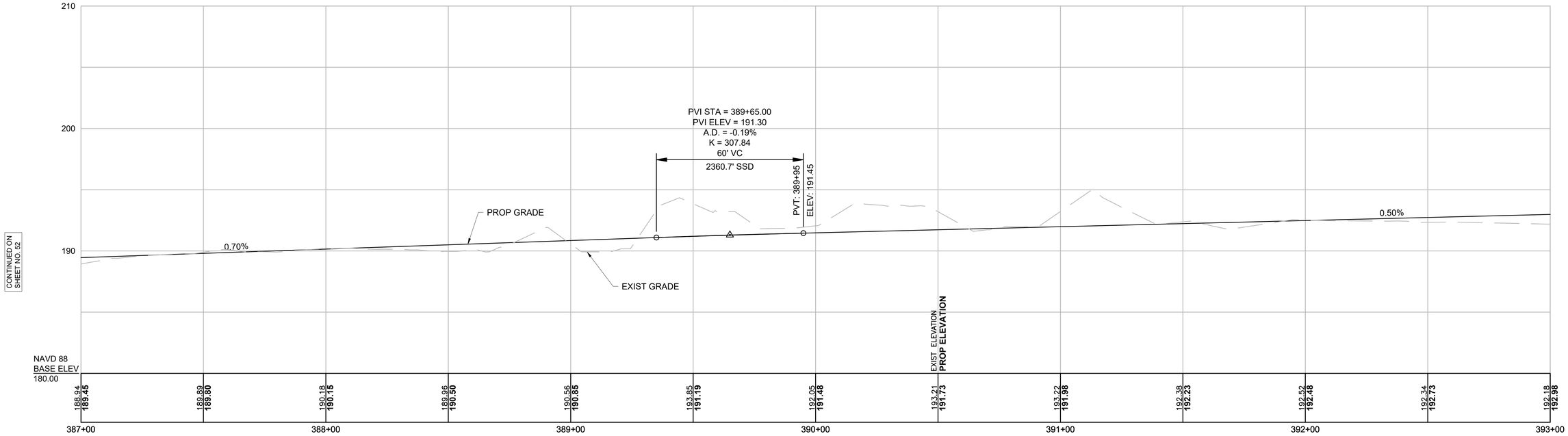
608227HD (PROF)-2.DWG Plotted on 29-Dec-2023 11:46 AM

BILLERICA
YANKEE DOODLE BIKE PATH

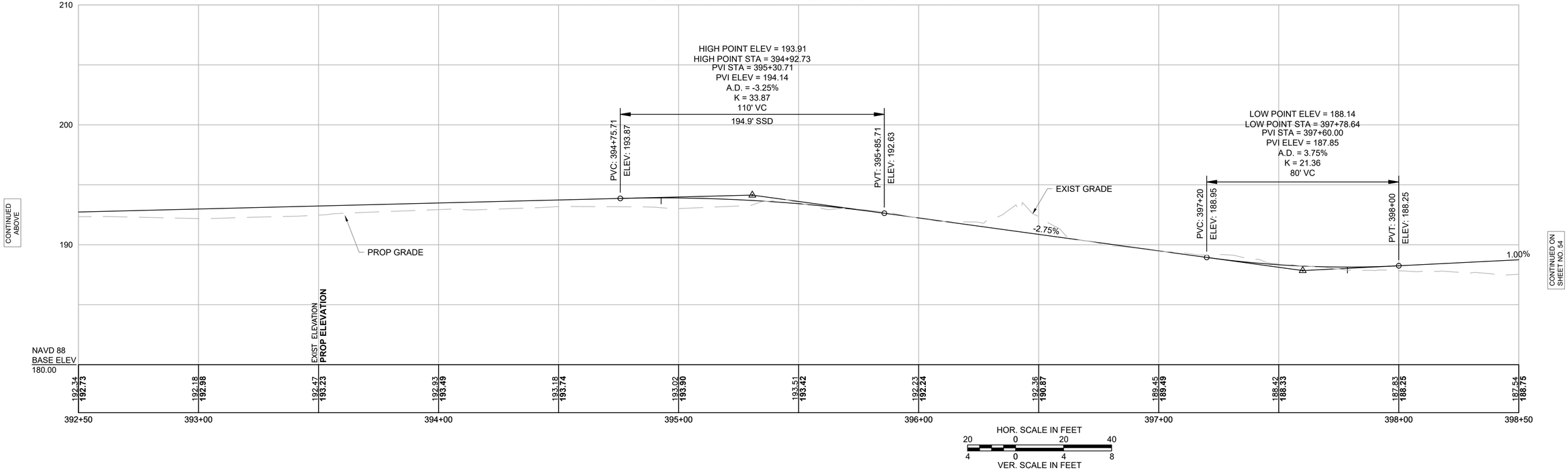
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	53	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 2 PART 2



YANKEE DOODLE BIKE PATH SECTION 2 PART 2



FOR CONSTRUCTION PLANS SEE SHEET NOS. 29-30

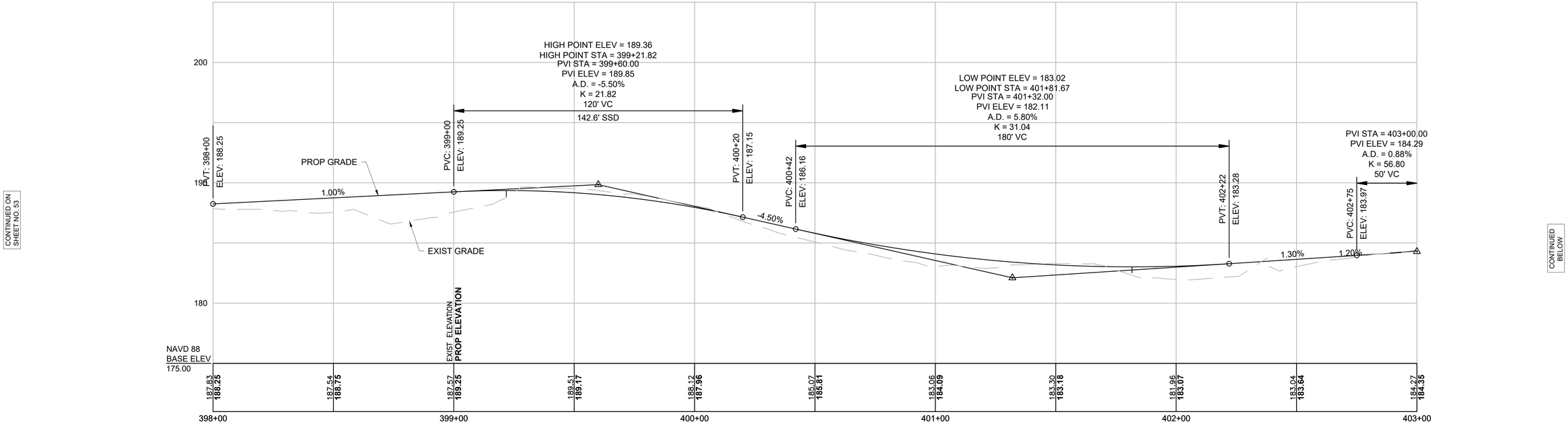
608227HD (PROF)-2.DWG Plotted on 29-Dec-2023 11:46 AM

BILLERICA
YANKEE DOODLE BIKE PATH

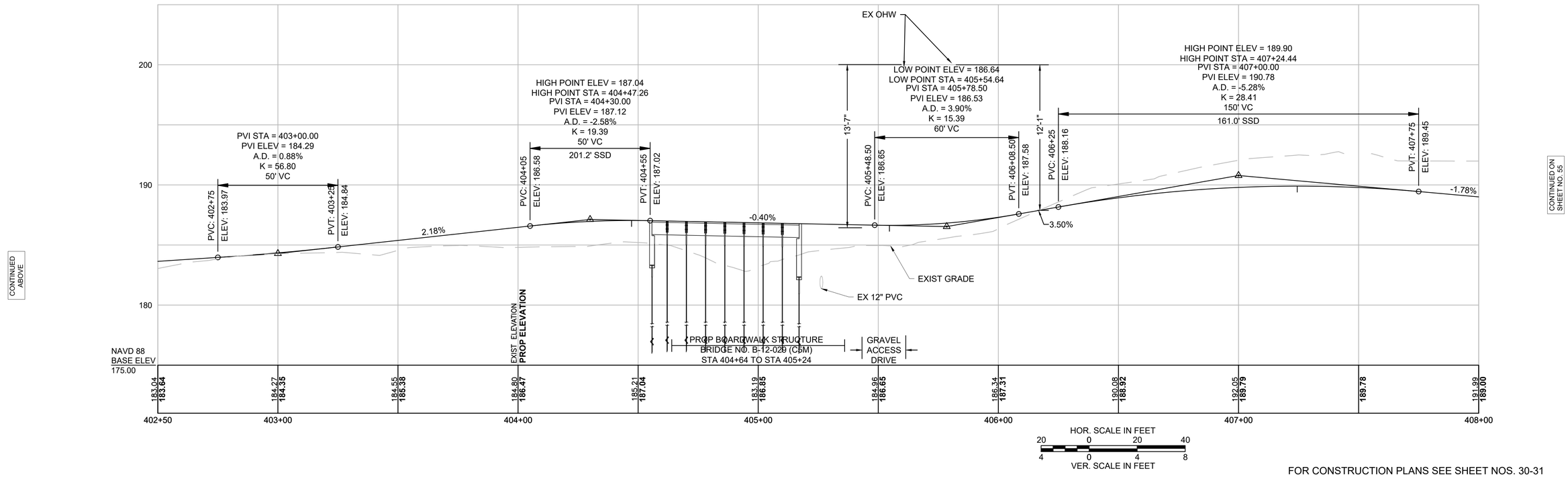
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	54	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 2 PART 2



YANKEE DOODLE BIKE PATH SECTION 2 PART 2



FOR CONSTRUCTION PLANS SEE SHEET NOS. 30-31

608227HD (PROF)-2.DWG Plotted on 29-Dec-2023 11:47 AM

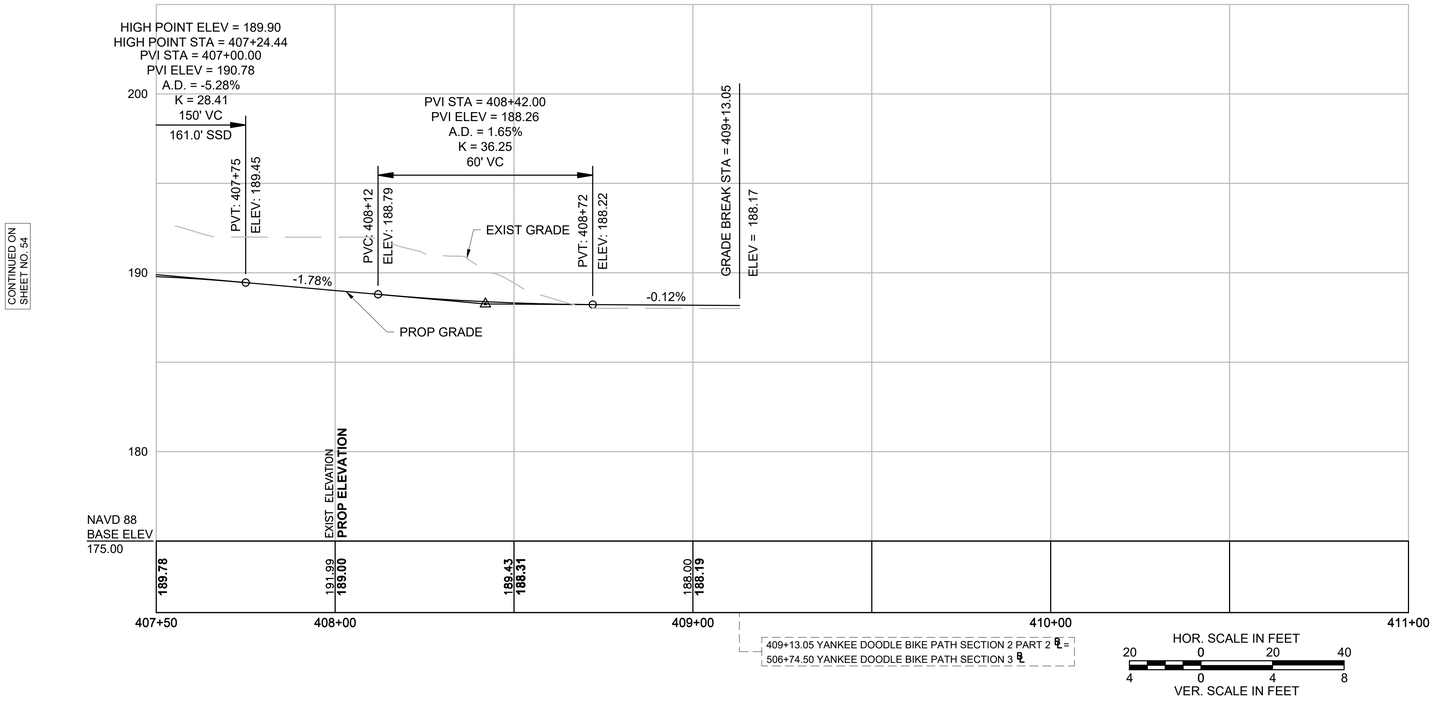
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	55	208
PROJECT FILE NO.	608227		

PROFILES

608227HD (PROF)-2.DWG Plotted on 29-Dec-2023 11:49 AM

YANKEE DOODLE BIKE PATH SECTION 2 PART 2



CONTINUED ON SHEET NO. 54

FOR CONSTRUCTION PLANS SEE SHEET NOS. 31-32

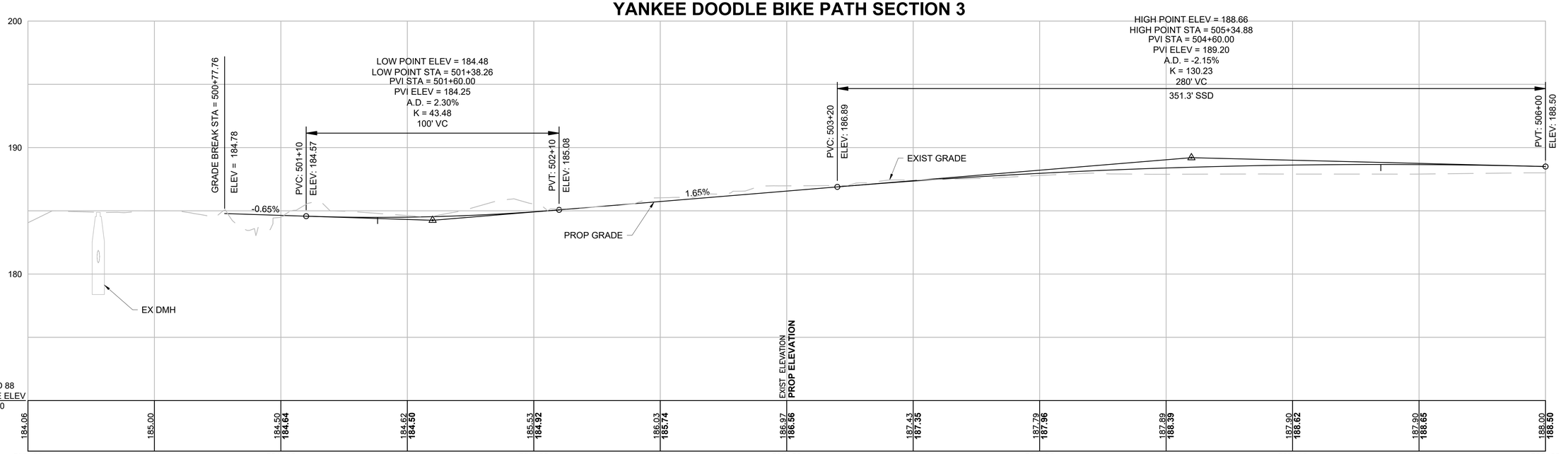
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	56	208
PROJECT FILE NO.	608227		

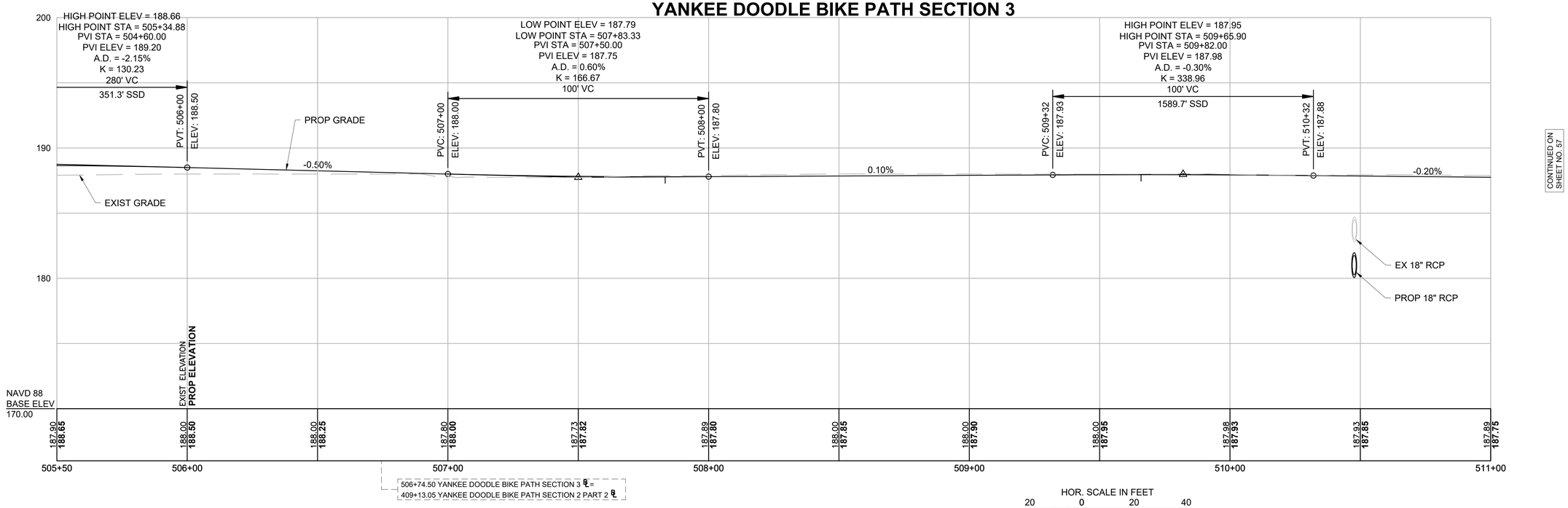
PROFILES

608227HD (PROF)-3.DWG Plotted on 29-Dec-2023 11:52 AM

YANKEE DOODLE BIKE PATH SECTION 3



YANKEE DOODLE BIKE PATH SECTION 3



506+74.50 YANKEE DOODLE BIKE PATH SECTION 3 ℄ =
409+13.05 YANKEE DOODLE BIKE PATH SECTION 2 PART 2 ℄

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

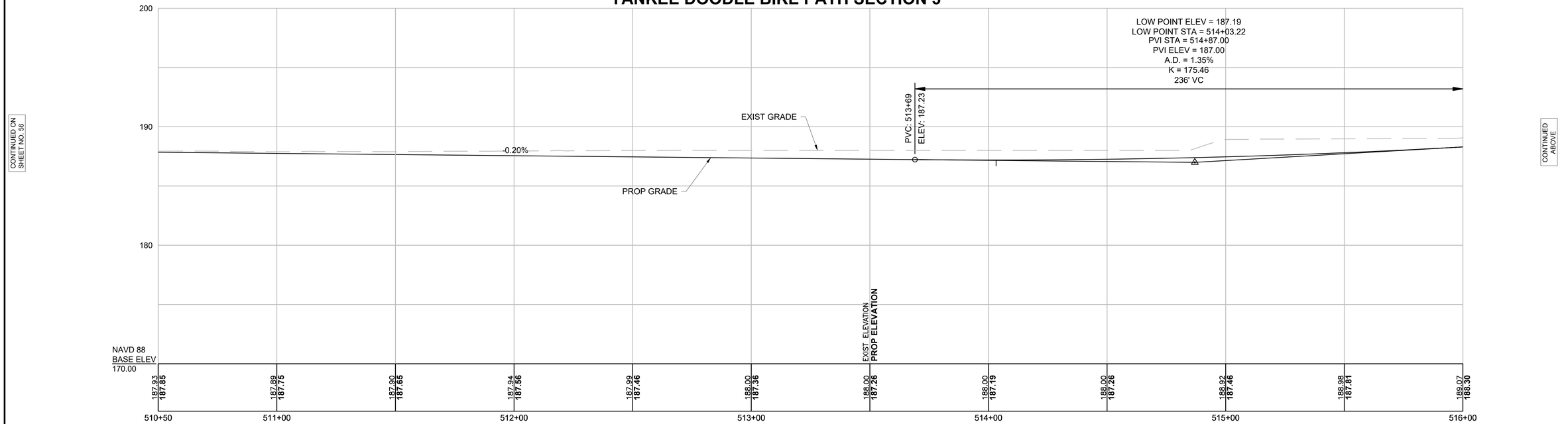
FOR CONSTRUCTION PLANS SEE SHEET NO. 32

BILLERICA
YANKEE DOODLE BIKE PATH

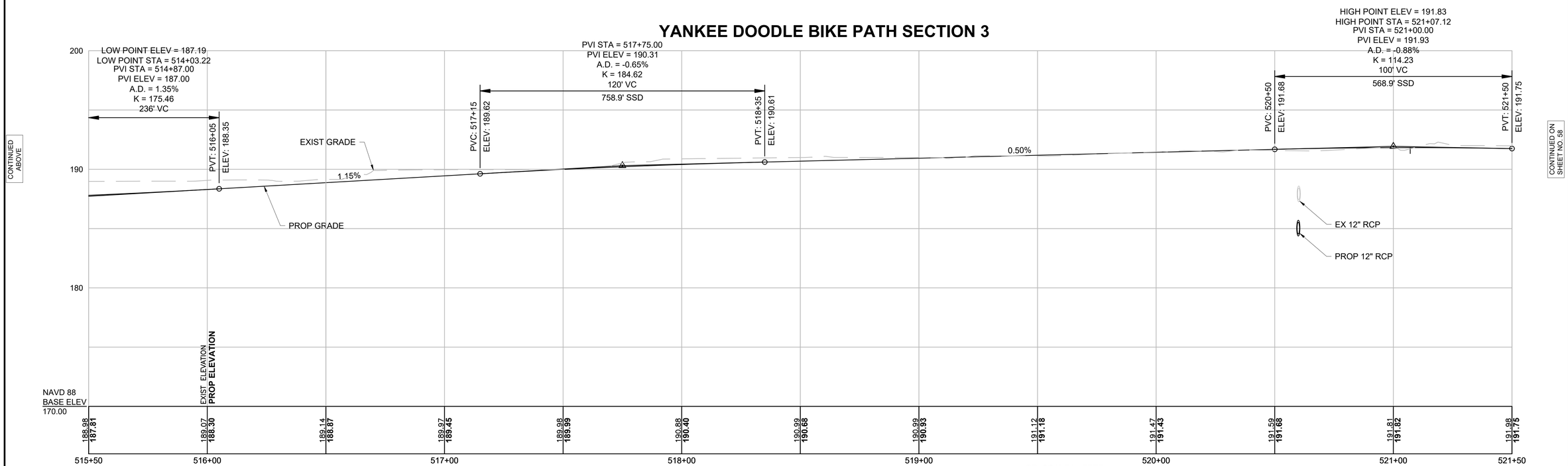
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	57	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 3



YANKEE DOODLE BIKE PATH SECTION 3



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

FOR CONSTRUCTION PLANS SEE SHEET NO. 33

608227HD (PROF)-3.DWG Plotted on 29-Dec-2023 11:52 AM

BILLERICA
YANKEE DOODLE BIKE PATH

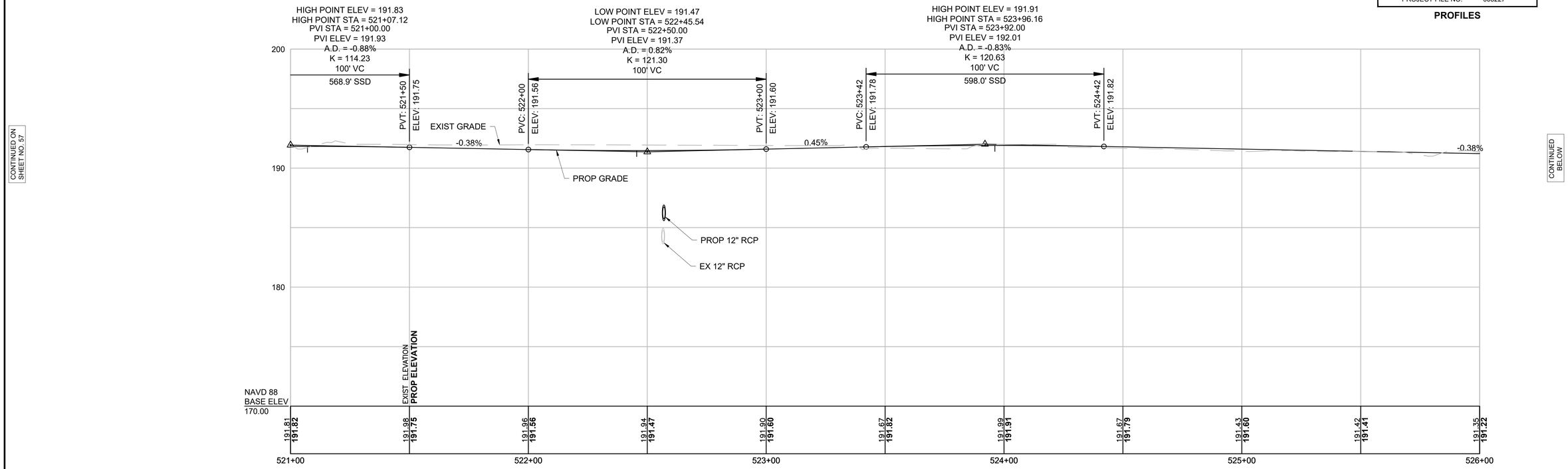
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	58	208
PROJECT FILE NO.	608227		

PROFILES

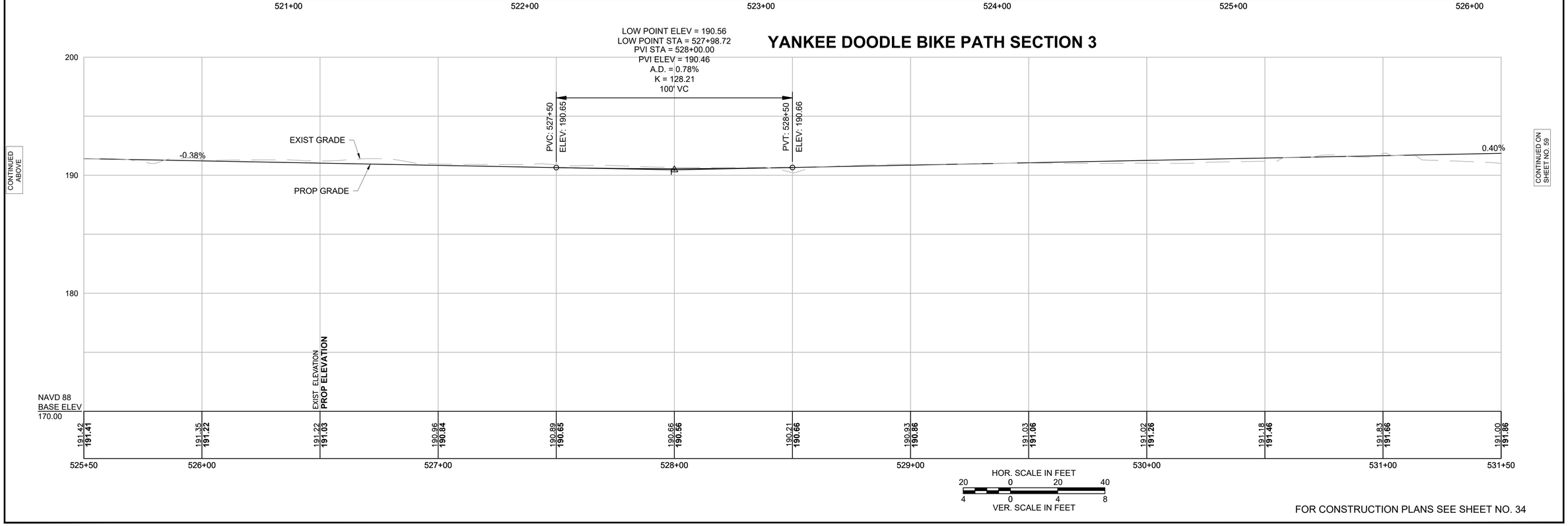
608227HD (PROF)-3.DWG Plotted on 29-Dec-2023 11:52 AM

CONTINUED ON SHEET NO. 57

CONTINUED BELOW



YANKEE DOODLE BIKE PATH SECTION 3



CONTINUED ABOVE

CONTINUED ON SHEET NO. 59

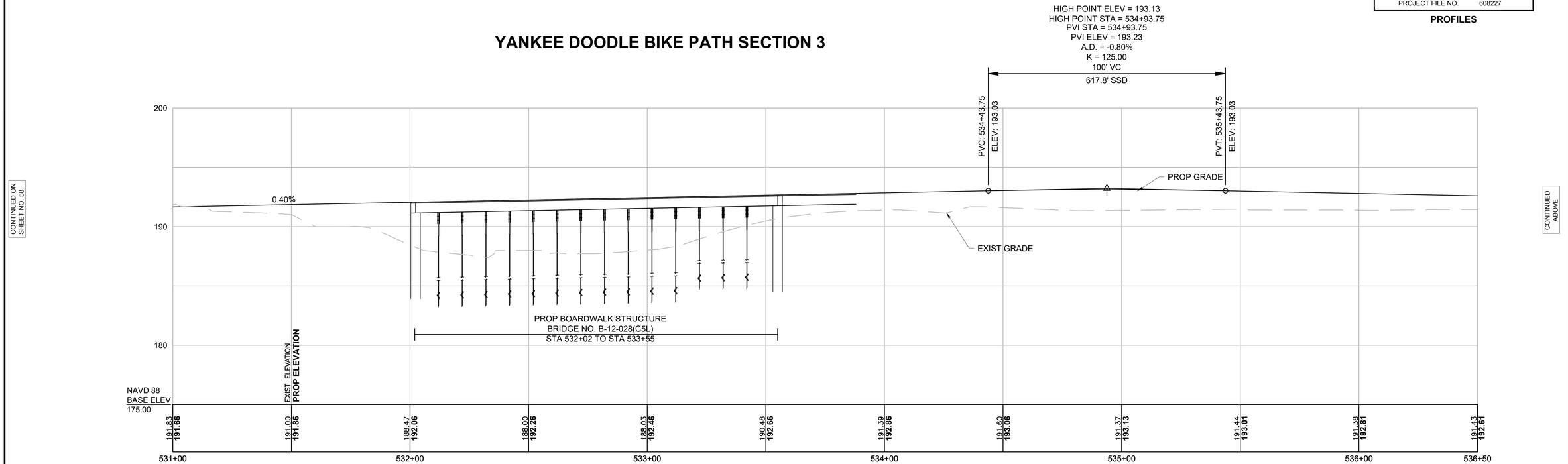
FOR CONSTRUCTION PLANS SEE SHEET NO. 34

BILLERICA
YANKEE DOODLE BIKE PATH

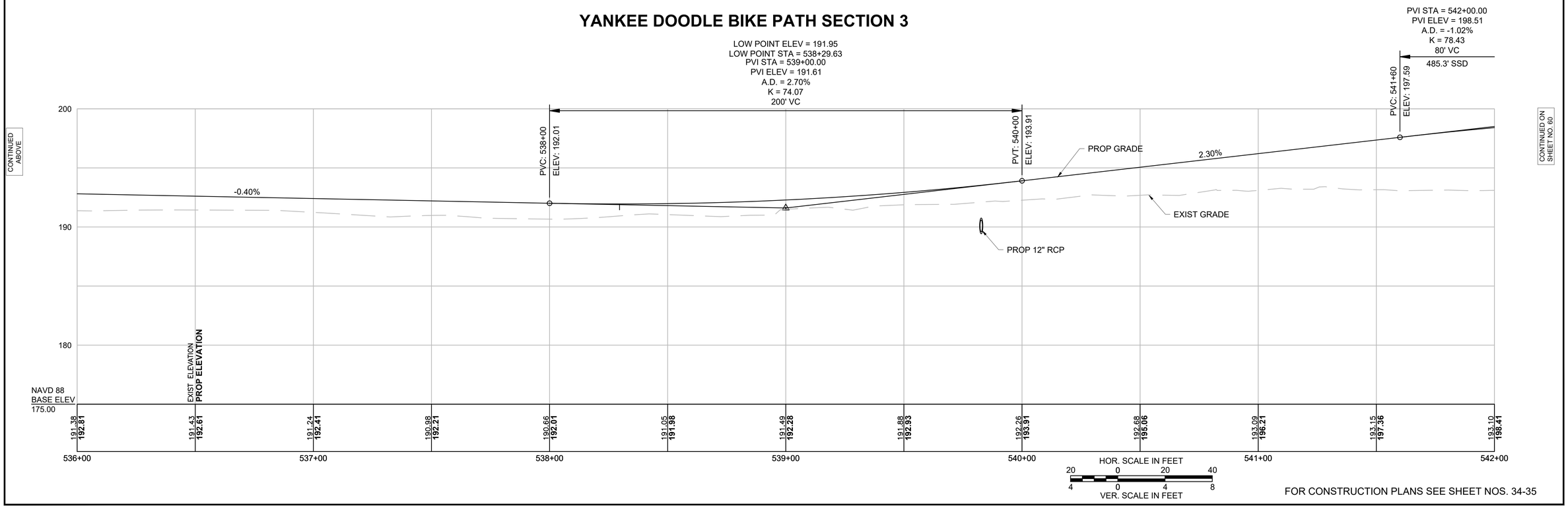
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	59	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 3



YANKEE DOODLE BIKE PATH SECTION 3



FOR CONSTRUCTION PLANS SEE SHEET NOS. 34-35

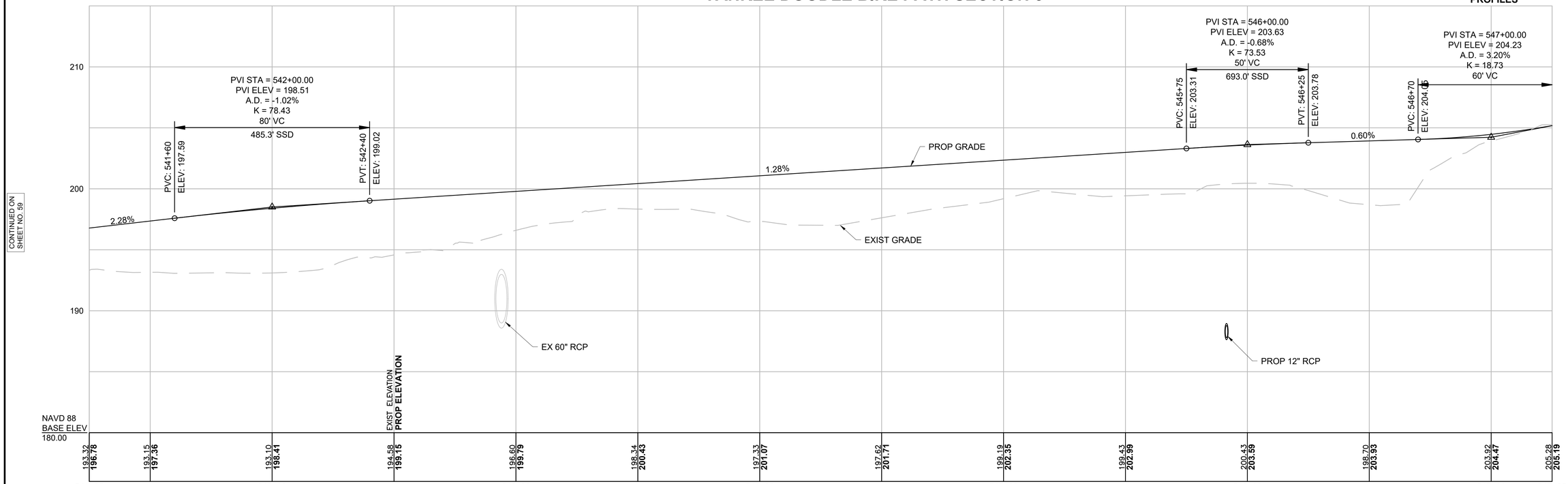
608227HD (PROF)-3.DWG Plotted on 29-Dec-2023 11:53 AM

BILLERICA
YANKEE DOODLE BIKE PATH

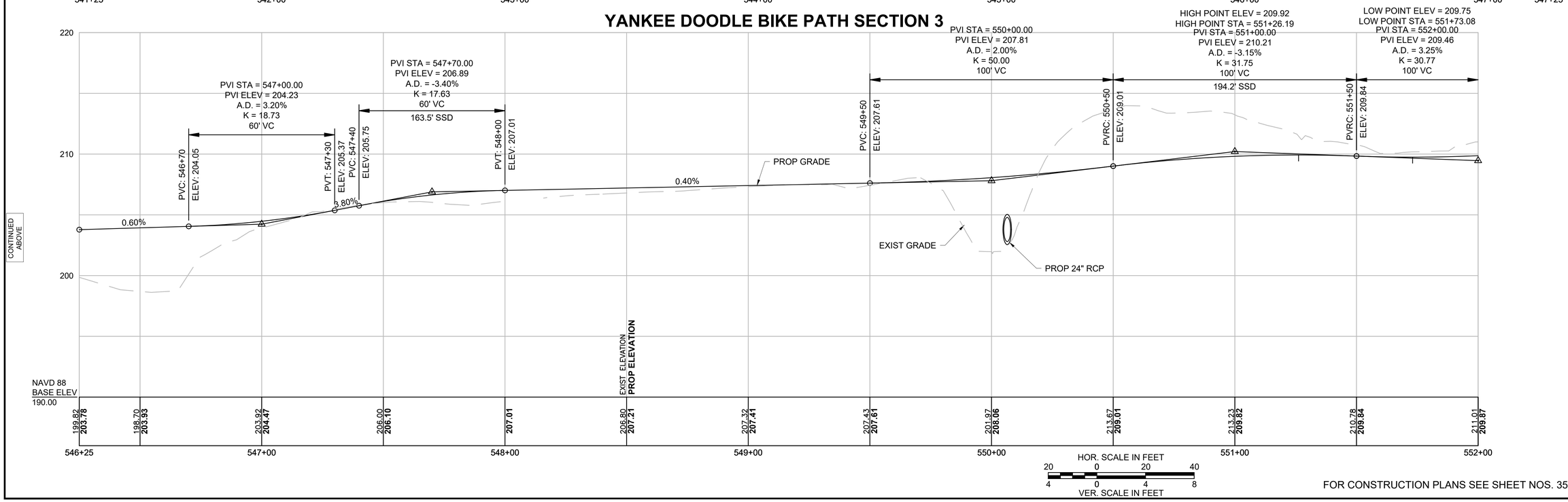
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	60	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 3



YANKEE DOODLE BIKE PATH SECTION 3



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

FOR CONSTRUCTION PLANS SEE SHEET NOS. 35-36

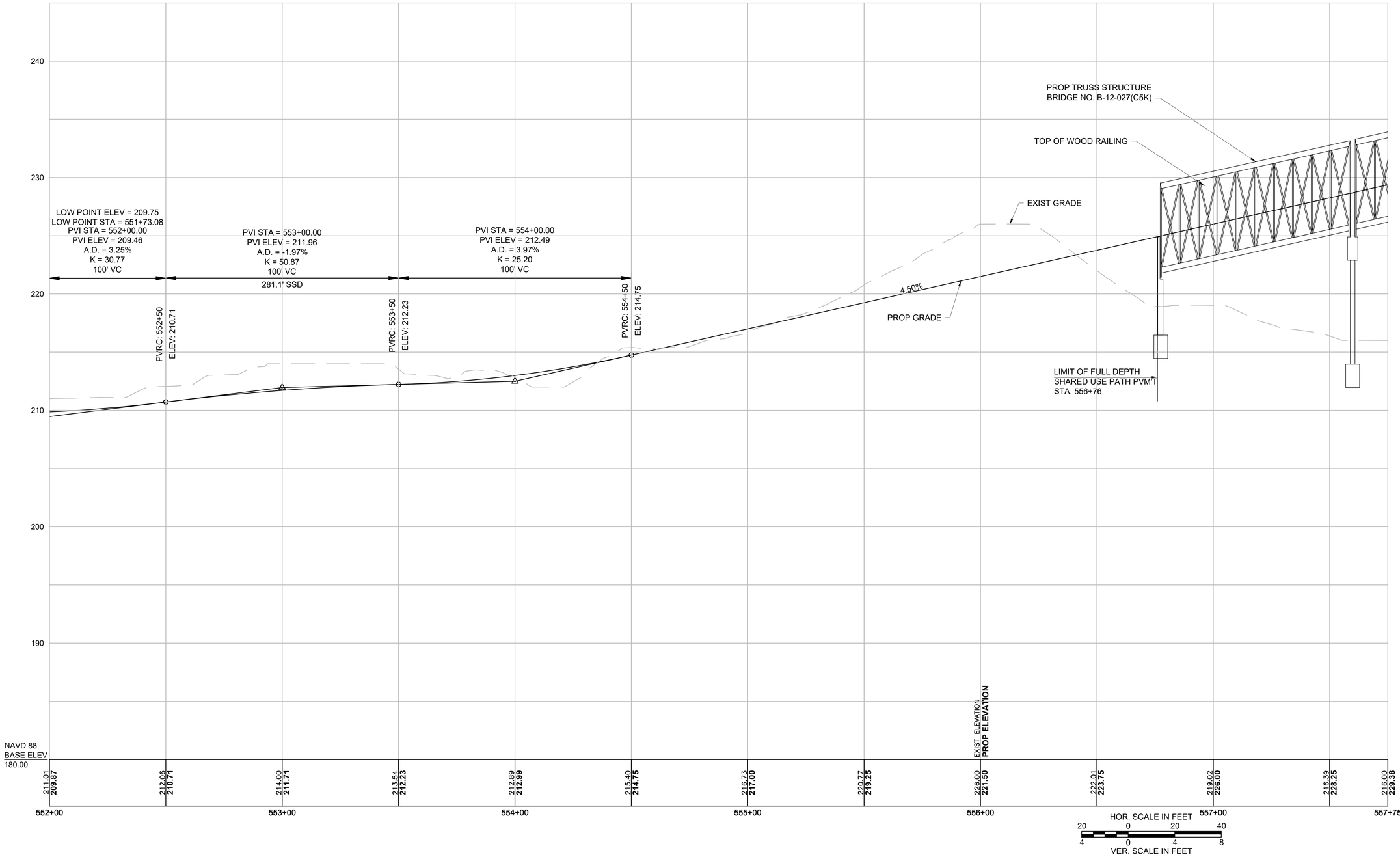
608227HD (PROF)-3.DWG Plotted on 29-Dec-2023 11:53 AM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	61	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 3



FOR CONSTRUCTION PLANS SEE SHEET NOS. 36-37

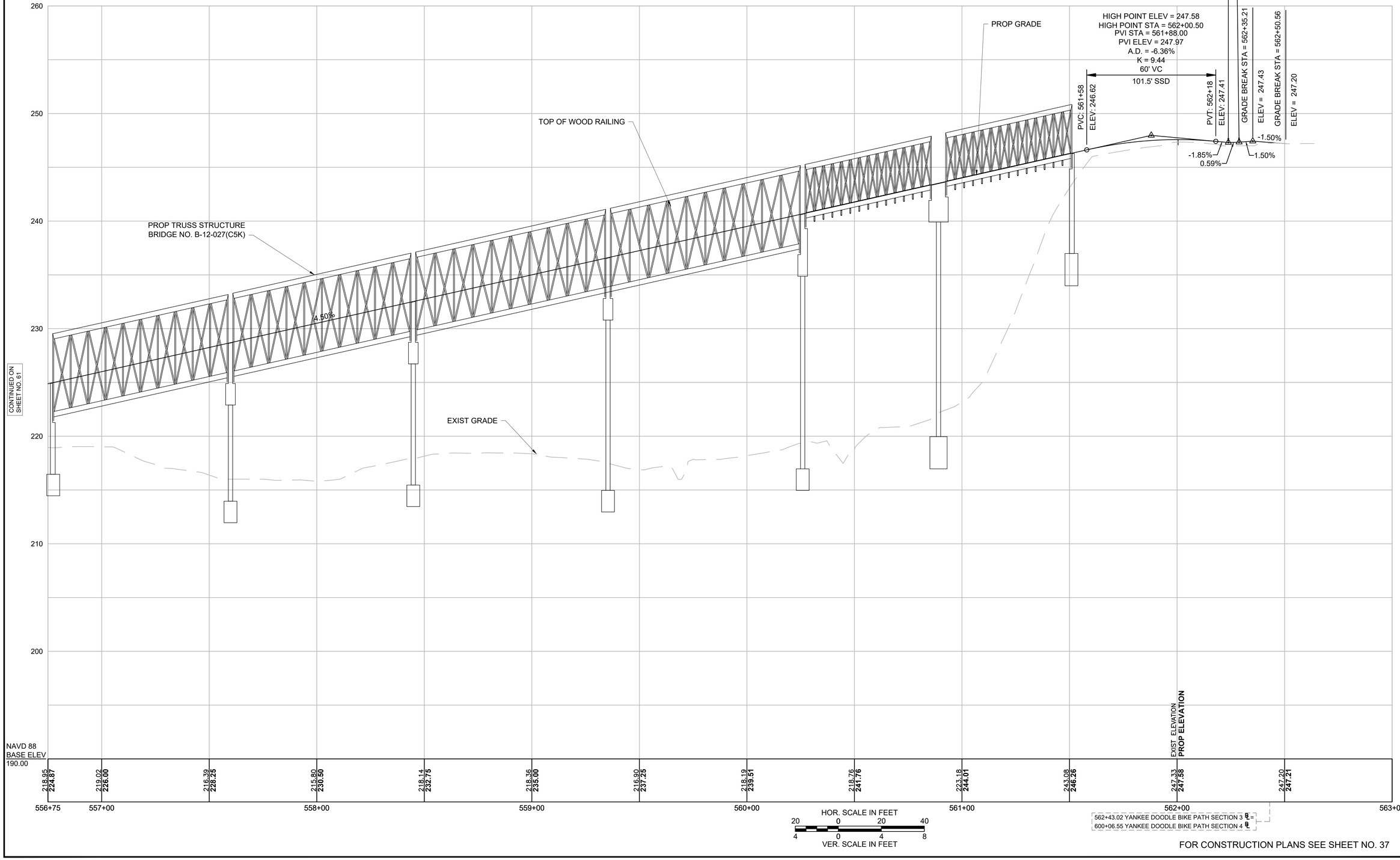
608227HD (PROF)-3.DWG Plotted on 29-Dec-2023 11:53 AM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	62	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 3



562+43.02 YANKEE DOODLE BIKE PATH SECTION 3 ℄ =
600+06.55 YANKEE DOODLE BIKE PATH SECTION 4 ℄

FOR CONSTRUCTION PLANS SEE SHEET NO. 37

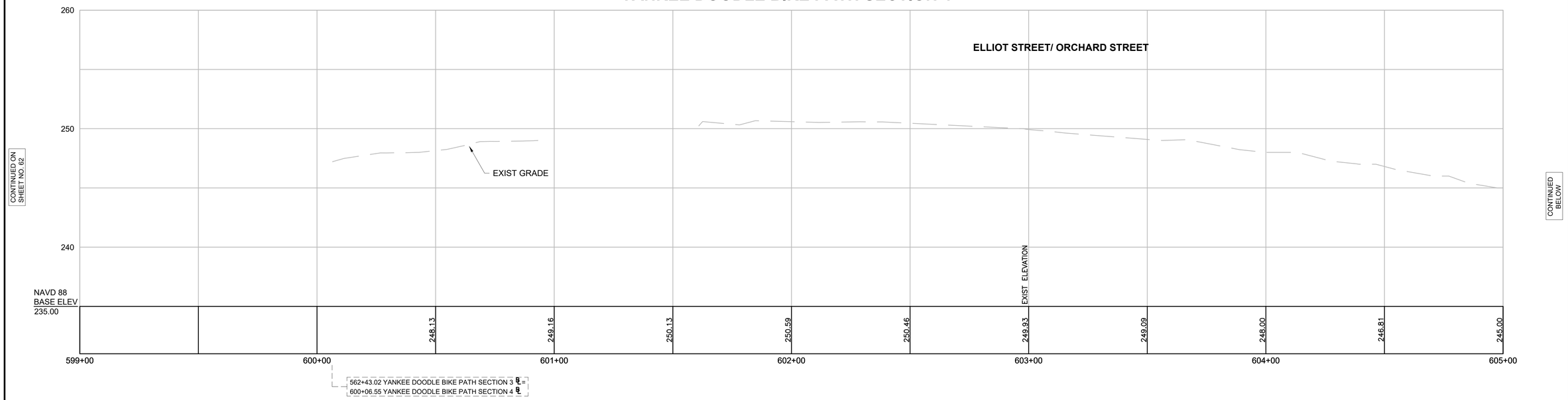
608227HD (PROF)-3.DWG Plotted on 29-Dec-2023 11:54 AM

BILLERICA
YANKEE DOODLE BIKE PATH

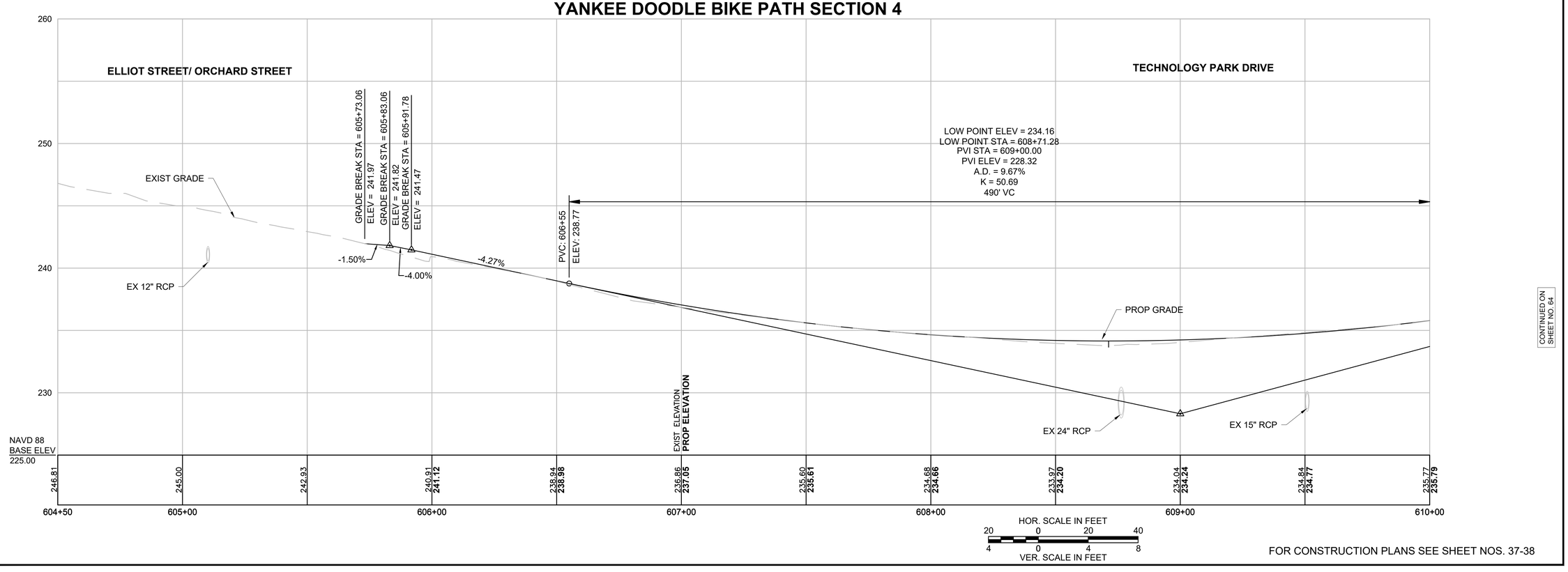
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	63	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 4



YANKEE DOODLE BIKE PATH SECTION 4



FOR CONSTRUCTION PLANS SEE SHEET NOS. 37-38

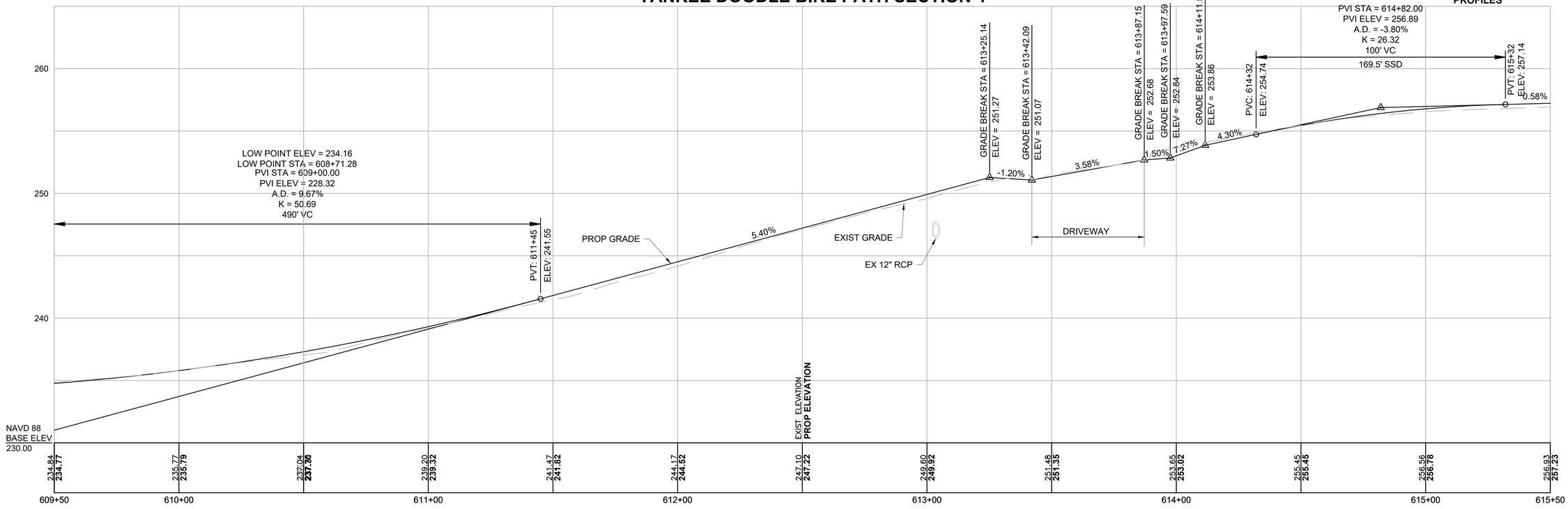
608227HD (PROF)-4.DWG Plotted on 29-Dec-2023 11:58 AM

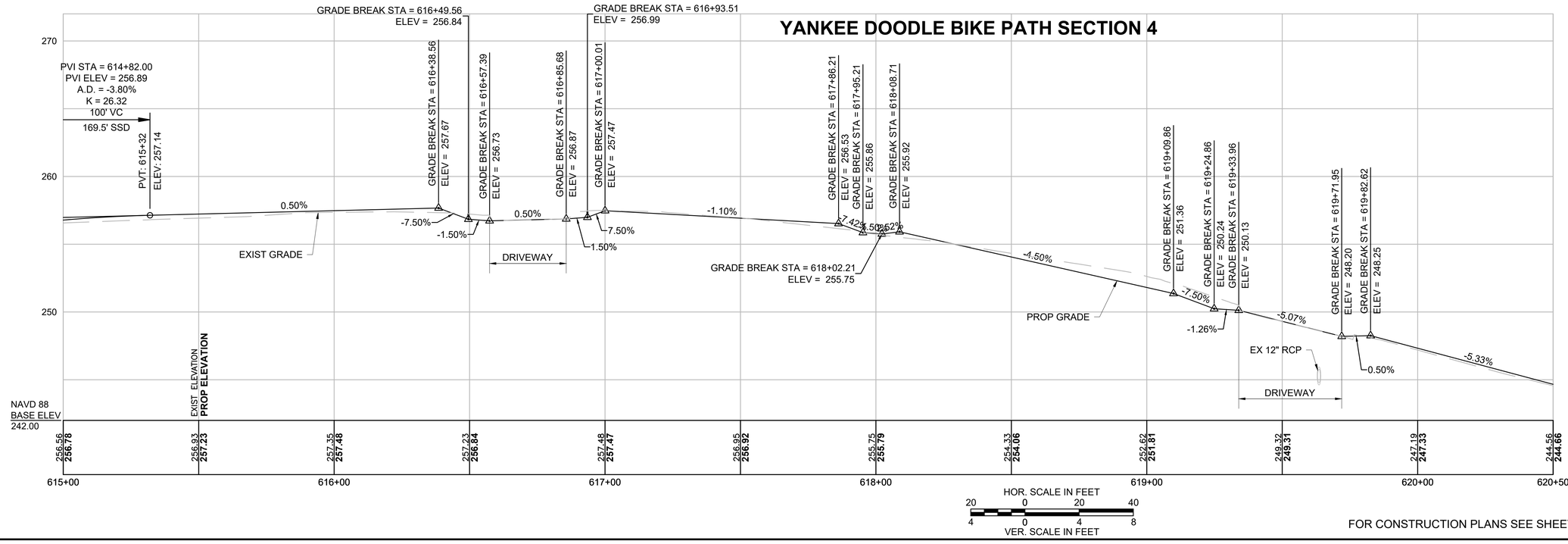
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	64	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 4





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

FOR CONSTRUCTION PLANS SEE SHEET NOS. 38-39

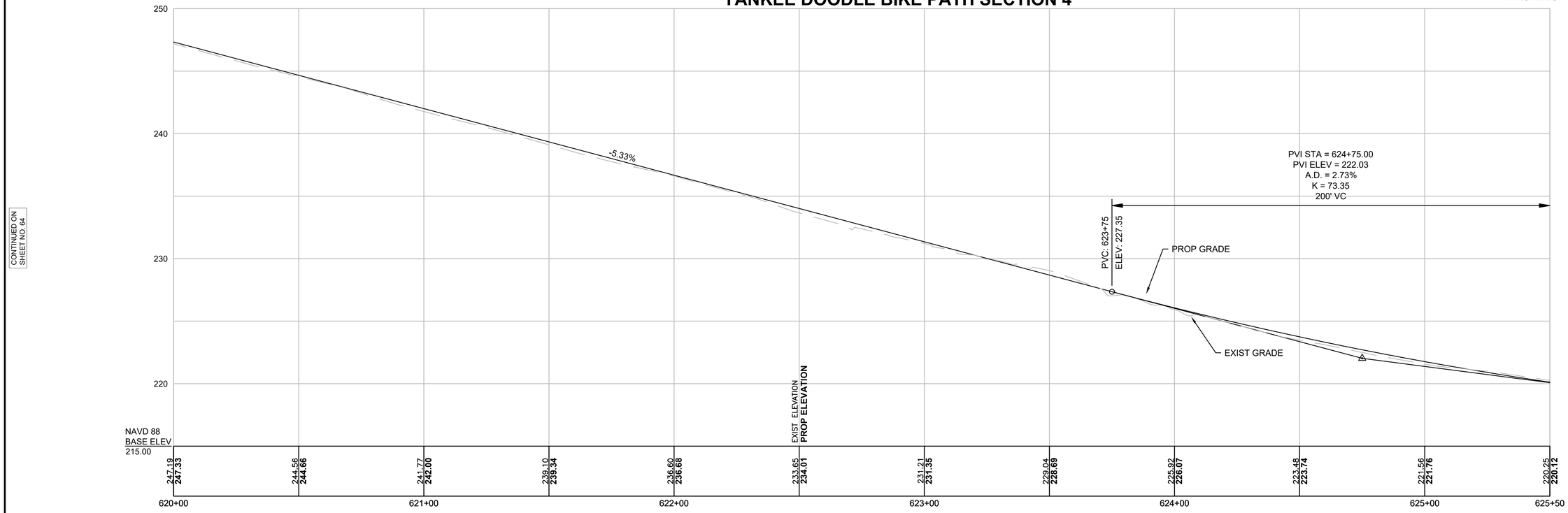
608227HD (PROF)-4.DWG Plotted on 29-Dec-2023 11:58 AM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	65	208
PROJECT FILE NO.	608227		

PROFILES

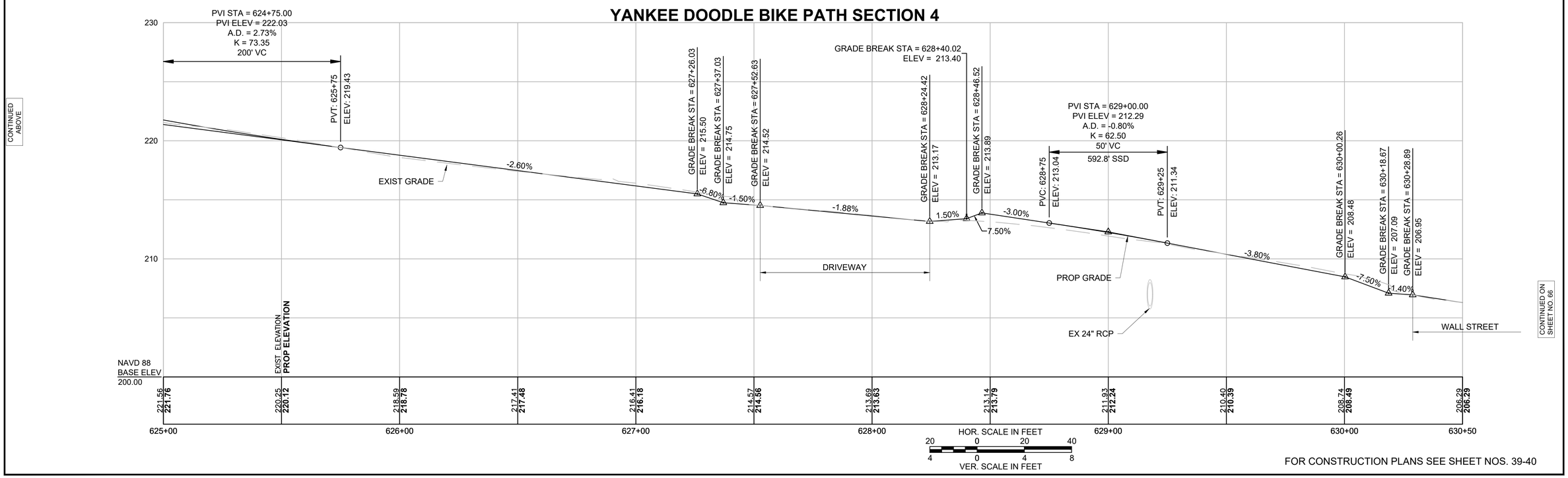
YANKEE DOODLE BIKE PATH SECTION 4



CONTINUED ON SHEET NO. 64

CONTINUED BELOW

YANKEE DOODLE BIKE PATH SECTION 4



CONTINUED ABOVE

CONTINUED ON SHEET NO. 66

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

FOR CONSTRUCTION PLANS SEE SHEET NOS. 39-40

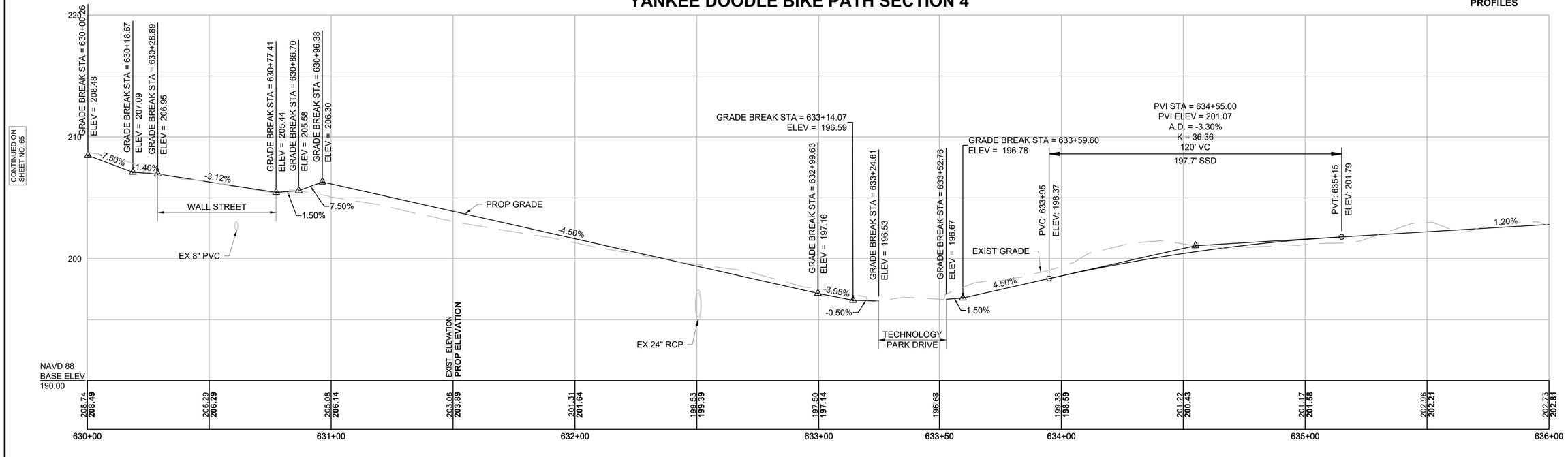
608227HD (PROF)-4.DWG Plotted on 29-Dec-2023 11:59 AM

BILLERICA
YANKEE DOODLE BIKE PATH

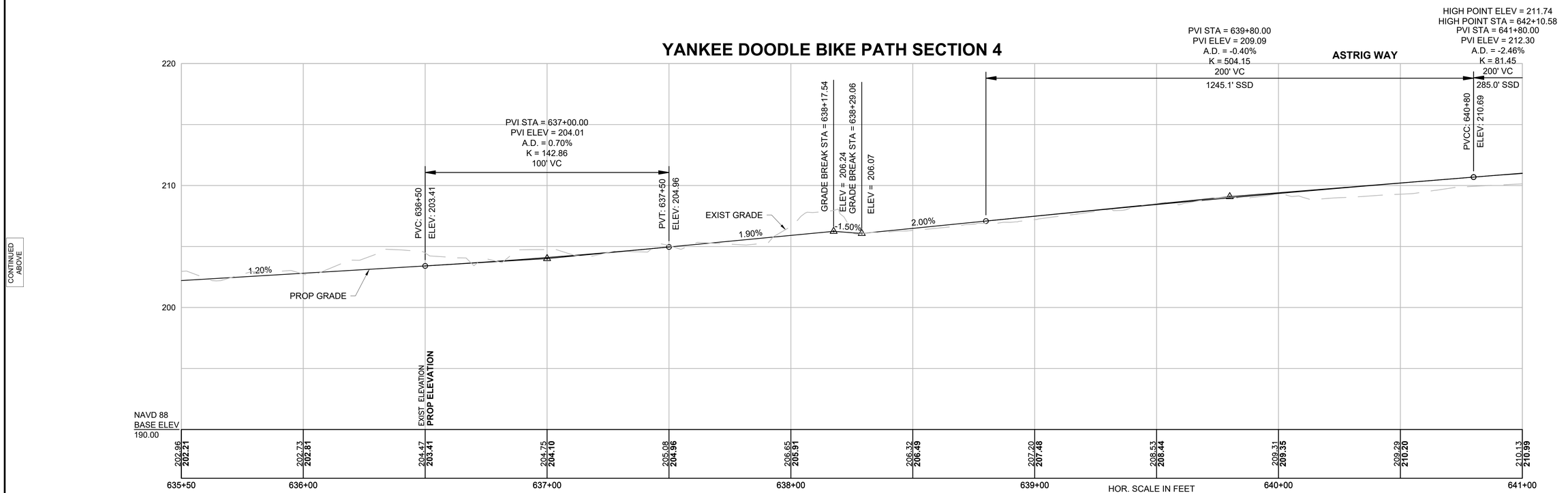
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	66	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 4



YANKEE DOODLE BIKE PATH SECTION 4



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

FOR CONSTRUCTION PLANS SEE SHEET NOS. 40-41

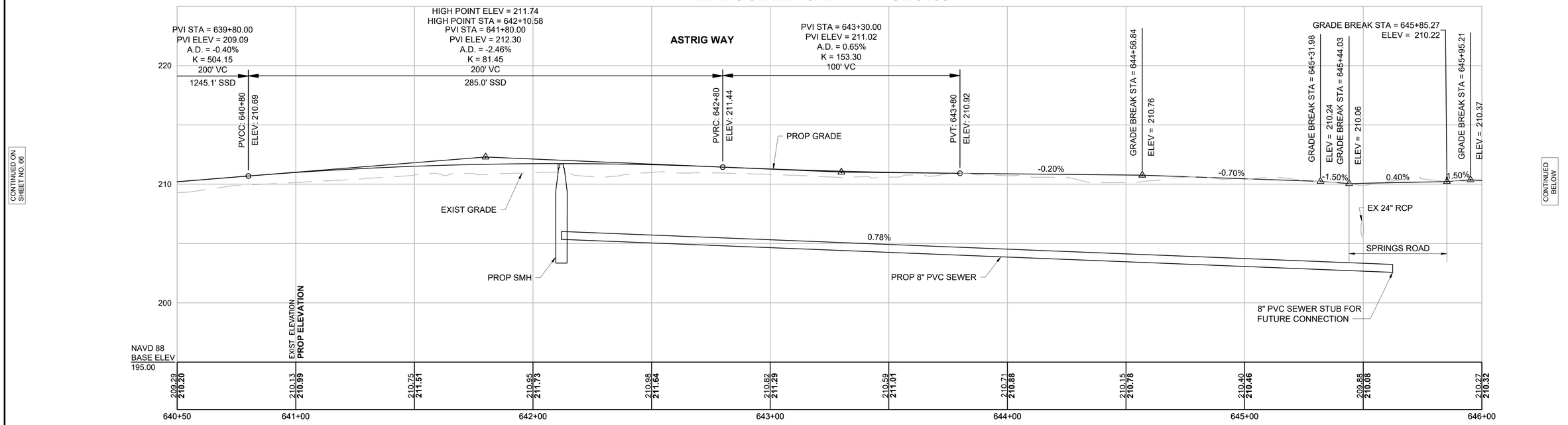
608227HD (PROF)-4.DWG Plotted on 29-Dec-2023 11:59 AM

BILLERICA
YANKEE DOODLE BIKE PATH

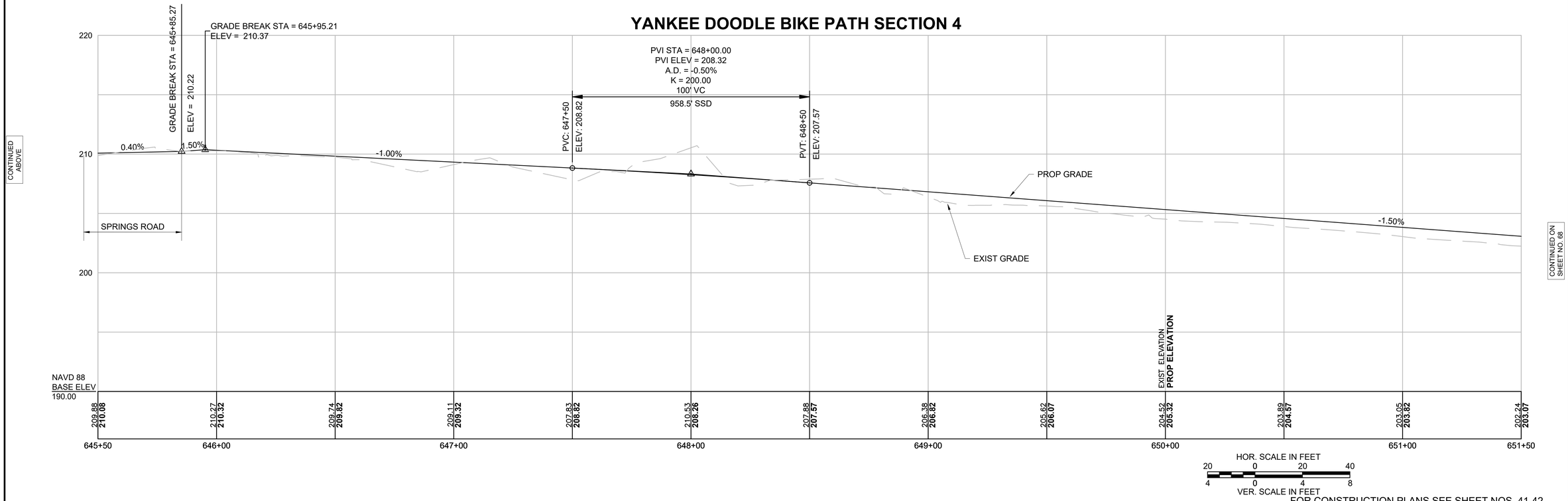
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	67	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 4



YANKEE DOODLE BIKE PATH SECTION 4



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

FOR CONSTRUCTION PLANS SEE SHEET NOS. 41-42

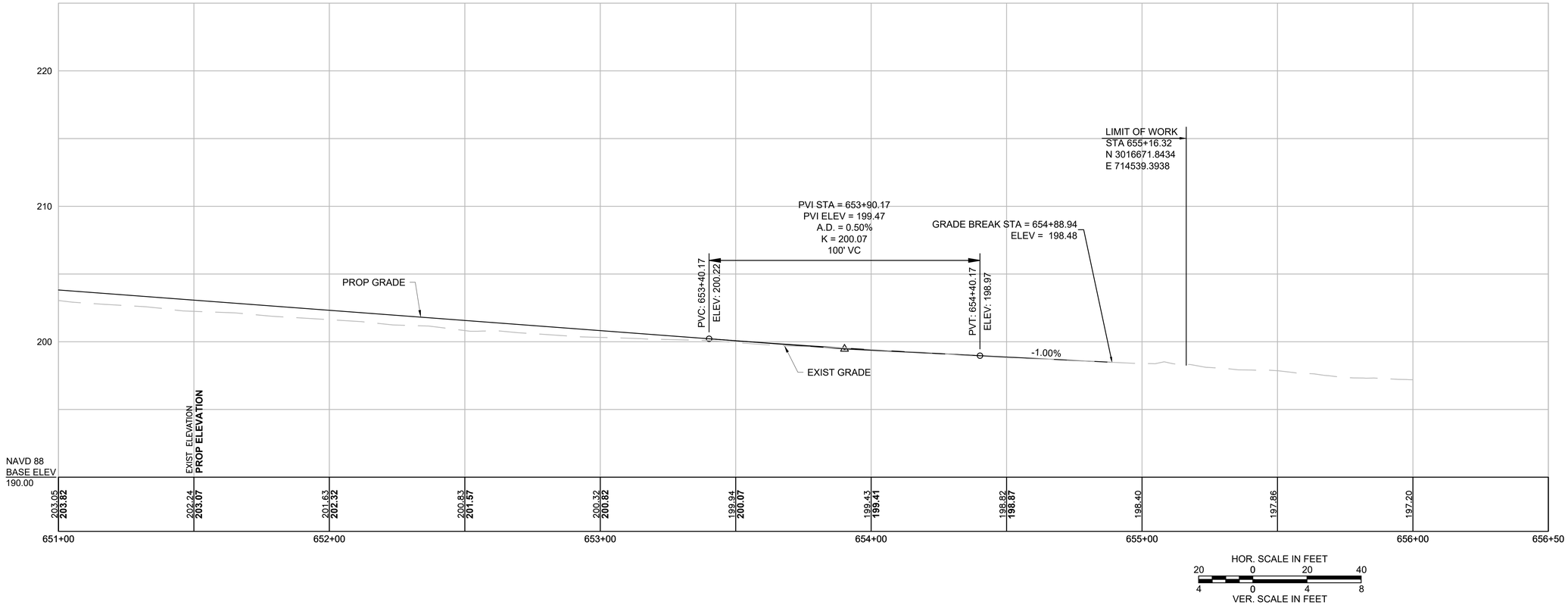
608227HD (PROF)-4.DWG Plotted on 29-Dec-2023 11:59 AM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	68	208
PROJECT FILE NO.	608227		

PROFILES

YANKEE DOODLE BIKE PATH SECTION 4



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

FOR CONSTRUCTION PLANS SEE SHEET NOS. 41-42

608227HD (PROF)-4.DWG Plotted on 29-Dec-2023 12:00 PM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	69	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:41 PM

MONUMENT DATA			
STATION	OFFSET	NORTHING	EASTING
383+35.31	4.94 RT	3024786.5057	715210.2547
619+35.13	4.43 RT	3018024.2968	715719.5536
630+98.54	3.49 RT	3018818.3466	715014.7000

CURVE TABLE			
Curve #	Delta	Radius	Length
1	48°47'38"	51.00	43.43
2	68°44'28"	30.00	35.99
4	82°40'54"	30.00	43.29
5	81°26'21"	45.00	63.96
6	81°28'46"	29.94	42.58
7	86°25'58"	14.00	21.12
8	88°56'12"	15.00	23.28
9	71°45'23"	10.00	12.52
10	73°26'55"	19.74	25.31
11	78°08'01"	18.00	24.55
12	18°46'41"	10.00	3.28
13	56°15'55"	22.00	21.60
14	29°29'47"	50.00	25.74
15	16°13'40"	20.00	5.66
16	69°11'05"	22.00	26.57
17	96°44'57"	20.00	33.77
18	96°52'14"	30.00	50.72
19	49°48'33"	62.00	53.90
20	42°41'20"	20.00	14.90
21	18°12'54"	47.00	14.94
22	18°12'54"	39.00	12.40
23	18°12'54"	36.00	11.44
25	26°27'54"	23.00	10.62
26	26°27'54"	15.00	6.93
27	24°10'05"	7.00	2.95
28	24°10'04"	15.00	6.33
29	90°00'00"	5.00	7.85
30	90°00'00"	5.00	7.85
31	90°00'00"	2.50	3.93
32	90°00'00"	2.50	3.93
33	90°00'00"	2.50	3.93
34	60°49'07"	20.00	21.23
37	3°19'00"	400.00	23.15
38	102°30'55"	10.00	17.89
39	71°17'35"	8.00	9.95
40	9°00'28"	500.00	78.61
41	134°57'00"	4.01	9.44
42	91°10'30"	1.49	2.38
43	84°52'14"	1.00	1.48
44	179°39'14"	1.25	3.92
45	180°00'00"	1.50	4.71
46	73°57'45"	17.00	21.95
47	43°59'16"	276.50	212.28
48	88°06'47"	35.00	53.83
49	91°53'13"	35.00	56.13
50	90°32'45"	16.00	25.29
51	89°27'15"	16.00	24.98
52	95°37'37"	4.00	6.68
53	95°37'37"	10.00	16.69
54	89°03'05"	20.00	31.08
55	99°00'01"	25.00	43.20
56	71°19'53"	414.50	516.04

CURVE TABLE			
Curve #	Delta	Radius	Length
57	91°29'33"	50.00	79.84
58	88°30'27"	50.00	77.24
59	26°08'29"	296.50	135.28
60	79°58'57"	35.00	48.86
61	77°55'17"	30.00	40.80
62	79°02'21"	20.00	27.59
63	82°08'23"	35.00	50.18
64	38°05'05"	10.00	6.65
65	30°33'52"	10.00	5.33
68	58°34'33"	30.00	30.67
69	58°34'33"	30.00	30.67
70	94°12'55"	10.00	16.44
71	80°42'21"	10.00	14.09
72	95°42'06"	20.00	33.41
73	57°48'39"	30.00	30.27
74	44°54'02"	12.00	9.40
75	44°54'02"	12.00	9.40
76	269°48'04"	12.00	56.51
77	17°09'15"	25.00	7.48
78	86°45'59"	2.00	3.03
79	94°09'37"	2.00	3.29
80	74°02'21"	30.00	38.77
88	127°49'02"	12.23	27.29
89	84°51'12"	5.00	7.40
93	14°32'40"	50.00	12.69
94	11°51'43"	55.00	11.39
95	11°51'43"	50.00	10.35

TRAVERSE DATA				
Point #	Northing	Easting	Elevation	Raw Description
1	3020186.9488	715939.4801	193.167	
4	3027550.9997	716409.7418	198.022	
5	3021496.3612	716209.3454	191.526	
6	3021998.3735	716207.3566	189.453	
7	3022214.1378	716209.4520	187.892	
8	3022444.0544	716210.9559	187.400	
9	3022680.4618	716209.8190	186.990	
10	3022890.2040	716208.8562	187.154	
12	3023442.4147	716217.0643	186.122	
13	3023537.5402	716111.9146	182.360	
14	3023708.3660	716214.9516	183.406	
15	3021324.7524	716199.3573	191.098	
17	3020675.5674	715911.9093	191.304	
34	3028064.9118	716373.9772	194.815	
35	3018074.7669	716795.4037	225.025	
36	3018094.0128	717306.4560	249.829	
37	3018181.3964	717202.1009	224.225	
38	3019545.7506	716060.1497	199.333	
39	3018551.2577	716953.4923	225.568	
40	3018737.8018	716940.2240	220.566	
41	3019523.9230	716282.1644	200.166	
42	3019570.4171	716257.9506	0.000	
43	3024075.4745	716215.3175	177.235	
47	3021759.9985	716200.7329	190.718	
49	3026704.6439	714823.0142	121.070	
50	3020997.1368	716096.8046	190.139	
58	3017790.2380	716937.1500	240.530	
64	3018355.2750	717050.2799	220.528	
65	3019349.5070	716375.9448	202.890	
66	3023125.6868	716215.6619	187.616	
68	3018235.6395	715302.1721	224.320	
71	3017617.6624	714458.0302	198.290	
73	3017595.7480	714616.9261	210.060	
74	3017023.6630	714568.2751	202.180	
75	3018079.8061	714646.9776	210.080	
76	3018416.4013	714682.5532	204.870	
77	3018818.0920	714737.1197	194.180	
83	3018113.1530	716442.8958	244.290	
85	3028411.6838	716216.0971	188.155	
87	3023223.7544	715874.1921	188.008	
88	3023432.8065	715859.2876	186.560	
89	3023593.7337	715631.3068	188.044	
90	3026845.6118	715231.1545	142.791	
94	3023218.5056	716061.5786	191.181	
95	3019616.0840	716230.7755	199.787	
96	3019962.0845	716064.1697	193.532	
98	3020474.9286	715803.4852	192.888	
106	3026870.7258	715310.8471	145.317	
107	3027140.0651	715206.4584	133.770	
200	3019217.8503	716461.3917	206.129	
201	3019012.7277	716642.9878	213.590	
202	3029011.1508	717417.1943	228.269	
203	3028940.6511	717257.1737	223.399	
204	3028816.9408	716972.1664	215.899	
700	3025175.3505	714857.0134	171.980	
3200	3018409.8343	715233.0969	213.936	
3229	3017628.3089	714510.4685	201.119	
14030	3017940.8303	716719.1222	233.334	
14040	3017748.3973	716969.1112	240.606	
14050	3018161.8567	717429.5625	246.593	

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	70	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:41 PM

N

LEGEND:
(#) CURVE NUMBER (SEE TABLE SHEET 69)

#16 RIVER STREET
BILLERICA HOUSING AUTHORITY
DEED BOOK 7504, PAGE 101
PLAN BOOK 187, PLAN 52

#30 RIVER STREET
NEW COLONY BAPTIST CHURCH OF BILLERICA
DEED BOOK 1790, PAGE 528
PLAN BOOK 68, PLAN 78

LIMIT OF WORK
STA 100+55.63
N 3029001.4400
E 717399.0886

RIVER STREET

PARKER SCHOOL DRIVE

1934 COUNTY LAYOUT

MEET EXIST
+55.7, 8.4' LT

EL=226.92

EL=225.97

MEET EXIST
PT +43.8, 9.9' LT

MEET EXIST
+88.2, 18.4' RT

MEET EXIST
PC +17.3, 12.0' RT

YANKEE DOODLE BIKE PATH
SECTION 1 PART 1 (RIVER) ℄

PC +23.75

<PT +04.5
5.0' LT

MEET EXIST
PC +99.1, 10.0' LT

<PT +13.5
1.6' LT

<PT +16.0
4.0' RT

PT +28.31

EL=215.27

EL=215.32

EL=215.19

<PT +04.5
5.0' RT

<PT +13.1
12.9' RT

<PT +19.9
13.2' RT

MEET EXIST
+27.8, 17.2' RT

PC +5
30.5' F

MEET EXIST
+51.3, 29.6' RT

#365 BOSTON ROAD
INHABITANTS OF THE TOWN OF BILLERICA – C/O SELECT BOARD
DEED BOOK 1239, PAGE 72

CONTINUED ON SHEET NO. 71

20 0 20 40
SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	71	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:42 PM

N

#30 RIVER STREET
NEW COLONY BAPTIST CHURCH OF BILLERICA
DEED BOOK 1790, PAGE 528

PARKER SCHOOL DRIVE

#40 RIVER STREET
MARITA G. FINNEGAN & JEAN ROACH
DEED BOOK 5443, PAGE 136

#42 RIVER STREET
ERIC P. HASSEY
DEED BOOK 29315, PAGE 154

#44 RIVER STREET
DAWN C. GAGNON
DEED BOOK 7332, PAGE 159

#46 RIVER STREET
DENNIS G. & CAROL A. JOHNS
DEED BOOK 2230, PAGE 156

#48 RIVER STREET
RENEE M. & MAXIME EDOUARD
DEED BOOK 32446, PAGE 166
PLAN BOOK 68, PLAN 76

1934 COUNTY LAYOUT

RIVER STREET

CONTINUED ON SHEET NO. 70

YANKEE DOODLE BIKE PATH
SECTION 1 PART 1 (RIVER) ℄

MEET EXIST
PC +99.1, 10.0' LT

<PT +04.5
5.0' LT

<PT +13.5
1.6' LT

<PT +16.0
4.0' RT

PT +28.31

EL=215.32

EL=215.19

PC +23.75

104

105

10.0'

<PT +04.5
5.0' RT

<PT +13.1
12.9' RT

<PT +19.9
13.2' RT

MEET EXIST
+27.8, 17.2' RT

EL=215.27

MEET EXIST
PT +94.9, 9.7' LT

+34.9

+47.9

+73.7

+88.7

106

PC +89.74

PT +87.6
5.0' RT

PC +57.9,
30.5' RT

MEET EXIST
+51.3, 29.6' RT

107

PT +85.57

108

PT +07.44

PC +69.31

MEET EXIST
+41.3, 8.1' LT

PC +50.2,
8.2' LT

PT +99.9
10.1' LT

MEET EXIST
+00.8, 10.1' LT

PI +66.92

+75.2

109

10.0'

MEET EXIST
PC +85.2, 5.0' RT

PI +82.10

MEET EXIST
PT +64.2, 5.0' RT

CONTINUED BELOW

#39 RIVER STREET
ZHAN JIANG & YUAN ZHU
DEED BOOK 28520, PAGE 212

#41 RIVER STREET
ROHIT & KETNA PATEL
DEED BOOK 28584, PAGE 153

#1 WEDGEWOOD AVENUE
SUSAN CORMAN & MARY O'REILLY
DEED BOOK 7000, PAGE 270

EXIST TOWN LAYOUT

WEDGEWOOD AVE

EXIST TOWN LAYOUT

#51 RIVER STREET
JASON D. & NANCY A. KEENAN
DEED BOOK 13537, PAGE 19

LEGEND:
(#) CURVE NUMBER (SEE TABLE SHEET 69)

20 0 20 40
SCALE IN FEET

CONTINUED ON SHEET NO. 72

#48 RIVER STREET
RENEE M. & MAXIME EDOUARD
DEED BOOK 32446, PAGE 166
PLAN BOOK 68, PLAN 76

#50 RIVER STREET
CHARLES E. & DENISE T. ADAMS
DEED BOOK 2323, PAGE 129

PARKER STREET

EXIST TOWN LAYOUT

#54 RIVER STREET
SUREN U. SHENOY
DEED BOOK 2587, PAGE 47

RIVER STREET
THE INHABITANTS OF THE TOWN OF BILLERICA
DEED BOOK 19222, PAGE 101
LC DOCUMENT #233795

PT +57.8
5.0' LT

PC +45.1,
6.3' LT

PT +31.5
9.6' LT

PT +33.95

PC +28.8,
10.0' LT

<PT +16.4
11.0' LT

PC +04.76

PC +51.51

PT +85.70

R.R. RIGHT-OF-WAY (VAL. MAP)

20% 20'15"

1934 COUNTY LAYOUT

112+50.20 YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)=
200+00.00 YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)

MEET EXIST
+14.7, 16.4' RT

MEET EXIST
+09.8, 24.9' LT

200

112+50.20

RIVER STREET

CONTINUED ABOVE

PT +99.9
10.1' LT

MEET EXIST
+00.8, 10.1' LT

+75.2

+90.2

MEET EXIST
+40.3, 10.1' LT

PC +48.9,
10.0' LT

PT +67.6
4.5' RT

MEET EXIST
+23.7, 9.8' LT

MEET EXIST
+06.8, 10.3' LT

MEET EXIST
+37.2, 14.0' RT

109

110

111

112

10.0'

PC +44.12

MEET EXIST
PC +85.2, 5.0' RT

PI +82.10

PC +55.2,
5.3' RT

PT +64.8
11.9' RT

MEET EXIST
+71.5, 18.2' RT

PC +08.6,
7.2' RT

MEET EXIST
+08.4, 10.8' RT

PT +32.20

PCC +24.35

COLUMBUS AVE

10' WIDE DRAINAGE EASEMENT PLAN BOOK 205, PLAN 65

R.R. RIGHT-OF-WAY

R.R. RIGHT-OF-WAY

#51 RIVER STREET
JASON D. & NANCY A. KEENAN
DEED BOOK 13537, PAGE 19

#53 RIVER STREET
CONCORD CROSSING CONDOMINIUM
DEED BOOK 12666, PAGE 231

#1COLONIAL DRIVE
KELLY A. NURZYNSKI REVOCABLE TRUST
DEED BOOK 36652, PAGE 7
PLAN BOOK 150, PLAN 113

COLONIAL DRIVE

20 0 20 40
SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	72	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:43 PM

CONTINUED ON SHEET NO. 71

MEET EXIST +23.7, 9.8' LT

PC +44.12

MEET EXIST +06.8, 10.3' LT

PCC +24.35

PT +32.20

MEET EXIST +37.2, 14.0' RT

MEET EXIST +14.7, 16.3' RT

1934 COUNTY LAYOUT

1954 COUNTY LAYOUT

1954 COUNTY LAYOUT

RIVER STREET

MEET EXIST +09.8, 24.9' LT

112+50.20 YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)=
200+00.00 YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)

PC +04.76
PC +28.8, 10.0' LT

PT +31.5
9.6' LT

PT +33.95
PC +45.1, 6.3' LT

PT +57.8
5.0' LT

PC +51.51

PT +85.70

R.R. RIGHT-OF-WAY (VAL MAP)

R.R.RIGHT-OF-WAY (VAL MAP 13.3)

YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) ℄

#13 PARKER STREET
CHARLES J. GUENTHER
DEED BOOK 13256, PAGE 251

#54 RIVER STREET
SUREN U. SHENOY
DEED BOOK 2587, PAGE 47

#15 PARKER STREET
MICHAEL NAPOLITANO
DEED BOOK 27388, PAGE 65

#17 PARKER STREET
SCOTT & MELISA YAPP
DEED BOOK 31452, PAGE 288
PLAN BOOK 84, PLAN 148A

#COLONIAL DRIVE
KELLY A. NURZYNSKI REVOCABLE TRUST
DEED BOOK 15652, PAGE 7
PLAN BOOK 150, PLAN 113

RIVER STREET
THE INHABITANTS OF
THE TOWN OF BILLERICA – C/O SELECT BOARD
DEED BOOK 19222, PAGE 101
LC DOCUMENT #233795

LEGEND:
(#) CURVE NUMBER (SEE TABLE SHEET 69)

SCALE IN FEET: 20 0 20 40

CONTINUED BELOW

#21 PARKER STREET
GARY & ELISSA CASSIE
DEED BOOK 31490, PAGE 96
PLAN BOOK 84, PLAN 428
PLAN BOOK 140, PLAN 38

#19 PARKER STREET
HANQI WANG
DEED BOOK 31970, PAGE 93
PLAN BOOK 84, PLAN 148A

YANKEE DOODLE BIKE PATH CONSTR ℄

PC +85.68

PT +68.41

PC +19.20

YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) ℄

30' WIDE SEWER EASEMENT (PLAN BOOK 163, PLAN 74)

30' WIDE TEMPORARY (PLAN BOOK 104 (STATUS UNKNOWN)

10.0'

DENSE TREES

CONTINUED ABOVE

CONTINUED ON SHEET NO. 73

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	73	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:43 PM

RIVER STREET
THE INHABITANTS OF
THE TOWN OF BILLERICA –
C/O SELECT BOARD
DEED BOOK 19222, PAGE 101
LC DOCUMENT #233795

N

EL=174.95
EL=173.43
EL=171.16
EL=169.17
EL=175.79
EL=176.23
EL=173.54
EL=171.29
EL=169.02
EL=166.80
EL=164.54
EL=162.28
EL=169.98
EL=158.33
EL=158.99
EL=158.22

273 PT +86.51
274
275
276 PC +07.01
277
10.00
2.1%
1.00%

YANKEE DOODLE BIKE PATH
SECTION 1 PART 2 (CABOT) ℄

PRC +39.76

CONTINUED BELOW

CONTINUED ON SHEET NO. 72

LEGEND:
(#) CURVE NUMBER (SEE TABLE SHEET 69)

(STATUS UNKNOWN)

20 0 20 40
SCALE IN FEET

CONTINUED ON SHEET NO. 74

CONTINUED ABOVE

RIVER STREET
THE INHABITANTS OF
THE TOWN OF BILLERICA – C/O SELECT BOARD
DEED BOOK 19222, PAGE 101
LC DOCUMENT #233795

EL=158.99
EL=158.33
EL=156.51
EL=159.99
EL=158.22
EL=155.57
EL=153.29
EL=153.32
EL=151.44
EL=149.04
EL=150.27
EL=151.43
EL=150.31
EL=149.52
EL=148.33

217
10.00
PRC +39.76
218
219 PRC +59.62
220 PT +05.33
221
222 PC +71.30
1.50%
1.00%

YANKEE DOODLE BIKE PATH
SECTION 1 PART 2 (CABOT) ℄

RIVER STREET

N

20 0 20 40
SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	74	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

CONTINUED ON SHEET NO. 73

N

RIVER STREET
THE INHABITANTS OF
THE TOWN OF BILLERICA - C/O SELECT BOARD
DEED BOOK 19222, PAGE 101
LC DOCUMENT #233795

YANKEE DOODLE BIKE PATH
SECTION 1 PART 2 (CABOT) ℄

100'
-5.00%
223
-4.50%
PT +40.20
224
225
226
PC +92.63
PT +24.83
227
PC +69.53
226
-5.00%
10'
-5.00%
EL=121.01
EL=120.39
EL=120.56

CONTINUED BELOW

20 0 20 40
SCALE IN FEET

LEGEND:
(#) CURVE NUMBER
(SEE TABLE SHEET 69)

CONTINUED ABOVE

N

RIVER STREET
THE INHABITANTS OF
THE TOWN OF BILLERICA - C/O SELECT BOARD
DEED BOOK 19222, PAGE 101
LC DOCUMENT #233795

EL=121.01
EL=120.67
226
-5.00%
100'
-5.00%
229
PT +21.26
EL=120.56
EL=121.11
EL=120.33
EL=122.04
EL=122.07
EL=122.11
EL=121.97
-5.00%
230
-5.00%
EL=121.38
EL=121.27
231
PC +90.99
YANKEE DOODLE BIKE PATH
SECTION 1 PART 2 (CABOT) ℄
232
233
PRC +33.10
234
PT +85.19
10'
-5.00%
EL=125.97

CONTINUED ON SHEET NO. 75

20 0 20 40
SCALE IN FEET

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:44 PM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	75	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HID (ALGN).DWG Plotted on 29-Dec-2023 3:45 PM

River Street
THE INHABITANTS OF THE TOWN OF BILLERICA - C/O SELECT/ BOARD
DEED BOOK 19222, PAGE 101

#157 CONCORD ROAD
CABOT CORPORATION
DEED BOOK 1402, PAGE 226

238+83.70 YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)=
300+00.00 YANKEE DOODLE BIKE PATH SECTION 2 PART 1

YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT) ℄

EL=125.97
EL=130.08
EL=135.92
EL=138.18
EL=139.89
EL=142.41
EL=144.15
EL=145.24
EL=145.28
EL=144.15
EL=142.14
EL=142.53
EL=135.81
EL=138.05
EL=138.48
EL=128.11
EL=123.48

PC +20.84
PT +68.59
PC +61.30
234
235
236
237
238
10.0%
5.0%

<PT +43.6
5.0' LT
<PT +52.7
6.1' LT
EL=145.83
<PT +43.6
5.0' RT
EL=145.00
PC +56.2
6.8' RT
PRC +56.7
EL=146.10
PT +70.9
7.7' RT
<PT +27.4
6.0' RT
<PT +32.4
5.0' RT

PT +77.36
PT +06.5
7.6' LT
EL=146.67
EL=146.39
PC +25.4
6.4' LT
<PT +32.4
5.0' LT
PRC +22.27
EL=146.28
EL=143.86
EL=141.62

CONTINUED ON SHEET NO. 74

CONTINUED BELOW

LEGEND:
(#) CURVE NUMBER (SEE TABLE SHEET 69)

20 0 20 40
SCALE IN FEET

#157 CONCORD ROAD
CABOT CORPORATION
DEED BOOK 1402, PAGE 226

CONTINUED ABOVE

EL=146.28
EL=143.86
EL=141.62
EL=139.34
EL=137.76
EL=133.18
EL=130.70
EL=128.96
EL=127.83
EL=126.11
EL=124.08
EL=122.45
EL=120.65
EL=119.19

YANKEE DOODLE BIKE PATH SECTION 2 PART 1 ℄

PT +35.05
PC +98.04
PT +17.24
PT +06.5

301
302
303
304
305
306
307
10.0%
5.0%

CONTINUED ON SHEET NO. 76

20 0 20 40
SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	76	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

CONTINUED BELOW

CONTINUED ON SHEET NO. 75

CONCORD ROAD
BERKELEY CONCORD RD. OWNER, LLC
DEED BOOK 37031, PAGE 199
PLAN BOOK 249, PLAN 124
PLAN BOOK 89, PLAN 165

30' WIDE SEWER EASEMENT
PLAN BOOK 111, PLAN 43

30' WIDE TEMPORARY EASEMENT
PLAN BOOK 111, PLAN 43
(STATUS UNKNOWN)

EL=119.19
EL=120.65
2.45
PC +29.55
PRC +11.58
PRC +06.12
PT +79.71
PC +83.10
PRC +87.10
PC +98.86
PC +28.02
10.0'
5.0'

YANKEE DOODLE BIKE PATH
SECTION 2 PART 1

PC +83.3,
11.2' RT
PT +84.4
21.5' RT
PC +78.9,
11.3' RT

#129 CONCORD ROAD
RIVERTECH OWNER L
DEED BOOK 36003, PAGE 1
PLAN BOOK 101, PLAN 3
PLAN BOOK 116, PLAN 1C
PLAN BOOK 101, PLAN 16

LEGEND:
(#) CURVE NUMBER
(SEE TABLE SHEET 69)

20 0 20 40
SCALE IN FEET

CONTINUED ABOVE

CONCORD ROAD
BERKELEY CONCORD RD. OWNER, LLC
DEED BOOK 37031, PAGE 199
PLAN BOOK 249, PLAN 124
PLAN BOOK 89, PLAN 165

YANKEE DOODLE BIKE PATH
SECTION 2 PART 1

PRC +46.95
PRC +85.49
PT +11.72
10.0'
1.51%
1.39%
1.92%
1.50%

PC +83.3,
11.2' RT
PT +84.4
21.5' RT

SMH
RIM=152.83'
A=145.97' (6"PVC)
B=145.87' (6"PVC)

#129 CONCORD ROAD
RIVERTECH OWNER LLC
DEED BOOK 36003, PAGE 191
PLAN BOOK 101, PLAN 34
PLAN BOOK 116, PLAN 108
PLAN BOOK 101, PLAN 160B

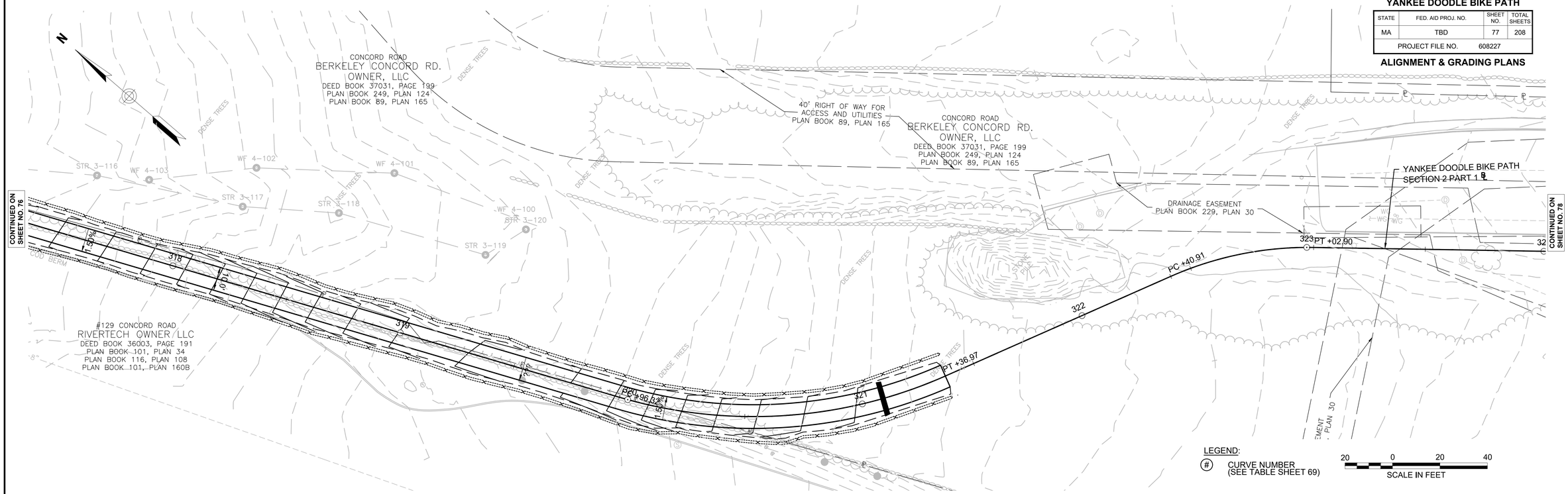
20 0 20 40
SCALE IN FEET

608227HID (ALGN).DWG Plotted on 29-Dec-2023 3:45 PM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	77	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS



608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:46 PM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	78	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:46 PM

N

CORD ROAD
RPORATION
783, PAGE 111
29, PLAN 160

1938 HIGHWAY EASEMENT
BOOK 217, PLAN 42

1938 COUNTY LAYOUT

1933 COUNTY LAYOUT

MIDDLESEX TURNPIKE

MEET EXIST
+78.8, 12.6' LT

#401 MIDDLESEX TURNPIKE
RICARDO VERISSIMO DOS REIS
& DANIELA DE SOUSA
TEIXEIRA
DEED BOOK 34351, PAGE 129
PLAN BOOK 95, PLAN 56B

325+83.34 YANKEE DOODLE BIKE PATH SECTION 2 PART 1=
383+15.16 YANKEE DOODLE BIKE PATH SECTION 2 PART 2

PROP 3" REVEAL
RIM EL=186.71

PC +58.7,
7.4' LT

PC +58.7

PT +06.1
3.2' LT

R&R BOUND (SET FLUSH
WITH PATH SURFACE)

YANKEE DOODLE BIKE PATH
SECTION 2 PART 1

MEET EXIST
PT +257, 10.5' RT

MEET EXIST
+07.5, 24.8' RT

CONCORD ROAD

PC +63.91

PCC +94.21

PT +63.96

YANKEE DOODLE BIKE PATH
SECTION 2 PART 2

10.0'

7.50%

CONTINUED ON SHEET NO. 77

CONTINUED BELOW

DENSE TREES

D.TREES

EDGE OF PAVEMENT

DRAIN EASEMENT
PLAN BOOK 1939, PLAN 21

DRAINAGE EASEMENT
BOOK 2251, PLAN 30

STATE HIGHWAY LAYOUT
(LAYOUT NO. 4072)

PAVEMENT PATCH

#2 FEDERAL STREET
REXPAR PROPERTY LLC
DEED BOOK 28863, PAGE 237

LEGEND:
(#) CURVE NUMBER
(SEE TABLE SHEET 69)

20 0 20 40
SCALE IN FEET

CONTINUED ABOVE

YANKEE DOODLE BIKE PATH
SECTION 2 PART 2

PC +71.30

PT +05.61

PC +21.47

PT +11.65

PC +89.65

10.0'

#2 FEDERAL STREET
REXPAR PROPERTY LLC
DEED BOOK 28863, PAGE 237

#4 FEDERAL STREET
THE FIELDS REALTY TRUST
DEED BOOK 2673, PAGE 612
PLAN BOOK 144, PLAN 43
PLAN BOOK 108, PLAN 33

20 0 20 40
SCALE IN FEET

CONTINUED ON SHEET NO. 79

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	79	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

CONTINUED ON SHEET NO. 80

CONTINUED ON SHEET NO. 78

N

℄

PT +11.65

10.0'

399

PC +89.65

398

PT +79.83

397

PC +25.38

396

PT +48.23

1.50%

1.50%

YANKEE DOODLE BIKE PATH
SECTION 2 PART 2 ℄

DENSE TREES

EDGE OF PAVEMENT

CONC PAD WITH PROPANE TANKS

WF#20–100

WF#20–101

WF#20–102

WF#20–103

WF#20–104

WF#20–105

WF#20–106

WF#20–107

WF#20–108

WF#20–109

FEDERAL STREET
THE FIELDS REALTY TRUST
DEED BOOK 2673, PAGE 612
PLAN BOOK 108, PLAN 33

#4 FEDERAL STREET
THE FIELDS REALTY TRUST
DEED BOOK 2673, PAGE 612
PLAN BOOK 144, PLAN 43
PLAN BOOK 108, PLAN 33

#4 FEDERAL STREET
THE FIELDS REALTY TRUST
DEED BOOK 2673, PAGE 612
PLAN BOOK 144, PLAN 43

#8 FEDERAL STREET
RHINO 8 FEDERAL LLC
DEED BOOK 37054, PAGE 103
PLAN BOOK 141, PLAN 60

ALL PURPOSE EASEMENT

LEGEND:

(#) CURVE NUMBER
(SEE TABLE SHEET 69)

20 0 20 40
SCALE IN FEET

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:47 PM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	80	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:47 PM

#423 MID RALPH E. DEED BOOK 10

#8 FEDERAL STREET
RHINO 8 FEDERAL LLC
DEED BOOK 37054, PAGE 103
PLAN BOOK 141, PLAN 60

REAR MIDDLESEX TPK
THE FIELDS REALTY TRUST
DEED BOOK 2673, PAGE 612
PLAN BOOK 108, PLAN 33

BROOK EASEMENT

YANKEE DOODLE BIKE PATH
SECTION 2 PART 2 &

PC +00.00
PT +24.61
PC +32.03
PT +40.40
PC +10.00
PT +76.40
PC +96.30
PT +97.72

EL=189.11
EL=188.99
EL=188.78
EL=188.77
EL=188.11
EL=187.87
EL=186.90
EL=186.38
EL=185.67

1.50%
7.59%
10.0'

CONCRETE PAD WITH PROPANE TANKS

EDGE OF PAVEMENT

DENSE TREES

CONTINUED ON SHEET NO. 79

CONTINUED ON SHEET NO. 81

LEGEND:
(#) CURVE NUMBER (SEE TABLE SHEET 69)

20 0 20 40
SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	81	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:48 PM

N

MIDDLESEX TURNPIKE

1932 COUNTY LAYOUT

1933 COUNTY LAYOUT

REAR MIDDLESEX TPK
TOWN OF BILLERICA
DEED BOOK 3851, PAGE 267

#429 MIDDLESEX TPK
WILLIAM P. MCLEAN
DEED BOOK 4678, PAGE 122

#437 MIDDLESEX TPK
JOHN P. MCCURDY
DEED BOOK 9191, PAGE 157

#439 MIDDLESEX TPK
FERRARI REALTY TRUS
DEED BOOK 7406, PAGE 66

REAR MIDDLESEX TPK
THE FIELDS REALTY TRUST

(3)MLS

MEET EXIST
+41.3, 19.6' RT

MEET EXIST
+25.7, 66.6' RT

MEET EXIST
+10.5, 54.7' RT

MEET EXIST
+11.1, 62.7' RT

EL=184.82
EL=184.72
EL=184.97
EL=184.70
EL=184.84
EL=184.73
EL=184.55
EL=184.49
EL=184.46
EL=184.42
EL=184.74
EL=184.45
EL=184.44
EL=184.39
EL=184.36
EL=184.31
EL=184.30
EL=183.87
EL=183.83
EL=183.92
EL=183.84
EL=184.34
EL=184.58
EL=184.59
EL=184.31

+37.7
+27.7
20.0'
8.0'
38.0'
21.0'

<PT +16.7
10.0' LT
PC +26.9,
8.1' LT
PCC +54.0
5.0' LT
PC +19.33
PT +72.90
<PT +16.7
10.0' RT

1.50%

YANKEE DOODLE BIKE PATH
SECTION 3 ℄
PRC +69.68
PC +44.12
PT +95.25
EL=186.10
EL=186.89
EL=187.51
EL=187.93
EL=185.14
EL=185.96
EL=186.75
EL=187.36
EL=187.78
EL=189.11

503
504
505
502

10.0'

CONTINUED BELOW

LEGEND:
(#) CURVE NUMBER (SEE TABLE SHEET 69)

SCALE IN FEET
20 0 20 40

CONTINUED ABOVE

#439 MIDDLESEX TPK
FERRARI REALTY TRUST
DEED BOOK 7406, PAGE 66

R.R. RIGHT-OF-WAY

505
506
507
508
509
510

PT +86.9
5.0' RT

PRC +43.0
9.6' LT

PC +53.14

409+13.05 YANKEE DOODLE BIKE PATH SECTION 2 PART 2=
506+74.50 YANKEE DOODLE BIKE PATH SECTION 3

409+13.05
409

YANKEE DOODLE BIKE
PATH SECTION 3 ℄

YANKEE DOODLE BIKE
PATH SECTION 2 PART 2 ℄

PC +38.0,
5.0' LT

PT +76.40

EL=186.90
EL=188.16
EL=188.43
EL=188.77
EL=189.11

PI +22.34

#7 HATTIE LANE
JAMES R. DALFINO
DEED BOOK 2245, PAGE 588

#9 HATTIE LANE
KEITH C. BUTLER
DEED BOOK 2250, PAGE 260

MIDDLESEX TPK
TOWN OF BILLERICA
DEED BOOK 3851, PAGE 267

CONTINUED ON SHEET NO. 80

CONTINUED ON SHEET NO. 82

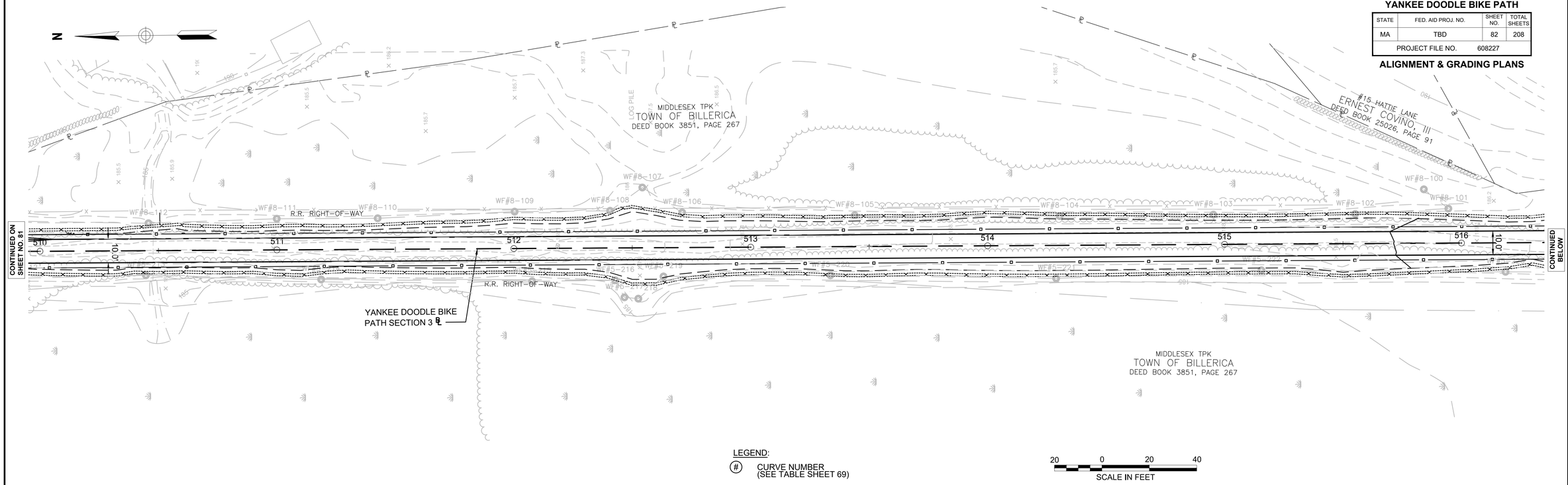
SCALE IN FEET
20 0 20 40

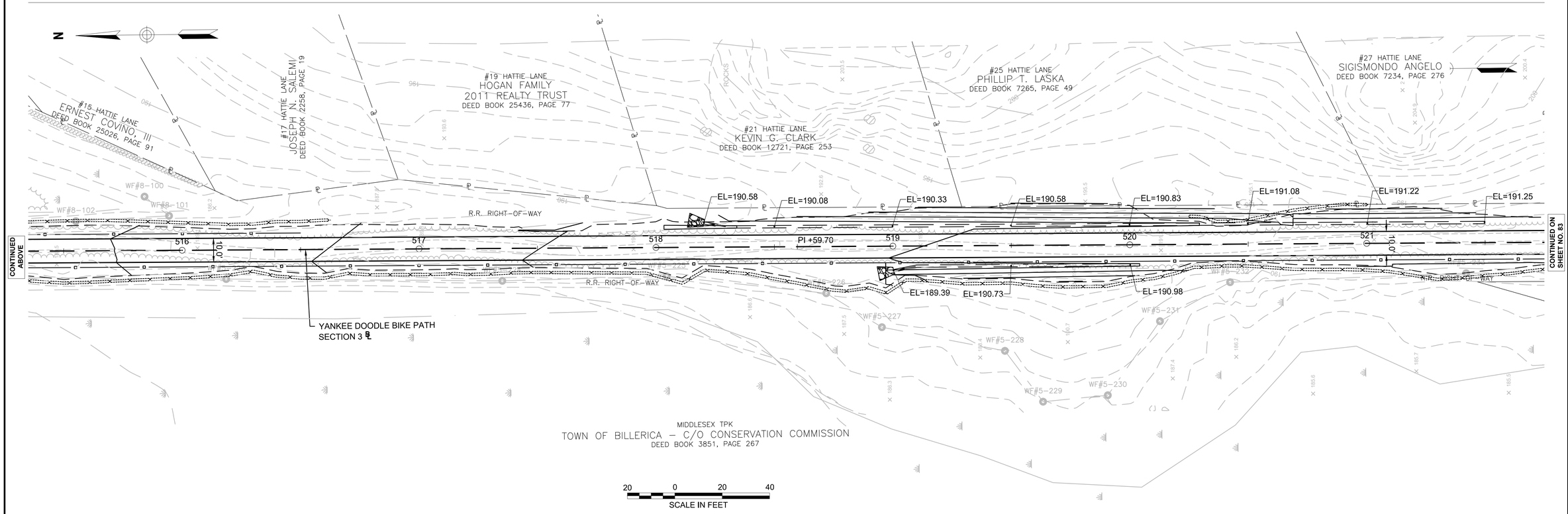
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	82	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:48 PM





BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	83	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:49 PM

N

#27 HATTIE LANE
SIGISMONDO ANGELO
DEED BOOK 7234, PAGE 276

#29 HATTIE LANE
RAYMOND E. HINXMAN, III
DEED BOOK 26181, PAGE 60

#31 HATTIE LANE
CHRISTINE MARIE KEMP
DEED BOOK 16419, PAGE 163

#33 HATTIE LANE
ROBERT A. SEARS & HAEWON SEARS
DEED BOOK 7380, PAGE 170

CONTINUED ON SHEET NO. 82

EL=191.22
EL=191.25
EL=191.30
EL=191.18
EL=190.99
EL=190.80
EL=190.61
EL=190.57
EL=190.44
EL=190.42
EL=190.23

521
522
523
PC +87.23
524
525
526
527

100'

R.R. RIGHT-OF-WAY

YANKEE DOODLE BIKE PATH SECTION 3 ℄

CONTINUED BELOW

MIDDLESEX TPK
TOWN OF BILLERICA
DEED BOOK 3851, PAGE 267

20 0 20 40
SCALE IN FEET

LEGEND:
(#) CURVE NUMBER (SEE TABLE SHEET 69)

REAR BLACKWOOD AVE
TOWN OF BILLERICA
DEED BOOK 2285, PAGE 656

REAR DEERFIELD STREET
TOWN OF BILLERICA
DEED BOOK 10217, PAGE 131

CONTINUED ABOVE

EL=190.57
EL=190.44
EL=190.61
EL=190.23
EL=190.42
EL=189.18

526
527
528
PT +06.84
529
530
531
PC +76.58

100'

R.R. RIGHT-OF-WAY

YANKEE DOODLE BIKE PATH SECTION 3 ℄

LIMITED ACCESS STATE HIGHWAY LAYOUT (NO. 4072) LOCATION LINE OF SEPTEMBER 15, 1953

CONTINUED ON SHEET NO. 84

ROUTE 3
TOWN OF BILLERICA
DEED BOOK 19950, PAGE 275

20 0 20 40
SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	84	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:50 PM

CONTINUED ON SHEET NO. 83

N

LIMITED ACCESS STATE HIGHWAY LAYOUT (LAYOUT NO. 4072)
LOCATION LINE OF SEPTEMBER 15, 1953 STATE HIGHWAY LAYOUT (LAYOUT NO. 4072)

NO ACCESS

NO ACCESS (96' RADIUS OF CURVATURE 35')

PC +76.59

534

TOP OF WALL EL=192.65

PCC +95.60

+90.9, 9.6' LT

+90.9, 7.0' LT

TOP OF WALL EL=192.72

TOP OF WALL EL=192.78

TOP OF WALL EL=192.98

TOP OF WALL EL=192.87

TOP OF WALL EL=193.02

PC +89.78

535

PT +90.89

TOP OF WALL EL=192.75

TOP OF WALL EL=192.67

TOP OF WALL EL=192.55

TOP OF WALL EL=192.47

TOP OF WALL EL=192.27

TOP OF WALL EL=192.14

536

PT +37.08

537

PT +68.90

PC +00.33

538

PC +39.83

EL=191.79

YANKEE DOODLE BIKE PATH SECTION 3 ℄

U.S. ROUTE 3
(NORTHBOUND)

CONTINUED BELOW

LEGEND:
(#) CURVE NUMBER (SEE TABLE SHEET 69)

20 0 20 40
SCALE IN FEET

CONTINUED ABOVE

TOP OF WALL EL=192.07

TOP OF WALL EL=192.03

TOP OF WALL EL=191.90

+39.83

PT +68.90

PC +00.33

538

PT +34.71

539

540

541

542

PC +81.17

PT +28.03

PC +69.59

543

EL=191.79

RIM EL= 191.48

EL=191.51

EL=191.81

EL=192.44

RIM EL= 193.03

EL=193.42

YANKEE DOODLE BIKE PATH SECTION 3 ℄

RIM EL= 200.76

PRC +48.77

U.S. ROUTE 3
(NORTHBOUND)

20 0 20 40
SCALE IN FEET

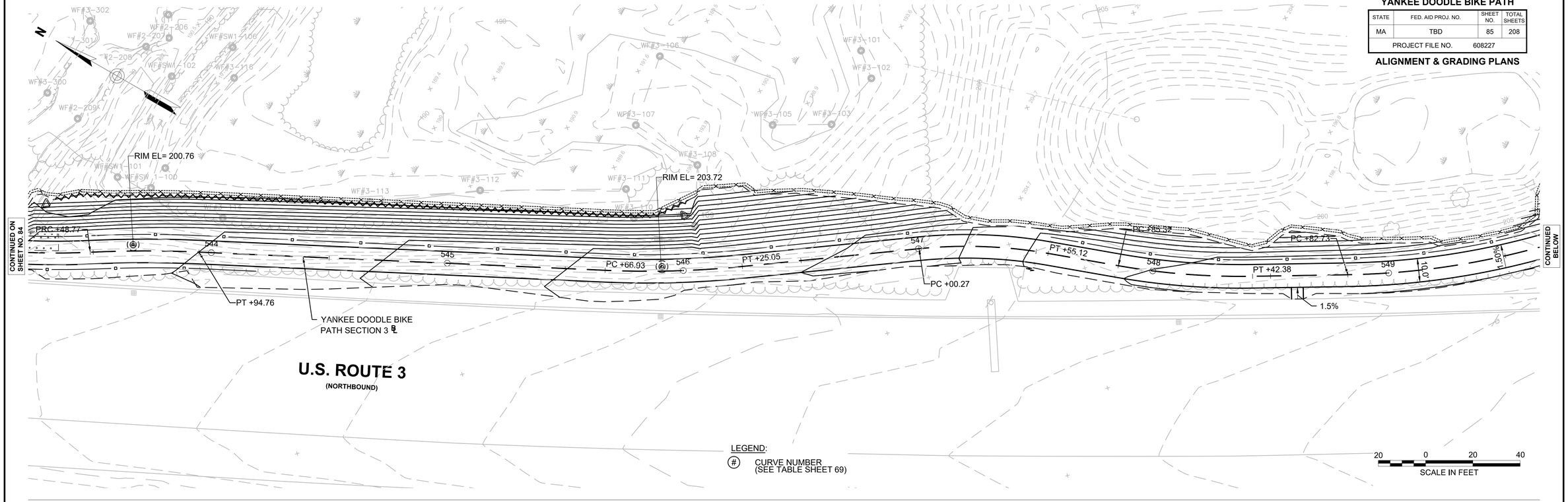
CONTINUED ON SHEET NO. 85

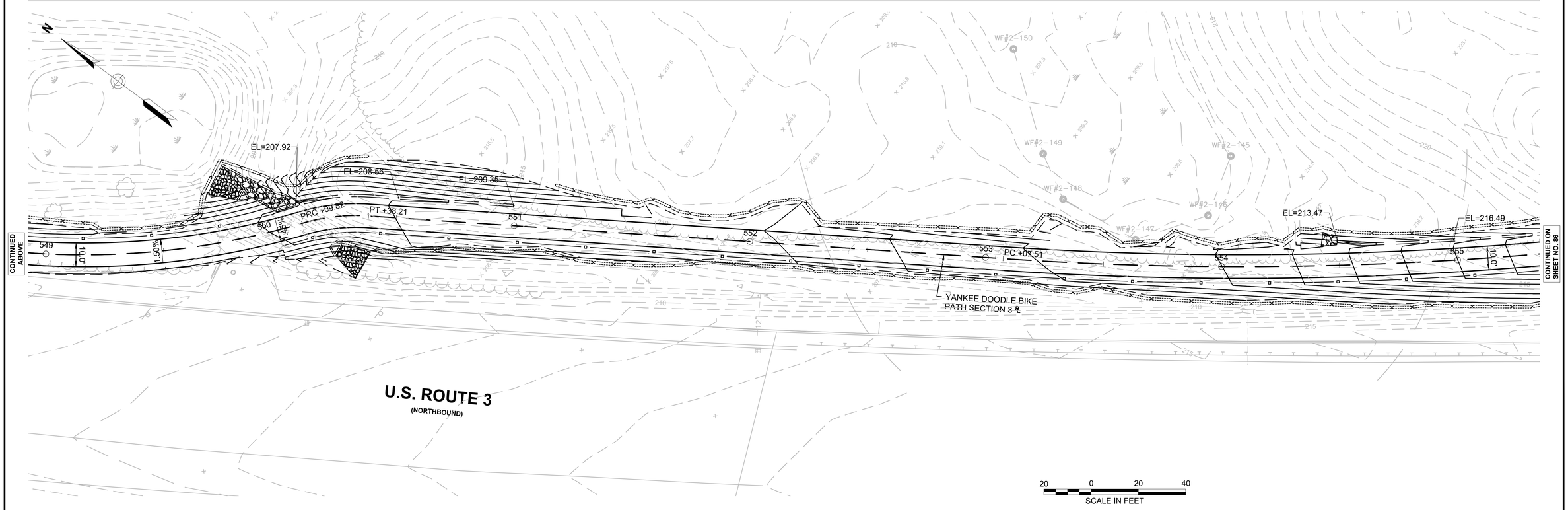
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	85	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:51 PM





BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	86	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:51 PM

CONTINUED ON SHEET NO. 85

LOCATION LINE OF FEBRU

EL=216.49
EL=218.74
EL=220.93
EL=221.80
PRC +14.08
PI +15.50
PI +44.56
PI +24.23
PI +88.54
YANKEE DOODLE BIKE PATH SECTION 3 ℄
555
556
557
558
559
560
561
10.0'
14.0'
5.3%

CONTINUED BELOW

FEBRUARY 5, 1952 STATE HIGHWAY LAYOUT (LAYOUT NO.3937)
THE COMMONWEALTH OF MASSACHUSETTS
DEED BOOK 1188, PAGE 395

LEGEND:
(#) CURVE NUMBER (SEE TABLE SHEET 69)

U.S. ROUTE 3
(NORTHBOUND)

20 0 20 40
SCALE IN FEET

SEAN #59 ELIOT STREET
LINDA A. FREDERICK &
FREDERICK
DEED BOOK 1681, PAGE 170
PLAN BOOK 351, PLAN 76

1946 TOWN LAYOUT

562+63.69 YANKEE DOODLE BIKE PATH SECTION 3=
701+70.20 ORCHARD ROAD

MEET EXIST
+56.9, 15.5' LT

MEET EXIST
+92.3, 14.9' LT

ORCHARD ROAD

700 PC +29.3, 13.5' RT
PRC +52.3, 13.9' RT
PC +46.18
PT +64.59
701 PC +27.70
PT +94.9, 14.0' RT
PC +39.7, 13.9' RT
PRC +62.9, 20.0' RT
PC +87.3, 19.4' RT
RIM EL= 246.73
PT +61.4, 26.3' RT
MEET EXIST
+19.3, 13.0' RT
MEET EXIST
+84.4, 28.2' RT
702 PT +06.31
PC +34.03
PT +81.42
703
PT +20.0, 12.0' RT
PT +48.72
PC +69.26
601
PT +15.66
602
704
705
PC +48.02
706
603
604
PC +82.26
YANKEE DOODLE BIKE PATH SECTION 4 ℄

CONTINUED ON SHEET NO. 87

562+42.13 YANKEE DOODLE BIKE PATH SECTION 3=
600+06.55 YANKEE DOODLE BIKE PATH SECTION 4

#60 ELIOT STREET
KATHLEEN McINTOSH
DEED BOOK 1039, PAGE
PLAN BOOK 351, PLAN

TOWN LAYOUT (LAYOUT NO. 4054)
LOCATION LINE OF MAY 26, 1953

LOCATION LINE OF FEBRUARY 5, 1952
STATE HIGHWAY LAYOUT (LAYOUT 3937)

PI +28.84
PT +72.6, 39.9' RT
PT +14.66
PC +49.24
562
561
14.0'
PI +88.54

CONTINUED ABOVE

U.S. ROUTE 3
(NORTHBOUND)

U.S. ROUTE 3
(SOUTHBOUND)

FEBRUARY 5, 1952 STATE HIGHWAY LAYOUT (LAYOUT NO.3937)
THE COMMONWEALTH OF MASSACHUSETTS
DEED BOOK 1188, PAGE 395

20 0 20 40
SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	87	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:52 PM

CONTINUED ON SHEET NO. 86

LOCATION LINE OF MAY 26, 1953 TOWN LAYOUT (LAYOUT NO. 4054)

LOCATION LINE OF OCTOBER 9, 2002 TOWN LAYOUT

MEET EXIST +22.8, 15.0' LT

MEET EXIST +58.8, 15.7' LT

PC +48.02

706

RIM EL= 244.73

707

RIM EL= 244.44

PT +53.28

PI +63.33

PT +83.1 9.0' LT

708

PC +70.35

709

PCC +35.21

710

PCC +95.85

711

PCC +89.62

711+73.12

604

PC +82.26

605

PT +62.69

PC +63.35

882

RIM EL= 242.23

YANKEE DOODLE BIKE PATH SECTION 4 ℄

RIM EL= 241.69

MEET EXIST +87.2, 5.0' RT

PC +11.0, 8.0' LT

PT +11.78

10.0'

883

LOCATION LINE OF FEBRUARY 5, 1952 STATE HIGHWAY LAYOUT (LAYOUT NO. 3937)

WF#1–101

WF#1–102

WF#1–103

WF#1–100

LOCATION LINE OF MAY 26, 1953 TOWN LAYOUT (LAYOUT NO. 4054)

LOCATION LINE OF MAY 26, 1953

TECHNOLOGY PARK DR ℄

CONTINUED BELOW

20 0 20 40

SCALE IN FEET

LEGEND:

(#) CURVE NUMBER (SEE TABLE SHEET 69)

CONTINUED ABOVE

#1100 TECHNOLOGY PARK DRIVE
1100 TECHNOLOGY PARK DRIVE LLC
L.C. CERT #42526
L.C. PLAN #8946J

TECHNOLOGY PARK DRIVE

883

884

885

886

TECHNOLOGY PARK DR ℄

887

888

607

608

609

610

611

612

10.0'

PT +11.78

PC +18.19

PT +73.6

8.5' LT

3.00'

5.00'

PRC +73.34

PCC +18.01

PC +59.27

RIM EL= 234.12

RIM EL= 233.65

RIM EL= 234.84

RIM EL= 234.62

YANKEE DOODLE BIKE PATH SECTION 4 ℄

(DEED BOOK 5652, PAGE 179)

DRAIN EASEMENT (PLAN BOOK 139, PLAN 29)

TECHNOLOGY PARK DRIVE
TECHNOLOGY PARK REALTY TRUST
DEED BOOK 2517, PAGE 532
PLAN BOOK 107, PLAN 42
PLAN BOOK 4, PLAN 127

DRAIN EASEMENT (PLAN BOOK 139, PLAN 29)

DRAIN EASEMENT (PLAN BOOK 139, PLAN 29)

LOCATION LINE OF MAY 26, 1953 TOWN LAYOUT (LAYOUT NO. 4054)

WF#1–100

WF#1–101

20 0 20 40

SCALE IN FEET

CONTINUED ON SHEET NO. 88

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	88	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:53 PM

CONTINUED ON SHEET NO. 87

N

TECHNOLOGY PARK DRIVE

TECHNOLOGY PARK DRIVE ℄

888 889 890 891 892 893 894

PT +09.02

PC +94.1, 10.0' LT

PT +17.6 10.0' LT

PC +11.6, 10.0' LT

PT +43.5 8.0' LT

PT +99.5 8.0' LT

PT +94.15

PC +63.03

PRC +83.04

PT +03.05

RIM EL= 250.71

RIM EL= 250.86

PC +52.6, 23.8' RT

MEET EXIST +52.7, 26.9' RT

MEET EXIST +76.7, 26.2' RT

YANKEE DOODLE BIKE PATH SECTION 4 ℄

MEET EXIST PC +59.5, 8.2' RT

PC +83.5, 7.8' RT

MEET EXIST +83.6, 8.4' RT

MEET EXIST +76.2, 36.2' LT

CONTINUED BELOW

TECHNOLOGY PARK DRIVE
TECHNOLOGY PARK REALTY TRUST
DEED BOOK 2517, PAGE 532
PLAN BOOK 197, PLAN 49

#1100 TECHNOLOGY PARK DRIVE
1100 TECHNOLOGY PARK DRIVE LLC
L.C. CERT #42526
L.C. PLAN #8946J

GAS EASEMENT (DEED BOOK 5652, PAGE 179)

DRAIN EASEMENT (PLAN BOOK 139, PLAN 29)

DRIVEWAY EASEMENT (PLAN BOOK 139, PLAN 89)

#1000 TECHNOLOGY PARK DRIVE
TECH PARK I AND II LIMITED PARTNERSHIP
DEED BOOK 24088, PAGE 273

LEGEND:
(#) CURVE NUMBER (SEE TABLE SHEET 69)

20 0 20 40
SCALE IN FEET

CONTINUED ABOVE

N

TECHNOLOGY PARK DRIVE

TECHNOLOGY PARK DRIVE ℄

894 895 896 897 898 899 900

R&R BOUND (SET FLUSH WITH PATH SURFACE)

MEET EXIST +15.9, 36.1' LT

MEET EXIST +76.2, 36.2' LT

PC +55.65

PCC +90.7 8.0' LT

PC +18.0 8.0' LT

PC +33.55

PCC +03.16

PRC +49.12

PRC +37.45

PC +64.7, 20.1' RT

MEET EXIST +65.7, 29.8' RT

TW=252.3 BW=251.3

TW=253.5 BW=250.1

TW=252.4 BW=250.9

PT +38.1 11.6' RT

MEET EXIST +38.4, 21.3' RT

YANKEE DOODLE BIKE PATH SECTION 4 ℄

RIM EL= 232.29

RIM EL= 232.50

CONTINUED ON SHEET NO. 89

#1100 TECHNOLOGY PARK DRIVE
1100 TECHNOLOGY PARK DRIVE LLC
L.C. CERT #42526
L.C. PLAN #8946J

SEWER EASEMENT (PLAN BOOK 139, PLAN 29)

DRAIN EASEMENT (PLAN BOOK 139, PLAN 29)

#1000 TECHNOLOGY PARK DRIVE
TECH PARK I AND II LIMITED PARTNERSHIP
DEED BOOK 24088, PAGE 273

#880 TECHNOLOGY PARK DRIVE
TECHNOLOGY PARK V LIMITED PARTNERSHIP
DEED BOOK 10302, PAGE 258

20 0 20 40
SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	89	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:54 PM

N

#900 TECHNOLOGY PARK DRIVE
GCP TECH PARK LLC
DEED BOOK 27667, PAGE 58
PLAN BOOK 150, PLAN 1

TECHNOLOGY PARK DRIVE

PT +47.61
PT +95.0
10.0' LT
PT +95.01
RIM EL= 217.70
RIM EL= 218.04
YANKEE DOODLE BIKE PATH SECTION 4
PC +67.34
PRC +87.36
PT +07.36
PC +25.5,
8.0' LT
PT +51.5
8.0' LT
PC +18.06
PC +65.6,
8.0' LT
PC +86.17
PCC +24.99
RIM EL= 211.56
RIM EL= 211.52
MEET EXIST
PT +75.5, 43.3' RT
PC +01.6,
40.7' RT
MEET EXIST
+01.1, 59.9' RT
DRIVEWAY EASEMENT
(PLAN BOOK 139, PLAN 89)
CONTROL BOX REMNANT
4"GAS

CONTINUED ON SHEET NO. 88

CONTINUED BELOW

#800 TECHNOLOGY PARK DRIVE
TECHNOLOGY PARK X LIMITED PARTNERSHIP
DEED BOOK 10302, PAGE 253

LEGEND:
(#) CURVE NUMBER
(SEE TABLE SHEET 60)

20 0 20 40
SCALE IN FEET

CONTINUED ON SHEET NO. 90

CONTINUED ABOVE

#700 TECHNOLOGY PARK DRIVE
GCP TECH PARK LLC
DEED BOOK 27667, PAGE 58
PLAN BOOK 150, PLAN 1

TECHNOLOGY PARK DRIVE

PC +57.66
PT +24.75
RIM EL= 199.01
PCC +08.73
RIM EL= 241.69
RIM EL= 198.63
RIM EL= 199.39
PC +18.06
PC +86.17
PCC +24.99
RIM EL= 211.56
RIM EL= 211.52
PRC +05.3
10.0' LT
PRC +01.0
10.0' LT
YANKEE DOODLE BIKE PATH SECTION 4
R&R BOUND (SET FLUSH WITH PATH SURFACE)
PT +37.7
20.7' RT
MEET EXIST
+38.5, 33.2' RT
PC +68.6,
22.0' RT
MEET EXIST
+68.4, 29.5' RT
WALL STREET
DRAIN EASEMENT (PLAN BOOK 139, PLAN 29)
DENSE TREES

#600 TECHNOLOGY PARK DRIVE
TECHNOLOGY PARK X LIMITED PARTNERSHIP
DEED BOOK 4370, PLAN 296

20 0 20 40
SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	90	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:54 PM

N

RIM EL= 199.01

#700 TECHNOLOGY PARK DRIVE
GCP TECH PARK LLC
DEED BOOK 27667, PAGE 58
PLAN BOOK 150, PLAN 1

#900 TECHNOLOGY PARK DRIVE
GCP TECH PARK LLC
DEED BOOK 27667, PAGE 58
PLAN BOOK 150, PLAN 1

CONTINUED ON SHEET NO. 69

PT +62.2
9.4' LT
PC +57.66

PC +71.9,
7.7' LT
<PT +80.6
5.0' LT

EL=197.27

PRC +80.09

PC +60.9,
8.4' RT

PT +85.1
5.0' RT

EL=200.15

EL=201.12

PT +24.64

MEET EXIST
+54.2, 27.9' RT

PT +24.0
28.9' RT

PC +25.6
17.5' RT

PRC +24.4
23.8' RT

MEET EXIST
+24.2, 33.8' RT

TECHNOLOGY PARK DRIVE

CONCORD ROAD
TECHNOLOGY PARK REALTY TRUST 1
DEED BOOK 2517, PAGE 532
PLAN BOOK 107, PLAN 42

NO OUTLET OR OVERFLOW OBSERVED ALONG PATH

YANKEE DOODLE BIKE
PATH SECTION 4

PT +95.85
PC +37.29
PT +85.34

<PT +04.3
10.0' LT
<PT +84.3
5.0' LT
<PT +85.1
5.0' RT
PC +79.99
<PT +05.2
10.0' RT
MEET EXIST
+21.7, 12.4' RT

PC +33.7,
7.6' LT
PT +28.45

PT +59.3
22.0' LT
EL=206.46

PT +66.0
6.0' LT

EL=207.28
EL=208.23

ASTRIG WAY

639
EL=207.42
EL=208.38

<PT +78.7
4.0' RT
<PT +58.7
8.0' RT
PC +40.4,
8.4' RT
MEET EXIST
+34.2, 18.8' RT

REAR CONCORD ROAD
THOMAS & MARY ANN PROIA
REVOCABLE TRUST
DEED BOOK 29641, PAGE 198
PLAN BOOK 126, PLAN 7

#354 CONCORD ROAD
JOHN M. & PATRICE I. FICOCIELLO
DEED BOOK 4936, PAGE 275
PLAN BOOK 126, PLAN 7

CONTINUED BELOW

LEGEND:
(#) CURVE NUMBER (SEE TABLE SHEET 69)

20 0 20 40
SCALE IN FEET

#3 ASTRIG WAY
MICHAEL J. & LISA M. KILCOYNE
DEED BOOK 4809, PAGE 252
PLAN BOOK 165, PLAN 20

ROADWAY TURN AROUND EASEMENT (PLAN BOOK 165, PLAN 20)

#1 ASTRIG WAY
JOSEPH P. & NANCY M. HURLEY
DEED BOOK 25390, PAGE 258
PLAN BOOK 165, PLAN 20

MEET EXIST
+42.4, 35.7' LT
MEET EXIST
+53.8, 36.6' LT

EL=211.52
PT +42.6
32.7' LT
PC +32.7,
22.0' LT
EL=211.55

PT +54.8
30.4' LT
PC +64.7,
22.0' LT
EL=211.35

RIM EL= 210.75
EL=211.08
EL=210.80
EL=210.67
EL=210.57
EL=210.25

GRADE BREAK
RIM EL=210.82

1.50%
1.00%

RIM EL=211.71

EL=207.28
EL=208.23
EL=209.14
EL=210.00
EL=210.80
EL=211.31

ASTRIG WAY

CONTINUED ABOVE

639 640 641 642 643 644 645

EL=209.29
EL=210.14
EL=210.93
EL=211.45
EL=211.67
EL=211.58
EL=211.23
EL=210.95
EL=210.82
EL=210.72
EL=210.40

<PT +78.7
4.0' RT
EL=207.42
EL=208.38

YANKEE DOODLE BIKE
PATH SECTION 4

CONTINUED ON SHEET NO. 91

#900 TECHNOLOGY PARK DRIVE
GCP TECH PARK LLC
DEED BOOK 27667, PAGE 58
PLAN BOOK 150, PLAN 1

#354 CONCORD ROAD
JOHN M. & PATRICE I. FICOCIELLO
DEED BOOK 4936, PAGE 275
PLAN BOOK 126, PLAN 7

#358 CONCORD ROAD
VICKI L. STRANG
DEED BOOK 30086, PAGE 269
PLAN BOOK 82, PLAN 144

#360 CONCORD ROAD
MARY B. CARSON
DEED BOOK 16261, PAGE 224
PLAN BOOK 82, PLAN 144

#362 CONCORD ROAD
VERONICA J. BROWN
DEED BOOK 23322, PAGE 175
PLAN BOOK 82, PLAN 144

#364 CONCORD ROAD
DANIEL J. & JENNIFER A. MORIARTY
DEED BOOK 28466, PAGE 72
PLAN BOOK 82, PLAN 144

#366 CONCORD ROAD
RICHARD E. & BONNIE JEAN MCLAY
DEED BOOK 4365, PAGE 219
PLAN BOOK 82, PLAN 144

#368 CONCORD ROAD
AMY M. & CHRISTINA J. FISHER
DEED BOOK 27760, PAGE 6
PLAN BOOK 82, PLAN 144

#370 CONCORD ROAD
WILLIAM P. & DIANA I. QUAGIOZZ
DEED BOOK 4456, PAGE 90
PLAN BOOK 82, PLAN 144

20 0 20 40
SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	91	208
PROJECT FILE NO.	608227		

ALIGNMENT & GRADING PLANS

608227HD (ALGN).DWG Plotted on 29-Dec-2023 3:56 PM

N

#6 SPRINGS ROAD
DANIEL WILLIAMS
L.C. CERT #37549
L.C. PLAN #5472D

SPRINGS ROAD

EXIST TOWN LAYOUT

MEET EXIST
PT +78.8, 34.8' LT

PC +53.4,
20.9' LT

EL=211.59

<PT +46.2
23.6' LT

<PT +36.5
22.0' LT

EL=210.57

EL=210.25

TO BE RECONNECTED TO TOWN LAYOUT

ASTRIG WAY

PC +35.6,
6.0' LT

<PT +48.2
23.3' LT

PI +85.27

EL=210.72

EL=210.40

PI +42.73

RIM EL=209.46

RIM EL=209.63

PT +52.4
18.0' RT

EL=207.94

MEET EXIST
+49.4, 30.3' RT

CONTINUED ON SHEET NO. 90

#370 CONCORD ROAD
WILLIAM P. & DIANA I. QUAGIOZZI
DEED BOOK 4456, PAGE 90
PLAN BOOK 82, PLAN 144

#3 SPRINGS ROAD
ALISTAIR W. WILSON
DEED BOOK 7211, PAGE 208
PLAN BOOK 105, PLAN 30

<PT +07.7
10.0' LT

<PT +27.7
5.0' LT

EL=208.72

YANKEE DOODLE BIKE
PATH SECTION 4 ℄

EL=208.15

EL=207.57

EL=206.86

EL=206.11

EL=205.37

EL=204.62

EL=203.87

PI +24.00

PI +24.02

10.0'

EL=206.22

EL=204.66

<PT +07.7
10.0' RT

<PT +27.7
5.0' RT

#7 SPRINGS ROAD
CARL DWORKIN
DEED BOOK 1834, PAGE 196
PLAN BOOK 105, PLAN 30

#11 SPRINGS ROAD
FRANK J. LUCIANO, III
DEED BOOK 8574, PAGE 214

CONTINUED BELOW

#1 SPRINGS ROAD
JOHN J. CAPORIZZO
DEED BOOK 26754, PAGE 80
PLAN BOOK 167, PLAN 61

#374 CONCORD ROAD
STEPHEN B. MOSS
DEED BOOK 10411, PAGE 10
PLAN BOOK 167, PLAN 61

LEGEND:
(#) CURVE NUMBER
(SEE TABLE SHEET 69)

20 0 20 40
SCALE IN FEET

N

#11 SPRINGS ROAD
FRANK J. LUCIANO, III
DEED BOOK 8574, PAGE 214

#13 SPRINGS ROAD
ANTHONY & ELIZABETH B. PARKES
DEED BOOK 6478, PAGE 85
PLAN BOOK 181, PLAN 93

BEDFORD
BILLERICA

EL=204.62

EL=203.87

EL=203.12

EL=202.62

EL=201.74

650

PI +24.02

651

652

653

654

655

656+00

10.0'

PT +60.0
5.0' LT

PRC +68.5
8.5' LT

PC +60.0
5.0' RT

PRC +68.5
8.5' RT

CONTINUED ABOVE

YANKEE DOODLE BIKE
PATH SECTION 4 ℄

LIMIT OF WORK
STA 655+53.15
N 3016625.2440
E 714535.5165

#388 CONCORD ROAD
JODY PAUL PERONI
DEED BOOK 2502, PAGE 332
PLAN BOOK 103, PLAN 171B
PLAN BOOK 103, PLAN 121B

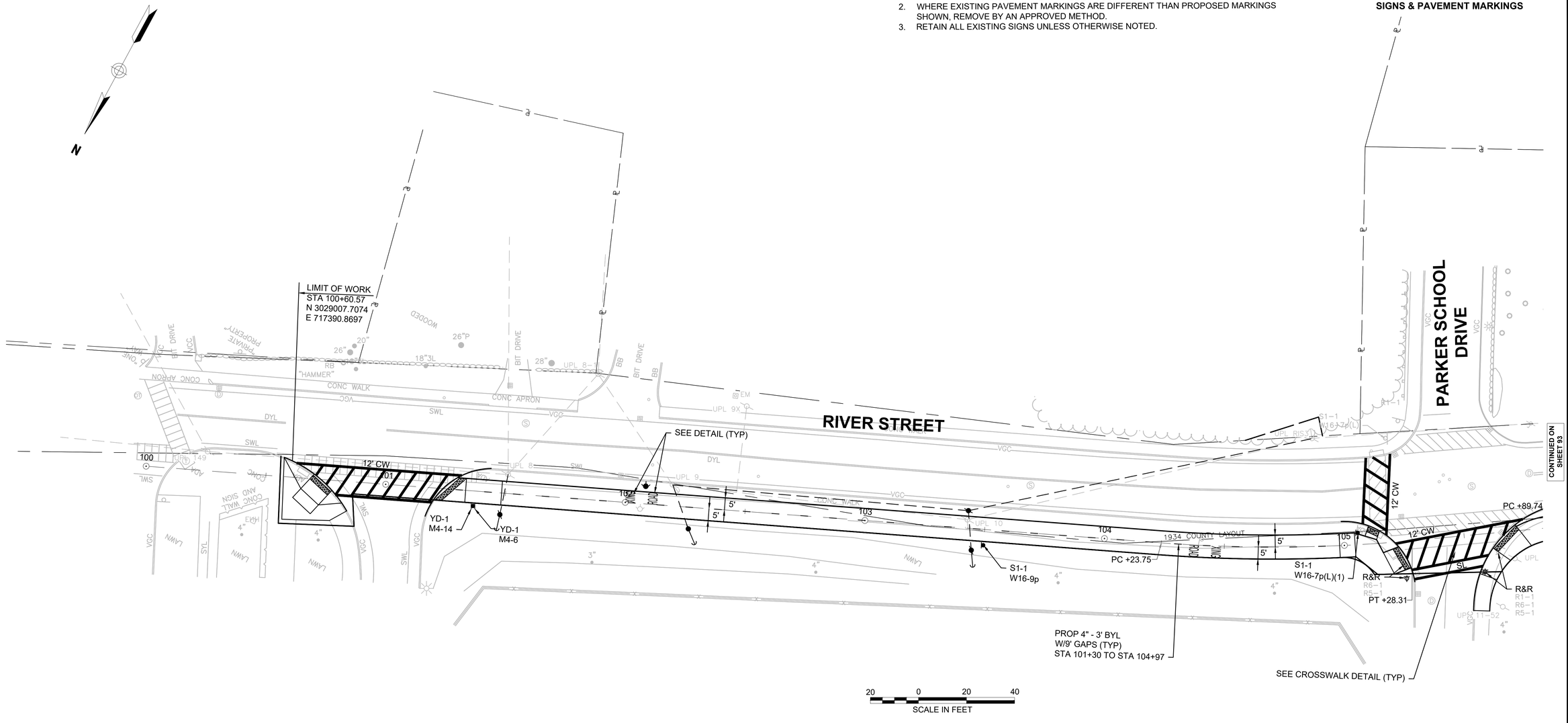
20 0 20 40
SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	92	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

CONSTRUCTION NOTES:
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



608227HD (STRP).DWG Plotted on 29-Dec-2023 3:57 PM

CONSTRUCTION NOTES:

1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	93	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:00 PM

CONTINUED ON SHEET NO. 92

CONTINUED BELOW

PARKER SCHOOL DRIVE

RIVER STREET

1934 COUNTY LAYOUT

S1-1 W16-7p(L)

S1-1 W16-9p

S5-1 W/FLASHING BEACON

PC +89.74

PC +23.75

PT +28.31

PC +69.31

PT +85.57

PT +07.44

104 105 106 107 108 109

12' CW

5'

S1-1 W16-7p(L)(1)

R&R R1-1 R6-1 R5-1 D3

PROP 4" - 3' BYL W/9' GAPS (TYP) STA 101+30 TO STA 104+97

SEE CROSSWALK DETAIL (TYP)

SEE DETAIL (TYP)

PROP 4" - 3' BYL W/9' GAPS (TYP) STA 105+92 TO STA 108+42

WEDGEWOOD AVE

EXIST TOWN LAYOUT

SL

CONTINUED ON SHEET NO. 94

CONTINUED ABOVE

PARKER STREET

EXIST TOWN LAYOUT

PROP 15' TS POST & FOUNDATION W/TWO RRFB (1-SIDED) W/SOLAR POWER W/RADIO ANTENNA W/APS PED PUSH BUTTON W/R10-25 W/SP-1 W/W11-15(L), W11-15(R), W16-7P(L), W16-7P(R) SEE CONSTRUCTION DETAILS STA 112+19.0, 38.8' LT

D1-1C(1) R1-1(BIKE)

W11-15(L) W16-9p

SEE DETAIL (TYP)

R&R R1-1 D3

PROP 4" - 3' BYL W/9' GAPS (TYP) STA 109+00 TO STA 110+55

SEE CROSSWALK DETAIL (TYP)

R&R PRIVATE SIGN (BY OTHERS)

10' WIDE DRAINAGE EASEMENT PLAN BOOK 205, PLAN 65

R.R. RIGHT-OF-WAY

4" SYL-150'-01

4" SYL-113'

200+00

112+50.20

R5-3

YD-1 M6-4

R1-1(BIKE)

YD-1 M6-1(L)

PROP 15' TS POST & FOUNDATION W/TWO RRFB (1-SIDED) W/SOLAR POWER W/RADIO ANTENNA W/APS PED PUSH BUTTON W/R10-25 W/SP-1 W/W11-15(L), W11-15(R), W16-7P(L), W16-7P(R) SEE CONSTRUCTION DETAILS STA 112+32.9, 8.3' RT

W11-15(L) W16-9p

COLUMBUS AVE

COLONIAL DRIVE

LIST OF MAJOR ITEMS REQUIRED

YANKEE DOODLE BIKE PATH AT RIVER STREET

PAY ITEM	QUANTITY	DESCRIPTION
824.211	2	15' TS POST STANDARD INCL. FOUNDATION
	4	L.E.D. RECTANGULAR DUAL YELLOW BEACON (RRFB) (1-SIDED)
	2	SOLAR PANEL W/MOUNTING BRACKET
	2	RADIO ANTENNA
	2	APS PEDESTRIAN PUSH BUTTON W/R10-25
	2	BATTERY SYSTEM
	2	SP-1
	2	W11-15(L)
	2	W11-15(R)
	2	W16-7p(L)
	2	W16-7p(R)

PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING RRFB SYSTEM

20 0 20 40
SCALE IN FEET

CONTINUED ON SHEET NO. 93

CONSTRUCTION NOTES:
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	94	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:01 PM

N

1934 COUNTY LAYOUT

RIVER STREET

D1-1C(1)
R1-1(BIKE)

SEE DETAIL (TYP)

4" SYL-150'

4" SYL-135'

4" SYL-120'

4" SYL-105'

4" SYL-90'

4" SYL-75'

4" SYL-60'

4" SYL-45'

4" SYL-30'

4" SYL-15'

4" SYL-0'

4" SYL-345°

4" SYL-330'

4" SYL-315'

4" SYL-300'

4" SYL-285'

4" SYL-270'

4" SYL-255'

4" SYL-240'

4" SYL-225'

4" SYL-210'

4" SYL-195'

4" SYL-180'

4" SYL-165'

5'

5'

200

201

202

203

204

205

206

207

208

209

210

211

R.R. RIGHT-OF-WAY

R1-1(BIKE)

22' CW
112+50.20

YD-1
M6-1(L)

SEE CROSSWALK DETAIL (TYP)

PROP 4" - 3' BYL
W/9'GAPS (TYP)
STA 201+89 TO 208+70

CONTINUED BELOW

PROP 4" - 3' BYL
W/9' GAPS (TYP)
STA 201+89 TO 208+70

PC +85.66

PT +65.41

PROP 4" SYL
STA 208+70 TO STA 214+37

PC +19.20

W1-1(R)

30' WIDE SEWER EASEMENT
(PLAN BOOK 103, PLAN 74)

30' WIDE TEMPORARY
(PLAN BOOK 103
(STATUS U

DENSE TREES

CONTINUED ABOVE

20 0 20 40
SCALE IN FEET

CONTINUED ON SHEET NO. 95

CONSTRUCTION NOTES:

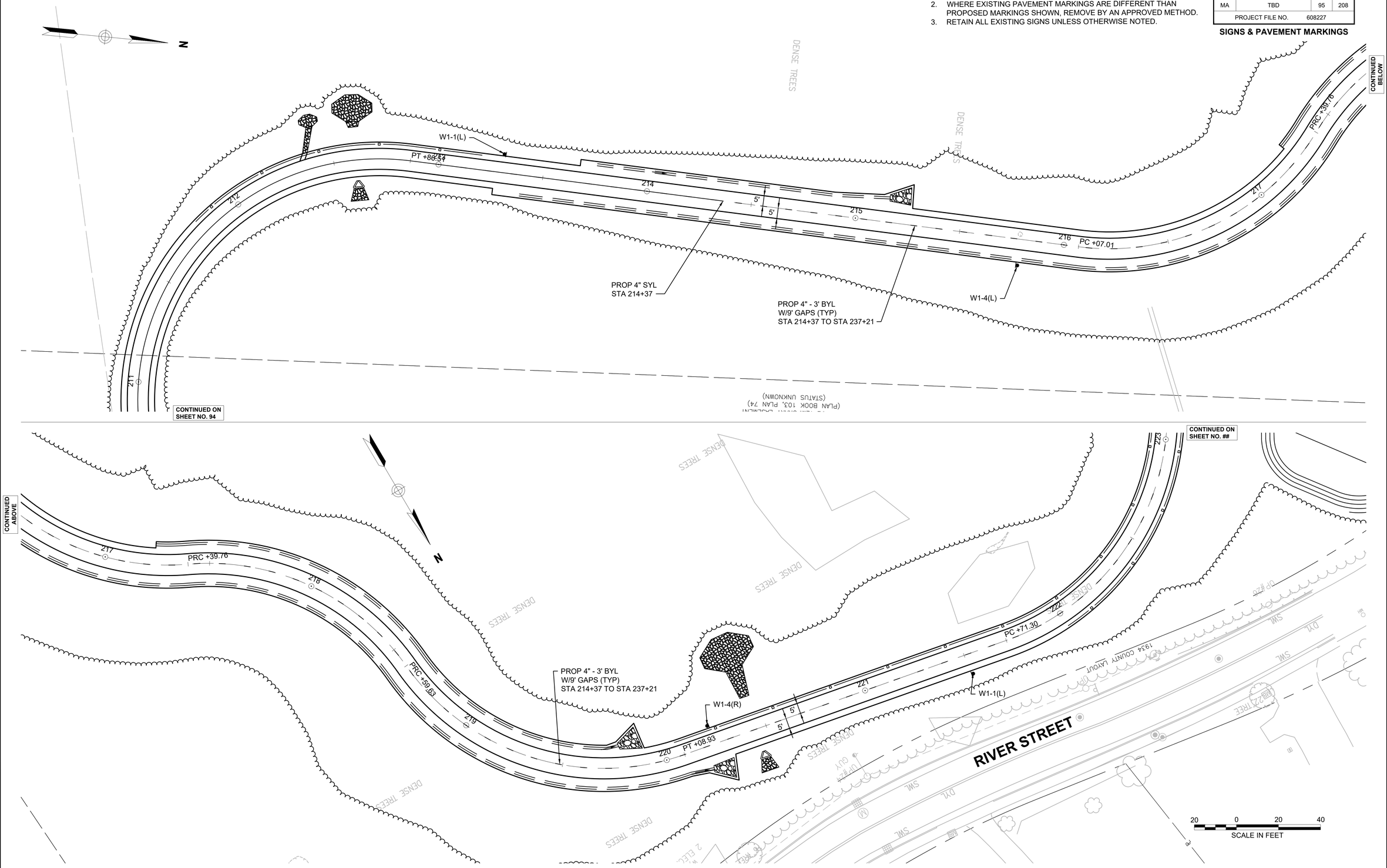
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	95	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:02 PM



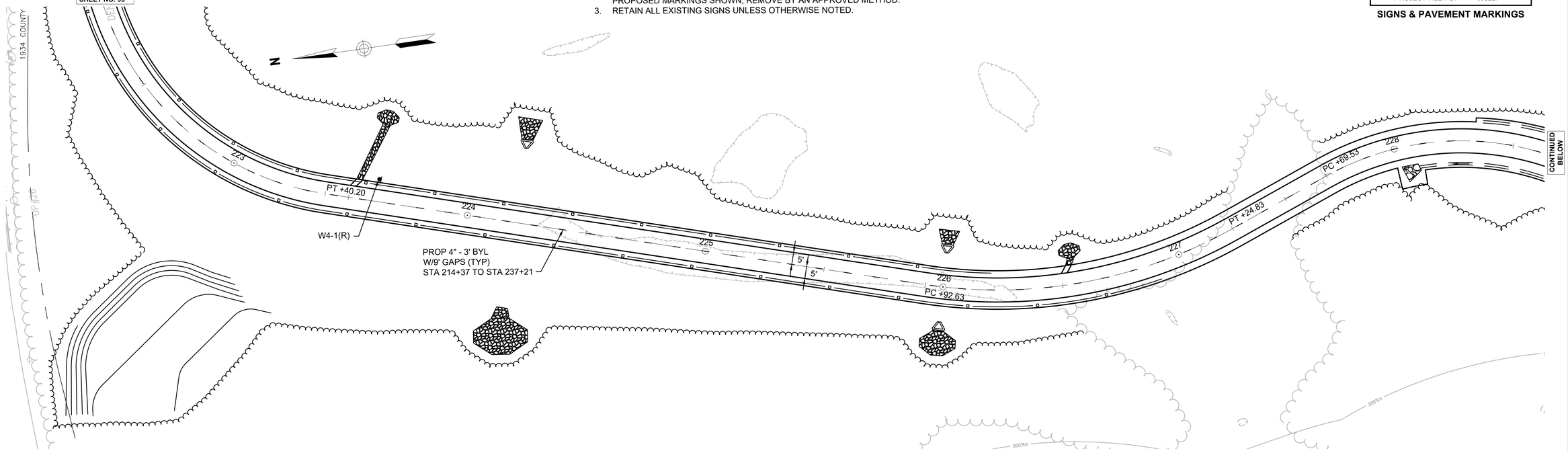
BILLERICA
YANKEE DOODLE BIKE PATH

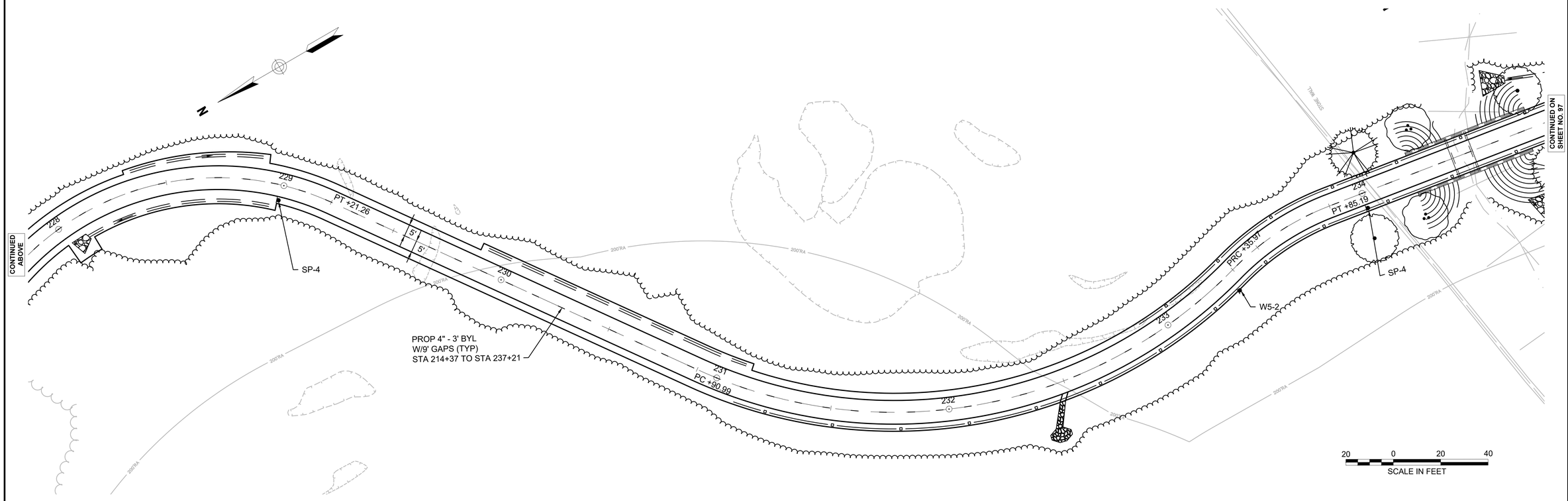
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	96	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

CONSTRUCTION NOTES:
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

CONTINUED ON SHEET NO. 95





608227HD (STRP).DWG Plotted on 29-Dec-2023 4:03 PM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	97	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

CONSTRUCTION NOTES:
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

CONTINUED ON SHEET NO. 96

SP-4
W5-2
PROP 4" - 3' BYL
W/9' GAPS (TYP)
STA 214+37 TO STA 237+21
W1-3(R)
W11-15(L)
W16-9p
150'± FROM CW
W11-15(L)
W16-7p(L)
SEE CROSSWALK DETAIL (TYP)
R5-3
D1-1C(2)
R1-1(BIKE)
4" SYL-150'
21' CW
W1-3(L)
SEWER PUMP STATION ACCESS ROAD
SLOPE EASEMENT PLAN BOOK M. PLAN 664
DENSE TREES
200'RA
5'

CONTINUED BELOW

CONTINUED ABOVE

W1-3(L)
W11-15(L)
W16-9p
150'± FROM CW
PROP 4" - 3' BYL
W/9' GAPS (TYP)
STA 301+65 TO 322+65
PT +35.05
PC +98.04
PC +29.55
PT +17.24
W5-2
SP-4

CONTINUED ON SHEET NO. 98

20 0 20 40
SCALE IN FEET

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:04 PM

CONSTRUCTION NOTES:
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	98	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

CONTINUED ON SHEET NO. 97

CONTINUED BELOW

N

W5-2

30' WIDE SEWER EASEMENT PLAN BOOK 111, PLAN 43

PROP 4" - 3' BYL W/9' GAPS (TYP) STA 301+65 TO 310+18

30' WIDE TEMPORARY EASEMENT PLAN BOOK 111, PLAN 43 (STATUS UNKNOWN)

PC +29.55

307

PRC +11.58

308

PRC +06.12

PT +79.97

309

5'

PC +83.64

PT +28.02

SP-4

PRC +32.10

SP-4

PC +98.86

PROP 4" - 3' BYL W/9' GAPS (TYP) STA 310+99 TO 322+65

DENSE TREES

30"O

CONTINUED ABOVE

PC +87.10

313

PRC +85.49

314

PRC +46.95

315

PT +11.72

5'

5'

316

317

318

PROP 4" - 3' BYL W/9' GAPS (TYP) STA 301+65 TO 322+65

SMH A
RIM=152.83
A=145.91'(6"PVC)
B=146.11'(6"PVC)

CAPE COD BERM

CONTINUED ON SHEET NO. 99

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:05 PM

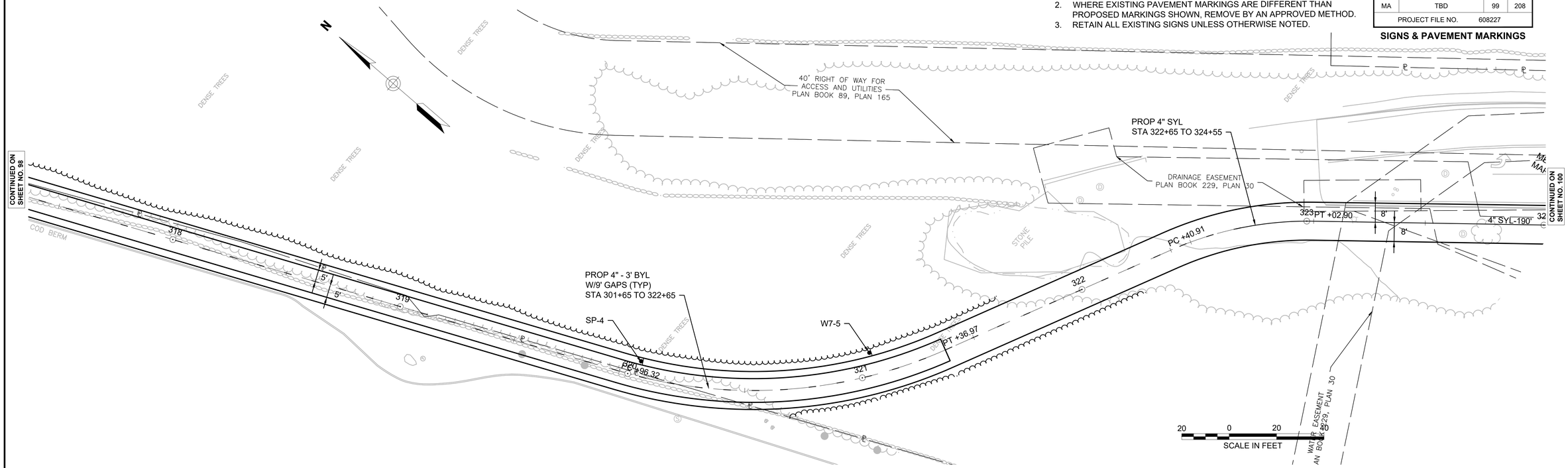
CONSTRUCTION NOTES:

1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	99	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS



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608227HD (STRP).DWG Plotted on 29-Dec-2023 4:05 PM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	100	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:06 PM

MIDDLESEX TURNPIKE

1938 COUNTY LAYOUT

1938 HIGHWAY EASEMENT PLAN BOOK 217 - PLAN 42

UPL 63

R3-8
285'± FROM SL

R&S
R3-8

SIGN

SL

10' CW

R1-1 (BIKE)
R9-5

YD-1
M6-1(L)
YD-1
M6-1(L)

R10-22

W1-1(L)

PC +63.96

R3-7L

R&R
R3-7L

SWL

PC +89.65

R1-1(BIKE)
R9-5

MEET EXIST MARKINGS

R&S

SEE DETAIL (TYP)

YD-1
M6-3

4" SYL-100'

324

PT +02.90

8'

8'

CONTINUED ON SHEET NO. 99

DENSE TREES

D.TREES

EDGE OF PAVEMENT

PROP 4" - 3' BYL
W/9' GAPS (TYP)
STA 386+14 TO STA 393+80

387

386

5'

5'

4" SYL-300'

385

PT +63.96

PCC +94.21

W1-1(R)

CONTINUED BELOW

DRAIN EASEMENT PLAN BOOK 1938 PLAN 21

DRAINAGE EASEMENT PLAN 30 BOOK 2251

CONCORD ROAD

STATE HIGHWAY LAYOUT
(LAYOUT NO. 4072)

PAVEMENT PATCH

N

PROP 4" - 3' BYL
W/9' GAPS (TYP)
STA 386+14 TO STA 393+80

5'

5'

390

PT +05.61

391

PC +21.47

392

PT +11.65

393

PC +89.65

389

PC +71.30

388

387

CONTINUED ABOVE

CONTINUED ON SHEET NO. 101

20 0 20 40
SCALE IN FEET

CONSTRUCTION NOTES:

1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.
4. SEE SHEET 114 FOR TRAFFIC SIGNAL PLAN AND 115 SHEET FOR TRAFFIC SIGNAL DATA.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	101	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

CONSTRUCTION NOTES:
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

CONTINUED ON SHEET NO. 100

CONTINUED ON SHEET NO. 102

PT +11.65
PC +89.65
393
PROP 4" - 3' BYL
W/9' GAPS (TYP)
STA 386+14 TO STA 393+80
PROP 4" SYL
STA 393+80 TO STA 409+13
PT +79.83 394
5'
5'
395
PC +25.38
396
W1-1(L)
W1-1(R)
398
399
PT +48.23
397
EDGE OF PAVEMENT
DENSE TREES

20 0 20 40
SCALE IN FEET

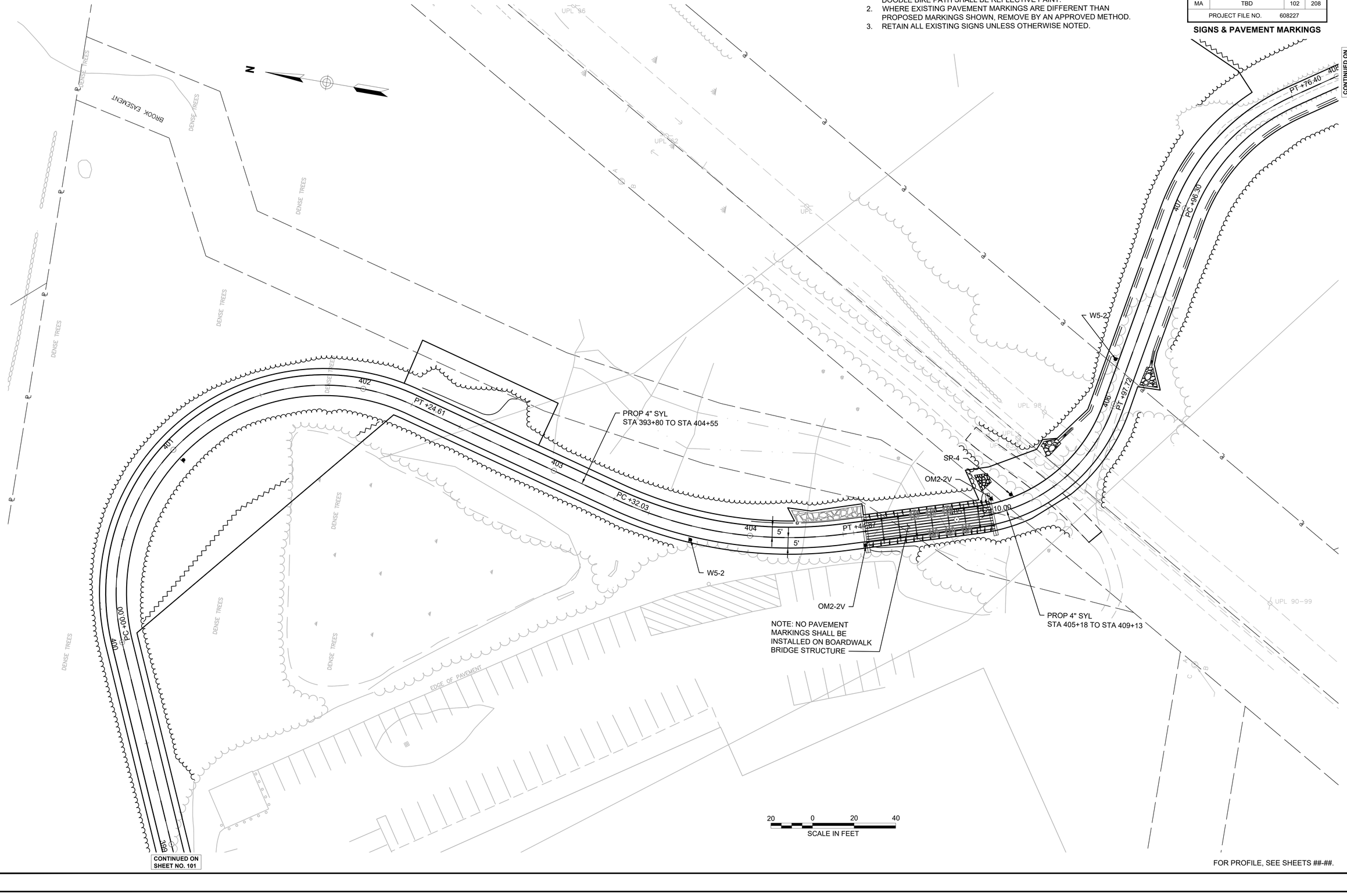
608227HD (STRP).DWG Plotted on 29-Dec-2023 4:06 PM

CONSTRUCTION NOTES:
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	102	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS



608227HD (STRP).DWG Plotted on 29-Dec-2023 4:07 PM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	103	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

CONSTRUCTION NOTES:
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:07 PM

N

MIDDLESEX TURNPIKE

BEGIN +00.00

YD-1
M6-1(L)
D4-3(L)
YD-1
M6-1(R)
D4-3(R)

R7-1D

R1-1(BIKE)

SEE DETAIL

SL

R5-3

PC +19.33

PT +72.90

502

4" SYL-150'

SEE DETAIL

SP-4

R7-8
R7-8a

16'

SWL

YD-1
M4-6

PC +44.12

PRC +69.68

PT +95.25

PROP 4" - 3' BYL W/9' GAPS
STA 502+50 TO STA 504+68

5'

504

505

4" SYL-150'

CONTINUED BELOW

POST

GPL 14–84

UPL 96

UPL 2390–94

R.R. RIGHT–OF–WAY

CONTINUED ABOVE

PROP 4" SYL (TYP)

PROP YIELD LINE
(SEE DETAILS)
R1-2(BIKE)

YD-1
M6-2(L)
D4-3(V)

505

4" SYL-150'

506

409

507

508

509

PI +22.34

510

R1-1(BIKE)

R=2.5'

8" SYCHL
1:1, 5' O.C. (TYP)

8" SYCHL
1:1, 5' O.C. (TYP)

SP-4

YANKEE DOODLE BIKE PATH
SECTION 3

PROP 4" - 3' BYL W/9' GAPS
STA 409+13 TO STA 530+53

YD-1
M5-2(R)
D4-3(L)

CONTINUED ON SHEET NO. 102

CONTINUED ON SHEET NO. 104

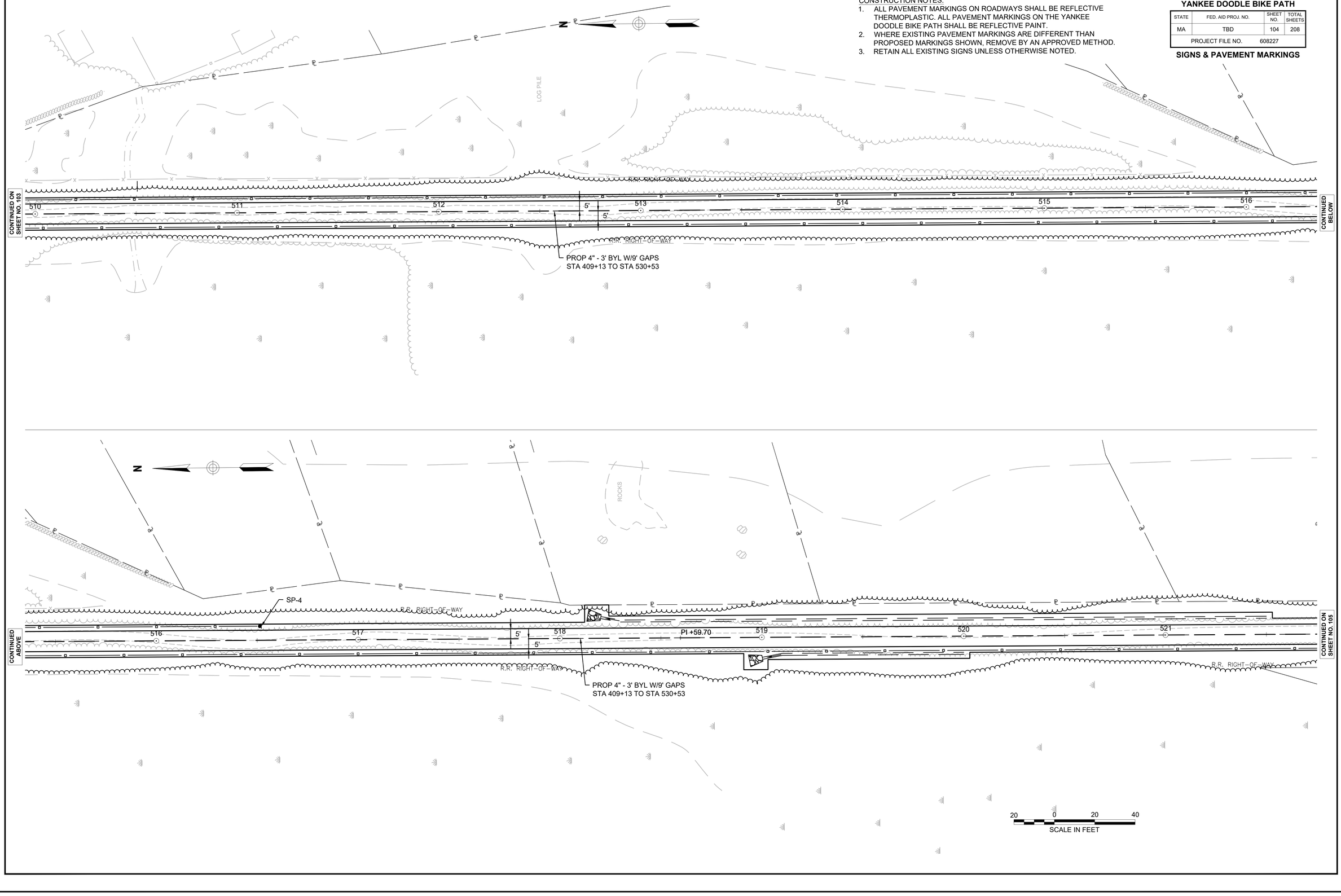
20 0 20 40
SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	104	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

CONSTRUCTION NOTES:
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



608227HD (STRP).DWG Plotted on 29-Dec-2023 4:08 PM

CONSTRUCTION NOTES:
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	105	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

CONTINUED ON SHEET NO. 104

N

℄

PC +87.23

PC +87.25

522

521

5'

5'

524

525

526

527

PROP 4" - 3' BYL W/9' GAPS
STA 409+13 TO STA 530+53

R.R. RIGHT-OF-WAY

CONTINUED BELOW

CONTINUED ABOVE

528

PT +06.84

529

530

531

PC +76.58

532

W5-2

PROP 4" - 3' BYL W/9' GAPS
STA 409+13 TO STA 530+53

PROP 4" SYL
STA 530+53 TO STA 532+01

LIMITED ACCESS STATE HIGHWAY LAYOUT (LAYOUT NO. 4072)

LOCATION LINE OF SEPTEMBER 15, 1953

20 0 20 40
SCALE IN FEET

CONTINUED ON SHEET NO. 106

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:09 PM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	106	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

CONSTRUCTION NOTES:
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

CONTINUED ON SHEET NO. 105

N

PC +76.58

534

NOTE: NO PAVEMENT MARKINGS SHALL BE INSTALLED ON BOARDWALK BRIDGE STRUCTURE

PCC +95.60

PT +90.89

PT +90.89

W5-2

535

PROP 4" - 3' BYL W/9' GAPS
STA 535+42 TO STA 556+26

PC +86.78

PT +37.08

5'

5'

537

PC +39.83

PT +68.90

SP-4

536

PC +00.33

PC +00.33

CONTINUED BELOW

U.S. ROUTE 3
(NORTHBOUND)

PROP 4" SYL
STA 533+56 TO STA 535+42

N

SP-4

PT +68.90

+39.83

536

PC +00.33

PT +34.71

539

540

5'

5'

541

PC +81.17

542

PT +28.03

PC +69.59

543

PRC +48.77

PC +00.33

PROP 4" - 3' BYL W/9' GAPS
STA 535+42 TO STA 556+26

CONTINUED ABOVE

CONTINUED ON SHEET NO. 107

U.S. ROUTE 3
(NORTHBOUND)

LOCATION LINE OF SEPTEMBER
STATE HIGHWAY LAYOUT (LAYOUT

20 0 20 40
SCALE IN FEET

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:10 PM

CONSTRUCTION NOTES:

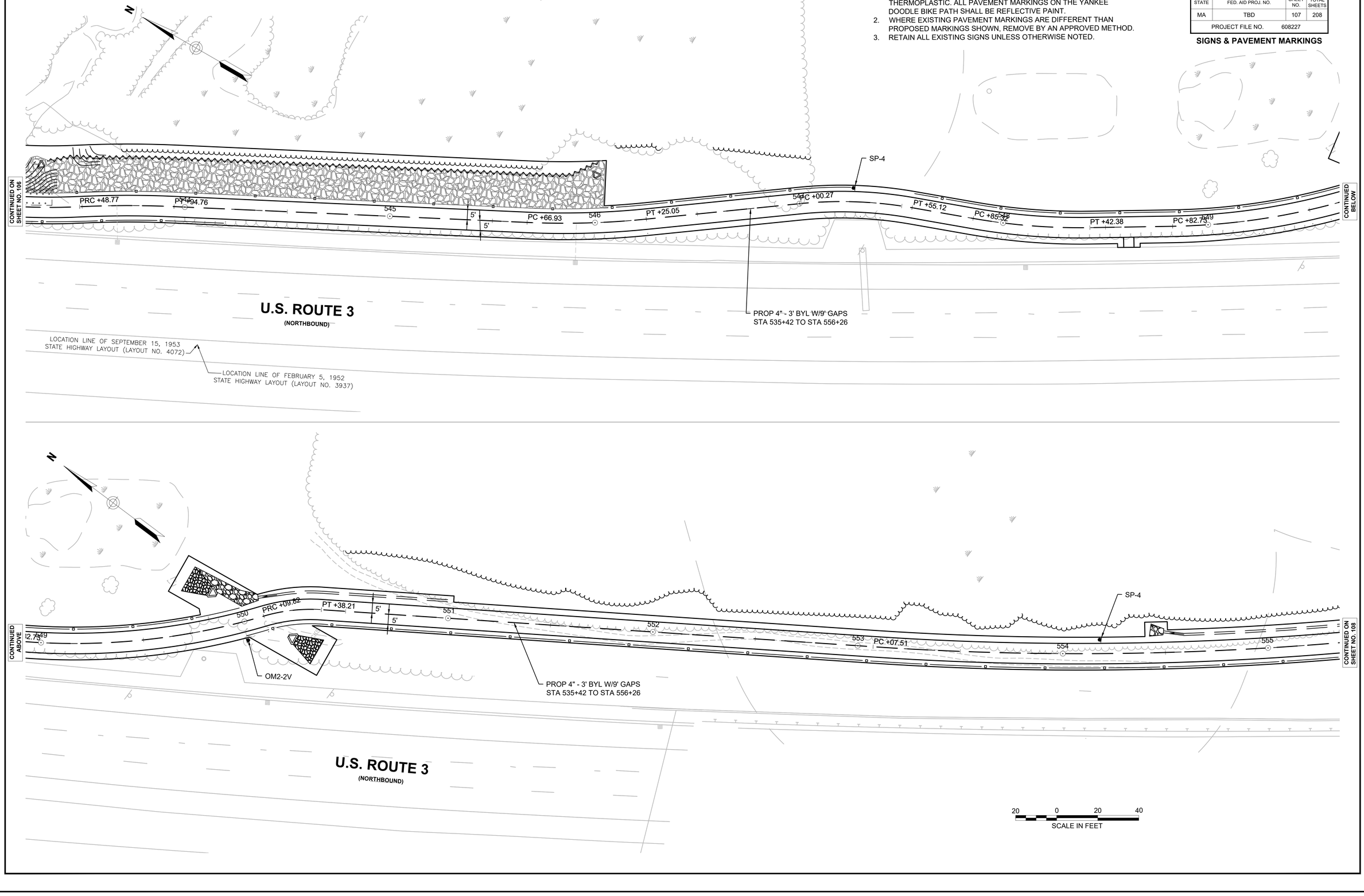
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	107	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:10 PM



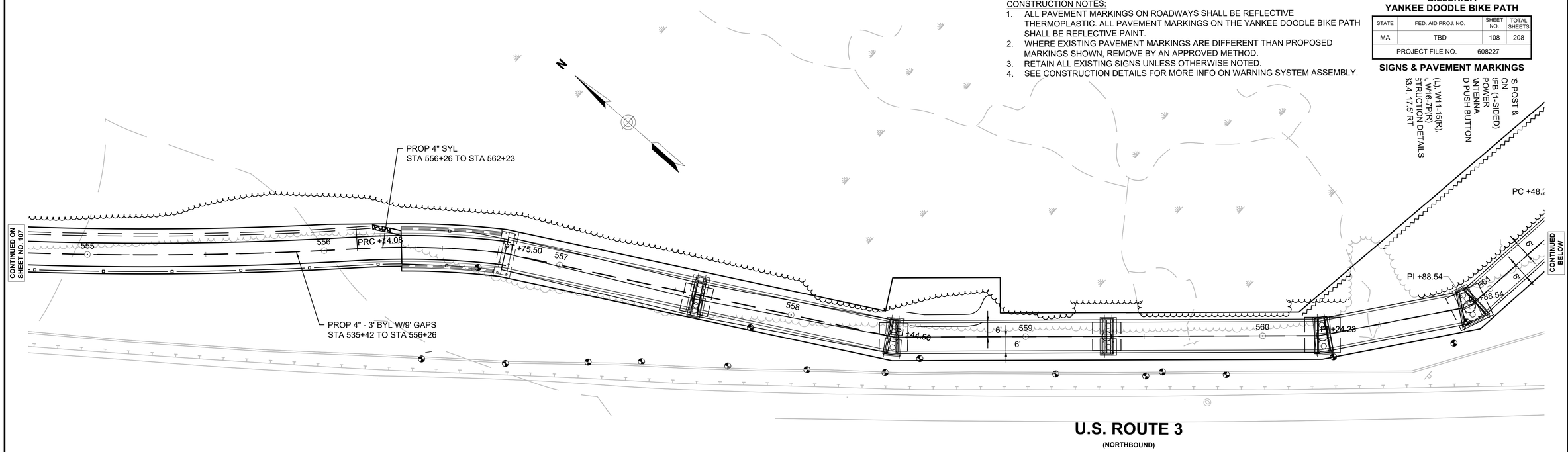
CONSTRUCTION NOTES:

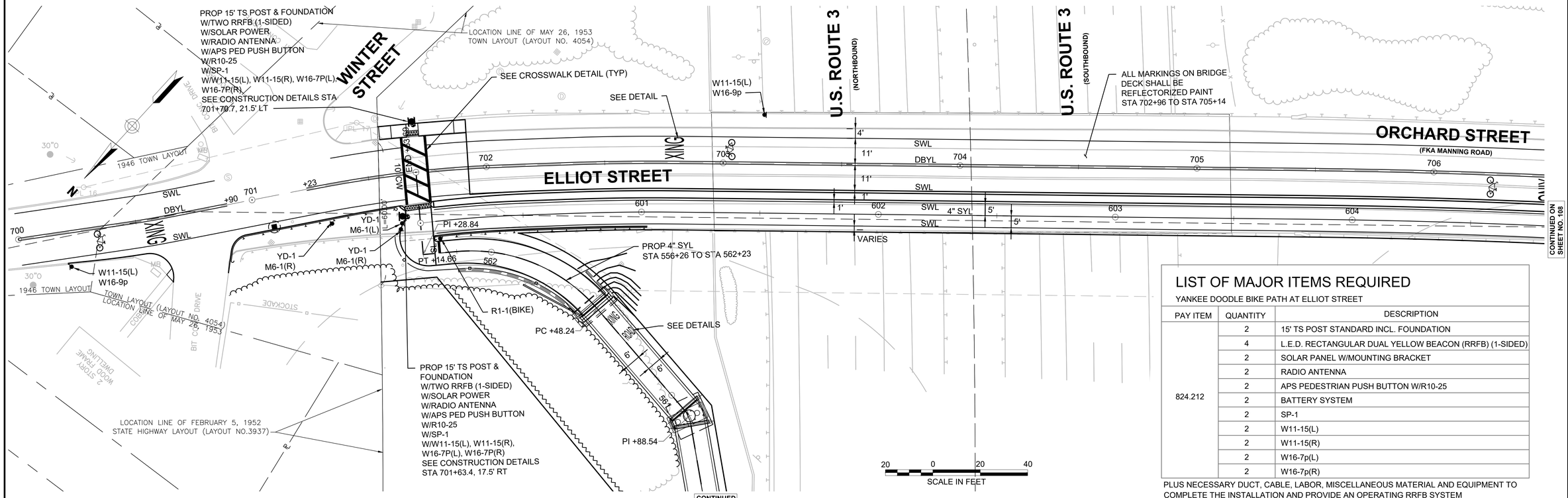
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.
4. SEE CONSTRUCTION DETAILS FOR MORE INFO ON WARNING SYSTEM ASSEMBLY.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	108	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS





LIST OF MAJOR ITEMS REQUIRED

YANKEE DOODLE BIKE PATH AT ELLIOT STREET

PAY ITEM	QUANTITY	DESCRIPTION
824.212	2	15' TS POST STANDARD INCL. FOUNDATION
	4	L.E.D. RECTANGULAR DUAL YELLOW BEACON (RRFB) (1-SIDED)
	2	SOLAR PANEL W/MOUNTING BRACKET
	2	RADIO ANTENNA
	2	APS PEDESTRIAN PUSH BUTTON W/R10-25
	2	BATTERY SYSTEM
	2	SP-1
	2	W11-15(L)
	2	W11-15(R)
	2	W16-7p(L)
	2	W16-7p(R)

PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING RRFB SYSTEM

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:11 PM

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	109	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

CONSTRUCTION NOTES:
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

PROP 15' TS POST & FOUNDATION
W/TWO RRFB (1-SIDED)
W/SOLAR POWER
W/RADIO ANTENNA
W/APS PED PUSH BUTTON
W/R10-25
W/SP-1
W/W11-15(L), W11-15(R), W16-7P(L), W16-7P(R)
SEE CONSTRUCTION DETAILS
STA707+41.9, 20.0' LT

SEE CROSSWALK DETAIL (TYP)

YD-1
M6-1(L)

SEE DETAIL

W11-15(L)
W16-9p

SEE DETAIL

LOCATION LINE OF MAY 26, 1953
TOWN LAYOUT (LAYOUT NO. 4054)

LOCATION LINE OF OCTOBER 9, 2002 TOWN LAYOUT

ORCHARD STREET
(FKA MANNING ROAD)

CONTINUED ON SHEET NO. 108

706 707 708 709 710 711

SWL DBYL SWL SWL SWL SWL

4' 11' 11' 1' 5' 5'

4" SYL SWL

VARIES

R1-1(BIKE)

YD-1
M5-1(R)

+24 DBYL

R=200'

RET EXIST DBYL

SEE DETAIL

YD-1
M6-3
YD-1
M6-1(L)

R1-1(BIKE)

SL STOP

MEET EXIST MARKINGS

PROP 15' TS POST & FOUNDATION
W/TWO RRFB (1-SIDED)
W/SOLAR POWER
W/RADIO ANTENNA
W/APS PED PUSH BUTTON
W/R10-25
W/SP-1
W/W11-15(L), W11-15(R), W16-7P(L), W16-7P(R)
SEE CONSTRUCTION DETAILS
STA 605+84.6', 6.3' RT

SEE DETAIL

4" SYL-150'

SWL DBYL SWL

TECHNOLOGY PARK DRIVE

LOCATION LINE OF FEBRUARY 5, 1953
STATE HIGHWAY LAYOUT (LAYOUT NO. 3937) (=60.00')

LOCATION LINE OF MAY 26, 1953
TOWN LAYOUT (LAYOUT NO. 4054)

LOCATION LINE OF MAY 26, 1953

CONTINUED BELOW

LIST OF MAJOR ITEMS REQUIRED

YANKEE DOODLE BIKE PATH AT ORCHARD STREET

PAY ITEM	QUANTITY	DESCRIPTION
824.213	2	15' TS POST STANDARD INCL. FOUNDATION
	4	L.E.D. RECTANGULAR DUAL YELLOW BEACON (RRFB) (1-SIDED)
	2	SOLAR PANEL W/MOUNTING BRACKET
	2	RADIO ANTENNA
	2	APS PEDESTRIAN PUSH BUTTON W/R10-25
	2	BATTERY SYSTEM
	2	SP-1
	2	W11-15(L)
	2	W11-15(R)
	2	W16-7p(L)
	2	W16-7p(R)

PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING RRFB SYSTEM

SEE DETAIL

TECHNOLOGY PARK DRIVE

SL SWL DBYL SWL SWL SWL

VARIES 12' 12' 2' 5'

SWL DBYL SWL

4" SYL-150'

SEE DETAIL

607 608 609 610 611 612

PROP 4" - 3' BYL W/9' GAP
STA 607+56 TO 613+36

LOCATION LINE OF MAY 26, 1953
TOWN LAYOUT (LAYOUT NO. 4054)

DRAIN EASEMENT
(PLAN BOOK 139, PLAN 29)

GAS EASEMENT
(DEED BOOK 5652, PAGE 179)

CONTINUED ABOVE

CONTINUED ON SHEET NO. 110

20 0 20 40
SCALE IN FEET

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BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	110	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

CONSTRUCTION NOTES:
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

CONTINUED ON SHEET NO. 109

N

TECHNOLOGY PARK DRIVE

VARIES
12'
SWL
DBYL
SWL
2'
12' CW
612
613
614
615
616
617
5'
SL
R1-1
R&S
R1-1
SEE DETAIL (TYP)
RET SIGNS
RET SIGN
W11-2
W16-9P
R&S
PED BEACON
R&S
"SLOW PEDESTRIAN CROSSING"
W11-15(L)
W16-7P(L)
SEE CROSSWALK DETAIL (TYP)
PROP 4" - 3' BYL W/9' GAP
STA 613+95 TO 616+52
DRAIN EASEMENT (PLAN BOOK 139, PLAN 29)
GAS EASEMENT (DEED BOOK 3652, PAGE 179)
DRIVEWAY EASEMENT (PLAN BOOK 139, PLAN 29)

CONTINUED BELOW

CONTINUED ABOVE

N

TECHNOLOGY PARK DRIVE

R&S
"SLOW PEDESTRIAN CROSSING"
R&S
PED BEACON
W11-2
W16-9P
W11-2
W16-7P(L)
W11-2
W16-7P(L)
W11-15(L)
W16-7P(L)
VARIES
SWL
DBYL
SWL
12'
12'
2'
12' CW
618
619
620
621
622
623
624
5'
5'
SEE CROSSWALK DETAIL (TYP)
SEE DETAIL (TYP)
PROP 4" - 3' BYL W/9' GAP
STA 616+92 TO 619+28
PROP 4" - 3' BYL W/9' GAP
STA 619+80 TO 627+40
DRAIN EASEMENT (PLAN BOOK 139, PLAN 29)
SEWER EASEMENT (PLAN BOOK 139, PLAN 29)
GAS EASEMENT (DEED BOOK 3652, PAGE 179)

CONTINUED ON SHEET NO. 111

20 0 20 40
SCALE IN FEET

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:13 PM

CONSTRUCTION NOTES:
1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	111	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:13 PM

CONTINUED ON SHEET NO. 110

TECHNOLOGY PARK DRIVE

VARIES
12'
DBYL
12'
SWL
2'
5'
5'
5'
5'
GAS EASEMENT (DEED BOOK 3552, PAGE 179)
+63
+14
RET SIGN
12' CW
SL
R1-1
R&S
ERADICATE SL
SEE CROSSWALK DETAIL (TYP)
624
625
626
627
628
629
PROP 4" - 3' BYL W/9' GAP
STA 619+80 TO 627+40
SEE DETAIL (TYP)
ACCESS AND UTILITY CORRIDOR (PLAN BOOK 200, PLAN 141)
DRIVEWAY EASEMENT (PLAN BOOK 139, PLAN 89)
CONTROL BOX REMOVE
STOP
CONTINUED BELOW

CONTINUED ON SHEET NO. 112

PC +57.66
PCC +08.73
PT +24.54
20' CW
R1-1(BIKE)
4" SYL-150' BYL
W1-3(L)
W11-15(L)
W16-9p
SEE DETAIL (TYP)
SEE DETAIL
VARIES
12'
12'
SWL
DBYL
+70
+22
PC+18.86
PC +86.42
PCC +24.99
5'
5'
5'
5'
630
631
632
12' CW
SL
R1-1
R&S
PROP 4" - 3' BYL W/9' GAP
STA 628+35 TO 630+18
SEE CROSSWALK DETAIL (TYP)
PROP 4" - 3' BYL W/9' GAP
STA 630+88 TO 631+58
DRAIN EASEMENT (PLAN BOOK 139, PLAN 29)
DRAIN EASEMENT (PLAN BOOK 139, PLAN 29)
GAS EASEMENT (DEED BOOK 3552, PAGE 179)
TECHNOLOGY PARK DRIVE
WALL STREET
DENSE TREES
CONTINUED ABOVE

20 0 20 40
SCALE IN FEET

LIST OF MAJOR ITEMS REQUIRED

YANKEE DOODLE BIKE PATH AT TECHNOLOGY PARK DRIVE

PAY ITEM	QUANTITY	DESCRIPTION
824.214	2	15' TS POST STANDARD INCL. FOUNDATION
	4	L.E.D. RECTANGULAR DUAL YELLOW BEACON (RRFB) (1-SIDED)
	2	SOLAR PANEL W/MOUNTING BRACKET
	2	RADIO ANTENNA
	2	APS PEDESTRIAN PUSH BUTTON W/R10-25
	2	BATTERY SYSTEM
	2	SP-1
	2	W11-15(L)
	2	W11-15(R)
	2	W16-7p(L)
	2	W16-7p(R)

PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING RRFB SYSTEM

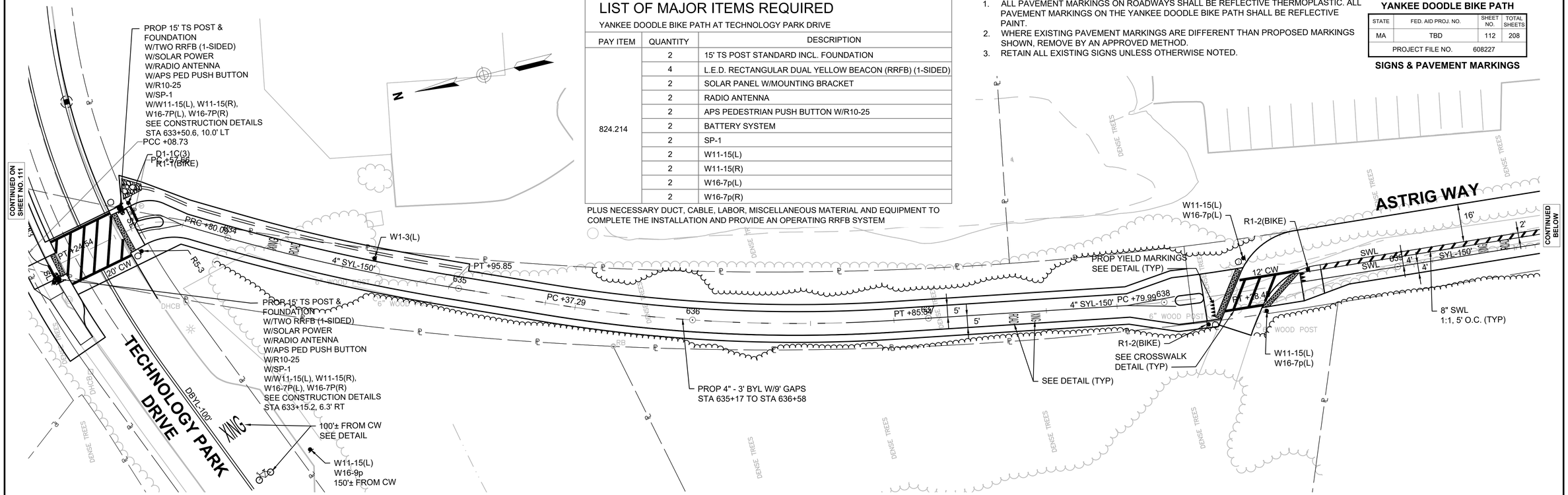
CONSTRUCTION NOTES:

1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	112	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS



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LIST OF MAJOR ITEMS REQUIRED

YANKEE DOODLE BIKE PATH AT SPRINGS ROAD

PAY ITEM	QUANTITY	DESCRIPTION
824.215	2	15' TS POST STANDARD INCL. FOUNDATION
	4	L.E.D. RECTANGULAR DUAL YELLOW BEACON (RRFB) (1-SIDED)
	2	SOLAR PANEL W/MOUNTING BRACKET
	2	RADIO ANTENNA
	2	APS PEDESTRIAN PUSH BUTTON W/R10-25
	2	BATTERY SYSTEM
	2	SP-1
	2	W11-15(L)
	2	W11-15(R)
	2	W16-7p(L)
	2	W16-7p(R)

PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING RRFB SYSTEM

CONSTRUCTION NOTES:

1. ALL PAVEMENT MARKINGS ON ROADWAYS SHALL BE REFLECTIVE THERMOPLASTIC. ALL PAVEMENT MARKINGS ON THE YANKEE DOODLE BIKE PATH SHALL BE REFLECTIVE PAINT.
2. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
3. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	113	208
PROJECT FILE NO.	608227		

SIGNS & PAVEMENT MARKINGS

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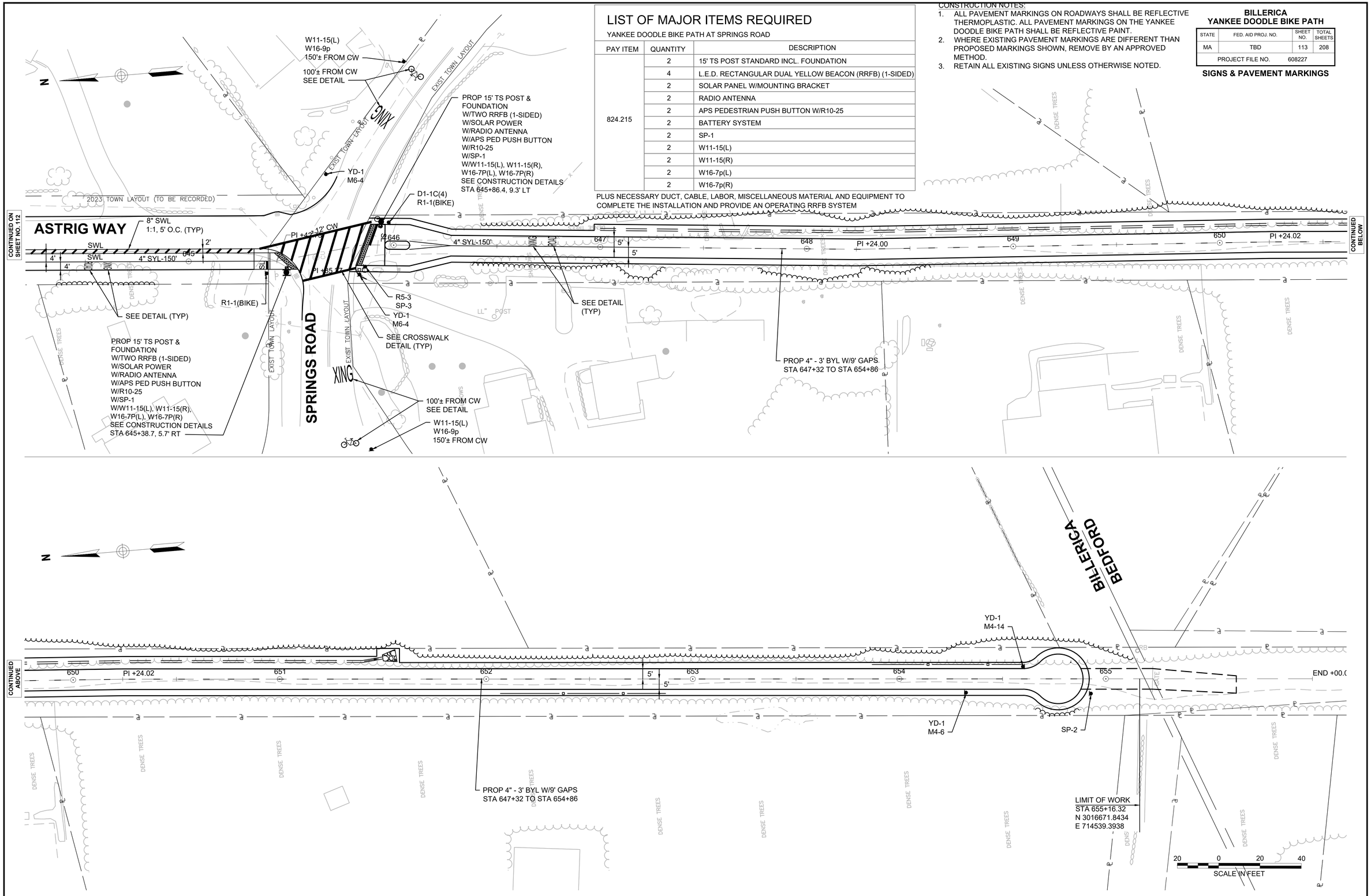


BILLERICA
YANKEE DOODLE BIKE PATH

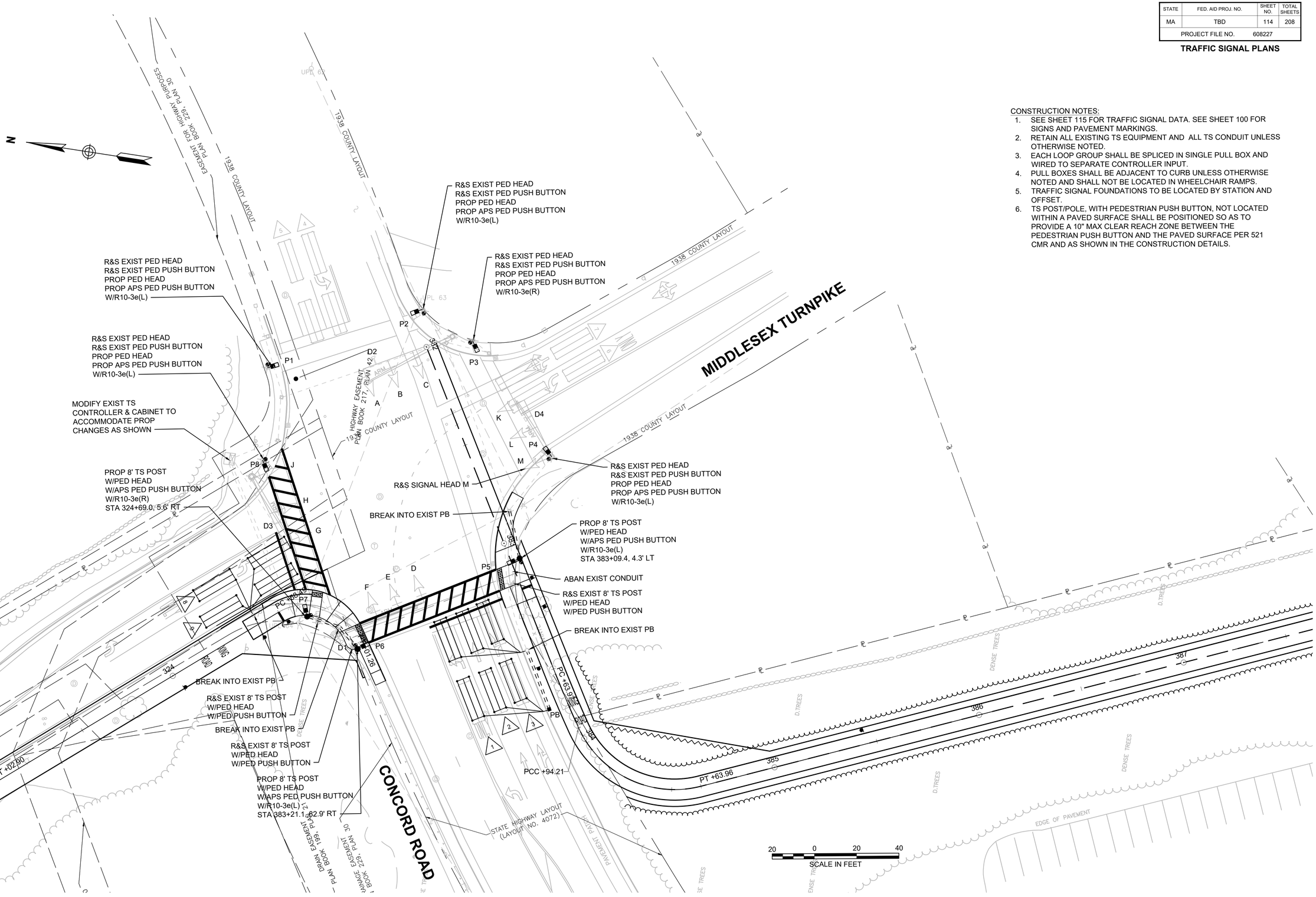
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	114	208
PROJECT FILE NO.	608227		

TRAFFIC SIGNAL PLANS

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:16 PM

CONSTRUCTION NOTES:

1. SEE SHEET 115 FOR TRAFFIC SIGNAL DATA. SEE SHEET 100 FOR SIGNS AND PAVEMENT MARKINGS.
2. RETAIN ALL EXISTING TS EQUIPMENT AND ALL TS CONDUIT UNLESS OTHERWISE NOTED.
3. EACH LOOP GROUP SHALL BE SPLICED IN SINGLE PULL BOX AND WIRED TO SEPARATE CONTROLLER INPUT.
4. PULL BOXES SHALL BE ADJACENT TO CURB UNLESS OTHERWISE NOTED AND SHALL NOT BE LOCATED IN WHEELCHAIR RAMPS.
5. TRAFFIC SIGNAL FOUNDATIONS TO BE LOCATED BY STATION AND OFFSET.
6. TS POST/POLE, WITH PEDESTRIAN PUSH BUTTON, NOT LOCATED WITHIN A PAVED SURFACE SHALL BE POSITIONED SO AS TO PROVIDE A 10" MAX CLEAR REACH ZONE BETWEEN THE PEDESTRIAN PUSH BUTTON AND THE PAVED SURFACE PER 521 CMR AND AS SHOWN IN THE CONSTRUCTION DETAILS.

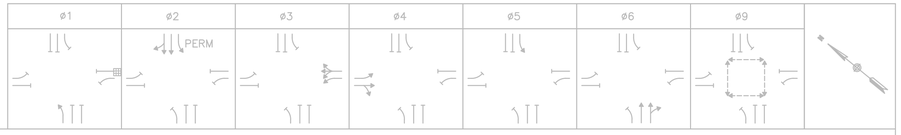


BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	115	208
PROJECT FILE NO.	608227		

TRAFFIC SIGNAL PLANS

608227HD (STRP).DWG Plotted on 29-Dec-2023 4:16 PM



PROPOSED/EXISTING SEQUENCE AND TIMING FOR FULLY ACTUATED CONTROL (ISOLATED)

APPROACH	DIRECTION	HOUSING	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	FLASH
CONCORD ROAD	EB	A	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
CONCORD ROAD	EB	B,C	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	FY
CONCORD ROAD	WB	D	R	R	R	G	Y	R	R	R	R	R	R	R	G R	Y R	R	R	R	R	R	R	R	FY
CONCORD ROAD	WB	E,F	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FY
MIDDLESEX TURNPIKE	NB	G	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
MIDDLESEX TURNPIKE	NB	H	R	R	R	R	R	R	G G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
MIDDLESEX TURNPIKE	NB	J	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
DRIVEWAY	SB	K	R	R	R	R	R	R	R	R	R	G G	Y	R	R	R	R	R	R	R	R	R	R	FR
DRIVEWAY	SB	L,M	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	FR
PEDESTRIAN X-ING	ALL	P1-P4	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	OUT
TIMING IN SECONDS																								
MINIMUM GREEN (INITIAL)			7			7			7			7			7			7						CONFLICT FLASH OPERATION ONLY
PASSAGE TIME (VEHICLE)			2			2			2			2			2			2						
MAXIMUM 1			20			35			30			15			15			35						
MAXIMUM 2			15			45			30			15			15			45						
YELLOW CLEARANCE				4			4			4			4			4			4					
RED CLEARANCE					2			2			2			2			2			2			4	
PEDESTRIAN WALK																					7			
PEDESTRIAN CLEARANCE																						16		
DETECTOR MEMORY			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			LOCK			
RECALL			OFF			MIN			OFF			OFF			OFF			MIN			OFF			

NOTES:
1. AUTOMATIC FLASHING OPERATION PER 2009 M.U.T.C.D., AS AMENDED.
2. * UPON PEDESTRIAN PUSH BUTTON ACTUATION
3. PERM = PERMISSIVE
4. MAXIMUM 1 = NORMAL OPERATION
5. MAXIMUM 2 = NOT USED
6. STOP AND GO OPERATION FOR 24 HOURS PER DAY. FLASHING OPERATION FOR EMERGENCY ONLY.
7. DURING PEDESTRIAN INTERVAL, FDW THROUGH RED OPERATION SHALL NOT BE IN EFFECT.

SEQUENCE & TIMING NOTES:

1. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
2. THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES.
3. IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
4. IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATION FOR THAT MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.

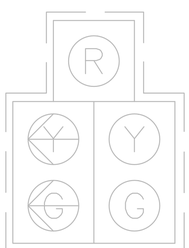
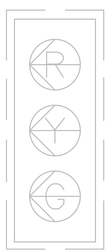
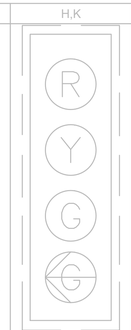
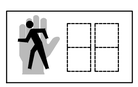
EMERGENCY VEHICLE PRE-EMPTION OPERATION

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT EACH INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH DETECTORS D1, D2, D3 OR D4 ASSIGNED DESCENDING PRIORITIES AS FOLLOWS: (D1 HIGHEST AND D4 LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY OPTICAL DETECTOR D1 (OR D2, D3, D4) THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCY VEHICLE PRE-EMPTION PHASE #1 (OR #2, #3, #4) GREEN FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCES FOR THE ASSOCIATED PHASE(S) AS SHOWN IN THE SEQUENCE AND TIMING CHART AND SERVICE SUBSEQUENT EMERGENCY VEHICLE PRE-EMPTION PHASES AS NECESSARY.
4. MINIMUM GREEN, NORMAL VEHICLE CLEARANCE, AND PEDESTRIAN CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. PRE-EMPTION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PRE-EMPTION GREEN IS ACTIVE.
6. EMERGENCY VEHICLE PRE-EMPTION SHALL OVERRIDE COORDINATION.

EXISTING PRE-EMPTION PHASING & PRIORITY

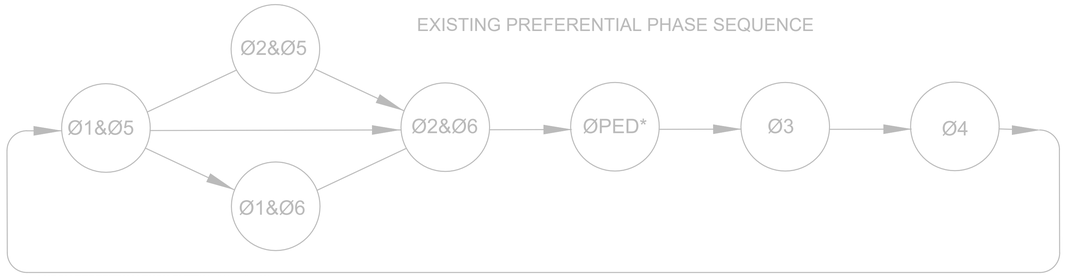
DETECTOR & PRIORITY	PRE-EMPT PHASE ASSIGNMENT	MOVEMENT	VEHICLE PHASE ASSIGNMENT
D1	1		Ø1&Ø6
D2	2		Ø2&Ø6
D3	3		Ø3
D4	4		Ø4

PROPOSED/EXISTING SIGNAL HEAD DATA

D	A,G	B,C,E,F,J,L,M	H,K	~~P1-P8~~	P1-P8
				R&S P1-P8	 W/COUNTDOWN TIMER
ALL 12" LENS					ALL 16" DISPLAY

NOTES:
1. ALL PROPOSED SIGNAL HEADS SHALL BE EQUIPPED WITH TUNNEL VISORS.
2. ALL PROPOSED SIGNAL DISPLAYS SHALL BE EQUIPPED WITH L.E.D. MODULES.

EXISTING PREFERENTIAL PHASE SEQUENCE



* UPON PEDESTRIAN PUSH BUTTON ACTUATION
Ø1 & Ø4 ARE FOR FUTURE USE

PROPOSED/EXISTING LOOP DETECTOR DATA

DETECTOR NO.	NO. SECTION/ SIZE	NO. OF TURNS	OPERATIONS	DELAY /EXT	CALL PHASE	LOOP CONNECTION
1	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø1	SERIES
2	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø6	SERIES
3	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø6	SERIES
4	EXISTING	EXISTING	PRESENCE	0	Ø5	EXISTING
5	EXISTING	EXISTING	PRESENCE	0	Ø2	EXISTING
6	EXISTING	EXISTING	PRESENCE	0	Ø3	EXISTING
7	EXISTING	EXISTING	PRESENCE	0	Ø3	EXISTING
8	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø4	SERIES
9	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø4	SERIES

NOTE: DELAY AND EXTENSION TIMINGS SHALL BE PROGRAMMED IN THE CONTROLLER ONLY

LIST OF MAJOR ITEMS REQUIRED

CONCORD ROAD AT MIDDLESEX TURNPIKE

PAY ITEM	QUANTITY	DESCRIPTION
816.01	1	MODIFY EXIST TS CABINET & CONTROLLER TO ACCOMMODATE PROP CHANGES AS SHOWN
	3	TS POST 8' STANDARD INCL. FOUNDATION
	8	PEDESTRIAN SIGNAL HEAD W/COUNTDOWN TIMER
	6	PEDESTRIAN PUSH BUTTON W/R10-3e(L) AND SIGN SADDLE
	2	PEDESTRIAN PUSH BUTTON W/R10-3e(R) AND SIGN SADDLE
	10	WIRE LOOP DETECTOR W/LEAD IN CABLES
804.3	100'±	3" CONDUIT, SCHEDULE 80, TYPE NM
811.31	1	PULL BOX-12"x12"

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

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	116	208
PROJECT FILE NO. 608227			

TRAFFIC SIGN SUMMARY SHEET

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	COLOR LEGEND	COLOR BORDER	POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
R1-1	30"	30"	STOP	SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			3	RED	WHITE	WHITE	P5-3	6.25	18.75
R1-1(BIKE)	18"	18"	STOP	SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			15	RED	WHITE	WHITE	P5-11 4 MTD W/OTHERS	1.86	26.04
R1-2(BIKE)	18"X18"X18"		YIELD				3	RED	WHITE	WHITE	P5-3	1.13	3.39
R5-3	24"	24"	NO MOTOR VEHICLES				6	WHITE	BLACK	BLACK	P5-5 1 MTD W/OTHERS	4.00	24.00
R7-1D	12"	18"	NO PARKING ANYTIME				1	WHITE	RED	RED	P5-1	1.50	1.50
R7-8	12"	18"	RESERVED PARKING				1	WHITE	GREEN/ BLUE	GREEN	P5-1	1.50	1.50
R7-8a	12"	6"	VAN ACCESSIBLE				1	WHITE	GREEN	GREEN	1 MTD W/OTHERS	0.50	0.50
R9-5	12"	18"	USE PED SIGNAL				2	WHITE	BLACK	BLACK	2 MTD W/OTHERS	1.50	3.00
R10-3e(L)	9"	15"	START CROSSING Watch For Vehicles / DON'T START Finish Crossing If Started TIME REMAINING To Finish Crossing / DON'T CROSS / PUSH BUTTON TO CROSS				6	WHITE	WHITE/ BLACK/ ORANGE	BLACK	6 MTD ON TS POST/POLE	PAID UNDER ITEM 816.01	
R10-3e(R)	9"	15"	START CROSSING Watch For Vehicles / DON'T START Finish Crossing If Started TIME REMAINING To Finish Crossing / DON'T CROSS / PUSH BUTTON TO CROSS				2	WHITE	WHITE/ BLACK ORANGE	BLACK	2 MTD ON TS POST/POLE	PAID UNDER ITEM 816.01	
R10-25	9"	12"	PUSH BUTTON TO TURN ON WARNING LIGHTS				10	WHITE	BLACK	BLACK	10 MTD ON TS POST	PAID UNDER ITEMS 824.211-824.215	
W1-1(L)	18"	18"					3	YELLOW	BLACK	BLACK	P5-3	2.25	6.75
W1-1(R)	18"	18"					4	YELLOW	BLACK	BLACK	P5-4	2.25	9.00
W1-3(L)	18"	18"					4	YELLOW	BLACK	BLACK	P5-4	2.25	9.00
W1-3(R)	18"	18"					1	YELLOW	BLACK	BLACK	P5-1	2.25	2.25
W1-4(L)	18"	18"					1	YELLOW	BLACK	BLACK	P5-1	2.25	2.25
W1-4(R)	18"	18"					1	YELLOW	BLACK	BLACK	P5-1	2.25	2.25
W5-2	18"	18"	NARROW BRIDGE				8	YELLOW	BLACK	BLACK	P5-8	2.25	18.00
W7-5	18"	18"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			1	YELLOW	BLACK	BLACK	P5-1	2.25	2.25
W11-15(L)	30"	30"					28	YELLOW	BLACK	BLACK	P5-18	6.25	112.50
											10 MTD ON TS POST	PAID UNDER ITEMS 824.211-824.215	
W11-15(R)	30"	30"					10	YELLOW	BLACK	BLACK	10 MTD ON TS POST	PAID UNDER ITEMS 824.211-824.215	
W11-2	24"	24"					4	YELLOW	BLACK	BLACK	P5-4	4.00	16.00
W16-7p(L)	24"	12"					20	YELLOW	BLACK	BLACK	10 MTD W/OTHERS	2.00	20.00
											10 MTD ON TS POST	PAID UNDER ITEMS 824.211-824.215	
W16-7p(L)(1)	24"	12"					1	FLUORESCENT YELLOW GREEN	BLACK	BLACK	1 MTD W/ OTHERS	2.00	2.00
W16-7p(R)	24"	12"					10	YELLOW	BLACK	BLACK	10 MTD ON TS POST	PAID UNDER ITEMS 824.211-824.215	
W16-9p	24"	12"	AHEAD				13	YELLOW	BLACK	BLACK	13 MTD W/OTHERS	2.00	26.00
W16-9p(1)	24"	12"	AHEAD				1	FLUORESCENT YELLOW GREEN	BLACK	BLACK	1 MTD W/OTHERS	2.00	2.00
OM2-2V	6"	12"					3	YELLOW	N/A	N/A	P5-1 2 MTD ON BRIDGE TERMINALS	0.50	1.50
M4-6	12"	9"	END				3	GREEN	WHITE	WHITE	3 MTD W/OTHERS	0.75	2.25
M4-14	12"	9"	BEGIN				2	GREEN	WHITE	WHITE	2 MTD W/OTHERS	0.75	1.50
M5-1(R)	12"	9"					1	GREEN	WHITE	WHITE	1 MTD W/OTHERS	0.75	0.75
M5-2(R)	12"	9"					1	GREEN	WHITE	WHITE	1 MTD W/OTHERS	0.75	0.75
M6-1(L)	12"	9"					7	GREEN	WHITE	WHITE	7 MTD W/OTHERS	0.75	5.25
M6-1(R)	12"	9"					2	GREEN	WHITE	WHITE	2 MTD W/OTHERS	0.75	1.50
M6-2(L)	12"	9"					1	GREEN	WHITE	WHITE	1 MTD W/OTHERS	0.75	0.75
M6-3	12"	9"					1	GREEN	WHITE	WHITE	1 MTD W/OTHERS	0.75	0.75

NOTE: HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, FOR VERTICAL & LATERAL CLEARANCES.

608227HD (SS).DWG 29-Dec-2023

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	117	208
PROJECT FILE NO. 608227			

TRAFFIC SIGN SUMMARY SHEET

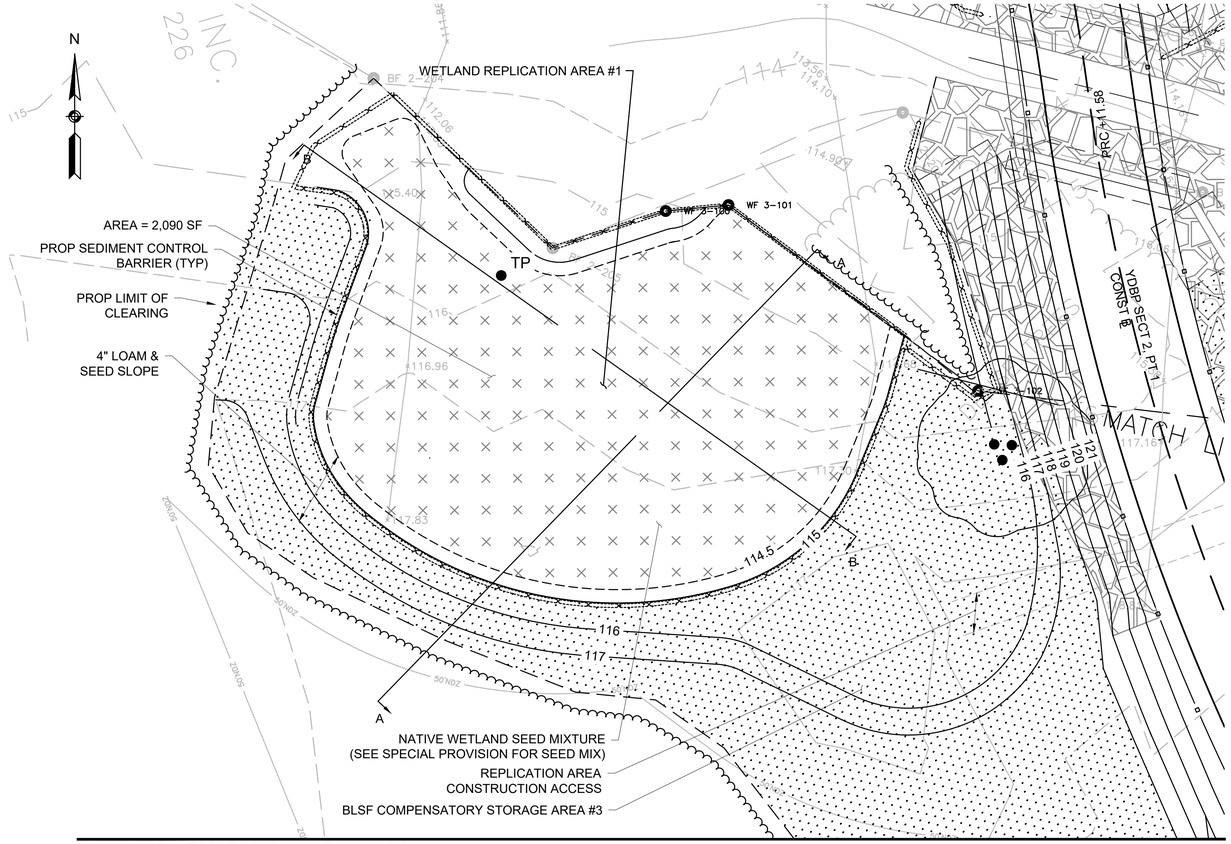
29-Dec-2023

608227HD (SS).DWG

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	TEXT DIMENSIONS (INCHES) VERTICAL SPACING	TEXT DIMENSIONS (INCHES) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACKGROUND	COLOR LEGEND	COLOR BORDER	POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
M6-4	12"	9"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			3	GREEN	WHITE	WHITE	5 MTD W/OTHERS	0.75	2.25
M6-7(R)	12"	9"					1	GREEN	WHITE	WHITE	1 MTD W/OTHERS	0.75	0.75
S1-1	36"	36"					2	FLUORESCENT YELLOW GREEN	BLACK	BLACK	P5-1	9.00	18.00
D4-3(L)	12"	18"					2	WHITE	GREEN	GREEN	2 MTD W/OTHERS	1.50	3.00
D4-3(R)	12"	18"					1	WHITE	GREEN	GREEN	1 MTD W/OTHERS	1.50	1.50
D4-3(V)	12"	18"					1	WHITE	GREEN	GREEN	1 MTD W/OTHERS	1.50	1.50
D1-1C(1)	24"	8"	River St	4"D/3"D	2" 2"	N/A	1	GREEN	WHITE	WHITE	P5-1	PAID UNDER ITEM 874	
D1-1C(2)	42"	8"	Richardson St	4"D/3"D	2" 2"	N/A	1	GREEN	WHITE	WHITE	P5-1	PAID UNDER ITEM 874	
D1-1C(3)	54"	8"	Technology Park Dr	4"D/3"D	1.75" 2.25"	N/A	1	GREEN	WHITE	WHITE	P5-2	PAID UNDER ITEM 874	
D1-1C(4)	30"	8"	Springs Rd	4"D/3"D	1.75" 2.25"	N/A	1	GREEN	WHITE	WHITE	P5-1	PAID UNDER ITEM 874	
SP-1	9"	12"	WAIT FOR VEHICLES TO STOP BEFORE CROSSING	1"C 1"C 1"C 1"C 1"C	1.5" 1" 1" 1" 1" 1.5"	N/A	10	YELLOW	BLACK	BLACK	10 MTD ON TS POST	PAID UNDER ITEMS 824.211-824.215	
SP-2	30"	36"	NO ACCESSIBLE BIKE ROUTE BEYOND THIS POINT	4"B 4"B 4"B 4"B 4"B 4"B	2" 3" 3" 3" 3" 2"	N/A	1	YELLOW	BLACK	BLACK	P5-1	7.50	7.50
SP-3	30"	30"	NO ACCESSIBLE BIKE ROUTE AHEAD	4"B 4"B 4"B 4"B 4"B	2" 3" 3" 3" 3"	N/A	1	YELLOW	BLACK	BLACK	1 MTD W/OTHERS	6.25	6.25

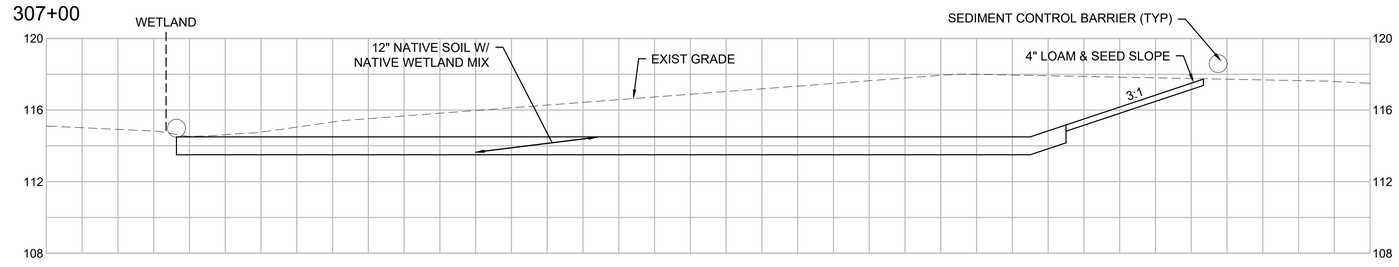
IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	TEXT DIMENSIONS (INCHES) VERTICAL SPACING	TEXT DIMENSIONS (INCHES) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACKGROUND	COLOR LEGEND	COLOR BORDER	POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
SP-4	12"	18"	WETLAND PROTECTION AREA SEE NOTE 2	AS PER TOWN OF BILLERICA CONSERVATION COMMISSION STANDARD			14	AS PER TOWN OF BILLERICA CONSERVATION COMMISSION STANDARD			P5-13 1 MTD W/OTHERS	PAID UNDER ITEM 832.1	
YD-1	12"	18"		2"C 2"C 2"C 2"C	2" 2" 2" 2" 2"	N/A	23	GREEN	WHITE	WHITE	P5-20 3 MTD W/OTHERS	1.50	34.50

NOTES:
1. HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, FOR VERTICAL & LATERAL CLEARANCES.
2. CONTRACTOR SHALL COORDINATE WITH THE TOWN OF BILLERICA CONSERVATION COMMISSION CONCERNING THE WETLAND PROTECTION SIGN. SIGN SHOWN ON SIGN SUMMARY IS A PLACEHOLDER ONLY, SEE CONSTRUCTION DETAILS AND SPECIAL PROVISIONS FOR MORE INFORMATION.



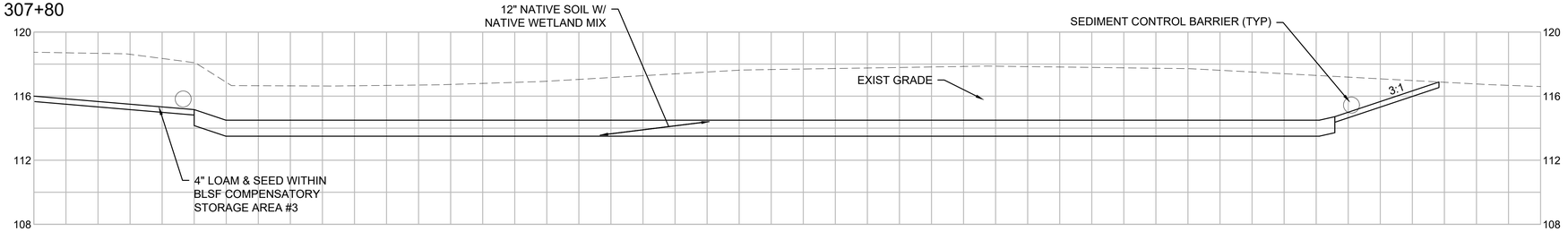
WETLAND REPLICATION AREA #1 PLAN

SCALE: 1"=8'



WETLAND #24 REPLICATION CROSS SECTION A-A

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



WETLAND #24 REPLICATION CROSS SECTION B-B

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

SEE SHEET 126 FOR WETLAND 24 PLANT SCHEDULE

BILLERICA
YANKEE DOODLE BIKE PATH

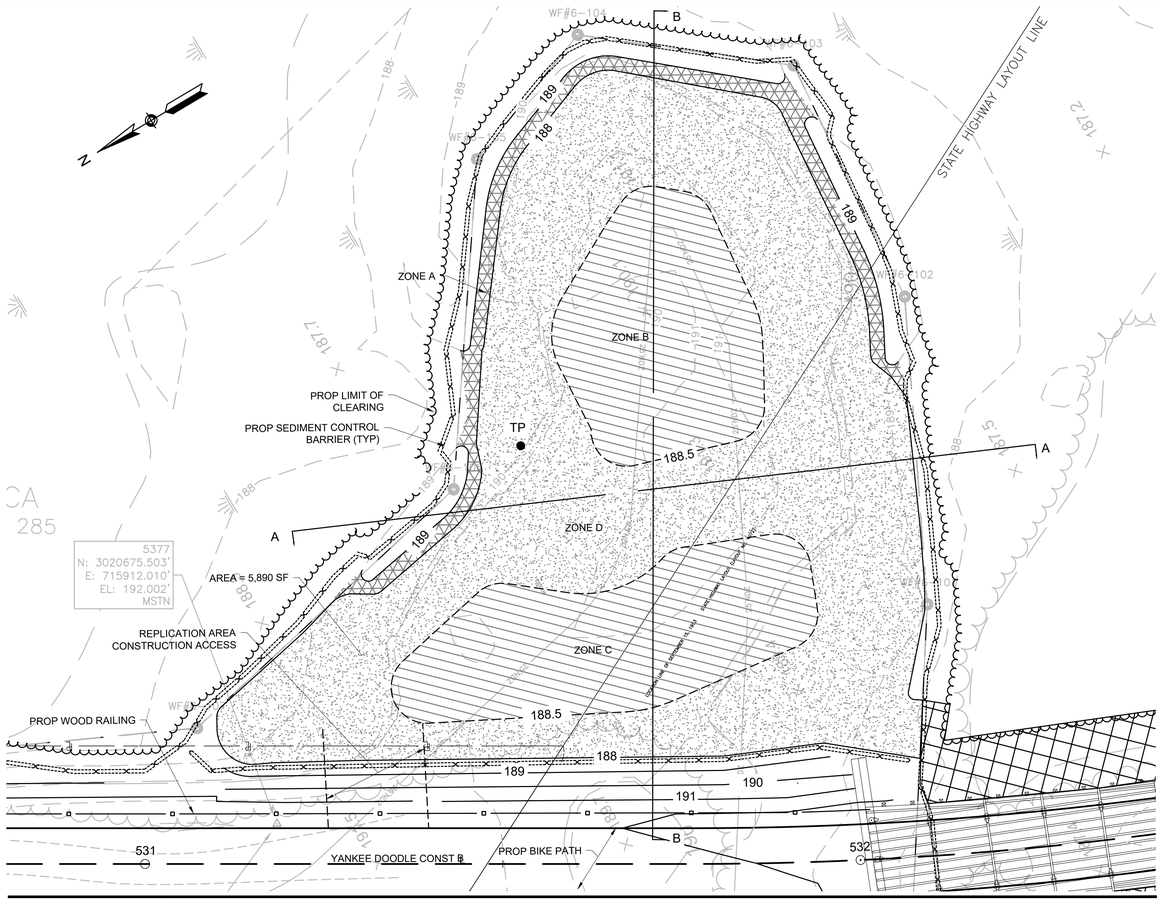
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	122	208
PROJECT FILE NO.	608227		

ENVIRONMENTAL MITIGATION PLANS
WETLAND REPLICATION PLAN

NOTES:

1. SEE SPECIAL PROVISIONS UNDER ITEM 755.35 INLAND WETLAND REPLICATION AREA.
2. THE REPLACEMENT AREA SHALL BE EXCAVATED TO THE FINISHED GRADE SHOWN ON THE PLAN. A BARRIER OF COMPOST FILTER TUBES AS SHOWN ON THE DRAWINGS SHALL SEPARATE ANY WETLAND RESOURCE AREA ADJACENT TO THE REPLACEMENT AREA FROM THE REPLACEMENT AREA.
3. ALL SOIL WITHIN THE TOP 12 INCHES OF THE PROPOSED REPLACEMENT AREA SURFACE SHALL BE INSPECTED FOR RUBBLE; IF RUBBLE IS FOUND, IT SHALL BE REMOVED FROM THE TOPSOIL. IF THE SOIL IS BEYOND USABLE QUALITY AS DETERMINED BY THE WETLAND SCIENTIST, IT SHALL BE DISPOSED OF.
4. ORGANIC COMPOST SOIL SHALL BE INCORPORATED INTO THE TOP 12 INCHES OF EXISTING SUBSOIL AT A RATE OF 1 PART COMPOST TO 3 PARTS EXISTING SOIL. THE REPLICATION AREA SHALL BE GRADED TO BE AT A GRADE COMPATIBLE WITH THE ADJACENT WETLAND. ANY EXCAVATED HYDRIC SOILS FROM THE WETLAND REPLACEMENT AREA SHALL BE ASSUMED TO CONTAIN SEED OR RHIZOMES OF INVASIVE PLANT SPECIES AND WILL BE REMOVED FROM THE SITE AND NOT USED IN THE WETLAND REPLACEMENT AREA.
5. THE GRADING AND OPERATION REQUIRED TO INCORPORATE THE COMPOST SOIL TO CREATE A WETLAND SOIL MIXTURE SHALL BE PERFORMED IN A MANNER TO MINIMIZE TRAVEL AND SUBSEQUENT COMPACTION OF THE PREPARED SOIL.
6. ALL PLANTING WILL BE PERFORMED IN THE SPRING (4-15 TO 6-15) OR FALL (9-1 TO 10-15).
7. ALL PLANT MATERIAL SHALL BE HEALTHY, FREE OF DISEASE AND PESTS AND CONTAIN A WELL DEVELOPED ROOT SYSTEM.
8. ONCE ALL TREES AND SHRUBS HAVE BEEN PLANTED, THE WETLAND AREA WILL BE SEEDED WITH A HERBACEOUS NATIVE NEW ENGLAND WETLAND SEED MIX. SEE SPECIFICATIONS FOR SEED RATES. HYDROSEEDING MAY BE USED.
9. A HERBACEOUS EROSION CONTROL / RESTORATION SEED MIXTURE FOR WET SITES SHALL BE APPLIED TO THE SIDE SLOPES AS SPECIFIED IN THE SPECIAL PROVISIONS. PROPER APPLICATION WILL PERMIT THE GROUNDCOVER TO GERMINATE AND GROW IN AND BENEATH THE LAYER. EROSION AND SEDIMENTATION CONTROLS SHALL REMAIN IN PLACE UNTIL ALL AREAS ARE STABILIZED.
10. UPON COMPLETION OF THE REPLACEMENT AREA, A COMPOST FILTER TUBE BARRIER SHALL BE PLACED AROUND THE ENTIRE PERIMETER TO PROTECT IT DURING THE REST OF THE CONSTRUCTION.
11. THE FINAL GRADING OF THE WETLAND SOILS SHALL RESULT IN NO BREAKS IN ELEVATION UPON REMOVAL OF SEDIMENTATION BARRIERS.
12. THE SEDIMENTATION BARRIERS SHALL BE REMOVED AT THE COMPLETION OF ALL CONSTRUCTION FOR THE PROJECT. THE GROUND UNDER THE SEDIMENTATION BARRIERS SHALL BE RESEEDED WHEN THE BARRIERS ARE REMOVED.
13. ELEVATION AT THE TEST PIT LOCATION IS ±115.5 FT. REDOXIMORPHIC FEATURES WERE OBSERVED 9" BELOW THE GROUND. MITIGATION AREA IS SET AT ELEVATION 114.5 FT. ADJACENT WETLAND ELEVATION IS ±115.0 FT.
14. THE WETLAND SCIENTIST SHALL OBSERVE THE ROUGH GRADED SURFACE BEFORE PLACING THE 12 INCHES OF WETLAND SOIL AND SHALL DETERMINE IF THE FINAL GRADE ELEVATION IS APPROPRIATE FOR THE WETLAND REPLACEMENT AREA AT OR BELOW THE SEASONAL HIGH GROUNDWATER LEVEL BASED ON REDOXIMORPHIC FEATURES OR PRESENCE OF STANDING WATER.
15. THE REPLACEMENT AREA SURFACE SHALL BE LEFT WITH AN IRREGULAR SURFACE OF MICROTOPOGRAPHY OF UP TO 6 INCHES BETWEEN HIGH POINTS AND LOW POINTS.
16. WOODY DEBRIS CONSISTING OF BRANCHES, LOGS AND STUMPS OF VARYING DEGREES OF DECOMPOSITION SHALL OCCUPY AT LEAST 4 PERCENT OF THE SURFACE AREA. WOODY DEBRIS SHALL BE PLACED PRIOR TO PLANTING AND SEEDING.
17. BILLERICA IS KNOWN FOR INTENSE DEER ACTIVITY AND BROWSING. A TEMPORARY DEER FENCE A MINIMUM OF 7 FEET HIGH SHALL BE INSTALLED AROUND THE REPLACEMENT AREA TO EXCLUDE DEER AND PROTECT THE PLANTED TREES AND SHRUBS FROM BROWSING.

608227HD (WETLAND)-1.DWG Plotted on 29-Dec-2023 4:38 PM



SEE SHEET 126 FOR WETLAND 6 PLANT SCHEDULE

NOTES:

1. SEE SPECIAL PROVISIONS UNDER ITEM 755.35 INLAND WETLAND REPLICATION AREA.
2. THE REPLACEMENT AREA SHALL BE EXCAVATED TO THE FINISHED GRADE SHOWN ON THE PLAN. A BARRIER OF COMPOST FILTER TUBES AS SHOWN ON THE DRAWINGS SHALL SEPARATE ANY WETLAND RESOURCE AREA ADJACENT TO THE REPLACEMENT AREA FROM THE REPLACEMENT AREA.
3. ALL SOIL WITHIN THE TOP 12 INCHES OF THE PROPOSED REPLACEMENT AREA SURFACE SHALL BE INSPECTED FOR RUBBLE; IF RUBBLE IS FOUND, IT SHALL BE REMOVED FROM THE TOPSOIL. IF THE SOIL IS BEYOND USABLE QUALITY AS DETERMINED BY THE WETLAND SCIENTIST, IT SHALL BE DISPOSED OF.
4. ORGANIC COMPOST SOIL SHALL BE INCORPORATED INTO THE TOP 12 INCHES OF EXISTING SUBSOIL AT A RATE OF 1 PART COMPOST TO 3 PARTS EXISTING SOIL. THE REPLICATION AREA SHALL BE GRADED TO BE AT A GRADE COMPATIBLE WITH THE ADJACENT WETLAND. ANY EXCAVATED HYDRIC SOILS FROM THE WETLAND REPLACEMENT AREA SHALL BE ASSUMED TO CONTAIN SEED OR RHIZOMES OF INVASIVE PLANT SPECIES AND WILL BE REMOVED FROM THE SITE AND NOT USED IN THE WETLAND REPLACEMENT AREA.
5. THE GRADING AND OPERATION REQUIRED TO INCORPORATE THE COMPOST SOIL TO CREATE A WETLAND SOIL MIXTURE SHALL BE PERFORMED IN A MANNER TO MINIMIZE TRAVEL AND SUBSEQUENT COMPACTION OF THE PREPARED SOIL.
6. ALL PLANTING WILL BE PERFORMED IN THE SPRING (4-15 TO 6-15) OR FALL (9-1 TO 10-15).
7. ALL PLANT MATERIAL SHALL BE HEALTHY, FREE OF DISEASE AND PESTS AND CONTAIN A WELL DEVELOPED ROOT SYSTEM.
8. ONCE ALL TREES AND SHRUBS HAVE BEEN PLANTED, THE WETLAND AREA WILL BE SEEDED WITH A HERBACEOUS NATIVE NEW ENGLAND WETLAND SEED MIX. SEE SPECIFICATIONS FOR SEED RATES. HYDROSEEDING MAY BE USED.
9. A HERBACEOUS EROSION CONTROL / RESTORATION SEED MIXTURE FOR WET SITES SHALL BE APPLIED TO THE SIDE SLOPES AS SPECIFIED IN THE SPECIAL PROVISIONS. PROPER APPLICATION WILL PERMIT THE GROUNDCOVER TO GERMINATE AND GROW IN AND BENEATH THE LAYER. EROSION AND SEDIMENTATION CONTROLS SHALL REMAIN IN PLACE UNTIL ALL AREAS ARE STABILIZED.
10. UPON COMPLETION OF THE REPLACEMENT AREA, A COMPOST FILTER TUBE BARRIER SHALL BE PLACED AROUND THE ENTIRE PERIMETER TO PROTECT IT DURING THE REST OF THE CONSTRUCTION.
11. THE FINAL GRADING OF THE WETLAND SOILS SHALL RESULT IN NO BREAKS IN ELEVATION UPON REMOVAL OF SEDIMENTATION BARRIERS.
12. THE SEDIMENTATION BARRIERS SHALL BE REMOVED AT THE COMPLETION OF ALL CONSTRUCTION FOR THE PROJECT. THE GROUND UNDER THE SEDIMENTATION BARRIERS SHALL BE RESEEDED WHEN THE BARRIERS ARE REMOVED.
13. ELEVATION AT THE TEST PIT LOCATION IS ±190.0 FT. REDEXIMORPHIC FEATURES WERE OBSERVED 12" BELOW THE GROUND. MITIGATION AREA IS SET AT ELEVATION 188.0-189.0 FT WITH CONNECTION TO EXISTING 188.0 FT CONTOUR ON WEST CORNER. ADJACENT WETLAND ELEVATION IS ±188-189 FT.
14. THE WETLAND SCIENTIST SHALL OBSERVE THE ROUGH GRADED SURFACE BEFORE PLACING THE 12 INCHES OF WETLAND SOIL AND SHALL DETERMINE IF THE FINAL GRADE ELEVATION IS APPROPRIATE FOR THE WETLAND REPLACEMENT AREA AT OR BELOW THE SEASONAL HIGH GROUNDWATER LEVEL BASED ON REDOXIMORPHIC FEATURES OR PRESENCE OF STANDING WATER.
15. THE REPLACEMENT AREA SURFACE SHALL BE LEFT WITH AN IRREGULAR SURFACE OF MICROTOPOGRAPHY OF UP TO 6 INCHES BETWEEN HIGH POINTS AND LOW POINTS.
16. WOODY DEBRIS CONSISTING OF BRANCHES, LOGS AND STUMPS OF VARYING DEGREES OF DECOMPOSITION SHALL OCCUPY AT LEAST 4 PERCENT OF THE SURFACE AREA. WOODY DEBRIS SHALL BE PLACED PRIOR TO PLANTING AND SEEDING.
17. BILLERICA IS KNOWN FOR INTENSE DEER ACTIVITY AND BROWSING. A TEMPORARY DEER FENCE A MINIMUM OF 7 FEET HIGH SHALL BE INSTALLED AROUND THE REPLACEMENT AREA TO EXCLUDE DEER AND PROTECT THE PLANTED TREES AND SHRUBS FROM BROWSING.

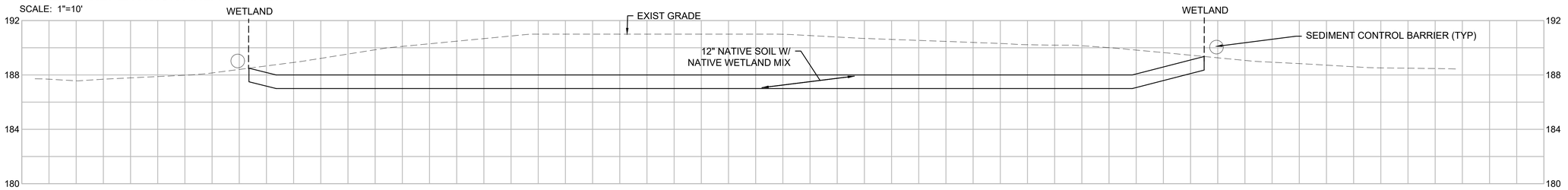
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	123	208
PROJECT FILE NO.	608227		

ENVIRONMENTAL MITIGATION PLANS
WETLAND REPLICATION PLAN

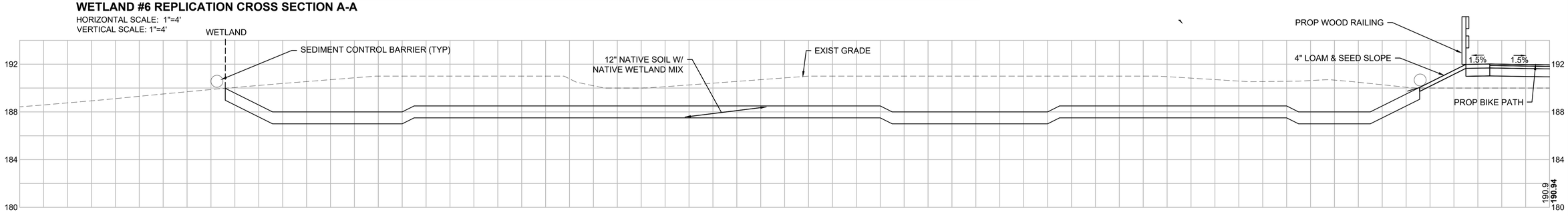
WETLAND REPLICATION AREA #2 PLAN

SCALE: 1"=10'



WETLAND #6 REPLICATION CROSS SECTION A-A

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



WETLAND #6 REPLICATION CROSS SECTION B-B

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

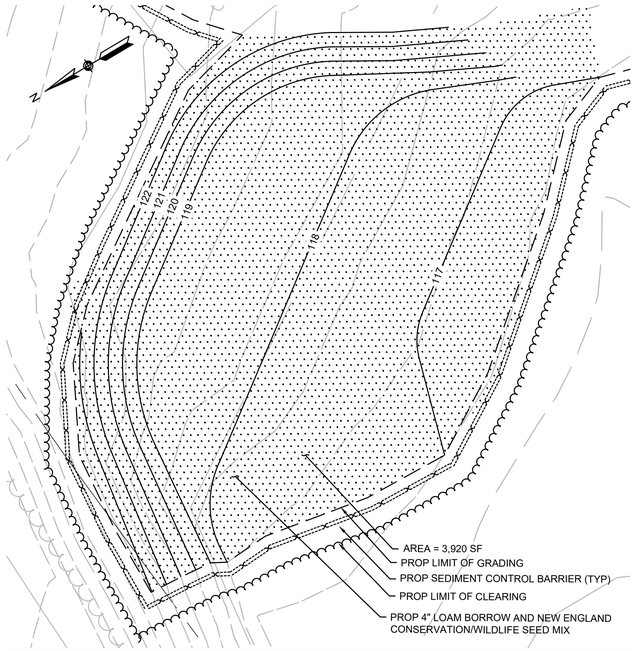
608227HD (WETLAND)-1.DWG Plotted on 29-Dec-2023 4:39 PM

BILLERICA
YANKEE DOODLE BIKE PATH

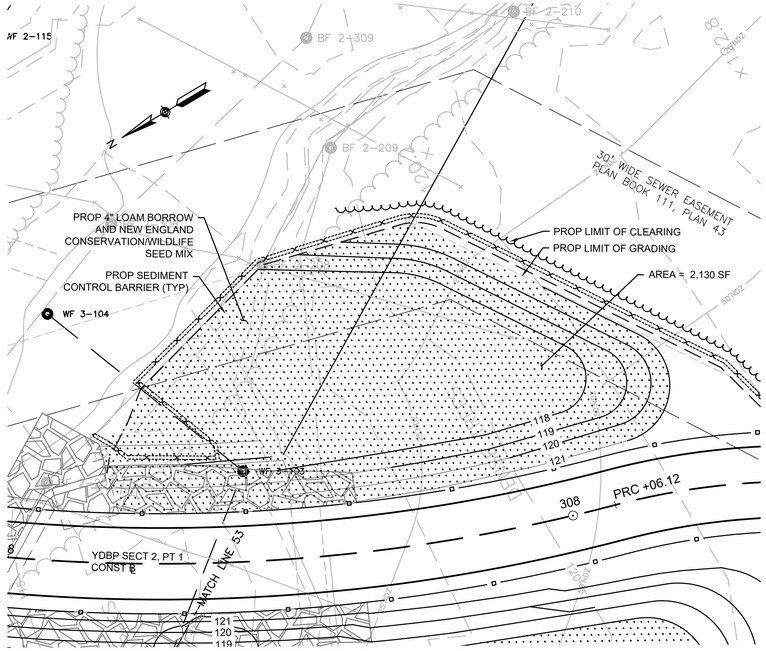
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	124	208
PROJECT FILE NO.	608227		

ENVIRONMENTAL MITIGATION PLANS
BLSF COMPENSATORY STORAGE PLAN

SEE SHEET 126 FOR FLOODPLAIN STORAGE AREA PLANT SCHEDULE



BLSF COMPENSATORY STORAGE AREA #1
SCALE: 1"=10'



BLSF COMPENSATORY STORAGE AREA #2
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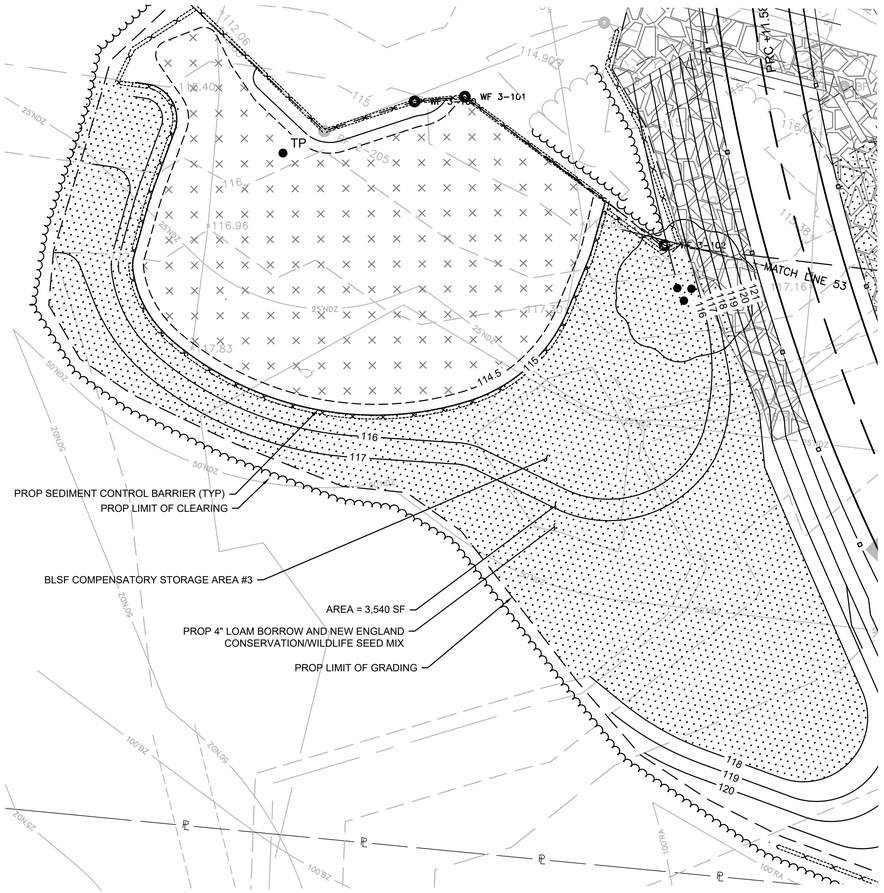
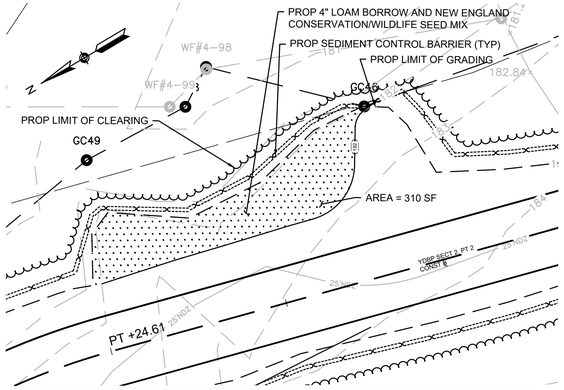
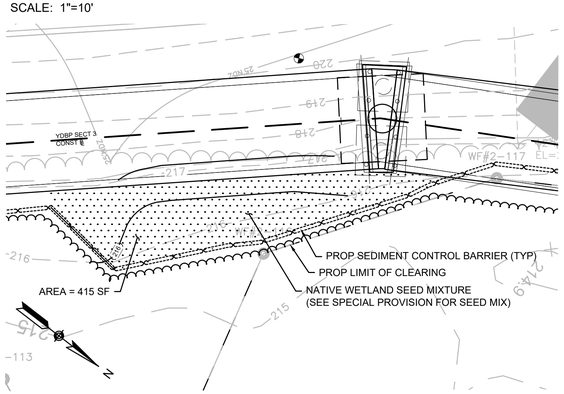


BLSF COMPENSATORY STORAGE AREA #3
SCALE: 1"=10'



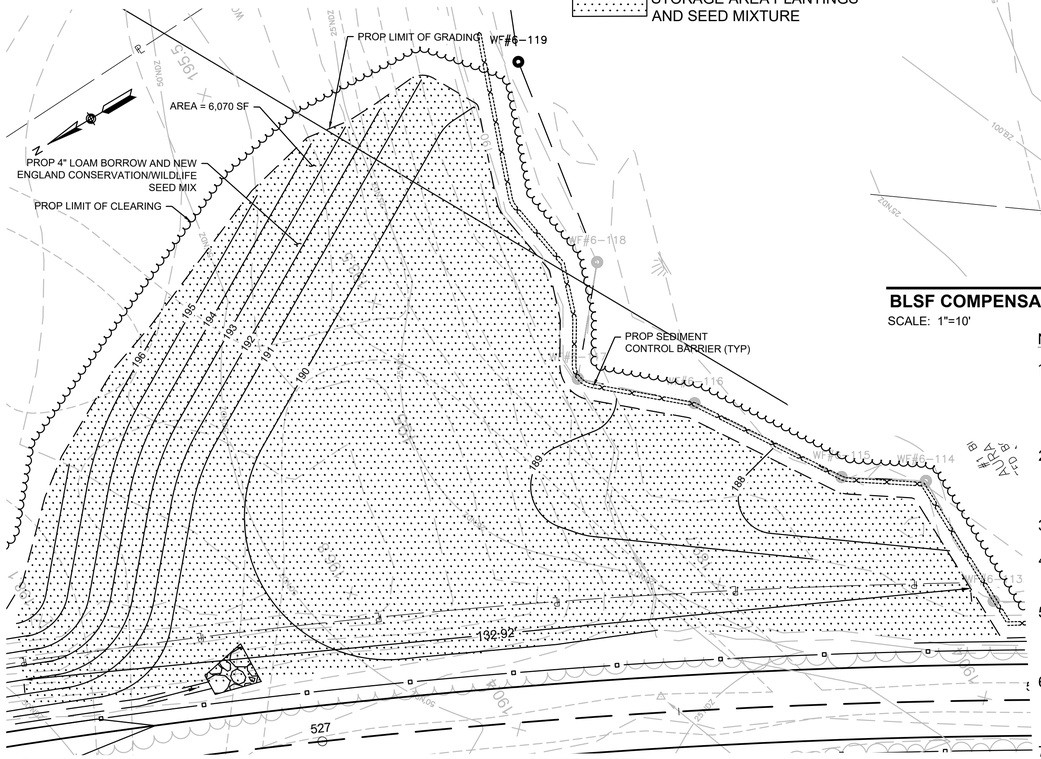
BLSF COMPENSATORY STORAGE AREA #4
SCALE: 1"=10'



BLSF COMPENSATORY STORAGE AREA #6
SCALE: 1"=10'

LEGEND:

LIMIT OF COMPENSATORY STORAGE AREA PLANTINGS AND SEED MIXTURE



BLSF COMPENSATORY STORAGE AREA #5
SCALE: 1"=10'

NOTES:

1. THE COMPENSATORY FLOODPLAIN STORAGE AREAS SHALL BE EXCAVATED TO THE FINISHED GRADE SHOWN ON THE PLAN. A BARRIER OF COMPOST FILTER TUBES, AS SHOWN ON THE DRAWINGS, SHALL SEPARATE ANY WETLAND RESOURCE AREA ADJACENT TO THE COMPENSATORY STORAGE AREAS.
2. LOAM BORROW SHALL BE SPREAD OVER THE LIMITS OF THE COMPENSATORY FLOODPLAIN STORAGE AREAS TO A DEPTH OF 4 INCHES, IN ACCORDANCE WITH THE MASSDOT STANDARD SPECIFICATIONS.
3. ALL PLANTING WILL BE PERFORMED IN THE SPRING (4-15 TO 6-15) OR FALL (9-1 TO 10-15).
4. ALL PLANT MATERIAL SHALL BE HEALTHY, FREE OF DISEASE AND PESTS AND CONTAIN A WELL-DEVELOPED ROOT SYSTEM.
5. ONCE ALL TREES AND SHRUBS HAVE BEEN PLANTED, THE COMPENSATORY STORAGE AREA WILL BE SEEDED WITH A HERBACEOUS NEW ENGLAND CONSERVATION/WILDLIFE SEED MIX. SEE SPECIFICATIONS FOR SEED RATES. HYDROSEEDING MAY BE USED.
6. THE SEDIMENTATION BARRIERS SHALL BE REMOVED AT THE COMPLETION OF ALL CONSTRUCTION FOR THE PROJECT. THE GROUND UNDER THE SEDIMENTATION BARRIERS SHALL BE RESEEDED WHEN THE BARRIERS ARE REMOVED.
7. BILLERICA IS KNOWN FOR INTENSE DEER ACTIVITY AND BROWSING. A TEMPORARY DEER FENCE A MINIMUM OF 7 FEET HIGH SHALL BE INSTALLED AROUND THE REPLACEMENT AREA TO EXCLUDE DEER AND PROTECT THE PLANTED TREES AND SHRUBS FROM BROWSING.

608227HD (WETLAND)-1.DWG Plotted on 29-Dec-2023 4:42 PM

BILLERICA
YANKEE DOODLE BIKE PATH

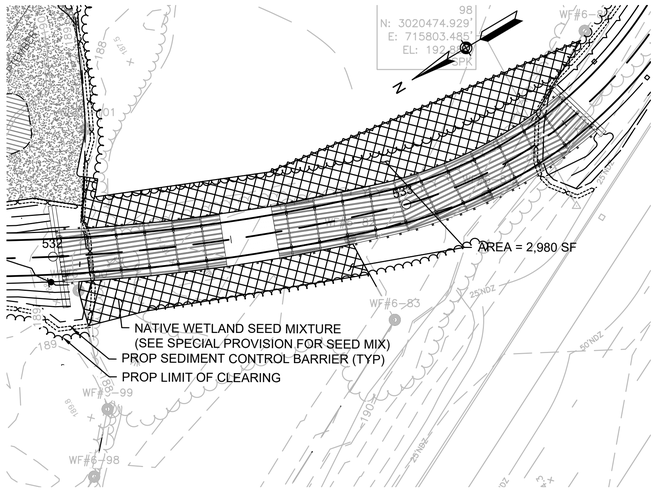
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	125	208
PROJECT FILE NO.	608227		

ENVIRONMENTAL MITIGATION PLANS
BLSF COMPENSATORY STORAGE PLAN

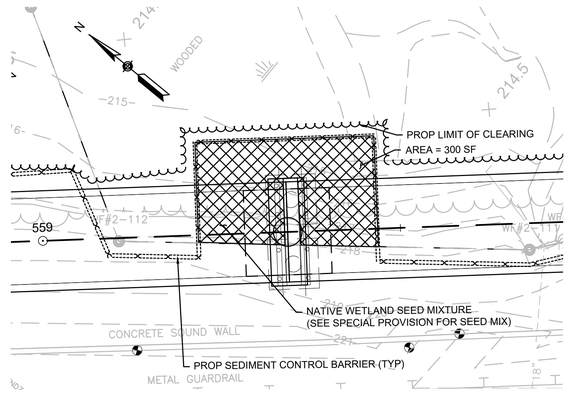
608227HD (WETLAND)-1.DWG Plotted on 29-Dec-2023 4:45 PM

LEGEND:

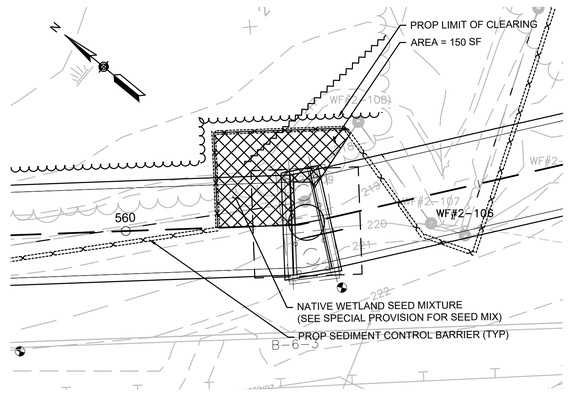
WETLAND RESTORATION AREA
PLANTINGS AND SEED MIXTURE



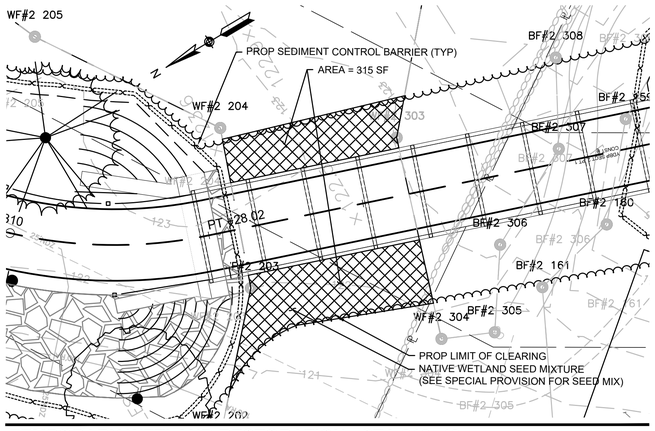
TEMPORARY WETLAND RESTORATION - STA 532+05 TO STA 533+70
SCALE: 1"=20'



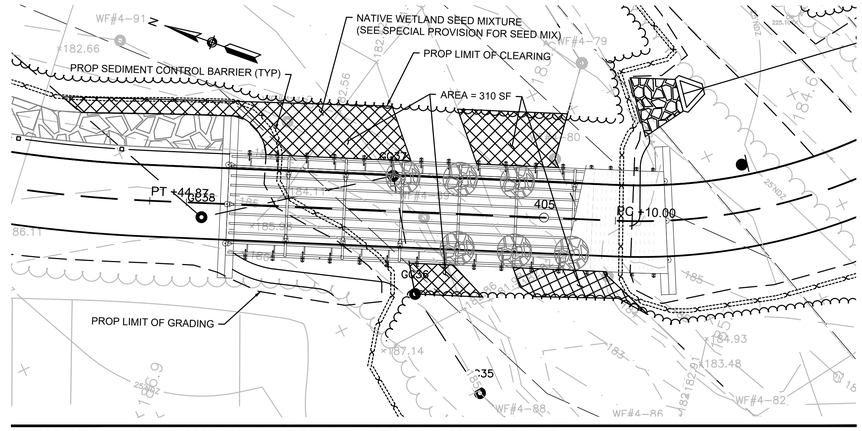
TEMPORARY WETLAND RESTORATION - STA 559+35
SCALE: 1"=10'



TEMPORARY WETLAND RESTORATION - STA 560+02
SCALE: 1"=10'



TEMPORARY WETLAND RESTORATION - STA 310+40
SCALE: 1"=10'



TEMPORARY WETLAND RESTORATION - STA 404+30 TO 405+10
SCALE: 1"=10'

NOTES:

1.SEE SPECIAL PROVISIONS UNDER ITEM 755.45 WETLAND RESTORATION.

2.FILL AND TEMPORARY SEPARATION FABRIC OR MATS SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED UNDER THE RESPECTIVE ITEMS.

3.A BARRIER OF COMPOST FILTER TUBES AS SHOWN ON THE DRAWINGS SHALL SEPARATE ANY WETLAND RESOURCE AREA ADJACENT TO THE RESTORATION AREA.

4. GRADES SHALL BE RESTORED TO PRE-CONSTRUCTION ELEVATIONS AS SHOWN IN THE BASELINE SURVEY OR AS REQUIRED BY THE ENGINEER AND WETLAND SPECIALIST TO RESTORE HYDROLOGIC FUNCTIONS. FINAL ELEVATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO SOIL PREPARATION AND SEEDING.

5. FOLLOWING APPROVAL OF GRADING TO ELEVATIONS REQUIRED, SOIL SHALL BE PREPARED AND SEEDED. COMPACTED SOIL SHALL BE SCARIFIED WITH EQUIPMENT APPROVED BY THE ENGINEER AND SEEDING SHALL IMMEDIATELY FOLLOW SOIL PREPARATION.

6. SEEDING SHALL BE HAND BROADCAST WITH STRAW MULCH APPLIED PER THE STANDARD SPECIFICATIONS AND PER THE MANUFACTURER'S DIRECTIONS. HYDROMULCH SHALL BE STRAW OR WOOD FIBER ONLY AND SHALL BE PER THE MANUFACTURER'S RECOMMENDATIONS.

7. PLANTINGS SHALL BE INCLUDED WITHIN THE RESTORATION AREAS SHOWN ON THIS SHEET AS INDICATED IN THE PLANTING SCHEDULE. ALL OTHER TEMPOARY WETLAND IMPACT AREAS ARE MINIMAL IN SIZE AND ARE ONLY INTENDED TO BE SEEDED AS NOTED ABOVE.

8, PLANTING WITHIN THE RESTORATION AREAS SHALL BE PERFORMED IN THE SPRING (4-15 TO 6-15) OR FALL (9-1 TO 10-15). ALL PLANT MATERIAL SHALL BE HEALTHY, FREE OF DISEASE AND PESTS AND CONTAIN A WELL DEVELOPED ROOT SYSTEM.

9. UPON COMPLETION OF THE RESTORATION AREA, A COMPOST FILTER TUBE BARRIER SHALL BE PLACED AROUND THE ENTIRE PERIMETER TO PROTECT IT DURING THE REST OF THE CONSTRUCTION.

10. THE SEDIMENTATION BARRIERS SHALL BE REMOVED AT THE COMPLETION OF ALL CONSTRUCTION FOR THE PROJECT. THE GROUND UNDER THE SEDIMENTATION BARRIERS SHALL BE RESEEDED WHEN THE BARRIERS ARE REMOVED.

PLANT SCHEDULE FOR WETLAND MITIGATION AREA #1 (2,090 SQUARE FEET)

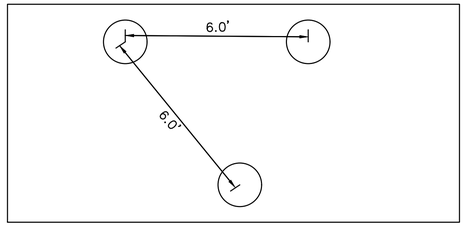
COMMON NAME	SCIENTIFIC NAME	NUMBER	SIZE
RED MAPLE	*ACER RUBRUM*	10	18" TO 24"
RED MAPLE	*ACER RUBRUM*	10	3' TO 4'
SPICEBUSH	*LINDERA BENZOIN*	5	18" TO 24"
SPICEBUSH	*LINDERA BENZOIN*	5	3' TO 4'
SILKY DOGWOOD	*SWEDA AMOMUM*	5	18" TO 24"
SILKY DOGWOOD	*SWEDA AMOMUM*	5	3' TO 4'
WINTERBERRY	*AMELANCHIER CANADENSIS*	3	18" TO 24"
WINTERBERRY	*AMELANCHIER CANADENSIS*	3	3' TO 4'
HIGHBUSH BLUEBERRY	*VACCINIUM CORYMBOSUM*	5	18" TO 24"
HIGHBUSH BLUEBERRY	*VACCINIUM CORYMBOSUM*	5	3' TO 4'
NORTHERN ARROW-WOOD	*VIBURNUM DENTATUM*	5	18" TO 24"
NORTHERN ARROW-WOOD	*VIBURNUM DENTATUM*	5	3' TO 4'
TOTAL PLANTS		66	
WETLAND SEED MIX		1	LB.

NOTES:
1. PLANTED AT A RATE OF 1,340 PLANTS PER ACRE
2. INSTALL PLANTS 6 FEET APART IN STAGGERED ROWS
3. SEED ENTIRE AREA WITH 1LB OF NEW ENGLAND WETMIX OR APPROVED EQUIVALENT

PLANT SCHEDULE FOR WETLAND MITIGATION AREA #2 (5,890 SQUARE FEET)

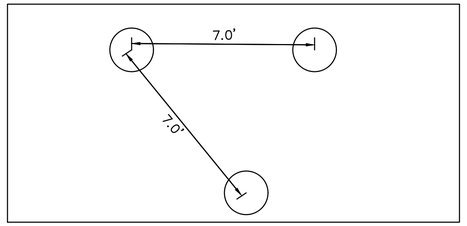
COMMON NAME	SCIENTIFIC NAME	PLANTING ZONE				NUMBER	SIZE
		A	B	C	D		
RED MAPLE	*ACER RUBRUM*	2	3	3	2	10	18" TO 24"
RED MAPLE	*ACER RUBRUM*	2	3	3	2	10	3' TO 4'
SILVER MAPLE	*ACER SACCHARINUM*	5	2	3		10	18" TO 24"
SILVER MAPLE	*ACER SACCHARINUM*	5	2	3		10	3' TO 4'
BLACK GUM	*NYSSA SYLVATICA*		3	5	2	10	18" TO 24"
BLACK GUM	*NYSSA SYLVATICA*		3	5	2	10	3' TO 4'
SWAMP WHITE OAK	*QURCUS BICOLOR*		3	3	4	10	18" TO 24"
SWAMP WHITE OAK	*QURCUS BICOLOR*		3	3	4	10	3' TO 4'
SPECKLED ALDER	*ALNUS INCANA*				7	7	18" TO 24"
SPECKLED ALDER	*ALNUS INCANA*				7	7	3' TO 4'
BUTTONBUSH	*CEPHALANTHUS OCCIDENTALIS*				9	9	18" TO 24"
BUTTONBUSH	*CEPHALANTHUS OCCIDENTALIS*				9	9	3' TO 4'
SWEET PEPPERBUSH	*CLETHRA ALNIFOLIA*	3	2	2		7	18" TO 24"
SWEET PEPPERBUSH	*CLETHRA ALNIFOLIA*	3	2	2		7	3' TO 4'
SILKY DOGWOOD	*SWIDA AMOMUM*	2			7	9	18" TO 24"
SILKY DOGWOOD	*SWIDA AMOMUM*	2			7	9	3' TO 4'
WINTERBERRY	*AMELANCHIER CANADENSIS*				7	7	18" TO 24"
WINTERBERRY	*AMELANCHIER CANADENSIS*				7	7	3' TO 4'
HIGHBUSH BLUEBERRY	*VACCINIUM CORYMBOSUM*				9	9	18" TO 24"
HIGHBUSH BLUEBERRY	*VACCINIUM CORYMBOSUM*				9	9	3' TO 4'
NORTHERN ARROW-WOOD	*VIBURNUM DENTATUM*				9	9	18" TO 24"
NORTHERN ARROW-WOOD	*VIBURNUM DENTATUM*				9	9	3' TO 4'
TOTAL PLANTS		24	26	32	112	194	

NOTES:
1. PLANTED AT A RATE OF 1,340 PLANTS PER ACRE
2. INSTALL PLANTS 6 FEET APART IN STAGGERED ROWS
3. SEED ENTIRE AREA WITH 1LB OF NEW ENGLAND WETMIX OR APPROVED EQUIVALENT



WETLAND REPLICATION AREA AND WETLAND RESTORATION AREA STAGGERED PLANTING

SCALE: N.T.S.



FLOODPLAIN COMPENSATORY STORAGE AREAS STAGGERED PLANTING

SCALE: N.T.S.

PLANT SCHEDULE FOR FLOODPLAIN COMPENSATORY STORAGE AREAS (17,700 SQUARE FEET)

COMMON NAME	SCIENTIFIC NAME	NUMBER	SIZE
SWEET PEPPERBUSH	*CLETHRA ALNIFOLIA*	70	2' TO 3'
ALTERNATE LEAVED DOGWOOD	*CORNUS ALTERNIFOLIA*	70	2' TO 3'
GRAY DOGWOOD	*CORNUS RACEMOSE*	70	2' TO 3'
AMERICAN HAZELNUT	*CORYLUS AMERICANA*	70	2' TO 3'
STAGHORN SUMAC	*RHUS TYPHINA*	70	2' TO 3'
NANNYBERRY	*VIBURNUM LENTAGO*	70	2' TO 3'
TOTAL PLANTS		420	
WETLAND SEED MIX		10	LB.

NOTES:
1. PLANTED AT A RATE OF 1,034 PLANTS PER ACRE
2. INSTALL PLANTS 7 FEET APART IN STAGGERED ROWS
3. SEED ENTIRE AREA WITH 1LB OF NEW ENGLAND CONSERVATION/WILDLIFE MIX OR APPROVED EQUIVALENT

PLANT SCHEDULE FOR TEMPORARY IMPACT WETLAND RESTORATION AREAS (4,690 SQUARE FEET[1])

COMMON NAME	SCIENTIFIC NAME	NUMBER	SIZE
SPICEBUSH	*LINDERA BENZOIN*	14	18" TO 24"
SPICEBUSH	*LINDERA BENZOIN*	15	3' TO 4'
SILKY DOGWOOD	*SWIDA AMOMUM*	14	18" TO 24"
SILKY DOGWOOD	*SWIDA AMOMUM*	15	3' TO 4'
WINTERBERRY	*AMELANCHIER CANADENSIS*	14	18" TO 24"
WINTERBERRY	*AMELANCHIER CANADENSIS*	15	3' TO 4'
HIGHBUSH BLUEBERRY	*VACCINIUM CORYMBOSUM*	14	18" TO 24"
HIGHBUSH BLUEBERRY	*VACCINIUM CORYMBOSUM*	15	3' TO 4'
NORTHERN ARROW-WOOD	*VIBURNUM DENTATUM*	14	18" TO 24"
NORTHERN ARROW-WOOD	*VIBURNUM DENTATUM*	15	3' TO 4'
TOTAL PLANTS		145	
WETLAND SEED MIX		2	LB.

[1]: APPLIES TO WETLAND 2,6,7 AND 22 LARGER TEMPORARY IMPACT AREAS

NOTES:
1. PLANTED AT A RATE OF 1,340 PLANTS PER ACRE
2. INSTALL PLANTS 6 FEET APART IN STAGGERED ROWS
3. SEED ENTIRE AREA WITH 1LB OF NEW ENGLAND WETMIX OR APPROVED EQUIVALENT

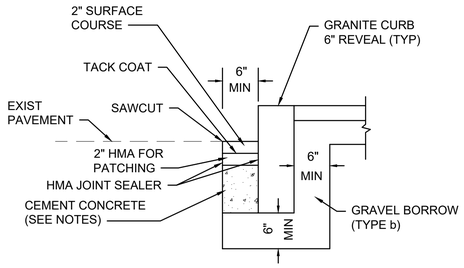
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	126	208
PROJECT FILE NO.	608227		

ENVIRONMENTAL MITIGATION PLANS
PLANTING SCHEDULES

608227HD (WETLAND)-1.DWG Plotted on 29-Dec-2023 4:46 PM

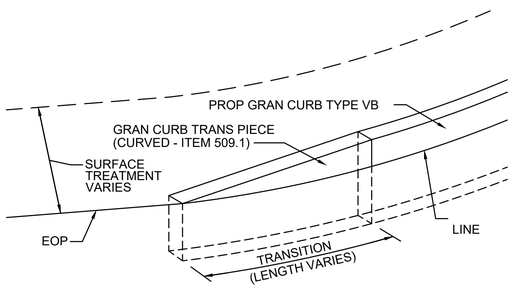
608227HD (DET).DWG Plotted on 29-Dec-2023 12:30 PM

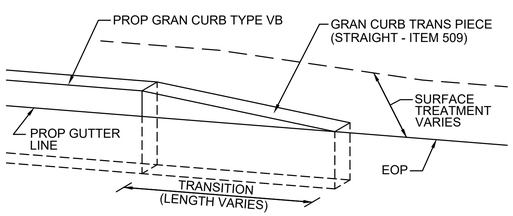


NOTES:
1. CONCRETE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB.
2. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

GRANITE CURB IN EXISTING PAVEMENT

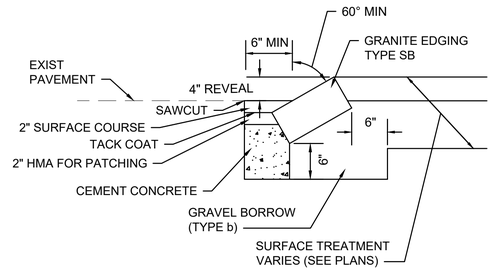
SCALE: N.T.S.





GRANITE CURB TRANSITION PIECE

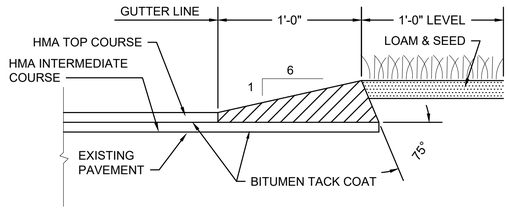
SCALE: NTS



NOTES:
1. CONCRETE SHALL BE IN PRICE BID FOR GRANITE EDGING
2. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

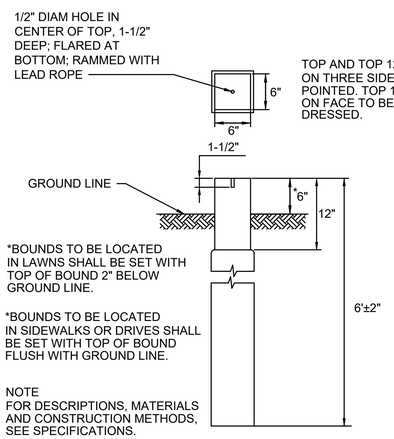
GRANITE EDGING IN EXISTING PAVEMENT

SCALE: N.T.S.



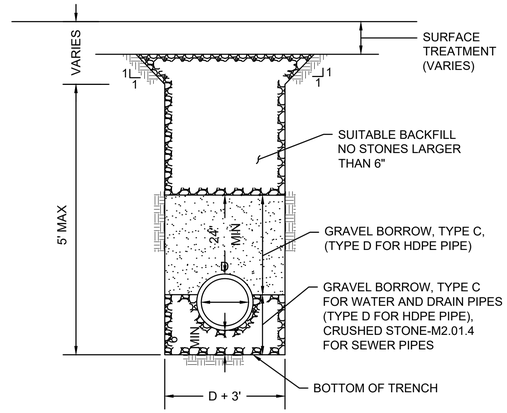
HMA BERM TYPE A-MODIFIED AT PAVEMENT OVERLAY

SCALE: N.T.S.



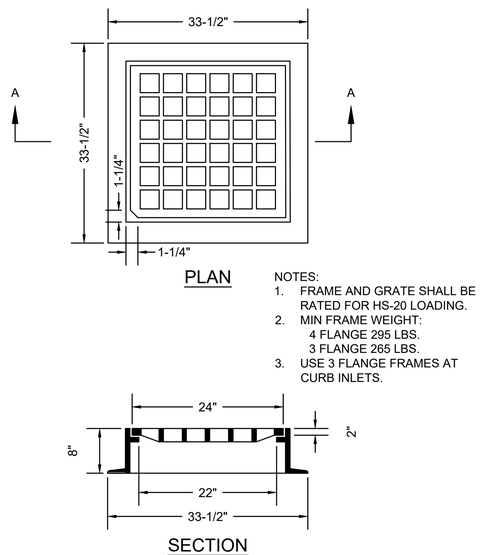
GRANITE BOUND

SCALE: NTS



TRENCH DETAIL

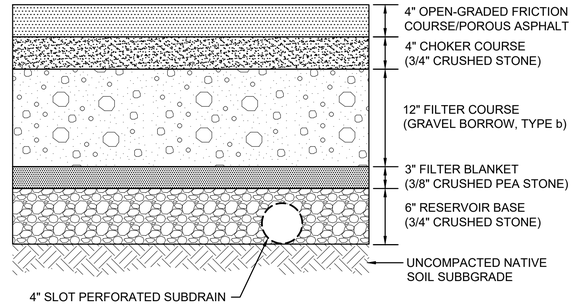
SCALE: N.T.S.



NOTES:
1. FRAME AND GRATE SHALL BE RATED FOR HS-20 LOADING.
2. MIN FRAME WEIGHT:
   4 FLANGE 295 LBS.
   3 FLANGE 265 LBS.
3. USE 3 FLANGE FRAMES AT CURB INLETS.

MUNICIPAL STANDARD CATCH BASIN FRAME & GRATE

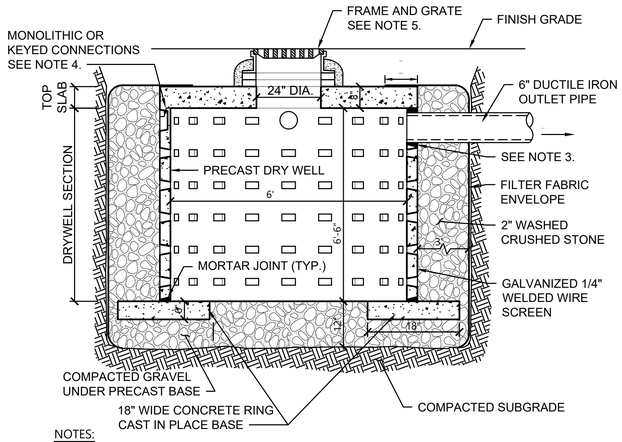
SCALE: N.T.S.



NOTES:
1. SEE PAVEMENT NOTES ON SHEET 9 FOR ADDITIONAL PAVEMENT MATERIAL INFORMATION.
2. SEE PLANS FOR SUBDRAIN LOCATIONS AND SPACING.

PERMEABLE PAVEMENT

SCALE: N.T.S.

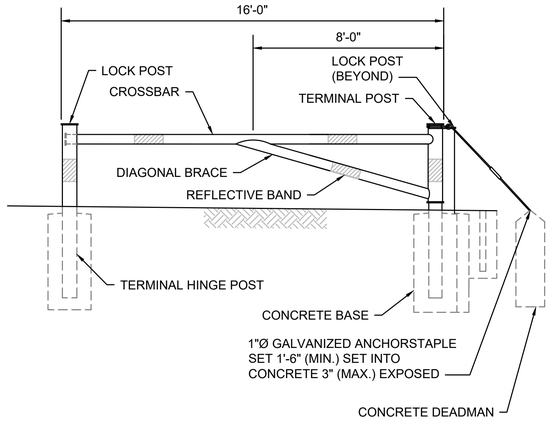


NOTES:
1. BASE SECTION SHALL BE PRECAST CONCRETE WITH MORTARED JOINTS OR C.I.P.
2. ALL COMPONENTS SHALL BE DESIGNED FOR HS-20 LOADING.
3. PROVIDE PRECAST OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (5 BRICK COURSE MAXIMUM)
6. PERIMETER OF STRUCTURE TO BE WRAPPED WITH GALVANIZED $\frac{1}{4}$" WELDED WIRE SCREEN TO PREVENT OPENINGS FROM BEING PLUGGED.
7. GEOTEXTILE FILTER FABRIC SHALL BE USED TO ENCLOSE THE CRUSHED STONE AND PROVIDE SEPARATION. FILTER FABRIC SHALL NOT BE INSTALLED ALONG THE BASE OF THE STRUCTURE.

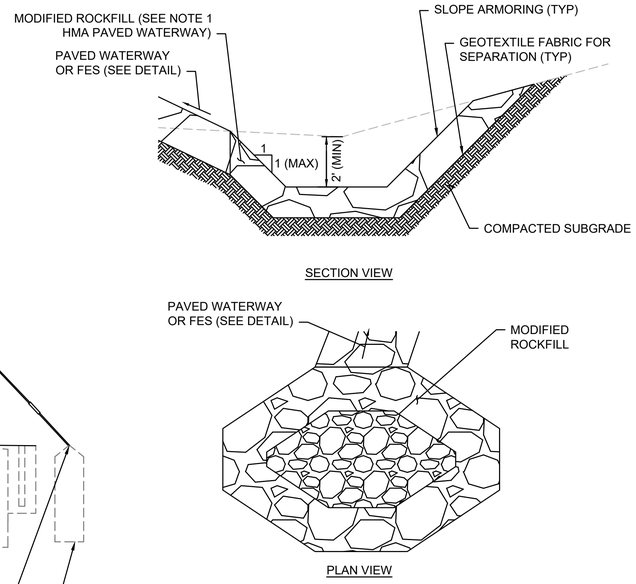
LEACHING BASIN

SCALE: N.T.S.

608227HD (DET).DWG Plotted on 29-Dec-2023 12:31 PM

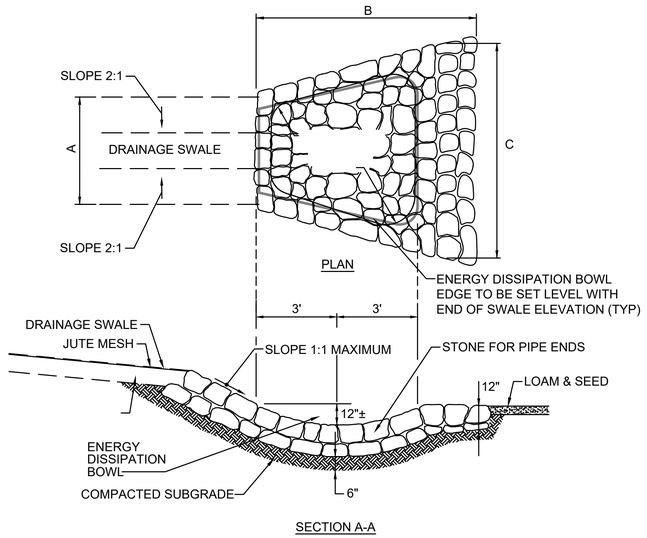


ELEVATION



PLUNGE POOL

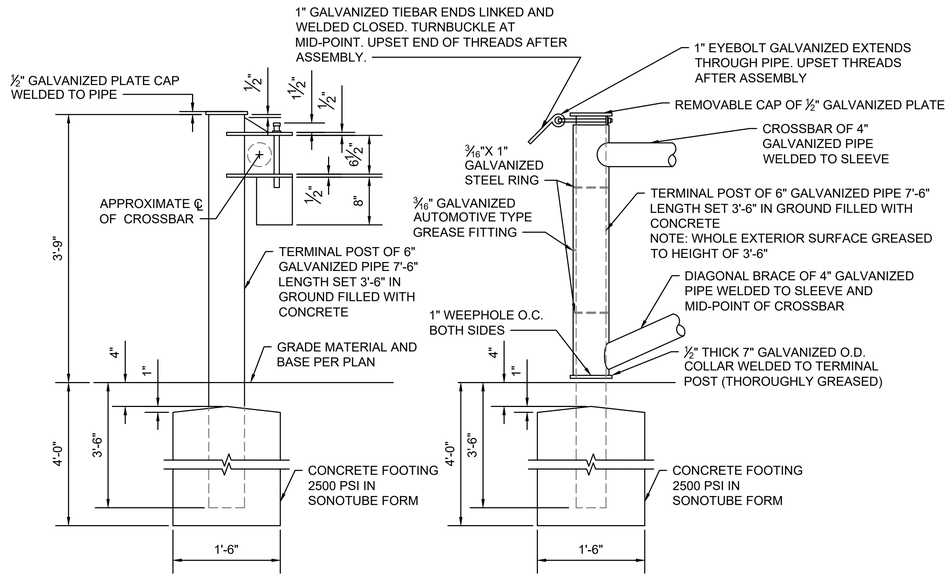
SCALE: N.T.S.



STONE PROTECTION AT SWALE END SIZING CHART			
STATION	A	B	C
215+15, LT	3'-0"	10'-0"	11'-0"
219+80, LT	3'-0"	10'-0"	11'-0"
220+20, RT	3'-0"	10'-0"	11'-0"
228+05, RT	3'-0"	6'-6"	7'-0"
234+72, LT	3'-0"	10'-0"	11'-0"
234+75, RT	3'-0"	10'-0"	11'-0"
237+10, LT	3'-0"	8'-0"	9'-0"
306+75, LT	3'-0"	7'-0"	6'-0"
405+70, LT	3'-0"	7'-0"	6'-6"
406+20, RT	3'-0"	9'-0"	10'-0"
408+80, RT	3'-0"	7'-0"	6'-0"
501+73, RT	3'-0"	6'-0"	7'-0"
518+20, LT	3'-0"	6'-6"	6'-0"
519+00, RT	3'-0"	6'-6"	6'-0"
526+85, LT	3'-0"	6'-6"	6'-0"
527+50, RT	3'-0"	6'-6"	6'-0"
550+10, LT	3'-0"	8'-0"	9'-0"
554+50, LT	3'-0"	6'-6"	6'-0"
633+55, LT	3'-0"	8'-0"	8'-10"
651+50, LT	3'-0"	6'-6"	6'-0"

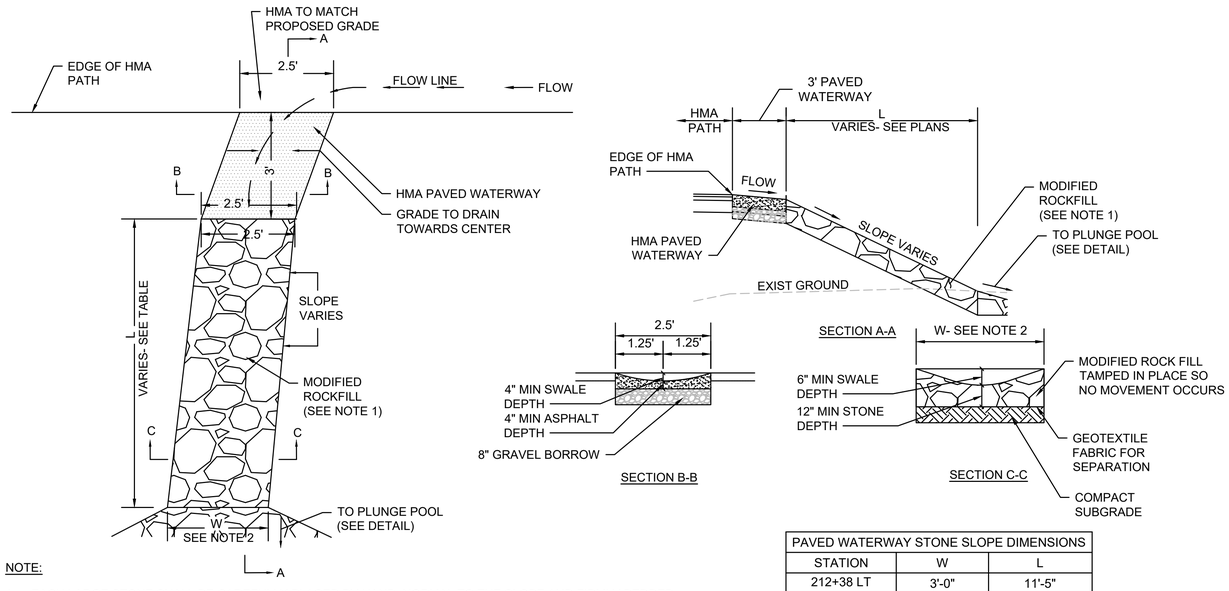
STONE PROTECTION AT SWALE END DETAIL

SCALE: NTS



PROP PIPE GATE AND POST DETAILS

SCALE: N.T.S.



NOTE:

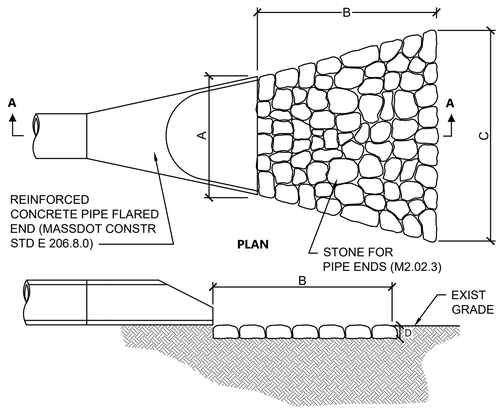
1. EACH LARGE STONE SHALL BE CAREFULLY PLACED BY HAND, NORMAL TO THE SLOPE AND FIRMLY BEDDED THEREON. THE SMALLER STONES SHALL BE SO GRADED THAT WHEN PLACED WITH THE LARGER STONES, THE ENTIRE MASS WILL BE COMPACT WITH A MINIMUM PERCENTAGE OF VOIDS AND MINIMUM THICKNESS OF 12".
2. W VARIES, SEE TABLE FOR BOTTOM WIDTHS
3. HMA PAVED WATERWAYSHALL BE 3/8 INCHES MAX NOMINAL AGGREGATE SIZE (SUPERPAVE 9.5 STONE SIZE)

PAVED WATERWAY STONE SLOPE DIMENSIONS		
STATION	W	L
212+38 LT	3'-0"	11'-5"
223+53 LT	3'-0"	24'-5"
226+54 LT	3'-0"	2'-10"
232+47 RT	3'-0"	10'-2"
305+51 RT	3'-0"	11'-4"
556+13 RT	3'-0"	15'-6"

HOT MIX ASPHALT PAVED WATERWAY WITH STONE SLOPE SWALE

SCALE: N.T.S.

608227HD (DET).DWG Plotted on 29-Dec-2023 12:31 PM

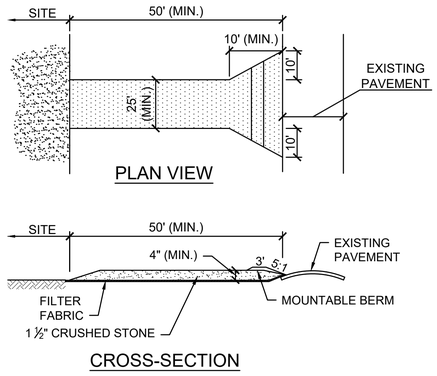


STRUCTURE NO.	STATION	A	B	C	D
1	212+60.7, 12.8 RT	4'-7"	6'-0"	8'-6"	2'-5"
3	220+45.0, 14.0 RT	4'-7"	6'-0"	8'-6"	3'-4"
5	224+20.0, 34.1 LT	4'-7"	9'-0"	10'-1"	1'-4"
7	226+00.0, 17.1 LT	4'-7"	6'-0"	8'-6"	1'-1"
89	405+20.0, 17.5' LT	4'-7"	6'-0"	8'-6"	1'-6"
17	539+85.6, 18.0 RT	3'-10"	4'-0"	5'-8"	0'-6"
25	549+87.2, 17.9 LT	5'-0"	12'-0"	13'-6"	1'-6"
24	550+23.3, 14.0 RT	5'-0"	12'-0"	13'-6"	1'-6"
29	608+76.7, 19.9 RT	5'-2"	10'-0"	12'-2"	1'-0"

NOTE:
1. SEE MASSDOT CONSTR STD E 206.7.0

STONE FOR EROSION CONTROL AT PIPE INLETS AND OUTLETS

SCALE: N.T.S.

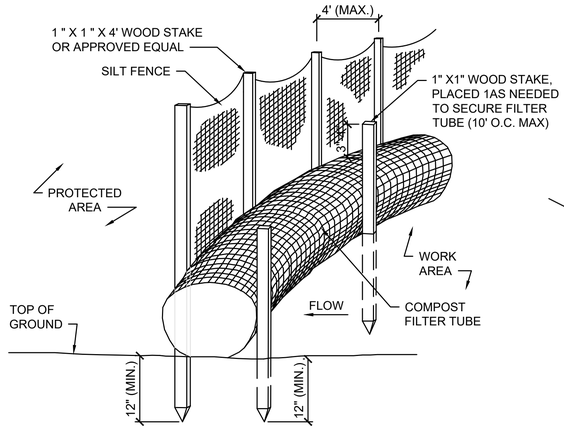


NOTES

1. STABILIZED CONSTRUCTION EXISTS SHALL BE INSTALLED AT CONSTRUCTION SITE ENTRANCE/EXIST ACCESS POINTS.
2. EXIT WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
3. THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
4. STABILIZED CONSTRUCTION EXIT SHALL BE REMOVED PRIOR TO FINAL FINISH MATERIALS BEING INSTALLED.

STABILIZED CONSTRUCTION EXIT

SCALE: N.T.S.

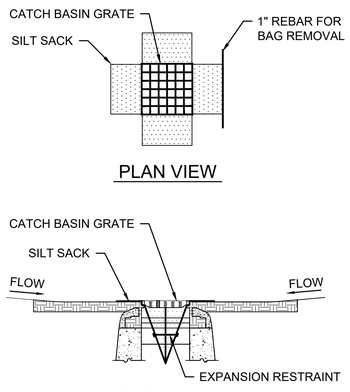


NOTES

1. EROSION CONTROL BARRIER CONSISTING OF COMPOST FILTER TUBES AND SILT FENCE SHALL BE USED IN COMBINATION WHERE PROPOSED WORK IS WITHIN 25' OR LESS OF WETLAND RESOURCE AREA.
2. SEE DETAIL FOR COMPOST FILTER TUBE EROSION CONTROL BARRIER FOR ADDITIONAL INFORMATION

EROSION CONTROL BARRIER - COMPOST FILTER TUBE & SILT FENCE COMBINATION

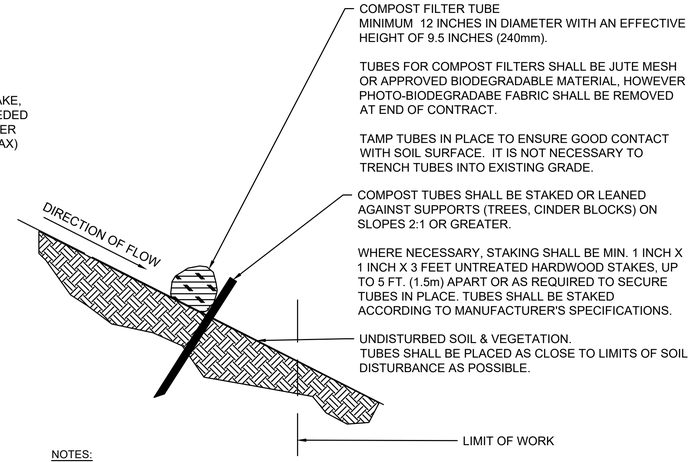
SCALE: N.T.S.



NOTES:
1. INSTALL SILT SACK IN EXISTING CATCH BASINS, BEFORE COMMENCING WORK, AND IN NEW CATCH BASINS IMMEDIATELY AFTER INSTALLATION OF STRUCTURE. MAINTAIN UNTIL BINDER COURSE PAVING IS COMPLETE OR A PERMANENT STAND OF GRASS HAS BEEN ESTABLISHED.
2. GRATE TO BE PLACED OVER SILT SACK.
3. SILT SACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED

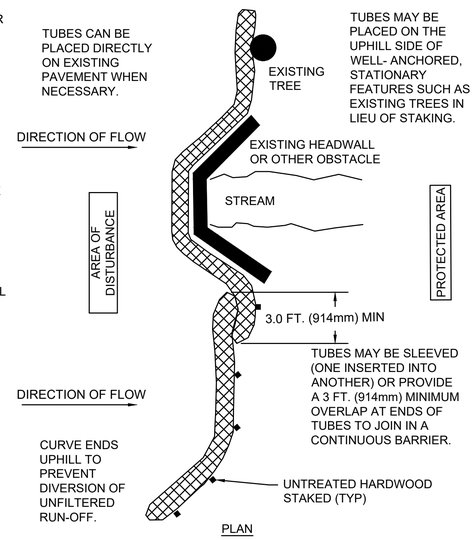
INLET PROTECTION - SILT SACK IN CATCH BASIN

SCALE: N.T.S.



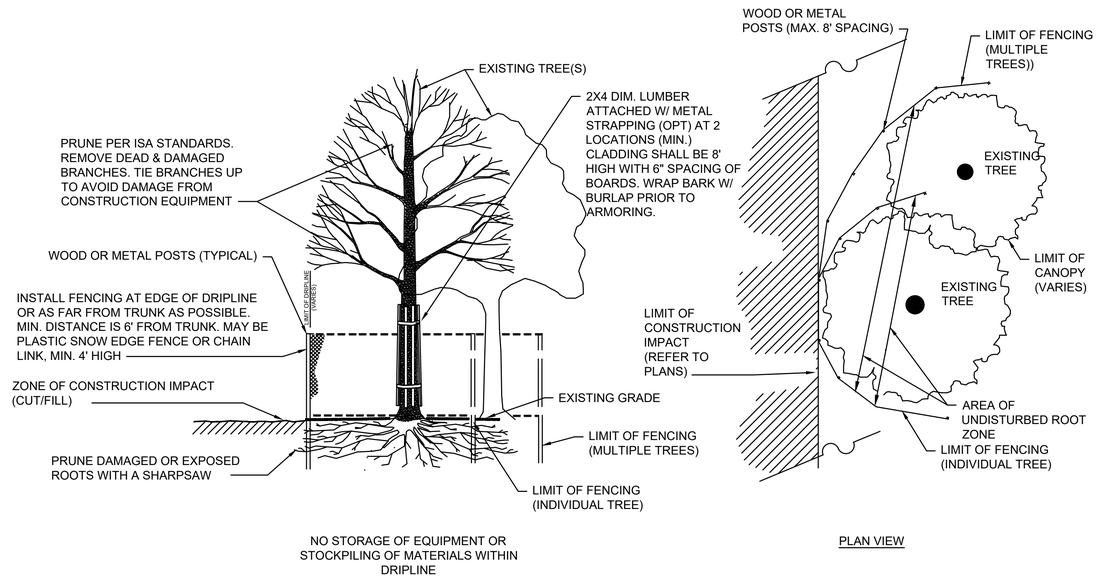
NOTES:

1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES (300mm) FOR SLOPES UP TO 50 FEET (15.24m) IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. TUBE LOCATION MAY BE SHIFTED TO ADJUST TO LANDSCAPE FEATURES, BUT SHALL PROTECT UNDISTURBED AREA AND VEGETATION TO MAXIMUM EXTENT POSSIBLE.
4. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
5. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.
6. ADDITIONAL STAKING SHALL BE USED AT THE DIRECTION OF THE ENGINEER.



EROSION CONTROL BARRIER - COMPOST FILTER TUBE

SCALE: N.T.S.



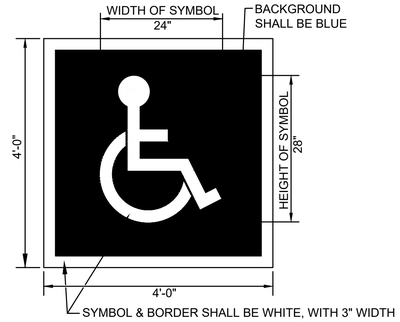
TREE PROTECTION OF EXISTING TREE(S)

SCALE: N.T.S.

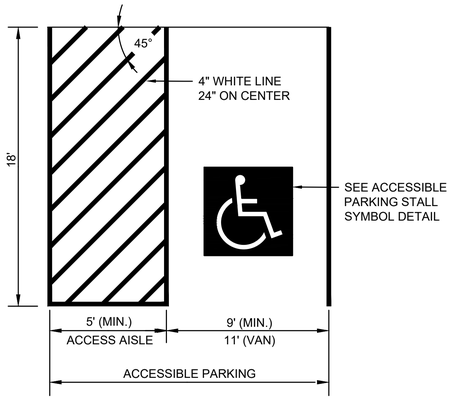
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	130	208
PROJECT FILE NO.	608227		

CONSTRUCTION DETAILS

608227HD (DET).DWG Plotted on 29-Dec-2023 12:31 PM



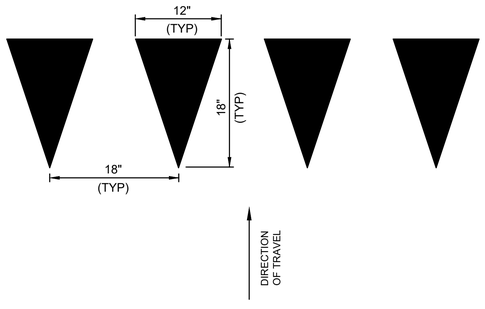
ACCESSIBLE PARKING STALL SYMBOL



NOTES:
1. ALL DIMENSIONS TO EDGES OF 4" PAVEMENT STRIPING.
2. STALL MARKINGS SHALL BE REFLECTORIZED PAINT.
3. ACCESSIBLE PARKING STALL SYMBOL SHALL BE CENTERED IN THE PARKING STALL AND SHALL BE REFLECTORIZED PREFORMED THERMOPLASTIC.
4. SEE 2004 MUTCD STANDARD HIGHWAY SIGNS MANUAL (APPENDIX, PAGE 10-22) FOR MORE DETAILS.

ACCESSIBLE PARKING STALL PAVEMENT MARKINGS

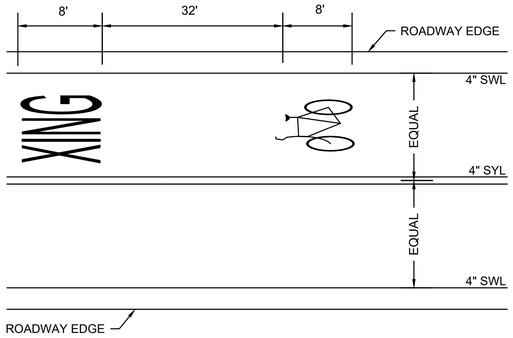
SCALE: N.T.S.



NOTES:
1. YIELD LINES SHALL CONSIST OF A ROW OF SOLID WHITE TRIANGLES.
2. IF APPLICABLE, YIELD LINES SHALL BE PLACED 4-FEET IN ADVANCE OF THE NEAREST CROSSWALK LINE.
3. MARKINGS SHALL BE REFLECTORIZED PREFORMED THERMOPLASTIC.

YIELD LINE TRIANGLES FOR BIKE LANES

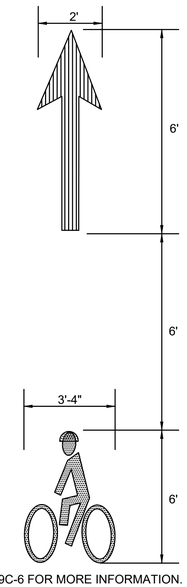
SCALE: NTS



NOTES:
1. PAVEMENT MARKINGS AS PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC.

ROADWAY MARKINGS

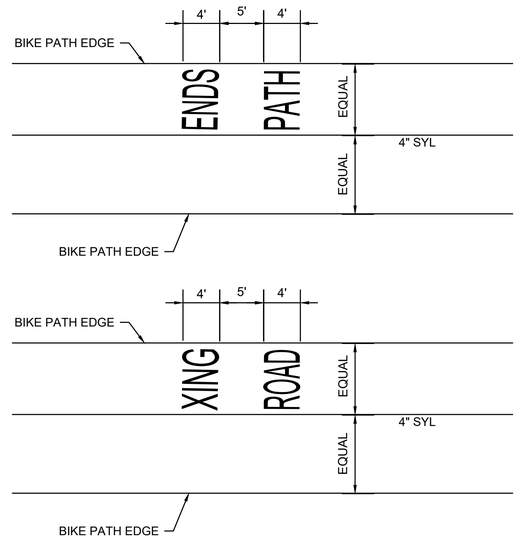
SCALE: N.T.S.



NOTES:
1. SEE MUTCD FIGURE 9C-6 FOR MORE INFORMATION.
2. BIKE LANE MARKINGS SHALL BE REFLECTORIZED PREFORMED THERMOPLASTIC.

BIKE LANE PAVEMENT MARKINGS

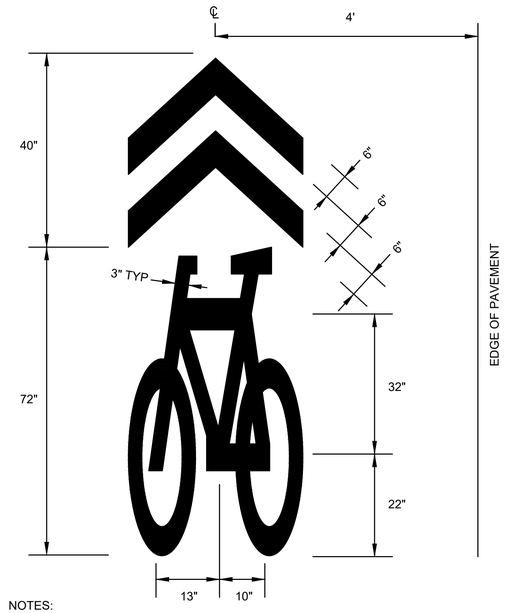
SCALE: N.T.S.



NOTES:
1. PAVEMENT MARKINGS AS PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. PAVEMENT MARKINGS SHALL BE REFLECTIVE PAINT.

BIKE PATH MARKINGS

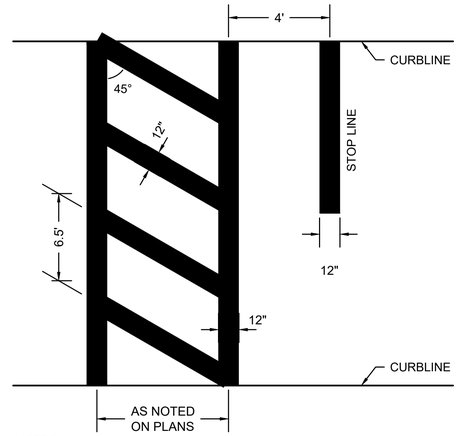
SCALE: N.T.S.



NOTES:
1. SEE MUTCD FIGURE 9C-9 FOR MORE INFORMATION.
2. SHARED LANE MARKINGS SHALL BE REFLECTORIZED PREFORMED THERMOPLASTIC

SHARED LANE PAVEMENT MARKING LAYOUT

SCALE: N.T.S.



NOTES:
1. ALL 12" THERMOPLASTIC LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - 6" LINES) WILL BE ACCEPTED.
2. LAYOUT OF CROSSWALKS SHALL BE APPROVED BY MASSDOT/ TOWN PRIOR TO APPLICATION OF THERMOPLASTIC.
3. ALL CROSSWALKS INSTALLED SHALL CONFORM TO THE RELEVANT PROVISIONS OF THE MASSACHUSETTS HIGHWAY DEPARTMENT "STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGES" DATED 2023, SECTION 860 FOR REFLECTORIZED LINE (THERMO-PLASTIC) & MATERIAL M7.01.03, LATEST REVISIONS.

STANDARD CROSSWALK WITH DIAGONAL LINES

SCALE: N.T.S.

NOTES

1. WETLAND PROTECTION SIGN SHALL BE LOCATED IN ADVANCE OF WETLAND RESOURCE AREAS THAT ARE WITHIN 25' FROM THE PATH. SEE PLANS FOR SPECIFIC LOCATIONS.
2. SEE ADDITIONAL INFORMATION ON THE SIGN SUMMARY SHEET AND THE SPECIAL PROVISIONS.

WETLAND PROTECTION SIGN

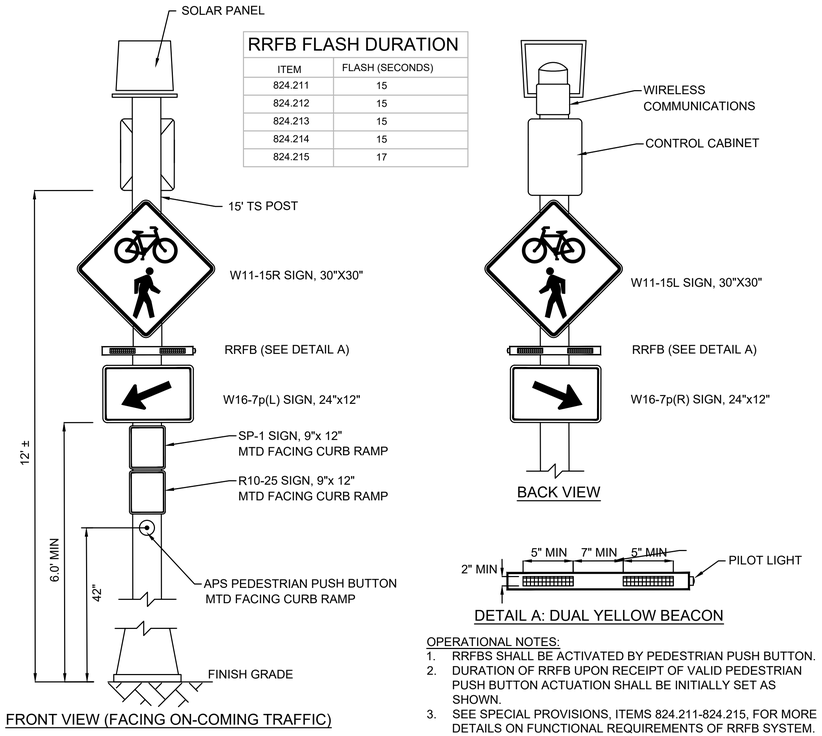
SCALE: NTS

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	131	208
PROJECT FILE NO.	608227		

CONSTRUCTION DETAILS

608227HD (DET).DWG Plotted on 29-Dec-2023 12:31 PM



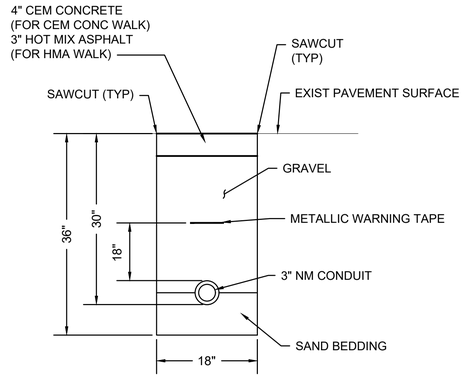
RRFB FLASH DURATION	
ITEM	FLASH (SECONDS)
824.211	15
824.212	15
824.213	15
824.214	15
824.215	17

FRONT VIEW (FACING ON-COMING TRAFFIC)

OPERATIONAL NOTES:
1. RRFBS SHALL BE ACTIVATED BY PEDESTRIAN PUSH BUTTON.
2. DURATION OF RRFB UPON RECEIPT OF VALID PEDESTRIAN PUSH BUTTON ACTUATION SHALL BE INITIALLY SET AS SHOWN.
3. SEE SPECIAL PROVISIONS, ITEMS 824.211-824.215, FOR MORE DETAILS ON FUNCTIONAL REQUIREMENTS OF RRFB SYSTEM.

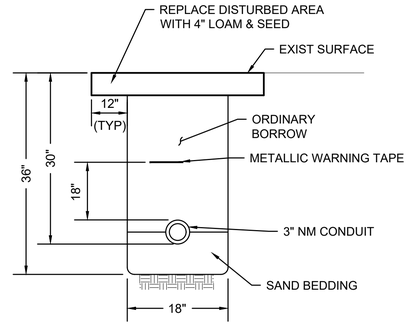
RECTANGULAR RAPID FLASHING BEACON (SOLAR)

SCALE: NTS



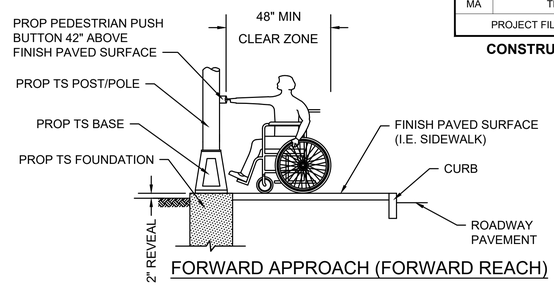
CONDUIT IN SIDEWALK

SCALE: N.T.S.

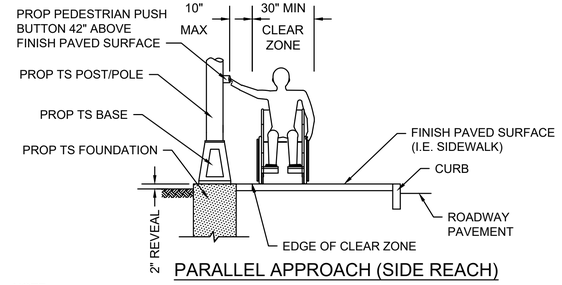


CONDUIT IN GRASS

SCALE: N.T.S.



FORWARD APPROACH (FORWARD REACH)



PARALLEL APPROACH (SIDE REACH)

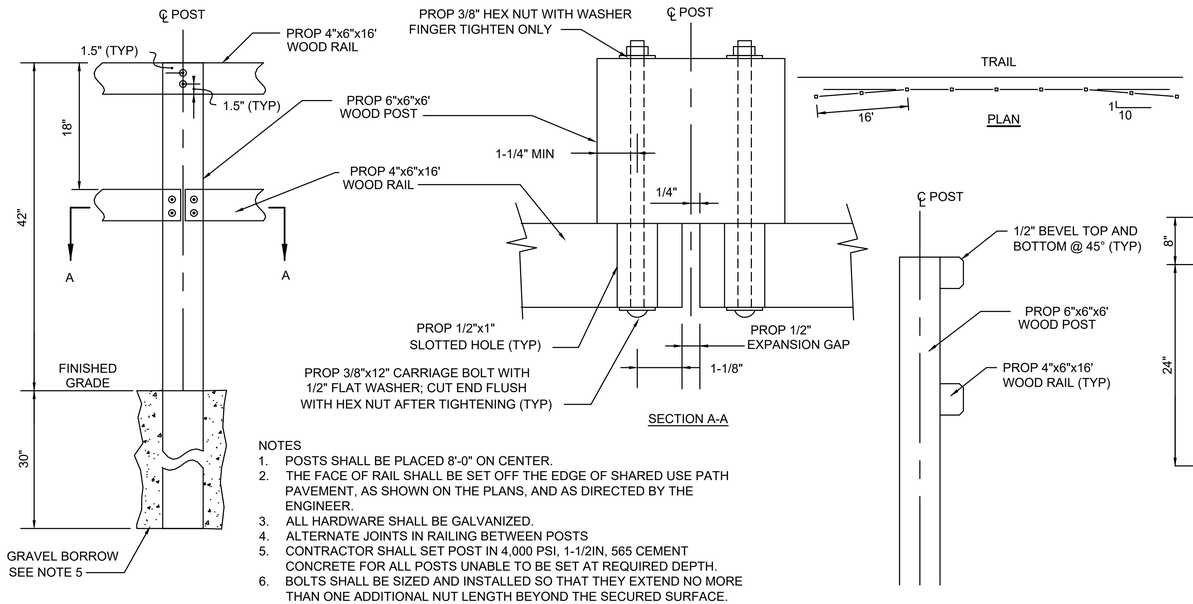
NOTE:
A CLEAR GROUND SPACE SHALL CONSIST OF A STABLE AND FIRM AREA, COMPLYING WITH 521 CMR 6.5 (FORWARD REACH) OR 521 CMR 6.6 (SIDE REACH) AND SHALL BE PROVIDED AT EACH OF THE PEDESTRIAN PUSH BUTTONS.

a) WHERE A FORWARD APPROACH IS PROVIDED, PEDESTRIAN PUSH BUTTONS SHALL ABUT AND BE CENTERED ON THE CLEAR GROUND SPACE.

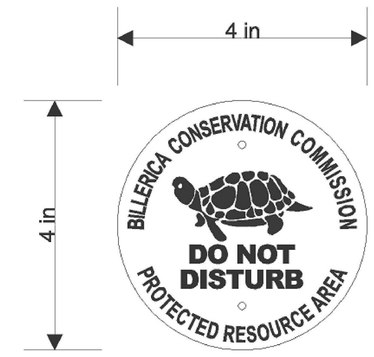
b) WHERE A PARALLEL APPROACH IS PROVIDED, PEDESTRIAN PUSH BUTTONS SHALL BE WITHIN TEN INCHES (10") HORIZONTALLY OF AND CENTERED ON THE CLEAR GROUND SPACE.

PEDESTRIAN PUSH BUTTON CLEAR ZONE

SCALE: N.T.S.



NOTES
1. POSTS SHALL BE PLACED 8'-0" ON CENTER.
2. THE FACE OF RAIL SHALL BE SET OFF THE EDGE OF SHARED USE PATH PAVEMENT, AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE ENGINEER.
3. ALL HARDWARE SHALL BE GALVANIZED.
4. ALTERNATE JOINTS IN RAILING BETWEEN POSTS
5. CONTRACTOR SHALL SET POST IN 4,000 PSI, 1-1/2IN, 565 CEMENT CONCRETE FOR ALL POSTS UNABLE TO BE SET AT REQUIRED DEPTH.
6. BOLTS SHALL BE SIZED AND INSTALLED SO THAT THEY EXTEND NO MORE THAN ONE ADDITIONAL NUT LENGTH BEYOND THE SECURED SURFACE.



WOOD RAIL PLACARD

PLACARD NOTES:
1. PLACARDS SHALL BE PLACED ON WOOD RAILINGS WHERE WETLANDS ARE LOCATED WITHIN 25' OF EDGE OF PATH.
2. PLACARD SHALL BE PLACED IN THE CENTER ON TOP RAIL OF WOOD RAILING, SPACED EVERY 100'. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

WOOD RAILING DETAIL

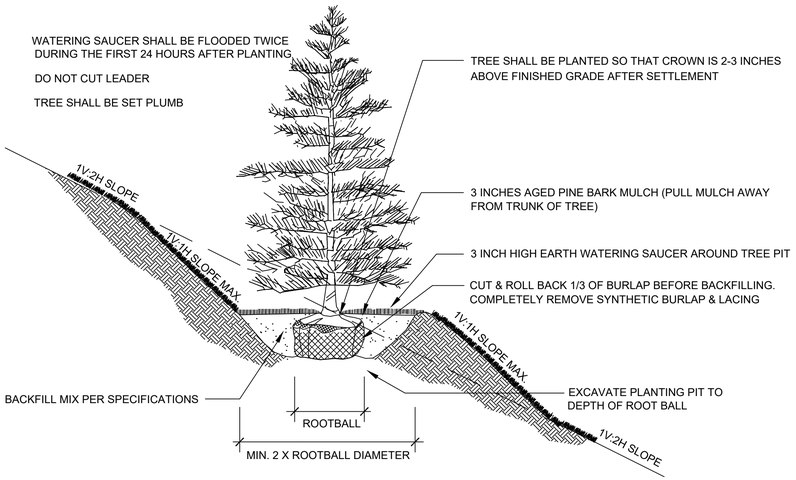
SCALE: NTS

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	132	208
PROJECT FILE NO.	608227		

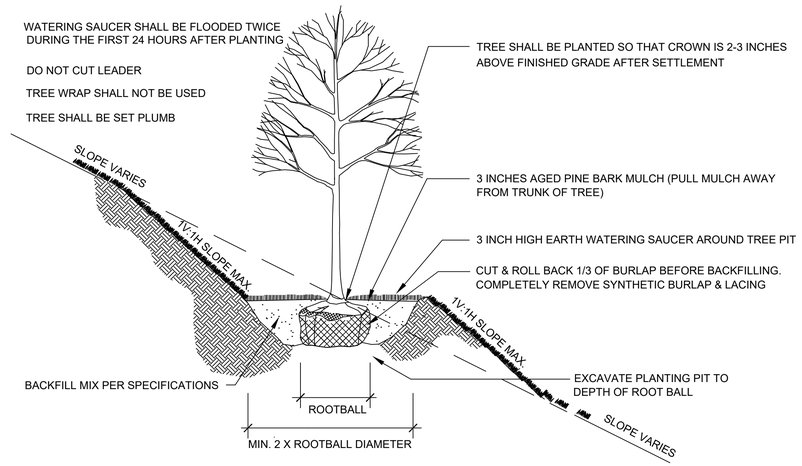
CONSTRUCTION DETAILS

608227HD (DET).DWG Plotted on 29-Dec-2023 12:32 PM



EVERGREEN TREE PLANTING (SLOPE)

NOT TO SCALE

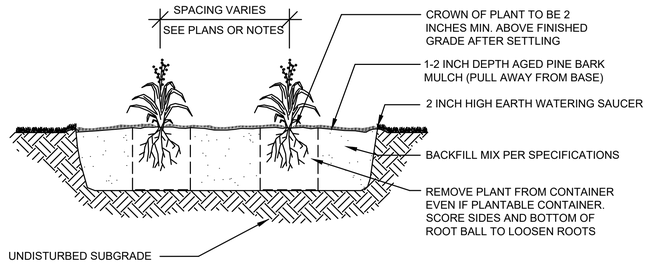


DECIDUOUS TREE PLANTING (SLOPE)

NOT TO SCALE

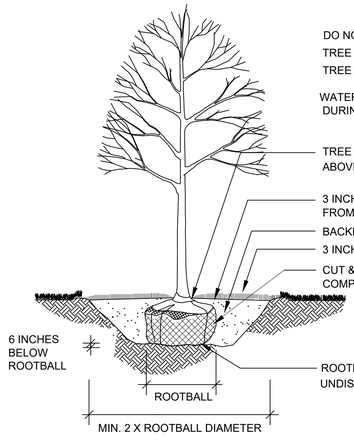
NOTES:

1. EXCAVATE TO REQUIRED DEPTH AND BACKFILL WITH PLANTING MIX.
2. RAISE AND REPLANT PLANTS THAT SETTLE MORE THAN 3 INCHES AFTER PLANTING AND WATERING IN.
3. WATER BY FLOODING TWICE IN FIRST TWO HOURS AFTER PLANTING. WATER & MAINTAIN AS PER STANDARD SPECIFICATIONS.



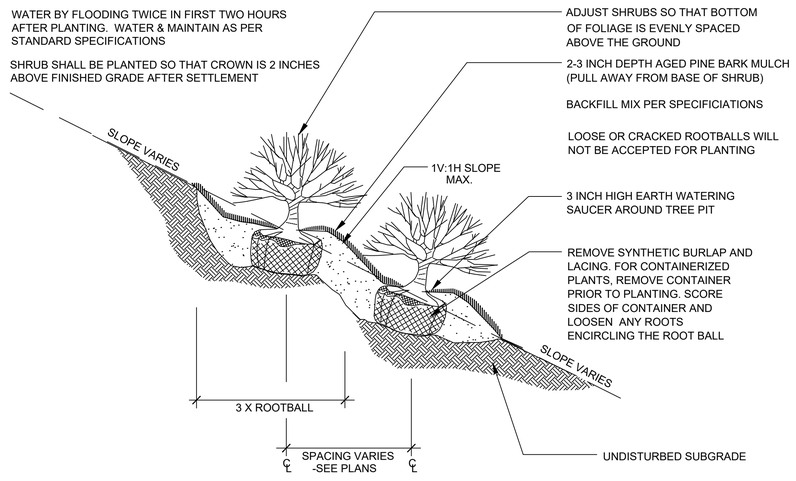
PERENNIAL PLANTING

NOT TO SCALE



DECIDUOUS TREE PLANTING

NOT TO SCALE



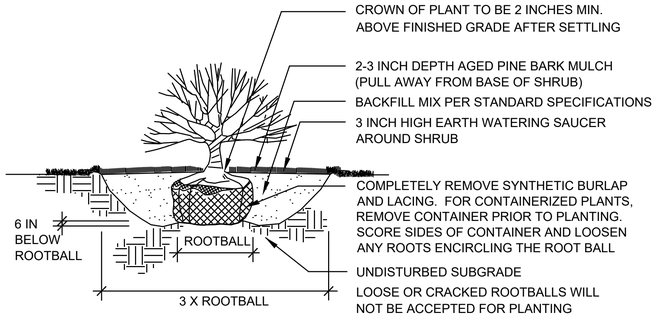
CONTAINERIZED SHRUB PLANTING (SLOPE) DETAIL

NOT TO SCALE

EXCAVATE TO REQUIRED DEPTH AND BACKFILL WITH PLANTING MIX.

SHRUBS SHALL BE SET PLUMB

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



SHRUB PLANTING

NOT TO SCALE

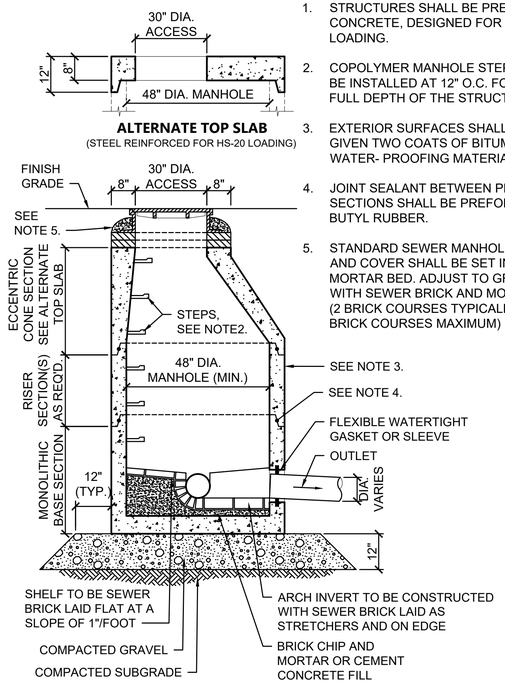
FEB 28, 2013

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	133	208
PROJECT FILE NO.	608227		

CONSTRUCTION DETAILS

608227HD (DET).DWG Plotted on 29-Dec-2023 12:32 PM

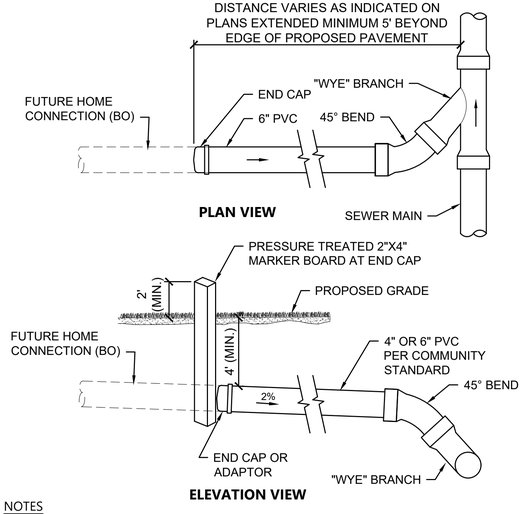


NOTES

1. STRUCTURES SHALL BE PRECAST CONCRETE, DESIGNED FOR HS-20 LOADING.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER- PROOFING MATERIAL.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. STANDARD SEWER MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH SEWER BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)

SANITARY SEWER MANHOLE

SCALE: NTS

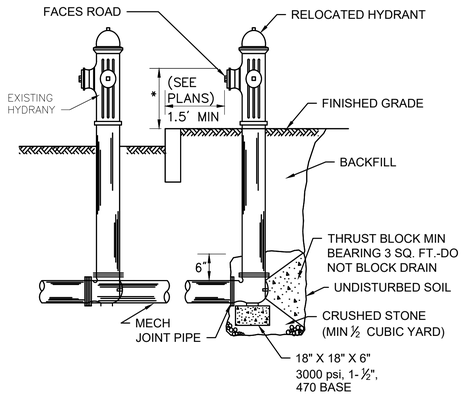


NOTES

1. PIPE AND FITTING MATERIALS TO BE PVC SDR35, MEETING ASTM 3034 FOR USE WITH SANITARY SEWER SYSTEMS.
2. ADAPTOR TO BE PREMANUFACTURED UNIT FOR CONNECTION OF PIPE TYPES

TYPICAL WYE CONNECTION DETAIL

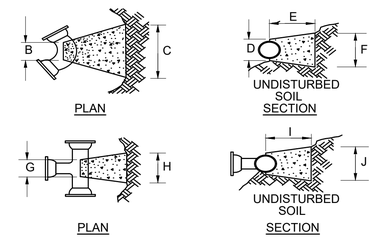
SCALE: NTS



HYDRANT RELOCATION

SCALE: N.T.S.

BENDS	B	C	D	E	F	BENDS	B	C	D	E	F
6" 11-1/4°	8"	15"	12"	24"	12"	6" 45°	8"	30"	12"	24"	14"
6" 22-1/2°	"	15"	"	"	13"	8" 90°	"	30"	"	"	27"
8" 11-1/4°	"	20"	"	"	12"	8" 45°	"	30"	"	"	24"
8" 22-1/2°	"	22"	"	"	17"	8" 90°	"	38"	"	"	36"
12" 11-1/4°	"	30"	"	"	15"	12" 45°	"	40"	"	"	40"
12" 22-1/2°	"	35"	"	"	25"	12" 90°	"	60"	"	"	52"
TEES	G	H	I	J		TEES	G	H	I	J	
6"x 6"x 6"	12"	24"	24"	18"		12"x12"x6"	12"	24"	24"	12"	
8"x 8"x 6"	"	"	"	"		12"x12"x8"	"	"	"	24"	
8"x 8"x 8"	"	"	"	24"		12"x12"x12"	"	36"	"	36"	

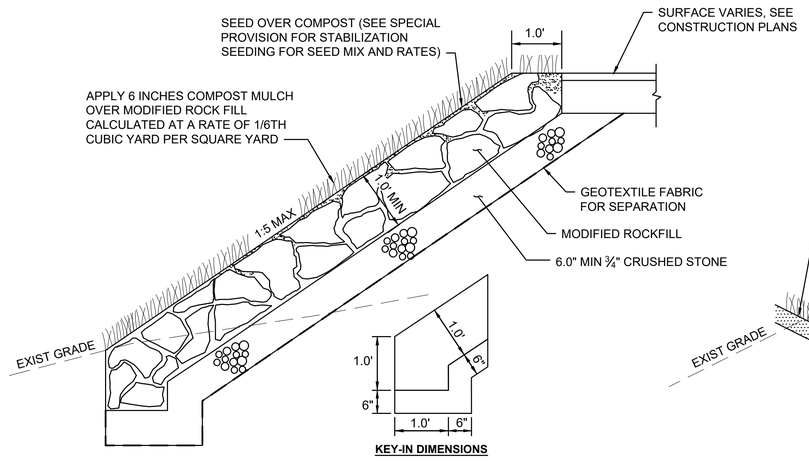


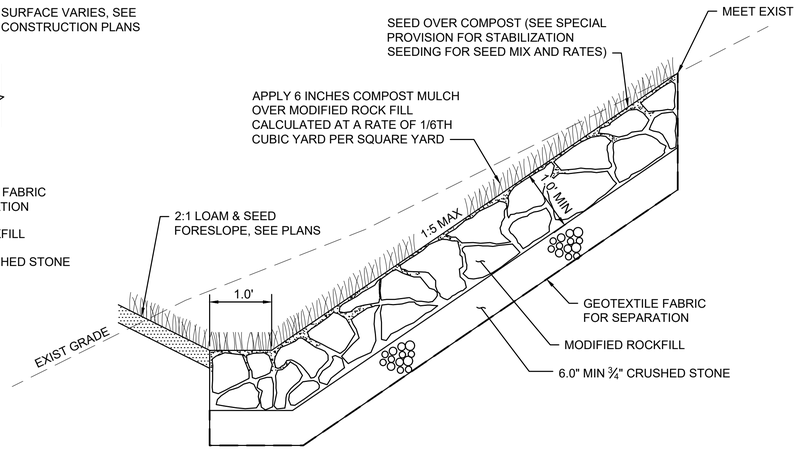
NOTES:

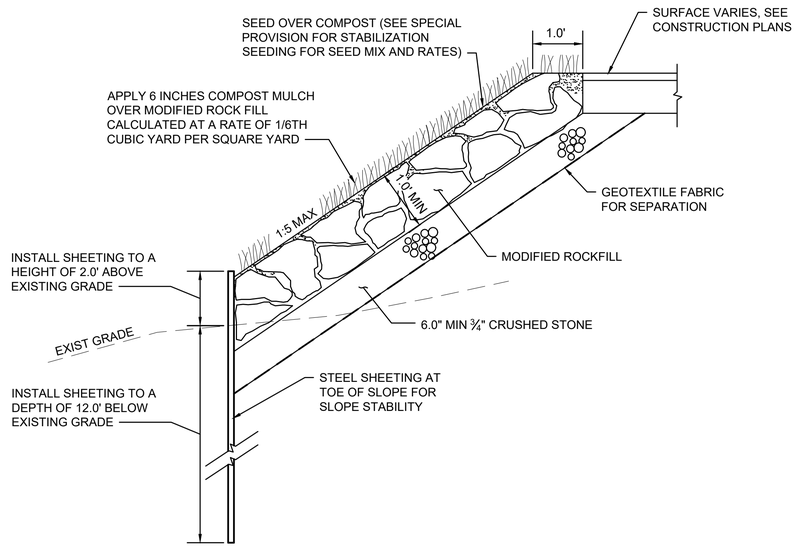
1. PROVIDE BLOCKS FOR TAPPING SLEEVES, DEAD ENDS, GATE VALVES AND VERTICAL BENDS, SAME SIZE AS REQUIRED FOR TEES.
2. PROVIDE ANCHOR RODS AT VERTICAL BENDS AND GATE VALVES
3. CONCRETE SHALL NOT BE PLACED AGAINST PIPE BEYOND FITTING.

CONCRETE THRUST BLOCK

SCALE: N.T.S.







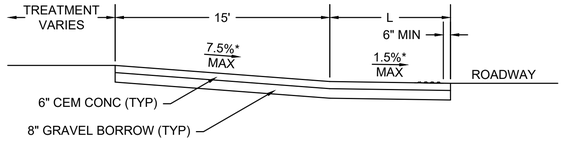
MODIFIED ROCKFILL SLOPE

SCALE: NTS

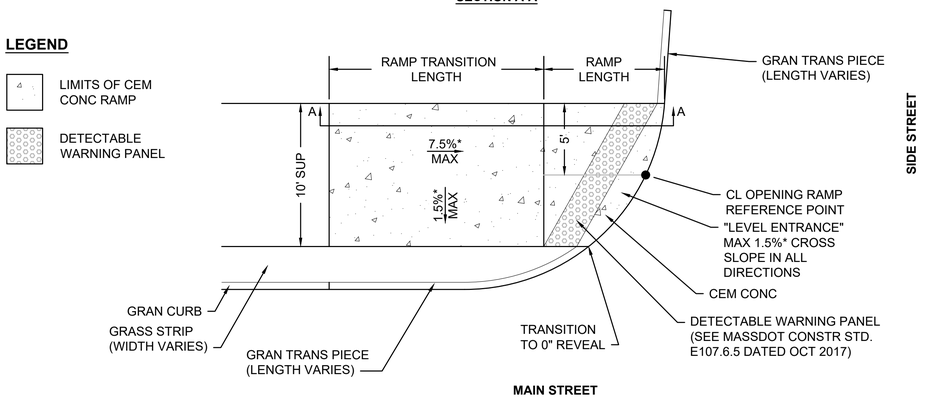
608227HD (DET-WCR).DWG Plotted on 29-Dec-2023 12:33 PM

PEDESTRIAN CURB RAMP - ONE DIRECTIONAL							
NO.	LOCATION	RAMP LENGTH (L)	ROADWAY GUTTER	RAMP TRANSITION LENGTH	OPENING ELEVATION	LEFT SIDE TRANSITION CURB LENGTH	RIGHT SIDE TRANSITION CURB LENGTH
2	STA 101+23.7 ALGN - YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)	12-6"	-2.86%	6'-6"	224.95	6'-6"	15'-0"
5	STA 108+62.9 ALGN - YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)	7'-11"	4.40%	15'-0"	207.88	-	15'-7"
6	STA 108+86.1 ALGN - YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)	6'-6"	1.48%	9'-0"	207.01	13'-4"	-
8	STA 111+10.5 ALGN - YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)	8'-4"	-1.35%	6'-6"	199.41	10'-9"	6'-6"
20	STA 613+42.1 ALGN - YANKEE DOODLE BIKE PATH SECTION 4	14'-8"	-3.30%	6'-6"	251.11	14'-0"	11'-4"
21	STA 613+87.2 ALGN - YANKEE DOODLE BIKE PATH SECTION 4	14'-8"	3.20%	14'-0"	252.68	18'-11"	6'-6"
22	STA 616+57.4 ALGN - YANKEE DOODLE BIKE PATH SECTION 4	9'-8"	2.38%	11'-0"	256.73	6'-6"	14'-11"
23	STA 616+85.7 ALGN - YANKEE DOODLE BIKE PATH SECTION 4	9'-8"	-1.12%	6'-6"	256.87	9'-0"	10'-5"
26	STA 619+34.0 ALGN - YANKEE DOODLE BIKE PATH SECTION 4	11'-10"	6.81%	15'-0"	250.07	6'-6"	19'-2"
27	STA 619+72.0 ALGN - YANKEE DOODLE BIKE PATH SECTION 4	14'-4"	-4.63%	6'-6"	248.20	11'-0"	6'-6"
28	STA 627+52.6 ALGN - YANKEE DOODLE BIKE PATH SECTION 4	22'-1"	2.54%	15'-0"	214.52	6'-6"	16'-11"
29	STA 628+24.4 ALGN - YANKEE DOODLE BIKE PATH SECTION 4	22'-1"	-1.91%	6'-6"	213.17	12'-4"	9'-0"
35	STA 638+48.0 ALGN - YANKEE DOODLE BIKE PATH SECTION 4	15'-1"	1.48%	9'-0"	206.37	-	-
36	STA 645+48.8 ALGN - YANKEE DOODLE BIKE PATH SECTION 4	13'-7"	0.12%	7'-8"	209.89	-	-

NOTE: GUTTER SLOPE IS IN THE DIRECTION OF THE BASELINE



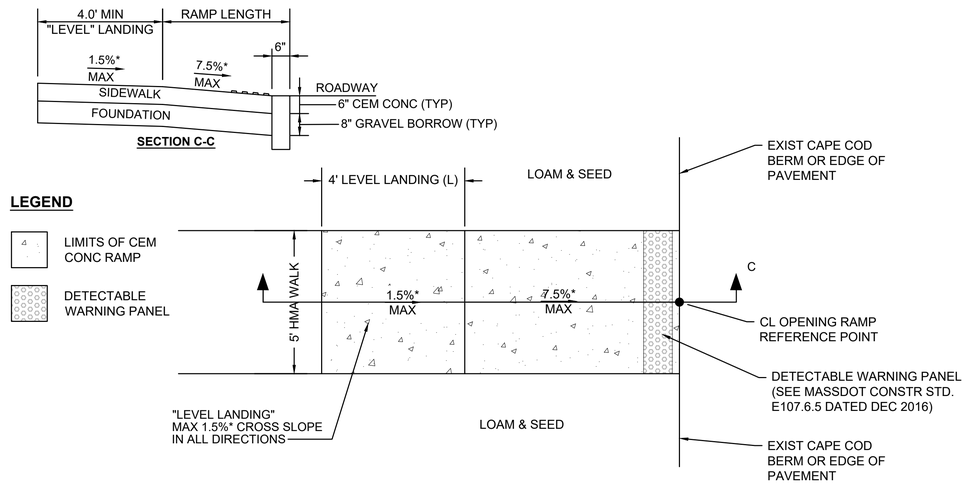
SECTION A-A



*TOLERANCE FOR CONSTRUCTION ±0.5%

PEDESTRIAN CURB RAMP - ONE DIRECTIONAL

SCALE: NTS



*TOLERANCE FOR CONSTRUCTION ±0.5%

PEDESTRIAN CURB RAMP - ONE DIRECTIONAL - PERPENDICULAR CROSSING AT DRIVEWAY

SCALE: NTS

PEDESTRIAN CURB RAMP - ONE DIRECTIONAL - PERPENDICULAR CROSSING AT DRIVEWAY					
NO.	LOCATION	RAMP WIDTH	SIDEWALK/ SHARED USE PATH WIDTH	OPENING ELEVATION	NOTES
40	STA 311+86.5 ALIGN - YANKEE DOODLE BIKE PATH SECTION 2	5.0'	5'-0"	135.03	

NOTE: GUTTER SLOPE IS IN THE DIRECTION OF THE BASELINE

BILLERICA
YANKEE DOODLE BIKE PATH

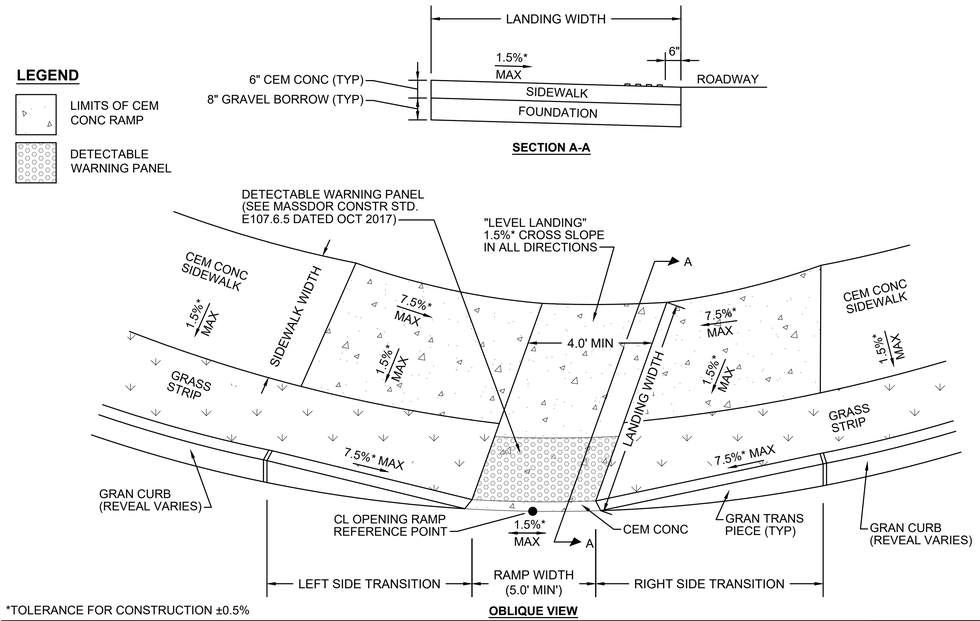
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	135	208
PROJECT FILE NO. 608227			

PEDESTRIAN CURB RAMP & DRIVEWAY DETAILS

608227HD (DET-WCR).DWG Plotted on 29-Dec-2023 12:33 PM

PEDESTRIAN CURB RAMP - GRASS STRIP										
NO.	LOCATION	RAMP WIDTH	LANDING WIDTH	OPENING ELEVATION	LEFT SIDE			RIGHT SIDE		
					GUTTER	TRANSITION	SIDEWALK WIDTH	GUTTER	TRANSITION	SIDEWALK WIDTH
7	STA 110+65.7 ALGN - YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)	11'-9"	8'-6"	200.73	-4.10%	6'-6"	4'-11"	4.18%	15'-0"	10'-0"
9	STA 112+37.3, 0.0' LT/RT ALGN - YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)	15'-0"	15'-2"	194.61	0.11%	6'-6"	4'-9"	5.64%	15'-0"	10'-0"
19	STA 605+78.1, 9.0' LT ALGN - YANKEE DOODLE BIKE PATH SECTION 4	10'-0"	14'-4"	241.88	-4.50%	6'-6"	10'-0"	-	-	-
24	STA 617+91.9, 8.0' LT ALGN - YANKEE DOODLE BIKE PATH SECTION 4	7'-0"	13'-0"	255.51	2.59%	6'-6"	10'-0"	1.36%	9'-0"	10'-0"
30	STA 630+28.9 ALGN - YANKEE DOODLE BIKE PATH SECTION 4	14'-1"	13'-2"	206.95	-4.02%	9'-0"	9'-11"	4.09%	15'-0"	10'-0"
32	STA 633+24.6, 0.0' LT/RT ALGN - YANKEE DOODLE BIKE PATH SECTION 4	10'-0"	15'-0"	196.54	-4.20%	6'-6"	10'-0"	3.75%	14'-0"	10'-0"

NOTE: GUTTER SLOPE IS IN THE DIRECTION OF THE BASELINE



*TOLERANCE FOR CONSTRUCTION ±0.5%

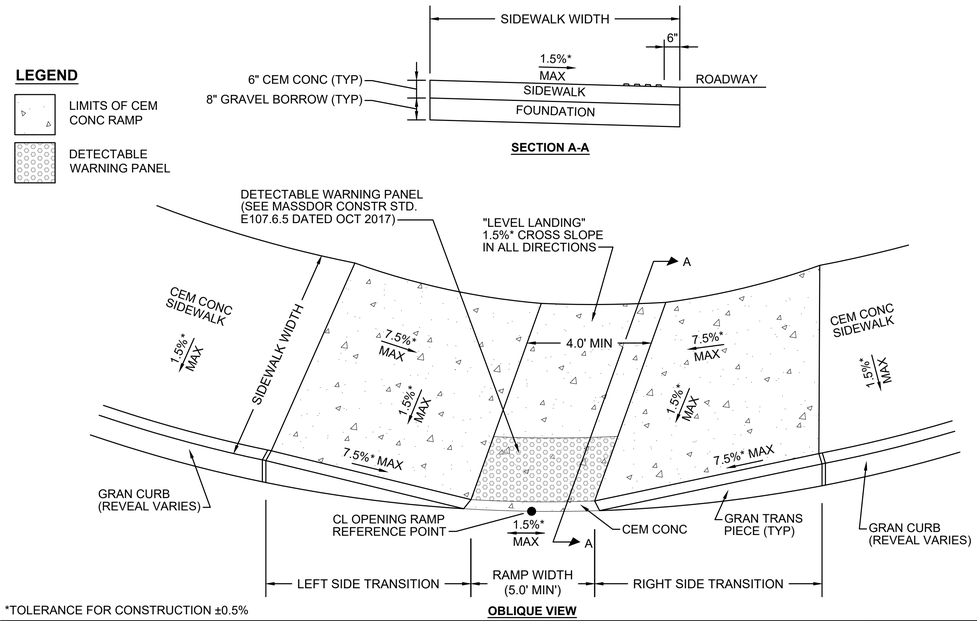
OBLIQUE VIEW

PEDESTRIAN CURB RAMP - GRASS STRIP

SCALE: NTS

PEDESTRIAN CURB RAMP - NARROW								
NO.	LOCATION	SIDEWALK WIDTH	RAMP WIDTH	OPENING ELEVATION	LEFT SIDE		RIGHT SIDE	
					GUTTER	TRANSITION	GUTTER	TRANSITION
4	STA 105+70.1 ALGN - YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)	10"-0"	9'-6"	214.21	-1.43%	6'-6"	2.30%	11'-0"
13	STA 324+72.6, 7.0' LT ALGN - YANKEE DOODLE BIKE PATH SECTION 2 PART 1	12'	5'-0"	186.57	0.39%	3'-9"	-0.14%	6'-6"
14	STA 325+02.4, 0.0' LT/RT ALGN - YANKEE DOODLE BIKE PATH SECTION 2 PART 1	5'-3"	10'-0"	186.65	4.06%	14'-0"	-0.26%	6'-6"
15	STA 325+55.4, 0.3 LT ALGN - YANKEE DOODLE BIKE PATH SECTION 2 PART 1	10'-0"	10'-0"	187.09	0.72%	7'-8"	1.20%	9'-0"
17	STA 701+70.5', 15.1' LT ALGN ORCHARD ROAD	5'-6"	5'-0"	247.00	1.72%	6'-0"	5.60%	15'-0"
18	STA 707+57.5, 15.7' LT ALGN ORCHARD ROAD	5'-6"	5'-0"	240.68	-5.84%	6'-6"	-3.56%	15'-0"
31	STA 630+77.4, 0.0' LT/RT ALGN - YANKEE DOODLE BIKE PATH SECTION 4	10'-0"	13'-10"	205.44	2.85%	13'-5"	0.71%	10'-0"

NOTE: GUTTER SLOPE IS IN THE DIRECTION OF THE BASELINE



*TOLERANCE FOR CONSTRUCTION ±0.5%

OBLIQUE VIEW

PEDESTRIAN CURB RAMP - NARROW

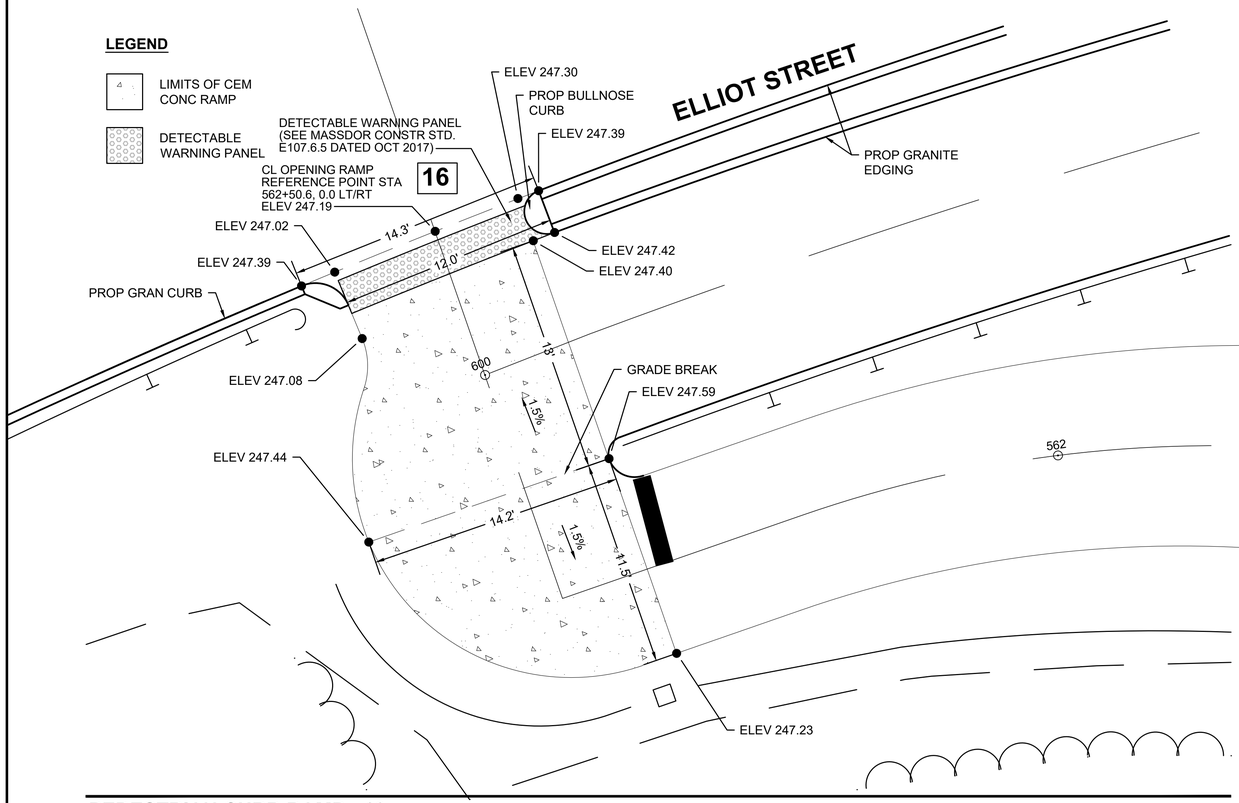
SCALE: NTS

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	36	208
PROJECT FILE NO. 608227			

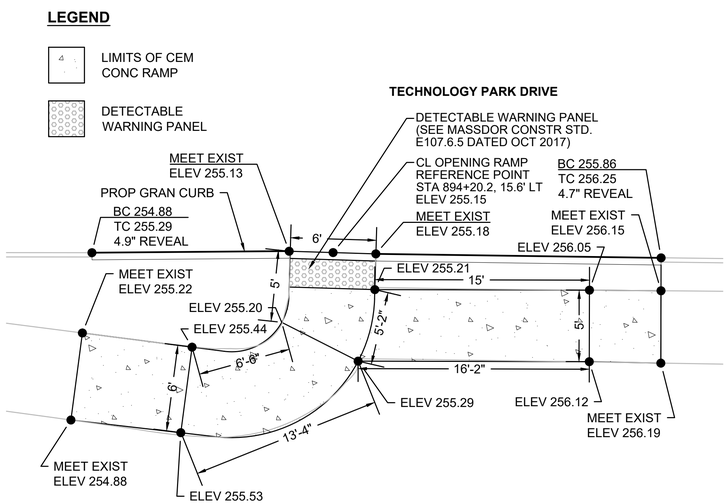
PEDESTRIAN CURB RAMP & DRIVEWAY DETAILS

608227HD (DET-WCR).DWG Plotted on 29-Dec-2023 12:33 PM



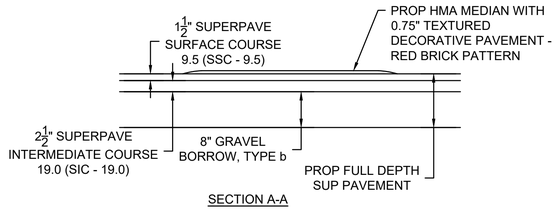
PEDESTRIAN CURB RAMP - 16

SCALE: 1" = 4'

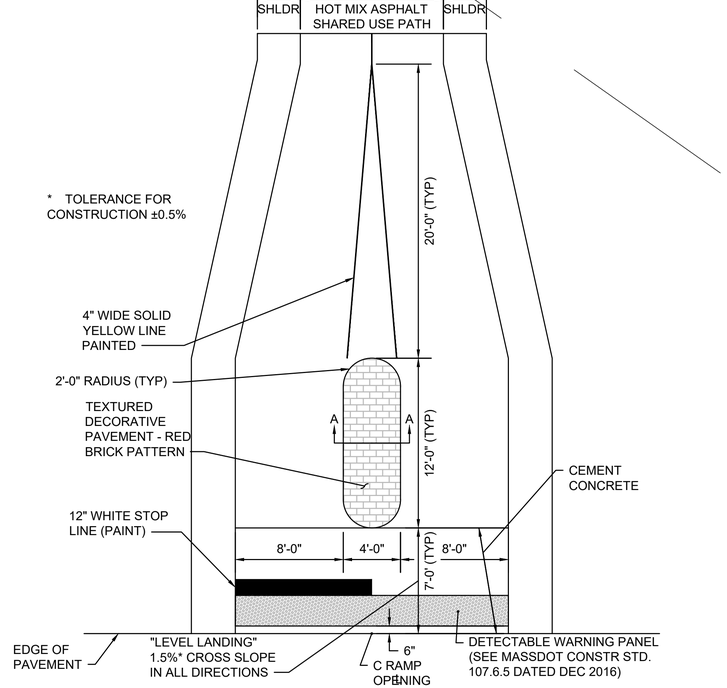


PEDESTRIAN CURB RAMP - 25

SCALE: 1" = 5'



SPLITTER ISLAND DATA		
NO.	LOCATION	OPENING ELEV
10	STA 200+11.7 ALGN - YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)	195.02
11	STA 238+75.06 ALGN - YANKEE DOODLE BIKE PATH SECTION 1 PART 2 (CABOT)	147.04
12	STA 300+03.3 ALGN - YANKEE DOODLE BIKE PATH SECTION 2 PART 1	147.11
39	STA 500+97.7 ALIGN - YANKEE DOODLE BIKE PATH SECTION 3	184.65
33	STA 633+52.6 ALGN - YANKEE DOODLE BIKE PATH SECTION 4	197.10
34	STA 638+29.06 ALGN - YANKEE DOODLE BIKE PATH SECTION 4	206.07
37	STA 645+85.3 ALGN - YANKEE DOODLE BIKE PATH SECTION 4	210.22



SPLITTER ISLAND

SCALE: N.T.S.

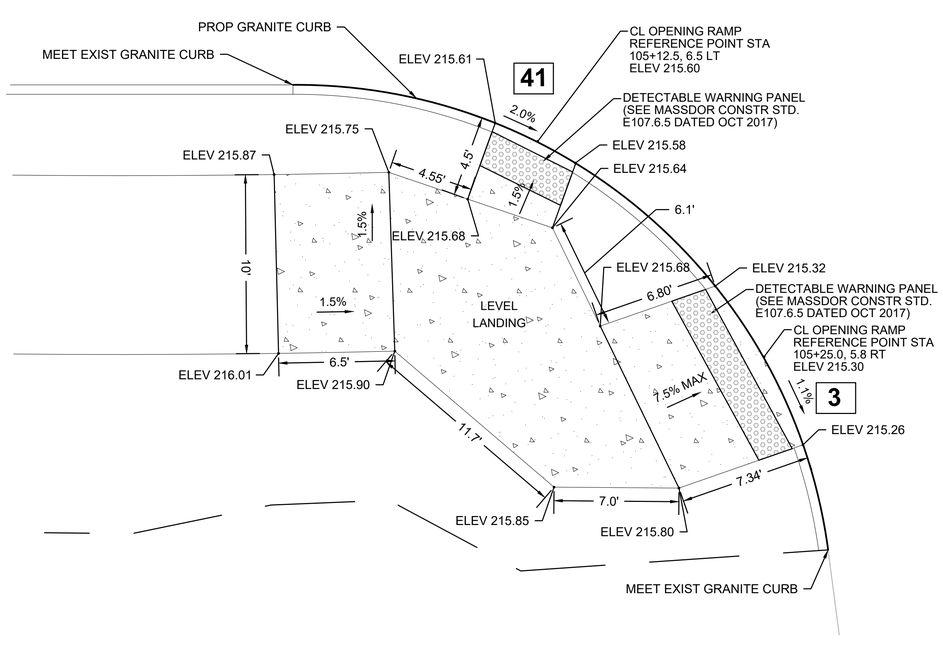
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	137	208
PROJECT FILE NO. 608227			

PEDESTRIAN CURB RAMP & DRIVEWAY DETAILS

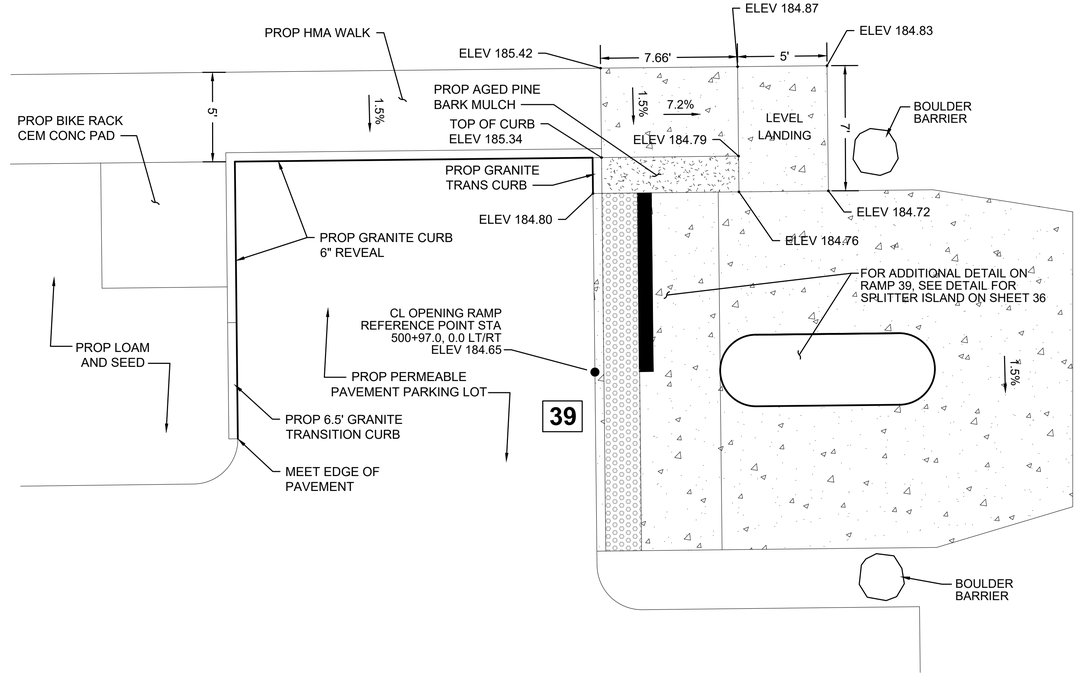
608227HD (DET-WCR).DWG Plotted on 29-Dec-2023 12:33 PM

RIVER STREET



PEDESTRIAN CURB RAMP - 3 & 41

SCALE: 1" = 4'



SPLITTER ISLAND 39 WITH PEDESTRIAN CURB RAMP

SCALE: 1" = 4'

BILLERICA
YANKEE DOODLE BIKE PATH

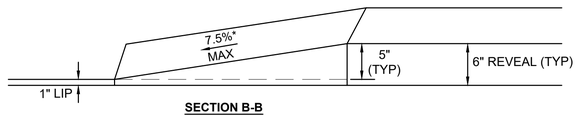
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	138	208
PROJECT FILE NO. 608227			

PEDESTRIAN CURB RAMP & DRIVEWAY DETAILS

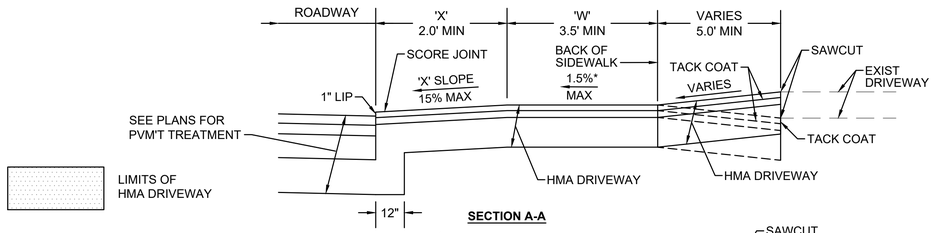
608227HD (DET-WCR).DWG Plotted on 29-Dec-2023 12:33 PM

HMA DRIVEWAY										
NO.	LOCATION	RAMP WIDTH	'X'	'X' SLOPE	'W"	OPENING ELEVATION	LEFT SIDE		RIGHT SIDE		NOTES
							GUTTER	TRANSITION	GUTTER	TRANSITION	
1	STA 106+41.4, 10.0' LT ALGN - YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)	13'-0"	5'-0"	14.28%	10'-0"	213.54	-1.07%	6'-6"	1.88%	9'-0"	NO PROP CURB
2	STA 106+81.2, 10.4' LT ALGN - YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)	15'-0"	5'-0"	15.00%	10'-0"	213.14	-1.34%	6'-6"	2.04%	11'-0"	NO PROP CURB
3	STA 109+82.7, 10.0' LT ALGN - YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)	15'-0"	5'-0"	8.85%	10'-0"	203.90	-2.76%	6'-6"	3.94%	14'-0"	NO PROP CURB
4	STA 500+33.8, 41.9' RT ALGN - YANKEE DOODLE BIKE PATH SECTION 3	32'-0"	5'-0"	15.00%	4'-0"	183.58	2.66%	11'-0"	-1.83%	6'-6"	PROP HMA CURB

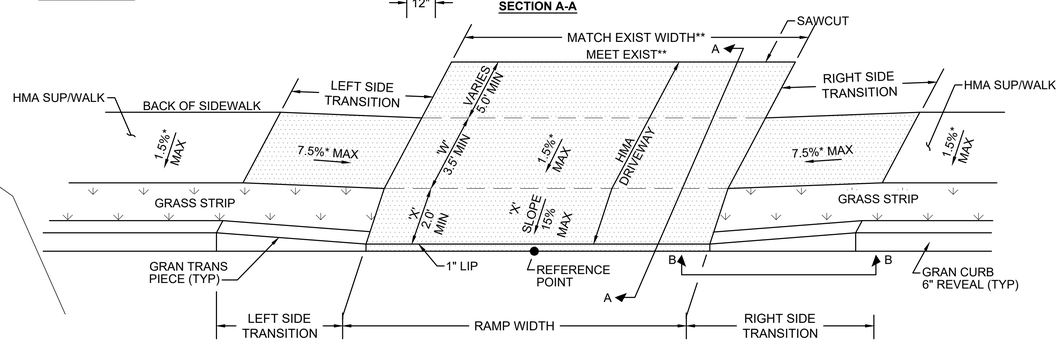
NOTE: GUTTER SLOPE IS IN THE DIRECTION OF THE BASELINE



SECTION B-B



SECTION A-A

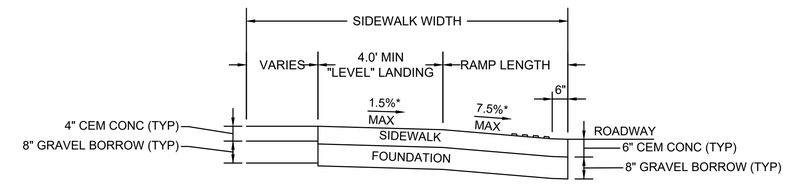


* TOLERANCE FOR CONSTRUCTION ±0.5%
** ONLY IF MEETING EXISTING DRIVEWAY

HMA DRIVEWAY WITH GRASS STRIP

SCALE: NTS

PEDESTRIAN CURB RAMP 12.0' OR GREATER - CURVED							
NO.	LOCATION	SIDEWALK WIDTH	RAMP WIDTH	OPENING ELEVATION	LEFT SIDE		RIGHT SIDE	
					GUTTER	TRANSITION	GUTTER	TRANSITION
1	STA 100+72.82, 0.0' LT/RT ALGN - YANKEE DOODLE BIKE PATH SECTION 1 PART 1 (RIVER)	13'-0"	10'-0"	226.65	-2.15%	6'-6"	3.21%	14'-0"

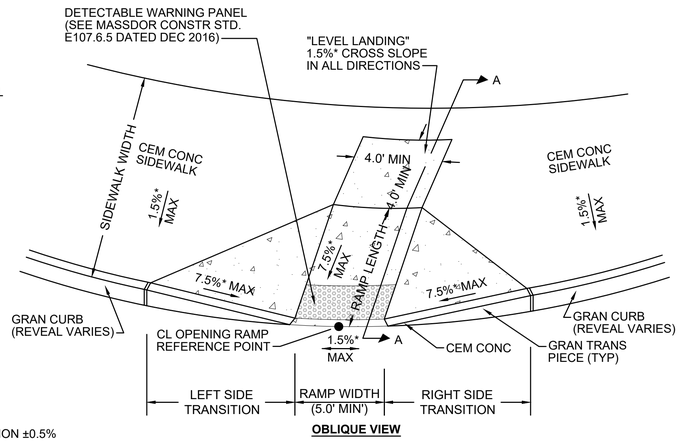


SECTION A-A

LEGEND

LIMITS OF CEM CONC RAMP

DETECTABLE WARNING PANEL



*TOLERANCE FOR CONSTRUCTION ±0.5%

OBLIQUE VIEW

PEDESTRIAN CURB RAMP 12.0' OR GREATER - CURVED

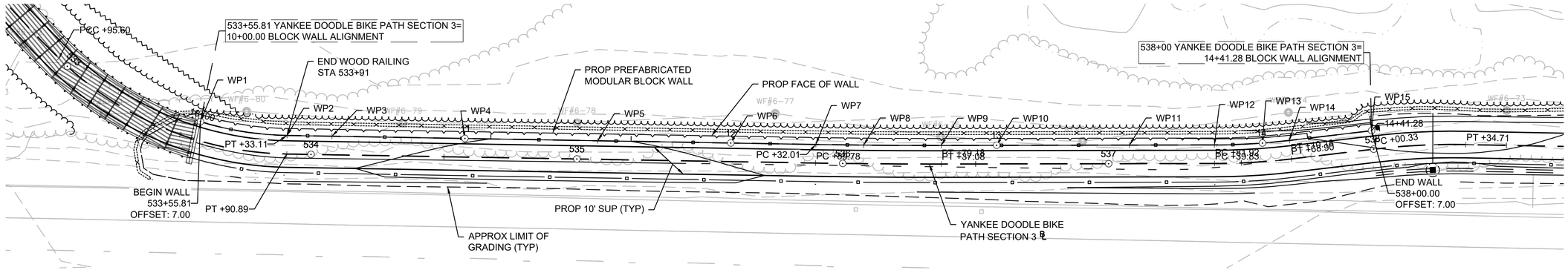
SCALE: NTS

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	134	208
PROJECT FILE NO.	608227		

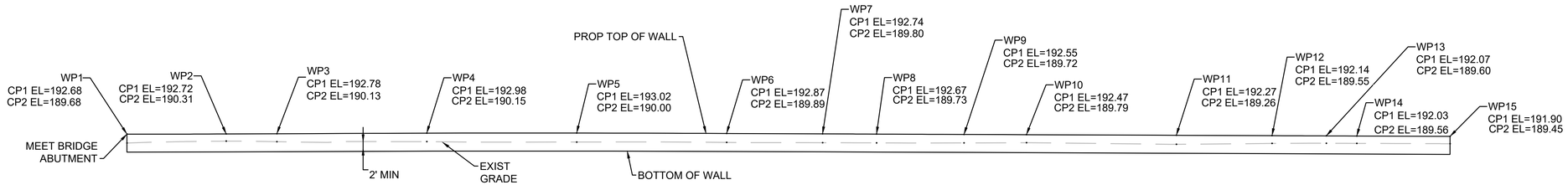
MODULAR BLOCK WALL PLAN AND DETAILS

608227HD (WALL).DWG Plotted on 2-Jan-2024 7:29 AM



PREFABRICATED MODULAR BLOCK WALL - PLAN

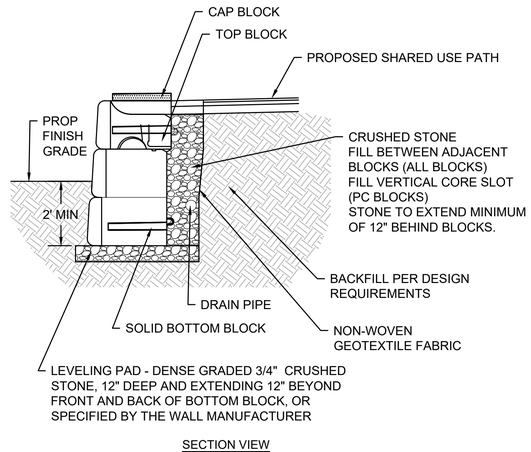
SCALE: 1" = 20'



PREFABRICATED MODULAR BLOCK WALL - PROFILE

SCALE: 1" = 20'

PREFABRICATED MODULAR BLOCK WALL - WORKING POINT TABLE						
WP #	NORTHING	EASTING	YDBP STA / OFFSET	WALL ℄ STA	CP1 ELEV	CP2 ELEV
WP1	3020461.5700	715832.8991	533+55.81, 7.00' LT	10+00.00	192.65	189.68
WP2	3020430.2853	715843.4179	533+90.89, 7.00' LT	10+33.11	192.72	190.31
WP3	3020415.1900	715850.9849	534+07.77, 7.00' LT	10+50.00	192.78	190.15
WP4	3020370.4915	715873.3912	534+57.77 7.00' LT	11+00.00	192.98	190.15
WP5	3020325.7930	715895.7975	535+07.77 7.00' LT	11+50.00	193.02	190.00
WP6	3020288.0428	715914.7208	535+57.77, 7.00' LT	12+00.00	192.87	189.89
WP7	3020252.4794	715932.5480	535+89.78, 7.00' LT	12+32.01	192.74	189.80
WP8	3020236.4252	715940.6682	536+07.82, 7.00' LT	12+50.00	192.67	189.73
WP9	3020210.5151	715954.0828	536+37.08, 7.00' LT	12+79.18	192.55	189.72
WP10	3020192.0798	715963.7647	536+57.90, 7.00' LT	13+00.00	192.47	189.79
WP11	3020147.8132	715987.0127	537+07.90, 7.00' LT	13+50.00	192.27	189.26
WP12	3020119.5522	716001.8548	537+39.83, 7.00' LT	13+81.92	192.14	189.55
WP13	3020103.8739	716010.8480	537+58.43, 7.00' LT	14+00.00	192.07	189.60
WP14	3020095.3565	716016.4153	537+68.90, 7.00' LT	14+10.18	192.03	189.56
WP15	3020069.6821	716033.9750	538+00.00, 7.00' LT	14+41.28	191.90	189.45

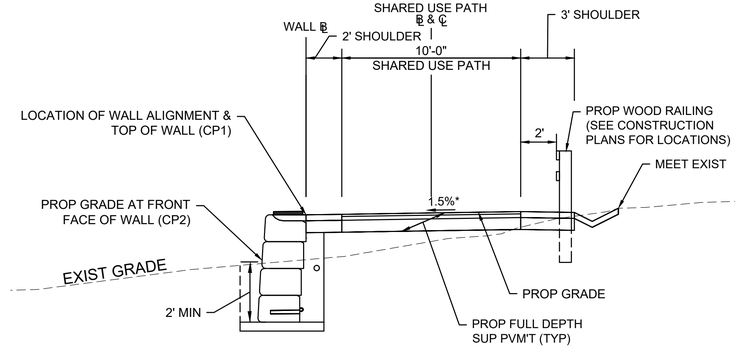


SECTION VIEW

PREFABRICATED MODULAR BLOCK WALL

SCALE: N.T.S.

NOTES:
1. THE CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES PRIOR TO CONSTRUCTION.
2. TOP OF WALL GENERALLY FOLLOWS SHARED USE PATH FINISHED GRADE AND IS TAKEN AT CP1 AS SHOWN ON THE WALL TYPICAL SECTIONS.
3. BORING LOGS ARE LOCATED IN THE GEOTECH REPORT.



TYPICAL SECTION

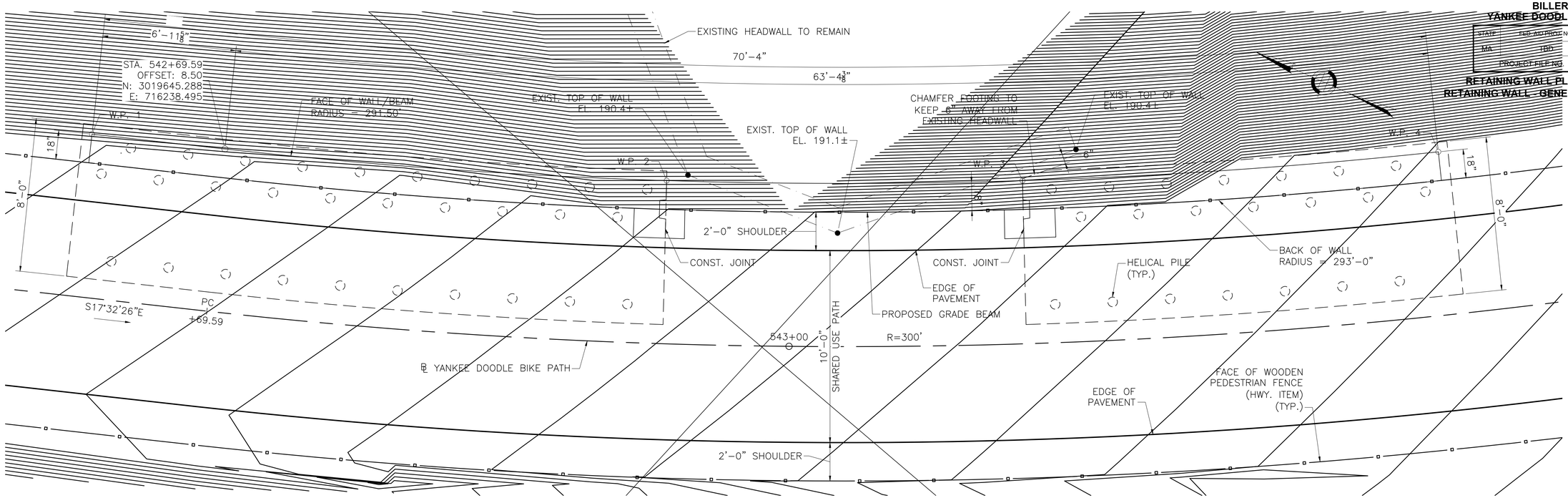
STA 533+55.81 TO STA 5538+00.00±
NTS

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	135	208
PROJECT FILE NO.	608227		

RETAINING WALL PLAN AND DETAILS
RETAINING WALL - GENERAL PLAN AND ELEV.

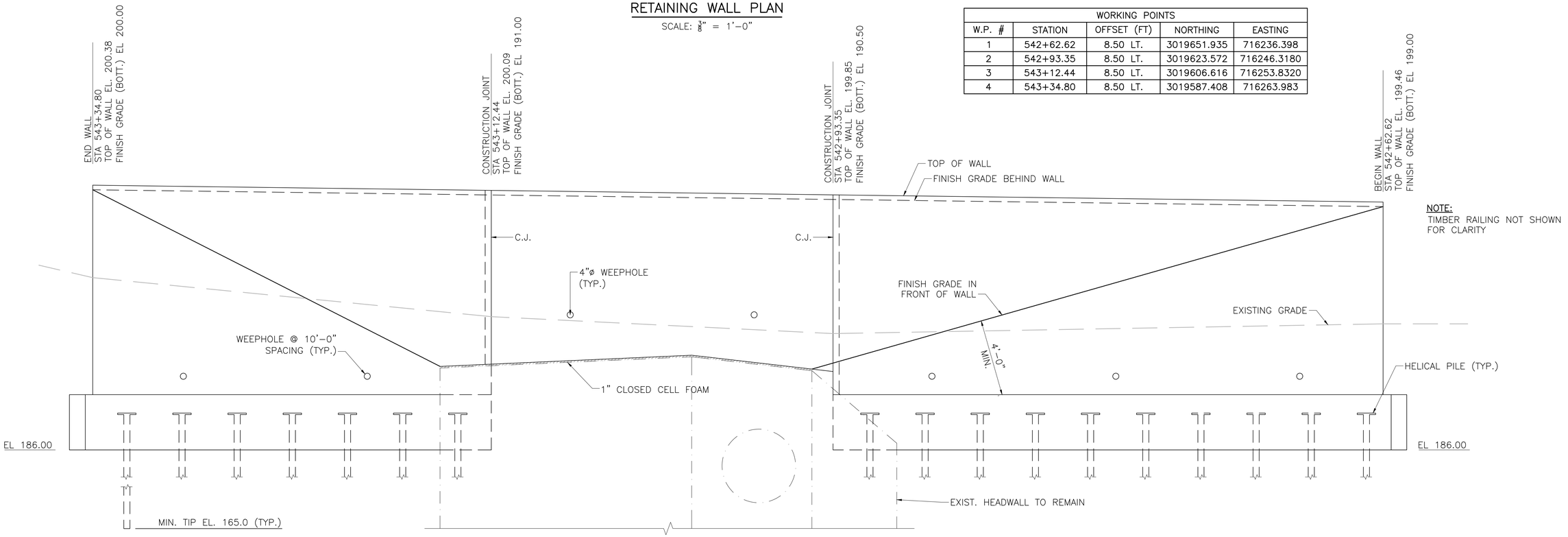
608227_BR(STR)-PLAN_EL).DWG Plotted on 29-Dec-2023 12:39 PM



RETAINING WALL PLAN

SCALE: ⅜" = 1'-0"

WORKING POINTS				
W.P. #	STATION	OFFSET (FT)	NORTHING	EASTING
1	542+62.62	8.50 LT.	3019651.935	716236.398
2	542+93.35	8.50 LT.	3019623.572	716246.3180
3	543+12.44	8.50 LT.	3019606.616	716253.8320
4	543+34.80	8.50 LT.	3019587.408	716263.983



NOTE:
TIMBER RAILING NOT SHOWN FOR CLARITY

RETAINING WALL ELEVATION (LOOKING WEST)

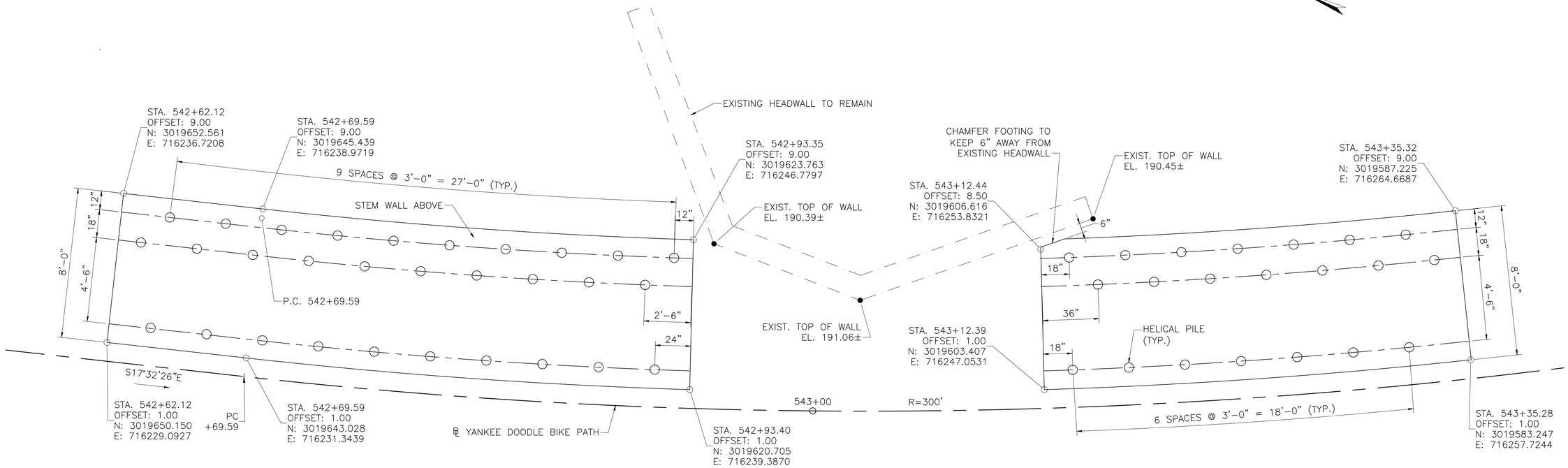
SCALE: ⅜" = 1'-0"

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	136	208
PROJECT FILE NO.	608227		

RETAINING WALL PLAN AND DETAILS
RETAINING WALL - FOUNDATION PLAN

608227_BR(STR5-FDN).DWG Plotted on 29-Dec-2023 12:40 PM



FOUNDATION PLAN

SCALE: $\frac{3}{8}$" = 1'-0"

HELICAL PILE NOTES

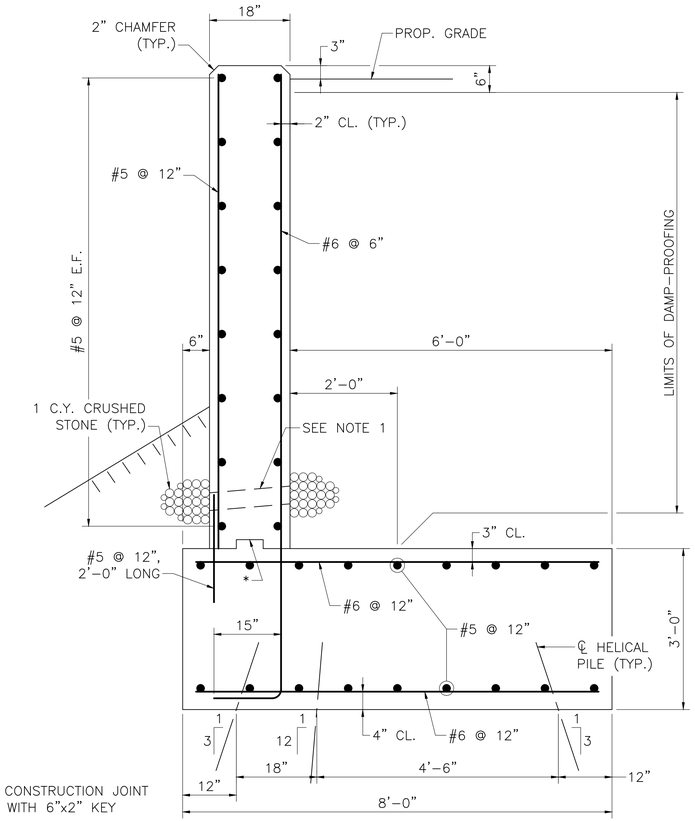
1. REFER TO GEOTECHNICAL REPORT, DATED AUGUST 2022, PREPARED BY LAHLAF GEOTECHNICAL CONSULTING, INC.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE HELICAL PILES, INCLUDING THE CONNECTIONS BETWEEN THE HELICAL PILES AND THE CONCRETE PILE CAP.
3. CONTRACTOR SHALL SUBMIT TO THE ENGINEER ALL NECESSARY CALCULATIONS AND DETAILS FOR REVIEW AND APPROVAL, PRIOR TO CONSTRUCTION.
4. HELICAL PILE AND CONNECTION DESIGN SHALL BE IN ACCORDANCE WITH THE MASSDOT BRIDGE DESIGN MANUAL AND AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, CURRENT ED.
5. THE SERVICE AXIAL DESIGN LOAD PER PILE IS 25 KIPS. THE SERVICE LATERAL DESIGN LOAD PER PILE IS 1.9 KIPS.
6. PILE TIP ELEVATIONS TO BE DETERMINED BY THE HELICAL PILE DESIGNER. HELICAL PILES TO BE INSTALLED TO A MINIMUM TIP ELEVATION OF 165.0.
7. REFER TO GEOTECHNICAL REPORT FOR FURTHER RECCOMENDATIONS ON HELICAL PILE DESIGN.

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	142	208
PROJECT FILE NO.	608227		

RETAINING WALL PLAN AND DETAILS
RETAINING WALL DETAILS 1 OF 2

608227_BR(STRS-WALL_DET).DWG Plotted on 29-Dec-2023 12:41 PM



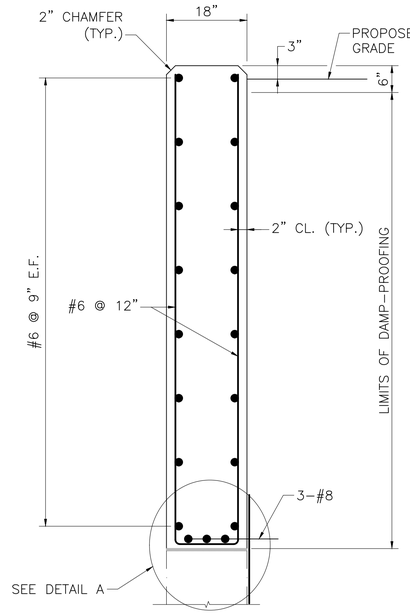
* CONSTRUCTION JOINT WITH 6"x2" KEY

TYPICAL RETAINING WALL SECTION

SCALE: $\frac{3}{4}$" = 1'-0"

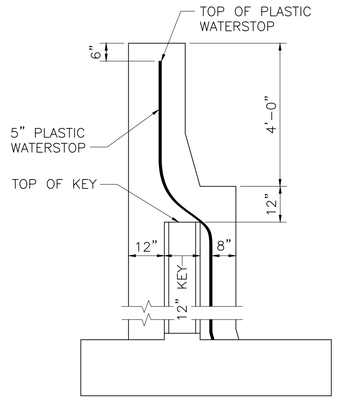
NOTES:

1. 4" ø WEEP HOLES 10'-0" O.C. LOCATED 12" ABOVE THE HEEL OF THE FOOTING SLOPING 1" PER FOOT TOWARDS THE FRONT FACE. PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
2. ALL CONCRETE SHALL BE 4000 PSI HP CONCRETE.
3. REINFORCING STEEL SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED IN THE CONSTRUCTION DRAWINGS AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60.
4. TIMBER POST NOT SHOWN FOR CLARITY.



TYPICAL GRADE BEAM SECTION

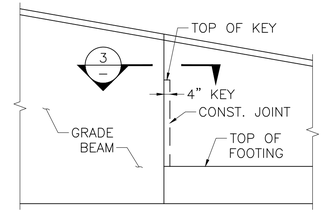
SCALE: $\frac{3}{4}$" = 1'-0"



NOTE:
REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.

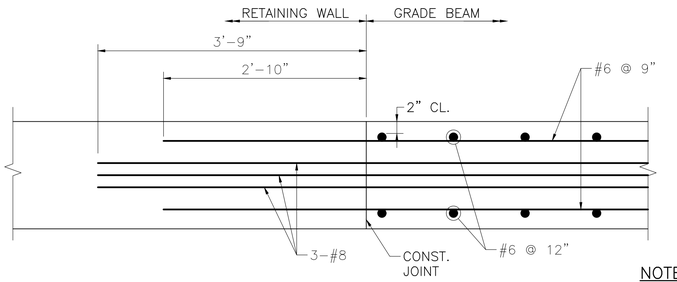
VERTICAL SECTION THROUGH CONSTRUCTION JOINT

SCALE: $\frac{1}{2}$" = 1'-0"



CONSTRUCTION JOINT ELEVATION

SCALE: $\frac{1}{2}$" = 1'-0"

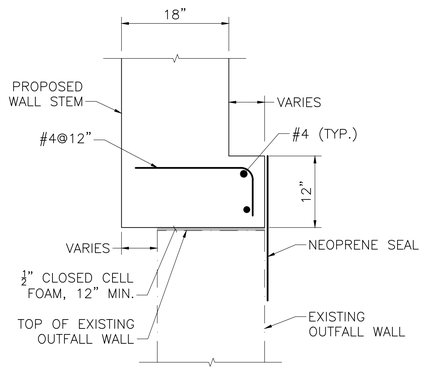


RETAINING WALL/GRADE BEAM INTERFACE DETAIL

SCALE: 1" = 1'-0"

NOTE:
EXTEND GRADE BEAM REINFORCEMENT INTO STEM AND FOOTING.

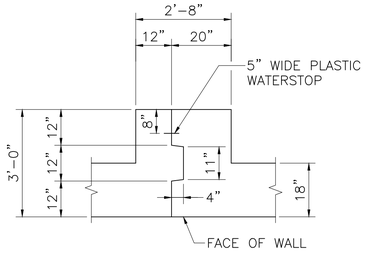
RETAINING WALL STEM BARS OMITTED FOR CLARITY.



DETAIL A

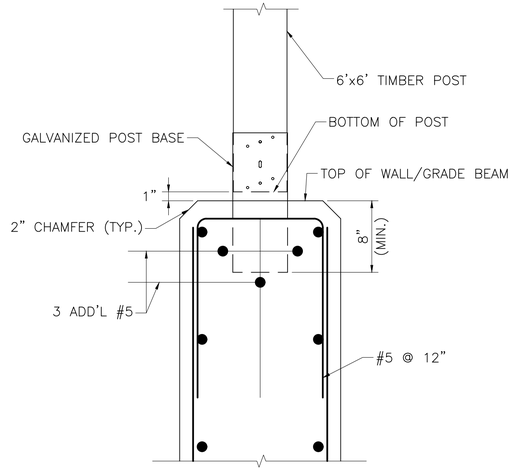
SCALE: 1" = 1'-0"

NOTE: TYPICAL GRADE BEAM REINFORCEMENT OMITTED FOR CLARITY



SECTION 3

SCALE: $\frac{1}{2}$" = 1'-0"



WALL TOP DETAIL

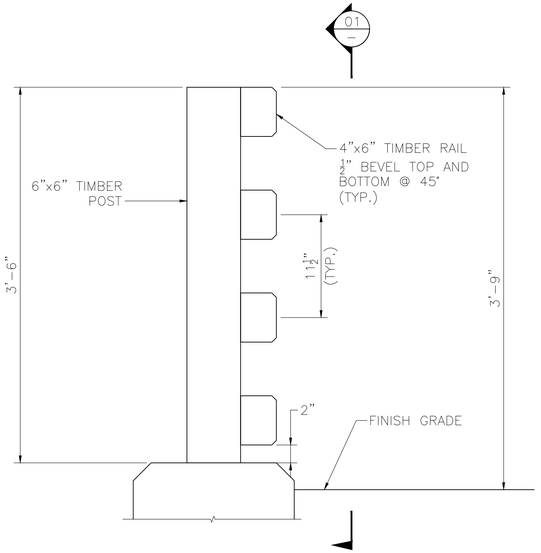
SCALE: $1\frac{1}{2}$" = 1'–0"

NOTES:

1. POST BASE SHALL BE DESIGNED BY THE CONTRACTOR AND SUFFICIENT TO RESIST THE FOLLOWING FACTORED LOADS:

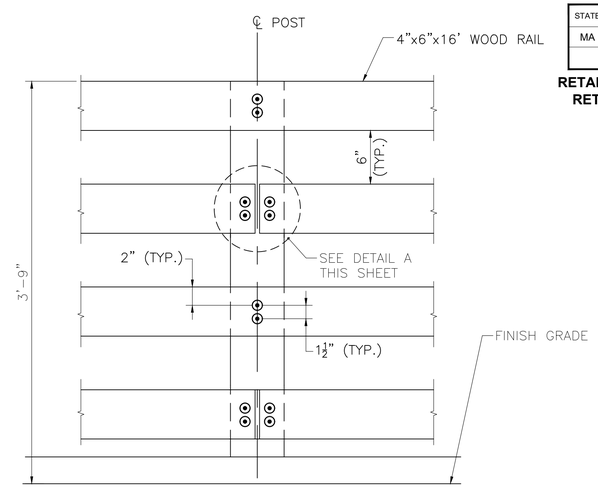
   Mu = 2100 LB–FT
   Pu = 425 LB
   Vu = 600 LB

2. ALL TIMBER SHALL BE SOUTHERN YELLOW PINE, NO. 1.



PROPOSED WOODEN PEDESTRIAN RAIL

SCALE: 1" = 1'–0"

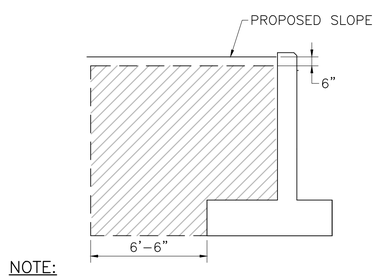


SECTION 01 / –

SCALE: $\frac{1}{8}$" = 1'–0"

DETAIL A / –

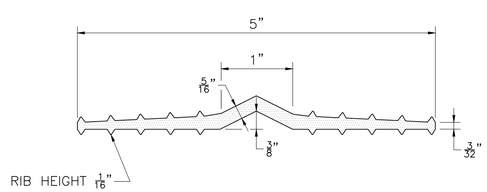
SCALE: 3" = 1'–0"



NOTE:
HATCHED AREA INDICATES LIMITS OF LIGHTWEIGHT FILL.

LIMITS OF LIGHTWEIGHT FILL

SCALE: $\frac{1}{4}$" = 1'–0"



5" WATERSTOP

NOT TO SCALE

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	138	208
PROJECT FILE NO.	608227		

RETAINING WALL PLAN AND DETAILS
RETAINING WALL DETAILS 2 OF 2

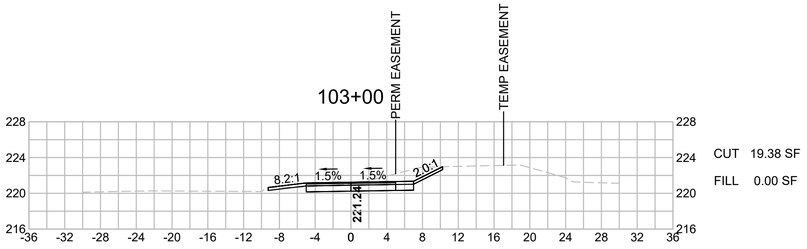
608227_BR(STRS-WALL_DET).DWG Plotted on 29-Dec-2023 12:41 PM

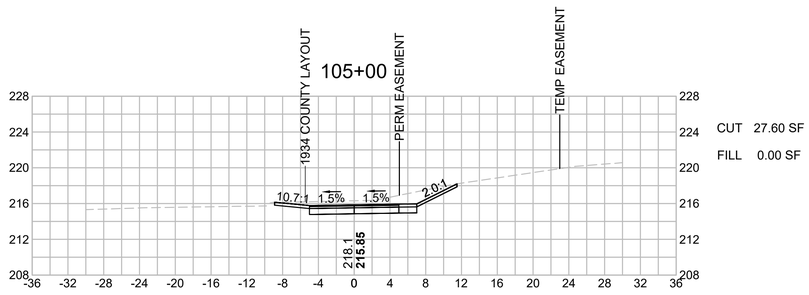
BILLERICA
YANKEE DOODLE BIKE PATH

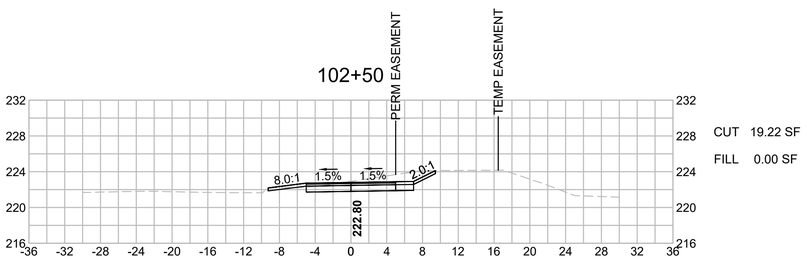
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	144	208
PROJECT FILE NO. 608227			

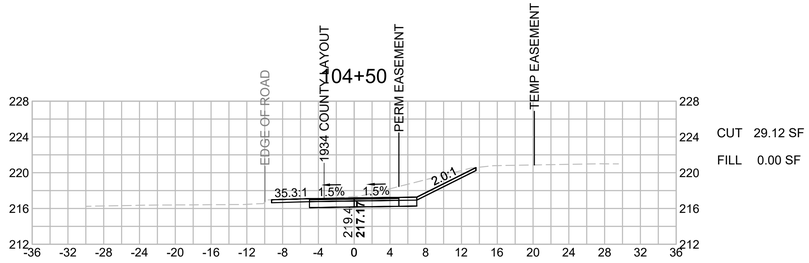
CROSS SECTIONS

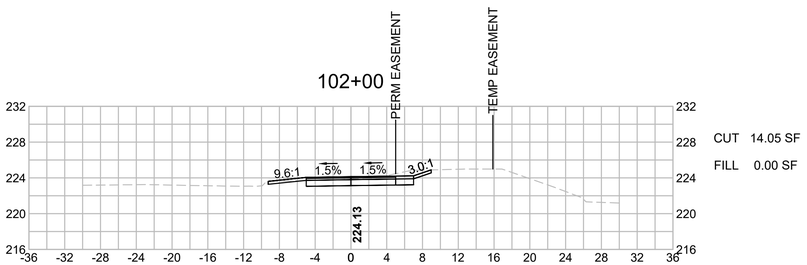
608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:47 PM

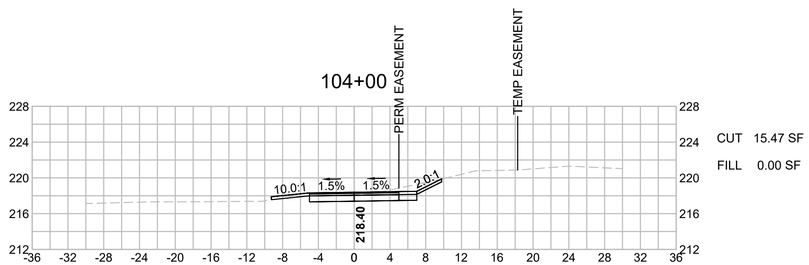


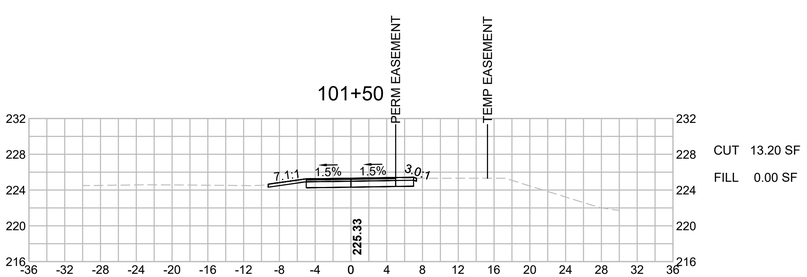


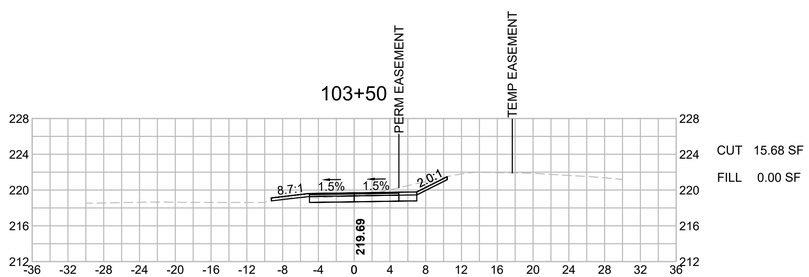


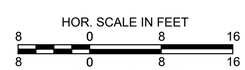








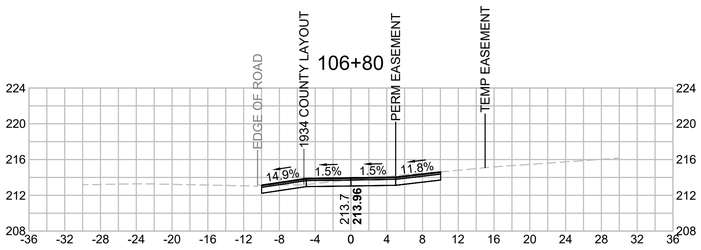




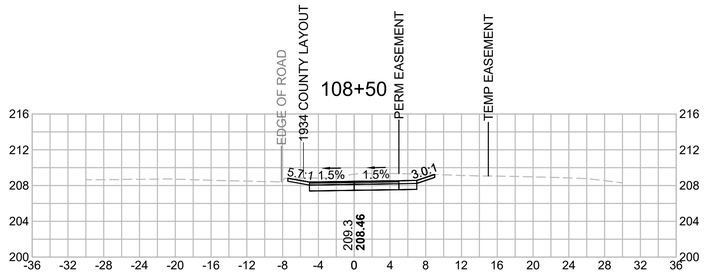
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	145	208
PROJECT FILE NO. 608227			

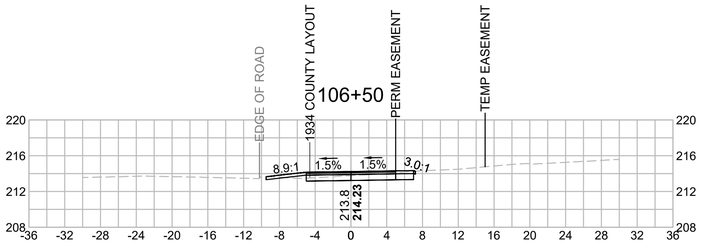
CROSS SECTIONS



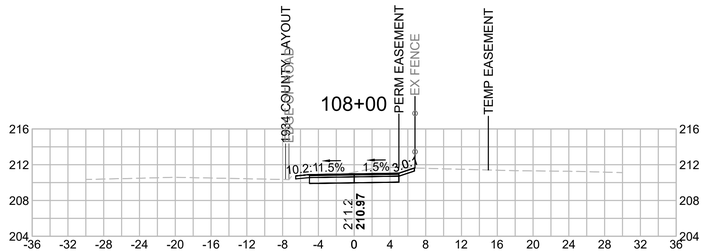
CUT 14.43 SF
FILL 0.00 SF



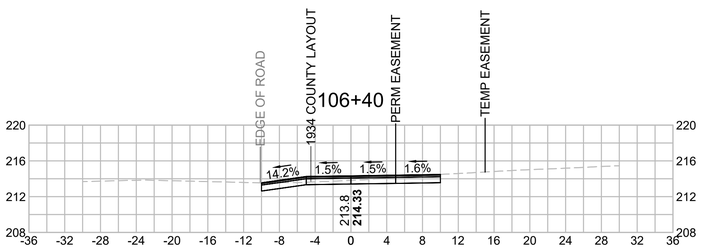
CUT 24.02 SF
FILL 0.00 SF



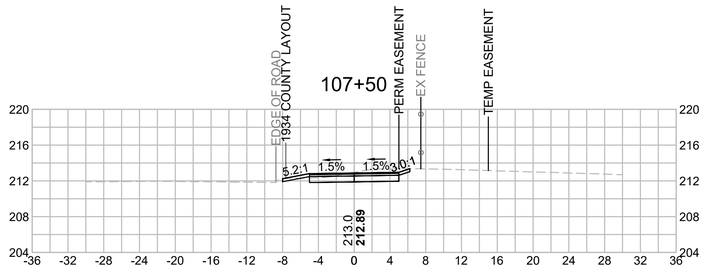
CUT 8.63 SF
FILL 0.00 SF



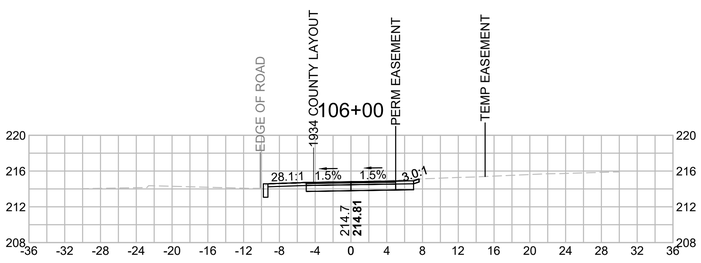
CUT 14.50 SF
FILL 0.00 SF



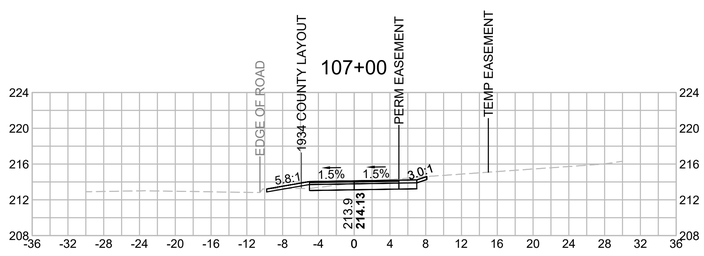
CUT 11.14 SF
FILL 0.00 SF



CUT 12.11 SF
FILL 0.00 SF



CUT 14.76 SF
FILL 0.00 SF



CUT 11.60 SF
FILL 0.00 SF

HOR. SCALE IN FEET
8 0 8 16
VER. SCALE IN FEET
8 0 8 16

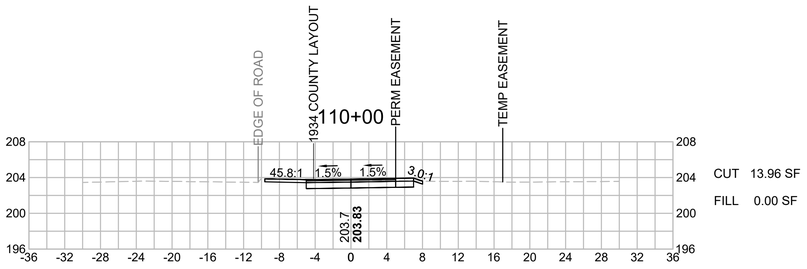
608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:47 PM

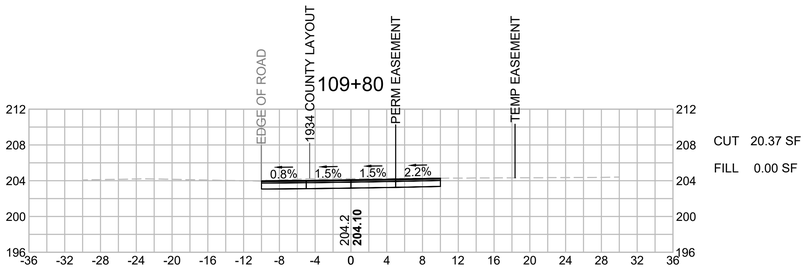
BILLERICA
YANKEE DOODLE BIKE PATH

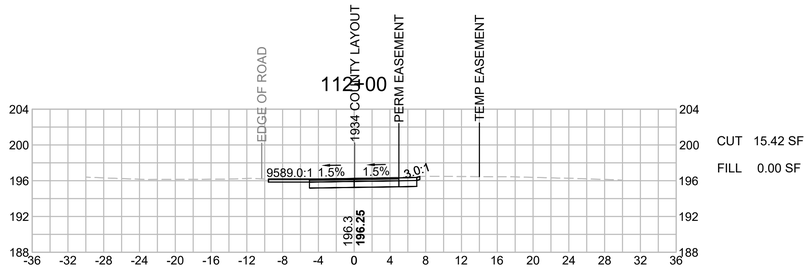
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	146	208
PROJECT FILE NO. 608227			

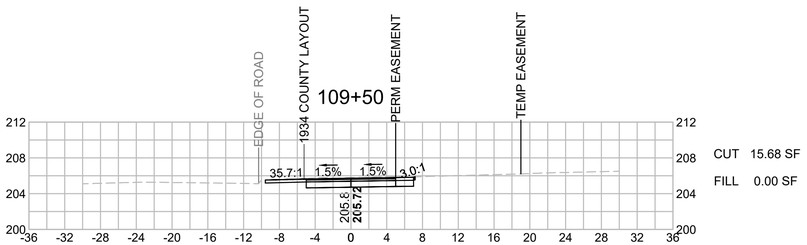
CROSS SECTIONS

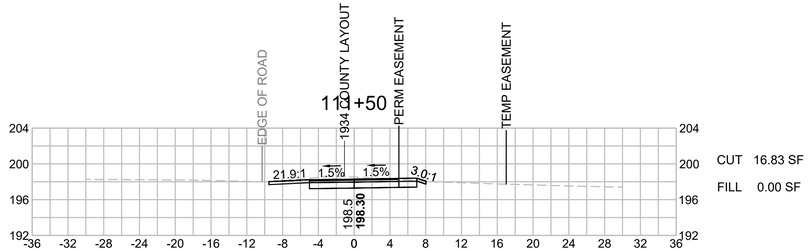
608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:47 PM

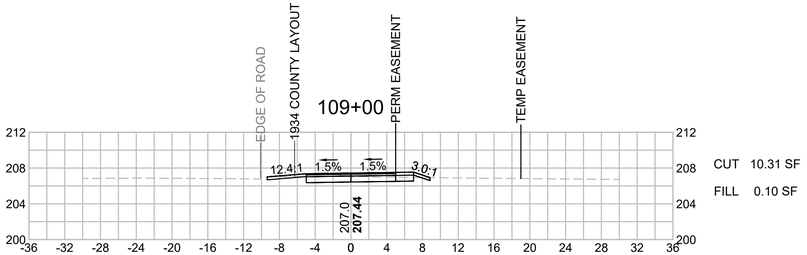


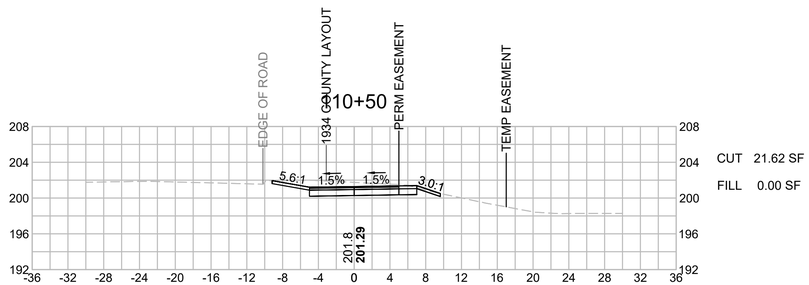


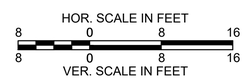










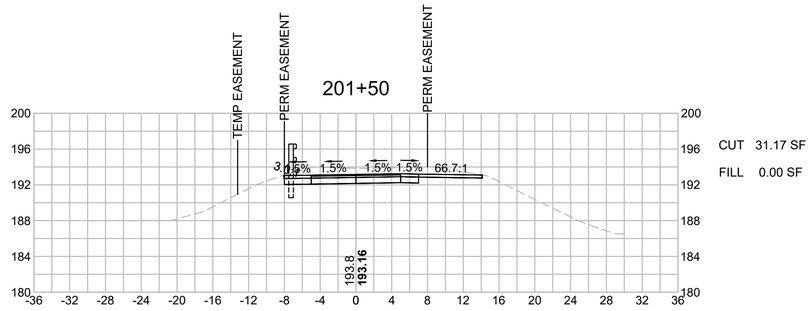


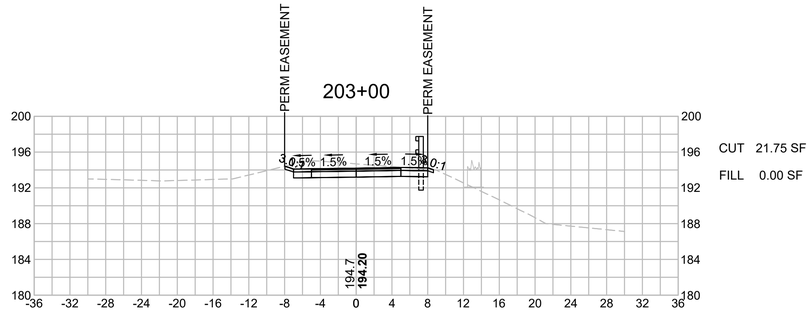
BILLERICA
YANKEE DOODLE BIKE PATH

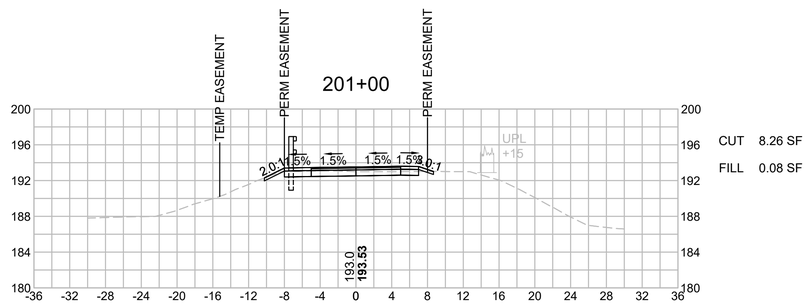
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	147	208
PROJECT FILE NO. 608227			

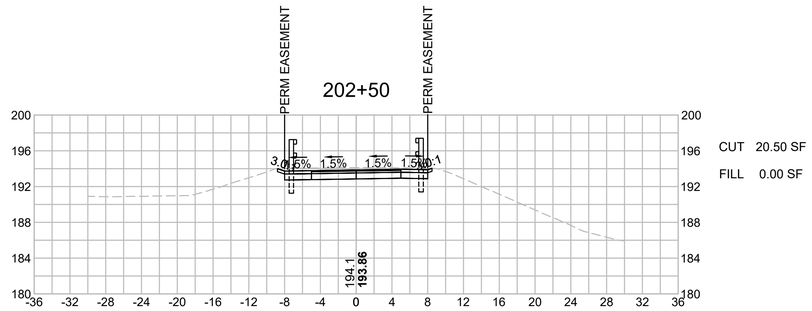
CROSS SECTIONS

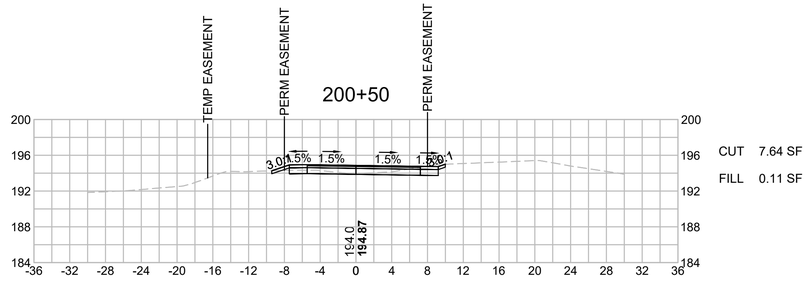
608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:47 PM

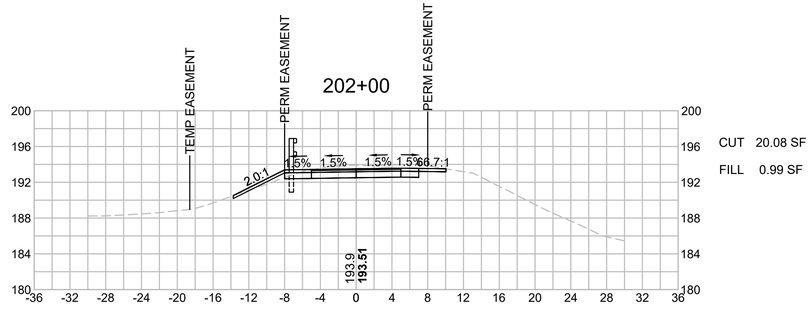


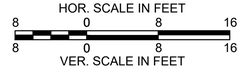










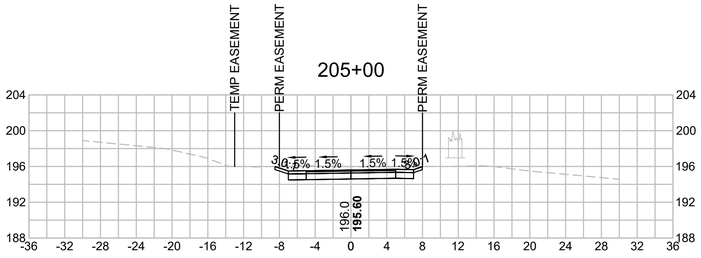


BILLERICA
YANKEE DOODLE BIKE PATH

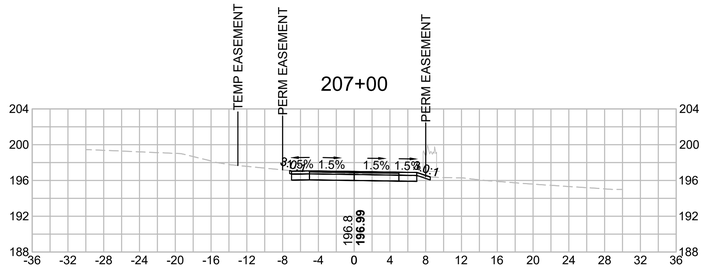
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	148	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

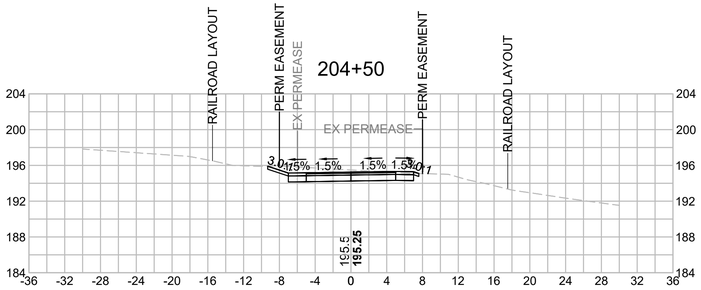
608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:47 PM



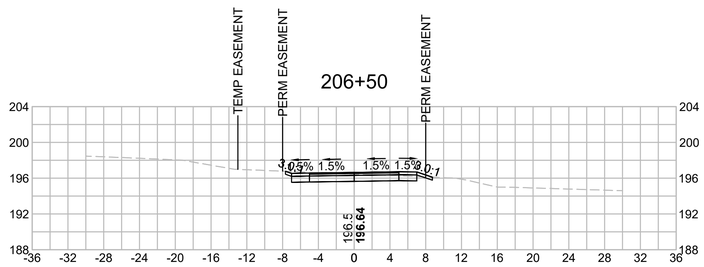
CUT 21.01 SF
FILL 0.00 SF



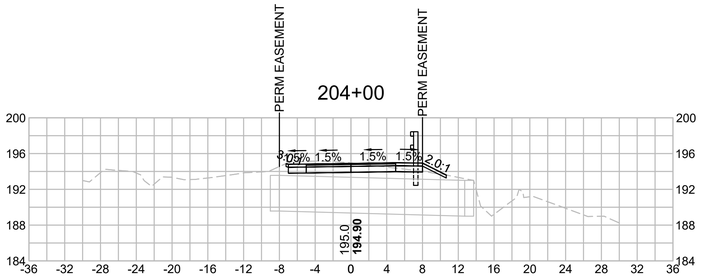
CUT 11.10 SF
FILL 0.01 SF



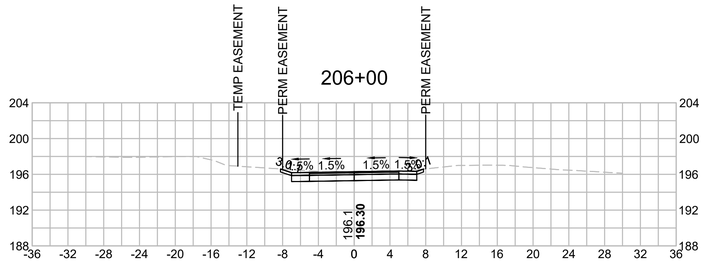
CUT 19.21 SF
FILL 0.00 SF



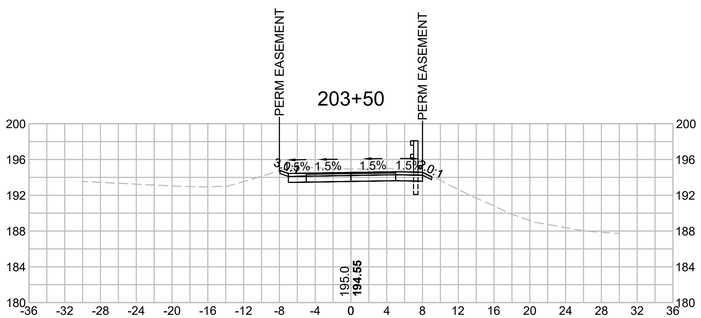
CUT 11.93 SF
FILL 0.06 SF



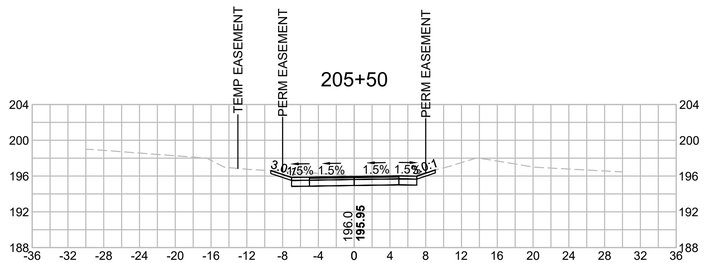
CUT 13.27 SF
FILL 0.49 SF



CUT 13.89 SF
FILL 0.00 SF



CUT 21.29 SF
FILL 0.00 SF



CUT 19.03 SF
FILL 0.00 SF

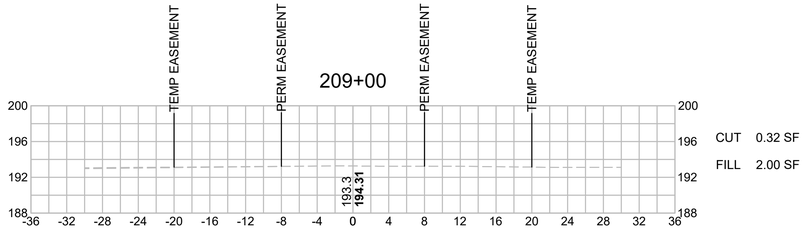
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

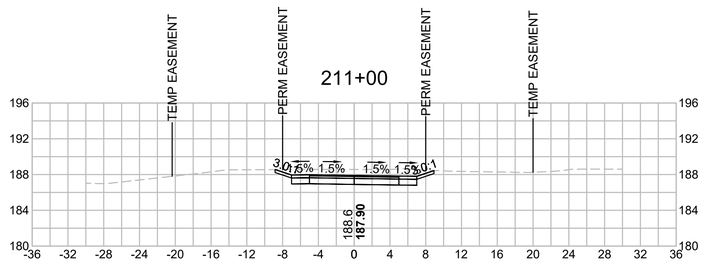
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	149	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

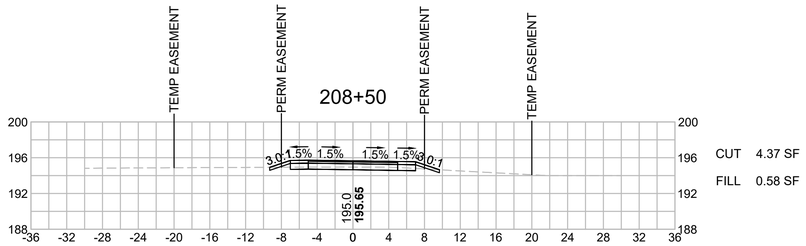
608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:48 PM



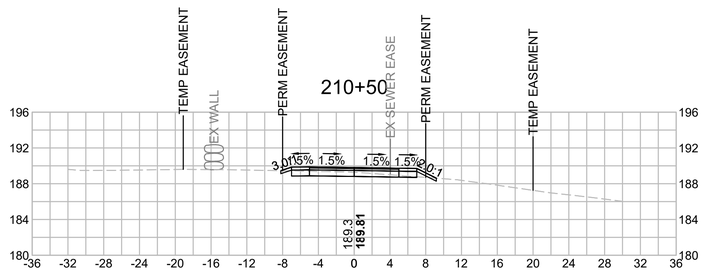
CUT 0.32 SF
FILL 2.00 SF



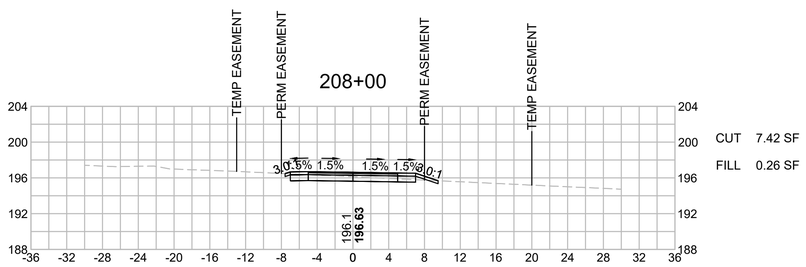
CUT 26.04 SF
FILL 0.00 SF



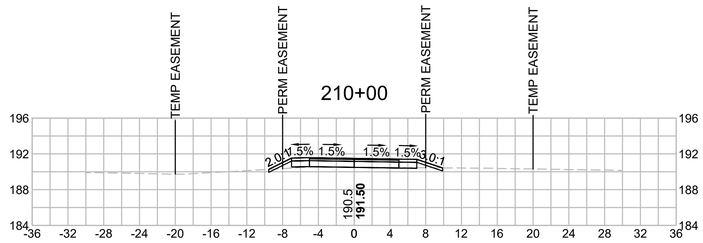
CUT 4.37 SF
FILL 0.58 SF



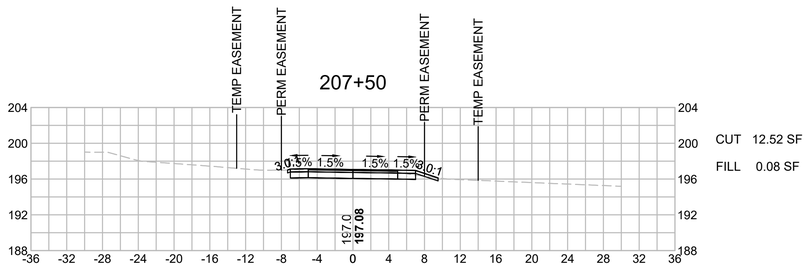
CUT 5.78 SF
FILL 0.43 SF



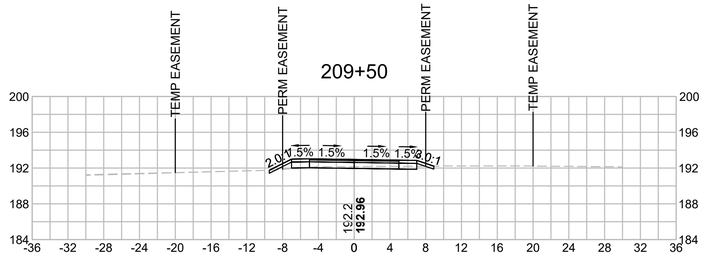
CUT 7.42 SF
FILL 0.26 SF



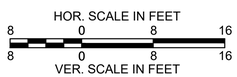
CUT 0.51 SF
FILL 1.57 SF



CUT 12.52 SF
FILL 0.08 SF



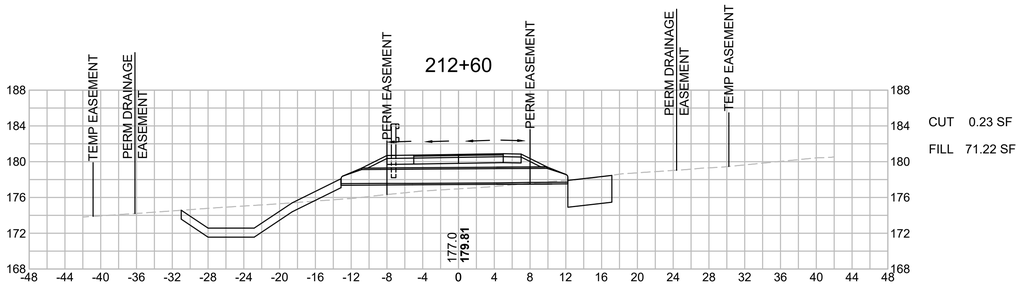
CUT 3.03 SF
FILL 0.81 SF



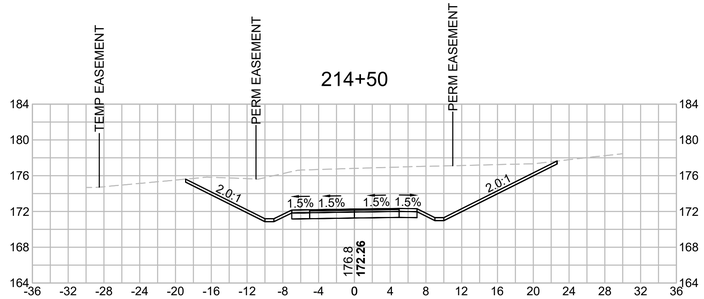
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	150	208
PROJECT FILE NO. 608227			

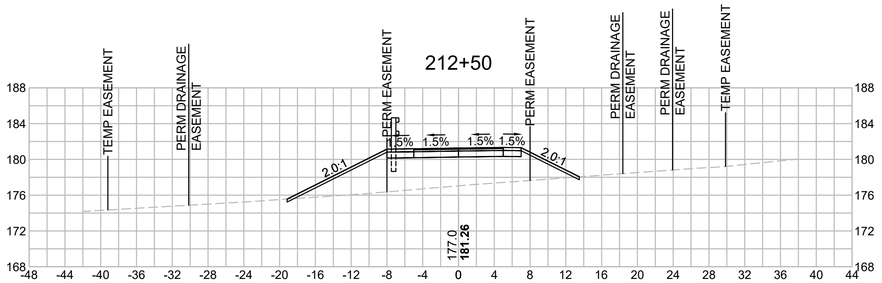
CROSS SECTIONS



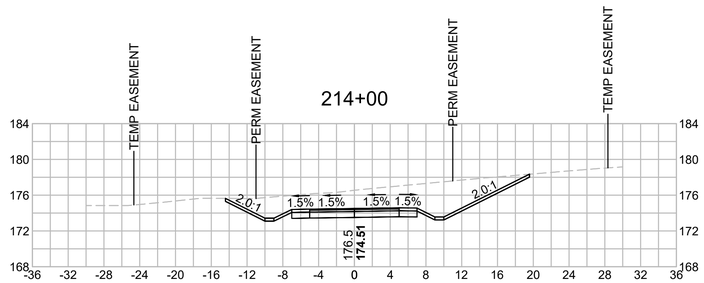
CUT 0.23 SF
FILL 71.22 SF



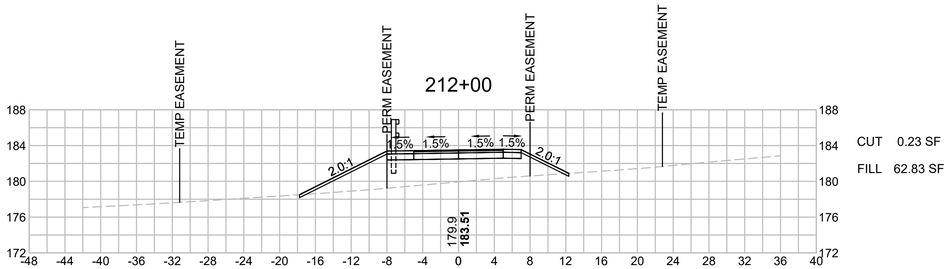
CUT 173.06 SF
FILL 0.00 SF



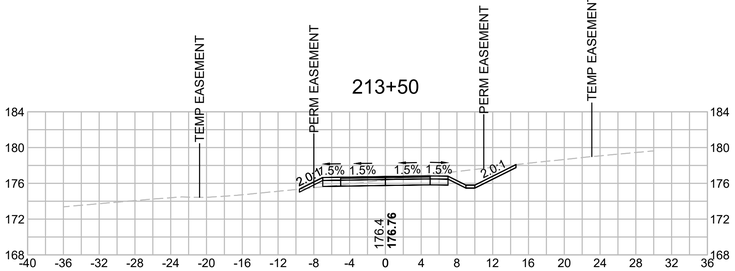
CUT 0.23 SF
FILL 82.23 SF



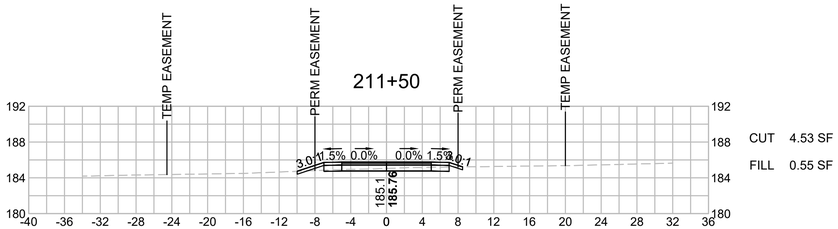
CUT 90.00 SF
FILL 0.00 SF



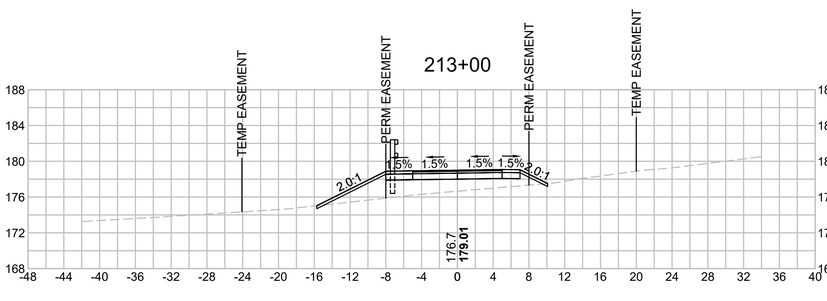
CUT 0.23 SF
FILL 62.83 SF



CUT 19.36 SF
FILL 0.63 SF



CUT 4.53 SF
FILL 0.55 SF



CUT 0.24 SF
FILL 32.00 SF

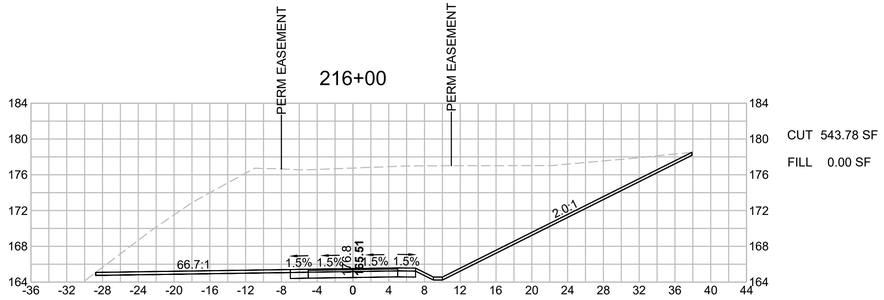
608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:48 PM

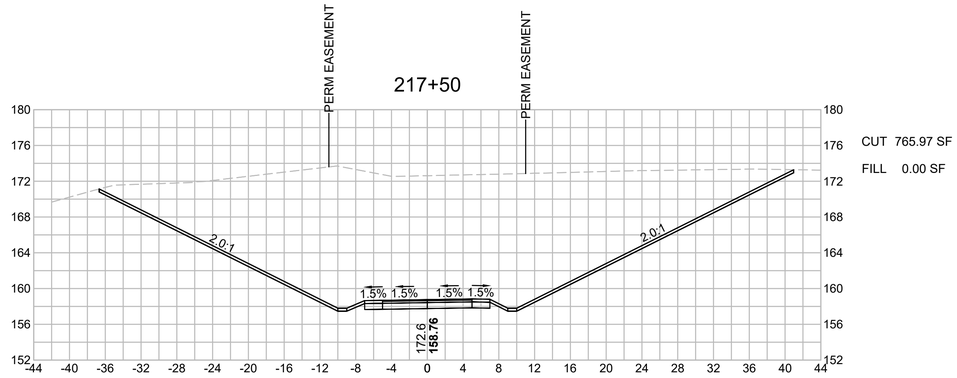
BILLERICA
YANKEE DOODLE BIKE PATH

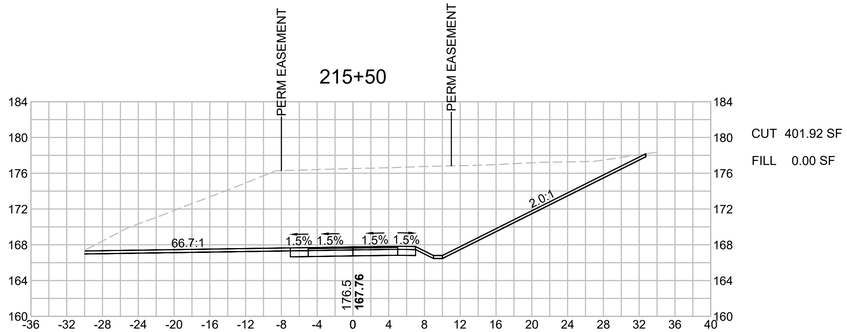
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	151	208
PROJECT FILE NO. 608227			

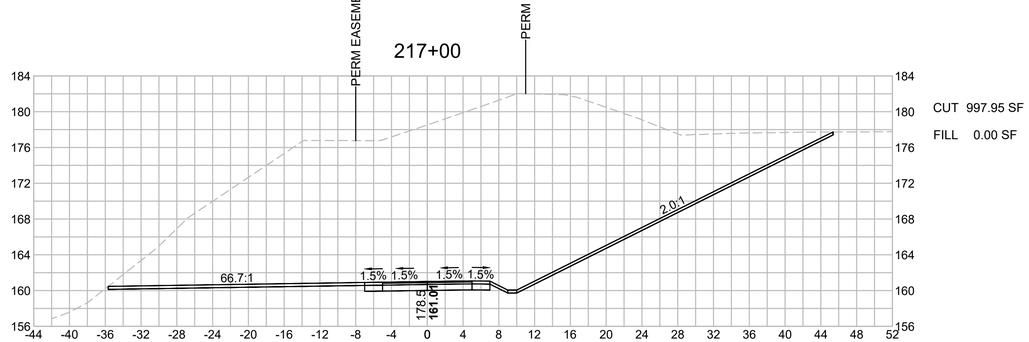
CROSS SECTIONS

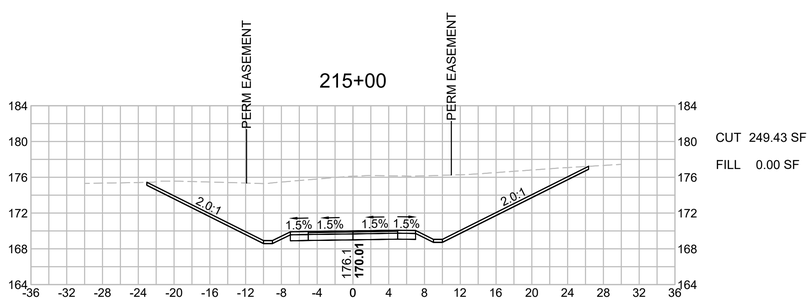
608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:48 PM

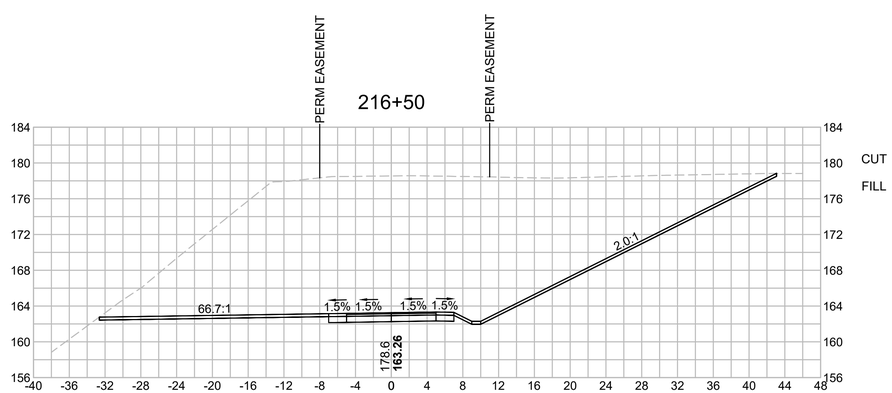












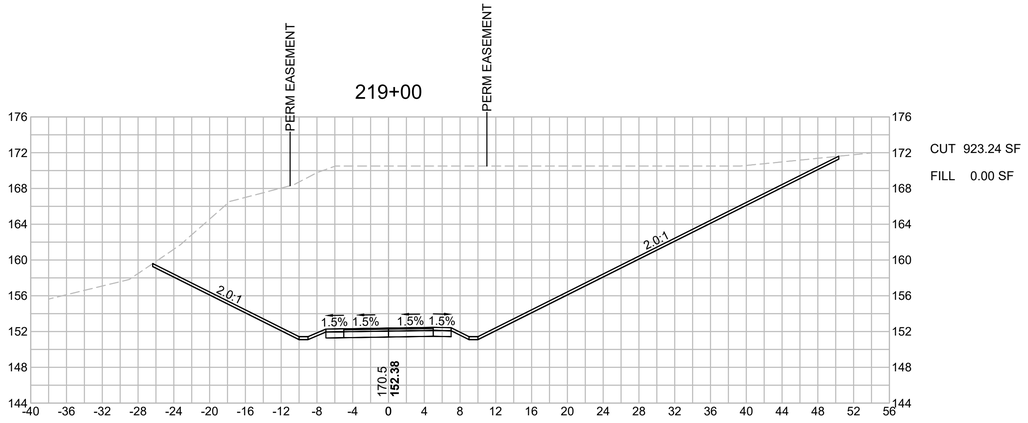
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

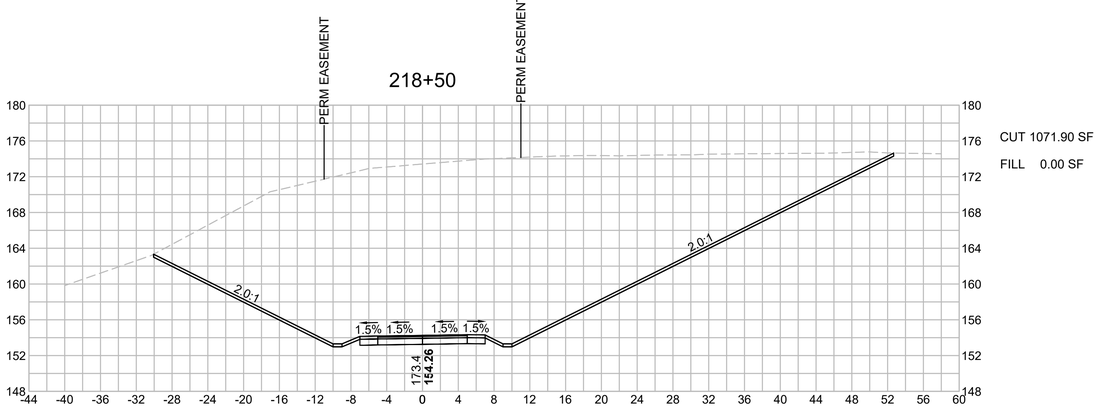
BILLERICA
YANKEE DOODLE BIKE PATH

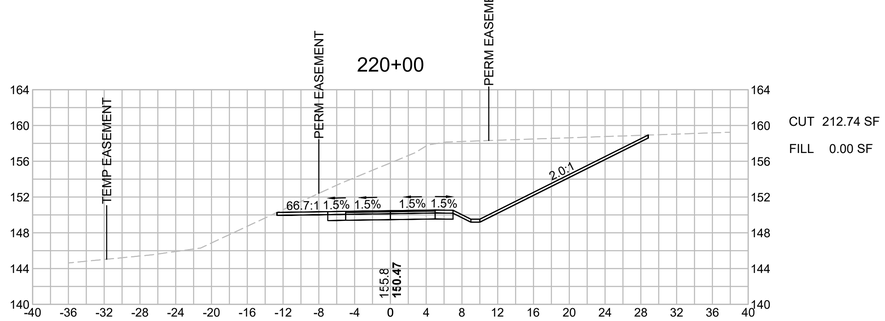
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	152	208
PROJECT FILE NO. 608227			

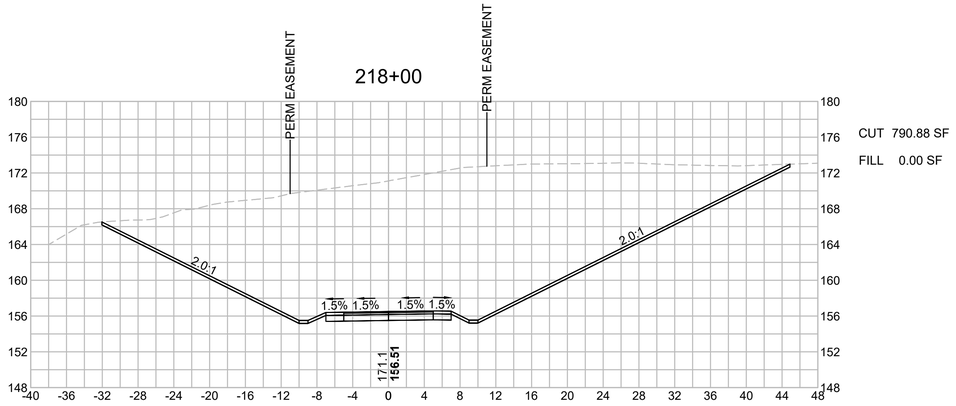
CROSS SECTIONS

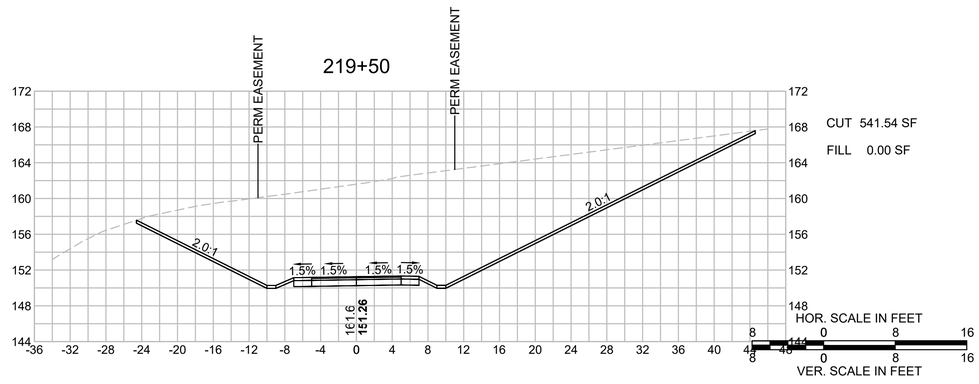
608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:48 PM











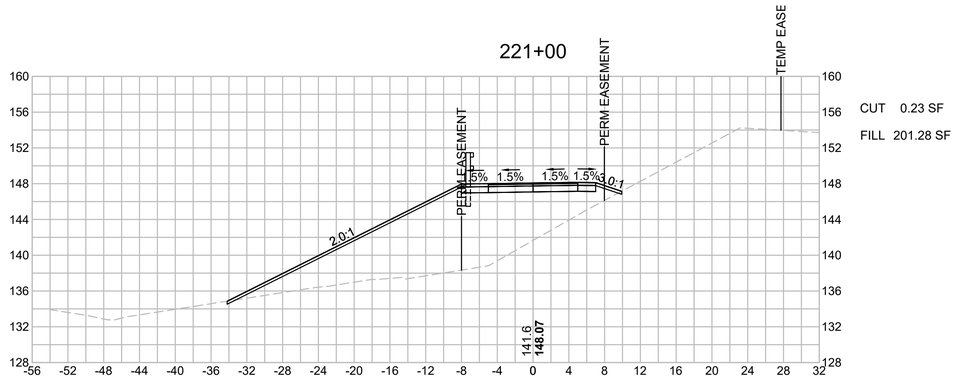
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	153	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:48 PM

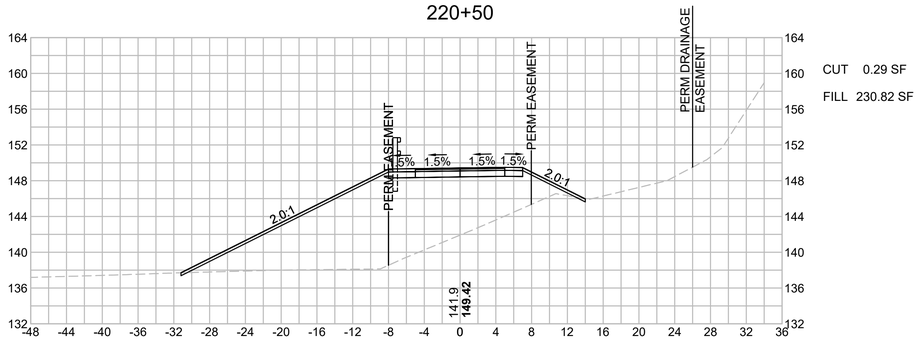
221+00



CUT 0.23 SF

FILL 201.28 SF

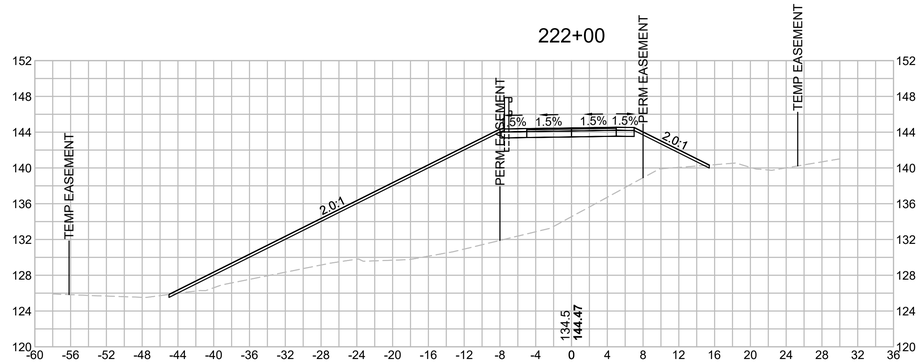
220+50



CUT 0.29 SF

FILL 230.82 SF

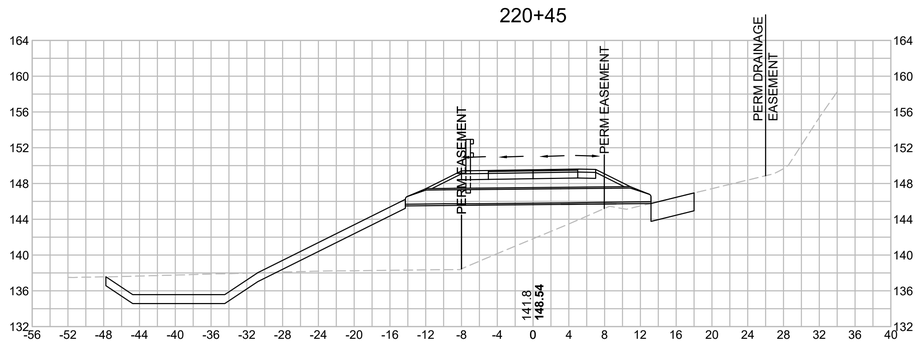
222+00



CUT 0.25 SF

FILL 369.39 SF

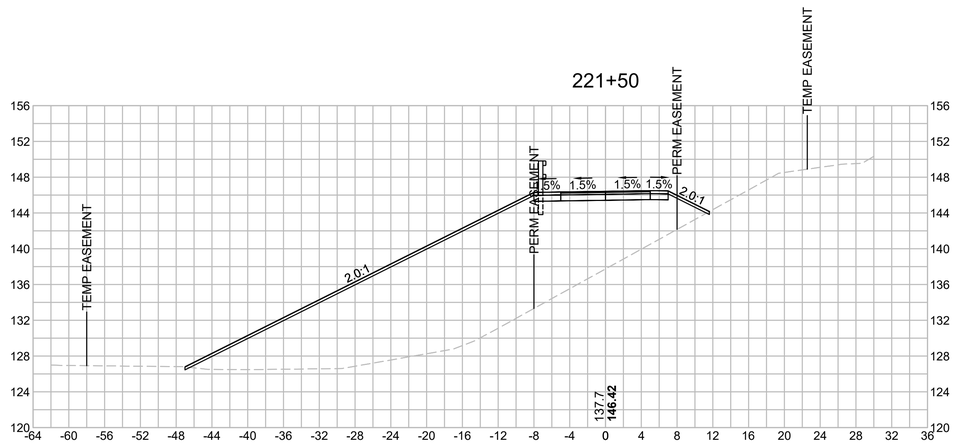
220+45



CUT 0.13 SF

FILL 235.87 SF

221+50



CUT 0.14 SF

FILL 452.44 SF

HOR. SCALE IN FEET

8 0 8 16

8 0 8 16

VER. SCALE IN FEET

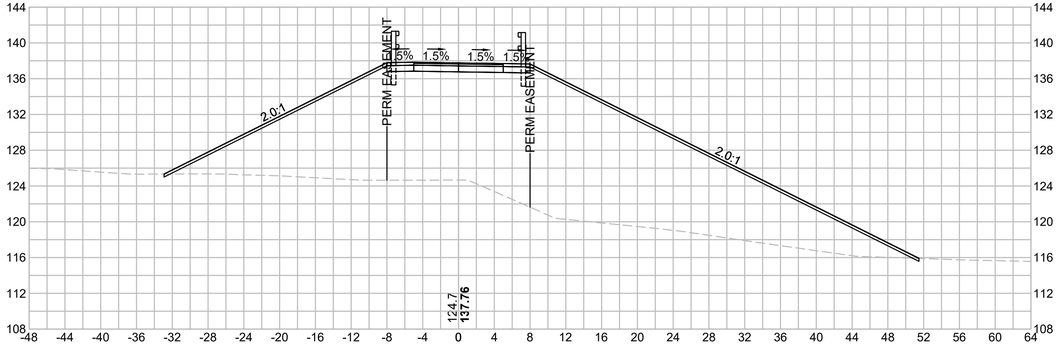
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	154	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:48 PM

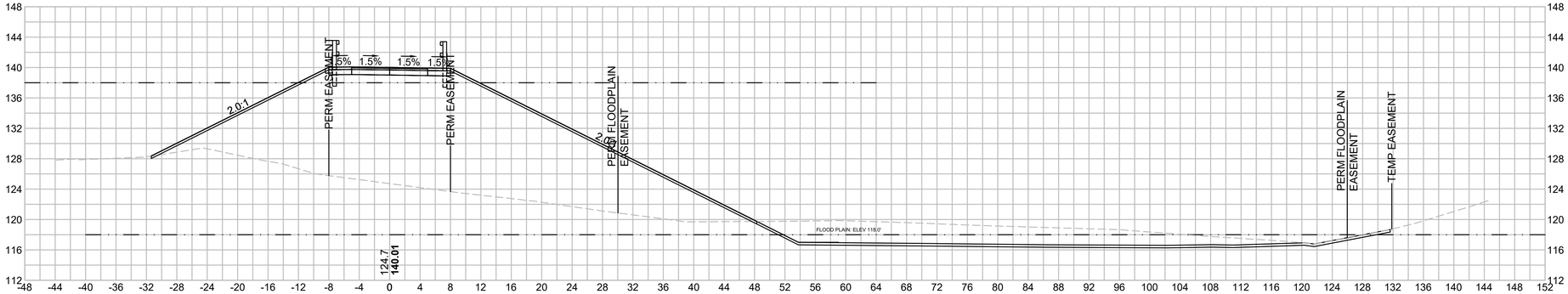
223+50



CUT 0.23 SF

FILL 715.65 SF

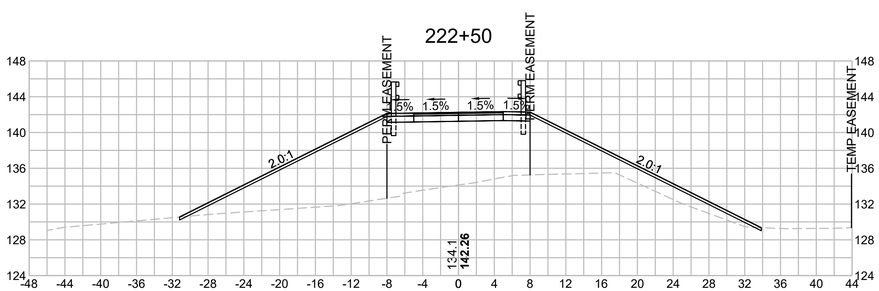
223+00



CUT 0.27 SF

FILL 696.38 SF

222+50



CUT 0.26 SF

FILL 277.99 SF

HOR. SCALE IN FEET
8 0 8 16
VER. SCALE IN FEET
8 0 8 16

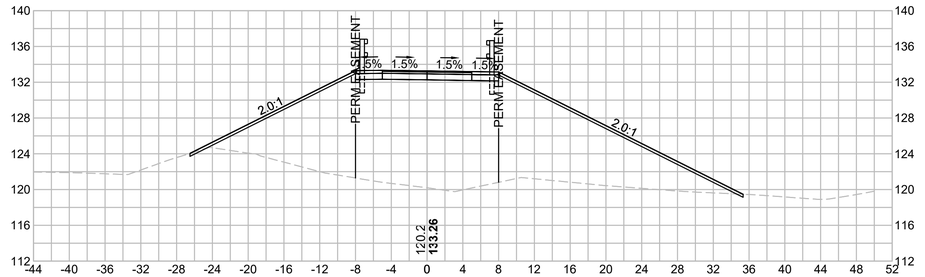
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	155	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:49 PM

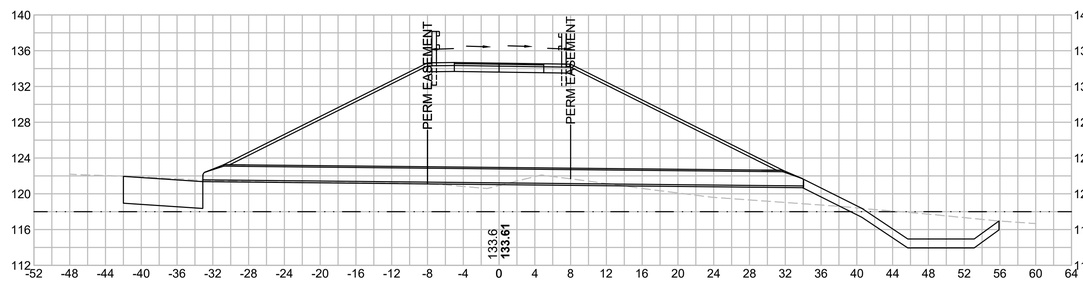
224+50



CUT 0.41 SF

FILL 437.69 SF

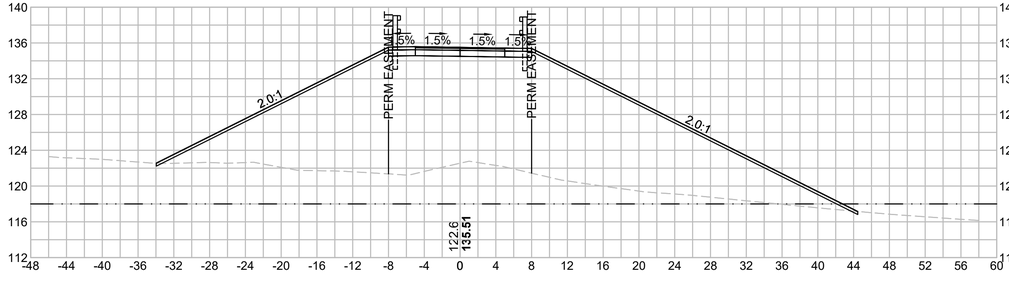
224+20



CUT 0.24 SF

FILL 569.72 SF

224+00



CUT 0.24 SF

FILL 625.01 SF

HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

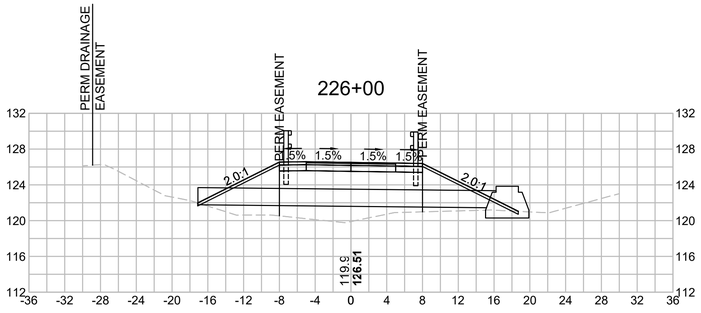
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	156	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

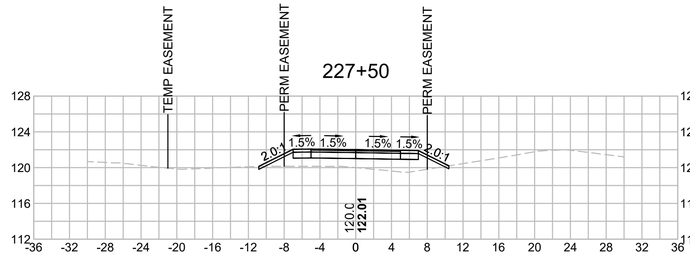
608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:49 PM

226+00



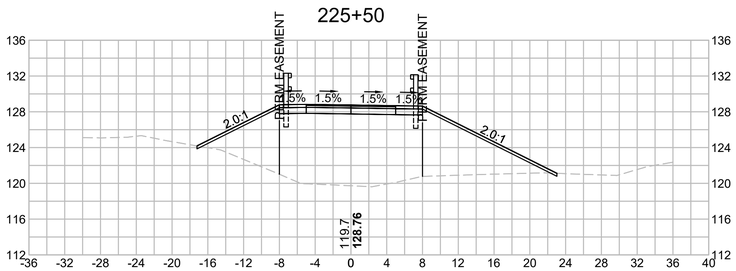
CUT 0.19 SF
FILL 134.12 SF

227+50



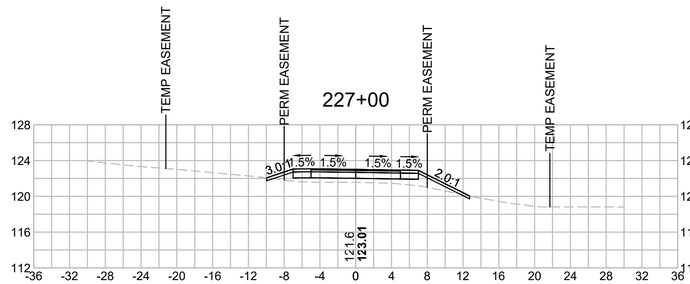
CUT 0.20 SF
FILL 20.56 SF

225+50



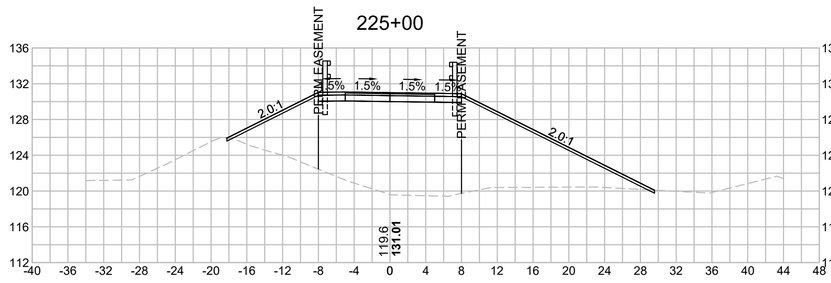
CUT 0.20 SF
FILL 207.41 SF

227+00



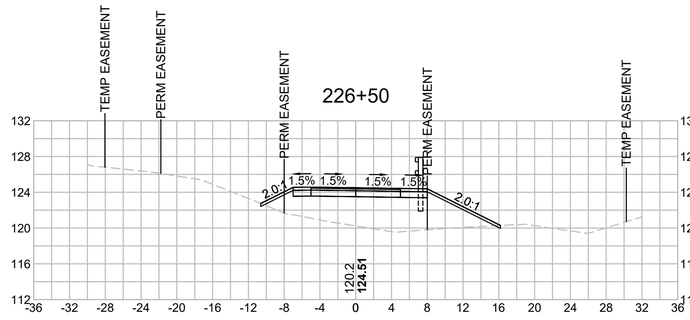
CUT 0.31 SF
FILL 11.23 SF

225+00



CUT 0.21 SF
FILL 300.02 SF

226+50



CUT 0.16 SF
FILL 68.92 SF

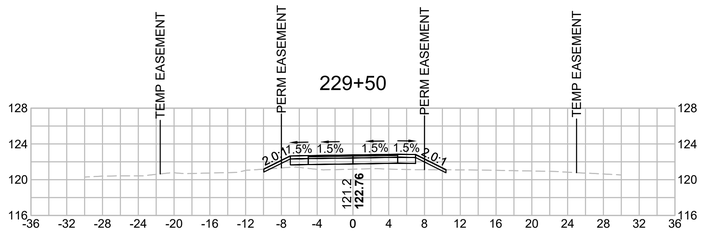
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

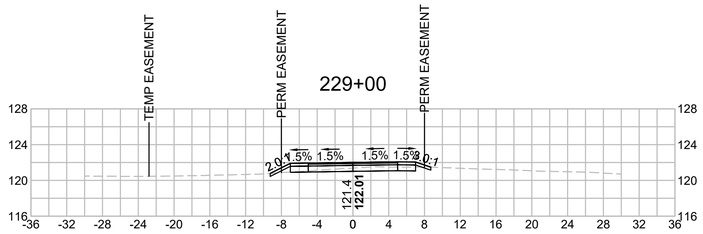
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	157	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

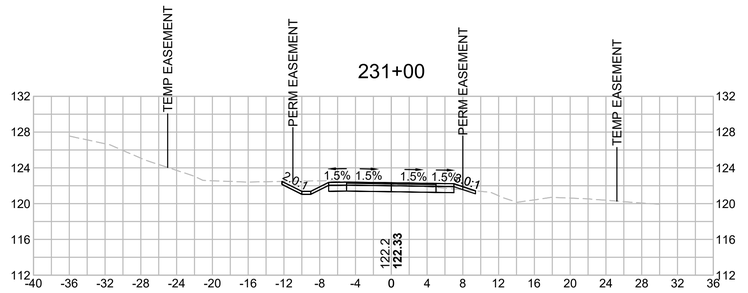
608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:49 PM



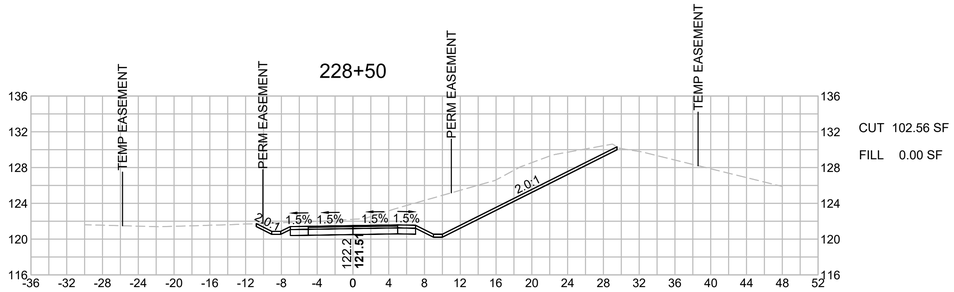
CUT 0.24 SF
FILL 10.74 SF



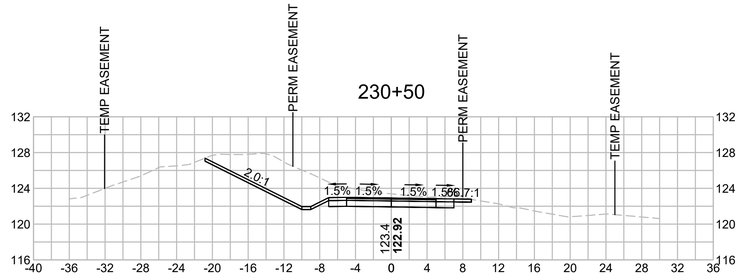
CUT 4.67 SF
FILL 0.56 SF



CUT 17.17 SF
FILL 0.13 SF

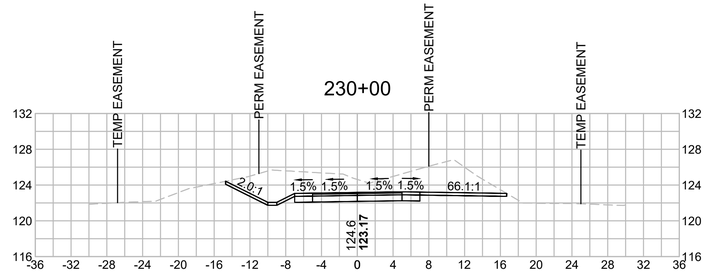


CUT 102.56 SF
FILL 0.00 SF



CUT 67.67 SF
FILL 0.00 SF

CUT 0.24 SF
FILL 5.86 SF



CUT 86.70 SF
FILL 0.00 SF

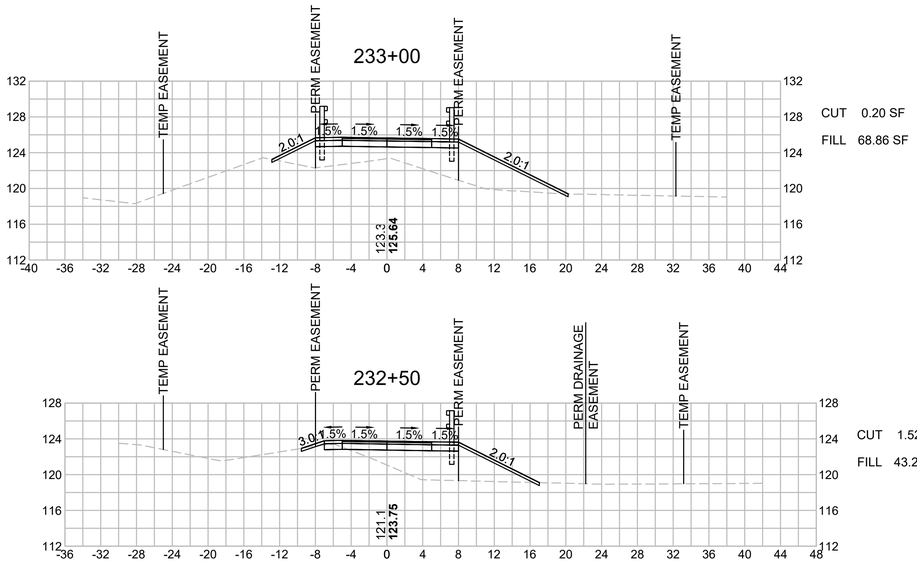
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	158	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:49 PM

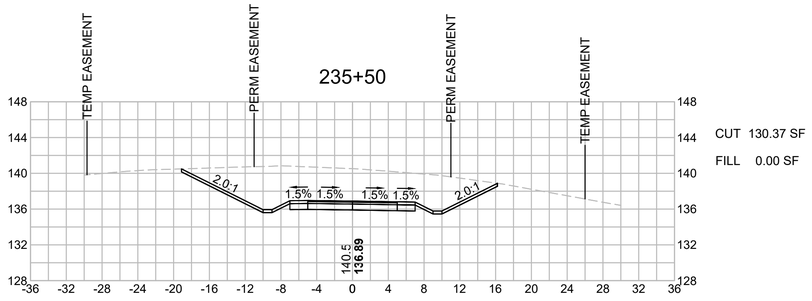


BILLERICA
YANKEE DOODLE BIKE PATH

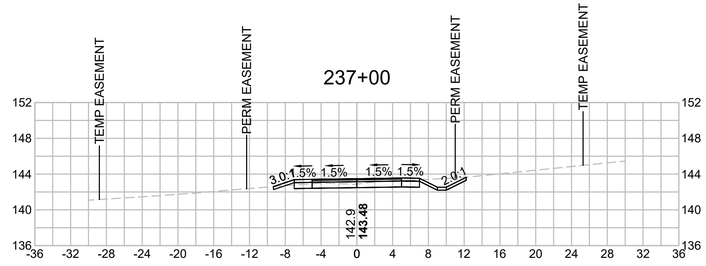
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	159	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

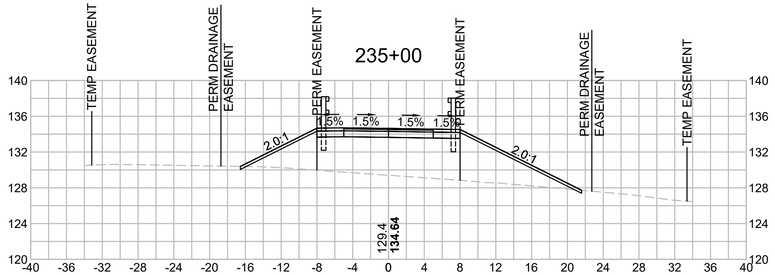
608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:49 PM



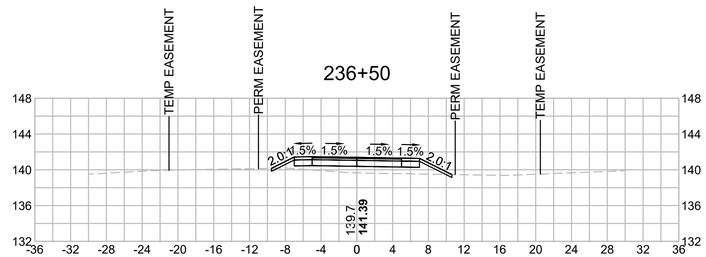
CUT 130.37 SF
FILL 0.00 SF



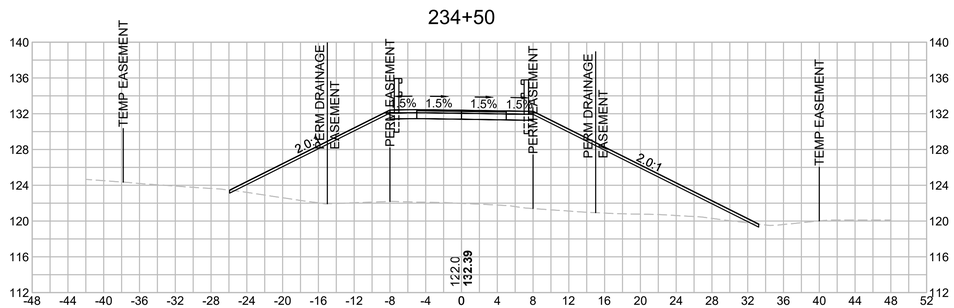
CUT 12.65 SF
FILL 0.14 SF



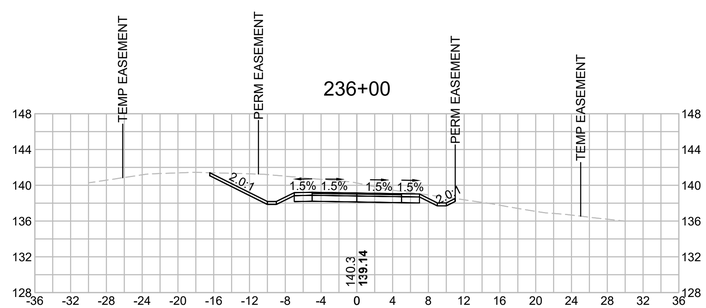
CUT 0.24 SF
FILL 118.53 SF



CUT 0.23 SF
FILL 12.11 SF



CUT 0.24 SF
FILL 369.00 SF



CUT 51.29 SF
FILL 0.00 SF

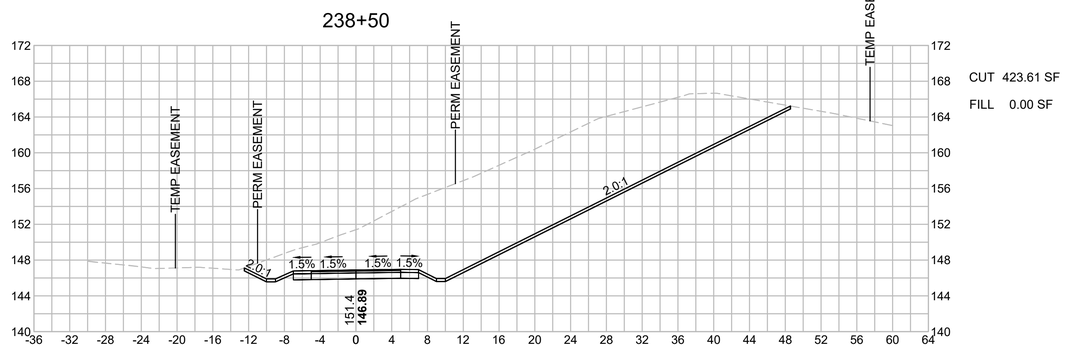
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	160	208
PROJECT FILE NO. 608227			

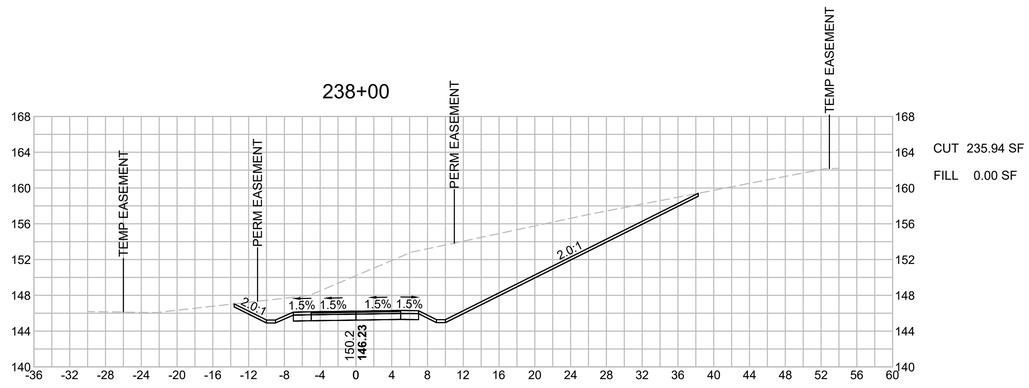
CROSS SECTIONS

608227HD (XSEC)-1.DWG Plotted on 29-Dec-2023 1:49 PM



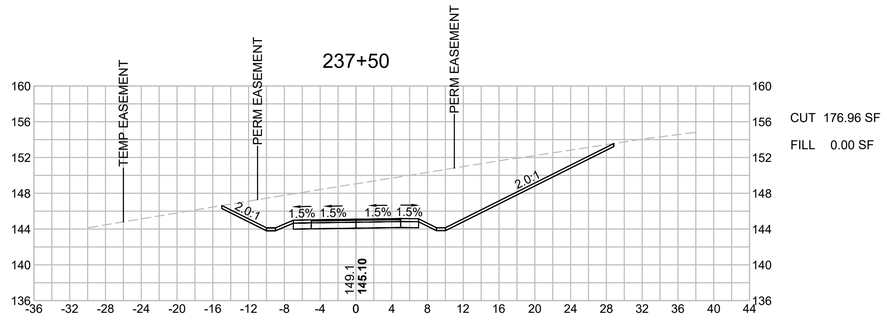
CUT 423.61 SF

FILL 0.00 SF



CUT 235.94 SF

FILL 0.00 SF



CUT 176.96 SF

FILL 0.00 SF

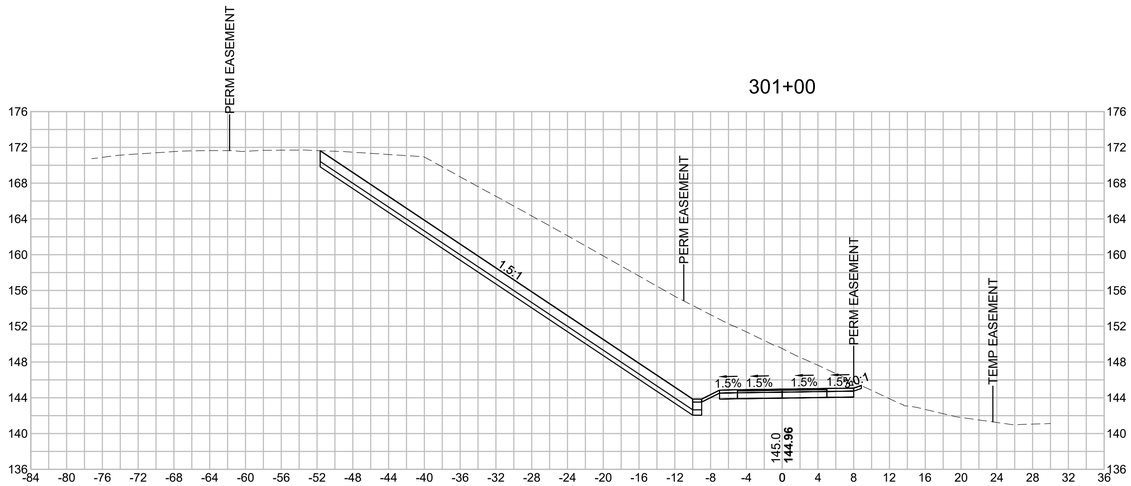
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	161	208
PROJECT FILE NO. 608227			

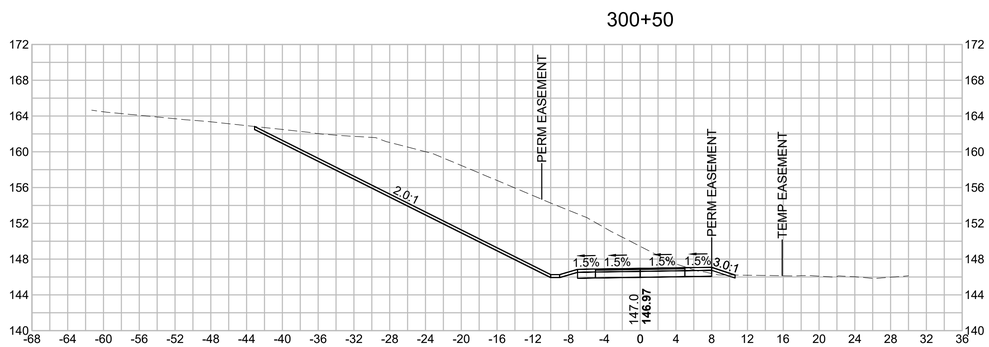
CROSS SECTIONS

608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:02 PM



CUT 463.63 SF

FILL 0.00 SF



CUT 258.50 SF

FILL 0.35 SF

HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

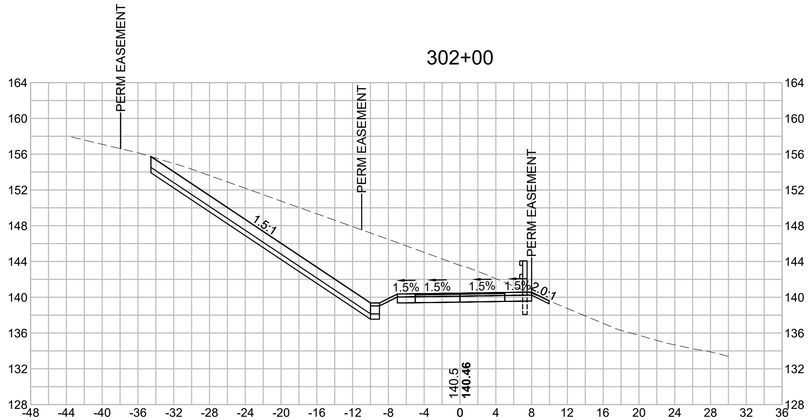
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	162	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:02 PM

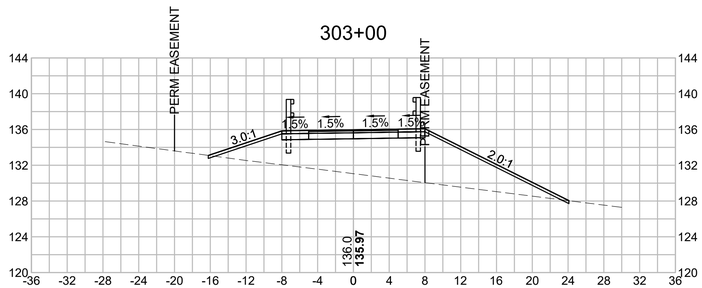
302+00



CUT 208.66 SF

FILL 0.00 SF

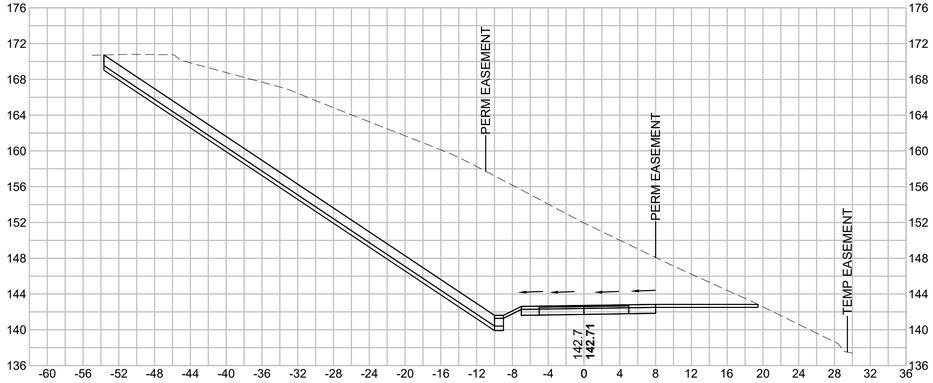
303+00



CUT 0.27 SF

FILL 118.84 SF

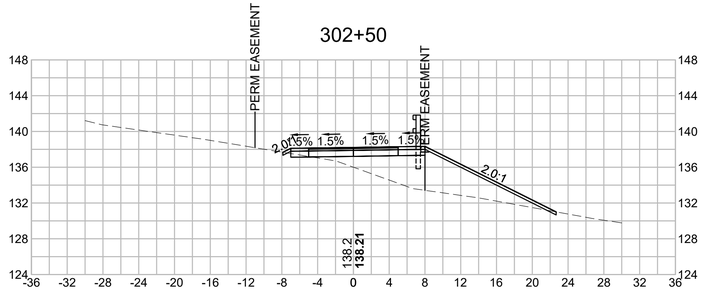
301+50



CUT 680.76 SF

FILL 0.00 SF

302+50



CUT 0.74 SF

FILL 54.21 SF

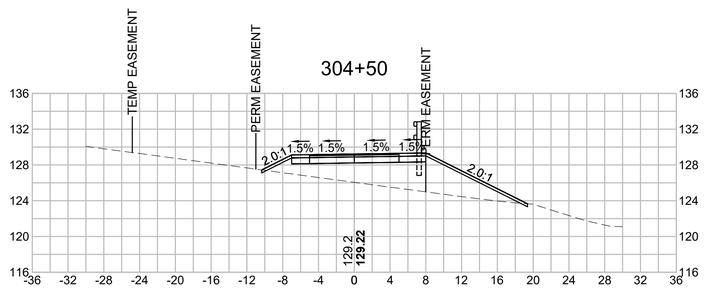
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

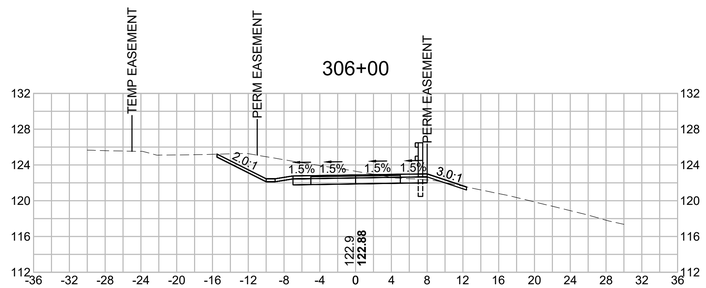
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	163	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

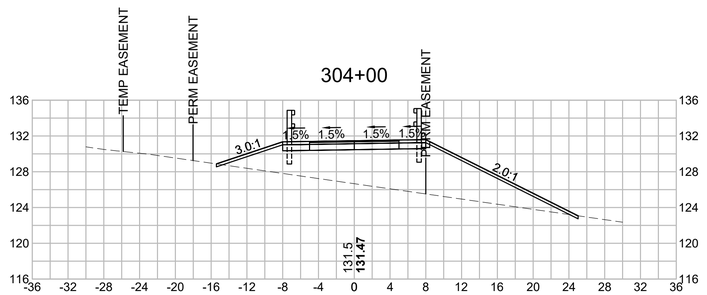
608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:03 PM



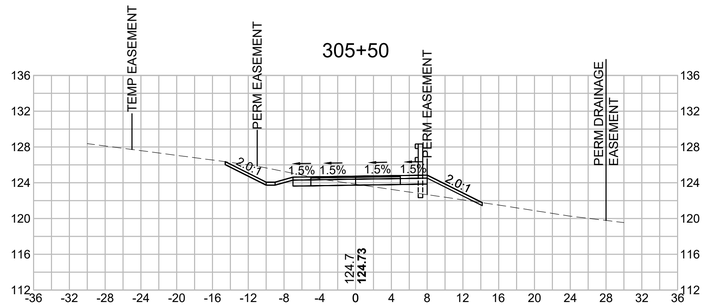
CUT 0.22 SF
FILL 57.75 SF



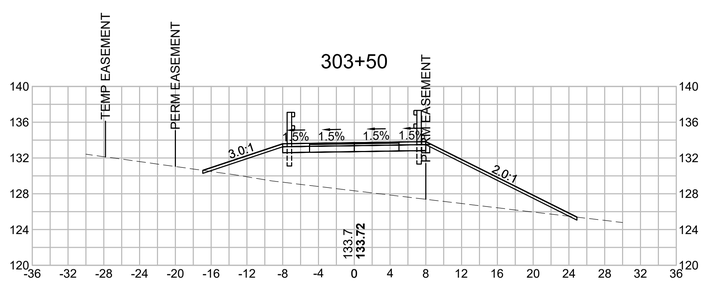
CUT 37.39 SF
FILL 0.26 SF



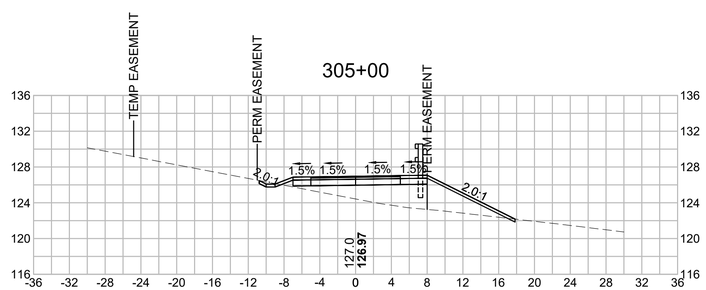
CUT 0.27 SF
FILL 117.69 SF



CUT 14.88 SF
FILL 9.13 SF



CUT 0.26 SF
FILL 135.35 SF



CUT 1.11 SF
FILL 39.91 SF

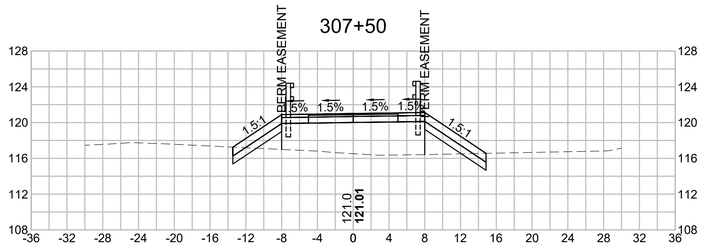
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

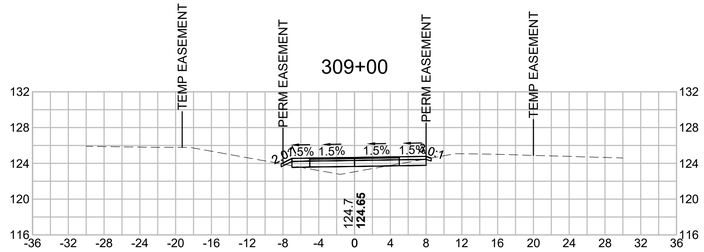
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	164	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

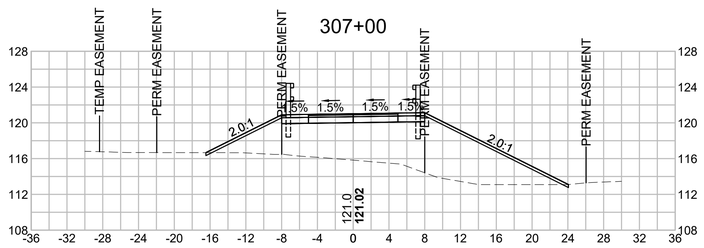
608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:03 PM



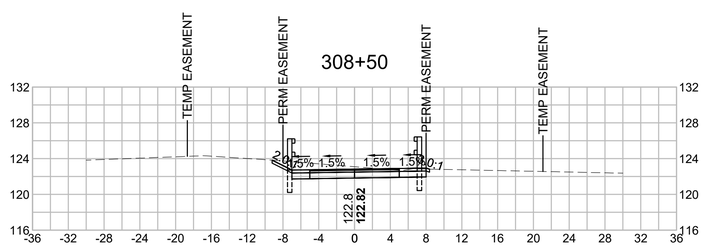
CUT 1.43 SF
FILL 70.58 SF



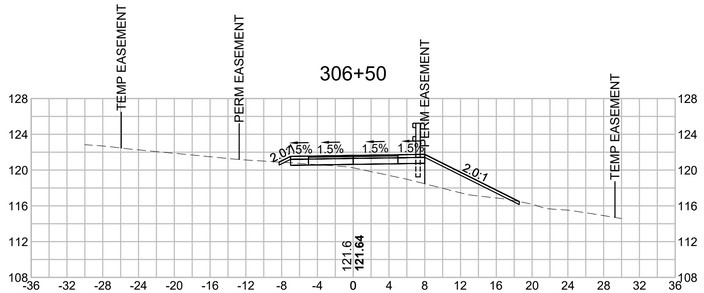
CUT 1.82 SF
FILL 4.39 SF



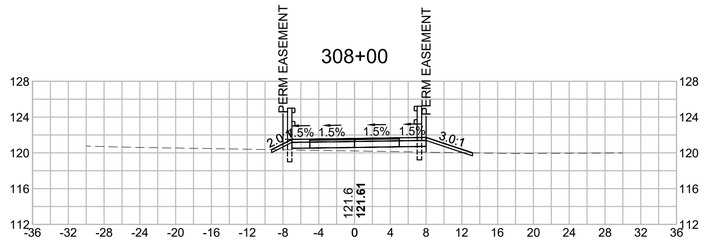
CUT 0.22 SF
FILL 139.96 SF



CUT 20.80 SF
FILL 0.00 SF



CUT 0.76 SF
FILL 26.59 SF



CUT 0.28 SF
FILL 9.52 SF

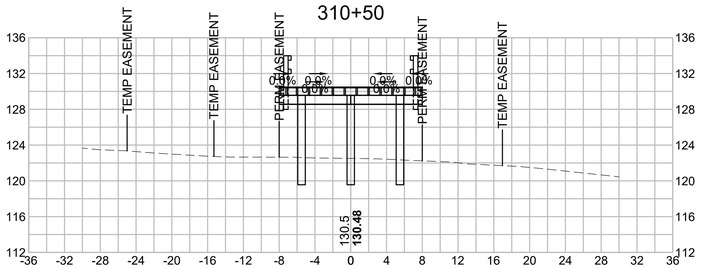
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

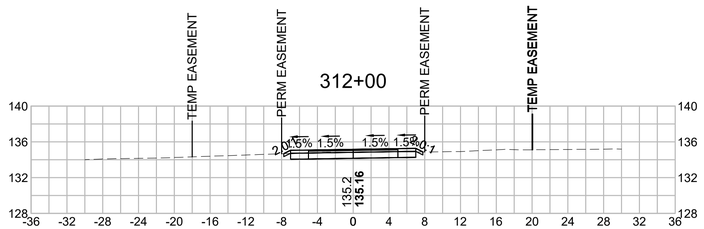
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	165	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

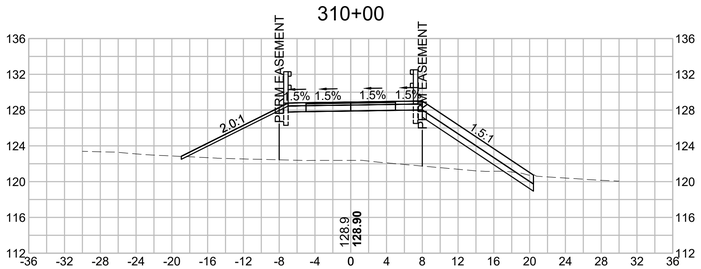
608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:03 PM



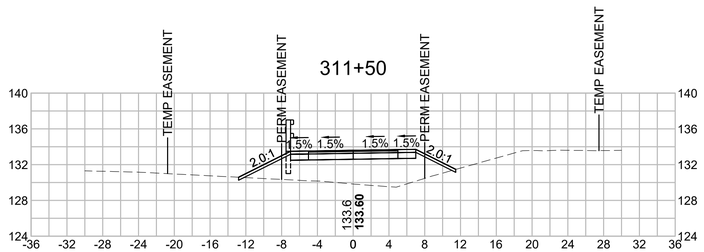
CUT 0.00 SF
FILL 97.26 SF



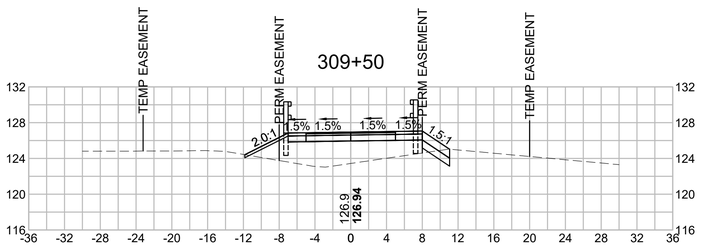
CUT 9.69 SF
FILL 0.00 SF



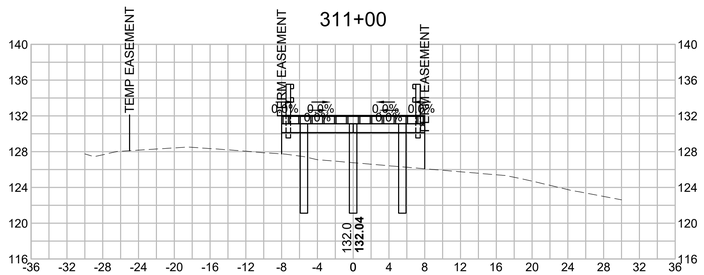
CUT 1.00 SF
FILL 153.30 SF



CUT 0.17 SF
FILL 51.70 SF



CUT 0.72 SF
FILL 41.94 SF



CUT 0.00 SF
FILL 52.89 SF

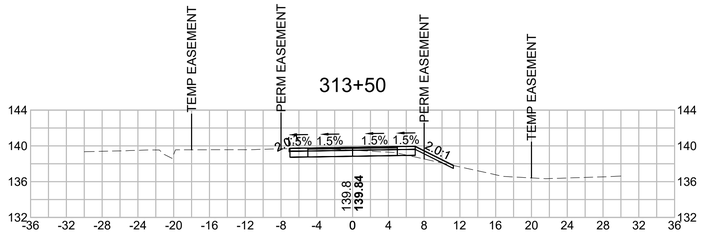
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

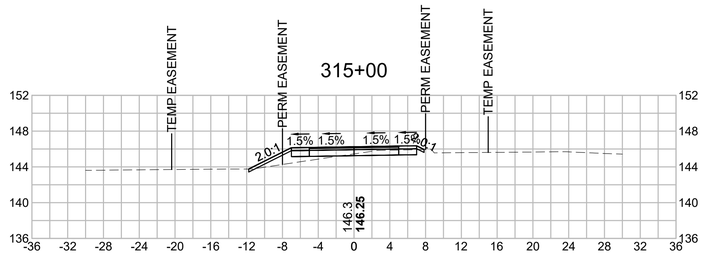
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	166	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

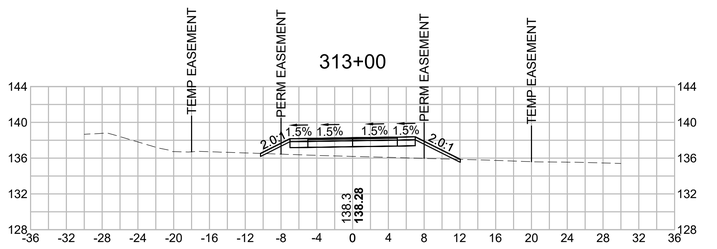
608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:03 PM



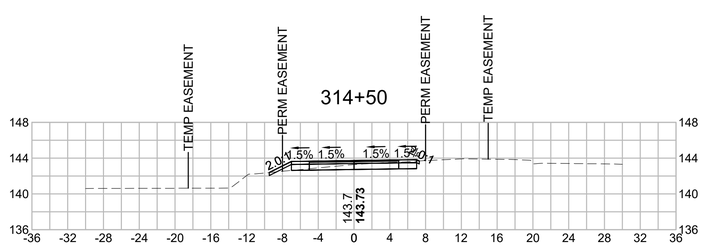
CUT 8.94 SF
FILL 1.40 SF



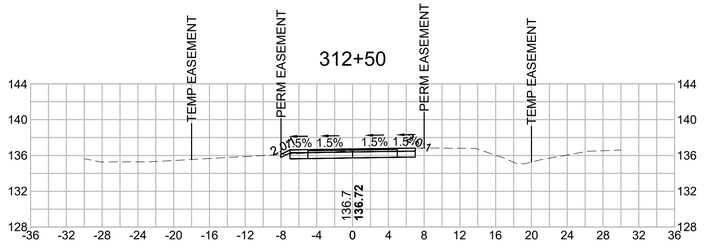
CUT 3.76 SF
FILL 4.79 SF



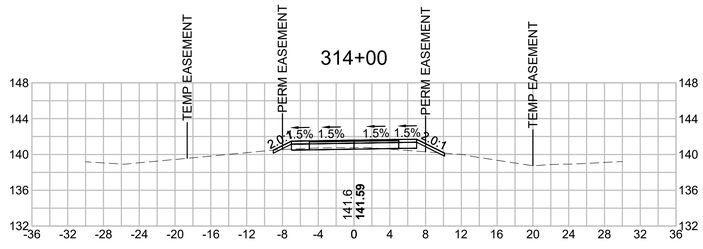
CUT 0.22 SF
FILL 21.46 SF



CUT 7.09 SF
FILL 0.55 SF



CUT 11.39 SF
FILL 0.02 SF



CUT 1.90 SF
FILL 2.10 SF

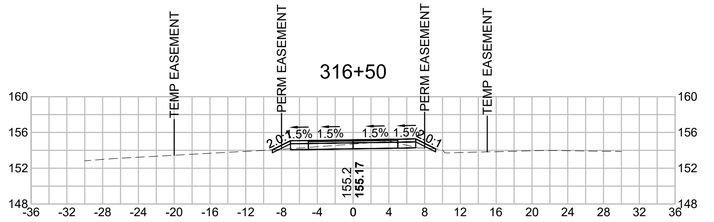
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

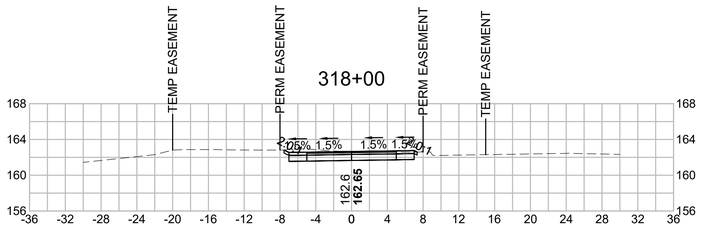
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	167	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

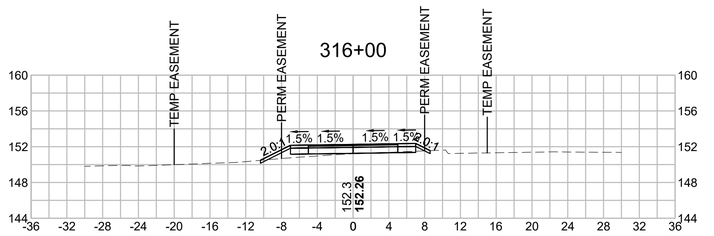
608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:03 PM



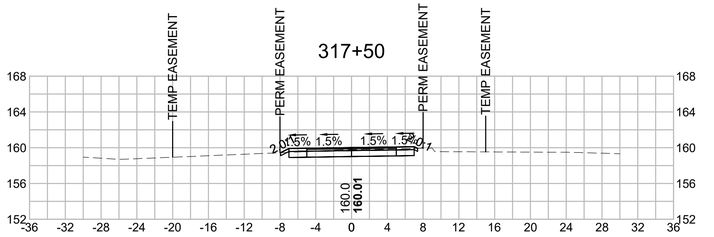
CUT 6.40 SF
FILL 0.82 SF



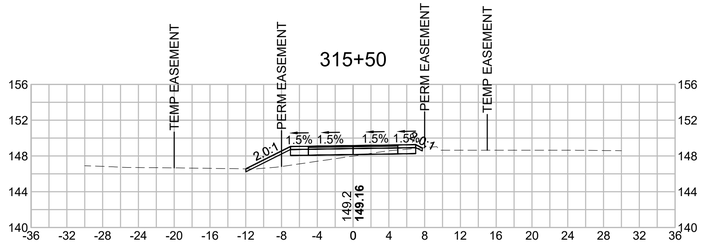
CUT 14.99 SF
FILL 0.00 SF



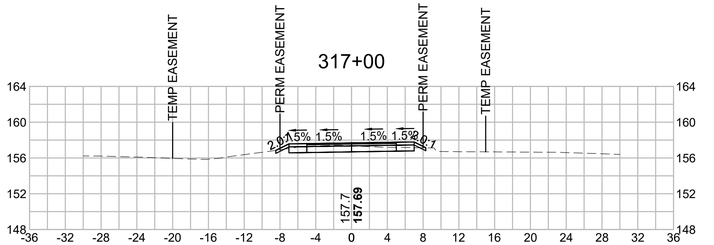
CUT 0.56 SF
FILL 3.16 SF



CUT 10.47 SF
FILL 0.01 SF



CUT 2.11 SF
FILL 8.49 SF



CUT 8.61 SF
FILL 0.14 SF

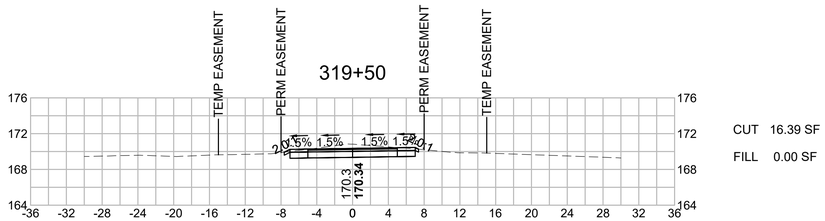
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

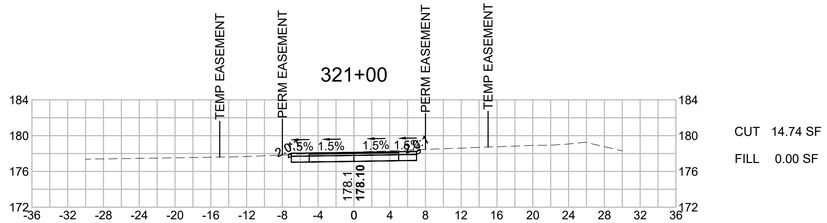
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	168	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

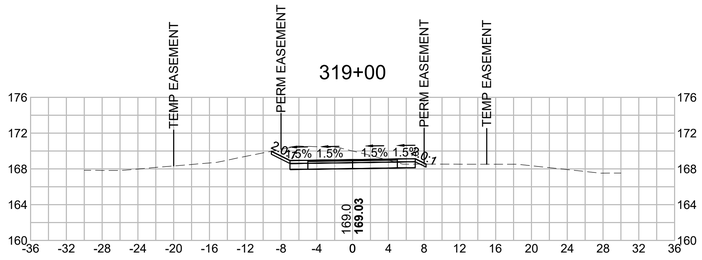
608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:03 PM



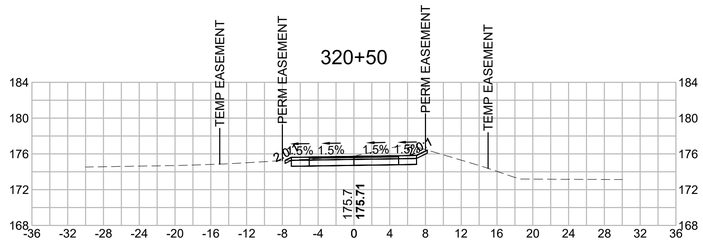
CUT 16.39 SF
FILL 0.00 SF



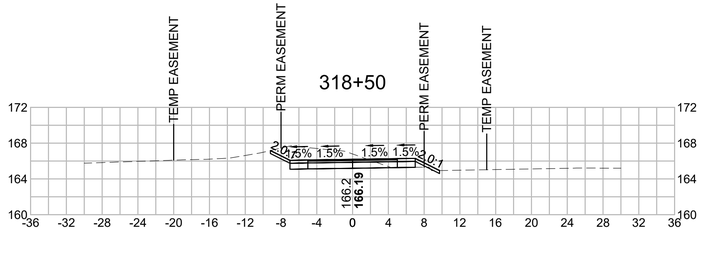
CUT 14.74 SF
FILL 0.00 SF



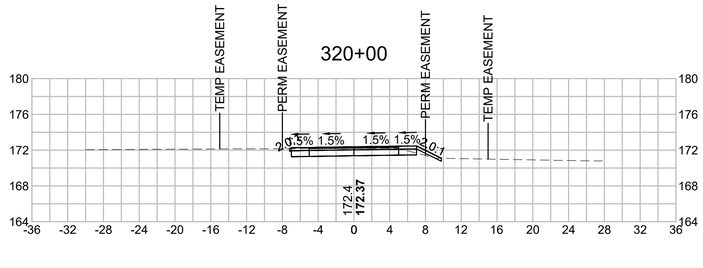
CUT 26.68 SF
FILL 0.07 SF



CUT 19.02 SF
FILL 0.00 SF



CUT 21.52 SF
FILL 0.46 SF



CUT 11.25 SF
FILL 0.46 SF

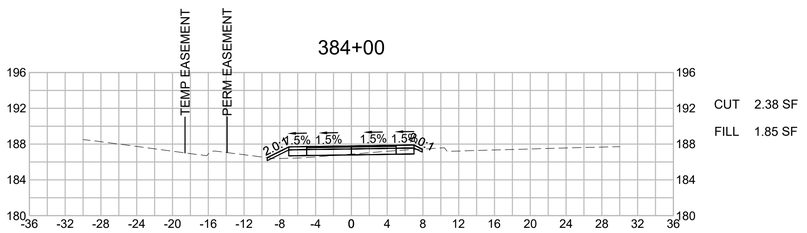
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

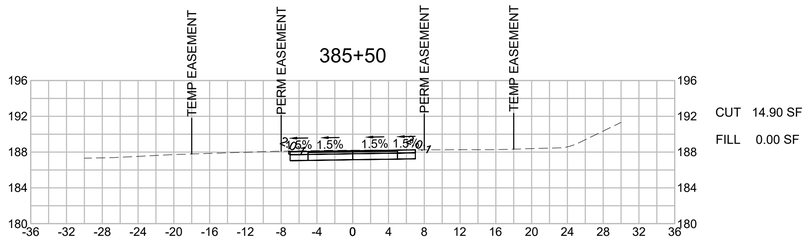
BILLERICA
YANKEE DOODLE BIKE PATH

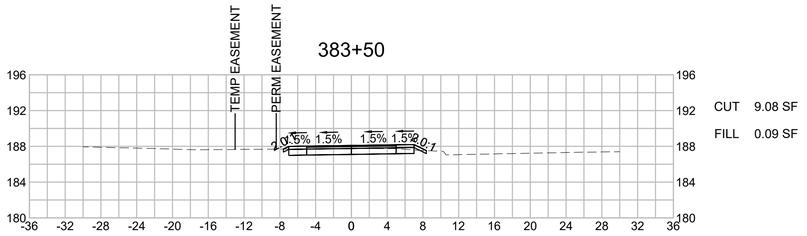
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	169	208
PROJECT FILE NO. 608227			

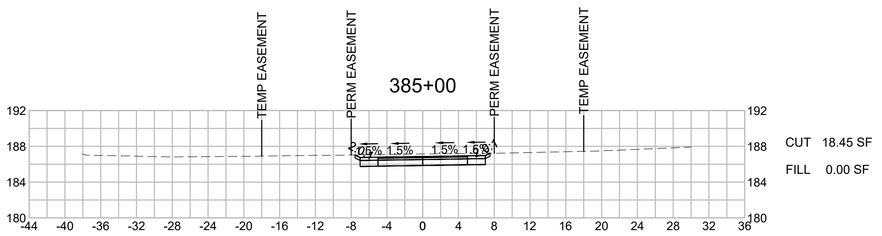
CROSS SECTIONS

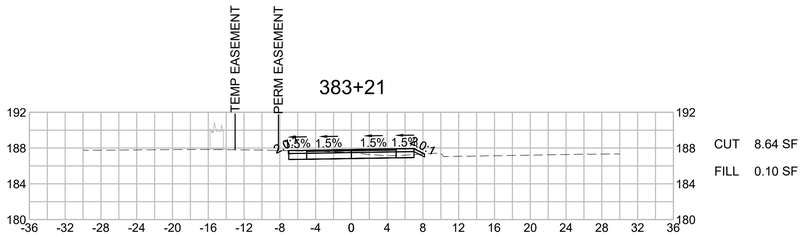
608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:04 PM

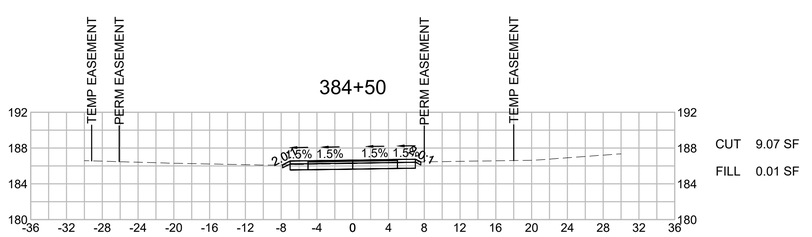


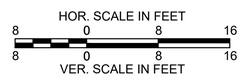










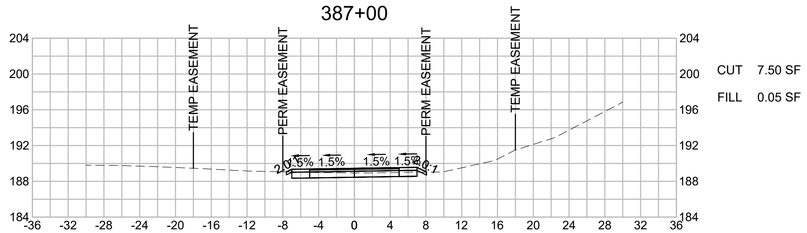


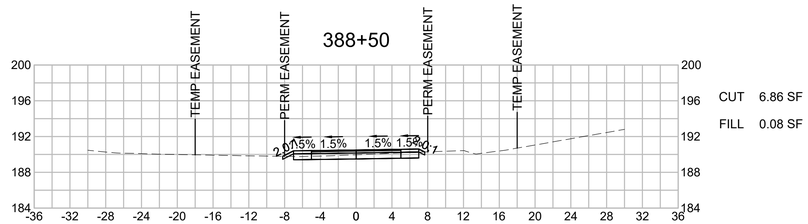
BILLERICA
YANKEE DOODLE BIKE PATH

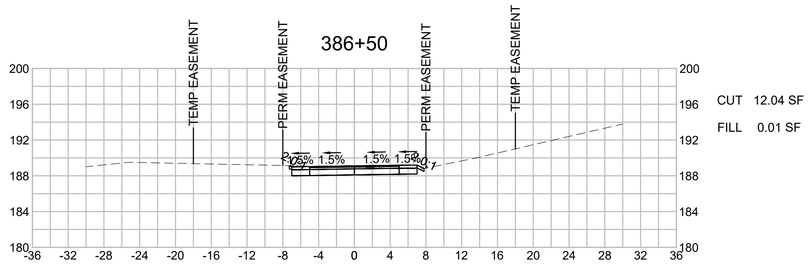
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	170	208
PROJECT FILE NO. 608227			

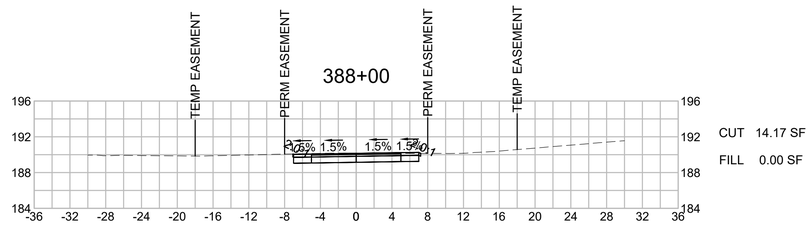
CROSS SECTIONS

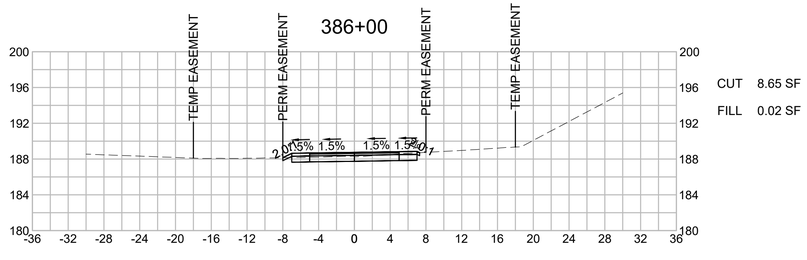
608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:04 PM

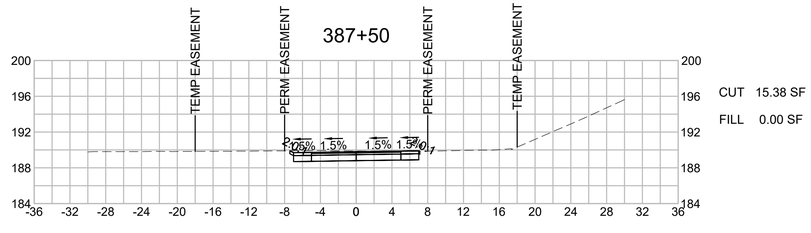


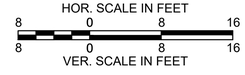










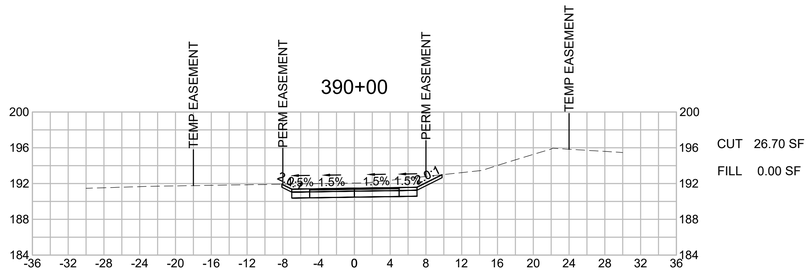


BILLERICA
YANKEE DOODLE BIKE PATH

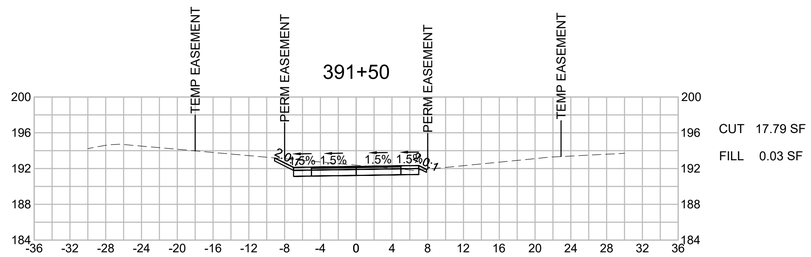
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	171	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

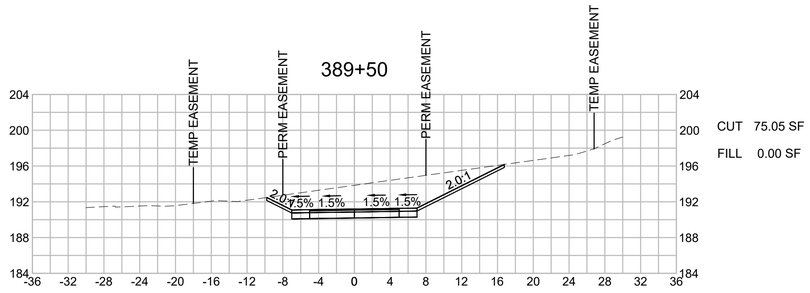
608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:04 PM



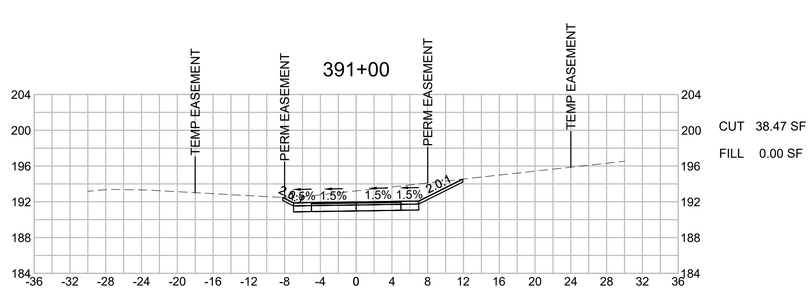
CUT 26.70 SF
FILL 0.00 SF



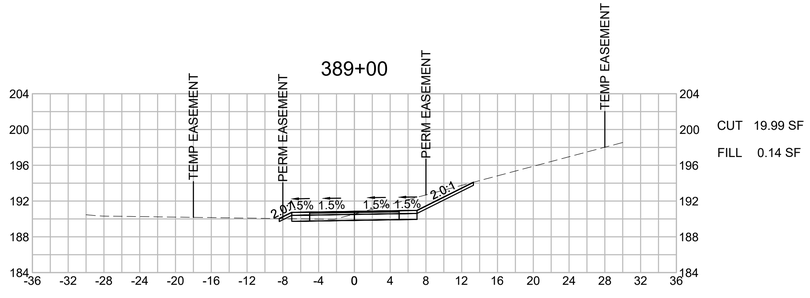
CUT 17.79 SF
FILL 0.03 SF



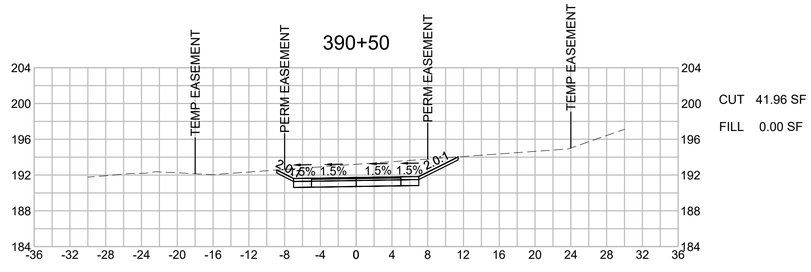
CUT 75.05 SF
FILL 0.00 SF



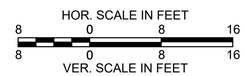
CUT 38.47 SF
FILL 0.00 SF



CUT 19.99 SF
FILL 0.14 SF



CUT 41.96 SF
FILL 0.00 SF

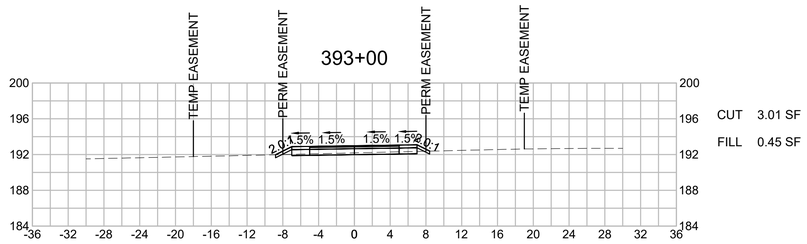


BILLERICA
YANKEE DOODLE BIKE PATH

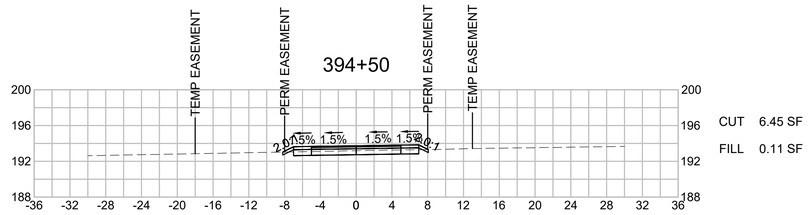
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	172	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

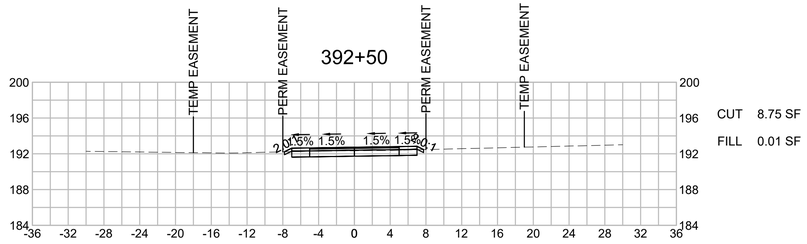
608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:04 PM



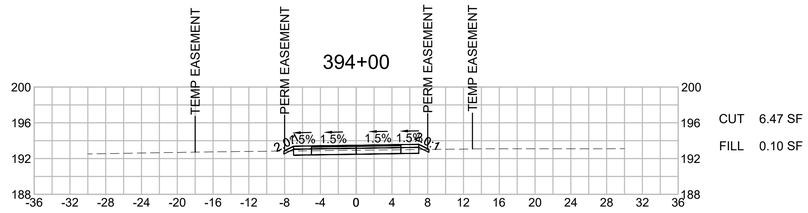
CUT 3.01 SF
FILL 0.45 SF



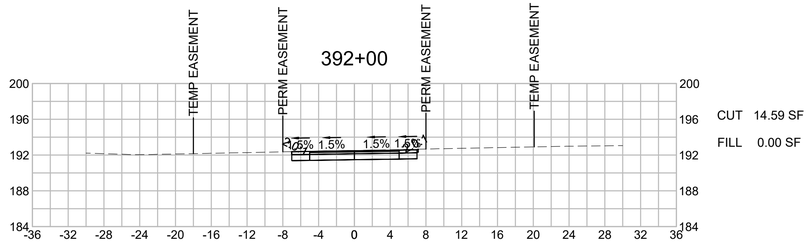
CUT 6.45 SF
FILL 0.11 SF



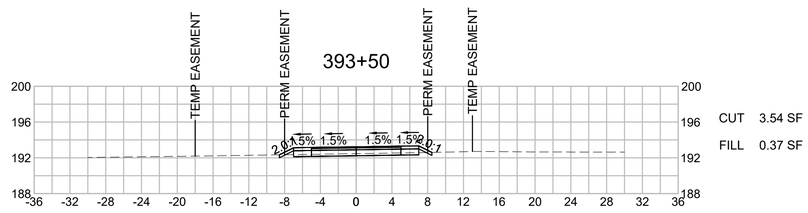
CUT 8.75 SF
FILL 0.01 SF



CUT 6.47 SF
FILL 0.10 SF



CUT 14.59 SF
FILL 0.00 SF



CUT 3.54 SF
FILL 0.37 SF

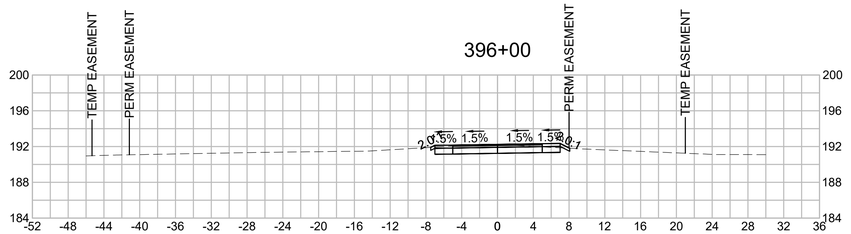
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	173	208
PROJECT FILE NO. 608227			

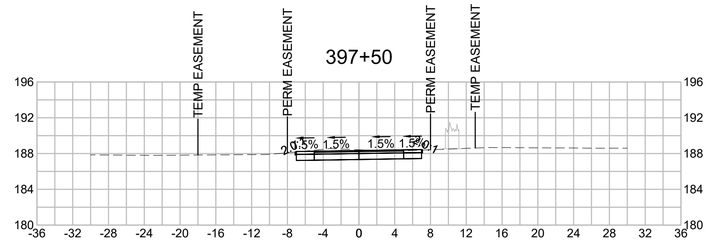
CROSS SECTIONS

608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:04 PM



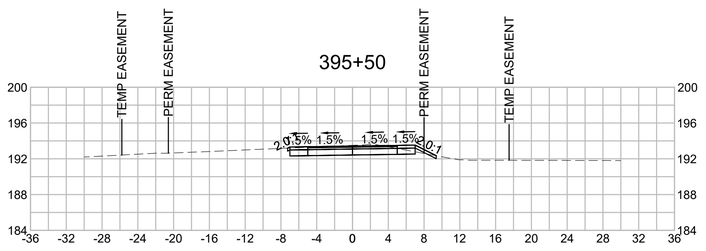
CUT 12.08 SF

FILL 0.03 SF



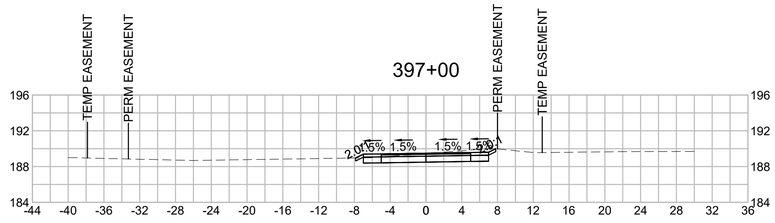
CUT 14.65 SF

FILL 0.00 SF



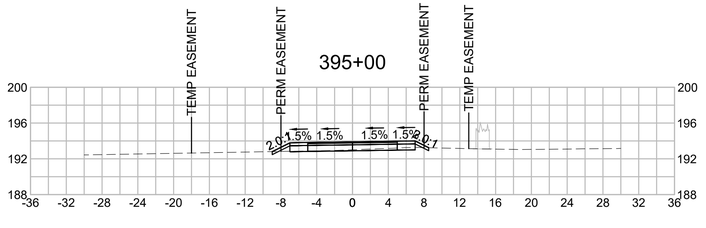
CUT 13.11 SF

FILL 0.27 SF



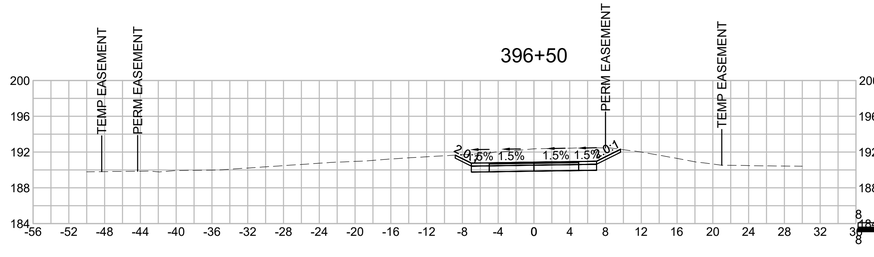
CUT 14.03 SF

FILL 0.01 SF



CUT 2.08 SF

FILL 0.55 SF



CUT 37.70 SF

FILL 0.00 SF

HOR. SCALE IN FEET
8 0 8 16

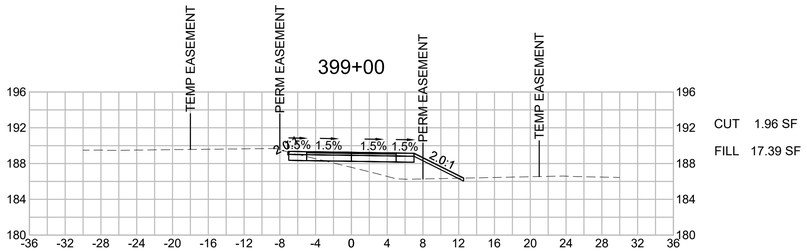
VER. SCALE IN FEET
8 0 8 16

BILLERICA
YANKEE DOODLE BIKE PATH

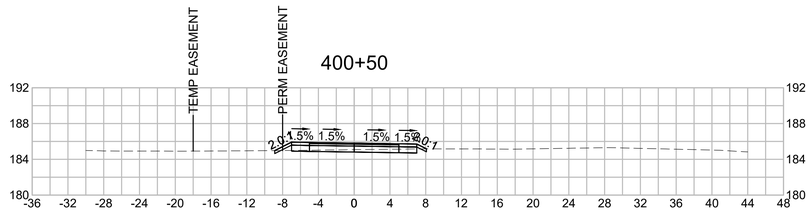
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	174	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

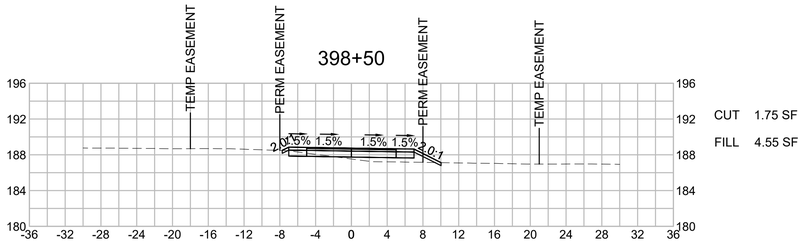
608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:05 PM



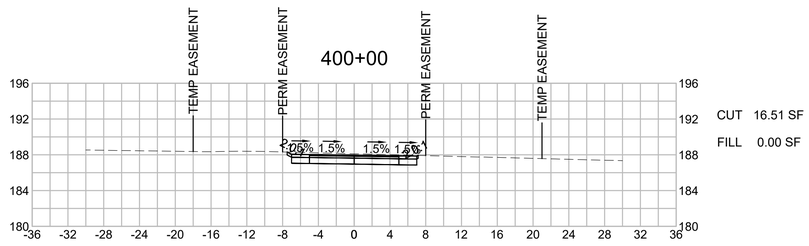
CUT 1.96 SF
FILL 17.39 SF



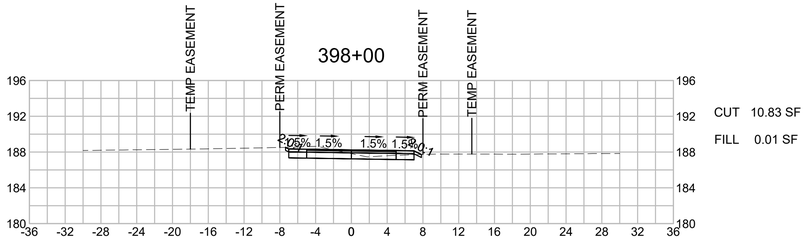
CUT 3.94 SF
FILL 0.40 SF



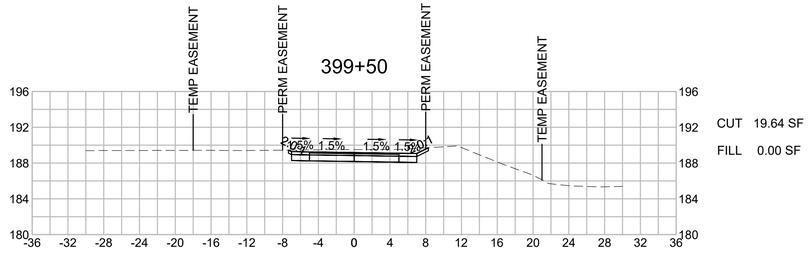
CUT 1.75 SF
FILL 4.55 SF



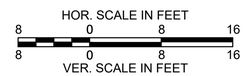
CUT 16.51 SF
FILL 0.00 SF



CUT 10.83 SF
FILL 0.01 SF



CUT 19.64 SF
FILL 0.00 SF

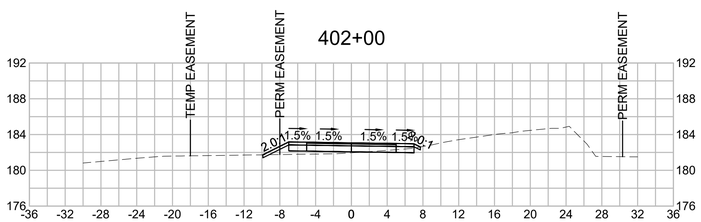


BILLERICA
YANKEE DOODLE BIKE PATH

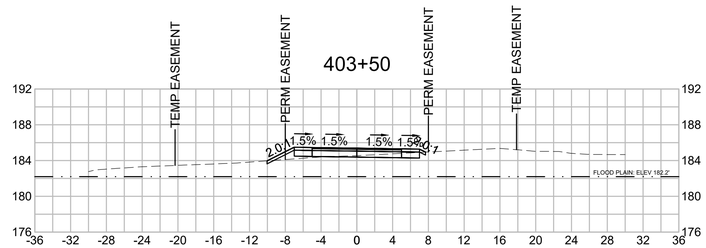
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	175	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

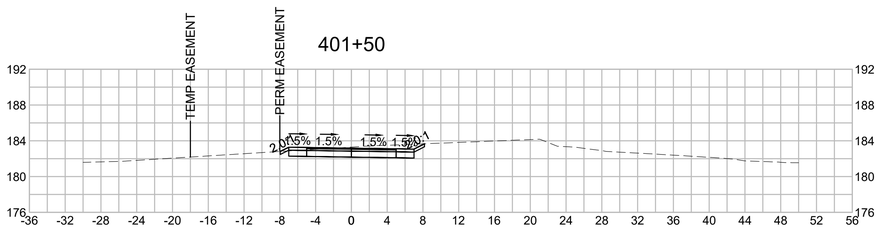
608227HD (XSEC)-2.DWG Plotted on 29-Dec-2023 2:05 PM



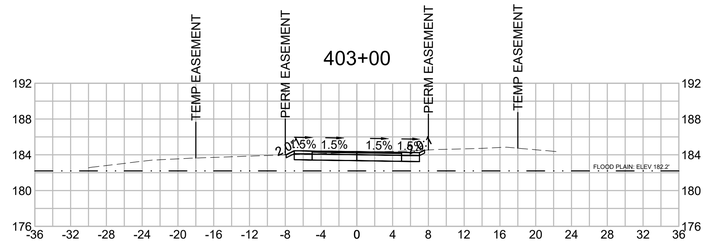
CUT 1.55 SF
FILL 3.33 SF



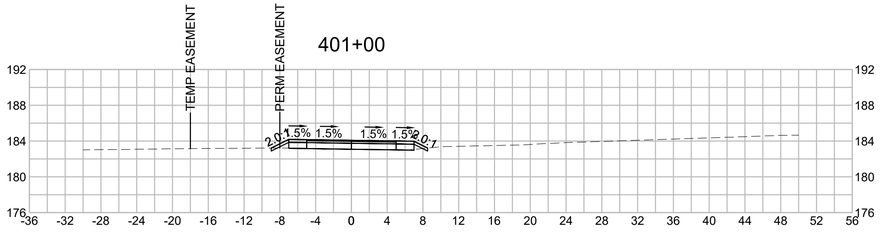
CUT 3.29 SF
FILL 1.65 SF



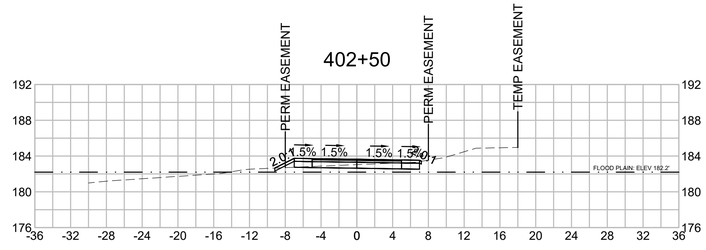
CUT 16.25 SF
FILL 0.01 SF



CUT 13.21 SF
FILL 0.01 SF



CUT 0.35 SF
FILL 1.03 SF



CUT 5.83 SF
FILL 0.48 SF

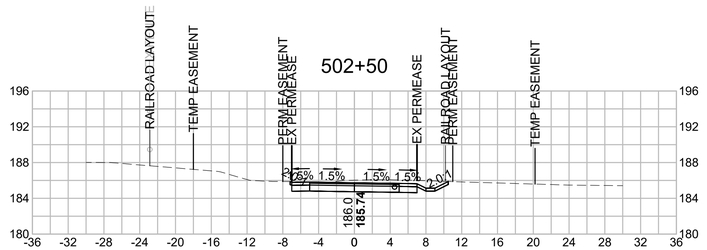
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

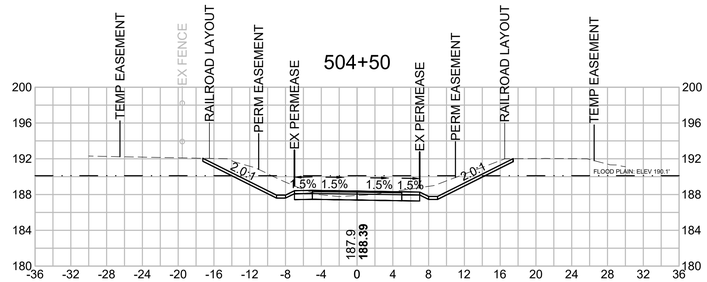
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	176	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

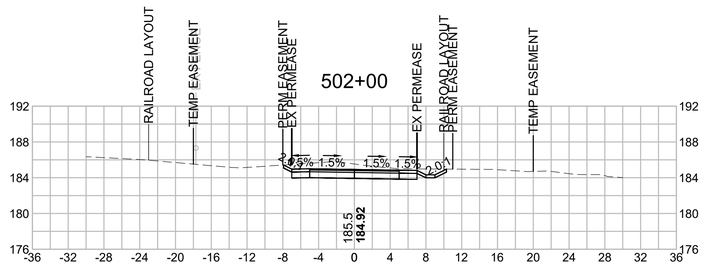
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:21 PM



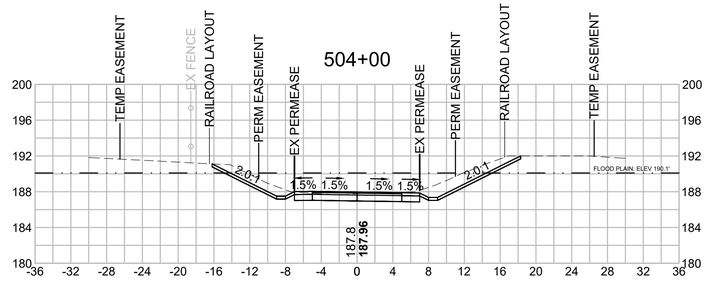
CUT 20.44 SF
FILL 0.49 SF



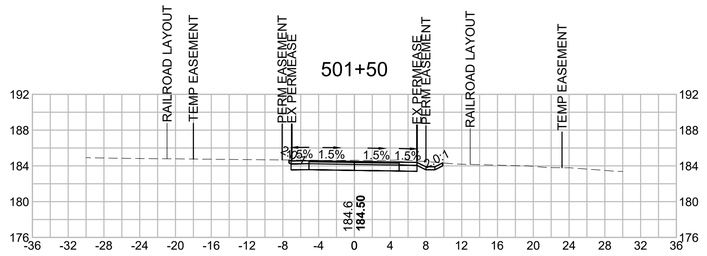
CUT 40.99 SF
FILL 0.00 SF



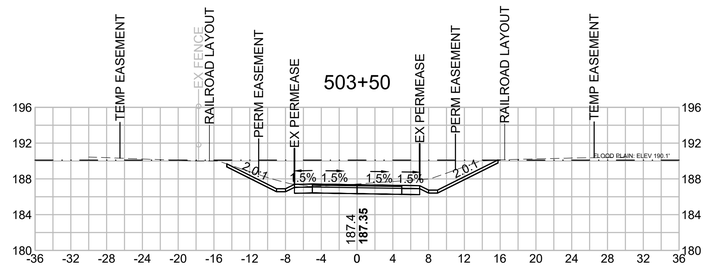
CUT 24.10 SF
FILL 0.00 SF



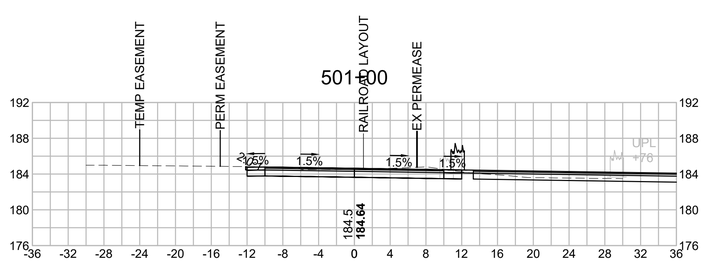
CUT 37.63 SF
FILL 0.00 SF



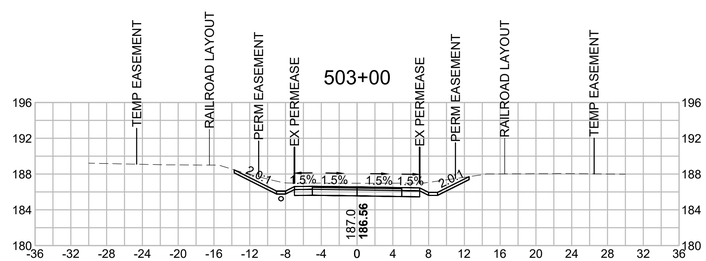
CUT 18.78 SF
FILL 3.51 SF



CUT 33.90 SF
FILL 0.00 SF



CUT 28.58 SF
FILL 0.00 SF



CUT 32.40 SF
FILL 0.06 SF

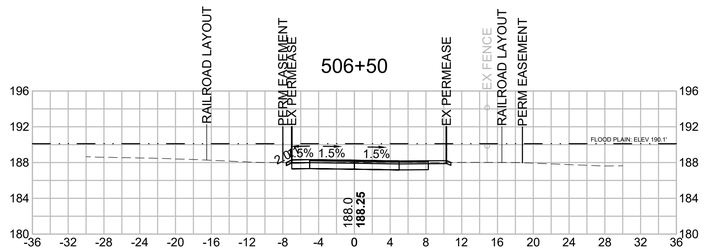
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

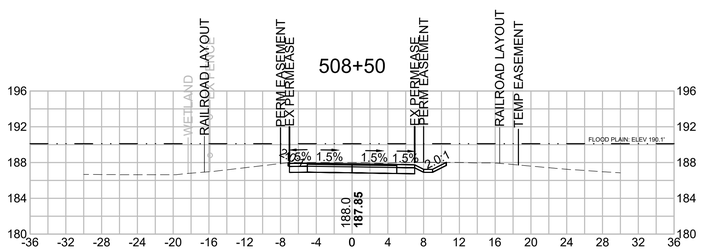
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	177	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

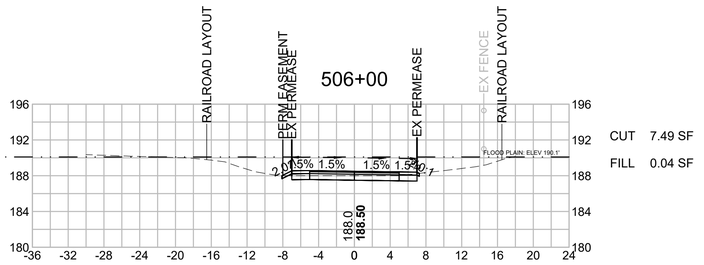
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:21 PM



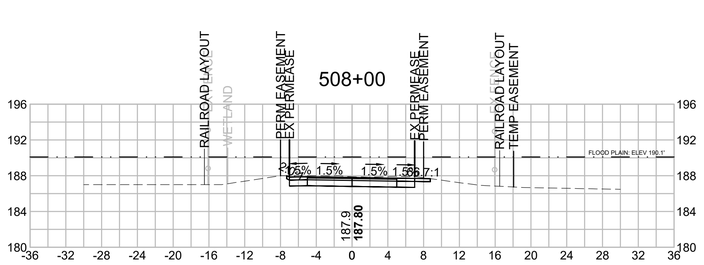
CUT 11.25 SF
FILL 0.06 SF



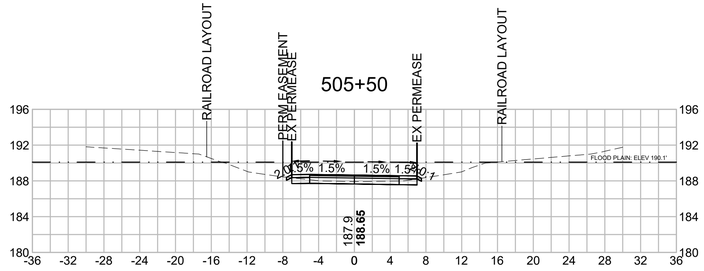
CUT 19.07 SF
FILL 0.00 SF



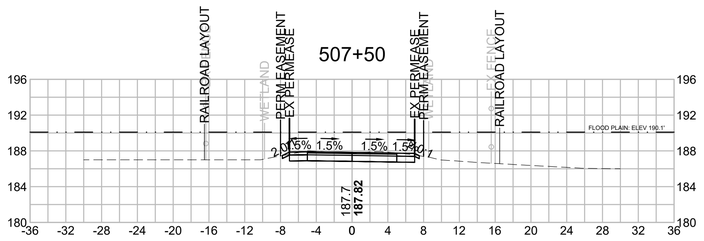
CUT 7.49 SF
FILL 0.04 SF



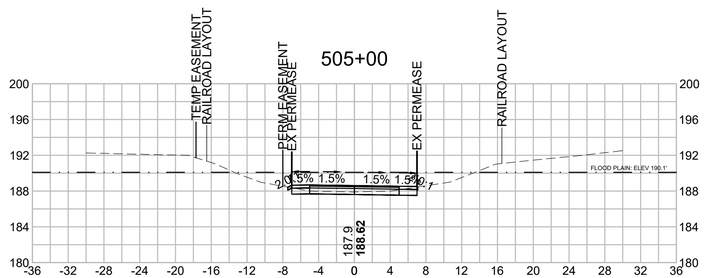
CUT 16.83 SF
FILL 0.11 SF



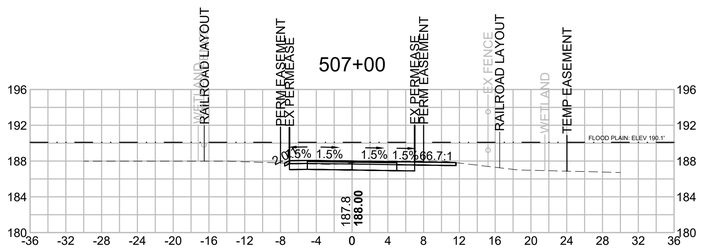
CUT 5.37 SF
FILL 0.00 SF



CUT 14.30 SF
FILL 0.11 SF



CUT 6.12 SF
FILL 2.40 SF



CUT 13.85 SF
FILL 0.45 SF

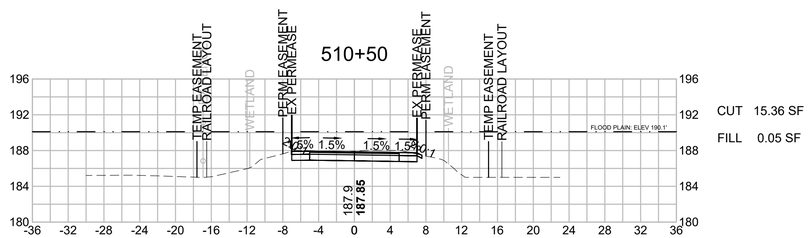
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

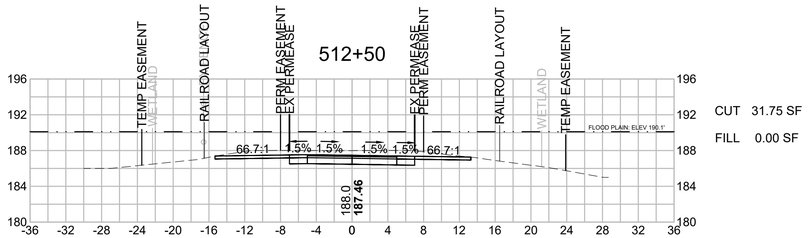
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	178	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

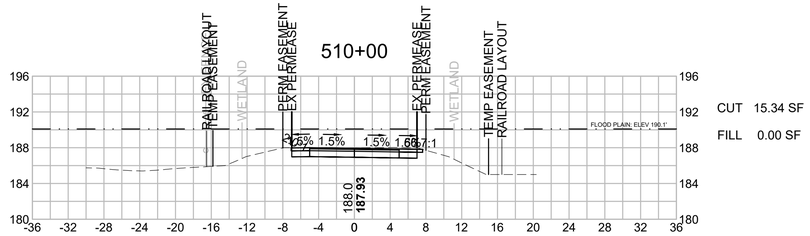
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:22 PM



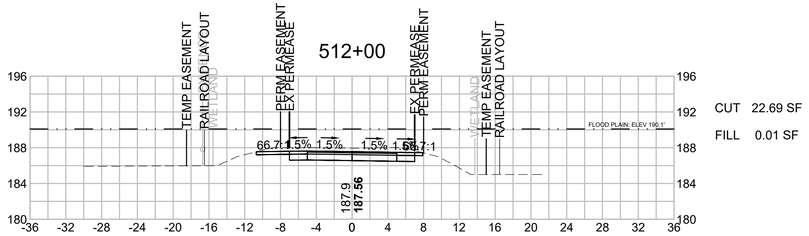
CUT 15.36 SF
FILL 0.05 SF



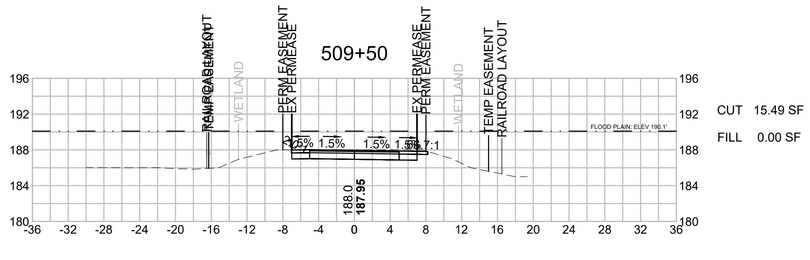
CUT 31.75 SF
FILL 0.00 SF



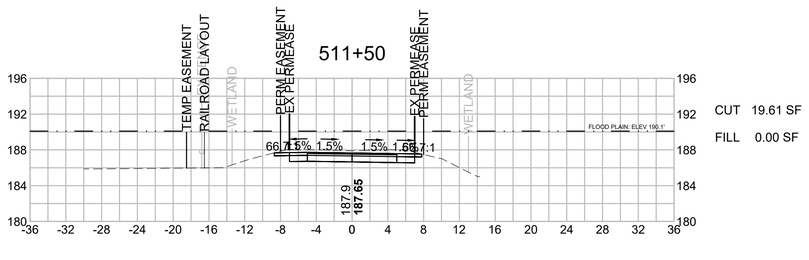
CUT 15.34 SF
FILL 0.00 SF



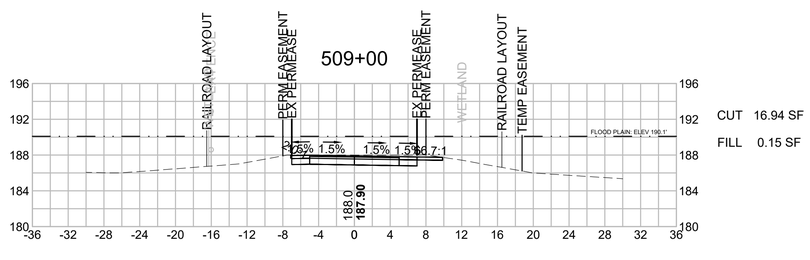
CUT 22.69 SF
FILL 0.01 SF



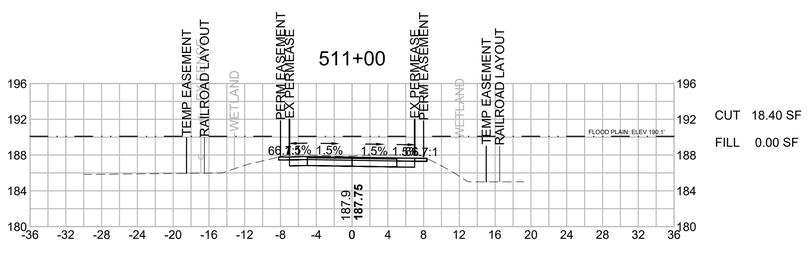
CUT 15.49 SF
FILL 0.00 SF



CUT 19.61 SF
FILL 0.00 SF



CUT 16.94 SF
FILL 0.15 SF



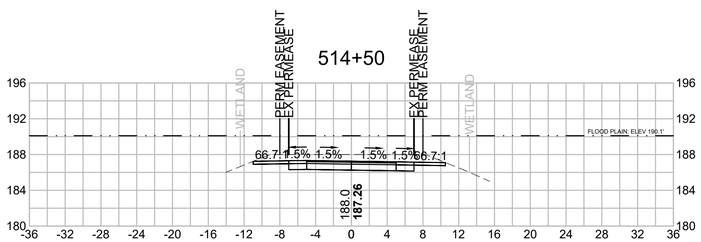
CUT 18.40 SF
FILL 0.00 SF

HOR. SCALE IN FEET
8 0 8 16
VER. SCALE IN FEET
8 0 8 16

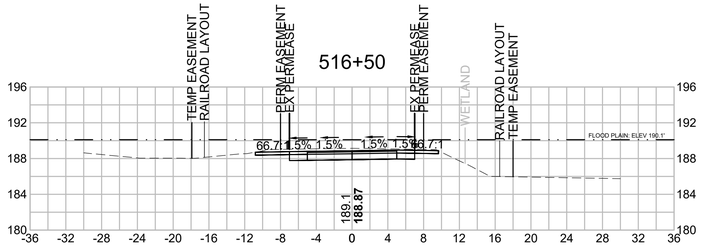
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	179	208
PROJECT FILE NO. 608227			

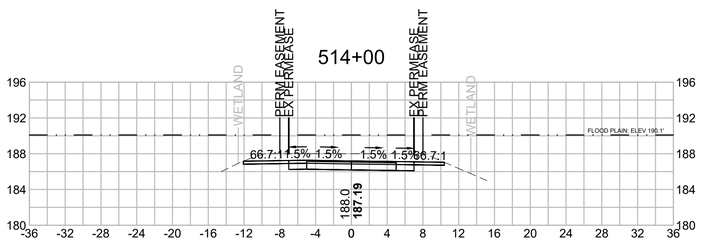
CROSS SECTIONS



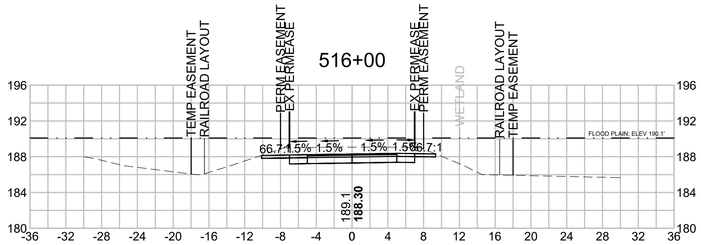
CUT 31.22 SF
FILL 0.00 SF



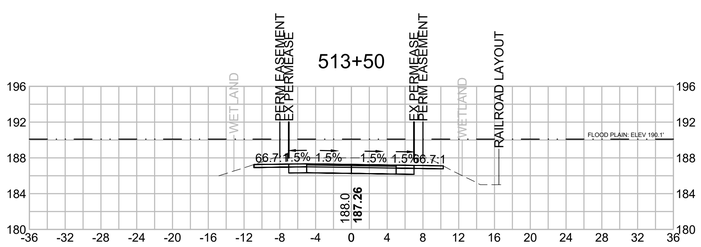
CUT 20.40 SF
FILL 0.00 SF



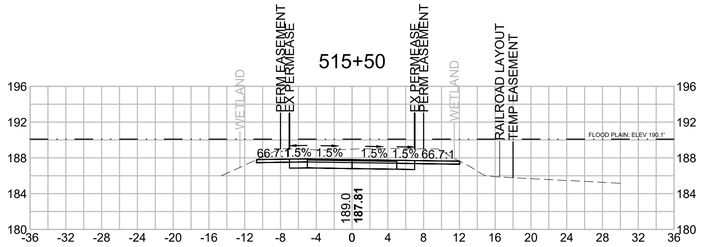
CUT 33.43 SF
FILL 0.00 SF



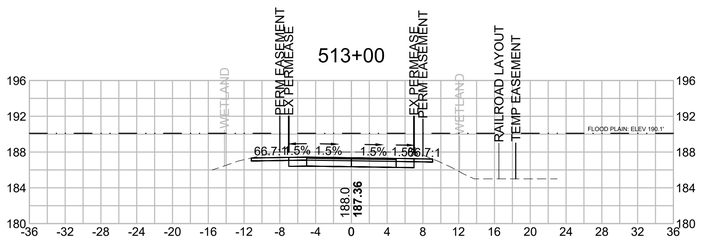
CUT 29.00 SF
FILL 0.00 SF



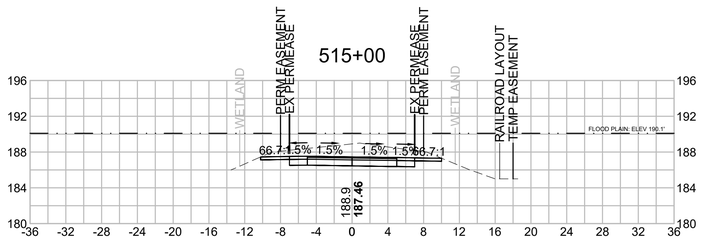
CUT 30.81 SF
FILL 0.00 SF



CUT 41.16 SF
FILL 0.00 SF



CUT 27.66 SF
FILL 0.00 SF



CUT 35.12 SF
FILL 0.00 SF

HOR. SCALE IN FEET
8 0 8 16
VER. SCALE IN FEET
8 0 8 16

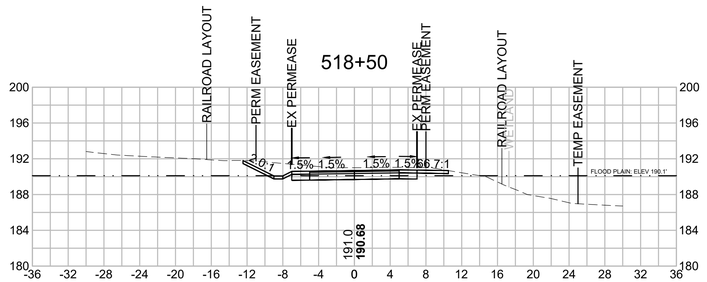
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:22 PM

BILLERICA
YANKEE DOODLE BIKE PATH

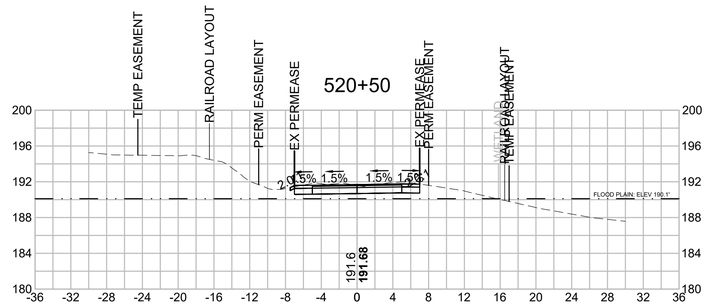
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	180	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

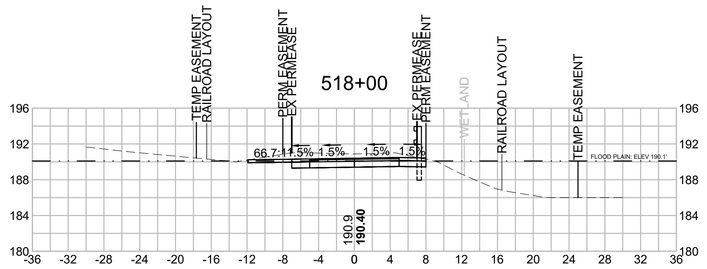
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:22 PM



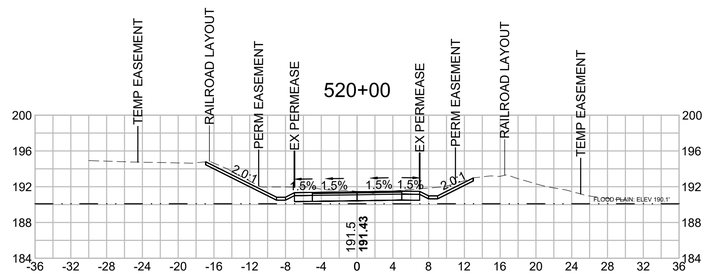
CUT 28.43 SF
FILL 0.00 SF



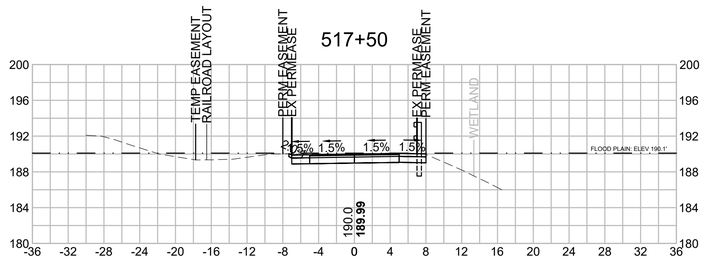
CUT 15.51 SF
FILL 2.88 SF



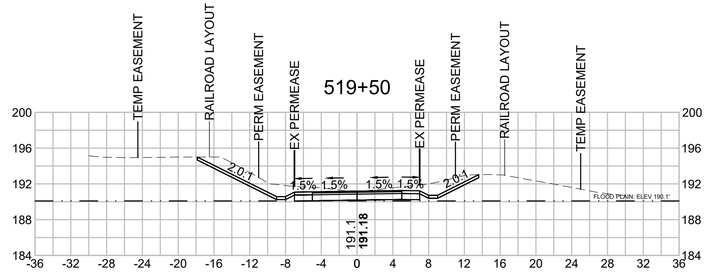
CUT 25.60 SF
FILL 0.26 SF



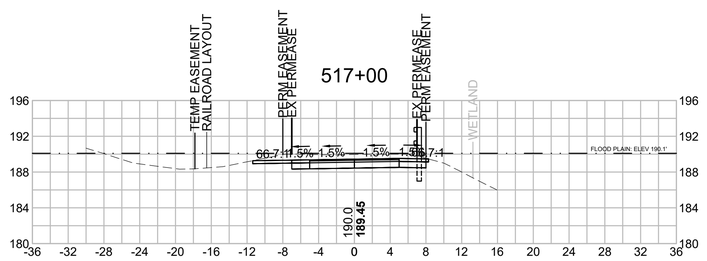
CUT 30.19 SF
FILL 0.02 SF



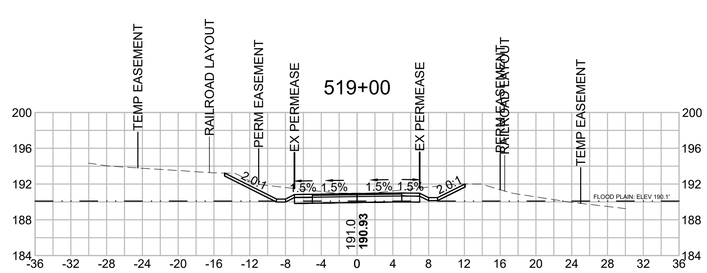
CUT 15.64 SF
FILL 0.00 SF



CUT 41.57 SF
FILL 0.00 SF



CUT 25.99 SF
FILL 0.00 SF



CUT 33.51 SF
FILL 0.08 SF

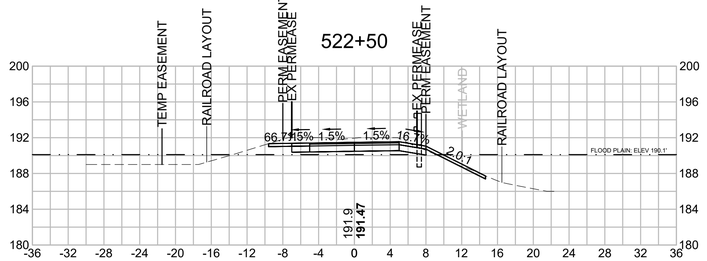
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

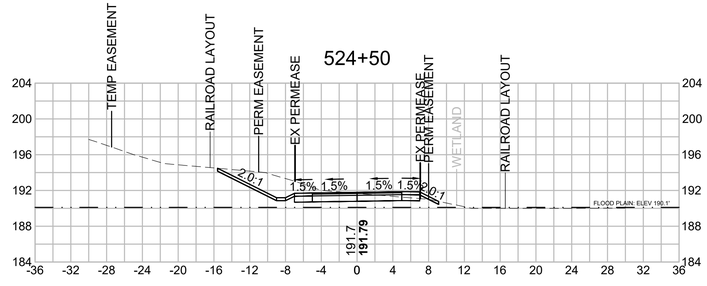
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	181	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

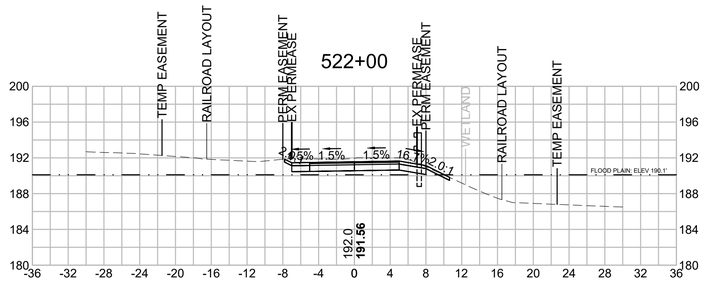
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:22 PM



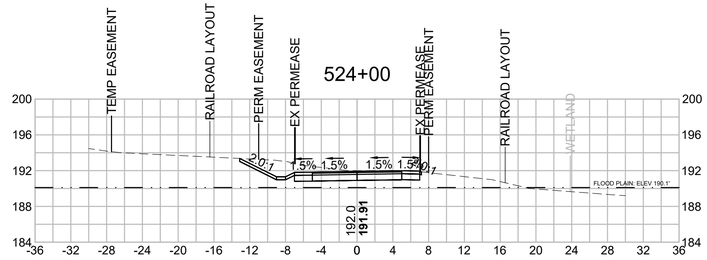
CUT 23.34 SF
FILL 2.53 SF



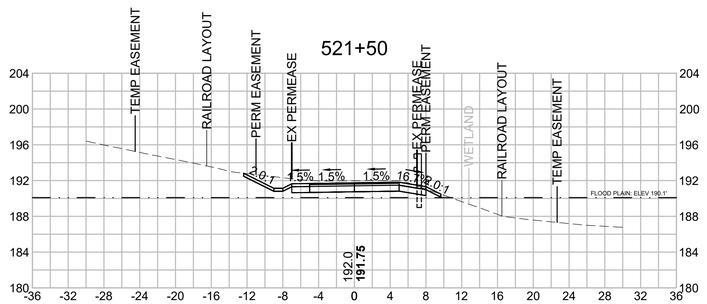
CUT 29.41 SF
FILL 0.21 SF



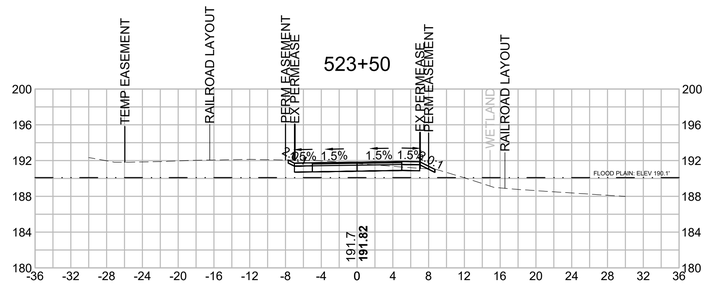
CUT 21.45 SF
FILL 0.19 SF



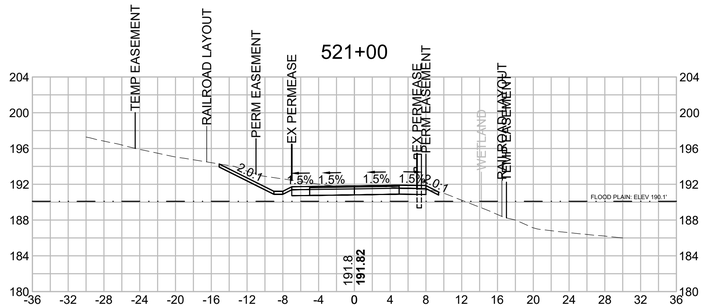
CUT 26.92 SF
FILL 0.00 SF



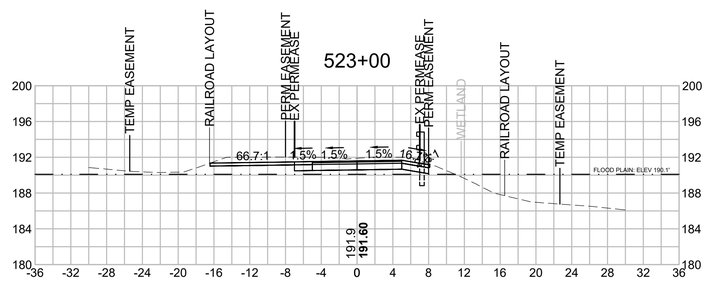
CUT 24.62 SF
FILL 0.00 SF



CUT 13.25 SF
FILL 0.18 SF



CUT 25.03 SF
FILL 0.03 SF



CUT 29.97 SF
FILL 0.00 SF

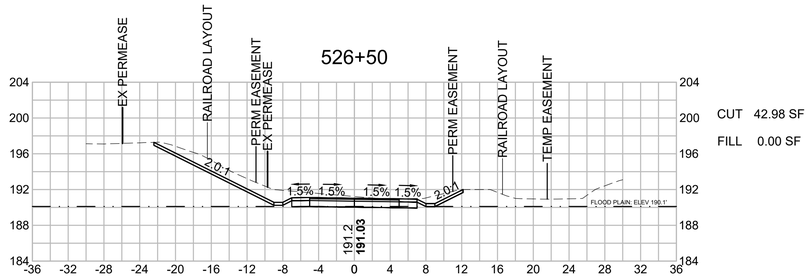
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

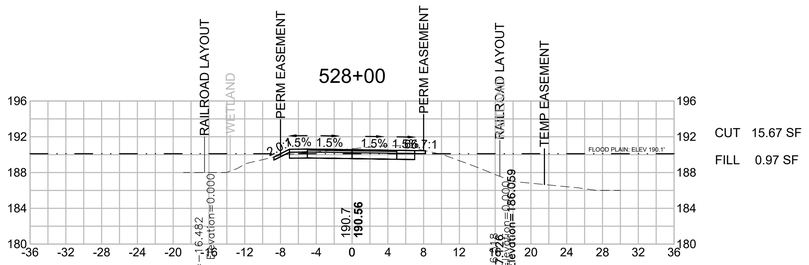
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	182	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

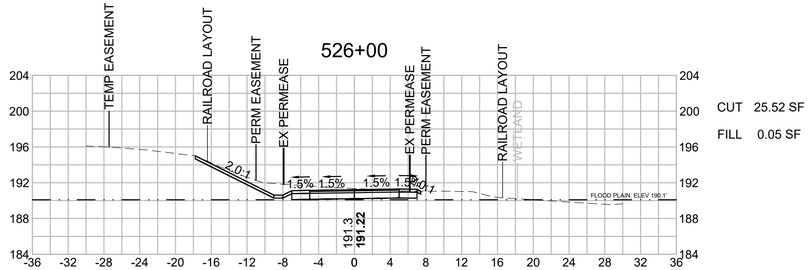
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:22 PM



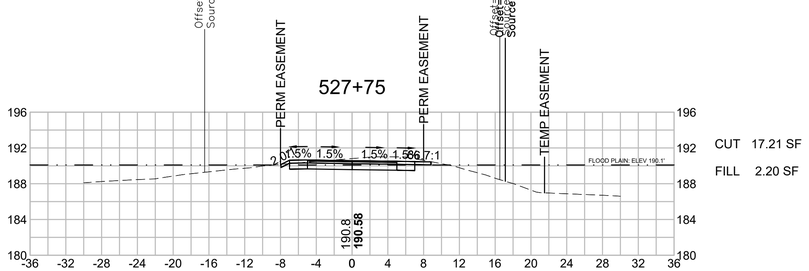
CUT 42.98 SF
FILL 0.00 SF



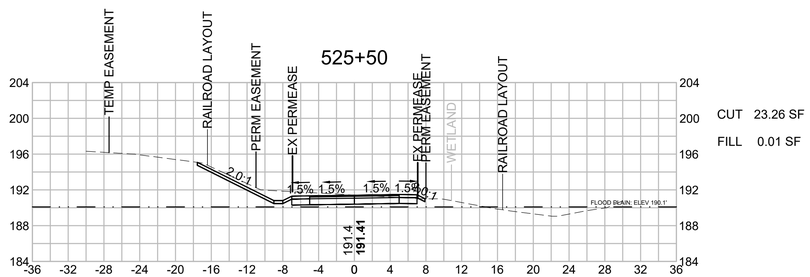
CUT 15.67 SF
FILL 0.97 SF



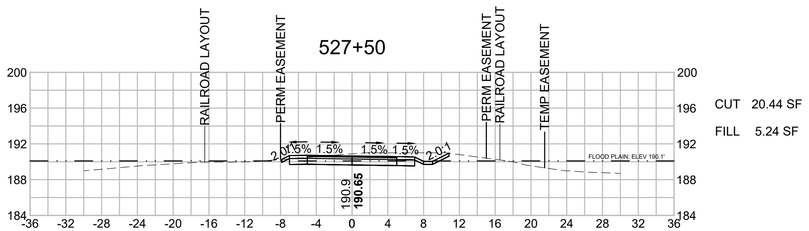
CUT 25.52 SF
FILL 0.05 SF



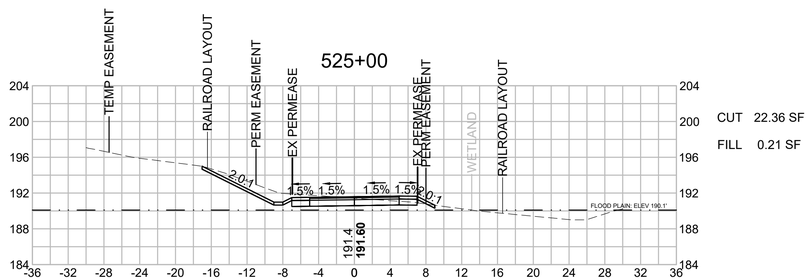
CUT 17.21 SF
FILL 2.20 SF



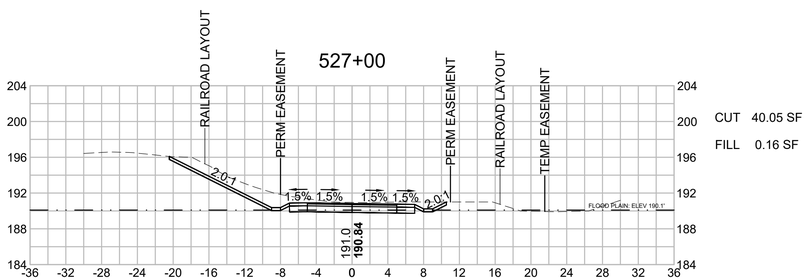
CUT 23.26 SF
FILL 0.01 SF



CUT 20.44 SF
FILL 5.24 SF



CUT 22.36 SF
FILL 0.21 SF



CUT 40.05 SF
FILL 0.16 SF

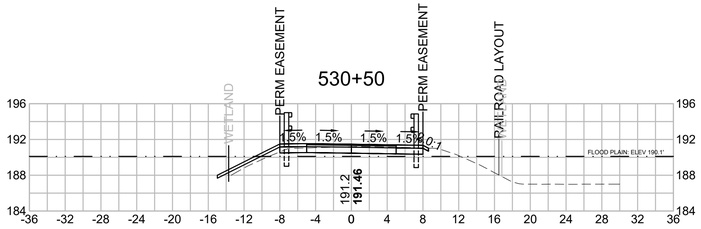
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

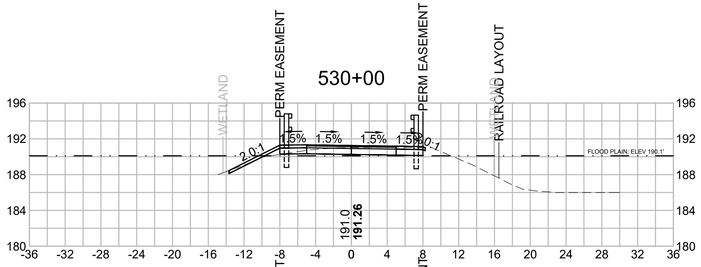
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	183	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

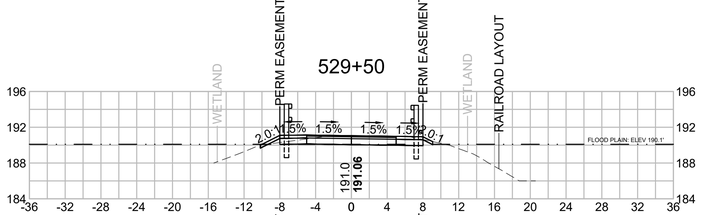
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:23 PM



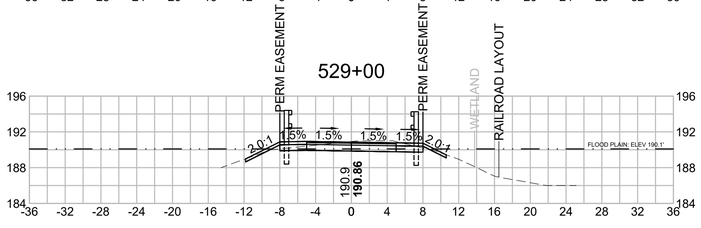
CUT 10.56 SF
FILL 1.32 SF



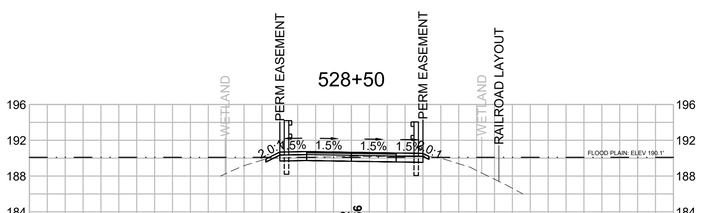
CUT 10.89 SF
FILL 0.70 SF



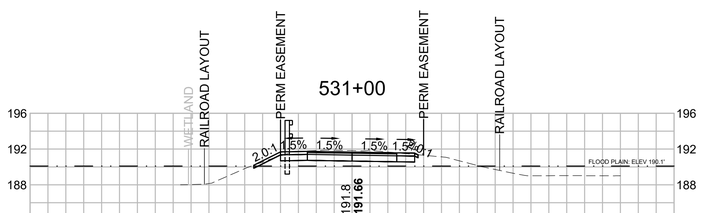
CUT 14.07 SF
FILL 0.29 SF



CUT 13.99 SF
FILL 0.33 SF



CUT 8.68 SF
FILL 0.11 SF



CUT 16.53 SF
FILL 0.39 SF

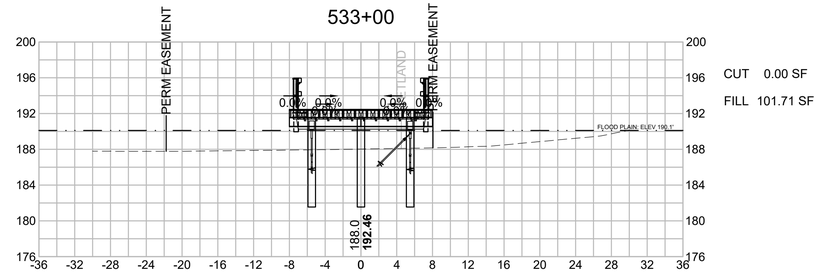
HOR. SCALE IN FEET
8 0 8 16
VER. SCALE IN FEET
8 0 8 16

BILLERICA
YANKEE DOODLE BIKE PATH

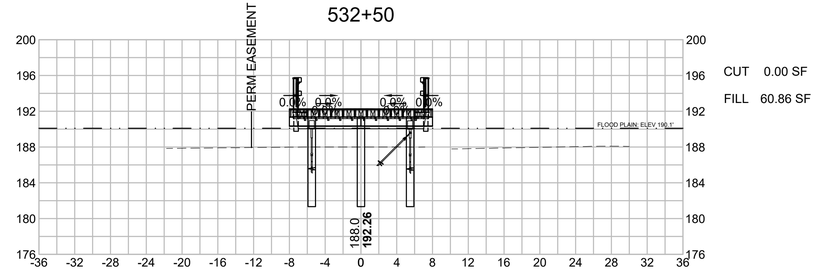
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	184	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

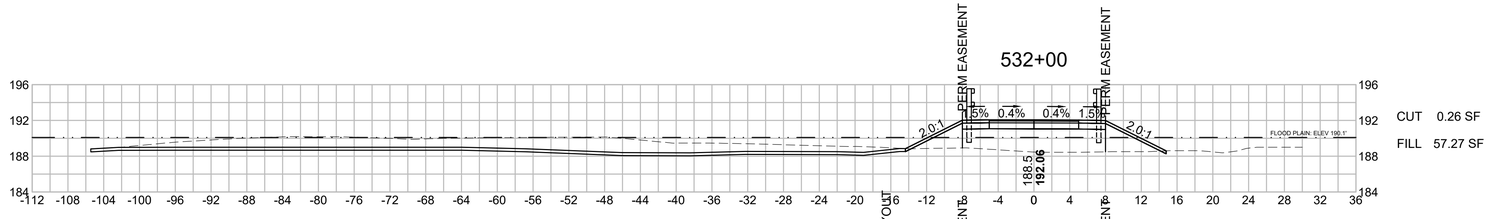
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:23 PM



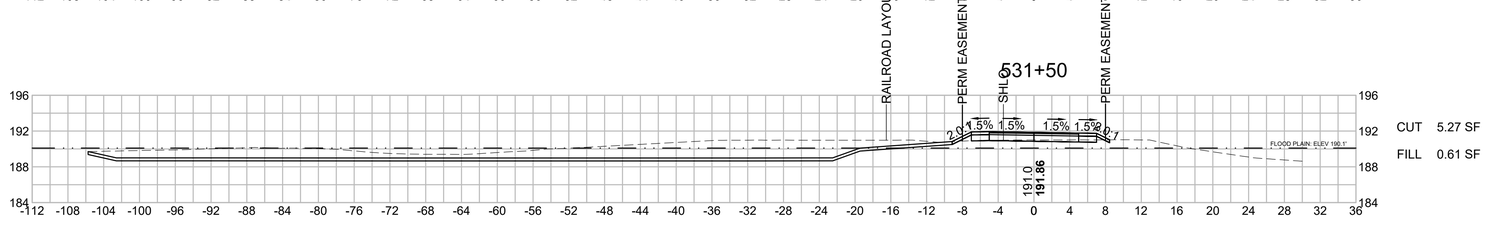
CUT 0.00 SF
FILL 101.71 SF



CUT 0.00 SF
FILL 60.86 SF



CUT 0.26 SF
FILL 57.27 SF



CUT 5.27 SF
FILL 0.61 SF

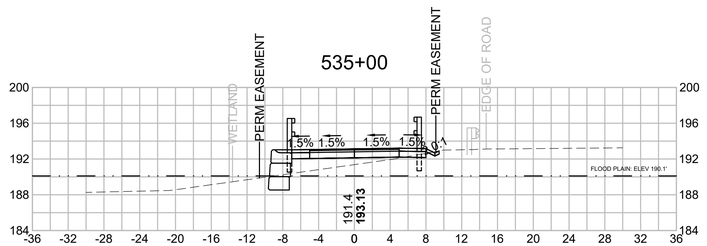
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

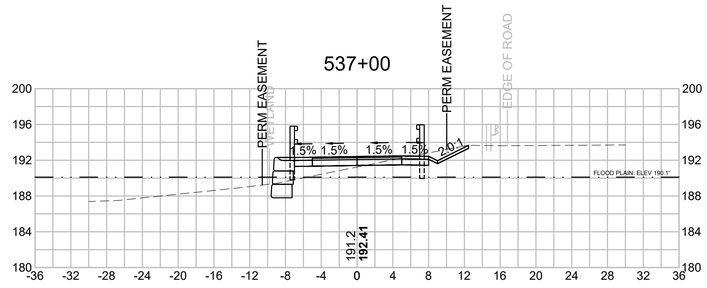
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	185	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

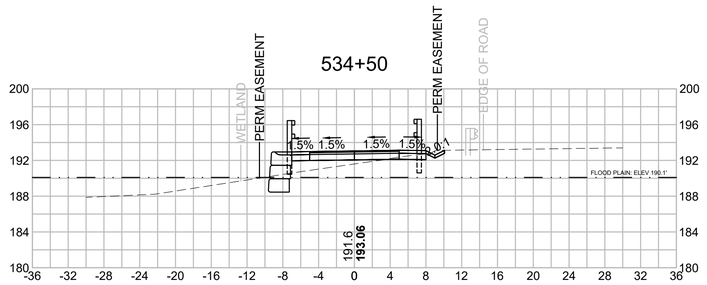
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:23 PM



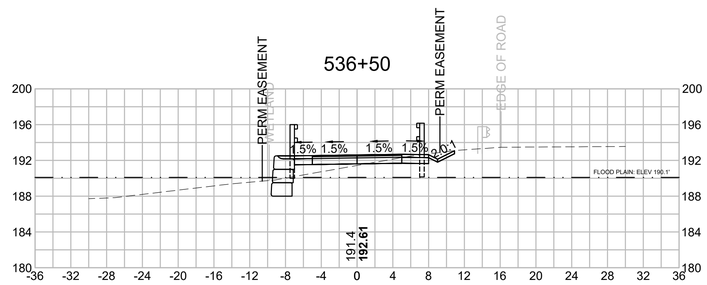
CUT 0.94 SF
FILL 10.71 SF



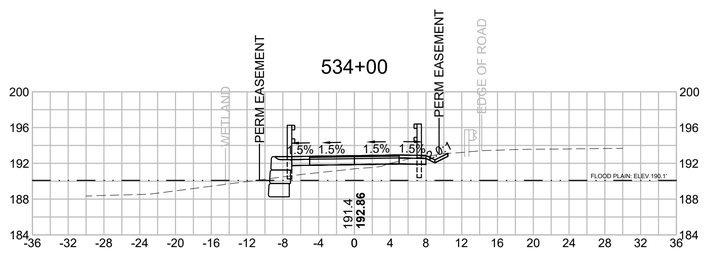
CUT 8.90 SF
FILL 5.86 SF



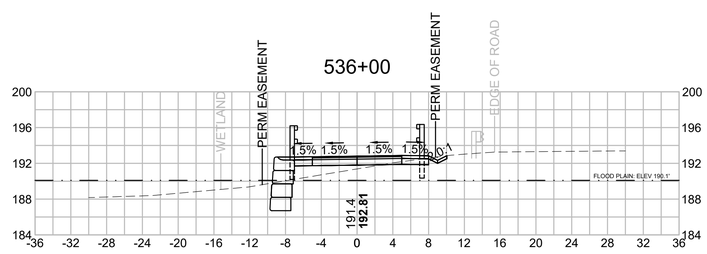
CUT 2.48 SF
FILL 52.08 SF



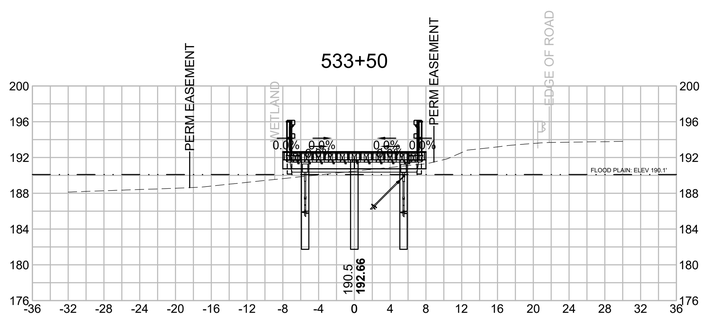
CUT 5.89 SF
FILL 5.27 SF



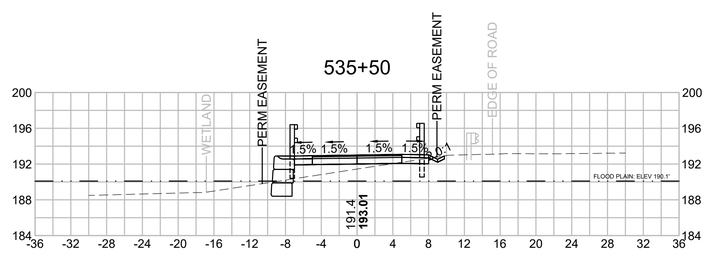
CUT 3.57 SF
FILL 58.06 SF



CUT 2.86 SF
FILL 7.31 SF



CUT 1.69 SF
FILL 61.74 SF



CUT 1.78 SF
FILL 8.52 SF

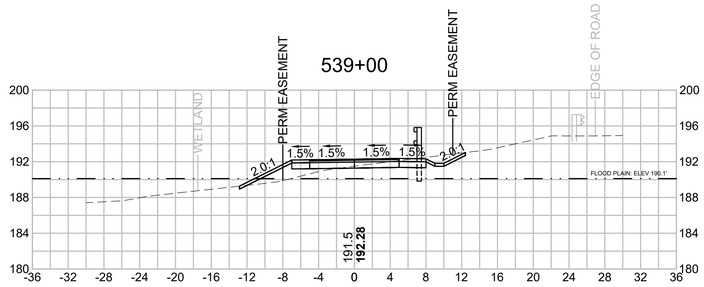
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

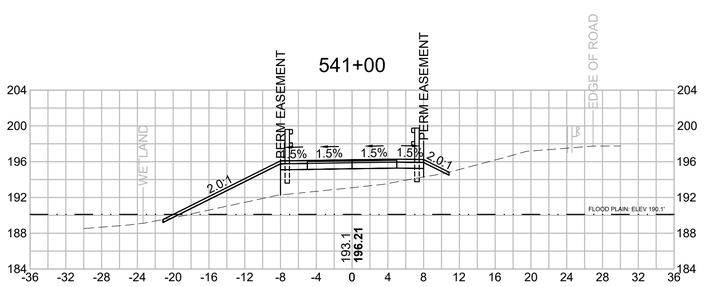
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	186	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

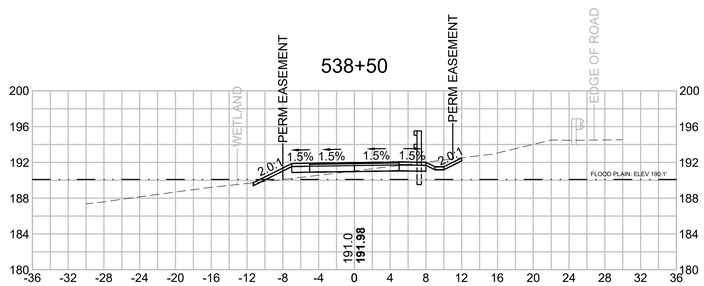
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:23 PM



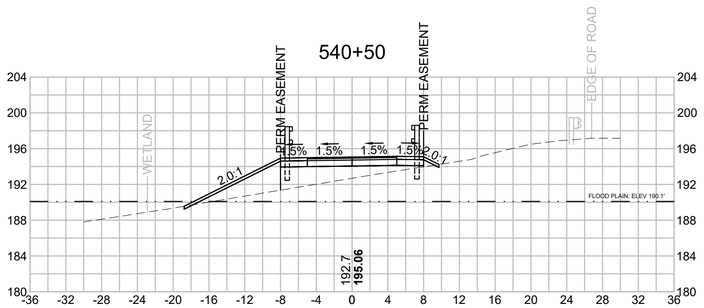
CUT 9.55 SF
FILL 7.02 SF



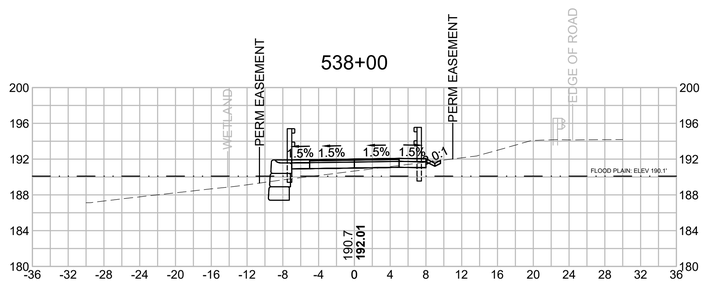
CUT 0.25 SF
FILL 54.04 SF



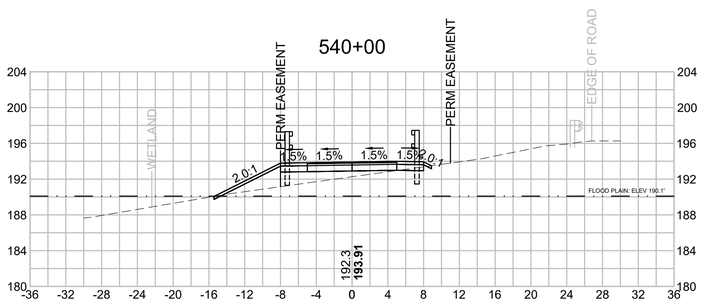
CUT 7.41 SF
FILL 4.47 SF



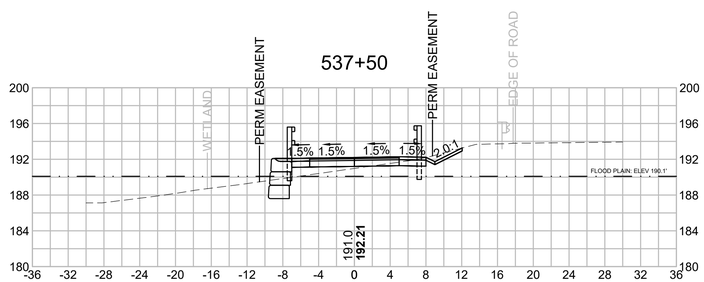
CUT 0.25 SF
FILL 38.28 SF



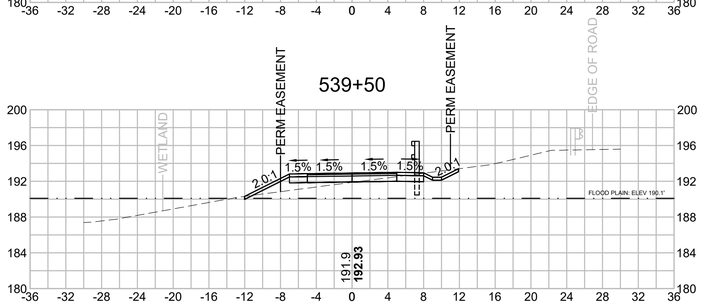
CUT 2.71 SF
FILL 9.82 SF



CUT 0.88 SF
FILL 18.17 SF



CUT 5.40 SF
FILL 9.68 SF



CUT 6.65 SF
FILL 6.25 SF

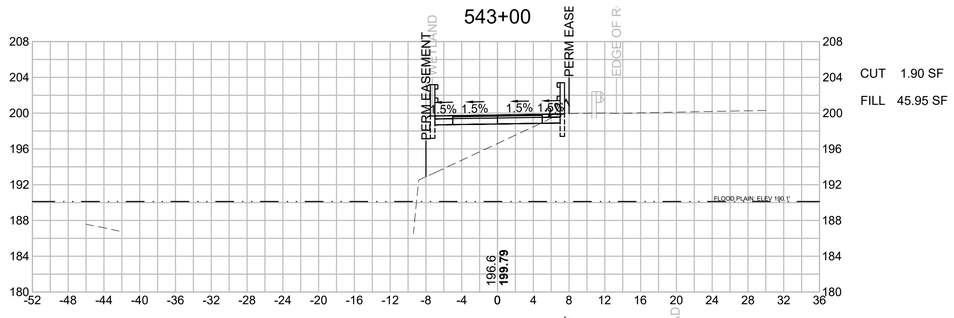
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

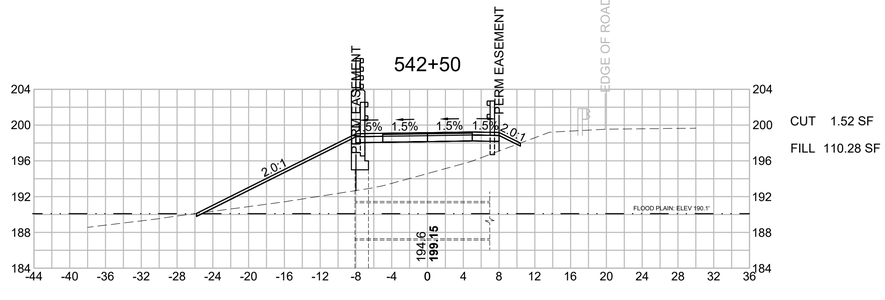
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	187	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

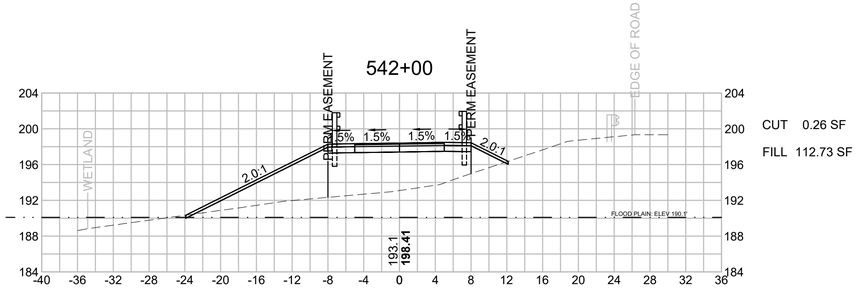
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:23 PM



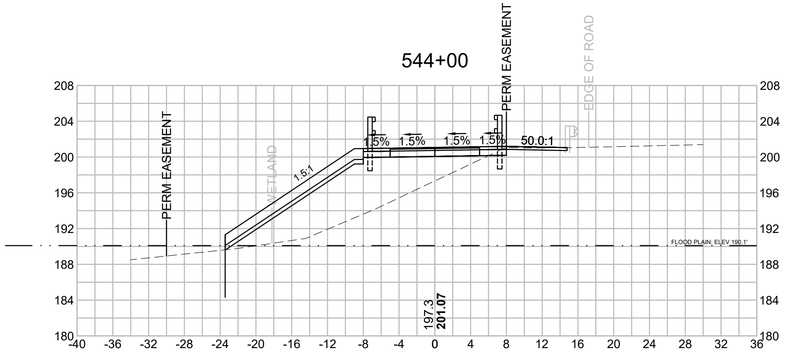
CUT 1.90 SF
FILL 45.95 SF



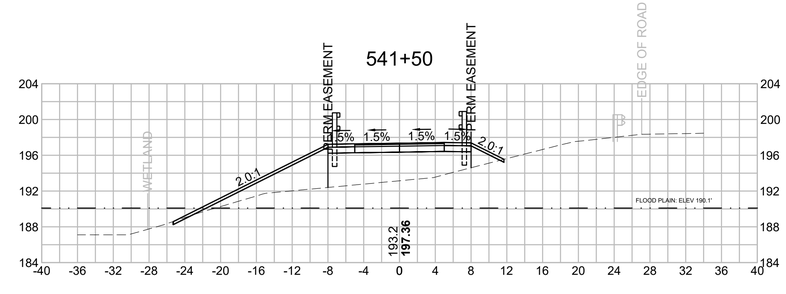
CUT 1.52 SF
FILL 110.28 SF



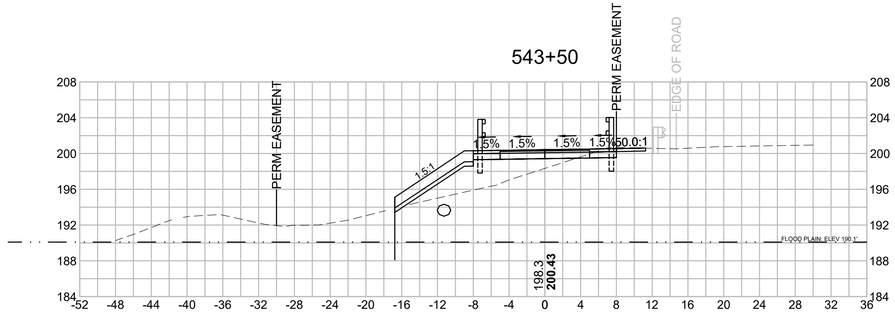
CUT 0.26 SF
FILL 112.73 SF



CUT 2.51 SF
FILL 107.37 SF



CUT 0.42 SF
FILL 81.85 SF



CUT 51.42 SF
FILL 32.77 SF

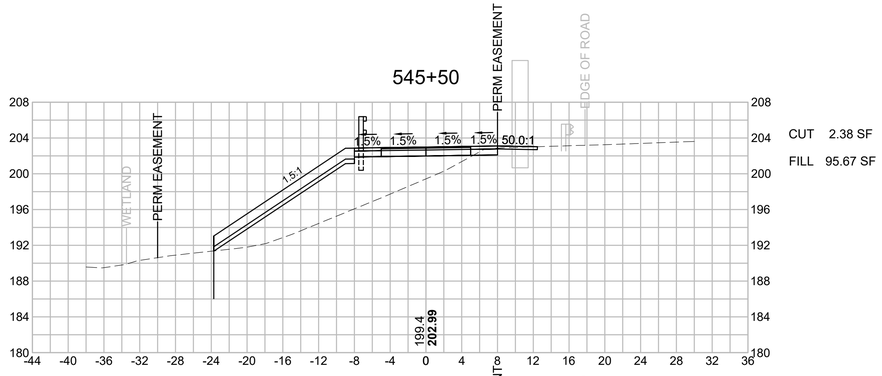
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

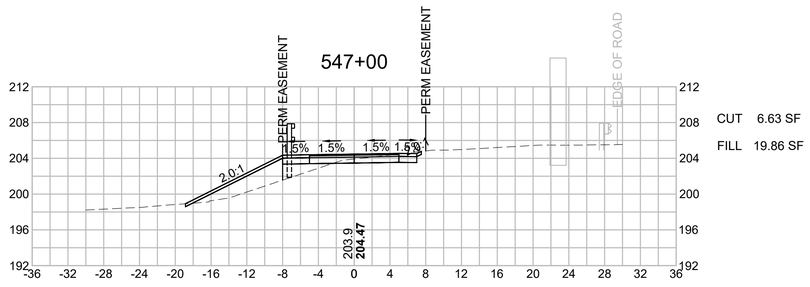
BILLERICA
YANKEE DOODLE BIKE PATH

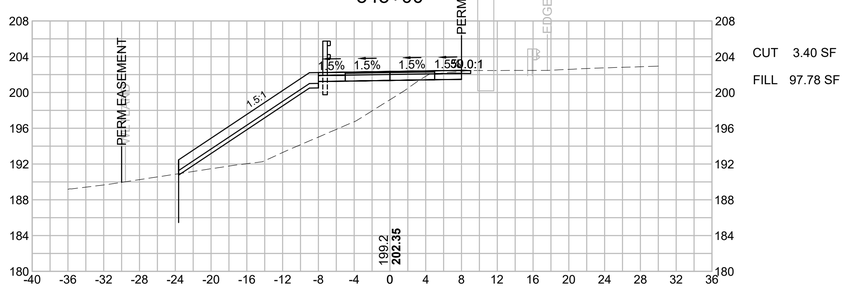
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	188	208
PROJECT FILE NO. 608227			

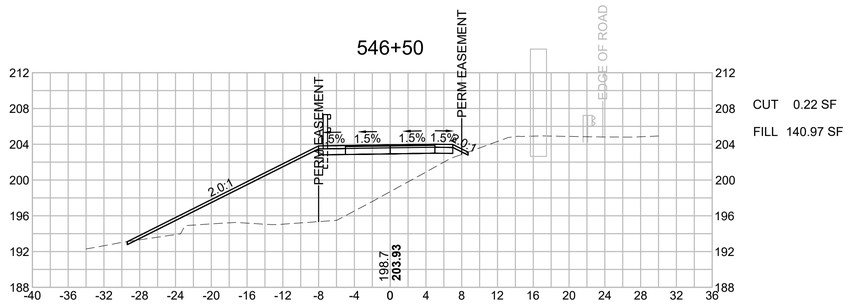
CROSS SECTIONS

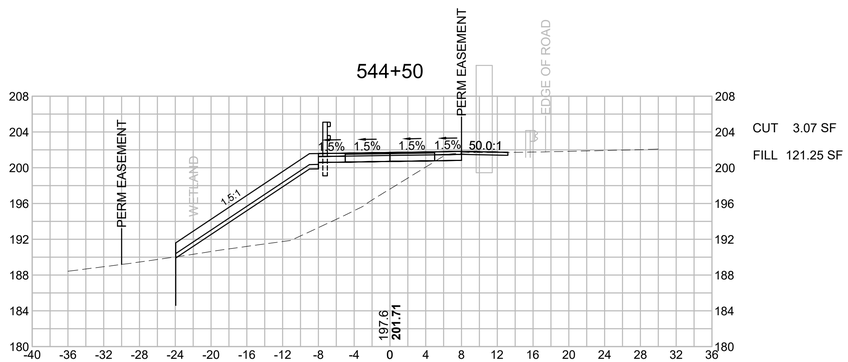
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:24 PM

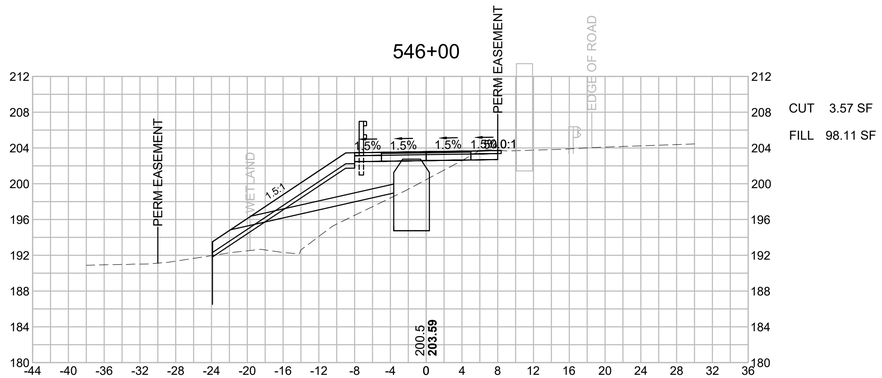












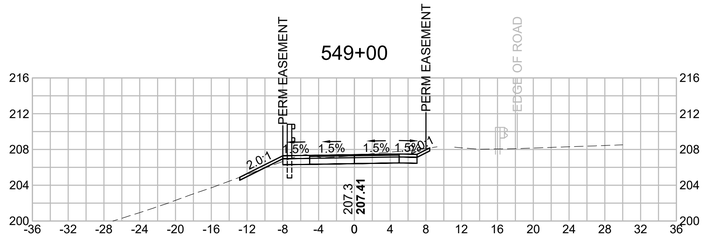
HOR. SCALE IN FEET
8 0 8 16
VER. SCALE IN FEET
8 0 8 16

BILLERICA
YANKEE DOODLE BIKE PATH

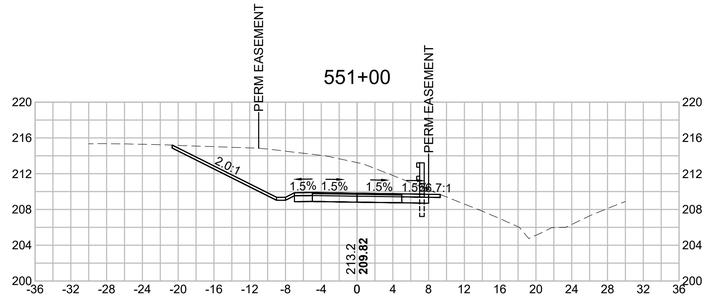
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	189	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

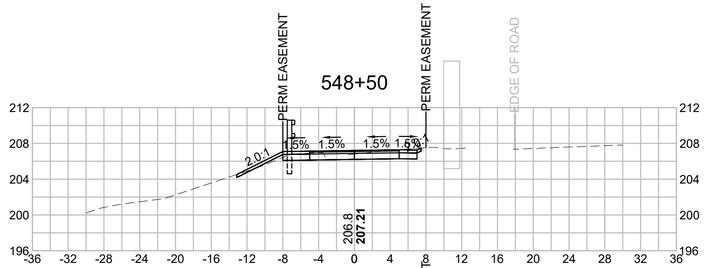
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:24 PM



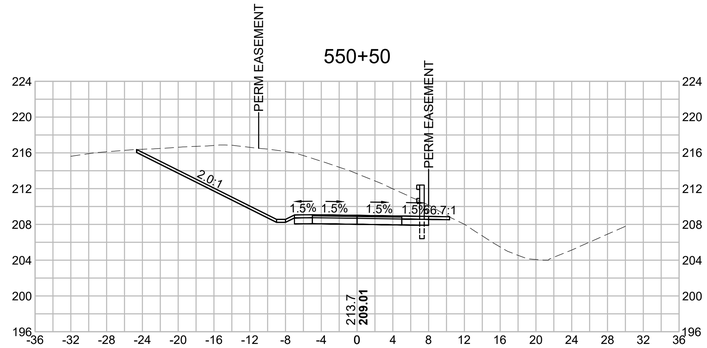
CUT 16.13 SF
FILL 0.34 SF



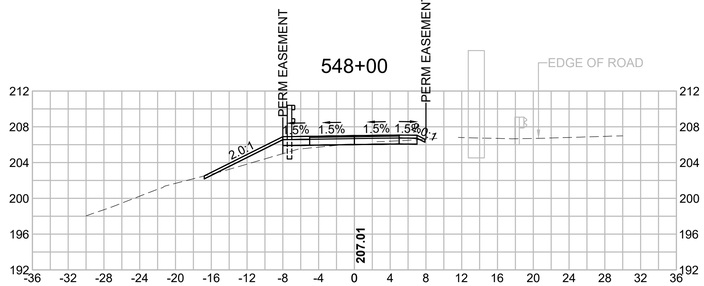
CUT 109.98 SF
FILL 0.00 SF



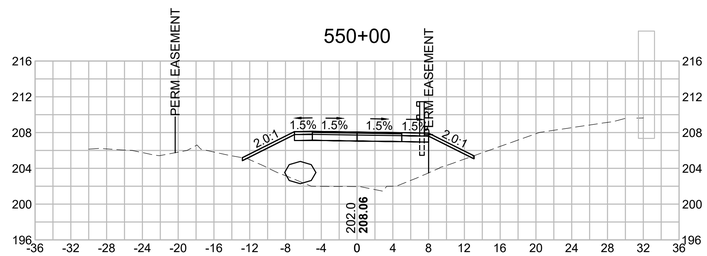
CUT 10.51 SF
FILL 0.58 SF



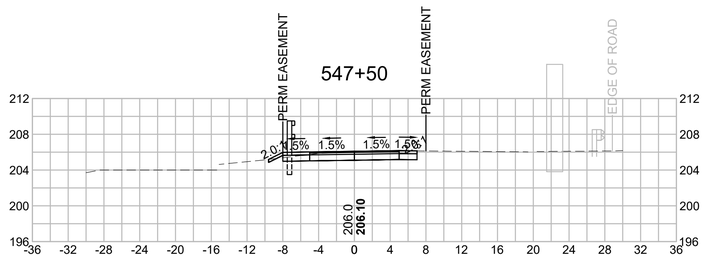
CUT 168.85 SF
FILL 1.02 SF



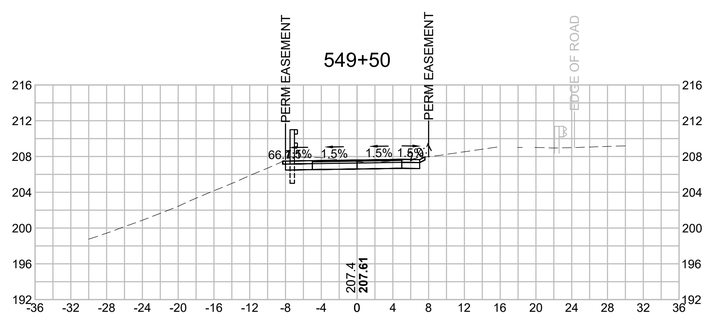
CUT 2.00 SF
FILL 8.02 SF



CUT 0.39 SF
FILL 96.20 SF



CUT 12.77 SF
FILL 0.09 SF



CUT 16.13 SF
FILL 0.01 SF

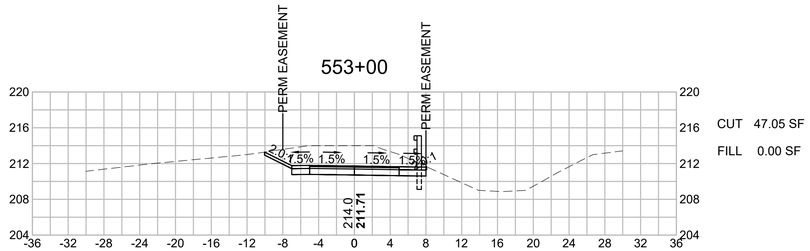
HOR. SCALE IN FEET
8 0 8 16
VER. SCALE IN FEET
8 0 8 16

BILLERICA
YANKEE DOODLE BIKE PATH

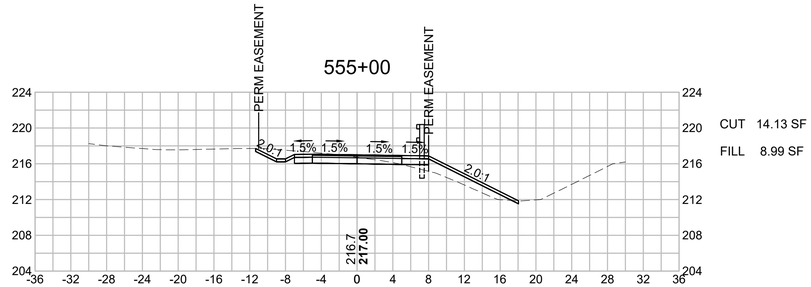
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	190	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

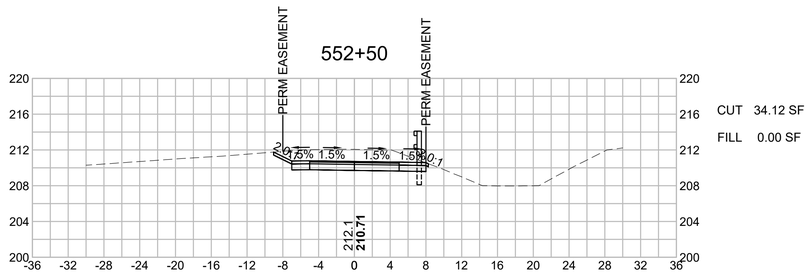
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:24 PM



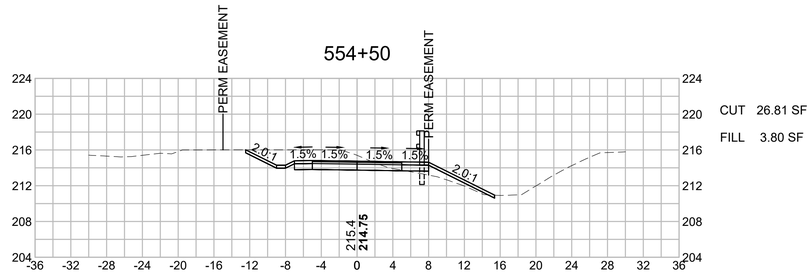
CUT 47.05 SF
FILL 0.00 SF



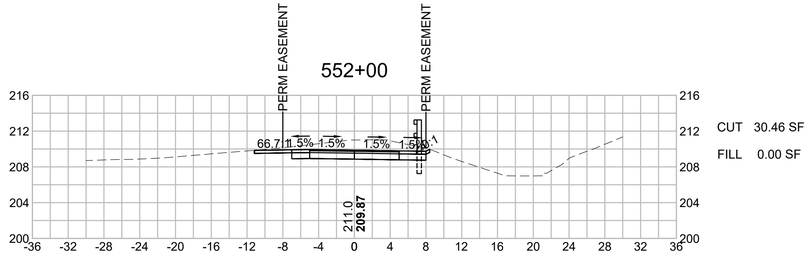
CUT 14.13 SF
FILL 8.99 SF



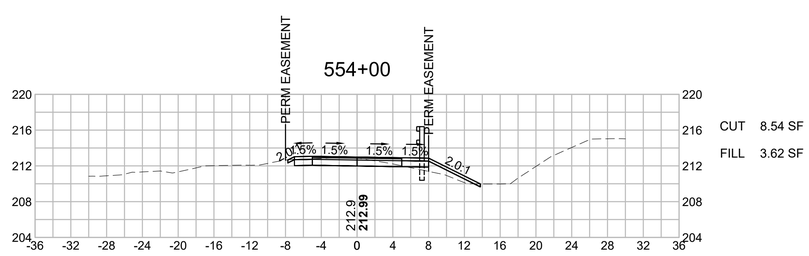
CUT 34.12 SF
FILL 0.00 SF



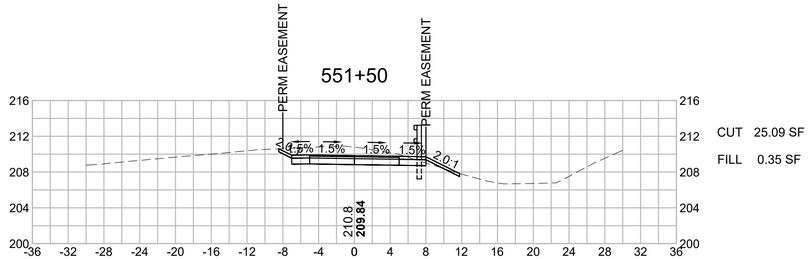
CUT 26.81 SF
FILL 3.80 SF



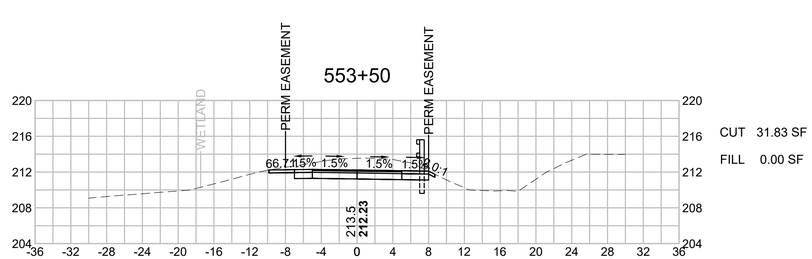
CUT 30.46 SF
FILL 0.00 SF



CUT 8.54 SF
FILL 3.62 SF



CUT 25.09 SF
FILL 0.35 SF



CUT 31.83 SF
FILL 0.00 SF

HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

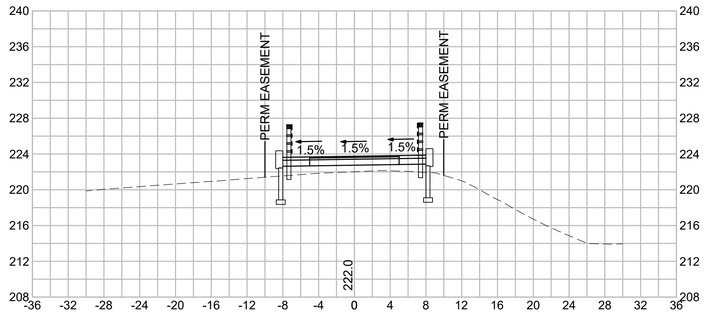
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	191	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:24 PM

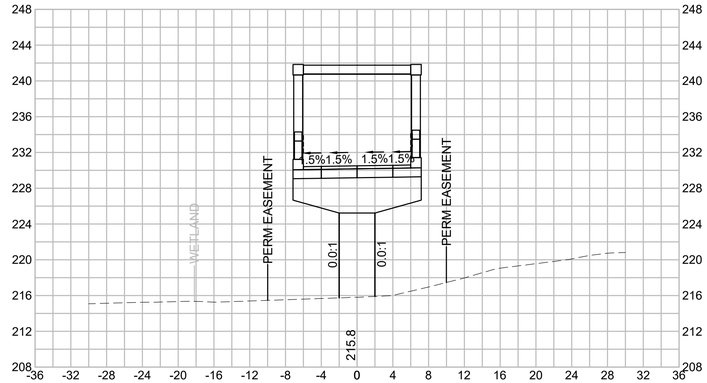
556+50



CUT 0.00 SF

FILL 0.00 SF

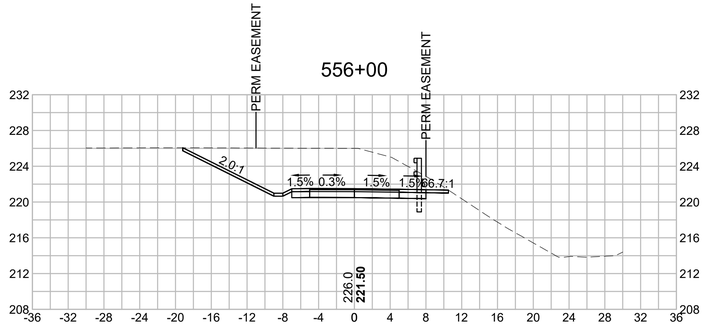
558+00



CUT 0.00 SF

FILL 0.00 SF

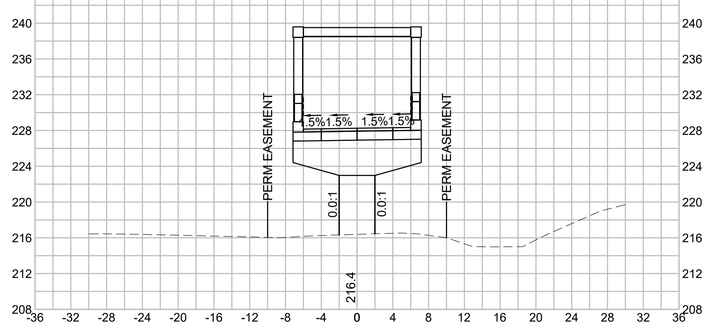
556+00



CUT 115.57 SF

FILL 0.00 SF

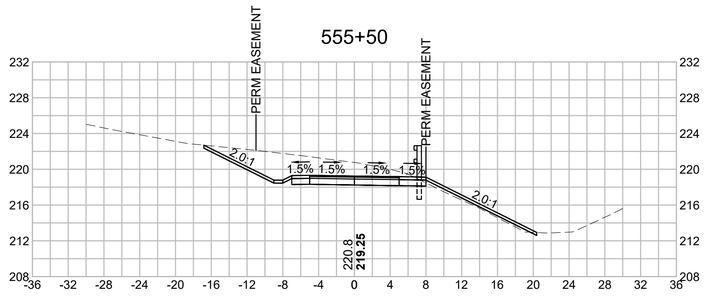
557+50



CUT 0.00 SF

FILL 0.00 SF

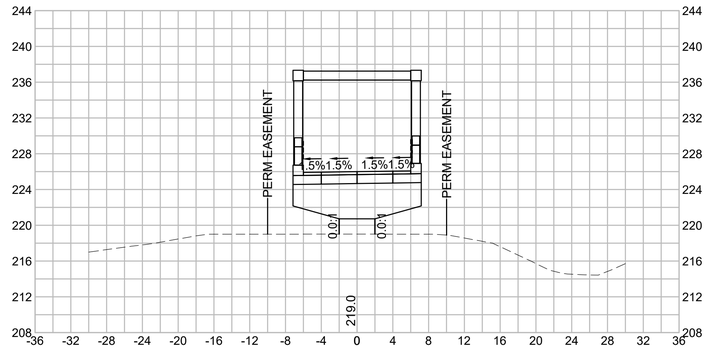
555+50



CUT 55.31 SF

FILL 2.71 SF

557+00



CUT 0.00 SF

FILL 0.00 SF

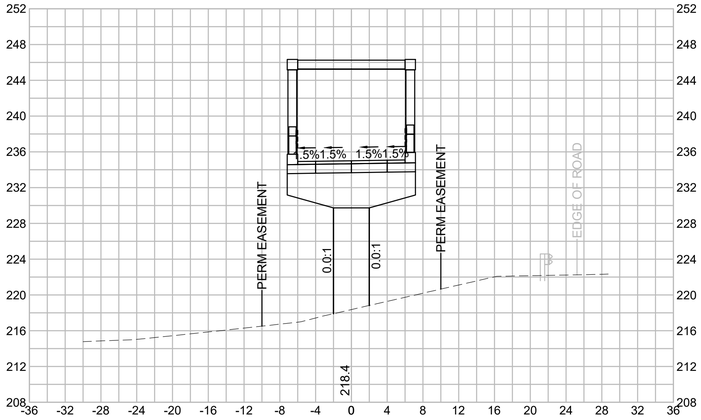
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	192	208
PROJECT FILE NO. 608227			

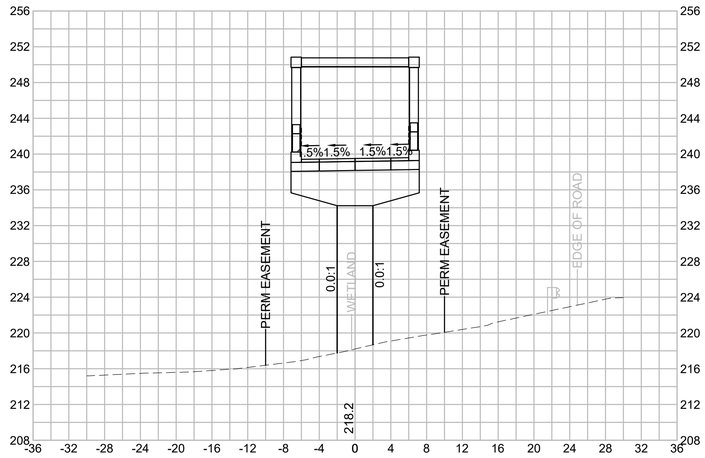
CROSS SECTIONS

559+00



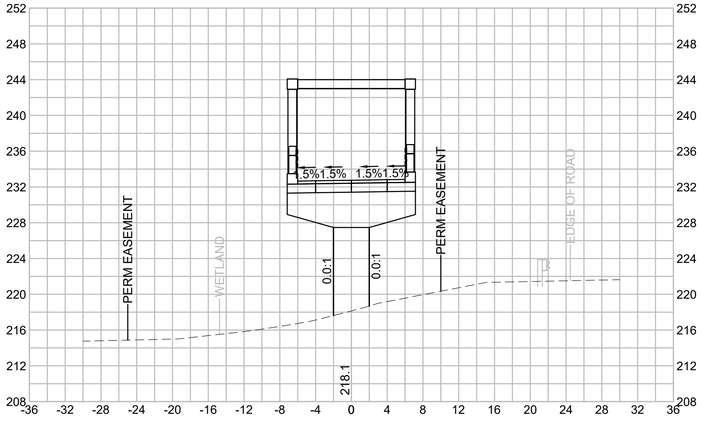
CUT 0.00 SF
FILL 0.00 SF

560+00



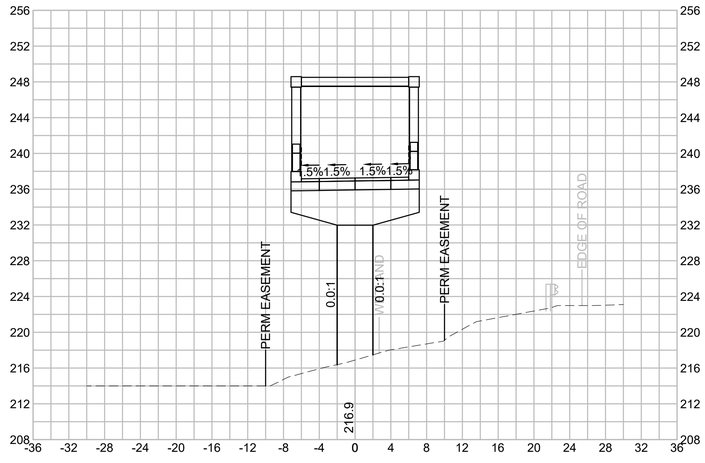
CUT 0.00 SF
FILL 0.00 SF

558+50



CUT 0.00 SF
FILL 0.00 SF

559+50



CUT 0.00 SF
FILL 0.00 SF

HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:24 PM

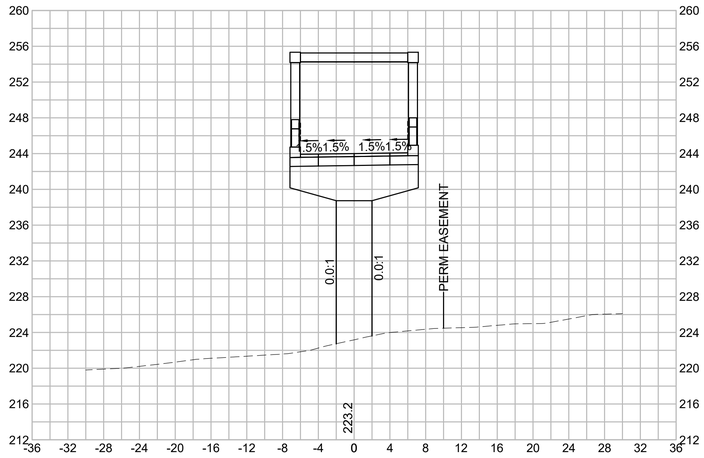
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	193	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

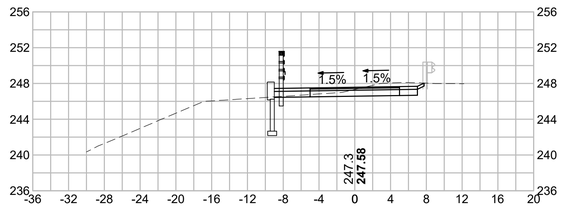
608227HD (XSEC)-3.DWG Plotted on 29-Dec-2023 2:25 PM

561+00



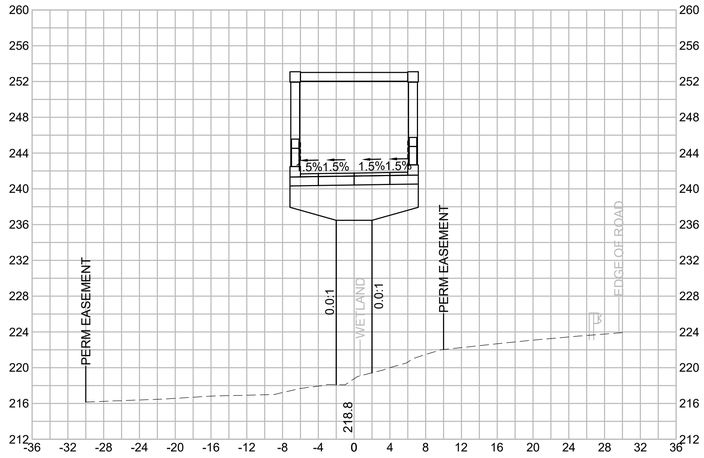
CUT 0.00 SF
FILL 0.00 SF

562+00



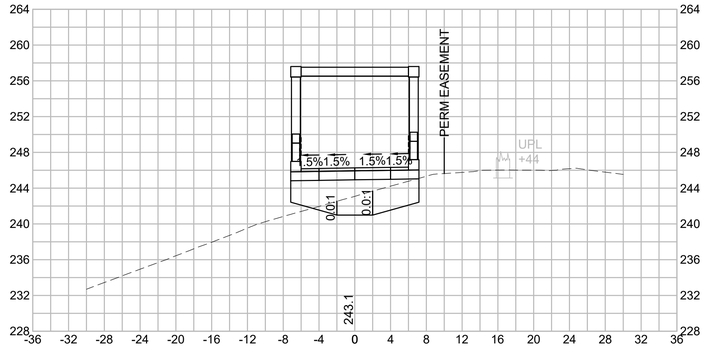
CUT 13.91 SF
FILL 0.01 SF

560+50



CUT 0.00 SF
FILL 0.00 SF

561+50



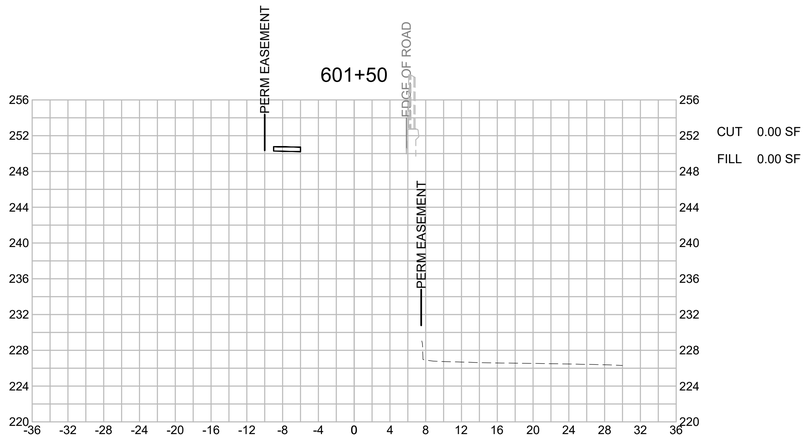
CUT 0.00 SF
FILL 0.00 SF

HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

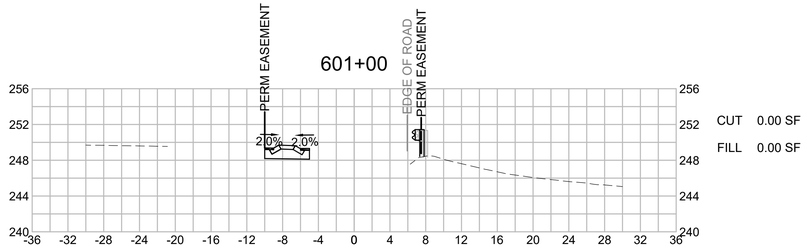
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	194	208
PROJECT FILE NO. 608227			

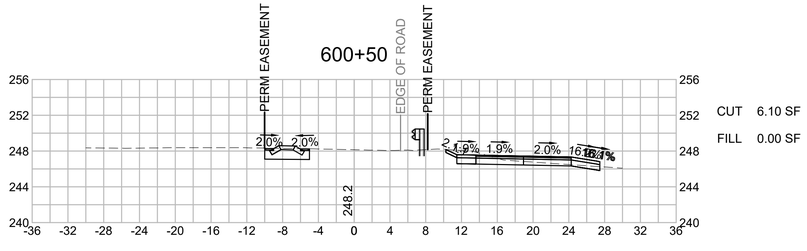
CROSS SECTIONS



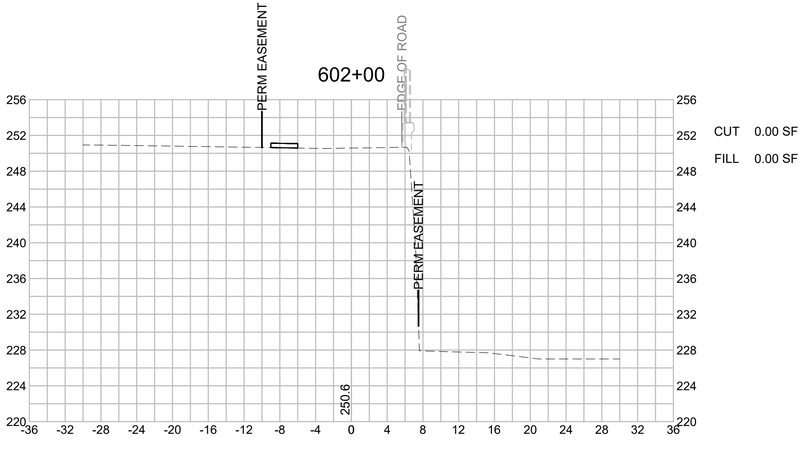
CUT 0.00 SF
FILL 0.00 SF



CUT 0.00 SF
FILL 0.00 SF



CUT 6.10 SF
FILL 0.00 SF



CUT 0.00 SF
FILL 0.00 SF

HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

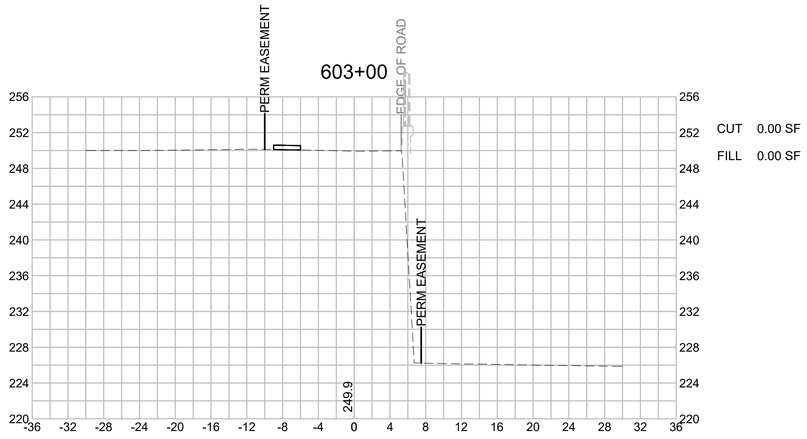
608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:25 PM

BILLERICA
YANKEE DOODLE BIKE PATH

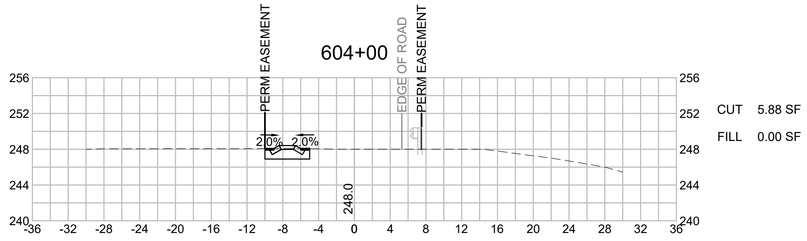
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	195	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

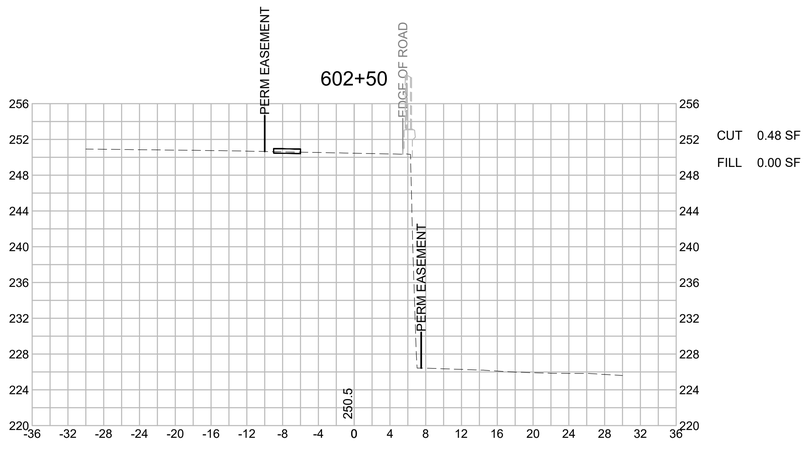
608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:25 PM



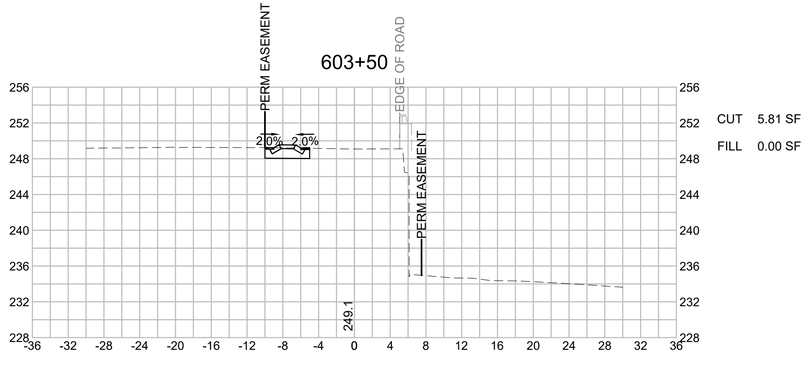
CUT 0.00 SF
FILL 0.00 SF



CUT 5.88 SF
FILL 0.00 SF



CUT 0.48 SF
FILL 0.00 SF



CUT 5.81 SF
FILL 0.00 SF

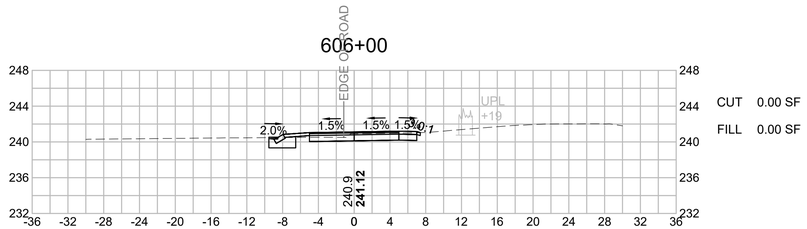
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

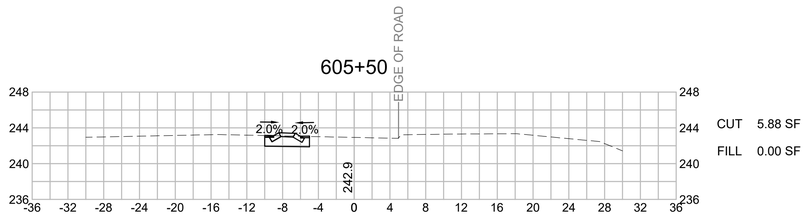
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	196	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

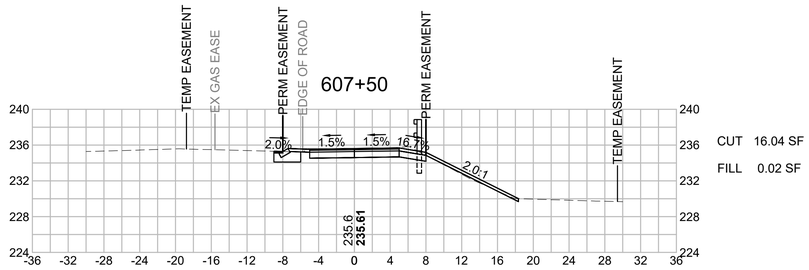
608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:25 PM



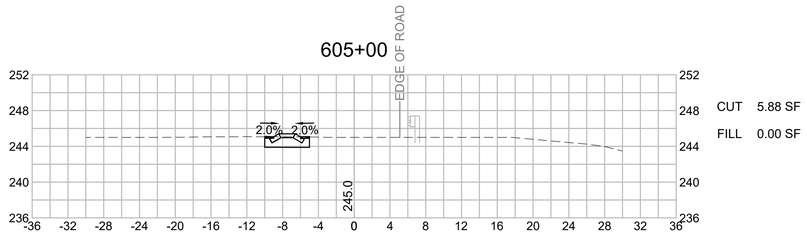
CUT 0.00 SF
FILL 0.00 SF



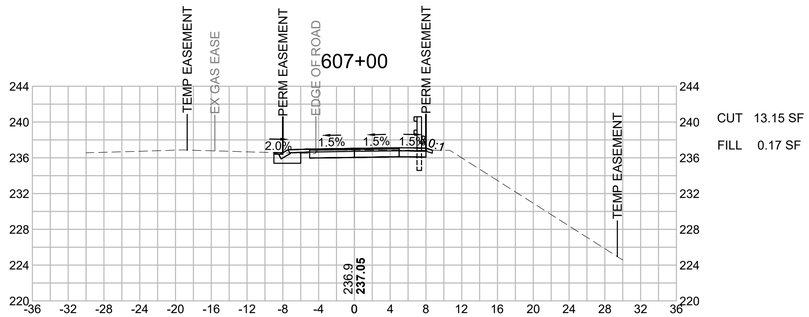
CUT 5.88 SF
FILL 0.00 SF



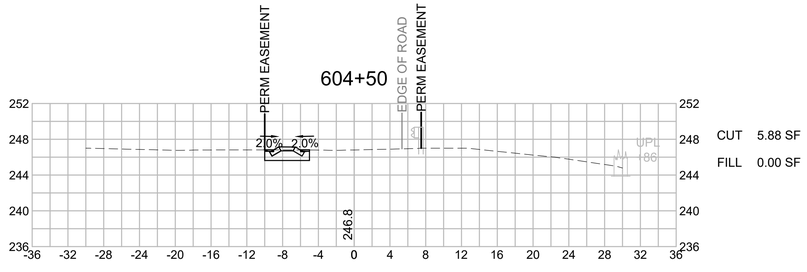
CUT 16.04 SF
FILL 0.02 SF



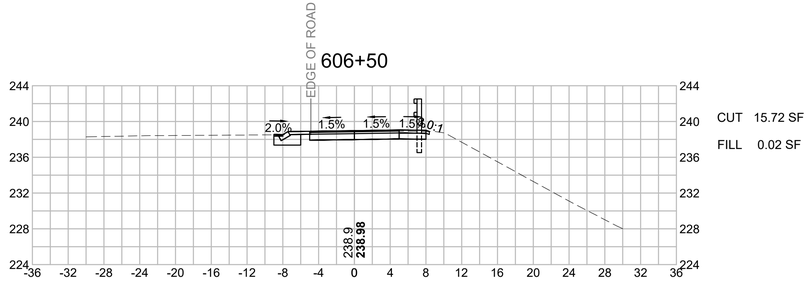
CUT 5.88 SF
FILL 0.00 SF



CUT 13.15 SF
FILL 0.17 SF



CUT 5.88 SF
FILL 0.00 SF



CUT 15.72 SF
FILL 0.02 SF

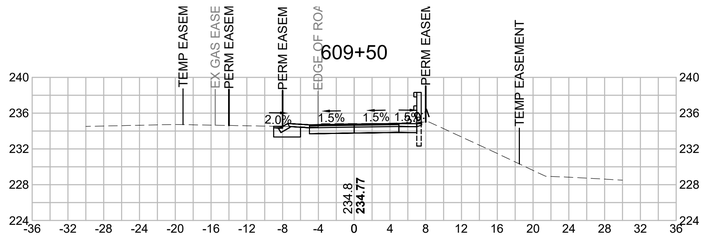
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

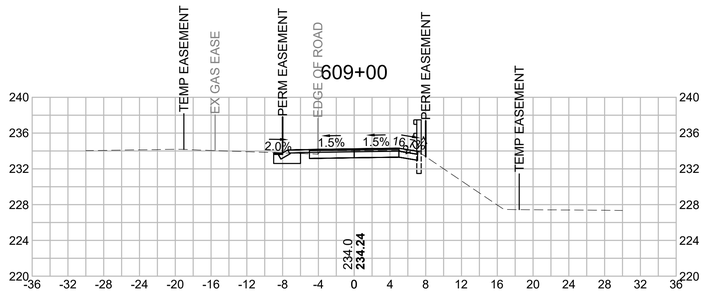
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	197	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

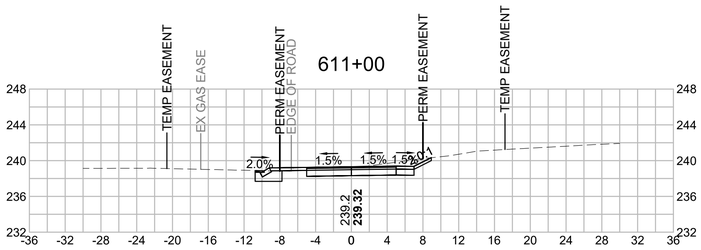
608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:25 PM



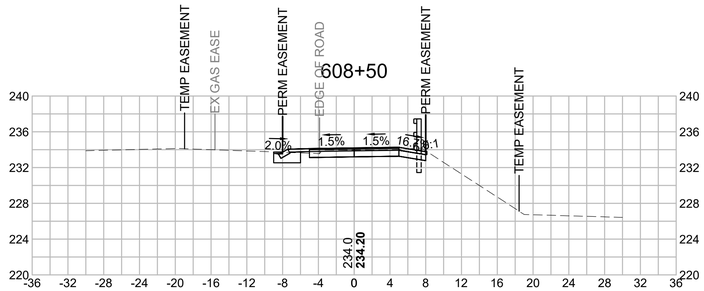
CUT 14.73 SF
FILL 0.02 SF



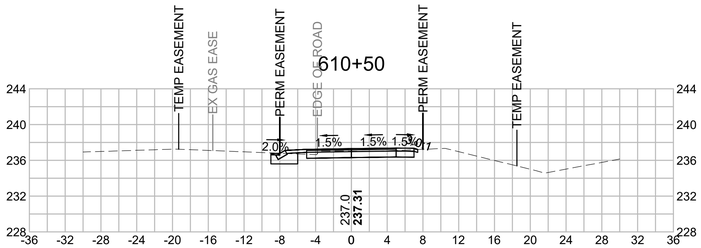
CUT 12.73 SF
FILL 8.38 SF



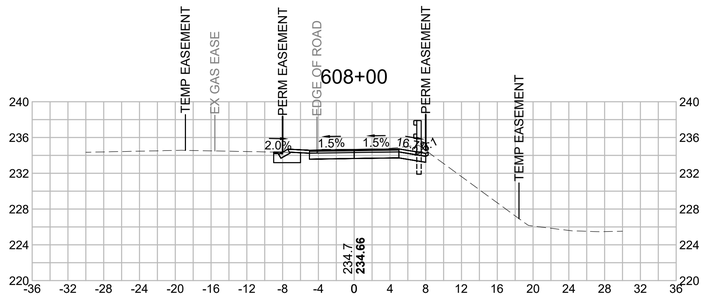
CUT 18.16 SF
FILL 0.09 SF



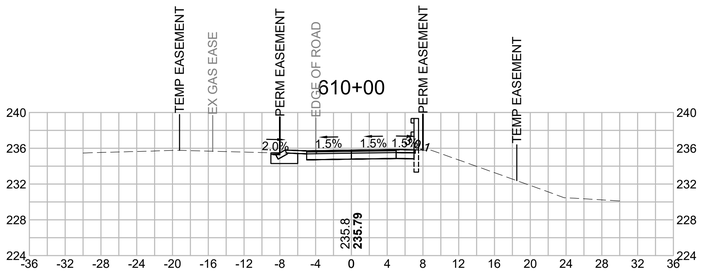
CUT 14.51 SF
FILL 1.99 SF



CUT 11.15 SF
FILL 0.24 SF



CUT 16.98 SF
FILL 0.04 SF



CUT 13.64 SF
FILL 0.07 SF

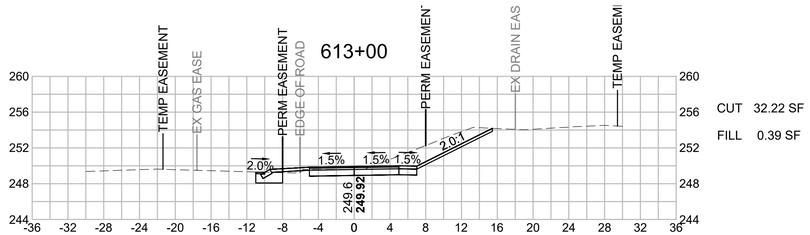
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

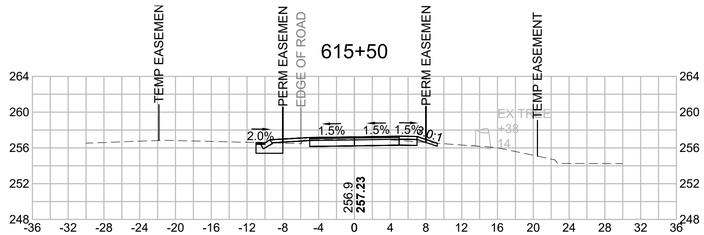
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	198	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

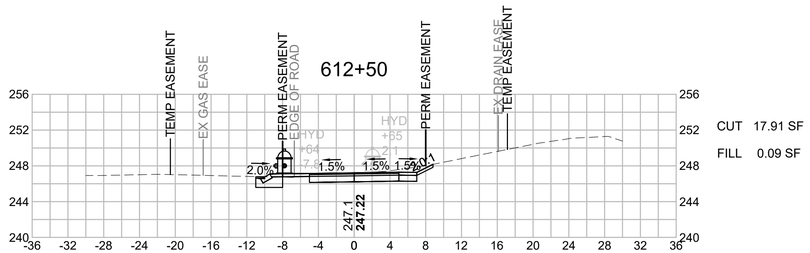
608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:25 PM



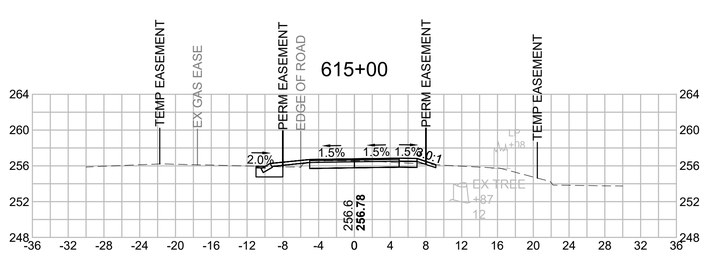
CUT 32.22 SF
FILL 0.39 SF



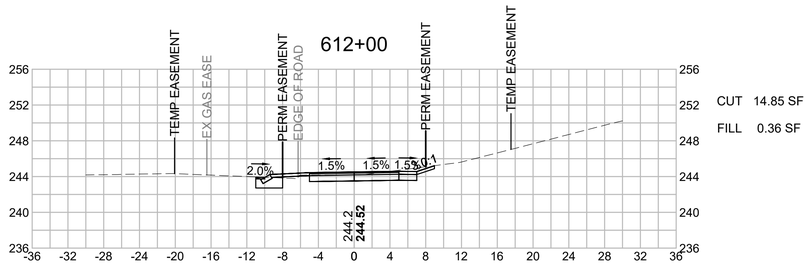
CUT 11.65 SF
FILL 0.57 SF



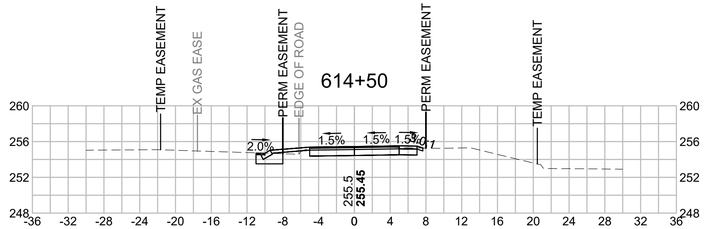
CUT 17.91 SF
FILL 0.09 SF



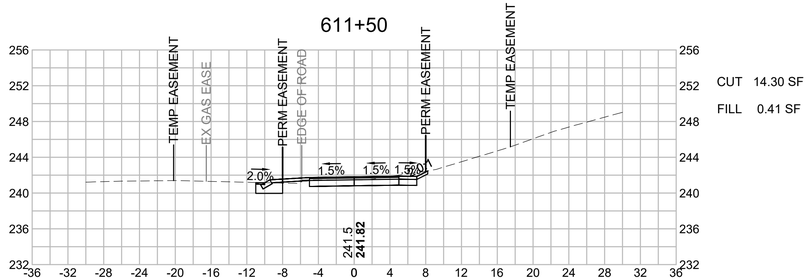
CUT 11.78 SF
FILL 0.82 SF



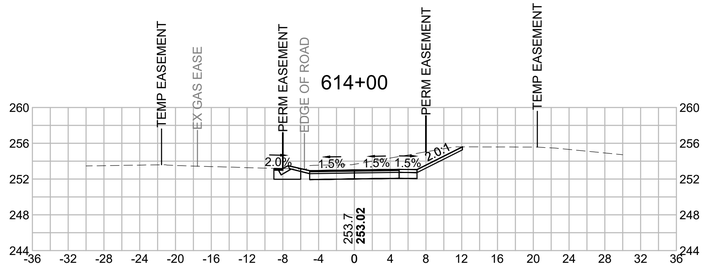
CUT 14.85 SF
FILL 0.36 SF



CUT 14.97 SF
FILL 0.51 SF



CUT 14.30 SF
FILL 0.41 SF



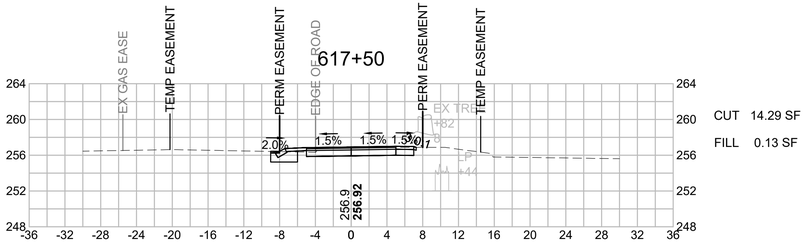
CUT 34.02 SF
FILL 0.00 SF

HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

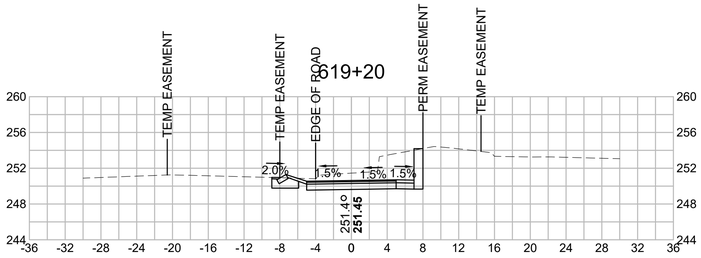
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	199	208
PROJECT FILE NO. 608227			

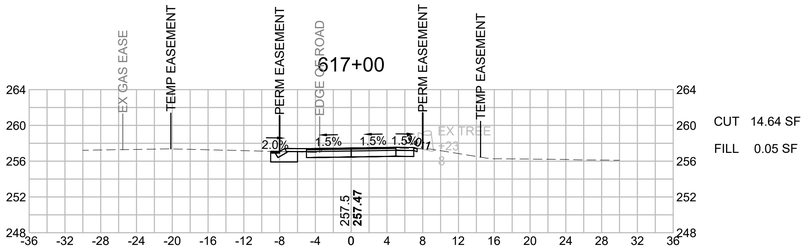
CROSS SECTIONS



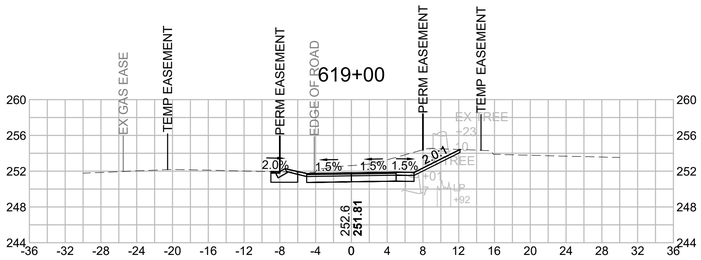
CUT 14.29 SF
FILL 0.13 SF



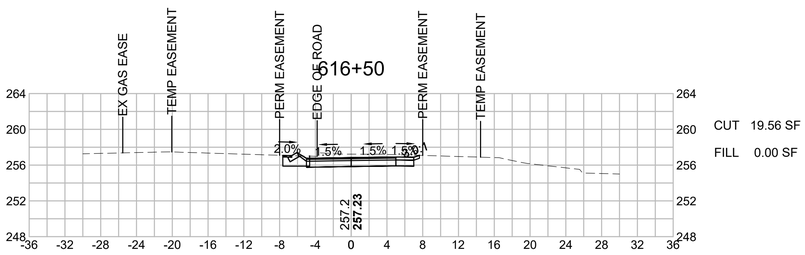
CUT 48.67 SF
FILL 0.00 SF



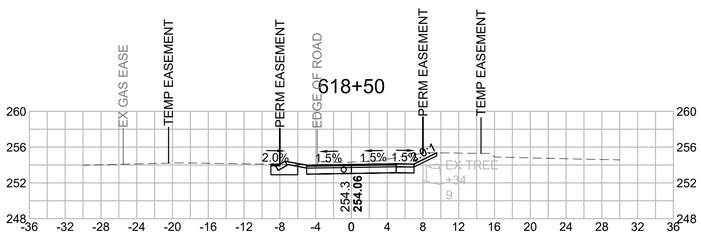
CUT 14.64 SF
FILL 0.05 SF



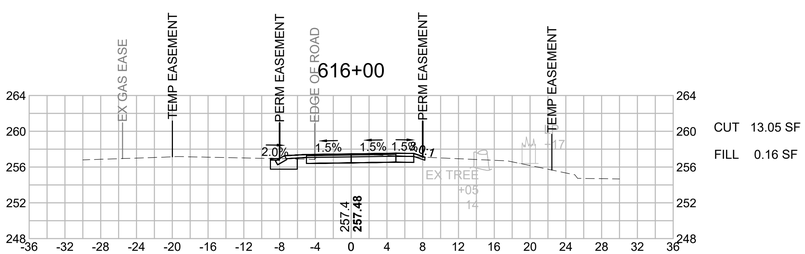
CUT 36.49 SF
FILL 0.00 SF



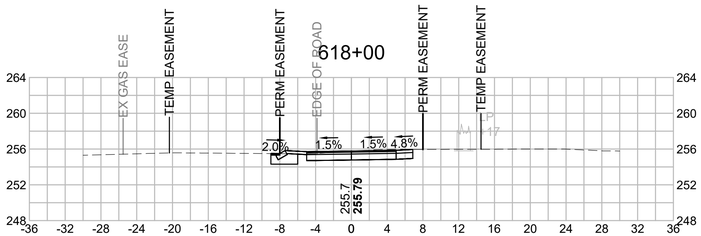
CUT 19.56 SF
FILL 0.00 SF



CUT 22.94 SF
FILL 0.00 SF



CUT 13.05 SF
FILL 0.16 SF



CUT 15.15 SF
FILL 0.00 SF

HOR. SCALE IN FEET
8 0 8 16
VER. SCALE IN FEET
8 0 8 16

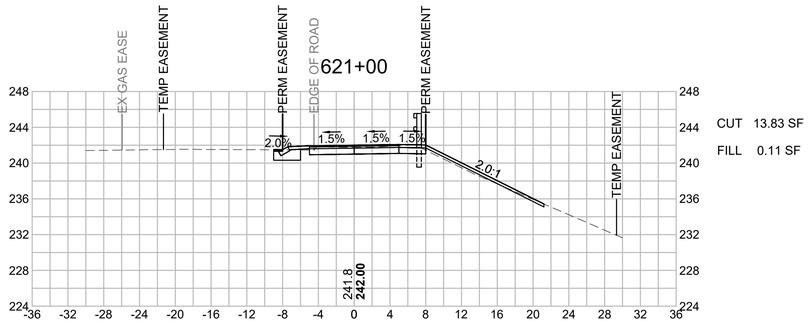
608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:25 PM

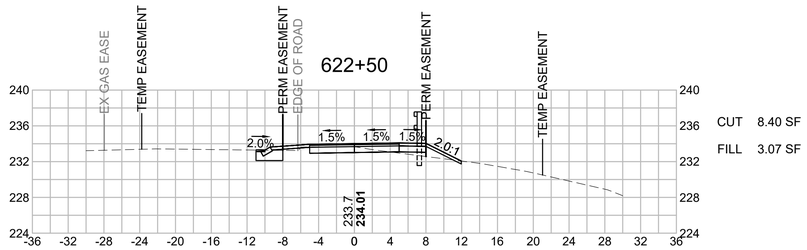
BILLERICA
YANKEE DOODLE BIKE PATH

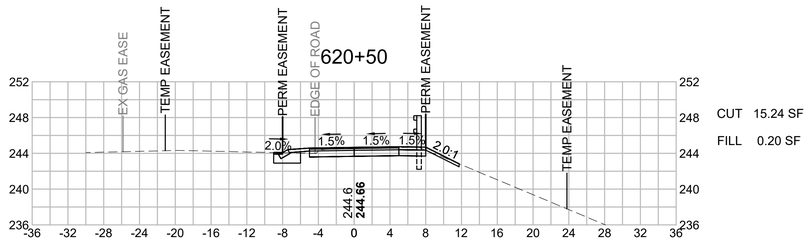
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	200	208
PROJECT FILE NO. 608227			

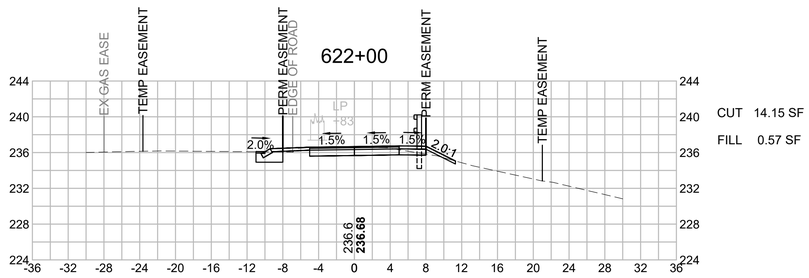
CROSS SECTIONS

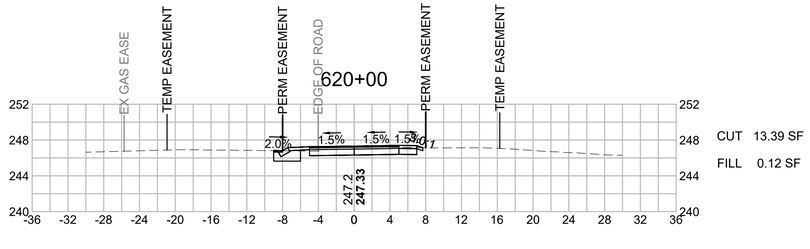
608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:26 PM

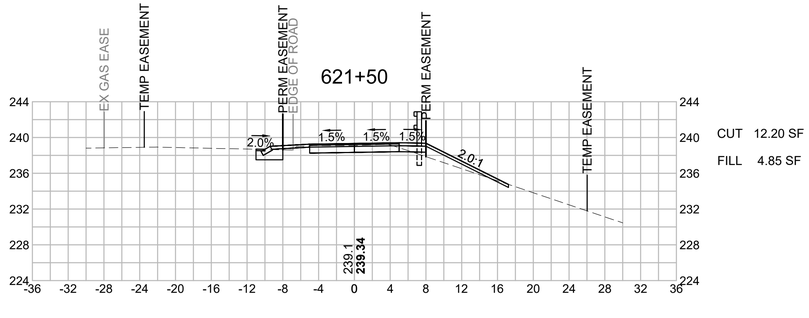












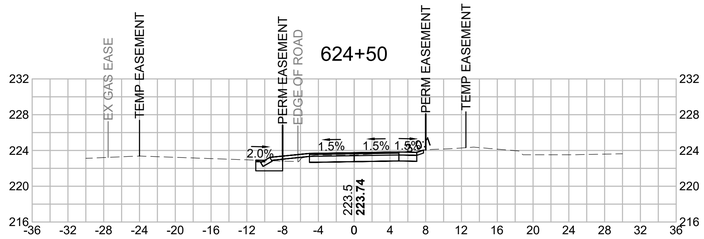
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

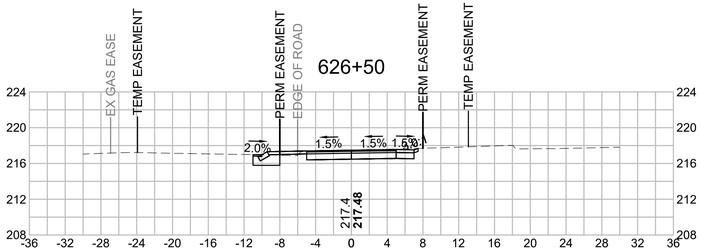
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	201	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

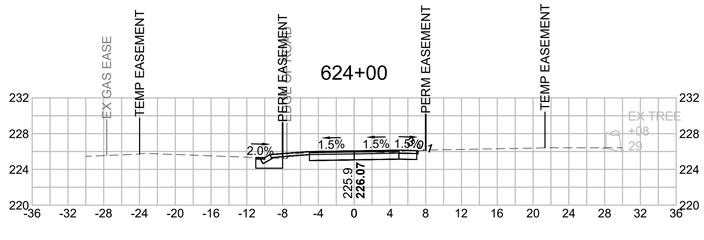
608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:26 PM



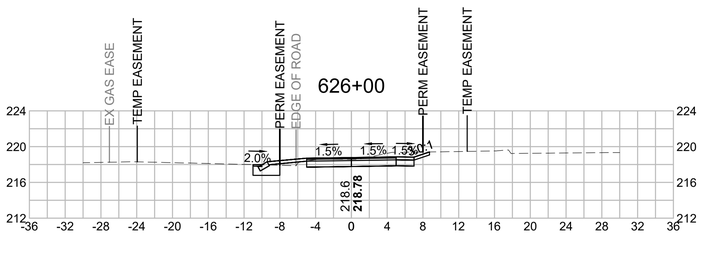
CUT 14.05 SF
FILL 0.73 SF



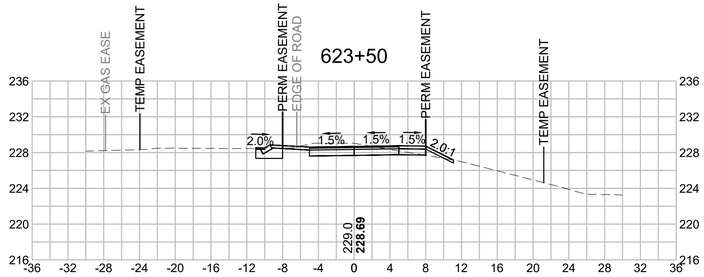
CUT 15.67 SF
FILL 0.24 SF



CUT 14.08 SF
FILL 0.12 SF

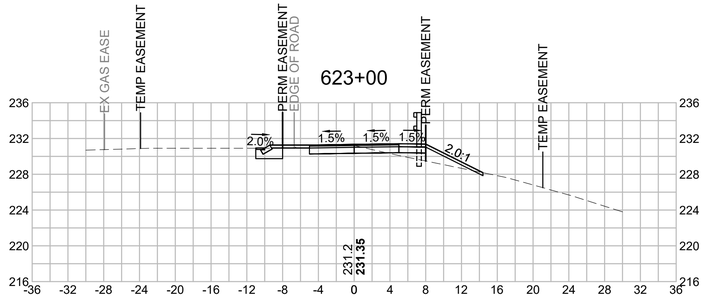


CUT 17.37 SF
FILL 0.57 SF

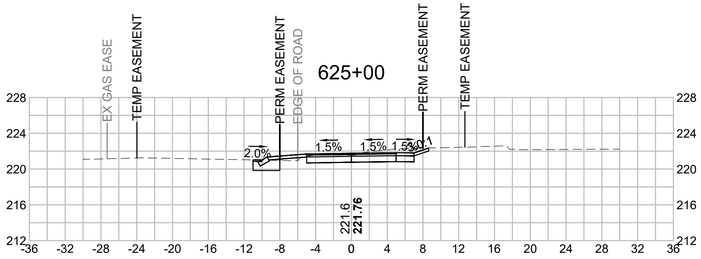


CUT 16.55 SF
FILL 0.72 SF

CUT 21.60 SF
FILL 0.34 SF



CUT 10.37 SF
FILL 6.14 SF



CUT 17.32 SF
FILL 0.52 SF

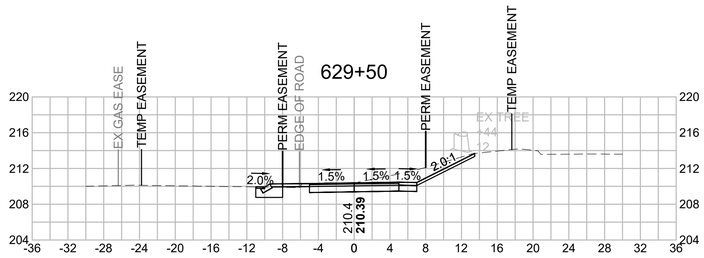
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

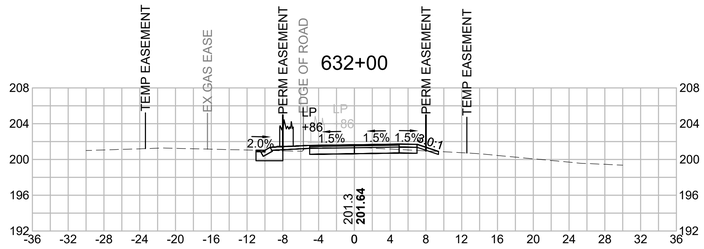
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	202	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

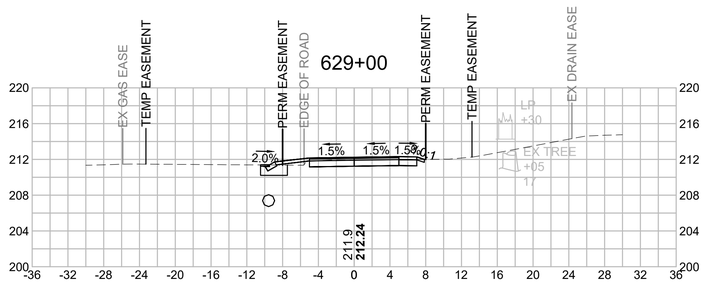
608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:26 PM



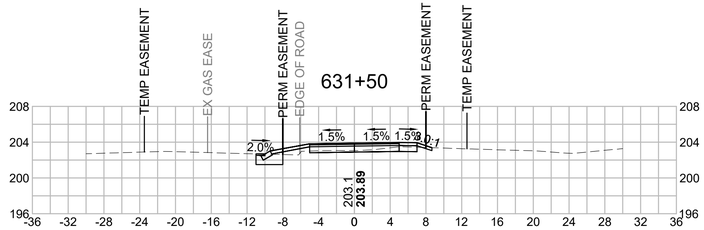
CUT 27.38 SF
FILL 0.14 SF



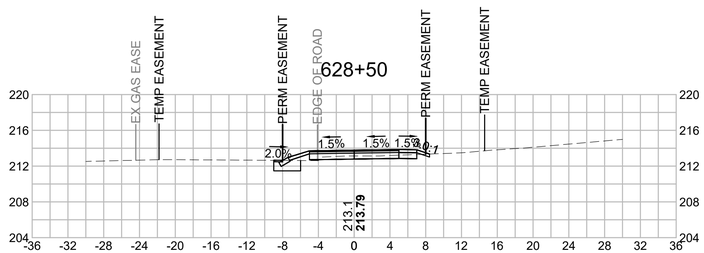
CUT 10.74 SF
FILL 0.67 SF



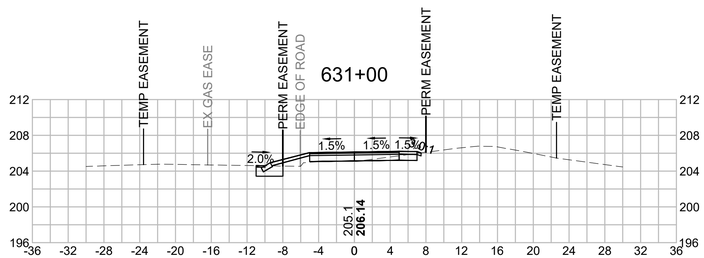
CUT 11.87 SF
FILL 0.59 SF



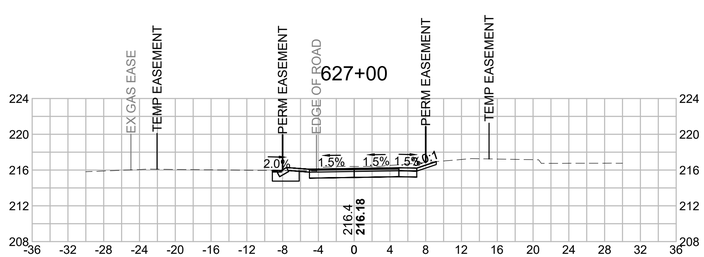
CUT 7.19 SF
FILL 1.42 SF



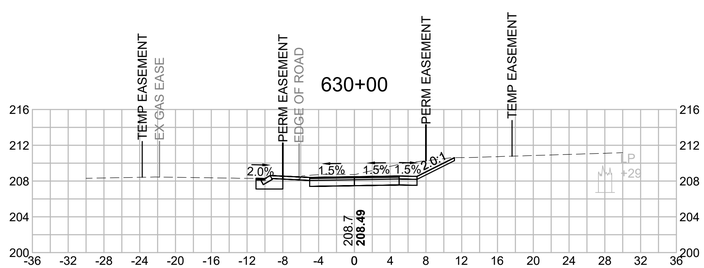
CUT 7.42 SF
FILL 0.74 SF



CUT 5.98 SF
FILL 2.23 SF



CUT 19.71 SF
FILL 0.00 SF



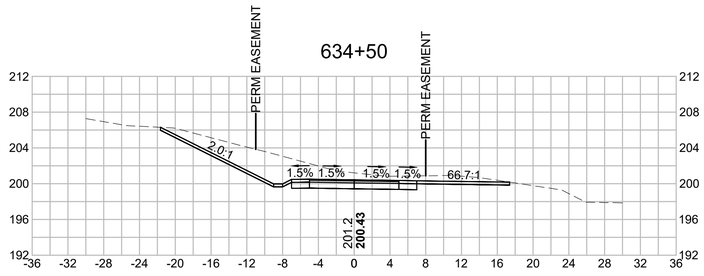
CUT 29.20 SF
FILL 0.00 SF

HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

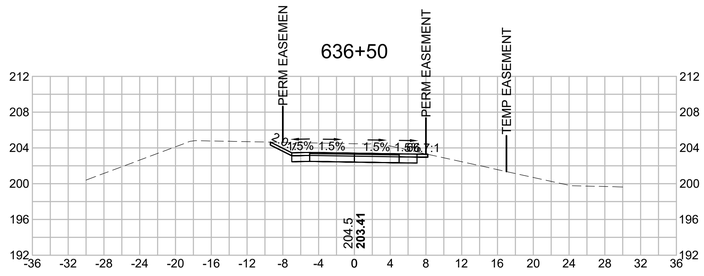
BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	203	208
PROJECT FILE NO. 608227			

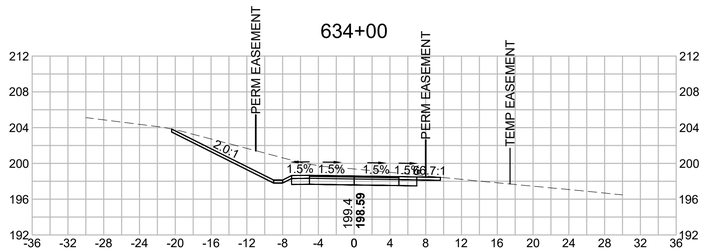
CROSS SECTIONS



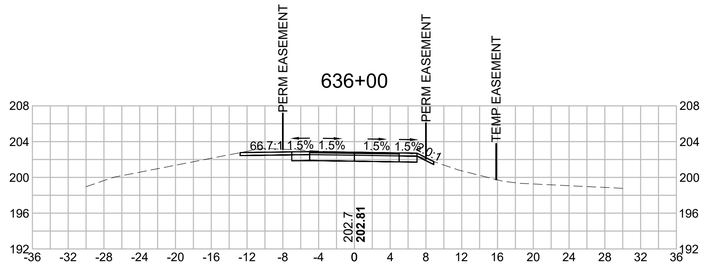
CUT 69.82 SF
FILL 0.00 SF



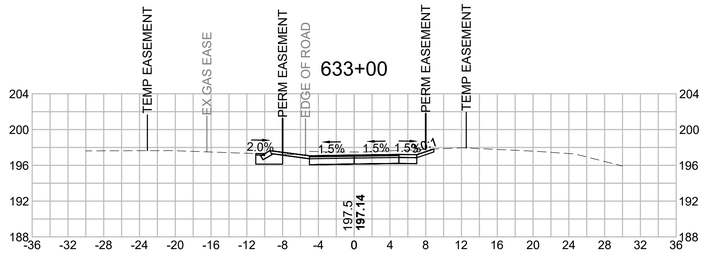
CUT 30.13 SF
FILL 0.00 SF



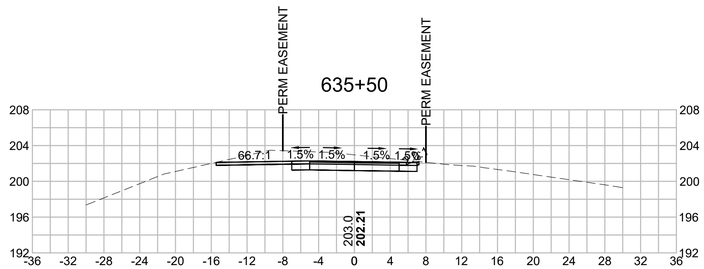
CUT 51.68 SF
FILL 0.00 SF



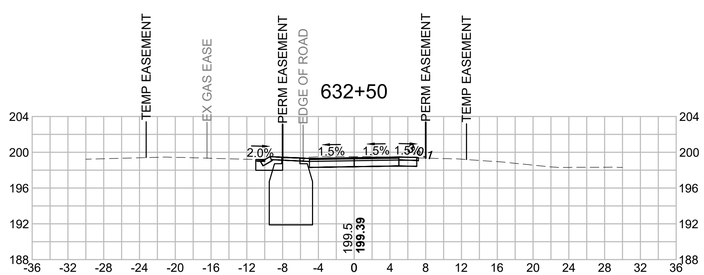
CUT 17.96 SF
FILL 0.00 SF



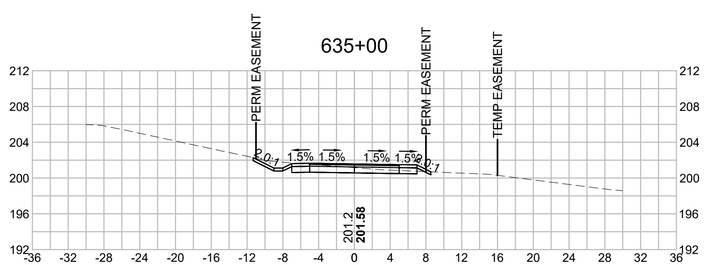
CUT 22.53 SF
FILL 0.00 SF



CUT 33.55 SF
FILL 0.00 SF



CUT 16.90 SF
FILL 0.00 SF



CUT 11.89 SF
FILL 0.15 SF

HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

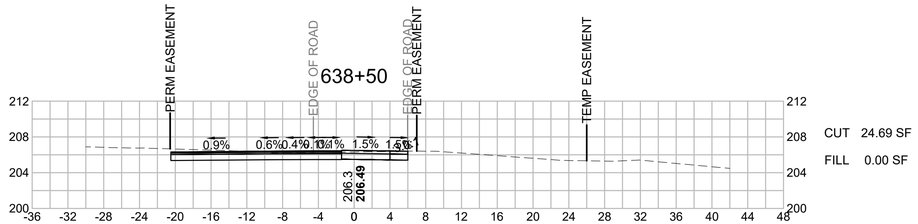
608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:26 PM

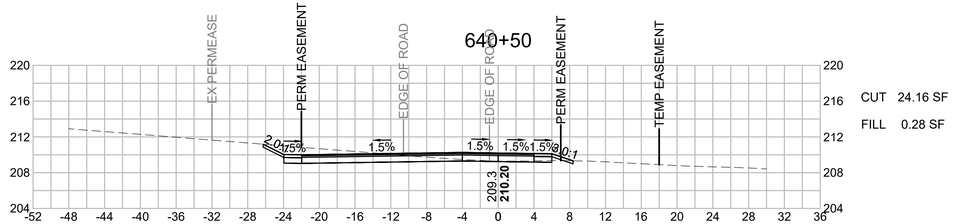
BILLERICA
YANKEE DOODLE BIKE PATH

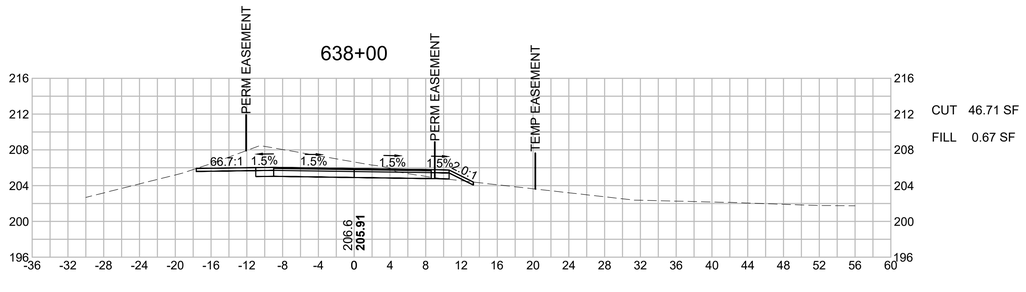
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	204	208
PROJECT FILE NO. 608227			

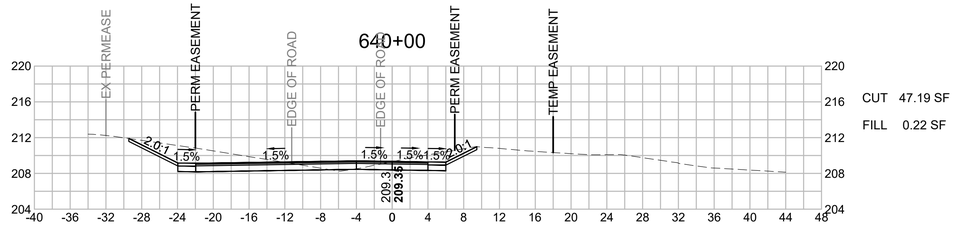
CROSS SECTIONS

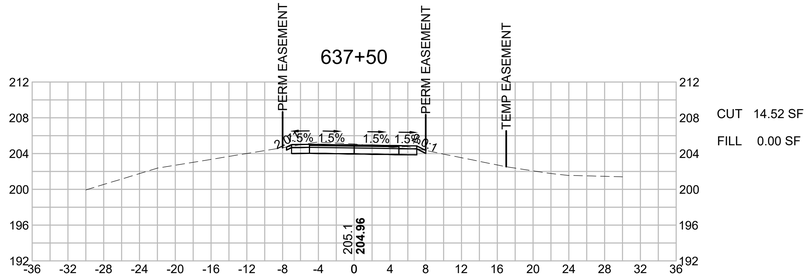
608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:26 PM

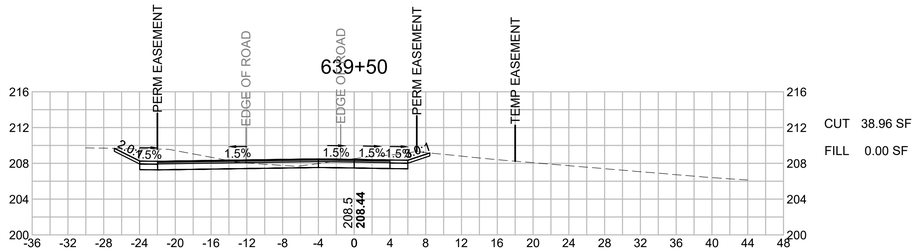


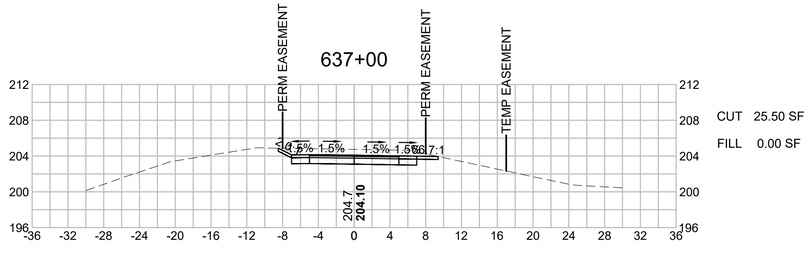


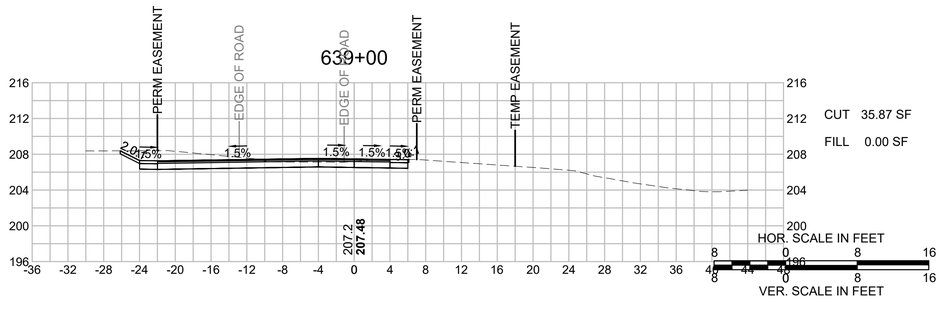










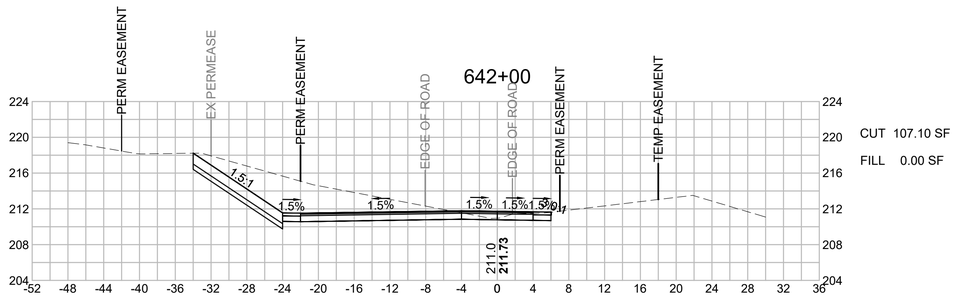


BILLERICA
YANKEE DOODLE BIKE PATH

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	205	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:26 PM

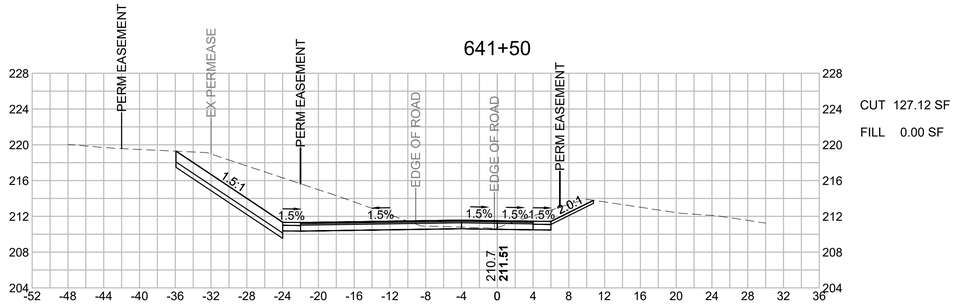


CUT 107.10 SF

FILL 0.00 SF

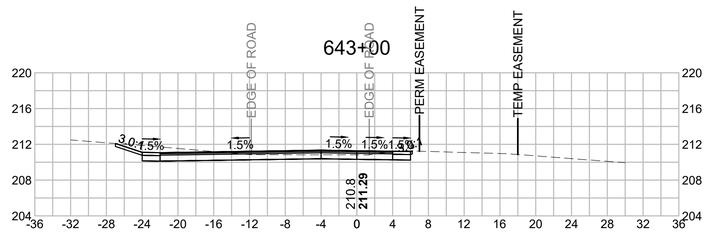
CUT 21.42 SF

FILL 0.35 SF



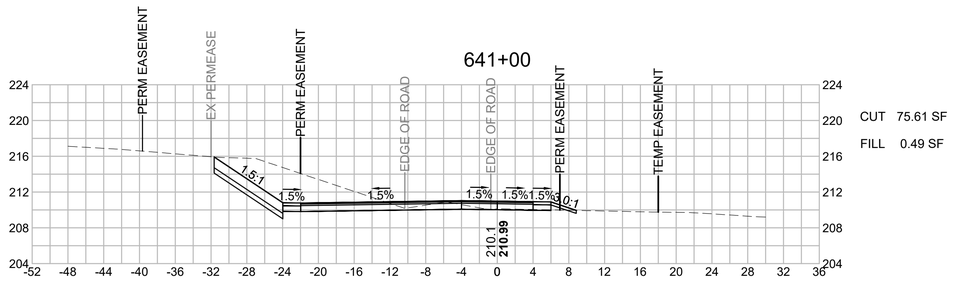
CUT 127.12 SF

FILL 0.00 SF



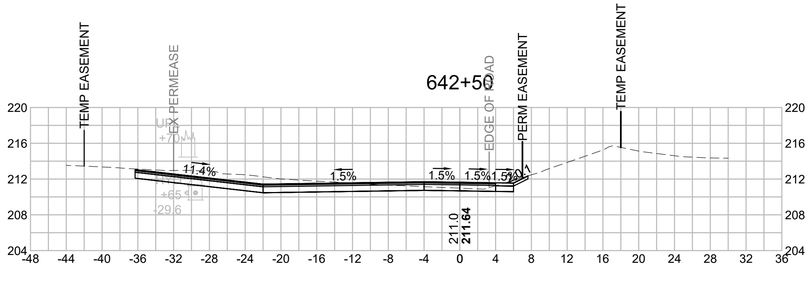
CUT 26.95 SF

FILL 0.00 SF



CUT 75.61 SF

FILL 0.49 SF



CUT 45.28 SF

FILL 0.00 SF

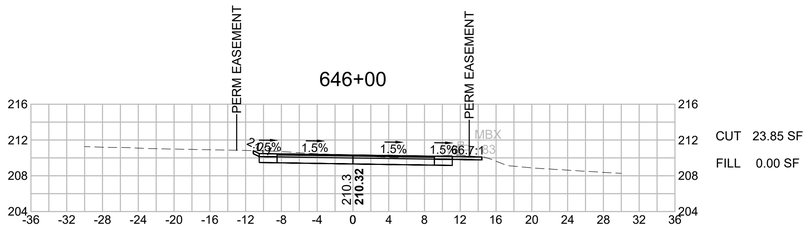
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

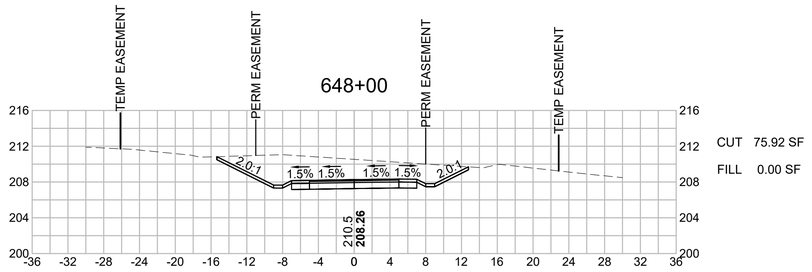
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	206	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

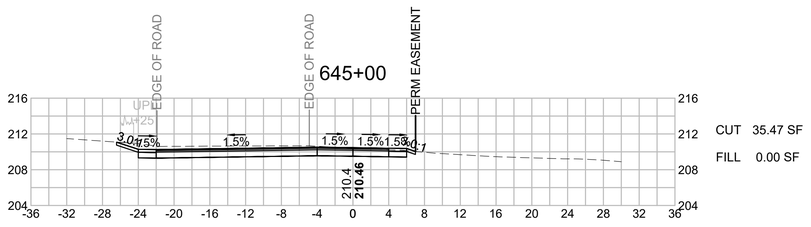
608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:27 PM



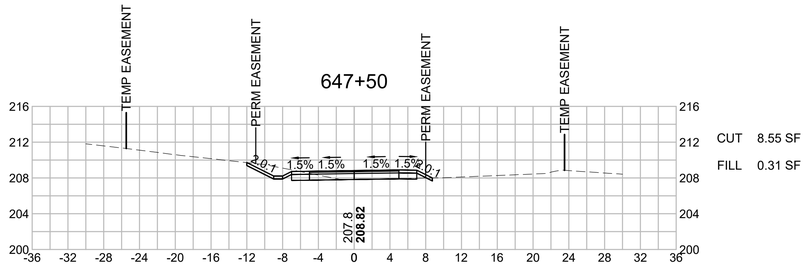
CUT 23.85 SF
FILL 0.00 SF



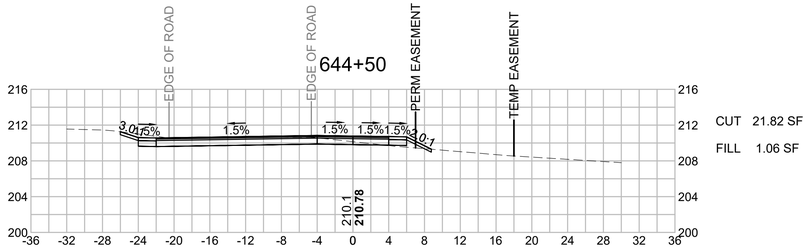
CUT 75.92 SF
FILL 0.00 SF



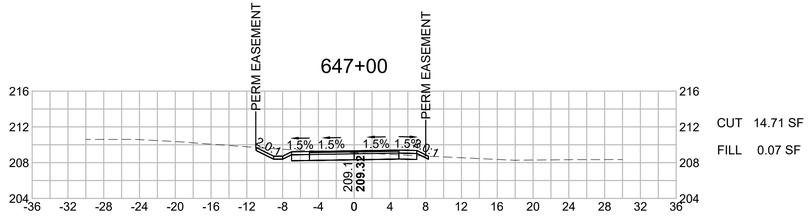
CUT 35.47 SF
FILL 0.00 SF



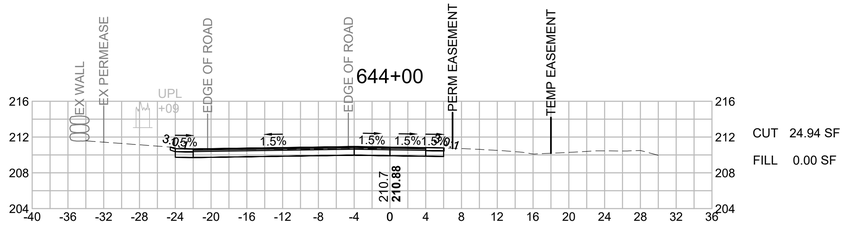
CUT 8.55 SF
FILL 0.31 SF



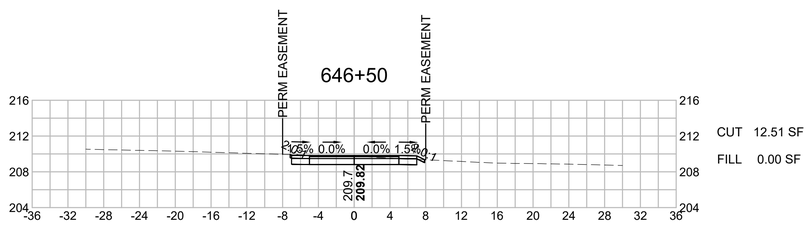
CUT 21.82 SF
FILL 1.06 SF



CUT 14.71 SF
FILL 0.07 SF



CUT 24.94 SF
FILL 0.00 SF



CUT 12.51 SF
FILL 0.00 SF

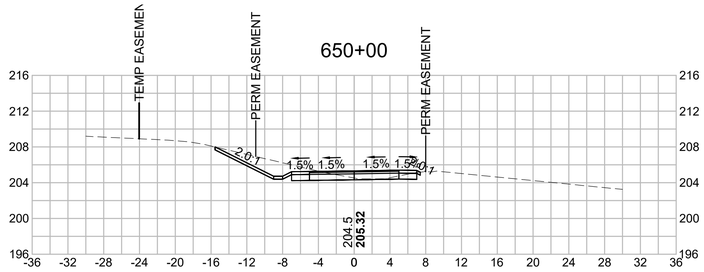
HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET

BILLERICA
YANKEE DOODLE BIKE PATH

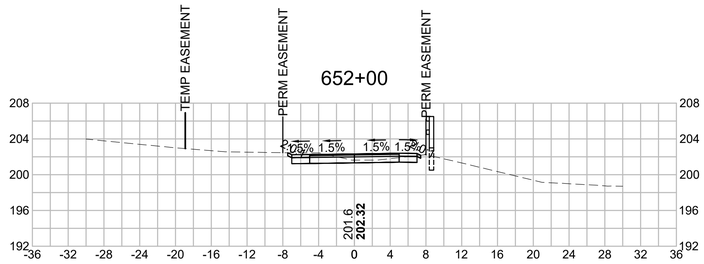
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	207	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

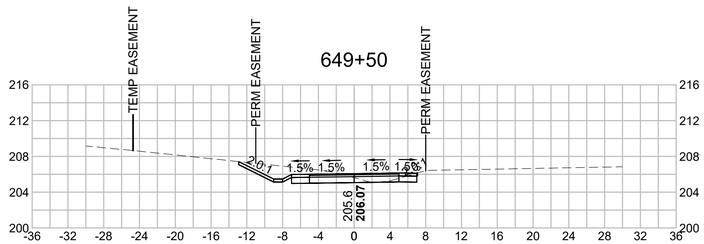
608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:27 PM



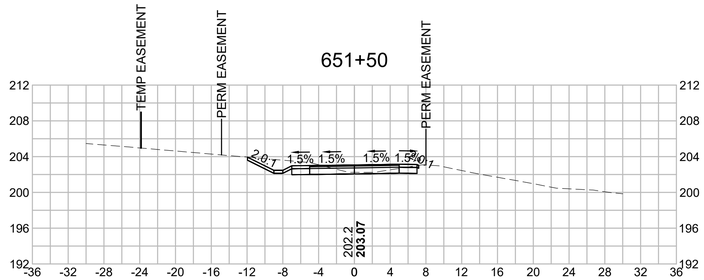
CUT 19.70 SF
FILL 0.00 SF



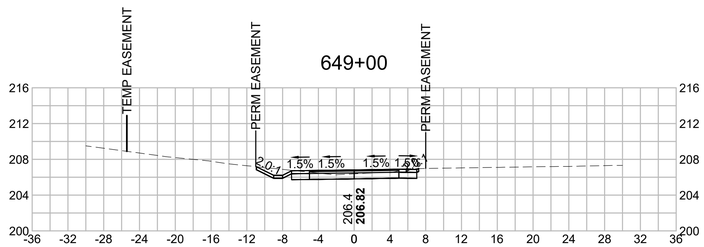
CUT 9.71 SF
FILL 0.00 SF



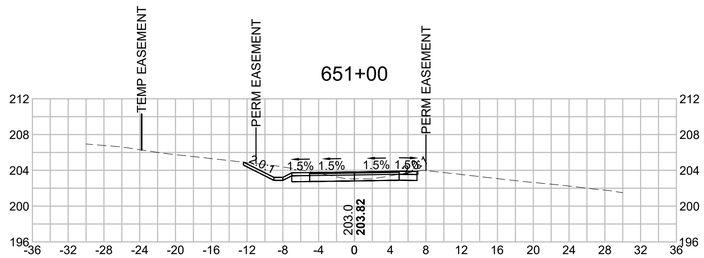
CUT 19.19 SF
FILL 0.00 SF



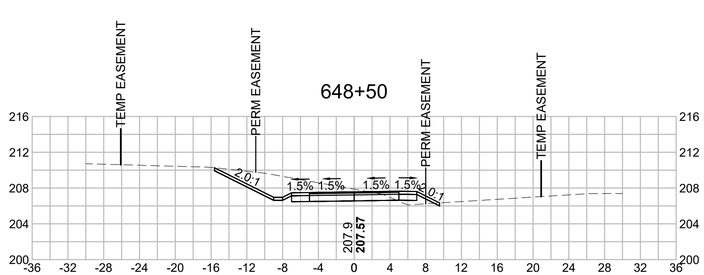
CUT 14.51 SF
FILL 0.00 SF



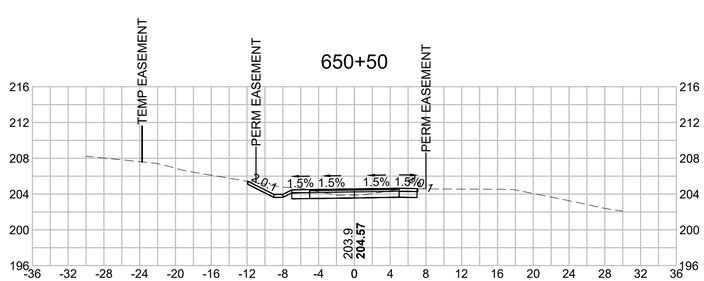
CUT 13.30 SF
FILL 0.00 SF



CUT 15.21 SF
FILL 0.00 SF



CUT 33.57 SF
FILL 1.88 SF



CUT 14.06 SF
FILL 0.00 SF

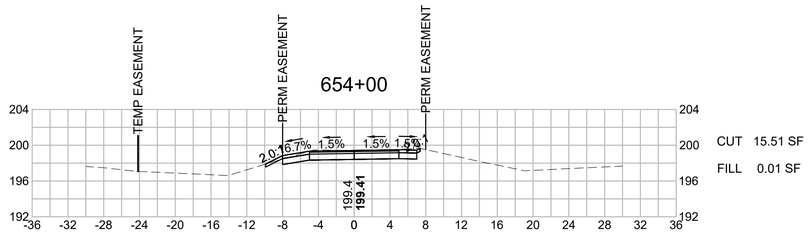
HOR. SCALE IN FEET
8 0 8 16
VER. SCALE IN FEET
8 0 8 16

BILLERICA
YANKEE DOODLE BIKE PATH

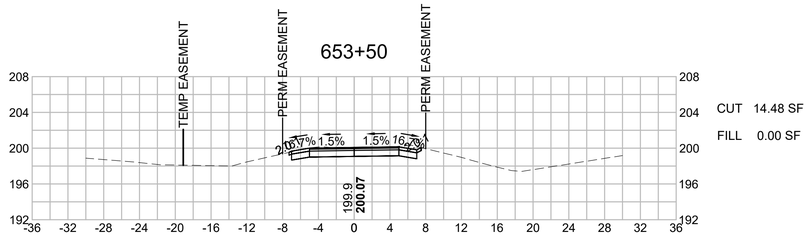
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	208	208
PROJECT FILE NO. 608227			

CROSS SECTIONS

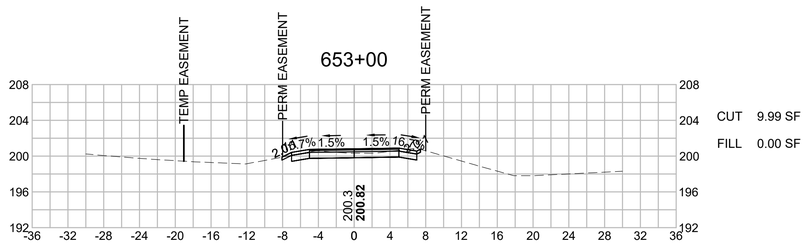
608227HD (XSEC)-4.DWG Plotted on 29-Dec-2023 2:27 PM



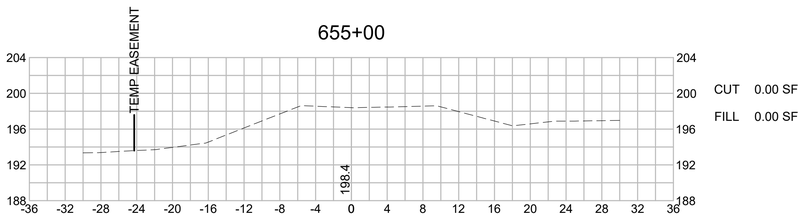
CUT 15.51 SF
FILL 0.01 SF



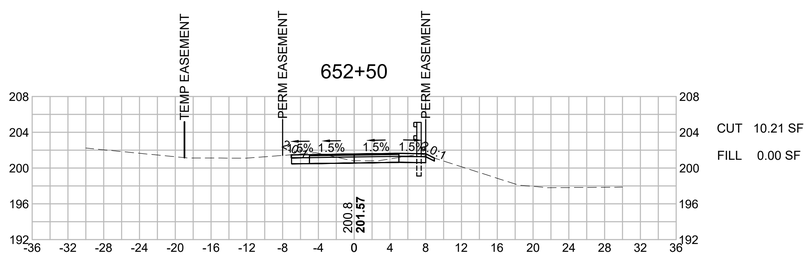
CUT 14.48 SF
FILL 0.00 SF



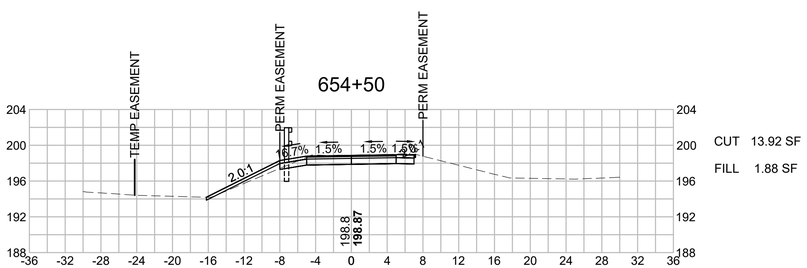
CUT 9.99 SF
FILL 0.00 SF



CUT 0.00 SF
FILL 0.00 SF



CUT 10.21 SF
FILL 0.00 SF



CUT 13.92 SF
FILL 1.88 SF

HOR. SCALE IN FEET
8 0 8 16
8 0 8 16
VER. SCALE IN FEET