

The Bourne Cable, Internet and Telecommunications Advisory Committee (CITAC)

CITAC's broad objective is to advise and assist the Select Board on cable, internet, telecommunications and other communications media that affect the Town of Bourne.

Under MGL c.166A, a Cable Advisory Committee (CAC), appointed by the municipal issuing authority, advises the municipality on the cable franchising process.

Definition of Cable Advisory Committee:

Under Massachusetts regulations, an Issuing Authority (IA), such as the mayor of a city or the board of selectmen of a town, may appoint a Cable Advisory Committee (CAC) to advise the IA throughout the licensing process. In many instances, the CAC remains active throughout the term of the license. Currently, there are over 280 CACs in the Commonwealth. The composition and number of members of the CAC is determined by the IA.

The IA may, at its discretion, define the role and responsibilities of the CAC to the extent permitted under G.L. c. 166A. While an IA may delegate to a CAC the authority to negotiate a license agreement, an IA may not delegate authority to execute such an agreement.

CACs are considered "governmental bodies" within the purview of the Massachusetts Conflict of Interest Law, G.L. c. 268A.

Recognizing that CACs fulfill an important and valuable link between the IA, the licensee, and the residents of the community, the Department of Telecommunications and Cable ("Department") seeks to build positive professional relationships with the CACs. The Department's staff works closely with local committees to educate them on the licensing process and improve information-sharing.

The Department's program includes an informational presentation available to communities. Please contact the Department to schedule a presentation or to discuss any cable licensing matter.

Responsibilities of a Cable Advisory Committees

CAC responsibilities vary according to the status of the license and the objectives of the IA. The following list includes some typical responsibilities assigned to CACs in the Commonwealth:

- Inform and educate the public about cable television service;
 - Assess the cable needs of the community and recommend policy changes;
 - Conduct regular meetings with cable company representatives to discuss matters of mutual interest;
 - Report to the IA on company compliance with the license;
 - Supervise the cable operator's response to complaints;
 - Respond to residents' questions regarding the cable television system; and
 - Keep abreast of community programming issues.
 - <https://www.townofbourne.com/home/files/cable-advisory-committee-information>
-

The Bourne CITAC will:

It is our understanding that the SB does not have jurisdiction over BourneTV, so this section is subject to change or removal in this redraft.

I. Advise the Select Board concerning Public and Educational Access Cable Channels

a. Coordinate with the town's representation on any organization that provides Public Access under a contract with a cable provider.

b. Review reports from Public and Educational Access providers and report findings to the Select Board. Design and implement effective policies and oversight structures for the Government Access channel subject to the Board of Select Board's approval.

c. Review/Design/Implement effective policies and oversight structures for governmental access channel subject to the Select Board's approval.

II. Advise the Select Board re: interactions with internet service providers for all constituencies including residential services; business services; and all Town municipal system IT departments, e.g., schools, libraries, and other departments.

a. Hold public hearings, survey subscribers, and ascertain existing provider(s) compliance with any agreement.

b. Represent the town in any consortium (e.g., intermunicipal agreement, public-private partnership) to discuss a joint agreement with an existing or new provider for internet or related implementation services.

c. Make recommendations to the Select Board with regard to renewing an existing agreement or entering into any new agreement.

d. Represent the Town in negotiations in collaboration with the Select Board.

III. Oversee efforts to extend high-speed internet to all residents and businesses in town, e.g., fiber service directly to the home (FTTH – Fiber to the Home is a type of broadband internet connection technology that uses fibre-optic cables to transmit data at very high speeds) or other technology. The Committee will:

a. Maintain accurate records of poorly-served areas in Bourne, i.e., due to unreliable, slow, or unaffordable internet, especially where lack of service is detrimental to education, public safety, and access to Town services.

b. Gather information about historical and current internet provider infrastructure and performance quality.

c. Generate new performance tests if existing data are insufficient or providers fail to provide when requested as needed.

d. Monitor literature for new technologies in internet services.

e. Investigate opportunities for fiber-to-home and fiber-to-business utility

opportunities throughout the community, including strategies, cost analysis, and project planning

f. Represent the Town in discussions with any consortium that is constituted for the purpose of owning, operating or executing an agreement with provider(s)

g. Arrange to complete a detailed engineering design and cost estimate study of cost to construct FTTH infrastructure

IV. In coordination with the Select Board, the Committee will represent the Town in identifying and applying for potential grants to carry out any of the provisions of this Charge.

V. Provide liaison between the Town and providers as necessary to carry out the several provisions of this Charge.

VI. The Committee should include several persons with expertise and experience in telecommunications, interested citizens, and others who are free of conflict of interest issues, solicited via a published talent search. The Committee will elect the Chair. The Committee will conduct meetings and communications in adherence to the MA Open Meeting Laws.

VII. Report to the Select Board/TA quarterly on activities and the above as indicated, or as requested. Reports may be submitted more frequently if necessary, e.g., for grant requirements, grant deadlines, construction or other implementation timelines.

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	01	42
PROJECT FILE NO.		610542	

TITLE SHEET & INDEX

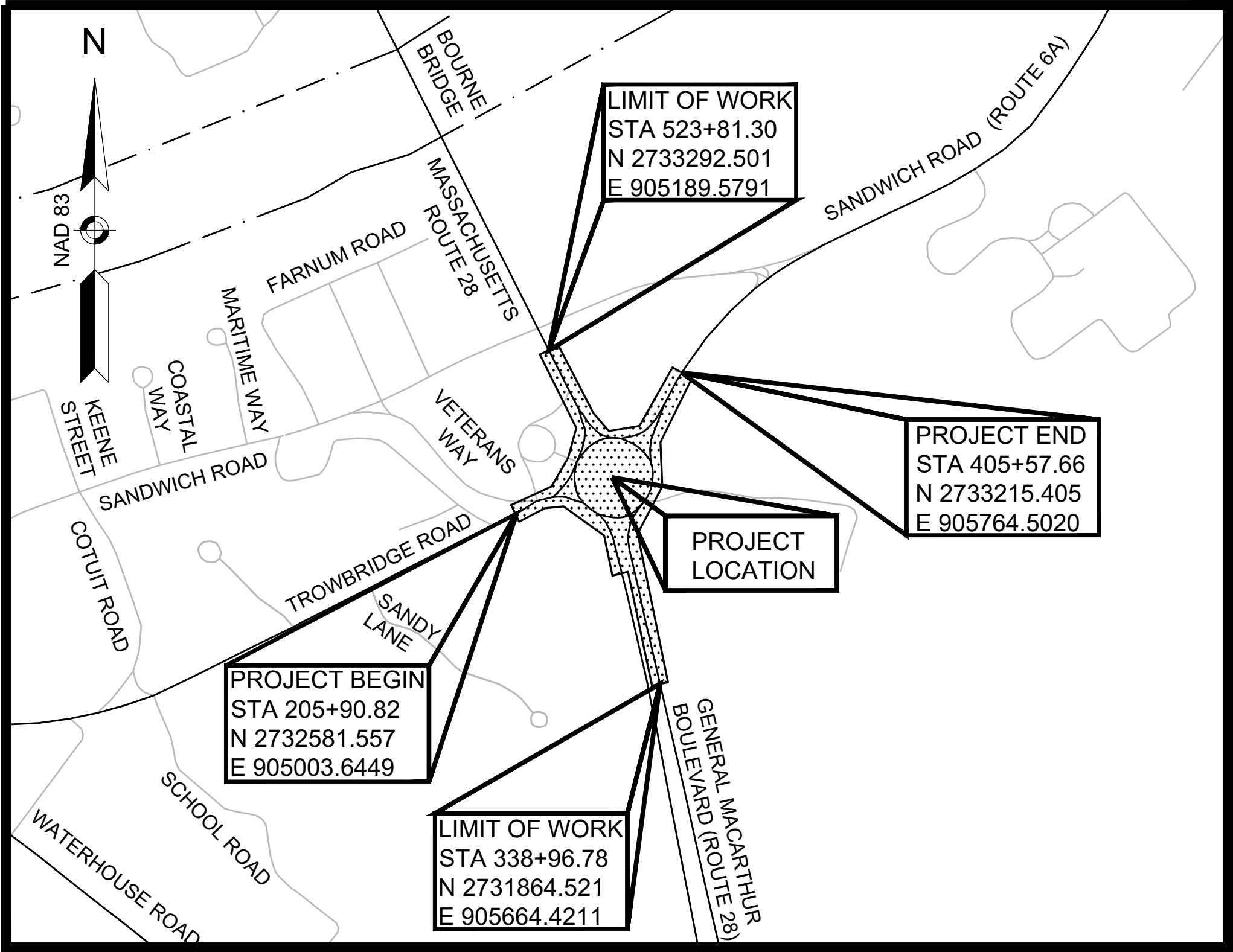
PLAN AND PROFILE OF
ROUTE 28 - BOURNE ROTARY
IN THE BOURNE OF
BOURNE
BARNSTABLE COUNTY

FEDERAL AID PROJECT NO. -

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.

INDEX	
SHEET NO.	DESCRIPTION
01	TITLE SHEET & INDEX
02	LEGEND AND ABBREVIATIONS
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PS&E SUBMITTAL



DESIGN DESIGNATION (ROUTE 6A/SANDWICH ROAD)

DESIGN SPEED	25 MPH
ADT (2019)	24,991
ADT (2029)	26,770
K	9%
D	61%
T (PEAK HOUR)	5.7%
DHV	2,249
DDHV	1,372
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DESIGN DESIGNATION (TROWBRIDGE ROAD)

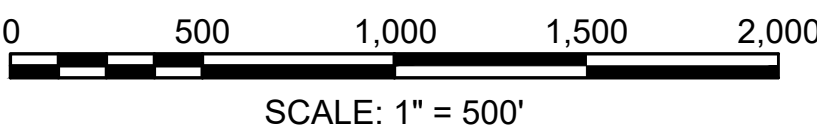
DESIGN SPEED	35 MPH
ADT (2019)	5,711
ADT (2029)	6,118
K	9%
D	52%
T (PEAK HOUR)	8.2%
DHV	514
DDHV	267
FUNCTIONAL CLASSIFICATION	URBAN MINOR ARTERIAL

DESIGN DESIGNATION (ROUTE 28 NORTH/BOURNE BRIDGE)

DESIGN SPEED	40 MPH
ADT (2019)	44,240
ADT (2029)	47,839
K	10%
D	64%
T (PEAK HOUR)	8.1%
DHV	4,424
DDHV	2,831
FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL

DESIGN DESIGNATION (ROUTE 28 SOUTH/GENERAL
MACARTHUR BOULEVARD)

DESIGN SPEED	55 MPH
ADT (2019)	42,695
ADT (2029)	45,734
K	8%
D	55%
T (PEAK HOUR)	6.1%
DHV	3,415
DDHV	1,878
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL
















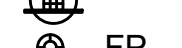



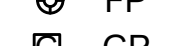







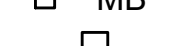















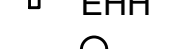















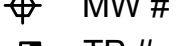



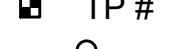



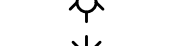

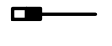













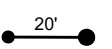

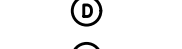









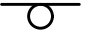



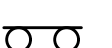



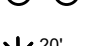



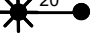



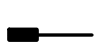






























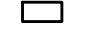



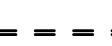





































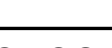




















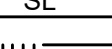


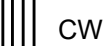


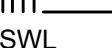


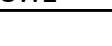
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APPROVED

CHIEF ENGINEER

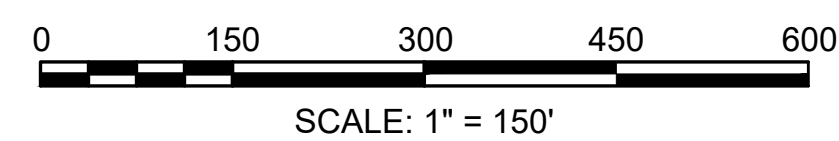
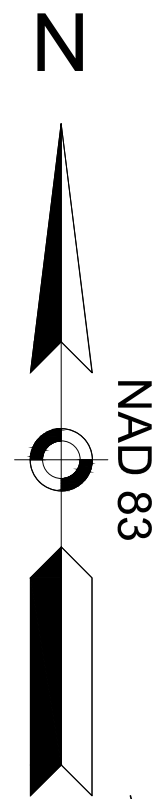
DATE

GENERAL SYMBOLS			TRAFFIC SYMBOLS			ABBREVIATIONS		
EXISTING	PROPOSED	DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION	GENERAL	ROUTE 28 - BOURNE ROTARY ROTARY IMPROVEMENTS	
		JERSEY BARRIER			CONTROLLER PHASE ACTUATED	AADT	ANNUAL AVERAGE DAILY TRAFFIC	
		CATCH BASIN			TRAFFIC SIGNAL HEAD (SIZE AS NOTED)	ABAN	ABANDON	
		CATCH BASIN CURB INLET			WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)	ADJ	ADJUST	
		FLAG POLE			VIDEO DETECTION CAMERA	APPROX.	APPROXIMATE	
		GAS PUMP			MICROWAVE DETECTOR	A.C.	ASPHALT CONCRETE	
		MAIL BOX			PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE	ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE	
		POST SQUARE			EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT	BIT.	BITUMINOUS	
		POST CIRCULAR			VEHICULAR SIGNAL HEAD	BC	BOTTOM OF CURB	
		WELL			FLASHING BEACON	BD.	BOUND	
		ELECTRIC HANDHOLE			PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)	BL	BASELINE	
		FENCE GATE POST			SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)	BLDG	BUILDING	
		GAS GATE			MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)	BM	BENCHMARK	
		BORING HOLE			HIGH MAST POLE OR TOWER	BO	BY OTHERS	
		MONITORING WELL			SIGN AND POST	BOS	BOTTOM OF SLOPE	
		TEST PIT			SIGN AND POST (2 POSTS)	BR.	BRIDGE	
		HYDRANT			MAST ARM WITH LUMINAIRE	CB	CATCH BASIN	
		LIGHT POLE			OPTICAL PRE-EMPTION DETECTOR	CBCI	CATCH BASIN WITH CURB INLET	
		COUNTY BOUND			CONTROL CABINET, GROUND MOUNTED	CC	CEMENT CONCRETE	
		GPS POINT			CONTROL CABINET, POLE MOUNTED	CCM	CEMENT CONCRETE MASONRY	
		CABLE MANHOLE			FLASHING BEACON CONTROL AND METER PEDESTAL	CCTV	CLOSED-CIRCUIT TELEVISION	
		DRAINAGE MANHOLE			LOAD CENTER ASSEMBLY	CEM	CEMENT	
		ELECTRIC MANHOLE			PULL BOX 12"x12" (OR AS NOTED)	CI	CURB INLET	
		GAS MANHOLE			ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)	CIP	CAST IRON PIPE	
		MISC MANHOLE				CIT	CHANGE IN TYPE	
		SEWER MANHOLE				CLF	CHAIN LINK FENCE	
		TELEPHONE MANHOLE				CL	CENTERLINE	
		WATER MANHOLE				CMP	CORRUGATED METAL PIPE	
		MASSACHUSETTS HIGHWAY BOUND				CSP	CORRUGATED STEEL PIPE	
		MONUMENT				CO.	COUNTY	
		STONE BOUND				CONC	CONCRETE	
		TOWN OR CITY BOUND				CONT	CONTINUOUS	
		TRAVERSE OR TRIANGULATION STATION				CONST	CONSTRUCTION	
		TROLLEY POLE OR GUY POLE				CR GR	CROWN GRADE	
		TRANSMISSION POLE				DHV	DESIGN HOURLY VOLUME	
		UTILITY POLE W/ FIREBOX				DI	DROP INLET	
		UTILITY POLE WITH DOUBLE LIGHT				DIA	DIAMETER	
		UTILITY POLE W / 1 LIGHT				DIP	DUCTILE IRON PIPE	
		UTILITY POLE				DW	STEADY DON'T WALK - PORTLAND ORANGE	
		BUSH				DWY	DRIVEWAY	
		TREE				ELEV (or EL.)	ELEVATION	
		STUMP				EMB	EMBANKMENT	
		SWAMP / MARSH				EOP	EDGE OF PAVEMENT	
		WATER GATE				EXIST (or EX)	EXISTING	
		PARKING METER				EXC	EXCAVATION	
		OVERHEAD CABLE/WIRE				F&C	FRAME AND COVER	
		CURBING				F&G	FRAME AND GRATE	
		CONTOURS (ON-THE-GROUND SURVEY DATA)				FDN.	FOUNDATION	
		CONTOURS (PHOTOGRAMMETRIC DATA)				FLDSTN	FIELDSTONE	
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)				GAR	GARAGE	
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)				GD	GROUND	
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)				GG	GAS GATE	
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)				GI	GUTTER INLET	
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)				GIP	GALVANIZED IRON PIPE	
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)				GRAN	GRANITE	
		BALANCED STONE WALL				GRAV	GRAVEL	
		GUARD RAIL - STEEL POSTS				GRD	GUARD	
		GUARD RAIL - WOOD POSTS				HDW	HEADWALL	
		GUARD RAIL - DOUBLE FACE - STEEL POSTS				HMA	HOT MIX ASPHALT	
		GUARD RAIL - DOUBLE FACE - WOOD POSTS				HOR	HORIZONTAL	
		CHAIN LINK OR METAL FENCE		 </				




ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS

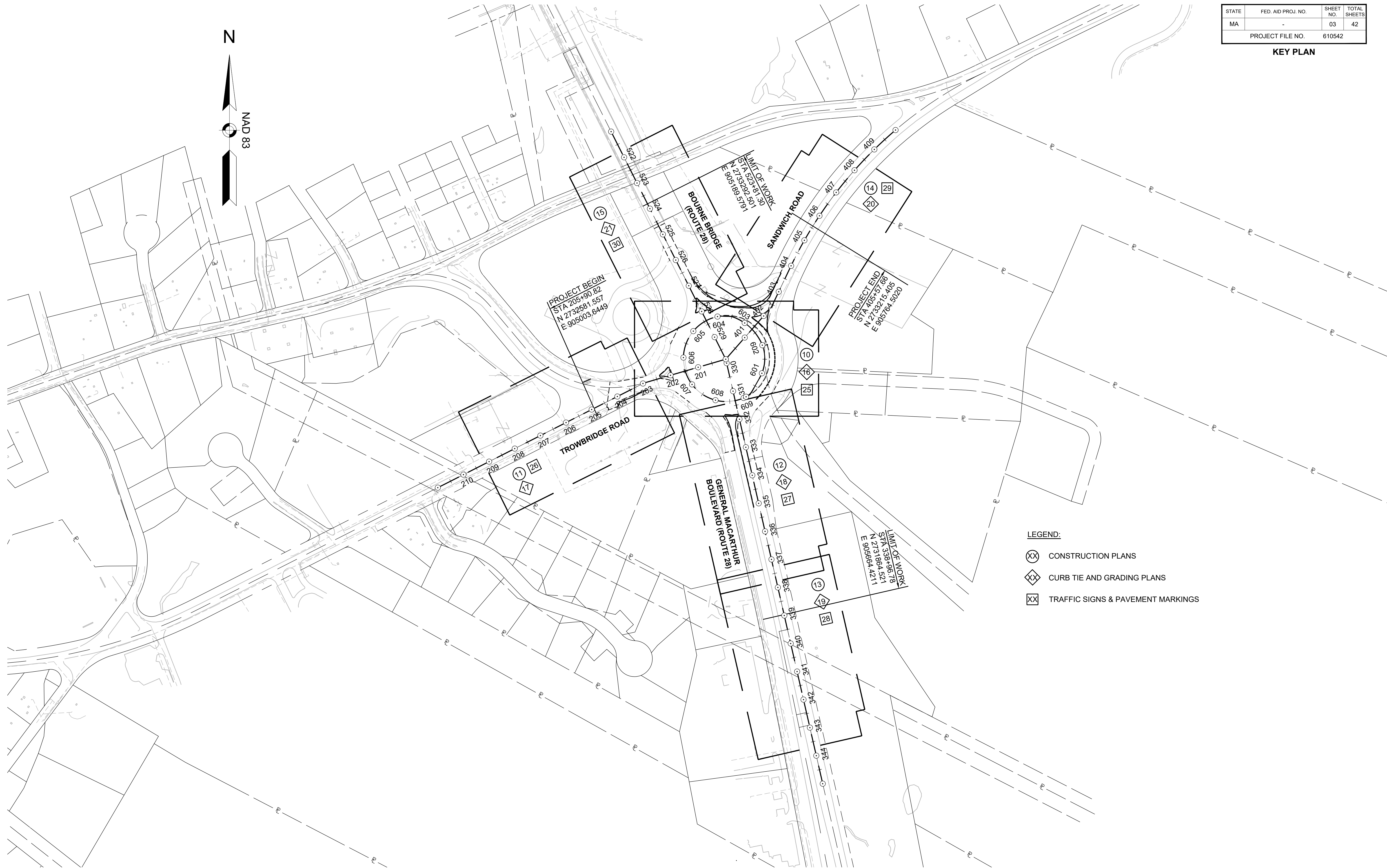
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	03	42
PROJECT FILE NO.		610542	

KEY PLAN



LEGEND:

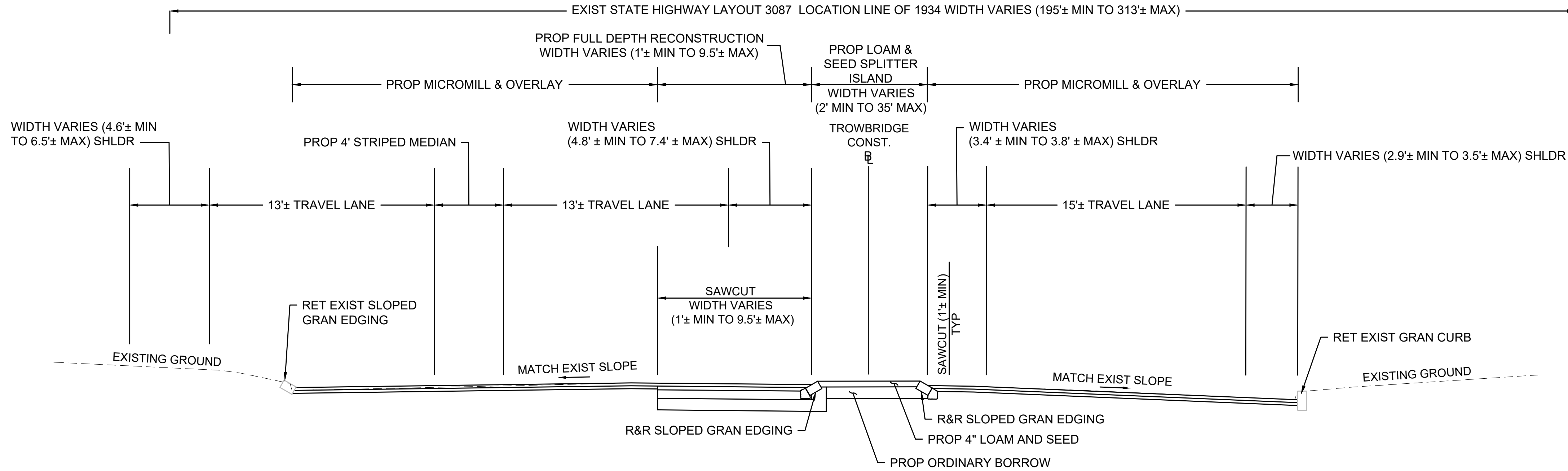
-  CONSTRUCTION PLANS
-  CURB TIE AND GRADING PLANS
-  TRAFFIC SIGNS & PAVEMENT MARKINGS



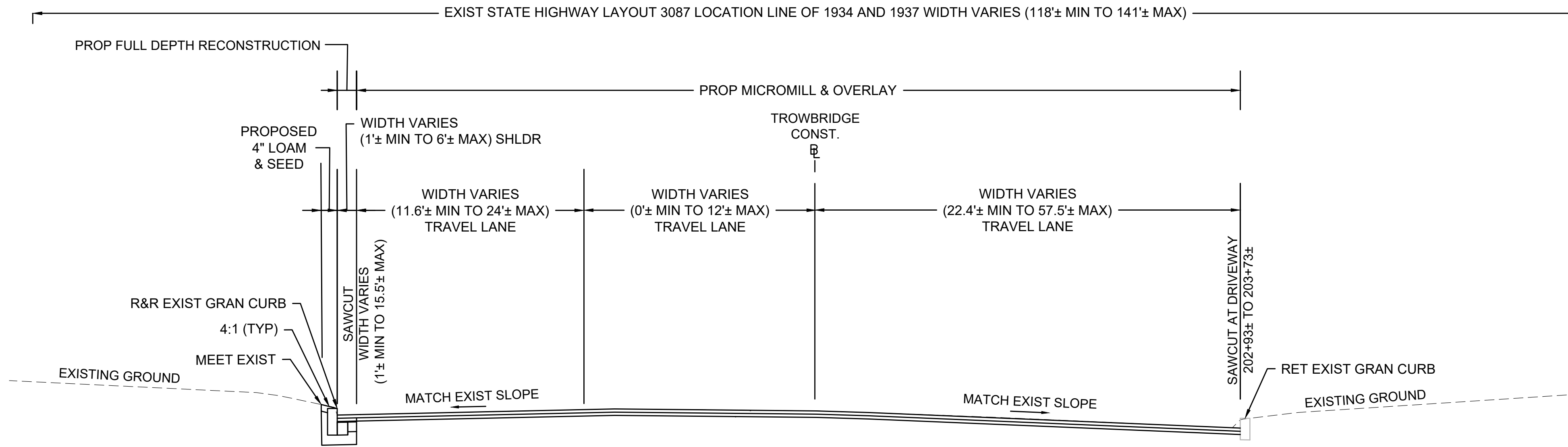
ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	04	42
PROJECT FILE NO.		610542	

TYPICAL SECTIONS



TYPICAL SECTION
TROWBRIDGE RD - SPLITTER ISLAND
STA 201+98 ± TO STA 202+37 ±
NTS



TYPICAL SECTION
TROWBRIDGE RD
STA 202+93 ± TO STA 204+11 ±
NTS

PAVEMENT NOTES:

PROPOSED PAVEMENT MILLING & OVERLAY
SURFACE: 2" SUPERPAVE SURFACE COURSE - 12.5 - POLYMER (SSC - 12.5 - P) OVER
MILLING: 2" PAVEMENT FINE MILLING

PROPOSED FULL DEPTH PAVEMENT & BOX WIDENING >4 FT WIDE
SURFACE: 2" SUPERPAVE SURFACE COURSE - 12.5 - POLYMER (SSC - 12.5 - P) OVER
INTERMEDIATE: 2.5" SUPERPAVE INTERMEDIATE COURSE - 19.0 - (SIC - 19.0) OVER

BASE: 4" SUPERPAVE BASE COURSE - 37.5 (SBC - 37.5) OVER

SUBBASE: 4" DENSE GRADED CRUSHED STONE OVER
8" GRAVEL BORROW

PROPOSED BOX WIDENING < 4 FT WIDE
SURFACE: 2" SUPERPAVE SURFACE COURSE 12.5 - POLYMER (SSC - 12.5 - P) OVER
INTERMEDIATE: 2.5" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC - 19.0) OVER

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

SUBBASE: 8" SUITABLE EXISTING GRAVEL OR GRAVEL BORROW

PROPOSED SPLITTER ISLAND - CEMENT CONCRETE
SURFACE: 4" CEMENT CONCRETE OVER

SUBBASE: 8" GRAVEL BORROW

PROPOSED SPLITTER ISLAND - LOAM & SEED
SURFACE: 4" LOAM & SEED
SUBBASE: ORDINARY BORROW AS REQUIRED

PROPOSED TRUCK APRON
SURFACE: 8" STAMPED REINFORCED CEMENT CONCRETE AIR ENTRAINED 4000 PSI,
¾", 610 (STAMPED)
SUBBASE: 8" GRAVEL BORROW (TYPE B)

HOT MIX ASPHALT DRIVEWAYS
SURFACE: 1.5" SUPERPAVE SURFACE COURSE - 9.5 (SSC 9.5) OVER
ASPHALT EMULSION FOR TACK COAT (RS-1H) OVER
2.5" SUPERPAVE SURFACE COURSE - 12.5 (SSC 12.5) OVER

BASE: 8.0" GRAVEL BORROW

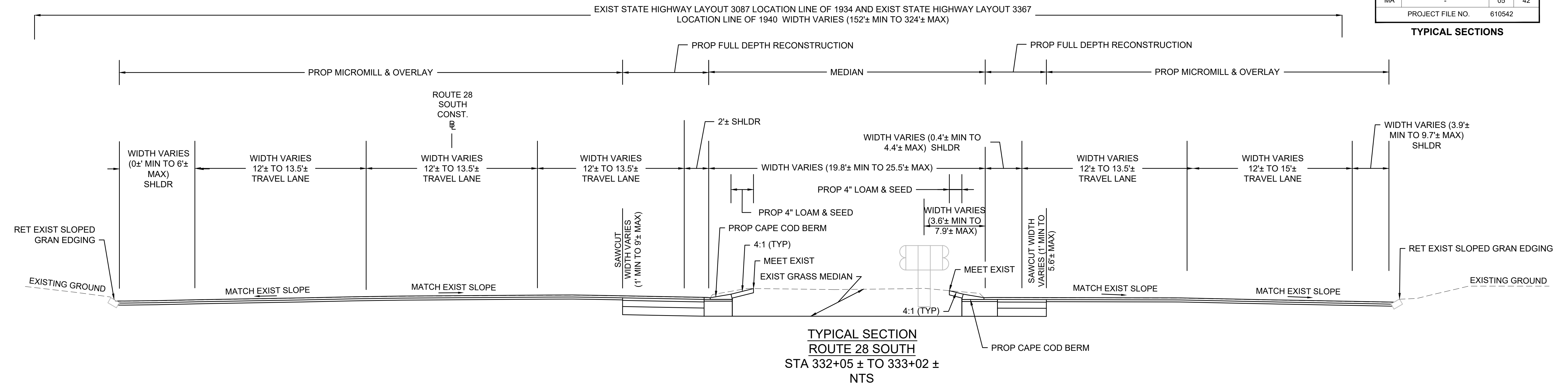
NOTES:

- HMA FOR PATCHING, ASPHALT EMULSION FOR TACK COAT (RS-1H) AND HMA JOINT SEALANT SHALL BE CONSTRUCTED PER SECTION 450 QUALITY ASSURANCE OF HMA SPECIFICATIONS.
- PLACE GRAVEL PRIOR TO SETTING OF EDGING.
- ASPHALT EMULSION FOR TACK COAT SHALL BE SPRAY APPLIED FOR DOUBLE OVERLAP COVERAGE AT 0.07 TO 0.09 GALLONS PER SQUARE YARD OVER MILLED SURFACES AND 0.06 TO 0.08 GALLONS PER SQUARE YARD OVER SMOOTH SURFACES.
- HMA JOINT SEALANT SHALL BE APPLIED IN SURFACE COURSE AT ALL VERTICAL COLD JOINTS PRIOR TO HMA PAVING.

ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS

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MA	-	05	42
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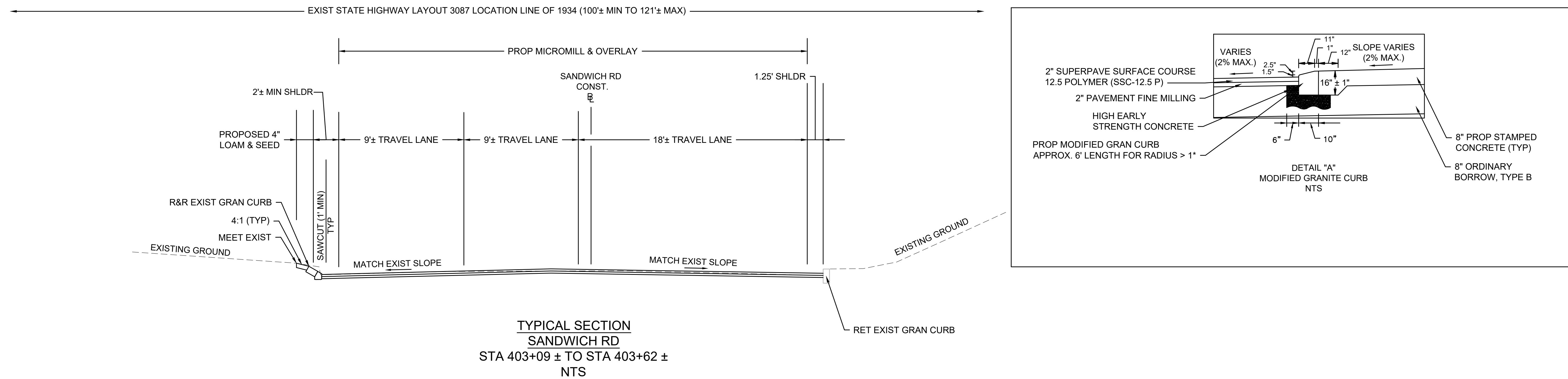
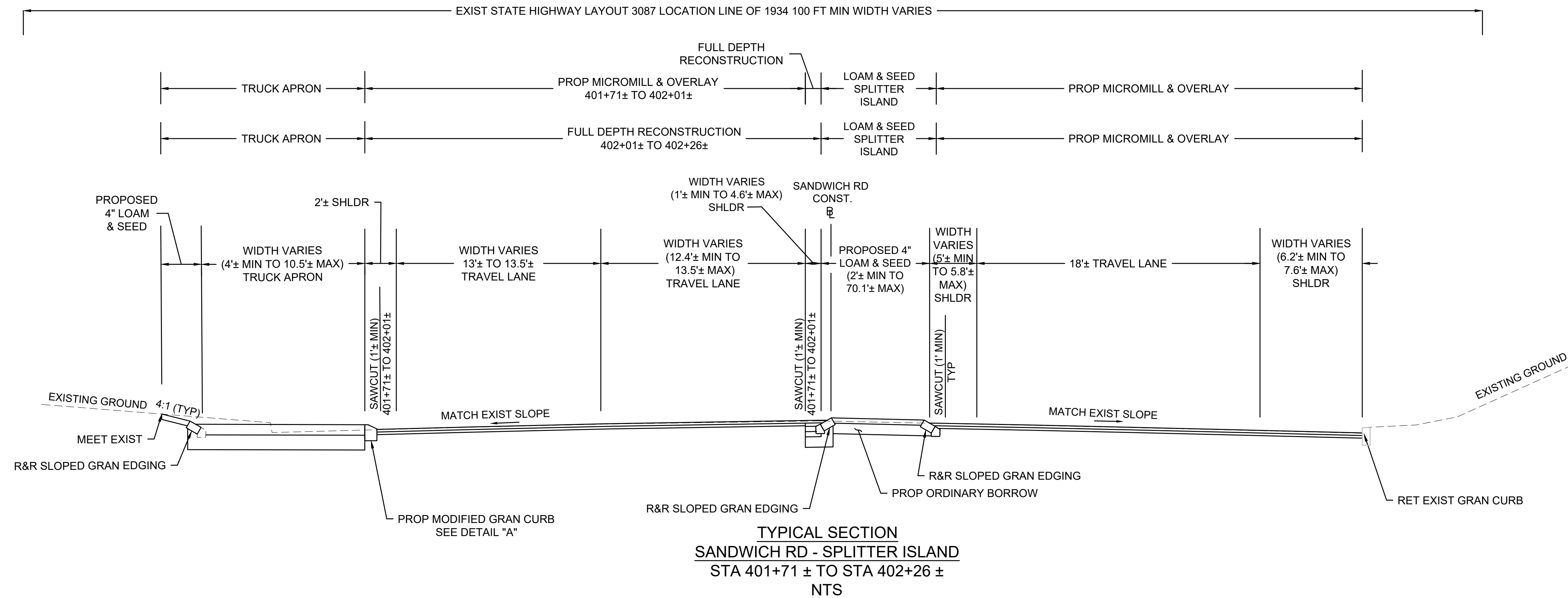
TYPICAL SECTIONS



ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS

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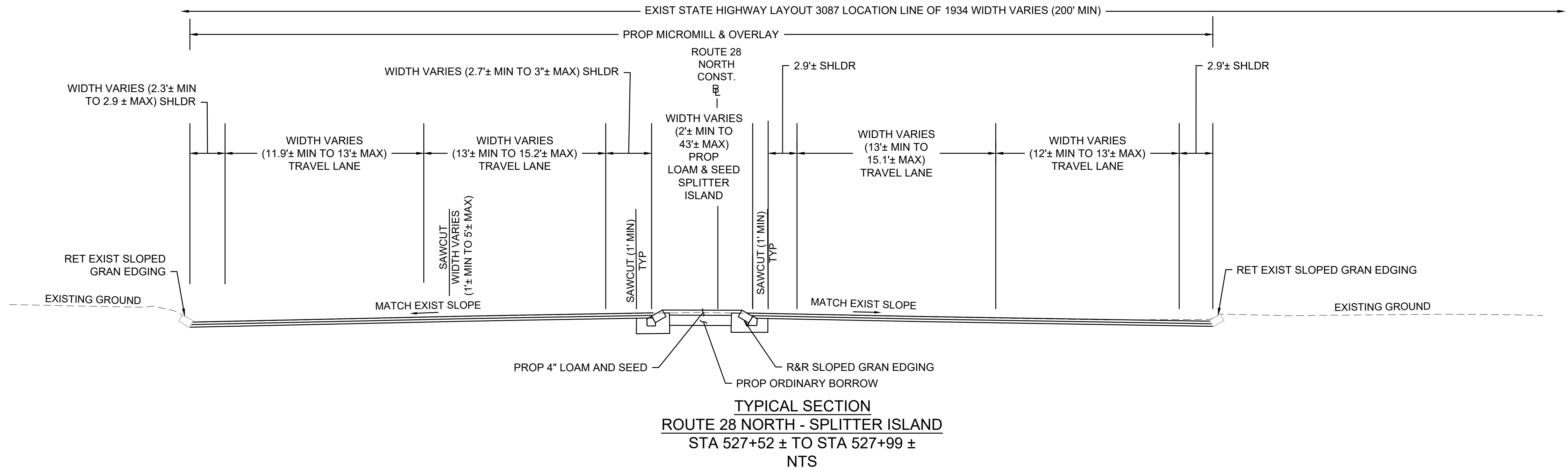
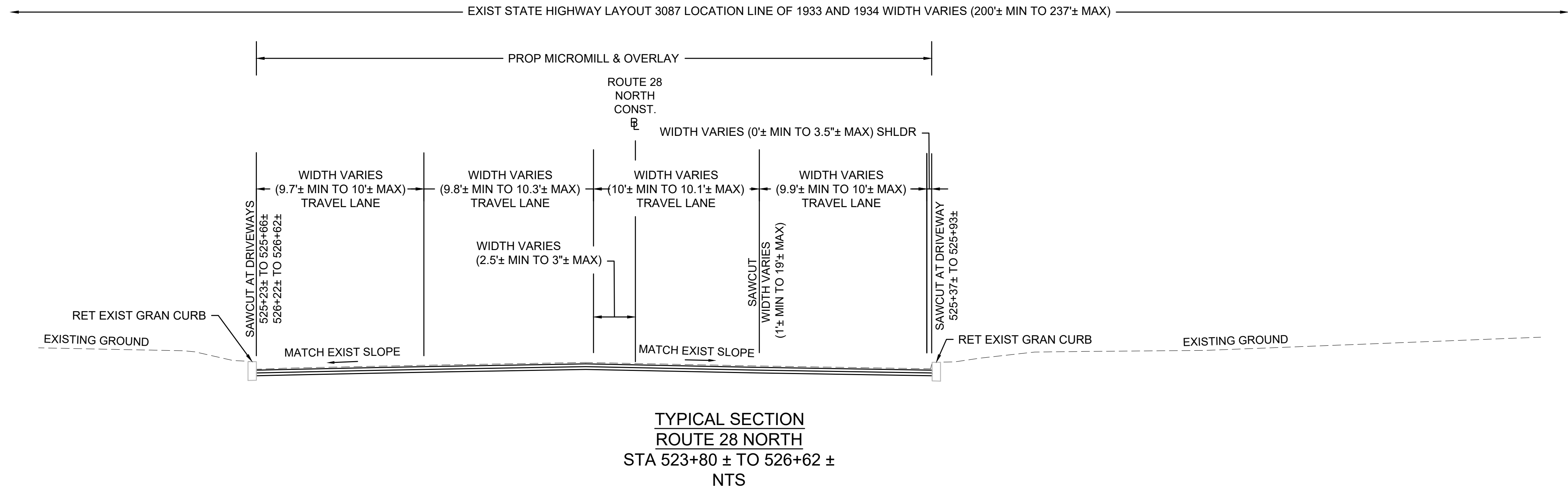
TYPICAL SECTIONS



ROUTE 28 - BOURNE ROTARY
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MA	-	07	42
PROJECT FILE NO.		610542	

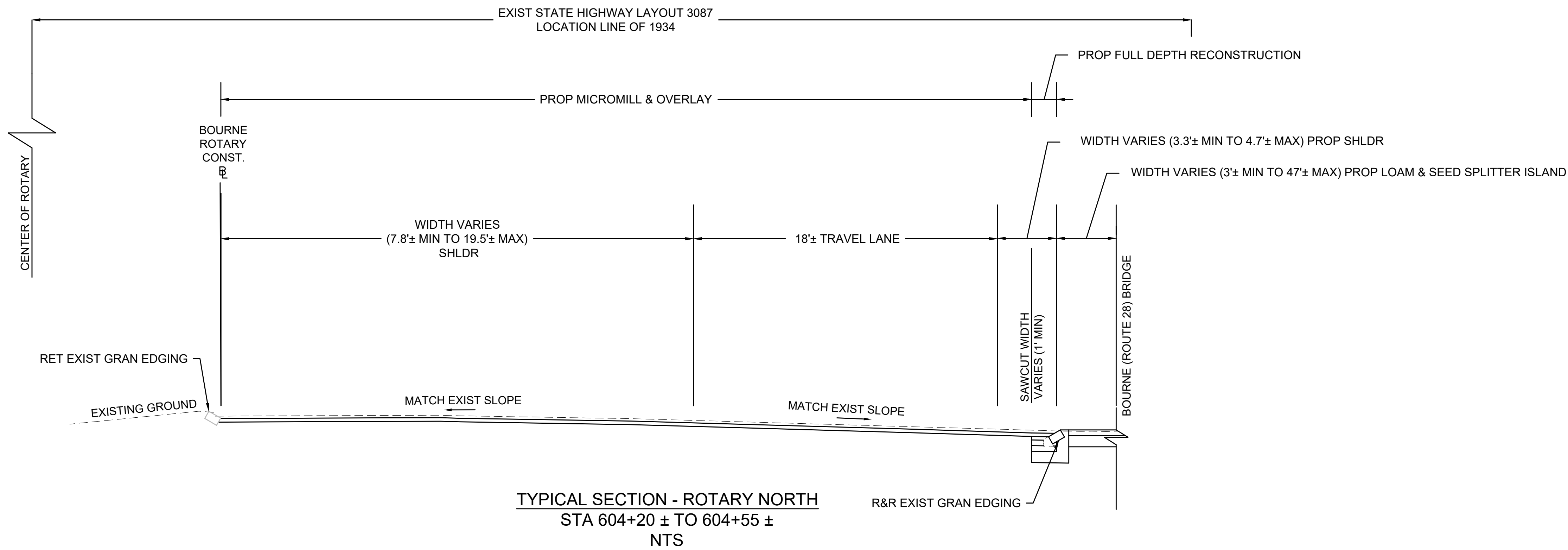
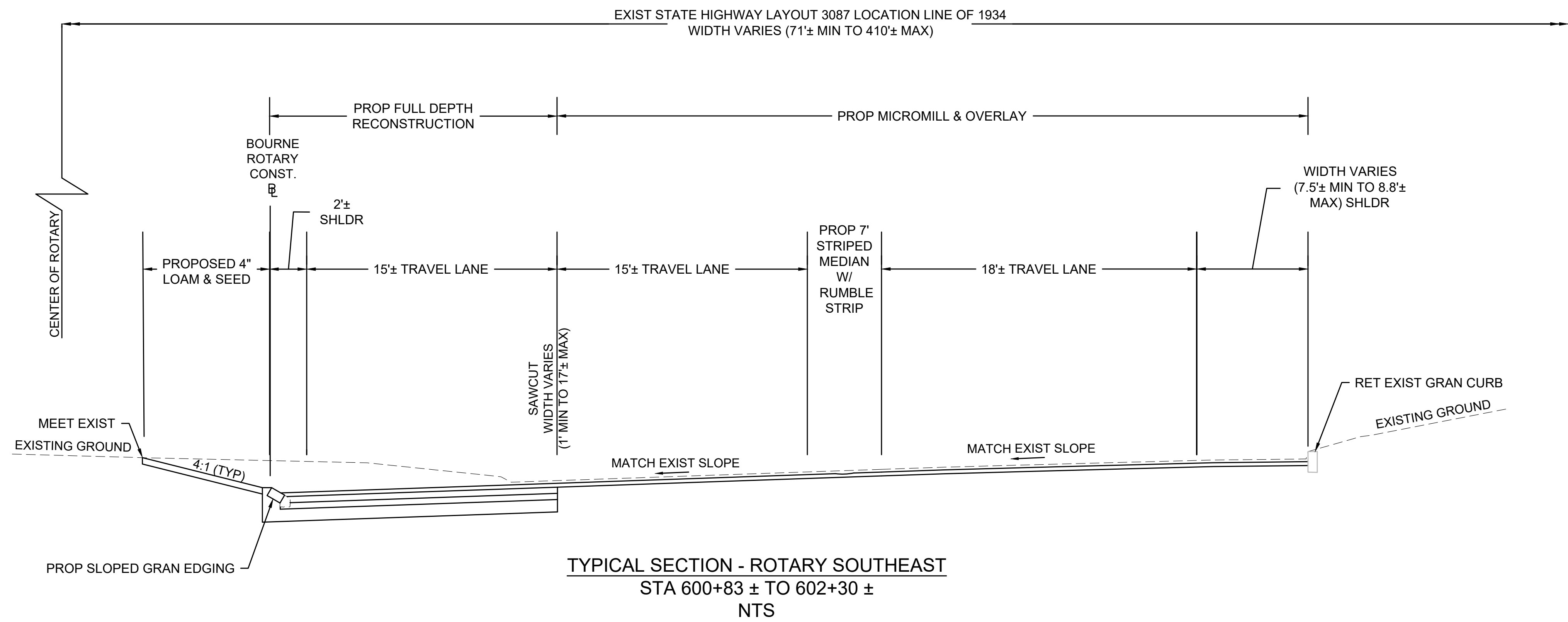
TYPICAL SECTIONS



ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	08	42
PROJECT FILE NO.		610542	

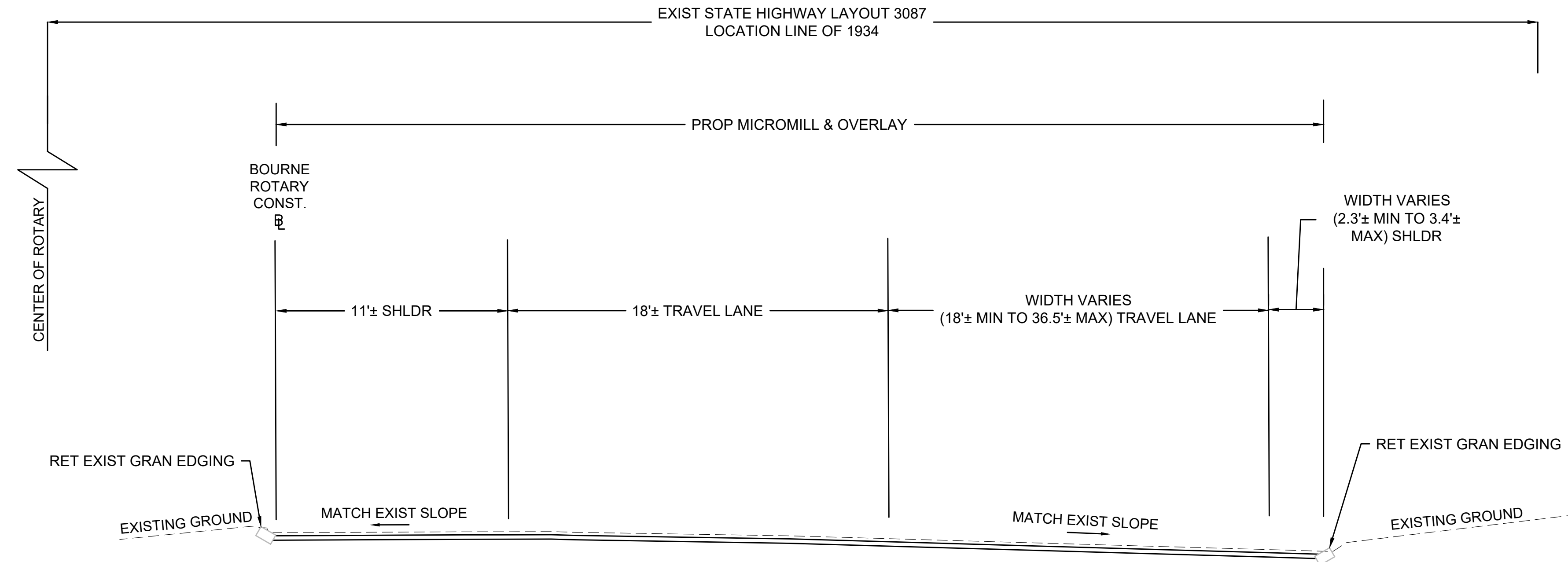
TYPICAL SECTIONS



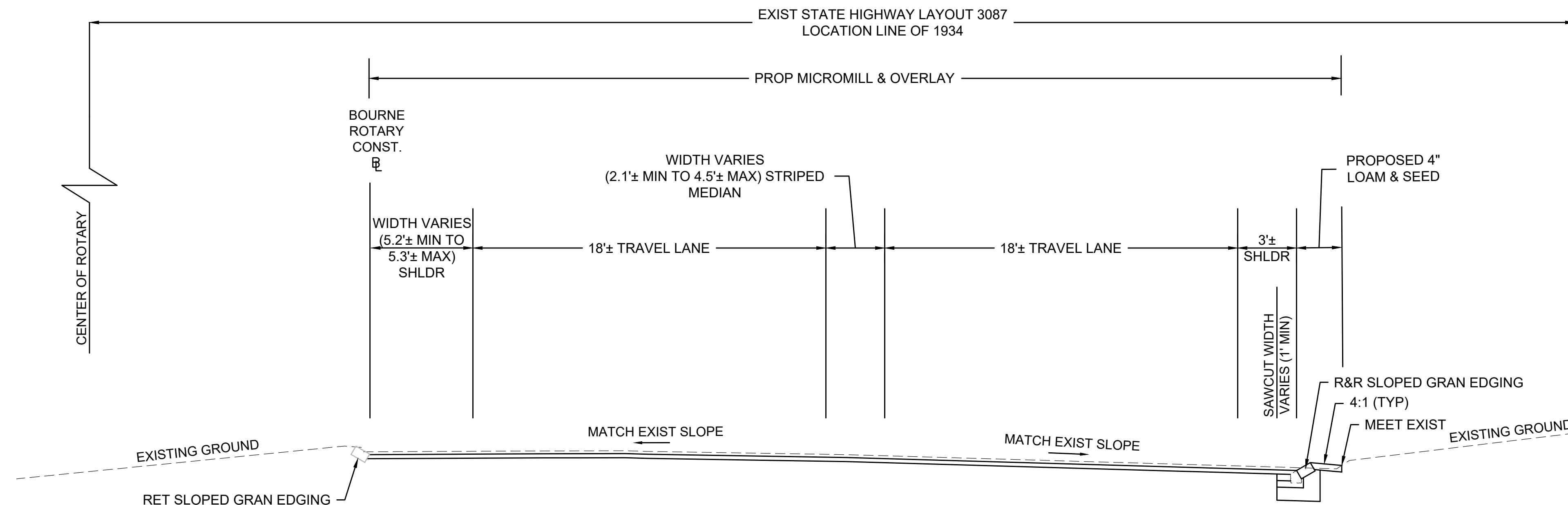
ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	09	42
PROJECT FILE NO.		610542	

TYPICAL SECTIONS



TYPICAL SECTION - ROTARY SOUTHWEST
STA 605+59 ± TO 606+12 ±
NTS

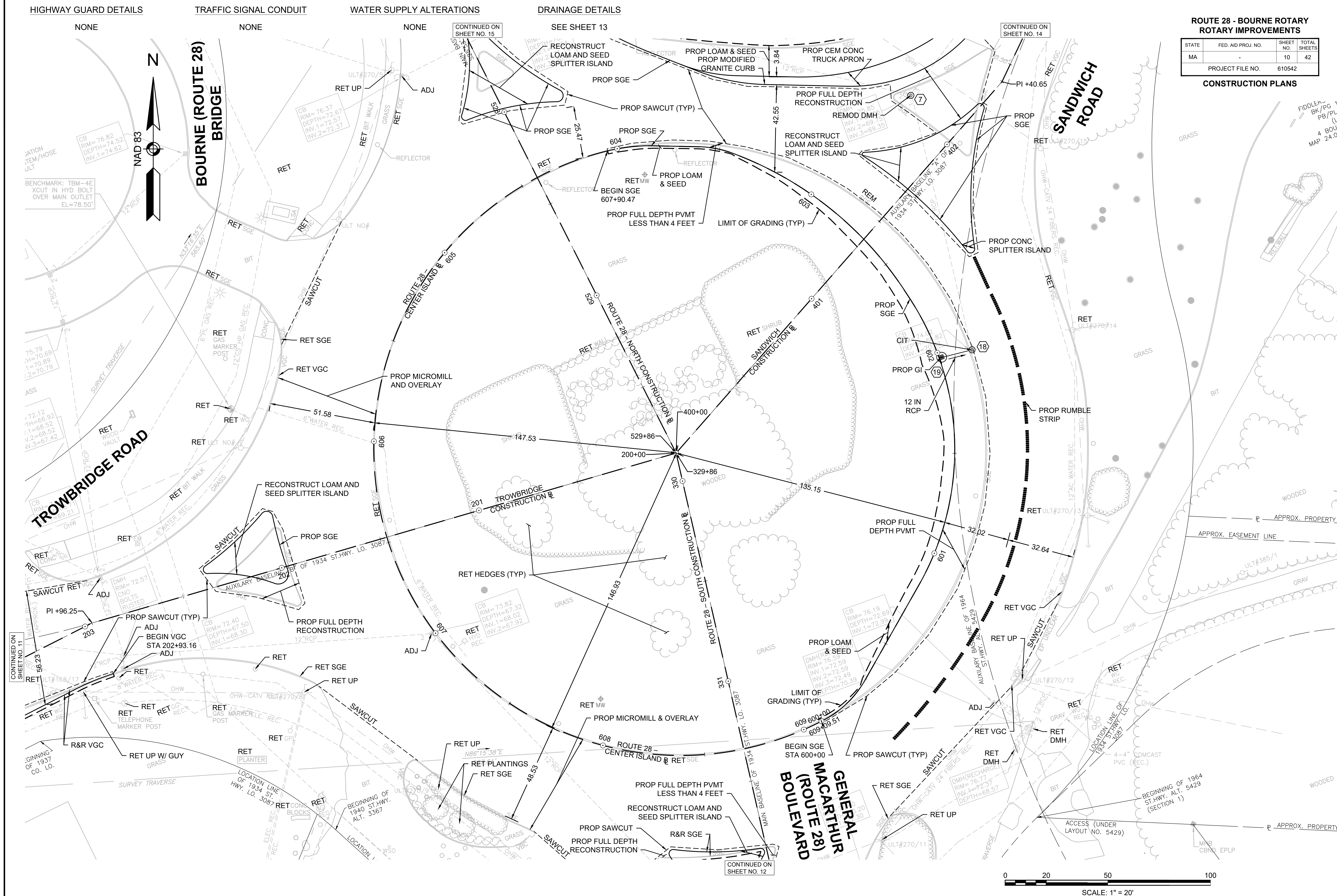


TYPICAL SECTION - ROTARY SOUTH
STA 608+36 ± TO 608+68 ±
NTS

ROUTE 28 - BOURNE ROTARY ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	10	42
PROJECT FILE NO.		610542	

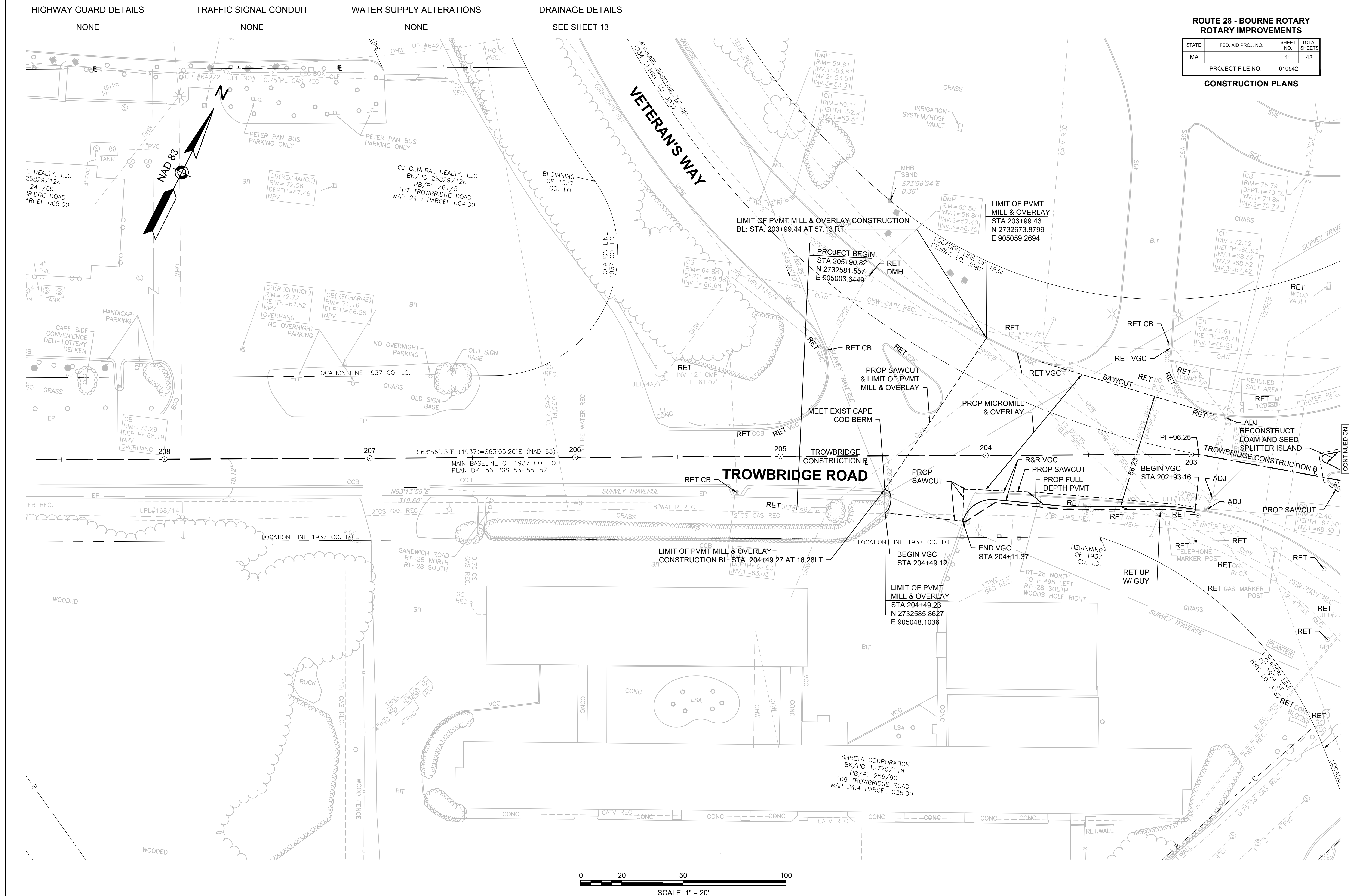
CONSTRUCTION PLANS



ROUTE 28 - BOURNE ROTARY ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOT. SHEET
MA	-	11	42
PROJECT FILE NO.		610542	

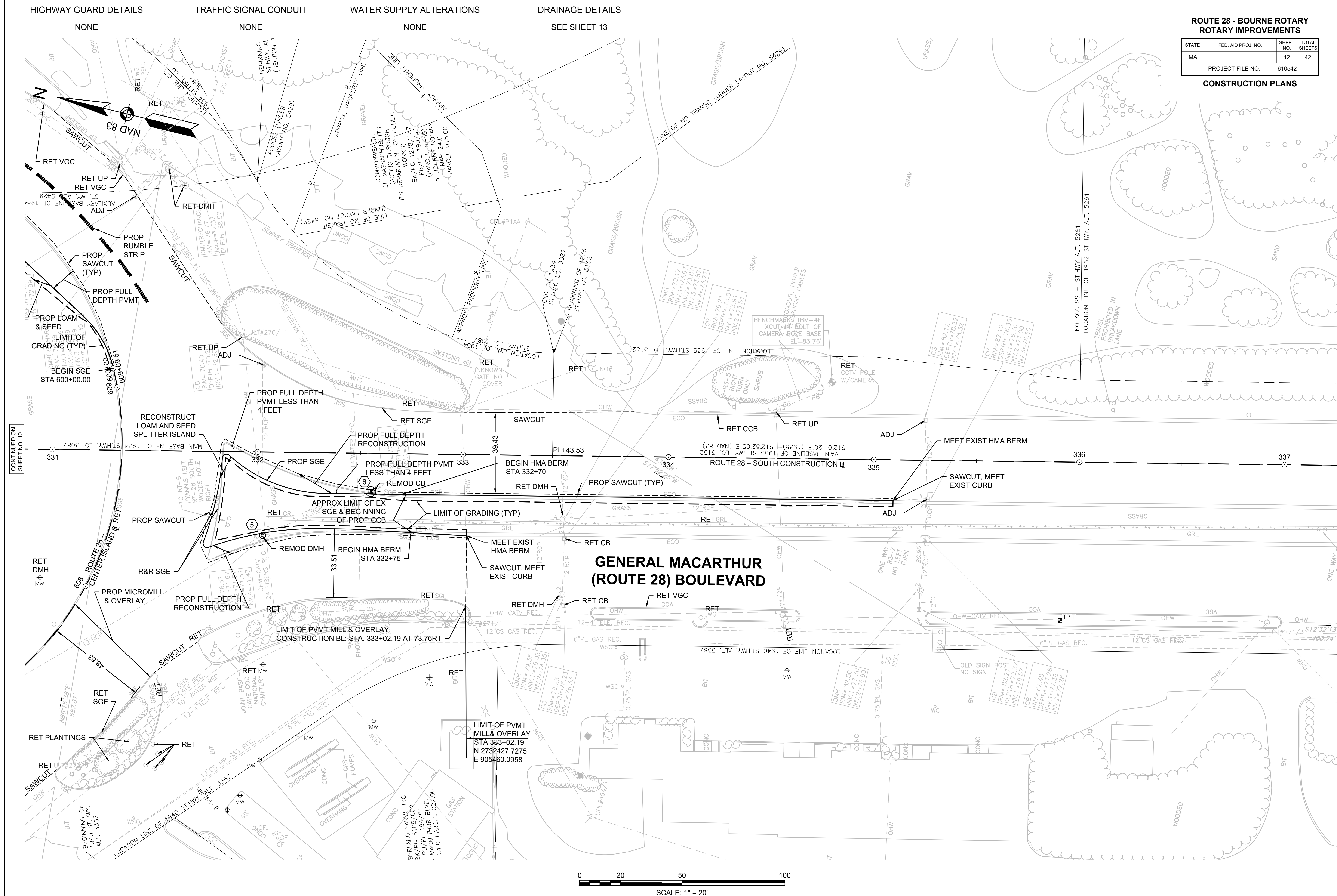
CONSTRUCTION PLANS



ROUTE 28 - BOURNE ROTARY ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	12	42
PROJECT FILE NO.		610542	

CONSTRUCTION PLANS



ROUTE 28 - BOURNE ROTARY ROTARY IMPROVEMENTS

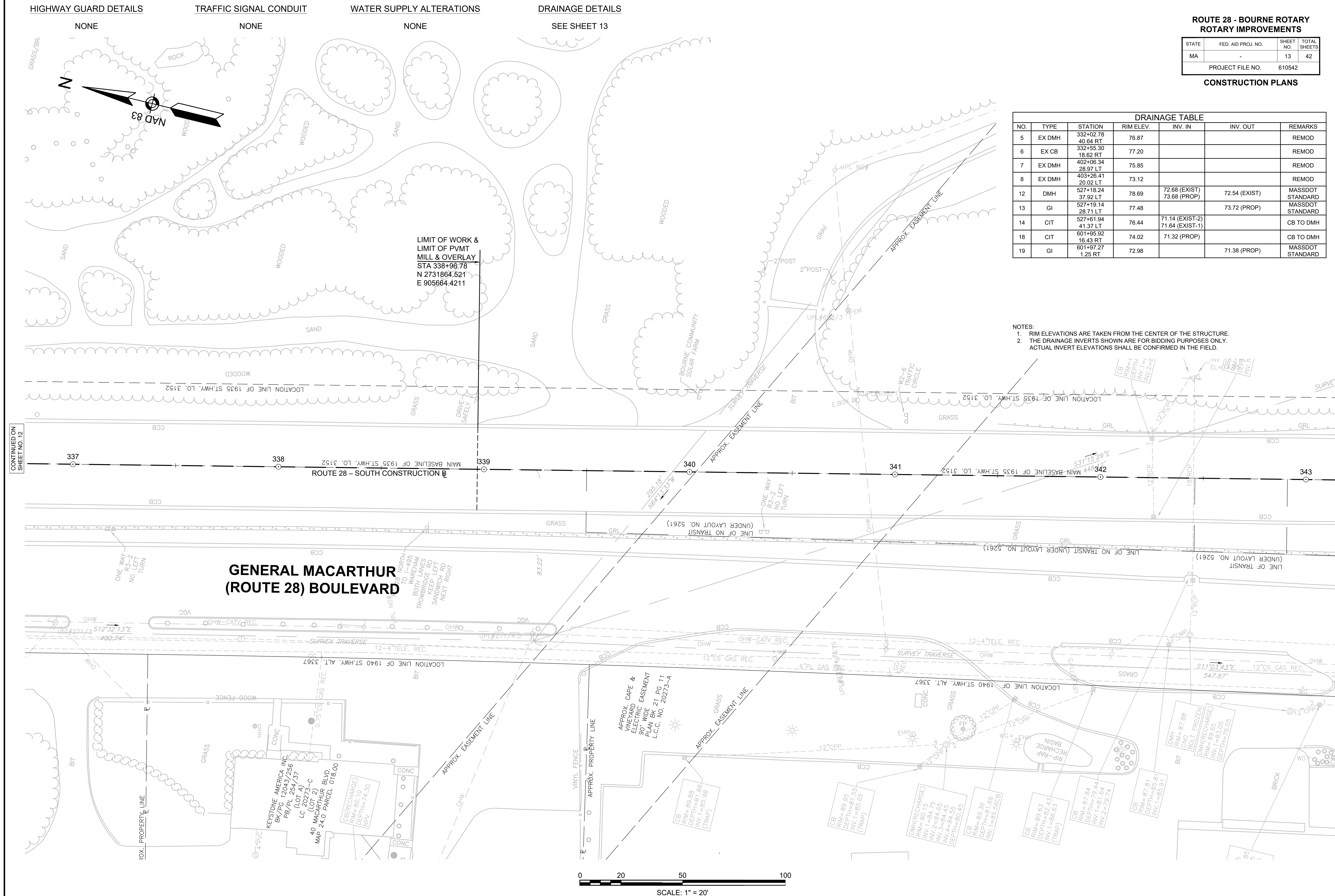
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	13	42
PROJECT FILE NO.		610542	

CONSTRUCTION PLANS

DRAINAGE TABLE						
NO.	TYPE	STATION	RIM ELEV.	INV. IN	INV. OUT	REMARKS
5	EX DMH	332+02.78 40.64 RT	76.87			REMOD
6	EX CB	332+55.30 18.62 RT	77.20			REMOD
7	EX DMH	402+06.34 28.97 LT	75.85			REMOD
8	EX DMH	403+26.41 20.02 LT	73.12			REMOD
12	DMH	527+18.24 37.92 LT	78.69	72.68 (EXIST) 73.68 (PROP)	72.54 (EXIST)	MASSDOT STANDARD
13	GI	527+19.14 28.71 LT	77.48		73.72 (PROP)	MASSDOT STANDARD
14	CIT	527+61.94 41.37 LT	76.44	71.14 (EXIST-2) 71.64 (EXIST-1)		CB TO DMH
18	CIT	601+95.92 16.43 RT	74.02	71.32 (PROP)		CB TO DMH
19	GI	601+97.27 1.25 RT	72.98		71.38 (PROP)	MASSDOT STANDARD

NOTES:

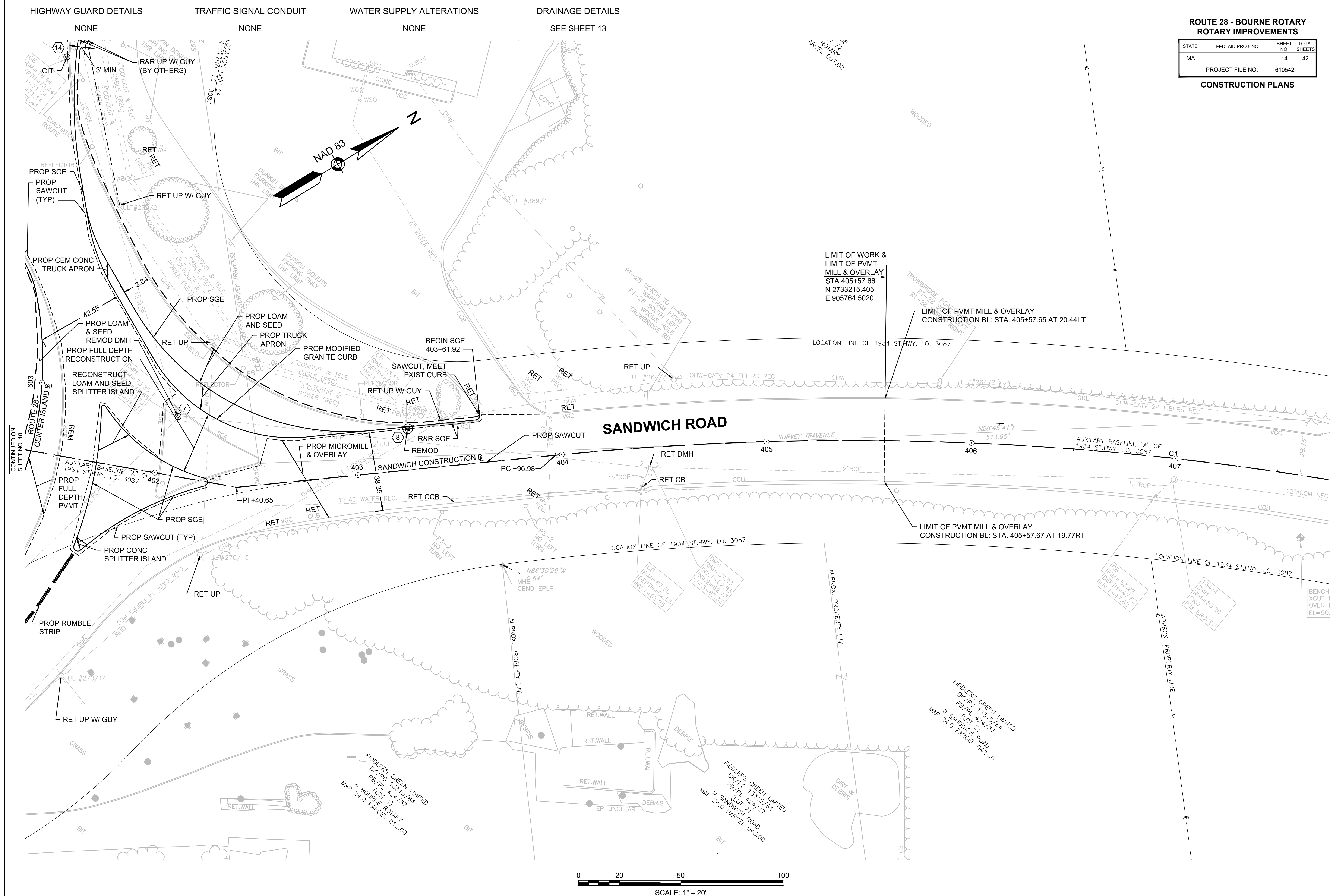
1. RIM ELEVATIONS ARE TAKEN FROM THE CENTER OF THE STRUCTURE
2. THE DRAINAGE INVERTS SHOWN ARE FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS SHALL BE CONFIRMED IN THE FIELD.



ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	14	42
PROJECT FILE NO.		610542	

CONSTRUCTION PLANS



HIGHWAY GUARD DETAILS

TRAFFIC SIGNAL CONDUIT

WATER SUPPLY ALTERATIONS

DRAINAGE DETAILS

NONE

NONE

NONE

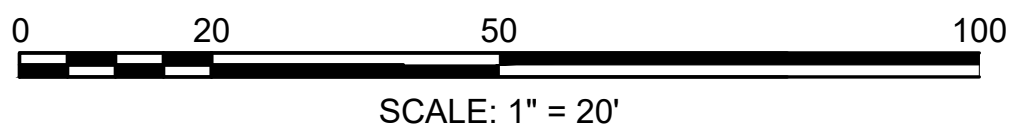
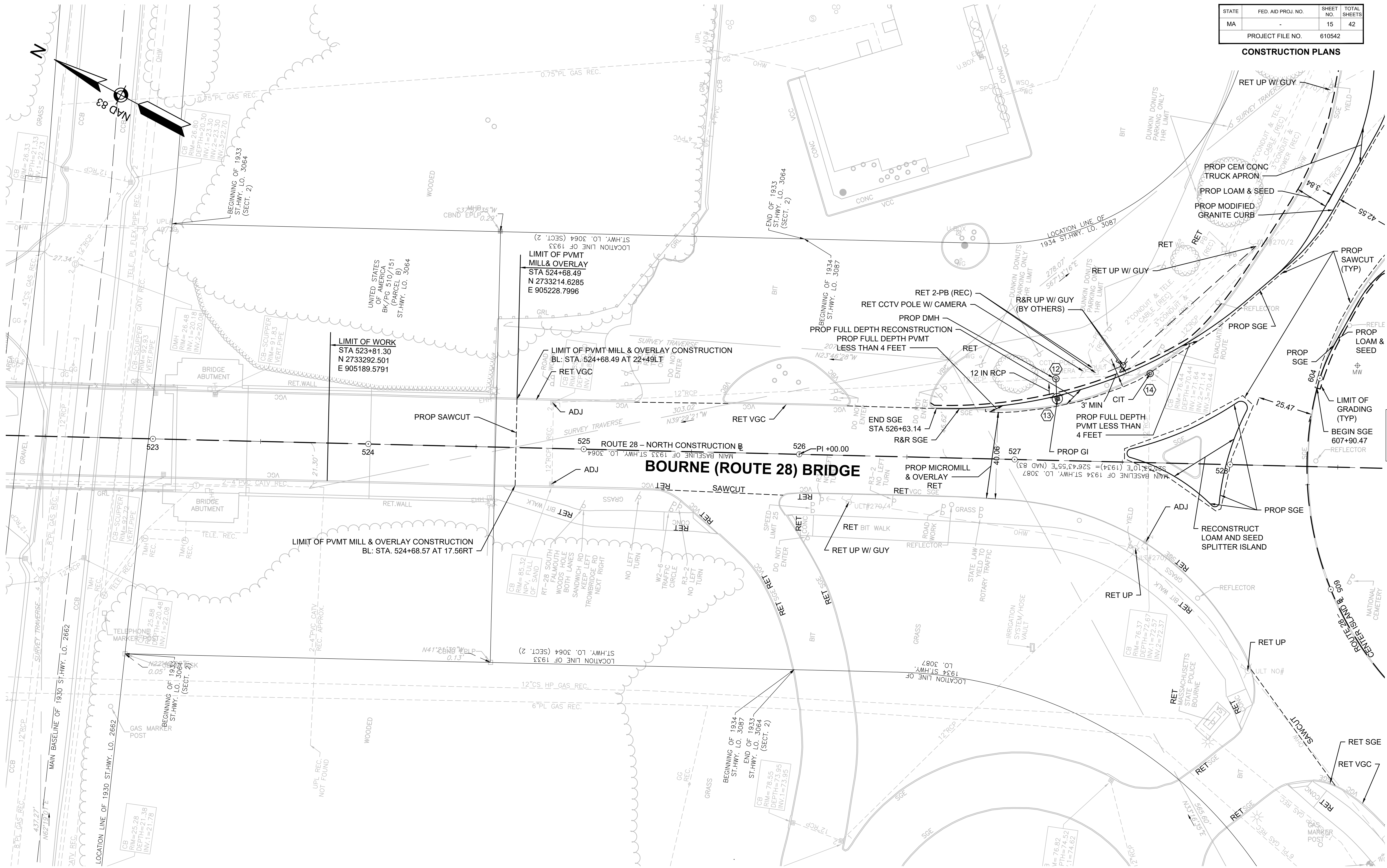
SEE SHEET 13

ROUTE 28 - BOURNE ROTARY

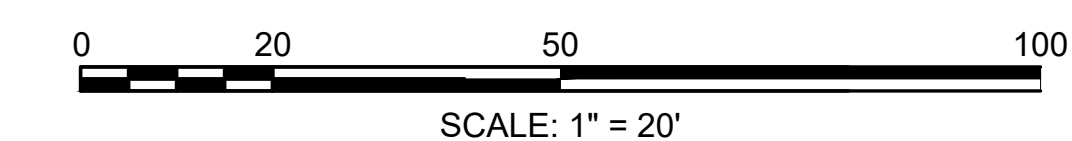
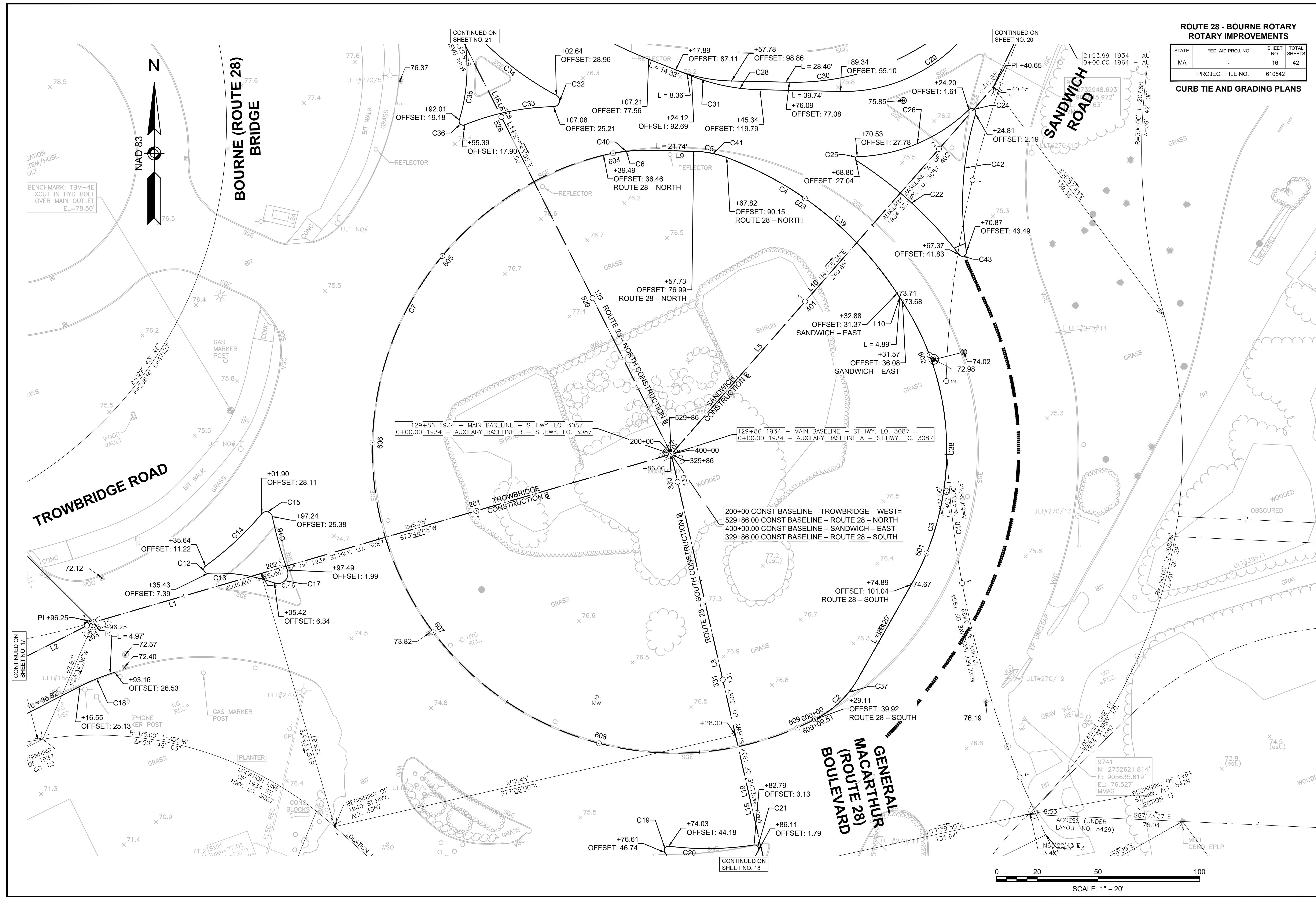
ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	15	42
PROJECT FILE NO.		610542	

CONSTRUCTION PLANS



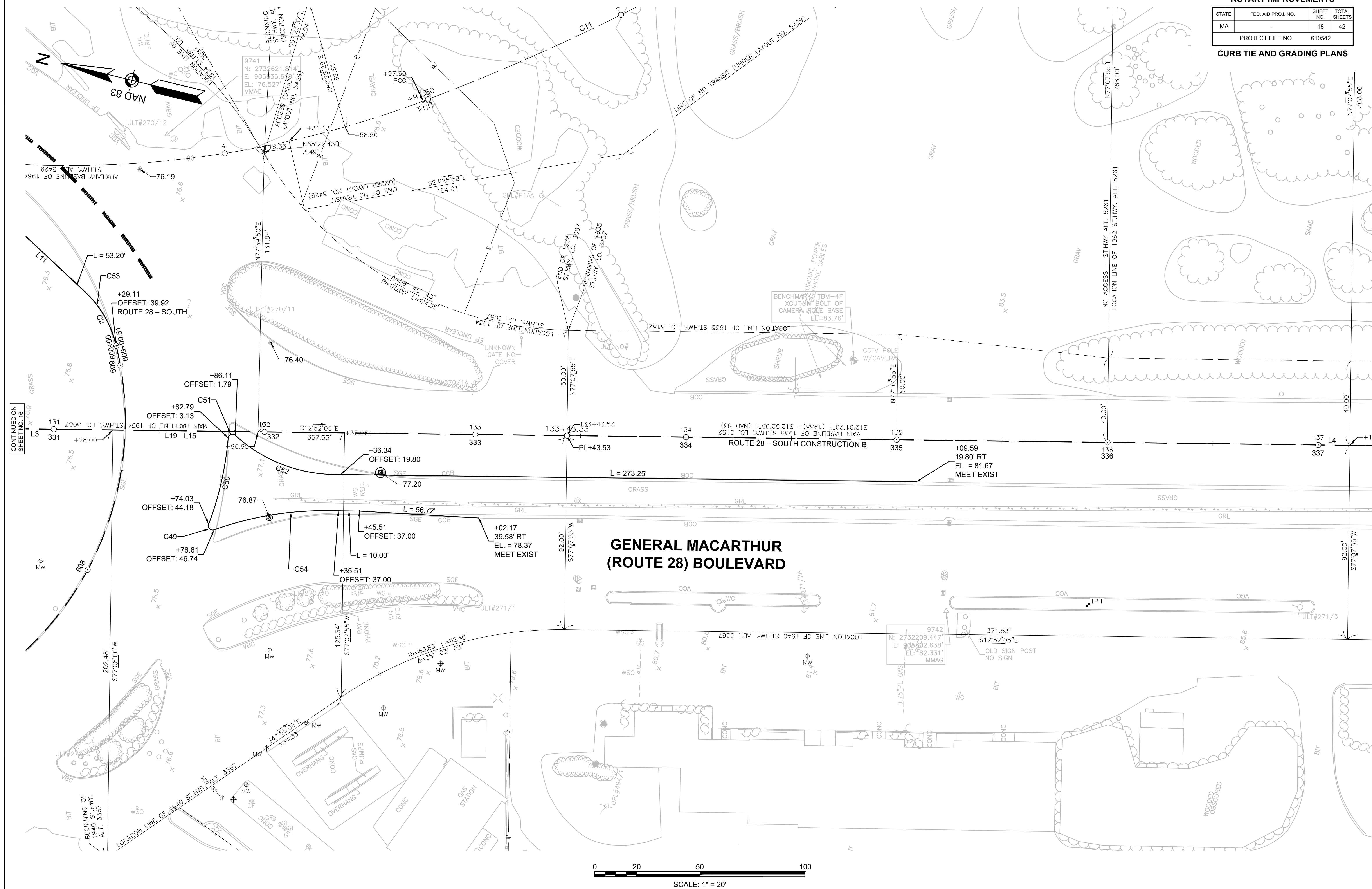
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SHEET NO. 10

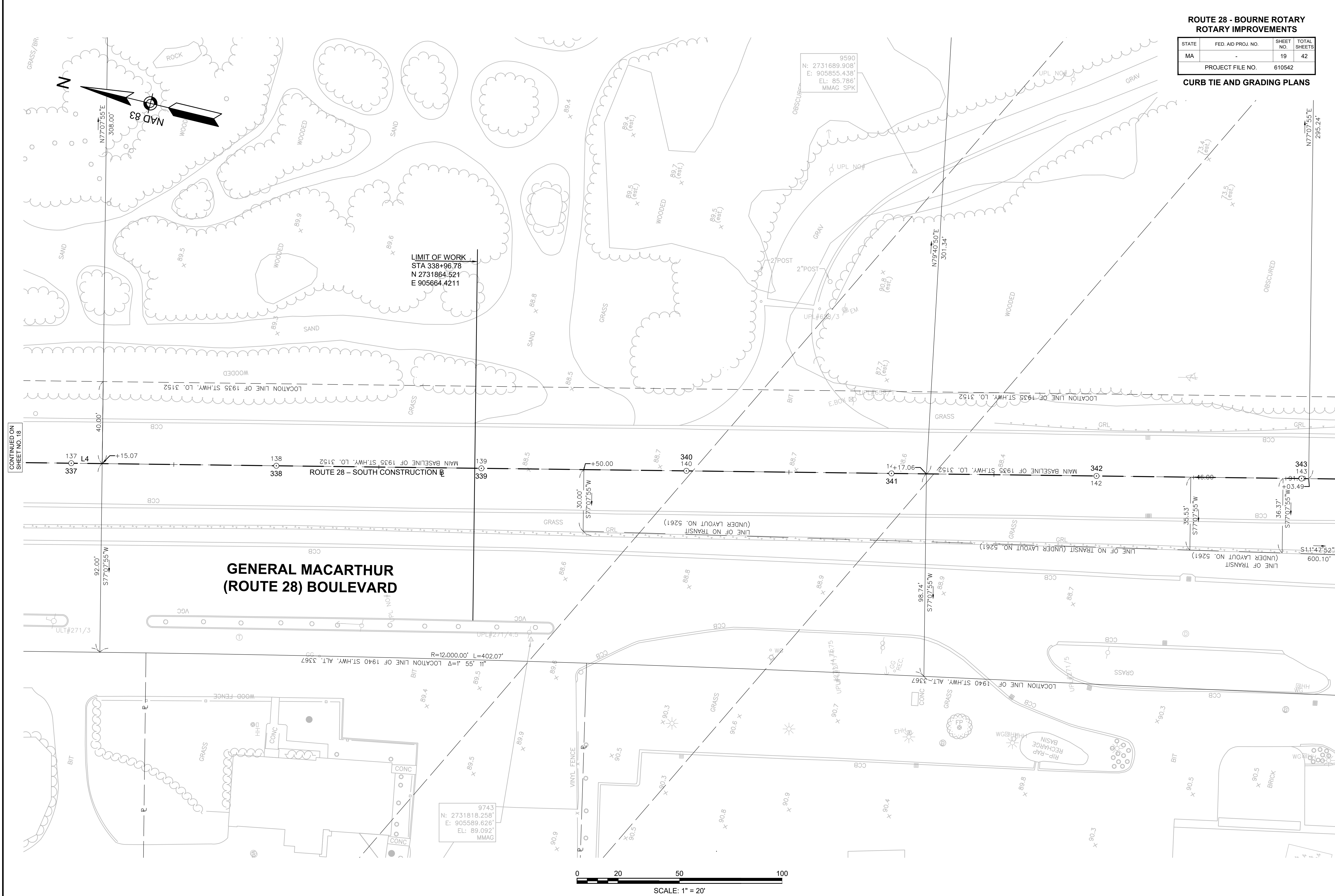


ROUTE 28 - BOURNE ROTARY ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	18	42
PROJECT FILE NO.		610542	

CURB TIE AND GRADING PLANS

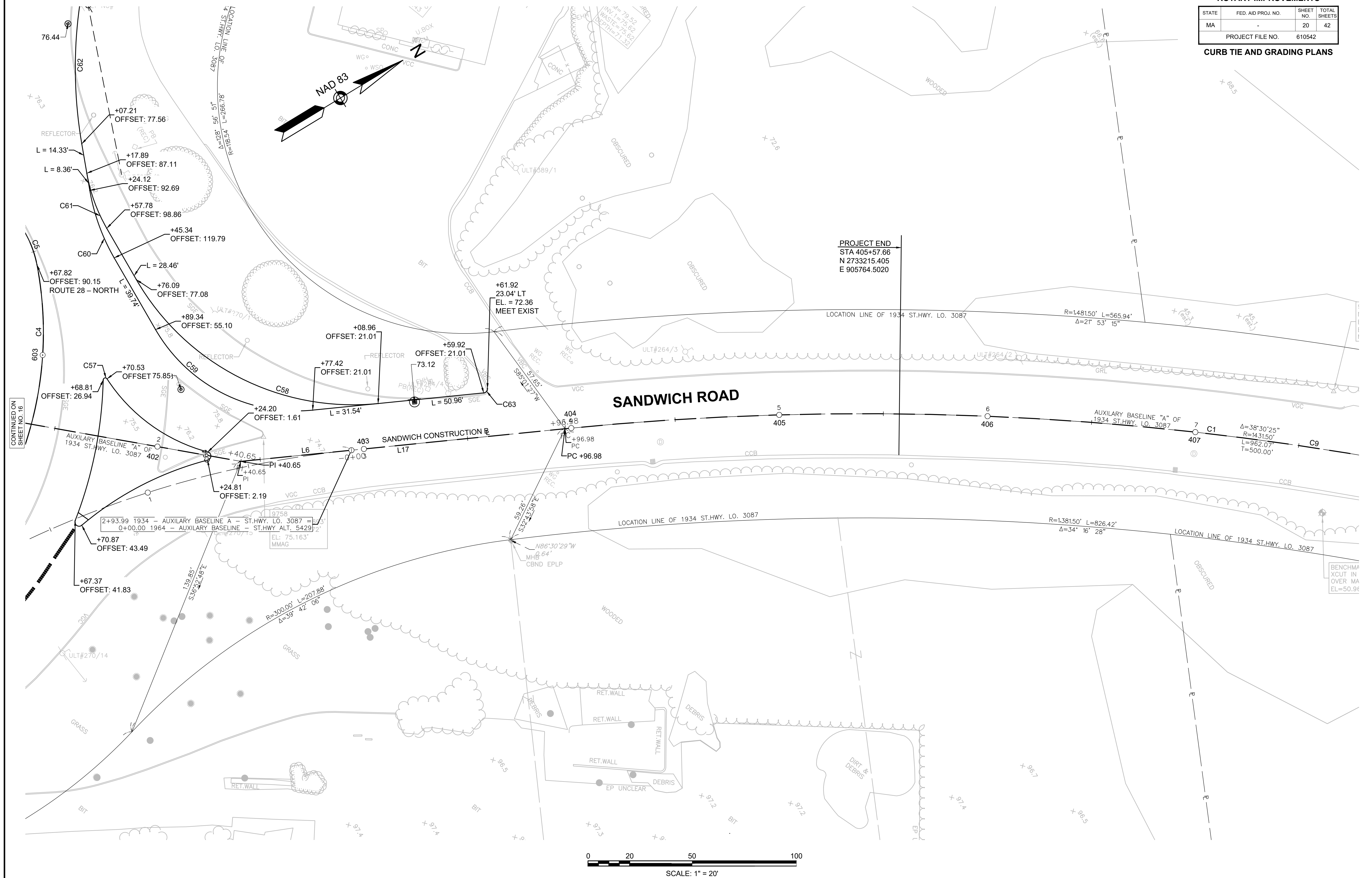




ROUTE 28 - BOURNE ROTARY ROTARY IMPROVEMENTS

PROJECT FILE NO.	610542
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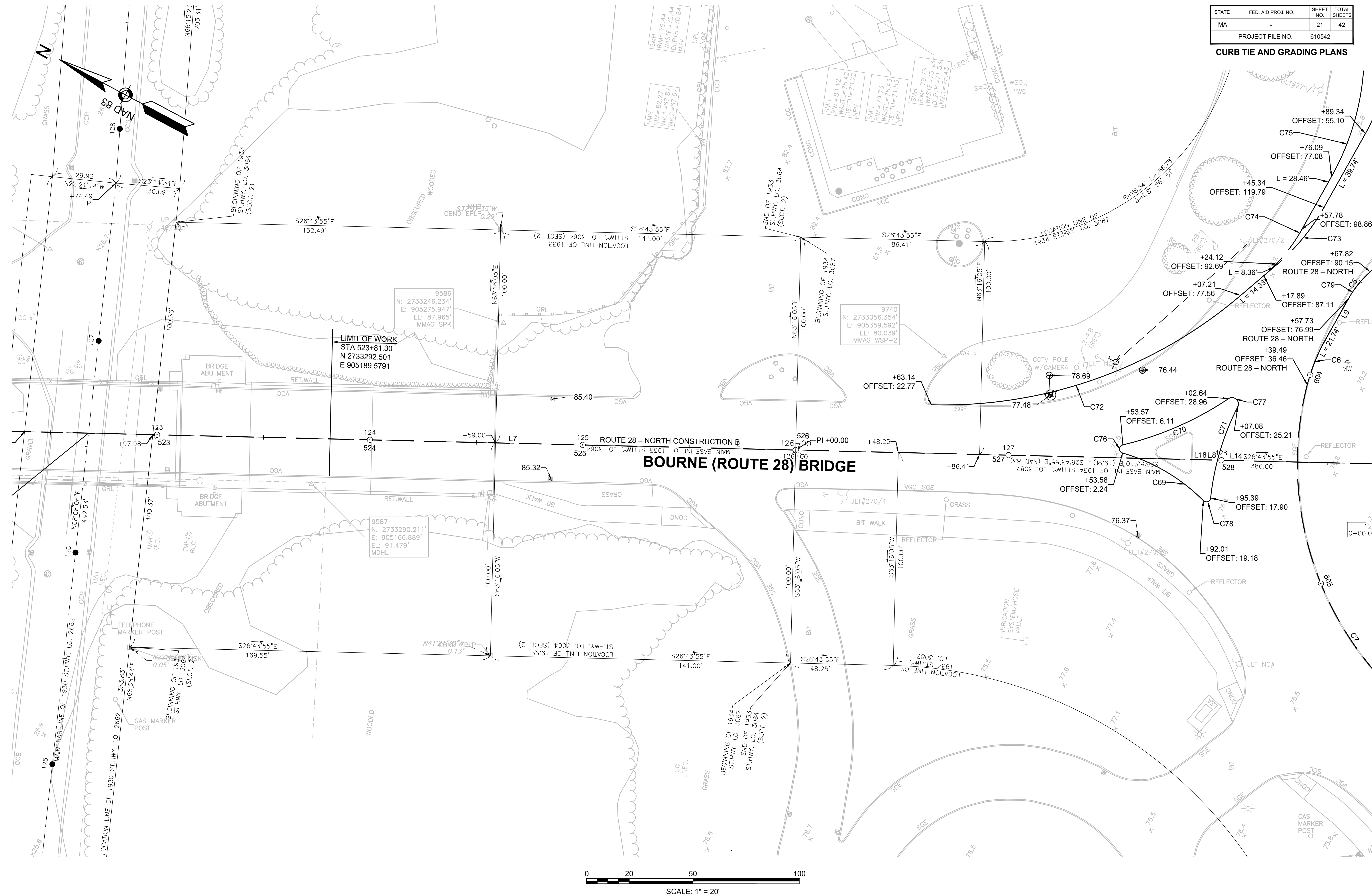
CURB TIE AND GRADING PLANS



ROUTE 28 - BOURNE ROTARY ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	21	42
PROJECT FILE NO.		610542	

CURB TIE AND GRADING PLANS



ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	22	42
PROJECT FILE NO.		610542	

CURB TIE AND GRADING PLANS

CONST BASELINE – TROWBRIDGE – WEST CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	200+00.00	2732752.430	905461.584		S73°46'05"W 296.25'	202+96.25	2732669.620	905177.143
L2	202+96.25	2732669.620	905177.143		S63°05'20"W 803.75'	211+00.00	2732305.838	904460.431

CONST BASELINE – SANDWICH – EAST CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L5	400+00.00	2732752.430	905461.584		N41°15'35"E 240.65'	402+40.65	2732933.332	905620.285
L6	402+40.65	2732933.332	905620.285		N25°27'00"E 156.33'	403+96.98	2733074.494	905687.465
C1	403+96.98	2733074.494	905687.465	R=1431.50' Δ=24°08'09" L=603.02' T=306.05'		410+00.00	2733549.258	906052.000

CONST BASELINE – ROUTE 28 – NORTH CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L7	521+00.00	2733543.735	905063.046		S26°43'55"E 500.00'	526+00.00	2733097.175	905287.955
L8	526+00.00	2733097.175	905287.955		S26°43'55"E 386.00'	529+86.00	2732752.430	905461.584

CONST BASELINE – ROUTE 28 – SOUTH CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L3	329+86.00	2732752.430	905461.584		S12°52'05"E 357.53'	333+43.53	2732403.879	905541.208
L4	333+43.53	2732403.879	905541.208		S12°52'05"E 1156.47'	345+00.00	2731276.453	905798.762

CONST BASELINE - CENTER ISLAND ALIGN CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C2	600+00.00	2732621.807	905532.373	R=50.00' Δ=34°07'22" L=29.78' T=15.35'		600+29.78	2732641.976	905553.680
L11	600+29.78	2732641.976	905553.680		N29°30'34"E 53.20'	600+82.98	2732688.278	905579.887
C3	600+82.98	2732688.278	905579.887	R=134.00' Δ=62°38'56" L=146.52' T=81.55'		602+29.50	2732827.537	905575.474
L10	602+29.50	2732827.537	905575.474		N33°08'22"W 4.89'	602+34.39	2732831.634	905572.799
C4	602+34.39	2732831.634	905572.799	R=171.00' Δ=36°33'44" L=109.12' T=56.49'		603+43.51	2732898.533	905488.935
C5	603+43.51	2732898.533	905488.935	R=50.00' Δ=19°05'06" L=16.65' T=8.41'		603+60.17	2732901.627	905472.648
L9	603+60.17	2732901.627	905472.648		N88°47'12"W 21.74'	603+81.91	2732902.087	905450.917
C6	603+81.91	2732902.087	905450.917	R=90.00' Δ=14°33'14" L=22.86' T=11.49'		604+04.77	2732899.679	905428.244
C7	604+04.77	2732899.679	905428.244	R=149.41' Δ=193°33'06" L=504.74' T=1257.54'		609+09.51	2732621.807	905532.373

ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	23	42
PROJECT FILE NO.		610542	

CURB TIE AND GRADING PLANS

1937 - MAIN BASELINE - CO.LO. PLAN BK. 56 PGS 53-55-57 CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L12	2+96.25	2732669.620	905177.143		S63°05'20"W 1733.38'	20+29.63	2731885.083	903631.470
C8	20+29.63	2731885.083	903631.470	R=1794.83' Δ=42°36'45" L=1334.87' T=700.00'		33+64.50	2731757.697	902333.392
L13	33+64.50	2731757.697	902333.392		N74°17'55"W 163.79'	35+28.29	2731802.023	902175.714

1934 - AUXILARY BASELINE A - ST.HWY. LO. 3087 CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L16	0+00.00	2732752.430	905461.584		N41°15'35"E 240.65'	2+40.65	2732933.332	905620.285
L17	2+40.65	2732933.332	905620.285		N25°27'00"E 156.33'	3+96.98	2733074.494	905687.465
C9	3+96.98	2733074.494	905687.465	R=1431.50' Δ=38°30'25" L=962.07' T=500.00'		13+59.05	2733745.496	906351.558

1934 - MAIN BASELINE - ST.HWY. LO. 3087 CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L18	126+00.00	2733097.175	905287.955		S26°43'55"E 386.00'	129+86.00	2732752.430	905461.584
L14	126+00.00	2733097.175	905287.955		S26°43'55"E 386.00'	129+86.00	2732752.430	905461.584
L19	129+86.00	2732752.430	905461.584		S12°52'05"E 357.53'	133+43.53	2732403.879	905541.208
L15	129+86.00	2732752.430	905461.584		S12°52'05"E 357.53'	133+43.53	2732403.879	905541.208

1934 - MAIN BASELINE - ST.HWY. LO. 3087 CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L18	126+00.00	2733097.175	905287.955		S26°43'55"E 386.00'	129+86.00	2732752.430	905461.584
L14	126+00.00	2733097.175	905287.955		S26°43'55"E 386.00'	129+86.00	2732752.430	905461.584
L19	129+86.00	2732752.430	905461.584		S12°52'05"E 357.53'	133+43.53	2732403.879	905541.208
L15	129+86.00	2732752.430	905461.584		S12°52'05"E 357.53'	133+43.53	2732403.879	905541.208

1964 - AUXILARY BASELINE - ST.HWY ALT. 5429 CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C10	-0+00.00	2732981.499	905643.211	R=478.00' Δ=59°38'43" L=497.60' T=274.00'		4+97.60	2732507.448	905679.459
C11	4+97.60	2732507.448	905679.459	R=1000.00' Δ=16°03'16" L=280.20' T=141.03'		7+77.80	2732300.625	905867.144
L20	7+77.80	2732300.625	905867.144		S50°14'59"E 571.37'	13+49.17	2731935.266	906306.435

SURVEY TRAVERSE DATA				
Point #	Elevation	Northing	Easting	Description
9586	87.965	2733246.234	905275.947	MTRV MMAG SPK
9587	91.479	2733290.211	905166.889	MTRV MDHL
9590	85.786	2731689.908	905855.438	MTRV MMAG SPK
9738	71.584	2732439.555	904763.905	MTRV MMAG
9739	68.641	2732583.490	905049.259	MTRV MMAG WSP-1
9740	80.039	2733056.354	905359.592	MTRV MMAG WSP-2
9741	76.527	2732621.814	905635.619	MTRV MMAG
9742	82.331	2732209.447	905502.638	MTRV MMAG
9743	89.092	2731818.258	905589.626	MTRV MMAG
9757	57.036	2732705.146	904913.498	MTRV MMAG
9758	75.163	2732948.693	905615.972	MTRV MMAG
9759	51.830	2733399.240	905863.266	MTRV MREB CAP
9773	25.522	2733450.428	905206.081	MTRV MMAG

SEE SHEET 16

CURVE TABLE				
Curve #	Delta	Radius	Tangent	Length
C12	147°25'35"	2.00	6.85	5.15
C13	22°55'45"	83.00	16.83	33.22
C14	14°15'34"	152.00	19.01	37.83
C15	128°11'58"	3.00	6.18	6.71
C16	7°55'39"	198.00	13.72	27.40
C17	129°29'26"	5.00	10.60	11.30
C18	7°45'14"	100.00	6.78	13.53
C19	130°20'32"	2.00	4.32	4.55
C20	15°46'02"	153.00	21.19	42.10
C21	127°34'21"	2.00	4.06	4.45
C22	19°49'53"	200.00	34.96	69.22
C24	148°57'27"	2.00	7.20	5.20
C25	140°32'56"	1.00	2.79	2.45
C26	41°55'08"	83.46	31.97	61.06
C28	20°13'41"	98.00	17.48	34.60
C29	65°45'48"	78.00	50.43	89.53
C30	65°45'48"	120.00	77.58	137.73
C31	20°13'41"	80.00	14.27	28.24
C32	150°56'54"	3.00	11.58	7.90
C33	21°05'48"	122.00	22.72	44.92

SEE SHEET 16

CURVE TABLE				
Curve #	Delta	Radius	Tangent	Length
C34	20°30'58"	152.00	27.51	54.43
C35	29°17'46"	87.00	22.74	44.48
C36	129°09'28"	2.00	4.21	4.51
C37	34°07'22"	50.00	15.35	29.78
C38	62°38'56"	134.00	81.55	146.52
C39	36°33'44"	171.00	56.49	109.12
C40	14°33'14"	90.00	11.49	22.86
C41	19°05'06"	50.00	8.41	16.65
C42	25°39'17"	153.00	34.84	68.51
C43	151°22'38"	2.00	7.84	5.28

SEE SHEET 17

CURVE TABLE				
Curve #	Delta	Radius	Tangent	Length
C45	78°19'28"	15.00	12.22	20.51
C46	5°57'21"	100.00	5.20	10.39
C47	7°45'14"	100.00	6.78	13.53
C48	147°25'35"	2.00	6.85	5.15

SEE SHEET 18

CURVE TABLE				
Curve #	Delta	Radius	Tangent	Length
C49	130°20'32"	2.00	4.32	4.55
C50	15°46'02"	153.00	21.19	42.10
C51	127°34'21"	2.00	4.06	4.45
C52	43°53'47"	71.38	28.76	54.69
C53	34°07'22"	50.00	15.35	29.78
C54	21°54'36"	157.07	30.40	60.06

ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	24	42
PROJECT FILE NO.		610542	

CURB TIE AND GRADING PLANS

SEE SHEET 20

CURVE TABLE				
Curve #	Delta	Radius	Tangent	Length
C57	140°32'56"	1.00	2.79	2.45
C58	65°45'48"	120.00	77.58	137.73
C59	65°45'48"	78.00	50.43	89.53
C60	20°13'41"	98.00	17.48	34.60
C61	20°13'41"	80.00	14.27	28.24
C62	42°00'39"	215.00	82.55	157.64
C63	93°36'38"	2.00	2.13	3.27
C64	148°57'27"	2.00	7.20	5.20

SEE SHEET 21

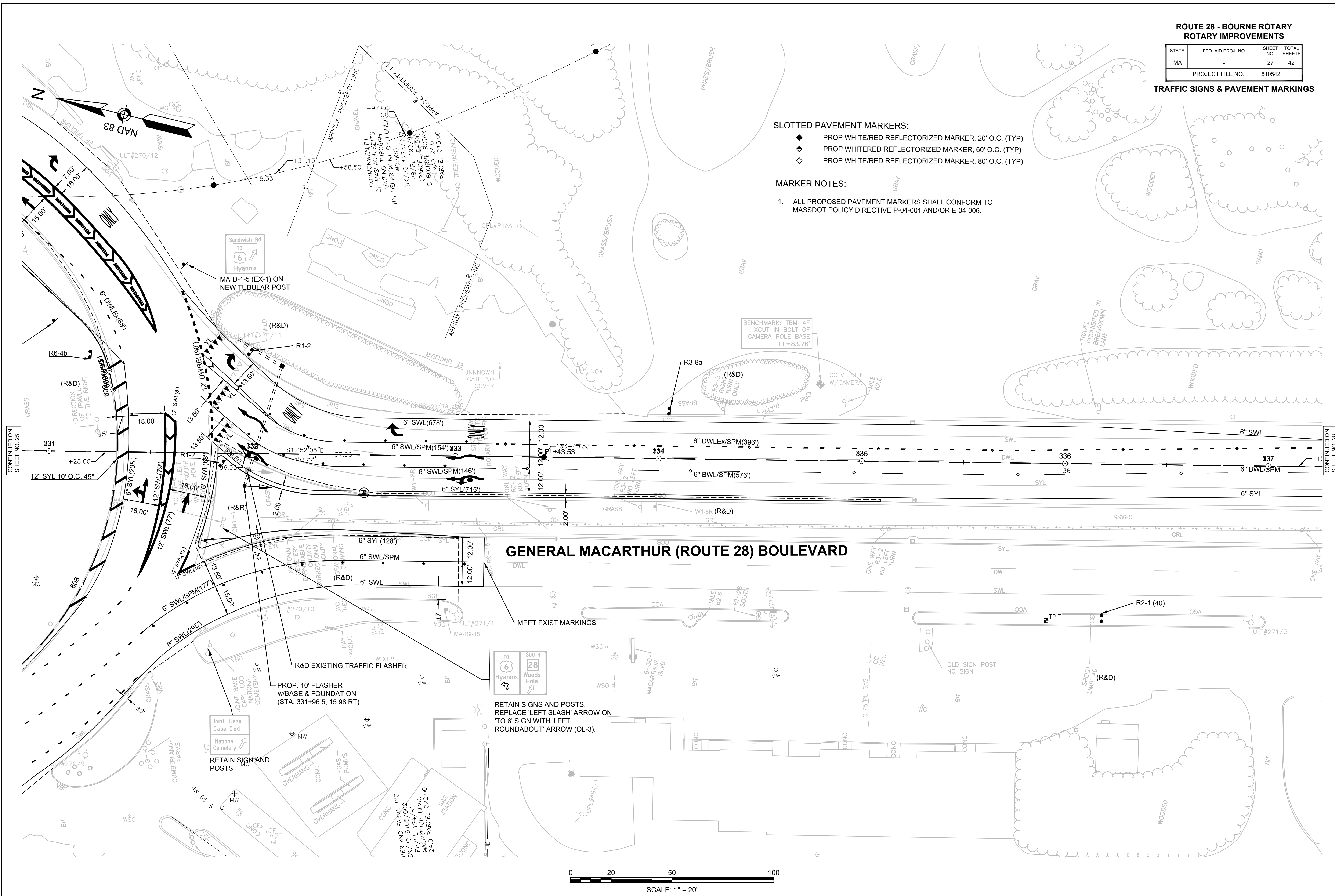
CURVE TABLE				
Curve #	Delta	Radius	Tangent	Length
C69	29°17'46"	87.00	22.74	44.48
C70	20°30'58"	152.00	27.51	54.43
C71	21°05'48"	122.00	22.72	44.92
C72	42°00'39"	215.00	82.55	157.64
C73	20°13'41"	98.00	17.48	34.60
C74	20°13'41"	80.00	14.27	28.24
C75	65°45'48"	120.00	77.58	137.73
C76	150°48'10"	2.00	7.68	5.26
C77	150°56'54"	3.00	11.58	7.90
C78	129°09'28"	2.00	4.21	4.51
C79	19°05'06"	50.00	8.41	16.65

SLOTTED PAVEMENT MARKERS:

- ◆ PROP WHITE/RED REFLECTORIZED MARKER, 20' O.C. (TYP)
- ◆ PROP WHITERED REFLECTORIZED MARKER, 60' O.C. (TYP)
- ◇ PROP WHITE/RED REFLECTORIZED MARKER, 80' O.C. (TYP)

MARKER NOTES:

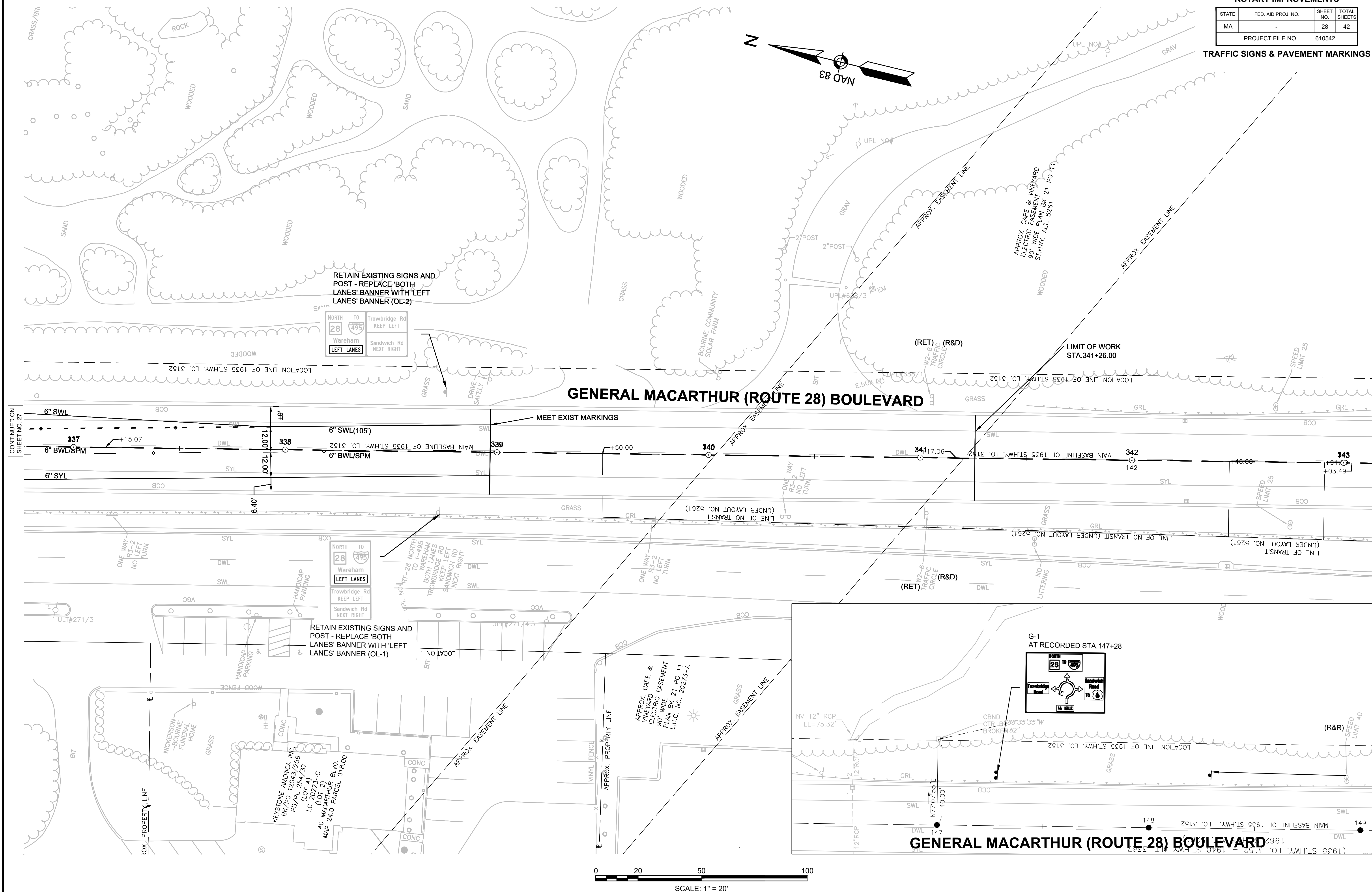
- ALL PROPOSED PAVEMENT MARKERS SHALL CONFORM TO MASSDOT POLICY DIRECTIVE P-04-001 AND/OR E-04-006.



ROUTE 28 - BOURNE ROTARY ROTARY IMPROVEMENTS

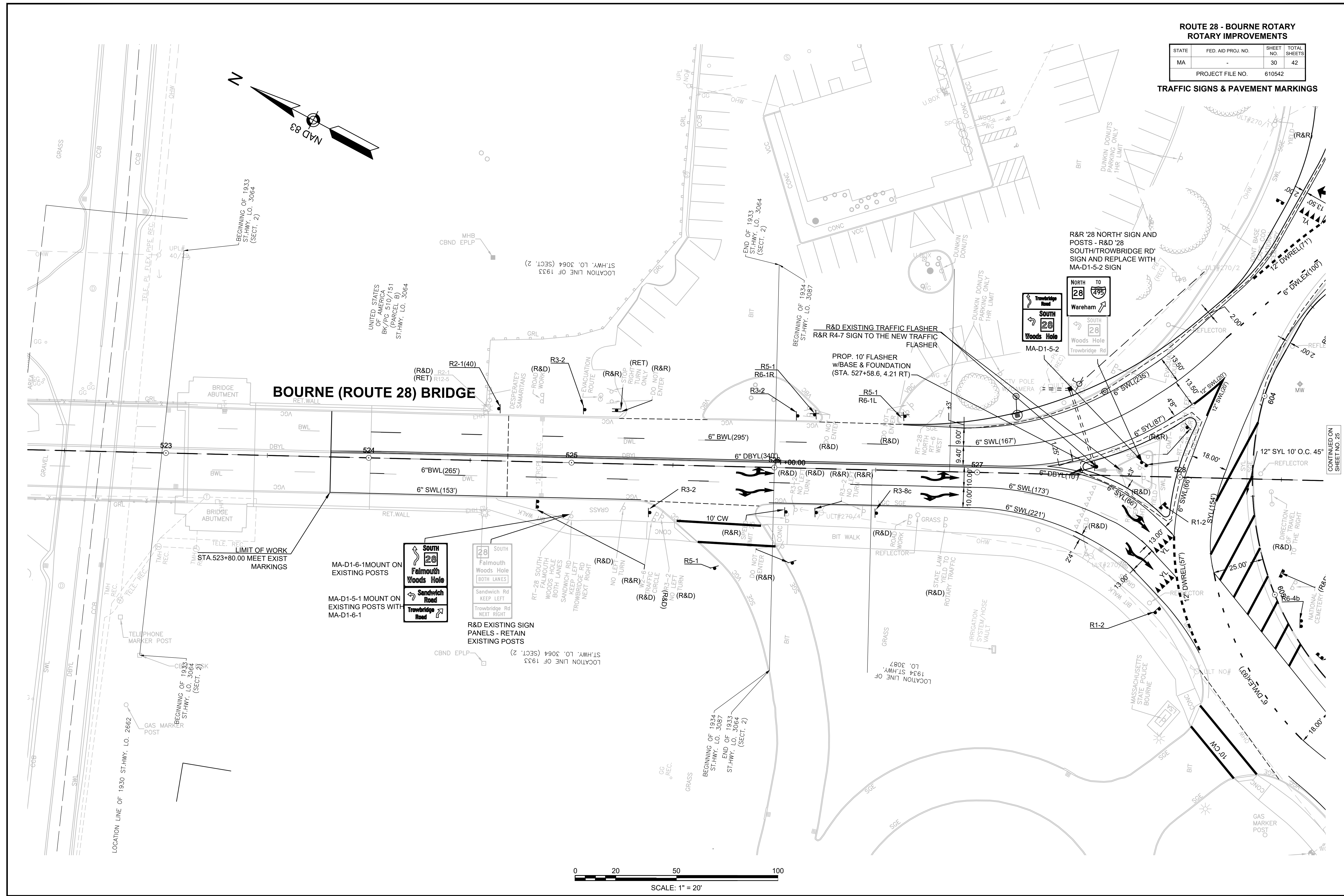
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	28	42
PROJECT FILE NO.		610542	

TRAFFIC SIGNS & PAVEMENT MARKINGS



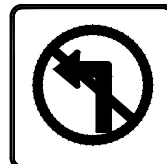
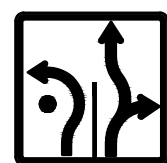
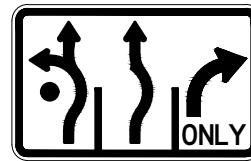

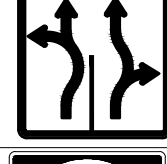




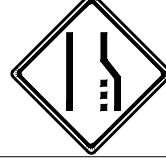




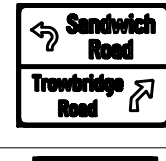
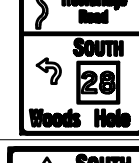
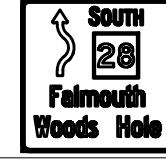
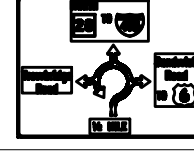


STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	30	42
PROJECT FILE NO.		610542	

TRAFFIC SIGNS & PAVEMENT MARKINGS

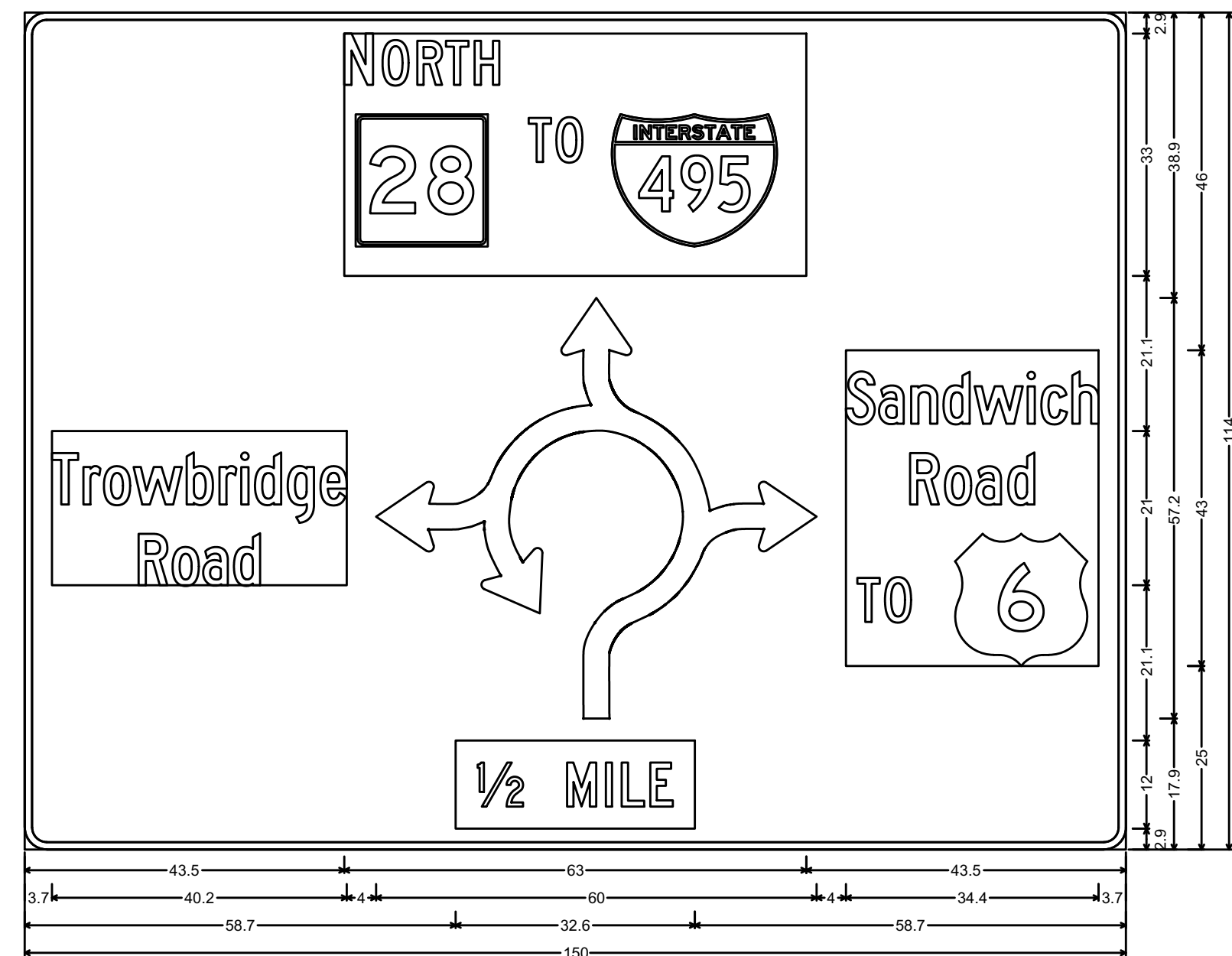


TRAFFIC SIGN SUMMARY

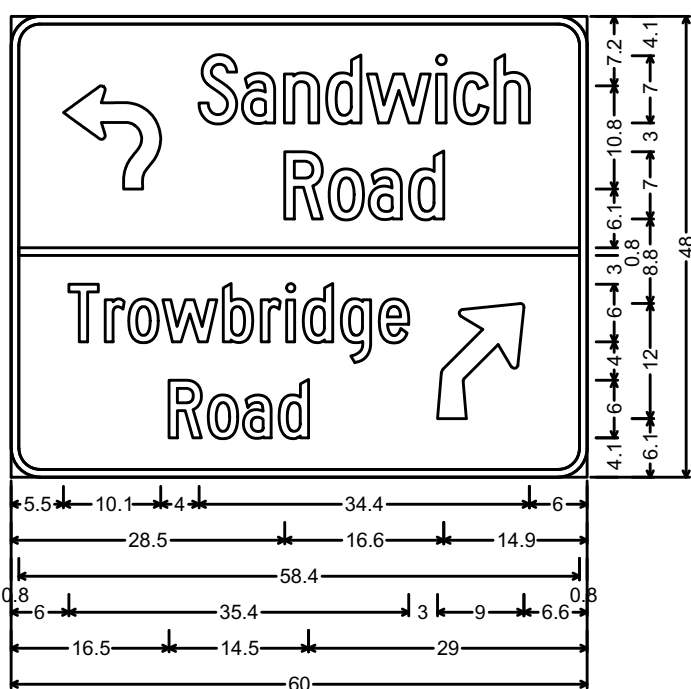
SIGN CODE	SIZE OF SIGN (IN.)		LEGEND	TEXT DIMENSIONS			NO. OF SIGNS REQ'D	COLOR			POST SIZE AND NO. REQ'D	UNIT AREA IN SQ. FT.	AREA IN SQ. FT.
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACKGROUND	LEGEND	BORDER			
R1-2	48 X 48 X 48			SEE 2009 MUTCD			8	WHITE	RED	WHITE	P5-2 8-REQ	6.9	55.2
R2-1(40)	30	36					2	WHITE	BLACK	BLACK	P5-1 2-REQ	7.5	15
R3-2	36	36					5	WHITE	BLACK / RED	BLACK	5 P5-1	9	45
R3-8	36	36					1	WHITE	BLACK	BLACK	P5-1 1-REQ	9	9
R3-8a	48	30					1	WHITE	BLACK	BLACK	P5-2 1-REQ	10	10
R3-8b	36	36					1	WHITE	BLACK	BLACK	P5-1 1-REQ	9	9
R3-8c	36	36					1	WHITE	BLACK	BLACK	P5-1 1-REQ	9	9
R5-1	30	30					7	WHITE	RED	WHITE	P5-1 7-REQ	6.25	43.75
R6-1L	36	12					2	BLACK	BLACK / WHITE	WHITE	2 MTD W/R5-1	3	6
R6-1R	36	12					2	BLACK	BLACK / WHITE	WHITE	2 MTD W/R5-1	3	6
R6-4b	60	24					5	WHITE	BLACK	-	P5-2 5-REQ	10	50
W4-2R	30	30					2	YELLOW	BLACK	BLACK	P5-2 2-REQ	6.25	12.5
MA-D3-1	63	12		6C/4.5C	3" 3"	N/A	2	GREEN	WHITE	WHITE	P5-2 1-REQ	PAY UNDER ITEM 874	PAY UNDER ITEM 874
MA-D3-2	60	12		6C/4.5C	2.75" 3.25"	N/A	2	GREEN	WHITE	WHITE	P5-2 1-REQ	PAY UNDER ITEM 874	PAY UNDER ITEM 874
MA-D1-5-1	60	48		SEE DETAILS			1	GREEN	WHITE	WHITE	ON EXISTING POST	PAY UNDER ITEM 831.11	PAY UNDER ITEM 831.11
MA-D1-5-2	54	66		SEE DETAILS			2	GREEN	WHITE	WHITE	PAY UNDER ITEM 841.11	PAY UNDER ITEM 831.11	PAY UNDER ITEM 831.11
MA-D1-6-1	60	60		SEE DETAILS			1	GREEN	WHITE	WHITE	ON EXISTING POST	PAY UNDER ITEM 831.11	PAY UNDER ITEM 831.11
G-1	150	114		SEE DETAILS			1	GREEN	WHITE	WHITE	PAY UNDER ITEM 844.101	PAY UNDER ITEM 829	PAY UNDER ITEM 829
													270.5

- NOTES:
- SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED; AND THE MASSDOT STANDARD SIGNS BOOK, AS AMENDED.
 - ALL PROPOSED REGULATORY AND WARNING SIGNS SHALL BE 0.080 INCH TYPE A ALUMINUM RETROREFLECTIVE SHEETING ON SIGNS SHALL BE PER MASSDOT SPECIFICATION M9.30.0.
 - ALL SIGN NOTED AS "(R&R)" SHALL BE MOUNTED ON NEW P5 POSTS OR AS OTHER WISE INDICATED.
 - MA-D3-1 AND MA-D3-2 SHALL BE POS AND MOUNTED ON THE POSTS BACK TO BACK.

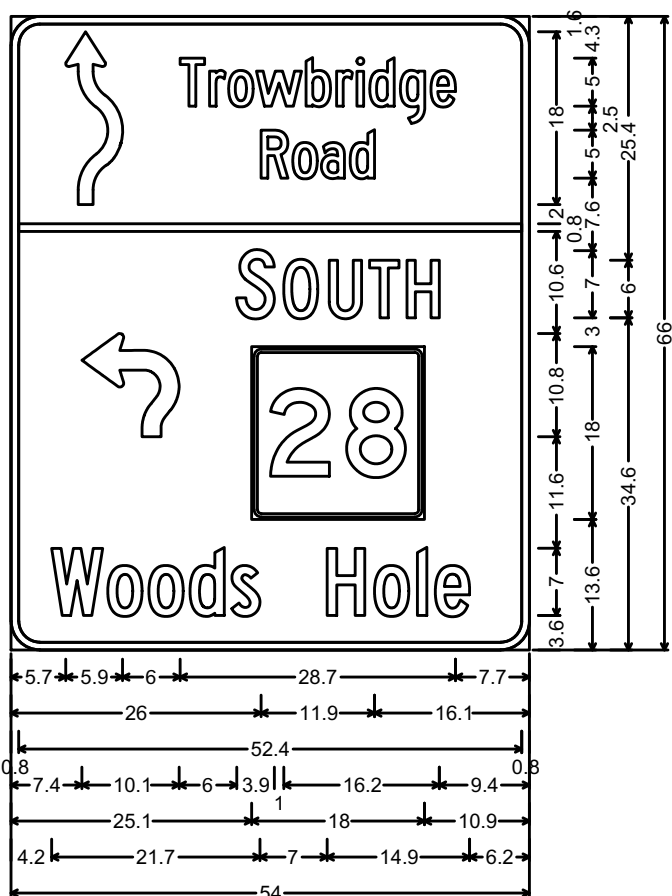
ROUTE 28 - BOURNE ROTARY ROTARY IMPROVEMENTS			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	31	42
PROJECT FILE NO.		610542	
TRAFFIC SIGN SUMMARY			



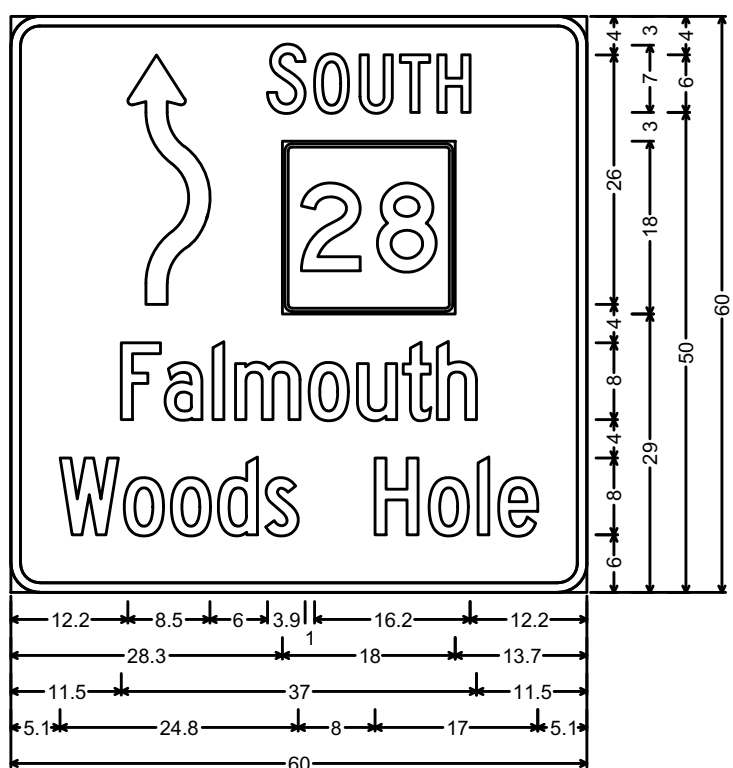
G-1 revised;
3.0" Radius, 1.0" Border, White on Green;
Rectangle Green;
Rectangle Green;
Circular Intersection Directional Arrow_13" Text; Rectangle Yellow;
Rectangle Yellow;



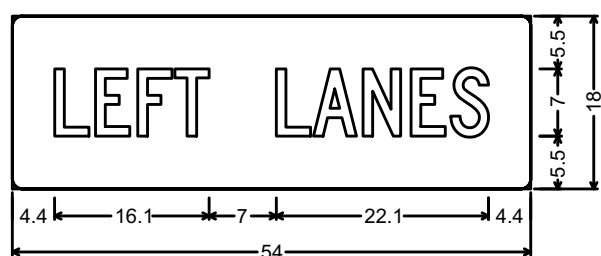
MA-D1-5-1;
3.0" Radius, 0.8" Border, White on Green;
"Sandwich", C 2K 85% spacing;
"Road", C 2K 85% spacing; "Trowbridge", C 2K;
"Road", C 2K; 45 Deg Advance Turn Arrow 9.0" X 12.0";



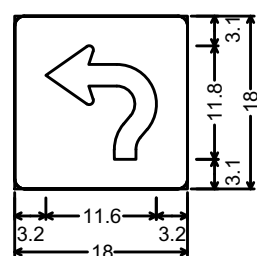
MA-D1-5-2;
3.0" Radius, 0.8" Border, White on Green;
roundabouts; "Trowbridge", C 2K 85% spacing;
"Road", C 2K 85% spacing; "SOUTH", C 2K;
State Highway 28 M1-5;
"Woods Hole", C 2K 85% spacing;



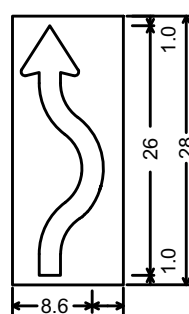
MA-D1-6-1;
3.0" Radius, 1.0" Border, White on Green;
roundabouts; "SOUTH", C 2K; State Highway 28 M1-5;
"Falmouth", C 2K 85% spacing;
"Woods Hole", C 2K 85% spacing;



LEFT LANES;
1.0" Radius, 0.0" Border, Black on Yellow;
"LEFT LANES", C 2K 70% spacing;



ARROW;
1.0" Radius, 0.0" Border, White on Green;



ARROW;
2.0" Radius, 0.0" Border, White on Green;

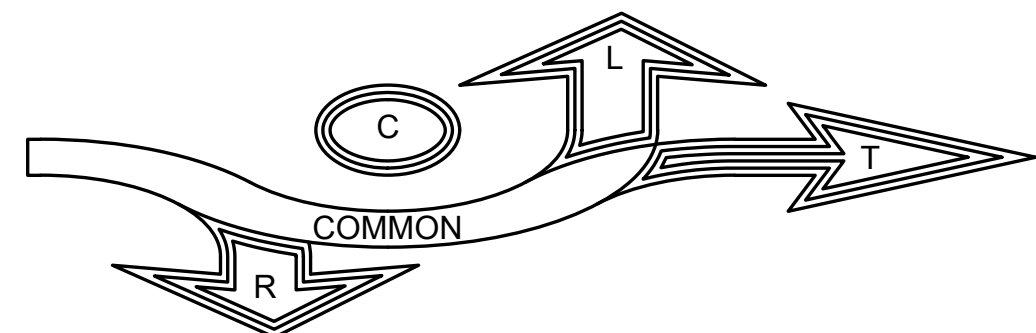
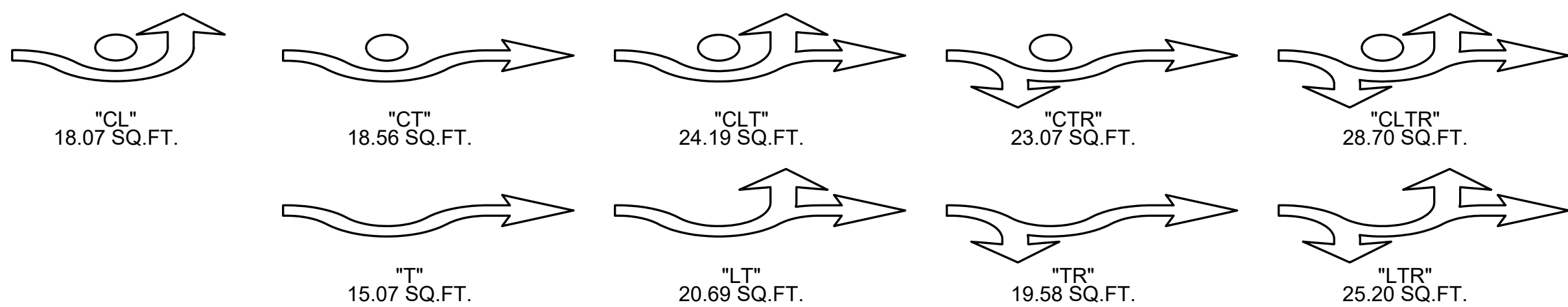
OVERLAY OL-1 THROUGH OL-2 - 4.5' x 1.5'
6.75 SF - 2 REQ.

OVERLAYS OL-3 THROUGH OL-7 - 1.5' x 1.5'
2.25 SF EA - 5 REQ. (13.5 SF TOTAL)

OVERLAYS OL-8 - 2.3' x 1'
2.3 SF EA - 1 REQ. (2.3 SF TOTAL)

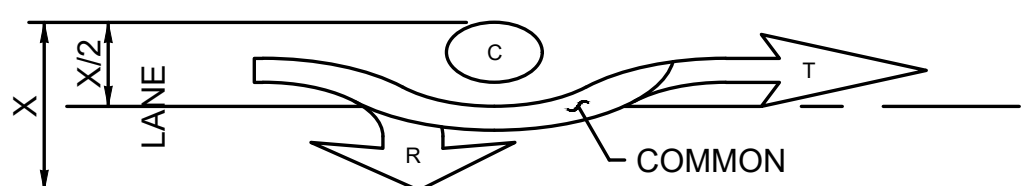
ROUNDABOUT PAVEMENT MARKING ARROW DETAILS

(SOURCE: WASHINGTON STATE DEPARTMENT OF TRANSPORTATION)



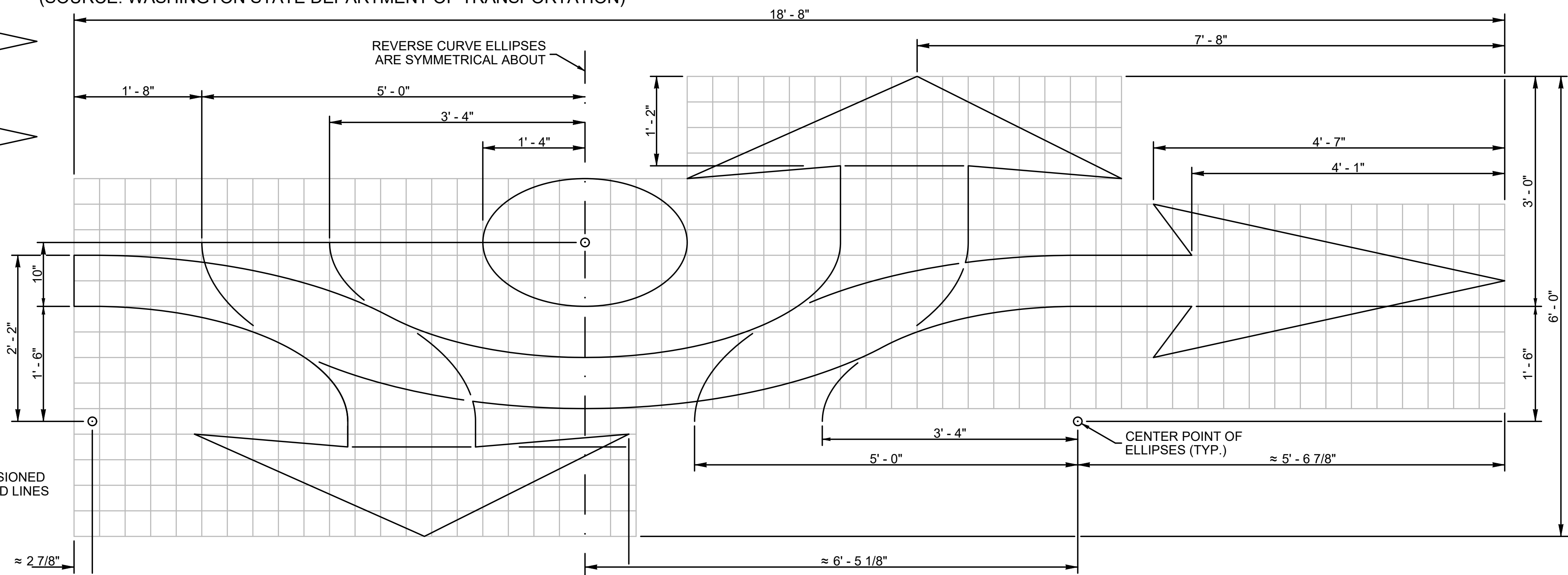
THE LABELED AREAS ABOVE CORRESPOND TO THE PORTIONS
NEEDED FOR EACH TYPE OF ROUNDABOUT TRAFFIC ARROW.

FOR EXAMPLE: THE ROUNDABOUT TRAFFIC ARROW TYPE TRC
REQUIRES THE "COMMON", "T", "R", AND "C" AREAS.



CENTER THE ARROW ON THE LANE CENTERLINE BETWEEN THE
LATERAL EXTREMITIES OF THAT ARROW TYPE.

GRIDS ARE 4" SQUARE
ASSUME POINTS NOT DIMENSIONED
TO BE COINCIDENT WITH GRID LINES



ROUTE 28 - BOURNE ROTARY ROTARY IMPROVEMENTS

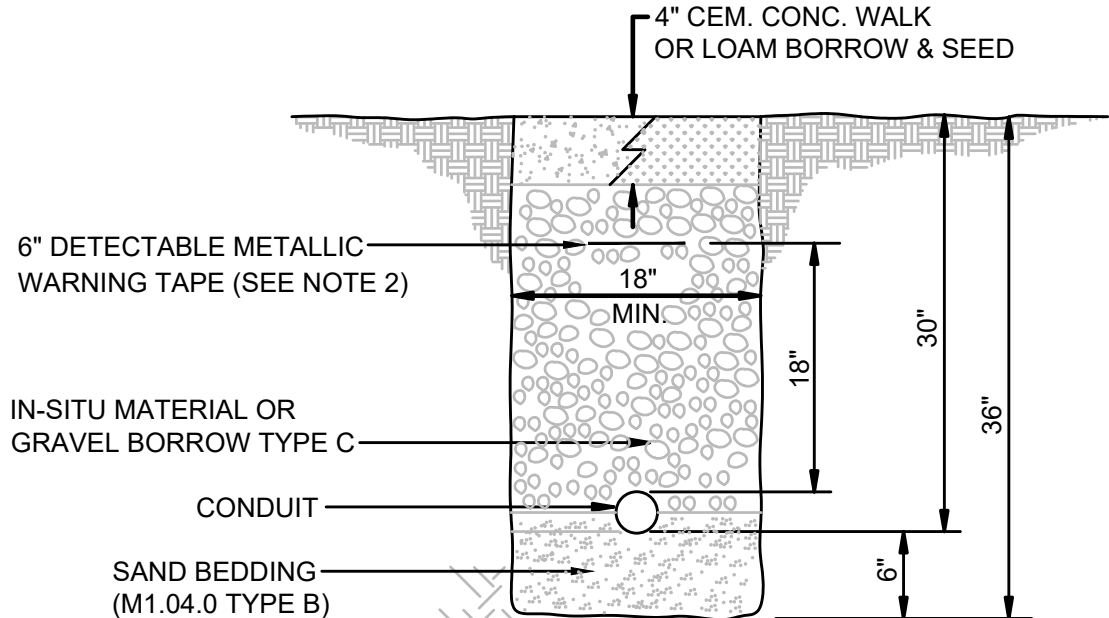
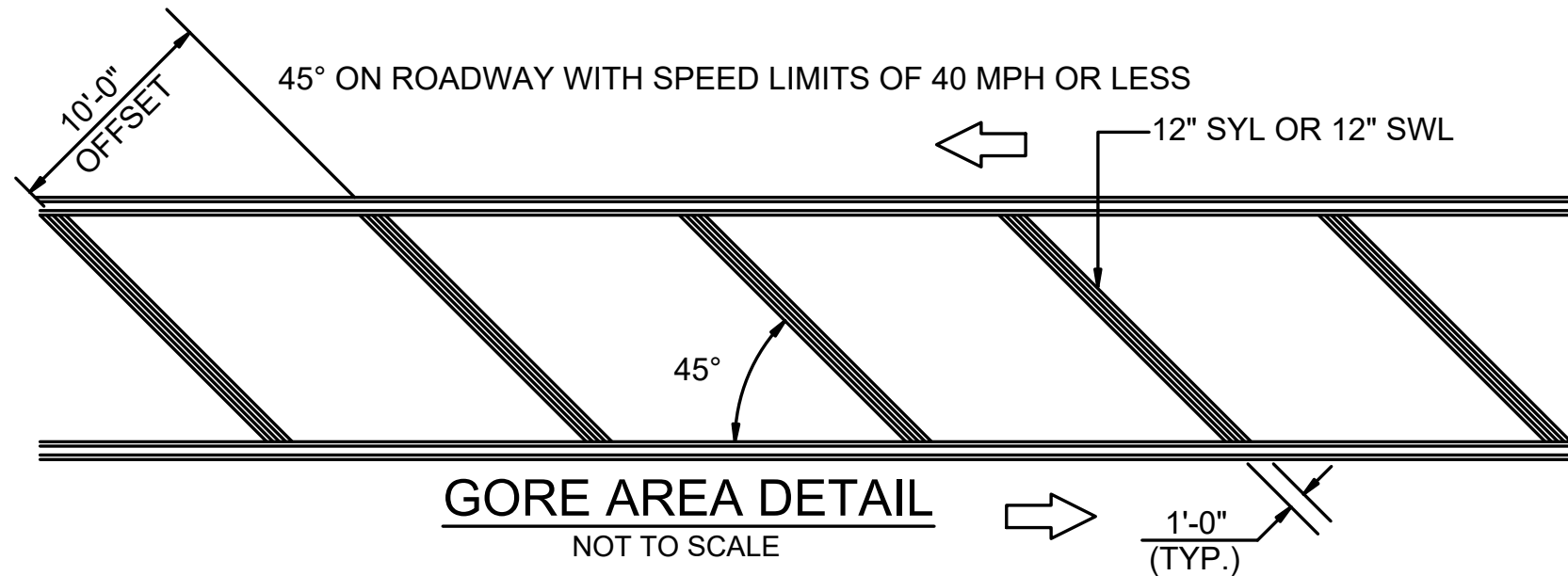
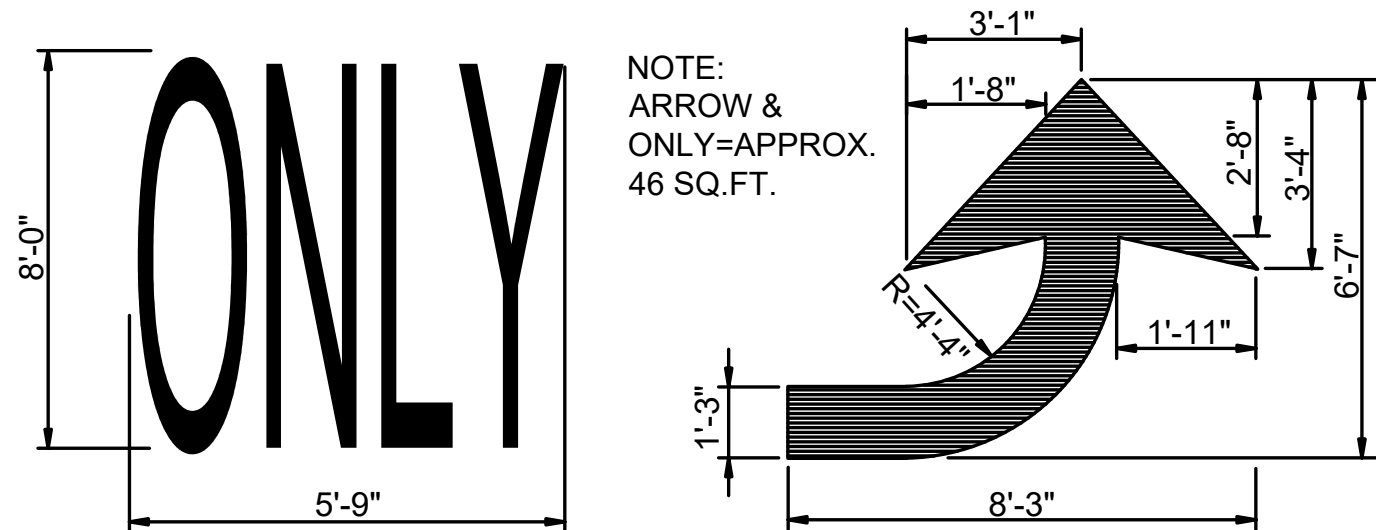
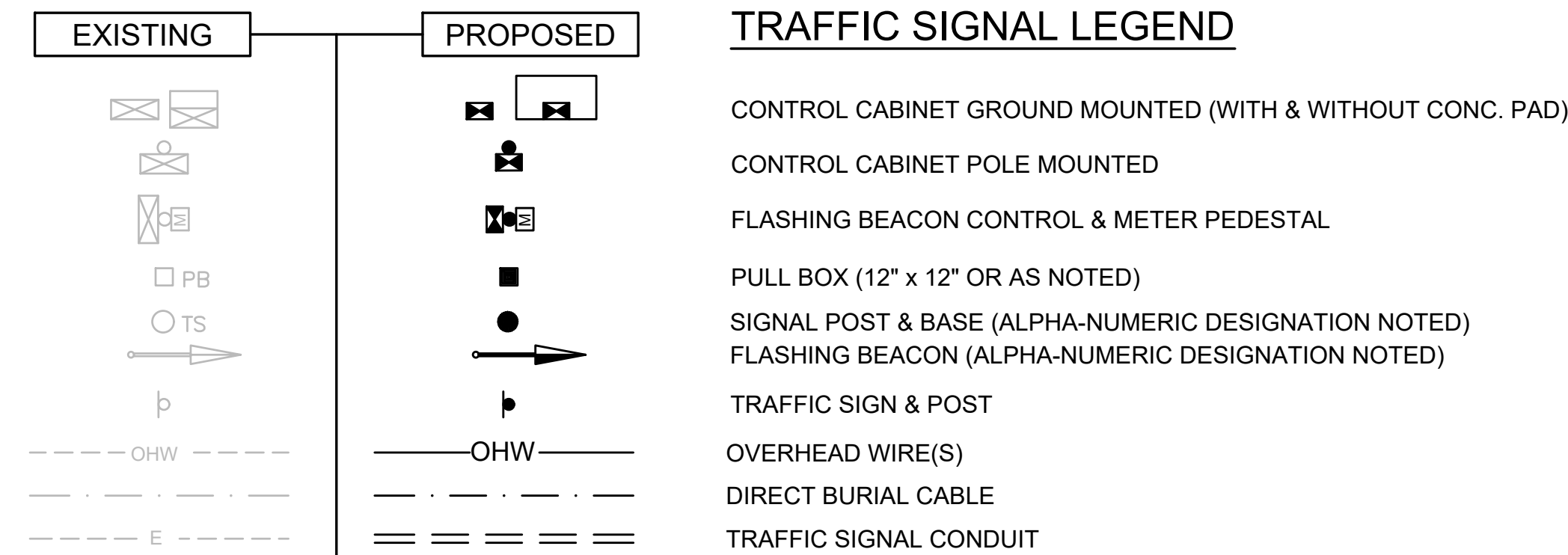
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	32	42
PROJECT FILE NO.		610542	

TRAFFIC SIGN SUMMARY

ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS

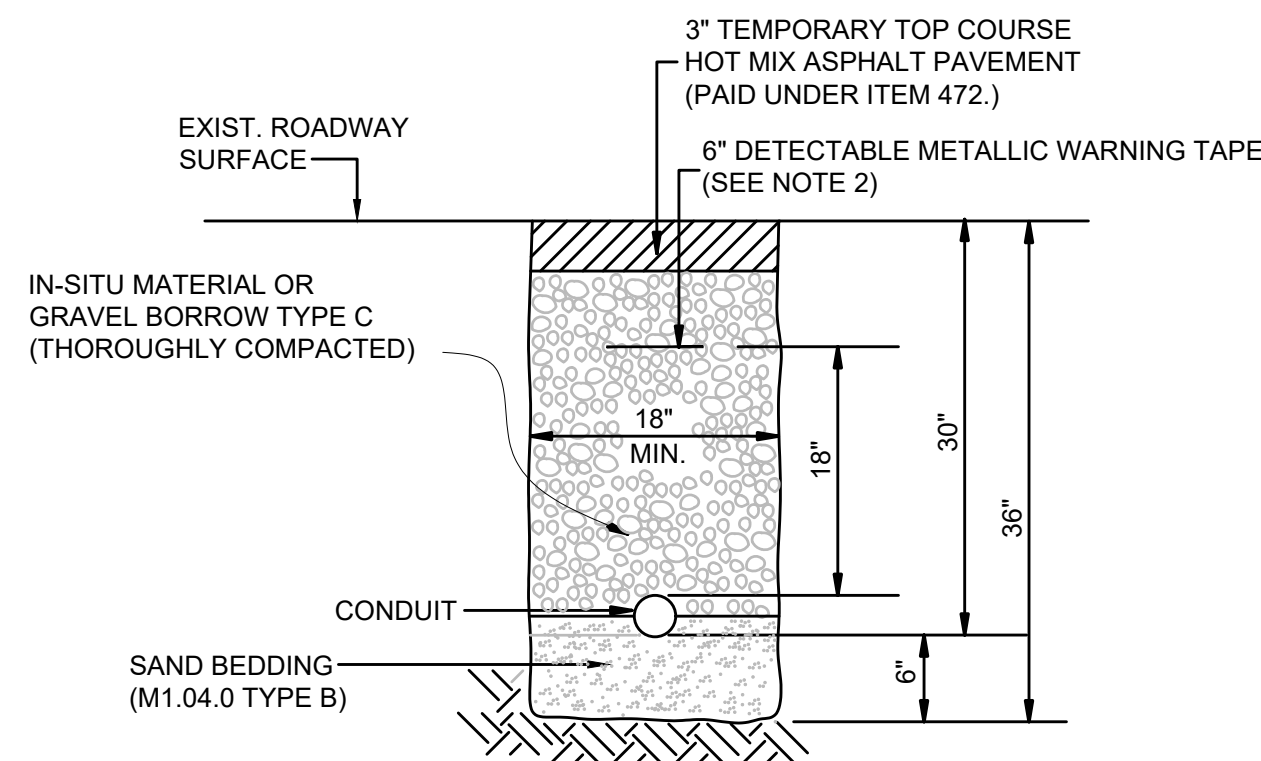
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	33	42
PROJECT FILE NO.		610542	

CONSTRUCTION DETAILS



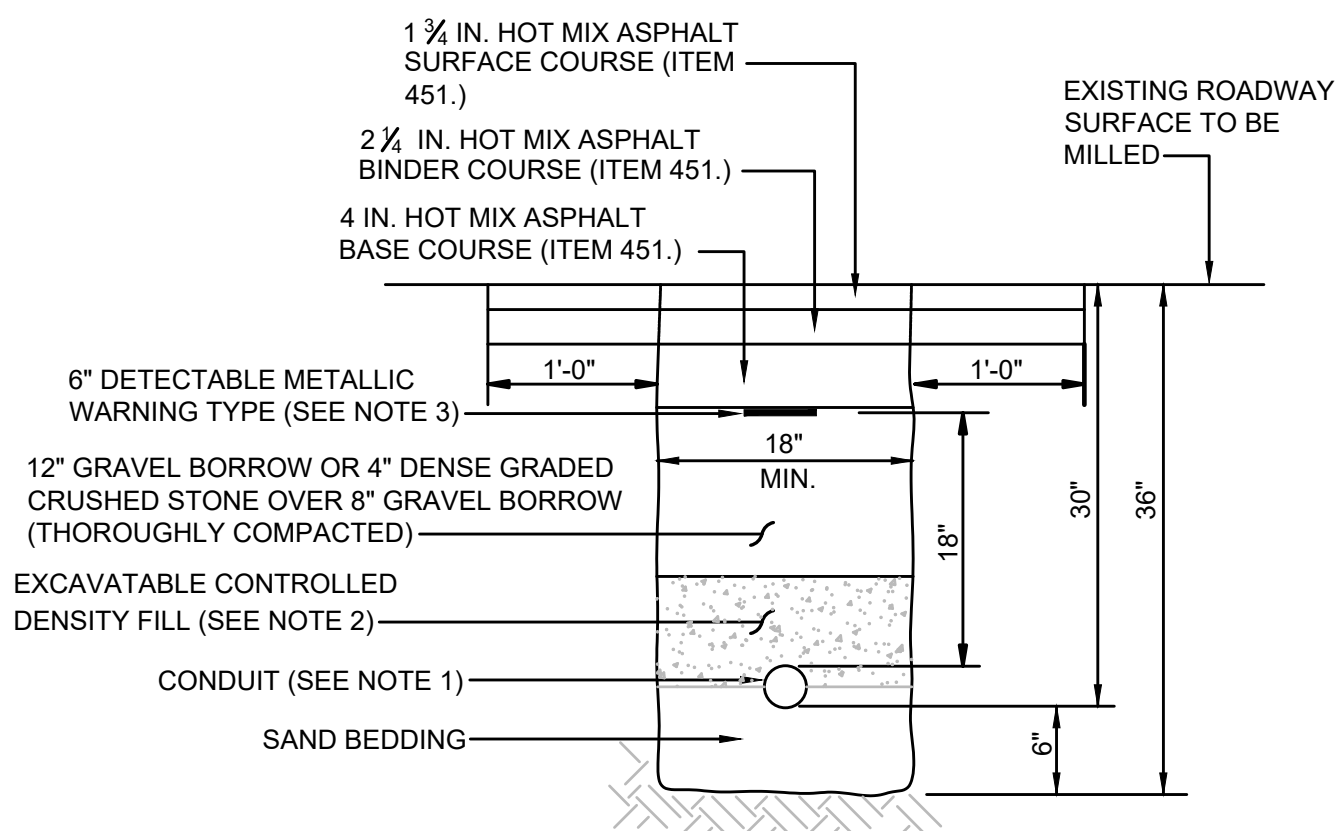
TRAFFIC SIGNAL CONDUIT TRENCH DETAIL
(IN SIDEWALK OR LANDSCAPE AREA)

NOT TO SCALE



TEMPORARY PATCH
TRAFFIC SIGNAL CONDUIT TRENCH DETAIL
(IN ROADWAY WITHIN FULL DEPTH AREA)

NOT TO SCALE



TRAFFIC SIGNAL CONDUIT TRENCH DETAIL
(IN ROADWAY TO BE MILLED)

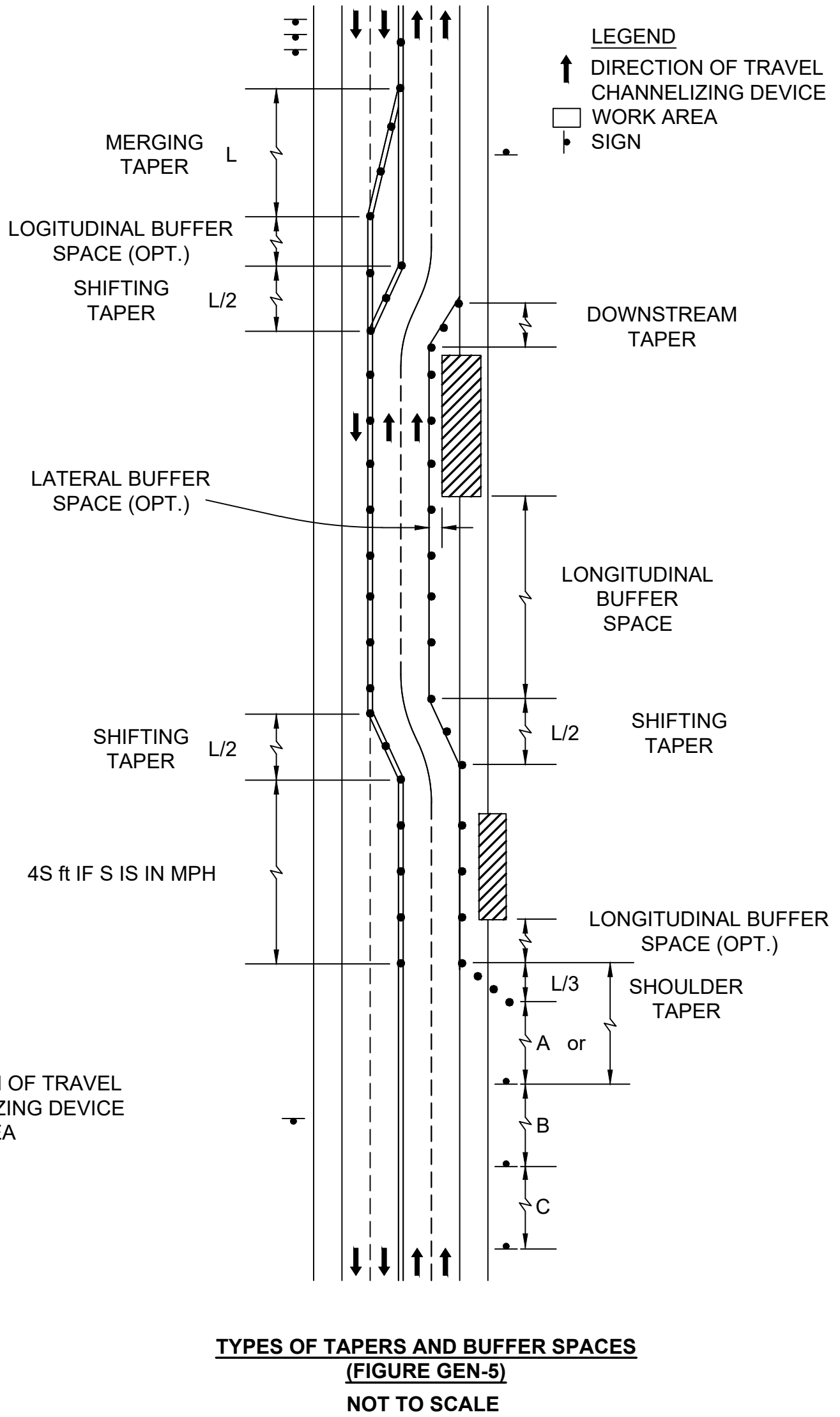
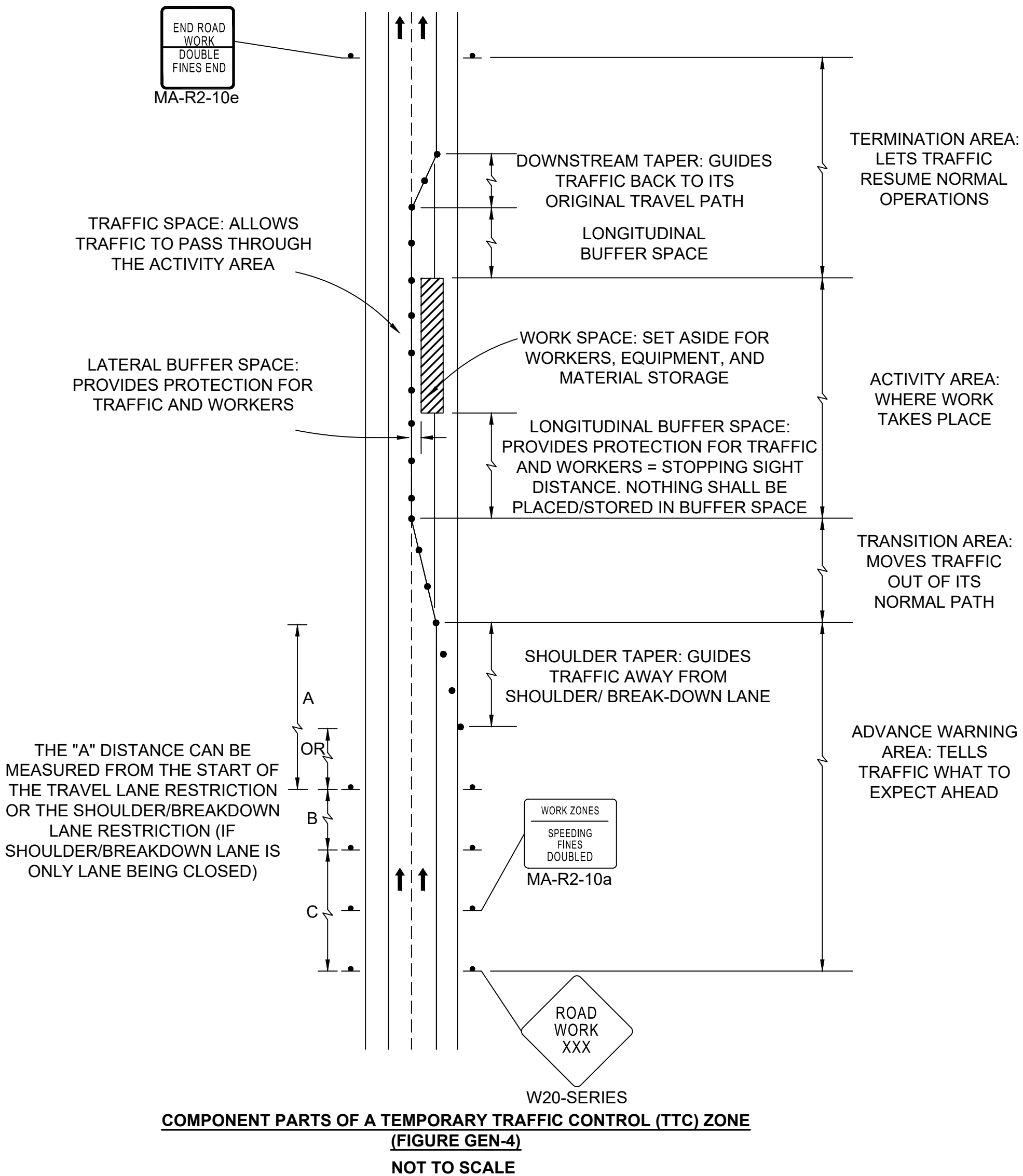
NOT TO SCALE

NOTES:

- SCHEDULE 80 ELECTRICAL CONDUIT TYPE NM-PLASTIC (UL), WITH PULL ROPE, UNLESS OTHERWISE APPROVED BY MASSDOT.
- CONTROLLED DENSITY FILL SHALL MEET THE REQUIREMENTS OF SUBSECTION M4.08.0.
- WARNING TAPE COLOR SHALL BE PER APWA STANDARDS.
- HMA SURFACE, INTERMEDIATE AND BASE COURSE SHALL BE PAID FOR UNDER ITEM 451.
- EXCAVATABLE CONTROLLED DENSITY FILL ONLY REQUIRED IN CONDUIT TRENCHES LOCATED WITHIN AREAS OF EXIST. ROADWAY PAVEMENT THAT DO NOT REQUIRE FULL DEPTH PAVEMENT CONSTRUCTION.

NOTES:

- ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) INCLUDING MASSACHUSETTS AMENDMENTS, UNLESS SUPERCEDED BY THESE PLANS.
- ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD AND MASSDOT STANDARDS.
- ALL EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH THE PROPOSED TEMPORARY MARKINGS SHALL BE REMOVED BY APPROVED METHOD.
- TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
- TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
- SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
- CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.
- THE FIRST TEN REFLECTORIZED DRUMS IN THE TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.
- DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
- MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
- MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
- ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
- TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL NOT COVERED IN THE PLAN SET SHALL REFER TO MASSDOT "STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TRAFFIC MANAGEMENT PLANS".
- VEHICLE ACCESS SHALL BE MAINTAINED BY LIMITING DURATIONS AND IMPACTS AS BEST AS PRACTICAL WHERE DRIVEWAYS ARE PROPOSED TO REMAIN ACCESSIBLE DURING THE STAGE OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ADA-COMPLIANT PEDESTRIAN ACCESS AT ALL TIMES, SPECIFICALLY INCLUDING PEDESTRIAN GUIDANCE SYSTEMS AT WORK ZONES. ACCESS SHALL BE MAINTAINED ALONG ALL SIDEWALKS AND CROSSWALKS, AND TO ALL ABUTTERS. ANY PEDESTRIAN DETOURS SHALL INCLUDE A FULLY ADA-COMPLIANT PEDESTRIAN DETOUR ROUTE WITH PROPER BARRICADES, RAILINGS, RAMPS, AND SIGNAGE.



SUGGESTED ADVANCE WARNING SIGN MINIMUM SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
LOCAL OR LOW VOLUME ROADWAY	350 FEET	350 FEET	350 FEET
MOST OTHER ROADWAYS	500 FEET	500 FEET	500 FEET
EXPRESSWAY/FREEWAY	1,000 FEET	1,500 FEET	2,640 FEET

BASED ON: TABLE 6C-1 MUTCD LATEST EDITION

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FEET MINIMUM, 100 FEET MAXIMUM
DOWNSTREAM TAPER	50 FEET MINIMUM, 100 FEET MAXIMUM

NOTE: USE TABLE 6C-4 SHOWN BELOW TO CALCULATE L
SOURCE: TABLE 6C-3 2009 MUTCD

BUFFER SPACE TABLE

POSTED SPEED (MPH)	LENGTH (FT)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

SOURCE: TABLE 6C-2 2009 MUTCD
FORMULAS FOR DETERMINING TAPER LENGTHS

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

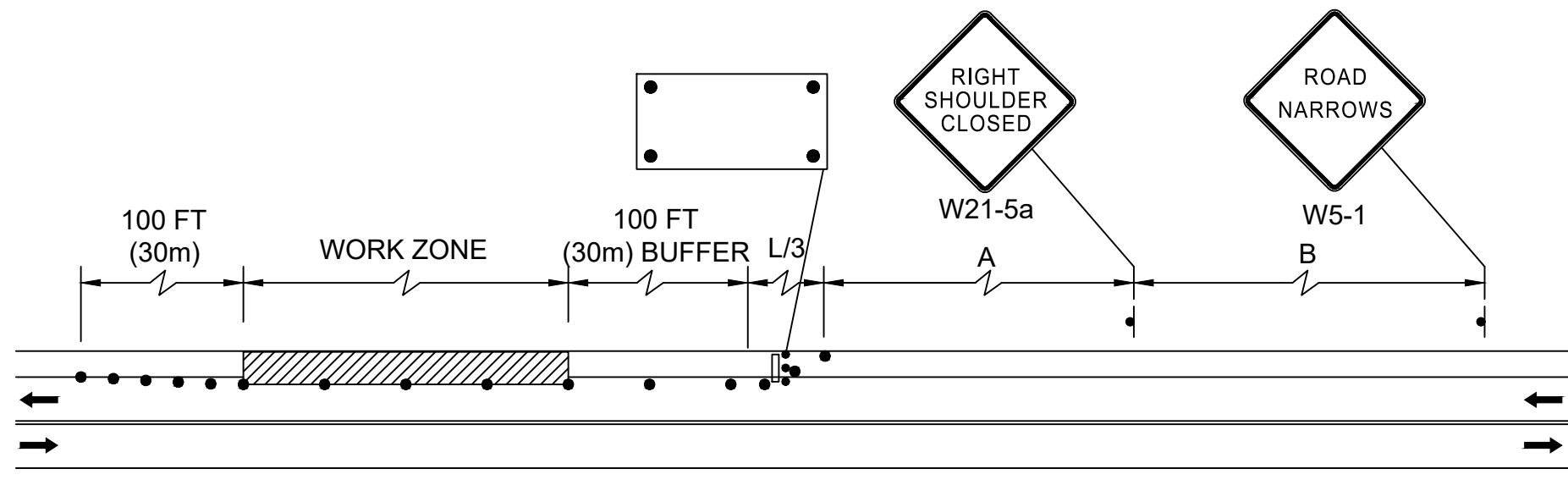
SOURCE: TABLE 6C-4 2009 MUTCD

WHERE: L = TAPER LENGTH IN FEET

W = WIDTH OF OFFSET IN FEET

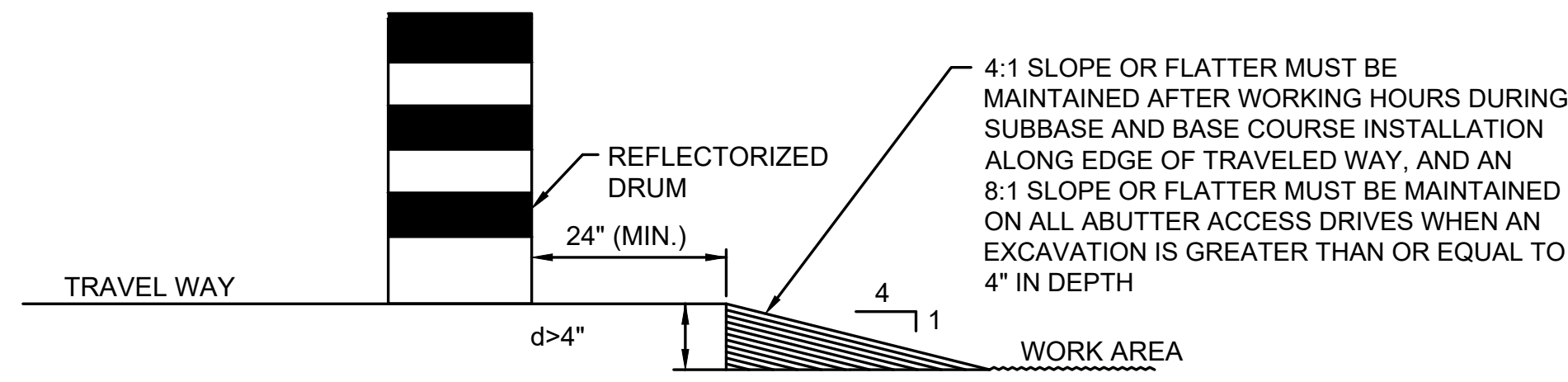
S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH

WORKZONE DISTANCES

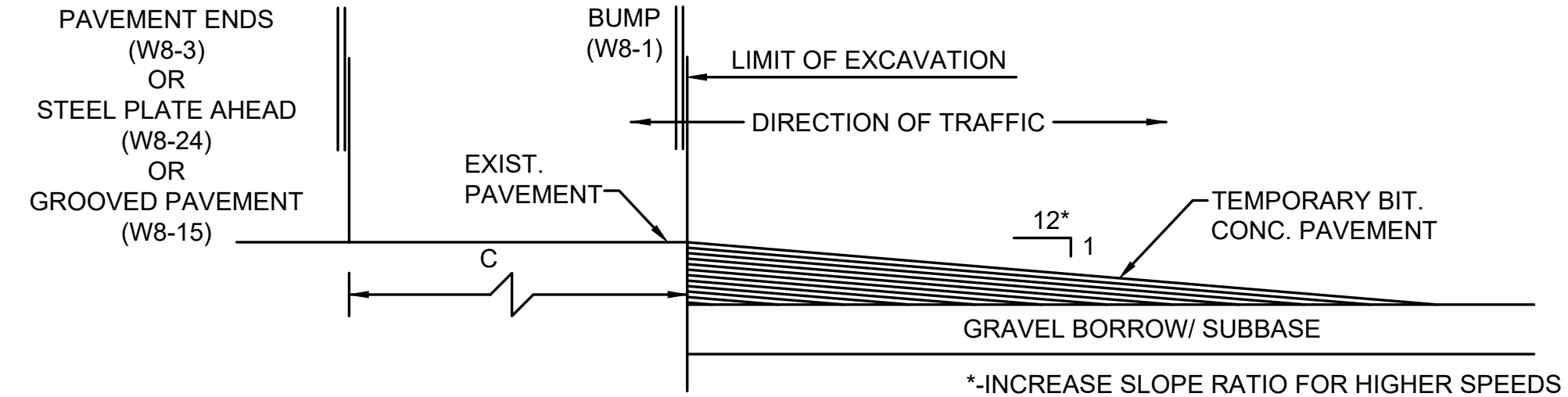


NOTE:

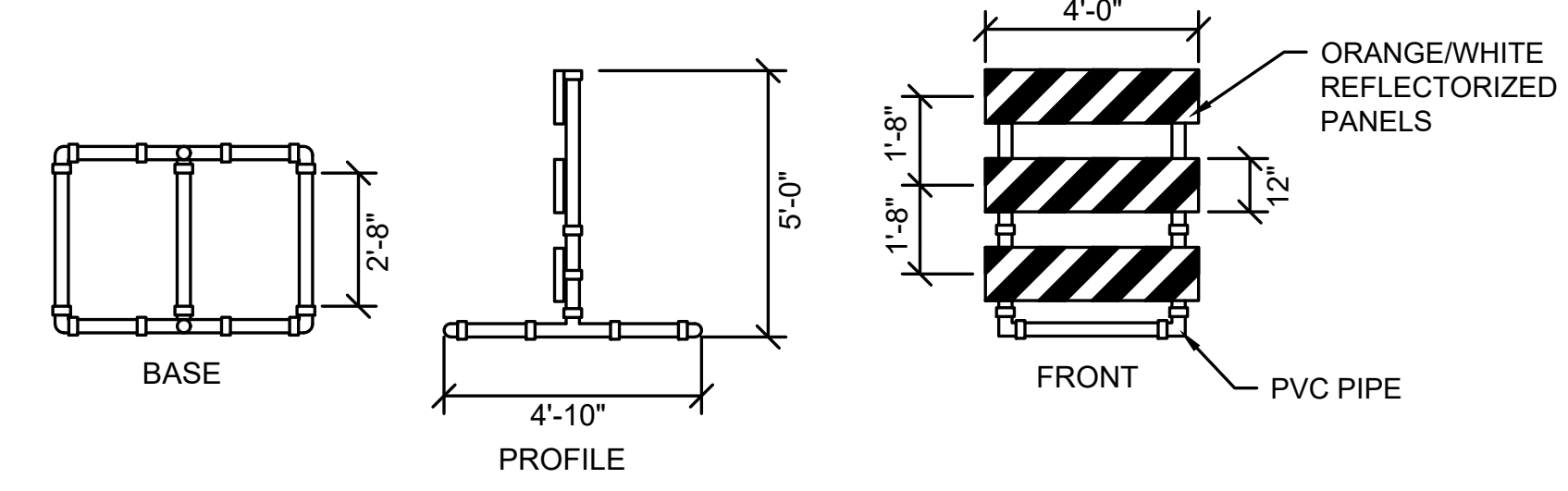
- SEE WORKZONE DISTANCES DETAIL FOR SIGNAGE SPACING, TAPER LENGTHS, AND BUFFER SPACE LENGTHS.
- USE A MINIMUM LANE WIDTH OF 11 FEET.



LATERAL DROP-OFF DETAIL
(FIGURE GEN-6)
NOT TO SCALE

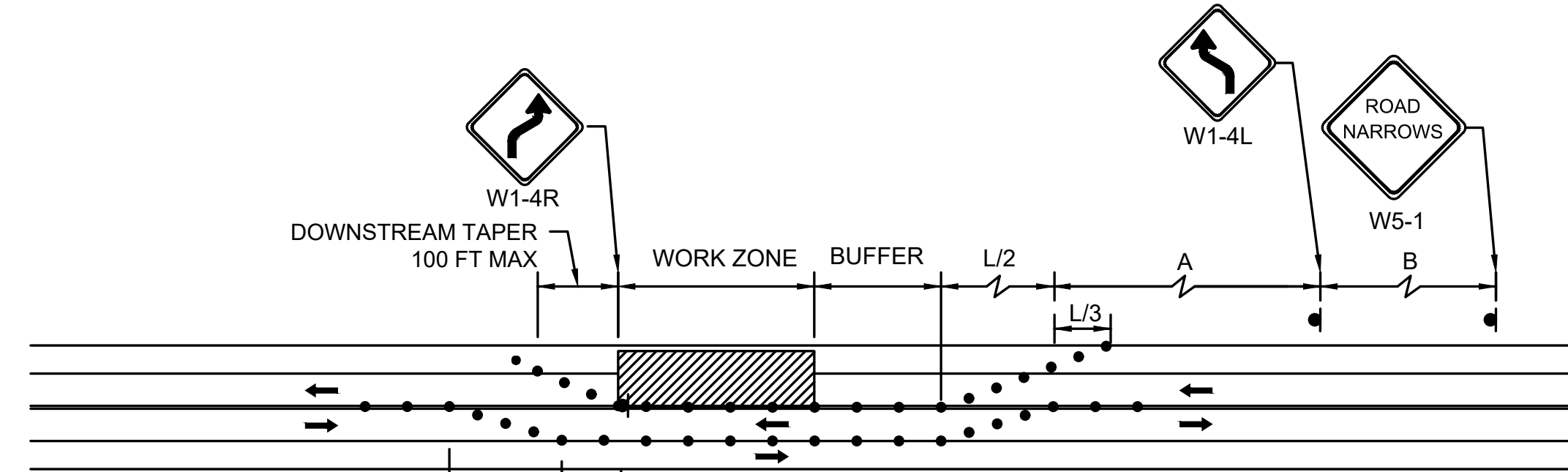


LONGITUDINAL DROP-OFF DETAIL
(FIGURE GEN-6)
NOT TO SCALE

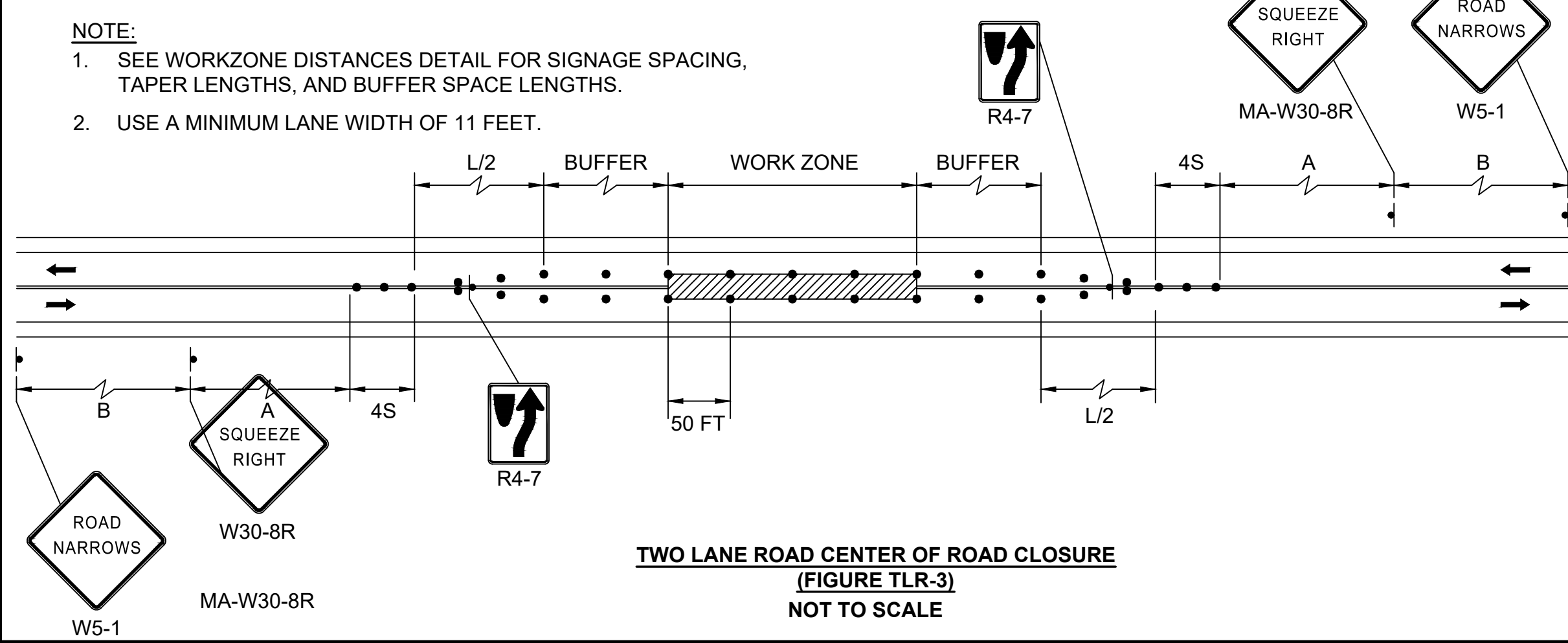


TYPE III BARRICADE

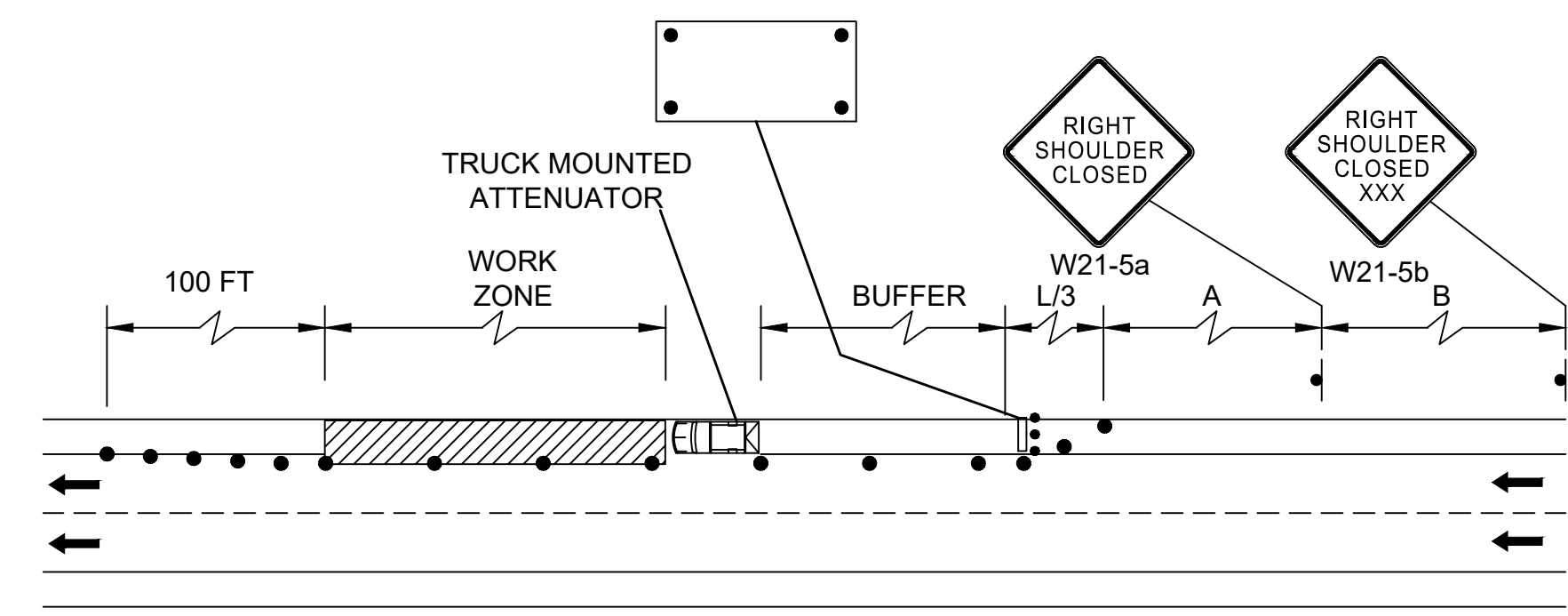
NOTE: TYPE III BARRICADES SHALL MEET MUTCD REQUIREMENTS (CURRENT EDITION)



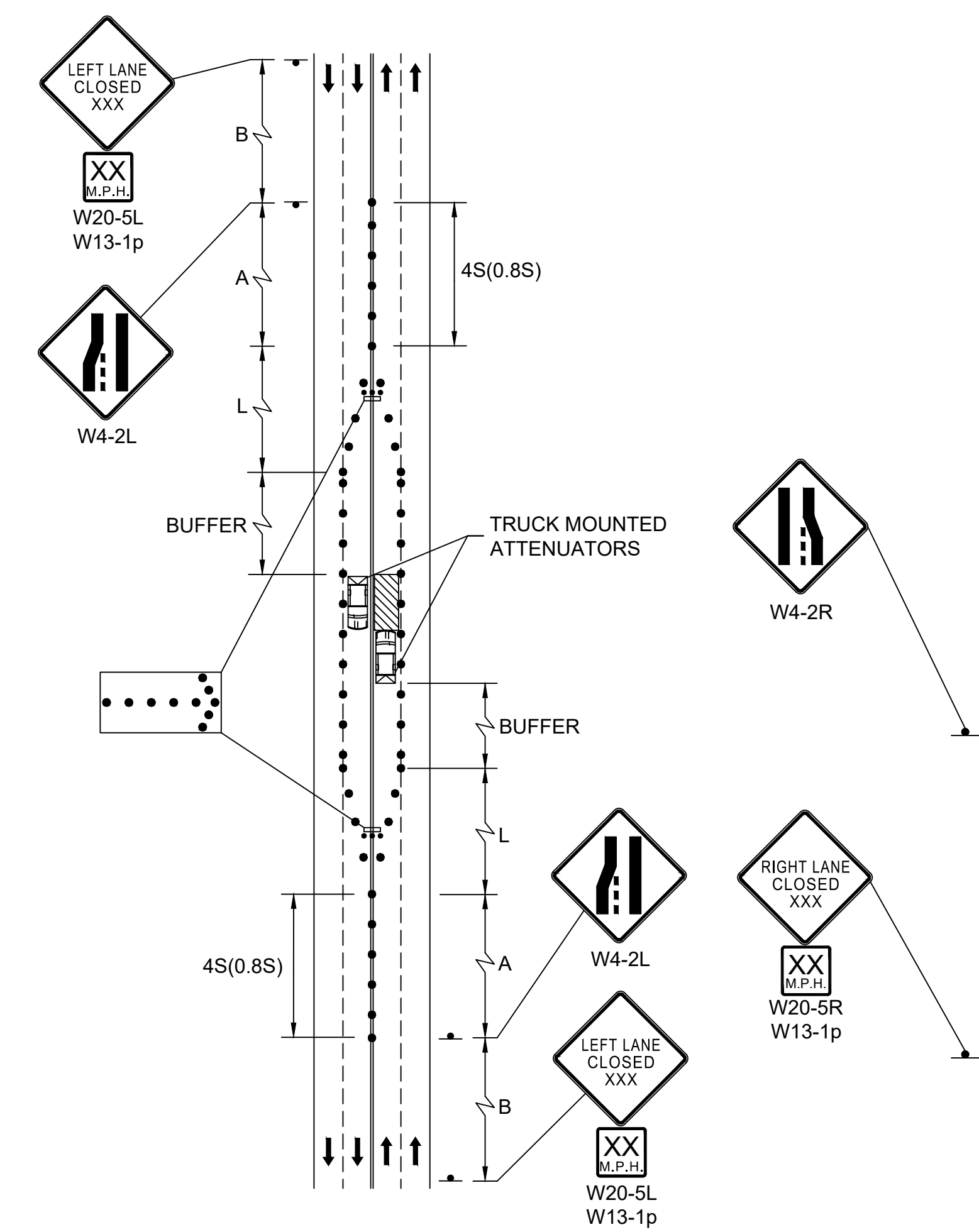
TWO LANE ROAD SHOULDER AND TRAVEL LANE CLOSED
(FIGURE TLR-2)
NOT TO SCALE



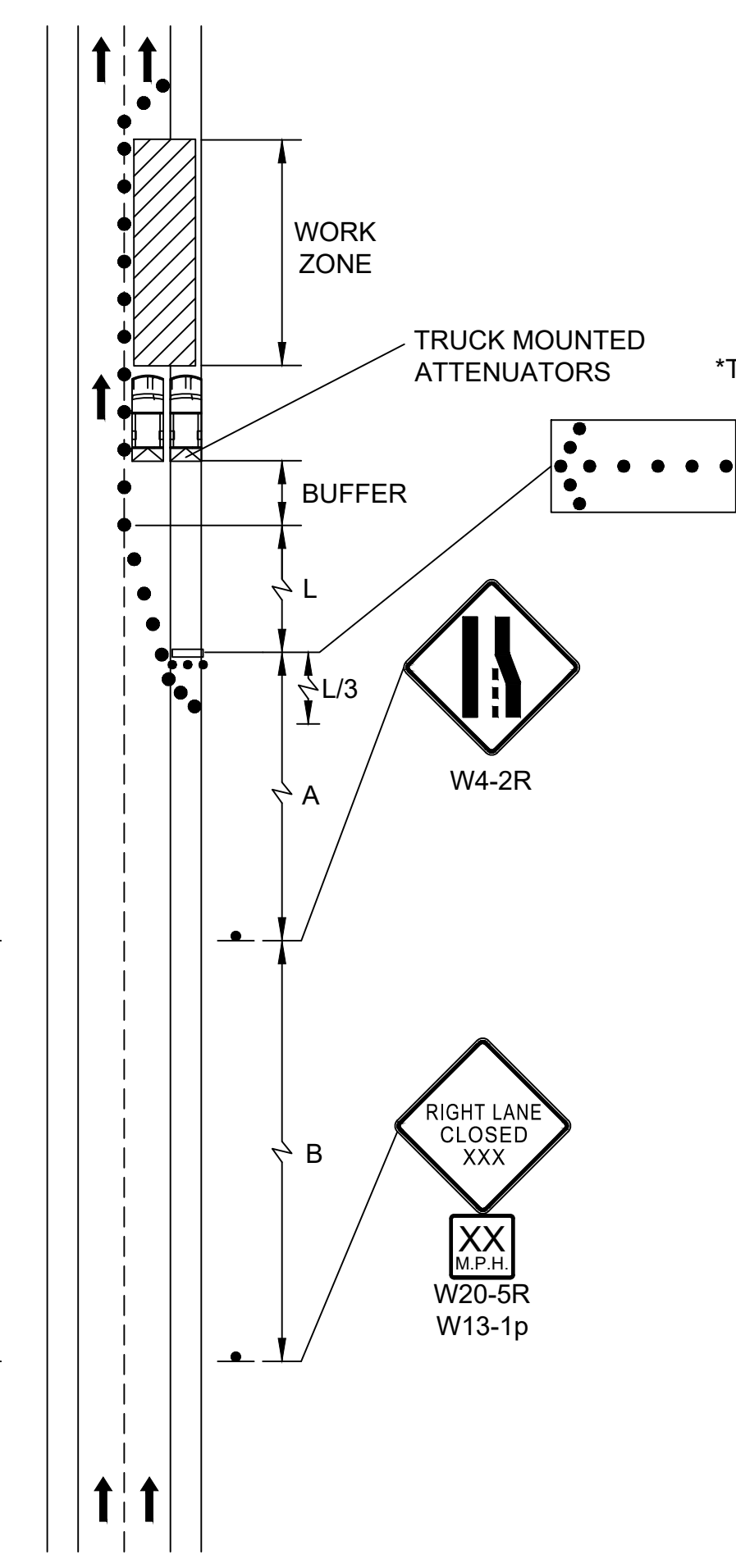
TWO LANE ROAD CENTER OF ROAD CLOSURE
(FIGURE TLR-3)
NOT TO SCALE



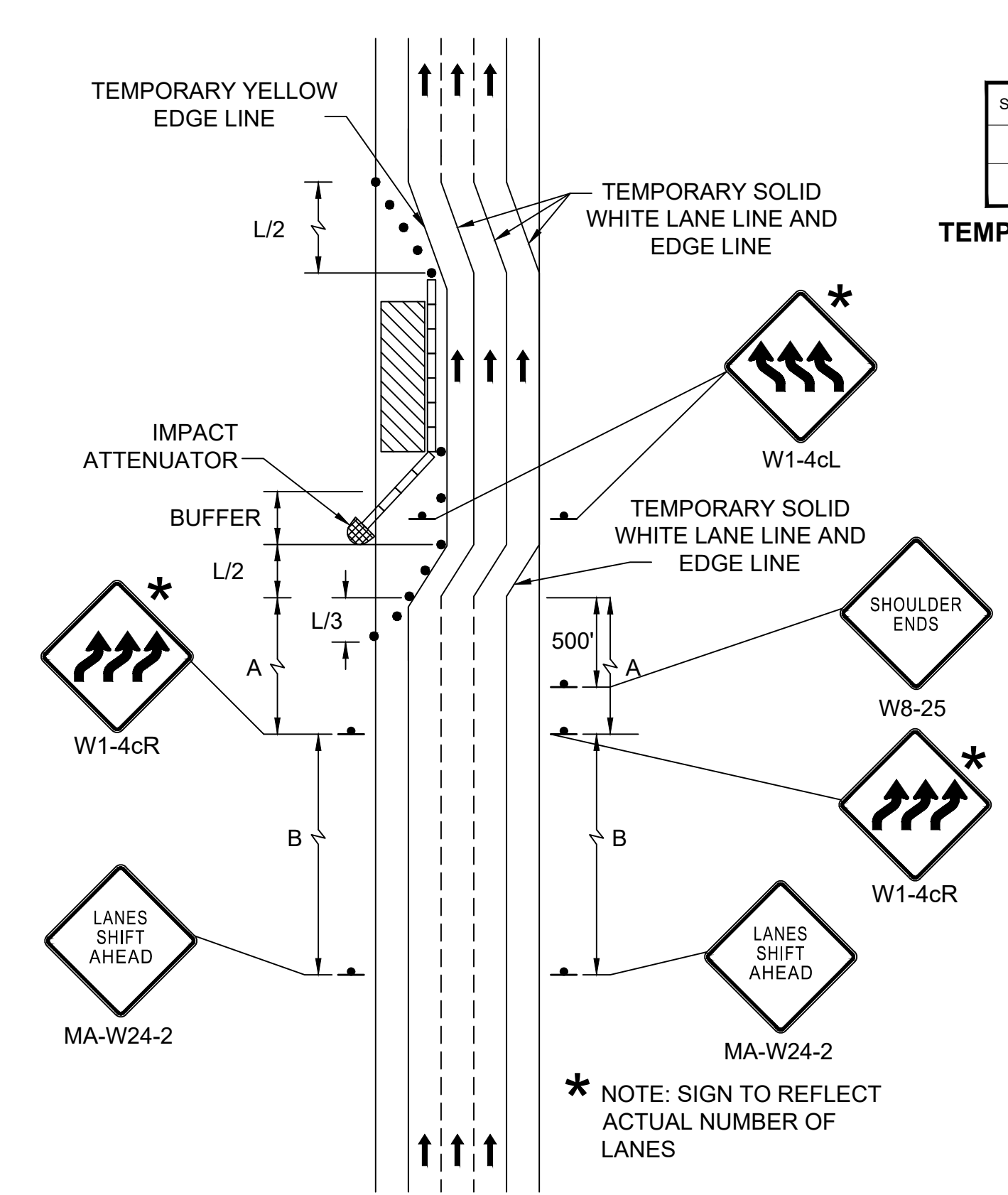
DIVIDED HIGHWAY SHOULDER CLOSURE
(FIGURE DIV-9)
NOT TO SCALE



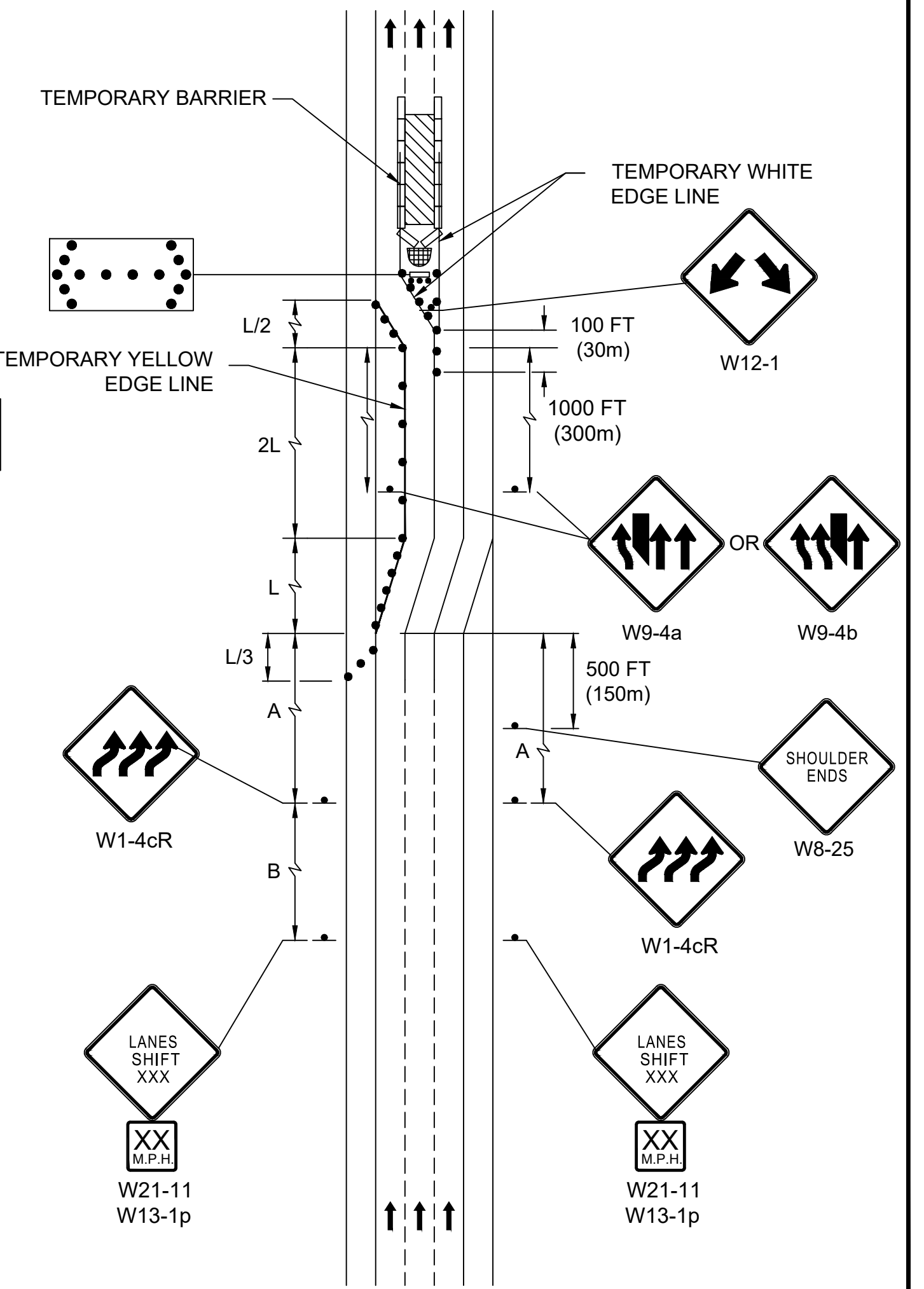
MULTIPLE LANE ROAD INTERIOR LANE CLOSURE
(FIGURE MLR-1)
NOT TO SCALE



DIVIDED HIGHWAY/LANE CLOSURE (SHORT TERM)
(FIGURE DIV-2)
NOT TO SCALE



DIVIDED HIGHWAY MULTIPLE LANE SHIFT WITH BARRIER
(FIGURE DIV-6)
NOT TO SCALE



DIVIDED HIGHWAY CENTER LANE CLOSURE
(FIGURE DIV-7)
NOT TO SCALE

**ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS**

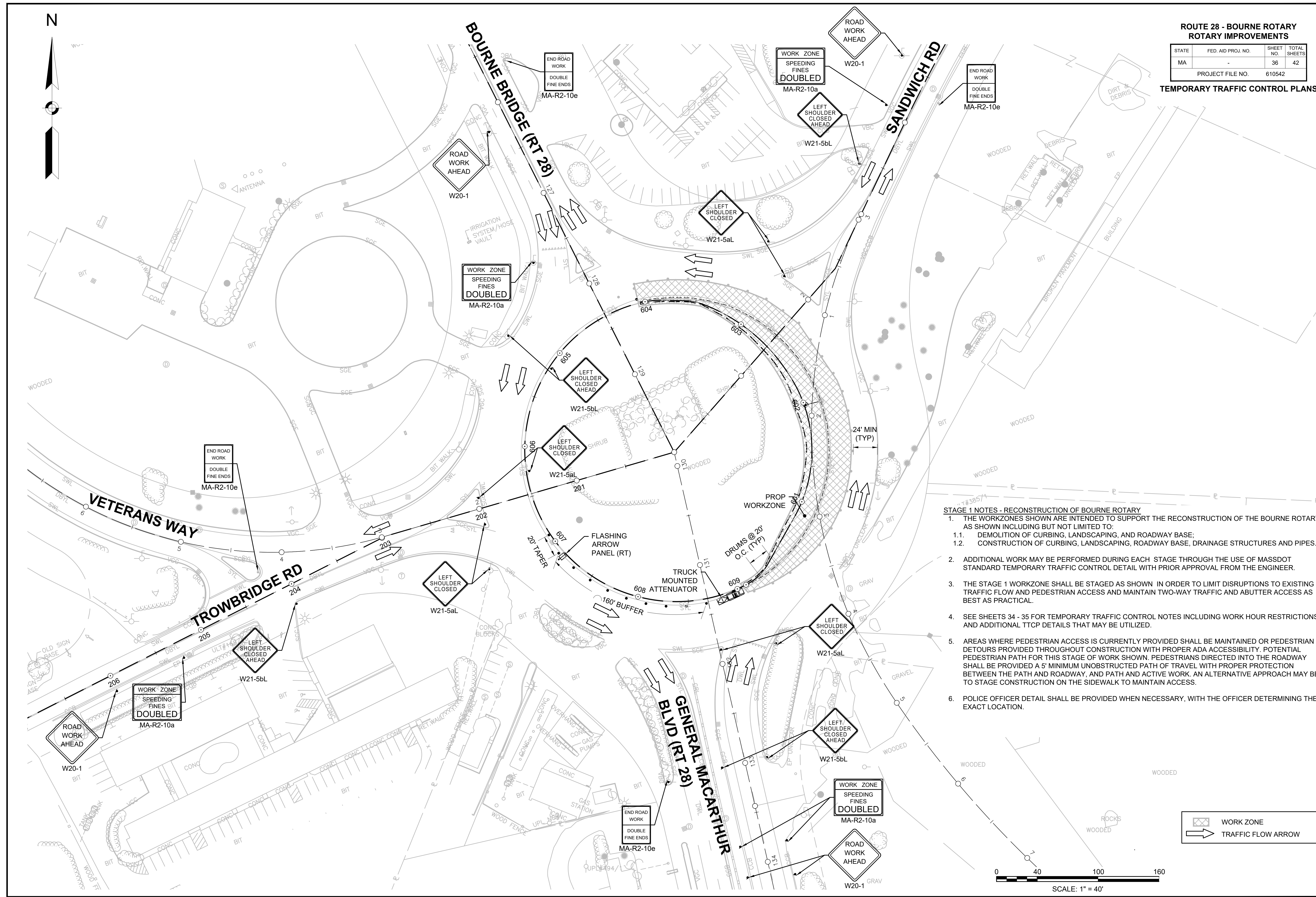
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	35	42

PROJECT FILE NO. 610542

TEMPORARY TRAFFIC CONTROL DETAILS

ROUTE 28 - BOURNE ROTARY ROTARY IMPROVEMENTS			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	36	42
PROJECT FILE NO.		610542	

TEMPORARY TRAFFIC CONTROL PLANS



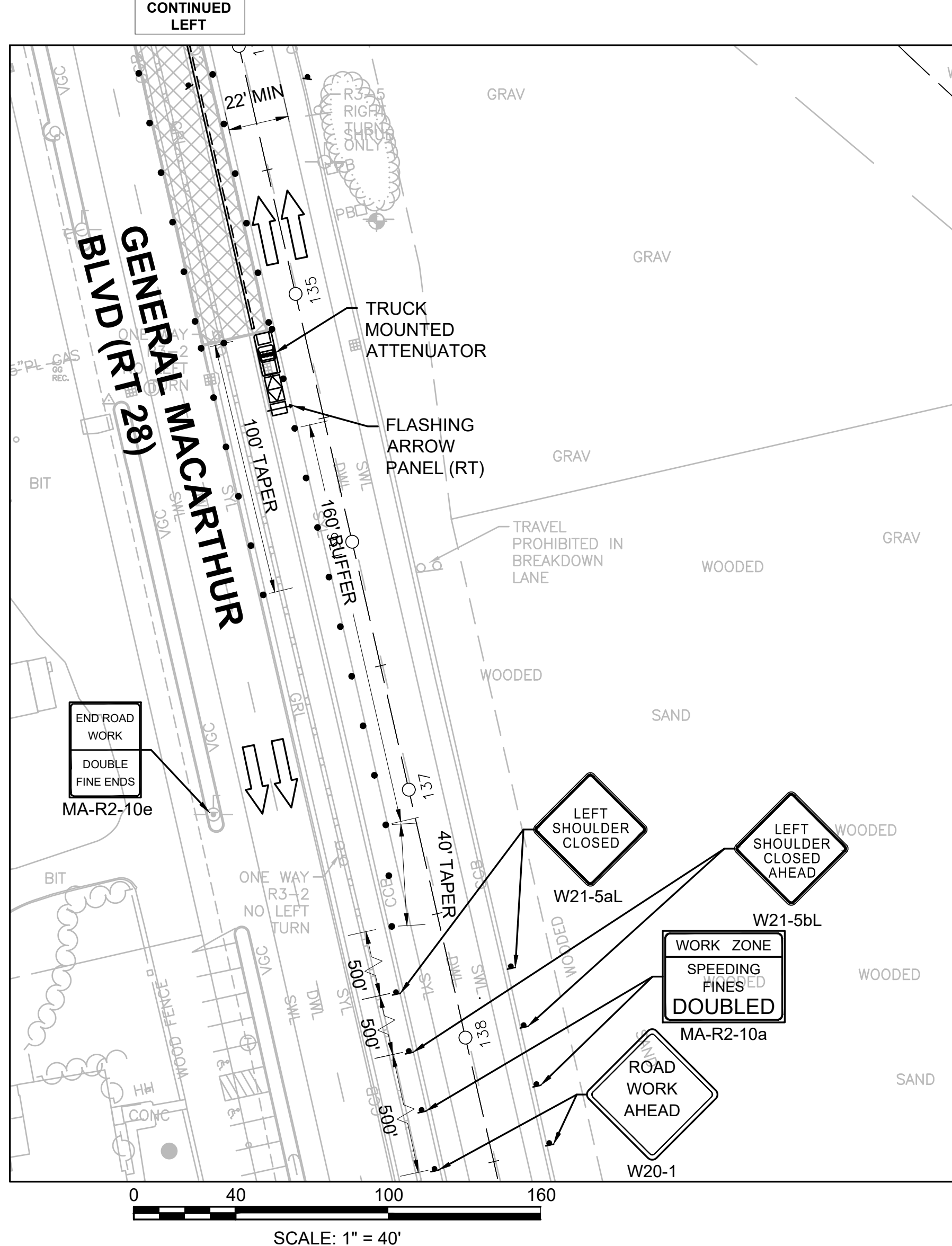
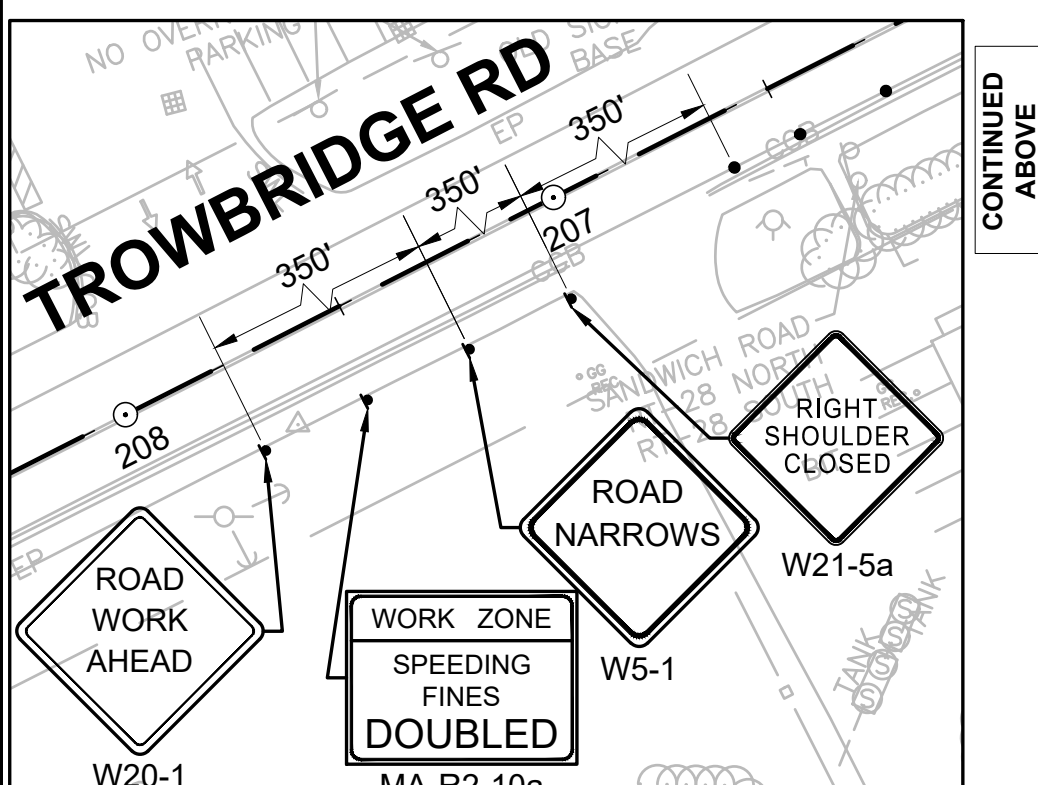
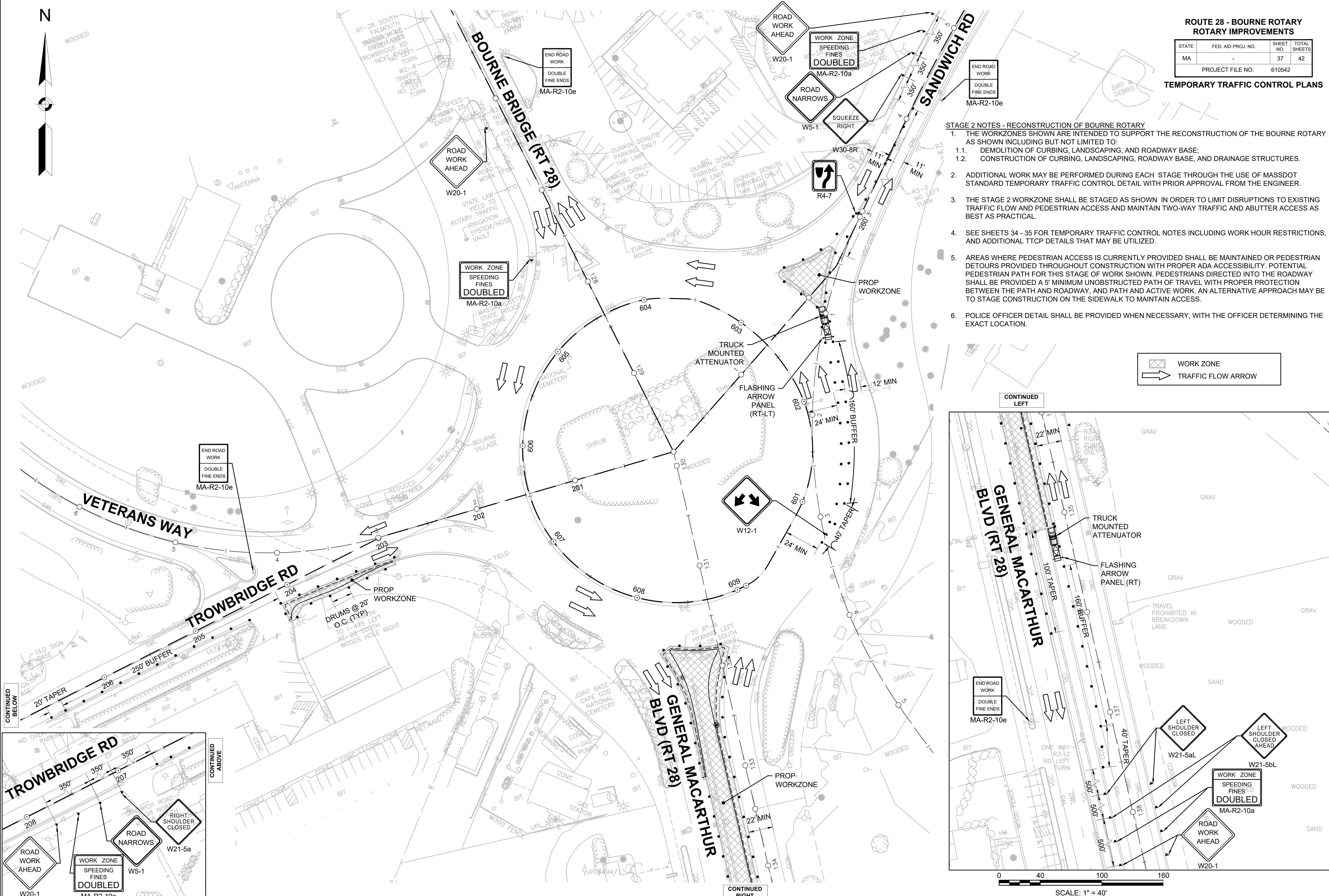
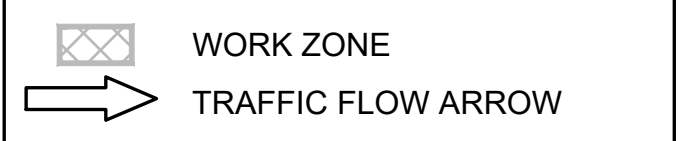
- STAGE 1 NOTES - RECONSTRUCTION OF BOURNE ROTARY**
- THE WORKZONES SHOWN ARE INTENDED TO SUPPORT THE RECONSTRUCTION OF THE BOURNE ROTARY AS SHOWN INCLUDING BUT NOT LIMITED TO:
 - DEMOLITION OF CURBING, LANDSCAPING, AND ROADWAY BASE;
 - CONSTRUCTION OF CURBING, LANDSCAPING, ROADWAY BASE, DRAINAGE STRUCTURES AND PIPES.
 - ADDITIONAL WORK MAY BE PERFORMED DURING EACH STAGE THROUGH THE USE OF MASSDOT STANDARD TEMPORARY TRAFFIC CONTROL DETAIL WITH PRIOR APPROVAL FROM THE ENGINEER.
 - THE STAGE 1 WORKZONE SHALL BE STAGED AS SHOWN IN ORDER TO LIMIT DISRUPTIONS TO EXISTING TRAFFIC FLOW AND PEDESTRIAN ACCESS AND MAINTAIN TWO-WAY TRAFFIC AND ABUTTER ACCESS AS BEST AS PRACTICAL.
 - SEE SHEETS 34 - 35 FOR TEMPORARY TRAFFIC CONTROL NOTES INCLUDING WORK HOUR RESTRICTIONS, AND ADDITIONAL TTCP DETAILS THAT MAY BE UTILIZED.
 - AREAS WHERE PEDESTRIAN ACCESS IS CURRENTLY PROVIDED SHALL BE MAINTAINED OR PEDESTRIAN DETOURS PROVIDED THROUGHOUT CONSTRUCTION WITH PROPER ADA ACCESSIBILITY. POTENTIAL PEDESTRIAN PATH FOR THIS STAGE OF WORK SHOWN. PEDESTRIANS DIRECTED INTO THE ROADWAY SHALL BE PROVIDED A 5' MINIMUM UNOBSTRUCTED PATH OF TRAVEL WITH PROPER PROTECTION BETWEEN THE PATH AND ROADWAY, AND PATH AND ACTIVE WORK. AN ALTERNATIVE APPROACH MAY BE TO STAGE CONSTRUCTION ON THE SIDEWALK TO MAINTAIN ACCESS.
 - POLICE OFFICER DETAIL SHALL BE PROVIDED WHEN NECESSARY, WITH THE OFFICER DETERMINING THE EXACT LOCATION.

	WORK ZONE
	TRAFFIC FLOW ARROW

ROUTE 28 - BOURNE ROTARY ROTARY IMPROVEMENTS			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	37	42
PROJECT FILE NO.		610542	

TEMPORARY TRAFFIC CONTROL PLANS

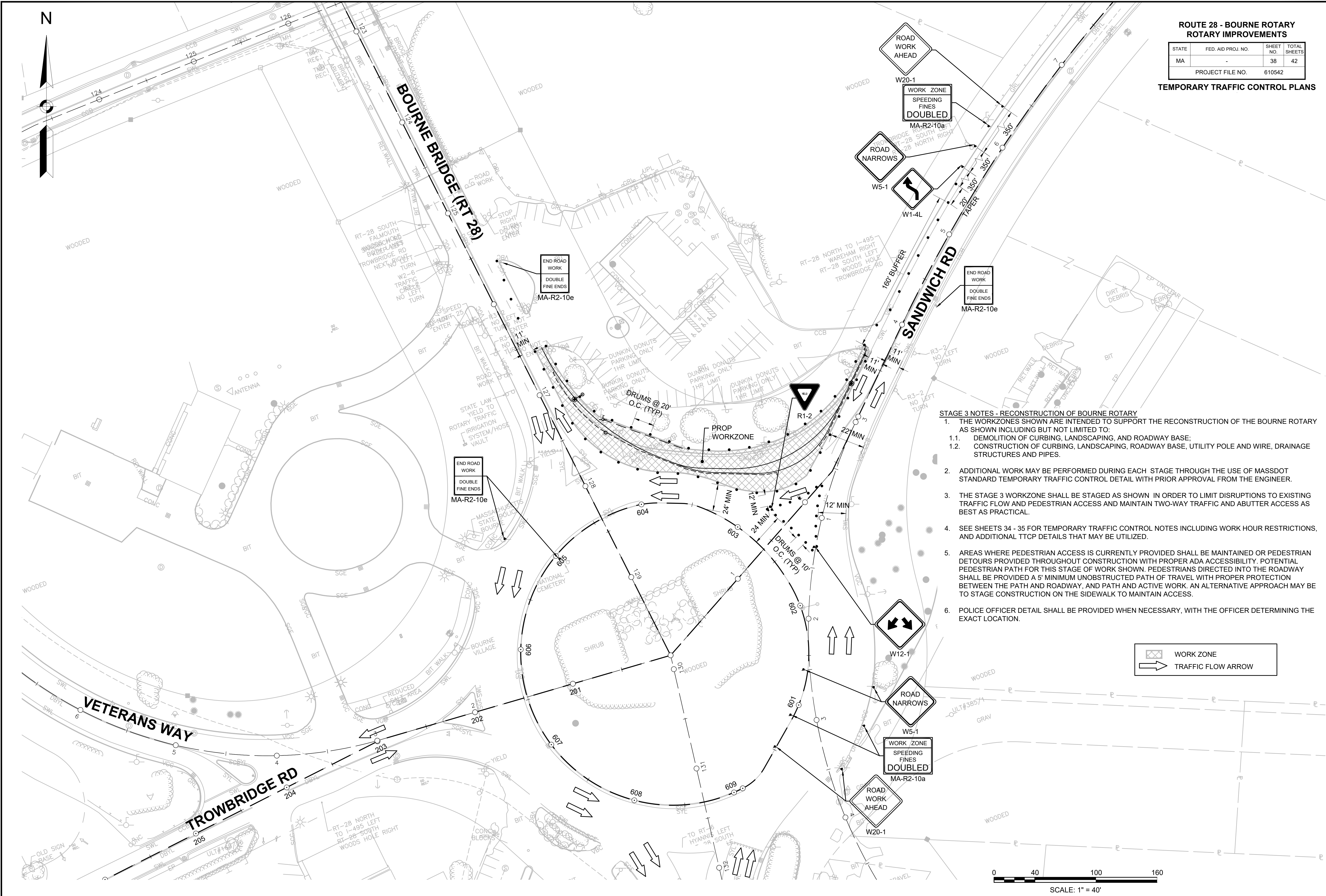
- STAGE 2 NOTES - RECONSTRUCTION OF BOURNE ROTARY
- THE WORKZONES SHOWN ARE INTENDED TO SUPPORT THE RECONSTRUCTION OF THE BOURNE ROTARY AS SHOWN INCLUDING BUT NOT LIMITED TO:
 - DEMOLITION OF CURBING, LANDSCAPING, AND ROADWAY BASE;
 - CONSTRUCTION OF CURBING, LANDSCAPING, ROADWAY BASE, AND DRAINAGE STRUCTURES.
 - ADDITIONAL WORK MAY BE PERFORMED DURING EACH STAGE THROUGH THE USE OF MASSDOT STANDARD TEMPORARY TRAFFIC CONTROL DETAIL WITH PRIOR APPROVAL FROM THE ENGINEER.
 - THE STAGE 2 WORKZONE SHALL BE STAGED AS SHOWN IN ORDER TO LIMIT DISRUPTIONS TO EXISTING TRAFFIC FLOW AND PEDESTRIAN ACCESS AND MAINTAIN TWO-WAY TRAFFIC AND ABUTTER ACCESS AS BEST AS PRACTICAL.
 - SEE SHEETS 34 - 35 FOR TEMPORARY TRAFFIC CONTROL NOTES INCLUDING WORK HOUR RESTRICTIONS, AND ADDITIONAL TTCP DETAILS THAT MAY BE UTILIZED.
 - AREAS WHERE PEDESTRIAN ACCESS IS CURRENTLY PROVIDED SHALL BE MAINTAINED OR PEDESTRIAN DETOURS PROVIDED THROUGHOUT CONSTRUCTION WITH PROPER ADA ACCESSIBILITY. POTENTIAL PEDESTRIAN PATH FOR THIS STAGE OF WORK SHOWN. PEDESTRIANS DIRECTED INTO THE ROADWAY SHALL BE PROVIDED A 5' MINIMUM UNOBSTRUCTED PATH OF TRAVEL WITH PROPER PROTECTION BETWEEN THE PATH AND ROADWAY, AND PATH AND ACTIVE WORK. AN ALTERNATIVE APPROACH MAY BE TO STAGE CONSTRUCTION ON THE SIDEWALK TO MAINTAIN ACCESS.
 - POLICE OFFICER DETAIL SHALL BE PROVIDED WHEN NECESSARY, WITH THE OFFICER DETERMINING THE EXACT LOCATION.



ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	38	42
PROJECT FILE NO.		610542	

TEMPORARY TRAFFIC CONTROL PLANS







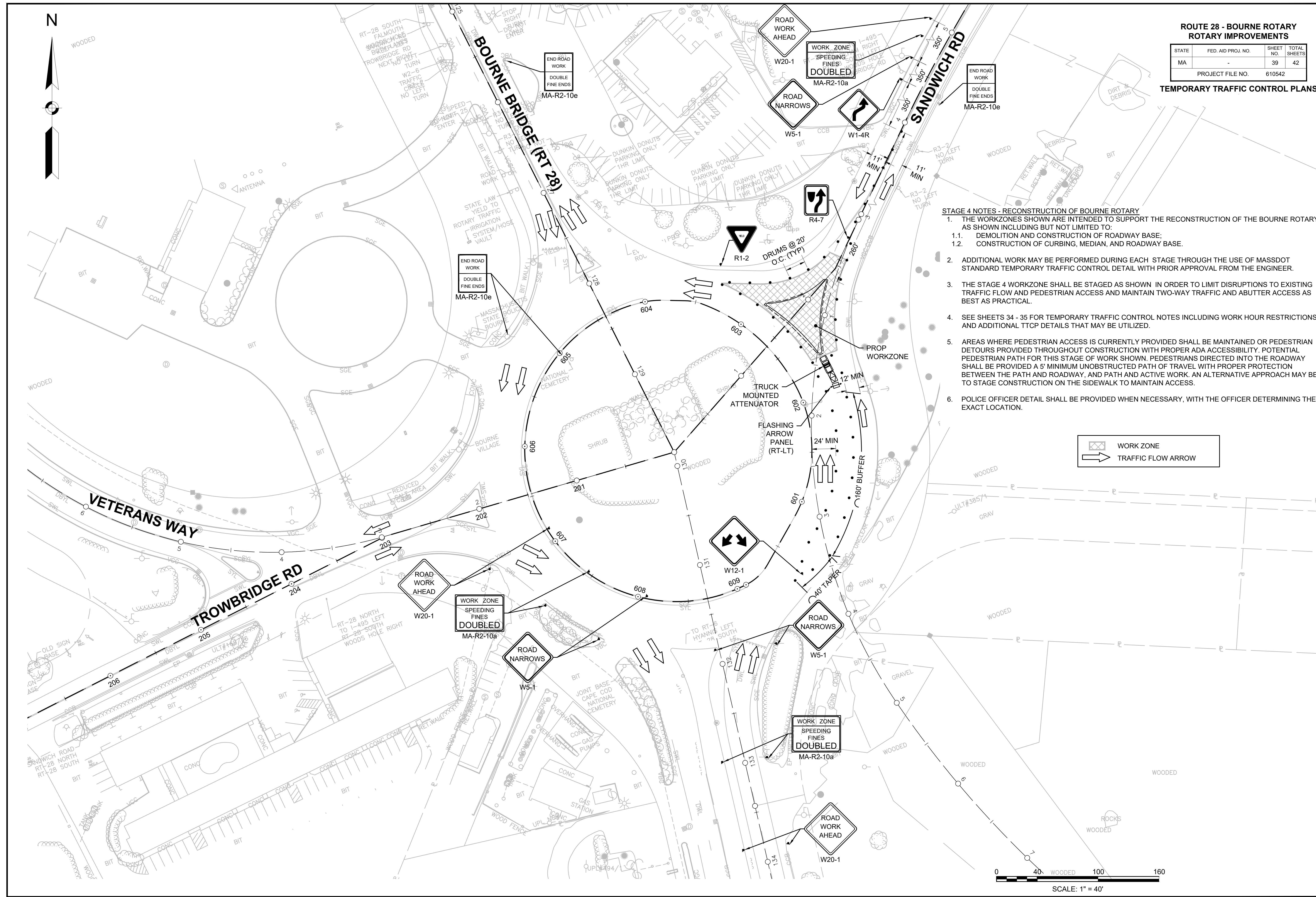
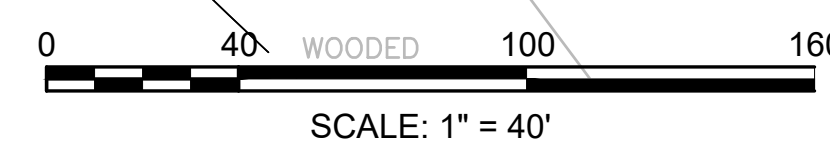
ROUTE 28 - BOURNE ROTARY ROTARY IMPROVEMENTS			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	39	42
PROJECT FILE NO.		610542	

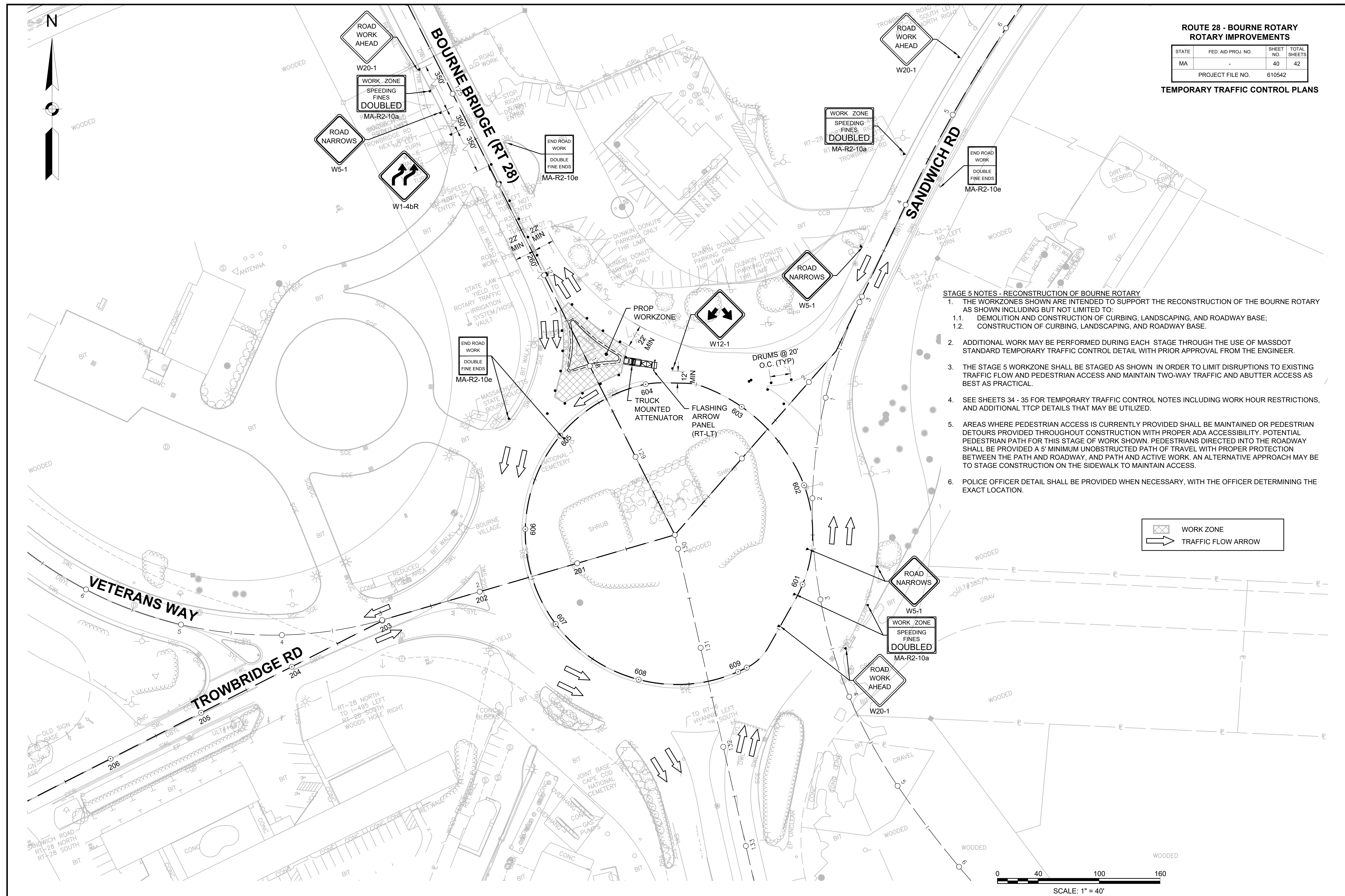
TEMPORARY TRAFFIC CONTROL PLANS

- STAGE 4 NOTES - RECONSTRUCTION OF BOURNE ROTARY
- THE WORKZONES SHOWN ARE INTENDED TO SUPPORT THE RECONSTRUCTION OF THE BOURNE ROTARY AS SHOWN INCLUDING BUT NOT LIMITED TO:
 - DEMOLITION AND CONSTRUCTION OF ROADWAY BASE;
 - CONSTRUCTION OF CURBING, MEDIAN, AND ROADWAY BASE.
 - ADDITIONAL WORK MAY BE PERFORMED DURING EACH STAGE THROUGH THE USE OF MASSDOT STANDARD TEMPORARY TRAFFIC CONTROL DETAIL WITH PRIOR APPROVAL FROM THE ENGINEER.
 - THE STAGE 4 WORKZONE SHALL BE STAGED AS SHOWN IN ORDER TO LIMIT DISRUPTIONS TO EXISTING TRAFFIC FLOW AND PEDESTRIAN ACCESS AND MAINTAIN TWO-WAY TRAFFIC AND ABUTTER ACCESS AS BEST AS PRACTICAL.
 - SEE SHEETS 34 - 35 FOR TEMPORARY TRAFFIC CONTROL NOTES INCLUDING WORK HOUR RESTRICTIONS, AND ADDITIONAL TTCP DETAILS THAT MAY BE UTILIZED.
 - AREAS WHERE PEDESTRIAN ACCESS IS CURRENTLY PROVIDED SHALL BE MAINTAINED OR PEDESTRIAN DETOURS PROVIDED THROUGHOUT CONSTRUCTION WITH PROPER ADA ACCESSIBILITY. POTENTIAL PEDESTRIAN PATH FOR THIS STAGE OF WORK SHOWN. PEDESTRIANS DIRECTED INTO THE ROADWAY SHALL BE PROVIDED A 5' MINIMUM UNOBSTRUCTED PATH OF TRAVEL WITH PROPER PROTECTION BETWEEN THE PATH AND ROADWAY, AND PATH AND ACTIVE WORK. AN ALTERNATIVE APPROACH MAY BE TO STAGE CONSTRUCTION ON THE SIDEWALK TO MAINTAIN ACCESS.
 - POLICE OFFICER DETAIL SHALL BE PROVIDED WHEN NECESSARY, WITH THE OFFICER DETERMINING THE EXACT LOCATION.

 WORK ZONE

 TRAFFIC FLOW ARROW





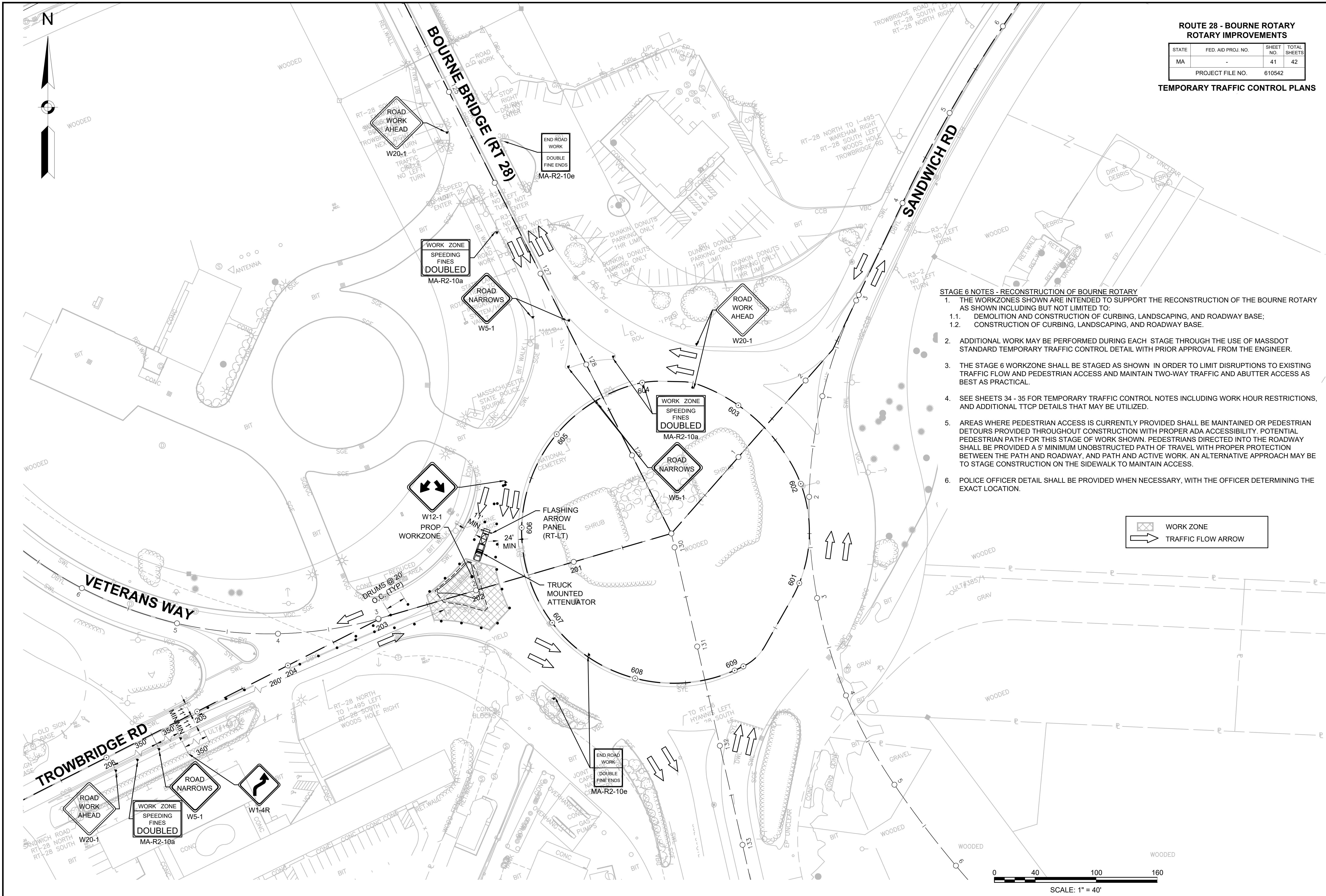
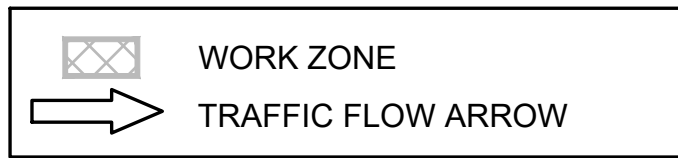
ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS

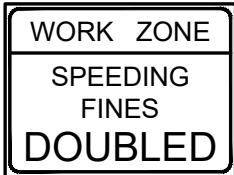
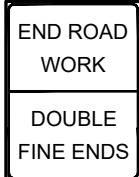




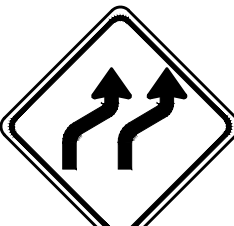

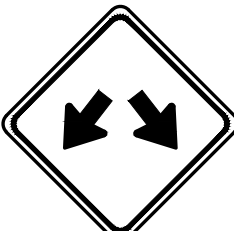




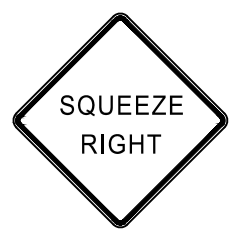
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	41	42
PROJECT FILE NO.		610542	

TEMPORARY TRAFFIC CONTROL PLANS

STAGE 6 NOTES - RECONSTRUCTION OF BOURNE ROTARY

- THE WORKZONES SHOWN ARE INTENDED TO SUPPORT THE RECONSTRUCTION OF THE BOURNE ROTARY AS SHOWN INCLUDING BUT NOT LIMITED TO:
 - DEMOLITION AND CONSTRUCTION OF CURBING, LANDSCAPING, AND ROADWAY BASE;
 - CONSTRUCTION OF CURBING, LANDSCAPING, AND ROADWAY BASE.
- ADDITIONAL WORK MAY BE PERFORMED DURING EACH STAGE THROUGH THE USE OF MASSDOT STANDARD TEMPORARY TRAFFIC CONTROL DETAIL WITH PRIOR APPROVAL FROM THE ENGINEER.
- THE STAGE 6 WORKZONE SHALL BE STAGED AS SHOWN IN ORDER TO LIMIT DISRUPTIONS TO EXISTING TRAFFIC FLOW AND PEDESTRIAN ACCESS AND MAINTAIN TWO-WAY TRAFFIC AND ABUTTER ACCESS AS BEST AS PRACTICAL.
- SEE SHEETS 34 - 35 FOR TEMPORARY TRAFFIC CONTROL NOTES INCLUDING WORK HOUR RESTRICTIONS, AND ADDITIONAL TTCP DETAILS THAT MAY BE UTILIZED.
- AREAS WHERE PEDESTRIAN ACCESS IS CURRENTLY PROVIDED SHALL BE MAINTAINED OR PEDESTRIAN DETOURS PROVIDED THROUGHOUT CONSTRUCTION WITH PROPER ADA ACCESSIBILITY. POTENTIAL PEDESTRIAN PATH FOR THIS STAGE OF WORK SHOWN. PEDESTRIANS DIRECTED INTO THE ROADWAY SHALL BE PROVIDED A 5' MINIMUM UNOBSTRUCTED PATH OF TRAVEL WITH PROPER PROTECTION BETWEEN THE PATH AND ROADWAY, AND PATH AND ACTIVE WORK. AN ALTERNATIVE APPROACH MAY BE TO STAGE CONSTRUCTION ON THE SIDEWALK TO MAINTAIN ACCESS.
- POLICE OFFICER DETAIL SHALL BE PROVIDED WHEN NECESSARY, WITH THE OFFICER DETERMINING THE EXACT LOCATION.



TRAFFIC SIGN SUMMARY													
IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH (IN)	HEIGHT (IN)		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK- GROUND	LEGEND	BORDER			
MA-R2-10a	48	36		SEE MASSDOT STANDARD DETAILS	SEE MASSDOT STANDARD DETAILS	SEE MASSDOT STANDARD DETAILS	4	FLUOR- ESCENT ORANGE WHITE	BLACK	BLACK	SEE MUTCD STANDARD DETAILS	12.00	48.00
MA-R2-10e	36	48		SEE MASSDOT STANDARD DETAILS	SEE MASSDOT STANDARD DETAILS	SEE MASSDOT STANDARD DETAILS	4	FLUOR- ESCENT ORANGE WHITE	BLACK	BLACK		12.00	48.00
R1-2	24	30		①	①	①	1	RED	WHITE	WHITE		5.00	5.00
R3-7R	30	30					2	WHITE	BLACK	BLACK		6.25	12.50
W1-4L	36	36					1	FLUOR- ESCENT ORANGE	BLACK	BLACK		9.00	9.00
W1-4R	36	36					1	FLUOR- ESCENT ORANGE	BLACK	BLACK		9.00	9.00
W1-4bR	36	36					1	FLUOR- ESCENT ORANGE	BLACK	BLACK		9.00	9.00
W1-4bR	36	36					2	FLUOR- ESCENT ORANGE	BLACK	BLACK		9.00	18.00
W12-1	36	36					2	FLUOR- ESCENT ORANGE	BLACK	BLACK		9.00	18.00
W20-1	36	36					4	FLUOR- ESCENT ORANGE	BLACK	BLACK		9.00	36.00
W21-5a	36	36					1	FLUOR- ESCENT ORANGE	BLACK	BLACK		9.00	9.00
W21-5aL	36	36					4	FLUOR- ESCENT ORANGE	BLACK	BLACK		9.00	36.00
W21-5bL	36	36					4	FLUOR- ESCENT ORANGE	BLACK	BLACK		9.00	36.00
W30-8R	36	36					1	FLUOR- ESCENT ORANGE	BLACK	BLACK		9.00	9.00

① SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND AMENDMENTS FOR LATEST SPECIFICATIONS ON TEXT, DIMENSIONS, AND COLOR. ALSO REFER TO 1995 MASSDOT STANDARD SPECIFICATIONS SECTION M 9.30.0

ROUTE 28 - BOURNE ROTARY
ROTARY IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	42	42
PROJECT FILE NO.		610542	

TEMPORARY TRAFFIC CONTROL PLANS