MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	1	123
PROJECT FILE NO.	607342		

TITLE SHEET & INDEX

PLAN AND PROFILE OF

RECONSTRUCTION OF RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD

IN THE TOWN/CITY OF

MILTON & QUINCY

NORFOLK COUNTY

FEDERAL AID PROJECT NO.

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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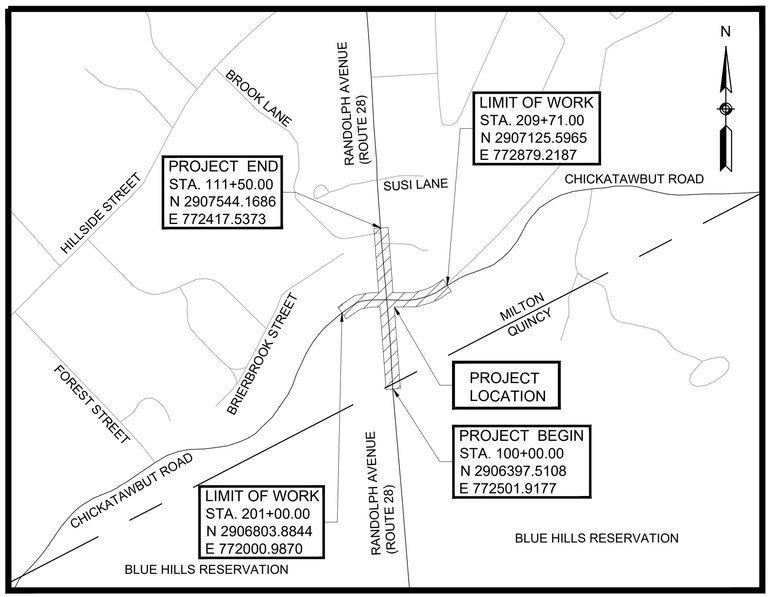

0 500 1000 1500 2000

SCALE: 1" = 500'

RANDOLPH AVENUE (ROUTE 28) LENGTH OF PROJECT = 1,150.00 FEET = 0.218 MILES
CHICKATAWBUT ROAD LENGTH OF PROJECT = 871.00 FEET = 0.165 MILES

DESIGN DESIGNATION (RANDOLPH AVENUE/ ROUTE-28)

DESIGN SPEED	45 MPH
ADT (2020)	29,300
ADT (2030)	30,800
K	8.2%
D	56.5% NB
T (PEAK HOUR)	0.4%
T (AVERAGE DAY)	1.0%
DHV	2,525
DDHV	1,425
RANDOLPH AVENUE / ROUTE-28	URBAN PRINCIPAL ARTERIAL

DESIGN DESIGNATION (CHICKATAWBUT ROAD)

DESIGN SPEED	30 MPH
ADT (2020)	6,000
ADT (2030)	6,300
K	10.8%
D	59.1% WB
T (PEAK HOUR)	1.9%
T (AVERAGE DAY)	0.7%
DHV	680
DDHV	400
CHICKATAWBUT ROAD	URBAN MINOR ARTERIAL

DATE	DESCRIPTION	REV #
09/16/2024	100% SUBMISSION	
03/29/2023	75% SUBMISSION	
05/05/2020	REVISED 25% SUBMISSION	
04/06/2020	25% SUBMISSION	

HOWARD STEIN HUDSON
11 Beacon Street, Suite 1010
Boston, MA 02108
www.hshassoc.com

MassDOT Massachusetts Department of Transportation Highway Division

RECOMMENDED FOR APPROVAL

CHIEF ENGINEER **DATE**

APPROVED

HIGHWAY ADMINISTRATOR **DATE**

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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

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MA	-	2	123
PROJECT FILE NO.	607342		

GENERAL NOTES

GENERAL NOTES

1. MASSDOT SHALL RE-ESTABLISH SURVEY CONTROL PRIOR TO BEGINNING WORK ON THIS CONTRACT.

2 THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF ELECTRIC, TELEPHONE, AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES AT NO ADDITIONAL COST TO THE OWNER. IF THE CONTRACTOR ADJUSTS UTILITY COVERS IT SHALL BE DEEMED PART OF THE WORK AND THERE WILL BE NO ADDITIONAL COMPENSATION.

3. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DAMAGED BY THE CONTRACTOR'S OPERATIONS, INCLUDING STAGING AREAS, SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

4. THE CONTRACTOR IS HEREBY NOTIFIED THAT ADDITIONAL WORK WITHIN THE PROJECT LIMITS MAY BE PERFORMED BY OTHERS.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INVESTIGATING AND CONFIRMING THAT ALL ITEMS TO BE REUSED ARE IN SERVICEABLE CONDITION. IF IT IS DEEMED THAT ANY ITEM IS NOT ABLE TO BE REUSED, THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING AND INCLUDE ESTIMATED COSTS TO INSTALL NEW.

6. TEMPORARY TRAFFIC CONTROL PLANS CONTAINED HEREIN ARE GIVEN AS A GUIDE FOR TYPICAL WORK ZONE TRAFFIC CONTROL APPLICATIONS FOR THE TYPES OF WORK ANTICIPATED FOR THIS PROJECT. THEY ARE NOT INTENDED TO COVER ALL POSSIBLE CONSTRUCTION OPERATIONS WHICH THE CONTRACTOR MAY CHOOSE TO EMPLOY. WORK ZONE TRAFFIC CONTROL FOR OTHER CONSTRUCTION OPERATIONS OR OTHER TRAFFIC SITUATIONS IF APPLICABLE SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD AND AS APPROVED OR DIRECTED BY RESIDENT ENGINEER.

7. THE CONTRACTOR SHALL ADJUST ALL EXISTING STRUCTURES WITHIN THE ACCESSIBLE SURFACE OF THE PROJECT LIMITS TO THE TOP MOST SURFACE OR THE STRUCTURE COVER SHALL BE FLUSH WITH THE CURB RAMP SURFACE.

8. THE CONTRACTOR SHALL PLACE SILT - SACKS AT ALL CATCH BASINS IN THE PROJECT LIMITS THROUGHOUT THE DURATION OF CONSTRUCTION.

SURVEY

1. THE PROJECTION IS: SPC83-MASSACHUSETTS (MAINLAND), THE COORDINATES ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) (2011), EPOCH 2010.00, THE GEOID IS 12B. THE VERTICAL DATUM IS NAVD 1988 AND BENCH MARK 2046 & 2045 WAS USED AS THE SOURCE FOR THIS DATUM, MASSDOT STAFF CONDUCTED THE GPS OBSERVATIONS. REFER TO THE BASELINE TIE PLANS ` FOR INFORMATION ON BENCH MARK 2045 & 2046.

2. THIS SURVEY HAS BEEN PREPARED FROM AERIAL MAPPING AND CONVENTIONAL FIELD SURVEY, DEC. 2017 AND UPDATED APRIL 2022.

3. POINTS 10 THROUGH 14, & 110 & 111 ARE THE ESTABLISHED HORIZONTAL CONTROL POINTS AND TIES ARE NOTED IN MASSDOT FIELD BOOK 28722.

4. THE AVERAGE SCALE FACTOR FOR THE PROJECT IS 0.99996033.

5. THE ROTATION FROM THE LAYOUT PLAN BEARING SYSTEM TO THE BASE PLAN IS 0°15'41".

6. THE RIGHT OF WAY WAS ESTABLISHED VIA CONVENTIONAL SURVEY UTILIZING RECORD MONUMENTS.

7. ABUTTING PROPERTY LINES ARE SHOWN FROM RECORD PLANS.

8. CHICKATAWBUT ROAD WAS RESEARCHED AND DETERMINED TO BE A PARK DRIVE WITHIN THE DCR PROPERTY. CHICKATAWBUT ROAD IS A PAVED TRAVELED WAY WITHIN THE DCR RESERVATION WITHOUT A LAYOUT.

9. ALGONQUIN GAS EASEMENT HAS BEEN SHOWN FROM PLAN BY HARRY E. HANNIGAN ASSOCIATES. LIMITS EXTENDING SOUTH OF CHICKATAWBUT ARE NOT SHOWN.

10. MASSDOT FIELD BOOK 28722 WAS UTILIZED BY BRYANT ASSOCIATES.

11. WETLANDS FLAGS SHOWN HEREON WERE DELINEATED BY LUCAS ENVIRONMENTAL LLC IN DEC 2019 AND JAN 2020, AND LOCATED BY BRYANT ASSOCIATES 2020. 25 AND 100 FOOT OFFSET LINES LINES WERE ADDED AT THE DIRECTION OF LUCAS ENVIRONMENTAL.

12. THE FOLLOWING GPS POINTS WERE SET BY BRYANT.

#10	#11	#12	#13
N: 2906977.464	N: 2907620.267	N: 2907097.646	N: 2906502.100
E: 772482.618	E: 772437.920	E: 772803.586	E: 772474.100
EL: 199.906	EL: 171.919	EL: 209.317	EL: 207.561
MAG NAIL	MAG NAIL	IRON ROD	

#14	#16	#111	#111
N: 2906980.604	N: 2906807.320	N: 2907667.465	N: 2907091.706
E: 772169.394	E: 772034.671	E: 772379.479	E: 772476.047
EL: 189.108	EL: 185.982	EL: 169.931	EL: 194.761
IRON ROD PUNCH MARK	SPIKE	MASSDOT 2046	MASSDOT 2045

SUBSURFACE UTILITY EXPLORATION

1. ELEVATIONS REFER TO MASSACHUSETTS STATE PLAN.

2. THE INTENT OF THE PLAN IS TO DEPICT THE RESULTS OF A SUBSURFACE UTILITY ENGINEERING (SUE) INVESTIGATION PERFORMED BY FELDMAN GEOSPATIAL BY FELDMAN GEOSPIATIAL ON MARCH 6, 2023.

3. FELDMAN PERFORMS SURVEY WORK IN COMPLIANCE WITH THE CODE OF MASSACHUSETTS REGULATIONS 250 CRM 6.0 LAND SURVEYING PROCEDURES AND STANDARDS.

4. UTILITY INFORMATION SHOWN IS BASED ON BOTH A FIELD SURVEY AND PLANS OF RECORD. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM THE AFOREMENTIONED RECORD PLANS AND INTERPRETATIONS OF EM COLLECTED FOR THE PURPOSE OF IDENTIFYING UTILITIES AND ANOMALIES INSIDE THE EXTENDS AND THEREFORE APPROXIMATE ONLY. WE CANNOT ASSUME RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES THAT ARE OMITTED OR INACCURATELY SHOWN ON SAID RECORD PLANS, SINCE SUBSURFACE UTILITIES CANNOT BE VISIBLY VERIFIED. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER UTILITY ENGINEER DEPARTMENT SHOULD BE CONSULTED AND THE ACTUAL LOCATION OF SUBSURFACE STRUCTURES SHOULD BE DETERMINED IN THE FIELD. CALL TOLL FREE, THE DIG SAFE CENTER AT 1-888-344-7233 SEVENTY-TWO PRIOR TO EXCAVATION.

5. ALL INFORMATION PROVIDED IS A RESULT OF A QLD-QLB INVESTIGATION, THIS IS MEANT TO ARGUMENT AND FURTHER THE RECORD INFORMATION THAT WAS PREVIOUSLY AVAILABLE WHILE FOLLOWING THE ASCE 38-22 STANDARDS. THIS DOES NOT GUARANTEE THAT EVERY UTILITY (ACTIVE OR ABANDONED) IS PLOTTED. SHOULD MORE VERIFICATION OF THE AREA BE NEEDED, QLA (VACUUM EXCAVATION) IS AVAILABLE.

6. THIS DOCUMENT IS AN INSTRUMENT OF SERVICE OF FELDMAN GEOSPATIAL ISSUED TO OUR CLIENT FOR PURPOSES RELATED DIRECTLY AND SOLELY TO FELDMAN GEOSPATIAL'S SCOPE OF SERVICES UNDER CONTRACT TO OUR CLIENT FOR THIS PROJECT. ANY USE OR REUSE OF THIS DOCEMENT FOR ANY REASON BY AN PARTY FOR PURPOSES UNRELATED DIRECTLY AND SOLEY TO SAID CONTRACT SHALL BE AT THE USER'S SOLE AND EXCLUSIVE RISK AND LIABILITY, INCLUDING LIABILITY FOR VIOLATION OF COPYRIGHT LAWS, UNLESS WRITTEN CONSENT IS PROVIDED BY FELDMAN GOESPATIAL.

TRAFFIC

1. TRAFFIC SIGNAL CONDUIT SHALL BE 3" PVC UNLESS OTHERWISE NOTED.

2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE TRAFFIC SIGNAL OPERATIONS AND COMMUNICATIONS FOR THE DURATION OF CONSTRUCTION. ANY DAMAGED EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO MASSDOT.

3. CONTRACTOR SHALL HAVE A MASSDOT REPRESENTATIVE PRESENT DURING ALL TESTING.

4. THE MINIMUM MOUNTING HEIGHT OF POST-MOUNTED SIGNS, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF THE CURB OR SIDEWALK, OR TO THE ELEVATION OF THE NEAR EDGE OF THE TRAVELED WAY, SHALL BE 7 FEET UNLESS OTHERWISE SPECIFIED ON THE PLANS.

LANDSCAPE

1. PRIOR TO ONSET OF CONSTRUCTION, ENGINEER AND INVASIVE PLANT CONTRACTOR SHALL WALK PROJECT TO IDENTIFY INVASIVE PLANT LOCATIONS.

2. TREE PROTECTION SHALL BE INSTALLED AND APPROVED BY ENGINEER PRIOR TO ONSET OF CONSTRUCTION ACTIVITIES.

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GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
JB	JB	JERSEY BARRIER
CB	CB	CATCH BASIN
	CBCI	CATCH BASIN CURB INLET
	GICI	GUTTER INLET
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
C	C	CABLE MANHOLE
D	D DMH	DRAINAGE MANHOLE
E	E	ELECTRIC MANHOLE
G	G	GAS MANHOLE
M	M	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
		GATE VALVE
PM	PM	PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
99		CONTOURS (ON-THE-GROUND SURVEY DATA)
100 99		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		PROPOSED WALLS - TYPE VARIES (SEE WALL PLANS FOR MORE INFO)
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
x	x	CHAIN LINK OR METAL FENCE
		RAILROAD TRACKS
		WOOD FENCE
		SEDIMENT CONTROL BARRIER
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		25 FT NO DISTURB ZONE
		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
		CAP FOR EXISTING PIPES

GENERAL SYMBOLS (CONT)

EXISTING	PROPOSED	DESCRIPTION
		PROPOSED PLANTING - SEE PLANTING SCHEDULE
		PROPOSED PLANTING - SEE PLANTING SCHEDULE
		PROPOSED PLANTING - SEE PLANTING SCHEDULE
		PROPOSED PLANTING - SEE PLANTING SCHEDULE
		PROPOSED PLANTING - SEE PLANTING SCHEDULE
		PROPOSED PLANTING - SEE PLANTING SCHEDULE

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
		PEDESTRIAN PUSH BUTTON, SIGN, AND SADDLE
		EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
RRSG	RRSG	RAILROAD SIGNAL
OR		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
	20'	MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		SIGN AND POST
		SIGN AND POST (2 POSTS)
		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
		TRAFFIC SIGNAL CONDUIT (ABANDONED)

PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		PAVEMENT ARROW - WHITE
ONLY	ONLY	LEGEND "ONLY" - WHITE
	SL	STOP LINE
	YL CW	YIELD LINES (2' BASE, 3' HEIGHT, 3' CENTER-TO-CENTER SPACING (SEE DETAIL ON SHEET 96)
	SWL	WHITE - CROSSWALK (12" LINES, 10' O.C.; 12" LONGITUDINAL LINE, 4' O.C.)
	SYL	6" SOLID WHITE LINE
	BWL	6" SOLID YELLOW LINE
	DWL	6" BROKEN WHITE LINE
	DWREL	6" DOTTED WHITE LINE (3' LINES, 9' GAPS)
	DWLEx	12" DOTTED WHITE ROUNDABOUT ENTRY LINE 2' MARK - 2' SKIP
	DYLEx	6" DOTTED WHITE LINE EXTENSION (2' LINES, 6' GAPS)
	DBYL	6" DOTTED YELLOW LINE EXTENSION
	12" SWL	2-6" DOUBLE YELLOW LINE (12" O.C.)
	12" SYL	12" SOLID WHITE GORE LINE (10' O.C. @45°)
		12" SOLID YELLOW CHANNELIZED LINE (10' O.C. @45°) (SEE DETAIL ON SHEET 96)
		BIKE LANE SYMBOL (SEE DETAIL ON SHEET 96)
	WDWBL	12" DOTTED WHITE BIKE LANES (2' LINES, 2' GAPS)

ABBREVIATIONS

GENERAL

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX	APPROXIMATE
AC	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT	BITUMINOUS
BC	BOTTOM OF CURB
BD	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR	BRIDGE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CIT	CHANGE IN TYPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CLDI	CEMENT-LINED DUCTILE IRON PIPE
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
CO	COUNTY
CONC	CONCRETE
CONT	CONTINUED
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DMH	DRAINAGE MANHOLE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EXIST	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN	FOUNDATION
FES	FLARED END SECTION
FLDSTN	FIELDSTONE
FT	FEET
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GICI	GUTTER INLET WITH CURB INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
GV	GATE VALVE
HDW	HEADWALL
HES	HIGH EARLY STRENGTH
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LB	LEACH BASIN
LP	LIGHT POLE
LSA	LANDSCAPE
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCR	PEDESTRIAN CURB RAMP
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE

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LEGEND & ABBREVIATIONS

ABBREVIATIONS (CONT)

GENERAL

PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVCC	POINT OF COMPOUND VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATERWAY
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SGE	SLOPED GRANITE EDGING
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE/VITRIOL CLAY
VLF	VINYL FENCE
VMS	VARIABLE MESSAGE SIGN
WDF	WOOD FENCE
WG	WATER GATE
WIF	WROUGHT IRON FENCE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

TRAFFIC SIGNAL

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

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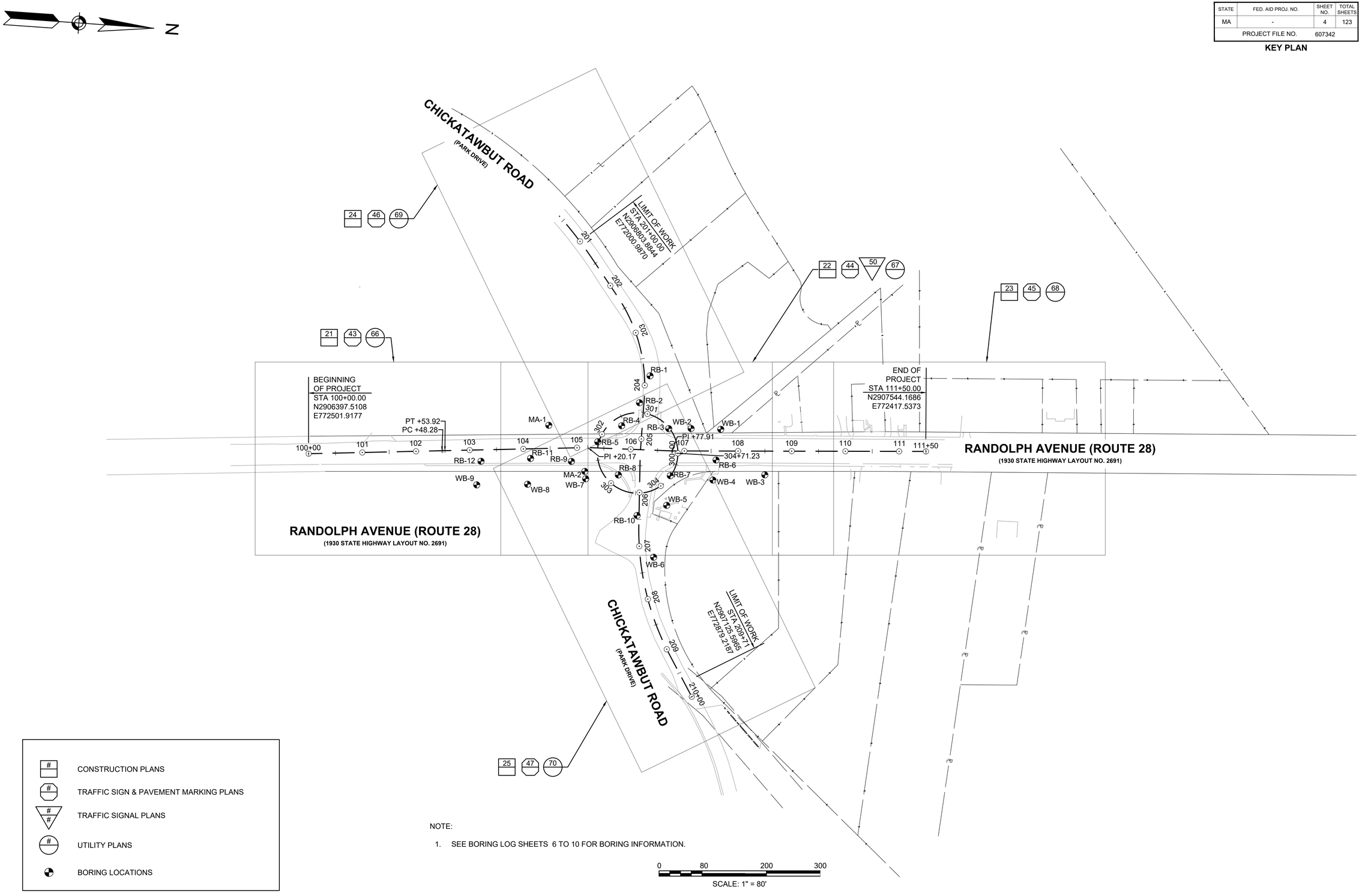
KEY PLAN



NOTE:

1. SEE BORING LOG SHEETS 6 TO 10 FOR BORING INFORMATION.

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PAVEMENT NOTES:
RANDOLPH AVENUE (ROUTE 28) & CHICKATAWBUT ROAD

PAVEMENT MILL AND OVERLAY:

SURFACE COURSE: 2" SUPERPAVE SURFACE COURSE - 12.5 POLYMER (SSC-12.5-P) OVER
ASPHALT EMULSION FOR TACK COAT (RS-1h) OVER

PAVEMENT MILLING: 2" PAVEMENT FINE MILLING

FULL DEPTH CONSTRUCTION:

SURFACE COURSE: 2" SUPERPAVE SURFACE COURSE - 12.5 POLYMER (SSC-12.5-P) OVER
ASPHALT EMULSION FOR TACK COAT (RS-1b) OVER

INTERMEDIATE COURSE: 2" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0) OVER
ASPHALT EMULSION FOR TACK COAT (RS-1b) OVER

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

SUB-BASE: 4" DENSE GRADED CRUSHED STONE OVER

8" GRAVEL BORROW TYPE B

FULL DEPTH CONSTRUCTION LESS THAN 4' WIDE:

SURFACE COURSE: 2" SUPERPAVE SURFACE COURSE 12.5 POLYMER (SSC-12.5-P) OVER
ASPHALT EMULSION FOR TACK COAT (RS-1b) OVER

INTERMEDIATE COURSE: 2" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0) OVER
ASPHALT EMULSION FOR TACK COAT (RS-1b) OVER

BASE COURSE: 6" HES CEMENT CONCRETE BASE OVER

SUB-BASE: 12" GRAVEL BORROW TYPE B

HOT MIX ASPHALT DRIVEWAYS:

SURFACE COURSE: 1.5" SUPERPAVE SURFACE COURSE - 9.5 (SSC-9.5) OVER
ASPHALT EMULSION FOR TACK COAT (RS-1b) OVER

INTERMEDIATE COURSE: 2.5" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5) OVER

SUB-BASE: 8" GRAVEL BORROW TYPE B

CEMENT CONCRETE DRIVEWAYS AND CEMENT CONCRETE SIDEWALK AT DRIVEWAYS:

SURFACE COURSE: 6" CEMENT CONCRETE SURFACE COURSE (4000 PSI, ¾", 610 AIR ENTRAINED) OVER

SUB-BASE: 8" GRAVEL BORROW TYPE B

CEMENT CONCRETE TRUCK APRON (WITH TIE BARS AND LOAD TRANSFER DEVICES):

SURFACE COURSE: 8" STAMPED, COLORED CEMENT CONCRETE SURFACE COURSE (4000 PSI, ¾", 610 AIR ENTRAINED) OVER

SUB-BASE: 8" GRAVEL BORROW TYPE B

CEMENT CONCRETE ISLANDS:

SURFACE COURSE: 4" STAMPED, COLORED CEMENT CONCRETE SURFACE COURSE (4000 PSI, ¾", 610 AIR ENTRAINED) OVER

SUB-BASE: 8" GRAVEL BORROW TYPE B

CEMENT CONCRETE BUFFERS:

SURFACE COURSE: 4" SCORED, COLORED CEMENT CONCRETE SURFACE COURSE (4000 PSI, ¾", 610 AIR ENTRAINED) OVER

SUB-BASE: 8" GRAVEL BORROW TYPE B

CEMENT CONCRETE SHARED USE PATHS, SIDEWALKS, PEDESTRIAN CURB RAMPS, AND BIKE RAMPS:

SURFACE COURSE: 4" CEMENT CONCRETE SURFACE COURSE (4000 PSI, ¾", 610 AIR ENTRAINED) OVER

SUB-BASE: 8" GRAVEL BORROW TYPE B

607342_HD\PAVE NOTES).DWG Plotted on 16-Sep-2024 3:26 PM

9/16/2024 L:\13061113061.41\CURRENT\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\607342_HD\PAVE NOTES).dwg
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	6	123
PROJECT FILE NO.	607342		

BORING LOGS

BORING LOG

Boring No.: RB-1
Boring Location: N: 2907016 E: 772311

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: September 2, 2021
Date Finish: September 2, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke
Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 194.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
09/02/21	10:20	Not Encountered	Out	8	10 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
0							ASPHALT PAVEMENT 193.9 / 0.6	Approximately 6.75-inch-thick asphalt pavement core sample obtained using 6-inch outside diameter core barrel.	1
1							193.7 / 0.8 ASPHALT BASE	Approximately 2-inch-thick asphalt base.	2
	S-1	12	1-3	35			FILL	S-1: Dense, tan to light brown, fine to coarse SAND, some fine to coarse Gravel, little Silt, very few brick particles. Dry. (FILL). [Laboratory Test Performed - Particle Size Analysis (Sieve Only): Gravel = 32.0%, Sand = 50.6%, Silt & Clay = 17.4%].	
2				16					
				20					
3				24					
	S-2	14	3-5	14			191.2 / 3.3	S-2A (4"): Dense, tan to light brown, fine to coarse SAND, some fine Gravel, trace Silt, very few asphalt fragments. Dry. (FILL).	
4				9				S-2B (10"): Dense, tan to light gray-brown, fine to coarse SAND and fine to coarse Gravel, little Silt. Dry. (GLACIAL TILL).	
				26			GLACIAL TILL		
5				50				S-3: Very dense, gray-brown, fine to coarse GRAVEL and fine to coarse Sand, trace Silt. Dry. (GLACIAL TILL).	
	S-3	9	5-7	94					
6				66					
				66					
7				67			187.5 / 7.0		
8							INFERRED BOULDER / BEDROCK 186.5 / 8.0	Drill bit advanced through inferred boulder and/or bedrock using 500 psi of down pressure between approximately 7 and 8 feet below ground surface.	
								Boring terminated at 8 feet.	3

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced to borehole during pavement coring and drive and wash process.
2) Bulk sampling for CBR testing composite samples collected between approximately 0.8 and 3 feet below ground surface.
3) Borehole backfilled using drilling spoils and sand, and pavement surface restored using tamped asphalt cold patch.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

Page No. 1 of 1

BORING LOG

Boring No.: RB-2
Boring Location: N: 2907009 E: 772354

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: August 31, 2021
Date Finish: August 31, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke
Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 195.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
08/31/21	10:15	6 (borehole collapse)	4	6	15 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S-1	8	0-2	7				S-1: Medium dense, brown, fine to coarse SAND, some fine Gravel, some Silt. Dry. (FILL).	1
1				6					
				6					
2				9			FILL		
	S-2	9	2-4	13				S-2: Loose, brown, fine to medium SAND and Silt, trace fine Gravel. Dry to moist. (FILL).	2
3				4					
				4					
4				12			191.5 / 4.0		
	S-3	7	4-4.8	42				S-3A (4"): Very dense, gray-brown, fine to coarse SAND, some fine Gravel, some Silt. Wet. (GLACIAL TILL).	
5				70/3"				S-3B (3"): Very dense, gray, fine to coarse GRAVEL, trace fine to coarse Sand, trace Silt. Dry. (GLACIAL TILL). Inferred cobble/boulder fragments.	
							GLACIAL TILL		
6									
7	S-4	4	6.5-7.7	64				S-4: Very dense, gray and orange, fine to coarse GRAVEL, some fine to coarse Sand, some Silt. Wet. (GLACIAL TILL).	
				30					
8				70/2"			187.8 / 7.7		
							INFERRED BOULDER / BEDROCK 187.5 / 8.0	Drill bit advanced through inferred boulder and/or bedrock using 500 psi of down pressure between approximately 7.7 and 8 feet below ground surface.	
								Boring terminated at 8 feet.	3

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Bulk sampling for CBR testing composite samples collected between approximately 0 and 4 feet below ground surface.
2) Water introduced to borehole during drive and wash process.
3) Borehole backfilled using drilling spoils.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

Page No. 1 of 1

BORING LOG

Boring No.: RB-3
Boring Location: N: 2907068 E: 772410

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: September 7, 2021
Date Finish: September 7, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke
Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 196
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
09/07/21	14:00	Not Encountered	Out	4.1	5 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S-1	8	0-0.9	12			195.8 / 0.2 TOPSOIL	S-1A (2"): Very dense, dark brown, fine to coarse SAND and Silt. few roots. Dry. (TOPSOIL), S-1B (6"): Very dense, light brown, fine to coarse GRAVEL, some fine to coarse Sand, trace Silt. Dry. (FILL).	1
1				40			FILL		
				100/0"			194.6 / 1.4		
2							GLACIAL TILL		
3	S-2	4	3-4	55				S-2: Very dense, gray, fine to coarse GRAVEL and fine to coarse Sand, little Silt. Wet. (GLACIAL TILL).	2
4				65					
							192.0 / 4.0 191.9 / 4.1 INFERRED BOULDER / BEDROCK	Drill bit advanced through inferred boulder and/or bedrock using 500 psi of down pressure between approximately 4 and 4.1 feet below ground surface.	3
5								Boring terminated at 4.1 feet.	
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Bulk sampling for CBR testing composite samples collected between approximately 0.2 and 2 feet below ground surface.
2) Water introduced to borehole during drive and wash process.
3) Borehole backfilled using drilling spoils.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

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BORING LOG

Boring No.: RB-4
Boring Location: N: 2906969 E: 772414

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: August 31, 2021
Date Finish: August 31, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke
Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 200
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
08/31/21	11:40	Not Encountered	4	6.5	10 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S-1	12	0-2	1			TOPSOIL 199.7 / 0.3	S-1A (3"): Loose, dark brown, fine to medium SAND, some Silt, trace fine Gravel, few roots. Dry. (TOPSOIL).	1
1				2				S-1B (9"): Loose, dark brown, fine to coarse SAND, some Silt, trace fine Gravel, very few roots. Dry. (FILL).	
				3			FILL		
2				2					
	S-2	10	2-4	1			197.7 / 2.3	S-2A (4"): Medium dense, light brown, fine to coarse SAND, some fine to coarse Gravel, little Silt, very few roots. Dry. (FILL).	
3				3				S-2B (6"): Medium dense, light gray, fine to coarse SAND and fine to coarse Gravel, some Silt. Dry. (GLACIAL TILL).	
				7					
4				17			GLACIAL TILL		
	S-3	15	4-6	14				S-3: Very dense, light gray, fine to coarse SAND and fine to coarse Gravel, some Silt. Dry. (GLACIAL TILL). Inferred cobble/boulder fragments. [Laboratory Test Performed - Particle Size Analysis (Sieve Only): Gravel = 35.7%, Sand = 39.7%, Silt & Clay = 24.6%].	2
5				41					
				56					
6				66					
	S-4	5	6-6.4	100/5"			193.6 / 6.4 193.5 / 6.5	S-4: Very dense, light gray to brown, fine to coarse SAND, some Silt, some fine Gravel. Dry. (GLACIAL TILL).	
7							INFERRED BOULDER / BEDROCK	Drill bit advanced through inferred boulder and/or bedrock using 500 psi of down pressure between approximately 6.4 and 6.5 feet below ground surface.	3
8								Boring terminated at 6.5 feet.	
9									
10									
11									
12									
13									
14									
15									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Bulk sampling for CBR testing composite samples collected between approximately 0.3 and 4 feet below ground surface.
2) Water introduced to borehole during drive and wash process.
3) Borehole backfilled using drilling spoils.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

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BORING LOG

Boring No.: RB-5
Boring Location: N: 2906939 E: 772442

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: September 7, 2021
Date Finish: September 7, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke
Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 200.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 09/07/21	11:35	6.8	Out	9	10 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
0							ASPHALT PAVEMENT 199.7 / 0.8	Approximately 9.5-inch-thick pavement core sample obtained using 6-inch outside diameter core barrel.	1
1							199.5 / 1.0 ASPHALT BASE	Approximately 3-inch-thick asphalt base.	2
	S-1	21	1-3	49				S-1: Very dense, brown and black, fine to coarse SAND and fine to coarse Gravel, some Silt, several asphalt particles and fragments, very few brick fragments. Moist. (FILL).	
2				43					
				27					
3				42					
	S-2	7	3-5	13				S-2: Dense, tan, fine to medium SAND, trace fine Gravel, trace Silt, very few plastic fragments. Dry. (FILL).	
4				11					
				21			FILL		
5				19					
	S-3	17	5-7	23				S-3: Dense, light tan, fine to medium SAND, some fine to coarse Gravel, trace Silt. Dry. (FILL).	
6				23					
				22					
7				45	▼		193.5 / 7.0		
	S-4	15	7-9	80				S-4: Very dense, gray-brown, fine to coarse GRAVEL and fine to coarse Sand, little Silt. Moist. (GLACIAL TILL).	
8				91			GLACIAL TILL		
				81					
9				48			191.5 / 9.0		
								Boring terminated at 9 feet.	3
10									
11									
12									
13									
14									
15									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced to borehole during pavement coring and drive and wash process.
2) Bulk sampling for CBR testing composite samples collected between approximately 1 and 2 feet below ground surface.
3) Borehole backfilled using drilling spoils and sand, and pavement surface restored using tamped asphalt cold patch.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

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BORING LOG

Boring No.: RB-6
Boring Location: N: 2907150 E: 772462

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: September 8, 2021
Date Finish: September 8, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke
Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 191
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
09/08/21	12:00	3 (borehole collapse)	Out	3	10 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
0							ASPHALT PAVEMENT 190.2 / 0.8	Approximately 10-inch-thick pavement core sample obtained using 6-inch outside diameter core barrel.	1
1							190.0 / 1.0 ASPHALT BASE	Approximately 2-inch-thick asphalt base.	2
	S-1	7	1-3	27				S-1: Dense, light brown and gray, fine to coarse SAND, some fine Gravel, little Silt. Wet. (FILL).	
2				19					
				17			FILL		
3				5					
	S-2	12	3-5	8			187.5 / 3.5	S-2A (6"): Dense, dark brown, WOOD fragments. Wet. (FILL).	
4				10				S-2B (6"): Dense, gray and light brown with orange staining, fine to coarse GRAVEL, some fine to coarse Sand, little Silt. Dry. (GLACIAL TILL).	
				28					
5				48					
	S-3	1	5-5.3	110/4"			GLACIAL TILL	S-3: Very dense, gray-brown, fine GRAVEL and fine to coarse Sand, little Silt. Wet. (GLACIAL TILL).	
6									
	S-4	12	6-7.5	51				S-4: Very dense, gray-brown, fine to coarse GRAVEL and fine to coarse Sand, little Silt. Wet. (GLACIAL TILL). Drill bit advanced through inferred boulder using 500 psi of down pressure between approximately 7.5 and 8 feet below ground surface.	
7				58					
				100					
8				50/0"			183.0 / 8.0		
								Boring terminated at 8 feet.	3
9									
10									
11									
12									
13									
14									
15									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced to borehole during pavement coring and drive and wash process.
2) Bulk sampling for CBR testing composite samples collected between approximately 1 and 5 feet below ground surface.
3) Borehole backfilled using drilling spoils and sand, and pavement surface restored using tamped asphalt cold patch.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

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NOTE:

1. SEE KEY PLAN SHEET 4 FOR BORING LOCATIONS.

BORINGLOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 11/29/23 12:30 - J:\97150.00 - MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD, MILTON\EXPLORATIONS\GINT\97150.00 MASSDOT RT. 28 @ CHICKATAWBUT RD. BORING LOGS.GPJ
9/16/2024 L:\13061\13061.41\CURRENT\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\607342_HD(BORING LOGS).dwg
Christopher Lyman
607342_HD(BORING LOGS).DWG Plotted on 16-Sep-2024 3:26 PM

BORING LOG

Boring No.: RB-7
Boring Location: N: 2907064 E: 772491

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: September 8, 2021
Date Finish: September 8, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke
Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 196
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
09/08/21	13:20	4 (borehole collapse)	Out	4	5 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	S-1	9	0-2	1 4 7 3			TOPSOIL 195.5 / 0.5	S-1A (6"): Medium dense, dark brown, SILT and fine to coarse Sand, some fine Gravel, few roots. Moist. (TOPSOIL). S-1B (3"): Medium dense, brown, fine to coarse GRAVEL and fine to coarse Sand, little Silt, very few asphalt particles. Dry. (FILL).	1
3	S-2	16	2-4	2 3 2 2			FILL 192.0 / 4.0	S-2: Medium stiff, light brown, Clayey SILT and fine to coarse Sand, little fine Gravel. Moist. (FILL). [Laboratory Test Performed - Particle Size Analysis (Sieve Only): Gravel = 16.9%, Sand = 40.5%, Silt & Clay = 42.6%].	
5	S-3	7	4-6	4 9 11 18			GLACIAL TILL 188.0 / 8.0	S-3: Medium dense, light brown, fine to coarse SAND and fine to coarse Gravel, little Silt. Dry to moist. (GLACIAL TILL).	1
7	S-4	11	6-7.1	58 70 50/1"				S-4: Very dense, light brown, fine to coarse GRAVEL and fine to coarse Sand, some Silt. Dry. (GLACIAL TILL). Drill bit advanced through inferred boulder using 500 psi of down pressure between approximately 7.1 and 8 feet below ground surface.	
9								Boring terminated at 8 feet.	2

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced to borehole during drive and wash process.
2) Borehole backfilled using drilling spoils and sand.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

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BOREHOLE LOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 11/26/23 12:30 - J:\97150.00 - MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD, MILTON\EXPLORATION\CONTRACT\100.00 MASSDOT RT. 28 @ CHICKATAWBUT RD, BORING LOGS.GPJ

BORING LOG

Boring No.: RB-8
Boring Location: N: 2906975 E: 772502

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: August 31, 2021
Date Finish: August 31, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke
Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 200
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 08/31/21	13:55	4.4	5	5.8	5 minutes
08/31/21	14:00	4.4 (borehole collapse)	Out	4.4	10 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	S-1	12	0-2	6 11 9 27			TOPSOIL 199.7 / 0.3	S-1A (4"): Medium dense, dark brown, fine to medium SAND, some Silt, few roots. Dry. (TOPSOIL).	1
							FILL 198.0 / 2.0	S-1B (8"): Medium dense, gray-brown to brown, fine to coarse SAND and fine to coarse Gravel, little Silt, very few roots and wood fragments. Dry. (FILL).	
3	S-2	17	2-4	32 32 42 81			GLACIAL TILL	S-2: Very dense, tan to light gray, fine to coarse SAND, some Silt, some fine Gravel. Dry. (GLACIAL TILL). Inferred cobble/boulder fragments. [Laboratory Test Performed - Particle Size Analysis (Sieve Only): Gravel = 25.3%, Sand = 43.5%, Silt & Clay = 31.2%].	
5	S-3	7	4-5.2	12 52 70/2"			194.8 / 5.2 INFERRED BOULDER / BEDROCK 194.2 / 5.8	S-3: Very dense, light gray with orange staining, fine to coarse GRAVEL and fine to coarse Sand, some Silt. Moist. (GLACIAL TILL).	2
								Drill bit advanced through inferred boulder and/or bedrock using 500 psi of down pressure between approximately 5.2 and 5.8 feet below ground surface.	
								Boring terminated at 5.8 feet.	3

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Bulk sampling for CBR testing composite samples collected between approximately 0.3 and 4 feet below ground surface.
2) Water introduced to borehole during drive and wash process.
3) Borehole backfilled using drilling spoils.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

Page No. 1 of 1

BOREHOLE LOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 11/26/23 12:30 - J:\97150.00 - MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD, MILTON\EXPLORATION\CONTRACT\100.00 MASSDOT RT. 28 @ CHICKATAWBUT RD, BORING LOGS.GPJ

BORING LOG

Boring No.: RB-9
Boring Location: N: 2906893 E: 772480

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: September 2, 2021
Date Finish: September 2, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke
Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 202
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
09/02/21	13:30	Not Encountered	Out	8	5 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
							ASPHALT PAVEMENT 201.6 / 0.6 ASPHALT BASE 201.2 / 1.0	Approximately 6.75-inch-thick pavement core sample obtained using 6-inch outside diameter core barrel.	1
1	S-1	13	0.6-2.4	36 35 25 50/3"			FILL 199.4 / 2.6	S-1A (3"): Very dense, gray, fine to coarse SAND and fine Gravel, little Silt. Wet. (ASPHALT BASE). S-1B (4"): Very dense, gray-brown to black, fine to coarse GRAVEL and fine to coarse Sand, little Silt, few asphalt particles and fragments. Moist. (FILL). S-1C (6"): Very dense, light tan, fine to medium SAND, trace fine Gravel, trace Silt. Dry. (FILL).	2
								Increased drilling resistance observed between approximately 2.6 feet and 5 feet below ground surface on inferred boulder(s).	
5	S-2	8	5-6.5	67 38 155			GLACIAL TILL 196.0 / 6.0	S-2A (6"): Very dense, gray to brown, fine to coarse GRAVEL and fine to coarse Sand, little Silt. Moist. (GLACIAL TILL).	
							INFERRED BOULDER / BEDROCK 194.0 / 8.0	S-2B (2"): Very dense, Inferred boulder or bedrock fragments Dry. Drill bit advanced through inferred boulder and/or bedrock using 500 psi of down pressure between approximately 6.5 and 8 feet below ground surface.	
9								Boring terminated at 8 feet.	3

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced to borehole during pavement coring and drive and wash process.
2) Bulk sampling for CBR testing composite samples collected between approximately 1 and 3 feet and 5 and 7 feet below ground surface.
3) Borehole backfilled using drilling spoils and sand, and pavement surface restored using tamped asphalt cold patch.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

Page No. 1 of 1

BOREHOLE LOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 11/26/23 12:30 - J:\97150.00 - MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD, MILTON\EXPLORATION\CONTRACT\100.00 MASSDOT RT. 28 @ CHICKATAWBUT RD, BORING LOGS.GPJ

BORING LOG

Boring No.: RB-10
Boring Location: N: 2907011 E: 772571

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: August 30, 2021
Date Finish: August 30, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke
Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 196.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4	2-7/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
08/30/21	10:00	Not Encountered	Out	3	10 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
							ASPHALT PAVEMENT 196.9 / 0.6 ASPHALT BASE 196.6 / 0.9	Approximately 6.75-inch-thick pavement core sample obtained using 6-inch outside diameter core barrel.	1
1	S-1	17	0.6-2.5	23 31 32 100/5"			FILL 194.0 / 2.5 INFERRED BOULDER / BEDROCK 193.5 / 3.0	Sample S-1 obtained using 3-inch outside diameter split-spoon sampler. Sample inferred to be "very dense" based on sampler advancement. S-1A (4"): Black, Asphalt binder coarse particles and fragments Wet. (ASPHALT BASE). S-1B (13"): Brown, fine to coarse SAND and fine to coarse Gravel, little Silt. Dry. (FILL).	2
								Drill bit advanced through inferred boulder and/or bedrock using 500 psi of down pressure between approximately 2.5 and 3 feet below ground surface.	
								Boring terminated at 3 feet.	3

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced to borehole during pavement coring and drive and wash process.
2) Bulk sampling for CBR testing composite samples collected between approximately 0.9 and 2.5 feet below ground surface.
3) Borehole backfilled using drilling spoils, and pavement surface restored using tamped asphalt cold patch.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

Page No. 1 of 1

BOREHOLE LOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 11/26/23 12:30 - J:\97150.00 - MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD, MILTON\EXPLORATION\CONTRACT\100.00 MASSDOT RT. 28 @ CHICKATAWBUT RD, BORING LOGS.GPJ

BORING LOG

Boring No.: RB-11
Boring Location: N: 2906811 E: 772484

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: October 29, 2021
Date Finish: October 29, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke
Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 204.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
10/29/21	15:15	Not Encountered	Out	7	5 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % RQD %	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
									ASPHALT PAVEMENT 205.0 / 0.5 ASPHALT BASE 204.7 / 0.8	Approximately 7.5-inch-thick pavement core sample obtained using 8-inch outside diameter core barrel.	1
1	S-1	18	0.8-2.8	27 22 17 16					FILL 201.1 / 3.4	S-1: Dense, dark gray-brown, fine to coarse SAND and fine to coarse Gravel, trace Silt, very few brick particles and fragments. Moist to wet. (FILL). [Laboratory Test Performed - Particle Size Analysis (Sieve Only): Gravel = 42.5%, Sand = 47.6%, Silt & Clay = 9.9%].	
3	S-2	4	2.8-3.7	9 50/5"						S-2: Very dense, dark gray-brown, fine to coarse GRAVEL and fine to coarse Sand, some Silt. Wet. (FILL).	
4	C-1	42	3.7-7.2		100/74	29 16 21 7.5			BEDROCK 197.3 / 7.2	C-1: Hard to Very Hard, fresh, extremely fractured to sound, gray, very fine- to medium-grained, GRANITE, very close to moderately close, shallow to moderately-dipping joints.	
9										Boring terminated at 7.2 feet.	2

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced to borehole during pavement coring and drive and wash process.
2) Borehole backfilled using drilling spoils and sand, and pavement surface restored using tamped asphalt cold patch.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

Page No. 1 of 1

BOREHOLE LOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 11/26/23 12:30 - J:\97150.00 - MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD, MILTON\EXPLORATION\CONTRACT\100.00 MASSDOT RT. 28 @ CHICKATAWBUT RD, BORING LOGS.GPJ

BORING LOG

Boring No.: RB-12
Boring Location: N: 2906719 E: 772492

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: October 29, 2021
Date Finish: October 29, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke
Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 206.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
10/29/21	11:30	Not Encountered	Out	7	5 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % RQD %	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
									ASPHALT PAVEMENT 205.8 / 0.7 ASPHALT BASE 205.7 / 0.8	Approximately 8-inch-thick pavement core sample obtained using 8-inch outside diameter core barrel.	1
1	S-1	10	0.8-1.8	31 70					FILL 205.0 / 1.5	S-1A (7"): Dense, dark gray-brown with red, fine to coarse GRAVEL and fine to coarse Sand, little Silt, very few brick particles. Wet. (FILL).	
2	C-1	49	2-7		82/77	19 12 17 19 19.5			BEDROCK 199.5 / 7.0	S-1B (3"): Dense, gray, inferred BEDROCK particles and fragments Dry. (BEDROCK). C-1: Hard to Very Hard, fresh, moderately fractured to sound, gray, very fine- to medium-grained, GRANITE, close to moderately close, horizontal to moderately-dipping joints.	
7										Boring terminated at 7 feet.	2

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced to borehole during pavement coring and drive and wash process.
2) Borehole backfilled using drilling spoils and sand, and pavement surface restored using tamped asphalt cold patch.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

Page No. 1 of 1

BOREHOLE LOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 11/26/23 12:30 - J:\97150.00 - MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD, MILTON\EXPLORATION\CONTRACT\100.00 MASSDOT RT. 28 @ CHICKATAWBUT RD, BORING LOGS.GPJ

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	7	123
PROJECT FILE NO.	607342		

BORING LOGS

NOTE:

1. SEE KEY PLAN SHEET 4 FOR BORING LOCATIONS.

607342_HD(BORING LOGS).DWG Plotted on 16-Sep-2024 3:26 PM

9/16/2024 L:\1306\11\306141\CURRENT\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\607342_HD(BORING LOGS).dwg
Christopher Lyman

BORING LOG

nobis

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000

Boring No.: WB-1
Boring Location: N: 2907149 E: 772427
Checked by: A. Jones
Date Start: September 3, 2021
Date Finish: September 3, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke

Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 190.5
Datum: NAVD 88

Drilling Method	Sampler
Casing	Split-Spoon
4	1-3/8
Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 09/03/21	13:40	7	13	28.2	10 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1									ASPHALT PAVEMENT 189.8 / 0.7	1
								189.6 / 0.9	Approximately 8-inch-thick pavement core sample obtained using 6-inch outside diameter core barrel.	
								ASPHALT BASE	Approximately 3-inch-thick binder course / sub-base layer.	
	S-1	11	1-3	45					S-1: Very dense, light brown to brown, fine to coarse GRAVEL and fine to coarse Sand, trace Silt, very few asphalt particles and fragments. Dry. (FILL).	
2				35						
				23						
3				13						
	S-2	9	3-5	21					S-2: Dense, gray-brown, fine to coarse GRAVEL, some fine to coarse Sand, trace Silt, very few asphalt fragments. Dry. (FILL).	
4				18						
				12				FILL		
5				10						
	S-3	5	5-7	9					S-3: Medium dense, gray-brown, fine to coarse GRAVEL and fine to coarse Sand, little Silt, very few asphalt particles and fragments. Dry to moist. (FILL).	
6				10						
				10						
7				8						
						▼		182.5 / 8.0		
8										
	S-4	6	8-8.6	46					S-4: Very dense, gray with orange staining, SILT and fine to coarse Sand, little fine Gravel. Wet. (GLACIAL TILL). Increased drilling resistance observed between approximately 8 feet and 9 feet below ground surface.	
9				65/11"						
	C-1	7	9-9.8		70/0				C-1: Gray BOULDER fragments and pieces Wet. (GLACIAL TILL).	
10	S-5	11	9.8-11.1	63					S-5: Very dense, gray, SILT, some fine to coarse Sand, some fine to coarse Gravel. Wet. (GLACIAL TILL). Intermittent roller bit grinding observed between approximately 10 and 28 feet below ground surface on inferred cobbles/boulders.	
				90						
11				60/3"						
12								GLACIAL TILL		
13										
	S-6	18	13-15	51					S-6: Very dense, gray-brown, fine to coarse SAND and Silt, little fine Gravel. Wet. (GLACIAL TILL). [Laboratory Test Performed - Particle Size Analysis (Sieve Only): Gravel = 15.8%, Sand = 44.6%, Silt & Clay = 39.6%].	
14				55						
				59						
15				95						

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced to borehole during pavement coring and drive and wash process.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

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BORINGLOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 11/26/23 12:29 - J:\97150.00 - MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD, MILTON\EXPLORATIONS\GINT\97150.00 MASSDOT RT. 28 @ CHICKATAWBUT RD, BORING LOGS.GPJ

BORING LOG

nobis

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000

Boring No.: WB-1
Boring Location: N: 2907149 E: 772427
Checked by: A. Jones
Date Start: September 3, 2021
Date Finish: September 3, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke

Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 190.5
Datum: NAVD 88

Drilling Method	Sampler
Casing	Split-Spoon
4	1-3/8
Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 09/03/21	13:40	7	13	28.2	10 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
16										
17										
18										
	S-7	13	18-19.5	55					S-7: Very dense, gray-brown, SILT, some fine to coarse Sand, little fine Gravel, pockets of Clayey SILT. Wet. (GLACIAL TILL).	
19				87						
				105						
20										
21										
22								GLACIAL TILL		
23										
	S-8	15	23-24.5	33					S-8: Hard, gray with orange staining, SILT & CLAY and fine to coarse Sand, little fine Gravel. Wet. (GLACIAL TILL).	
24				58						
				110						
25										
26										
27										
28										
	S-9	1	28-28.2	110/2"					S-9: Very dense, brown, fine to coarse SAND, some Clayey Silt, some fine Gravel. Wet. (GLACIAL TILL). Drill bit advanced through inferred boulder and/or bedrock using 500 psi of down pressure between approximately 28 and 30 feet below ground surface.	
29										
30								160.5 / 30.0		

Boring terminated at 30 feet.

NOTES:
2) Borehole backfilled using drilling spoils and sand, and pavement surface restored using tamped asphalt cold patch.

Page No. 2 of 3

BORING LOG

nobis

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000

Boring No.: WB-2
Boring Location: N: 2907106 E: 772407
Checked by: A. Jones
Date Start: November 19, 2021
Date Finish: November 19, 2021

Contractor: New England Boring Contractors
Driller: C. Knight
Nobis Rep.: S. Pape

Rig Type / Model: ATV Track Rig / Acker Soil Scout
Hammer Type: Donut Hammer
Hammer Hoist: Rope & Cathead

Ground Surface Elev.: (+/-) 198.5
Datum: NAVD 88

Drilling Method	Sampler
Casing	Split-Spoon
4	1-3/8
Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▽ 11/19/21	14:42	4.5	9	28	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S-1	6	0-1.2	1					S-1: Very dense, brown, fine to coarse SAND, some fine to coarse Gravel, little Silt. Moist. (FILL).	
1				5						
				100/2"				FILL		
2								196.5 / 2.0		
	S-2	6	2-2.8	73					S-2: Very dense, gray-tan, fine to coarse SAND, some fine to coarse Gravel, some Silt. Wet. (GLACIAL TILL).	1
3				60/3"						
4										
	S-3	9	4-5.4	43					S-3: Very dense, gray-tan, fine to coarse SAND and fine to coarse Gravel, little Silt. Wet. (GLACIAL TILL).	
5				92						
				100/5"						
6										
7										
	S-4		7-7.7	115					S-4: Very dense, gray-tan, fine SAND, some Silt, little fine to coarse Gravel. Wet. (GLACIAL TILL).	
8				60/2"					Increase in drilling resistance and vibration, possible cobbles or boulders..	
9								GLACIAL TILL		
10										
11										
12										
13										
	S-5	0	13-13.3	100/3"					S-5: Very dense, No recovery.	
14										
15										

NOTES:
1) Water introduced to borehole during drive and wash process.

Page No. 1 of 2

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	8	123
PROJECT FILE NO.	607342		

BORING LOGS

607342_HD\BORING LOGS\ DWG Plotted on 16-Sep-2024 3:26 PM

BORING LOG

nobis

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000

Boring No.: WB-2
Boring Location: N: 2907106 E: 772407
Checked by: A. Jones
Date Start: November 19, 2021
Date Finish: November 19, 2021

Contractor: New England Boring Contractors
Driller: C. Knight
Nobis Rep.: S. Pape

Rig Type / Model: ATV Track Rig / Acker Soil Scout
Hammer Type: Automatic Hammer
Hammer Hoist: Rope & Cathead

Ground Surface Elev.: (+/-) 198.5
Datum: NAVD 88

Drilling Method	Sampler
Casing	Split-Spoon
4	1-3/8
Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▽ 11/19/21	14:42	4.5	9	28	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
16				100/5"						
17										
18								GLACIAL TILL		
19										
	S-7	3	19-19.3	120/4"				166.7 / 19.3	S-7: Very dense, red-brown, Inferred WEATHERED BEDROCK, possible cobble, boulder or bedrock.	2
20									Boring terminated at 19.3 feet.	
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

NOTES:
2) Boring backfilled with cuttings.

Page No. 2 of 2

BORING LOG

nobis

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000

Boring No.: WB-3
Boring Location: N: 2907259 E: 772470
Checked by: A. Jones
Date Start: January 3, 2022
Date Finish: January 3, 2022

Contractor: New England Boring Contractors
Driller: P. Johnson
Nobis Rep.: S. Pape

Rig Type / Model: ATV / Stratastar5
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 186
Datum: NAVD 88

Drilling Method	Sampler
Casing	Split-Spoon
3	1-3/8
Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▽ 01/03/22	10:30	4	9	19.3	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S-1	2	0-2	1					S-1: Very loose, dark brown, fine to coarse SAND, and Organic Silt, numerous fine roots.. Moist. (TOPSOIL).	
1				WOH				TOPSOIL		
				1						
2				WOH				184.0 / 2.0		
	S-2	10	2-4	1					S-2A (8"): Very loose, gray-brown, fine to coarse SAND, some Silt, little fine to coarse Gravel. Moist to wet. (FILL).	
3				2				FILL		
				2						
4				12				182.5 / 3.5		
	S-3	9	4-6	65		▽			S-2B (2"): Medium dense, orange-gray, fine to coarse SAND, some Silt, some fine to coarse Gravel. Redoximorphic staining present Wet. S-3: Very dense, tan-gray, fine to coarse SAND and Silt, little fine Gravel. Redoximorphic staining present Wet. [Laboratory Test Performed - Particle Size Analysis (Sieve Only): Gravel = 16.3%, Sand = 45.7%, Silt & Clay = 38.0%].	1
5				49						
				36						
6				30						
7										
	S-4	13	7-9	21					S-4: Dense, tan-gray, fine to coarse SAND, some fine to coarse Gravel, some Silt. Wet.	
8				23						
				20						
9				20						
	S-5	13	9-11	20				GLACIAL TILL	S-5: Dense, gray-tan, fine to coarse SAND, little Silt, little fine to coarse Gravel. Wet.	
10				16						
				15						
11				20						
12										
13										
14										
	S-6	12	14-15.4	21					S-6: Very dense, tan to red-brown, fine to coarse SAND, some Silt, little fine to coarse Gravel. Occasional cobbles Wet.	
15				20						

NOTES:
1) Water introduced to borehole during drive and wash process.

Page No. 1 of 2

BORING LOG

nobis

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000

Boring No.: WB-3
Boring Location: N: 2907259 E: 772470
Checked by: A. Jones
Date Start: January 3, 2022
Date Finish: January 3, 2022

Contractor: New England Boring Contractors
Driller: P. Johnson
Nobis Rep.: S. Pape

Rig Type / Model: ATV / Stratastar5
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 186
Datum: NAVD 88

Drilling Method	Sampler
Casing	Split-Spoon
3	1-3/8
Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▽ 01/03/22	10:30	4	9	19.3	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
16				100/5"						
17										
18								GLACIAL TILL		
19										
	S-7	3	19-19.3	120/4"				166.7 / 19.3	S-7: Very dense, red-brown, Inferred WEATHERED BEDROCK, possible cobble, boulder or bedrock.	2
20									Boring terminated at 19.3 feet.	
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

NOTES:
2) Boring backfilled with cuttings.

Page No. 2 of 2

NOTE:

1. SEE KEY PLAN SHEET 4 FOR BORING LOCATIONS.

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	9	123
PROJECT FILE NO.	607342		

BORING LOGS

BORING LOG

Boring No.: WB-4
Boring Location: N: 2907164 E: 772483

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: December 17, 2021
Date Finish: December 17, 2021

Contractor: New England Boring Contractors
Driller: N. Hersey
Nobis Rep.: S. Pape
Rig Type / Model: Truck / Diedrich D-125
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 190.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3	1-3/8
Advancement	Spin/Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▽ 12/17/21	09:03	3.5	Out	4	While Sampling
▼ 12/17/21	12:00	4	10	21.5	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
0	S-1	12	0-2	4			MULCH 190.0 / 0.5	S-1A (6"): Loose, dark brown, mulch. Moist.	
1				6				S-1B (6"): Medium dense, brown, fine to coarse SAND and fine to coarse Gravel, trace Silt. Moist. (FILL).	
				5					
2				5			FILL		
	S-2	14	2-4	2				S-2A (10"): Loose, brown, fine to coarse SAND, some fine to coarse Gravel, little Silt. Moist. (FILL).	
3				6					
				7	▽		187.0 / 3.5		
4				7	▼			S-2B (4"): Medium dense, tan, fine to coarse SAND, little fine to coarse Gravel, little Silt. Slight redoximorphic staining, rounded aggregate Wet. (GLACIAL TILL).	
	S-3	21	4-6	10				S-3A (6"): Very dense, tan, fine to coarse SAND, some fine to coarse Gravel, some Silt. Slight redoximorphic staining, rounded aggregate Wet. (GLACIAL TILL).	1
5				30				S-3B (6"): Very dense, tan, fine to coarse SAND, little fine to coarse Gravel, little Silt. Slight redoximorphic staining, rounded aggregate Wet. (GLACIAL TILL).	
				35				S-3C (9"): Very dense, tan, fine to coarse SAND, some fine to coarse Gravel, some Silt. Slight redoximorphic staining, rounded aggregate Wet. (GLACIAL TILL).	
6				50					
	S-4	15	6-7.4	40				S-4A (8"): Very dense, gray-tan, fine to coarse SAND, some Silt, little fine to coarse Gravel. Wet. (GLACIAL TILL).	
7				70					
				120/5"				S-4B (7"): Very dense, gray-tan, fine to coarse SAND, some fine to coarse Gravel, little Silt. Wet. (GLACIAL TILL).	
8									
	S-5	12	8-10	28				S-5: Very dense, tan, fine to coarse SAND, some fine to coarse Gravel, little Silt. Wet. (GLACIAL TILL).	
9				32					
				20					
10				27			GLACIAL TILL		
	S-6	17	10-12	31				S-6: Very dense, tan, fine to coarse SAND and fine to coarse Gravel, little Silt. Wet. (GLACIAL TILL).	
11				44					
				34					
12				51					
13									
14									
15									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced to borehole during drive and wash process.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 11/26/23 12:31 - J:\97150.00_MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD_MILTON\EXPLORATION\CONTEXT\150.00 MASSDOT RT. 28 @ CHICKATAWBUT RD. BORING LOGS.GPJ

BORING LOG

Boring No.: WB-4
Boring Location: N: 2907164 E: 772483

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: December 17, 2021
Date Finish: December 17, 2021

Contractor: New England Boring Contractors
Driller: N. Hersey
Nobis Rep.: S. Pape
Rig Type / Model: Truck / Diedrich D-125
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 190.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3	1-3/8
Advancement	Spin/Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▽ 12/17/21	09:03	3.5	Out	4	While Sampling
▼ 12/17/21	12:00	4	10	21.5	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S-7	18	15-17	47				S-7: Very dense, gray-tan, fine to coarse SAND, some fine to coarse Gravel, some Silt. Wet. (GLACIAL TILL).	
16				70					
				63					
17				95					
18							GLACIAL TILL		
19									
20									
	S-8	14	20-21.5	60				S-8: Very dense, gray-tan, fine to coarse SAND and fine to coarse Gravel, some Silt. Wet. (GLACIAL TILL).	
21				114					
				120			169.0 / 21.5		
22								Boring terminated at 21.5 feet.	2
23									
24									
25									
26									
27									
28									
29									
30									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
2) Borehole backfilled with cuttings, sand, and bentonite.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 11/26/23 12:31 - J:\97150.00_MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD_MILTON\EXPLORATION\CONTEXT\150.00 MASSDOT RT. 28 @ CHICKATAWBUT RD. BORING LOGS.GPJ

BORING LOG

Boring No.: WB-5
Boring Location: N: 2907075 E: 772514

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: January 3, 2022
Date Finish: January 3, 2022

Contractor: New England Boring Contractors
Driller: P. Johnson
Nobis Rep.: S. Pape
Rig Type / Model: ATV / Stratastar5
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 194.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▽ 01/03/22	14:30	6	9	15.5	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
0	S-1	7	0-2	WOH				S-1: Loose, Dark brown, fine to coarse SAND, some Organic Silt, numerous fine roots. Moist. (FILL).	
1				3					
				5					
2				17			FILL		
	S-2	5	2-3.4	15				S-2: Very dense, brown, fine to coarse GRAVEL and fine to coarse Sand, trace Silt. Moist. (FILL).	
3				15					
				50/5"					
4								S-3: Dense, brown, fine to coarse GRAVEL, some fine to coarse Sand, trace Silt. Wet. (FILL).	
	S-3	3	4-6	23					1
5				31					
				6					
6				6	▽		188.5 / 6.0		
	S-4	11	6-8	20				S-4: Very dense, tan, fine to coarse SAND and fine to coarse Gravel, some Silt. Redoximorphic staining present Wet. (GLACIAL TILL).	
7				23					
				50					
8				60					
9									
	S-5	5	9-10	19				S-5: Very dense, gray-tan, fine to coarse SAND and Silt, some fine to coarse Gravel. Wet. (GLACIAL TILL).	
10				120			GLACIAL TILL		
11								Attempted core sample from approximately 10 feet to 13 feet below ground surface. Advanced through inferred cobbles based on drilling behavior.	
12									
13								Drill bit advanced through inferred glacial till between approximately 13 feet and 15 feet below ground surface.	
14									
15									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced to borehole during drive and wash process.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 11/26/23 12:31 - J:\97150.00_MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD_MILTON\EXPLORATION\CONTEXT\150.00 MASSDOT RT. 28 @ CHICKATAWBUT RD. BORING LOGS.GPJ

BORING LOG

Boring No.: WB-5
Boring Location: N: 2907075 E: 772514

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: January 3, 2022
Date Finish: January 3, 2022

Contractor: New England Boring Contractors
Driller: P. Johnson
Nobis Rep.: S. Pape
Rig Type / Model: ATV / Stratastar5
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 194.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▽ 01/03/22	14:30	6	9	15.5	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
15					▽		GLACIAL TILL		
							180.5 / 17.0		
16							180.3 / 17.2 INFERRED BOULDER / BEDROCK	Drill bit advanced through inferred boulder and/or bedrock using 500 psi of down pressure between approximately 17 and 17.2 feet below ground surface.	2
17								Boring terminated at 17.2 feet.	
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
2) Borehole backfilled using drilling spoils and sand, and pavement surface restored using tamped asphalt cold patch.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 11/26/23 12:31 - J:\97150.00_MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD_MILTON\EXPLORATION\CONTEXT\150.00 MASSDOT RT. 28 @ CHICKATAWBUT RD. BORING LOGS.GPJ

BORING LOG

Boring No.: WB-6
Boring Location: N: 2907033 E: 772647

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: August 30, 2021
Date Finish: August 30, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke
Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 197.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 08/30/21	13:20	7	13	17	20 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
0							ASPHALT PAVEMENT 196.9 / 0.6	Approximately 6.75-inch-thick pavement core sample obtained using 6-inch outside diameter core barrel.	1
							ASPHALT BASE 196.6 / 0.9		
1	S-1	11	0.5-2	30				S-1A (5"): Very dense, black, Asphalt and asphalt binder coarse particles and fragments Wet. (ASPHALT).	
				20				S-1B (6"): Dense, gray-brown, fine to coarse SAND and fine to coarse Gravel, little Silt. Moist to wet. (FILL).	
2				17					
	S-2	6	2-4	12				S-2: Dense, brown to gray-brown, fine to coarse GRAVEL, some fine to coarse Sand, little Silt. Wet. (FILL).	
3				22					
				12					
4				8			FILL		
	S-3	4	4-6	10				S-3: Medium dense, brown, fine to coarse GRAVEL and fine to coarse Sand, some Silt. Wet. (FILL).	
5				7					
				4					
6				3					
	S-4	9	6-8	3				S-4A (6"): Medium dense, brown, fine to coarse GRAVEL, some fine to coarse Sand, little Silt. Wet. (FILL).	
7				5			191.0 / 6.5	S-4B (3"): Stiff, dark gray, fine to coarse GRAVEL, and Organic Silt, trace fine Sand. Wet. (ORGANIC DEPOSITS).	
				5	▽		ORGANIC DEPOSITS		
8				8	▼		189.5 / 8.0		
	S-5	14	8-10	18				S-5: Medium dense, gray with orange staining, fine to medium SAND and Silt, trace fine Gravel. Wet. (GLACIAL TILL). [Laboratory Test Performed - Particle Size Analysis (Sieve Only): Gravel = 4.7%, Sand = 56.4%, Silt & Clay = 38.9%].	
9				10					
				18					
10				20					
11							GLACIAL TILL		
12									
13									
	S-6	9	13-15	15				S-6: Medium dense, gray-brown, fine to coarse SAND, some fine to coarse Gravel, little Silt. Wet. (GLACIAL TILL).	
14				13					
				16					
15				17					

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced to borehole during pavement coring and drive and wash process.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 11/26/23 12:31 - J:\97150.00_MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD_MILTON\EXPLORATION\CONTEXT\150.00 MASSDOT RT. 28 @ CHICKATAWBUT RD. BORING LOGS.GPJ

BORING LOG

Boring No.: WB-6
Boring Location: N: 2907033 E: 772647

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000
Checked by: A. Jones
Date Start: August 30, 2021
Date Finish: August 30, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke
Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic
Ground Surface Elev.: (+/-) 197.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 08/30/21	13:20	7	13	17	20 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
15							GLACIAL TILL		
							180.5 / 17.0		
16							180.3 / 17.2 INFERRED BOULDER / BEDROCK	Drill bit advanced through inferred boulder and/or bedrock using 500 psi of down pressure between approximately 17 and 17.2 feet below ground surface.	2
17								Boring terminated at 17.2 feet.	
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
2) Borehole backfilled using drilling spoils and sand, and pavement surface restored using tamped asphalt cold patch.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 11/26/23 12:31 - J:\97150.00_MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD_MILTON\EXPLORATION\CONTEXT\150.00 MASSDOT RT. 28 @ CHICKATAWBUT RD. BORING LOGS.GPJ

NOTE:

1. SEE KEY PLAN SHEET 4 FOR BORING LOCATIONS.

607342_HD\BORING LOGS\ DWG Plotted on 16-Sep-2024 3:26 PM

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Christopher Lyman

BORING LOG

Boring No.: WB-7
Boring Location: N: 2906916 E: 772503

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000

Checked by: A. Jones
Date Start: September 9, 2021
Date Finish: September 9, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: P. Clarke

Rig Type / Model: Truck / CME 75
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 205
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 09/09/21	15:00	4.3	3.7	10.3	5 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Graphic	Ground Water	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
0	S-1	3	0-0.3	70/3"					204.8 / 0.2	S-1A (2"): Very dense, dark brown, SILT, some fine to medium Sand, trace fine Gravel, numerous roots. Dry to moist. (TOPSOIL).	
									TOPSOIL		
									204.3 / 0.7	S-1B (1"): Very dense, brown, fine to coarse SAND, some fine Gravel, some Silt, very few roots, very few wood fragments. Dry. (FILL). Drill bit advanced through inferred bedrock using 500 psi of down pressure between approximately 0.3 and 0.7 feet below ground surface.	
									FILL		
1	C-1	25	0.7-3.7	69/69	22.5					C-1: Very Hard, fresh, sound, gray, very fine- to medium-grained, GRANITE, moderately close, horizontal joints. [Laboratory Test Performed - Bulk Density and Compressive Strength of Rock Specimens: Bulk Density = 166 pcf, Compressive Strength = 48,984 psi].	
2					13						
3					8						
4	C-2	3	3.7-4.3	43/0	16					C-2: Hard to Very Hard, very slightly weathered, extremely fractured, gray, very fine- to medium-grained, GRANITE, very close, shallow-dipping joints.	
5	C-3	56	4.3-9.3	93/70	20					C-3: Hard to Very Hard, slightly weathered to fresh, moderately fractured to sound, gray, very fine- to medium-grained, GRANITE, close to moderately close, shallow to moderately-dipping joints.	
6					13.5				BEDROCK		
7					18						
8					18.5						
9					18.5					C-4: Hard to Very Hard, very slightly weathered, extremely fractured, gray, very fine- to medium-grained, GRANITE, very close, shallow to moderately-dipping joints.	
10	C-4 C-5	4 1	9.3-9.6 9.6-10.3	100/0 13/0	19 23					C-5: Hard to Very Hard, very slightly weathered, extremely fractured, gray, very fine- to medium-grained, GRANITE, very close, shallow to moderately-dipping joints.	
									194.7 / 10.3		
11										Boring terminated at 10.3 feet.	1
12											
13											
14											
15											

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Borehole backfilled using drilling spoils and sand.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Boring No.: WB-8
Boring Location: N: 2906824 E: 772558

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000

Checked by: A. Jones
Date Start: October 13, 2021
Date Finish: October 14, 2021

Contractor: New England Boring Contractors
Driller: Z. Ohman
Nobis Rep.: S. Pape

Rig Type / Model: ATV / Diedrich D-50
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 228
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3	1-3/8
Advancement	Spin/Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
10/14/21	14:45	Not Encountered	8	19.8	0 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Graphic	Ground Water	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
0	S-1	5	0-2	15					228.0 / 0.0		
				3					TOPSOIL	S-1: Loose, dark brown, Organic SILT, numerous pine needles, roots and decomposing leaves. Moist. (TOPSOIL).	
1				4					226.0 / 2.0		
				5						S-2: Medium dense, tan-gray, fine to coarse SAND and fine to coarse Gravel, little Silt. Moist. (GLACIAL TILL). [Laboratory Test Performed - Particle Size Analysis (Sieve Only): Gravel = 37.5%, Sand = 47.5%, Silt & Clay = 15.0%].	
2	S-2	12	2-4	4							
				3							
3				16							
				35					GLACIAL TILL		
4	S-3	6	4-5.7	43						S-3: Very dense, tan-gray, fine to coarse GRAVEL, some fine to coarse Sand, trace Silt. Moist. (GLACIAL TILL).	
				38							
5				18							
				30/2.2"							
6	S-4	0	6-6.7	32							
				50/2"					221.3 / 6.7	S-4: No recovery.	
7											
8											
9	C-1	31	8-11		86/44	7.2				C-1: Hard, slightly weathered, sound to moderately fractured, blue-gray, very fine- to medium-grained, GRANITE, Moderately close to close. Minimal to no wash water return. Core barrel plugged due to extreme fracturing at bottom of run. [Laboratory Test Performed - Bulk Density and Compressive Strength of Rock Specimens: Bulk Density = 165 pcf, Compressive Strength = 38,975 psi].	
10						6.1					
11						8.5					
12	C-2	22	11-13		92/0	6.5			BEDROCK	C-2: Hard, slightly weathered, extremely fractured to moderately fractured, blue-gray, very fine- to medium-grained, GRANITE, Very close to close horizontal joints. Portions reduced to gravel by coring. Generally no wash water return.	
13						9					
14	C-3	28	13-16		78/44	6.5				C-3: Hard, slightly weathered, sound to extremely fractured, blue-gray, very fine- to medium-grained, GRANITE, Moderately close to very close horizontal joints. Minimal to no wash water return.	
15						7					

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Boring No.: WB-8
Boring Location: N: 2906824 E: 772558

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000

Checked by: A. Jones
Date Start: October 13, 2021
Date Finish: October 14, 2021

Contractor: New England Boring Contractors
Driller: Z. Ohman
Nobis Rep.: S. Pape

Rig Type / Model: ATV / Diedrich D-50
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 228
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3	1-3/8
Advancement	Spin/Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
10/14/21	14:45	Not Encountered	8	19.8	0 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Graphic	Ground Water	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
15						7.5					
16											
17	C-4	26	16-18		108/60	9.2				C-4: Hard, slightly weathered, sound to moderately fractured, blue-gray, very fine- to medium-grained, GRANITE, Moderately close to very close moderately-dipping to horizontal joints. Minimal to no wash water return. Core barrel plugged due to joint angle.	
18						4.8			BEDROCK		
19	C-5	11	18-19.8		52/29	9.5				C-5: Hard, slightly weathered, moderately fractured, blue-gray, very fine- to medium-grained, GRANITE, Close horizontal joints. Minimal to no wash water return. Core barrel plugged, likely due to joint angle at bottom of run.	
20						11.1					
21									208.2 / 19.8		
22										Boring terminated at 19.8 feet.	2
23											
24											
25											
26											
27											
28											
29											
30											

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
2) Borehole backfilled using drilling spoils and sand.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Boring No.: WB-9
Boring Location: N: 2906712 E: 772561

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000

Checked by: A. Jones
Date Start: November 9, 2021
Date Finish: November 9, 2021

Contractor: New England Boring Contractors
Driller: G. Twombly Jr.
Nobis Rep.: S. Pape

Rig Type / Model: ATV / Stratastar5
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-)
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3	1-3/8
Advancement	Spin/Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
11/09/21	14:15	Not Encountered	7	18.8	0 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Graphic	Ground Water	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
0	S-1	13	0-2	1					0.5	S-1A (4"): Very loose, dark brown, partially decomposed leaves and pine needles with various roots. Moist. (TOPSOIL).	
				5					TOPSOIL / 1.0		
1				24					1.0	S-1B (9"): Dense, brown, fine to coarse GRAVEL, little fine to coarse Sand, trace Silt. Moist. (GLACIAL TILL). [Laboratory Test Performed - Particle Size Analysis (Sieve Only): Gravel = 76.0%, Sand = 17.6%, Silt & Clay = 6.2%].	
									GLACIAL TILL / 2.0		
2	S-2	3	2-2.8	44						S-2: Very dense, blue-gray, extremely fractured rock.	
				25/3"							
3											
4											
	S-3	0	4-5.7	9						S-3: Very dense, blue-gray, extremely fractured rock.	
5				27							
				24							
6	C-1	15	5.4-7.4	50/2"	63/46	8.1				C-1: Hard, slightly weathered, extremely to slightly fractured, blue-gray, very fine- to medium-grained, GRANITE, Close to very close moderately-dipping joints. No wash water return.	
7						8.5					
8	C-2	18	7.4-12.9		27/0	1.9			BEDROCK	C-2: Hard, slightly weathered, extremely fractured, blue-gray, very fine- to medium-grained, GRANITE, Close to very close vertical to shallow joints. Occasional 3-4 inch drops, occasional wash water return. Core barrel plugged frequently due to vertical fractures. Generally reduced to gravel.	
9						2.3					
10						1					
11						1.5					
12						1.8					
13						2.4					
14	C-3	10	12.9-14.4		56/0	2.4				C-3: Hard, slightly weathered, extremely fractured, blue-gray, very fine- to medium-grained, GRANITE, Very close vertical to horizontal joints. Highly variable resistance. Core barrel plugged frequently due to vertical fractures. No wash water return. Reduced to gravel.	
15	C-4	15	14.4-17.1		47/23	2.4				C-4: Hard, slightly weathered, extremely to slightly fractured, blue-gray, very fine- to medium-grained, GRANITE, Very close to close horizontal to	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Boring No.: WB-9
Boring Location: N: 2906712 E: 772561

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000

Checked by: A. Jones
Date Start: November 9, 2021
Date Finish: November 9, 2021

Contractor: New England Boring Contractors
Driller: J. Mientkiewicz
Nobis Rep.: S. Pape

Rig Type / Model: ATV / Stratastar5
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-)
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3	1-3/8
Advancement	Spin/Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
11/09/21	14:15	Not Encountered	7	18.8	0 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Graphic	Ground Water	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
15						2.4				moderately-dipping joints. Highly variable resistance. Core barrel plugged frequently due to vertical fractures. No wash water return. [Laboratory Test Performed - Bulk Density and Compressive Strength of Rock Specimens: Bulk Density = 172 pcf, Compressive Strength = 31,157 psi].	
16						2.4			BEDROCK		
17	C-5	30	17-18.8		143/40	2.4				C-5: Hard, slightly weathered, extremely fractured to sound, blue-gray, very fine- to medium-grained, GRANITE, Very close to moderately close vertical and horizontal joints. Highly variable resistance. Core barrel plugged frequently due to vertical fractures. No wash water return. Partially reduced to gravel.	
18						2.4					
19						2.4			/ 18.8		
20										Boring terminated at 18.8 feet.	2
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
2) Borehole backfilled using drilling spoils and sand.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Boring No.: MA-1
Boring Location: N: 2906840 E: 772418

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000

Checked by: J. Vanotti
Date Start: October 31, 2023
Date Finish: October 31, 2023

Contractor: New England Boring Contractors
Driller: Z. Ohman
Nobis Rep.: C. Piekarski

Rig Type / Model: ATV / Stratastar5
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 199
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
11/01/23	14:00	Not Encountered	13.5	20.5	25 minutes

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Graphic	Ground Water	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
0	S-1	10	0-2	WOH					199.6 / 0.4		
				3					TOPSOIL	"C-1 (A) (3"): Loose, dark brown, fine to medium SAND and Silt. very few wood and root fibers. Moist.	
1				2						S-1 (B) (7"): Loose, light brown, fine to medium SAND, some Silt, little fine Gravel. Dry.	
				6					GLACIAL TILL		
2	S-2	7	2-3.8	9						S-2: Very dense, light brown, fine to coarse SAND and fine to coarse Gravel, little Silt, pulverized stone in sample. Dry.	
				53							
3				37							
4				50/4"					194.8 / 4.3		
	S-3	0	4-4.3	50/3"						S-3: No recovery.	1
5									BOULDER 193.5 / 5.5	Advanced roller bit under heavy pressure between 4.3 ft. bgs and 5.5 ft. bgs. Possible boulder within glacial till strata.	
6											
7											
8											
9											
	S-4	12	9-10.9	12						S-4: Very dense, light brown, fine to coarse SAND, some Silt, little fine Gravel. Moist. [Laboratory Teesting Analysis: Grain Size Sieve Only - Gravel = 9.9%, Sand = 61.9%, Fines = 28.2%].	
10				17							
11				32							
12				50/5"							
13									186.0 / 13.0		
14	C-1	56	13.5-18.5		93/50	8				C-1: Moderately Hard, fresh, slightly fractured, Dark Gray, fine-grained, GRANITE, [Laboratory Testing Analysis: Bulk Density = 166 pcf, Compressive Strength = 38099 psi].	
15						8.5					
16						7					
17						10			BEDROCK		
18						9.5					
19	C-2	24	18.5-20.5		100/88	11				C-2: Moderately Hard, fresh, slightly fractured, Dark Gray, fine-grained, GRANITE.	
20						12.5					
21									178.5 / 20.5		
22										Boring terminated at 20.5 feet.	2
23											
24											
25											

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced into boring for drive and wash drilling
2) Boring terminated at 20.5 ft. bgs. Full 10 foot rock core was not recovered due to drill rig issues and lack in water. Boring backfilled with sand and spoils.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	10	123
PROJECT FILE NO.	607342		

BORING LOGS

NOTE:

1. SEE KEY PLAN SHEET 4 FOR BORING LOCATIONS.

607342_HD\BORING LOGS\.DWG Plotted on 16-Sep-2024 3:27 PM
BOREHOLE LOG_NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/12/23 12:31 - J:\BT\09\09.00 - MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD, MILTON\EXPLORATION\CONTRACT\100.00 MASSDOT RT. 28 @ CHICKATAWBUT RD\ BORING LOGS.GPJ
9/16/2024 - L:\1306\11\3081.41\CURRENT\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\607342_HD\BORING LOGS\.dwg
Christopher Lyman

BORING LOG

Project: Improvements for Route 28 (Randolph Avenue) at Chickatawbut Road
Location: Milton, Massachusetts
Nobis Project No.: 097150.000

Boring No.: MA-2
Boring Location: N: 2906913 E: 772499
Checked by: J. Vanotti
Date Start: November 1, 2023
Date Finish: November 1, 2023

Contractor: New England Boring Contractors
Driller: Z. Ohman
Nobis Rep.: C. Piekarski

Rig Type / Model: ATV / Stratastar5
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 205
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
10/23/23	13:00	Not Encountered	4.5	14.5	15 mintues

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Observed Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S-1	22	0-2	2					TOPSOIL 204.5 / 0.5	S-1 (A) (6"): Dark Brown, fine SAND, some Silt. Moist.	
1				10						S-1 (B) (16"): Light Brown, fine to coarse SAND, little fine Gravel, little Silt. Dry.	
				28							
2				11							
	S-2	8	2-4	14					GLACIAL TILL		
3				18						S-2: Light brown, fine to coarse SAND, some fine to coarse Gravel, some Silt. Dry. [Laboratory Teesting Analysis: Grain Size Sieve Only - Gravel = 20.9%, Sand = 56.6%, Fines = 22.5%].	
				46						S-3: No recovery.	
4				42							
	S-3	0	4-4.3	50/3"					200.5 / 4.5		
5	C-1	50	4.5-9.5		83/58	7.5				C-1: Medium Hard, slightly weathered, slightly fractured, Light Gray, fine-grained, GRANITE, [Laboratory Testing Analysis: Bulk Density = 169 pcf, Compressive Strength = 85246 psi].	1
6						8.5					
7						8					
8						9					
9						7.5					
10	C-2	60	9.5-14.5		100/32	7			BEDROCK	C-2: Medium Hard, slightly weathered, sound, Light Gray, fine-grained, GRANITE.	
11						8					
12						11					
13						9					
14						10					
15									190.5 / 14.5	Boring terminated at 14.5 feet.	2
16											

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced to boring for rock coring process.
2) Boring terminated at 14.5 feet bgs, and backfilled with sand and spoils.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

Page No. 1 of 1

BORE HOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/26/23 12:29 - J:\97150\50- MASSDOT ROUTE 28 AT CHICKATAWBUT ROAD, MILTON\EXPLORATIONS\DATA\07150.00 MASSDOT RT. 28 @ CHICKATAWBUT RD\ BORING LOGS.GPJ

MILTON
RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	11	123
PROJECT FILE NO.	607342		

BORING LOGS

607342_HD\BORING LOGS\ DWG Plotted on 16-Sep-2024 3:27 PM

NOTE:

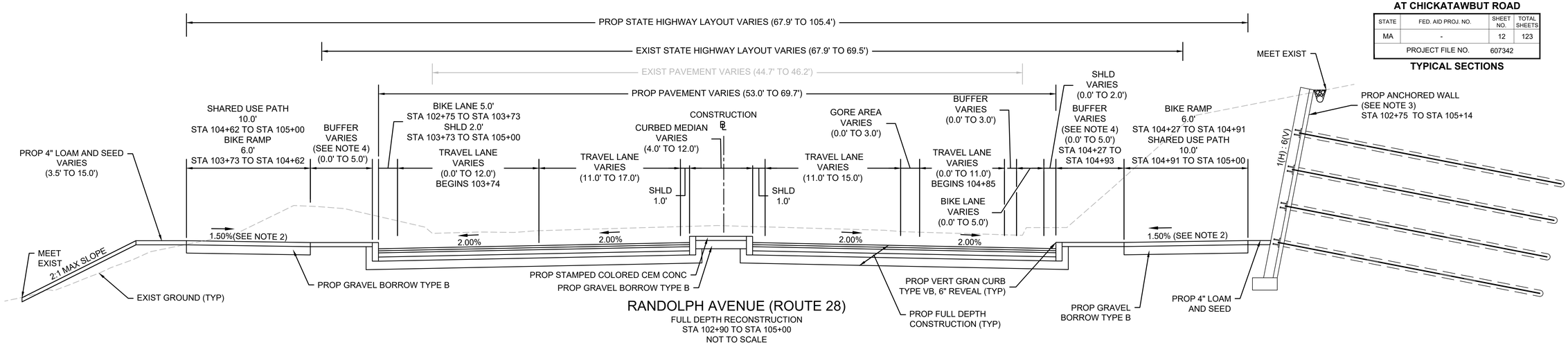
1. SEE KEY PLAN SHEET 4 FOR BORING LOCATIONS.

9/16/2024 L:\13061\13061.41\CURRENT\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\607342_HD\BORING LOGS).dwg
Christopher Lyman

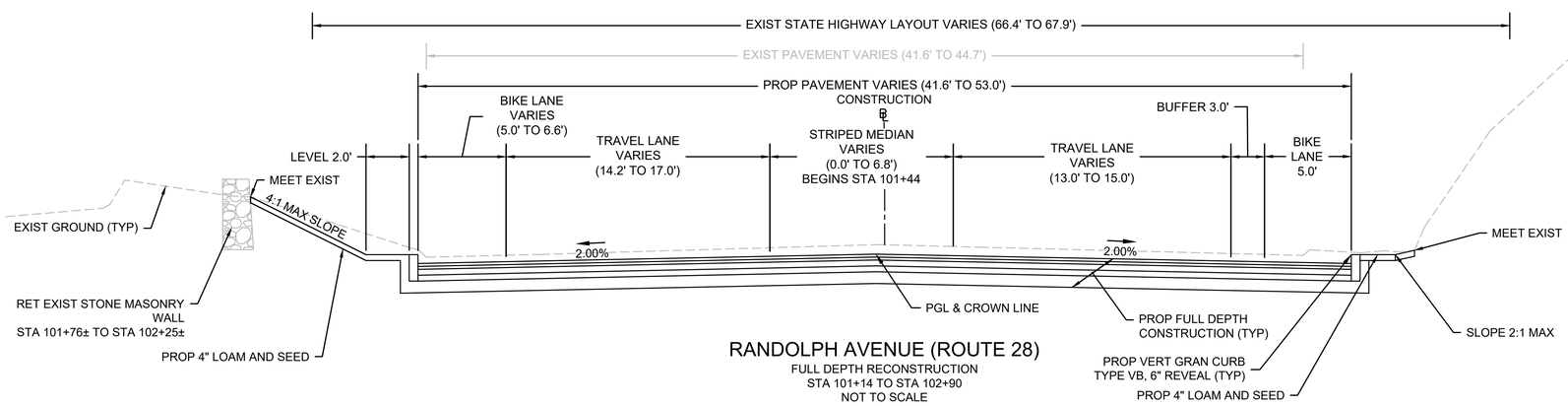
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	12	123
PROJECT FILE NO.	607342		

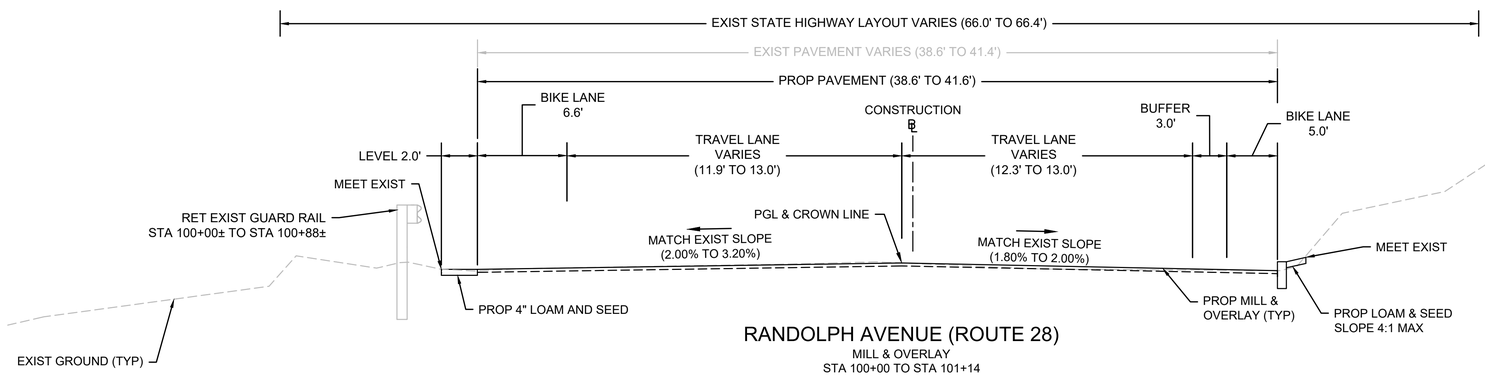
TYPICAL SECTIONS



RANDOLPH AVENUE (ROUTE 28)
FULL DEPTH RECONSTRUCTION
STA 102+90 TO STA 105+00
NOT TO SCALE



RANDOLPH AVENUE (ROUTE 28)
FULL DEPTH RECONSTRUCTION
STA 101+14 TO STA 102+90
NOT TO SCALE



RANDOLPH AVENUE (ROUTE 28)
MILL & OVERLAY
STA 100+00 TO STA 101+14
NOT TO SCALE

NOTES

1. ALL CURB REVEALS ARE 6" UNLESS OTHERWISE SPECIFIED.
2. SURFACES SHALL BE CONSTRUCTED TO A MAXIMUM CROSS SLOPE OF 1.5% WITH A CONSTRUCTION TOLERANCE OF +/- 0.5%.
3. SEE WALL PLANS, SHEET 91 - 93 FOR ADDITIONAL DETAIL FOR PROPOSED WALLS
4. BUFFER FOR SIDEWALK, SHARED USE PATH, AND BIKE RAMPS MATERIAL VARIES.
   FOR WIDTHS LESS THAN 3-FT, THE BUFFER SHALL BE SCORED COLORED CEMENT CONCRETE.
   FOR WIDTHS GREATER THAN 3-FT, THE BUFFER SHALL BE 4-INCH LOAM AND SEED.

607342_HD(TYPICAL).DWG Plotted on 16-Sep-2024 3:27 PM

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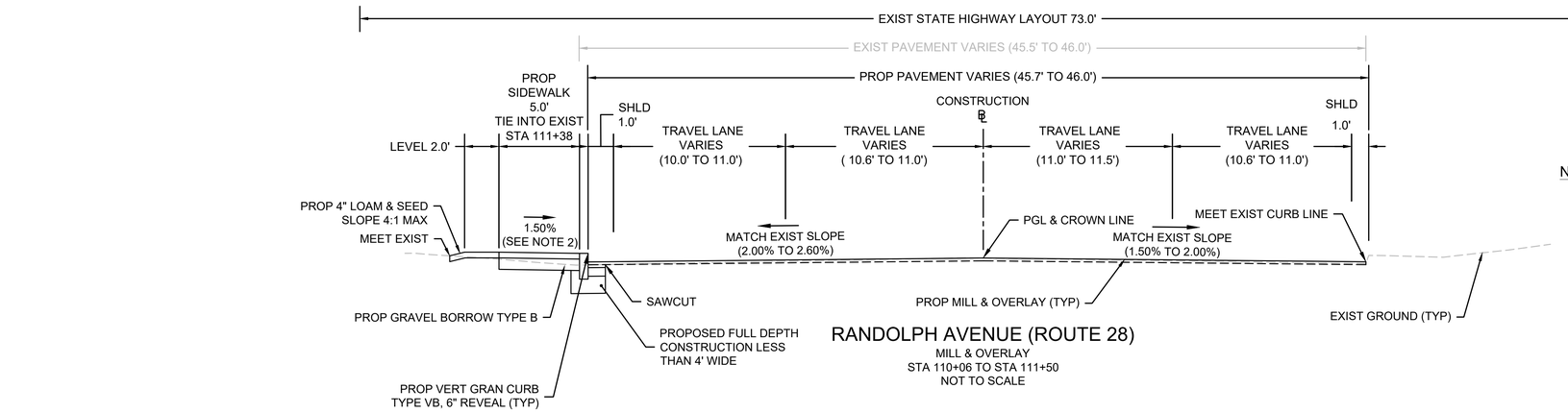
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

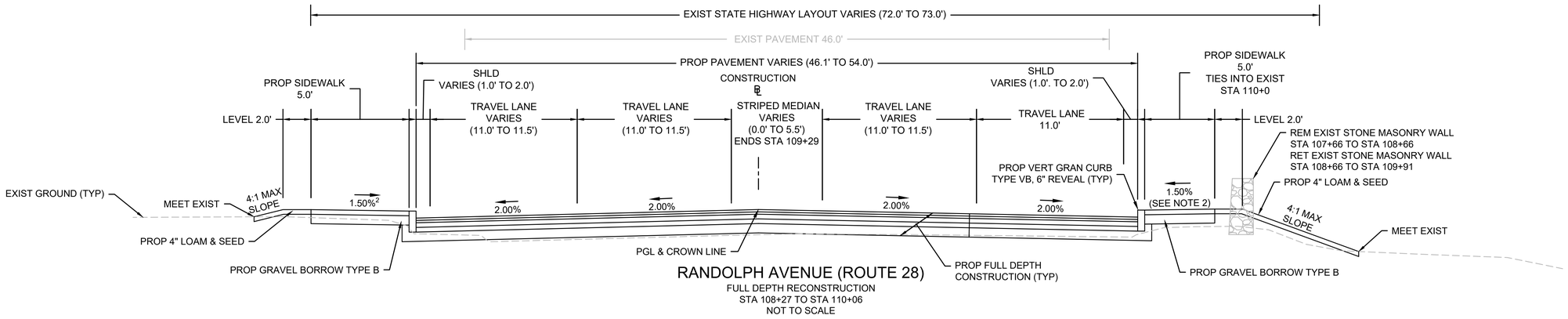
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	13	123
PROJECT FILE NO.	607342		

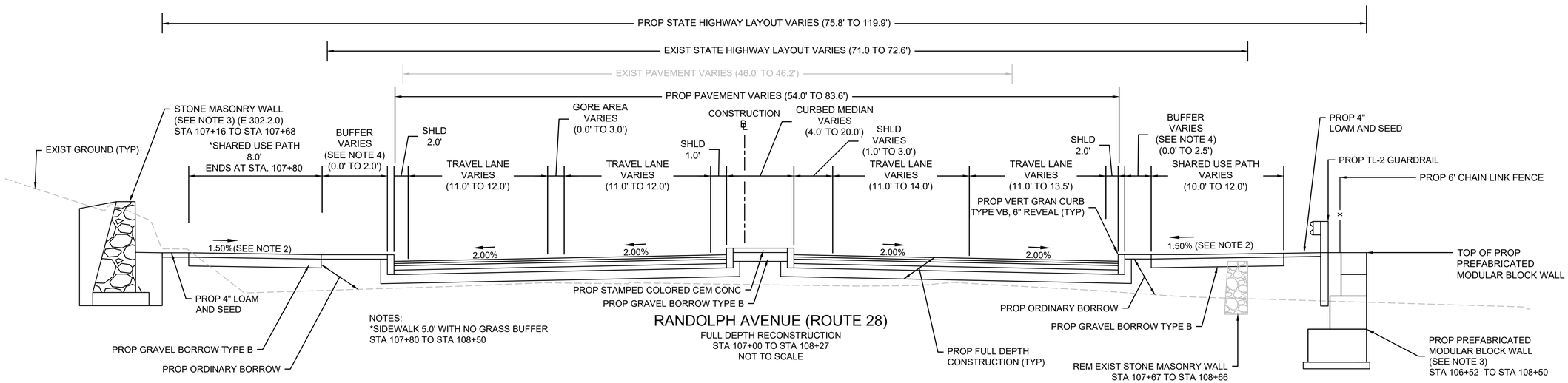
TYPICAL SECTIONS



NOTES

1. ALL CURB REVEALS ARE 6" UNLESS OTHERWISE SPECIFIED.
2. PEDESTRIAN SURFACES SHALL BE CONSTRUCTED TO A MAXIMUM CROSS SLOPE OF 1.5% WITH A CONSTRUCTION TOLERANCE OF +/- 0.5%.
3. SEE WALL PLANS, SHEET 91 - 93 FOR ADDITIONAL DETAIL FOR PROPOSED WALLS
4. BUFFER FOR SIDEWALK, SHARED USE PATH, AND BIKE RAMPS MATERIAL VARIES.
   FOR WIDTHS LESS THAN OR EQUAL TO 3-FT, THE BUFFER SHALL BE SCORED COLORED CEMENT CONCRETE.
   FOR WIDTHS GREATER THAN 3-FT, THE BUFFER SHALL BE 4-INCH LOAM AND SEED.





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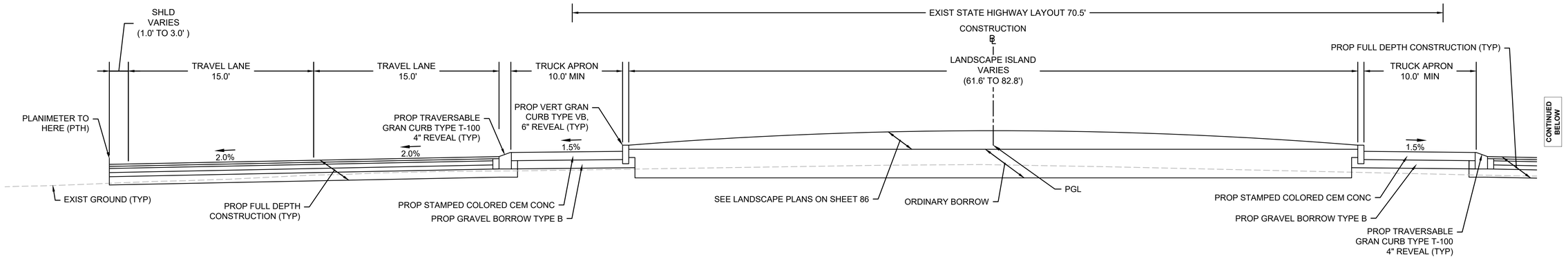
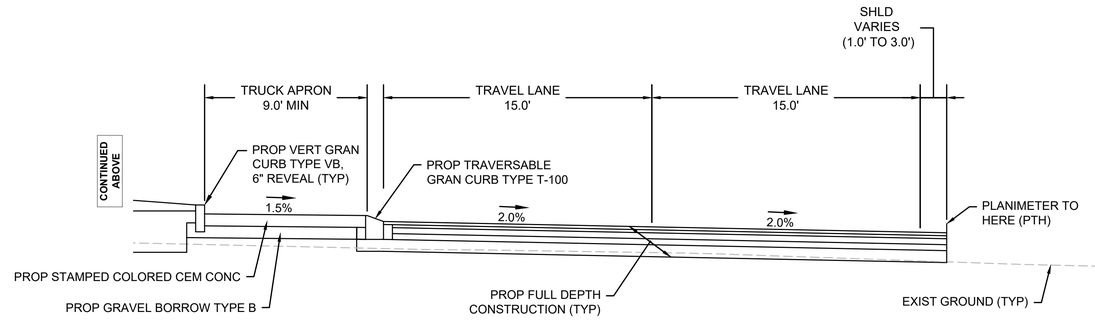
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	14	123
PROJECT FILE NO.	607342		

TYPICAL SECTIONS





RANDOLPH AVENUE (ROUTE 28) ROUNDABOUT

FULL DEPTH RECONSTRUCTION
SECTION AT STA 106+20
NOT TO SCALE

NOTES

1. ALL CURB REVEALS ARE 6" UNLESS OTHERWISE SPECIFIED.
2. PEDESTRIAN SURFACES SHALL BE CONSTRUCTED TO A MAXIMUM CROSS SLOPE OF 1.5% WITH A CONSTRUCTION TOLERANCE OF +/- 0.5%.
3. SEE WALL PLANS, SHEET 91 - 93 FOR ADDITIONAL DETAIL FOR PROPOSED WALLS
4. BUFFER FOR SIDEWALK, SHARED USE PATH, AND BIKE RAMPS MATERIAL VARIES.
   FOR WIDTHS LESS THAN OR EQUAL TO 3-FT, THE BUFFER SHALL BE SCORED COLORED CEMENT CONCRETE.
   FOR WIDTHS GREATER THAN 3-FT, THE BUFFER SHALL BE 4-INCH LOAM AND SEED.

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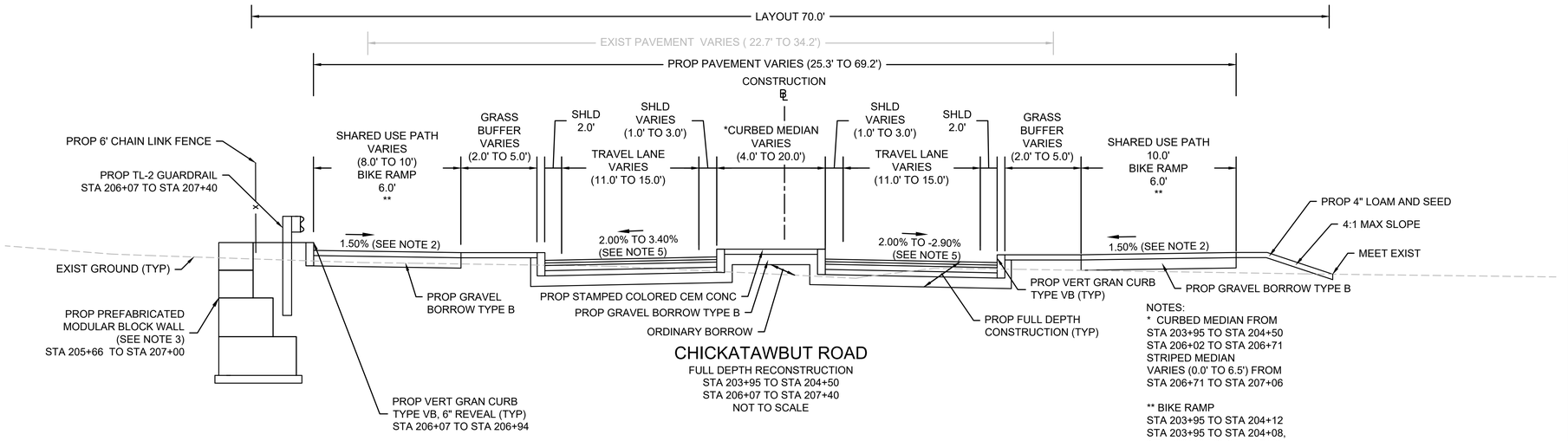
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	15	123
PROJECT FILE NO.	607342		

TYPICAL SECTIONS



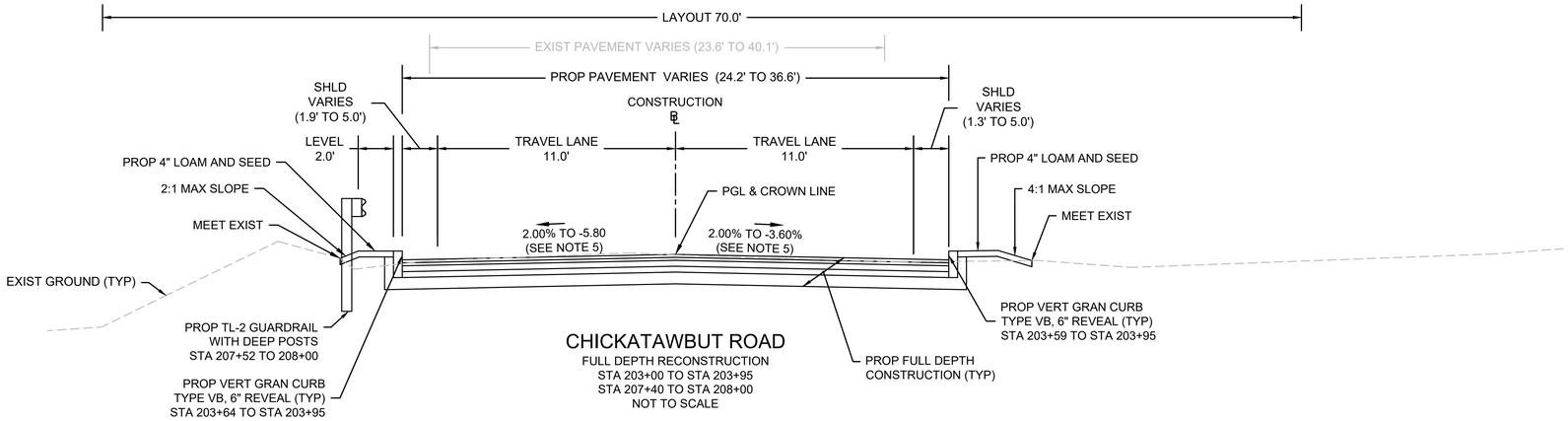
CHICKATAWBUT ROAD

FULL DEPTH RECONSTRUCTION
STA 203+95 TO STA 204+50
STA 206+07 TO STA 207+40
NOT TO SCALE

NOTES:
* CURBED MEDIAN FROM
STA 203+95 TO STA 204+50
STA 206+02 TO STA 206+71
STRIPED MEDIAN
VARIES (0.0' TO 6.5') FROM
STA 206+71 TO STA 207+06

** BIKE RAMP
STA 203+95 TO STA 204+12
STA 203+95 TO STA 204+08,
STA 206+40 TO STA 207+01,

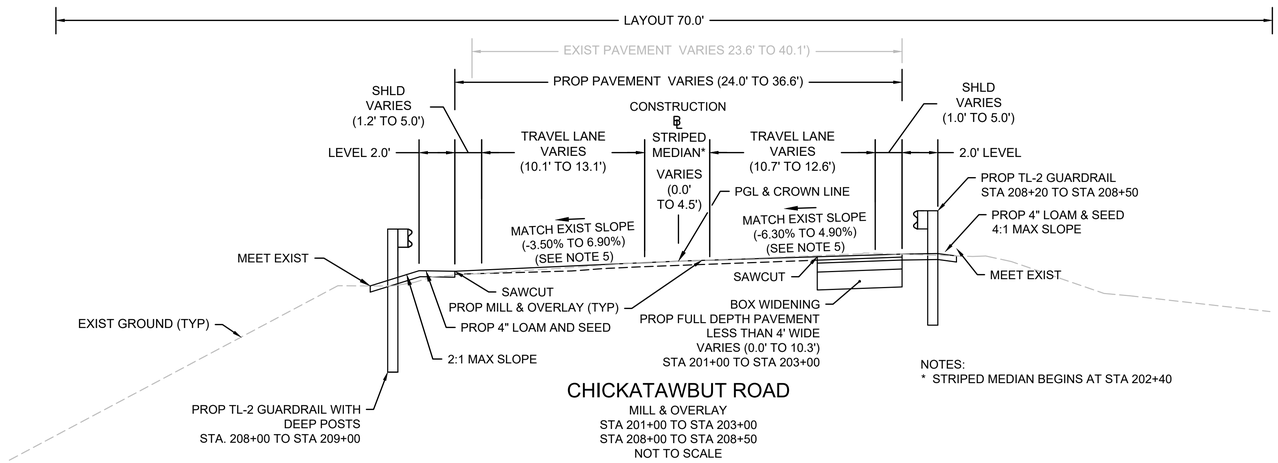
SUPERELEVATION BANKING TABLE		
STATION	ROADWAY CROSS-SLOPE	DESCRIPTION
201+00	3.5% / 6.3%	TRANSITION OUT OF EXISTING SUPERELEVATION
201+50	3.2% / 3.6%	TRANSITION OUT OF EXISTING SUPERELEVATION
202+00	1.1% / 2.5%	TRANSITION OUT OF EXISTING SUPERELEVATION
202+50	0.6% / 2.0%	TRANSITION OUT OF EXISTING SUPERELEVATION
202+84	0.0% / 2.0%	LEVEL CROWN
203+00	1.0% / 2.0%	TRANSITION TO NORMAL CROWN
203+50	2.0% / 2.0%	NORMAL CROWN



CHICKATAWBUT ROAD

FULL DEPTH RECONSTRUCTION
STA 203+00 TO STA 203+95
STA 207+40 TO STA 208+00
NOT TO SCALE

SUPERELEVATION BANKING TABLE		
STATION	ROADWAY CROSS-SLOPE	DESCRIPTION
206+50	2.1% / 2.1%	TRANSITION TO MATCH EXISTING SUPERELEVATION
207+00	3.4% / 2.6%	TRANSITION TO MATCH EXISTING SUPERELEVATION
207+50	4.6% / 3.1%	TRANSITION TO MATCH EXISTING SUPERELEVATION
208+00	5.8% / 3.6%	TRANSITION TO MATCH EXISTING SUPERELEVATION
208+50	6.9% / 4.9%	TRANSITION TO MATCH EXISTING SUPERELEVATION



CHICKATAWBUT ROAD

MILL & OVERLAY
STA 201+00 TO STA 203+00
STA 208+00 TO STA 208+50
NOT TO SCALE

NOTES:
* STRIPED MEDIAN BEGINS AT STA 202+40

NOTES

1. ALL CURB REVEALS ARE 6" UNLESS OTHERWISE SPECIFIED.
2. SURFACES SHALL BE CONSTRUCTED TO A MAXIMUM CROSS SLOPE OF 1.5% WITH A CONSTRUCTION TOLERANCE OF +/- 0.5%.
3. SEE WALL PLANS, SHEET 91 - 93 FOR ADDITIONAL DETAIL FOR PROPOSED WALLS
4. BUFFER FOR SIDEWALK, SHARED USE PATH, AND BIKE RAMPS MATERIAL VARIES.
FOR WIDTHS LESS THAN 3-FT, THE BUFFER SHALL BE SCORED COLORED CEMENT CONCRETE.
FOR WIDTHS GREATER THAN 3-FT, THE BUFFER SHALL BE 4-INCH LOAM AND SEED.
5. SEE SUPERELEVATION BANKING TABLE FOR DIRECTION OF ROADWAY SLOPE

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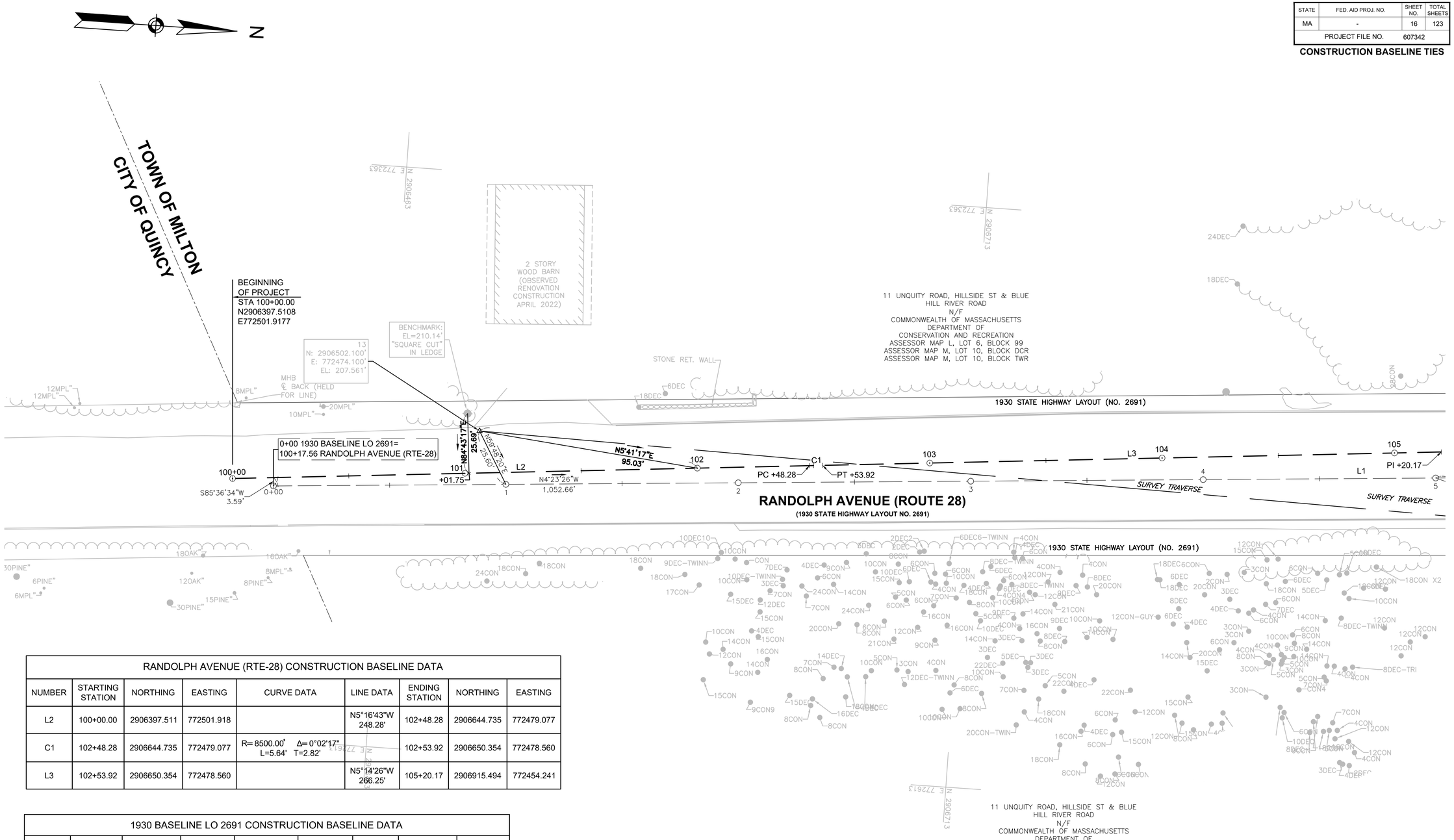
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	16	123
PROJECT FILE NO.	607342		

CONSTRUCTION BASELINE TIES



CONTINUED ON SHEET NO. 17

RANDOLPH AVENUE (RTE-28) CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L2	100+00.00	2906397.511	772501.918		N5°16'43"W 248.28'	102+48.28	2906644.735	772479.077
C1	102+48.28	2906644.735	772479.077	R= 8500.00' Δ= 0°02'17" L=5.64' T=2.82'		102+53.92	2906650.354	772478.560
L3	102+53.92	2906650.354	772478.560		N5°14'26"W 266.25'	105+20.17	2906915.494	772454.241

1930 BASELINE LO 2691 CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	0+00.00	2906415.267	772503.879		N4°23'26"W 1052.66'	10+52.66	2907464.838	772423.291

NOTE:

1. REFER TO THE WALL PLAN SHEETS 91 TO 93 FOR PROPOSED WALL DESIGN.

0 20 50 100
SCALE: 1" = 20'

607342_HD(BL TIE).DWG Plotted on 16-Sep-2024 3:27 PM

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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	17	123
PROJECT FILE NO.	607342		

CONSTRUCTION BASELINE TIES

607342_HD(BL TIE).DWG Plotted on 16-Sep-2024 3:27 PM

CONTINUED ON SHEET NO. 19

11 UNQUITY ROAD, HILLSIDE ST & BLUE HILL RIVER ROAD
N/F
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF
CONSERVATION AND RECREATION
ASSESSOR MAP L, LOT 6, BLOCK 99
ASSESSOR MAP M, LOT 10, BLOCK DCR
ASSESSOR MAP M, LOT 10, BLOCK TWR

91 BRIERBROOK STREET
N/F
RYAN & CHRISTINE TOSI
CERT. 186326 / LC. 27278 T
ASSESSOR MAP N, LOT 12, BLOCK 4J

CHICKATAWBUT ROAD CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C4	202+23.94	2906950.887	772169.364	R= 300.00' Δ= 38°05'10" L=199.42' T=103.55'		204+23.36	2907014.011	772354.675
L7	204+23.36	2907014.011	772354.675		S89°46'03"E 104.34'	205+27.70	2907013.588	772459.015
L8	205+27.70	2907013.588	772459.015		N87°06'55"E 132.26'	206+59.96	2907020.244	772591.112
C5	206+59.96	2907020.244	772591.112	R= 500.00' Δ= 28°57'54" L=252.77' T=129.15'		209+12.73	2907094.893	772829.795

PROPOSED WALL-2 CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C6	700+00.00	2907053.105	772627.497	R= 415.91' Δ= 7°31'23" L=54.61' T=27.34'		700+54.61	2907061.124	772573.520
C7	700+54.61	2907061.124	772573.520	R= 88.37' Δ= 41°25'07" L=63.88' T=33.41'		701+18.49	2907095.617	772521.397
C8	701+18.49	2907095.617	772521.397	R= 313.88' Δ= 28°59'34" L=158.83' T=81.15'		702+77.32	2907248.472	772484.956

BENCHMARK
EL: 194.91
"MAG NAIL IN LEDGE

CHICKATAWBUT ROAD
(PARK DRIVE)

N42°50'52"E
61.04'

RANDOLPH AVENUE (RTE-28) STA. 106+18.34=
CHICKATAWBUT ROAD STA. 205+20.00

1930 BASELINE LO 2691 STA. 6+00.09=
RANDOLPH AVENUE (RTE-28) STA. 106+18.12

RANDOLPH AVENUE (RTE-28) STA. 105+38.49=
ROUNDABOUT STA. 302+26.89

CHICKATAWBUT ROAD STA. 204+51.70=
ROUNDABOUT STA. 301+08.01

RANDOLPH AVENUE (RTE-28) STA. 106+87.92=
ROUNDABOUT STA. 300+04.40

1930 STATE HIGHWAY LAYOUT (NO. 2691)

#1281 RANDOLPH AVENUE
N/F
DUNG QUANG & THU MINH DAO
CERT. 203623 / LC. 295508 A
ASSESSOR MAP N, LOT 11, BLOCK 15

2 STORY ALUMINUM HOUSE

2 STORY STONE / VINYL HOUSE

RANDOLPH AVENUE (ROUTE 28)
(1930 STATE HIGHWAY LAYOUT NO. 2691)

CONTINUED ON SHEET NO. 16

PI +20.17

SURVEY TRAVERSE

S14°57'55"W
65.90'

PI +27.70

S69°54'23"W
35.54'

1,052.66'
N4°23'26"W

PI +77.91

300+00
304+71.23

N82°53'06"W
28.21'

N5°08'20"W
43.56'

CONTINUED ON SHEET NO. 18

RANDOLPH AVENUE (ROUTE 28)
(1930 STATE HIGHWAY LAYOUT NO. 2691)

1930 STATE HIGHWAY LAYOUT (NO. 2691)
702+77.32

PROPOSED WALL-2 STA. 702+77.32=
RANDOLPH AVENUE (RTE-28) STA. 108+50.42

PCC +18.49

PCC +54.61

PC +59.96

CHICKATAWBUT ROAD
(PARK DRIVE)

CHICKATAWBUT ROAD STA. 206+01.12=
ROUNDABOUT STA. 303+57.46

PROPOSED WALL-2 STA. 700+00=
RANDOLPH AVENUE (RTE-28) STA. 106+52.57

700+00

TEST HOLE
4.50' DEPTH

1 STORY WOOD HOUSE

1 STORY GARAGE

1282 RANDOLPH AVENUE
N/F
KELSEY WORCESTER
DEED BK. 34059, PAGE 15
ASSESSOR MAP N, LOT 10A, BLOCK 3

1274 RANDOLPH AVENUE
N/F
ROBERT & NANCY JESSON
DEED BK. 23194, PAGE 474
ASSESSOR MAP N, LOT 10A, BLOCK 3A

1278 RANDOLPH AVENUE
N/F
PATRICK & ROSANNE SPRING
DEED BK. 18514, PAGE 490
ASSESSOR MAP N, LOT 10A, BLOCK 4

111
N: 2907091.706'
E: 772476.047'
EL: 194.761'
MASSDOT 2045

10
N: 2906464'
E: 772423.18'
EL: 199.306'
MAG NAIL

11 UNQUITY ROAD, HILLSIDE ST & BLUE HILL RIVER ROAD
N/F
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF
CONSERVATION AND RECREATION
ASSESSOR MAP L, LOT 6, BLOCK 99
ASSESSOR MAP M, LOT 10, BLOCK DCR
ASSESSOR MAP M, LOT 10, BLOCK TWR

1930 BASELINE LO 2691 CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	0+00.00	2906415.267	772503.879		N4°23'26"W 1052.66'	10+52.66	2907464.838	772423.291

RANDOLPH AVENUE (RTE-28) CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L3	102+53.92	2906650.354	772478.560		N5°14'26"W 266.25'	105+20.17	2906915.494	772454.241
L4	105+20.17	2906915.494	772454.241		N1°42'18"W 157.73'	106+77.91	2907073.157	772449.548
L5	106+77.91	2907073.157	772449.548		N3°53'17"W 472.10'	111+50.00	2907544.169	772417.537

ROUNDABOUT CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C2	300+00.00	2907083.546	772453.251	R= 75.00' Δ= 359°59'36" L=471.23' T=0.00'		304+71.23	2907083.546	772453.259

CONTINUED ON SHEET NO. 20

0 20 50 100
SCALE: 1" = 20'

NOTE:

1. REFER TO THE WALL PLAN SHEETS 91 TO 93 FOR PROPOSED WALL DESIGN.

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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	18	123
PROJECT FILE NO.	607342		

CONSTRUCTION BASELINE TIES

CONTINUED ON SHEET NO. 17

N

1275 RANDOLPH AVENUE
N/F
FREDERICK & MARJORIE FLAHERTY
CERT. 66500 / LC. 29508 A
ASSESSOR MAP N, LOT 11, BLOCK 14

1253 RANDOLPH AVENUE
N/F
SUSI RAYMOND
DEED BK. 19931, PAGE 516
ASSESSOR MAP N, LOT 11, BLOCK 12B

#1281 RANDOLPH AVENUE
N/F
DUNG QUANG & THU MINH DAO
CERT. 203623 / LC. 295508 A
ASSESSOR MAP N, LOT 11, BLOCK 15

1265 RANDOLPH AVENUE
N/F
KAYLEIGH MACGILLWAY
DEED BK. 35186, PAGE 2

END OF PROJECT
STA 111+50.00
N2907544.1686
E772417.5373

1251 RANDOLPH AVENUE
N/F
PATRICK M. SPRING
DEED BK. 14653, PAGE 164
ASSESSOR MAP N, LOT 11, BLOCK 12A

1253 RANDOLPH AVENUE
N/F
SUSI RAYMOND
DEED BK. 19931, PAGE 516
ASSESSOR MAP N, LOT 11, BLOCK 12B

1930 STATE HIGHWAY LAYOUT (NO. 2691)

110
N: 2907667.465'
E: 772379.479'
EL: 169.931'
MASSDOT 2046

N86°26'39"E
31.16'

RANDOLPH AVENUE (ROUTE 28)
(1930 STATE HIGHWAY LAYOUT NO. 2691)

N4°23'26"W 1052.66'

S14°59'40"W
78.78'

N4°53'01"E
25.50'

SURVEY TRAVERSE

MHB CL BACK (HELD)

1930 STATE HIGHWAY LAYOUT (NO. 2691)

1274 RANDOLPH AVENUE
N/F
ROBERT & NANCY JESSON
DEED BK. 23194, PAGE 474
ASSESSOR MAP N, LOT 10A, BLOCK 3A

1262 RANDOLPH AVENUE
N/F
THOMAS & DOROTHY WOODS
DEED BK. 20630, PAGE 538
ASSESSOR MAP N, MAP 10A, BLOCK 2

1248 RANDOLPH AVENUE
N/F
MARTHA & JOSEPH SUSI, JR
BK. 10688, PAGE 327
ASSESSOR MAP N, MAP 10A, BLOCK 1

1248 RANDOLPH AVENUE
N/F
TUAN NGUYEN DAM DIEM
DEED BK. 32514, PAGE 546
ASSESSOR MAP N, LOT 10B, BLOCK

11
N: 2907620.267'
E: 772437.920'
EL: 171.919'
MAG NAIL

RANDOLPH AVENUE (RTE-28) CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L5	106+77.91	2907073.157	772449.548		N3°53'17"W 472.10'	111+50.00	2907544.169	772417.537

1930 BASELINE LO 2691 CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	0+00.00	2906415.267	772503.879		N4°23'26"W 1052.66'	10+52.66	2907464.838	772423.291

NOTE:

1. REFER TO THE WALL PLAN SHEETS 91 TO 93 FOR PROPOSED WALL DESIGN.

0 20 50 100
SCALE: 1" = 20'

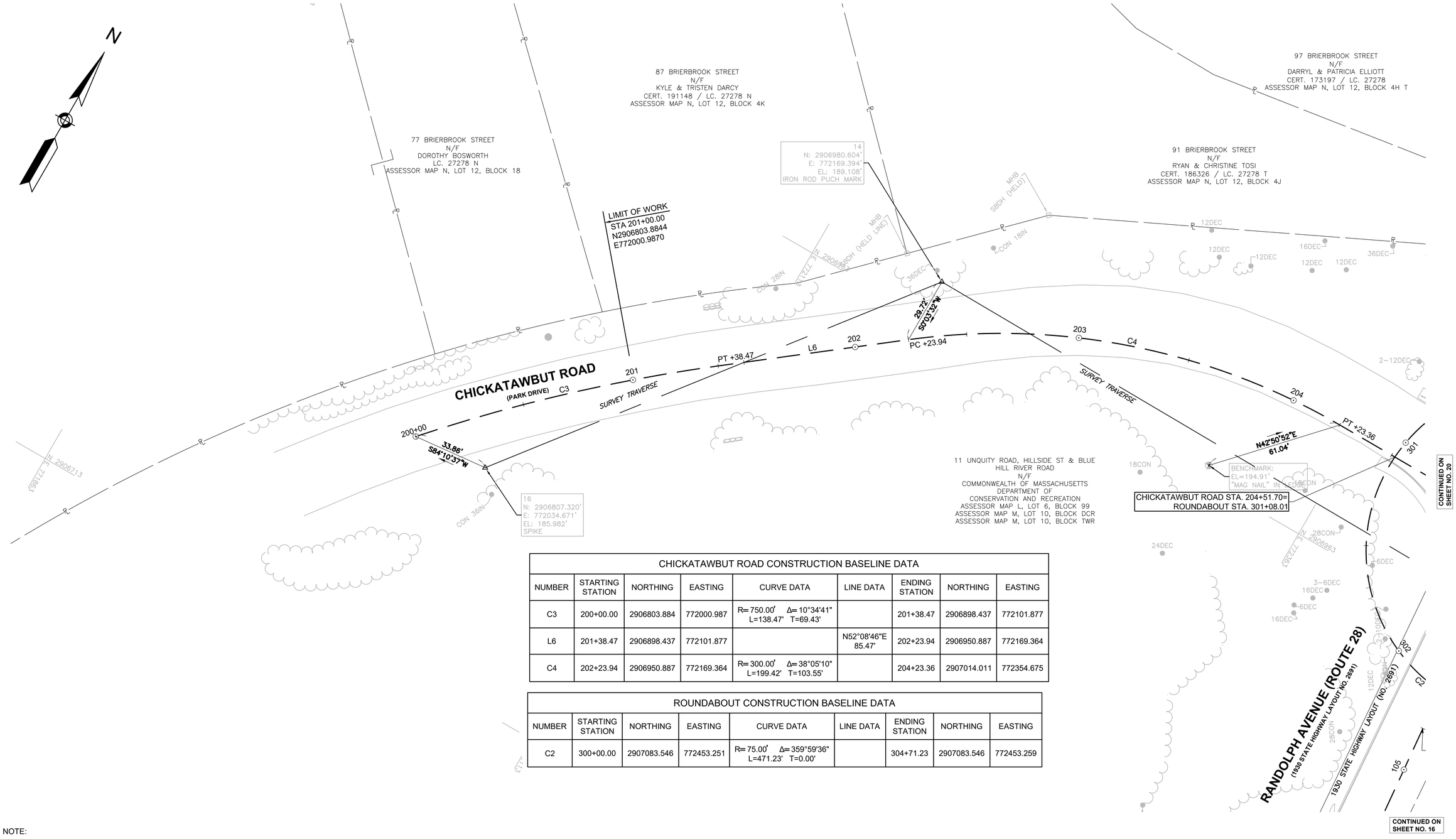
607342_HD(BL TIE).DWG Plotted on 16-Sep-2024 3:27 PM

9/16/2024 L:\13061\13061.41\CURRENT\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\607342_HD(BL TIE).dwg
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	19	123
PROJECT FILE NO.	607342		

CONSTRUCTION BASELINE TIES



CHICKATAWBUT ROAD CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C3	200+00.00	2906803.884	772000.987	R= 750.00' Δ= 10°34'41" L=138.47' T=69.43'		201+38.47	2906898.437	772101.877
L6	201+38.47	2906898.437	772101.877		N52°08'46"E 85.47'	202+23.94	2906950.887	772169.364
C4	202+23.94	2906950.887	772169.364	R= 300.00' Δ= 38°05'10" L=199.42' T=103.55'		204+23.36	2907014.011	772354.675

ROUNDABOUT CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C2	300+00.00	2907083.546	772453.251	R= 75.00' Δ= 359°59'36" L=471.23' T=0.00'		304+71.23	2907083.546	772453.259

NOTE:

1. REFER TO THE WALL PLAN SHEETS 91 TO 93 FOR PROPOSED WALL DESIGN.

0 20 50 100

SCALE: 1" = 20'

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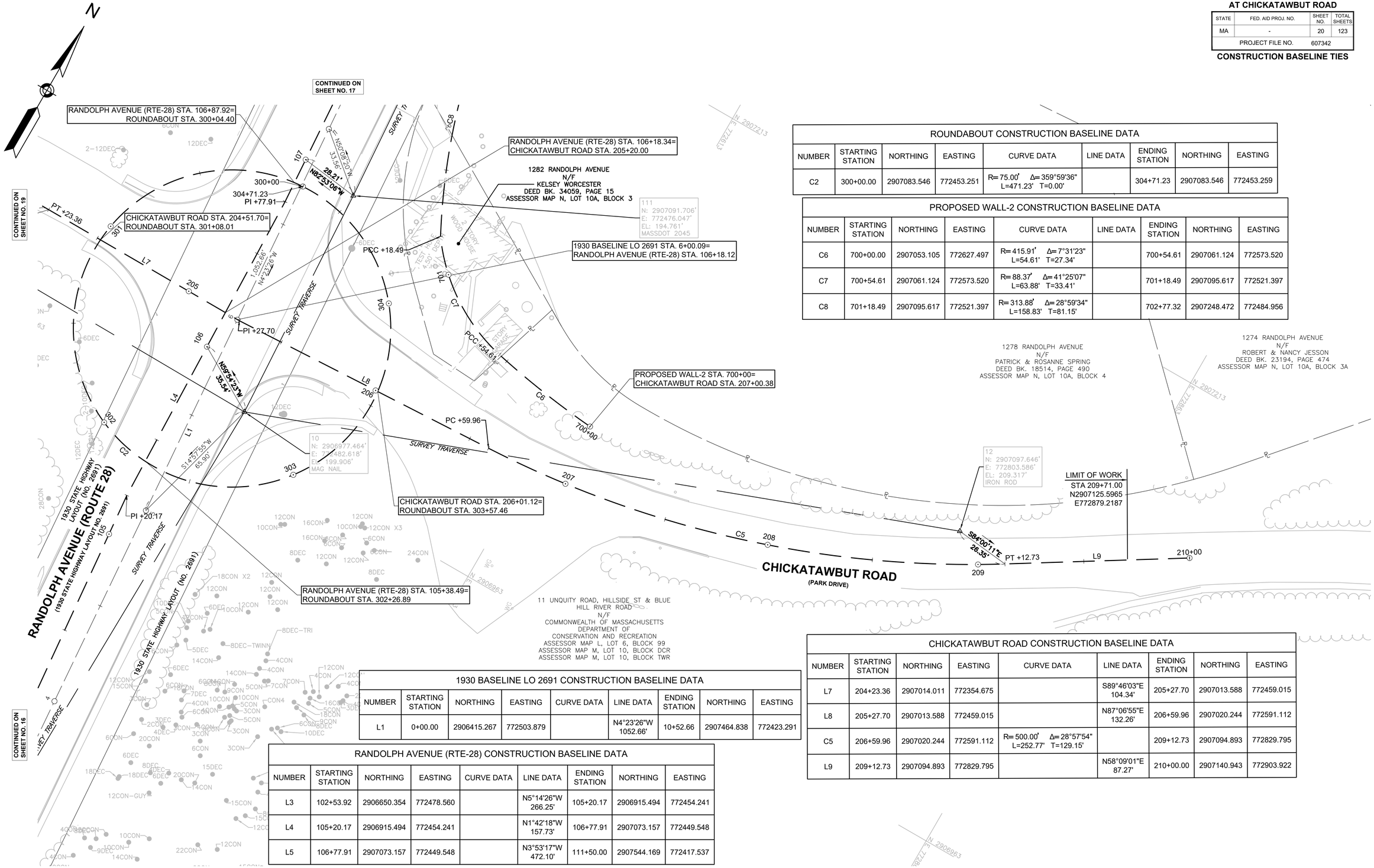
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	20	123
PROJECT FILE NO.	607342		

CONSTRUCTION BASELINE TIES



ROUNDABOUT CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C2	300+00.00	2907083.546	772453.251	R= 75.00' Δ= 359°59'36" L=471.23' T=0.00'		304+71.23	2907083.546	772453.259

PROPOSED WALL-2 CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C6	700+00.00	2907053.105	772627.497	R= 415.91' Δ= 7°31'23" L=54.61' T=27.34'		700+54.61	2907061.124	772573.520
C7	700+54.61	2907061.124	772573.520	R= 88.37' Δ= 41°25'07" L=63.88' T=33.41'		701+18.49	2907095.617	772521.397
C8	701+18.49	2907095.617	772521.397	R= 313.88' Δ= 28°59'34" L=158.83' T=81.15'		702+77.32	2907248.472	772484.956

1930 BASELINE LO 2691 CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	0+00.00	2906415.267	772503.879		N4°23'26"W 1052.66'	10+52.66	2907464.838	772423.291

RANDOLPH AVENUE (RTE-28) CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L3	102+53.92	2906650.354	772478.560		N5°14'26"W 266.25'	105+20.17	2906915.494	772454.241
L4	105+20.17	2906915.494	772454.241		N1°42'18"W 157.73'	106+77.91	2907073.157	772449.548
L5	106+77.91	2907073.157	772449.548		N3°53'17"W 472.10'	111+50.00	2907544.169	772417.537

CHICKATAWBUT ROAD CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L7	204+23.36	2907014.011	772354.675		S89°46'03"E 104.34'	205+27.70	2907013.588	772459.015
L8	205+27.70	2907013.588	772459.015		N87°06'55"E 132.26'	206+59.96	2907020.244	772591.112
C5	206+59.96	2907020.244	772591.112	R= 500.00' Δ= 28°57'54" L=252.77' T=129.15'		209+12.73	2907094.893	772829.795
L9	209+12.73	2907094.893	772829.795		N58°09'01"E 87.27'	210+00.00	2907140.943	772903.922

NOTE:

1. REFER TO THE WALL PLAN SHEETS 91 TO 93 FOR PROPOSED WALL DESIGN.

0 20 50 100

SCALE: 1" = 20'

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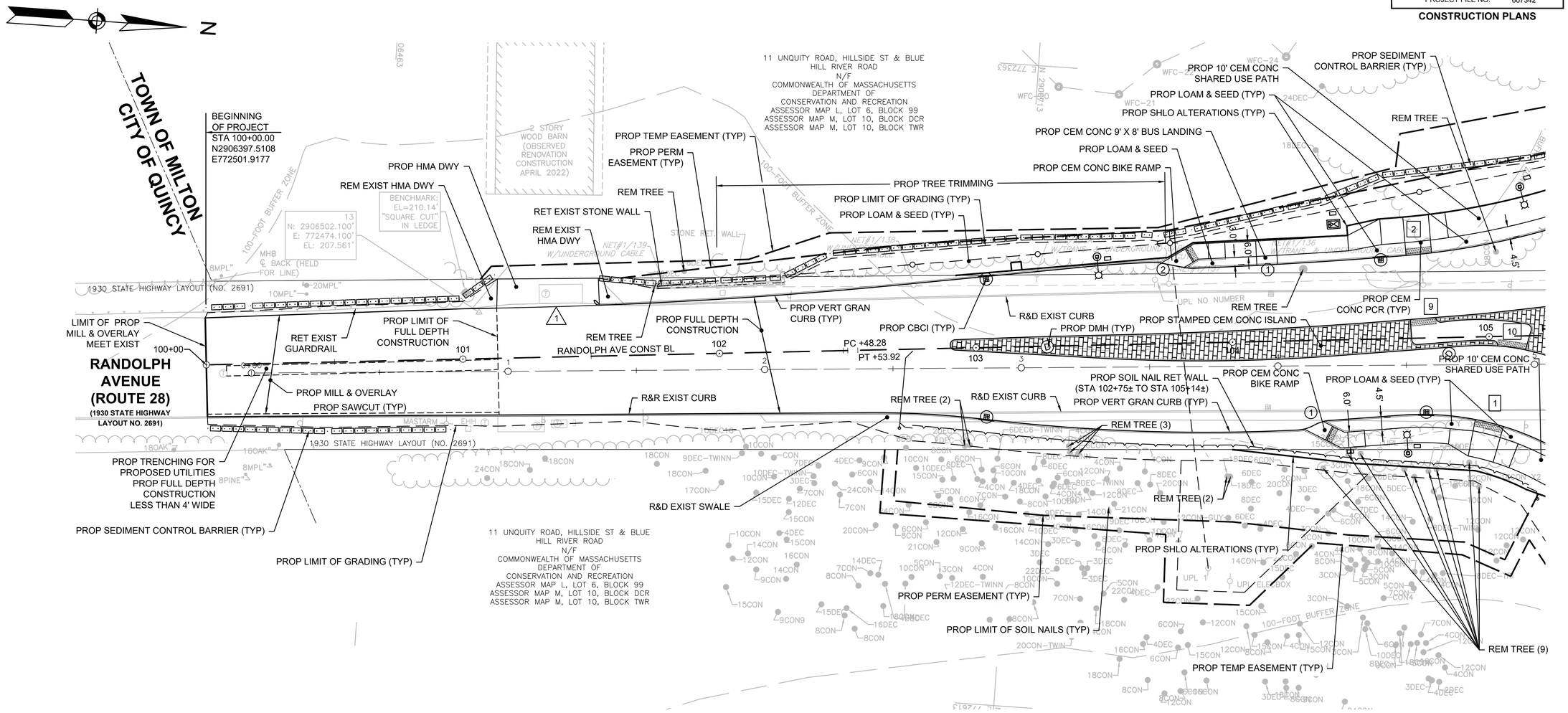
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	21	123
PROJECT FILE NO.	607342		

CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS	TRAFFIC SIGNAL CONDUIT	WATER SUPPLY ALTERATIONS	DRAINAGE DETAILS
NONE	SEE SHEET 43	NONE	SEE SHEET 66



PROPOSED	DESCRIPTION
X	PCR
X	DRIVEWAY
X	BIKE RAMP
X	BUS STOP

0 20 50 100
SCALE: 1" = 20'

NOTE:

1. SEE UTILITY PLANS SHEETS 66 - 70 FOR UTILITY DISPOSITIONS.
2. SEE PROFILES 26 - 31.
3. ALL TREES ARE TO BE RETAINED UNLESS OTHERWISE NOTED.
4. SEE SHEET 98 FOR ADDITIONAL INFORMATION OF CURBED MEDIAN ISLAND.
5. SEE SHEET 96 FOR ADDITIONAL INFORMATION ON TRUCK APRON DESIGN.

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MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	22	123
PROJECT FILE NO.	607342		

CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS

TANGENT END TREATMENT	STA 207+28 LT TO STA 207+41 LT
GUARDRAIL, TL-2 (SINGLE FACED)	STA 206+27 LT TO STA 207+28 LT
GUARDRAIL - CURVED, TL-2 (SINGLE FACED)	STA 206+27 LT TO STA 106+80 RT
GUARDRAIL, TL-2 (SINGLE FACED)	STA 106+80 RT TO STA 108+38 RT
TRAILING ANCHORAGE	STA 108+38 RT TO STA 108+51 RT

TRAFFIC SIGNAL CONDUIT

SEE SHEET 50

WATER SUPPLY ALTERATIONS

SEE SHEET 67

DRAINAGE DETAILS

SEE SHEET 67

CONTINUED ON SHEET NO. 24

CONTINUED ON SHEET NO. 21

CONTINUED ON SHEET NO. 23

CONTINUED ON SHEET NO. 25

11 UNQUITY ROAD, HILLSIDE ST & BLUE HILL RIVER ROAD
N/F
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF
CONSERVATION AND RECREATION
ASSESSOR MAP L, LOT 6, BLOCK 99
ASSESSOR MAP M, LOT 10, BLOCK DCR
ASSESSOR MAP M, LOT 10, BLOCK TWR

91 BRIERBROOK STREET
N/F
RYAN & CHRISTINE TOSI
CERT. 186326 / LC. 27278 T
ASSESSOR MAP N,
LOT 12, BLOCK 4J

97 BRIERBROOK STREET
N/F
DARRYL & PATRICIA ELLIOTT
CERT. 173197 / LC. 27278
ASSESSOR MAP N, LOT 12, BLOCK 4H T

1281 RANDOLPH AVENUE
N/F
NICHOLS SARTORI & ERIN MAGUIRE
CERT. 196277 / LC. 295508 A
ASSESSOR MAP N, LOT 11, BLOCK 15

1275 RANDOLPH AVENUE
N/F
FREDERICK & MARJORIE FLAHERTY
CERT. 66500 / LC. 29508 A
ASSESSOR MAP N, LOT 11, BLOCK 14

1282 RANDOLPH AVENUE
N/F
KELSEY WORCESTER
DEED BK. 34059, PAGE 15
ASSESSOR MAP N, LOT 10A, BLOCK 3

1274 RANDOLPH AVENUE
N/F
ROBERT & NANCY JESSON
DEED BK. 23194, PAGE 474
ASSESSOR MAP N, LOT 10A, BLOCK 3A

1278 RANDOLPH AVENUE
N/F
PATRICK & ROSANNE SPRING
DEED BK. 18514, PAGE 490
ASSESSOR MAP N, LOT 10A, BLOCK 4

1930 STATE HIGHWAY LAYOUT (NO. 2691)

RANDOLPH AVENUE (ROUTE 28)
(1930 STATE HIGHWAY LAYOUT NO. 2691)

RANDOLPH AVE CONST BL

CHICKATAWBUT ROAD (PARK DRIVE)

PROP 10' CEM CONC SHARED USE PATH (TYP)
PROP CEM CONC PCR (TYP)
PROP SEDIMENT CONTROL BARRIER (TYP)
PROP TEMP EASEMENT (TYP)
PROP LIMIT OF GRADING (TYP)
PROP PERM EASEMENT (TYP)
PROP TREE TRIMMING
PROP CEM CONC 9' X 8' BUS STOP LANDING
PROP CEM CONC BIKE RAMP
PROP CEM CONC BIKE RAMP
REM BOULDER (3)
PROP STAMPED CEM CONC ISLAND
REM BOULDER (2)
PROP STAMPED CEM CONC ISLAND
REM TREE
REM BOULDER (4)
REM EXIST CONC SIDEWALK
PROP LOAM & SEED (TYP)
REM TREE (4)
REM TREE
REM EXIST TREE
REM TREE (2)
REM EXIST TREE (4)
REM TREE
PROP VERT GRAN CURB (TYP)
PROP FULL DEPTH CONSTRUCTION
PROP DMH (TYP)
PROP STAMPED CEM CONC ISLAND
PROP LANDSCAPE ISLAND
PROP VGC TYPE VB
PROP T-100 CURB
REM EXIST TREE
REM TREE (9)
PROP VERT GRAN CURB (TYP)
PROP SOIL NAIL RET WALL (STA 102+75± TO STA 105+14±)
PROP CEM CONC BIKE RAMP
PROP TREE TRIMMING
PROP TEMP EASEMENT (TYP)
PROP PERM EASEMENT (TYP)
PROP LOAM & SEED (TYP)
PROP LIMIT OF SOIL NAILS (TYP)
PROP VERT GRAN CURB
PROP REINFORCED STAMPED CEMENT CONCRETE TRUCK APRON
REM EXIST CONC SW
PROP 10' CEM CONC SHARED USE PATH (TYP)
REM EXIST CONC SWALE
REM BOULDER
PROP CEM CONC PCR (TYP)
REM EXIST HMA DWY
PROP STAMPED CEM CONC ISLAND
PROP DIRECTIONAL BARTILE DETECTABLE WARNING PANEL
PROP LOAM & SEED (TYP)
PROP STAMPED CEM CONC ISLAND
PROP HMA DWY
PROP CEM CONC DWY
PROP SHLO ALTERATION (TYP)
PROP CEM CONC BIKE RAMP
PROP SHLO ALTERATION (TYP)
PROP TEMP EASEMENT (TYP)
PROP LOAM & SEED (TYP)
PROP TREE TRIMMING
REM BOULDER (4)
REM TREE
REM EXIST CONC SW
PROP SCORED CEM CONC BUFFER
REM BOULDER (2)
REM EXIST STONE WALL
PROP STONE RET WALL (STA 107+16± TO 107+68±)
PROP TREE PROTECTION FENCE
PROP LIMIT OF GRADING (TYP)
REM TREE (5)
REM TREE
PROP TREE TRIMMING
PROP SCORED CEM CONC BUFFER
PROP CEM CONC BIKE RAMP
R&R EXIST HYD
R&R EXIST WOOD FENCE
PROP PERM EASEMENT
R&D EXIST CURB (TYP)
PROP STAMPED CEM CONC ISLAND
PROP FULL DEPTH CONSTRUCTION
PROP CEM CONC BIKE RAMP
PROP SCORED CEM CONC
R&D EXIST CURB (TYP)
RET TREE - PROP TREE PROTECTION
REM TREE
REM TREE (2)
REM BOULDER (4)
REM BUSH (11)
REM BUSH (2)
REM EXIST STONE WALL (STA 107+67± TO 108+66±)
PROP PERM EASEMENT (TYP)
PROP TEMP EASEMENT (TYP)
RET STONE WALL
PROP CEM CONC SW
PROP VERT GRAN CURB (TYP)
PROP SEDIMENT CONTROL BARRIER (TYP)
PROP CEM CONC 12' X 8' BUS STOP LANDING
PROP TREE TRIMMING
PROP 10' CEM CONC SHARED USE PATH (TYP)
PROP SCORED CONCRETE (TYP)
REM BUSH (7)
REM EXIST STONE WALL
PROP LOAM & SEED (TYP)
REM BUSH (2)
PROP CLF
DEMOLISH EXIST BLDG
REM EXIST WALL
REM EXIST PVMT
REM EXIST STAIRS
SEE WETLAND REPLICATION SHEET 90 FOR ADDITIONAL DETAILS
REM EXIST PVMT
REM EXIST WALL
REM BUSH
REM EXIST PVMT
DEMOLISH EXIST GARAGE
REM EXIST FENCE
PROP STONE FOR PIPE ENDS
PROP DIRECTIONAL BARTILE DETECTABLE WARNING PANEL
REM BUSH (2)
PROP MODULAR RET WALL (STA 207+00 TO 108+50±)
REM EXIST CONC SW
PROP SCORED CEM CONC BUFFER
PROP SHLO ALTERATION (TYP)
PROP GUARDRAIL
PROP CEM CONC BIKE RAMP
REM EXIST FENCE
REM BUSH
REM EXIST PVMT
REM EXIST WALL
REM BUSH
REM EXIST PVMT
REM EXIST STONE WALL
REM BUSH (2)
REM EXIST STONE WALL
REM BUSH (7)
PROP SCORED CONCRETE (TYP)
PROP 10' CEM CONC SHARED USE PATH (TYP)
PROP TREE TRIMMING
RET TREE
PROP TREE PROTECTION
REM TREE
PROP CEM CON DWY
PROP HMA DWY
PROP PERM EASEMENT (TYP)
PROP CEM CONC SW
REM TREE
PROP TREE TRIMMING
2 STORY ALUMINUM HOUSE
2 STORY STONE / VINYL HOUSE
1930 STATE HIGHWAY LAYOUT (NO. 2691)
RET TREE - PROP TREE PROTECTION
PROP VERT GRAN CURB (TYP)
PROP CEM CONC SW
RET STONE WALL
PROP TEMP EASEMENT (TYP)
PROP SEDIMENT CONTROL BARRIER (TYP)
PROP CEM CONC 12' X 8' BUS STOP LANDING
REM TREE
REM TREE
REM TREE

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	23	123
PROJECT FILE NO.	607342		

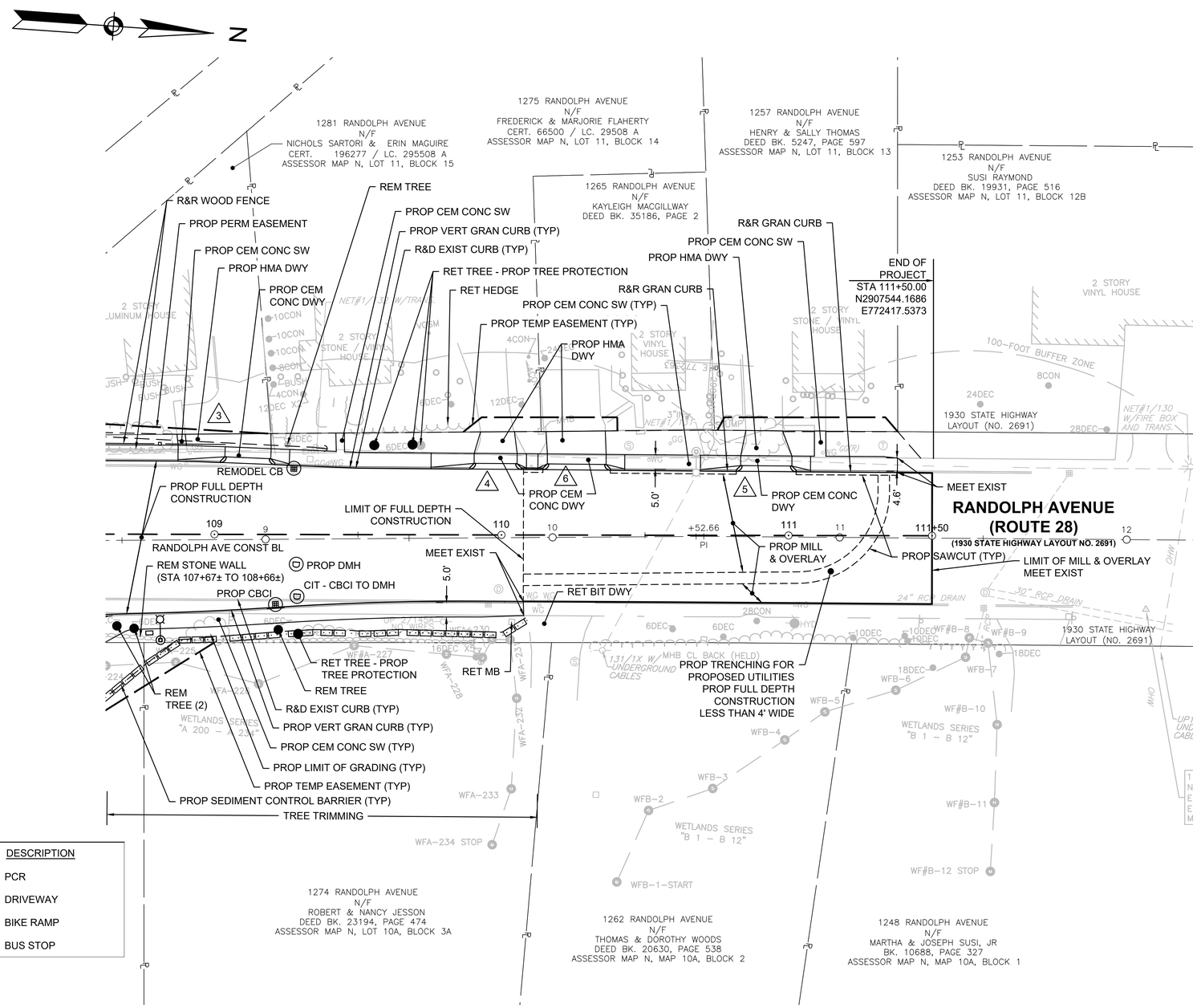
CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE SHEET 68



CONTINUED ON SHEET NO. 22

PROPOSED	DESCRIPTION
X	PCR
X	DRIVEWAY
X	BIKE RAMP
X	BUS STOP

NOTE:

1. SEE UTILITY PLANS SHEETS 66 - 70 FOR UTILITY DISPOSITIONS.
2. SEE PROFILES 26 - 31.
3. ALL TREES ARE TO BE RETAINED UNLESS OTHERWISE NOTED.
4. SEE SHEET 98 FOR ADDITIONAL INFORMATION OF CURBED MEDIAN ISLAND.
5. SEE SHEET 96 FOR ADDITIONAL INFORMATION ON TRUCK APRON DESIGN.

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MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	24	123
PROJECT FILE NO.	607342		

CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS
NONE

TRAFFIC SIGNAL CONDUIT
NONE

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
SEE SHEET 69

77 BRIERBROOK STREET
N/F
DOROTHY BOSWORTH
LC. 27278 N
ASSESSOR MAP N, LOT 12, BLOCK 18

87 BRIERBROOK STREET
N/F
KYLE & TRISTEN DARCY
CERT. 191148 / LC. 27278 N
ASSESSOR MAP N, LOT 12, BLOCK 4K

91 BRIERBROOK STREET
N/F
RYAN & CHRISTINE TOSI
CERT. 186326 / LC. 27278 T
ASSESSOR MAP N, LOT 12, BLOCK 4J

97 BRIERBROOK STREET
N/F
DARRYL & PATRICIA ELLIOTT
CERT. 173197 / LC. 27278
ASSESSOR MAP N, LOT 12, BLOCK 4H T

14
N: 2906980.604'
E: 772169.394'
EL: 189.108'
IRON ROD PUCH MARK

16
N: 2906807.320'
E: 772034.671'
EL: 185.982'
SPIKE

LIMIT OF WORK
STA 201+00.00
N2906803.8844
E772000.9870

LIMIT OF MILL & OVERLAY MEET EXIST

RET

RET HEADWALL

PROP LOAM & SEED (TYP)
PROP SEDIMENT CONTROL BARRIER (TYP)

LIMIT OF FULL DEPTH CONSTRUCTION

PROP VERT GRAN CURB (TYP)
PROP CEM CONC BIKE RAMP
PROP SHLO ALTERATIONS (TYP)
PROP TREE PROTECTION FENCE
REM EXIST HMA
PROP PERM EASEMENT (TYP)
REM
PROP STAMPED CEM CONC ISLAND
REM BOULDER (4)
REM TREE (3)
REM BOULDER (2)
PROP SCORED CEM CONC BUFFER
PROP T-100 CURB
PROP DMH (TYP)

PROP PVMT MILL & OVERLAY
PROP EOP
PROP FULL DEPTH CONSTRUCTION

PC +23.94
PT +38.47
CHICKATAWBUT RD CONST BL
PT +23.36

CHICKATAWBUT ROAD
(PARK DRIVE)

PROP TEMP EASEMENT (TYP)
PROP EOP
PROP LIMIT OF GRADING (TYP)

PROPOSED BOX WIDENING
PROP FULL DEPTH PAVEMENT LESS THAN 4' WIDE

REM BOULDER (3)
PROP CEM CONC BIKE RAMP
REM BOULDER (5)
PROP STAMPED CEM CONC ISLAND
REM TREE
REM BOULDER (4)
PROP CEM CONC PCR (TYP)
PROP LOAM & SEED (TYP)
REM TREE
R&D EXIST CURB (TYP)
PROP VERT GRAN CURB (TYP)
REM TREE (5)
REM TREE (3)
PROP TEMP EASEMENT (TYP)
PROP 10' CEM CONC SHARED USE PATH (TYP)
PROP STAMPED CEM CONC ISLAND
REM TREE

PROP CBCI (TYP)
PROP LANDSCAPE ISLAND
RANDOLPH AVE CONST BL
PROP VERT GRAN CURB
PROP REINFORCED STAMPED CEMENT CONCRETE TRUCK APRON

1930 STATE HIGHWAY LAYOUT (NO. 2691)

RANDOLPH AVENUE (ROUTE 28)
(1930 STATE HIGHWAY LAYOUT NO. 2691)

CONTINUED ON SHEET NO. 25
CONTINUED ON SHEET NO. 21

100-FOOT BUFFER ZONE

11 UNQUITY ROAD, HILLSIDE ST & BLUE HILL RIVER ROAD
N/F
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION
ASSESSOR MAP L, LOT 6, BLOCK 99
ASSESSOR MAP M, LOT 10, BLOCK DCR
ASSESSOR MAP M, LOT 10, BLOCK TWR

PROPOSED	DESCRIPTION
X	PCR
X	DRIVEWAY
X	BIKE RAMP
X	BUS STOP

NOTE:

1. SEE UTILITY PLANS SHEETS 66 - 70 FOR UTILITY DISPOSITIONS.
2. SEE PROFILES 26 - 31.
3. ALL TREES ARE TO BE RETAINED UNLESS OTHERWISE NOTED.
4. SEE SHEET 98 FOR ADDITIONAL INFORMATION OF CURBED MEDIAN ISLAND.
5. SEE SHEET 96 FOR ADDITIONAL INFORMATION ON TRUCK APRON DESIGN.

0 20 50 100
SCALE: 1" = 20'

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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	25	123
PROJECT FILE NO.	607342		

CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS

(GUARDRAIL BELOW PROPOSED WITH DEEP POSTS)		TANGENT END TREATMENT	STA 207+28 LT TO STA 207+41 LT
FLARED END TREATMENT	STA 208+20 RT TO STA 208+32 RT	GUARDRAIL, TL-2 (SINGLE FACED)	STA 206+27 LT TO STA 207+28 LT
GUARDRAIL, TL-2 (SINGLE FACED)	STA 208+32 RT TO STA 209+34 RT	GUARDRAIL - CURVED, TL-2 (SINGLE FACED)	STA 206+27 LT TO STA 106+80 RT
TRAILING ANCHORAGE	STA 209+34 RT TO STA 209+44 RT	GUARDRAIL, TL-2 (SINGLE FACED)	STA 106+80 RT TO STA 108+38 RT
		TRAILING ANCHORAGE	STA 108+38 RT TO STA 108+51 RT
(GUARDRAIL BELOW PROPOSED WITH DEEP POSTS)			
FLARED END TREATMENT	STA 209+58 LT TO STA 209+71 LT	R&D EXISTING W-BEAM GUARDRAIL	STA 208+20 RT TO STA 209+45 RT
GUARDRAIL, TL-2 (SINGLE FACED)	STA 207+62 LT TO STA 209+58 LT	R&D EXISTING W-BEAM GUARDRAIL	STA 206+51 LT TO STA 207+36 LT
TRAILING ANCHORAGE	STA 207+52 LT TO STA 207+62 LT	R&D EXISTING W-BEAM GUARDRAIL	STA 207+59 LT TO STA 209+71 LT

TRAFFIC SIGNAL CONDUIT

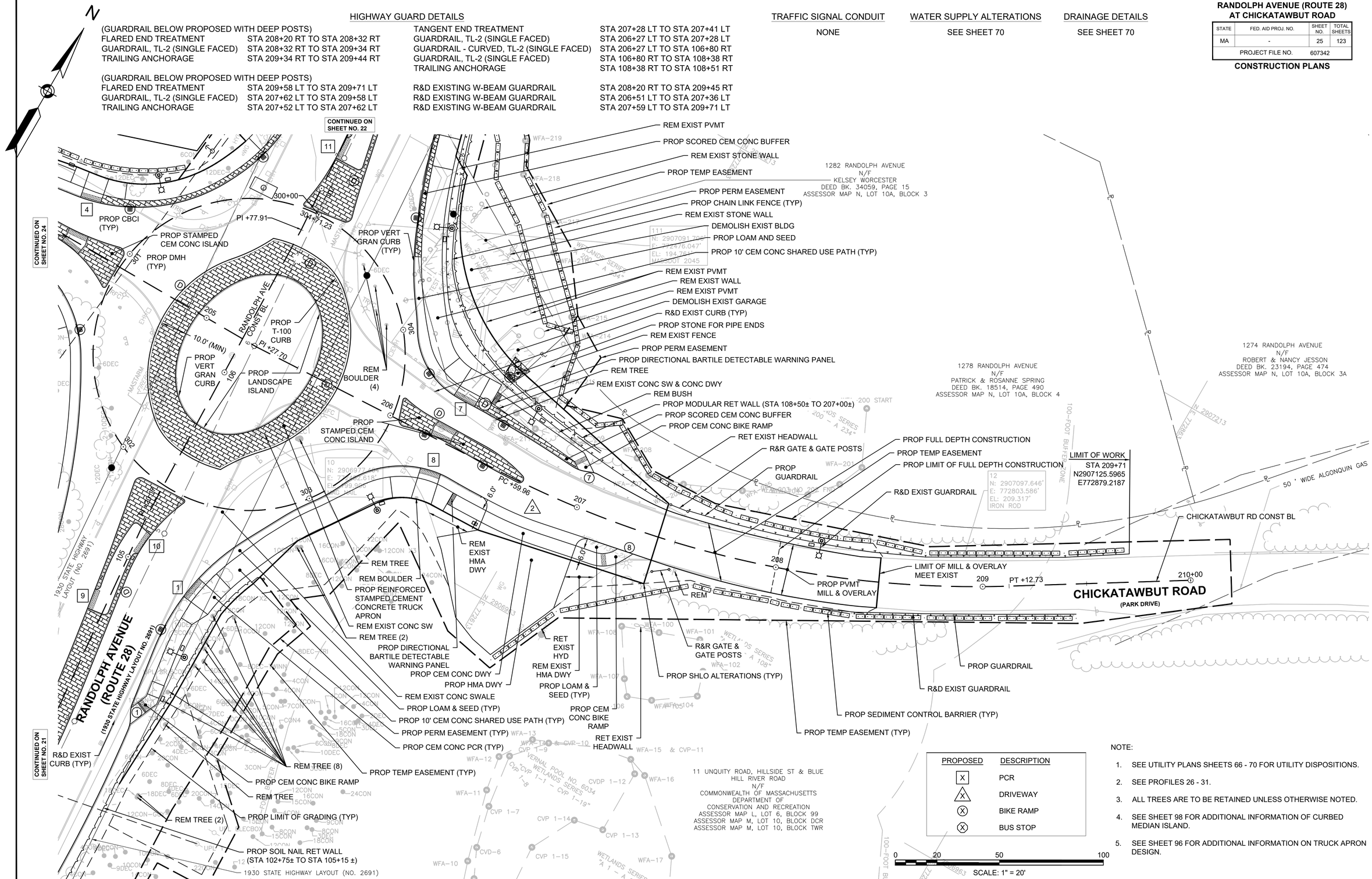
NONE

WATER SUPPLY ALTERATIONS

SEE SHEET 70

DRAINAGE DETAILS

SEE SHEET 70



NOTE:

1. SEE UTILITY PLANS SHEETS 66 - 70 FOR UTILITY DISPOSITIONS.
2. SEE PROFILES 26 - 31.
3. ALL TREES ARE TO BE RETAINED UNLESS OTHERWISE NOTED.
4. SEE SHEET 98 FOR ADDITIONAL INFORMATION OF CURBED MEDIAN ISLAND.
5. SEE SHEET 96 FOR ADDITIONAL INFORMATION ON TRUCK APRON DESIGN.

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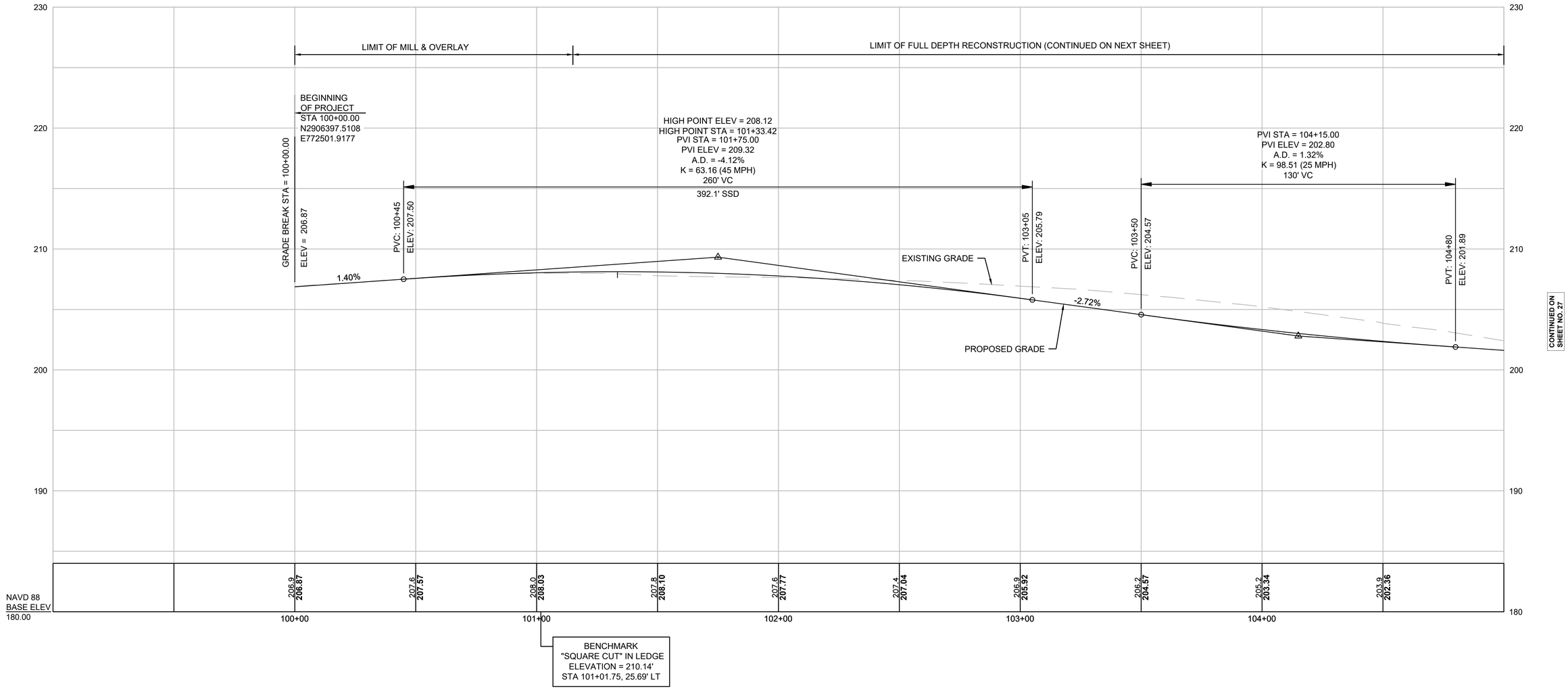
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	26	123
PROJECT FILE NO.	607342		

PROFILES

ROUTE 28 (RANDOLPH AVENUE)



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 21

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

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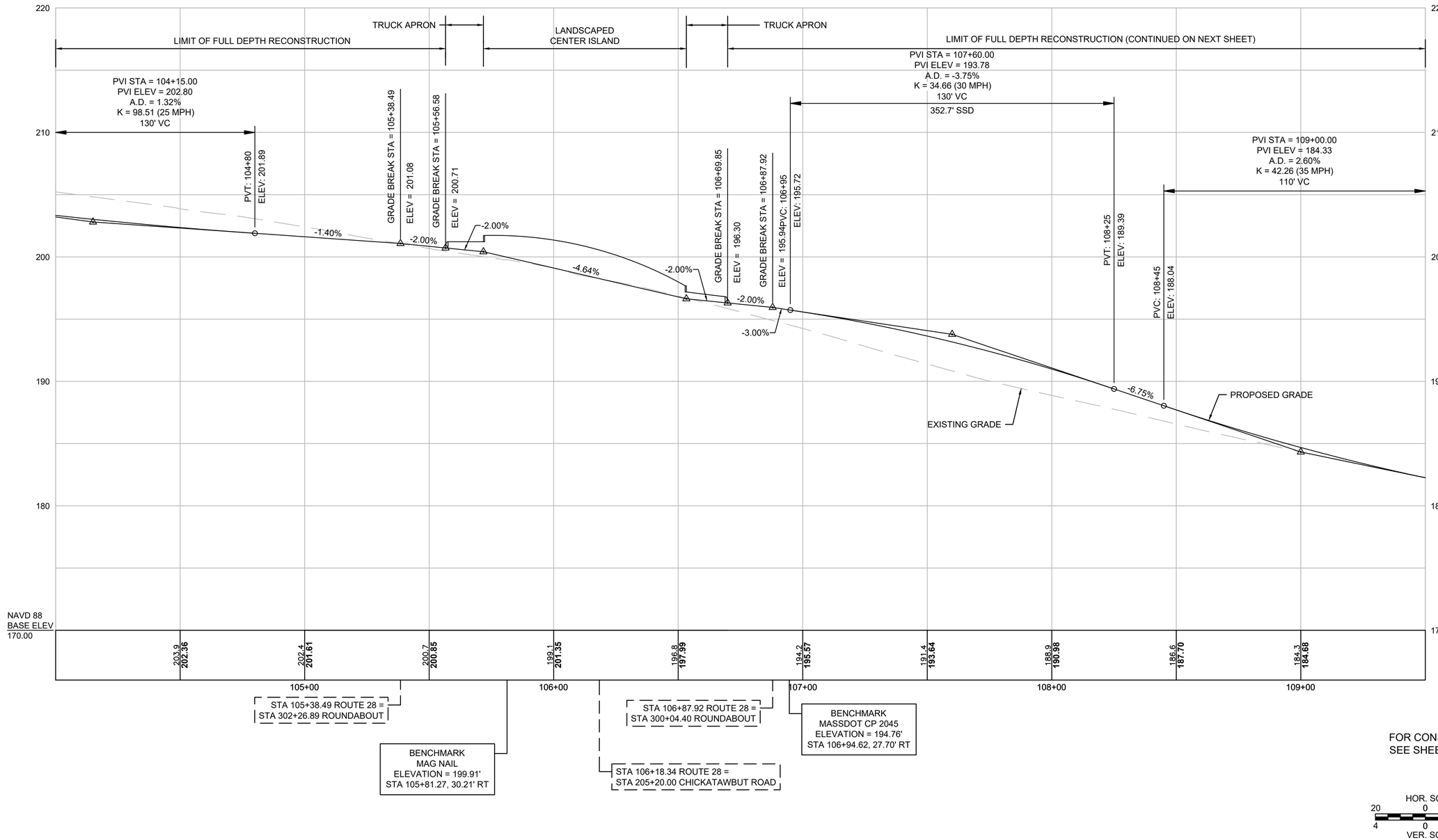
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	27	123
PROJECT FILE NO.	607342		

PROFILES

ROUTE 28 (RANDOLPH AVENUE)



CONTINUED ON SHEET NO. 26

CONTINUED ON SHEET NO. 28

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 22

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

607342_HD(PROF PLAN).DWG Plotted on 16-Sep-2024 3:29 PM

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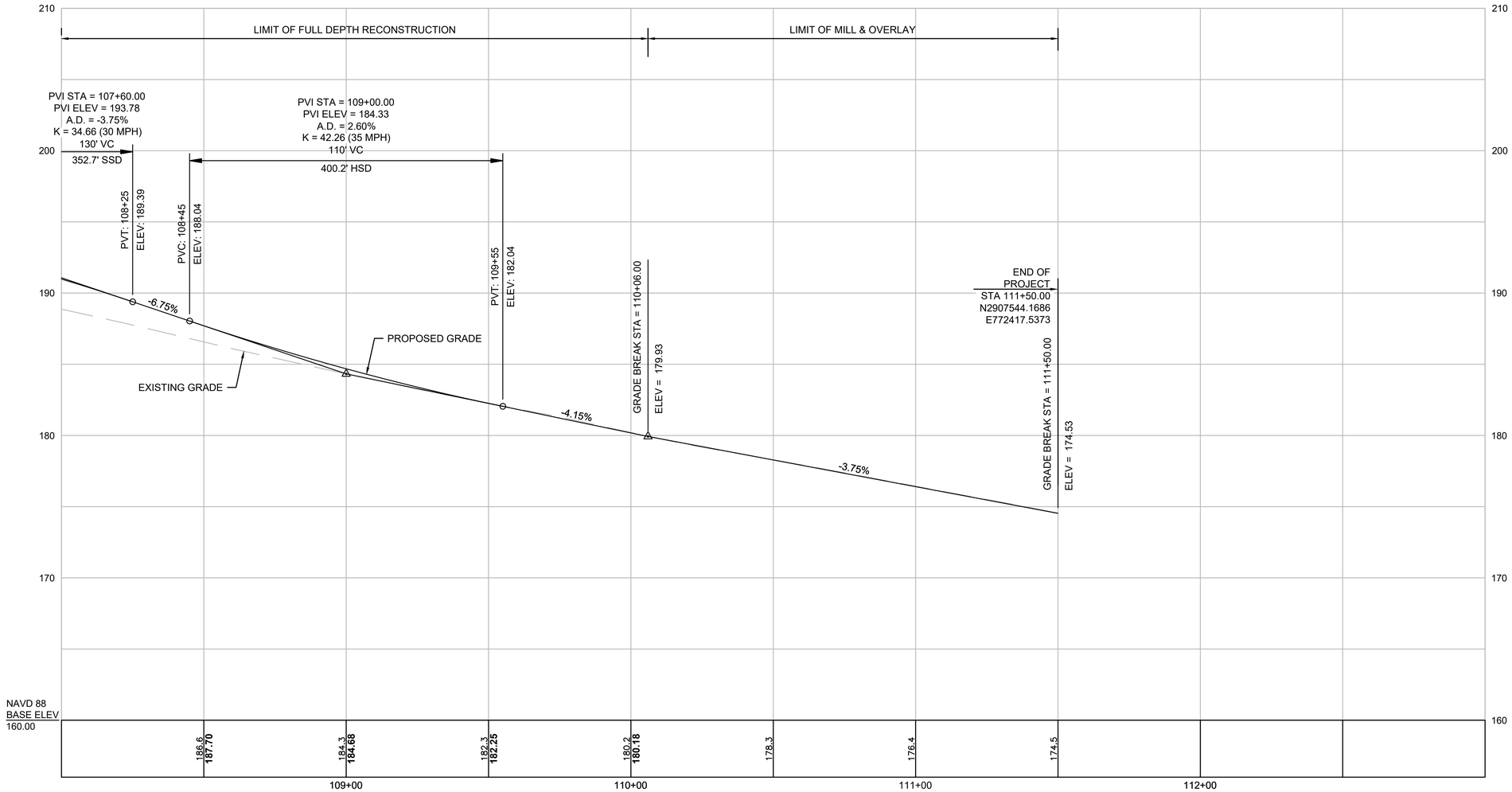
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	28	123
PROJECT FILE NO.	607342		

PROFILES

ROUTE 28 (RANDOLPH AVENUE)



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 23

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

607342_HD(PROF PLAN).DWG Plotted on 16-Sep-2024 3:29 PM

9/16/2024 L:\13061\13061.41\CURRENT\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\607342_HD(PROF PLAN).dwg
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	29	123
PROJECT FILE NO.	607342		

PROFILES

CHICKATAWBUT ROAD

LIMIT OF MILL AND OVERLAY

LIMIT OF FULL DEPTH RECONSTRUCTION

CENTER ISLAND

TRUCK APRON

LIMIT OF WORK
STA 201+00.00
N2906803.8844
E772000.9870

GRADE BREAK STA = 201+00.00
ELEV = 186.03

PVC: 201+17.50
ELEV: 186.10

PVI STA = 201+55.00
PVI ELEV = 186.25
A.D. = 2.75%
K = 27.27 (35 MPH)
75' VC
301.6' HSD

PVT: 201+92.50
ELEV: 187.43

GRADE BREAK STA = 202+10.00
ELEV = 187.98

0.40%

3.15%

PVC: 202+90
ELEV: 191.25

4.08%

PVI STA = 203+40.00
PVI ELEV = 193.29
A.D. = -0.43%
K = 232.28 (35 MPH)
100' VC
2556.6' SSD

PVT: 203+90
ELEV: 195.12

3.65%

PROPOSED GRADE

EXISTING GRADE

GRADE BREAK STA = 204+51.70
ELEV = 197.37

2.00%

2.00%

NAVD 88
BASE ELEV
170.00

186.5	186.0 **186.03**	186.4 **186.42**	187.7 **187.67**	189.6 **189.62**	191.5 **191.66**	193.4 **193.62**	195.1 **195.48**	196.4 **197.31**
	201+00		202+00		203+00		204+00	

BENCHMARK
IRON ROD PUNCH MARK
ELEVATION = 189.11'
STA 202+40.86, 23.96' LT

BENCHMARK
"MAG NAIL" IN LEDGE
ELEVATION = 194.91'
STA 203+75.17, 41.59' RT

STA 204+51.70 CHICKATAWBUT ROAD =
STA 301+08.01 ROUNDABOUT

CONTINUED ON SHEET NO. 30

FOR CONSTRUCTION PLANS:
SEE SHEET NO. 24

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

607342_HD(PROF PLAN).DWG Plotted on 16-Sep-2024 3:29 PM

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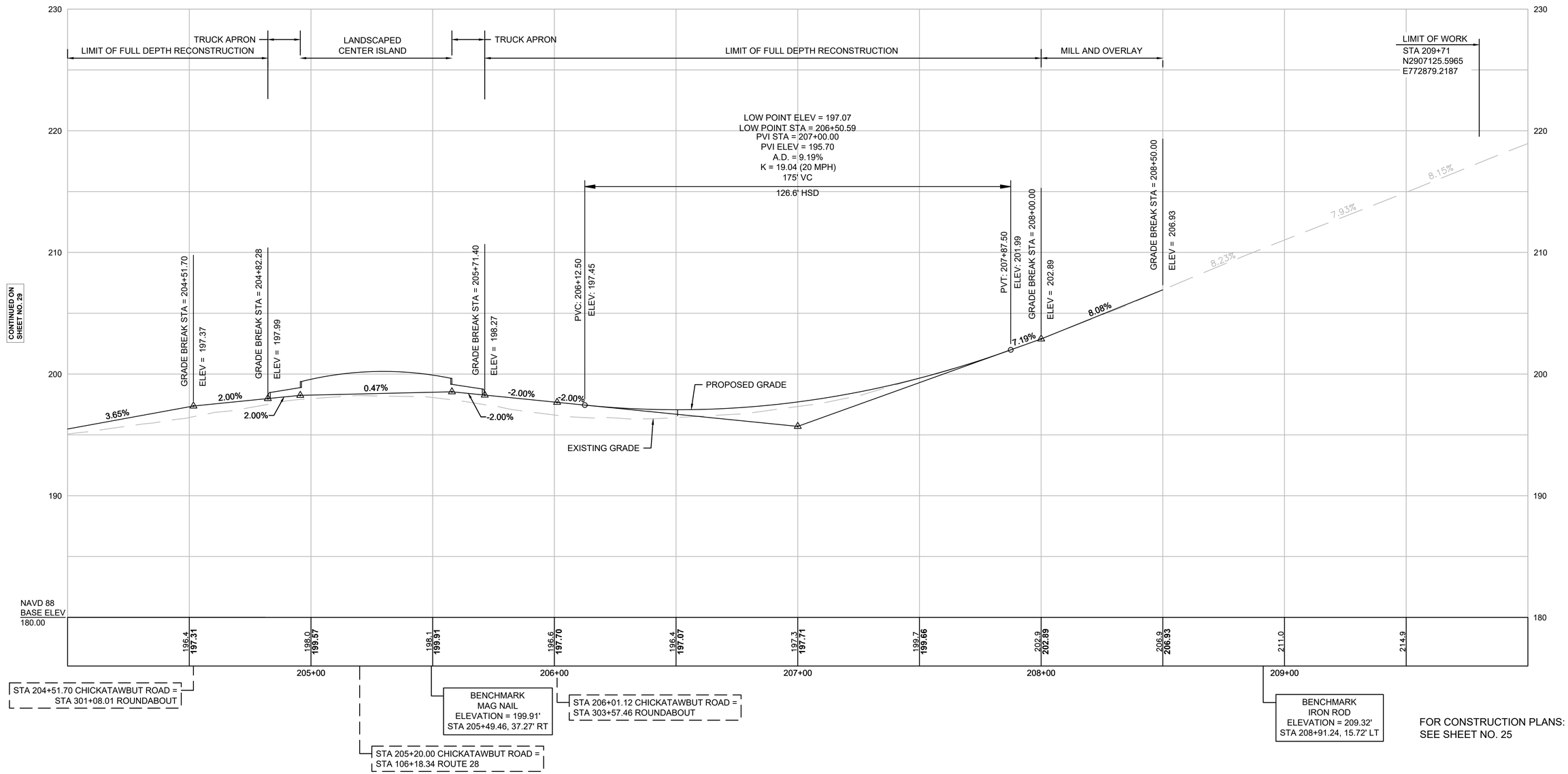
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	30	123
PROJECT FILE NO.	607342		

PROFILES

CHICKATAWBUT ROAD



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 25

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

607342_HD(PROF PLAN).DWG Plotted on 16-Sep-2024 3:29 PM

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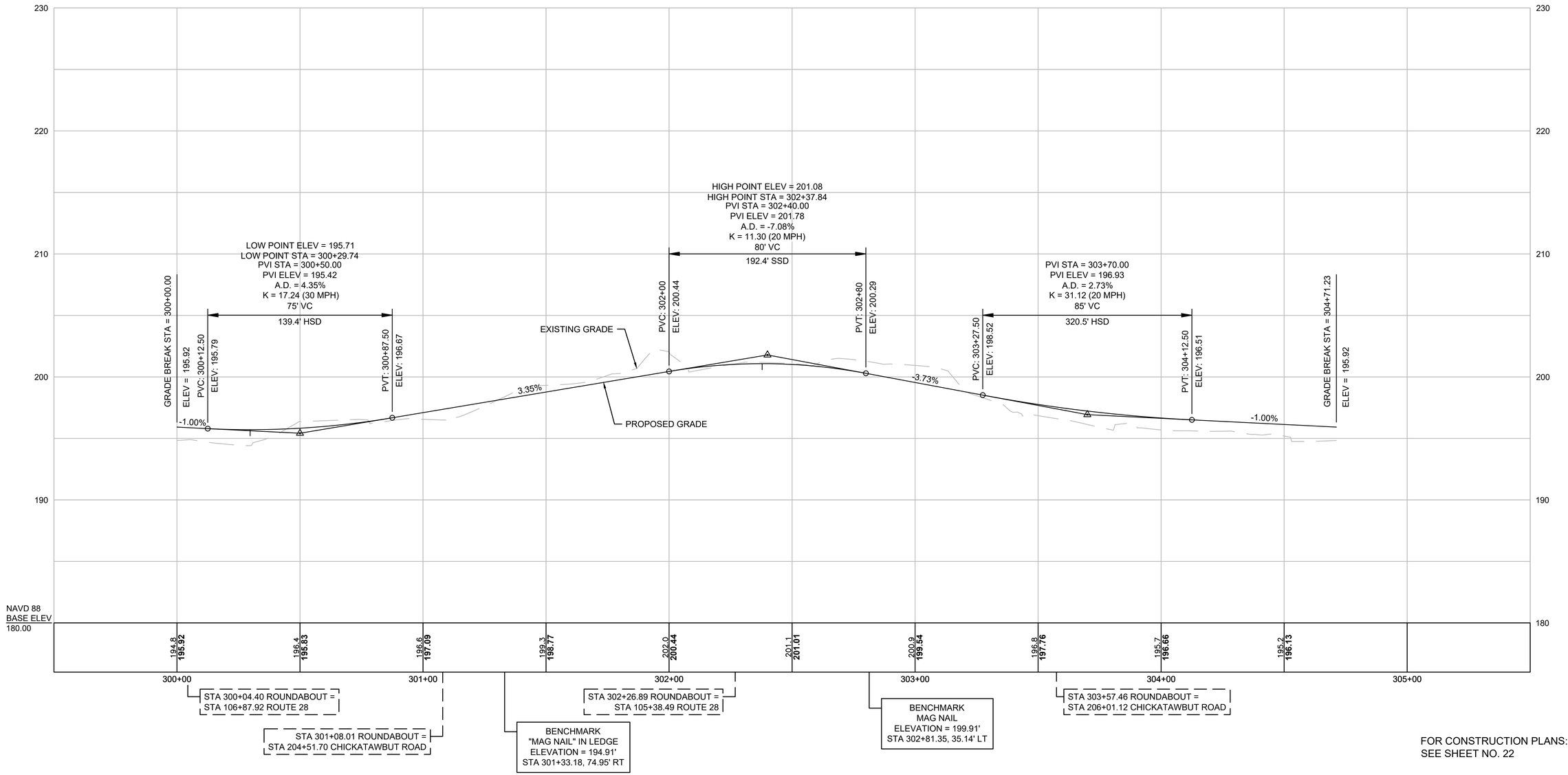
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	31	123
PROJECT FILE NO.	607342		

PROFILES

ROUNDABOUT



FOR CONSTRUCTION PLANS:
SEE SHEET NO. 22

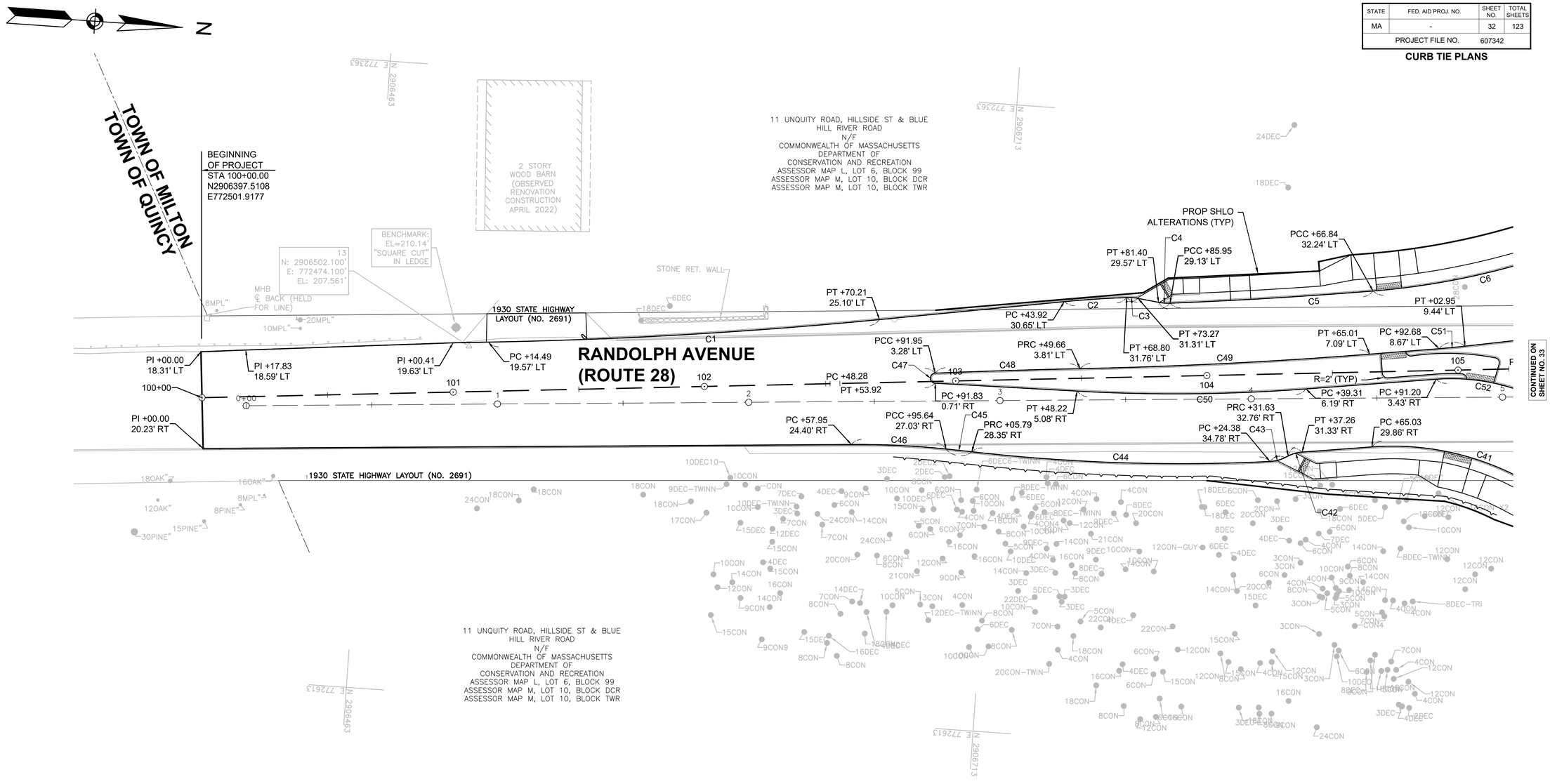
HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

607342_HD(PROF PLAN).DWG Plotted on 16-Sep-2024 3:29 PM
9/16/2024 L:\1306111\3661.41\CURRENT\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\607342_HD(PROF PLAN).dwg
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	32	123
PROJECT FILE NO.	607342		

CURB TIE PLANS



NOTE:

1. SEE SHEETS 94 - 98 FOR PEDESTRIAN CURB RAMP DETAILS, RAISED MEDIAN ISLAND DETAILS, AND DRIVEWAY DETAILS.
2. SEE SHEET 37 FOR CURB-TIE CONSTRUCTION TABLE.

0 20 50 100

SCALE: 1" = 20'

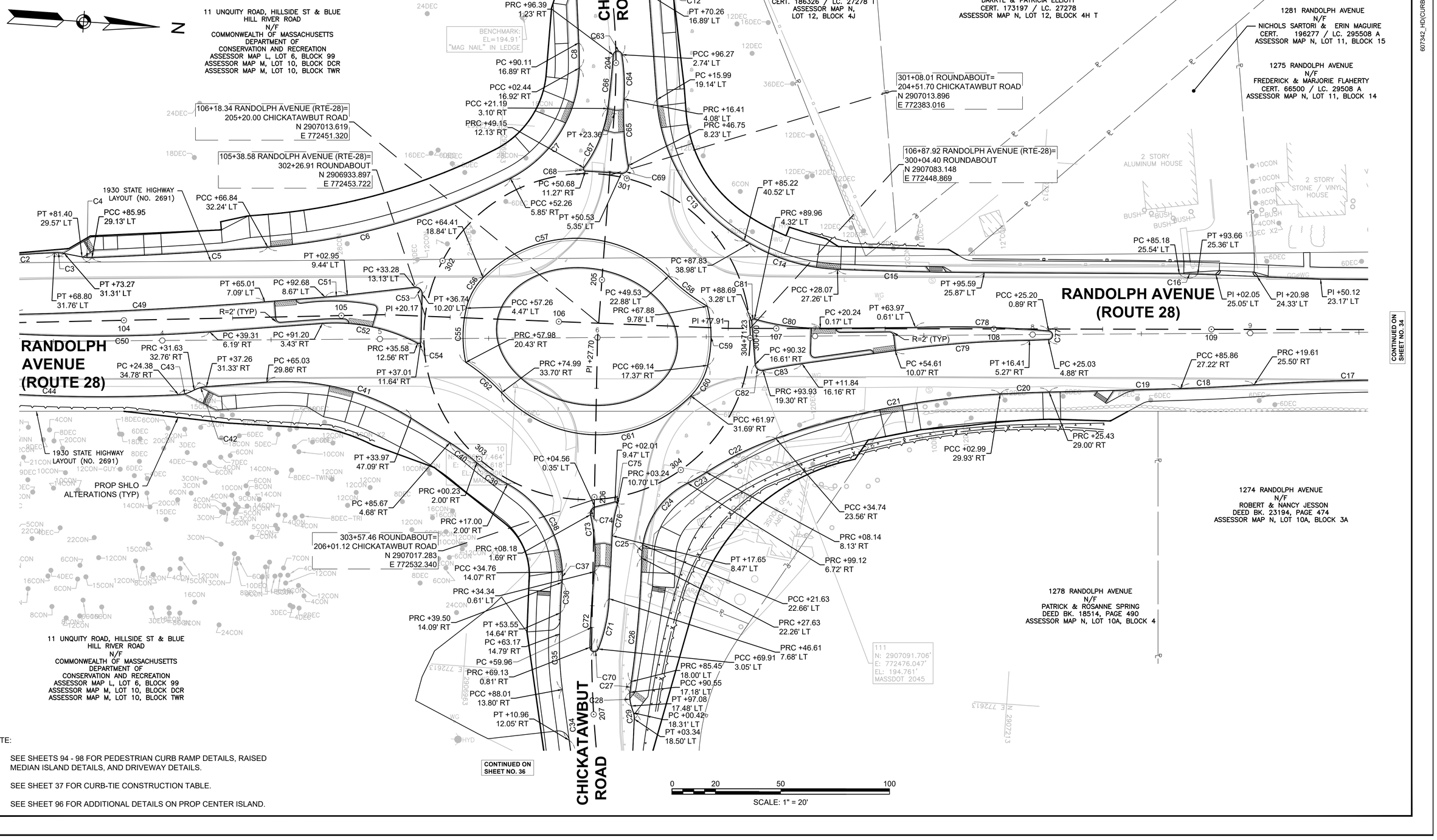
607342_HD(CURB TIE).DWG Plotted on 16-Sep-2024 3:29 PM

9/16/2024 L:\13061113061.41\CURRENT\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\607342_HD(CURB TIE).dwg
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	33	123
PROJECT FILE NO.	607342		

CURB TIE PLANS



NOTE:

1. SEE SHEETS 94 - 98 FOR PEDESTRIAN CURB RAMP DETAILS, RAISED MEDIAN ISLAND DETAILS, AND DRIVEWAY DETAILS.
2. SEE SHEET 37 FOR CURB-TIE CONSTRUCTION TABLE.
3. SEE SHEET 96 FOR ADDITIONAL DETAILS ON PROP CENTER ISLAND.

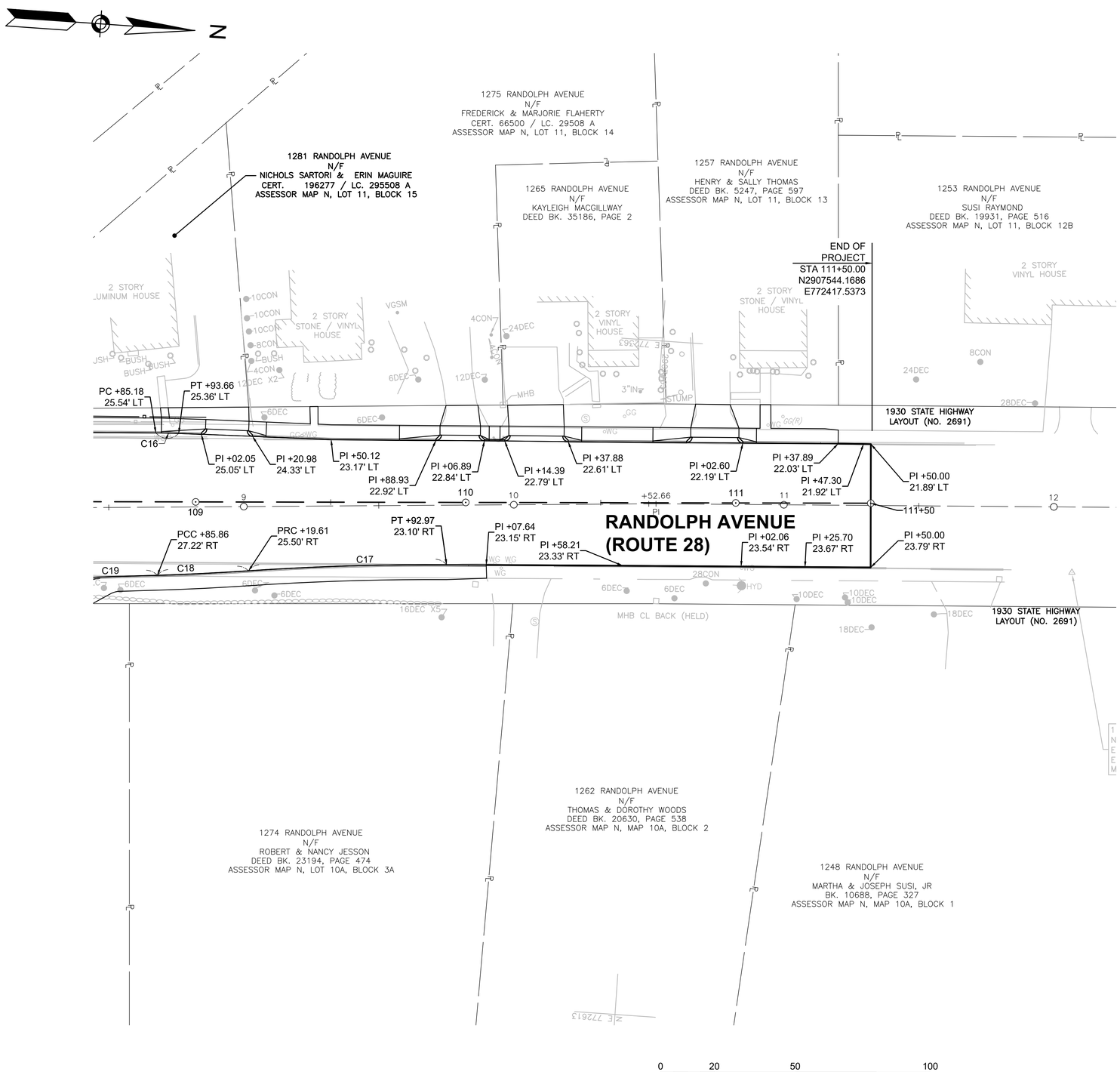
607342_HD(CURB TIE).DWG Plotted on 16-Sep-2024 3:29 PM
9/16/2024 L:\13061\13061.41\CURRENT\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\607342_HD(CURB TIE).dwg Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	34	123
PROJECT FILE NO.	607342		

CURB TIE PLANS

CONTINUED ON SHEET NO. 33



NOTE:

1. SEE SHEETS 94 - 98 FOR PEDESTRIAN CURB RAMP DETAILS, RAISED MEDIAN ISLAND DETAILS, AND DRIVEWAY DETAILS.
2. SEE SHEET 37 FOR CURB-TIE CONSTRUCTION TABLE.
3. SEE SHEET 96 FOR ADDITIONAL DETAILS ON PROP CENTER ISLAND.

607342_HD(CURB TIE).DWG Plotted on 16-Sep-2024 3:29 PM

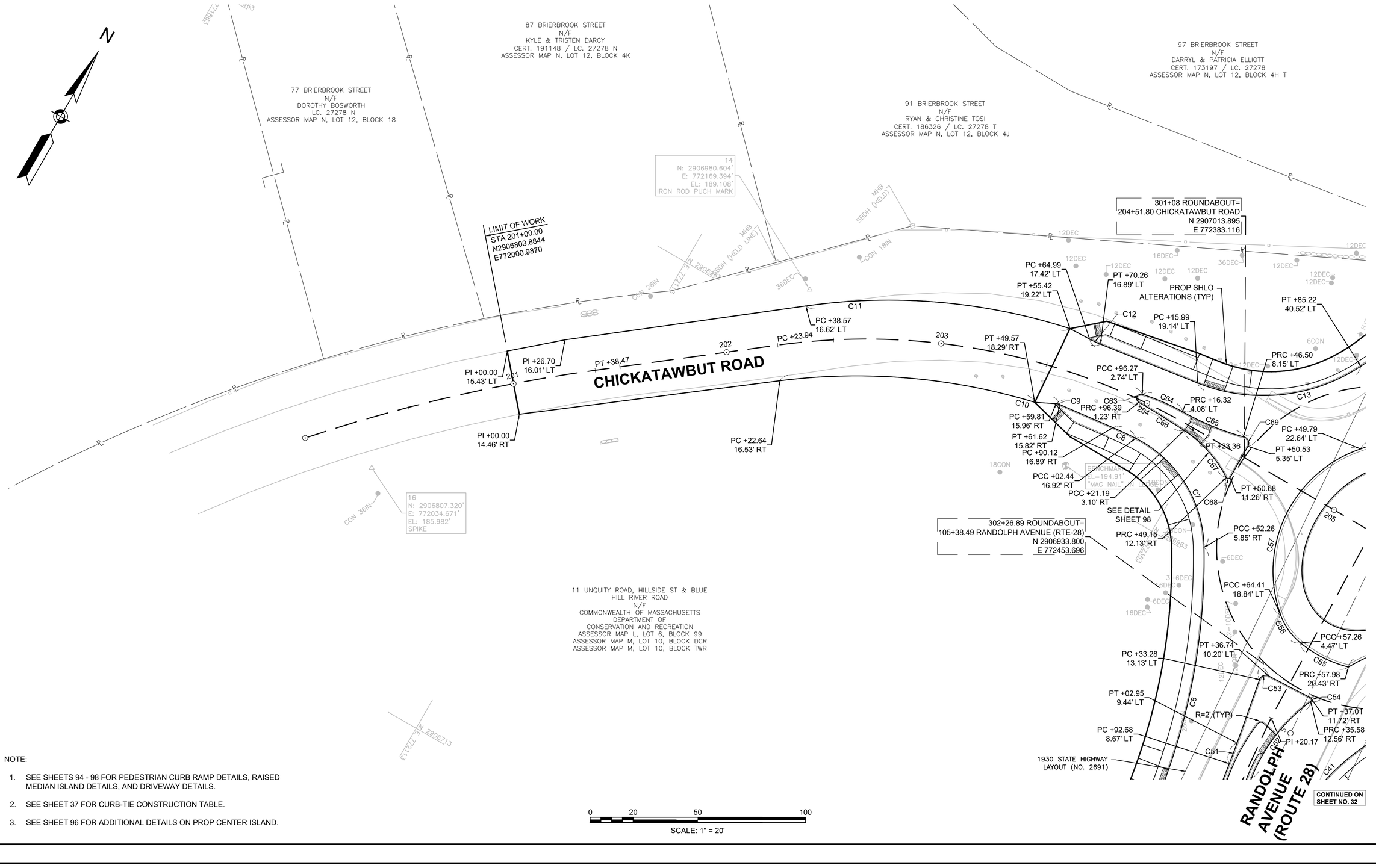
9/16/2024 L:\13061\13061.41\CURRENT\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\607342_HD(CURB TIE).dwg
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	35	123
PROJECT FILE NO.	607342		

CURB TIE PLANS

607342_HD(CURB TIE).DWG Plotted on 16-Sep-2024 3:29 PM



NOTE:

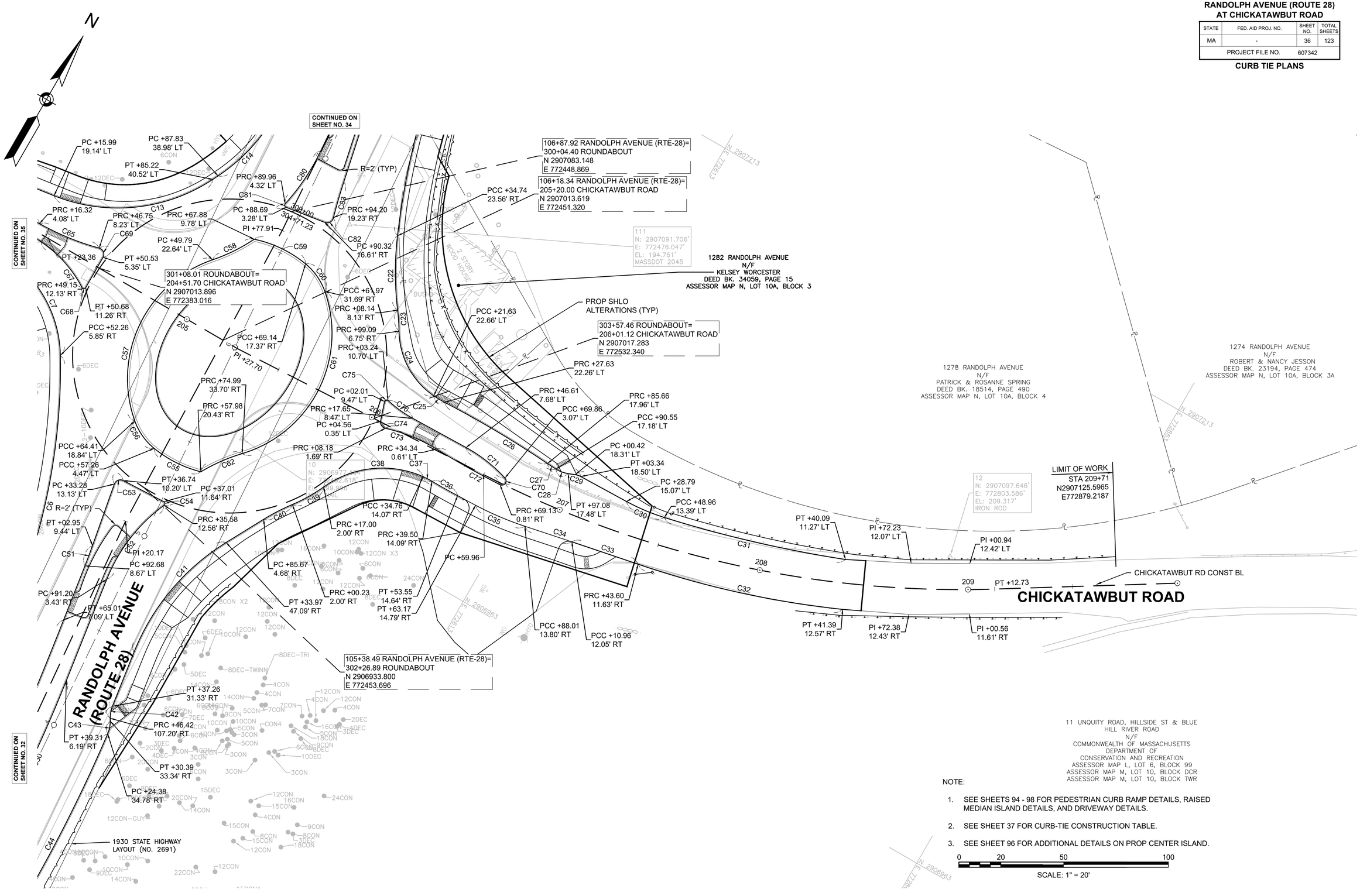
1. SEE SHEETS 94 - 98 FOR PEDESTRIAN CURB RAMP DETAILS, RAISED MEDIAN ISLAND DETAILS, AND DRIVEWAY DETAILS.
2. SEE SHEET 37 FOR CURB-TIE CONSTRUCTION TABLE.
3. SEE SHEET 96 FOR ADDITIONAL DETAILS ON PROP CENTER ISLAND.

9/16/2024 L:\13061\13061.41\CURRENT\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\607342_HD(CURB TIE).dwg
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	36	123
PROJECT FILE NO.	607342		

CURB TIE PLANS



NOTE:

1. SEE SHEETS 94 - 98 FOR PEDESTRIAN CURB RAMP DETAILS, RAISED MEDIAN ISLAND DETAILS, AND DRIVEWAY DETAILS.
2. SEE SHEET 37 FOR CURB-TIE CONSTRUCTION TABLE.
3. SEE SHEET 96 FOR ADDITIONAL DETAILS ON PROP CENTER ISLAND.

0 20 50 100

SCALE: 1" = 20'

607342_HD(CURB TIE).DWG Plotted on 16-Sep-2024 3:30 PM

9/16/2024 L:\13061\13061.41\CURRENT\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\607342_HD(CURB TIE).dwg
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	37	123
PROJECT FILE NO.	607342		

CURB TIE PLANS

CURVE TABLE						
CURVE #	LENGTH	DELTA	RADIUS	TANGENT	CURVE START	CURVE END
C1	155.88	4°28'36.76"	1995.00	77.98	N: 2906509.711 E: 772471.895	N: 2906664.287 E: 772452.074
C2	24.91	3°31'24.94"	405.00	12.46	N: 2906737.180 E: 772439.817	N: 2906761.854 E: 772436.444
C3	4.50	12°52'49.87"	20.00	2.26	N: 2906761.854 E: 772436.444	N: 2906766.340 E: 772436.477
C4	4.58	13°07'29.51"	20.00	2.30	N: 2906774.600 E: 772437.470	N: 2906779.172 E: 772437.494
C5	80.96	2°20'54.95"	1975.00	40.48	N: 2906779.172 E: 772437.494	N: 2906859.441 E: 772427.011
C6	116.66	22°25'46.05"	298.00	59.09	N: 2906859.441 E: 772427.011	N: 2906968.482 E: 772387.691
C7	62.80	62°02'02.97"	58.00	34.87	N: 2906968.482 E: 772387.691	N: 2906996.488 E: 772334.884
C8	11.64	3°28'53.76"	191.50	5.82	N: 2906996.488 E: 772334.884	N: 2906995.511 E: 772323.290
C9	1.73	19°52'07.64"	5.00	0.88	N: 2906992.433 E: 772296.518	N: 2906991.943 E: 772294.863
C10	119.65	24°08'19.19"	284.00	60.73	N: 2906987.526 E: 772285.976	N: 2906937.038 E: 772178.475
C11	124.12	25°51'34.83"	275.00	63.13	N: 2907025.368 E: 772283.043	N: 2906973.186 E: 772171.587
C12	5.60	6°24'59.75"	50.00	2.80	N: 2907026.175 E: 772298.927	N: 2907025.688 E: 772293.351
C13	79.20	55°20'14.23"	82.00	42.99	N: 2907077.705 E: 772408.629	N: 2907033.087 E: 772346.914
C14	42.34	28°12'28.64"	86.00	21.61	N: 2907080.418 E: 772409.980	N: 2907121.359 E: 772418.953
C15	67.54	1°56'05.29"	2000.00	33.77	N: 2907121.359 E: 772418.953	N: 2907188.818 E: 772415.761
C16	8.48	1°56'35.85"	250.00	4.24	N: 2907278.225 E: 772410.015	N: 2907286.694 E: 772409.615
C17	73.41	4°12'22.44"	1000.00	36.72	N: 2907316.034 E: 772458.597	N: 2907389.060 E: 772451.228
C18	33.80	2°05'49.41"	923.50	16.90	N: 2907282.475 E: 772462.609	N: 2907316.034 E: 772458.597
C19	60.46	0°23'05.54"	9000.00	30.23	N: 2907222.305 E: 772468.483	N: 2907282.475 E: 772462.609
C20	22.46	1°42'55.63"	750.00	11.23	N: 2907199.984 E: 772470.925	N: 2907222.305 E: 772468.483
C21	105.56	16°12'55.36"	373.00	53.14	N: 2907098.456 E: 772498.522	N: 2907199.984 E: 772470.925
C22	35.55	13°34'42.56"	150.00	17.86	N: 2907067.775 E: 772516.310	N: 2907098.456 E: 772498.522

CURVE TABLE						
CURVE #	LENGTH	DELTA	RADIUS	TANGENT	CURVE START	CURVE END
C23	10.01	6°13'51.80"	92.00	5.01	N: 2907059.462 E: 772521.870	N: 2907067.775 E: 772516.310
C24	36.48	54°59'55.02"	38.00	19.78	N: 2907059.462 E: 772521.870	N: 2907040.950 E: 772551.682
C25	6.02	6°54'01.94"	50.00	3.01	N: 2907040.950 E: 772551.682	N: 2907040.851 E: 772557.699
C26	57.24	6°35'09.17"	498.00	28.65	N: 2907040.851 E: 772557.699	N: 2907040.067 E: 772614.905
C27	4.78	1°27'54.37"	187.00	2.39	N: 2907040.067 E: 772614.905	N: 2907039.788 E: 772619.679
C28	6.36	24°17'52.11"	15.00	3.23	N: 2907039.788 E: 772619.679	N: 2907040.833 E: 772625.905
C29	2.83	20°18'01.03"	8.00	1.43	N: 2907042.625 E: 772631.756	N: 2907042.061 E: 772628.993
C30	19.70	11°17'15.64"	100.00	9.88	N: 2907043.225 E: 772656.579	N: 2907045.631 E: 772676.100
C31	88.86	8°32'07.94"	596.50	44.51	N: 2907045.631 E: 772676.100	N: 2907071.500 E: 772761.028
C32	100.21	12°47'14.46"	449.00	50.31	N: 2907020.051 E: 772676.411	N: 2907050.174 E: 772771.766
C33	33.41	0°22'58.16"	5000.00	16.70	N: 2907020.051 E: 772676.411	N: 2907013.488 E: 772643.654
C34	23.61	0°16'13.90"	5000.00	11.80	N: 2907008.718 E: 772620.533	N: 2907013.488 E: 772643.654
C35	25.59	9°46'34.87"	150.00	12.83	N: 2907005.645 E: 772595.155	N: 2907008.718 E: 772620.533
C36	14.06	2°43'20.78"	296.00	7.03	N: 2907005.143 E: 772571.381	N: 2907005.304 E: 772585.444
C37	4.74	6°47'09.82"	40.00	2.37	N: 2907005.143 E: 772571.381	N: 2907004.921 E: 772566.652
C38	49.92	59°35'36.42"	48.00	27.49	N: 2907004.921 E: 772566.652	N: 2906976.965 E: 772527.997
C39	17.22	12°48'39.57"	77.00	8.64	N: 2906962.197 E: 772519.217	N: 2906976.965 E: 772527.997
C40	15.43	8°50'24.23"	100.00	7.73	N: 2906949.229 E: 772510.886	N: 2906962.197 E: 772519.217
C41	69.59	36°34'43.73"	109.00	36.03	N: 2906863.312 E: 772489.009	N: 2906930.683 E: 772500.900
C42	5.85	22°19'59.89"	15.00	2.96	N: 2906830.309 E: 772494.949	N: 2906835.787 E: 772493.015
C43	6.23	23°47'31.82"	15.00	3.16	N: 2906823.277 E: 772497.629	N: 2906829.134 E: 772495.644
C44	118.90	9°22'13.22"	727.00	59.58	N: 2906823.277 E: 772497.629	N: 2906704.596 E: 772502.055

CURVE TABLE						
CURVE #	LENGTH	DELTA	RADIUS	TANGENT	CURVE START	CURVE END
C45	10.24	0°42'45.68"	823.00	5.12	N: 2906704.596 E: 772502.055	N: 2906694.366 E: 772501.664
C46	37.80	6°11'14.61"	350.00	18.92	N: 2906694.366 E: 772501.664	N: 2906656.597 E: 772502.493
C47	6.09	174°29'32.29"	2.00	41.58	N: 2906687.925 E: 772471.816	N: 2906688.173 E: 772475.804
C48	57.71	1°06'09.23"	2999.00	28.86	N: 2906745.343 E: 772466.019	N: 2906687.925 E: 772471.816
C49	115.42	3°18'23.32"	2000.00	57.72	N: 2906859.917 E: 772452.222	N: 2906745.343 E: 772466.019
C50	91.15	7°28'18.03"	699.00	45.64	N: 2906744.728 E: 772475.006	N: 2906835.531 E: 772467.789
C51	10.30	1°57'59.06"	300.00	5.15	N: 2906897.482 E: 772446.416	N: 2906887.328 E: 772448.115
C52	45.31	32°03'02.80"	81.00	23.27	N: 2906886.952 E: 772460.306	N: 2906931.266 E: 772466.333
C53	5.13	98°04'09.28"	3.00	3.46	N: 2906931.747 E: 772443.553	N: 2906928.204 E: 772440.729
C54	2.03	116°11'16.35"	1.00	1.61	N: 2906931.266 E: 772466.333	N: 2906932.668 E: 772465.375
C55	25.11	25°14'32.50"	57.00	12.76	N: 2906952.428 E: 772448.669	N: 2906953.891 E: 772473.535
C56	16.25	31°02'15.39"	30.00	8.33	N: 2906959.154 E: 772434.093	N: 2906952.428 E: 772448.669
C57	95.11	90°49'34.25"	60.00	60.87	N: 2907044.381 E: 772427.754	N: 2906959.154 E: 772434.093
C58	22.26	15°00'15.02"	85.00	11.19	N: 2907044.381 E: 772427.754	N: 2907062.847 E: 772440.069
C59	27.45	27°35'21.77"	57.00	13.99	N: 2907064.916 E: 772467.173	N: 2907062.847 E: 772440.069
C60	16.22	30°58'18.51"	30.00	8.31	N: 2907058.167 E: 772481.702	N: 2907064.916 E: 772467.173
C61	97.33	92°56'30.13"	60.00	63.16	N: 2906971.285 E: 772486.293	N: 2907058.167 E: 772481.702
C62	21.63	14°34'47.38"	85.00	10.87	N: 2906971.285 E: 772486.293	N: 2906953.891 E: 772473.535
C63	5.84	167°10'51.53"	2.00	17.80	N: 2907011.680 E: 772327.838	N: 2907015.629 E: 772327.386
C64	20.45	12°19'56.55"	95.00	10.26	N: 2907015.629 E: 772327.386	N: 2907018.038 E: 772347.651
C65	30.81	14°07'13.61"	125.00	15.48	N: 2907018.038 E: 772347.651	N: 2907022.141 E: 772378.104
C66	24.67	3°49'11.70"	370.00	12.34	N: 2907010.912 E: 772352.490	N: 2907011.680 E: 772327.838

CURVE TABLE						
CURVE #	LENGTH	DELTA	RADIUS	TANGENT	CURVE START	CURVE END
C67	29.69	28°50'06.04"	59.00	15.17	N: 2907001.778 E: 772380.414	N: 2907010.912 E: 772352.490
C68	2.14	122°49'14.99"	1.00	1.83	N: 2907002.627 E: 772381.952	N: 2907001.778 E: 772380.414
C69	5.47	104°26'32.67"	3.00	3.87	N: 2907022.141 E: 772378.104	N: 2907019.255 E: 772381.867
C70	5.57	159°29'48.15"	2.00	11.06	N: 2907023.883 E: 772600.824	N: 2907019.980 E: 772600.319
C71	23.78	18°55'25.16"	72.00	12.00	N: 2907027.240 E: 772577.391	N: 2907023.883 E: 772600.824
C72	34.84	4°24'57.17"	452.00	17.43	N: 2907019.980 E: 772600.319	N: 2907019.566 E: 772565.494
C73	26.38	18°53'42.54"	80.00	13.31	N: 2907019.566 E: 772565.494	N: 2907015.947 E: 772539.481
C74	4.60	87°45'49.23"	3.00	2.89	N: 2907015.947 E: 772539.481	N: 2907017.803 E: 772535.760
C75	2.12	121°23'10.48"	1.00	1.78	N: 2907026.787 E: 772532.752	N: 2907028.079 E: 772533.923
C76	14.62	14°26'23.01"	58.00	7.35	N: 2907028.079 E: 772533.923	N: 2907026.578 E: 772548.424
C77	6.11	174°58'59.89"	2.00	45.65	N: 2907220.276 E: 772444.443	N: 2907220.168 E: 772440.448
C78	61.28	7°01'19.97"	500.00	30.68	N: 2907220.168 E: 772440.448	N: 2907158.984 E: 772443.108
C79	62.02	7°20'32.41"	484.00	31.05	N: 2907211.696 E: 772445.419	N: 2907150.368 E: 772454.394
C80	30.67	16°44'03.33"	105.00	15.44	N: 2907115.380 E: 772446.504	N: 2907084.893 E: 772444.418
C81	1.94	110°52'30.71"	1.00	1.45	N: 2907084.893 E: 772444.418	N: 2907083.691 E: 772445.545
C82	5.08	97°03'04.50"	3.00	3.39	N: 2907086.674 E: 772465.279	N: 2907090.449 E: 772467.719
C83	18.19	3°39'22.20"	285.00	9.10	N: 2907090.449 E: 772467.719	N: 2907108.106 E: 772463.374

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607342_HD\(CURB TIE).DWG

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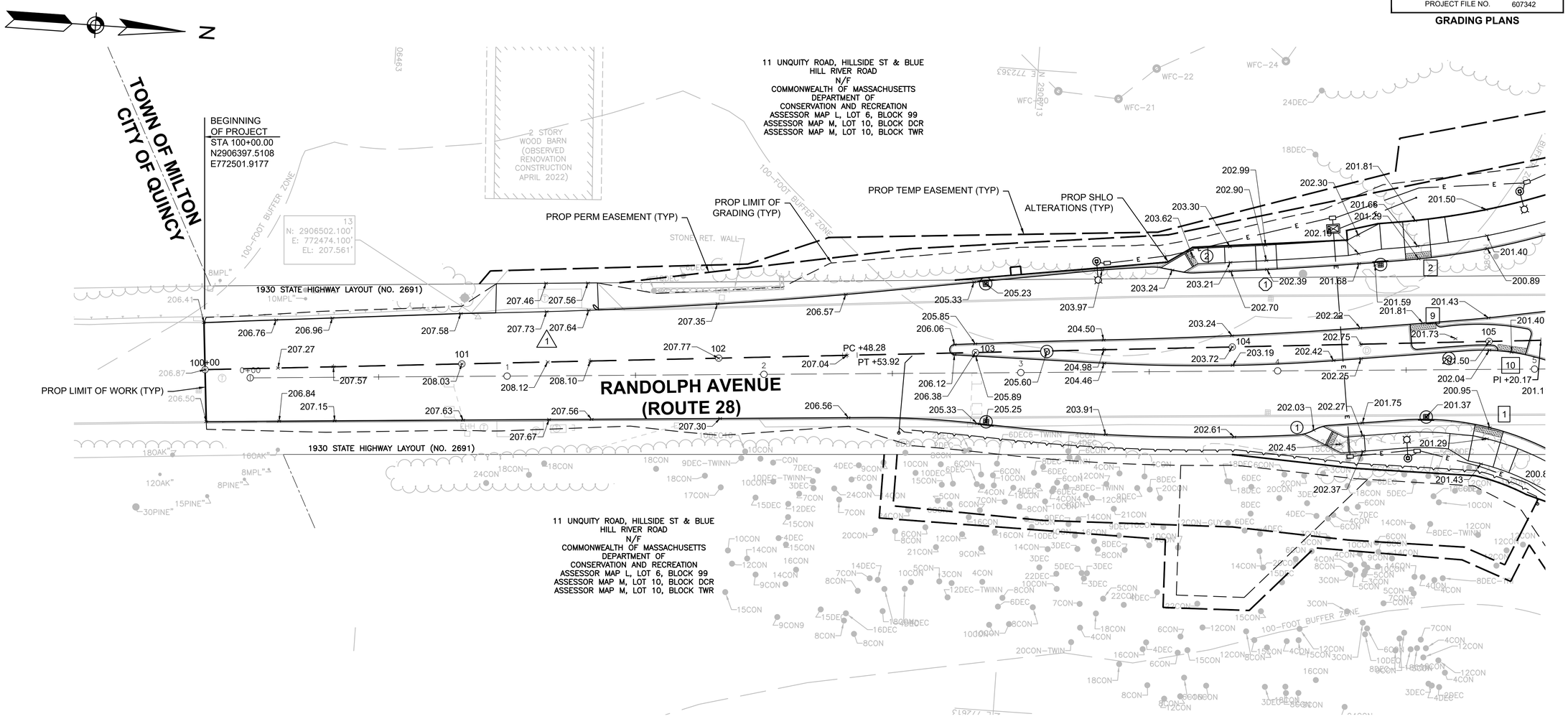
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	38	123
PROJECT FILE NO.	607342		

GRADING PLANS



PROPOSED	DESCRIPTION
X	PCR
X	DRIVEWAY
X	BIKE ENTRANCE / EXIT
X	BUS STOP

0 20 50 100

SCALE: 1" = 20'

NOTE:

FOR PROFILES: SEE SHEET NO. 26 - 31.

FOR PEDESTRIAN RAMP DETAILS: SEE SHEET NO. 94 - 95.

FOR PROPOSED WALL: SEE SHEET NO. 91 - 93.

607342_HD\(GRADING).DWG Plotted on 16-Sep-2024 3:30 PM

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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	39	123
PROJECT FILE NO.	607342		

GRADING PLANS

CONTINUED ON SHEET NO. 41

CONTINUED ON SHEET NO. 38

CONTINUED ON SHEET NO. 40

CONTINUED ON SHEET NO. 42

SEE SHEET 42 FOR GRADES

SEE WETLAND REPLICATION SHEET 90 FOR ADDITIONAL DETAILS

11 UNQUITY ROAD, HILLSIDE ST & BLUE HILL RIVER ROAD
N/F
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF CONSERVATION AND RECREATION
ASSESSOR MAP L, LOT 6, BLOCK 99
ASSESSOR MAP M, LOT 10, BLOCK DCR
ASSESSOR MAP M, LOT 10, BLOCK TWR

1281 RANDOLPH AVENUE
N/F
NICHOLS SARTORI & ERIN MAGUIRE
CERT. 196277 / LC. 295508 A
ASSESSOR MAP N, LOT 11, BLOCK 15

91 BRIERBROOK STREET
N/F
RYAN & CHRISTINE TOSI
CERT. 186326 / LC. 27278 T
ASSESSOR MAP N,
LOT 12, BLOCK 4J

97 BRIERBROOK STREET
N/F
DARRYL & PATRICIA ELLIOTT
CERT. 173197 / LC. 27278
ASSESSOR MAP N, LOT 12, BLOCK 4H T

1275 RANDOLPH AVENUE
N/F
FREDERICK & MARJORIE FLAHERTY
CERT. 66500 / LC. 29508 A
ASSESSOR MAP N, LOT 11, BLOCK 14

1274 RANDOLPH AVENUE
N/F
ROBERT & NANCY JESSON
DEED BK. 23194, PAGE 474
ASSESSOR MAP N, LOT 10A, BLOCK 3A

1278 RANDOLPH AVENUE
N/F
PATRICK & ROSANNE SPRING
DEED BK. 18514, PAGE 490
ASSESSOR MAP N, LOT 10A, BLOCK 4

111
N: 2907091.706'
E: 772476.047'
EL: 194.761'
MASSDOT 2045

CHICKATAWBUT ROAD

RANDOLPH AVENUE (ROUTE 28)

RANDOLPH AVENUE(ROUTE 28)

204+51.70 CHICKATAWBUT ROAD=
301+08.01 ROUNDABOUT

105+38.49 RANDOLPH AVENUE (RTE-28)=
302+26.89 ROUNDABOUT

106+18.34 RANDOLPH AVENUE (RTE-28)=
205+20.00 CHICKATAWBUT ROAD

206+01.12 CHICKATAWBUT ROAD=
303+57.46 ROUNDABOUT

106+87.92 RANDOLPH AVENUE (RTE-28)=
300+04.40 ROUNDABOUT

PROP SHLO ALTERATIONS (TYP)
PROP PERM EASEMENT (TYP)
PROP TEMP EASEMENT (TYP)
PROP LIMIT OF GRADING (TYP)
PROP T-100 CURB
1930 STATE HIGHWAY LAYOUT (NO. 2691)

PI +20.17
PI +27.70
PI +77.91
PC +59.96
T +23.36
304+71.23

2 STORY ALUMINUM HOUSE
2 STORY STONE / VINYL HOUSE
100-FOOT BUFFER ZONE
WETLANDS SERIES "A 200 – A 234"

NOTE:

FOR PROFILES: SEE SHEET NO. 26 - 31.

FOR PEDESTRIAN RAMP DETAILS: SEE SHEET NO. 94 - 95.

FOR PROPOSED WALL: SEE SHEET NO. 91 - 93.

T-100 CURB REVEAL IS 4" UNLESS OTHERWISE NOTED.

LOW POINT ALONG CHICKATAWBUT BASELINE IS LOCATED AT STATION 206+50.59

PROPOSED	DESCRIPTION
X	PCR
X	DRIVEWAY
X	BIKE ENTRANCE / EXIT
X	BUS STOP

0 20 50 100
SCALE: 1" = 20'

607342_HD(GRADING).DWG Plotted on 16-Sep-2024 3:30 PM

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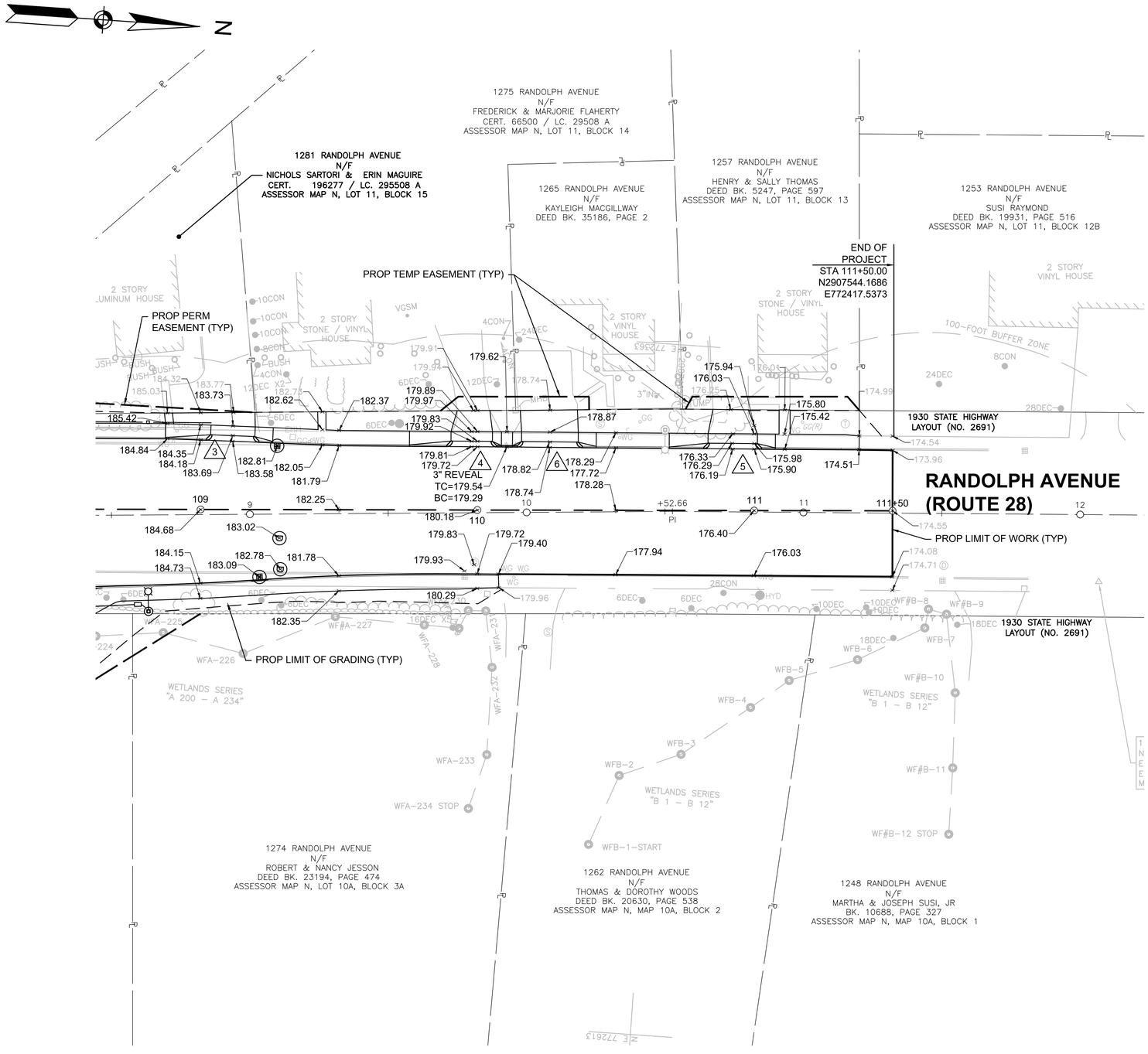
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	40	123
PROJECT FILE NO.	607342		

GRADING PLANS



CONTINUED ON SHEET NO. 39

NOTE:

FOR PROFILES: SEE SHEET NO. 26 - 31.

FOR PEDESTRIAN RAMP DETAILS: SEE SHEET NO. 94 - 95.

FOR PROPOSED WALL: SEE SHEET NO. 91 - 93.

PROPOSED	DESCRIPTION
X	PCR
X	DRIVEWAY
X	BIKE ENTRANCE / EXIT
X	BUS STOP

607342_HD\(GRADING).DWG Plotted on 16-Sep-2024 3:31 PM

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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	41	123
PROJECT FILE NO.	607342		

GRADING PLANS

77 BRIERBROOK STREET
N/F
DOROTHY BOSWORTH
LC. 27278 N
ASSESSOR MAP N, LOT 12, BLOCK 18

87 BRIERBROOK STREET
N/F
KYLE & TRISTEN DARCY
CERT. 191148 / LC. 27278 N
ASSESSOR MAP N, LOT 12, BLOCK 4K

91 BRIERBROOK STREET
N/F
RYAN & CHRISTINE TOSI
CERT. 186326 / LC. 27278 T
ASSESSOR MAP N, LOT 12, BLOCK 4J

97 BRIERBROOK STREET
N/F
DARRYL & PATRICIA ELLIOTT
CERT. 173197 / LC. 27278
ASSESSOR MAP N, LOT 12, BLOCK 4H T

14
N: 2906980.604'
E: 772169.394'
EL: 189.108'
IRON ROD PUCH MARK

16
N: 2906807.320'
E: 772034.671'
EL: 185.982'
SPIKE

LIMIT OF WORK
STA 201+00.00
N2906803.8844
E772000.9870

PROP TEMP EASEMENT (TYP)

PROP LIMIT OF GRADING (TYP)

PROP LIMIT OF WORK (TYP)

CHICKATAWBUT RD CONST BL

CHICKATAWBUT ROAD

200+00

PROP SHLO ALTERATIONS (TYP)

204+51.70 CHICKATAWBUT ROAD=
301+08.01 ROUNDABOUT

105+38.49 RANDOLPH AVENUE (RTE-28)=
302+26.89 ROUNDABOUT

PROP T-100 CURB

PROP TEMP EASEMENT (TYP)

PROP PERM EASEMENT (TYP)

RANDOLPH AVENUE (ROUTE 28)

1930 STATE HIGHWAY LAYOUT (NO. 2691)

PC +23.94

PT +38.47

PT +23.36

PI +20.17

11 UNQUITY ROAD, HILLSIDE ST & BLUE HILL RIVER ROAD
N/F
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF
CONSERVATION AND RECREATION
ASSESSOR MAP L, LOT 6, BLOCK 99
ASSESSOR MAP M, LOT 10, BLOCK DCR
ASSESSOR MAP M, LOT 10, BLOCK TWR

100-FOOT BUFFER ZONE

NOTE:

FOR PROFILES: SEE SHEET NO. 26 - 31.

FOR PEDESTRIAN RAMP DETAILS: SEE SHEET NO. 94 - 95.

FOR PROPOSED WALL: SEE SHEET NO. 91 - 93.

T-100 CURB REVEAL IS 4" UNLESS OTHERWISE NOTED.

PROPOSED	DESCRIPTION
X	PCR
X	DRIVEWAY
X	BIKE ENTRANCE / EXIT
X	BUS STOP

0 20 50 100
SCALE: 1" = 20'

CONTINUED ON SHEET NO. 42

CONTINUED ON SHEET NO. 38

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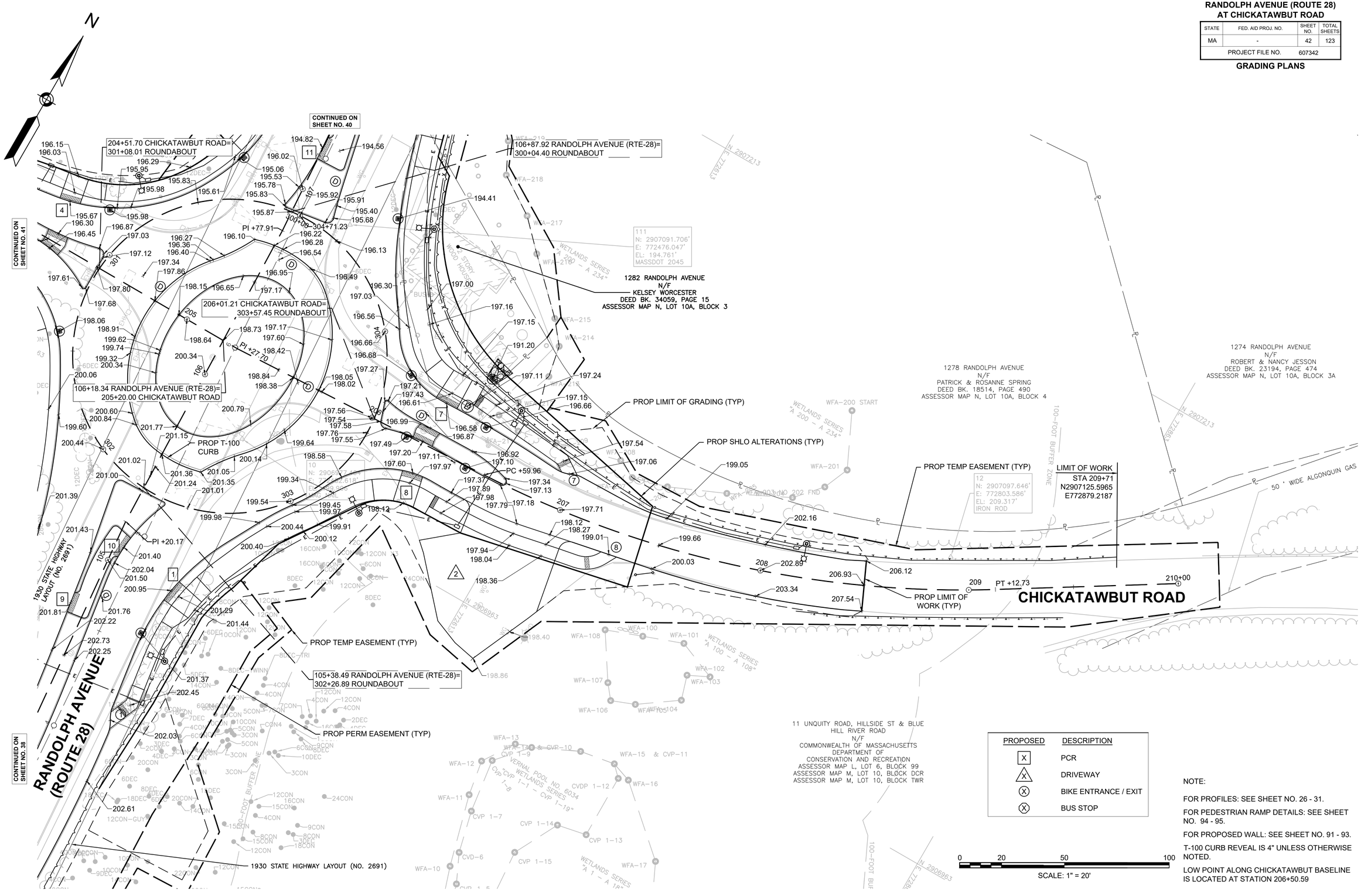
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	42	123
PROJECT FILE NO.	607342		

GRADING PLANS



NOTE:

FOR PROFILES: SEE SHEET NO. 26 - 31.

FOR PEDESTRIAN RAMP DETAILS: SEE SHEET NO. 94 - 95.

FOR PROPOSED WALL: SEE SHEET NO. 91 - 93.

T-100 CURB REVEAL IS 4" UNLESS OTHERWISE NOTED.

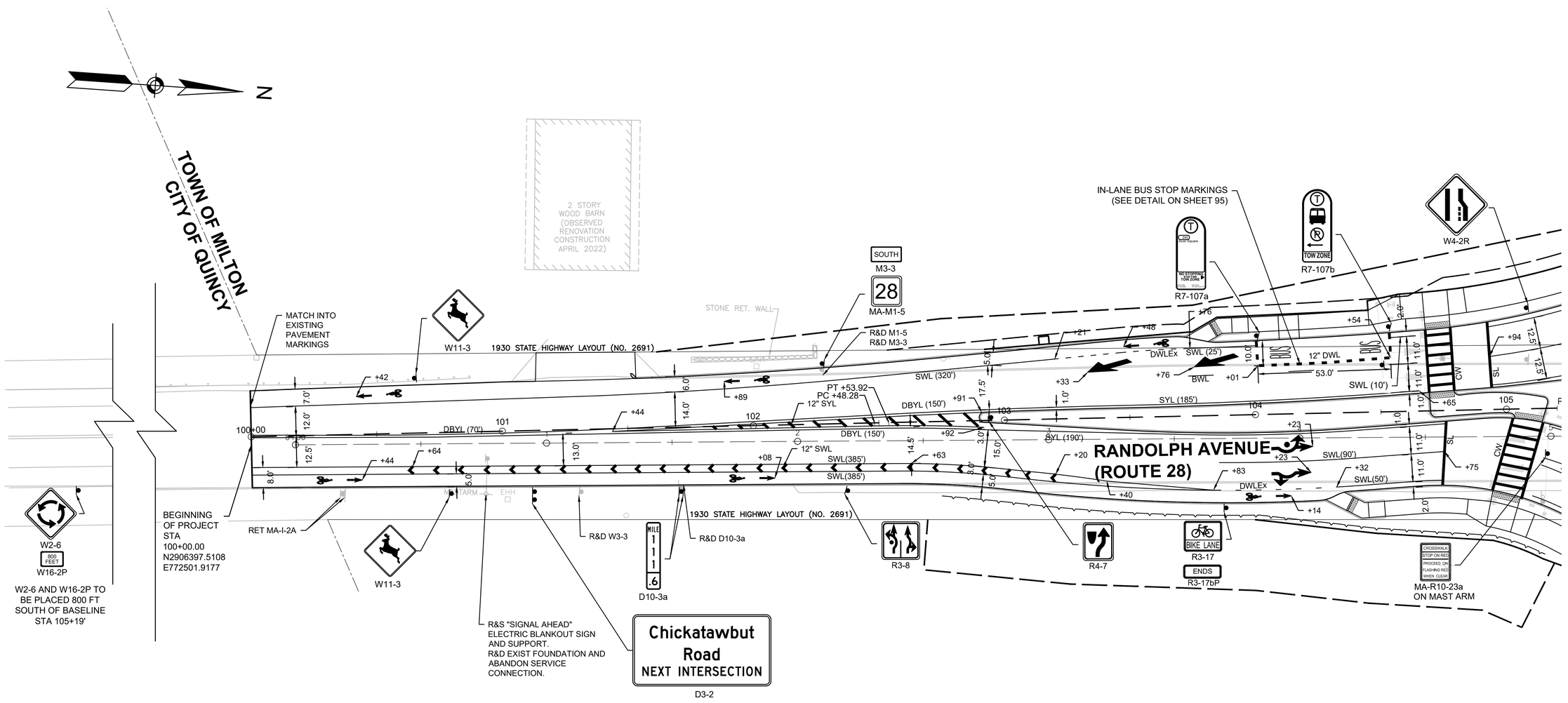
LOW POINT ALONG CHICKATAWBUT BASELINE IS LOCATED AT STATION 206+50.59

607342_HD(GRADING).DWG Plotted on 16-Sep-2024 3:31 PM
9/16/2024 L:\13061\13061.41\CURRENT\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\607342_HD(GRADING).dwg Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	43	123
PROJECT FILE NO.	607342		

TRAFFIC SIGN & PAVEMENT MARKINGS



NOTE:

1. SEE SHEET 95 FOR CROSSWALK DETAILS.

0 20 50 100

SCALE: 1" = 20'

607342_TR(PAVEMARK).DWG Plotted on 16-Sep-2024 4:53 PM

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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	44	123
PROJECT FILE NO.	607342		

TRAFFIC SIGN & PAVEMENT MARKINGS

607342_TR(PAVEMARK).DWG Plotted on 16-Sep-2024 4:53 PM

CONTINUED ON SHEET NO. 46

CONTINUED ON SHEET NO. 43

CONTINUED ON SHEET NO. 45

CONTINUED ON SHEET NO. 47

RANDOLPH AVENUE (ROUTE 28)

CHICKATAWBUT ROAD

1930 STATE HIGHWAY LAYOUT (NO. 2691)

TRUCK APPRON - SEE SHEET 96 FOR DETAIL

RET "CHICKATAWBUT ROAD" DCR SIGN

R&R "TRAILSIDE MUSEUM" DCR SIGN
R&R R5-2

R&D ROUTE 28 GUIDESIGNS
R&D R10-11

R&D D3-1
R&R DCR SIGN

R&R "TOWN OF MILTON" SIGN

R&R "BLUE HILLS RESERVATION" SIGN

PROP PERM EASEMENT (TYP)

IN-LANE BUS STOP MARKINGS (SEE DETAIL ON SHEET 95)

2 STORY ALUMINUM HOUSE

2 STORY STONE / VINYL HOUSE

NOTE:

1. SEE SHEET 95 FOR CROSSWALK DETAILS.
2. SEE SHEET 53 FOR RRFB ASSEMBLY DETAIL.

SCALE: 1" = 20'

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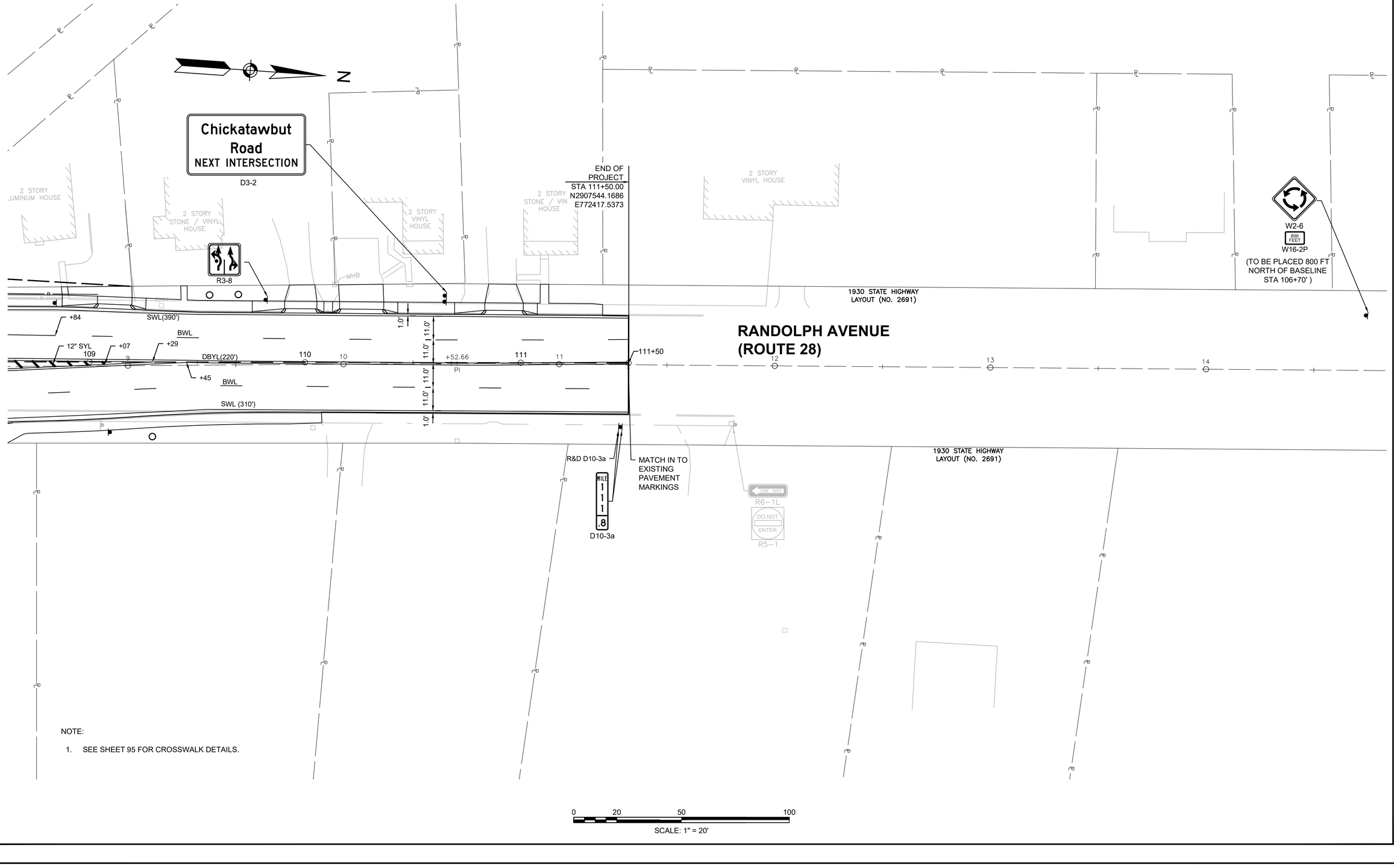
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	45	123
PROJECT FILE NO.	607342		

TRAFFIC SIGN & PAVEMENT MARKINGS

607342_TR(PAVEMARK).DWG Plotted on 16-Sep-2024 4:53 PM



NOTE:

1. SEE SHEET 95 FOR CROSSWALK DETAILS.

0 20 50 100

SCALE: 1" = 20'

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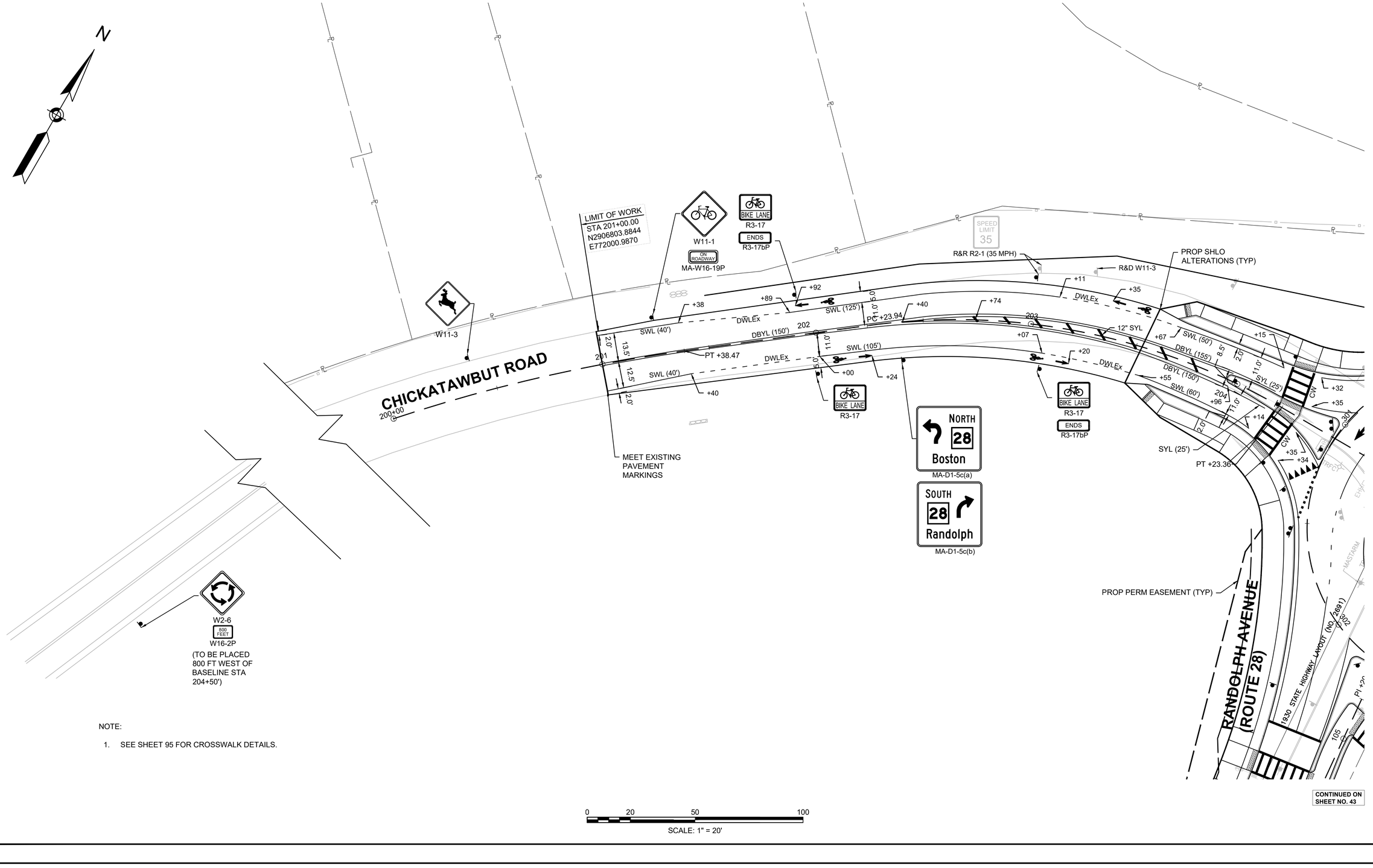
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	46	123
PROJECT FILE NO.	607342		

TRAFFIC SIGN & PAVEMENT MARKINGS



NOTE:

1. SEE SHEET 95 FOR CROSSWALK DETAILS.

0 20 50 100

SCALE: 1" = 20'

607342_TR(PAVEMARK).DWG Plotted on 16-Sep-2024 4:53 PM

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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	47	123
PROJECT FILE NO.	607342		

TRAFFIC SIGN & PAVEMENT MARKINGS

CONTINUED ON SHEET NO. 45

CONTINUED ON SHEET NO. 43

PI +77.91-300.00
304+71.23

PI +27.70

PROP SHLO ALTERATIONS (TYP)

PROP PERM EASEMENT (TYP)

PI +20.17

1930 STATE HIGHWAY LAYOUT (NO. 2591)

RANDOLPH AVENUE
(ROUTE 28)

2 STORY WOOD HOUSE

WARNING GATES CLOSED AND LOCKED AT 8:00 P.M.
R&R
R&D W5-2

R&D W11-3

W11-1
ON ROADWAY
MA-W16-19P

W11-3

NORTH 28 Boston
MA-D1-5d(a)

SOUTH 28 Randolph
MA-D1-5d(b)

MEET EXISTING PAVEMENT MARKINGS

SPEED LIMIT 30
RET R2-1

LIMIT OF WORK
STA 209+71
N2907125.5965
E772879.2187

PT +12.73

CHICKATAWBUT ROAD

W2-6
800 FEET
W16-2P
W2-6 TO BE PLACED
800 FT EAST OF
BASELINE STA 206+00'

NOTE:

1. SEE SHEET 95 FOR CROSSWALK DETAILS.

0 20 50 100
SCALE: 1" = 20'

607342_TR(PAVEMARK).DWG Plotted on 16-Sep-2024 4:53 PM

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Christopher Lyman

TRAFFIC SIGN SUMMARY

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 BACK-GROUND	COLOR LEGEND	COLOR BORDER	POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
D3-2	60"	30"	Chickatawbut Road NEXT INTERSECTION	SEE DETAIL			2	GREEN	WHITE	WHITE	2 P5(2)	12.50	25.00
D10-3a	10"	48"	MILE 1 1 1 .6	①			2	GREEN	WHITE	WHITE	P5(1)	3.33	6.66
D10-3b	10"	48"	MILE 1 1 1 .8				2	GREEN	WHITE	WHITE	P5(1)	3.33	6.66
MA-D1-1d	54"	30"	Chickatawbut Road	SEE DETAIL			2	GREEN	WHITE	WHITE	STEEL TUBE POST (2)	11.25	22.50
MA-D1-5a	48"	48"	NORTH 28 Boston	SEE DETAIL			1	GREEN	WHITE	WHITE	STEEL TUBE POST (1)	16.00	16.00
MA-D1-5b	48"	48"	SOUTH 28 Randolph	SEE DETAIL			1	GREEN	WHITE	WHITE	STEEL TUBE POST (1)	16.00	16.00
MA-D1-5c(a)	48"	48"	NORTH 28 Boston	SEE DETAIL			1	GREEN	WHITE	WHITE	STEEL TUBE POST (1)	16.00	16.00
MA-D1-5c(b)	48"	48"	SOUTH 28 Randolph	SEE DETAIL			1	GREEN	WHITE	WHITE	STEEL TUBE POST (1)	16.00	16.00
MA-D1-5d(a)	48"	48"	NORTH 28 Boston	SEE DETAIL			1	GREEN	WHITE	WHITE	MOUNT W/ MA-D1-5c	16.00	16.00
MA-D1-5d(b)	48"	48"	SOUTH 28 Randolph	SEE DETAIL			1	GREEN	WHITE	WHITE	MOUNT W/ MA-D1-5d	16.00	16.00
MA-M1-5	24"	24"	28	③			2	WHITE	BLACK	BLACK	P5(2)	4.00	8.00
MA-R10-23a	24"	30"	CROSSWALK STOP ON RED PROCEED ON FLASHING RED WHEN CLEAR				4	FYG (3)/ WHITE	BLACK	BLACK	MOUNT ON MAST ARM (4)	5.00	20.00
MA-W16-19P	24"	12"	ON ROADWAY				2	YELLOW	BLACK	BLACK	MOUNT W/ W11-1 (2)	2.00	4.00
M3-1	24"	12"	NORTH	①			1	WHITE	BLACK	BLACK	MOUNT W/MA-M1-5(1)	2.00	2.00
M3-3	24"	12"	SOUTH				1	WHITE	BLACK	BLACK	MOUNT W/MA-M1-5(1)	2.00	2.00
OM1-1	24"	24"					4	YELLOW	YELLOW	YELLOW	MOUNT W/MA-D1-1d(2)/ MA-D1-5a(1)/ MA-D1-5b(1)	4.00	16.00
R1-2	36"	36"	YIELD				8	WHITE	RED	RED	P5(8)	9.00	72.00

(1) FLUORESCENT YELLOW GREEN (FYG)

SIGNS WILL BE DESIGN IN ACCORDANCE TO THE MNANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND AMENDMENTS AND THE MASSDOT STANDARD SIGNS SUPPLEMENT TO THE MUTCD.

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	48	123
PROJECT FILE NO.	607342		

TRAFFIC SIGN SUMMARY SHEET

TRAFFIC SIGN SUMMARY

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 BACK-GROUND	COLOR LEGEND	COLOR BORDER	POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
R3-8	36"	36"		①			3	WHITE	BLACK	BLACK	P5(3)	9.00	27.00
R3-17	24"	18"	BIKE LANE				4	WHITE	BLACK	BLACK	P5(4)	3.50	14.00
R3-17bP	24"	8"	ENDS				3	WHITE	BLACK	BLACK	MOUNT W/R3-17(3)	1.33	4.00
R4-7	24"	30"					4	WHITE	BLACK	BLACK	P5(4)	5.00	20.00
R5-2	24"	24"					1	WHITE	BLACK	BLACK	P5(1)	4.00	4.00
R6-4a	48"	24"					4	WHITE	BLACK	-	P5(4)	8.00	32.00
R7-107a	12"	30"	T R7-107a Kenmore Square NO STOPPING ANYTIME TOW ZONE	②			1	②	②	②	P5(1)	2.50	2.50
R7-107b	12"	30"	T R TOW ZONE	②			2	②	②	②	P5(2)	2.50	5.00
R7-107c	12"	30"	T R7-107c Kenmore Station NO STOPPING ANYTIME TOW ZONE	②			1	②	②	②	P5(1)	2.50	2.50
W2-6	30"	30"		①			4	YELLOW	BLACK	BLACK	P5(4)	6.25	25.00
W4-2R	36"	36"					1	YELLOW	BLACK	BLACK	P5(1)	9.00	9.00
W11-1	30"	30"					2	YELLOW	BLACK	BLACK	P5(4)	9.00	18.00
W11-3	30"	30"					4	YELLOW	BLACK	BLACK	P5(4)	9.00	36.00
W11-15	30"	30"					8	FYG(1)	BLACK	BLACK	MOUNT ON RRFB POST (8)	2.25	18.00
W16-2P	24"	18"	800 FEET				4	YELLOW	BLACK	BLACK	MOUNT W/ W11-1 (1)	3.00	12.00
W16-7PL	24"	12"					4	FYG(1)	BLACK	BLACK	MOUNT W/ W11-2	2.00	8.00
W16-7PR	24"	12"					4	FYG(1)	BLACK	BLACK	MOUNT W/ W11-2	2.00	8.00

① SEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND AMENDMENTS, LATEST EDITION, FOR SPCIFICATION ON TEXT, DIMENSIONS, AND COLOR.
② SEE MBTA STANDARDS FOR SPECIFICATION ON TEXT, DIMENSIONS, AND COLOR. PANELS ARE FABRICATED AND SUPPLIED BY MBTA; CONTRACTOR SHALL NOTIFY MBTA 8 WEEKS PRIOR TO INSTALLATION. CONTRACTOR SHOULD INSTALL MBTA BUS STOP SIGNS AT ANGLE SPECIFIED IN MBTA STANDARDS.
③ SEE THE MASSDOT STANDARD SIGN BOOK FOR SPECIFICATIONS ON TEXT, DIMENSIONS, AND COLOR.
④ RETROREFLECTIVE SHEETING ON ALL GUIDE AND TRAFFIC SIGNS SHALL CONFORM TO MASSDOT STANDARD SPECIFICATIONS – SECTION M9.30.0

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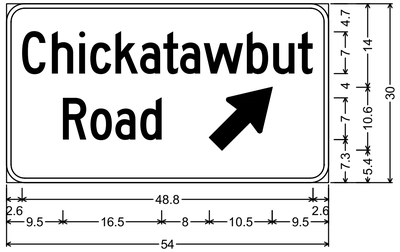
Christopher Lyman

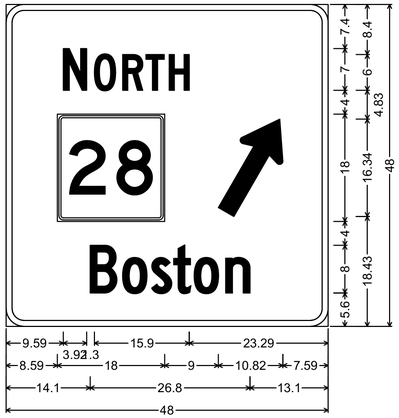
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	49	123
PROJECT FILE NO.	607342		

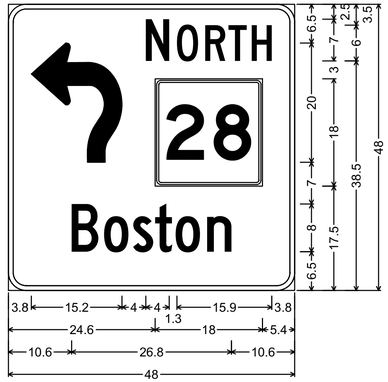
TRAFFIC SIGN SUMMARY SHEET



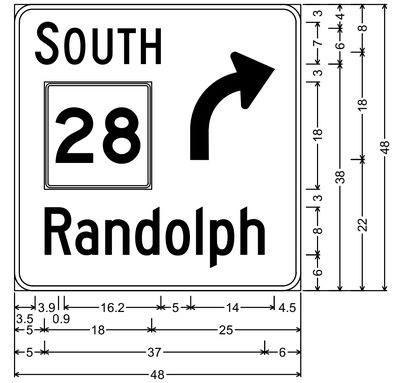
MA-D1-1d;
3.0" Radius, 0.8" Border, White on, Green;
"Chickatawbut", C 2K 85% spacing;
"Road", C 2K 85% spacing;
Standard Arrow Custom 13.4" X 8.1" 45';



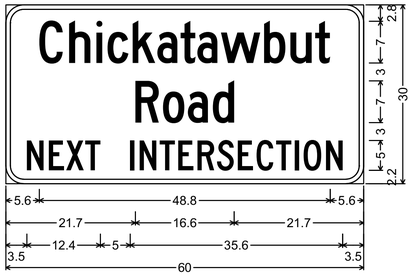
MA-D1-5a;
3.00" Radius, 0.80" Border, White on, Green;
"NORTH", C 2K; State Highway 28 M1-5;
Standard Arrow Custom 18.00" X 8.10" 60';
"Boston", C 2K;



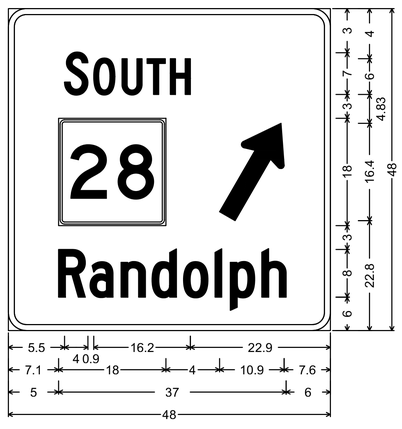
MA-D1-5c(a);
3.0" Radius, 0.8" Border, White on, Green;
LEFT TURN ARROW; "NORTH", C 2K;
State Highway 28 M1-5; "Boston", C 2K;



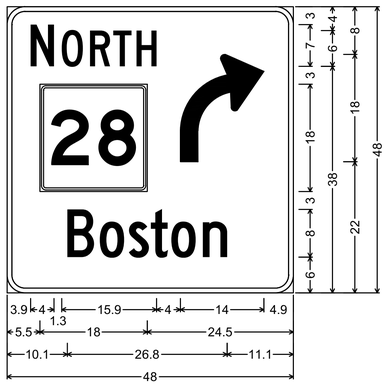
MA-D1-5c(b);
3.0" Radius, 0.8" Border, White on, Green;
"SOUTH", C 2K; State Highway 28 M1-5;
BEAR RIGHT ARROW;
"Randolph", C 2K 85% spacing;



D3-2;
3.0" Radius, 0.8" Border, White on, Green;
"Chickatawbut", C 2K 85% spacing;
"Road", C 2K 85% spacing;
"NEXT INTERSECTION", C 2K 80% spacing;



MA-D1-5b;
3.00" Radius, 0.80" Border, White on, Green;
"SOUTH", C 2K; State Highway 28 M1-5;
Standard Arrow Custom 18.00" X 8.10" 60';
"Randolph", C 2K 85% spacing;



MA-D1-5d(a);
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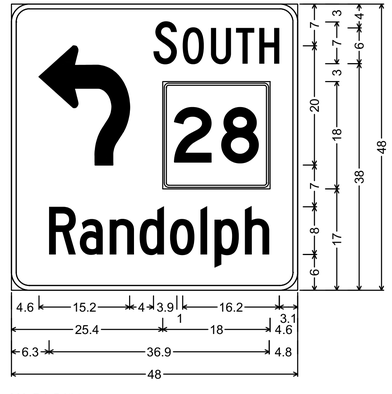
"NORTH", C 2K; State Highway 28 M1-5;
BEAR RIGHT ARROW; "Boston", C 2K;



MA-D1-5d(b);
3.0" Radius, 0.8" Border, White on, Green;
LEFT TURN ARROW; "SOUTH", C 2K;
State Highway 28 M1-5;
"Randolph", C 2K 85% spacing;

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Christopher Lyman

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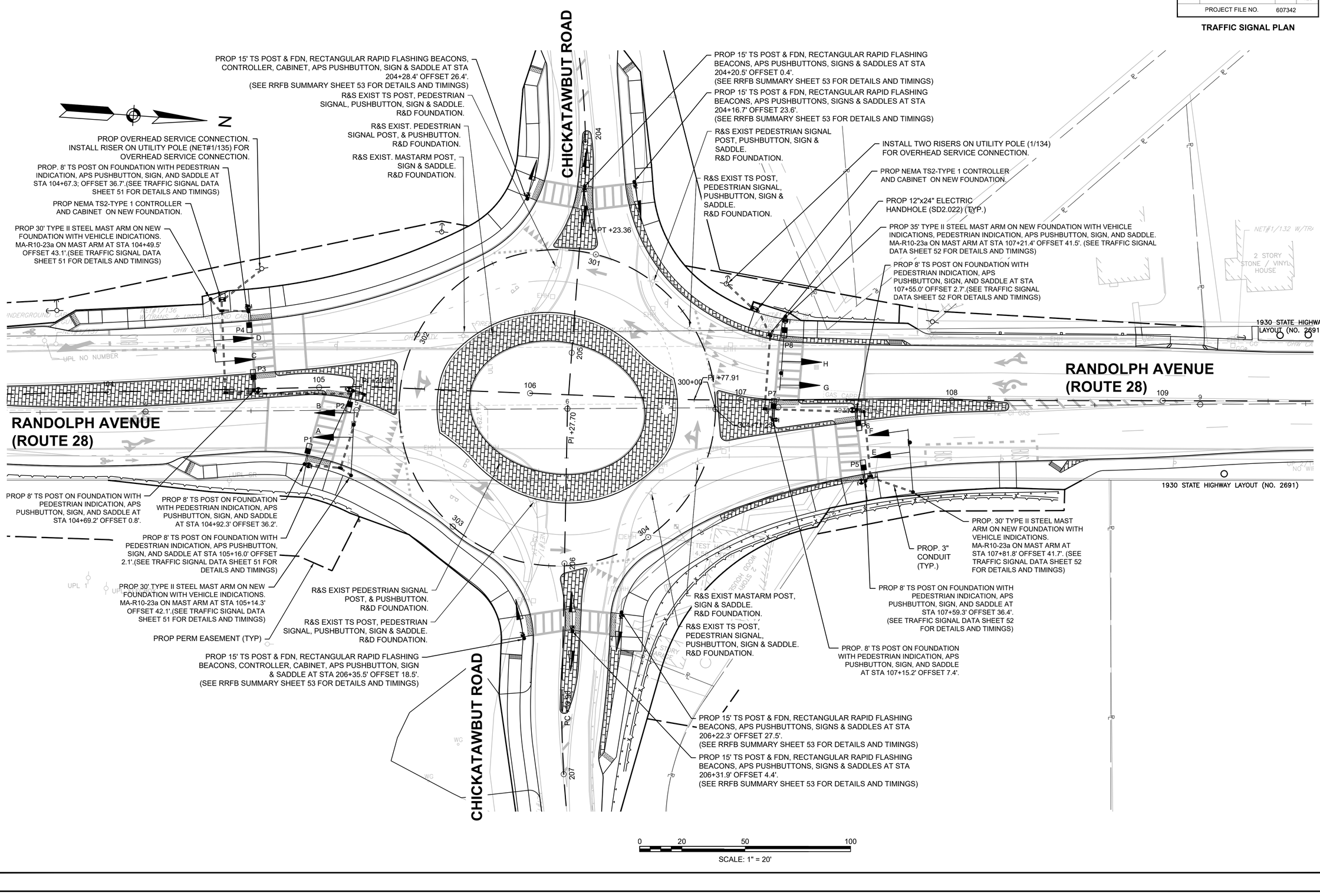
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	50	123
PROJECT FILE NO.	607342		

TRAFFIC SIGNAL PLAN



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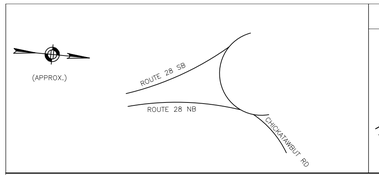
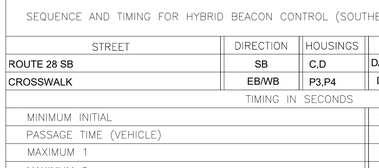
Christopher Lyman



SEQUENCE AND TIMING FOR HYBRID BEACON CONTROL (NORTHBOUND APPROACH)			ø2			øCLEARANCE	ø9			FLASH OPER.
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	
ROUTE 28 NB	NB	A,B	DARK	FY	SY	SR	SR	FR	FR	DARK
CROSSWALK	EB/WB	P1,P2	DW	DW	DW	DW	W	FDW	DW	DARK
TIMING IN SECONDS										EMERGENCY ONLY
MINIMUM INITIAL			24							
PASSAGE TIME (VEHICLE)										
MAXIMUM 1			24							
MAXIMUM 2										
YELLOW CLEARANCE				3	3					
RED CLEARANCE						2	7	8.5	4	
WALK (W)							7			
PEDESTRIAN CLEARANCE								8.5		
RECALL				SOFT				OFF		
MEMORY				-				LOCKING		

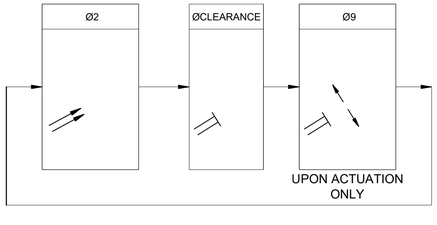
1. SY = STEADY YELLOW, SR=STEADY RED



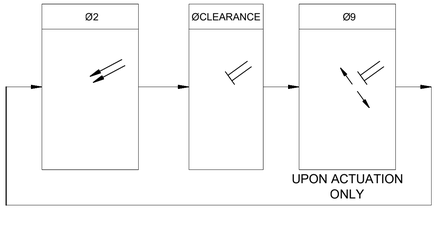
SEQUENCE AND TIMING FOR HYBRID BEACON CONTROL (SOUTHBOUND DEPARTURE)			ø6			øCLEARANCE	ø9			FLASH OPER.
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	
ROUTE 28 SB	SB	C,D	DARK	FY	SY	SR	SR	FR	FR	DARK
CROSSWALK	EB/WB	P3,P4	DW	DW	DW	DW	W	FDW	DW	DARK
TIMING IN SECONDS										EMERGENCY ONLY
MINIMUM INITIAL			24							
PASSAGE TIME (VEHICLE)										
MAXIMUM 1			24							
MAXIMUM 2										
YELLOW CLEARANCE				3	3					
RED CLEARANCE						2	7	8	4	
WALK (W)							7			
PEDESTRIAN CLEARANCE								8		
RECALL				SOFT				OFF		
MEMORY				-				LOCKING		

1. SY = STEADY YELLOW, SR=STEADY RED

PREFERENTIAL PHASING SEQUENCE



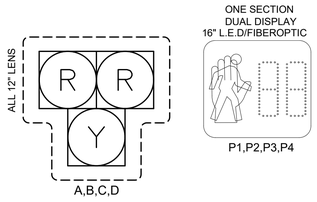
NORTHBOUND APPROACH



SOUTHBOUND DEPARTURE

	MAJOR ITEMS REQUIRED	
PAY ITEM	QUANTITY	ITEM
824.44	1	NEMA TS-2 TYPE 1 4DW CONTROLLER, CABINET & FDN.
	1	UTILITY POLE RISER, OVERHEAD SERVICE CONNECTION.
	4	8' SIGNAL POLE, BASE, & FDN.
	2	TYPE II 30' STEEL MAST ARM, BASE, & FDN.
	4	3-SECTION, SIGNAL HOUSING (12" L.E.D.) (HYBRID BEACON CONFIGURATION)
	4	PEDESTRIAN HOUSING WITH COUNTDOWN (16' L.E.D.)
	4	APS PEDESTRIAN PUSHBUTTON, SIGN & SADDLE
804.3	220 FT	3" PVC CONDUIT
811.27	4	12"X24" ELECTRIC HANDHOLE - (MUNICIPAL STANDARD)
		Plus all necessary duct, cable, labor, miscellaneous
		material and equipment to complete the installation.

SIGNAL IDENTIFICATION



NOTES:

1. ALL NEW VEHICLE INDICATIONS SHALL BE 12" L.E.D. AND SHALL BE EQUIPPED WITH CUT AWAY VISORS.
2. ALL NEW PEDESTRIAN INDICATIONS SHALL BE 16' L.E.D. AND SHALL COUNTDOWN AND BE EQUIPPED WITH SUN CAP VISORS.
3. ALL NEW VEHICLE INDICATIONS SHALL HAVE 5" LOUVERED BACK PLATES WITH REFLECTIVE STRIPS WITH 2" RETRO-REFLECTIVE BORDER.
4. ALL SIGNALS SHALL BE RIGIDLY MOUNTED.

PEDESTRIAN HYBRID BEACON & PEDESTRIAN INDICATION SEQUENCE

R R Y	1. DARK UNTIL ACTIVATED.		1. DON'T WALK
R R FY	2. FLASHING YELLOW UPON ACTIVATION.		2. DON'T WALK
R R SY	3. STEADY YELLOW FOR VEHICLE CLEARANCE.		3. DON'T WALK
SR SR Y	4. STEADY RED DURING BUFFER INTERVAL.		4. DON'T WALK
SR SR Y	5. STEADY RED DURING PEDESTRIAN WALK INTERVAL.		5. WALK
FR R Y R FR Y	6. ALTERNATING FLASHING RED DURING PEDESTRIAN CLEARANCE INTERVAL.		6. FLASHING DON'T WALK WITH COUNTDOWN
FR R Y R FR Y	7. ALTERNATING FLASHING RED DURING PEDESTRIAN BUFFER INTERVAL.		7. DON'T WALK
R R Y	8. DARK UNTIL ACTIVATED AGAIN.		8. DON'T WALK

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	51	123
PROJECT FILE NO.	607342		

TRAFFIC SIGNAL DATA
ROUTE 28 (RANDOLPH AVE)
AT CHICKATAWBUT ROAD
PHB LOCATION 4

607342_ TR(TRAFFIC SIGNAL PLANS).DWG Plotted on 16-Sep-2024 4:53 PM

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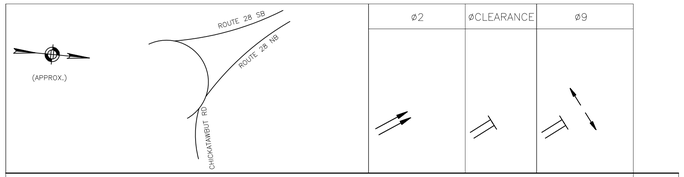
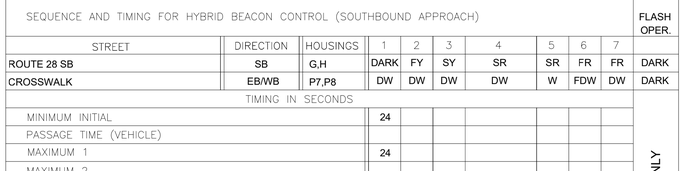
Christopher Lyman



SEQUENCE AND TIMING FOR HYBRID BEACON CONTROL (NORTHBOUND DEPARTURE)										FLASH OPER.
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	
ROUTE 28 NB	NB	E,F	DARK	FY	SY	SR	SR	FR	FR	DARK
CROSSWALK	EB/WB	P5,P6	DW	DW	DW	DW	W	FDW	DW	DARK
TIMING IN SECONDS										
MINIMUM INITIAL			24							EMERGENCY ONLY
PASSAGE TIME (VEHICLE)										
MAXIMUM 1			24							
MAXIMUM 2										
YELLOW CLEARANCE				3	3					
RED CLEARANCE						2	7	8	4	
WALK (W)							7			
PEDESTRIAN CLEARANCE								8		
RECALL				SOFT				OFF		
MEMORY				-				LOCKING		

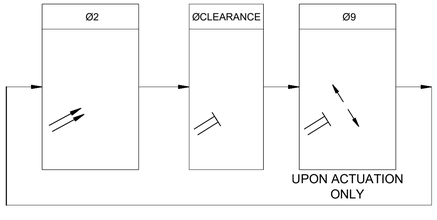
1. SY = STEADY YELLOW, SR=STEADY RED



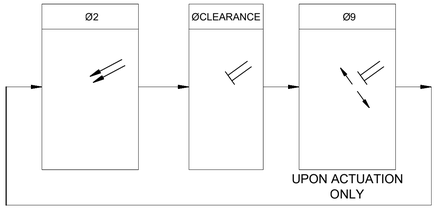
SEQUENCE AND TIMING FOR HYBRID BEACON CONTROL (SOUTHBOUND APPROACH)										FLASH OPER.
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	
ROUTE 28 SB	SB	G,H	DARK	FY	SY	SR	SR	FR	FR	DARK
CROSSWALK	EB/WB	P7,P8	DW	DW	DW	DW	W	FDW	DW	DARK
TIMING IN SECONDS										
MINIMUM INITIAL			24							EMERGENCY ONLY
PASSAGE TIME (VEHICLE)										
MAXIMUM 1			24							
MAXIMUM 2										
YELLOW CLEARANCE				3	3					
RED CLEARANCE						2	7	8	4	
WALK (W)							7			
PEDESTRIAN CLEARANCE								8		
RECALL				SOFT				OFF		
MEMORY				-				LOCKING		

1. SY = STEADY YELLOW, SR=STEADY RED

PREFERENTIAL PHASING SEQUENCE



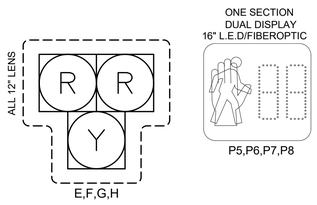
NORTHBOUND DEPARTURE



SOUTHBOUND APPROACH

	MAJOR ITEMS REQUIRED	
PAY ITEM	QUANTITY	ITEM
824.42	1	NEMA TS-2 TYPE 1 4DW CONTROLLER, CABINET & FDN.
	1	UTILITY POLE RISER, OVERHEAD SERVICE CONNECTION.
	3	8' SIGNAL POLE, BASE, & FDN.
	2	TYPE II 30' STEEL MAST ARM, BASE, & FDN.
	1	TYPE II 25' STEEL MAST ARM, BASE, & FDN.
	4	3-SECTION, SIGNAL HOUSING (12" L.E.D.) (HYBRID BEACON CONFIGURATION)
	4	PEDESTRIAN HOUSING WITH COUNTDOWN (16' L.E.D.)
	4	APS PEDESTRIAN PUSHBUTTON, SIGN & SADDLE
804.3	180 FT	3" PVC CONDUIT
811.27	3	12"X24" ELECTRIC HANDHOLE - (MUNICIPAL STANDARD)
811.31	1	PULL BOX 12" X 12" - SD2.031
		Plus all necessary duct, cable, labor, miscellaneous
		material and equipment to complete the installation.

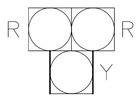
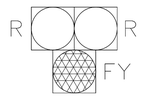
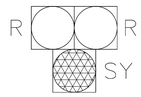
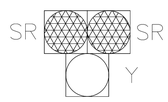
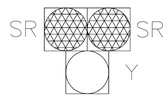
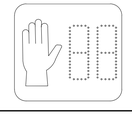
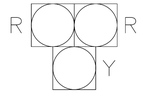
SIGNAL IDENTIFICATION



NOTES:

1. ALL NEW VEHICLE INDICATIONS SHALL BE 12" L.E.D. AND SHALL BE EQUIPPED WITH CUT AWAY VISORS.
2. ALL NEW PEDESTRIAN INDICATIONS SHALL BE 16' L.E.D. AND SHALL COUNTDOWN AND BE EQUIPPED WITH SUN CAP VISORS.
3. ALL NEW VEHICLE INDICATIONS SHALL HAVE 5" LOUVERED BACK PLATES WITH REFLECTIVE STRIPS WITH 2" RETRO-REFLECTIVE BORDER.
4. ALL SIGNALS SHALL BE RIGIDLY MOUNTED.

PEDESTRIAN HYBRID BEACON & PEDESTRIAN INDICATION SEQUENCE

	1. DARK UNTIL ACTIVATED.		1. DON'T WALK
	2. FLASHING YELLOW UPON ACTIVATION.		2. DON'T WALK
	3. STEADY YELLOW FOR VEHICLE CLEARANCE.		3. DON'T WALK
	4. STEADY RED DURING BUFFER INTERVAL.		4. DON'T WALK
	5. STEADY RED DURING PEDESTRIAN WALK INTERVAL.		5. WALK
	6. ALTERNATING FLASHING RED DURING PEDESTRIAN CLEARANCE INTERVAL.		6. FLASHING DON'T WALK WITH COUNTDOWN
	7. ALTERNATING FLASHING RED DURING PEDESTRIAN BUFFER INTERVAL.		7. DON'T WALK
	8. DARK UNTIL ACTIVATED AGAIN.		8. DON'T WALK

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	52	123
PROJECT FILE NO.	607342		

TRAFFIC SIGNAL DATA
ROUTE 28 (RANDOLPH AVE)
AT CHICKATAWBUT ROAD
PHB LOCATION 2

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MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	53	123
PROJECT FILE NO.	607342		

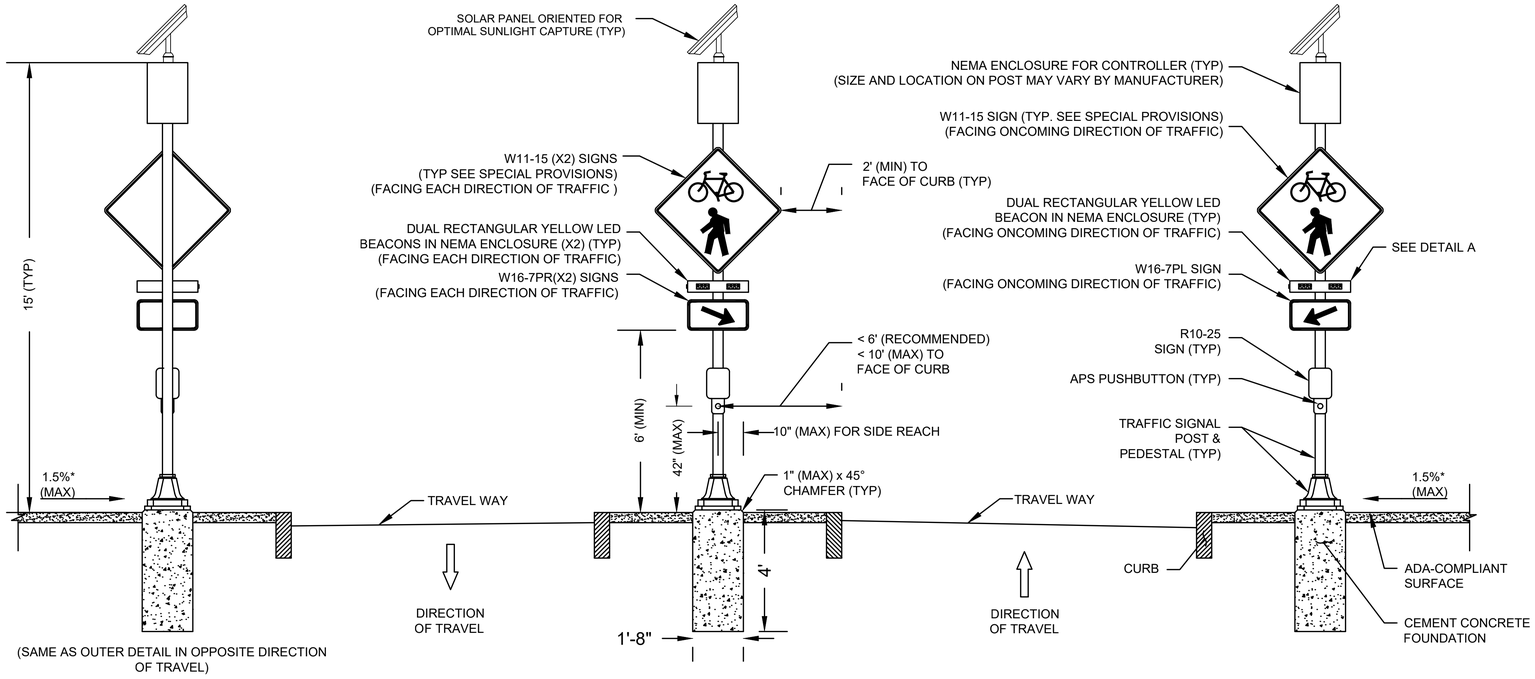
RRFB SUMMARY SHEET

LOCATION 1 ROUTE 28 AT CHICKATAWBUT RD (WEST - STA 204+23)

		MAJOR ITEMS REQUIRED
PAY ITEM	QUANTITY	ITEM
825.31	3	15' TS POST & BASE
	3	TS POST FOUNDATION PER 812.30.1
	4	RECTANGULAR RAPID FLASHING BEACONS
	3	APS PUSHBUTTON, SIGN, & SADDLE
	1	NEMA ENCLOSURES FOR ALL COMPONENTS NEEDED TO MEET FUNCTIONAL REQUIREMENTS PER SPECIAL PROVISIONS
	1	WIRELESS (WI-FI, BLUETOOTH, ETC) PROGRAMMING METHOD FOR ALL POSTS
	1	CONTROLLER AND CABINET MOUNTED ON TS POST
		Plus all necessary duct, cable, labor, miscellaneous
		material and equipment to complete the installation.

LOCATION 3 ROUTE 28 AT CHICKATAWBUT RD (EAST - STA 206+30)

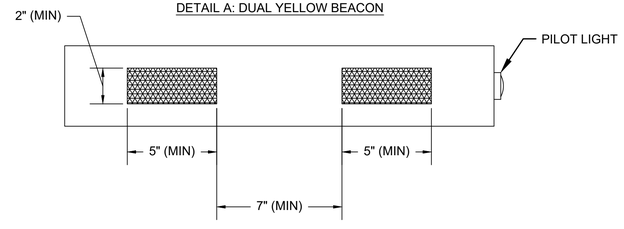
		MAJOR ITEMS REQUIRED
PAY ITEM	QUANTITY	ITEM
825.33	3	15' TS POST & BASE
	3	TS POST FOUNDATION PER 812.30.1
	4	RECTANGULAR RAPID FLASHING BEACONS
	3	APS PUSHBUTTON, SIGN, & SADDLE
	1	NEMA ENCLOSURES FOR ALL COMPONENTS NEEDED TO MEET FUNCTIONAL REQUIREMENTS PER SPECIAL PROVISIONS
	1	WIRELESS (WI-FI, BLUETOOTH, ETC) PROGRAMMING METHOD FOR ALL POSTS
	1	CONTROLLER AND CABINET MOUNTED ON TS POST
		Plus all necessary duct, cable, labor, miscellaneous
		material and equipment to complete the installation.



NOTES:

1. RRFB SHALL FLASH FOR 12 SECONDS UPON EACH ACTIVATION.
2. REFER TO THE SIGN SUMMARY SHEET FOR SIGN DIMENSIONS.
3. ALL CONDUIT, PULL BOXES, AND EQUIPMENT GROUNDING SHALL BE PAID FOR SEPARATELY UNDER THEIR RESPECTIVE PAY ITEMS.
4. ACCESS TO ALL PEDESTRIAN ACTUATED CONTROLS SHALL BE ADA/AAB COMPLIANT.
5. *0.5% CONSTRUCTION TOLERANCE FOR CROSS-SLOPE.
6. "YELLOW LIGHTS FLASHING" SPOKEN TWICE (PER INTERIM APPROVAL).
7. NO-FEE WIRELESS (WI-FI, BLUETOOTH, ETC) PROGRAMMING METHOD SHALL BE INSTALLED TO COMMUNICATE FLASHING ACTUATION AND DURATION BETWEEN RRFB POSTS.
8. CROSSWALK AND ADA/AAB-COMPLIANT RAMPS NOT SHOWN. SEE PLANS FOR LOCATIONS

DETAIL A: DUAL YELLOW BEACON



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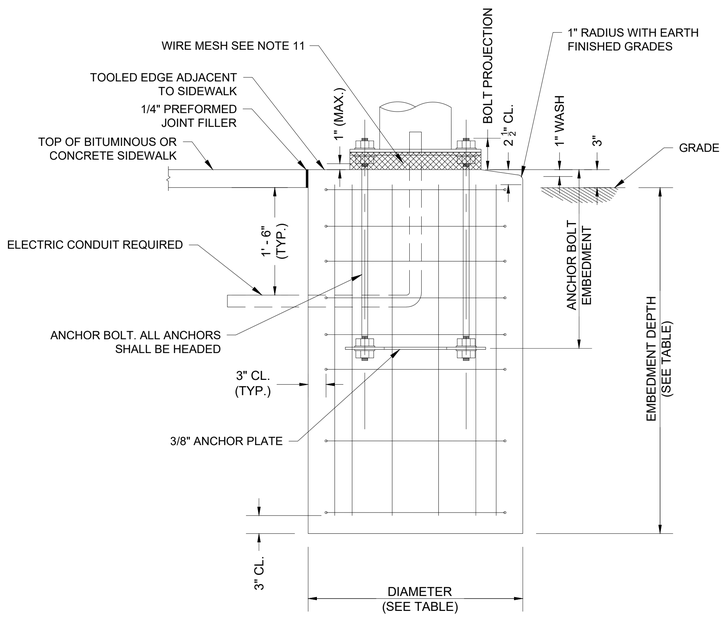
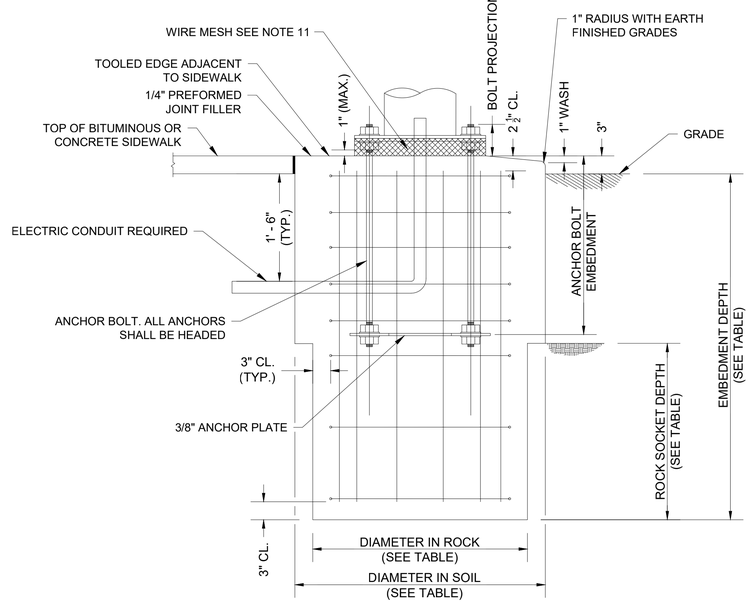
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	54	123
PROJECT FILE NO.	607342		

MAST ARM FOUNDATION DETAILS



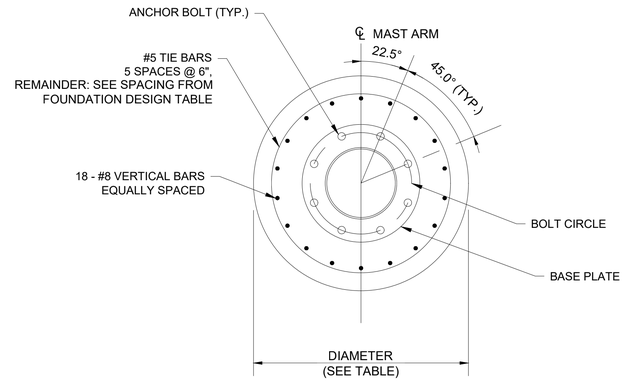
PIER FOUNDATION IN SOIL DETAIL
NOT TO SCALE



PIER FOUNDATION WITH ROCK SOCKET DETAIL
NOT TO SCALE

GENERAL NOTE:

GENERAL MAST ARM FOUNDATION DETAILS ARE SHOWN ON THIS SHEET. FOR SPECIFIC DETAILS REGARDING MATERIAL DATA, POLE AND SIGNAL ARM DATA, ANCHOR BOLT EMBEDMENT, DETAILS AND DIMENSIONS NOT SHOWN ON THIS SHEET, REFER TO THE MASSDOT OVERHEAD SIGNAL STRUCTURE & FOUNDATION STANDARD DRAWINGS DATED DECEMBER 2015.



PIER FOUNDATION PLAN
NOT TO SCALE

MAST ARM SPAN & LOCATION	DIAMETER (IN SOIL)	DIAMETER (IN ROCK)	MIN. EMBEDMENT DEPTH	EMBEDMENT DEPTH (IN ROCK)	TIE BARS
30' MAST ARM AT RANDOLPH AVE CONST. BASELINE STA. 104+49.50, 43.10' LT	3'-6"	N/A	10'-0"	N/A	#5 @ 12"
30' MAST ARM AT RANDOLPH AVE CONST. BASELINE STA. 105+14.20, 42.10' RT	4'-0"	3'-6"	10'-0"	5'-6"	#5 @ 12"
35' MAST ARM AT RANDOLPH AVE CONST. BASELINE STA. 107+21.20, 39.60' LT	3'-6"	N/A	12'-6"	N/A	#5 @ 8"
30' MAST ARM AT RANDOLPH AVE CONST. BASELINE STA. 107+81.80, 41.60' RT	3'-6"	N/A	10'-0"	N/A	#5 @ 12"

FOUNDATION DESIGN TABLE
NOT TO SCALE

NOTES:

1. FOUNDATIONS SHALL BE 4000 PSI, 565 MASSDOT APPROVED MIX DESIGN.
2. FOUNDATIONS SHALL BE INSTALLED IN ACCORDANCE WITH MASSDOT STANDARD SPECIFICATIONS ITEM 945 - DRILLED SHAFTS.
3. REINFORCEMENT SHALL BE ASTM A615 GRADE 60.
4. ANCHOR BOLTS SHALL BE SET BY TEMPLATE.
5. PROVIDE FOR ELECTRICAL CONDUIT AS REQUIRED.
6. EXCAVATION SHALL BE BY THE AUGER METHOD TO THE NEAT LINES OF THE OUTSIDE DIMENSION OF THE FOUNDATIONS WITHOUT DISTURBING THE SOIL AROUND AND BELOW THE PROPOSED FOUNDATION BOTTOM. ALTERNATE METHODS OF EXCAVATION MAY BE SUBMITTED FOR APPROVAL IF THEY MEET THE REQUIREMENTS LISTED IN NOTES 7, 8 AND 9.
7. THE EARTH WALLS OF THE FOUNDATION SHALL BE ADEQUATELY AND SECURELY PROTECTED AT ALL TIMES AGAINST CAVE-INS, DISPLACEMENT OF THE SURROUNDING EARTH AND FOR THE EXCLUSION OF GROUND WATER. THIS MAY BE DONE BY THE USE OF STEEL CYLINDER LINERS OR CASINGS THAT ARE APPROVED BY MASSDOT. IF LINERS ARE USED THEY MAY BE RECLAIMED PROVIDED THAT THEY ARE WITHDRAWN AS THE CONCRETE IS BEING PLACED, MAINTAINING A SUFFICIENT HEAD OF CONCRETE WITHIN THE LINER TO PREVENT REDUCTION IN THE FOUNDATION DIAMETER AND TO PREVENT EXTRANEOUS MATERIAL FROM FALLING IN FROM THE SIDES AND MIXING WITH THE CONCRETE.
8. IF THE SOIL IS DISTURBED OR REMOVED BEYOND THE NEAT LINES OF THE OUTSIDE DIMENSION OF THE FOUNDATION, IT SHALL BE REPLACED WITH CONCRETE. ANY ADDITIONAL COST FOR THE CONCRETE SHALL BE PAID FOR BY THE CONTRACTOR.
9. SPECIAL CARE SHOULD BE GIVEN TO AREAS WHERE WET SOIL IS ENCOUNTERED, TO INSURE THAT THE PREAUGERED HOLE DOES NOT COLLAPSE. THIS MAY REQUIRE THE USE OF STEEL CYLINDER LINERS OR CASINGS TO HOLD THE SOIL IN PLACE UNTIL READY FOR CONCRETE PLACEMENT, UPON APPROVAL FROM THE MASSDOT. THE STEEL CYLINDERS OR CASINGS SHALL BE WITHDRAWN AS THE FOUNDATION CONCRETE IS PLACED.
10. IF LEDGE OR UNSUITABLE SOIL IS ENCOUNTERED (I.E. WITHIN THE RANGE OF THE FOUNDATION DESIGN TABLE SHOWN ON THIS SHEET), AN ALTERNATIVE DESIGN SHALL BE PROVIDED BY THE DESIGN ENGINEER. IF UTILITIES OR OTHER UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED, THE CONTRACTOR SHALL BACKFILL THE AREA TO ITS ORIGINAL CONDITION UNTIL AN ALTERNATE DESIGN HAS BEEN PROVIDED BY THE DESIGN ENGINEER AND APPROVED BY MASSDOT.
11. A GALVANIZED WIRE MESH SCREEN SHALL BE INSTALLED AT BASE POLE. SCREEN SHALL BE PRESS-FORMED OF 3 OR 4 MESH, 21 GAGE OR HEAVIER, STAINLESS STEEL OR HOT DIPPED GALVANIZED WIRE SCREEN OR APPROVED EQUIVALENT. SCREEN SHALL BE SCREWED INTO POLE BASE PLATE AND SHALL BE FLUSH WITH THE TOP OF THE PIER FOUNDATION.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT FOUNDATION DIAMETER IS AT LEAST 17.5" GREATER THAN BOLT CIRCLE DIAMETER FOR ALL STRUCTURES.
13. IN ORDER TO CREATE A FLUSH SURFACE, CONTRACTOR SHALL REFER TO THE FINAL ELEVATIONS SHOWN ON THE DESIGN PLANS WHEN INSTALLING FOUNDATIONS IMMEDIATELY ADJACENT TO OR WITHIN A SIDEWALK AREA.

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1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS INCLUDING MASSDOT REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
2. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD AND MASSDOT REVISIONS.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
6. CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.
7. THE FIRST TEN REFLECTORIZED PLASTIC DRUMS OF A MERGING TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.
8. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
9. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
10. 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.
11. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
12. 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".
13. CONTRACTOR SHALL REMOVE ANY EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED TEMPORARY MARKINGS AND SHALL BAG OR REMOVE SIGNAGE THAT CONFLICTS WITH CONSTRUCTION PERIOD TRAFFIC PATTERNS.
14. CONTRACTOR SHALL MAINTAIN ADA-COMPLIANT PEDESTRIAN ACCESS AT ALL TIMES USING PEDESTRIAN MANAGEMENT GUIDANCE SYSTEMS AT WORK ZONES. ACCESS SHALL BE MAINTAINED ALONG ALL SIDEWALKS AND CROSSWALKS, TO ALL ABUTTERS, AND TO ALL MBTA BUS STOPS. ANY PEDESTRIAN DETOURS SHALL INCLUDE A FULLY ADA-COMPLIANT PEDESTRIAN DETOUR ROUTE WITH PROPER BARRICADES, RAILINGS, RAMPS, AND SIGNAGE.
16. ALL ACTIVE PEDESTRIAN CROSSWALKS WHOSE MARKINGS ARE OBSTRUCTED OR OBSCURED BY THE CONTRACTOR, SHALL BE REFRESHED AT THE END OF THE SHIFT.
17. IN GENERAL, NO WORK SHALL BE PERFORMED WITHIN THE TRAVELED WAY DURING PEAK PERIODS OF 6:00-10:00 AM AND 3:00-7:00 PM. CONTRACTOR SHALL REMOVE TEMPORARY TRAFFIC CONTROLS WHEN WORK IS NOT BEING PREFORMED AND SHALL ENSURE THAT THE AREA IS SAFE FOR VEHICULAR TRAVEL. IF LANE CLOSURES ARE TO BE USED FOR AN EXTENDED DURATION THROUGHOUT CONSTRUCTION, THE CONTRACTOR SHALL AT ALL TIMES SEEK APPROVAL FROM THE MASSDOT RESIDENT ENGINEER AND COORDINATE WITH MBTA BUS OPERATIONS FOR ALL LANE CLOSURES.

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

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

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

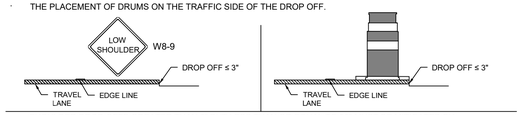
WORKZONE DISTANCES

SHORT-TERM PAVEMENT EDGE DROP-OFFS

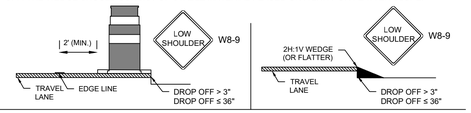
THIS GUIDANCE IS ADOPTED FROM THE ROADSIDE DESIGN GUIDE, 4TH EDITION.

PAVEMENT DROP-OFFS MAY OCCUR DURING PAVING, EXCAVATION, AND OTHER CONSTRUCTION ACTIVITIES. DROP-OFFS CREATE HAZARDS FOR VEHICLES IF NOT PROPERLY MITIGATED. THE FOLLOWING APPLIES FOR ALL ROADS WITH SPEED LIMITS GREATER THAN 30 MPH; FOR ROADS WITH SPEEDS OF 30 MPH OR LESS, TREATMENTS FOR PAVEMENT EDGE DROP-OFFS SHALL BE AT THE DISCRETION OF THE ENGINEER. DROP-OFFS BETWEEN ADJACENT, OPEN TRAVEL LANES SHALL NOT EXCEED 2", AND ANY DROP-OFF IN EXCESS OF 3" SHALL NOT BE LEFT UNATTENDED WITHOUT ONE OF THESE MITIGATION MEASURES APPLIED.

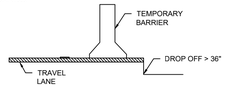
- SHOULDER DROP-OFFS 3" OR LESS ADJACENT TO A SHOULDER OR ACTIVE LANE SHOULD BE MITIGATED BY:
- A W8-9 (LOW SHOULDER) SIGN IN ADVANCE OF AND AT REGULAR INTERVALS THROUGHOUT THE TREATMENT; OR
- THE PLACEMENT OF DRUMS ON THE TRAFFIC SIDE OF THE DROP OFF.

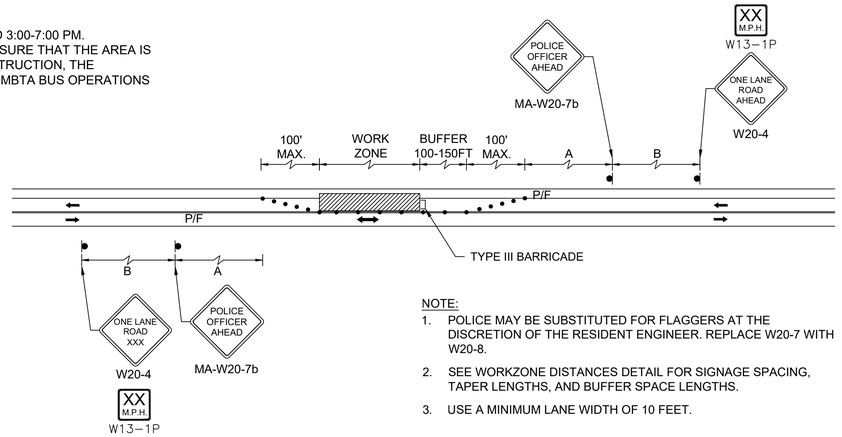


- SHOULDER DROP-OFFS GREATER THAN 3" BUT LESS THAN OR EQUAL TO 36" MUST BE MITIGATED BY:
- A W8-9 (LOW SHOULDER) SIGN IN ADVANCE OF AND AT REGULAR INTERVALS THROUGHOUT THE TREATMENT AND THE PLACEMENT OF DRUMS ON THE TRAFFIC SIDE OF THE DROP-OFF, OFFSET AT LEAST 2' FROM THE TRAVEL LANE; OR
- A W8-9 (LOW SHOULDER) SIGN IN ADVANCE OF AND AT REGULAR INTERVALS THROUGHOUT THE TREATMENT AND THE PLACEMENT OF A TEMPORARY WEDGE OF MATERIAL ALONG THE FACE OF THE DROP-OFF. THE WEDGE SHOULD CONSIST OF STABLE MATERIAL PLACED ON A 2H:1V OR FLATTER SLOPE.



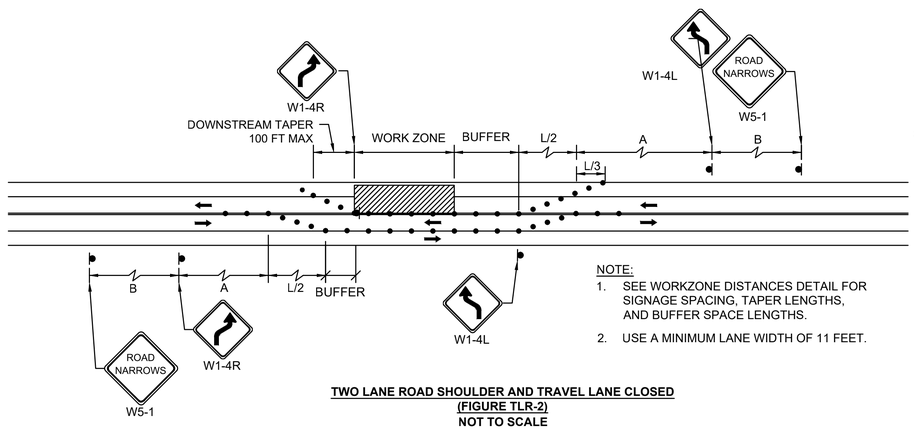
- SHOULDER DROP-OFFS GREATER THAN 36" MUST BE PROTECTED BY TEMPORARY BARRIER DESIGNED TO MASSDOT STANDARDS.





NOTE:
1. POLICE MAY BE SUBSTITUTED FOR FLAGGERS AT THE DISCRETION OF THE RESIDENT ENGINEER. REPLACE W20-7 WITH W20-8.
2. SEE WORKZONE DISTANCES DETAIL FOR SIGNAGE SPACING, TAPER LENGTHS, AND BUFFER SPACE LENGTHS.
3. USE A MINIMUM LANE WIDTH OF 10 FEET.

TWO LANE ROAD ONE LANE ALTERNATING TRAFFIC (FIGURE TLR-5)
NOT TO SCALE



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

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

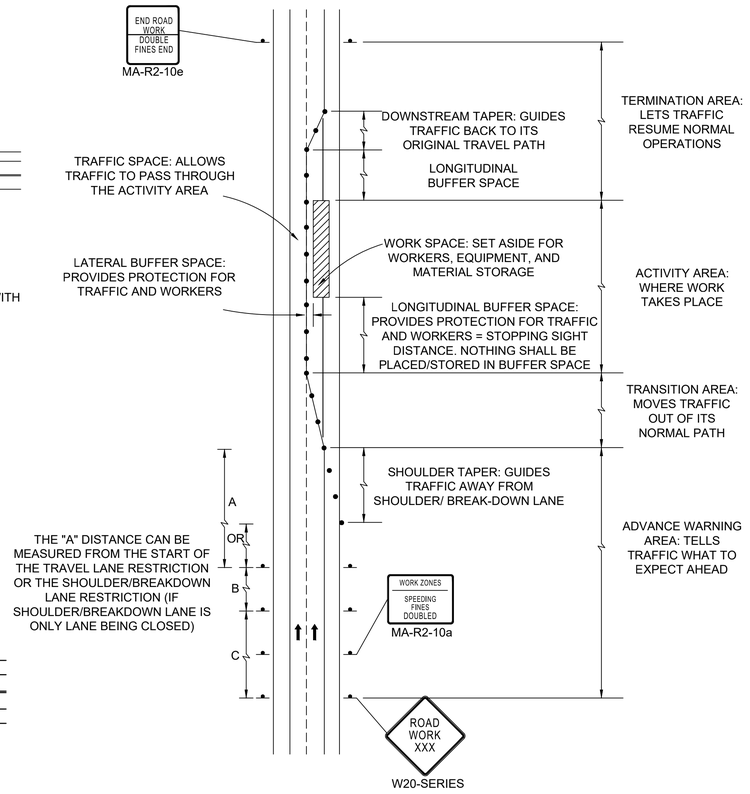
BUFFER SPACE TABLE

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

ROAD TYPE	DISTANCE			
	A	B	C	D
URBAN (30 MPH OR LESS)	100 FEET	100 FEET	100 FEET	100 FEET
URBAN (35 MPH OR GREATER)	350 FEET	350 FEET	350 FEET	350 FEET
RURAL	500 FEET	500 FEET	500 FEET	500 FEET
EXPRESSWAY/FREEWAY	1,000 FEET	1,500 FEET	2,640 FEET	500 FEET

SOURCE: TABLE 6C-1 MUTCD LATEST EDITION



COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL (TTC) ZONE
(FIGURE GEN-4)
NOTE TO SCALE

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	55	123
PROJECT FILE NO.	607342		

TEMPORARY TRAFFIC CONTROL PLANS

607342_TR(TTCP DETAILS).DWG Plotted on 16-Sep-2024 4:54 PM

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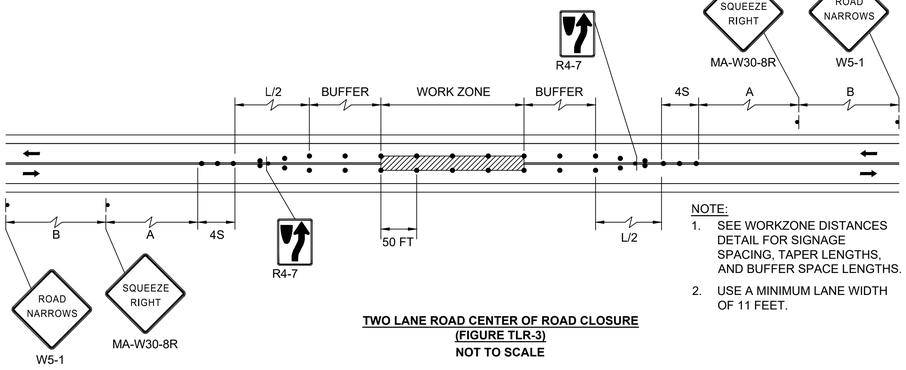
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

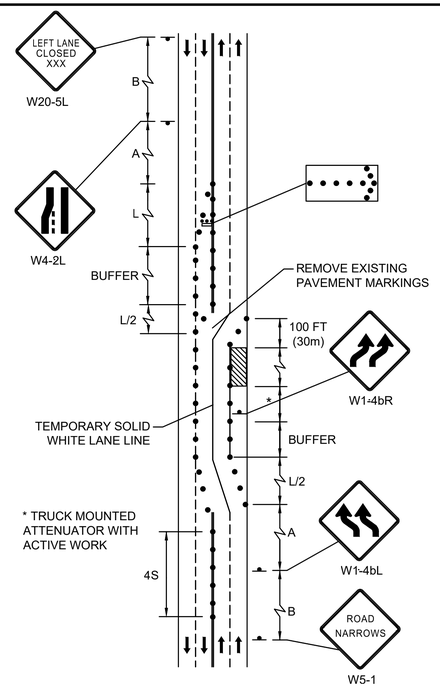
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	56	123
PROJECT FILE NO.	607342		

TEMPORARY TRAFFIC CONTROL PLANS

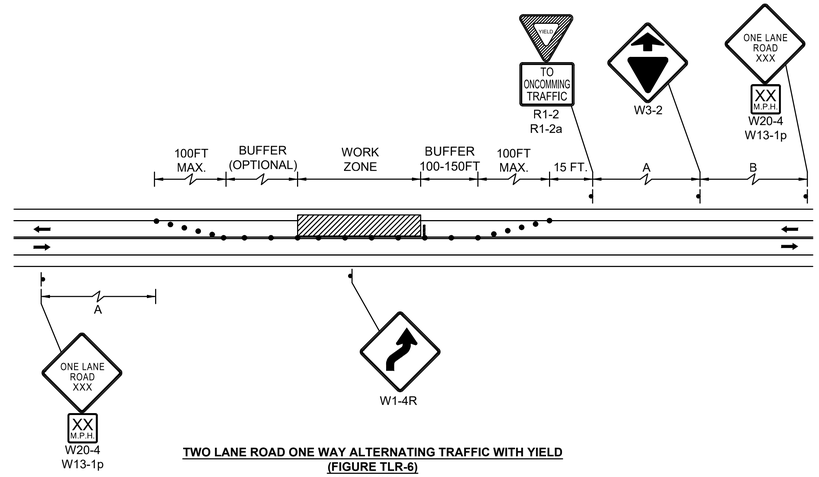


NOTE:
1. SEE WORKZONE DISTANCES DETAIL FOR SIGNAGE SPACING, TAPER LENGTHS, AND BUFFER SPACE LENGTHS.
2. USE A MINIMUM LANE WIDTH OF 11 FEET.

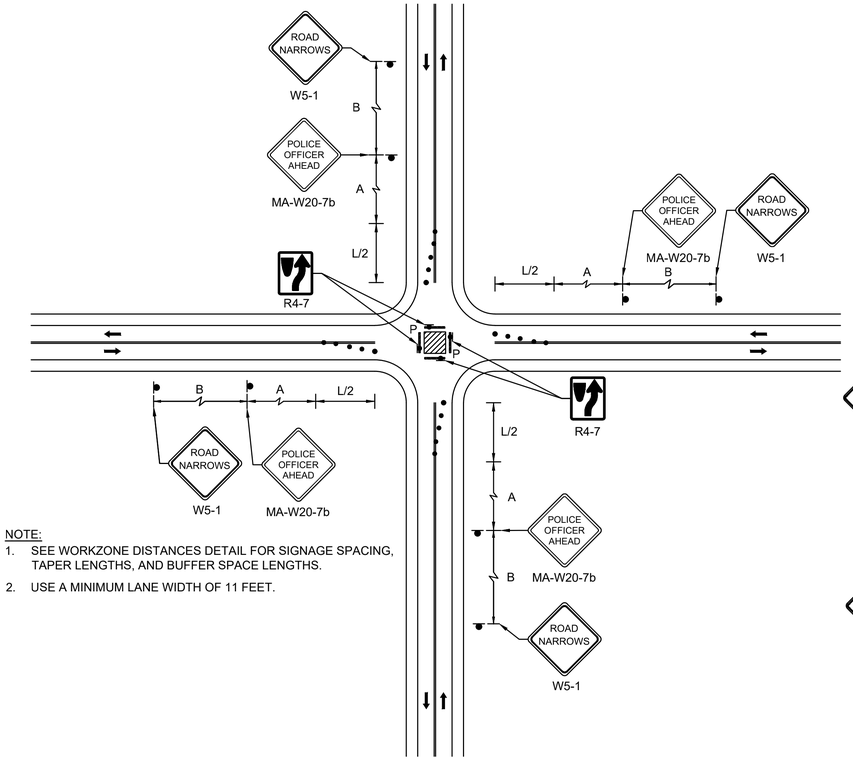
TWO LANE ROAD CENTER OF ROAD CLOSURE
(FIGURE TLR-3)
NOT TO SCALE



MULTIPLE LANE APPROACH INTERIOR LANE CLOSURE W/ UNEVEN VOLUMES
(FIGURE MLR-2)
NOT TO SCALE

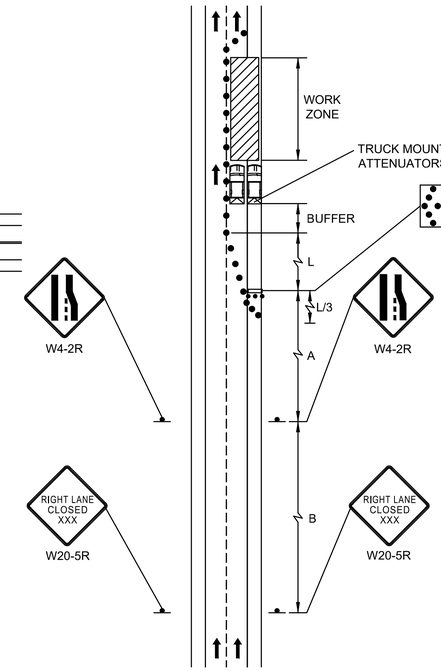


TWO LANE ROAD ONE WAY ALTERNATING TRAFFIC WITH YIELD
(FIGURE TLR-6)
NOT TO SCALE

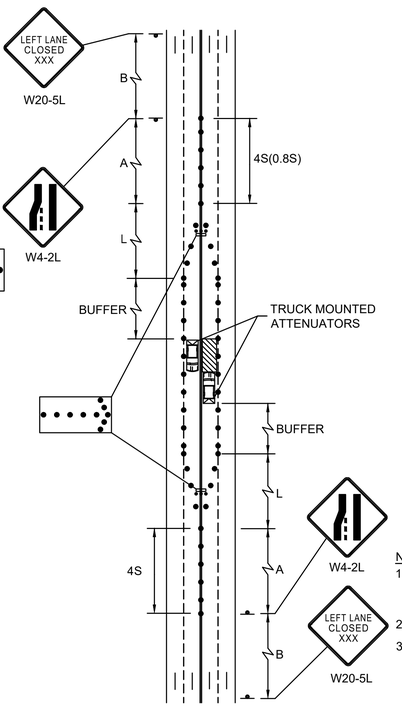


NOTE:
1. SEE WORKZONE DISTANCES DETAIL FOR SIGNAGE SPACING, TAPER LENGTHS, AND BUFFER SPACE LENGTHS.
2. USE A MINIMUM LANE WIDTH OF 11 FEET.

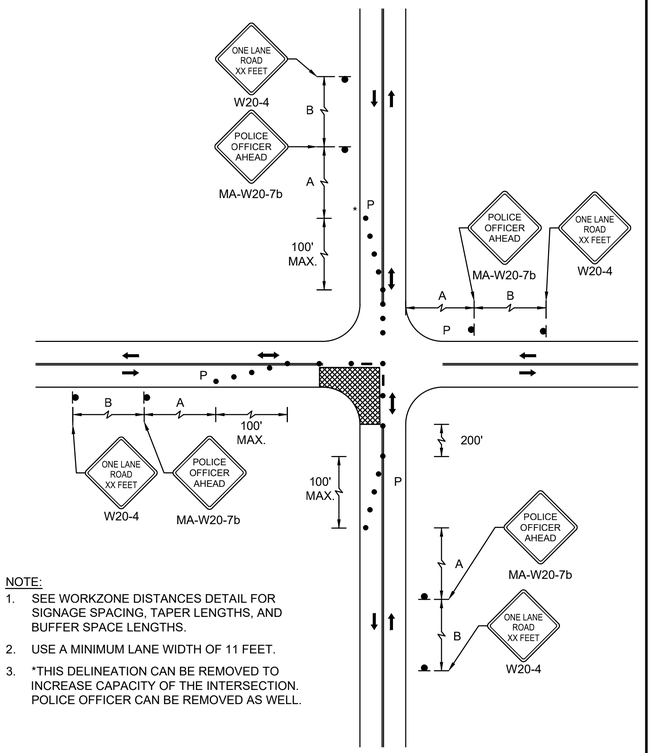
SINGLE LANE APPROACH CENTER CLOSURE
(FIGURE INT-1)
NOT TO SCALE



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



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



NOTE:
1. SEE WORKZONE DISTANCES DETAIL FOR SIGNAGE SPACING, TAPER LENGTHS, AND BUFFER SPACE LENGTHS.
2. USE A MINIMUM LANE WIDTH OF 11 FEET.
3. *THIS DELINEATION CAN BE REMOVED TO INCREASE CAPACITY OF THE INTERSECTION. POLICE OFFICER CAN BE REMOVED AS WELL.

SINGLE LANE APPROACH ONE QUADRANT CLOSURE
(FIGURE INT-2)
NOT TO SCALE

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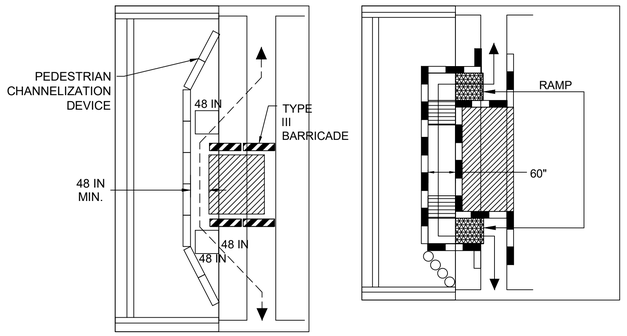
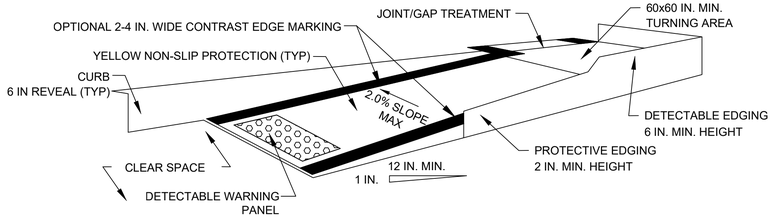
Christopher Lyman



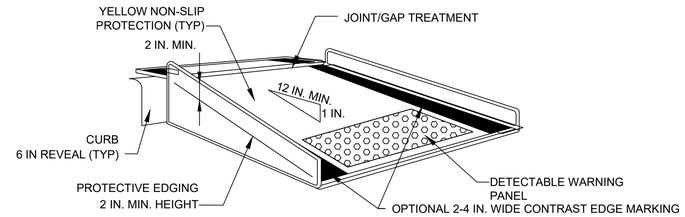
NOTES:
1. WHEN EXISTING PEDESTRIAN FACILITIES ARE DISRUPTED, CLOSED, OR RELOCATED IN A TTC ZONE, TEMPORARY FACILITIES SHALL BE PROVIDED AND THEY SHALL BE DETECTABLE AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH THE FEATURES PRESENT IN THE EXISTING PEDESTRIAN FACILITY.
2. A PEDESTRIAN CHANNELIZATION DEVICE THAT IS DETECTABLE BY A PERSON WITH A VISUAL DISABILITY TRAVELING WITH THE AID OF A LONG CANE SHALL BE PLACED ALONG THE FULL LENGTH OF THE TEMPORARY PEDESTRIAN ROUTE.
3. WHEN USED, TEMPORARY RAMPS SHALL COMPLY WITH AMERICANS WITH DISABILITIES ACT.
4. THE ALTERNATE PATHWAY SHOULD HAVE A SMOOTH CONTINUOUS HARD SURFACE FOR THE ENTIRE LENGTH OF THE TEMPORARY PEDESTRIAN FACILITY.
5. THE TEMPORARY SIDEWALK SHOULD BE A MINIMUM OF 4 FEET WIDE. IF THE SIDEWALK EXCEEDS 200 FEET THEN A 5 FOOT BY 5 FOOT PASSING ZONE SHALL BE PROVIDED NEAR THE MID-POINT OF THE CLOSURE.
6. THE PROTECTIVE REQUIREMENTS OF A TTC WORK ZONE MAY HAVE AN IMPACT IN DETERMINING THE NEED FOR TEMPORARY TRAFFIC BARRIERS AND THEIR USE IN PROVIDING PEDESTRIAN DELINEATION SHOULD BE BASED ON ENGINEERING JUDGMENT.
7. ON-DEMAND PEDESTRIAN ASSISTANCE PERSONNEL TO ASSIST WITH NAVIGATION AROUND THE CLOSURE/WORK AREA MAY BE CONSIDERED AS AN OPTION IN PLACE OF PROVIDING ADA/AAB DEVICES FOR WORK FOR CLOSURES LASTING 4 HOURS OR LESS.
8. CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN; VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE. THESE DETAILS ARE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DETERMINED BY THE ENGINEER.

PEDESTRIAN DETAILS
(FIGURE PED-3)

NOT TO SCALE



TEMPORARY CURB RAMP-PARALLEL TO CURB

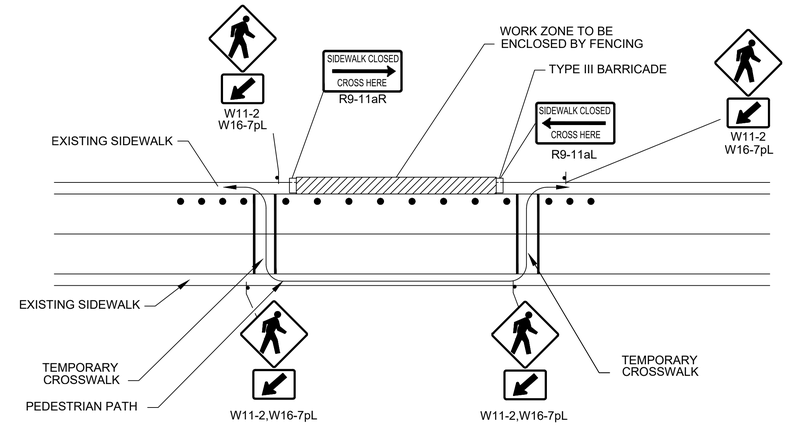


TEMPORARY CURB RAMP-PERPENDICULAR TO CURB

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

PEDESTRIAN DETAILS
(FIGURE PED-1)

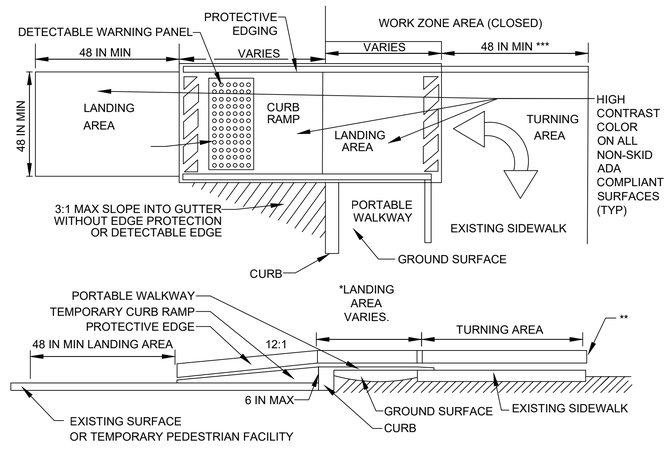
NOT TO SCALE



NOTES
1. ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.
2. CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN. VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE.
3. STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
4. TEMPORARY CROSSWALKS WITH APPROPRIATE SIGNS SHOULD BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AS SHOWN IN PEDESTRIAN BYPASS DETAIL, AND AS DIRECTED BY THE ENGINEER. TEMPORARY CURB RAMPS WILL BE REQUIRED AT ALL TEMPORARY CROSSWALK LOCATIONS.
5. BYPASS IS TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DIRECTED BY THE ENGINEER.
6. THE TEMPORARY SIDEWALK SHOULD BE A MINIMUM OF 4 FEET WIDE. IF THIS WALKWAY EXCEEDS 200 FEET THEN A 5 FOOT X 5 FOOT PASSING ZONE. (FOR SHORT TERM SETUPS < 10 HOURS, THIS CONDITION MAY BE WAIVED. A NOTE WOULD NEED TO BE INCLUDED IN THE TTCP THAT STATES HOW THE CONTRACTOR SHOULD ADDRESS THIS ISSUE.)

PEDESTRIAN BYPASS
(FIGURE PED-7)

NOT TO SCALE

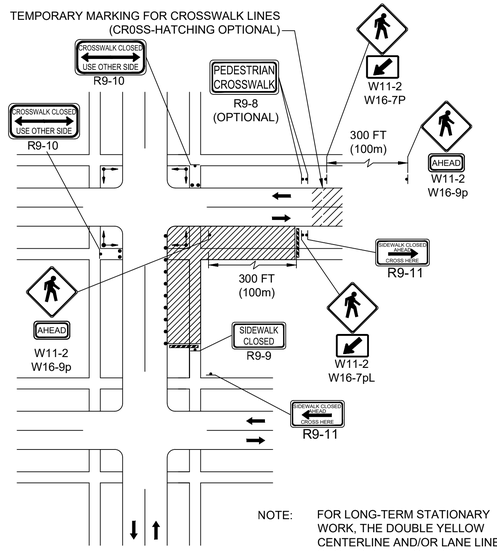


TEMPORARY CURB RAMP

* LANDING AREA USED TO OVERLAP NON-ADA COMPLIANT SURFACES.
** DETECTABLE EDGE REMOVED IF A CONTINUOUS SIDEWALK.
*** 60 IN. IF AN OBSTRUCTION IS AT BACK OF SIDEWALK.

PEDESTRIAN DETAILS
(FIGURE PED-2)

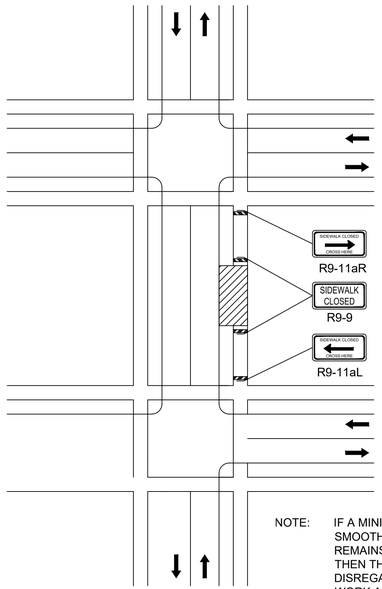
NOT TO SCALE



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

PEDESTRIAN DETOUR
(FIGURE PED-6)

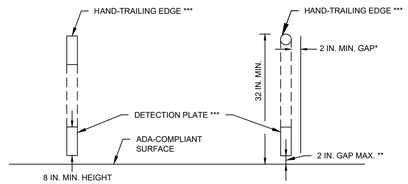
NOT TO SCALE



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

SIDEWALK CLOSED WITH DETOUR
(FIGURE PED-5)

NOT TO SCALE



CROSS SECTION VIEW

PEDESTRIAN CHANNELIZING DEVICE

*** THERE SHALL BE A 2 INCH GAP BETWEEN THE HAND-TRAILING EDGE AND ITS SUPPORT.**
**** A MAXIMUM 2 INCH GAP BETWEEN THE BOTTOM OF THE BOTTOM RAIL AND THE SURFACE MAY BE USED TO PROVIDE DRAINAGE.**
***** THE HAND-TRAILING EDGE AND DETECTION PLATE SHALL BE CONTINUOUS THROUGHOUT THE LENGTH OF THE PATH SUCH THAT A PEDESTRIAN USER WITH A LONG CANE CAN FOLLOW IT.**

PEDESTRIAN DETAILS
(FIGURE PED-4)

NOT TO SCALE

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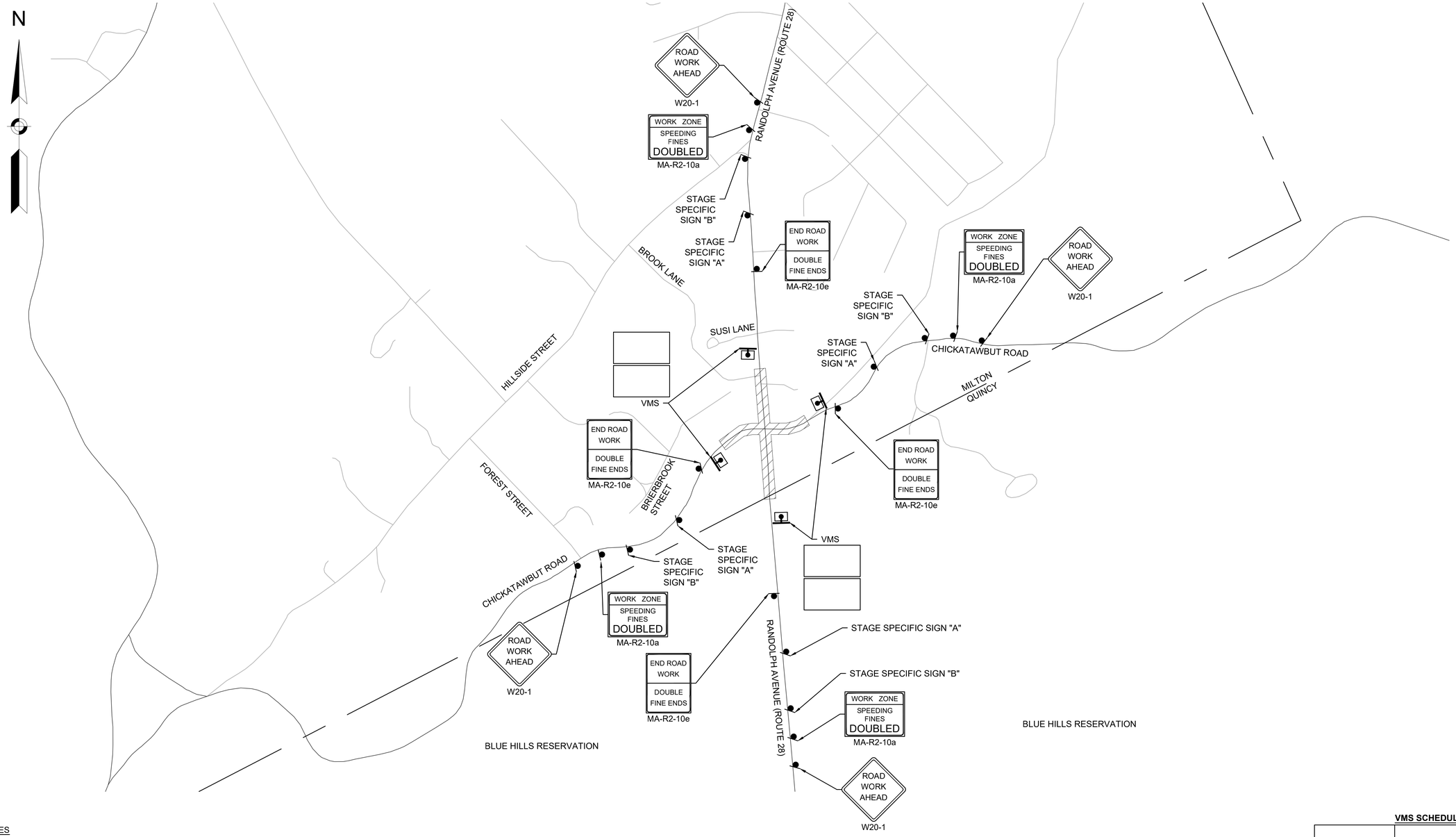
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	58	123
PROJECT FILE NO.	607342		

TEMPORARY TRAFFIC CONTROL PLANS

TEMPORARY TRAFFIC CONTROL ADVANCED SIGNAGE



NOTES

1. CONTRACTOR SHALL INSTALL ADVANCED SIGNAGE PRIOR TO FIRST STAGE OF WORK. ADVANCED SIGNAGE SHOWN MAY BE ADJUSTED ACCORDING TO STAGED CONSTRUCTION AND SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE REQUIRED STAGE.
2. VMS SIGNS ARE TO BE USED 2 WEEKS PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO ANY MAJOR CHANGES IN TRAFFIC PATTERNS.
3. SIGNS WHICH CONFLICT WITH THE PROPOSED SETUP SHALL BE REMOVED OR COVERED WHEN NOT APPLICABLE.
4. SEE SHEETS 55 - 57 FOR TTCP DETAILS. SEE SHEETS 59 - 64 FOR PROPOSED STAGING SEQUENCING PLANS.

0 1000 2000 3000 4000
SCALE: 1" = 1000'

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
SIGN
WORK ZONE

VMS SCHEDULE

DURATION	PANEL 1	PANEL 2
2 WEEKS PRIOR TO WORK COMMENCEMENT	ROAD WORK	BEGINS XX/XX
2 WEEKS PRIOR TO ANY MAJOR CHANGES IN TRAFFIC PATTERN	TRAFFIC PATTERN CHANGES	XX/XX

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RANDOLPH AVENUE (ROUTE 28) - STAGE 1 RECONSTRUCTION

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

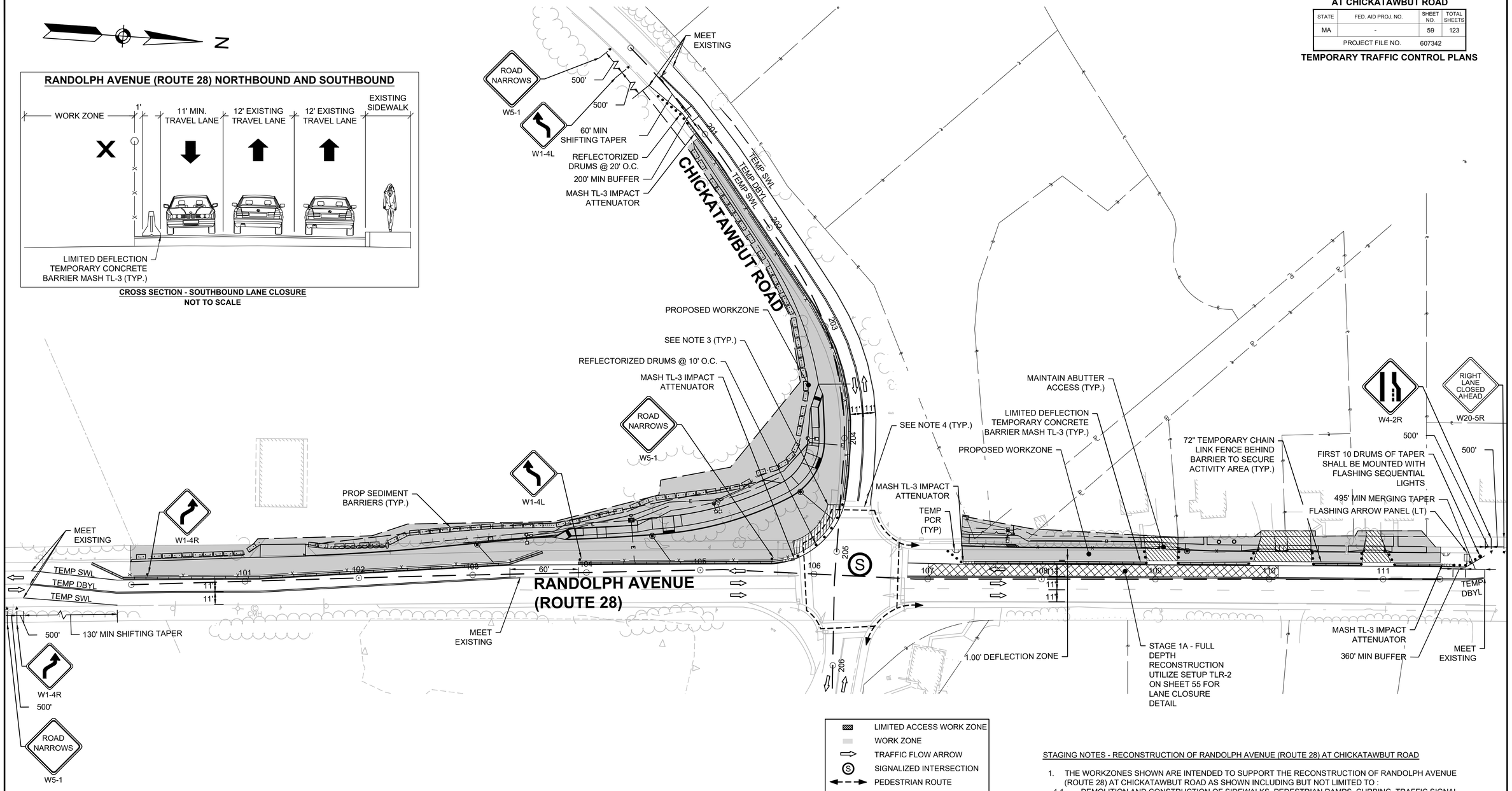
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	59	123
PROJECT FILE NO.	607342		

TEMPORARY TRAFFIC CONTROL PLANS

N

RANDOLPH AVENUE (ROUTE 28) NORTHBOUND AND SOUTHBOUND

CROSS SECTION - SOUTHBOUND LANE CLOSURE
NOT TO SCALE



- LIMITED ACCESS WORK ZONE
- WORK ZONE
- TRAFFIC FLOW ARROW
- SIGNALIZED INTERSECTION
- PEDESTRIAN ROUTE

0 40 100 160

SCALE: 1" = 40'

STAGING NOTES - RECONSTRUCTION OF RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD

1. THE WORKZONES SHOWN ARE INTENDED TO SUPPORT THE RECONSTRUCTION OF RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD AS SHOWN INCLUDING BUT NOT LIMITED TO :
   - 1.1. DEMOLITION AND CONSTRUCTION OF SIDEWALKS, PEDESTRIAN RAMPS, CURBING, TRAFFIC SIGNAL EQUIPMENT, AND UTILITY WORK.
   - 1.2. FULL DEPTH ROADWAY RECONSTRUCTION.
   - 1.3. CONSTRUCTION OF SIDEWALK AND SHARE USE PATH.
2. THE WORKZONES SHALL BE STAGED AS SHOWN TO LIMIT DISRUPTIONS TO EXISTING TRAFFIC FLOW AND MAINTAIN TWO-WAY TRAFFIC AND ABUTTER ACCESS AS BEST AS PRACTICAL.
3. THE WORKZONES SHALL BE STAGED TO MAINTAIN PEDESTRIAN TRAFFIC IN ALL AREAS WHERE SIDEWALKS ARE CURRENTLY PROVIDED. CONTRACTOR TO MAINTAIN ACCESS TO PEDESTRIAN PUSHBUTTONS DURING CONSTRUCTION.
4. CONTRACTOR TO RESTORE CROSSWALKS THAT HAVE BEEN REMOVED OR OBSCURED AT THE END OF EACH WORK SHIFT.
5. SEE SHEETS 55 - 57 FOR TTCP DETAILS THAT MAY BE UTILIZED.
6. REFER TO SHEET 55 FOR ADDITIONAL TEMPORARY TRAFFIC CONTROL NOTES.

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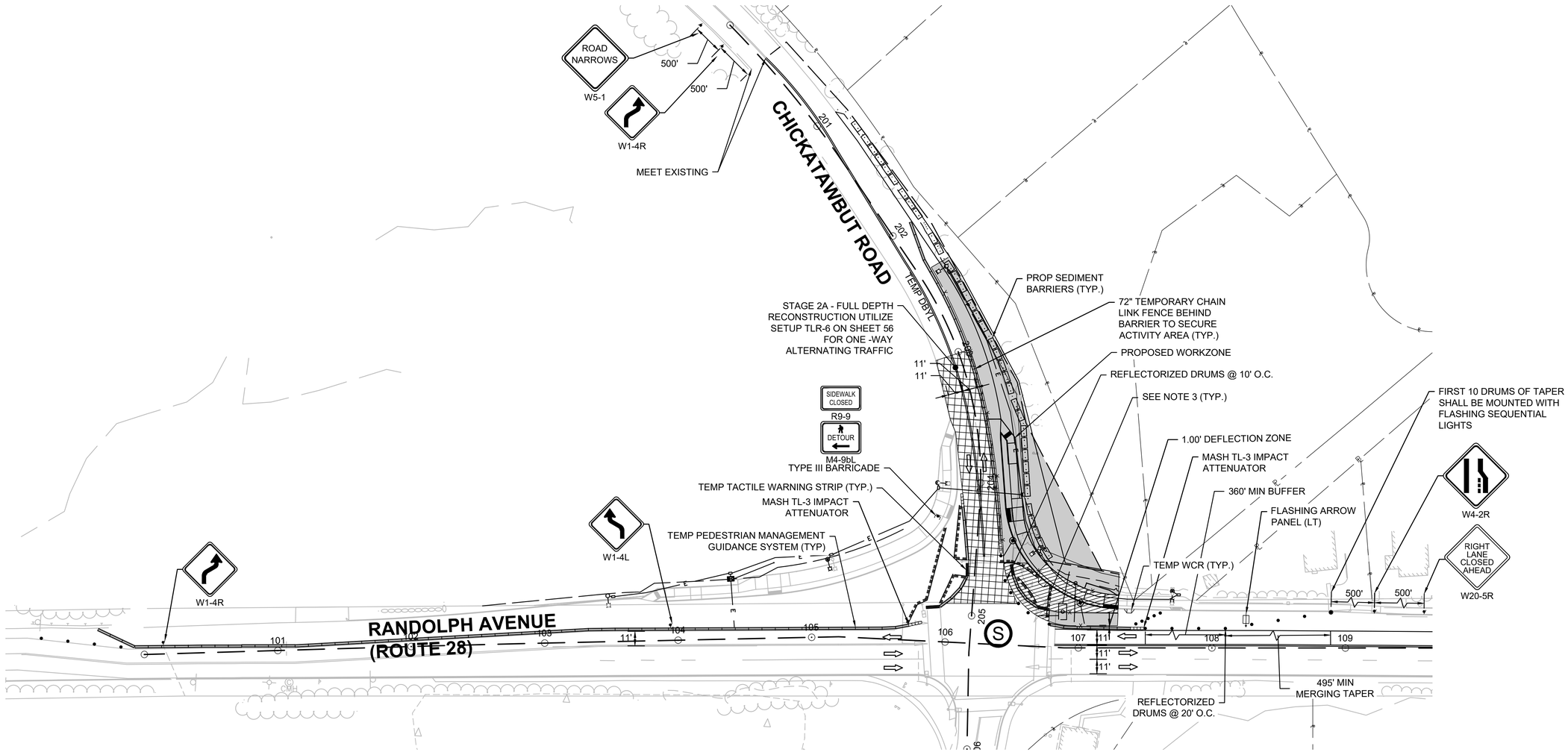
RANDOLPH AVENUE (ROUTE 28) - STAGE 2 RECONSTRUCTION

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	60	123
PROJECT FILE NO.	607342		

TEMPORARY TRAFFIC CONTROL PLANS



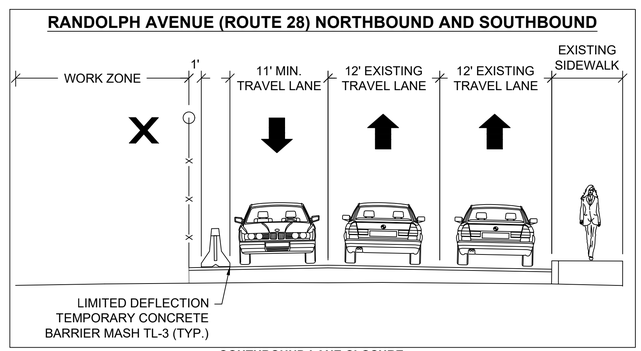
STAGING NOTES - RECONSTRUCTION OF RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD

1. THE WORKZONES SHOWN ARE INTENDED TO SUPPORT THE RECONSTRUCTION OF RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD AS SHOWN INCLUDING BUT NOT LIMITED TO ;
   - 1.1. DEMOLITION AND CONSTRUCTION OF SIDEWALKS, PEDESTRIAN RAMPS, CURBING, TRAFFIC SIGNAL EQUIPMENT, AND UTILITY WORK.
   - 1.2. FULL DEPTH ROADWAY RECONSTRUCTION.
   - 1.3. CONSTRUCTION OF SIDEWALK AND SHARE USE PATH.
   - 1.4. MAINTAINING PARTIAL ROADWAY CLOSURE AS SHOWN BETWEEN STA 100-106 FOR ROADWAY GRADE DIFFERENTIAL.
2. THE WORKZONES SHALL BE STAGED AS SHOWN TO LIMIT DISRUPTIONS TO EXISTING TRAFFIC FLOW AND MAINTAIN TWO-WAY TRAFFIC AND ABUTTER ACCESS AS BEST AS PRACTICAL.
3. THE WORKZONES SHALL BE STAGED TO MAINTAIN PEDESTRIAN TRAFFIC IN ALL AREAS WHERE SIDEWALKS ARE CURRENTLY PROVIDED. CONTRACTOR TO MAINTAIN ACCESS TO PEDESTRIAN PUSHBUTTONS DURING CONSTRUCTION.
4. CONTRACTOR TO RESTORE CROSSWALKS THAT HAVE BEEN REMOVED OR OBSCURED AT THE END OF EACH WORK SHIFT.
5. SEE SHEETS 55 - 57 FOR TTCP DETAILS THAT MAY BE UTILIZED.
6. REFER TO SHEET 55 FOR ADDITIONAL TEMPORARY TRAFFIC CONTROL NOTES.

LIMITED ACCESS WORK ZONE
WORK ZONE
TRAFFIC FLOW ARROW
SIGNALIZED INTERSECTION
PEDESTRIAN ROUTE

0 40 100 160
SCALE: 1" = 40'

RANDOLPH AVENUE (ROUTE 28) NORTHBOUND AND SOUTHBOUND



SOUTHBOUND LANE CLOSURE
NOT TO SCALE

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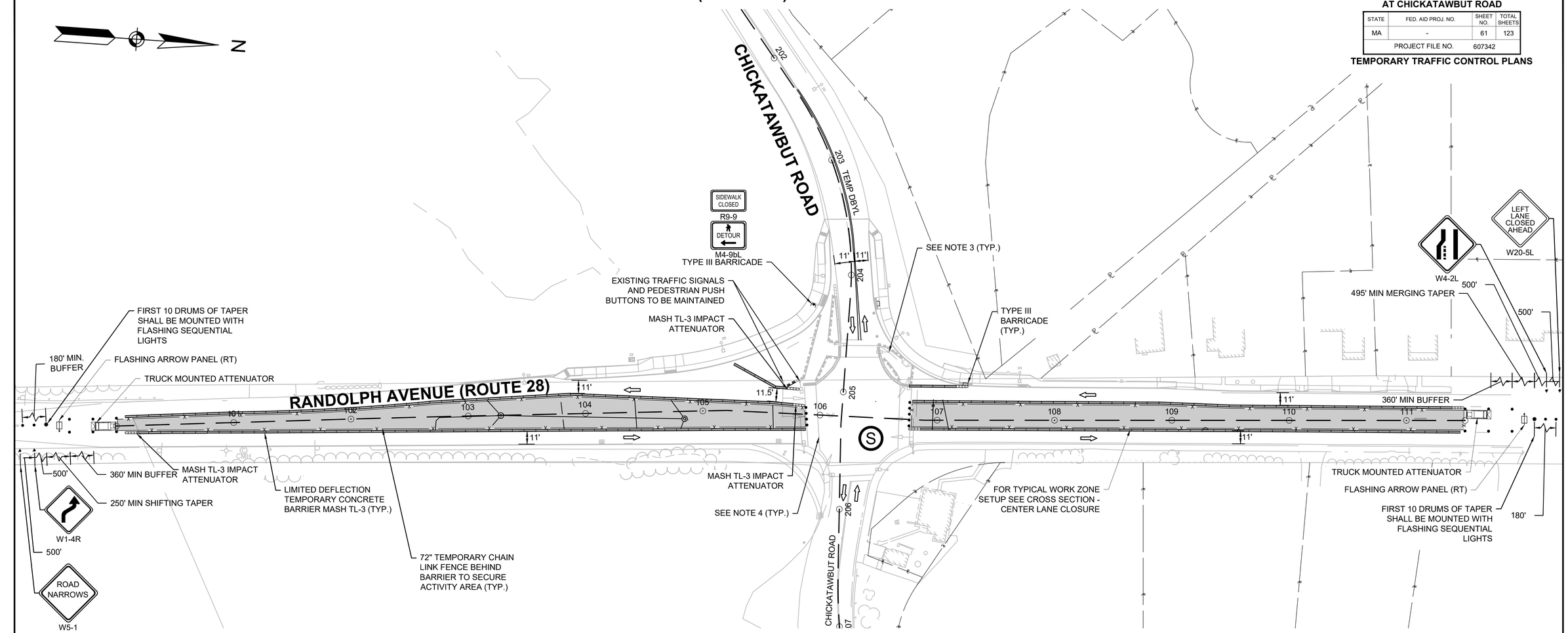
RANDOLPH AVENUE (ROUTE 28) - STAGE 3 RECONSTRUCTION

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	61	123
PROJECT FILE NO.	607342		

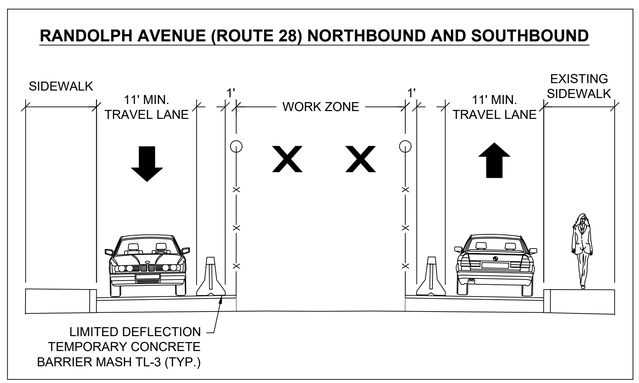
TEMPORARY TRAFFIC CONTROL PLANS



	WORK ZONE
	TRAFFIC FLOW ARROW
S	SIGNALIZED INTERSECTION

STAGING NOTES - RECONSTRUCTION OF RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD

1. THE WORKZONES SHOWN ARE INTENDED TO SUPPORT THE RECONSTRUCTION OF RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD AS SHOWN INCLUDING BUT NOT LIMITED TO :
   - 1.1. DEMOLITION AND CONSTRUCTION OF SIDEWALKS, PEDESTRIAN RAMPS, CURBING, TRAFFIC SIGNAL EQUIPMENT, AND UTILITY WORK.
   - 1.2. FULL DEPTH ROADWAY RECONSTRUCTION.
   - 1.3. CONSTRUCTION OF A SHARE USE PATH.
2. THE WORKZONE SHALL BE STAGED AS SHOWN TO LIMIT DISRUPTIONS TO EXISTING TRAFFIC FLOW AND MAINTAIN TWO-WAY TRAFFIC AND ABUTTER ACCESS AS BEST AS PRACTICAL.
3. CONTRACTOR TO MAINTAIN ACCESS TO PEDESTRIAN PUSHBUTTONS DURING CONSTRUCTION.
4. CONTRACTOR TO RESTORE CROSSWALKS THAT HAVE BEEN REMOVED OR OBSCURED AT THE END OF EACH WORK SHIFT.
5. SEE SHEETS 55 - 57 FOR TTCP DETAILS THAT MAY BE UTILIZED.
6. REFER TO SHEET 55 FOR ADDITIONAL TEMPORARY TRAFFIC CONTROL NOTES.



CROSS SECTION - CENTER LANE CLOSURE
NOT TO SCALE

0 40 100 160
SCALE: 1" = 40'

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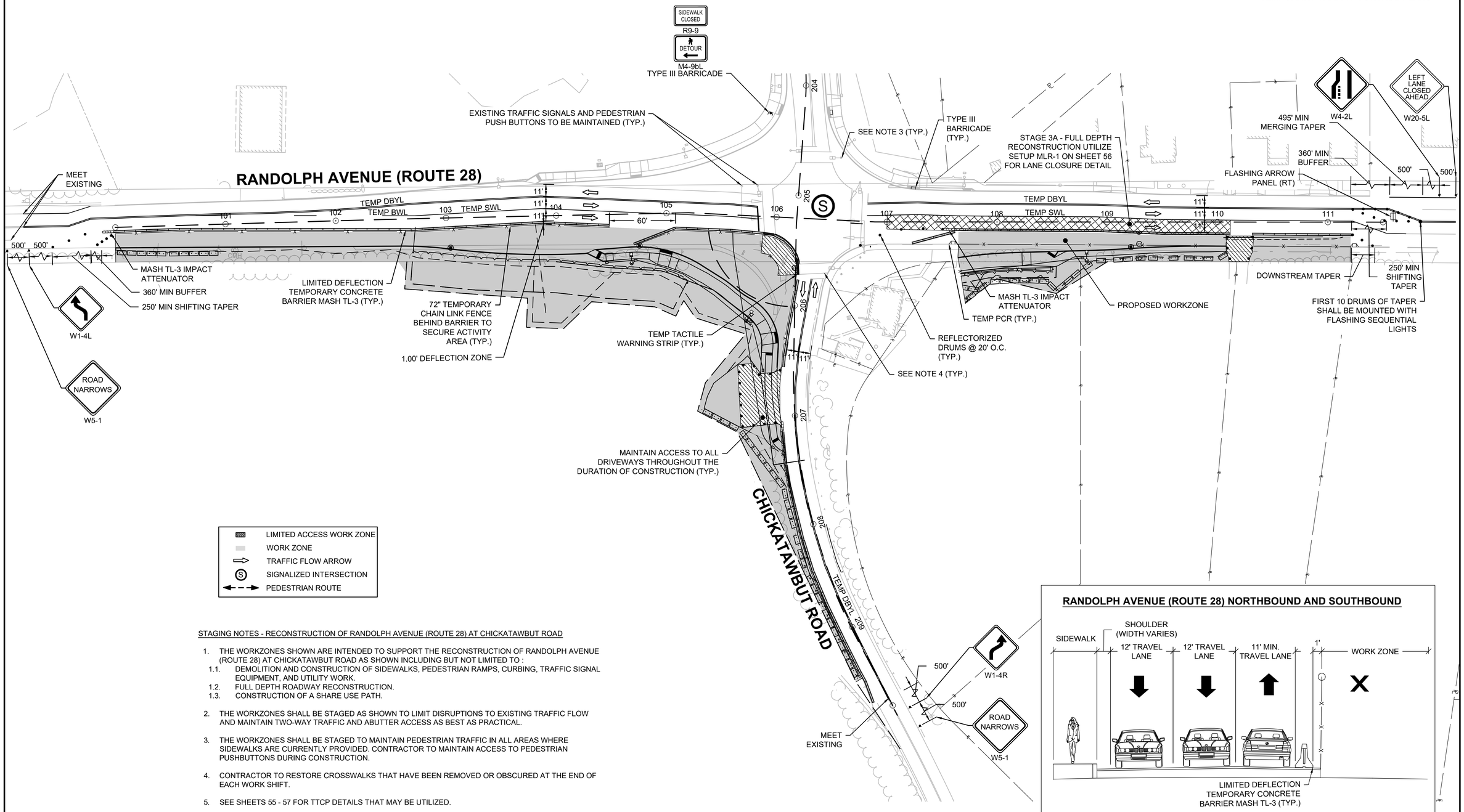
RANDOLPH AVENUE (ROUTE 28) - STAGE 4 RECONSTRUCTION

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	62	123
PROJECT FILE NO.	607342		

TEMPORARY TRAFFIC CONTROL PLANS



STAGING NOTES - RECONSTRUCTION OF RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD

1. THE WORKZONES SHOWN ARE INTENDED TO SUPPORT THE RECONSTRUCTION OF RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD AS SHOWN INCLUDING BUT NOT LIMITED TO :
   - 1.1. DEMOLITION AND CONSTRUCTION OF SIDEWALKS, PEDESTRIAN RAMPS, CURBING, TRAFFIC SIGNAL EQUIPMENT, AND UTILITY WORK.
   - 1.2. FULL DEPTH ROADWAY RECONSTRUCTION.
   - 1.3. CONSTRUCTION OF A SHARE USE PATH.
2. THE WORKZONES SHALL BE STAGED AS SHOWN TO LIMIT DISRUPTIONS TO EXISTING TRAFFIC FLOW AND MAINTAIN TWO-WAY TRAFFIC AND ABUTTER ACCESS AS BEST AS PRACTICAL.
3. THE WORKZONES SHALL BE STAGED TO MAINTAIN PEDESTRIAN TRAFFIC IN ALL AREAS WHERE SIDEWALKS ARE CURRENTLY PROVIDED. CONTRACTOR TO MAINTAIN ACCESS TO PEDESTRIAN PUSHBUTTONS DURING CONSTRUCTION.
4. CONTRACTOR TO RESTORE CROSSWALKS THAT HAVE BEEN REMOVED OR OBSCURED AT THE END OF EACH WORK SHIFT.
5. SEE SHEETS 55 - 57 FOR TTCP DETAILS THAT MAY BE UTILIZED.
6. REFER TO SHEET 55 FOR ADDITIONAL TEMPORARY TRAFFIC CONTROL NOTES.
7. MAINTAIN BARRIERS AND PEDESTRIAN BARRICADES ON WEST SIDE OF ROUTE 28 FROM PHASE 2.

CROSS SECTION - NORTHBOUND LANE CLOSURE
NOT TO SCALE

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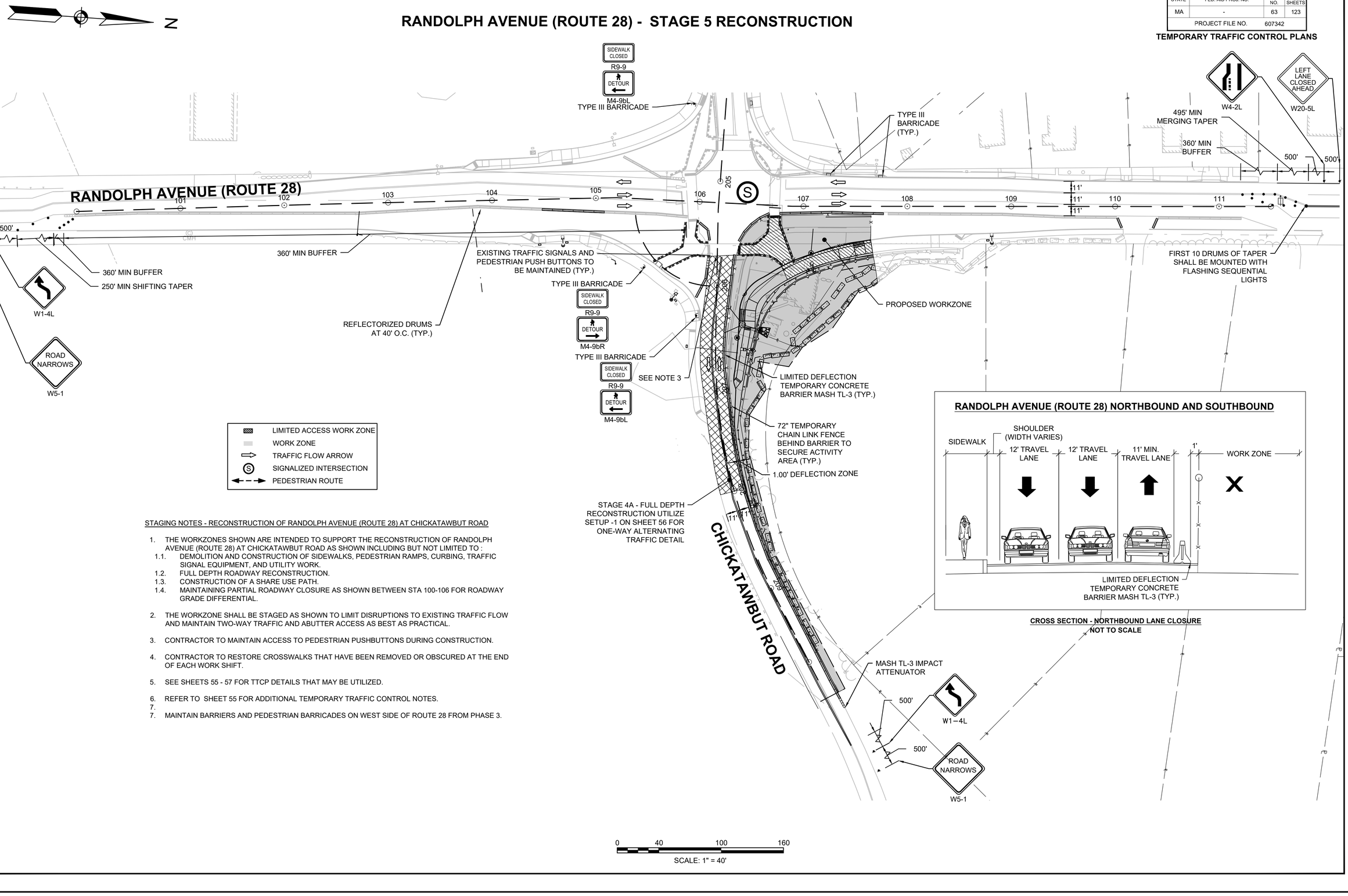
RANDOLPH AVENUE (ROUTE 28) - STAGE 5 RECONSTRUCTION

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	63	123
PROJECT FILE NO.	607342		

TEMPORARY TRAFFIC CONTROL PLANS



RANDOLPH AVENUE (ROUTE 28) NORTHBOUND AND SOUTHBOUND

CROSS SECTION - NORTHBOUND LANE CLOSURE
NOT TO SCALE

STAGING NOTES - RECONSTRUCTION OF RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD

1. THE WORKZONES SHOWN ARE INTENDED TO SUPPORT THE RECONSTRUCTION OF RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD AS SHOWN INCLUDING BUT NOT LIMITED TO :
   - 1.1. DEMOLITION AND CONSTRUCTION OF SIDEWALKS, PEDESTRIAN RAMPS, CURBING, TRAFFIC SIGNAL EQUIPMENT, AND UTILITY WORK.
   - 1.2. FULL DEPTH ROADWAY RECONSTRUCTION.
   - 1.3. CONSTRUCTION OF A SHARE USE PATH.
   - 1.4. MAINTAINING PARTIAL ROADWAY CLOSURE AS SHOWN BETWEEN STA 100-106 FOR ROADWAY GRADE DIFFERENTIAL.
2. THE WORKZONE SHALL BE STAGED AS SHOWN TO LIMIT DISRUPTIONS TO EXISTING TRAFFIC FLOW AND MAINTAIN TWO-WAY TRAFFIC AND ABUTTER ACCESS AS BEST AS PRACTICAL.
3. CONTRACTOR TO MAINTAIN ACCESS TO PEDESTRIAN PUSHBUTTONS DURING CONSTRUCTION.
4. CONTRACTOR TO RESTORE CROSSWALKS THAT HAVE BEEN REMOVED OR OBSCURED AT THE END OF EACH WORK SHIFT.
5. SEE SHEETS 55 - 57 FOR TTCP DETAILS THAT MAY BE UTILIZED.
6. REFER TO SHEET 55 FOR ADDITIONAL TEMPORARY TRAFFIC CONTROL NOTES.
7.
7. MAINTAIN BARRIERS AND PEDESTRIAN BARRICADES ON WEST SIDE OF ROUTE 28 FROM PHASE 3.

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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	64	123
PROJECT FILE NO.	607342		

TEMPORARY TRAFFIC CONTROL PLANS

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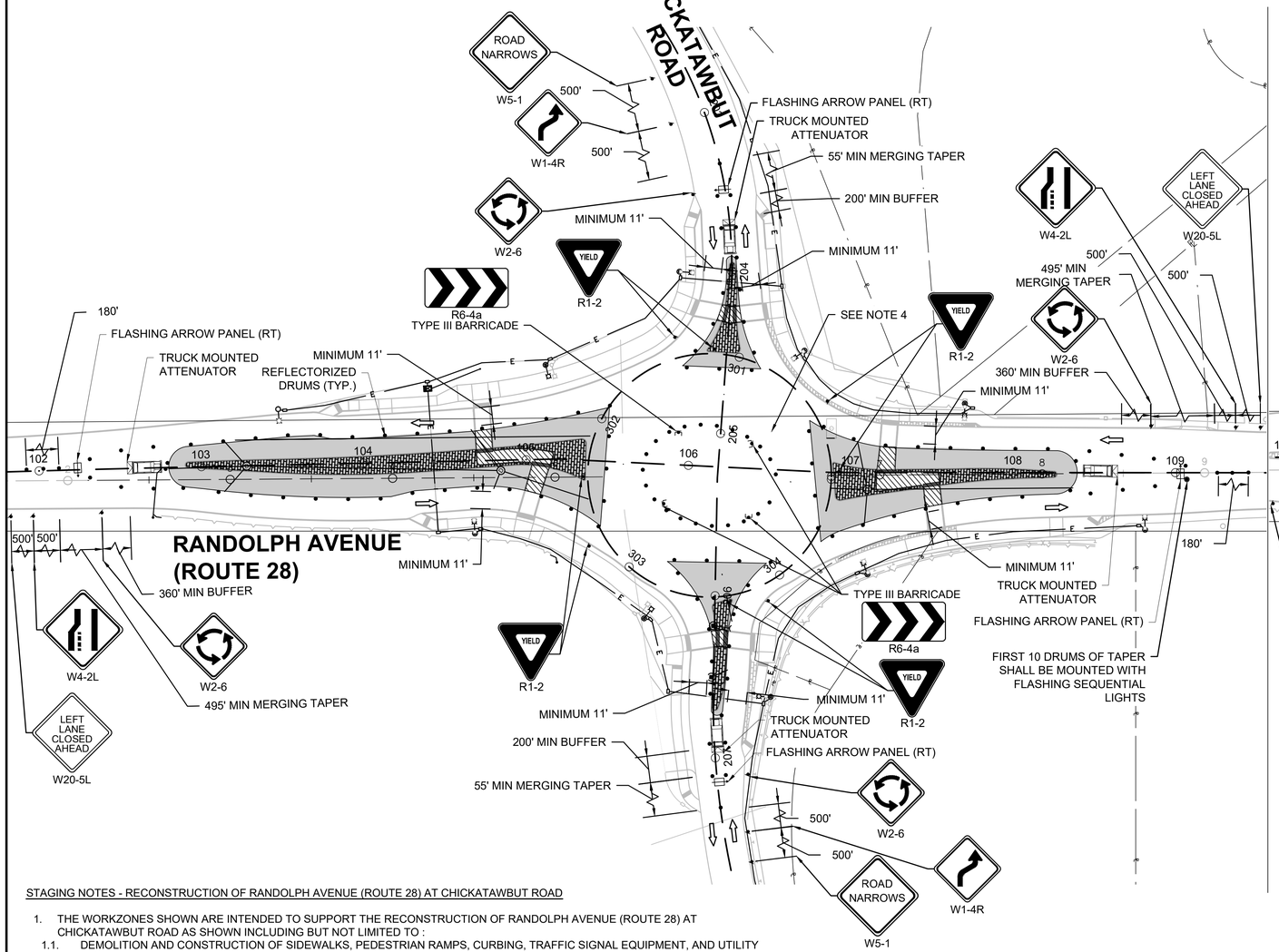
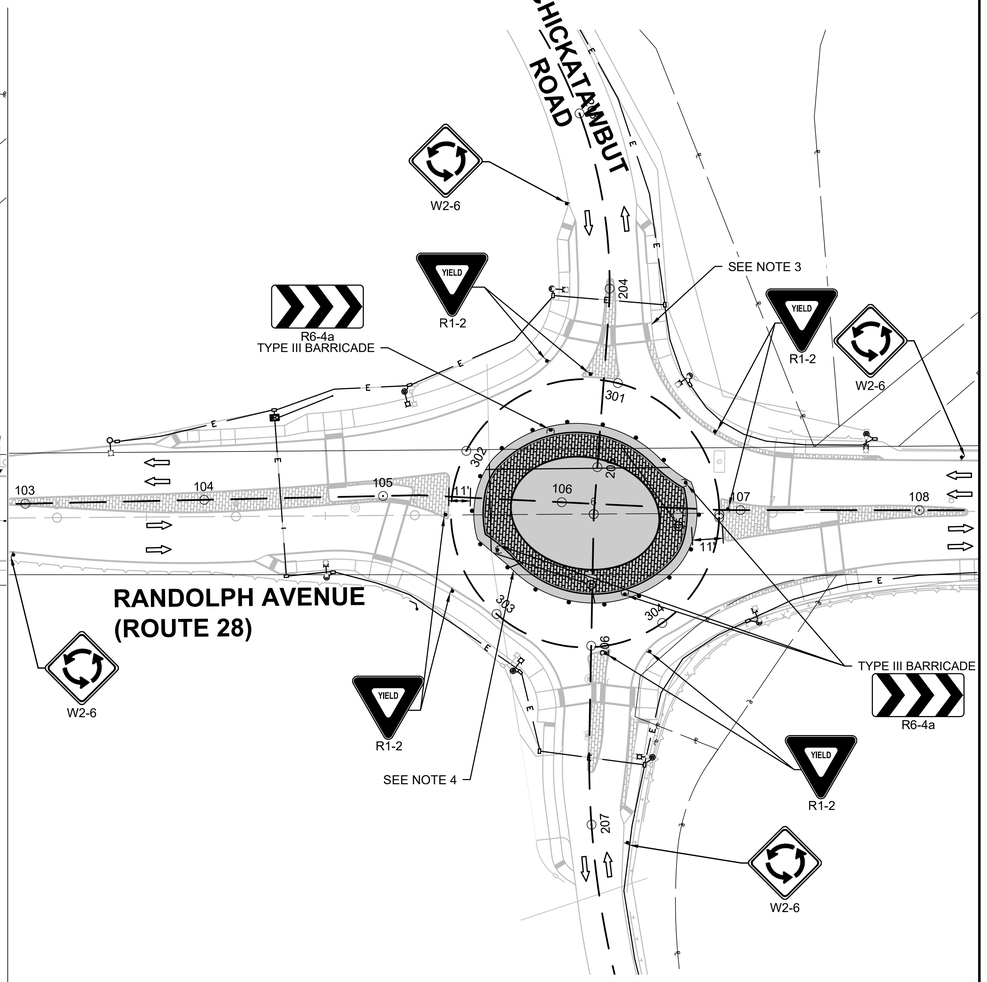
RANDOLPH AVENUE (ROUTE 28) AND CHICKATAWBUT ROAD
STAGE 6A RECONSTRUCTION



RANDOLPH AVENUE (ROUTE 28) AND CHICKATAWBUT ROAD
STAGE 6B RECONSTRUCTION



STAGING NOTES - RECONSTRUCTION OF RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD

1. THE WORKZONES SHOWN ARE INTENDED TO SUPPORT THE RECONSTRUCTION OF RANDOLPH AVENUE (ROUTE 28) AT CHICKATAWBUT ROAD AS SHOWN INCLUDING BUT NOT LIMITED TO :
   - 1.1. DEMOLITION AND CONSTRUCTION OF SIDEWALKS, PEDESTRIAN RAMPS, CURBING, TRAFFIC SIGNAL EQUIPMENT, AND UTILITY WORK.
   - 1.2. FULL DEPTH ROADWAY RECONSTRUCTION.
   - 1.3. CONSTRUCTION OF A SHARE USE PATH.
2. THE WORKZONE SHALL BE STAGED AS SHOWN TO LIMIT DISRUPTIONS TO EXISTING TRAFFIC FLOW AND MAINTAIN TWO-WAY TRAFFIC AND ABUTTER ACCESS AS BEST AS PRACTICAL.
3. CONTRACTOR TO RESTORE CROSSWALKS THAT HAVE BEEN REMOVED OR OBSCURED AT THE END OF EACH WORK SHIFT.
4. IF INTERSECTION IS FUNCTIONING SIMILAR TO A ROUNDABOUT THE CONTRACTOR SHALL INSTALL APPROPRIATE SIGNAGE FOR ROUNDABOUT OPERATION.
5. SEE SHEETS 55 - 57 FOR TTCP DETAILS THAT MAY BE UTILIZED.
6. REFER TO SHEET 55 FOR ADDITIONAL TEMPORARY TRAFFIC CONTROL NOTES.

WORK ZONE
TRAFFIC FLOW ARROW
SIGNALIZED INTERSECTION

0 40 100 160
SCALE: 1" = 40'

607342_TR(TTCP 2).DWG Plotted on 16-Sep-2024 4:57 PM

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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	65	123
PROJECT FILE NO.	607342		

TEMPOARY TRAFFIC CONTROL SIGNS SUMMARY SHEET

TEMPORARY TRAFFIC CONTROL SIGN SUMMARY

IDENTIFI-CATION NUMBER	SIZE OF SIGN (IN)		TEXT	TEXT DIMENSIONS (INCHES)	NUMBER OF SIGNS REQUIRED	COLOR			UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT		BACK-GROUND	LEGEND	BORDER		
G20-1	30	24	ROAD WORK NEXT 2.4 MILES	1	3	WHITE	BLACK	BLACK	5.00	15.00
M4-9L	30	24	DETOUR	1	2	FLUOR-ESCENT ORANGE	BLACK	BLACK	5.00	10.00
M4-9R	30	24	DETOUR	1	1	FLUOR-ESCENT ORANGE	BLACK	BLACK	5.00	5.00
MA-R2-10a	48	36	WORK ZONE SPEEDING FINES DOUBLED	4D 4D 4D 6D	16	FLUOR-ESCENT ORANGE WHITE	BLACK	BLACK	12.00	192.00
MA-R2-10e	36	48	END ROAD WORK DOUBLE FINE ENDS	5C	16	FLUOR-ESCENT ORANGE WHITE	BLACK	BLACK	12.00	192.00
R1-2	36	36	YIELD	(1)	8	WHITE	RED	RED	9.00	72.00
R3-7L	30	30	RIGHT LANE MUST TURN RIGHT		2	WHITE	BLACK	BLACK	6.25	12.50
R4-7	24	30			4	WHITE	BLACK	BLACK	5.00	20.00
R6-4A	48	24			4	WHITE	BLACK	BLACK	8.00	32.00
R9-9	24	12	SIDEWALK CLOSED		3	WHITE	BLACK	BLACK	2.00	6.00
R9-10	24	12	SIDEWALK CLOSED USE OTHER SIDE		2	WHITE	BLACK	BLACK	2.00	4.00
R9-11L	24	18	SIDEWALK CLOSED AHEAD CROSS HERE		1	WHITE	BLACK	BLACK	3.00	3.00
R9-11R	24	18	SIDEWALK CLOSED AHEAD CROSS HERE		1	WHITE	BLACK	BLACK	3.00	3.00
R9-11aL	24	12	SIDEWALK CLOSED CROSS HERE		1	WHITE	BLACK	BLACK	2.00	2.00
R9-11aR	24	12	SIDEWALK CLOSED CROSS HERE		1	WHITE	BLACK	BLACK	2.00	2.00
W1-4L	36	36			2	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	18.00
W1-4R	36	36			2	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	18.00
W1-4bL	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
W2-6	36	36			4	YELLOW	BLACK	BLACK	9.00	36.00

(1) SEE MUTCD 2009 EDITION WITH AMENDMENTS AND MASSACHUSETTS AMENDMENTS, 1979 STD. HWY. SIGNS AND SECTION M9.30.0. TYPE III OF THE MHD STANDARD SPECIFICATION FOR TEXT DIMENSIONS AND COLOR. BACKGROUND SHEETING FOR ALL CONSTRUCTION WARNING SIGNS SHALL BE OF A FLUORESCENT ORANGE COLOR PER MASSDOT SUPPLEMENTAL SPECIFICATIONS DATED JUNE 15, 2012 SECTION 850.43.

TEMPORARY TRAFFIC CONTROL SIGN SUMMARY

IDENTIFI-CATION NUMBER	SIZE OF SIGN (IN)		TEXT	TEXT DIMENSIONS (INCHES)	NUMBER OF SIGNS REQUIRED	COLOR			UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT		BACK-GROUND	LEGEND	BORDER		
W4-2L	36	36		(1)	2	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	18.00
W4-2R	36	36			1	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	9.00
MA-W4-7L	36	36	THRU TRAFFIC MERGE LEFT		1	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	9.00
W5-1	36	36	ROAD NARROWS		4	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	36.00
W8-1	36	36	BUMP		2	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	18.00
W8-3	36	36	PAVEMENT ENDS		2	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	18.00
W8-15	36	36	GROOVED PAVEMENT		2	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	18.00
W8-24	36	36	STEEL PLATE AHEAD		2	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	18.00
W11-2	36	36			4	FLUOR-ESCENT YELLOW-GREEN	BLACK	BLACK	9.00	36.00
W16-7PL	24	12			4	FLUOR-ESCENT ORANGE	BLACK	BLACK	2.00	8.00
W16-9p	24	12	AHEAD		2	FLUOR-ESCENT ORANGE	BLACK	BLACK	2.00	4.00
W20-1	36	36	ROAD WORK AHEAD		16	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	144.00
W20-4	36	36	ONE LANE ROAD XX FEET		4	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	36.00
W20-5L	36	36	LEFT LANE CLOSED AHEAD		2	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	18.00
W20-5R	36	36	RIGHT LANE CLOSED AHEAD		1	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	9.00
W20-7	36	36			2	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	18.00
MA-W20-7b	36	36	POLICE OFFICER AHEAD	5C	4	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	36.00
W21-5a	36	36	RIGHT SHOULDER CLOSED	1	1	FLUOR-ESCENT ORANGE	BLACK	BLACK	9.00	9.00

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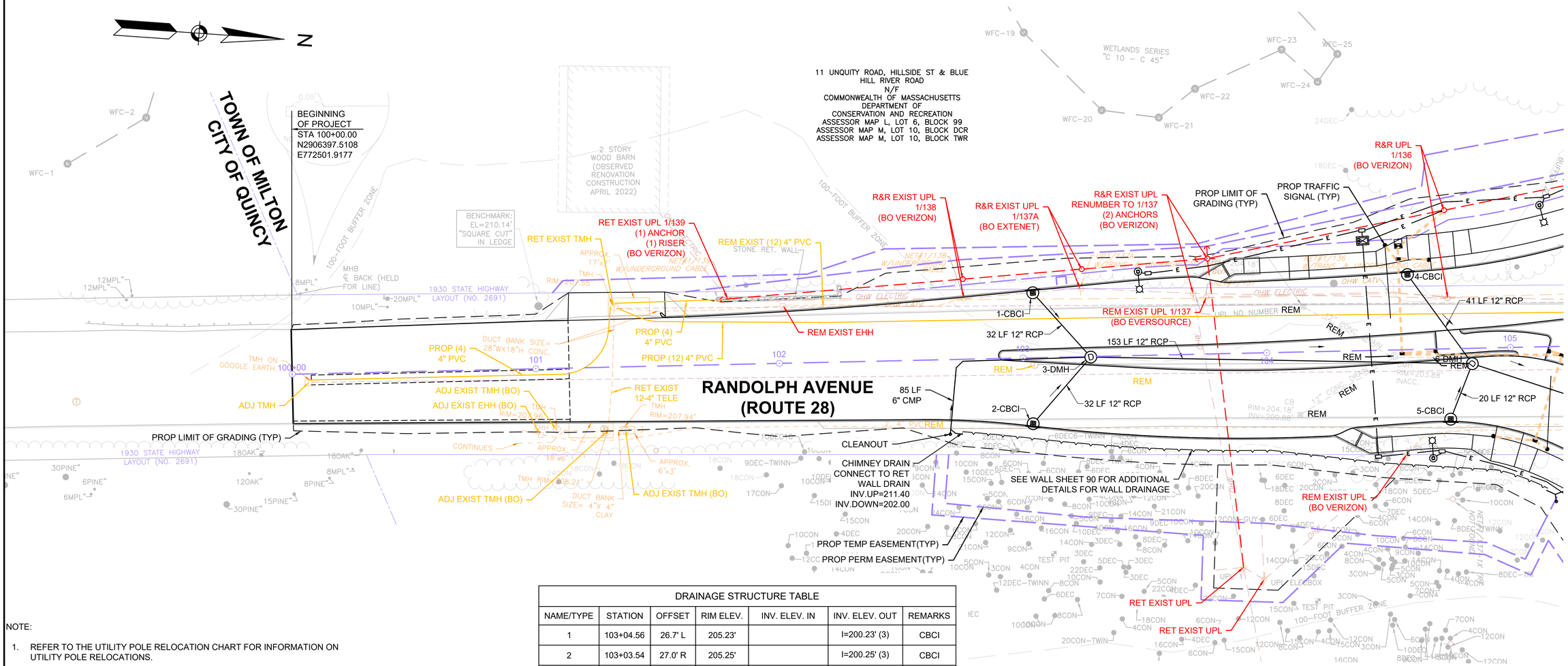
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	66	123
PROJECT FILE NO.	607342		

UTILITY PLANS



CONTINUED ON SHEET NO. 67

DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
1	103+04.56	26.7' L	205.23'		I=200.23' (3)	CBCI
2	103+03.54	27.0' R	205.25'		I=200.25' (3)	CBCI
3	103+27.78	0.2' R	206.10'	I=199.50' (1) I=199.50' (2) I=199.50' (WALL)	I=199.40' (6)	DMH
4	104+58.41	30.8' L	201.55'		I=196.60' (6)	CBCI
5	104+74.88	28.9' R	201.37'		I=196.36' (6)	CBCI
6	104+84.24	6.3' R	201.71'	I=196.00' (5) I=196.00' (4) I=196.00' (3)	I=195.90' (11)	DMH

NOTE:

1. REFER TO THE UTILITY POLE RELOCATION CHART FOR INFORMATION ON UTILITY POLE RELOCATIONS.
2. CONTRACTOR TO R&D ALL EXISTING UTILITY CONNECTION TO 1282 RANDOLPH AVENUE, UNLESS OTHERWISE NOTED.
3. DISPOSITION OF EXISTING TRAFFIC SIGNAL EQUIPMENT IS TO BE REMOVED UNLESS OTHERWISE NOTED.
4. SEE CONSTRUCTION PLANS SHEET 21 - 25 FOR TREE DISPOSITION.
5. SEE WETLAND REPLICATION PLAN SHEET 90 FOR MORE DETAILS ON PROPOSED WETLAND IMPACTS AND REPLICATION.
6. SEE SHEETS 94 - 98 FOR CONSTRUCTION AND DRAINAGE DETAILS.
7. CONTRACTOR TO COORDINATE PULLING AND SPLICING TELEPHONE WIRING WITH VERIZON.

0 20 50 100

SCALE: 1" = 20'

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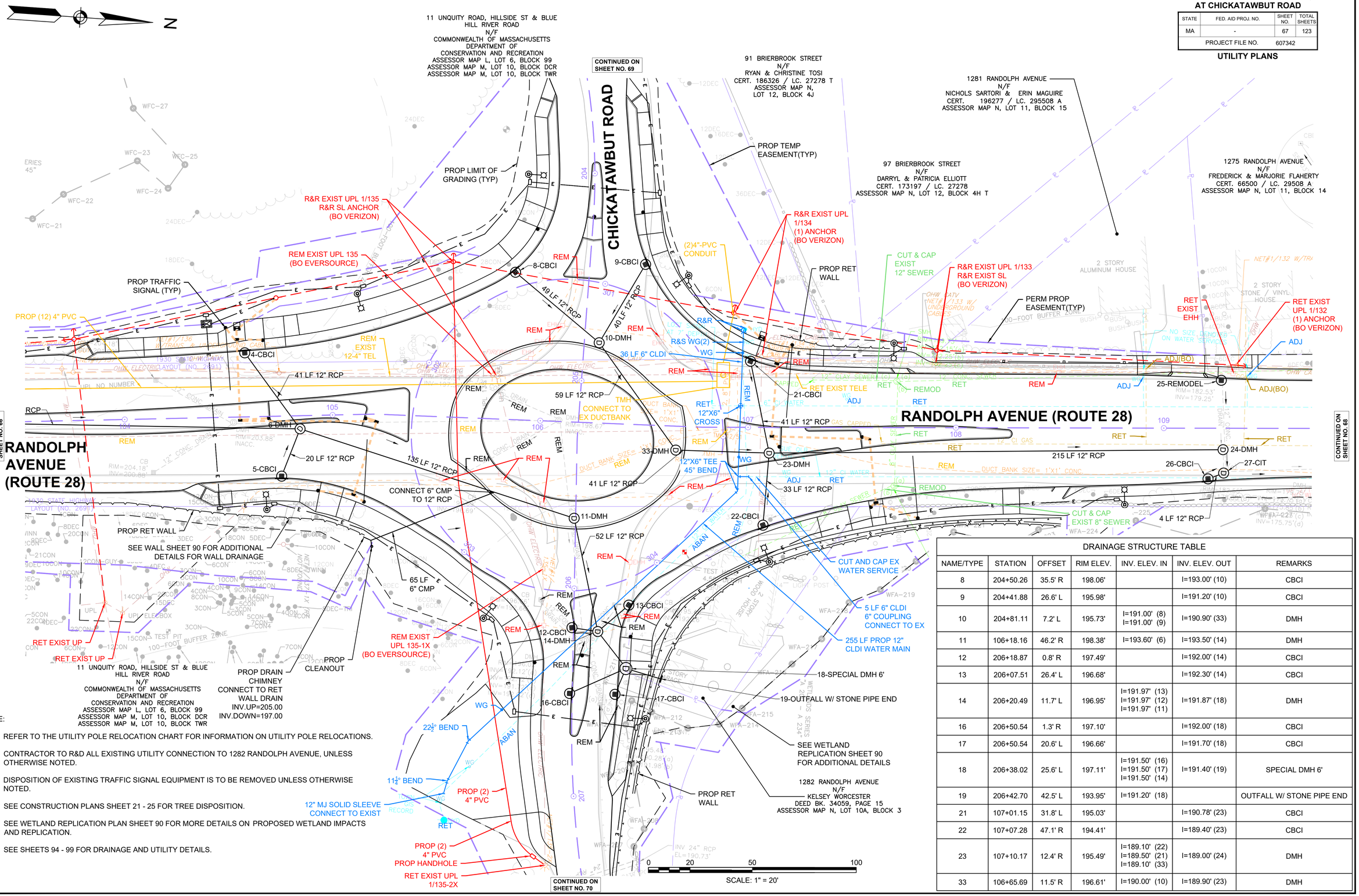
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	67	123
PROJECT FILE NO.	607342		

UTILITY PLANS



NOTE:

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2. CONTRACTOR TO R&D ALL EXISTING UTILITY CONNECTION TO 1282 RANDOLPH AVENUE, UNLESS OTHERWISE NOTED.
3. DISPOSITION OF EXISTING TRAFFIC SIGNAL EQUIPMENT IS TO BE REMOVED UNLESS OTHERWISE NOTED.
4. SEE CONSTRUCTION PLANS SHEET 21 - 25 FOR TREE DISPOSITION.
5. SEE WETLAND REPLICATION PLAN SHEET 90 FOR MORE DETAILS ON PROPOSED WETLAND IMPACTS AND REPLICATION.
6. SEE SHEETS 94 - 99 FOR DRAINAGE AND UTILITY DETAILS.

DRAINAGE STRUCTURE TABLE

NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
8	204+50.26	35.5' R	198.06'		I=193.00' (10)	CBCI
9	204+41.88	26.6' L	195.98'		I=191.20' (10)	CBCI
10	204+81.11	7.2' L	195.73'	I=191.00' (8) I=191.00' (9)	I=190.90' (33)	DMH
11	106+18.16	46.2' R	198.38'	I=193.60' (6)	I=193.50' (14)	DMH
12	206+18.87	0.8' R	197.49'		I=192.00' (14)	CBCI
13	206+07.51	26.4' L	196.68'		I=192.30' (14)	CBCI
14	206+20.49	11.7' L	196.95'	I=191.97' (13) I=191.97' (12) I=191.97' (11)	I=191.87' (18)	DMH
16	206+50.54	1.3' R	197.10'		I=192.00' (18)	CBCI
17	206+50.54	20.6' L	196.66'		I=191.70' (18)	CBCI
18	206+38.02	25.6' L	197.11'	I=191.50' (16) I=191.50' (17) I=191.50' (14)	I=191.40' (19)	SPECIAL DMH 6'
19	206+42.70	42.5' L	193.95'	I=191.20' (18)		OUTFALL W/ STONE PIPE END
21	107+01.15	31.8' L	195.03'		I=190.78' (23)	CBCI
22	107+07.28	47.1' R	194.41'		I=189.40' (23)	CBCI
23	107+10.17	12.4' R	195.49'	I=189.10' (22) I=189.50' (21) I=189.10' (33)	I=189.00' (24)	DMH
33	106+65.69	11.5' R	196.61'	I=190.00' (10)	I=189.90' (23)	DMH

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MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	68	123
PROJECT FILE NO.	607342		

UTILITY PLANS

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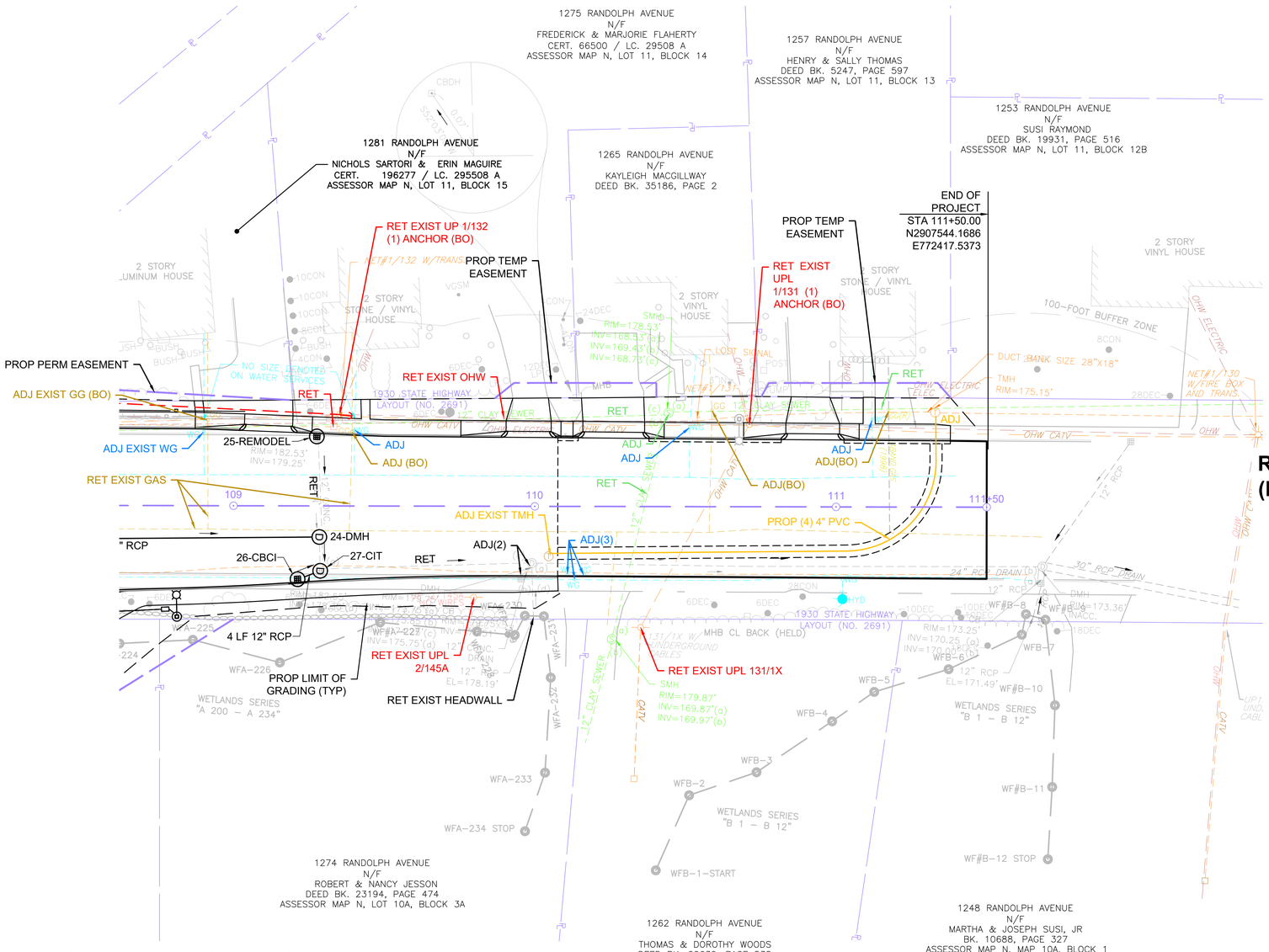

RANDOLPH AVENUE (ROUTE 28)

DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
24	109+28.52	10.3' R	183.02'	I=178.54' (25) I=178.80' (23)	I=178.44' (27)	DMH
25	109+27.62	23.1' L	182.81'		I=179.06' (24)	REMODEL
26	109+21.31	24.4' R	183.28'		I=178.50' (27)	CBCI
27	109+28.83	21.5' R	182.78'	I=178.35' (26) I=178.31' (24)	I=178.25' (28)	CIT

NOTE:

1. REFER TO THE UTILITY POLE RELOCATION CHART FOR INFORMATION ON UTILITY POLE RELOCATIONS.
2. CONTRACTOR TO R&D ALL EXISTING UTILITY CONNECTION TO 1282 RANDOLPH AVENUE, UNLESS OTHERWISE NOTED.
3. DISPOSITION OF EXISTING TRAFFIC SIGNAL EQUIPMENT IS TO BE REMOVED UNLESS OTHERWISE NOTED.
4. SEE CONSTRUCTION PLANS SHEET 21 - 25 FOR TREE DISPOSITION.
5. SEE WETLAND REPLICATION PLAN SHEET 90 FOR MORE DETAILS ON PROPOSED WETLAND IMPACTS AND REPLICATION.
6. SEE SHEETS 94 - 98 FOR CONSTRUCTION AND DRAINAGE DETAILS.

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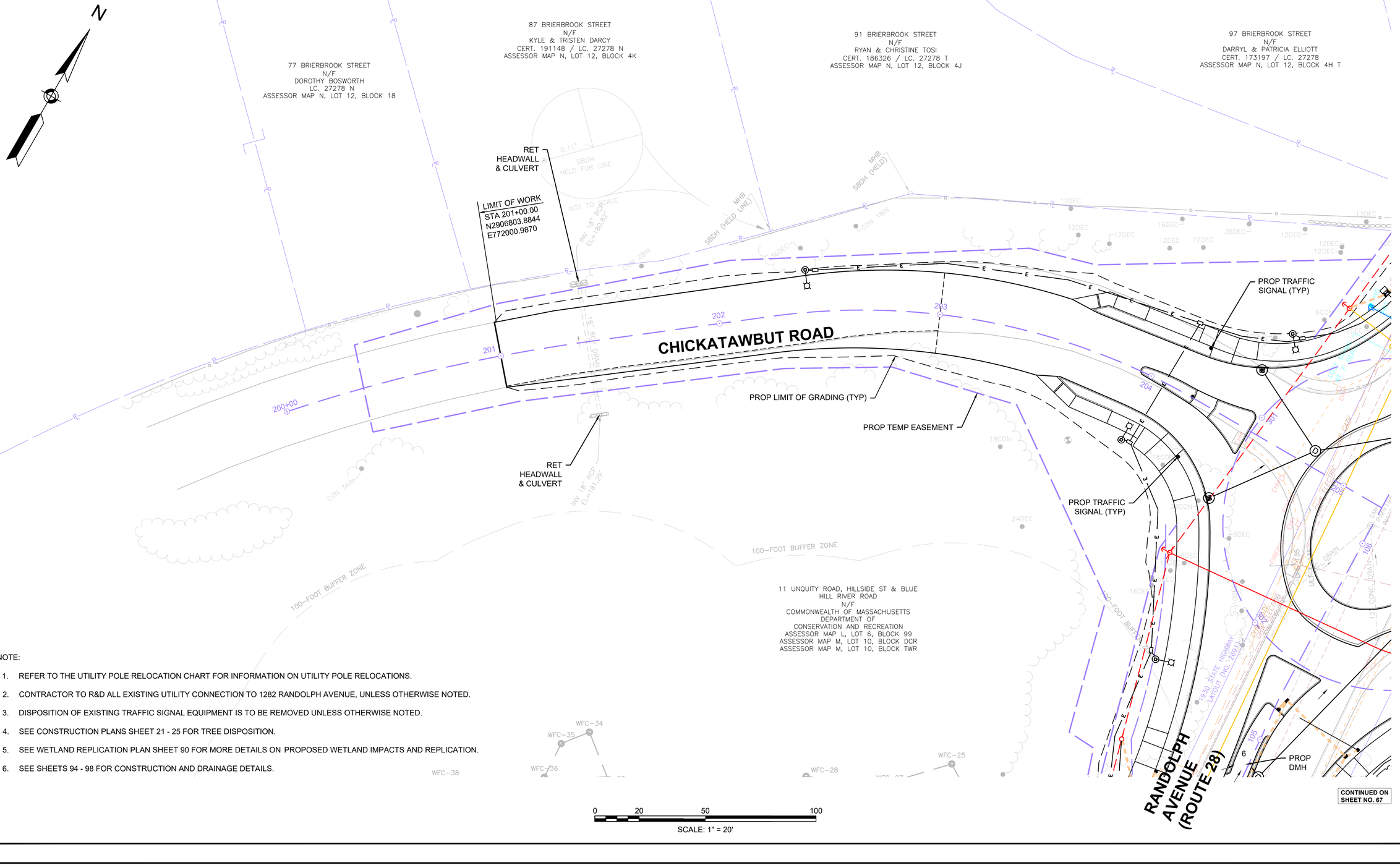
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	69	123
PROJECT FILE NO.	607342		

UTILITY PLANS



NOTE:

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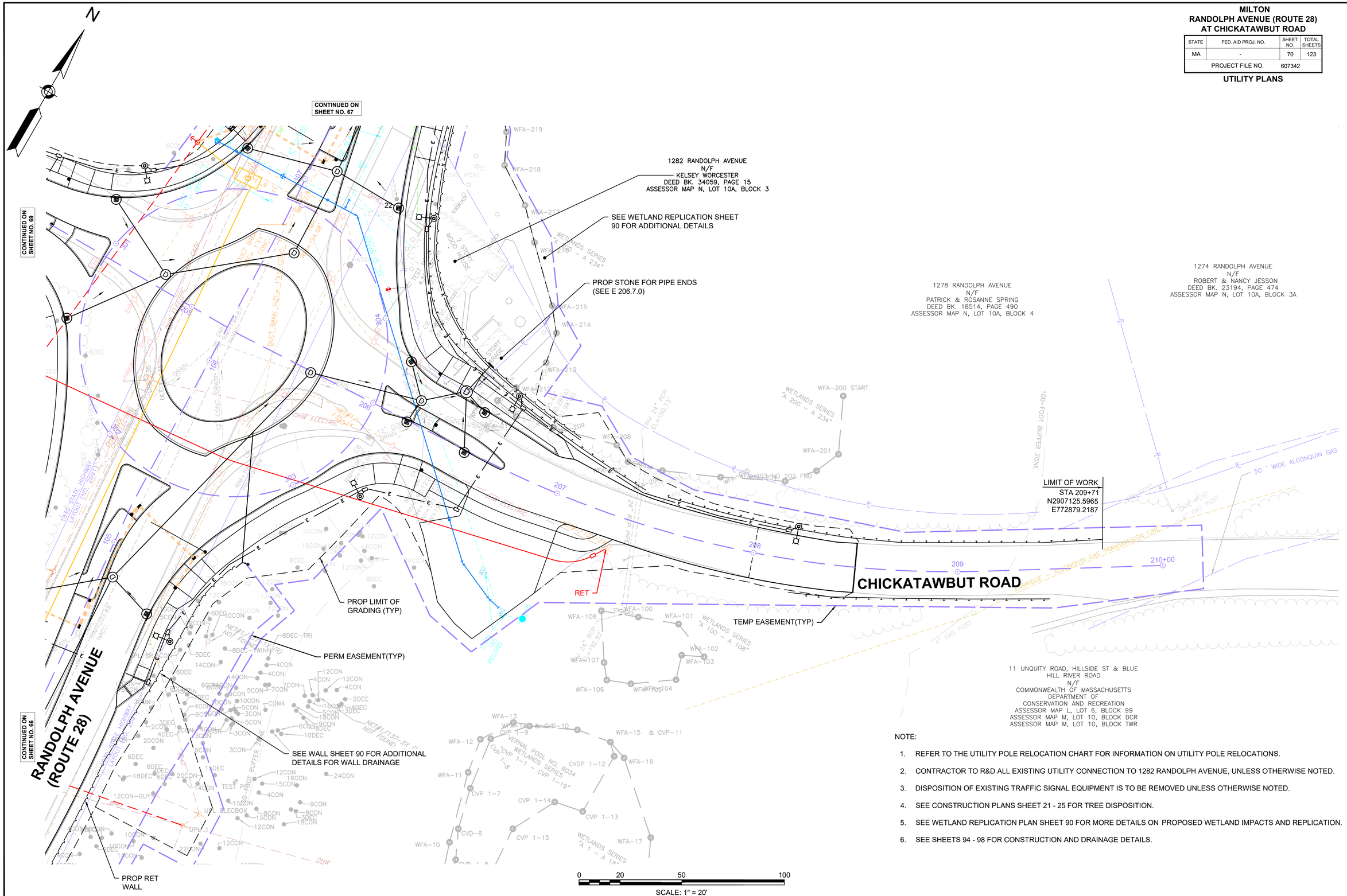
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	70	123
PROJECT FILE NO.	607342		

UTILITY PLANS



NOTE:

1. REFER TO THE UTILITY POLE RELOCATION CHART FOR INFORMATION ON UTILITY POLE RELOCATIONS.
2. CONTRACTOR TO R&D ALL EXISTING UTILITY CONNECTION TO 1282 RANDOLPH AVENUE, UNLESS OTHERWISE NOTED.
3. DISPOSITION OF EXISTING TRAFFIC SIGNAL EQUIPMENT IS TO BE REMOVED UNLESS OTHERWISE NOTED.
4. SEE CONSTRUCTION PLANS SHEET 21 - 25 FOR TREE DISPOSITION.
5. SEE WETLAND REPLICATION PLAN SHEET 90 FOR MORE DETAILS ON PROPOSED WETLAND IMPACTS AND REPLICATION.
6. SEE SHEETS 94 - 98 FOR CONSTRUCTION AND DRAINAGE DETAILS.

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Christopher Lyman

LIGHTING GENERAL NOTES

1. WORK FOR THIS PROJECT SHALL CONFORM TO ALL APPLICABLE CODES, STANDARDS, REGULATIONS AND REQUIREMENTS ENFORCED BY ALL AUTHORITIES HAVING JURISDICTION INCLUDING BUT NOT LIMITED TO:

   A. NATIONAL ELECTRICAL CODE (NEC)
   B. LIFE SAFETY CODE (NFPA 101)
   C. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
   D. CITY AND STATE STANDARDS AS APPLICABLE

2. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ENGINEER OF ALL KNOWLEDGE OF POSSIBLE CONFLICTS OR DISCREPANCIES BETWEEN THE REQUIREMENTS OF THESE CONSTRUCTION DOCUMENTS AND APPLICABLE CODES, STANDARDS, REGULATIONS, ETC.

3. ELECTRICAL SERVICE SHALL BE SUPPLIED BY THE LOCAL ELECTRIC UTILITY SUPPLIER. THE CONTRACTOR SHALL SUBMIT ELECTRICAL SERVICE WORK ORDERS AND COORDINATE WITH THE UTILITY FOR EXACT SERVICE LOCATION, REQUIRED SERVICE EQUIPMENT, AND FINAL CONNECTION REQUIREMENTS AS REQUIRED. THE CONTRACTOR SHALL PAY ALL PERMIT CHARGES AND UTILITY CONNECTION FEES RELATED TO ELECTRICAL WORK. THE CONTRACTOR SHALL ARRANGE FOR REQUIRED INSPECTIONS AND PAY ALL INSPECTION FEES ASSOCIATED WITH THE WORK.

4. THE CONTRACTOR HAS EXCLUSIVE RESPONSIBILITY FOR CONSTRUCTION MEANS AND TECHNIQUES INCLUDING COMPLIANCE WITH ALL REGULATIONS GOVERNING SAFETY AND HEALTH OF WORKERS AND THE PUBLIC IN THE VICINITY OF CONSTRUCTION.

5. ALL EQUIPMENT MUST BE PROPERLY GROUNDED IN ACCORDANCE WITH THE NEC AND MASSDOT STANDARD SPECIFICATIONS. A CONTINUOUS EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED THROUGHOUT ALL CIRCUIT RUNS, CONDUITS, AND WIREWAYS AND SHALL BE PROPERLY BONDED TO ALL ELECTRICAL HOUSINGS AS REQUIRED BY THE NEC.

6. THE CONTRACTOR SHALL NOTIFY "DIG SAFE" AT 1-800-322-4844 AT LEAST 72 HOURS PRIOR TO THE START OF ANY EXCAVATION ON THE PROJECT.

7. THE CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND PIPE LINES, CONDUITS, AND OTHER STRUCTURES BY CONTACTING OWNERS OF UNDERGROUND UTILITIES AND BY PROSPECTING IN ADVANCE OF EXCAVATION OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE APPROPRIATE MEANS AND METHODS TO AVOID DAMAGE TO EXISTING UNDERGROUND PIPELINES, CONDUITS AND OTHER STRUCTURES.

8. THE CONTRACTOR SHALL MAINTAIN PROPER CLEARANCES FROM ALL OVERHEAD AND UNDERGROUND UTILITIES PER NESC.

9. PRIOR TO THE START OF WORK THE CONTRACTOR SHALL CONFORM TO ALL OF THE REQUIREMENTS SET FORTH IN THE SPECIFICATIONS WITH REGARD TO UTILITY NOTIFICATIONS AND ANY SUBMITTALS REQUIRED BY THE CONTRACTOR WITH REGARD TO THE MAINTENANCE AND PROTECTION OF TRAFFIC.

10. CONTRACTOR SHALL PERFORM ITEMS OF WORK OUT OF NORMAL SEQUENCE AND SCHEDULE IF DIRECTED BY THE ENGINEER TO MEET THE OPERATIONS GOAL OF MAINTAINING THE HIGHEST LEVEL OF SERVICE POSSIBLE ON THE EXISTING ROADWAY AND AS MAY BE REQUIRED TO MEET THE OVERALL PROJECT SCHEDULE.

11. ANY AND ALL TRAFFIC RELATED ITEMS REQUIRED TO MAINTAIN TRAFFIC FLOW THROUGH THE PROJECT AREA SHALL BE MAINTAINED IN A CONDITION ACCEPTABLE TO THE ENGINEER. FURTHERMORE, THE CONTRACTOR SHALL REPLACE THOSE ITEMS AS REQUIRED BY THE SPECIFICATIONS OR AS DEEMED NECESSARY BY THE ENGINEER.

12. WORK PERFORMED AT NIGHT SHALL BE ILLUMINATED AS REQUIRED TO PERFORM THE SPECIFIC WORK ACTIVITY TO THE LEVEL OF QUALITY AND SAFETY REQUIRED IN SPECIFICATIONS. FURTHERMORE, THE ILLUMINATION MAY BE MODIFIED AS DEEMED NECESSARY BY THE ENGINEER.

13. ALL CONSTRUCTION SIGNS IN PLACE BUT NOT PERTINENT TO THE ONGOING CONSTRUCTION PHASING SHALL BE "BAGGED".

14. LOCATIONS OF LIGHT POLES ARE SPECIFIED AND CONTRACTOR SHALL MAINTAIN THE LOCATIONS. CONDUIT AND HANDHOLES LOCATIONS MAY BE MODIFIED BY THE CONTRACTOR BASED ON FIELD CONDITIONS BUT SHALL BE AS CLOSE TO THE SPECIFIED LOCATIONS AS PRACTICALLY POSSIBLE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE ACTUAL ROUTINGS AND LOCATIONS AS IS ALLOWED BY THE IMMEDIATE SITUATION AND CONDITIONS OF EACH LOCATION.

15. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING THE MASSDOT LIGHTING SYSTEM ACCORDING TO THE MASSDOT STANDARD DRAWINGS AND SPECIFICATIONS.

16. ALL DIRECT BURIED CONDUIT SHALL BE SCHEDULE 80 PVC. PROVIDE (2) 3" SCH. 80 PVC CONDUITS FOR EACH CIRCUIT (1-ACTIVE; 1-SPARE). ALL CONDUITS FROM HANDHOLE TO LIGHT POLE SHALL BE 2" SCHEDULE 80 PVC. ALL CONDUIT SWEEPS INTO PADS, HANDHOLES, PULL BOXES, POLE BASES, ETC. SHALL BE RGS. ALL CONDUITS SHOWN ARE TO BE NEW UNLESS OTHERWISE NOTED. ALL CONDUITS IN ROADWAYS SHALL BE PROTECTED IN CONCRETE ENCASED DUCTBANKS.

17. ALL MASSDOT CONDUCTORS AND CABLES SHALL BE XHHW-2 WITH XLP INSULATION.

18. ALL MASSDOT HAND HOLE COVERS AND LIGHTING CONTROL CABINETS SHALL BE PROVIDED WITH MASSDOT LOGO ON THE COVER. ALL ELECTRIC MANHOLE AND HAND HOLE COVERS TO BE SECURED WITH #316 STAINLESS STEEL HEX HEAD CAP SCREWS.

19. CABLE AND CONDUIT TAGS SHALL BE SIMILAR TO ALMETEK POLYETHYLENE E-Z TAGS, AND SHALL HAVE CIRCUIT AND PHASE DESIGNATIONS.

20. PHOTOCELLS TO BE INSTALLED AS DEPICTED ON THE DRAWINGS.

21. ALL FITTINGS, BRACKETS, AND EXTERNAL HARDWARE SHALL BE #316 STAINLESS STEEL. CONTRACTOR SHALL USE NYLOC NUTS UNLESS OTHERWISE NOTED.

22. ALL CIRCUIT BREAKERS SHALL BE BOLT ON TYPE.

23. ALL SPLICING SHALL BE DONE IN HANDHOLES OR JUNCTION BOXES.

24. CONDUITS SHALL SLOPE TOWARDS JUNCTION BOXES, HANDHOLES, OR FITTINGS TO DRAIN.

GENERAL LIGHTING NOTES: (CONT)

25. METAL OR CONDUCTIVE JUNCTION BOXES, HAND HOLE COVERS AND POLES SHALL BE CONNECTED TO THE GROUND WIRE.

26. ALL EXPOSED FITTINGS AND JUNCTION BOXES SHALL BE WEATHER TIGHT.

27. SUFFICIENT SLACK IN THE WIRING OF HANDHOLES AND JUNCTION BOXES SHALL BE PROVIDED BY LOOPING THE CONDUCTORS IN EACH BOX.

28. LIGHT POLE ANCHOR BOLT SIZE AND ARRANGEMENT TO BE PROVIDED BY LIGHT POLE MANUFACTURER.

29. TOP OF HANDHOLES TO BE SET AT GRADE.

30. THE CONTRACTOR SHALL FURNISH ALL LED LUMINAIRES, INCLUSIVE OF BRACKET ARMS, AND ACCESSORIES, AS WELL AS POLES, ANCHORS AND BASES.

31. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.

32. THE CONTRACTOR SHALL PERFORM ALL SURVEY REQUIRED FOR THE LAYOUT OF PROPOSED CONSTRUCTION AND FOR DEVELOPING AS-BUILT DOCUMENTATION. NO SEPARATE PAYMENT FOR THIS WORK WILL BE MADE.

33. ALL FIXTURES SHALL BE UL LISTED FOR WET LOCATIONS.

34. ALL EXISTING ROADWAY AND PARKING LED LIGHTING SHALL BE REMOVED, BOXED, AND DELIVERED TO MASSDOT, LOCATION TO BE DETERMINED PER MASSDOT STANDARDS AND DIRECTION. ALL HPS AND MH FIXTURES SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH CONTRACT REQUIREMENTS. ALL EXISTING LIGHT POLES DESIGNATED FOR REMOVAL SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS UNLESS OTHERWISE NOTED.

35. NORTHING/EASTING HAS BEEN PROVIDED FOR LIGHT POLE FOUNDATION LOCATIONS.

36. ALL ROADWAY LIGHTING LUMINAIRES SHALL BE GREY/SILVER IN FINISH, AS WELL AS ALL MOUNTING ARMS AND BRACKETS SUPPLIED BY THE LUMINAIRE MANUFACTURER.

37. ALL STEEL POLES, BASES, AND ARMS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH MASSDOT STANDARDS.

38. ALL UTILITY MANHOLES, COVERS, HANDHOLES, AND PULLBOXES SUBJECTED TO VEHICLE LOADING SHALL BE HS-20 TRAFFIC RATED.

39. ADJACENT LUMINAIRES SHALL BE SERVED FROM DIFFERENT ALTERNATING BRANCH CIRCUIT BREAKERS WITHIN THE LOAD CENTER. THE LOADS SHALL BE BALANCED ACROSS ALL PHASES AS BEST AS POSSIBLE.

DESIGN CRITERIA:

THE PROPOSED ROUNDABOUT LIGHTING WAS DESIGNED BASED ON MASSDOT ROUNDABOUT DESIGN GUIDELINES TO ACHIEVE THE FOLLOWING:

A. ROUNDABOUT: AVERAGE HORIZONTAL ILLUMINANCE LEVEL OF 2.0 FC WITH AN AVERAGE UNIFORMITY RATIO OF 4:1.

B. APPROACHES: AVERAGE HORIZONTAL ILLUMINANCE LEVEL OF 1.0 FC WITH AN AVERAGE UNIFORMITY RATIO OF 3:1.

C. CROSSWALKS: AVERAGE VERTICAL ILLUMINANCE LEVEL OF 4.0 FC WITH AN AVERAGE UNIFORMITY RATIO OF 3:1.

LEGEND & SYMBOLS

	POLE MOUNTED COBRA STYLE LIGHT FIXTURE (SEE LUMINAIRE SCHEDULED FOR ADD'L INFORMATION)
E	ELECTRICAL CONDUIT, SCH. 80 PVC
E	ELECTRICAL DUCTBANK
	HANDHOLE / JUNCTION BOX
	LOAD CENTER
	PHOTOCELL
	RISER

ROADWAY LIGHTING DESCRIPTION BLOCK SYMBOL:

POLE ID NO.	DISTRIBUTION TYPE
NORTHING, EASTING (CENTER OF POLE/FOUNDATION)	
BRACKET ARM LENGTH	FAO MODULE POSITION
MOUNTING HEIGHT	LUMEN (FAO)
LOAD CENTER	CIRCUIT NO.

LIGHTING ABBREVIATIONS

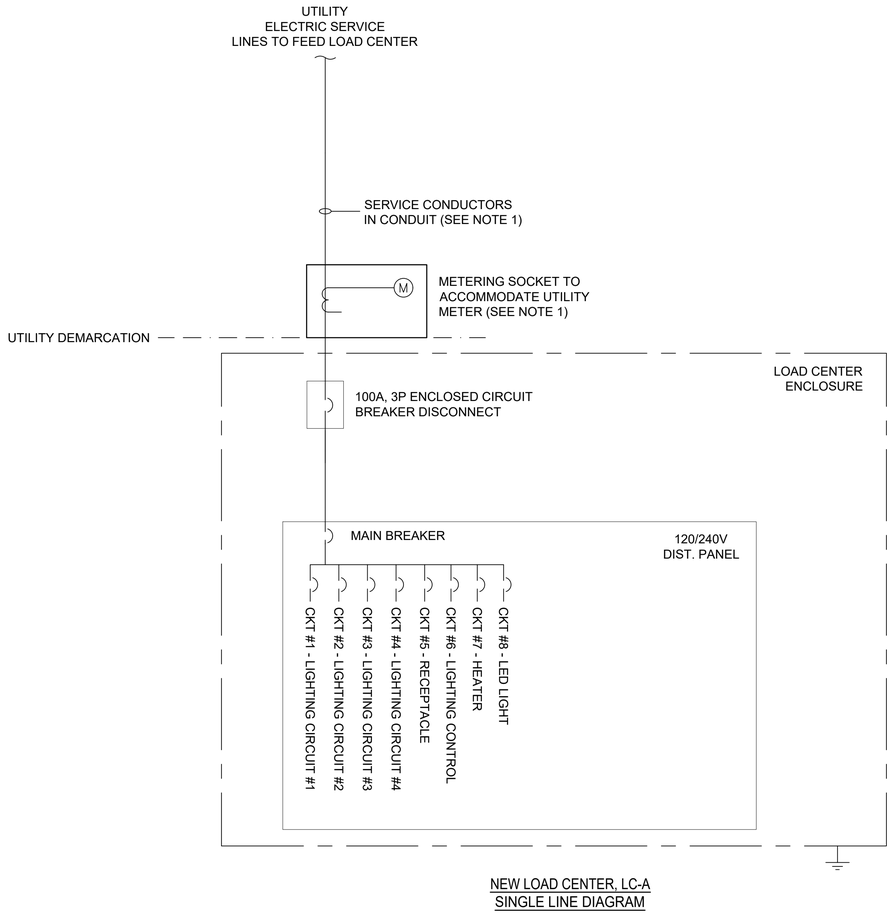
A	AMPERES
AWG	AMERICAN WIRE GAUGE
BL	BASELINE
C.	CENTER
/C	CONDUCTOR
CB	CIRCUIT BREAKER
CONST	CONSTRUCTION
CONT	CONTINUED
DIA.	DIAMETER
E	EAST
ETC.	ET CETERA
FAO	FIELD ADJUSTABLE OUTPUT
FC	FOOT-CANDLE
FED.	FEDERAL
FT	FEET
GALV.	GALVANIZED
GND.	GROUND
HEX	HEXAGONAL
LH	LIGHTING HAND HOLE
HPS	HIGH PRESSURE SODIUM
ID	IDENTIFICATION
LC	LOAD CENTER
LED	LIGHT EMITTING DIODE
LH	LIGHTING HANDHOLE
LP	LIGHT POLE
LT	LEFT
MA	MASSACHUSETTS
MASSDOT	MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MH	METAL HALIDE
MIN	MINIMUM
MTG	MOUNTING
N	NORTH
NAD	NORTH AMERICAN DATUM
N/A	NOT APPLICABLE
NB	NORTHBOUND
N.C.	NATIONAL COARSE THREAD
NEC	NATIONAL ELECTRIC CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NO.	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
P.	POLE
PROJ.	PROJECT
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
RT	RIGHT
SB	SOUTHBOUND
SCH.	SCHEDULE
STA	STATION
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
V	VOLTS
W	WIRE / WATTS
XLP	CROSS LINKED POLYETHYLENE
Ø	DIAMETER

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	71	123
PROJECT FILE NO.	607342		

GENERAL LIGHTING NOTES

607342_GENERAL NOTES.DWG Plotted on 8/22/2024 3:24 PM



NEW LOAD CENTER, LC-A
SINGLE LINE DIAGRAM

NOTES:

1. CONTRACTOR TO PROVIDE EQUIPMENT IN ACCORDANCE WITH UTILITY REQUIREMENTS.
2. PANEL FAULT WITHSTAND CAPACITY SHALL BE FINALIZED AFTER COORDINATION WITH UTILITY WITH THE AVAILABLE FAULT CURRENT PROVIDED BY THE UTILITY.
3. ALL POWER CIRCUIT CONDUCTORS SHALL BE 600V RATED XHHW-2 TYPE CONDUCTORS, UNLESS OTHERWISE NOTED. REFER TO CABLE SCHEDULE ON SHEET NO. 14 FOR ADDITIONAL INFORMATION
4. FOR ADDITIONAL INFORMATION ON PROPOSED LOAD CENTER, REFER TO SHEET NO. 10

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	72	123
PROJECT FILE NO.	607342		

LOAD CENTER SINGLE LINE DIAGRAM

607342_SINGLE LINE.DWG Plotted on 8/22/2024 3:24 PM

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	73	123
PROJECT FILE NO.	607342		

PROPOSED LIGHTING LAYOUT
KEY PLAN

N

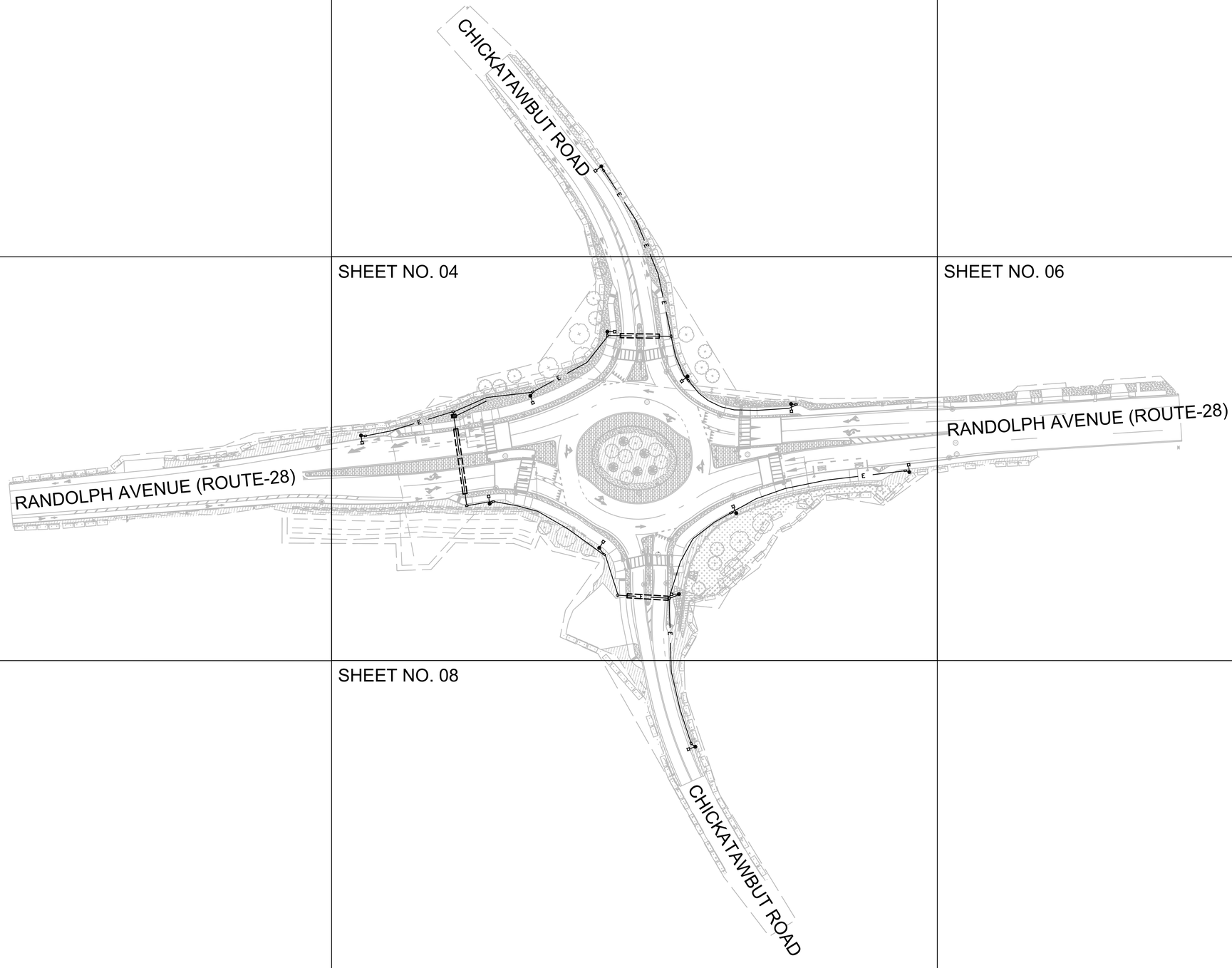
SHEET NO. 07

SHEET NO. 05

SHEET NO. 04

SHEET NO. 06

SHEET NO. 08



0 50 100 150 200

SCALE: 1" = 50'

607342_PROPOSED LIGHTING LAYOUTS.DWG Plotted on 8/22/2024 3:24 PM

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	74	123
PROJECT FILE NO.	607342		

PROPOSED LIGHTING LAYOUT
SHEET 1 OF 5

Plotted on 8/22/2024 3:24 PM

607342_ PROPOSED LIGHTING LAYOUTS.DWG

N

CONTINUED ON SHEET NO. 07

CHICKATAWBUT ROAD

SCH 80 PVC CONDUIT EMBEDDED IN CONCRETE DUCTBANK UNDER ROADWAY, TYP.

LIGHTING HANDHOLE, TYP.

UTILITY POLE FOR SERVICE CONNECTION

PROPOSED LOCATION OF LIGHTING LOAD CENTER, LC-A. AND PHOTOCELL

RANDOLPH AVENUE (ROUTE-28)

CONTINUED ON SHEET NO. 09

CONTINUED ON SHEET NO. 06

PUBLIC PARKING FOR BRAINTREE PASS TRAIL

DIRECT BURIED, SCH 80 PVC, CONDUIT, TYP.

CONTINUED ON SHEET NO. 08

LP01	III
2906740.80, 772435.68	
6'-0"	6
30'-0"	25,217
LC-A	#1

LP02	III
2906866.92, 772502.65	
6'-0"	7
30'-0"	28,519
LC-A	#2

LP03	III
2906906.93, 772396.79	
6'-0"	8
30'-0"	30,020
LC-A	#3

LP04	III
2906974.38, 772545.94	
6'-0"	8
30'-0"	30,020
LC-A	#4

LP05	III
2906982.33, 772333.95	
6'-0"	7
30'-0"	28,519
LC-A	#1

LP08	III
2907052.88, 772591.15	
6'-0"	7
30'-0"	28,519
LC-A	#4

LP09	III
2907060.88, 772377.77	
6'-0"	7
30'-0"	28,519
LC-A	#1

LP10	III
2907108.85, 772511.92	
6'-0"	7
30'-0"	28,519
LC-A	#2

LP11	III
2907162.54, 772404.76	
6'-0"	6
30'-0"	25,217
LC-A	#3

LP12	III
2907278.46, 772471.59	
6'-0"	5
30'-0"	21,614
LC-A	#4

TABLE LEGEND:

POLE ID NO.	DISTRIBUTION TYPE
NORTHING, EASTING (CENTER OF POLE/FOUNDATION)	
BRACKET ARM LENGTH	FAO MODULE POSITION
MOUNTING HEIGHT	LUMEN (FAO)
LOAD CENTER	CIRCUIT NO.

NOTES:

1. FOR GENERAL LIGHTING NOTES, REFER TO SHEET NO. 01.
2. REFER TO SHEET NO. 09 FOR LIGHTING SCHEMATIC.
3. FOR ADDITIONAL INFORMATION ON POLES, REFER TO SHEET NO. 11.
4. FOR LUMINAIRE DETAILS AND SCHEDULE, REFER TO SHEET NO. 12.
5. FOR ADDITIONAL INFORMATION ON DUCTBANK CONDUIT ROUTING AND CABLE ROUTING, REFER TO SHCEDULES ON SHEET NO. 14

0 20 50 100

SCALE: 1" = 20'

N

NOTES:

1. REFER TO SHEET NO. 04 FOR NOTES.

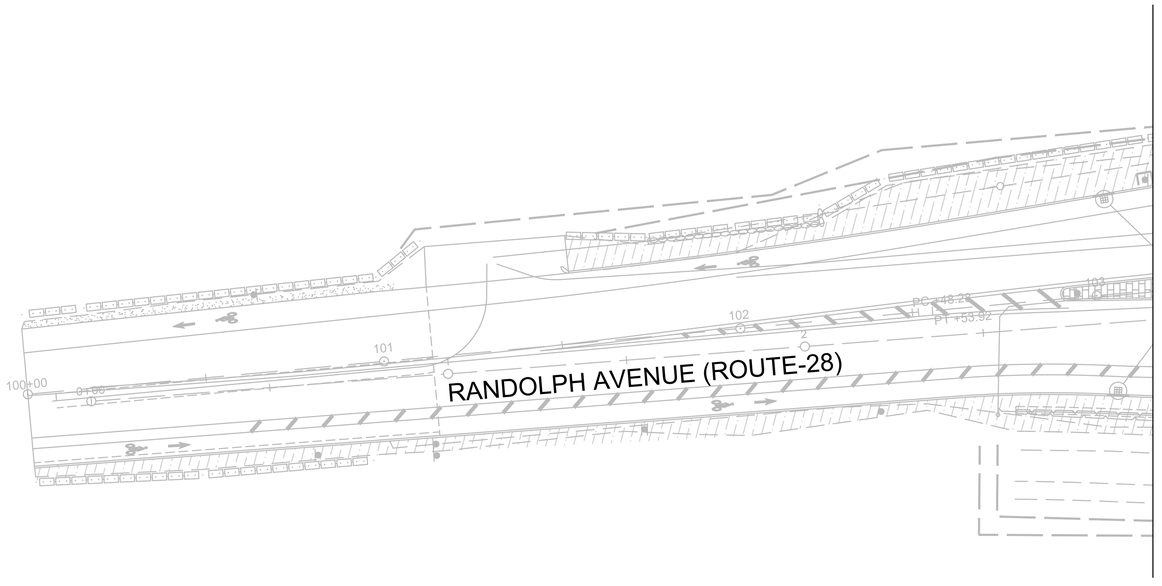
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	75	123
PROJECT FILE NO.	607342		

PROPOSED LIGHTING LAYOUT
SHEET 2 OF 5

TABLE LEGEND:

POLE ID NO.	DISTRIBUTION TYPE
NORTHING, EASTING (CENTER OF POLE/FOUNDATION)	
BRACKET ARM LENGTH	FAO MODULE POSITION
MOUNTING HEIGHT	LUMEN (FAO)
LOAD CENTER	CIRCUIT NO.



0 20 50 100
SCALE: 1" = 20'

Plotted on 8/22/2024 3:24 PM
607342_PROPOSED LIGHTING LAYOUTS.DWG

N

NOTES:

1. REFER TO SHEET NO. 04 FOR NOTES.

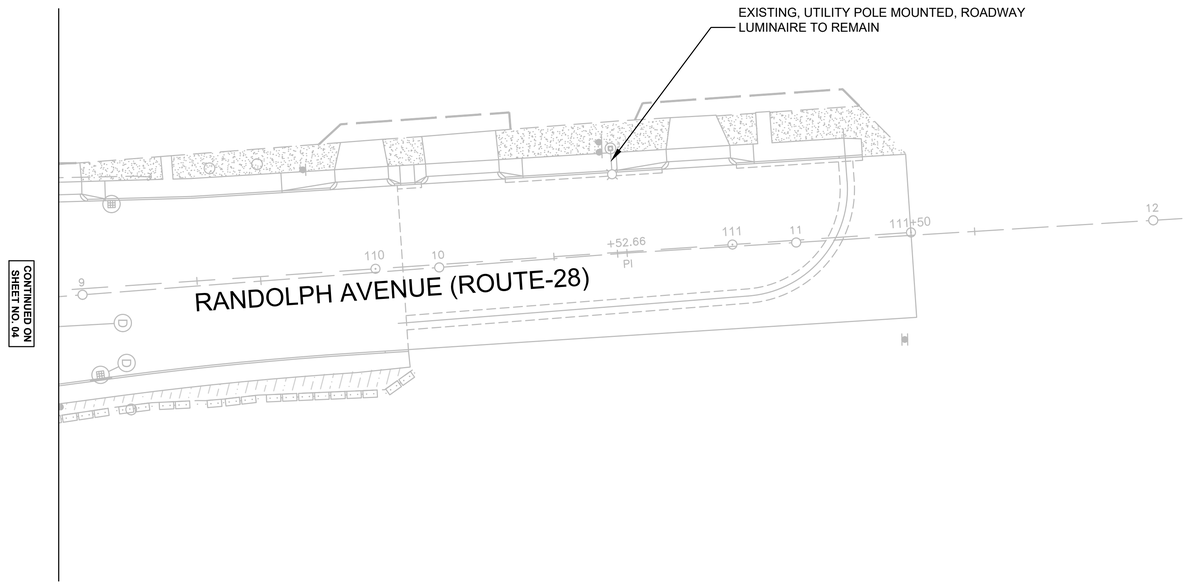
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	76	123
PROJECT FILE NO.	607342		

PROPOSED LIGHTING LAYOUT
SHEET 3 OF 5

TABLE LEGEND:

POLE ID NO.	DISTRIBUTION TYPE
NORTHING, EASTING (CENTER OF POLE/FOUNDATION)	
BRACKET ARM LENGTH	FAO MODULE POSITION
MOUNTING HEIGHT	LUMEN (FAO)
LOAD CENTER	CIRCUIT NO.



CONTINUED ON SHEET NO. 04

0 20 50 100

SCALE: 1" = 20'

607342_ PROPOSED LIGHTING LAYOUTS.DWG Plotted on 8/22/2024 3:24 PM

N

NOTES:

1. REFER TO SHEET NO. 04 FOR NOTES.

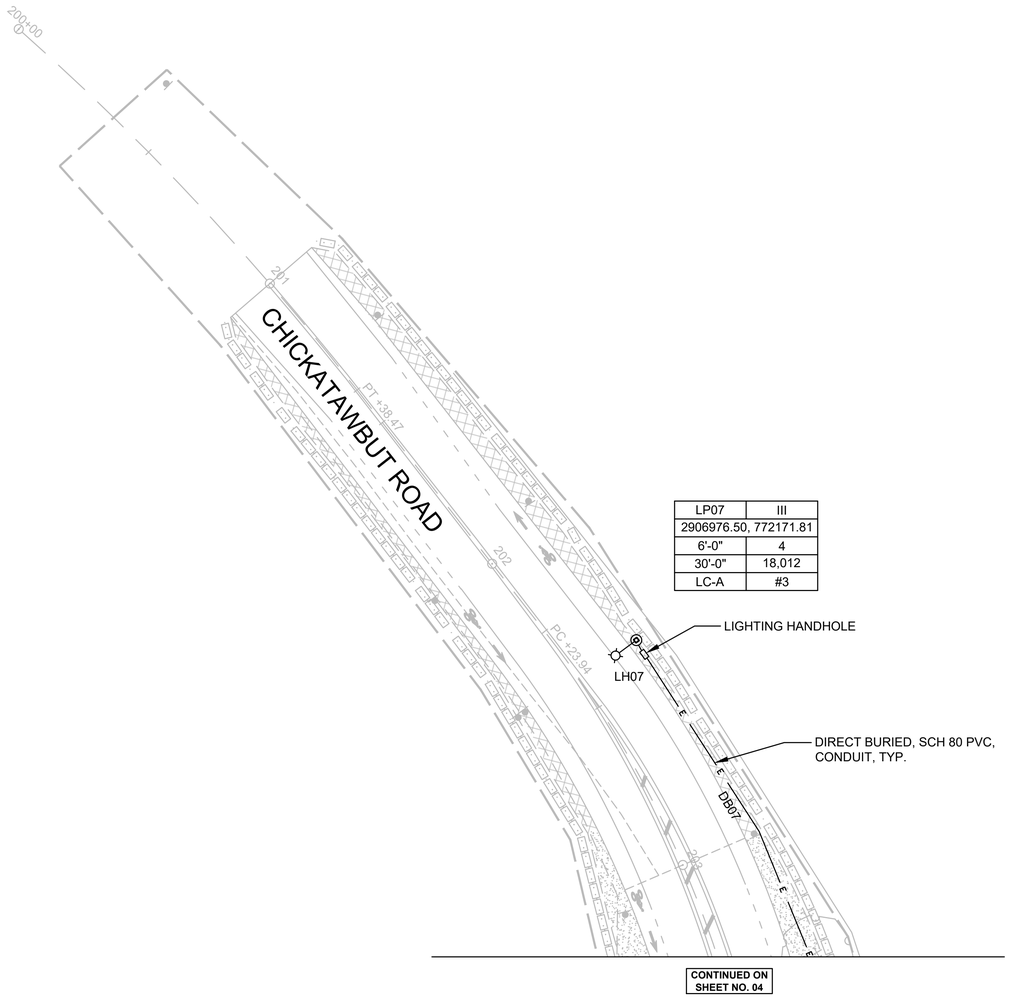
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	77	123
PROJECT FILE NO.	607342		

PROPOSED LIGHTING LAYOUT
SHEET 4 OF 5

TABLE LEGEND:

POLE ID NO.	DISTRIBUTION TYPE
NORTHING, EASTING (CENTER OF POLE/FOUNDATION)	
BRACKET ARM LENGTH	FAO MODULE POSITION
MOUNTING HEIGHT	LUMEN (FAO)
LOAD CENTER	CIRCUIT NO.



0 20 50 100

SCALE: 1" = 20'

Plotted on 8/22/2024 3:24 PM

607342_PROPOSED LIGHTING LAYOUTS.DWG

N

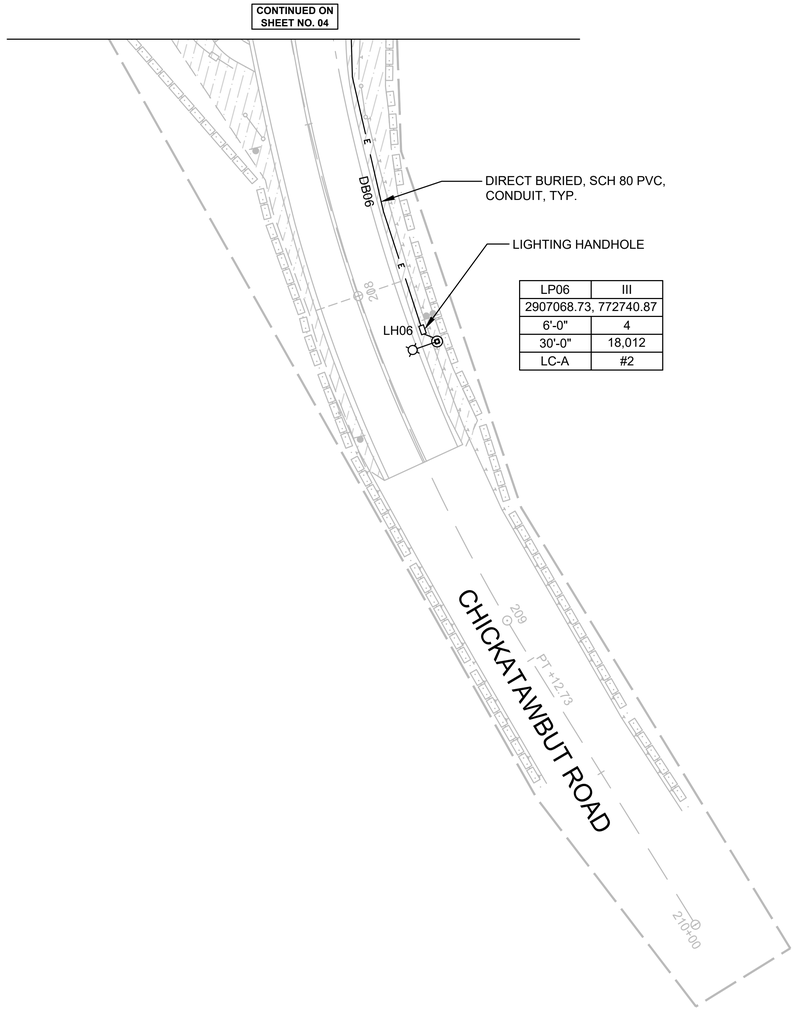
NOTES:

1. REFER TO SHEET NO. 04 FOR NOTES.

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	78	123
PROJECT FILE NO.	607342		

PROPOSED LIGHTING LAYOUT
SHEET 5 OF 5



LP06	III
2907068.73, 772740.87	
6'-0"	4
30'-0"	18,012
LC-A	#2

TABLE LEGEND:

POLE ID NO.	DISTRIBUTION TYPE
NORTHING, EASTING (CENTER OF POLE/FOUNDATION)	
BRACKET ARM LENGTH	FAO MODULE POSITION
MOUNTING HEIGHT	LUMEN (FAO)
LOAD CENTER	CIRCUIT NO.

0 20 50 100
SCALE: 1" = 20'

Plotted on 8/22/2024 3:24 PM
607342_PROPOSED LIGHTING LAYOUTS.DWG

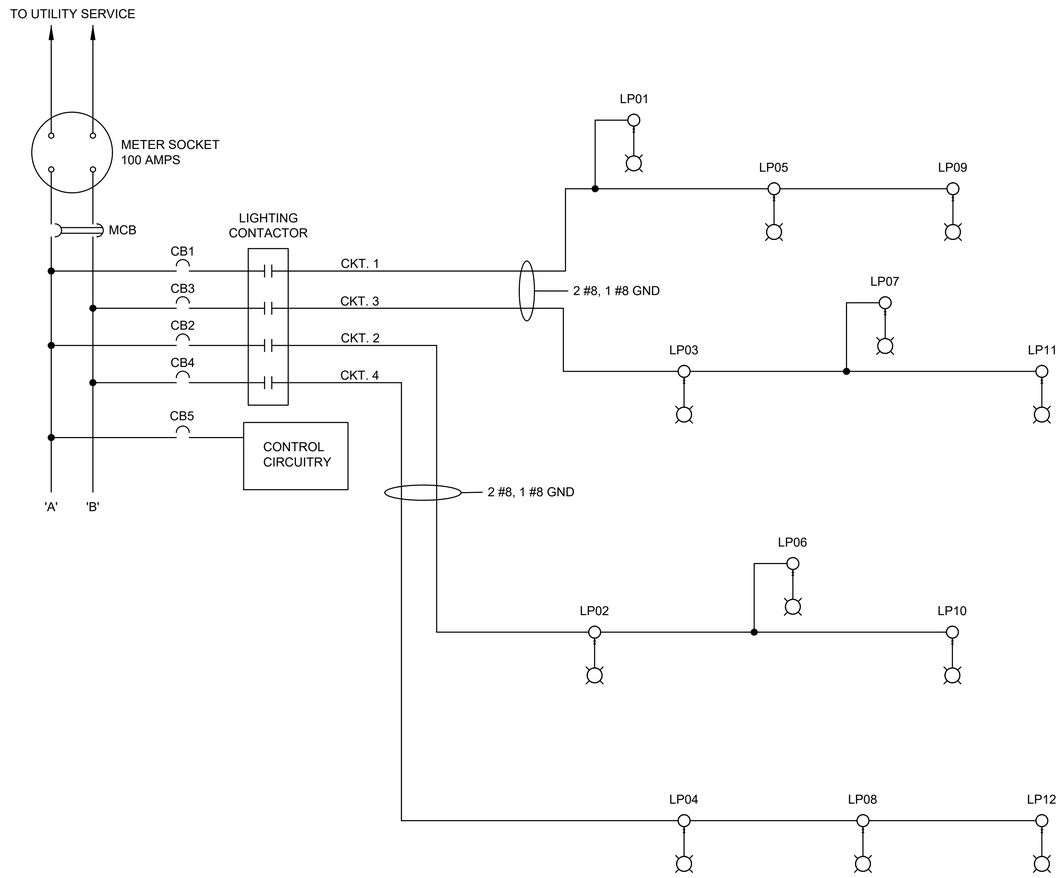
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	79	123
PROJECT FILE NO.	607342		

LIGHTING SCHEMATIC

NOTES:

1. FOR LUMINAIRE DETAILS AND SCHEDULE, REFER TO SHEET NO. 12.
2. FOR PROPOSED LOAD CENTER SINGLE LINE DIAGRAM AND DETAILS, REFER TO SHEET NO. 02 AND 10, RESPECTIVELY.



LIGHTING SCHEMATIC DIAGRAM
NOT TO SCALE

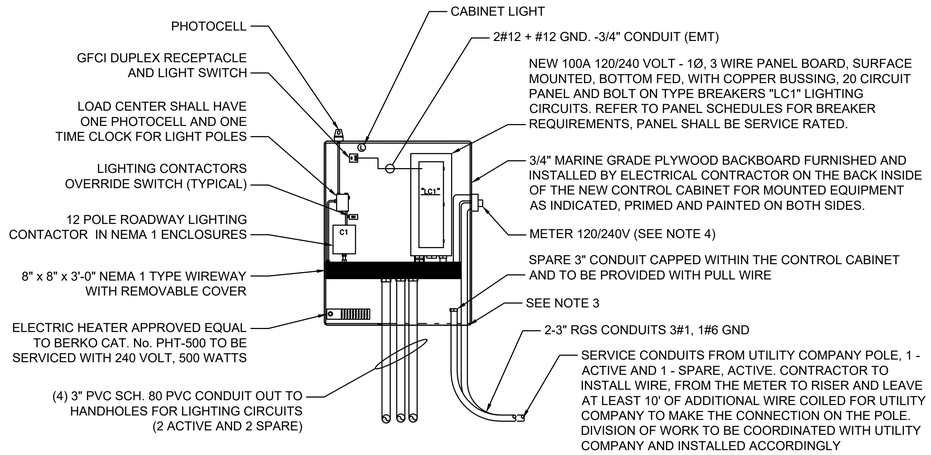
607342_LIGHTING SCHEMATICS.DWG Plotted on 8/22/2024 3:24 PM

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	80	123
PROJECT FILE NO.	607342		

LOAD CENTER DETAILS

607342_LOAD CENTER DETAILS.DWG Plotted on 8/22/2024 3:24 PM



LOAD CENTER COMPONENT DIAGRAM NOTES:

1. TYPICAL FOR LIGHTING CONTROL CABINET - AS PART OF SHOP DRAWING SUBMITTAL REVIEW PACKAGE A SCALE DRAWING SHALL BE SUBMITTED SHOWING DIMENSIONS AND LAYOUT OF ALL PROPOSED EQUIPMENT AND DEVICES BEING INSTALLED WITHIN THE CONTROL CABINET. LAYOUT OF EQUIPMENT AND DEVICES SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE.
2. CONTRACTOR TO CALCULATE AIC RATING FOR LOAD CENTER COMPONENTS BASED ON THE UTILITY COMPANY'S TRANSFORMER SPECIFICATIONS.
3. CABINET SHALL BE CONSTRUCTED OF 316 STAINLESS STEEL, NEMA 3R WITH A THERMOSTATICALLY CONTROLLED FAN AND VENT.
4. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL BACK BOX AS REQUIRED BY UTILITY COMPANY. METER TO BE PROVIDED BY UTILITY COMPANY.
5. CONTRACTOR TO COORDINATE SERVICE LOCATION WITH UTILITY COMPANY. SERVICE LOCATION SHOWN ON THE PLANS HAS NOT BEEN VERIFIED.
6. ROADWAY LIGHTING SHALL BE CONTROLLED BY PHOTOCELL "ON" AND TIME CLOCK "OFF". PHOTO-CELL SHALL BE INSTALLED ON TOP OF THE LOAD CENTER FACING THE NORTHERN SKY.
7. PANEL SHALL HAVE COPPER BUSSES AND BOLT-ON TYPE CIRCUIT BREAKERS.

NOTES:

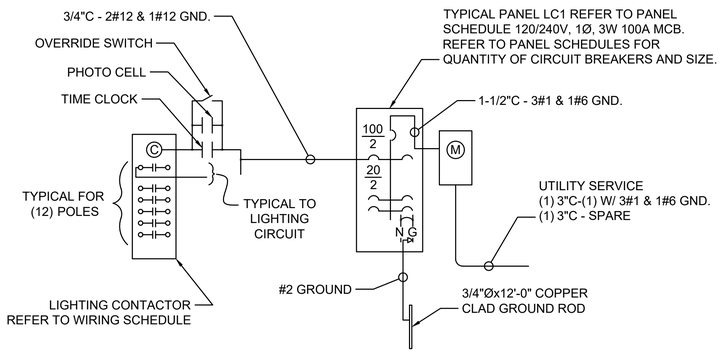
1. ALL LIGHTING CIRCUITS IN PANELS UNLESS OTHERWISE NOTED SHALL RUN VIA LIGHTING CONTACTORS WITHIN LIGHTING CONTROL CABINET.
2. EXACT AIC RATING OF PANELS SHALL BE COORDINATED WITH EXISTING EQUIPMENT OR ELECTRIC UTILITY COMPANY AND PROVIDED ACCORDINGLY.
3. FOR LOAD CENTER SINGLE LINE DIAGRAM, REFER TO SHEET NO. 02.

120/240V LOAD CENTER COMPONENT DIAGRAM
(LOAD CENTER - STREET LIGHTING)

NOT TO SCALE

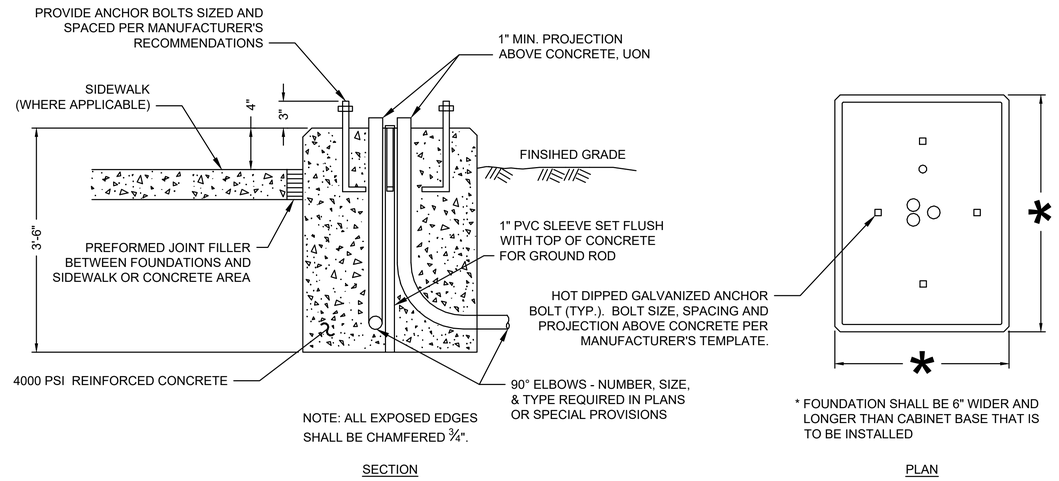
LOAD CENTER
CONTACTOR WIRING DIAGRAM

CONTACTOR	
POLE	CIRCUIT
1	LC#1
2	LC#2
3	LC#3
4	LC#4
5	SPARE
6	SPARE
7	SPARE
8	SPARE
9	SPARE
10	SPARE
11	SPARE
12	SPARE



LOAD CENTER WIRING DETAIL

NOT TO SCALE

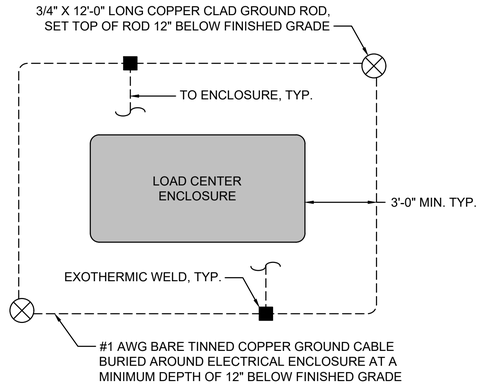


LOAD CENTER FOUNDATION

NOT TO SCALE

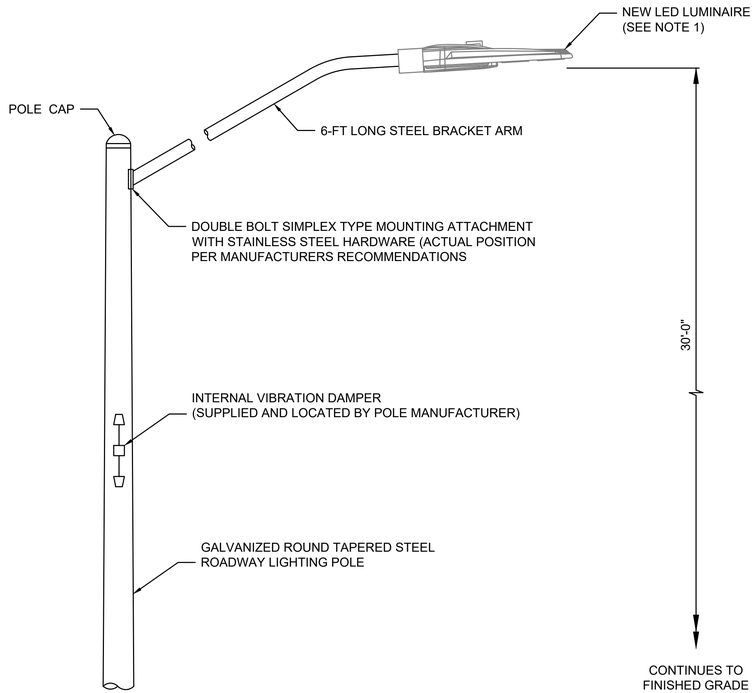
LOAD CENTER "A" DISTRIBUTION PANEL																	
SYSTEM VOLTAGE:	120/240	V	**LOCATION:**	WEATHERPROOF ENCLOSURE (OFFSET FROM RANDOLPH AVE.)			**MOUNTING:**	X	SURFACE		**MAIN LUGS**					
PANEL BUS RATING:	100	A	**POWER SOURCE:**	120/240V DISTRIBUTION TRANSFORMER					FLUSH	X	**MAIN BREAKER**	100	A			
WIRE SYSTEM:	3	WIRE	**INCOMING FEEDER SIZE:**	CONTRACTOR TO COORDINATE WITH UTILITY COMPANY			**ADDITIONAL COMMENTS:**									
# OF PHASES:	2	PHASE	**BASIS OF DESIGN:**													
AIC RATING:	18,000	AIC														

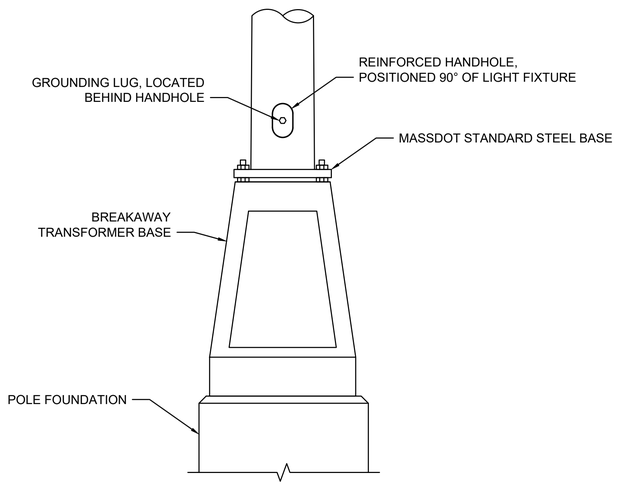
BKR #	LOAD DESCRIPTION	LOAD (VA)	BREAKER SIZE	# OF POLES	CONDUCTORS (AWG)		RACEWAY SIZE	VOLT-AMPS PER PHASE		RACEWAY SIZE	CONDUCTORS (AWG)		# OF POLES	BREAKER SIZE	LOAD (VA)	LOAD DESCRIPTION	BKR #
					CURRENT CARRYING	GROUND		L1	L2		CURRENT CARRYING	GROUND					
1	LIGHTING CIRCUIT 1	180	20A	1	(2) #8	#8	3" PVC	358		3" PVC	(2) #8	#8	1	20A	178	LIGHTING CIRCUIT 2	2
3	LIGHTING CIRCUIT 3	232	20A	1	(2) #8	#8	3" PVC		464	3" PVC	(2) #8	#8	1	20A	232	LIGHTING CIRCUIT 4	4
5	LIGHTING CONTROL	- - -	20A	1	(2) #12	#12	3" PVC	0		- - -	- - -	- - -	1	20A	- - -	SPARE	6
7	LED LIGHT	- - -	20A	1	(2) #12	#12	3/4" RGS		5	- - -	- - -	- - -	1	20A	- - -	SPARE	8
9	OUTLET	180	20A	1	(2) #10	#10	3/4" RGS	430		1" PVC	(2) #10	(2) #10	2	20A	500	HEATER	10
11	SPARE	- - -	20A	1	- - -	- - -	- - -		250								12
13	SPARE	- - -	20A	1	- - -	- - -	- - -	0		- - -	- - -	- - -	1	20A	- - -	SPARE	14
15	SPARE	- - -	20A	1	- - -	- - -	- - -		0	- - -	- - -	- - -	1	20A	- - -	SPARE	16
17	SPARE	- - -	20A	1	- - -	- - -	- - -	0		- - -	- - -	- - -	1	20A	- - -	SPARE	18
19	SPARE	- - -	20A	1	- - -	- - -	- - -		0	- - -	- - -	- - -	1	20A	- - -	SPARE	20
							PER PHASE TOTALS:	**788**	**719**				**TOTAL CONNECTED LOAD:**		**1502**	**VA**	
													AMPS CORRESPONDING TO CONNECTED LOAD:		**12.6**	**AMPS**	



LOAD CENTER GROUNDING DETAIL

NOT TO SCALE





TYPICAL LIGHT POLE ARRANGEMENT
NTS

NOTES:

1. FOR INFORMATION ON LUMINAIRES, REFER TO DETAILS AND SCHEDULE PROVIDED ON SHEET NO. 12.

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	81	123
PROJECT FILE NO.	607342		

LIGHTING POLE
ARRANGEMENT DETAILS

607342_POLE DETAILS.DWG Plotted on 8/22/2024 3:24 PM

LIGHTING FIXTURE DESCRIPTION SCHEDULE								
POLE ID #	NORTHING	EASTING	LUMINAIRE TYPE	MOUNTING HEIGHT	FAO MODULE POSITION	FAO WATTAGE	FAO LUMEN	CIRCUIT NUMBER
LP01	2906740.80	772435.68	L1	30'-0"	6	157	24,016	#1
LP02	2906866.92	772502.65	L1	30'-0"	7	184	28,219	#2
LP03	2906906.93	772396.79	L1	30'-0"	8	196	30,020	#3
LP04	2906974.38	772545.94	L1	30'-0"	8	196	30,020	#4
LP05	2906982.33	772333.95	L1	30'-0"	7	184	28,219	#1
LP06	2907068.73	772740.87	L1	30'-0"	4	108	16,511	#2
LP07	2906976.50	772171.81	L1	30'-0"	4	108	16,511	#3
LP08	2907052.88	772591.15	L1	30'-0"	7	184	28,219	#4
LP09	2907060.88	772377.77	L1	30'-0"	7	184	28,219	#1
LP10	2907108.85	772511.92	L1	30'-0"	7	184	28,219	#2
LP11	2907162.54	772404.76	L1	30'-0"	6	157	24,016	#3
LP12	2907278.46	772471.59	L1	30'-0"	5	131	20,113	#4

FAO MODULE PERFORMANCE TABLE			
LUMINAIRE TYPE	FAO POSITION	PERCENT LUMENS	PERCENT WATTAGE
L1	8	100	100
	7	95	94
	6	84	80
	5	72	67
	4	60	55
	3	47	42
	2	33	30
	1	19	17

NOTES:

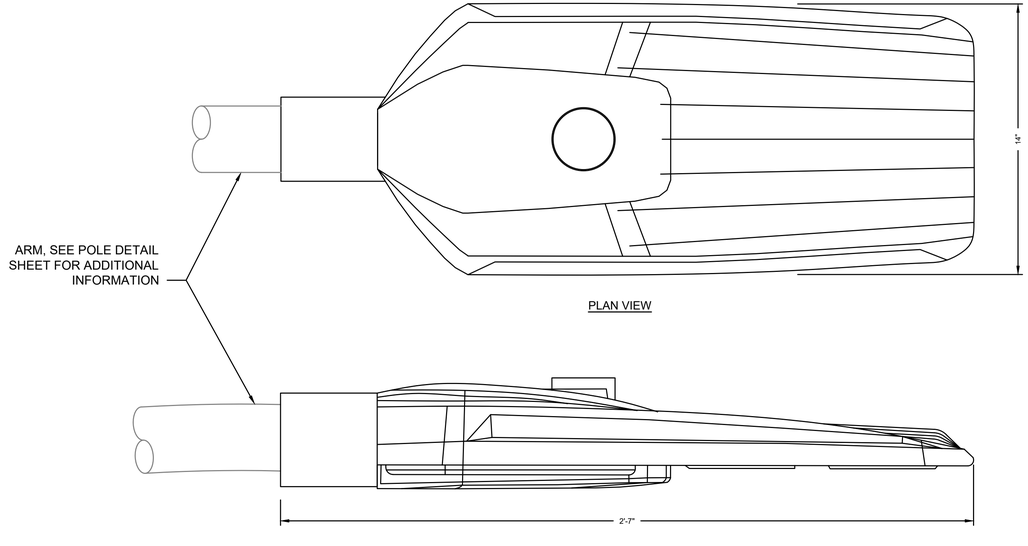
1. FOR INFORMATION ON LIGHTING POLES AND SUPPORT ARMS, REFER TO SHEET NO. 11.

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	82	123
PROJECT FILE NO.	607342		

LUMINAIRE DETAILS & SCHEDULES

LUMINAIRE SCHEDULE										
LUMINAIRE			LAMP PROPERTIES				VOLTAGE	MANUFACTURER AND BASE MODEL NUMBER	REMARKS AND OPTIONS	QTY
SYMBOL	TYPE	MTG	TYPE	DISTRIBUTION	INITIAL LUMENS	WATTAGE				
	L1	POLE	LED	TYPE III	30,020	196	120	AUTOBAHN ATB2-P602-R3-4K OR EQUAL	LUMINAIRE WITH CAST ALUMINUM HOUSING, SILVER FINISH, TYPE 3 DISTRIBUTION, 0-10V DIMMING, 4000K, ZERO UPLIGHT (DARK SKY COMPLAINT), WET LOCATION, FAO MODULE INCLUDED	12



PLAN VIEW

SIDE VIEW

LUMINAIRE TYPE L1 DETAIL
NTS

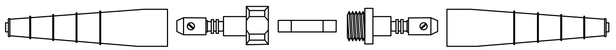
607342_LUMINAIRE DETAILS & SCHEDULE.DWG Plotted on 8/22/2024 3:24 PM

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	83	123
PROJECT FILE NO.	607342		

TYPICAL LIGHTING DETAILS

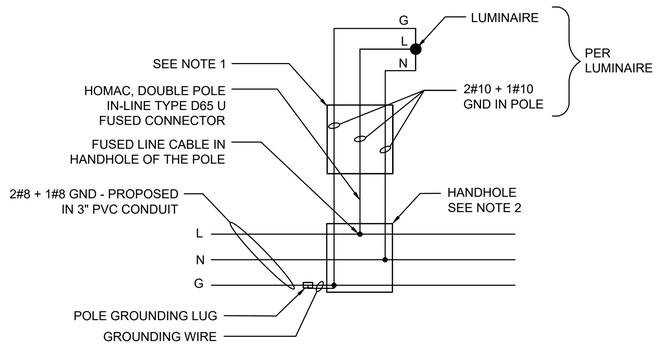
607342_TYPICAL LIGHTING DETAILS.DWG Plotted on 8/22/2024 3:24 PM



RATING:	600 VOLTS - 30 AMPS
FUSE SIZE:	1 1/2" x 13/32" O.D. - FERRULE 3/8"
CONNECTOR SIZE:	8 1/2" x 7/8" O.D.
CONNECTOR TYPE:	FUSE - QUICK DISCONNECT SET SCREW TYPE CONNECTION
CONNECTOR MATERIAL:	MOLDED PLASTIC BODY WITH RUBBER INSULATING BOOTS.
CONDUCTOR SIZE:	LINE AND LOAD #2 AWG THROUGH #12 AWG
REQUIRED FEATURES:	WATERTIGHT NO TAPING OR SEALANT REQUIRED
• FUSE HELD IN LOAD SIDE WHEN CONNECTOR IS DISCONNECTED. • PROVIDE APPROVED FUSE HOLDER WITH "DUMMY" ROD BLANK FUSE FOR NEUTRALS	

FUSE HELD IN LOAD SIDE WHEN CONNECTOR IS DISCONNECTED.

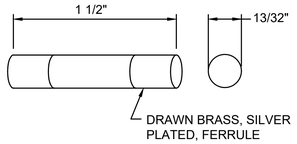
STRAIGHT THRU CONNECTOR
NTS



POWER WIRING DIAGRAM FOR POLE MOUNTED LUMINAIRE
NTS

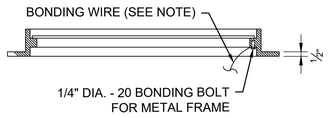
NOTES:

1. STYLE FUSED HOLDER HOMAC DOUBLE POLE TYPE D65 U FUSED CONNECTOR OR EQUAL.
2. CONTRACTOR TO PROVIDE SPECIAL FLOOD-SEAL STREET AND HIGHWAY LIGHTING MECHANICAL CONNECTORS ENSURING A FULLY INSULATED, WATER AND SUBMERSIBLE CONNECTION FOR ALL THE WIRES IN THE HANDHOLE.
3. ALL CONCRETE FOR DUCT RUNS TO BE CLASS "A" (4000 PSI) AS PER STRUCTURAL SPECIFICATIONS.
4. ALL CABLES SHALL BE TAGGED WITH A PROTECTED PLASTIC TAG OF DISTINCTIVE COLOR AND MARKING FOR EACH VOLTAGE. THE TAGS WILL GIVE VOLTAGE AND CIRCUIT NUMBER ASSIGNED BY THE CONTRACT DRAWINGS CONDUIT AND WIRE SCHEDULE.



SIZE: MIDGET
TYPE: CURRENT LIMITING FUSE
VOLTAGE RATING: 250 VOLTS
USE: PROTECTION OF AREA LIGHTING EQUIPMENT

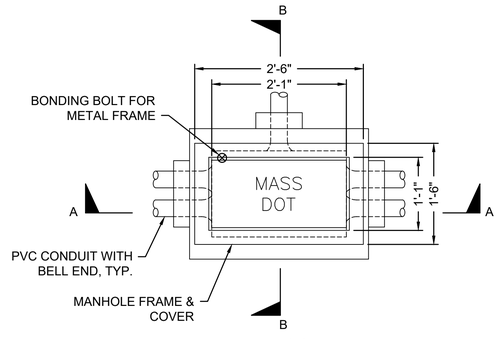
FUSES
NTS



NOTE:

ATTACH SUFFICIENT LENGTH OF NO. 6 BONDING WIRE FROM BONDING BOLT ON FRAME TO THE BONDING WIRE ROUTED THROUGH THE PULL BOX.

ELECTRIC HANDHOLE FRAME AND COVER DETAIL
N.T.S.

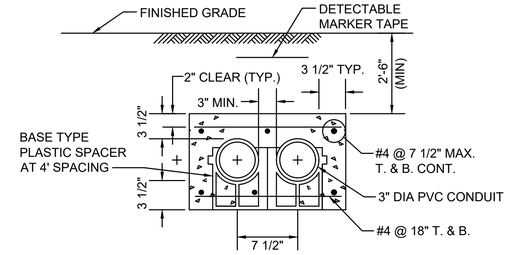


PLAN C-C

BONDING LUG
N.T.S.

NOTES:

1. BONDING POST CONNECTOR SHALL BE LONG STUD TYPE WHICH WILL ACCOMMODATE A DOUBLE CONDUCTOR INSTALLATION.
2. ATTACH 3 FOOT LONG, NO. 6 COPPER BONDING CONDUCTOR TO BONDING POST CONNECTOR INSTALLED ON FRAME.
3. ATTACH FREE END OF BONDING CONDUCTOR ROUTED THROUGH CONDUIT SYSTEM TO BONDING POST CONNECTOR INSTALLED ON THE FRAME.
4. LUG SHALL BE EITHER COPPER OR BRASS.

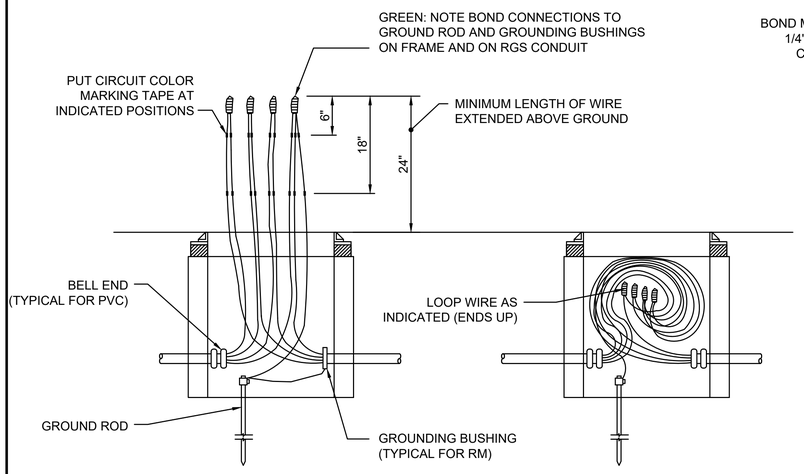


NOTE:

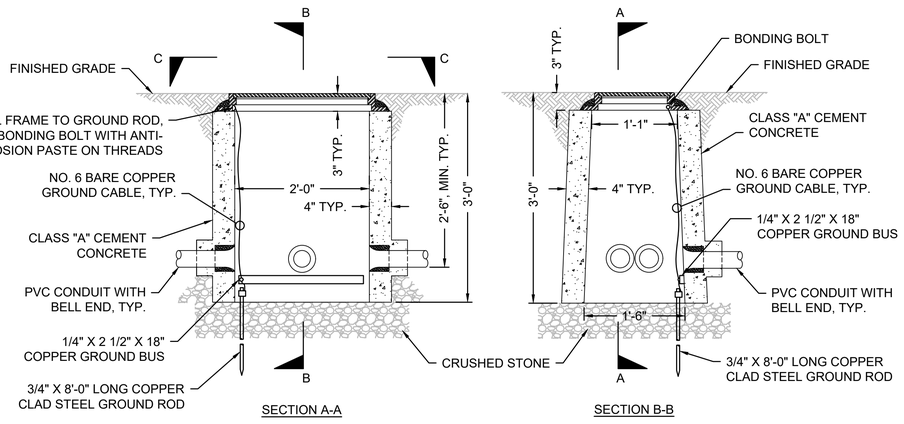
BACKFILL DUCT BANK IN LAYERS AND MANUALLY TAMP OR "PUDDLE" CONCRETE FILL. PROVIDE YELLOW DETECTABLE DUCT BANK MARKER TAPES, READING "CAUTION - ELECTRICAL LINES BELOW", OVER ENTIRE LENGTH OF DUCTLINE. LOCATE TAPES 12 INCHES BELOW GRADE. PROVIDE A TAPE FOR EVERY 12 INCHES OF WIDTH OF DUCTLINE.

DUCT BANK SECTION (DOUBLE)
NTS

PULL-AWAY FUSED DISCONNECTS



HANDHOLE WIRING DETAIL
NTS



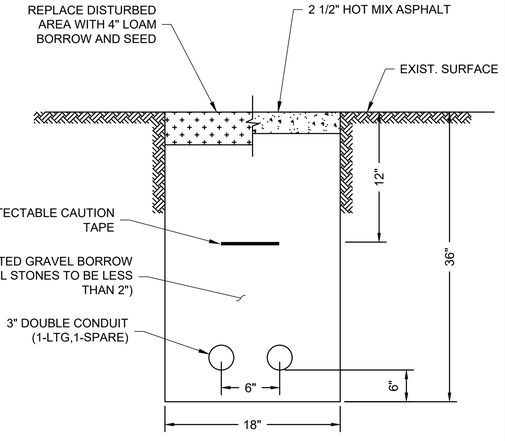
SECTION A-A

SECTION B-B

24" X 13" X 36" HANDHOLE
(HS-20 RATED)
NTS

LIGHTING HANDHOLE SCHEDULE

TYPE	INTERIOR DIMENSIONS	DESIGNATION ON LAYOUTS	NOTES
1	24" x 13" x 36"	LH01, LH02, LH02A, LH03, LH04, LH04A, LH05, LH05A, LH06, LH07, LH08, LH09, LH10, LH11, LH12	



DIRECT BURIED CONDUIT TRENCH
(UNDER GRASS AREA OR SIDEWALK
NTS

	PROPOSED DUCTBANK CONDUIT SCHEDULE						
DESIGNATION	**FROM**	**TO**	**APPROXIMATE LENGTH (FT)**	**CONDUIT TYPE**	**CONDUIT QUANTITY**	**CONDUIT SIZE**	**CABLES WITHIN**	**NOTES**
DB00	UTILITY POLE	LC-A	35	SCHEDULE 80 PVC	2	3	INC-1	
DB01A	LC-A	LH01A	5	SCHEDULE 80 PVC	2	3	LC-1, LC-3	
DB01	LH01A	LH01	90	SCHEDULE 80 PVC	2	3	LC-1A	
DB02A	LC-A	LH02A	90	SCHEDULE 80 PVC - ENCASED	2	3	LC-2, LC-4	
DB02	LH02A	LH02	25	SCHEDULE 80 PVC	2	3	LC-2, LC-4	
DB03	LH01A	LH03	80	SCHEDULE 80 PVC	2	3	LC-1, LC-3	
DB04	LH02	LH04	125	SCHEDULE 80 PVC	2	3	LC-2, LC-4	
DB04A	LH04	LH04A	45	SCHEDULE 80 PVC	2	3	LC-2, LC-4	
DB05	LH03	LH05	95	SCHEDULE 80 PVC	2	3	LC-1, LC-3	
DB05A	LH05	LH05A	65	SCHEDULE 80 PVC - ENCASED	2	3	LC-1, LC-3	
DB06	LH08	LH06	145	SCHEDULE 80 PVC	2	3	LC-2	
DB07	LH05A	LH07	180	SCHEDULE 80 PVC	2	3	LC-3	
DB08	LH04A	LH08	55	SCHEDULE 80 PVC - ENCASED	2	3	LC-2, LC-4	
DB09	LH05A	LH09	50	SCHEDULE 80 PVC	2	3	LC-1, LC-3	
DB10	LH08	LH10	110	SCHEDULE 80 PVC	2	3	LC-2, LC-4	
DB11	LH09	LH11	120	SCHEDULE 80 PVC	2	3	LC-3	
DB12	LH10	LH12	180	SCHEDULE 80 PVC	2	3	LC-4	
TYPICAL	LH	LP	VARIES	SCHEDULE 80 PVC	1	2	VARIES	12 LOCATIONS TOTAL - 1 PER LIGHT POLE

NOTES:

1. FOR INFORMATION ON LUMINAIRES, REFER TO SHEET NO. 12.
2. FOR PROPOSED LOAD CENTER SINGLE LINE DIAGRAM AND DETAILS, REFER TO SHEET NO. 02 AND 10, RESPECTIVELY.

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	84	123
PROJECT FILE NO.	607342		

CONDUIT & CABLE SCHEDULES

	PROPOSED CABLE SCHEDULE										
DESIGNATION	**FROM**	**TO**	**FUNCTION**	**APPROXIMATE LENGTH (FT)**	**CABLE TYPE**	**CONDUCTOR MATERIAL**	**CABLE QUANTITY**	**CABLE SIZE**	**CABLE INSULATION**	**GROUND CONDUCTOR**	**ROUTED THROUGH HANDHOLE #**	**NOTES**
INC-1	UTILITY	LC-A, METER DISCONNECT	INCOMING SERVICE	60	XHHW	CU	SEE NOTES	SEE NOTES	600V	SEE NOTES	- - -	TO BE COORDINATED WITH LOCAL UTILITY
LC-1	LC-A	LH09	LIGHTING POWER CIRCUIT	300	XHHW	CU	2	#8	600V	#8	LH01A, LH03, LH05, LH05A	LIGHTING CIRCUIT 1 MAIN DISTRIBUTION CABLE
LC-1-1	LH05	LP05	LIGHTING POWER CIRCUIT TO POLE	50	XHHW	CU	2	#10	600V	#10	- - -	LIGHTING CIRCUIT 1 FEED TO LIGHT POLE LP05 (SPLICE CABLE TO LC-1 INSIDE OF HANDHOLE LH05)
LC-1-2	LH09	LP09	LIGHTING POWER CIRCUIT TO POLE	50	XHHW	CU	2	#10	600V	#10	- - -	LIGHTING CIRCUIT 1 FEED TO LIGHT POLE LP09 (SPLICE CABLE TO LC-1 INSIDE OF HANDHOLE LH09)
LC-1A	LH01A	LH01	LIGHTING POWER CIRCUIT	95	XHHW	CU	2	#8	600V	#8	- - -	LIGHTING CIRCUIT 1 BRANCH DISTRIBUTION CABLE (SPLICE CABLE TO LC-1 INSIDE OF HANDHOLE LH01A)
LC-1A-1	LH01	LP01	LIGHTING POWER CIRCUIT TO POLE	50	XHHW	CU	2	#10	600V	#10	- - -	LIGHTING CIRCUIT 1 FEED TO LIGHT POLE LP01 (SPLICE CABLE TO LC-1 INSIDE OF HANDHOLE LH01)
LC-2	LDP	LH10	LIGHTING POWER CIRCUIT	450	XHHW	CU	2	#8	600V	#8	LH02A, LH02, LH04, LH04A, LH08	LIGHTING CIRCUIT 2 MAIN DISTRIBUTION CABLE
LC-2-1	LH02	LP02	LIGHTING POWER CIRCUIT TO POLE	50	XHHW	CU	2	#10	600V	#10	- - -	LIGHTING CIRCUIT 2 FEED TO LIGHT POLE LP02 (SPLICE CABLE TO LC-2 INSIDE OF HANDHOLE LH02)
LC-2-2	LH10	LP10	LIGHTING POWER CIRCUIT TO POLE	50	XHHW	CU	2	#10	600V	#10	- - -	LIGHTING CIRCUIT 2 FEED TO LIGHT POLE LP10 (SPLICE CABLE TO LC-2 INSIDE OF HANDHOLE LH10)
LC-2A	LH08	LH06	LIGHTING POWER CIRCUIT	145	XHHW	CU	2	#8	600V	#8	- - -	LIGHTING CIRCUIT 2 BRANCH DISTRIBUTION CABLE (SPLICE CABLE TO LC-2 INSIDE OF HANDHOLE LH08)
LC-2A-1	LH06	LP06	LIGHTING POWER CIRCUIT TO POLE	50	XHHW	CU	2	#10	600V	#10	- - -	LIGHTING CIRCUIT 2 FEED TO LIGHT POLE LP06 (SPLICE CABLE TO LC-2 INSIDE OF HANDHOLE LH06)
LC-3	LDP	LH11	LIGHTING POWER CIRCUIT	400	XHHW	CU	2	#8	600V	#8	LH01A, LH03, LH05, LH05A, LH09	LIGHTING CIRCUIT 3 MAIN DISTRIBUTION CABLE
LC-3-1	LH03	LP03	LIGHTING POWER CIRCUIT TO POLE	50	XHHW	CU	2	#10	600V	#10	- - -	LIGHTING CIRCUIT 2 FEED TO LIGHT POLE LP03 (SPLICE CABLE TO LC-3 INSIDE OF HANDHOLE LH03)
LC-3-2	LH11	LP11	LIGHTING POWER CIRCUIT TO POLE	50	XHHW	CU	2	#10	600V	#10	- - -	LIGHTING CIRCUIT 2 FEED TO LIGHT POLE LP11 (SPLICE CABLE TO LC-3 INSIDE OF HANDHOLE LH11)
LC-3A	LH05A	LH07	LIGHTING POWER CIRCUIT	180	XHHW	CU	2	#8	600V	#8	- - -	LIGHTING CIRCUIT 3 BRANCH DISTRIBUTION CABLE (SPLICE CABLE TO LC-3 INSIDE OF HANDHOLE LH05A)
LC-3A-1	LH07	LP07	LIGHTING POWER CIRCUIT TO POLE	50	XHHW	CU	2	#10	600V	#10	- - -	LIGHTING CIRCUIT 1 FEED TO LIGHT POLE LP07 (SPLICE CABLE TO LC-3 INSIDE OF HANDHOLE LH07)
LC-4	LDP	LH12	LIGHTING POWER CIRCUIT	630	XHHW	CU	2	#8	600V	#8	LH02A, LH02, LH04, LH04A, LH08, LH10	LIGHTING CIRCUIT 4 MAIN DISTRIBUTION CABLE
LC-4-1	LH04	LP04	LIGHTING POWER CIRCUIT TO POLE	50	XHHW	CU	2	#10	600V	#10	- - -	LIGHTING CIRCUIT 4 FEED TO LIGHT POLE LP04 (SPLICE CABLE TO LC-3 INSIDE OF HANDHOLE LH04)
LC-4-2	LH08	LP08	LIGHTING POWER CIRCUIT TO POLE	50	XHHW	CU	2	#10	600V	#10	- - -	LIGHTING CIRCUIT 4 FEED TO LIGHT POLE LP08 (SPLICE CABLE TO LC-3 INSIDE OF HANDHOLE LH08)
LC-4-3	LH12	LP12	LIGHTING POWER CIRCUIT TO POLE	50	XHHW	CU	2	#10	600V	#10	- - -	LIGHTING CIRCUIT 4 FEED TO LIGHT POLE LP12 (SPLICE CABLE TO LC-3 INSIDE OF HANDHOLE LH12)

607342_CONDUIT & CABLE SCHEDULE.DWG Plotted on 8/22/2024 3:24 PM

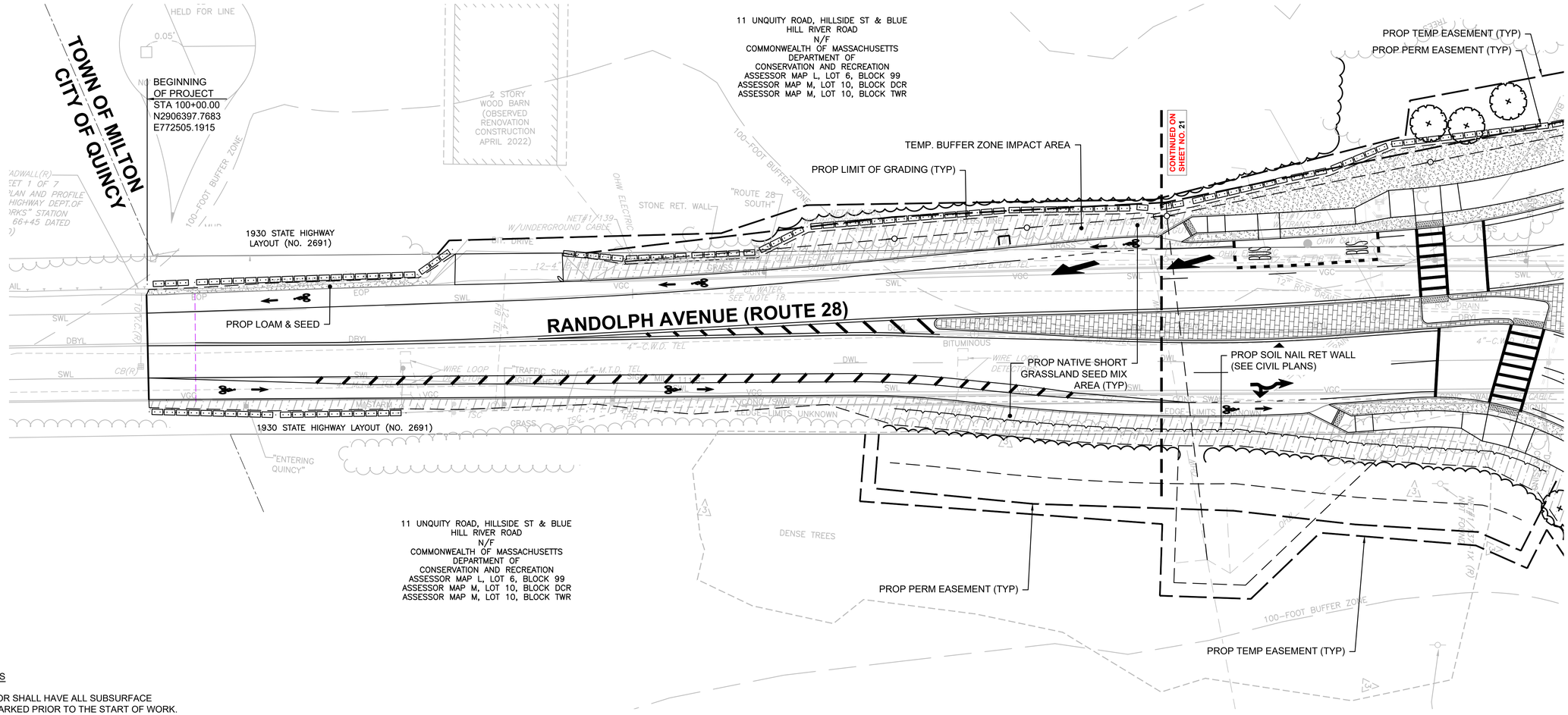
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	85	123
PROJECT FILE NO.	607342		

LANDSCAPE PLANS

LANDSCAPE DETAILS

SEE SHEET 25



PLANTING NOTES

1. CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
2. PLANT LOCATIONS ARE APPROXIMATE. ALL PROPOSED TREE LOCATIONS SHALL BE STAKED OR LAID OUT IN THEIR APPROXIMATE LOCATION BY THE CONTRACTOR. THE CONTRACTOR SHALL ADJUST THE LOCATIONS AS REQUESTED BY THE LANDSCAPE ARCHITECT TO ACCOUNT FOR SUBSURFACE UTILITIES AND OTHER FIELD CONDITIONS. PRIOR TO PLANTING, LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE LANDSCAPE ARCHITECT.
3. ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME, CULTIVAR, & SIZE.
4. IMMEDIATELY AFTER ACCEPTANCE OF PLANTING, TAGS AND RIBBONS SHALL BE REMOVED.
5. ALL PLANTS WILL BE MULCHED PER PLANS AND SPECIFICATIONS.
6. PLANTS AND PLANTING BEDS SHALL BE THOROUGHLY WATERED AS NECESSARY AND PER SPECIFICATIONS AND DETAILS.
7. PLANT SYMBOLS DEPICTED AT APPROXIMATELY ½ LIFE CANOPY WIDTH, AND WILL BE SMALLER AT TIME OF PLANTING.

GENERAL NOTE:

1. ALL TREES ARE TO BE RETAINED UNLESS OTHERWISE NOTED.

PLANTING LEGEND

- DECIDUOUS TREE
- EVERGREEN TREE
- LAWN SEED MIX
- NATIVE SHORT GRASSLAND SEED MIX AREA
- WETLAND PART SHADE SEED MIX AREA

N

0 20 50 100

SCALE: 1" = 20'

607342_LD1(PLANS).DWG Plotted on 26-Jul-2024 3:12 PM

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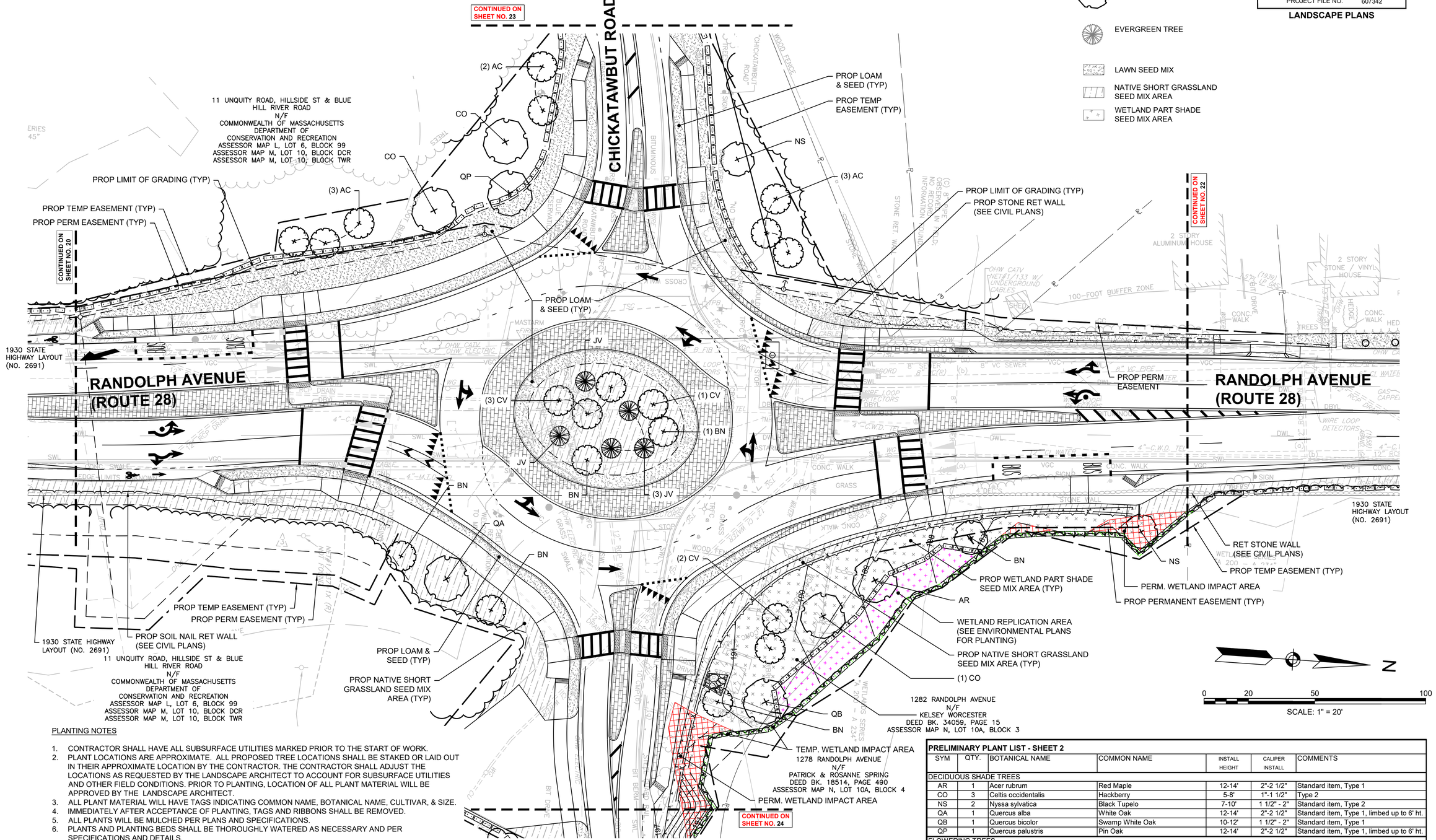
John Gwozdz

LANDSCAPE DETAILS
SEE SHEET 25

PLANTING LEGEND

- DECIDUOUS TREE
- EVERGREEN TREE
- LAWN SEED MIX
- NATIVE SHORT GRASSLAND SEED MIX AREA
- WETLAND PART SHADE SEED MIX AREA



PLANTING NOTES

1. CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
2. PLANT LOCATIONS ARE APPROXIMATE. ALL PROPOSED TREE LOCATIONS SHALL BE STAKED OR LAID OUT IN THEIR APPROXIMATE LOCATION BY THE CONTRACTOR. THE CONTRACTOR SHALL ADJUST THE LOCATIONS AS REQUESTED BY THE LANDSCAPE ARCHITECT TO ACCOUNT FOR SUBSURFACE UTILITIES AND OTHER FIELD CONDITIONS. PRIOR TO PLANTING, LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE LANDSCAPE ARCHITECT.
3. ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME, CULTIVAR, & SIZE.
4. IMMEDIATELY AFTER ACCEPTANCE OF PLANTING, TAGS AND RIBBONS SHALL BE REMOVED.
5. ALL PLANTS WILL BE MULCHED PER PLANS AND SPECIFICATIONS.
6. PLANTS AND PLANTING BEDS SHALL BE THOROUGHLY WATERED AS NECESSARY AND PER SPECIFICATIONS AND DETAILS.
7. PLANT SYMBOLS DEPICTED AT APPROXIMATELY ½ LIFE CANOPY WIDTH, AND WILL BE SMALLER AT TIME OF PLANTING.

GENERAL NOTE:

1. ALL TREES ARE TO BE RETAINED UNLESS OTHERWISE NOTED.

PRELIMINARY PLANT LIST - SHEET 2

SYM	QTY.	BOTANICAL NAME	COMMON NAME	INSTALL HEIGHT	CALIPER INSTALL	COMMENTS
DECIDUOUS SHADE TREES						
AR	1	Acer rubrum	Red Maple	12-14'	2"-2 1/2"	Standard item, Type 1
CO	3	Celtis occidentalis	Hackberry	5-8'	1"-1 1/2"	Type 2
NS	2	Nyssa sylvatica	Black Tupelo	7-10'	1 1/2" - 2"	Standard item, Type 2
QA	1	Quercus alba	White Oak	12-14'	2"-2 1/2"	Standard item, Type 1, limbed up to 6' ht.
QB	1	Quercus bicolor	Swamp White Oak	10-12'	1 1/2" - 2"	Standard item, Type 1
QP	1	Quercus palustris	Pin Oak	12-14'	2"-2 1/2"	Standard item, Type 1, limbed up to 6' ht.
FLOWERING TREES						
AC	8	Amelanchier canadensis	Serviceberry	7-8'	-	Standard Item, Clump
BN	6	Betula nigra 'Heritage'	River Birch (clump)	8-10'	-	Standard Item, Clump
CV	6	Crataegus viridis 'Winter King'	Winter King Hawthorn	8-10'	1 1/2" - 2"	Standard Item
EVERGREEN TREES						
JV	5	Juniperus virginiana	Eastern Red Cedar	5-6'	-	Standard item

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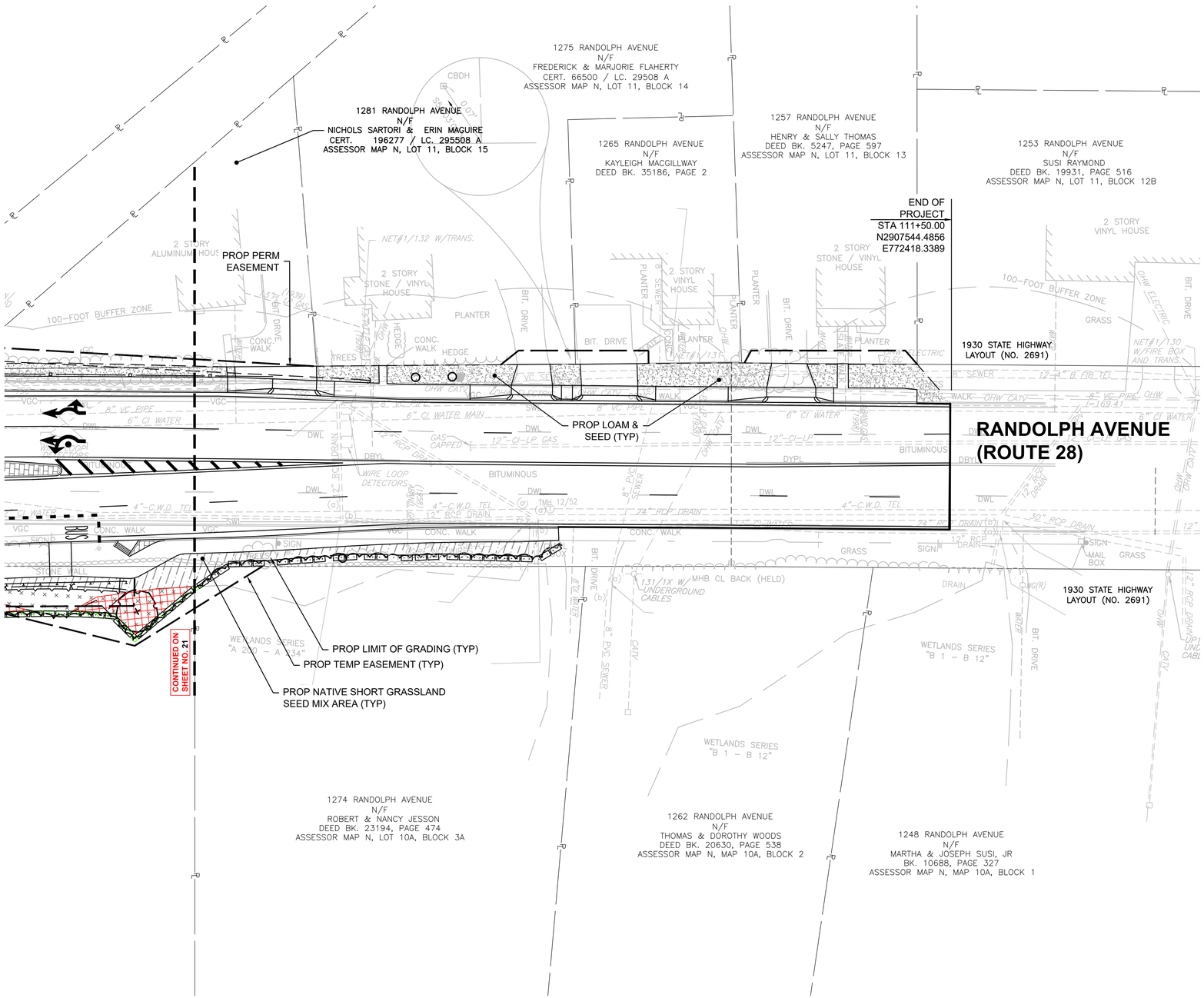
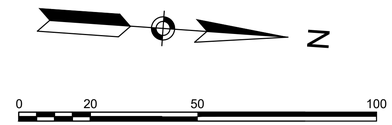
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	87	123
PROJECT FILE NO.	607342		

LANDSCAPE PLANS





PLANTING LEGEND

- DECIDUOUS TREE
- EVERGREEN TREE
- LAWN SEED MIX
- NATIVE SHORT GRASSLAND SEED MIX AREA
- WETLAND PART SHADE SEED MIX AREA

PLANTING NOTES

1. CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
2. PLANT LOCATIONS ARE APPROXIMATE. ALL PROPOSED TREE LOCATIONS SHALL BE STAKED OR LAID OUT IN THEIR APPROXIMATE LOCATION BY THE CONTRACTOR. THE CONTRACTOR SHALL ADJUST THE LOCATIONS AS REQUESTED BY THE LANDSCAPE ARCHITECT TO ACCOUNT FOR SUBSURFACE UTILITIES AND OTHER FIELD CONDITIONS. PRIOR TO PLANTING, LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE LANDSCAPE ARCHITECT.
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6. PLANTS AND PLANTING BEDS SHALL BE THOROUGHLY WATERED AS NECESSARY AND PER SPECIFICATIONS AND DETAILS.
7. PLANT SYMBOLS DEPICTED AT APPROXIMATELY $\frac{1}{2}$ LIFE CANOPY WIDTH, AND WILL BE SMALLER AT TIME OF PLANTING.

GENERAL NOTE:

1. ALL TREES ARE TO BE RETAINED UNLESS OTHERWISE NOTED.

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John Gwozdz

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	88	123
PROJECT FILE NO.	607342		

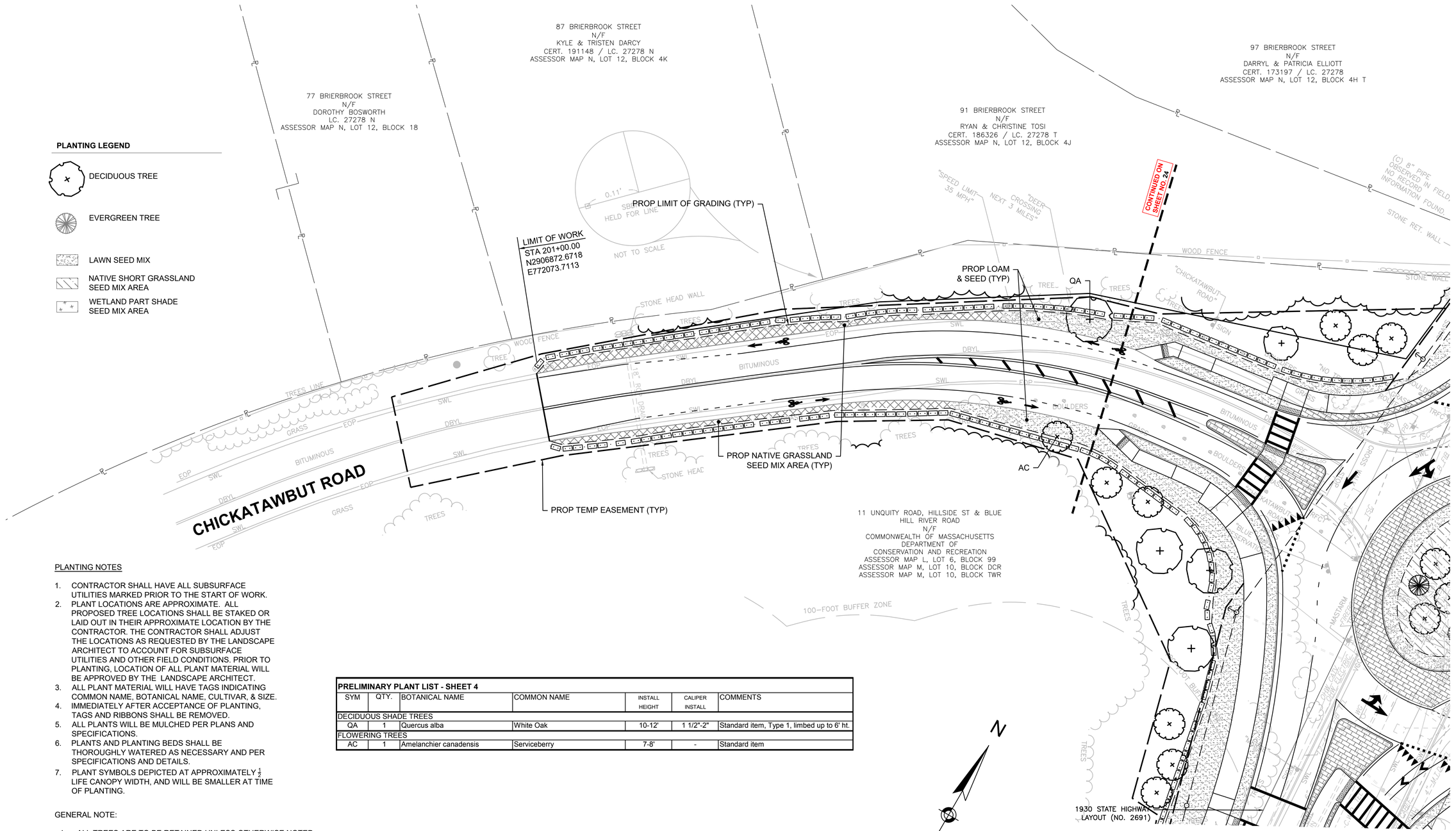
LANDSCAPE PLANS

LANDSCAPE DETAILS

SEE SHEET 25

PLANTING LEGEND

- DECIDUOUS TREE
- EVERGREEN TREE
- LAWN SEED MIX
- NATIVE SHORT GRASSLAND SEED MIX AREA
- WETLAND PART SHADE SEED MIX AREA



PLANTING NOTES

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GENERAL NOTE:

1. ALL TREES ARE TO BE RETAINED UNLESS OTHERWISE NOTED.

PRELIMINARY PLANT LIST - SHEET 4

SYM	QTY.	BOTANICAL NAME	COMMON NAME	INSTALL HEIGHT	CALIPER INSTALL	COMMENTS
DECIDUOUS SHADE TREES						
QA	1	Quercus alba	White Oak	10-12'	1 1/2"-2"	Standard item, Type 1, limbed up to 6' ht.
FLOWERING TREES						
AC	1	Amelanchier canadensis	Serviceberry	7-8'	-	Standard item

N

0 20 50 100

SCALE: 1" = 20'

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John Gwozdz

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	89	123
PROJECT FILE NO.	607342		

LANDSCAPE PLANS

LANDSCAPE DETAILS

SEE SHEET 25

PLANTING NOTES

1. CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
2. PLANT LOCATIONS ARE APPROXIMATE. ALL PROPOSED TREE LOCATIONS SHALL BE STAKED OR LAID OUT IN THEIR APPROXIMATE LOCATION BY THE CONTRACTOR. THE CONTRACTOR SHALL ADJUST THE LOCATIONS AS REQUESTED BY THE LANDSCAPE ARCHITECT TO ACCOUNT FOR SUBSURFACE UTILITIES AND OTHER FIELD CONDITIONS. PRIOR TO PLANTING, LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE LANDSCAPE ARCHITECT.
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GENERAL NOTE:

1. ALL TREES ARE TO BE RETAINED UNLESS OTHERWISE NOTED.

RANDOLPH AVENUE (ROUTE 28)

1282 RANDOLPH AVENUE
N/F
KELSEY WORCESTER
DEED BK. 34059, PAGE 15
ASSESSOR MAP N, LOT 10A, BLOCK 3

PROP LOAM & SEED (TYP)

NATIVE SHORT GRASSLAND SEED MIX AREA (TYP)

LIMIT OF WORK
STA 209+00.00
N2907089.6998
E772818.9554

1278 RANDOLPH AVENUE
N/F
PATRICK & ROSANNE SPRING
DEED BK. 18514, PAGE 490
ASSESSOR MAP N, LOT 10A, BLOCK 4

1274 RANDOLPH AVENUE
N/F
ROBERT & NANCY JESSON
DEED BK. 23194, PAGE 474
ASSESSOR MAP N, LOT 10A, BLOCK 3A

CHICKATAWBUT ROAD

CONTINUED ON SHEET NO. 21

1930 STATE HIGHWAY LAYOUT (NO. 2691)

11 UNQUITY ROAD, HILLSIDE ST & BLUE HILL RIVER ROAD
N/F
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF
CONSERVATION AND RECREATION
ASSESSOR MAP L, LOT 6, BLOCK 99
ASSESSOR MAP M, LOT 10, BLOCK DCR
ASSESSOR MAP M, LOT 10, BLOCK TWR

100-FOOT BUFFER ZONE

WETLANDS SERIES "A 200 – A 234"

WETLANDS SERIES "A 100 – A 108"

VERNAL POOL NO. 6034
WETLANDS SERIES "CVP 1–1 – CVP 1–19"

WETLANDS SERIES "A 1 – A 18"

ENBRIDGE – ALGONQUIN GAS TRANSMISSION LINE
APPROXIMATE RECORD LOCATION

50 ' WIDE ALGONQUIN GAS

"DEER CROSSING NEXT 3 MILES"

"SPEED LIMIT 30 MPH"

PLANTING LEGEND

- DECIDUOUS TREE
- EVERGREEN TREE
- LAWN SEED MIX
- NATIVE SHORT GRASSLAND SEED MIX AREA
- WETLAND PART SHADE SEED MIX AREA

N

0 20 50 100

SCALE: 1" = 20'

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John Gwozdz

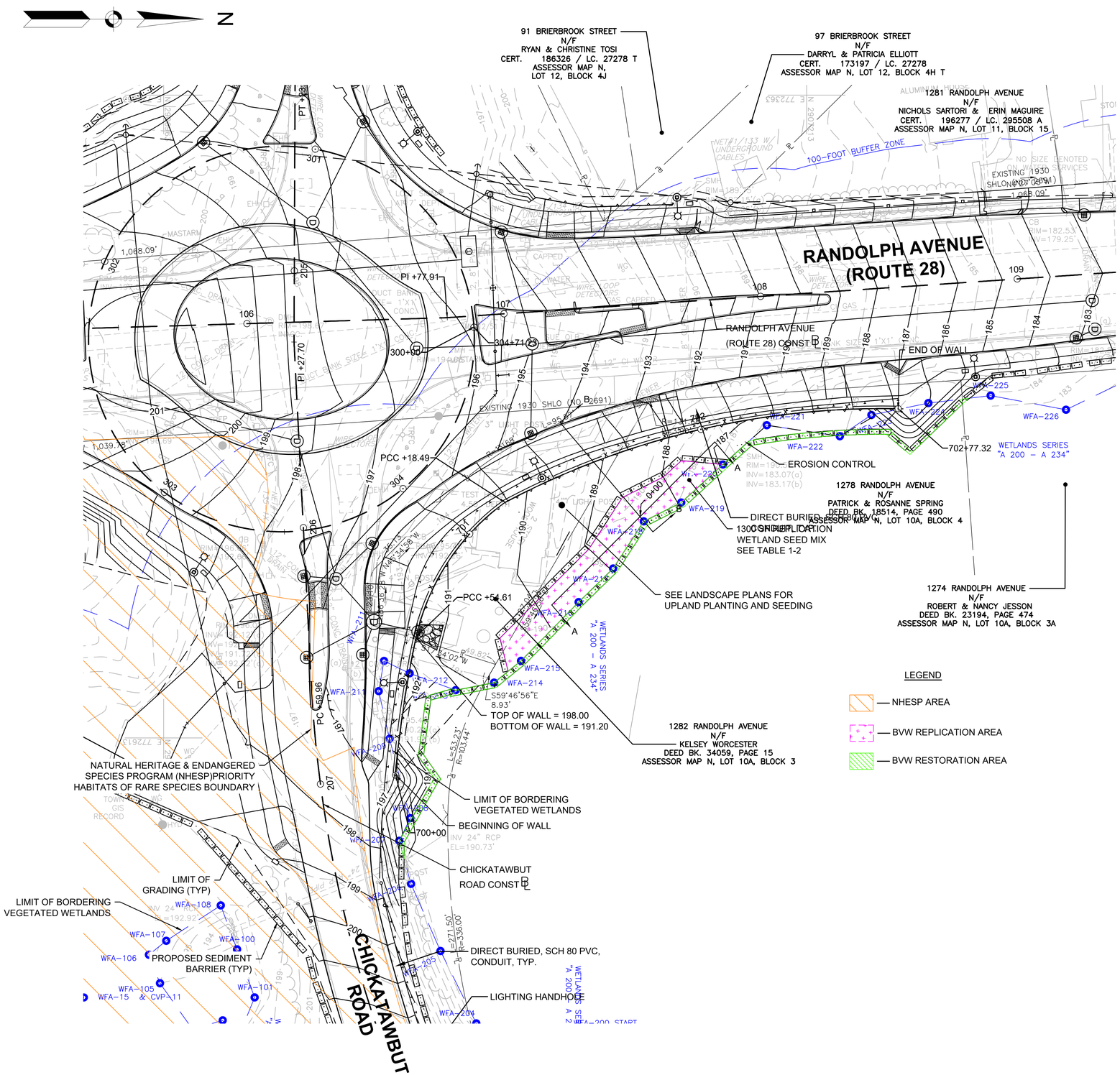


TABLE 1-1
REPLICATION AREA PLANTING SCHEDULE

Common Name	Scientific Name	Status	Minimum Size	Quantity
Trees = 8				
Red Maple	*Acer rubrum*	FAC	1" caliper	8
Shrubs = 18				
Northern Arrow-wood	*Viburnum recognitum*	FAC	18-24"	6
Northern Spicebush	*Lindera benzoin*	FACW	18-24"	6
Highbush Blueberry	*Vaccinium corymbosum*	FACW	18-24"	6
Ground Cover				
Wetland Mix – Part Shade Seed Mixture		Varies	1 lb./2,500 s.f.	1.0 lb.

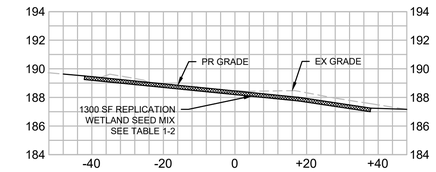
Note: Trees and shrubs shall be spaced throughout replication area to simulate natural growth patterns.

TABLE 1-2
WETLAND SEED MIXTURE

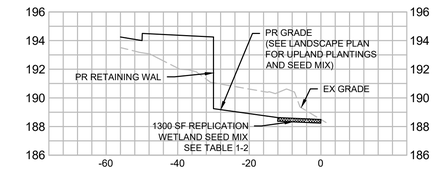
Species	Latin Name	Indicator Status
Fringed Sedge	*Carex crinita*	FACW
Lurid/Shallow Sedge	*Carex lurida*	OBL
Hop Sedge	*Carex lupulina*	OBL
Bladder Sedge	*Carex intumescens*	FACW
Blunt Broom Sedge	*Carex scoparia*	FACW
Fox Sedge	*Carex vulpinoidea*	OBL
Sweet Woodreed	*Cinna arundinacea*	FACW
Riverbank Wild Rye	*Elymus riparius*	FACW
Soft Rush	*Juncus effusus*	FACW
Path Rush	*Juncus tenuis*	FAC
Fowl Bluegrass	*Poa palustris*	FACW
Woolgrass	*Scirpus cyperinus*	OBL
Many Leaved Bulrush	*Scirpus polyphyllus*	OBL
Giant Bur Reed	*Sparganium eurycarpum*	OBL

LEGEND

- NHESP AREA
- BVW REPLICATION AREA
- BVW RESTORATION AREA



SECTION A-A
1"=20' H
1"=5' V



SECTION B-B
1"=20' H
1"=5' V

NOTE:

1. NO IMPACTS TO CERTIFIED VERNAL POOLS ARE PROPOSED.

0 20 50 100
SCALE: 1" = 20'

607342_HD\(WETLAND).DWG Plotted on 16-Sep-2024 5:13 PM
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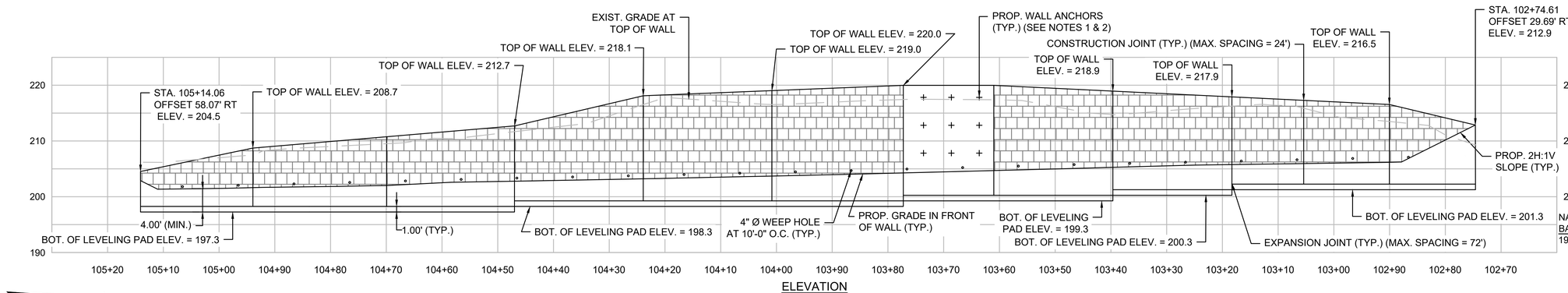
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	91	123
PROJECT FILE NO.	607342		

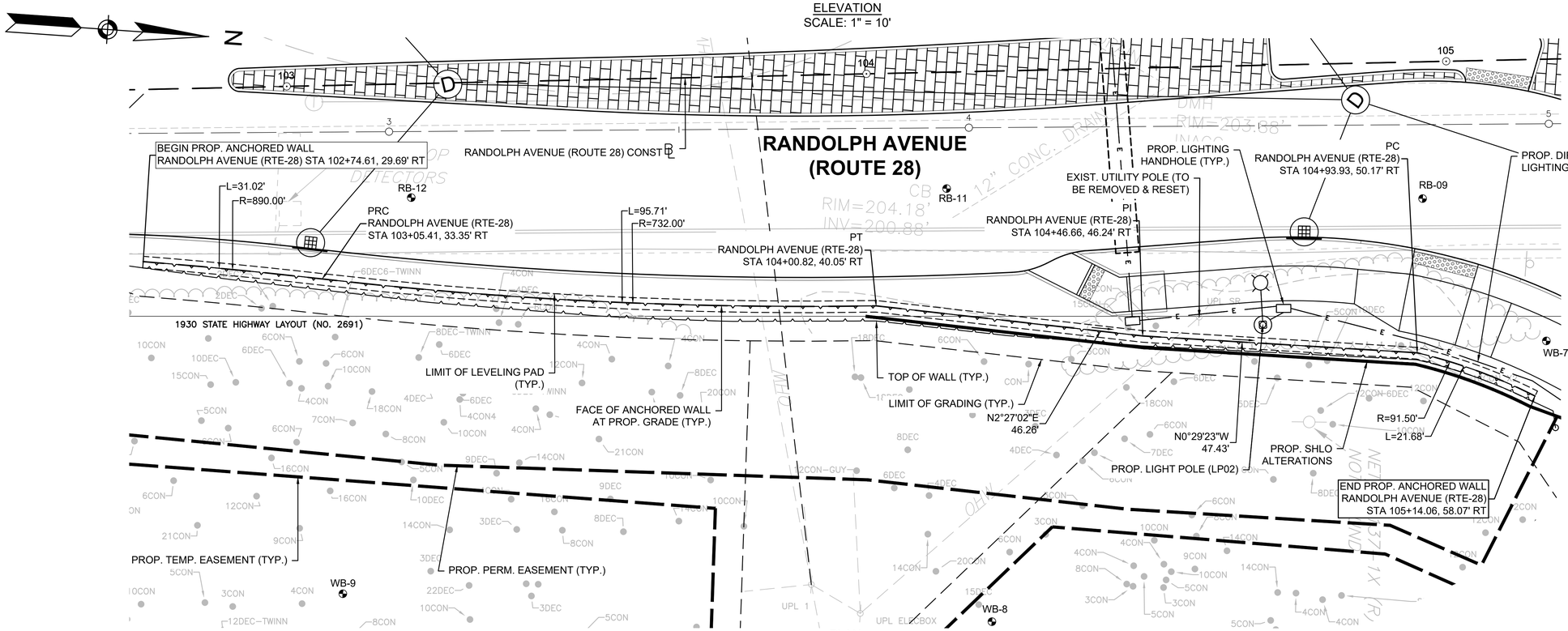
RETAINING WALL PLANS AND DETAILS
RETAINING WALL 1



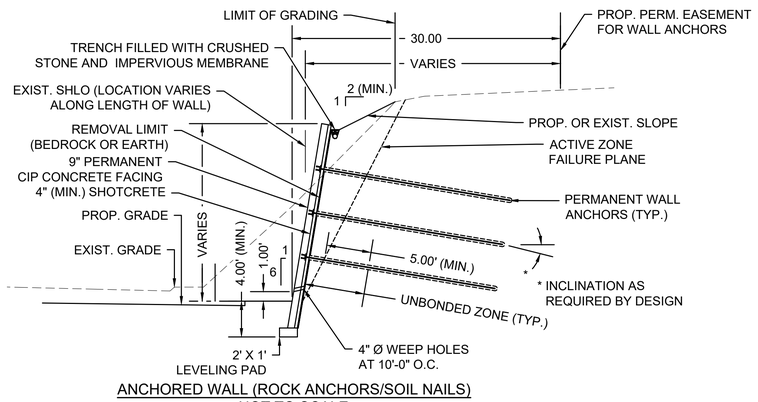
ELEVATION
SCALE: 1" = 10'

NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF THE WALL ANCHORS INCLUDING SIZE, SPACING, AND THE VERIFICATION TEST LOAD (VTL).
2. WALL ANCHORS ONLY SHOWN WITHIN THIS SECTION OF WALL FOR CLARITY ELSEWHERE.



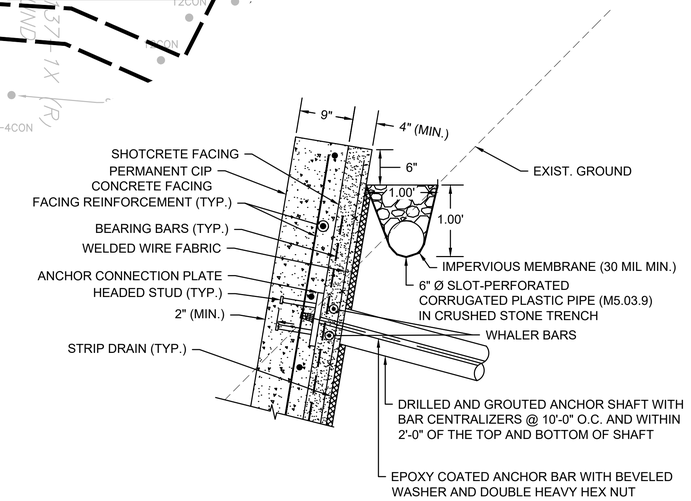
PLAN
SCALE: 1" = 10'



ANCHORED WALL (ROCK ANCHORS/SOIL NAILS)
NOT TO SCALE

NOTES:

1. SEISMIC GROUND SHAKING HAZARD, DESIGN SPECTRA: A_S = 0.083, S_{DS} = 0.170, & S_{D1} = 0.063
2. CONCRETE LEVELING PAD SHALL BEAR ON A MINIMUM OF 12 INCHES OF CRUSHED STONE WRAPPED IN A SEPARATION FABRIC.
3. THE ANCHORED WALL SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL. WALL SHALL BE DESIGNED IN ACCORDANCE WITH THE 2020 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
4. AT LEAST 5 PROOF LOAD TESTS PER HORIZONTAL ROW OF ANCHORS. 5 VERIFICATION LOAD TESTS SHOULD BE PERFORMED ON SACRIFICIAL ANCHORS, WITH AT LEAST 2 TESTS PER ANCHOR TYPE.
5. REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 31 AND BE EPOXY COATED. STRENGTH REQUIREMENTS SHALL BE BASED ON THE CONTRACTORS DESIGN.
6. SEE CONSTRUCTION PLANS FOR TREE DISPOSITION.
7. REFER TO THE UTILITY PLANS FOR UTILITY DISPOSITIONS.



ANCHORED WALL FACING DETAIL AT TOP OF WALL
SCALE: 1" = 1'-0"

607342_HD(WALL).DWG Plotted on 16-Sep-2024 3:38 PM

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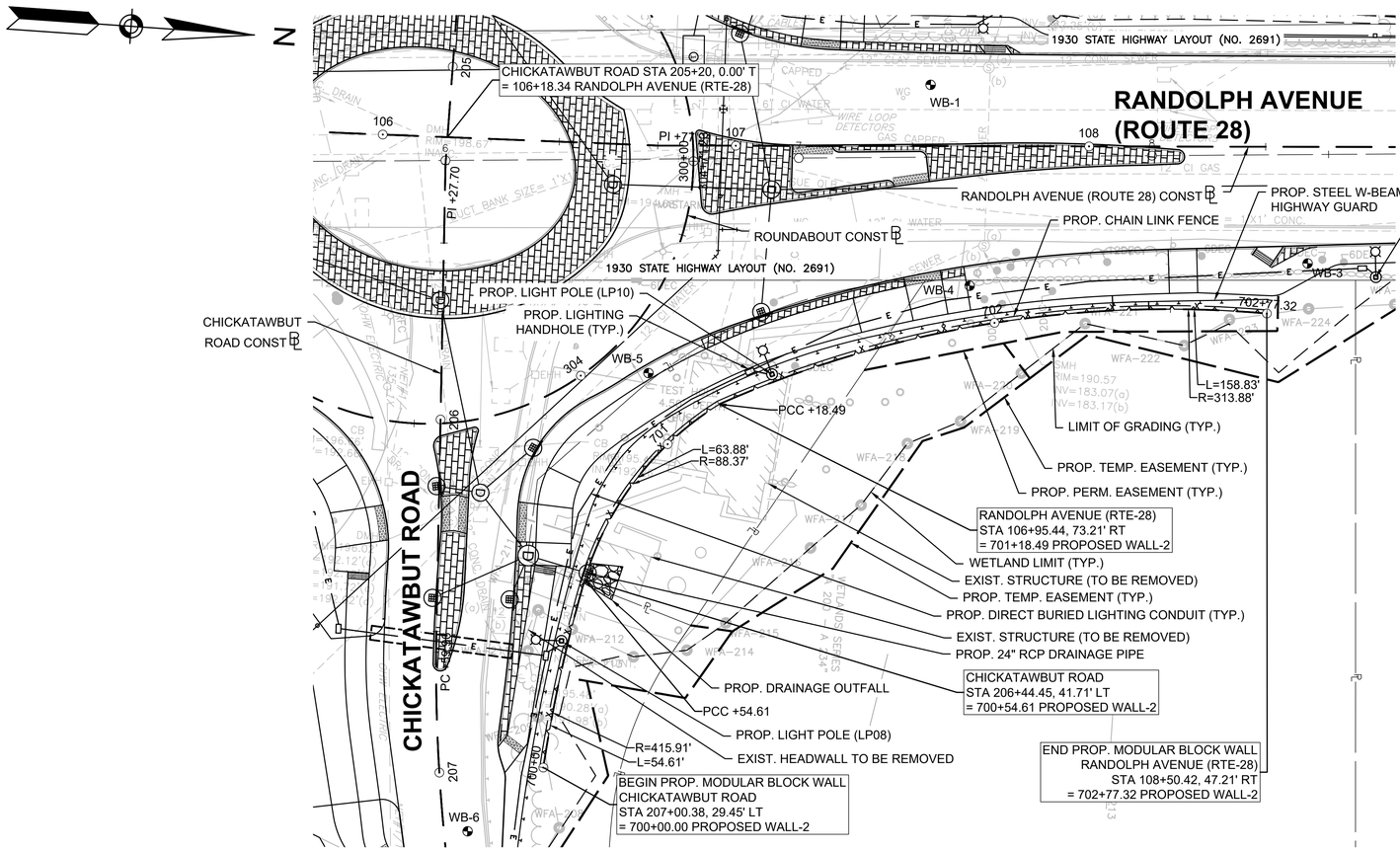
Christopher Lyman

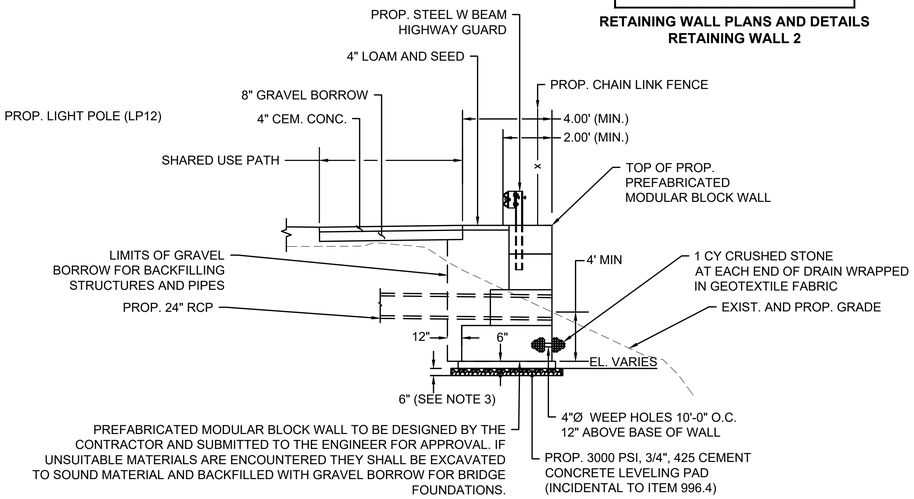


PLAN
SCALE: 1" = 20'

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	92	123
PROJECT FILE NO.	607342		

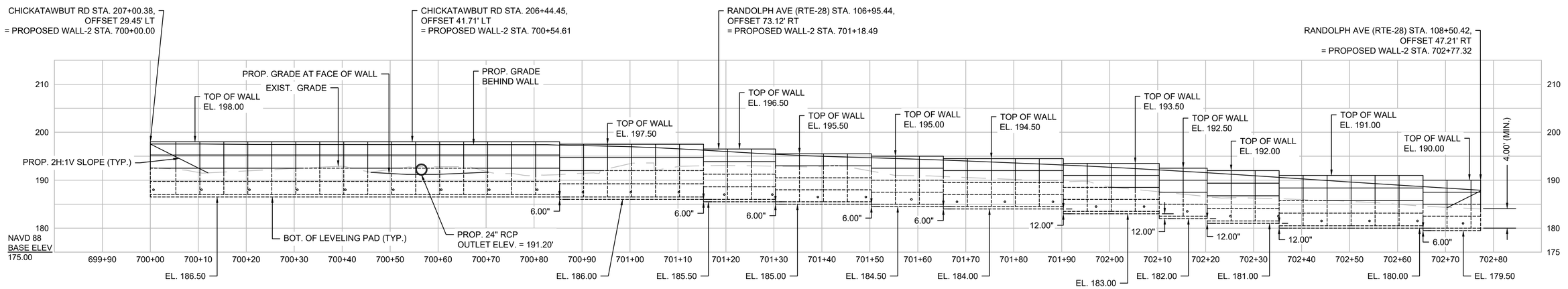
RETAINING WALL PLANS AND DETAILS
RETAINING WALL 2



PREFABRICATED MODULAR BLOCK WALL
NTS

NOTES:

1. WALL SHALL BE DESIGNED WITH A MAXIMUM FACTORED BEARING RESISTANCE = 3.0 KSF (BASED ON A 3.3' EFFECTIVE FOOTING WIDTH) AS PER AASHTO LRFD STRENGTH LOAD COMBINATIONS. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45. REFER TO THE GEOTECHNICAL REPORT, DATED OCTOBER 6, 2022 FOR ALLOWABLE BEARING PRESSURES FOR OTHER EFFECTIVE FOOTING WIDTHS.
2. SEISMIC GROUND SHAKING HAZARD, DESIGN SPECTRA: A_S = 0.083, S_{DS} = 0.170, & S_{D1} = 0.063
3. CONCRETE LEVELING PAD SHALL BEAR ON A MINIMUM OF 6 INCHES OF CRUSHED STONE WRAPPED IN A SEPARATION FABRIC OVER PROOF-COMPACTED FILL SOILS OR PROOF-COMPACTED GLACIAL TILL.
4. WALL SHALL BE DESIGNED IN ACCORDANCE WITH THE 2020 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR BOTH INTERNAL AND EXTERNAL STABILITY.
5. SEE CONSTRUCTION PLANS FOR TREE DISPOSITION.
6. REFER TO THE UTILITY PLANS FOR UTILITY DISPOSITIONS.



DEVELOPED ELEVATION
SCALE: 1" = 10'

607342_HD(WALL).DWG Plotted on 16-Sep-2024 3:38 PM

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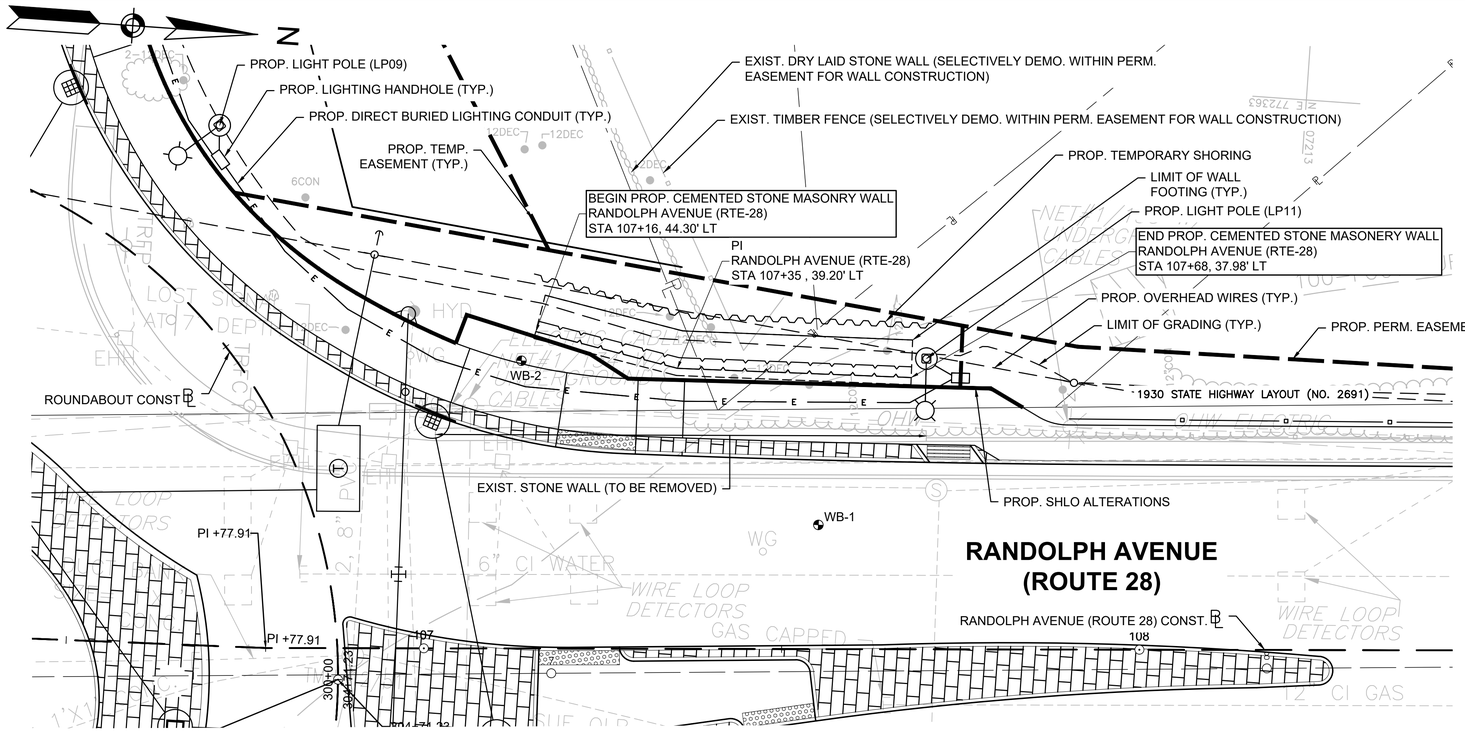
Christopher Lyman

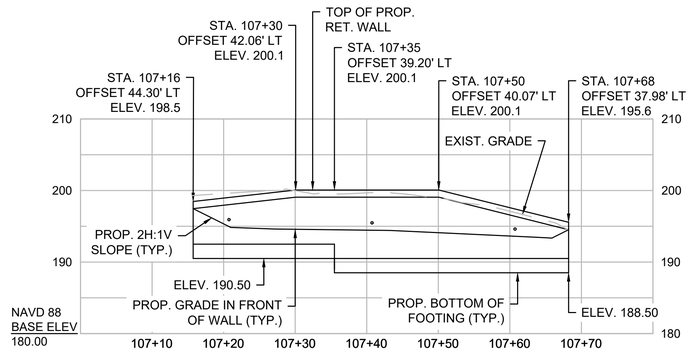
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	93	123
PROJECT FILE NO.	607342		

RETAINING WALL PLANS AND DETAILS
RETAINING WALL 3



PLAN
SCALE: 1" = 10'



ELEVATION
SCALE: 1" = 10'

NOTES:

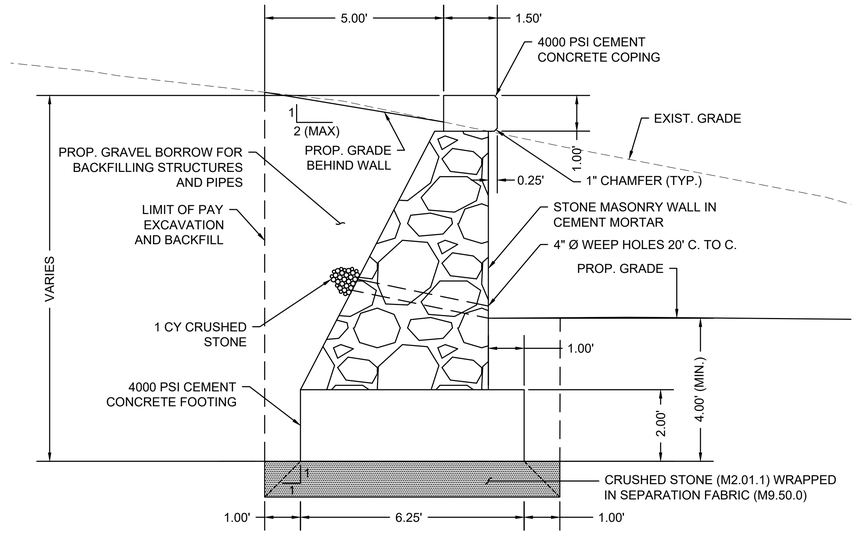
1. THE FACTORED BEARING PRESSURE = 4.24 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.

   FACTORED BEARING RESISTANCE = 8.3 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.55.

2. CONCRETE FOOTING SHALL BEAR ON A MINIMUM OF 12 INCHES OF CRUSHED STONE (M2.01.1) WRAPPED IN A SEPARATION FABRIC.

3. SEE CONSTRUCTION PLANS FOR TREE DISPOSITION.

4. REFER TO THE UTILITY PLANS FOR UTILITY DISPOSITIONS.



CEMENTED STONE MASONRY WALL
SCALE: NTS

607342_HD(WALL).DWG Plotted on 16-Sep-2024 3:38 PM

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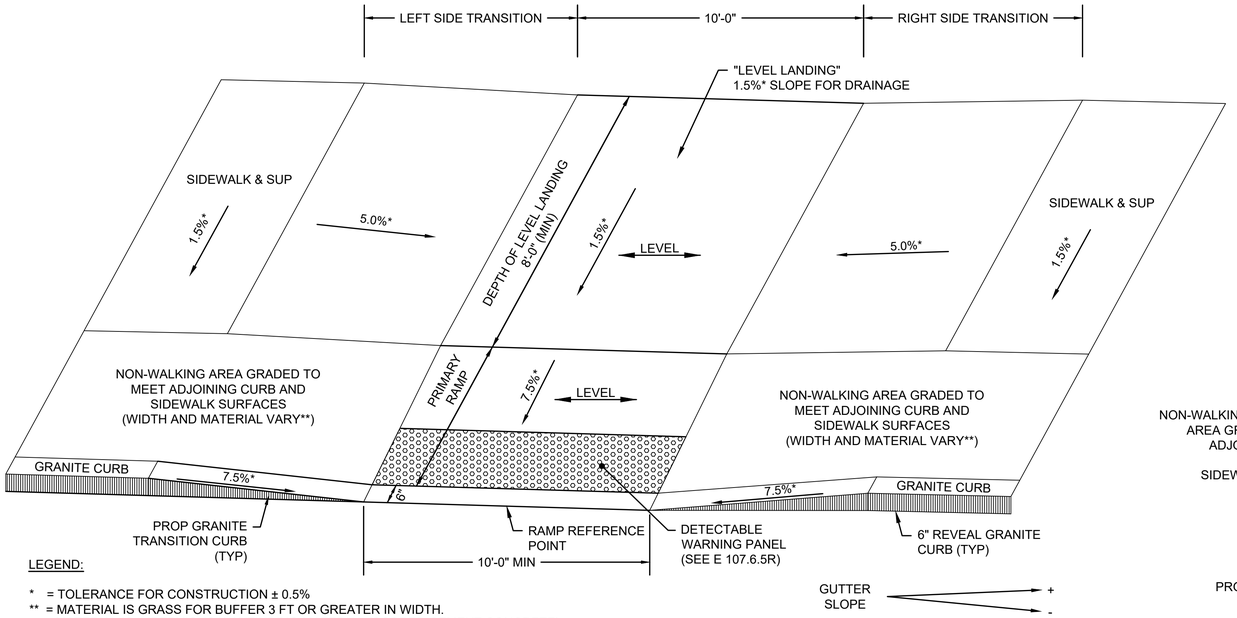
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	94	123
PROJECT FILE NO.	607342		

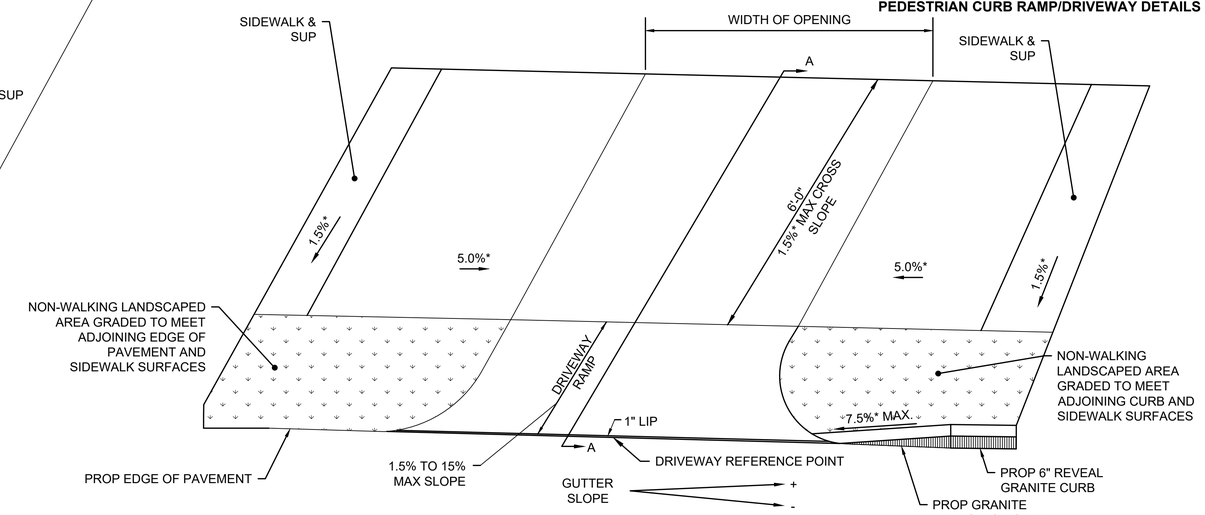
PEDESTRIAN CURB RAMP/DRIVEWAY DETAILS



LEGEND:

* = TOLERANCE FOR CONSTRUCTION ± 0.5%
** = MATERIAL IS GRASS FOR BUFFER 3 FT OR GREATER IN WIDTH.
MATERIAL IS IMPERVIOUS WAYFINDING MATERIAL (SCORED CEMENT CONCRETE) FOR FOR BUFFER LESS THAN 3 FT IN WIDTH.

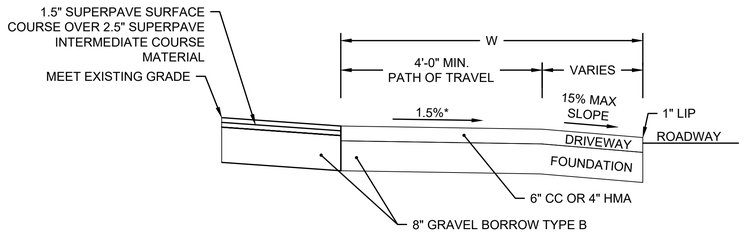
PEDESTRIAN CURB RAMP WITH LANDSCAPE STRIP
NOT TO SCALE



SIDEWALK THROUGH DRIVEWAYS WITH LANDSCAPE STRIP
NOT TO SCALE

PEDESTRIAN CURB RAMP WITH LANDSCAPED STRIP (E107.6.9)

PCR #	ROADWAY ELEV. AT RAMP ℄	RAMP REFERENCE POINT			LENGTH OF PRIMARY RAMP	WIDTH OF SIDEWALK	DEPTH OF LEVEL LANDING	TRANSITION		GUTTER SLOPE
		STREET	STATION	OFFSET				LEFT SIDE	RIGHT SIDE	
1	200.95	RANDOLPH AVENUE	104+99	33.52' RT	4.0'	10.0'	10.0'	6.5'	9.0'	1.56%
2	201.29	RANDOLPH AVENUE	104+73	32.69' LT	4.5	10.0'	10.0'	9.0'	6.5'	-1.57%
3	196.41	CHICKATAWBUT ROAD	204+25	20.23' RT	4.5'	10.0'	10.0'	15.0'	6.5'	-5.40%
4	195.67	CHICKATAWBUT ROAD	204+23	20.61' LT	4.0'	8.0'	8.0'	6.5'	9.0'	1.92%
5	194.21	RANDOLPH AVENUE	107+24	27.20' LT	2.0'	8.0'	8.0'	14.0'	6.5'	-3.78%
6	192.83	RANDOLPH AVENUE	107+53	36.18' RT	2.0'	10.0'	10.0'	6.5'	15.0'	4.13%
7	196.58	CHICKATAWBUT ROAD	206+29	22.26' LT	5.0'	10.0'	10.0'	7.7'	6.5'	-0.06%
8	197.60	CHICKATAWBUT ROAD	206+29	14.68' RT	4.5'	10.0'	10.0'	6.5'	9.0'	1.84%



DRIVEWAY SECTION A-A

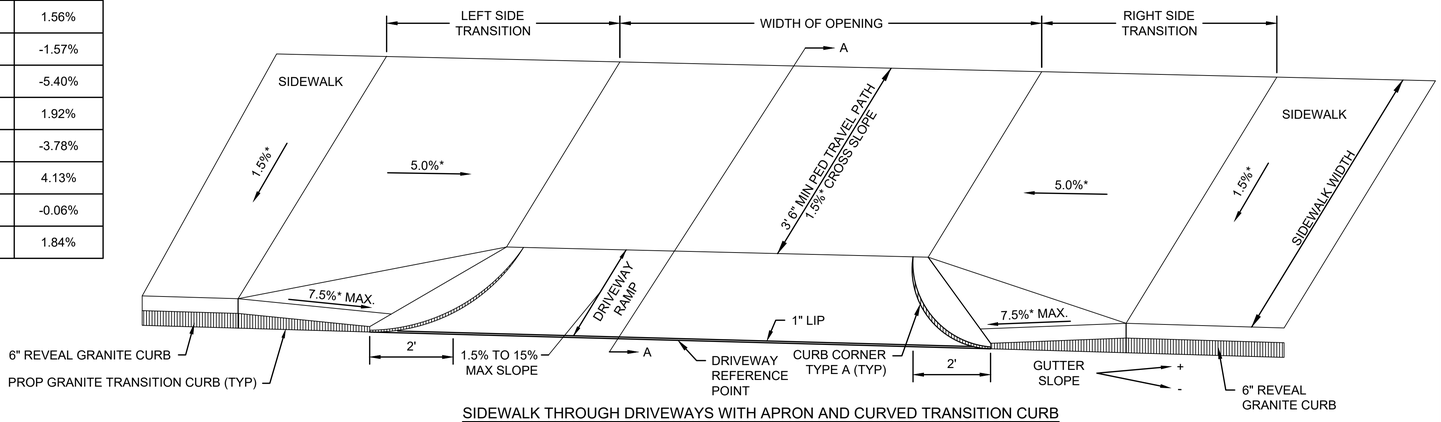
LEGEND:

W = SIDEWALK WIDTH
CC = CEMENT CONCRETE
HMA = HOT MIX ASPHALT
SUP = SHARED USE PATH

NOTES:
* CONSTRUCTION TOLERANCE ±0.5%
** DRIVEWAY 1 IS HOT MIX ASPHALT AND HAS NO SIDEWALK

SIDEWALK THROUGH DRIVEWAYS WITH LANDSCAPE STRIP

DRIVEWAY #	DRIVEWAY REFERENCE POINT			TRANSITION		DRIVEWAY MATERIAL	DRIVEWAY RAMP WIDTH	ROADWAY ELEV. AT DRIVEWAY ℄	WIDTH OF OPENING	GUTTER SLOPE
	STREET	STATION	OFFSET	LEFT	RIGHT					
2	CHICKATAWBUT ROAD	206+84	14.18' RT	-	6.5'	HMA	5.0'	197.70	46.5'	-1.64%



SIDEWALK THROUGH DRIVEWAYS WITH APRON AND CURVED TRANSITION CURB
NOT TO SCALE

SIDEWALK THROUGH DRIVEWAYS WITH APRON AND CURVED TRANSITION CURB

DRIVEWAY #	DRIVEWAY REFERENCE POINT			TRANSITION		DRIVEWAY MATERIAL	DRIVEWAY RAMP WIDTH	SIDEWALK WIDTH AT DRIVEWAY	ROADWAY ELEV. AT DRIVEWAY ℄	WIDTH OF OPENING	GUTTER SLOPE
	STREET	STATION	OFFSET	LEFT	RIGHT						
1**	RANDOLPH AVENUE	101+34	19.60' LT	-	6.5'	HMA	NA	NA	207.73	40.0'	0.10%
3	RANDOLPH AVENUE	109+12	24.69' LT	16.4'	6.5'	CEM CONC	2.0'	3.5'	183.58	16.0'	-5.10%
4	RANDOLPH AVENUE	109+98	22.88' LT	15.0'	3.3' (3" REVEAL)	CEM CONC	2.0'	3.5'	179.81	15.0'	-4.12%
5	RANDOLPH AVENUE	110+92	22.26' LT	14.0'	6.5'	CEM CONC	2.0'	3.5'	176.19	20.5'	-3.77%
6	RANDOLPH AVENUE	110+26	22.70' LT	3.3' (3" REVEAL)	6.5'	CEM CONC	2.0'	3.5'	178.74	17.3'	-4.00%

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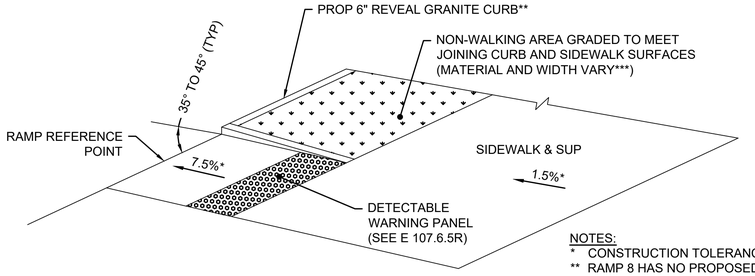
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	95	123
PROJECT FILE NO.	607342		

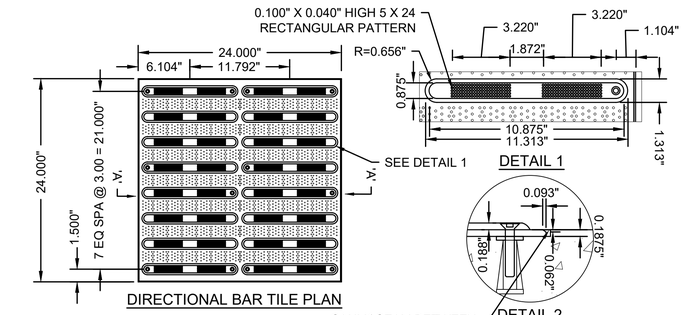
PEDESTRIAN CURB RAMP/DRIVEWAY DETAILS



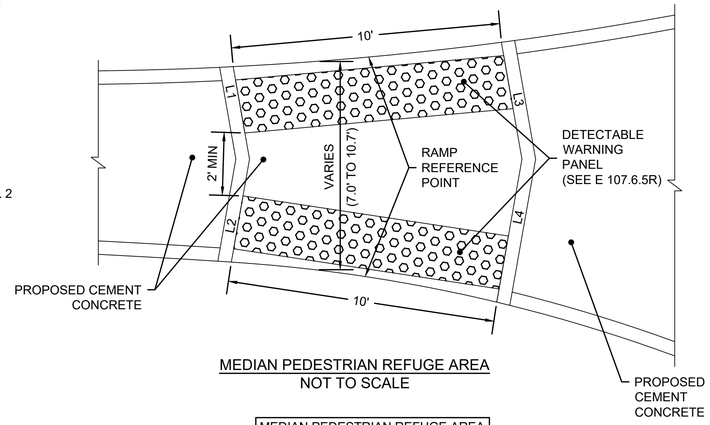
NOTES:
* CONSTRUCTION TOLERANCE ±0.5%
** RAMP 8 HAS NO PROPOSED CURBING
*** MATERIAL IS GRASS FOR BUFFER 3 FT OR GREATER IN WIDTH.
MATERIAL IS IMPERVIOUS WAYFINDING MATERIAL (SCORED CEMENT CONCRETE) FOR FOR BUFFER LESS THAN 3 FT IN WIDTH.

BICYCLE RAMP WITH LANDSCAPED STRIP
NOT TO SCALE

BICYCLE RAMP WITH LANDSCAPED STRIP						
BICYCLE RAMP #	ROADWAY ELEV. AT RAMP ℄	RAMP REFERENCE POINT			LENGTH OF PRIMARY RAMP	WIDTH OF SIDEWALK
		STREET	STATION	OFFSET		
7	197.06	CHICKATAWBUT ROAD	206+97	17.57' LT	4.3'	6.0'
8	199.01	CHICKATAWBUT ROAD	207+29	11.52' RT	6.5'	6.0'

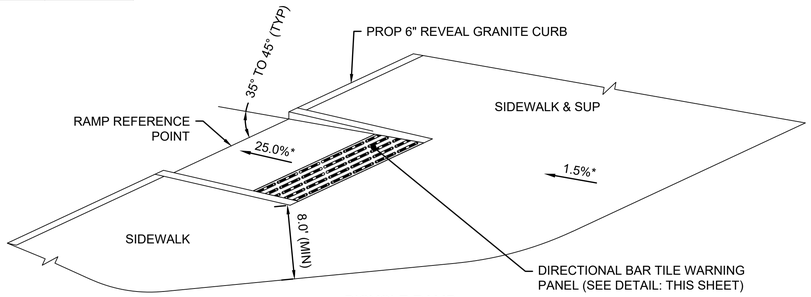


DIRECTIONAL BAR TILE
NOT TO SCALE



MEDIAN PEDESTRIAN REFUGE AREA
NOT TO SCALE

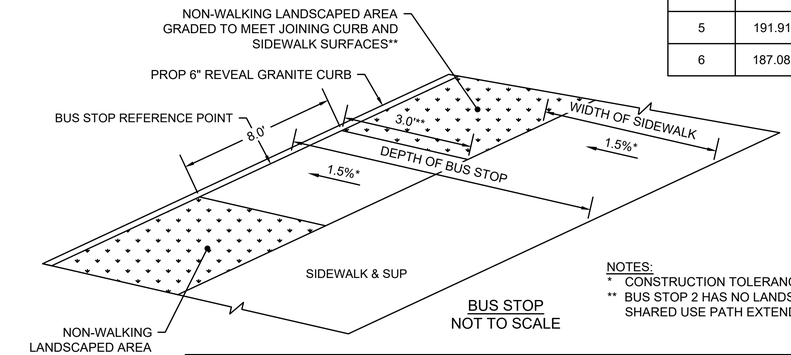
MEDIAN PEDESTRIAN REFUGE AREA CURB SEGMENT TABLE		
SEGMENT ID	MINIMUM LENGTH	MAXIMUM LENGTH
L1	3.0'	3.3'
L2	3.1'	3.4'
L3	3.0'	4.0'
L4	3.9'	5.0'



NOTES:
* CONSTRUCTION TOLERANCE ±0.5%

BICYCLE RAMP
NOT TO SCALE

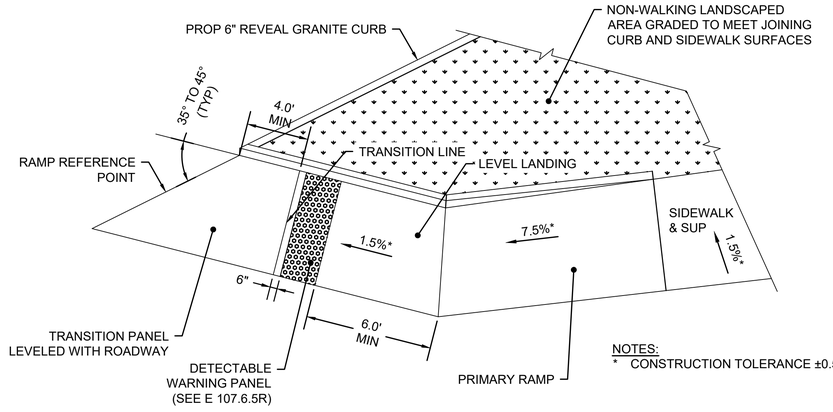
BICYCLE RAMP							
BICYCLE RAMP #	ROADWAY ELEV. AT RAMP ℄	RAMP REFERENCE POINT			LENGTH OF PRIMARY RAMP	WIDTH OF SIDEWALK	WIDTH OF RAMP ENTRANCE
		STREET	STATION	OFFSET			
5	191.91	RANDOLPH AVENUE	107+74	26.06' LT	2.0'	8.0'	6.0'
6	187.08	RANDOLPH AVENUE	108+51	28.29' RT	2.0'	8.0'	6.0'



NOTES:
* CONSTRUCTION TOLERANCE ±0.5%
** BUS STOP 2 HAS NO LANDSCAPED AREA. SHARED USE PATH EXTENDS TO CURB

BUS STOP
NOT TO SCALE

BUS STOP						
BUS STOP #	ROADWAY ELEV. AT BUS STOP ℄	BUS STOP REFERENCE POINT			DEPTH OF BUS STOP	WIDTH OF SIDEWALK
		STREET	STATION	OFFSET		
1	202.39'	RANDOLPH AVENUE	104+14	29.83' LT	9.0'	6.0'
2	192.83'	RANDOLPH AVENUE	108+26	28.98' RT	12.0'	12.0'



NOTES:
* CONSTRUCTION TOLERANCE ±0.5%

TRANSITION RAMP TO SHOULDER
NOT TO SCALE

TRANSITION RAMP TO SHOULDER							
BICYCLE RAMP #	ROADWAY ELEV. AT RAMP ℄	RAMP REFERENCE POINT			LENGTH OF PRIMARY RAMP	LENGTH OF LEVEL LANDING	WIDTH OF SIDEWALK
		STREET	STATION	OFFSET			
1	202.03	RANDOLPH AVENUE	104+31	33.10' RT	6.5'	6.0'	6.0'
2	203.24	RANDOLPH AVENUE	103+77	30.45' LT	6.5'	6.0'	6.0'
3	193.44	CHICKATAWBUT ROAD	203+54	17.25' RT	18.0'	8.0'	6.0'
4	193.63	CHICKATAWBUT ROAD	203+60	18.35' LT	15.5'	6.0'	6.0'

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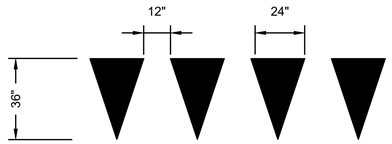
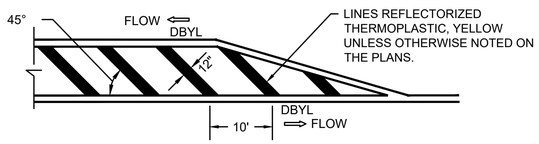
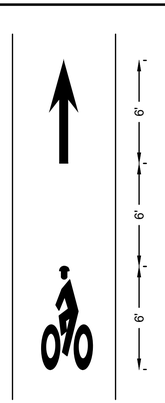


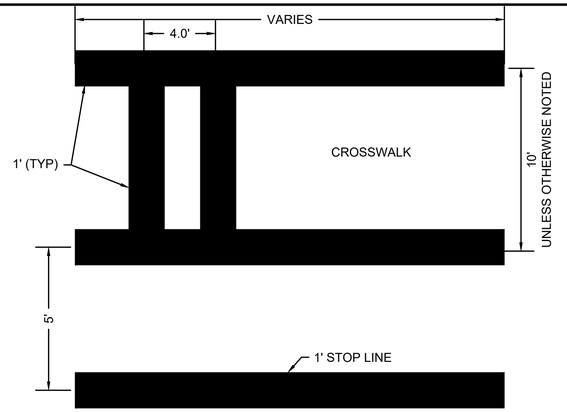
YIELD SYMBOLS (SHARK TEETH)
NOT TO SCALE



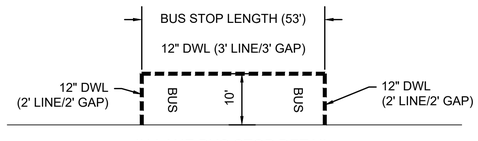
STANDARD CROSS-HATCHING
NOT TO SCALE



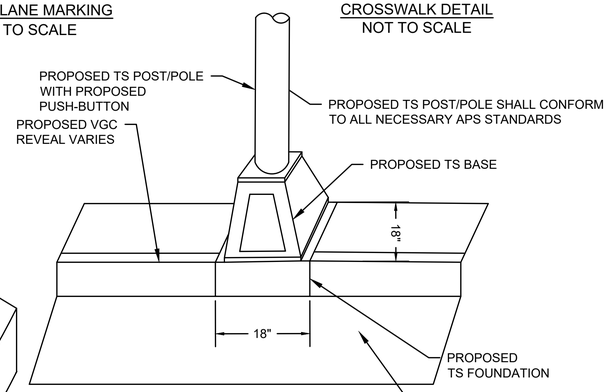
BICYCLE LANE MARKING
NOT TO SCALE



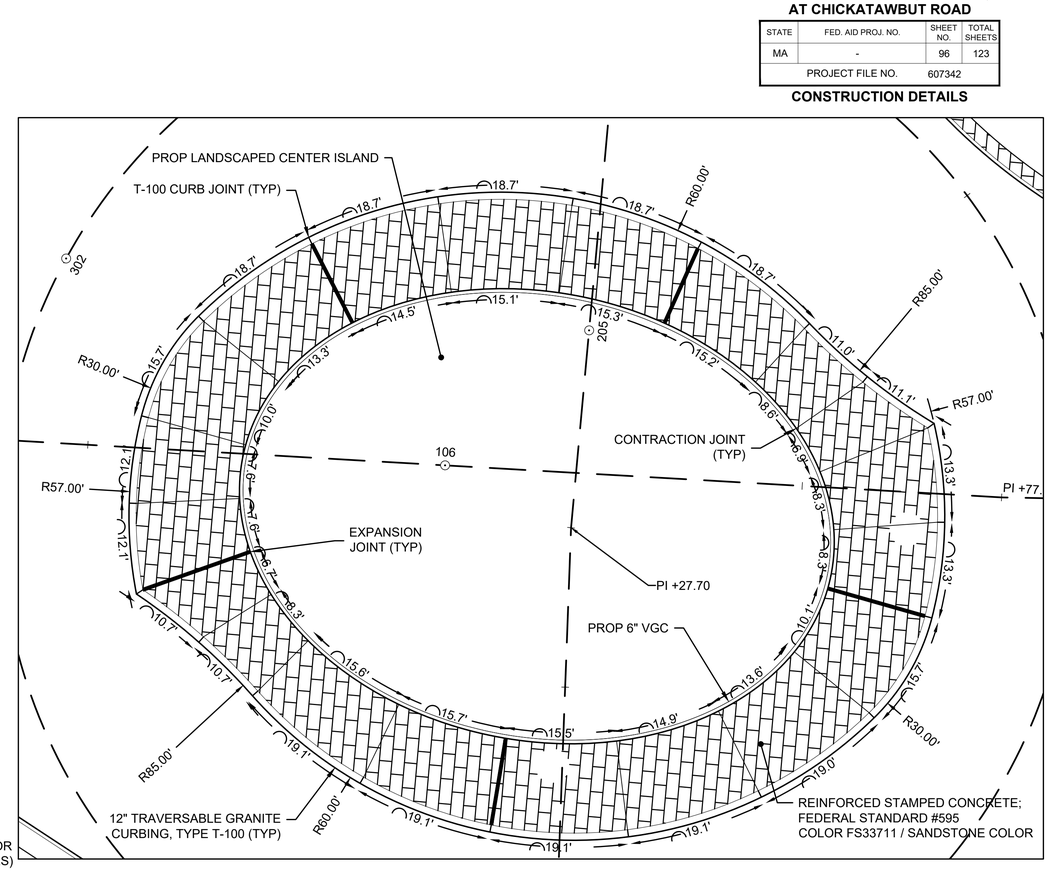
CROSSWALK DETAIL
NOT TO SCALE



IN-LANE BUS STOP DETAIL
NOT TO SCALE

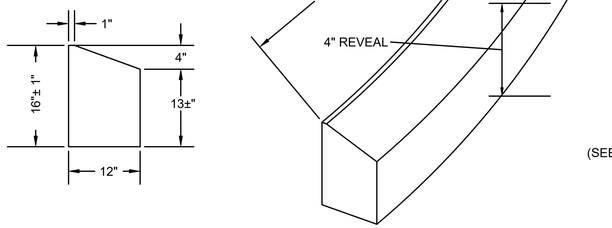


TS POST IN-LINE WITH CURB
NOT TO SCALE

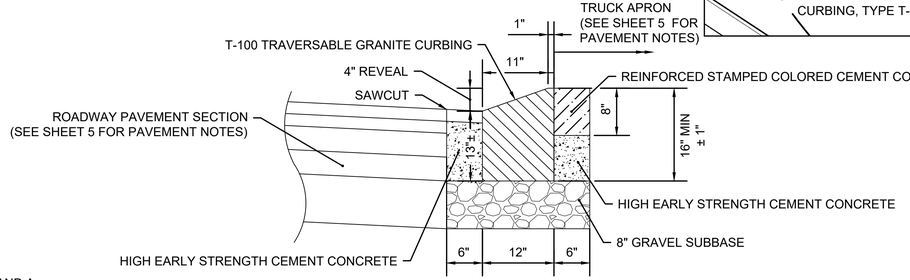


TRUCK APRON JOINTING PLAN
SCALE 1"=10'

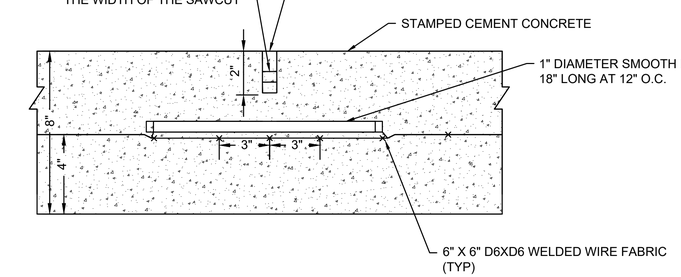
MEDIAN ISLAND DESIGN INFORMATION		
CENTER	106+13.22	6.36' RT
RADIUS 1	41.9'	
RADIUS 2	31.3'	
TRUCK APRON WIDTH	10.0' MIN	



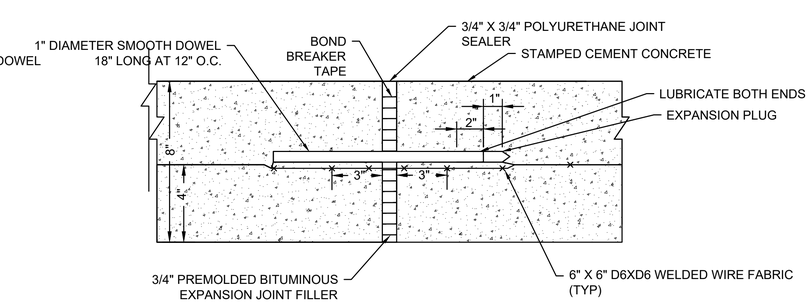
TYPE T-100 TRAVERSABLE GRANITE CURBING RADIUS
NOT TO SCALE



METHOD OF SETTING T-100 TRAVERSABLE GRANITE CURBING
NOT TO SCALE



TRUCK APRON CONTRACTION JOINT
NOT TO SCALE



TRUCK APRON EXPANSION JOINT
NOT TO SCALE

TRUCK APRON NOTES:

1. THE SAWCUT DEPTH SHOULD BE 2" PER THE FHWA TECHNICAL ADVISORY.
2. JOINT SEALER IS REQUIRED OVER PREFORMED JOINT FILLER BETWEEN THE TRUCK APRON AND THE T-100 CURB FOR CONSISTENCY / UNIFORM APPEARANCE.

DOWEL NOTES:

1. DOWELS SHALL BE PLAIN STEEL BARS CONFORMING TO ASTM A 615, GRADE 50.
2. DOWELS IN EXPANSION JOINTS SHALL BE WIPED CLEAN AND COATED WITH A THIN FILM OF LUBRICATION OIL OR GREASE BEFORE CONCRETE IS PLACED.

JOINT NOTES:

1. EXPANSION JOINTS SHALL COINCIDE WITH THE COBBLESTONE PATTERN.
2. NO ADDITIONAL CONSTRUCTION JOINTS SHALL BE PERMITTED. ALL CONSTRUCTION JOINTS SHALL BE LOCATED AT EXPANSION JOINTS.
3. POLYURETHANE JOINT SEALER SHALL CLOSELY MATCH THE CONCRETE COLOR.
4. TWELVE (12) CONSTRUCTION JOINTS AND FOUR (4) EXPANSION JOINTS SHALL BE SPACED EVENLY AROUND THE APRON.
5. PREFORMED JOINT FILLER TO BE INSTALLED AROUND CASTINGS WITHIN TRUCK APRON. ENSURE THAT A JOINT PASSES THROUGH THE CENTER OF THE CASTING.

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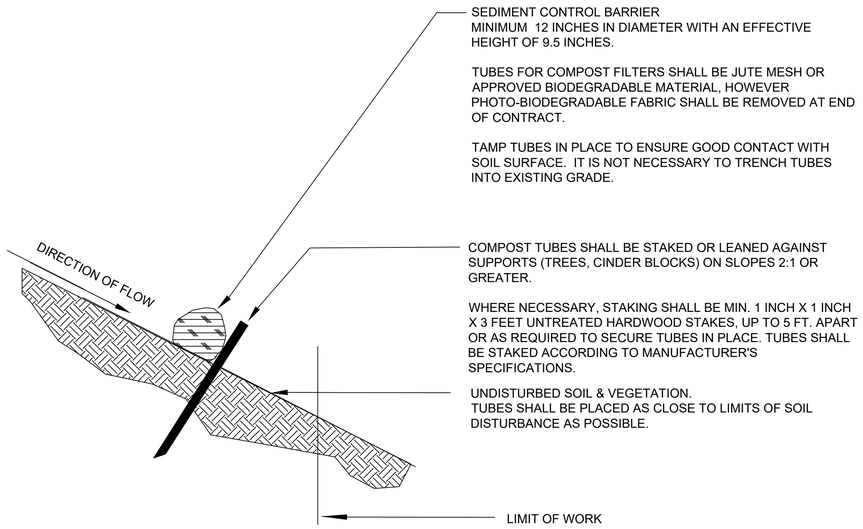
Christopher Lyman

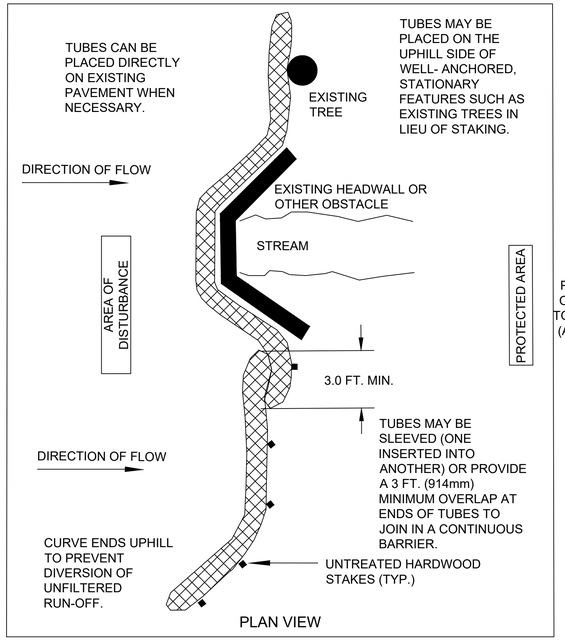
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	97	123
PROJECT FILE NO.	607342		

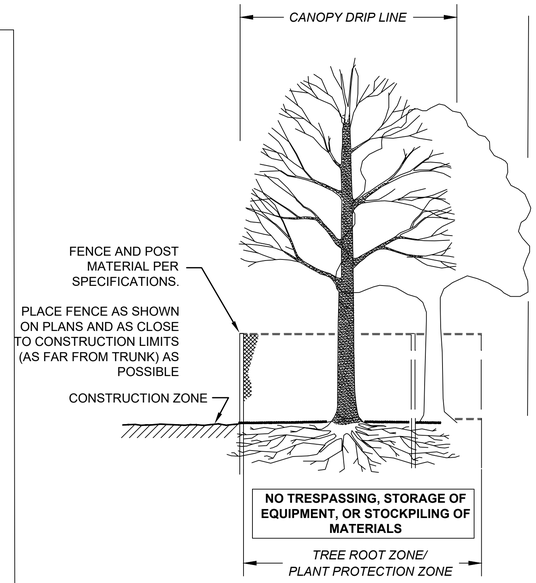
CONSTRUCTION DETAILS



SEDIMENT CONTROL BARRIER
NOT TO SCALE



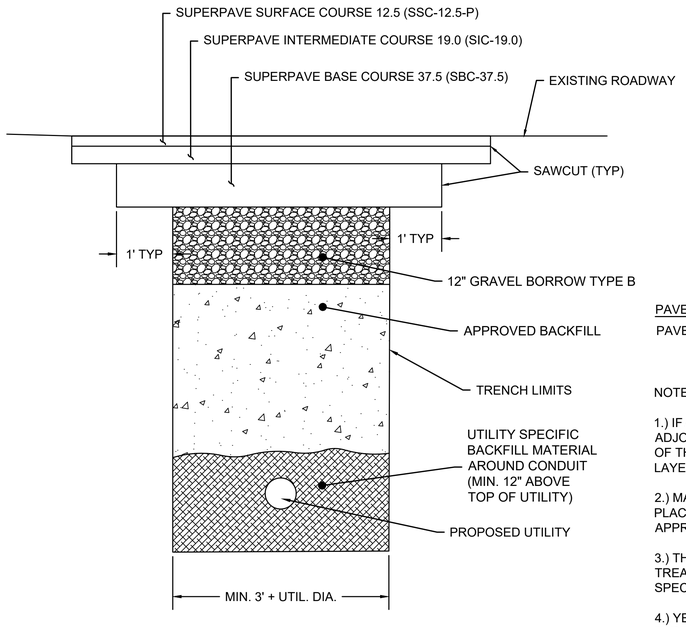
PLAN VIEW
NOT TO SCALE



SECTION - FENCE PROTECTION OF ROOT ZONE

TREE PROTECTION - ROOT ZONE
NOT TO SCALE

GENERAL NOTES:
1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET 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.



TRENCH SECTION
NOT TO SCALE
(FOR TEMPORARY PAVING SEE NOTE 1)

PAVEMENT NOTES

PAVEMENT MIX DEPTH SHALL MATCH OR EXCEED THE EXISTING DEPTH OF HMA

NOTES:

1.) IF A TEMPORARY PATCH IS TO BE USED, THE CDF SHALL BE PLACED TO THE ELEVATION OF THE ADJOINING SUBGRADE, THEN GRAVEL SHALL BE PLACED AND COMPACTED TO WITHIN 3 1/2 INCHES OF THE FINISHED GRADE. THE LAST 3 1/2 INCHES SHALL BE HOT MIX ASPHALT PLACED IN TWO LAYERS: 1 1/2" SURFACE COURSE OVER 2" INTERMEDIATE COURSE.

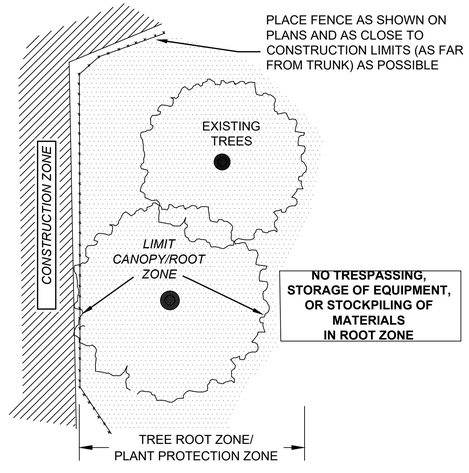
2.) MATERIAL WHICH MEETS THE SPECIFICATION FOR GRAVEL BORROW TYPE C (M1.03.0 TYPE C), PLACED AND COMPACTED IN LAYERS NO GREATER THAN 6", MAY BE USED IN PLACE OF CDF AS THE APPROVED BACKFILL MATERIAL WITH APPROVAL FROM THE DISTRICT HIGHWAY DIRECTOR.

3.) THE EXPOSED EDGES OF ALL LONGITUDINAL AND TRANSVERSE SAW CUT JOINTS SHALL BE TREATED WITH HOT POURED RUBBERIZED ASPHALT JOINT SEALANT MEETING MASSDOT SPECIFICATIONS.

4.) YELLOW METAL FOIL MARKING TAPE SHALL BE PLACED 18" OVER THE CONDUIT (METAL MARKING TAPE/WIRE SHOULD BE USED FOR NON-METALLIC CONDUIT.)

5.) ALL TRENCH DIMENSIONS SHALL BE IN ACCORDANCE WITH SUB-SECTION 140.80 OF THE MASSDOT STANDARDS AND SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.

6.) PAVEMENT MIX DEPTH SHALL MATCH OR EXCEED THE EXISTING DEPTH OF HMA.



PLAN VIEW - FENCE PROTECTION OF ROOT ZONE

TREE PROTECTION - ROOT ZONE
NOT TO SCALE

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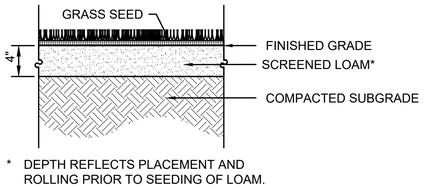
Christopher Lyman

607342_HD(CONST DET).DWG Plotted on 16-Sep-2024 3:38 PM



LOAM AND SEED DETAILS
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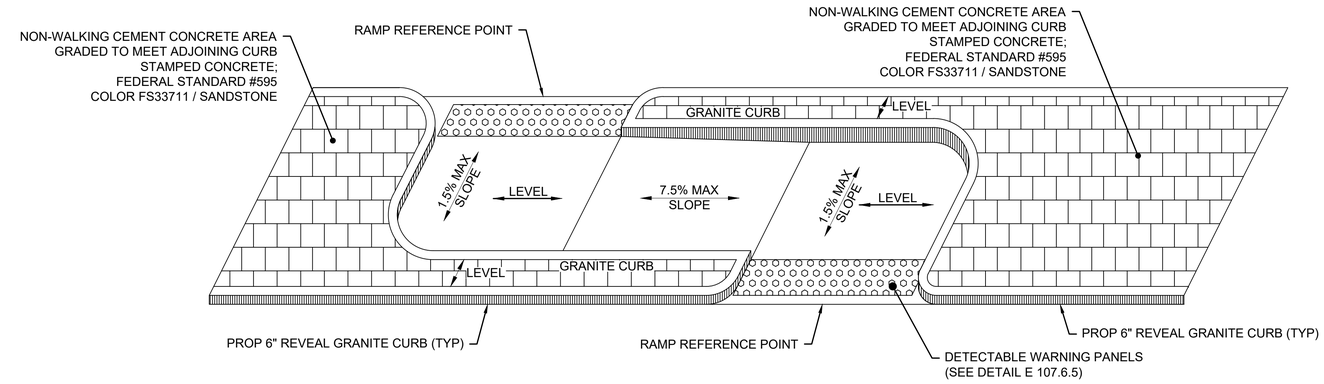

CEMENT CONCRETE ISLAND PEDESTRIAN CURB RAMP
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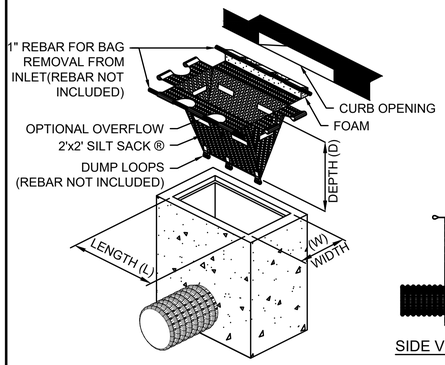

SILT SACK
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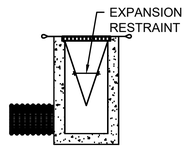
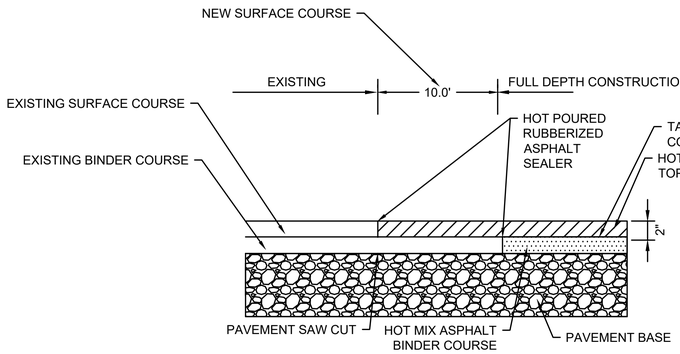


SIDE VIEW INSTALLED



PAVEMENT JOINT DETAIL
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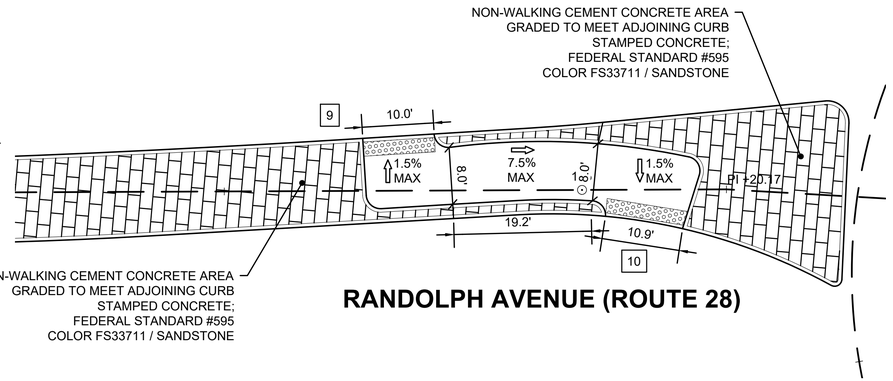
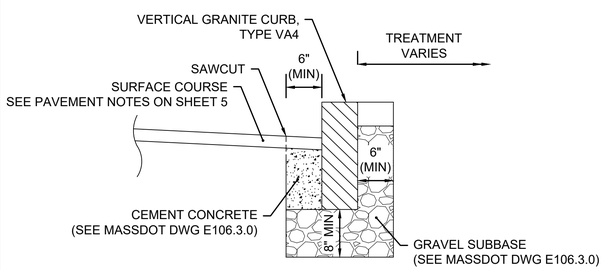
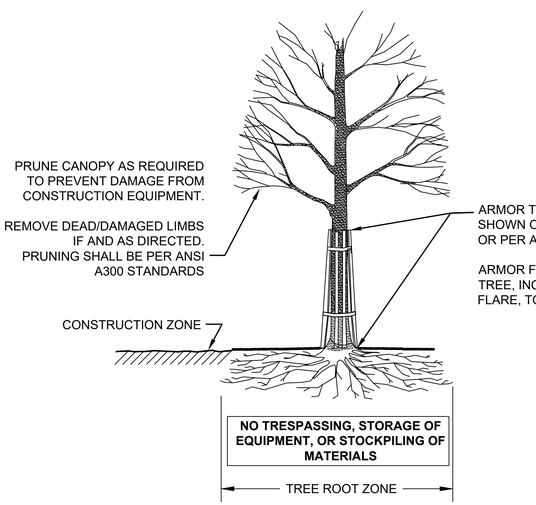


RANDOLPH AVENUE (ROUTE 28)

CEMENT CONCRETE ISLAND PEDESTRIAN CURB RAMP
SCALE: 1" = 10'

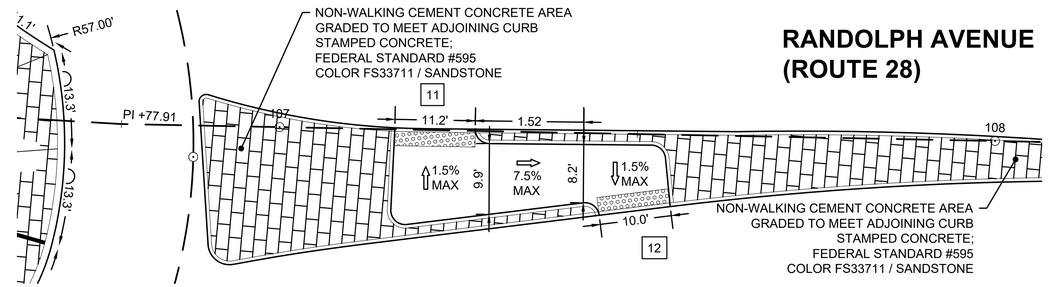


METHOD OF SETTING VERTICAL GRANITE CURB IN EXISTING ROADWAY FOR AREAS OF PROPOSED MILLING AND RESURFACING
NOT TO SCALE



SECTION - TRUNK ARMORING & PRUNING

TREE PROTECTION - TRUNK
NOT TO SCALE



RANDOLPH AVENUE (ROUTE 28)

CEMENT CONCRETE ISLAND PEDESTRIAN CURB RAMP
SCALE: 1" = 10'

CEMENT CONCRETE ISLAND PEDESTRIAN CURB RAMP

RAMP #	ROADWAY ELEV. AT RAMP ℄	RAMP REFERENCE POINT			LENGTH OF PRIMARY RAMP	WIDTH OF SIDEWALK	WIDTH OF RAMP ENTRANCE	DEPTH OF LEVEL LANDING	GUTTER SLOPE
		STREET	STATION	OFFSET					
9	201.81	RANDOLPH AVENUE	104+74	7.62' LT	19.2'	8.0'	10.0'	8.0'	1.56%
10	201.40	RANDOLPH AVENUE	105+09	4.44' RT	19.2'	8.0'	10.0'	8.0'	-1.65%
11	194.82	RANDOLPH AVENUE	107+22	0.19' LT	15.2'	8.2' (MIN)	11.2'	9.9'	3.78%
12	193.44	RANDOLPH AVENUE	107+50	10.75' RT	15.2'	8.2' (MIN)	10.0'	8.2'	-4.25%

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	99	123
PROJECT FILE NO.	607342		

CONSTRUCTION DETAILS

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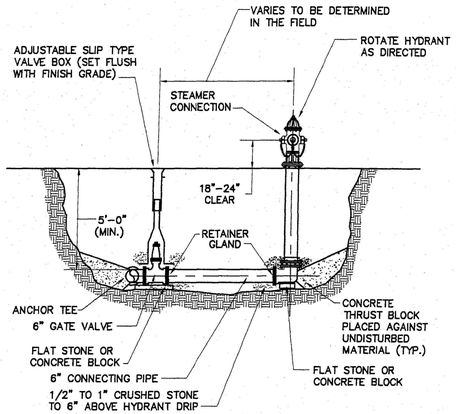
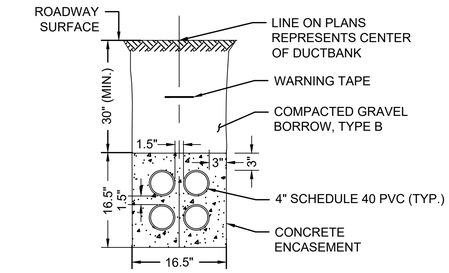
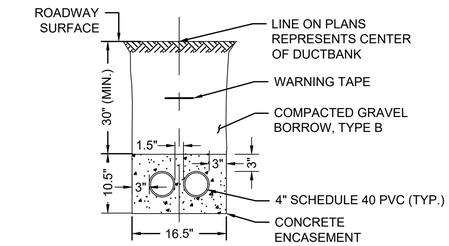


NOTES:
1. DEPTH OF HYDRANT BURY TO SUIT INSTALLED DEPTH OF COVER OVER WATERMAIN.
2. HYDRANT SHALL MEET AWWA C502 AND HAVE STANDARD TOWN OF MILTON, MA HOSE CONNECTIONS.

HYDRANT DETAIL
NOT TO SCALE



4 - 4" SCHEDULE 40 PVC CONDUIT DUCT BANK
NOT TO SCALE



2 - 4" SCHEDULE 40 PVC CONDUIT DUCT BANK
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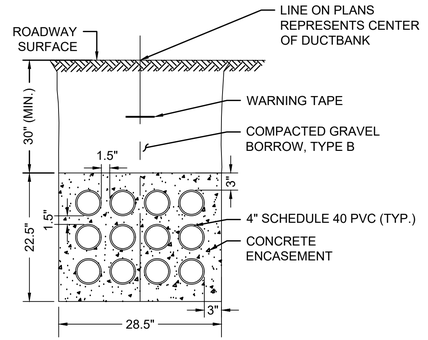

12 - 4" SCHEDULE 40 PVC CONDUIT DUCT BANK
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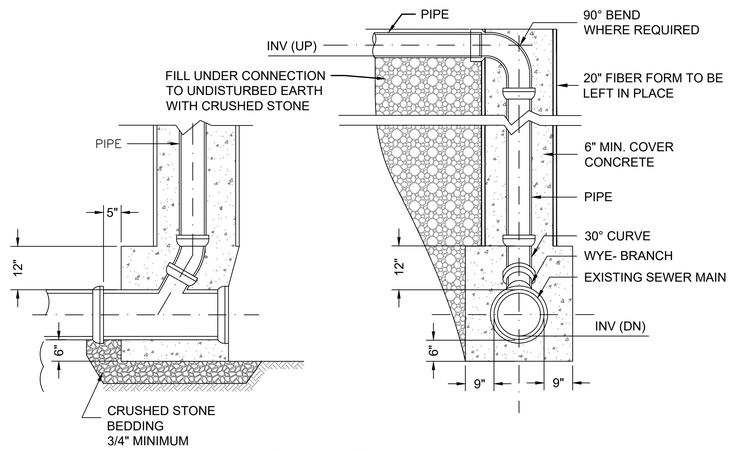
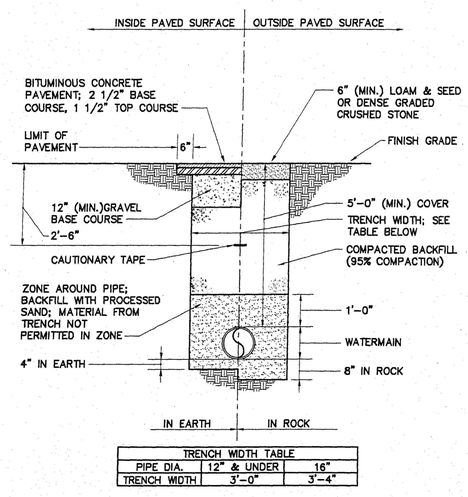


CHIMNEY DETAIL
NOT TO SCALE



TRENCH WIDTH TABLE		
PIPE DIA.	12" & UNDER	16"
TRENCH WIDTH	3'–0"	3'–4"

WATER MAIN TRENCH DETAIL
NOT TO SCALE

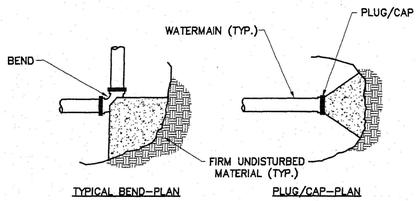
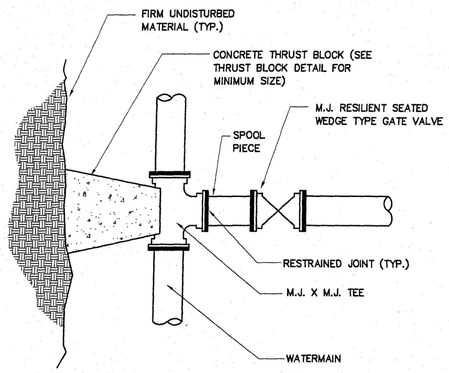


TABLE OF BEARING AREAS (S.F.)			
SIZE OF MAIN (IN.)	BENDS (90°)	BENDS (45° & UNDER)	TEES, CAPS OR PLUGS
16	22	12	16
12	12	6	9
≤8	6	3	4

NOTES:
1. CONCRETE FOR THRUST BLOCKS SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS DETERMINED OTHERWISE BY THE ENGINEER OR OWNER
2. THRUST BLOCK BEARING AREAS SHALL BE IN ACCORDANCE WITH TABLE, UNLESS DETERMINED OTHERWISE BY THE ENGINEER OR OWNER DUE TO SOIL CONDITIONS.
3. THRUST BLOCK SIDES SHALL BE FORMED WITH PLYWOOD.

THRUST BLOCK DETAIL
NOT TO SCALE



GATE VALVE DETAIL 1
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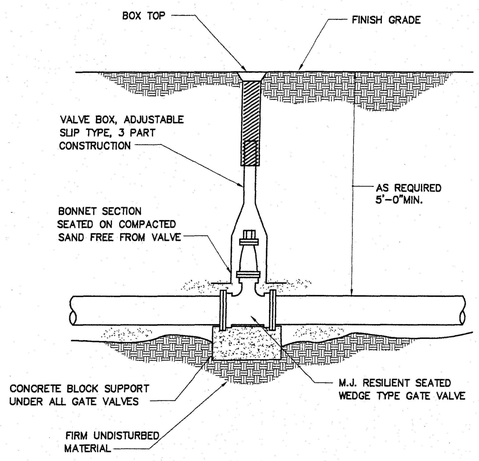
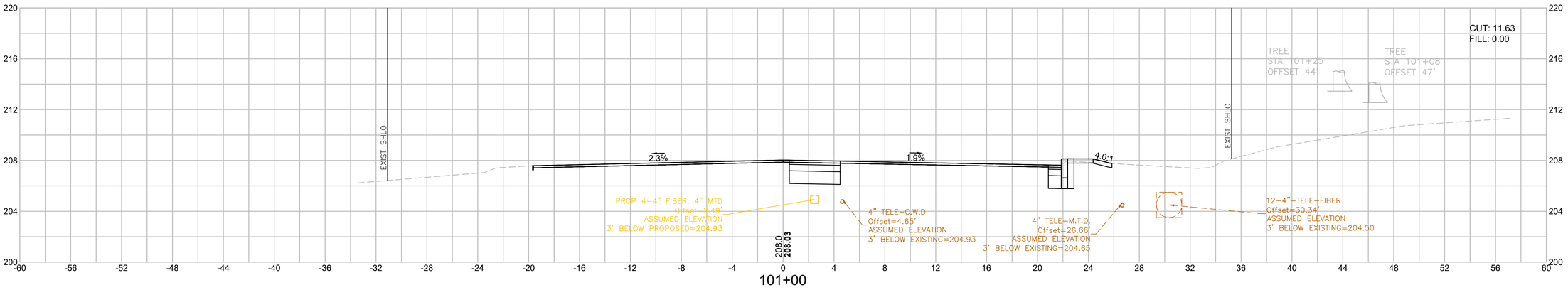


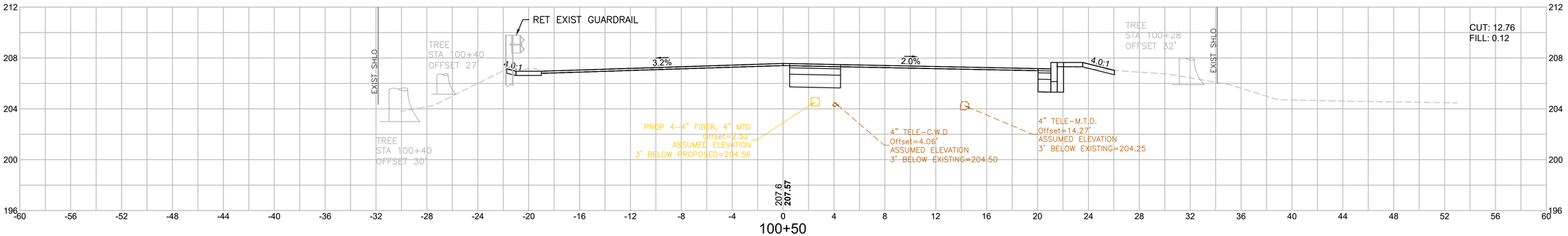
GATE VALVE DETAIL 2
NOT TO SCALE

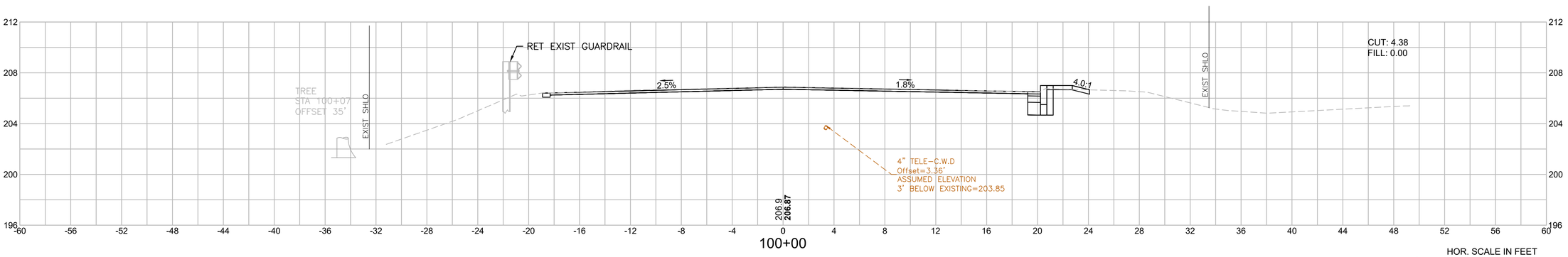
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	100	123
PROJECT FILE NO.	607342		

CROSS SECTIONS







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4 0 4 8
VER. SCALE IN FEET

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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

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MA	-	101	123
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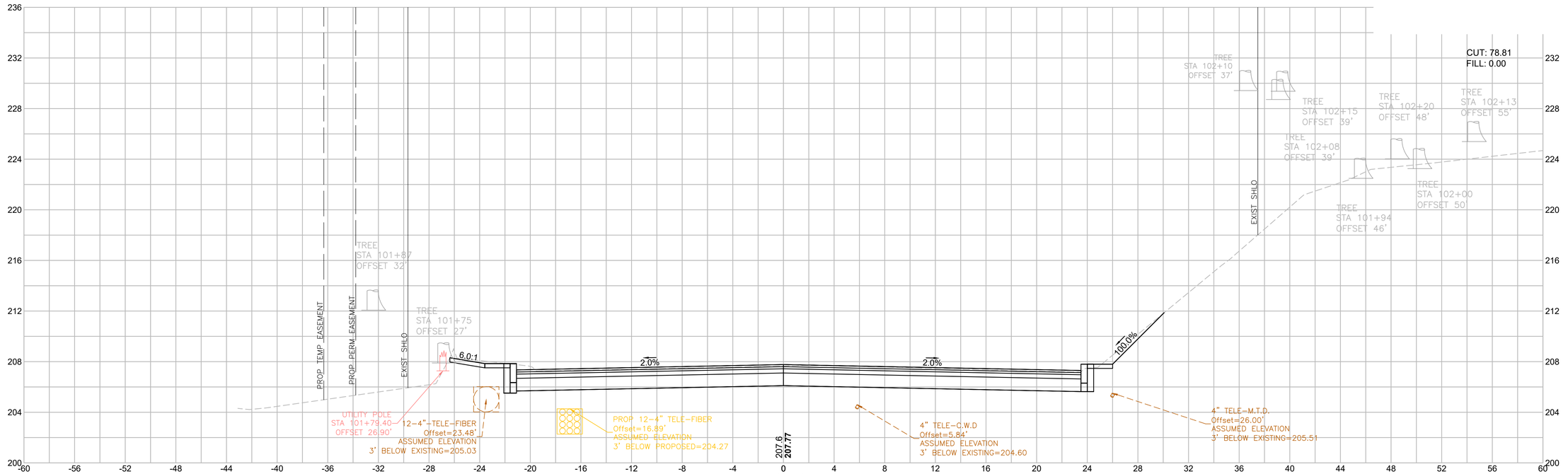
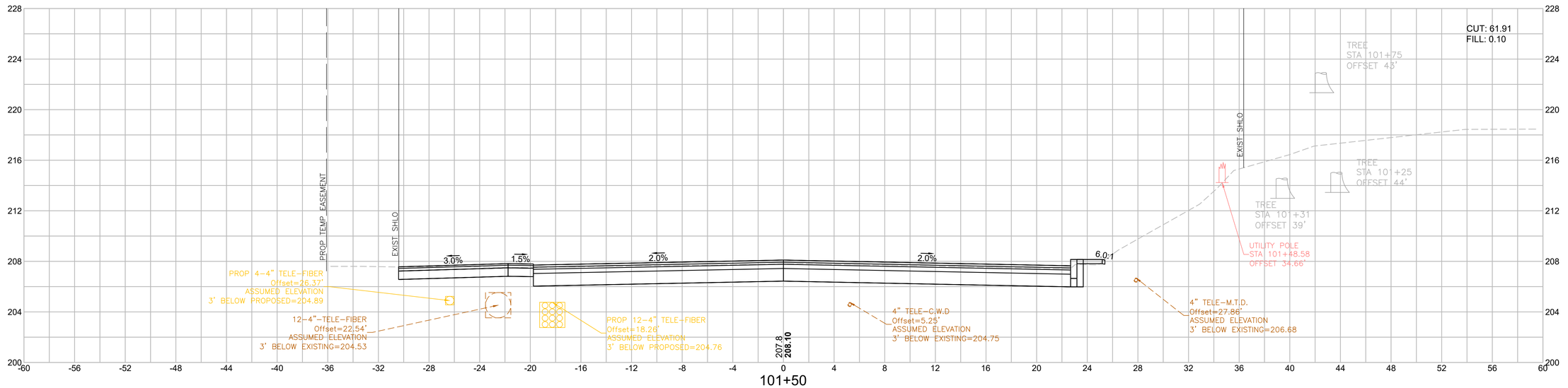
CROSS SECTIONS





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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

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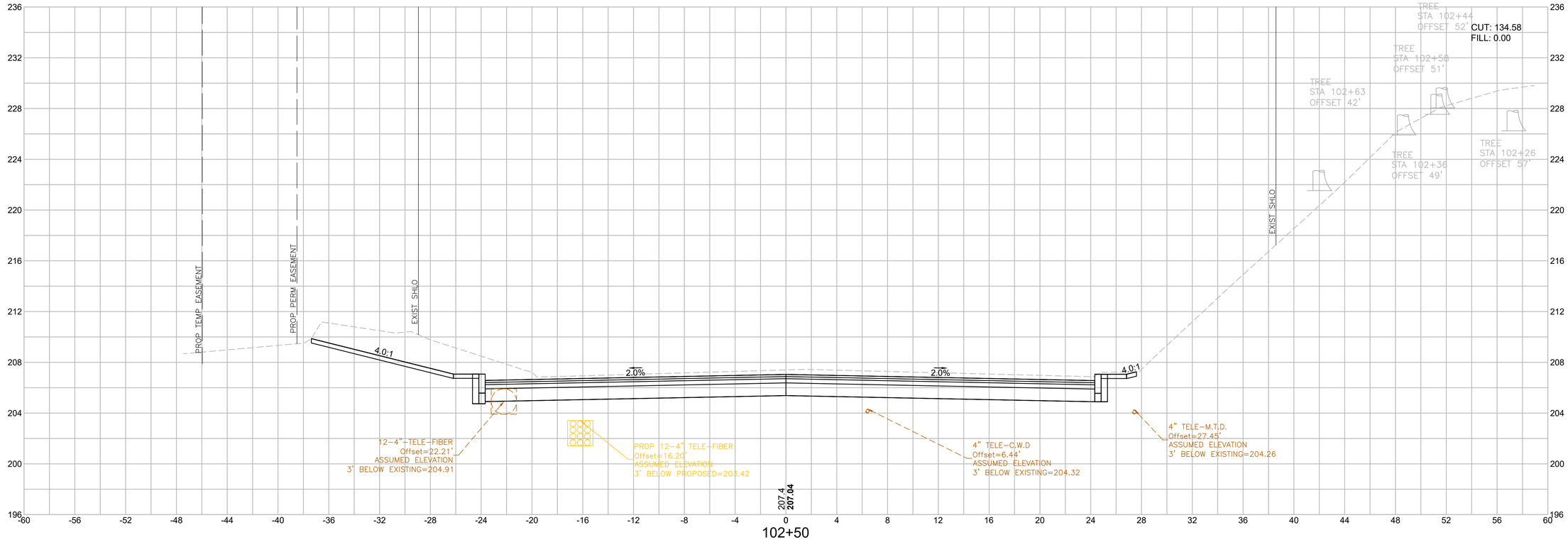
MA	-	102	123
PROJECT FILE NO.	607342		

CROSS SECTIONS



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MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

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MA	-	103	123
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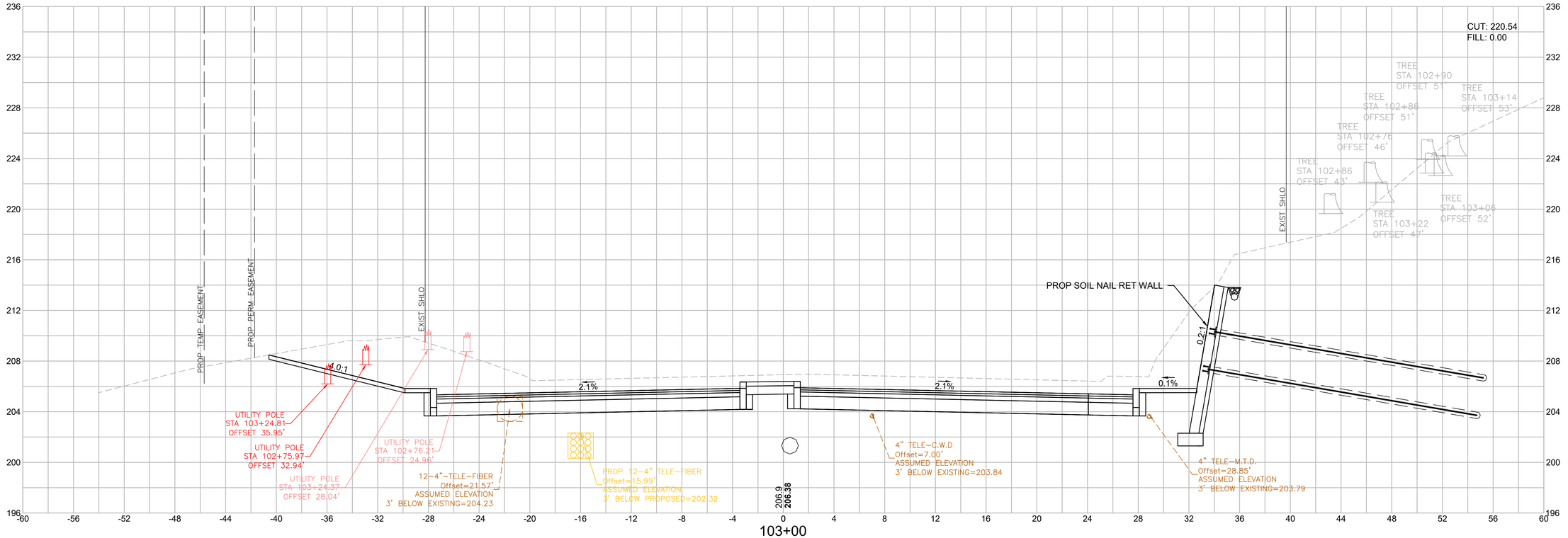

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AT CHICKATAWBUT ROAD

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CROSS SECTIONS

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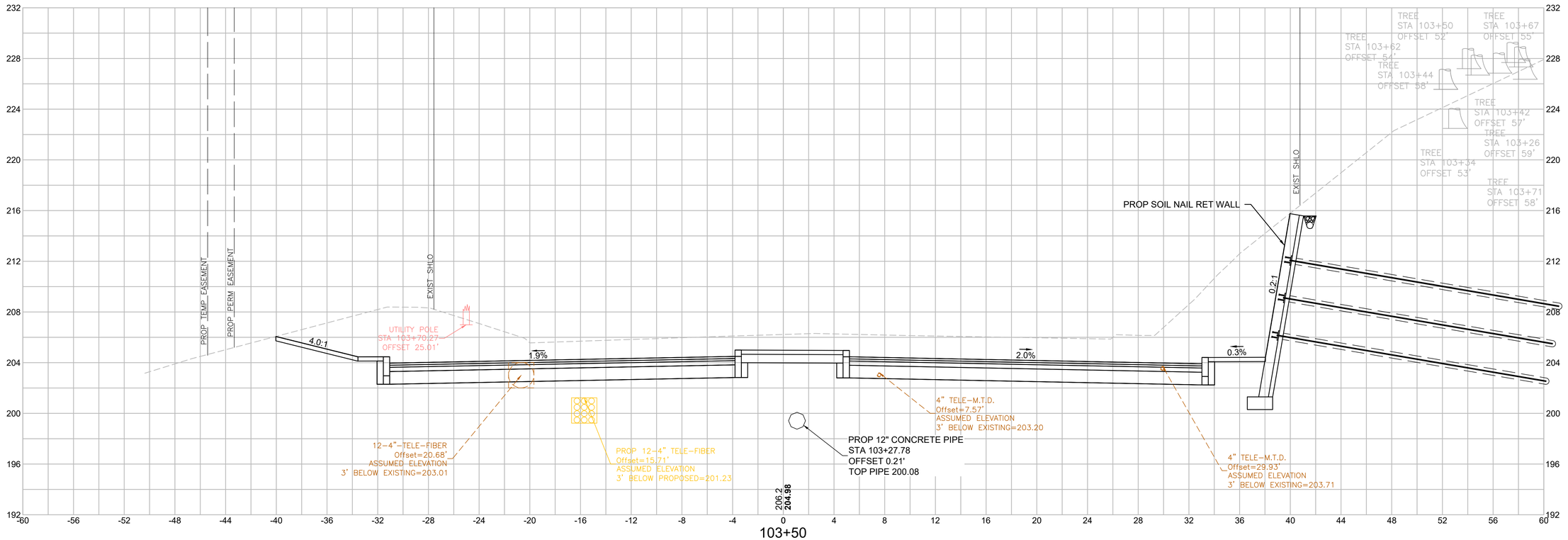

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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
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MA	-	105	123
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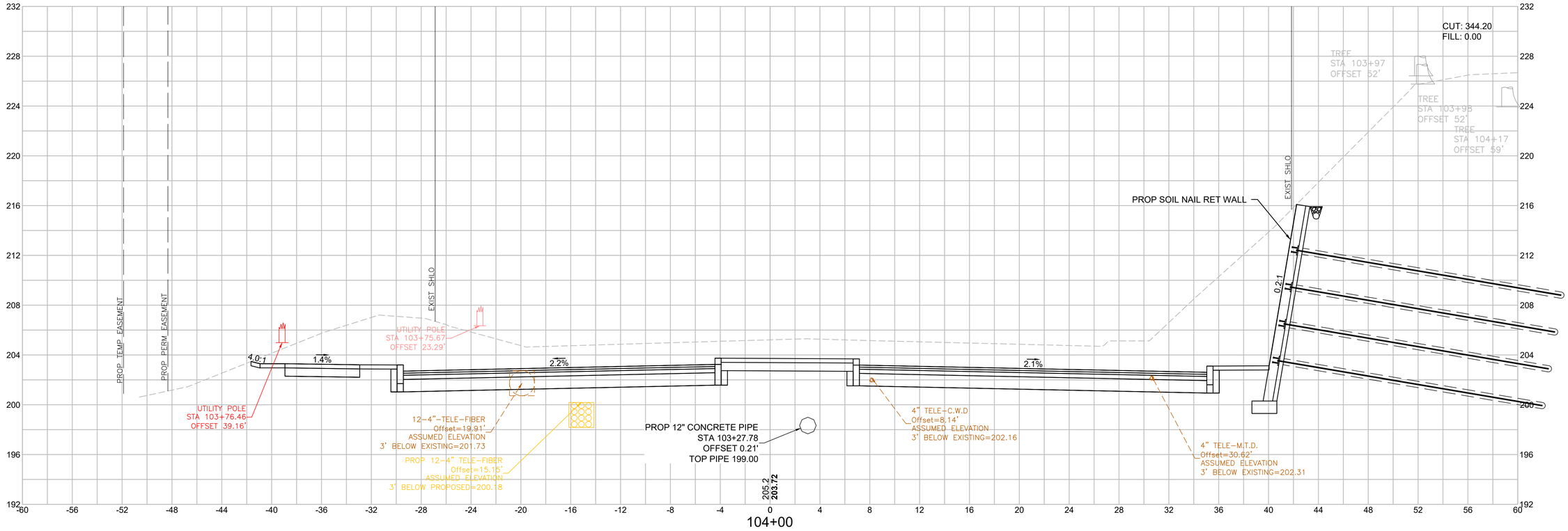

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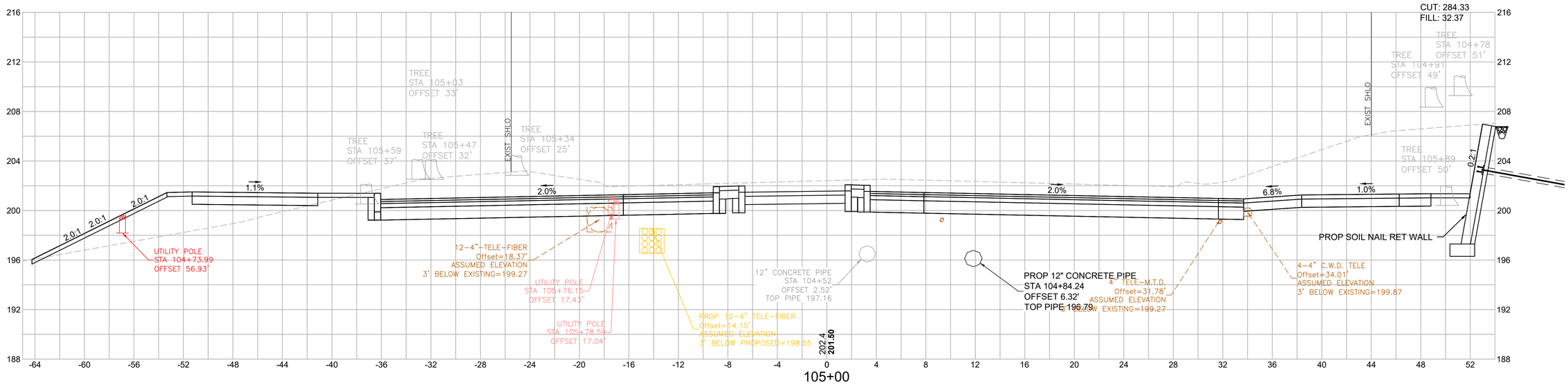

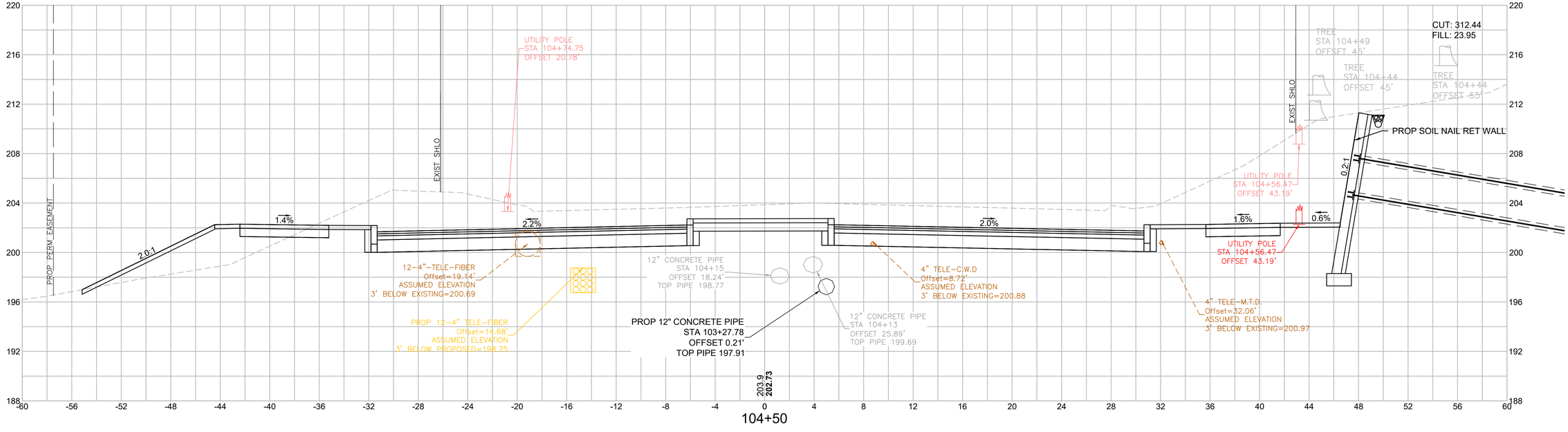

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MILTON
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AT CHICKATAWBUT ROAD

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MA	-	107	123
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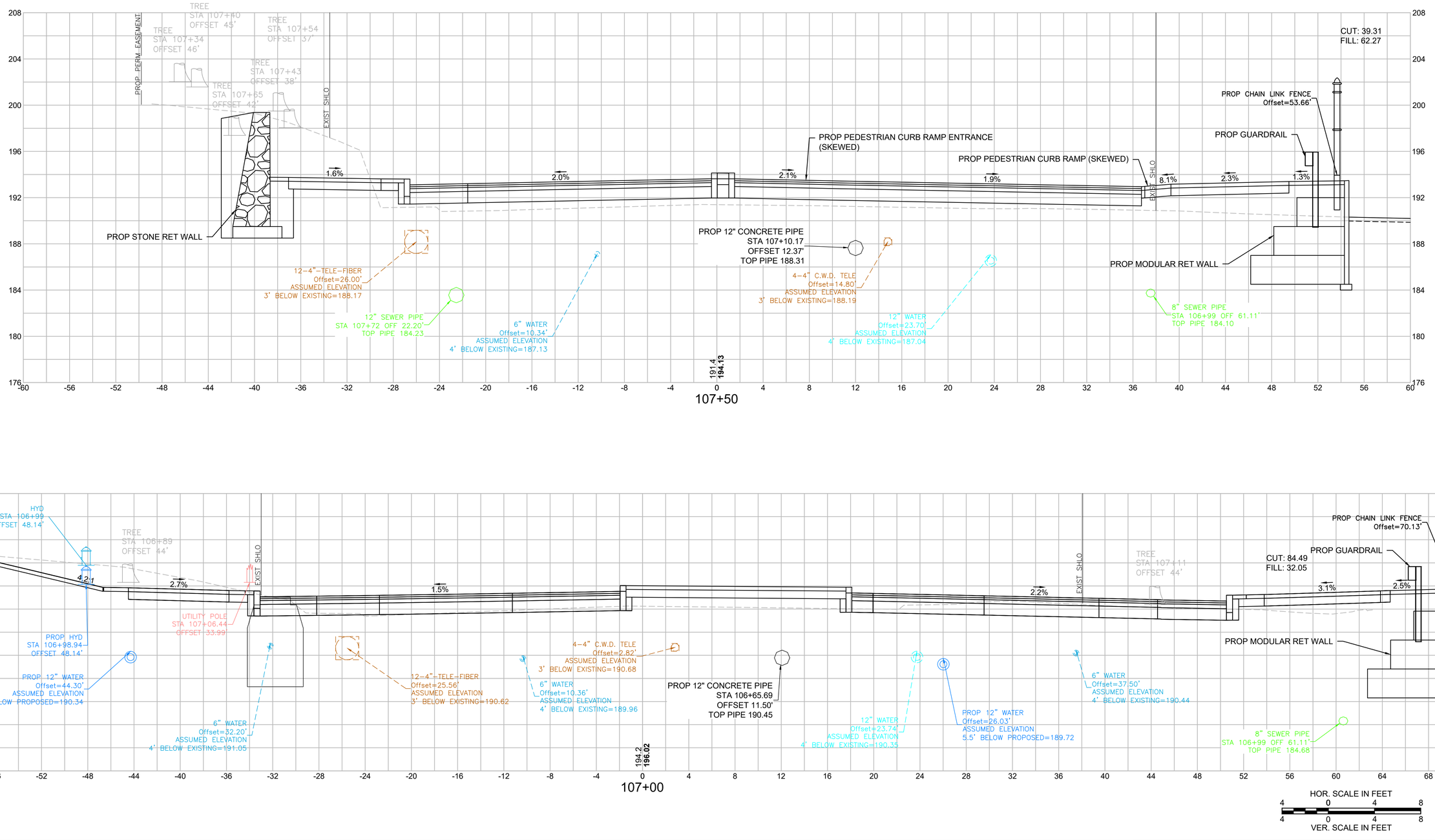

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MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

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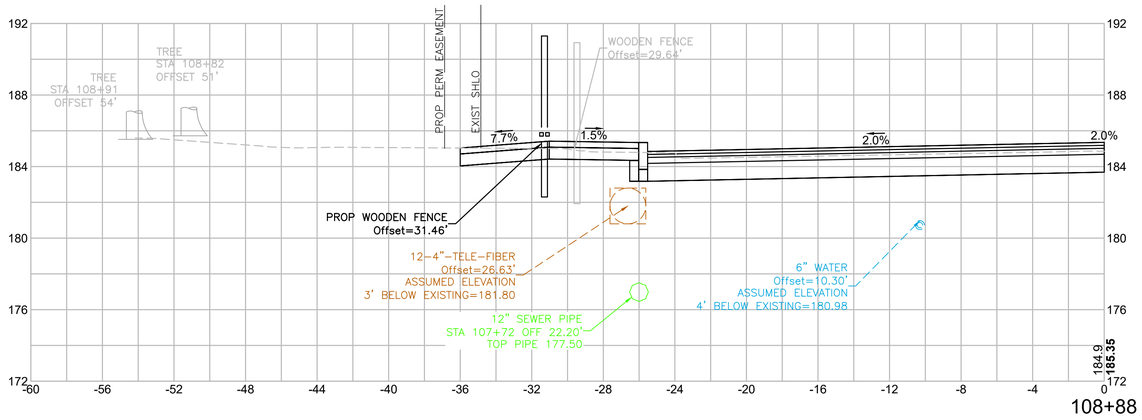

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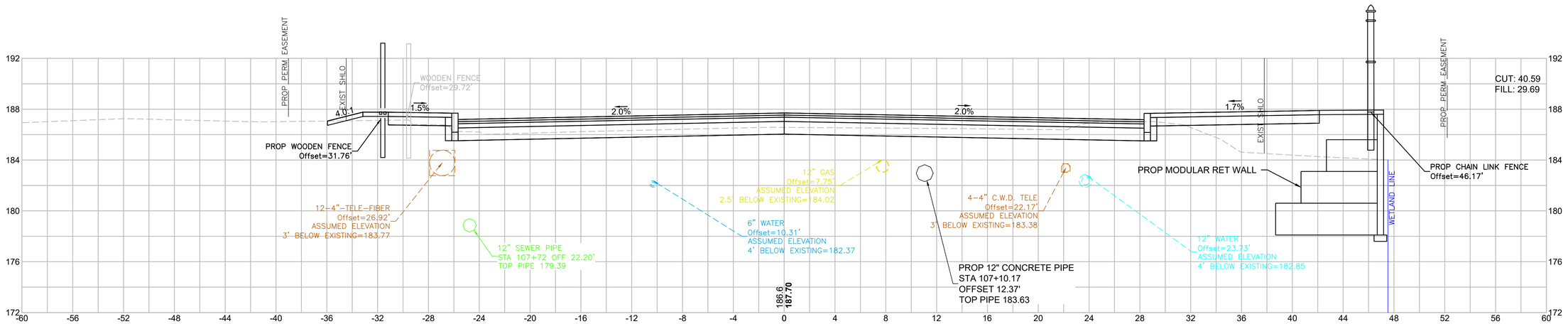

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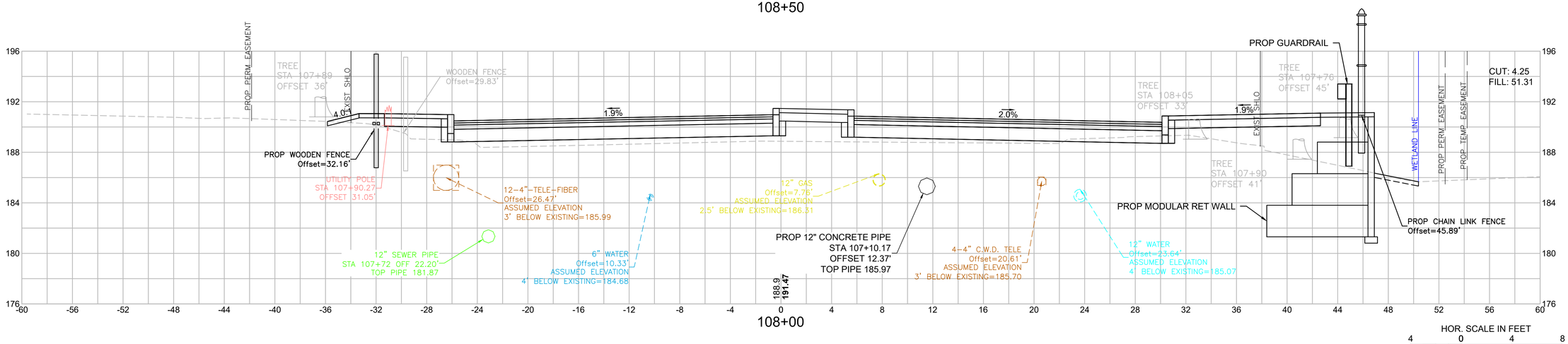

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Christopher Lyman

MILTON
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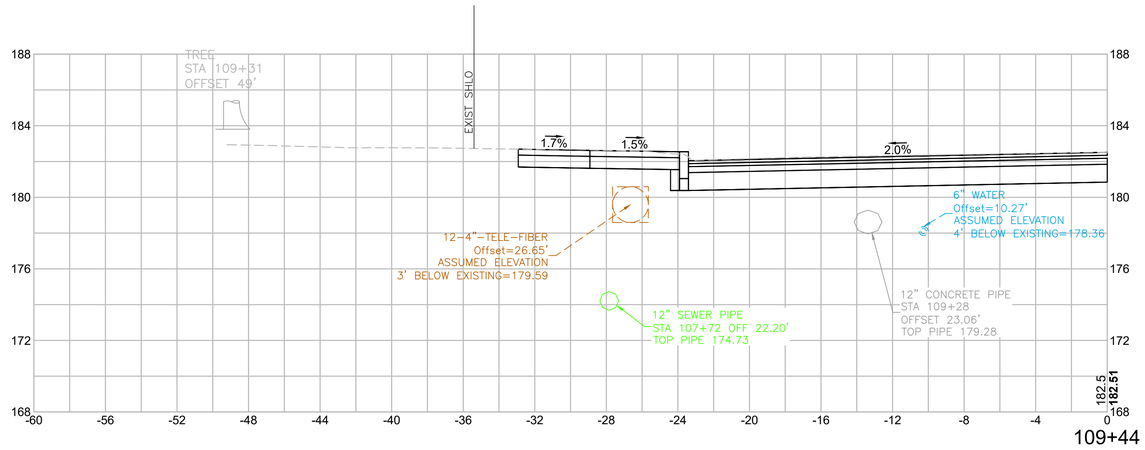

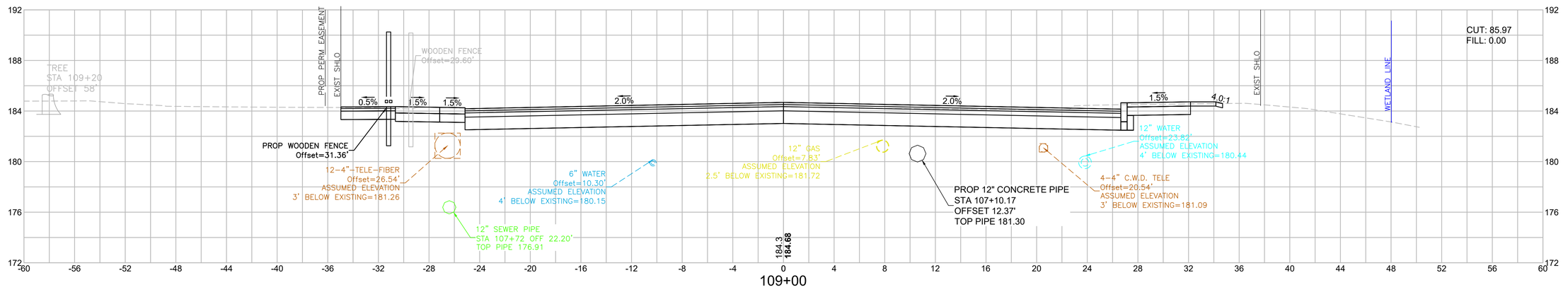

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Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

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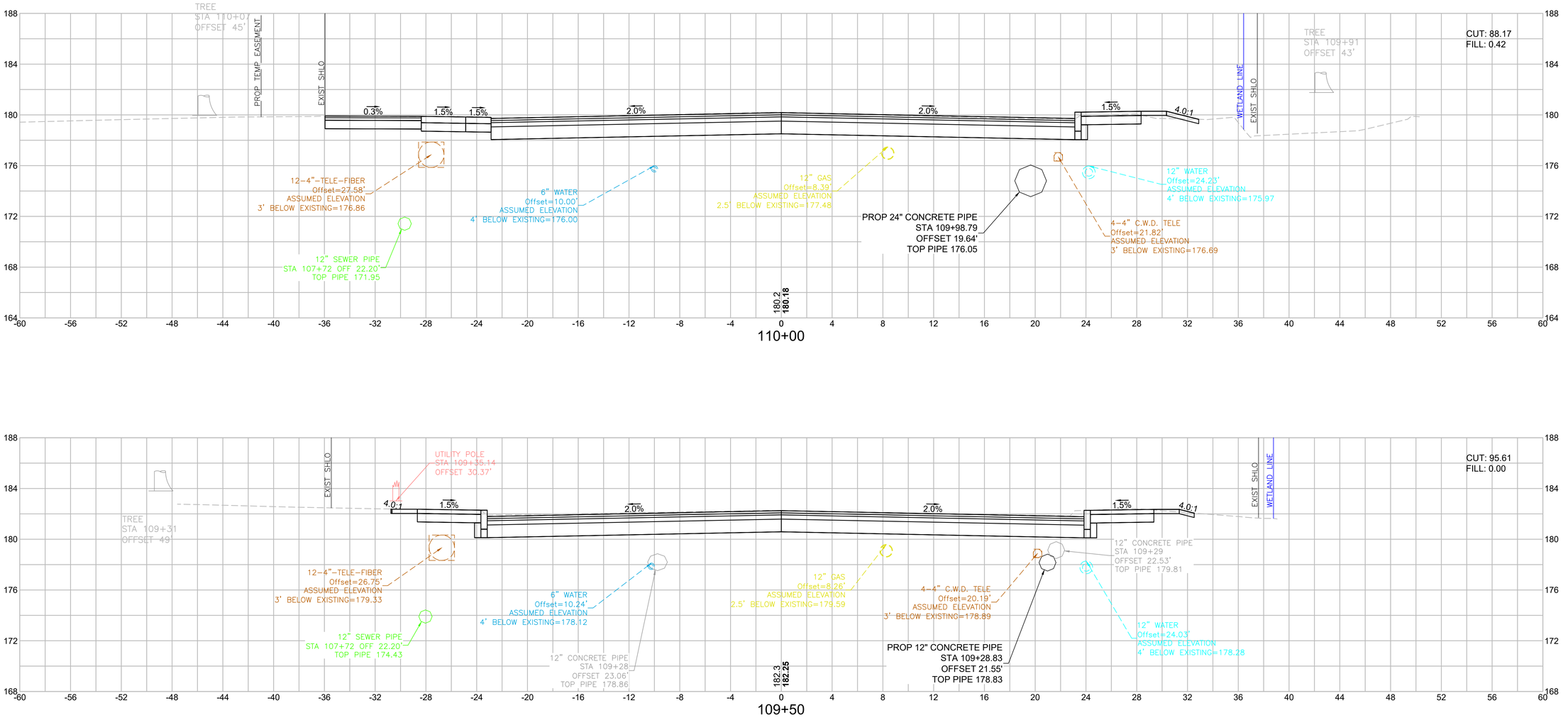
PROJECT FILE NO.	607342		

CROSS SECTIONS



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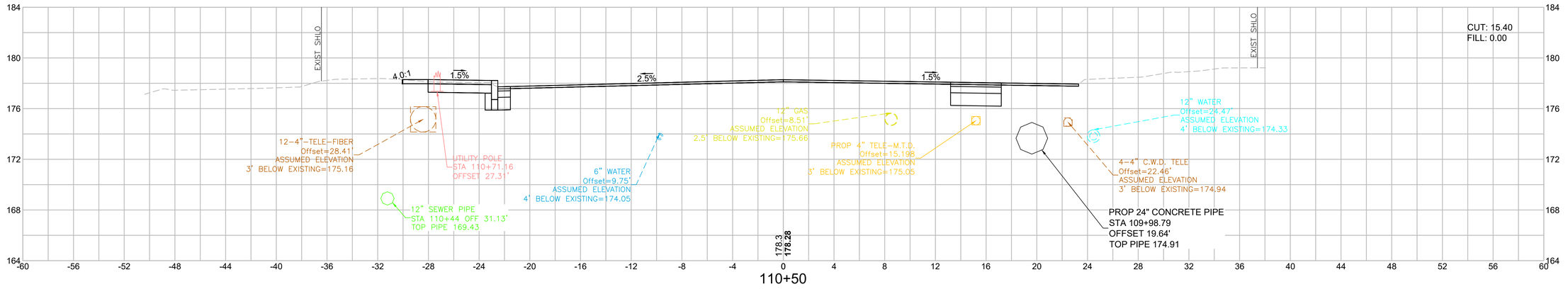
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	111	123
PROJECT FILE NO.	607342		

CROSS SECTIONS



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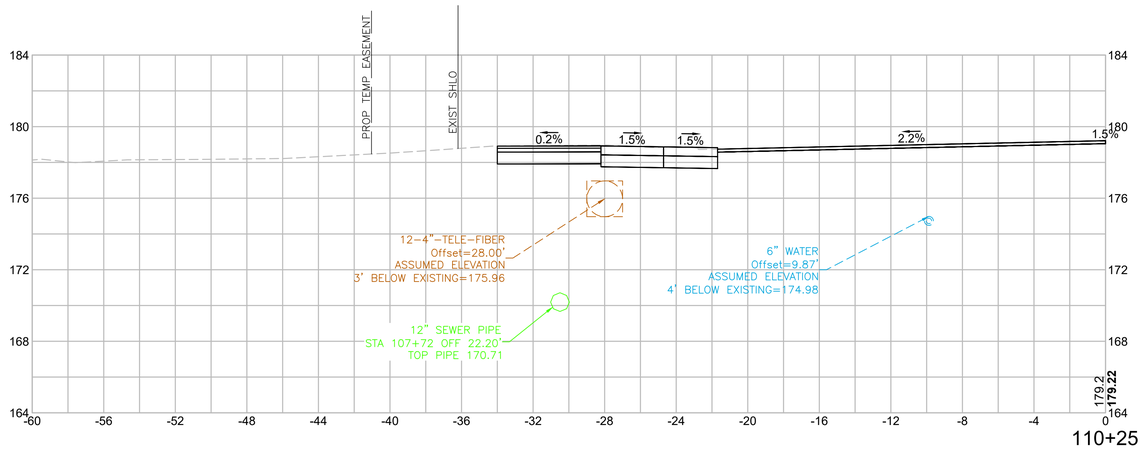

110+25

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

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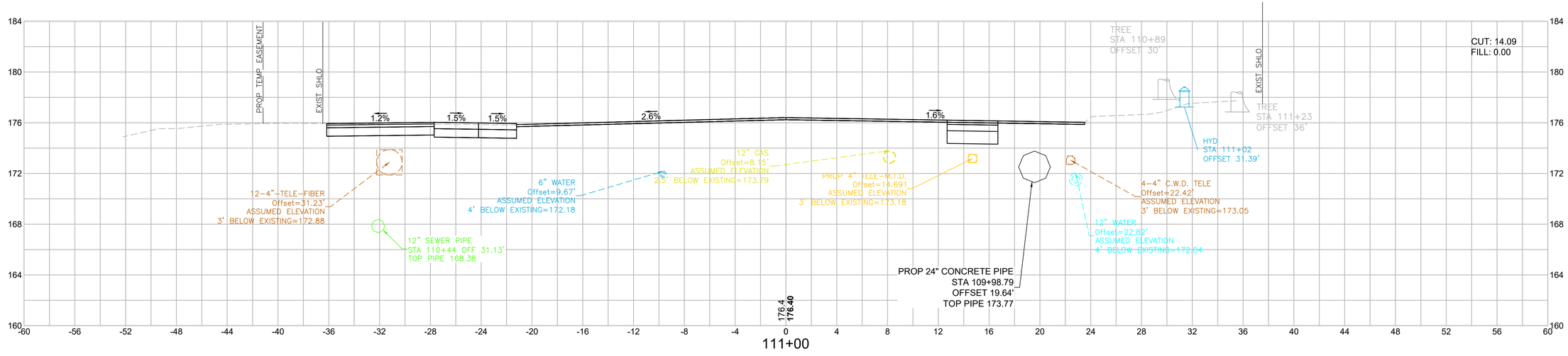
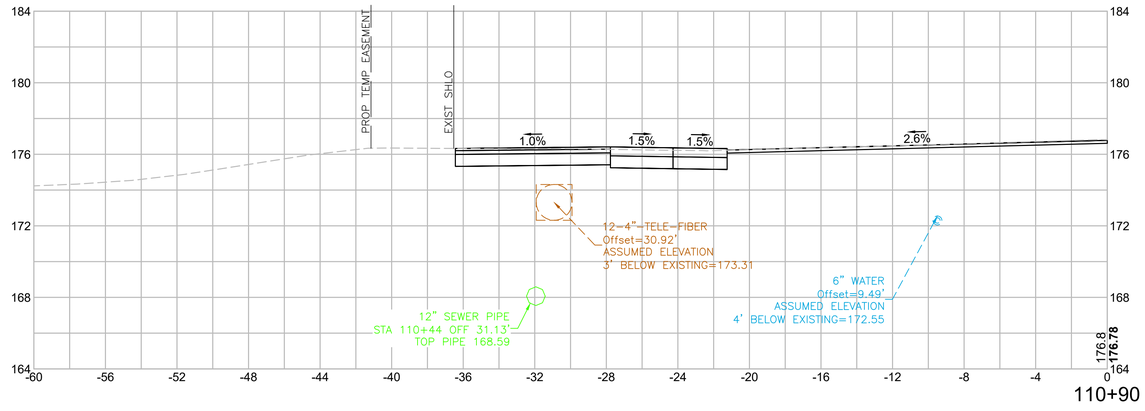
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	112	123
PROJECT FILE NO.	607342		

CROSS SECTIONS





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

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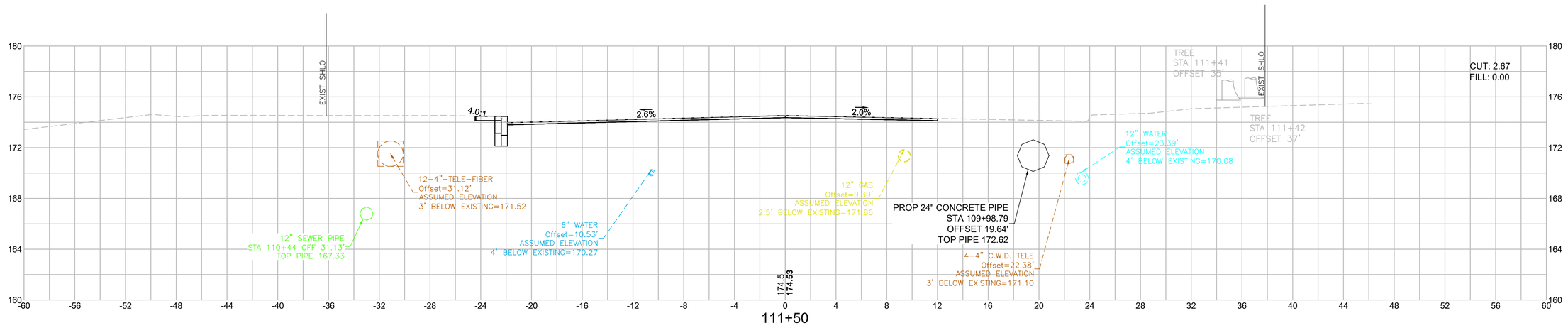
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	113	123
PROJECT FILE NO.	607342		

CROSS SECTIONS



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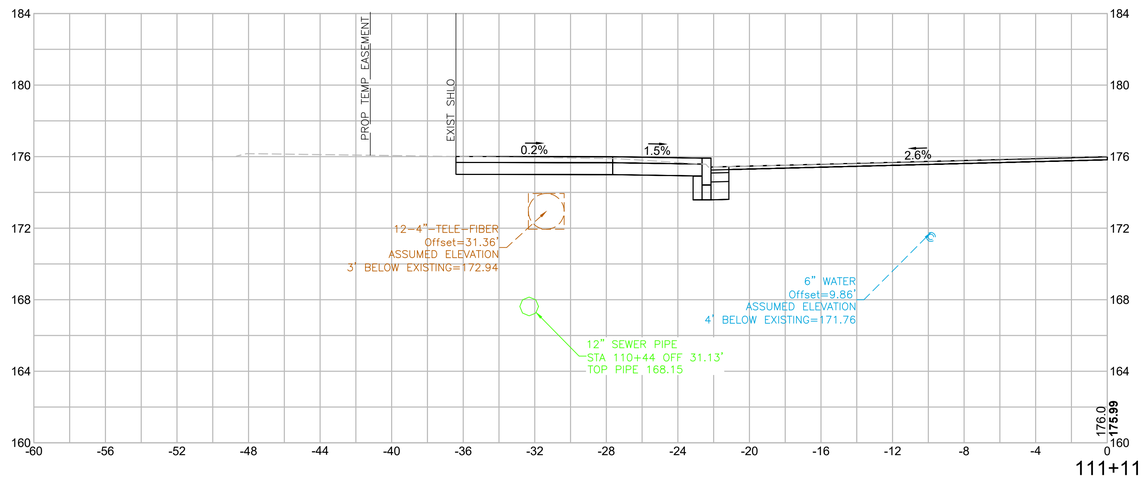

111+11

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

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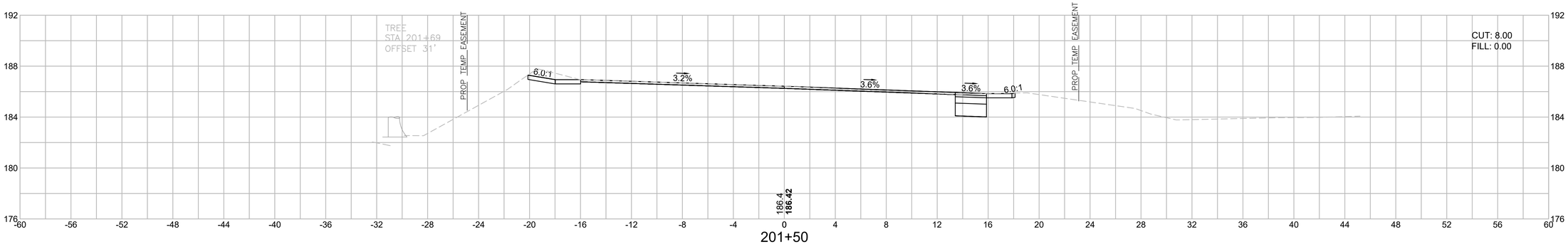
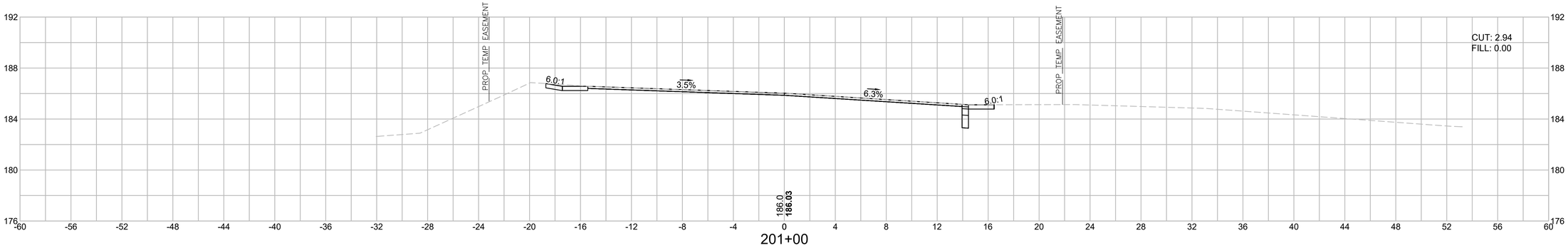
Christopher Lyman

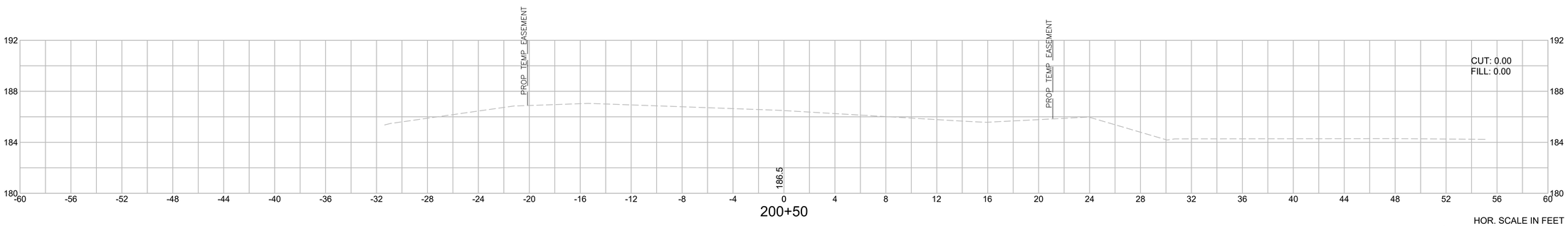
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	114	123
PROJECT FILE NO.	607342		

CROSS SECTIONS







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

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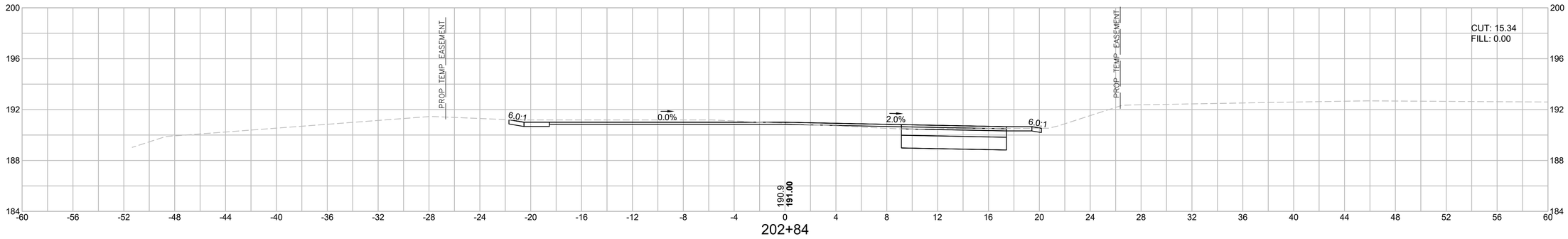
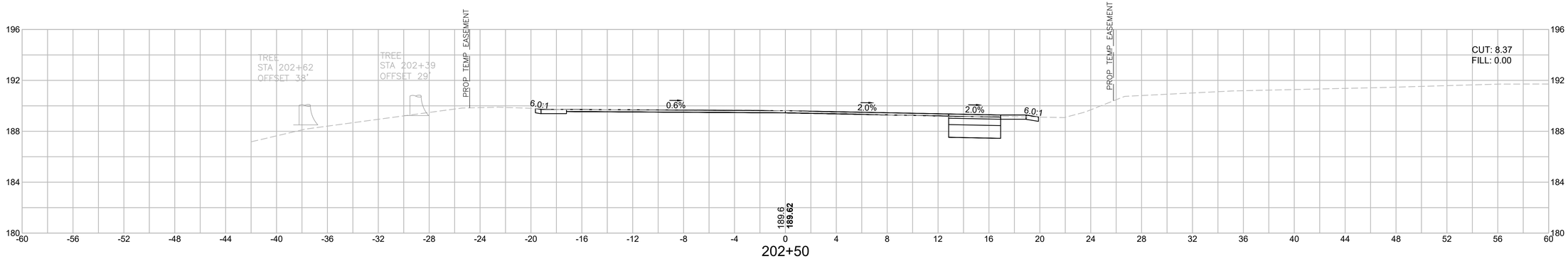
Christopher Lyman

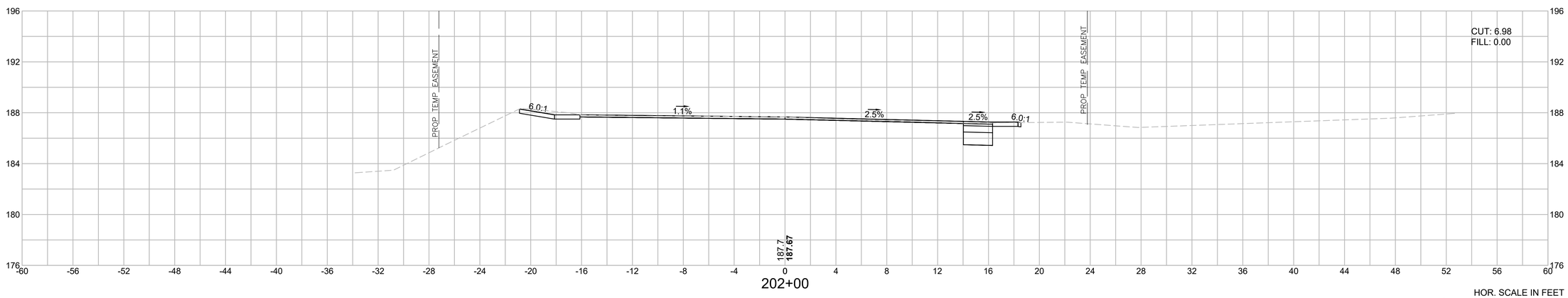
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	115	123
PROJECT FILE NO.	607342		

CROSS SECTIONS







HOR. SCALE IN FEET
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VER. SCALE IN FEET
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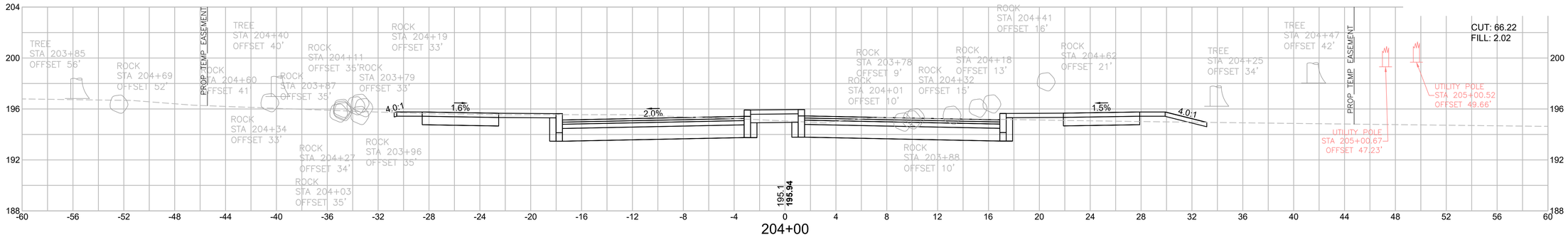
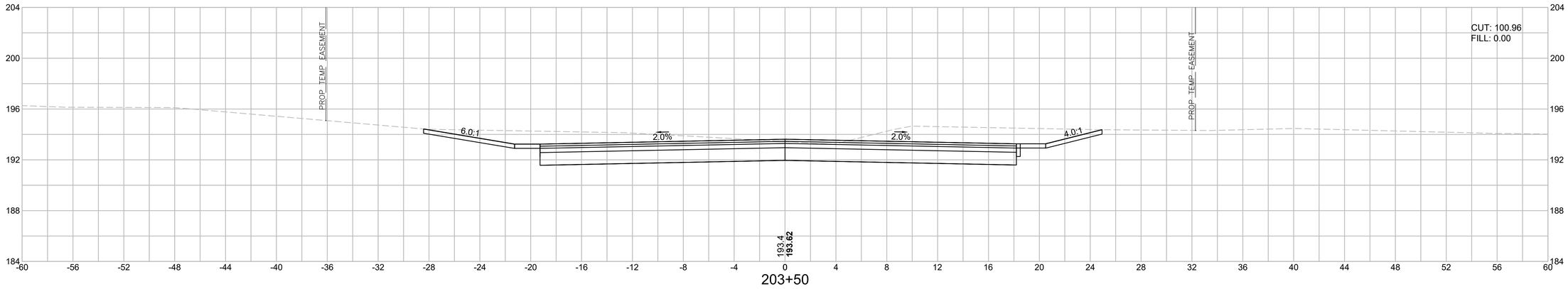
Christopher Lyman

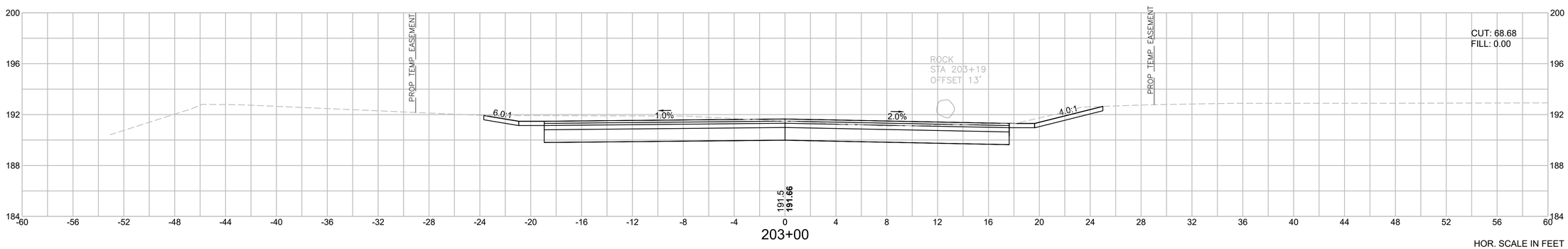
MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	116	123
PROJECT FILE NO.	607342		

CROSS SECTIONS







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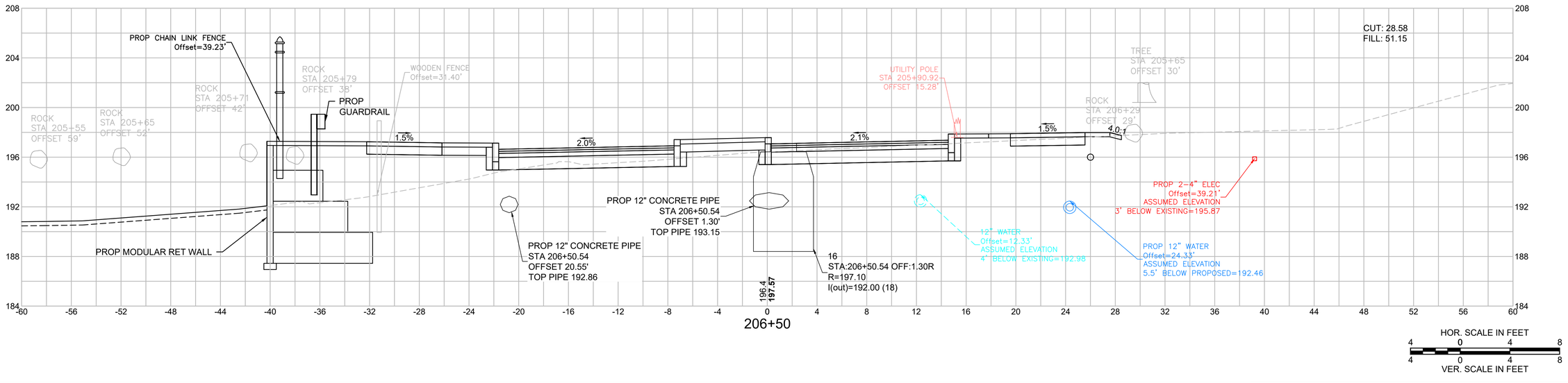
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	117	123
PROJECT FILE NO.	607342		

CROSS SECTIONS



HOR. SCALE IN FEET
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VER. SCALE IN FEET
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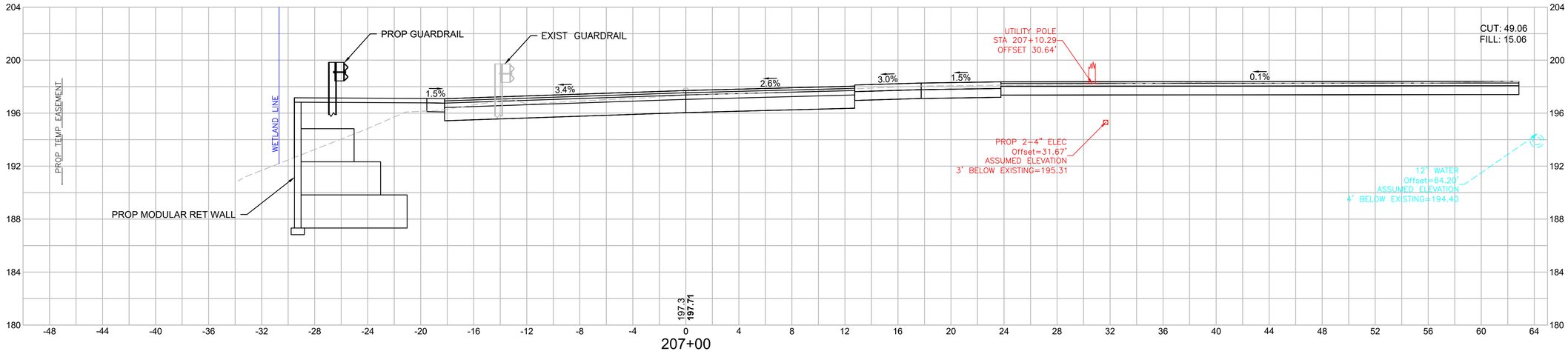
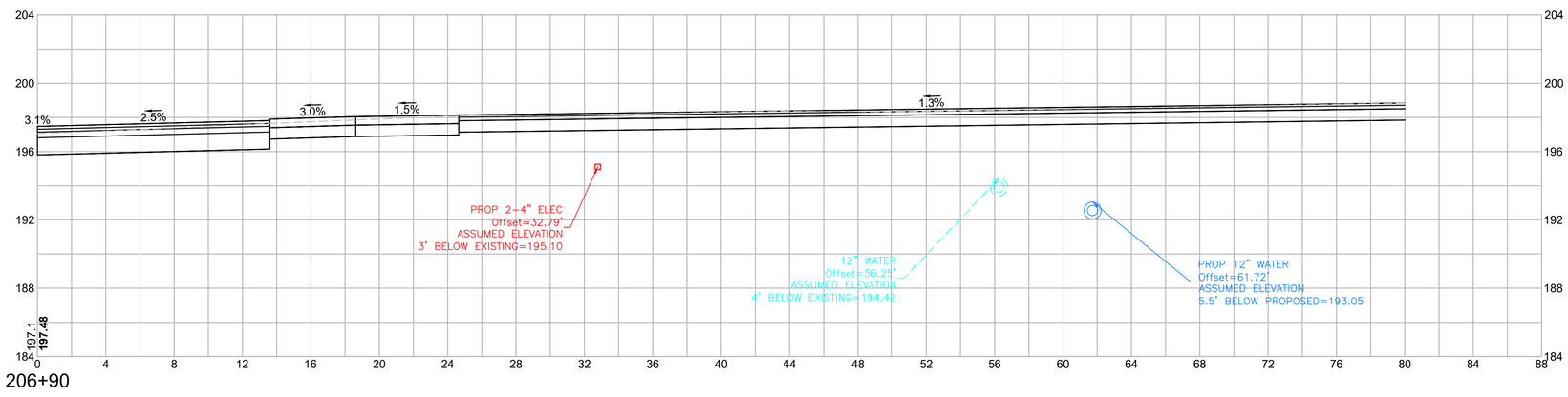
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	118	123
PROJECT FILE NO.	607342		

CROSS SECTIONS





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

607342_HDXSECTION).DWG Plotted on 16-Sep-2024 3:41 PM

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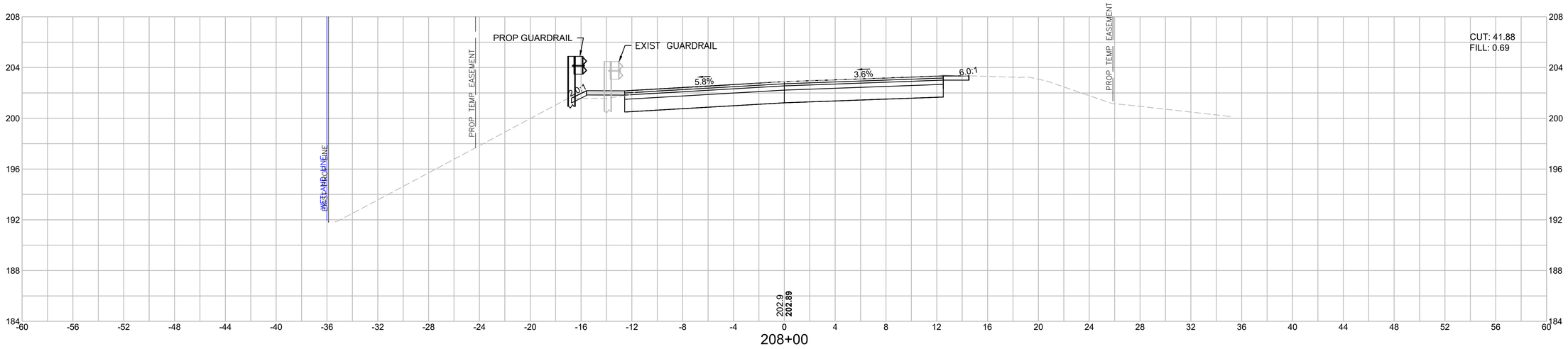
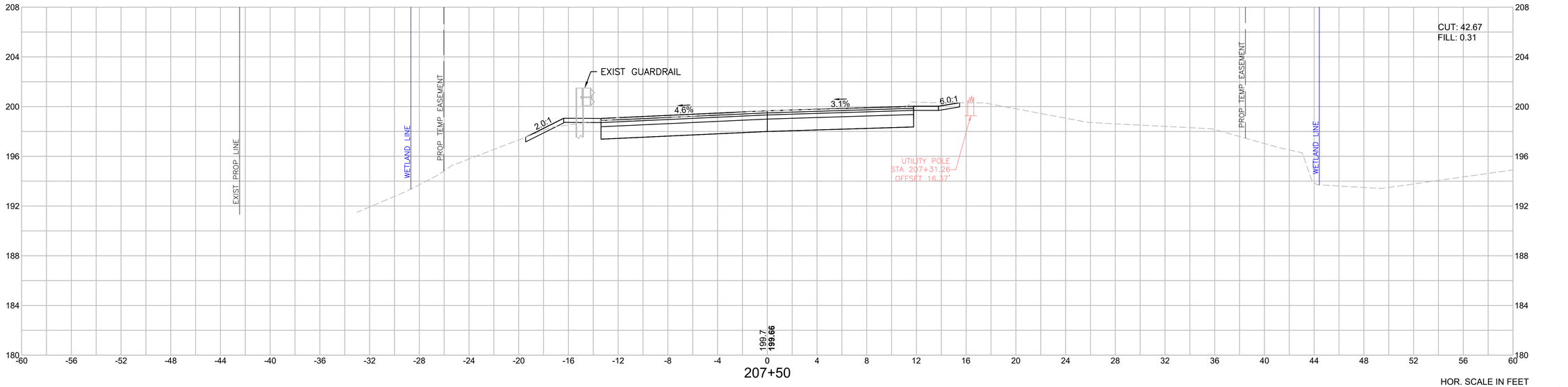
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	119	123
PROJECT FILE NO.	607342		

CROSS SECTIONS





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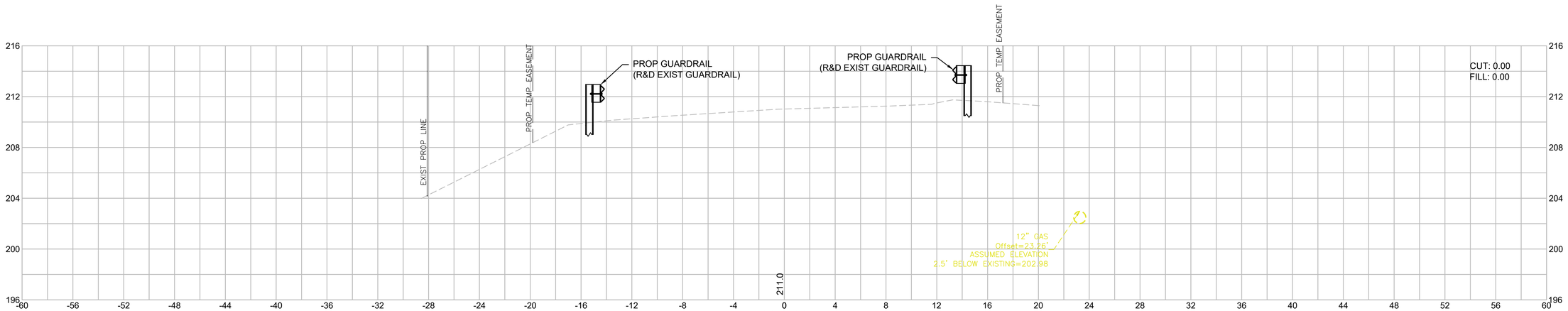
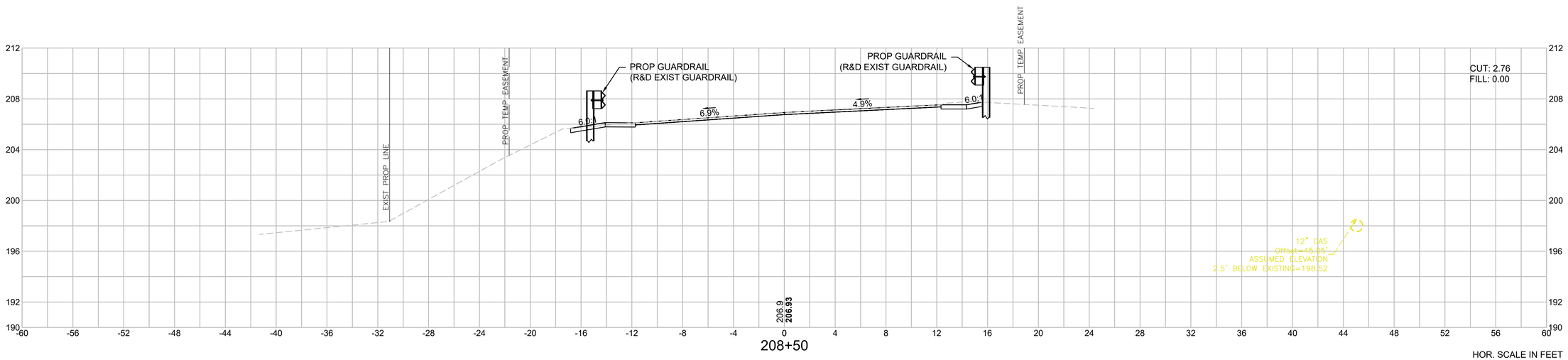
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	120	123
PROJECT FILE NO.	607342		

CROSS SECTIONS





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VER. SCALE IN FEET
4 0 4 8

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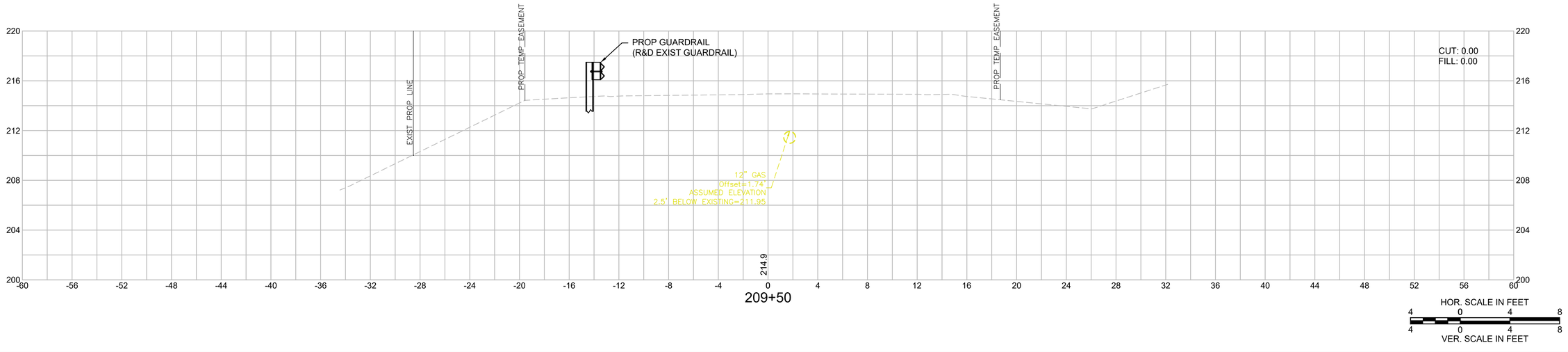
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	121	123
PROJECT FILE NO.	607342		

CROSS SECTIONS



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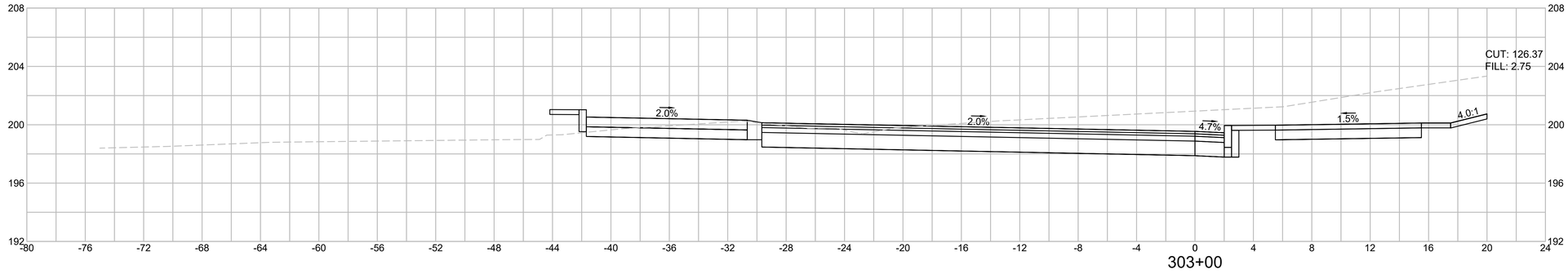
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	122	123
PROJECT FILE NO.	607342		

CROSS SECTIONS



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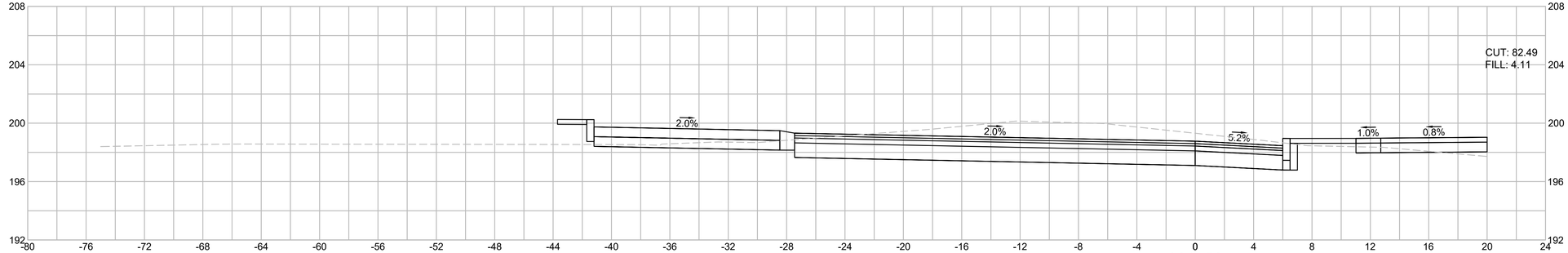
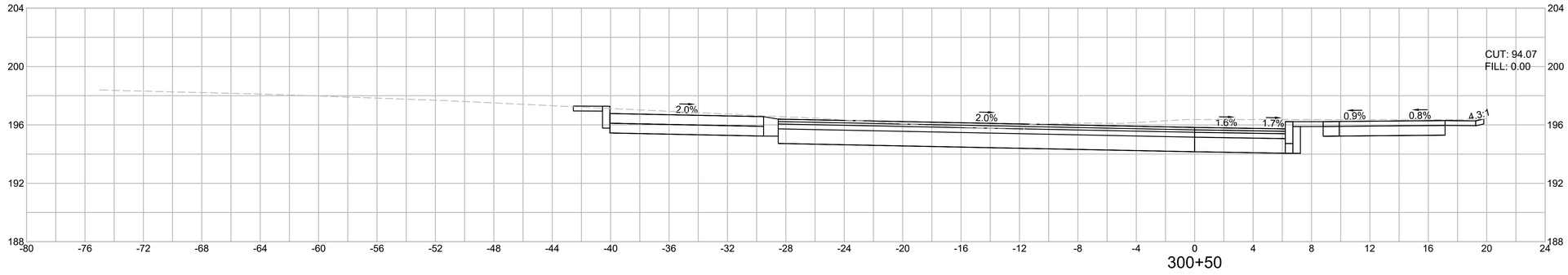


301+50



300+50

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

Plotted on 16-Sep-2024 3:41 PM
607342_HDXSECTION.DWG

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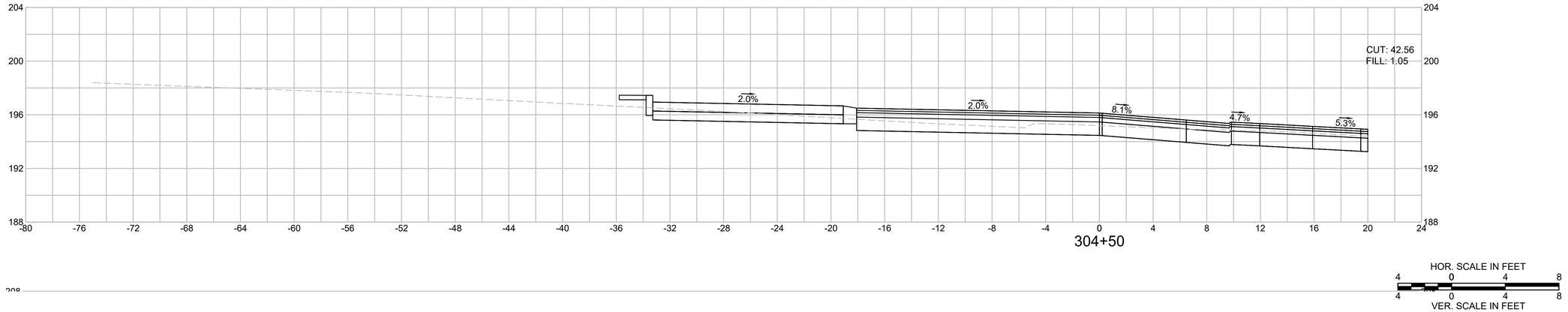
Christopher Lyman

MILTON
RANDOLPH AVENUE (ROUTE 28)
AT CHICKATAWBUT ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	123	123
PROJECT FILE NO.	607342		

CROSS SECTIONS



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

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Christopher Lyman