NCDOT TIP: EB- 5547 A



VICINITY MAP
NOT TO SCALE

OWNER:
TOWN OF BLACK MOUNTAIN
160 MIDLAND AVE
BLACK MOUNTAIN, NC 28711
ANGELA REECE
angela.reece@tobm.org
(828) 419-9300 x 315

ENGINEER:
MICHAEL BAKER ENGINEERING, INC.
979 HAYWOOD ROAD, SUITE 201
ASHEVILLE, NC 28806

PROJECT MANAGER:
TODD BUCKNER
8000 REGENCY PARKWAY
SUITE 600
CARY, NC 27518
Todd.Buckner@mbakerintl.com
919-481-5710

SURVEYOR:
WES COLE SURVEYING AND DESGN
549 ELK PARK DR, SUITE #707
ASHEVILLE, NC 28804
(828) 251-7025

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BUNCOMBE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	EB-5547 A	1	

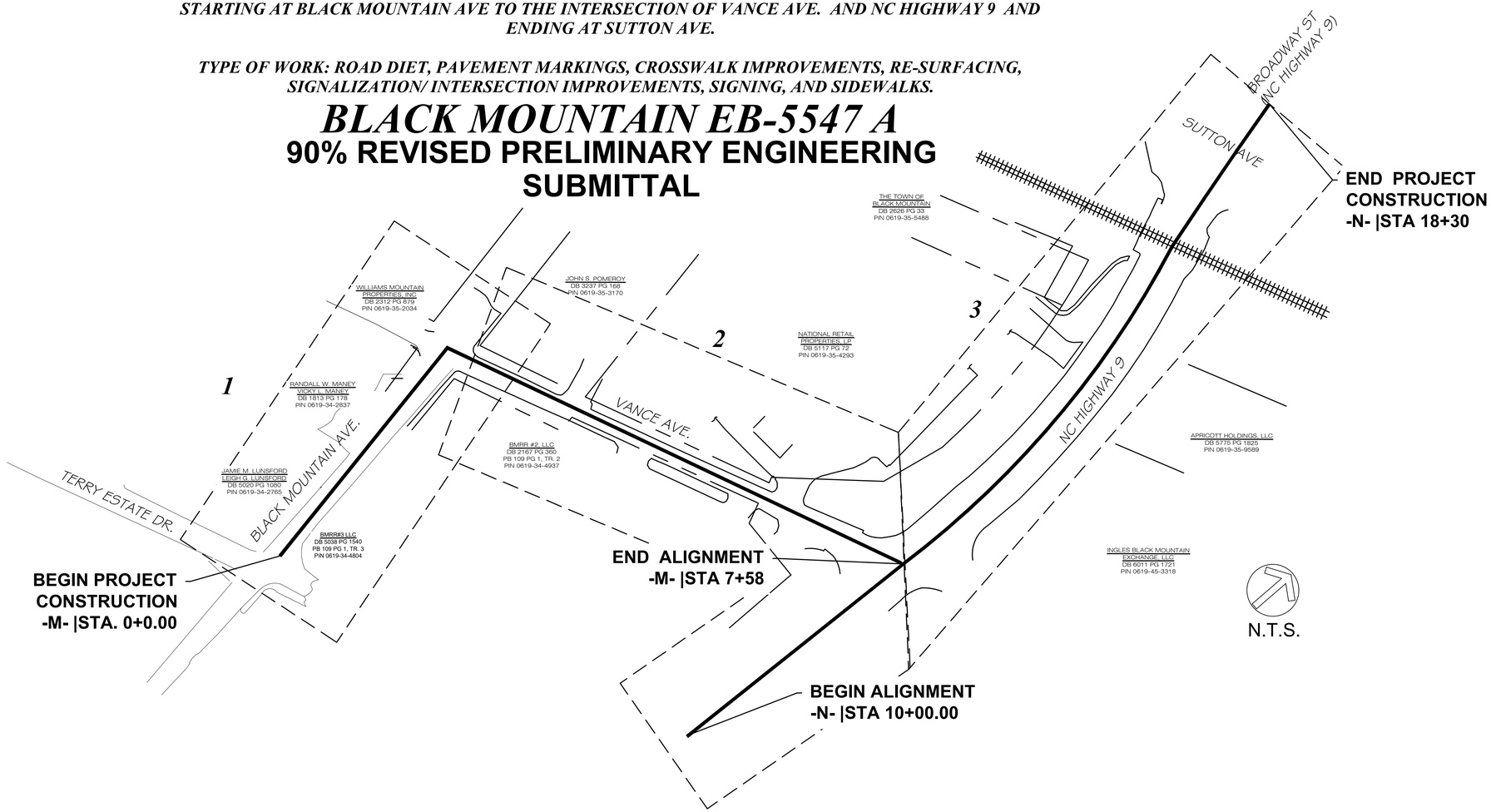
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
51045.1.3	1302108	P.E.
51045.2.3	1302108	R/W & UTILITY
51045.3.3	1302108	CONSTRUCTION

LOCATION: BLACK MOUNTAIN BICYCLE, PEDESTRIAN IMPROVEMENTS, AND SIDEWALK IMPROVEMENTS STARTING AT BLACK MOUNTAIN AVE TO THE INTERSECTION OF VANCE AVE. AND NC HIGHWAY 9 AND ENDING AT SUTTON AVE.

TYPE OF WORK: ROAD DIET, PAVEMENT MARKINGS, CROSSWALK IMPROVEMENTS, RE-SURFACING, SIGNALIZATION/ INTERSECTION IMPROVEMENTS, SIGNING, AND SIDEWALKS.

BLACK MOUNTAIN EB-5547 A

90% REVISED PRELIMINARY ENGINEERING SUBMITTAL



GRAPHIC SCALES

1" = 40'
40 20 0 40 80
PLANS

1" = 20'
20 10 0 20 40
PLANS

PROJECT LENGTH

TOTAL LENGTH OF PROJECT = 0.029 MILES
TOTAL LIMITS OF DISTURBANCE = 58,510 SF / 1.34 AC.

DATE

AUGUST 2026

PLANS PREPARED FOR THE TOWN OF BLACK MOUNTAIN BY:

Michael Baker INTERNATIONAL

NC Eng License F-1084
8000 Regency Parkway, Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
N/A

LETTING DATE:
TBD

FRED GROGAN, ASLA/PLA
PROJECT LANDSCAPE ARCHITECT

TODD BUCKNER, P.E.
PROJECT MANAGER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
1A	SHEET INDEX & GENERAL NOTES
1B	CONVENTIONAL SYMBOLS
2A	EXISTING CONDITIONS SURVEY
3A	TYPICAL SECTIONS
3B-1-3B-3	NCDOT DETAILS
4A-1	DEMOLITION & PLANTING PLAN
4A-2	PLANTING DETAILS
5-7	SIDEWALK,SHARED ROAD, PEDESTRIAN IMPROVEMENTS & UTILITIES PLANS
TMP	TRAFFIC MANAGEMENT PLAN
PMP	SIGNING & PAVEMENT MARKING PLAN
SIG-1	SIGNAL MODIFICATION DESIGN (PENDING)
SIG-2	ELECTRICAL DETAILS (PENDING)
SIG-3	ELECTRICAL DETAILS (PENDING)

LIST OF ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH-N C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD NO.	DESCRIPTION
DIVISION 7 - CONCRETE PAVEMENTS AND SHOULDERS	
700.01	CONCRETE PAVEMENT JOINTS - CONSTRUCTION AND CONTRACTION JOINTS
DIVISION 8 - INCIDENTALS (PART 2)	
848.06	CURB RAMP - EXISTING CURB & GUTTER
848.06	CURB RAMP - TRUNCATED DOME
848.06	CURB RAMP- PARALLEL RAMPS
848.06	CURB RAMP- DIRECTIONAL RAMP
DIVISION 12- PAVEMENT MARKINGS, MARKERS AND DELINEATION	
1205.01	PAVEMENT MARKINGS- LINE TYPES AND OFFSETS
1205.07	PAVEMENT MARKINGS- PEDESTRIAN CROSSWALKS
1205.07	PAVEMENT MARKINGS- FACILITY TRANSITIONS
1205.08	PAVEMENT MARKINGS- SYMBOLS AND WORD MESSAGES
1205.16	BICYCLE FACILITIES- SYMBOLS AND DETAILS

SITE NOTES

ALL DIMENSIONS ARE IN RADII, EDGE OF PAVEMENT, TO CENTERLINE,CENTER TO CENTER ON STRIPES, UNLESS OTHERWISE NOTED

PROVIDE CONSTRUCTION JOINTS IN CONCRETE WALKWAYS EVERY 10' MAXIMUM WHEN WALKS ARE 10' WIDE. MATCH WIDTH UNDER 10'.

CONCRETE PADS AND WALKWAYS; UNLESS OTHERWISE NOTED, ARE 3000 PSI, OF 4" THICKNESS.

ALL SIGNS AND PAVEMENT MARKINGS ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) AND NCDOT STANDARDS.

CONTRACTOR TO GRADE FILL SLOPES AROUND SEWER MANHOLES TO AVOID PONDING.

UTILITY NOTES

CONTRACTOR SHALL NOTIFY "NORTH CAROLINA ONE CALL" (TELEPHONE1-800-632-4949) AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR TO CONTACT LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "NORTH CAROLINA ONE CALL."

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES IN COORDINATION WITH THE APPROPRIATE UTILITY AGENCY, OR COMPANY.

THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE IMMEDIATELY.

ALL UTILITIES THAT ARE LOCATED WITHIN LIMITS OF DISTURBANCE SHALL BE SET SO THAT TOPS/RIMS ARE FLUSH WITH FINISHED GRADE UNLESS OTHERWISE NOTED ON PLANS.

EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE, ARE BASED ON A FIELD SURVEY PERFORMED BY WES COLE LAND SURVEYING PA AND AVAILABLE RECORD DRAWINGS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION AND FOR DAMAGES RESULTING FROM FAILURE TO DO SO.

CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE TOWN FOR ANY ADDITIONAL INFORMATION ON EXISTING WATER AND SEWER UTILITIES.

LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING EXACT LOCATION, ORIENTATION, AND ELEVATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION OR ORDERING MATERIALS.

ALL UTILITIES TO REMAIN SHALL BE PROTECTED BY THE CONTRACTOR. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR AT HIS EXPENSE.

CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD ANY FIELD CONDITIONS BE ENCOUNTERED THAT VARY FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS.

GENERAL NOTES

STATEMENT OF CONSTRUCTION

THIS PROJECT GENERALLY CONSISTS OF ROAD DIET, PAVEMENT MARKINGS, CROSSWALK IMPROVEMENTS, RE-SURFACING, SIGNALIZATION/ INTERSECTION IMPROVEMENTS, SIGNING, AND SIDEWALKS.

THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE JANUARY 2024 NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

DEMOLITION NOTES

CONTACT THE TOWN OF BLACK MOUNTAIN PUBLIC WORKS DEPARTMENT AND NCDOT TO SET UP A PRE-CONSTRUCTION MEETING PRIOR TO LAND DISTURBANCE. TREE PROTECTION FENCING CAN AND SHOULD BE INSTALLED PRIOR TO PRE- CONSTRUCTION.

THE CONTRACTOR SHALL NOTIFY THE TOWN OF BLACK MOUNTAIN INSPECTOR AND NCDOT PRIOR TO STARTING WORK. CONTACT INFORMATION WILL BE PROVIDED AT THE PRE-CONSTRUCTION CONFERENCE.

THE CONTRACTOR SHALL NOT MAKE ANY LANE CLOSURES OR CHANGES TO THE EXISTING TRAVEL PATTERNS ON ANY PUBLIC STREET WITHOUT PRIOR APPROVAL FROM THE TOWN OF BLACK MOUNTAIN.

ALL DEMOLITION SHALL BE APPROVED BY THE TOWN OF BLACK MOUNTAIN AND NCDOT (IF WITHIN RIGHT OF WAY).

ALL DEMOLITION WORK WILL BE COORDINATED BY THE CONTRACTOR.

THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS REGARDING REMOVAL AND DISPOSAL OF MATERIALS AND DEBRIS.

ALL DEMOLITION AND SUBSEQUENT CONSTRUCTION TO BE IN ACCORDANCE WITH PERMITS ISSUED AND APPLICABLE STATE, COUNTY, AND LOCAL CODES.

THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, PERMITS, EQUIPMENT, ETC. THAT MAY BE REQUIRED.

RELOCATION OF EXISTING UTILITIES TO BE COORDINATED WITH THE LOCAL UTILITY PROVIDER(S).

CLEANOUTS LOCATED IN AREAS OF DEMOLITION OR SUBSEQUENT CONSTRUCTION THAT ARE TO REMAIN, SHALL BE PROTECTED FROM DAMAGE AND RAISED TO FLUSH WITH NEW GRADE. ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF LEGALLY OFFSITE UNLESS OTHERWISE NOTED ON THIS PLAN.

ALL TREES AND VEGETATION NOTED TO BE REMOVED SHALL BE STOCKPILED FOR FUTURE USE.

TREE PROTECTION MEASURES SHALL BE PROVIDED DURING CONSTRUCTION PER APPLICABLE PERMITS AND THE BID DOCUMENTS.

ANY TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE OPERATIONS INCLUDING TREE REMOVAL, IN SUCH A MANNER AS TO CLEARLY AND ADEQUATELY SEPARATE ALL TREES TO BE REMOVED FROM REMAINING VEGETATION.

ALL PAVEMENT MARKINGS USED FOR PROJECT SHALL BE NCDOT STANDARD THERMOPLASTIC PAVEMENT MARKINGS.

ALL WORK MUST BE COMPLETED WITHIN EASEMENTS AND CONSTRUCTION LIMITS SHOWN.

CONTRACTOR SHALL RESTORE THE LAY-DOWN AND STAGING AREA TO ORIGINAL CONDITIONS AND TO THE SATISFACTION OF THE OWNER, PRIOR TO DEMOBILIZATION AT THE CONCLUSION OF THE PROJECT.

ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE REMOVED COMPLETELY INCLUDING ALL SUBGRADE MATERIALS DIRECTLY ASSOCIATED WITH ITEMS TO BE REMOVED INCLUDING STUMP GRINDING.

CLEAN SOILS SHALL BE UTILIZED FOR BACKFILL COMPACTION OF THESE SOILS PERFORMED IN ACCORDANCE WITH SPECIFICATIONS AND DRAWINGS.

ANY EXCAVATION MUST BE FILLED IN AND TAMPED AT THE CONCLUSION OF EACH WORK PERIOD, AND EQUIPMENT AND SUPPLIES RETURNED TO THE CONSTRUCTION STAGING AREA.

SHEET NOTES

ALL DEMOLITION, AND ANY SUBSEQUENT CONSTRUCTION, SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS SET FORTH AND APPROVED BY THE TOWN OF BLACK MOUNTAIN AND NCDOT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS. ALL TREE PROTECTION FENCING SHALL REMAIN IN PLACE DURING CONSTRUCTION.

TRAFFIC CONTROLS FOR ANY WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE PERFORMED IN COMPLIANCE WITH STANDARDS OF THE NCDOT STD. DRAWINGS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND/OR METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.

CONTRACTOR SHALL MAINTAIN AN "AS BUILT" SET OF DRAWINGS TO RECORD THE ACTUAL LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE ENGINEER AT REGULAR INTERVALS THROUGHOUT THE PROJECT FOR RECORD KEEPING.

THE CONTRACTOR SHALL, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY HIM, HIS EMPLOYEES OR HIS WORK. ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE ON A DAILY BASIS.

IF DEPARTURES FROM THE DRAWINGS OR SPECIFICATIONS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE SUBMITTED TO THE OWNER FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER.

THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE ACTUAL AND EXACT LOCATION, SIZE AND MATERIAL COMPOSITION OF ANY EXISTING WATER OR SEWER SERVICE PROPOSED FOR CONNECTION OR USE ON THIS PROJECT.

ALL SIGNS SHALL BE MOUNTED WITH SIGN EDGE AND TO BE LOCATED A MINIMUM OF 3 FEET FROM EDGE OF TRAIL.

BASE INFORMATION:

1. A SURVEY OF PROJECT AREA CONDUCTED BY WES COLE LAND SURVEYING, PA , FINALIZED ON 1/6/2017.
2. LIDAR DATA WAS COMBINED WITH FIELD SHOT SURVEY DATA TO PROVIDE COMPREHENSIVE GRADING. THE BOUNDARY OF THIS FIELD SHOT SURVEY IS DELINEATED ON THE PLANS.
3. ALL EXISTING BASE INFORMATION WAS COMPILED BY THE SURVEYOR UNLESS NOTED BELOW.
4. AERIAL IMAGERY AVAILABLE FROM BUNCOMBE COUNTY (2015).

ACCESSIBILITY CRITERIA:

5. ACCESSIBILITY DESIGN IS IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
6. LONGITUDINAL SLOPE (TRAIL GRADE) CRITERIA:
   - 6.1. LONGITUDINAL SLOPE (TRAIL GRADE) MEETS ONE OR MORE OF THE FOLLOWING:
   - 6.2. 5% OR LESS FOR ANY DISTANCE.
   - 6.3. UP TO 8.33% FOR 200' MAX. RESTING INTERVALS NO MORE THAN 200' APART.
   - 6.4. UP TO10% FOR 30' MAX. RESTING INTERVALS 30'
   - 6.5. UP TO 12.5% FOR 10' MAX. RESTING INTERVALS 10'.
   - 6.6. NO MORE THAN 30% OF THE TOTAL TRAIL LENGTH MAY EXCEED A RUNNING SLOPE OF 8.33%.
7. CROSS SLOPE CRITERIA:
   - 7.1. MAXIMUM CROSS SLOPE: 2% UNLESS OTHERWISE NOTED (EXCEPTIONS UP TO 5% TO MEET EXISTING CONDITIONS)
8. RAMP CRITERIA:
   - 8.1. THE MAXIMUM SLOPE OF A RAMP IS 1:12, THE MAXIMUM RISE FOR ANY RUN IS 30 INCHES, WITH 5'-0" LEVEL LANDINGS LEVEL REQUIRED AT TOP AND BOTTOM OF EACH RAMP RUN.

DESIGN CRITERIA:

9. DESIGN IN ACCORDANCE WITH THE GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, 5TH EDITION, AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO 2024; "GREENBOOK" (AASHTO 2018).
10. PROPOSED PAVEMENT SHALL MEET EXISTING PAVEMENT FLUSH.
11. GRADE SIDE SLOPES AND ADJACENT TERRAIN FOR POSITIVE DRAINAGE. ENSURE THAT THERE IS NO STANDING WATER ON THE UPHILL SIDE OF THE TRAIL. INSTALL DIVERSION DITCH AS NEEDED TO DIRECT WATER TO CULVERTS.

UTILITIES & UTILITY EASEMENTS:

12. MSD EASEMENT ASSUMED TO BE 15' FROM SEWER LINE, EACH SIDE (TOTAL 30' WIDE EASEMENT), UNLESS IDENTIFIED OTHERWISE IN SURVEY.
13. THE EDGES OF PAVED TRAILS SHALL HAVE A MINIMUM CLEARANCE ZONE OF 4' TO THE EDGE OF RAISED MANHOLES. WHERE MANHOLES ARE WITHIN THE PAVED TRAIL THEY SHOULD BE FLUSH WITH THE FINISHED TRAIL SURFACE AND NO CLOSER THAN 4" FROM THE EDGE OF THE PAVEMENT.

EXISTING INFRASTRUCTURE :

WHEN THE TRAIL INTERSECTS WITH A ROAD CROSSING THERE SHALL BE A 10' APRON (OR AS SPECIFIED ON THE PLAN) OF CONCRETE STARTING AT THE EDGE OF ROAD.

TOTAL DISTURBED AREA: APPROXIMATELY 2.19 ACRES

SEQUENCE OF CONSTRUCTION ACTIVITIES:

1. A PRECONSTRUCTION CONFERENCE MUST BE HELD PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
2. INSTALL CONSTRUCTION ENTRANCES AS NEEDED AT LOCATIONS SHOWN ON APPROVED PLANS. STAGING AREAS WILL NEED TO BE DISCUSSED WITH THE TOWN OF BLACK MOUNTAIN PRIOR TO THE START OF CONSTRUCTION.
3. DETERMINE AND MARK LIMITS OF DISTURBANCE.
4. INSTALL TREE PROTECTION FENCING, SILT FENCE, SILT FENCE OUTLETS. SILT FENCE OUTLETS SHALL BE INSTALLED PER FIELD LOCATED LOW POINTS AND AS SHOWN ON APPROVED PLANS.
5. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. CALL FOR ON SITE INSPECTION BY ENVIRONMENTAL INSPECTOR AND OBTAIN CERTIFICATE OF COMPLIANCE.
6. IF TOPSOIL IS ALLOWED TO BE STORED ON SITE, STORAGE AREAS SHALL BE CONTAINED WITHIN THE PROPOSED LIMITS OF DISTURBANCE. TOPSOIL STORAGE AREAS WILL NEED TO BE DISCUSSED WITH THE TOWN OF BLACK MOUNTAIN PRIOR TO THE START OF CONSTRUCTION.
7. BEGIN CLEARING AND GRUBBING ACTIVITIES. INSTALL AND MAINTAIN DEVICES AS NEEDED.
8. ROUGH GRADE SITE AND INSURE THAT SEDIMENT LADEN WATER IS DIRECTED TO SEDIMENT CONTROL DEVICES.
9. INSPECT AND MAINTAIN ALL EROSION CONTROL MEASURES EVERY 7 DAYS AND AFTER EACH SIGNIFICANT RAINFALL (0.5 INCHES OR GREATER) OR AS MORE STRINGENT REQUIREMENTS MAY APPLY AND DOCUMENT WITH INSPECTION REPORTS.
10. CULVERTS ARE TO BE CONSTRUCTED IN THE DRY. CONTRACTOR IS TO COORDINATE WITH EROSION CONTROL INSPECTOR.
11. AS AREAS ARE BOUGHT UP TO FINISH GRADE SPREAD TOPSOIL OVER ALL AREAS TO RECEIVE TURF OR LANDSCAPING. SEED ALL AREAS WITHIN NCDENR STABILIZATION TIMEFRAMES. PERMANENT GRASS SHALL BE INSTALLED FOR ALL AREAS AT FINAL GRADE AN IN SEASON. FERTILIZE, WATER AND RESEED AS REQUIRED TO ESTABLISH AND MAINTAIN A VIGOROUS STAND OF GRASS.
12. AFTER COMPLETION OF CONSTRUCTION AND THE SITE IS STABILIZED, REMOVE ALL ACCUMULATED SEDIMENT FROM SEDIMENT TRAPPING MEASURES AND SPREAD EVENLY ACROSS THE SITE. ALL APPLICABLE E&S CONTROL MEASURES ARE TO REMAIN AND BE PROPERLY MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED. USE NPDES TABLE FOR ESTABLISHMENT OF VEGETATION.
13. WHEN VEGETATION HAS BECOME ESTABLISHED, REMOVE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES. CALL FOR FINAL SITE INSPECTION BY ENVIRONMENTAL OFFICER. OBTAIN CERTIFICATE OF COMPLIANCE.

UTILITIES

DUKE ENERGY**
DISTRIBUTION POWER
CORY HAMLIN, 704-996-9403
cory.hamlin@duke-energy.com

AT&T
TELECOMMUNICATIONS
JANSEN CASELL, 828-275-6513
jc6701@att.com

ERC BROADBAND**
TELECOMMUNICATIONS
LEWIS LANCE, 828-350-2415
llance@ercbroadband.com

SEGRA
TELECOMMUNICATIONS
ROBERT ROBINSON, 704-579-7897
Robert.robinson@segra.com

MCNC
TELECOMMUNICATIONS
WESTON SUGGS, 336-460-8328
wsuggs@mcnc.org

CHARTER COMMUNICATIONS
TELECOMMUNICATIONS
TRAVIS BANKS, 828-337-5825
travis.banks@charter.com

ENBRIDGE
GAS
BLAKE ALLISON, 704-810-3233
blake.allison@dominionenergy.com

TOWN OF BLACK MOUNTAIN**
WATER
JAMEY MATTHEWS, 828-419-9300 (EXT. 652)
jamey.matthews@tobm.org

METROPOLITAN SEWERAGE**
SEWER
OWEN HERBERT, 828-254-9646
owenh@msdbc.org

**KNOWN UTILITY CONFLICTS
PLEASE NOTE, NOT ALL UTILITIES IDENTIFIED WILL BE IMPACTED BY THE PROJECT.

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

SHEET INDEX & GENERAL NOTES

Michael Baker INTERNATIONAL
NC Eng License F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: N/A

PROJECT NO.: 197482

SHEET NO. 1A

11/14/23

Note: Not to Scale

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS
CONVENTIONAL PLAN SHEET SYMBOLS

5547A 1B

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP)
- Computed Property Corner
- Existing Concrete Monument (ECM) — ECM
- Parcel / Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign
- Well — W
- Small Mine — M
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland — K
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — S MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY & PROJECT CONTROL:

- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Secondary Horiz and Vert Control Point
- Vertical Benchmark
- Existing Right of Way Monument
- Proposed Right of Way Monument (Rebar and Cap)
- Proposed Right of Way Monument (Concrete)
- Existing Permanent Easement Monument
- Proposed Permanent Easement Monument (Rebar and Cap)
- Existing C/A Monument
- Proposed C/A Monument (Rebar and Cap)
- Proposed C/A Monument (Concrete)
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Existing Control of Access Line — CA
- Proposed Control of Access Line — CA
- Proposed ROW and CA Line — RW CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage/Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree — X
- Single Shrub — Y
- Hedge

- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — m
- Storm Sewer — S

UTILITIES:

** SUE - Subsurface Utility Engineering*
LOS - Level of Service - A,B,C or D (Accuracy)

POWER:

- Existing Power Pole — P
- Proposed Power Pole
- Existing Joint Use Pole — R
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line Test Hole (SUE - LOS A)*
- U/G Power Line (SUE - LOS B)* — P
- U/G Power Line (SUE - LOS C)* — P
- U/G Power Line (SUE - LOS D)* — P

TELEPHONE:

- Existing Telephone Pole — Q
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole
- U/G Telephone Test Hole (SUE - LOS A)*
- U/G Telephone Cable (SUE - LOS B)* — T
- U/G Telephone Cable (SUE - LOS C)* — T
- U/G Telephone Cable (SUE - LOS D)* — T
- U/G Telephone Conduit (SUE - LOS B)* — TC
- U/G Telephone Conduit (SUE - LOS C)* — TC
- U/G Telephone Conduit (SUE - LOS D)* — TC
- U/G Fiber Optics Cable (SUE - LOS B)* — T FO
- U/G Fiber Optics Cable (SUE - LOS C)* — T FO
- U/G Fiber Optics Cable (SUE - LOS D)* — T FO

WATER:

- Water Manhole — 4
- Water Meter
- Water Valve — I
- Water Hydrant — H
- U/G Water Line Test Hole (SUE - LOS A)*
- U/G Water Line (SUE - LOS B)* — W
- U/G Water Line (SUE - LOS C)* — W
- U/G Water Line (SUE - LOS D)* — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal
- TV Tower — I
- U/G TV Cable Hand Hole
- U/G TV Test Hole (SUE - LOS A)*
- U/G TV Cable (SUE - LOS B)* — TV
- U/G TV Cable (SUE - LOS C)* — TV
- U/G TV Cable (SUE - LOS D)* — TV
- U/G Fiber Optic Cable (SUE - LOS B)* — TV FO
- U/G Fiber Optic Cable (SUE - LOS C)* — TV FO
- U/G Fiber Optic Cable (SUE - LOS D)* — TV FO

GAS:

- Gas Valve — C
- Gas Meter
- U/G Gas Line Test Hole (SUE - LOS A)*
- U/G Gas Line (SUE - LOS B)* — G
- U/G Gas Line (SUE - LOS C)* — G
- U/G Gas Line (SUE - LOS D)* — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole — d
- Sanitary Sewer Cleanout — o
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Force Main Line Test Hole (SUE - LOS A)*
- SS Force Main Line (SUE - LOS B)* — FSS
- SS Force Main Line (SUE - LOS C)* — FSS
- SS Force Main Line (SUE - LOS D)* — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base — F
- Utility Located Object — S
- Utility Traffic Signal Box — 3
- Utility Unknown U/G Line (SUE - LOS B)* — PUTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

CHANGES IN THE PLANS: Limits of Work — LIMITS

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

CONVENTIONAL SYMBOLS

Michael Baker INTERNATIONAL
NC Eng License: F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: N/A

PROJECT NO.: 197482

SHEET NO. 1B

LEGEND:

- EXISTING IRON REBAR (EIR) OR EXISTING MAG NAIL (EMN)
- EXISTING IRON PIPE (EIP)
- EXISTING CONCRETE MONUMENT (R/W MON)
- O.S.D.TRAVERSE STATION
- SANITARY SEWER MANHOLE (SMH)
- SANITARY SEWER CLEAN-OUT (CO)
- WATER METER (WM)
- WATER VALVE (WV)
- UTILITY POLE
- LIGHT POLE
- CABLE TELEVISION RISER
- TELEPHONE PEDESTAL (TPED)
- TELEPHONE MANHOLE (TMH)
- TRAFFIC CONTROL CABINET (TCC)
- GUY WIRE
- SIGN
- STORMWATER JUNCTION BOX (JB)
- CURB INLET (CI)
- DROP INLET (DI)
- YARD INLET
- SPOT ELEVATION
- DECIDUOUS TREE (SIZE AND TYPE AS NOTED)
- CONIFEROUS TREE (SIZE AND TYPE AS NOTED)
- MONITORING WELL (MW)
- GAS METER (GM)
- GAS VALVE (GV)
- GAS TEST STATION (GTS)
- BOUNDARY LINE PER SURVEY/DEEDS
- RIGHT-OF-WAY LINE
- SANITARY SEWER LINE (APPROXIMATE)
- RAILROAD R/W LINE (APPROXIMATE)
- EASEMENT LINE
- EDGE OF RIVER / CREEK
- C/L STORM DITCH
- OVERHEAD UTILITY LINE
- CHAIN LINK FENCELINE
- BOARD FENCELINE
- METAL GUARD RAIL
- INDEX CONTOUR LINE (GROUND SURVEYED)
- INTERIM CONTOUR LINE (GROUND SURVEYED)
- LIDAR CONTOUR INDEX LINE (NOT SURVEYED)
- LIDAR CONTOUR INTERIM LINE (NOT SURVEYED)
- MARKED FIBER OPTIC (APPROXIMATE)
- MARKED TELEVISION LINE (APPROXIMATE)
- MARKED GAS LINE (APPROXIMATE)
- MARKED WATER LINE (APPROXIMATE)
- MARKED ELECTRIC LINE (APPROXIMATE)
- MARKED UNKNOWN UTILITY LINE (APPROXIMATE)

TREE ABBREVIATIONS:

APP...APPLE
CHR...CHERRY
B.W...BASSWOOD
BCH...BEECH
B.G...BLACK GUM
BIR...BIRCH
BCK..BUCKEYE
CAT...CATALPA
CED...CEDAR
CMY...CRAPE MYRTLE
C.O...CHESTNUT OAK
C.A...CRAB APPLE
D.T...DEAD TREE
D.W...DOGWOOD
HEM...HEMLOCK
HIC...HICKORY
HOL...HOLLY
J.M...JAPANESE MAPLE
LOC...LOCUST
MAG...MAGNOLIA
MAP...MAPLE
MIM...MIMOSA
ORN...ORNAMENTAL
PER...PERSIMMON
POP...POPLAR
R.O...RED OAK
S.G...SWEET GUM
SPR...SPRUCE
S.W...SOURWOOD
SYC...SYCAMORE
U.T...UNIDENTIFIED TREE
WAL...WALNUT
W.O...WHITE OAK
W.P...WHITE PINE
WIL...WILLOW
CHN...CHESTNUT
S.M...SILVER MAPLE
B.O...BLACK OAK
LC...LEYLAND CYPRESS

ABBREVIATIONS:

NTS...NOT TO SCALE
(T)...TOTAL
DB...DEED BOOK
PB...PLAT BOOK
PG...PAGE
EOM...END OF MARKINGS
S/W...SIDEWALK
ST ID...STREET IDENTIFICATION
CI...CAST IRON
TYP...TYPICAL
C&G...CURB AND GUTTER
CONC...CONCRETE
D/L...DITCH LINE
R/W...RIGHT OF WAY
C/A...CONTROLLED ACCESS
GRVL...GRAVEL
BOT...BOTTOM
HW...HEADWALL
EW...EDGE OF WATER
GM...GAS MARKER POST
UNK...UNKNOWN
TBM...TEMPORARY BENCH MARK
P.A.I. ...PER AERIAL IMAGERY
NCDOT...NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
PIN...PARCEL IDENTIFICATION NUMBER
NAD...NORTH AMERICAN DATUM
NAVD...NORTH AMERICAN VERTICAL DATUM
NSRS...NATIONAL SPATIAL REFERENCE SYSTEM
N...NORTHING
E...EASTING
Z...ELEVATION
ELEV...ELEVATION
AG...ABOVE GRADE
BG...BELOW GRADE
TT...TOP OF RAILROAD TIMBER
TR...TOP OF RAILROAD RAIL
TB...TOP OF BANK



NOTES

1. THIS PROPERTY IS SUBJECT TO ANY EASEMENTS OR RIGHTS OF WAY (WRITTEN OR UNWRITTEN).
2. THE PROPERTY OR PROPERTIES DISPLAYED WERE SURVEYED WITHOUT THE BENEFIT OF A TITLE SEARCH AND MAY NOT SHOW ALL EASEMENTS, RIGHTS OF WAY, RESTRICTIONS, ENCUMBRANCES, ETC. THAT WOULD BE REVEALED BY A CURRENT AND THOROUGH EXAMINATION OF TITLE BY A NC LICENSED ATTORNEY-AT-LAW. THIS SURVEY SHALL NOT BE CONSIDERED A CERTIFICATION OF OWNERSHIP, ZONING, TITLE, OR GUARANTEE THAT THE SUBJECT IS FREE FROM ENCUMBRANCES.
3. DEED REFERENCES: SEE PLAT. ADJOINING PROPERTY OWNER INFORMATION TAKEN FROM THE BUNCOMBE COUNTY GIS WEBSITE AND DEEDS AND PLATS OF RECORD AS NOTED.
4. AREA SHOWN HEREON WAS COMPUTED BY THE COORDINATE METHOD.
5. ALL DISTANCES ARE HORIZONTAL GRID DISTANCES IN US FEET UNLESS OTHERWISE NOTED. TO OBTAIN GROUND LENGTHS DIVIDE DISTANCES BY 0.99978448.
6. BY GRAPHICAL LOCATION, PROPERTY IS SHOWN AS LYING FLOOD ZONE AE, AN AREA DETERMINED TO BE INSIDE THE 1% ANNUAL CHANGE FLOODPLAIN PER FEMA FIRM MAP NO. 3710061900J, EFFECTIVE DATE 1/6/2010.
7. THIS SURVEY IS SUBJECT TO ANY AND ALL UNDERGROUND UTILITIES THAT MAY EXIST. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED SOLELY ON ABOVE GROUND STRUCTURES AND APPURTENANCES. THIS SURVEYOR MAKES NO CERTIFICATION TO THE EXISTENCE/NON-EXISTENCE OF UNDERGROUND UTILITIES, STORAGE FACILITIES, OR OTHER UNDERGROUND STRUCTURES AND LINES. DIAL 811 BEFORE DIGGING.
8. ANY STREAMS, CREEKS, PONDS, LAKES, WETLANDS, ETC. LOCATED ON THIS PROPERTY, SHOWN OR NOT SHOWN HEREON, MAY BE SUBJECT TO BUFFER AREAS. IT IS THE OWNER/DESIGNERS RESPONSIBILITY TO HAVE THE AREAS DESIGNATED BY PROFESSIONALS AUTHORIZED BY THE PROPER AUTHORITIES TO MAKE THESE DETERMINATIONS.
9. NO MISSING CORNERS SET.
10. NCDOT RIGHT OF WAY INFORMATION TAKEN FROM PLANS FOR PROJECT #8.190887 & #8.1909402 (INTERSTATE 40, NC HWY #9 (BROADWAY ST), AND BLACK MOUNTAIN AVE.
11. VERTICAL DATUM IS NAVD 88 (GEOID 12) USING NGS MONUMENTS "FIRST UNION" & "M-180".
12. CONTOUR INTERVAL IS 2 FOOT.
13. THIS PLAT ADDS ADDITIONAL TOPO AND LOCATION AREAS, AS NOTED ON PLAT. THIS PLAT ALSO UPDATES THE LIDAR CONTOUR LINES (NOT SURVEYED) WITH UPDATED DATA FROM FRIS.NC.GOV. NO OTHER CHANGES OR INSPECTIONS MADE.
14. LIDAR ELEVATION DATA TAKEN FROM NC SPATIAL DATA DOWNLOAD WEBSITE. THIS DATA IS NOT CERTIFIED.
15. NOT ALL SERVICE LINES FOR UNDERGROUND UTILITIES ARE SHOWN. LINES THAT ARE SHOWN ARE APPROXIMATE.

NC GRID NORTH - NAD 83 (NSRS 2011)

CONTOURS SHOWN AS SOLID LINES ARE GENERATED BY USING LIDAR DATA TAKEN FROM THE NC SPATIAL DATA DOWNLOAD WEBSITE. THESE SOLID CONTOUR LINES ARE NOT CERTIFIED AND HAVE NOT BEEN GROUND VERIFIED. LIDAR DATA IS BASED UPON NC GRID COORDINATES. NO SCALING HAS BEEN PERFORMED.

COLE SURVEYING & DESIGN, PA
549 ELK PARK DRIVE, SUITE 707
ASHEVILLE, NC 28804
PHONE: 828-251-7025
NC FIRM #C-3106 | SC COA #4052

TOPOGRAPHIC AND LOCATION SURVEY FOR:

MICHAEL BAKER INTERNATIONAL

(BLACK MOUNTAIN RIVERWALK)

TOWN OF BLACK MOUNTAIN, BUNCOMBE COUNTY, NC

DATE: 1-15-20	REVISIONS			
PROJECT NO.: 16-029	NO.	DATE	DESC.	BY
FIELD WORK: BF/BB	1	02/06/24	SEE NOTE #13	RJC
DRAWN BY: RJC				
SCALE: 1" = 50'				

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

SURVEY

Michael Baker INTERNATIONAL
NC Eng. Liscense P-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

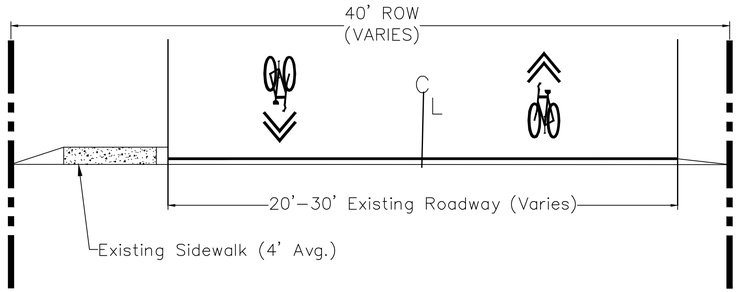
VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=50'

PROJECT NO.: 197482

SHEET NO. 2A

BLACK MOUNTAIN AVENUE

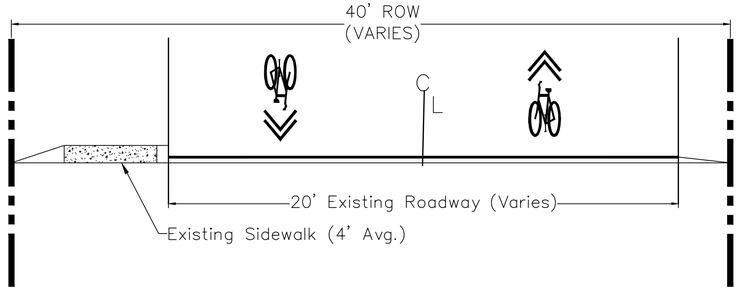


TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
M	0+00.00	2+81.80	A 1T

NOTE:
NO RESURFACING IS INCLUDED IN TYPICAL SECTIONS A AND B. ALL NEW PAVEMENT MARKINGS SHALL BE APPLIED DIRECTLY TO THE EXISTING ROAD SURFACE AS SPECIFIED IN THE PLANS. CONFLICTING AND DAMAGED EXISTING MARKINGS SHALL BE REMOVED PRIOR TO THE NEW APPLICATION.

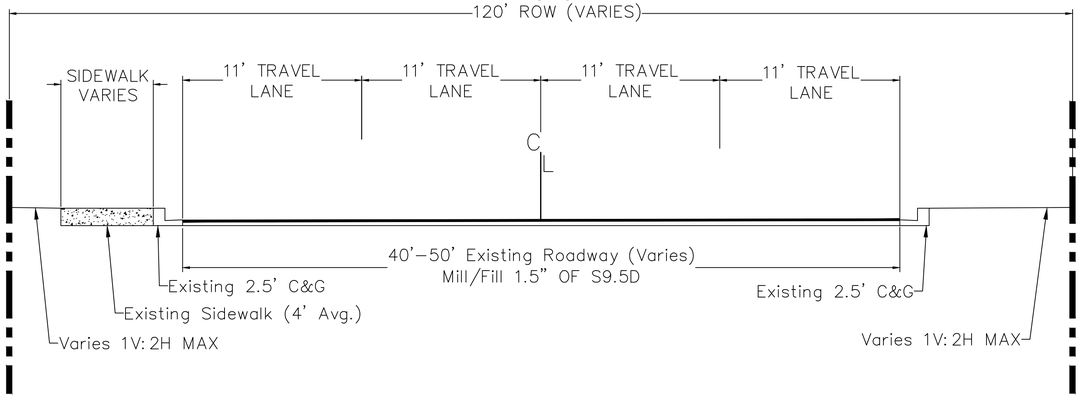
VANCE AVENUE



TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
M	2+81.80	7+57.60	B 1T

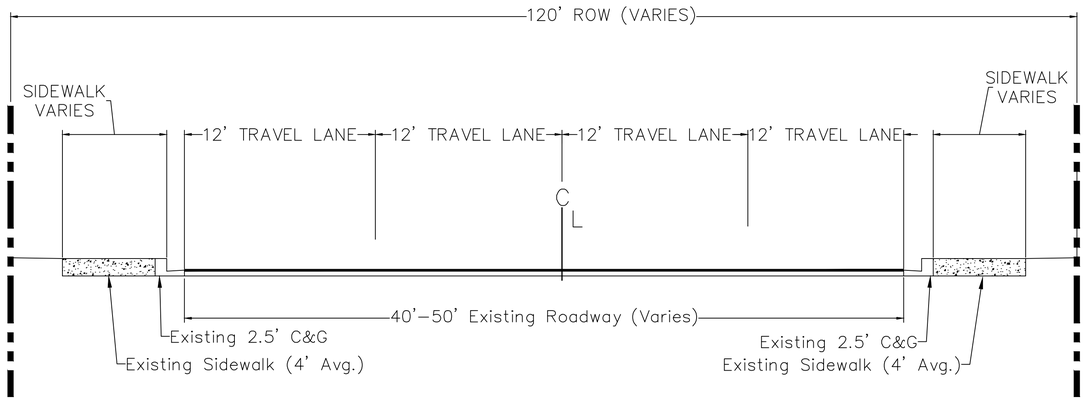
NC HIGHWAY 9
PROPOSED



TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
N	10+00.00	12+27.29	C 1T

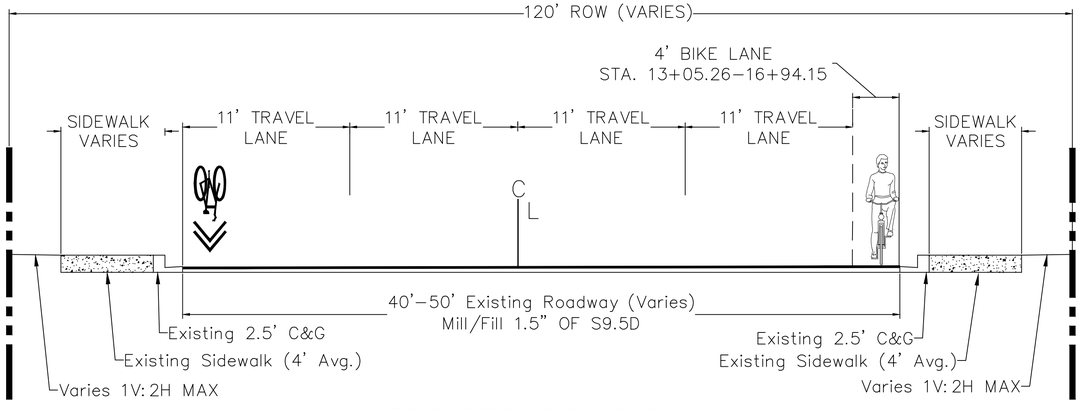
NC HIGHWAY 9
EXISTING CONDITIONS



TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
N	12+93.78	18+30.42	D 1T

NC HIGHWAY 9
PROPOSED



TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
N	12+93.78	18+30.42	D 1T

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

60% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

TYPICAL SECTIONS

Michael Baker INTERNATIONAL
NC Eng License F-1084
7337 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

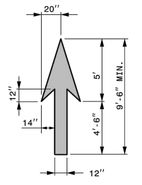
VERTICAL SCALE: N/A

HORIZONTAL SCALE: N/A

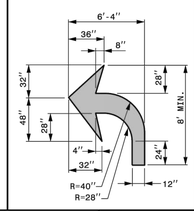
PROJECT NO.: 197482

SHEET NO. 3A

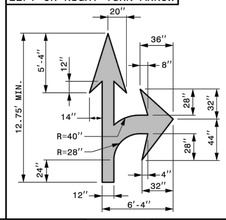
STRAIGHT ARROW



RIGHT OR LEFT TURN ARROW



COMBINATION STRAIGHT AND LEFT OR RIGHT TURN ARROW



COMBINATION LEFT AND RIGHT TURN ARROW



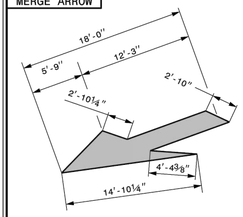
SAME DIMENSIONS APPLY AS FOR THE LEFT/RIGHT TURN ARROW

COMBINATION LEFT AND STRAIGHT AND RIGHT TURN ARROW

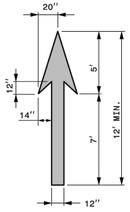


SAME DIMENSIONS APPLY AS FOR THE COMBINATION STRAIGHT AND LEFT/RIGHT TURN ARROW

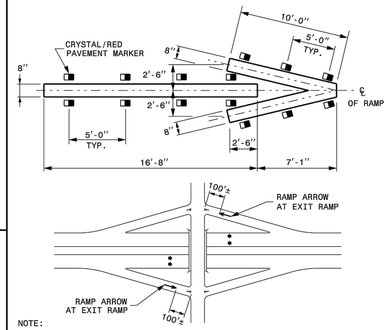
MERGE ARROW



ELONGATED STRAIGHT ARROW



WRONG-WAY RAMP ARROW



NOTE:

1- WHEN INSTALLING COLD APPLIED PLASTIC ON CONCRETE, IT IS RECOMMENDED TO USE COLD APPLIED PLASTIC WITH A BLACK CONTRASTING BOLDER.

GENERAL NOTES:

1- USE THE COLOR WHITE FOR ALL PAVEMENT MARKING SYMBOLS.

2- DO NOT LOCATE PAVEMENT MARKING SYMBOLS AS TO ENCROACH INTO INTERSECTION AREAS.

3- DO NOT PLACE SYMBOLS ACROSS TRANSVERSE EXPANSION JOINTS ON PORTLAND CEMENT CONCRETE PAVEMENTS, UNLESS APPROVED BY THE ENGINEER.

4- CONFORM ALL SYMBOLS TO THE FHWA "STANDARD HIGHWAY SIGNS" MANUAL WHICH INCLUDES PAVEMENT MARKINGS AND STANDARD ALPHABETS (REFER TO SHEETS 6 THRU 9). DIMENSIONS CAN VARY AMONG MANUFACTURERS, THEREFORE SLIGHT VARIANCES ARE ACCEPTABLE. HOWEVER, ALL SYMBOLS ARE REQUIRED TO BE APPROVED BY THE DEPARTMENT.

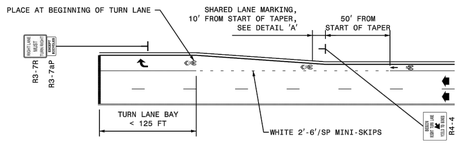
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

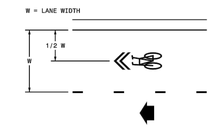
1-24

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
SYMBOLS AND WORD MESSAGES

SHEET 1 OF 9
1205.08

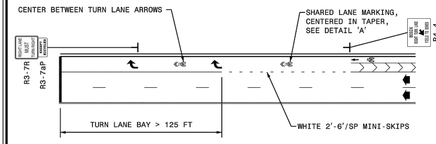
STANDARD BICYCLE LANE TO SHARED TURN LANE



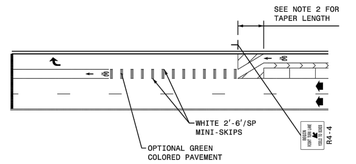


DETAIL 'A' - SHARED LANE MARKING PLACEMENT

BUFFERED/SEPARATED BICYCLE LANE TO SHARED TURN LANE



BUFFERED/SEPARATED BICYCLE LANE TO STANDARD BICYCLE LANE



GENERAL NOTES:

1- REFER TO ROADWAY STANDARD DRAWINGS 1205.01, 1205.02, 1205.05, 1205.08, AND 1205.09 FOR ADDITIONAL PAVEMENT MARKING GUIDANCE.

2- THE LENGTH OF THE BICYCLE LANE TRANSITION TAPER VARIES BY BICYCLE DESIGN SPEED. REFER TO THE LATEST VERSION OF THE AASHTO "GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES" FOR GUIDANCE.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
BICYCLE FACILITIES
FACILITY TRANSITIONS

SHEET 8 OF 9
1205.16

CONTINUOUS LINES

EDGE LINE — YELLOW OR WHITE — 4''/6''

LANE LINE — WHITE — 4''/6''

CENTER LINE — YELLOW — 4''/6''

GORE LINE — WHITE — 8''/12''

DIAGONAL LINE — YELLOW OR WHITE — 12'' 45 MPH OR HIGHER, 8'' LESS THAN 45 MPH

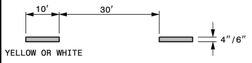
CROSSWALK LINE — WHITE — 8'' TRANSVERSE, 24'' LONGITUDINAL

RxR LINE — WHITE — 16''

STOP OR TRANSVERSE BAR — WHITE — 24''

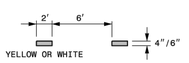
10'-30'/SP SKIP LINE

UNLESS OTHERWISED SHOWN, USE 10'-30'/SP SKIPS FOR SKIP LANE LINES AND SKIP CENTER LINES.



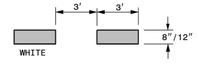
2'-6'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 2'-6'/SP WINI-SKIPS FOR LANE LINE EXTENSIONS THROUGH INTERSECTIONS, EDGE LINE EXTENSIONS THROUGH INTERSECTIONS AND BICYCLE LANE EXTENSIONS.



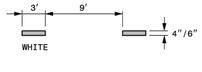
3'-3'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-3'/SP MINI-SKIPS FOR THE WHITE EDGE LINE EXTENSIONS AT ROUNDABOUTS.



3'-9'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-9'/SP WINI-SKIPS FOR MINI-SKIP LANE LINES, LINE EXTENSIONS THROUGH TAPERS, AND WINI-SKIPS USED FOR BICYCLE LANE LINES.



GENERAL NOTES:

1- USE 6" LANE, EDGE, AND CENTER LINES ON ALL FULL CONTROL OF ACCESS FACILITIES AND OTHER ROUTES AS DIRECTED BY THE ENGINEER.

2- LANE LINES INDICATED AS "WIDE" ON THE ROADWAY STANDARD DRAWINGS SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE.

3- GORE LINES SHALL BE TWICE THE WIDTH OF THE NORMAL LINE.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
LINE TYPES AND OFFSETS

SHEET 1 OF 2
1205.01

EDGE LINE OFFSET DETAIL

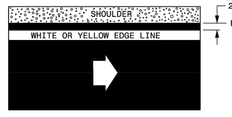
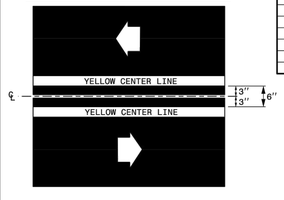


TABLE 1

EDGE LINE OFFSETS FOR 2-LANE, 2-WAY ROADWAYS WITH UN-PAVED SHOULDERS

WIDTH (W) OF TRAVEL PAVEMENT	MAX. EDGE LINE OFFSET FROM E.O.T.	MINIMUM LANE WIDTH (W)
16' - 18'	2''	8' - 9'
19'	4''	9'
20'	6''	9.5'
21'	8''	10'
22'	10''	10'
23'	10''	10.5'
24'	1'	11'
26'	2'	11'
28'	2'	12'
30'	3'	12'
32'	4'	12'

CENTER LINE OFFSET DETAIL



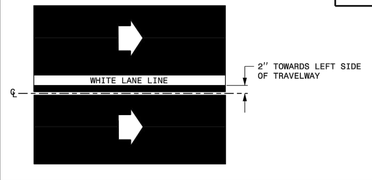
LEGEND

W = WIDTH OF TRAVEL LANE

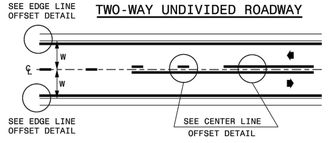
E.O.T.= EDGE OF TRAVEL

DIRECTION OF TRAFFIC FLOW

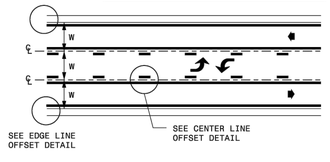
LANE LINE OFFSET DETAIL



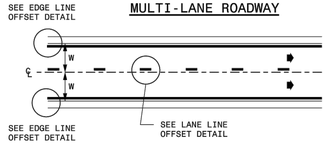
TWO-WAY UNDIVIDED ROADWAY



TWO-WAY UNDIVIDED ROADWAY WITH TWO-WAY LEFT TURN LANE



MULTI-LANE ROADWAY



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ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
LINE TYPES AND OFFSETS

SHEET 2 OF 2
1205.01

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN
DO NOT USE FOR RIGHT OF WAY ACQUISITION

NCDOT DETAILS

Michael Baker INTERNATIONAL
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8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

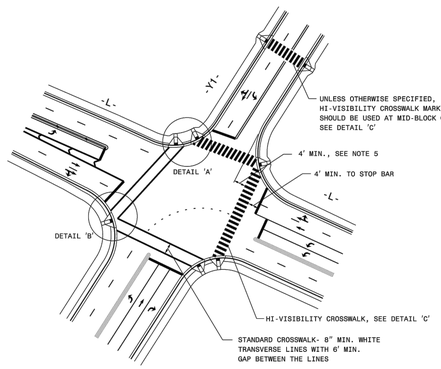
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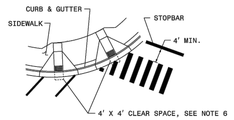
HORIZONTAL SCALE: N/A

PROJECT NO.: 197482

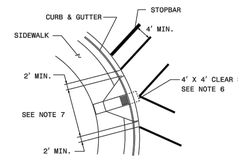
SHEET NO. 3B-1

CROSSWALK PLACEMENT GUIDANCE

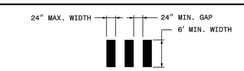




DETAIL 'A'- DUAL CURB RAMPS



DETAIL 'B'- SINGLE DIAGONAL CURB RAMP



DETAIL 'C'- HI-VISIBILITY CROSSWALK

GENERAL NOTES:

1- USE THE DETAILS ABOVE AND THE FOLLOWING NOTES FOR GUIDANCE IN PLACING CROSSWALK MARKINGS. REFER TO NCDOT ROADWAY STANDARD DRAWINGS, MUTCD AND ADA STANDARDS FOR ADDITIONAL GUIDANCE.

2- THE LOCATION AND TYPE OF CROSSWALK MARKINGS SHOWN ON THE ABOVE DETAILS ARE FOR REFERENCE ONLY. LOCATE CROSSWALK MARKINGS AS SHOWN ON THE PROJECT DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER. THE CROSSWALK MARKING TYPE, STANDARD OR HI-VISIBILITY, SHALL BE INSTALLED AS SPECIFIED ON THE PROJECT DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER.

3- THE STANDARD CROSSWALK IS TWO WHITE 8" MIN. TRANSVERSE LINES WITH A 6' MIN. GAP BETWEEN THE LINES. THE HI-VISIBILITY CROSSWALK IS WHITE 24" MAX. WIDE LONGITUDINAL LINES WITH 24" MIN. GAPS BETWEEN LINES, SEE DETAIL 'C'. HI-VISIBILITY CROSSWALKS SHOULD BE A MINIMUM OF 6' WIDE. CURB RAMPS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARES.

4- STOP BARS SHOULD BE PLACED A 4' MIN. IN ADVANCE OF NEAREST CROSSWALK LINE.

5- SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.

6- BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4' X 4' MIN. SHALL BE PROVIDED WITHIN THE MARKINGS.

7- SINGLE DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 2' MIN. LONG LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING, SEE DETAIL 'B'.

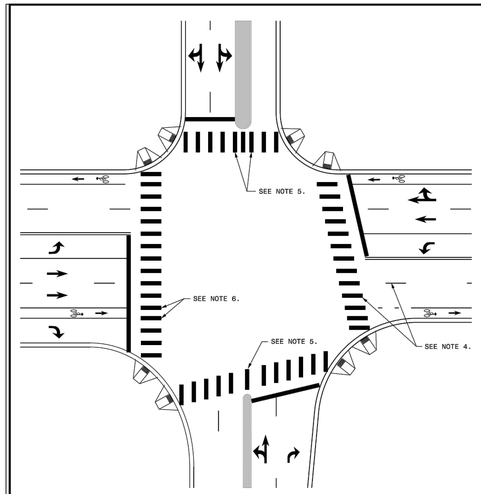
8- CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR DETAILS OR A SPECIAL DESIGN.

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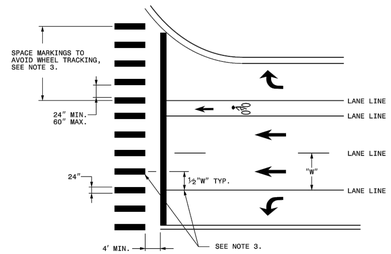
1-24

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
PEDESTRIAN CROSSWALKS

SHEET 1 OF 2
1205.07



CROSSWALK INTERSECTION DETAIL



CROSSWALK MARKING DETAIL

GENERAL NOTES:

1- THE GUIDANCE IN THIS DETAIL IS TO BE USED WHEN NO-TRACK SPACING OF HI-VISIBILITY MARKINGS IS REQUESTED.

2- USE THE GUIDANCE SHOWN ON THE ABOVE DETAILS IN CONJUNCTION WITH PAVEMENT MARKING GUIDANCE SHOWN ON ROADWAY STANDARD DRAWINGS 1205.01 AND 1205.07.

3- PLACE MARKINGS TO AVOID WHEELPATH OF VEHICLES. MARKINGS TYPICALLY WILL BE LOCATED CENTERED AT THE LANE LINES AND EDGE LINES WITH ONE ADDITIONAL MARKING CENTERED IN THE MIDDLE OF THE LANE. AT WIDE LANE WIDTHS DUE TO TAPERS AND LARGE RADII, LOCATE MARKINGS AT BEST SPACING TO AVOID WHEEL TRACKING. THE SPACE BETWEEN MARKINGS SHALL NOT BE LESS THAN 24 INCHES OR GREATER THAN 60 INCHES.

4- WHERE THE CROSSWALK IS SKEWED TO THE LANE LINES, THE MARKINGS SHOULD BE PARALLEL TO THE LANE LINES.

5- PLACE MARKINGS ON BOTH EDGES OF THE NOSE OF A MEDIAN. FOR NARROW MEDIANS LESS THAN 4 FEET, A SINGLE MARKING MAY BE USED. FOR WIDE MEDIANS, INSTALL ADDITIONAL MARKINGS IN THE MEDIAN AREA. THE SPACE BETWEEN THE MARKINGS SHALL NOT TO BE LESS THAN 24 INCHES OR GREATER THAN 60 INCHES.

6- LOCATE MARKINGS CENTERED ON BICYCLE LANE LINES. MARKINGS SHALL NOT BE LOCATED IN THE CENTER OF THE BICYCLE PATH.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
HI-VISIBILITY CROSSWALKS
NO-TRACK MARKING GUIDANCE

SHEET 2 OF 2
1205.07

BICYCLE FACILITIES GENERAL NOTES

GENERAL NOTES:

1- USE THE NOTES AND DETAILS SHOWN ON THE FOLLOWING SHEETS IN CONJUNCTION WITH SIGNING AND PAVEMENT MARKING GUIDANCE SHOWN IN DIVISIONS 9 AND 12 OF THE NCDOT ROADWAY STANDARD DRAWINGS AND THE MUTCD.

2- THE SHARED LANE MARKING IS OPTIONAL AND MAY BE USED TO ALERT ROAD USERS OF THE PRESENCE OF BICYCLISTS, ENCOURAGE SAFE PASSING OF BICYCLISTS BY MOTORISTS, AND REDUCE THE INCIDENCE OF WRONG-WAY BICYCLING. SHARED LANE MARKING LIMITATIONS INCLUDE:

A- SHOULD NOT BE USED ON ROADWAYS WHERE THE SPEED LIMIT IS 40 MPH OR MORE.

B- SHALL NOT BE USED IN SHOULDERS, BICYCLE LANES, OR BICYCLE LANE EXTENSIONS, TRAVEL LANE SHARED WITH LIGHT RAIL TRANSIT, TRANSITION AREA TO AN EXCLUSIVE TURN LANE WHERE THE MOTOR VEHICLE MUST WEAVE ACROSS BICYCLE TRAFFIC IN BICYCLE LANES, TWO-STAGE TURN BOXES, BICYCLE BOXES, SHARED-USE PATHS, SHARED-USE PATH CROSSINGS, AND PHYSICALLY SEPARATED BIKEWAYS.

C- SHOULD NOT BE USED IN THE CIRCULATORY ROADWAY OF A MULTI-LANE ROUNDABOUT.

D- GREEN COLORED PAVEMENT SHALL NOT BE APPLIED AS A BACKGROUND.

3- BICYCLE LANES SHOULD BE DELINEATED FROM THE VEHICLE TRAVEL LANES WITH A 4" WIDE SOLID WHITE LINE. MARKINGS MAY BE INCREASED TO 6" WIDE IF EMPHASIS IS NEEDED TO DISTINGUISH BICYCLE LANES FROM OTHER LANE OR EDGE LINE MARKINGS.

4- BICYCLE LANE WIDTHS ARE TYPICALLY 5 TO 7 FEET OF PAVEMENT. THE GUTTER PAN ON AN URBAN STREET IS NOT TO BE CONSIDERED PART OF THE BICYCLE LANE. SEE NCDOT ROADWAY DESIGN MANUAL AND NCDOT COMPLETE STREETS RESOURCES FOR MORE GUIDANCE ON BICYCLE LANE DIMENSIONS.

5- BICYCLE LANE LINES CAN BE SOLID, MINI-SKIPS OR DISCONTINUED DEPENDENT ON THE LOCATION. MINI-SKIPS SHOULD BE USED AT LOCATIONS WHERE THERE ARE FREQUENT MOTORIST TURNING MOVEMENTS AND WHERE THERE IS MERGING BY BICYCLISTS AND MOTORISTS. REVIEW THE PLANS TO IDENTIFY CONFLICT AREAS. ALL BICYCLE LANE EXTENSION MINI-SKIP LINES SHALL BE 2'-6" SPACING PER ROADWAY STANDARD DRAWING 1205.01 AND MATCH THE WIDTH OF THE LINE IT IS EXTENDING. ENGINEERING JUDGEMENT SHOULD BE USED TO DECIDE WHAT MARKING TYPE TO BE USED, BUT GENERALLY, BICYCLE LANES SHOULD BE MARKED AS FOLLOWS:

A- AT DRIVEWAYS AND ALLEY ENTRANCES, BICYCLE LANES SHOULD REMAIN SOLID.

B- AT STREET OR COMMERCIAL ENTRANCES, BICYCLE LANES SHOULD BE MARKED WITH MINI-SKIPS.

C- AT INTERSECTIONS THAT DO NOT HAVE A DEDICATED RIGHT TURN LANE, MINI-SKIPS SHOULD BE USED AT THE APPROACH OF SIGNALIZED AND MINOR INTERSECTIONS AND AT THE APPROACH OF STREET AND COMMERCIAL ENTRANCES WITH HEAVY RIGHT TURN VOLUMES. MINI-SKIPS SHOULD BE PLACED 50-200 FEET IN ADVANCE OF THE INTERSECTION OR ENTRANCE.

D- BICYCLE MINI-SKIP LANE EXTENSION LINES MAY BE PLACED ACROSS INTERSECTIONS TO INDICATE LEFT TURN MOVEMENTS OR FOR GUIDANCE THROUGH LONG, SKEWED, OR CURVED INTERSECTIONS. DO NOT EXTEND THE LINES THROUGH MARKED CROSSWALKS.

E- MINI-SKIPS SHOULD BE USED AT THE END OF A BICYCLE LANE THAT MERGES THE BICYCLIST BACK INTO THE TRAVEL LANE.

F- MINI-SKIPS SHOULD BE USED AT BUS STOPS, BUS BAYS, AND BULB OUTS.

6- BICYCLE MARKINGS SHALL CONSIST OF A SYMBOL AND ARROW. DUE TO THE COMPLEXITY OF URBAN STREETS, USE BEST ENGINEERING JUDGEMENT IN THEIR PLACEMENT TO REMIND MOTORISTS OF THE PRESENCE OF BICYCLISTS. PLACE MARKINGS ALONG THE BICYCLE LANE AS FOLLOWS:

A- AT THE BEGINNING OF THE BICYCLE LANE.

B- IN URBAN AREAS, AT THE FAR SIDE OF ALL INTERSECTIONS AND MAJOR STREET ENTRANCES. IF THERE ARE MULTIPLE STREETS WITHIN THE BLOCK, PLACE BETWEEN GROUPS OF ENTRANCES. ADDITIONAL MARKINGS MAY BE PLACED AT THE INTERSECTION APPROACH (PRIOR TO A CROSSWALK). TRY NOT TO OVER PLACE IF THE APPROACH LENGTH IS SHORT.

C- IN SUBURBAN AND RURAL AREAS, PLACE AFTER MAJOR INTERSECTIONS. WHERE INTERSECTIONS ARE SPACED FAR APART, PLACE IN INTERVALS NOT TO EXCEED 1/4 MILE IN SUBURBAN AREAS AND 1/2 MILE IN RURAL AREAS.

D- BEFORE THE START OF THE TAPER OF A THROUGH BICYCLE LANE. IF IT IS A LONG TAPER OR LONG EXTENSION OF THE MINI-SKIPS, PLACE ANOTHER MARKING WHERE THE SOLID BICYCLE LANE LINE RESUMES TO REMIND MOTORISTS OF THE PRESENCE OF THE BICYCLE LANE.

E- ADDITIONAL MARKINGS SHOULD BE PLACED IN POCKET BICYCLE LANES LONGER THAN 250 FEET.

F- ADDITIONAL MARKINGS MAY BE PLACED AT HEAVY TRAFFIC CONFLICT AREAS TO REMIND MOTORIST OF POTENTIAL PRESENCE OF BICYCLISTS. EXAMPLES WOULD BE BEFORE A MERGE AREA OR ALONG A BICYCLE LANE ADJACENT TO ON-STREET PARKING. AVOID PLACING MARKINGS IN AREAS WHERE MOTORISTS WOULD TRACK THROUGH THE MARKINGS SUCH AS MERGE AREAS, DRIVEWAY ENTRANCES OR WITHIN THE TURNING RADIUS OF AN INTERSECTION.

7- BICYCLE SIGNING SUPPLEMENTS BICYCLE LANE MARKINGS. TYPICAL SIGNING FOR BICYCLE LANES IS AS FOLLOWS:

A- THE STANDARD "BIKE LANE" (R3-17) SIGN WITH "AHEAD" (R3-17AP) PLAQUE SHOULD BE PLACED IN ADVANCE OF THE START OF A BICYCLE LANE. THE "BIKE LANE" WITH THE "ENDS" (R3-17BP) PLAQUE SHOULD BE PLACED AT A SUFFICIENT DISTANCE TO GIVE WARNING THAT THE BICYCLE LANE IS ENDING. THE "BIKE LANE ENDS" SIGN ASSEMBLY SHOULD NOT BE USED WHERE A BICYCLE LANE IS DROPPED ON THE APPROACH TO AN INTERSECTION AND RESUMES IMMEDIATELY AFTER THE INTERSECTION OR FOR OTHER TEMPORARY INTERRUPTIONS.

B- USING ENGINEERING JUDGEMENT, "BIKE LANE" (R3-17) SIGNS MAY BE PLACED AT PERIODIC INTERVALS ALONG A BICYCLE LANE, ADJACENT TO A BICYCLE PAVEMENT MARKING.

C- WHERE THE BICYCLE LANE ENDS AND TRANSITIONS TO TYPICAL ROADWAY, THE "SHARE THE ROAD" (W11-1) SIGN AND OPTIONAL "SHARE THE ROAD" (W16-1P) PLAQUE MAY BE USED TO REMIND MOTORISTS THAT THE LANE MUST BE SHARED WITH BICYCLISTS.

8- BUFFER WIDTHS FOR BUFFERED BICYCLE LANES ARE TYPICALLY 2 TO 3 FEET WIDE. BUFFER MARKINGS ARE SPACED A MINIMUM OF TEN FEET APART AND TYPICALLY EQUAL IN FEET TO THE POSTED SPEED LIMIT. SEE ROADWAY STANDARD DRAWING 1205.16, SHEET 4 OF 9 FOR DETAIL ON MARKINGS AND PLACEMENT WITHIN BUFFER AREA. USE ENGINEERING JUDGEMENT FOR PLACEMENT OF BUFFER BETWEEN BICYCLE LANE AND HIGH TURNOVER PARKING AREAS AND HIGHER SPEED MOTOR VEHICLE TRAVEL LANES. SEE NCDOT ROADWAY DESIGN MANUAL AND NCDOT COMPLETE STREETS RESOURCES FOR MORE GUIDANCE ON BUFFER WIDTH DIMENSIONS.

9- GREEN COLORED PAVEMENT IS OPTIONAL FOR BICYCLE LANES, BICYCLE LANE EXTENSION LINES THROUGH INTERSECTIONS, EXTENSIONS THROUGH EXCLUSIVE MOTOR VEHICLE TURN LANES, BICYCLE BOXES, TWO-STAGE TURN BOXES, BICYCLE DETECTOR SYMBOLS, AND SEPARATED BICYCLE LANES. SEE ROADWAY STANDARD DRAWING 1205.16, SHEET 2 OF 9 FOR SYMBOLS & DETAILS GUIDANCE. USE ENGINEERING JUDGEMENT FOR PLACEMENT OF GREEN COLORED PAINT AT CONFLICT AREAS.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
BICYCLE FACILITIES
GENERAL NOTES

SHEET 1 OF 9
1205.16

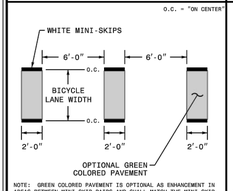
GENERAL NOTES:

1- USE THE COLOR WHITE FOR ALL PAVEMENT MARKING SYMBOLS.

2- DO NOT LOCATE PAVEMENT MARKING SYMBOLS WITHIN INTERSECTION AREAS.

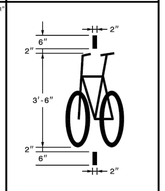
3- DO NOT PLACE SYMBOLS ACROSS TRANSVERSE EXPANSION JOINTS ON PORTLAND CEMENT CONCRETE PAVEMENTS, UNLESS APPROVED BY THE ENGINEER.

BICYCLE LANE EXTENSION MARKINGS



NOTE: GREEN COLORED PAVEMENT IS OPTIONAL AS ENHANCEMENT IN AREAS BETWEEN MINI-SKIP PAIRS AND SHALL MATCH THE MINI-SKIP PATTERN.

BICYCLE DETECTOR SYMBOL



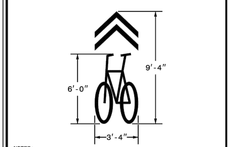
NOTES:

1- "WAIT HERE FOR GREEN" WORD MARKINGS ARE OPTIONAL AND MAY BE PLACED ON THE PAVEMENT IMMEDIATELY BELOW THE SYMBOL.

2- A R10-22 SIGN MAY BE INSTALLED TO SUPPLEMENT THE SYMBOL, AND IT SHOULD BE PLACED ROADSIDE ADJACENT TO THE SYMBOL.

3- GREEN COLORED PAVEMENT IS OPTIONAL AS A BACKGROUND ENHANCEMENT.

SHARED LANE SYMBOL

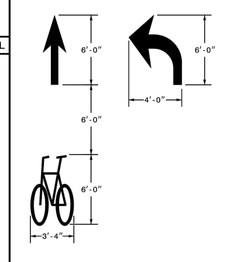


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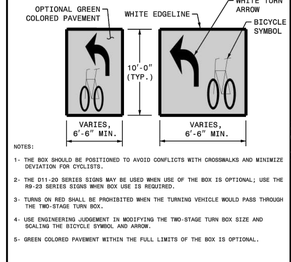
1- IF USED, THE SHARED LANE SYMBOL SHOULD BE SPACED AT INTERVALS NOT LESS THAN 50 FEET AND NOT GREATER THAN 250 FEET AT NON-INTERSECTION LOCATIONS.

2- THE FIRST SHARED LANE SYMBOL DOWNSTREAM FROM AN INTERSECTION SHOULD BE PLACED NO MORE THAN 50 FEET FROM THE INTERSECTION.

BICYCLE LANE SYMBOLS



TWO-STAGE BICYCLE TURN BOX



NOTES:

1- THE BOX SHOULD BE POSITIONED TO AVOID CONFLICTS WITH CROSSWALKS AND MINIMIZE DEVIATION FOR CYCLISTS.

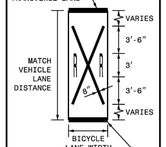
2- THE D11-2D SERIES SIGNS MAY BE USED WHEN USE OF THE BOX IS OPTIONAL; USE THE R9-23 SERIES SIGNS WHEN BOX USE IS REQUIRED.

3- TURNS ON RED SHALL BE PROHIBITED WHEN THE TURNING VEHICLE WOULD PASS THROUGH THE TWO-STAGE TURN BOX.

4- USE ENGINEERING JUDGEMENT IN MODIFYING THE TWO-STAGE TURN BOX SIZE AND SCALING THE BICYCLE SYMBOL AND ARROW.

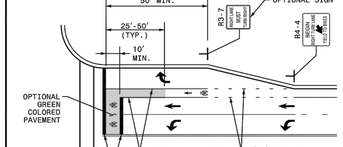
5- GREEN COLORED PAVEMENT WITHIN THE FULL LIMITS OF THE BOX IS OPTIONAL.

BICYCLE RXR SYMBOL



NOTE: REFER TO ROADWAY STANDARD DRAWING 1205.08 FOR MORE RAILROAD RXR SYMBOL GUIDANCE.

BICYCLE BOX



NOTES:

1- WHERE A BICYCLE BOX IS PROVIDED ACROSS MULTIPLE LANES OF AN APPROACH, COUNTDOWN PEDESTRIAN SIGNALS SHALL BE PROVIDED FOR THE CROSSWALK ACROSS THE APPROACH ON WHICH THE BICYCLE BOX IS LOCATED.

2- TURNS ON RED SHALL BE PROHIBITED FROM THE LANE IN WHICH A BICYCLE BOX IS LOCATED.

3- AT LEAST ONE BICYCLE SYMBOL MARKING SHALL BE USED IN THE BICYCLE BOX.

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1-24

ROADWAY STANDARD DRAWING FOR
BICYCLE FACILITIES
SYMBOLS AND DETAILS

SHEET 2 OF 9
1205.16

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A

BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN
DO NOT USE FOR RIGHT OF WAY ACQUISITION

NCDOT DETAILS

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DATE: AUGUST 2026

REVISIONS:

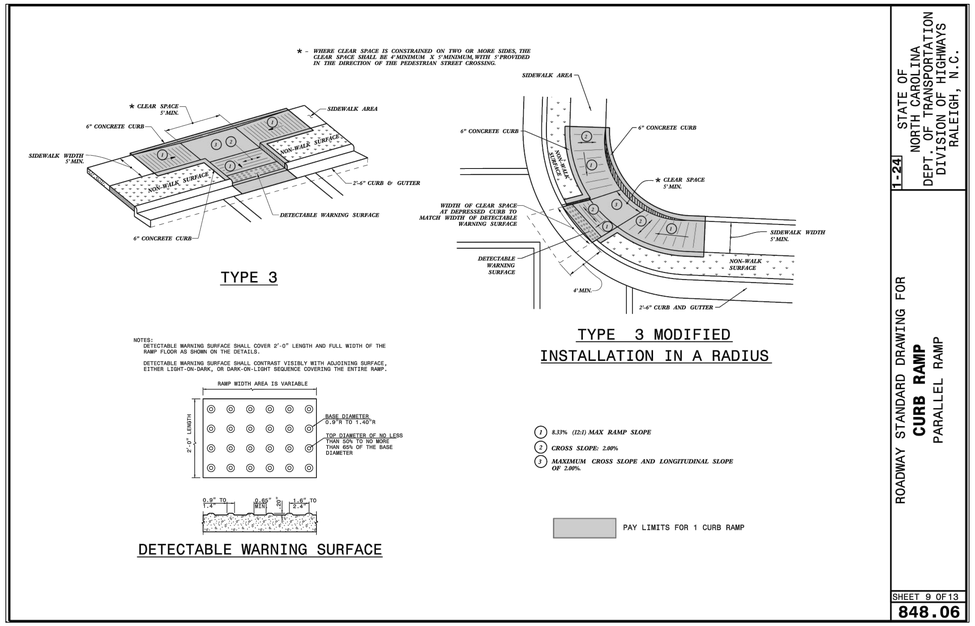
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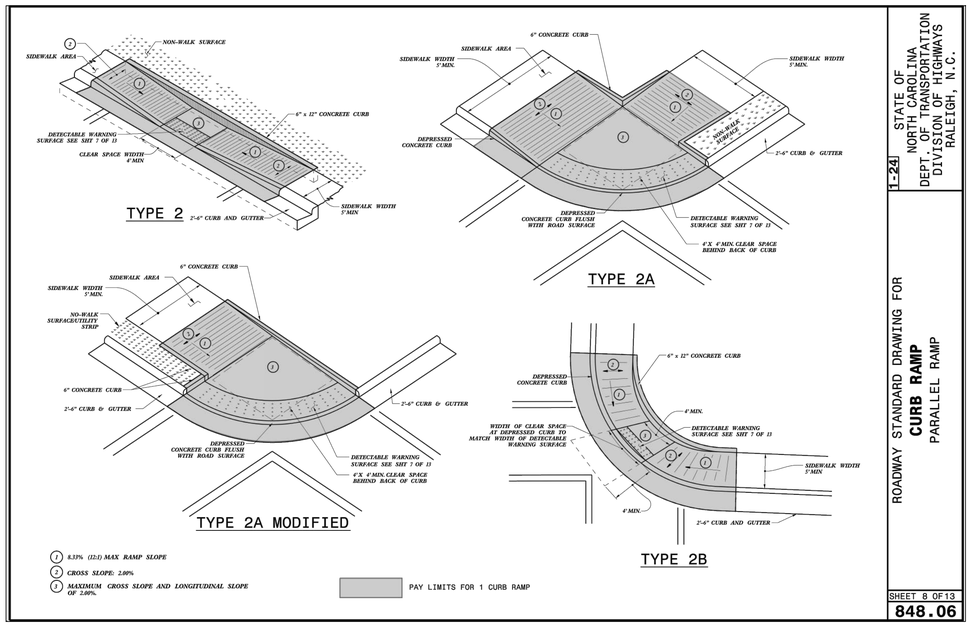
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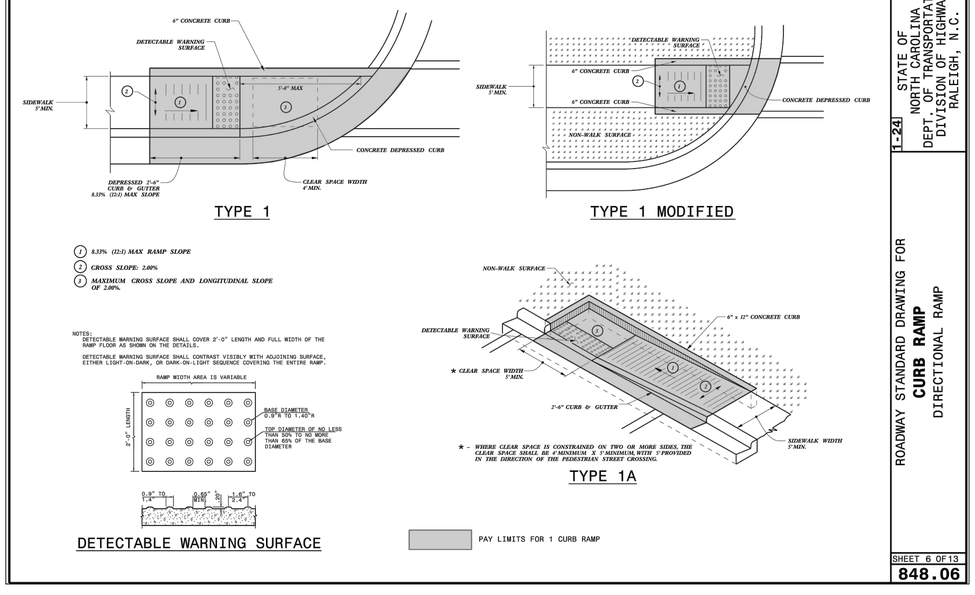
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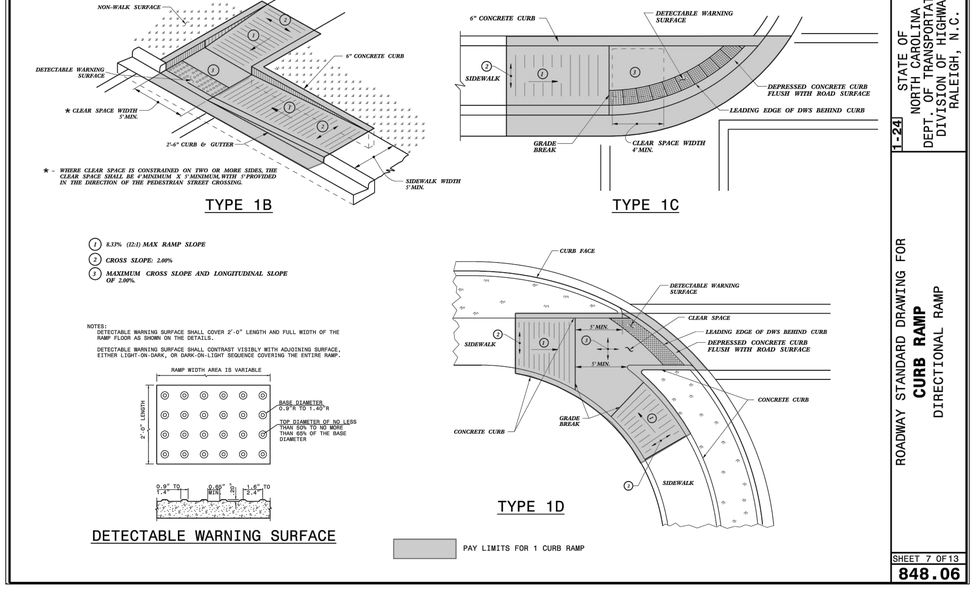
PROJECT NO.:
197482

SHEET NO.
3B-2









STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PARALLEL RAMP

SHEET 9 OF13
848.06

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PARALLEL RAMP

SHEET 8 OF13
848.06

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CURB RAMP
DIRECTIONAL RAMP

SHEET 6 OF13
848.06

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CURB RAMP
DIRECTIONAL RAMP

SHEET 7 OF13
848.06

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A

BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN
DO NOT USE FOR RIGHT OF WAY ACQUISITION

NCDOT DETAILS

Michael Baker INTERNATIONAL
NC Eng Licens F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

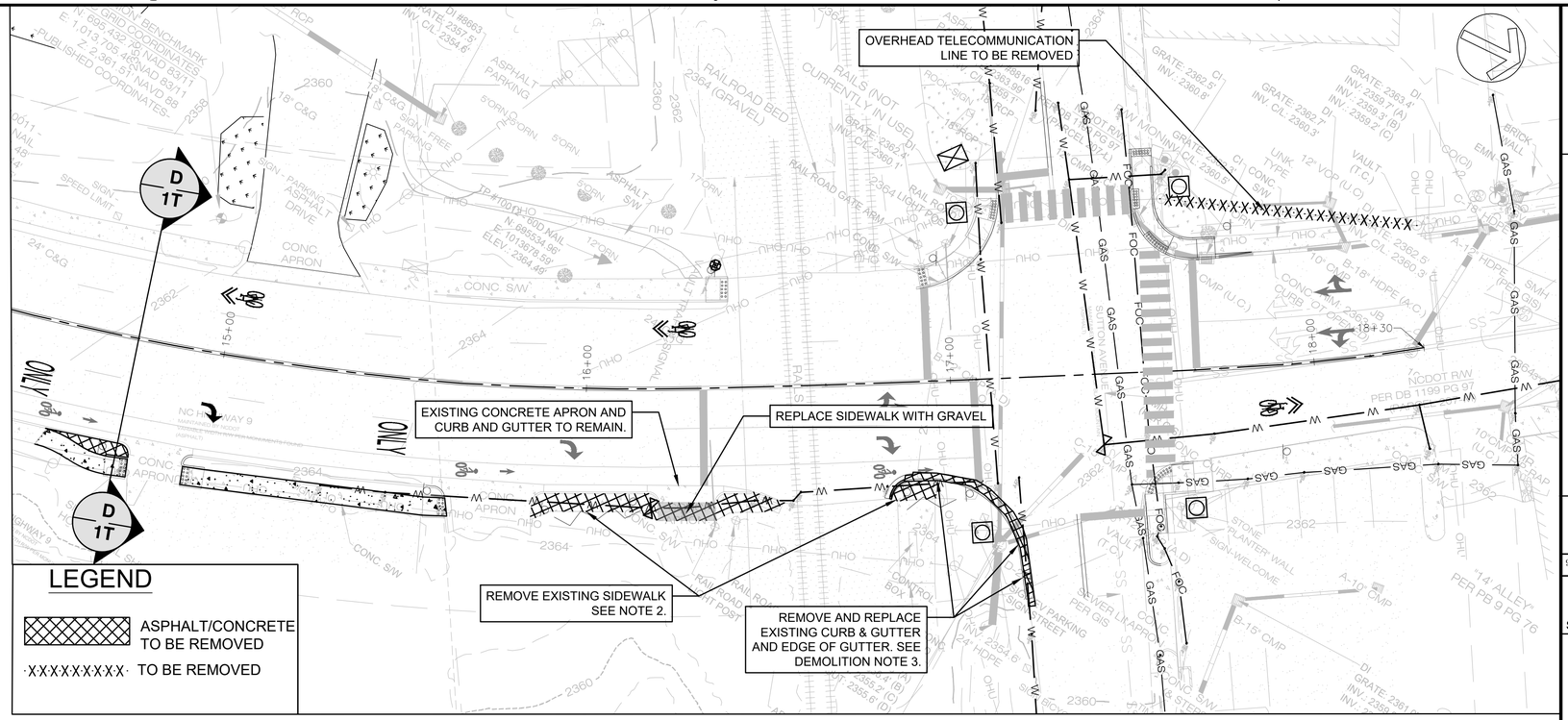
HORIZONTAL SCALE: N/A

PROJECT NO.: 197482

SHEET NO. 3B-3

DEMOLITION NOTES:

1. ALL PROPOSED DEMOLITION SHALL BE COMPLETED PRIOR TO PLANT INSTALLATION.
2. REPLACE DEMOLISHED SIDEWALKS AND ASSOCIATED BASE COURSE WITH TOPSOIL UNLESS OTHERWISE NOTED.
3. DEMOLISH EXISTING CURB & GUTTER AND ASPHALT OVERLAY (RAIL ROAD APPROACH RAMP) AND REPLACE IN-KIND.



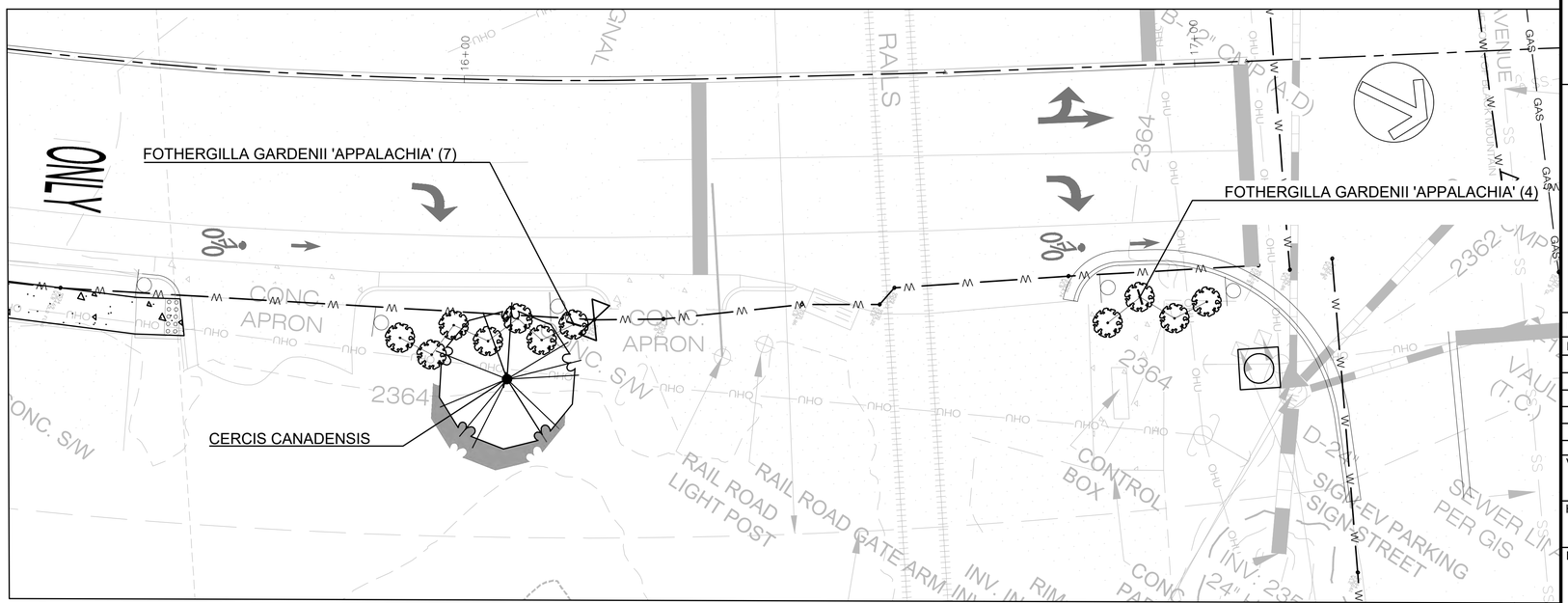
DEMO PLAN

SCALE: 1"=20'

PLANT SCHEDULE					
SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	QTY
TREES					
	CER	Cercis canadensis / Eastern Redbud Specimen quality, Strong Central Leader	2" Cal.	B&B	1
SHRUBS					
	FOT	Fothergilla gardenii 'Appalachia' / Appalachia Dwarf Fothergilla	1 gal.	Pot	11

PLANTING NOTES:

1. SEE SHEET 4A-2 FOR PLANTING DETAILS AND SPECIFICATIONS.



PLANTING PLAN

SCALE: 1"=10'

GRAPHIC SCALE @ 22x34 (IN FEET) 0 10 20 30

GRAPHIC SCALE @ 22x34 (IN FEET) 0 20 40 60

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A

BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

DEMOLITION & PLANTING PLAN

Michael Baker INTERNATIONAL
NC Eng License F-1084
737 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

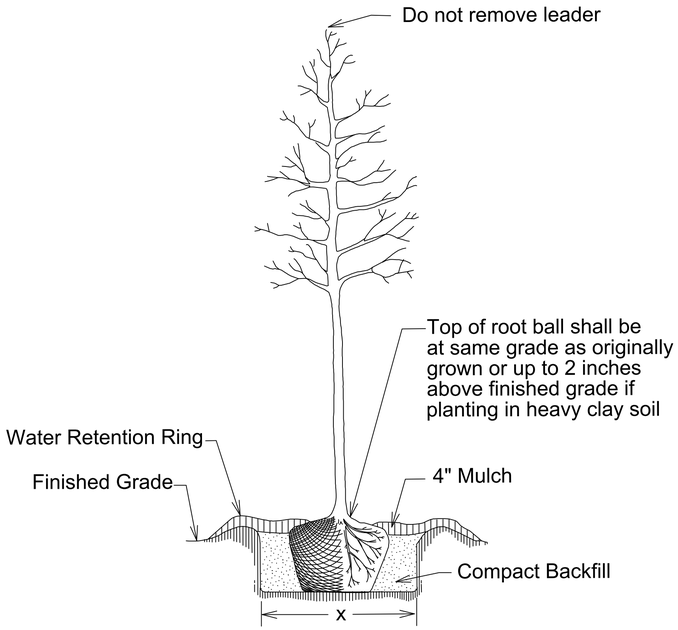
NO.	DATE:

VERTICAL SCALE: N/A

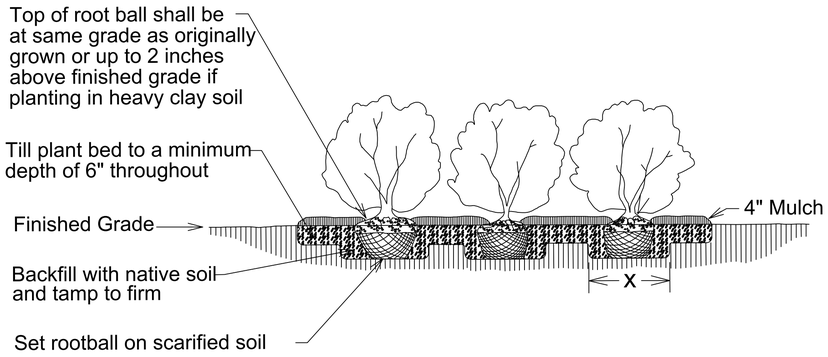
HORIZONTAL SCALE: VARIES

PROJECT NO.: 197482

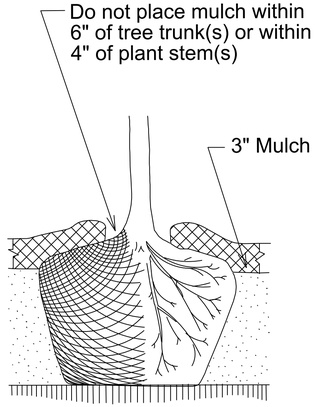
SHEET NO. 4A-1



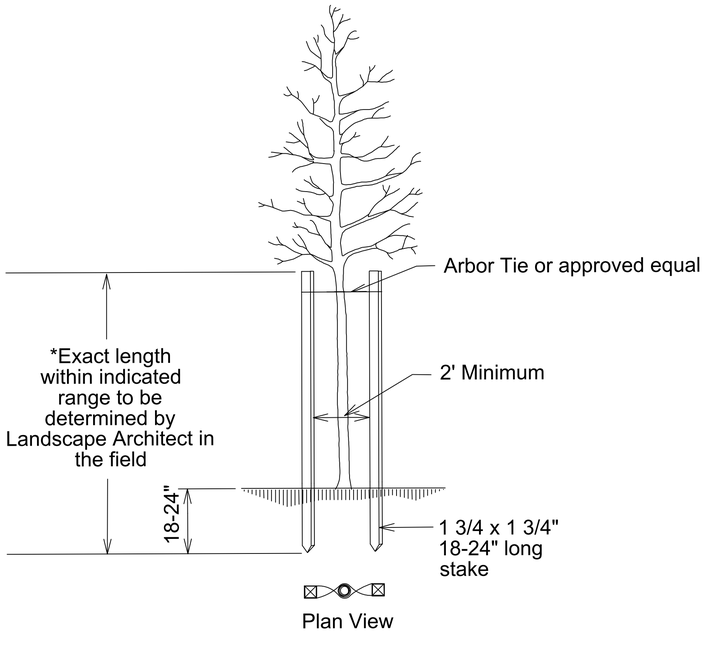
Tree or Shrub Planting Detail (Level Ground)



Bed Planting Detail



Mulch Detail



Staking Detail (for trees 6' to 10')

* Utilize staking detail only if requested by the Engineer.

Planting Detail Notes:

- See Standard Specifications for Plant Bed preparation and herbicidal treatment
- Plant Hole: X = 2 times the diameter of the container or the root ball. Depth of plant hole shall be equal to depth of root ball. Root ball shall be set on undisturbed soil and top of root ball shall be set at same grade as was grown.
- Fertilizer shall be applied at time of planting. Fertilizer shall be a slow release pellet or tablet. Formulation shall be approved by engineer in field. Rates shall be per manufacturer's recommendations and approved by engineer in field. Thouroughly mix with backfill, topsoil or scarified soil.
- Backfill plant hole with native soil unless soil is determined to be unacceptable. Remove rocks greater than 3 inches, foreign materials and construction debris from backfill material. If native soil cannot be used, use soil with properties similar to that in the area.
- Cut and remove wire basket and remove burlap around top of root ball to expose root collar before backfilling. Set root ball at grade or slightly above as directed by the Engineer depending on soil type at installation site. Do not place mulch within 6" of tree trunk or 4" of shrub trunk.
- Any pruning necessary shall follow current standard arboricultural practices and International Society of Arboriculture recommendations
- Tree guying or staking materials manufactured specifically for this purpose may be substituted for the wire and staking materials shown in this detail. Any substitutions of material or method must be approved by the Engineer prior to installation.
- Do not attempt to straighten a tree that has been planted at an angle with the use of staking or guying. Dig tree and reset root ball to achieve an upright, plumb position.
- All staking and guying materials as well as plant material tags from the nursery shall be removed form the plants upon final acceptance of the project or at the end of the establishment period.

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

PLANTING DETAILS

Michael Baker INTERNATIONAL
NC Eng License F-1084
737 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

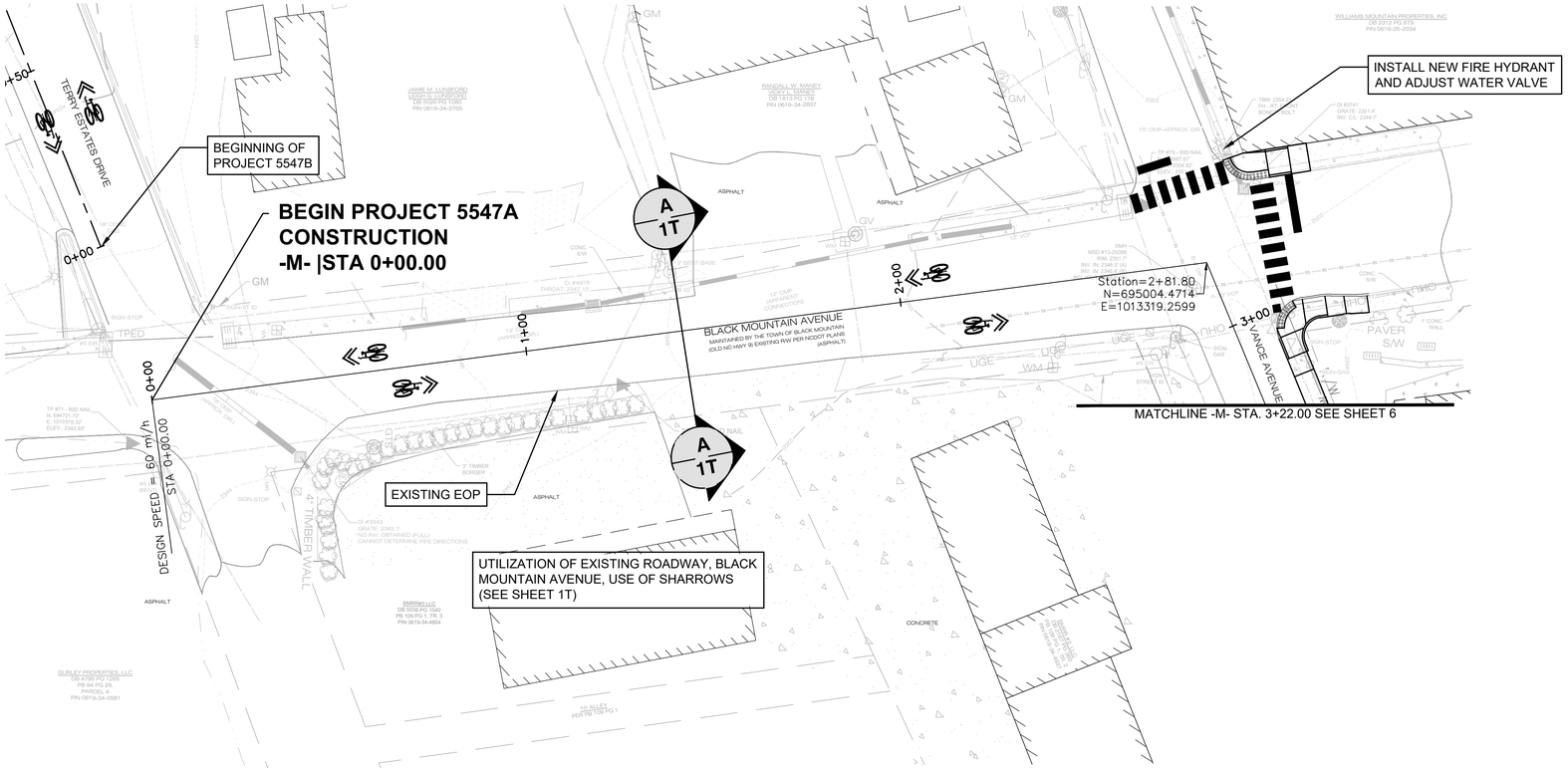
NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=20'

PROJECT NO.: 197482

SHEET NO. 4A-2



PLAN VIEW

NOTES:
1. SEE PMP SHEETS FOR THE PROPOSED PAVEMENT MARKING SCHEDULE AND SIGNS SCHEDULE.
2. SEE SHEET SIG-1 FOR SIGNAL MODIFICATION DESIGN.
3. ALL MARKINGS SHALL BE THERMOPLASTIC PER THE PAVEMENT MARKING SCHEDULE.
4. TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
5. REMOVE AND/OR REPLACE ANY CONFLICTING PAVEMENT MARKINGS OR MARKERS.
6. STOP BAR LOCATIONS AT UNSIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
7. CONTRACTOR SHALL REMOVE FOUR TIMBER POLES, SPAN WIRE, SIGNAL HEADS, AND OTHER EXISTING SIGNAL EQUIPMENT AFTER NEW SIGNAL ASSEMBLY IS ACTIVATED.
8. ALL MANHOLES ARE TO BE ADJUSTED WHERE ROADWAY IS TO BE MILLED/FILLED.

0 20 40 60
GRAPHIC SCALE @ 22x34 (IN FEET)

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

SIDEWALK, SHARED ROAD, PEDESTRIAN IMPROVEMENTS & UTILITIES PLANS

Michael Baker INTERNATIONAL
NC Eng License F-1084
797 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

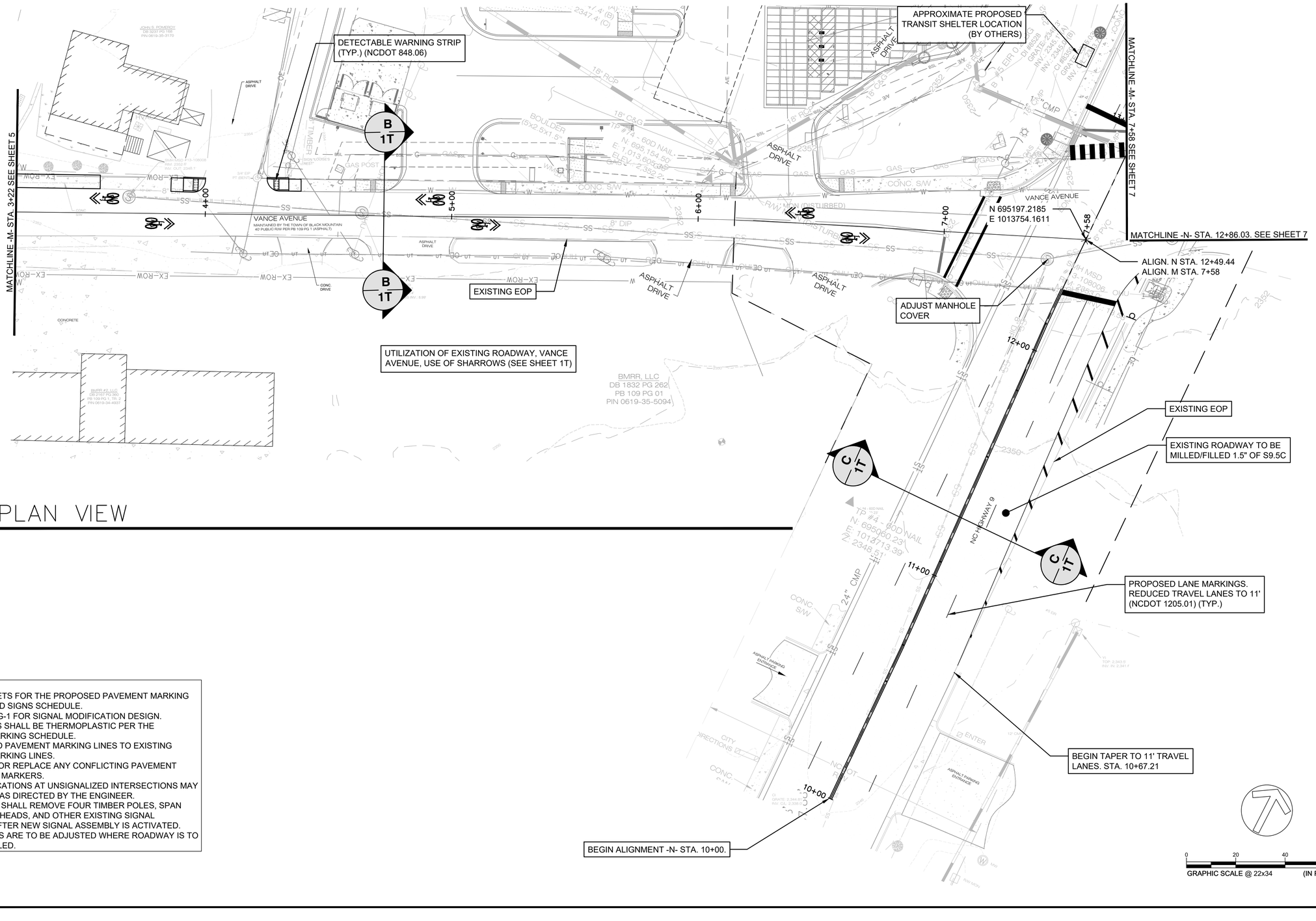
NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=20'

PROJECT NO.: 197482

SHEET NO. 5



PLAN VIEW

NOTES:
1. SEE PMP SHEETS FOR THE PROPOSED PAVEMENT MARKING SCHEDULE AND SIGNS SCHEDULE.
2. SEE SHEET SIG-1 FOR SIGNAL MODIFICATION DESIGN.
3. ALL MARKINGS SHALL BE THERMOPLASTIC PER THE PAVEMENT MARKING SCHEDULE.
4. TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
5. REMOVE AND/OR REPLACE ANY CONFLICTING PAVEMENT MARKINGS OR MARKERS.
6. STOP BAR LOCATIONS AT UNSIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
7. CONTRACTOR SHALL REMOVE FOUR TIMBER POLES, SPAN WIRE, SIGNAL HEADS, AND OTHER EXISTING SIGNAL EQUIPMENT AFTER NEW SIGNAL ASSEMBLY IS ACTIVATED.
8. ALL MANHOLES ARE TO BE ADJUSTED WHERE ROADWAY IS TO BE MILLED/FILLED.

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

SIDEWALK,SHARED ROAD, PEDESTRIAN IMPROVEMENTS & UTILITIES PLANS

Michael Baker INTERNATIONAL
NC Eng License F-1084
7597 Haywood Road, Suite 201
Arlington, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=20'

PROJECT NO.: 197482

SHEET NO. 6

NOTES:
1. SEE PMP SHEETS FOR THE PROPOSED PAVEMENT MARKING SCHEDULE AND SIGNS SCHEDULE.
2. SEE SHEET SIG-1 FOR SIGNAL MODIFICATION DESIGN.
3. ALL MARKINGS SHALL BE THERMOPLASTIC PER THE PAVEMENT MARKING SCHEDULE.
4. TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
5. REMOVE AND/OR REPLACE ANY CONFLICTING PAVEMENT MARKINGS OR MARKERS.
6. STOP BAR LOCATIONS AT UNSIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
7. CONTRACTOR SHALL REMOVE FOUR TIMBER POLES, SPAN WIRE, SIGNAL HEADS, AND OTHER EXISTING SIGNAL EQUIPMENT AFTER NEW SIGNAL ASSEMBLY IS ACTIVATED.
8. ALL MANHOLES ARE TO BE ADJUSTED WHERE ROADWAY IS TO BE MILLED/FILLED.

END PROJECT 5547A CONSTRUCTION -N- |STA 18+30

PROPOSED SIGNAL POLES (TYP.). SEE SHEET SIG-1 FOR THE SIGNAL MODIFICATION PLAN.

PROPOSED SIGNAL CABINET (TYP.). SEE SHEET SIG-1 FOR THE SIGNAL MODIFICATION PLAN.

PROPOSED SIDEWALK INSTALLATION TO REPAIR EXISTING CONCRETE SIDEWALK. (UTILITIES TO BE RELOCATED BY OTHERS AS NEEDED)

DO NOT DISTURB POWER POLE

DETECTABLE WARNING STRIP (TYP.)(NCDOT 848.06)

ADJUST MANHOLE COVER

EXISTING ROADWAY TO BE MILLED/FILLED 1.5" OF S9.5C

PROPOSED LANE MARKINGS. REDUCED TRAVEL LANES TO 11' (NCDOT 1205.01) (TYP.)

4' BIKE LANE (NCDOT 1205.08) (TYP.)

DO NOT DISTURB SPAN GUY, SIGN/GARDEN BOX, AND POWER POLE.

REMOVE AND RESET EXISTING SIGN.

EXISTING EOP

PROPOSED PLANTINGS. SEE SHEETS 4A-1 AND 4A-2.

APPROXIMATE NCDOT R/W LINE PER PLAN #8.1909402

EXISTING EOP

REPLACE DEP POLE WITH TALLER POLE

EXISTING POLE LOCATION NOT SURVEYED

ADJUST MANHOLE COVER

MATCHLINE -M- STA. 7+58 SEE SHEET 6

MATCHLINE -N- STA. 12+86.03 SEE SHEET 6

THE TOWN OF BLACK MOUNTAIN
DB 2626 PG 33
PIN 0619-35-5488

NATIONAL RETAIL PROPERTIES, LP
DB 5117 PG 72
PIN 0619-35-4293

APRICOTT HOLDINGS, LLC
DB 5775 PG 1825
PIN 0619-35-9589

200' RAILROAD R/W PER NORFOLK SOUTHERN STATION MAP (STATION 6547+20 TO STATION 6600+00) DATED DEC. 31, 1927 *SEEK LEGAL COUNSEL FOR ACTUAL R/W WIDTH*

NCDOT R/W PER DB 1199 PG 97 (PARCEL 207-L)

NCDOT R/W PER DB 1199 PG 97 (PARCEL 207-M)

SUTTON AVENUE

NC HIGHWAY 9

PLAN VIEW

0 20 40 60
GRAPHIC SCALE @ 22x34 (IN FEET)

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

SIDEWALK,SHARED ROAD, PEDESTRIAN IMPROVEMENTS & UTILITIES PLANS

Michael Baker INTERNATIONAL
NC Eng License F-1084
797 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=20'

PROJECT NO.: 197482

SHEET NO. 7

GENERAL NOTES

GRADE LINE:
GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH TOWN OF HUNTERSVILLE DETAIL 108.1 FOR CURB DROP TAPER AND NCDOT STD. 848.03 FOR GRADES AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ADDITIONAL 5 FEET OF CONCRETE DRIVEWAY TO EXTEND BEHIND SIDEWALK.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE: DUKE ENERGY, AT&T, ERC BROADBAND, SEGRA, CHARTER COMMUNICATIONS , DOMINION ENERGY, TOWN OF BLACK MOUNTAIN WATER, & METROPOLITAN SEWEAGE DISTRICT.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS. CONTRACTOR RESPONSIBLE FOR PROTECTING MARKERS AND REPLACING ANY MARKERS DAMAGED DURING CONSTRUCTION AT THE CONTRACTOR'S EXPENSE.

STANDARD DRAWINGS

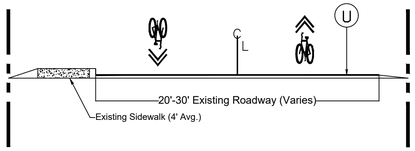
2024 ROADWAY ENGLISH STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH - N. C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N. C., DATED JANUARY, 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

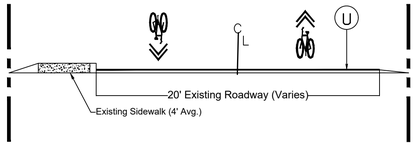
STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	METHOD OF CLEARING - METHOD II
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
DIVISION 3 - PIPE CULVERTS	
300.01	METHOD OF PIPE INSTALLATION
310.02	PARALLEL PIPE END SECTION - PRECAST CONCRETE SECTION FOR 15" TO 24" PIPE
310.10	DRIVEWAY PIPE CONSTRUCTION
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	PAVEMENT REPAIRS
DIVISION 8 - INCIDENTALS	
846.01	CONCRETE CURB, GUTTER AND CURB & GUTTER
848.01	CONCRETE SIDEWALK
848.03	DRIVEWAY TURNOUT
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS
DIVISION 12 - PAVEMENT MARKINGS, MARKERS AND DELINEATION	
1205.07	PAVEMENT MARKINGS- PEDESTRIAN CROSSWALK
1205.16	BICYCLE FACILITIES SYMBOLS & DETAILS

TYPICAL SECTIONS

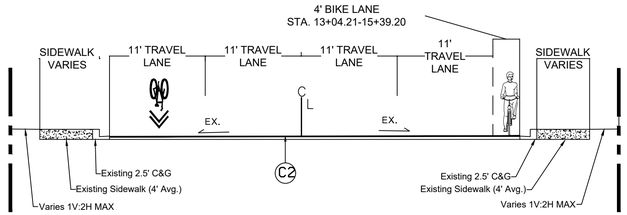
PAVEMENT SCHEDULE	
C2	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
U	EXISTING PAVEMENT.



BLACK MOUNTAIN AVENUE TYPICAL SECTION NO. 1
USE -M- 0+00.00 TO 2+81.76



VANCE AVENUE TYPICAL SECTION NO. 2
USE -M- 2+81.76 TO 7+16.31



NC HIGHWAY 9 TYPICAL SECTION NO. 3
USE -N- 13+05.26 TO 16+94.15

TRANSPORTATION MANAGEMENT

ROAD CLOSURE DAY AND TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
BLACK MOUNTAIN AVENUE	MONDAY THRU FRIDAY, 6:00 A.M. TO 9:00 A.M. MONDAY THRU FRIDAY, 4:00 P.M. TO 6:00 P.M.
ROAD NAME	DAY AND TIME RESTRICTIONS
VANCE AVENUE	MONDAY THRU FRIDAY, 6:00 A.M. TO 9:00 A.M. MONDAY THRU FRIDAY, 4:00 P.M. TO 6:00 P.M.
ROAD NAME	DAY AND TIME RESTRICTIONS
NC HIGHWAY 9	MONDAY THRU FRIDAY, 6:00 A.M. TO 9:00 A.M. MONDAY THRU FRIDAY, 4:00 P.M. TO 6:00 P.M.

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

HOLIDAY

1. FOR ANY UNEXPECTED OCCURENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.

2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 8:00 P.M. JANUARY 2nd. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 8:00 P.M. THE FOLLOWING TUESDAY.

3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 8:00 P.M. MONDAY.

4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 8:00 P.M. MONDAY.

5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 8:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 8:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 8:00 P.M. TUESDAY.

7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 8:00 P.M. MONDAY.

8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 8:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

9. COORDINATE SPECIAL EVENTS OR HOLIDAY SCHEDULES WITH THE TOWN OF BLACK MOUNTAIN PRIOR TO ANY NARROWING OR ROAD CLOSURES.

TEMPORARY LANE AND SHOULDER CLOSURE REQUIREMENTS

A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.

B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04, UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A TRAVEL LANE, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, WITHIN THE SAME LOCATION, UNLESS PROTECTED BY BARRIER OR GUARDRAIL.

F) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

G) ENSURE ALL NECESSARY TRAFFIC CONTROL DEVICES, SIGNS, BARRICADES, MARKINGS,ETC ARE IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

H) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) H) 500 FT IN ADVANCE OF UNEVEN AREA, AS DIRECTED BY THE ENGINEER.

PAVEMENT EDGE DROP OFF PROTECTION REQUIREMENTS

L) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT ANY AREAS ADJACENT TO AN OPEN TRAVEL LANE THAT HAVE AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

PEDESTRIAN REQUIREMENTS

M) MAINTAIN ALL NEW SIDEWALKS CLOSED USING BARRICADES AND SIDEWALK CLOSED SIGNS R9-9, UNTIL DIRECTED BY THE ENGINEER TO OPEN.

MISCELLANEOUS

N) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER DURING SIGNAL INSTALLATION.

SIGNING

INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

PHASING

IF WORK IS NOT PURSUED WITHIN 3 DAYS OF SIGN INSTALLATION, THE WORK ZONE ADVANCE WARNING SIGNS SHALL BE COVERED OR REMOVED IN A METHOD APPROVED BY ENGINEER. THESE COVERINGS SHALL BE MADE IN ACCORDANCE WITH SECTION 1110 OF THE NCDOT SPECIFICATIONS.

ACCORDANCE WITH SECTION 1110 OF THE NCDOT SPECIFICATIONS.

STEP 1:

PRIOR TO ANY CONSTRUCTION ACTIVITY, INSTALL ALL ADVANCE WORK ZONE WARNING SIGNS IN ACCORDANCE WITH NCDOT RSD 1101.01.

STEP 2:

USING RSD 1101.02, SHEET 1 OF 15, PERFORM THE FOLLOWING:

AT THE END OF EACH WORK PERIOD, RETURN TRAFFIC TO THE EXISTING PATTERN. CONSTRUCT THE PROPOSED IMPROVEMENTS USING RSD 1101.02, SHEET 1 OF 14. WHEN PLACING DRAINAGE STRUCTURES AND PIPE SYSTEMS ADJACENT TO TRAVEL LANES: AT THE END OF EACH WORK PERIOD COVER ANY INCOMPLETE CONSTRUCTION WITH TRAFFIC BEARING STEEL PLATE(S) AND RETURN TRAFFIC TO EXISTING PATTERN.

INSTALL THE FINAL PAVEMENT MARKINGS, SIDEWALK, AND SIGNAL AT BROADWAY AVENUE AND SUTTON AVENUE. PLACE SIGNALS IN FINAL CONFIGURATION. COVER SIGNAL HEADS AS NEEDED.

REMOVE ALL TRAFFIC CONTROL DEVICES.

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SIDEWALK DESIGN

TRAFFIC MANAGEMENT PLAN

Michael Baker INTERNATIONAL
NC Firm Licens Se F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: ###

HORIZONTAL SCALE: ###

PROJECT NO.: 197482

SHEET NO. TMP

FINAL PAVEMENT MARKING SCHEDULE

SYMBOL	MATERIAL	DESCRIPTION
T2	THERMOPLASTIC	WHITE SOLID LANE LINE (4", 90 MIL)
T3	THERMOPLASTIC	10 FT. WHITE SKIP (4", 90 MIL)
T13	THERMOPLASTIC	YELLOW DOUBLE CENTER (4", 90 MIL)
T46	THERMOPLASTIC	WHITE VISIBILITY CROSSWALK (8", 90MIL)
T51	THERMOPLASTIC	WHITE DIAGONAL (12", 90 MIL)
T61	THERMOPLASTIC	WHITE STOPBAR (24", 90 MIL)
T62	THERMOPLASTIC	WHITE VISIBILITY CROSSWALK (24", 90 MIL)
T71	THERMOPLASTIC	RIGHT TURN ARROW (90 MIL)
T73	THERMOPLASTIC	COMBO. LEFT/STRAIGHT ARROW (90 MIL)
T74	THERMOPLASTIC	COMBO. RIGHT/STRAIGHT ARROW (90 MIL)

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.16	PAVEMENT MARKINGS - PAVEMENT MARKINGS- BICYCLE FACILITIES

PAVEMENT MARKING SYMBOLS SCHEDULE

PAVEMENT MARKING SYMBOLS SCHEDULE		
SYMBOL	DESCRIPTION	QUANTITY
THERMOPLASTIC PAVEMENT MARKINGS SYMBOLS (90 MILS)		
T60	WHITE LINE, RR X (16")	2 EA
T90	BICYCLE SYMBOL, HEATED IN PLACE	6 EA
T91	BICYCLE STRAIGHT ARROW, HEATED IN PLACE	4 EA
T94	SHARROW, HEATED IN PLACE	12 EA

SIGNS SCHEDULE

MAY USE FULL LANE	R4-11	30"X30"	QTY: 6
BIKE LANE	R3-17	24"X18"	QTY: 3
AHEAD	R3-17a	24"X8"	QTY: 1
ENDS	R3-17b	24"X8"	QTY: 1
RIGHT LANE MUST TURN RIGHT	R3-7r	30"X30"	QTY: 3
DO NOT STOP ON TRACKS	R8-8	24"X30"	QTY: 2
INTERSTATE 40	M1-1	24"X24"	QTY: 1
R R	W10-1	36" DIA.	QTY: 1
	M6-3	21"X15"	QTY: 1
TO	M4-5	24"X12"	QTY: 1

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL ROADS	THERMOPLASTIC	RAISED
BRIDGE DECKS	COLD APPLIED PLASTIC	RAISED

B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

D) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

E) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

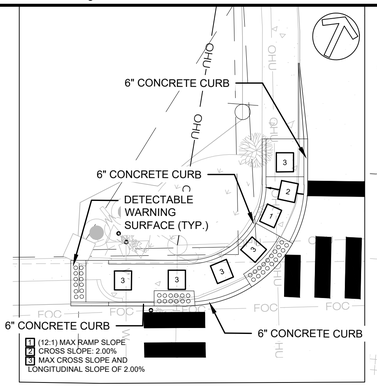
F) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF COLD APPLIED PLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS ON ASPHALT OR CONCRETE ROADWAYS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE COLD APPLIED PAY ITEM.

G) TYPE III COLD APPLIED PLASTIC MAY BE USED IN LIEU OF TYPE II COLD APPLIED PLASTIC. IF TYPE III COLD APPLIED PLASTIC IS USED, IT SHALL BE PAID FOR USING THE TYPE II COLD APPLIED PLASTIC PAY ITEM.

H) SEE ROADWAY PLANS FOR ALTERNATE CURB RAMP DESIGNS WHEN INDICATED ON PAVEMENT MARKING DETAIL SHEETS.

CURB RAMP TABLE

	CURB RAMP STATION	SIDE	OFFSET	CURB RAMP TYPE
1	-M- STA. 2+81.80 +/-	LT	22	TYPE 1
2	-M- STA. 3+08.13 +/-	LT	9	TYPE 2-A
3	-M- STA. 3+94.98 +/-	LT	9	TYPE 1 (MODIFIED)
4	-M- STA. 4+29.19 +/-	LT	9	TYPE 1 (MODIFIED)
9	-N- STA. 14+79.30 +/-	RT	32	TYPE 1 (MODIFIED)
10	-N- STA. 14+93.85 +/-	RT	32	TYPE 1 (MODIFIED)
12	-N- STA. 15+63.59 +/-	RT	31	TYPE 1 (MODIFIED)
13	-N- STA. 16+39.05 +/-	LT	24	TYPE 1 (MODIFIED)
14	-N- STA. 16+92.31 +/-	LT	26	TYPE 1 (MODIFIED)
15	-N- STA. 17+15.19 +/-	LT	43	TYPE 1-A
16	-N- STA. 17+52.60 +/-	LT	45	TYPE 2-B (SEE INSET)
17	-N- STA. 17+55.31 +/-	RT	25	TYPE 1-B



CURB RAMP 11
SCALE: 1"=10'

NOTES:

1. RELOCATE EXISTING WAYFINDER SIGN FROM STATION 15+24.16 TO 15+89.67. CONTRACTOR TO INSPECT THE CONDITION OF THE EXISTING SIGN AND IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS FOR SIGN RELOCATION, AS LOCAL ORDINANCES MAY DICTATE.

0 40 80 120
GRAPHIC SCALE @ 22x34 (IN FEET)

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A

BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

Michael Baker INTERNATIONAL
NC Eng License F-1084
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Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=20'

PROJECT NO.: 197482

SHEET NO.: PMP