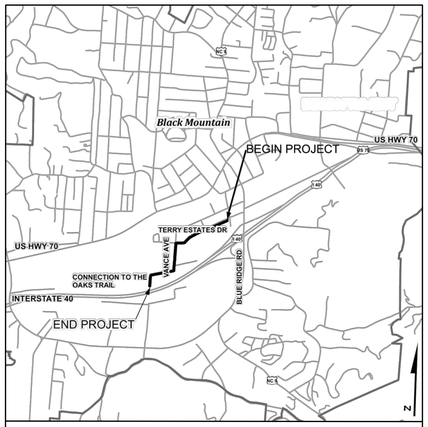
NCDOT TIP: EB- 5547 B



VICINITY MAP

NOT TO SCALE

OWNER:
TOWN OF BLACK MOUNTAIN
160 MIDLAND AVE
BLACK MOUNTAIN, NC 28711
ANGLE 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 B	1	

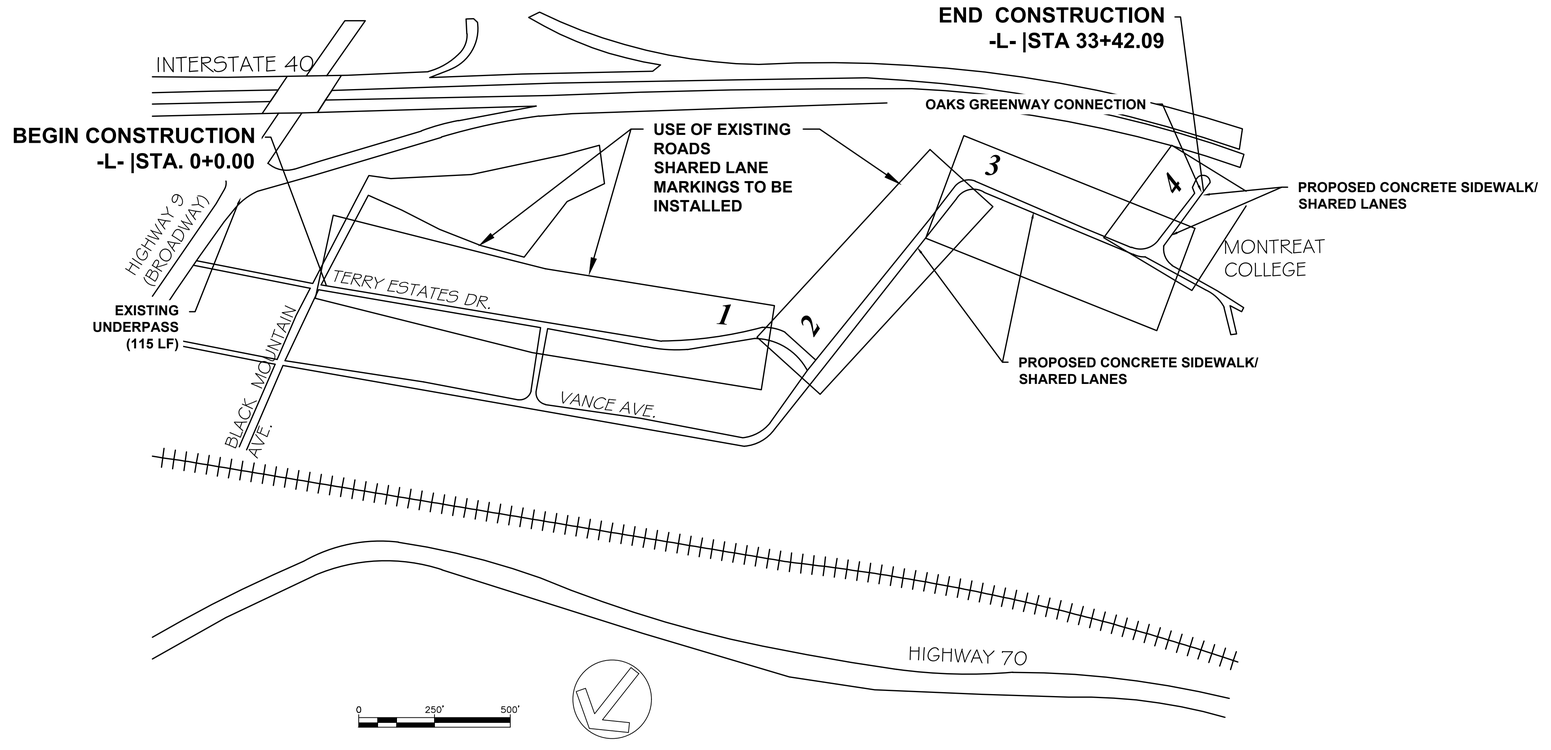
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
51045.1.3	1302108	P.E.
51045.2.3	1302108	R/W & UTILITY
51045.3.3	1302108	CONSTRUCTION

LOCATION: BLACK MOUNTAIN BICYCLE AND PEDESTRIAN IMPROVEMENTS STARTING AT THE INTERSECTION OF BLACK MOUNTAIN AVENUE AND TERRY ESTATES DRIVE AND ENDING NORTH OF INTERSTATE 40 ON VANCE AVENUE AT THE OAKS TRAIL

TYPE OF WORK: GRADING, DRAINAGE, SIGNING, AND SIDEWALKS

BLACK MOUNTAIN EB-5547 B

FINAL ENGINEERING SUBMITTAL



GRAPHIC SCALES

1" = 20'
20 10 0 20 40
PLANS

1" = 30'
30 15 0 30 60
PLANS

1" = 20'
20 10 0 20 40
PROFILE (HORIZONTAL)

1" = 5'
5 2.5 0 5 10
PROFILE (VERTICAL)

PROJECT LENGTH

LENGTH OF NEW SIDEWALKS = 1202 LINEAR FEET
TOTAL LENGTH OF PROJECT = 0.22 MILES

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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 2 - EARTHWORK	
200.03	METHOD OF CLEARING - METHOD III
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
225.06	METHOD OF GRADING SIGHT DISTANCE AT INTERSECTIONS
240.01	GUIDE FOR BERM DITCH CONSTRUCTION
DIVISION 3 - PIPE CULVERTS	
300.01	METHOD OF PIPE INSTALLATION
310.03	CROSS PIPE END SECTION - PRECAST CONCRETE SECTION FOR 18" TO 30" PIPE
DIVISION 7 - CONCRETE PAVEMENTS AND SHOULDERS	
700.01	CONCRETE PAVEMENT JOINTS - CONSTRUCTION AND CONTRACTION JOINTS
700.02	EXPANSION JOINT LAYOUT - FOR RIGID DOWELED PAVEMENT AT BRIDGES
700.03	DOWEL ASSEMBLY
DIVISION 8 - INCIDENTALS	
838.01	CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS - 15" THRU 48" PIPE 90 SKEW
840.00	CONCRETE BASE PAD FOR DRAINAGE STRUCTURES
840.45	PRECAST DRAINAGE STRUCTURE
848.01	CONCRETE SIDEWALK
848.03	DRIVEWAY TURNOUT
848.06	CURB RAMP - EXISTING CURB & GUTTER
848.06	CURB RAMP-- DIRECTIONAL RAMP
848.05	CURB RAMP - TRUNCATED DOME
DIVISION 12- PAVEMENT MARKINGS	
1205.07	PAVEMENT MARKINGS- PEDESTRIAN CROSSWALKS
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 THE CONSTRUCTION OF SHARED ROAD PAVEMENT MARKINGS AND SIDEWALK EXTENSIONS.

THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE JANUARY 2018 NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

GRADE LINE:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

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; "GREEN BOOK" (AASHTO 2018).
10. ALL MEASUREMENTS AND ANGLES MEASURED OFF GREENWAY CENTERLINE UNLESS OTHERWISE NOTED.
11. GREENWAY WIDTH IS 10'-0" TYPICAL, SURFACE TO BE ASPHALT, UNLESS OTHERWISE NOTED.
12. ALL TRAILS, REGARDLESS OF WIDTH SHALL MAINTAIN A 2'-0" WIDE GRAVEL SHOULDER WITH A 4% CROSS SLOPE. AN EXCEPTION TO THIS ARE EXTENDED GRAVEL SHOULDERS ADJACENT TO RETAINING WALLS OR WITHIN CULVERTS - SEE PLAN FOR WALL LOCATIONS.
13. PROPOSED PAVEMENT SHALL MEET EXISTING PAVEMENT FLUSH.
14. GRADE SIDE SLOPES AND ADJACENT TERRAIN FOR POSITIVE DRAINAGE. CONTRACTOR TO 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:

15. MSD EASEMENT ASSUMED TO BE 15' FROM SEWER LINE, EACH SIDE (TOTAL 30' WIDE EASEMENT), UNLESS IDENTIFIED OTHERWISE IN SURVEY.
16. 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 .35 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

PLEASE NOTE, NOT ALL UTILITIES IDENTIFIED WILL BE IMPACTED BY THE PROJECT.

1. DUKE ENERGY- DISTRIBUTION POWER
2. AT&T- TELECOMMUNICATIONS
3. ERC BROADBAND- TELECOMMUNICATIONS
4. SEGRA- TELECOMMUNICATIONS
5. CHARTER COMMUNICATIONS- TELECOMMUNICATIONS
6. DOMINION ENERGY- GAS
7. TOWN OF BLACK MOUNTAIN- WATER
8. METROPOLITAN SEWERAGE- SEWER

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
1A	GENERAL NOTES
1B	CONVENTIONAL SYMBOLS
1C	TRAFFIC MANAGEMENT PLAN
1EX - 4EX	EXISTING CONDITIONS SURVEY
1EC	EROSION CONTROL & DEMO PLAN
2EC	NCDOT EROSION CONTROL DETAILS
1T	TYPICAL SECTIONS
PMP-1	SIGNING AND PAVEMENT MARKING PLAN
PMP-2	SIGNING AND PAVEMENT MARKING PLAN
DT1	SITE DETAILS
1D-4D	SIDEWALK & SHARED ROAD PLAN
5D	NCDOT PIPE SUMMARY

PRELIMINARY SYMBOL LEGEND

- P# — PIPES
- ◇ — DITCHES
- # — SIGNS
- # / PAGE — DETAILS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

SHEET INDEX & GENERAL NOTES

Michael Baker INTERNATIONAL
NC Eng License F-1084
9000 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.: 197480

SHEET NO. 1A

11/14/23

Note: Not to Scale

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

5547B 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 — S
- Well — W
- Small Mine — M
- Foundation
- Area Outline
- Cemetery — y
- Building
- School — x
- 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 — h
- 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 — g
- 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 — b
- 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 — a
- 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 — n
- 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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

CONVENTIONAL SYMBOLS

Michael Baker INTERNATIONAL
NC Firm Licens 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: N/A

PROJECT NO.: 197480

SHEET NO. 1B

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

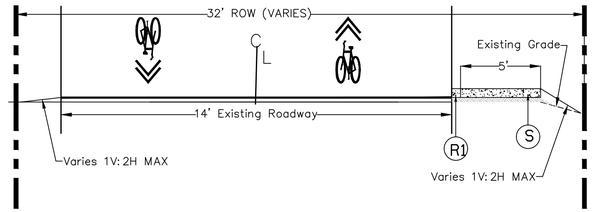
THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN 'ROADWAY STANDARD DRAWINGS' HIGHWAY DESIGN BRANCH - N. C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N. C., DATED JANUARY, 2024
ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

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	
R1	6" CONCRETE CURB
S	4" CONCRETE SIDEWALK.

VANCE AVENUE SIDEWALKS



TRANSPORTATION MANAGEMENT

ROAD CLOSURE DAY AND TIME RESTRICTIONS

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

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
TERRY ESTATES DRIVE	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:

ROAD NAME

VANCE AVENUE

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 SUCH AS: SOURWOOD FESTIVAL, HOLLY JOLLY, CHRISTMAS PARADE, VALENTINE FUN RUN, AND GREENWAY CHALLENGE 10K. DATES VARY PER CALENDAR YEAR.

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) 500 FT IN ADVANCE OF UNEVEN AREA, AS DIRECTED BY THE ENGINEER.

PAVEMENT EDGE DROP OFF PROTECTION REQUIREMENTS

I) 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

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

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 PAVEMENT MARKINGS, SIDEWALK, AND REMOVE ALL TRAFFIC CONTROL DEVICES.

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TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

TRAFFIC MANAGEMENT PLAN

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: 1"=40'

PROJECT NO.: 197480

SHEET NO. 1C

LEGEND:

- EXISTING IRON REBAR (EIR) OR EXISTING MAG NAIL (EMN)
- EXISTING IRON PIPE (EIP)
- EXISTING CONCRETE MONUMENT (R/W MON)
- C.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)
- 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)
- EASEMENT LINE
- EDGE OF RIVER / CREEK
- C/L STORM DITCH
- OVERHEAD UTILITY LINE
- CHAIN LINK FENCELINE
- BOARD FENCELINE
- METAL GUARD RAIL
- FEMA FLOODLINE
- 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:

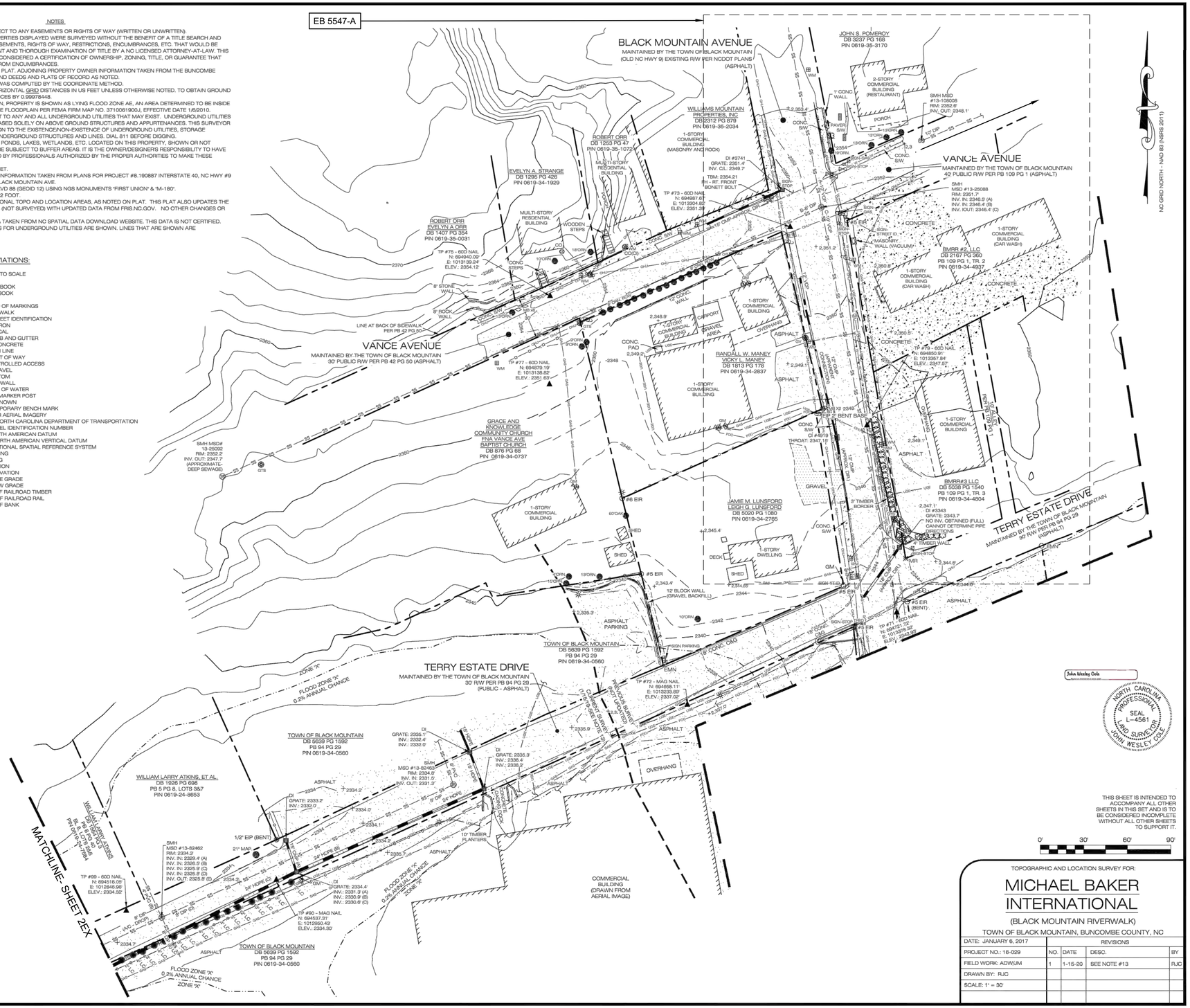
APP...APPLE
CHR...CHERRY
B.W...BABWOOD
BCH...BEECH
B.G...BLACK GUM
BIR...BIRCH
BCK...BUCKEYE
CAT...CATALPA
CED...CEDAR
CMY...CRAPE MYRTLE
C.O...CHESTNUT OAK
C.A...CRAB APPLE
D.T...DEAD TREE
D.W...DOGWOOD
HEM...HEMLOCK
HIC...HICKORY
HOL...HOLLY
J.M...JAPANESE MAPLE
LOC...LOCUST
MAG...MAGNOLIA
MAP...MAPLE
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

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 CHANCE 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 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.

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



THIS SHEET IS INTENDED TO ACCOMPANY ALL OTHER SHEETS IN THIS SET AND IS TO BE CONSIDERED INCOMPLETE WITHOUT ALL OTHER SHEETS TO SUPPORT IT.

TOPOGRAPHIC AND LOCATION SURVEY FOR:

MICHAEL BAKER INTERNATIONAL

(BLACK MOUNTAIN RIVERWALK)

TOWN OF BLACK MOUNTAIN, BUNCOMBE COUNTY, NC

DATE: JANUARY 6, 2017	REVISIONS			
PROJECT NO.: 16-029	NO.	DATE	DESC.	BY
FIELD WORK: ADW,IJM	1	1-15-20	SEE NOTE #13	RJC
DRAWN BY: RJC				
SCALE: 1" = 30'				

COLE SURVEYING & DESIGN, PA

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

John Wesley Cole
NORTH CAROLINA PROFESSIONAL SEAL L-4561 LAND SURVEYOR JOHN WESLEY COLE

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

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

BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

EXISTING CONDITIONS SURVEY

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: 1"=30'

PROJECT NO.: 197480

SHEET NO.: 1EX



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

THIS SHEET IS INTENDED TO ACCOMPANY ALL OTHER SHEETS IN THIS SET AND IS TO BE CONSIDERED INCOMPLETE WITHOUT ALL OTHER SHEETS TO SUPPORT IT.

TOPOGRAPHIC AND LOCATION SURVEY FOR:

MICHAEL BAKER INTERNATIONAL

(BLACK MOUNTAIN RIVERWALK)

TOWN OF BLACK MOUNTAIN, BUNCOMBE COUNTY, NC

DATE: JANUARY 6, 2017	REVISIONS
PROJECT NO.: 16-029	NO. DATE DESC. BY
FIELD WORK: ADW/JM	1 1-15-20 SEE NOTE #13 RJC
DRAWN BY: RJC	
SCALE: 1" = 30'	

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

BUNCOMBE COUNTY, NC

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SIDEWALK DESIGN

EXISTING CONDITIONS SURVEY

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

DATE: AUGUST 2026

REVISIONS:

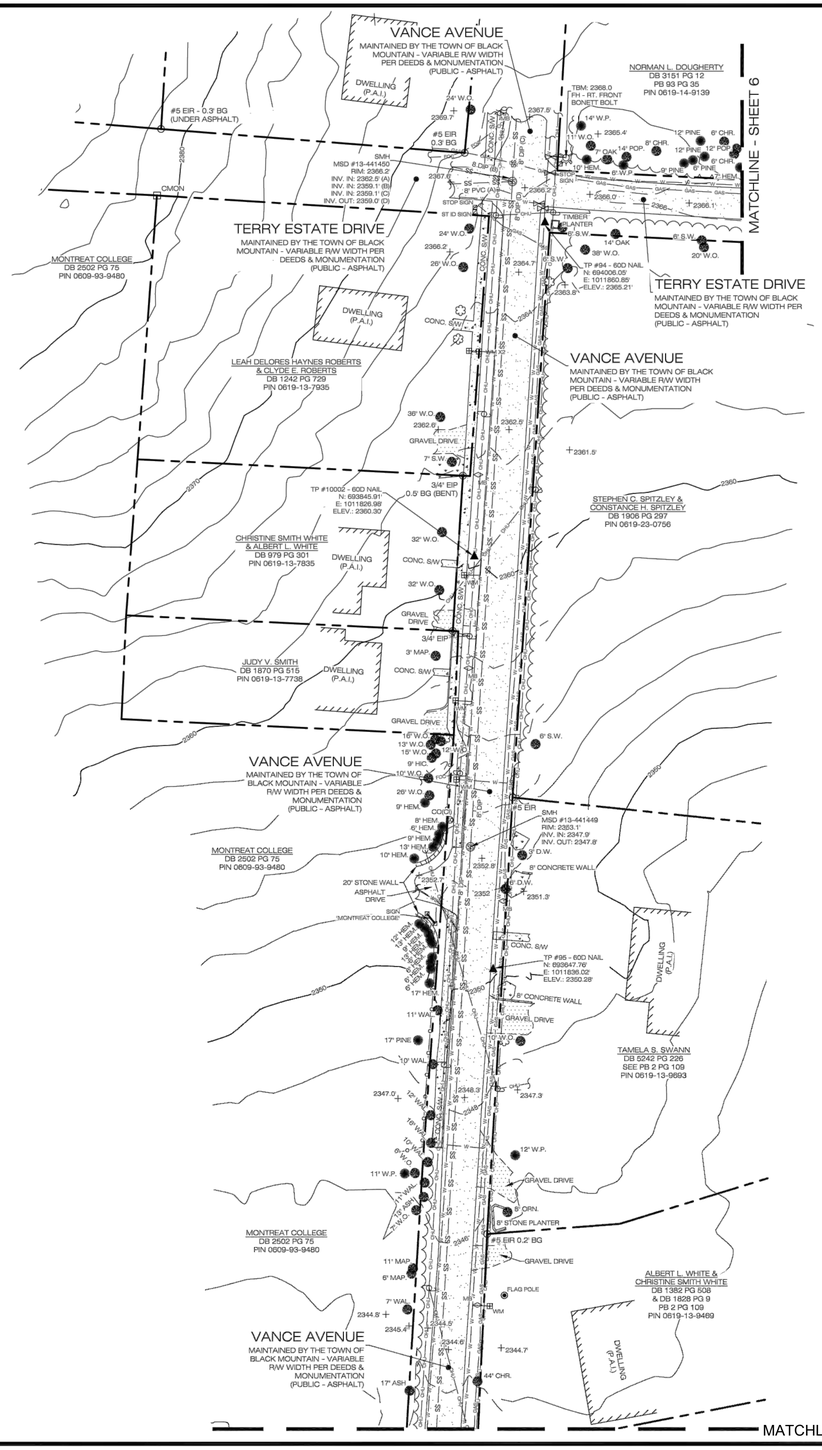
NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=30'

PROJECT NO.: 197480

SHEET NO. 2EX



NC GRID NORTH - NAD 83 (NSRS 2011)

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

THIS SHEET IS INTENDED TO ACCOMPANY ALL OTHER SHEETS IN THIS SET AND IS TO BE CONSIDERED INCOMPLETE WITHOUT ALL OTHER SHEETS TO SUPPORT IT.

0' 30' 60' 90'

TOPOGRAPHIC AND LOCATION SURVEY FOR:

MICHAEL BAKER INTERNATIONAL

(BLACK MOUNTAIN RIVERWALK)

TOWN OF BLACK MOUNTAIN, BUNCOMBE COUNTY, NC

DATE: JANUARY 6, 2017	REVISIONS			
PROJECT NO.: 16-029	NO.	DATE	DESC.	BY
FIELD WORK: ADW/JM	1	1-15-20	SEE NOTE #13	FJC
DRAWN BY: FJC				
SCALE: 1" = 30'				

John Wesley Cole
NORTH CAROLINA PROFESSIONAL SEAL L-4561 LAND SURVEYOR JOHN WESLEY COLE

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

EXISTING CONDITIONS SURVEY

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

DATE: AUGUST 2026

REVISIONS:

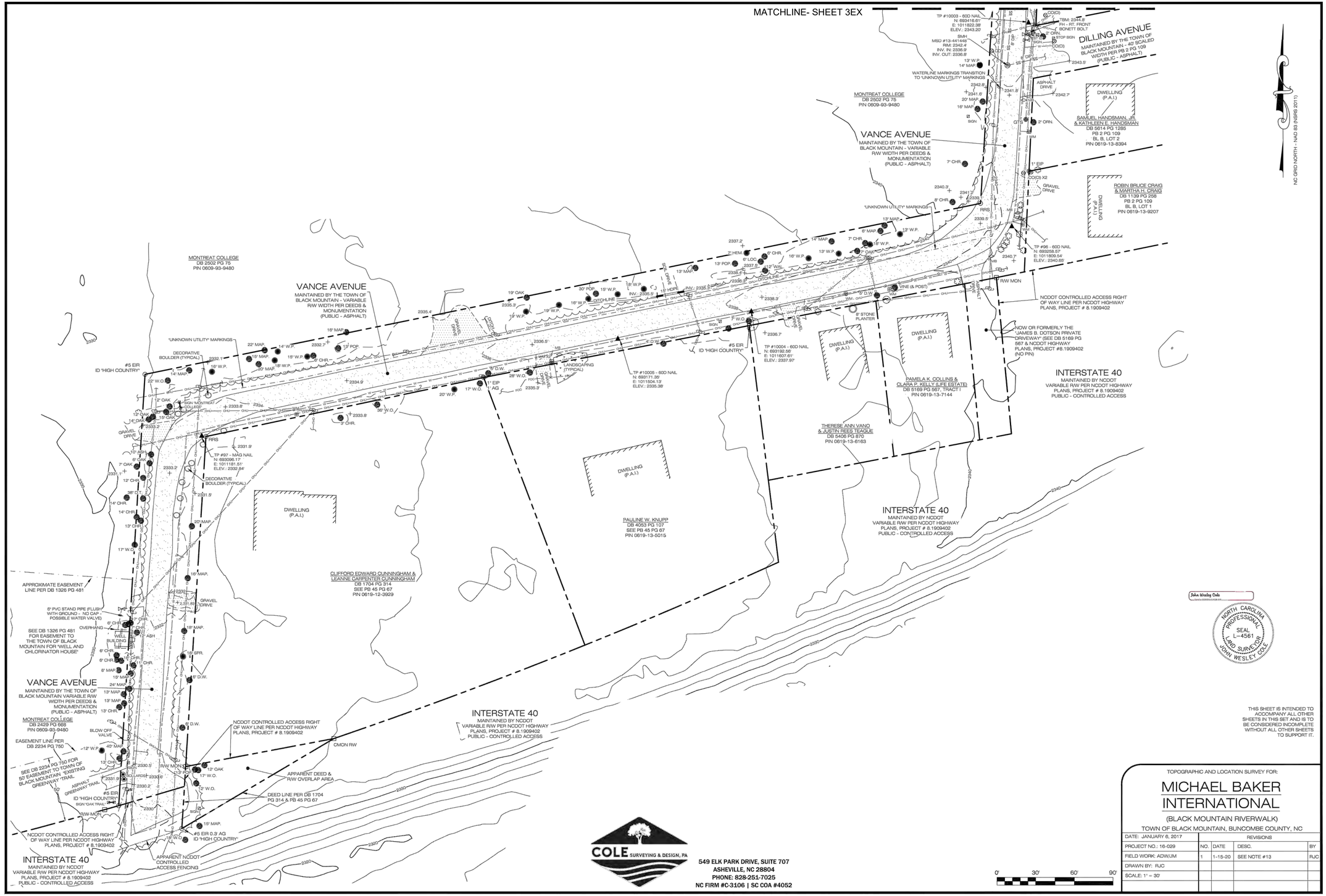
NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=30'

PROJECT NO.: 197480

SHEET NO. 3EX



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: JANUARY 6, 2017	REVISIONS			
PROJECT NO.: 16-029	NO.	DATE	DESC.	BY
FIELD WORK: ADW/JM	1	1-15-20	SEE NOTE #13	RJC
DRAWN BY: RJC				
SCALE: 1" = 30'				

THIS SHEET IS INTENDED TO ACCOMPANY ALL OTHER SHEETS IN THIS SET AND IS TO BE CONSIDERED INCOMPLETE WITHOUT ALL OTHER SHEETS TO SUPPORT IT.

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

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SIDEWALK DESIGN

EXISTING CONDITIONS SURVEY

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DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

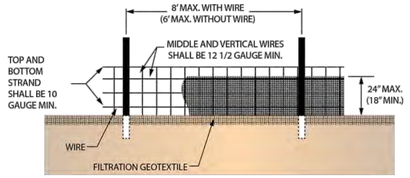
VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=30'

PROJECT NO.: 197480

SHEET NO. 4EX

4.3.1 Temporary Silt Fence (1605.01)



4.3.1 Temporary Silt Fence (1605.01)

Material Specifications

Filtration Geotextile: Type 3

- The geotextile shall meet the requirements of Section 1056 of the Standard Specifications for Type 3 Geotextile.
- Posts shall be steel, or other approved product, and have a minimum length of 5 feet.
- Posts, woven wire and wire staples shall meet the requirements of Section 1605-2 of the Standard Specifications.
- Geotextile shall be a minimum of 36-inches wide.
- Proper geotextile certifications are required to assure adherence to Section 1056 of the Standard Specifications.
- Woven wire shall be a minimum of 32 inches in height and with a minimum of 5 horizontal wires with 12-inch stay spacing.
- Top and bottom strands of woven wire shall be a minimum of 10 gauge, and middle and vertical wires shall be a minimum of 12 ½ gauge.

Construction Specifications

Geotextile	• The geotextile shall be buried a minimum 8 inches deep and 4 inches laterally. Soil should be firmly tamped. • Geotextile should be installed a maximum of 18 inches above the ground surface for mechanical slicing method of installation. • The geotextile shall be attached to posts and woven wire by wire or other acceptable means. • The geotextile shall be overlapped a minimum of 18 inches at all splice joints. • The height of the geotextile should not exceed 24 inches above the ground surface. • Each end of the silt fence shall be cut upgradient in a "J" pattern to prevent release of untreated storm flows.
Posts	• Post spacing should be a maximum of 6 feet without woven wire backing and 8 feet with woven wire. • Posts shall be installed so that no more than 3 feet extends above the ground.

Temporary silt fence interrupts sheet flows, reduces velocities and allows suspended sediment particles to settle.

4.3.1 Temporary Silt Fence (1605.01)

Material Specifications

Filtration Geotextile: Type 3

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Temporary silt fence interrupts sheet flows, reduces velocities and allows suspended sediment particles to settle.

4.5.4 Temporary Rock Silt Check - Type B (1633.02)



Practical Tips

- A rule of thumb for placing Type B Temporary Rock Silt Checks is to place them where the base of the upstream dam is not higher than the top of the downstream dam.

Definition

A Temporary Rock Silt Check Type - B (TRSC-B), also referred to as a check dam, is a small dam with a distinguishable weir. The primary purpose of this device is to reduce erosion in a drainage ditch by restricting the velocity of flow in the channel. They are constructed of Class B stone and typically used in ditches during construction where the grade meets or exceeds 2.5%.

Areas of Use

Install TRSC-B's in drainage ditches to reduce runoff velocity. TRSC-B's can be applied at the following:

- In channels, roadside ditches, temporary silt ditches and temporary diversions
- In temporary channels that are susceptible to erosion but where permanent stabilization is impractical due to their limited duration of use
- In eroding channels where construction delays or weather conditions prevent timely installation of non-erosive liners
- In conjunction with Type B silt basin

Design Criteria

- The drainage area shall be limited to ½ acre or less to each TRSC-B in a ditch line.
- TRSC-B spacing should be (2.5 ÷ % of ditch grade) x 100 feet.

4.6.2 Rock Pipe Inlet Sediment Trap Types A and B (1635.01 & 1635.02)



Practical Tips

- Water should flow through the stone and not around the device.
- To function properly, the device needs to be clear of debris.

Definition

Rock Pipe Inlet Sediment Traps (PIST) are horseshoe-shaped devices with built-in sediment storage areas that are placed around the outside perimeter of pipe inlets to provide sediment containment and protection for the water flowing to the pipe inlet. There are two different types of Rock Pipe Inlet Sediment Traps: Types A and B.

Areas of Use

Rock Pipe Inlet Sediment Trap - Type A (PIST-A)

- At pipe inlets no larger than 36 inches in diameter where flow is received from several directions
- At least 30 feet from a vehicular travel lane in order to prevent a safety hazard in order to provide a clear recovery zone for motorists
- In areas where a BMP can be cleaned and maintained on a regular basis

Rock PISTs reduce water velocity and provide sediment storage.

Rock Pipe Inlet Sediment Trap - Type B (PIST-B)

- At pipe inlets no larger than 24 inches in diameter where flow is received from several directions
- At locations where a PIST-A would be unsafe due to adjacent traffic
- In areas where a BMP can be cleaned and maintained on a regular basis

4.6.2 Rock Pipe Inlet Sediment Trap Types A and B (1635.01 & 1635.02)

Design Criteria

Type A

- The drainage area should not exceed 5 acres.
- The sediment basin should provide a storage volume of 3,600 cubic feet per acre of disturbed area and a surface area of 435 square feet per cfs of Q10 or Q25 peak inflow.
- The stone dam should be a minimum of 18 inches high.
- The top of the PIST-A shall be a minimum of 1 foot below the top of the fill over the pipe.
- To provide additional storage volume, additional erosion and sediment control measures may be installed up or down gradient to meet the volume requirements.
- Because of the larger size of the Class B stone, the PIST-A should be placed at locations that will not create a safety hazard to traffic.

Do NOT place PIST-A at outlets with greater than 1 acre of drainage area.

Type B

- The drainage area should not exceed 1 acre.
- The sediment trap should provide a storage volume of 3,600 cubic feet per acre of disturbed area and a surface area of 435 square feet per cfs of Q10 or Q25 peak inflow.
- The stone dam should be a minimum of 18 inches high.
- The top shall be a minimum of 1 foot below the top of the fill over the pipe.
- Some of the required volume may be provided by up gradient or down gradient controls.

If required, a sediment storage pit may be designed for both Types A and B following the same design guidelines for a Silt Basin - Type B.

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SIDEWALK DESIGN

NCDOT EROSION CONTROL DETAILS

Michael Baker INTERNATIONAL
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Suite 600
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Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

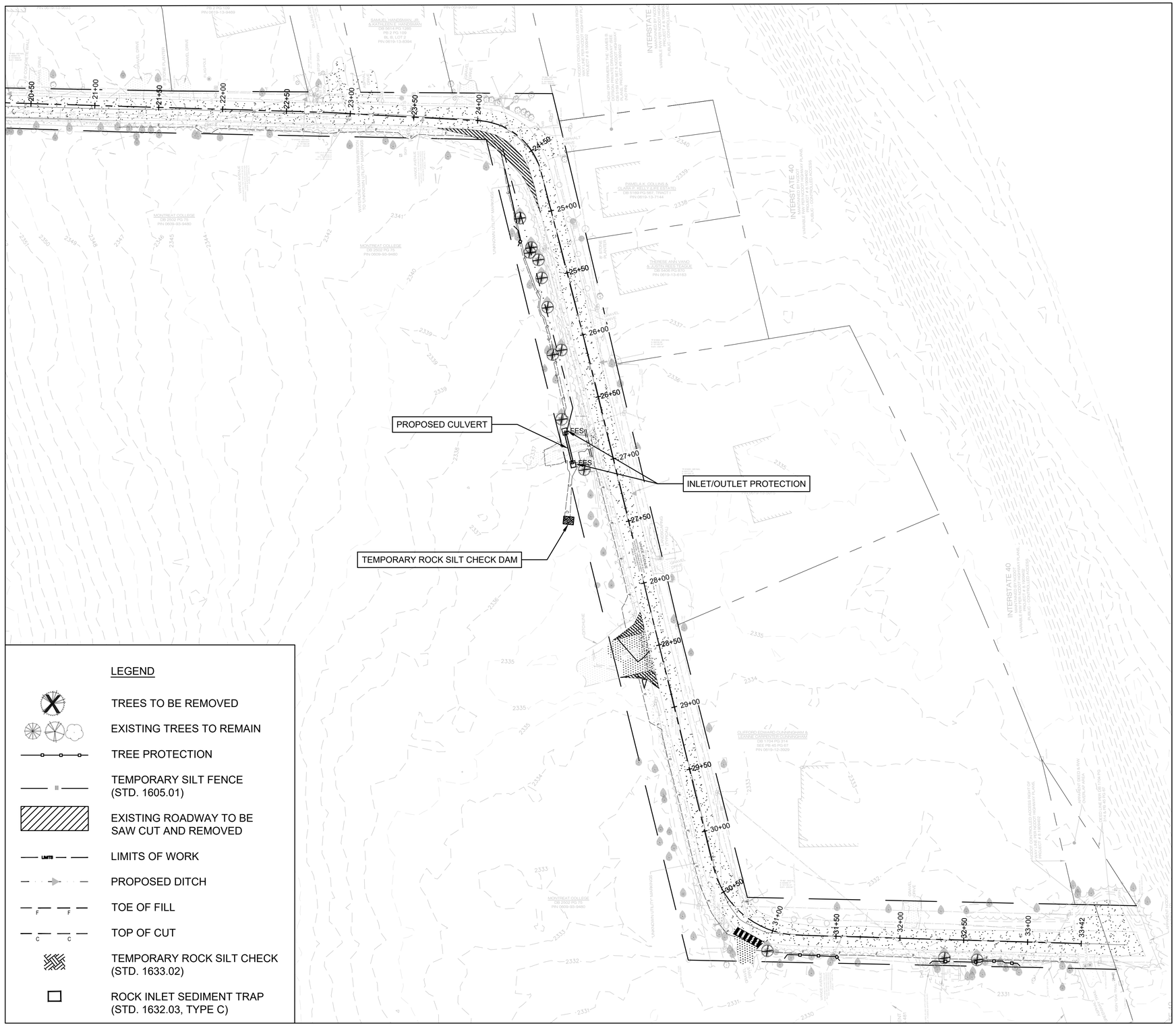
NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: N/A

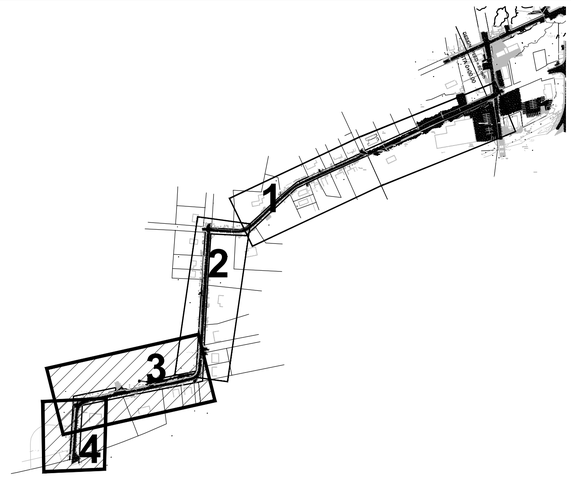
PROJECT NO.: 197480

SHEET NO.: 2EC



LEGEND

- TREES TO BE REMOVED
- EXISTING TREES TO REMAIN
- TREE PROTECTION
- TEMPORARY SILT FENCE (STD. 1605.01)
- EXISTING ROADWAY TO BE SAW CUT AND REMOVED
- LIMITS OF WORK
- PROPOSED DITCH
- TOE OF FILL
- TOP OF CUT
- TEMPORARY ROCK SILT CHECK (STD. 1633.02)
- ROCK INLET SEDIMENT TRAP (STD. 1632.03, TYPE C)



VICINITY MAP

SCALE: 1"=400'

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

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

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SIDEWALK DESIGN

EROSION CONTROL & DEMO PLAN

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

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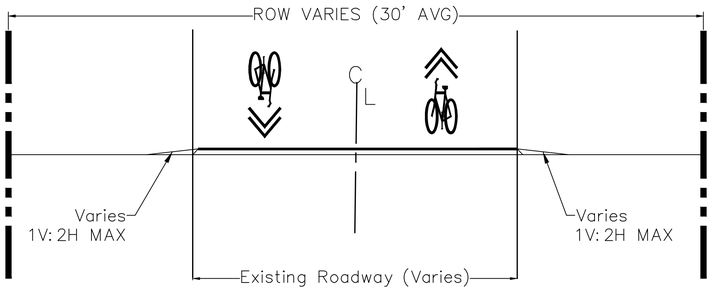
VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=40'

PROJECT NO.: 197480

SHEET NO. 1EC

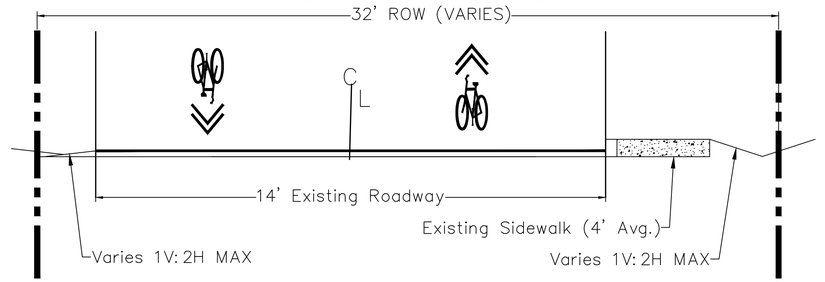
TERRY ESTATES



TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
L	0+00.00	16+60.21	A 1T

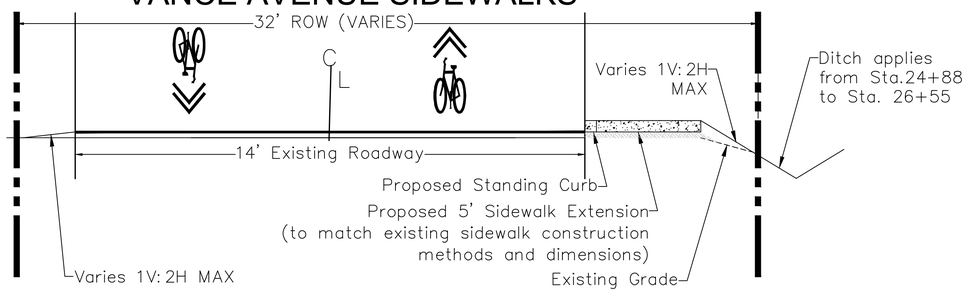
VANCE AVENUE "NORTH"



TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
L	16+60.21	21+19.60	B 1T

VANCE AVENUE SIDEWALKS



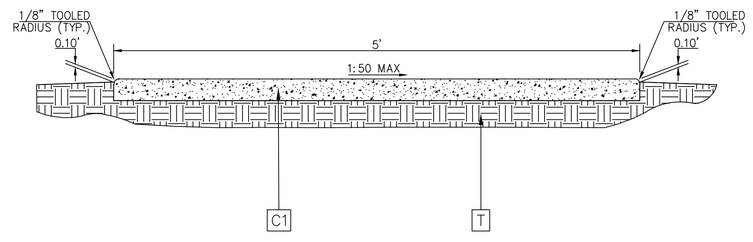
TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
L	21+20.22	30+77.85	C 1T
L	30+94.30	33+42.09	

SIDEWALK PAVEMENT SCHEDULE	
C1	PROPOSED 5" CONCRETE
T	EARTH MATERIAL. COMPACTED TO A DENSITY OF NO LESS THAN 95%.

NOTES:

1. CROSS SLOPE DIRECTION VARIES. SEE PLAN VIEW AND CROSS SECTIONS FOR DIRECTION OF SLOPE.
2. SHOULDERS TO MATCH CROSS SLOPE OF SIDEWALK.
3. CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING ALL SLOPES DISTRIBUTED BY CONSTRUCTION.
4. CONSTRUCT STANDARD SIDEWALK 4' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.
5. PLACE A GROOVE JOINT 1" DEEP WITH 1/8" RADII IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.



SIDEWALK PAVEMENT SCHEDULE

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

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BLACK MOUNTAIN EB-5547B
BUNCOMBE COUNTY, NC

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SIDEWALK DESIGN

TYPICAL SECTIONS

Michael Baker INTERNATIONAL
NC Eng. License #: F-1084
8000 Regency Parkway
Suite 800
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

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VERTICAL SCALE: N/A

HORIZONTAL SCALE: N/A

PROJECT NO.: 197480

SHEET NO. 1T

FINAL PAVEMENT MARKING SCHEDULE

SYMBOL	MATERIAL	DESCRIPTION
T61	THERMOPLASTIC	WHITE STOPBAR (24", 120 MIL)
T62	THERMOPLASTIC	HIGH VISIBILITY CROSSWALK (24", 120 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
1205.16	PAVEMENT MARKINGS - PAVEMENT MARKINGS- BICYCLE FACILITIES
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)		
T94	SHARROW, HEATED IN PLACE	34 EA

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
ALL ROADS	THERMOPLASTIC

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.

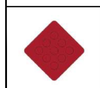
E) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

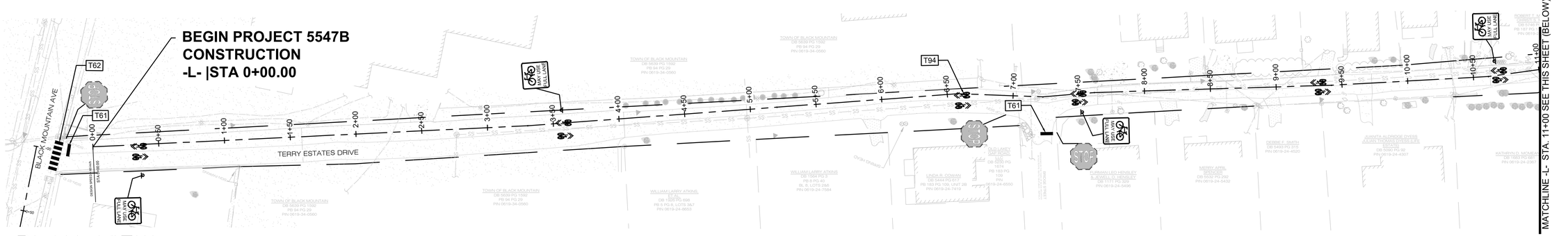
F) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF COLD APPLIED PLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS ON ASPHALT OR CONCRETE ROADWAYS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE COLD APPLIED PAY ITEM.

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.

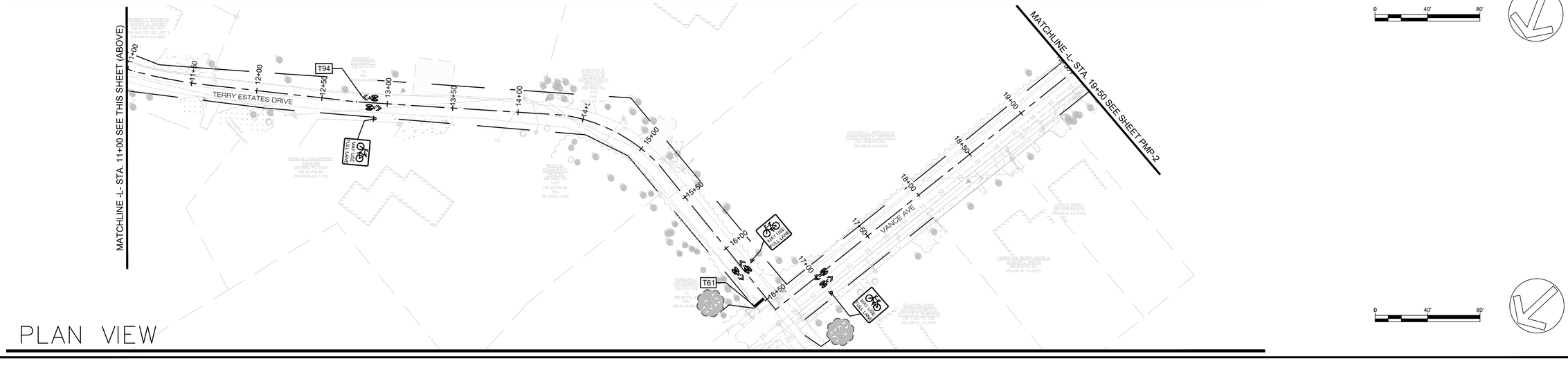
H) SEE ROADWAY PLANS FOR ALTERNATE CURB RAMP DESIGNS WHEN INDICATED ON PAVEMENT MARKING DETAIL SHEETS.

SIGNS SCHEDULE

	R4-11	30"X30"	QTY: 13
	W1-2L	24"X24"	QTY: 1
	W1-2R	24"X24"	QTY: 1
	OM4-1	18"X18"	QTY: 3



PLAN VIEW



PLAN VIEW

0 40' 80'

0 40' 80'

TOWN OF BLACK MOUNTAIN
NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B
BUNCOMBE COUNTY, NC

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SHARED ROAD DESIGN

SIGNING AND PAVEMENT MARKING PLAN

Michael Baker INTERNATIONAL
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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: 1"=40'

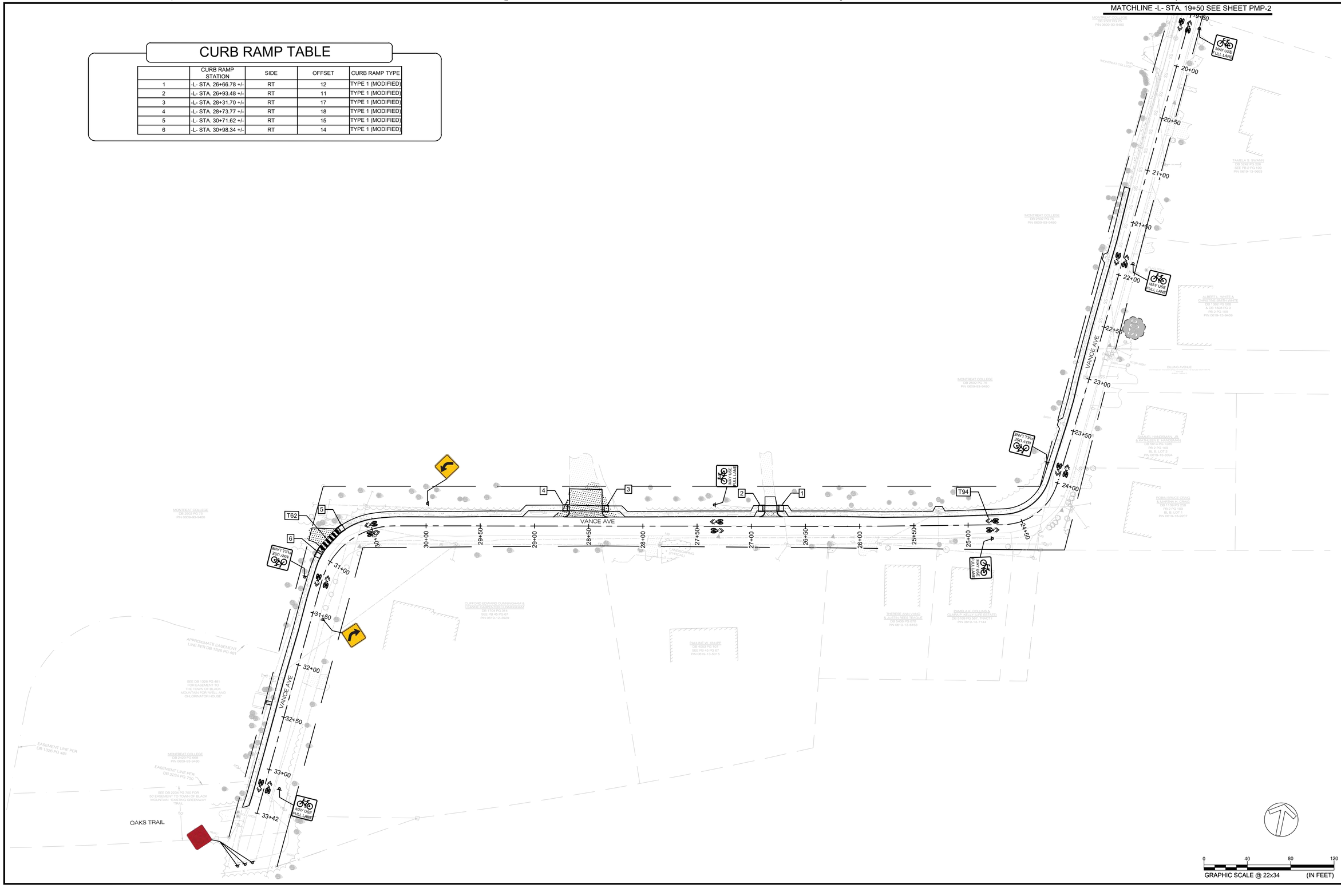
HORIZONTAL SCALE: N/A

PROJECT NO.: 197480

SHEET NO. PMP-1

CURB RAMP TABLE

	CURB RAMP STATION	SIDE	OFFSET	CURB RAMP TYPE
1	-L- STA. 26+66.78 +/-	RT	12	TYPE 1 (MODIFIED)
2	-L- STA. 26+93.48 +/-	RT	11	TYPE 1 (MODIFIED)
3	-L- STA. 28+31.70 +/-	RT	17	TYPE 1 (MODIFIED)
4	-L- STA. 28+73.77 +/-	RT	18	TYPE 1 (MODIFIED)
5	-L- STA. 30+71.62 +/-	RT	15	TYPE 1 (MODIFIED)
6	-L- STA. 30+98.34 +/-	RT	14	TYPE 1 (MODIFIED)



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SHARED ROAD DESIGN

SIGNING AND PAVEMENT MARKING PLAN

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797 Haywood Road, Suite 201
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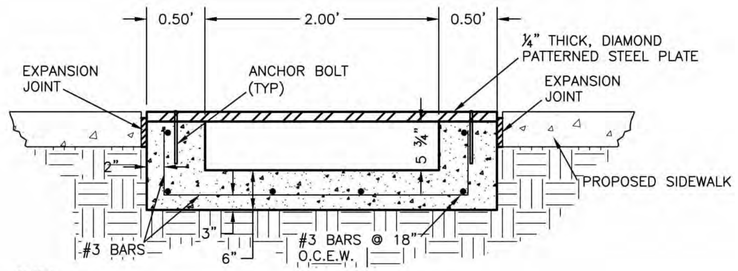
NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=40'

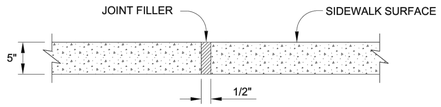
PROJECT NO.: 197480

SHEET NO. PMP-2



NOTE:
1. ¼"x4" ANCHOR BOLTS TO BE PLACED WITH CONCRETE AND FLUSH WITH TOP OF PLATE. BOLTS TO BE SPACED 12" ON CENTER.
2. CONCRETE SHALL BE "CLASS A".

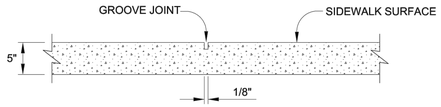
CONCRETE DRAINAGE FLUME UNDER PROPOSED SIDEWALK 01 DT1



TRANSVERSE EXPANSION JOINT

NOTE:

1. TRANSVERSE EXPANSION JOINTS TO BE A MAXIMUM OF 40 FEET.

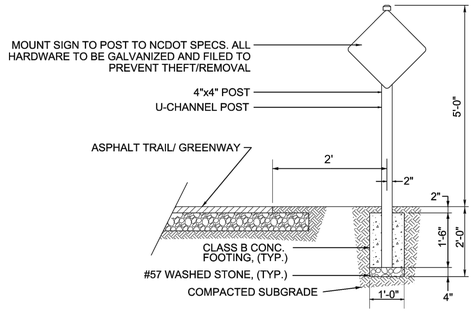


GROOVE JOINT

NOTE:

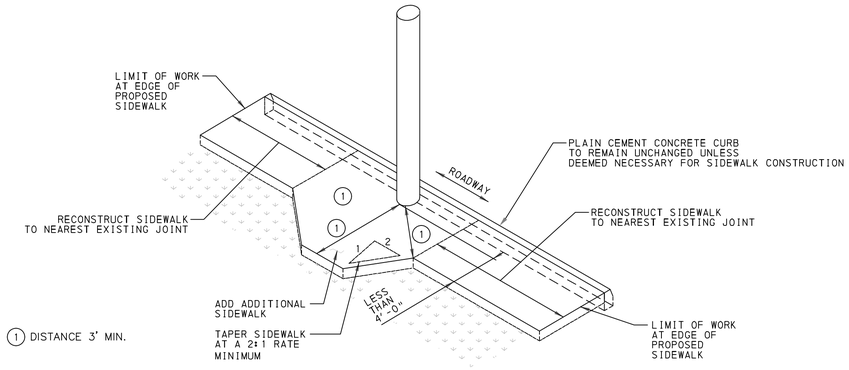
1. PLACE GROOVE JOINTS EVERY 10'.

CONCRETE JOINTS 02 DT1



NOTES:
1. SEE PLANS FOR SIGN TYPE AND SIZE.
2.SIGNS ASSOCIATED WITH VEHICULAR TRAFFIC AND SIGNS ALONG ROADWAYS SHALL MEET NCDOT AND MUTCD SIGN REQUIREMENTS, AND BE INSTALLED PER NCDOT STANDARD DRAWING 904.50

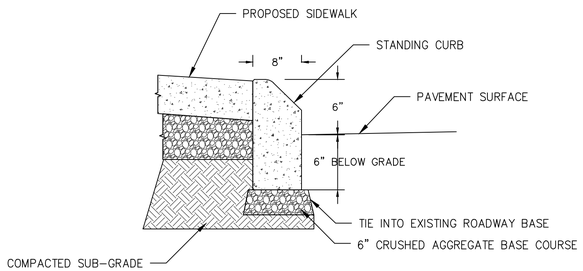
TYPICAL GREENWAY SIGN INSTALLATION 03 DT1



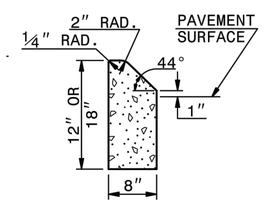
(1) DISTANCE 3' MIN.

NOT TO SCALE

SIDEWALK BUMPOUT DUE TO OBSTRUCTION 04 DT1



STANDING CURB 05 DT1



8" X 12" OR 18" CONCRETE CURB

REFERENCE NCDOT DETAIL 846.01

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

SITE DETAILS

Michael Baker INTERNATIONAL
NC Firm 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:

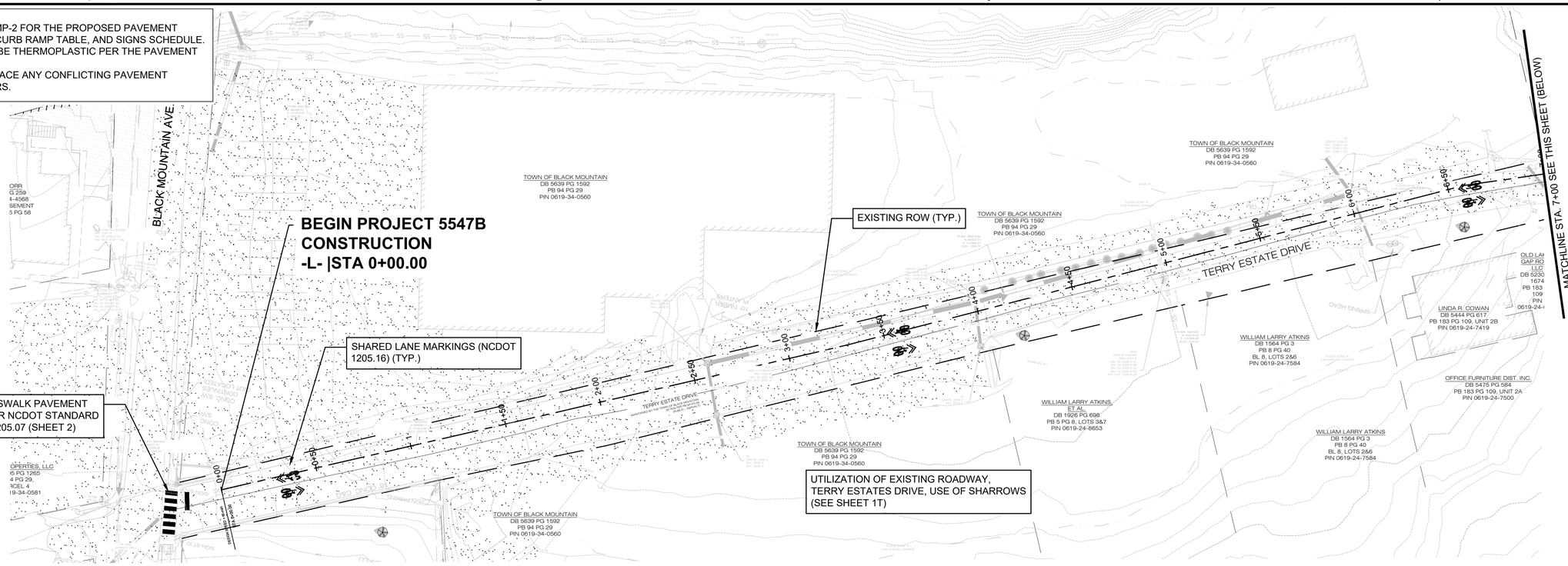
VERTICAL SCALE: N/A

HORIZONTAL SCALE: N/A

PROJECT NO.: 197480

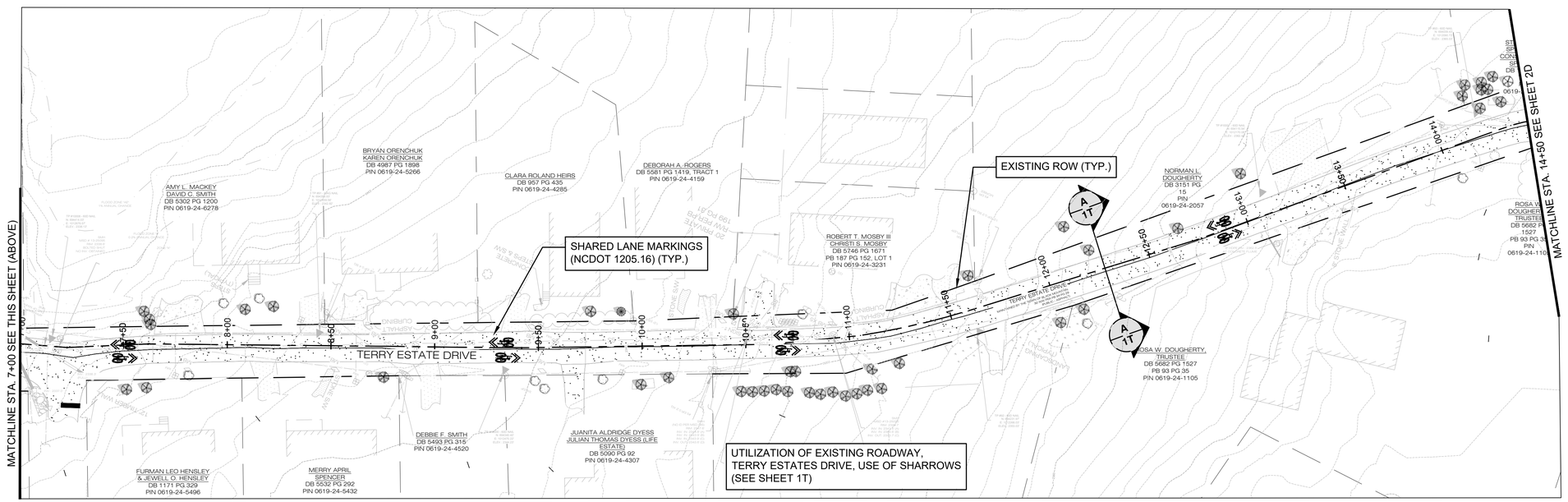
SHEET NO.: DT1

NOTES:
1. SEE SHEET PMP-1 & PMP-2 FOR THE PROPOSED PAVEMENT MARKING SCHEDULE, CURB RAMP TABLE, AND SIGNS SCHEDULE.
2. ALL MARKINGS SHALL BE THERMOPLASTIC PER THE PAVEMENT MARKING SCHEDULE.
3. REMOVE AND/OR REPLACE ANY CONFLICTING PAVEMENT MARKINGS OR MARKERS.



PLAN VIEW

0 30' 60'



PLAN VIEW

0 30' 60'

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

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

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SIDEWALK DESIGN

SIDEWALK & SHARED ROAD PLAN

DATE: AUGUST 2026

REVISIONS:

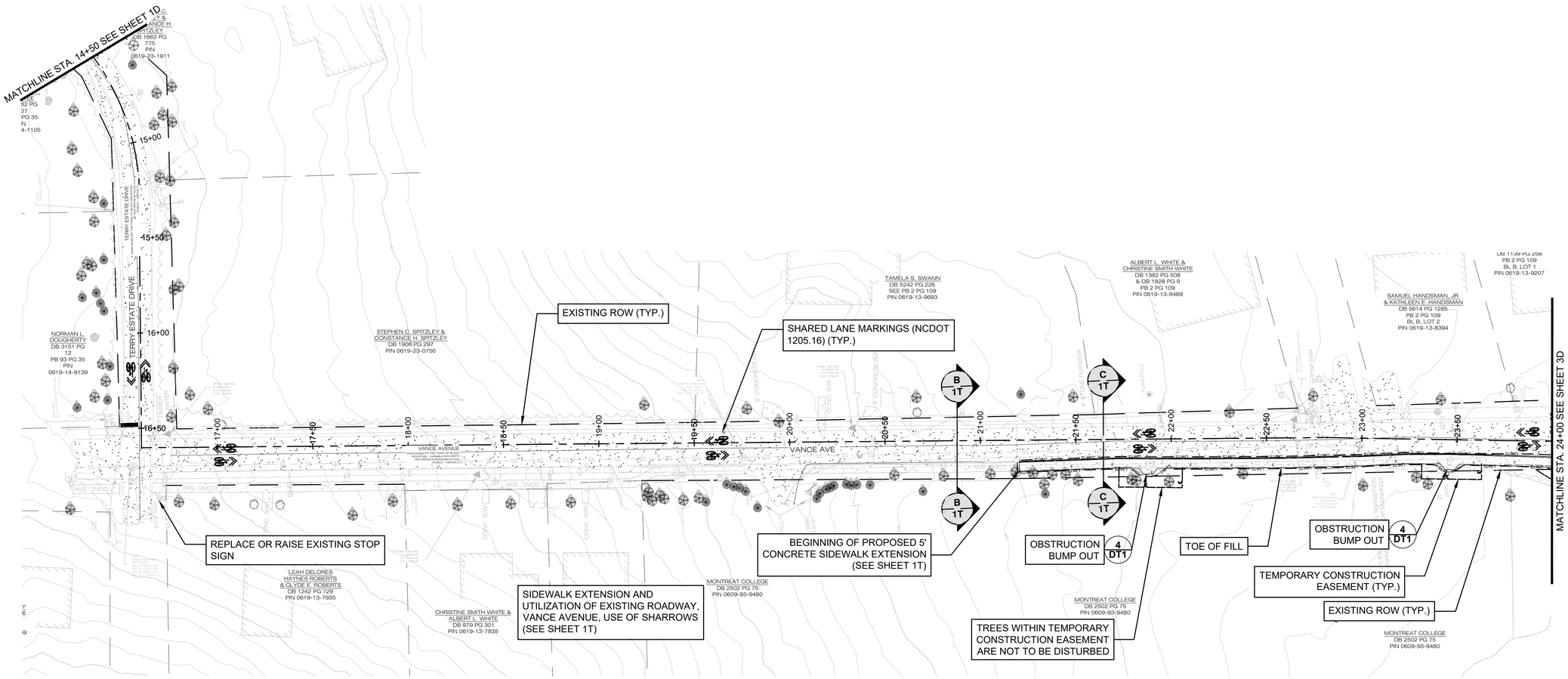
NO.	DATE:

VERTICAL SCALE: ---

HORIZONTAL SCALE: 1"=30'

PROJECT NO.: 197480

SHEET NO. 1D



PLAN VIEW

0 30' 60'

TERRY ESTATES AND VANCE AVENUE INTERSECTION

NOTES:
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TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

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

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SIDEWALK DESIGN

SIDEWALK & SHARED ROAD PLAN

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Phone: 828.350.1408
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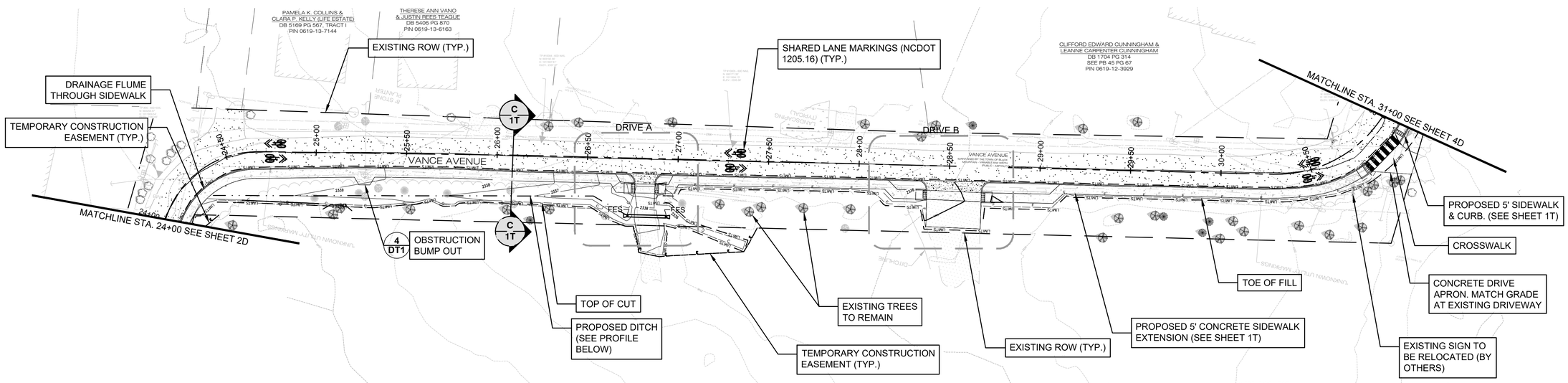
VERTICAL SCALE: ---

HORIZONTAL SCALE: 1"=30'

PROJECT NO.: 197480

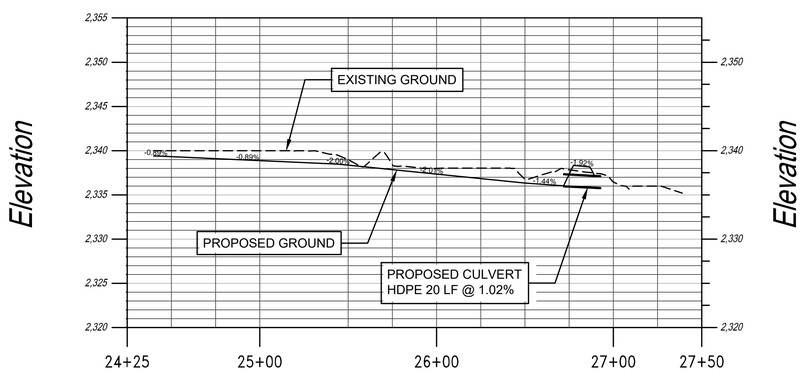
SHEET NO. 2D

NOTES:
1. SEE SHEET PMP-1 & PMP-2 FOR THE PROPOSED PAVEMENT MARKING SCHEDULE, CURB RAMP TABLE, AND SIGNS SCHEDULE.
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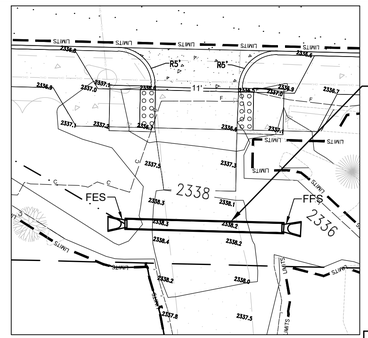
PLAN VIEW

0 30' 60'



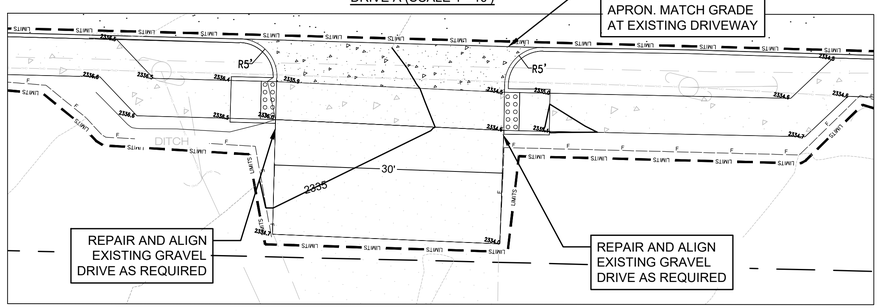
DITCH PROFILE VIEW

0 30 60 90 GRAPHIC SCALE @ 22x34 (IN FEET)
0 5 10 15 GRAPHIC SCALE @ 22x34 (VERT.)



DRIVE A (SCALE 1"=10')

REPLACE EXISTING 15" HDPE WITH 20 LF OF 15" HDPE AND REPAIR NATURAL SURFACE DRIVEWAY AS REQUIRED.



CONCRETE DRIVE APRON. MATCH GRADE AT EXISTING DRIVEWAY

DRIVE B (SCALE 1"=10')

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547B
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BUNCOMBE COUNTY, NC

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SIDEWALK DESIGN

SIDEWALK & SHARED ROAD PLAN

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:

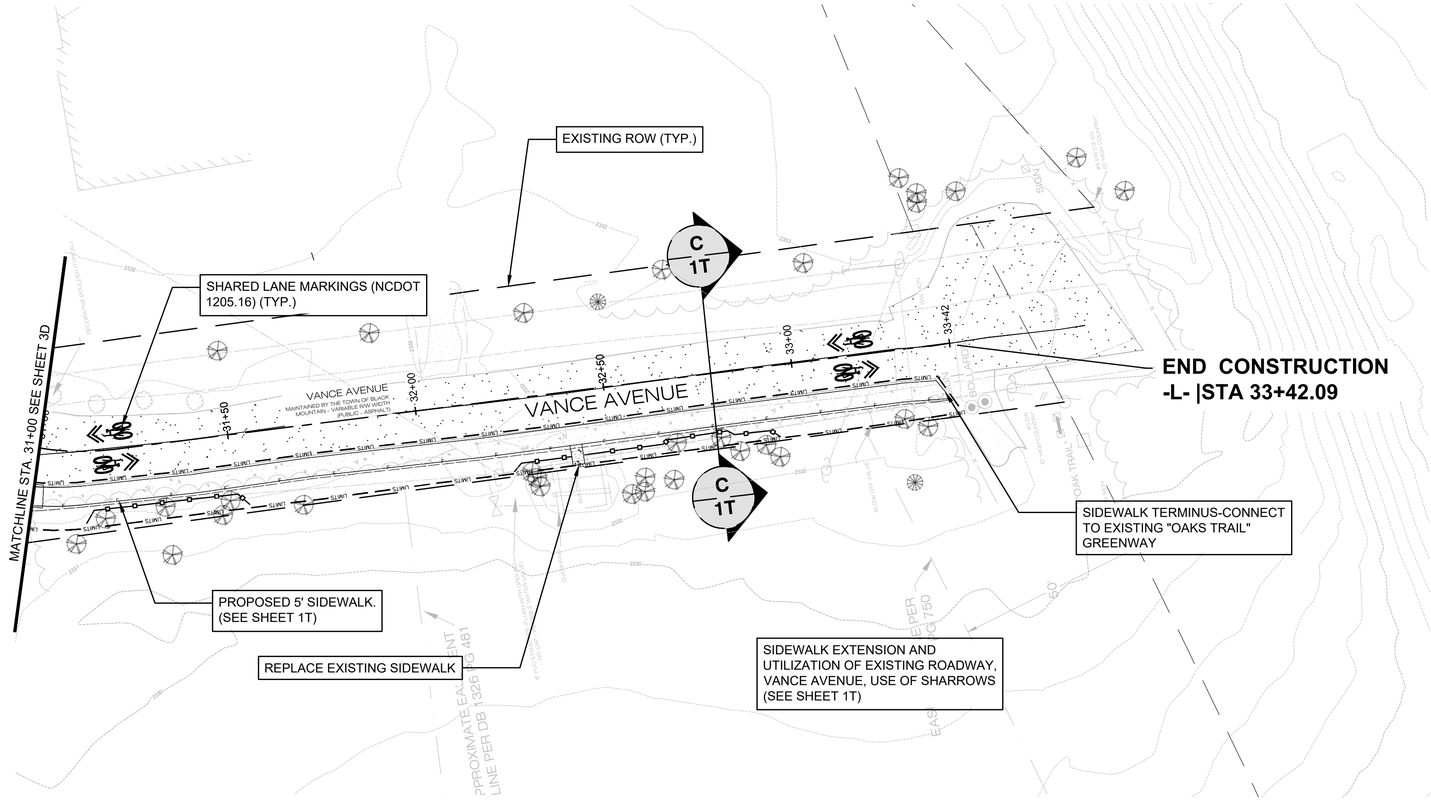
NO.	DATE:

VERTICAL SCALE: 1"=5'

HORIZONTAL SCALE: 1"=30'

PROJECT NO.: 197480

SHEET NO. 3D



PLAN VIEW

0 20' 40'

VANCE AVENUE SOUTH

NOTES:
1. SEE SHEET PMP-1 & PMP-2 FOR THE PROPOSED PAVEMENT MARKING SCHEDULE, CURB RAMP TABLE, AND SIGNS SCHEDULE.
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TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

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

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SIDEWALK DESIGN

SIDEWALK & SHARED ROAD PLAN

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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: ---

HORIZONTAL SCALE: 1"=30'

PROJECT NO.: 197480

SHEET NO. 4D

COMPUTED BY: SWT DATE: 12/1/2023

CHECKED BY: DATE:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
EB-5547B	1D

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

| STATION | LOCATION (LT, RT, OR CL)* | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION (IN) | INVERT ELEVATION (OUT) | SLOPE CRITICAL | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE | C.S. PIPE SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | C.S. PIPE THICKNESS OR GAUGE .064 | .064 | .064 | .064 | .079 | .079 | .109 | .109 | R.C. PIPE CLASS III SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | ** R.C. PIPE (CLASS V) | *** RC PIPE CULVERTS, CONTRACTOR DESIGN | **** RC PIPE CULVERTS, CONTRACTOR DESIGN | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0') | QUANTITIES FOR DRAINAGE STRUCTURES LIN. FT. A 5.0' THRU 10.0' | QUANTITIES FOR DRAINAGE STRUCTURES LIN. FT. B 10.0' AND ABOVE | *TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME WITH TWO GRATES STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH GRATE STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | SIDE DRAIN PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
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