

PHASE 1 LOT CALCULATIONS				
LOT	ACREAGE	LOT FRONTAGE	LOT SLOPE PERPENDICULAR TO ROAD	
1	0.56	173	3.57%	
2	0.50	167	3.64%	
3	0.50	189	4.10%	
4	0.58	333	3.85%	
5	0.66	182	11.26%	
6	0.78	346	7.69%	
7	0.61	360	7.58%	
8	0.82	167	5.88%	
4B	0.20	—	—	
32	0.50	194	3.33%	
33	0.55	188	3.13%	
34	0.50	167	4.17%	
35	0.55	199	3.85%	
COSI	0.65	—	—	

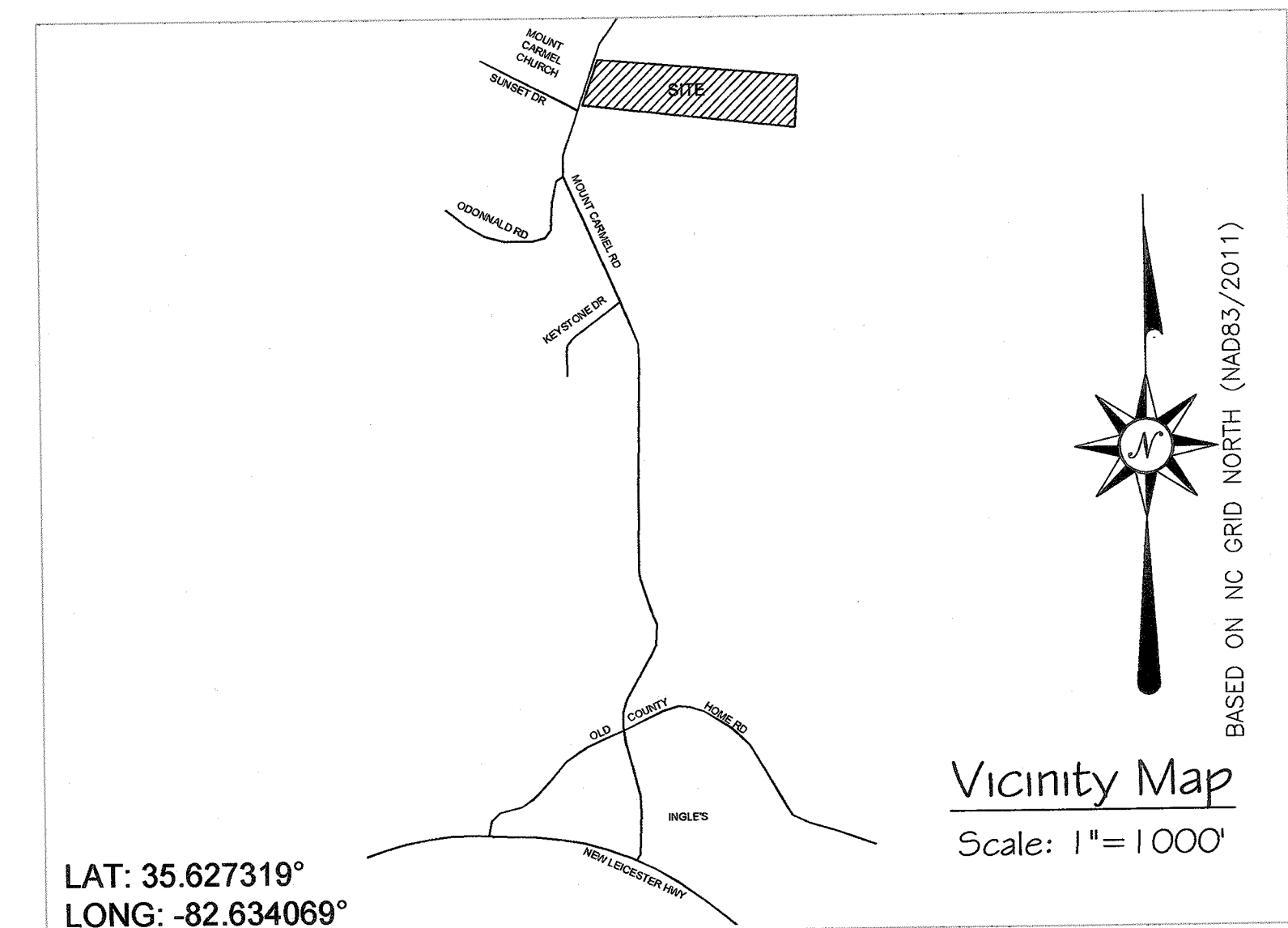
PH2 LOT CALCULATIONS							
LOT	ACREAGE	LOT FRONTAGE	LOT SLOPE PERPENDICULAR TO ROAD	LOT	ACREAGE	LOT FRONTAGE	LOT SLOPE PERPENDICULAR TO ROAD
8	0.54	167	4.76%	20	0.66	210	6.73%
9	0.82	91	5.88%	21	0.76	218	6.39%
10	0.60	101	3.03%	22	0.55	109	4.17%
11	0.56	62	10.0%	23	0.55	189	5.93%
12	0.93	146	11.11%	24	0.65	183	6.41%
13	0.50	225	2.13%	25	0.56	85	7.69%
14	0.51	275	9.09%	26	0.60	92	8.33%
15	0.50	224	5.56%	27	0.51	275	6.25%
16	0.50	121	12.5%	28	0.61	173	6.07%
17	0.50	97	12.0%	29	0.50	253	5.88%
18	0.51	90	6.37%	30	0.52	194	5.56%
19	0.80	65	5.13%	31	0.51	168	6.25%
COS2	0.85						

SURVEYOR

**Ed Holmes & Associates Land
Surveyors , PA
200 Ridgefield Ct. Ste. 215
Asheville, NC 28806
Ph: 828.776.3105
Contact: Josh Holmes, PLS**

SUBMITTAL DATE:

CVR	Cover Sheet	3/1/19
E1	Existing Conditions	3/1/19
S0	Site Plan w/Slope Analysis	3/1/19
C0	Site Plan Overall	3/1/19
C1	Site Plan 1 of 2	3/1/19
C2	Site Plan 2 of 2	3/1/19
C3	Grading/Erosion Control Plan 1 of 2	3/1/19
C4	Grading/Erosion Control Plan 2 of 2	3/1/19
C5	Storm Drainage & Stormwater Plan 1 of 2	3/1/19
C6	Storm Drainage & Stormwater Plan 2 of 2	3/1/19
RP1	Road Profile	3/1/19
D1	Erosion Control Details 1 of 2	3/1/19
D2	Erosion Control Details 2 of 2	3/1/19
D3	Stormwater Details 1 of 2	3/1/19
D4	Stormwater Details 2 of 2	3/1/19



(APPLICABLE TO ALL SHEETS)

1. BOUNDARY & TOPOGRAPHICAL SURVEY BY: ED HOLMES & ASSOCIATES LAND SURVEYORS, PA.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH BUNCOMBE COUNTY ORDINANCES STANDARDS & SPECIFICATIONS.
3. ALL DIMENSIONAL REQUIREMENTS FOR LOTS SHALL BE IN STRICT ACCORDANCE WITH BUNCOMBE COUNTY ZONING & SUBDIVISION ORDINANCES.
4. ALL ROADS WILL BE PRIVATE (OWNED & MAINTAINED BY HOA) AND CONSTRUCTED IN ACCORDANCE WITH THE BUNCOMBE COUNTY STANDARDS. COMMON OPEN SPACE SHALL BE MAINTAINED BY THE HOME OWNERS ASSOCIATION.
5. PUBLIC WATER SERVICE IS TO BE PROVIDED BY EXTENSION TO THE TOWN OF WOODFIN WATER SYSTEM.
6. SEWER SERVICE IS PROVIDED BY INDIVIDUAL SEPTIC SYSTEMS PERMITTED BY BUNCOMBE COUNTY ENVIRONMENTAL HEALTH.
7. ELECTRICAL SERVICE & STREET LIGHTING SHALL BE COORDINATED WITH PROGRESS ENERGY.
8. TELEPHONE/ COMMUNICATION SERVICES SHALL BE COORDINATED WITH LOCAL PROVIDER.
9. A STORM WATER PERMIT SHALL BE SECURED FROM BUNCOMBE COUNTY PRIOR TO CONSTRUCTION.
10. A GRADING AND EROSION CONTROL PERMIT SHALL BE SECURED FROM BUNCOMBE COUNTY PRIOR TO CONSTRUCTION.
11. NO PORTION OF THE PROJECT LIES WITHIN THE 100-YEAR FLOOD PLAIN PER FEMA MAP 37009F0200J, DATE: JAN 6, 2010.
12. THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY MONUMENTATION AND PRIMARY CONTROL. ANY SUCH POINTS WHICH THE CONTRACTOR BELIEVES WILL BE DESTROYED SHALL HAVE OFFSET POINTS ESTABLISHED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY MONUMENTATION DESTROYED BY THE CONTRACTOR SHALL BE REESTABLISHED AT HIS EXPENSE.
13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO: A.) PREVENT ANY DAMAGE TO PRIVATE PROPERTY AND PROPERTY OWNER'S POLES, FENCES, SHEDS, ETC. B.) PROTECT ALL UNDERGROUND UTILITIES. C.) NOTIFY ALL UTILITY COMPANIES AND FIELD VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO START OF CONSTRUCTION. NOTIFY OWNER OF ANY POTENTIAL CONFLICTS WHICH MAY EXIST BETWEEN THE EXISTING UTILITIES AND CONSTRUCTION PLANS.
14. BARRICADING AND TRAFFIC CONTROL DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE NCDOT STANDARD SPECIFICATIONS AND DRAWINGS. TRAFFIC FLOW AND ACCESS SHALL BE MAINTAINED DURING ALL PHASES OF THE CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC SAFETY MEASURES FOR WORK ON THE LOT.
15. CONTRACTOR SHALL MAINTAIN DRAINAGE AT ALL TIMES DURING CONSTRUCTION. PONDING OF WATER IN STREETS, DRIVES, TRUCK COURTS, TRENCHES, ETC. WILL NOT BE ACCEPTABLE.

17. ANY DAMAGES THAT MAY OCCUR TO REAL PROPERTY OR EXISTING IMPROVEMENTS SHALL BE RESTORED BY THE CONTRACTOR TO AT LEAST THE SAME CONDITION THAT THE REAL PROPERTY OR EXISTING IMPROVEMENTS WERE IN PRIOR TO THE DAMAGES. THIS RESTORATION SHALL BE SUBJECT TO THE OWNER'S APPROVAL; MOREOVER, THIS RESTORATION SHALL NOT BE A BASIS FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR. RESTORATION SHALL INCLUDE, BUT NOT BE LIMITED TO, REGRESSING, REVEGETATION, REPLACING FENCES, REPLACING TREES, ETC.
18. WHERE PRESENT, CONTRACTOR SHALL MAINTAIN EXISTING SANITARY SEWER AND WATER SERVICE AT ALL TIMES DURING CONSTRUCTION.
19. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL STORM WATER POLLUTION PREVENTION LAWS AND ORDINANCES.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES THROUGH THE COMPLETION OF THE PROJECT AND THROUGH THE ESTABLISHMENT OF VEGETATION SUFFICIENT TO PROVIDE EROSION PROTECTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURES PRIOR TO PROJECT CLOSE-OUT.
21. ALL DISTURBED AREAS ARE TO BE STABILIZED AND SEEDED WITHIN 7 DAYS OF DISTURBANCE UNLESS OTHERWISE NOTED.
22. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,600 PSI AT 28 DAYS.
23. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED FROM ALL REGULATORY AGENCIES.
24. NO BASE COURSE SHALL BE PLACED ON MUCK, PIPE CLAY, ORGANIC MATTER OR OTHER UNSUITABLE MATTER, AND MINIMUM COMPACTION RATE OF SUBGRADE PRIOR TO PAYING (IF REQUIRED) SHALL NOT BE LESS THAN 95 PERCENT BY STANDARD PROCTOR METHOD AND CERTIFIED BY A LICENSED ENGINEER.
25. SUBDIVISION ROAD SHALL BE CONTAINED WITHIN A CORRIDOR THAT SHALL NOT EXCEED 90 FEET IN WIDTH ALONG 80% OF ITS TOTAL LENGTH; UP TO 20% OF THE LENGTH OF THE ROAD CORRIDOR MAY BE GRADED TO A MAXIMUM WIDTH OF 135 FEET. THE CORRIDOR HEIGHT SHALL NOT EXCEED 60 FEET.
26. EXISTING USE OF PROPERTY IS AGRICULTURAL/WOODS.
27. AREAS SHALL NOT HAVE FILL SLOPES STEEPER THAN A 2H:1V, NOR CUT SLOPES STEEPER THAN 1.5H:1V UNLESS DESIGNED BY A GEOTECHNICAL ENGINEER.
28. NO PROVISIONS FOR CABLE TELEVISION SERVICE, AND NATURAL GAS AT THIS TIME.
29. PROTECTED RIDGE/ HIGH ELEVATION OVERLAY IS NOT APPLICABLE TO THIS SITE.
30. ROADWAYS WILL BE IMPROVED/PAVED WITH A MINIMUM OF 8" CABC STONE SUITABLY PLACED & COMPACTED TO SUPPORT 45,000 POUND EMERGENCY VEHICLE PER BUNCOMBE COUNTY REQUIREMENTS.

CURRENT PROPERTY OWNER(S):
MOUNTAIN CARMEL DEVELOPERS, LLC (9830)
MADGE E. SCOTT (LE) (0198)
DEVELOPER(S):
MOUNTAIN CARMEL DEVELOPERS, LLC
301 COLLEGE ST.
ASHEVILLE, NC 28801-2449
PH: 828.776.3105
FINS
9720-02-9830
9720-23-0198
DEED BOOKS & PAGE:
5657/0377
4613/1562
TOTAL PROJECT AREA: 25.84 ACRES
35 PROPOSED LOTS
3,100 LF ROADWAYS
PHASE 1 - 1312 LF
PHASE 2 - 1788 LF
ZONED: OU
SETBACKS: NONE
LAT: 35.627319"
LONG: -82.634089"
JURISDICTIONS:
BUNCOMBE COUNTY PLANNING DEPARTMENT
(STORMWATER & EROSION CONTROL)
WOODFIN WATER (WATER SERVICE)
BUNCOMBE COUNTY HEALTH DEPT
(INDIVIDUAL SEPTIC SYSTEMS)

DEVELOPER: MOUNTAIN CARMEL DEVELOPERS, LLC
301 COLLEGE ST
ASHEVILLE, NC 28801-2449
PH: 828.776.3105
TOTAL PROJECT: 25.84 ACRES
PHASE 1 = 11 LOTS
PHASE 2 = 24 LOTS
NUMBER OF PROPOSED LOTS = 35
PROJECT SUMMARY = 35 LOTS/25.84 AC. = 1 LOT / 0.74 ACRES
NEW ROADWAYS: 3100 LF OF ROADS
PH1 - 1312LF
PH2 - 1788LF
DELINEATION OF WOODED AND OPEN AREA:
WOODED AREA (EX.)= 36.09%
OPEN AREA (EX.)= 63.91%
WOODED AREA (PROP.)= 25.22%
OPEN AREA (PROP.)= 74.78%
UTILITIES
WATER - WOODFIN WATER
WASTE WATER - PRIVATE INDIVIDUAL SEPTIC SYSTEMS (BUNCOMBE CO. HEALTH DEPT. REQ'D.)
ELECTRICAL SERVICES - PROGRESS ENERGY
PHONE SERVICE - AT&T
CULVERTS, DRAINAGE - AS SHOWN
OTHER DETAILS
TOPOGRAPHIC INFORMATION - 1' FIELD TOPO FROM SURVEYOR:
ED HOLMES AND ASSOCIATES LAND SURVEYORS, PA.
NATURAL FEATURES - SMALL STREAM, DITCH THROUGH PROPERTY.
FLOOD HAZARD AND FLOODWAY BOUNDARIES - NONE PER
JANUARY 6, 2010 FEMA FLOODPLAIN MAPS 37009Z0004.
NO KNOWN CEMETERIES ON OR ADJACENT TO PROJECT.
NO BRIDGES, OR RAILROADS ON OR ADJACENT TO PROJECT.
EXISTING ADJACENT PROPERTIES LAND USE - CHURCH, RESIDENTIAL
EXISTING PROPERTY LAND USE - AGRICULTURAL/ WOODS
PROPOSED OPEN SPACE FOR THE PROJECT = 1.5 ACRES
PROJECT COUNTY ZONING - OPEN USE
ADJACENT PROPERTIES COUNTY ZONING - OPEN USE, R-1
ALL LOT FRONTAGE SLOPES PERPENDICULAR TO PROPOSED DRIVEWAYS
ARE LESS THAN 18%
THERE IS NO PROPOSED DRIVEWAY CONSTRUCTION OR HOUSE SITES OR
ACCESSIBLE SLOPES OF 30% NATURAL SLOPE OR IN ANY AREAS
DESIGNATED AS HIGH HAZARD OR MODERATE HAZARD ON THE
BUNCOMBE COUNTY STABILITY INDEX MAP.

FORMULA PROVIDED IN SECTION:
70-68 (c)(2).

$$\frac{S\%}{\text{ACRES}} = 0.0023 \times L$$

$$\frac{8.99\% = 0.0023 \times 1 \times 100,993}{25.84 \text{ ACRES}}$$

THIS SITE IS NOT A DRASTIC
VARIATION HILLSIDE
DEVELOPMENT.
SITE IS CURRENTLY ZONED OU.
SITE EXISTING USE IS VACANT
GRASS MEADOW.

SOIL TYPES
 CkB2: Clifton Clay Loam. 2 to 8 percent slopes
 CkC2: Clifton Clay Loam. 8 to 15 percent slopes
 CuB: Clifton-Urban Land complex. 2 to 8 percent slopes
 CuC: Clifton-Urban Land complex . 8 to 15 percent slopes
 TaB: Tate Loam. 2 to 8 percent slopes.

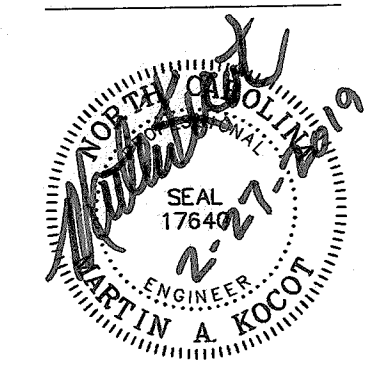
TOTAL DISTURBED
AREA: 11.11 AC.



CUT: 2834 cy
FILL: 1658 cy
NET: 1175 cy (CUT)
EXCESS TO BE
DISTRIBUTED ON SITE

P.O. Box 1922
Asheville, NC 28802
V: 828.230.7958
NC Engineering License # P0828

☒ Not for Construction
☒ Issued for Permitting
☒ Issued for Pricing
☐ Issued for Construction



LEICESTER, BUNCOMBE CO., NC

MOUNT CARMEL

MOUNTAIN CARMEL DEVELOPERS, LLC

COVER SHEET

REVISIONS:

DATE: 02/11/19
DESIGNED BY: SJMK
DRAWN BY: SJRD
CHECKED BY: MAK
Q.C. BY: MAK
SCALE: As Shown
PROJECT #: 0201820
SHEET NUMBER#:

CVR

SITE NOTES:

1. CONSULTATION WITH A GEOTECHNICAL ENGINEER SHALL BE REQUIRED FOR ROAD CONSTRUCTION IN AREAS OF A TRACT IN EXCESS OF 30 PERCENT NATURAL SLOPE AND FOR ALL AREAS DESIGNATED AS HIGH HAZARD OR MODERATE HAZARD ON THE BUNCOMBE COUNTY SLOPE STABILITY INDEX MAP PREPARED BY THE NORTH CAROLINA GEOLOGICAL SURVEY, AND AN INVESTIGATION FOR COLLUVIAL DEPOSITS SHALL BE MADE.
2. NO BASE COURSE SHALL BE PLACED ON MUCK, PIPE CLAY, ORGANIC MATTER OR OTHER UNSUITABLE MATTER, AND MINIMUM COMPACTION RATE OF SUBGRADE PRIOR TO PAVING (IF REQUIRED) SHALL NOT BE LESS THAN 95 PERCENT BY STANDARD PROCTOR METHOD AND CERTIFIED BY A LICENSED ENGINEER.
3. SUBDIVISION ROAD MEETS BUNCOMBE COUNTY CORRIDOR WIDTH AND HEIGHT STANDARDS.
4. THE SUBDIVISION IS NOT A DRASTIC VARIATION HILLSIDE SUBDIVISION.
5. EXISTING USE OF PROPERTY IS OPEN AGRICULTURAL AND WOODS.
6. AREAS WITH NATURAL SLOPE OVER 30 PERCENT SHALL NOT HAVE FILL SLOPES STEEPER THAN A 2H:1V, NOR CUT SLOPES STEEPER THAN 1.5H:1V UNLESS DESIGNED BY A GEOTECHNICAL ENGINEER.
7. GLOBAL STABILITY ANALYSIS SHALL BE PERFORMED FOR HOMESITES ON A 35 PERCENT OR GREATER SLOPE OR IN AN AREA DESIGNATED AS HIGH HAZARD OR MODERATE HAZARD ON THE BUNCOMBE COUNTY SLOPE STABILITY INDEX MAP PREPARED BY THE NORTH CAROLINA GEOLOGICAL SURVEY.
8. THERE ARE NO BUILDING OR CONSTRUCTION IMPACTS TO ANY SLOPES 50% OR GREATER.
9. NO PROVISIONS FOR ELECTRICAL, TELEPHONE SERVICES, CABLE TELEVISION SERVICE, AND NATURAL GAS AT THIS TIME.
10. PROTECTED RIDGE/ HIGH ELEVATION OVERLAY IS NOT APPLICABLE TO THIS SITE.
11. THE ROAD CORRIDOR DOES NOT EXCEED 90 FEET IN WIDTH ALONG 80% OF ITS TOTAL LENGTH; UP TO 20% OF THE LENGTH OF THE ROAD CORRIDOR MAY BE GRADED TO A MAXIMUM WIDTH OF 135 FEET. INDICATE THAT THE CORRIDOR DOES NOT EXCEED 60 FEET ON THE SUBMITTED PLANS.
12. NO AREAS ARE DESIGNATED HIGH OR MODERATE HAZARD ON THE BUNCOMBE COUNTY STABILITY INDEX MAP.

DEVELOPMENT DATA

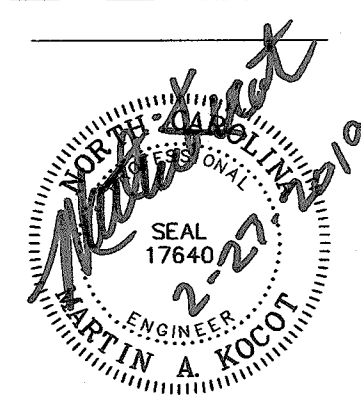
PROPERTY OWNER(S):
MOUNTAIN CARMEL DEVELOPERS, LLC
301 COLLEGE ST.
ASHEVILLE, NC 28801-2449
ACREAGE: 25.84 Ac.
PINS:
9720-02-9830
9720-23-0198
DB: 4613 PG: 1562
DB: 5657 PG: 0377
PB: 0018 PG: 0068
COUNTY ZONED: OU (BC)
SETBACKS:
NONE

LandWorks Engineering

Land Planning & Civil Engineering

P.O. Box 1929
Asheville, NC 28802
V-828 230.7958
NC Engineering License # P0828

- ☒ Not for Construction
☒ Issued for Permitting
☒ Issued for Pricing
☐ Issued for Construction

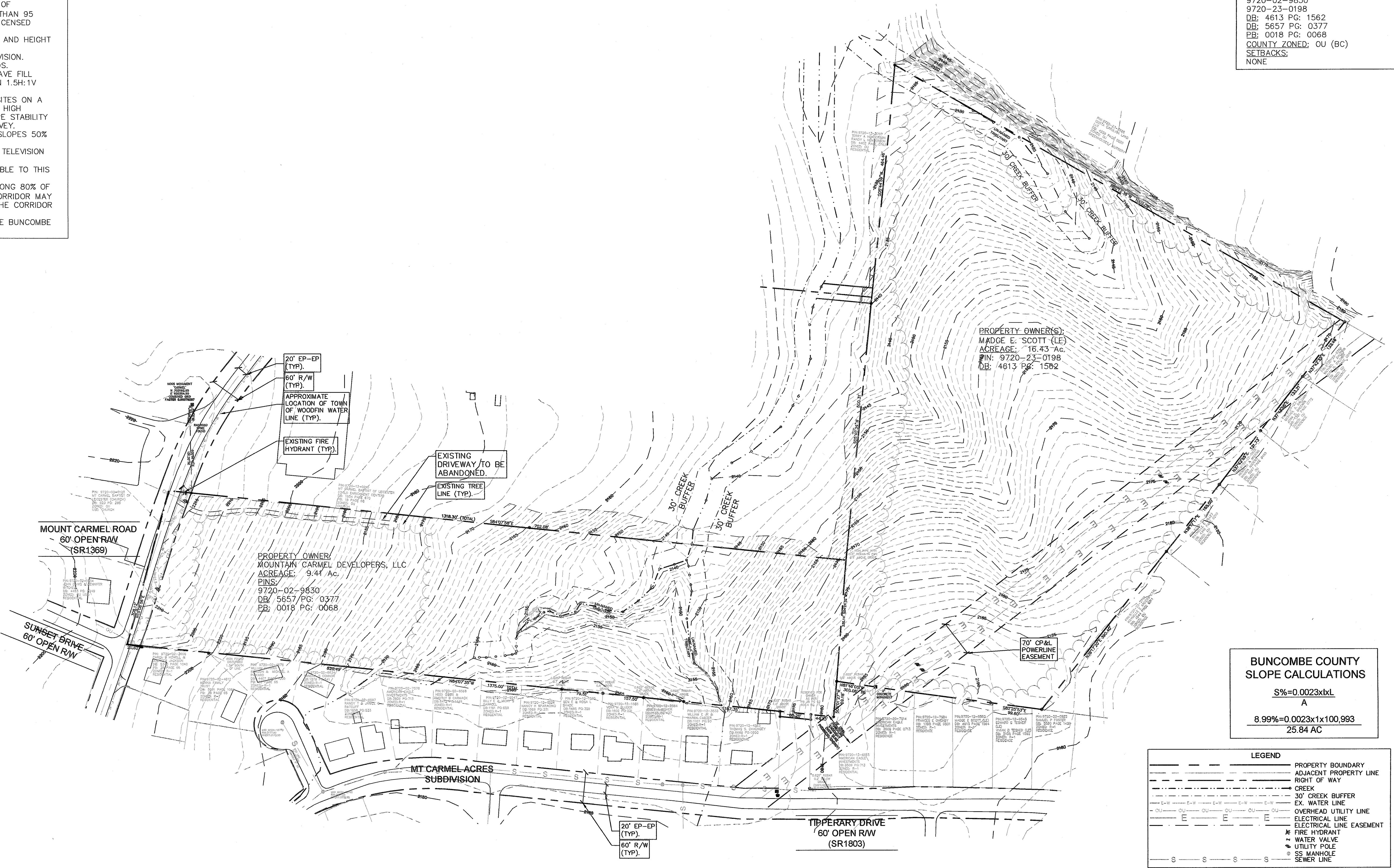


LEICESTER, BUNCOMBE CO., NC

MOUNT CARMEL

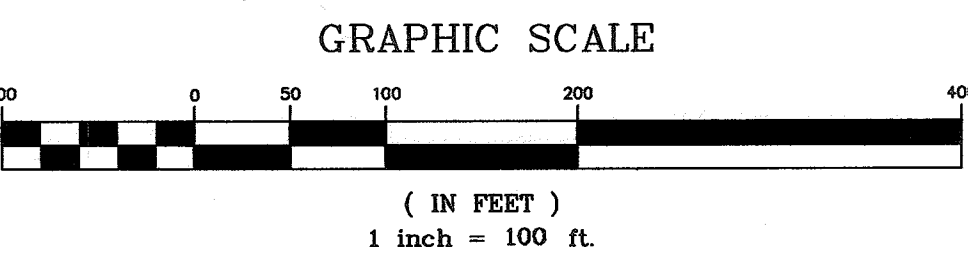
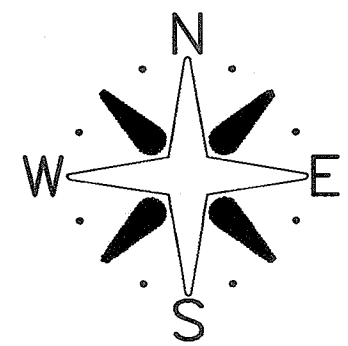
MOUNTAIN CARMEL DEVELOPERS, LLC

EXISTING CONDITIONS PLAN



SURVEY BY:

Ed Holmes & Associates Land
Surveyors, P.A.
300 Ridgefield Court, Suite 301
Asheville, NC 28806
Ph: 828.225.6562



REVISIONS:

DATE: 02/11/19
DESIGNED BY: SJMK
DRAWN BY: SJMK
CHECKED BY: MAK
SCALE: 1"=100'
PROJECT #: 0201820
SHEET NUMBER: E1

SITE NOTES:

1. CONSULTATION WITH A GEOTECHNICAL ENGINEER SHALL BE REQUIRED FOR ROAD CONSTRUCTION IN AREAS OF A TRACT IN EXCESS OF 30 PERCENT NATURAL SLOPE AND FOR ALL AREAS DESIGNATED AS HIGH HAZARD OR MODERATE HAZARD ON THE BUNCOMBE COUNTY SLOPE STABILITY INDEX MAP PREPARED BY THE NORTH CAROLINA GEOLOGICAL SURVEY, AND AN INVESTIGATION FOR COLLUVIAL DEPOSITS SHALL BE MADE.
2. NO BASE COURSE SHALL BE PLACED ON MUCK, PIPE CLAY, ORGANIC MATTER OR OTHER UNSUITABLE MATTER, AND MINIMUM COMPACTION RATE OF SUBGRADE PRIOR TO PAVING (IF REQUIRED) SHALL NOT BE LESS THAN 95 PERCENT BY STANDARD PROCTOR METHOD AND CERTIFIED BY A LICENSED ENGINEER.
3. SUBDIVISION ROAD MEETS BUNCOMBE COUNTY CORRIDOR WIDTH AND HEIGHT STANDARDS.
4. THE SUBDIVISION IS NOT A DRASTIC VARIATION HILLSIDE SUBDIVISION.
5. EXISTING USE OF PROPERTY IS OPEN MEADOWS AND WOODS.
6. AREAS WITH NATURAL SLOPE OVER 30 PERCENT SHALL NOT HAVE FILL SLOPES STEEPER THAN A 2H:1V, NOR CUT SLOPES STEEPER THAN 1.5H:1V UNLESS DESIGNED BY A GEOTECHNICAL ENGINEER.
7. GLOBAL STABILITY ANALYSIS SHALL BE PERFORMED FOR HOMESITES ON A 35 PERCENT OR GREATER SLOPE OR IN AN AREA DESIGNATED AS HIGH HAZARD OR MODERATE HAZARD ON THE BUNCOMBE COUNTY SLOPE STABILITY INDEX MAP PREPARED BY THE NORTH CAROLINA GEOLOGICAL SURVEY.
8. THERE ARE NO BUILDING OR CONSTRUCTION IMPACTS TO ANY SLOPES 50% OR GREATER.
9. NO PROVISIONS FOR ELECTRICAL, TELEPHONE SERVICES, CABLE TELEVISION SERVICE, AND NATURAL GAS AT THIS TIME.
10. PROTECTED RIDGE/ HIGH ELEVATION OVERLAY IS NOT APPLICABLE TO THIS SITE.
11. THE ROAD CORRIDOR DOES NOT EXCEED 90 FEET IN WIDTH ALONG 80% OF IT'S TOTAL LENGTH; UP TO 20% OF THE LENGTH OF THE ROAD CORRIDOR MAY BE GRADED TO A MAXIMUM WIDTH OF 135 FEET. INDICATE THAT THE CORRIDOR DOES NOT EXCEED 60 FEET ON THE SUBMITTED PLANS.
12. NO AREAS ARE DESIGNATED HIGH OR MODERATE HAZARD ON THE BUNCOMBE COUNTY STABILITY INDEX MAP.

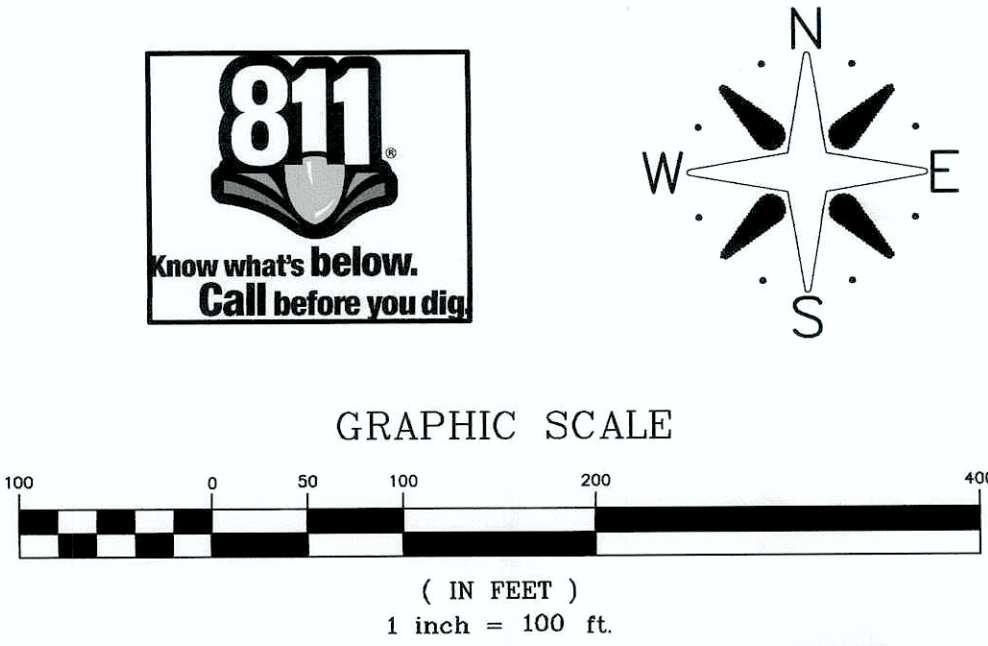
DEVELOPMENT DATA

PROPERTY OWNER(S):
MOUNTAIN CARMEL DEVELOPERS, LLC
301 COLLEGE ST.
ASHEVILLE, NC 28801-2449
ACREAGE: 25.84 Ac.
PIN: 9720-02-9830
DJ: 5657 PG: 0377
EB: 0018 PG: 0068
COUNTY ZONED: OU



		Slope Analysis					
Color	Range	Beg.	Range	End	Percent	Area	Acreage
		0.00	15.00		97.3	1096450.57	25.17
		15.00	24.00		2.3	26301.86	0.60
		25.00	29.00		0.2	2089.78	0.05
		30.00	34.00		0.0	364.99	0.01
		35.00	49.00		0.1	906.23	0.02
		50.00	100.00		0.0	240.25	0.01
35% Slope and above = 0.1%						1,146.48	sf

LEGEND	
---	PROPERTY BOUNDARY
---	ADJACENT PROPERTY LINE
---	RIGHT OF WAY
---	CREEK
---	30' CREEK BUFFER
---	OVERHEAD UTILITY LINE
---	ELECTRICAL LINE
---	ELECTRICAL LINE EASEMENT
---	EX. WATER LINE
---	FIRE HYDRANT
---	WATER VALVE
---	UTILITY POLE
---	SS MANHOLE
---	EX. CONTOUR MAJOR
---	EX. CONTOUR MINOR



LandWorks Engineering
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Not for Construction ☒ Issued for Permitting ☒ Issued for Paving ☒ Issued for Construction ☐

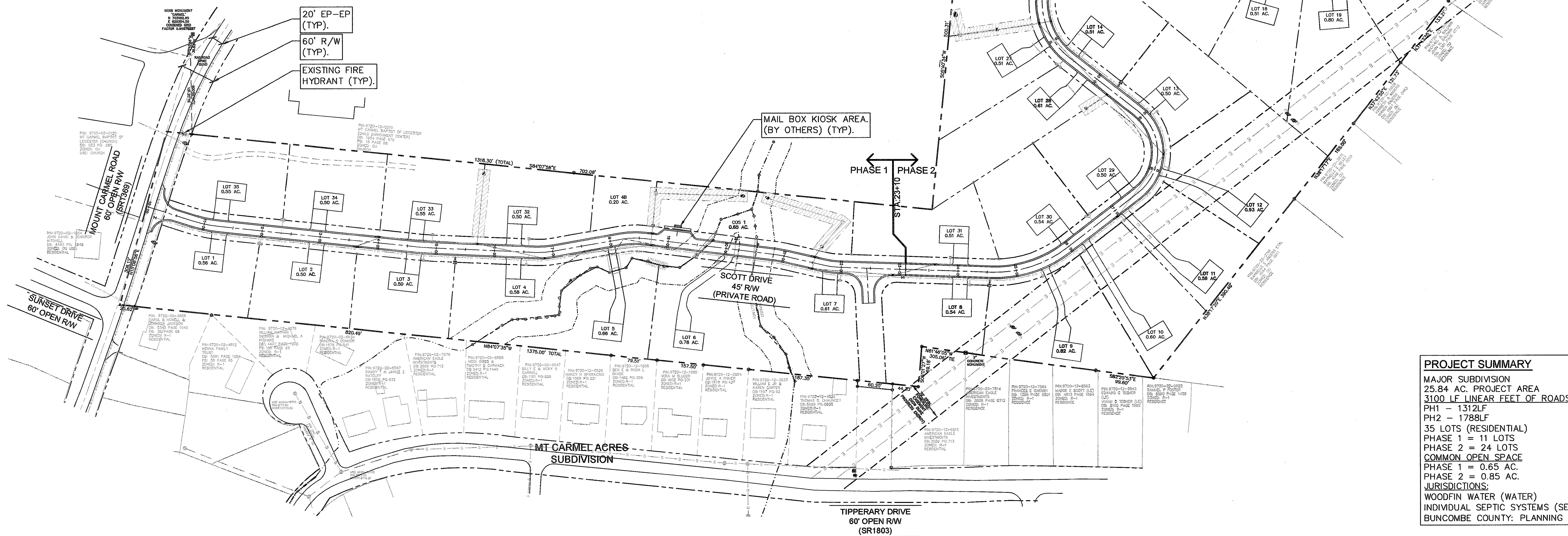


MOUNT CARMEL
MOUNTAIN CARMEL DEVELOPERS, LLC
SLOPE ANALYSIS PLAN
LEICESTER, BUNCOMBE CO., NC

REVISIONS:
DATE: 02/11/19
DESIGNED BY: SJMK
DRAWN BY: SJMK
CHECKED BY: MAK
C.C. BY: MAK
SCALE: As Shown
PROJECT #: 0201820
SHEET NUMBER:
S0

SITE NOTES:

1. CONSULTATION WITH A GEOTECHNICAL ENGINEER SHALL BE REQUIRED FOR ROAD CONSTRUCTION IN AREAS OF A TRACT IN EXCESS OF 30 PERCENT NATURAL SLOPE AND FOR ALL AREAS DESIGNATED AS HIGH HAZARD OR MODERATE HAZARD ON THE BUNCOMBE COUNTY SLOPE STABILITY INDEX MAP PREPARED BY THE NORTH CAROLINA GEOLOGICAL SURVEY, AND AN INVESTIGATION FOR COLLUVIAL DEPOSITS SHALL BE MADE.
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3. SUBDIVISION ROAD MEETS BUNCOMBE COUNTY CORRIDOR WIDTH AND HEIGHT STANDARDS.
4. THE SUBDIVISION IS NOT A DRASTIC VARIATION HILLSIDE SUBDIVISION.
5. EXISTING USE OF PROPERTY IS AGRICULTURAL AND WOODED AREA.
6. AREAS WITH NATURAL SLOPE OVER 30 PERCENT SHALL NOT HAVE FILL SLOPES STEEPER THAN A 2H:1V, NOR CUT SLOPES STEEPER THAN 1.5H:1V UNLESS DESIGNED BY A GEOTECHNICAL ENGINEER.
7. GLOBAL STABILITY ANALYSIS SHALL BE PERFORMED FOR HOMESITES ON A 35 PERCENT OR GREATER SLOPE OR IN AN AREA DESIGNATED AS HIGH HAZARD OR MODERATE HAZARD ON THE BUNCOMBE COUNTY SLOPE STABILITY INDEX MAP PREPARED BY THE NORTH CAROLINA GEOLOGICAL SURVEY.
8. THERE ARE NO BUILDING OR CONSTRUCTION IMPACTS TO ANY SLOPES 50% OR GREATER.
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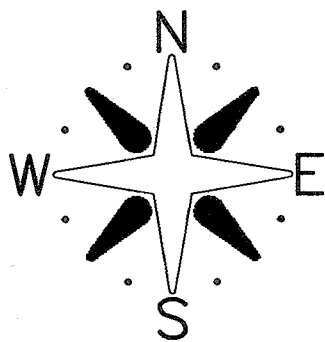
DEVELOPMENT DATA

PROPERTY OWNER(S):
MOUNTAIN CARMEL DEVELOPERS, LLC
301 COLLEGE ST.
ASHEVILLE, NC 28801-2449
ACREAGE: 25.84 AC.
PINS:
9720-02-9830
9720-23-0198
DB: 4613 PG: 1562
DB: 5657 PG: 0377
PB: 0018 PG: 0068
COUNTY ZONED: OU (BC)
SETBACKS:
NONE

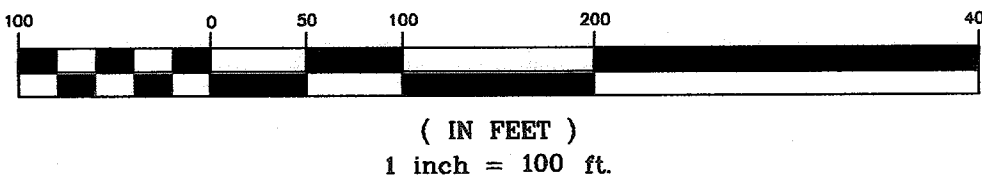
PROJECT SUMMARY

MAJOR SUBDIVISION
25.84 AC. PROJECT AREA
3100 LF LINEAR FEET OF ROADS
PH1 - 1312LF
PH2 - 1788LF
35 LOTS (RESIDENTIAL)
PHASE 1 = 11 LOTS
PHASE 2 = 24 LOTS
COMMON OPEN SPACE
PHASE 1 = 0.65 AC.
PHASE 2 = 0.85 AC.
JURISDICTIONS:
WOODFIN WATER (WATER)
INDIVIDUAL SEPTIC SYSTEMS (SEWER)
BUNCOMBE COUNTY: PLANNING DEPARTMENT (EROSION CONTROL)

LEGEND	
	PROPERTY BOUNDARY
	ADJACENT PROPERTY LINE
	RIGHT OF WAY
	CREEK
	30' CREEK BUFFER
	EX. WATER LINE
	OVERHEAD UTILITY LINE
	ELECTRICAL LINE
	ELECTRICAL LINE EASEMENT
	FIRE HYDRANT
	WATER VALVE
	UTILITY POLE
	SS MANHOLE
	SEWER LINE



GRAPHIC SCALE

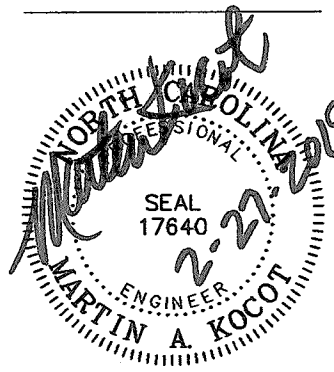


LandWorks Engineering

Land Planning & Civil Engineering

P.O. Box 1922
Asheville, NC 28802
V: 828.230.7958
NC Engineering License # P0828

- ☒ Not for Construction
☒ Issued for Permitting
☒ Issued for Pricing
☐ Issued for Construction



MOUNT CARMEL

LEICESTER, BUNCOMBE CO., NC

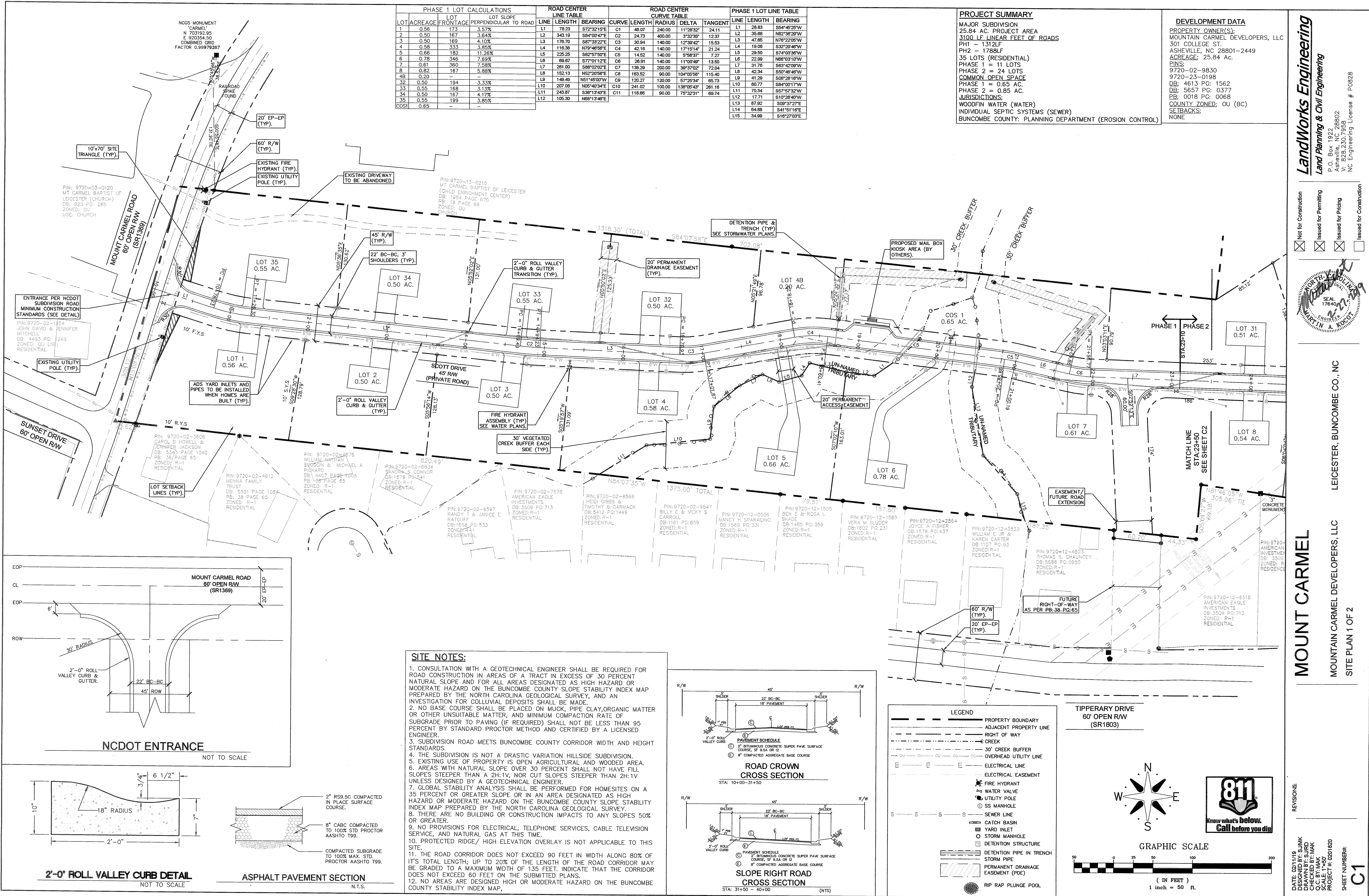
MOUNTAIN CARMEL DEVELOPERS, LLC

OVERALL PLAN

REVISIONS

DATE: 02/11/19
DESIGNED BY: SJMK
DRAWN BY: SJMK
CHECKED BY: MAK
SCALE: 1"=100'
PROJECT #: 0201820
SHEET NUMBER:

C0



SITE NOTES:

1. CONSULTATION WITH A GEOTECHNICAL ENGINEER SHALL BE REQUIRED FOR ROAD CONSTRUCTION IN AREAS OF A TRACT IN EXCESS OF 30 PERCENT NATURAL SLOPE AND FOR ALL AREAS DESIGNATED AS HIGH HAZARD OR MODERATE HAZARD ON THE BUNCOMBE COUNTY SLOPE STABILITY INDEX MAP PREPARED BY THE NORTH CAROLINA GEOLOGICAL SURVEY, AND AN INVESTIGATION FOR COLLUVIAL DEPOSITS SHALL BE MADE.
2. NO BASE COURSE SHALL BE PLACED ON MUCK, PIPE CLAY, ORGANIC MATTER OR OTHER UNSUITABLE MATTER, AND MINIMUM COMPACTION RATE OF SUBGRADE PRIOR TO PAVING (IF REQUIRED) SHALL NOT BE LESS THAN 95 PERCENT BY STANDARD PROCTOR METHOD AND CERTIFIED BY A LICENSED ENGINEER.
3. SUBDIVISION ROAD MEETS BUNCOMBE COUNTY CORRIDOR WIDTH AND HEIGHT STANDARDS.
4. THE SUBDIVISION IS NOT A DRASTIC VARIATION HILLSIDE SUBDIVISION.
5. EXISTING USE OF PROPERTY IS OPEN MEADOW AND WOODED AREA.
6. AREAS WITH NATURAL SLOPE OVER 30 PERCENT SHALL NOT HAVE FILL SLOPES STEEPER THAN A 2H:1V, NOR CUT SLOPES STEEPER THAN 2H:1V UNLESS DESIGNED BY A GEOTECHNICAL ENGINEER.
7. GLOBAL STABILITY ANALYSIS SHALL BE PERFORMED FOR HOMESITES ON A 35 PERCENT OR GREATER SLOPE OR IN AN AREA DESIGNATED AS HIGH HAZARD OR MODERATE HAZARD ON THE BUNCOMBE COUNTY SLOPE STABILITY INDEX MAP PREPARED BY THE NORTH CAROLINA GEOLOGICAL SURVEY.
8. THERE ARE NO BUILDING OR CONSTRUCTION IMPACTS TO ANY SLOPES 50% OR GREATER.
9. NO PROVISIONS FOR ELECTRICAL, TELEPHONE SERVICES, CABLE TELEVISION SERVICE, AND NATURAL GAS AT THIS TIME.
10. PROTECTED RIDGE/ HIGH ELEVATION OVERLAY IS NOT APPLICABLE TO THIS SITE.
11. THE ROAD CORRIDOR DOES NOT EXCEED 90 FEET IN WIDTH ALONG 80% OF ITS TOTAL LENGTH; UP TO 20% OF THE LENGTH OF THE ROAD CORRIDOR MAY BE GRADED TO A MAXIMUM WIDTH OF 135 FEET. INDICATE THAT THE CORRIDOR DOES NOT EXCEED 60 FEET ON THE SUBMITTED PLANS.
12. NO AREAS ARE DESIGNATED HIGH OR MODERATE HAZARD ON THE BUNCOMBE COUNTY SLOPE STABILITY INDEX MAP.

LOT	ACREAGE	LOT FRONTAGE	PERPENDICULAR TO ROAD	LOT SLOPE	LOT	ACREAGE	LOT FRONTAGE	PERPENDICULAR TO ROAD	LOT SLOPE
8	0.54	167	4.76%	20	0.66	210	6.73%		
9	0.82	91	5.88%	21	0.76	218	6.39%		
10	0.60	101	3.03%	22	0.55	109	4.17%		
11	0.56	62	10.0%	23	0.55	189	5.03%		
12	0.93	146	11.11%	24	0.65	183	6.41%		
13	0.50	252	2.13%	25	0.56	85	7.69%		
14	0.51	275	9.09%	26	0.60	92	8.33%		
15	0.50	224	5.56%	27	0.51	275	6.25%		
16	0.50	121	12.5%	28	0.61	173	6.07%		
17	0.50	97	12.0%	29	0.50	253	5.88%		
18	0.51	90	6.37%	30	0.52	194	5.56%		
19	0.80	65	9.13%	31	0.51	168	6.25%		
COS2	0.85								

LINE	LENGTH	BEARING
L15	43.49	N53°46'17"E
L16	69.81	N41°16'57"W
L17	80.41	N25°01'24"W
L18	89.68	N37°45'11"W
L19	57.44	N59°47'45"W
L20	45.62	N59°47'45"W
L21	44.21	N58°27'22"W

PROJECT SUMMARY

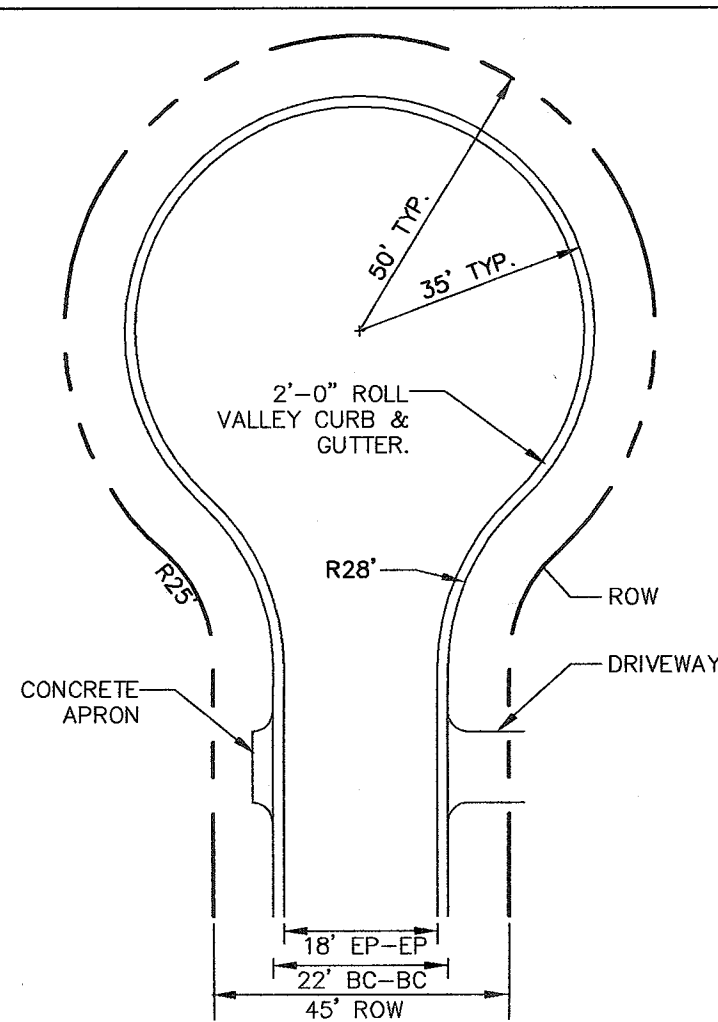
MAJOR SUBDIVISION
25.84 AC. PROJECT AREA
3100 LF LINEAR FEET OF ROADS
PH1 - 1312LF
PH2 - 1788LF
35 LOTS (RESIDENTIAL)
PHASE 1 = 11 LOTS
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COMMON OPEN SPACE
PHASE 1 = 0.65 AC.
PHASE 2 = 0.85 AC.
JURISDICTIONS:
WOODFIN WATER (WATER)
INDIVIDUAL SEPTIC SYSTEMS (SEWER)
BUNCOMBE COUNTY: PLANNING DEPARTMENT (EROSION CONTROL)

DEVELOPMENT DATA

PROPERTY OWNER(S):
MOUNTAIN CARMEL DEVELOPERS, LLC
301 COLLEGE ST.
ASHEVILLE, NC 28801-2449
ACREAGE: 25.84 AC.
PINS:
9720-02-9830
9720-23-0198
DB: 4613 PG: 1562
DB: 5657 PG: 0377
PB: 0018 PG: 0068
COUNTY ZONED: OU (BC)
SETBACKS:
NONE

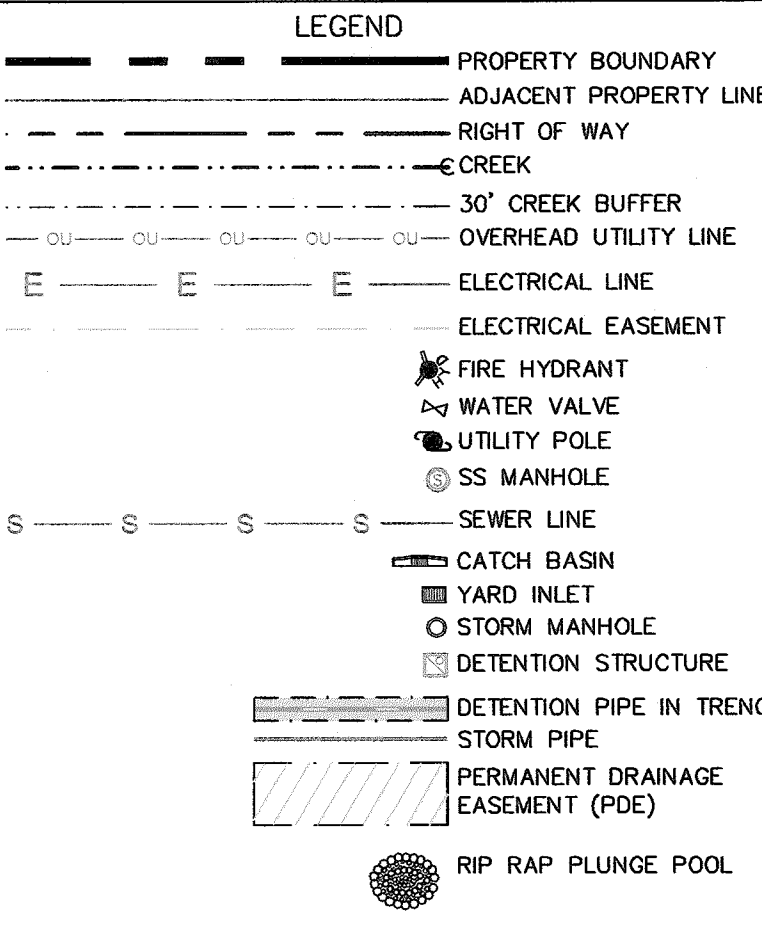
LINE	LENGTH	BEARING
L1	78.23	S72°32'15"E
L2	343.19	S84°09'47"E
L3	176.70	S87°39'22"E
L4	116.38	N79°46'56"E
L5	225.25	S82°57'50"E
L6	69.67	S77°01'12"E
L7	261.00	S88°02'02"E
L8	162.13	N52°20'58"E
L9	148.46	N51°45'00"W
L10	207.08	N06°40'34"E
L11	243.87	S36°13'43"E
L12	105.30	N68°13'46"E

CURVE	LENGTH	RADIUS	DELTA	TANGENT
C1	48.07	240.00	11°28'32"	24.11
C2	24.73	400.00	3°32'36"	12.37
C3	30.84	140.00	12°39'42"	15.53
C4	42.16	140.00	17°15'14"	21.24
C5	14.52	140.00	5°56'37"	7.27
C6	26.91	140.00	11°00'49"	13.50
C7	138.29	200.00	39°37'02"	72.04
C8	163.52	90.00	104°05'56"	115.40
C9	120.27	120.00	57°25'34"	65.73
C10	241.02	100.00	136°05'43"	281.16
C11	118.66	90.00	75°32'31"	69.74

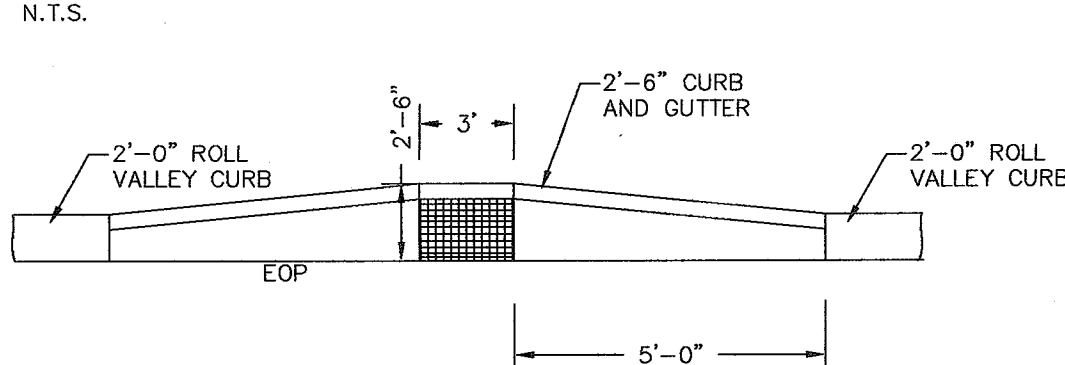


STANDARD RESIDENTIAL CUL-DE-SAC

NOT TO SCALE



ASPHALT PAVEMENT SECTION



PLAN VIEW

NOTES:

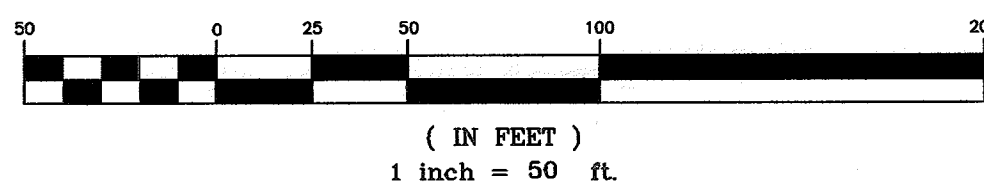
1. TRANSITION TO BE ALONG BACK OF CURB.
2. 2'-0" RV CURB AND GUTTER TO 2'-6" CURB AND GUTTER

2'-0" ROLL VALLEY CURB & GUTTER TRANSITION

NOT TO SCALE



GRAPHIC SCALE



LandWorks Engineering

Land Planning & Civil Engineering

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LEICESTER, BUNCOMBE CO., NC

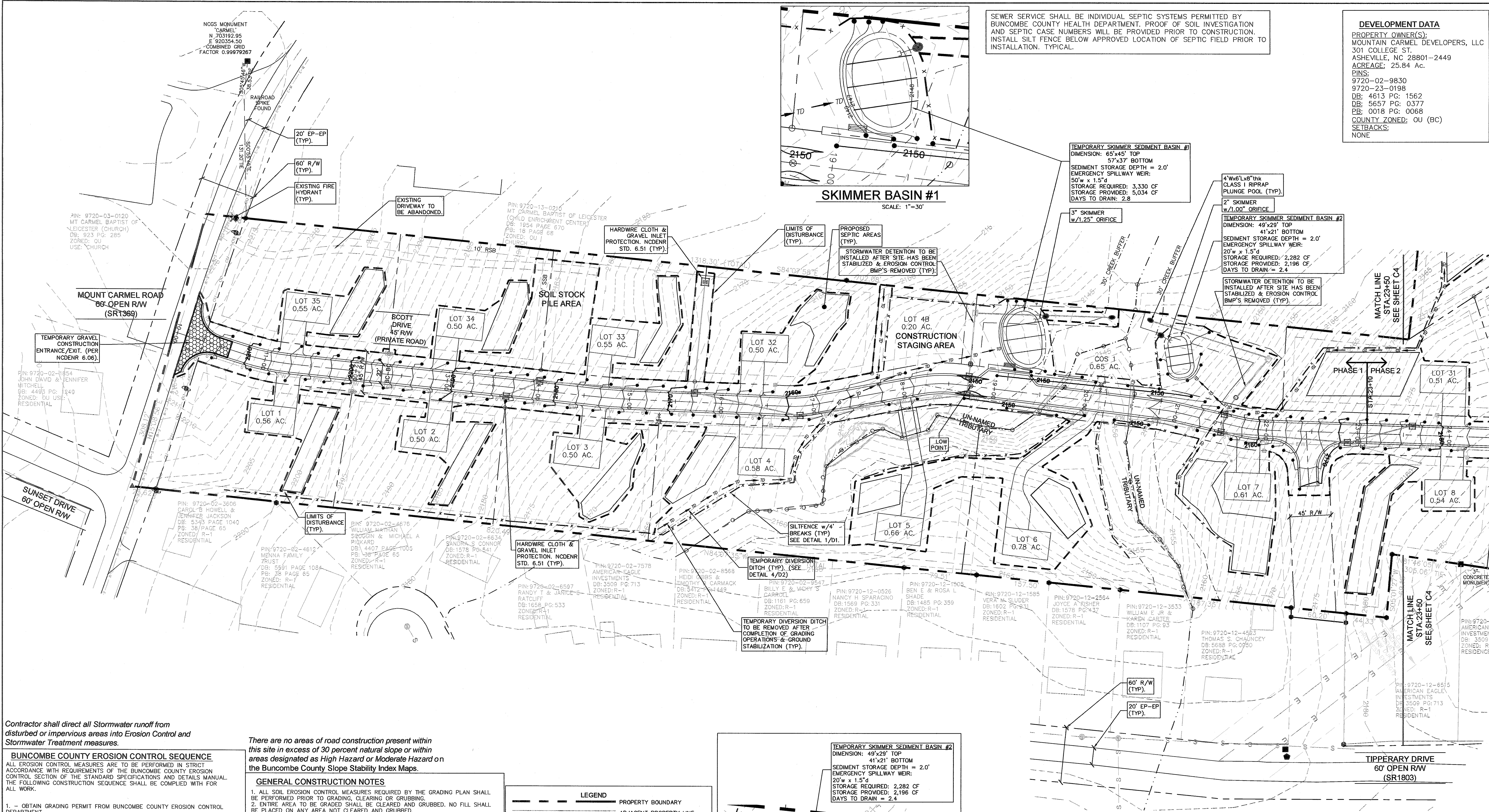
MOUNT CARMEL

MOUNTAIN CARMEL DEVELOPERS, LLC

SITE PLAN 2 OF 2

REVISIONS:

DATE: 02/11/19
DESIGNED BY: SJMK
DRAWN BY: SJMK
CHECKED BY: MAK
SCALE: 1"=50'
PROJECT #: 0201820
SHEET NUMBER: C2

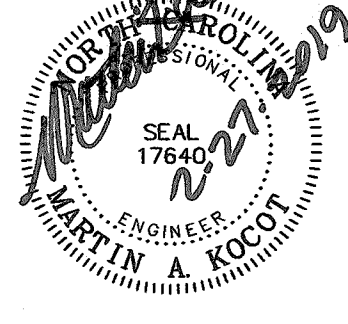


SEWER SERVICE SHALL BE INDIVIDUAL SEPTIC SYSTEMS PERMITTED BY BUNCOMBE COUNTY HEALTH DEPARTMENT. PROOF OF SOIL INVESTIGATION AND SEPTIC CASE NUMBERS WILL BE PROVIDED PRIOR TO CONSTRUCTION. INSTALL SILT FENCE BELOW APPROVED LOCATION OF SEPTIC FIELD PRIOR TO INSTALLATION. TYPICAL.

DEVELOPMENT DATA
 PROPERTY OWNER(S):
 MOUNTAIN CARMEL DEVELOPERS, LLC
 301 COLLEGE ST.
 ASHEVILLE, NC 28801-2449
 ACREAGE: 25.84 AC.
 PINS:
 9720-02-9830
 9720-23-0198
 DB: 4613 PG: 1562
 DB: 5657 PG: 0377
 PB: 0018 PG: 0068
 COUNTY ZONED: OU (BC)
 SETBACKS:
 NONE

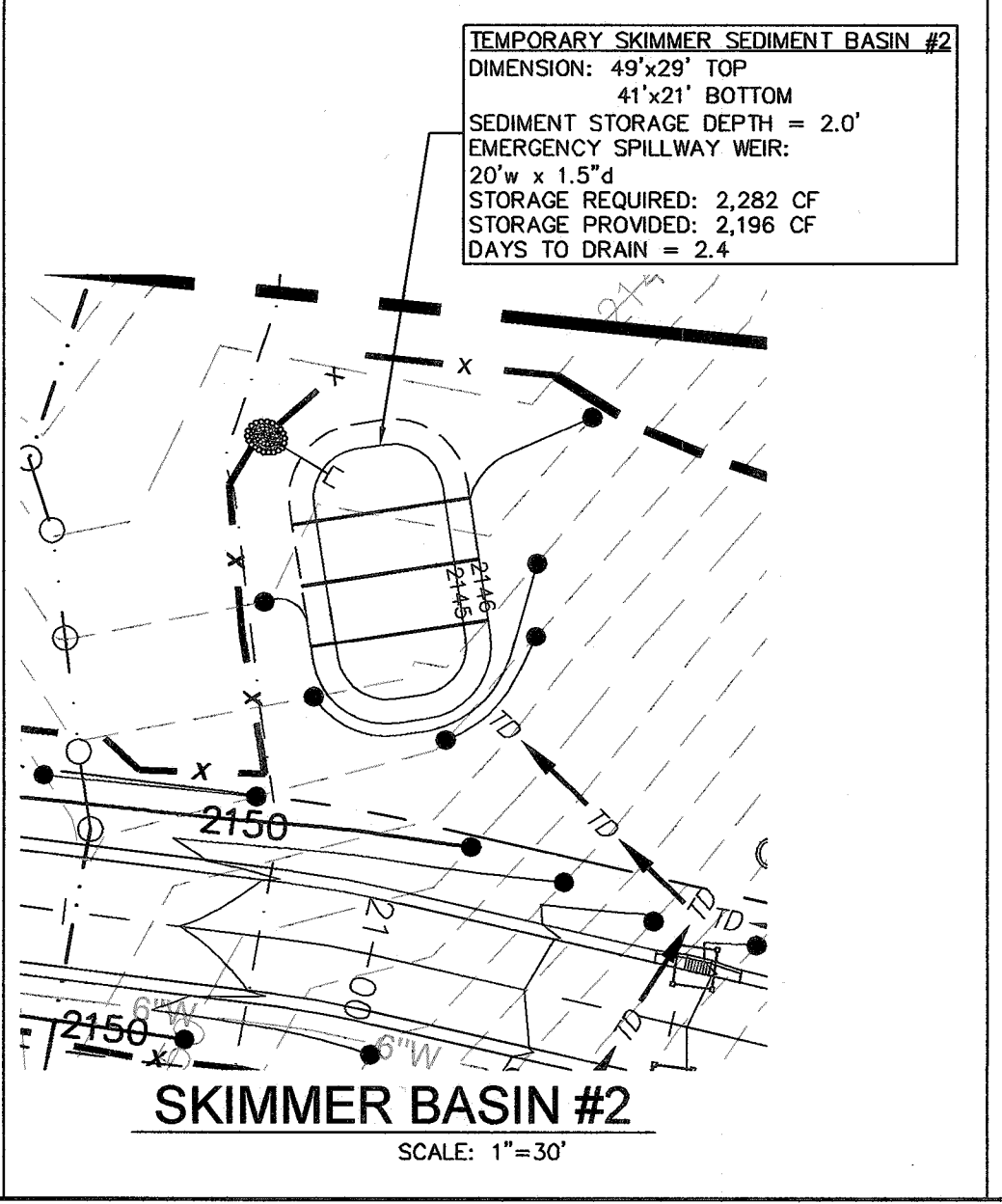
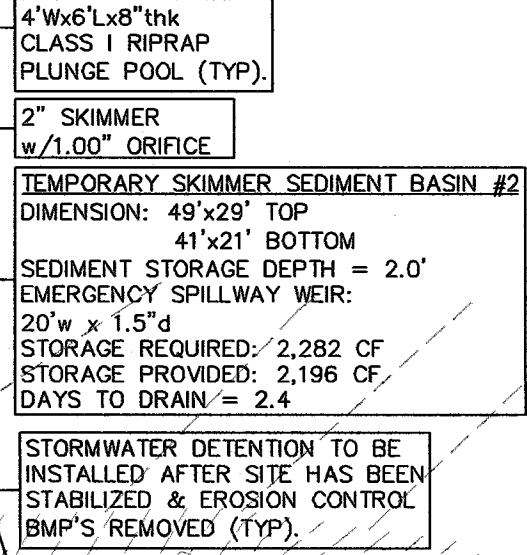
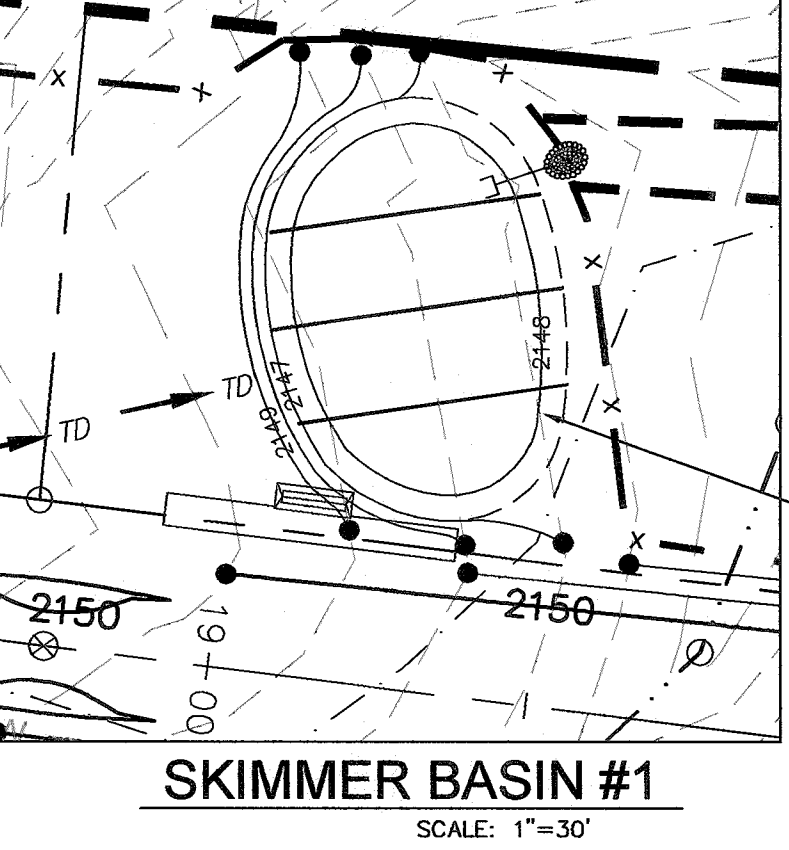
LandWorks Engineering
 Land Planning & Civil Engineering
 P.O. Box 1922
 Asheville, NC 28802
 V: 828.230.7959
 NC Engineering License # P0828

Not for Construction
 Issued for Permitting
 Issued for Paving
 Issued for Construction

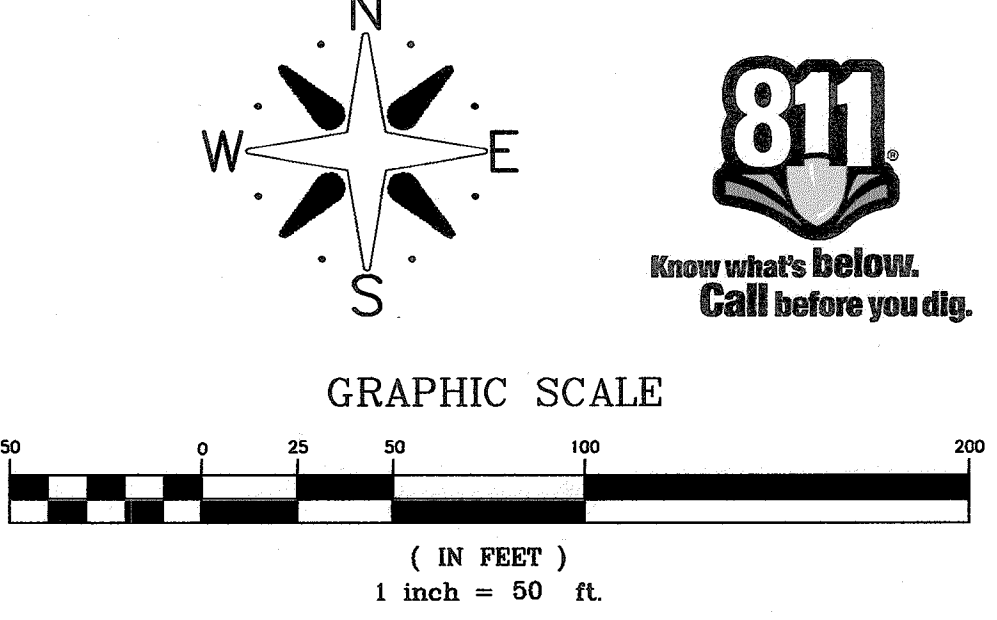


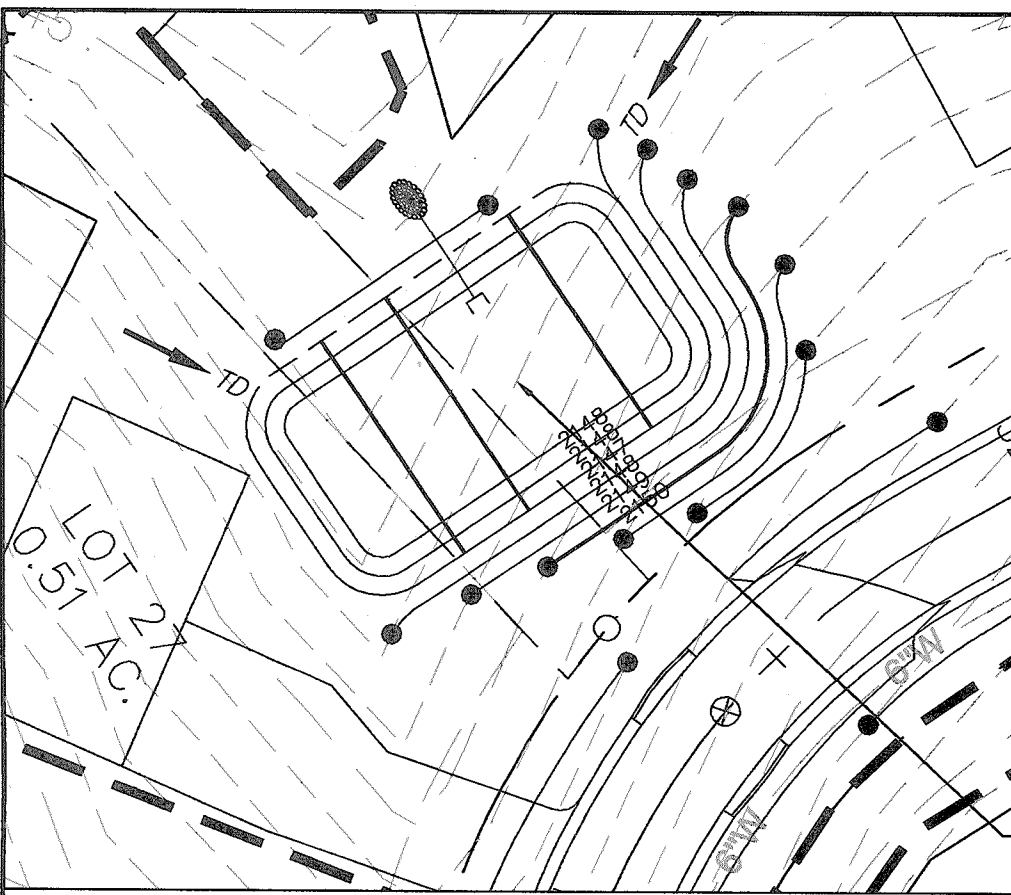
MOUNT CARMEL
 MOUNTAIN CARMEL DEVELOPERS, LLC
 LEICESTER, BUNCOMBE CO., NC
 GRADING/ EROSION CONTROL PLAN 1 OF 2

REVISIONS:
 DATE: 02/11/19
 DESIGNED BY: JUNK
 CHECKED BY: JUNK
 O.C. BY: MAK
 SCALE: 1"=50'
 PROJECT #: 0201820
 SHEET NUMBER: 33



PHASE 1 = 3.61 AC
 PHASE 2 = 7.50 AC
 TOTAL DISTURBED AREA
 11.11 ACRES





SKIMMER BASIN #3
SCALE: 1"=30'

TEMPORARY SKIMMER SEDIMENT BASIN DESIGN CALCULATIONS																		
PROJECT: Mt. Carmel																		
Sed. Basin	Drainage Area (ac.)	C	Intensity 10 yr. (5 min.)	Intensity 25 yr. (5 min.)	10 yr. Flow Q (c.f.s.)	25 yr. Flow Q (c.f.s.)	Detention Area (ac.)	Surface Area Req'd (s.f.)	Surface Area Prov. (s.f.)	Volume Req'd	Volume Provided	Storage Depth	Em. Spillway Dim.	Water Depth	Free-Board	Dimensions Top (ft.)	Dimensions Bottom (ft.)	Baffles
1	7.25	0.40	6.31	7.28	18.30	21.05	1.88	2,356	2925	3,330	6094	2.0	50x1.5'	0.27	1.23	65 X 45	57 X 37	3.0
2	3.05	0.35	6.31	7.28	6.74	7.75	1.22	991	1421	2,196	2282	2.0	20x1.5'	0.26	1.24	49 X 29	41 X 21	3.0
3	6.32	0.36	6.31	7.28	13.86	16.06	3.10	2,654	2800	5,580	7637	3.0	60x1.5'	0.20	1.30	70 X 40	61 X 31	3.0
4	7.52	0.35	6.31	7.28	16.61	19.11	3.14	2,444	3000	5,652	7637	3.0	30x1.5'	0.36	1.14	60 X 50	51 X 41	3.0

* Required Volume is based on 1800cfd/disturbed acre / year per Std 6.64 NCDENR ESC Design Manual

Emergency Spillway Calculations based on Q25 = cbr1.5
Provide 3 Cor Baffles 700gpm/2' in Basin across entire width of basin per NCDENR Detail 6.85
Detentioning the Basin over 24 hours (1day) from NCDENR ESC Design Manual Chart Fig 6.64 b

Each Basin shall have a Faircloth Skimmer with a Skimmer Orifice Size Diameter = D

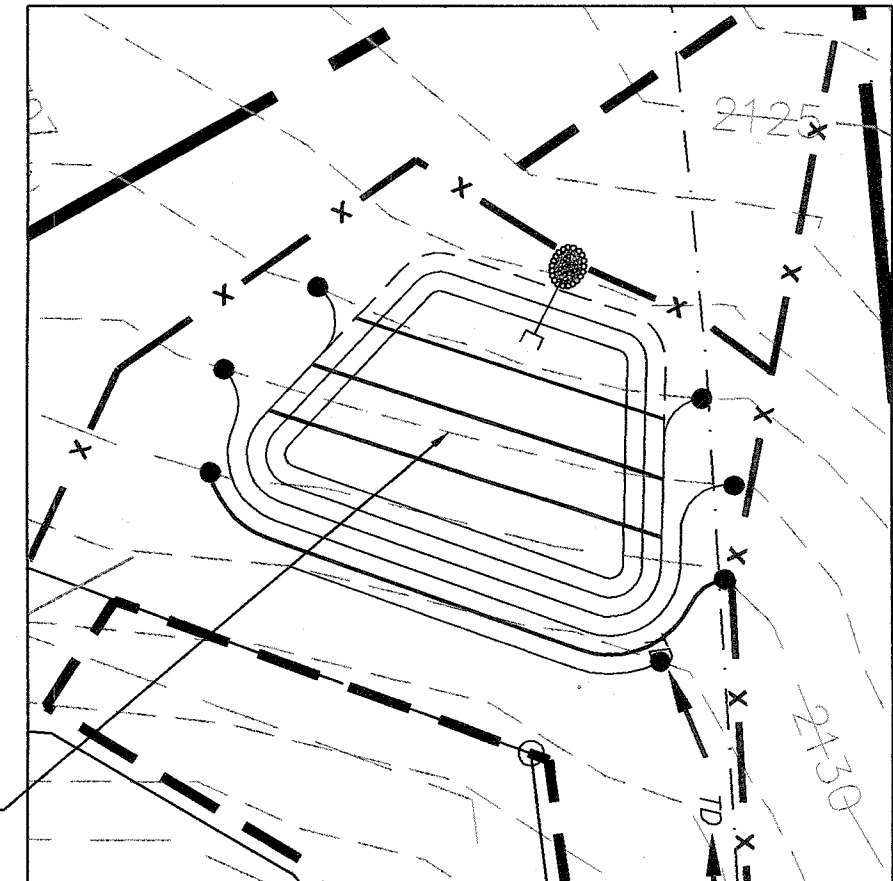
Sed. Basin	Skimmer Orifice Diameter "D" inches	Skimmer Size (in)	(60) Days to Drain
1	1.25	3.0	2.8
2	1.00	2.0	2.4
3	1.50	3.0	2.7
4	1.50	3.0	2.9

TEMPORARY SKIMMER SEDIMENT BASIN #3
DIMENSION: 70'x40' TOP
61'x31' BOTTOM
SEDIMENT STORAGE DEPTH = 3.0'
EMERGENCY SPILLWAY WEIR:
60'w x 1.5'd
STORAGE REQUIRED: 5,580 CF
STORAGE PROVIDED: 7,037 CF

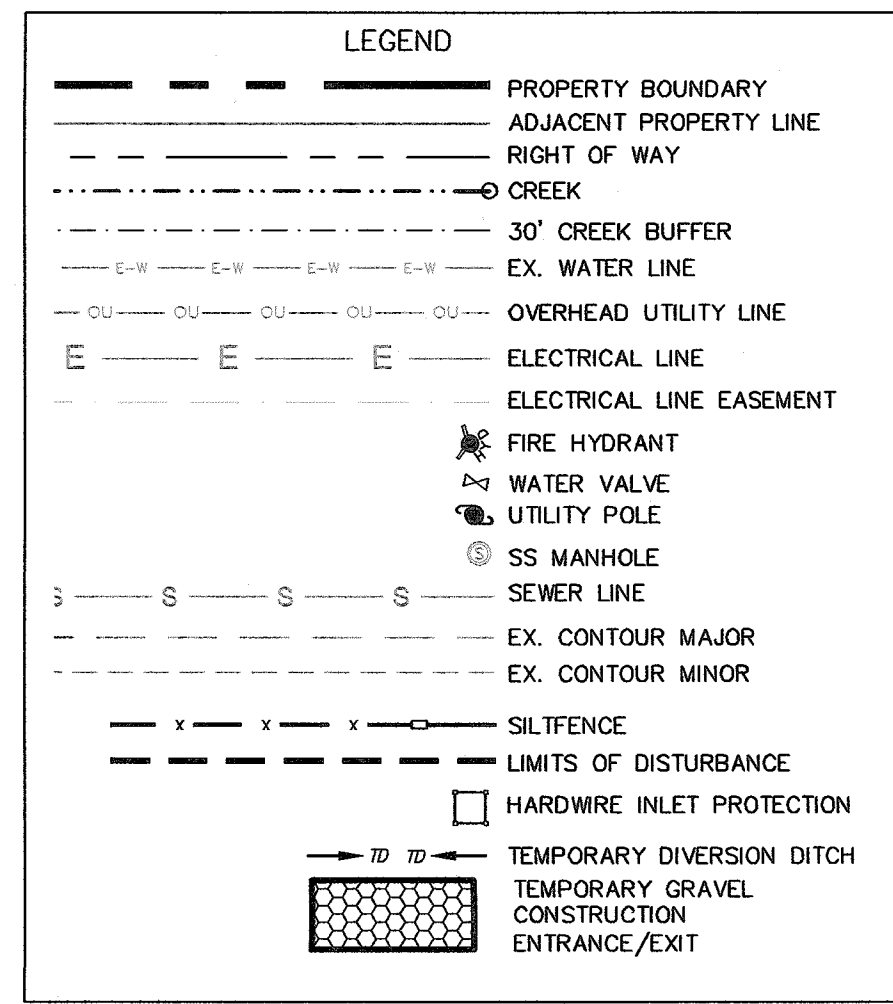
TEMPORARY SKIMMER SEDIMENT BASIN #3
DIMENSION: 70'x40' TOP
61'x31' BOTTOM
SEDIMENT STORAGE DEPTH = 3.0'
EMERGENCY SPILLWAY WEIR:
60'w x 1.5'd
STORAGE REQUIRED: 5,580 CF
STORAGE PROVIDED: 7,037 CF

TEMPORARY SKIMMER SEDIMENT BASIN #4
DIMENSION: 60'x50' TOP
51'x41' BOTTOM
SEDIMENT STORAGE DEPTH = 3.0'
EMERGENCY SPILLWAY WEIR:
30'w x 1.5'd
STORAGE REQUIRED: 5,652 CF
STORAGE PROVIDED: 7,537 CF

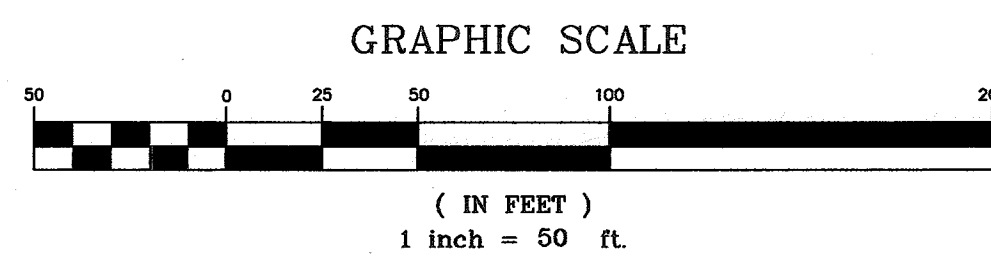
TEMPORARY SKIMMER SEDIMENT BASIN #4
DIMENSION: 60'x50' TOP
51'x41' BOTTOM
SEDIMENT STORAGE DEPTH = 3.0'
EMERGENCY SPILLWAY WEIR:
30'w x 1.5'd
STORAGE REQUIRED: 5,652 CF
STORAGE PROVIDED: 7,537 CF

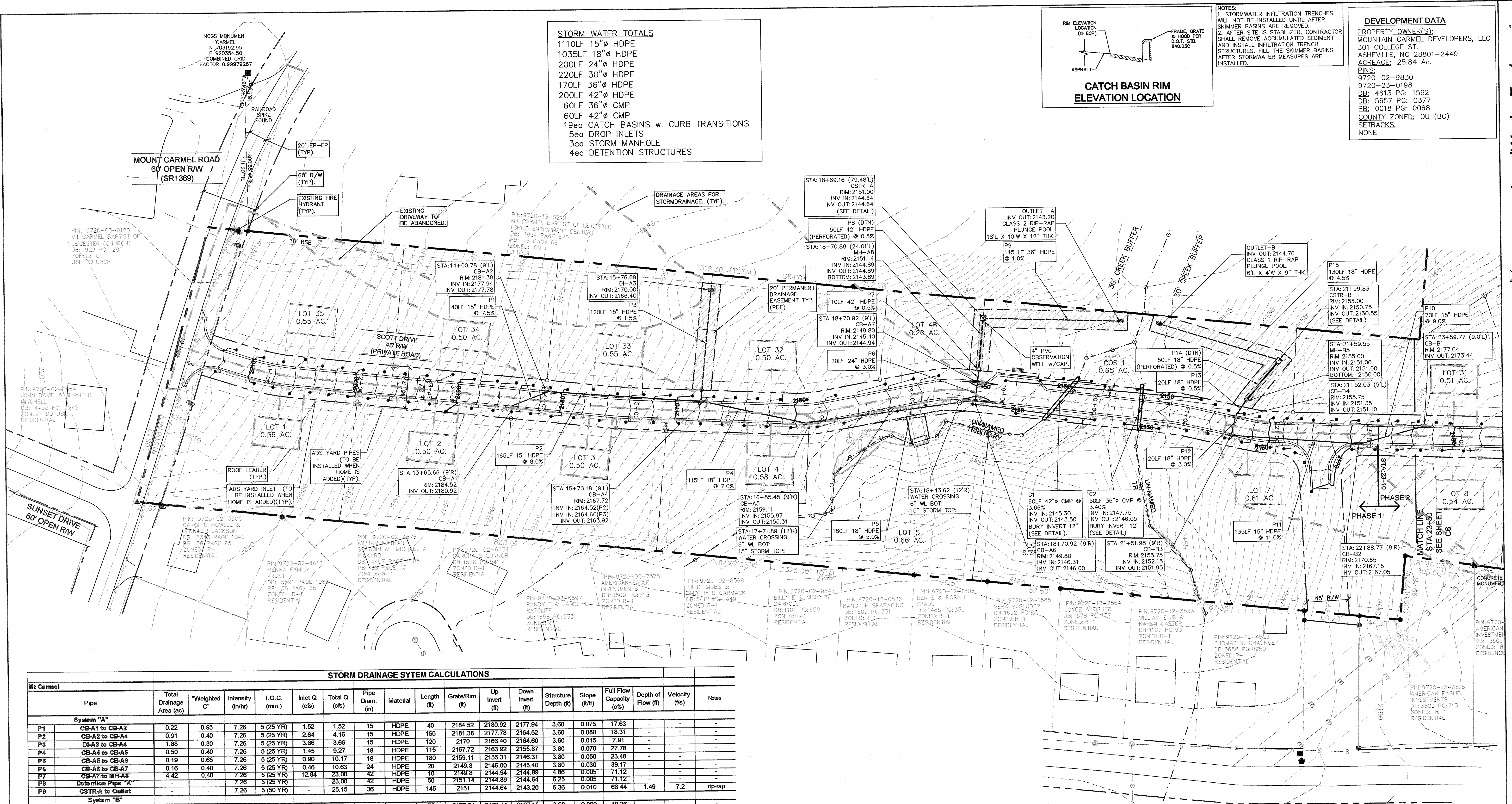


SKIMMER BASIN #4
SCALE: 1"=30'

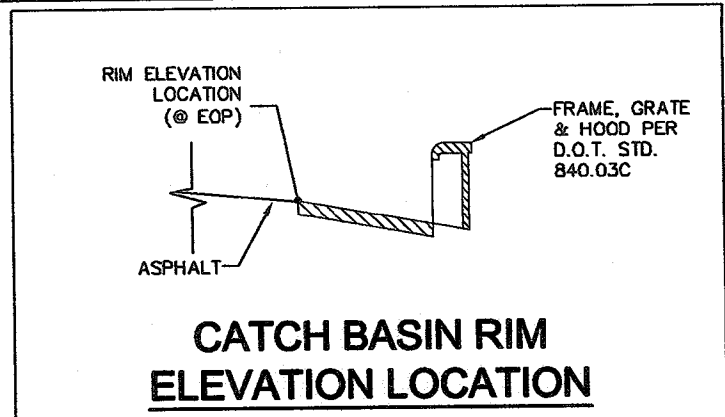


PHASE 1 = 3.61 AC
PHASE 2 = 7.50 AC
TOTAL DISTURBED AREA
11.11 ACRES





STORM WATER TOTALS
1110LF 15" HDPE
1035LF 18" HDPE
200LF 24" HDPE
220LF 30" HDPE
170LF 36" HDPE
200LF 42" HDPE
60LF 36" CMP
60LF 42" CMP
19ea CATCH BASINS w. CURB TRANSITIONS
5ea DROP INLETS
3ea STORM MANHOLE
4ea DETENTION STRUCTURES



NOTES:
1. STORMWATER INFILTRATION TRENCHES WILL NOT BE INSTALLED UNTIL AFTER SKIMMER BASINS ARE REMOVED.
2. AFTER SITE IS STABILIZED, CONTRACTOR SHALL REMOVE ACCUMULATED SEDIMENT AND INSTALL INFILTRATION TRENCH STRUCTURES. FILL THE SKIMMER BASINS AFTER STORMWATER MEASURES ARE INSTALLED.

DEVELOPMENT DATA
PROPERTY OWNER(S):
MOUNTAIN CARMEL DEVELOPERS, LLC
301 COLLEGE ST.
ASHEVILLE, NC 28801-2449
ACREAGE: 25.84 Ac.
PINS:
9720-02-9830
9720-23-0198
DB: 4613 PG: 1562
DB: 5657 PG: 0377
PB: 0018 PG: 0068
COUNTY ZONED: OU (BC)
SETBACKS:
NONE

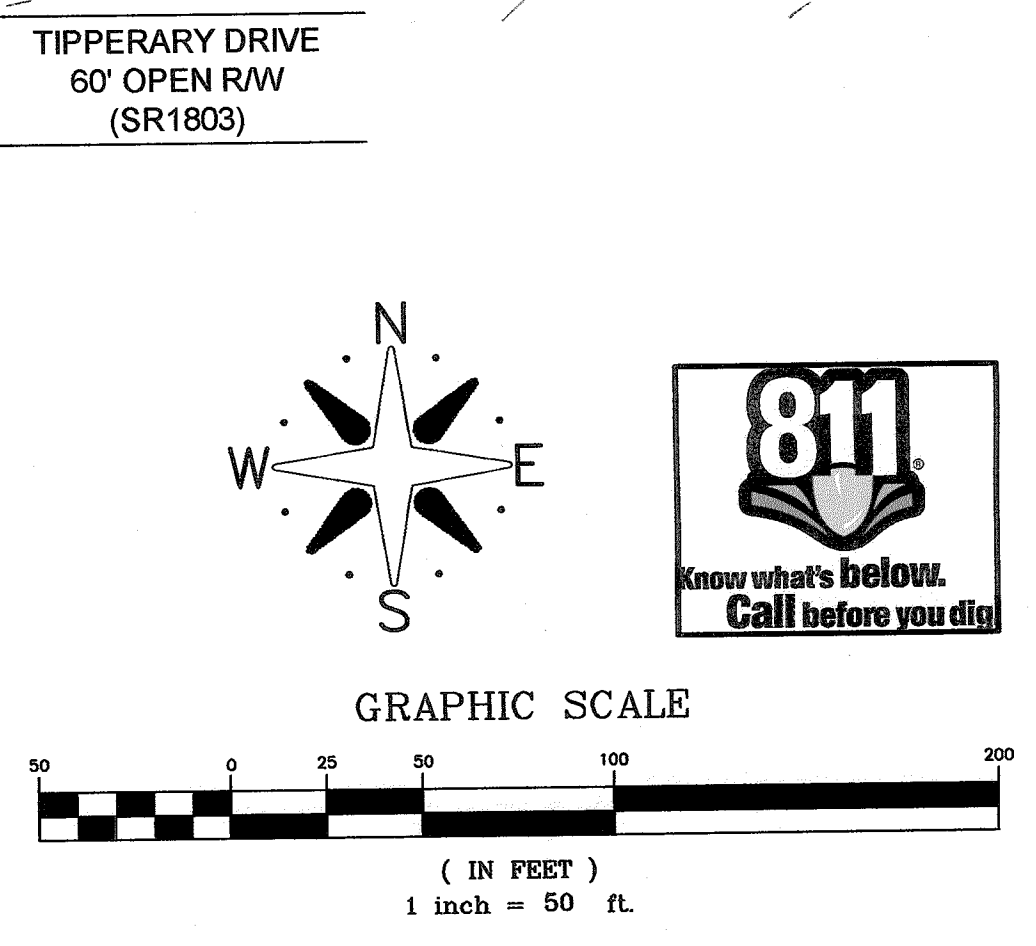
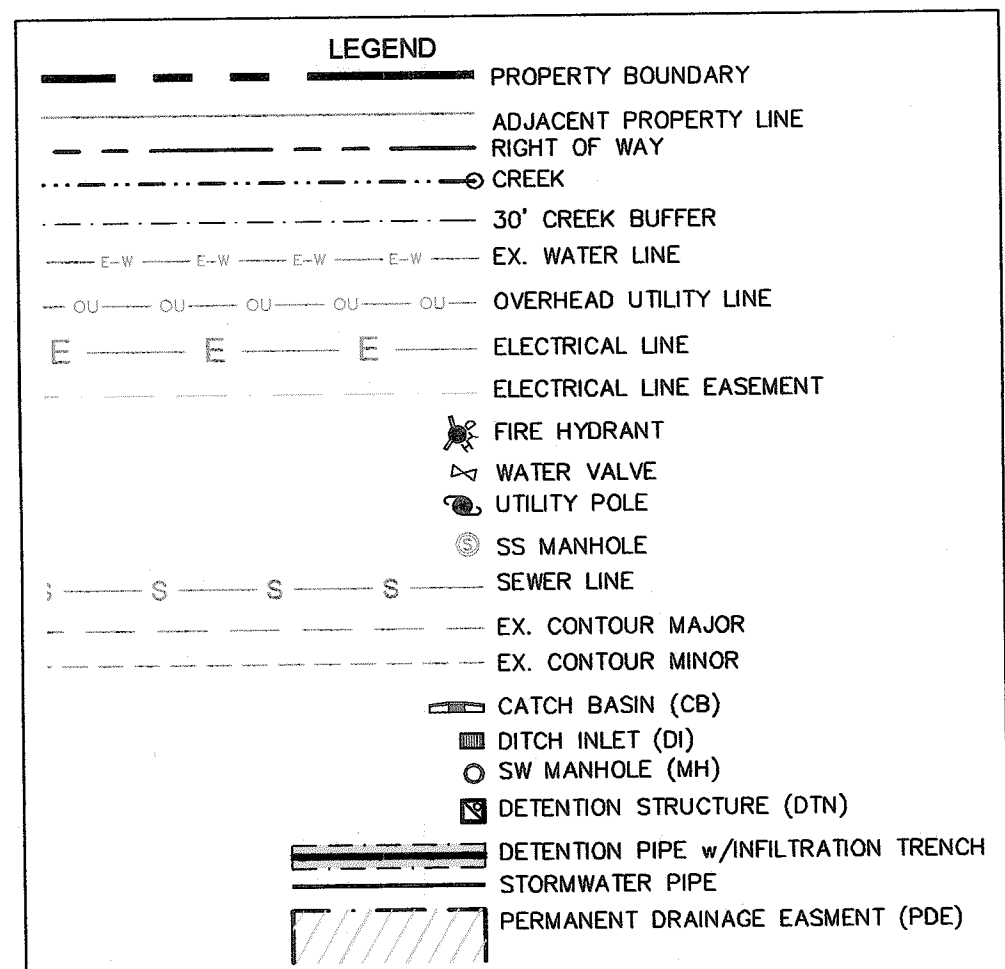
LandWorks Engineering
Land Planning & Civil Engineering
P.O. Box 1992
Asheville, NC 28802
V-828,230,7958
NC Engineering License # P0828

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Issued for Construction

Professional Engineer
SEAL 17640
2-25-2019
WARTIN A. KOOT
ENGINEER
STATE OF NORTH CAROLINA

MOUNT CARMEL
MOUNTAIN CARMEL DEVELOPERS, LLC
LEICESTER, BUNCOMBE CO., NC
STORM DRAINAGE/STORMWATER PLAN 1 OF 2

STORM DRAINAGE SYTEM CALCULATIONS														
Mt Carmel														
Pipe	Total Drainage Area (ac)	*Weighted "C"	Intensity (in/hr)	T.O.C. (min.)	Inlet Q (cfs)	Total Q (cfs)	Pipe Diam. (in)	Material	Length (ft)	Grate/Rim (ft)	Up Invert (ft)	Down Invert (ft)	Structure Depth (ft)	Slope (ft/ft)
System "A"														
P1	CB-A1 to CB-A2	0.22	0.95	7.26	5 (25 YR)	1.52	1.52	15	HDPE	40	2184.52	2180.92	2177.94	3.60
P2	CB-A2 to CB-A4	0.91	0.40	7.26	5 (25 YR)	2.54	4.16	15	HDPE	165	2181.38	2177.78	2164.52	3.60
P3	DI-A3 to CB-A4	1.68	0.30	7.26	5 (25 YR)	3.66	3.66	15	HDPE	120	2170	2166.40	2164.60	3.60
P4	CB-A4 to CB-A6	0.50	0.40	7.26	5 (25 YR)	1.45	9.27	18	HDPE	115	2167.72	2163.92	2155.87	3.80
P5	CB-A6 to CB-A8	0.19	0.65	7.26	5 (25 YR)	0.90	10.17	18	HDPE	180	2159.11	2155.31	2146.31	3.80
P6	CB-A8 to CB-A7	0.16	0.40	7.26	5 (25 YR)	0.46	10.63	24	HDPE	20	2149.8	2146.00	2145.40	3.80
P7	CB-A7 to MH-A8	4.42	0.40	7.26	5 (25 YR)	12.84	23.00	42	HDPE	10	2148.8	2144.94	2144.89	4.86
P8	Detention Pipe "A"	-	-	7.26	5 (25 YR)	-	23.00	42	HDPE	50	2151.14	2144.89	2144.64	6.25
P9	CSTR-A to Outlet	-	-	7.26	5 (50 YR)	-	25.15	36	HDPE	145	2151	2144.64	2143.20	6.35
System "B"														
P10	CB-B1 to CB-B2	0.10	0.95	7.26	5 (25 YR)	0.69	0.69	15	HDPE	70	2177.04	2173.44	2167.15	3.60
P11	CB-B2 to CB-B3	0.78	0.35	7.26	5 (25 YR)	1.98	2.67	15	HDPE	135	2170.65	2167.05	2162.15	3.60
P13	CB-B3 to CB-B4	0.49	0.35	7.26	5 (25 YR)	1.25	3.92	18	HDPE	20	2155.75	2151.35	2151.00	3.80
P12	CB-B4 to MH-B5	0.05	0.95	7.26	5 (25 YR)	0.41	4.33	18	HDPE	20	2155.75	2151.10	2151.00	4.65
P14	Detention Pipe "B"	-	-	7.26	5 (25 YR)	-	4.33	18	HDPE	50	2155	2151.00	2150.75	4.00
P16	CSTR-B to Outlet	-	-	7.26	5 (50 YR)	-	4.79	18	HDPE	130	2155	2150.55	2144.70	4.45
System "C"														
P16	CB-C1 to CB-C2	0.61	0.40	7.26	5 (25 YR)	1.77	1.77	15	HDPE	130	2173.49	2169.89	2167.23	3.60
P17	CB-C2 to CB-C4	1.12	0.40	7.26	5 (25 YR)	3.25	5.02	15	HDPE	140	2170.63	2167.03	2162.15	3.60
P18	DI-C3 to CB-C4	0.64	0.40	7.26	5 (25 YR)	1.86	1.86	15	HDPE	40	2161	2157.40	2157.00	3.60
P19	CB-C4 to CB-C6	0.11	0.95	7.26	5 (25 YR)	0.76	7.64	18	HDPE	165	2162.6	2156.60	2149.18	6.00
P20	CB-C6 to CB-C8	1.26	0.40	7.26	5 (25 YR)	3.66	3.66	18	HDPE	20	2153.32	2149.52	2149.32	3.80
P21	CB-C8 to DI-C7	0.04	0.95	7.26	5 (25 YR)	0.28	11.58	18	HDPE	70	2153.32	2149.12	2141.41	4.20
P22	Detention Pipe "C"	1.17	0.45	7.26	5 (25 YR)	3.82	15.40	42	HDPE	60	2145.63	2139.13	2138.83	6.50
P23	CSTR-C to Outlet	-	-	7.26	5 (50 YR)	-	19.47	24	HDPE	30	2145.32	2141.30	2141.00	4.02
System "D"														
P24	DI-D1 to CB-D2	0.77	0.35	7.26	5 (25 YR)	1.98	1.98	15	HDPE	145	2158	2154.40	2152.95	3.60
P25	CB-D2 to CB-D3	1.78	0.35	7.26	5 (25 YR)	4.52	6.48	15	HDPE	90	2156.98	2152.75	2150.50	4.23
P26	CB-D3 to CB-D4	1.53	0.30	7.26	5 (25 YR)	3.33	9.81	18	HDPE	105	2154.35	2150.05	2145.85	4.30
P27	CB-D4 to CB-D6	0.54	0.35	7.26	5 (25 YR)	1.37	11.18	18	HDPE	200	2149.81	2145.58	2137.58	4.23
P28	CB-D6 to DI-D6	1.57	0.40	7.26	5 (25 YR)	4.56	15.74	18	HDPE	30	2141.62	2137.38	2136.33	4.24
P29	DI-D6 to DI-D7	0.03	0.35	7.26	5 (25 YR)	0.08	15.82	18	HDPE	155	2140.00	2136.20	2130.78	3.80
P30	CB-D7 to MH-D8	0.14	0.65	7.26	5 (25 YR)	0.68	16.48	18	HDPE	90	2134.62	2130.58	2127.43	4.04
P31	Detention Pipe "D"	0.07	0.95	7.26	5 (25 YR)	0.48	16.96	36	HDPE	70	2131.67	2125.47	2125.12	6.20
P32	CSTR-D to Outlet	-	-	7.26	5 (50 YR)	-	18.86	24	HDPE	120	2130.94	2125.12	2123.92	5.82
Roadway Culverts														
C1	Culvert 1	-	-	SCS	30 (50 YR)	#VALUE!	95.60	42	CMP	60	-	2145.30	2143.40	-
C2	Culvert 2	-	-	SCS	30 (50 YR)	#VALUE!	47.04	36	CMP	50	-	2147.75	2146.05	-



REVISIONS:

DATE: 02/11/19
DESIGNED BY: SJMK
DRAWN BY: SJMK
CHECKED BY: MAK
SCALE: 1"=50'
PROJECT #: 0201620
SHEET NUMBER: C5

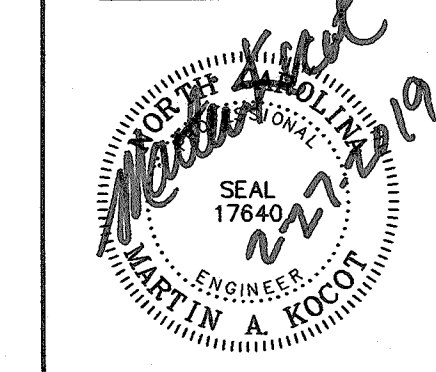
STORM DRAINAGE SYSTEM CALCULATIONS																			
Pin	Pipe	Total Drainage Area (ac)	*Weighted C [*]	Intensity (in/hr)	T.O.C. (min.)	Inlet Q (cfs)	Total Q (cfs)	Pipe Diam. (in)	Material	Length (ft)	Gutter (ft)	Up Invert (ft)	Down Invert (ft)	Structure Depth (ft)	Slope (ft/ft)	Full Flow Capacity (cfs)	Depth of Flow (ft)	Velocity (ft/s)	Notes
System "A"																			
P1	CB-01 to CB-02	0.22	0.05	7.25	5 (25 YRS)	1.52	1.52	15	HDPE	40	2184.52	2180.02	2177.94	3.60	0.075	11.63	-	-	-
P2	CB-02 to CB-04	0.91	0.40	7.25	5 (25 YRS)	2.64	4.16	15	HDPE	165	2181.30	2177.76	2184.52	3.60	0.080	18.31	-	-	-
P3	CB-04 to CB-05	1.08	0.30	7.25	5 (25 YRS)	3.66	3.88	15	HDPE	120	2170	2168.40	2164.60	3.60	0.075	7.91	-	-	-
P4	CB-05 to CB-06	0.50	0.40	7.25	5 (25 YRS)	1.45	9.27	18	HDPE	115	2167.72	2163.92	2165.87	3.80	0.070	2.78	-	-	-
P5	CB-06 to CB-08	0.19	0.05	7.25	5 (25 YRS)	0.60	10.17	18	HDPE	180	2159.11	2156.31	2146.31	3.80	0.050	23.46	-	-	-
P6	CB-08 to CB-07	0.16	0.40	7.25	5 (25 YRS)	0.46	10.63	24	HDPE	20	2149.8	2146.00	2145.40	3.80	0.030	38.17	-	-	-
P7	CB-07 to BH-03	4.42	0.40	7.25	5 (25 YRS)	12.54	23.00	42	HDPE	10	2149.1	2144.04	2144.89	4.80	0.005	71.12	-	-	-
P8	Detention Pipe "C"	-	-	7.25	5 (25 YRS)	-	23.00	42	HDPE	50	2151.14	2148.89	2144.64	8.25	0.005	71.12	-	-	-
P9	CB-03A to Outlet	-	-	7.25	5 (50 YRS)	-	25.15	36	HDPE	145	2151	2144.64	2143.30	6.35	0.010	66.44	1.49	7.2	np-map
System "B"																			
P10	CB-01 to CB-02	0.10	0.05	7.25	5 (25 YRS)	0.69	0.69	15	HDPE	70	2177.04	2173.44	2167.15	3.60	0.080	19.36	-	-	-
P11	CB-02 to CB-03	0.78	0.35	7.25	5 (25 YRS)	1.98	2.67	15	HDPE	135	2170.05	2167.05	2162.75	3.60	0.11	7.45	-	-	-
P12	CB-03 to CB-04	0.49	0.35	7.25	5 (25 YRS)	1.25	3.92	18	HDPE	20	2165.75	2161.95	2151.35	3.60	0.030	18.10	-	-	-
P13	CB-04 to BH-03	0.09	0.05	7.25	5 (25 YRS)	0.41	4.33	18	HDPE	20	2155.75	2151.00	2151.00	4.65	0.005	7.43	-	-	-
P14	Detention Pipe "B"	-	-	7.25	5 (25 YRS)	-	4.33	18	HDPE	50	2155	2151.00	2150.75	4.00	0.005	7.43	-	-	-
P15	CB-03A to Outlet	-	-	7.25	5 (25 YRS)	-	4.78	18	HDPE	130	2155	2150.55	2144.70	4.45	0.045	22.28	0.64	6.00	np-map
System "C"																			
P16	CB-01 to CB-02	0.61	0.40	7.25	5 (25 YRS)	1.77	1.77	15	HDPE	130	2173.49	2169.89	2167.23	3.60	0.020	9.24	-	-	-
P17	CB-02 to CB-03	1.12	0.40	7.25	5 (25 YRS)	3.25	5.02	15	HDPE	140	2170.63	2167.03	2167.23	3.60	0.070	17.08	-	-	-
P18	CB-03 to CB-01	0.64	0.40	7.25	5 (25 YRS)	1.88	1.88	15	HDPE	40	2161	2157.40	2157.00	3.60	0.010	5.46	-	-	-
P19	CB-01 to CB-05	0.11	0.05	7.25	5 (25 YRS)	0.78	7.94	18	HDPE	165	2162.8	2158.60	2148.15	6.00	0.045	22.27	-	-	-
P20	CB-05 to CB-08	0.25	0.40	7.25	5 (25 YRS)	3.66	3.66	18	HDPE	20	2153.32	2149.32	2149.32	3.80	0.010	10.50	-	-	-
P21	CB-08 to CB-07	0.04	0.05	7.25	5 (25 YRS)	0.33	11.58	18	HDPE	70	2153.32	2149.12	2141.41	4.20	0.110	34.85	-	-	-
P22	Detention Pipe "C"	-	-	7.25	5 (25 YRS)	-	11.58	18	HDPE	60	2145.63	2139.13	2138.63	6.50	0.005	71.12	-	-	-
P23	CB-07A to Outlet	-	-	7.25	5 (25 YRS)	-	19.47	24	HDPE	30	2145.32	2141.30	2141.00	4.02	0.010	22.61	0.67	9.64	np-map
System "D"																			
P24	CB-01 to CB-02	0.77	0.35	7.25	5 (25 YRS)	1.98	1.98	15	HDPE	145	2158	2154.40	2152.95	3.60	0.010	6.46	-	-	-
P25	CB-02 to CB-03	1.78	0.35	7.25	5 (25 YRS)	4.52	6.48	15	HDPE	90	2159.98	2157.75	2150.50	4.23	0.025	10.21	-	-	-
P26	CB-03 to CB-06	1.53	0.30	7.25	5 (25 YRS)	3.33	9.81	18	HDPE	105	2154.32	2150.05	2146.85	4.30	0.040	21.00	-	-	-
P27	CB-06 to CB-05	0.54	0.35	7.25	5 (25 YRS)	1.37	11.18	18	HDPE	200	2149.81	2145.58	2137.58	4.23	0.040	21.00	-	-	-
P28	CB-05 to BH-06	0.03	0.04	7.25	5 (25 YRS)	4.56	15.74	18	HDPE	30	2141.62	2137.38	2136.33	4.24	0.035	18.64	-	-	-
P29	CB-06 to BH-03	0.25	0.05	7.25	5 (25 YRS)	0.08	15.62	18	HDPE	105	2140.00	2135.80	2130.18	3.80	0.035	18.64	-	-	-
P30	CB-07 to BH-03	0.14	0.05	7.25	5 (25 YRS)	0.66	16.48	18	HDPE	90	2134.62	2130.38	2127.43	4.04	0.035	18.64	-	-	-
P31	Detention Pipe "D"	0.07	0.05	7.25	5 (25 YRS)	0.40	16.09	18	HDPE	70	2137.07	2132.47	2128.12	4.20	0.035	47.15	-	-	-
P32	CB-07A to Outlet	-	-	7.25	5 (25 YRS)	-	16.66	24	HDPE	120	2130.94	2125.12	2123.92	5.62	0.010	22.61	0.94	10.72	np-map
Roadway Outlets																			
C1	Outlet 1	-	-	SCS	30 (60 YRS)	17 (WALUE)	85.60	42	CMP	60	-	2145.30	2143.40	-	0.038	180.83	-	-	-
C2	Outlet 2	-	-	SCS	30 (60 YRS)	17 (WALUE)	47.04	36	CMP	50	-	2147.75	2146.05	-	0.034	122.94	-	-	-



DEVELOPMENT DATA	
PROPERTY OWNER(S):	MOUNTAIN CARMEL DEVELOPERS, LLC
301 COLLEGE ST.	ASHEVILLE, NC 28801-2449
ACREAGE:	25.84 Ac.
PINS:	9720-02-9830
DB:	4613 PG: 1562
DB:	5657 PG: 0377
DB:	0018 PG: 0068
COUNTY ZONED:	OU (BC)
SETBACKS:	NONE

LandWorks Engineering
 Land Planning & Civil Engineering
 P.O. Box 1922
 Asheville, NC 28802
 Y 828.230.7958
 NC Engineering License # P0828

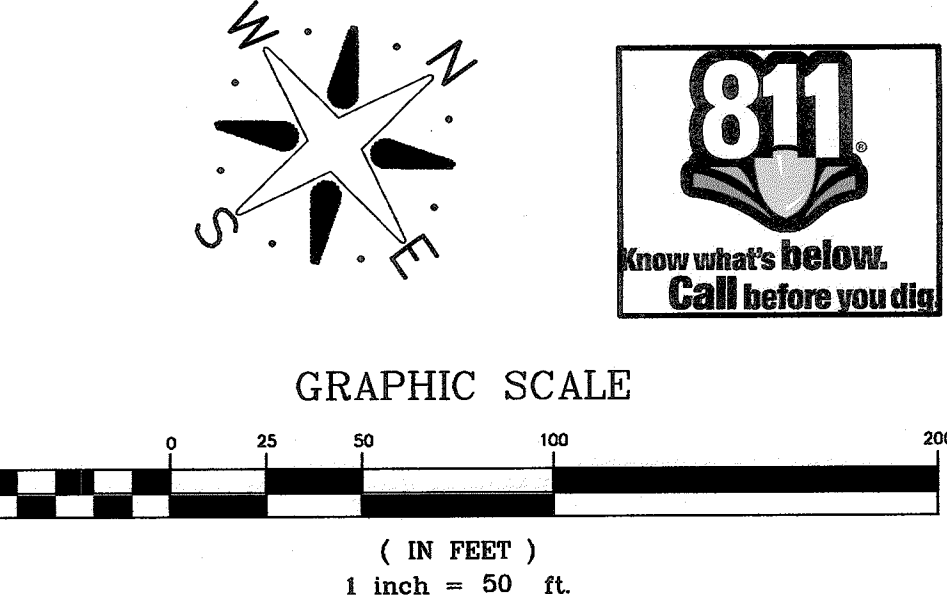
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 Issued for Construction



LEICESTER, BUNCOMBE CO., NC
 MOUNTAIN CARMEL DEVELOPERS, LLC
 STORM DRAINAGE/STORMWATER PLAN 2 OF 2

NOTES:
 1. STORMWATER INFILTRATION TRENCHES WILL NOT BE INSTALLED UNTIL AFTER SKIMMER BASINS ARE REMOVED.
 2. AFTER SITE IS STABILIZED, CONTRACTOR SHALL REMOVE ACCUMULATED SEDIMENT AND INSTALL INFILTRATION TRENCH STRUCTURES. FILL THE SKIMMER BASINS AFTER STORMWATER MEASURES ARE INSTALLED.

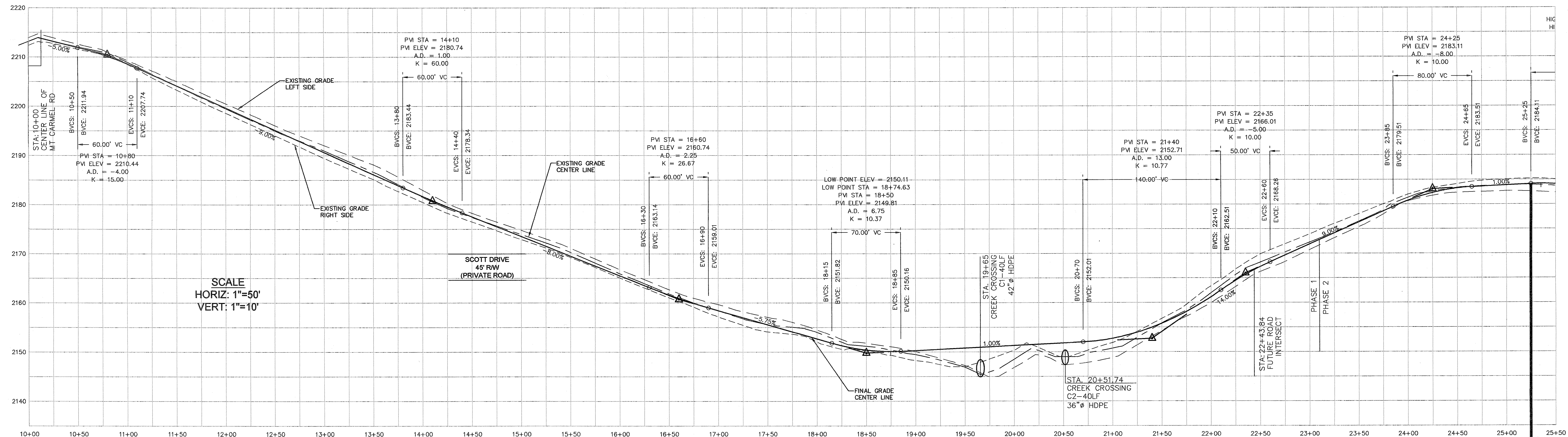
LEGEND	
---	PROPERTY BOUNDARY
---	ADJACENT PROPERTY LINE
---	RIGHT OF WAY
---	CREEK
---	30' CREEK BUFFER
---	EX. WATER LINE
---	OVERHEAD UTILITY LINE
---	ELECTRICAL LINE
---	ELECTRICAL LINE EASEMENT
---	FIRE HYDRANT
---	WATER VALVE
---	UTILITY POLE
---	SS MANHOLE
---	SEWER LINE
---	EX. CONTOUR MAJOR
---	EX. CONTOUR MINOR
---	CATCH BASIN (CB)
---	DITCH INLET (DI)
---	SW MANHOLE (MH)
---	DETENTION STRUCTURE (DTN)
---	DETENTION PIPE w/INFILTRATION TRENCH
---	STORMWATER PIPE
---	PERMANENT DRAINAGE EASMENT (PDE)



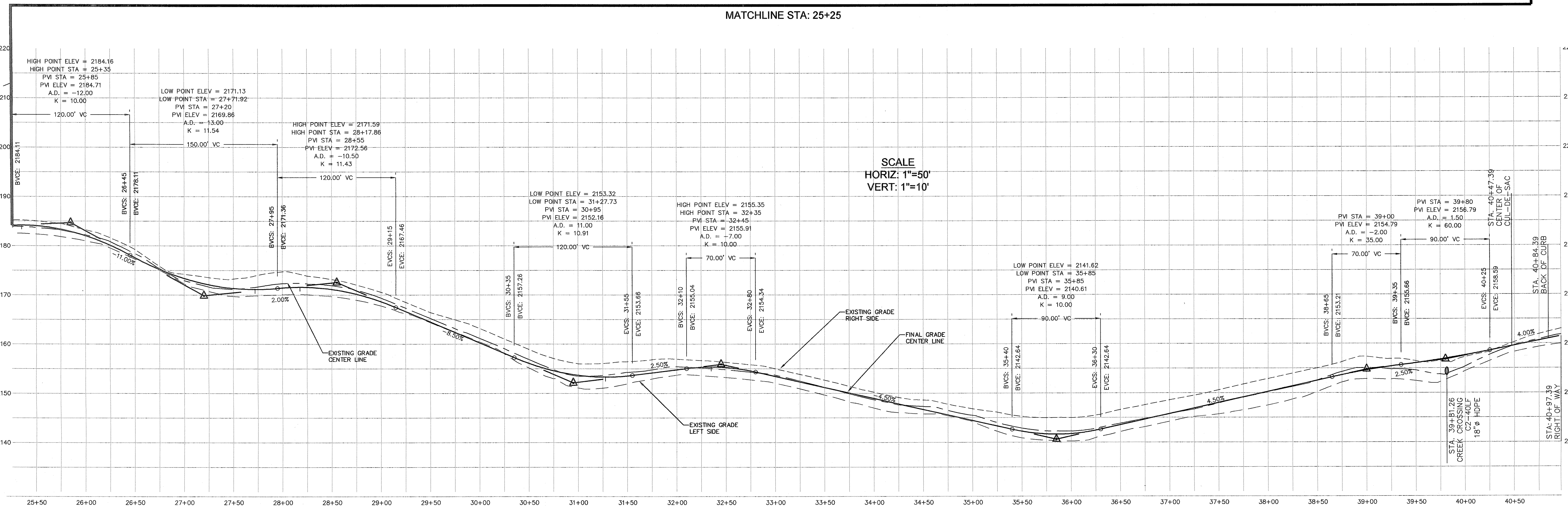
REVISIONS:
 DATE: 02/11/19
 DESIGNED BY: SJMK
 DRAWN BY: SJMK
 CHECKED BY: MAK
 C.C. BY: MAK
 PROJECT #: 0201820
 SHEET NUMBER:
C6

DEVELOPMENT DATA

PROPERTY OWNER(S):
MOUNTAIN CARMEL DEVELOPERS, LLC
301 COLLEGE ST.
ASHEVILLE, NC 28801-2449
ACREAGE: 25.84 Ac.
PIN: 9720-02-9830
DB: 5857 PS: 0377
PB: 0018 PG: 0068
COUNTY ZONED: OU



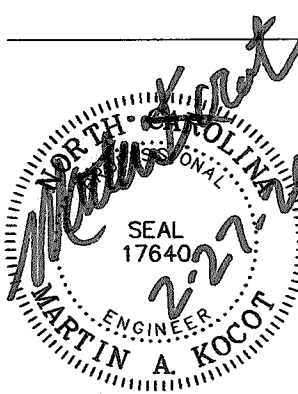
MATCHLINE STA: 25+25



LandWorks Engineering
Land Planning & Civil Engineering

P.O. Box 1922
Asheville, NC 28802
V: 628.230.7958
NC Engineering License # P0828

☒ Not for Construction
☒ Issued for Permitting
☒ Issued for Pricing
☐ Issued for Construction



LEICESTER, BUNCOMBE CO., NC

MOUNT CARMEL

MOUNTAIN CARMEL DEVELOPERS, LLC
ROAD PROFILE

REVISIONS:

DATE: 02/11/19
DRAWN BY: SJD
CHECKED BY: MAK
Q.C. BY: MAK
SCALE: As Shown
PROJECT #: 0201820
SHEET NUMBER: RP1

RP1