Buncombe County Planning Board
April 20, 2015

Buncombe County Planning Board met April 20, 2015 in the meeting room at 30 Valley Street. Members present were Joan Walker, Parker Sloan, Robert Martin, Dusty Pless, David Rittenberg, Nancy Waldrop, and Thad Lewis. Also present were Michael Frue, Staff Attorney; Debbie Truempy, Zoning Administrator; and Gillian Phillips, Planning staff.

The newly appointed Planning Board members were in an informal training session from 9:00 am to 9:30 am.

As there was no appointed Chair or Vice-Chair, Mr. Frue acted as Chair for the meeting.

Call to Order
Mr. Frue called the meeting to order at 9:32 am.

Self-Introduction of Board Members
The Board members introduced themselves.

Approval of Agenda
Mr. Rittenberg made a motion to approve the agenda as submitted. Mr. Martin seconded the motion and the motion passed unanimously.

Approval of Minutes (March 16, 2015)
Mr. Martin made a motion to approve the minutes as submitted. Ms. Walker seconded the motion and the motion passed unanimously.

Public Comment
Dede Stiles asked members present to provide the public with their background. The members present described their background.

SUB2015-00078*: Drew Norwood of Windsor Built Homes, Inc. was seeking preliminary approval of Glen Bridge Road Subdivision, which is located at 925 Glen Bridge Road SE (PIN 9634-63-4032).*

The Board was provided with the submitted plans (Attachment A) and proposed staff conditions (Attachment B) prior to the hearing. Drew Norwood and Will Buie were present to represent the case to the Board. Mr. Norwood described the proposed project to the Board. Mr. Buie described the technical aspects of the project. Mr. Norwood gave an overview of the project. The Board asked questions regarding grading and buffering of the wetlands on the property. Ms. Truempy reviewed the proposed staff conditions for the Board. Mr. Pless made a motion to grant preliminary approval with the proposed staff conditions. Mr. Lewis seconded the motion and the motion passed unanimously.

SUB2015-00079*: Will Buie of WGLA Engineering, PLLC was seeking preliminary approval of The Ramble, Biltmore Forest Subdivision, Block E, which is located off of Promenade Drive (PIN 9645-46-1075).*

The Board was provided with the submitted plans (Attachment C) and proposed staff conditions (Attachment D) prior to the hearing. Lee Thompson and Will Buie were present to represent the project. Mr. Buie described this proposed section of the development. The Board and Mr. Buie discussed how common areas were maintained in the development and what stormwater practices were being utilized within the development. Ms. Truempy reviewed the proposed staff conditions for the Board. Mr. Martin made a motion to grant preliminary approval with the proposed staff conditions. Mr. Pless seconded the motion and the motion passed unanimously.

Public Hearings (Zoning Map Amendments)

ZPH2014-00009*: Zach Penland applied to rezone tax lot PINs 9699-70-0426 (2700 US 70 Hwy) and 9699-60-0264 (located to the West of 2693 US 70 Hwy), which are currently zoned Residential District R-3 to Commercial Service District CS.*

ZPH2015-00012*: Debbie Truempy, Buncombe County Zoning Administrator, initiated a proposal to rezone tax lot PIN 9699-60-8454 (2690 US 70 Hwy), which is currently zoned Residential District R-3 to Commercial Service District CS.*

The Board was provided with GIS maps (Attachment E), the submitted applications (Attachment F), and the staff recommendation (Attachment G) prior to the meeting. Ms. Truempy reviewed the case for the Board. Jesse Gardner was present to represent the applicant. The Board discussed a drainage area that existed on the property. Mr. Frue asked if anyone would like to make public comment. Ms. Stiles indicated that she would like to speak. Ms. Stiles indicated that the drainage area the Board had discussed was due to excavation and not a naturally occurring pond. There being no one else wishing to speak, Mr. Frue closed the public hearing. Ms. Walker made a motion to approve both cases with the consistency statement provided in the staff recommendation. Mr. Sloan seconded the motion and the motion passed unanimously.

ZPH2015-00014*: Thomas Montgomery applied to rezone tax lot PINs 9678-78-0100 (located to the Northwest of the intersection of Sylvester Way and US 70 Hwy) and 9678-68-9411 (located to the East of 1860 US 70 Hwy), which are currently zoned Residential District R-2 to Commercial Service District CS.*

Ms. Truempy indicated that Mr. Montgomery had asked that this case be continued to the May 18th meeting. Mr. Lewis made a motion to continue the case to the May 18th meeting. Mr. Pless seconded the motion and the motion passed unanimously.

Adjournment

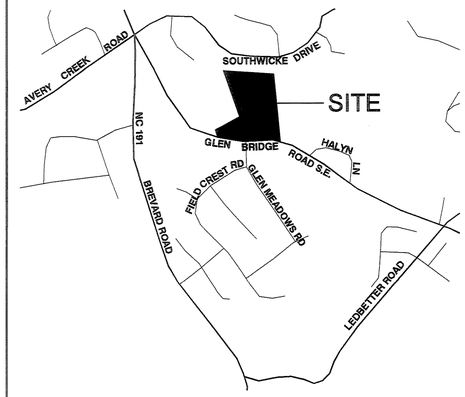
The meeting was adjourned.

WGLA Project Number: 14176
Revisions:

sub2015-00078
submitted 3/6/2015

ATTACHMENT A

The plans were granted preliminary approval at the 4/20/2015 meeting with the following conditions:
Provide proof of approval of road names and addresses from E-911 Addressing.
.
2. Provide proof of approval from the Buncombe County Erosion Control Officer that an Erosion Control Plan has been submitted and approved for the project. *No grading shall occur on the site until an approved Buncombe County Erosion Control permit is obtained.*
3. Provide proof of approval from the Buncombe County Stormwater Administrator that a stormwater management plan has been submitted and approved for the project. *No grading shall occur on the site until an approved Buncombe County Stormwater permit is obtained.*
4. Provide proof of approval of system design for City of Asheville Water lines. Proof of acceptance of the water lines into the City of Asheville's water system or an engineer's certification that the system has been installed to City of Asheville's standards will be required prior to recordation of a final plat or release of a financial guarantee.
5. Provide proof of approval of system design from the Metropolitan Sewerage District. Proof of acceptance of the sewer lines into the Metropolitan Sewerage District sewage system or an engineer's certification indicating that the system has been installed to MSD standards will be required prior to recordation of a final plat or release of a financial guarantee.
6. Provide a copy of the approved NCDOT driveway permit.
7. Indicate on the submitted plans that the shared driveway is less than 20% grade.
8. Indicate the existing us of the land abutting the subdivsion.



VICINITY MAP
N.T.S.

Glen Bridge Road Subdivision

Site Improvements

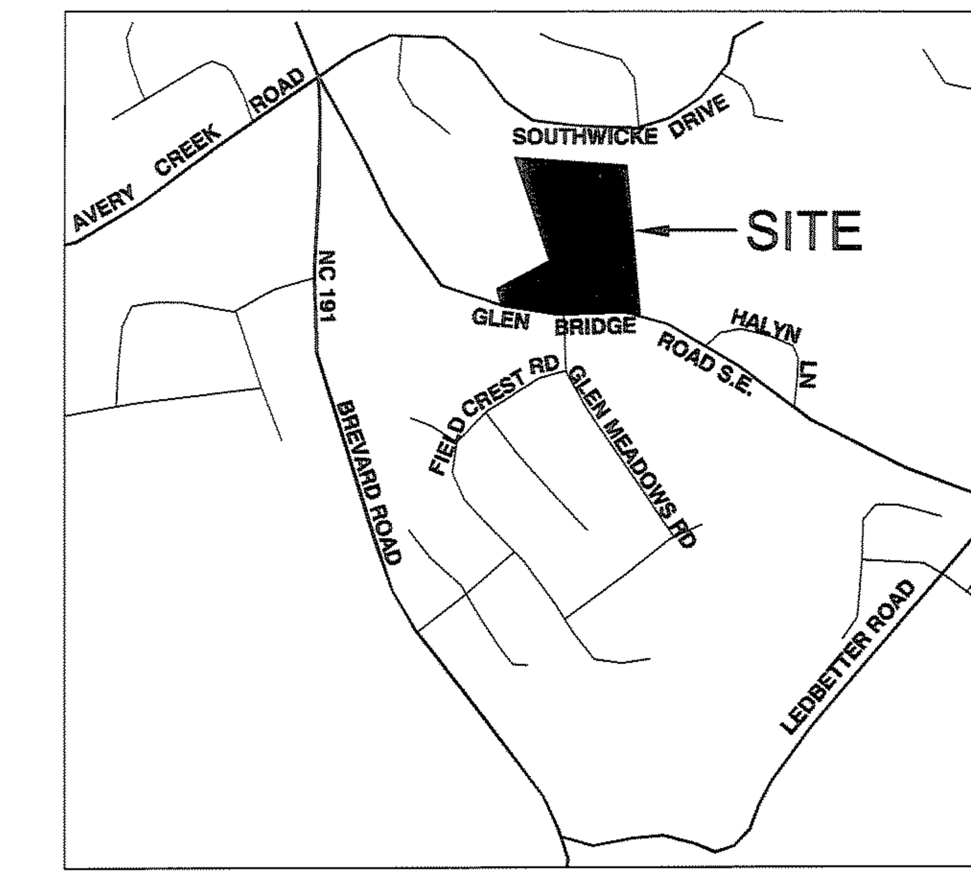
BUNCOMBE COUNTY
NORTH CAROLINA

INDEX

SHEET NO.	DESCRIPTION
C-100	SUBDIVISION PLAN
C-200	GRADING AND EROSION CONTROL PLAN
C-201	PROPOSED ROADWAY PLAN & PROFILE
C-300	STORM DRAINAGE PLAN
C-303	STORM DRAINAGE DETAILS
C-400	SANITARY SEWER SYSTEM LAYOUT
C-500	WATER SYSTEM LAYOUT

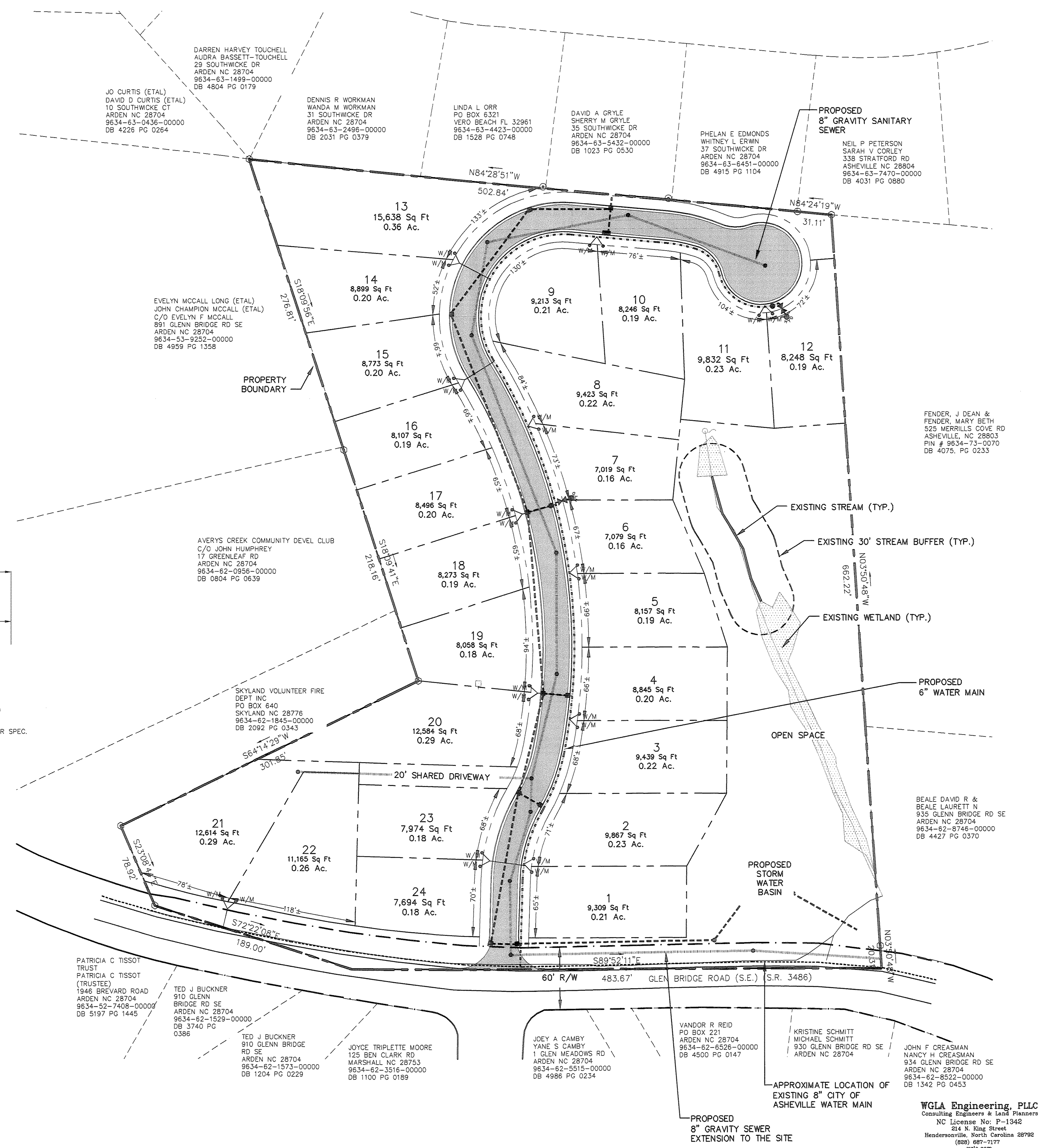
WGLA Engineering, PLLC
CONSULTING ENGINEERS & LAND PLANNERS
NC License No: P-1342
214 N. King Street
Hendersonville, North Carolina 28792
(828) 687-7177
wgla.com

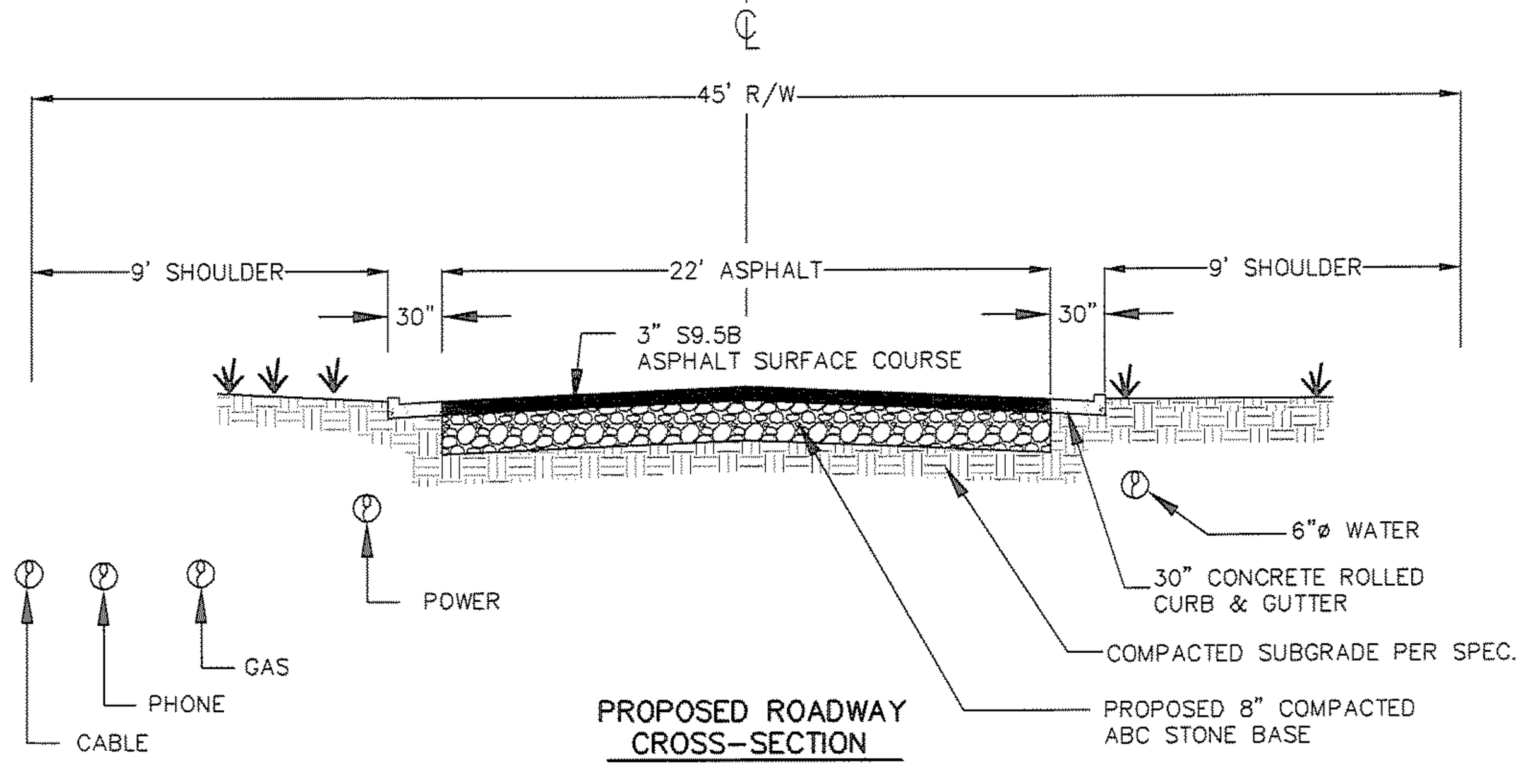
Developer:
Windsor Built Homes, Inc.
PO Box 16449
Greenville, SC 29606
Contact: Drew Norwood
Phone: (864) 271-9855



LOCATION MAP

NOT TO SCALE





PROPOSED ROADWAY CROSS-SECTION

N.T.S.

LEGEND

- EXISTING 2' CONTOUR
- PROPOSED 2' CONTOUR
- EXISTING STORM DRAINAGE PIPING
- PROPOSED STORM DRAINAGE PIPING
- EXISTING STORM DRAINAGE STRUCTURE
- PROPOSED STORM DRAINAGE STRUCTURE
- EXISTING WATER SYSTEM
- PROPOSED WATER SYSTEM
- EXISTING SANITARY SEWER SYSTEM
- PROPOSED SANITARY SEWER SYSTEM

PROJECT SUMMARY

PROJECT NAME:	GLEN BRIDGE ROAD SUBDIVISION
DEVELOPER:	WINDSOR BUILT HOMES, INC. P.O. BOX 16449 GREENVILLE, SC 29606 (864) 271-9855
OWNER:	RT CAROLINA PROPERTIES, LLC. 1800 NW 1ST CT BOCA RATON, FL 33432
CONTACT PERSON:	DREW NORWOOD PO BOX 16449 GREENVILLE, SC 29606 (828) 271-9855
ENGINEER:	WILLIAM R. BUIE, P.E. WGLA ENGINEERING, PLLC 214 N. KING STREET HENDERSONVILLE, NC 28792 (828) 687-7177
DEED REF:	D.B. 4288 PG. 0118
PIN #:	9634-63-4032
SIZE:	8.25± AC.
ZONING:	R2 (BUNCOMBE COUNTY)
TOTAL # OF PROPOSED LOTS: 24 LOTS	
DENSITY:	2.9± LOTS / ACRE
SETBACKS:	FRONT - 10 FT SIDE - 7 FT BACK -15 FT
TOWNSHIP:	AVERYS CREEK
PROPOSED ROAD:	989± LF
CORRIDOR 90' OR LESS:	0± LF (0%)
CORRIDOR 91' TO 135':	989± LF (100%)*
MAX. CORRIDOR HEIGHT:	4'±

* CORRIDOR SECTION GREATER THAN 90' IS DUE TO MASS GRADING & NOT ROADWAY CONSTRUCTION.

NOTES:

1.) SEE PLAN & PROFILE SHEETS FOR HORIZONTAL & VERTICAL CURVE INFORMATION & ROAD GRADES.
2.) SURVEY INFORMATION PROVIDED BY: MATTERN & CRAIG 12 BROAD STREET, ASHEVILLE, NC 28801.
3.) NO WALLS ARE PROPOSED.
4.) PROPOSED ROADS ARE TO BE PRIVATE & TURNED OVER TO THE HOMEOWNERS ASSOC..
5.) THE SITE IS ENTIRELY A MEADOW EXCEPT TREES & IMPROVEMENTS AS SHOWN.
6.) ELECTRICAL, TELEPHONE AND NATURAL GAS WILL BE UNDERGROUND AS DESIGNED BY UTILITY COMPANY.
7.) PROPOSED SANITARY SEWER SHALL BE TURNED OVER TO MSD.
8.) PROPOSED WATER SYSTEM SHALL BE TURNED OVER TO CITY OF ASHEVILLE.
9.) NO KNOWN CEMETERIES ARE LOCATED ON THE PROPERTY.
10.) PAVEMENT DESIGN WAS DESIGNATED WITH ASSUMING POOR TO FAIR SUBGRADE (GROUP II, PAGE 23 NCDOT SUBDIVISION ROADS MINIMUM CONSTRUCTED STANDARDS) WITH 8" OF ABC & 3" OF S9.5B.
11.) NO BASE COURSE SHALL BE PLACED ON MUCK, PIPE CLAY, ORGANIC MATTER OR OTHER UNSUITABLE MATTER, AND A MINIMUM COMPACTION RATE OF SUBGRADE PRIOR TO PAVING SHALL BE LESS THAN 95 PERCENT BY STANDARD PROCTOR METHOD AND CERTIFIED BY A LICENSED ENGINEER.
12.) 2' CONTOURS & SURVEY INFORMATION PROVIDED BY: MATTERN & CRAIG 12 BROAD STREET, ASHEVILLE, NC 28801.
13.) THIS SUBDIVISION IS NOT A DRASTIC VARIATION HILLSIDE DEVELOPMENT.
14.) NONE OF THE SLOPES OF THE LOTS PERPENDICULAR TO THE ROAD EXCEED 18%.
15.) THE ROAD CORRIDOR DOES NOT EXCEED 60 FEET IN HEIGHT.
16.) NO ROAD CONSTRUCTION WILL OCCUR IN AREAS THAT EXCEED 30% NATURAL SLOPE AND IN NO AREAS THAT ARE HIGH HAZARD OR MODERATE HAZARD ON THE BUNCOMBE COUNTY SLOPE STABILITY INDEX MAP.
17.) NATURAL AVERAGE SLOPE OF THE PROJECT AREA IS 13%
18.) THIS PROPERTY IS NOT LOCATED WITHIN A 100 YR FLOOD PLAIN (PER NC FLOOD PLAIN MAPPING)
19.) PROJECT IS TO BE COMPLETED IN ONE PHASE.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

811 Know what's below. Call before you dig.

Preliminary
Not for Construction

NORTH CAROLINA PROFESSIONAL ENGINEER WILLIAM R. BUIE

Revisions

date:2/12/15
job: 14176
drawn: KHC

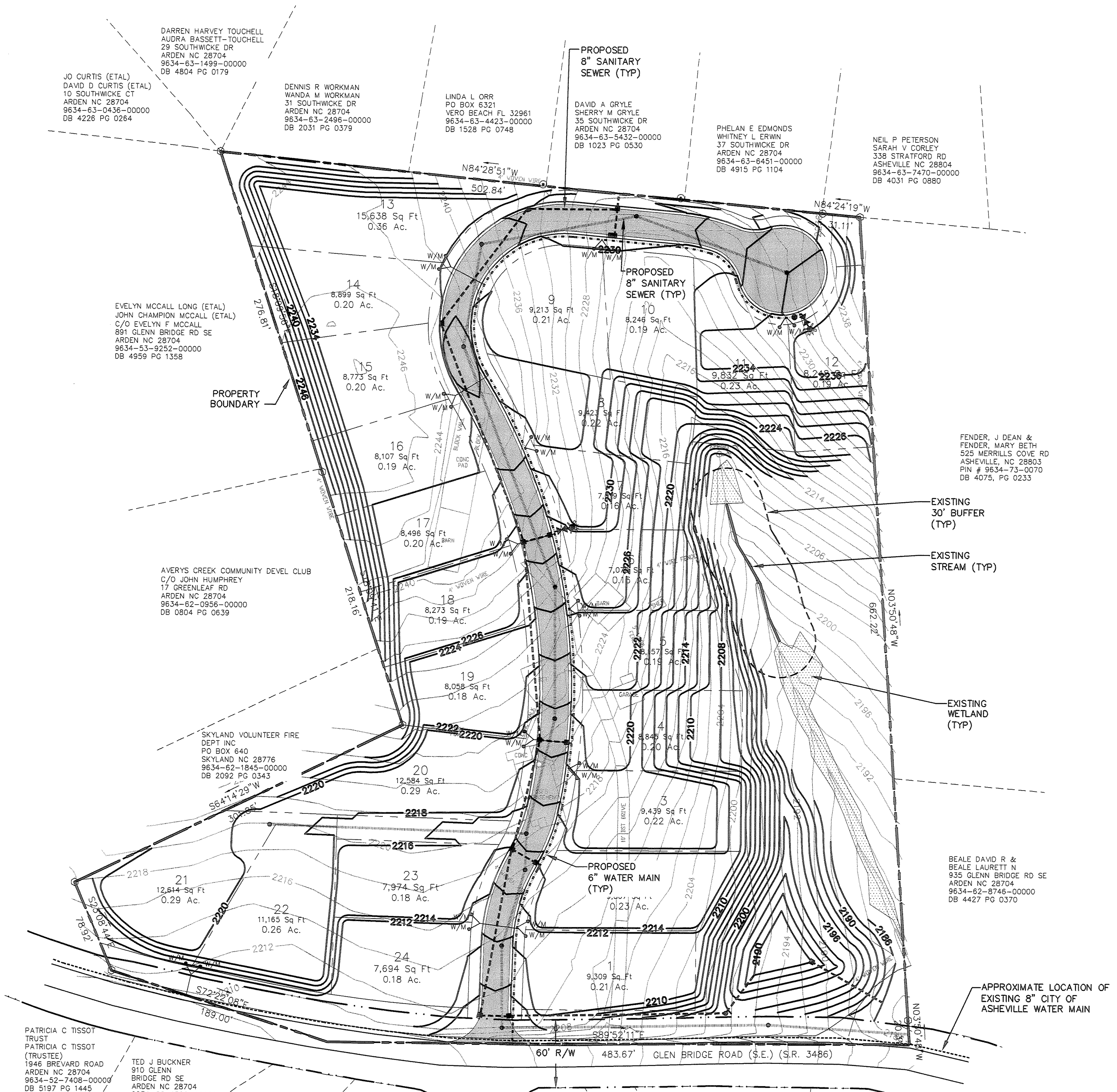
WGLA Engineering, PLLC
Consulting Engineers & Land Planners
NC License No: P-1342
214 N. King Street
Hendersonville, North Carolina 28792
(828) 687-7177
wgla.com

WGLA Engineering, PLLC
CONSULTING ENGINEERS & LAND PLANNERS
HENDERSONVILLE, NORTH CAROLINA

GLEN BRIDGE ROAD SUBDIVISION
BUNCOMBE COUNTY, NORTH CAROLINA

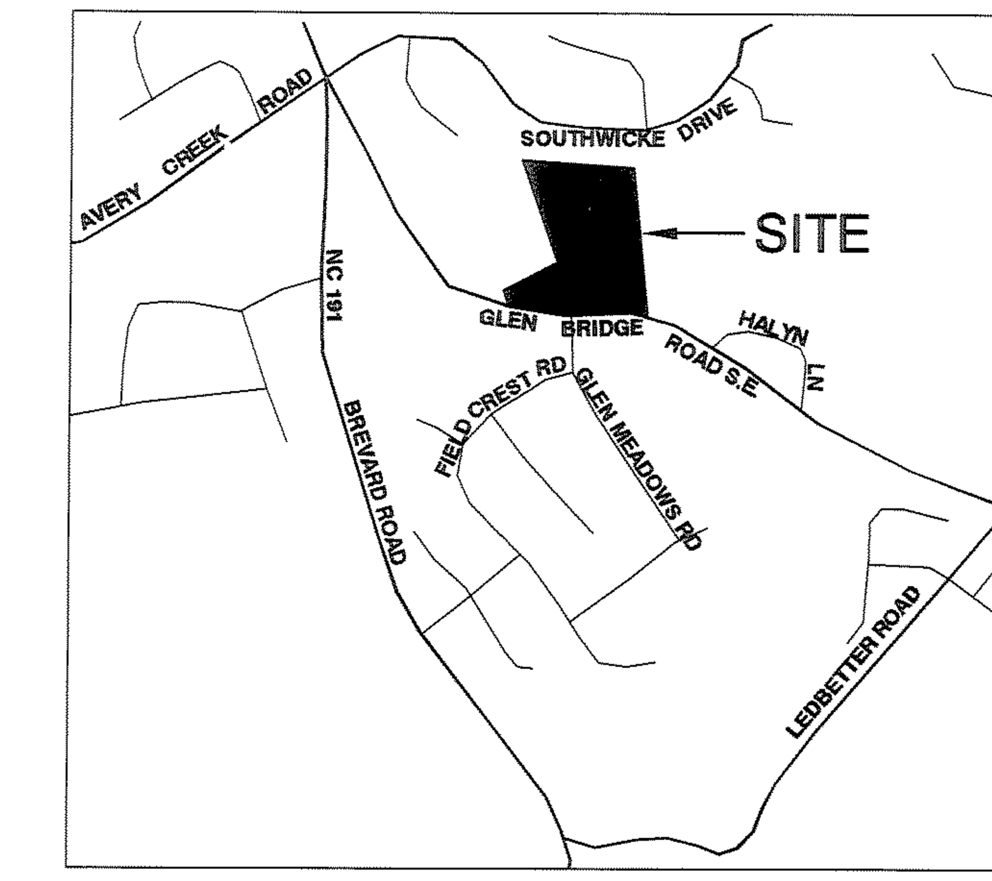
SUBDIVISION PLAN

sheet C-100



GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.



LOCATION MAP
NOT TO SCALE

LEGEND

- EXISTING 2' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED LIMIT OF DISTURBED AREA
- PROPOSED GRAVEL CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCE
- RSO — PROPOSED REINFORCED STABILIZED OUTLET
- PROPOSED GRAVEL INLET PROTECTION
- PROPOSED OUTLET PROTECTION
- PROPOSED SWALE
- WB — PROPOSED WATER BAR
- PROPOSED CHECK DAM
- PROPOSED NCDOT SILT BASIN
- PROPOSED SLOPE MATTING
- EXISTING STORM DRAINAGE
- PROPOSED STORM DRAINAGE
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER

DEVELOPMENT BLOCK:

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ENGINEER:	WILLIAM R. BUIE, P.E. WGLA ENGINEERING, PLLC 214 N. KING STREET HENDERSONVILLE, NC 28792 (828) 687-7177
DEED REF:	D.B. 4288 PG. 0118
PIN #:	9634-63-4032
SIZE:	8.25± AC.
TOTAL # OF PROPOSED LOTS: 24 LOTS	
TOWNSHIP:	AVERYS CREEK

TOTAL DISTURBED AREA
± ACRES

811
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NORTH CAROLINA PROFESSIONAL ENGINEER WILLIAM R. BUIE

NOTES:

1.) MEASURES BEYOND THOSE SHOWN ON THE PLANS SHOULD BE APPROVED BY THE OWNER.
2.) ALL STORM DRAINAGE INLETS (INCLUDING ALL EXISTING INLETS SHALL HAVE GRAVEL INLET PROTECTION AS SHOWN ON THE DETAIL SHEET.
3.) CONTRACTOR SHALL OBTAIN A COPY OF THE APPROVED SEDIMENTATION AND EROSION CONTROL PERMIT AND FOLLOW ALL DIRECTIVES.
CONTRACTOR SHALL READ AND UNDERSTAND THE NPDES REQUIREMENTS OF THE PERMIT INCLUDING BUT NOT LIMITED TO:
-PLACEMENT OF RAIN GAUGE ON THE SITE
-INSPECTION OF ALL EROSION CONTROL MEASURES FOLLOWING SPECIFIED RAINFALL EVENTS OR WEEKLY.
-UPKEEP OF INSPECTION LOG FOR REVIEW UPON REQUEST BY NCDENR, CITY OF ASHEVILLE, OWNER OR ENGINEER.
4.) ALL SLOPES OR GREATER 4:1 SHALL BE MATTED OR HYDRO-SEEDED AS SOON AS PRACTICALLY POSSIBLE. THE OWNER MAY REQUIRE THE CONTRACTOR TO CEASE NEW CONSTRUCTION UNTIL ALL SEEDING, MATTING AND EROSION CONTROL MAINTENANCE HAS BEEN COMPLETED.
5.) IT IS THE CONTRACTORS RESPONSIBLY TO MAINTAIN ALL EROSION CONTROL MEASURES THROUGHOUT THE LIFE OF THE PROJECT.
6.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD STAKING NECESSARY FOR THE CONSTRUCTION OF THE PROJECT. THE ENGINEER WILL PROVIDE THE CONTRACTOR WITH AN ELECTRONIC COPY OF THE DESIGN FOR STAKING PURPOSES. HOWEVER ALL ELECTRONIC INFORMATION SHOULD BE COORDINATED WITH THE PLANS.
7.) CONTRACTOR SHALL REMOVE ALL EROSION CONTROL MEASURES AT COMPLETION OF PROJECT, AFTER SITE HAS STABILIZED AND RESTORE TO FINAL GRADE.
8.) CONTRACTOR MUST KEEP ALL EXISTING STREETS CLEAR OF SEDIMENT. BROOMING OR SWEEPING OF THE STREETS WILL BE THE CONTRACTORS RESPONSIBILITY.
9.) ALL PROPOSED CONTOURS AND SPOT ELEVATIONS ARE TO FINISHED GRADE.
10.) THE SITE SHOULD BALANCE ON THE GRADING, HOWEVER IF THE CONTRACTOR HAS TO USE A BORROW OR WASTE SITE, THEN THE CONTRACTOR WILL BE REQUIRED TO PROVIDE PROOF OF ACTIVE GRADING PERMIT FOR THE BORROW OR WASTE SITE TO BE USED.
11.) SEE SHEETS C-204 & C-205 FOR DETAILS.

WGLA Engineering, PLLC
Consulting Engineers & Land Planners
NC License No: P-1342
214 N. King Street
Hendersonville, North Carolina 28792
(828) 687-7177
wgla.com

Revisions

date: 2/15
job: 14176
drawn: KHC

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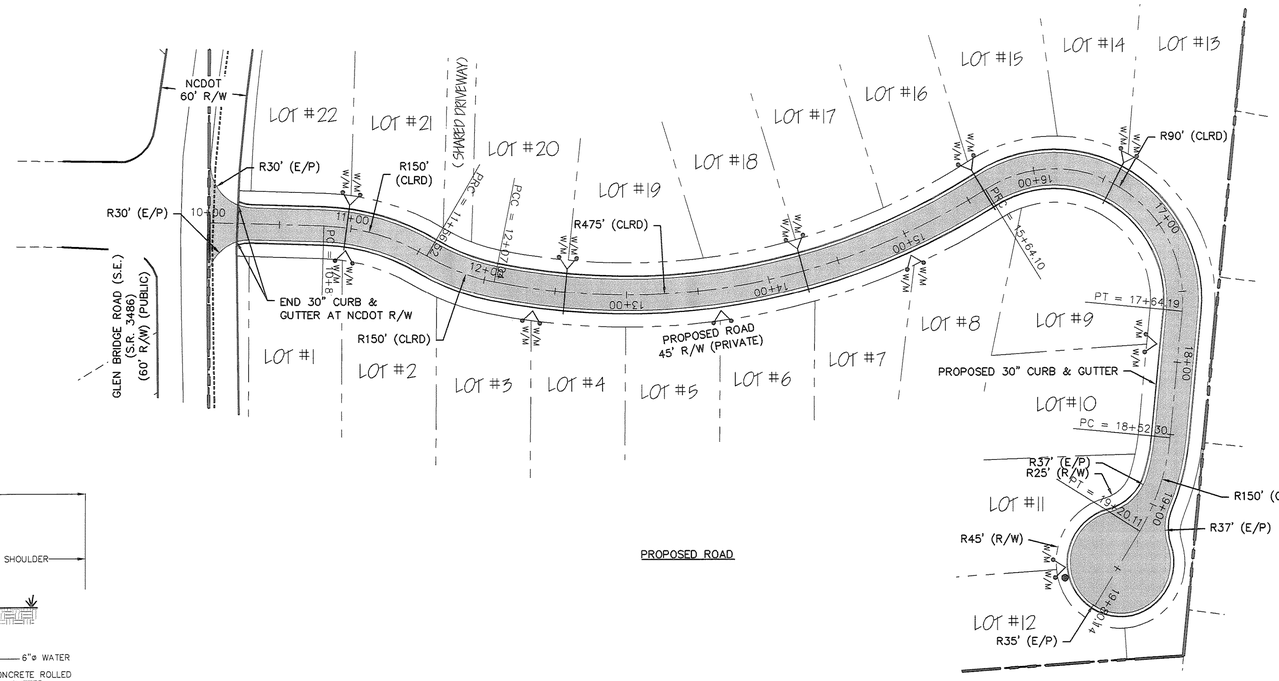
HENDERSONVILLE, NORTH CAROLINA

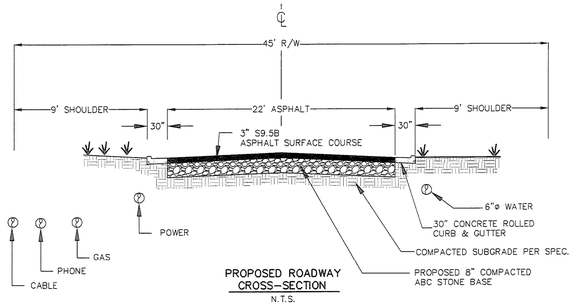
GLEN BRIDGE ROAD SUBDIVISION
BUNCOMBE COUNTY, NORTH CAROLINA

GRADING AND EROSION CONTROL PLAN

sheet
C-200

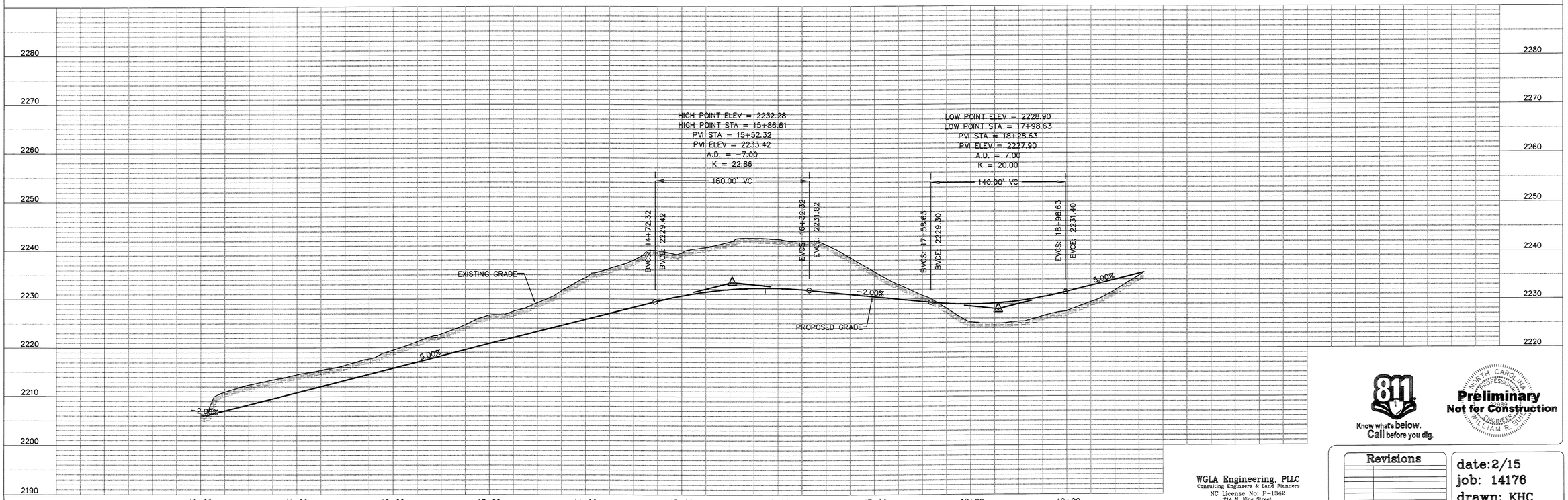


PROPOSED ROAD



PROPOSED ROADWAY
CROSS-SECTION
N.T.S.

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=10'



PROPOSED ROAD

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Consulting Engineers & Land Planners
NC License No: P-1342
214 N. King Street
Hendersonville, North Carolina 28792
(828) 687-7177
wgla.com

Revisions

date:2/15
job: 14176
drawn: KHC

sheet
C-201

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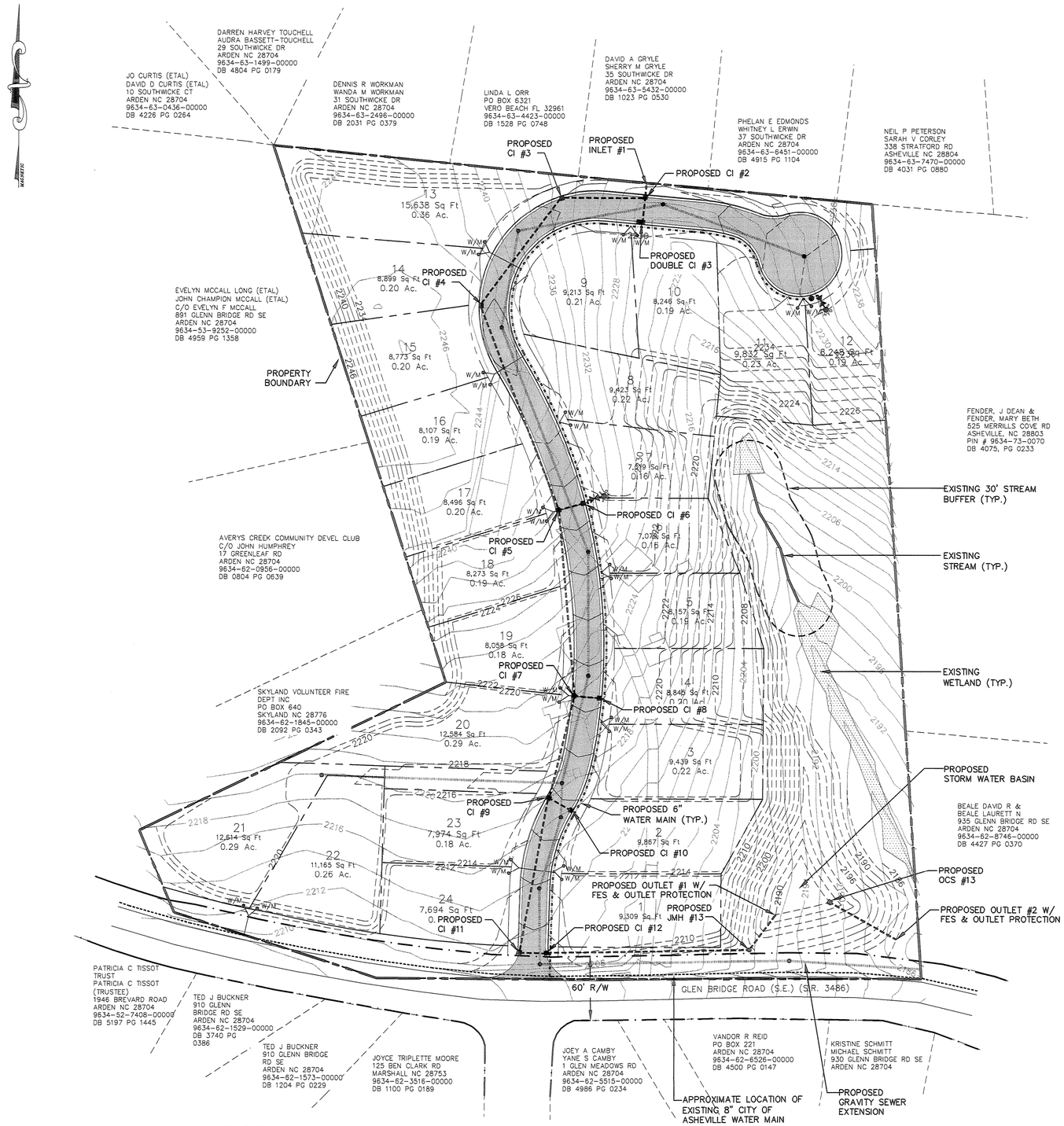
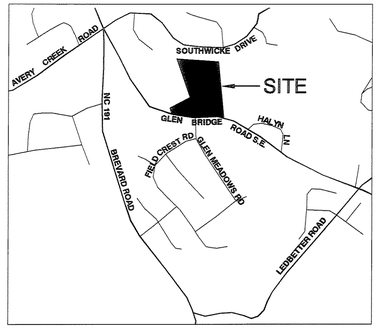
CONSULTING ENGINEERS & LAND PLANNERS
HENDERSONVILLE, NORTH CAROLINA

GLEN BRIDGE ROAD SUBDIVISION
BUNCOMBE COUNTY,
NORTH CAROLINA

PROPOSED ROADWAY
PLAN & PROFILE





LOCATION MAP
NOT TO SCALE

LEGEND

- EXISTING 2' CONTOUR
- PROPOSED 2' CONTOUR
- EXISTING STORM DRAINAGE PIPING
- PROPOSED STORM DRAINAGE PIPING
- EXISTING STORM DRAINAGE STRUCTURE
- PROPOSED STORM DRAINAGE STRUCTURE
- EXISTING WATER SYSTEM
- PROPOSED WATER SYSTEM
- EXISTING SANITARY SEWER SYSTEM
- PROPOSED SANITARY SEWER SYSTEM

DEVELOPMENT BLOCK:

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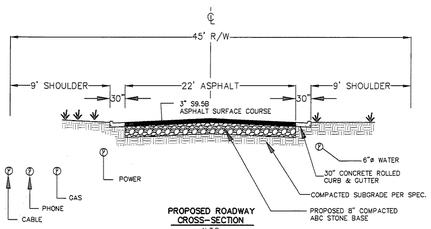
ENGINEER:	WILLIAM R. BUIE, P.E. WGLA ENGINEERING, PLLC 214 N. KING STREET HENDERSONVILLE, NC 28792 (828) 687-7177
DEED REF:	D.B. 4288 PG. 0118
PIN #:	9634-63-4032
SIZE:	8.25± AC.
TOTAL # OF PROPOSED LOTS: 24 LOTS	
TOWNSHIP:	AVERYS CREEK
BUILDING SETBACKS: REQUIRED FRONT – 10 FT SIDE – 7 FT BACK – 15 FT	

* CORRIDOR SECTION GREATER THAN 90' IS DUE TO DIVIDED ROADWAY DESIGN AND & TO TOPOGRAPHY.

NOTES:

1.) 2' CONTOUR INTERVAL.
2.) ALL STORM DRAINAGE INLETS SHALL BE PROVIDED WITH GRAVEL INLET PROTECTION AS DETAILED ON SHEET C-XXX.
3.) ALL STORM DRAINAGE PIPE SHALL BE HDPE SMOOTH WALL INTERIOR, BELL AND SPIGOT, SOIL TIGHT JOINTS, UNLESS OTHERWISE SPECIFIED ON PLANS.
4.) CONTRACTOR SHALL ENSURE ALL EXISTING AND PROPOSED STORM DRAINAGE STRUCTURES, PIPES AND GRADES WILL PROVIDE POSITIVE DRAINAGE TO STRUCTURES PRIOR TO INSTALLATION.
5.) ALL PROPOSED CONTOURS AND SPOT ELEVATIONS ARE TO FINISHED GRADE.
6.) ALL DRAINAGE STRUCTURES THAT ARE GREATER THAN 4' IN DEPTH SHALL HAVE ACCESS STEPS INSTALLED 16" ON CENTER.
7.) SEE SHEETS C-301 & C-302 FOR ADDITIONAL DETAILS ON OCS STRUCTURES.



PROPOSED ROADWAY CROSS-SECTION
N.T.S.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

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Preliminary Not for Construction
22989 NORTH CAROLINA PROFESSIONAL ENGINEER WILLIAM R. BUIE

WGLA Engineering, PLLC
Consulting Engineers & Land Planners
NC License No: P-1342
214 N. King Street
Hendersonville, North Carolina 28792
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Revisions

date:2/15
job: 14176
drawn: KHC

sheet C-300

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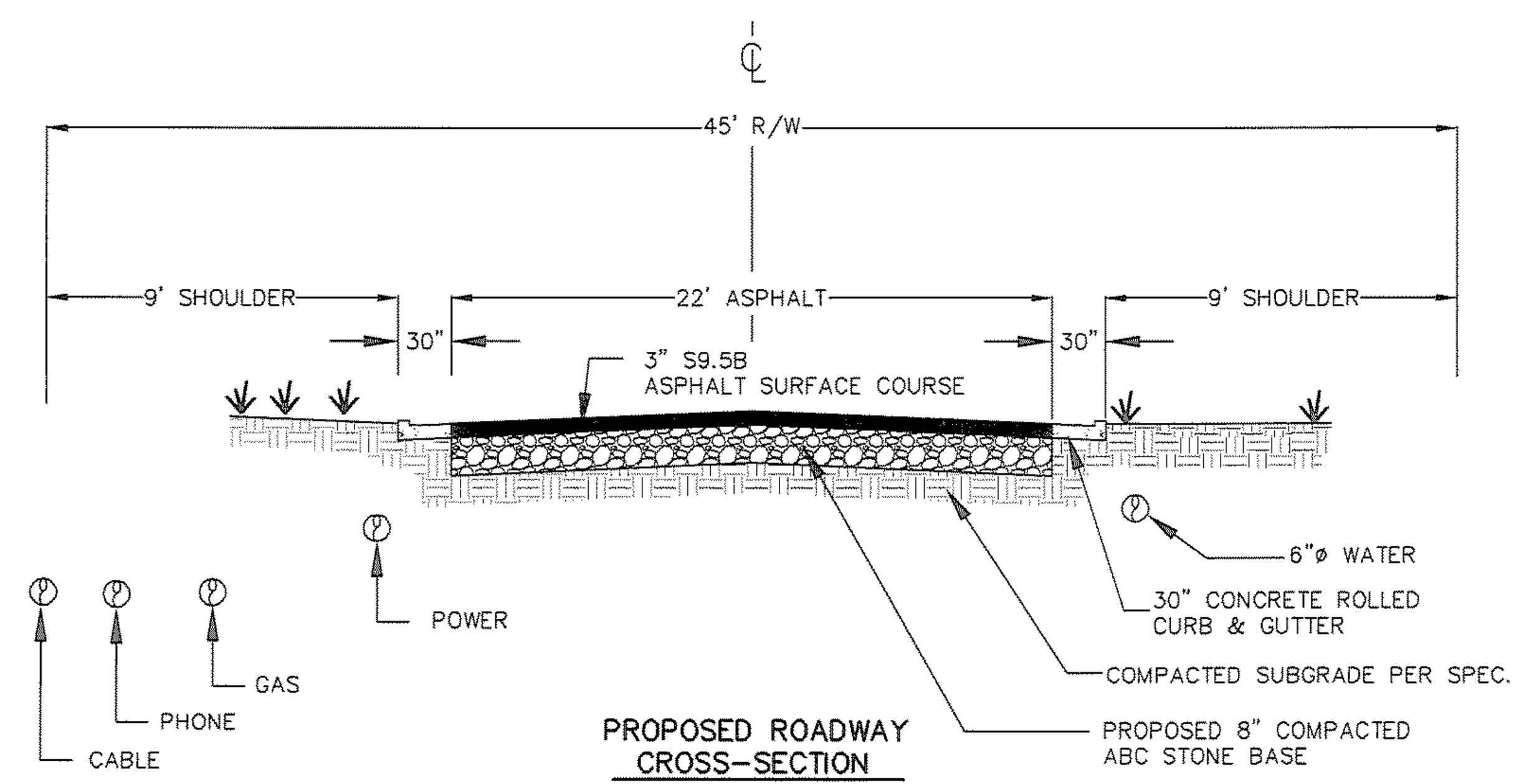
CONSULTING ENGINEERS & LAND PLANNERS
HENDERSONVILLE, NORTH CAROLINA

GLEN BRIDGE ROAD SUBDIVISION
BUNCOMBE COUNTY,
NORTH CAROLINA

STORM DRAINAGE PLAN

F:\USERS\WII\projects\Windson Aughtry - Glenn Bridge Road\project file\dwg\14176-C-300-ed.dwg, 3/2/2015 11:40:41 AM, 1:50.0308



PROPOSED ROADWAY CROSS-SECTION
N.T.S.

NOTES:

1) THE SPECIFICATIONS AND REQUIREMENTS OF THE METROPOLITAN SEWAGE DISTRICT SUPERSEDE ALL OTHERS IN THE INSTALLATION OF THE PROPOSED EXTENSION(S).

2) MSD MAINTENANCE OF SEWER SERVICES ENDS AT THE FIRST CLEANOUT MAINTENANCE OF SERVICES BEYOND THIS POINT IS PRIVATE

3.) INVERT OF EXISTING MANHOLE #20-84824 SHALL BE CORED AND BOOTED, IF NEEDED FOR NEW PIPE CONNECTIONS.

4.) ALL SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED.

5.) CONTRACTOR SHALL USE DIP/CL-350 PIPING ON ALL SEWER LINES WHERE 3 FEET OF COVER IS NOT PROVIDED.

6.) PIN # 9634-63-4032 IS THE ONLY PROPERTY AFFECTED BY THE PROPOSED SEWER LINE CONSTRUCTION.

7.) ALL SANITARY SEWER WORK IS TO BE PERFORMED BY A LICENSED NORTH CAROLINA UTILITY CONTRACTOR

8.) BENCHMARK FOR THIS PROJECT SHALL BE EXISTING MSD MANHOLE #XXXX TOP WITH ELEV. XXXXXXX.'

9.) ALL SEWER EASEMENTS SHALL BE 20' WIDE UNLESS NOTED ON PLAN OTHERWISE.

10.) ALL PROPOSED SANITARY SEWER LINES TO BE TURNED OVER TO MSD WILL BE GRAVITY LINES.

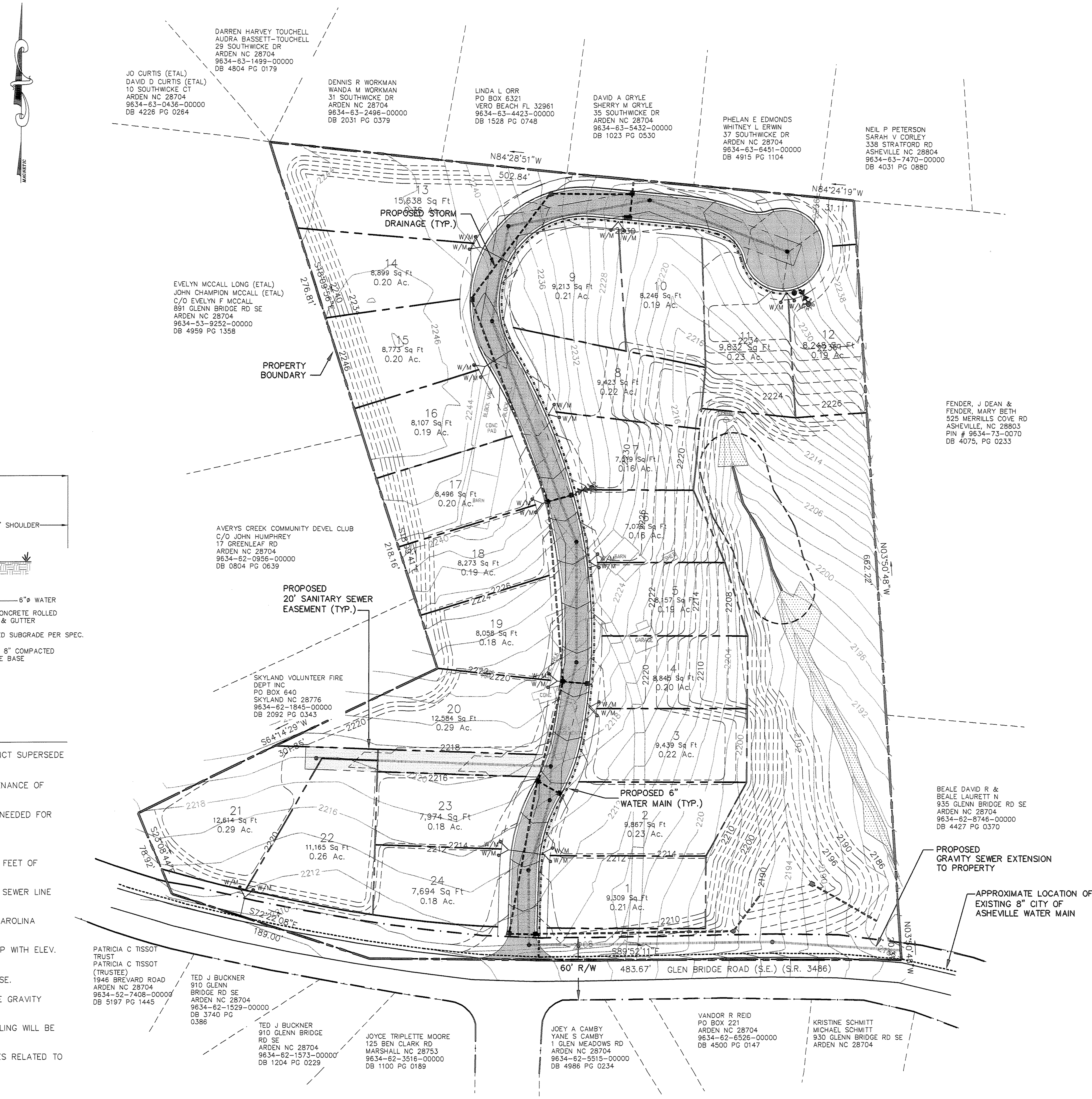
11.) IF CONTRACTOR TRANSITIONS FROM PVC TO DIP, THEN A SOLID SLEEVE COUPLING WILL BE USED. ONLY ONE TRANSITION WILL BE ALLOWED BETWEEN MANHOLES.

13.) SEE THE GRADING AND EROSION CONTROL PLANS FOR ALL EROSION MEASURES RELATED TO SEWER CONSTRUCTION

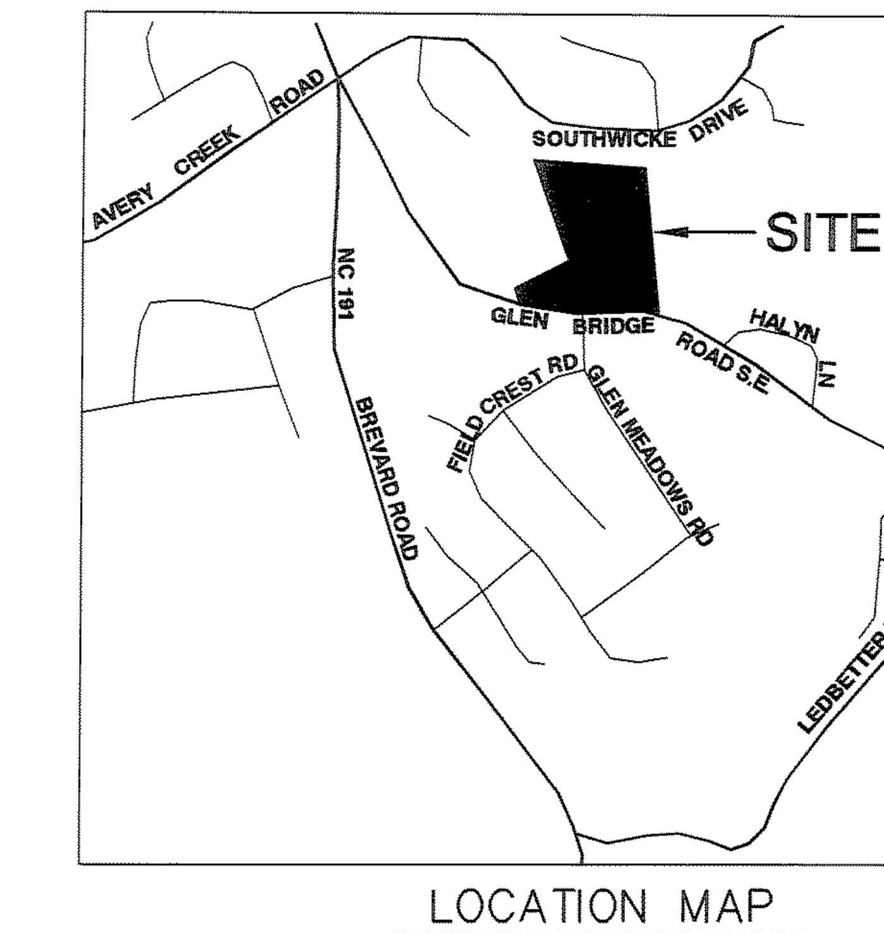
14.) HORIZONTAL CONTROL IS NAD 83, VERTICAL CONTROL IS NAVD 88.

15.) NO DOGHOUSE MANHOLES ALLOWED.

16.) THE ENTIRE MSD PERMANENT SEWER EASEMENT MUST BE CLEARED AND REMAIN CLEAR OF TREE PLANTINGS & PERMANENT TYPE STRUCTURES.



GRAPHIC SCALE
(IN FEET)
1 inch = 50 ft.



LOCATION MAP
NOT TO SCALE

LEGEND

- EXISTING 2' CONTOUR
- PROPOSED 2' CONTOUR
- EXISTING SANITARY SEWER MAIN
- PROPOSED SANITARY SEWER MAIN
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- EXISTING STORM DRAINAGE
- PROPOSED STORM DRAINAGE

DEVELOPMENT BLOCK:

PROJECT NAME:	GLEN BRIDGE ROAD SUBDIVISION
DEVELOPER:	WINDSOR BUILT HOMES, INC. P.O. BOX 16449 GREENVILLE, SC 29606 (864) 271-9855
OWNER:	RT CAROLINA PROPERTIES, LLC. 1800 NW 1ST CT BOCA RATON, FL 33432
CONTACT PERSON:	DREW NORWOOD PO BOX 16449 GREENVILLE, SC 29606 (828) 271-9855
ENGINEER:	WILLIAM R. BUIE, P.E. WGLA ENGINEERING, PLLC 214 N. KING STREET HENDERSONVILLE, NC 28792 (828) 687-7177
DEED REF:	D.B. 4288 PG. 0118
PIN #:	9634-63-4032
SIZE:	8.25± AC.
TOTAL # OF PROPOSED LOTS: 24 LOTS	
TOWNSHIP:	AVERYS CREEK

MSD PROJECT #
2014157

NOTE:
* A MINIMUM OF 10 FT. HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN WATER AND SANITARY SEWER LINES MUST BE MAINTAINED.
WHERE THE SEWER LINE INSTALLATION DOES NOT CONFORM TO THIS REQUIREMENT OR HAVE A MINIMUM COVER OF 36" FROM THE GROUND SURFACE OR 24" VERTICAL SEPARATION FROM STORM DRAINAGE LINES – SEWER PIPE MUST BE OF A FERROUS MATERIAL.

811 Know what's below. Call before you dig.

NORTH CAROLINA PROFESSIONAL ENGINEER 22989 WILLIAM R. BUIE
Preliminary Not for Construction

WGLA Engineering, PLLC
Consulting Engineers & Land Planners
NC License No: P-1342
214 N. King Street
Hendersonville, North Carolina 28792
(828) 687-7177
wgla.com

Revisions

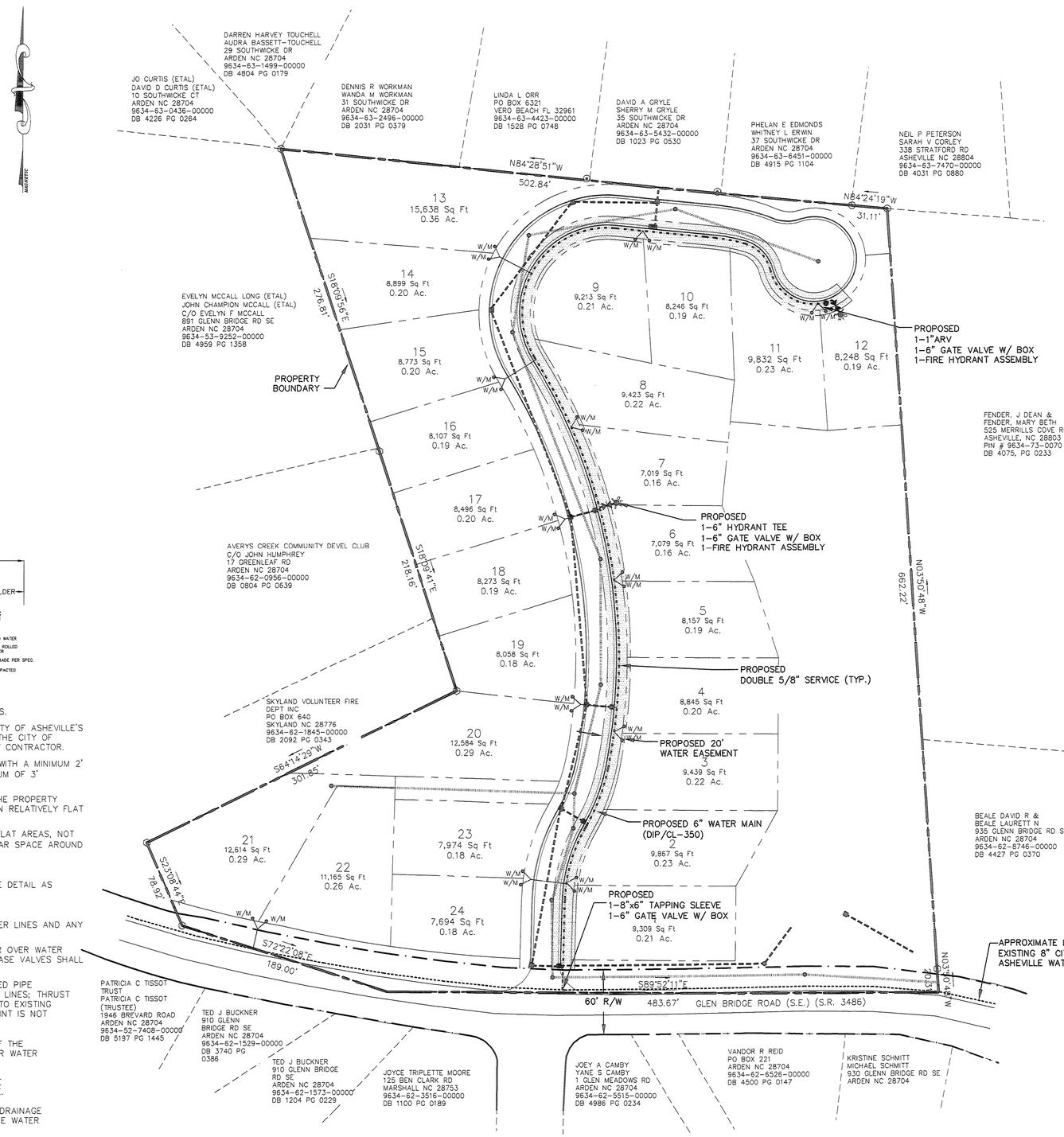
date: 2/15
job: 14176
drawn: KHC

WGLA Engineering, PLLC
CONSULTING ENGINEERS & LAND PLANNERS
HENDERSONVILLE, NORTH CAROLINA

GLEN BRIDGE ROAD SUBDIVISION
BUNCOMBE COUNTY, NORTH CAROLINA

SANITARY SEWER SYSTEM LAYOUT

sheet C-400



PROPOSED ROADWAY CROSS-SECTION
N.T.S.

NOTES:
1. CITY OF ASHEVILLE STANDARDS SUPERSEDE ALL OTHERS.

2. INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CITY OF ASHEVILLE'S CURRENT DESIGN GUIDELINES UNDER THE INSPECTION OF THE CITY OF ASHEVILLE AND BY A NORTH CAROLINA LICENSED UTILITY CONTRACTOR.

3. THE WATERLINE SHALL BE PLACED WITHIN THE BENCH WITH A MINIMUM 2' SEPARATION FROM THE EDGE OF PAVEMENT AND A MINIMUM OF 3' SEPARATION FROM THE EDGE OF SLOPES.

4. ALL WATER METERS SHALL BE PLACED IN FRONT OF THE PROPERTY WHICH THEY WILL SERVE AND THEY MUST BE INSTALLED IN RELATIVELY FLAT AREAS NOT IN STEEP BANKS OR SLOPES.

5. ALL FIRE HYDRANTS MUST BE PLACED IN RELATIVELY FLAT AREAS, NOT IN STEEP BANKS OR SLOPES, AND MUST HAVE 3' OF CLEAR SPACE AROUND THE HYDRANT.

6. ALL BRASS FITTINGS MUST BE CERTIFIED LEAD FREE.

7. ALL METERS SHALL BE PLACED PER CITY OF ASHEVILLE DETAIL AS SHOWN ON DETAIL SHEET.

8. ALL PROPOSED ROADS ARE TO BE PRIVATE.

9. A MINIMUM OF 3 FEET IS REQUIRED BETWEEN THE WATER LINES AND ANY OTHER UNDERGROUND UTILITY.

10. WATER MAIN SHALL BE INSTALLED WITH 3 FEET COVER OVER WATER MAIN. ALL FIRE HYDRANTS, WATER METERS AND AIR RELEASE VALVES SHALL BE LOCATED OUTSIDE DRIVEWAYS.

11. RESTRAINED JOINTS BY A CITY OF ASHEVILLE APPROVED PIPE MANUFACTURER ARE TO BE USED FOR ALL PUBLIC WATER LINES; THRUST BLOCKS ARE PERMITTED WHERE CONNECTIONS ARE MADE TO EXISTING WATER MAIN OR WHERE THE USE OF MECHANICAL RESTRAINT IS NOT FEASIBLE.

12. ALL WATER METERS ARE TO BE LOCATED WITHIN 5' OF THE BACK OF CURB OR IN ACCORDANCE WITH DETAIL W.06 FOR WATER MAINS NEXT TO SIDEWALKS.

13. 911 ADDRESSES ISSUED FROM BUNCOMBE COUNTY ARE REQUIRED BY BUNCOMBE COUNTY BEFORE WATER RELEASE.

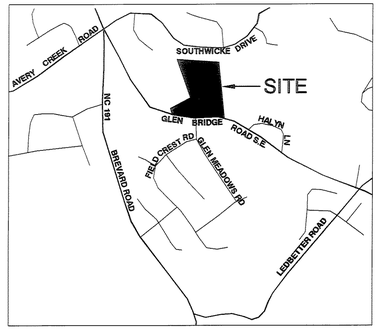
14. MINIMUM CLEARANCE BETWEEN THE WATER MAIN AND DRAINAGE STRUCTURES IS 3 FEET. MINIMUM CLEARANCE BETWEEN THE WATER SERVICES AND DRAINAGE STRUCTURES IS 3 FEET.

15. WATER SERVICE FOR LOTS #21 & #22 SHALL BE INSTALLED BY CITY OF ASHEVILLE ON EXISTING 8" WATER MAIN ALONG GLEN BRIDGE ROAD.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.



LOCATION MAP
NOT TO SCALE

LEGEND

- EXISTING 2' CONTOUR
- PROPOSED 2' CONTOUR
- EXISTING STORM DRAINAGE PIPING
- PROPOSED STORM DRAINAGE PIPING
- EXISTING STORM DRAINAGE STRUCTURE
- PROPOSED STORM DRAINAGE STRUCTURE
- EXISTING WATER SYSTEM
- PROPOSED WATER SYSTEM
- EXISTING SANITARY SEWER SYSTEM
- PROPOSED SANITARY SEWER SYSTEM

DEVELOPMENT BLOCK:

PROJECT NAME:	GLEN BRIDGE ROAD SUBDIVISION
DEVELOPER:	WINDSOR BUILT HOMES, INC. P.O. BOX 16449 GREENVILLE, SC 29606 (864) 271-9855
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ENGINEER:	WILLIAM R. BUIE, P.E. WGLA ENGINEERING, PLLC 214 N. KING STREET HENDERSONVILLE, NC 28792 (828) 687-7177
DEED REF:	D.B. 4288 PG. 0118
PIN #:	9634-63-4032
SIZE:	8.25± AC.
TOTAL # OF PROPOSED LOTS: 24 LOTS	
TOWNSHIP:	AVERYS CREEK

CITY OF ASHEVILLE PROJECT NO.	WPFY 14-15-024
WATER LINE EASEMENT PLAT	P.B.____P.G.____
ESTOPPEL CERTIFICATE REQUIRED	YES__X__NO____

811 Know what's below. Call before you dig.

Preliminary
Not for Construction
NORTH CAROLINA PROFESSIONAL ENGINEER 22985 WILLIAM R. BUIE

WGLA Engineering, PLLC
Consulting Engineers & Land Planners
NC License No: P-1342
214 N. King Street
Hendersonville, North Carolina 28792
(828) 687-7177
wgla.com

Revisions

date:2/15
job: 14176
drawn: KHC

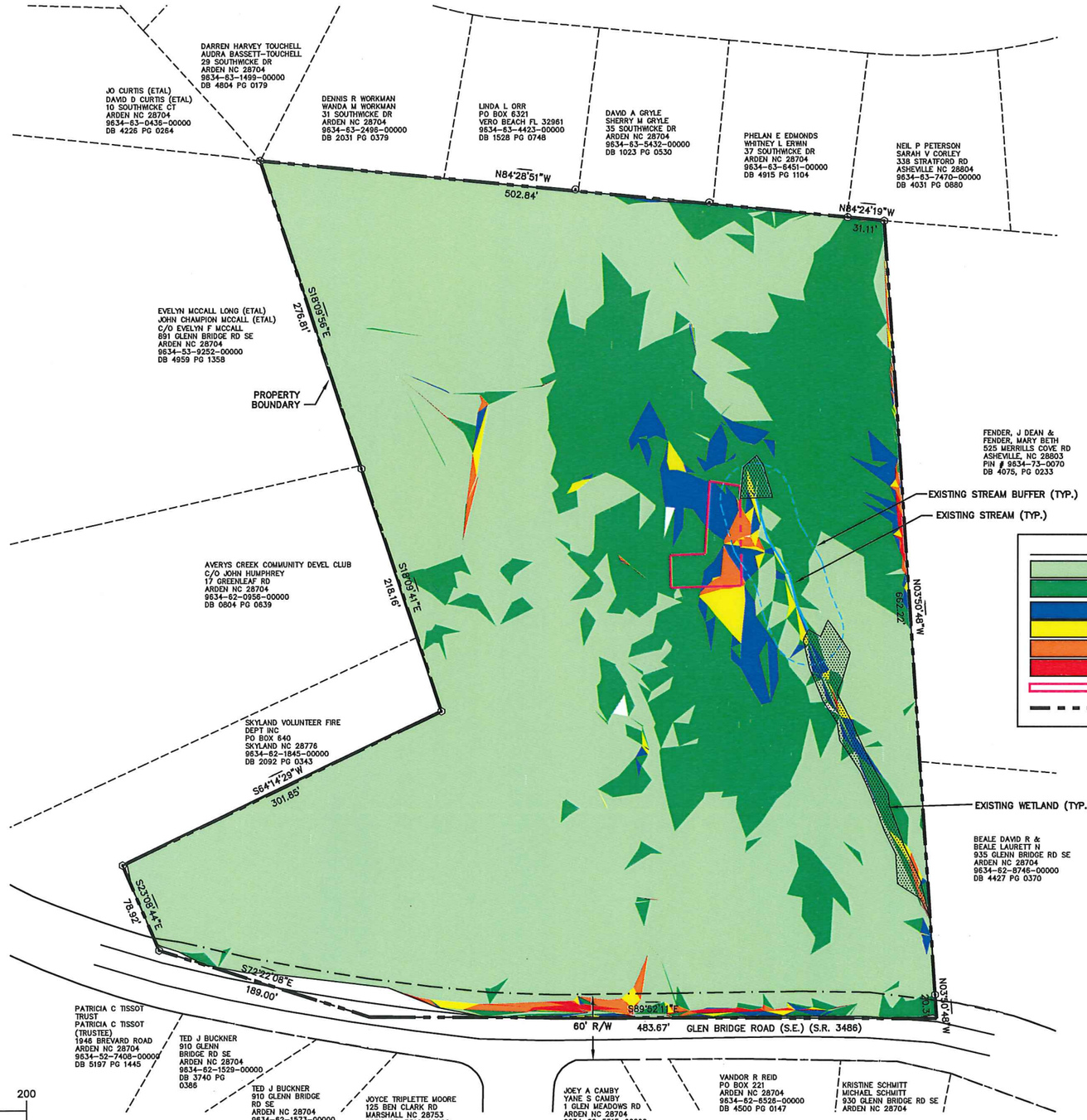
sheet
C-500

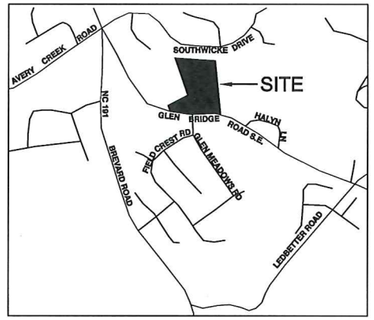
WGLA Engineering, PLLC
CONSULTING ENGINEERS & LAND PLANNERS
HENDERSONVILLE, NORTH CAROLINA

GLEN BRIDGE ROAD SUBDIVISION
BUNCOMBE COUNTY,
NORTH CAROLINA

WATER SYSTEM LAYOUT

F:\USERS\WR\projects\Windsor Aughtry - Glenn Bridge Road\project file\dwg\14176-C-500 wtr.dwg, 3/3/2015 11:37:30 AM, 1:50.0008





LOCATION MAP
NOT TO SCALE

NOTE:

1.) TOTAL SLOPE 35% AND GREATER 0.09± AC. (1.2%±)

2. THIS PROPERTY IS NOT LOCATED WITHIN A 100YR FLOOD PLAIN.

3.) TOTAL SITE NATURAL AVERAGE SLOPE IS 13%.

LEGEND

0% TO LESS THAN 15% SLOPE	5.69± AC.	69.5%±
15% TO LESS THAN 25% SLOPE	2.09± AC.	25.5%±
25% TO LESS THAN 30% SLOPE	0.24± AC.	2.9%±
30% TO LESS THAN 50% SLOPE	0.08± AC.	0.9%±
35% TO LESS THAN 50% SLOPE	0.07± AC.	0.9%±
50% AND GREATER SLOPE	0.02± AC.	0.3%±
APPROX. BOUNDARY OF THE MODERATE HAZARD AREA		
PROPERTY LINE		

GRAPHIC SCALE

100 0 50 100 200

(IN FEET)
1 inch = 100 ft.

811 Know what's below. Call before you dig.

NORTH CAROLINA PROFESSIONAL SEAL 22080 ENGINEER WILLIAM R. BUIE

Preliminary
Not for Construction

WGLA Engineering, PLLC
Consulting Engineers & Land Planners
NC License No: P-1342
814 N. King Street
Hendersonville, North Carolina 28792
(828) 697-7177
wgla.com

Revisions

date:1/15
job: 14176
drawn: KHC

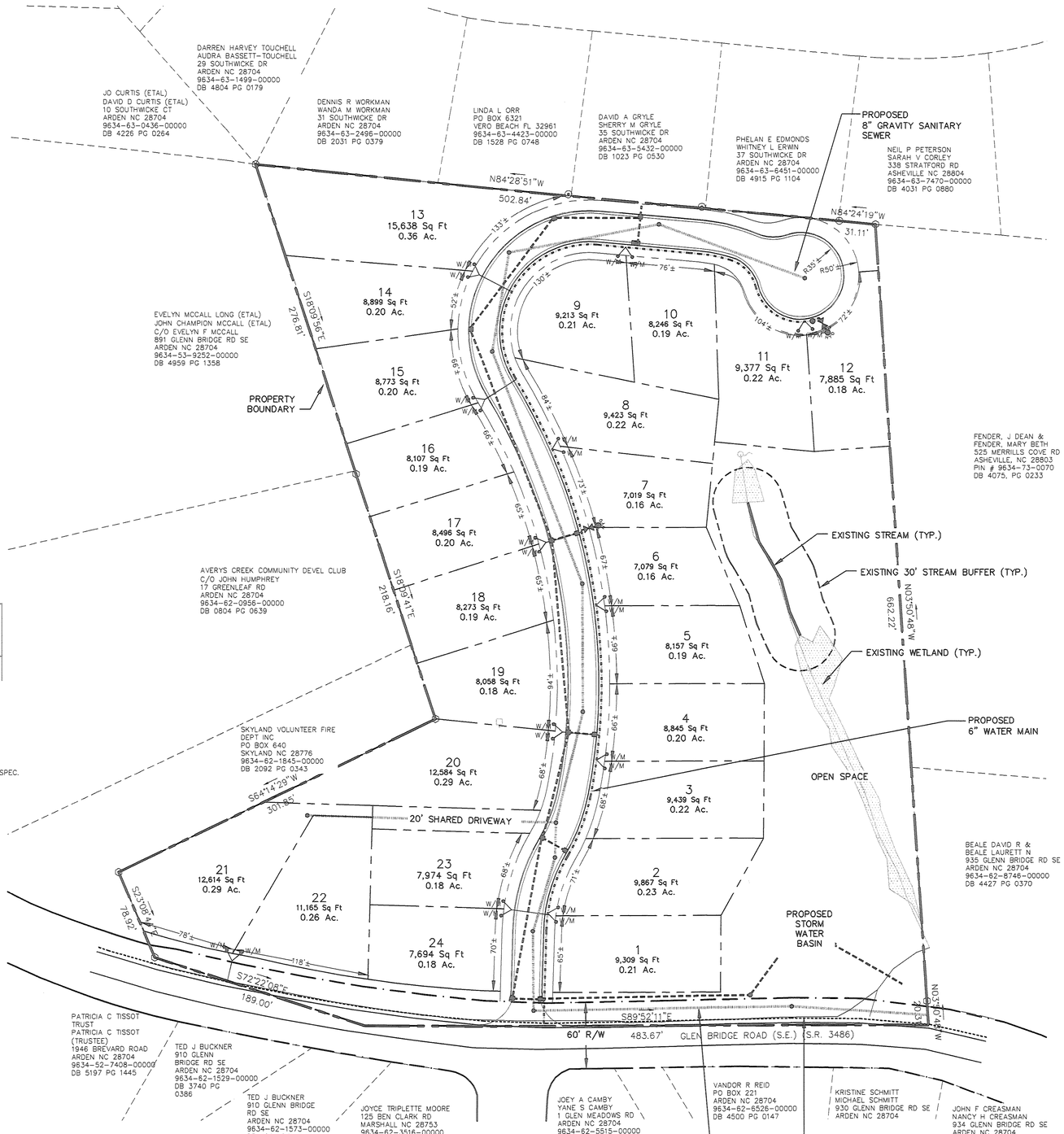
sheet
C-1.0

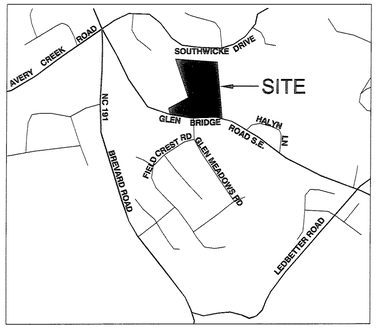
WGLA Engineering, PLLC
CONSULTING ENGINEERS & LAND PLANNERS
HENDERSONVILLE, NORTH CAROLINA

GLEN BRIDGE ROAD SUBDIVISION
BUNCOMBE COUNTY,
NORTH CAROLINA

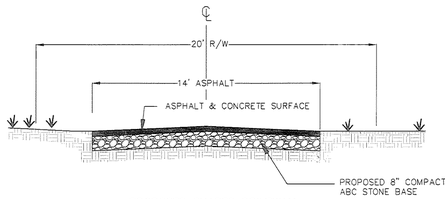
SLOPE ANALYSIS MAP

additional infoarmtion
submitted 3-27-2015
SUB2015-00078

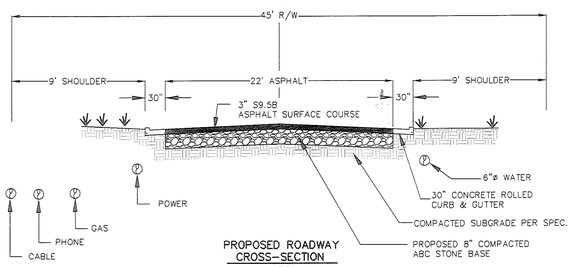




LOCATION MAP
NOT TO SCALE



PROPOSED SHARED DRIVEWAY
CROSS-SECTION
N.T.S.



PROPOSED ROADWAY
CROSS-SECTION
N.T.S.

NOTES:
1.) SEE PLAN & PROFILE SHEETS FOR HORIZONTAL & VERTICAL CURVE INFORMATION & ROAD GRADES.
2.) SURVEY INFORMATION PROVIDED BY: MATTERN & CRAIG 12 BROAD STREET, ASHEVILLE, NC 28801.
3.) NO WALLS ARE PROPOSED.
4.) PROPOSED ROADS ARE TO BE PRIVATE & TURNED OVER TO THE HOMEOWNERS ASSOC.
5.) THE SITE IS ENTIRELY A MEADOW EXCEPT TREES & IMPROVEMENTS AS SHOWN.
6.) ELECTRICAL, TELEPHONE AND NATURAL GAS WILL BE UNDERGROUND AS DESIGNED BY UTILITY COMPANY.
7.) PROPOSED SANITARY SEWER SHALL BE TURNED OVER TO MSD.
8.) PROPOSED WATER SYSTEM SHALL BE TURNED OVER TO CITY OF ASHEVILLE.
9.) NO KNOWN CEMETERIES ARE LOCATED ON THE PROPERTY.
10.) PAVEMENT DESIGN WAS DESIGNATED WITH ASSUMING POOR TO FAIR SUBGRADE (GROUP II, PAGE 23 NCDOT SUBDIVISION ROADS MINIMUM CONSTRUCTED STANDARDS) WITH 8" OF ABC & 3" OF S9.5B.
11.) NO BASE COURSE SHALL BE PLACED ON MUCK, PIPE CLAY, ORGANIC MATTER OR OTHER UNSUITABLE MATTER, AND A MINIMUM COMPACTION RATE OF SUBGRADE PRIOR TO PAVING SHALL BE LESS THAN 95 PERCENT BY STANDARD PROCTOR METHOD AND CERTIFIED BY A LICENSED ENGINEER.
12.) 2' CONTOURS & SURVEY INFORMATION PROVIDED BY: MATTERN & CRAIG 12 BROAD STREET, ASHEVILLE, NC 28801.
13.) THIS SUBDIVISION IS NOT A DRASTIC VARIATION HILLSIDE DEVELOPMENT.
14.) NONE OF THE SLOPES OF THE LOTS PERPENDICULAR TO THE ROAD EXCEED 18%
15.) THE ROAD CORRIDOR DOES NOT EXCEED 60 FEET IN HEIGHT.
16.) NO ROAD CONSTRUCTION WILL OCCUR IN AREAS THAT EXCEED 30% NATURAL SLOPE AND IN NO AREAS THAT ARE HIGH HAZARD OR MODERATE HAZARD ON THE BUNCOMBE COUNTY SLOPE STABILITY INDEX MAP.
17.) NATURAL AVERAGE SLOPE OF THE PROJECT AREA IS 13%
18.) THIS PROPERTY IS NOT LOCATED WITHIN A 100 YR FLOOD PLAIN (PER NC FLOOD PLAIN MAPPING)
19.) PROJECT IS TO BE COMPLETED IN ONE PHASE.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

LEGEND

- EXISTING 2' CONTOUR
- PROPOSED 2' CONTOUR
- EXISTING STORM DRAINAGE PIPING
- PROPOSED STORM DRAINAGE PIPING
- EXISTING STORM DRAINAGE STRUCTURE
- PROPOSED STORM DRAINAGE STRUCTURE
- EXISTING WATER SYSTEM
- PROPOSED WATER SYSTEM
- EXISTING SANITARY SEWER SYSTEM
- PROPOSED SANITARY SEWER SYSTEM

PROJECT SUMMARY

PROJECT NAME:	GLEN BRIDGE ROAD SUBDIVISION
DEVELOPER:	WINDSOR BUILT HOMES, INC. P.O. BOX 16449 GREENVILLE, SC 29606 (864) 271-9855
OWNER:	RT CAROLINA PROPERTIES, LLC. 1800 NW 1ST CT BOCA RATON, FL 33432
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ENGINEER:	WILLIAM R. BUIE, P.E. WGLA ENGINEERING, PLLC 214 N. KING STREET HENDERSONVILLE, NC 28792 (828) 687-7177
DEED REF:	D.B. 4288 PG. 0118
PIN #:	9634-63-4032
SIZE:	8.25± AC.
ZONING:	R2 (BUNCOMBE COUNTY)
TOTAL # OF PROPOSED LOTS: 24 LOTS	
DENSITY:	2.9± LOTS / ACRE
SETBACKS:	FRONT – 10 FT SIDE – 7 FT BACK –15 FT
TOWNSHIP:	AVERYS CREEK
PROPOSED ROAD:	989± LF
CORRIDOR 90' OR LESS:	0± LF (0%)
CORRIDOR 91' TO 135':	989± LF (100%)*
MAX. CORRIDOR HEIGHT:	4'±

* CORRIDOR SECTION GREATER THAN 90' IS DUE TO MASS GRADING & NOT ROADWAY CONSTRUCTION.

811 Know what's below. Call before you dig.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL WILLIAM R. BUIE
Preliminary
Not for Construction

WGLA Engineering, PLLC
Consulting Engineers & Land Planners
NC License No: P-1342
214 N. King Street
Hendersonville, North Carolina 28792
(828) 687-7177
wgla.com

Revisions

date:2/12/15
job: 14176
drawn: KHC

sheet
C-100

WGLA Engineering, PLLC
CONSULTING ENGINEERS & LAND PLANNERS
HENDERSONVILLE, NORTH CAROLINA

GLEN BRIDGE ROAD SUBDIVISION
BUNCOMBE COUNTY,
NORTH CAROLINA

SUBDIVISION PLAN

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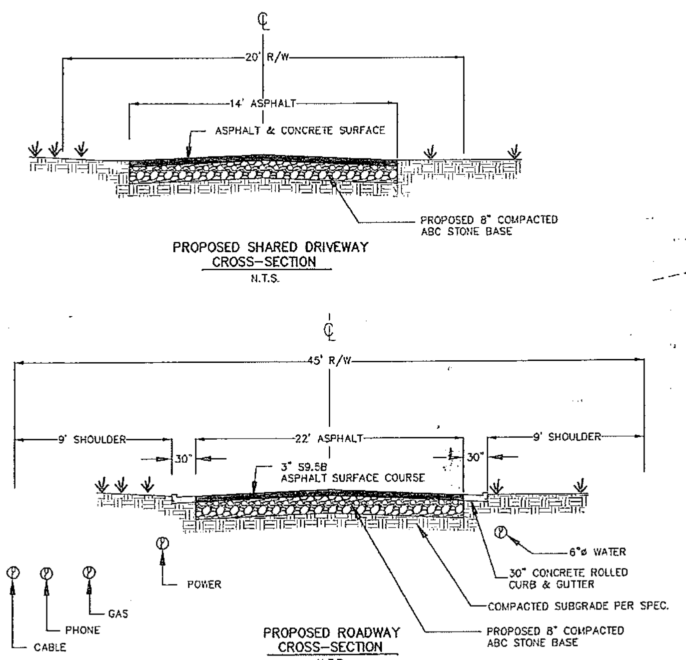
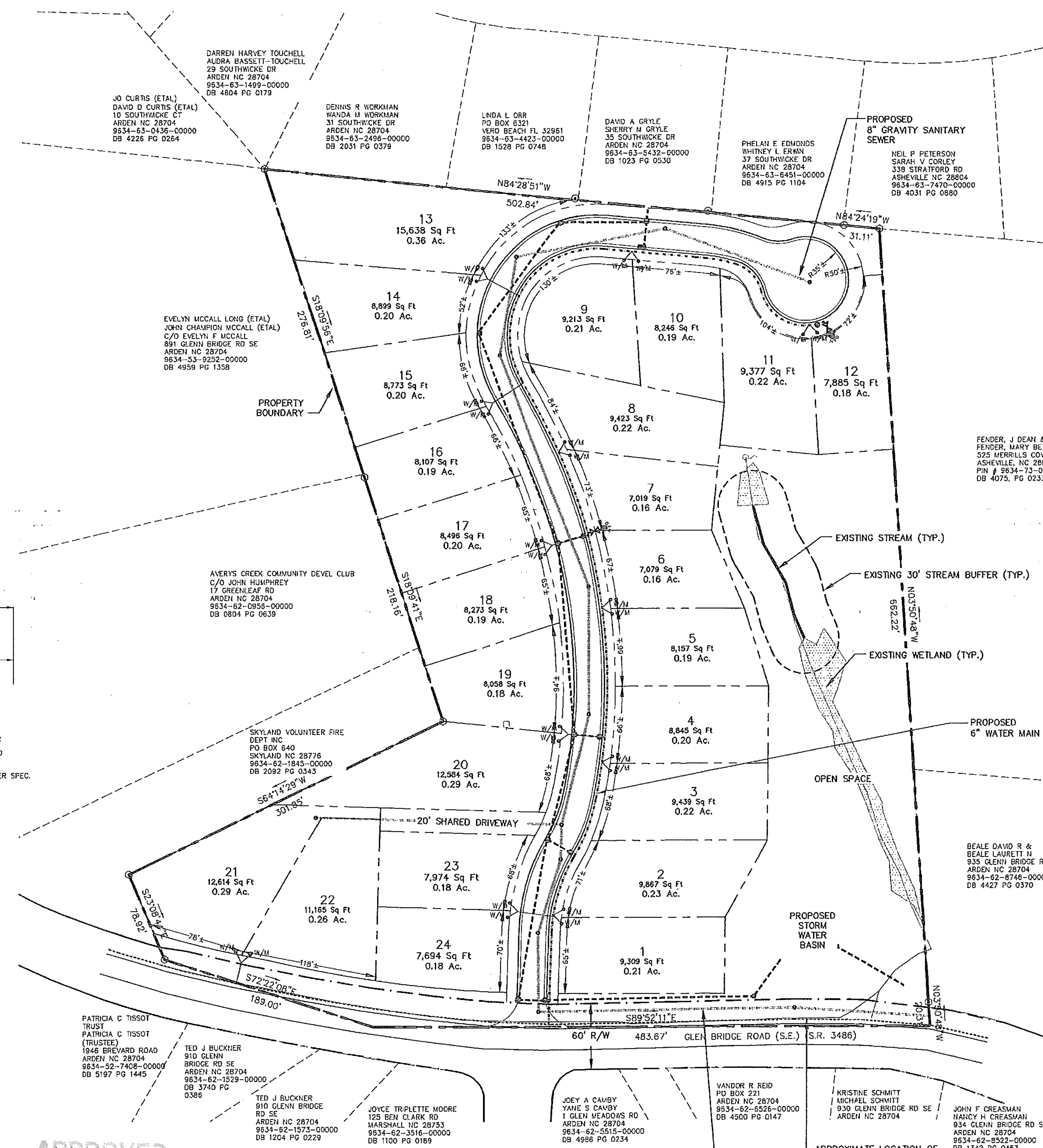
additional infoarmtion
submitted 3-27-2015
SUB2015-00078





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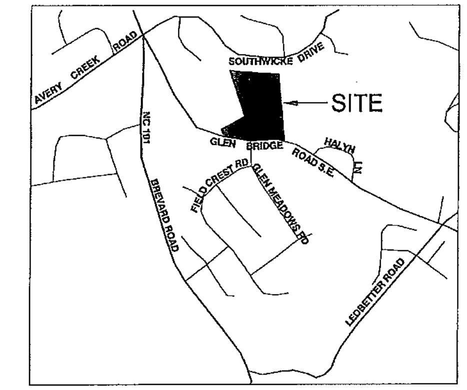
17.) NATURAL AVERAGE SLOPE OF THE PROJECT AREA IS 13%
18.) THIS PROPERTY IS NOT LOCATED WITHIN A 100 YR FLOOD PLAIN (PER NC FLOOD PLAIN MAPPING)
19.) PROJECT IS TO BE COMPLETED IN ONE PHASE.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

APPROVED
BUNCOMBE COUNTY
FIRE MARSHAL'S OFFICE
DATE 3-31-15 BY [signature]



LOCATION MAP
NOT TO SCALE

LEGEND

—2240—	EXISTING 2' CONTOUR
—2240—	PROPOSED 2' CONTOUR
	EXISTING STORM DRAINAGE PIPING
	PROPOSED STORM DRAINAGE PIPING
	EXISTING STORM DRAINAGE STRUCTURE
	PROPOSED STORM DRAINAGE STRUCTURE
	EXISTING WATER SYSTEM
	PROPOSED WATER SYSTEM
	EXISTING SANITARY SEWER SYSTEM
	PROPOSED SANITARY SEWER SYSTEM

PROJECT SUMMARY

PROJECT NAME:	GLEN BRIDGE ROAD SUBDIVISION
DEVELOPER:	WINDSOR BUILT HOMES, INC. P.O. BOX 16449 GREENVILLE, SC 29606 (864) 271-9855
OWNER:	RT CAROLINA PROPERTIES, LLC. 1800 NW 1ST CT BOCA RATON, FL 33432
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ENGINEER:	WILLIAM R. BUIE, P.E. WGLA ENGINEERING, PLLC 214 N. KING STREET HENDERSONVILLE, NC 28792 (828) 687-7177
DEED REF:	D.B. 4288 PG. 0118
PIN #:	9634-63-4032
SIZE:	8.25± AC.
ZONING:	R2 (BUNCOMBE COUNTY)
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DENSITY:	2.9± LOTS / ACRE
SETBACKS:	FRONT – 10 FT SIDE – 7 FT BACK –15 FT
TOWNSHIP:	AVERYS CREEK
PROPOSED ROAD:	989± LF
CORRIDOR 90' OR LESS:	0± LF (0%)
CORRIDOR 91' TO 135':	989± LF (100%)*
MAX. CORRIDOR HEIGHT:	4'±

* CORRIDOR SECTION GREATER THAN 90' IS DUE TO MASS GRADING & NOT ROADWAY CONSTRUCTION.

811 Know what's below. Call before you dig.

Preliminary
Not for Construction
NORTH CAROLINA PROFESSIONAL ENGINEER WILLIAM R. BUIE

Revisions

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NC License No: P-1342
214 N. King Street
Hendersonville, North Carolina 28792
(828) 687-7177
wgla.com

date: 2/12/15
job: 14176
drawn: KHC

WGLA Engineering, PLLC
CONSULTING ENGINEERS & LAND PLANNERS
HENDERSONVILLE, NORTH CAROLINA

GLEN BRIDGE ROAD SUBDIVISION
BUNCOMBE COUNTY, NORTH CAROLINA

SUBDIVISION PLAN

sheet
C-100

ATTACHMENT B

Buncombe County Planning Board Meeting
Recommended Staff Conditions
SUB2015-00078
April 20, 2016
Glenn Bridge Subdivision

If approved by the Buncombe County Planning Board, the applicant shall provide the following information on a revised set of plans (if necessary) submitted to the Buncombe County Department of Planning and Development:

1. Provide proof of approval of road names and addresses from E-911 Addressing.

.

2. Provide proof of approval from the Buncombe County Erosion Control Officer that an Erosion Control Plan has been submitted and approved for the project. *No grading shall occur on the site until an approved Buncombe County Erosion Control permit is obtained.*

3. Provide proof of approval from the Buncombe County Stormwater Administrator that a stormwater management plan has been submitted and approved for the project. *No grading shall occur on the site until an approved Buncombe County Stormwater permit is obtained.*

4. Provide proof of approval of system design for City of Asheville Water lines. Proof of acceptance of the water lines into the City of Asheville's water system or an engineer's certification that the system has been installed to City of Asheville's standards will be required prior to recordation of a final plat or release of a financial guarantee.

5. Provide proof of approval of system design from the Metropolitan Sewerage District. Proof of acceptance of the sewer lines into the Metropolitan Sewerage District sewage system or an engineer's certification indicating that the system has been installed to MSD standards will be required prior to recordation of a final plat or release of a financial guarantee.

6. Provide a copy of the approved NCDOT driveway permit.

7. Indicate on the submitted plans that the shared driveway is less than 20% grade.

8. Indicate the existing us of the land abutting the subdivsion.

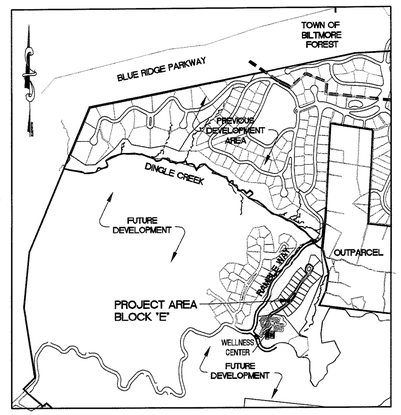
WGLA Project Number: 14105

Revisions:

3-6-15 Released for Permitting

ATTACHMENT C

SUB2015-00079
SUBMITTED 3/6/2015



VICINITY MAP

N.T.S.

The Ramble Biltmore Forest

BLOCK "E"

GRANTED PRELIMINARY APPROVAL WITH CONDITIONS AT THE 4/20/2015 PLANNING BOARD MEETING
1. Provide proof of approval of road names and addresses from E-911 Addressing.
.
2. Provide proof of approval from the Buncombe County Erosion Control Officer that an Erosion Control Plan has been submitted and approved for the project. No grading shall occur on the site until an approved Buncombe County Erosion Control permit is obtained.
3. Provide proof of approval from the Buncombe County Stormwater Administrator that a stormwater management plan has been submitted and approved for the project. No grading shall occur on the site until an approved Buncombe County Stormwater permit is obtained.
4. Provide proof of approval of system design for City of Asheville Water lines. Proof of acceptance of the water lines into the City of Asheville's water system or an engineer's certification that the system has been installed to City of Asheville's standards will be required prior to recordation of a final plat or release of a financial guarantee.
5. Provide proof of approval of system design from the Metropolitan Sewerage District. Proof of acceptance of the sewer lines into the Metropolitan Sewerage District sewage system or an engineer's certification indicating that the system has been installed to MSD standards will be required prior to recordation of a final plat or release of a financial guarantee.
6. Indicate the existing use of the land within and abutting the subdvsion.

BUNCOMBE COUNTY
NORTH CAROLINA

INDEX

SHEET NO.	DESCRIPTION
C-100	SUBDIVISION PLAN
C-101	FUTURE DEVELOPMENT PLAN
C-200	GRADING AND EROSION CONTROL PLAN
C-201	GRADING AND EROSION CONTROL PLAN
C-202	HALLETT COURT PLAN & PROFILE
C-203	GRADING AND EROSION CONTROL DETAILS
C-204	GRADING AND EROSION CONTROL DETAILS
C-300	STORM DRAINAGE PLAN
C-301	STORM DRAINAGE DETAILS
C-302	STORM DRAINAGE DETAILS
C-303	STORM DRAINAGE DETAILS
C-400	SANITARY SEWER SYSTEM LAYOUT
C-401	SANITARY SEWER MAIN PLAN & PROFILE
C-402	SANITARY SEWER DETAILS
C-500	WATER SYSTEM LAYOUT
C-501	WATER MAIN PLAN & PROFILE
C-502	WATER MAIN PLAN & PROFILE
C-503	WATER SYSTEM DETAILS
C-504	WATER SYSTEM DETAILS

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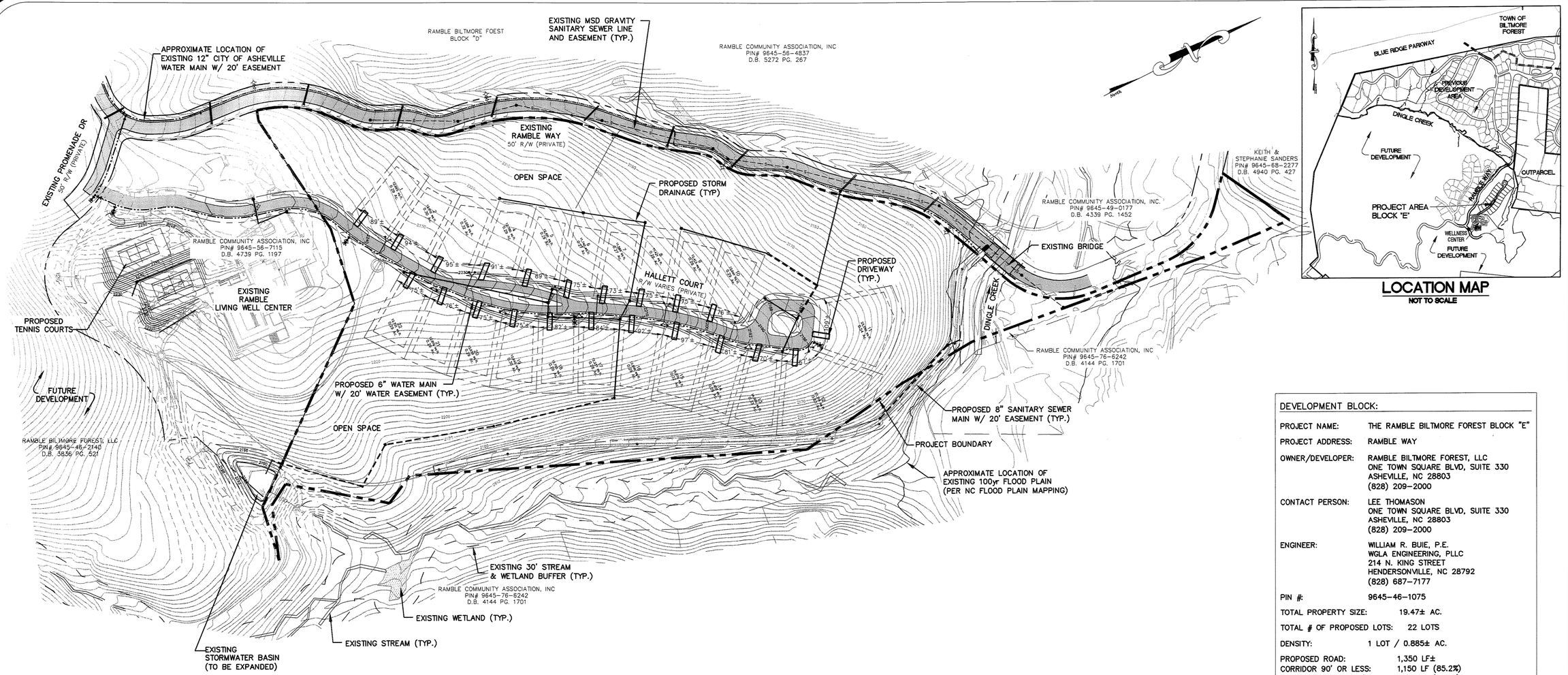


LOCATION MAP
NOT TO SCALE

DEVELOPMENT BLOCK:	
PROJECT NAME:	THE RAMBLE BILTMORE FOREST BLOCK "E"
PROJECT ADDRESS:	RAMBLE WAY
OWNER/DEVELOPER:	RAMBLE BILTMORE FOREST, LLC ONE TOWN SQUARE BLVD, SUITE 330 ASHEVILLE, NC 28803 (828) 209-2000
CONTACT PERSON:	LEE THOMASON ONE TOWN SQUARE BLVD, SUITE 330 ASHEVILLE, NC 28803 (828) 209-2000
ENGINEER:	WILLIAM R. BUIE, P.E. WGLA ENGINEERING, PLLC 214 N. KING STREET HENDERSONVILLE, NC 28792 (828) 687-7177
PIN #:	9645-46-1075
TOTAL PROPERTY SIZE:	19.47± AC.
TOTAL # OF PROPOSED LOTS:	22 LOTS
DENSITY:	1 LOT / 0.885± AC.
PROPOSED ROAD:	1,350 LF±
CORRIDOR 90' OR LESS:	1,150 LF (85.2%)
CORRIDOR 91' TO 135':	200 LF (14.8%)*
MAX. CORRIDOR HEIGHT:	4'±
DEED REF:	D.B. 3836 PG. 0521
ZONING:	R-1 (BUNCOMBE COUNTY)
TOWNSHIP:	LOWER HOMINY CREEK

BUILDING SETBACKS:

	REQUIRED
FRONT –	20' (from ROW)
SIDE –	10'
REAR –	20'

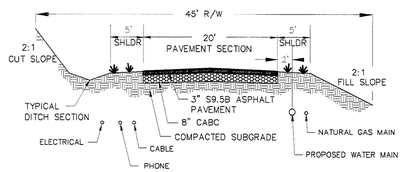
* CORRIDOR SECTION GREATER THAN 90' IS DUE TO DIVIDED ROADWAY DESIGN & NOT TO TOPOGRAPHY.

NOTES:
1.) SEE PLAN & PROFILE SHEETS FOR HORIZONTAL & VERTICAL CURVE INFORMATION & ROAD GRADES.
2.) SURVEY INFORMATION PROVIDED BY:NC SURVEY, P.C. 96 CENTRAL AVENUE ASHEVILLE, NC 28801
3.) NO WALLS ARE PROPOSED.
4.) PROPOSED ROADS ARE TO BE PRIVATE & TURNED OVER TO THE RAMBLE BILTMORE FOREST HOMEOWNERS ASSOC..
5.) THE SITE IS ENTIRELY WOODED EXCEPT FOR ROAD CONNECTION POINT.
6.) ELECTRICAL, TELEPHONE AND NATURAL GAS WILL BE UNDERGROUND AS DESIGNED BY UTILITY COMPANY.
7.) PROPOSED SANITARY SEWER SHALL BE TURNED OVER TO MSD.
8.) PROPOSED WATER SYSTEM SHALL BE TURNED OVER TO CITY OF ASHEVILLE.
9.) NO KNOWN CEMETERIES ARE LOCATED ON THE PROPERTY.
10.) EXISTING LAND IS VACANT.
11.) PAVEMENT DESIGN WAS DESIGNATED WITH ASSUMING POOR TO FAIR SUBGRADE (GROUP II, PAGE 23 NCDOT SUBDIVISION ROADS MINIMUM CONSTRUCTED STANDARDS) WITH 8" OF ABC & 3" OF S9.5B.
12.) NO BASE COURSE SHALL BE PLACED ON MUCK, PIPE CLAY, ORGANIC MATTER OR OTHER UNSUITABLE MATTER, AND A MINIMUM COMPACTION RATE OF SUBGRADE PRIOR TO PAVING SHALL BE LESS THAN 95 PERCENT BY STANDARD PROCTOR METHOD AND CERTIFIED BY A LICENSED ENGINEER.
13.) 2' CONTOURS & SURVEY INFORMATION PROVIDED BY: NC SURVEY, P.C., 96 CENTRAL DRIVE, ASHEVILLE NC 28801.
14.) THIS SUBDIVISION IS NOT A DRASTIC VARIATION HILLSIDE DEVELOPMENT.
15.) NONE OF THE SLOPES OF THE LOTS PERPENDICULAR TO THE ROAD EXCEED 18%
16.) THE ROAD CORRIDOR DOES NOT EXCEED 60 FEET IN HEIGHT.
17.) NO ROAD CONSTRUCTION WILL OCCUR IN AREAS THAT EXCEED 30% NATURAL SLOPE AND IN NO AREAS THAT ARE HIGH HAZARD OR MODERATE HAZARD ON THE BUNCOMBE COUNTY SLOPE STABILITY INDEX MAP.
18.) NATURAL AVERAGE SLOPE OF THE PROJECT AREA IS 17%

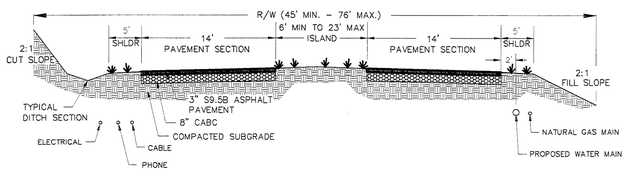
GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.



ROADWAY CROSS-SECTION
N.T.S.



ROADWAY CROSS-SECTION
N.T.S.

LEGEND

- EXISTING 2' CONTOUR
- PROPOSED 2' CONTOUR
- EXISTING STORM DRAINAGE PIPING
- PROPOSED STORM DRAINAGE PIPING
- PROPOSED STORM DRAINAGE DETANTION PIPING
- EXISTING STORM DRAINAGE STRUCTURE
- PROPOSED STORM DRAINAGE STRUCTURE
- EXISTING WATER SYSTEM
- PROPOSED WATER SYSTEM
- EXISTING SANITARY SEWER SYSTEM
- PROPOSED SANITARY SEWER SYSTEM

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C-100

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THE RAMBLE BILTMORE FOREST
BLOCK "E"
BUNCOMBE COUNTY
NORTH CAROLINA

SUBDIVISION PLAN

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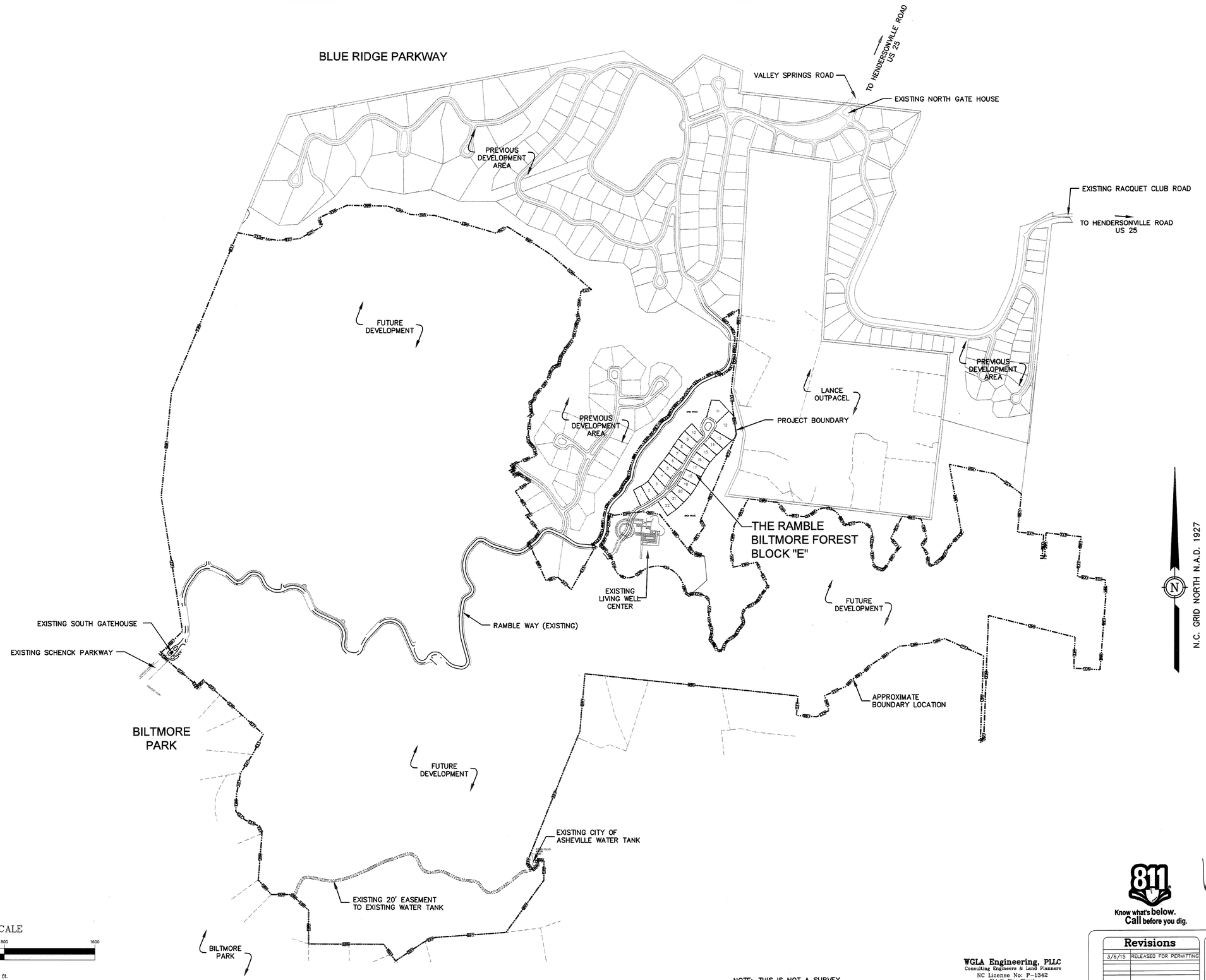

NOTE: THIS IS NOT A SURVEY.

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THE RAMBLE BILTMORE FOREST BLOCK "E"
BUNCOMBE COUNTY
NORTH CAROLINA

THE RAMBLE FUTURE DEVELOPMENT PLAN

sheet C-101

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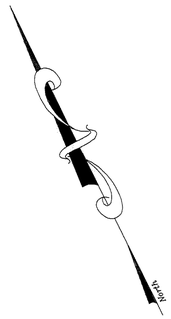


DEVELOPMENT BLOCK:

PROJECT NAME:	THE RAMBLE BILTMORE FOREST BLOCK "E"
PROJECT ADDRESS:	PROMENADE DRIVE
OWNER/DEVELOPER:	RAMBLE BILTMORE FROEST, LLC ONE TOWN SQUARE BLVD, SUITE 330 ASHEVILLE, NC 28803 (828) 209-2000
CONTACT PERSON:	LEE THOMASON ONE TOWN SQUARE BLVD, SUITE 330 ASHEVILLE, NC 28803 (828) 209-2000
ENGINEER:	WILLIAM R. BUIE, P.E. WGLA ENGINEERING, PLLC 214 N. KING STREET HENDERSONVILLE, NC 28792 (828) 687-7177
PIN #:	9645-46-1075
TOTAL PROPERTY SIZE:	19.47± AC.
TOTAL # OF PROPOSED LOTS:	22 LOTS
DEED REF:	D.B. 3836 PG. 0521
TOWNSHIP:	LOWER HOMINY CREEK

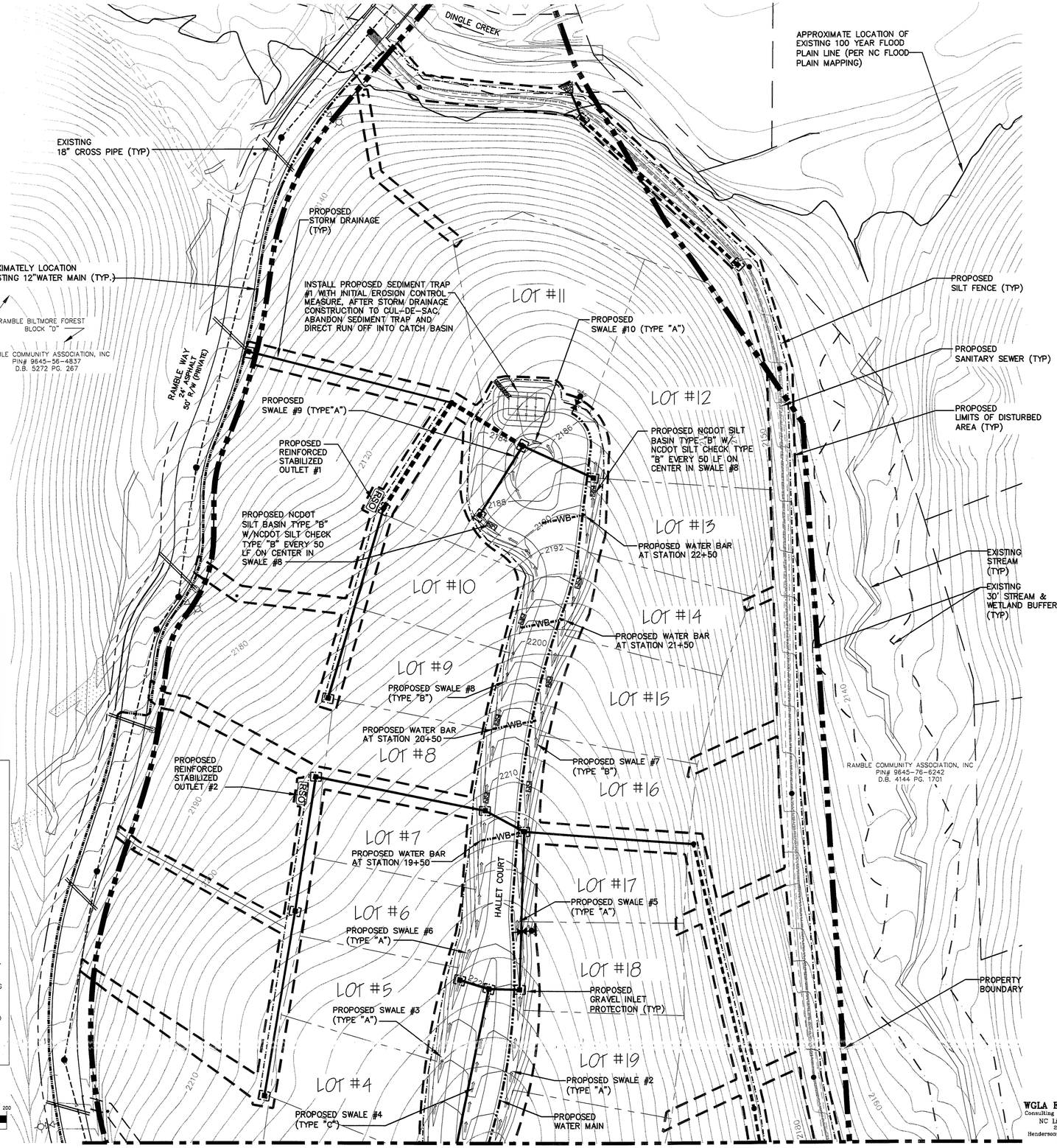
NOTES:

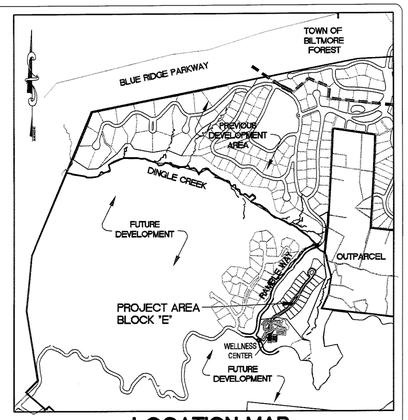
1.) MEASURES BEYOND THOSE SHOWN ON THE PLANS SHOULD BE APPROVED BY THE OWNER.
2.) ALL STORM DRAINAGE INLETS (INCLUDING ALL EXISTING INLETS SHALL HAVE GRAVEL INLET PROTECTION AS SHOWN ON THE DETAIL SHEET.
3.) CONTRACTOR SHALL OBTAIN A COPY OF THE APPROVED SEDIMENTATION AND EROSION CONTROL PERMIT AND FOLLOW ALL DIRECTIVES. CONTRACTOR SHALL READ AND UNDERSTAND THE NPDES REQUIREMENTS OF THE PERMIT INCLUDING BUT NOT LIMITED TO:
-PLACEMENT OF RAIN GAUGE ON THE SITE
-INSPECTION OF ALL EROSION CONTROL MEASURES FOLLOWING SPECIFIED RAINFALL EVENTS OR WEEKLY.
-UPKEEP OF INSPECTION LOG FOR REVIEW UPON REQUEST BY NCDENR, CITY OF ASHEVILLE. OWNER OR ENGINEER.
4.) ALL SLOPES OR GREATER 4:1 SHALL BE MATTED OR HYDRO-SEEDED AS SOON AS PRACTICALLY POSSIBLE. THE OWNER MAY REQUIRE THE CONTRACTOR TO CEASE NEW CONSTRUCTION UNTIL ALL SEEDING, MATTING AND EROSION CONTROL MAINTENANCE HAS BEEN COMPLETED.
5.) IT IS THE CONTRACTORS RESPONSIBLY TO MAINTAIN ALL EROSION CONTROL MEASURES THROUGHOUT THE LIFE OF THE PROJECT.
6.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD STAKING NECESSARY FOR THE CONSTRUCTION OF THE PROJECT. THE ENGINEER WILL PROVIDE THE CONTRACTOR WITH AN ELECTRONIC COPY OF THE DESIGN FOR STAKING PURPOSES. HOWEVER ALL ELECTRONIC INFORMATION SHOULD BE COORDINATED WITH THE PLANS.
7.) CONTRACTOR SHALL REMOVE ALL EROSION CONTROL MEASURES AT COMPLETION OF PROJECT, AFTER SITE HAS STABILIZED AND RESTORE TO FINAL GRADE.
8.) CONTRACTOR MUST KEEP ALL EXISTING STREETS CLEAR OF SEDIMENT. BROOMING OR SWEEPING OF THE STREETS WILL BE THE CONTRACTORS RESPONSIBILITY.
9.) ALL PROPOSED CONTOURS AND SPOT ELEVATIONS ARE TO FINISHED GRADE.
10.) THE SITE SHOULD BALANCE ON THE GRADING, HOWEVER IF THE CONTRACTOR HAS TO USE A BORROW OR WASTE SITE, THEN THE CONTRACTOR WILL BE REQUIRED TO PROVIDE PROOF OF ACTIVE GRADING PERMIT FOR THE BORROW OR WASTE SITE TO BE USED.
11.) SEE SHEETS C-204 & C-205 FOR DETAILS
12.) ALL UTILITY CORRIDORS SHALL BE STABILIZED WITH MULCH IMMEDIATELY AFTER GRUBBING AND AGAIN AFTER UTILITY CONSTRUCTION.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.





LOCATION MAP
NOT TO SCALE

LEGEND

2240	EXISTING 2' CONTOUR
2240	PROPOSED 2' CONTOUR
	PROPOSED LIMIT OF DISTURBED AREA
	PROPOSED GRAVEL CONSTRUCTION ENTRANCE
	PROPOSED SILT FENCE
RSO	PROPOSED REINFORCED STABILIZED OUTLET
	PROPOSED GRAVEL INLET PROTECTION
	PROPOSED OUTLET PROTECTION
	PROPOSED SWALE
WB	PROPOSED WATER BAR
	PROPOSED ROCK PIPE INLET PROTECTION
NCDOT	PROPOSED NCDOT SILT BASIN
	PROPOSED SLOPE MATTING
	EXISTING STORM DRAINAGE
	PROPOSED STORM DRAINAGE
	EXISTING WATER MAIN
	PROPOSED WATER MAIN
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER

TOTAL DISTURBED AREA
6.25± ACRES

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THE RAMBLE BILTMORE FOREST
BLOCK "E"
BUNCOMBE COUNTY
NORTH CAROLINA

GRADING AND EROSION CONTROL PLAN

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MATCHLINE "A" (SEE SHEET C-200)

LOT #3
LOT #2
LOT #1
LOT #20
LOT #21
LOT #22

EXISTING SANITARY SEWER LINE (TYP)
PROPOSED SWALE #3 (TYPE "A")
PROPOSED WATER BAR AT STATION 15+00
PROPOSED WATER BAR AT STATION 14+00
PROPOSED WATER BAR AT STATION 13+00
PROPOSED SILT FENCE (TYP)
PROPOSED GRAVEL CONSTRUCTION ENTRANCE
PROPOSED GRAVEL INLET PROTECTION (TYP)
APPROXIMATE LOCATION OF EXISTING 12" WATER MAIN (TYP)
EXISTING 18"ø CROSS PIPE (TYP)
PROPOSED WATER MAIN
PROPOSED SWALE #2 (TYPE "A")
PROPOSED GRAVEL INLET PROTECTION (TYP)
PROPOSED SWALE #1 (TYPE "A")
PROPOSED TRAIL
PROPOSED REINFORCED STABILIZED OUTLET #2
PROPOSED REINFORCED STABILIZED OUTLET #3
PROPOSED REINFORCED STABILIZED OUTLET #5
PROPOSED SANITARY SEWER (TYPICAL)
PROPOSED ROCK PIPE INLET PROTECTION
PROPOSED LIMIT OF DISTURBED AREA (TYP)
SEED FERTILIZE AND MAT SLOPE W/NORTH AMERICAN GREEN S-150 OR APPROVED EQUAL IMMEDIATELY AFTER CONSTRUCTION
SEED FERTILIZE AND MAT SLOPE W/NORTH AMERICAN GREEN S-150 OR APPROVED EQUAL IMMEDIATELY AFTER CONSTRUCTION
EXISTING 30' STREAM & WETLAND BUFFER
EXSTING WETLAND (TYP)
EXISTING STREAM
EXISTING WELLNESS CENTER
FINISHED PAD ELEV.= 2235'±
FINISHED PAD ELEV.= 2246'±

HALLET COURT
RAMBLE WAY
24' ASPHALT
50' R/W (PRIVATE)
PROMENADE DRIVE
24' ASPHALT
50' R/W (PRIVATE)

RAMBLE BILTMORE FOREST
BLOCK "D"

RAMBLE COMMUNITY ASSOCIATION, INC
PIN# 9645-56-4837
D.B. 5272 PG. 267

RAMBLE COMMUNITY ASSOCIATION, INC
PIN# 9645-56-7115
D.B. 4739 PG. 1197

RAMBLE COMMUNITY ASSOCIATION, INC
PIN# 9645-76-6242
D.B. 4144 PG. 1701

RAMBLE BILTMORE FOREST, LLC
PIN# 9645-46-2140
D.B. 3836 PG. 821

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

LEGEND

2240	EXISTING 2' CONTOUR
2240	PROPOSED 2' CONTOUR
	PROPOSED LIMIT OF DISTURBED AREA
	PROPOSED GRAVEL CONSTRUCTION ENTRANCE
	PROPOSED SILT FENCE
RSO	PROPOSED REINFORCED STABILIZED OUTLET
	PROPOSED GRAVEL INLET PROTECTION
	PROPOSED OUTLET PROTECTION
	PROPOSED SWALE
WB	PROPOSED WATER BAR
	PROPOSED ROCK PIPE INLET PROTECTION
	PROPOSED NCDOT SILT BASIN
	PROPOSED SLOPE MATTING
	EXISTING STORM DRAINAGE
	PROPOSED STORM DRAINAGE
	EXISTING WATER MAIN
	PROPOSED WATER MAIN
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER

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THE RAMBLE BILTMORE FOREST
BLOCK "E"
BUNCOMBE COUNTY
NORTH CAROLINA

GRADING AND EROSION CONTROL PLAN

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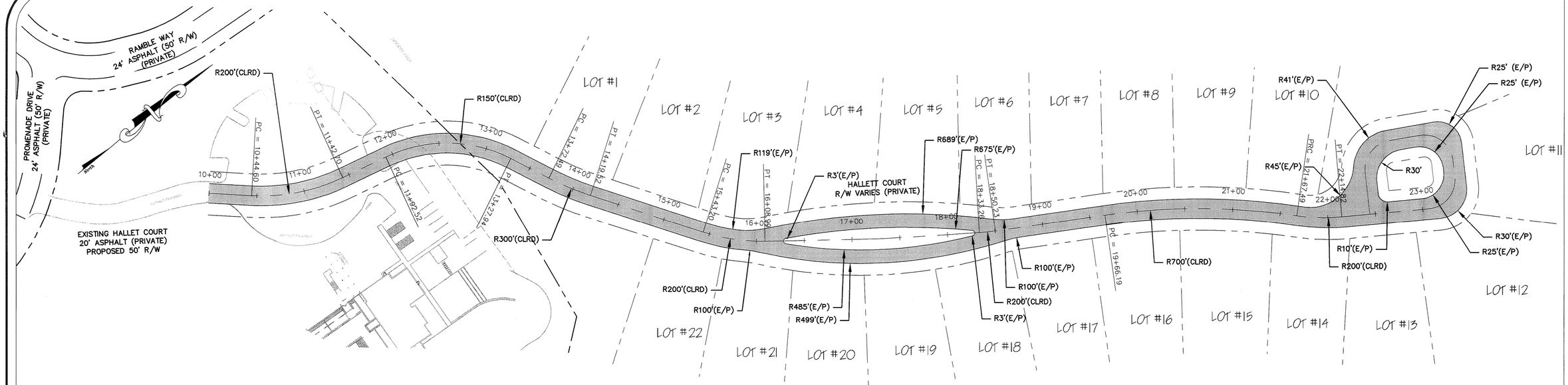
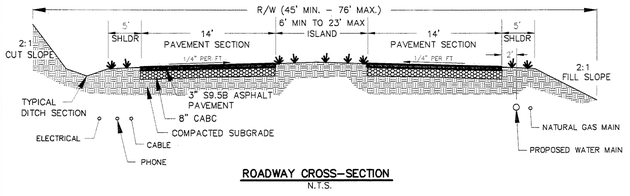
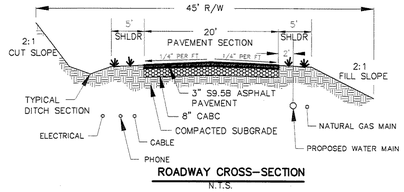




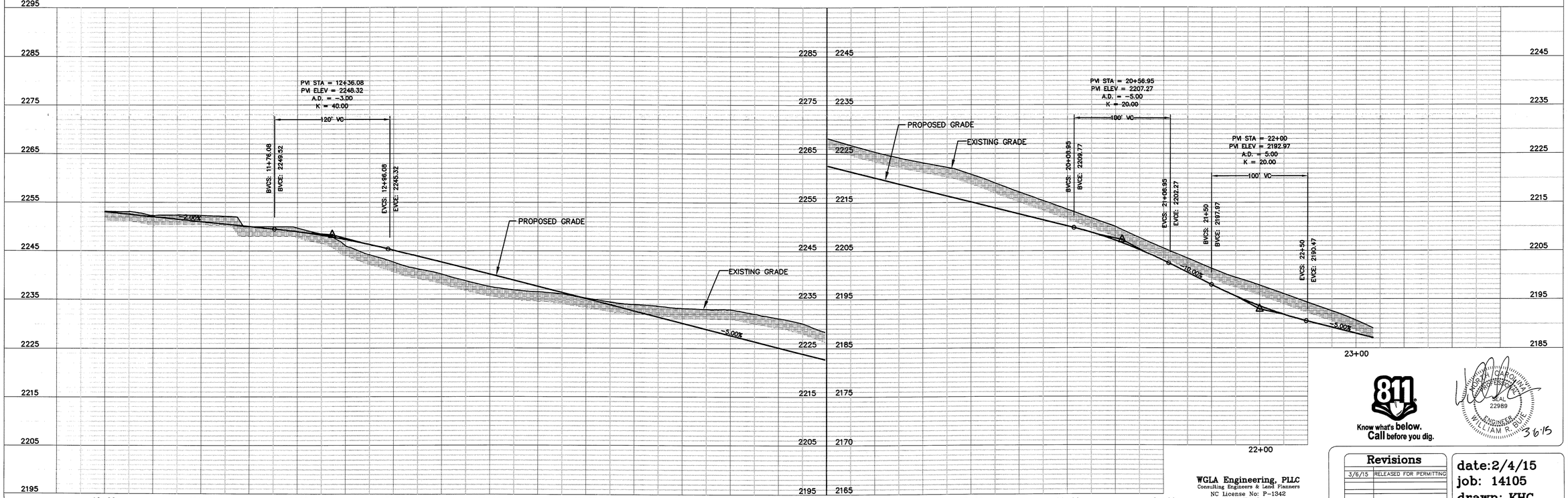
ROADWAY CROSS-SECTION
N.T.S.



ROADWAY CROSS-SECTION
N.T.S.

PROPOSED HALLETT COURT

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=10'



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THE RAMBLE BILTMORE FOREST
BLOCK "E"
BUNCOMBE COUNTY
NORTH CAROLINA

HALLETT COURT
PLAN & PROFILE

sheet
C-202

2295

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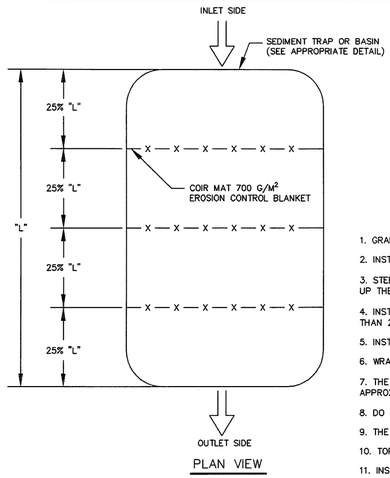
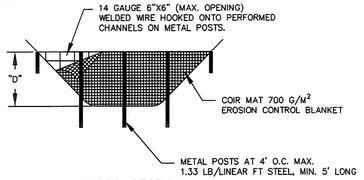
TEMPORARY SEDIMENT TRAP/BASIN BAFFLE



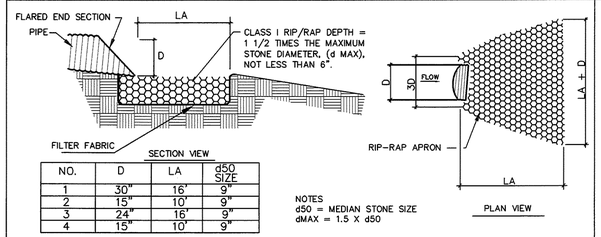
PLAN VIEW



CROSS-SECTION

CONSTRUCTION SPECIFICATIONS

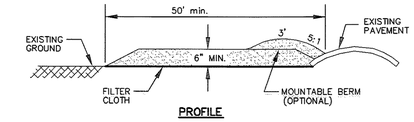
1. GRADE THE BASIN/TRAP SO THAT THE BOTTOM IS LEVEL FRONT TO BACK AND SIDE TO SIDE.
2. INSTALL POSTS ACROSS THE WIDTH OF THE SEDIMENT TRAP.
3. STEEL POSTS SHOULD BE DRIVEN TO A DEPTH OF 24", SPACED A MAXIMUM OF 4 FT APART, AND INSTALLED UP THE SIDES OF THE BASIN/TRAP AS WELL.
4. INSTALL THREE ROWS OF BAFFLES BETWEEN THE INLET AND OUTLET DISCHARGE POINT. BASINS/TRAPS LESS THAN 20 FT LONG MAY USE TWO (2) BAFFLES WHICH DIVIDE THE BASIN/TRAP INTO THIRDS.
5. INSTALL SUPPORT WIRE TO PREVENT SAGGING.
6. WRAP COIR EROSION MATTING TO WIRE.
7. THE BOTTOM AND SIDES OF THE COIR MATTING SHALL BE TRENCHED IN 8" DEEP AND 4" WIDE. CARRY APPROXIMATELY 12" OF MATTING INTO TRENCH, COVER WITH SOIL AND TAMP BACKFILL.
8. DO NOT SPLICE THE MATTING, BUT USE A CONTINUOUS PIECE ACROSS THE BASIN/TRAP.
9. THE TOP OF THE FABRIC SHOULD BE 6 INCHES HIGHER THAN THE INVERT OF THE SPILLWAY.
10. TOPS OF BAFFLES SHOULD BE 2 INCHES LOWER THAN THE TOP OF THE BERMS.
11. INSPECT BAFFLES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS.



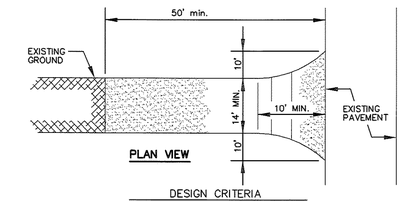
NO.	D	LA	d50 SIZE
1	30"	16'	9"
2	15"	10'	9"
3	24"	16'	9"
4	15"	10'	9"

NOTES
d50 = MEDIAN STONE SIZE
dMAX = 1.5 X d50

TYPICAL PIPE OUTLET
NOT TO SCALE



PROFILE



PLAN VIEW

DESIGN CRITERIA

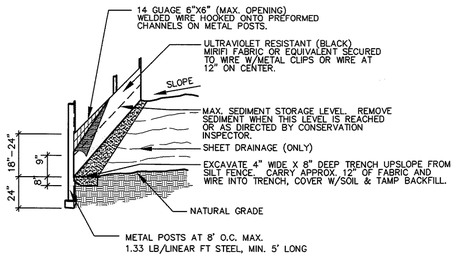
1. STONE SIZE – Use 2" stone, or reclaimed or recycled concrete equivalent.
2. LENGTH – As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. THICKNESS – Not less than six (6) inches of "ABC" or "Base Course".
4. WIDTH – Fourteen (14) foot minimum for one way traffic, Twenty (20) foot minimum for two way traffic, but not less than the full width at points where ingress or egress occurs.
5. ROAD GRADE – A maximum grade of 10% to 12% is recommended, although grades up to 15% are possible for short distance.
6. SIDE SLOPE OF ROAD EMBANKMENT – 2:1 or flatter.

CONSTRUCTION SPECIFICATIONS

1. Clear roadbed and parking areas of all vegetation, roots, and other objectionable material.
2. Ensure that road construction follows the natural contours of the terrain if it is possible.
3. Locates parking areas on naturally flat areas if they are available. Keep grades sufficient for drainage but generally not more than 2% to 3%.
4. Provide surface drainage, and divert excess runoff to stable areas by using water bars or turnouts.
5. Keep cuts and fills at 2:1 or flatter for safety and stability and to facilitate establishment of vegetation and maintance.
6. Spread a 6–inch course of "ABC" crushed stone evenly over the full width of the road and smooth to avoid depressions.
7. Where seepage areas or seasonally wet areas must be crossed, install subsurface drains or geotextile fabric cloth before placing the crushed stone.
8. Vegetate all roadside ditches, cuts, fills, and other disturbed areas or otherwise appropriately stabilize as soon as grading is complete.
9. Provide appropriate sediment control measures to prevent off–site sedimentation.

STABILIZED CONSTRUCTION ENTRY/EXIT
NOT TO SCALE

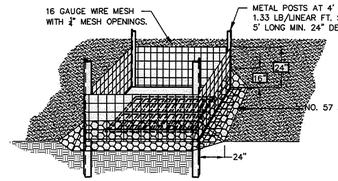
NOTE:
SILT FENCES SHOULD NOT BE USED IN AREAS OF CONCENTRATED FLOW (CREEKS, DITCHLINES, SWALE, ETC.)



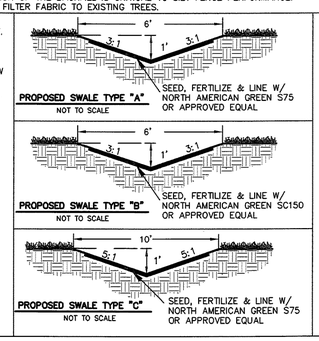
SILT FENCE
N.T.S.

CONSTRUCTION SPECIFICATIONS
1. CONSTRUCT THE SEDIMENT BARRIER OF STANDARD OR EXTRA STRENGTH SYNTHETIC FILTER FABRIC.
2. ENSURE THAT THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE THE GROUND SURFACE.
3. CONSTRUCT THE FILTER FABRIC FROM A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FILTER CLOTH ONLY AT A SUPPORT POST WITH 4 FEET MINIMUM OVERLAP TO THE NEXT POST.
4. SUPPORT STANDARD STRENGTH FILTER FABRIC BY WIRE MESH FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS. EXTEND THE WIRE MESH SUPPORT TO THE BOTTOM OF THE TRENCH. FASTEN THE WIRE REINFORCEMENT, THEN FABRIC ON THE UPSLOPE SIDE OF THE FENCE POST. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUNDS TENSILE STRENGTH.
5. WHEN A WIRE MESH SUPPORT FENCE IS USED, SPACE POSTS A MAXIMUM OF 8 FEET APART. SUPPORT POSTS SHOULD BE DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24 INCHES.
6. EXTRA STRENGTH FILTER FABRIC WITH 6 FEET POST SPACING DOES NOT REQUIRE WIRE MESH SUPPORT FENCE. SECURELY FASTEN THE FILTER FABRIC DIRECTLY TO POSTS. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH.
7. EXCAVATE A TRENCH APPROXIMATELY 4 INCHES WIDE AND 8 INCHES DEEP ALONG THE PROPOSED LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
8. PLACE 12 INCHES OF THE FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
9. BACKFILL THE TRENCH WITH SOIL PLACED OVER THE FILTER FABRIC AND COMPACT. THOROUGH COMPACTION OF THE BACKFILL IS CRITICAL TO SILT FENCE PERFORMANCE.
10. DO NOT ATTACH FILTER FABRIC TO EXISTING TREES.

NOTES:
1. EXCAVATE AROUND INLET MIN. 1', MAX. 2' BELOW TOP OF INLET FOR SEDIMENT STORAGE.
2. INSPECT INLETS AT LEAST WEEKLY AND AFTER SIGNIFICANT (½ INCH OR GREATER) RAIN FALL EVENT
3. CLEAR THE MESH WIRE OF ANY DEBRIS OF OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS.
4. TAKE CARE NOT TO DAMAGE OF UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL.
5. REPLACE STONE AS NEEDED



GRAVEL INLET PROTECTION
NOT TO SCALE



NOT TO SCALE

REINFORCED STABLIZED OUTLET
NOT TO SCALE

Sediment Fence (Silt Fence) **6**

Reinforced, Stabilized Outlets

Any outlet where storm flow bypass occurs must be stabilized against erosion.

Set outlet elevation so that water depth cannot exceed 1.5 ft at the lowest point along the fenceline (Figure 6.62c).

Set fabric height at 1 ft maximum between support posts spaced no more than 4 ft apart. Install a horizontal brace between the support posts to serve as an overflow weir and to support top of fabric. Provide a riprap splash pad as shown in Figure 6.62c.

Excavate foundation for the splash pad a minimum 5 ft wide, 1 ft deep, and 5 ft long on level grade. The finished surface of the riprap should blend with surrounding area, allowing no overfall. The area around the pad must be stable.

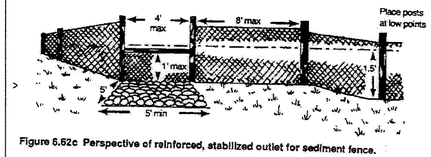


Figure 6.62c Perspective of reinforced, stabilized outlet for sediment fence.

Construction

Dig a trench approximately 8 inches deep and 4 inches wide, or a V-trench, in the line of the fence as shown in Figure 6.62d.

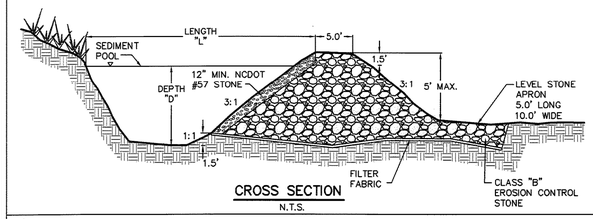
Drive posts securely, at least 18 inches into the ground, on the downslope side of the trench. Space posts a maximum of 8 ft if fence is supported by wire, 6 ft if extra-strength fabric is used without support wire. Adjust spacing to place posts at low points along the fenceline.

Fasten support wire fence to upslope side of posts, extending 6 inches into the trench as shown in Figure 6.62d.

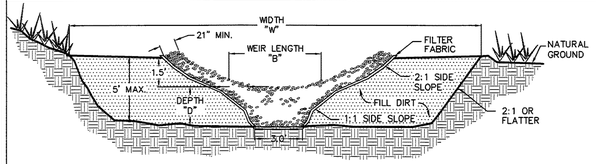
Attach continuous length of fabric to upslope side of fence posts. Avoid joints, particularly at low points in the fence line. Where joints are necessary, fasten fabric securely to support posts and overlap to the next post.

6.62.4

TEMPORARY SEDIMENT TRAP



CROSS SECTION
N.T.S.



STONE SECTION
N.T.S.

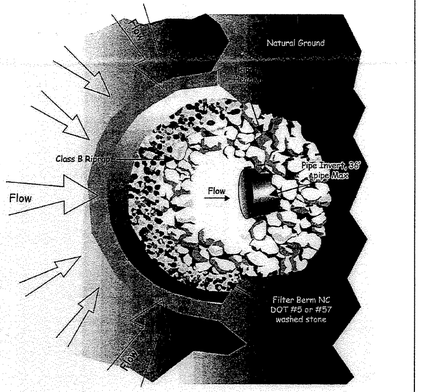
NOTE: ALL VALUES FOR "L", "W", "D" & "B" ARE IN FEET.

CONSTRUCTION SPECIFICATIONS

1. CLEAR GRUB & STRIP THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MAT.
2. CLEAR POND AREA. BASIN SHOULD BE EXCAVATED TO 1.5 FEET BELOW GRADE.
3. USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION AND ORGANIC MATTER. PLACE FILL IN LIFTS NOT TO EXCEED 9" AND MACHINE COMPACT.
4. CONSTRUCT DAM AND STONE SPILLWAY TO DIMENSIONS, SLOPES AND ELEVATIONS SHOWN.
5. ENSURE THAT THE SPILLWAY CREST IS LEVEL AT LEAST 1.5' BELOW THE TOP OF THE DAM AT ALL POINTS.
6. STONE USED FOR SPILLWAY SECTION– CLASS "B" EROSION CONTROL STONE.
7. STONE USED ON INSIDE SPILLWAY FACE TO CONTROL DRAINAGE – D.O.T. #57 WASHED STONE.
8. EXTEND STONE OUTLET SECTION ON ZERO GRADE WITH TOP ELEVATION OF STONE LEVEL WITH BOTTOM OF DRAIN.
9. ENSURE THAT THE TOP OF THE DAM AT ALL POINTS IS 0.5' ABOVE NATURAL SURROUNDING GROUND.
10. STABILIZE THE EMBANKMENT AND ALL DISTURBED AREA ABOVE THE SEDIMENT POOL AS SHOWN IN THE PLANS
11. INSTALL BAFFLES
12. REMOVE SEDIMENT FROM THE TRAP AND RESTORE THE CAPACITY TO ORIGINAL TRAP DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO ONE HALF THE DESIGN DEPTH.
13. AFTER THE CONSTRUCTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE AND STABILIZE IT.

TRAP #	"L"	"W"	"D"	"B"	BOTTOM ELEV.
1	17'	34'	2.5'	4'	2184'

6



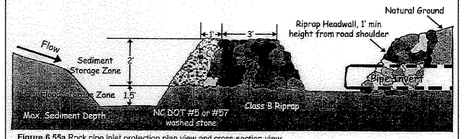


Figure 6.55a Rock pipe inlet protection plan view and cross-section view

ROCK PIPE INLET PROTECTION
NOT TO SCALE

6.55.2 Rev. 6/06

Know what's below. Call before you dig.

NORTH CAROLINA PROFESSIONAL SEAL 22989 ENGINEER WILLIAM S. BUIE 3-6-15

Revisions	
3/6/15	RELEASED FOR PERMITTING

WGLA Engineering, PLLC
Consulting Engineers & Land Planners
NC License No: P-1342
214 N. King Street
Hendersonville, North Carolina 28792
(828) 687-7177
wgla.com

date:2/4/15
job: 14105
drawn: KHC

sheet C–203

WGLA Engineering, PLLC
CONSULTING ENGINEERS & LAND PLANNERS
HENDERSONVILLE, NORTH CAROLINA

RAMBLE BILTMORE FOREST
BLOCK "E"
BUNCOMBE COUNTY
NORTH CAROLINA

GRADING & EROSION CONTROL DETAILS

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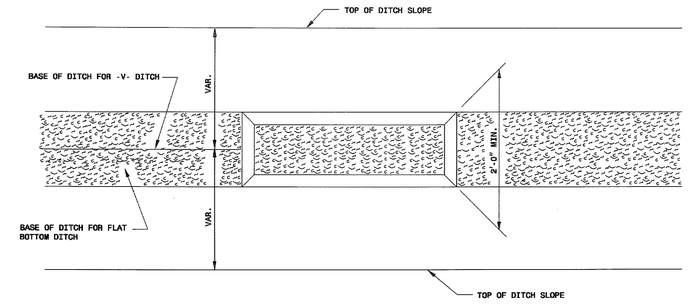
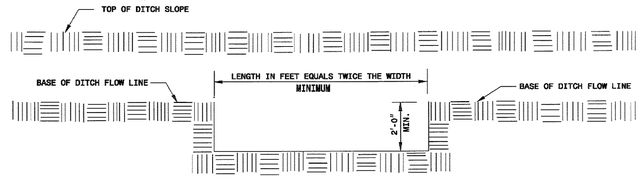


PLAN



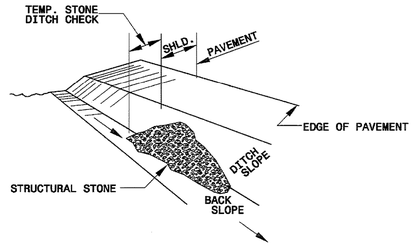
ELEVATION

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

7-06

ENGLISH STANDARD DRAWING FOR
SILT BASIN TYPE 'B'

SHEET 1 OF 1
1630.02



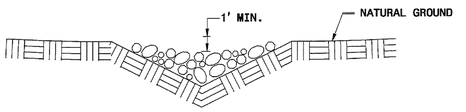
ISOMETRIC VIEW

NOTES:

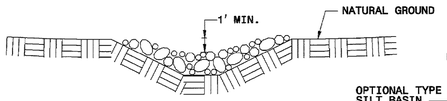
USE CLASS 'B' EROSION CONTROL STONE FOR STRUCTURAL STONE.

THE ENGINEER MAY DIRECT THE OPTION OF CLASS "A" STONE FOR SITES HAVING LESS THAN ONE (1) ACRE DRAINAGE AREA AND A DITCH GRADE LESS THAN 3%.

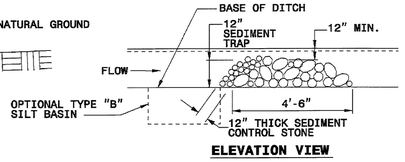
USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL. PLACE SEDIMENT CONTROL STONE AS DIRECTED BY THE ENGINEER.



CROSS SECTION
VEE DITCH



CROSS SECTION
TRAPEZOIDAL DITCH



ELEVATION VIEW

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

7-06

ENGLISH STANDARD DRAWING FOR
TEMPORARY ROCK SILT CHECK TYPE 'B'

SHEET 1 OF 1
1633.02

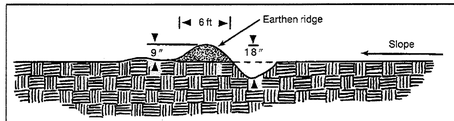


Figure 6.23b Section view of a water bar.

Construction Specifications

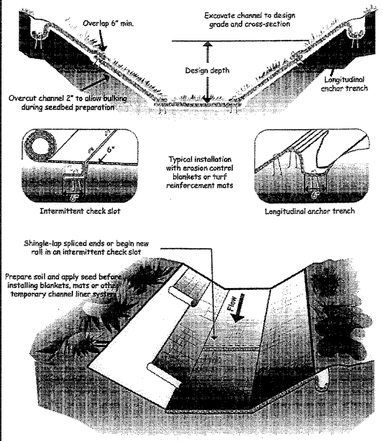
1. Install the diversion as soon as the right-of-way has been cleared and graded.
2. Disk the base for the constructed ridge before placing fill.
3. Track the ridge to compact it to the design cross section.
4. Locate the outlet on an undisturbed area. Adjust field spacing of the diversion to use the most stable outlet areas. When natural areas are not deemed satisfactory, provide outlet protection (Practices 6.40, *Level Spreader*, and 6.41, *Outlet Stabilization Structure*).
5. Immediately seed and mulch the portions of the diversions not subject to construction traffic. Stabilize with gravel areas to be crossed by vehicles.

WATER BAR
NOT TO SCALE

Maintenance

Periodically inspect right-of-way diversions for wear and after every heavy rainfall for erosion damage. Immediately remove sediment from the flow area and repair the dike. Check outlet areas and make timely repairs as needed. When permanent road drainage is established and the area above the temporary right-of-way diversions is permanently stabilized, remove the dike and fill the channel to blend with the natural ground, and appropriately stabilize the disturbed area.

Figure 6.17d Temporary Channel Liners; Washington State Department of Ecology



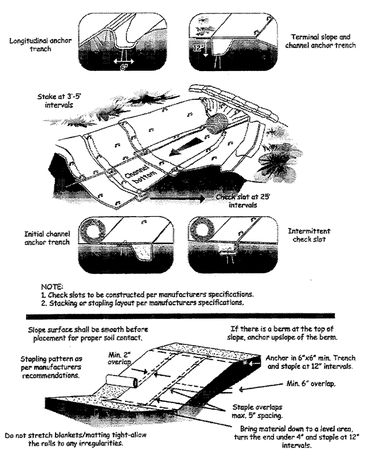
NOTES:
1. Design velocities exceeding 2 ft/sec require temporary blankets, mats or similar liners to protect seed and soil until vegetation becomes established.
2. Grass-lined channels with design velocities exceeding 6 ft/sec should include turf reinforcement mats

CHANNEL LINING DETAIL
NOT TO SCALE

6.17.10 Rev. 6/06

Practice Standards and Specifications

Figure 6.17e Channel Installation and Slope Installation: Washington State Ecology Department



SLOPE MATTING DETAIL
NOT TO SCALE

Rev. 6/06 6.17.11

GENERAL CONSTRUCTION NOTES

1. All work and construction activities on the project site shall comply with all applicable OSHA regulations and requirements. It is the Contractor's responsibility to maintain a safe work site.
2. The Engineer and Owner reserve the right to modify project work items (including grading) as deemed necessary for the successful completion of the project. The Contractor may suggest adjustments to grading or other work items to be approved by the Engineer or Owner.
3. The Contractor shall comply with the Geotechnical Report for the placement of fill and compaction requirements. If no report is available, the following minimum standards shall apply:

Placement of fill:

A. Place the material in successive horizontal layers not exceeding 8" for the full width of the cross section.

B. Fill shall be placed only when it is within 3% of its optimum moisture content as determined by a Standard Proctor ASTM D 698.

C. Each layer of fill shall be spread evenly and shall be compacted to its specified density as determined by Standard Proctor ASTM D 698 before new layers are placed and compacted.

D. Sloped ground surfaces steeper than one vertical to four horizontal, on which fill is to be placed, shall be stepped or benched such that fill material will bond to the existing surfaces.

E. Embankment slopes shall be constructed by filling one (1) foot beyond the proposed finished slope surface for each lift. Compaction equipment shall work to the edge of each lift. After the entire fill is placed and compacted, the outside foot of the slope shall be trimmed to the design slope with a dozer. Unless indicated on the drawings, no fill slopes shall be steeper than 2 horizontal to 1 vertical.

Compaction:

A. Structural Fill Under Buildings and Within 10' of Building Perimeter: 100% of Standard Proctor the entire depth of fill.

B. Under Walks, Drives, Pads, and Paved Areas: 95% of Standard Proctor except 100% of Standard Proctor in the upper 2'.

C. Under Lawns and Planting Areas Beyond 10' from Building: 95% of Standard Proctor

D. Backfill in Trenches: Comply with compaction requirements for the area through which the trench runs.

4. All erosion control devices such as silt fences, diversions, sediment traps, etc. shall be maintained in workable conditions for the life of the project and shall be removed at the completion of the project only with the engineer's approval. See the NPDES requirements on this plan sheet for more detail. If during the life of the project a storm causes soil erosion which changes the finished grades or creates gullies and "washed areas", these shall be repaired by the Contractor at no extra cost. The Contractor shall adhere to the approved erosion control plan and take any additional measures necessary to prevent sediment from leaving the site.
5. Disposable Materials:

A. Clearing and grubbing wastes shall be removed from the site and properly disposed of by the contractor at their expense, unless otherwise specified.

B. Solid wastes to be removed such as sidewalks, curbs, pavement, etc. may be placed in specified disposal areas if permitted by the appropriate agencies and approved by the Owner. This material shall be spread and mixed with dirt eliminating all voids. This material shall have a minimum cover of 2'. The Contractor shall maintain specified compaction requirements in these areas. When disposal sites are not provided, the Contractor shall remove this waste from the site and properly dispose of it at their expense.

C. Abandoned utilities such as culverts, water pipe, hydrants, casting, pipe appurtenances, utility poles, etc. shall be the property of the specified utility agency or company having jurisdiction. Before the Contractor can remove, destroy, salvage, re-use, sell or store for their own use any abandoned utility, they must present to the owner written permission from the utility involved.

D. Unless otherwise noted on the plans, burning will not be allowed on this project. Should burning be allowed by the owner, it is the Contractor's responsibility to obtain all necessary permits (at their expense) and follow all applicable rules and regulations.

6. Unless otherwise specified, all base, paving, curbing and other concrete work shall conform to the local municipality or NCDOT specifications for construction. All water and sewer construction shall conform to the local utility requirements and/or the NCDENR minimum standards.
7. In the event excessive ground water or springs are encountered within the limits of construction, the Contractor shall install necessary underdrains and stone as directed by the Engineer. All work shall be paid based upon the unit prices unless otherwise specified.
8. The Contractor is responsible for the coordination of adjustment of all utility surface accesses (including manhole covers, valve boxes, etc.) whether he performs the work or the utility company performs the work.
9. The Contractor shall control all "dust" by periodic watering and shall provide access at all times for property owners within the project and for emergency vehicles. All open ditches and hazardous areas shall be clearly marked in accordance with OSHA regulations.
10. All areas of exposed soil shall be seeded, fertilized and mulched according to the specifications. The finished surface shall be to grade and smooth, free of all rocks larger than 3", equipment tracks, dirt clods, bumps, ridges, and gouges prior to seeding. The surface shall be loosened to a depth of 1"+/- to accept seed. The Contractor shall not proceed with seeding operations without first obtaining the Engineer's approval of the graded surface. All seeding shall be performed by a mechanical "hydro-seeder". The Engineer prior to seeding must approve hand seeding on any area.

NPDES REQUIREMENTS

The contractor should be aware that any project with a disturbed area of greater than one acre must now comply with NPDES requirements for new construction projects. The contractor should obtain a copy of the plan approval and should follow all requirements including but not limited to:

A.) GROUND STABILIZATION

Site Area Description	Stabilization Time Frame	Stabilization Time Frame Exceptions
Perimeter dikes, swales, ditches and slopes	7 Days	None
High Quality Water (HQW) Zones	7 Days	None
Slopes steeper than 3:1	7 Days	If Slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
Slopes 3:1 or flatter	14 Days	7 days for slopes greater than 50 feet in length
All other areas with slopes flatter than 4:1	14 Days	None (except for perimeters and HQW Zones)

*"Extensions of time may be approved by the permitting authority based on weather or other site-specific conditions that make compliance impracticable." (Section II.b (2)(B))

1. Placement and upkeep of rain gauge on site that must be monitored throughout the course of the project.
2. The contractor shall keep a log of all rainfall events, erosion control activities, and inspections throughout the course of the project. This log must be kept on site at all times and be available for inspection
3. The contractor shall inspect all erosion control measures in accordance with the NPDES requirements. A minimum inspection schedule of weekly and with in 24 hours after every significant (1/2 inch or more) rainfall event (obtain copy of the permit for this project for details.)

B.) INSPECTONS

1. Inspection reports must be available on-site during business hours unless a site-specific exemption is approved.
2. Records must be kept for 3 years and available upon request.

C.) BUILDING WASTE HANDLING

1. No paint or liquid wastes in stream or storm drains.
2. Dedicated areas for demolition, construction and other wastes located 50' from storm drains and streams unless no reasonable alternatives are available.
3. Earthen-material stockpiles located 50' from storm drains unless no reasonable alternative available.
4. Concrete materials must be controlled to avoid contact with surface waters, wetlands, or buffers.

SEEDING SPECIFICATIONS

I. TEMPORARY COVER

A. LIME & FERTILIZER – CONTRACTOR SHALL FURNISH AND APPLY LIME AND FERTILIZER TO THE SOIL AS REQUIRED TO PROVIDE SATISFACTORY CONDITIONS FOR SEED GERMINATION. AN APPLICATION RATE OF 2000 LBS PER ACRE OF GROUND AGRICULTURAL LIME AND 750 LBS/ACRE OF FERTILIZER (10-10-10).

THESE MATERIALS SHALL BE SPREAD UNIFORMLY OVER THE AREA TO BE PLANTED. THE SOIL SHALL BE TILLED TO A DEPTH OF 3 – 4 INCHES WITH EQUIPMENT APPROVED BY THE ENGINEER.

B. TEMPORARY COVER
SEEDING – CONTRACTOR SHALL SELECT A QUICK GROWING GRASS WITH HIGH SEEDING VIGOR THAT IS SUITED TO THE AREA, THE TIME OF PLANTING, AND THAT WILL NOT INTERFERE WITH PLANTS TO BE SOWN LATER FOR PERMANENT COVER.

MAY THROUGH AUGUST

SUNDANGRASS	50 LB/AC.
OR GERMAN MILLET	40 LB/AC.

SEPT. THROUGH APRIL

RYEGRAIN	120 LBS/AC.

ALL SEEDS SHALL HAVE BEEN TESTED NOT MORE THAN 6 MONTHS PRIOR TO THE DATE OF SEEDING.

CONTRACTORS SHALL APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDRAULICALLY.

A SLURRY MIXTURE OF WATER, FERTILIZER, SEED, AND CELLULOSE FIBER MULCH IS ACCEPTABLE ON THIS PROJECT.

C. MULCHING – IN ORDER TO REDUCE DAMAGE FROM WATER RUN-OFF AND IMPROVE MOISTURE CONDITIONS FOR SEEDLINGS, A MULCH MATERIAL SHALL BE FURNISHED WHEN TEMPORARY SEEDING IS TO BE DONE. ACCEPTABLE MATERIALS ARE

A. DRY UNCHOPPED, UNWEATHERED SMALL GRAIN STRAW OR HAY FREE OF SEEDS OF COMPETING PLANTS – 1-2 TON/ACRE.
B. WOOD FIBER (EXCELSIOR)
C. WOOD CELLULOSE FIBER – 500 LBS./ACRE WITHOUT STRAW
D. JUTE MATTING –

II. PERMANENT COVER

A. CONTRACTOR SHALL FURNISH AND APPLY 90 LBS./1000 S.F. OF GROUND AGRICULTURAL LIME (2 TONS PER ACRE), 25 LBS./1000 S.F. OF FERTILIZER (10-10-10) (1000 LBS. PER ACRE), AND 2.3 LBS./1000 S.F. KENTUCKY 31 TALL FESCUE (100 LBS. PER ACRE) IN THE MANNER DESCRIBED ABOVE IN PARTS 1,2 & 3. APPLY NURSE CROP AS FOLLOWS:

MAY 1– AUG. 15 – 10 LBS./AC. GERMAN MILLET OR 15 LBS./AC. SUNDANGRASS

AUG 15 – MAY 1 – 40 LBS./AC. RYE (GRAIN)

B. SEEDING DATES: KY.31 TALL FESCUE

AUG. 20 – SEPT. 15
MARCH 1 – MAY1 (BELOW 2500' ELEVATION)

JULY 15 – AUG. 30
MARCH 5 – MAY 15 (ABOVE 2500' ELEVATION)

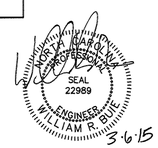
C. MULCHING

APPLY 4,000 LB PER ACRE OF GRAIN STRAW SUITABLY TACKED DOWN.
ADD NETTING TO STEEP SLOPES AND STAPLE PER MANUFACTURERS RECOMMENDATIONS.

NCDENR Self Inspection Program for Erosion and Sedimentation Control

Effective October 1, 2010, persons conducting land disturbing activities larger than one acre must inspect their project after each phase of the project, and document the inspection in writing.

1. The financially responsible party , landowner or their agent may conduct the inspection.
2. All erosion and sedimentation control measures, including sedimentation control basins, sedimentation traps, sedimentation ponds, rock dams, temporary diversions, temporary slope drains, rock check dams, sediment fence or barriers, all forms of inlet protection, storm drainage facilities, energy dissipaters, and stabilization methods of open channels must be inspected.
3. The need for ground cover should also be checked. Temporary or permanent ground cover must be provided on exposed graded slopes and fills within 21 calendar days of the completion of a phase of grading. Permanent ground cover must be provided within 15 working days or 90 calendar days (60 days in HQW zones), whichever term is shorter, upon the completion of construction or development.
4. The actual dimensions (length and width) of the basins have to be checked, usually with a tape measure, and compared to the dimensions on the approved plan. Only relative elevations, comparing the bottom and top elevations are necessary.
5. A significant deviation means an omission, alteration or relocation of an erosion or sedimentation control measure that prevents the measure from performing as intended. If the approved erosion and sedimentation control plan cannot be followed, a revised plan should be submitted for review.
6. Use the formfSelfInspection Report for Land Disturbing Activity as Required by NCGS 143A 54.1" it can be completed by hand or completed as an Excel spreadsheet. An alternative is to make notations on the copy of the approved erosion and sedimentation control plan that is kept on the project site. Rule 15A NCAC 04B .0131 states that1. documentation shall be accomplished by initialing and dat ing each measure or practice shown on a copy of the approved erosion and sedimentation control plan or by completing, dating and signing an inspection report that lists each measure, practice or device shown on the approved erosion and sedimentation control plan."
7. NPDES Self-Monitoring Report may only be used to report that the maintenance and repair requirements for all temporary and permanent erosion and sedimentation control measures, practices and devices have been performed.
8. Unlike the NPDES Self Monitoring Report, the Self Inspection Report for Land Disturbing Activity does not have to be weekly. Rather, this report is completed after each phase of th e approved erosion and sedimentation control plan is complete . Not every project will have all the possible phases, but the list of phases includes the following:
   Installation of perimeter erosion and sediment control measures;
   Clearing and grubbing of existing ground cover;
   Completion of any phase of grading of slopes or fills;
   Installation of storm drainage facilities;
   Completion of construction or development;
   Establishment of permanent ground cover sufficient to restrain erosion.
9. Do not mail the report. The records must be made available to the erosion control inspector at the site. Any documentation of inspections that occur on a copy of the approved erosion and sedimentation control plan shall occur on a single copy of the plan and that plan shall be made available on the site. Any inspection reports shall also be made available on the site.



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Revisions

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Consulting Engineers & Land Planners
NC License No: P-1342
214 N. King Street
Hendersonville, North Carolina 28792
(828) 697-7177
wgla.com

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CONSULTING ENGINEERS & LAND PLANNERS
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RAMBLE BILTMORE FOREST
BLOCK "E"
BUNCOMBE COUNTY
NORTH CAROLINA

GRADING & EROSION CONTROL DETAILS

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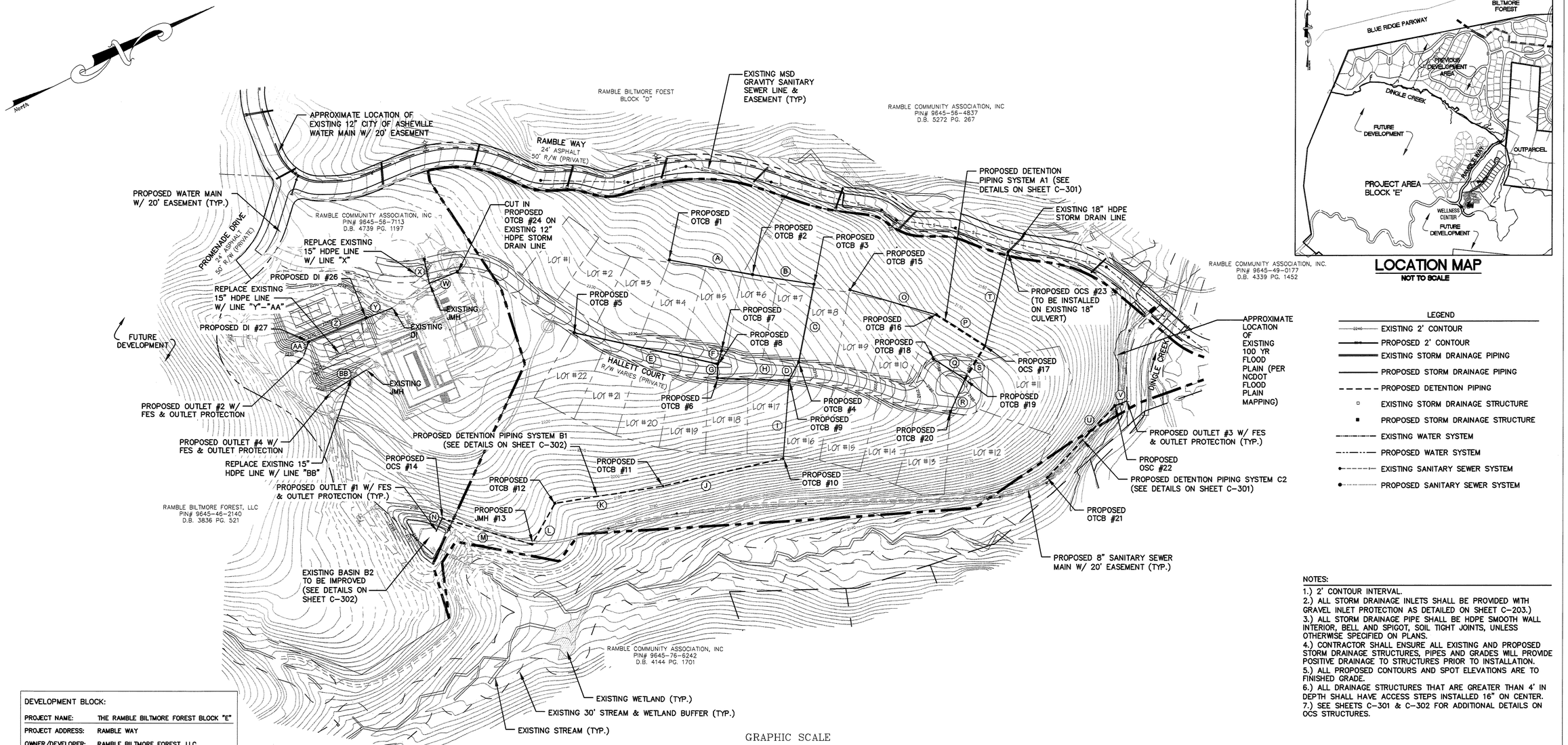


LOCATION MAP
NOT TO SCALE

LEGEND
- EXISTING 2' CONTOUR
- PROPOSED 2' CONTOUR
- EXISTING STORM DRAINAGE PIPING
- PROPOSED STORM DRAINAGE PIPING
- PROPOSED DETENTION PIPING
- EXISTING STORM DRAINAGE STRUCTURE
- PROPOSED STORM DRAINAGE STRUCTURE
- EXISTING WATER SYSTEM
- PROPOSED WATER SYSTEM
- EXISTING SANITARY SEWER SYSTEM
- PROPOSED SANITARY SEWER SYSTEM

NOTES:
1.) 2' CONTOUR INTERVAL.
2.) ALL STORM DRAINAGE INLETS SHALL BE PROVIDED WITH GRAVEL INLET PROTECTION AS DETAILED ON SHEET C-203.)
3.) ALL STORM DRAINAGE PIPE SHALL BE HDPE SMOOTH WALL INTERIOR, BELL AND SPIGOT, SOIL TIGHT JOINTS, UNLESS OTHERWISE SPECIFIED ON PLANS.
4.) CONTRACTOR SHALL ENSURE ALL EXISTING AND PROPOSED STORM DRAINAGE STRUCTURES, PIPES AND GRADES WILL PROVIDE POSITIVE DRAINAGE TO STRUCTURES PRIOR TO INSTALLATION.
5.) ALL PROPOSED CONTOURS AND SPOT ELEVATIONS ARE TO FINISHED GRADE.
6.) ALL DRAINAGE STRUCTURES THAT ARE GREATER THAN 4' IN DEPTH SHALL HAVE ACCESS STEPS INSTALLED 16" ON CENTER.
7.) SEE SHEETS C-301 & C-302 FOR ADDITIONAL DETAILS ON OCS STRUCTURES.

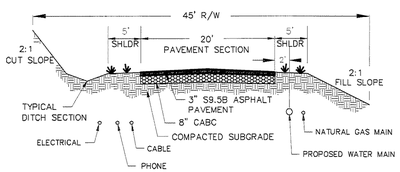
DEVELOPMENT BLOCK:

PROJECT NAME:	THE RAMBLE BILTMORE FOREST BLOCK "E"
PROJECT ADDRESS:	RAMBLE WAY
OWNER/DEVELOPER:	RAMBLE BILTMORE FOREST, LLC ONE TOWN SQUARE BLVD. SUITE 330 ASHEVILLE, NC 28803 (828) 209-2000
CONTACT PERSON:	LEE THOMASON ONE TOWN SQUARE BLVD, SUITE 330 ASHEVILLE, NC 28803 (828) 209-2000
ENGINEER:	WILLIAM R. BUIE, P.E. WGLA ENGINEERING, PLLC 214 N. KING STREET HENDERSONVILLE, NC 28792 (828) 687-7177
PIN #:	9645-46-1075
TOTAL PROPERTY SIZE:	19.47± AC.
TOTAL # OF PROPOSED LOTS:	22 LOTS
DENSITY:	1 LOT / 0.885± AC.
PROPOSED ROAD:	1,350 LF±
CORRIDOR 90' OR LESS:	1,150 LF (85.2%)
CORRIDOR 91' TO 135':	200 LF (14.8%)*
MAX. CORRIDOR HEIGHT:	4'±
DEED REF:	D.B. 3836 PG. 0521
ZONING:	R-1 (BUNCOMBE COUNTY)
TOWNSHIP:	LOWER HOMINY CREEK

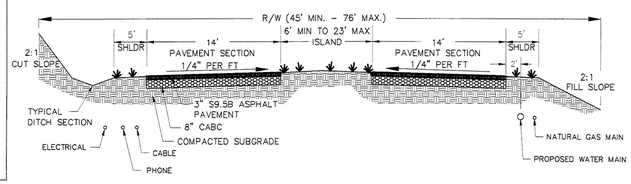
BUILDING SETBACKS:

	REQUIRED
FRONT –	20' (from ROW)
SIDE –	10'
REAR –	20'

* CORRIDOR SECTION GREATER THAN 90' IS DUE TO DIVIDED ROADWAY DESIGN & NOT TO TOPOGRAPHY.



ROADWAY CROSS-SECTION
N.T.S.



ROADWAY CROSS-SECTION
N.T.S.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

STRUCTURE TABLE

STRUCTURE	TOP ELEV.	INV. ELEV.	DEPTH	TYPE
1	2216.50'	2213.50'	3.00	OTCB
2	2209.00'	2206.00'	3.00	OTCB
3	2199.00'	2196.00'	3.00	OTCB
4	2210.00'	2195.18'	14.82	OTCB
5	2233.50'	2228.50'	5.00	OTCB
6	2218.00'	2213.00'	5.00	OTCB
7	2218.00'	2214.00'	4.00	OTCB
8	2218.50'	2213.50'	5.00	OTCB
9	2211.00'	2194.97'	16.03	OTCB
10	2192.00'	2187.09'	4.91	OTCB
11	2190.00'	2186.45'	3.55	OTCB
12	2191.00'	2185.88'	5.12	OTCB
13	2192.00'	2185.64'	6.36	JMH
14	2195.00'	2185.16'	9.84	OCS *
15	2193.00'	2190.00'	3.00	OTCB
16	2175.00'	2168.30'	6.70	OTCB
17	2176.50'	2168.00'	8.50	OCS *
18	2187.00'	2184.00'	3.00	OTCB
19	2183.00'	2168.20'	14.80	OTCB
20	2187.50'	2180.00'	7.50	OTCB
21	2135.00'	2124.50'	10.50	OTCB
22	2127.00'	2123.50'	3.50	OCS *
23	2139.23'	2136.23'	3.00	OTCB
24	2247.00'	2240.17'	6.83	OTCB
25	2248.25'	2245.25'	3.00	OTCB
26	2234.00'	2229.00'	5.00	DI
27	2234.00'	2228.25'	5.75	DI

* = SEE DETAIL SHEETS FOR ADDITIONAL INFORMATION ON OUTLET CONTROL STRUCTURES

PIPING CHART

SEGMENT	FROM	TO	LENGTH (LF)	SIZE (Ø)	SLOPE (%)	MATERIAL
A	1	2	174	18"	4.31	HDPE
B	2	3	128	18"	7.81	HDPE
C	3	4	164	18"	0.50	HDPE
D	4	9	42	18"	0.50	HDPE
E	5	6	309	18"	5.02	HDPE
F	7	8	29	18"	1.72	HDPE
G	8	6	29	18"	1.72	HDPE
H	6	9	167	18"	10.80	HDPE
I	9	10	161	18"	4.89	HDPE
J	10	11	254	30"	0.25	HDPE (WT)
K	11	12	226	30"	0.25	HDPE (WT)
L	12	13	96	30"	0.25	HDPE (WT)
M	13	14	193	30"	0.25	HDPE (WT)
N	14	OUTLET #1	30	30"	0.53	HDPE
O	15	16	186	18"	11.67	HDPE
P	16	17	120	48"	0.25	HDPE (WT)
Q	18	19	77	18"	20.52	HDPE
R	20	19	73	18"	16.16	HDPE
S	19	17	80	48"	0.25	HDPE (WT)
T	17	23	199	18"	15.96	HDPE
U	21	22	200	30"	0.50	HDPE (WT)
V	22	OUTLET #3	27	24"	0.52	HDPE
W	24	EX. JMH	63	15"	2.02	HDPE
X	25	EX. JMH	50	15"	0.50	HDPE
Y	EX. DI	26	58	15"	13.13	HDPE
Z	26	27	128	15"	0.59	HDPE
AA	27	OUTLET #2	31	15"	0.81	HDPE
BB	EX. JMH	OUTLET #3	86	15"	8.60	HDPE

OUTLET CHART

OUTLET	INV. ELEV.	END TREATMENT
1	2185.00'	FES & OUTLET PROTECTION
2	2228.00'	FES & OUTLET PROTECTION
3	2123.38'	FES & OUTLET PROTECTION
4	2219.00'	FES & OUTLET PROTECTION

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WGLA Engineering, PLLC
Consulting Engineers & Land Planners
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214 N. King Street
Hendersonville, North Carolina 28792
(828) 687-7177
wgla.com

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THE RAMBLE BILTMORE FOREST
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STORM DRAINAGE PLAN

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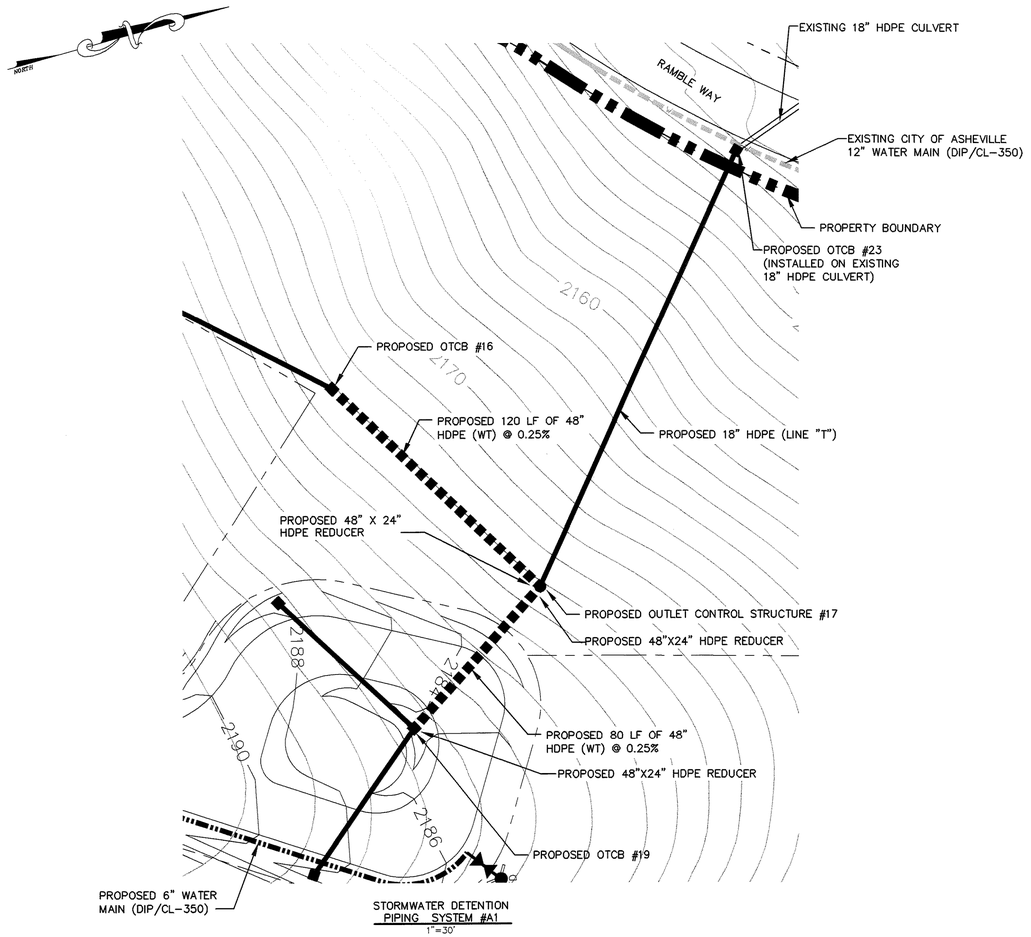
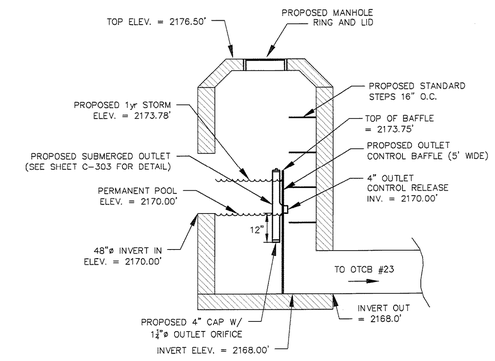
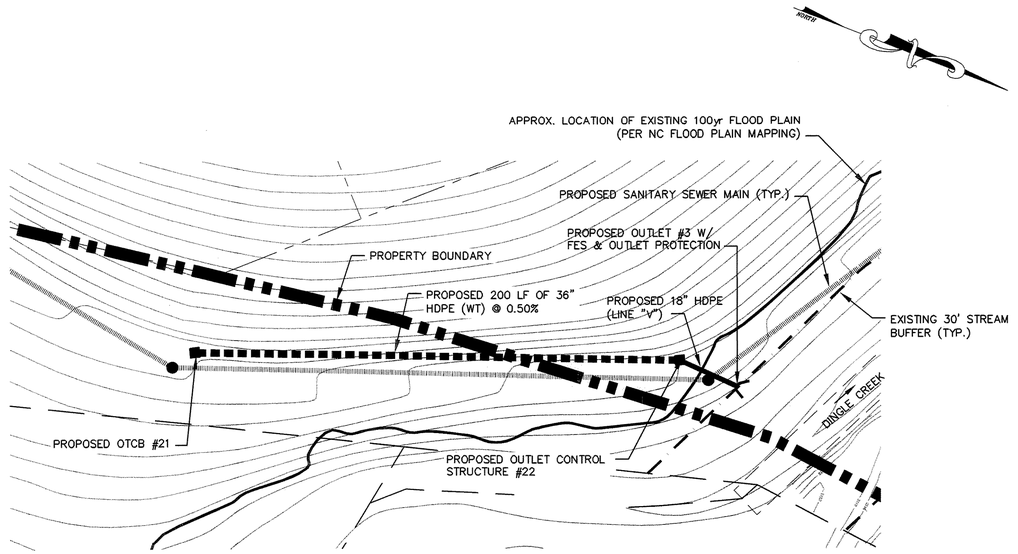


STORMWATER DETENTION
PIPING SYSTEM #A1
1"=30'

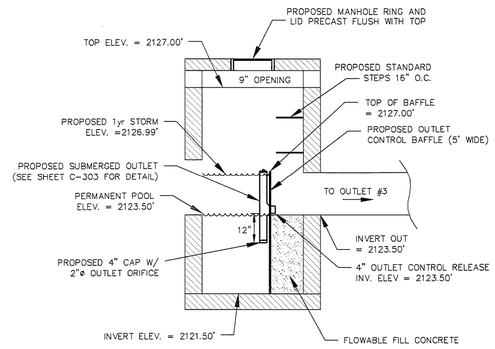


OUTLET CONTROL STRUCTURE #17
ELEVATION VIEW
NOT TO SCALE

NOTE: OUTLET CONTROL STRUCTURE #17 SHALL BE A MIN OF 5'ø MANHOLE.



STORMWATER DETENTION
PIPING SYSTEM C2
1"=30'



OUTLET CONTROL STRUCTURE #22
ELEVATION VIEW
NOT TO SCALE

NOTE: OUTLET CONTROL STRUCTURE #22 SHALL BE A MIN OF 5'X3' PRECAST CONCRETE BOX

WGLA Engineering, PLLC
Consulting Engineers & Land Planners
NC License No: P-1342
214 N. King Street
Hendersonville, North Carolina 28792
(828) 687-7177
wgla.com

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THE RAMBLE BILTMORE FOREST
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BUNCOMBE COUNTY
NORTH CAROLINA

STORM DRAINAGE DETAILS

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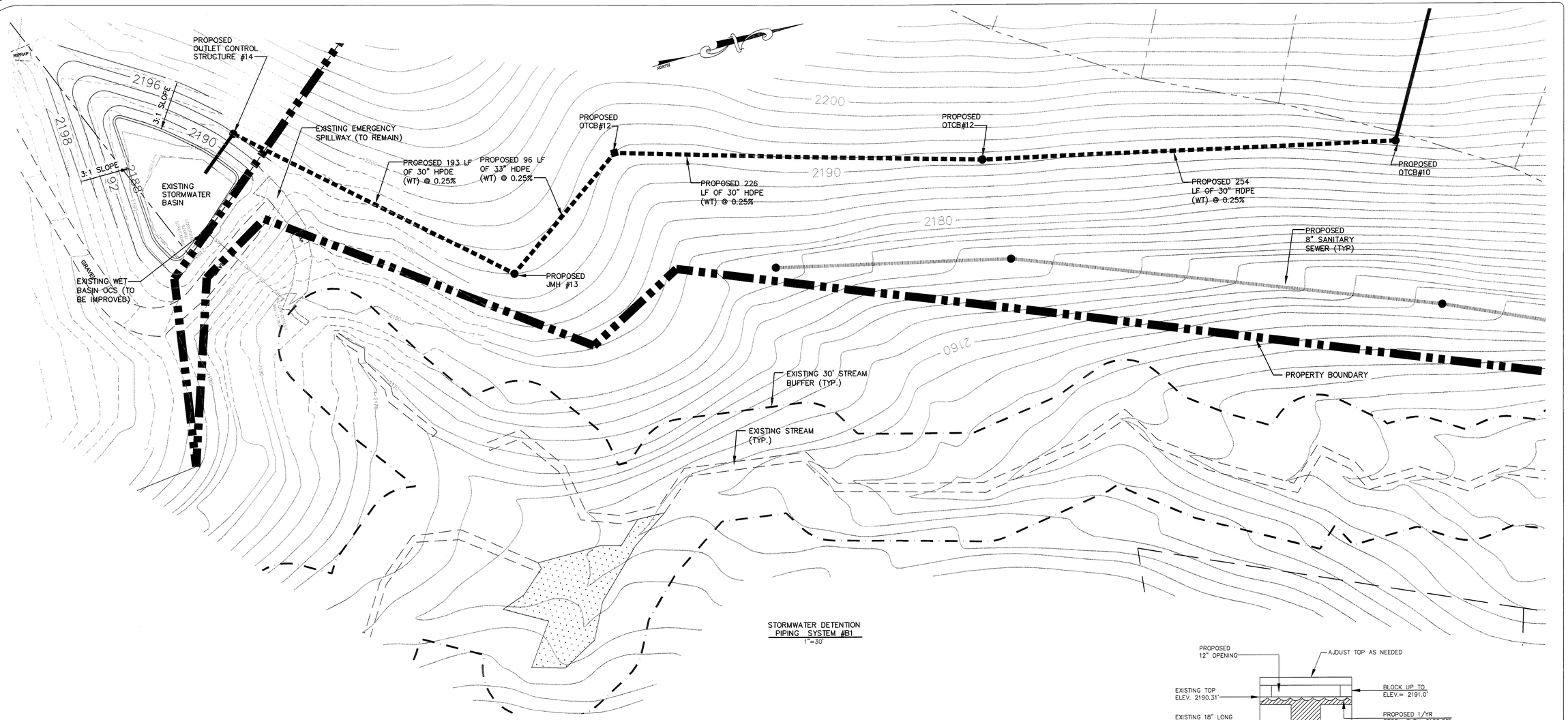
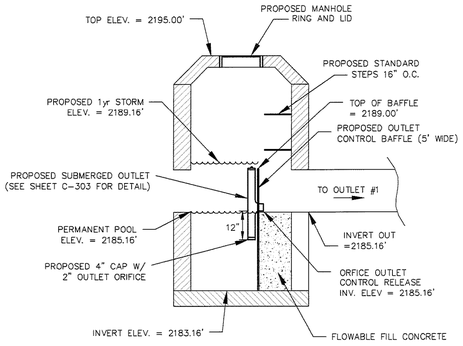
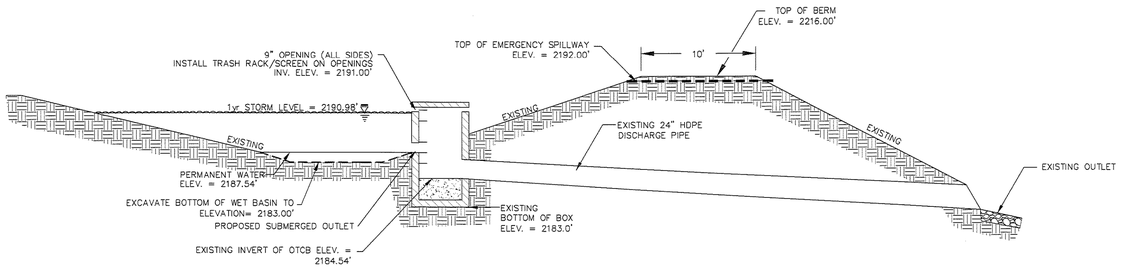


STORMWATER DETENTION PIPING SYSTEM #B1
1"=30'



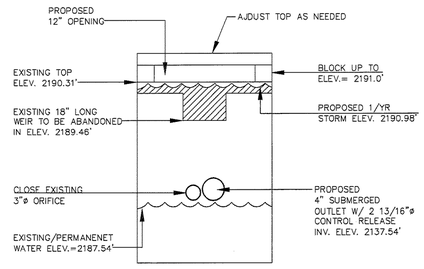
OUTLET CONTROL STRUCTURE #14
ELEVATION VIEW
NOT TO SCALE

NOTE: OUTLET CONTROL STRUCTURE #14 SHALL BE A MIN OF 5'ø MANHOLE.



EXISTING BASIN SECTION
NOT TO SCALE

NOTE:
CONTRACTOR SHALL NOT DISTURB EXISTING BASIN EMBARKMENT OR EMERGENCY SPILLWAY



EXISTING WET BASIN OCS
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STORM DRAINAGE DETAILS

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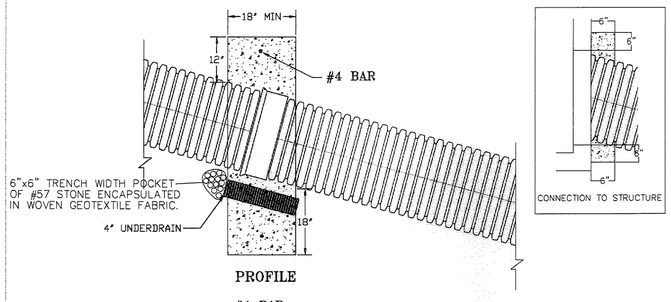
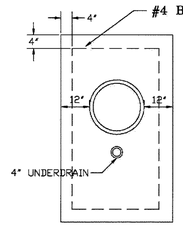
WGLA Engineering, PLLC
Consulting Engineers & Land Planners
NC License No: P-1342
214 N. King Street
Hendersonville, North Carolina 28792
(828) 687-7177
wgla.com



PROFILE



ELEVATION

Notes:

1.) Contractor shall space anchors as directed on plans.

2.) Concrete shall have a minimum 28 day compressive strength of 2000 p.s.i.

3.) Contractor shall use water tight HDPE storm drain on all lines that will have Concrete Anchors.

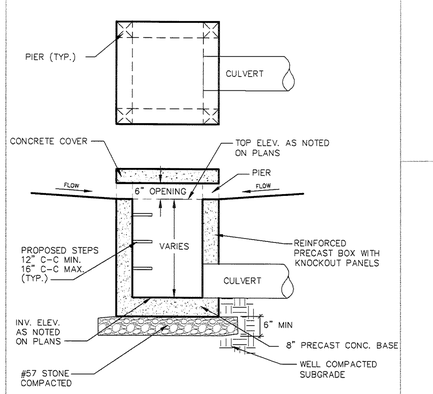
4.) Back fill with natural material (Class III or Better) Compacting to 95% Standard Proctor Value.

5.) When Coupling Pipe, Joints shall be pushed fully home.

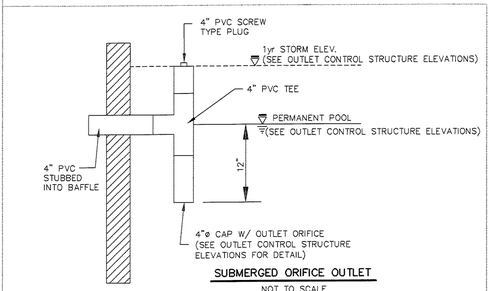
6.) For all lines that Anchors are used, Contractor shall place a Hydraulic Cement or non-shrink Grout anchor around the connection point at the beginning and end of the run, that will be a minimum of 6" thick and will extend a minimum of 6" pass the hole opening in the structure. (See Connection to Structure)

7.) Anchor pipes 36 lf max. on center.

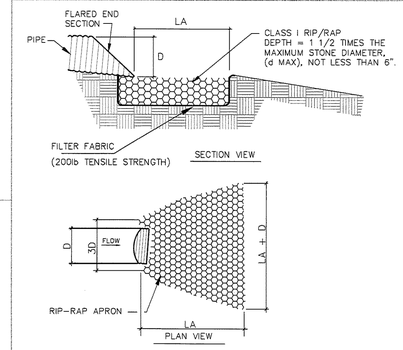
CONCRETE ANCHOR DETAIL
Not To Scale



OPEN THROAT CATCH BASIN
NOT TO SCALE



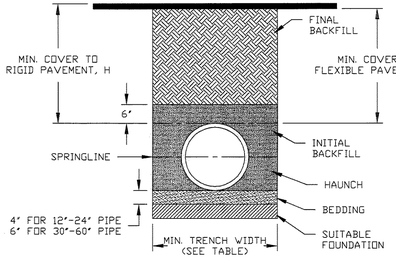
SUBMERGED ORIFICE OUTLET
NOT TO SCALE



OUTLET PROTECTION
NOT TO SCALE

NO.	D	LA	d50 SIZE
1	30"	16'	9"
2	15"	10'	9"
3	24"	16'	9"
4	15"	10'	9"

NOTES
d50 = MEDIAN STONE SIZE
dMAX = 1.5 X d50



RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION

2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.

4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).

5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

	SURFACE LIVE LOADING CONDITION	
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COOPER E-80**
UP TO 24"	24"
30"-36"	36"
42"-60"	48"

** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.
*** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.

TYPICAL HDPE STORM DRAINAGE TRENCH DETAIL
NOT TO SCALE

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Hendersonville, North Carolina 28792
(828) 687-7177
wgla.com

Revisions	
3/6/15	RELEASED FOR PERMITTING

date:2/4/15
job: 14105
drawn: TWT

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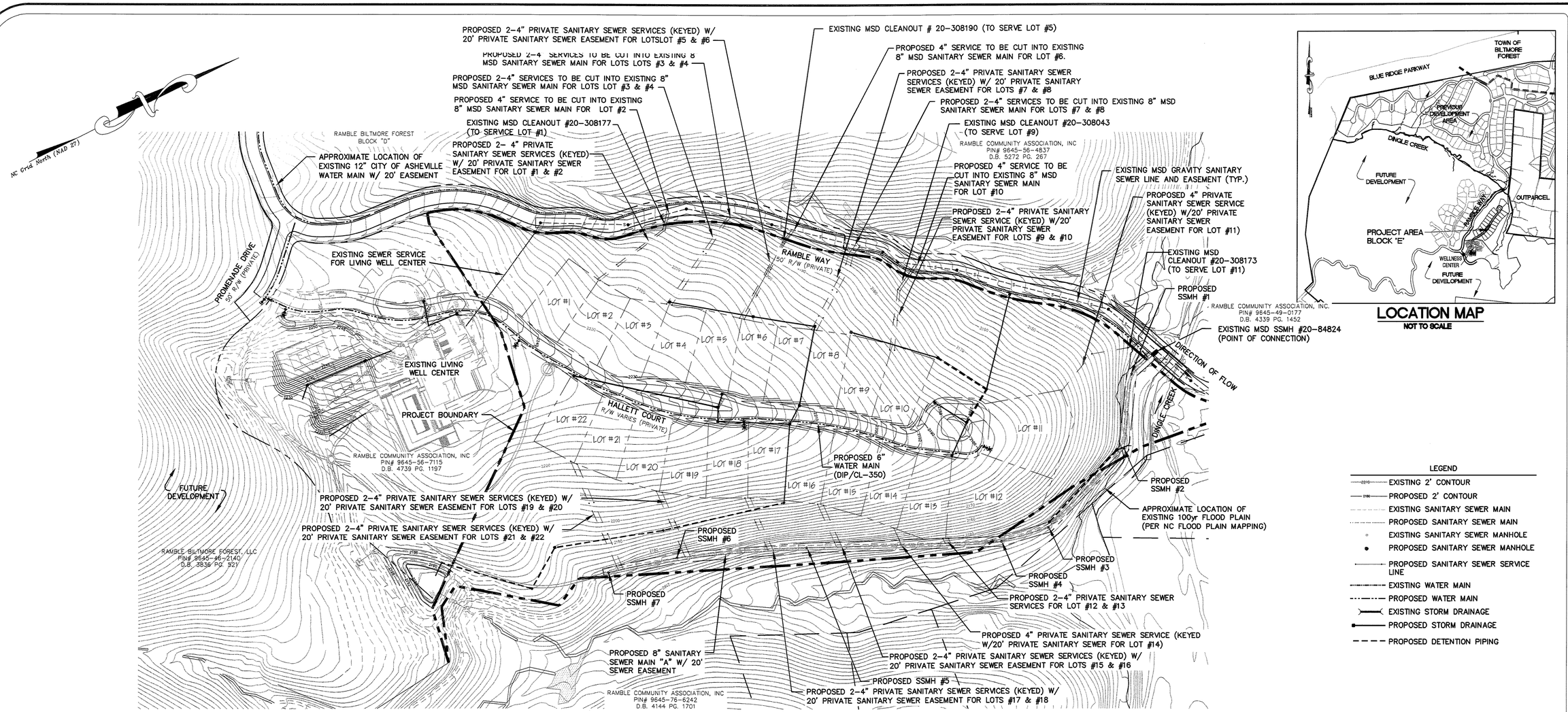
HENDERSONVILLE, NORTH CAROLINA

RAMBLE BILTMORE FOREST
BLOCK "E"
BUNCOMBE COUNTY
NORTH CAROLINA

STORM DRAINAGE DETAILS

sheet C-303



LOCATION MAP
NOT TO SCALE

LEGEND

- EXISTING 2' CONTOUR
- PROPOSED 2' CONTOUR
- EXISTING SANITARY SEWER MAIN
- PROPOSED SANITARY SEWER MAIN
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER SERVICE LINE
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- EXISTING STORM DRAINAGE
- PROPOSED STORM DRAINAGE
- PROPOSED DETENTION PIPING

NOTES:

1) THE SPECIFICATIONS AND REQUIREMENTS OF THE METROPOLITAN SEWAGE DISTRICT SUPERSEDE ALL OTHERS IN THE INSTALLATION OF THE PROPOSED EXTENSION(S).

2) MSD MAINTENANCE OF SEWER SERVICES ENDS AT THE FIRST CLEANOUT MAINTENANCE OF SERVICES BEYOND THIS POINT IS PRIVATE

3.) INVERT OF EXISTING MANHOLE #20-84824 SHALL BE CORED AND BOOTED, IF NEEDED FOR NEW PIPE CONNECTIONS.

4.) ALL SEWER SERVICES SHALL BE 4" UNLESS OTHERWISE NOTED.

5.) CONTRACTOR SHALL USE DIP/CL-350 PIPING ON ALL SEWER LINES WHERE 3 FEET OF COVER IS NOT PROVIDED.

6.) PIN # 9645-46-1075 IS THE ONLY PROPERTY AFFECTED BY THE PROPOSED SEWER LINE CONSTRUCTION.

7.) ALL SANITARY SEWER WORK IS TO BE PERFORMED BY A LICENSED NORTH CAROLINA UTILITY CONTRACTOR

8.) BENCHMARK FOR THIS PROJECT SHALL BE EXISTING MSD MANHOLE #20-84824 TOP WITH ELEV. 2124.18.'

9.) ALL SEWER EASEMENTS SHALL BE 20' WIDE UNLESS NOTED ON PLAN OTHERWISE.

10.) ALL PROPOSED SANITARY SEWER LINES TO BE TURNED OVER TO MSD WILL BE GRAVITY LINES.

11.) IF CONTRACTOR TRANSITIONS FROM PVC TO DIP, THEN A SOLID SLEEVE COUPLING WILL BE USED. ONLY ONE TRANSITION WILL BE ALLOWED BETWEEN MANHOLES.

13.) SEE THE GRADING AND EROSION CONTROL PLANS FOR ALL EROSION MEASURES RELATED TO SEWER CONSTRUCTION

14.) HORIZONTAL CONTROL IS NAD 27, VERTICAL CONTROL IS NAVD 88.

15.) NO DOGHOUSE MANHOLES ALLOWED.

16.) THE ENTIRE MSD PERMANENT SEWER EASEMENT MUST BE CLEARED AND REMAIN CLEAR OF TREE PLANTINGS & PERMANENT TYPE STRUCTURES.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

DEVELOPMENT BLOCK:

PROJECT NAME: THE RAMBLE BILTMORE FOREST BLOCK "E"

PROJECT ADDRESS: RAMBLE WAY

OWNER/DEVELOPER: RAMBLE BILTMORE FROEST, LLC
ONE TOWN SQUARE BLVD, SUITE 330
ASHEVILLE, NC 28803
(828) 209-2000

CONTACT PERSON: LEE THOMASON
ONE TOWN SQUARE BLVD, SUITE 330
ASHEVILLE, NC 28803
(828) 209-2000

ENGINEER: WILLIAM R. BUIE, P.E.
WGLA ENGINEERING, PLLC
214 N. KING STREET
HENDERSONVILLE, NC 28792
(828) 687-7177

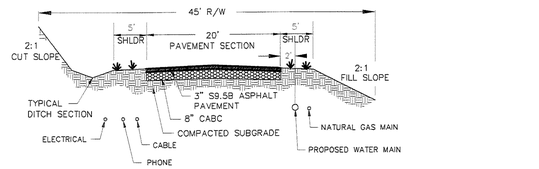
PIN #: 9645-46-1075

TOTAL PROPERTY SIZE: 19.47± AC.

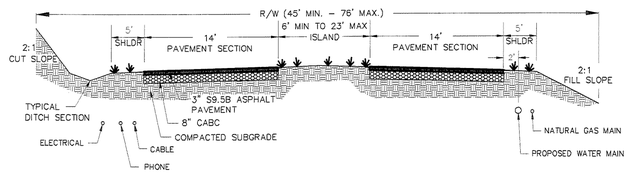
TOTAL # OF PROPOSED LOTS: 22 LOTS

DEED REF: D.B. 3836 PG. 0521

TOWNSHIP: LOWER HOMINY CREEK



ROADWAY CROSS-SECTION
N.T.S.



ROADWAY CROSS-SECTION
N.T.S.

MSD PROJECT # 2015030

NOTE:
* A MINIMUM OF 10 FT. HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN WATER AND SANITARY SEWER LINES MUST BE MAINTAINED.
WHERE THE SEWER LINE INSTALLATION DOES NOT CONFORM TO THIS REQUIREMENT OR HAVE A MINIMUM COVER OF 36" FROM THE GROUND SURFACE OR 24" VERTICAL SEPARATION FROM STORM DRAINAGE LINES – SEWER PIPE MUST BE OF A FERROUS MATERIAL.

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Hendersonville, North Carolina 28792
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date:2/4/15
job: 14105
drawn: KHC

sheet C-400

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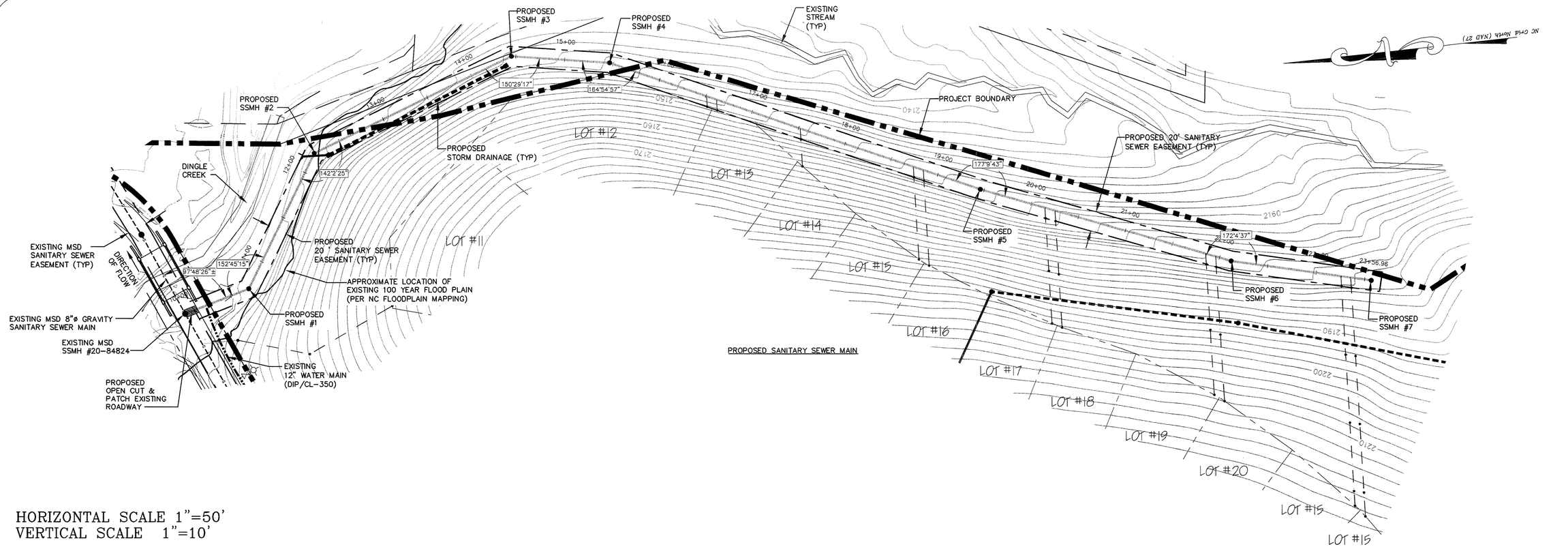
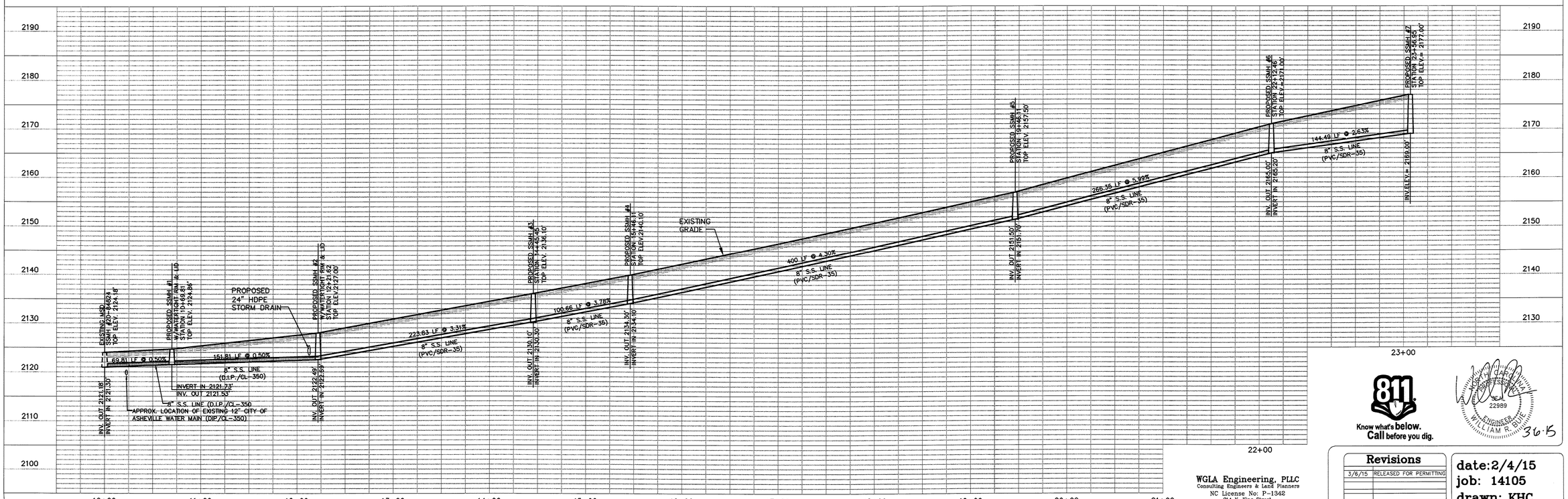
THE RAMBLE BILTMORE FOREST
BLOCK "E"
BUNCOMBE COUNTY
NORTH CAROLINA

SANITARY SEWER SYSTEM LAYOUT

F:\USERS\WII\projects\RambleBlock E\project files\dwg\c-400 swr plan.dwg, 3/6/2015 11:15:36 AM, 1:100





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sheet C-401

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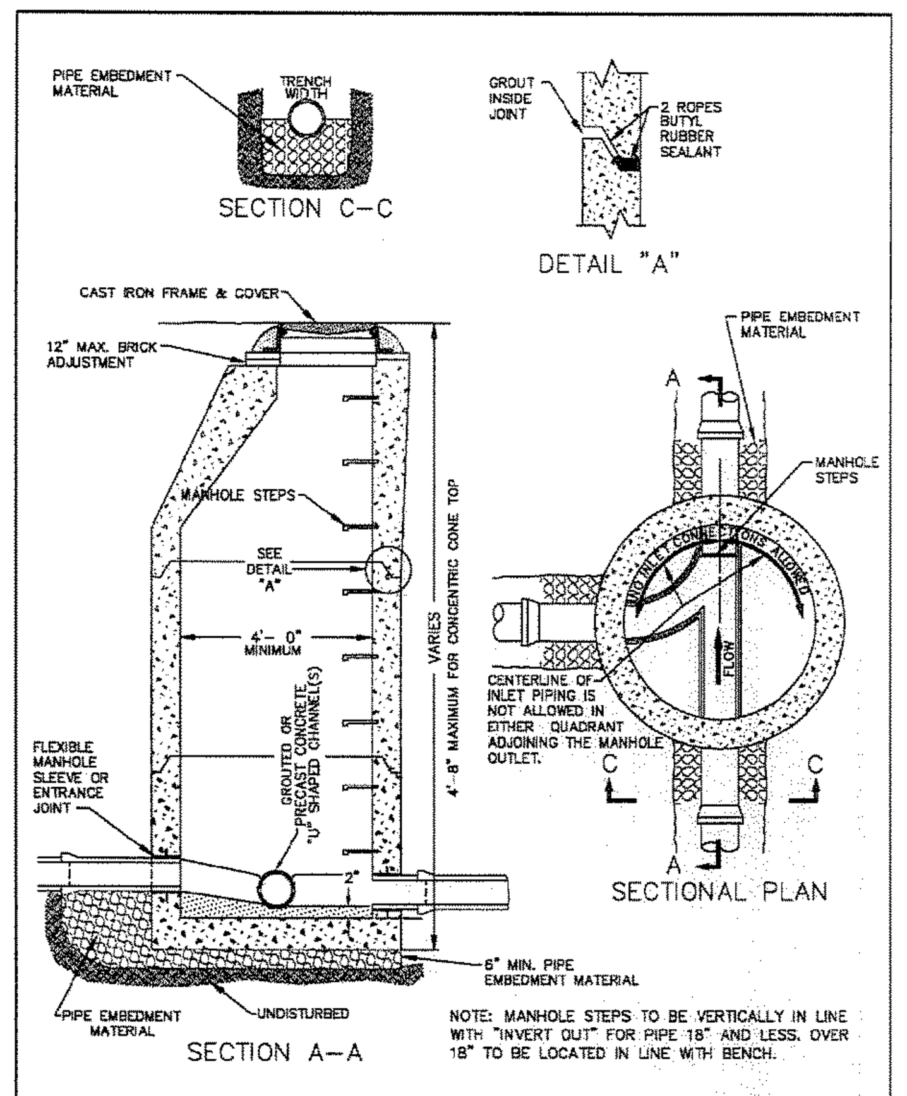
HENDERSONVILLE, NORTH CAROLINA

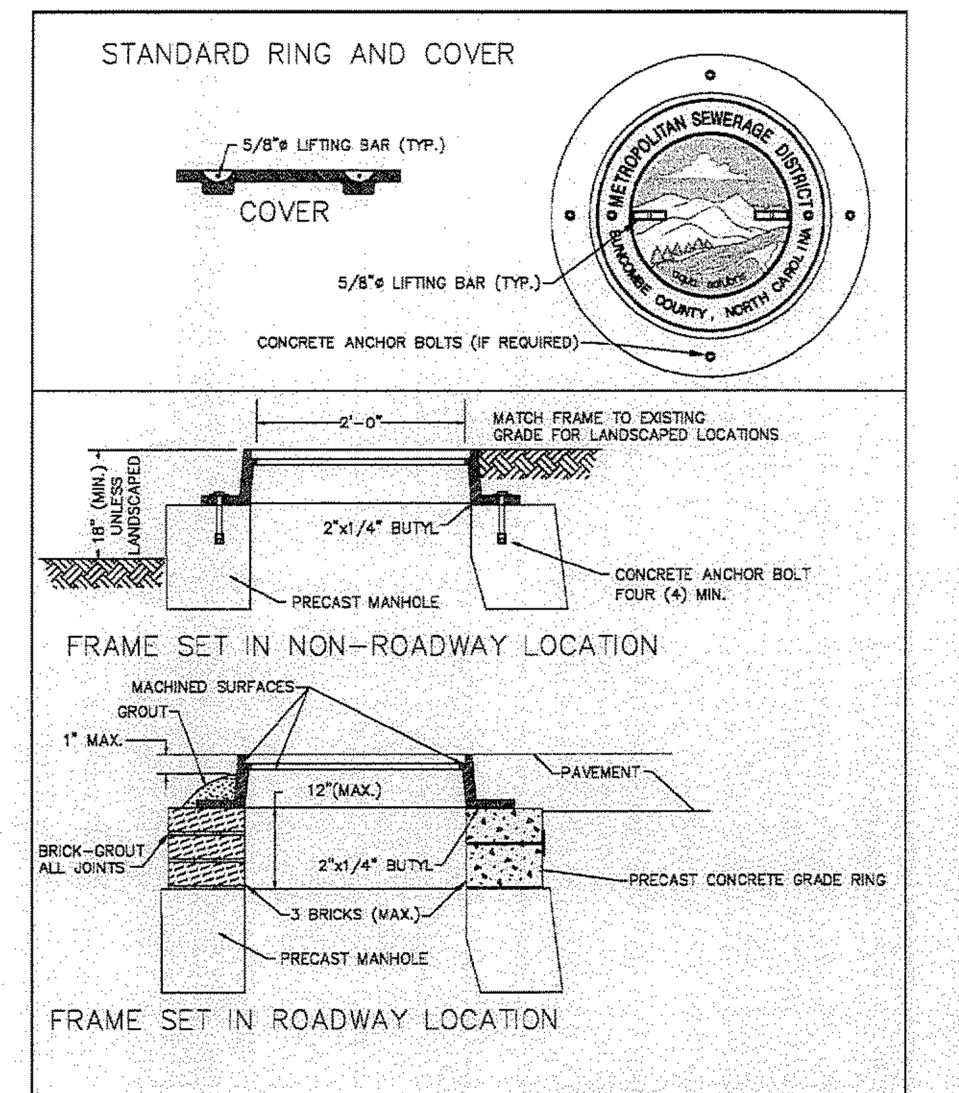
THE RAMBLE BILTMORE FOREST
BLOCK "E"
BUNCOMBE COUNTY
NORTH CAROLINA

SANITARY SEWER MAIN
STATION 10+00 TO 23+56.95
PLAN & PROFILE

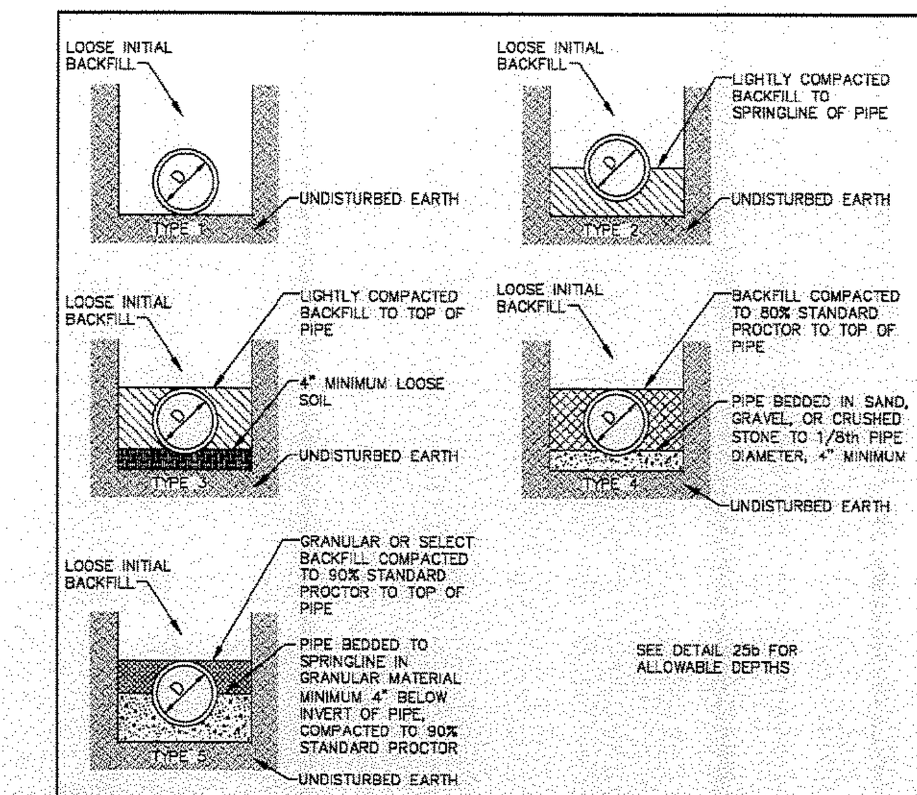
F:\USERS\WI\projects\Ramble\Block E\project file\wgla-401 swr p&p-.dwg, 3/3/2015 9:27:12 AM, 1:50.0008



STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
STANDARD MANHOLE
APPROVED: FEBRUARY 25, 2010 | 2.11-01



STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
STANDARD MANHOLE FRAME & COVER
APPROVED: FEBRUARY 25, 2010 | 2.11-06.1

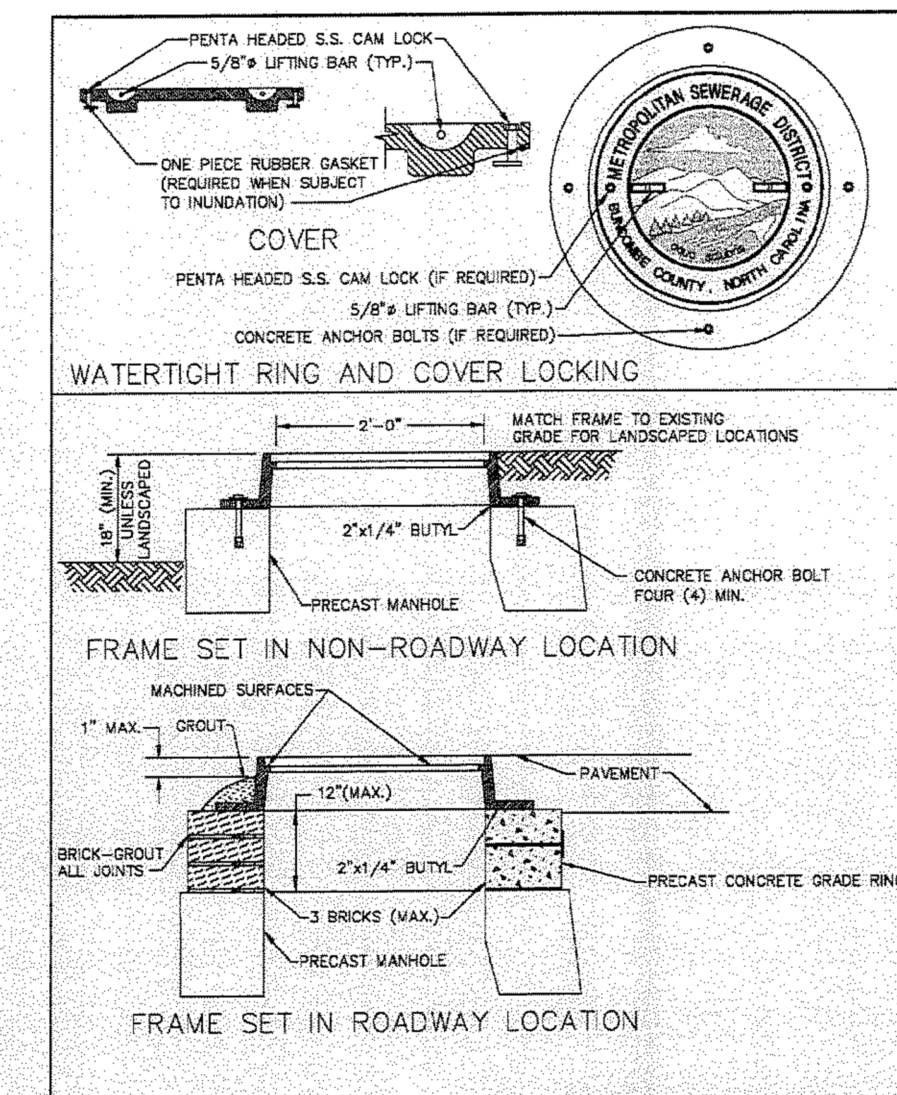


SEE DETAIL 25b FOR ALLOWABLE DEPTHS

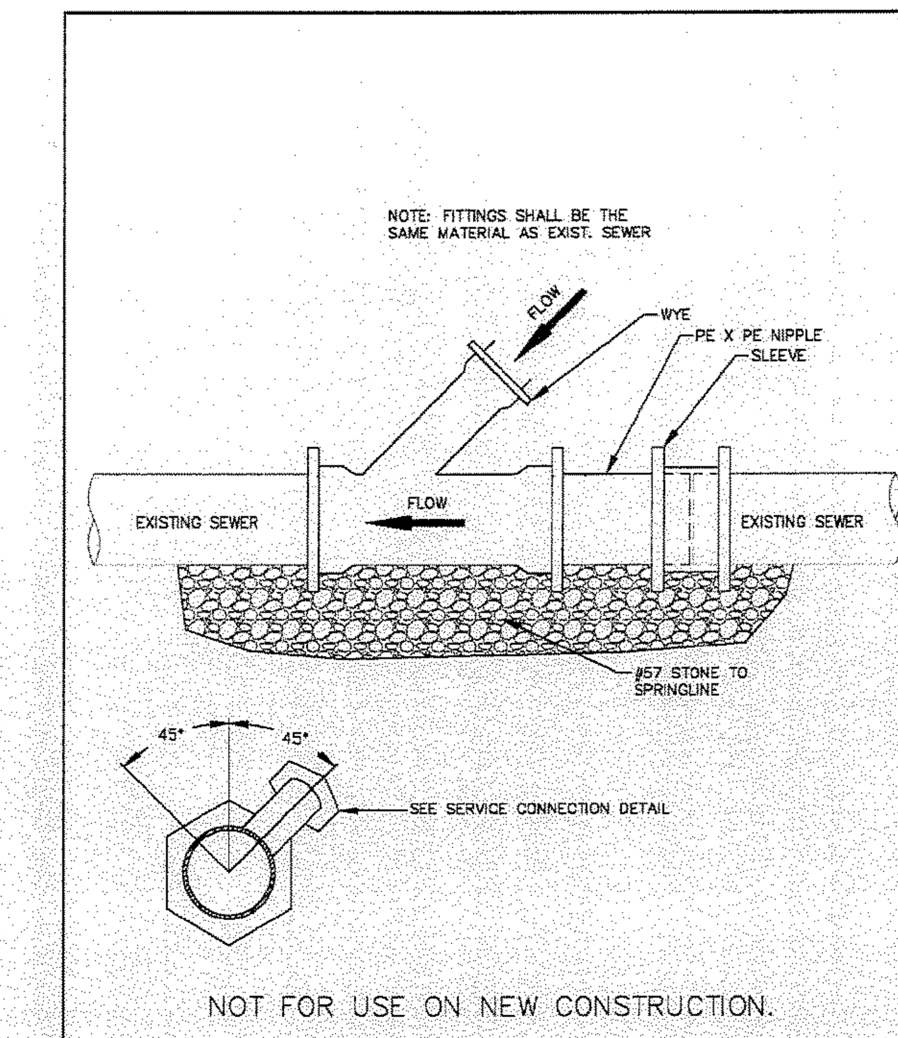
NOTES:

1. Minimum allowable depth of cover is 3 ft.
2. In rock or wet soil, pipe must be bedded in at least 6" of crushed stoned embedment material below the invert of the pipe.
3. Granular materials are defined per the AASHTO Soil Classification System (ASTMD3282) or the Unified Soil Classification System (ASTM D2487), with the exception that gravel bedding/backfill adjacent to the pipe is limited to 2" maximum particle size per ANSI/AWWA C600
4. These pipes are adequate for depths of cover from 3 ft. up to the maximum shown including an allowance for a single H-20 truck with a 1.5 impact factor unless noted.
5. Ring deflection limited to 3%, minimum safety factor of 2. Earth load based on soil weight of 120 pcf.

STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
TYPICAL TRENCH DETAIL FOR DUCTILE IRON PIPE-1
APPROVED: FEBRUARY 25, 2010 | 2.05-01

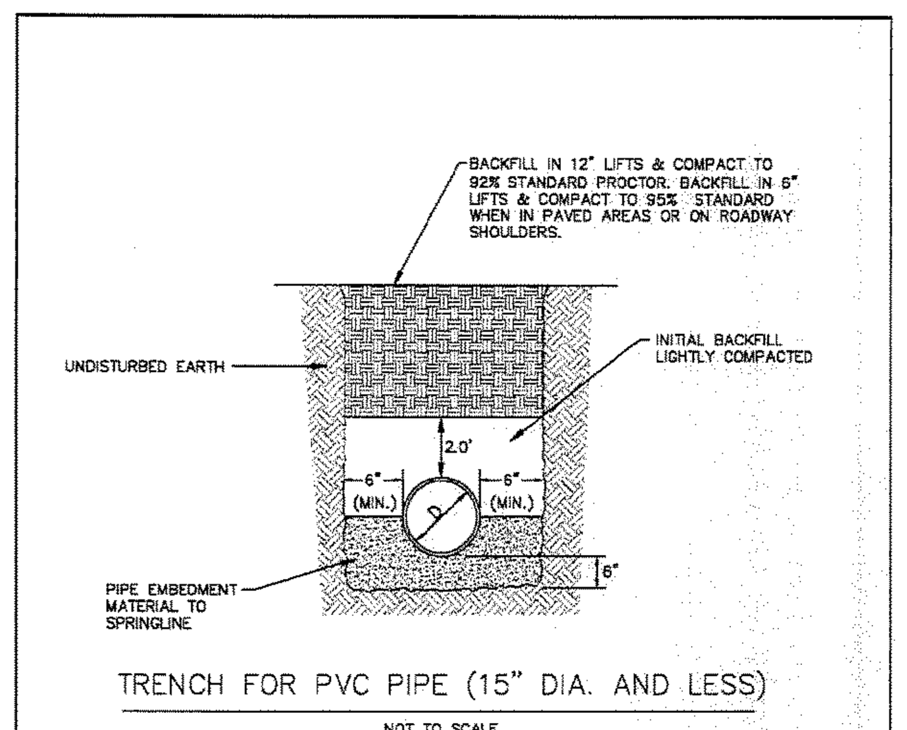


STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
WATERTIGHT MANHOLE FRAME & COVER
APPROVED: FEBRUARY 25, 2010 | 2.11-06.2



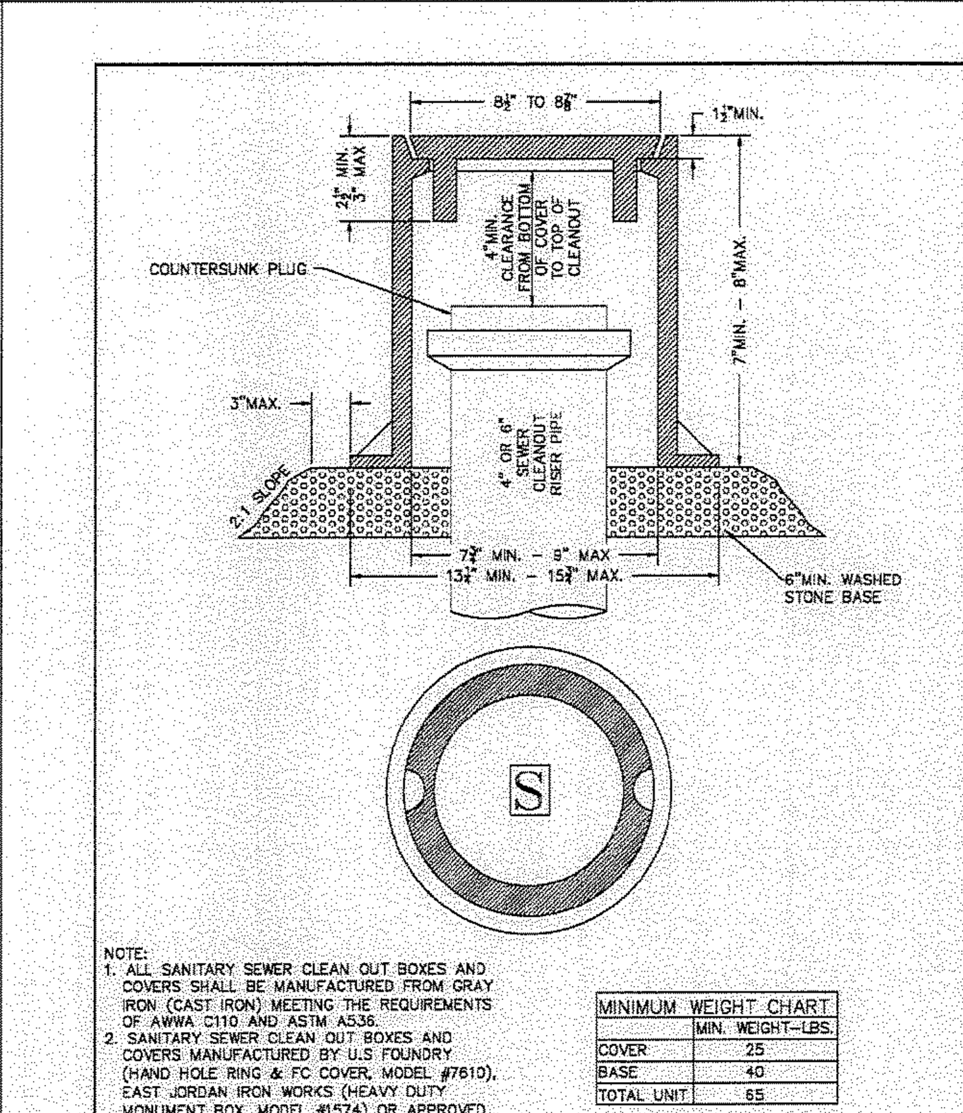
NOT FOR USE ON NEW CONSTRUCTION.

STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
SERVICE CONNECTION TO EXISTING SEWER
APPROVED: FEBRUARY 25, 2010 | 2.07-01

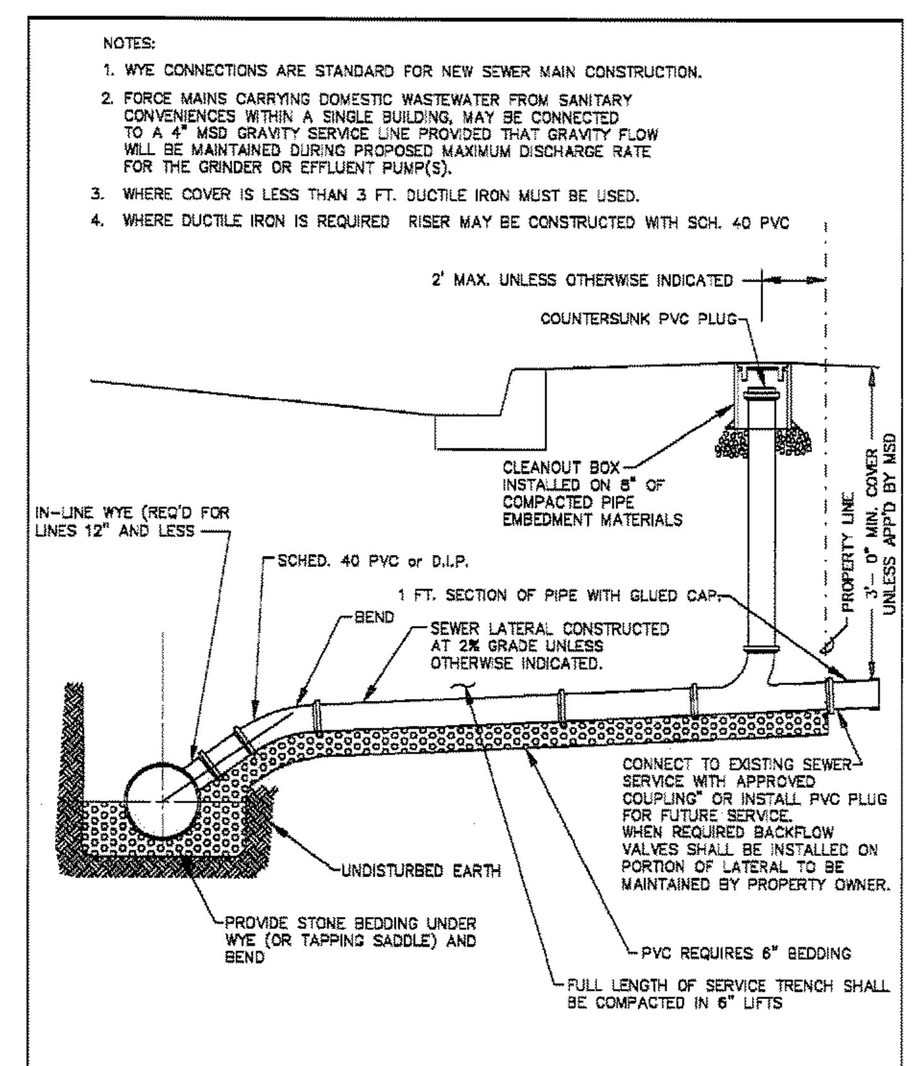


TRENCH FOR PVC PIPE (15" DIA. AND LESS)

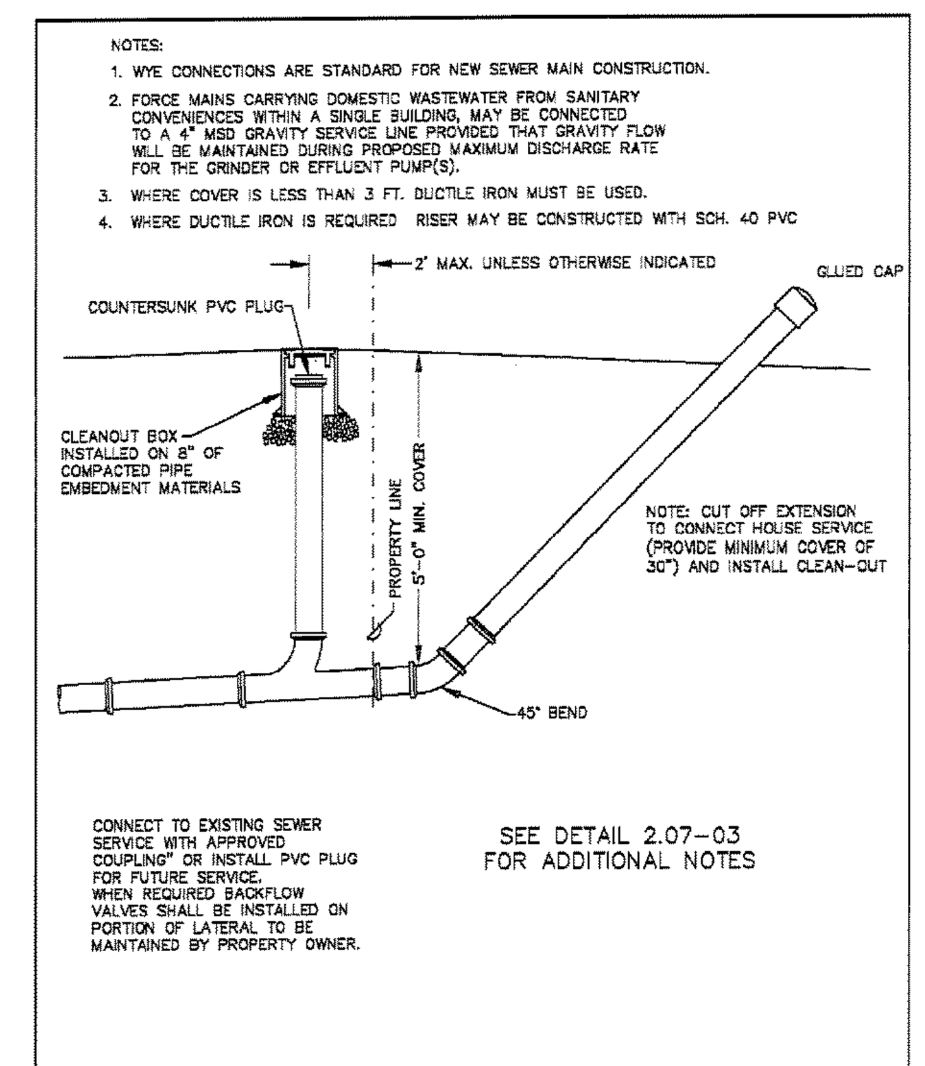
STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
TRENCH FOR PVC PIPE
APPROVED: FEBRUARY 25, 2010 | 2.04-01



STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
CLEANOUT BOX
APPROVED: FEBRUARY 25, 2010 | 2.07-05



STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
SANITARY SEWER SERVICE LESS THAN 5' DEEP
APPROVED: FEBRUARY 25, 2010 | 2.07-03



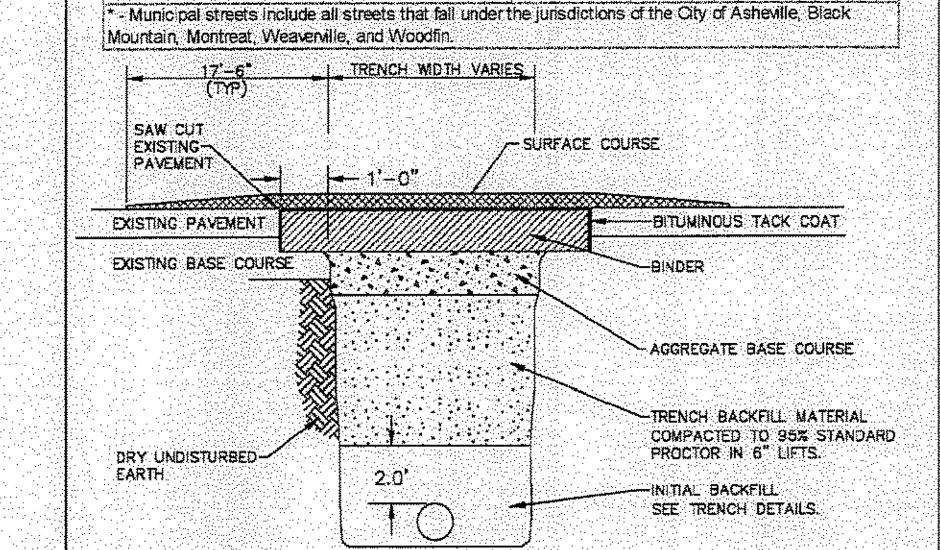
SEE DETAIL 2.07-03 FOR ADDITIONAL NOTES

STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
SANITARY SEWER SERVICE MORE THAN 5' DEEP
APPROVED: FEBRUARY 25, 2010 | 2.07-04

Depths of Paving Courses for Pavement Repairs Requiring Binder

Classification	Base Course	Binder	Surface Course
Municipal Street*	8" ABC compacted to 100% standard proctor	4" Concrete binder course Type I 19.0B or S9.5B compacted to 92% maximum lab density	2" of RSF or SF 9.5A compacted to 90% of maximum lab density
Biltmore Forest	8" ABC compacted to 100% standard proctor	4" Concrete binder course Type I 19.0B compacted to 92% maximum lab density	1" of RSF or SF 9.5A compacted to 90% of maximum lab density
NCDOT road	8" ABC compacted to 100% standard proctor	6" Concrete binder course Type I 19.0B compacted to 92% maximum lab density	2" of RSF or SF 9.5A compacted to 90% of maximum lab density
Heavy Duty Commercial Drive	8" ABC compacted to 100% standard proctor	4" Concrete binder course Type I 19.0B compacted to 92% maximum lab density	1 1/2" of RSF or SF 9.5A compacted to 90% of maximum lab density

* - Municipal streets include all streets that fall under the jurisdictions of the City of Asheville, Black Mountain, Montreat, Weaverville, and Woodfin.



STANDARD DETAIL
Metropolitan Sewerage District of Buncombe County, North Carolina
TYPICAL PAVEMENT REPAIR
APPROVED: FEBRUARY 25, 2010 | 4.06-01

METROPOLITAN SEWAGE DISTRICT REQUIRED PERMANENT EASEMENT WIDTHS

WHERE THE DEPTH OF SANITARY SEWERS EXCEEDS TWENTY FEET (20') OR WHERE SLOPES EXCEED A RATIO OF THREE TO ONE (3:1) EASEMENT WIDTHS WILL BE DETERMINED BY THE DISTRICT ON A CASE BY CASE BASIS.

TRENCH DEPTH	8"-12" SEWER RIGHT OF WAY	15"-18" SEWER RIGHT OF WAY	21"-27" SEWER RIGHT OF WAY	30"-36" SEWER RIGHT OF WAY	42"-54" SEWER RIGHT OF WAY
0-6	20'	20'	25'	25'	30'
6-8	20'	20'	25'	25'	30'
8-10	20'	25'	25'	25'	30'
10-12	20'	25'	25'	30'	30'
12-14	25'	30'	30'	35'	35'
14-16	30'	35'	35'	40'	40'
16-18	30'	35'	40'	40'	40'
18-20	30'	40'	45'	45'	45'

UTILITY CROSSING Clearance requirements are to be met or ferrous sewer pipe with joints equivalent to water main standards will be used for a distance of ten feet outside said point of crossing.

Storm Sewer – 24" Vertical
Water – 18" Vertical (Sewer over water requires that both pipes shall be ferroous pipe with a 20 foot jointless span centered at crossing).
Power – 24" Vertical
Gas – 24" Vertical
Cable – 24" Vertical

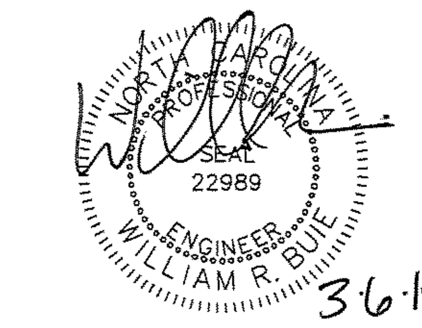
MINIMUM SEPARATION Distance from all Sewer Collection Systems are to be met or ferrous sewer pipe with joints equivalent to water main standards will be used.

Storm Sewer – 5' Horizontal
Water Mains – 10' Horizontal
Water Supply – 100' Horizontal (AS-I Waters, Class I or Class II impounded reservoirs).
Water Supply – 50' Horizontal (WS-I, WS-II, WS-III, B, SA, or BS Waters – Nateral High Water).
Other Stream, Lake or Impoundment – 10' Horizontal
Designed Trout Streams – 25' Horizontal
Building Foundation – 5' Horizontal
Basement – 10' Horizontal
Ground Water Lowering and Surface Drainage Ditch – 10' Horizontal
Swimming Pool – 10' Horizontal

Note: Absolute Minimum sepaaration from Private Wells – 25'; Public Wells – 50'.

NOTE:
MSD-BUNCOMBE COUNTY STANDARDS SUPERCEDES ALL OTHERS IN SANITARY SEWER CONSTRUCTION.

Know what's **below.** **Call** before you dig.



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(828) 687-7177
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Revisions

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date: 2/4/15
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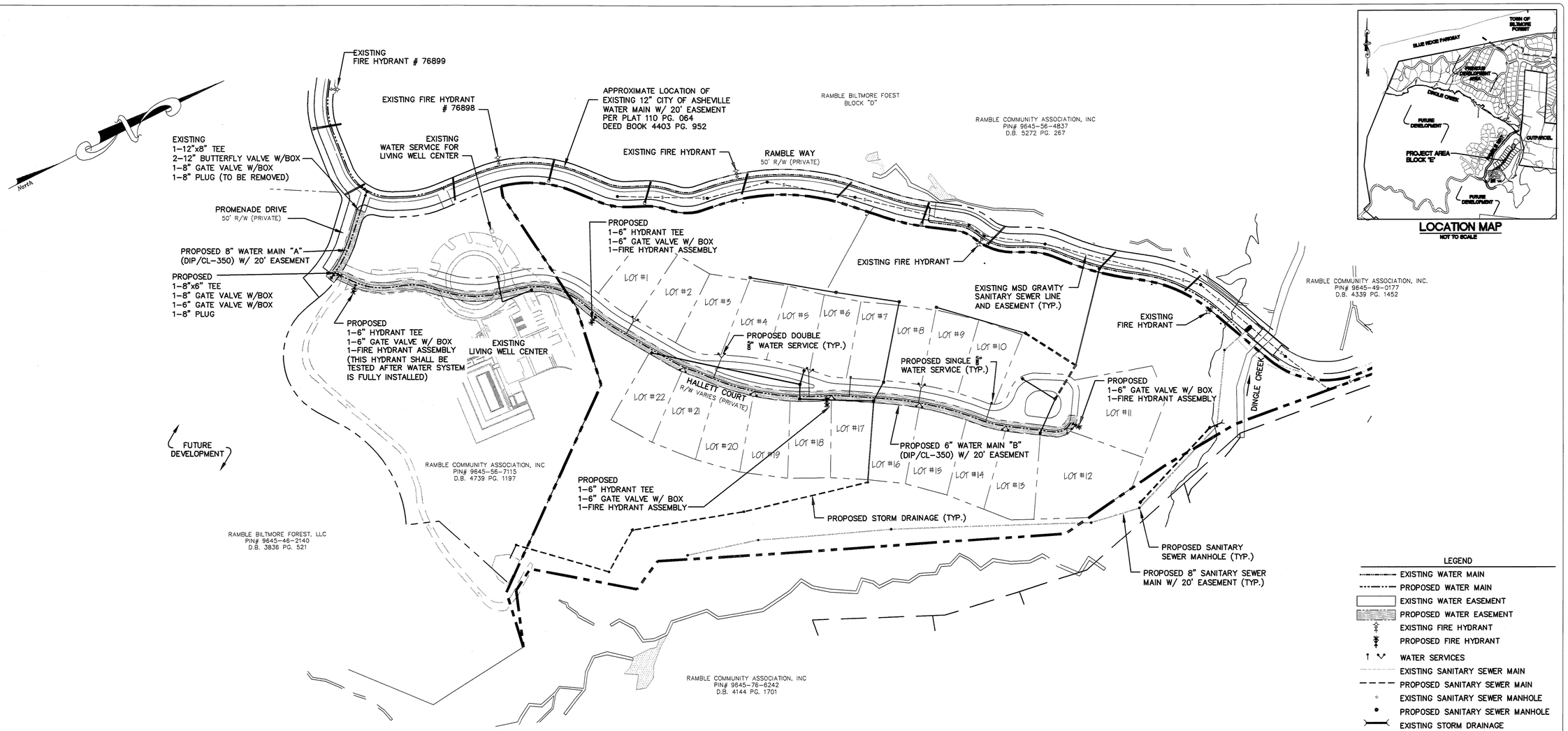
drawn: KHC

WGLA Engineering, PLLC
CONSULTING ENGINEERS & LAND PLANNERS
HENDERSONVILLE, NORTH CAROLINA

THE RAMBLE BILTMORE FOREST
BLOCK "E"
BUNCOMBE COUNTY
NORTH CAROLINA

SANITARY SEWER DETAILS

sheet C-402



NOTES:
1. CITY OF ASHEVILLE STANDARDS SUPERSEDE ALL OTHERS.

2. INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CITY OF ASHEVILLE'S CURRENT DESIGN GUIDELINES UNDER THE INSPECTION OF THE CITY OF ASHEVILLE AND BY A NORTH CAROLINA LICENSED UTILITY CONTRACTOR.

3. THE WATERLINE SHALL BE PLACED WITHIN THE BENCH WITH A MINIMUM 2' SEPARATION FROM THE EDGE OF PAVEMENT AND A MINIMUM OF 3' SEPARATION FROM THE EDGE OF SLOPES.

4. ALL WATER METERS SHALL BE PLACED IN FRONT OF THE PROPERTY WHICH THEY WILL SERVE AND THEY MUST BE INSTALLED IN RELATIVELY FLAT AREAS NOT IN STEEP BANKS OR SLOPES.

5. ALL FIRE HYDRANTS MUST BE PLACED IN RELATIVELY FLAT AREAS, NOT IN STEEP BANKS OR SLOPES, AND MUST HAVE 3' OF CLEAR SPACE AROUND THE HYDRANT.

6. ALL BRASS FITTINGS MUST BE CERTIFIED LEAD FREE.

7. ALL METERS SHALL BE PLACED PER CITY OF ASHEVILLE DETAIL AS SHOWN ON DETAIL SHEET.

8. ALL PROPOSED ROADS ARE TO BE PRIVATE.

9. A MINIMUM OF 3 FEET IS REQUIRED BETWEEN THE WATER LINES AND ANY OTHER UNDERGROUND UTILITY.

10. WATER MAIN SHALL BE INSTALLED WITH 3 FEET COVER OVER WATER MAIN. ALL FIRE HYDRANTS, WATER METERS AND AIR RELEASE VALVES SHALL BE LOCATED OUTSIDE DRIVEWAYS.

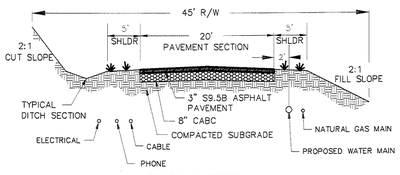
11. RESTRAINED JOINTS BY A CITY OF ASHEVILLE APPROVED PIPE MANUFACTURER ARE TO BE USED FOR ALL PUBLIC WATER LINES; THRUST BLOCKS ARE PERMITTED WHERE CONNECTIONS ARE MADE TO EXISTING WATER MAIN OR WHERE THE USE OF MECHANICAL RESTRAINT IS NOT FEASIBLE.

12. ALL WATER METERS ARE TO BE LOCATED WITHIN 5' OF THE BACK OF CURB OR IN ACCORDANCE WITH DETAIL W.06 FOR WATER MAINS NEXT TO SIDEWALKS.

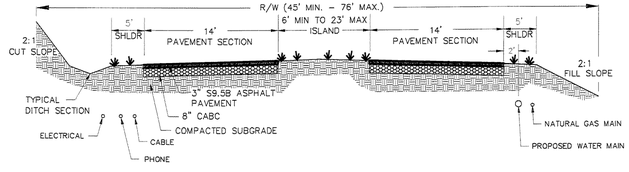
13. 911 ADDRESSES ISSUED FROM BUNCOMBE COUNTY ARE REQUIRED BY BUNCOMBE COUNTY BEFORE WATER RELEASE.

14. MINIMUM CLEARANCE BETWEEN THE WATER MAIN AND DRAINAGE STRUCTURES IS 3 FEET. MINIMUM CLEARANCE BETWEEN THE WATER SERVICES AND DRAINAGE STRUCTURES IS 3 FEET.

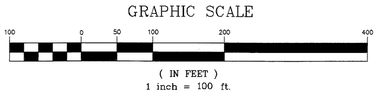
DEVELOPMENT BLOCK:	
PROJECT NAME:	THE RAMBLE BILTMORE FOREST BLOCK "E"
PROJECT ADDRESS:	RAMBLE WAY
OWNER/DEVELOPER:	RAMBLE BILTMORE FROEST, LLC ONE TOWN SQUARE BLVD, SUITE 330 ASHEVILLE, NC 28803 (828) 209-2000
CONTACT PERSON:	LEE THOMASON ONE TOWN SQUARE BLVD, SUITE 330 ASHEVILLE, NC 28803 (828) 209-2000
ENGINEER:	WILLIAM R. BUIE, P.E. WGLA ENGINEERING, PLLC. 214 N. KING STREET HENDERSONVILLE, NC 28792 (828) 687-7177
PIN #:	9645-46-1075
TOTAL PROPERTY SIZE:	19.47± AC.
TOTAL # OF PROPOSED LOTS:	2 LOTS
DEED REF:	D.B. 3836 PG. 0521
TOWNSHIP:	LOWER HOMINY CREEK



ROADWAY CROSS-SECTION
N.T.S.



ROADWAY CROSS-SECTION
N.T.S.



NOTE:
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WHERE THE SEWER LINE INSTALLATION DOES NOT CONFORM TO THIS REQUIREMENT OR HAVE A MINIMUM COVER OF 36" FROM THE GROUND SURFACE OR 24" VERTICAL SEPARATION FROM STORM DRAINAGE LINES - SEWER PIPE MUST BE OF A FERROUS MATERIAL.

CITY OF ASHEVILLE PROJECT NO. WPFY 14-15-046
WATER LINE EASEMENT PLAT PB____PG____
WATER LINE EASEMENT DOCUMENT DB____PG____
ESTOPPEL CERTIFICATE REQUIRED YES_X_NO___

811 Know what's below. Call before you dig.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22989 WILLIAM R BUIE
3.6.15

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Consulting Engineers & Land Planners
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job: 14105
drawn: KHC

sheet C-500

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CONSULTING ENGINEERS & LAND PLANNERS
HENDERSONVILLE, NORTH CAROLINA

THE RAMBLE BILTMORE FOREST
BLOCK "E"
BUNCOMBE COUNTY
NORTH CAROLINA

WATER SYSTEM LAYOUT

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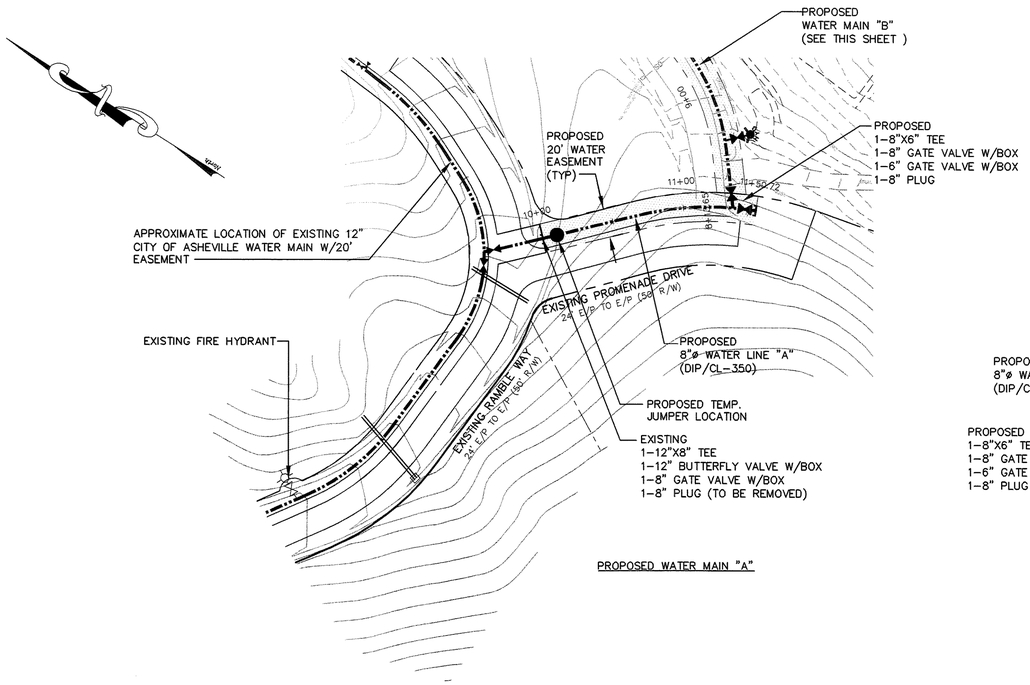
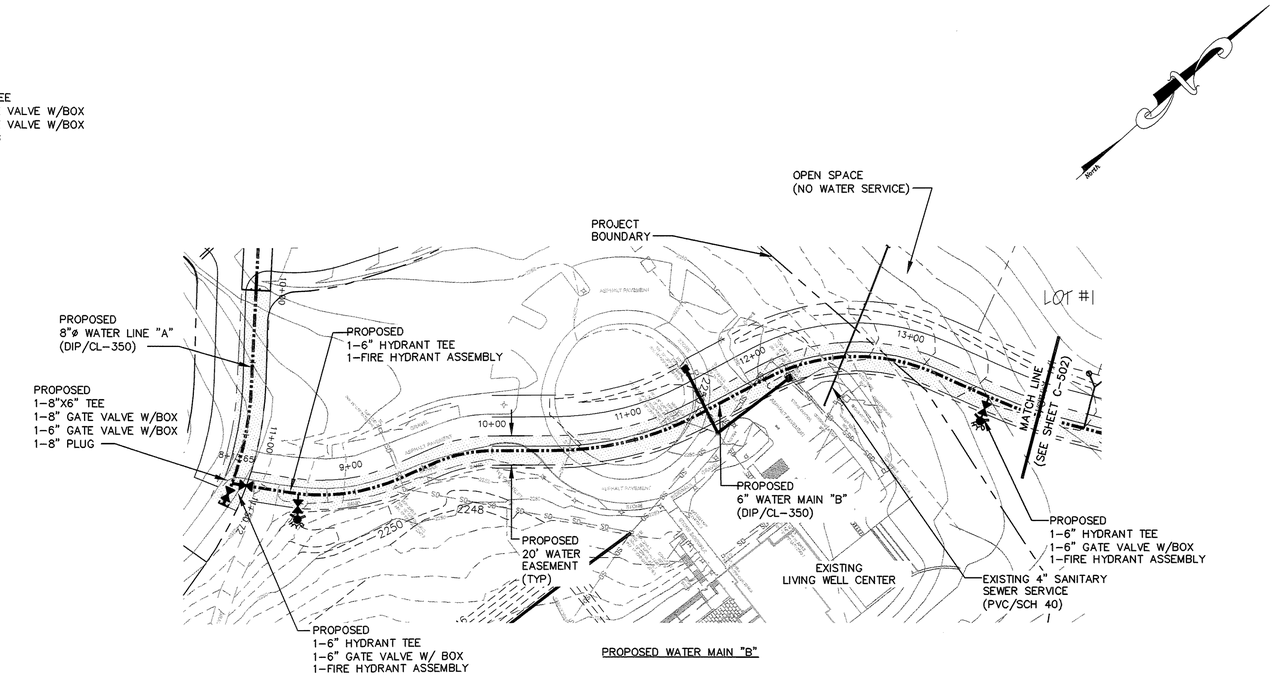
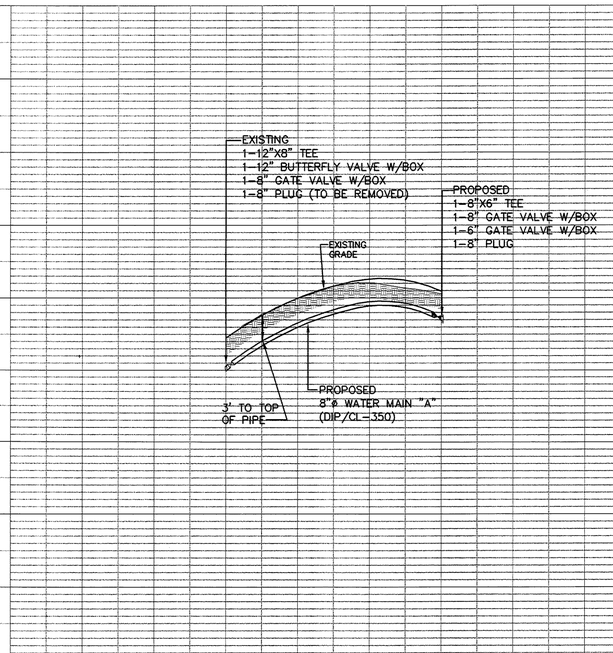
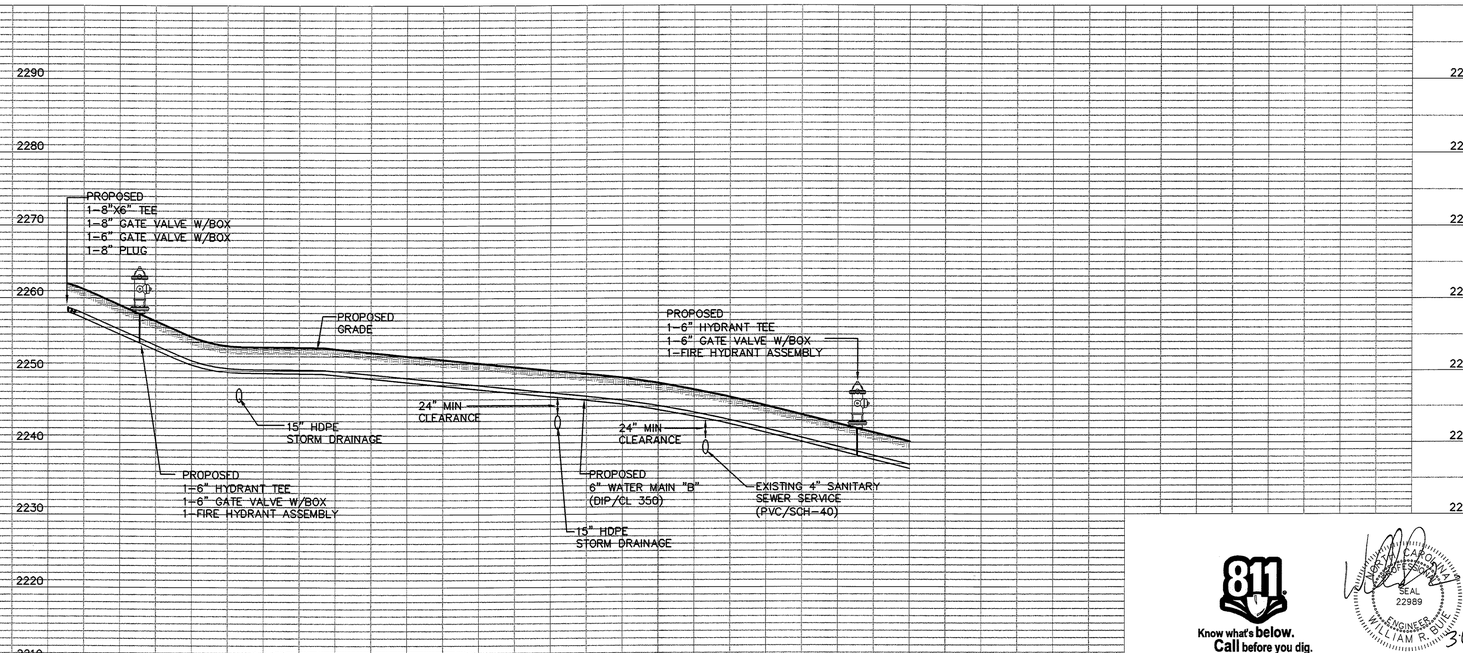




HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=10'





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NORTH CAROLINA

WATER MAIN
PLAN & PROFILE

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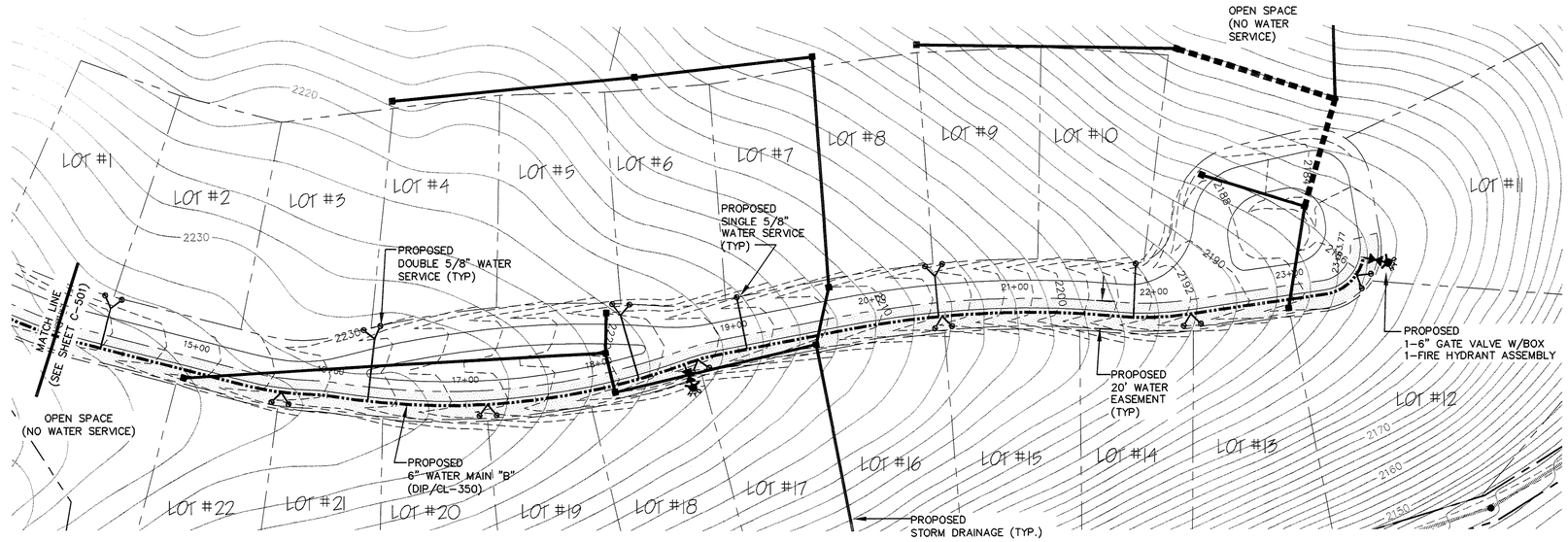
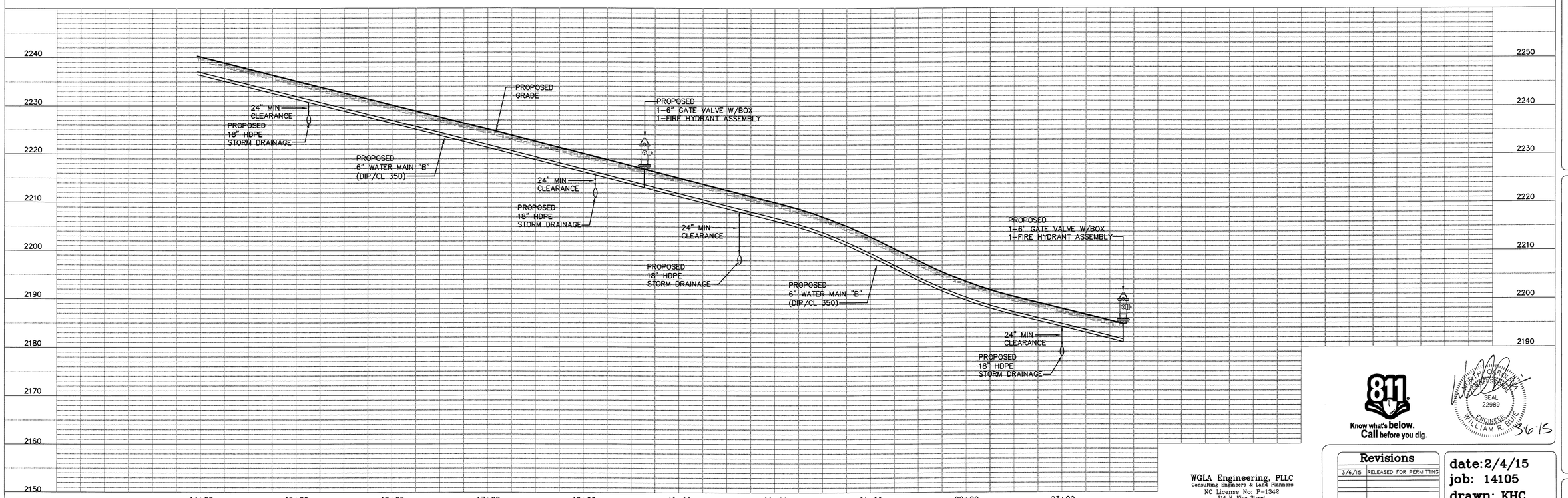


PROPOSED WATER MAIN "B"

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=10'



PROPOSED WATER MAIN "B"

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WATER MAIN
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WILLIAM R. BLUE
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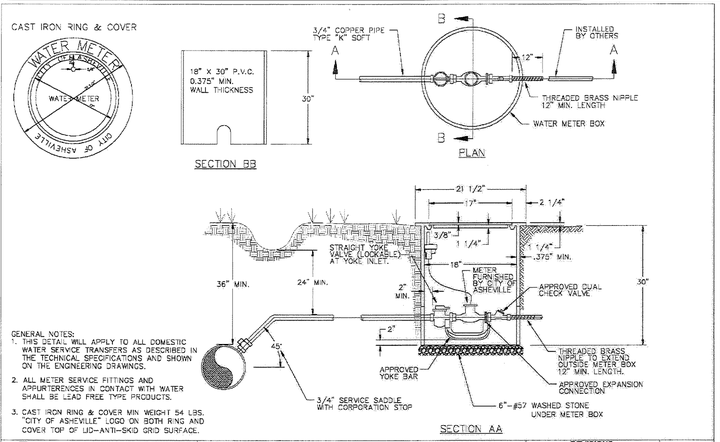
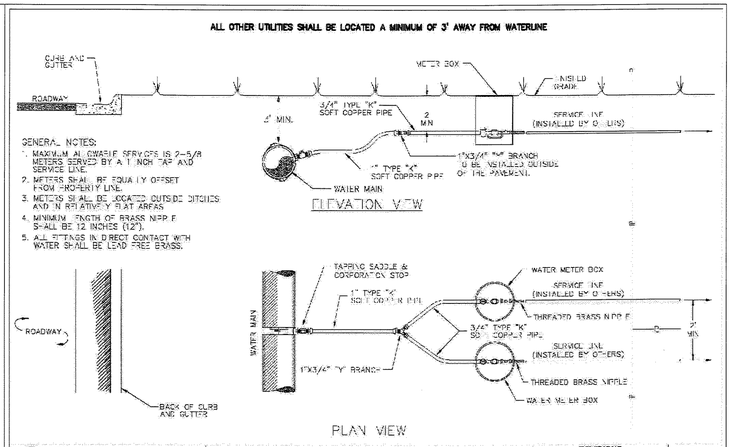
214 N. King Street
Hendersonville, North Carolina 28792
(828) 687-7177
wgla.com



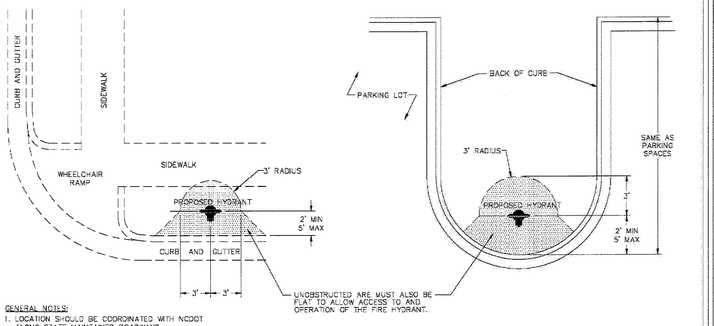
GENERAL NOTES:
1. THIS DETAIL WILL APPLY TO ALL DOMESTIC WATER SERVICE TRANSFERS AS DESCRIBED IN THE TECHNICAL SPECIFICATIONS AND SHOWN ON THE ENGINEERING DRAWINGS.
2. ALL METER SERVICE FITTINGS AND APPURTENANCES IN CONTACT WITH WATER SHALL BE LEAD FREE TYPE PRODUCTS.
3. CAST IRON RING & COVER MIN WEIGHT 54 LBS. "CITY OF ASHEVILLE" LOGO ON BOTH RING AND COVER TOP OF UD-ANTI-SKID GRID SURFACE.

City of Asheville, NC WATER ENGINEERING DIVISION	5/8"- 3/4" WATER METER BOX	REVISIONS DATE / DESCRIPTION: 6/2006 REVISED DETAIL FROM 6.01	STD. NO. W.01

ALL OTHER UTILITIES SHALL BE LOCATED A MINIMUM OF 3' AWAY FROM WATERLINE

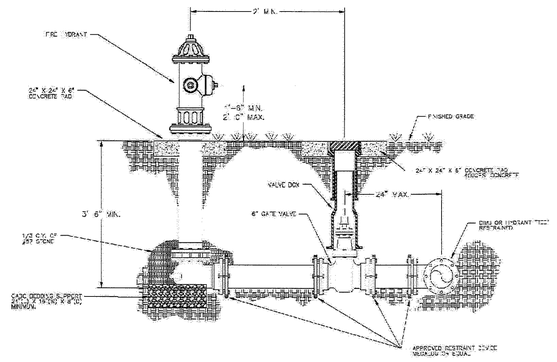


City of Asheville, NC WATER ENGINEERING DIVISION	STANDARD MULTIPLE BRANCH SERVICES	REVISIONS DATE / DESCRIPTION: 02XX REVISED DETAIL FROM 6.15	STD. NO. W.05

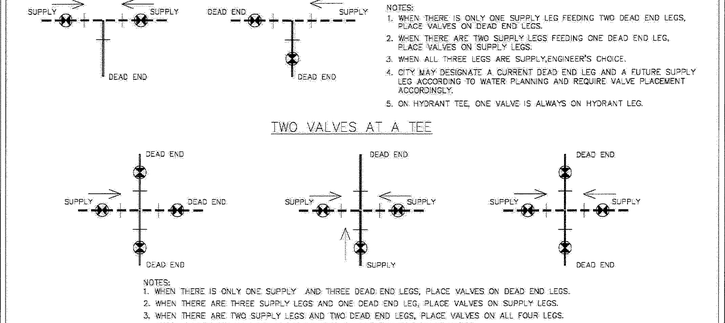


GENERAL NOTES:
1. LOCATION SHOULD BE COORDINATED WITH NCDOT ALONG STATE MAINTAINED ROADWAYS.
2. OBSTRUCTION FREE AREA SHALL APPLY TO ALL LOCATIONS FOR FIRE HYDRANT INSTALLATION.
3. HYDRANT LOCATION SHALL NOT INTERFERE WITH THE REQUIREMENTS OF THE NORTH CAROLINA BUILDING CODE.
4. CONCRETE BOLLARDS WILL BE REQUIRED FOR INSTALLATION WITHIN PARKING AREAS

City of Asheville, NC WATER ENGINEERING DIVISION	STANDARD HYDRANT LOCATION	REVISIONS DATE / DESCRIPTION: 6/2009 REVISED DETAIL FROM 6.07	STD. NO. W.15



City of Asheville, NC WATER ENGINEERING DIVISION	FIRE HYDRANT INSTALLATION	REVISIONS DATE / DESCRIPTION: 6/2009 REVISED DETAIL FROM 6.06	STD. NO. W.16



NOTES:
1. WHEN THERE IS ONLY ONE SUPPLY LEG FEEDING TWO DEAD END LEGS, PLACE VALVES ON DEAD END LEGS.
2. WHEN THERE ARE TWO SUPPLY LEGS FEEDING ONE DEAD END LEG, PLACE VALVES ON SUPPLY LEGS.
3. WHEN ALL THREE LEGS ARE SUPPLY, ENGINEER'S CHOICE.
4. CITY MAY DESIGNATE A CURRENT DEAD END LEG AND A FUTURE SUPPLY LEG ACCORDING TO WATER PLANNING AND REQUIRE VALVE PLACEMENT ACCORDINGLY.
5. ON HYDRANT TEE, ONE VALVE IS ALWAYS ON HYDRANT LEG.

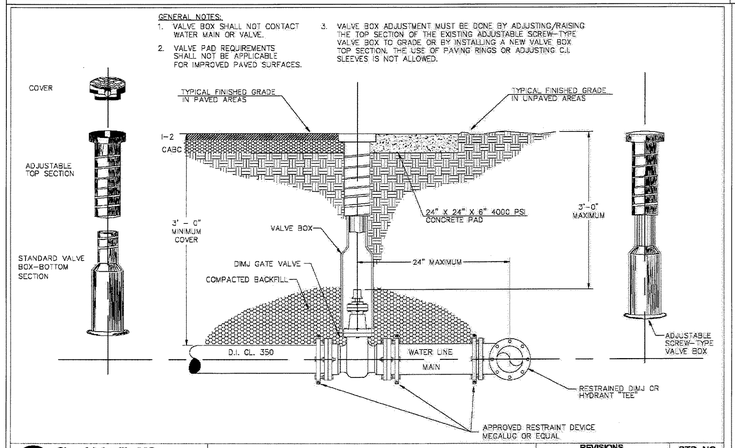
TWO VALVES AT A TEE

NOTES:
1. WHEN THERE IS ONLY ONE SUPPLY AND THREE DEAD END LEGS, PLACE VALVES ON DEAD END LEGS.
2. WHEN THERE ARE THREE SUPPLY LEGS AND ONE DEAD END LEG, PLACE VALVES ON SUPPLY LEGS.
3. WHEN THERE ARE TWO SUPPLY LEGS AND TWO DEAD END LEGS, PLACE VALVES ON ALL FOUR LEGS.
4. CITY MAY REQUIRE VALVE PLACEMENT BASED ON CURRENT OR FUTURE NEEDS.
5. WHEN ONE LEG AT A INTERSECTION IS A HYDRANT LEG, VALVE MUST BE PLACED ON A HYDRANT LEG. VALVING ON REMAINING LEGS TO BE PLACED AS THOUGH THEY MADE UP A TEE.
6. A "SUPPLY LEG" IS ANY LEG CONNECTED TO THE TREATED WATER SOURCE BY PIPING EQUAL AND OR GREATER THAN ITS SIZE AND SEPARATE FROM THE TEE OR CROSS BEING CONSIDERED.

THREE AND FOUR VALVES AT A INTERSECTION

City of Asheville, NC WATER ENGINEERING DIVISION	TYPICAL VALVING CONFIGURATION	REVISIONS DATE / DESCRIPTION: 8/2009 REVISED DETAIL FROM 6.17	STD. NO. W.17

GENERAL NOTES:
1. VALVE BOX SHALL NOT CONTACT WATER MAIN OR VALVE.
2. VALVE PAD REQUIREMENTS SHALL NOT BE APPLICABLE FOR IMPROVED PAVED SURFACES.
3. VALVE BOX ADJUSTMENT MUST BE DONE BY ADJUSTING/RAISING THE TOP SECTION OF THE EXISTING ADJUSTABLE SCREW-TYPE VALVE BOX TO GRADE OR BY INSTALLING A NEW VALVE BOX TOP SECTION. THE USE OF PAVING RINGS OR ADJUSTING C.I. SLEEVES IS NOT ALLOWED.



City of Asheville, NC WATER ENGINEERING DIVISION	TYPICAL VALVE & VALVE BOX INSTALLATION / ADJUSTMENT	REVISIONS DATE / DESCRIPTION: 6/2009 REVISED DETAIL FROM 6.06	STD. NO. W.18

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Consulting Engineers & Land Planners
NC License No: P-1342
214 N. King Street
Hendersonville, North Carolina 28792
(828) 687-7177
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BUNCOMBE COUNTY
NORTH CAROLINA

WATER SYSTEM DETAILS

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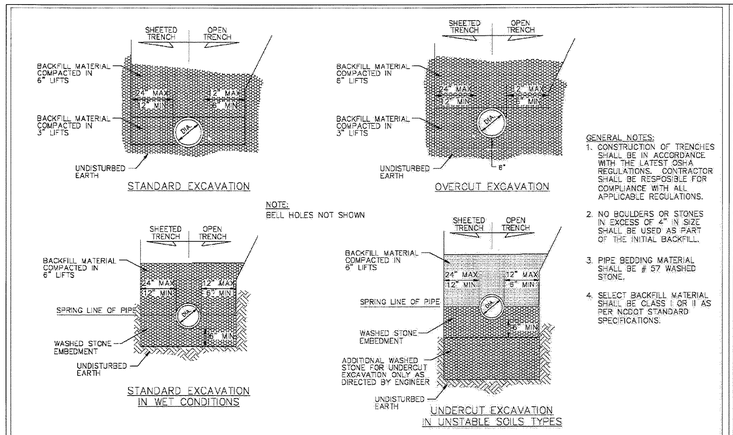
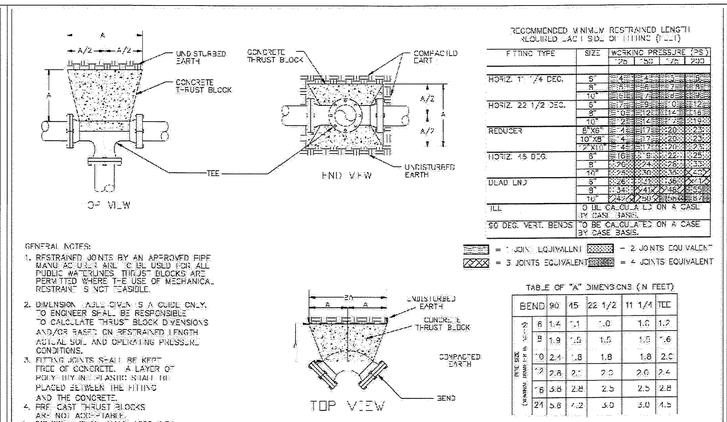


GENERAL NOTES:

1. CONSTRUCTION OF TRENCHES SHALL BE IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS. CONTRACTOR SHALL BE RESPOSIBLE FOR COMPLIANCE WITH ALL APPLICABLE REGULATIONS.
2. NO BOULDERS OR STONES IN EXCESS OF 4" IN SIZE SHALL BE USED AS PART OF THE INITIAL BACKFILL.
3. PIPE BEDDING MATERIAL SHALL BE # 57 WASHED STONE.
4. SELECT BACKFILL MATERIAL SHALL BE CLASS I OR II AS PER NCDOT STANDARD SPECIFICATIONS.

City of Asheville, NC WATER ENGINEERING DIVISION	TYPICAL TRENCH DETAIL	REVISIONS DATE: DESCRIPTION 6/2009: REVISED DETAIL FROM 6.19	STD. NO. W.21



RECOMMENDED MINIMUM RESTRAINED LENGTH (EQUIVALENT LENGTH OF PIPE) REQUIRED ADJACENT TO FITTING (FEET)

FITTING TYPE	SIZE	WORKING PRESSURE (PSI) 75	100	125	150
HORIZ. 11 1/4 DEG.	6"	4	4	5	6
	8"	5	6	7	8
	10"	6	7	8	10
	12"	7	9	10	12
HORIZ. 22 1/2 DEG.	6"	8	10	12	15
	8"	10	13	16	19
	10"	13	17	20	24
	12"	15	20	24	29
REDUCER	8"X6"	4	5	6	7
	10"X8"	4	5	7	8
	12"X10"	5	6	8	9
HORIZ. 45 DEG.	6"	16	21	26	31
	8"	21	28	34	41
	10"	26	34	43	51
DEAD END	6"	26	34	43	51
	8"	34	45	56	67
	10"	43	57	71	85
TEE	0 WILL CALCULATE ON A CASE BY CASE BASIS.				
90 DEG. VERT. BENDS	TO BE CALCULATED ON A CASE BY CASE BASIS.				

= 1 JOINT EQUIVALENT = 2 JOINTS EQUIVALENT
= 3 JOINTS EQUIVALENT = 4 JOINTS EQUIVALENT

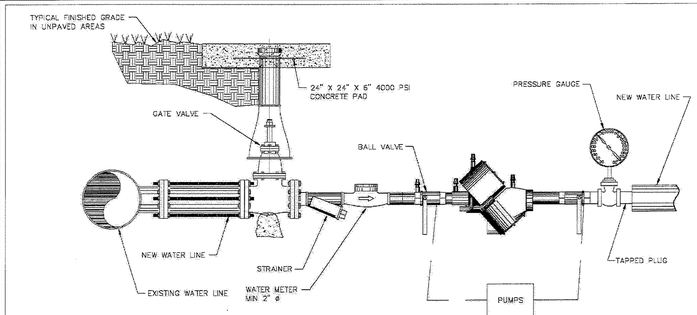
GENERAL NOTES:

1. RESTRAINED JOINTS BY AN APPROVED PIPE MANUFACTURER WILL BE USED FOR ALL PUBLIC WATERLINES. THRUST BLOCKS ARE PERMITTED WHERE THE USE OF MECHANICAL RESTRAINT IS NOT FEASIBLE.
2. DIMENSION TABLE GIVEN IS A GUIDE ONLY. TO ENGINEER SHALL BE RESPONSIBLE TO CALCULATE THRUST BLOCK DIMENSIONS AND/OR BASED ON RESTRAINED LENGTH ACTUAL SOIL AND OPERATING PRESSURE CONDITIONS.
3. FITTING JOINTS SHALL BE KEPT FREE OF CONCRETE. A LAYER OF POLYETHYLENE PLASTIC SHALL BE PLACED BETWEEN THE FITTING AND THE CONCRETE.
4. PRE-CAST THRUST BLOCKS ARE NOT ACCEPTABLE.
5. CONCRETE SHALL HAVE 4000 P.S.I. COMPRESSIVE STRENGTH.

TABLE OF "A" DIMENSIONS (IN FEET)

	BEND	90	45	22 1/2	11 1/4	TEE
PIPE SIZE (NOMINAL DIAMETER IN INCHES)	6	1.4	1.1	1.0	1.0	1.2
	8	1.9	1.5	1.5	1.5	1.6
	10	2.4	1.8	1.8	1.8	2.0
	12	2.8	2.1	2.0	2.0	2.4
	16	3.8	2.8	2.5	2.5	2.8
	24	5.8	4.2	3.0	3.0	4.5

City of Asheville, NC WATER ENGINEERING DIVISION	THRUST BLOCK FOR FITTINGS & RESTRAINING REQUIREMENTS	REVISIONS DATE: DESCRIPTION 6/2009: REVISED DETAIL FROM 6.13 10/2011: NOTE 1 REVISED	STD. NO. W.22



GENERAL NOTES:

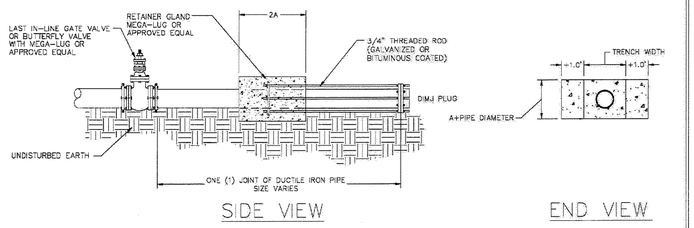
1. PRIOR TO CONNECTING TO THE EXISTING WATERLINE, THE NEW WATER LINE WILL BE PRESSURE TESTED, DISINFECTED AND A CLEAR WATER SAMPLE OBTAINED.
2. ALL WATER FOR FILLING AND FLUSHING OF NEW WATER LINE WILL BE DRAWN THROUGH THE DOUBLE CHECK VALVE ASSEMBLY.
3. THE COSTS FOR PROVIDING DOUBLE CHECK VALVE ASSEMBLY AND SLEEVE NECESSARY FOR FINAL CONNECTION WILL BE INCIDENTAL TO THE WATER LINE INSTALLATION.
4. CONTRACTOR WILL BE REQUIRED TO HAVE WATER METER TESTED TO MEET ACCURACY STANDARDS OF AWWA C700, BY THE CITY OF ASHEVILLE WATER MAINTENANCE DIVISION ANNUALLY. METER MUST BEAR A CERTIFICATION TAG AT ALL TIMES.

City of Asheville, NC WATER ENGINEERING DIVISION	NEW WATER LINE PRESSURE TEST BACKFLOW PREVENTION ASSEMBLY	REVISIONS DATE: DESCRIPTION 6/2009: REVISED DETAIL FROM 8.21	STD. NO. W.28

GENERAL NOTES

1. ALL FITTINGS MUST BE RESTRAINED AS SPECIFIED IN THE STANDARD SPECIFICATIONS AND DETAILS MANUAL.
2. DIMENSION TABLE GIVEN IS A GUIDE ONLY. ENGINEER SHALL BE RESPONSIBLE TO CALCULATE THRUST BLOCK DIMENSIONS BASED ON ACTUAL SOIL AND OPERATING
3. FITTING JOINTS SHALL BE KEPT FREE OF CONCRETE. A LAYER OF POLYETHYLENE PLASTIC SHALL BE PLACED BETWEEN THE FITTING AND THE CONCRETE.
4. CONTRACTOR HAS THE OPTION TO RESTRAIN PIPE JOINTS IN LIEU OF CONCRETE DEADMAN & RODDING.

	PIPE SIZE (NOMINAL DIAMETER IN INCHES)					
	6	8	10	12	16	24
"A" DIMEN. IN FEET	1.2	1.8	2.0	2.4	2.8	4.5



City of Asheville, NC WATER ENGINEERING DIVISION	END OF LINE PLUG	REVISIONS DATE: DESCRIPTION 6/2009: REVISED DETAIL FROM 6.14	STD. NO. W.23

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THE RAMBLE BILTMORE FOREST
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NORTH CAROLINA

WATER SYSTEM DETAILS

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214 N. King Street
Hendersonville, North Carolina 28792
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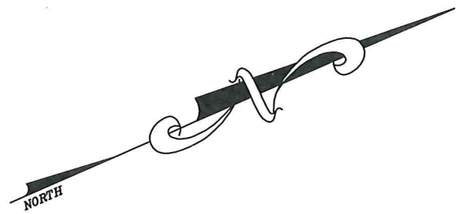
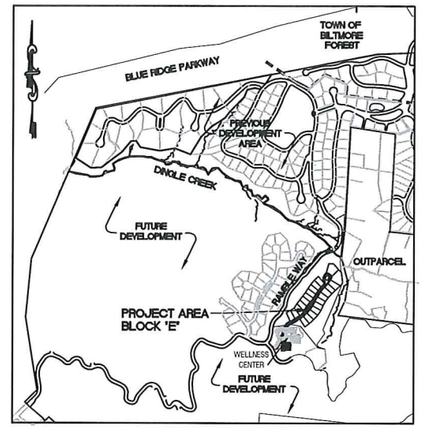
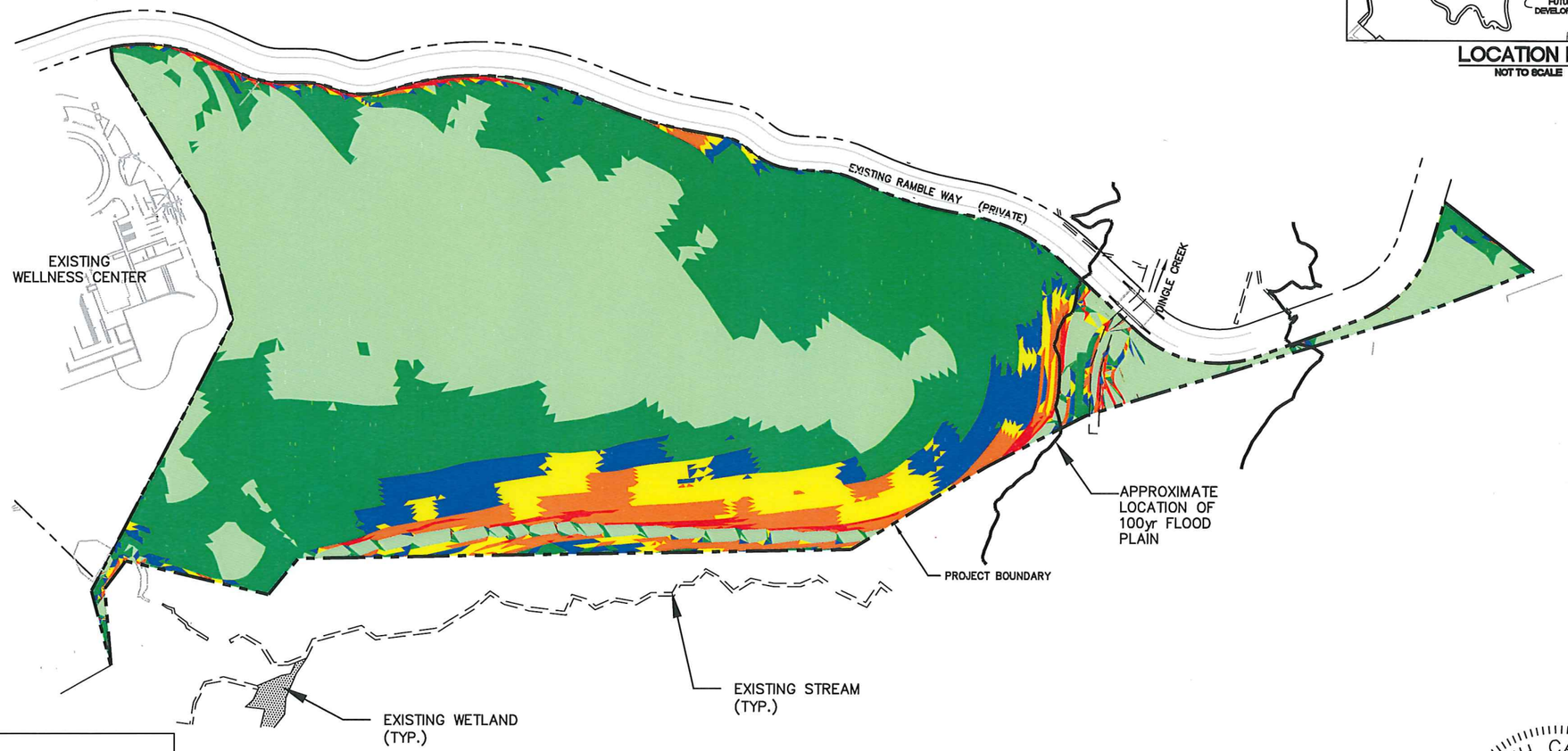




LOCATION MAP
NOT TO SCALE



NOTE:

1.) TOTAL SLOPE 35% AND GREATER 1.09± AC. 5.6%±

2.) TOTAL SITE NATURAL AVERAGE SLOPE IS XX%±

LEGEND

	0% TO LESS THAN 15% SLOPE	8.98± AC.	46.2%±
	15% TO LESS THAN 25% SLOPE	7.27± AC.	37.3%±
	25% TO LESS THAN 30% SLOPE	1.12± AC.	5.7%±
	30% TO LESS THAN 35% SLOPE	1.01± AC.	5.2%±
	35% TO LESS THAN 50% SLOPE	0.85± AC.	4.4%±
	50% AND GREATER SLOPE	0.24± AC.	1.2%±
	PROJECT BOUNDARY		

GRAPHIC SCALE

200 0 100 200 400

(IN FEET)

1 inch = 200 ft.

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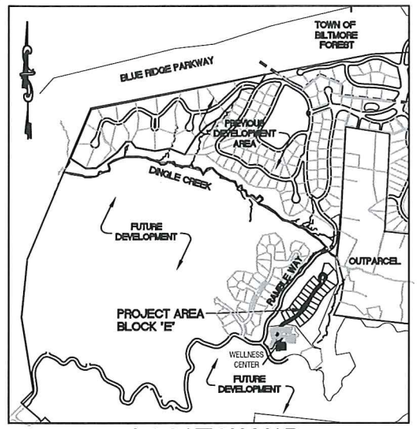
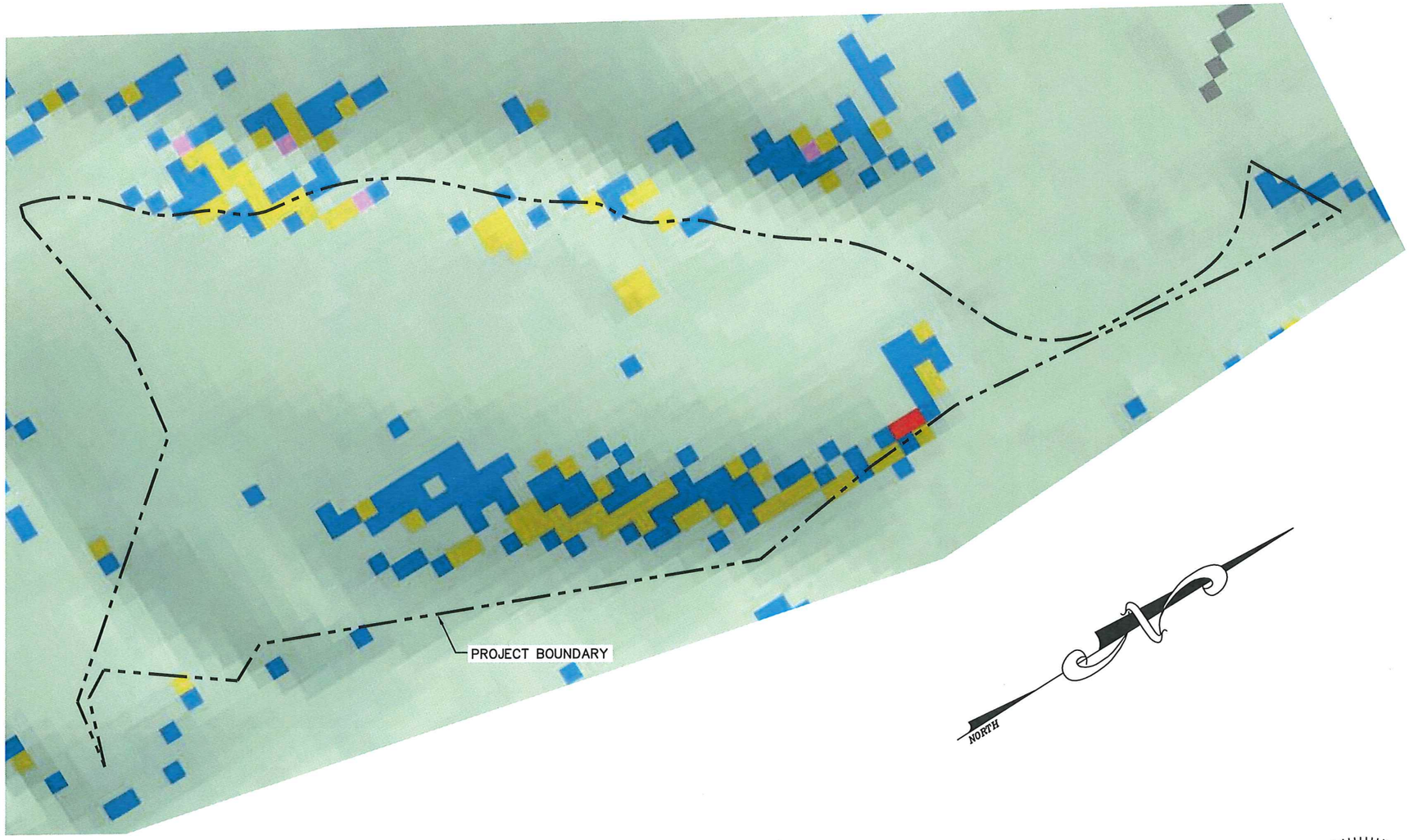
NORTH CAROLINA

SLOPE ANALYSIS MAP



LOCATION MAP
NOT TO SCALE



LEGEND
- STABLE
- MODERATELY STABLE
- NOMINALLY STABLE
- LOWER THRESHOLD OF INSTABILITY

GRAPHIC SCALE
200 0 100 200 400
(IN FEET)
1 inch = 200 ft.

IMAGE REF.: GEOLOGIC HAZARDS MAP SERIES 4 SLOPE MOVEMENT HAZARD MAPS OF BUNCOMBE COUNTY, NORTH CAROLINA VERSION AUGUST 24, 2009.

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214 N. King Street
Hendersonville, North Carolina 28792
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www.wgla.com

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THE RAMBLE BILTMORE FOREST
BLOCK "E"
BUNCOMBE COUNTY
NORTH CAROLINA

SLOPE STABILITY MAP

ATTACHMENT D

Buncombe County Planning Board Meeting
Recommended Staff Conditions
SUB2015-00079
April 20, 2016
The Ramble Block E

If approved by the Buncombe County Planning Board, the applicant shall provide the following information on a revised set of plans (if necessary) submitted to the Buncombe County Department of Planning and Development:

1. Provide proof of approval of road names and addresses from E-911 Addressing.

.

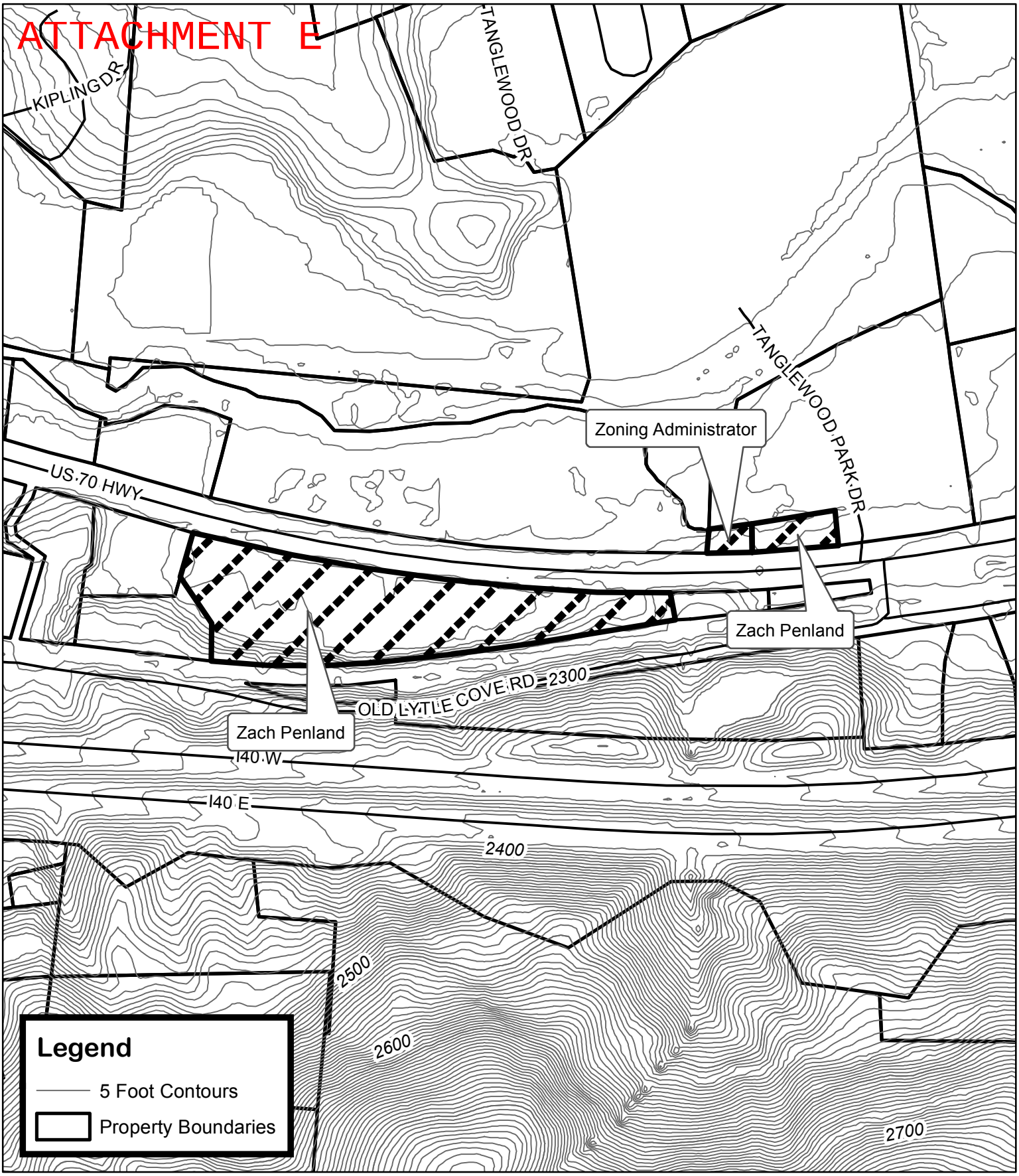
2. Provide proof of approval from the Buncombe County Erosion Control Officer that an Erosion Control Plan has been submitted and approved for the project. *No grading shall occur on the site until an approved Buncombe County Erosion Control permit is obtained.*

3. Provide proof of approval from the Buncombe County Stormwater Administrator that a stormwater management plan has been submitted and approved for the project. *No grading shall occur on the site until an approved Buncombe County Stormwater permit is obtained.*

4. Provide proof of approval of system design for City of Asheville Water lines. Proof of acceptance of the water lines into the City of Asheville's water system or an engineer's certification that the system has been installed to City of Asheville's standards will be required prior to recordation of a final plat or release of a financial guarantee.

5. Provide proof of approval of system design from the Metropolitan Sewerage District. Proof of acceptance of the sewer lines into the Metropolitan Sewerage District sewage system or an engineer's certification indicating that the system has been installed to MSD standards will be required prior to recordation of a final plat or release of a financial guarantee.

6. Indicate the existing use of the land within and abutting the subdvsion.



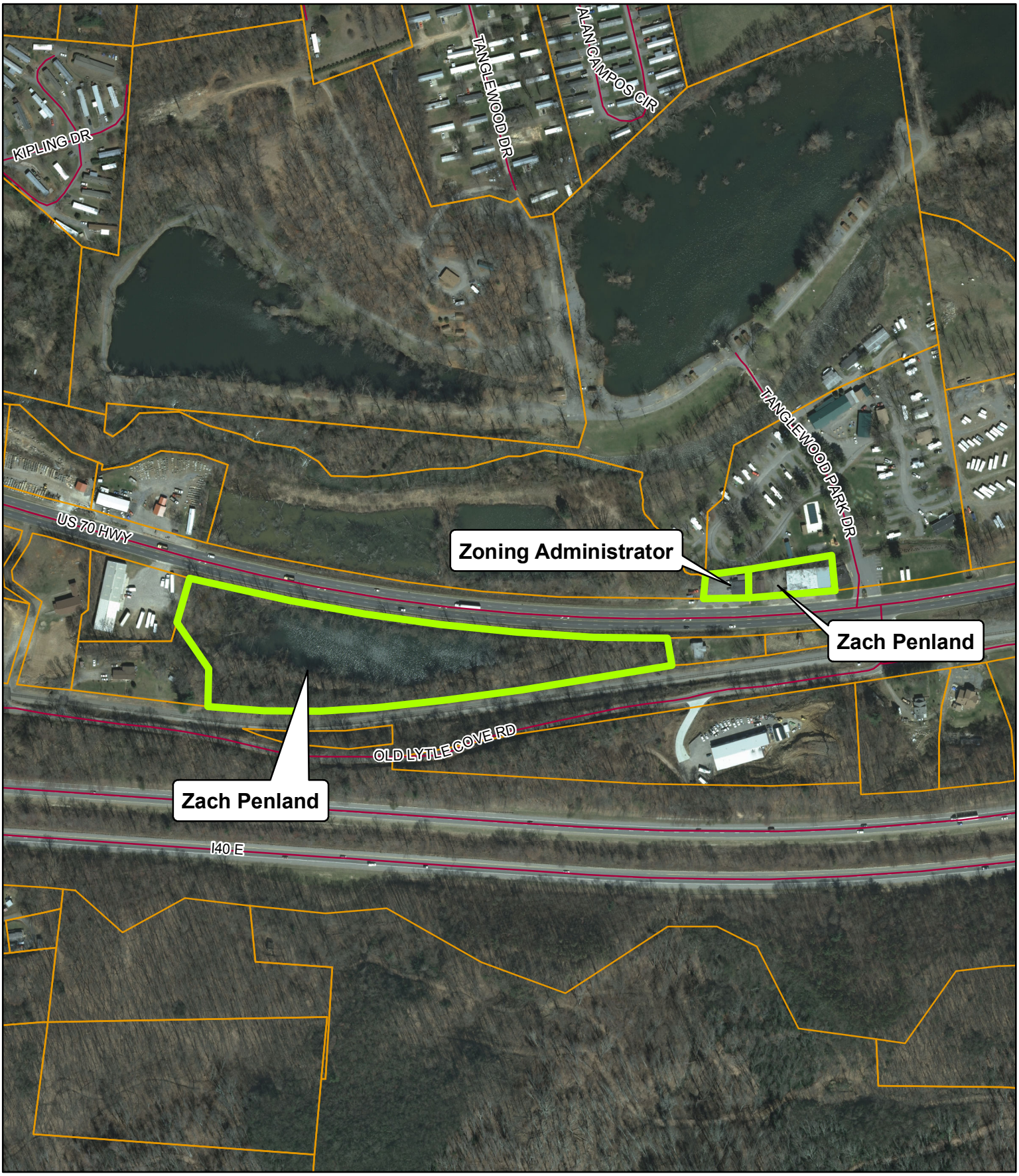
Zach Penland & Zoning Administrator Map Amendments

Case Number: ZPH2015-00009 & -00012
Approximate Property Size: 6.45 acres
Application Date: March 5 & 6, 2015
Planning Board Hearing Date: April 20, 2015

N

0 400 800
Feet

Created By: Buncombe County Planning
Date: April 6, 2015



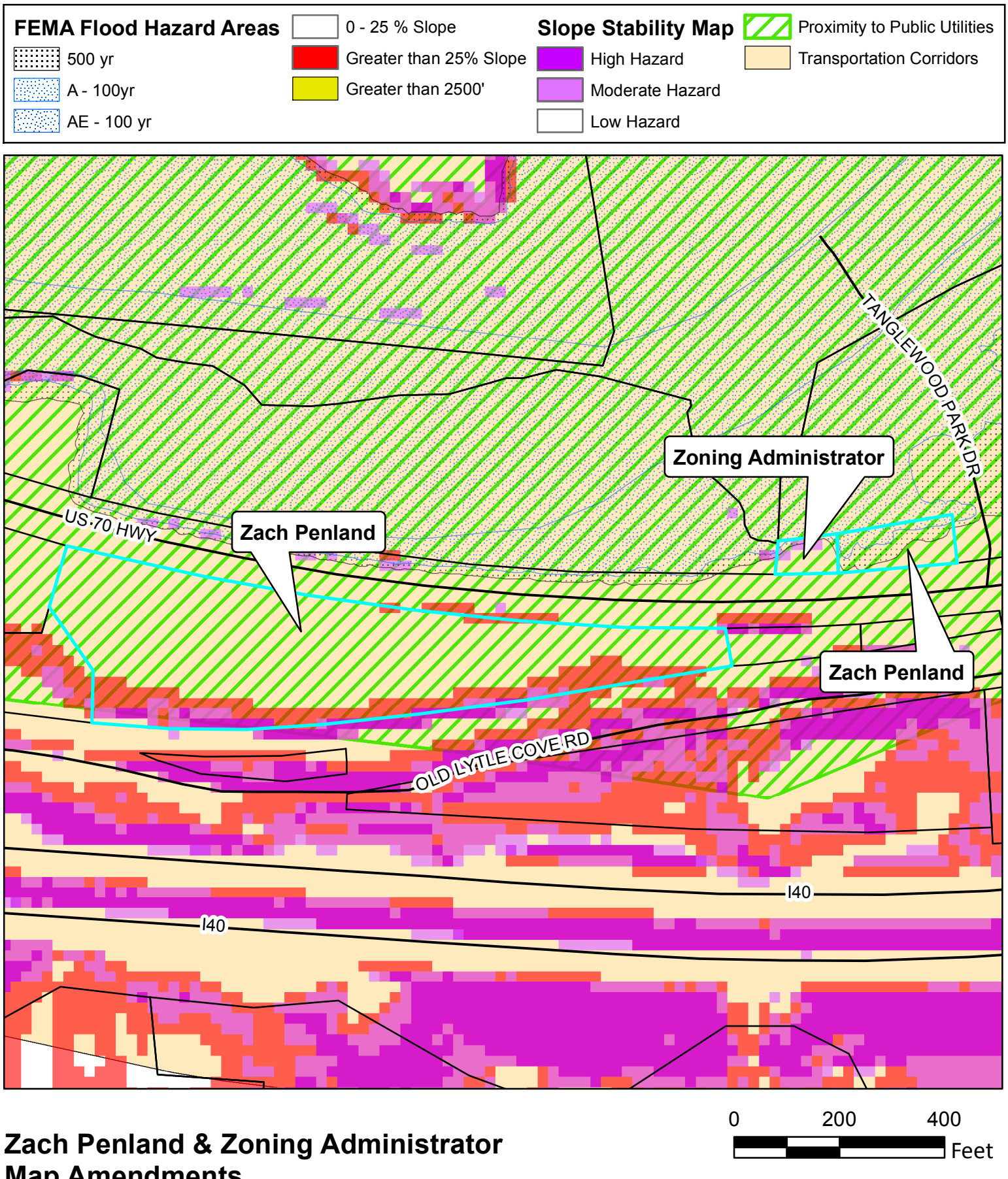
Zach Penland & Zoning Administrator Map Amendments

Case Number: ZPH2015-00009 & -00012
Approximate Property Size: 6.45 acres
Application Date: March 5 & 6, 2015
Planning Board Hearing Date: April 20, 2015

N

0 200 400 800
Feet

Created By: Buncombe County Planning
Date: April 7, 2015

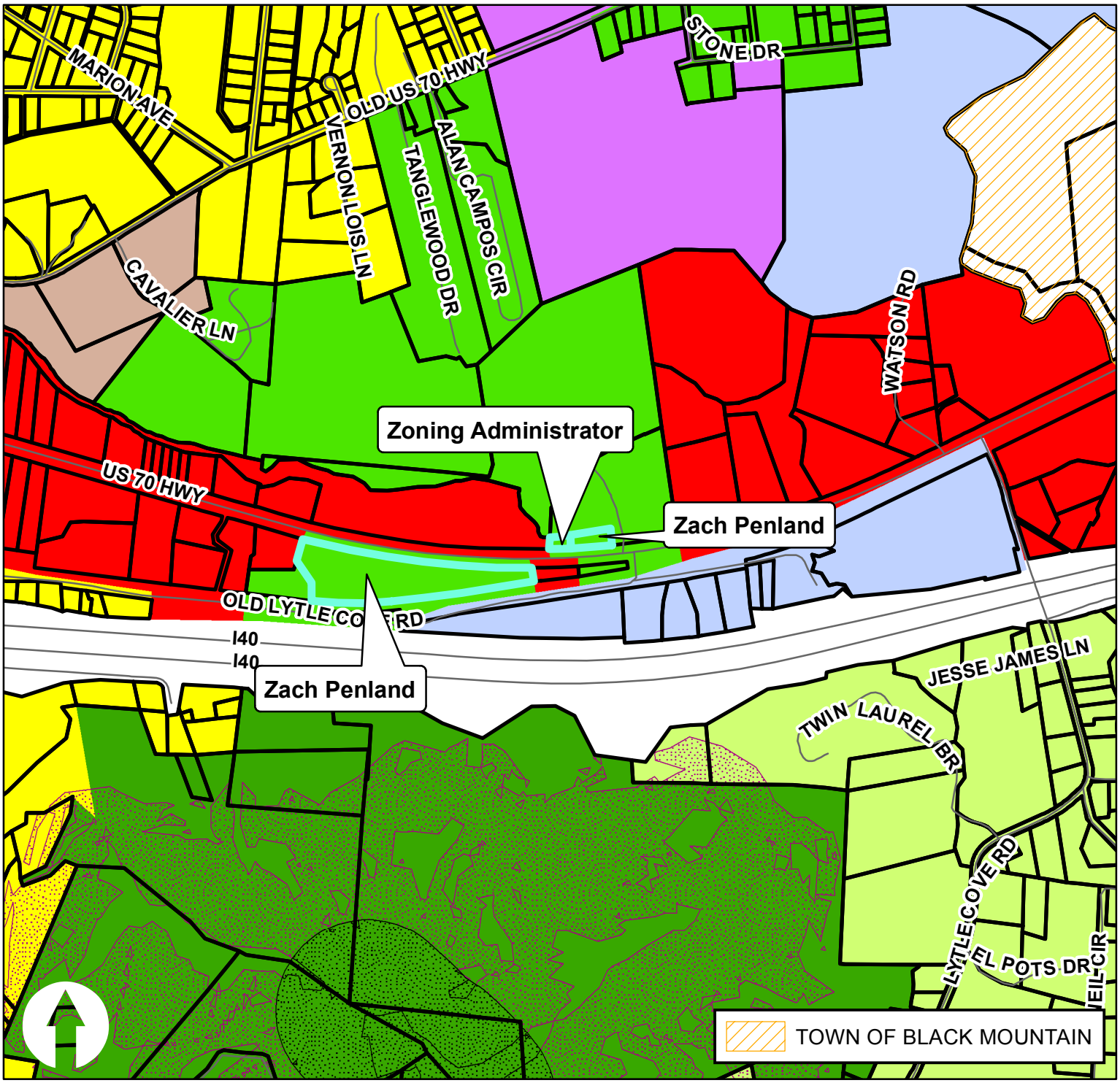


Zach Penland & Zoning Administrator Map Amendments

Case Number: ZPH2015-00009 & -00012
Approximate Property Size: 6.45 acres
Application Date: March 5 & 6, 2015
Planning Board Hearing Date: April 20, 2015

N

Created By: Buncombe County Planning
Date: April 6, 2015



0 0.2 0.4

Miles

Zach Penland & Zoning Administrator Map Amendments

Case Number: ZPH2015-00009 & -00012
Approximate Property Size: 6.45 acres
Application Date: March 5 & 6, 2015
Planning Board Hearing Date: April 20, 2015

Created By: Buncombe County Planning
Date: April 6, 2015

AI	EMP	R-1
BDM	NS	R-2
CR	OU	R-3
CS	PS	R-LD

- Blue Ridge Parkway Overlay
- Protected Ridge Overlay
- Protected Ridge & Parkway
- Steep Slope/High Elevation
- Steep Slope/High Elev. & Pkwy

ATTACHMENT F

Buncombe County Government
Application for Amending the Buncombe County Zoning

Planning and Development
www.buncombecounty.org

46 Valley Street
Asheville, NC 28801
Telephone (828) 250-4830
Fax (828) 250-6086

Buncombe County
Planning and Development
Received
MAR 05 2015

Application is hereby made to the Board of Commissioners of Buncombe County to amend:

(x) **the Zoning Map (complete sections A and C below)**

( ) **the text of the Zoning Ordinance (complete sections B and C below)**

46 Valley Street
Asheville, NC 28801
828-250-4830

A. If the application to amend the Zoning Map, provide the following:

1. Property description:

(a) Property Identification Number(s): 9699-70-0426;-60-0264

(b) Address of Property(s) : 2700 US Hwy 70

(c) Acreage of Property: .43 ac & 5.84 ac

2. Zoning Classification:

Current zoning district: R-3 Requested zoning district: CS

3. Please answer the following questions (if necessary attach a separate sheet of paper):

(a) Describe how the size of the tract proposed for rezoning in reference to surrounding properties makes it suitable for the proposed zoning classification:

Both properties front HWY US 70 and have existing commercial uses.

(b) Describe how the proposed re-zoning is consistent with Buncombe County's Comprehensive Land Use Plan (available on the County website):

US Hwy 70 is a major traffic artery and the land use plan recommends Commercial development adjacent to these corridors. (Pg 63)

(c) Describe how the proposed re-zoning would affect surrounding properties and uses:

No negative impact as most surrounding properties are commercial uses.

(d) Describe the benefits and/or detriments of the proposed re-zoning to the following groups:

- Owner(s):

Aligns zoning with current use and allows oppurtunites for growth of business.

- Adjacent Neighbors:

Aligns zoning with adjacent CS zoning areas.

- Surrounding Community:

Promotes commercial development along the US Hwy 70 corridor.

B. If the application is to amend the text of the Zoning Ordinance, provide the following (if necessary attach a separate sheet of paper):

1. Specific section(s) of the Zoning Ordinance affected:

2. Description of requested change (including proposed changes to text):

3. Reason(s) for the requested amendment(s):

C. Contact information

Zach Penland	2700 US Hwy 70 Swannanoa, NC 28778
Owner's/Applicant's Name	**Mailing Address (including town/city, state, and zip)**
828-686-5561	info@penlandsfurniture.com
Telephone	**Email Address**

Signature of Owner/Applicant

Withdrawal of an application after notice has been made will result in forfeiture of any application fees associated with said application.

OFFICE USE ONLY:

Date received: 3/5/15

Case number: ZP42015-00009

Scheduled Planning Board Hearing Date: _____

Scheduled Board of Commissioners Hearing Date: _____

Staff Recommendation

[ ] approval

[ ] denial

ZPH2015-00012

Leigh DeForth

From: Debbie Truempy
Sent: Friday, March 06, 2015 1:50 PM
To: Leigh DeForth
Subject: RE: spot for zph2015-00009

Yes.

Thanks

From: Leigh DeForth
Sent: Friday, March 06, 2015 1:49 PM
To: Debbie Truempy
Subject: spot for zph2015-00009

Hello,
ZPH2015-00009 would create a spot with PIN 9699-60-8454 and that PIN contains a commercial use. Would you like to include this as a Zoning Administrator rezoning from R-3 to CS?
Thank you,

Leigh DeForth, AICP
Planner
Buncombe County Planning Department
46 Valley Street
Asheville, NC 28801
(828) 250-4832
leigh.deforth@buncombecounty.org

ATTACHMENT G

BUNCOMBE COUNTY DEPARTMENT OF PLANNING AND DEVELOPMENT
REZONING ANALYSIS

CASE NUMBER	: ZPH2015-00009 AND ZPH2015-00012
PROPOSED ZONING CHANGE	: R-3 to CS
LOCATION	: 2700 US Hwy 70
PIN	: 9699-70-0426 (ZPH2015-00009)
	: 9699-60-0264 (ZPH2015-00009)
	: 9699-60-8454 (ZPH2015-00012)

APPLICANTS:

ZACH PENLAND (ZPH2015-00009)
2700 US HWY 70
SWANNANOA, NC 28778

DEBBIE TRUEMPY (ZPH2015-00012)
BUNCOMBE COUNTY ZONING ADMINSTRATOR
46 VALLEY STREET
ASHEVILLE, NC 28801

OWNERS:

GERALD PENLAND (ZPH2015-00009)
PO BOX 691
SWANNANOA, NC 28778

CHARLES MCGUINN AND GERALD PENLAND (ZPH2015-00009)
PO BOX 835
SWANNANOA, NC 28778

DEMETRE AND DEBORAH THEODOSSIS (ZPH2015-00012)
1100 MCMINN ROAD
HENDERSONVILLE, NC 28792

DEPARTMENT RECOMMENDATION: **APPROVAL**

BOARD CONSIDERATIONS: The Board must determine if there is a reasonable basis for the requested change. An applicant's showing of reasonableness must address the totality of the circumstances and must demonstrate that the change is reasonable in light of its effect on all involved. Good Neighbors of South Davidson v. Town of Denton, 355 N.C. 254, 559 S.E.2d 768 (2002). Determination must be, the "product of a complex of factors." Chrismon v. Guilford County, 322 N.C. 611, 370 S.E.2d 579 (1988). Among the factors relevant to this analysis are the size of the tract in question; the compatibility of the disputed zoning action with an existing comprehensive zoning plan; the benefits and detriments resulting from the zoning action for the owner of the newly zoned property, his neighbors, and the surrounding community; and the relationship between the uses envisioned under the new zoning and the uses currently present in adjacent tracts. Id.

REZONING ANALYSIS: The applicants are requesting to rezone property from R-3 (Residential District) to CS (Commercial Service District). The subject properties are located on the north and south sides of US Hwy 70 near the intersections of US Hwy 70 and Tanglewood Park Drive and Us Hwy 70 and Old Lytle Cove Road. Two of the lots currently contain commercial buildings while one of the tracts is undeveloped. The surrounding area is characterized by commercial uses, manufactured home parks, and some undeveloped area. The area along US Hwy 70 consists of properties zoned EMP (Employment District) and CS, with some areas zoned R-3.

The proposed map amendment is consistent with the Buncombe County Land Use Plan as the Land Use Constraint maps within the Buncombe County Comprehensive Land Use Plan, 2013 Update show the following regarding the subject property:

- The property is within close proximity to a transportation corridor.
- The property is within reasonable proximity to infrastructure (combined water/sewer service area).

As Figure 20. Appropriate Development Types of the Buncombe County Comprehensive Land Use Plan 2013 Update recommends that the type of commercial developments allowed in the CS zoning district be located within close proximity to a transportation corridor within reasonable proximity to infrastructure the proposed map amendment could be appropriate. The proposed CS zoning would not be detrimental to the owners, adjacent neighbors, and surrounding community as it is consistent with the surrounding properties, adjacent to the CS zoning district, and supported by the Buncombe County Land Use Plan. Therefore the Buncombe County Department of Planning and Development recommends **APPROVAL** of the request.

LAND USE PLAN CONSISTENCY STATEMENTS

Consistent: The proposed map amendment is **consistent with the Buncombe County Land Use Plan** as Figure 20. Appropriate Development Types of the Buncombe County Comprehensive Land Use Plan, 2013 Update recommends the following in regard to the constraints mapped within the Land Use Plan Maps:

- The property is within close proximity to a transportation corridor.
- The property is within reasonable proximity to infrastructure (combined water/sewer service area).

As Figure 20. Appropriate Development Types of the Buncombe County Comprehensive Land Use Plan 2013 Update recommends that the type of commercial developments allowed in the CS zoning district be located within close proximity to public utilities and within reasonable proximity to infrastructure the proposed map amendment could be appropriate. The proposed CS zoning would not be detrimental to the owners, adjacent neighbors, and surrounding community as it is consistent with the surrounding properties, adjacent to a CS zoning, and supported by the Buncombe County Land Use Plan. Therefore, the requested zoning would be **reasonable and in the public interest**.

Not Consistent: The proposed map amendment is **not consistent with the Buncombe County Land Use Plan** as Figure 20. Appropriate Development Types of the Buncombe County Comprehensive Land Use Plan, 2013 Update recommends the following in regard to the constraints mapped within the Land Use Plan Maps:

- The property is not located outside of moderate and high slope stability hazards.
- The property is not located outside the flood hazard areas.

As Figure 20. Appropriate Development Types of the Buncombe County Comprehensive Land Use Plan 2013 Update recommends that the type of commercial developments allowed in the CS zoning district be located outside of areas of moderate and high slope stability hazard and not located outside the flood hazard area. The proposed rezoning would therefore not be appropriate. The proposed CS zoning would be detrimental to the owners, adjacent neighbors, and surrounding community as it is not consistent with the surrounding properties and supported by the Buncombe County Land Use Plan. Therefore, the requested zoning would be **neither reasonable nor in the public interest**.