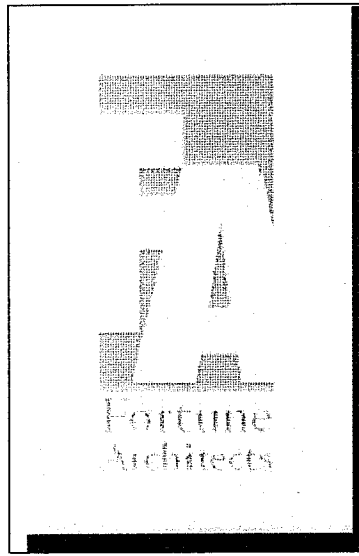


Architectural Plans By:



FORTUNE ARCHITECTS  
8510 McALPINE PARK DR.,  
SUITE 204  
CHARLOTTE, NC 28211

# Final Site Plan Approval Application

## Proposed

# CORNELIUS VILLAGE CENTER LOT #1

## Cornelius, Mecklenburg County, North Carolina

Applicant / Developer:

HEIDI STODDARD  
17914 JOHN CONNOR RD.  
CORNELIUS, NC 28031

AUGUST 10TH, 2016

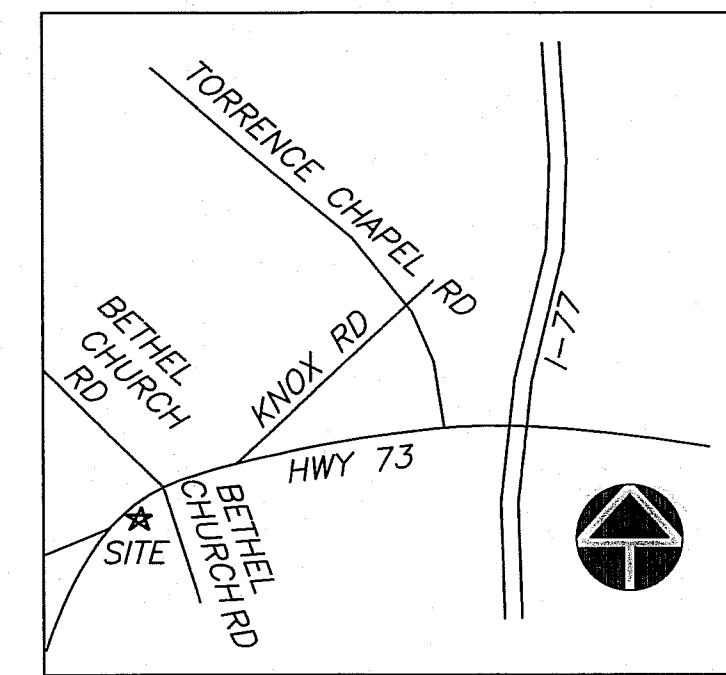
Plans Prepared By:



## Woodbine Design, P.C.

Land planning & civil engineering

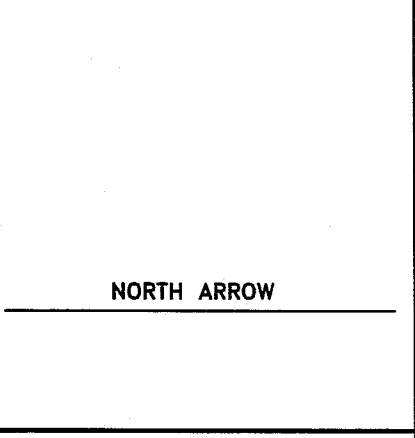
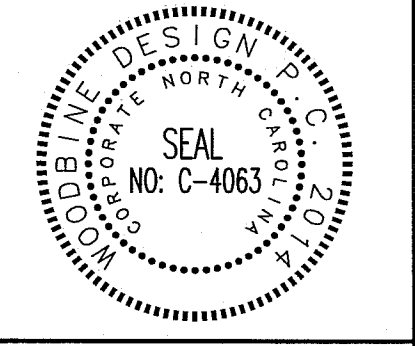
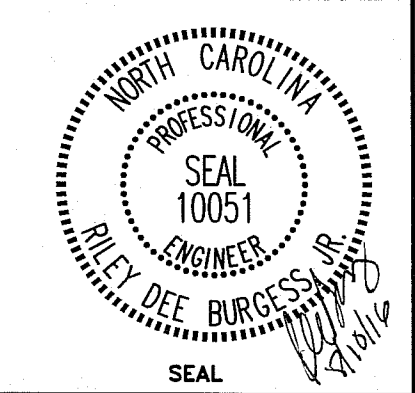
blending  
nature & man



VICINITY MAP  
NOT TO SCALE

**Woodbine Design, P.C.**  
Land planning & civil engineering  
blending nature & man

www.woodbinedesign.com 980.722.2669 20416 N. Main Street, Suite 204  
rhurgess@woodbinedesign.com 704.315.5367 Cornelius, NC 28031  
pwcoo@woodbinedesign.com



NOTICE TO CONTRACTOR:  
THIS LAND DEVELOPMENT PLAN HAS NOT BEEN REVIEWED OR APPROVED BY CMUD.  
PLEASE CONTACT MIKE GARBARK AT 704-432-5797 MGARBARK@CI.CHARLOTTE.NC.US WITH CMUD  
AND EXPLAIN YOUR DEVELOPMENT PRIOR TO CONSTRUCTION.

ANY LAND DEVELOPMENT PLAN REVISIONS CAUSED BY CMUD COMMENTS MAY REQUIRE ADDITIONAL  
REVIEW TIME AND ADDITIONAL FEES TO BE PAID BY THE OWNER/DEVELOPER/CONTRACTOR.

IT IS HIGHLY RECOMMENDED TO RECEIVE CMUD APPROVAL PRIOR TO LAND DEVELOPMENT APPROVAL.

SHEET LEGEND	
C1	COVER SHEET
C2	SITE PLAN
C3	EXISTING CONDITIONS & DEMOLITION PLAN
C4	GRADING & EROSION CONTROL PLAN
C5	UTILITY PLAN
C6	DETAILS
C7	NOTES

Project: CORNELIUS VILLAGE CENTER LOT #1  
Location: 19711 BETHEL CHURCH RD., CORNELIUS, NC 28031  
Mecklenburg Co.

Sheet Title: COVER SHEET

DEVELOPER/OWNER

HEIDI STODDARD  
17914 JOHN CONNOR RD.  
CORNELIUS, NC 28031  
704-906-1315

Designed By: Woodbine Design

Drawn By: PW

Date: 8/10/16

Revisions:


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IF ANY CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

NOTE:  
AN AS-BUILT BUA SURVEY SHALL BE PROVIDED DURING THE BMP AS-BUILT REVIEW AND PRIOR TO THE ISSUANCE OF A C.O.

THE MECKLENBURG COUNTY ENGINEERING DEPARTMENT HAS NOT REVIEWED THE STRUCTURAL STABILITY OF ANY RETAINING WALLS ON THE SITE AND DOES NOT ASSUME RESPONSIBILITY FOR THEM.

NOTE:  
1) SITE ADDRESS SHALL BE POSTED ON BUILDING FOR EMERGENCY RESPONSE TEAMS.  
2) CONTACT THE UTILITY COMPANY TO RELOCATE ANY EXISTING UTILITY POLES. ALL EXISTING FACILITIES WHICH CONFLICT WITH THE IMPROVEMENTS UNDER THE SCOPE OF THIS PROJECT MUST BE RELOCATED AT THE EXPENSE OF THE APPLICANT.  
3) ALL DEVELOPMENT CREATING A TOTAL OF 20,000-SF OF IMPERVIOUS AREA SINCE SEPTEMBER 1978 WILL REQUIRE STORM DRAIN DETENTION.  
4) BEFORE YOU DIG STOP. CALL THE NC ONE-CALL CENTER AT 1-800-632-4949. ITS THE LAW.

**LIGHTING**  
ALL STREET LIGHTING AND PARKING LOT LIGHTING IS EXISTING.

NOTE:  
CONTRACTOR SHALL REMOVE TREES ONLY AS NEEDED FOR CONSTRUCTION.

**NOTE: SEE ARCHITECTURAL PLANS FOR DETAILS WITHIN 5-FT OF BUILDING.**

**GENERAL NOTES**

- DIMENSIONS FROM BACK OF CURB (TYP).
- ALL CURB RADI TO BE 5'-0" U.N.O.
- STANDARD PARKING DIMENSIONS:  
STD AUTO: 9'-0" WIDE X 19'-0" LONG  
PARALLEL AUTO: 9'-0" WIDE X 22'-0" LONG  
HANDICAP: 9'-0" WIDE X 19'-0" LONG WITH 5'-0" CLEAR UNLOADING SPACE ADJACENT

NOTE:  
1) THIS SITE IS VESTED PER APPROVED ZONING PLAN FOR CORNELIUS VILLAGE CENTER.  
2) NO WATER QUALITY IS REQUIRED FOR THIS SITE UNDER CURRENT VESTING.  
3) THIS SITE DRAINS TO THE EXISTING DETENTION POND THAT WAS DESIGNED FOR CORNELIUS VILLAGE CENTER.

NOTE:  
-THIS SITE IS NOT WITHIN A REGULATED FLOODPLAIN.  
-ZONING IS VESTED COMMUNITY  
-SETBACK IS 0'-FT  
-VESTED COMMUNITY APPROVED IN 1999.

**ZONING CODE SUMMARY**

PROJECT NAME: CORNELIUS VILLAGE CENTER LOT #1  
OWNER: MARTIN INVESTMENT, LLC PHONE # \_\_\_\_\_  
PLANS PREPARED BY: WOODBINE DESIGN, P.C. PHONE # (980) 722-2669  
ZONING: VILLAGE CENTER JURISDICTION: CORNELIUS  
SEE VESTED PLAN

PROPOSED USE: OFFICE  
BUILDING HEIGHT: 40-FT MAX. FEET STORIES: 2  
BUILDING COVERAGE: PROPOSED=2,682-SF SQ. FT.  
LOT SIZE: 12,502/0.287 SQ. FT./ACRES  
TAX PARCEL ID: 005-12-307 GROSS FLOOR AREA: 5,364 SQ. FT.  
YARD REQUIREMENTS: NUMBER OF UNITS OR SUITES: \_\_\_\_\_  
SETBACK (FRONT): 0 FT. FROM R/W,  
SIDE YARD (R): 0 FT. SIDE YARD (L): 0 FT.  
REAR YARD: 0 FT.  
WATERSHED: MCDOWELL

PARKING DATA: (SPECIFY REQUIREMENT)  
NOTE: ALL PARKING IS EXISTING

REQUIRED SCREENING:  
FRONT: (NO) / YES REAR: (NO) / YES  
SIDE (R): (NO) / YES SIDE (L): (NO) / YES  
PARKING ONLY: (NO) / YES

REQUIRED BUFFERS:  
FRONT: (NO) / YES \_\_\_\_\_ FT. REAR: (NO) / YES \_\_\_\_\_ FT.  
SIDE (R): (NO) / YES \_\_\_\_\_ FT. SIDE (L): (NO) / YES \_\_\_\_\_ FT.

-ALL SIGNAGE WILL BE APPROVED AND PERMITTED SEPARATELY

Erosion Control & Water Quality Inspector:  
Nick Finelli - Cornelius, Davidson, Huntersville  
(980) 721-9390

Land Development Inspector:  
Tommy Keziah - Cornelius, Davidson, Huntersville  
(704) 634-6753

Zoning Inspector:  
Brien Sifford - Cornelius, Davidson, Huntersville  
(980) 721-0924

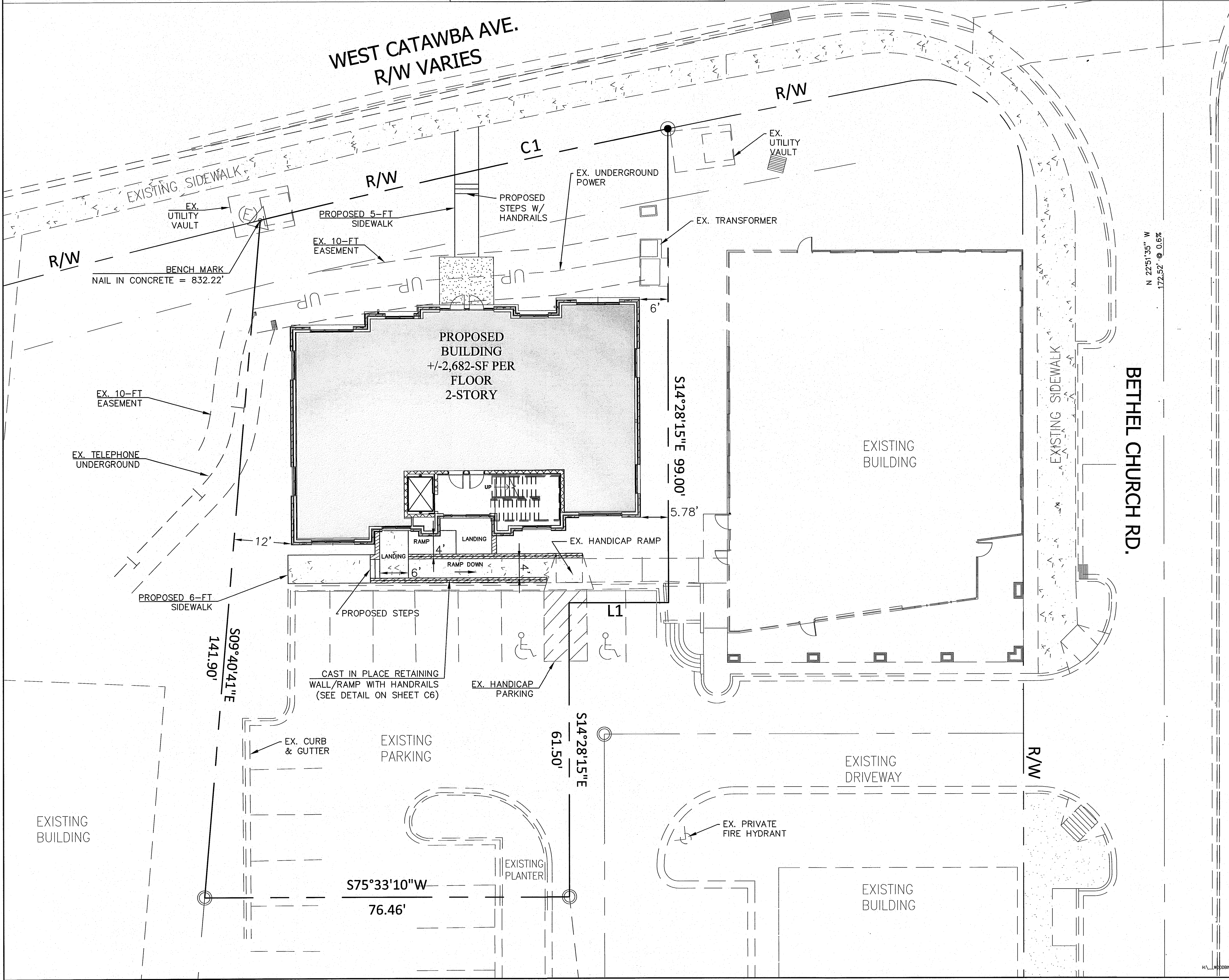
NOTE:  
CONTRACTOR SHALL OBTAIN APPROVAL FOR RETAINING WALL & PROVIDE DETAILED DRAWINGS TO ALL LOCAL AND GOVERNMENT AGENCIES FOR REVIEW AND PERMITTING.

**COMPACTION REQUIREMENTS**

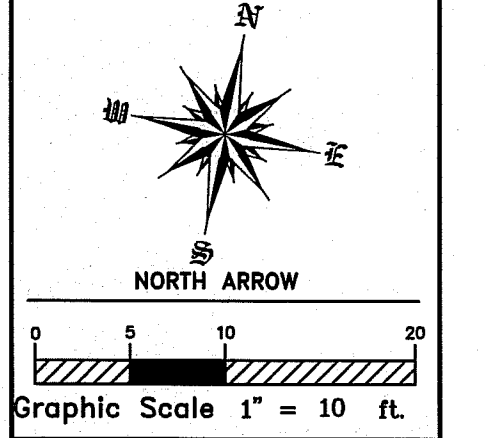
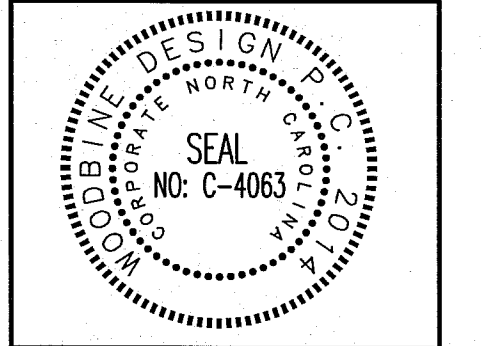
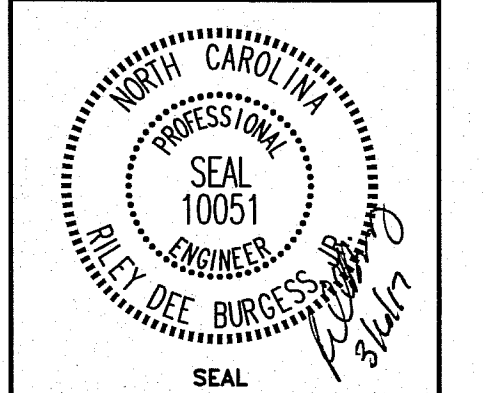
SUBGRADE MUST BE TESTED BY AN INDEPENDENT TESTING LAB, AND HAVE A DENSITY OF 100% IN ACCORDANCE WITH AASHTO-T99.

BASE COURSE MUST HAVE A DENSITY OF 90% FOR B.C.B.C. AND 100% FOR A.B.C. IN ACCORDANCE WITH AASHTO-T180,

SURFACE COURSE SHALL BE COMPACTED TO A DENSITY OF 95%.



**Woodbine Design, P.C.**  
Land planning & civil engineering  
Blending nature & man  
www.woodbinedesign.com  
1000 S. Main Street, Suite 204  
Cornelius, NC 28031  
704.315.8387  
woodbinedesign@gmail.com



Project: CORNELIUS VILLAGE CENTER LOT #1  
Location: 19711 BETHEL CHURCH RD., CORNELIUS, NC 28031  
Sheet Title: Mecklenburg, Co. SITE PLAN

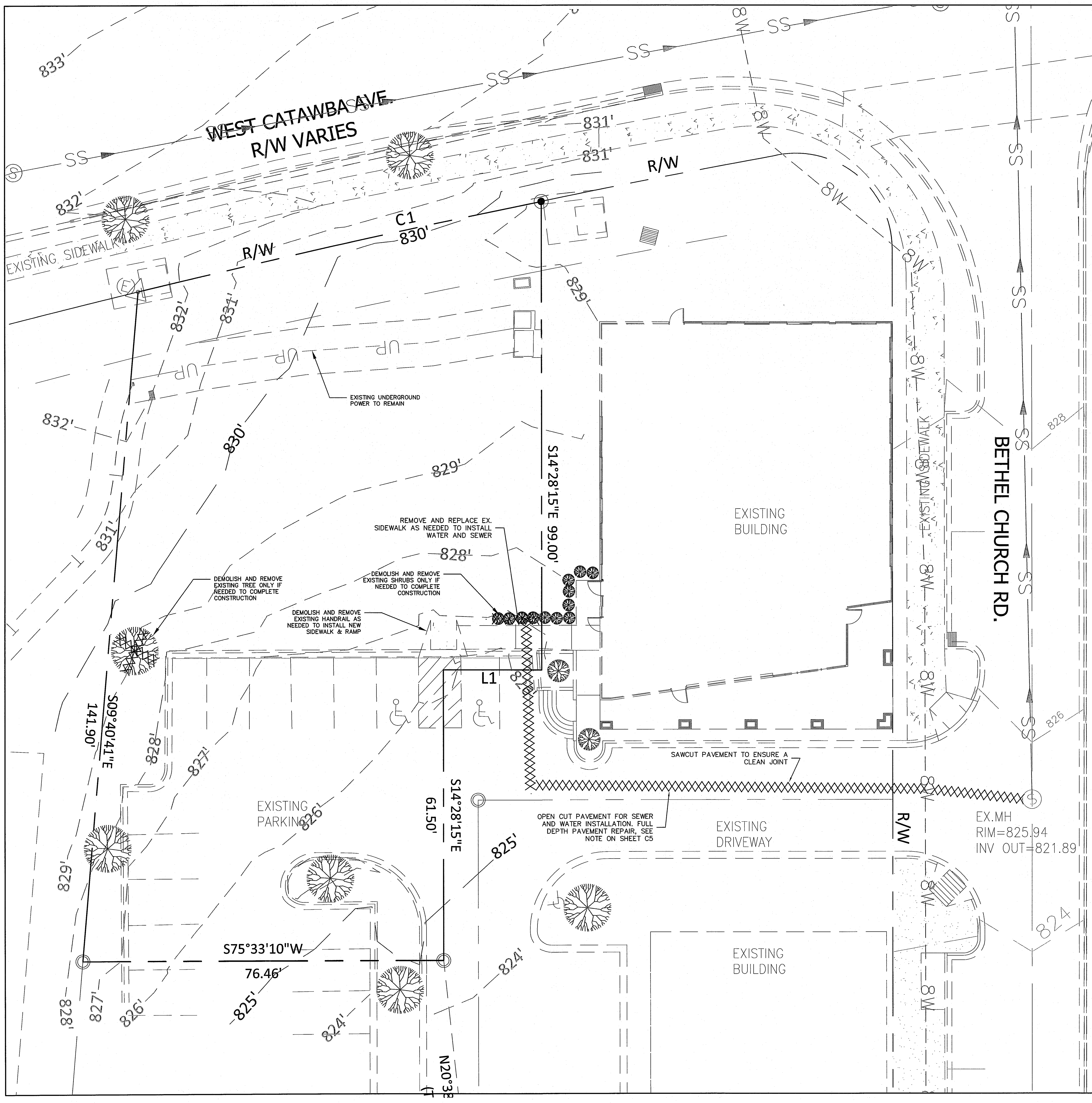
DEVELOPER/OWNER  
**HEIDI STODDARD**  
17914 JOHN CONNOR RD.  
CORNELIUS, NC 28031

Designed By: Woodbine Design  
Drawn By: PW  
Date: 8/10/16  
Revisions: 3/6/17-Revised Footprint

Sheet C2 of 7  
Project Number 16026

IF ANY CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY, AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

PLOTTED: 3/6/2017  
FILE: C:\PROJECTS\16026-C2-C101  
PLOT: C:\PROJECTS\16026-C2-C101-BASE.DWG



**DEMOLITION LEGEND**

	DEMOLITION OR SAWCUT SEE PLANS FOR DISTINCTION
	DEMOLISHED AND REMOVED AREA PER LOCAL JURISDICTION
<b>EXISTING</b>	
	10" CONTOURS
	2" CONTOURS
	STORM SEWER
	SANITARY SEWER
	FORCE MAIN
	GAS LINE
	UNDERGROUND POWER
	OVERHEAD POWER
	UNDERGROUND PHONE
	OVERHEAD TELEPHONE
	TELEPHONE COMMUNICATIONS
	IRRIGATION LINE
	RECIRCULATION LINE
	2" WATER LINE
	3" WATER LINE
	4" WATER LINE
	6" WATER LINE
	8" WATER LINE
	10" WATER LINE
	12" WATER LINE
	16" WATER LINE
	WATER LINE
	EXISTING FENCE
	FIRE HYDRANT (FH)
	GATE VALVE (GV)
	SANITARY SEWER MANHOLE (SSMH)
	STORM SEWER MANHOLE (MH)
	CURB INLET (CI)
	GRATE INLET/YARD INLET (GI/YI)
	SIGN
	UTILITY POLE
	LIGHT POLE
	BACK OF CURB



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**GENERAL NOTES:**

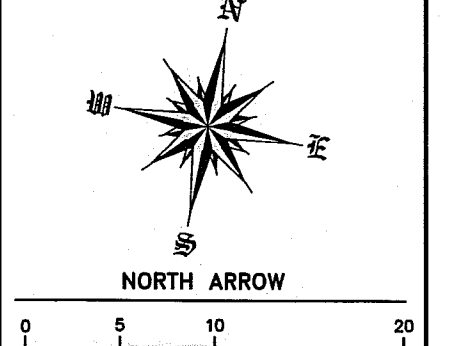
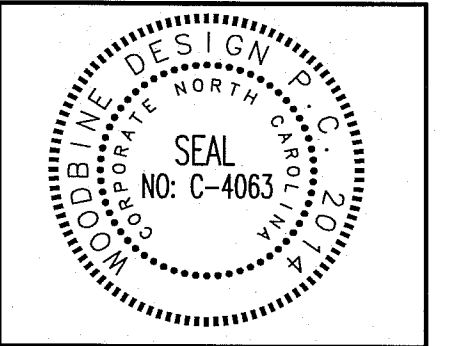
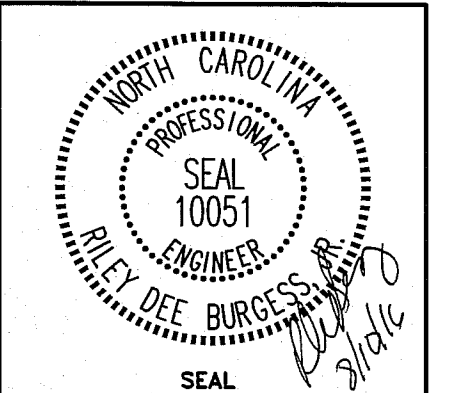
- Coordinate all curb and street grades in intersection with Inspector.
- All road improvements are to be coordinated with the Town or County LUESA prior to construction.
- Sight Triangles shown are the minimum required.
- Approval of this plan is not Authorization to grade adjacent properties. When field conditions warrant off-site grading, permission must be obtained from the affected property owners.
- Handrails may be required by a representative of the county, if warranted by field conditions. (MCLDS 50.04A,B)
- In order to ensure proper drainage, keep a minimum of 0.5% slope on the curb.
- Subsurface drainage facilities may be required in the street right-of-way if deemed necessary by the inspector.
- The purpose of the storm drainage easement (SDE) is to provide storm water conveyance. Buildings are not permitted in the easement area. Any other objects which impede storm water flow or system maintenance are also prohibited. Property owner is responsible for any onsite SDE.
- High Density polyethylene (HDPE) storm drainage pipe installed within the existing or proposed public street right-of-way must:
  - Be approved by the public works representative from the town prior to getting plan approval.
  - Be approved by the County's Inspector prior to any backfill being placed.
  - Backfill material must be approved by the County Inspector prior to any placement of the material within the public street right-of-way.
  - If town public works agree to have the pipe installed there shall be an approved bedding detail and a third party inspector shall verify compaction and supply written evidence of compaction results.
- The Developer shall maintain each stream, creek, or backwash channel in an unobstructed state and shall remove from the channel and the banks all debris, logs, timber, junk and other accumulations.
- Retaining Walls > 4-ft (residential) or 5-ft (commercial) in height requires a permit from Code Enforcement prior to construction. The Engineer of record for the retaining walls must certify that the walls are constructed to specifications prior to issuance of C.O.
- Retaining walls involving a culvert or located within the influence of a road must be reviewed and approved by land development. Culverts must have headwalls or be collared.
- Construction of retaining walls cannot begin until all necessary permits are acquired.
- As-builts for applicable detention structures and BMP measures are required. As-builts are to include latitude and longitude for the center of the measure and inlets and outlets of all structures. Elevations are required for all measures as well as dimensions of all measures.
- Non Standard items (i.e. pavers, irrigation system, etc.) in the right-of-way require a Right-Of-Way Encroachment agreement with the Town/North Carolina Department of Transportation before installation.

**DEMOLITION / CLEARING NOTES:**

- BOUNDARY AND TOPOGRAPHIC INFORMATION TAKEN FROM A SURVEY PREPARED BY RB PHARR IN 2012.
- CONTRACTOR SHALL REMOVE ALL EXISTING TREES, CONCRETE, ASPHALT AND OTHER EXISTING STRUCTURES INDICATED ON PLAN. CONTRACTOR TO DISPOSE OF ALL DEBRIS TO AN APPROVED (LEGAL) OFF-SITE LOCATION.
- PROTECT ADJACENT CURBS; TREES, BUILDINGS, UTILITIES AND OTHER ITEMS FROM DAMAGE. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND / OR PAYMENT OF ANY DAMAGED ITEMS TO REMAIN.
- THE LOCATION OF EXISTING UTILITIES AS PRESENTED ARE APPROXIMATE. CONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO START OF CONSTRUCTION, AND NOTIFY ENGINEER OF ANY DISCREPANCIES. CONTRACTOR IS FULLY RESPONSIBLE FOR ALL UNDERGROUND UTILITIES AND SHALL REPAIR ANY DAMAGE AS A RESULT OF THIS CONTRACT.
- SURVEYOR SHALL REPORT ANY ENCROACHMENTS OR DISCREPANCIES GENERATED BY THIS CLEARING PLAN IMMEDIATELY TO CES GROUP ENGINEERS, LLP FOR DECISION.
- SURVEYOR SHALL VERIFY CLOSURE AND ACCURACY OF CURVE DATA PRIOR TO COMMENCEMENT OF FIELD STAKING.
- CONTRACTOR SHALL MAKE EVERY EFFORT TO SAVE ADDITIONAL TREES WHENEVER FEASIBLE.
- NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURN PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE SAVE AREAS.
- CLEARING LIMITS ON THIS PLAN INDICATE THE EXTENT OF ALL MAJOR CLEARING REQUIRED, CONTRACTOR IS ALSO RESPONSIBLE FOR ANY INCIDENTAL CLEARING REQUIRED FOR MINOR DISCREPANCIES IN GRADE, UTILITY INSTALLATION, EROSION CONTROL MEASURES, ETC.

IF ANY CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY, AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

**Woodbine Design, P.C.**  
Land planning & civil engineering  
Woodbine, NC  
980.722.2669  
www.woodbinedesign.com  
980.722.2669 20816 N. Main Street, Suite 204  
Cornelius, NC 28031  
wood@woodbinedesign.com  
pw@woodbinedesign.com



**Project**  
CORNELIUS VILLAGE CENTER LOT #1  
**Location**  
19711 BETHEL CHURCH RD., CORNELIUS, NC 28031  
Mecklenburg, Co.  
**Sheet Title**  
EXISTING CONDITIONS & DEMO

**DEVELOPER/OWNER**  
**HEIDI STODDARD**  
17914 JOHN CONNOR RD.  
CORNELIUS, NC 28031

**Designed By**  
Woodbine Design  
**Drawn By**  
PW  
**Date**  
8/10/16  
**Revisions**

**Sheet C3 of 7**  
**Project Number 16026**

- CONSTRUCTION SEQUENCE:**
1. Obtain Grading/Erosion Control plan approval from Mecklenburg County LUESA.
  2. Setup on-site pre-construction conference with the following departments: LUESA Erosion Control Inspector, Land Development Inspector and Zoning Inspector. Failure to schedule such conference 48 hours prior to any land disturbing activity is subject to fine.
  3. Install Silt Fence, Skimmer Basin, Construction Entrance, diversion ditches and other measures as shown on plans, clearing only as necessary to install these devices.
  4. Call for on-site inspection by inspector. When approved Inspector issues the Grading permit and clearing and grubbing may begin.
  5. The Contractor shall diligently and continuously maintain all erosion control devices and structures.
  6. For phased erosion control plans, contractor shall meet with Erosion Control Inspector prior to commencing with each phase of erosion control measures.
  7. The land development inspector should be called to conduct inspections on storm drainage, sidewalks, driveway on storm drainage and all aspects of road construction.
  8. Stabilize site as areas are brought to final grade.
  9. Coordinate with Erosion Control Inspector prior to removal of erosion control measures.
  10. All erosion control measures shall be constructed in accordance with NC Erosion and sediment control and design manual, U.S. Department of Agriculture, Mecklenburg County Erosion Control Ordinance and the Charlotte Mecklenburg Land Development standards.
  11. Call the Water Quality Inspector to setup a BMP Pre-Construction meeting prior to starting work on the BMP. This meeting should take place 48 hours prior to starting construction on any BMP and shall include the Design Engineer to ensure proper inspections are performed at key BMP installation phases.
  12. The design engineer must verify the drainage area is properly stabilized, measures are in place to prevent sedimentation into the BMP, storm drains inlets and pavements have been properly cleaned prior to commencement of BMP construction.
  13. Sand Filter shall not be brought online until the site is 100% stabilized.

- EROSION CONTROL NOTES:**
1. All "Std" numbers refer to the Mecklenburg County Land Development Standards Manual (MCLDS).
  2. On-site burial pits require an on-site demolition landfill permit from the zoning administrator.
  3. Any grading beyond the denuded limits shown on the plan is a violation of the County Erosion Control Ordinance and is subject to a fine.
  4. Grading more than one acre without an approved Erosion Control plan is a violation of the County Erosion Control Ordinance and is subject to a fine.
  5. All perimeter areas and slopes greater than 3:1 shall be stabilized within 7-days. Ground Stabilization on all other areas must be completed within 14-days. Refer to the Erosion Control Ordinance for additional requirements.
  6. Additional Measures to control erosion and sediment may be required by a representative of the County.
  7. A grading plan must be submitted for any lot grading exceeding one acre that was not previously approved.
  8. Temporary Driveway permit for construction entrances in the NCOOT right of way must be presented at the pre-construction meeting.
  9. All embankments must be constructed per section 4.0.6 Embankment Requirements in the BMP design manual.
  10. Slopes shall be graded no steeper than 2:1. Slopes greater than 10 feet require adequate terracing (MCLDSM §30.18). Soils engineer to verify the stability of slopes greater than 2:1.
  11. Soil compaction tests are required on any berm >= 5-ft in height from the natural grade. Soil Compaction must be at 95% proctor and certified by a licensed soil engineer.

- ENHANCED EROSION CONTROL NOTES:**
1. Surface water draw down devices (risers or skimmers) shall be installed in all sediment basins. Forebays shall be used in conjunction with all sediment basins. Rock forebay embankments may be used in lieu of porous baffles.
  2. Polyacrylamides (PAM) shall be used to reduce turbidity and suspended solids whenever a sediment trap, basin, pit, hole or building foundation is being pumped out to remove sediment laden water. PAM is not required when any of the above is being pumped to an approved sediment basin on-site. This activity must be inspected and approved by the Mecklenburg County Erosion Control Inspector.
  3. Double silt fence shall be used along wetlands, streams, lakes, or other surface water bodies as well as adjacent to SWM or other water quality buffers. High hazard silt fence with wire backing and washed stone will be installed as determined necessary by the County Engineer or Inspector.
  4. The amount of uncovered area at any one time shall be limited to no more than 20 acres, unless approved by the County Engineer.
  5. A 10-foot undisturbed buffer shall be provided around the outside edge of drainage features such as intermittent and perennial streams, ponds, and wetlands. Incidental drainage improvements or repairs will be permitted within the buffer as approved by county staff.
  6. Installation of Temporary ground cover or seeding must be performed within 5 working days of slope drains installed after fill slopes are brought up to height.
  7. Permanent terraces shall be installed on 2:1 or steeper slopes over 10-ft in height to reduce runoff velocity coming down the slope.

- GENERAL EROSION CONTROL NOTES:**
1. Prior to construction of new pavement, site shall be graded so as to provide settling areas around catchbasins. Catch basin rims shall be set at finish grade. Areas immediately adjacent to basins shall be several inches below finish grade until pavement is constructed.
  2. Erosion and sedimentation control measures shall be in place prior to the commencement of any site work is complete and ground cover is established.
  3. Stockpiles shall be surrounded on their perimeters with staked siltation fences to prevent and/or control siltation and erosion.
  4. Tops of stockpiles shall be covered in such a manner that stormwater does not infiltrate the materials and thereby render the same unsuitable for fill use.
  5. In any event, slopes left exposed shall be stabilized within 7 days of completion of any phase of grading, be planted or otherwise provided with temporary or permanent ground cover, devices or structures sufficient to restrain erosion. In addition all measures must be shown within the limits of construction.
  6. Culvert/pipe inlets and outfalls shall be protected by filter berms until disturbed areas are permanently stabilized.
  7. Erosion Control Inlet Berms shall be constructed at all existing catch basins. Temporary Silt fence shall be constructed at all proposed catch basins located in fill areas & subject to stormwater run-off from proposed fill areas during construction, or as directed by the owner/engineer. No sediments shall enter the on-site or off-site drainage systems at any time.
  8. All erosion control measures shall be routinely inspected, cleaned and repaired or replaced as necessary throughout all phases of construction. In addition, inspection shall take place after each rainfall event.
  9. All proposed slopes steeper than 3:1 shall be stabilized with S75 Matting or better and protected from erosion.
  10. The contractor shall keep on site at all times extra siltation fencing for installation at the direction of the engineer or the Erosion Control Inspector to mitigate any emergency condition.
  11. Disposal of all demolished materials is the responsibility of the contractor and must be taken off-site in accordance with all federal, state, and local municipal requirements.
  12. The area or areas of entrance and exit to and from the site shall be maintained in a condition which will prevent tracking or flowing of sediment onto adjacent rights-of-way. All sediment spilled, dropped, washed or tracked onto adjacent right-of-way must be removed immediately.
  13. Tree areas to remain shall be protected and delineated with orange construction fence.

- GRADING AND DRAINAGE NOTES:**
1. ALL GRADING AND SITE PREPARATION WILL CONFORM TO SPECIFICATIONS AS GIVEN IN REPORT OF GEOTECHNICAL INVESTIGATION
  2. CONTRACTOR SHALL VERIFY EXISTING TOPOGRAPHIC DATA, LOCATIONS OF EXISTING UTILITIES, AND ALL OTHER SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
  3. ALL STORM SEWER PIPE TO BE RCP, EXCEPT WHERE NOTED ON THE PLANS OR REQUIRED BY JURISDICTION.
  4. FOR DIMENSIONAL LAYOUT, SEE SITE PLAN.
  5. FOR GRADING & DRAINAGE FACILITY DETAILS, SEE DETAIL SHEETS.
  6. ALL CUT AND FILL SLOPES SHALL BE 3:1 OR FLATTER (SEE PLANS), UNLESS SHOWN OTHERWISE.
  7. ALL CONSTRUCTION WITHIN STREET RIGHT-OF-WAY SHALL CONFORM TO APPLICABLE STATE AND LOCAL JURISDICTIONAL REQUIREMENTS.
  8. ALL OPEN DRAINAGE SWALES SHALL BE GRASSSED, AND RIPRAP MUST BE PLACED AS NECESSARY TO CONTROL EROSION.
  9. GRADING CONTRACTOR IS RESPONSIBLE FOR STRIPPING AND STOCKPILING OF TOPSOIL. GRADING CONTRACTOR IS ALSO RESPONSIBLE FOR REMOVING FROM SITE EXCESS TOPSOIL. GRADING CONTRACTOR SHALL PREPARE SUBGRADE FOR PAVEMENT AND CURBS AND BACKFILL CURBS AFTER CURB CONSTRUCTION.
  10. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR TOPSOIL INSTALLATION IN LANDSCAPE ISLANDS.
  11. CONTRACTOR SHALL CONFINE HIS OFF-SITE ACTIVITIES TO EXISTING RIGHTS OF WAY AND EASEMENTS.

- NOTE:**
- 1) APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFFSITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS.
  - 2) IN ORDER TO ENSURE PROPER DRAINAGE, KEEP A MINIMUM OF 0.5% SLOPE ON THE CURB.
  - 3) THE PURPOSE OF THE STORM DRAIN EASEMENT (SDE) IS TO PROVIDE STORM WATER CONVEYANCE. BUILDINGS ARE NOT PERMITTED IN THE EASEMENT AREA. ANY OTHER OBJECTS WHICH IMPEDE STORM WATER FLOW OR SYSTEM MAINTENANCE ARE ALSO PROHIBITED.
  - 4) NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE PROTECTION ZONE.
  - 5) TREE BARRICADE MUST BE INSTALLED BEFORE ANY DEMOLITION, GRADING OR CONSTRUCTION BEGINS, AND NOT REMOVED UNTIL FINAL INSPECTION.
  - 6) BEFORE GRADING/CLEARING/CONSTRUCTION BEGINS CALL FOR INSPECTION OF TREE PROTECTION BARRICADES BY URBAN FORESTER.
  - 7) TREE PROTECTION BARRICADES MUST MEET OR EXCEED TREE ORDINANCE STANDARDS (IN CITY OF CHARLOTTE TREE ORDINANCE GUIDELINES, APPENDIX 3) OR LAND DEVELOPMENT STANDARDS MANUAL 40.02.
  - 8) NO GRUBBING WITHIN TREE PROTECTION ZONE. LEAVE SOIL AND LEAF LITTER UNDISTURBED. SUPPLEMENT WITH 1-2 INCHES OF MULCH RE-SEED WITH GRASS ONLY IN DISTURBED/GRADED AREAS.
  - 9) BRUSH, VINES AND SMALL TREES (<8" DIA., OR AS SMALL AS 2" IN CALIPER) MAY BE HAND CLEARED ONLY. CUT FLUSH WITH GROUND SURFACE. EXISTING TREES MAY BE LIMBED UP SIX FEET (LEAVING AT LEAST 1/3 OF THE BRANCHES TO IMPROVE VISIBILITY).
  - 10) EXPOSED TREE ROOTS MUST BE CLEANLY CUT WITH A SHARP PRUNING TOOL. BACKFILL ASAP TO MINIMIZE EXPOSURE TO AIR.
  - 11) ASBUILT DRAWINGS AND PLANS OF THE STORM DRAINAGE SYSTEM, INCLUDING DESIGNED DITCHES, MUST BE SUBMITTED PRIOR TO FINAL INSPECTION TO THE CITY/COUNTY ENGINEERING DEPARTMENT.

- SEEDBED PREPARATION NOTES**
1. SURFACE WATER CONTROL MEASURES TO BE INSTALLED ACCORDING TO PLANS.
  2. AREAS TO BE SEEDBED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOPSOIL, 3" DEEP. TOTAL SEEDBED PREPARED DEPTH SHALL BE 4".
  3. LOOSE ROCKS, ROOTS, AND OTHER OBSTRUCTIONS SHALL BE REMOVED FROM THE SURFACE SO THAT THEY WILL NOT INTERFERE WITH THE ESTABLISHMENT AND MAINTENANCE OF VEGETATION. THE SURFACE FOR FINAL SEEDBED PREPARATION AT FINISHED GRADES SHOWN SHALL BE SMOOTH AND UNIFORM.
  4. IF NO SOIL TEST IS TAKEN, FERTILIZER AND LIME ARE TO BE USED AS DESCRIBED ABOVE. IN ADDITION, 15 LBS/1000 S.F. OF SUPERPHOSPHATE IS TO BE PROVIDED.
  5. IF SOIL TEST IS TAKEN, PROVIDE FERTILIZER AND LIME ACCORDING TO RESULTS OF TEST.
  6. LIME AND FERTILIZER SHALL BE APPLIED UNIFORMLY AND MIXED WITH THE SOIL DURING SEEDBED PREPARATION.

**Erosion Control & Water Quality Inspector:**  
Nick Finelli - Cornelius, Davidson, Huntersville (980) 721-9390

**Land Development Inspector:**  
Tommy Kezloh - Cornelius, Davidson, Huntersville (704) 634-6753

**Zoning Inspector:**  
Brian Sifford - Cornelius, Davidson, Huntersville (980) 721-0924

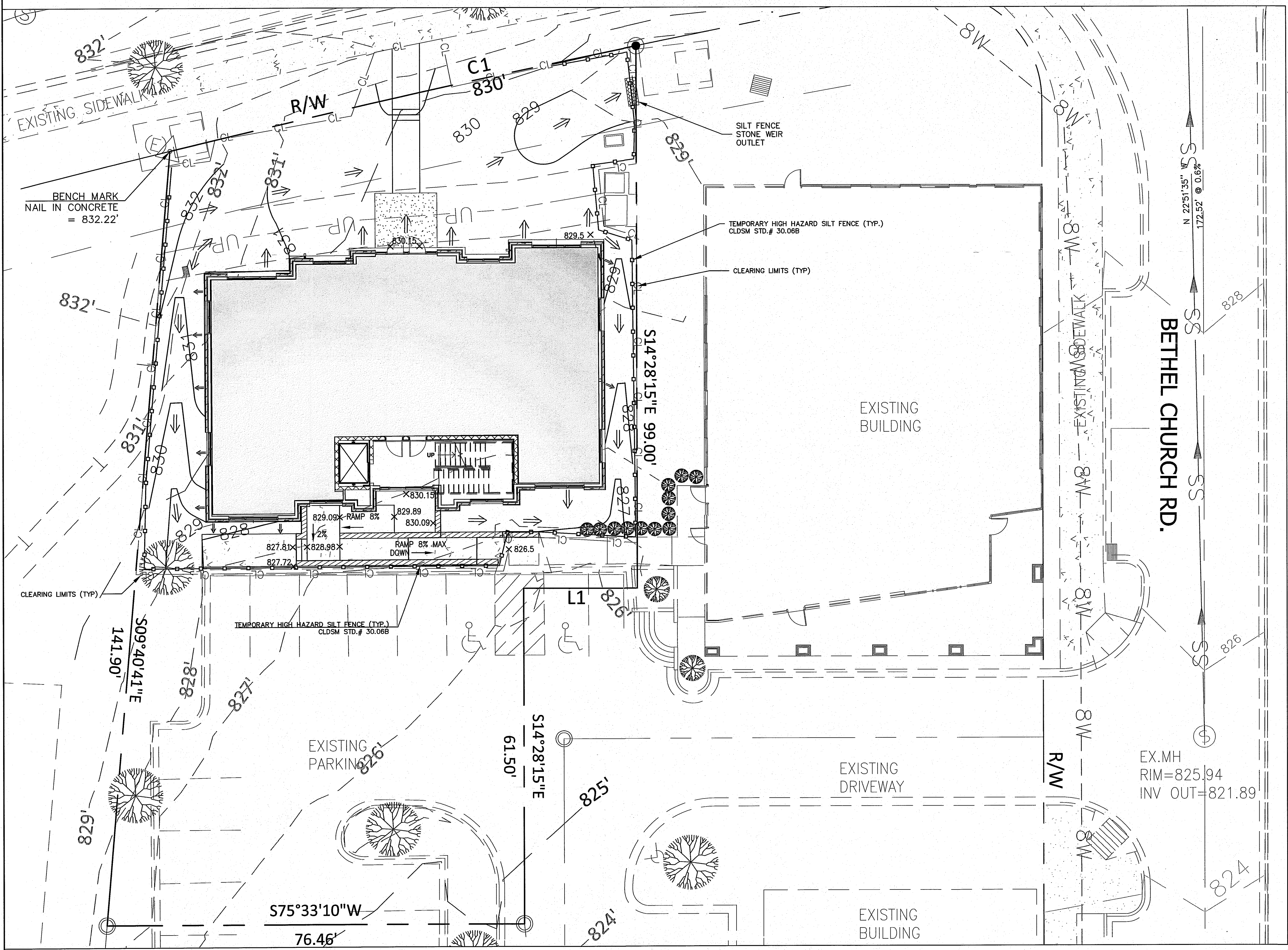
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**DENUDED AREA= 0.17ac.**

NPDES Stormwater Discharge Permit for Construction Activities (NCOOT1)      NCDENR/Division of Energy, Mineral and Land Resources

**STABILIZATION TIMEFRAMES**  
(Effective Aug. 3, 2011)

SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
Perimeter dikes, swales, ditches, 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' in length.
All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.



**STORM WATER MANAGEMENT PLAN**

IF ANY CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY, AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

PLOTTED: 3/8/2017  
H:\WOODENDESIGN\PROJECTS\1626 - C4 LOT #1\CAD\01A-C4-LOT1-BASE.DWG

**WOODBINE DESIGN, P.C.**  
Land planning & civil engineering  
blending nature & man  
980.721.2469 10816 N. Main Street, Suite 204  
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proje@woodbinedesign.com

**PROFESSIONAL SEAL**  
NORTH CAROLINA  
SEAL NO. 10051  
PAUL DEE BURCH  
REGISTERED PROFESSIONAL ENGINEER  
SEAL

**PROFESSIONAL SEAL**  
WOODBINE DESIGN, P.C.  
CORNELIUS, NORTH CAROLINA  
SEAL NO. C-4063  
REGISTERED PROFESSIONAL ENGINEER  
SEAL

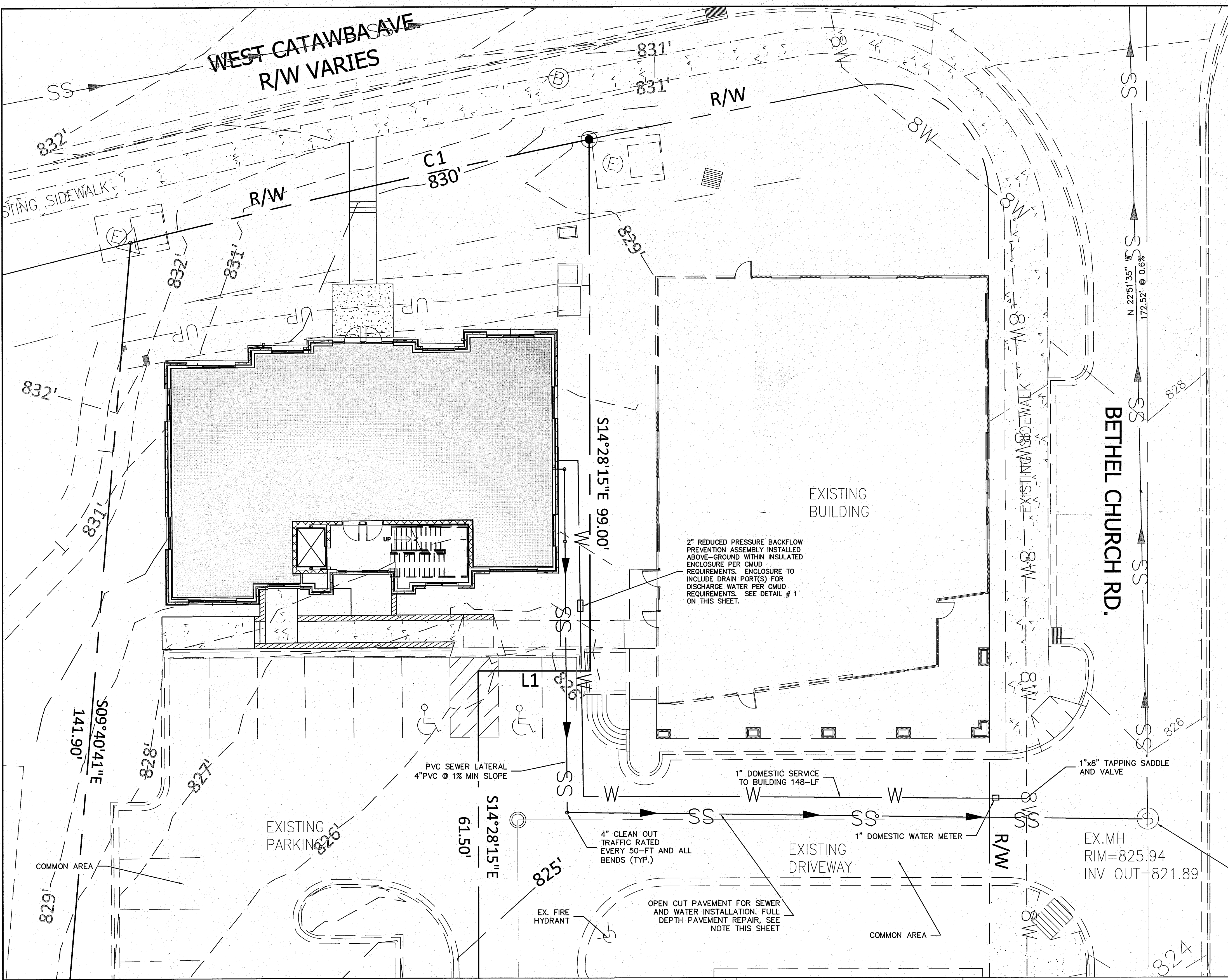
**Graphic Scale 1" = 10 ft.**

**Project:** CORNELIUS VILLAGE CENTER LOT #1  
**Location:** 19711 BETHEL CHURCH RD., CORNELIUS, NC 28031  
**Sheet Title:** GRADING & EROSION CONTROL PLAN

**DEVELOPER/OWNER:**  
**HEIDI STODDARD**  
17914 JOHN CONNOR RD.  
CORNELIUS, NC 28031

**Designed By:** Woodbine Design  
**Drawn By:** PW  
**Date:** 8/10/16  
**Revisions:** 3/8/17-Revised Footprint

**Sheet C4 of 7**  
**Project Number 16026**



**GENERAL UTILITY NOTES:**

1. All utilities shown are approximate locations only and have been compiled from the latest available mapping. The exact location of all underground utilities shall be verified by the Contractor prior to the start of construction.
2. General Contractor to coordinate with the local Utility Companies for all locations and connections. A preconstruction meeting with the various Utility Companies, is required prior to the start of any construction activity.
3. The Contractor shall visit the site and verify the elevation and location of all utilities by various means prior to beginning any excavation. Test pits shall be dug at all locations where sewers cross existing utilities, and the horizontal and vertical locations of the utilities shall be determined.
4. The Contractor shall insure that all Utility Companies and City Standards for materials and construction methods are met. The Contractor shall perform proper coordination with the respective Utility Company. The Contractor shall coordinate work to be performed by the various Utility Companies and shall pay all fees for connections, disconnection, relocation, inspections, and demolition.
5. All valve boxes and curb boxes shall be adjusted to the final grades. All curb boxes shall be located in grassed areas unless indicated otherwise on the plans.
6. Sanitary lateral shall maintain (10' min. horizontal 1.5' vertical min.) separation distance from water lines unless otherwise shown, or additional protection measures will be required.
7. This plan details pipes up to 5' from the building face. Refer to the building drawings for building connections. Supply and install pipe adapters as necessary.
8. Copper pipe shall be type K tubing with compression fittings.
9. Poly Vinyl Chloride Pipe (PVC) shall have built-in rubber gasket joints. PVC shall conform to ASTM 3034 (SDR35) with compression joints and appropriate fittings. PVC shall be installed in accordance with the detail, ASTM-D2321 and manufacturer's recommended procedure.
10. Contractor shall coordinate the size and location of gas line. The shown gas layout is approximate and is subject to change per Gas Company Comments.

**WATER & SEWER NOTES**

1. Design standards and specifications for water and/or sewer improvements shall conform to the most current adopted version of the local water and sewer policy, a copy of the policy is available at the office of the administrator or the office of the director of engineering.
2. The contractor to coordinate with the electrical engineer, fire sprinkler contractor & the fire alarm company regarding all control valves and fire system components being equipped with tamper switches and alarm devices as required by code (nfpa 72).
3. All sewer service laterals shall be fitted with cleanouts (co) at 50 ft intervals and at all horizontal and vertical changes in direction. cleanouts in paved areas shall be traffic bearing.
4. The sitework/utility contractor shall coordinate all new water utility tap locations with the utility provider and all connection fees, tap fees, meter deposits and capacity charges shall be the responsibility and expense of the sitework/utility contractor unless specifically agreed to with the owner that the owner will pay all costs.
5. Thrust blocks are required at all hydrants, tees, blowoffs and bends.
6. The project licensed underground utility contractor shall install all water system improvements to within 5' of building.
7. Each backflow preventer is required to be tested by a CMUD-approved Certified Tester prior to placing the water system in service.
8. There shall be no taps, piping branches, unapproved bypass piping, hydrants, fire dept. connection points, or other water-using appurtenances connected to the supply line between any water meter and its CMUD-required backflow preventer.
9. Private water and sewer systems shall be tested in accordance with cmud testing regulations in the presence of the engineer.
10. Existing sanitary sewer and water systems shown per provided survey and cmud reference drawings. existing public utility information is shown for reference only and existing sizes, inverts and locations shall be field verified.
11. It shall be the responsibility of the contractor to locate all substructures whether shown hereon or not, and protect from damage during installation. the expense of repair or replacement of said structures shall be the responsibility of the contractor.
12. A licensed utility contractor shall install the taps and meters, the contractor is responsible for installing the taps and meters to cmud standards and regulations.
13. Sanitary yard hydrants shall not be "stop and drain", "stop and waste" or "weep-hole" type hydrants.
14. If contractor opts to install precast structures, contractor shall be required to verify rim elevations and layout of all pipes, including size and inverts of existing facilities, prior to the ordering of materials.
15. It shall be the responsibility of the contractor to adjust all precast structures to finish grade in accordance with agency specifications and manufacturers recommendations. no additional payment will be made for adjusting facilities to finish grade.
16. FDC locations shall be in accordance with fire department requirements.
17. Fire sprinkler sizing and fdc connections to be sized and located per the recommendations of the fire sprinkler consultant. ALL REFERENCES SHOWN HEREON ARE FOR SCHEMATIC PURPOSES ONLY.

**UTILITY LEGEND**

**PROPOSED UTILITIES**

- 2W 2W 2W 2" WATER LINE
- 3W 3W 3W 3" WATER LINE
- 4W 4W 4W 4" WATER LINE
- 6W 6W 6W 6" WATER LINE
- 10W 10W 10W 10" WATER LINE
- 16W 16W 16W 16" WATER LINE
- W W W WATER LINE
- IRR IRR IRR IRR IRRIGATION LINE
- SS SS SS SANITARY SEWER
- G G G GAS LINE
- UP UP UP UNDERGROUND POWER
- OHP OHP OHP OVERHEAD POWER
- UT UT UT UNDERGROUND PHONE
- OHT OHT OHT OVERHEAD TELEPHONE
- T T T TELEPHONE COMMUNICATIONS

**EXISTING UTILITIES**

- 10' CONTOURS
- 2' CONTOURS
- SSW SANITARY SEWER
- FM FORCE MAIN
- G GAS LINE
- UP UNDERGROUND POWER
- OHP OVERHEAD POWER
- UT UNDERGROUND PHONE
- OHT OVERHEAD TELEPHONE
- T TELEPHONE COMMUNICATIONS
- IRR IRRIGATION LINE
- REC REC REC RECIROULATION LINE
- 2W 2" WATER LINE
- 3W 3" WATER LINE
- 4W 4" WATER LINE
- 6W 6" WATER LINE
- 8W 8" WATER LINE
- 10W 10" WATER LINE
- 12W 12" WATER LINE
- 16W 16" WATER LINE
- W WATER LINE
- EX EXISTING FENCE
- FH FIRE HYDRANT (FH)
- GV GATE VALVE (GV)
- SMH SANITARY SEWER MANHOLE (SSMH)
- SMH STORM SEWER MANHOLE (MH)
- CI CURB INLET (CI)
- GI/YD GRATE INLET/YARD INLET (GI/YI)
- SG SIGN
- UP UTILITY POLE
- LP LIGHT POLE

BOC BACK OF CURB  
EOP EDGE OF PAVEMENT  
R/W RIGHT-OF-WAY  
N/F NOW OR FORMERLY

**Woodbine Design, P.C.**  
Land planning & civil engineering

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704.312.6367

**PROFESSIONAL SEAL**  
NORTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
No. C-4063  
DAVID BURRESS JR.  
3/14/15

**DESIGN SEAL**  
NORTH CAROLINA  
REGISTERED PROFESSIONAL DESIGNER  
No. C-4063  
DAVID BURRESS JR.  
3/14/15

**Graphic Scale 1" = 10' ft**

**North Arrow**

**Project #1**  
**CORNELIUS VILLAGE CENTER LOT #1**  
Location 19711 BETHEL CHURCH RD., CORNELIUS, NC 28031  
Mecklenburg, Co.  
Sheet Title  
**UTILITY PLAN**

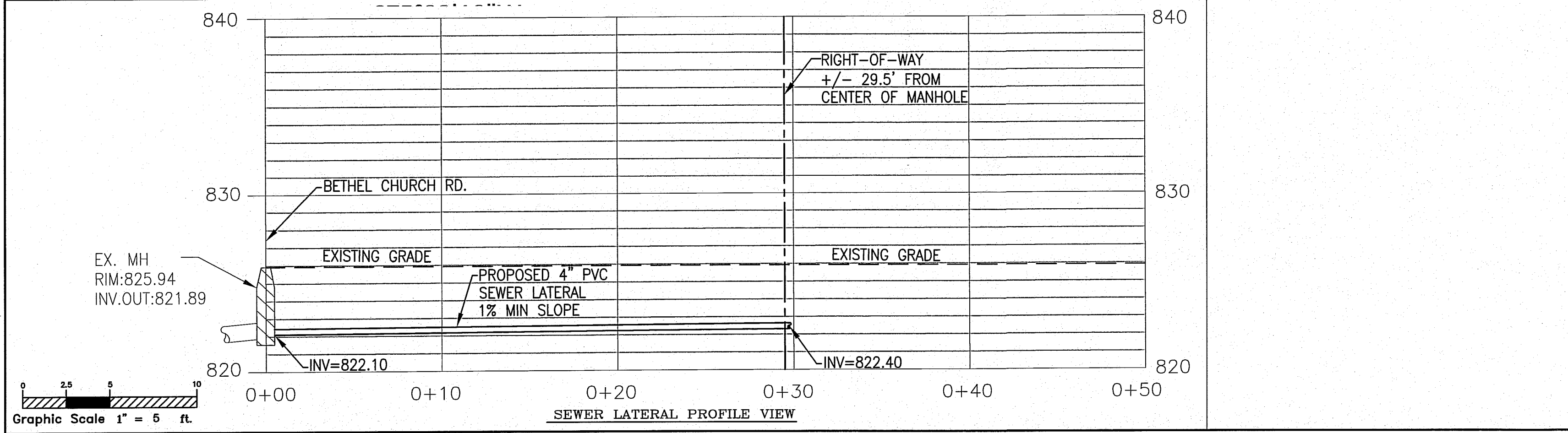
**DEVELOPER/OWNER**  
**HEIDI STODDARD**  
17914 JOHN CONNOR RD.  
CORNELIUS, NC 28031

**Designed By**  
Woodbine Design  
**Drawn By**  
PW

**Date**  
8/10/16

**Revisions**  
3/6/17- Revised Footprint

**Sheet C5 of 7**  
**Project Number 16026**



**NOTE: AS PER THE DECLARATION OF EASEMENTS, COVENANTS, CONDITIONS AND RESTRICTIONS FOR CORNELIUS VILLAGE CENTER RECORDED AT THE MECKLENBURG COUNTY REGISTER OF DEEDS OFFICE DB:10987 PG:656-719. ALL PARKING AREAS, DRIVE ISLES & SIDEWALKS SHALL BE "COMMON AREA". IT SHALL BE PERMITTED FOR UTILITIES TO BE INSTALLED WITHIN COMMON AREAS. THE LOCATION OF ANY UTILITY LINES INSTALLED SHALL BE SUBJECT TO THE PRIOR WRITTEN APPROVAL OF THE OWNER WHOSE PARCEL IS TO BE BURDENED THEREBY.**

**PAVEMENT REPAIR:**  
CONTRACTOR SHALL SAWCUT PAVEMENT TO ENSURE A CLEAN JOINT. COMPACT SUBGRADE TO 100% DENSITY, INSTALL 8-INCHES OF ASPHALT COMPACTED TO 95% DENSITY.

**SEWER LATERAL BEDDING:**  
CONTRACTOR SHALL PROVIDE 4-INCHES OF GRANULAR SCREENINGS AS BEDDING MATERIAL FOR THE 4-INCH SEWER LATERAL.

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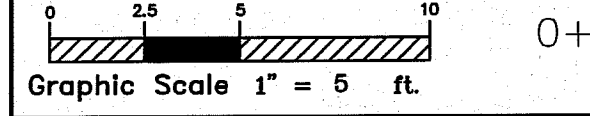
**NOTE: CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS AND INVERTS PRIOR TO CONSTRUCTION**

**NOTE: CONTRACTOR SHALL PROVIDE CLEANOUTS EVERY 50-LF FOR SEWER LATERAL**

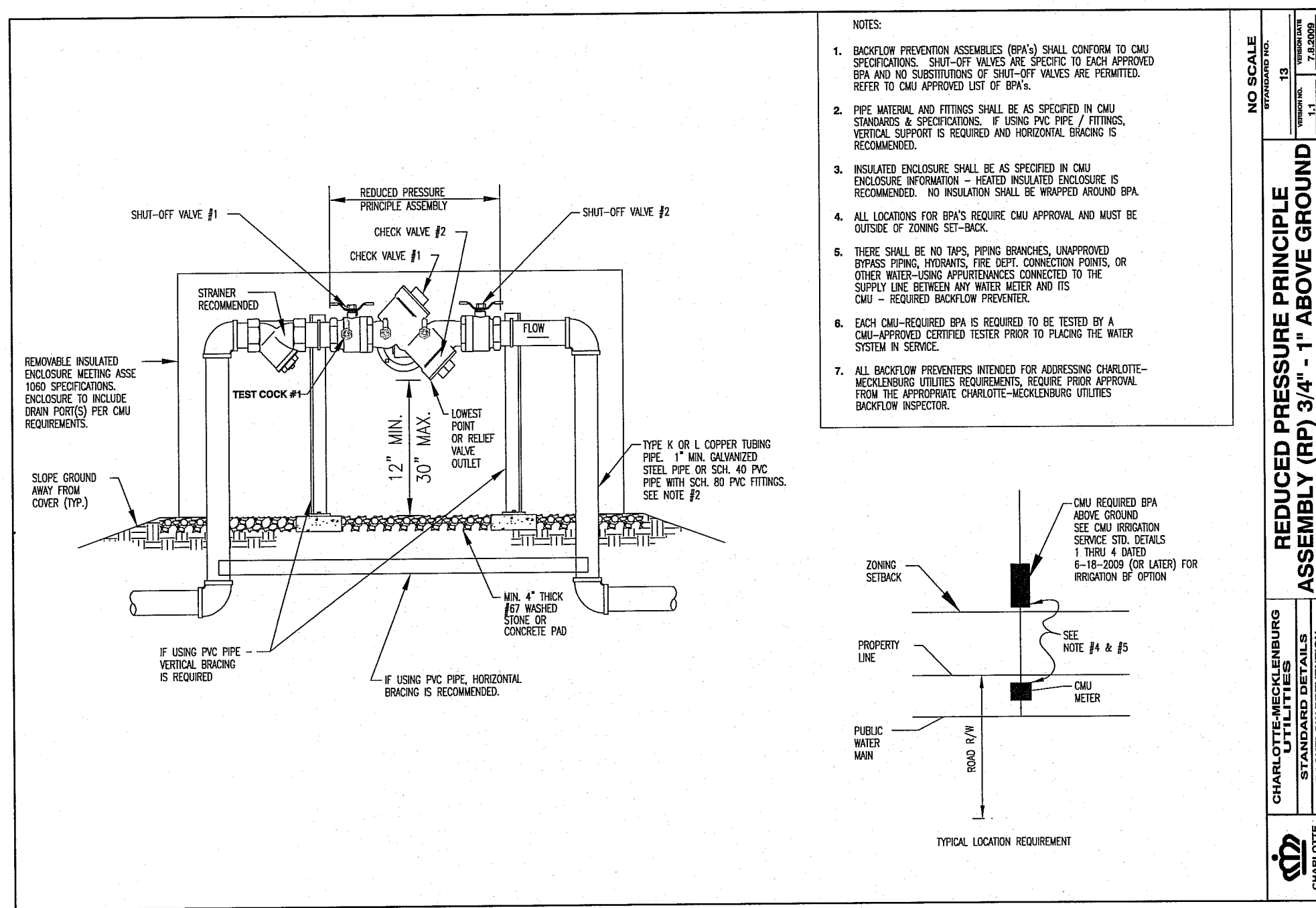
**NOTE: CONTRACTOR SHALL PROVIDE POWER TO ALL BACKFLOW PREVENTERS HOTBOX FOR FREEZE PROTECTION**

**EACH CMUD-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CMUD-APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE.**

**THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPARTMENT CONNECTION POINTS, OR OTHER WATER-USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CMUD-REQUIRED BACKFLOW PREVENTER.**



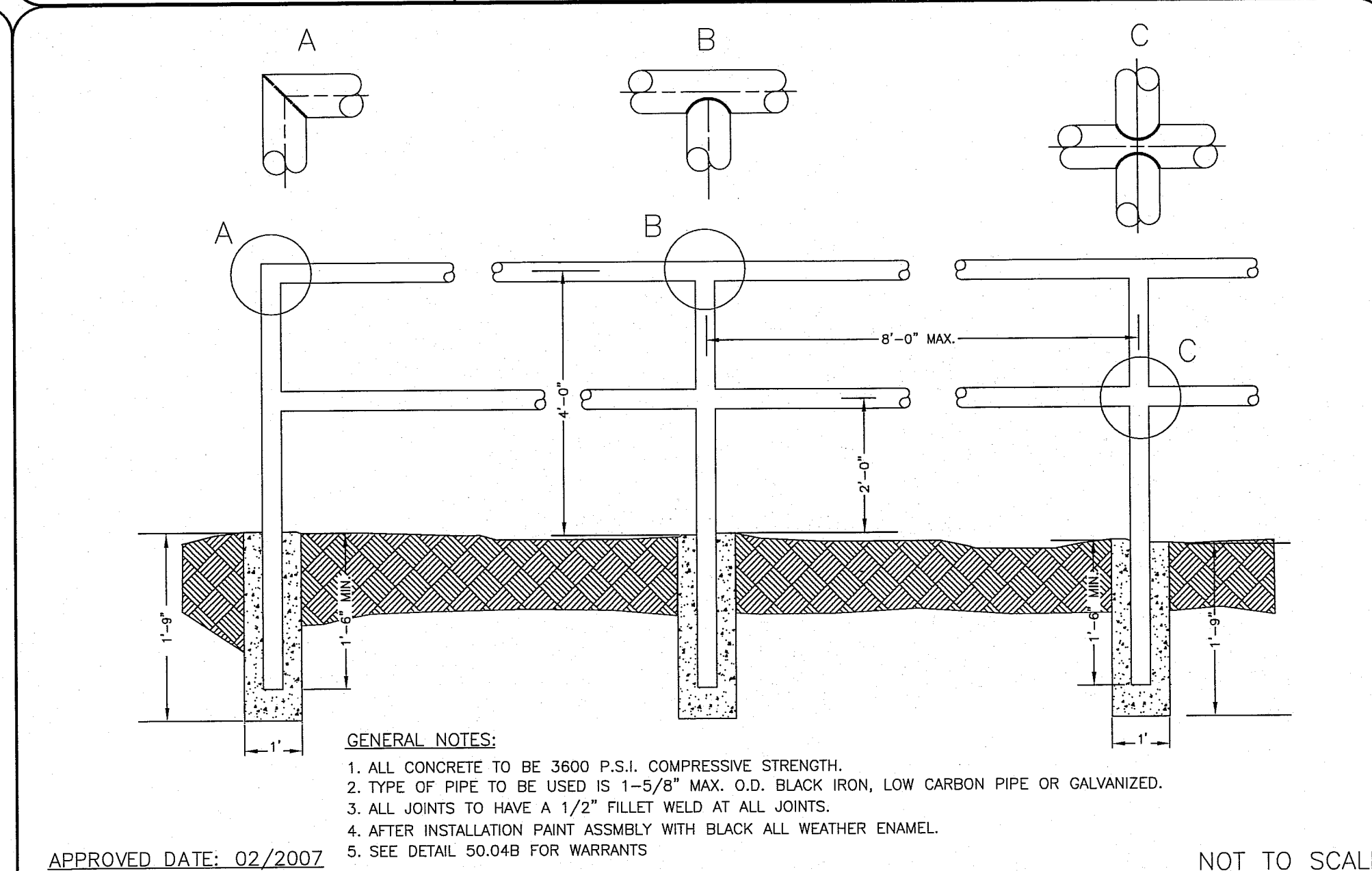
**IF ANY CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY, AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.**



- NOTES:
- BACKFLOW PREVENTION ASSEMBLY (BPA) SHALL CONFORM TO CMAJ SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTION OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CMAJ APPROVED LIST OF BPAs.
  - PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CMAJ SPECIFICATIONS & SUBSTITUTIONS. IF USING PVC PIPE / FITTINGS, VERTICAL SUPPORT IS REQUIRED AND HORIZONTAL BRACING IS RECOMMENDED.
  - INSULATED ENCLOSURE SHALL BE AS SPECIFIED IN CMAJ SPECIFICATIONS - HEATED INSULATED ENCLOSURE IS RECOMMENDED. NO INSULATION SHALL BE INSTALLED AROUND BPA.
  - ALL LOCATIONS FOR BPAs REQUIRE CMAJ APPROVAL AND MUST BE OUTSIDE OF ZONING SET-BACK.
  - THESE SHALL BE NO DIPS, PIPING BRANCHES, UNAPPROVED BRIDGING, PIPING, HANGERS, ETC. USED. CONNECTIONS, JOINTS, OR OTHER WATER-USEING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CMAJ - REQUIRED BACKFLOW PREVENTER.
  - EACH CMAJ-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CMAJ-APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE.
  - ALL BACKFLOW PREVENTERS INTENDED FOR AUTOMATIC CHARLOTTE-MECKLENBURG UTILITIES REQUIREMENTS, REQUIRE APPROVAL FROM THE APPROPRIATE CHARLOTTE-MECKLENBURG UTILITIES BACKFLOW INSPECTOR.

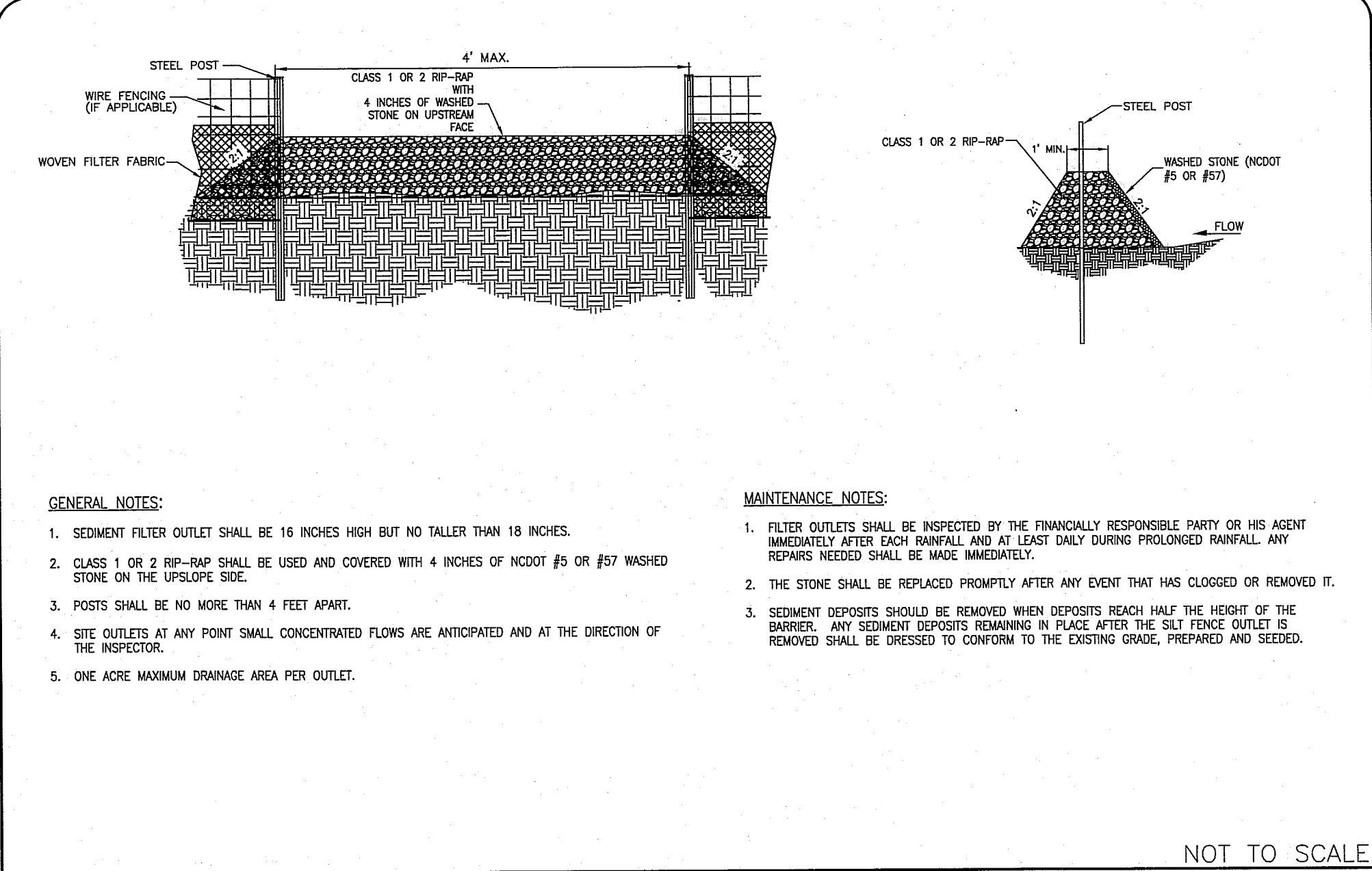
NO SCALE  
 MECKLENBURG COUNTY  
 LAND DEVELOPMENT STANDARDS  
 REDUCED PRESSURE PRINCIPLE ASSEMBLY (RPP) 3/4" - 1" ABOVE GROUND  
 CHARLOTTE-MECKLENBURG UTILITIES  
 STANDARD DETAILS  
 BACKFLOW PREVENTION  
 50.04B

MECKLENBURG COUNTY LAND DEVELOPMENT STANDARDS  
 HIGH HAZARD TEMPORARY SILT FENCE  
 STD. NO. 1 REV. 30.06B



APPROVED DATE: 02/2007  
 MECKLENBURG COUNTY LAND DEVELOPMENT STANDARDS  
 TYPICAL HANDRAIL  
 STD. NO. 1 REV. 50.04A

MECKLENBURG COUNTY LAND DEVELOPMENT STANDARDS  
 SEEDING SCHEDULE  
 STD. NO. 1 REV. 30.17A



MECKLENBURG COUNTY LAND DEVELOPMENT STANDARDS  
 SILT FENCE OUTLET OPTION 1  
 STD. NO. 1 REV. 30.06C

**WARRANTS**  
 HANDRAIL SHALL BE INSTALLED UNDER ANY OF THE FOLLOWING CIRCUMSTANCES IN BOTH NEW CONSTRUCTION AND IN RETROFITTING OR RECONSTRUCTION OF EXISTING ROADWAYS OR SITES:

- WHEN THE CULVERT-CROSSING DETAIL (STD. #10.36A-B) APPLIES.
- IF THERE IS A 2:1 OR STEEPER FILL SLOPE THAT IS 10 FEET OR TALLER THAT BEGINS WITHIN 5 FEET OF A SIDEWALK.
- IN ANY OF THE FOLLOWING COMBINATIONS OF DROPOFF AND OFFSET FROM SIDEWALK:
  - 18" OR LARGER DROPOFF WITHIN 2 FEET OF THE EDGE OF THE SIDEWALK
  - 36" OR LARGER DROPOFF WITHIN 4 FEET OF THE EDGE OF THE SIDEWALK
  - 60" OR LARGER DROPOFF WITHIN 6 FEET OF THE EDGE OF THE SIDEWALK
 THESE CLEARANCES ASSUME THAT THE CROSS-SLOPE OF THE BERM BETWEEN THE SIDEWALK AND THE DROPOFF (PEDESTRIAN CLEAR ZONE) IS 6:1 OR FLATTER.
- AT THE TOP OF ANY DROPOFF WHERE PEDESTRIANS CAN REASONABLY BE EXPECTED IN THE VICINITY.
- AT THE DIRECTION OF TOWN PUBLIC WORKS OR LUESA LAND DEVELOPMENT STAFF BASED ON FIELD CONDITIONS.

FOR PURPOSES OF THIS STANDARD, THE TERM "SIDEWALK" IS USED GENERICALLY AND SHALL MEAN ANY PATH OR SURFACE TO BE USED FOR BICYCLE AND/OR PEDESTRIAN TRANSPORTATION. EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO, SIDEWALKS, BIKE PATHS, SHARED-USE PATHS, PEDESTRIAN PATHS, AND GREENWAYS.

**DEFINITIONS**

- \* DROPOFF -- A SLOPE OF 2:1 OR STEEPER. EXAMPLES INCLUDE HEADWALLS, RETAINING WALLS, AND CULVERTS.
- \* PEDESTRIAN CLEAR ZONE -- 10 FEET OF ANY COMBINATION OF SIDEWALK, SLOPE, AND SHOULDER SLOPED AT 6:1 OR FLATTER. SIDEWALK DOES NOT NEED TO BE PRESENT.

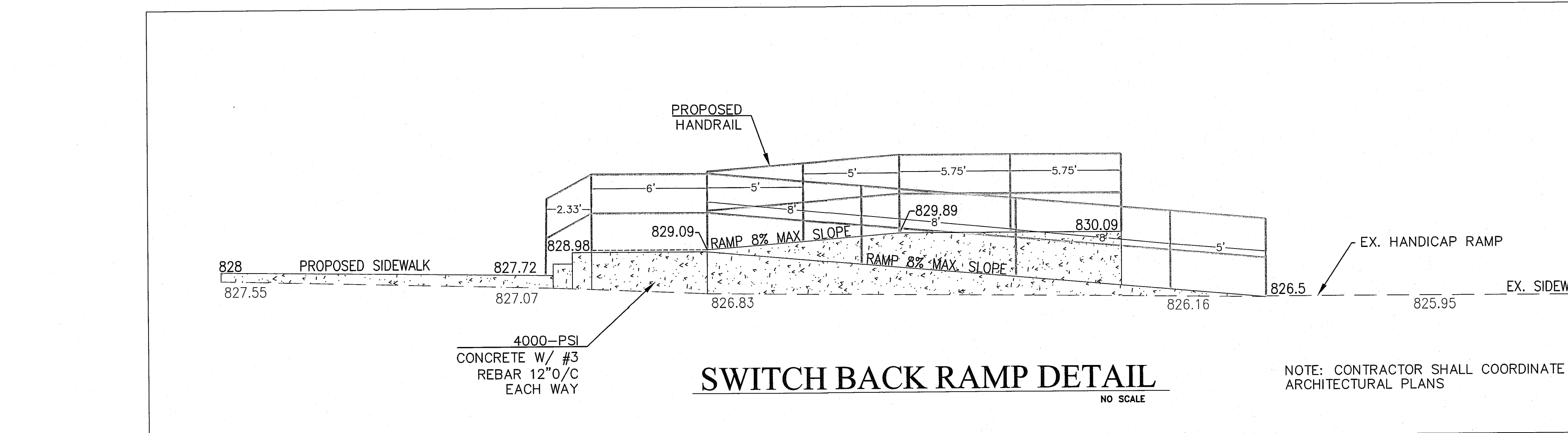
APPROVED DATE: 02/2007

MECKLENBURG COUNTY LAND DEVELOPMENT STANDARDS  
 HANDRAIL WARRANTS  
 STD. NO. 1 REV. 50.04B

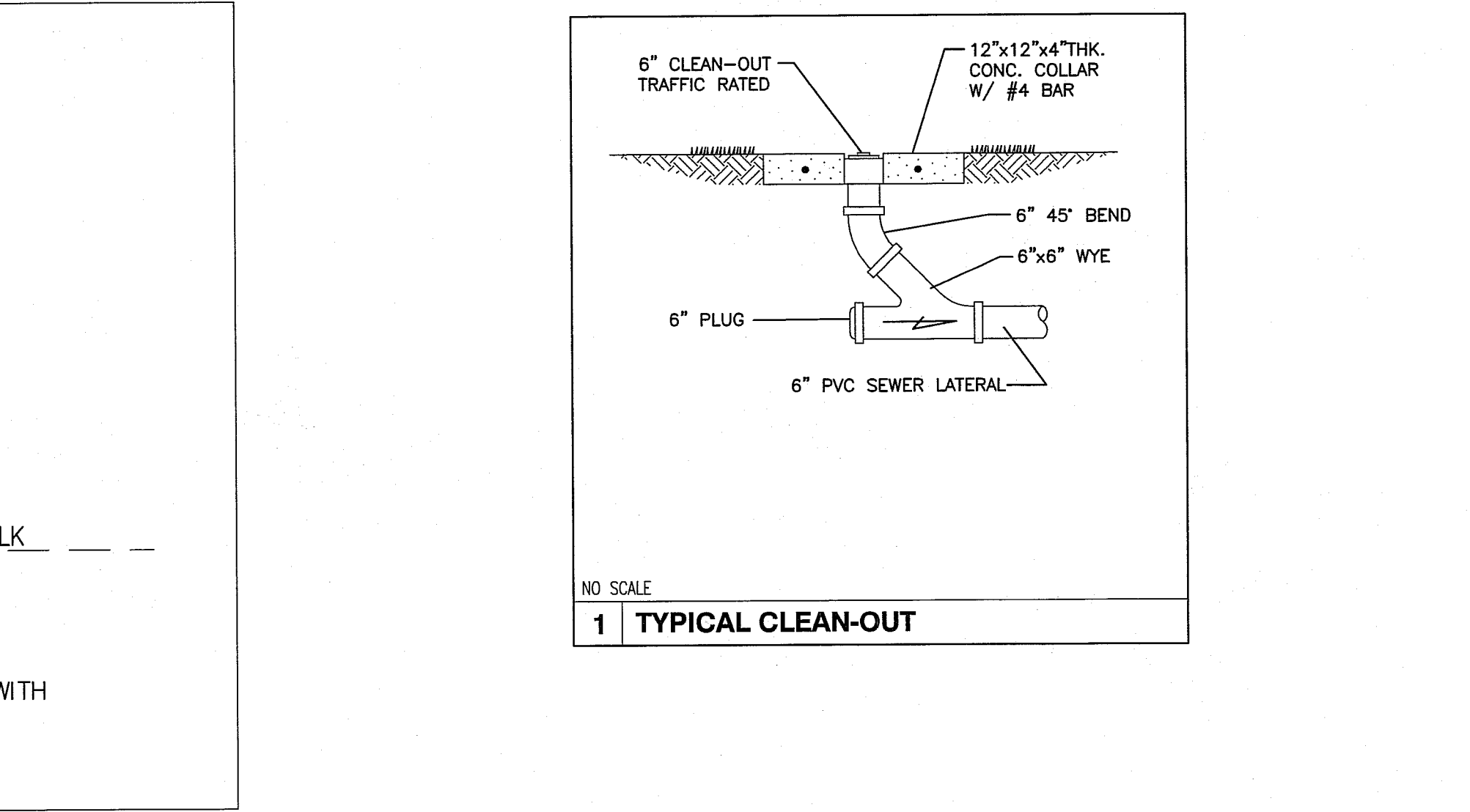
MECKLENBURG COUNTY LAND DEVELOPMENT STANDARDS  
 HANDRAIL WARRANTS  
 STD. NO. 1 REV. 50.04B

MECKLENBURG COUNTY LAND DEVELOPMENT STANDARDS  
 TYPICAL HANDRAIL  
 STD. NO. 1 REV. 50.04A

MECKLENBURG COUNTY LAND DEVELOPMENT STANDARDS  
 SILT FENCE OUTLET OPTION 1  
 STD. NO. 1 REV. 30.06C



MECKLENBURG COUNTY LAND DEVELOPMENT STANDARDS  
 SWITCH BACK RAMP DETAIL  
 NO SCALE  
 NOTE: CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL PLANS



MECKLENBURG COUNTY LAND DEVELOPMENT STANDARDS  
 TYPICAL CLEAN-OUT  
 NO SCALE  
 1 TYPICAL CLEAN-OUT

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 rturgess@woodbinedesign.com 704.315.8367 Cornelius, NC 28031  
 jwood@woodbinedesign.com

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 SEAL

NORTH CAROLINA  
 PROFESSIONAL SEAL  
 NO. C-4063  
 ENGINEER  
 RILEY DEE BURGESS  
 SEAL

Project: CORNELIUS VILLAGE CENTER LOT #1  
 Location: 19711 BETHEL CHURCH RD., CORNELIUS, NC 28031  
 Mecklenburg, Co.  
 Sheet Title: DETAILS

DEVELOPER/OWNER  
 HEIDI STODDARD  
 17914 JOHN CONNOR RD.  
 CORNELIUS, NC 28031

Designed By: Woodbine Design  
 Drawn By: PW  
 Date: 8/10/16  
 Revisions:

Sheet C6 of 7  
 Project Number 16026

IF ANY CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY, AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

**GENERAL NOTES:**

1. Locations, elevations, and dimensions of existing utilities, structures and other features are shown according to the best information available at the time of preparation of these plans. The Contractor shall verify the locations, elevations, and dimensions of all existing utilities, structures and other features, affecting this work, prior to construction.

2. Prior to the initiation of site construction, the Contractor shall verify any existing utilities including gas, water, electric, cable, TV, communications, sanitary sewers and storm drainage systems, on and/or adjacent to the site. Remove or cap as necessary.

3. The Contractor shall exercise caution in areas of buried utilities and shall call "ULOCO" at 1-800-632-4949 at least 48 hours prior to construction to arrange for field locations of buried utilities.

4. The Contractor is responsible for repairing any damage to existing facilities, above or below ground, that may occur as a result of the work performed by the Contractor or Subcontractors as called for in these contract documents.

5. It is the Contractor's responsibility to become familiar with the permit and inspection requirements specified by the various governmental agencies and the Engineer. The Contractor shall obtain all necessary permits prior to construction, and schedule inspections according to agency instruction/requirements.

6. The Contractor shall submit shop drawings on all precast and manufactured items to the Owner's Engineer for approval. Failure to obtain approval before installation may result in removal and replacement at the Contractor's expense.

7. All utility service stub-outs (water, sanitary sewer, etc.) are to be installed within 5' of buildings, unless otherwise noted on plans.

8. Contractor to coordinate with the applicable electric utility supplier regarding any necessary relocation(s) of underground and/or overhead electric facilities and for the location and installation of transformer pad(s) and associated electric facilities.

9. Safety.  
A. During the construction and/or maintenance of this project, all safety regulations are to be enforced. The Contractor or his representative shall be responsible for the control and safety of the traveling public and the safety of his/her personnel.  
B. Labor safety regulations shall conform to the provisions set forth by OSHA in the federal register of the Department of Transportation.  
C. The minimum standards as set forth in the current edition of "NC Department of Transportation Standard Drawings" shall be followed in the design, application, installation, maintenance and removal of all traffic control devices, warning devices and barriers necessary to protect the public and construction personnel from hazards within the project limits.  
D. All traffic control markings and devices shall conform to the provisions set forth in the "Manual on Uniform Traffic Control Devices" prepared by the U.S. Department of Transportation Federal Highway Administration.  
E. All subsurface construction shall comply with the "Trench Safety Act". The Contractor shall insure that the method of trench protection and construction is in compliance with the Occupational Safety and Health Administration (OSHA) regulations.

IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY AND ENFORCE ALL APPLICABLE SAFETY REGULATIONS. THE ABOVE INFORMATION HAS BEEN PROVIDED FOR THE CONTRACTOR'S INFORMATION ONLY AND DOES NOT IMPLY THAT THE OWNER OR ENGINEER WILL INSPECT AND/OR ENFORCE SAFETY REGULATIONS.

10. It shall be the responsibility of the Contractor to obtain an "On-site Piping Permit" (if required) for construction of the proposed utilities. This permit must be obtained by a duly licensed Plumbing Contractor (or Class A General Contractor) prior to the start of construction. These plans and any subsequent revisions to these plans that are issued by the Engineer, will be subject to the approval conditions of this permit.

11. The graphic information depicted on these plans has been compiled to proportion by scale as accurately as possible. However, due to reproductive distortion, reduction, and/or revisions, information contained herein is not intended to be scaled for construction purposes.

12. All specifications and documents referenced herein shall be of the latest revision.

13. All underground utilities must be in place, tested and inspected prior to base and surface construction.

14. Work performed under this contract shall interface smoothly with any other work being performed on-site by other Contractor/Subcontractors and utility companies. It will be necessary for the General Contractor to coordinate and schedule his/her activities accordingly.

15. All disturbed areas within the City, County and/or State right-of-way shall be sodded.

16. Where applicable utility trenches crossing pavement areas shall be backfilled with granular material in 12-inch layers and compacted to 100% maximum density as determined by AASHTO T-99.

17. Contractor shall acquire right-of-way utilization and/or underground utility permits from City, County and/or State prior to construction.

18. Contractor shall acquire excavation/fill permit from City, County and/or State for this project.

19. Contractor shall be responsible for the restoration of any traffic signal equipment including but not limited to fiber, loop sensors, pull boxes, conduit, traffic signals and cabinets. Any items damaged by the contractor will be restored to their original conditions unless otherwise agreed upon by the County Traffic Engineer.

20. The Contractor will import topsoil at no additional cost if necessary.

**SHOP DRAWINGS:**

1. Contractor must provide shop drawings to Architect two (2) weeks prior to construction for each of the following components: Sanitary System, Drainage System, Water Distribution System, and Pavement Sections.

2. Refer to specifications for additional requirements.

**CLEARING AND SITE PREPARATION NOTES:**

1. The Contractor shall be responsible for the proper installation of the erosion control devices, as shown on the construction plans, prior to any site clearing and/or demolition. Refer to the "Erosion Control Notes" section contained herein for additional requirements.

2. Prior to any site clearing, all trees shown to remain, as indicated on the construction plans shall be protected in accordance with local tree ordinances, and details contained in these plans. It shall be the Contractor's responsibility to maintain these trees in good condition. No tree(s) shown to remain shall be removed without written approval from the Owner and local agency having jurisdiction over these activities.

3. The Contractor shall clear and grub only those portions of the site necessary for construction. All disturbed areas must be seeded, mulched, sodded or planted with other approved landscape material immediately following construction.

4. The top 4" to 6" of ground removed during clearing and grubbing activities shall be stockpiled to be used for landscaping purposes unless otherwise directed by the Owner. Remaining earthwork that results from clearing and grubbing or site excavation is to be utilized on-site, provided the material is deemed suitable by the Owner's soils testing company. Excess material is to either be stockpiled on-site, as directed by the Owner or Owner's Engineer, or removed from the site. The Contractor shall be responsible for acquiring any permits that are necessary for removing any excess material from the site.

5. All existing debris (above or below ground), construction debris and other waste material shall be disposed of off-site by the Contractor in accordance with applicable regulatory agency requirements.

6. The contractor is to prepare the site in accordance with the soils report; copies of which are provided in the specifications.

7. Contractor to be responsible for installation of temporary construction fence around entire perimeter of property. Type of fence to be submitted by Contractor to Engineer for approval.

**EROSION & SILT CONTROL**

1. GENERAL  
All erosion and siltation control methods shall be implemented prior to the start of construction. During construction, denuded areas shall be covered by mulches such as straw, hay and filter fabric. All storm sewer inlets in the vicinity of the project shall be protected by approved inlet protection methods. These shall be maintained and modified during the construction process to minimize downstream siltation. When construction is completed, detention areas will be reshaped, cleaned of silt, mud and debris, and re-sodded to properly detain the intended storm quantities.

2. PROTECTION AND STABILIZATION OF ON-SITE SOIL STOCKPILES:  
Fill material stockpiles shall be protected at all times by on-site drainage controls which prevent erosion of the stockpiled material. Control of dust from such stockpiles may be required, depending upon their location and the expected length of time the stockpiles will be present. In no case shall any unstockpiled material remain more than thirty (30) calendar days after substantial project completion.

3. PROTECTION OF EXISTING STORM SEWER SYSTEMS:  
During construction, all storm sewer inlets in the vicinity of the project shall be protected by sediment traps such as hardware cloth & gravel, sod, stone, etc. Which shall be maintained and modified as required by construction progress, and which must be approved by the Engineer before installation.

4. SEDIMENT BASINS AND TRAPS, SEDIMENT TRAPPING MEASURES:  
Perimeter berms, sediment barriers, vegetative buffers and other measures intended to trap sediment and/or prevent the transport of sediment onto adjacent properties, or into existing bodies of water, must be installed, constructed or, in the case of vegetative buffers, protected from disturbance, as a first step in the land alteration process, such systems shall be fully operative before any other disturbance of the site begins. Earthen structures including but not limited to berms, earth filter, dams or dikes shall be stabilized and protected from drainage damage or erosion within one week of installation.

5. ALL SWALES, DITCHES AND CHANNELS:  
Channels leading from the site shall be sodded with Tall Fescue within three (3) days of excavation.

6. THE CONSTRUCTION OF UNDERGROUND UTILITY CONSTRUCTION:  
Underground utility lines and other structures shall be done in accordance with the following standards:  
A. No more than 500 linear feet of trench shall be open at any one time;  
B. Wherever consistent with safety and space consideration, excavated material shall be cast to the uphill side of trenches. Trench material shall not be cast into or onto the slope of any stream, channel, road, ditch or waterway.

7. ALL EROSION AND SILTATION CONTROL DEVICES SHALL BE MAINTAINED:  
Checked regularly, especially after each rainfall and will be cleaned out and/or repaired as required.

**SECTION 1: GENERAL EROSION CONTROL:**

1.1 General erosion control best management practices shall be employed to minimize soil erosion and potential pond slope cave-ins. While the various techniques required will be site and plan specific, they should be employed as soon as possible during construction activities.

1.2 Cleared site development areas not continually scheduled for construction activities shall be covered with hay or overseeded and periodically watered sufficiently to stabilize the temporary groundcover.

1.3 Slopes of banks of retention/detention ponds shall be constructed not steeper than 3:1 from top of bank to two feet below the control elevation.

1.4 Sod shall be placed for a 2-foot wide strip adjoining all curbing and around all inlets. Sod shall be placed before silt barriers are removed.

**PAINT NOTE:**

1. Where applicable double yellow striping, handicap, stop bars and fireline striping to be thermoplastic.

**SECTION 2: PROTECTION OF SURFACE WATER QUALITY DURING AND AFTER CONSTRUCTION:**

2.1 Surface water quality shall be maintained by employing the following best management practices in the construction planning and construction of all improvements.

2.2 Where practical, stormwater shall be conveyed by swales.

2.3 Erosion control measures shall be employed to minimize turbidity of surface waters located downstream of any construction activity. While the various measures required will be site specific, they shall be employed as needed in accordance with the following:  
A. In general, erosion shall be controlled at the furthest practical upstream location.  
B. Stormwater inlets shall be protected during construction as shown on plans. Protection measures shall be employed as soon as practical during the various stages of inlet construction. Silt barriers shall remain in place until sodding around inlets is complete.

2.4 Heavy construction equipment parking and maintenance areas shall be designed to prevent oil, grease, and lubricants from entering site drainage features including stormwater collection and treatment systems. Contractors shall provide broad dikes, hay bales or silt screens around, and sediment sumps within such areas as required to contain spills of oil, grease or lubricants. Contractors shall have available, and shall use, absorbent filter pads to clean up spills as soon as possible after occurrence.

2.5 Silt barriers: Any silt which accumulates behind the barriers, and any fill used to anchor the barriers shall be removed promptly after the end of the maintenance period specified for the barriers.

2.6 Where required to prevent erosion from sheet flow across bare ground from entering a lake or swale, a temporary sediment sump shall be constructed. The temporary sediment sump shall remain in place until vegetation is established on the ground draining to the sump.

**SECTION 3: CONTROL OF WIND EROSION:**

3.1 Wind erosion shall be controlled by employing the following methods as necessary and appropriate:  
A. Bare earth areas shall be watered during construction as necessary to minimize the transport of fugitive dust. It may be necessary to limit construction vehicle speed if bare earth has not been effectively watered. In no case shall fugitive dust be allowed to leave the site under construction.  
B. As soon as practical after completion of construction, bare earth areas shall be vegetated.  
C. At any time both during and after site construction that watering and/or vegetation are not effective in controlling wind erosion and/or transport of fugitive dust, other methods as are necessary for such control shall be employed. These methods may include erection of dust control fences. If required, dust control fences shall be constructed in accordance with the detail for a silt fence except the minimum height shall be 4 feet.

**DEMOLITION NOTES:**

1. Contractor shall submit demolition schedule to Owner prior to proceeding with demolition activities.

2. Extent of site clearing is shown on drawings.

3. Site demolition work includes, but is not limited to:  
A. Roadway  
B. Drainage area  
C. Site Utilities  
D. Landscaping

4. Conduct site demolition operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks or other occupied or used facilities without permission from authorities having jurisdiction.

5. Provide protection necessary to prevent damage to existing improvements indicated on plan "Existing To Remain".

6. Restore damaged improvements to their original condition, as acceptable to parties having jurisdiction.

7. Remove waste materials and unsuitable and excess topsoil from property and dispose of off-site in a legal manner.

8. Locate existing above ground and underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during demolition operation.

9. Should uncharted, or incorrectly charted piping or other utilities be encountered during demolition, consult Project Engineer and Utility Owner for immediate action.

10. Demolish and completely remove from site material indicated on plan or notes "To Be Removed".

11. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by the demolition operation.

12. Contractor shall restore all disturbed areas to existing conditions or better. Furthermore, Contractor shall provide to Engineer photograph of pre-construction conditions and post-construction conditions as noted on plans.

13. Contractor shall maintain stormwater management system during construction to insure no damage to adjacent properties occurs during storm events.

14. Contractor to remove all visible or reasonably identifiable material, equipment, etc. from the site if not needed for new construction.

**SIGN NOTES:**

1. Stop signs are to be high intensity grade.

2. Proposed signage shall be in accordance with Local Ordinance.

**DEWATERING NOTES:**

1. During the excavation of the stormwater ponds the Contractor must construct a sediment basin to provide a discharge point for dewatering. The sediment basin can be a cell in the proposed excavation area of a pond or it can be a bermed area above ground. All dewatering must be held in the sediment area until the water is clean such that there would be no turbid discharge. After the water in the sediment basin is clean the water may be released into the existing stormwater system provided there is no adverse impact to the existing system.

2. Under no circumstances will the discharge from the dewatering be released directly into on-site wetland areas if present.

3. If Contractor encounters silty/clay sand, which may cause the water to become turbid, Contractor shall treat the sediment basin with chemical additive such as alum in order to promote the coagulation of the particles which allow the silts to settle and the water to become less turbid. If turbid water is encountered during excavation of the ponds, the Contractor shall notify the Engineer of record immediately to determine the course of action that is appropriate to eliminate the turbidity and allow discharge that meets Water Quality Standards.

4. The Contractor shall sequence the excavation of the stormwater ponds such that a sediment basin will be available at all times. The sediment basin can be relocated as necessary subject to the water within the sediment basin being non-turbid and acceptable for discharge off-site.

**BEST MANAGEMENT PRACTICES:**

Contractor shall ensure compliance with appropriate conditions of Local and/or State Development Regulations pertaining to the Best Management Practices. The Contractor prepared plan shall address the following areas:  
1. General Erosion Control.  
2. Protection of surface water quality during and after construction.  
3. Control of wind erosion.

The various techniques of actions identified under each section indicate the appropriate situation when the techniques should be employed. Also identified is a cross-reference to a diagram or figure representing the technique. It should be noted that the measures identified on this plan are only suggested BMP(S). The Contractor shall provide pollution prevention and erosion control measures as necessary for each specific application.

**GRADING AND PAVING NOTES:**

1. All existing utilities shall be field located and flagged prior to the start of work.

2. The Contractor shall remove all vegetation, surplus soil, demolition rubble, and other undesirable materials. Such materials shall be promptly hauled from the site and disposed of in accordance with governing laws and codes. The Contractor shall shape the sub-grade in accordance with the grading plan, taking into account the thickness of the paving system. The tolerance of rough grading shall be within 1/2" high to 1" low.

3. Where asphalt paving meets concrete paving such as at concrete curbing, the asphalt should be finished 1/4" to 1/2" above the concrete surface to allow for further traffic compaction of the asphalt.

4. A joint plan for the concrete paving shall be prepared by the Contractor and submitted to the Architect for approval. Joints shall be provided along property lines where all driveways cross.

5. During preparation of the sub-grade and until the paving is in place, the Contractor shall promptly take reasonable measures to obtain and maintain a dry site condition. Such measures shall include pumping of free surface water, minor hand and/or machine shaping of facilitate water removal and other operations to speed drying.

6. All deleterious subsurface material (i.e. mulch, peat, buried debris, etc.) is to be excavated and replaced with suitable/compacted soils as directed by Owner's soils testing company. Deleterious material is to be stockpiled or removed from the site as directed by the Owner, excavated areas are to be backfilled with approved materials and compacted as shown on these plans. Contractor is responsible for acquiring any permits that are necessary for removing deleterious material from the site.

7. The Contractor shall be responsible for protecting excavations against collapse and will provide bracing, sheeting or shoring as necessary. Dewatering methods shall be used as required to keep trenches dry while pipe and appurtenances are being placed.

8. All necessary fill and embankment that is placed during construction shall consist of material specified by the Owner's soils testing company of Engineer and be placed and compacted according to these plans.

9. Proposed spot elevations represent finished pavement of ground surface grades, unless otherwise noted.

10. It may be necessary to field adjust pavement elevations to preserve the root systems of trees shown to be save. Contractor to coordinate with Owner's Engineer prior to any elevation changes.

11. Contractor shall trim, tack and match existing pavement at locations where new pavement meets existing pavement.

12. All traffic control pavement markings shall be made in accordance with Local and/or State Standards.

13. The Contractor will stabilize by seed and mulch, sod, or other approved materials any disturbed areas within one week following construction of the utility systems and pavement areas. Contractor shall maintain such areas until final acceptance by Owner. Contractor to coordinate with Owner regarding type of material, landscaping and irrigation requirements.

14. The Contractor shall restore off-site construction areas to equal and/or better condition than existing prior to start of construction.

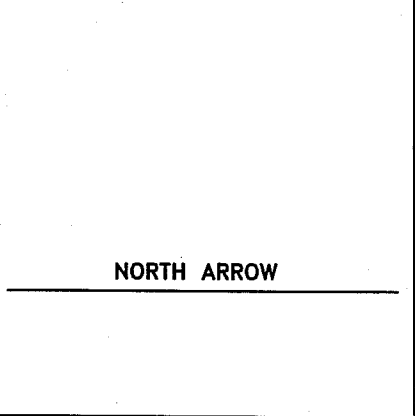
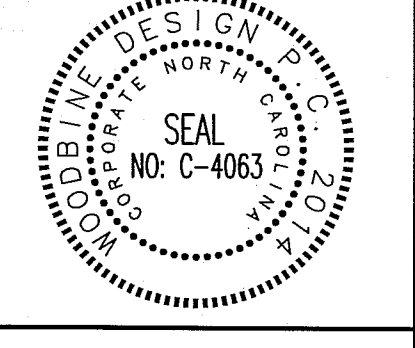
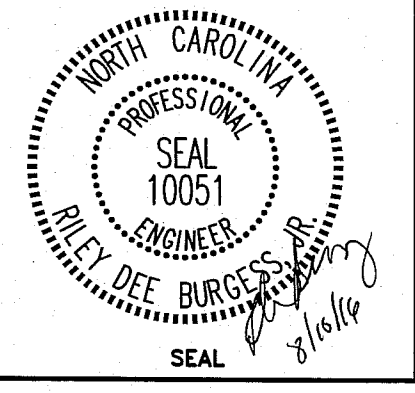
15. Unless otherwise noted, grade to meet existing elevation at property lines.

16. Survey monuments or benchmarks which have to be disturbed by this work shall be replaced upon completion of work by a registered Land Surveyor.

17. Final grades shown include sod height. All areas shall be graded to drain away from the buildings.

IF ANY CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY, AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

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Project **CORNELIUS VILLAGE CENTER LOT #1**  
Location **19711 BETHEL CHURCH RD., CORNELIUS, NC 28031**  
Sheet Title **Mecklenburg, Co. NOTES**

**DEVELOPER/OWNER**  
**HEIDI STODDARD**  
17914 JOHN CONNOR RD.  
CORNELIUS, NC 28031

Designed By Woodbine Design  
Drawn By \_\_\_\_\_  
Date \_\_\_\_\_  
Revisions \_\_\_\_\_

8/10/16