

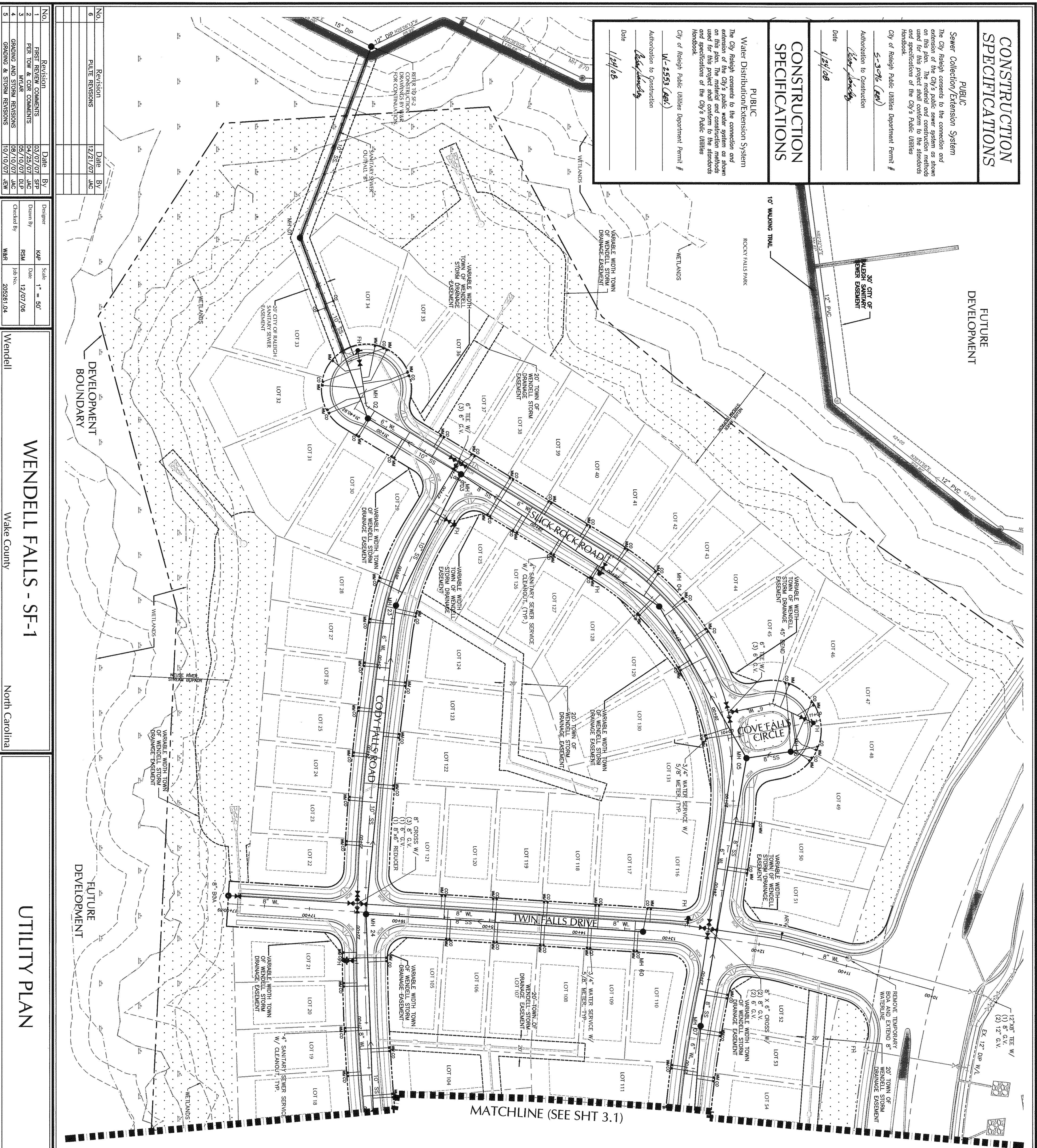
CONSTRUCTION SPECIFICATIONS

FUTURE DEVELOPMENT

CONSTRUCTION SPECIFICATIONS

PUBLIC
Sewer Collection/Extension System
The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh Public Utilities Department Permit # **W-2553 (Rev.)**
Authorization to Construction
Robert J. Jolley
Date **1/24/08**

PUBLIC
Water Distribution/Extension System
The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh Public Utilities Department Permit # **W-2553 (Rev.)**
Authorization to Construction
Robert J. Jolley
Date **1/24/08**



UTILITY NOTES

GENERAL NOTES - UTILITIES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF WENDELL AND NCDOT STANDARDS & SPECIFICATIONS AND CITY OF RALEIGH STANDARDS & SPECIFICATIONS FOR SEWER AND WATER.
2. TOPOGRAPHIC INFORMATION PROVIDED BY WITHERS & RAVENEL.
3. THE EXISTING UTILITIES SHOWN ON THE PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION, BUT CAN BE CONSIDERED ONLY AS APPROXIMATE. ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION SHALL BE REPORTED TO THE PROJECT ENGINEER FOR REVIEW PRIOR TO BEGINNING CONSTRUCTION.
4. ALL FIRE HYDRANTS SHALL BE INSTALLED ON A 6-INCH LEAD WITH A HYDRANT BRANCH VALVE. THE BRANCH VALVE SHALL BE NO GREATER THAN ONE FOOT FROM THE MAIN AND INSIDE THE PAVEMENT WHEN POSSIBLE. THE VALVE SHALL BE MECHANICALLY RESTRAINED TO THE MAIN.
5. THE HYDRANTS SHALL MEET TOWN OF WENDELL STANDARDS AND SPECIFICATIONS.
6. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 3 FEET FROM THE TOP OF THE CURB. WATER MAINS SHALL BE MADE OF DUCTILE IRON PIPE AND SHALL BE CLASS 50, 51, OR 52 DESIGNED IN ACCORDANCE WITH AWWA STANDARD C-150-76. A MINIMUM WORKING PRESSURE OF 150 PSI SHALL BE PROVIDED.
8. ALL SANITARY SEWER MAINS SHALL HAVE A MINIMUM COVER OF 5 FEET IN TRAFFIC AREAS TO THE PIPE CROWN UNLESS DUCTILE IRON PIPE IS PROVIDED IN CLASS 1 BEDDING WHERE THE MINIMUM COVER SHALL BE 3 FEET. ALL SANITARY SEWER MAINS SHALL HAVE A MINIMUM COVER OF 3 FEET IN NON-TRAFFIC AREAS.
9. SANITARY SEWER MANHOLES SHALL BE 4 FEET IN DIAMETER UNLESS OTHERWISE SPECIFIED ON THE PLANS.
10. SANITARY SEWER MANHOLE TOPS SHALL BE SET FLUSH WITH PAVEMENT IN TRAFFIC AREAS AND SHALL BE SET AT LEAST ONE FOOT ABOVE GROUND LEVEL IN NON-TRAFFIC AREAS UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL NOTIFY THE CITY OF RALEIGH ENGINEERING DEPARTMENT AT 899-3030 TO SCHEDULE CONSTRUCTION INSPECTION AND BACKFILLING SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF RALEIGH STANDARD OPERATIONS.
12. ACCORDANCE WITH CITY OF RALEIGH STANDARD OPERATIONS.
13. SANITARY SEWER MAIN EASEMENTS SHALL BE GRADED SMOOTH, FREE FROM ROCK, BouldERS, ROOTS, STUMPS, AND OTHER DEBRIS AND SEEDED AND MULCHED UPON COMPLETION OF CONSTRUCTION.
14. THE FLOW CHANNEL THROUGH MANHOLES SHOULD BE SMOOTH AND SHALL CONFORM TO THE SHAPE AND THE SLOPE OF THE ENTERING AND EXITING SEWER MAIN.
15. ALL SANITARY SEWER AND WATER SHALL BE PUBLIC UNLESS OTHERWISE SPECIFIED. ALL PRIVATE WATER AND SEWER SHALL BE OWNED AND MAINTAINED BY THE HOMEOWNER'S ASSOCIATION.

HORIZONTAL RELATION OF WATER MAINS TO SEWERS

WATER MAINS SHALL BE Laid AT LEAST 10 FEET LATERALLY FROM EXISTING OR SEWERS, UNLESS THE WATER MAIN IS Laid IN A SEPARATE TRENCH WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.

VERTICAL RELATION OF WATER MAINS TO SEWERS

WHENEVER A WATER MAIN CROSSES OVER A SEWER, THE WATER MAIN SHALL BE Laid WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE SEWER UNLESS BOTH THE WATER MAIN AND SEWER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING. WHENEVER A WATER MAIN CROSSES UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING AND MAINTAIN A MINIMUM OF 18 INCH VERTICAL SEPARATION. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.

VERTICAL RELATION OF SANITARY SEWER MAINS & WATER MAINS TO STORM SEWER

WHENEVER A SANITARY SEWER OR WATER MAIN IS CROSSING OVER OR UNDER A STORM SEWER, A VERTICAL SEPARATION OF 18 INCHES SHALL BE MAINTAINED, UNLESS BOTH LINES ARE OF DUCTILE IRON OR ENCASED IN CONCRETE.

SPECIAL NOTES:

ALL SANITARY SEWER MAINS GREATER THAN TWELVE (12) FEET IN DEPTH SHALL BE INSTALLED WITH DUCTILE IRON PIPE. ALL SANITARY SEWER MAIN EXTENSIONS SHALL BE INSTALLED BY WORKING DOWN FROM AN EXISTING MANHOLE. ANY EXCEPTIONS TO THIS METHOD SHALL BE APPROVED BY THE PUBLIC UTILITIES DEPARTMENT.

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH AND/OR NCDOT STANDARDS & SPECIFICATIONS.
2. BOUNDARY INFORMATION TAKEN FROM AN UNRECORDED BOUNDARY SURVEY PERFORMED BY WITHERS AND RAVENEL.

PROJECT SEWER FLOW =
131 HOMES @ 250 CPD = 32,750 CPD

ATTENTION CONTRACTORS

THE CONSTRUCTION CONTRACTOR RESPONSIBLE FOR THE EXTENSION OF WATER, SEWER, AND/OR GAS, AS APPROVED IN UTILITIES DEPARTMENT AT 899-487-4840 AT LEAST **THIRTY (30) DAYS** PRIOR TO BEGINNING ANY OF THEIR CONSTRUCTION. FAILURE TO NOTIFY BOTH CITY DEPARTMENTS IN ADVANCE OF BEGINNING CONSTRUCTION, WILL RESULT IN THE ISSUANCE OF AN EMERGENCY FINES, AND REQUIRE REINSTATEMENT OF ANY WATER NOTIFICATION FAILURE.

FAILURE TO CALL FOR INSPECTION, INSTALL A DOWNSPEAK EXTERIOR DRAINAGE SYSTEM, AND PROVIDE PROPER DRAINAGE, WILL RESULT IN A FINE AND POSSIBLE EXCLUSION FROM FUTURE WORK IN THE CITY OF RALEIGH.

THESE PLANS HAVE BEEN APPROVED FOR CONSTRUCTION BY THE TOWN OF WENDELL.

David R. Rice 1-18-08
Zoning & Subdivision Administrator
TOWN OF WENDELL FIRE CHIEF
DATE 1-20-08



| No. | Revision | Date | By |
|-----|-----------------------------|----------|-----|
| 1 | REVISION | 03/07/07 | SF |
| 2 | PER TOW & COR COMMENTS | 04/23/07 | JAC |
| 3 | W/AR | 05/10/07 | DLJ |
| 4 | GRADING AND STORM REVISIONS | 08/10/07 | JAC |
| 5 | GRADING & STORM REVISIONS | 10/10/07 | JEW |

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WITHERS & RAVENEL
ENGINEERS | PLANNERS | SURVEYORS
111 Mackinnon Drive, Cary, North Carolina 27511
tel: 919-469-3340 fax: 919-467-6008 www.withersravenel.com

Sheet No. **3.0**