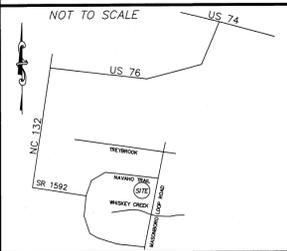


**LOCATION MAP**



# CONSTRUCTION DRAWINGS for **THE CREEK AT WILLOWICK**

LOCATED IN MASONBORO TOWNSHIP  
NEW HANOVER COUNTY, NORTH CAROLINA

LICENSE # C-2710  
**COASTAL SITE DESIGN, PC**  
ENGINEERING  
LAND PLANNING  
COMMERCIAL / RESIDENTIAL  
P.O. Box 4041  
Wilmington, NC 28406  
(910) 791-4441

COVER SHEET for  
**THE CREEK AT WILLOWICK**

CONSTRUCTION DRAWINGS for  
**THE CREEK AT WILLOWICK**  
LOCATED IN MASONBORO TOWNSHIP  
NEW HANOVER COUNTY, NORTH CAROLINA  
NIC PARCEL # R07200-007-031-000  
OWNER: TSV DEVELOPERS, INC.  
1904 EASTWOOD ROAD, SUITE 212  
WILMINGTON, NC 28403

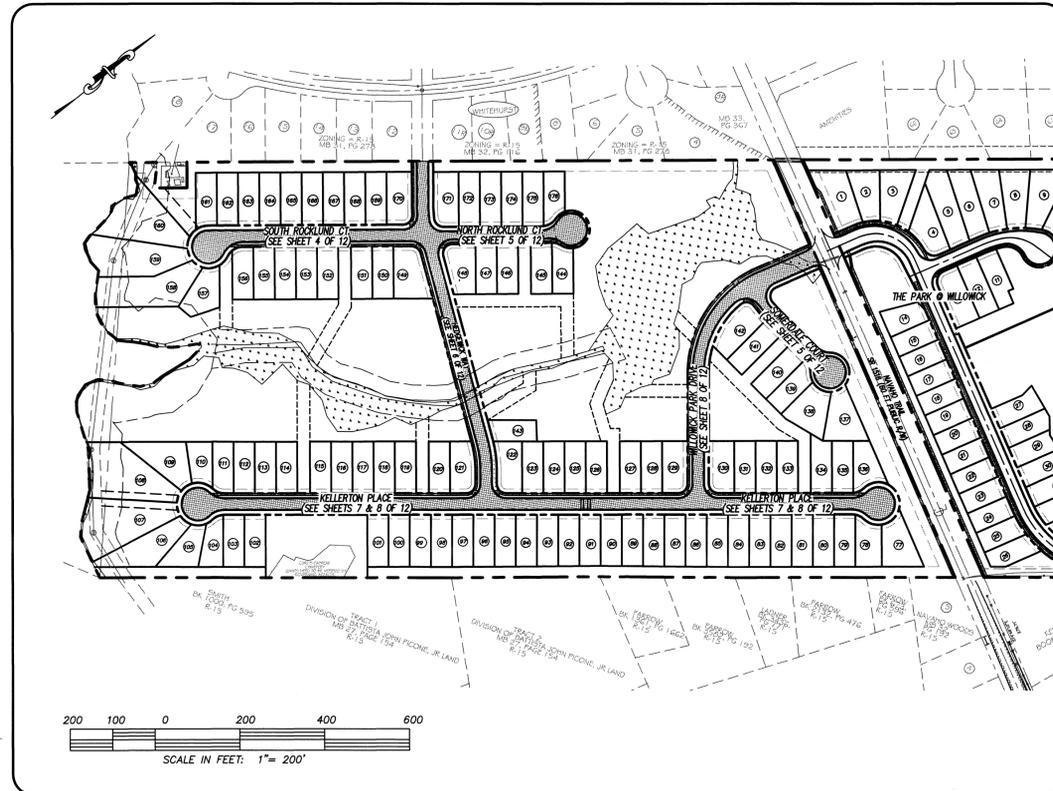


REV. NO.	DATE	REMARKS
5	8/23/13	REVISED NOTES PER TRAFFIC ENGINEERING
4	JSM 7/22/13	CHANGED COVER SHEET PER COW SUBMITTAL
3	RLW 8/28/09	REVISED SHEET NUMBER, REVISED OVERALL MAP
2	JDH 11/12/08	REVISED PER REINFORCEMENT
1	JSL 9/9/08	REVISED PER ADDITION OF SHEETS

DATE: 3-20-08  
HORZ. SCALE: 1" = 200'  
DRAWN BY: JSL  
CHECKED BY: HSR  
PROJECT NO: 04-001  
DRAWING NO: 04-001COV-PH2

**STANDARD NOTES:**

- TOPOGRAPHIC AND BOUNDARY MAPPING PERFORMED BY ARNOLD CARSON, PLS. PC.
- THIS MAP IS NOT FOR CONVEYANCE, RECORDATION, OR SALES.
- THIS TRACT IS LOCATED IN ZONE "C" ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NUMBER 372031 4500 4, DATED 4/3/06.
- THIS PROPERTY IS ZONED R-1S.
- WATER SERVICE TO CONNECT TO CPWA PUBLIC SYSTEM.
- SEWER SERVICE TO CONNECT TO CPWA PUBLIC SEWER SYSTEM.
- ALL CONSTRUCTION TO CONFORM TO CITY OF WILMINGTON STANDARDS APPLICABLE STATE & LOCAL CODES.
- CONTRACTOR TO COORDINATE ANY REQUIRED TRAFFIC CONTROL WITH CITY OF WILMINGTON.
- CARE SHALL BE TAKEN DURING FINAL GRADING TO ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND TO RECEIVING STRUCTURES. ROOF DRAIN DOWNSPOUTS TO BE CONNECTED TO STORM DRAINAGE STUBOUTS OR DIRECTED TO STREET.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ANY RELOCATIONS, RE-ALIGNMENTS, DISCONNECTIONS OR CONNECTIONS OF EXISTING UTILITIES WITH APPLICABLE AUTHORITIES.
- CLEARING AND GRUBBING OF SITE TO INCLUDE REMOVAL OF EXISTING CURB, ASPHALT, INLETS, AND ANY OTHER STRUCTURES INCLUDING TREES, STUMPS AND DEBRIS EXISTING ON SITE. TREES NOT REQUIRED TO BE CLEARED FOR CONSTRUCTION SHALL REMAIN UNLESS OTHERWISE DIRECTED.
- INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT ELEVATIONS AND LOCATIONS OF ALL EXISTING UTILITIES AT ALL CROSSINGS PRIOR TO COMMENCING TRENCH EXCAVATION. IF ACTUAL CLEARANCES ARE LESS THAN INDICATED ON PLAN, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. ANY CONDITION DISCOVERED OR EXISTING THAT WOULD NECESSITATE A MODIFICATION OF THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
- NO CONSTRUCTION IS TO BEGAIN BEFORE LOCATION OF EXISTING UTILITIES HAS BEEN DETERMINED. CALL "NO CALL" AT LEAST 48 HOURS BEFORE COMMENCING CONSTRUCTION.
- CONTRACTOR SHALL ADJUST ALL MANHOLES, VALVE & CURB BOXES TO FINAL GRADE UPON COMPLETION OF ALL CONSTRUCTION. ANY BOXES DAMAGED OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST AND EROSION DURING CONSTRUCTION AT HIS EXPENSE. PAVING AREAS SHALL BE WATERED TO CONTROL DUST WHEN ORDERED BY THE ENGINEER.
- NO GEOTECHNICAL TESTING HAS BEEN PERFORMED ON SITE. NO WARRANTY IS MADE FOR SUITABILITY OF SUBGRADE, AND UNDERCUT AND ANY REQUIRED REPLACEMENT WITH SUITABLE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- EXTREME CARE SHALL BE TAKEN TO ENSURE MINIMUM SEPARATIONS AT ALL UTILITY CROSSINGS.
- CONTRACTOR TO ENSURE THAT PAVEMENT IS PLACED SO AS TO DRAIN POSITIVELY TO THE STREET INLETS AND CATCH BASINS. ALL FUTURE ROOF DRAIN DOWNSPOUTS TO BE DIRECTED TO THE STORM SEWER STUBOUTS.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS.
- THIS PLAN IS FOR SITE GRADING AND DRAINAGE ONLY.
- CONTRACTOR AND BUILDER ARE RESPONSIBLE FOR COORDINATING FINISHED FLOOR ELEVATION OF ALL BUILDINGS WITH THE OWNER. ELEVATIONS GIVEN ARE MINIMUM GROUND ELEVATIONS AT THE BUILDING SITE AND DO NOT PURPORT TO BE FINISHED FLOOR.
- AFFECTED NON-MUNICIPAL UTILITIES SHALL BE CONTACTED AND PROVIDED WITH PLANS AND OTHER PERTINENT INFORMATION, WHEN FEASIBLE, TO COORDINATE APPROPRIATE SCHEDULING AND PLACEMENT.
- MINIMUM SEPARATION SHALL BE MAINTAINED AS FOLLOWS:
  - HORIZONTAL CLEARANCE OF 10 FEET BETWEEN SANITARY SEWER AND WATER MAINS.
  - WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN SANITARY SEWER AND WATER OR WHERE SEWER LINE CROSSES ABOVE WATER MAIN, BOTH PIPES SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING.
  - WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN SANITARY SEWER AND STORM DRAIN, SANITARY SEWER SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING.
  - WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN WATER MAIN AND STORM DRAIN, WATER MAIN SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING.
- PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NC DOT STANDARDS.
- ONCE STREETS ARE OPEN TO TRAFFIC, CONTACT TRAFFIC ENGINEERING TO REQUEST INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
- CALL TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
- ANY BROKEN OR MISSING SIDEWALK PANELS AND CURBING WILL BE REPLACED.
- ALL SIDESLOPES SHALL BE NO STEEPER THAN 3:1.
- NO EQUIPMENT IS ALLOWED ON THE SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING HAS BEEN INSTALLED AND APPROVED.



**Approved Construction Plan**

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Public Utilities \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

**STORMWATER MANAGEMENT PLAN**  
**APPROVED**  
CITY OF WILMINGTON  
ENGINEERING DEPARTMENT  
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
SIGNED \_\_\_\_\_

**DRAINAGE PLAN**  
**APPROVED**  
CITY OF WILMINGTON  
STORMWATER DISCHARGE  
PERMIT NOT REQUIRED  
SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

**LEGEND**

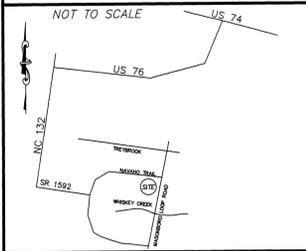
- EXISTING BOUNDARY
- CENTERLINE OF RIGHT OF WAY
- CONTOUR LINE & ELEVATION
- DRAINAGE FLOW
- EXISTING SANITARY SEWER & MANHOLE
- EXISTING WATERLINE
- EXISTING / PROPOSED STORM SEWER & CATCH BASIN
- E.I.P. EXIST. IRON PIPE
- WATER METER SERVICE CONNECTION
- E.C.M. EXIST. CONCRETE MONUMENT
- HANDICAP RAMP
- 40.9 EL. EX. ELEV. & DESCRIPTION

**OWNER/ DEVELOPER:** TSV DEVELOPERS, INC  
1904 EASTWOOD ROAD  
SUITE 212  
WILMINGTON, NC 28403

**INDEX TO DRAWINGS**

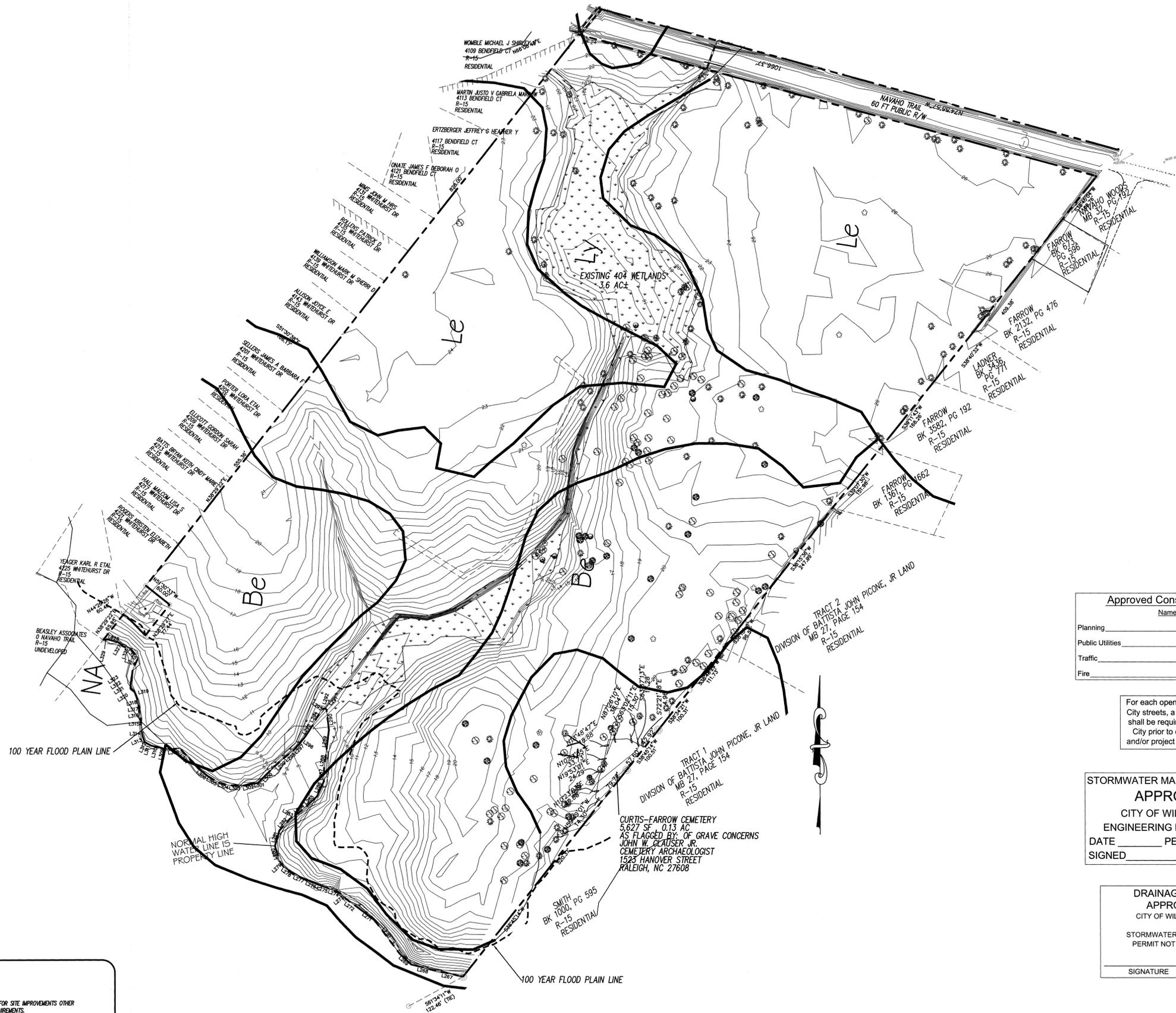
SHEET No.	DESCRIPTION	DRAWING No.
1 OF 12	COVER SHEET	04-001COV
2 OF 12	EXISTING BOUNDARY AND TOPOGRAPHY	04-001TOP
3 OF 12	SITE PLAN	04-001SP1
4 OF 12	SOUTH ROCKLUND CT. & SEWER EXTENSION	04-001SP1
5 OF 12	NORTH ROCKLUND COURT & SOMERDALE COURT	04-001SP2
6 OF 12	HEDGECOCK WAY	04-001SP3
7 OF 12	KELLERTON PLACE	04-001SP4
8 OF 12	KELLERTON PLACE & WILLOWICK PARK DRIVE	04-001SP5
9 OF 12	SEWER EXTENSION	04-001SP6
10 OF 12	UTILITY PLAN	04-001UTIL
11 OF 12	SIGNAGE PLAN	04-001SIGN
12 OF 12	TREE REMOVAL & CLEARING PLAN	04-001SP3
1 OF 2	CFPIA WATER DETAIL SHEET 1	WATER_DET1
2 OF 2	CFPIA WATER DETAIL SHEET 2	WATER_DET2
1 OF 4	CFPIA SEWER DETAIL SHEET 1	SEWER_DET1
2 OF 4	CFPIA SEWER DETAIL SHEET 2	SEWER_DET2
3 OF 4	CFPIA SEWER DETAIL SHEET 3	SEWER_DET3
4 OF 4	CFPIA SEWER DETAIL SHEET 4	SEWER_DET4
1 OF 3	STORMWATER MANAGEMENT, EROSION CONTROL AND OVERALL DRAINAGE PLAN	04-001ECP1
2 OF 3	STORMWATER MANAGEMENT, EROSION CONTROL AND OVERALL DRAINAGE PLAN	04-001ECP2
3 OF 3	EROSION CONTROL DETAILS	04-001ECP3
1 OF 3	OVERALL DRAINAGE AREA MAP	04-001DA1
2 OF 3	OVERALL DRAINAGE AREA MAP	04-001DA2
3 OF 3	OVERALL DRAINAGE AREA MAP	04-001DA3

# LOCATION MAP



LINE	BEARING	LENGTH
L267	N77°39'08"W	41.74'
L268	N76°24'14"W	63.44'
L269	N47°19'51"W	32.68'
L270	N36°57'50"W	81.86'
L271	N53°28'57"W	40.83'
L272	N54°20'08"W	26.97'
L273	N48°23'37"W	18.79'
L274	N68°42'52"W	23.78'
L275	N69°44'44"W	25.76'
L276	N68°00'01"W	22.93'
L277	N67°38'59"W	26.30'
L278	N53°46'41"W	25.23'
L279	N34°08'47"W	15.08'
L280	N16°30'16"W	29.29'
L281	N15°56'56"E	31.50'
L282	N42°50'31"E	30.84'
L283	N56°16'27"E	17.92'
L284	N50°18'10"E	18.95'
L285	N47°38'44"E	33.89'
L286	N24°03'04"E	32.49'
L287	N01°12'12"E	28.02'
L288	N07°48'16"E	27.48'
L289	N07°06'22"E	48.09'
L290	N06°43'56"W	39.85'
L291	N46°43'31"W	4.03'
L292	S75°16'35"W	3.56'
L293	S48°22'05"W	8.06'
L294	S29°28'04"W	31.03'
L295	S33°04'31"W	25.88'
L296	S40°05'58"W	22.48'
L297	S43°43'42"W	17.04'
L298	S51°48'26"W	21.00'
L299	S48°37'20"W	30.23'
L300	S44°47'07"W	41.92'
L301	S83°14'30"W	10.40'

LINE	BEARING	LENGTH
L302	S77°00'23"W	20.84'
L303	N86°05'04"W	29.30'
L304	N73°50'13"W	19.19'
L305	N59°26'49"W	25.08'
L306	N51°28'42"W	21.75'
L307	N43°08'32"W	55.15'
L308	S86°45'42"W	27.75'
L309	N72°41'49"W	13.26'
L310	N77°51'46"W	17.40'
L311	N59°38'27"W	8.50'
L312	N59°22'28"W	6.73'
L313	N16°52'05"W	11.37'
L314	N13°49'58"W	14.98'
L315	N00°28'03"W	15.95'
L316	N09°48'15"W	16.19'
L317	N06°52'21"W	16.48'
L318	N15°01'23"W	15.04'
L319	N20°11'26"W	10.45'
L320	N52°34'23"W	10.44'
L321	N02°24'10"E	10.58'
L322	N08°56'33"E	17.59'
L323	N08°14'09"E	8.61'
L324	N23°42'38"E	27.03'
L325	N40°47'06"E	24.28'
L326	N75°38'23"W	13.29'
L327	N50°27'53"W	14.02'
L328	N75°33'01"W	21.09'
L329	S86°17'54"W	9.05'



**NOTES**

- BOUNDARY, TREE AND TOPOGRAPHY INFORMATION PREPARED AND PROVIDED BY ARNOLD CARSON, PLS, PC.
- THIS PLAN SHEET DOES NOT PURPORT TO SHOW ANY DESIGN INFORMATION, BUT RATHER ONLY DISPLAYS THE EXISTING SITE BOUNDARY, WETLANDS AND TOPOGRAPHY AS PROVIDED BY THE SURVEYOR.

**ENVIRONMENTAL NOTES:**

- ALL SIGNIFICANT TREES ON SITE ARE TO BE RETAINED OR MITIGATED.
- NO LAND DISTURBANCE IS PERMITTED OUTSIDE THE DESIGNATED LIMITS OF DISTURBANCE FOR SITE IMPROVEMENTS OTHER THAN WHAT IS NECESSARY TO BE INTO EXISTING CONTOURS OR MEET LANDSCAPING REQUIREMENTS.
- ALL TREES OUTSIDE THE LIMITS OF DISTURBANCE ON SITE ARE TO BE PRESERVED.
- TREE WELLS TO BE PROVIDED AND INSTALLED AS NECESSARY TO MAINTAIN EXISTING GRADE AT ROOT ZONE (TREE CANOPY) OF TREES TO BE PRESERVED.
- 3.60 AC OF WETLANDS ON SITE.
- WATER BODY SERVING THIS SITE IS WHISKEY CREEK SAHAW.

**Approved Construction Plan**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Planning: \_\_\_\_\_

Public Utilities: \_\_\_\_\_

Traffic: \_\_\_\_\_

Fire: \_\_\_\_\_

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

**STORMWATER MANAGEMENT PLAN APPROVED**

CITY OF WILMINGTON  
ENGINEERING DEPARTMENT

DATE: \_\_\_\_\_ PERMIT #: \_\_\_\_\_

SIGNED: \_\_\_\_\_

**DRAINAGE PLAN APPROVED**

CITY OF WILMINGTON

STORMWATER DISCHARGE PERMIT NOT REQUIRED

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**COASTAL SITE DESIGN, PC**  
ENGINEERING  
LAND PLANNING  
COMMERCIAL / RESIDENTIAL

P.O. Box 4041  
Wilmington, NC 28406  
(910) 791-4441

EXISTING BOUNDARY AND TOPOGRAPHY for  
**THE CREEK AT WILLOWICK**

OWNER: TSY DEVELOPERS, INC.  
1304 EASTWOOD ROAD, SUITE 212  
WILMINGTON, NC 28403

EXISTING BOUNDARY AND TOPOGRAPHY for  
**THE CREEK AT WILLOWICK**

LOCATED IN MASONBORO TOWNSHIP  
NEW HANOVER COUNTY, NORTH CAROLINA



REV. NO.	DATE	BY	REMARKS
8	12/22/13	JSM	REVISED PER CITY SUBMITTAL
7	7/10/12	RLW	ADDED LICENSE NUMBER
6	8/28/09	RLW	REVISED SHEET NUMBER
5	11/12/08	JSL	REVISED PER REANNOTATION
4	9/9/08	JSL	REVISED PER ADDITION OF SHEET
3	3/20/08	JSL	REVISED PER CONSTRUCTION SET
2	8/01/07	JSL	REVISED PER PRELIMINARY MYLARS
1	5/04/07	CSH	REVISED PER COMMENTS FROM CITY OF WILMINGTON

DATE: 02-28-07

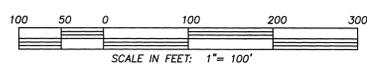
HORIZ. SCALE: 1" = 100'

DRAWN BY: JSL

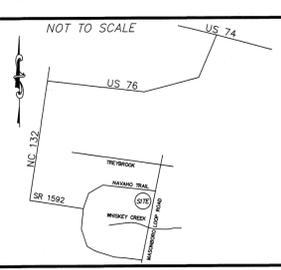
CHECKED BY: HSR

PROJECT NO: 04-0011  
DRAWING NO: 04-0011TOP-PH2

Sheet No. **2** of **12**



# LOCATION MAP



## GENERAL NOTES:

1. NEW HANOVER COUNTY PARCEL NOS.: RT2200-07-027-000
2. TOTAL TRACT AREA: 1,741,964.4 SF (39.99 AC)
3. EXISTING ZONING DISTRICT: R-15
4. LAND CLASSIFICATION: WATER-SHED RESOURCE PROTECTION
5. TREE REMOVAL PERMIT TO BE OBTAINED.
6. LANDSCAPE PLANS TO BE PROVIDED BY OTHERS.
7. THIS TRACT IS LOCATED IN ZONE "C" ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NUMBER 372031 450-A DATED 4/3/06.
8. SITE ADDRESS IS 1300 NAVAHO TRAIL
9. NOISE/DISTURBANCE MANAGEMENT PERMIT REQUIRED AND TO BE OBTAINED.
10. NEW HANOVER COUNTY/NOISE/LOS SEDIMENTATION & EROSION CONTROL PERMIT REQUIRED AND TO BE OBTAINED.
11. BUILDING USE IS FOR SINGLE-FAMILY HOUSING
12. THIS SITE IS PROPOSED TO BE A CLUSTER DEVELOPMENT.
13. UNPAVED STREETS TO BE NAMED PENDING APPROVAL FROM FRANCES DOWNING, GIS ANALYST/CITY ADDRESS COORDINATOR
14. WATER AND SEWER IS PROPOSED TO BE PUBLIC
15. TRASH IS PROPOSED TO BE PICKED UP BY CITY OF WILMINGTON
16. LANDSCAPING OF PARKING CANNOT BLOCK OR IMPERE THE VIEW OF FIRE HYDRANTS. 3 FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT TRIP DECK.
17. HYDRANTS MUST BE LOCATED WITHIN 8' OF CURB.
18. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDINGS.
19. CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
20. TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOW PASSAGE BY VEHICLES.

## DEVELOPMENT NOTES:

1. ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD STANDARDS.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION. CALL U-LOD AT 1-800-632-4949.
3. CONTRACTOR IS RESPONSIBLE FOR THE REPAIR AND REPLACEMENT OF ANY UTILITIES, CURB AND GUTTER, SIDEWALK PANELS, PAVEMENT, ETC. THAT MAY BE DAMAGED DURING CONSTRUCTION. DAMAGED ITEMS SHALL BE REPAIRED TO AT LEAST THE QUALITY OR WORKMANSHIP FOUND IN THE ORIGINAL ITEM.
4. STORMWATER MANAGEMENT TO MEET CITY OF WILMINGTON REQUIREMENTS FOR THE 10 YEAR STORM AND MODERATE/LOW WATER QUALITY REQUIREMENTS FOR LOW DENSITY PROJECTS.
5. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY TREE PROTECTION FENCING IS TO BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES.
6. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
7. NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLAN.
8. ALL DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON ZONING ORDINANCE & SUBDIVISION REGULATIONS.
9. APPROVAL OF SITE PLAN DOES NOT CONSTITUTE APPROVAL OF PROPOSED SIGNAGE FOR THIS SITE. A SEPARATE SIGN PERMIT MUST BE OBTAINED.
10. APPLICABLE STREET FRONTAGES SHALL HAVE NATURAL VEGETATIVE SCREENING MEETING CITY REQUIREMENTS.
11. THE DEVELOPMENT SHALL COMPLY WITH ALL CITY TECHNICAL STANDARDS AND DEVELOPMENT REGULATIONS.
12. LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAT. PLAN SHALL ADHERE TO SO 15-17.
13. AFTER LANDSCAPING PLAN IS SUBMITTED, CONTACT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
14. PROTECTIVE FENCING IS TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.
15. LAND CLEARING AND CONSTRUCTION CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTIONS ON TREE PROTECTION REQUIREMENTS AND METHODS. 18-772(D)
16. CLEARING OF INDIVIDUAL LOTS IS NOT PERMITTED.
17. ALL OPEN SPACE SHALL BE DEEDED TO ALL LAND OWNERS AS COMMON OWNERSHIP. THIS LAND IS NOT TO BE DEVELOPED OR IMPROVED AND OPEN SPACE WILL BE PERPETUALLY PROTECTED. (18-433(G)(5))

## TRAFFIC ENGINEERING NOTES:

1. A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO RECORDING OF THE FINAL PLAT. PLAN SHALL ADHERE TO SO 15-17.
  2. ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
  3. ONCE STREETS ARE OPEN TO TRAFFIC, CONTACT TRAFFIC ENGINEERING TO REQUEST INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
  4. OPEN CUT NOTES:
    - A. CONTRACTOR TO COORDINATE WITH CITY OF WILMINGTON FOR ACCEPTABLE HOURS OF CONSTRUCTION AND TRAFFIC CONTROL DURING INSTALLATION OF UTILITIES IN CITY ROADS.
    - B. SUITABLE COMPACTION AND APPROVED STONE & BASE COURSES TO BE INSTALLED IN PLACE OF OPEN CUT.
    - C. OPEN CUT TO BE SAW CUT.
  5. TRIP GENERATION NUMBERS:
    - 727 TOTAL 24 HOUR VOLUME
    - 57 AM PEAK VOLUME
    - 77 PM PEAK VOLUME
  6. A VARIANCE IS REQUESTED FOR INTERSECTIONS BEING LONGER THAN 400' MAXIMUM DISTANCE PER CITY TECHNICAL STANDARDS.
  7. A VARIANCE IS REQUESTED TO ALLOW CUL-DE-SAC ON SOUTH ROCKLAND COURT AND KELLERTON PLACE TO BE MORE THAN 500 FT MAXIMUM LENGTH.
  8. ALL DRIVEWAYS WITHIN SUBDIVISION TO BE LOCATED ON STOP-CONTROLLED STREETS.
  9. ALL DRIVEWAYS TO BE CITY STANDARDS SWAMP-TYPE DRIVEWAYS.
  10. A NIGHT DRIVEWAY PERMIT IS REQUIRED AND TO BE OBTAINED.
  11. A BOND FOR 100% FOR ALL WORK WITHIN THE NCOTD RIGHT OF WAY SHALL BE SUBMITTED ALONG WITH THE DRIVEWAY PERMIT BEFORE IT CAN BE PROCESSED FOR APPROVAL.
  12. ALL EXISTING DRIVEWAYS ON NAVAHO TRAIL WILL BE CLOSED.
- \*\*\* TRAFFIC ENGINEERING NOTES CONTINUED ON SHEET 11 OF 12

## ENVIRONMENTAL NOTES:

1. ALL SIGNIFICANT TREES ON SITE ARE TO BE RETAINED OR MITIGATED.
2. NO LAND DISTURBANCE IS PERMITTED OUTSIDE THE DOCUMENTED LIMITS OF DISTURBANCE FOR SITE IMPROVEMENTS OTHER THAN WHAT IS NECESSARY TO THE INTO EXISTING CONTIGUOUS OR MEET LANDSCAPING REQUIREMENTS.
3. ALL TREES OUTSIDE THE LIMITS OF DISTURBANCE ON SITE ARE TO BE PRESERVED.
4. TREE WELLS TO BE PROVIDED AND INSTALLED AS NECESSARY TO MAINTAIN EXISTING GRADE AT ROOT ZONE (TREE CANOPY) OF TREES TO BE PRESERVED.
5. JURISDICTIONAL DETERMINATION FOR WATERSHED USAGE HAS BEEN PERFORMED.
6. WATER BODY SERVING THIS SITE IS WHISKEY CREEK, SAHAW.

## STANDARD NOTES:

1. TOPOGRAPHIC AND BOUNDARY MAPPING PERFORMED BY ARNOLD CARSON, PLS. PC. THIS MAP IS NOT FOR CONVEYANCE, RECORDATION, OR SALES.
3. THIS TRACT IS LOCATED IN ZONE "C" ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NUMBER 372031 450-A DATED 4/3/06.
4. THIS PROPERTY IS ZONED R-15.
5. WATER SERVICE TO CONNECT TO OFFPA PUBLIC SYSTEM.
6. SEWER SERVICE TO CONNECT TO OFFPA PUBLIC SEWER SYSTEM.
7. ALL CONSTRUCTION TO CONFORM TO CITY OF WILMINGTON STANDARDS APPLICABLE STATE AND LOCAL CODES.
8. CONTRACTOR TO COORDINATE ANY REQUIRED TRAFFIC CONTROL WITH CITY OF WILMINGTON AND/OR NCOTD.
9. CARE SHALL BE TAKEN DURING FINAL GRADING TO ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND TO RECEIVING STRUCTURES. ROOF DRAIN DOWNSPUTS TO BE CONNECTED TO STORM DRAINAGE SUBROUTS OR DIRECTED TO STREET.
10. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ANY RELOCATIONS, RE-ALIGNMENTS, DISCONNECTIONS OR CONNECTIONS OF EXISTING UTILITIES WITH APPLICABLE AUTHORITIES.
11. NO AREA DESIGNATED AS OPEN SPACE SHALL BE CLEAR-CUT. CLEARING AND GRADING SHALL BE LIMITED TO THAT NECESSARY FOR ESSENTIAL SITE IMPROVEMENTS. TREES SHALL NOT BE REMOVED FROM INDIVIDUAL HOME SITES UNTIL BUILDING PERMITS ARE ISSUED.
12. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT ELEVATIONS AND LOCATIONS OF ALL EXISTING UTILITIES AT ALL CROSSINGS PRIOR TO COMMENCING TRENCH EXCAVATION. IF ACTUAL CLEARANCES ARE LESS THAN INDICATED ON PLAN, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. ANY CONDITION DISCOVERED OR EXISTING THAT WOULD NECESSITATE A MODIFICATION OF THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
13. NO CONSTRUCTION IS TO BEGIN BEFORE LOCATION OF EXISTING UTILITIES HAS BEEN DETERMINED. CALL "NO ONE-CALL" AT LEAST 48 HOURS BEFORE COMMENCING CONSTRUCTION.
14. CONTRACTOR SHALL ADJUST ALL MANHOLES, VALVE & CURB BOXES TO FINAL GRADE UPON COMPLETION OF ALL CONSTRUCTION. ANY BOXES DAMAGED OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
15. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST AND EROSION DURING CONSTRUCTION AT HIS EXPENSE. PARKING AREAS SHALL BE WATERED TO CONTROL DUST WHEN ORDERED BY THE ENGINEER.
16. NO GEOTECHNICAL TESTING HAS BEEN PERFORMED ON SITE, AND UNDERCUT AND ANY REQUIRED REPLACEMENT WITH SUITABLE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
17. EXTREME CARE SHALL BE TAKEN TO ENSURE MINIMUM SEPARATIONS AT ALL UTILITY CROSSINGS.
18. CONTRACTOR TO ENSURE THAT PAVEMENT IS PLACED SO AS TO DRAIN POSITIVELY TO THE STREET INLETS AND CATCH BASINS. ALL FUTURE ROOF DRAIN DOWNSPUTS TO BE DIRECTED TO THE STORM SEWER STRUCTURE.
19. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS.
20. CONTRACTOR AND BUILDER ARE RESPONSIBLE FOR COORDINATING FINISHED FLOOR ELEVATION OF ALL BUILDINGS WITH THE OWNER. ELEVATIONS GIVEN ARE MINIMUM GROUND ELEVATIONS AT THE BUILDING SITE AND DO NOT PURPORT TO BE FINISHED FLOOR.
21. AFFECTED NON-MUNICIPAL UTILITIES SHALL BE CONTACTED AND PROVIDED WITH PLANS AND OTHER PERTINENT INFORMATION, WHEN FEASIBLE, TO COORDINATE APPROPRIATE SCHEDULING AND PLACEMENT.
22. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
23. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCOTD STANDARDS.
24. ONCE STREETS ARE OPEN TO TRAFFIC, CONTACT TRAFFIC ENGINEERING TO REQUEST INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
25. ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
26. CALL TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
27. ANY BROKEN OR MISSING SIDEWALK PANELS AND CURBING WILL BE REPLACED.
28. ALL SLOPES SHALL BE NO STEEPER THAN 3:1.
29. NO EQUIPMENT IS ALLOWED ON THE SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING HAS BEEN INSTALLED AND APPROVED.
30. IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.

## WAIVERS GRANTED

1. WAIVERS OF THE TECHNICAL STANDARDS REQUIREMENTS FOR MAXIMUM CUL-DE-SAC LENGTH AND DISTANCE OF INTERSECTIONS FROM A PUBLIC STREET ARE SOUGHT BY THE APPLICANT. THERE ARE TWO CUL-DE-SACS THAT ARE PROPOSED TO EXCEED THE CITY 500-FOOT MAXIMUM LENGTH REQUIREMENT. GRANTED.
2. ALSO A WAIVER IS SOUGHT FROM THE 400 FOOT MINIMUM DISTANCE OF A NEW INTERSECTION FROM THE NEAREST ADJACENT STREET. GRANTED.

## SITE & BUILDING DATA:

**SITE DATA:**  
 TOTAL SITE AREA = 1,742,213.83 SF (39.99 AC)  
 IMPERVIOUS AREA BREAKDOWN:  
 PROPOSED SITE -  
 ASPHALT = 138,093 SF (3.17 AC)  
 CONCRETE SIDEWALKS = 24,972 SF (0.57 AC)  
 AMENITIES AREA = 0.00 SF (0.00 AC)  
 LOT IMPERVIOUS AREA = 272,418 SF (6.25 AC)  
 TOTAL PROPOSED IMPERVIOUS = 435,483 SF (10.00 AC)  
 PROPOSED BUILDING SIZE = 2,724 SF

**DENSITY CALCULATION:**  
 MAX DENSITY R-15 (CLUSTERS) = 2.5/AC  
 2.5 X 39.99AC = 99.98  
 TOTAL PROPOSED LOTS = 100

**BUILDING DATA:**  
 TOTAL LOTS = 100 SINGLE-FAMILY HOMES

**PRIMARY CONSERVATION AREA ALONG WITH THE 40X OPEN SPACE THAT'S BROKEN DOWN IN SITE & BUILDING DATA.**  
 PRIMARY CONSERVATION AREA SHALL BE PROVIDED IN ACCORDANCE WITH LDC SECTION 18-433(d).  
 THE PRIMARY CONSERVATION AREA SHALL NOT BE DISTURBED EXCEPT AS PERMITTED IN LDC SECTION 18-433.

**OPEN SPACE BREAKDOWN:**  
 RECD OPEN SPACE = 39.99 AC (TOT. TRACT) X 40% = 15,996 AC. RECD OPEN SPACE

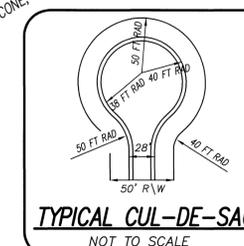
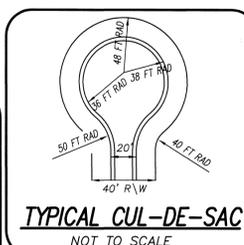
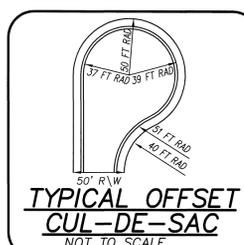
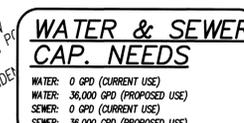
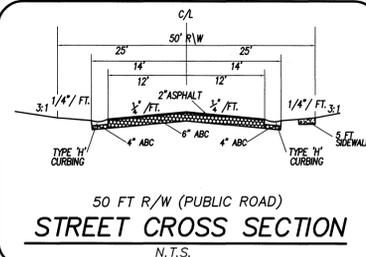
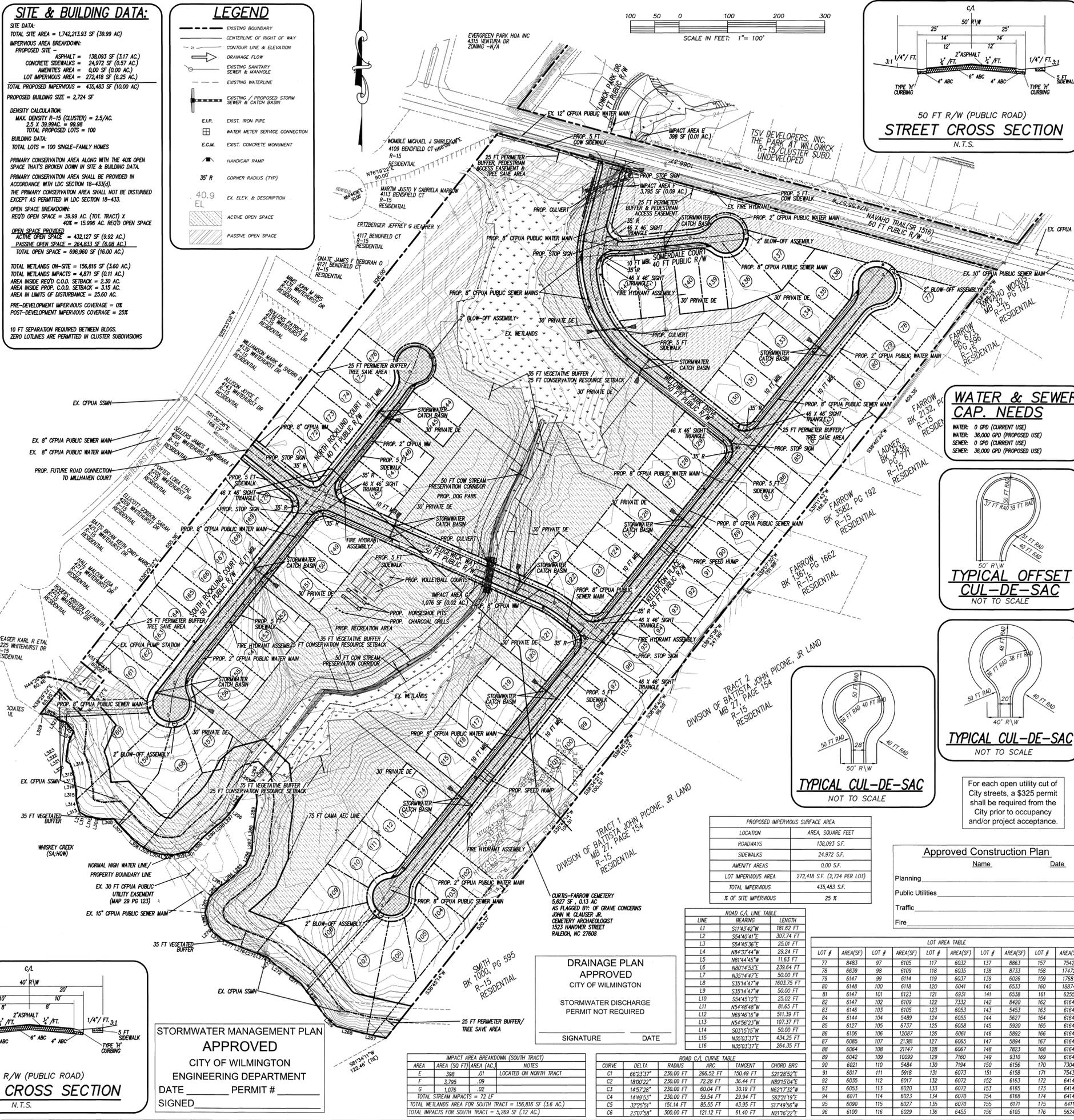
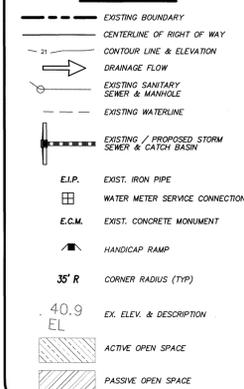
**OPEN SPACE PROVIDED:**  
 ACTIVE OPEN SPACE = 432,127 SF (9.92 AC)  
 PASSIVE OPEN SPACE = 264,833 SF (6.08 AC)  
 TOTAL OPEN SPACE = 696,960 SF (16.00 AC)

**TOTAL WETLANDS ON-SITE = 156,816 SF (3.60 AC)**  
 TOTAL WETLANDS IMPACTS = 4,871 SF (0.11 AC)  
 AREA INSIDE RECD C.O.D. SETBACK = 2.90 AC  
 AREA INSIDE PROP. C.O.D. SETBACK = 3.15 AC  
 AREA IN LIMITS OF DISTURBANCE = 25.60 AC

PRE-DEVELOPMENT IMPERVIOUS COVERAGE = 0%  
 POST-DEVELOPMENT IMPERVIOUS COVERAGE = 25%

10 FT SEPARATION REQUIRED BETWEEN BLDGS  
 ZERO LOT LINES ARE PERMITTED IN CLUSTER SUBDIVISIONS

## LEGEND



For each open utility cut of city streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

PROPOSED IMPERVIOUS SURFACE AREA	
LOCATION	AREA, SQUARE FEET
ROADWAYS	138,093 S.F.
SIDEWALKS	24,972 S.F.
AMENITY AREAS	0.00 S.F.
LOT IMPERVIOUS AREA	272,418 S.F. (7.224 PER LOT)
TOTAL IMPERVIOUS	435,483 S.F.
% OF SITE IMPERVIOUS	25 %

ROAD C/A LINE TABLE	
LINE	LENGTH
L1	S1143'42"W 181.62 FT
L2	S8440'41"E 307.74 FT
L3	S8445'36"E 25.01 FT
L4	N8437'44"W 29.24 FT
L5	N8144'45"W 11.83 FT
L6	N8074'53"E 239.64 FT
L7	N1514'47"E 50.00 FT
L8	S1974'47"W 1603.75 FT
L9	S3514'47"W 50.00 FT
L10	S8445'12"E 25.02 FT
L11	N5448'48"W 81.65 FT
L12	N6946'16"W 511.39 FT
L13	N5436'23"W 103.73 FT
L14	S0315'15"W 50.00 FT
L15	N3503'37"E 434.25 FT
L16	N3503'37"E 264.35 FT

LOT AREA TABLE					
LOT #	AREA(SF)	LOT #	AREA(SF)	LOT #	AREA(SF)
77	8483	97	6108	117	6032
78	6639	98	6109	118	6035
79	6147	99	6114	119	6037
80	6148	100	6118	120	6041
81	6147	101	6123	121	6031
82	6147	102	6109	122	6032
83	6146	103	6105	123	6033
84	6144	104	5489	124	6055
85	6127	105	6737	125	6058
86	6106	106	12087	126	6061
87	6085	107	21381	127	6065
88	6064	108	21477	128	6067
89	6042	109	10299	129	6160
90	6021	110	5484	130	7194
91	6017	111	5918	131	6073
92	6015	112	6017	132	6072
93	6053	113	6020	133	6072
94	6071	114	6023	134	6070
95	6090	115	6022	135	6070
96	6109	116	6029	136	6455

IMPACT AREA BREAKDOWN (SOUTH TRACT)	
AREA	AREA (SQ FT) AREA (AC)
E	398 .01 LOCATED ON NORTH TRACT
F	3,795 .09
G	1,076 .02

ROAD C/A CURVE TABLE						
CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD	BRC
C1	662'37"	230.00 FT	266.52 FT	150.49 FT	S2128'52"E	
C2	1800'22"	230.00 FT	72.28 FT	36.44 FT	N8915'04"E	
C3	1457'28"	230.00 FT	60.04 FT	30.19 FT	N6217'32"E	
C4	1429'53"	230.00 FT	58.54 FT	29.94 FT	S8221'19"E	
C5	3225'51"	151.14 FT	85.55 FT	43.95 FT	S1749'56"W	
C6	2307'58"	300.00 FT	121.12 FT	61.40 FT	N2182'22"E	

**STORMWATER MANAGEMENT PLAN APPROVED**  
 CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT  
 DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_

**DRAINAGE PLAN APPROVED**  
 CITY OF WILMINGTON  
 STORMWATER DISCHARGE PERMIT NOT REQUIRED  
 SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

**COASTAL SITE DESIGN, PC**  
 LICENSE # C-2710  
 ENGINEERING LAND PLANNING COMMERCIAL / RESIDENTIAL  
 P.O. Box 4041  
 Wilmington, NC 28406  
 (910) 791-4441

**PRELIMINARY PLAN for THE CREEK AT WILLOWICK**  
 LOCATED IN MASONBORO TOWNSHIP NEW HANOVER COUNTY, NORTH CAROLINA  
 OWNER: TSV DEVELOPERS, INC. SUITE 212  
 1504 EASTWOOD ROAD WILMINGTON, NC 28403

**THE CREEK AT WILLOWICK**  
 PRELIMINARY PLAN FOR THE CREEK AT WILLOWICK  
 LOCATED IN MASONBORO TOWNSHIP NEW HANOVER COUNTY, NORTH CAROLINA  
 OWNER: TSV DEVELOPERS, INC. SUITE 212  
 1504 EASTWOOD ROAD WILMINGTON, NC 28403

**FINAL DESIGNER'S SEAL**  
 NOT BE USED FOR CONSTRUCTION

REVISED	DATE	BY	REMARKS
1	11/12/08	JDH	REVISED PER STORMWATER REVISIONS
2	9/09/08	JSL	REVISED PER WATER AND SEWER SUBMITTALS
3	3/20/08	JSL	REVISED PER CONSTRUCTION SET
4	8/23/08	JSL	REVISED PER PUBLIC UTILITY OWNERSHIP
5	7/22/13	RLW	REVISED AMENITY CENTER, REVISED LOT BUA
6	7/10/12	RLW	ADDED LICENSE NUMBER
7	8/22/09	RLW	REVISED SHEET NUMBER
8	04/09/09	RLW	REVISED NOTES
9			
10			
11			
12			

DATE: 02-28-07  
 HORZ. SCALE: 1"= 100'  
 DRAWN BY: JSL  
 CHECKED BY: HSR  
 PROJECT NO: 04-0011  
 DRAWING NO: 04-0011PH23p1

Sheet No. **3** Of **12**

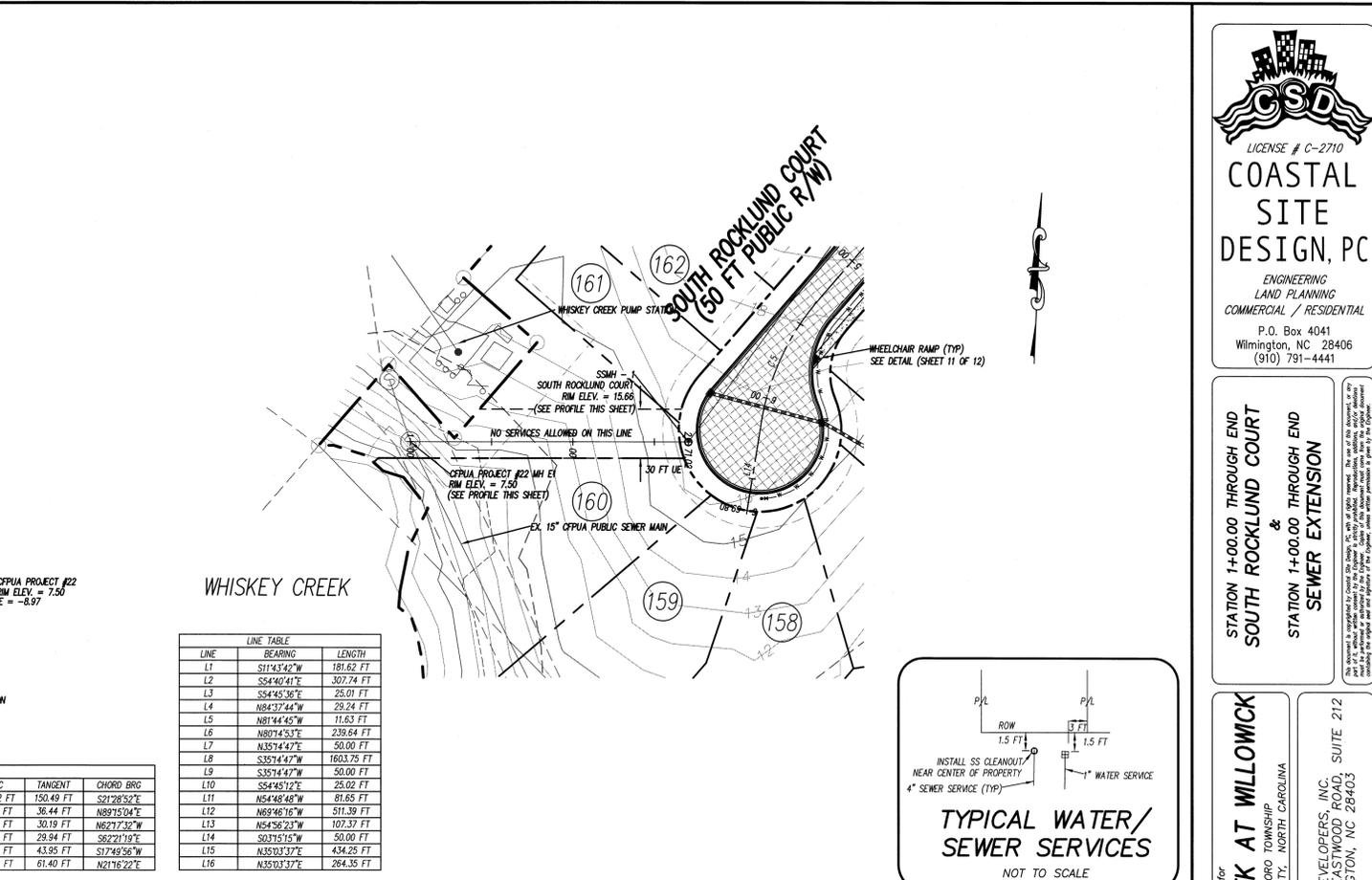
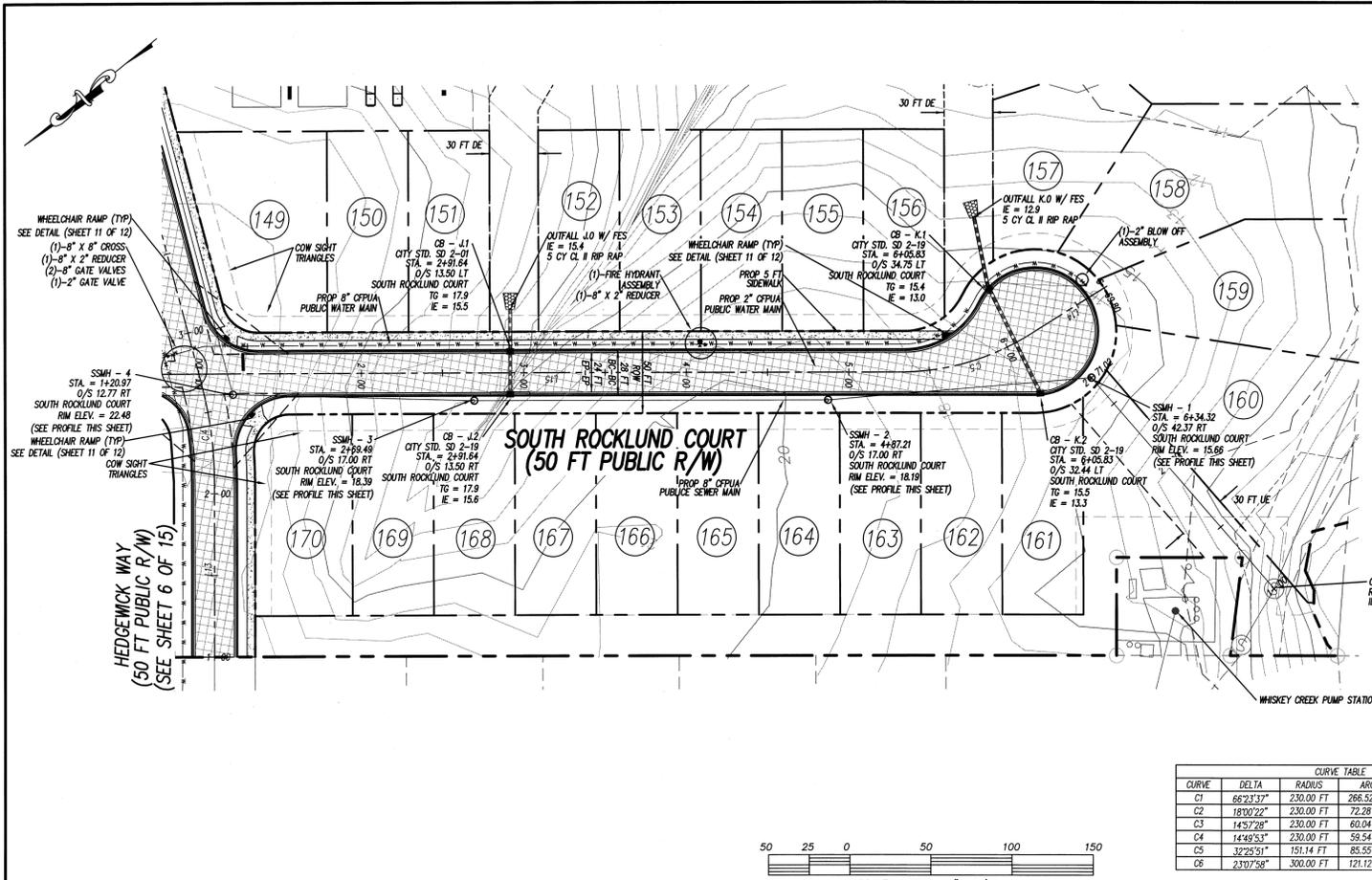
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 STATION 1+00.00 THROUGH END  
**SEWER EXTENSION**

PLANS & PROFILES FOR  
**THE CREEK AT WILLOWICK**  
 LOCATED IN MASONBORO TOWNSHIP  
 NEW HANOVER COUNTY, NORTH CAROLINA  
 OWNER: TSY DEVELOPERS, INC.  
 1904 EASTWOOD ROAD, SUITE 212  
 WILMINGTON, NC 28403



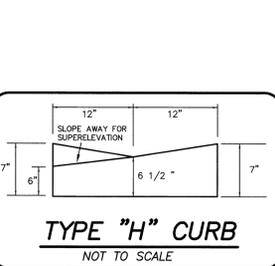
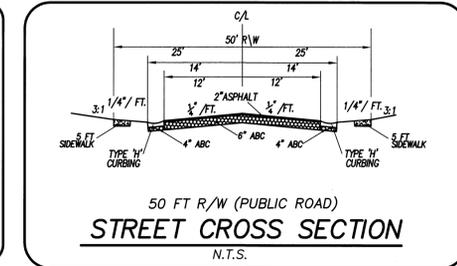
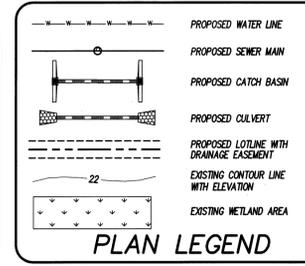
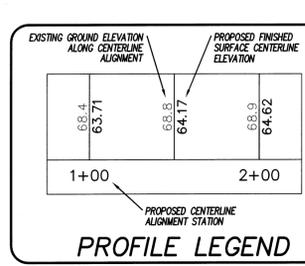
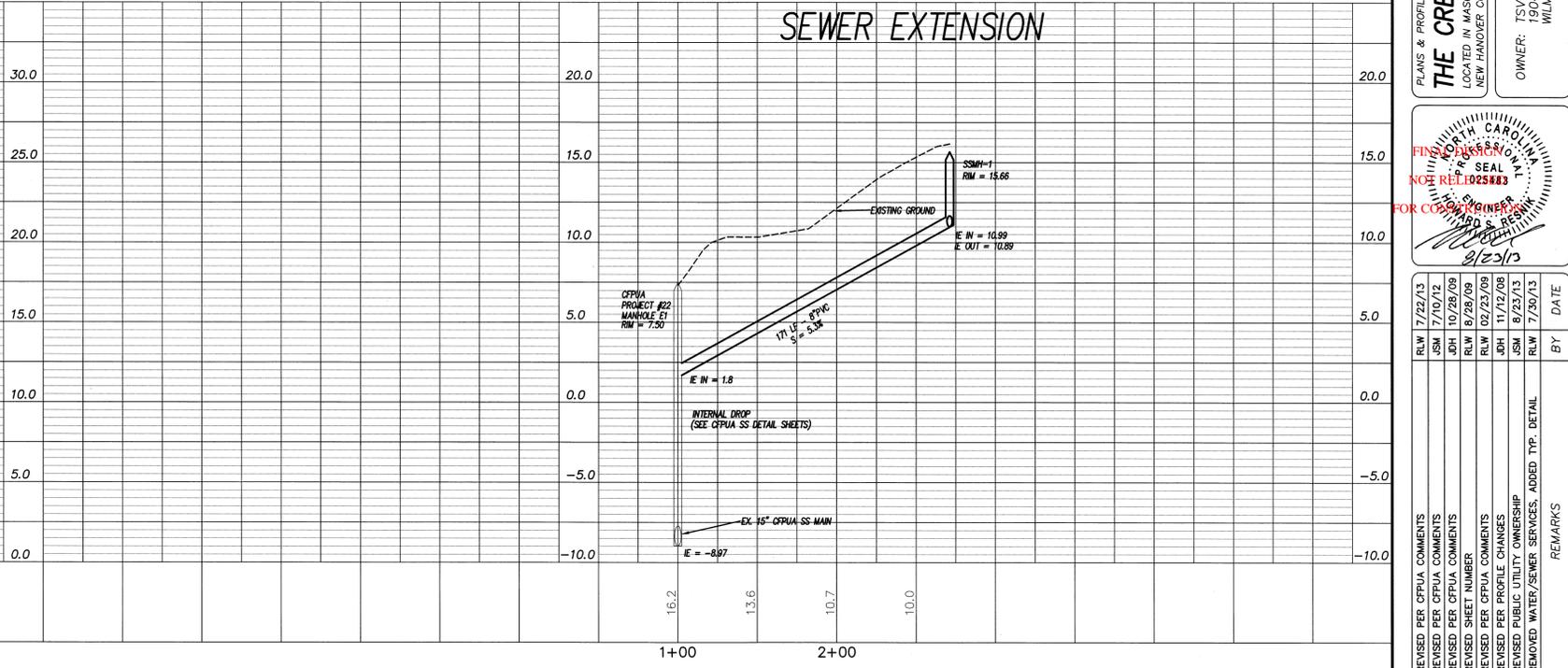
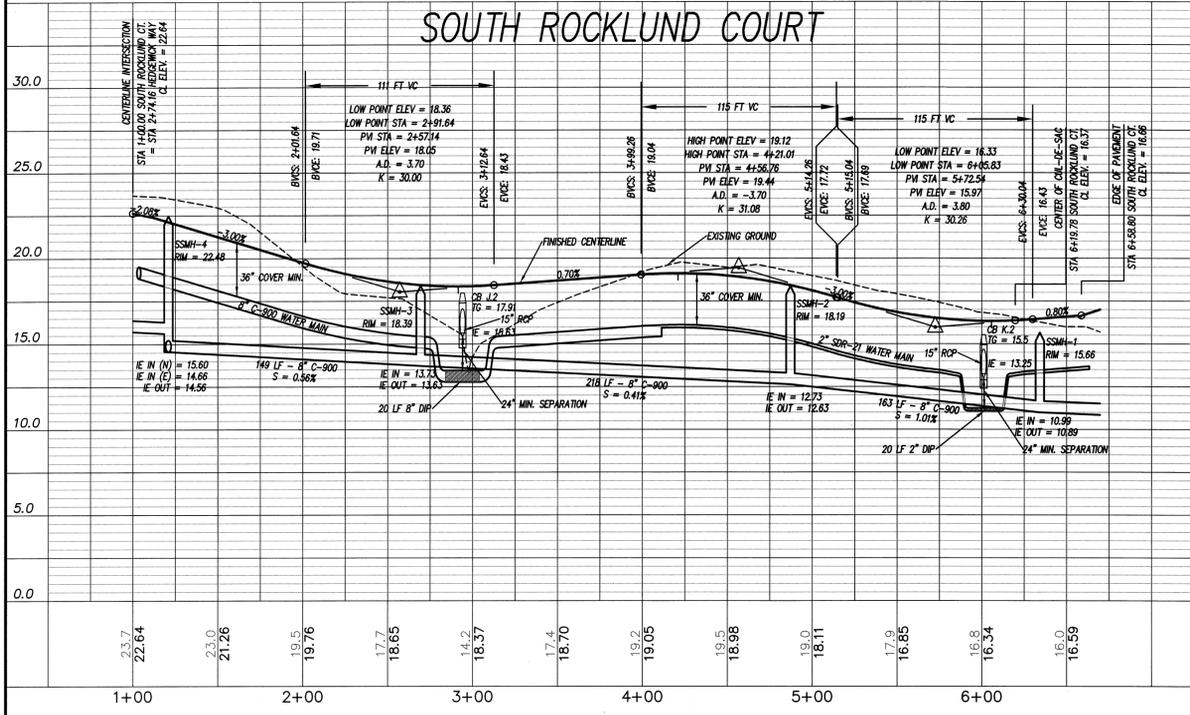
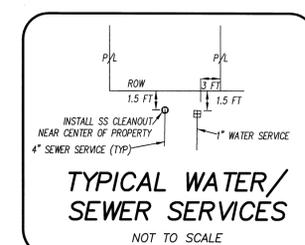
REV.	NO.	DATE	BY	REMARKS
8	7/22/13	JSM		REVISED PER CFPUA COMMENTS
7	7/10/12	JSM		REVISED PER CFPUA COMMENTS
6	10/28/09	JSM		REVISED SHEET NUMBER
5	8/28/09	JSM		REVISED PER CFPUA COMMENTS
4	02/23/09	JSM		REVISED PER PROFILE CHANGES
3	11/12/08	JSM		REVISED PUBLIC UTILITY OWNERSHIP
2	8/23/13	JSM		REVISED WATER/SEWER SERVICES, ADDED TYP. DETAIL
1	7/20/13	JSM		REVISED PER CFPUA COMMENTS

DATE: 3-20-08  
 HORZ. SCALE: 1" = 50'  
 VERT. SCALE: 1" = 5'  
 DRAWN BY: JSL  
 CHECKED BY: HSR  
 PROJECT NO. 04-011  
 DRAWING NO. 04-011P1



CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD BRG
C1	66°21'37"	230.00 FT	266.52 FT	150.49 FT	S212°52'E
C2	18°00'22"	230.00 FT	72.28 FT	36.44 FT	N89°15'04"E
C3	14°57'28"	230.00 FT	60.04 FT	30.19 FT	N62°17'32"W
C4	14°49'53"	230.00 FT	59.54 FT	29.94 FT	S62°21'19"E
C5	32°25'51"	151.14 FT	85.55 FT	43.95 FT	S174°26'56"W
C6	23°07'58"	300.00 FT	121.12 FT	61.40 FT	N211°16'22"E

LINE	BEARING	LENGTH
L1	S114°42'27"W	181.62 FT
L2	S84°40'41"E	307.74 FT
L3	S84°45'36"E	25.01 FT
L4	N84°37'44"W	29.24 FT
L5	N81°44'45"W	11.63 FT
L6	N80°14'53"E	239.64 FT
L7	N35°14'47"E	50.00 FT
L8	S35°14'47"W	1603.75 FT
L9	S35°14'47"W	50.00 FT
L10	S84°45'36"E	25.02 FT
L11	N84°48'48"W	81.65 FT
L12	N89°46'16"W	511.39 FT
L13	N84°56'23"W	107.37 FT
L14	S03°15'15"W	50.00 FT
L15	N35°03'37"E	434.25 FT
L16	N35°03'37"E	284.35 FT



- CFPUA STANDARD SEWER NOTES:**
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
  - SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT R/W LINE. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR OR MUST ORIGINATE IN MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
  - ALL SERVICES TING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPXY LINING.
  - 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN.
  - NO FLEXIBLE COUPLINGS SHALL BE USED.

DRAINAGE PLAN  
 APPROVED  
 CITY OF WILMINGTON  
 STORMWATER DISCHARGE  
 PERMIT NOT REQUIRED  
 SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

STORMWATER MANAGEMENT PLAN  
 APPROVED  
 CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT  
 DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_

Approved Construction Plan  
 Name \_\_\_\_\_ Date \_\_\_\_\_  
 Planning \_\_\_\_\_  
 Public Utilities \_\_\_\_\_  
 Traffic \_\_\_\_\_  
 Fire \_\_\_\_\_

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

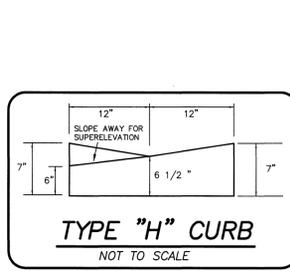
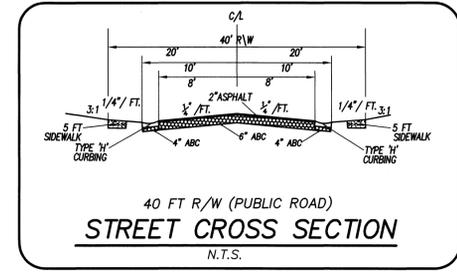
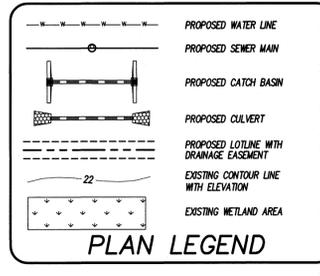
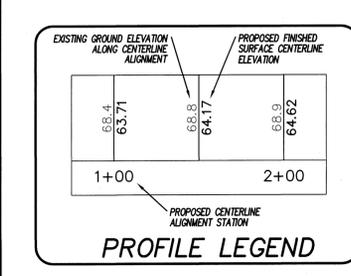
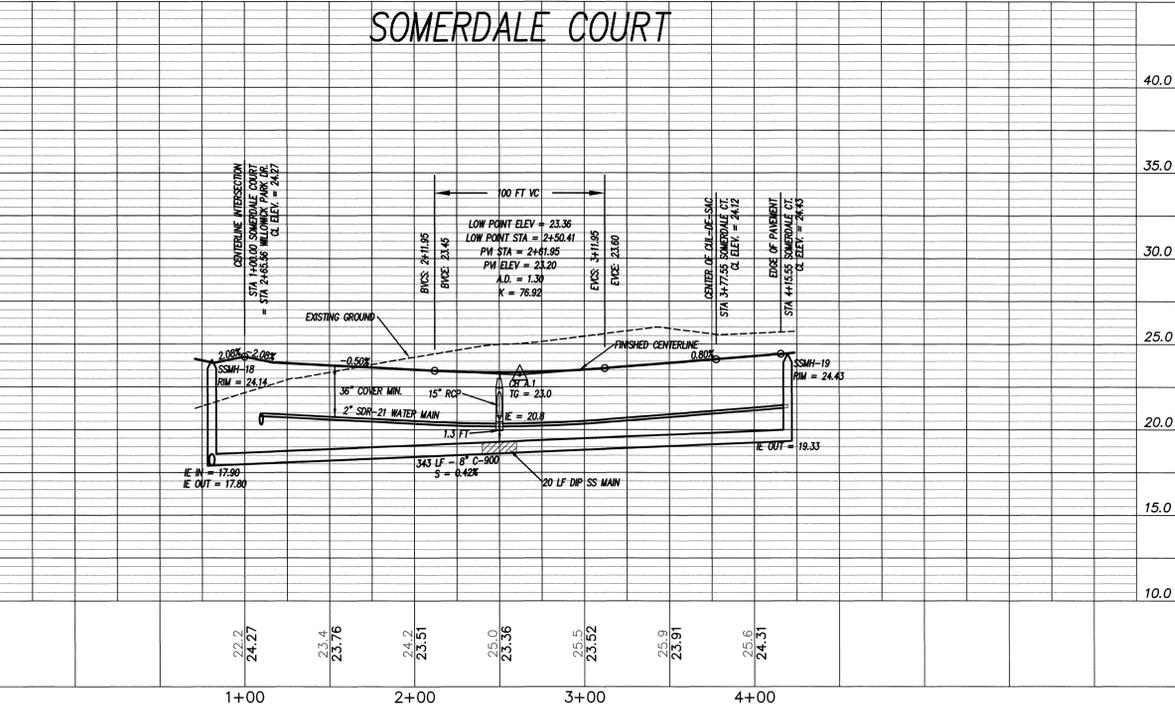
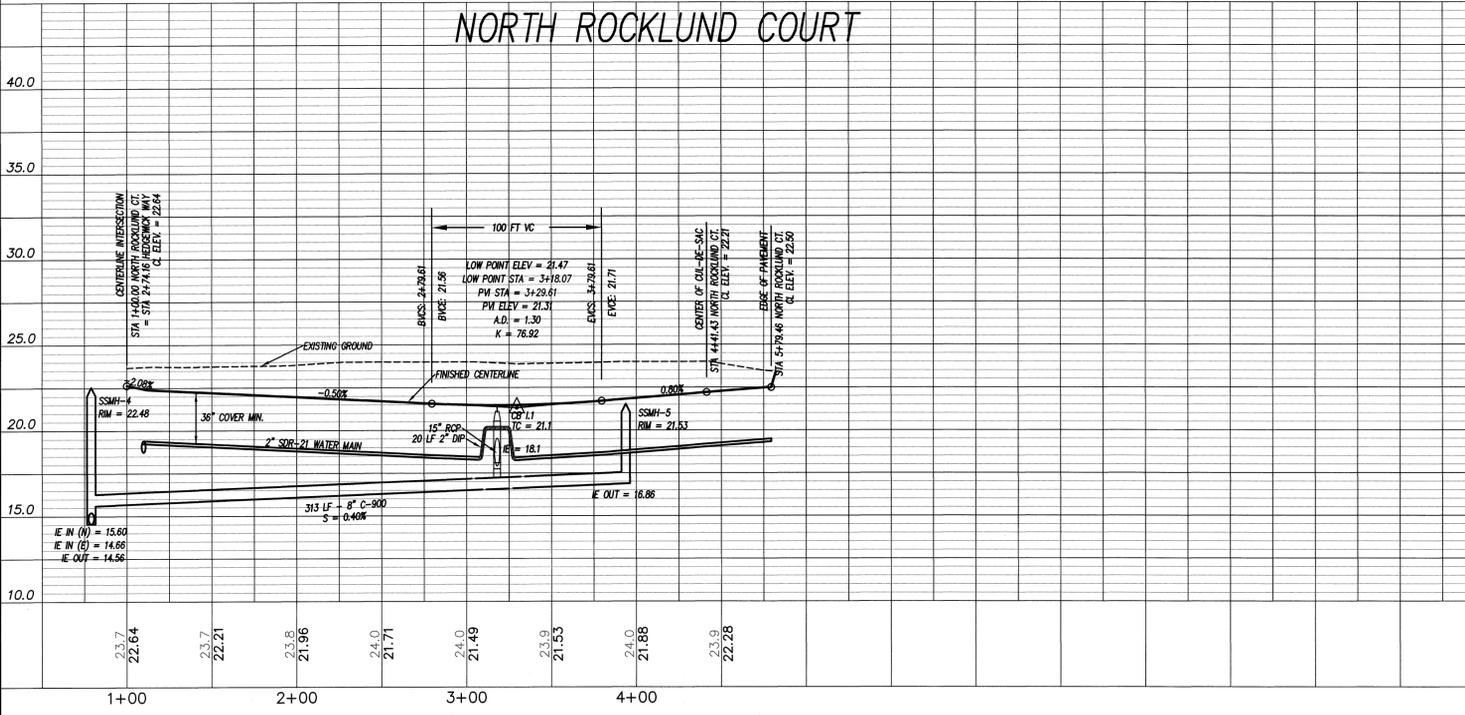
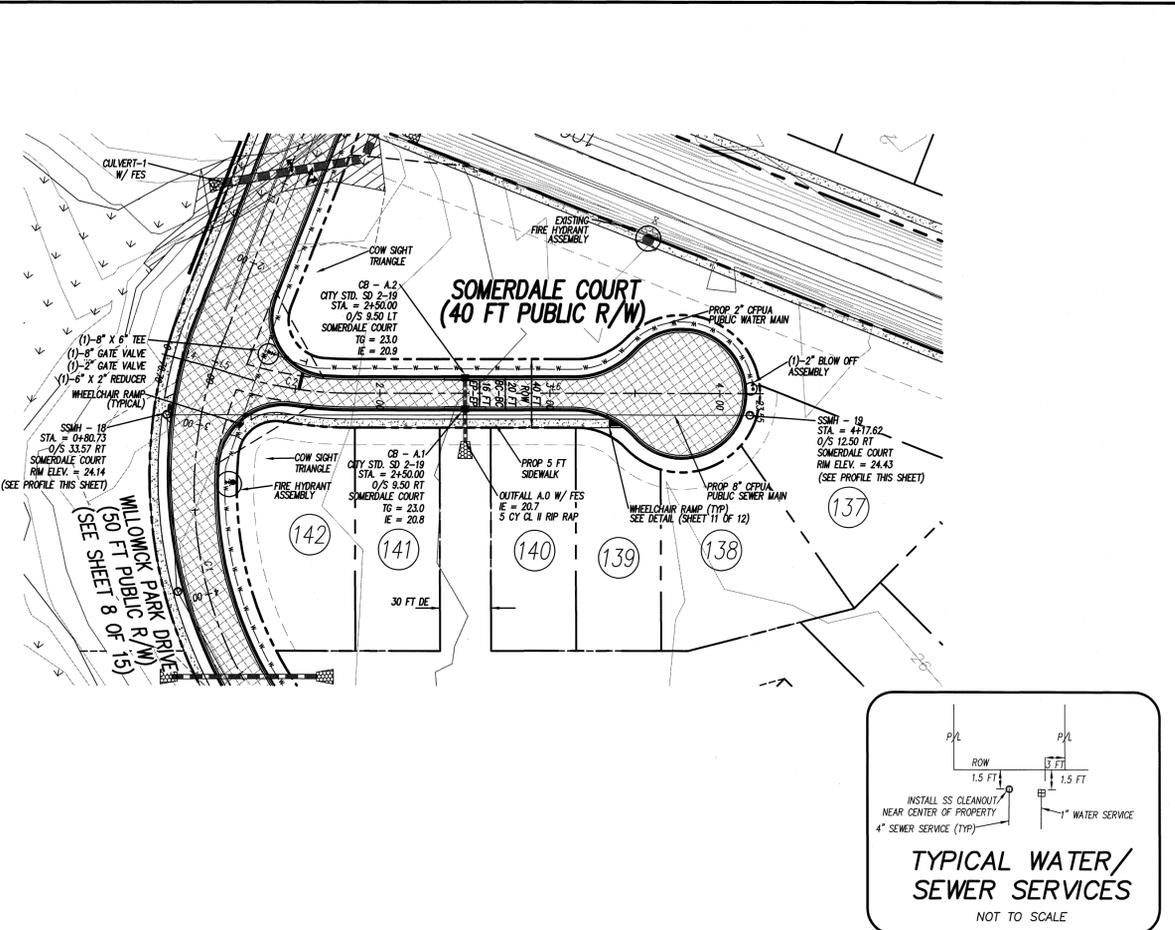
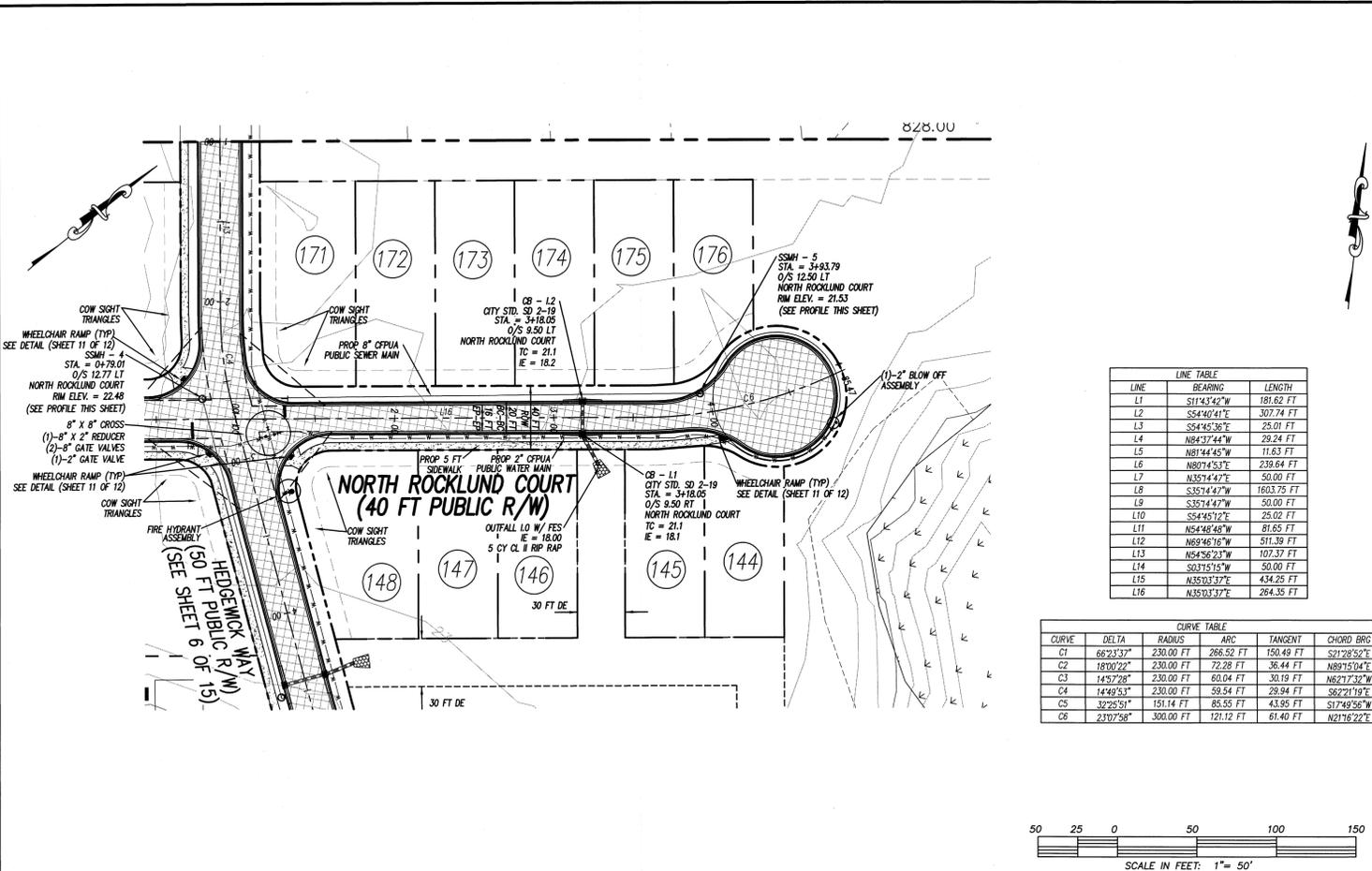
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 NORTH ROCKLUND COURT  
 &  
 STATION +00.00 THROUGH END  
 SOMERDALE COURT

**THE CREEK AT WILLOWICK**  
 LOCATED IN MASONBORO TOWNSHIP  
 NEW HANOVER COUNTY, NORTH CAROLINA  
 OWNER: TSV DEVELOPERS, INC.  
 1904 EASTWOOD ROAD, SUITE 212  
 WILMINGTON, NC 28403



REV. NO.	DATE	REMARKS
8	7/20/13	REMOVED WATER/SEWER SERVICES, ADDED TYP. DETAIL
7	7/22/13	REVISED PER CPDIA
6	7/10/12	REVISED PER CPDIA
5	09/28/09	REVISED SHEET NUMBER
4	02/23/09	REVISED PER PROFILE COMMENTS
3	11/02/08	REVISED PER PROFILE CHANGES
2	9/09/08	REVISED PER WATER AND SEWER SUBMITTALS
1	8/23/13	REVISED PER PUBLIC UTILITY OWNERSHIP

DATE: 3-20-08  
 HORZ. SCALE: 1" = 50'  
 VERT. SCALE: 1" = 5'  
 DRAWN BY: JSL  
 CHECKED BY: HSR  
 PROJECT NO: 04-0011  
 DRAWING NO: 04-0011PP2



**CEPIA STANDARD SEWER NOTES:**

- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
- SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT R/W LINE. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
- ALL SERVICES TYPING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
- 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN.
- NO FLEXIBLE COUPLINGS SHALL BE USED.

**DRAINAGE PLAN APPROVED**  
 CITY OF WILMINGTON  
 STORMWATER DISCHARGE PERMIT NOT REQUIRED

**STORMWATER MANAGEMENT PLAN APPROVED**  
 CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT  
 DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_

**Approved Construction Plan**  
 Name \_\_\_\_\_ Date \_\_\_\_\_  
 Planning \_\_\_\_\_  
 Public Utilities \_\_\_\_\_  
 Traffic \_\_\_\_\_  
 Fire \_\_\_\_\_

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

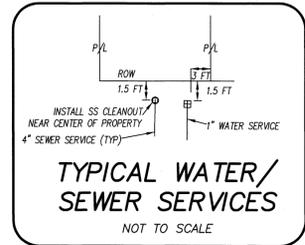
STATION 1+00.00 THROUGH END  
**HEDGEWICK WAY**

**THE CREEK AT WILLOWICK**  
 LOCATED IN MASONBORO TOWNSHIP  
 NEW HANOVER COUNTY, NORTH CAROLINA  
 OWNER: TSV DEVELOPERS, INC., SUITE 212  
 1904 EASTWOOD ROAD, WILMINGTON, NC 28403



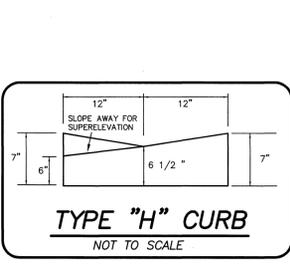
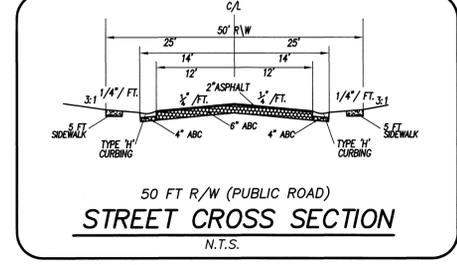
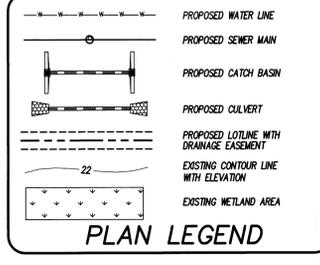
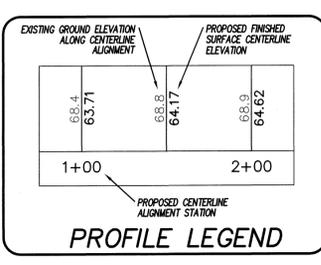
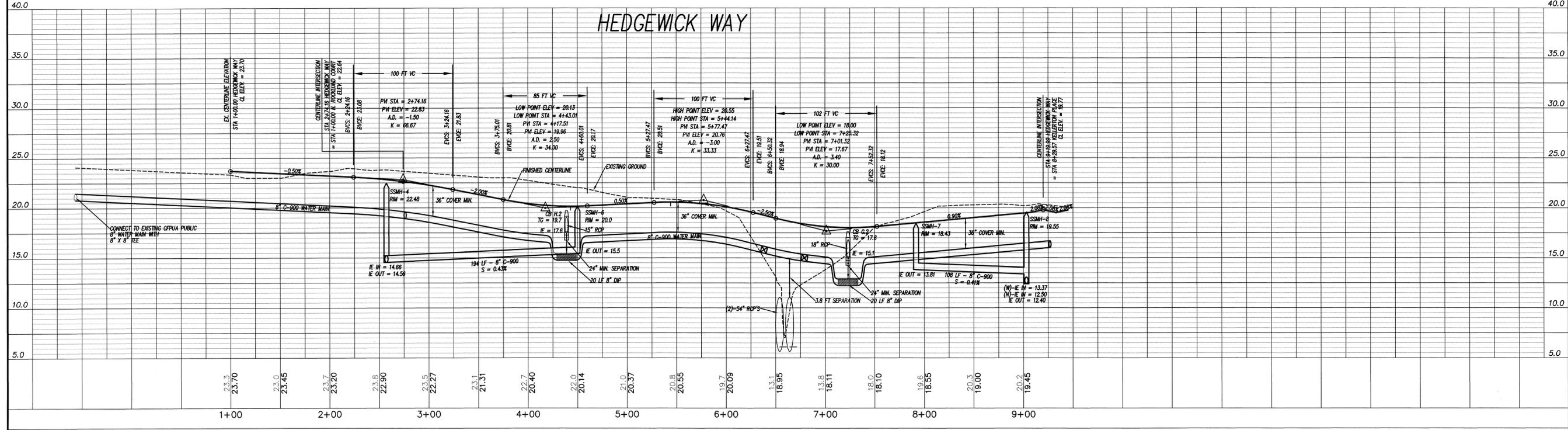
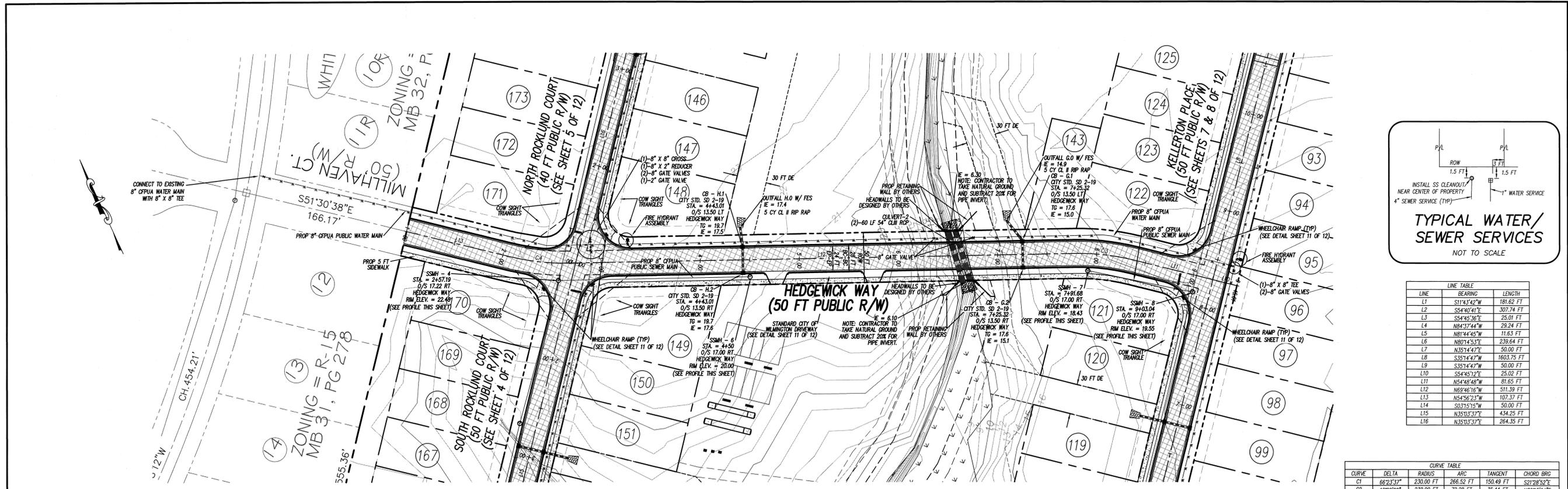
REV. NO.	DATE	BY	REMARKS
1	7/22/13	JSL	REVISED PER CPPIA COMMENTS
2	7/10/12	JSL	REVISED PER CPPIA COMMENTS
3	10/28/09	JSL	REVISED PER CPPIA COMMENTS
4	08/28/08	JSL	REVISED PER CPPIA COMMENTS
5	02/23/08	JSL	REVISED PER PROFILE CHANGES
6	11/21/06	JSL	REVISED PER PUBLIC UTILITY OWNERSHIP
7	8/23/03	JSL	REVISED WATER/SEWER SERVICES, ADDED TYP. DETAIL
8			
9			

DATE: 3-20-08  
 HORZ. SCALE: 1" = 50'  
 VERT. SCALE: 1" = 5'  
 DRAWN BY: JSL  
 CHECKED BY: HSR  
 PROJECT NO: 04-0011  
 DRAWING NO: 04-0011PP3



LINE	BEARING	LENGTH
L1	S11°14'22"W	181.62 FT
L2	SS°40'41"E	307.74 FT
L3	SS°45'36"E	25.01 FT
L4	N8°37'44"W	28.24 FT
L5	N81°44'45"W	11.63 FT
L6	N80°14'53"E	239.64 FT
L7	S32°14'47"E	50.00 FT
L8	S32°14'47"E	1603.75 FT
L9	S35°14'47"W	50.00 FT
L10	SS°45'12"E	25.02 FT
L11	N5°48'48"W	81.65 FT
L12	N69°46'16"W	511.39 FT
L13	N5°48'23"W	107.37 FT
L14	S03°15'15"W	50.00 FT
L15	N33°01'31"E	434.25 FT
L16	N33°01'31"E	284.35 FT

CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD BRG
C1	66°23'37"	230.00 FT	266.32 FT	150.49 FT	S21°28'52"E
C2	18°00'22"	230.00 FT	72.28 FT	36.44 FT	N89°15'54"E
C3	14°52'28"	230.00 FT	60.04 FT	30.19 FT	N82°17'32"W
C4	14°49'53"	230.00 FT	58.54 FT	29.94 FT	S82°21'19"E
C5	32°28'51"	151.14 FT	85.55 FT	43.95 FT	S17°49'56"W
C6	23°02'58"	300.00 FT	121.12 FT	61.40 FT	N21°16'22"E



**CPPIA STANDARD SEWER NOTES:**

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- 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN.
- NO FLEXIBLE COUPLINGS SHALL BE USED.

**DRAINAGE PLAN APPROVED**  
 CITY OF WILMINGTON  
 STORMWATER DISCHARGE PERMIT NOT REQUIRED  
 SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

**STORMWATER MANAGEMENT PLAN APPROVED**  
 CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT  
 DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_

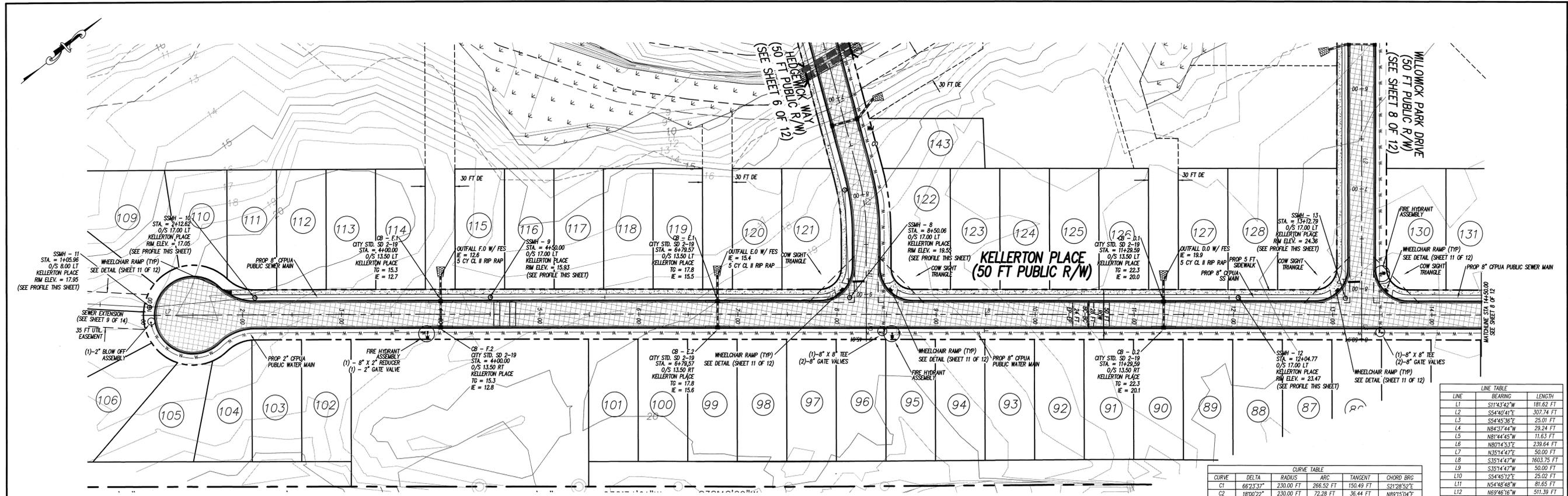
**Approved Construction Plan**  
 Name \_\_\_\_\_ Date \_\_\_\_\_  
 Planning \_\_\_\_\_  
 Public Utilities \_\_\_\_\_  
 Traffic \_\_\_\_\_  
 Fire \_\_\_\_\_

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



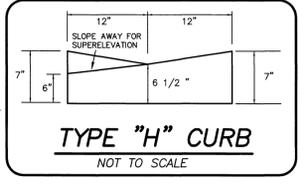
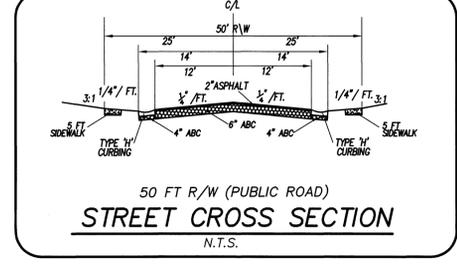
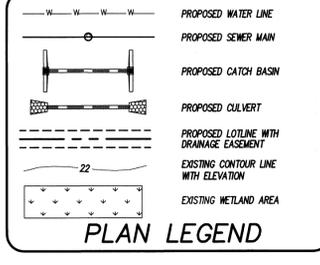
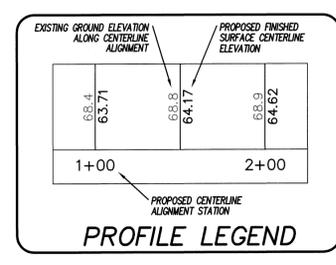
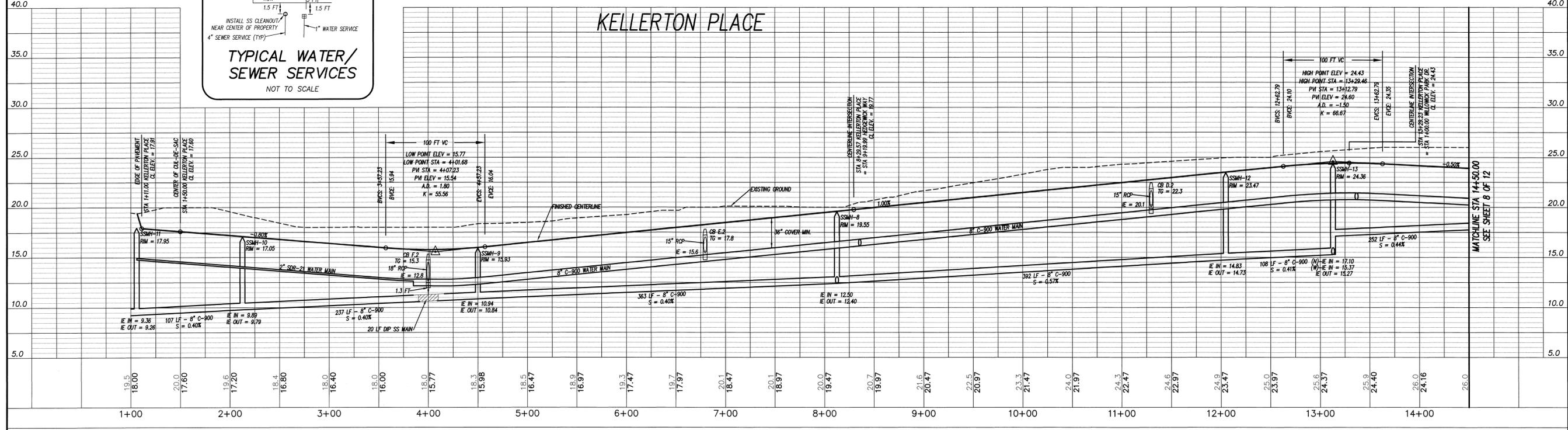
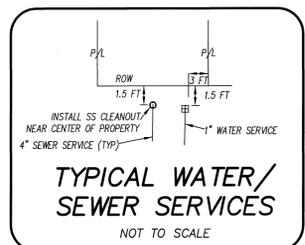
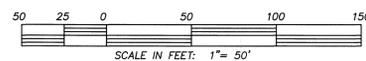
REV.	DATE	BY	REMARKS
8	7/30/13	JSL	REMOVED WATER/SEWER SERVICES, ADDED TYP. DETAIL
7	7/22/13	JSL	REVISED PER COMMENTS FROM CFPWA
6	7/10/12	JSL	REVISED SHEET NUMBER FROM CFPWA
5	02/23/08	JSL	REVISED PER COMMENTS FROM CFPWA
4	02/23/08	JSL	REVISED PER PROFILE CHANGES
3	11/21/08	JSL	REVISED PER WATER AND SEWER SUBMITTALS
2	9/09/08	JSL	REVISED PER PUBLIC UTILITY OWNERSHIP
1	8/23/07	JSL	

DATE: 3-20-08  
 HORZ. SCALE: 1" = 50'  
 VERT. SCALE: 1" = 5'  
 DRAWN BY: JSL  
 CHECKED BY: HSR  
 PROJECT NO.: 04-0011  
 DRAWING NO.: 04-0011PP4  
 Sheet No. **7** of **12**



CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD BRG
C1	66°23'37"	230.00 FT	266.52 FT	150.49 FT	S21°28'52"E
C2	18°00'22"	230.00 FT	72.28 FT	36.44 FT	N89°15'04"E
C3	14°57'28"	230.00 FT	60.04 FT	30.19 FT	N62°17'32"W
C4	14°49'53"	230.00 FT	59.54 FT	29.94 FT	S62°21'19"E
C5	32°25'51"	151.41 FT	65.55 FT	43.95 FT	S17°49'36"W
C6	23°07'58"	300.00 FT	121.12 FT	61.40 FT	N21°16'22"E

LINE	BEARING	LENGTH
L1	S11°41'42"W	181.62 FT
L2	S54°40'41"E	307.74 FT
L3	S54°45'36"E	25.01 FT
L4	N84°37'44"W	29.24 FT
L5	N87°44'45"W	11.63 FT
L6	N87°14'53"E	239.64 FT
L7	N35°14'47"E	50.00 FT
L8	S35°14'47"W	1603.75 FT
L9	S35°14'47"W	50.00 FT
L10	S54°45'12"E	25.02 FT
L11	N54°48'48"W	81.65 FT
L12	N69°46'16"W	511.39 FT
L13	N54°56'23"W	107.37 FT
L14	S0°15'15"W	50.00 FT
L15	N35°13'37"E	434.25 FT
L16	N35°13'37"E	264.35 FT



- CFPWA STANDARD SEWER NOTES:**
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
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  - ALL SERVICES TYPING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CEMENT EPOXY LINING.
  - 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN.
  - NO FLEXIBLE COUPLINGS SHALL BE USED.

**DRAINAGE PLAN APPROVED**  
 CITY OF WILMINGTON  
 STORMWATER DISCHARGE PERMIT NOT REQUIRED  
 SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

**STORMWATER MANAGEMENT PLAN APPROVED**  
 CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT  
 DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_

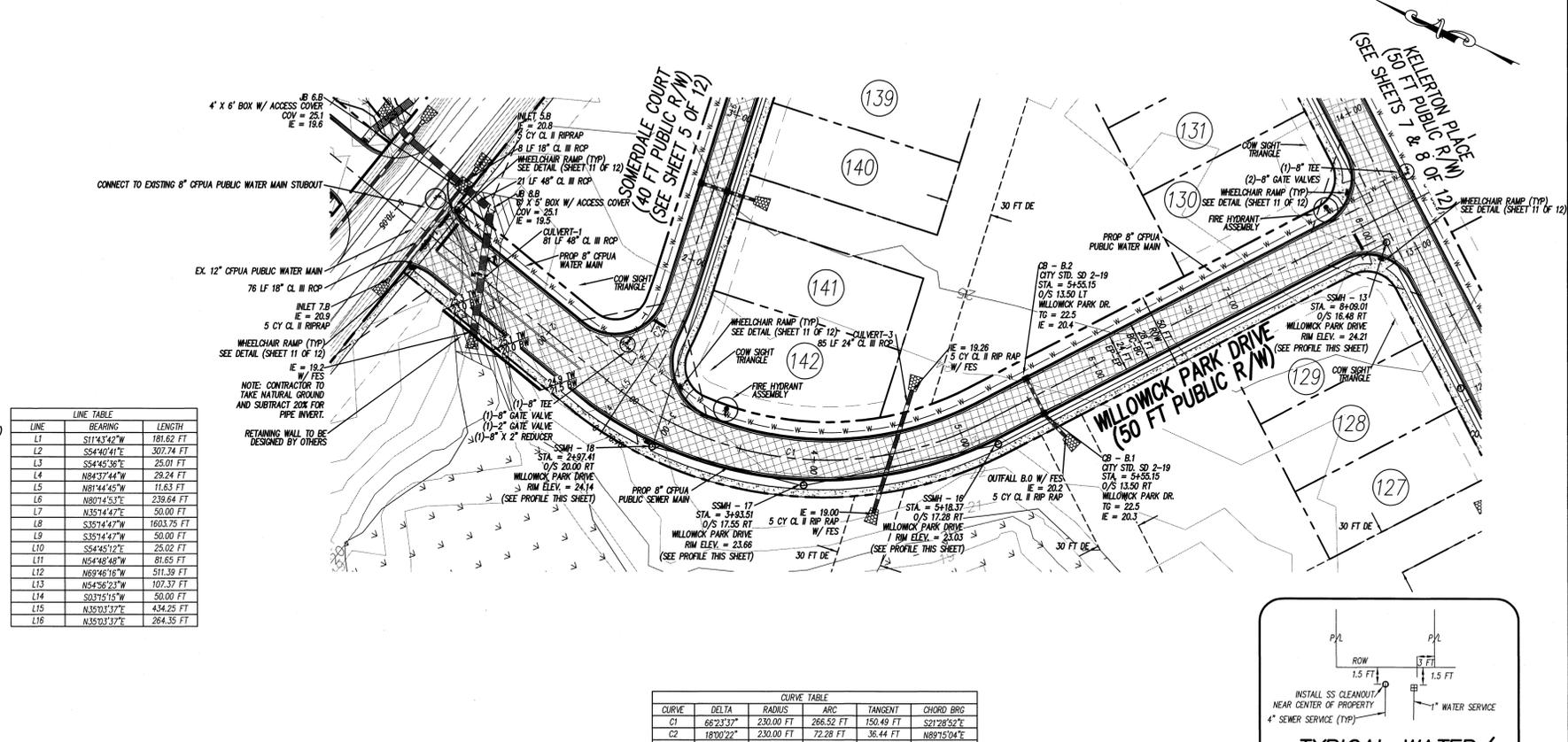
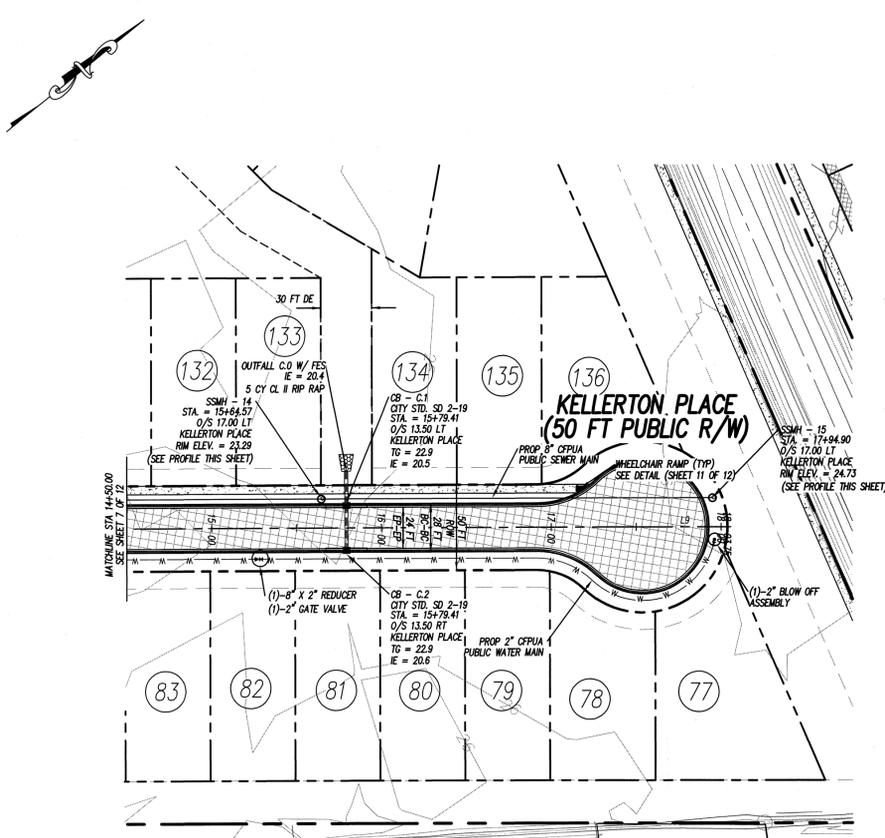
**Approved Construction Plan**  
 Name \_\_\_\_\_ Date \_\_\_\_\_  
 Planning \_\_\_\_\_  
 Public Utilities \_\_\_\_\_  
 Traffic \_\_\_\_\_  
 Fire \_\_\_\_\_

STATION 14+50.00 THROUGH END  
**KELLERTON PLACE**  
 &  
 STATION 1+00.00 THROUGH END  
**WILLOWICK PARK DRIVE**

**THE CREEK AT WILLOWICK**  
 LOCATED IN MASONBORO TOWNSHIP  
 NEW HANOVER COUNTY, NORTH CAROLINA  
 OWNER: TSV DEVELOPERS, INC.  
 1904 EASTWOOD ROAD, SUITE 212  
 WILMINGTON, NC 28403

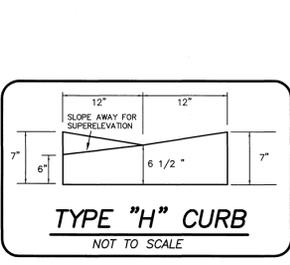
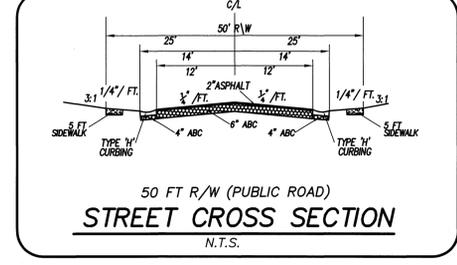
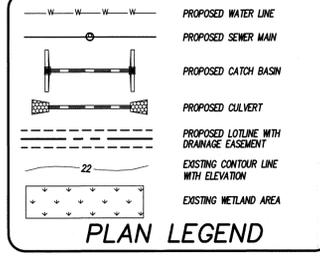
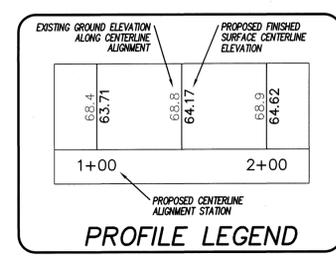
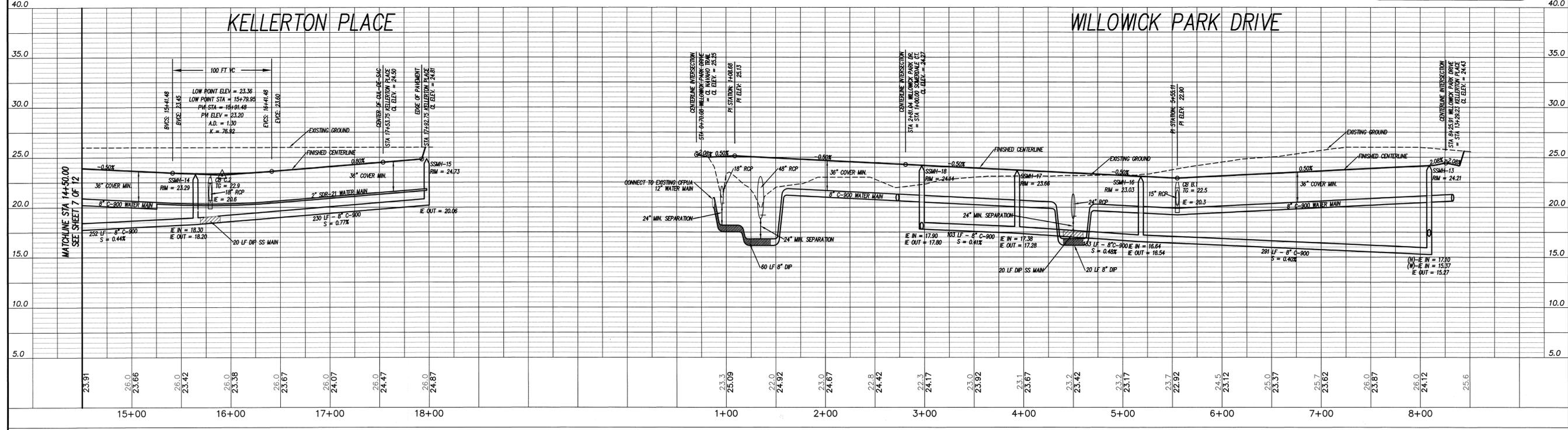
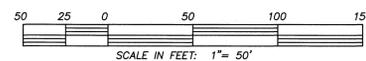
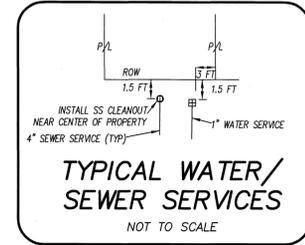


REVISED PER CP/PLA COMMENTS	REVISED SHEET NUMBER	REVISED DATE	BY	DATE	REMARKS
8	7	7/22/13	JSL		
7	6	7/10/12	JSL		
6	5	08/19/09	JSL		
5	4	07/17/08	JSL		
4	3	11/12/06	JSL		
3	2	09/09/06	JSL		
2	1	09/23/03	JSL		
1	0	07/30/03	JSL		



LINE	BEARING	LENGTH
L1	S11°43'42"W	181.62 FT
L2	S54°40'41"E	302.74 FT
L3	S54°45'36"E	25.01 FT
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L5	N80°44'45"W	11.63 FT
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L7	S35°14'47"E	50.00 FT
L8	S35°14'47"W	1603.75 FT
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L15	N35°01'37"E	434.25 FT
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CURVE	DELTA	RADIUS	ARC	TANGENT	CHORD BRG
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C3	143°7'28"	230.00 FT	60.04 FT	30.19 FT	N82°17'32"W
C4	14°49'53"	230.00 FT	58.54 FT	29.94 FT	S82°21'19"E
C5	32°25'51"	151.14 FT	85.55 FT	43.95 FT	S174°56'56"W
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- 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN.
- NO FLEXIBLE COUPLINGS SHALL BE USED.

**DRAINAGE PLAN APPROVED**  
 CITY OF WILMINGTON  
 STORMWATER DISCHARGE PERMIT NOT REQUIRED  
 SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

**STORMWATER MANAGEMENT PLAN APPROVED**  
 CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT  
 DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_

**Approved Construction Plan**  
 Name \_\_\_\_\_ Date \_\_\_\_\_  
 Planning \_\_\_\_\_  
 Public Utilities \_\_\_\_\_  
 Traffic \_\_\_\_\_  
 Fire \_\_\_\_\_

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

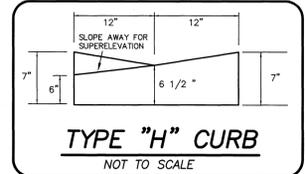
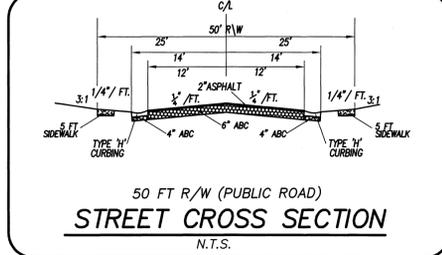
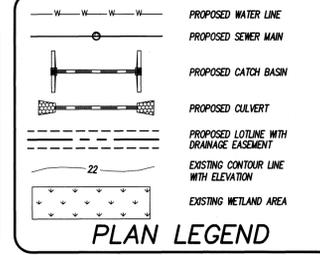
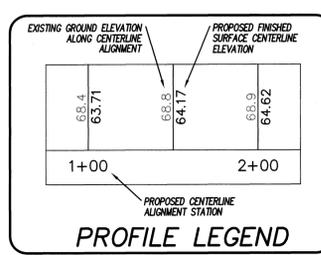
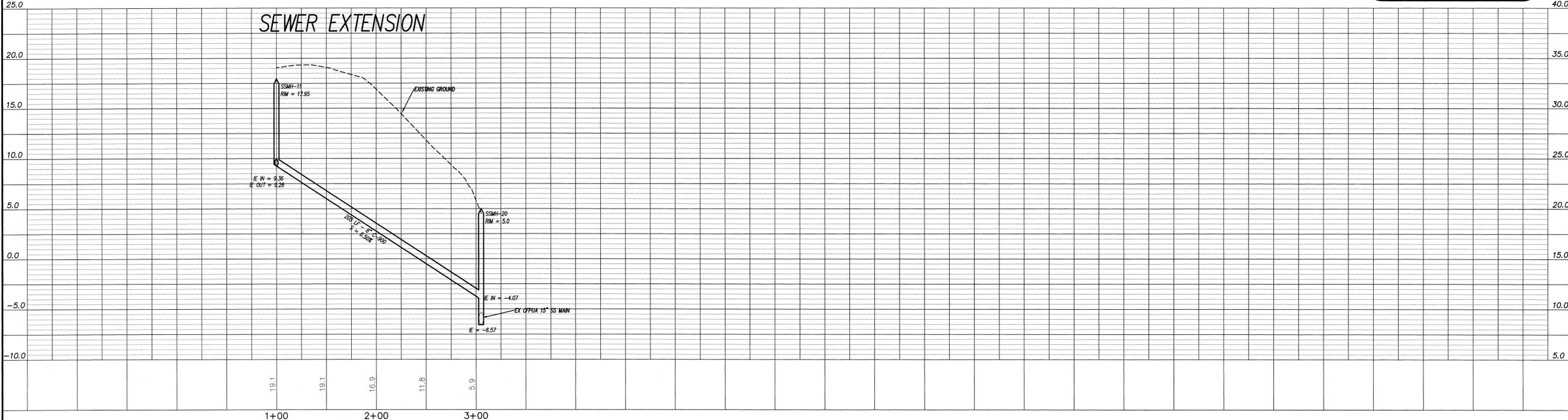
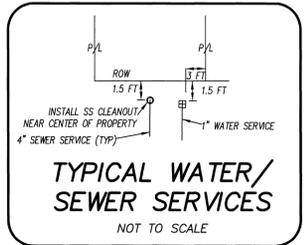
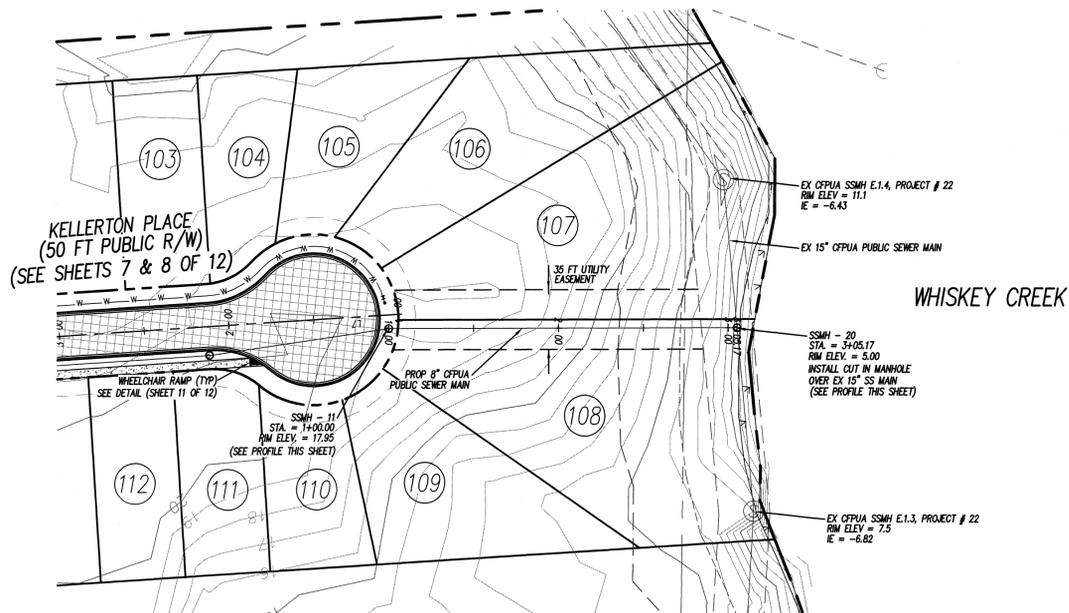
STATION 1+00.00 THROUGH END  
 SEWER EXTENSION

PLANS & PROFILES for  
**THE CREEK AT WILLOWICK**  
 LOCATED IN MASONBORO TOWNSHIP  
 NEW HANOVER COUNTY, NORTH CAROLINA  
 OWNER: TSV DEVELOPERS, INC.  
 1904 EASTWOOD ROAD, SUITE 212  
 WILMINGTON, NC 28403



REV. NO.	REMARKS	DATE
7	REVISED PER PUBLIC UTILITY OWNERSHIP	8/23/13
6	REMOVED WATER/SEWER SERVICES; ADDED TYP. DETAIL	7/30/13
5	REVISED PER CFPUA COMMENTS	7/22/13
4	ADDED LICENSE NUMBER	7/10/13
3	REVISED SHEET NUMBER	08/28/09
2	REVISED PER PROFILE CHANGES	11/12/08
1	REVISED PER WATER AND SEWER SUBMITTALS	9/09/08

DATE: 3-20-08  
 HORZ. SCALE: 1" = 50'  
 VERT. SCALE: 1" = 5'  
 DRAWN BY: JSL  
 CHECKED BY: HSR  
 PROJECT NO.: 040011  
 Sheet No. **9** of **12**



- CFPUA STANDARD SEWER NOTES:**
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
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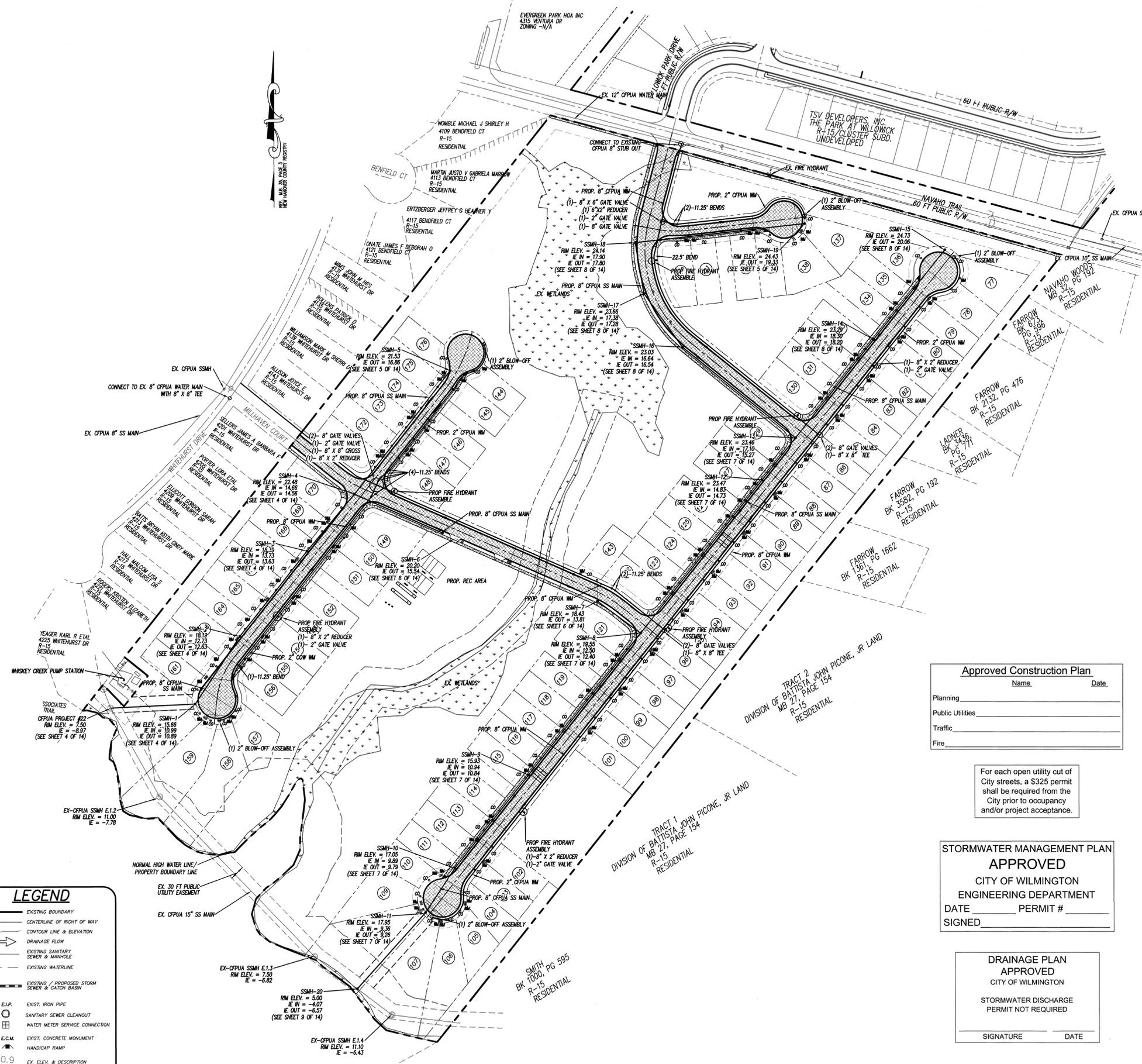
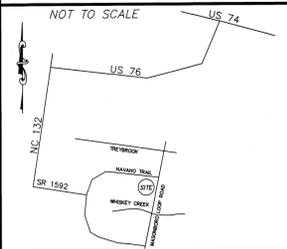
**DRAINAGE PLAN APPROVED**  
 CITY OF WILMINGTON  
 STORMWATER DISCHARGE PERMIT NOT REQUIRED  
 SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

**STORMWATER MANAGEMENT PLAN APPROVED**  
 CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT  
 DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_

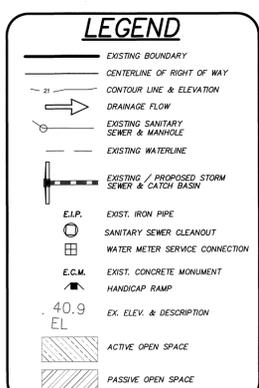
**Approved Construction Plan**  
 Name \_\_\_\_\_ Date \_\_\_\_\_  
 Planning \_\_\_\_\_  
 Public Utilities \_\_\_\_\_  
 Traffic \_\_\_\_\_  
 Fire \_\_\_\_\_

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

# LOCATION MAP



- ### UTILITY NOTES:
- PROJECT SHALL COMPLY WITH THE CPVIA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE SET AND ACTIVATED ON NEW MAINS UNTIL ALL REQUIREMENTS ARE MET. CALL 789-0264 FOR INFORMATION.
  - IF THE CONTRACTOR DESIRES CPVIA WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
  - ALL COMMERCIAL WATER SERVICES AND ANY IRRIGATION SYSTEMS SUPPLIED BY CPVIA WATER SHALL HAVE A BACKFLOW PREVENTION DEVICE ACCEPTABLE TO THE CITY AND APPROVED BY USFCO/COCHRAN OR ASSC. CALL 343-3910 FOR INFORMATION.
  - WHEN PVC WATER MAINS AND/OR POLYETHYLENE SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED COPPER WIRE INSTALLED THE ENTIRE LENGTH AND STRAPPED TO THE PIPES WITH DUCT TAPE. THE INSULATED WIRE IS TO BE STRIPPED TO BARE WIRE AND SECURED TO ALL VALVES AND FITTINGS. THE WIRE IS TO BE ACCESSIBLE AT ALL FIRE HYDRANTS AND WATER METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
  - 36" MINIMUM COVER OVER ALL WATER MAINS.
  - ANY SEPARATE CONNECTION FOR IRRIGATION SHALL COMPLY WITH CPVIA CROSS-CONNECTION REQUIREMENTS WITH APPROVED BACKFLOW PREVENTION DEVICES.
  - AT LOCATIONS WHERE WATER MAIN CROSSES UNDER STORM SEWER, A MINIMUM OF 18" VERTICAL SEPARATION SHALL BE PROVIDED.
  - ALL WATER MAINS TO BE C-900.
  - EASEMENTS FROM ADJACENT PROPERTY TO BE OBTAINED FOR SERVICE LINE LOCATIONS.
  - WATER AND SEWER SERVICES CANNOT BE ACTIVATED ON NEW MAINS UNTIL ENGINEER'S CERTIFICATION AND AS-BUILTS ARE RECEIVED AND FINAL APPROVAL ISSUED BY PUBLIC WATER SUPPLY SECTION OF MODERN AND FINAL ENGINEERING CERTIFICATION ISSUED BY DIVISION OF WATER QUALITY OF MODERN.
  - LANDSCAPING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3 FT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE FDC AND FIRE HYDRANT.
  - HYDRANTS MUST BE LOCATED WITHIN 8 FT OF THE CURB.
  - NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDINGS.
  - CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
  - TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
  - A 10 FT NON-MUNICIPAL UTILITY EASEMENT IS TO BE PROVIDED TO THE OUTSIDE OF ALL RIGHTS OF WAY.



**Approved Construction Plan**

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Public Utilities \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

**STORMWATER MANAGEMENT PLAN APPROVED**

CITY OF WILMINGTON  
ENGINEERING DEPARTMENT

DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_

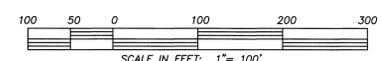
SIGNED \_\_\_\_\_

**DRAINAGE PLAN APPROVED**

CITY OF WILMINGTON

STORMWATER DISCHARGE PERMIT NOT REQUIRED

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_



**COASTAL SITE DESIGN, PC**  
ENGINEERING  
LAND PLANNING  
COMMERCIAL / RESIDENTIAL  
P.O. Box 4041  
Wilmington, NC 28406  
(910) 791-4441

UTILITY PLAN for  
**THE CREEK AT WILLOWICK**

UTILITY PLAN for  
**THE CREEK AT WILLOWICK**  
LOCATED IN MASONBORO TOWNSHIP  
NEW HANOVER COUNTY, NORTH CAROLINA

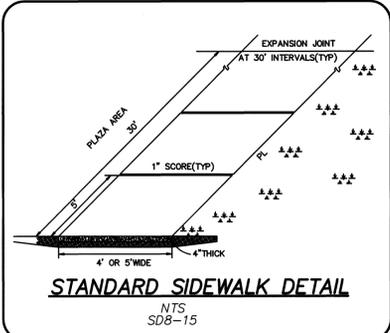
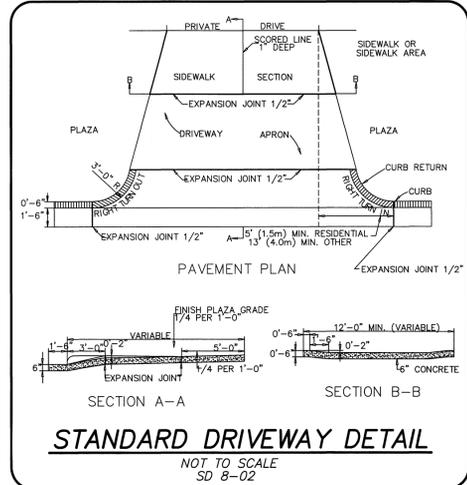
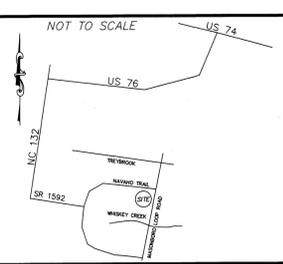
OWNER: TSV DEVELOPERS, INC.  
1504 WESTWOOD ROAD, SUITE 212  
WILMINGTON, NC 28403

REV. NO.	DATE	BY	REMARKS
1	7/10/12	RLW	
2	10/28/09	JRH	
3	08/28/09	RLW	
4	11/12/08	JRH	
5	09/09/08	JSL	
6	4/24/08	JSL	
7	8/23/13	JSM	
8	7/22/13	JSM	

DATE: 05-03-07  
HORZ. SCALE: 1" = 100'  
DRAWN BY: CSH  
CHECKED BY: HSR  
PROJECT NO: 04-0011  
DRAWING NO: 04-0011UTL-PH2

Sheet No. **10** Of **12**

# LOCATION MAP



**Approved Construction Plan**

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Public Utilities \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

**DRAINAGE PLAN APPROVED**  
CITY OF WILMINGTON  
STORMWATER DISCHARGE PERMIT NOT REQUIRED  
SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

**STORMWATER MANAGEMENT PLAN APPROVED**  
CITY OF WILMINGTON  
ENGINEERING DEPARTMENT  
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
SIGNED \_\_\_\_\_

**EDGE LINE OFFSET DETAIL**

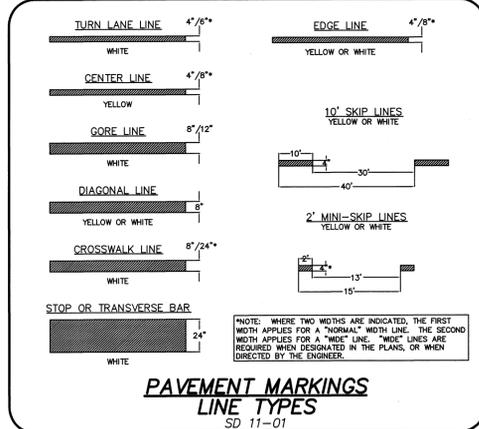
**LANE LINE OFFSET DETAIL**

**CENTER LINE OFFSET DETAIL**

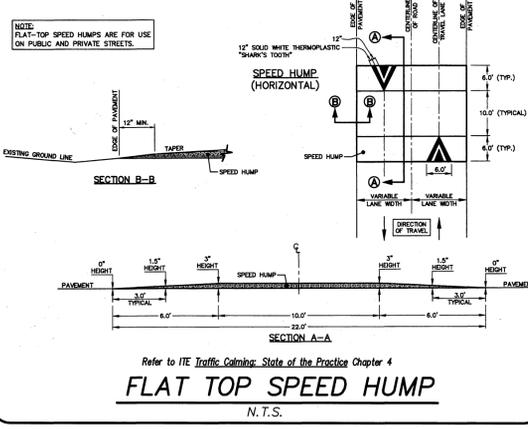
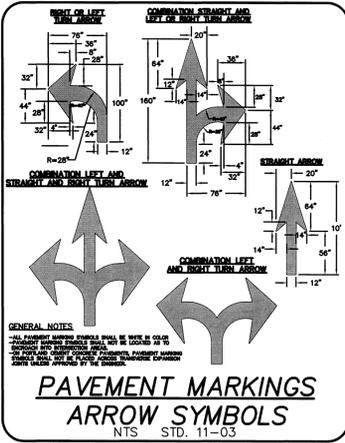
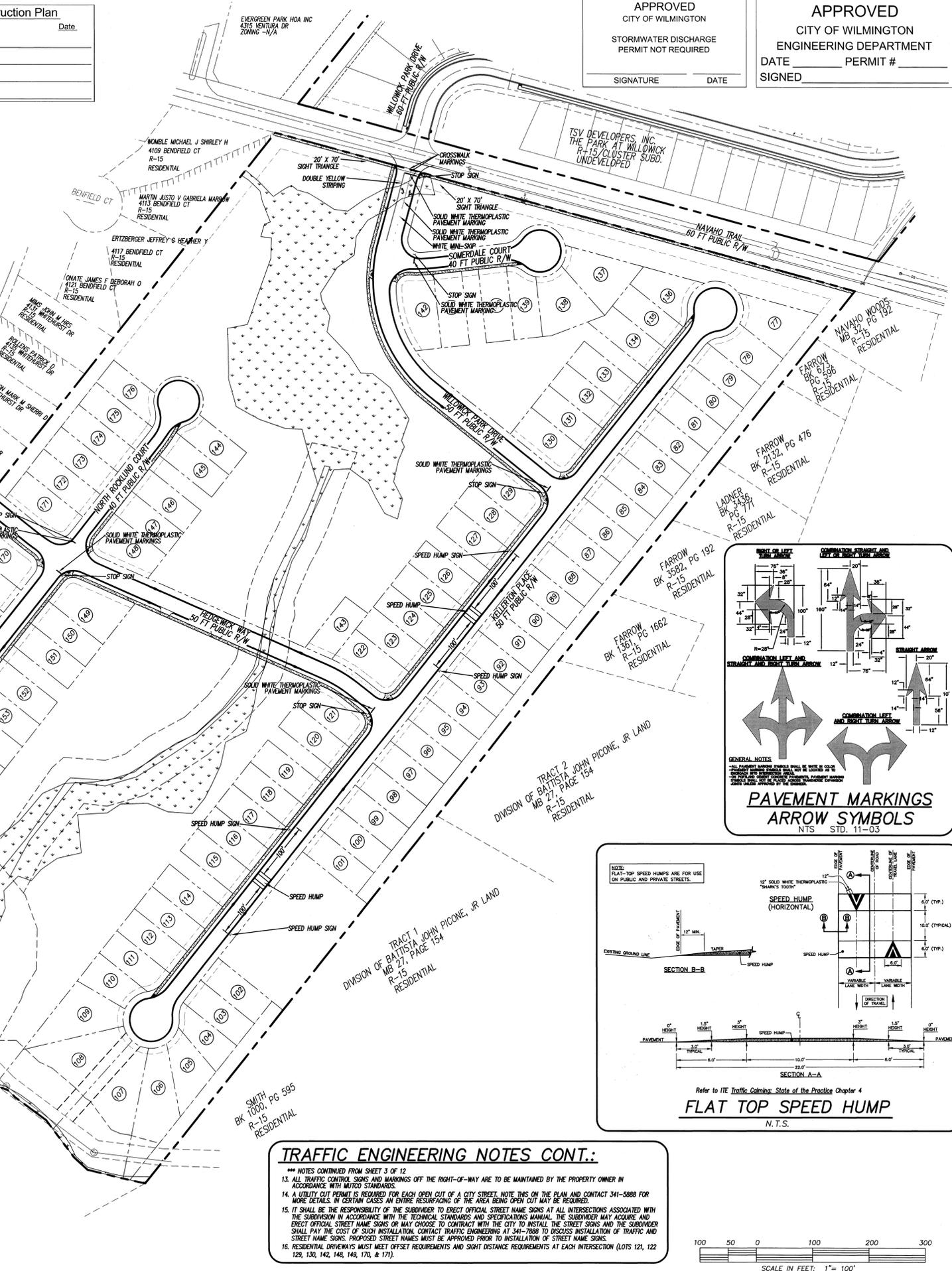
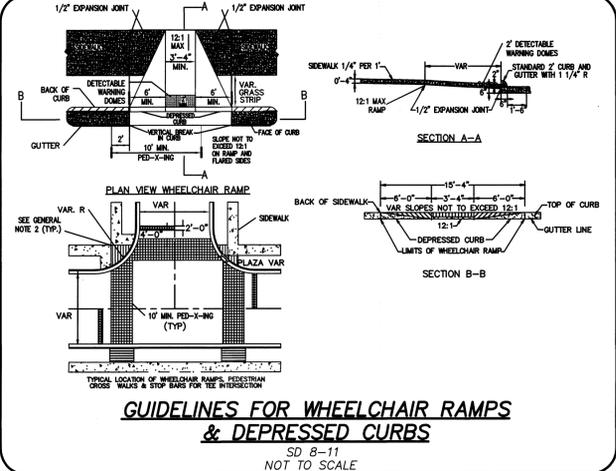
**TABLE 1**  
EDGE LINE OFFSETS FOR 2-LANE, 2-WAY ROADWAYS WITH UN-PAVED SHOULDERS

WIDTH OF TRAVEL PAVEMENT	MAX. EDGE LINE OFFSET FROM E. O. P.	MINIMUM LANE WIDTH
16' - 20'	2'	8' - 10'
22'	2'	11'
24'	2'	11'
26'	2'	11'
28'	2'	12'
30'	3'	12'
32'	4'	12'

**PAVEMENT MARKINGS OFFSETS**  
SD 11-02



NOTE: ALL SIGNS MOUNTED AT 7'. CONTACT TRAFFIC ENGINEERING PRIOR TO TRAFFIC SIGN INSTALLATION.



**TRAFFIC ENGINEERING NOTES CONT.:**

\*\*\* NOTES CONTINUED FROM SHEET 3 OF 12

13. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCO STANDARDS.

14. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. NOTE THIS ON THE PLAN AND CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.

15. IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.

16. RESIDENTIAL DRIVEWAYS MUST MEET OFFSET REQUIREMENTS AND SIGHT DISTANCE REQUIREMENTS AT EACH INTERSECTION (LOTS 121, 122, 129, 130, 142, 148, 149, 170, & 171).

**GSD**  
LICENSE # C-2710  
**COASTAL SITE DESIGN, PC**  
ENGINEERING LAND PLANNING COMMERCIAL / RESIDENTIAL  
P.O. Box 4041  
Wilmington, NC 28406  
(910) 791-4441

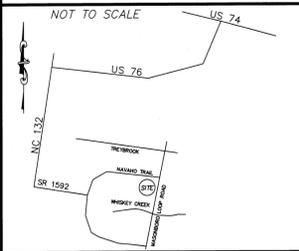
SIGNAGE PLAN for  
**THE CREEK AT WILLOWICK**

SIGNAGE PLAN for  
**THE CREEK AT WILLOWICK**  
LOCATED IN MASONBORO TOWNSHIP  
NEW HANOVER COUNTY, NORTH CAROLINA  
OWNER: TSV DEVELOPERS, INC.  
1904 EASTWOOD ROAD, SUITE 212  
WILMINGTON, NC 28403



REV. NO.	DATE	BY	REMARKS
1	09-09-08	JSL	DATE: 09-09-08
2	07/22/13	JSL	HORZ. SCALE: 1" = 100'
3	07/10/12	RLW	DRAWN BY: JSL
4	08/28/09	RLW	CHECKED BY: HSR
5	11/12/08	JOH	REVISIONS PER LEGEND CHANGES

# LOCATION MAP



## LEGEND

- TOB TOP OF STREAM BANK
- X EXISTING TREE TO BE REMOVED
- EXISTING TREE
- CRITICAL ROOT ZONE
- TREE PROTECTION FENCING
- - - LIMITS OF DISTURBANCE / CLEARING LIMITS

## GENERAL NOTES:

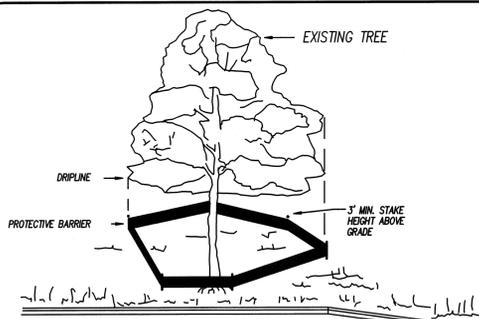
- BOUNDARY AND TREE INFORMATION PREPARED AND PROVIDED BY ARNOLD CARSON, PLS, PC.
- THIS PLAN SHEET DOES NOT PROPORIT TO SHOW ANY DESIGN INFORMATION, BUT RATHER ONLY DISPLAYS THE EXISTING SITE BOUNDARY AND TREES AS PROVIDED BY THE SURVEYOR.

## ENVIRONMENTAL NOTES:

- ALL SIGNIFICANT TREES ON SITE ARE TO BE RETAINED OR MITIGATED.
- NO LAND DISTURBANCE IS PERMITTED OUTSIDE THE DESIGNATED LIMITS OF DISTURBANCE FOR SITE IMPROVEMENTS OTHER THAN WHAT IS NECESSARY TO THE INTO EXISTING CONTOURS OR MEET LANDSCAPING REQUIREMENTS.
- ALL TREES OUTSIDE THE LIMITS OF DISTURBANCE ON SITE ARE TO BE PRESERVED.
  - THE 25 FT PERIMETER BUFFER AND ALL AREAS OUTSIDE OF CLEARING LIMITS ARE TO BE TREE SAVE AREAS. THE CONTRACTOR / DEVELOPER WILL NEED INSTALL TREE PROTECTION FENCING WHERE NECESSARY IN ADDITION TO SALT FENCE.
- TREE WELLS TO BE PROVIDED AND INSTALLED AS NECESSARY TO MAINTAIN EXISTING GRADE AT ROOT ZONE (TREE CANOPY) OF TREES TO BE PRESERVED.
- JURISDICTIONAL DETERMINATION FROM USAGE HAS BEEN PERFORMED.
- WATER BODY SERVING THIS SITE IS WHISKEY CREEK SA, HOW.

## TREE PROTECTION NOTES:

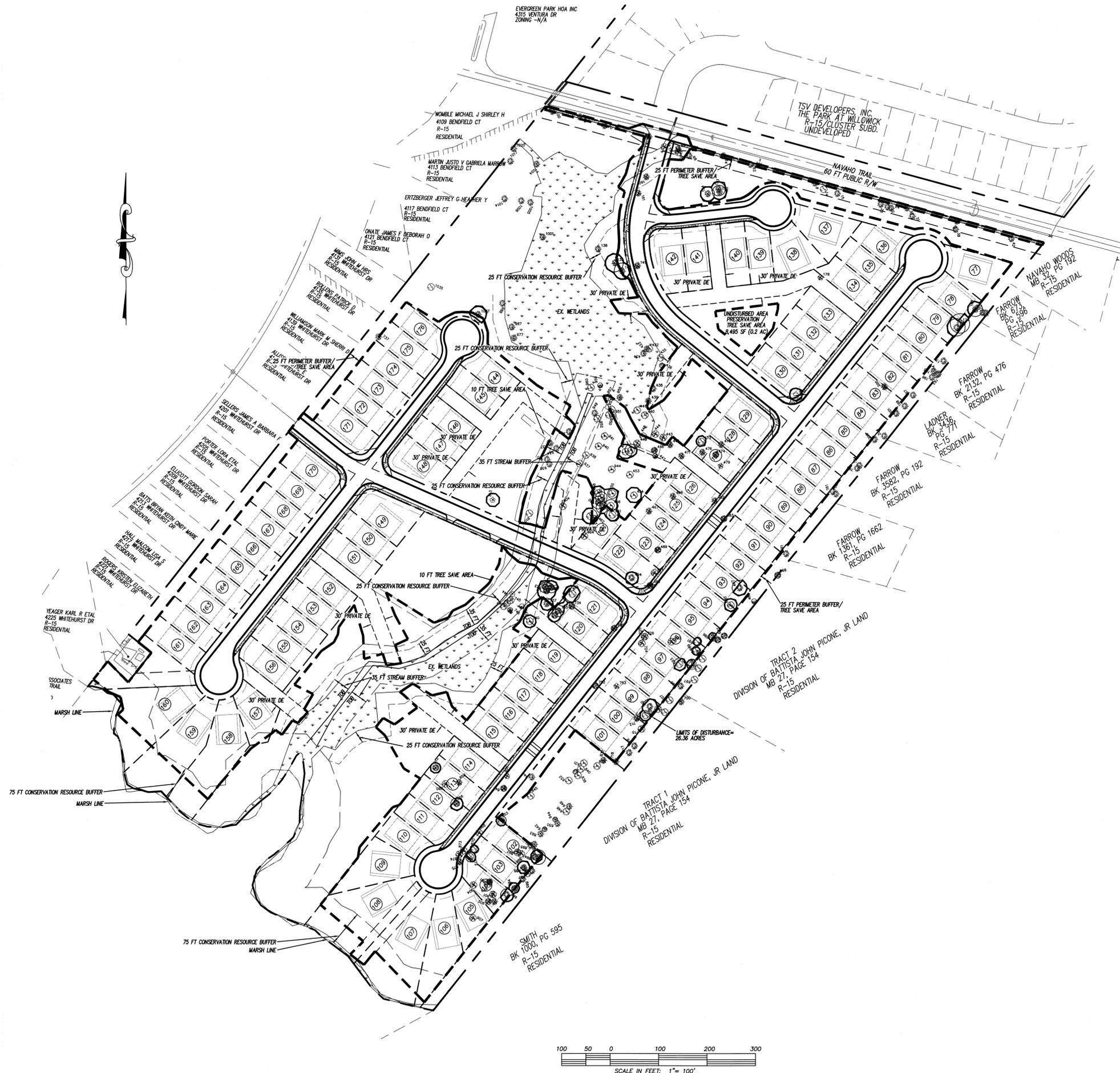
- DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO HEAVY MATERIALS SHALL BE STORED BENEATH TREES. RESULTS OF COMPACTION CAUSE WATER AND AIR NOT TO REACH THE ROOTS AND THE TREE WILL DIE. THESE "FEEDING ROOTS" OCCUR WELL AWAY FROM THE BASE OF THE TREE TO THE EDGE OF THE OVERHEAD BRANCH CANOPY. DAMAGING THE BARK WITH LAMINATIONS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. PROTECTIVE BARRIER SHOULD PREVENT DAMAGE FROM OCCURRING DURING CONSTRUCTION.
- NO CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK. THESE ARE ESSENTIAL IN SUPPORTING THE TREE AND HOLDING IT UPRIGHT IN HIGH WINDS. REMOVAL OF THESE ROOTS ALONG ONE SIDE IS OFTEN DONE BECAUSE OF A WALK, PAVING OR BUILDING WHICH IS BEING CONSTRUCTED.
- AVOID CUT AND FILL WITHIN DIAMETER OF TREE CROWN DURING EXCAVATION.



TREES TO BE SAVED WILL BE CLEARLY MARKED PRIOR TO CONSTRUCTION AND A PROTECTIVE BARRIER IS TO BE INSTALLED AT THE DRIPLINE.  
 DRIP LINE - THE AREA OF SOIL DIRECTLY BENEATH THE TREE EXTENDING OUT TO THE TIPS OF THE OUTERMOST BRANCHES.

## METHOD OF TREE PROTECTION DURING CONSTRUCTION

NTS  
SD15-08



**GSD**  
 LICENSE # C-2710  
**COASTAL SITE DESIGN, PC**  
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TREE REMOVAL AND CLEARING PLAN for  
**THE CREEK AT WILLOWICK**

TREE REMOVAL AND CLEARING PLAN FOR  
**THE CREEK AT WILLOWICK**  
 LOCATED IN MASONBORO TOWNSHIP  
 NEW HANOVER COUNTY, NORTH CAROLINA  
 OWNER: TSV DEVELOPERS, INC.  
 1904 EASTWOOD ROAD,  
 WILMINGTON, NC 28403

FOR OFFICIAL USE ONLY  
 NORTH CAROLINA  
 PROFESSIONAL SEAL  
 NOT RECALLED  
 025483  
 FOR OFFICIAL USE ONLY  
 8/23/13

REV. NO.	DATE	BY	REMARKS
1	8/23/13	RLW	ADDED STREAM AND CONSERVATION BUFFERS

DATE: 07-22-13  
 HORZ. SCALE: 1" = 100'  
 DRAWN BY: JSM  
 CHECKED BY: HSR

PROJECT NO: 04-0011  
 DRAWING NO: 04-0011PH2sp3