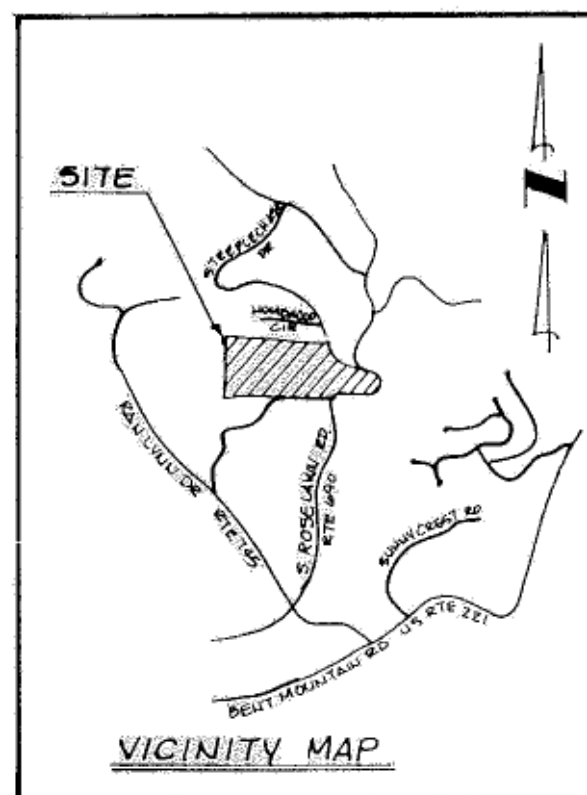


QUANTITY & COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING	5.0	ACRES	1500.00	7,500.00	
EXCAVATION		CY			
EMBANKMENT		CY			
CURB INLET DI-30	3	EACH	750.00	2,250.00	
CURB INLET DI-20	2	EACH	750.00	1,500.00	
CURB INLET DI-30	1	EACH	750.00	750.00	
MANHOLE MH-1	1	EACH	750.00	750.00	
MANHOLE MH-		EACH			
15-IN CONC. PIPE	250	LIN. FT.	12.50	3,125.00	
15-IN CONCRETE PIPE, CLASS III	104	LIN. FT.	19.00	2,460.00	
-IN CONCRETE PIPE, CLASS III		LIN. FT.			
18-IN CONC. PIPE	24	LIN. FT.	20.00	480.00	
-IN C.M. CULVERT		LIN. FT.			
IN C.M. CULVERT		LIN. FT.			
BOX CULVERT		LUMP SUM			
PAVED DITCH		LIN. FT.			
RIPRAP - CLASS		S.F.			
SODDED SWALE		S.Y.			
-IN CONCRETE ENDWALL EW-		EA.			
-IN END SECTION ES-		EA.			
DRIVEWAY, ENTRANCE TYPE CG-10A	21	EACH	129.00	2,695.00	
SIDEWALK, - FT. WIDE		LIN. FT.			
TRAIL, - FT. WIDE		LIN. FT.			
HEADER CURB & GUTTER CG-		LIN. FT.			
CURB & GUTTER CG-G	3300	LIN. FT.	8.25	27,225.00	
VALLEY GUTTER		EA.			
GRAVEL BASE		S.Y.			
GRAVEL SHOULDER		S.Y.			
SURFACE TREATMENT		S.Y.			
-IN BIT CONC.: TYPE B-		S.Y.			
2-IN. BIT. CONC.: TYPE S-	6000	S.Y.	4.25	25,500.00	
6-IN. BASE MATERIAL	6000	S.Y.	4.25	25,500.00	
-IN SUBBASE MATERIAL		CY			
STREET SIGNS		EA.			
TRAFFIC BARRICADE		EA.			
PIPES AS SHOWN ON PLAT		EA.			
MONUMENTS AS SHOWN ON PLAT		EA.			
8-IN WATER LINE	1140	LIN. FT.	12.00	14,220.00	
6-IN WATER LINE	540	LIN. FT.	10.00	5,400.00	
-IN WATER LINE		LIN. FT.			
FIRE HYDRANT ASSEMBLIES	2	EA.	1000.00	2,000.00	
BLOW OFFS W/VAULT, FRAME & COVER		EA.			
6-IN GATE VALVES W/VAULT, FRAME & COVER	5	EA.	435.00	2,175.00	
8-IN GATE VALVES W/VAULT, FRAME & COVER	3	EA.	700.00	2,100.00	
-IN GATE VALVES W/VAULT, FRAME & COVER		EA.			
SERVICE CONNECTIONS		EA.			
-IN SAN. SEWER		LIN. FT.			
-IN SAN. SEWER		LIN. FT.			
-IN SAN. SEWER		LIN. FT.			
STD. MANHOLE W/FRAME & COVER		EA.			
SERVICE CONNECTIONS W/ CLEANOUTS		EA.			
AS-BUILT PLANS	1	LUMP SUM	1200.00	1200.00	
STORM WATER MANAGEMENT	2	LUMP SUM	5000.00	5000.00	
ESTIMATED TOTAL				171,910.00	
10% CONTINGENCY				17,191.00	
I hereby certify that the foregoing estimate reflects the current improvement costs of this project				TOTAL 146,916.00	
Signed: <i>[Signature]</i>				Date: 2/23/94	

GENERAL NOTES

- All construction methods and materials shall conform to the Construction Standards and Specifications of Roanoke County and/or The Virginia Department of Highways and Transportation.
- The contractor or developer is required to notify the Roanoke County Engineering Division in writing of least three (3) days prior to any construction, including but not limited to the following:
 - Installation of approved erosion control devices.
 - Clearing and grubbing.
 - Subgrade excavation.
 - Installing storm sewers or culverts.
 - Setting curb and gutter forms.
 - Placing curb and gutter.
 - Placing other concrete.
 - Placing gravel base.
 - Placing any roadway surface.
 - Installing water lines.
 - Installing sanitary sewer lines.
- A preconstruction conference should be scheduled with the Roanoke County Engineering Division, to be held at least one day prior to any construction.
- Measures to control erosion and siltation must be provided for prior to plan approval. Plan approval in no way relieves the developer or contractor of the responsibilities contained in erosion and siltation control policies.
- A permit must be obtained from the V.D.H.&T. Residency Office, Roanoke County, prior to construction in the highway Right-of-Way.
- Plan approval does not guarantee issuance of any permits by V.D.H.&T.
- An approved set of plans and all permits must be available at the construction site.
- Field construction shall honor proposed drainage divides as shown on plans.
- All unsuitable material shall be removed from the construction limits of the roadway before placing embankment.
- Pavement sections on approved plans are based on a min. CBR of 10. CBR tests are to be performed by the engineer and submitted to the V.D.H.&T. and to the Roanoke County Engineering Division prior to placement. CBR values < 10 will require revised pavement sections.
- All roadside ditches or grades of more than 5% shall be paved with cement concrete to the limits indicated on the plans and as required at the field inspection.
- Location of guard rails shall be determined at a joint field inspection by the county and the V.D.H.&T.
- All springs shall be capped and piped to the nearest storm sewer or natural water course. The pipe shall be 6" min. dia. and conform to V.D.H.&T. standard SB-1.
- Standard street and traffic control signs shall be erected at each intersection by the developer prior to final street acceptance.
- Construction debris shall be containerized in accordance with the Virginia Litter Control Act. No less than one litter receptacle shall be provided on site.
- The contractor shall provide adequate means of cleaning mud from trucks and/or other equipment prior to entering public streets. It is the contractors responsibility to insure that the streets are in a clean, mud and dust free condition at all times.
- The developer and/or contractor shall supply all utility companies with copies of approved plans, advising them that all grading and installation shall conform to approved plans.
- Contractors shall notify utilities of proposed construction at least two, but not more than ten working in advance. Area public utilities may be notified thru Miss Utility: (800) 552-7001.
- The developer or contractor shall supply the county with correct As-Built plans before final acceptance.
- All work shall be subject to inspection by Roanoke County and/or V.D.H.&T. inspectors.
- Field corrections shall be approved by the Roanoke County Engineering Division prior to such construction.
- 100 year floodway and flood plain shall be shown where applicable.
- Grade stakes shall be set for all curb & gutter, culvert, sanitary sewer and storm sewer.
- REQUIRED THICKNESSES OF SUBBASE, BASE COURSE AND SURFACE COURSE ARE SHOWN IN SECTION 207.01.1 OF THE ROANOKE COUNTY "PUBLIC STREET AND PARKING DESIGN STANDARDS AND SPECIFICATIONS".
- ALL GRADING AND UTILITY CONSTRUCTION WITHIN THE RIGHT-OF-WAY MUST BE COMPLETED AND APPROVED BY THE COUNTY PRIOR TO INSTALLING THE PERMANENT SURFACE ON THE STREET.
- THE DEVELOPER WILL BE RESPONSIBLE FOR INSTALLING ALL DRIVEWAY ENTRANCES TO THE RIGHT-OF-WAY LINE PRIOR TO ACCEPTANCE BY ROANOKE COUNTY AND THE VIRGINIA DEPARTMENT OF TRANSPORTATION.
- ALL CURB, DROP INLETS AND STORM SEWER MANHOLES SHALL HAVE STANDARD IS-1 SHAPING IN THEIR INVERTS.
- AREAS OF CONTROL FILL SHALL BE COMPACTED TO A DENSITY OF 95% - COMPACTION RATING RESULTS SHALL BE SUBMITTED TO THE ROANOKE COUNTY ENGINEERING DEPARTMENT FOR APPROVAL. CBR REPORTS SHALL ALSO BE SUBMITTED FOR APPROVAL PRIOR TO ASPHALT PLACEMENT.



THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON AVAILABLE INFORMATION. UTILITIES MAY EXIST WITHIN THE CONSTRUCTION AREA OF THESE PLANS THAT ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF ALL UTILITIES BEFORE COMMENCING WORK, AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THESE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE CONTINUANCE OF SERVICE. TO MISS UTILITIES, CALL "MISS UTILITIES" AT 1-800-552-7001 (TOLL FREE) 48 HOURS BEFORE DIGGING.

ALL CONSTRUCTION SHALL CONFORM TO THE COUNTY OF ROANOKE AND VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.

SURVEY INFORMATION

Horizontal and vertical control surveys were performed in (year) JAN. 1994 by BALZER & ASSOCIATES, INC.

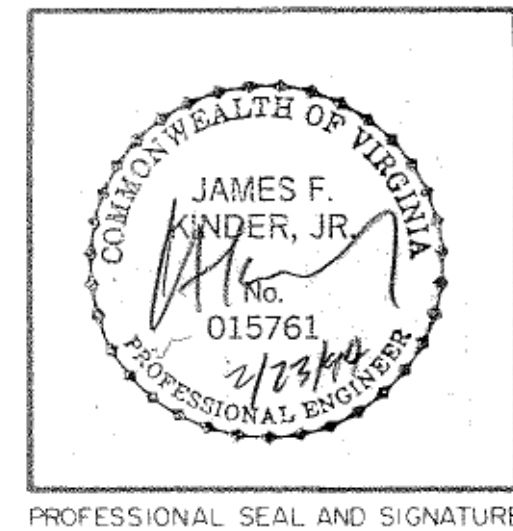
All elevations must be referenced to the National Geodetic Vertical Datum of 1929

Source of topographic mapping is BALZER AND ASSOCIATES, INC. dated JAN. 1994

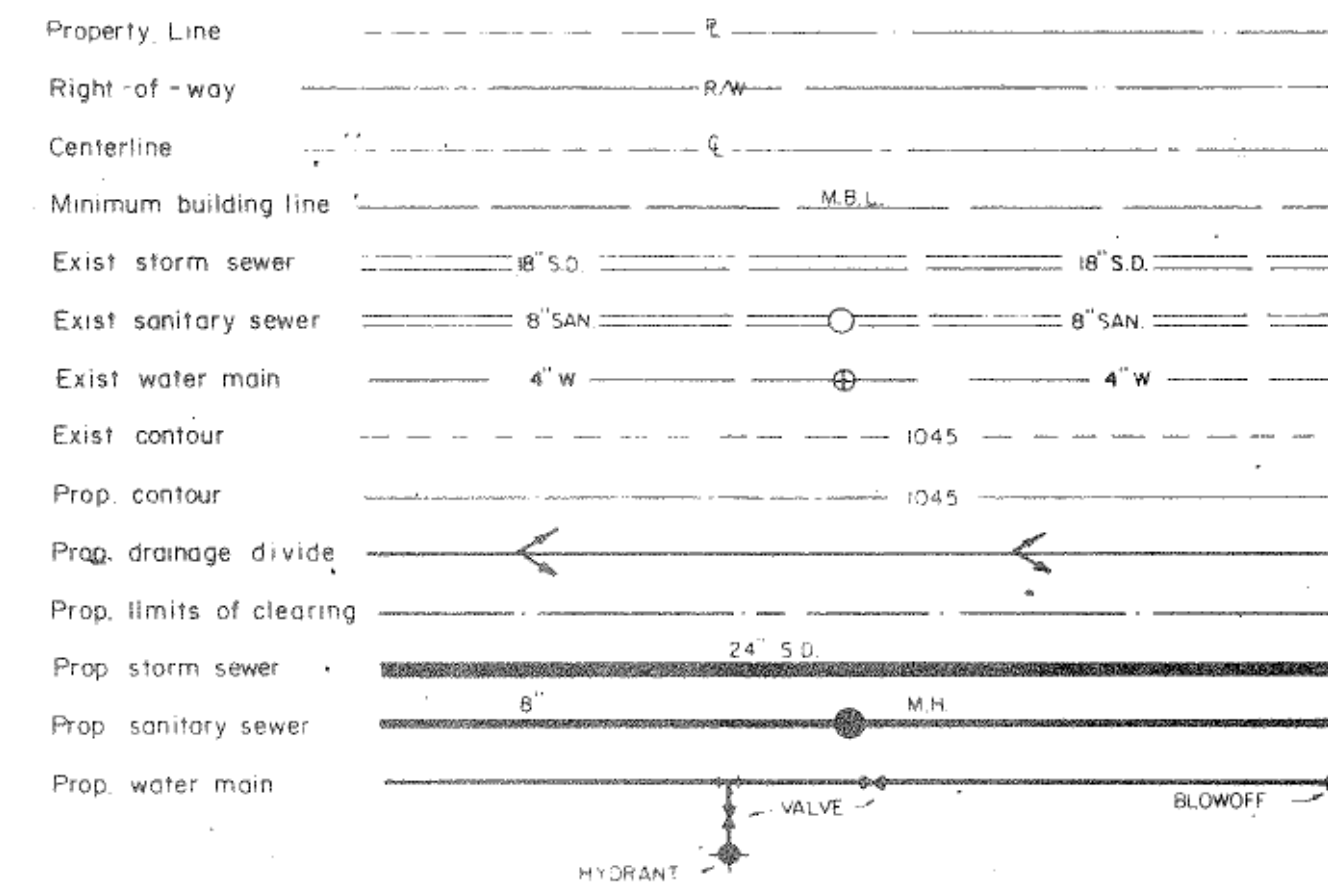
Boundary survey was performed by BALZER AND ASSOCIATES, INC. dated JAN. 1994

The professional seal and the signature below certifies the boundary survey and topographic mapping to be accurate and correct.

BENCHMARK: IRON PIPE WITH A YELLOW CAP 307' FROM C & P POLE # 324-2104 & 3.2' FROM EDGE OF PAVEMENT EL.=1318.86



LEGEND



AS-BUILT INFORMATION SHOWN IN BOXES. INFORMATION FOR SUBSURFACE UTILITIES WAS NOT PROVIDED FOR THIS AS-BUILT.

WATER NOTES

- A minimum cover of Three (3) feet is required over proposed lines.
- Contractor shall be responsible for locating and uncovering valve vaults after paving and adjustment to final grade if necessary.
- All existing utilities may not be shown or may not be shown the exact location. The contractor shall comply with State Water Works Regulations, Section 12.05.03, where lines cross.
- All trenches in existing or future highway right of ways shall be compacted according to V.D.H.&T. standards.
- Lines shall be staked prior to construction.
- Water cost construction as per water construction standards.
- Water main shall be minimum Class 52 ductile iron in accordance with AWWA C151 or DR-14 PVC in accordance with AWWA C-900.
- Application for utilities to serve development reference number 93-209
- METER BOX INSTALLATIONS TO BE PER DOUBLE RESIDENTIAL WATER SERVICE DETAIL ON SHEET 6. IF SUCH WAS DOUBLE ON THE PLAN VIEW, OTHERWISE USE SINGLE METER SETTING WHERE INDICATED.
 - ⊙ DENOTES DOUBLE METER
 - ⊙ DENOTES SINGLE METER
- THURST BLOCKS REQUIRED ON ALL HORIZONTAL & VERTICAL BENDS.
- ALL LOTS WITH PRESSURES OVER 80 PSI ARE REQUIRED TO HAVE INDIVIDUAL PRV.

SEWER NOTES

- A minimum cover of three(3) feet is required over proposed lines.
- Contractor shall be responsible for locating and uncovering all manholes after paving. Manhole tops shall be adjusted to grade if necessary.
- All existing utilities may not be shown or may not be shown in the exact location. The contractor shall comply with State Water Works Regulations, Section 12.05.03, where lines cross.
- House connections are to be made with 4" pipe installed on a minimum grade of 1/4 inch to 1 foot in R/W
- Laterals from manholes shall be PVC or Ductile Iron of sufficient length to provide two (2) feet of bearing on natural ground. The transition from ductile iron to asbestos cement or concrete pipe shall be made with an adapter coupling in R/W.
- All trenches in existing or future highway right of ways shall be compacted according to V.D.H.&T. standards.
- Lines shall be staked prior to construction.

INDEX
 SHEET 1 COVER SHEET
 SHEET 2 OVERVIEW & EROSION CONTROL
 SHEET 3 PLAN & PROFILE HOMEWOOD PLACE
 SHEET 4 PLAN & PROFILE ESSEX CT.
 SHEET 5 STORM WATER MANAGEMENT PLAN & DETAIL
 SHEET 6 WATER DETAILS
 SHEET 7 EROSION & SEDIMENT CONTROL / STORMWATER MANAGEMENT DETAILS
 SHEET 8 PRELIMINARY PLAN

- ① MARCH 21, 1994 REV. PER COUNTY COMMENTS.
- ② APRIL 12, 1994 REV. PER COUNTY COMMENTS.
- ③ MAY 2, 1994 REV. GRADE
- ④ MAY 12, 1994 AS-BUILT



COUNTY OF ROANOKE

NAME OF DEVELOPMENT	WEXFORD SUBDIVISION PHASE I	I, <i>[Signature]</i> OWNER / DEVELOPER, AM AWARE OF THE SITE DESIGN REQUIREMENTS IMPOSED BY THIS SITE DEVELOPMENT PLAN AND OTHER APPLICABLE COUNTY CODES. I HEREBY CERTIFY THAT I AGREE TO COMPLY WITH THESE REQUIREMENTS, UNLESS MODIFIED IN ACCORDANCE WITH LOCAL LAW.
MAGISTERIAL DISTRICT(S)	WINDSOR HILLS	
OWNER (name, address, telephone)	JACKSON ASSOCIATES LTD. OF VIRGINIA P.O. BOX 217211 ROANOKE, VA. 24018-0174 (703) 772-4600	
DEVELOPER (name, address, telephone)	SAME	
ENGINEER, ARCHITECT OR SURVEYOR (name, address, phone)	BALZER AND ASSOCIATES, INC. 1208 CORPORATE CIRCLE ROANOKE VA. 24018 (703) 772-9580	
TAX MAP NO(S)	86.03	
BLOCK NO(S)	4	
PARCEL NO(S)	6	