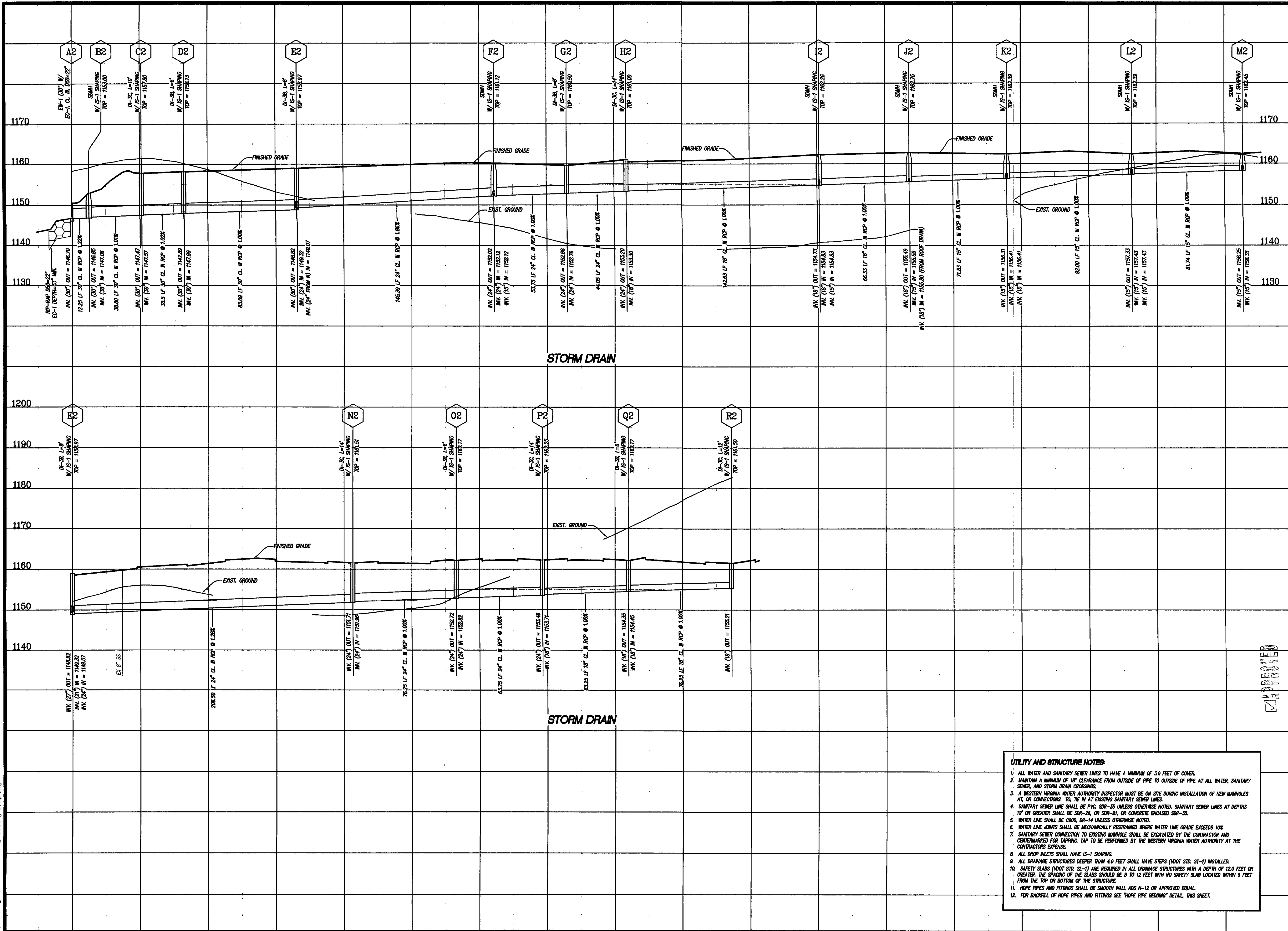




- UTILITY AND STRUCTURE NOTES:**
1. ALL WATER AND SANITARY SEWER LINES TO HAVE A MINIMUM OF 3.0 FEET OF COVER.
 2. MAINTAIN A MINIMUM OF 18" CLEARANCE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE AT ALL WATER, SANITARY SEWER, AND STORM DRAIN CROSSINGS.
 3. A WESTERN VIRGINIA WATER AUTHORITY INSPECTOR MUST BE ON SITE DURING INSTALLATION OF NEW MANHOLES AT, OR CONNECTIONS TO, TIE IN AT EXISTING SANITARY SEWER LINES.
 4. SANITARY SEWER LINE SHALL BE PVC, SDR-35 UNLESS OTHERWISE NOTED. SANITARY SEWER LINES AT DEPTHS 12" OR GREATER SHALL BE SDR-26, OR SDR-21, OR CONCRETE ENCASED SDR-35.
 5. WATER LINE SHALL BE C900, DR-14 UNLESS OTHERWISE NOTED.
 6. WATER LINE JOINTS SHALL BE MECHANICALLY RESTRAINED WHERE WATER LINE GRADE EXCEEDS 10%.
 7. SANITARY SEWER CONNECTION TO EXISTING MANHOLE SHALL BE EXCAVATED BY THE CONTRACTOR AND CENTERMARKED FOR TAPPING. TAP TO BE PERFORMED BY THE WESTERN VIRGINIA WATER AUTHORITY AT THE CONTRACTORS EXPENSE.
 8. ALL DRAIN INLETS SHALL HAVE IS-1 SHAPING.
 9. ALL DRAINAGE STRUCTURES DEEPER THAN 4.0 FEET SHALL HAVE STEPS (FOOT STD. ST-1) INSTALLED.
 10. SAFETY SLABS (FOOT STD. SL-1) ARE REQUIRED IN ALL DRAINAGE STRUCTURES WITH A DEPTH OF 12.0 FEET OR GREATER. THE SPACING OF THE SLABS SHOULD BE 8 TO 12 FEET WITH NO SAFETY SLAB LOCATED WITHIN 6 FEET FROM THE TOP OR BOTTOM OF THE STRUCTURE.
 11. HOPE PIPES AND FITTINGS SHALL BE SMOOTH WALL ADS N-12 OR APPROVED EQUAL.
 12. FOR BACKFILL OF HOPE PIPES AND FITTINGS SEE "HOPE PIPE BEDDING" DETAIL, THIS SHEET.

LUMSDEN ASSOCIATES, P.C.
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COMMONWEALTH OF VIRGINIA
10-19-07
HENDRICKSON
P.C. No. 17651
PROFESSIONAL ENGINEER

STORM DRAIN PROFILES

GANDER MOUNTAIN
AT THE OPPIDAN RETAIL CENTER
PREPARED FOR
OPPIDAN INVESTMENT COMPANY
HOLLINS MAGISTERIAL DISTRICT
ROANOKE COUNTY, VIRGINIA

NO. DATE DESCRIPTION

1 2 3 4 5

DATE: October 19, 2007

SCALE:
(H) 1"=30' (V) 1"=10'

COMMISSION NO.: 2006-224G

SHEET 7 OF 16