

SANITARY SEWER AND APPURTENANCES:

- ALL SANITARY SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS OF THE DEPARTMENT OF ENVIRONMENTAL SERVICES (D.O.E.S.).
- ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED. (ORD. 85-656 APPROVED 10-8-85.)
- APPROVAL BY THE DEPARTMENT OF ENVIRONMENTAL SERVICES CONSTITUTES NEITHER EXPRESS NOR IMPLIED WARRANTIES AS TO THE FITNESS, ACCURACY OR SUFFICIENCY OF PLANS, DESIGNS OR SPECIFICATIONS.
- THE DESIGN ENGINEER CERTIFIES THAT ALL UTILITIES IN EXISTING ROADS ARE SHOWN IF THEY APPEAR ON EXISTING RECORDS OR CAN BE OBSERVED ABOVE GROUND. ANY UNDERGROUND UTILITIES THAT ARE UNKNOWN TO THE DESIGN ENGINEER DUE TO THEIR CONCEALED NATURE CANNOT BE CERTIFIED.
- ALL SANITARY SEWERS SHALL PASS THE AIR ACCEPTANCE TEST PRIOR TO ACCEPTANCE BY D.O.E.S.
- ALL SEWERS SHALL BE COLOR FILMED BY THE OWNER AND FOUND TO BE FREE OF DEFECTS AND FOREIGN MATTER AND IN PROPER ALIGNMENT PRIOR TO FORMAL ACCEPTANCE OF D.O.E.S.
- ALL MANHOLES SHALL BE SUPPLIED WITH SOLID LIDS EXCEPT THOSE IN EASEMENTS WHERE THE MANHOLE COVERS SHALL BE THE SOLID-LOCKING TYPE.
- ALL SANITARY SEWER LATERALS SHALL BE EXTENDED TO NOT LESS THAN FIFTEEN (15) FEET INTO THE LOTS. (SEE NOTES ON SHT. 4)
- ALL SANITARY SEWER LATERALS SHALL BE LAID AT NO LESS THAN 1% GRADE.
- SANITARY SEWER MATERIALS SHALL CONFORM TO D.O.E.S. & O.E.P.A. STANDARDS.
- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL DAMAGE TO THE EXISTING SEWERAGE SYSTEM RESULTING FROM NONCONFORMANCE WITH SUMMIT COUNTY STANDARDS OR GENERAL NEGLIGENCE.
- A 12" MAXIMUM MANHOLE GRADE ADJUSTMENT IS PERMITTED. ADJUSTMENT IS TO BE MADE WITH PRECAST GRADE RINGS OR RED BRICK (TWO COURSES MAXIMUM). A MINIMUM OF ONE (1) GRADE RING IS REQUIRED AT EACH MANHOLE.
- WHERE INLET AND OUTLET PIPES CONNECT TO MANHOLES, A FLEXIBLE WATER-TIGHT JOINT, AS APPROVED BY THE D.O.E.S., IS REQUIRED.
- ALL SANITARY SEWER MATERIALS SHALL CONSIST OF P.V.C. PIPE, SDR 35 MEETING A.S.T.M. D-3034 WITH JOINTS CONFORMING TO A.S.T.M. D-3212.
- ALL ROUGH GRADING (WITHIN 6" OF FINISHED GRADE) SHALL BE COMPLETED WITHIN THE RIGHT-OF-WAY PRIOR TO SANITARY SEWER CONSTRUCTION.
- NO SANITARY SEWER CONSTRUCTION WILL BE PERMITTED UNTIL SUCH A TIME THAT THE PLANS ARE APPROVED BY THE D.O.E.S. AND THE O.E.P.A., INCLUDING PAYMENT OF REVIEW AND "PERMIT TO INSTALL" FEES TO THE O.E.P.A.
- ALL SANITARY SEWERS CONTAINED HEREIN ARE TO BE PUBLICLY OWNED AND MAINTAINED.
- SANITARY SEWER LEAKAGE INFILTRATION/EXFILTRATION TESTS SHALL NOT EXCEED 100 GAL/INCH DIA. PIPE/MILE/DAY. INFILTRATION/EXFILTRATION TESTS SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2.0 FEET PER OHIO E.P.A. STANDARDS.

GENERAL NOTES:

- ALL ROAD SURFACES, EASEMENTS OR RIGHT OF WAYS DISTURBED BY CONSTRUCTION OF ANY PART OF THIS IMPROVEMENT ARE TO BE RESTORED COMPLETELY TO THE BEFORE CONSTRUCTION CONDITION OR BETTER WHEN ORDERED BY THE COUNTY OF SUMMIT ENGINEER.
- PRICES BID PER FOOT FOR ALL PIPE IS COMPLETE IN PLACE REGARDLESS OF SOIL OR ROCK CONDITION.
- THE LOCATIONS OF ALL GAS LINES, TELEPHONE LINES, ETC., TO BE DETERMINED BY THE CONTRACTOR. EXISTING APPURTENANCES SUCH AS UTILITY POLES AND VALVE BOXES, ETC. ARE TO BE HELD BY THE CONTRACTOR DURING CONSTRUCTION.
- THE CONSTRUCTION OF THIS PROJECT SHALL BE GOVERNED BY THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION) SUPPLEMENTED WHERE APPLICABLE BY THE COUNTY OF SUMMIT ENGINEER'S SPECIFICATIONS.
- THE COUNTY OF SUMMIT ENGINEER, IN APPROVING THESE PLANS AND DEDICATION PLAT THEREOF, DOES NOT IN ANY WAY RELIEVE THE OWNER'S ENGINEER OF HIS RESPONSIBILITY FOR ACCURATE AND COMPLETE ENGINEERING DESIGN RELATIVE TO THE PLANS.
- THE COUNTY OF SUMMIT ENGINEER SHALL NOT BE HELD LIABLE FOR DAMAGES OF ANY TYPE WHICH MAY OCCUR AS A RESULT OF ERROR AND/OR OMISSIONS IN THE ENGINEERING DESIGN DATA PRESENTED BY THE OWNER'S ENGINEER. NEITHER SHALL THE COUNTY OF SUMMIT ENGINEER BE HELD LIABLE FOR DAMAGES RESULTING FROM THE OWNER'S CONTRACTOR NOT COMPLYING WITH APPROVED PLANS OR BY USING CONSTRUCTION METHODS OR MATERIALS NOT APPROVED BY THE COUNTY OF SUMMIT ENGINEER.
- ALL PROPOSED TRENCHES LOCATED UNDER AN EXISTING OR PROPOSED PAVEMENT, AND PORTIONS OF TRENCHES WITHIN A 1:1 SLOPE FROM THE EDGE OF PAVEMENT, SHALL BE FILLED WITH COMPACTED GRANULAR MATERIAL. THE METHOD OF BACKFILLING AS DIRECTED BY THE COUNTY OF SUMMIT ENGINEER SHALL CONFORM TO SECTION 603.08 BACKFILLING AS SPECIFIED IN THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION) AND COUNTY OF SUMMIT ENGINEER'S SPECIFICATIONS.
- NOTIFY THE COUNTY OF SUMMIT ENGINEER TWENTY-FOUR (24) HOURS PRIOR TO STARTING CONSTRUCTION (330 643-2850).
- FERTILIZING, SEEDING AND MULCHING FOR RESTORATION OF ALL DISTURBED AREAS SHALL CONFORM TO SECTIONS 659.08 AND 659.09 AS SPECIFIED IN THE O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION).
- ALL DISTURBED SIGNS, GUARDRAIL, MAIL AND/OR PAPER BOXES SHALL BE REPAIRED AND/OR REPLACED AS DIRECTED BY THE COUNTY OF SUMMIT ENGINEER.
- ALL DISTURBED AND/OR DAMAGED STORM SEWER PIPES, STORM SEWER APPURTENANCES, PAVEMENTS, BERMS AND DITCHES SHALL BE REPAIRED AND/OR REPLACED AS DIRECTED BY THE COUNTY OF SUMMIT ENGINEER.
- CALL THE OHIO UTILITIES PROTECTION SERVICE AT LEAST 48 HOURS BEFORE DIGGING, (1-800-362-2764). REF. No. 0708-047-039
- TEMPORARY WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL MAY BE REQUIRED IN ACCORDANCE WITH ITEM 207 OF THE O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION), AS DIRECTED BY THE COUNTY OF SUMMIT ENGINEER & THE SUMMIT S.W.C.D.
- ALL STORM SEWERS ARE TO BE REINFORCED CONCRETE PIPE, CLASS II MIN. SECTION 706.02, AS SPECIFIED IN THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION), OR HIGH DENSITY POLYETHYLENE MEETING THE REQUIREMENTS OF A.S.T.M. D-3350, WITH JOINTS MEETING A.S.T.M. D-3212. CATCH BASINS LOCATED IN PRIVATE DRIVES SHALL BE O.D.O.T. 2-3 OR 2-4 WITH EAST JORDAN MODEL 5110 FRAME WITH TYPE M3 GRATE.

NOTE: SEE SHEET 10 OF 11 FOR CITY OF CLEVELAND AND NORTH HILLS WATER DISTRICT WATER MAIN GENERAL NOTES & DETAILS.

UTILITY OWNERSHIP NOTES:

- ALL SANITARY SEWERS CONTAINED HEREIN SHALL BE PUBLICLY OWNED AND MAINTAINED.
- ALL WATER MAINS CONTAINED HEREIN SHALL BE PUBLICLY OWNED AND MAINTAINED.
- ALL STORM SEWERS CONTAINED HEREIN SHALL BE PRIVATELY OWNED AND MAINTAINED UNLESS OTHERWISE NOTED AS "PUBLIC" IN WHICH CASE THEY SHALL BE PUBLICLY OWNED AND MAINTAINED. ALL PRIVATE ROADWAY, DRIVEWAY AND SIDEWALK RECONSTRUCTION NECESSARY DUE TO PUBLIC STORM SEWER REPAIR OR REPLACEMENT SHALL BE THE SOLE RESPONSIBILITY OF THE BRANDYWINE PRESERVE HOMEOWNERS' ASSOCIATION.
- THE RETENTION POND CONTAINED HEREIN SHALL BE PRIVATELY OWNED AND MAINTAINED, HOWEVER, AN EASEMENT SHALL BE GRANTED TO THE COUNTY OF SUMMIT FOR ACCESS AND MAINTENANCE PURPOSES, AS REQUIRED.

GENERAL NOTES (CONTINUED):

- BEFORE ACCEPTANCE OF THE SUB-GRADE BY THE COUNTY OF SUMMIT ENGINEER, PROOF ROLLING SHALL BE REQUIRED ON ALL AREAS TO BE PAVED PER SECTIONS 203.13 AND 203.14 OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION). IN ADDITION, FOR ANY AREA OF FILL IN EXCESS OF TWO (2) FEET, NUCLEAR COMPACTION TESTS SHALL BE PERFORMED BY AN APPROVED TESTING COMPANY TO CONFIRM ADEQUATE COMPACTION AS PER SECTION 203.12 OF THE STATE OF DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (LATEST EDITION). THESE TESTS SHALL BE APPROVED BY THE COUNTY OF SUMMIT ENGINEER BEFORE ANY PAVEMENT CONSTRUCTION.
- FOR ITEMS 301 AND 404 THE CONTRACTOR SHALL PROVIDE THE COUNTY OF SUMMIT ENGINEER A JOB MIX FORMULA FOR REVIEW AND APPROVAL PRIOR TO THE PRECONSTRUCTION MEETING. ALL MATERIALS USED MUST BE OBTAINED FROM A SOURCE APPROVED BY THE OHIO DEPARTMENT OF TRANSPORTATION FOR ITEM 404. THE COARSE AGGREGATE IN THE MIX SHALL BE CRUSHED LIMESTONE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, PERMIT FEES AND PERFORMANCE BONDS.
- THE DESIGN ENGINEER CERTIFIES THAT ALL DESIGN DATA AND CALCULATIONS ARE CORRECT AND DO CONFORM TO THE CURRENTLY ACCEPTABLE DESIGN CRITERIA OF THE SUMMIT COUNTY ENGINEER.
- CONTACT THE COUNTY OF SUMMIT ENGINEER (330) 643-2850 AND THE DEPARTMENT OF ENVIRONMENTAL SERVICES TO SCHEDULE A PRECONSTRUCTION MEETING A MINIMUM OF 5 WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- TESTING SERVICES REQUIREMENTS: ALL INSPECTION AND TESTING SHALL BE DONE BY AN EXPERIENCED AND QUALIFIED FIRM ENGAGED IN THIS TYPE OF WORK, AS APPROVED BY THE SUMMIT COUNTY ENGINEER. WRITTEN REPORTS OF ALL INSPECTION AND TESTING SHALL BE SUBMITTED TO THE OWNER AND THE SUMMIT COUNTY ENGINEER FOR APPROVAL. THE COMPACTION REQUIREMENTS ARE AS FOLLOWS: 98%-100% COMPACTION UNDER PROPOSED PAVEMENT, 95% COMPACTION WITHIN A 45 DEGREE INFLUENCE LINE FROM THE EDGE OF PAVEMENT, AND 95% COMPACTION ELSEWHERE IN THE RIGHT-OF-WAY. THE COMPACTION REQUIREMENTS MUST BE 98%, 95% OR 95% OF THE MAXIMUM LABORATORY DRY DENSITY FOR COHESIVE SOILS PLUS 2% OF THE OPTIMUM MOISTURE CONTENT. ADDITIONALLY, O.D.D.T. ITEM 603.08 MUST BE ADHERED TO.

BACKFILLING OPERATIONS AND FILLS OVER TWO (2) FEET MUST MEET THE FOLLOWING REQUIREMENTS:

- PROCTORS MUST BE OBTAINED AND COMPACTION METHODS SUBMITTED TO THE SUMMIT COUNTY ENGINEER BEFORE ANY FILLING OPERATIONS WILL BE PERMITTED.
- NEW PROCTORS MUST BE OBTAINED AS OFTEN AS THE SOIL MATERIAL CHANGES.
- NO PROCTORS FROM PREVIOUS YEARS CONSTRUCTION WILL BE ACCEPTED.

THE DEVELOPER OR HIS AGENT MUST PROVIDE THE TESTING SERVICES NECESSARY TO CHECK THE DENSITY OF THE MATERIALS PLACED IN TRENCHES OR FILL AREAS AS DIRECTED BY THE SUMMIT COUNTY ENGINEER. THE DEVELOPER WILL BE RESPONSIBLE FOR PAYMENT FOR THE TESTING SERVICES.

- ANY MATERIALS THAT ARE NOT ABLE TO BE COMPACTED TO THE REQUIRED COMPACTION WILL NEED TO BE REMOVED AND REPLACED WITH MATERIALS THAT CAN ACHIEVE THE REQUIRED COMPACTION. IF PROPER COMPACTION IS NOT ATTAINED AND THE MATERIAL IS NOT REMOVED AND REPLACED PROPERLY, THE ESCROW ACCOUNT OR BOND ACCOUNT WILL NOT BE ALLOWED TO BE DRAWN UPON. THIS WILL PREVENT THE RELEASE OF THE PERFORMANCE BONDS FOR THE PROJECT.
- THE STORM WATER POLLUTION PREVENTION PLAN MUST BE IMPLEMENTED PRIOR TO THE START OF CONSTRUCTION.
- TOPSOIL SHALL BE STRIPPED OVER THE AREAS AFFECTED BY GRADING AND DISPOSED OF OR STOCKPILED AS APPROVED BY THE SUMMIT COUNTY ENGINEER, PRIOR TO THE INITIATION OF EARTHWORK ACTIVITIES.
- ANY DEFECTS IN THE CONSTRUCTION, INCLUDING MATERIALS OR WORKMANSHIP SHALL BE REPLACED OR CORRECTED BY REMOVAL AND REPLACEMENT OR OTHER APPROVED METHOD, PRIOR TO ACCEPTANCE BY THE SUMMIT COUNTY ENGINEER.
- WHEREVER UNSUITABLE SOIL CONDITIONS ARE ENCOUNTERED THAT ARE NOT INDICATED ON THE PLANS, THE WORK SHALL BE DISCONTINUED UNTIL THE SUMMIT COUNTY ENGINEER APPROVES THE FILLING AND MATERIAL TO BE INCORPORATED INTO THE WORK. ALL CONDUITS SHALL BE INSTALLED ON A FIRM BED FOR ITS FULL LENGTH, IN ACCORDANCE WITH O.D.D.T. ITEM 603.03, UNLESS OTHERWISE SPECIFIED.
- THE DEVELOPER WILL BE BILLED QUARTERLY FOR INSPECTION SERVICES. IF THERE ARE ANY CHANGES IN THE WORK SCHEDULE, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE INSPECTOR TO AVOID UNNECESSARY INSPECTION COSTS. IF NO NOTIFICATION IS GIVEN IN REGARDS TO THE CANCELLATION OF WORK, THE DEVELOPER WILL BE CHARGED FOR TWO HOURS OF SHOW-UP TIME.
- EMBANKMENT CONSTRUCTION AT DETENTION PONDS SHALL MEET O.D.D.T. ITEM 203 SPECIFICATIONS AND MATERIAL SHALL BE COMPACTED TO 98% OF THE MAXIMUM LABORATORY DRY DENSITY FOR COHESIVE SOILS PLUS 2% OF THE OPTIMUM MOISTURE CONTENT.
- ALL BACKFILL OF EXCAVATION (FOR TRENCHES AND STRUCTURES) UNDER BERM, ROADWAY, IN THE 1:1 SLOPE OFF THE EDGE OF PAVEMENT, AND EXISTING WALK OR DRIVE AREAS SHALL BE O.D.D.T. ITEM 304 SUBBASE MATERIAL EXCEPT CRUSHED SLAG, GRANULATED SLAG, OR SLACKER AGGREGATES, SHALL BE USED. ADDITIONAL MATERIALS MAY BE REVIEWED FOR USE OUTSIDE THE ROADWAY UPON SUBMITTAL BY A WRITTEN REQUEST AND TECHNICAL SUBMITTAL BY THE CONTRACTOR.

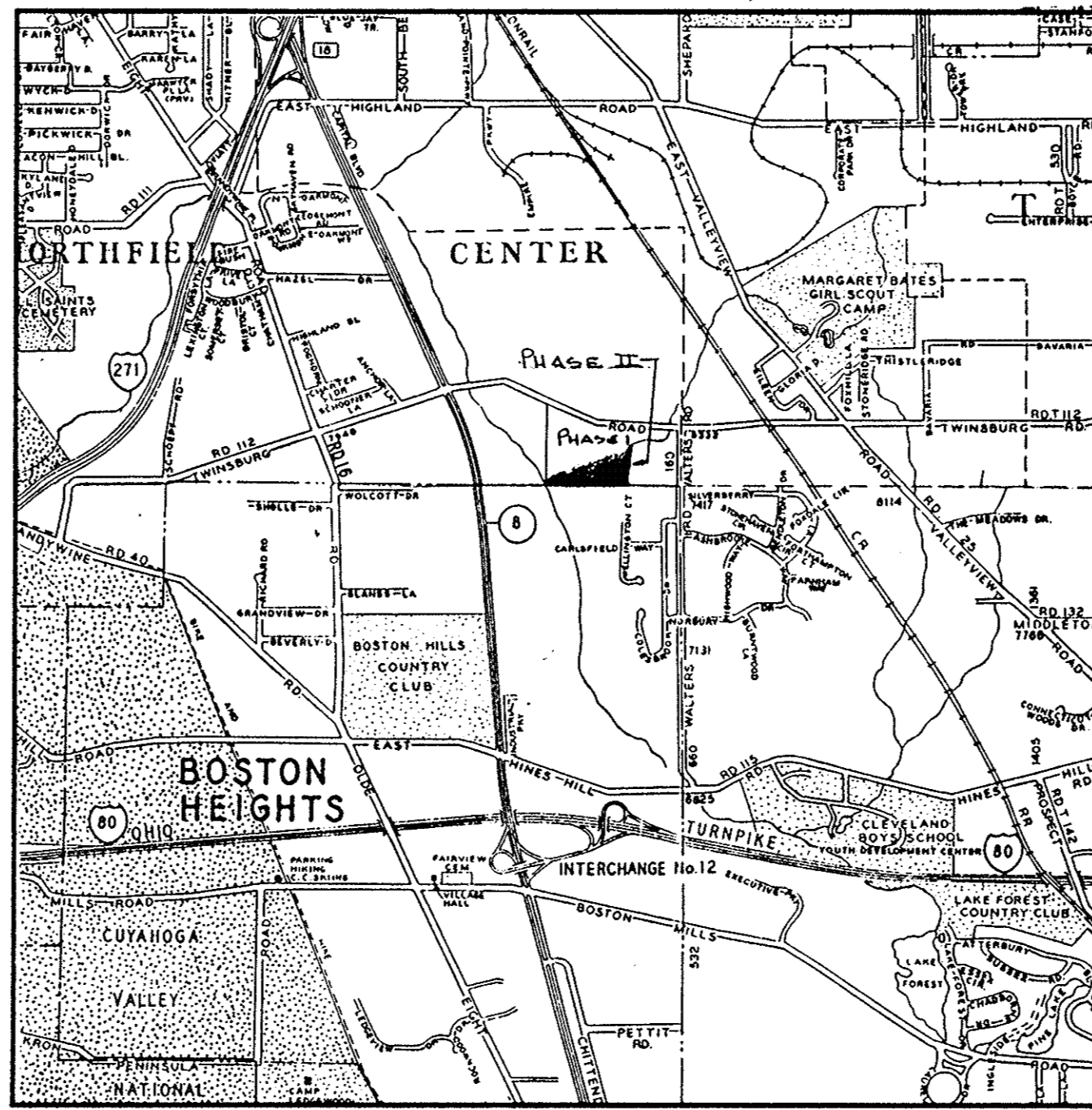
IMPROVEMENT PLANS FOR BRANDYWINE PRESERVE PHASE TWO

LOCATED IN NORTHFIELD CENTER TOWNSHIP PART OF O.L. 10 FORMERLY NORTHFIELD TOWNSHIP COUNTY OF SUMMIT, STATE OF OHIO

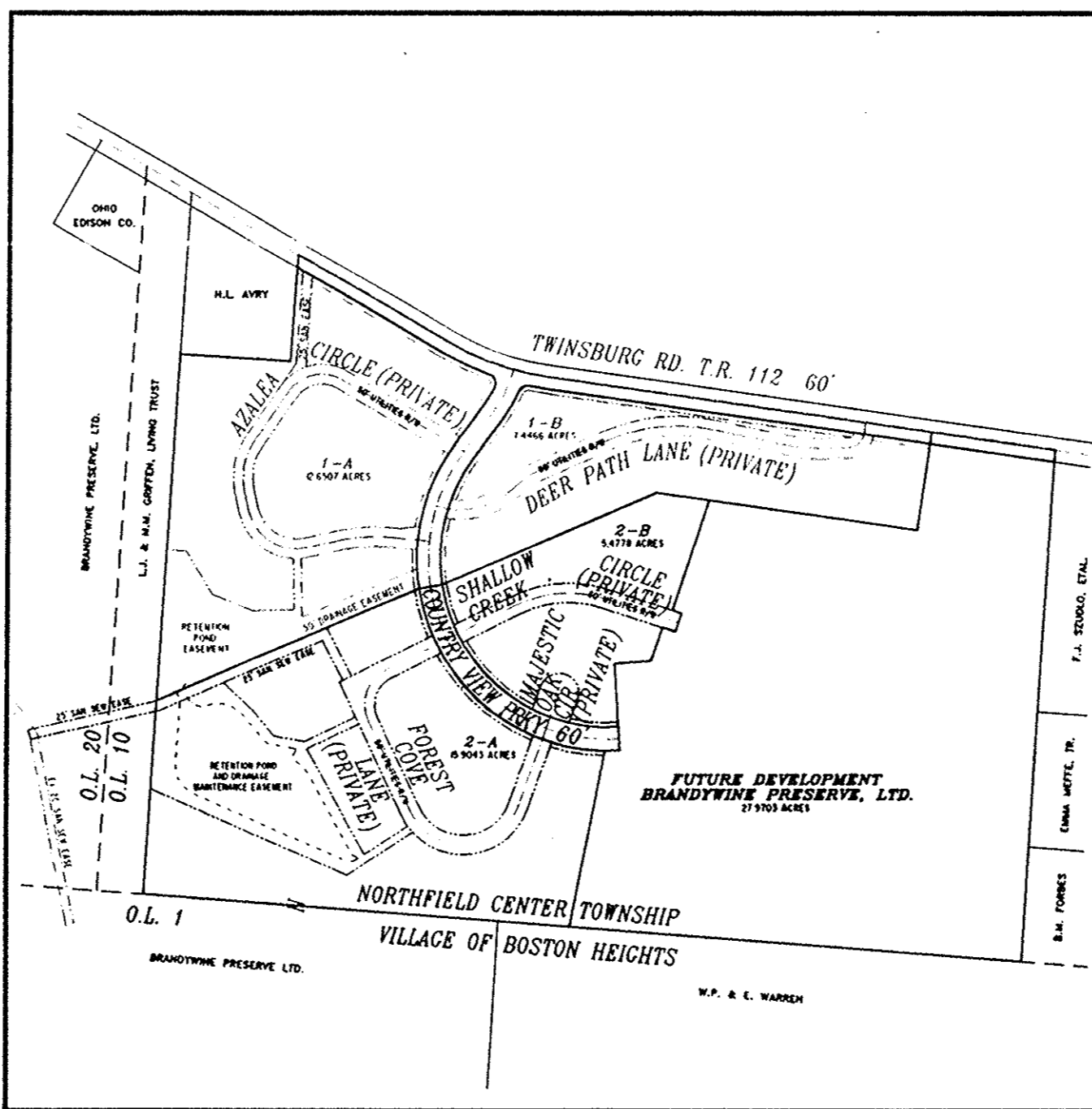
JULY, 1999 13-86

D.O.E.S. PROJECT No. 1542-2 SANITARY SEWER CITY OF CLEVELAND PROJECT No. 3182-2 WATER

CLEVELAND SOUTHERLY (C.V.I.) VIA PUMP STATION No. 10



LOCATION MAP NO SCALE



PHASE TWO SITE MAP SCALE: 1" = 400'

2 WORKING DAYS BEFORE YOU DIG

CALL TOLL FREE 800-362-2764

OHIO UTILITIES PROTECTION SERVICE

O.U.P.S. PROJECT REF. No. 0708-047-039

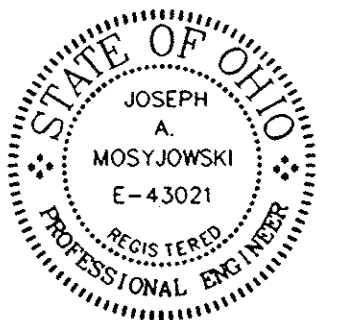
STANDARD DRAWINGS		
STANDARD DRAWING No.	DATE	
O.D.O.T. CB 2-3B	5-1-79	
O.D.O.T. HW-4B	4-1-80	
O.D.O.T. MH-3	12-18-84	
O.D.O.T. BP-7	10-1-87	
O.D.O.T. MC-10	5-1-76	
O.D.O.T. MC-11	8-1-78	
O.D.O.T. HW-1	6-1-65	

OWNER/DEVELOPER : BRANDYWINE PRESERVE, LTD.

DESIGN ENGINEER : MOSYJOWSKI & ASSOC. ENGINEERS

30195 CHAGRIN BLVD. (SUITE 215)
PEPPER PIKE, OHIO 44124
REP: GREGG S. LURIE
PH: (216) 464-2709

2615 SWARTZ ROAD
HARTVILLE, OHIO 44632
PH. (330) 628-2516



SUBMITTED BY: JOSEPH A. MOSYJOWSKI, P.E. No. 43021 DATE 8/5/99

APPROVED BY: BRANDYWINE PRESERVE, LTD. DATE

SEWERAGE SYSTEM APPROVAL

APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL SERVICES :

James M. Denton, Director DATE 8/10/99

Edward J. Shoultz, Water Design Administrator DATE 8-10-99

APPROVED BY: O.E.P.A. BY LETTER this ___ day of ___, 19__ (SEWERAGE SYSTEM)

ACCP. E.O. 00-241 10-23-00 M.B.E.O. 01-258 11-5-01

ROADWAY & DRAINAGE APPROVAL

APPROVED BY THE COUNTY OF SUMMIT ENGINEER :

Gene Esser, P.E., P.S., County Engineer DATE 8/9/99

WATER SYSTEM APPROVAL

APPROVED BY THE CITY OF CLEVELAND DIVISION OF WATER:

APPROVED BY THE NORTH HILLS WATER DISTRICT:

ENGINEER DATE

APPROVED BY: O.E.P.A. BY LETTER this 28TH day of APRIL, 2000 (WATER SYSTEM)

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