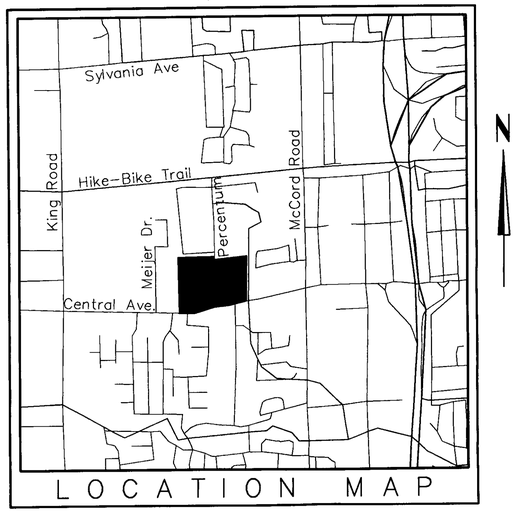
SITE PLAN

FOR

PROPOSED RETAIL DEVELOPMENT
CENTRAL AVENUE CENTER, LOT 1

7010 CENTRAL AVENUE
SYLVANIA, OHIO 43560
SYLVANIA TOWNSHIP
LUCAS COUNTY, OHIO



LOCATION MAP

Graphic Scale
0' 1/4 1/2 1 Mile

INDEX OF SHEETS

1997 SPECIFICATIONS

EXCEPT AS MODIFIED BY THESE PLANS, ALL WORK ON THIS PROJECT SHALL BE GOVERNED BY THE LOWE'S DIVISION 2 STANDARD SITE SPECIFICATIONS AND SPECIAL PROJECT PROVISIONS, DATED FEBRUARY 1, 2001.

MATERIALS, AND ALL RELATED APPURTENANCES SHALL ALSO CONFORM TO LUCAS COUNTY ENGINEER'S AND LOWE'S, SPECIFICATIONS IN EFFECT AT THE TIME OF CONSTRUCTION EXCEPT AS MODIFIED BY THESE PLANS AND BY THE DETAIL SPECIFICATIONS PERTAINING THERETO.

LEGEND

EXISTING	PROPOSED		EXISTING	PROPOSED	
		SOIL BORING			PINE
		SITE BENCH MARK (SBM)			DECIDUOUS
		P.K. NAIL			TREE LINE
		SIGN			SHRUBS
		TELEPHONE RISER			STUMP
		GUY WIRE			POWER/TELE POLE
		POST			GUY POLE
		MANHOLE	MB	MB	MAILBOX
		CATCH BASIN			HEADWALL
		CATCH BASIN ADJUSTED			RIP RAP
		GAS VALVE			HYDRANT
		UTILITY VALVE			SIDEWALK
		TELEPHONE MANHOLE	— ELEV —	— ELEV —	CONTOURS
		ROAD CENTERLINE			BUILDING
		SHOULDER			DITCH
Ex. Storm	Storm	STORM SEWER	—x—x—	—x—x—	FENCE
Ex. Sanitary	Sanitary	SANITARY SEWER			CORPORATION LINE
		PIPE ENCASEMENT	— ℄ —	— ℄ —	PROPERTY LINE
— C —	— C —	CABLE	EX. R/W	— R/W —	RIGHT-OF-WAY LINE
— E —	— E —	ELECTRIC			EDGE OF PAVEMENT
— G —	— G —	GAS LINE			CURB
10" WATER	10" WATER	WATER MAIN			
— T —	— T —	UNDERGROUND TELE.			

LUCAS COUNTY STANDARD

STANDARD SIDEWALK CONSTRUCTION
CLEANOUT
TYPE 1, 2, 3, & 4 CATCH BASIN

UNDERGROUND UTILITIES
TWO WORKING DAYS BEFORE YOU DIG
CALL 800–362–2764 (TOLL FREE) OHIO UTILITIES PROTECTION SERVICE
NON MEMBERS MUST BE CALLED DIRECTLY

PLANS PREPARED BY:

MANNIK & SMITH INC.
CONSULTING ENGINEERS AND SURVEYORS
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

BY: _____ DATE: _____
REGISTERED PROFESSIONAL ENGINEER

SUPPLEMENTAL SPECIFICATIONS(ODOT)

SPEC	DATE	SPEC	DATE
830	10/2198	·	·
870	3/27/01	·	·
877	4/13/99	·	·
842	1/6/99	·	·
899	10/21/98	·	·
906	5/5/98	·	·
908	11/7/00	·	·
·	·	·	·
·	·	·	·

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

ODOT				Lucas Co.	
DWG	DATE	DWG	DATE	DWG	DATE
DM–2.1M	6–30–95	·	·	STNDARD7	02/01
BP–5.1	7–28–00	·	·	·	·
CB–1.2M	7–12–95	·	·	·	·
BP–7.1	7–28–00	·	·	·	·
		·	·	·	·
		·	·	·	·

APPROVALS

APPROVED: _____
BENCHMARK GROUP

RECEIVED
JUL 2 0 2001
LUCAS CO. ENGINEER

DATE APPROVED
LUCAS COUNTY ENGINEER
DATE 7/21/01 BY M. MEYER

NO.	DATE	BY	DESCRIPTION
	4/06/01	MKL	90% SUBMITTAL
1	4/30/01	MKL	SYLVANIA TOWNSHIP SUBMITTAL
	06/18/01	BPG	FINAL REVIEW

Mannik & Smith, Inc.
Consulting Engineers & Surveyors
1800 Indian Wood Circle
Maumee, Ohio 43537
Telephone (419) 891–2222

OWNER
Benchmark Group
4053 Maple Road
Amherst, NY 14226
(716) 833–4986

PROJECT
LOWE'S Companies, Inc.
Central Avenue Center
Central Avenue
Sylvania, Ohio

TITLE SHEET

B157A1D

S:\PROJECTS\MS\B157A1D\ROADWAY\B157A1D_GT1
Last Saved By: MKL
Last Saved On: 07/18/01
Last Revision By: GACKSTETTER
Description: FINAL

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT MANNIK & SMITH, INC. DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS. O.U.P.S. IDENTIFICATION NUMBERS ARE #040381115 (PERCENTUM RD.) AND #613028048 (CENTRAL AVE.).

TELEPHONE:
ATT
7630 FINZEL RD.
WHITEHOUSE, OHIO 43571
PHONE: 877-0413

NATURAL GAS:
COLUMBIA GAS OF OHIO
333 SOUTH ERIE ST.
TOLEDO, OHIO 43602
PHONE: 252-8098

ELECTRIC:
TOLEDO EDISON CO.
300 MADISON AVENUE
TOLEDO, OHIO 43652
PHONE: 249-5272

TELEVISION:
BUCKEYE CABLEVISION
4818 ANGOLA ROAD
TOLEDO, OHIO 43615
PHONE: 724-9810

WATERLINES:
LUCAS COUNTY SANITARY ENGINEER
111 S. McCORD ST.
TOLEDO, OHIO 43528
PHONE: 213-2926

SANITARY SEWERS:
LUCAS COUNTY SANITARY ENGINEER
111 S. McCORD ST.
TOLEDO, OHIO 43528
PHONE: 213-2926

STORM SEWERS:
LUCAS COUNTY ENGINEER
ONE GOVERNMENT CENTER
TOLEDO, OHIO 43604
PHONE: 245-4540

FIBER OPTICS:
WILLIAMS COMMUNICATIONS
639 OLIVER ST.
TOLEDO, OHIO 43609
PHONE: 244-1931

ROADWAY:
OHIO DEPT. OF TRANSPORTATION
DISTRICT 2
317 E. POE RD.
BOWLING GREEN, OHIO 43402
PHONE: 419-353-8131

WATERLINES:
CITY OF TOLEDO
DIVISION OF WATER DISTRIBUTION
401 SOUTH ERIE STREET
TOLEDO, OHIO 43602
PHONE: (419) 936-2830

TELEPHONE:
VERIZON NORTH
300 W. GYPSY LANE ROAD
BOWLING GREEN, OHIO 43402
PHONE: 1-419-352-6521

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

SPECIFICATIONS

THE LUCAS COUNTY SPECIFICATIONS, OHIO EPA REQUIREMENTS AND THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION, 1997, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS, IF ANY, SHALL GOVERN THIS IMPROVEMENT.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON NGVD FLOOD DATUM UNLESS OTHERWISE NOTED.

SEEDING

QUANTITIES FOR SEEDING ARE CALCULATED FOR ALL REMAINING SOIL AREAS DISTURBED BY CONSTRUCTION.

BACKFILL

TRENCHES UNDER PAVED AREAS, SIDEWALK, ETC.., SHALL BE BACKFILLED WITH COMPACTED GRANULAR BACKFILL. BACKFILL MATERIAL UNDER PAVED STREETS OR WITHIN FIVE (5) FEET OF THE EDGE OF PAVEMENT SHALL BE ITEM 411, ODOT SPECIFICATION GRANULAR AND PLACED IN SIX (6) INCH LAYERS AND MECHANICALLY TAMPED, WEIGHT OF THE GRANULAR MATERIAL SHALL BE COMPUTED ON THE BASIS OF 4,000 POUNDS PER CUBIC YARD.

CONDITIONS OF WORK

THE DRAWINGS SHOW CHARACTERISTICS OF THE WORK SITE. THIS INFORMATION IS NOT REPRESENTED OR GUARANTEED TO BE EITHER COMPLETE OR ACCURATE. THE CONTRACTOR MUST EXAMINE THE SITE AND SATISFY HIMSELF OF THE SURFACE AND SUBSURFACE CONDITIONS AND DIFFICULTIES THAT MAY BE ENCOUNTERED IN THE EXECUTION OF THE WORK.
THE CONTRACTOR SHALL VERIFY ALL LOCATION AND INVERT ELEVATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

PIPE EMBEDMENT

PIPE EMBEDMENT SHALL INCLUDE THE MATERIAL AS SHOWN ON THE BEDDING AND TRENCHING DETAIL. THE COST OF BEDDING MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE OF THE PIPE.

SUBSURFACE ROCK

TEST HOLES, IF ANY, FOR ROCK DETERMINATION WERE DUG AS INDICATED ON PLAN.

EMBANKMENT CONSTRUCTION

WHERE IT IS NECESSARY TO CONSTRUCT PAVEMENT SUBGRADE IN FILL, THE CONTRACTOR SHALL REMOVE THE EXISTING TOPSOIL BENEATH THE PROPOSED PAVEMENT.

MAINTENANCE

AT ALL TIMES DURING THE PROCESS OF THE WORK AND UNTIL THE RELEASE OF THE CONTRACTOR FROM HIS OR HER GUARANTEE BY THE COUNTY, THE CONTRACTOR SHALL MAINTAIN THE BACKFILLED TRENCHES. ANY SETTLEMENT THAT OCCURS DURING SUCH TIME SHALL BE IMMEDIATELY FILLED. THE CONTRACTOR SHALL ALSO REPLACE ALL PAVEMENTS, DRIVES, PIPE, ETC..., WHICH HAS BEEN DISTURBED TO A CONDITION EQUAL OR BETTER THAN THAT WHICH WHICH EXISTED CONSTRUCTION WAS STARTED.

INSPECTION

ALL WORK PERFORMED IN THE RIGHT-OF-WAY ON THIS PROJECT IS SUBJECT TO THE INSPECTION AND APPROVAL OF LUCAS COUNTY AND OTHER GOVERNING AGENCIES.

CONSTRUCTION LAYOUT

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, PLACING, AND MAINTAINING ALL CONSTRUCTION LAYOUT STAKES NECESSARY FOR THE PROPER INSTALLATION OF THE WORK, ALL IN ACCORDANCE WITH THE SPECIFICATIONS.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED PIPE.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

ITEM 614 MAINTENANCE OF TRAFFIC

TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON ALL ADJACENT STREETS. IF CONSTRUCTION ADJACENT TO THE ROAD INTERFERES WITH TRAFFIC IN THE OPINION OF THE LUCAS COUNTY ENGINEER, THEN ONE LANE MAY BE CLOSED AND TRAFFIC CONTROLLED BY AT LEAST TWO FLAGGERS AND TRAFFIC CONTROL DEVICES AS PER STANDARD CONSTRUCTION DRAWING MT-97.10.

THE ROADS SHALL BE REOPENED TO TWO LANES AT ANY TIMES WHEN WORK IS SUSPENDED (NIGHTS, WEEKENDS, INCLEMENT WEATHER, ETC.)

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

EXISTING STORM DRAINAGE

BEFORE STARTING WORK, A REPRESENTATIVE OF THE LUCAS COUNTY ENGINEER AND ODOT AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING SEWERS AND DRAINS WITHIN THE WORK LIMITS.

THE CONTRACTOR SHALL CONDUCT ITS OPERATIONS SO AS TO MAINTAIN STORM SEWER FLOWS AT ALL TIMES AND SHALL PROMPTLY REPLACE IN KIND ANY STORM SEWERS DISTURBED BY CONSTRUCTION TO THE SATISFACTION OF LUCAS COUNTY ENGINEER AND ODOT. THE COST OF MAKING INSPECTIONS AND ANY REPAIRING OR CORRECTING OF SEWERS AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE INCLUDED.

RESTORATION OF RIGHT OF WAY

ALL EXISTING FEATURES IN EXISTING RIGHT-OF-WAY THAT ARE DISTURBED DUE TO CONSTRUCTION SUCH AS: MAILBOXES, SHRUBS, BUSHES, CURBS, GUARDRAIL,DRIVEWAYS, SWALES, SEWERS, CATCH BASINS, BERMS, SEEDED AREAS, ETC., SHALL BE REPLACED TO THEIR ORIGINAL CONDITION IN ACCORDANCE WITH CURRENT O.D.O.T. SPECIFICATIONS AND IN ACCORDANCE WITH ITEM 603.09 TO THE SATISFACTION OF THE LUCAS COUNTY ENGINEER. PAYMENT FOR THIS WORK SHALL BE INCLUDED WITH THE UNIT PRICE BID FOR THE PERTINENT ITEM.

APPROVED PLAN

THE APPROVED SITE GRADING AND DRAINAGE MAY NOT BE CHANGED WITHOUT THE AUTHORIZATION OF THE LUCAS COUNTY ENGINEER.

CONSTRUCTION PERMIT

A PERMIT SHALL BE OBTAINED FROM LUCAS COUNTY AND ODOT AT LEAST ONE WEEK PRIOR TO BEGINNING WORK IN THE PUBLIC RIGHT OF WAY. APPLICATION FOR THE PERMIT IS TO BE MADE AT THE LUCAS COUNTY ENGINEER'S OFFICE AND ODOT DISTRICT 2 OFFICE.

STORM SEWER

STORM SEWER PIPE

ALL STORM PIPE SHALL MEET THE REQUIREMENTS OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION ITEM 603. STORM SEWER MATERIAL USED FOR TYPE B CONDUIT FOR TYPE B CONDUIT MAY CONSIST OF ANY OF THE FOLLOWING MATERIALS: POLYVINYL CHLORIDE (PVC), MEETING ASTM 3034, SDR 35, FOR SIZES UP TO AND INCLUDING 8", MINIMUM STIFFNESS OF 46 PSI, AND REINFORCED CONCRETE PIPE, PER ITEM 706.02.

CONNECTIONS

ALL STORM SEWER LATERALS SHALL BE PROPERLY PLUGGED AND MARKED WITH TWO (2) INCH BY FOUR (4) INCH STAKE EXTENDING FROM THE FLOWLINE TO 4' ABOVE THE FINISH GRADE. STORM LATERALS SHALL BE POLYVINYL CHLORIDE (PVC), MEETING ASTM SPECIFICATIONS D-3034, SDR 35.

SITE GRADING

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO GRADE THE ENTIRE AREA OF EACH PLAT UNDER CONSTRUCTION TO PROVIDE POSITIVE DRAINAGE.

FITTINGS

ALL FITTINGS (REDUCERS, TEES, WYES, SADDLE TAPS ETC...) SHALL MANUFACTURED IN THE SAME MANNER AS THE CONDUIT. NO "FIELD-MADE" OR INJECTED MOLDED FITTINGS WILL BE ACCEPTED.

DEFLECTION AND INFILTRATION TEST

ALL PVC AND OTHER FLEXIBLE PIPE USED FOR STORM SEWERS SHALL BE TESTED FOR DEFLECTION BY THE CONTRACTOR. UNDER THE SUPERVISION OF THE OWNER. TESTS SHALL NOT BE CONDUCTED UNTIL AT LEAST 60 DAYS AFTER FINAL BACKFILL HAS BEEN PLACED. MAXIMUM ALLOWABLE DEFLECTION SHALL BE 5%. IF THE TEST IS ACCOMPLISHED BY PULLING A MANDREL THROUGH THE PIPE, NO MECHANICAL EQUIPMENT SHALL BE USED TO ASSIST. ADDITIONAL "SPOT CHECKS" OF CONDUIT DEFLECTION SHALL BE PERFORMED AT THE DIRECTION OF THE OWNER.

NO.	DATE	BY	DESCRIPTION
1	4/6/01	MKL	90% SUBMITTAL
	4/30/01	MKL	SYLVANIA TOWNSHIP SUBMITTAL
	06/18/01	BPG	FINAL REVIEW

Mannik & Smith, Inc.
Consulting Engineers & Surveyors
1800 Indian Wood Circle
Maumee, Ohio 43537
Telephone (419) 891-2222

OWNER
Benchmark Group
4053 Maple Road
Amherst, NY 14226
(716) 833-4986

PROJECT
LOWE'S Companies, Inc.
Central Avenue Center
Central Avenue
Sylvania, Ohio

GENERAL NOTES

C1 / 12

B157A1D

S:\PROJECTS\MS\B157A1D\ROADWAY\B157A1D_GN1
CAD Date: [F3] 7/18/01
CAD Scale: 1"=1'
Last Revision By: GACKSTETTER
Description: FINAL

SPECIFICATIONS

Except as modified by these plans and the detail specifications pertaining thereto, all work on this project shall be governed by the State of Ohio Department of Transportation, "Construction and Material Specifications", dated January 1, 1997, and by such supplemental State specifications as may be in effect fourteen (14) calendar days prior to the award of this contract. In the aforesaid State specifications, the words "State", "Director" and "Engineer" shall be held to mean the Lucas County Sanitary Engineer or their duly appointed representative.

All material shall be manufactured in the United States of America. Copies of suppliers invoices shall be submitted to the Engineer.

SANITARY SEWER PIPE

All pipe for sanitary sewer shall have premium joint and shall be either Item 706.02 (reinforced pipe), Item 706.08ES (vitrified clay pipe), or polyvinyl (PVC) sewer pipe and fittings conforming to A.S.T.M. D-3034-SDR35.

If type "B" or "C" conduit is specified, the contractor may use polyvinyl (PVC) sewer pipe and fittings, A.S.T.M. (American Society for Testing and Materials) D-3034-SDR35. The pipe and fittings shall be made of PVC plastic having a cell classification of 12454-B as defined in specification D-1784. Compounds that have different cell classifications because one or more properties are superior to those of the specified compounds are also acceptable.

18" diameter and larger P.V.C. pipe shall be in accordance with A.S.T.M. F-679.

PIPE JOINT

All pipe shall be premium joint.

PIPE SPECIALS

Quantities for pipe bends, tees, wyes, plugs and other fittings are listed on the plans for the convenience of the contractor. The cost of all pipe specials for all types of pipe shall be considered paid for in the unit price bid per linear foot for the pertinent conduit item.

SANITARY MANHOLES

For sewers with a diameter of 36 inches or less, Type 2 standard, Type 3 drop and Type 4 Manholes shall be constructed with approved precast concrete manhole sections conforming in general to A.S.T.M. C-478.

Precast reinforced concrete riser rings and domes shall comply with the requirements of Item 706.02 except for minimum designs and marking. Minimum wall thickness shall be 5 inches and circular reinforcement shall be a minimum of 0.18 sq. in. per foot. Concrete shall have a minimum strength of 4,000 lbs. per sq. inch.

1-1/4 inch holes for handling may be cast into domes and rings.

Connection box for precast manholes on sewers 42 inches and over in diameter shall be reinforced as specified and shown on the standard drawing. Concrete for the manhole base, connection box and invert shall be Class "C", meeting requirements of Item 499 - O.D.O.T.

The following shall be clearly stenciled or impressed on each riser ring:

A. M.H.
B. The date of manufacture
C. The name or trademark of the manufacturer and location of the plant.

Connections for lateral sewers including drops and leads, except pipe included in Item 603, will be considered a part of all manholes. Minimum drop pipe diameter for sanitary sewer manholes shall be 6 inches. A drop pipe shall be provided for a sewer entering a manhole at an elevation of 24 inches or more above the manhole invert.

Openings for the inlet and outlet sewer pipe shall be drilled or cast in the precast ring and shall be fitted with a gasketed flexible watertight connection, Kor-N-Seal boot or approved equal, to prevent infiltration.

Sanitary sewer manholes shall have flexible watertight joints, using rubber gaskets for sealing the joints conforming in general to A.S.T.M. C-443. The joints shall be of such design as will permit placement without appreciable irregularities in the interior wall surface of the manhole. Acceptable 48 inch diameter joints shall be of the "O" ring gasket type, or approved equal.

Access through manholes shall be by means of steps meeting the requirements of Item 604 - Ohio Department of Transportation Construction and Material Specifications.

Manhole sections may be repaired, if necessary, because of occasional imperfections in manufacture or accidental damage during handling and will be acceptable if, in the opinion of the Lucas County Sanitary Engineer, the repairs are sound and properly finished and cured and the repaired manhole sections confirm to the requirements of A.S.T.M. C-478.

Adjusting rings, shall be precast, reinforced with one No. 3 gage wire or equivalent. There shall be a minimum of 4 inches, maximum of 12 inches. The entire outer surface of adjusting rings and manhole castings shall receive a smooth plaster coat of 1/2 inch minimum Portland Cement mortar unless otherwise detailed on the drawings or directed by the Lucas County Sanitary Engineer.

When manhole is located within the pavement area, the back fill material shall be granular material and it shall be tamped in place and then inundated. Granular material shall meet the requirements of Item 310.02 of the 1997 Construction and Material Specifications, Ohio Department of Transportation as modified by the Lucas County Engineer.

MANHOLE CASTINGS

Standard cast iron manhole frame and cover shall be Neenah R-1771 or approved equal. The combined weight shall not be less than 485 lbs. with vented lid. In pavement areas, or where required, or noted on detail plans, specify solid lid. In pavement areas, after the casting is set to grade, a circular area with a width of 12 inches shall be neatly cut away down to the bearing of the flange of the casting. The excavated area around the casting shall then be filled and compacted to 1/4 inch below the new surface with class "C", meet requirements of Item 499, O.D.O.T. concrete as specified by the Engineer.

All castings must:

be poured in a closed mould and shall be true to pattern.

be free of blows, porosity, burrs and other defects and shall not under any circumstances be plugged.

be of a good grade of machinable grey iron used in commercial castings.

All bearing bases shall be machined when used by traffic.

If castings are delivered to the job unpainted, they shall be given one coat of asphalt varnish or coal-tar pitch paint by the contractor.

SANITARY SERVICE CONNECTIONS

All sanitary service connections shall be properly plugged and suitably staked at the end of the service connection plug. Stake shall be a minimum 4 feet above plug to aid in future location of service connection. The cost of labor and materials for installation to be included in the unit price bid for the conduit.

All sanitary sewer connections constructed for existing buildings with basements shall be a minimum of 3 feet below the basement floor elevation at the property line. If the property is a vacant lot, the connection shall be a minimum of 8 feet below the pavement elevation at the property line. Any deviation from the above minimum standards will be shown on the plans and shall be approved by the Lucas County Sanitary Engineer.

Except as otherwise noted, all cross-over taps shall have a minimum grade of 1%.

Where the depth of the main sewer, at a service connection, is over 12 feet, a riser shall be required as shown on the plans. The riser shall be constructed in conformance with the sanitary riser detail included in these specifications.

Riser shall be the same size as the influent pipe or as indicated on detail plans.

All service connections shall be painted "green" at end of pipe. Color shall be in accordance with O.S.H.A. Specification 1010.144, approved safety color.

Quantities for risers, cross-overs, and service connections have been calculated for the standard sanitary riser detail. If the contractor, with the approval of the Lucas County Sanitary Engineer, elects to use an alternate riser, it shall be at no increase cost to the owner.

SANITARY SEWER INSPECTION

All work performed within the scope of this project is subject to the inspection and approval of the Lucas County Sanitary Engineer.

The sanitary sewer shall be visually inspected from manhole to manhole to assure correct alignment and absence of leaks. Sewer pipe invert elevations will be checked from manhole to manhole. Sewers with grades less than design grades are subject to rejection. The following table is the maximum allowable deviation of the constructed center of the sanitary sewer from manhole to manhole from the straight line design between the two manholes.

CONDUIT INSIDE DIAMETER	MAXIMUM ALLOWABLE DEVIATION FROM DESIGN CENTER OF CONDUIT
8 inch	2 inch
10" - 12 inch	3 inch
15 inch	4 inch
18" - 24 inch	5 inch

The maximum spacing between manholes shall be 350 feet, unless specified on the detail plans.

The construction of any part of the sanitary sewer including manholes and structures outside the permanent right-of-way and/or the permanent sanitary sewer easement will not be accepted by the Lucas County Sanitary Engineer.

INSTALLATION

The pipe shall be laid on a properly shaped and firm bedding of the type specified and meeting requirements of Item 603.04 of the current Construction and Material Specifications, State of Ohio, Department of Transportation. Where conditions warrant, unsuitable material shall be removed and granular material conforming to the specification shall be used for bedding.

All pipe and appurtenances shall be installed true to line, grade and location: with joints centered, spigots home and proper support and blocking provided. Care shall be used to lay the pipe so that it is supported and bedded the full length of the barrel.

When no bedding class is specified, the requirements for class "B" bedding shall apply.

Class "A" bedding shall consist of a continuous concrete cradle conforming to the plan details.

Class "B" bedding shall consist of a bed of granular stone material (Item 411 current specifications) having a thickness of at least 6 inches below the bottom of the pipe and extending up around the pipe for a depth of not less than 30% of its vertical outside diameter. The layer of bedding material shall be shaped to fit the conduit for at least 10% of the vertical diameter of the conduit and shall have recesses shaped to receive the bell of bell-and-spigot pipe.

Class "C" bedding shall consist of bedding the conduit in its natural foundation to a depth of not less than 10% of its total height. The bed shall be shaped to fit the conduit and shall have a recessed shaped to receive the bell.

BACKFILLING

All trenches and excavations shall be backfilled immediately after pipe is laid therein. No material shall be used for back filling that contains stones, rock or pieces of masonry, frozen earth, debris or earth with an exceptionally high void content.

Trenches outside the limits of 5 feet from the back of curb or edge of pavement shall be backfilled with thoroughly tamped granular material a minimum of 12 inches above the top of the pipe. The remainder of the trench may be filled with excavated material, insofar as it is of suitable character.

Trenches under pavement and to the limits of 5 feet outside the back of the curb or edge of pavement shall be backfilled with thoroughly tamped granular material to the pavement subgrade. Granular backfill shall conform to the gradation requirements of Item 411 of the 1997 Construction and Material Specifications, State of Ohio, Department of Transportation.

Granular material may be compacted with water if satisfactory drainage is provided for the free water. When compacting with water, the granular material may be placed in layers not to exceed 8 inches loose depth and each layer thoroughly saturated with water by flooding or jetting. Prior to the placement of soil over the granular material the free water should be drained.

TESTING REQUIREMENTS FOR SANITARY SEWERS

After the pipe has been laid and back filled, a low pressure air test or a water infiltration or exfiltration test shall be made on each section of pipe line between manholes. The sanitary sewer will be tested for infiltration or exfiltration as determined by and under the supervision of the Lucas County Sanitary Engineer. When an air test is required, in lieu of the water test, the Engineer shall give explicit instructions to be followed in carrying out the test. For the water test, maximum allowable infiltration or exfiltration shall not exceed 200 gallons per inch of pipe diameter per mile of pipe per twenty-four hours for any section of the system, including all manholes. Force main installations shall be pressure tested in accordance with AWWA C-600, current standards.

For flexible sanitary sewer pipe, five percent (5%) is the maximum allowable deflection. The deflection test can be run by use of a rigid ball or mandrel, whose diameter is equal to 95% of the inside diameter of the pipe, pulled through the sewer line. Deflection test will be performed three to six months after back filling or prior to completion of the project. Unless otherwise directed by the Engineer, all PVC pipe will be tested for deflection.

Should any section of the conduit fail to meet the above test requirements, it shall be the contractor's responsibility to provide television inspection and to provide necessary corrections. The cost of all materials, labor and incidentals necessary for performing the tests and making the corrections and replacements shall be included in the price bid for the pertinent conduit item.

ROOF DRAINS

Roof drains, foundation drains and other clean water connections to the sanitary sewer are prohibited.

SEWER-WATERLINE SEPARATION

Sanitary sewer and manhole installations shall be laid with at least ten (10) feet horizontal and eighteen (18) inches vertical separation from any waterline measured edge to edge.

SAFETY REQUIREMENTS

The contractor shall at all times follow all state and local safety requirements during construction of this project. Special care shall be taken during all trenching operations. Sheeting and bracing, cribbing, etc., must be installed as required, by the Engineer, to provide maximum safety to the contractor's workers in full compliance with Occupational Safety and Health Administration (OSHA) regulations.

INSURANCE

No Contractor or subcontractor shall start any work until the approved certificate of liability insurance is filed with the Lucas County naming Lucas County as the insured.

CONSTRUCTION STAKING

Construction staking for sanitary sewers will be performed by the Lucas County Sanitary Engineer. Forty-eight hours prior notice will be required for construction stakes. Subdivision control points will be set by the consulting engineer. It is the contractor's responsibility to protect and preserve the construction stakes and to verify their correctness prior to laying pipe.

EXISTING SURVEY POINTS

Survey monuments, bench marks and existing control points damaged or disturbed by construction shall be replaced by a registered land surveyor at the contractor's expense. Should the contractor fail to properly replace these points, the Lucas County Engineer shall replace them at the contractor's expense after three weeks notice.

REVIEW OF DRAINAGE FACILITIES

Before any work is started on the project, and again before final acceptance by the County, representatives of the Township, County Sanitary Engineer, County Engineer, and the contractor shall make an inspection of the existing sewers within the project limits which are to remain in service and which may be affected by the work. The condition of the existing conduits and their appurtenances shall be determined from field observations. Records of the inspections shall be kept in writing by the County.

All new conduits, inlets, catch basins and manholes constructed as a part of the project shall be free of all foreign matter and in a clean condition before the project will be acceptable by the County.

All existing sewers inspected initially by the above-mentioned parties shall be maintained and left in a condition reasonably comparable to that determined by the original inspection. Any change in the condition resulting from the contractor's operations shall be corrected by the contractor to the satisfaction of the County Engineer.

Payment for all operations described above shall be included in the unit prices bid for the pertinent conduit items of the contract.

EXISTING SEWERS

Except as otherwise provided in these plans, flow in existing storm and sanitary sewers shall be maintained at all times during construction of this project.

The existing sewers and catch basins are to be replaced immediately if damaged during construction by conduit of equal strength and a catch basin of equal construction. These replacements, if necessary, are to be considered paid for in the unit price bid for the installation of the proposed sanitary sewer. Ditches are to be regraded to drain properly.

CONNECTIONS TO EXISTING SEWERS

Where the plans provide for the proposed conduit to be connected to, or to cross either over or under an existing sewer, it shall be the responsibility of the contractor to locate the existing pipe both as to line and grade before he starts construction of the proposed sewer.

The contractor shall be responsible for any damage to existing sewers resulting from his operation or negligence.

OBSTRUCTIONS IN RIGHT-OF-WAY

The contractor shall not remove any mail boxes, paper boxes, private light posts, signs, utility markers, trees, shrubbery, fence, guardrail or other obstructions without the prior approval of the Engineer. The contractor shall notify all property owners and request that the property owner remove fences, shrubs, bushes, light posts, private signs and ornamental landscaping which includes, but is not limited to railroad ties, statues, brick or stone, wash stone, wood chips, etc. from the public right-of-way.

If the owner of said obstruction does not remove or relocate said obstruction within a reasonable time (10 days maximum) the contractor shall remove the obstruction and place it at the direction of the Engineer. If mailboxes cannot be immediately replaced, the contractor shall provide for temporary mail service suitable to the U. S. Postal Service. Payment for this work shall be included in the unit price bid for the pertinent conduit item.

RESTORATION OF RIGHT-OF-WAY

All existing public and quasi-public features in the existing public rights-of-way that are disturbed due to construction such as, but not limited to: mail boxes, curb, guardrails, driveways, swales, sewers, ditches, catch basins, berms, seeded areas, etc., shall be replaced to their original condition in accordance with current Ohio Department of Transportation specifications and in accordance with Item 603.09 to the satisfaction of the Lucas County Engineer.

Payment for this work shall be included in the price bid for lump sum, bid item - Restoration of Right-of-Way, however, no payment for this item shall be made and/or final acceptance of this project until such time as restoration of right-of-way is complete to the satisfaction of both the Lucas County Sanitary Engineer and the Lucas County Engineer.

UNDERGROUND UTILITIES

The location of the underground utilities shown on the plans have been obtained by diligent field checks and searches of available records. It is believed that they are essentially correct, but the Lucas County Sanitary Engineer does not guarantee their accuracy or completeness.

The exact location shall be the responsibility of the contractor. The contractor shall be responsible for any and all damage to existing utilities by his operations.

UTILITY ADJUSTMENT

Any and all work required for public or private utilities will be done by and at the expense of their respective owners, unless otherwise noted on these plans. Utilities that are in conflict shall submit detailed plans of utility rearrangement to the Lucas County Sanitary Engineer and the Lucas County Engineer. Utility rearrangement plans shall be approved and permit issued prior to commencing work.

PERMIT REQUIREMENTS

The contractor shall obtain all required work permits. Copies of permits shall be submitted to the Lucas County Sanitary Engineer prior to construction.

Permit shall be obtained from the Board of County Commissioners one week prior to commencing work in the public right-of-way in Lucas County. Application for permit shall be made at the office of the Lucas County Engineer, One Government Center, Suite 870, Toledo, Ohio, 43604. Copies of application can be obtained at the office of the Lucas County Sanitary Engineer.

Permit shall be obtained from the Ohio Department of Transportation (O.D.O.T.) prior to commencing work within State Route right-of-way. Application for permit shall be obtained from the Ohio Department of Transportation (O.D.O.T.), 317 East Poe Road, Bowling Green, Ohio 43402.

UTILITY NOTIFICATION

The contractor shall notify all involved utility companies at least five (5) construction days before any construction work is performed in the area where utilities are located.

Notify Ohio Utilities Protection Service (O.U.P.S.) 2 working days before digging at a toll free number: 1-800-362-2764. Non-member utilities must be contacted directly.

Notify the Toledo Edison Service Dispatcher at phone: 249-5380, forty-eight (48) hours prior to excavation.

The following is a list of the owners of utilities known to be within the limits of construction: (Absence from list does not exclude from involvement)

Lucas County Engineer
One Government Center, Suite 870
Toledo, Ohio 43604
Phone: 245-4540

City of Toledo
Division Of Water Distribution
401 S. Erie Street
Toledo, Ohio 43602
Phone: 936-2830

Columbia Gas of Ohio
701 Jefferson Avenue
Toledo, Ohio 43624
Phone: 248-5024

Buckeye Cablevision, Inc.
5566 Southwyck Blvd.
Toledo, Ohio 43614
Phone: 866-9800

Verizon North
300 W. Gypsy Lane Road
Bowling Green, Ohio 43402
Phone: 1-419-352-6521

Lucas County Sanitary Engineer
1111 South McCord Road
Holland, Ohio 43528
Phone: 865-2353

Toledo Edison Company
Edison Building
300 Madison Avenue
Toledo, Ohio 43604
Phone: 249-6148

ATT
7630 Finzel Rd.
Whitehouse, Ohio 43571
Phone: 877-0413

Ohio Department of
Transportation (O.D.O.T.)
317 East Poe Road
Bowling Green, Ohio 43402
Phone: 1-419-353-8131

Williams Communications
639 Oliver St.
Toledo, Ohio 43609
Phone: 244-1931

MAINTAINING TRAFFIC

Traffic shall be maintained and safety provisions made in accordance with Item 614 of the Ohio Department of Transportation's Construction and Material Specifications, the Ohio Manual of Uniform Traffic Control Devices for Streets and Highway (The Ohio Manual) and the requirements of this note.

Access to adjacent properties affected by any construction operations shall be maintained at all times unless permission to close the facility is granted by the owners and the Engineer.

Traffic shall be maintained at all times during construction of this project. During periods when the contractor is working, traffic may be limited to one-way flow on a minimum 10' lane, provided two flaggers are on the site to regulate flow. At all other times (nights, weekends, inclement weather) the road shall be re-opened to two-way flow on a minimum pavement equal to existing paved surface width. The following signs shall be provided on each approach to establish the closure of one lane.

Road Construction Ahead (OW-128, 36" x 36") 1200' in advance of closure

One Lane Road Ahead (OW-121, 36" x 36") 700' in advance of the closure

Flagger Ahead (OW-125, 36" x 36") 350' in advance of the closure

When the road is re-opened to two-way traffic, the road construction ahead sign shall

or covered.

Whenever the permanent pavement surface will not be replaced same day as removal, a 2-1/2" thickness of Item 405 bituminous cold mix shall be required as a temporary replacement. Permanent replacement must be accomplished within 3 weeks, weather permitting.

If maintenance of traffic facilities, provisions for traffic control and safety are not remain in place while the one lane road ahead and the flagger ahead signs shall be removed accomplished to the satisfaction of the Lucas County Engineer, then the Engineer will notify the contractor of the nature and extent of such problems. If prompt corrective actions are not taken by the contractor, then such services will be deducted from monies due the contractor.

Payment for maintenance of traffic in accordance with Item 614 and the provisions of this note will be at the contract price for Item 614 maintaining traffic.

NO.	DATE	BY	DESCRIPTION
1	4/30/01	MKL	SYLVANIA TOWNSHIP SUBMITTAL
	06/18/01	BPG	FINAL REVIEW

Mannik & Smith, Inc.
Consulting Engineers & Surveyors
1800 Indian Wood Circle
Maumee, Ohio 43537
Telephone (419) 891-2222

OWNER
Benchmark Group
4053 Maple Road
Amherst, NY 14226
(716) 833-4986

The Benchmark Group
483 Main Street
Amherst, NY 14226

PROJECT
LOWE'S Companies, Inc.
Central Avenue Center
Central Avenue
Sylvania, Ohio

GENERAL NOTES AND SPECIFICATIONS SANITARY SEWER

C2 / 12

B157A1D

S:\PROJECTS\MS\B157A1D\ROADWAY\LUCAS_CNTY_STD
CAD Dwg. Scale: (Eng.) 1"=1'
Last Revision Date: (06/18/01)
Last Revision By: GAC/KSTETTER
Description: FINAL

SPECIFICATIONS

All material and construction shall be in accordance with the Lucas County standards and specifications. Waterlines shall be installed, tested and sterilized under the direct supervision of the Lucas County Sanitary Engineer. No deviation from these specifications will be permitted. Detail specifications may be obtained from the Lucas County Sanitary Engineer.

Except as modified by these plans and by the detail specifications pertaining thereto, all work on this project shall be governed by the State of Ohio, Department of Transportation. Construction and material specifications dated January 1, 1997 and by such supplemental State specifications as may be in effect 14 calendar days prior to the award of this project. In the aforesaid specifications, the word "State", "Director" and "Engineer" shall be held to mean the Lucas County Sanitary Engineer or his representative.

The specifications of the American National Standards Institute (ANSI), American Water Works Association (AWWA) and the American Society of Testing and Materials (ASTM) herein referred to, unless otherwise noted, shall be the latest specifications of the respective organizations.

All material shall be manufactured in the United States of America. Copies of suppliers' invoices shall be submitted to the Engineer.

WATER SUPPLY PIPE

All water mains shall be ductile cast iron pipe, centrifugally cast. Pipe may be either of the mechanical or slip joint type.

Ductile iron pipe shall conform to ANSI-A21.51 (AWWA C-151). Minimum wall thickness shall meet the requirements of ANSI-A21.51, Table 51.4 (thickness Class 52 for 4 inch through 16 inch pipe).

Pipe bends and fittings shall be cement lined conforming to ANSI-A21.4 (AWWA C-104). The outside coating shall be a minimum 1/32 inch coal tar enamel. If coating is disturbed, it shall be replaced. All bolts, nuts, etc. used shall be Cor-ten steel and shall be coated after installation using an approved asphaltic base material.

Ductile iron fittings and specials shall conform to ANSI-A21.10 (AWWA C-110) or ANSI-A21.53 (AWWA C-153) with a minimum class of 250. Fittings shall have mechanical joint meeting ANSI-A21.11 (AWWA C-111).

Rubber gaskets shall be used on all mechanical joint fittings and shall conform to ANSI-A21.11 (AWWA C-111). Lead tipped rubber gaskets shall not be permitted. Bronze wedges shall be used at all push-on joints (two per joint).

MECHANICAL JOINT RESTRAINT SEE TABLE ON SHEET 3.

Pipe shall be anchored at dead ends, bends, tees, valves and other fittings requiring restraint by means of mechanical joint restraint. Mechanical joint restraint shall be incorporated in the design of the follower gland and shall include a restraining mechanism which, when actuated, imparts multiple wedging action against the pipe, increasing its resistance as the pressure increases. Flexibility of the joint shall be maintained after burial. Glands shall be manufactured of ductile iron conforming to ASTM A 536-80. Restraining devices shall be of ductile iron heat treated to a minimum hardness of 370 Bhn. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to ANSI/AWWA A21.11 and ANSI/AWWA C153/A21.53 of latest revision. Twist-off nuts shall be used to insure proper actuating of the restraining devices. The mechanical joint restraint device shall have a working pressure of at least 250 psi with a minimum safety factor of 2:1.

VALVE MANHOLE CASTINGS

Valve manhole frames and covers shall be 22 inch Neenah R-1771, or approved equal, ASTM-A48 with interchangeable pieces and machined horizontal bearing surfaces.

If castings are delivered to the job unpainted, they shall be given one coat of asphalt varnish or coal-tar pitch paint by the contractor.

VALVE MANHOLES

All main line valves shall be enclosed in standard valve manholes as shown in attached details. Manholes shall be constructed of either approved solid concrete (circular) block or approved precast manhole sections meeting ASTM C-478. Manhole walls shall rest on a Class 1 reinforced concrete or berm stone (ODOT Item 411) foundation as shown. If block is used, a 1/2" coat of cement mortar, inside and out, must be provided. Where pipe passes through the walls provide a gasketed flexible watertight connection (Kor-n-Seal, or equal), or 1/2" jute roping or neoprene gasket material.

Where specified, manhole steps meeting ASTM C-478 shall be provided and shall be of aluminum or reinforced polypropylene.

For precast sections, tops shall be of the eccentric or flat slab type and shall be constructed of Class 1 reinforced concrete. If precast sections are used, a minimum of 6" of adjusting rings must be provided.

Valve must be positioned inside manhole so as to allow unobstructed access to valve operating nut with valve wrench.

WATERLINE LENGTHS

All lengths shown on plan views are measured from centerline of valve or fittings if applicable

MANHOLE/HYDRANT GRADES

Contractor shall adjust manhole rim grades as shown on drawings to actual surrounding grade or as directed by the Engineer. No additional payment is allowed for these adjustments.

GATE VALVES

Gate valves shall be cast iron bodied, bronze mounted double disc with parallel seats, or resilient-seat, corrosion-resistant, 200 pound working pressure, non-rising stem type intended for use in vertical settings. Gate valves, 12" or smaller, shall be limited to valves made by Rennselear, Mueller, Kennedy, U.S. Valve or American Valve Companies AWWA C-500 or AWWA C-509 (resilient seat) as approved by Lucas County.

Resilient seat valves (AWWA C-509) are permitted for only 6" and 8" valves.

Valves are to open by turning right, or clockwise, and shall be furnished with a 2 inch square operating nut with the direction indicated by a clearly visible arrow cast into the valve.

FIRE HYDRANTS

Hydrants shall be the manufacturer's latest and best design; however, the only acceptable models will be those in mass production a minimum of five (5) years. All hydrants shall conform to the latest AWWA standard specification C-502.

Hydrants shall be of the 5 1/4 inch valve opening compression type, opening against and closing with the water pressure, opening by turning the operating nut to the left, counterclockwise direction.

Hydrants to be used in the Lucas County distribution system shall be limited to the following (meeting AWWA C-502):

American Valve Model B84B
Kennedy Guardian K-81A
Mueller Super Centurion 250

All required thread sizes shall be of the same size and type used in Lucas County and the City of Toledo system.

Hydrant replacement parts, including extensions, caps, nozzles and all external and internal parts shall be of same manufacturer as hydrant. Contractor shall supply copies of invoices of replacement parts.

Caps shall have gaskets and be secured to the hydrant by hot-dipped, welded, galvanized chains of 3/16" diameter.

All hydrants to be field painted with machinery enamel, hydrant body yellow, caps and bonnets black. All paint will be supplied by the Lucas County Sanitary Engineer. Unused paint must be returned to Lucas County.

PROTECTION AND PAINTING

All iron parts of valves and accessories shall be painted before leaving the shop with two coats of acceptable high grade bituminous paint.

The valves shall be protected at all times from rust or damage, both before and after installation, until the completion of the contract.

TAPPING VALVES

Tapping sleeves and valves and 3/4 inch chlorination taps shall be furnished and installed by the City of Toledo – Division of Water at the contractor's expense.

All excavation and backfill will be performed by the contractor.

INSTALLATION

The pipe shall be laid on a properly shaped and firm, granular bedding meeting requirements of Item 411 of the 1997 specifications, Ohio Department of Highways. Where conditions warrant, unsuitable material shall be removed and granular material conforming to the specifications shall be used for bedding.

All pipe and appurtenances shall be installed true to line, grade and location: with joints centered, spigots home; proper support and restraint provided; and all valve stems plumb. Care shall be used to lay the pipe so that it is supported by the full length of the barrel.

The pipe shall have approximately 5' of cover. Where conflicts occur with other utilities, a minimum of 18 inch vertical separation is required. Where special conditions warrant, the depth of cover may be changed.

BACKFILLING

All trenches and excavations shall be backfilled immediately after pipe is laid therein. No material shall be used for backfilling that contains stones, rock or pieces of masonry, frozen earth, debris or earth with an exceptionally high void content.

Trenches outside the limits of 5 feet from the back of curb shall be backfilled with thoroughly tamped granular material a minimum of 12 inches above the top of the pipe. The remainder of the trench may be filled with excavated material, insofar as it is of suitable character.

Trenches under pavement and within 5 feet of back of the curb or edge of pavement shall be backfilled with thoroughly tamped granular material to the pavement subgrade. Granular backfill shall conform to the gradation requirements of Item 411 of the 1997 specifications.

STERILIZATION

The contractor shall chlorinate all pipe lines, and this shall be done prior to pressure testing unless otherwise directed by Lucas County. Disinfection shall meet or exceed AWWA C-651.

POLYETHYLENE TUBE (TO BE USED ON ALL 8" PIPE)

Where specified, the water line shall be field wrapped with a minimum 8 mil thick polyethylene tube meeting the requirements of AWWA C105, with the installation in accordance with Method A and the recommendations of the manufacturer. All overlaps and seams shall be completely taped. All rips, punctures and other damage to the polyethylene shall be completely repaired. Tape shall be 2 inch wide plastic backed adhesive tape which will bond securely to both metal surfaces and the polyethylene film. Fittings that require concrete thrust blocks shall be completely wrapped prior to placing blocking. All valve, fire hydrants and other appurtenances shall also be properly wrapped to either the ground line or the under side of the operating nut or valve. Cost of the above specified shall be included in the price bid for the water line item.

GRADING AND CLEANUP

Grading and cleanup shall follow closely behind any construction. This work shall include grading, to achieve positive drainage of work limits and cleanup including any removal from the site of any materials, spoil, ect. This grading and cleanup shall be performed simultaneously with all construction phases of the project. All cost of equipment, material and labor needed to perform this grading and cleanup shall be included in the pertinent conduit item.

If the contractor does not continuously perform the work with reasonable progress to the satisfaction of the engineer, or fails to perform the grading and cleanup work, they will be notified by the Lucas County Engineer or the Lucas County Sanitary engineer. Upon receipt of this notification, the contractor has three (3) business days to commence deficient work as indicated in the written notification. liquidated damages as per the table in section 108.07 of O.D.O.T. construction and material specifications will be assessed for each calendar day beyond the three (3) business days that the work does not commence, and for each day thereafter that the work is not continuous.

POWER BROOM

The contractor shall power broom sweep the roadway at the end of each day if deemed necessary by the engineer. Costs are included in maintaining traffic, item 614

If the contractor fails to do any of the work as per general notes and standard specifications, the work will be done by Lucas County forces and all costs will be deducted from payments to the contractor. A minimum of $500.00 will be deducted for each event.

PRESSURE TESTING

The contractor shall make pressure and leakage tests of all pipe lines unless otherwise directed by the Lucas County Sanitary Engineer.

Pressure tests shall be made in all pipe lines or valved sections thereof as directed by Lucas County. The contractor shall furnish the pump, pipe connections, taps, gauges and all other apparatus for making the test. Before testing of the main, the contractor shall flush the main under the Lucas County Sanitary Engineer's supervision to expel any water, dirt, chlorine, etc., in compliance with AWWA C-600.

EXISTING SURVEY POINTS

Survey monuments, bench marks and existing points damaged or disturbed by construction shall be placed by a registered land surveyor at the contractor's expense. Should the contractor fail to properly replace these points, the Lucas County Engineer shall replace them at the contractor's expense after three (3) weeks notice.

SAFETY REQUIREMENTS

The contractor shall at all times follow all State and local safety requirements during construction of this project. Special care shall be taken during all trenching operations. Sheeting and bracing, cribbing, etc., must be installed as required by the Engineer to provide maximum safety to the contractor's workers in full compliance with Occupational Safety and Health Administration (OSHA) regulations.

INSURANCE

No contractor or subcontractor shall start any work until the approved certificate of liability insurance is filed with Lucas County naming Lucas County as the insured.

OHIO E.P.A. REQUIREMENTS

The Ohio Environmental Protection Agency requires a conformance to the 1987 edition of "Ten States Standards." This standard shall be equalled or exceeded for waterlines. Special attention shall be given to the following sections of Part 8.

8.0.1 Materials conform to AWWA standards
8.1.2 Minimum 6" diameter fire protection
8.5.3 Minimum 4' ground cover
8.5.5. Pressure testing AWWA C-600*
8.5.6. Disinfection AWWA C-651*
8.6.2. 10' horizontal separation water main/sewer
8.6.3. 18" vertical separation water main/sewer
8.6.6. No entry and/or contact with sewer manhole

* Note: It shall be the contractor's responsibility to perform this test properly and the responsibility for an adequate supervision and approval rests with the appropriate governmental agency. Any deviation from the above will not be permitted unless specifically included in the general notes or otherwise shown on these plans.

In cases where one and/or more of the above mentioned Ohio E.P.A. standards fall short of the Lucas County standards, the latter shall govern.

OBSTRUCTIONS IN RIGHT-OF-WAY

The contractor shall not remove any mail boxes, paper boxes, private light posts, signs, utility markers, trees, shrubbery, fence, guardrail or other obstructions without the prior approval of the Engineer. The contractor shall notify all property owners and request that the property owner remove fences, shrubs, bushes, light posts, private signs and ornamental landscaping which includes but is not limited to railroad ties, statues, brick or stone, wash stone, wood chips, etc. from the public right-of-way.

If the owner of said obstruction does not remove or relocate said obstruction within a reasonable time (10 days maximum), the contractor shall remove the obstruction and place it at the direction of the Engineer. If mailboxes cannot be immediately replaced, the contractor shall provide for temporary mail service suitable to the U. S. Postal Service. Payment for this work shall be included in the unit price bid for the pertinent conduit item.

RESTORATION OF RIGHT-OF-WAY

All existing public and quasi-public features in the existing public rights-of-way that are disturbed due to construction such as, but not limited to: mail boxes, curb, guardrails, driveways, swales, sewers, ditches, catch basins, berms, seeded areas, etc., shall be replaced to their original condition in accordance with current Ohio Department of Transportation specifications and in accordance with Item 603.09 to the satisfaction of the Lucas County Engineer.

Payment for this work shall be included in the price bid for lump sum, bid item – Restoration of Right-of-Way. However, no payment for this item shall be made and/or final acceptance of this project until such time as restoration of right-of-way is complete to the satisfaction of both the Lucas County Sanitary Engineer and the Lucas County Engineer.

STORM SEWER REPLACEMENT

Any storm sewer replaced is to be either Item 706.02, reinforced concrete circular pipe with "O" ring joints, Item 70611

REVIEW OF DRAINAGE FACILITIES

Before any work is started on the project, and again before final acceptance by the County, representatives of the Township, County Sanitary Engineer, County Engineer, and the contractor shall make an inspection of the existing sewers within the project limits which are to remain in service and which may be affected by the work. The condition of the existing conduits and their appurtenances shall be determined from field observations. Records of the inspections shall be kept in writing by the County.

All new conduits, inlets, catch basins and manholes constructed as a part of the project shall be free of all foreign matter and in a clean condition before the project will be acceptable by the County.

All existing sewers inspected initially by the above-mentioned parties shall be maintained and left in a condition reasonably comparable to that determined by the original inspection. Any change in the condition resulting from the contractor's operations shall be corrected by the contractor to the satisfaction of the County Engineer.

Payment for all operations described above shall be included in the unit prices bid for the pertinent conduit items of the contract.

VIDEO TAPING

Prior to construction, the entire project lenght is to be video taped by the office of the Lucas County Sanitary Engineer.

CONSTRUCTION STAKING

Construction staking for waterlines shall be performed by the Lucas County Sanitary Engineer. Forty-eight (48) hours prior notice will be required for construction stakes. It is the contractor's responsibility to protect and preserve the construction stakes and to verify their correctness prior to laying pipe. Subdivision control points will be set by the consulting engineer.

PERMIT REQUIREMENTS

The contractor shall obtain all required work permits. Copies of permits shall be submitted to the Lucas County Sanitary Engineer prior to construction.

Permit shall be obtained from the Board of County Commissioners one week prior to commencing work in the public right-of-way in Lucas County. Application for permit shall be made at the office of the Lucas County Engineer, One Government Center, Suite 870, Toledo, Ohio, 43604. Copies of application can be obtained at the office of the Lucas County Sanitary Engineer.

UNDERGROUND UTILITIES

The location of the underground utilities shown on the plans have been obtained by diligent field check and searches of available records. It is believed that they are essentially correct, but the Lucas County Sanitary Engineer does not guarantee their accuracy or completeness.

The exact location shall be the responsibility of the contractor. The contractor shall be responsible for any and all damage to existing utilities by his operations.

UTILITY ADJUSTMENT

Any and all work required for public or private utilities will be done by and at the expense of their respective owners, unless otherwise noted on these plans. Utilities that are in conflict shall submit detailed plans of utility rearrangement to the Lucas County Sanitary Engineer. Utility rearrangement plans shall be approved and permit issued prior to commencing work.

UTILITY NOTIFICATION

The contractor shall notify all involved utility companies at least five (5) construction days before any construction work is performed in the area where utilities are located.

Notify Ohio Utilities Protection Service (O.U.P.S.) two (2) working days before digging, at a toll free number: 1-800-362-2764. Non-member utilities must be contacted directly.

Notify the Toledo Edison Service Dispatcher at Phone number: 249-5380 forty-eight (48) hours prior to excavation.

The following is a list of the owners of utilities known to be within and/or reported to be within the limits of construction by the Ohio Utilities Protection Service (Absence from list does not exclude from involvement)

Lucas County Engineer One Government Center, Suite 870 Toledo, Ohio 43604 Phone: (419)213-4540	Lucas County Sanitary Engineer 1111 South McCord Road Holland, Ohio 43528 Phone: (419)213-2926	Columbia Gas of Ohio 333 South Erie St. Toledo, Ohio 43602 Phone: (419)252-8098
City of Toledo Division Of Water Distribution 401 South Erie Street Toledo, Ohio 43602 Phone: (419) 936-2830	Columbia Gas of Ohio 701 Jefferson Ave. Toledo, Ohio 43624 Swanton, Ohio 43558 Phone: (419)248-5042	ATT 7630 Finzel Rd. Whitehouse, Ohio 43571 Toledo, Ohio 43624 Phone: (419)877-0413
Toledo Edison Company Edison Building 300 Madison Avenue Toledo, Ohio 43604 Phone: (419)259-5086	Ohio Department of Transportation (O.D.O.T.) 317 East Poe Road Bowling Green, Ohio 43402 Phone: (419)353-8131	Williams Communications 639 Oliver St. Toledo, Ohio 43609 Phone: (419)244-1931
	Verizon North 300 W. Gypsy Lane Road Bowling Green, Ohio 43402 Phone: 1-419-352-6521	

MAINTAINING TRAFFIC

Traffic shall be maintained and safety provisions made in accordance with Item 614 of the Ohio Department of Transportation's Construction and Material Specifications,the Ohio Manual of Uniform Traffic Control Devices for Streets and Highway (The Ohio Manual) and the requirements of this note.

Access to adjacent properties affected by any construction operations shall be maintained at all times unless permission to close the facility is granted by the owners and the Engineer.

Traffic shall be maintained at all times during construction of this project. During periods when the contractor is working, traffic may be limited to one-way flow on a minimum 10' lane provided two flaggers are on the site to regulate flow. At all other times (nights, weekends, inclement weather) the road shall be re-opened to two way flow on a minimum pavement equal to existing paved surface width. The following signs shall be provided on each approach to establish the closure of one lane.

Road construction ahead (OW-128, 36" x 36") 1200' in advance of closure

One lane road ahead (OW-121, 36" x 36") 700' in advance of the closure

Flagger ahead (OW-125, 36" x 36") 350' in advance of the closure

When the road is re-opened to two-way traffic, the road construction ahead sign shall remain in place while the one lane road ahead and the flagger ahead signs shall be removed or covered.

Whenever the permanent pavement surface will not be replaced same day as removal, a 2-1/2" thickness of Item 405 bituminous cold mix shall be required as a temporary replacement. Permanent replacement must be accomplished with three (3) weeks, weather permitting.

If maintenance of traffic facilities, provisions for traffic control and safety are not accomplished to the satisfaction of the Lucas County Engineer and O.D.O.T. then the Engineer will notify the contractor of the nature and extent of such problems. If prompt corrective actions are not taken by the contractor, then such services will be deducted from monies due the contractor.

Payment for maintenance of traffic in accordance with Item 614 and the provisions of this note will be at the contract price for Item 614 Maintaining Traffic.

NO.	DATE	BY	DESCRIPTION
△	4/30/01	MKL	SYLVANIA TOWNSHIP SUBMITTAL
	06/18/01	BPG	FINAL REVIEW

Mannik & Smith, Inc.
Consulting Engineers & Surveyors
1800 Indian Wood Circle
Maumee, Ohio 43537
Telephone (419) 891-2222
MSI

OWNER
Benchmark Group
4053 Maple Road
Amherst, NY 14226
(716) 833-4986
The Benchmark Group

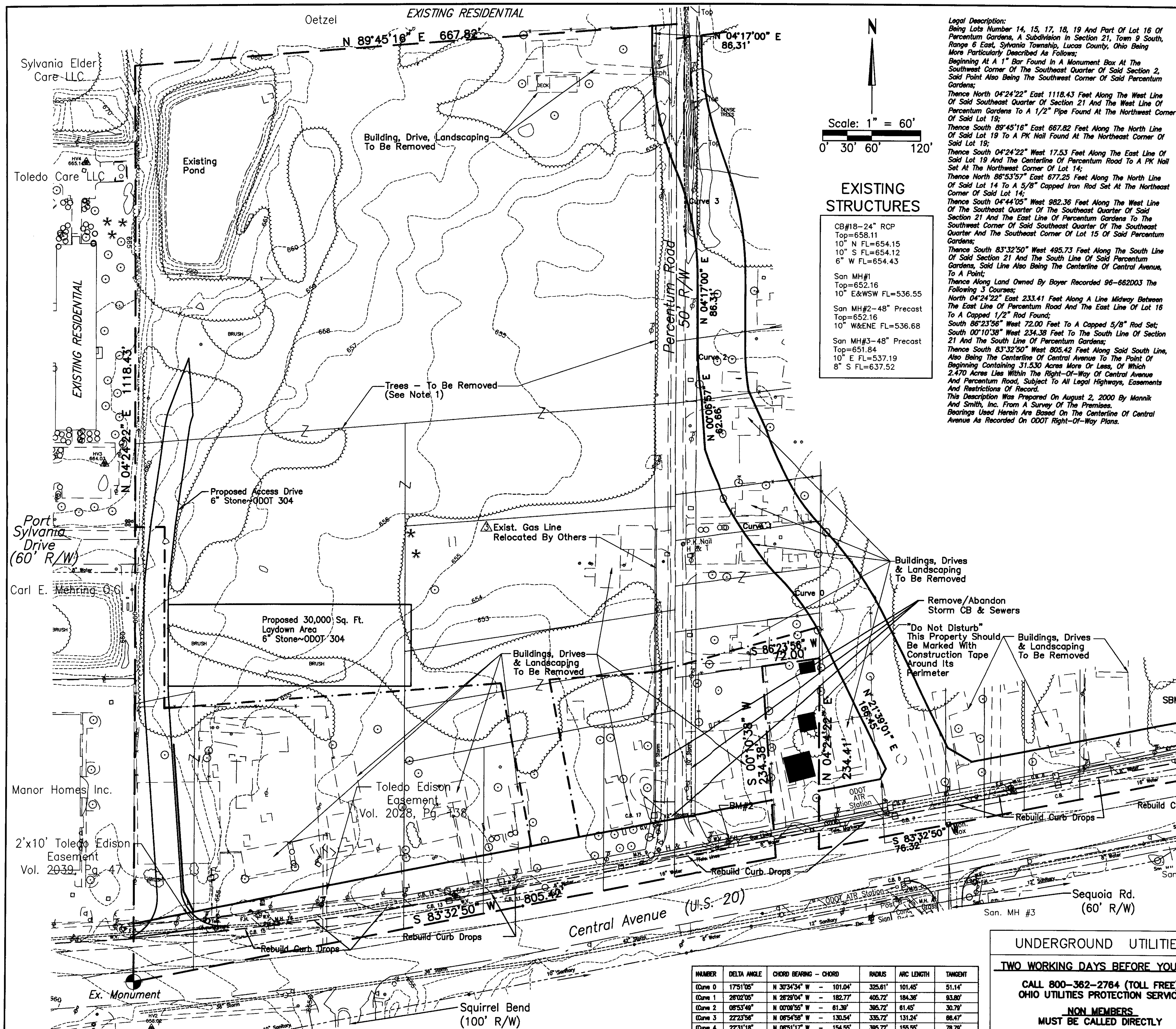
PROJECT
LOWE'S Companies, Inc.
Central Avenue Center
Central Avenue
Sylvania, Ohio

GENERAL NOTES AND SPECIFICATIONS WATER MAIN

C3 / 12

B157A1D

S:\PROJECTS\MSI\B157A1D\ROADWAY\LUCAS_CNTY_STD
Last Revision By: GACKSTETTER
Description: FINAL



Legal Description:
Being Lots Number 14, 15, 17, 18, 19 And Part Of Lot 16 Of Percentum Gardens, A Subdivision In Section 21, Town 9 South, Range 6 East, Sylvania Township, Lucas County, Ohio Being More Particularly Described As Follows;
Beginning At A 1" Bar Found In A Monument Box At The Southwest Corner Of The Southeast Quarter Of Said Section 2, Said Point Also Being The Southwest Corner Of Said Percentum Gardens;
Thence North 04°24'22" East 1118.43 Feet Along The West Line Of Said Southeast Quarter Of Section 21 And The West Line Of Percentum Gardens To A 1/2" Pipe Found At The Northwest Corner Of Said Lot 19;
Thence South 89°45'16" East 667.82 Feet Along The North Line Of Said Lot 19 To A PK Nail Found At The Northeast Corner Of Said Lot 19;
Thence South 04°24'22" West 17.53 Feet Along The East Line Of Said Lot 19 And The Centerline Of Percentum Road To A PK Nail Set At The Northwest Corner Of Lot 14;
Thence North 86°53'57" East 677.25 Feet Along The North Line Of Said Lot 14 To A 5/8" Capped Iron Rod Set At The Northeast Corner Of Said Lot 14;
Thence South 04°44'05" West 982.36 Feet Along The West Line Of The Southeast Quarter Of The Southeast Quarter Of Said Section 21 And The East Line Of Percentum Gardens To The Southwest Corner Of Said Southeast Quarter Of The Southeast Quarter And The Southeast Corner Of Lot 15 Of Said Percentum Gardens;
Thence South 83°32'50" West 495.73 Feet Along The South Line Of Said Section 21 And The South Line Of Said Percentum Gardens, Said Line Also Being The Centerline Of Central Avenue, To A Point;
Thence Along Land Owned By Boyer Recorded 96-662D03 The Following 3 Courses;
North 04°24'22" East 233.41 Feet Along A Line Midway Between The East Line Of Percentum Road And The East Line Of Lot 16 To A Capped 1/2" Rod Found;
South 86°23'56" West 72.00 Feet To A Capped 5/8" Rod Set;
South 00°10'38" West 234.38 Feet To The South Line Of Section 21 And The South Line Of Percentum Gardens;
Thence South 83°32'50" West 805.42 Feet Along Said South Line, Also Being The Centerline Of Central Avenue To The Point Of Beginning Containing 31.530 Acres More Or Less, Of Which 2.470 Acres Lies Within The Right-Of-Way Of Central Avenue And Percentum Road, Subject To All Legal Highways, Easements And Restrictions Of Record.
This Description Was Prepared On August 2, 2000 By Mannik And Smith, Inc. From A Survey Of The Premises.
Bearings Used Herein Are Based On The Centerline Of Central Avenue As Recorded On ODOT Right-Of-Way Plans.

EXISTING STRUCTURES

CB#18–24" RCP
Top=658.11
10" N FL=654.15
10" S FL=654.12
6" W FL=654.43

San MH#1
Top=652.16
10" E&WSW FL=536.55

San MH#2–48" Precast
Top=652.16
10" W&ENE FL=536.68

San MH#3–48" Precast
Top=651.84
10" E FL=537.19
8" S FL=637.52

NNUMBER	DELTA ANGLE	CHORD BEARING – CHORD	RADIUS	ARC LENGTH	TANGENT
(Curve 0	17°51'05"	N 30°34'34" W – 101.04'	325.61'	101.45'	51.14'
(Curve 1	26°02'05"	N 26°29'04" W – 182.77'	405.72'	184.36'	93.80'
(Curve 2	08°53'49"	N 00°09'55" W – 61.39'	395.72'	61.45'	30.79'
(Curve 3	22°23'56"	N 06°54'58" W – 130.54'	335.72'	131.24'	66.47'
(Curve 4	22°31'18"	N 06°51'17" W – 154.55'	395.72'	155.55'	78.79'

UNDERGROUND UTILITIES

TWO WORKING DAYS BEFORE YOU DIG

CALL 800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE

NON MEMBERS
MUST BE CALLED DIRECTLY

NOTES

1. Existing Trees Are Predominantly Cottonwood & Silver Maple. Trees Are To Be Removed For Development.
2. Demolition Shall Consist Of The Removal, Wholly Or In Part, and The Satisfactory Disposal Of All Buildings, Fences, Guardrails, Structures, Old Pavement, Abandoned Pipe Lines, Storage Tanks, Septic Tanks And Any Other Obstructions Which Are Not Designated Or Permitted to Remain. It Shall Also Include The Salvaging Of Designated Materials And Backfilling The Resulting Trenches, Holes And Pits.
3. Contractor Is Responsible For Contacting The Utility Companies Prior To Demolition. Demolition Contractor Shall Coordinate The Termination Of All Utility Services With Each Respective Utility Company.
4. Contractor Is Responsible For All Waste Disposal At Offsite Location.
5. The Lucas County Health Department Shall Be Contacted for Abandonment of all wells and On-Site Septic Systems.
6. For Phase I, See "Phase I Environmental Site Assessment Of Proposed 32 Acre Development Percentum Road & Central Avenue, Sylvania Township, Ohio" Dated September 1, 2000. Prepared By: The Mannik And Smith Group.
7. For Phase II, See "Phase II Environmental Site Assessment Of Proposed 32 Acre Development Percentum Road & Central Avenue, Sylvania Township, Ohio" Dated February 2001. Prepared By: The Mannik And Smith Group.
8. For Wetland Delineation, See " Central Avenue & Percentum" Dated May 30, 2000. Prepared By: Earth Dimensions, Inc.
9. For Geotechnical Investigational Report, See "Geotechnical Investigational Report For Proposed Central Avenue Center, Central Avenue, Lucas County, Sylvania, OH" Dated May 15, 2001. Prepared By: The Mannik And Smith Group.
10. For All Existing Drives To Be Abandoned Curb Drops Are To Be Rebuilt With Full Height Concrete Curb.

BENCH MARK

SBM#1 – Chiseled "□" In Center Of N. Edge Of Concrete Headwall, N. Side Of Central Elevation = 651.27

BM#2 – North Bonnet Bolt On Hydrant On NE Quadrant Of Central–Percentum Elevation = 656.18

BM#3 – X Cut N.B. Bolt Hydrant 34'± &57'± W. Of NE Corner Meijer Store Elevation = 675.17

Lucas Co. BM#114 – McCord Rd. – 1/2 mi. S. Of Sylvania Ave. – Toledo Angola RR – NE Corner 26.8' N. Of Rail Of Toledo Angola RR 31.30 E. Of 1/4 Cor. Sec. 21–22 Elevation = 655.71

LEGEND

—— —— . . . . Property Boundary
——655—— . . . . Existing Contour
——R/W—— . . . . Proposed Right-of-Way
. . . . Monument

NO.	DATE	BY	DESCRIPTION
1	2/28/01	MKL	40% Submittal
2	4/6/01	MKL	90% Submittal
	4/30/01	MKL	Sylvania Township Submittal
3	5/9/01	MKL	Exist. Gas Line
	06/18/01	BPG	FINAL REVIEW

Mannik & Smith, Inc.
Consulting Engineers & Surveyors
1800 Indian Wood Circle
Maumee, Ohio 43537
Telephone (419) 891–2222

OWNER
Benchmark Group
4053 Maple Road
Amherst, NY 14226
(716) 833-4986

The Benchmark Group 4053 Maple Road Amherst, NY 14226

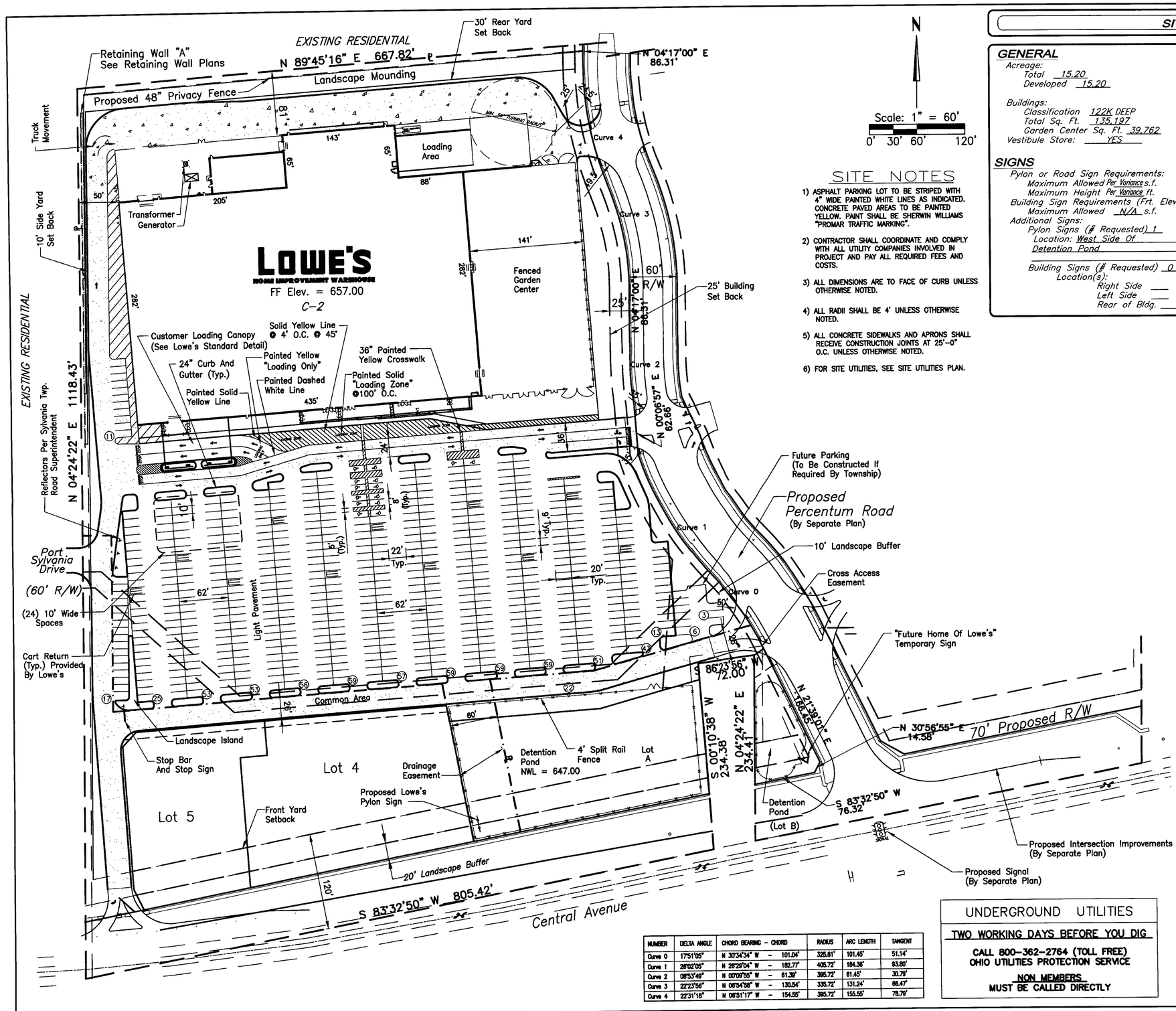
PROJECT
LOWE'S Companies, Inc.
Central Avenue Center
Central Avenue
Sylvania, Ohio

EXISTING CONDITIONS AND DEMOLITION PLAN

C4/12

B157A1D

S:\PROJECTS\MS\B157A1D\ROADWAY\B157A1D_C_EC1D
CAD Dwg Scale: (Eng.) 1=60
Last DWG Revision: 07/18/01
Last Revision By: GACKSTETTER
Description: FINAL



N

Scale: 1" = 60'

0' 30' 60' 120'

SITE NOTES

1) ASPHALT PARKING LOT TO BE STRIPED WITH 4" WIDE PAINTED WHITE LINES AS INDICATED. CONCRETE PAVED AREAS TO BE PAINTED YELLOW. PAINT SHALL BE SHERWIN WILLIAMS "PROMAR TRAFFIC MARKING".

2) CONTRACTOR SHALL COORDINATE AND COMPLY WITH ALL UTILITY COMPANIES INVOLVED IN PROJECT AND PAY ALL REQUIRED FEES AND COSTS.

3) ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

4) ALL RADII SHALL BE 4' UNLESS OTHERWISE NOTED.

5) ALL CONCRETE SIDEWALKS AND APRONS SHALL RECEIVE CONSTRUCTION JOINTS AT 25'-0" O.C. UNLESS OTHERWISE NOTED.

6) FOR SITE UTILITIES, SEE SITE UTILITIES PLAN.

SITE DATA

GENERAL

Acreage:
Total 15.20
Developed 15.20

Buildings:
Classification 122K DEEP
Total Sq. Ft. 135,197
Garden Center Sq. Ft. 39,762
Vestibule Store: YES

SIGNS

Pylon or Road Sign Requirements:
Maximum Allowed Per Variance s.f.
Maximum Height Per Variance ft.
Building Sign Requirements (Frt. Elev.)
Maximum Allowed N/A s.f.
Additional Signs:
Pylon Signs (# Requested) 1
Location: West Side Of Detention Pond
Building Signs (# Requested) 0
Location(s):
Right Side
Left Side
Rear of Bldg.

PARKING

Lowe's Parking Requirements:
Standard Spaces: 662
Handicapped Spaces: 14
Total Spaces: 676
Ratio (spaces/1000 sf) 5.0
Parking Provided:
Standard Spaces: 615
Handicapped Spaces: 14
Total Spaces: 629
Ratio (spaces/1000 sf) 4.70

TRAFFIC

Signals:
Existing ___ Yes X No
Location
Proposed X Yes ___ No
Location Central Ave. and Percentum Rd.

Counts:
40,000 /Day
Central Avenue
/Day
/Day

LEGEND

- Property Boundary
- R/W — Proposed Right-of-Way
- Monument
- Heavy -duty Asphalt
- Heavy -duty Concrete

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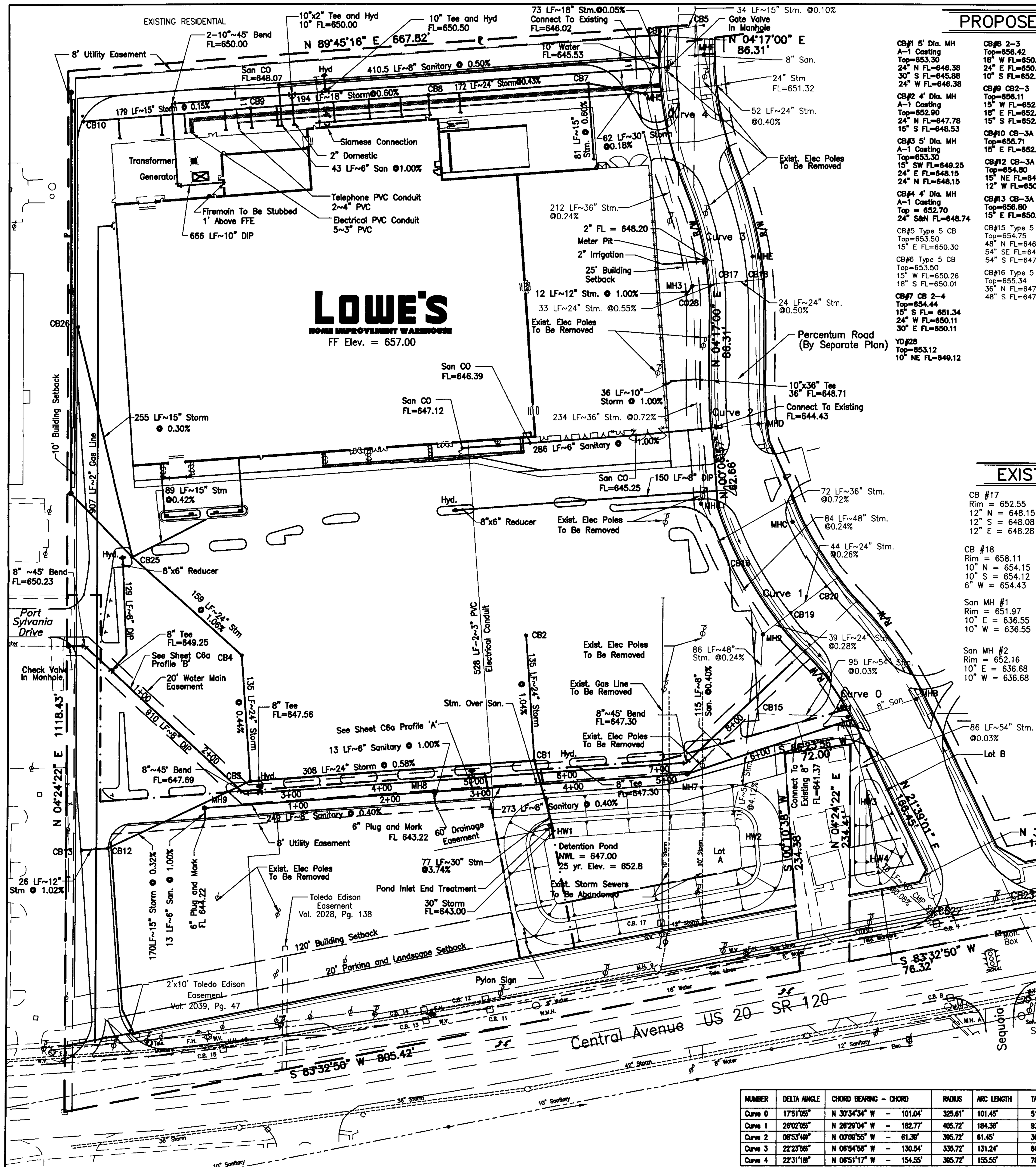
Central Avenue Center
Central Avenue
Sylvania, Ohio

SITE PLAN

C5 / 12

B157A1D

S:\PROJECTS\MS\B157A1D\ROADWAY\B157A1D_C_SP10
Current Date: 06/18/01
Last CAD Revision: 06/18/01
Last Revision By: GACKSTETTER
Description: PDF



PROPOSED STRUCTURES

CB#1 5' Dia. MH
A-1 Casting
Top=653.30
24" N FL=646.38
30" S FL=645.88
24" W FL=646.38

CB#2 4' Dia. MH
A-1 Casting
Top=652.90
24" N FL=647.78
15" S FL=648.53

CB#3 5' Dia. MH
A-1 Casting
Top=653.30
15" SW FL=649.25
24" E FL=648.15
24" N FL=648.15

CB#4 4' Dia. MH
A-1 Casting
Top = 652.70
24" S&N FL=648.74

CB#5 Type 5 CB
Top=653.50
15" E FL=650.30

CB#6 Type 5 CB
Top=653.50
15" W FL=650.26
18" S FL=650.01

CB#7 CB 2-4
Top=654.44
15" S FL= 651.34
24" W FL=650.11
30" E FL=650.11

YD#28
Top=653.12
10" NE FL=649.12

CB#8 2-3
Top=656.42
18" W FL=650.85
24" E FL=650.85
10" S FL=652.01

CB#9 CB2-3
Top=656.11
15" W FL=652.01
18" E FL=652.01
15" S FL=652.01

CB#10 CB-3A
Top=655.71
15" E FL=652.28

CB#12 CB-3A
Top=654.80
15" NE FL=649.79
12" W FL=650.04

CB#13 CB-3A
Top=656.80
15" E FL=650.31

CB#15 Type 5 CB
Top=654.75
48" N FL=646.85
54" SE FL=646.85
54" S FL=647.00

CB#16 Type 5 CB
Top=655.34
36" N FL=647.27
48" S FL=647.27

CB#17 A-1
Top=653.86
24" E FL=649.52
24" W FL=649.52

CB#18 A-1
Top=653.86
24" W FL=649.64

CB#19 A-1
Top=652.91
24" E FL=647.60
24" W FL=647.60

CB#20 A-1
Top=652.91
24" W FL=647.71

CB#22 CB-3A
Top=655.6
42" W FL=646.48
42" E FL=646.48
18" NW FL=646.48

CB#23 CB-3A
Top=655.6
42" W FL=646.13
42" E FL=646.13

CB#24 CB-3A
Top=651.21
15" N FL=648.17

CB#25 CB-3A
Top=655.25
15" N FL=650.42
15" E FL=650.42

CB#26 CB-3A
Top=654.89
15" S FL=651.18

MH#1 No. 4 MH
Top=653.00
24" NW FL=646.41
54" S FL=646.41

MH#2 NO. 4 MH
Top=654.60
24" E FL=647.49
48" N FL=647.06
48" S FL=647.06

MH#3 NO. 4 MH
Top=654.71
36" S&NW FL=649.47
24" E FL=649.47
12" SW FL=649.00

MH#4 No. 5 MH
Top=651.40
42" W FL=646.06
42" E FL=646.06
15" S FL=648.19

MH#5 NO. 4 MH
Top=656.47
30" W FL=649.98
36" S FL=649.98
30" E FL=649.98
18" N FL=649.98

MH#6 NO. 4 MH
Top=654.71
36" NE&S=647.78

MH#7 Sanitary Type 2
Top=656.88
8" E & W FL=641.83

MH#8 Sanitary Type 2
Top=656.26
8" E & W FL=642.92
6" S FL=643.09

MH#9 Sanitary Type 2
Top=655.26
8" E FL=643.92
6" S FL=644.09

EXISTING STRUCTURES

CB #17
Rim = 652.55
12" N = 648.15
12" S = 648.08
12" E = 648.28

CB #18
Rim = 658.11
10" N = 654.15
10" S = 654.12
6" W = 654.43

San MH #1
Rim = 651.97
10" E = 636.55
10" W = 636.55

San MH #2
Rim = 652.16
10" E = 636.68
10" W = 636.68

San MH #3
Rim = 651.84
10" E = 637.19
8" S = 637.52

MH #A
Rim = 651.63
6" NW = 648.03
6" SW = 647.98

CB #B
Rim = 652.01
12" SW = 648.01

MH #C
Rim = 652.16
12" NE = 647.21
12" SE = 646.86
6" SE = 647.91
42" E = 646.41
42" W = 646.86

CB #D
Rim = 650.31
12" E = 646.56
12" NW = 646.51
12" S = 647.31

CB #E
Rim = 650.88
6" E = 649.03

MH #F
Rim = 651.83
12" E = 637.13
12" W = 637.13

CB #G
Rim = 650.60
12" W = 647.15
12" S = 648.60

CB #H
Rim = 650.65
12" N = 648.65
12" S = 648.70

LEGEND

Property Boundary
655 — Existing Contour
R/W — Proposed Right-of-Way
Monument

N

Scale: 1" = 60'
0' 30' 60' 120'

SITE UTILITY NOTES

1) LOCATION OF SITE UTILITIES SHALL BE VERIFIED BY CONTRACTOR WITH PROPER UTILITY COMPANY PROVIDING SERVICE.

2) UTILITY CONTRACTOR SHALL PROVIDE 2' x 2' x 8" THICK CONCRETE APRON AT ALL CLEANOUTS OUTSIDE OF BUILDING.

3) UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ALL TAP AND TIE ON FEES REQUIRED, AS WELL AS COST OF UNDERGROUND SERVICE CONNECTIONS TO THE BUILDING.

4) ELECTRICAL SERVICE TO PAD MOUNTED TRANSFORMER SHALL BE RUN UNDERGROUND, FROM ROAD RIGHT-OF-WAY TO TRANSFORMER LOCATION. ASSOCIATED COST BY UTILITY CONTRACTOR.

5) UTILITY CONTRACTOR SHALL FURNISH (2) - 4" TELEPHONE CONDUIT(S) AS SHOWN ON PLAN, VERIFY LOCATION OF TIE IN AT TELEPHONE COMPANY'S SERVICE LINE. PROVIDE NYLON PULL CORDS INSIDE CONDUIT.

6) UTILITIES WITHIN THE PROPOSED PERCENTUM ROAD RIGHT-OF-WAY TO BE CONSTRUCTED BY THE ROADWAY CONSTRUCTION PLANS.

7) THE DETENTION BASINS AND PROPOSED STORM SEWER TO MH5 TO BE CONSTRUCTED BY THE ROADWAY PLANS.

8) ALL EXISTING STORM SEWERS ALONG PERCENTUM ROAD IS RCP.

ONSITE WATERLINE NOTES

1) FOR GENERAL SITE WORK NOTES, SEE DRAWING C5 .
2) ALL PIPE 4" AND LARGER SHALL BE C900, CLASS 150, P.V.C. CONFORMING TO ANSI, AWWA, AND SPECIFICATIONS.
3) FITTINGS 4" AND LARGER SHALL BE CAST IRON (PUSH-ON TYPE OR MECHANICAL JOINT) CONFORMING TO UNI-BELL PLASTIC PIPE STANDARD ANSI AND AWWA STANDARD SPECIFICATIONS.
4) PIPE AND FITTINGS 3" AND SMALLER TO BE EITHER P.V.C. SCHE. 40 W/ SOLVENT WELD JOINTS OR SOFT K-COPPER.
5) ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF 5' ABOVE TOP OF PIPE.
6) THE MINIMUM HORIZONTAL SEPARATION BETWEEN THE CLOSEST TWO POINTS OF THE WATER AND SEWER LINE IS TEN FEET (10'). THE MINIMUM VERTICAL SEPARATION BETWEEN THE CLOSEST TWO POINTS OF THE WATER AND SEWER LINE IS EIGHTEEN INCHES (18").
7) THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, AND FIRE HYDRANTS..
8) DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE OR FITTING.
9) ALL SPRINKLER, DOMESTIC AND SANITARY LEADS TO BUILDING SHALL END AS SHOWN ON PLAN AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT END (FOR OTHERS TO REMOVE AND EXTEND AS NECESSARY).
10) ALL FIRE HYDRANTS SHALL BE PROVIDED WITH AN APPROVED GATE VALVE A MAXIMUM OF 5'-0" FROM HYDRANT.
11) ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED AND DISINFECTED BEFORE ACCEPTANCE. SEE SITE WORK SPECIFICATIONS.
12) ALL GATE VALVES SHALL BE PROVIDED WITH A ROADWAY SCREW TYPE CAST IRON VALVE BOX. BOXES FOR VALVES 3" AND SMALLER SHALL HAVE ARCH BASE.
13) VALVES 3/4" THROUGH 3" SHALL BE BRONZE WEDGE TYPE GATE VALVE. VALVES SHALL HAVE NON-RISING STEM WITH SOLID TEE HEAD OPERATING NUT.
14) VALVES 4" AND LARGER SHALL BE CAST IRON WITH PARALLEL DOUBLE DISC GATE VALVE. VALVES SHALL HAVE MECHANICAL JOINT ENDS AND NON-RISING STEM WITH SQUARE OPERATING NUT.
15) ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
16) SEE SITE SPECIFICATIONS "SITE UTILITIES" FOR BACKFILLING AND COMPACTION REQUIREMENTS.
17) UTILITY CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THIS SYSTEM PRIOR TO INSTALLATION.
18) ALL WORK OF THIS PLAN SHALL BE DONE IN STRICT ACCORDANCE WITH SITE WORK SPECIFICATIONS.
19) REFER TO SHEETS FP-1 & FP-2 IN THE ARCHITECTURAL PLANS FOR LOCATION AND DETAIL OF FIRE LINE LEAD IN..

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Bearings Used Herein Are Based On The Centerline Of Central Avenue As Recorded On ODOT Right-Of-Way Plans.

NUMBER	DELTA ANGLE	CHORD BEARING - CHORD	RADIUS	ARC LENGTH	TANGENT
Curve 0	17°51'05"	N 30°34'34" W - 101.04'	325.61'	101.45'	51.14'
Curve 1	26°02'05"	N 26°29'04" W - 182.77'	405.72'	184.36'	93.80'
Curve 2	08°53'49"	N 00°09'55" W - 61.39'	395.72'	61.45'	30.79'
Curve 3	22°23'56"	N 06°54'58" W - 130.54'	335.72'	131.24'	66.47'
Curve 4	22°31'18"	N 06°51'17" W - 154.55'	395.72'	155.55'	78.79'

UNDERGROUND UTILITIES

TWO WORKING DAYS BEFORE YOU DIG

CALL 800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE

NON MEMBERS
MUST BE CALLED DIRECTLY

NO.	DATE	BY	DESCRIPTION
△	2/28/01	MKL	40% Submittal
	4/6/01	MKL	90% Submittal
	4/30/01	MKL	Sylvania Township Submittal
	5/10/01	MKL	Utility Review

Mannik & Smith, Inc.
Consulting Engineers & Surveyors
1800 Indian Wood Circle
Maumee, Ohio 43537
Telephone (419) 891-2222

OWNER
Benchmark Group
4053 Maple Road
Amherst, NY 14226
(716) 833-4986

PROJECT
LOWE'S Companies, Inc.
Central Avenue Center
Central Avenue
Sylvania, Ohio

UTILITY AND DRAINAGE PLAN

C6 / 12

B157A1D

NO.	DATE	BY	DESCRIPTION
1	06/18/01	BPC	Final Review

Maznik & Smith, Inc.
Consulting Engineers & Surveyors
1800 Indian Wood Circle
Maumee, Ohio 43537
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Amherst, NY 14226
(716) 833-4986

PROJECT
LOWE'S Companies, Inc.
Central Avenue Center
Central Avenue
Sylvania, Ohio

SANITARY AND WATER MAIN PLAN AND PROFILES

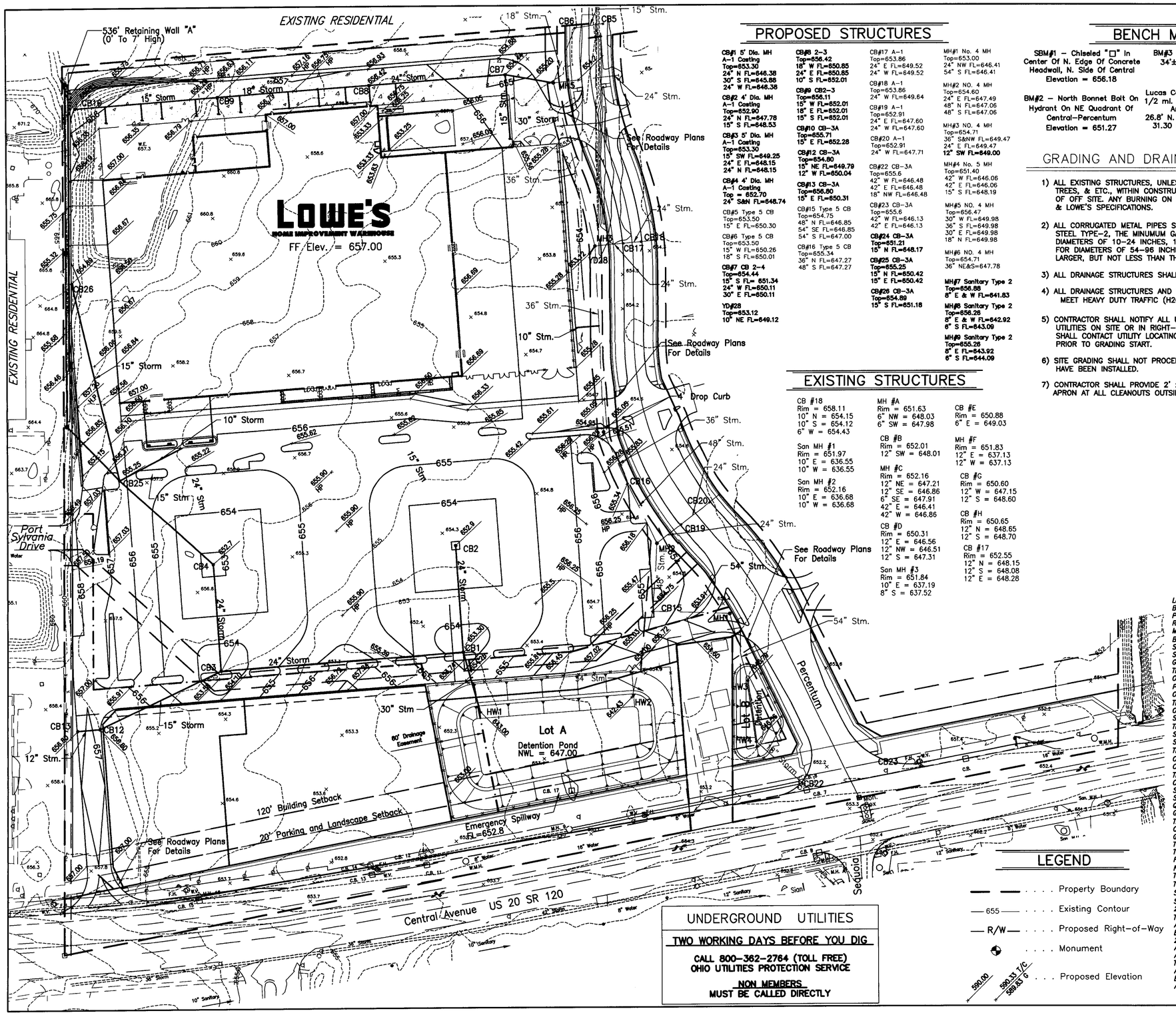
C6a / 12
B157A1D

Horizontal Scale: Scale: 1" = 40' — 0' 20' 40' 80'
Vertical Scale: Scale: 1" = 5' — 0' 2.5' 5' 10'

Sanitary Sewer -- Profile 'A'

Water Line-- Profile 'B'

S:\PROJECTS\WSI\B157A1D\ROADWAY\B157A1D_G_PP01
CAD Dwg Scale: (Eng) 1=40
Last Revision: 07/18/01
Last Revision By: CACKSTETTER
Description: FINAL



PROPOSED STRUCTURES

CB#1 5' Dia. MH
A-1 Casting
Top=653.30
24" N FL=646.38
30" S FL=645.88
24" W FL=646.38

CB#2 4' Dia. MH
A-1 Casting
Top=652.90
24" N FL=647.78
15" S FL=648.53

CB#3 5' Dia. MH
A-1 Casting
Top=653.30
15" SW FL=649.25
24" E FL=648.15
24" N FL=648.15

CB#4 4' Dia. MH
A-1 Casting
Top = 652.70
24" S&N FL=648.74

CB#5 Type 5 CB
Top=653.50
15" E FL=650.30

CB#6 Type 5 CB
Top=653.50
15" W FL=650.26
18" S FL=650.01

CB#7 CB 2-4
Top=654.44
15" S FL= 651.34
24" W FL=650.11
30" E FL=650.11

YD#28
Top=653.12
10" NE FL=649.12

CB#8 2-3
Top=656.42
18" W FL=650.85
24" E FL=650.85
10" S FL=652.01

CB#9 CB2-3
Top=656.11
15" W FL=652.01
18" E FL=652.01
15" S FL=652.01

CB#10 CB-3A
Top=655.71
15" E FL=652.28

CB#12 CB-3A
Top=654.80
15" NE FL=649.79
12" W FL=650.04

CB#13 CB-3A
Top=656.80
15" E FL=650.31

CB#15 Type 5 CB
Top=654.75
48" N FL=646.85
54" SE FL=646.85
54" S FL=647.00

CB#16 Type 5 CB
Top=655.34
36" N FL=647.27
48" S FL=647.27

CB#17 A-1
Top=653.86
24" E FL=649.52
24" W FL=649.52

CB#18 A-1
Top=653.86
24" W FL=649.64

CB#19 A-1
Top=652.91
24" E FL=647.60
24" W FL=647.60

CB#20 A-1
Top=652.91
24" W FL=647.71

CB#22 CB-3A
Top=655.6
42" W FL=646.48
42" E FL=646.48
18" NW FL=646.48

CB#23 CB-3A
Top=655.6
42" W FL=646.13
42" E FL=646.13

CB#24 CB-3A
Top=651.21
15" N FL=648.17

CB#25 CB-3A
Top=655.25
15" N FL=650.42
15" E FL=650.42

CB#26 CB-3A
Top=654.89
15" S FL=651.18

MH#1 No. 4 MH
Top=653.00
24" NW FL=646.41
54" S FL=646.41

MH#2 NO. 4 MH
Top=654.60
24" E FL=647.49
48" N FL=647.06
48" S FL=647.06

MH#3 NO. 4 MH
Top=654.71
36" S&NW FL=649.47
24" E FL=649.47
12" SW FL=649.00

MH#4 No. 5 MH
Top=651.40
42" W FL=646.06
42" E FL=646.06
15" S FL=648.19

MH#5 NO. 4 MH
Top=656.47
30" W FL=649.98
36" S FL=649.98
30" E FL=649.98
18" N FL=649.98

MH#6 NO. 4 MH
Top=654.71
36" NE&S=647.78

MH#7 Sanitary Type 2
Top=656.88
8" E & W FL=641.83

MH#8 Sanitary Type 2
Top=656.28
8" E & W FL=642.92
6" S FL=643.09

MH#9 Sanitary Type 2
Top=655.26
8" E FL=643.92
6" S FL=644.09

EXISTING STRUCTURES

CB #18
Rim = 658.11
10" N = 654.15
10" S = 654.12
6" W = 654.43

San MH #1
Rim = 651.97
10" E = 636.55
10" W = 636.55

San MH #2
Rim = 652.16
10" E = 636.68
10" W = 636.68

MH #A
Rim = 651.63
6" NW = 648.03
6" SW = 647.98

CB #B
Rim = 652.01
12" SW = 648.01

MH #C
Rim = 652.16
12" NE = 647.21
12" SE = 646.86
6" SE = 647.91
42" E = 646.41
42" W = 646.86

CB #D
Rim = 650.31
12" E = 646.56
12" NW = 646.51
12" S = 647.31

San MH #3
Rim = 651.84
10" E = 637.19
8" S = 637.52

CB #E
Rim = 650.88
6" E = 649.03

MH #F
Rim = 651.83
12" E = 637.13
12" W = 637.13

CB #G
Rim = 650.60
12" W = 647.15
12" S = 648.60

CB #H
Rim = 650.65
12" N = 648.65
12" S = 648.70

CB #17
Rim = 652.55
12" N = 648.15
12" S = 648.08
12" E = 648.28

BENCH MARK

SBM#1 – Chiseled "□" In Center Of N. Edge Of Concrete Headwall, N. Side Of Central
Elevation = 656.18

BM#2 – North Bonnet Bolt On Hydrant On NE Quadrant Of Central–Percentum
Elevation = 651.27

BM#3 – X Cut N.B. Bolt Hydrant 34'± &57'± W. Of NE Corner Meijer Store
Elevation = 675.17

Lucas Co. BM#114 – McCord Rd. – 1/2 mi. S. Of Sylvania Ave. – Toledo Angola RR – NE Corner 26.8' N. Of Rail Of Toledo Angola RR 31.30 E. Of 1/4 Cor. Sec. 21-22
Elevation = 655.71

N

Scale: 1" = 60'
0' 30' 60' 120'

GRADING AND DRAINAGE NOTES

1) ALL EXISTING STRUCTURES, UNLESS OTHERWISE NOTED TO REMAIN, FENCING, TREES, & ETC., WITHIN CONSTRUCTION AREA SHALL BE REMOVED & DISPOSED OF OFF SITE. ANY BURNING ON SITE SHALL BE SUBJECT TO LOCAL ORDINANCES & LOWE'S SPECIFICATIONS.

2) ALL CORRUGATED METAL PIPES SHALL BE FULLY ASPHALT COATED OR ALUMINIZED STEEL TYPE-2, THE MINUMUM GAUGE FOR PIPE MATERIALS SHALL BE 16 GAUGE FOR DIAMETERS OF 10-24 INCHES, 14 GAUGE FOR DIAMETERS OF 30-48 INCHES, 12 GAUGE FOR DIAMETERS OF 54-96 INCHES, AND 10 GAUGE FOR DIAMETERS OF 102 INCHES AND LARGER, BUT NOT LESS THAN THE GAUGE OTHERWISE INDICATED ON THE DRAWINGS.

3) ALL DRAINAGE STRUCTURES SHALL BE PRE-CAST.

4) ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY.

5) CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING START.

6) SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

7) CONTRACTOR SHALL PROVIDE 2' x 2' x 8" THICK CONCRETE APRON AT ALL CLEANOUTS OUTSIDE OF BUILDING.

LEGEND

- Property Boundary
- 655 Existing Contour
- R/W Proposed Right-of-Way
- Monument
- 590.00 / 590.33 T/C / 589.83 G — Proposed Elevation

UNDERGROUND UTILITIES

TWO WORKING DAYS BEFORE YOU DIG

CALL 800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE

NON MEMBERS
MUST BE CALLED DIRECTLY

Legal Description:
Being Lots Number 14, 15, 17, 18, 19 And Part Of Lot 16 Of Percentum Gardens, A Subdivision In Section 21, Town 9 South, Range 6 East, Sylvania Township, Lucas County, Ohio Being More Particularly Described As Follows;
Beginning At A 1" Bar Found In A Monument Box At The Southwest Corner Of The Southeast Quarter Of Said Section 2, Said Point Also Being The Southwest Corner Of Said Percentum Gardens;
Thence North 04°24'22" East 1118.43 Feet Along The West Line Of Said Southeast Quarter Of Section 21 And The West Line Of Percentum Gardens To A 1/2" Pipe Found At The Northwest Corner Of Said Lot 19;
Thence South 89°45'16" East 667.82 Feet Along The North Line Of Said Lot 19 To A PK Nail Found At The Northeast Corner Of Said Lot 19;
Thence South 04°24'22" West 17.53 Feet Along The East Line Of Said Lot 19 And The Centerline Of Percantum Rood To A PK Nail Set At The Northwest Corner Of Lot 14;
Thence North 86°53'57" East 677.25 Feet Along The North Line Of Said Lot 14 To A 5/8" Capped Iron Rod Set At The Northeast Corner Of Said Lot 14;
Thence South 04°44'05" West 982.36 Feet Along The West Line Of The Southeast Quarter Of The Southeast Quarter Of Said Section 21 And The East Line Of Percantum Gardens To The Southwest Corner Of Said Southeast Quarter Of The Southeast Quarter And The Southeast Corner Of Lot 15 Of Said Percentum Gardens;
Thence South 83°32'50" West 495.73 Feet Along The South Line Of Said Section 21 And The South Line Of Said Percentum Gardens, Said Line Also Being The Centerline Of Central Avenue, To A Point;
Thence Along Land Owned By Boyer Recorded 96-662D03 The Following 3 Courses;
North 04°24'22" East 233.41 Feet Along A Line Midway Between The East Line Of Percentum Road And The East Line Of Lot 16 To A Capped 1/2" Rod Found;
South 86°23'56" West 72.00 Feet To A Capped 5/8" Rod Set;
South 00°10'38" West 234.38 Feet To The South Line Of Section 21 And The South Line Of Percentum Gardens;
Thence South 83°32'50" West 805.42 Feet Along Said South Line, Also Being The Centerline Of Central Avenue To The Point Of Beginning Containing 31.530 Acres More Or Less, Of Which 2.470 Acres Lies Within The Right-Of-Way Of Central Avenue And Percentum Road, Subject To All Legal Highways, Easements And Restrictions Of Record.
This Description Was Prepared On August 2, 2000 By Mannik And Smith, Inc. From A Survey Of The Premises.
Bearings Used Herein Are Based On The Centerline Of Central Avenue As Recorded On ODOT Right-Of-Way Plans.

NO.	DATE	BY	DESCRIPTION
1	2/28/01	MKL	40% Submittal
	4/6/01	MKL	90% Submittal
	4/30/01	MKL	Sylvania Township Submittal
	06/18/01	BPG	Final Review

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Maumee, Ohio 43537
Telephone (419) 891-2222

OWNER
Benchmark Group
4053 Maple Road
Amherst, NY 14226
(716) 833-4986

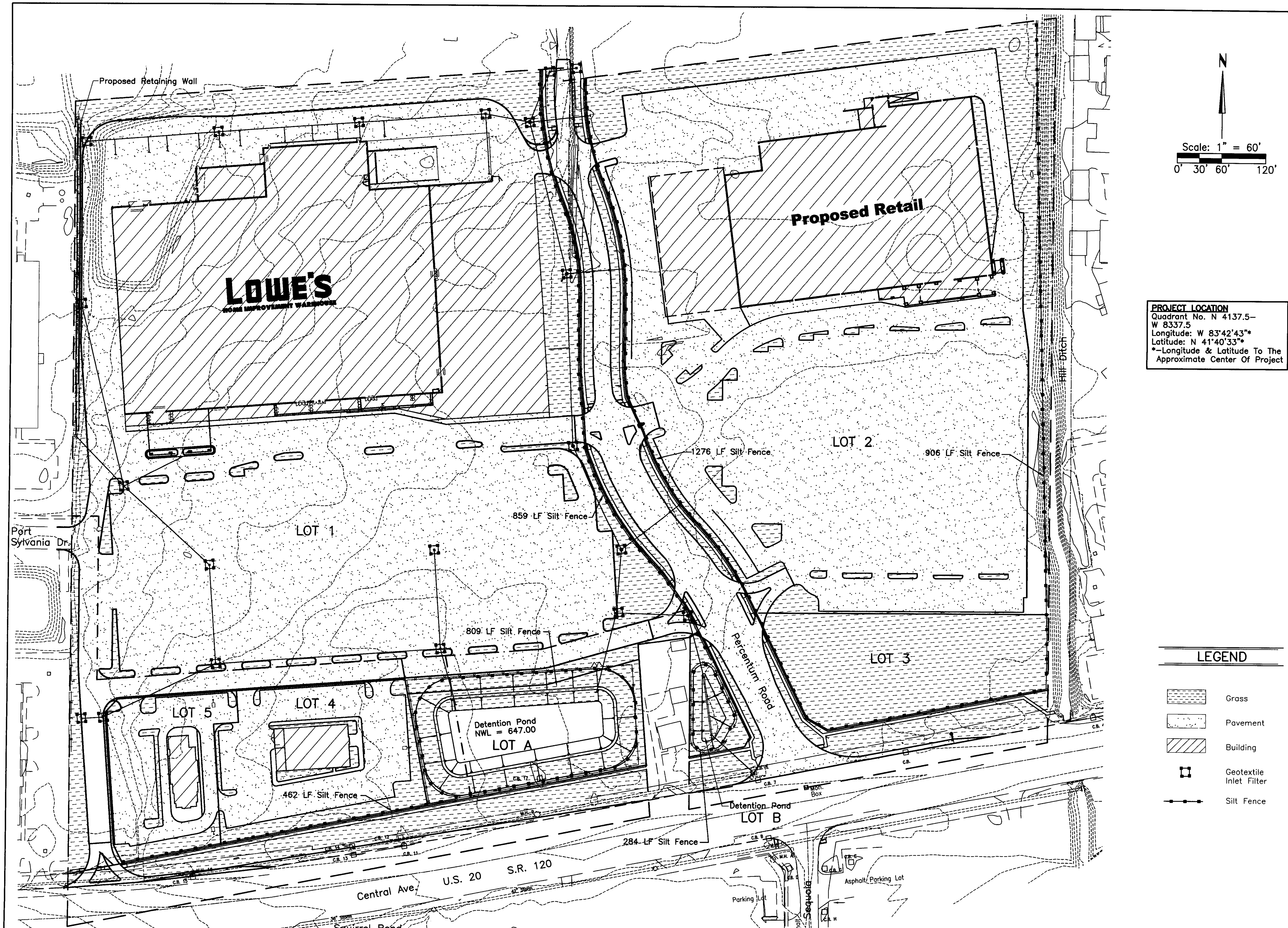
PROJECT
LOWE'S Companies, Inc.
Central Avenue Center
Central Avenue
Sylvania, Ohio

GRADING & SOIL EROSION PLAN

C8 / 12

B157A1D

S:\PROJECTS\MS\B157A1D\ROADWAY\B157A1D_C_GR1D
Last Plot Scale: 1"=60'/1"=60'
Last Plot Date: 6/18/01
Last Revision By: DACHSTETTER
Description: FINAL



NO.	DATE	BY	DESCRIPTION
△	06/18/01	BPG	Final Review

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PROJECT
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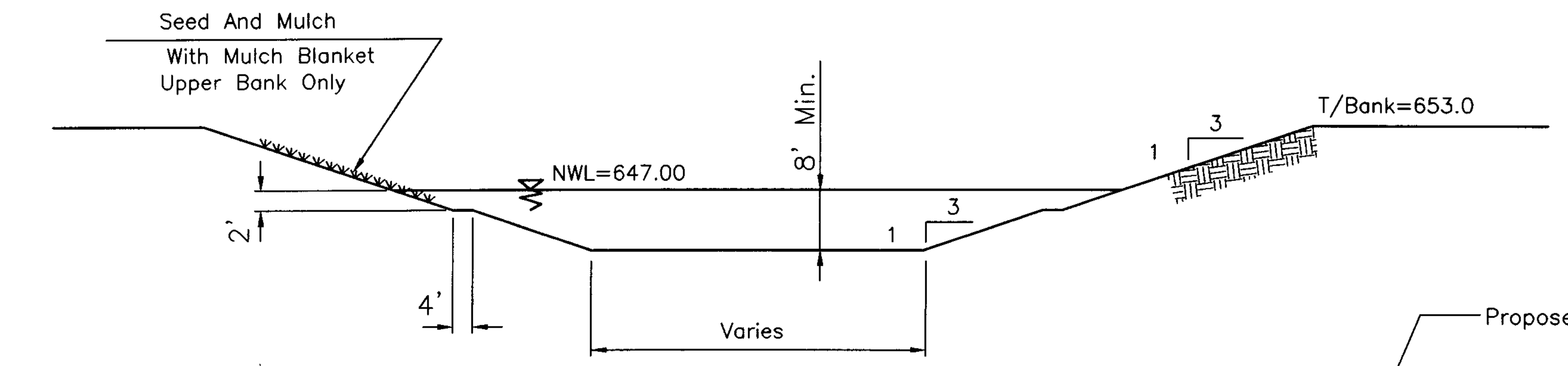
Central Avenue Center
Central Avenue
Sylvania, Ohio

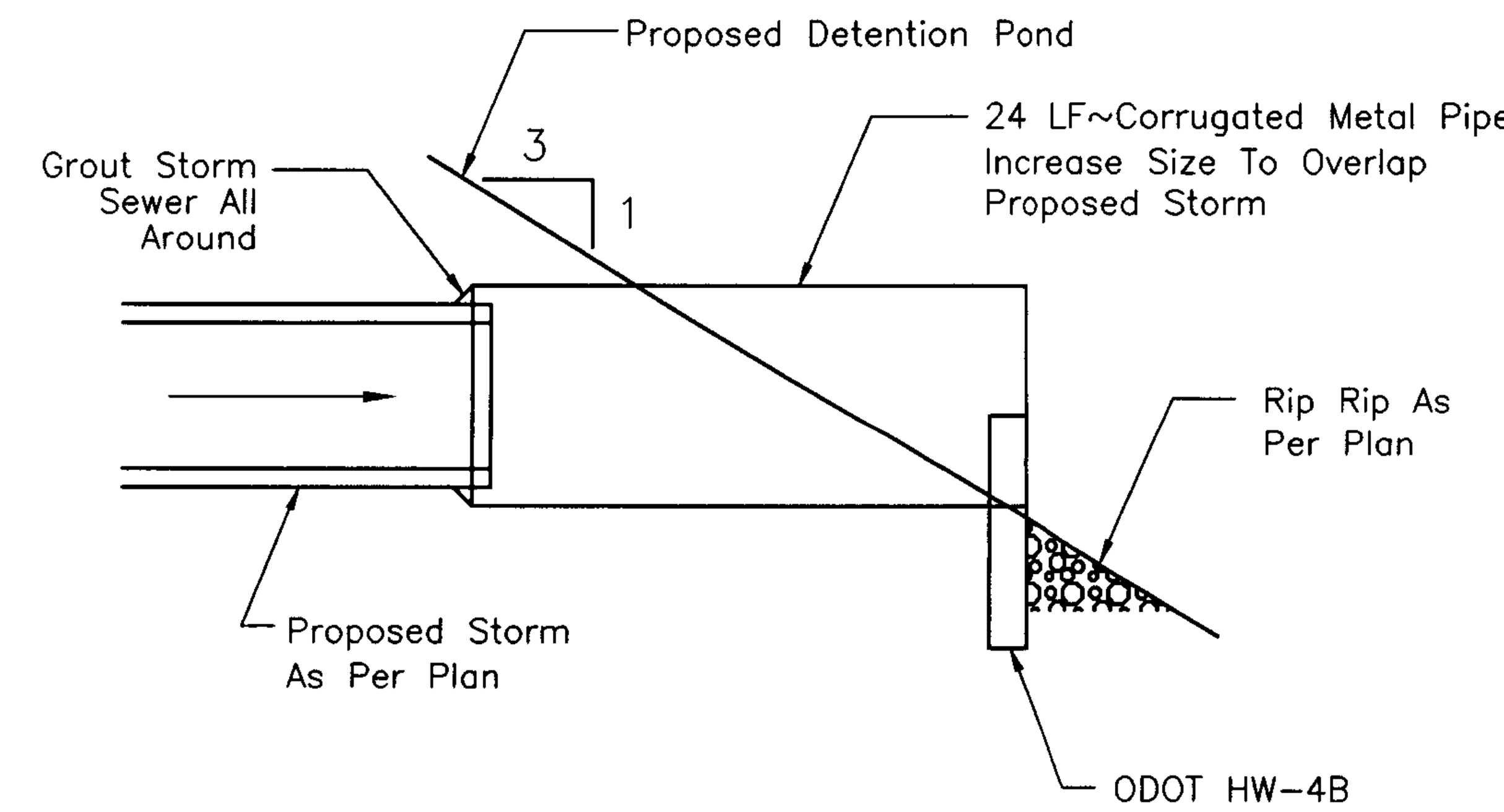
STORM WATER POLLUTION PREVENTION PLAN

C8a / C12

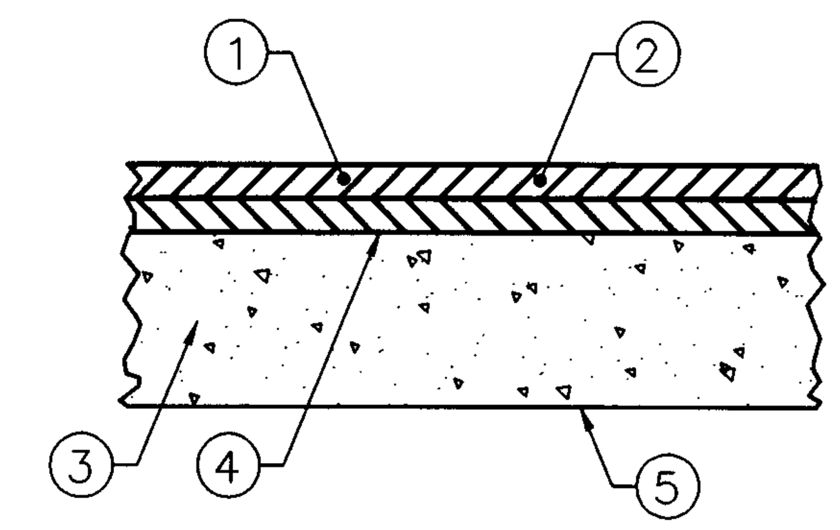


SECTION C-C
DETENTION POND DETAIL

(To Be Constructed Under Percentum Road Improvements)



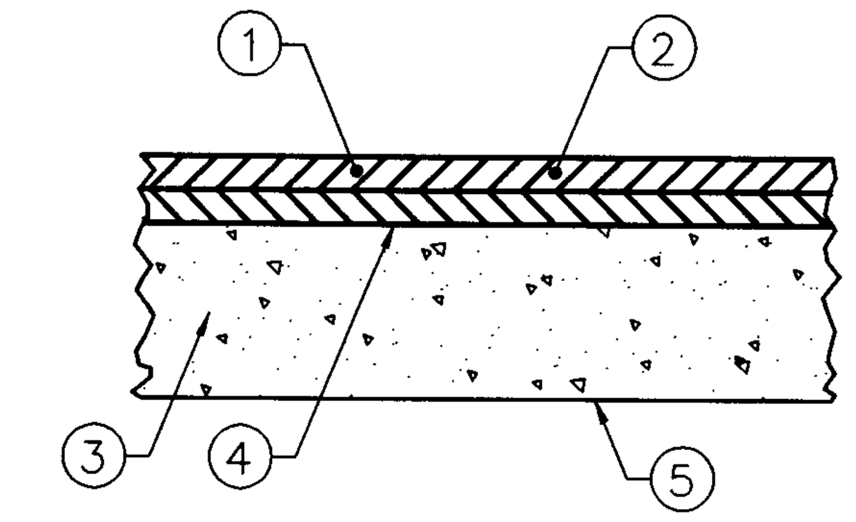
POND INLET END TREATMENT DETAIL



LEGEND

①	1.50"	448 Asphalt Concrete, Surface Course, Type 1, PG64-22
②	4.00"	448 Asphalt Concrete, Intermediate Course, Type 2, PG64-22
③	6.00"	304 Aggregate Base
④		408 Bit. Prime Coat
⑤		203 Subgrade Compaction

HEAVY PAVEMENT SECTION

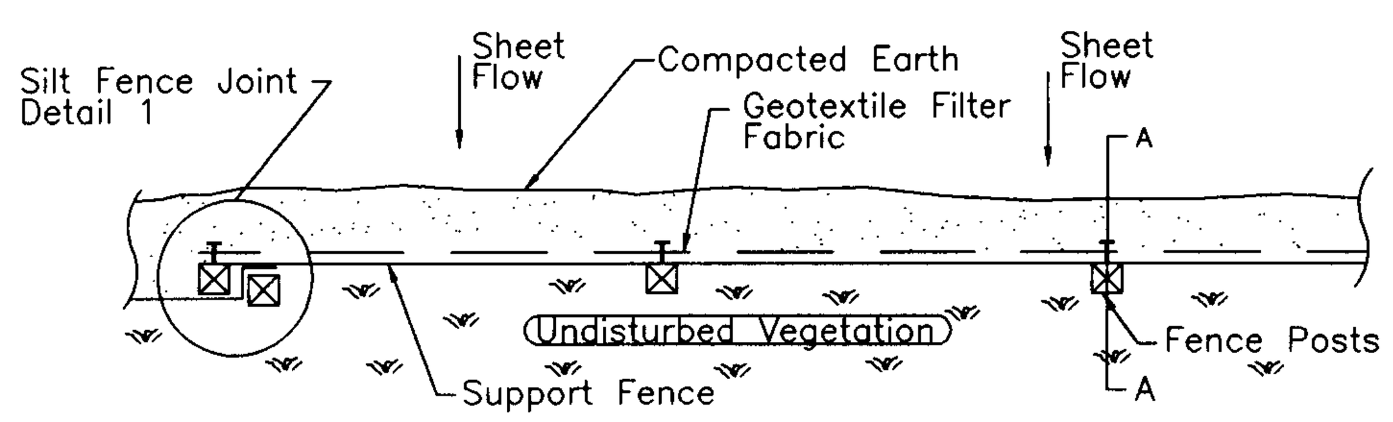


LEGEND

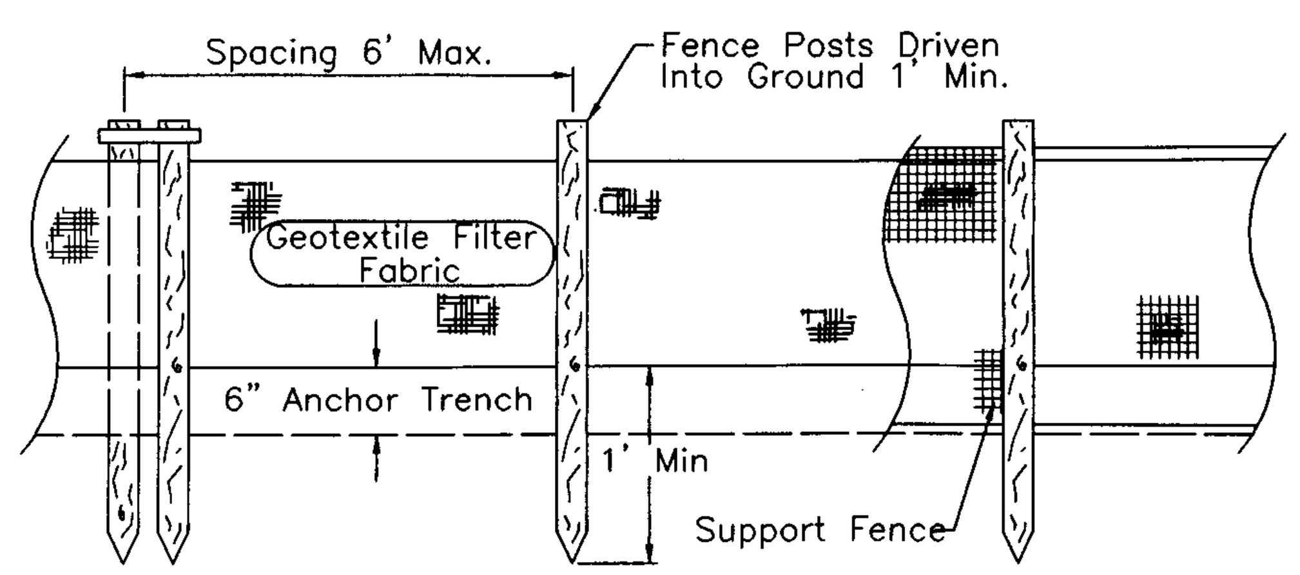
①	1.50"	448 Asphalt Concrete, Surface Course, Type 1, PG64-22
②	1.50"	448 Asphalt Concrete, Intermediate Course, Type 2, PG64-22
③	6.00"	304 Aggregate Base
④		408 Bit. Prime Coat
⑤		203 Subgrade Compaction

LIGHT PAVEMENT SECTION

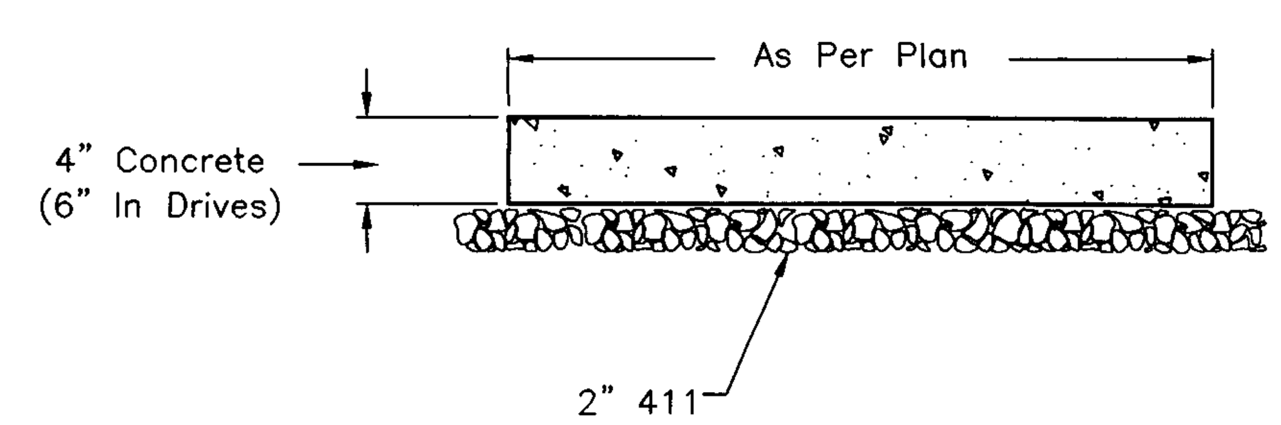
SILT FENCING DETAILS



PLAN VIEW

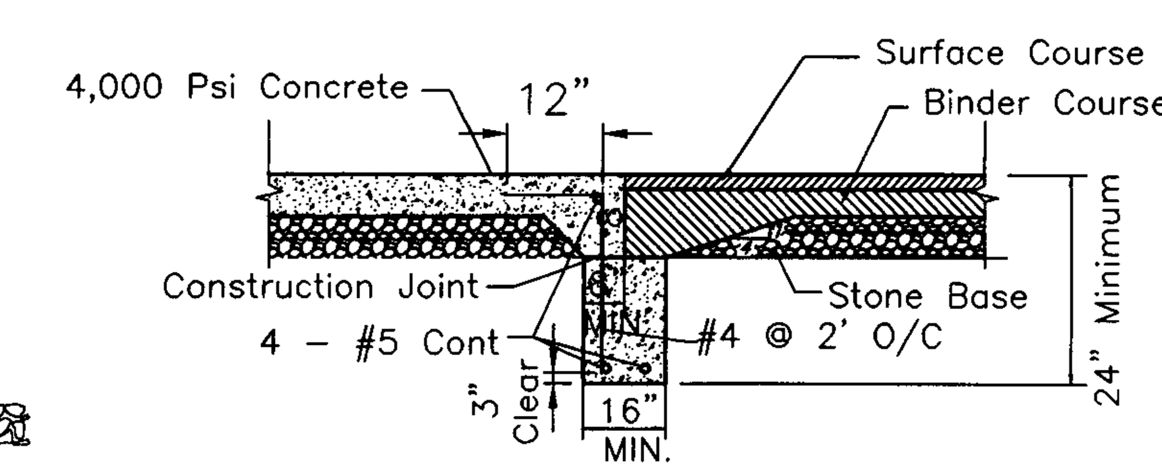


FRONT VIEW

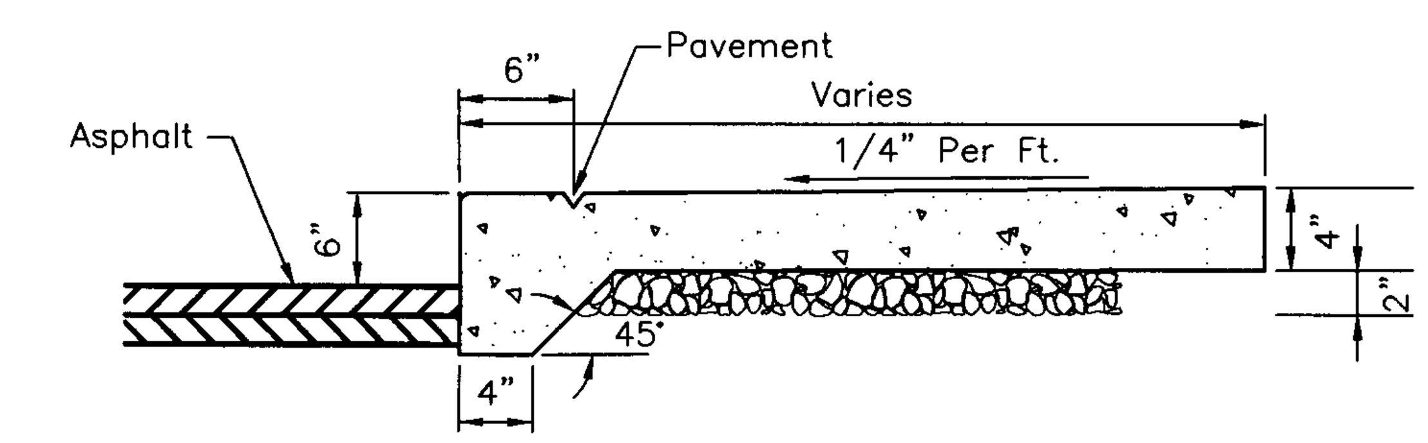


Sidewalk Shall Be Constructed With A Slope Of 1/4" Per Foot.

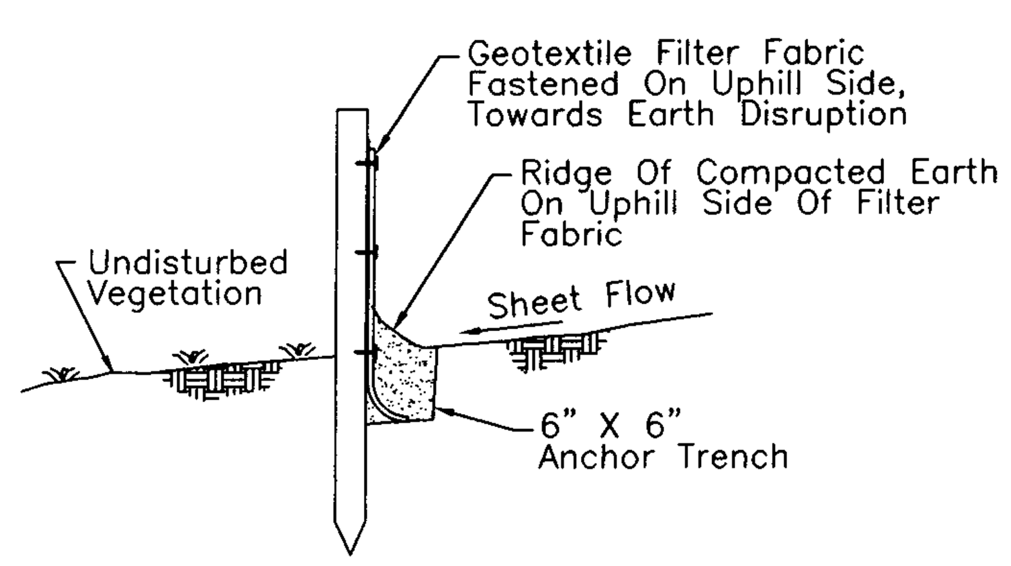
TYPICAL CONCRETE SIDEWALK DETAIL



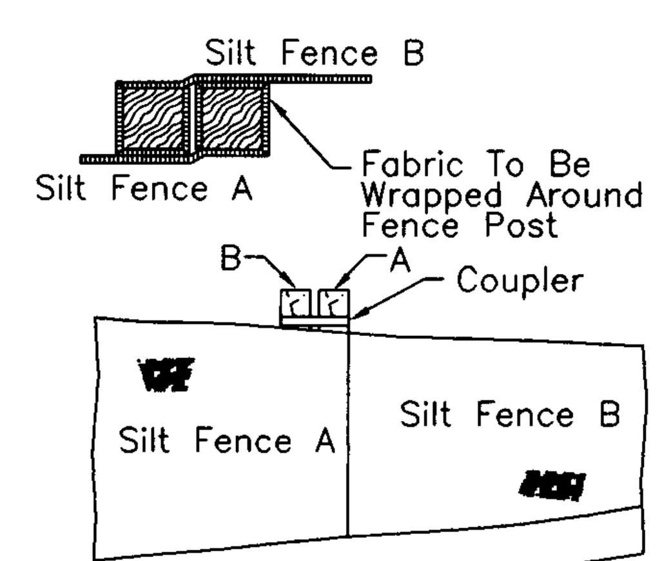
CONCRETE/ASPHALT JOINT DETAIL



CURB & WALK DETAIL

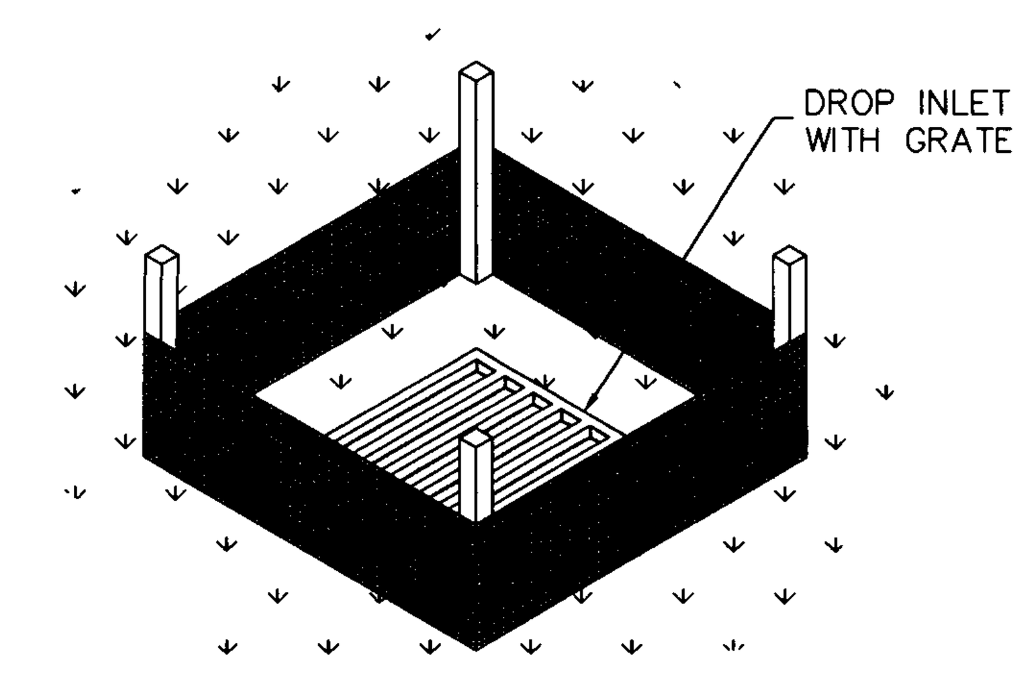


SECTION VIEW



Silt Fence Joint

DETAIL 1

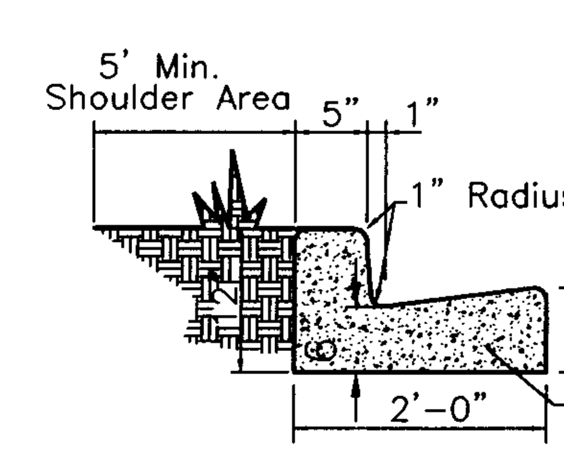


GEOTEXTILE INLET FILTER

USE

Use Around The Perimeter Of Inlets In Areas Which Are Not Stabilized On Any Or All Sides. Filter Fabric Fence Shall Be Used Around The Perimeter Of Both Proposed Detention Ponds.

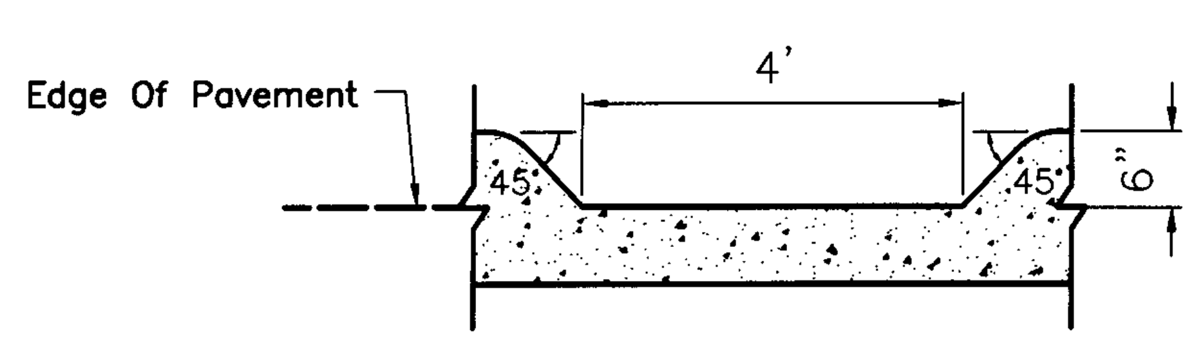
1. Filter Fabric Should Have Ultraviolet Protection And Be Strong Enough To Maintain Effectiveness Under Anticipated Flows. It Should Come From A Continuous Roll And Otherwise Meet The Specifications For Filter Fabric.
2. Stakes Should Be 1 1/8" X 1 3/8" Finished Wood Or Equivalent Metal With A Minimum Length Of 3 Feet (36 Inches).
3. Staples Should Be Of Heavy Duty Wire At Least 1/2-Inch Long.
4. Stakes Should Be Spaced Around The Perimeter Of The Inlet A Maximum Of 3 Feet Apart And Driven Into The Ground A Minimum Of 8 Inches.
5. A Trench Should Be Excavated Around The Perimeter Of The Inlet And The Fencing Materials Placed In The Trench. The Trench Should Be 4" Wide And 6" Deep.
6. Staple The Material To The Stakes.
7. After Lowering The Bottom Of The Material Into The Trench, Backfill With Soil And Make A Small Ridge On The Up-Slope Side Of The Filter Material. The Geotextile Material Above The Soil Should Be Approximately 16 Inches, Minimum.
8. The Material In The Last Corner To Be Completed Should Overlap With The Material From The First One By Six Inches. Wrap The Ends And Staple To Both Posts.



Reference Section 02751 Of Lowe's Division 2 Standard Site Specifications And Project Special Provisions

24" CONCRETE CURB & GUTTER DETAIL

① Contraction Joints 10' O/C
② Expansion Joints 100' O/C
③ All Joints Sealed Per Spec



DROP CURB DETAIL

NOTES: One Inch Expansion Joints Shall Extend Up To The Top Of The Curb And Shall Be Constructed In The Curb And Gutter Section In Such A Manner That The Joint Seal Will Extend The Full Width Of The Gutter And Into The Curb Face A Sufficient Distance To Seal The Joint To An Elevation Of At Least 2 Inches Above The Flow Line Of The Gutter. Dowel Bars Shall Be Used In The Curb And Gutter Section At Expansion Joints In The Pavement.

All Joints Shall Be Constructed Perpendicular To The Edge Of The Curb And To The Surface Of The Pavement Transverse Expansion Joint Material Shall Meet The Requirements Of Item 705.03.

NO.	DATE	BY	DESCRIPTION
△	4/30/01	MKL	Sylvania Township Submittal
	06/18/01	BPG	Final Review

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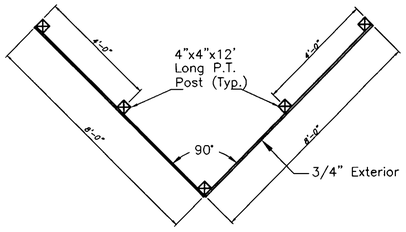
PROJECT
LOWE'S Companies, Inc.
Central Avenue Center
Central Avenue
Sylvania, Ohio

CONSTRUCTION DETAILS

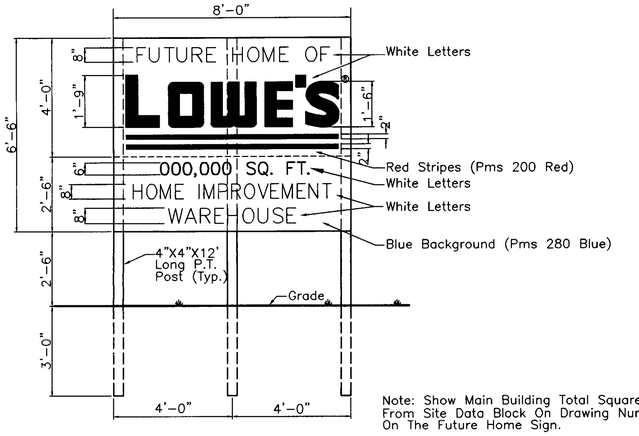
C9 / 12

B157A1D

S:\PROJECTS\MSI\B157A1D\ROADWAY\B157A1D.C.DT01
CAD Dwg Scale: (Eng) 1=1
Last CAD Revision: 07/18/01
Last Revision By: GACKSTETTER
Description: FINAL



PLAN

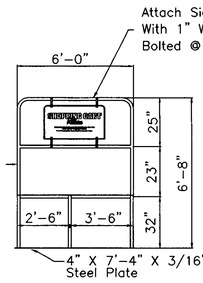


ELEVATION

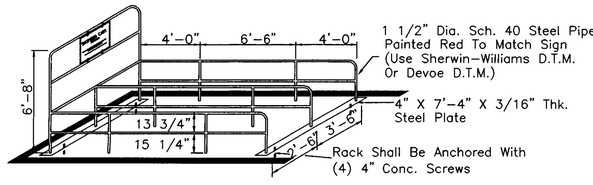
Note: Show Main Building Total Square Footage From Site Data Block On Drawing Number Sp-1 On The Future Home Sign.

Note:
Contractor To Furnish And Install Sign When Grading Commences. See Erosion Control Plan For Location.

FUTURE HOME SIGN

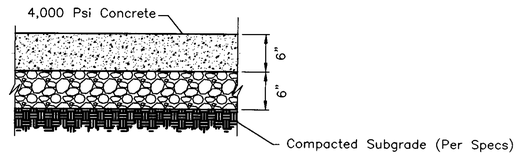


NOTES:
- All Lettering Shall Be White.
- The Words "Shopping Cart" Is Folio Extra Bold, "Return" Is Freehand 575 Or Freecon, Body Copy Is Helvetica Bold.
- The Leter "R" In The Word "Return" Has A Blue Outline To Separate It From The "l" In The Word "Shopping".
- Back Ground Color Is Pms 280 Blue.
- Stripe Across The Bottom Is Pms 200 Red.
- Sign To Be Aluminum.



NOTE: FURNISHED AND INSTALLED BY LOWE'S

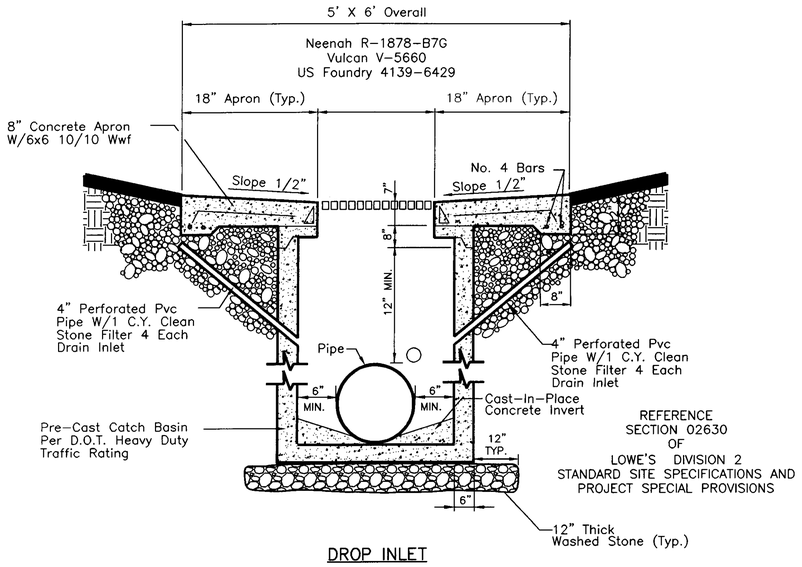
2 STALL CART RETURN RACK DETAIL



HEAVY DUTY CONCRETE PAVEMENT SECTION

Lowe's Minimum Pavement Section If Greater Than Geotechnical Engineers Recommendation

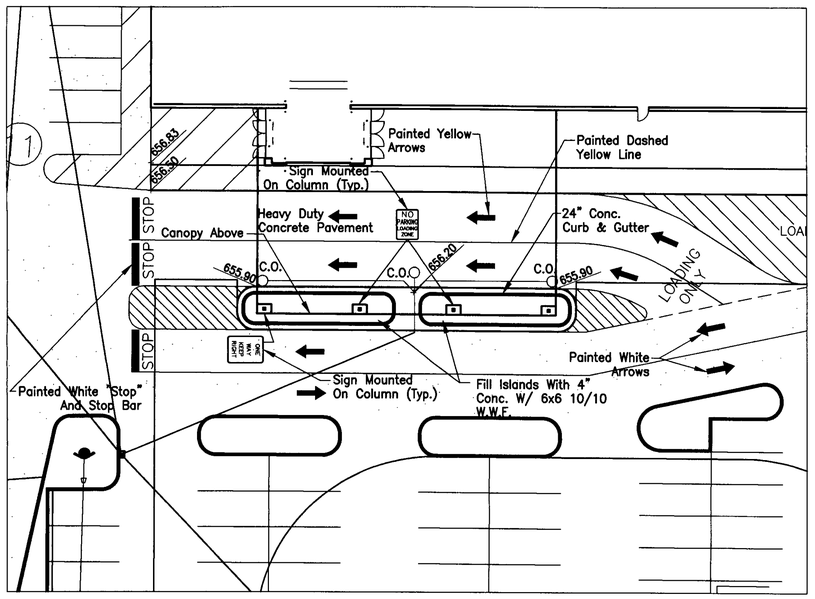
Reference
Section 02300
Section 02400
Section 02751
Of
Lowe's Division 2
Standard Site Specifications And
Project Special Provisions



REFERENCE
SECTION 02630
OF
LOWE'S DIVISION 2
STANDARD SITE SPECIFICATIONS AND
PROJECT SPECIAL PROVISIONS

DROP INLET

Scale: 1" = 20'



NO.	DATE	BY	DESCRIPTION
1	4/30/01	MKL	Sylvania Township Submittal
	06/18/01	BPG	Final Review

Mannik & Smith, Inc.
Consulting Engineers & Surveyors
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OWNER
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Amherst, NY 14226
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PROJECT
LOWE'S Companies, Inc.
Central Avenue Center
Central Avenue
Sylvania, Ohio

CONSTRUCTION DETAILS

C9a / 12

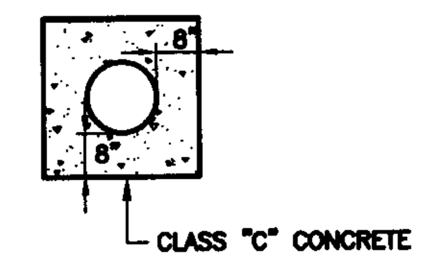
B157A1D

HORIZONTAL LENGTH TO BE RESTRAINED (FEET) AT 150 PSI

Nominal Pipe Dia. (in.)	Fitting	Depth of Cover (ft.)				
		5	6	7	8	10
8	90	23(27)	19(23)	17(20)	15(17)	12(14)
8	45	10(11)	8(9)	7(8)	6(7)	5(6)
8	45 (Vertical)	20(28)	17(24)	14(21)	13(18)	10(15)
8	22.5	5(7)	4(5)	3(4)	3(3)	2(3)
8	11.25	2(3)	2(2)	2(2)	1(2)	1(1)
8	Tee or Dead End	48(69)	41(58)	35(50)	31(44)	25(36)

RESTRAINED LENGTHS FOR BENDS SHALL BE USED ON ALL FITTINGS ON EACH SIDE OF BEND. RESTRAINED LENGTHS FOR TEES SHALL BE ON BRANCH OF TEE. SITUATIONS NOT LISTED ON THIS TABLE (EXAMPLES: REDUCERS, TEES w/ SMALLER BRANCH, DIAMETERS & VERTICAL BENDS NOT LISTED) SHALL BE AS APPROVED BY THE LUCAS COUNTY SANITARY ENGINEER. PLEASE NOTE: POLYETHYLENE ENCASED PIPE REQUIRES ADDITIONAL RESTRAINT DUE TO A LOWER FRICTION LOSS.(FOOTAGE IN PHARSES ARE FOR POLYETHYLENE ENCASED PIPE)

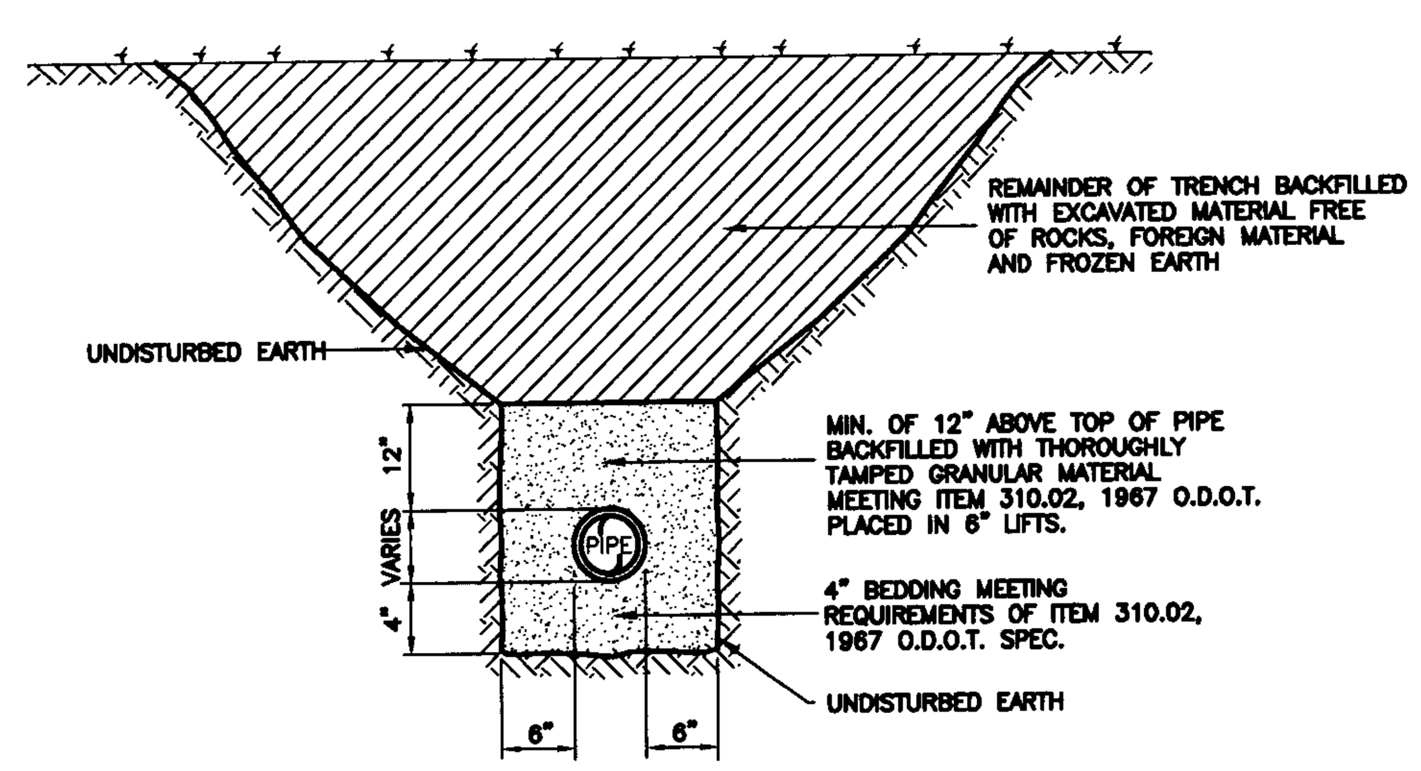
MECHANICAL JOINT RESTRAINT TABLE



CONCRETE ENCASEMENT DETAIL

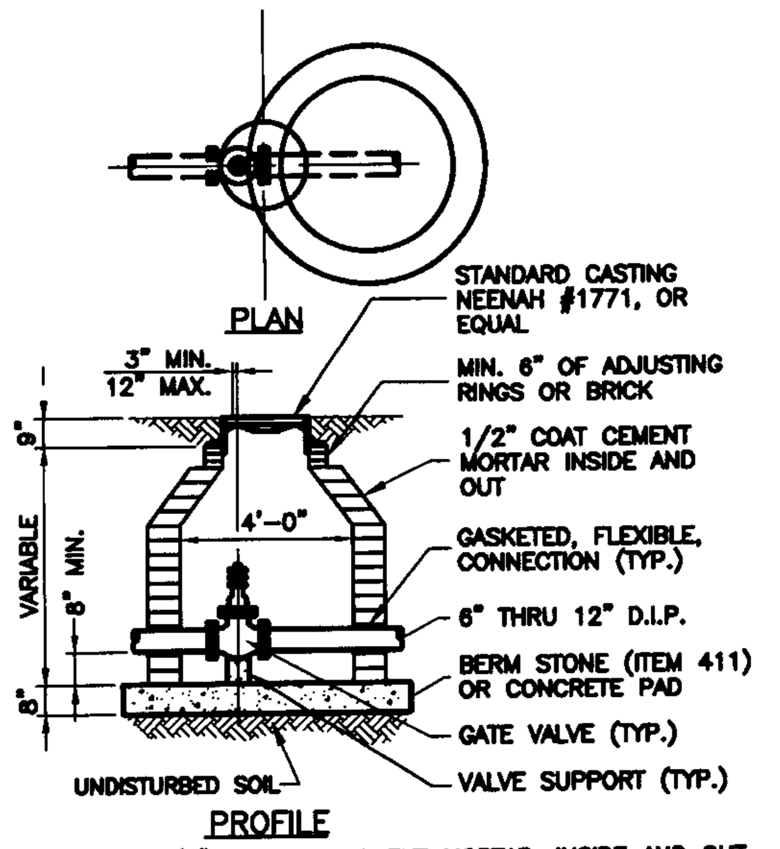
N.T.S.

LENGTH AS SHOWN ON DETAIL SHEETS.
COST TO BE INCLUDED IN PRICE BID
FOR PERTINENT CONDUIT ITEM.



WATER MAIN BEDDING DETAIL

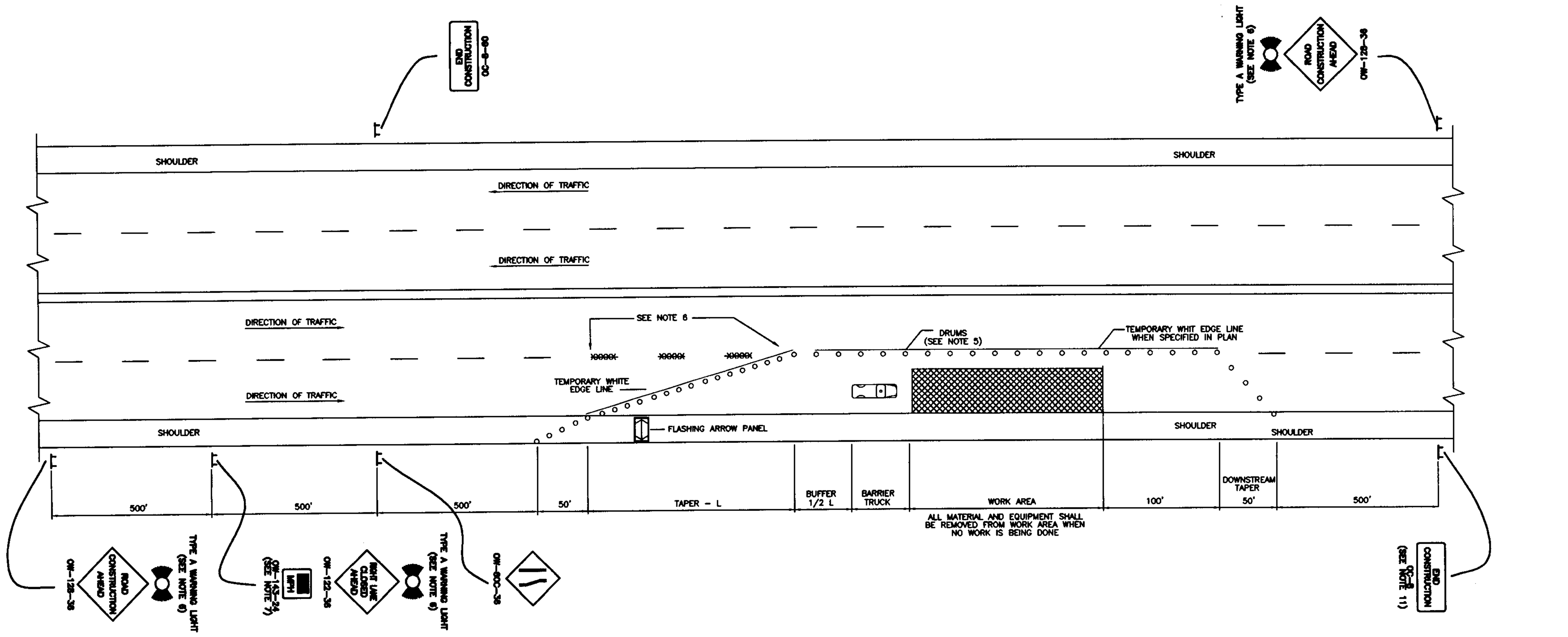
N.T.S.



- PROVIDE 1/2" COAT OF CEMENT MORTAR, INSIDE AND OUT.
- A MINIMUM OF 6" OF ADJUSTING RINGS OR BRICK MUST BE PROVIDED.
- PROVIDE 1/2" JUTE ROPING, NEOPRENE GASKET MATERIAL, OR EQUAL.
- VALVE MUST BE POSITIONED TO ALLOW ACCESS TO OPERATING NUT WITH VALVE WRENCH.
- PROVIDE VALVE SUPPORT WITH CONCRETE BLOCK OR WOOD WEDGES.

VALVE MANHOLE DETAIL (CONCRETE BLOCK ALTERNATE)

N.T.S.



1. THE LOCATION OF THE TRANSITION TAPER AND THE ADVANCE WARNING SIGNS SHOULD BE ADJUSTED TO PROVIDE FOR ADEQUATE SIGHT DISTANCE FOR THE EXISTING VERTICAL AND HORIZONTAL ROADWAY ALIGNMENT.

2. THE SPACING BETWEEN PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS.

3. THE TAPER LENGTH (L), NUMBER (N), SPACING (S) OF DRUMS SHALL CONFORM TO TABLE 1. DRUM SPACING (S) SHALL BE USED FOR THE PAVEMENT TAPER, THE BUFFER AREA AND FOR THE FIRST 1000 FEET OF THE WORK AREA AND AT OTHER HAZARDOUS LOCATIONS AS DIRECTED BY THE ENGINEER. THE MAXIMUM DRUM SPACING FOR THE BALANCE OF THE WORK AREA IS TO BE TWO TIMES THE SPACING (S) IN TABLE 1. A MINIMUM OF 5 DRUMS SHALL BE USED IN THE SHOULDER TAPER AND THE DOWNSTREAM TAPER.

4. TYPE C STEADY BURNING WARNING LIGHTS SHALL BE ERECTED ON EACH DRUM FOR NIGHT CLOSURES.

5. CONES HAVING A MINIMUM HEIGHT OF 28" INCHES MAY BE SUBSTITUTED FOR DRUMS FOR DAYTIME LANE CLOSURES. PROVISION SHALL BE MADE TO SAFELY STABILIZE THE CONES TO PREVENT THEM FROM BLOWING OVER. IF THIS CANNOT BE ACHIEVED, DRUMS SHALL BE USED.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE C & M SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF OMUTCD. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCIDENTAL TO THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

6. IF CONSTRUCTION OPERATION REQUIRES THE LANE CLOSURE FOR MORE THAN ONE DAY THEN THE EXISTING CONFLICTING PAVEMENT MARKINGS AND REFLECTORS FROM THE RAISED PAVEMENT MARKERS (RPM'S) SHALL BE REMOVED AND THE APPROPRIATE COLOR TEMPORARY EDGE LINES SHALL BE APPLIED ALONG THE TAPER TEMPORARY EDGE LINES WHICH WOULD CONFLICT WITH FINAL TRAFFIC LANES SHALL BE REMOVABLE (947.03 TYPE C) TAPE OR TEMPORARY RPM'S UNLESS THE AREA WILL BE RESURFACED IN THE NEXT WORK PHASE. AFTER COMPLETION OF THE WORK, TEMPORARY MARKINGS SHALL BE REMOVED IN ACCORDANCE WITH 621.134 AND THE ORIGINAL MARKINGS AND RAISED PAVEMENT MARKERS REFLECTORS SHALL BE RESTORED.

7. THE ADVISORY SPEED SIGN OW-143-24 SHALL BE USED WHEN SPECIFIED IN THE PLAN OR AS DIRECTED BY THE ENGINEER. THE ADVISORY SPEED SHALL BE AS SPECIFIED IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

8. TYPE A FLASHING WARNING LIGHTS SHOWN ON THE "ROAD CONSTRUCTION AHEAD" AND "RIGHT LANE CLOSED AHEAD" SIGNS ARE REQUIRED WHENEVER A NIGHT LANE CLOSURE IS NECESSARY.

9. THE FLASHING ARROW PANEL SHALL MEET REQUIREMENTS OF STANDARD CONSTRUCTION DRAWING TC-35.10

SPEED LIMIT MPH	MINIMUM TAPER (L) IN FEET	MINIMUM NUMBER (N) OF DRUMS	MAXIMUM SPACING (S) OF DRUMS
20-25	125	6	20
30-40	320	9	40
45-55	660	13	60

10. THE BARRIER TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER WORKERS ARE IN THE WORK AREA. THIS VEHICLE SHALL BE REMOVED FROM THE PAVEMENT WHENEVER WORKERS ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE BARRIER TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. THE VEHICLE SHALL BE EQUIPPED WITH A 360 DEGREE ROTATING OR FLASHING AMBER BEACON CLEARLY VISIBLE A MINIMUM OF 1/4 MILE.

11. THE OC-8 SIGNS ARE ONLY REQUIRED FOR LANE CLOSURES OF MORE THAN ONE DAY AND MAY BE OMITTED IF THEY FALL WITHIN THE LIMITS OF A CONSTRUCTION PROJECT.

DRIVES DISTURBED DUE TO CONSTRUCTION ARE TO BE REPLACED WITH A MINIMUM FROM THE FOLLOWING TABLE. THE COST IS TO BE INCLUDED IN THE UNIT PRICE FOR THE PERTINENT CONDUIT ITEM.

ASPHALTIC DRIVES

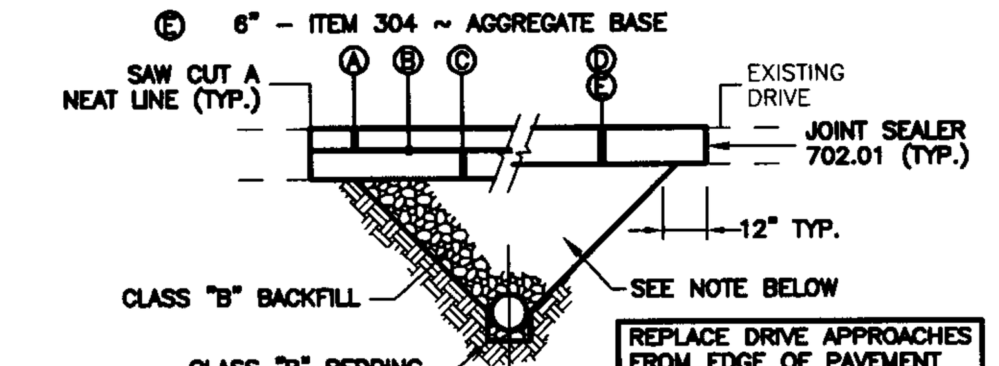
- (A) 2" – ITEM 404 ~ ASPHALTIC CONCRETE
- (B) – ITEM 408 ~ BITUMINOUS PRIME COAT @ 0.35 GAL./SY.
- (C) 6" – ITEM 304 ~ AGGREGATE BASE

CONCRETE DRIVES

- (D) 6" – ITEM 452 ~ PLAIN PORTLAND CEMENT

STONE DRIVES

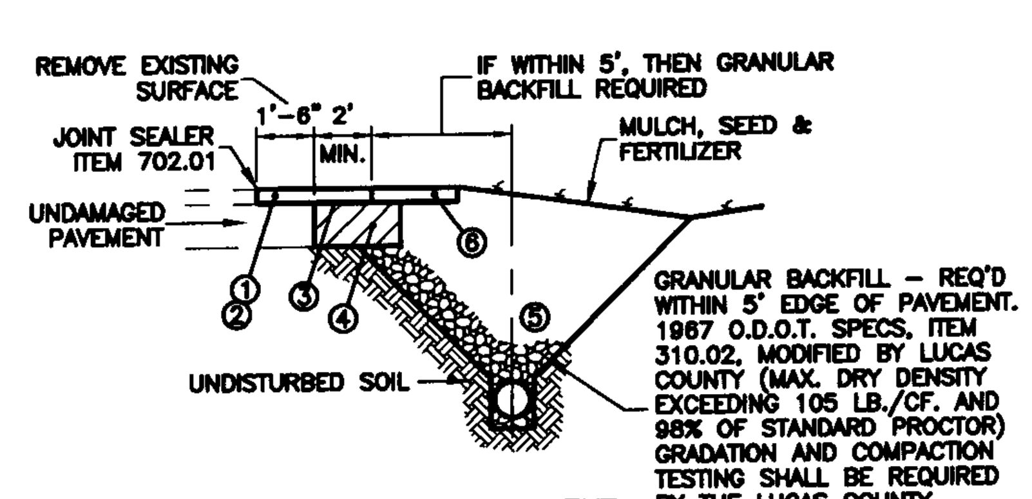
- (E) 6" – ITEM 304 ~ AGGREGATE BASE



NOTE:
TRENCHES UNDER DRIVES SHALL BE BACKFILLED WITH THOROUGHLY TAMPED GRANULAR MATERIAL. THE SUBBASE SHALL BE CONSTRUCTED IN LAYERS, NOT TO EXCEED 6 INCHES COMPACTED DEPTH. IF AN INSPECTOR FROM THE COUNTY ENGINEER IS PRESENT AND IF COMPACTION EQUIPMENT IS USED, THEN BACKFILL MAY BE GRANULAR MATERIAL MEETING 1967 O.D.O.T. SPECS. ITEM 310.02, AS MODIFIED BY THE LUCAS COUNTY ENGINEER OTHERWISE, EITHER ITEM 411 STABILIZED CRUSHED AGGREGATE OR CONTROLLED DENSITY BACKFILL IS REQUIRED. GRANULAR MATERIAL MAY BE COMPACTED WITH WATER IF SATISFACTORY DRAINAGE IS PROVIDED FOR THE FREE WATER. WHEN COMPACTING WITH WATER, THE GRANULAR MATERIAL MAY BE PLACED IN LAYERS NOT TO EXCEED 8 INCH LOOSE DEPTH AND EACH LAYER THOROUGHLY SATURATED WITH WATER BY FLOODING OR JETTING. PRIOR TO THE PLACEMENT OF SOIL OVER THE GRANULAR MATERIAL, THE FREE WATER SHOULD BE DRAINED.

DRIVEWAY REPLACEMENT DETAILS

N.T.S.

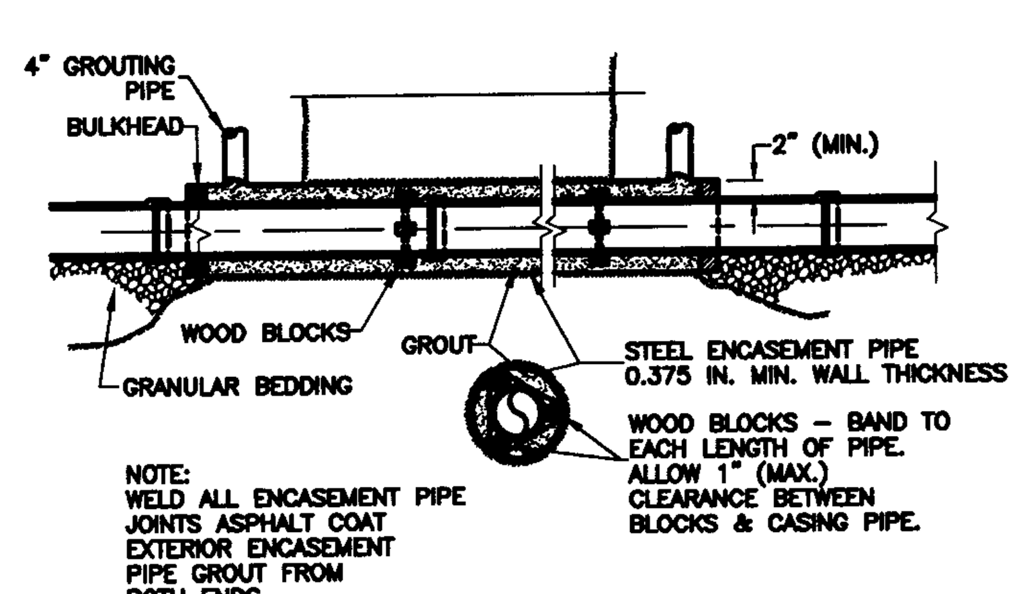


ADJACENT TO PAVEMENT

ALL PAVED BERMS DAMAGED BY CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AS DIRECTED BY THE LUCAS COUNTY ENGINEER

PAVEMENT REPLACEMENT DETAILS

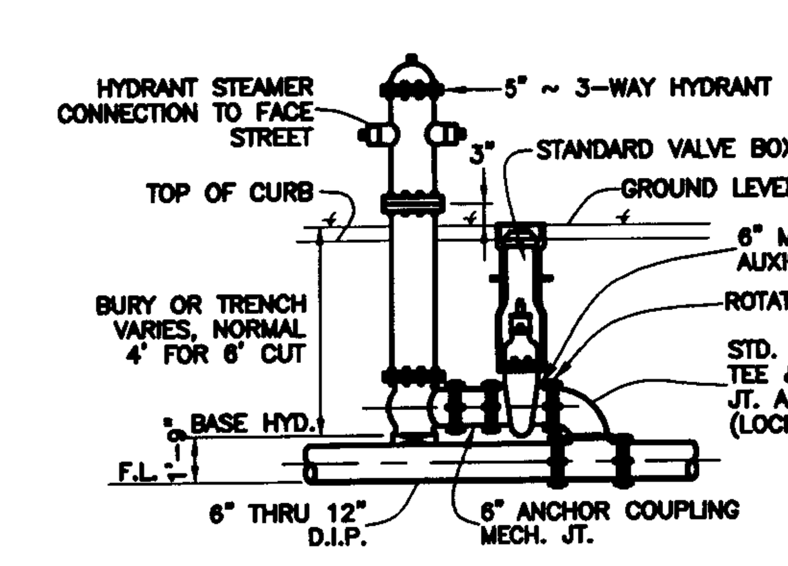
N.T.S.



NOTE:
WELD ALL ENCASEMENT PIPE JOINTS ASPHALT COAT EXTERIOR ENCASEMENT PIPE GROUT FROM BOTH ENDS

SANITARY SEWER & WATER SUPPLY LINE BORING DETAIL

N.T.S.

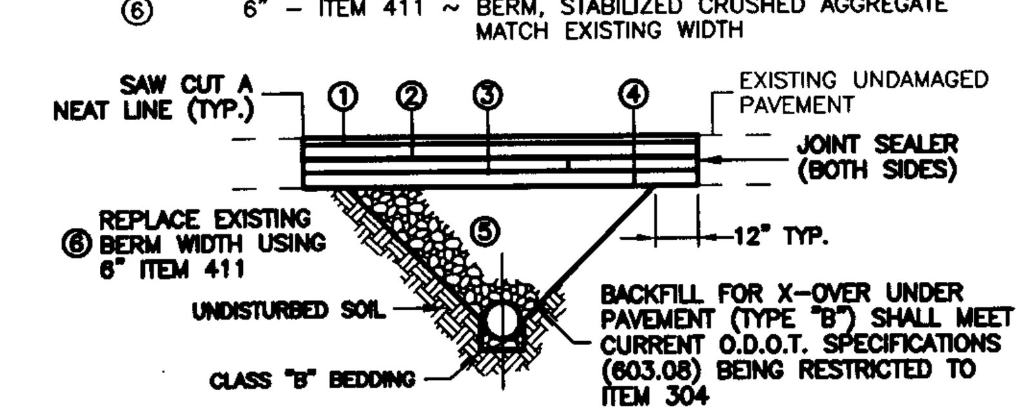


STANDARD HYDRANT ASSEMBLY

N.T.S.

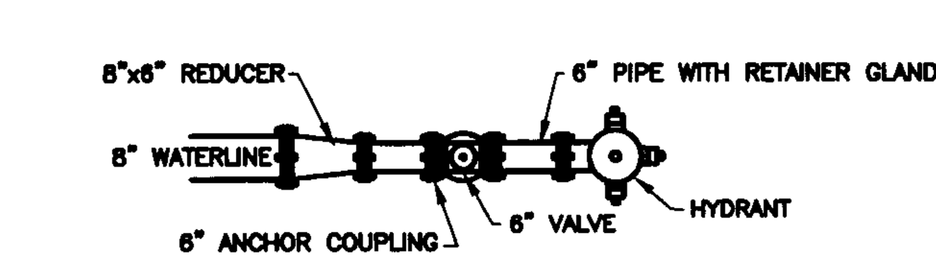
- ALL DRIVE APPROACHES AND X-OVER PAVEMENT CUTS SHALL BE SAW CUT.
- DRIVE REPLACEMENT SHALL BE FROM EDGE OF PAVEMENT TO BACK OF TRENCH.
- CONSTRUCTION METHODS, EQUIPMENT AND MATERIALS PROPOSED FOR PAVEMENT RESTORATION SHALL BE APPROVED BY THE LUCAS COUNTY ENGINEER PRIOR TO BEGINNING THIS WORK.
- WHERE EXISTING PAVEMENT SURFACE AND/OR BASE IS DAMAGED OR UNDERMINED AS DETERMINED BY THE ENGINEER, REPLACEMENT OR RESURFACING AS DETAILED BELOW SHALL BE REQUIRED. THE COST OF PAVEMENT REPLACEMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PERTINENT CONDUIT ITEMS.

1. 1 1/2" – ITEM 404 ~ ASPHALTIC CONCRETE, PG64-22
2. 2 1/2" – ITEM 402 ~ ASPHALTIC CONCRETE, PG64-22
3. – ITEM 408 ~ BITUMINOUS PRIME COAT @ 0.40 GAL./SY.
4. 12" – ITEM 304 ~ AGGREGATE BASE
5. – ITEM 310 ~ SUBBASE, GRANULAR BACKFILL
6. 6" – ITEM 411 ~ BERM, STABILIZED CRUSHED AGGREGATE MATCH EXISTING WIDTH



CROSSOVER

N.T.S.



HYDRANT ASSEMBLY AT END OF WATERLINE

NO.	DATE	BY	DESCRIPTION
△	4/30/01	MKL	SYLVANIA TOWNSHIP SUBMITTAL
	06/18/01	BPG	FINAL REVIEW

Mannik & Smith, Inc.
Consulting Engineers & Surveyors
1800 Indian Wood Circle
Maumee, Ohio 43537
Telephone (419) 891-2222

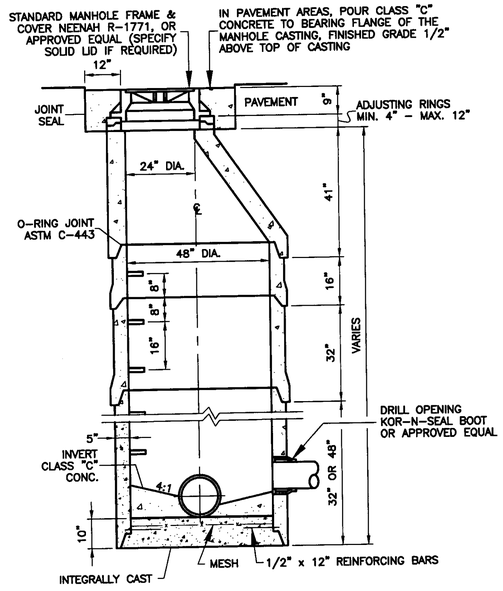
OWNER
Benchmark Group
4053 Maple Road
Amherst, NY 14226
(716) 833-4986

PROJECT
LOWE'S Companies, Inc.
Central Avenue Center
Central Avenue
Sylvania, Ohio

DETAILS AND TRAFFIC CONTROL WATER MAIN

C10/12

B157A1D



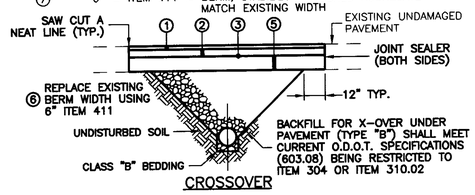
SANITARY SEWER MANHOLE DETAIL
48" DIAMETER "O" RING JOINT
ASTM C-478

TYPE 2 STANDARD MANHOLE

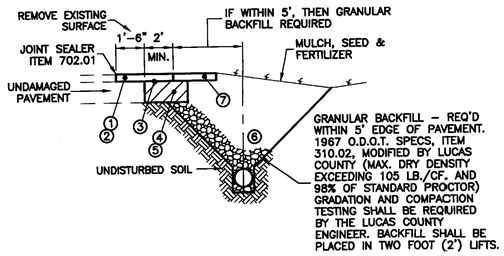
SCALE: 1" = 2'

- ALL DRIVE APPROACHES AND X-OVER PAVEMENT CUTS SHALL BE SAW CUT.
- DRIVE REPLACEMENT SHALL BE FROM EDGE OF PAVEMENT TO BACK OF TRENCH.
- CONSTRUCTION METHODS, EQUIPMENT AND MATERIALS PROPOSED FOR PAVEMENT RESTORATION SHALL BE APPROVED BY THE LUCAS COUNTY ENGINEER PRIOR TO BEGINNING THIS WORK.
- WHERE EXISTING PAVEMENT SURFACE AND/OR BASE IS DAMAGED OR UNDERMINED AS DETERMINED BY THE ENGINEER, REPLACEMENT OR RESURFACING AS DETAILED BELOW SHALL BE REQUIRED. THE COST OF PAVEMENT REPLACEMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PERTINENT CONDUIT ITEMS.

① 1 1/2" - ITEM 404 ~ ASPHALTIC CONCRETE, AC-20
② 2 1/2" - ITEM 402 ~ ASPHALTIC CONCRETE, AC-20 (2 LIFTS)
③ - ITEM 408 ~ BITUMINOUS PRIME COAT @ 0.40 GAL./SY.
④ - ITEM 301 ~ BITUMINOUS AGGREGATE BASE, AC-20
⑤ 10" - ITEM 304 ~ AGGREGATE BASE
⑥ - ITEM 310 ~ SUBBASE, GRANULAR BACKFILL
⑦ 6" - ITEM 411 ~ BERM, STABILIZED CRUSHED AGGREGATE MATCH EXISTING WIDTH



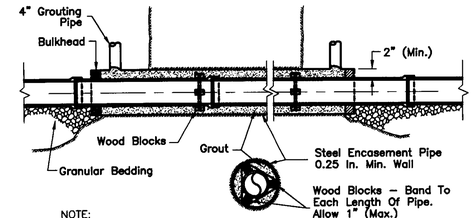
CROSSOVER



ADJACENT TO PAVEMENT

PAVEMENT REPLACEMENT DETAILS

N.T.S.

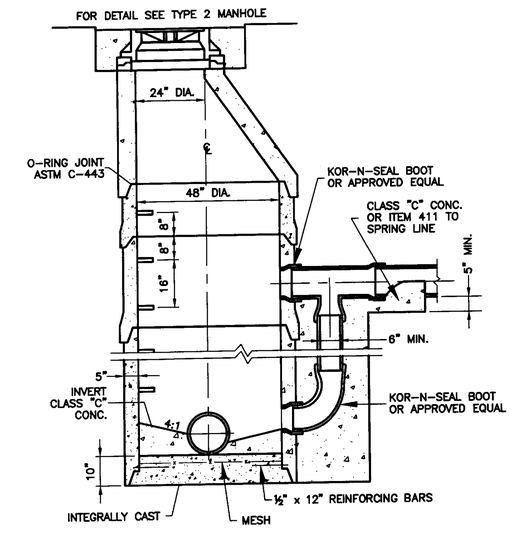


NOTE:
Weld All Encasement Pipe Joints Asphalt Coat Exterior Encasement Pipe Grout From Both Ends

SANITARY SEWER & WATER SUPPLY LINE

BORING DETAIL

N.T.S.



SANITARY SEWER PRECAST MANHOLE
MAXIMUM PIPE SIZE 36 INCH
ASTM C-478

TYPE 3 DROP MANHOLE

SCALE: 1" = 2'

Drives Disturbed Due To Construction Are To Be Replaced With A Minimum From The Following Table. The Cost Is To Be Included In The Unit Price For The Pertinent Conduit Item.

ASPHALTIC DRIVES

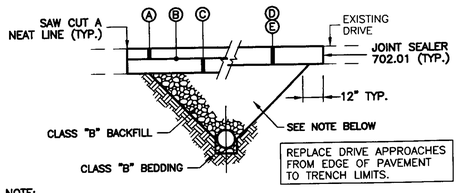
Ⓐ 2" - Item 404 ~ Asphaltic Concrete
Ⓑ - Item 408 ~ Bituminous Prime Coat @ 0.35 Gal./Sy.
Ⓒ 6" - Item 304 ~ Aggregate Base

CONCRETE DRIVES

Ⓓ 6" - Item 452 ~ Plain Portland Cement

STONE DRIVES

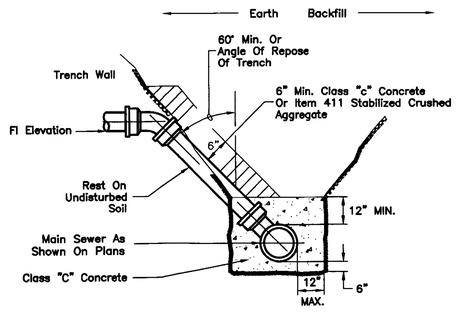
Ⓔ 6" - Item 304 ~ Aggregate Base



NOTE:
Trenches Under Drives Shall Be Backfilled With Thoroughly Tamped Granular Material. The Subbase Shall Be Constructed In Layers, Not To Exceed 6 Inches Compacted Depth. If An Inspector From The County Engineer Is Present And If Compaction Equipment Is Used, Then Backfill May Be Granular Material Meeting 1967 O.D.O.T. Specs. Item 310.02, As Modified By The Lucas County Engineer Otherwise, Either Item 411 Stabilized Crushed Aggregate Or Controlled Density Backfill Is Required. Granular Material May Be Compacted With Water If Satisfactory Drainage Is Provided For The Free Water. When Compacting With Water, The Granular Material May Be Placed In Layers Not To Exceed 8 Inch Loose Depth And Each Layer Thoroughly Saturated With Water By Flooding Or Jetting. Prior To The Placement Of Soil Over The Granular Material, The Free Water Should Be Drained.

DRIVEWAY REPLACEMENT DETAILS

N.T.S.



ALTERNATE RISER DETAIL

N.T.S.

NO.	DATE	BY	DESCRIPTION
1	4/30/01	MKL	SYLVANIA TOWNSHIP SUBMITTAL
	06/18/01	BPG	FINAL REVIEW

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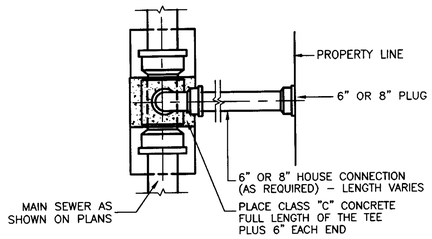
PROJECT
LOWE'S Companies, Inc.
Central Avenue Center
Central Avenue
Sylvania, Ohio

DETAILS
SANITARY SEWER

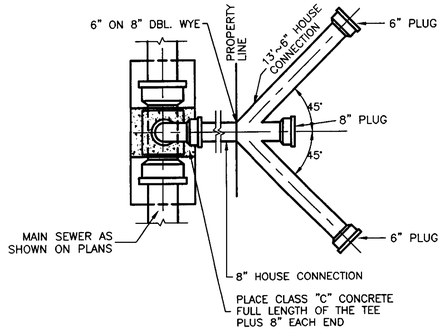
C11 / 12

B157A1D

S:\PROJECTS\MSI\B157A1D\ROADWAY\LUCAS_CNTY_STD
CAD Dwg Scale: 1:1
LD Dwg Revision: 06/18/01
Last Revision By: GACKSTETTER
Description: FINAL

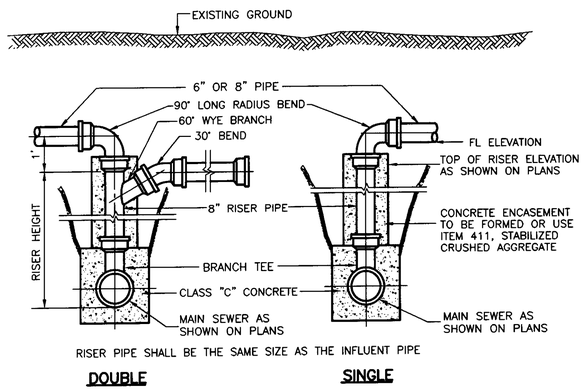


SINGLE LOT

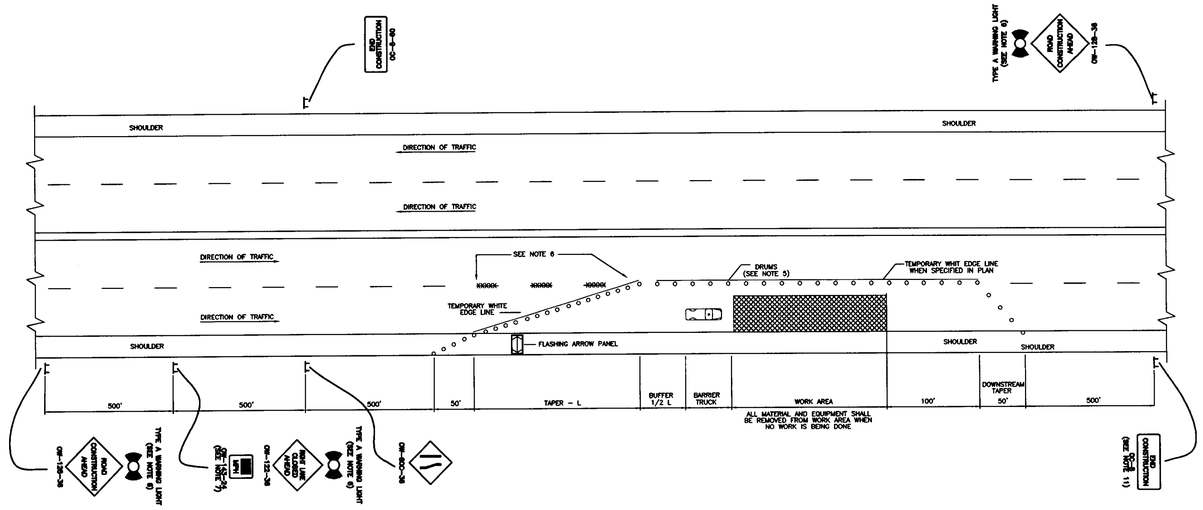


DOUBLE LOT

PLAN VIEW



RISER DETAILS
N.T.S.



1. THE LOCATION OF THE TRANSITION TAPER AND THE ADVANCE WARNING SIGNS SHOULD BE ADJUSTED TO PROVIDE FOR ADEQUATE SIGHT DISTANCE FOR THE EXISTING VERTICAL AND HORIZONTAL ROADWAY ALIGNMENT.

2. THE SPACING BETWEEN PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET CLEARANCE TO *EXISTING* SIGNS.

3. THE TAPER LENGTH (L), NUMBER (N), SPACING (S) OF DRUMS SHALL CONFORM TO TABLE 1. DRUM SPACING (S) SHALL BE USED FOR THE PAVEMENT TAPER, THE BUFFER AREA AND FOR THE FIRST 1000 FEET OF THE WORK AREA AND AT OTHER HAZARDOUS LOCATIONS AS DIRECTED BY THE ENGINEER. THE MAXIMUM DRUM SPACING FOR THE BALANCE OF THE WORK AREA IS TO BE TWO TIMES THE SPACING (S) IN TABLE 1. A MINIMUM OF 5 DRUMS SHALL BE USED IN THE SHOULDER TAPER AND THE DOWNSTREAM TAPER.

4. TYPE C STEADY BURNING WARNING LIGHTS SHALL BE ERECTED ON EACH DRUM FOR NIGHT CLOSURES.

5. CONES HAVING A MINIMUM HEIGHT OF 28" INCHES MAY BE SUBSTITUTED FOR DRUMS FOR DAYTIME LANE CLOSURES. PROVISION SHALL BE MADE TO SAFELY STABILIZE THE CONES TO PREVENT THEM FROM BLOWING OVER. IF THIS CANNOT BE ACHIEVED, DRUMS SHALL BE USED.

6. IF CONSTRUCTION OPERATION REQUIRES THE LANE CLOSURE FOR MORE THAN ONE DAY THEN THE EXISTING CONFLICTING PAVEMENT MARKINGS AND REFLECTORS FROM THE RAISED PAVEMENT MARKERS (RPM'S) SHALL BE REMOVED AND THE APPROPRIATE COLOR TEMPORARY EDGE LINES SHALL BE APPLIED ALONG THE TAPER TEMPORARY EDGE LINES WHICH WOULD CONFLICT WITH FINAL TRAFFIC LANES SHALL BE REMOVABLE (947.03 TYPE C) TAPE OR TEMPORARY RPM'S UNLESS THE AREA WILL BE RESURFACED IN THE NEXT WORK PHASE. AFTER COMPLETION OF THE WORK, TEMPORARY MARKINGS SHALL BE REMOVED IN ACCORDANCE WITH 621.134 AND THE ORIGINAL MARKINGS AND RAISED PAVEMENT MARKERS REFLECTORS SHALL BE RESTORED.

7. THE ADVISORY SPEED SIGN OW-143-24 SHALL BE USED WHEN SPECIFIED IN THE PLAN OR AS DIRECTED BY THE ENGINEER. THE ADVISORY SPEED SHALL BE AS SPECIFIED IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

8. TYPE A FLASHING WARNING LIGHTS SHOWN ON THE "ROAD CONSTRUCTION AHEAD" AND "RIGHT LANE CLOSED AHEAD" SIGNS ARE REQUIRED WHENEVER A NIGHT LANE CLOSURE IS NECESSARY.

9. THE FLASHING ARROW PANEL SHALL MEET REQUIREMENTS OF STANDARD CONSTRUCTION DRAWING TC-35.10

10. THE BARRIER TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER WORKERS ARE IN THE WORK AREA. THIS VEHICLE SHALL BE REMOVED FROM THE PAVEMENT WHENEVER WORKERS ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE BARRIER TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. THE VEHICLE SHALL BE EQUIPPED WITH A 360 DEGREE ROTATING OR FLASHING AMBER BEACON CLEARLY VISIBLE A MINIMUM OF 1/4 MILE.

11. THE OC-8 SIGNS ARE ONLY REQUIRED FOR LANE CLOSURES OF MORE THAN ONE DAY AND MAY BE OMITTED IF THEY FALL WITHIN THE LIMITS OF A CONSTRUCTION PROJECT.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE C & M SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF OMUTCD. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCIDENTAL TO THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

SPEED LIMIT MPH	MINIMUM TAPER (L) IN FEET	MINIMUM NUMBER (N) OF DRUMS	MAXIMUM SPACING (S) OF DRUMS
20-25	125	6	20
30-40	320	9	40
45-55	660	13	60

NO.	DATE	BY	DESCRIPTION
	4/30/01	MKL	SYLVANIA TOWNSHIP SUBMITTAL
	06/18/01	BPG	FINAL REVIEW

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PROJECT
LOWE'S Companies, Inc.
Central Avenue Center
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Sylvania, Ohio

DETAILS AND TRAFFIC CONTROL SANITARY SEWER

C12/12

B157A1D

S:\PROJECTS\MS\B157A1D\ROADWAY\LUCAS_CNTY_STD
CAD Dwg. Scale: (Eng.) 1 in.
Last Revision By: GAC/STETTER
Last Revision On:
Description: FINAL