

"WATER MAINS, SANITARY SEWERS AND STORM SEWERS AS-BUILTS" PLANS FOR THE CONSTRUCTION OF SANITARY SEWERS, STORM SEWERS, GRADING, PAVING, AND WATER MAINS FOR DOGWOOD MEADOWS

A TRACT OF LAND BEING THE RESUBDIVISION OF LOT 5 OF LAKESIDE ESTATES &
PART OF THE SOUTHWEST QUARTER AND THE SOUTHEAST QUARTER OF SECTION 20,
TOWNSHIP 47 NORTH, RANGE 3 EAST OF THE FIFTH PRINCIPAL MERIDIAN
CITY OF O'FALLON, ST. CHARLES COUNTY, MISSOURI

THIS IS TO CERTIFY THAT WE HAVE DURING THE MONTH OF MARCH, 1997, BY ORDER OF TIM BLATTEL, EXECUTED AN AS-BUILT SURVEY OF THE EXISTING SANITARY SEWERS, STORM SEWERS, FIRE HYDRANTS AND WATER VALVES WITHIN "DOGWOOD MEADOWS", A SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 34 PAGE 77 OF THE ST. CHARLES COUNTY RECORDS. THE SANITARY LATERALS THAT ARE SHOWN WERE TAKEN FROM INFORMATION SUPPLIED TO BAX ENGINEERING BY THE SEWER CONTRACTOR, THEREFORE THEIR LOCATION IS ASSUMED APPROXIMATE. ALL SEWERS SHOWN LIE WITHIN THE EASEMENTS AS SHOWN ON SAID SUBDIVISION PLAT UNLESS OTHERWISE NOTED. THE RESULTS OF THIS AS-BUILT SURVEY ARE SHOWN ON THIS PLAT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DARRELL R. OAKLEY
BAX ENGINEERING CO., INC.
DARRELL R. OAKLEY
MO REG. L.S. #2265

PREPARED FOR:
TIMOTHY AND KATHRYN BLATTEL
707 EMGE ROAD
O'FALLON, MISSOURI 63366
(314) 240-6152

GRADING NOTES

- A Geotechnical Engineer shall be employed by the owner and be on site during grading operations. All soils tests shall be verified by the Geotechnical Engineer concurrent with the grading and backfilling operations.
- The grading contractor shall perform a complete grading and compaction operation as shown on the plans, stated in these notes, or reasonably implied there from, all in accordance with the plans and notes as interpreted by the Geotechnical Engineer.
- The Contractor shall notify the Soils Engineer at least two days in advance of the start of the grading operation.
- All areas shall be allowed to drain. All low points shall be provided with temporary ditches.
- A sediment control plan that includes monitored and maintained sediment control basins and/or straw bales should be implemented as soon as possible. No graded area is to be allowed to remain bare over the winter without being seeded and mulched. Care should be exercised to prevent soil from damaging adjacent property and silting up existing downstream storm drainage system.
- Soft soil in the bottom and banks of any existing or former pond sites or tributaries should be removed, spread out and permitted to dry sufficiently to be used as fill. None of this material should be placed in proposed right-of-way locations or on storm sewer locations.
- Site preparation includes the clearance of all stumps, trees, bushes, shrubs, and weeds; the grubbing and removal of roots and other surface obstructions from the site; and the demolition and removal of any man-made structures. The unsuitable material shall be properly disposed of off-site. Topsoil and grass in the fill areas shall be thoroughly disced prior to the placement of any fill. The Soils Engineer shall approve the discing operation.
- Compaction equipment shall consist of tamping rollers, pneumatic-tired rollers, vibratory roller, or high speed impact type drum rollers acceptable to the Soils Engineer. The roller shall be designed so as to avoid the creation of a layered fill without proper blending of successive fill layers.
- The Soils Engineer shall observe and test the placement of the fill to verify that specifications are met. A series of fill density tests will be determined on each lift of fill. Interim reports showing fill quality will be made to the Owner at regular intervals.
- The Soils Engineer shall notify the Contractor of rejection of a lift of fill or portion thereof. The Contractor shall rework the rejected portion of fill and obtain notification from the Soils Engineer of its acceptance prior to the placement of additional fill.
- All areas to receive fill shall be scarified to a depth of not less than 6 inches and then compacted in accordance with the specifications given below. Natural slopes steeper than 1 vertical to 5 horizontal to receive fill shall have horizontal benches cut into the slopes before the placement of any fill. The width and height to be determined by the Soils Engineer. The fill shall be loosely placed in horizontal layers not exceeding 8 inches in thickness and compacted in accordance with the specifications given below. The Soils Engineer shall be responsible for determining the acceptability of soils placed. Any unacceptable soils placed shall be removed at the Contractor's expense.
- The sequence of operation in the fill areas will be fill, compact, verify acceptable soil density, and repetition of the sequence. The acceptable moisture contents during the filling operation are those at which satisfactory dry densities can be obtained. The acceptable moisture contents during the filling operation in the remaining areas are from 2 to 8 percent above the optimum moisture control.
- The surface of the fill shall be finished so that it will not impound water. If at the end of a days work it would appear that there may be rain prior to the next working day, the surface shall be finished smooth. If the surface has been finished smooth for any reason, it shall be scarified before proceeding with the placement of succeeding lifts. Fill shall not be placed on frozen ground, nor shall filling operations continue when the temperature is such as to permit the layer under placement to freeze.

14. Fill and backfill should be compacted to the criteria specified in the following table:

CATEGORY	MINIMUM PERCENT COMPACTION
Fill in building areas below footings	90%
Fill under slabs, walks, and pavement	90%
Fill other than building areas	88%
Natural subgrade	88%
Pavement subgrade	90%
Pavement base course	90%

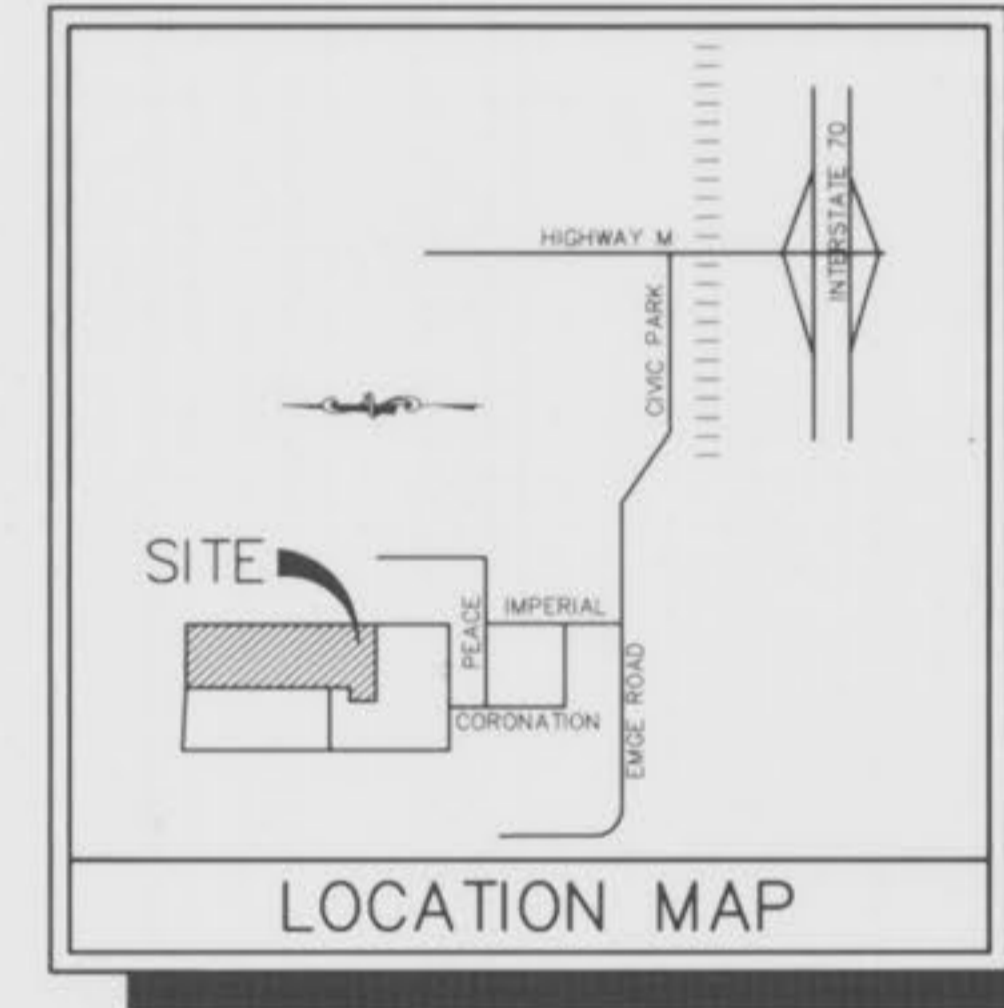
Measured as a percent of the maximum dry density as determined by modified Proctor Test (ASTM-D-1557).

Moisture content must be within 2 percent below or 4 percent above optimum moisture content if fill is deeper than 10 feet.

GENERAL NOTES

- Underground utilities have been plotted from available information and therefore their locations shall be considered approximate only. The verification of the location of all underground utilities, either shown or not shown on these plans shall be the responsibility of the contractor, and shall be located prior to any grading or construction of the improvements.
- All manhole tops built without elevations furnished by the Engineer will be the responsibility of the sewer contractor.
- 8" P.V.C. sanitary sewer pipe shall meet the following standards. A.S.T.M.-D-3034 SDR-35, with wall thickness compression joint A.S.T.M.-D-3212. An appropriate rubber seal waterstop as approved by the sewer district shall be installed between P.V.C. pipe and masonry structures.
- All filled places, including trench backfills, under buildings, proposed storm and sanitary sewer lines and/or paved areas, shall be compacted to 90% maximum density as determined by the "Modified AASHTO T-180 Compaction Test," (A.S.T.M.-D-1557). All filled places within public roadways shall be compacted to 95% of maximum density as determined by the "Standard Proctor Test AASHTO T-99, Method C" (A.S.T.M.D.-698).
- All trench backfills under paved areas shall be granular backfill, and shall be compacted to 90% of the maximum density as determined by the "Modified AASHTO T-180 Compaction Test," (A.S.T.M.-D.-1557). All other trench backfills may be earth material (free of large clods or stones). All trench backfills shall be water jetted.
- All sanitary house connections have been designed so that the minimum vertical distance from the low point of the basement to the flow line of a sanitary sewer at the corresponding house connection is not less than the diameter of the pipe plus the vertical distance of 2 1/2 feet.
- No area shall be cleared without the permission of the Project Engineer.
- All grades shall be within 0.2 feet of those shown on the grading plan.
- No slope shall be steeper than 3:1 or as called for in the soils report for the project. All slopes shall be sodded or seeded and mulched.
- All construction and materials used shall conform to current City of O'Fallon Standards.
- All P.V.C. sanitary sewer is to be SDR-35 or equal with clean 1/2" to 1" granular stone bedding uniformly graded. This bedding shall extend from 6" below the pipe to 12" above the springline of the pipe. Immediate backfill over pipe shall consist of same size "clean" or minus stone from springline of pipe to 6" above the top of pipe.
- All soils test shall be verified by a Soils Engineer concurrent with the grading and backfilling operations.
- Easements shall be provided for sanitary sewers, and all utilities on the Record Plat. See Record Plat for location and size of easements.
- Maintenance and upkeep of the common ground area shall be the responsibility of the developer and/or successors.

- All water lines shall be laid at least 10 feet horizontally, from any sanitary sewer, storm sewer, or manhole. Whenever water lines must cross sanitary sewers, laterals, or storm drains the water line shall be laid at such an elevation that the bottom of the water line is above the top of the drain or sewer. A full length of water pipe shall be centered over the sewer line to be crossed so that the joints will be equally distant from the sewer and as remote therefrom as possible. This minimum 18" vertical separation shall be maintained for that portion of the water line located within 10 feet horizontally, of any sewer or drain it crosses.
- All water mains shall have a minimum pressure rating of PR-200 or SDR-21.
- Water lines, valves, sleeves, meters, and fittings shall meet all specifications and installation requirements of the City of O'Fallon Water Department.
- All water hydrants and valves shall be ductile iron and installed in accordance with plans and details. All ductile iron pipe for water mains shall conform to A.W.W.A. Specifications C-106 and/or C-108. The ductile iron fittings shall conform to A.W.W.A. Specification CC-110. All rubber gasket joints for water ductile iron pressure pipe and fittings shall conform to A.W.W.A. Specification C-111.
- All sanitary manholes shall be waterproofed on the exterior in accordance with Missouri Department of Natural Resources specifications 10 CSR-8120 (7)E.
- The grading yardage shown on the drawings is an approximation only, and is not for bidding purposes. The contractor shall verify quantities prior to construction. It is the intention of the Engineer for the earthwork to balance onsite. The Engineer shall be notified if any difficulties arise in achieving the balance.
- Brick will not be used in the construction of sanitary sewer manholes.
- All pipes shall have positive drainage through manholes. No flat base structures are allowed.
- All sanitary sewer manholes to be 48 inch minimum inside diameter in accordance with Missouri Department of Natural Resources specification 10 CSR 20-8 for 10 inch mains (42 in. dia. for 8 in. mains).
- The City of O'Fallon shall be notified 48 hours prior to start of construction for coordination and inspection.
- All storm sewer pipe shall be Class III minimum (C-76).



DEVELOPMENT NOTES

- Area of Tract: 5.33 Acres
- Existing Zoning: R-1 Single Family Residential (City of O'Fallon)
- Proposed Zoning: R-1 Single Family Residential (City of O'Fallon)
- Proposed Use: Single Family Homes
- Number of Lots Proposed: 6 Lots
- Area in Lots: 4.67 Acres
- Minimum Lots Area: 10,000 Square Feet
- Average Lot Area: 33,919 Square Feet
- The proposed height and lot setbacks are as follows:
 - Minimum Front Yard: 25 feet
 - Minimum Side Yard: 6 feet
 - Minimum Rear Yard: 25 feet
 - Minimum Lot Area: 10,000 square feet
 - Maximum Height of Building: 2 1/2 stories or 35 feet
- Current Owner of Property: TIMOTHY AND KATHRYN BLATTEL
707 EMGE ROAD
O'FALLON, MISSOURI 63366
- Site is served by:
 - City of O'Fallon Sanitary Sewers
 - Union Electric Company
 - ST. Charles Gas Company
 - City of O'Fallon Water District
 - CTE Telephone Company
 - Port Zumwalt School District
 - O'Fallon Fire Protection District
- All homes shall have a minimum of 2 off-street parking places with 2-car
- All utilities must be located underground.
- The developer realizes that they will comply with current Tree Preservation Ordinance Number 1689 and provide landscaping as set forth in Article 23 of the City of O'Fallon Zoning Ordinances.
- The developer realizes that only 30% of the site may be covered by structures, garages.
- The existing lake shall serve as the detention basin for this project.
- No lots are anticipated to be susceptible to street movement.
- Minimum square feet for proposed houses by custom home builder, 2,000 square feet minimum one story, 2,200 square feet minimum two story
- No flood plain exists on this site per F.I.R.M. #29183C0230 E dated August 2, 1996.
- No trees will be removed.

LEGEND

- CL CURB INLET
- CLL DOUBLE CURB INLET
- AL AREA INLET
- M.H. MANHOLE
- F.E. FLARED END SECTION
- E.P. END PIPE
- C.P. CONCRETE PIPE
- R.C.P. REINFORCED CONCRETE PIPE
- C.M.P. CORRUGATED METAL PIPE
- C.I.P. CAST IRON PIPE
- P.V.C. POLY VINYL CHLORIDE (PLASTIC)
- C.O. CLEAN OUT
- Fire Hydrant
- Storm Sewer
- Sanitary Sewer
- Street Light
- Existing Contour
- Proposed Contour
- Street Sign
- Water Valve
- Blow Off Assembly
- Flowline Elevation of House Connection
- Flowline Elevation of Sewer Main
- Street Address

DISCLAIMER OF RESPONSIBILITY
I hereby certify that the documents intended to be constructed by these plans are based on the data and information furnished to me by the client, and I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments resulting in or intended to be used for any part or parts of the construction of engineering project or survey.

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REVISIONS	CITY COMMENTS
10-22-96	CITY COMMENTS
10-28-96	CITY COMMENTS
11-9-96	CITY COMMENTS
11-18-96	CITY COMMENTS

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- 9 OF 11 - CONSTRUCTION DETAILS
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- 11 OF 11 - WATER DETAILS

221 Point West Boulevard
St. Charles, MO. 63301
314-946-6586
314-724-3330
FAX 947-9182

10-02-96	DATE
89-3094I	PROJECT NUMBER
1 OF 3	SHEET OF
3094CON.DWG	FILE NAME
MGG	DRAWN
RF	CHECKED

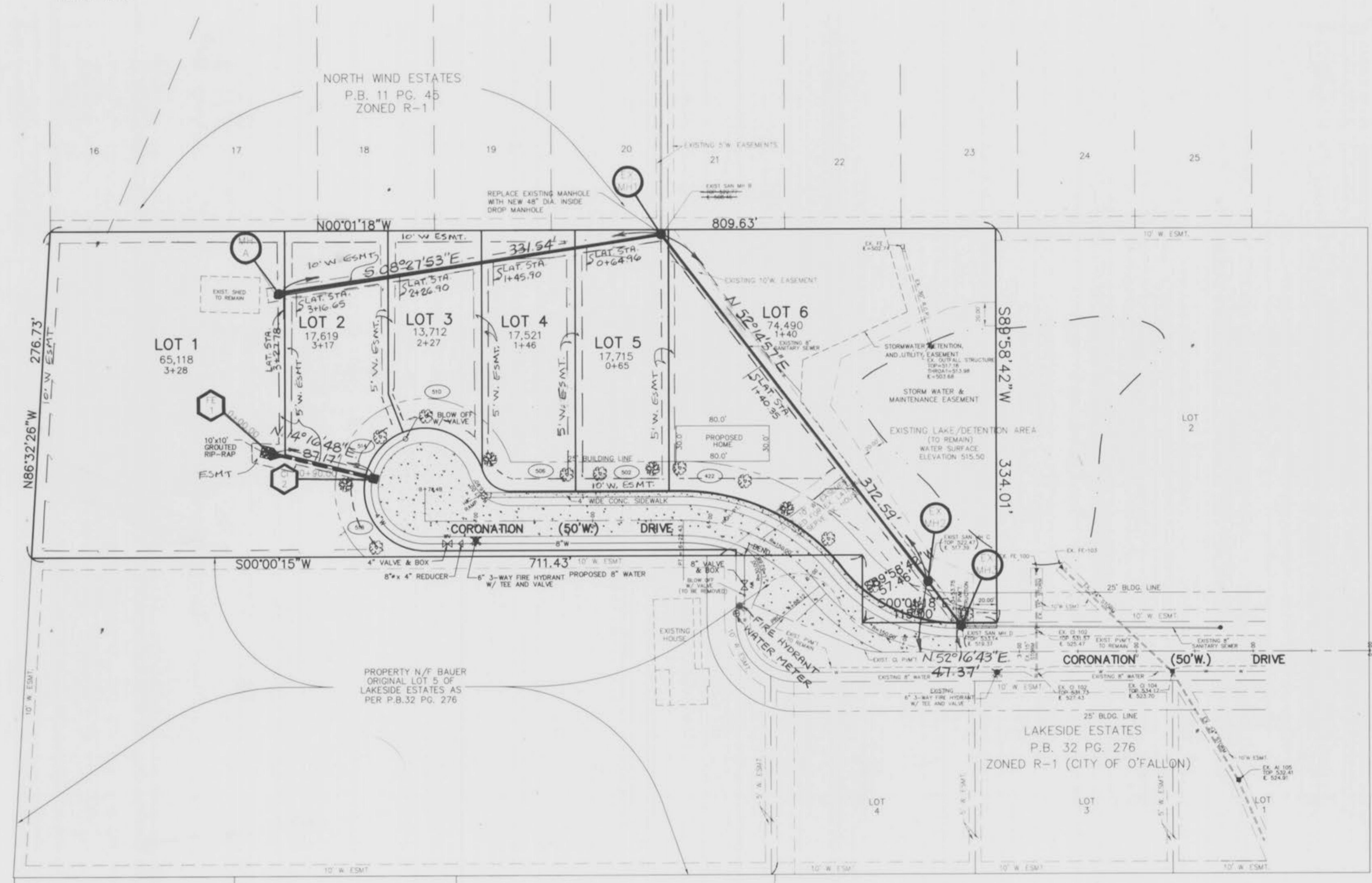
"AS-BUILTS ADDED MARCH, 1997"

Dogwood Meadows AS-BUILTS 13



LANDSCAPING LEGEND

QTY.	DESCRIPTION	CALIPER
10	BRADFORD PAIR	2" MIN.
5	PATMORE SEEDLESS ASH	2" MIN.



BROCKER
 BK. 201 PG. 489
 ZONED A-1 (COUNTY)

PROPERTY N/F BOYET BK. 799 PG. 1054 ZONED A-1 (COUNTY)
 PROPERTY N/F MANN'S BK. 976 PG. 1226 ZONED A-1 (COUNTY)
 PROPERTY N/F BILLMAN BK. 471 PG. 193 ZONED A-1 (COUNTY)
 PROPERTY N/F WILLIAM & MARY HUBER BK. 582 PG. 91 ZONED R-1



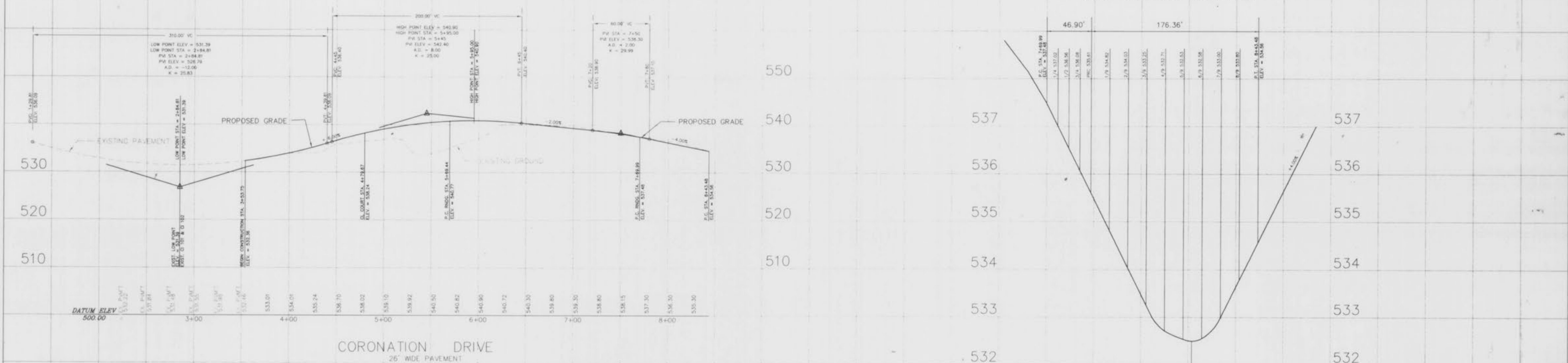
BENCHMARK

SITE BENCHMARK: Top of manhole ±27' East of E of Coronation Dr. and ± 160' North of E of Peace Dr. Elevation 540.58 U.S.G.S. Datum

"AS-BUILTS ADDED MARCH, 1997"

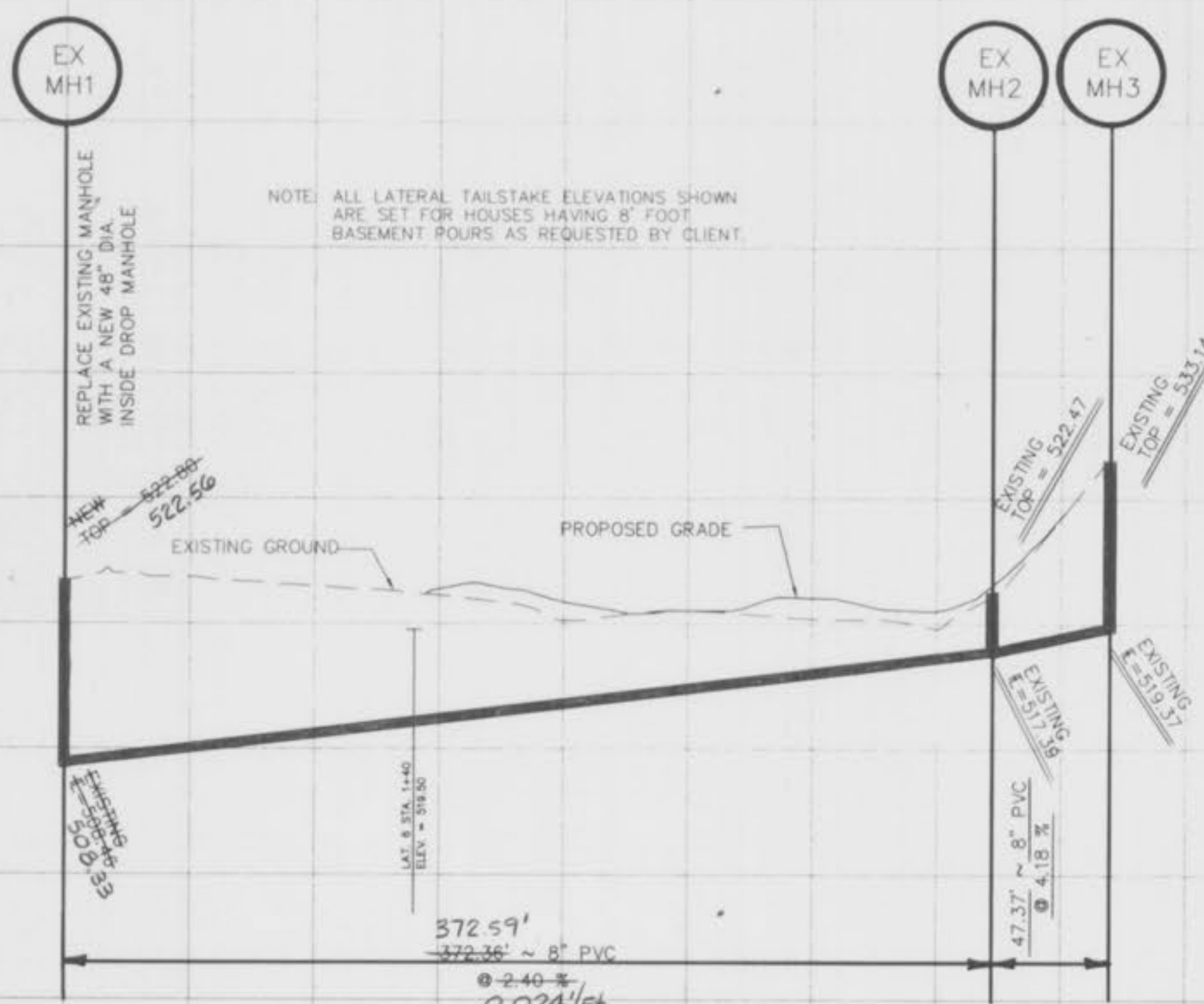
STREET PROFILE

CORONATION DRIVE
CUL-DE-SAC WARPING



CORONATION DRIVE
26' WIDE PAVEMENT

NOTE: ALL WARPING ELEVATIONS SHOWN ARE TO TOP OF CURB UNLESS OTHERWISE NOTED.



SANITARY SEWER PROFILE

SANITARY SEWER PROFILE

STORM SEWER PROFILE

"AS-BUILTS ADDED MARCH, 1997"