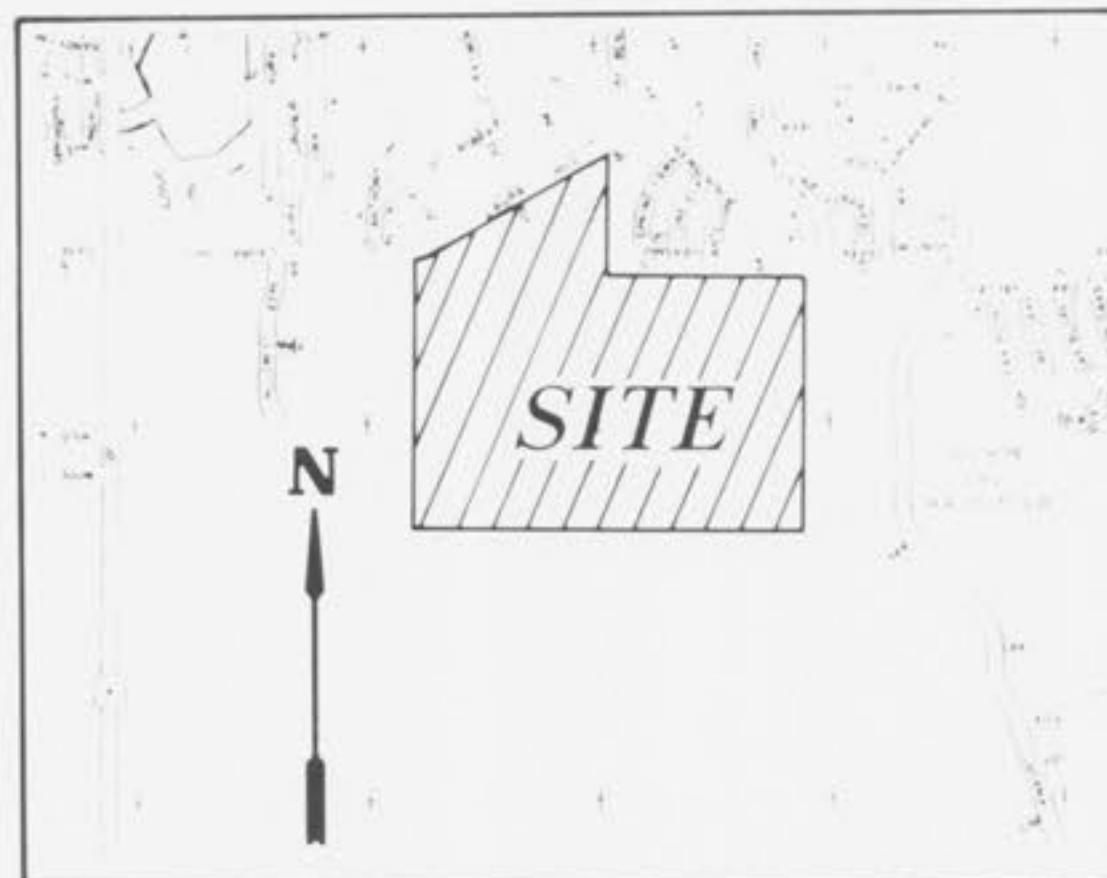


**GENERAL NOTES**

- 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 and/or construction of improvements.
- Erosion control shall not be limited to what is shown on the plans. The contractor shall take whatever means necessary to prevent siltation from entering adjacent roadways, properties, and ditches. Such control might include channeling runoff into sediment basins, channeling runoff into areas where an extra row of straw bales are used. A silt fence might be considered, if necessary.
- Owner/Developer assumes full responsibility as to the performance of the grading operation and assurance that all properties and County and State roads will be adequately protected.
- Soil preparation and re-vegetation shall be performed according to Appendix A of the Model Sediment and Erosion Control Regulations for Urban Development.
- Where natural vegetation is removed during grading, vegetation shall be re-established in such a density as to prevent erosion. Permanent type grasses shall be established as soon as possible or during the next seeding period after grading has been completed. Refer to Appendix A of St. Charles Soil and Water Conservation District - Model Sediment and Erosion Control Regulations.
- When grading operations are completed or suspended for more than thirty (30) days, permanent grass must be established at sufficient density to provide erosion control on the site. Between permanent grass seeding periods, temporary cover shall be provided according to the Designated Official's recommendation.
- All fill including filled places under proposed storm and sanitary sewer lines and paved areas including trench backfills within and off the road right-of-way shall be compacted to 90% of maximum density as determined by the "Modified AASHTO T-180 Compaction Test (ASTM D1557)". All tests shall be verified by a Soils Engineer concurrent with grading and backfilling operations. The compacted fill shall be free of rutting and shall be non-yielding and non-pumping during proofrolling and compaction.
- Temporary siltation control measures (structural) shall be maintained until vegetative cover is established at a sufficient density to provide erosion control on the site.
- If straw bales or silt fences are destroyed by heavy rains, vandalism, etc., they are to be replaced immediately by contractor.
- All cut and fill slopes should be a maximum of 33% slope (3:1) after grading.
- Any wells and/or springs which may exist on this property should be located and sealed in a manner acceptable to the City of O'Fallon.
- All existing trash and debris on-site must be removed and disposed of off-site.
- Debris and foundation material from any existing on-site building or structure which is scheduled to be razed for this development must be disposed of off-site.
- Soft soils 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 public right-of-way locations or on any storm sewer location.
- No area shall be cleared without permission of the developer.
- The total yardage of this project is based on a 15% ± shrinkage factor.
- The shrinkage factor is subject to change, due to soil conditions (types and moisture content), weather conditions, and the percentage of compaction actually achieved at the time of the year grading is performed. As a result, adjustments in final grade may be required. If adjustments need to be made, the contractor shall contact St. Charles Engineering and Surveying prior to completion of the grading.
- Earth quantities were obtained from aerial grid mapping with contours at two foot intervals, with a tolerance of plus or minus one foot or one-half (1/2) contour intervals.
- The vertical grading tolerance shall be plus or minus 0.2 feet for all rough grading.
- All construction and materials shall conform to City of O'Fallon Standards.
- All storm sewers shall be Reinforced A.S.T.M. C-76, Class III minimum, unless otherwise shown on the plans.
- All corrugated steel pipe shall conform to the requirements of AASHTO M-36 and shall be fully coated with bituminous material conforming to the requirements of AASHTO M-190. Corrugated steel pipe shall be helical pipe with reformed ends. Pipes shall be joined using steel huggers bands. (No Gauge)
- All standard curb inlets are to have front-of-inlet 2' (two feet) behind curb, within public right-of-way, unless otherwise noted.
- Concrete Pipe Joints shall be M.S.D. Type "X" Approved Compression Joints and shall conform to the requirements of the Specification for Joints and Circular Concrete Sewer and Culvert Pipe, using flexible, watertight, rubber-type gaskets A.S.T.M. C-443. Band-Type Gaskets depending entirely on cement for adhesion and resistance to displacement during jointing shall not be used.
- All grout for rip-rap shall be high slump ready-mix concrete.

PHASE I  
**BUTTERNUT STAGE**  
BEING PART OF SECTION 33,  
T. 47 N., R. 3 E. AND PART OF SECTION 4,  
T. 46 N., R. 3 E. ST. CHARLES CO., MISSOURI  
**AS-BUILTS**



LOCATION MAP  
N.T.S.

- 8" P.V.C. sanitary sewer manholes shall meet the following standards: A.S.T.M. D-3034 SDR35, 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.
- The length of the concrete encasement around the P.V.C. sanitary sewers and the storm sewers shall extend at least 5' into undisturbed soil to bridge the pipe across the trench backfill.
- The minimum vertical distance from the low point of the basement to the flowline of the sanitary sewer at the corresponding house connection shall not be less than two and one half feet (2 1/2') plus the diameter of the sanitary sewer.
- All sanitary laterals shown on plan are to be constructed of 4 inch P.V.C. pipe.
- All P.V.C. sanitary sewer manholes to be SDR35 or equal with "clean 1/2" to 1" granular stone bedding", uniformly graded. This bedding shall extend from 4" below the pipe to springline of pipe to 12" above the top of pipe.
- Brick shall not be used on sanitary manholes.
- All sanitary sewer manholes shall be waterproofed on the exterior in accordance with Missouri D.N.R. Specification 10CSR-8.120 (7) (E).
- All sanitary sewer construction shall conform to current St. Charles County Public Sewer District #2 Standards and Specifications.
- All pipes shall have positive drainage through manholes. No flat base structures are allowed.
- All trench backfills under paved areas shall be granular backfill, and water jetted. All other trench backfills may be earth material (free of large clods or stones) and shall be water jetted.
- All sewer tops built without elevations furnished by the Engineer will be the responsibility of the sewer contractor.
- Easements shall be provided for storm sewers, sanitary sewers, and all utilities on the record plat. See record plat for location, size, and width of easements.
- Gas, water, and other underground utilities shall not conflict with the depth or horizontal location of existing and proposed sanitary and storm sewers including house laterals.
- All waterline construction shall conform to current Missouri - American Water Company Standards and Specifications.
- The contractor shall place all fire hydrants within (3') three feet of the street curb.
- The contractor shall place the "steamer" outlet of the fire hydrant toward the street.
- The St. Charles County Public Sewer District #2 shall be notified at least 48 hours prior to construction of sanitary sewers for coordination and inspections.
- All streets within this set of improvement plans shall be Publicly maintained (upon final acceptance).
- All streets and right-of-ways shown on these improvement plans will be dedicated to the City of O'Fallon for public use forever.
- Barricades will be constructed per the standard specifications as shown in the "Manual of Uniform Traffic Control Devices". End of roadway markers shall be mounted 4 feet above the pavement on two pound "U" channel sign posts. Each marker shall consist of an 18" diamond panel with red reflectors.
- Sidewalk curb ramps, ramp and accessible parking spaces shall be constructed in accordance with the current approved "Americans with Disabilities Act Accessibility Guidelines" (ADAAG) along with the required grades, construction materials, specifications and signage. If any conflict occurs between the above information and the plans, the ADAAG guidelines shall take precedence and the Project Engineer shall be notified by the contractor prior to any construction.
- The most stringent of the above requirements shall apply.
- This property will be served by the following utilities:  
Water District: Missouri American Water Co. 992-9463  
Sanitary Sewer: St. Charles County Public Water District #2  
Electric: Union Electric Company (800) 552-7583  
Gas: St. Charles Gas Company (314) 946-2422  
Telephone: G.T.E. (314) 639-3434
- This property is located in the following service areas:  
Fort Zumwalt School District  
O'Fallon Fire Protection District No.1
- According to the December 15, 1992 preliminary flood insurance rate map for St. Charles County Community Panel Number 29183C0116D, this property is not in the 100 year flood plain.
- This property shall conform to the O'Fallon Tree Ordinance No. 1689

**LEGEND**

	BUILDING LINE
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER
	EXISTING STORM SEWER
	PROPOSED STORM SEWER
	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING WOOD AREA
	SILTATION CONTROL
	CREEK OR DITCH
	FLOWLINE
	GAS MAIN
	TELEPHONE CABLE
	WATER MAIN
	UNDERGROUND ELECTRIC
	OVERHEAD ELECTRIC
	STREET SIGN
	GENERAL SURFACE DRAINAGE
	LIGHT STANDARD
	CLEARING AND GRADING LIMITS
	STORM SEWER DESIGNATOR
	SANITARY MANHOLE DESIGNATOR
	LATERAL TAIL STAKE
	FIRE HYDRANT
	WATER MAIN
	BLOW-OFF VALVE
	DENOTES STREET ADDRESS
	CLEAN-OUT

**INDEX**

DESCRIPTION	SHEET NUMBER
COVER SHEET	1
FLAT PLAN	2 - 4
GRADING PLAN	5 - 7
RETENTION BASIN PLAN	8
ENTRANCE DETAIL PLAN	9
STREET PROFILES	10 - 12
SANITARY SEWER PROFILES	13 - 15
STORM SEWER PROFILES	16 - 18
DRAINAGE AREA MAP	19 - 21
CONSTRUCTION DETAILS	22 - 26

**SITE BENCHMARK**

O.I.P. at Southwestern corner of Hunting Creek Plat 3 approximately 900' South of the centerline of Laura Hill Road Elevation = 569.68'

**OWNER/DEVELOPER**  
**KAPLAN DEVELOPMENT & INVESTMENT**  
P.O. BOX 340 ST. PETERS, MO. 63366  
(314) 946-6971



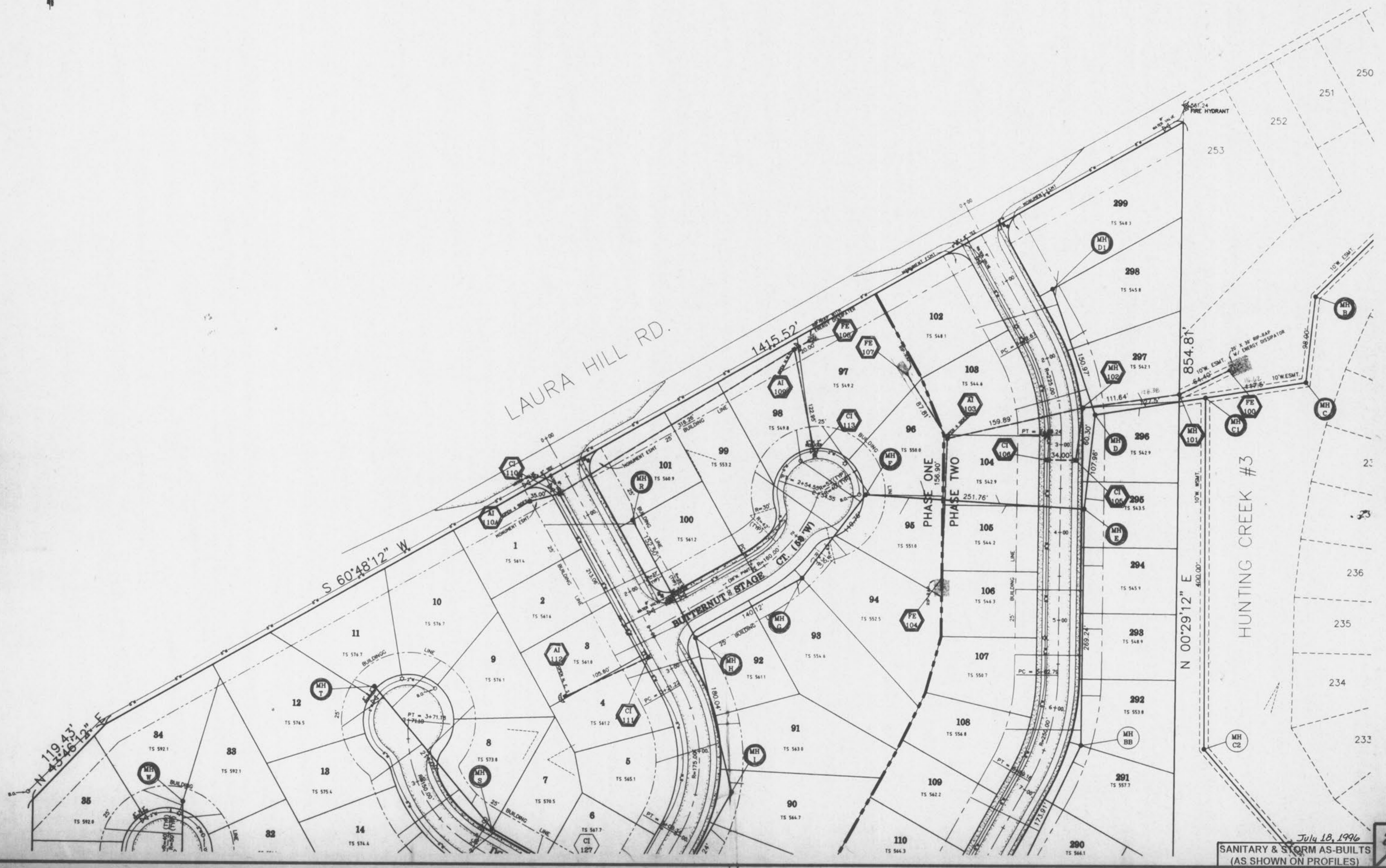
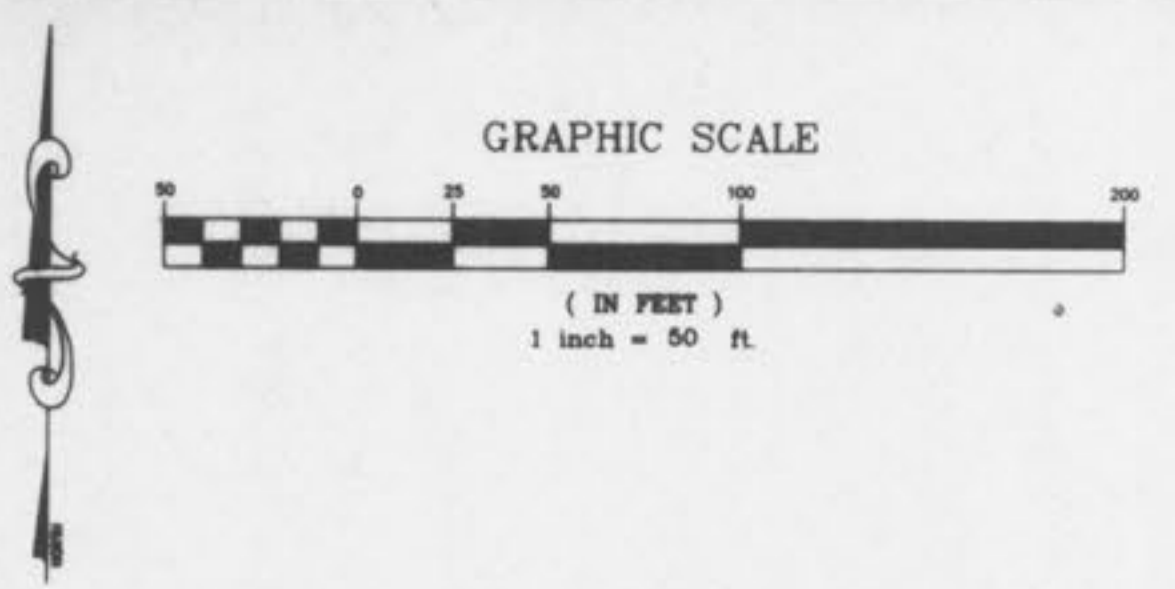
July 18, 1996  
**SANITARY & STORM AS-BUILTS**  
(AS SHOWN ON PROFILES)

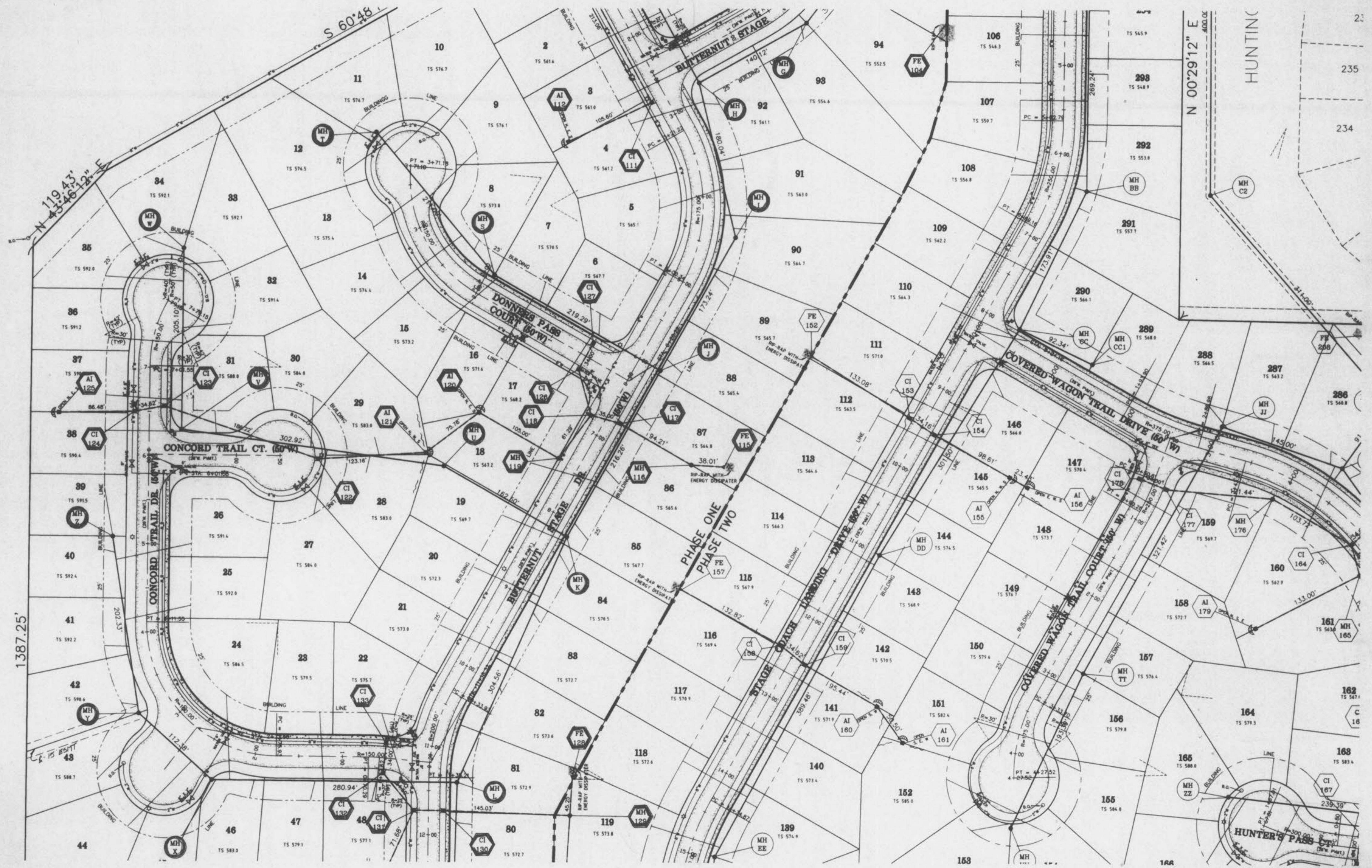
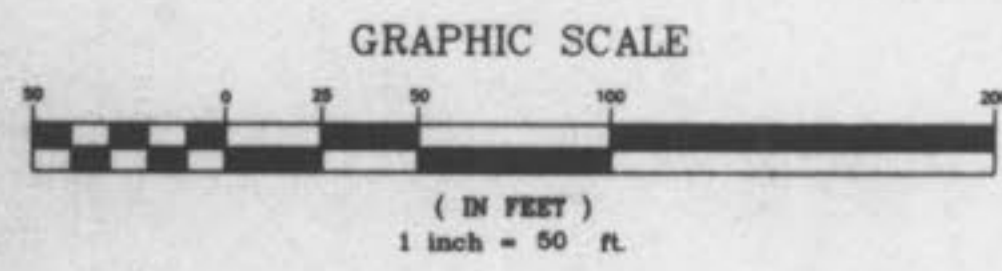
ENGINEERS AUTHENTICATION

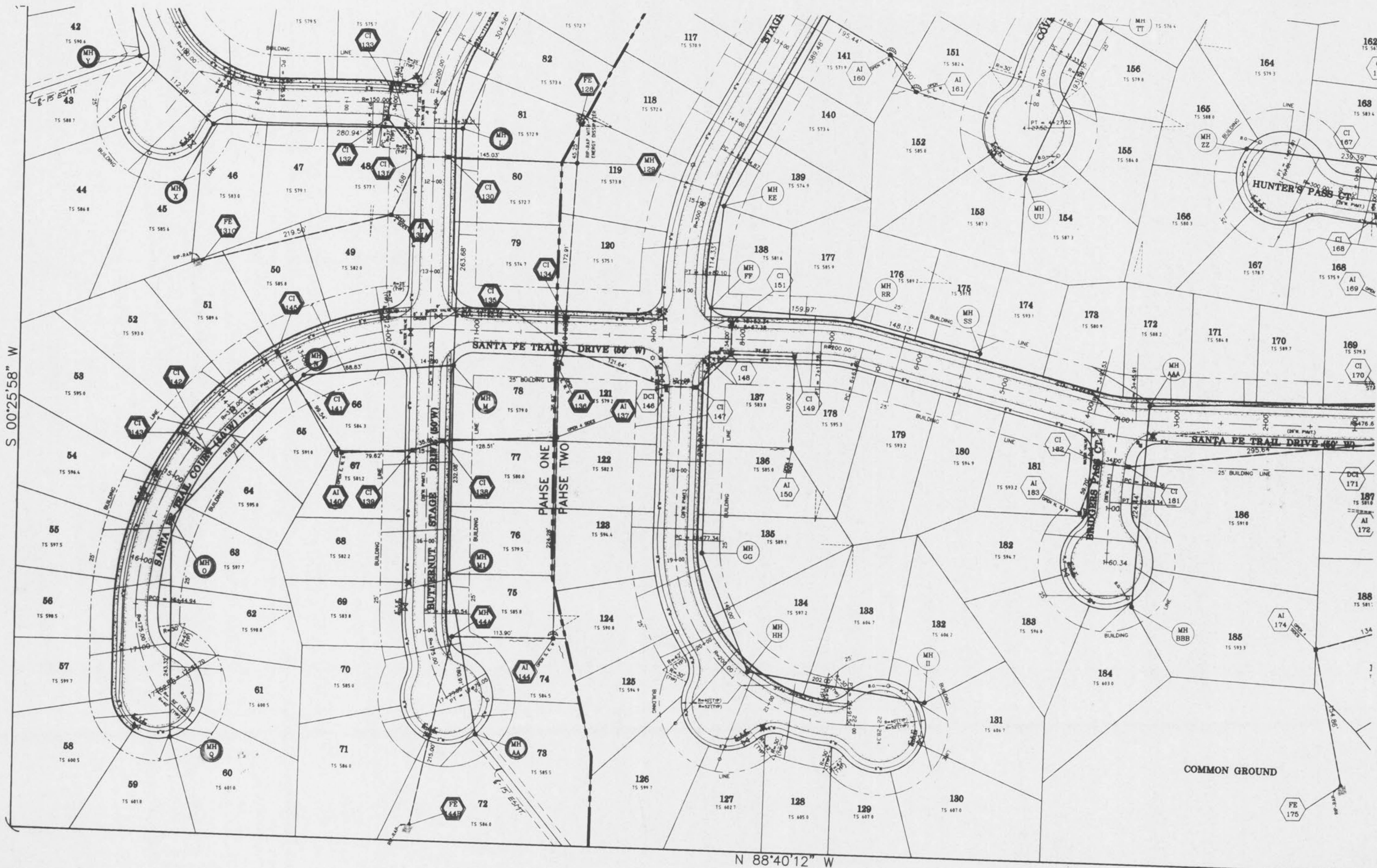
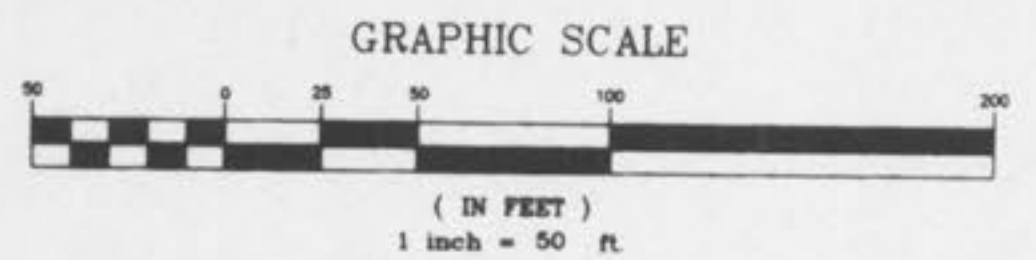
The responsibility for professional engineering liabilities on this project is hereby limited to the set of plans authenticated by the seal, signature and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in the project and specifically excludes revisions after this date unless reauthenticated.

St. Charles Engineering and Surveying

Revised 9-8-95, 1-19-96, 2-27-96, 3-11-96	Sheet 1 of 26
<b>S C</b> <b>E S</b>	<b>ST. CHARLES ENGINEERING &amp; SURVEYING</b> 801 South Fifth Street, Suite 202 St. Charles, Missouri 63301 Off. 947-0607, Fax 947-2448
Order No. 94-495	Date 04/19/95







BUTTERNUT STAGE SANITARY SEWER PROFILES PHASE I

9-8-95 94-495  
 SCALE: VERTICAL: 1"=10'  
 HORIZONTAL: 1"=50'

DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	

DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	

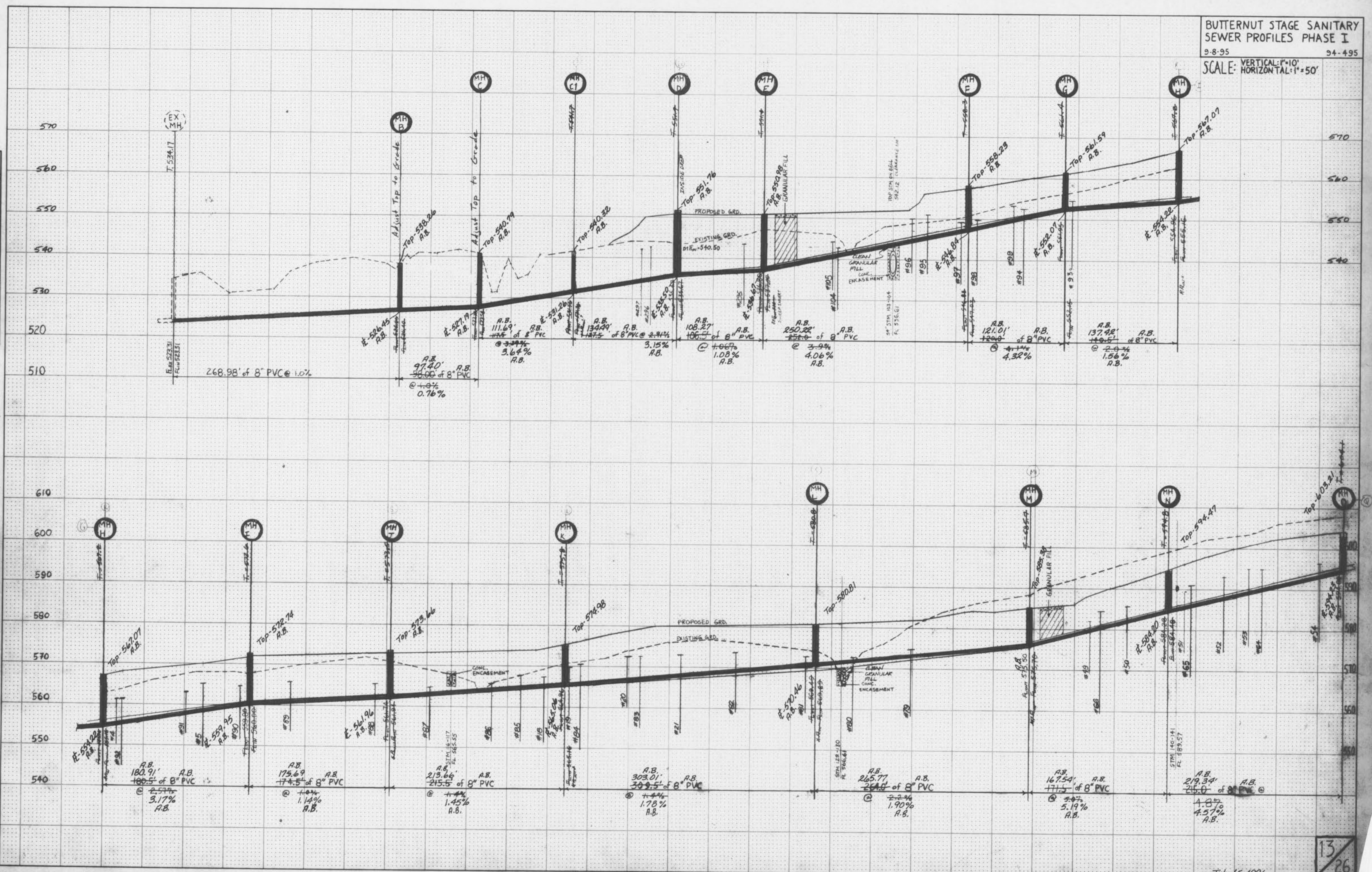


PLATE 3-FULL CROSS SECTION-FULL DOT  
 PRINTED IN U.S.A.

July 13, 1996  
 SANITARY & STORM AS-BUILTS  
 (AS SHOWN ON PROFILES)

13  
 26

3/10 Butternut Stage Phase I

BUTTERNUT STAGE SANITARY SEWER PROFILES PHASE I

9-8-95 94-495

SCALE: VERTICAL: 1"=10'  
HORIZONTAL: 1"=50'

DATE	
BY	
FINAL SURVEY	
PLOTTED	
NOTE BOOK	
NO.	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
NOTE BOOK	
NO.	
AREAS CHECKED	

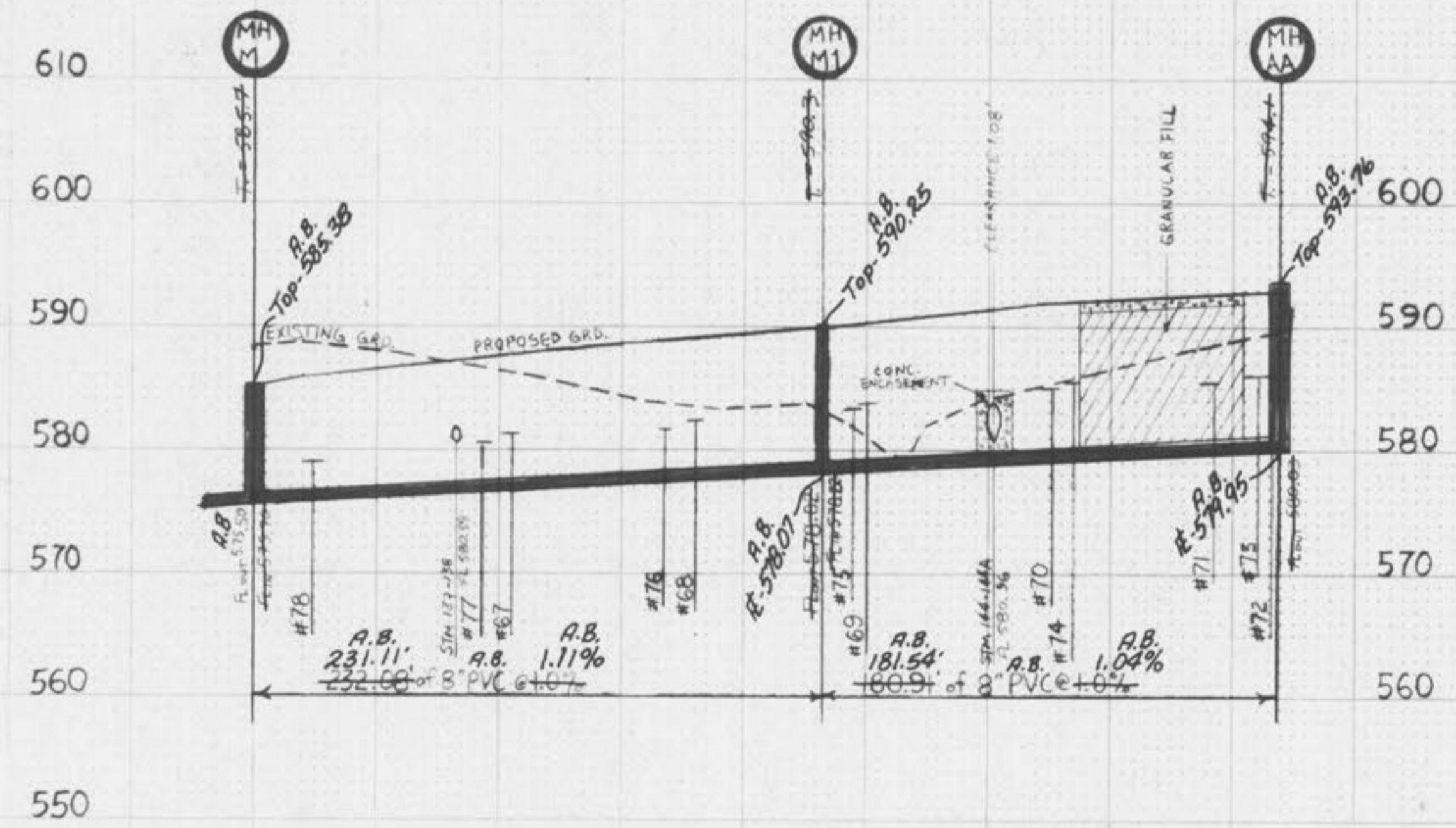
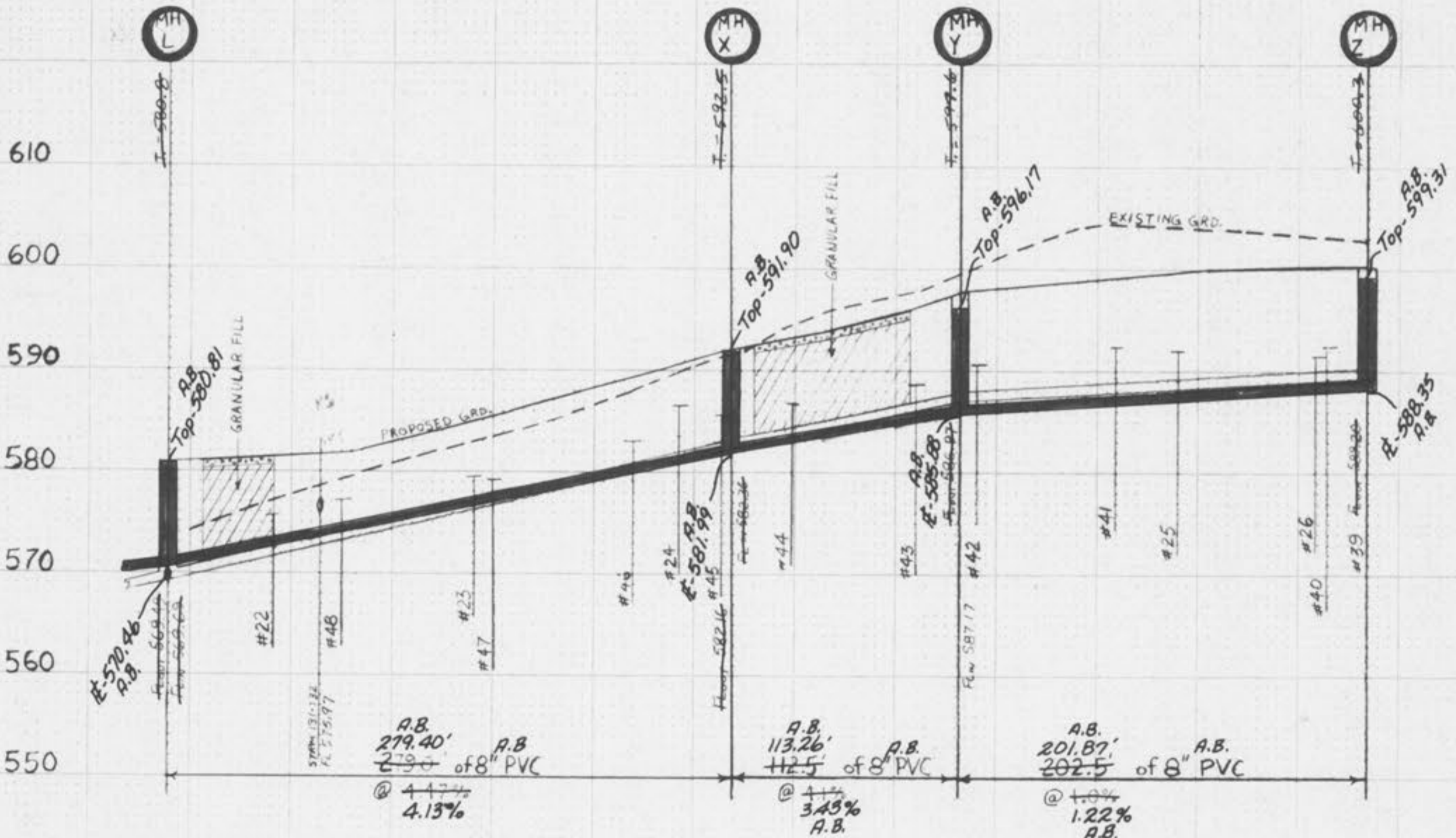
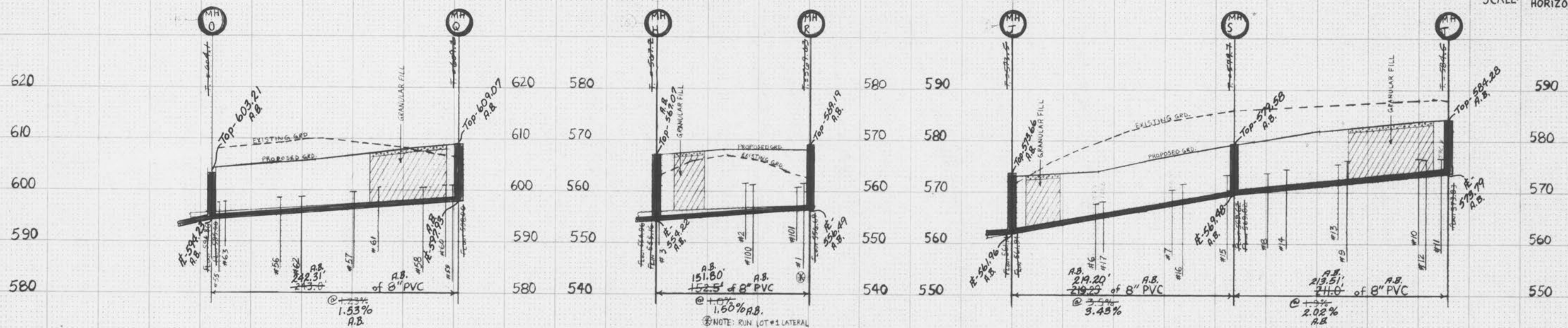


PLATE 3-FULL CROSS SECTION-FULL DOT

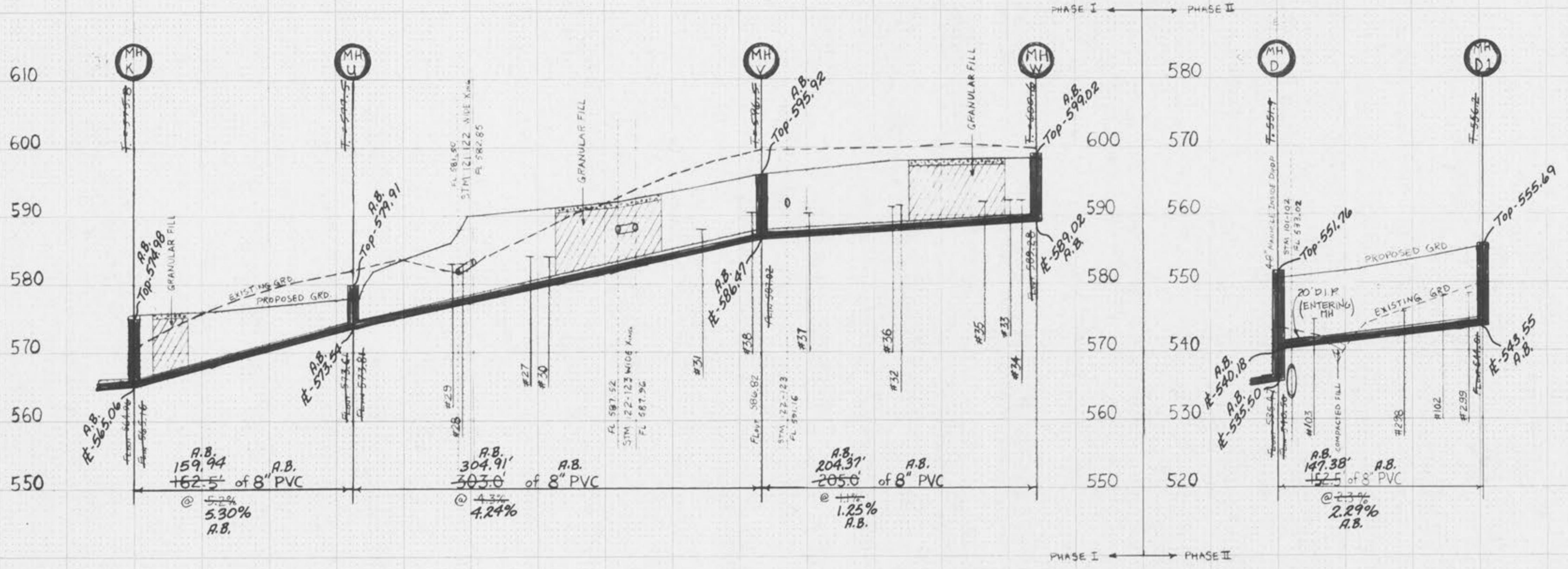
July 16, 1996  
SANITARY & STORM AS-BUILTS  
(AS SHOWN ON PROFILES)

14  
26

Butternut Stage-Phase I  
AS-BUILTS 10/10

FINAL SURVEY  
DATE  
BY  
SURVEYED  
TEMPLATE  
NOTE BOOK  
NO.  
AREAS CHECKED

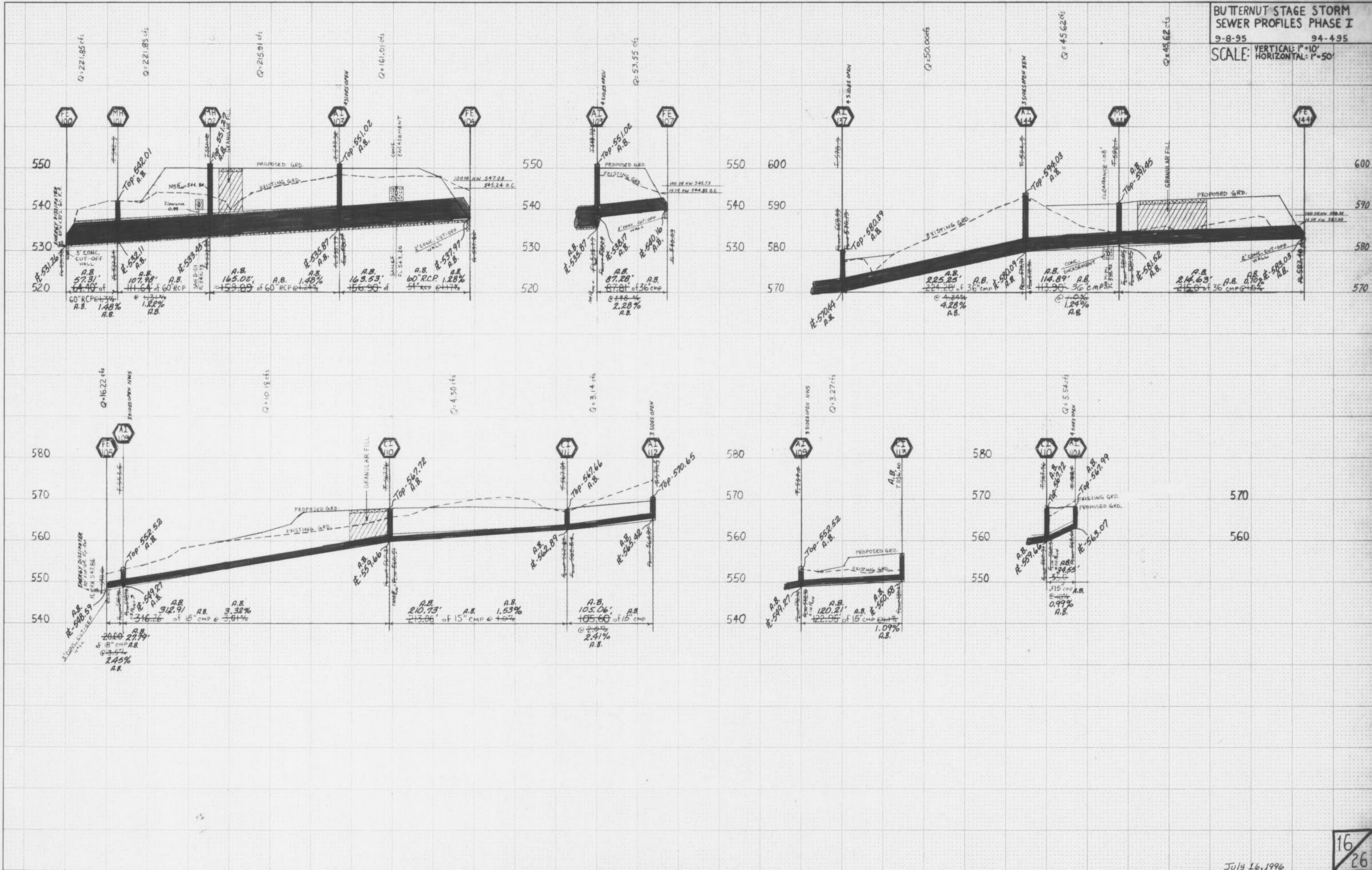
ORIGINAL SURVEY  
DATE  
BY  
SURVEYED  
TEMPLATE  
NOTE BOOK  
NO.  
AREAS CHECKED



BUTTERNUT STAGE STORM SEWER PROFILES PHASE I  
9-8-95 94-495  
SCALE: VERTICAL: 1"=10'  
HORIZONTAL: 1"=50'

FINAL SURVEY  
DATE: \_\_\_\_\_  
BY: \_\_\_\_\_  
SURVEYED: \_\_\_\_\_  
PLOTTED: \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_  
NO. \_\_\_\_\_  
AREAS CHECKED: \_\_\_\_\_

ORIGINAL SURVEY  
DATE: \_\_\_\_\_  
BY: \_\_\_\_\_  
SURVEYED: \_\_\_\_\_  
PLOTTED: \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_  
NO. \_\_\_\_\_  
AREAS CHECKED: \_\_\_\_\_



HIGHWAY FEDERAL AID SHEET  
PLATE 3-FULL CROSS SECTION-FULL DOT  
NATIONAL PERFORMANCE  
PRINTED IN U.S.A.

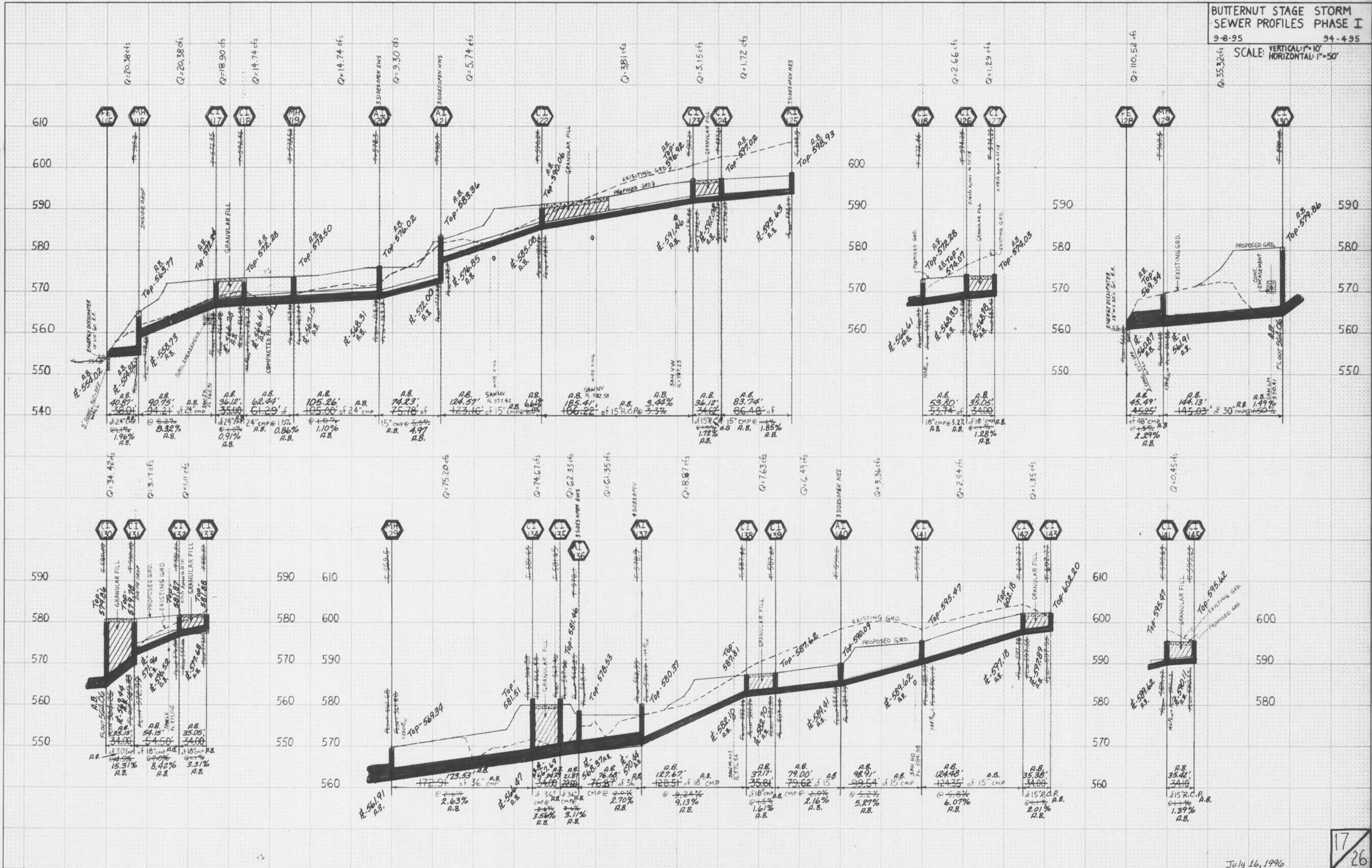
July 16, 1996  
SANITARY & STORM AS-BUILTS  
(AS SHOWN ON PROFILES)

16/26



FINAL SURVEY	DATE
SURVEYED	BY
PLOTTED	
NOTE BOOK	
AREA CHECKED	

ORIGINAL SURVEY	DATE
SURVEYED	BY
PLOTTED	
NOTE BOOK	
AREA CHECKED	

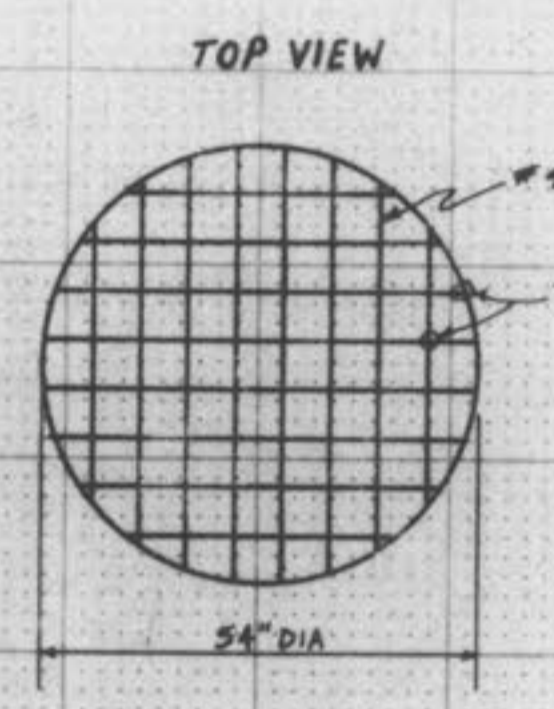
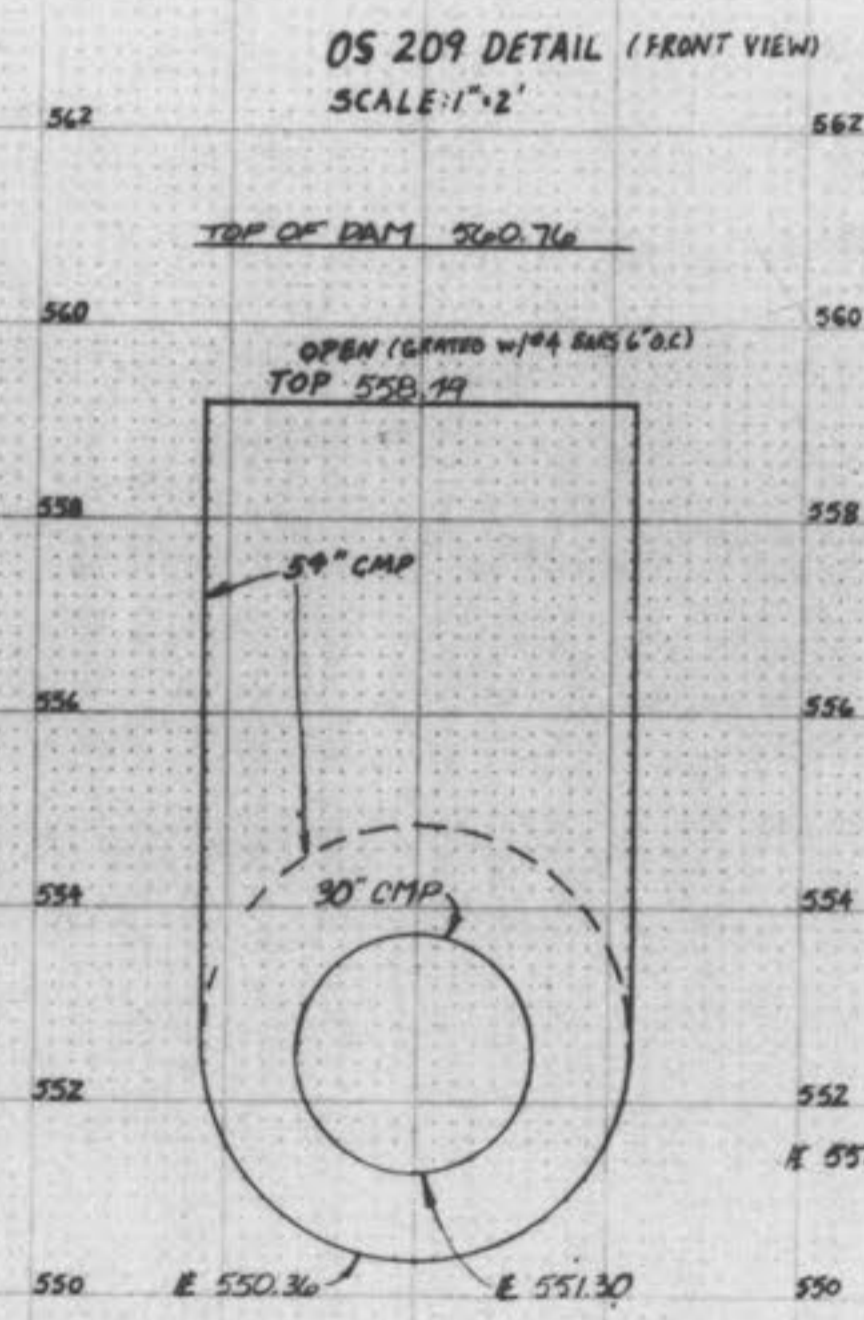
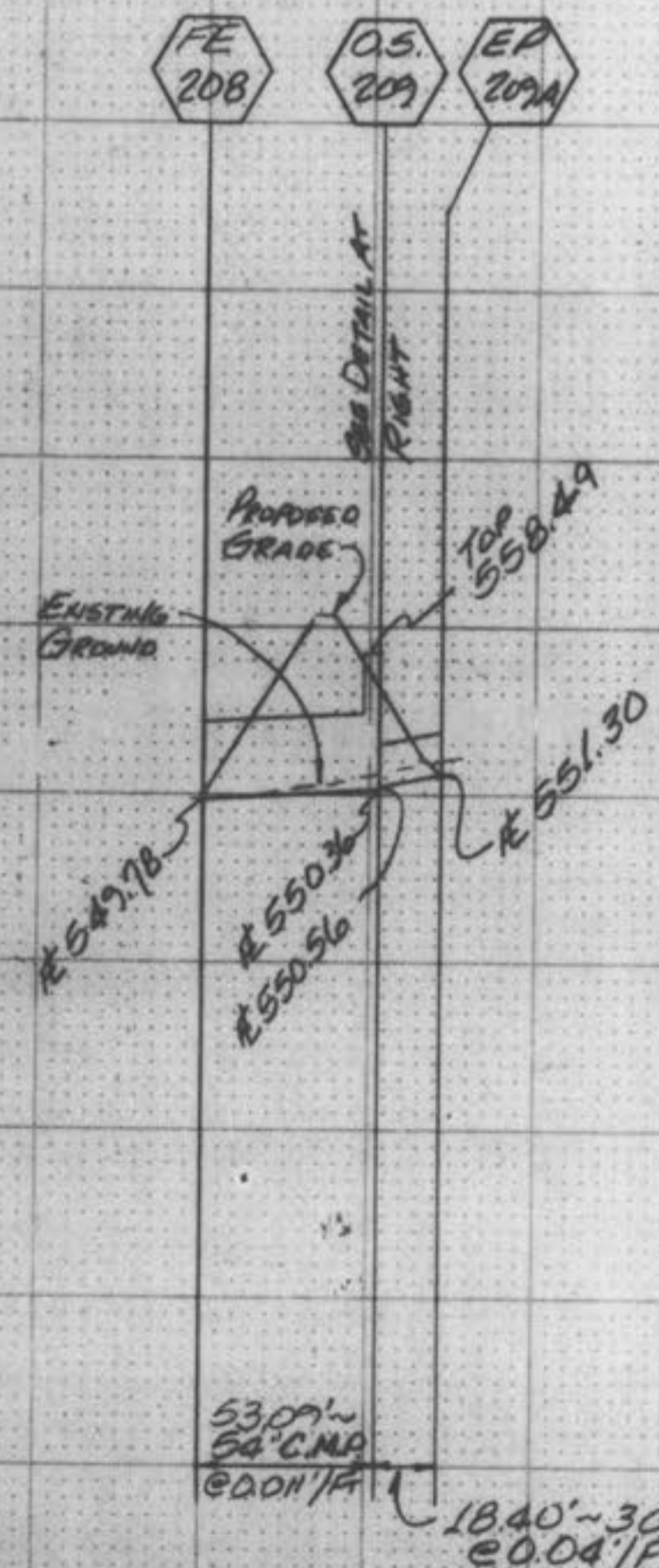
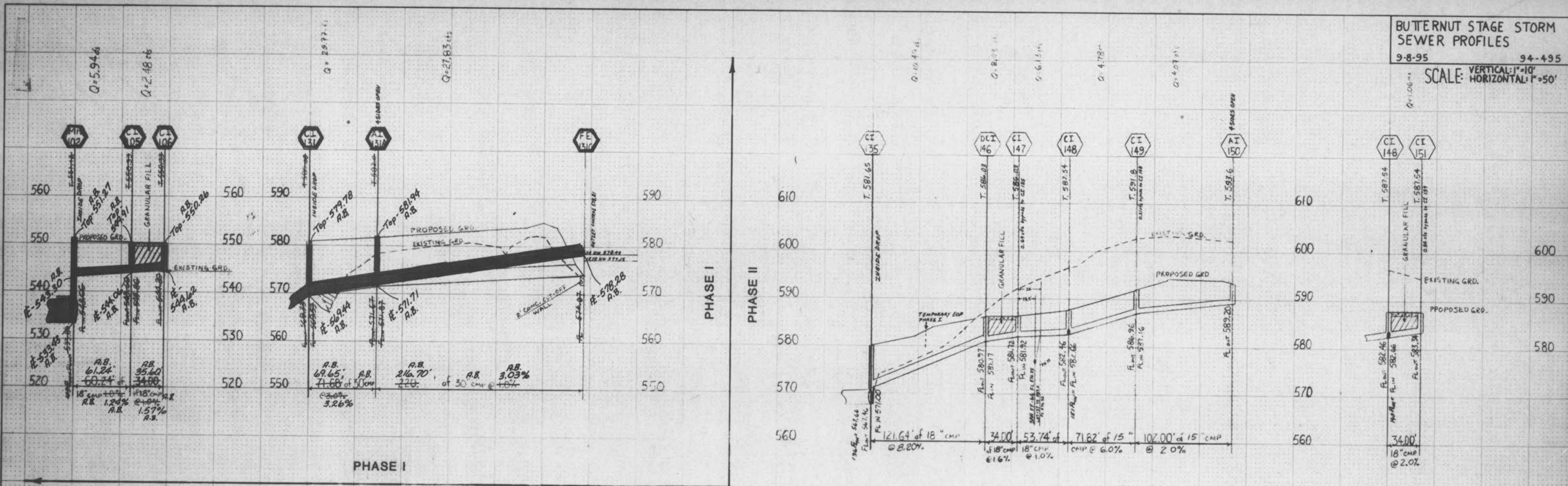


HIGHWAY FEDERAL AID SHEET  
 PLATE 3-FULL CROSS SECTION-FULL DOT  
 PRINTED IN U.S.A.

July 16, 1996  
 SANITARY & STORM AS-BUILTS  
 (AS SHOWN ON PROFILES)

FINAL SURVEY	DATE
REVISION	BY
NOTED	NO.
DATE	

ORIGINAL SURVEY	DATE
REVISION	BY
NOTED	NO.
DATE	



05 209 DETAIL (SIDEVIEW)  
SCALE 1"=2'

