

City of O'Fallon
General Notes

"AS-BUILTS"

CARRIAGE HILLS SUBDIVISION

PHASE TWO

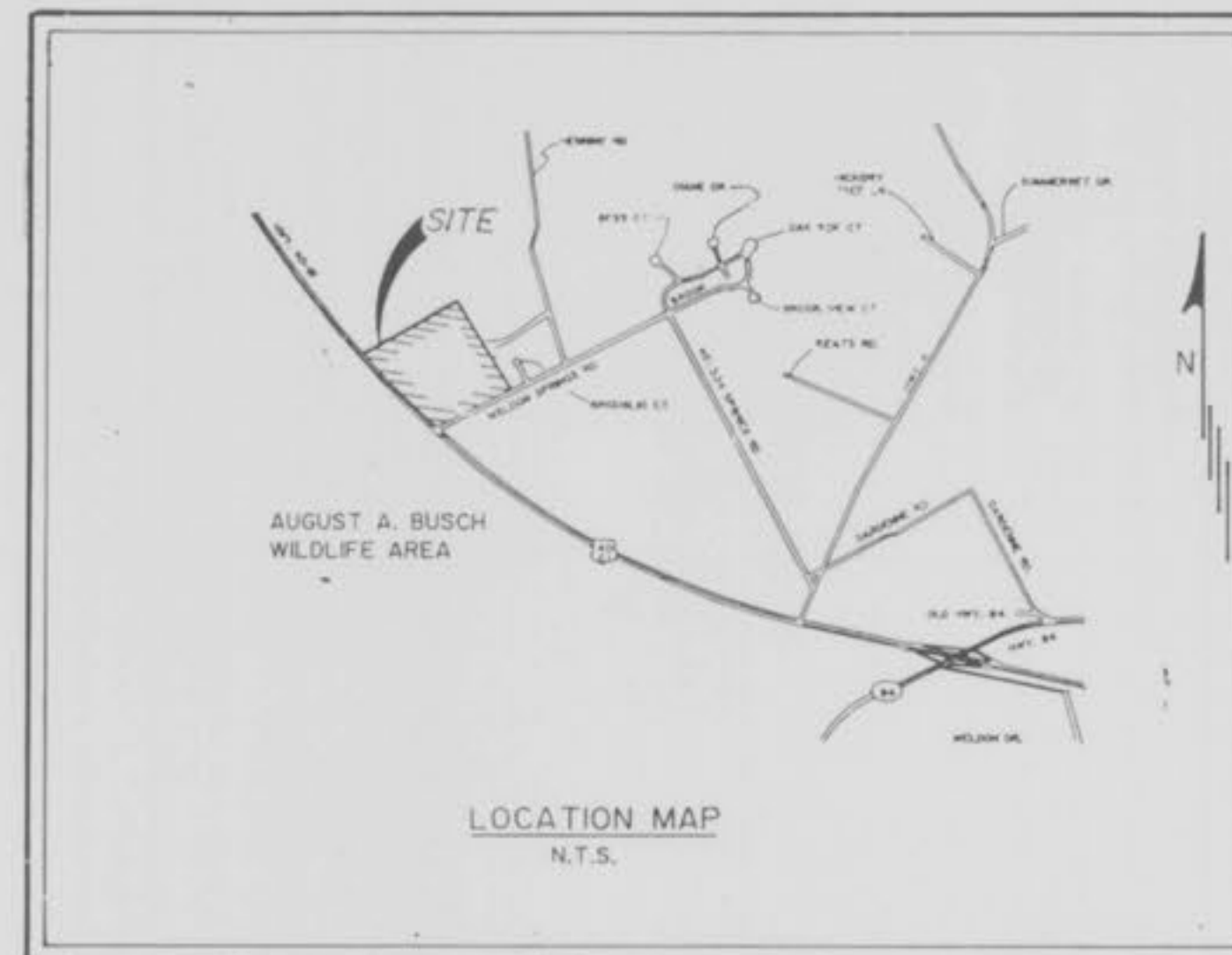
A FRACTIONAL PART OF U.S. SURVEY 1669,
TOWNSHIP 46 NORTH, RANGE 3 EAST
5th PRINCIPAL MERIDIAN,
O'FALLON, ST. CHARLES COUNTY, MISSOURI

- Gas, water and other underground utilities shall not conflict with the depth or horizontal locations of existing and proposed sanitary and storm sewers, including house laterals.
- Underground utilities have been plotted from available information and, therefore, their locations must 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 grading or construction of improvements.
- Polyvinyl Chloride (PVC) shall conform to the requirements of ASTM D-3034 Standard Specifications for the PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings, SDR-35.
- Storm sewers 18" in diameter or smaller shall be ASTM C-14.
- Storm sewers 21" in diameter or larger shall be ASTM C-76, Class II.
- All storm sewer pipe under pavement, regardless of size, shall be reinforced concrete pipe (ASTM C-76, Class III) unless noted otherwise on the plans.
- Corrugated metal pipe shall conform to the standard specifications for corrugated culvert pipe M-36, A.A.S.H.O. See Plans for gauge. All pipe shall be aluminized or bituminous coated.
- All filled places under buildings, proposed sanitary and storm sewer lines, and/or paved areas including trench backfills shall be compacted to 90% of maximum density as determined by the "Modified A.A.S.H.O. T-180 Compaction Test" (ASTM D-1557) unless otherwise specified by the local governing authority specifications. All tests will be verified by a Soils Engineer.
- All earthen filled places within State, County, or City roads (Highways) shall be compacted to 90% of maximum density as determined by the "Standard Proctor Test A.A.S.H.O. T-99" (ASTM D-698) unless otherwise specified by local governing authority specifications. All tests will be verified by a Soils Engineer.
- All storm and sanitary trench backfills shall be water jetted. Granular fill will be used under paved areas.
- Easements shall be provided for storm sewers, sanitary sewers, and all utilities on the record plat. See record plat for location and size of easements. This does not apply to house laterals.
- No area shall be cleared without the permission of the developer.
- All grade shall be within 0.2 feet (more or less) of those shown on the grading plan.
- No slope shall be greater than 3:1 and shall be either sodded or seeded and mulched.
- Hazard markers will consist of three (3) standard specification, "Manual on Uniform Traffic Control Devices", and of roadway markers mounted on two (2) pound "U" channel sign post. Each marker shall consist of an eighteen (18) inch diamond reflectorized red panel. The bottom of each panel shall be mounted a minimum of four (4) feet above the elevation of the pavement surface.
- All manhole and curb inlet tops built without elevations furnished by the Engineer will be the responsibility of the sewer contractor. At the time of construction stake-out of the sewer lines, all curb and grate inlets will be face staked. If normal face stakes fall in line with sewer construction, the Engineer will set these stakes on a double offset. It shall be the responsibility of the sewer contractor to preserve all face stakes from destruction.
- All standard street curb inlets to have front of inlet 2 feet behind curb.
- The minimum vertical distance from the low point of the basement to the flowline of a sanitary sewer at the corresponding house connection shall not be less than the diameter of the sanitary sewer plus a vertical distance of not less than 2-1/2 feet.
- Water lines, valves, sleeves, meters and etc. shall meet all specifications and installation requirements of the local governing authority.
- All cast iron pipe for water mains shall conform to A.W.W.A. specification C-106 and/or C-108. The cast iron fittings shall conform to A.W.W.A. specification C-110. All rubber gasket joints for water cast iron pressure pipe and fittings shall conform to A.W.W.A. specification C-111.
- All water hydrants and valves shall be cast iron and installed in accordance with plans and details.
- All sanitary and storm sewers shall meet all specifications and installation requirements of the local governing authority.
- All PVC water pipe shall have a minimum pressure rating of PR-200 or SDR-21.
- All PVC sanitary sewer pipe shall be DR-35 or equal with crushed stone bedding uniformly graded between 1" and 1/4" size. This bedding shall extend from 6" below the pipe to 12" above the top of the pipe.
- All grading on Missouri State Highway Right-of-Way shall be seeded and mulched and all disturbed Right-of-Way markers shall be reset at the completion of grading.
- All streets must meet the specifications and installation requirements of the City of O'Fallon.
- All sanitary manhole tops shall be set 0.2" higher than the proposed ground except in pavement areas.
- All sanitary manholes shall have a 31 mil thick coat of coal tar pitch waterproofing.
- All sanitary service lines shall have a 6" diameter for Multi-family and a 4" diameter for Single-family developments.
- Manhole frame and cover shall be Clay and Bailey No. 2008 for No. 18 or 1736 or Dexter 1315 or approved equal.
- The Duckett Creek Sewer District shall be notified at least 48 hours prior to construction of sanitary sewers for coordination and inspection.
- All existing improvements damaged or destroyed during construction shall be replaced or repaired in kind.
- Brick shall not be used on manholes.
- Sewer contractor shall maintain 24" vertical separation between all storm sewers and the sludge force main. Contractor shall be responsible for verifying separation prior to storm sewer installation.
- This tract is served by:

St Charles Gas Co.
Water District No. 2
Union Electric Co.
Southwestern Bell
Duckett Creek Sewer Dist
Wentzville Fire Dist.
Francis Howell



Location Map



Key Map

Index

Sheet	Description
1	COVER SHEET
2	FLAT PLANS
4-5	GRADING PLANS
6	STREET PROFILES
3	SANITARY PROFILES
4	SANITARY & STORM PROFILES
5	STORM SEWER PROFILES
10-11	DRAINAGE AREA MAP
12-13	WATER MAIN LAYOUT
14-18	DETAILS

Benchmark

- REFERENCE BENCHMARK - CHISEL SQUARE ON TOP OF WINGWALL AT EAST END OF WESTBOUND U.S. HIGHWAYS 40 & 61 BRIDGE OVER DARDENNE CREEK. ELEV. - 501.92 FEET NGVD 74, U.S. DEPT. OF HOUSING AND DEV. NATIONAL FLOOD INSURANCE STUDY, COMMUNITY-PANEL NO. 290315 0250 A, PAGE 250 OF 350.
- SITE BENCHMARK NO. 1 - CHISEL SQUARE ON N.W. COR. OF WESTBOUND U.S. HIGHWAYS 40 & 61 CULVERT HEADWALL, STA. 406+75 (APPROX. 0.4 MI. WEST WELDON SPRINGS RD.) ELEV. - 501.51.
- SITE BENCHMARK NO. 2 - SPIKE IN S. SIDE OF TREE ON NORTH SIDE OF WELDON SPRINGS RD. (APPROX. 1000 FEET EAST OF HWY 40-61) ELEV. - 505.00.

Legend

	Sanitary Sewer (Proposed)	C.I.	Curb Inlet
	Sanitary Sewer (Existing)	D.C.I.	Double Curb Inlet
	Storm Sewer (Proposed)	G.I.	Grate Inlet
	Storm Sewer (Existing)	A.I.	Area Inlet
	Water Line & Size	D.A.I.	Double Area Inlet
	Tee & Valve	C.C.	Concrete Collar
	Hydrant	F.F.	Flared End Section
	Cap	E.P.	End Pipe
	Lot or Building Number	E.D.	Energy Dissipator
	Existing Fence Line	M.H.	Manhole
	Existing Tree Line	C.P.	Concrete Pipe
	Street Sign	R.C.P.	Reinforced Concrete Pipe
	Direction of Proposed Residence	C.M.P.	Corrugated Metal Pipe
	Existing Contour	C.I.P.	Cast Iron Pipe
	Proposed Contour	P.V.C.	Polyvinyl Chloride
	Grouted Rip-Rap	V.C.P.	Vitrified Clay Pipe
	End of Lateral	C.O.	Clean Out
	Asphalt Pavement	V.T.	Vent Trap
	Concrete Pavement		
	Storm/Sanitary Structure		
	Test Hole		
	Power Pole		
	Light Standard		

This is to certify to City of O'Fallon that these "As-Built" sewer plans are based on actual field surveys conducted during March, 1990 and the results are shown here on.

by Pickett Ray & Silver

Delmar F. Vincent
Delmar F. Vincent
MO R.L.S. No 1859

3/20/90
Date

ENGINEERS AUTHENTICATION
The responsibility for professional engineering liability on this project is hereby limited to the set of plans authorized 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 reauthorized.

PICKETT RAY & SILVER, INC.
441-1211 278-1211

PREPARED FOR:
Purley Cannon-Schulte, Inc.
828 O'Fallon Road
St. Charles, Missouri 63101 441-6221

DRAWN *JWE* DATE *8-16-89*
CHECKED _____ DATE _____

FIELD BOOK _____ PROJECT # *89-047 A*
JOB ORDER # *4253*

1/6

"AS-BUILTS" 3-20-90 K.A.W.
2. Rev. per City of O'Fallon - 10-12-89, J.A.W.
1. Rev. per City of O'Fallon & Duckett Creek - 10-2-89 D.W.D.

PICKETT RAY & SILVER

Civil Engineers
Planners
Land Surveyors

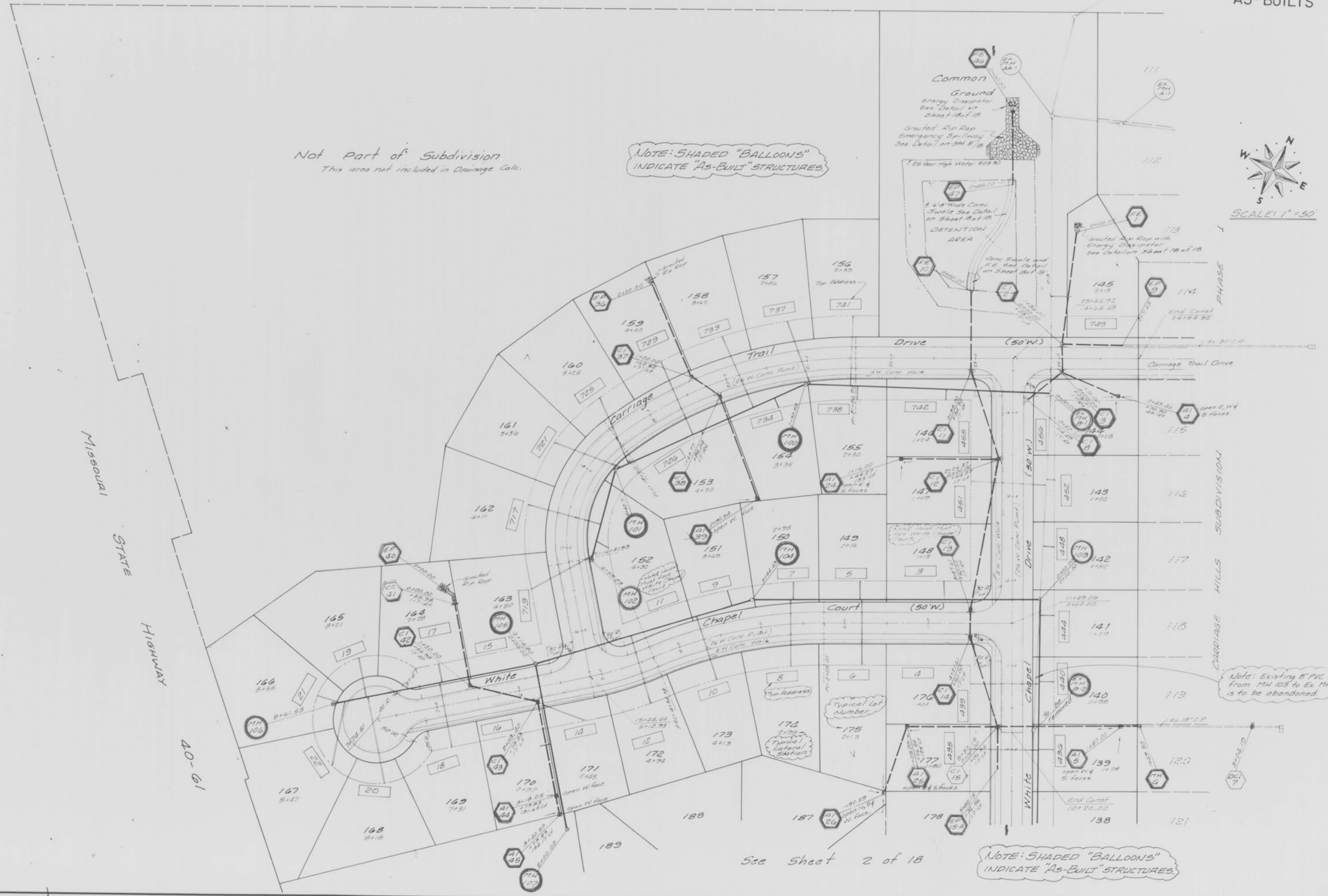
133 Mid Rivers Mall Dr.
St. Peters, MO 63376
441-1211 278-1211

DRAWN *JWE* DATE *8-16-89*
CHECKED _____ DATE _____

FIELD BOOK _____ PROJECT # *89-047 A*
JOB ORDER # *4253*

Not part of Subdivision
This area not included in Drainage Calc.

NOTE: SHADED "BALLOONS"
INDICATE "AS-BUILT" STRUCTURES.



MISSOURI STATE HIGHWAY 40-61

Note: Existing 8" PVC line from MH 103 to Ex. MH B-4 is to be abandoned.

See Sheet 2 of 18

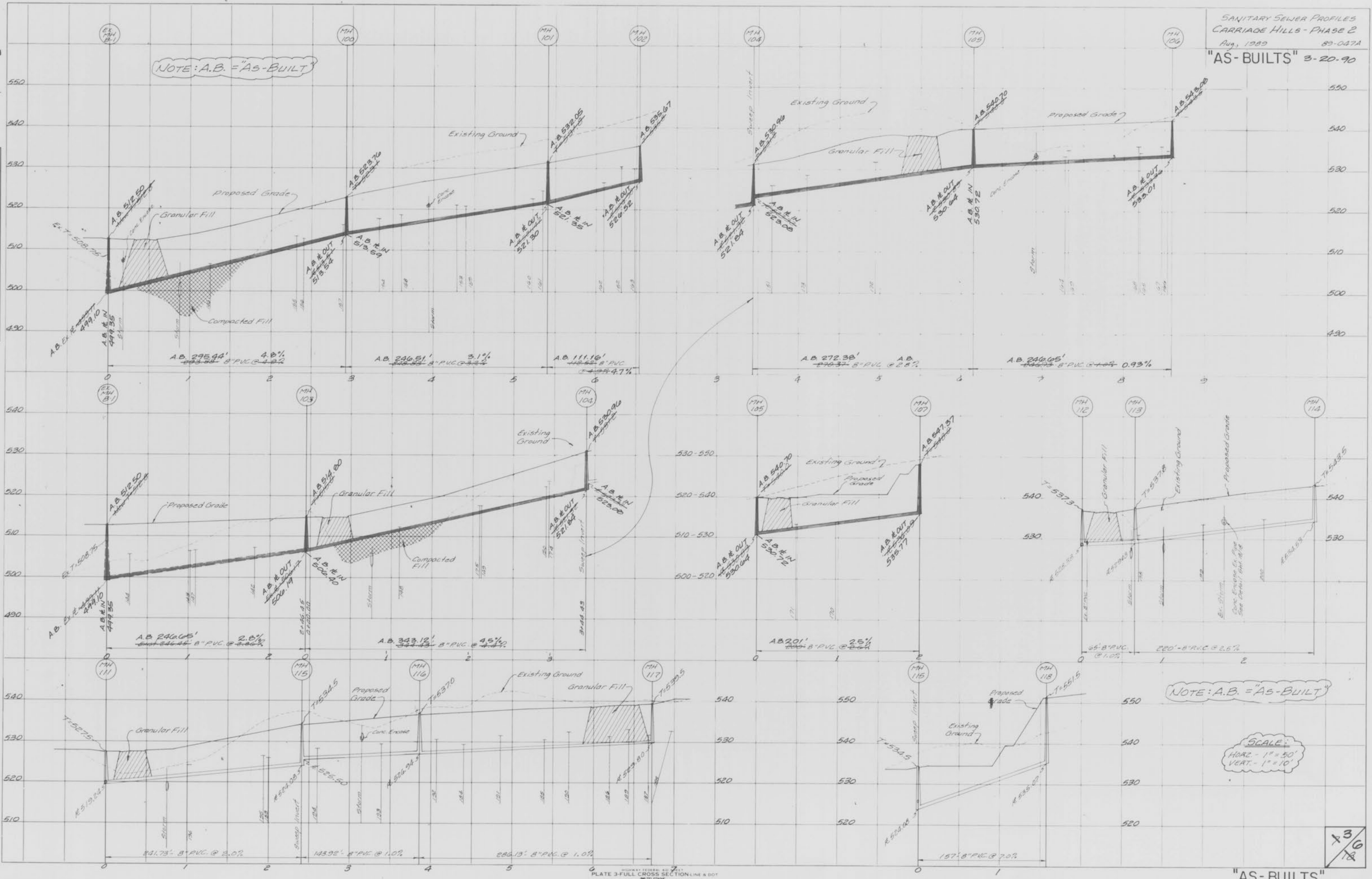
NOTE: SHADED "BALLOONS"
INDICATE "AS-BUILT" STRUCTURES.

26/18

NOTE: A.B. = "AS-BUILT"

FINAL SURVEY
 BY: [blank]
 DATE: [blank]
 DRAWN: [blank]
 CHECKED: [blank]
 NO. [blank]

ORIGINAL SURVEY
 BY: [blank]
 DATE: [blank]
 DRAWN: [blank]
 CHECKED: [blank]
 NO. [blank]

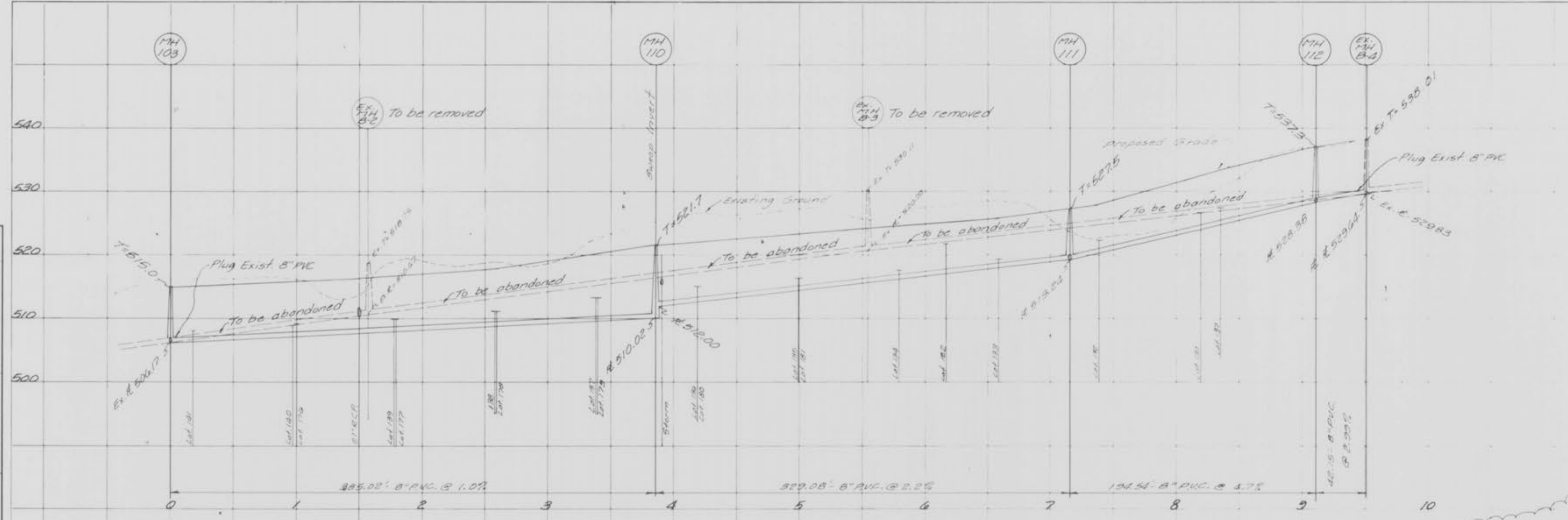


NOTE: A.B. = "AS-BUILT"

SCALE:
 HORZ. - 1" = 50'
 VERT. - 1" = 10'

3/6

SCALE:
 HORIZ. - 1" = 50'
 VERT. - 1" = 10'



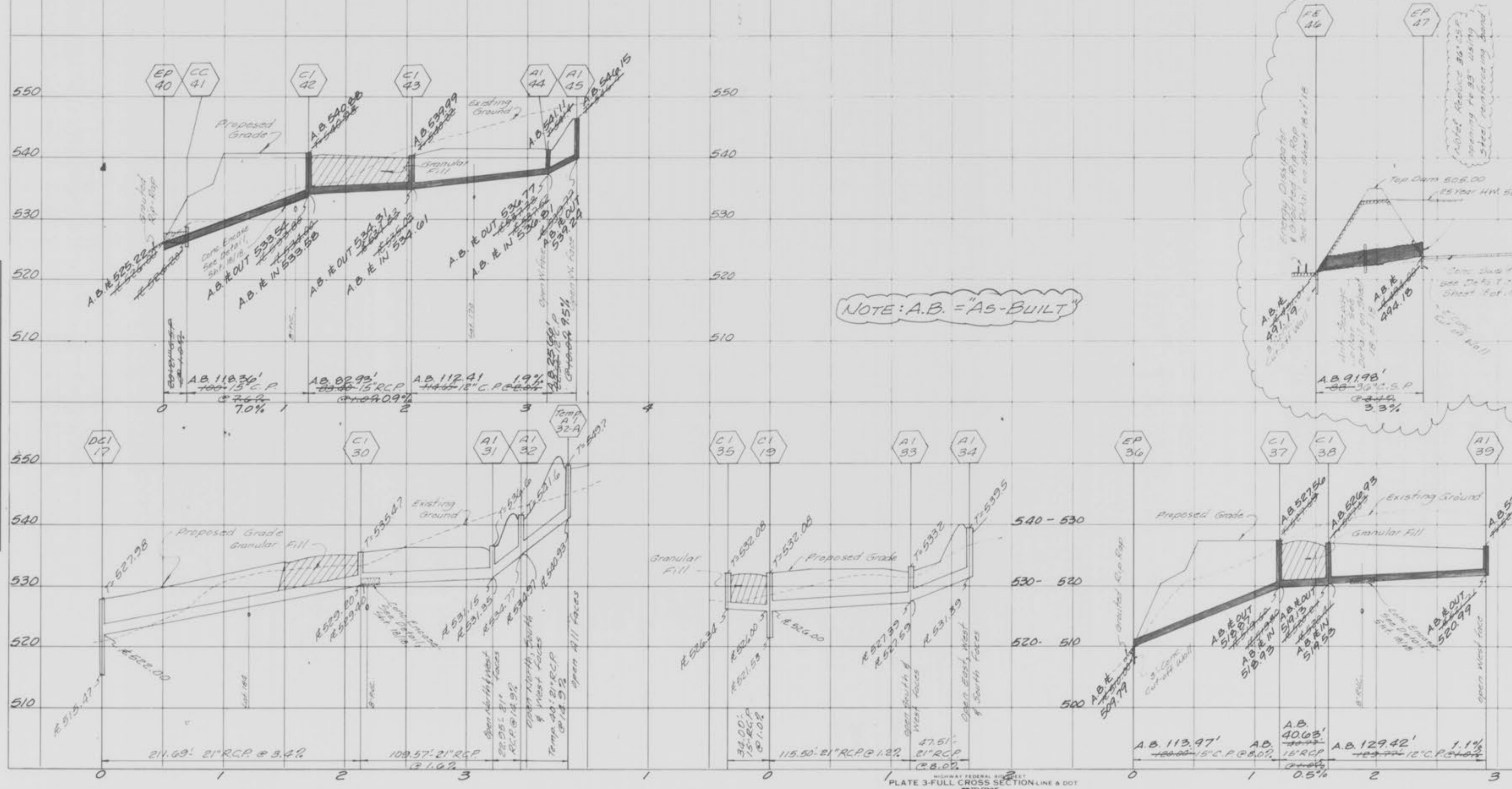
DETENTION CALCULATIONS (25 Year)
 Total Area of Tract 65.97 Acres
 Area of Future Commercial 7.83 Acres
 Developed Q of Tract 65.97 ac @ 3.25 = 215.06 cfs
 Undeveloped Q of Tract 65.97 ac @ 2.31 = 152.39 cfs
 Differential Runoff = 62.67 cfs
 Developed Q of Comm. 7.83 ac @ 4.75 = 37.19 cfs
 Undeveloped Q of Comm. 7.83 ac @ 2.31 = 18.09 cfs
 Differential Runoff = 19.10 cfs
 Storage Required 81.77 cfs x 1800 (30 min) = 147,186 cu ft
 Storage of Dry Pond @ elev 503.30 = 160,403 cu ft

OVERFLOW PIPE CALCULATIONS
 Capacity of 33" C.S.P. as an orifice
 Constant C = 0.6
 Area a = 5.94
 Gravity g = 32.2
 Ave. Head h = 7.925
 $Q = C a \sqrt{2gh}$
 $Q = 0.6 \times 5.94 \sqrt{2(32.2)7.925}$
 $Q = 3.50 \sqrt{510.37}$
 $Q = 3.50 \times 22.59$
 $Q = 79.12$ cfs
 Q to Dry Pond (25 Years) = 169.07 cfs
 Out Overflow Pipe = 80.42 cfs
 Storage Required = 88.65 cfs
 $88.65 \times 1800 (30 \text{ min}) = 159,570 \text{ cu ft}$

EMERGENCY SPILLWAY (grouted Rip Rap)
 Q to Dry Pond for 100 Year = 210.29 cfs

 $Q = a \times \frac{1.486}{n} \times R^{4/3} \times S^{1/2}$
 $Q = 4355 \times \frac{1.486}{0.0225} \times 0.773 \times 0.10$
 $Q = 222.33$ cfs
 SIDE SLOPE
 $Q = a \times \frac{1.486}{n} \times R^{4/3} \times S^{1/2}$
 $Q = 9.75 \times \frac{1.486}{0.0225} \times 0.596 \times 0.577$
 $Q = 221.44$ cfs

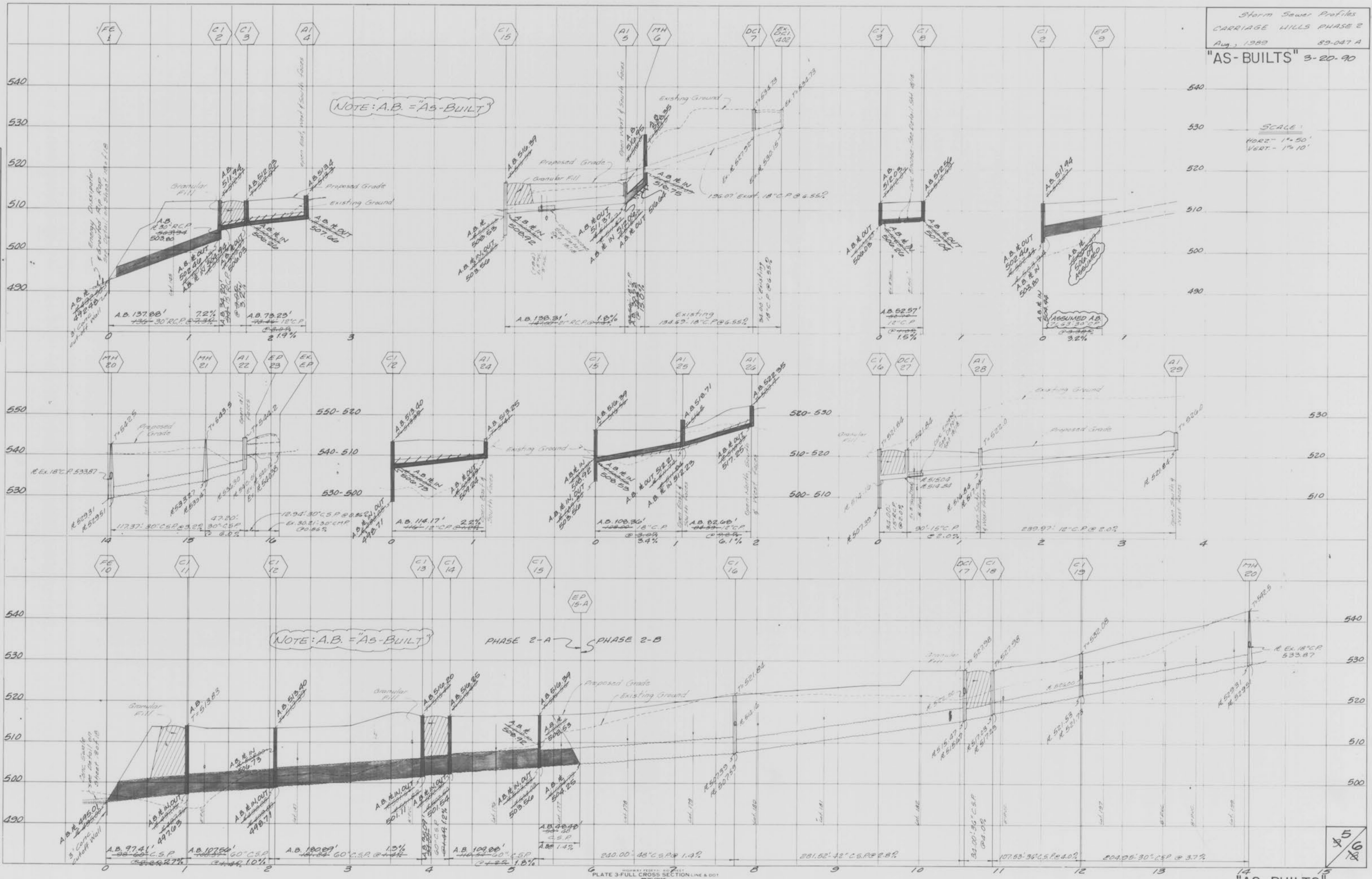
NOTE: A.B. = "AS-BUILT"



84/86

DATE: _____
 BY: _____
 ORIGINAL SURVEY PLOTTED _____
 SURVEY BOOK NO. _____
 NOTE BOOK NO. _____
 AREA CHECKED _____

DATE: _____
 BY: _____
 ORIGINAL SURVEY PLOTTED _____
 SURVEY BOOK NO. _____
 NOTE BOOK NO. _____
 AREA CHECKED _____

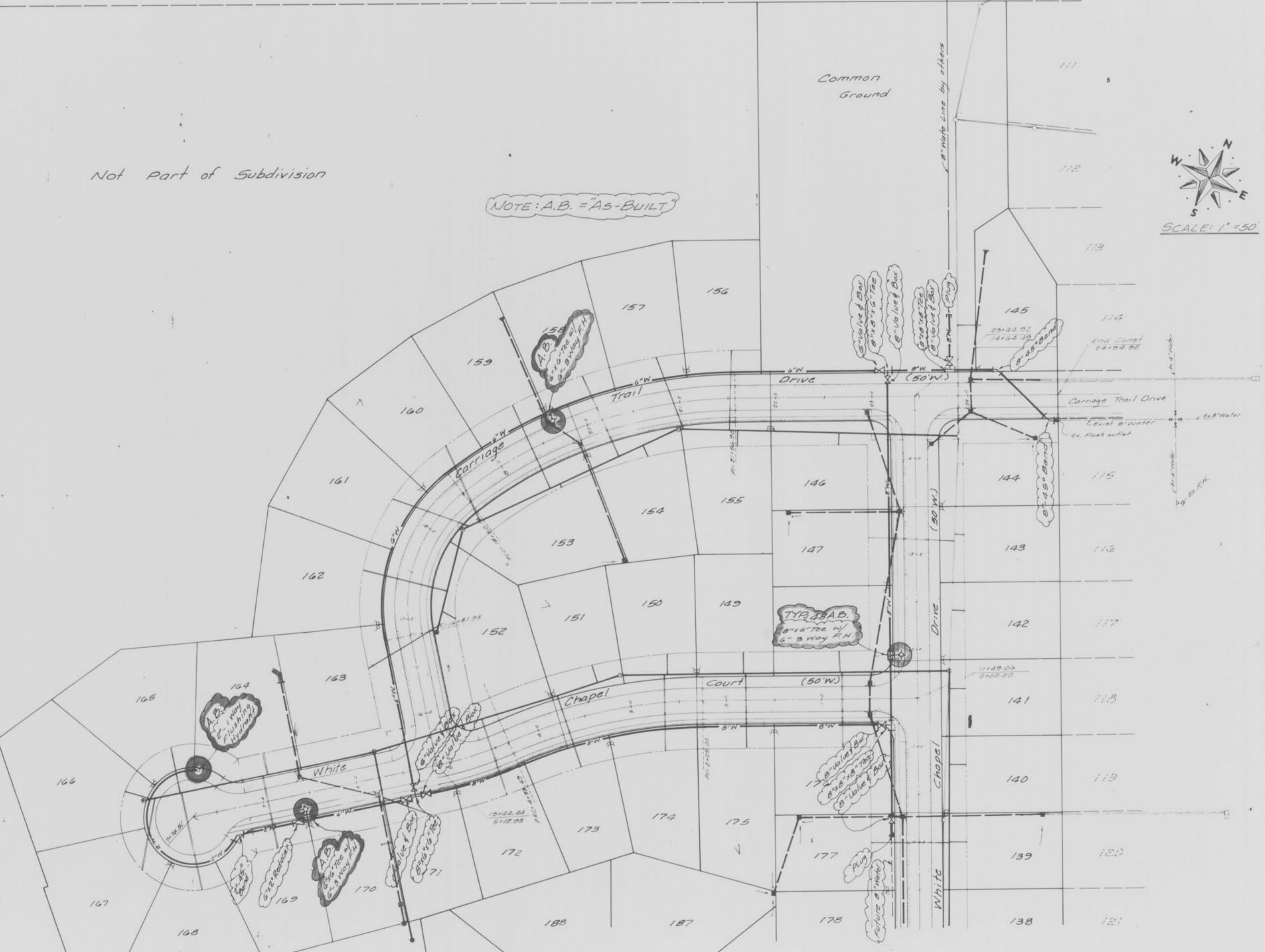


Not part of subdivision

NOTE: A.B. = "AS-BUILT"



Missouri
 STATE
 HIGHWAY
 40-61



See sheet 12 of 18

786
 786