TWIN CHIMNEYS

THE CEDAR VILLAGE

VILLAGE H

IMPROVEMENT PLANS

PREPARED FOR:

J.L. MASON OF MISSOURI, INC.

1819 CLARKSON ROAD
Suite 200
CHESTERFIELD, MISSOURI 63017
(314)-532-1100

CIVIL ENGINEER:

BAX ENGINEERING CO., INC.

221 Point West Blvd.
St. Charles, MO. 63301
946-6588 724-3330

APPROVED
GBA - GRH
10/21/88

GEORGE BUTLER ASSOCIATES, INC.
SUITE 200 / 525 SOUTH MAIN ST.
O'FALLON, MISSOURI 63366

RECEIVED OCT 21 1988

City Copy

	STATE OF MISSOURI HAROLD J. BAX NUMBER E-17061 REGISTERED PROFESSIONAL ENGINEER	County Site
		M.S.D.
		Ordinance
		Wunnenberg Map
		BAX 88-2906

KEY SHEET

VILLAGE H

88-2906 JULY 29, 1988

REV. AUG. 10, 1988

CITY OF O'FALLON

GENERAL NOTES

1. 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.
2. The existing underground utilities shown herein were plotted from available information and do not necessarily reflect the actual existence, nonexistence, size, type, number, or location of these or other utilities. The general contractor shall be responsible for verifying the actual location of all underground utilities, shown or not shown, and shall be located in the field prior to any grading, excavation, or construction of improvements. These provisions shall in no way absolve any party from complying with the Underground Facility Safety and Damage Prevention Act, Chapter 319, RSMo.
3. All filled places in public right-of-way (State, County or City roads) shall be compacted to 90% of maximum density as determined by the "Standard Proctor Test A.A.S.H.T.O. T-99", Method C (A.S.T.M. D-698) unless otherwise specified by local governing authority specifications, or by soils report for this project. All test shall be verified by the inspecting soils engineer.
4. All filled places under buildings, proposed storm and sanitary 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.T.O. T-180 Compaction Test" (A.S.T.M. D-1557) unless otherwise specified by local governing authority specifications, or by soils report for this project. All tests shall be verified by the inspecting soils engineer.
5. All trench backfills under paved areas shall be granular backfill, and shall be compacted to 90% of maximum density as determined by the "Modified A.A.S.H.T.O. T-180 compaction test," (A.S.T.M. D-1557. All trench backfills may be earth material free of large clods or stones) and will be water jetted.
6. No area shall be cleared without permission of the developer.
7. All grades shall be within 0.2 feet more or less of those shown on the grading plan.
8. No slope shall be greater than 3:1 and shall be either sodded or seeded and mulched.
9. Siltation control devices shall be as shown on plans, and approved by the local governing authority. Additional siltation control, if required, will be placed at the direction of the soils engineer on site and the local governing authority prior to placement.
10. Grading operations on this project shall comply with the soils report by Geotechnology, Inc. dated July 31, 1987.
11. 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.
12. Polyvinyl chloride (PVC) sanitary sewer pipe shall meet the following requirements: A.S.T.M. D-3034 SDR-35, with wall thickness compression joint A.S.T.M. D-3212. An appropriate waterstop as approved by the sewer district shall be installed between PVC pipe and masonary (concrete and brick) structure.
13. The minimum vertical distance from the low point of the basement or slab floor to the flowline of a sanitary sewer at the corresponding house or building connection shall not be less than the diameter of the main line sanitary sewer plus a vertical distance not less than two and one half feet (2-1/2").
14. All P.V.C sanitary sewer pipe to have crushed stone bedding uniformly graded between 1" and 1/4" size. This bedding shall extend from 6" below the pipe to 7/10 of the pipe diameter above the bottom of the pipe.
15. All sanitary sewer service shall be a minimum of 4" diameter for single-family developments.
16. Storm sewers 18" diameter or smaller shall be A.S.T.M. C-14, unless otherwise shown on plans.
17. Storm sewers 21" diameter or larger shall be A.S.T.M. C-76, Class II, unless otherwise shown on plans.
18. All storm sewer pipe under pavement, regardless of size, shall be reinforced concrete pipe (A.S.T.M. C-76, Class III) unless noted otherwise on the plans.
19. Corrugated metal pipe shall conform to the standard specifications for corrugated culvert pipe M36, A.A.S.H.T.O. See plans for gauge.
20. All manhole and inlet tops shall be built to the elevations shown on these plans. If no top elevation is shown, it will be the responsibility of the contractor to contact the engineer for such information prior to construction. 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.
21. All standard street curb inlets to have front of inlet 2 feet behind curb.
22. All sanitary and storm sewers shall meet all specifications and installation requirements of the local governing authority.
23. 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.
24. All P.V.C. water pipe shall have a minimum pressure rating of PR-200 or SDR-21.
25. 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 lines shall be laid at such an elevation that the bottom of the water line is 18 inches 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 vertical separation shall be maintained for that portion of the water line located within 10 feet, horizontally, of any sewer or drain it crosses.
26. Water lines, valves, sleeves, meters and etc. shall meet all specifications and installation requirements of the local governing authority.
27. All cast iron pipe for water mains shall conform to A.W.W.A. specifications 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.
28. All Water hydrants and valves shall be cast iron and installed in accordance with plans and details.
29. All streets within the public right-of-way must meet specifications and installation requirements of the City of O'Fallon.
30. Hazard markers will consist of three (3) Standard Specifications, "Manual on Uniform Traffic Control Devices", end 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.
31. The City of O'Fallon, shall be notified at least 48 hours prior to construction of sanitary sewers for coordination and inspection.

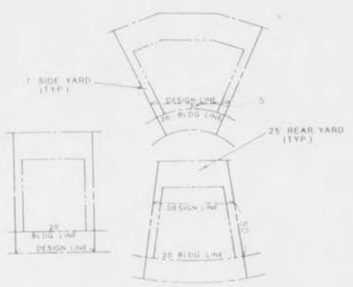
KEY MAP

Index

Sheet	Description
SHEET 1	COVER SHEET
SHEET 2	KEY SHEET
SHEET 3	SITE PLAN
SHEET 4	WATER PLAN
SHEET 5	GRADING PLAN
SHEET 6-7	STREET PROFILES
SHEET 8-9	SANITARY PROFILES
SHEET 10-11	STORM PROFILES
SHEET 12	DRAINAGE AREA MAP
SHEET 13	SILTATION CONTROL PLAN
SHEET 14-18	CONSTRUCTION DETAILS

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.E.	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
Light Standard	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		
Street Address		



LOT DESIGN CRITERIA

LOCATION MAP
N.T.S.

This Tract Is Served By Or Located In:

1. CENTRAL ELECTRIC POWER COOPERATIVE - TRANSMISSION LINE
   Contact - Mr. Donald Shaw: phone 1-634-2454
2. CUIVRE ELECTRIC POWER COOPERATIVE - SECONDARY POWER SOURCE
   Contact - Mr. Dan Brown: phone 441-7410
3. UNION ELECTRIC COMPANY - PRIMARY POWER SOURCE
   Contact - Mr. Ralph Crank, Jr.: phone 327-6203
4. CONTINENTAL TELEPHONE COMPANY
   Contact - Mr. Jeff Heger: phone 1-327-3054
5. DUCKETT CREEK SEWER DISTRICT
   Contact - Mr. Barry Smith: phone 441-1244
6. ST. CHARLES COUNTY WATER DISTRICT NO. 2
   Contact - Mr. Vic Kappelman: phone 239-3480
7. O'FALLON FIRE PROTECTION DISTRICT
   Contact - Mr. Dave House: phone 1-272-3493
8. ST. CHARLES GAS COMPANY
   Contact - Mr. Jim Cambron-Residential: phone 1-723-0495
   Contact - Mr. Gene Bohler-Commercial: phone 1-723-0495

U.S.G.S. BENCHMARK

U.S.G.S. BENCHMARK:
Elevation = 667.598

Orf triangulation Sta., 3.5 mi. SW. of O'Fallon, 0.5 mi. NE. of Dardenne Church, 492 ft. NNW. of dwelling on land belonging to Ben Orf, 131 ft. NW. of barn, 33 ft. N. of pond, in concrete post; U.S.C. & G.S. standard disk stamped "Orf 1931".

NOTE: To convert from project datum benchmarks to U.S.G.S. datum benchmarks, subtract 0.52 feet from all elevations shown.

PROJECT BENCHMARK

BENCHMARK #12
"O" IN OPEN - FIRE HYDRANT SOUTH SIDE HWY N, ±900 WEST OF TWIN CHIMNEYS BLVD
COORDINATES 13,365 NORTH
4,715 EAST
ELEVATION 820.99

BAX ENGINEERING CO., INC.
221 Point West Blvd. St. Charles, Missouri 63301
946-6588 724-3330

Date: JULY 29, 1988 Order No.: 88-2906

VILLAGE I

SITE PLAN
VILLAGE H
88-2906 JULY 29, 198R
REV. 8-17-88

PROP N/F
JAMES A HANLEY & WIFE
BK768 PG1143

PROP N/F
STEPHEN G WITTE & WIFE
BK939 PG1114

PROP N/F
H.C. BOWDEN & WIFE
BK902PG1310

BATES ESTATES
P BK 11 PG 11

PROP N/F
MEYER, KENNTH & ARLENE

488.90'
N01°55'16"E
475.41'
N01°53'37"E
N88°07'56"W
949.62'

STREET NAME CHANGE

CEDARS DRIVE
LANE
PLACE
BALDRIDGE COURT
TWIN CHIMNEYS BOULEVARD
THE CEDARS
THE WINE
MAY
CURRIER
CRADLE COURT
COMMON GROUND

59H 58H 40H 39H 26H 25H
60H 57H 41H 38H 27H 24H
61H 56H 42H 37H 28H 23H 22H 21H
62H 55H 43H 36H 29H 20H
63H 54H 44H 35H 30H 19H
64H 53H 45H 34H 31H 16H 17H 18H
65H 52H 46H 33H 32H 15H 1H
66H 51H 47H 13H 4H 2H
67H 50H 48H 12H 5H 3H 86H
68H 49H 10H 11H 6H 85H
69H 9H 8H 7H 84H
83H
82H
79H
70H 71H 72H 73H 74H 75H 76H 77H 78H 80H 81H

SCALE 1" = 50'

NOTE:
ALL SANITARY LATERALS TO BE 4" PVC
ALL ISLANDS TO HAVE 6" VERT. CONCRETE CURB
SEE PLANS BY P.R.S. FOR TWIN CHIMNEYS BOULEVARD

VILLAGE D
SEE IMPROVEMENT PLANS BY P.R.S.

VILLAGE F
SEE IMPROVEMENT PLANS BY VOLZ

NOTE: MH 549H and MH 551H on plans by Volz are the same MH

PHASE 1

3
18

WATER PLAN

VILLAGE H

88-2906 JULY 15, 1988

REV 7-29-88

REV 9-19-88

NOTE:
- ALL HYDRANTS SHALL BE 5' BEHIND BACK OF CURB
- FOR TYPICAL INSTALLATION DETAILS SEE SHEET 17

THIS PLAN FOR WATER LAYOUT PURPOSES ONLY

GRADING PLAN

VILLAGE H

88-2906 JULY 1, 1988

REV. 7-29-88

REV. OCT. 20, 1988

VILLAGE I

59H 60H 61H 62H 63H 64H 65H 66H 67H 68H 69H 70H 71H 72H 73H 74H 75H 76H 77H 78H 79H 80H 81H 82H 83H 84H 85H 86H

58H 57H 56H 55H 54H 53H 52H 51H 50H 49H

40H 41H 42H 43H 44H 45H 46H 47H 48H

39H 38H 37H 36H 35H 34H 33H 32H 31H 30H 29H 28H 27H 26H 25H 24H 23H 22H 21H 20H 19H 18H 17H 16H 15H 14H 13H 12H 11H 10H 9H 8H 7H 6H 5H 4H 3H 2H 1H

DRIVE — CEDARS

LANE — WINE

PLACE — CURRIER

BALDRIDGE COURT

TWIN CHIMNEYS

THE MAY

THE CEDARS DRIVE

CRADLE COURT

BOULEVARD

Existing Trees to remain

Grading Limits

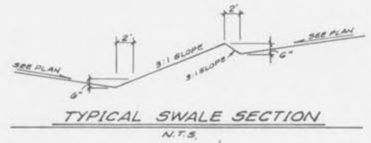
Scale: 1"=50'

VILLAGE D

SEE GRADING PLAN BY P.R.S.

VILLAGE F

SEE GRADING PLAN BY VOLZ



TYPICAL SWALE SECTION

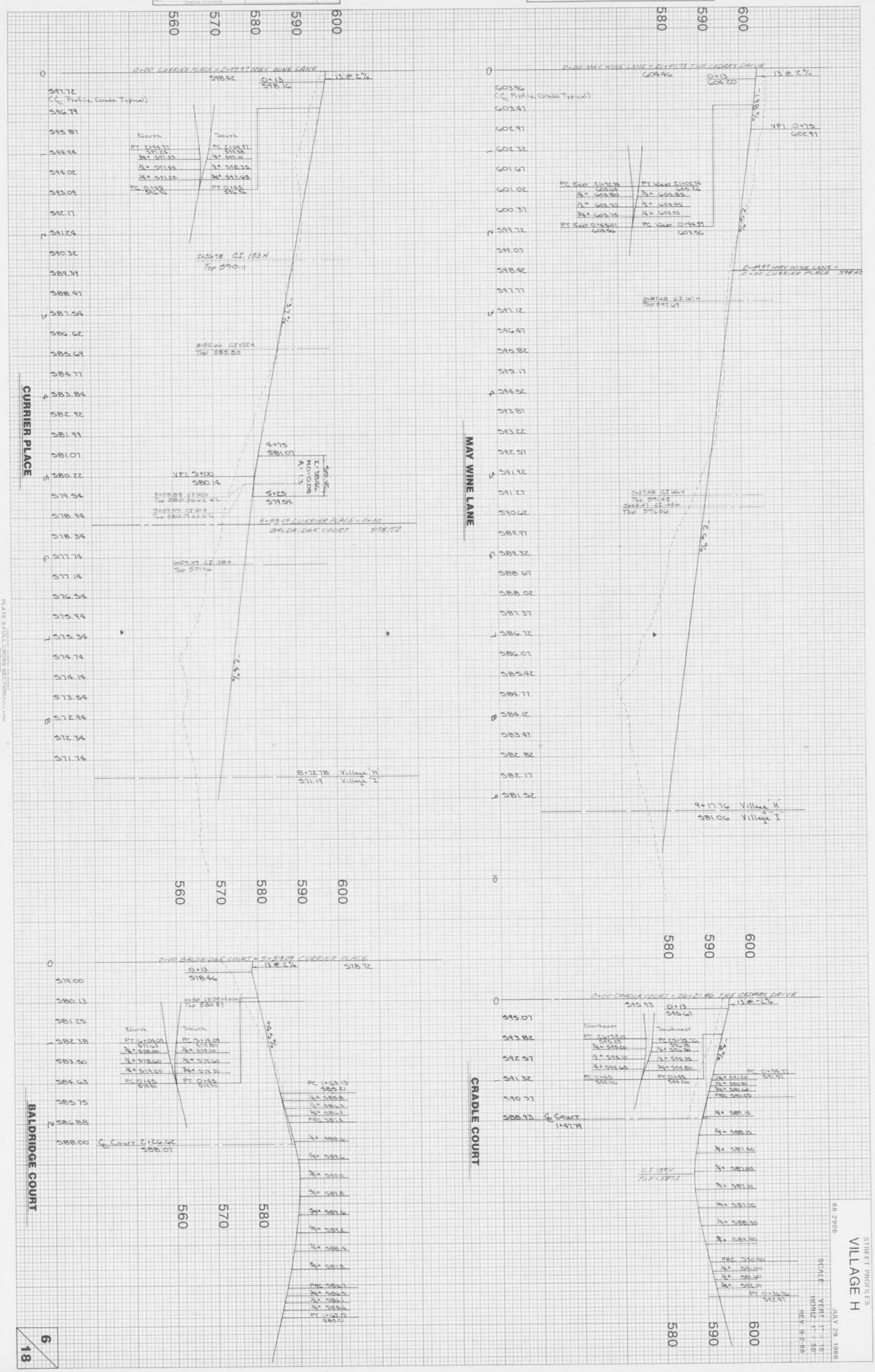
N.T.S.

5/18

GRADING SET SHEET 2 OF 9

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

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



STREET PROFILES

VILLAGE H

88 2906 JULY 29, 1988

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

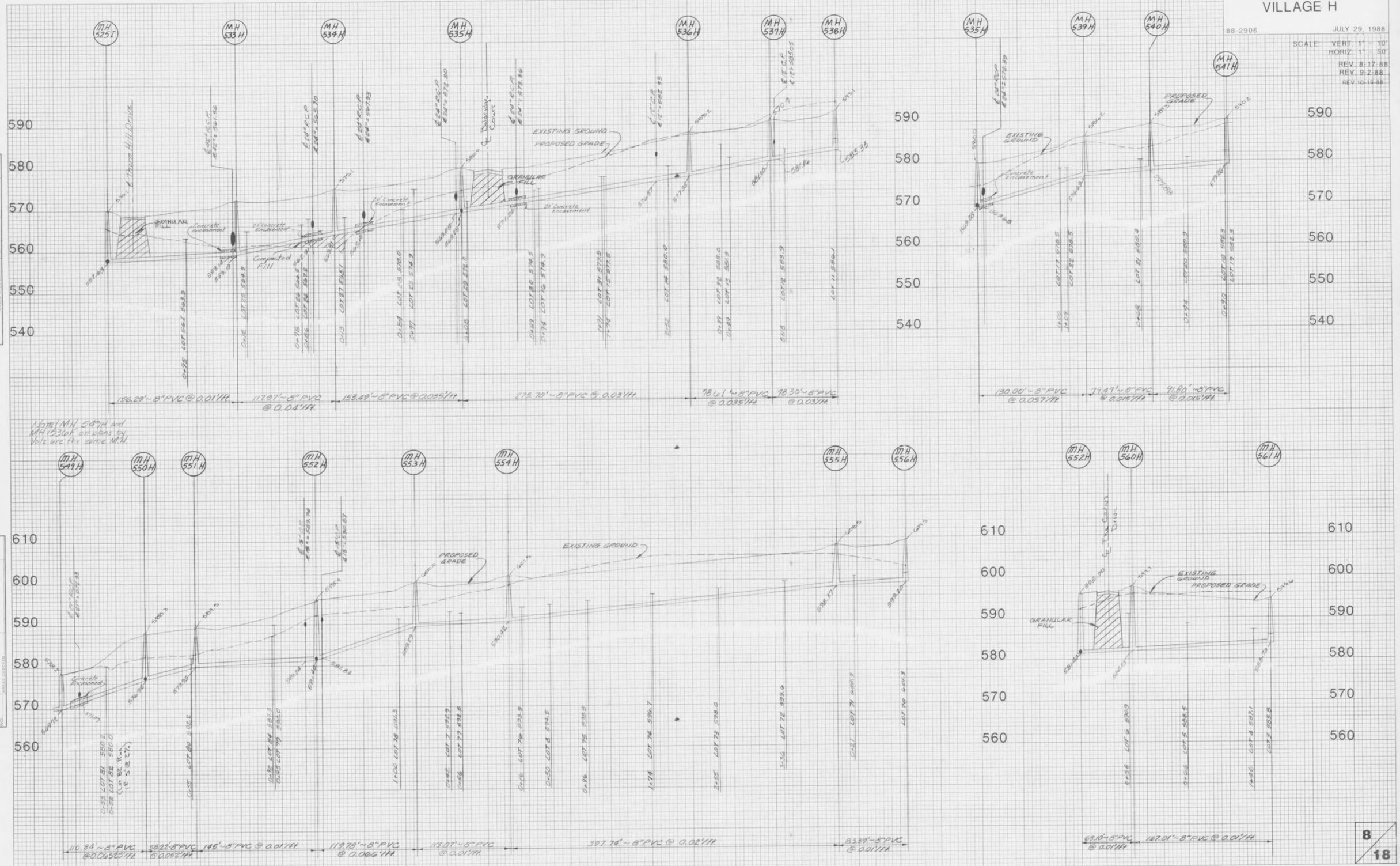
SANITARY PROFILES
VILLAGE H

88-2906 JULY 29, 1988

SCALE: VERT 1" = 10'
HORIZ 1" = 50'
REV. 8-17-88
REV. 9-2-88
REV. 10-19-88

FINAL SURVEY
SURVEYED
PLOTTED
NOTE BOOK
AREAS
AREAS CHECKED
BY
DATE

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



SANITARY PROFILES
VILLAGE H

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

88-2906

JULY 29, 1988
REV. 8-17-88
REV. 9-2-88
REV. 10-19-88

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

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

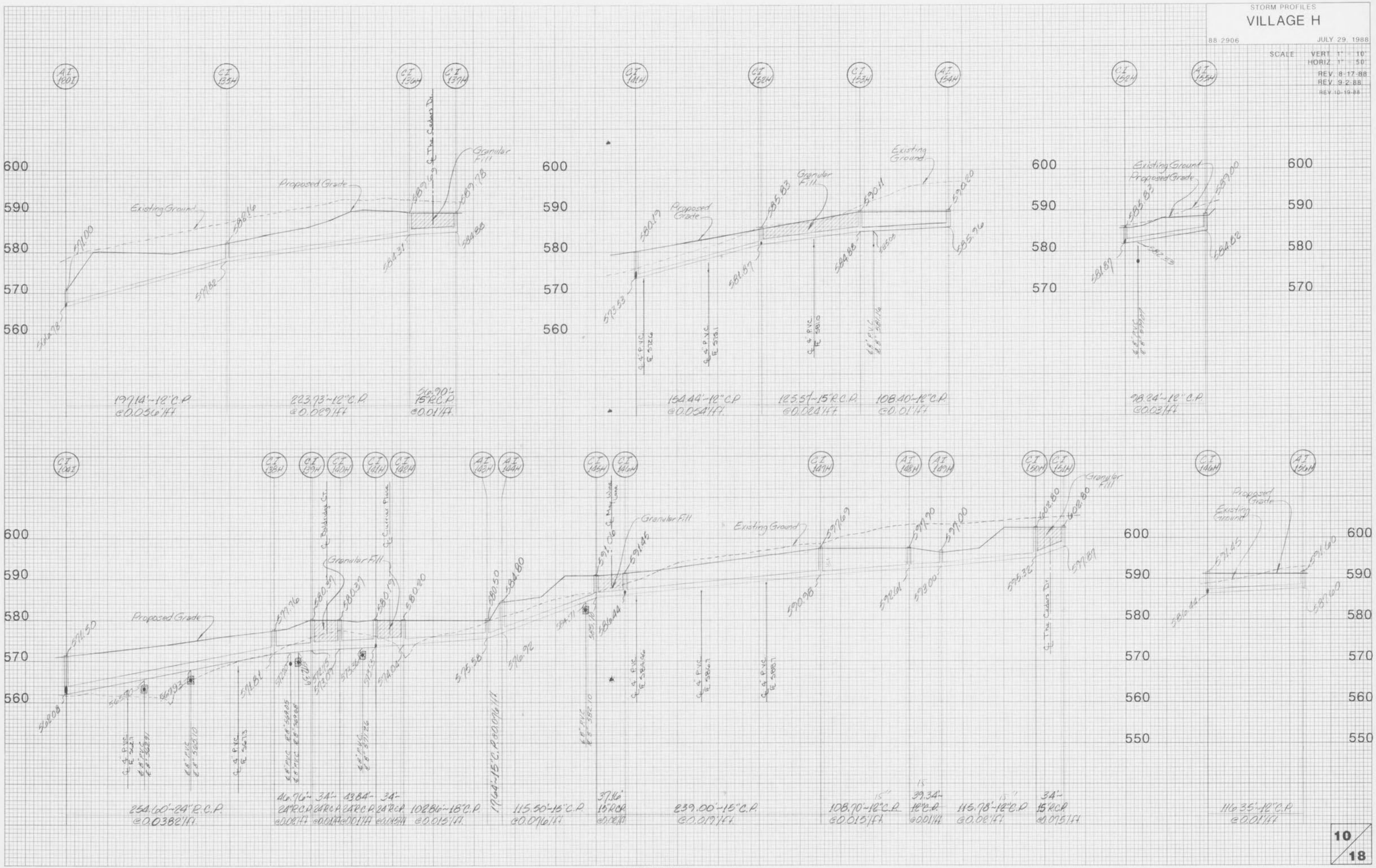
STORM PROFILES

VILLAGE H

88-2906 JULY 29, 1988

SCALE VERT 1" = 10'
HORIZ 1" = 50'
REV. 8-17-88
REV. 9-2-88
REV. 10-19-88

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



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

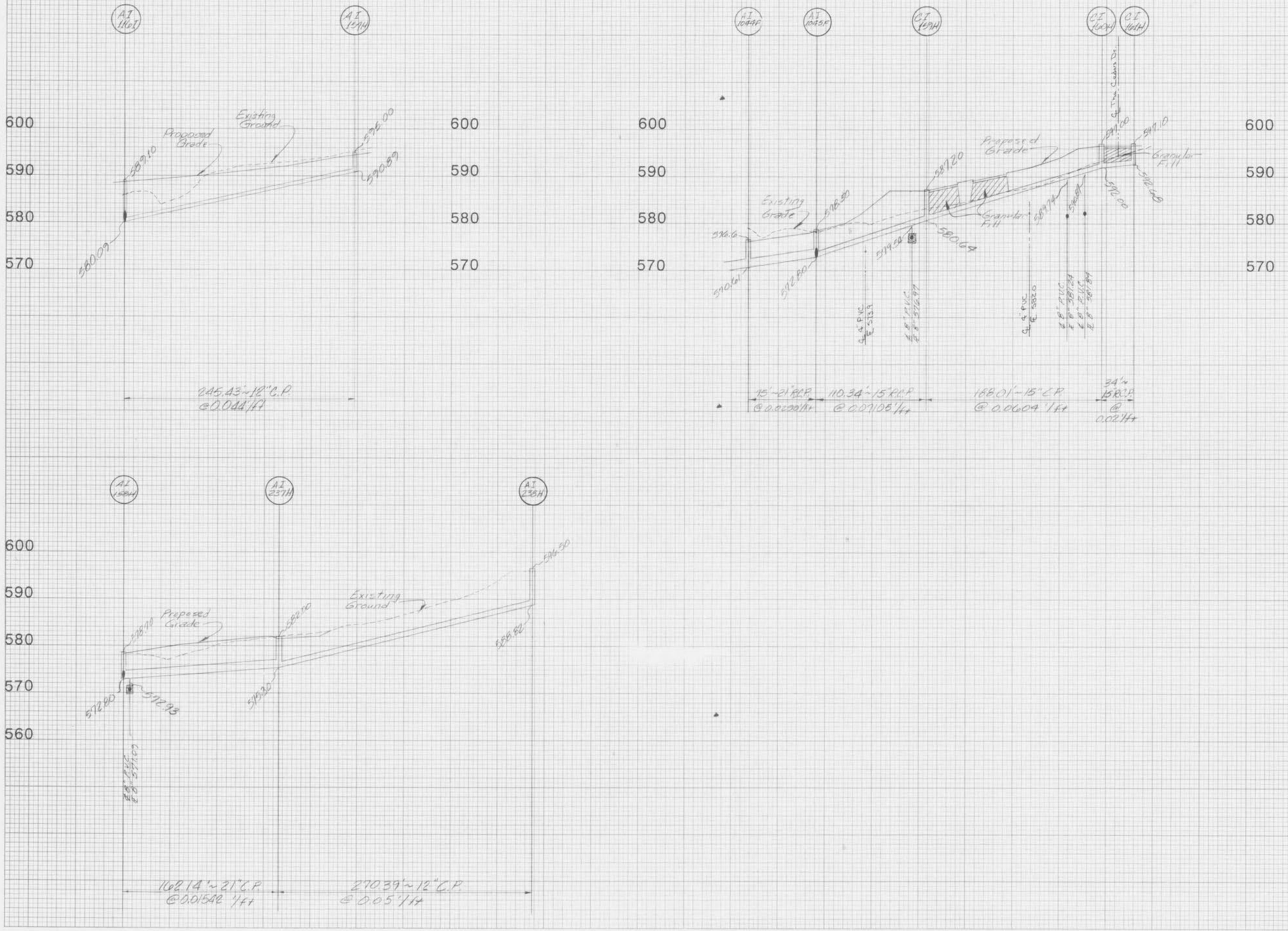
STORM PROFILES
VILLAGE H

88-2906 JULY 29, 1988

SCALE: VERT 1" 10'
HORIZ 1" 50'

REV. 8-17-88
REV. 9-2-88
~~REV. 10-19-88~~
REV. OCT. 20, 1988

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



THIS PLAN FOR DRAINAGE PURPOSES ONLY

DRAINAGE AREA MAP
VILLAGE H
88-2906 JULY 29, 1988

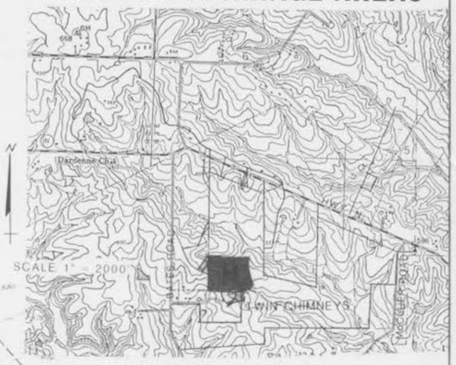
VILLAGE I

VILLAGE D
SEE GRADING PLAN BY P.R.S.

VILLAGE F
SEE GRADING PLAN BY VOLZ

Scale: 1"=50'

OFF-SITE DRAINAGE AREAS



SILTATION CONTROL PLAN

VILLAGE H

88-2906 JULY 1, 1988

REV. 7-29-88

VILLAGE I

59H 60H 61H 62H 63H 64H 65H 66H 67H 68H 69H 70H 71H 72H 73H 74H 75H 76H 77H 78H 79H 80H 81H 82H 83H 84H 85H 86H 1H 2H 3H 4H 5H 6H 7H 8H 9H 10H 11H 12H 13H 14H 15H 16H 17H 18H 19H 20H 21H 22H 23H 24H 25H 26H 27H 28H 29H 30H 31H 32H 33H 34H 35H 36H 37H 38H 39H 40H 41H 42H 43H 44H 45H 46H 47H 48H 49H 50H 51H 52H 53H 54H 55H 56H 57H 58H

Existing Trees to remain

Existing Trees to remain

Existing Trees to remain

Grading Limits

Grading Limits

Existing Trees to remain

Note: Grading Contractor to seal fill well so as not to interfer with proposed improvements & residences.

Approximate Location Abandoned Well

Staked Straw Bales

Staked Straw Bales

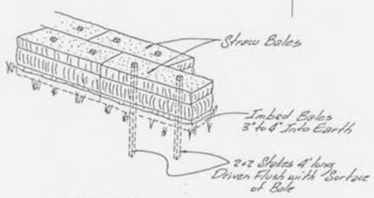
VILLAGE D

SEE GRADING PLAN BY P.R.S.

VILLAGE F

SEE GRADING PLAN BY VOLZ

Scale: 1"=50'



STAKING DETAIL

THIS PLAN FOR SILTATION CONTROL PURPOSES ONLY

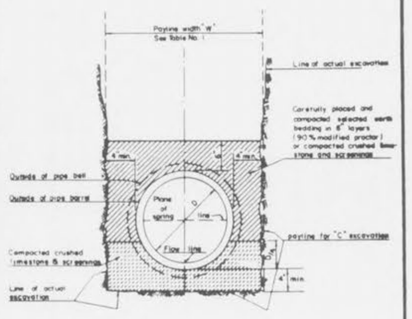
13/18

GRADING SET SHEET 8 OF 9

ROUND PIPE				HORIZONTAL ELLIPTICAL PIPE			
Inside Diameter of Pipe (Inches)	"w" Payline Width of Trench (Inches)	"w" Payline Width of Trench (Feet)	Pay-volumes cu. ft. per ft. Concrete Encasement	Inside Dimensions of Pipe (Inches)	"w" Payline Width of Trench (Inches)	"w" Payline Width of Trench (Feet)	Pay-volumes cu. ft. per ft. Concrete Encasement
4	28	2.33	3.20				
6	28	2.33	3.46				
8	28	2.33	3.70				
10	28	2.33	3.86				
12	28	2.33	3.98				
15	32	2.67	4.89				
18	35	2.92	5.63	14 x 23	41	3.42	5.84
21	39	3.25	6.61				
24	42	3.50	7.39	19 x 30	49	4.08	7.68
27	45	3.75	8.18	22 x 34	53	4.42	8.81
30	49	4.08	9.30	24 x 38	58	4.83	9.70
33	53	4.42	10.53	27 x 42	62	5.17	10.71
36	56	4.67	11.43	29 x 45	66	5.50	11.72
39	DISCONTINUED			32 x 49	71	5.92	13.14
42	63	5.25	13.38	34 x 53	75	6.25	14.05
48	70	5.83	15.67	38 x 60	83	6.92	16.18
54	77	6.42	18.15	43 x 68	92	7.67	18.81
60	84	7.00	20.73	48 x 76	101	8.42	21.58
66	91	7.58	23.45	53 x 83	109	9.08	24.38
72	98	8.17	26.37	58 x 91	118	9.83	27.45
78	105	8.75	29.39	63 x 98	126	10.50	30.50
84	112	9.33	32.57	68 x 106	135	11.25	33.91
90	119	9.92	35.90	72 x 113	143	11.92	36.99
96	126	10.50	39.37	77 x 121	152	12.67	40.88
102	133	11.08	42.99	82 x 128	160	13.33	44.48
108	140	11.67	46.75	87 x 136	168	14.00	47.79
114	147	12.25	50.66	92 x 143	176	14.67	51.70
120	154	12.83	54.72	97 x 151	185	15.42	56.01
126	161	13.42	58.92				
132	168	14.00	63.27	106 x 166	202	16.83	64.46
144	182	15.17	72.40	116 x 180	218	18.17	73.58

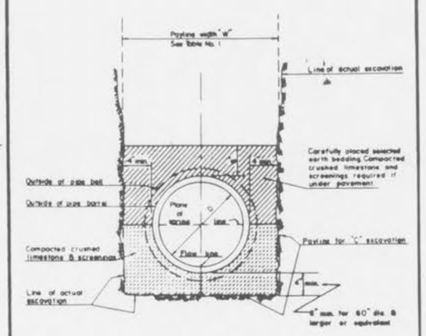
TABLE NO.1
PAYLINE WIDTHS OF TRENCH AND PAY-QUANTITIES OF CONCRETE

DETAIL 1



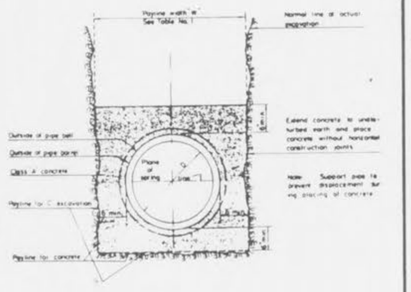
PIPE BEDDING CLASS "C"
(FOR ALL PIPE EXCEPT REINFORCED CONCRETE PIPE)

DETAIL 2



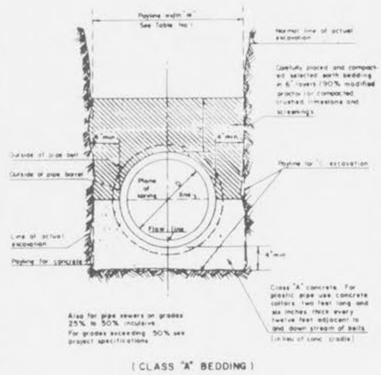
PIPE BEDDING CLASS "C"
(MODIFIED FOR REINFORCED CONCRETE PIPE)

DETAIL 3



CONCRETE ENCASEMENT

DETAIL 4



(CLASS "A" BEDDING)

CONCRETE CRADLE

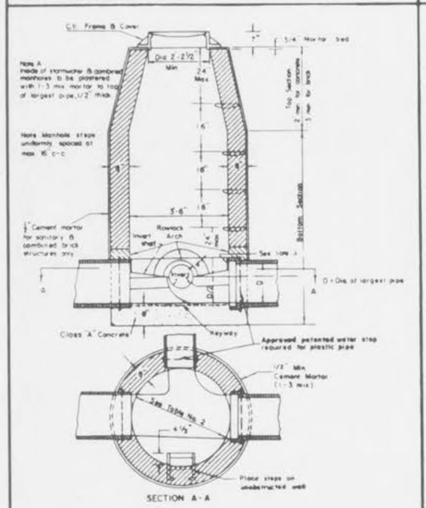
DETAIL 5

CONSTRUCTION DETAILS
88-2906 JULY 29, 1988

Section of Manhole		Dimension
Top Transition	Upper	2'-2½" Dia.
	Lower	3'-6" Dia.
Bottom Section	8" thru 24" Dia. Pipe	3'-6" Dia.
Bottom Section	27" thru 36" Dia. Pipe	3'-6" Square

TABLE NO.2
STANDARD MANHOLE DIMENSIONS

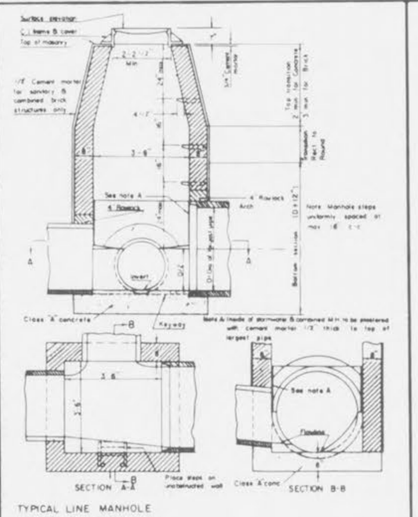
DETAIL 6



SECTION A-A

LINE MANHOLE
PIPE SEWERS 8"-24" DIA

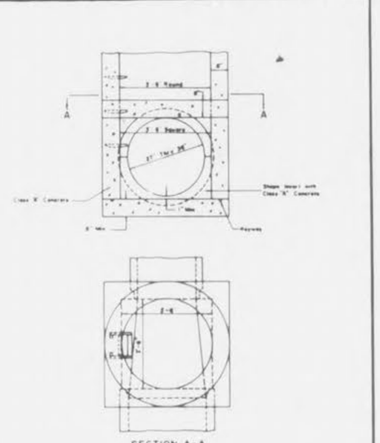
DETAIL 7



SECTION A-A SECTION B-B

TYPICAL LINE MANHOLE
ON PIPE SEWER 27" THRU 36" IN DIAMETER

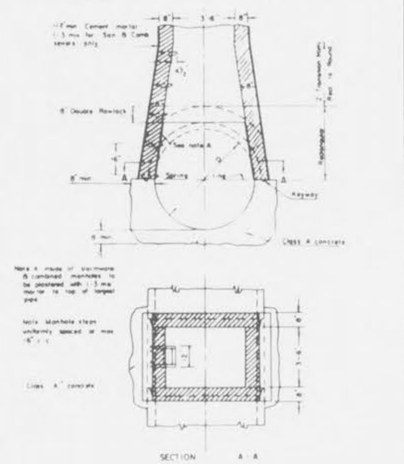
DETAIL 8



SECTION A-A

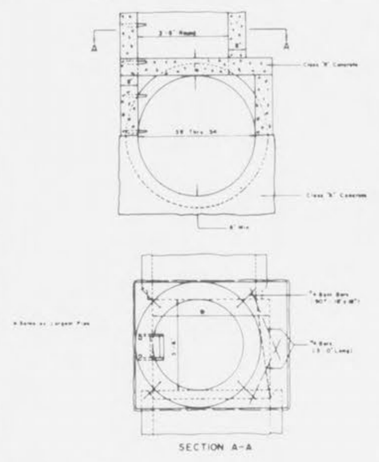
MANHOLE ON PIPE SEWER
27" THRU 36" (ALTERNATE)

DETAIL 9



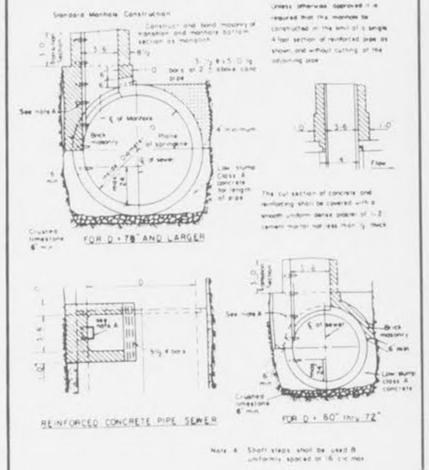
MANHOLE ON CONCRETE PIPE
SEWERS 39" THRU 54" DIAMETER

DETAIL 10



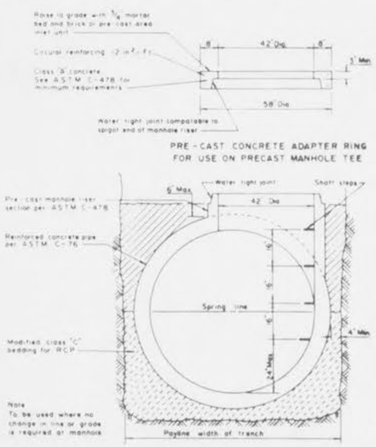
MANHOLE ON CONC PIPE
39" THRU 54" (ALTERNATE)

DETAIL 11



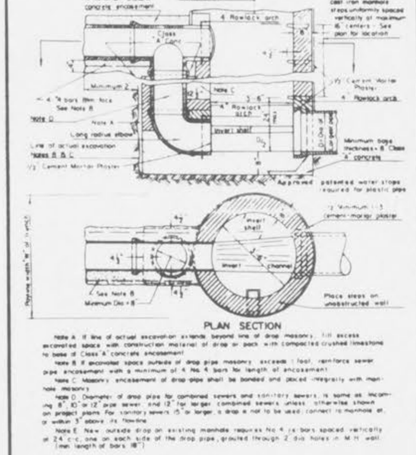
TYPICAL MANHOLE BASE
REINFORCED CONCRETE PIPE
SEWERS 60" AND LARGER
IN DIAMETER

DETAIL 12



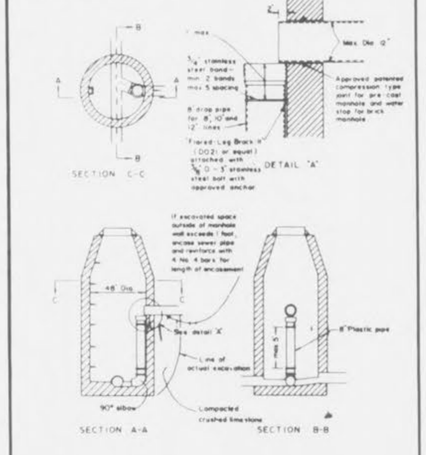
TYPICAL PRE-CAST M.H. TEE
FOR REINFORCED CONCRETE
PIPE SEWERS 48" AND
LARGER IN DIAMETER

DETAIL 13



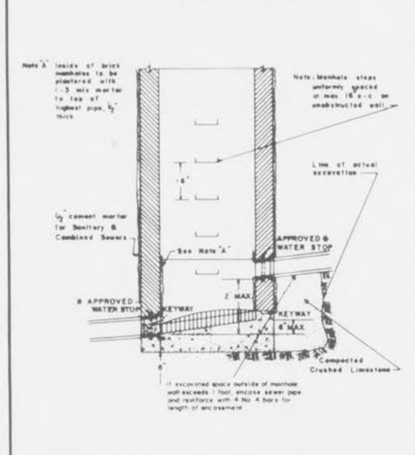
OUTSIDE FOULWATER
DROP MANHOLE

DETAIL 14



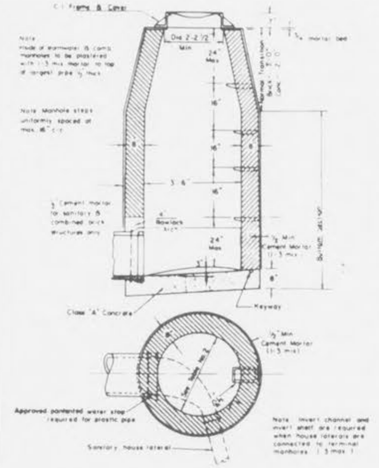
FOULWATER
INSIDE DROP MANHOLE
FOR
PLASTIC PIPE

DETAIL 15



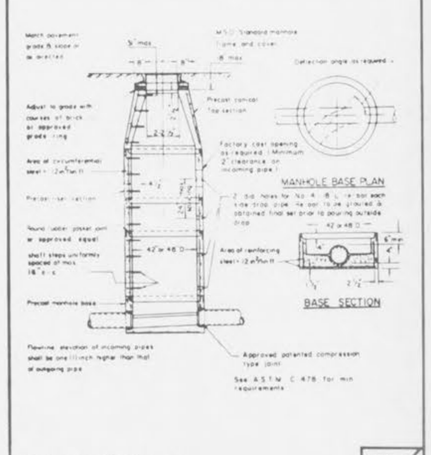
INSIDE DROP
(18" Thru 24" Dia Pipe)

DETAIL 16



TERMINAL MANHOLE

DETAIL 17



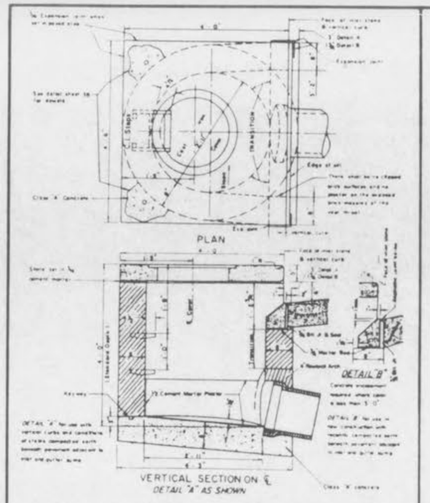
PRE-CAST CONCRETE MANHOLE
FOR SEWERS
8" THROUGH 12"

DETAIL 18

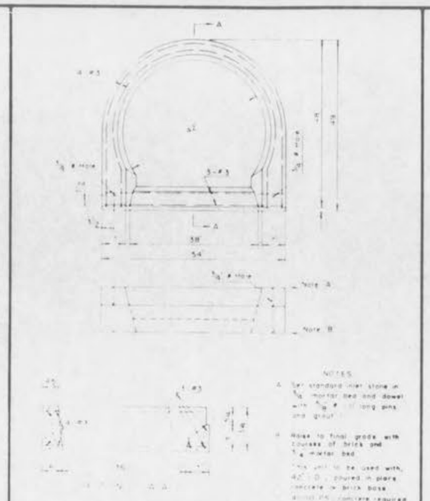
14/18

TWIN CHIMNEYS
Construction Details

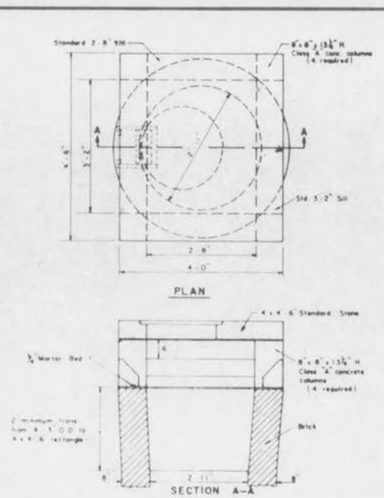
DETAIL 24
CONCRETE DOUBLE STREET INLET W/PRE CAST TOP UNIT
88-2906
JULY 29,1988



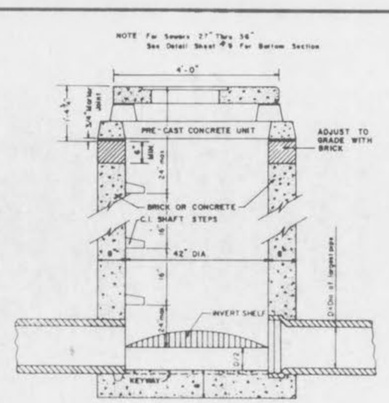
UNTRAPPED STREET INLET
BRICK CONSTRUCTION
DETAIL 19



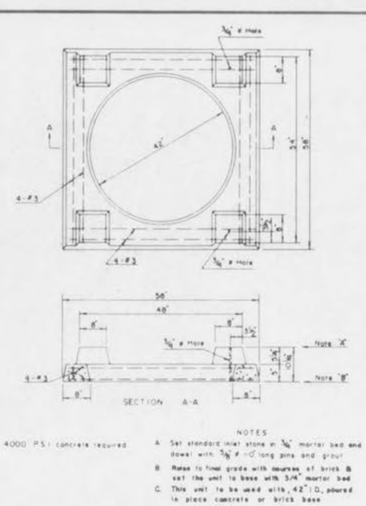
PRE-CAST CONCRETE UNIT FOR SINGLE CURB INLET
DETAIL 20



BRICK AREA INLET
OPEN 4 SIDES
DETAIL 21

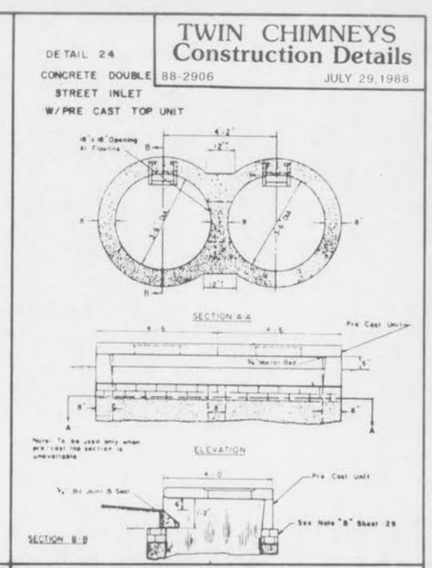


AREA INLET
(12" thru 24")
DETAIL 22

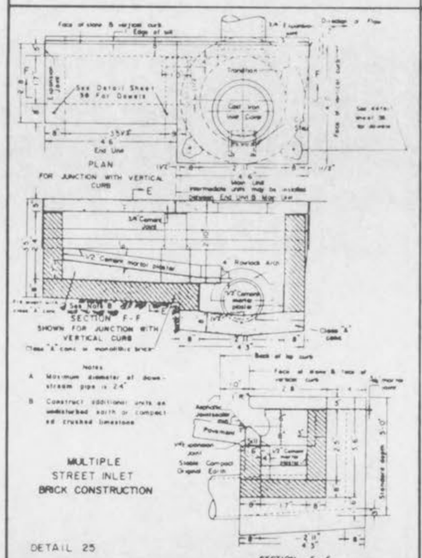


4000 P.S.I concrete required

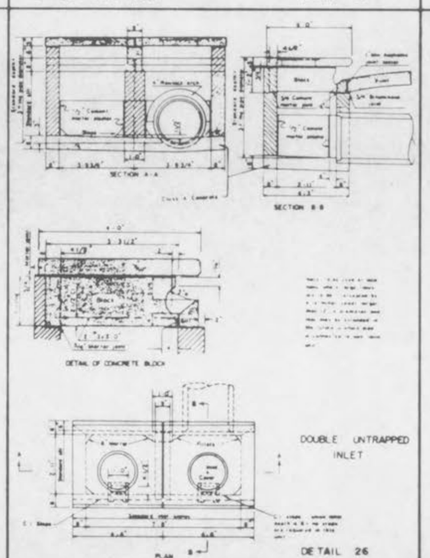
PRE-CAST CONCRETE UNIT FOR 4 WAY AREA INLET
DETAIL 23



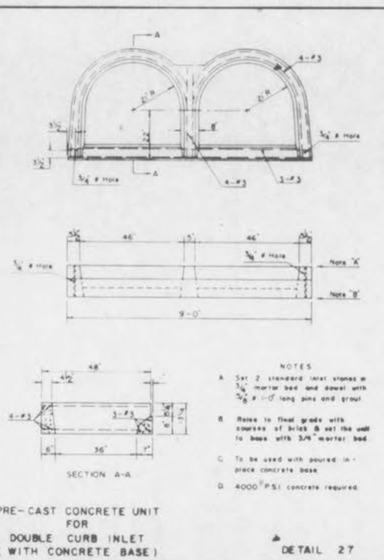
Note: To be used only when pre-cast top section is unavailable



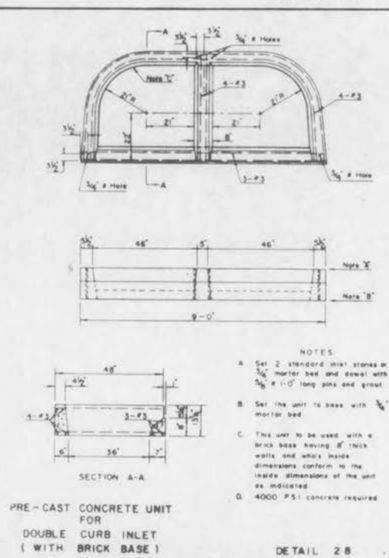
MULTIPLE STREET INLET
BRICK CONSTRUCTION
DETAIL 25



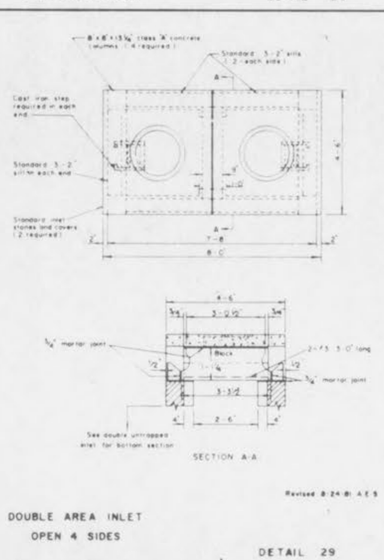
DOUBLE UNTRAPPED INLET
DETAIL 26



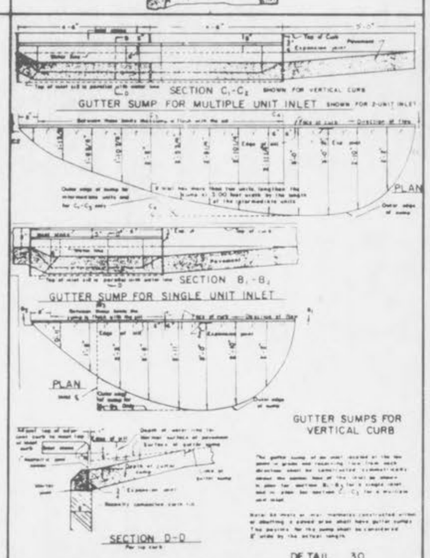
PRE-CAST CONCRETE UNIT FOR DOUBLE CURB INLET (WITH CONCRETE BASE)
DETAIL 27



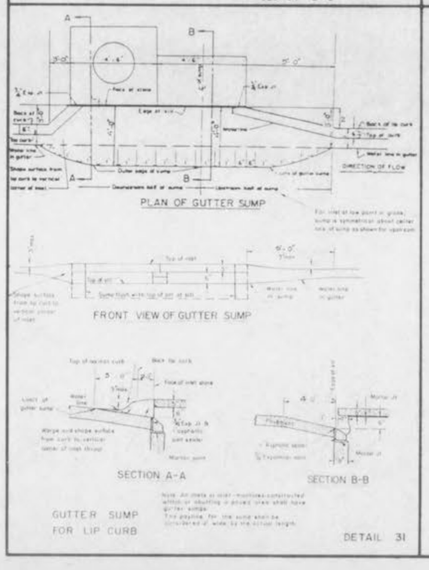
PRE-CAST CONCRETE UNIT FOR DOUBLE CURB INLET (WITH BRICK BASE)
DETAIL 28



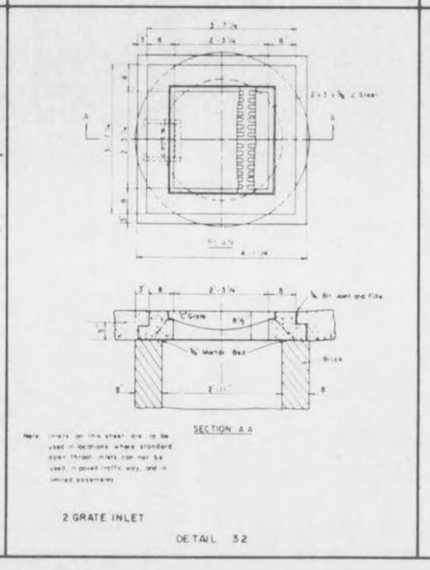
DOUBLE AREA INLET
OPEN 4 SIDES
DETAIL 29



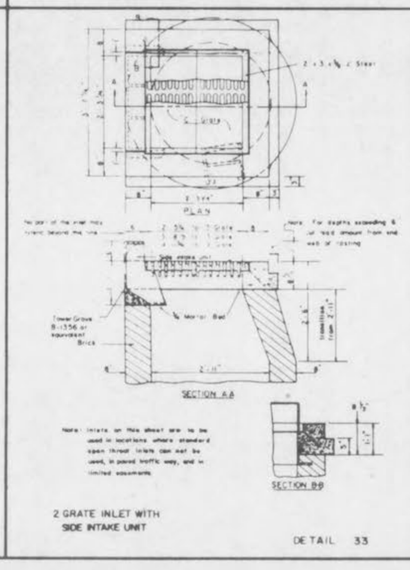
DETAIL 30



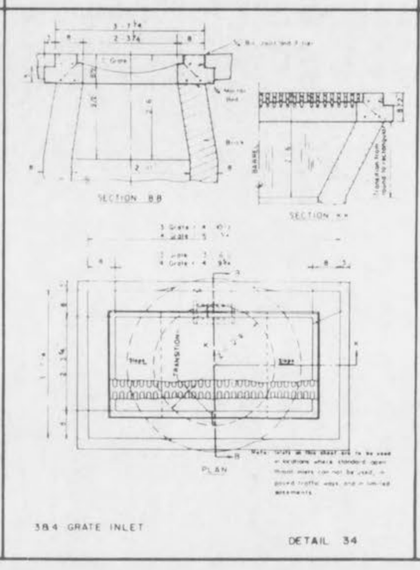
GUTTER SUMP FOR LIP CURB
DETAIL 31



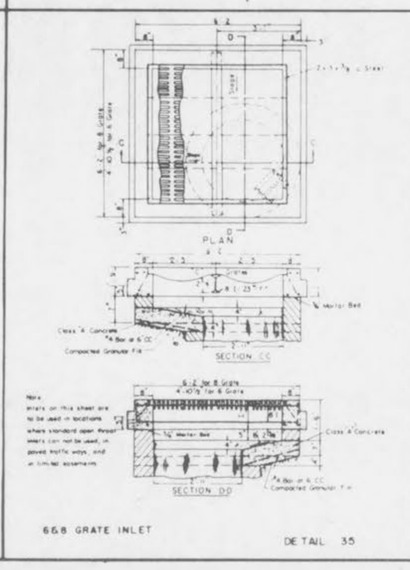
2 GRATE INLET
DETAIL 32



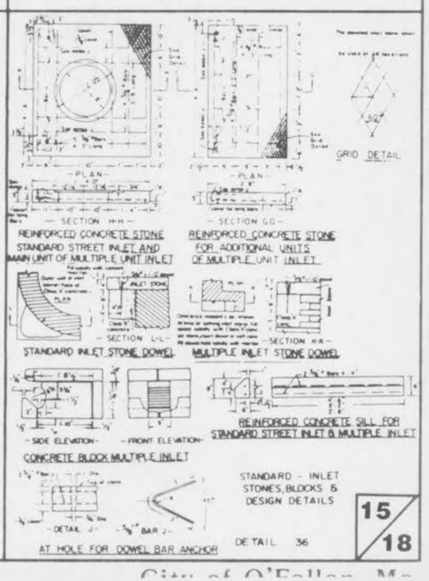
2 GRATE INLET WITH SIDE INTAKE UNIT
DETAIL 33



3&4 GRATE INLET
DETAIL 34



6&8 GRATE INLET
DETAIL 35



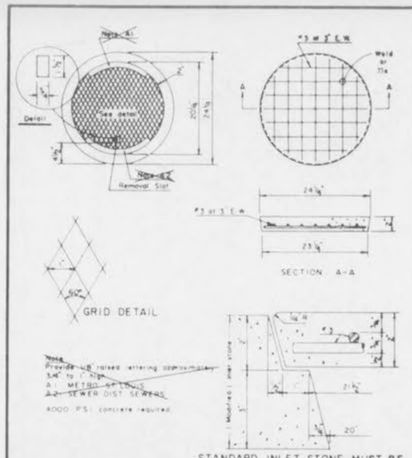
STANDARD - INLET STONES, BLOCKS & DESIGN DETAILS
DETAIL 36

15/18

City of O'Fallon, Mo

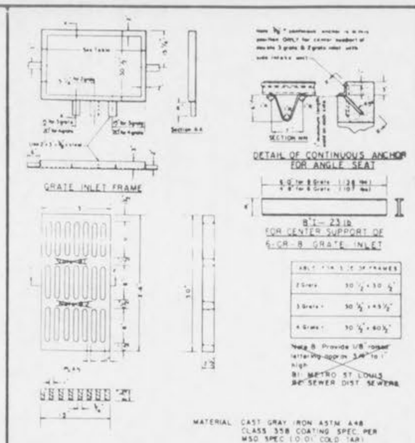
TWIN CHIMNEYS
Construction Details

88-2906 JULY 29,1988



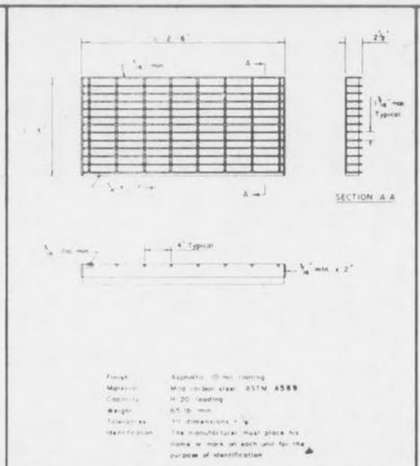
PRE-CAST CONCRETE INLET COVER

DETAIL 37



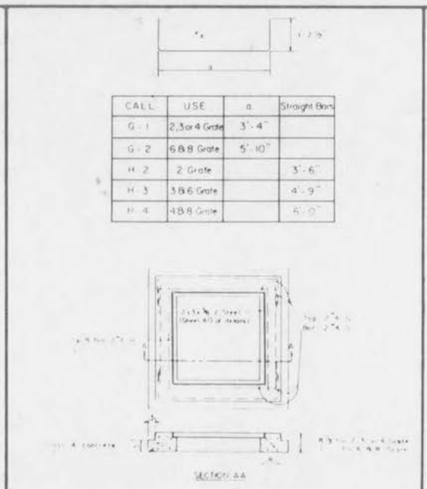
DETAILS OF INLET FRAME AND GRATES

DETAIL 38



DETAIL OF STEEL GRATE (ALTERNATE TO CAST IRON "C" GRATE)

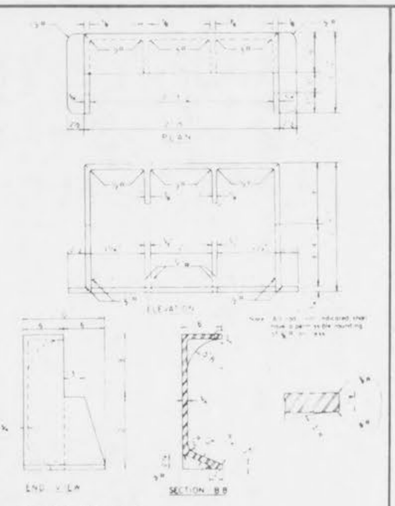
DETAIL 39



CALL	USE	a	Straight Bars
G-1	2,3 or 4 Grate	3'-4"	
G-2	6 8 8 Grate	5'-10"	
H-2	2 Grate		3'-6"
H-3	3 8 6 Grate		4'-9"
H-4	4 8 8 Grate		6'-0"

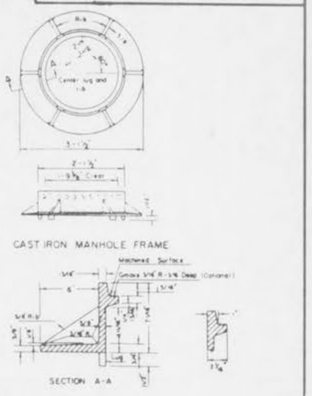
STEEL REQUIREMENTS FOR GRATE INLET SEAT

DETAIL 40



CAST IRON SIDE INTAKE UNIT FOR GRATED INLETS
249 LBS

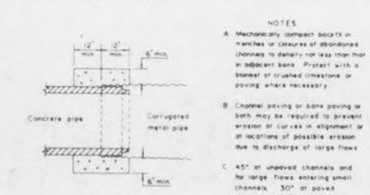
DETAIL 41



(240 lbs)

CAST IRON MANHOLE FRAME

DETAIL 42



STANDARD CAST IRON INLET COVER

CAST IRON COVERS MANHOLES AND INLETS

DETAIL 43

CAST IRON MANHOLE COVERS (LOCK TYPE)

DETAIL 44

DETAIL 45

LOCKING DEVICE FOR TYPE 'N' LOCK TYPE MANHOLE COVER

DETAIL 46

CAST IRON MANHOLE STEPS

DETAIL 47

FLARED END SECTION w/ENERGY DISSIPATOR

DETAIL 48

TYPICAL PLAN & SECTION AT SEWER LINE DISCHARGING INTO CHANNEL

DETAIL OF CONCRETE COLLAR

NOTES

A. Mechanically compact backfill in trenches or closures of abandoned channels to density not less than that in adjacent bank. Protect with a blanket of crushed limestone or paving where necessary.

B. Channel paving or bank paving or both may be required to prevent erosion at curves in alignment or at locations of possible erosion due to discharge of large flows.

C. 45° or unpaved channels and for large flows entering small channels. 30° at paved channels and for small flows entering large channels.

STORMWATER CHANNELS

DETAIL 49

HOUSE CONNECTION TO EXISTING TEE OR WYE

DETAIL 50

MACHINE TAP

DETAIL 51

Note: The opening shall be cut by the contractor to a sufficient size to permit inserting a tee saddle or short length of pipe of the required elevation and angle to allow at least two (2) inches space around the pipe. This space will be solidly filled with 1 cement - sand mortar and the new pipe neatly trimmed and pointed up flush with the inside of the main sewer.

If there are reinforcing bars in the sewer wall, only those preventing insertion of the pipe may be cut. All others shall be bent into a Class 'A' concrete collar at the junction of the connection pipe and the main sewer.

HOUSE CONNECTIONS ALLOWED BY TEE SADDLE

DETAIL 52

When a connection to a plastic pipe is allowed and a connection is larger than 6" in diameter, a solvent weld wye or tee fitting of a similar material must be used. (Example 10" x 8")

This is accomplished by carefully cutting a hole with a saw in the main of the required location. After cutting and shaping the hole to the size of the fitting, the following steps should be taken:

1. Clean and dry both inside saddle wye surface and pipe surface to be solvent cemented.
2. Important! Apply a liberal, heavy coat of a ONE - STEP SOLVENT CEMENT to the inside surface of the saddle wye and to the exterior welding surface of the pipe.
3. Without delay, mate the the surfaces and strap down tightly. A bead of solvent should appear after saddle has been strapped down tightly.
4. Using a rag or paper towel, wipe bead and any excess solvent cement off pipe and saddle.
5. Allow 30-60 minutes for set-up time before backfilling. Cure time depends on size and mix of materials being installed and various cold dome conditions.
6. Discard old solvent if it becomes jelled or lumpy.
7. A clean, dry bedding material is required around the completed connection before backfilling. The bedding material should be one of the following
A. M.S.D. #1 Bedding See detail no. 50
B. 1 to 3 Cement to Sand Mix
C. "Pre Mix" Concrete

8" (8" LARGER) CONNECTION TO PLASTIC MAIN

DETAIL 53

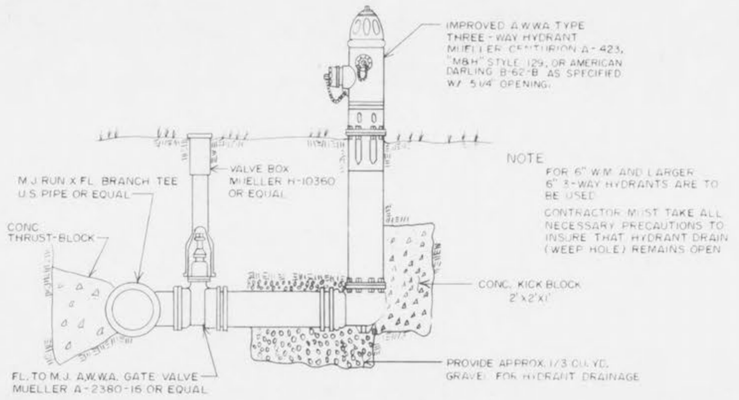
When a connection is allowed larger than 6" diameter a saddle may be used if the I.D. of the connection pipe is not greater than one - half (1/2) the I.D. of the main sewer. (Example 24" x 10")

If the I.D of the connection pipe is greater than one - half (1/2) the I.D of the main sewer the wye or tee must be "rolled in". (Example 15" x 8")

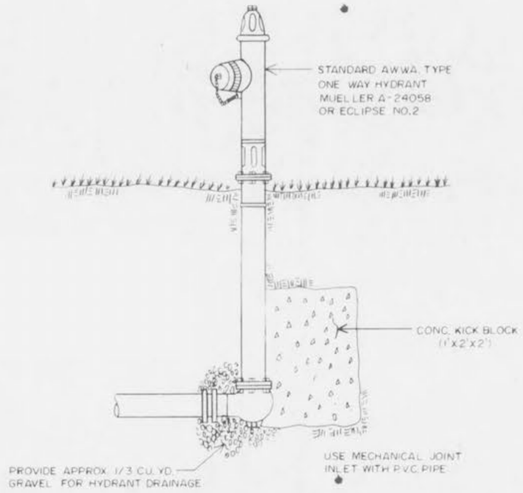
This is accomplished by breaking away and removing one section of pipe. The top half of the bell on the pipe lying adjacent to the gap is carefully broken off. The top half of the bell on the main replacement section with a "tee or wye fitting" is also broken off. The replacement pipe is then placed in the line gap with the stub pointed in the wrong direction. The broken bells on the replacement and the adjoining pipe make it possible for the replacement section to fit into the sewer line without disturbing the adjoining pipe sections. The replacement section is then rotated to the desired position and the broken bells are encased with a 6" Class "A" concrete encasement.

"ROLL-IN" (FOR EXISTING CLAY OR CONCRETE PIPE)

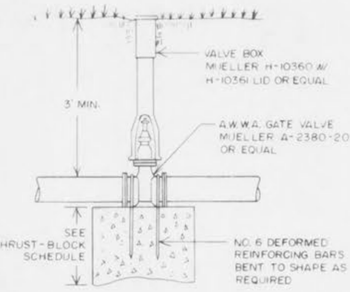
DETAIL 54



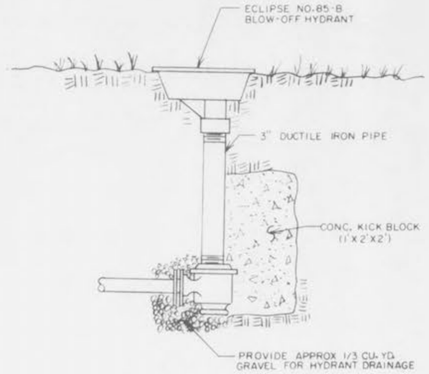
FIRE HYDRANT INSTALLATION DETAIL
NO SCALE



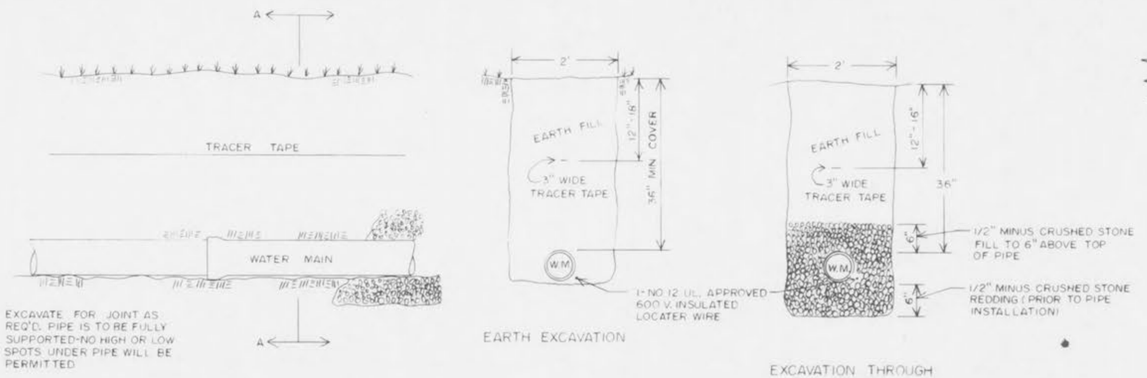
FLUSHING HYDRANT
NO SCALE



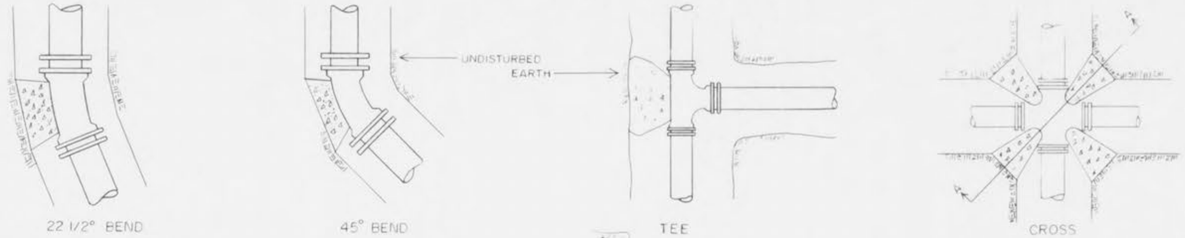
GATE VALVE W/ THRUST-BLOCK DETAIL
NO SCALE



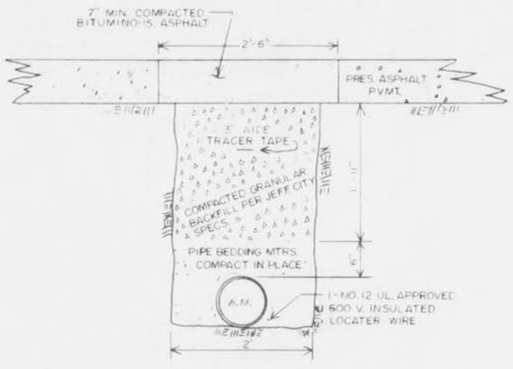
BLOW-OFF HYDRANT
NO SCALE



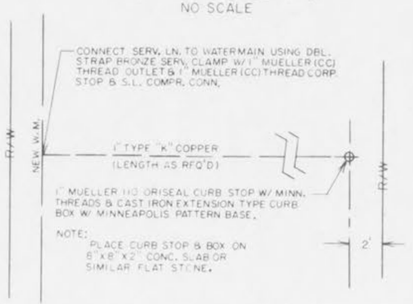
TYPICAL WATER MAIN TRENCHING DETAIL
NO SCALE



TYPICAL THRUST-BLOCK DETAIL
NO SCALE



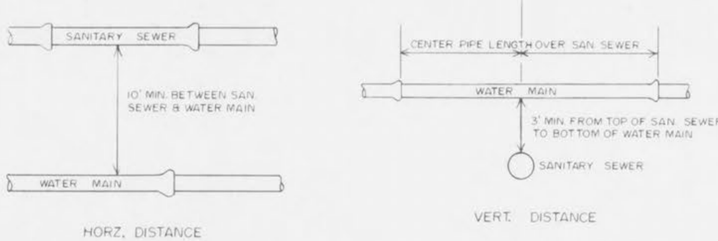
TYPICAL PAVED STREET OR ROAD TRENCH BACKFILL & SURFACE REPLACEMENT DETAIL
SCALE: 1"=1'-0"



TYPICAL SERVICE CONNECTION INSTALLATION TO OPPOSITE SIDE OF STREET
SCALE: 1" = 10'-0"

MAIN SIZE	MIN. THRUSTBLOCK BEARING DIMENSIONS TO BEAR AGAINST UNDISTURBED EARTH				
	45° BEND	22 1/2° BEND	TEE	VALVE	CROSS
2"	.5'x1'	.5'x1'	.5'x1'	.5'x1'	.5'x1'
4"	1'x1'	1'x1'	2'x1'	2'x1'	1'x1'
6"	1.5'x1'	1'x1'	2'x1'	2'x1'	1'x1'
8"	2'x1'	1'x1'	2'x2.5'	2'x2'	1'x1.5'
10"	2'x2.5'	1.5'x2	2'x3.5'	2'x3'	2'x2'

THRUST-BLOCK SCHEDULE



TYPICAL WATER & SEWER SEPARATION
NO SCALE

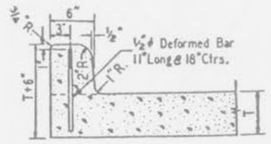
ST. CHARLES COUNTY
PUBLIC WATER SUPPLY DISTRICT NO. 2

APPROVED:

TYPICAL WATER INSTALLATION DETAILS

17/18

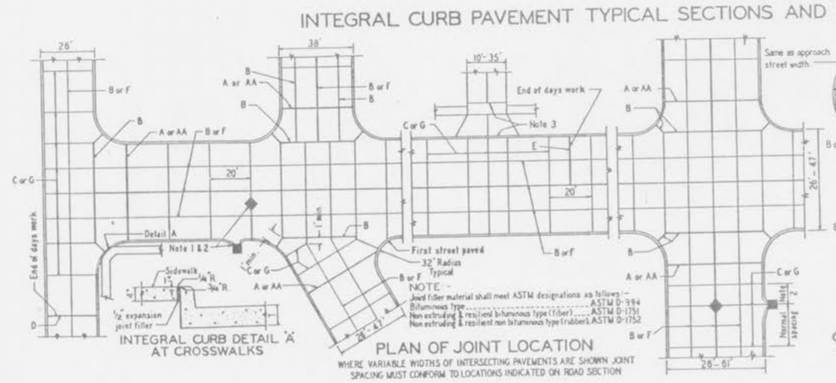
DATE	SCALE	JULY 29, 1988
	AS SHOWN	REV. SEPT. 19, 1988

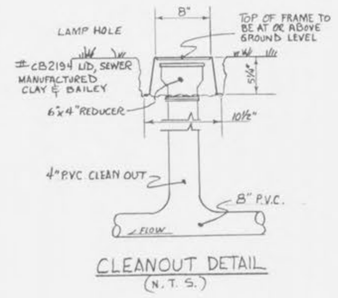


INTEGRAL VERTICAL CURB

INTEGRAL ROLLED CURB

INTEGRAL CURB PAVEMENT TYPICAL SECTIONS AND DETAILS

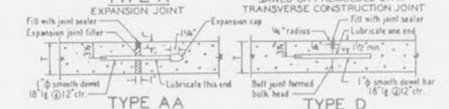




CLEANOUT DETAIL
(N. T. S.)

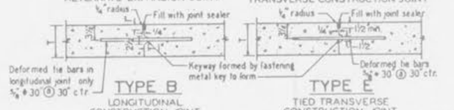
TYPE A
EXPANSION JOINT

TYPE C
SAWED OR PREMOLDED STRIP TRANSVERSE CONSTRUCTION JOINT



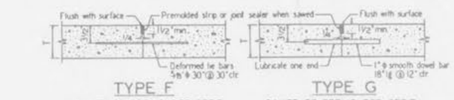
TYPE AA
ALTERNATE EXPANSION JOINT

TYPE D
TRANSVERSE CONSTRUCTION JOINT



TYPE B
LONGITUDINAL CONSTRUCTION JOINT

TYPE E
TIED TRANSVERSE CONSTRUCTION JOINT
(TO BE USED AT POINT NOT ON 20' JOINT SPACING)



TYPE F
SAWED OR PREMOLDED STRIP LONGITUDINAL CONSTRUCTION JOINT

TYPE G
SAWED OR PREMOLDED STRIP TRANSVERSE CONSTRUCTION JOINT

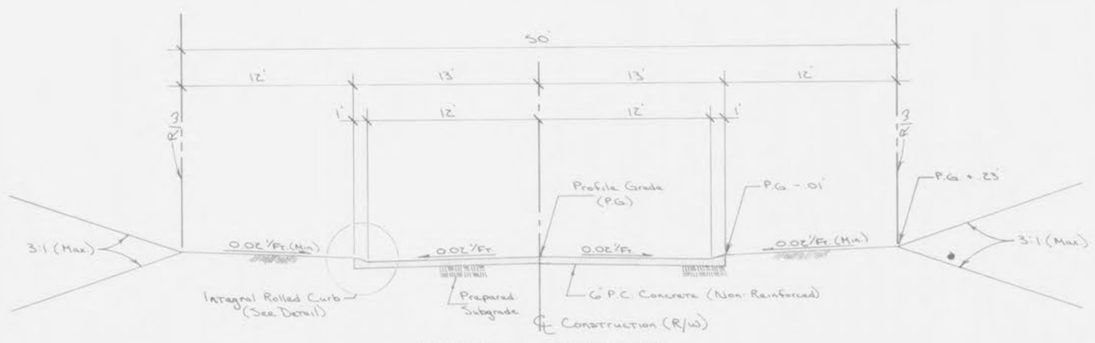
GENERAL NOTES

1. All catch basins shall be separate from the pavement and curb by expansion joint material extending completely through curb and slab. Manhole castings within the pavement limits shall be boxed as shown in the "Sewer Construction Details".
2. When a joint falls with 5 ft. of or contracts basin, manhole, or other structures, shorten one or more panels either side of opening to permit joint to fall on round structures and at or between corners of rectangular structures.
3. Driveway configurations are shown in the "Terrance Construction Details".
4. Construction joint and dowel bars may be omitted when curl is poured integral with pavement.
5. Minimum Thickness for Pavement is

CONCRETE (T)	
Local or Minor Streets	6"
Major or Industrial Streets	7"
Arterial or Industrial Streets	8"

Base material under pavement will be made with 4 inches of Rolled Stone Base.

6. For minor rural or urban and minor subdivision pavements (6" thick concrete), 1/2" ø deformed tie bars 30" lg. @ 30" ctr. shall be used for TYPE B longitudinal joints.
7. Refer to Exhibit 12A for joint and bar requirements for different street classifications. Note that width and location of each poured portion of the pavement may change the type and location of joint required.
8. Transverse or longitudinal construction joints in slip formed pavement may be made with groover or tool, if such device has been approved in advance by the St. Louis County Department of Highways & Traffic.
9. The locations of the Type B and Type F longitudinal construction joints in above sections may be interchanged for the different widths of construction if approval is obtained.



TYPICAL SECTION

(26'W. P.C. CONC. PVMT.)