





# GENERAL NOTES

## CATCH BASINS

**CONCRETE** used in catch basins shall be in accordance with General Specifications of the City of Santa Monica.

**CONNECTION PIPES** may be placed in any position around the walls provided they point in the proper direction and the position is otherwise consistent with the improvement plan. They shall be formed by curved forms and shall not be made by piling.

**CURVATURE** of the top and sidewalls of gutter opening shall be formed by curved forms and shall not be made by piling.

**FLOOR** of basin shall be given a steel-troweled finish and shall slope from all directions to the outlet. For Type B catch basin slope of floor parallel with curb shall be 1 to 12 unless otherwise specified.

**MANHOLE** shall be placed along back wall near outlet.

**OUTLET** pipe shall be trimmed to the final slope and length before concrete is poured.

**PROTECTION BAR:** Horizontal plain round galvanized steel protection bar shall be used when curb face is 15 inches or more. Bar shall be embedded 5 inches of each end.

**REINFORCING STEEL** shall be 3/8 inch round deformed bars.

**STEPS:** 3/4 inch plain round galvanized steel steps (11 inches apart) required when V is greater than 4 feet 6 inches. The top 1/2 inch shall be 6 inches below the surface and shall be 2 1/2 inches from 1/2 inch or less. No steps required if V is 4 feet 6 inches or less. Steps shall be anchored not less than 5 inches in wall of the basin. Supports shall be anchored 7 feet apart. Stirrups shall be welded to supports when curb face is 15 inches or more.

**SURFACE** of all exposed concrete shall conform in slope, grade, color, finish, and scoring to existing or proposed curb and walk adjacent to the basin.

## MANHOLES

**CONCRETE** as specified for Catch Basins.

**CENTER OF MANHOLE SHAFT** shall be located over center line of storm drain when diameter D is 48 or less, in which case slope of shaft shall be 5-6 unless shown otherwise on approved plan.

**LENGTH L** shall be 5-6 unless shown otherwise on approved plan. At option of Contractor, L may be increased or location of manhole shifted to meet pipe ends.

**DETAIL M:** When depth of manhole from street grade to top of bars is less than 2'-0 1/2 for paved streets or 3'-6 for unpaved streets, construct manhole shaft as per Detail M. The Contractor shall have the option of constructing shaft as per Detail N for any depth of manhole. When center of manhole shaft is 48 or less, center of shaft shall be located as per Note. Center of manhole shaft to provide level pipe seat, but shall not be less than tubular vertex for F shown on Manhole Plan.

**REINFORCING STEEL** shall be round deformed bars. If shown from face of concrete unless shown otherwise. Sizes and lengths are shown in table below.

**STEPS** shall be 3/4 round galvanized steel and anchored not less than 6 inches in the walls of structure. Unless otherwise shown the spacing shall be 5-6 on centers. The lowest step shall be not more than 2'-6 above the invert.

**RINGS, REDUCER AND PIPE** for access shaft shall be seated in mortar and neatly pointed or wiped inside the shaft.

**STATIONS** of manholes shown on improvement plan apply at center of shaft. Elevations shown at stations refer to prolonged invert grade lines.

**FLOOR** of manhole shall be steel-troweled to springing line.

**BODY** of manhole shall be poured in one continuous operation, except that the Contractor shall have the option of placing of the springing line a construction joint with a longitudinal keyway.

## STEEL TABLE FOR MANHOLES

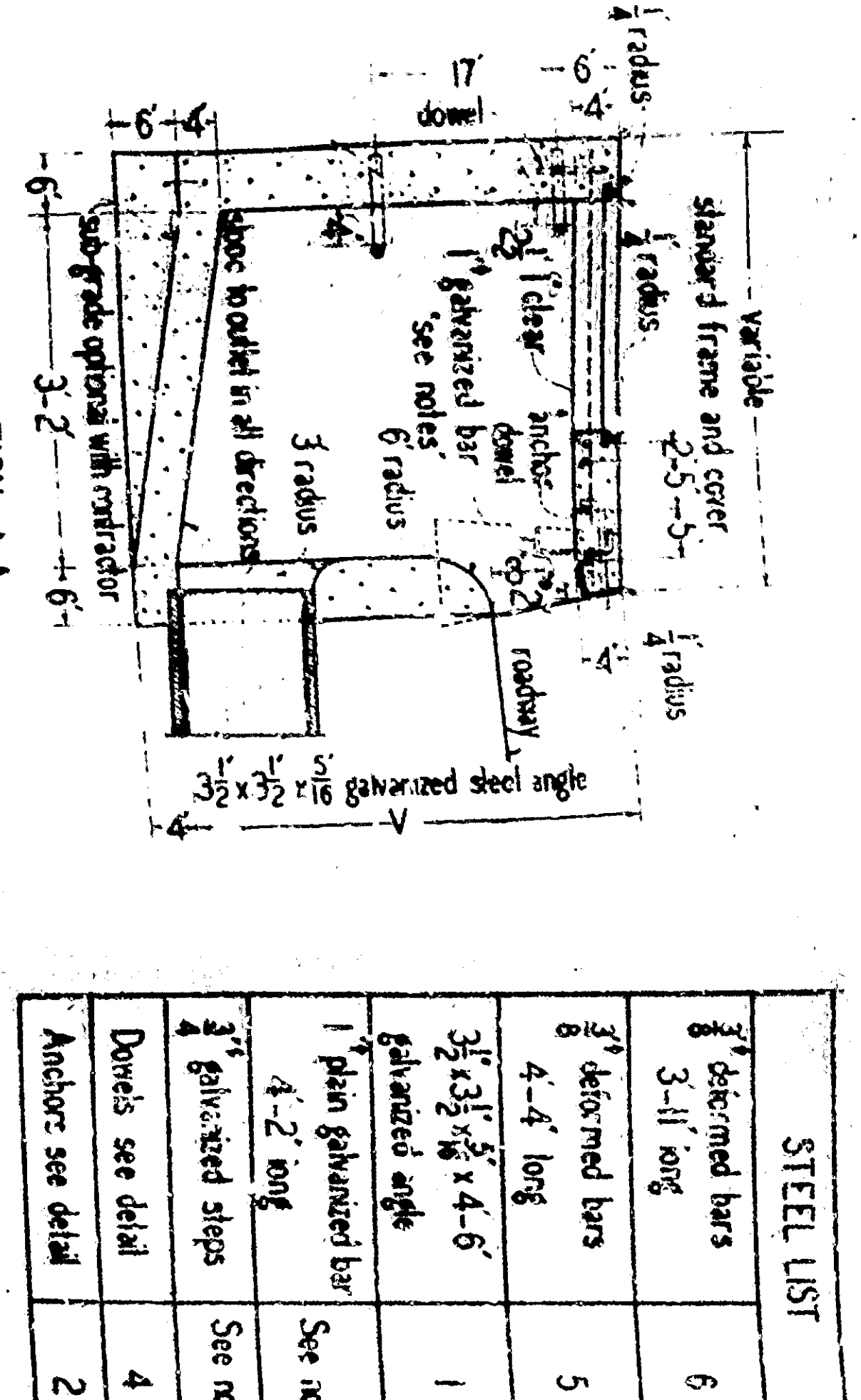
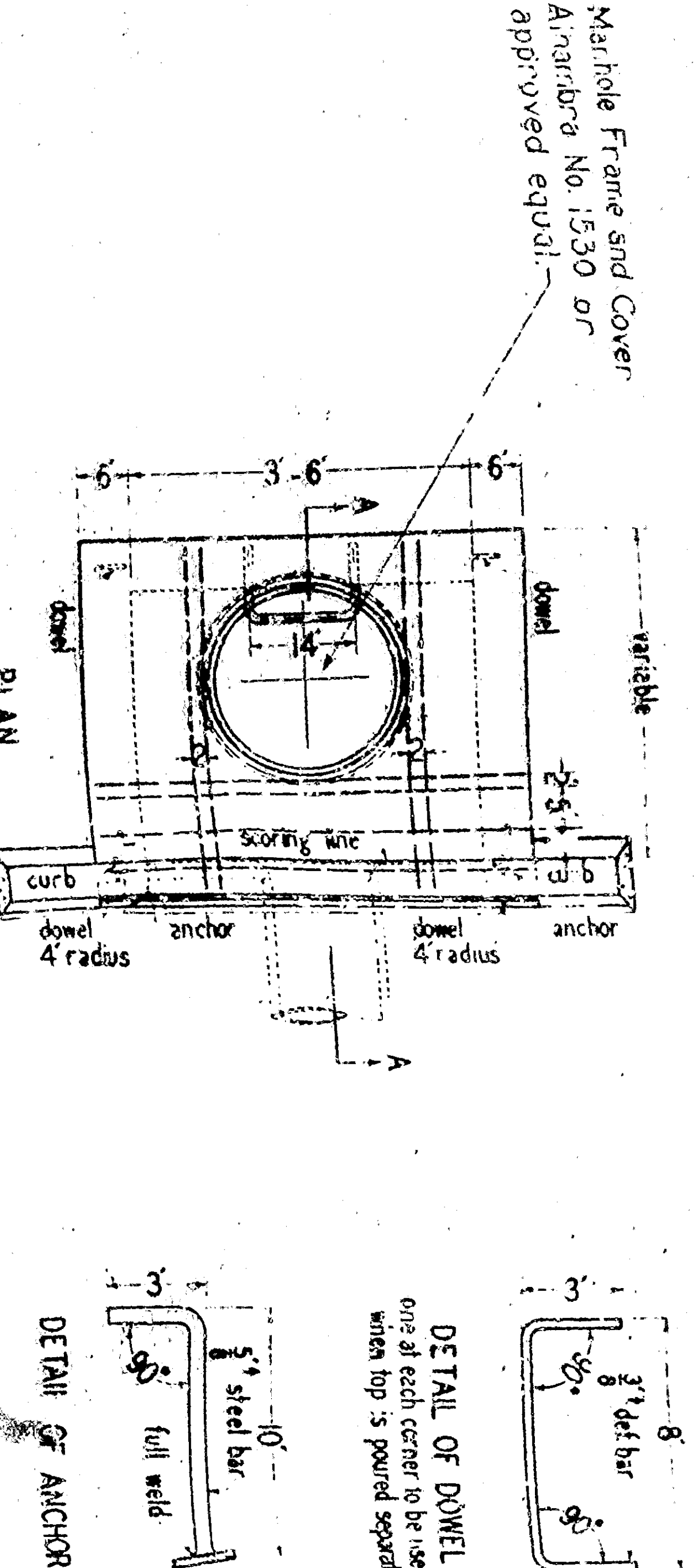
D bars	E bars	D bars	E bars
Diameter	Length	Diameter	Length
3/8"	3'-10"	3/8"	6'-3"
3/8"	4'-2"	3/8"	7'-0"
3/8"	4'-6"	3/8"	7'-6"
3/8"	5'-0"	3/8"	8'-0"
3/8"	5'-6"	3/8"	8'-6"
3/8"	6'-0"	3/8"	9'-0"
3/8"	6'-6"	3/8"	9'-6"
3/8"	7'-0"	3/8"	10'-0"
3/8"	7'-6"	3/8"	10'-6"
3/8"	8'-0"	3/8"	11'-0"
3/8"	8'-6"	3/8"	11'-6"
3/8"	9'-0"	3/8"	12'-0"
3/8"	9'-6"	3/8"	12'-6"
3/8"	10'-0"	3/8"	13'-0"
3/8"	10'-6"	3/8"	13'-6"
3/8"	11'-0"	3/8"	14'-0"
3/8"	11'-6"	3/8"	14'-6"
3/8"	12'-0"	3/8"	15'-0"
3/8"	12'-6"	3/8"	15'-6"
3/8"	13'-0"	3/8"	16'-0"
3/8"	13'-6"	3/8"	16'-6"
3/8"	14'-0"	3/8"	17'-0"
3/8"	14'-6"	3/8"	17'-6"
3/8"	15'-0"	3/8"	18'-0"
3/8"	15'-6"	3/8"	18'-6"
3/8"	16'-0"	3/8"	19'-0"
3/8"	16'-6"	3/8"	19'-6"
3/8"	17'-0"	3/8"	20'-0"
3/8"	17'-6"	3/8"	20'-6"
3/8"	18'-0"	3/8"	21'-0"
3/8"	18'-6"	3/8"	21'-6"
3/8"	19'-0"	3/8"	22'-0"
3/8"	19'-6"	3/8"	22'-6"
3/8"	20'-0"	3/8"	23'-0"
3/8"	20'-6"	3/8"	23'-6"
3/8"	21'-0"	3/8"	24'-0"
3/8"	21'-6"	3/8"	24'-6"
3/8"	22'-0"	3/8"	25'-0"
3/8"	22'-6"	3/8"	25'-6"
3/8"	23'-0"	3/8"	26'-0"
3/8"	23'-6"	3/8"	26'-6"
3/8"	24'-0"	3/8"	27'-0"
3/8"	24'-6"	3/8"	27'-6"
3/8"	25'-0"	3/8"	28'-0"
3/8"	25'-6"	3/8"	28'-6"
3/8"	26'-0"	3/8"	29'-0"
3/8"	26'-6"	3/8"	29'-6"
3/8"	27'-0"	3/8"	30'-0"
3/8"	27'-6"	3/8"	30'-6"
3/8"	28'-0"	3/8"	31'-0"
3/8"	28'-6"	3/8"	31'-6"
3/8"	29'-0"	3/8"	32'-0"
3/8"	29'-6"	3/8"	32'-6"
3/8"	30'-0"	3/8"	33'-0"
3/8"	30'-6"	3/8"	33'-6"
3/8"	31'-0"	3/8"	34'-0"
3/8"	31'-6"	3/8"	34'-6"
3/8"	32'-0"	3/8"	35'-0"
3/8"	32'-6"	3/8"	35'-6"
3/8"	33'-0"	3/8"	36'-0"
3/8"	33'-6"	3/8"	36'-6"
3/8"	34'-0"	3/8"	37'-0"
3/8"	34'-6"	3/8"	37'-6"
3/8"	35'-0"	3/8"	38'-0"
3/8"	35'-6"	3/8"	38'-6"
3/8"	36'-0"	3/8"	39'-0"
3/8"	36'-6"	3/8"	39'-6"
3/8"	37'-0"	3/8"	40'-0"
3/8"	37'-6"	3/8"	40'-6"
3/8"	38'-0"	3/8"	41'-0"
3/8"	38'-6"	3/8"	41'-6"
3/8"	39'-0"	3/8"	42'-0"
3/8"	39'-6"	3/8"	42'-6"
3/8"	40'-0"	3/8"	43'-0"
3/8"	40'-6"	3/8"	43'-6"
3/8"	41'-0"	3/8"	44'-0"
3/8"	41'-6"	3/8"	44'-6"
3/8"	42'-0"	3/8"	45'-0"
3/8"	42'-6"	3/8"	45'-6"
3/8"	43'-0"	3/8"	46'-0"
3/8"	43'-6"	3/8"	46'-6"
3/8"	44'-0"	3/8"	47'-0"
3/8"	44'-6"	3/8"	47'-6"
3/8"	45'-0"	3/8"	48'-0"
3/8"	45'-6"	3/8"	48'-6"
3/8"	46'-0"	3/8"	49'-0"
3/8"	46'-6"	3/8"	49'-6"
3/8"	47'-0"	3/8"	50'-0"
3/8"	47'-6"	3/8"	50'-6"
3/8"	48'-0"	3/8"	51'-0"
3/8"	48'-6"	3/8"	51'-6"
3/8"	49'-0"	3/8"	52'-0"
3/8"	49'-6"	3/8"	52'-6"
3/8"	50'-0"	3/8"	53'-0"
3/8"	50'-6"	3/8"	53'-6"
3/8"	51'-0"	3/8"	54'-0"
3/8"	51'-6"	3/8"	54'-6"
3/8"	52'-0"	3/8"	55'-0"
3/8"	52'-6"	3/8"	55'-6"
3/8"	53'-0"	3/8"	56'-0"
3/8"	53'-6"	3/8"	56'-6"
3/8"	54'-0"	3/8"	57'-0"
3/8"	54'-6"	3/8"	57'-6"
3/8"	55'-0"	3/8"	58'-0"
3/8"	55'-6"	3/8"	58'-6"
3/8"	56'-0"	3/8"	59'-0"
3/8"	56'-6"	3/8"	59'-6"
3/8"	57'-0"	3/8"	60'-0"
3/8"	57'-6"	3/8"	60'-6"

D bars shall be spaced 4' or E bars shall be spaced 4' or the bars shall be 4'-4" spaced 18" or closer.

When L is greater than 5'-6" is specified on improvement plan, continue D bars of 6" or closer in table are for longest bars. Where shorter bars are required, bend or cut to meet field requirements.

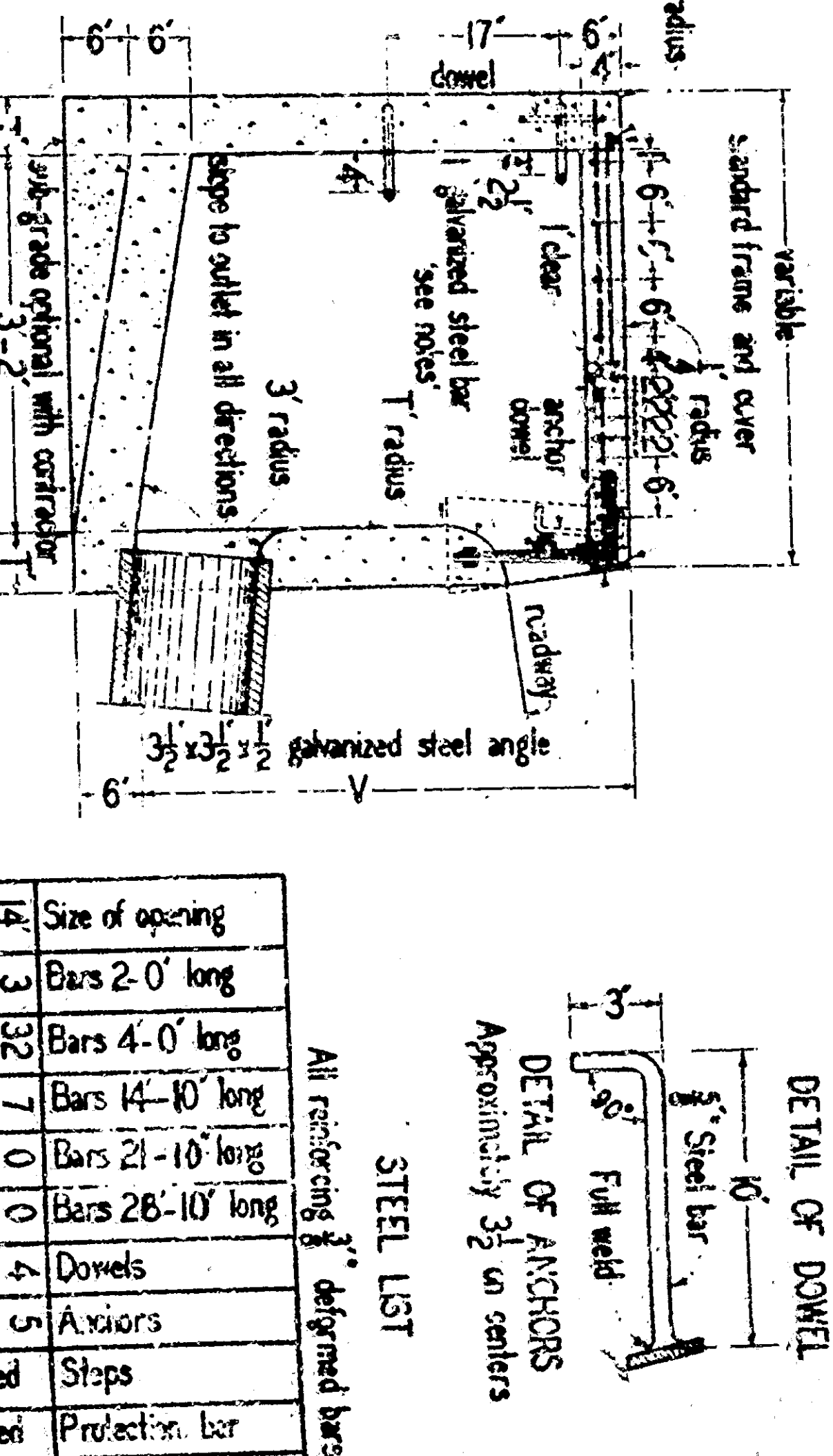
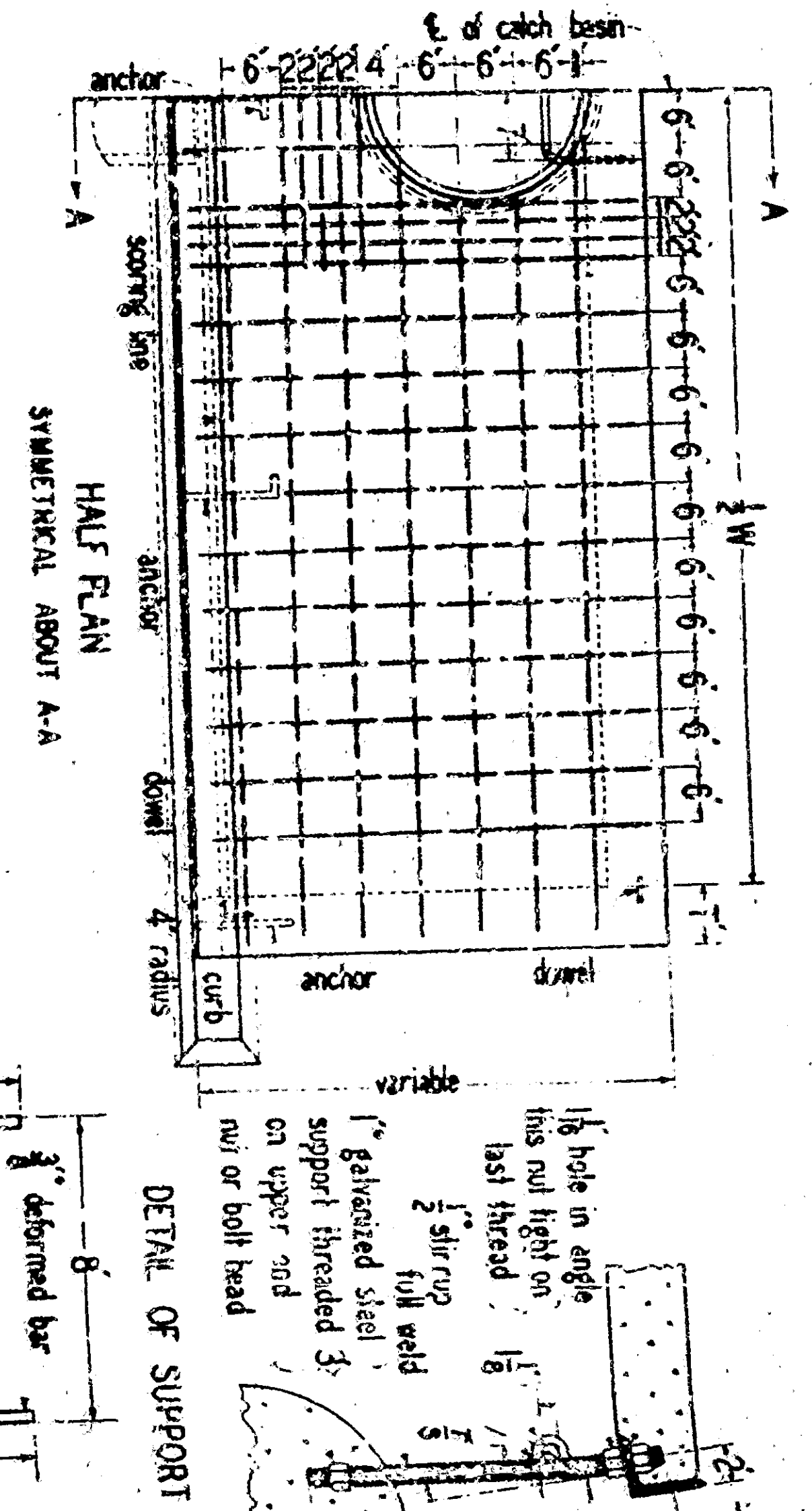
DEPARTMENT OF ENGINEERING  
CITY OF SANTA MONICA  
DETAILS OF STANDARD  
STORM DRAIN STRUCTURES

SUBMITTED BY: [Signature]  
DRAWN BY: T.M.D.  
CHECKED BY: P.A.G.  
APPROVED BY: [Signature]  
DATE: Sept. 21, 1960  
PROJECT NO. 2398  
REVISIONS: [Table]



STEEL LIST

Reinforcing bars	6
Steel pipe	5
4-4" long	1
3-3/4" x 4-6"	1
4-2" long	1
4-2" long	1
Domest. sec. steel	4
Anchor sec. steel	2

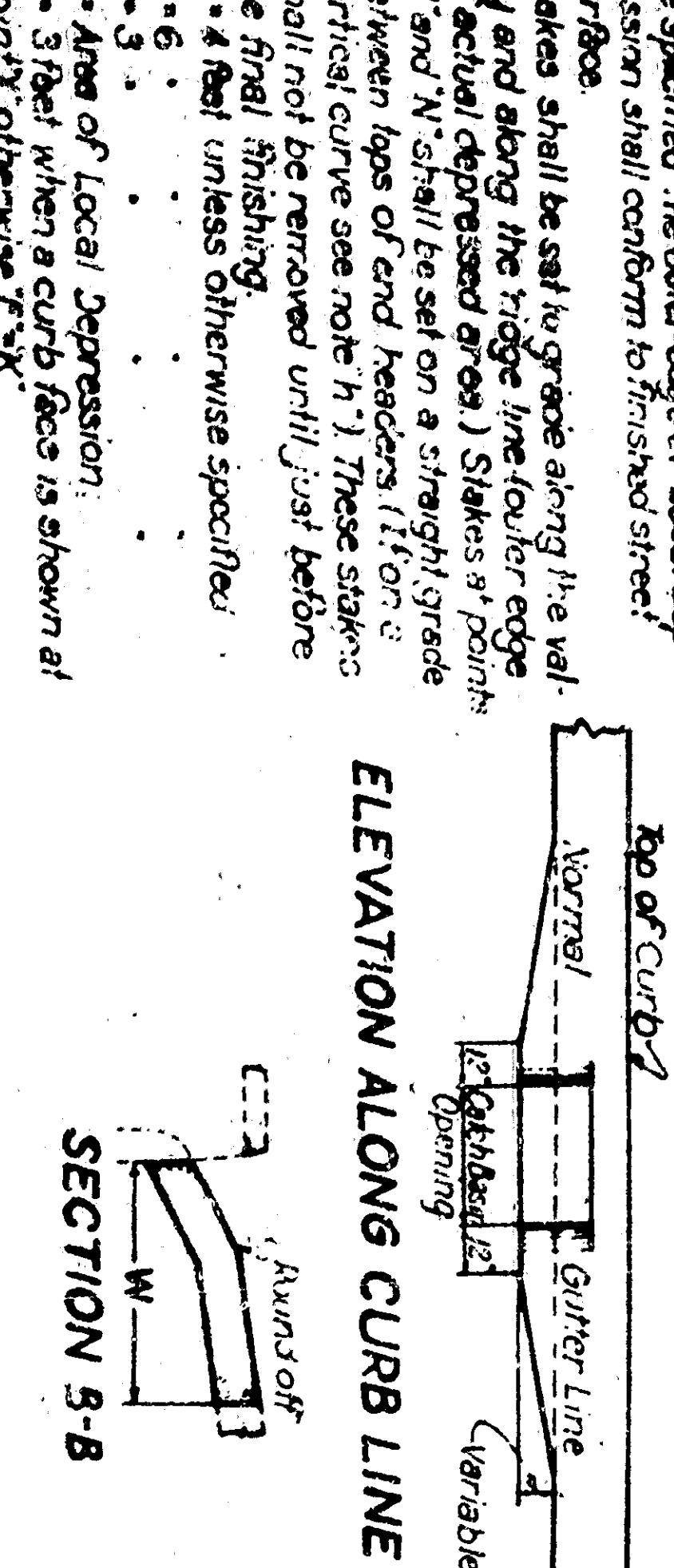
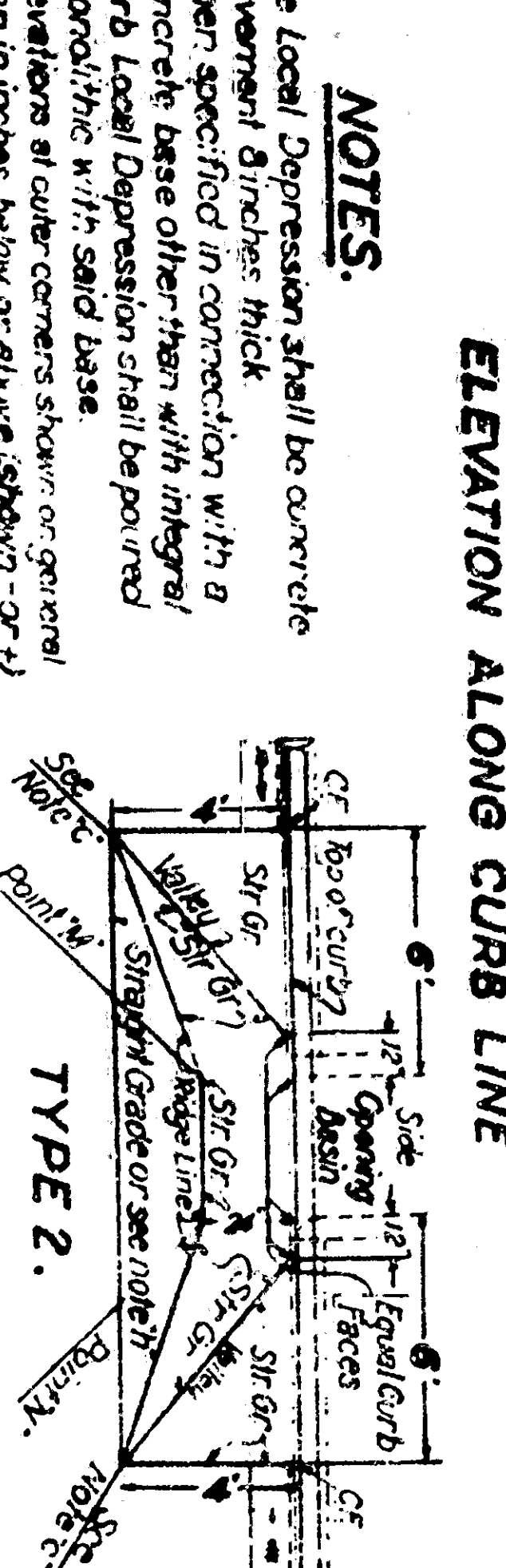
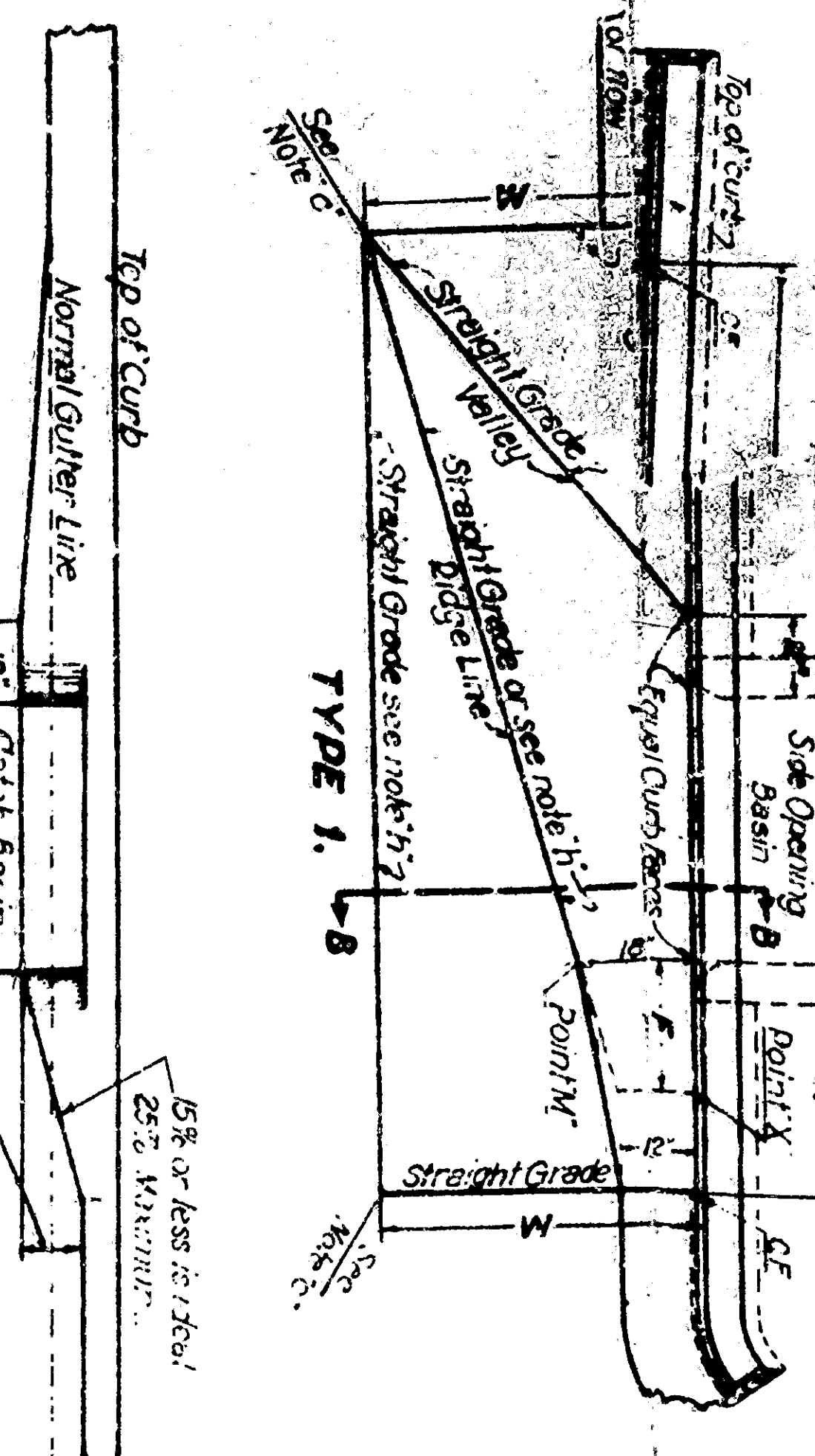


STEEL LIST

Size of spacing	28	3	16	0	1	4	9
Bars 2'-0" long	3	3	3	3	3	3	3
Bars 4'-0" long	3	3	3	3	3	3	3
Bars 6'-0" long	3	3	3	3	3	3	3
Bars 26'-0" long	3	3	3	3	3	3	3
Domest. sec. steel	3	3	3	3	3	3	3
Anchor sec. steel	3	3	3	3	3	3	3

## CATCH BASIN "A"

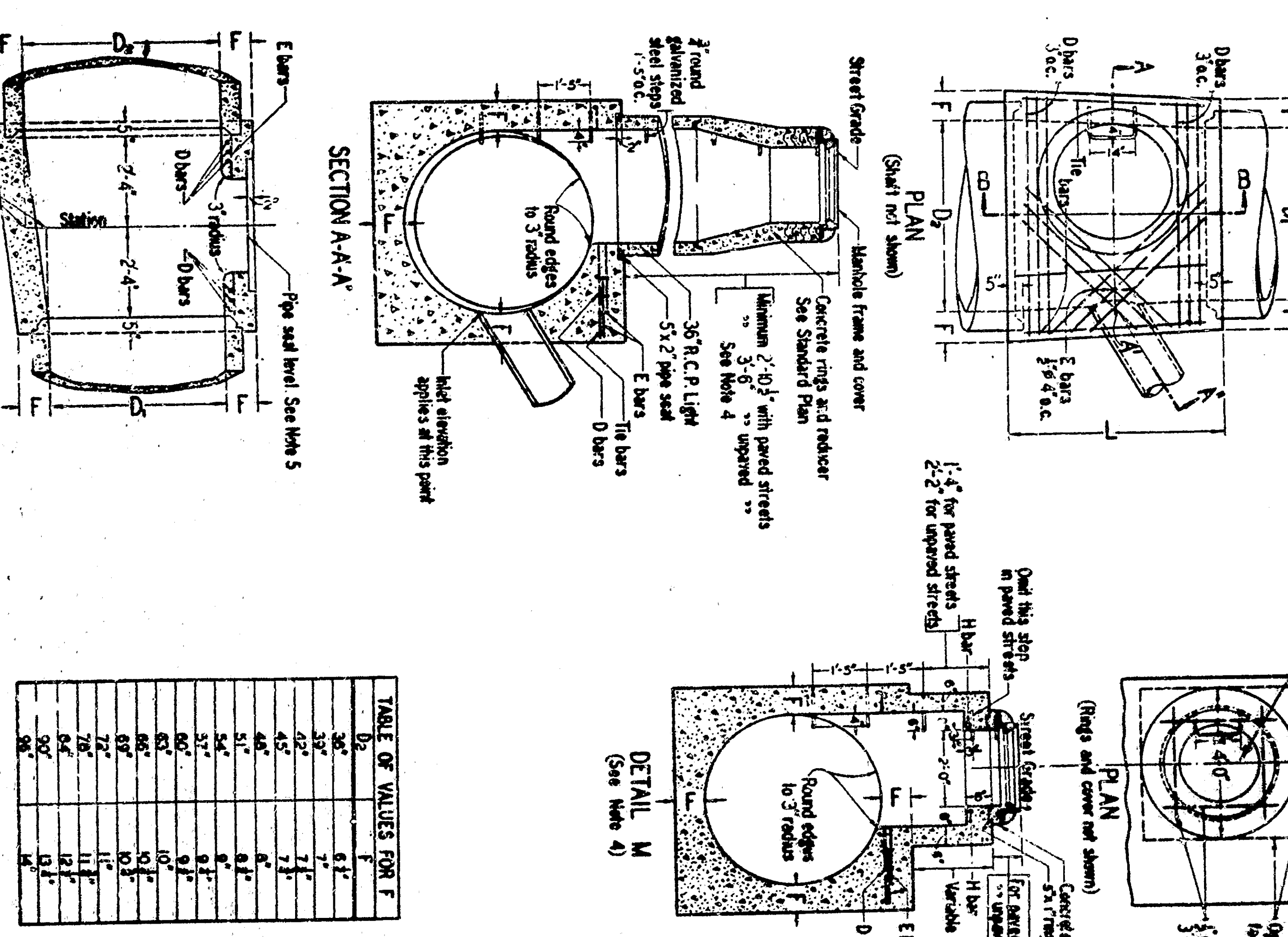
DIMENSIONS: V = 6 inches unless otherwise specified.



**NOTES:**

- The Local Depression shall be concrete.
- When specified in connection with a concrete curb, the curb shall be cast in place with the concrete of the curb.
- Reinforcing bars shall be round deformed bars.
- Reinforcing bars shall be spaced 4' or E bars shall be spaced 4' or the bars shall be 4'-4" spaced 18" or closer.
- When L is greater than 5'-6" is specified on improvement plan, continue D bars of 6" or closer in table are for longest bars. Where shorter bars are required, bend or cut to meet field requirements.
- Reinforcing bars shall be spaced 4' or E bars shall be spaced 4' or the bars shall be 4'-4" spaced 18" or closer.
- When L is greater than 5'-6" is specified on improvement plan, continue D bars of 6" or closer in table are for longest bars. Where shorter bars are required, bend or cut to meet field requirements.
- Reinforcing bars shall be spaced 4' or E bars shall be spaced 4' or the bars shall be 4'-4" spaced 18" or closer.
- When L is greater than 5'-6" is specified on improvement plan, continue D bars of 6" or closer in table are for longest bars. Where shorter bars are required, bend or cut to meet field requirements.

## STANDARD LOCAL DEPRESSION FOR SIDE OPENING BASINS



STEEL LIST

Reinforcing bars	6
Steel pipe	5
4-4" long	1
3-3/4" x 4-6"	1
4-2" long	1
4-2" long	1
Domest. sec. steel	4
Anchor sec. steel	2

## MANHOLE

D bars shall be spaced 4' or E bars shall be spaced 4' or the bars shall be 4'-4" spaced 18" or closer.

When L is greater than 5'-6" is specified on improvement plan, continue D bars of 6" or closer in table are for longest bars. Where shorter bars are required, bend or cut to meet field requirements.