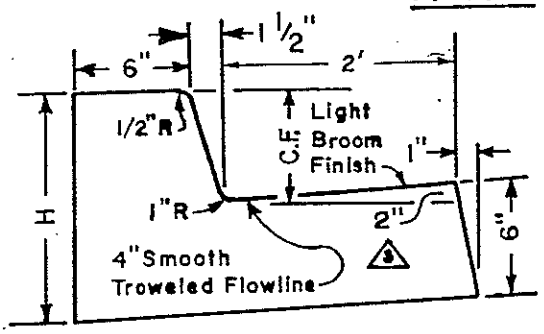
CITY OF ALHAMBRA
DEPARTMENT OF PUBLIC WORKS

SR-01	Curb & Gutter; Curb Only & Cross Gutter
SR-02.1	Single Slotted Cross Gutter
SR-02.2	Double Slotted Cross Gutter
SR-03	Driveway & Sidewalk (Private Property)
SR-04	Retaining Wall
SR-05	Standard Symbols
SR-07	Sidewalk Construction
SR-10	Alley & Driveway Entrance
SR-11.	Driveway Apron & Approaches
SR-12	Barricade
SR-13	Concrete Bus Pad
SR-14	Commercial Alley Construction
SR-15	Wheelchair Ramp
SR-21-25	Trenches Excavations
SR-26	Petrotac Type Utility Cut Repair Detail

C:\...\concrete.wpd

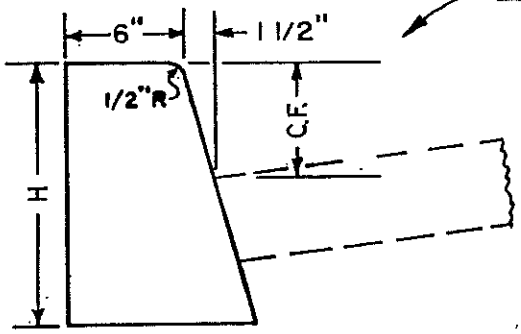
P.C.C. Curb & Gutter

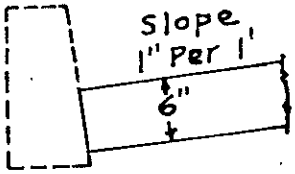


C.F.	H	END AREA
6"	12 5/8"	1.64 sq.ft.
7"	13 11/16"	1.69 sq.ft.
8"	14 11/16"	1.74 sq.ft.

P.C.C. Curb Only

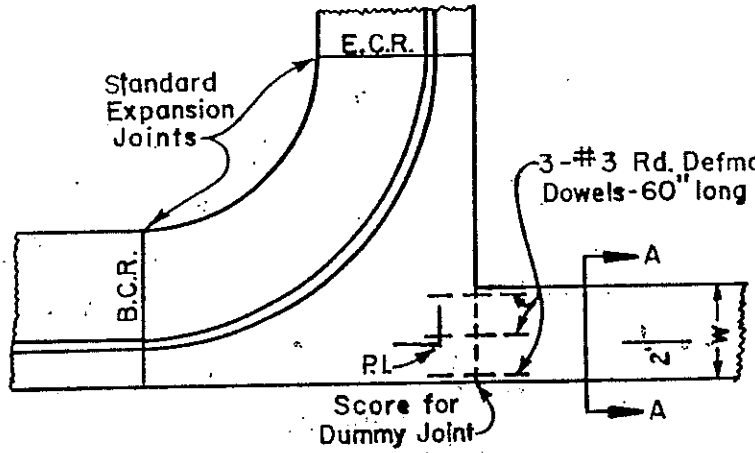
Gutter Only





C.F.	H	END AREA
6"	14"	0.75sq.ft.
7"	15"	0.79sq.ft.
8"	16"	0.83sq.ft.

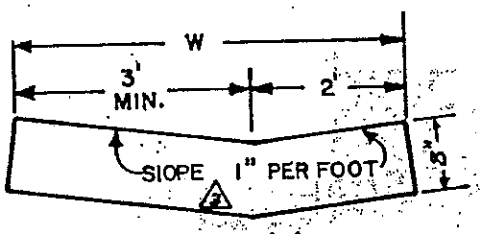
P.C.C. Cross Gutter



NOTES

W = 5' unless otherwise specified on plans.

Slope gutter from E.C.R. to P.I. or B.C.R. to conform with direction of flow.



Section A-A

NOTE: ALL CONCRETE TO HAVE 2500 PSI MINIMUM C.S. @ 28 DAYS.

PLACEMENT OF CURB & GUTTER REQUIRES REMOVAL OF 1' OF ADJACENT ASPHALT ALLOWING FOR OUTSIDE GUTTER FORM. REPLACEMENT OF C-2-AR4000 ASPHALT TO BE 1" GREATER DEPTH THAN EXISTING A/C.

Rev. No.	Date	By/App.	ITEM
4	3/7/91	JP/RW	REQ. OF 1" AC ON Note
3	4/24/84	VRS	1" was 1/4" ; 2" was 1"
2	7/29/71	EPW/GLR	1 1/2" was 1" ; 1/2" was 1/4" 3-22-84 Gutter Only
1	10/20/67	BHG/RLC	REDRAWN

Cheryl L. Kyles 3/14/91
CITY ENGINEER 22382

DIR. OF PUBLIC WORKS

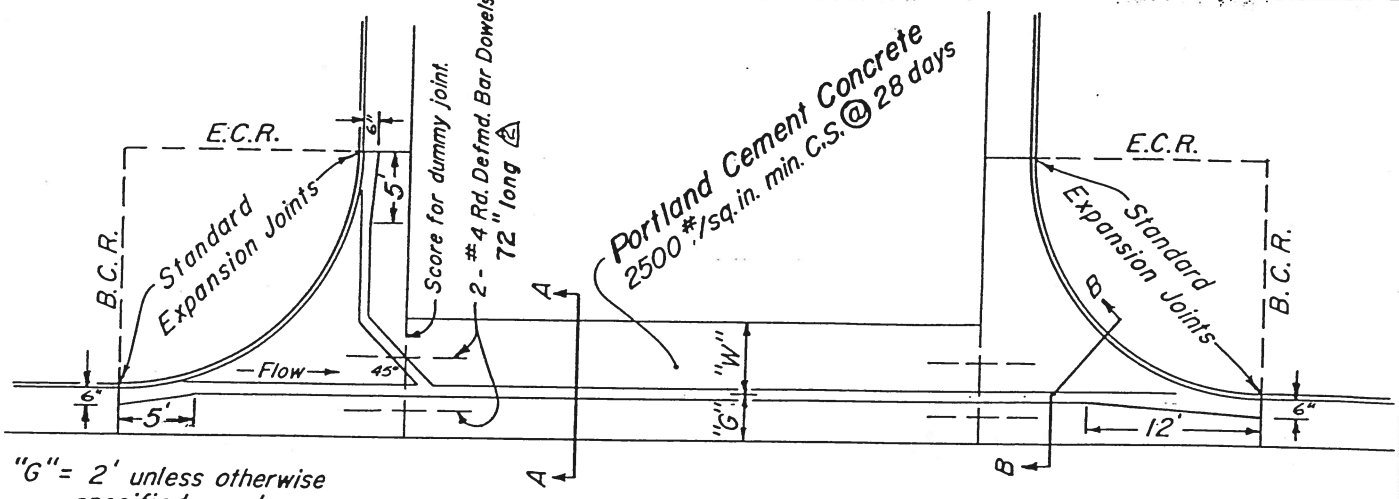
DATE: 10/20/67
SCALE: NONE
DRWG. NO. SR-01
SHT. 1 OF 1

CITY OF ALHAMBRA

Department of Public Works

STANDARD P.C.C. CURB & GUTTER, CURB ONLY, & CROSS GUTTER

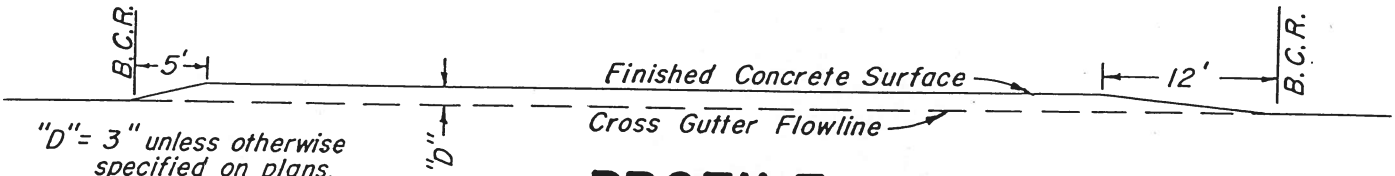
	BY	DATE	REFERENCES:
DESIGN			
DRAWN	B.H.G.	10/20/67	
CHECKED			



"G" = 2' unless otherwise specified on plans.

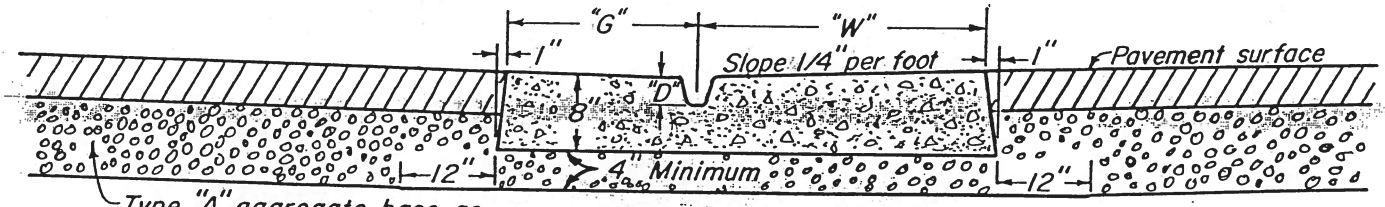
"W" = 3' unless otherwise specified on plans.

PLAN



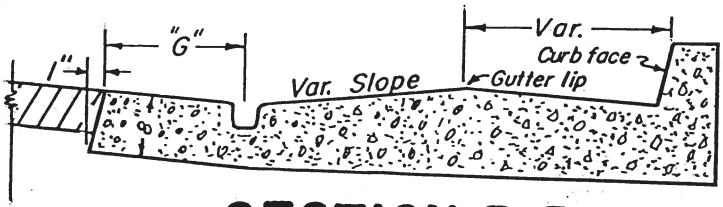
"D" = 3" unless otherwise specified on plans.

PROFILE

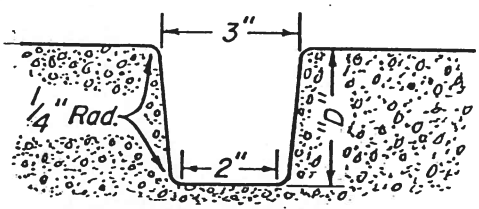


Type "A" aggregate base as required by plans and specifications.

SECTION A-A



SECTION B-B



SLOT DETAIL

Rev. No.	Date	By/App.	ITEM
2	10/20/67	B.H.G./OLE	Change Re-bar Length
1	8/14/67	B.H.G./OLE	Redrawn

CITY OF ALHAMBRA

DEPARTMENT OF PUBLIC WORKS

STANDARD SINGLE-SLOTTED CROSS GUTTER

City Engineer Civil Engr. No. 11460

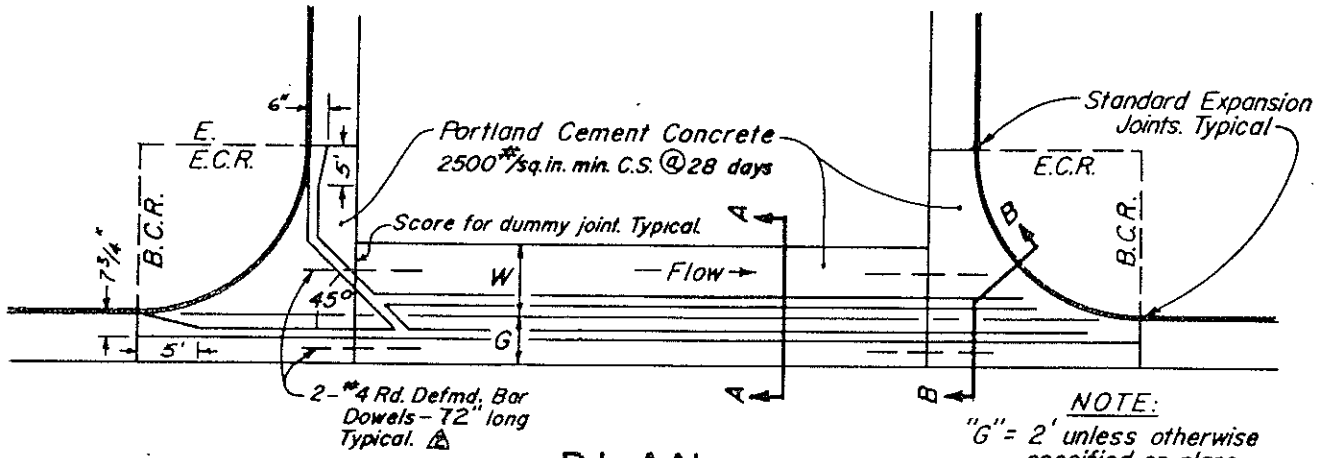
Date: 8-14-67

Scale: NONE

	BY	DATE	REFERENCES
DESIGN	O.C.R.	8/10/67	F.B. No.
DRAWN	B.H.G.	8/14/67	Drwg. No.
CHECKED	E.C.B.	8/14/67	

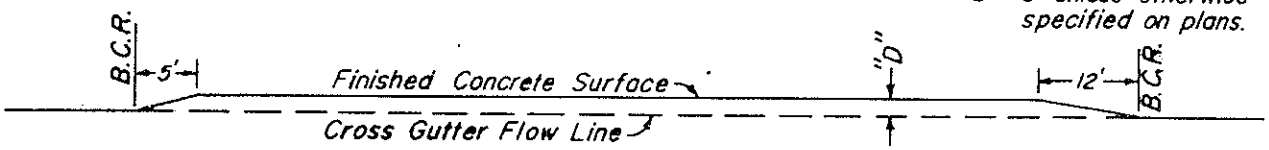
Drwg. No. SR-02.1

Sht of Shts.

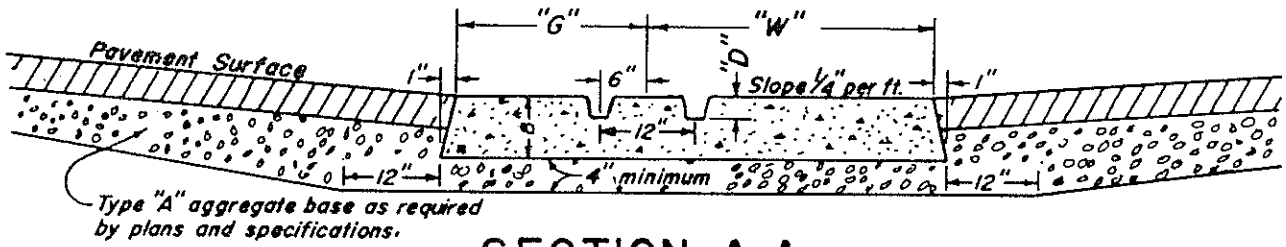


PLAN

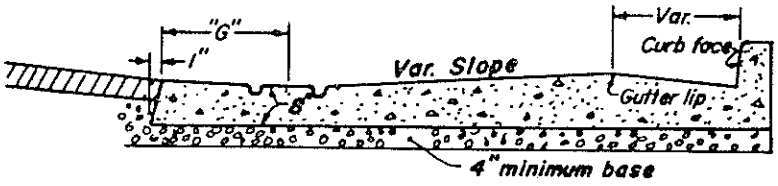
NOTE:
"G" = 2' unless otherwise specified on plans.
"W" = 3' unless otherwise specified on plans.
"D" = 3" unless otherwise specified on plans.



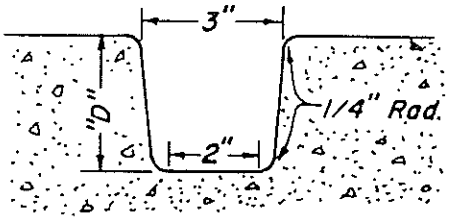
PROFILE



SECTION A-A



SECTION B-B



SLOT DETAIL

Rev. No.	Date	By/App.	ITEM
⚠2	10/29/67	B.H.G.	Change Rebar Length
⚠1	9/18/67	B.H.G.	Redrawn

O. H. Breon 9/18/67
CITY ENGINEER — CIVIL ENGR. NO 11460

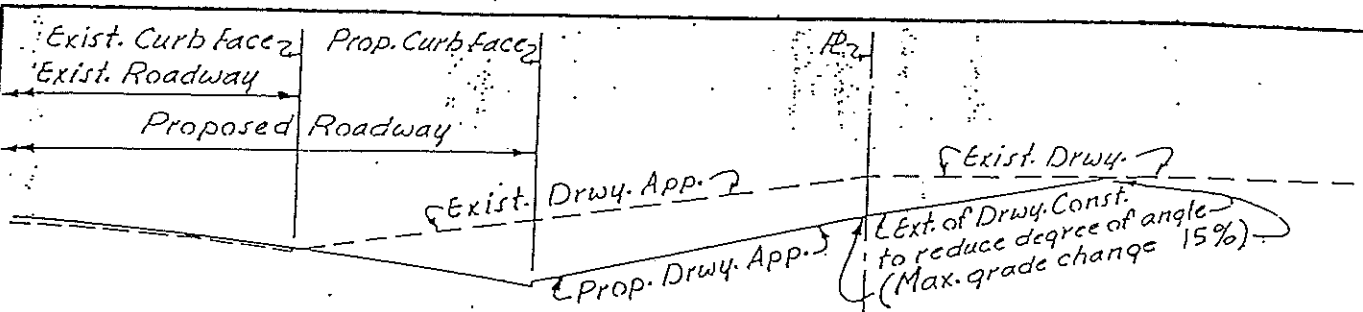
M. Hawk
DIR. OF PUB. WKS. — CIVIL ENGR. NO 11190

CITY OF ALHAMBRA
DEPARTMENT OF PUBLIC WORKS

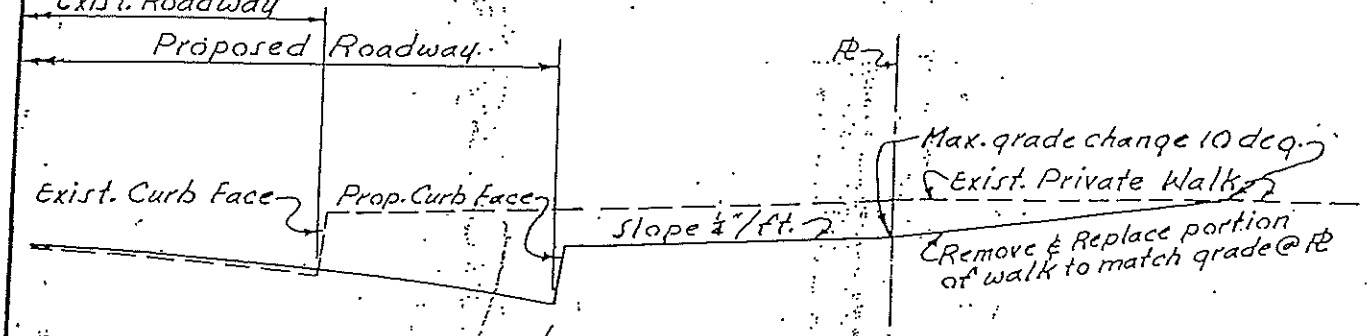
STANDARD DOUBLE-SLOTTED CROSS GUTTER

	BY	DATE	REFERENCES:
DESIGN	E.C.B.	9/18/67	F. B. NO.
DRAWN	B.H.G.	9/18/67	DRWG. NO.
CHECKED	E.C.B.	9/19/67	

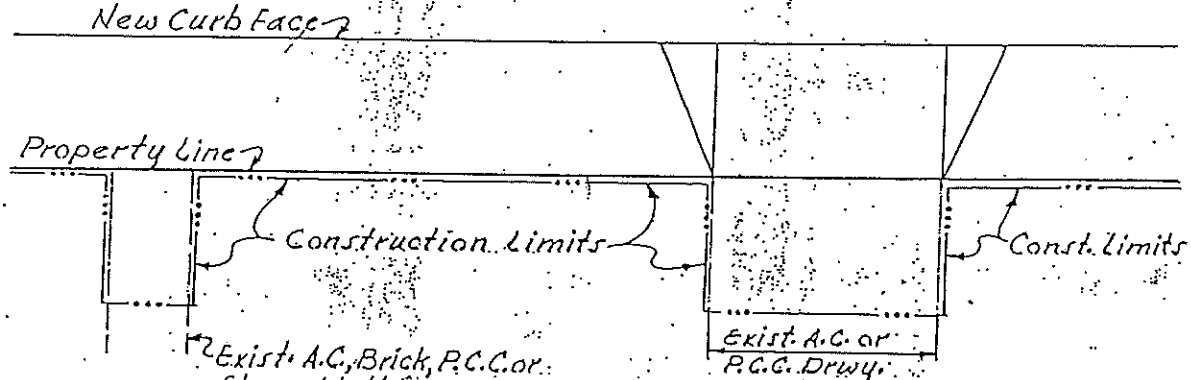
DATE: 9/18/67
SCALE: NONE
DRWG. NO. SR-02.2
SHT. 1 of 1 SHTS.



Driveway Profile
Not to Scale



Walk Profile
Not to Scale



Plan
Not to Scale

RECOMMENDED FOR APPROVAL:

_____ TRAFFIC ENGR. (DATE)

_____ ASST CITY ENGR. (R.C.E. No.)

Rev. No.	Date	By/App.	ITEM
2			
1			

CITY OF ALHAMBRA
ENGINEERING AND STREET DEPARTMENT

O. H. Rose
(R.C.E. No. 11460) CITY ENGR.

DATE: 9/10/64

SCALE: None

DRIVEWAY AND SIDEWALK CONST. ON PRIVATE PROP.

	BY	DATE	REFERENCES:
DESIGN			F. B. NO.
DRAWN	R.L.E.	9/10/64	DRWG. NO.
CHECKED	W.R.H.	9/10/64	

DRWG. NO. SR-03

SHT. 1 OF 1 SHTS.

— BLOCK & BAR SCHEDULE —

"H" OF WALL	Nº OF COURSES	Nº OF BLKS. PER 100 LIN. FT.	"W" OF FTG.	"A" BARS	"B" BARS	"C" BARS	"D" BARS	"VA" BARS
1'-4"	2	150	1'-0"	/	/	2-#3	/	
2'-0"	3	225	1'-6"	#3@24"	1-#3	2-#3	/	#3@24"
2'-8"	4	300	2'-0"	#3@24"	2-#3	2-#3	/	#3@24"
3'-4"	5	375	2'-6"	#3@16"	2-#3	2#3	/	#3@16"
4'-0"	6	450	3'-0"	#3@16"	3-#3	3-#3	#3@24	#3@16"
4'-8"	7	525	3'-6"	#4@16"	3-#3	3-#3	#3@16"	#4@16"
5'-4"	8	600	4'-0"	#5@16"	4-#3	4-#3	#3@16"	#5@16"
6'-0"	9	675	4'-6"	#5@16"	4-#3	4-#3	#4@16"	#5@16"

BLOCK QUANTITIES ARE NET.
NO ALLOWANCES FOR BREAKAGE OR XTRAS.
MORTAR REQ'D. PER 100 SQ. FT. = 2.9 CU. FT.
" " " 100 BLKS. = 2.5 " "
(" QUANTITIES INCLUDE 10% WASTE)

BENT
20" (#3 BARS)
24" (#4 ")
28" (#5 ")
W'-12"

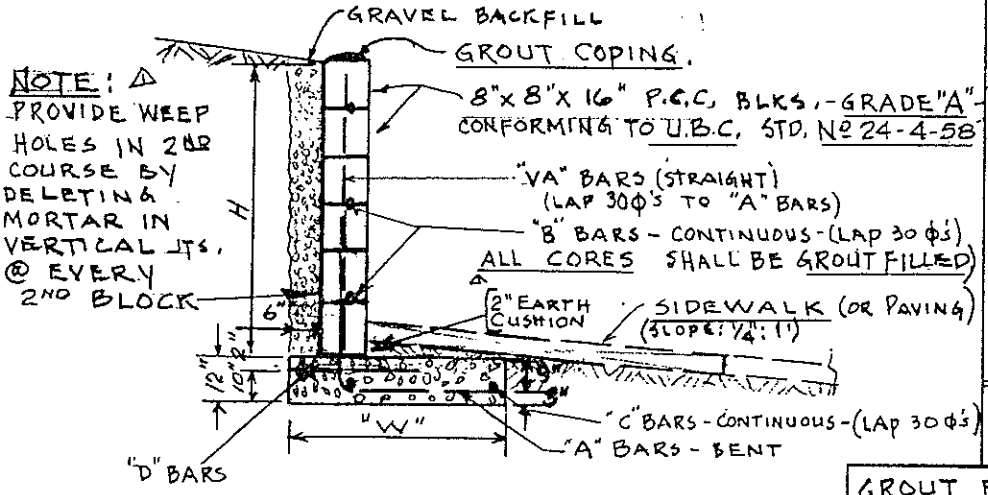
HORIZONTAL CONTINUOUS IN WALL

HORIZONTAL CONTINUOUS IN FOOTING

HORIZONTAL STRAIGHT-2'6" INTO TOP OF FTG. (4'-0" WALLS & UP)

VERTICAL STRAIGHT-30Φ LAP TO "A" BARS

NOTE: ABOVE TABLE APPLIES ONLY TO WALLS WITH NO SURCHARGE.



— TYPICAL SECTION —
(NO SCALE)

NOTES:
MORTAR MIX = 1 : 1/4 : 3 - By Vol.
(1 PART PORTLAND CEMENT
(1/4 " HYDTD. LIME OR LIME PUTTY)
(3 " SAND)
GROUT MIX = 1 : 3 : 2
(1 PART PORTLAND CEMENT)
(3 " SAND
(2 " PEA GRAVEL)
FOOTINGS: CLASS "A" - (6 SACK) - (3000#/□") P.C.C.

BARS = INTMDTE. GRADE - NEW BILLET - A.S.T.M. SPEC. A15-54T

GROUT FILL ALL CORES CONTAINING "A-VA" BARS AT NOT GREATER THAN 5-COURSE INTERVALS. -

REV. Nº	DATE	BY	ITEM
2			
1	5/2/60	EB	CHANGED NOTE RE: WEEP HOLES, ADDED NOTE RE: CORES @ "B" BARS.

— CITY OF ALHAMBRA —

— STANDARD —
— RETAINING WALL —
— P.C. CONCRETE BLOCK —

R. G. BEZZANT - CITY ENGINEER

DRAWN BY: E.C.B.
CHECKED BY: O.L.R.
APPROVED BY: R.G.B.

REFERENCES:
F.B. Nº
DRWG. Nº

DATE: 10-20-59
SCALE: NONE

DRWG. NO. SR-04

- Center Line
- Transit Line
- Existing Improvements
- Proposed Improvements
- P/L or R/W. Property or R/W Line
- Fence, Wire
- Fence, Wooden
- S Sanitary Sewer
- SD Storm Drain
- W Water Main
- G Gas Main
- HPG High Pressure Gas Main
- SS Sprinkler System
- Water Meter
- Gas Meter
- P.B. Pull Box
- C.O. Clean-out
- S.M.H. Sanitary Sewer Manhole
- S.D.M.H. Storm Drain Manhole
- T.M.H. Telephone Manhole
- G.M.H. Gas Manhole
- P. Power or Telephone Pole
- T.P. Telegraph Pole
- Lt. Light Standard
- Sig. Traffic Signal
- Parking Meter
- Curb Drain
- Hedge
- Gas Vault
- Telephone Vault
- Fire Hydrant
- Tree
- R.R. Crossing Sign
- Pole with Deadman
- Valve (Add initial) WATER GAS
- YARD DRAIN
- C.B. Grating Basin
- F. Filling Inlet (Gasoline)
- S Sign (Advertising)
- Light & Sign
- Palm tree

- P Gasoline Pump
- W Sidewalk Water Tap
- C.B. Side Opening
- C.B. Side Opening & Grating Basin
- P Underground Power Cable
- T Underground Telephone Cable
- A Fire Alarm Pedestal Type
- A P Power or Tele. Pole w/ Fire Alarm
- City Boundary Line
- Proposed Future Construction
- Chain Link Fence
- Block or Brick Wall
- Concrete Wall
- Rail Road - Double Track
- Rail Road - Single Track
- Type of Bldg. Building
- Rock Wall
- Survey Monument
- Traffic Signal Controler
- G.P. Guy Pole.

Rev. No.	Date	BY/Appvd.	ITEM
3	3/14/63	RE/O.L.R.	Added & Revised Symbols.
2	9/25/62	BG/O.L.R.	ADDED SYMBOLS

CITY OF ALHAMBRA

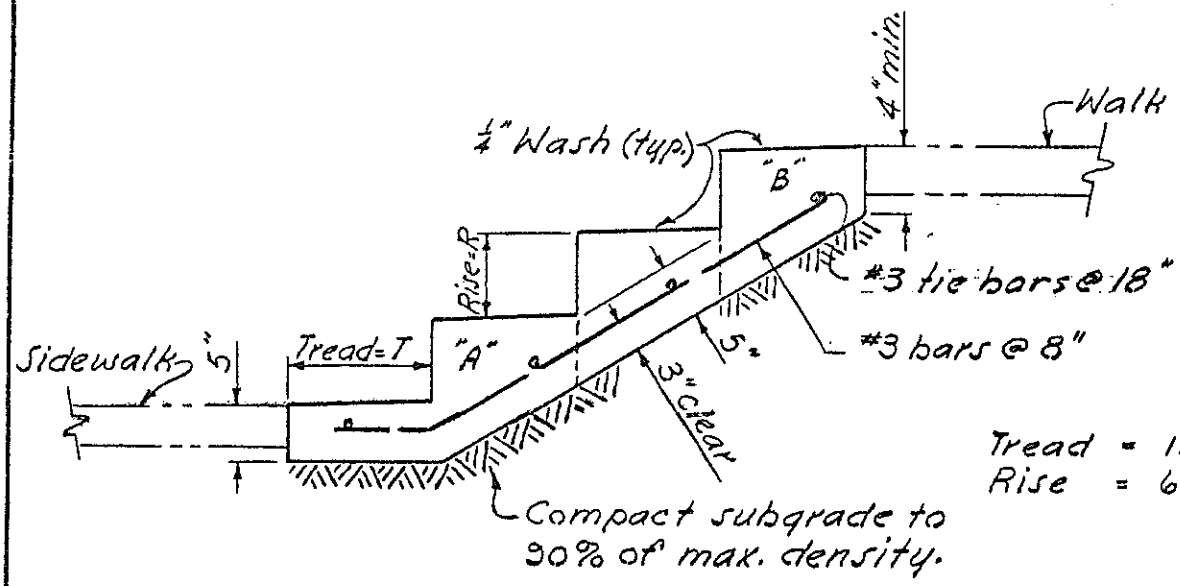
City Engineer.

Date: 6-20-62

STANDARD SYMBOLS

Drawn G.D.K.
Checked [illegible]
Appv'd. O.L.R.

DWG. NO. SR-05



$$1\text{-Step}: \text{Vol.(C.Y.)} = \frac{A \cdot W}{27}$$

$$n \text{ Steps}: \text{Vol.(C.Y.)} = \frac{W[A + B(n-1)]}{27}$$

W = Width of Steps (ft.)

R"	T"	A □'	B □'
6	12	1.18	0.77
6¼	12	1.20	0.78
6½	12	1.21	0.80
6¾	12	1.22	0.82
7	12	1.24	0.83
7¼	12	1.25	0.85

Notes

1. P.C.C., 2500 #/□" min. C.S. @ 28 days.
2. Re-bar = intermediate grade - new billet - A.S.T.M. Spec. A15-54T.
3. Finish concrete with soft broom.

RECOMMENDED FOR APPROVAL

TRAFFIC ENGR. (DATE)

ASSN'T CITY ENGR. (R.C.E. No. 11963)

Rev. No.	Date	By/App.	ITEM
2			
1			

CITY OF ALHAMBRA

ENGINEERING AND STREET DEPARTMENT

(R.C.E.No.) CITY ENGR.

DATE:

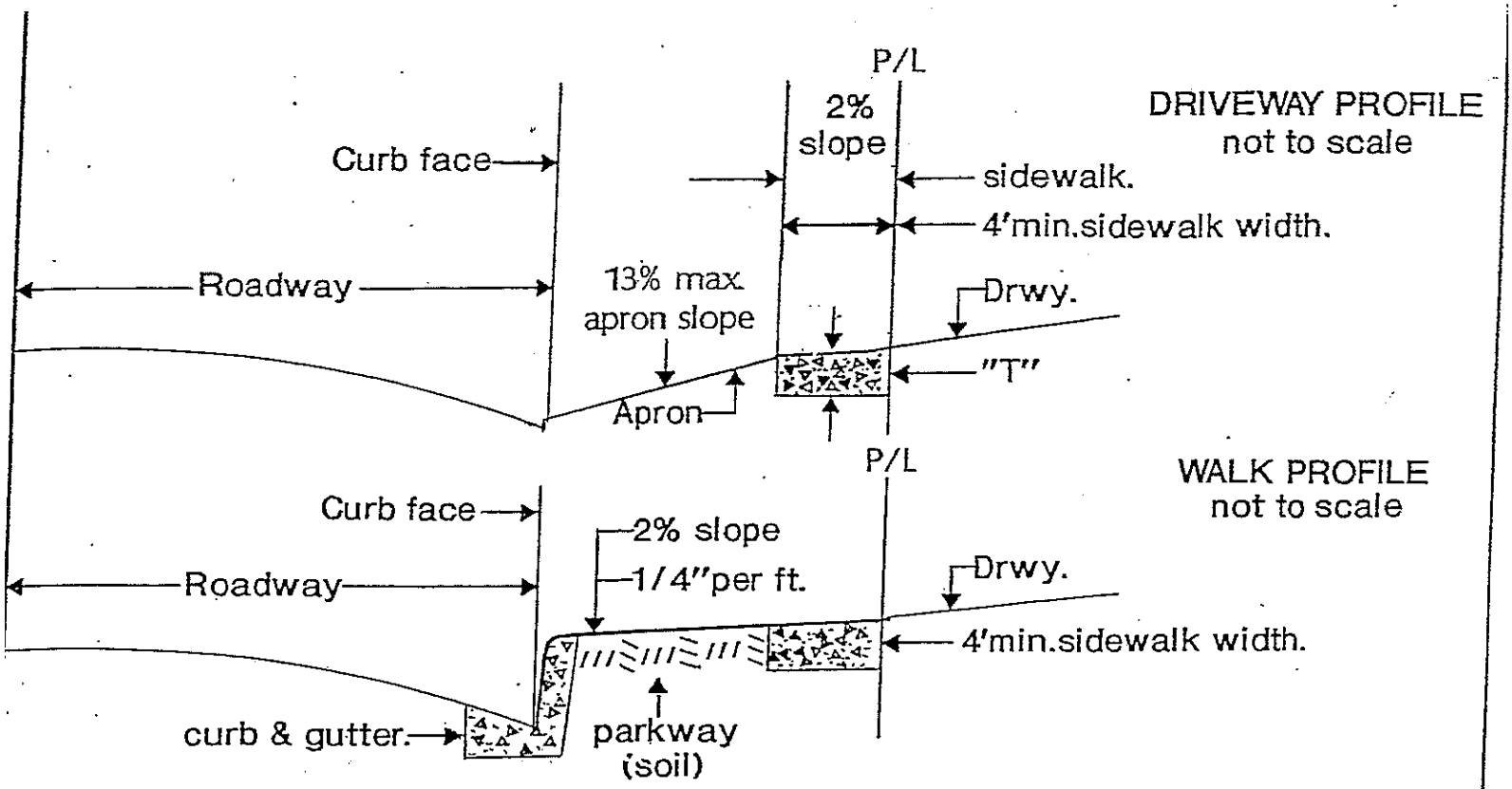
SCALE: NONE

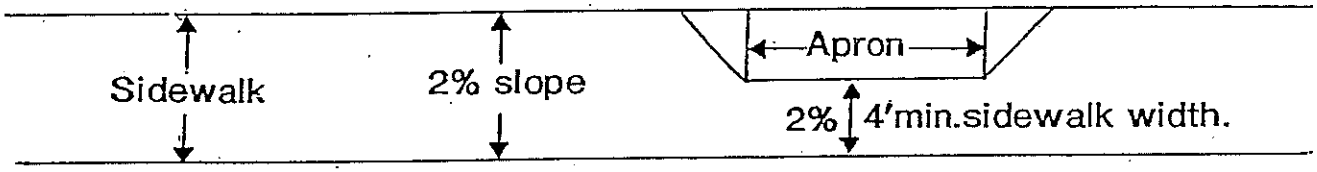
	BY	DATE	REFERENCES:
DESIGN			F. B. NO.
DRAWN	Richard Edwards		DRWG. NO.
CHECKED			

DRWG. NO. SR-06

SHT. 1 OF 1 SHTS.

STANDARD P.C.C. STEPS





Additional roadway dedication may be required to obtain 13% max.apron slope.

Concrete Cement 520-C-2500

"T"= 8" concrete walk in commercial apron area.

"T"= 6" concrete in residential apron area.

All other sidewalk 4"thick.

Sidewalk to be replaced score line to score line.

90% relative compaction required on sub grade.

OTE:2% slope includes parkway area as well as sidewalk ,beginning at top of curb, extends to back of sidewalk or city p/l.

PLAN not to scale.

COMMENDED FOR APPROVAL

TRAFFIC ENGR. (DATE) 2/24/92

CITY ENGR. CIVIL ENGR. No. 22382 (DATE)

Rev. No.	Date	By/App.	ITEM
2			
1			

CITY OF ALHAMBRA

DEPARTMENT OF PUBLIC WORKS

DIR. OF PUBLIC WORKS

DATE: 2/24/92

SCALE:

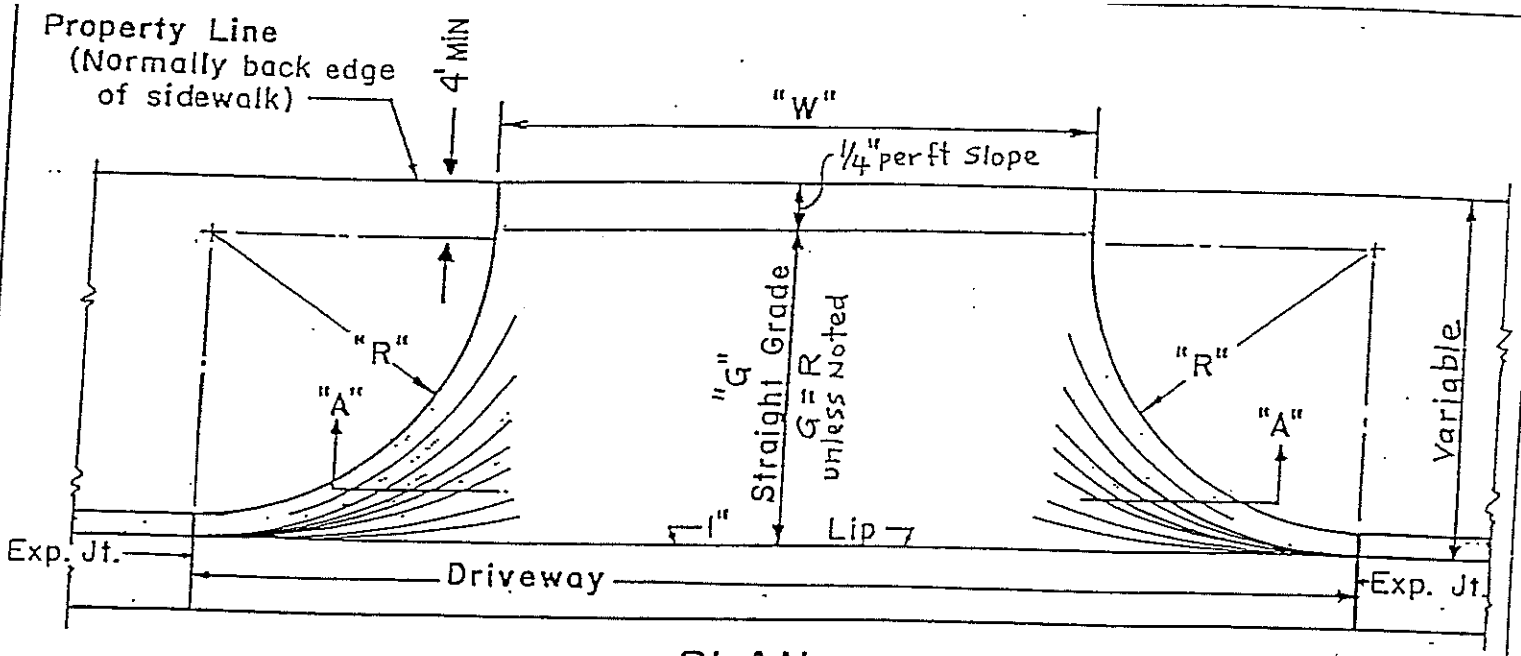
	BY	DATE	REFERENCES:
DESIGN	RG	2/24	F.B. No.
DRAWN	RG	2/24	
CHECKED			

DRWG. NO. SR-07

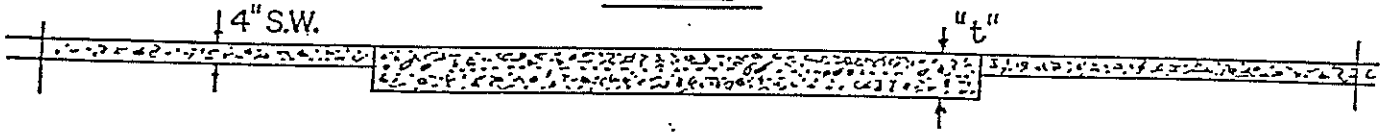
SHT. OF SHTS

SIDEWALK CONST.

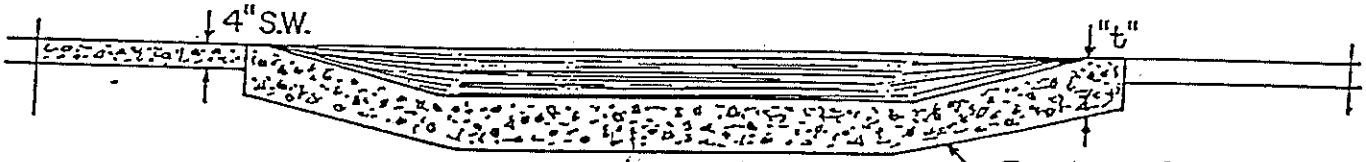
ERICH-POST CLEARPRINT 1000-H



PLAN



SECTION AT PROPERTY LINE



SECTION AT "A"-"A"

NOTES

1. DIMENSIONS "W" & "R" SHOWN ON IMPROVEMENT PLANS.
2. RADIUS CURBS & GUTTERS ARE PART OF DRIVEWAYS FOR PAY QUANTITIES.
3. RESIDENTIAL DRIVEWAYS: "t" = 6". ALL OTHER DRIVEWAYS: "t" = 8".
4. ALL DRIVEWAYS TO BE PORTLAND CEMENT CONCRETE: 520-C-2500.
5. WITH PRIOR APPROVAL OF THE CITY ENGINEER THE CROSSLOPE OF THE SIDEWALK MAY BE INCREASED TO 1/2" PER FOOT MAXIMUM FOR DISTANCES NOT TO EXCEED 20 FEET.
6. ALL APRONS SHALL BE POURED IN COMBINATION WITH GUTTER. AN ADDITIONAL 1' OF STREET SURFACE ASPHALT CONCRETE SHALL BE SAW CUT & REMOVED ALLOWING FOR PLACEMENT OF OUTSIDE GUTTER FORM. ASPHALT TO BE REPLACED WITH C-2-AR4000, 1" GREATER DEPTH THAN EXISTING A/C.

RECOMMENDED FOR APPROVAL

TRAFFIC ENGR. (DATE) Elmer L. Kizzle 3/14/91

City Engr. 22382 (DATE)

Rev. No.	Date	By/App.	ITEM
3	1-21-91	[illegible]	Added State Law Minimums.
2	11-21-80	EPW	added 520-C-2500
1		EPW	added 1/4" per ft Slope

CITY OF ALHAMBRA

DEPARTMENT OF PUBLIC WORKS

DIR. OF PUBLIC WORKS

STANDARD ALLEY & DRIVEWAY ENTRANCE

for R., C., M. and P. Zones

DATE: 4/19/74

SCALE: None

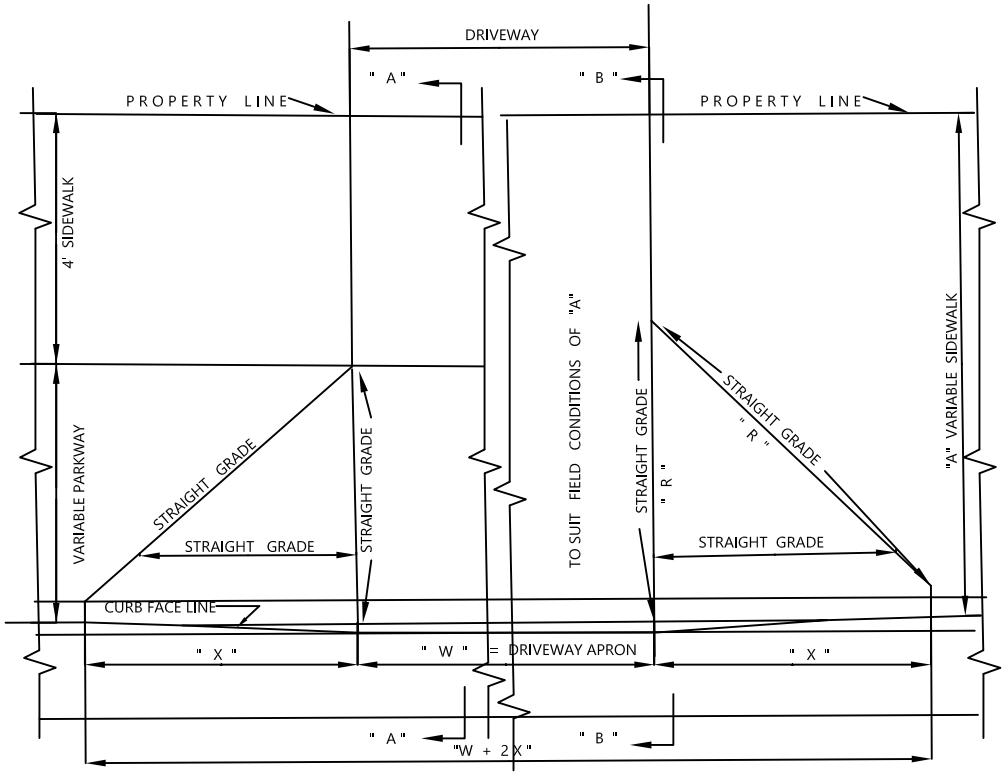
DRWG. No. SR-10

SHT. 1 OF 1 SHTS

	BY	DATE	REFERENCES:
DESIGN			F.B. No.
DRAWN	B.L.	4/13/74	
CHECKED	E	1-21-91	

TERICH-POST CLEARPRINT 1000-H

SUPERSEDES DRAWING SR-10 DATED 7/27/66

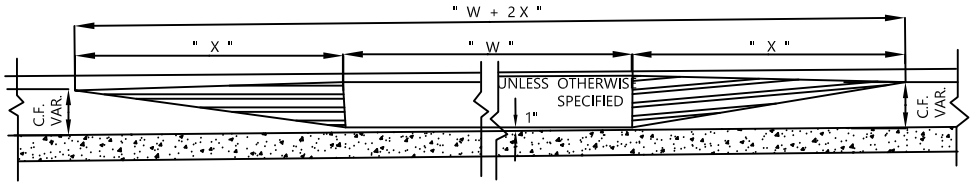


R = ROLLED EDGES

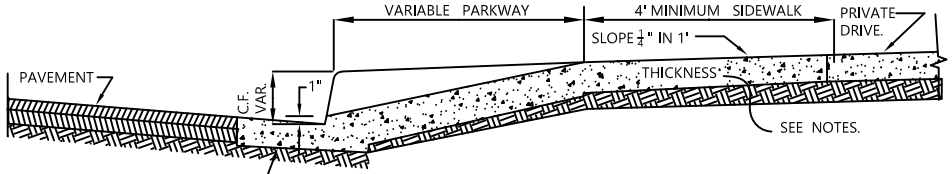
-- PLAN --

TABLE OF "X" DIMENSIONS	
CURB FACE	DIMENSION "X"
6" TO 7"	2" - 0"
8" TO 10"	3" - 0"
11" TO 12"	4" - 0"

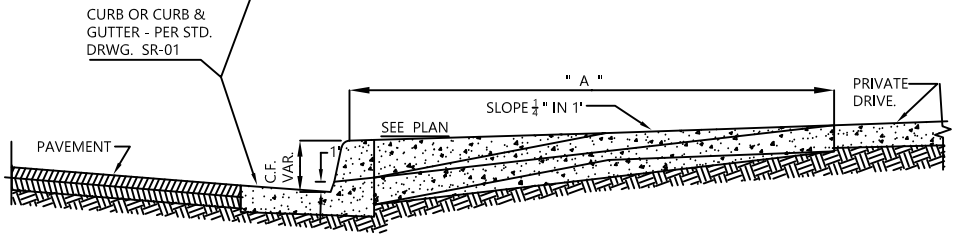
OFFSETS - PARABOLIC CURVES - 8" C.F.						
DIST. FROM R.	1'	2'	3'	4'	5'	6'
A = 6 "	0.02'	0.08'	0.18'	0.32'	0.49'	0.71'
A = 5 "	0.03'	0.11'	0.23'	0.44'	0.69'	
A = 4 "	0.04'	0.17'	0.30'	0.67'		



SECTIONAL ELEVATION AT GUTTER F.L.



-- SECTION "A - A" --



ENDS CAPPED

-- SECTION "B - B" --

(REFER TO : TITLE 13 - CODE OF THE CITY OF ALHAMBRA)

-- NOTES --

1. CONCRETE MIX SHALL BE CLASS 520-C-2500
2. "W" FOR DRIVEWAY APRONS "C" "M" "B" "P" ZONES SHALL NOT BE LESS THAN 12' NOR GREATER THAN 35' WITHOUT AUTHORIZATION. LOCATION MUST BE APPROVED BY THE CITY ENGINEER.
3. "W" FOR DRIVEWAY APRONS IN "R" ZONES SHALL NOT BE LESS THAN 12 FT. NOR GREATER THAN 20 FT. IN "R1" & "R2" ZONES, NOR GREATER THAN 35 FT. IN "R3" & "R4" ZONES WITHOUT AUTHORIZATION.
4. AT DRIVEWAYS, IF EXISTING SIDEWALK IS LESS THAN 6" THICK OR BROKEN, OR OFF GRADE, IT SHALL BE REMOVED & REPLACED WITH 6" P.C. CONCRETE WITHIN LIMITS OF DRIVEWAY APRON APPROACH.
5. WITH PRIOR APPROVAL OF THE CITY ENGINEER THE CROSS SLOPE OF THE SIDEWALK MAY BE INCREASED ½" PER FOOT MAXIMUM FOR DISTANCES NOT TO EXCEED 20 FEET.
6. ALL APRONS SHALL BE POURED IN COMBINATION WITH GUTTER. AN ADDITIONAL 1' OF STREET SURFACE ASPHALT CONCRETE SHALL BE SAW CUT & REMOVED, ALLOWING FOR REPLACEMENT OF OUTSIDE GUTTER FORM. ASPHALT TO BE REPLACED WITH C-2-AR4000, 1" - GREATER DEPTH THAN EXISTING A/C.
7. A PERMIT SHALL BE OBTAINED BEFORE PERFORMING ANY WORK, & ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE CITY ENGINEER BEFORE AND DURING PLACING OF CONCRETE.

NOTE:

THIS DRAWING SUPERSEDES ALL OF 4-17-77

- CITY OF ALHAMBRA -

- STANDARD -

DRIVEWAY APRONS AND APPROACHES

Ellen L. Pyle — CITY ENGINEER

DATE 1-24-91

SCALE: NONE

DRAWN BY G.D.K.

CHECKED W.K.W

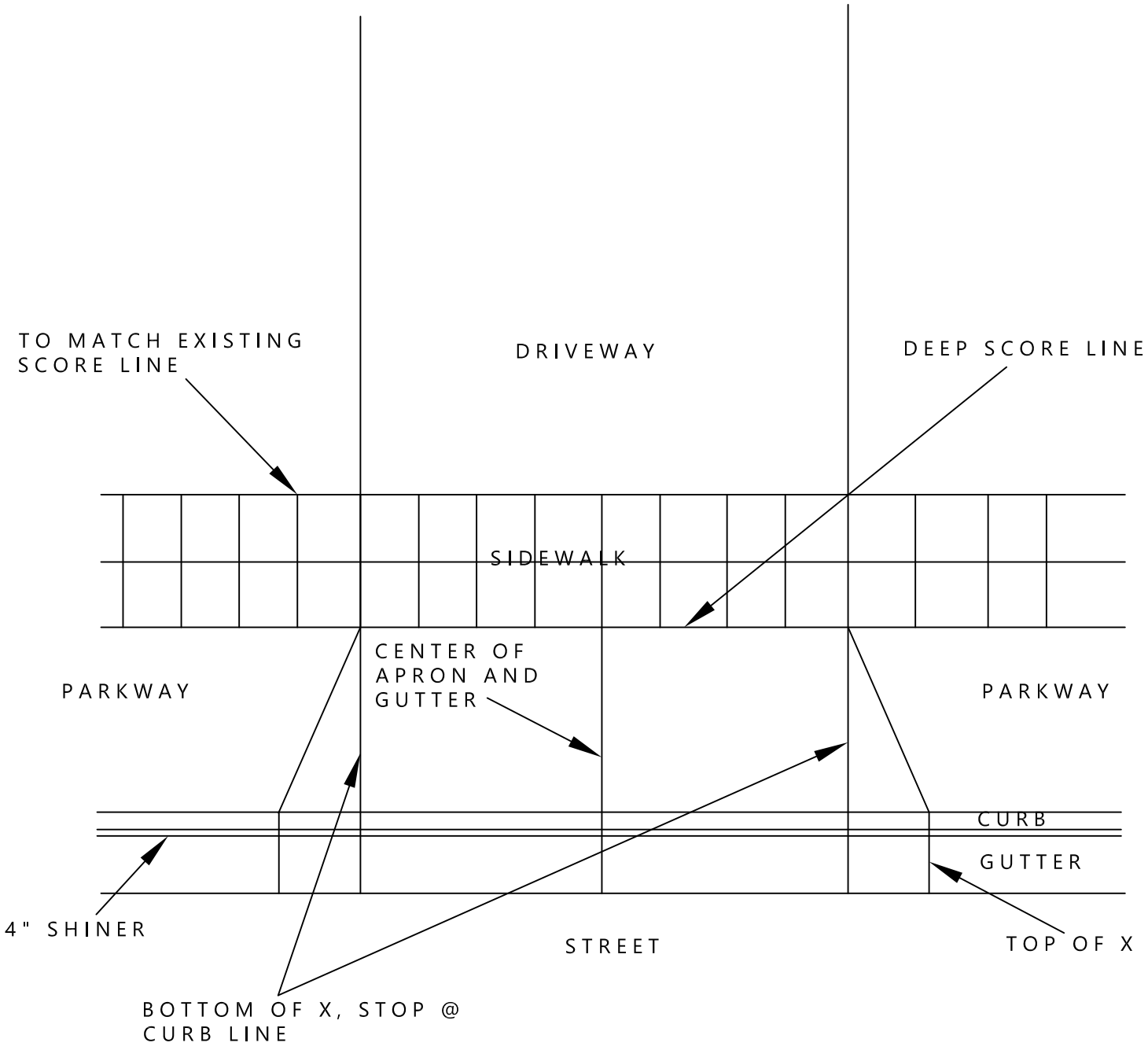
APPVD. BY R.G.B

REFERENCES,

F.B. No.

DRWG. No.

DRAWING NO. SR-11.



- CITY OF ALHAMBRA -

" SCORE LINE DETAIL "

N.T.S.

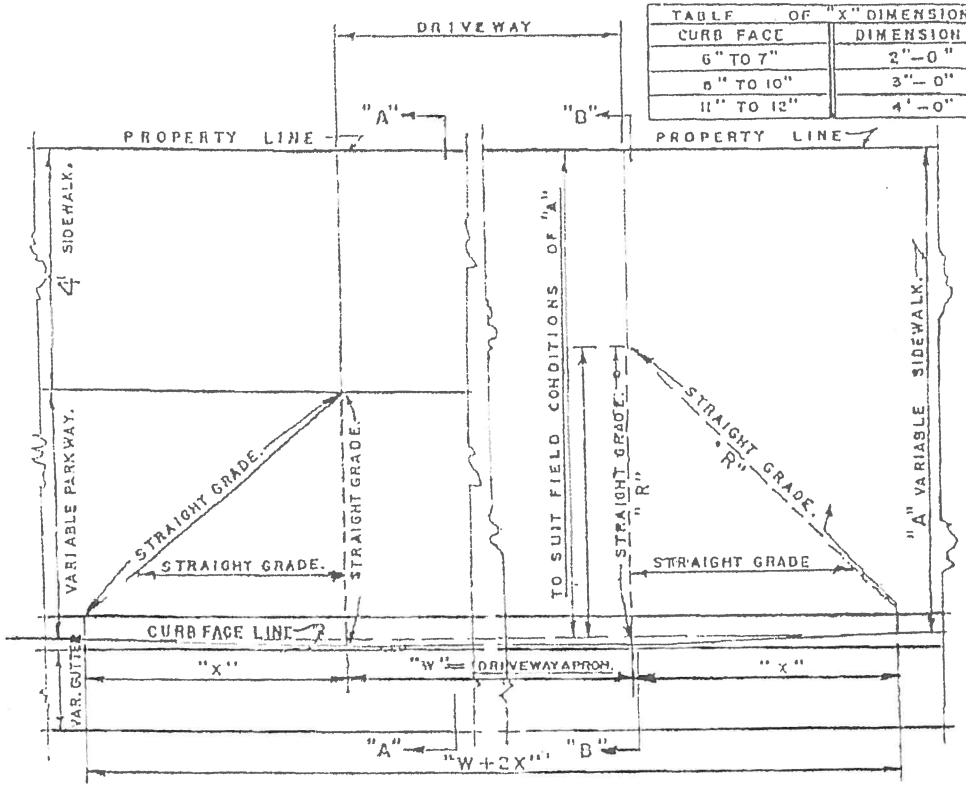
DRIVEWAY APRONS AND APPROACHES

AC

10/23/06

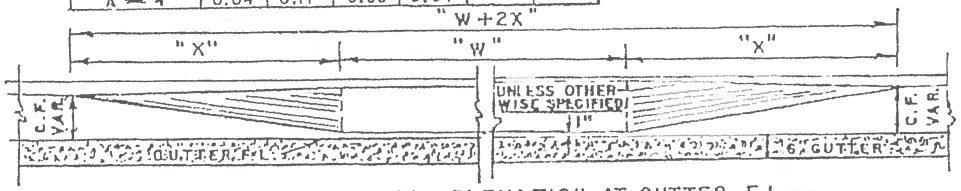
TABLE OF "X" DIMENSIONS.	
CURB FACE	DIMENSION "X"
6" TO 7"	2'-0"
8" TO 10"	3'-0"
11" TO 12"	4'-0"

OFFSETS — PARABOLIC CURVES — 8" C.F.						
DIST. FROM H.	1'	2'	3'	4'	5'	6'
A = 6"	0.02'	0.08'	0.18'	0.32'	0.49'	0.71'
A = 5"	0.03'	0.11'	0.25'	0.44'	0.69'	
A = 4"	0.04'	0.17'	0.30'	0.67'		

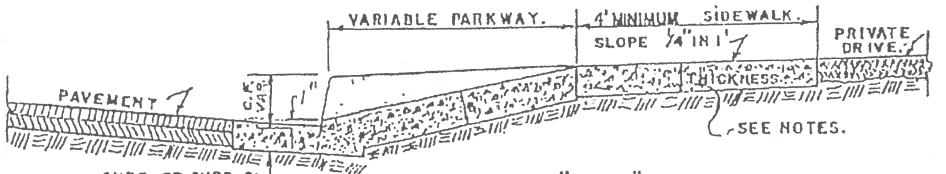


— PLAN —

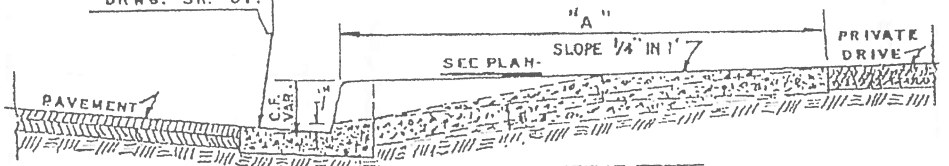
R = ROLLED EDGES.



— SECTIONAL ELEVATION AT GUTTER F.L. —



— SECTION "A-A" —



— SECTION "B—B" —

(REFER TO: TITLE 13 — CODE OF THE CITY OF ALHAMBRA)

— NOTES —

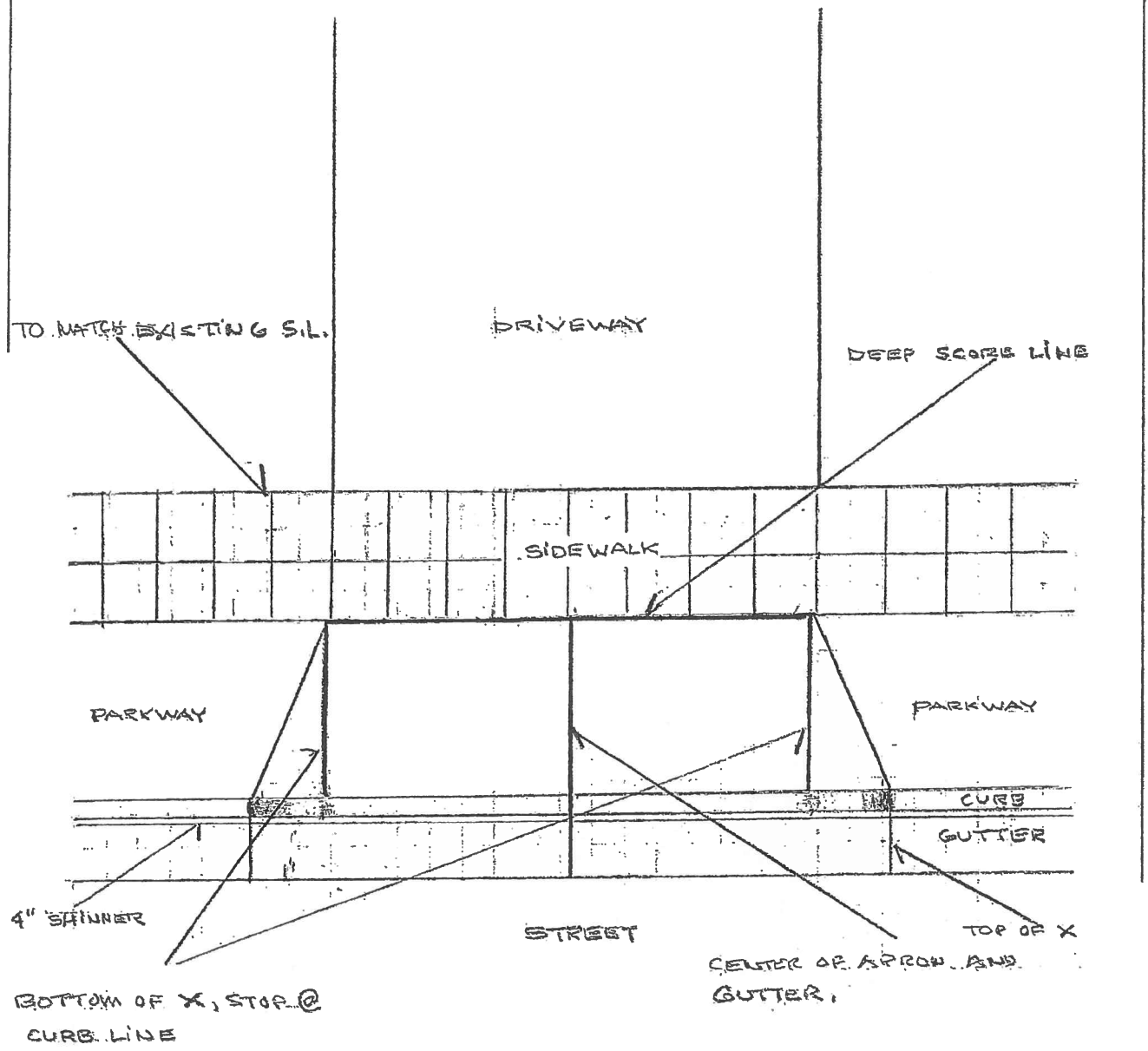
1. CONCRETE MIX SHALL BE CLASS 520-C-2500
2. "W" FOR DRIVEWAY APRONS IN "C", "M" & "P" ZONES SHALL NOT BE LESS THAN 12' NOR GREATER THAN 35' FT. WITHOUT AUTHORIZATION. LOCATION MUST BE APPROVED BY THE CITY ENGINEER:
3. "W" FOR DRIVEWAY APRONS IN "R" ZONES SHALL NOT BE LESS THAN 12.FT NOR GREATER THAN 20FT. IN "R1" & "R2" ZONES, NOR GREATER 35FT. IN "R3" & "R4" ZONES WITHOUT AUTHORIZATION.
4. AT DRIVEWAYS, IF EXISTING SIDEWALK IS LESS THAN 6" THICK, OR BROKEN, OR OFF GRADE, IT SHALL BE REMOVED & REPLACED WITH 6" P.C. CONC. WITHIN LIMITS OF DRIVEWAY APRON & APPROACH.
5. WITH PRIOR APPROVAL OF THE CITY ENGINEER THE CROSS SLOPE OF THE SIDEWALK MAY BE INCREASED TO 1/2" PER FOOT MAXIMUM FOR DISTANCES NOT TO EXCEED 20' FEET
6. ALL APRONS SHALL BE POURED IN COMBINATION WITH GUTTER AN ADDITIONAL 1' OF STREET SURFACE ASPHALT CONCRETE SHALL BE SAW CUT & REMOVED. ALLOWING FOR PLACEMENT OF OUTSIDE GUTTER FORM. ASPHALT TO BE REPLACED WITH C-2-AR 4000, 1" GREATER DEAPTH THAN EXISTING A/C
7. A PERMIT SHALL BE OBTAINED BEFORE PERFORMING ANY WORK, & ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE CITY ENGINEER BEFORE AND DURING PLACING OF CONCRETE

NOTE:

THIS DRAWING SUPERSEDS ALL OF 4-17-77

— CITY OF ALHAMBRA —	Elay L. Kyle CITY ENGINEER	DATE: 1-24-91	
— STANDARD — DRIVEWAY APRONS AND APPROACHES	DRAWN BY G.D.K. CHECKED WRN APPVD. BY RGB	REFERENCES, F.B. No. DRWG. No.	SCALE: NONE. DRAWING NO. SR-11.

No. 937 811E
Engineer's Computation Pad

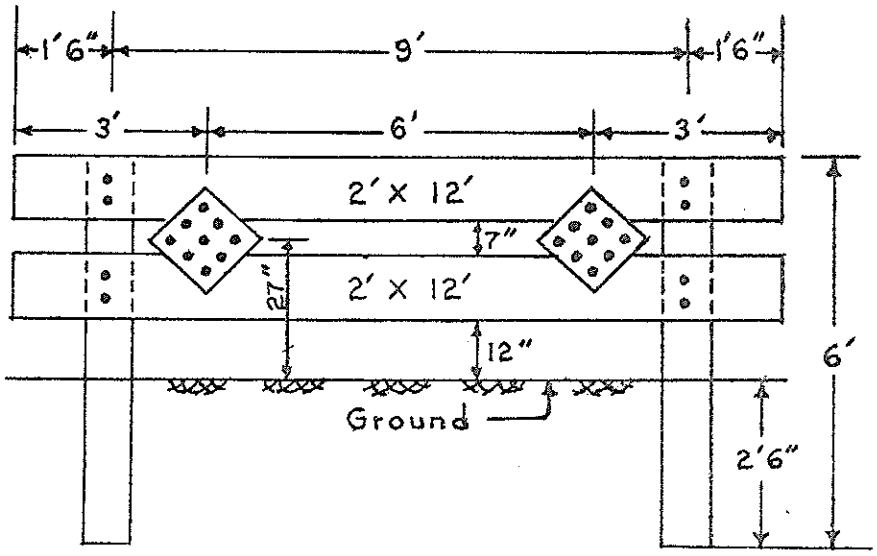


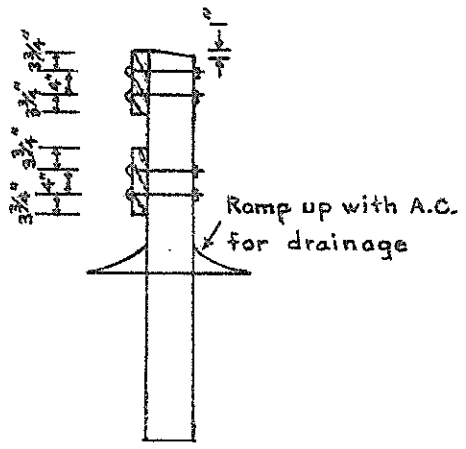
CITY OF ALHAMBRA - DC

" SCORE LINE DETAIL " 10/23/06

N.T.S

DRIVEWAY APRONS AND APPROACHS





Notes

1. Wooden post used to support the barricades shall be 8"x 8"x 6" S 4 S, Redwood or treated Douglas Fir, embedded to a depth of 2' 6".
2. Horizontal timbers shall be 2"x 12"x 12' S4S Douglas Fir (Select Structural).
3. All timbers and Redwood post surfaces shall receive one coat of Primer for Timber, State Specification No. 52-G-01 and one Finish coat of "Paint-Finish Coat, Wood" (Yellow).
4. W-21-R signs shall be set at 6' centers. Bolts shall be 1/2" carriage bolts with cut washers and nuts.

RECOMMENDED FOR APPROVAL

TRAFFIC ENGR. (DATE)

CITY ENGR. CIVIL ENGR. No. 11460 (DATE) 4-3-69

Rev. No.	Date	By/App.	ITEM
2			
1			

CITY OF ALHAMBRA

DEPARTMENT OF PUBLIC WORKS

DR. OF PUBLIC WORKS CIVIL ENGR. NO 11190

DATE: 4/7/69

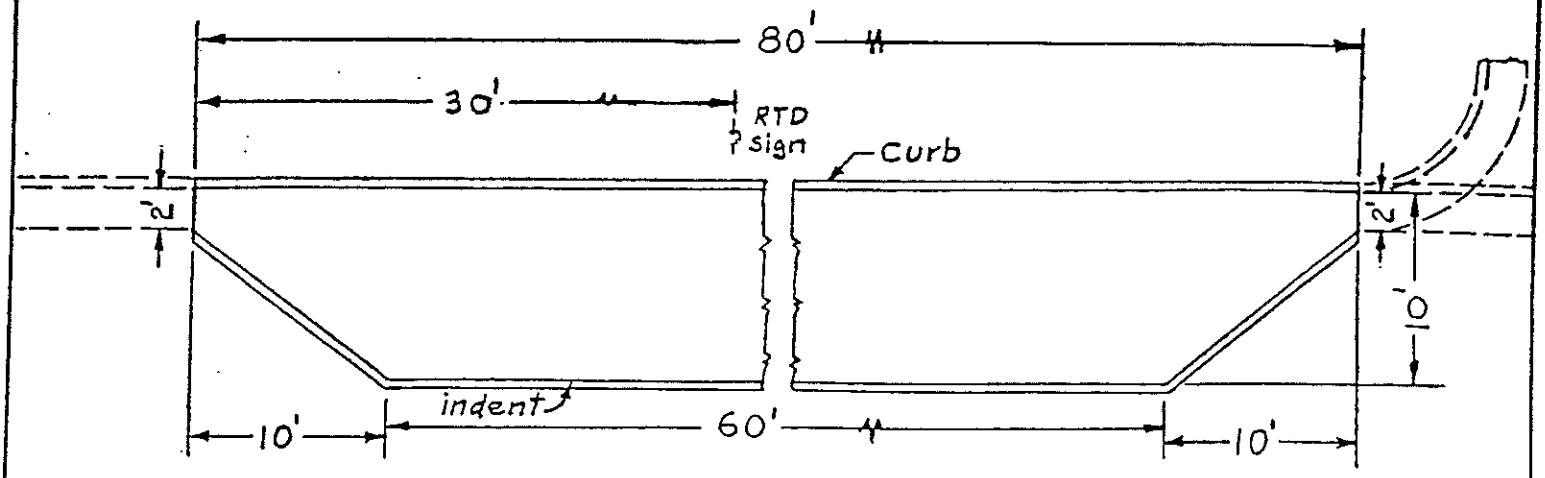
SCALE: 1" = 3'

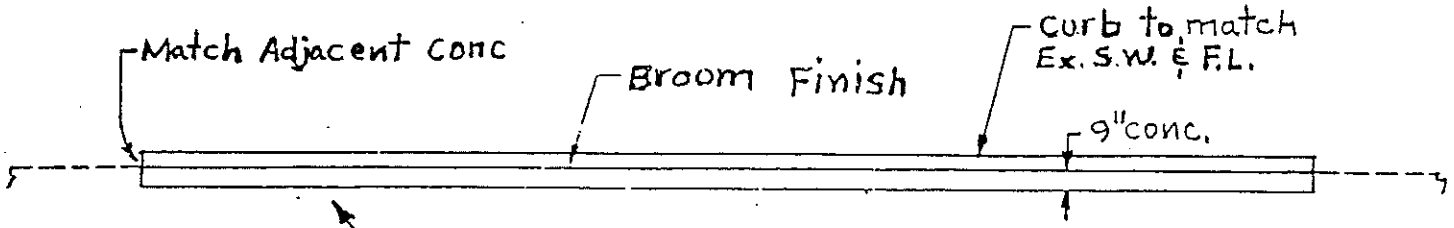
BARRICADE STANDARD

	BY	DATE	REFERENCES:
DESIGN			F.B. No.
DRAWN	B.J.	4/1/69	
CHECKED		4/8/69	

DRWG. NO. SR-12

SHT. 1 OF 1 SHTS.

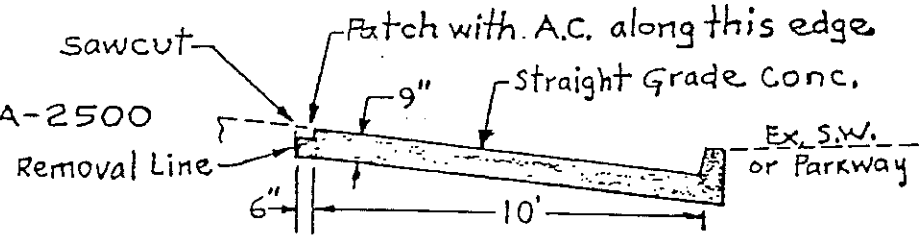




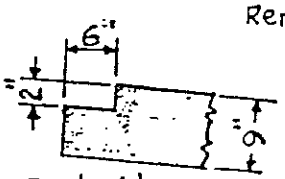
Curb	80 L.F.
Gutter Area	720 ☐'
Lip Area	43 ☐'
Excavation	30 C.Y.
Agg. Base	15 tons
Concrete	23.5 C.Y.

Place 3" CL. 2 Agg. Base if Subgrade R value is less than 40. Compact to 95% max density modified ASSHO Test

Concrete to be 520-A-2500



Section Detail
Scale 1" = 5'



Detail of indent
scale 1" = 2'

RECOMMENDED FOR APPROVAL

TRAFFIC ENGR. (DATE) 1-7-83

CITY ENGR. CIVIL ENGR No 11402 (DATE)

Rev. No.	Date	By/App.	ITEM
2			
1			

CITY OF ALHAMBRA

DEPARTMENT OF PUBLIC WORKS

DIR. OF PUBLIC WORKS

DATE: Feb. 9, 1983

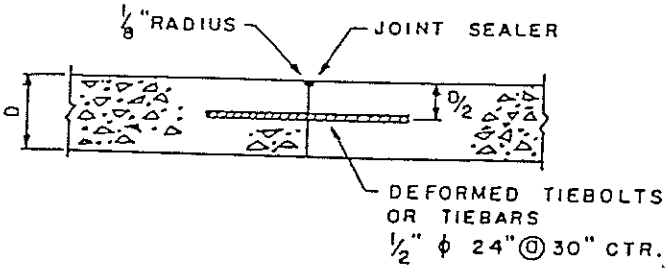
SCALE: 1" = 10' & Noted

TYPICAL CONCRETE BUS PAD

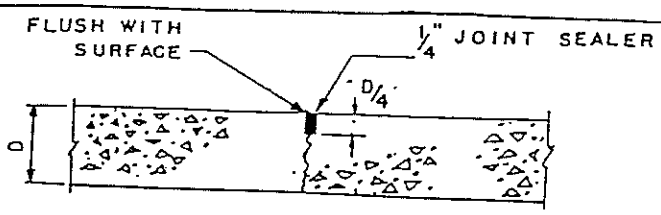
	BY	DATE	REFERENCES:
DESIGN			F.B. No.
DRAWN	Ed Weld	11/1/82	
CHECKED	G. L. Clark	1-31-83	

DRWG. No. SR-13

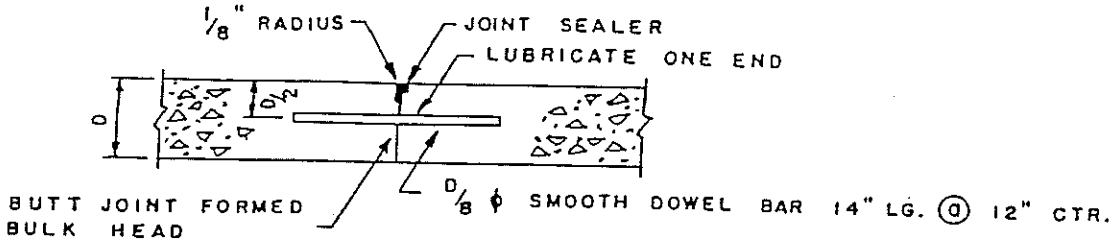
SHT. 1 OF 1 SHTS



TYPE C
TIED BUTT LONGITUDINAL CONSTRUCTION JOINT



TYPE D
SAWED LONGITUDINAL
OR TRANSVERSE

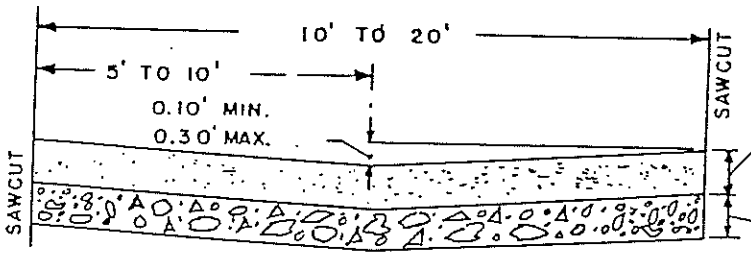


TYPE E
PLANNED TRANSVERSE CONSTRUCTION JOINT (USED AT NORMAL JOINT SPACING)

JOINT DETAILS

N.T.S.

LONGITUDINAL WEAKENED PLANE JOINTS (TYPE D) OR CONSTRUCTION JOINTS (TYPE C)



6" CONCRETE PAVEMENT PER 520-A-2500, 3% AIR
TYPE D JOINT AT 10' INTERVALS (SAWCUT WITHIN 24 HRS. OF POURING)

6" PREPARED SUBGRADE AT 95% RELATIVE DENSITY OR 6" CLASS 'A' AGGREGATE BASE AT DIRECTION OF THE INSPECTOR.

CONCRETE PAVEMENT

NOTE:

1. TRANSVERSE WEAKENED JOINTS SHALL BE CONSTRUCTED EVERY 10' AND ℄
2. TYPE "D" JOINT SEALANT (HOT POURED RUBBER ASPHALT JOINT SEALANT) SHALL BE USED.

RECOMMENDED FOR APPROVAL

TRAFFIC ENGR. (DATE)

CITY ENGR. CIVIL ENGR. No. (DATE)

Rev. No.	Date	By/App.	ITEM
2			
1			

CITY OF ALHAMBRA

DEPARTMENT OF PUBLIC WORKS

DIR. OF PUBLIC WORKS

DATE: 10-13-88

SCALE: NONE

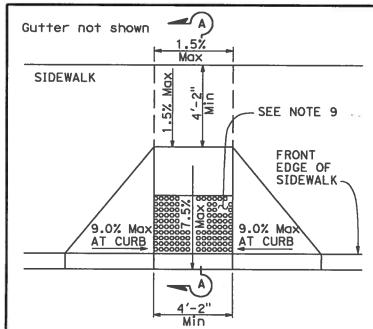
COMMERCIAL ALLEY CONSTR.
STANDARD DRAWING

	BY	DATE	REFERENCES:
DESIGN			F.B. No.
DRAWN	ECW	9-88	
CHECKED	C.L.C	10-88	

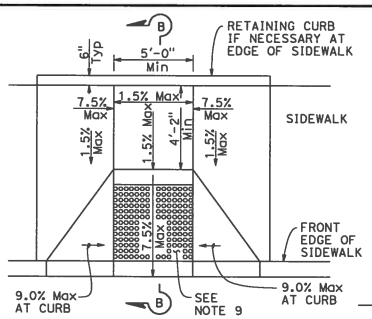
DRWG. No. SR-14

SHT. 1 OF 1 SHTS

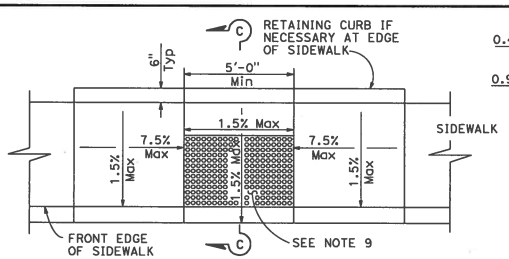
KETERICH-POST CLEARPRINT 1000-H



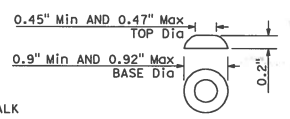
CASE A



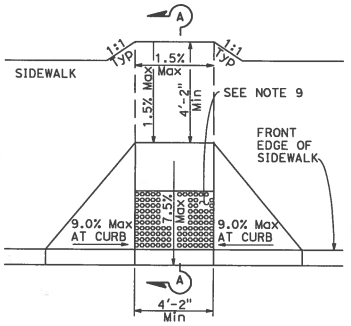
CASE B



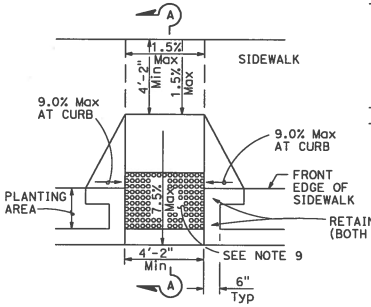
CASE C



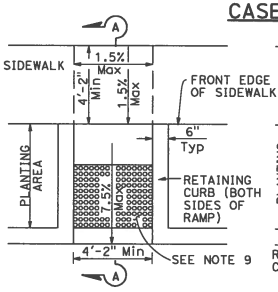
RAISED TRUNCATED DOME



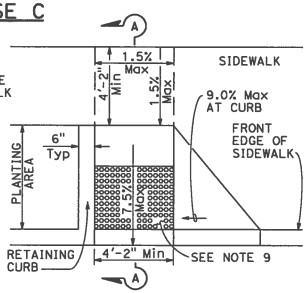
CASE D



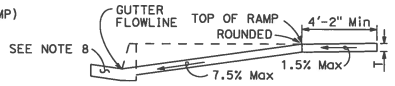
CASE E



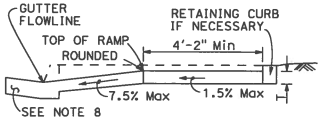
CASE F



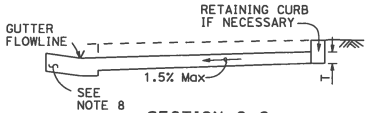
CASE G
See Note 4



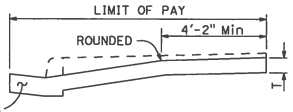
SECTION A-A



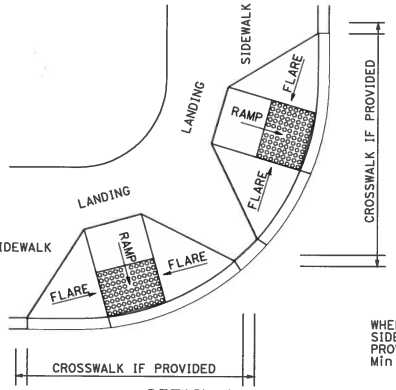
SECTION B-B
Depress entire sidewalk as required



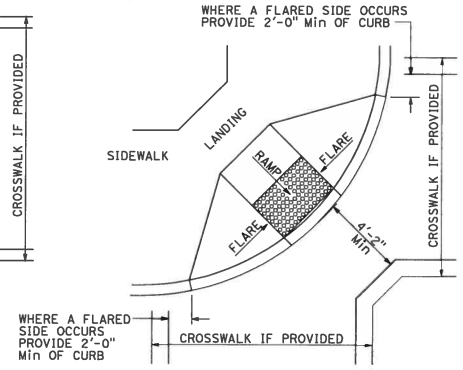
SECTION C-C



RETROFIT PAY LIMITS
Existing curb and sidewalk



DETAIL A
TYPICAL TWO-RAMP CORNER INSTALLATION
See Note 1



DETAIL B
TYPICAL ONE-RAMP CORNER INSTALLATION
See Notes 1 and 3

NOTES:

1. As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate.
2. If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-2" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
3. When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
4. As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
5. If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'-2".
6. Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
7. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.
8. Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1:20 (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
9. Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. A 4'-0" wide detectable warning surface may be used on a 4'-2" wide curb ramp. Detectable Warning Surfaces shall conform to the requirements in the Standard Specifications.
10. Sidewalk and ramp thickness, "T", shall be 3½" minimum.
11. Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
12. Detectable warning surface may have to be cut to allow removal of utility covers while maintaining full detectable warning width and depth.

RAISED TRUNCATED DOME PATTERN (IN-LINE)
DETECTABLE WARNING SURFACE
See Note 9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Hector David Cordova — No. C41957 — Exp. 3-31-18 — CIVIL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED _____

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP DETAILS

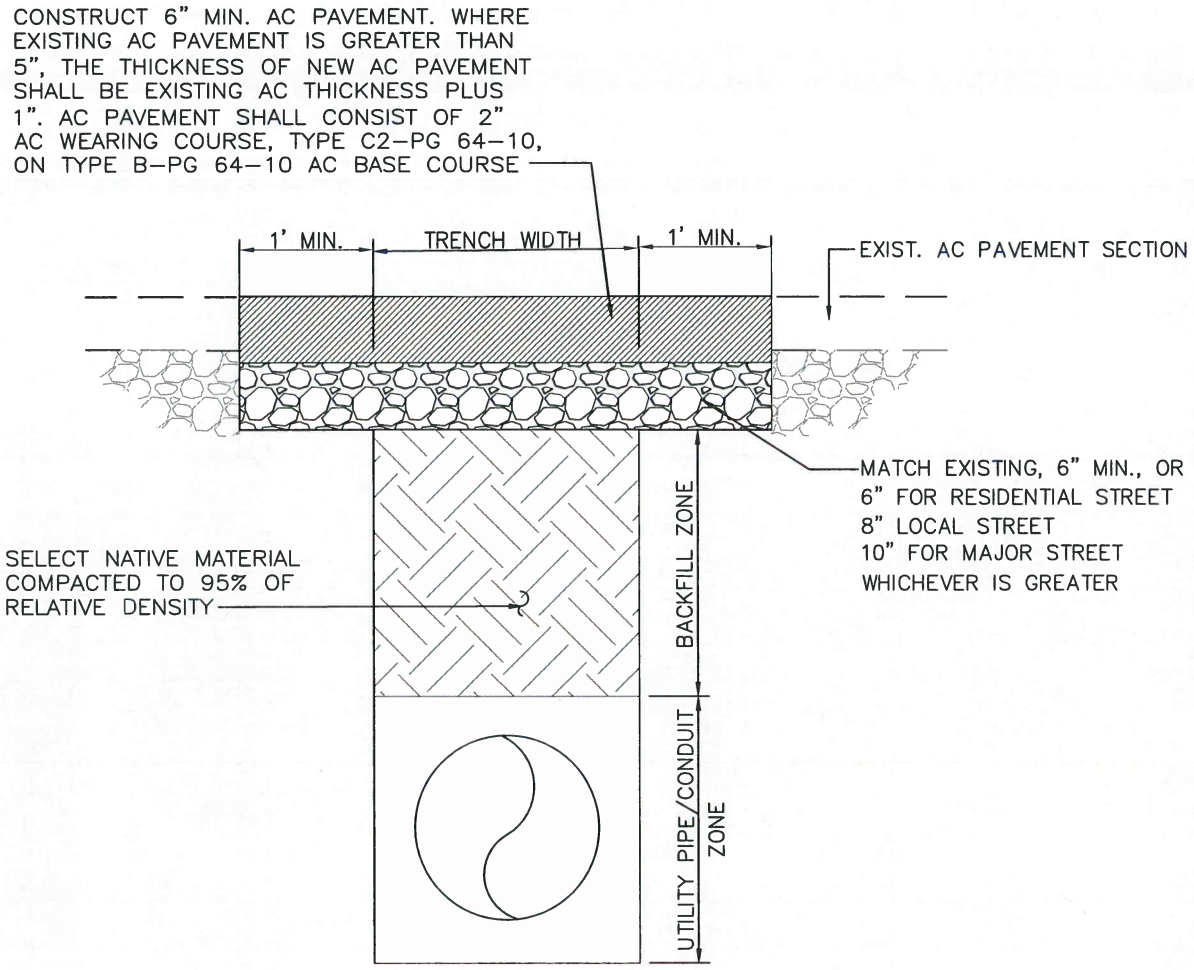
NO SCALE

RSP A88A DATED JULY 15, 2016 SUPERSEDES RSP A88A DATED JULY 3, 2015, RSP A88A DATED MARCH 21, 2014 AND RSP A88A DATED JULY 19, 2013 AND STANDARD PLAN A88A DATED MAY 20, 2011 - PAGE 121 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A88A

2010 REVISED STANDARD PLAN RSP A88A

3-30-16



T-TRENCH AND AC PAVEMENT RESTORATION

NOT TO SCALE

In accordance with Resolution No. R2M16-11, as Public Works Director (Mary Chavez) and as City Engineer (Allen Cayir, PE, Registered Civil Engineer) for the City of Alhambra, we do hereby exercise the discretion delegated to us and approve the plan or design, or amendment or modification to the plan or design, of a construction of, or an improvement to the public facility, structure, or property to which this statement and our signatures are affixed. Executed on January 25, 2018.

CITY OF ALHAMBRA	APPROVED BY: Mary Chavez	DATE: 1-25-2018
DEPARTMENT OF PUBLIC WORKS	MARY CHAVEZ, DIR. OF PUBLIC WORKS	SCALE: NOT TO SCALE
T-TRENCH AND AC PAVEMENT RESTORATION ASPHALT CONCRETE STREETS	REGISTERED PROFESSIONAL ENGINEER ALLEN CAYIR NO. 47128 EXP. 12-31-2019 CIVIL STATE OF CALIFORNIA	STANDARD PLAN 2018-01.01 SR-21
	ALLEN CAYIR, R.C.E, C47128, CITY ENGINEER	SHEET 1 OF 2

NOTES:

LIMITS OF REMOVAL, TRENCH WIDTH:

1. ALL PAVEMENT REMOVED SHALL HAVE STRAIGHT EDGES, CUTS SHALL BE MADE TO A MINIMUM DEPTH OF 1–1/2 INCHES. ALL CUTS SHALL BE NEAT, STRAIGHT, VERTICAL CUTS WITH NO BROKEN EDGES.
2. ALL LONGITUDINAL PAVEMENT CUTS SHALL BE UNINTERRUPTED AND APPROXIMATELY PARALLEL TO TRENCH (MAX. 1:6 LONGITUDINAL VARIANCE).
3. IF A SAW CUT IN PAVEMENT FALLS WITHIN 1 FOOT OF AN EXISTING CURB, GUTTER, OR EDGE OF PAVEMENT, THE ADDITIONAL PAVEMENT SECTION SHALL BE REMOVED AND RECONSTRUCTED.
4. WHEN SAW CUTTING PAVEMENT, THE MAXIMUM OVERRUN ALLOWED FOR ANY SAW CUT BEYOND THE BOUNDARY REMOVAL LIMITS OF EXISTING PAVEMENT SHALL BE 2 INCHES.
5. TRENCH WIDTH SHALL BE MINIMUM 24 INCHES, UNLESS SLURRY BACKFILL AND BEDDING IS USED, IN WHICH CASE MINIMUM TRENCH WIDTH SHALL BE 4 INCHES.

TRENCH BACKFILL:

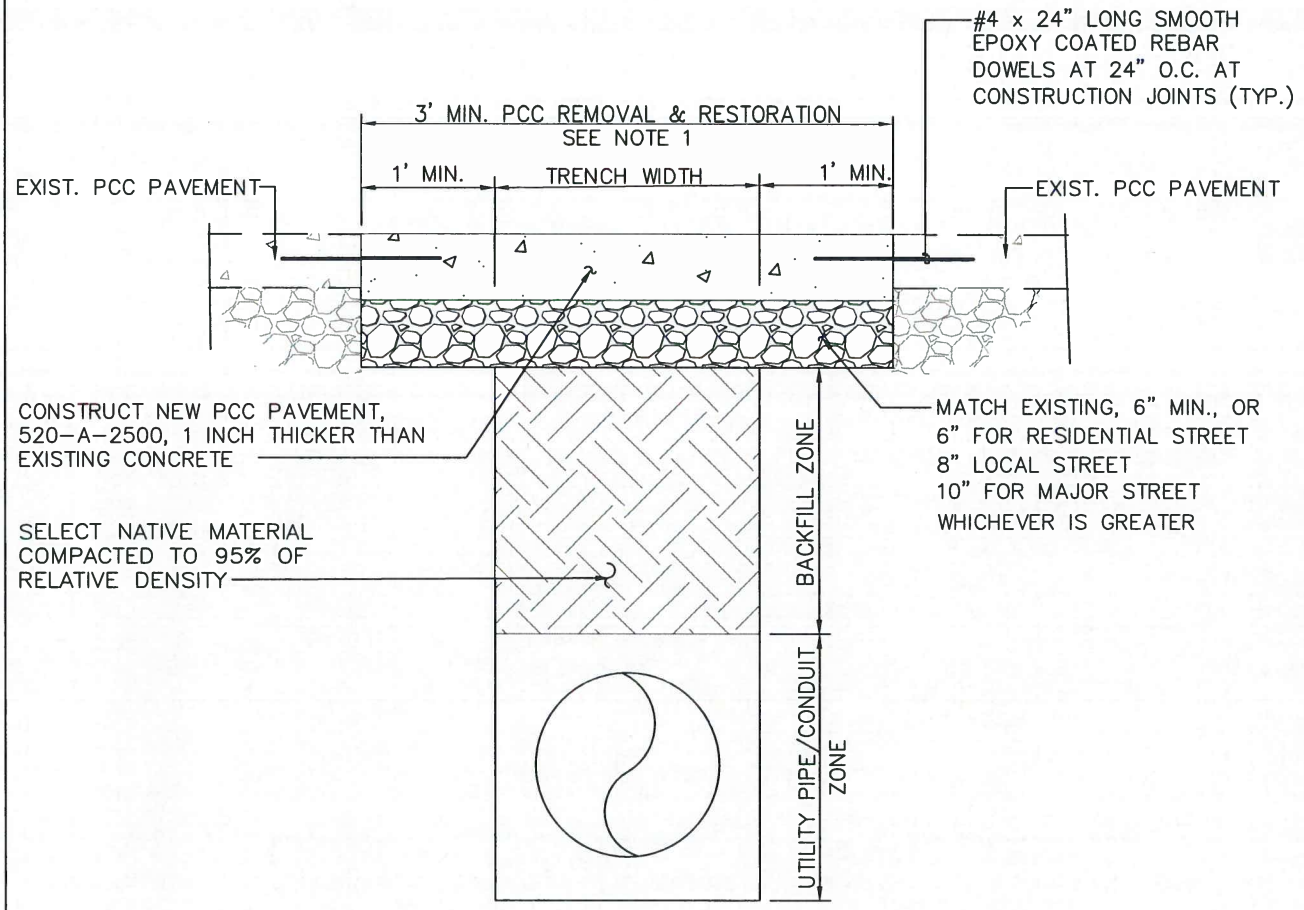
6. ALL TRENCHES 24 INCHES OR WIDER SHALL BE BACKFILLED WITH SELECT NATIVE MATERIAL COMPACTED TO 95% RELATIVE DENSITY AND WHERE THE TRENCH WIDTH IS LESS THAN 24" SHALL BE BACKFILLED WITH APPROVED SLURRY MIX.
7. TRENCH BACKFILL WITH SLURRY MATERIAL SHALL BE PROPERLY CONSOLIDATED. SLURRY MATERIAL FOR TRENCHES DEEPER THAN 5 FEET AND/OR NARROWER THAN 12 INCHES MUST BE CONSOLIDATED WITH VIBRATION.
8. BACKFILL MATERIAL SHALL BE MADE SMOOTH AND LEVEL BEFORE PLACING BASE AND PAVEMENT.
9. JETTING IS NOT AN APPROVED DENSIFICATION METHOD.

TRENCH "T" SECTION ("T–CUT")

10 AFTER THE TRENCH HAS BEEN BACKFILLED, THE EXISTING AC PAVEMENT AND UNDERLYING BASE SHALL BE REMOVED TO A LINE AT LEAST 12 INCHES BACK OF THE FIRM BANKS OF THE TRENCH OR AS NOTED UNDER ITEM 3 ABOVE. REMOVAL OF UNDERLYING BASE SHALL BE TO A DEPTH NECESSARY TO ACCOMODATE THE NEW AC PAVEMENT SECTION. EXPOSED BASE OR SUBGRADE SHALL BE 6" SCARIFIED AND RECOMPACTED TO 95% RELATIVE DENSITY.

In accordance with Resolution No. R2M16–11, as Public Works Director (Mary Chavez) and as City Engineer (Allen Cayir, PE, Registered Civil Engineer) for the City of Alhambra, we do hereby exercise the discretion delegated to us and approve the plan or design, or amendment or modification to the plan or design, of a construction of, or an improvement to the public facility, structure, or property to which this statement and our signatures are affixed. Executed on January 25, 2018.

CITY OF ALHAMBRA	APPROVED BY: Mary Chavez	DATE: 1–25–2018
DEPARTMENT OF PUBLIC WORKS	MARY CHAVEZ, DIR. OF PUBLIC WORKS	SCALE: NOT TO SCALE
T-TRENCH AND AC PAVEMENT RESTORATION ASPHALT CONCRETE STREETS	REGISTERED PROFESSIONAL ENGINEER ALLEN CAYIR NO. 47128 EXP. 12-31-2019 CIVIL STATE OF CALIFORNIA ALLEN CAYIR, R.C.E, C47128, CITY ENGINEER	STANDARD PLAN 2018-01.01 SR–22 SHEET 2 OF 2



T-TRENCH AND PCC PAVEMENT RESTORATION

NOT TO SCALE

In accordance with Resolution No. R2M16-11, as Public Works Director (Mary Chavez) and as City Engineer (Allen Cayir, PE, Registered Civil Engineer) for the City of Alhambra, we do hereby exercise the discretion delegated to us and approve the plan or design, or amendment or modification to the plan or design, of a construction of, or an improvement to the public facility, structure, or property to which this statement and our signatures are affixed. Executed on January 25, 2018.

CITY OF ALHAMBRA	APPROVED BY: Mary Chavez	DATE: 1-25-2018
DEPARTMENT OF PUBLIC WORKS	MARY CHAVEZ, DIR. OF PUBLIC WORKS	SCALE: NOT TO SCALE
T-TRENCH AND PCC PAVEMENT RESTORATION PORTLAND CEMENT CONCRETE STREETS	REGISTERED PROFESSIONAL ENGINEER ALLEN CAYIR NO. 47128 EXP. 12-31-2019 CIVIL STATE OF CALIFORNIA	STANDARD PLAN 2018-01.02 SR-23
	ALLEN CAYIR, R.C.E, C47128, CITY ENGINEER	SHEET 1 OF 2

NOTES:

LIMITS OF REMOVAL, TRENCH WIDTH:

1. THE EXACT LIMIT OF PCC PAVEMENT REMOVAL AND RESTORATION SHALL BE EXTENDED BASED ON THE FOLLOWING:

   A. CONSTRUCTION JOINT LINES SHALL NOT BE WITHIN 3' OF AN EXISTING PAVEMENT JOINT, EDGE OF GUTTER OR CURB, SCORE LINES, OR SIGNIFICANT CRACK. IF JOINT LINE IS WITHIN 3' AS DESCRIBED, THE REMOVAL AND RESTORATION SHALL BE EXTENDED AND CONTINUOUS TO THE EXISTING JOINT, SCORE LINE, EDGE OF GUTTER OR EDGE OF CURB. IF IT IS WITHIN 3' FROM SIGNIFICANT CRACKS, THE EXACT LIMITS SHALL BE DETERMINED BY THE CITY ENGINEER.

   B. AT PCC BUS PADS, THE LIMITS OF REMOVAL AND RESTORATION SHALL BE A RECTANGULAR AREA EXTENDING TO THE NEAREST CONSTRUCTION JOINT/PANEL.

2. REMOVAL OF PCC PAVEMENT SHALL BE FULL DEPTH BY SAWCUT, SHALL BE NEAT, STRAIGHT, AND VERTICAL CUT WITH NO BROKEN EDGES. ALL LONGITUDINAL PAVEMENT CUTS SHALL BE UNINTERRUPTED AND PARALLEL TO TRENCH.

3. TRENCH WIDTH SHALL BE MINIMUM 24 INCHES, UNLESS SLURRY BACKFILL AND BEDDING IS USED, IN WHICH CASE THE MINIMUM TRENCH WIDTH SHALL BE 4 INCHES.

4. THE UNDERLYING BASE BENEATH THE PCC PAVEMENT, BEYOND THE 1' BACK OF THE FIRM BANKS OF THE TRENCH, DOES NOT NEED TO BE REMOVED EXCEPT THAT PORTION OF UNDERLYING BASE TO ACCOMMODATE THE NEW PCC PAVEMENT.

5. ALL EXPOSED SUBGRADE AND BASE SHALL BE SCARIFIED 6 INCHES MINIMUM AND COMPACTED TO 95% RELATIVE DENSITY.

TRENCH BACKFILL:

6. ALL TRENCHES, 24 INCHES OR WIDER, SHALL BE BACKFILLED WITH SELECT NATIVE MATERIAL COMPACTED TO 95% RELATIVE DENSITY. TRENCHES LESS THAN 24 INCHES WIDE SHALL BE BACKFILLED WITH APPROVED SLURRY MIX.

7. TRENCH BACKFILL SLURRY MATERIAL SHALL BE PROPERLY CONSOLIDATED. SLURRY MATERIAL FOR TRENCHES DEEPER THAN 5 FEET AND/OR NARROWER THAN 12 INCHES MUST BE CONSOLIDATED WITH VIBRATION.

8. BACKFILL MATERIAL SHALL BE MADE SMOOTH AND LEVEL BEFORE PLACING BASE AND PAVEMENT.

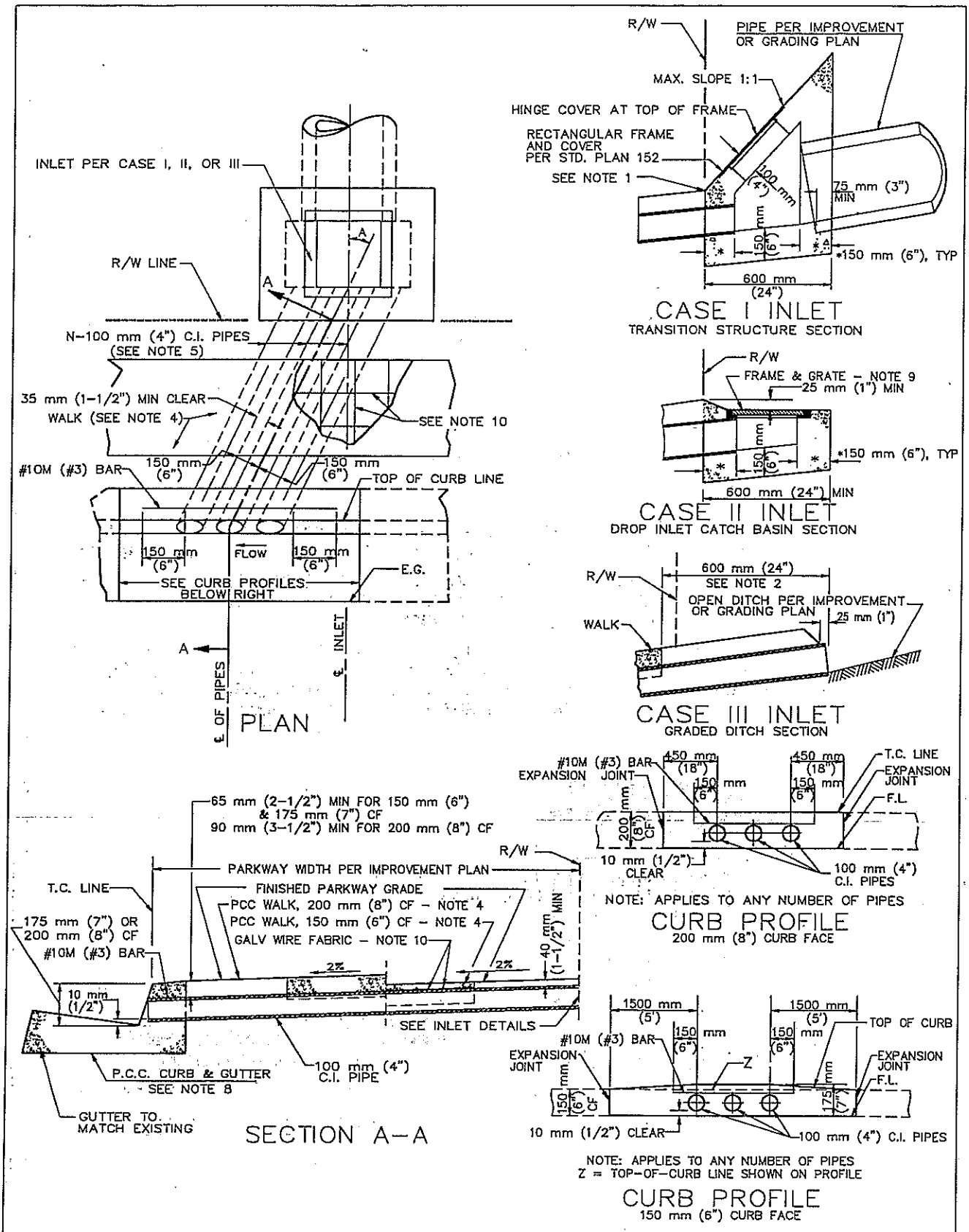
9. JETTING IS NOT AN APPROVED DENSIFICATION METHOD.

TRENCH "T" SECTION ("T-CUT")

10 AFTER THE TRENCH HAS BEEN BACKFILLED, THE EXISTING PAVEMENT SECTION SHALL BE REMOVED TO A LINE AT LEAST 12 INCHES BACK OF THE FIRM BANKS OF THE TRENCH AND AS NOTED IN NOTE 1 ABOVE.

In accordance with Resolution No. R2M16-11, as Public Works Director (Mary Chavez) and as City Engineer (Allen Cayir, PE, Registered Civil Engineer) for the City of Alhambra, we do hereby exercise the discretion delegated to us and approve the plan or design, or amendment or modification to the plan or design, of a construction of, or an improvement to the public facility, structure, or property to which this statement and our signatures are affixed. Executed on January 25, 2018.

CITY OF ALHAMBRA	APPROVED BY: Mary Chavez	DATE: 1-25-2018
DEPARTMENT OF PUBLIC WORKS	MARY CHAVEZ, DIR. OF PUBLIC WORKS	SCALE: NOT TO SCALE
T-TRENCH AND PCC PAVEMENT RESTORATION PORTLAND CEMENT CONCRETE STREETS	REGISTERED PROFESSIONAL ENGINEER ALLEN CAYIR NO. 47128 EXP. 12-31-2019 CIVIL STATE OF CALIFORNIA	STANDARD PLAN 2018-01.02 SR-24
	ALLEN CAYIR, R.C.E, C47128, CITY ENGINEER	SHEET 2 OF 2



AMERICAN PUBLIC WORKS ASSOCIATION - SOUTHERN CALIFORNIA CHAPTER

PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1984 REV. 1992, 1996

CURB DRAIN

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

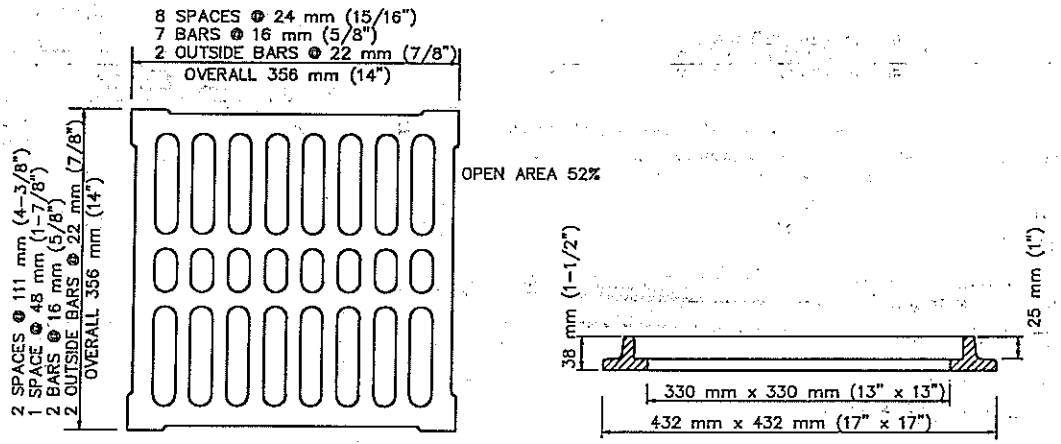
STANDARD PLAN METRIC

150 - 2

SHEET 1 OF 2

NOTES

1. IF THE TOE OF SLOPE IS ALLOWED WITHIN THE R/W, INLET CASE I BEGINS AT THE TOE RATHER THAN THE R/W LINE.
2. FOR OPEN DITCH (CASE INLET III), THE 600 mm (24") EXTENSION BEYOND THE R/W LINE IS NOT REQUIRED WHEN BACK OF WALK IS 600 mm (24") OR MORE FROM THE R/W LINE; HOWEVER, PIPE SHALL EXTEND TO R/W LINE.
3. TOP OF INLET STRUCTURE (CASE I AND II) TO BE FLUSH WITH ADJACENT SURFACE WHERE PRACTICAL.
4. CONSTRUCT P.C.C. WALK WHEN SPECIFIED ON PLAN. THE CONTRACT PRICE PAID FOR P.C.C. WALK ITEM SHALL INCLUDE WALK CONSTRUCTED IN CONJUNCTION WITH PARKWAY CULVERT.
5. "N" EQUALS NUMBER OF PIPES (MAXIMUM OF THREE) AS SPECIFIED ON PLAN.
6. INLET CASE TO BE SPECIFIED ON IMPROVEMENT OR GRADING PLAN.
7. ANGLE A EQUALS 0°, UNLESS OTHERWISE SPECIFIED.
8. TYPE, DIMENSIONS AND ELEVATIONS OF P.C.C. CURB AND GUTTER PER IMPROVEMENT PLAN.
9. UNLESS OTHERWISE SPECIFIED, FRAME AND GRATE FOR CASE II INLET SHALL BE GALVANIZED CAST IRON. WEIGHT OF FRAME AND GRATE SHALL BE 36 kg (80 LBS).
10. AT LOCATIONS WITH LESS THAN 200 mm (8") CURB FACE, USE 152x152–MW9.1xMW9.1 (6x6–10/10) GALVANIZED WIRE FABRIC. WIRE FABRIC SHALL EXTEND 200 mm (8") BEYOND THE EDGE OF CAST IRON PIPES.
11. DIMENSIONS SHOWN ON THIS PLAN FOR METRIC AND ENGLISH UNITS ARE NOT EXACTLY EQUAL VALUES. IF METRIC UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE METRIC VALUES. IF ENGLISH UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE ENGLISH VALUES. HOWEVER, ASTM 615 REINFORCING STEEL MAY BE SUBSTITUTED FOR ASTM 615M STEEL.

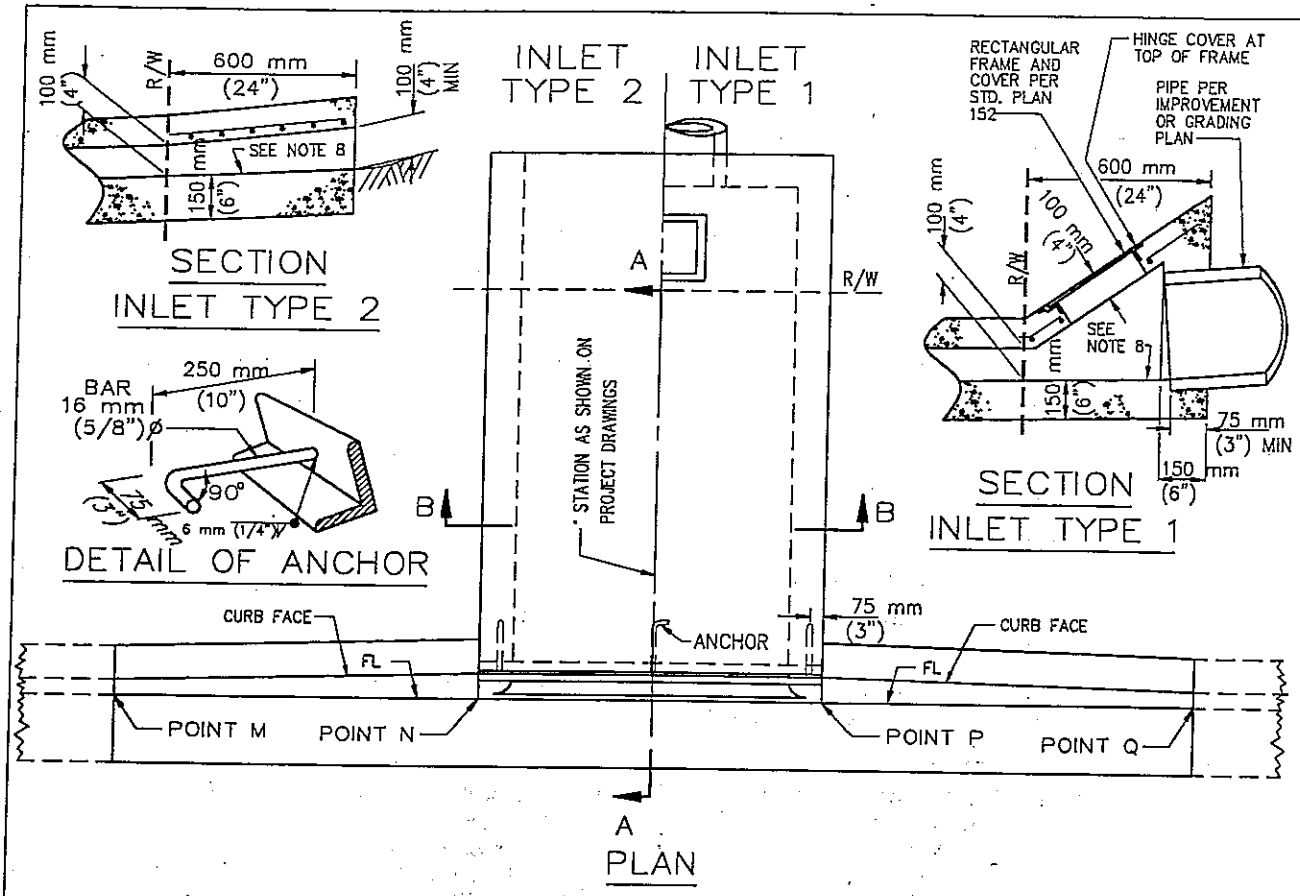


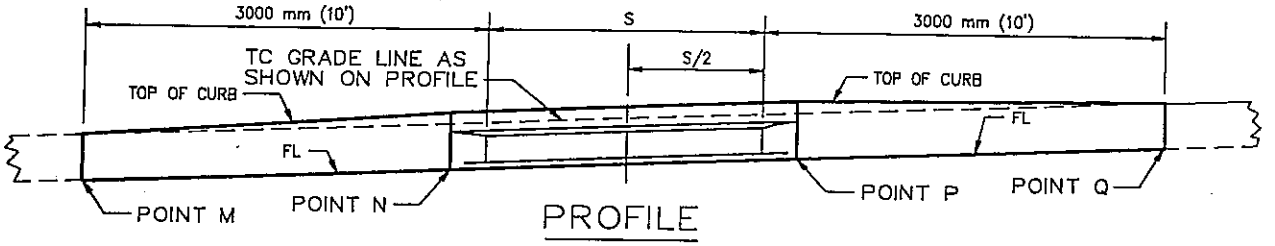
TOP OF GRATE

SECTION THRU FRAME

GRATE FOR CASE II INLET

AMERICAN PUBLIC WORKS ASSOCIATION - SOUTHERN CALIFORNIA CHAPTER	STANDARD PLAN METRIC
CURB DRAIN	150 - 2 SHEET 2 OF 2





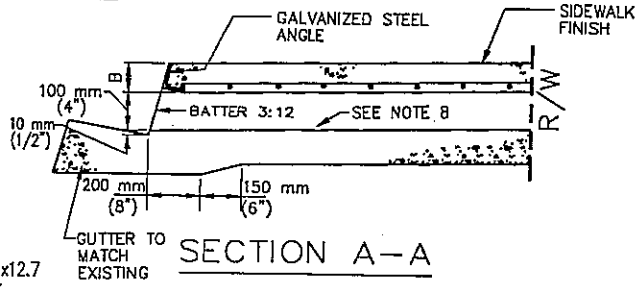
S, mm	J BAR SPACING, mm
300 (12")	240 (7")
450 (18")	240 (7")
600 (24")	240 (7")
750 (30")	240 (7")
900 (36")	240 (7")
1050 (42")	210 (6")
1200 (48")	180 (5")
1350 (54")	225 (6-1/2")
1500 (60")	180 (5")
1650 (66")	180 (4")
1800 (72")	120 (3-1/2")

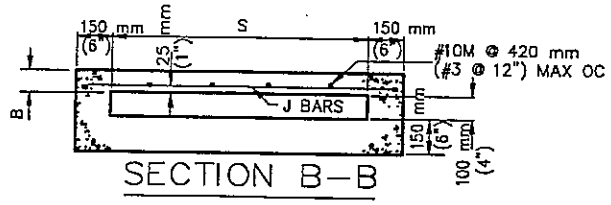
FOR S = 750 mm (30") AND LESS, USE 2 ANCHORS. OTHERWISE, USE 3 ANCHORS.

FOR S = 1200 mm (48") AND LESS, B = 75 mm (3") USE 64x51x9.5 (2-1/2"x2"x3/8") GALVANIZED STEEL ANGLE.

OTHERWISE, B = 100 mm (4"). USE 89x76x12.7 (3-1/2"x3"x1/2") GALVANIZED STEEL ANGLE.

J BARS ARE #10M (#3).





AMERICAN PUBLIC WORKS ASSOCIATION - SOUTHERN CALIFORNIA CHAPTER

PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1993 REV. 1996

PARKWAY DRAIN

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN METRIC

151 - 1

SHEET 1 OF 2

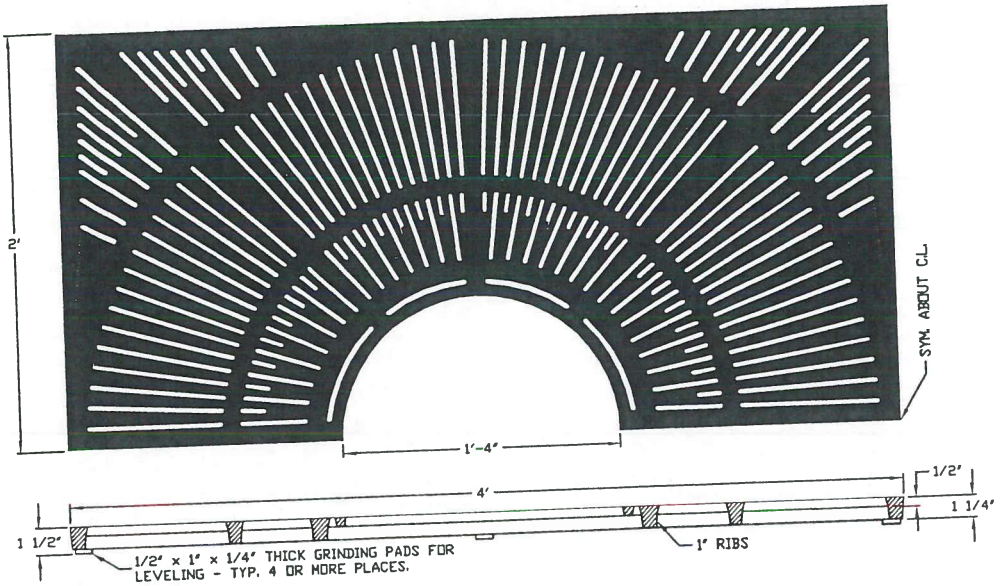
NOTES

1. FLOOR OF BOX SHALL BE TROWLED SMOOTH.
2. IF THE TOE OF SLOPE IS ALLOWED WITHIN THE R/W, INLET TYPE 1 BEGINS AT THE TOE RATHER THAN AT THE R/W LINE.
3. FOR OPEN DITCH (TYPE 2), THE 600 mm (24") EXTENSION BEYOND THE R/W LINE IS NOT REQUIRED WHEN BACK OF WALK IS 600 mm (24") OR MORE FROM THE R/W LINE; HOWEVER, THE PIPE SHALL EXTEND TO THE R/W LINE IN ANY EVENT.
4. TOP OF INLET STRUCTURE (TYPE 1 & 2) SHALL BE FLUSH WITH ADJACENT SURFACE WHERE PRACTICAL.
5. A HEADED STEEL STUD 16 mm x 160 mm WITH A 25 mm HEAD (5/8" x 6-3/8", 1" HEAD) ATTACHED BY A FULL PENETRATION BUTT WELD MAY BE USED AS AN ALTERNATE ANCHOR.
6. NORMAL CURB FACE AT POINT M AND Q. CURB FACE IS B + 125 mm (5") AT POINT N AND P.
7. THE 75 mm (3") LEG OF THE 16 mm (5/8") DIA ANCHORS SHALL BE PARALLEL TO THE TOP OF SIDEWALK.
8. SLOPE = 2.0%.
9. DIMENSIONS SHOWN ON THIS PLAN FOR METRIC AND ENGLISH UNITS ARE NOT EXACTLY EQUAL VALUES. IF METRIC UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE METRIC VALUES. IF ENGLISH UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE ENGLISH VALUES. HOWEVER, ASTM 615 REINFORCING STEEL MAY BE SUBSTITUTED FOR ASTM 615M STEEL.

STARBURST

SERIES 1

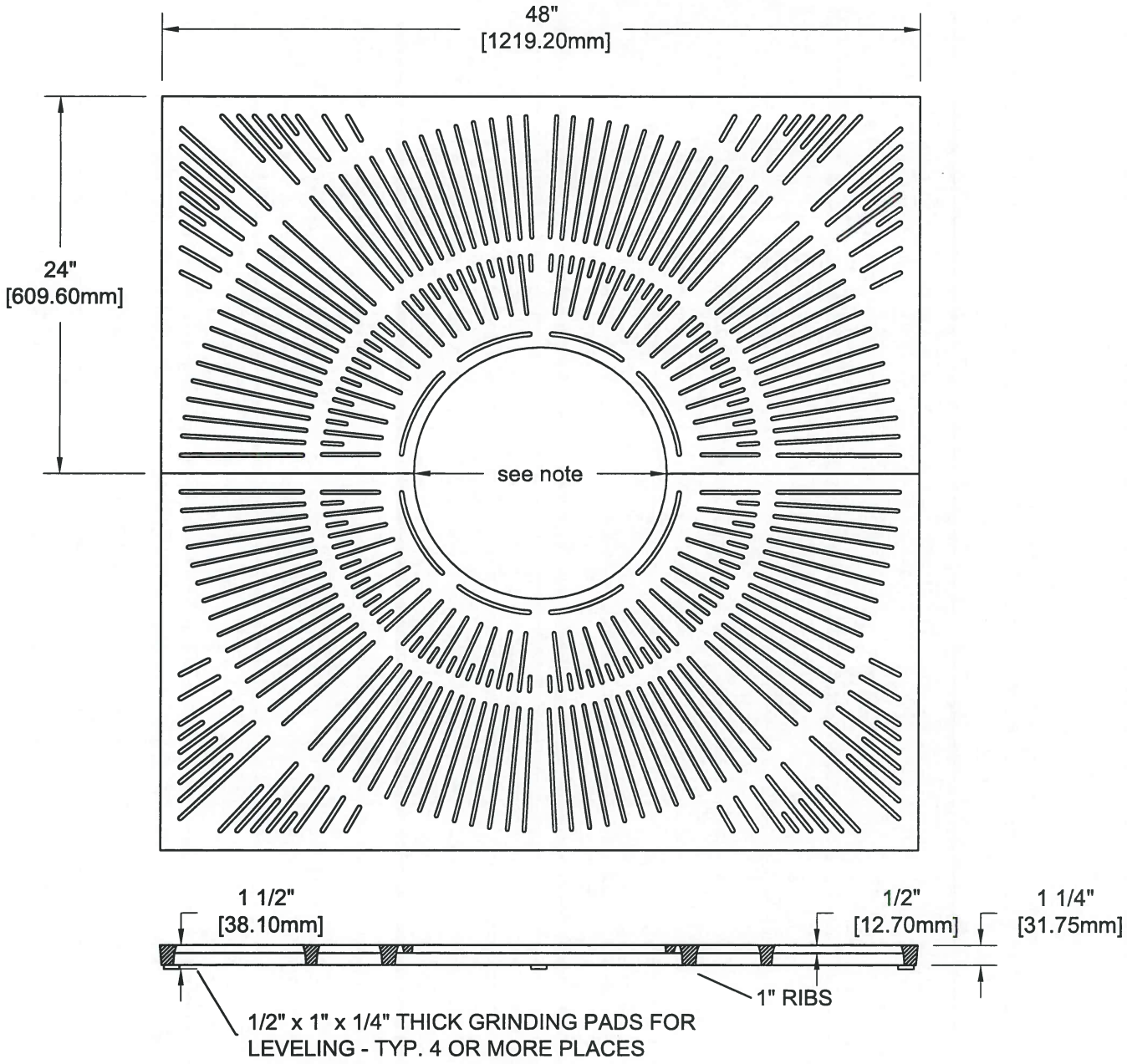
MODEL SHOWN: M4814-1



GRATE MODEL NO.	SIZE (INCHES)	TREE OPENING	WEIGHT IRON	WEIGHT ALUMINUM	USE FRAME
M3614-1	36	16,18	165	60	M3600F
M4814-1	48	16,18,28	325	115	M4800F
M6018-1	60	16,18,28	475	170	M6000F
M7206-1	72	16,26,36	700	252	M7200F

- Cast with 1/4" maximum slot openings to meet A.D.A. guidelines.
- Tree opening can be expanded to accommodate growth or ordered with the larger opening.
- Available in cast grey iron or cast aluminum these Grates are designed to carry pedestrian loads only
- Aluminum grates should be installed with frame and pilfer proof bolts to prevent unauthorized removal.
- For coating options, please see section on "Finishes".

AMERICANS WITH DISABILITIES ACT COMPLIANCE



4814-1
STARBURST
TREE GRATE

48" x 48" tree grate in two sections.

1/4 Maximum slot opening for pedestrian safety and A.D.A Compliance.

Cast from 100% recycled Iron, Aluminum,or Bronze for pedestrian loads only.

Tree opening:
16",18",28"
Grates can be orderd with or later expanded to these openings. please specify when ordering.

Finish: unfinished or
Black dip or
Enamel paint or
Polyurethane Paint or
Powder coat
Specify finish and color

Use frame model:
4800F

Weight:
Iron= 325 lb/ 148 Kg
Aluminum=120 lb/55 Kg

IRONSMITH
41-701 Corporate Way #3
Palm Desert, CA 92260
800.338.4766

Coating Options:

All of our cast metal products look great and wear very well without any finish. But for those cases where a different color option is required we can finish any product to your specification.

Standard options:

Natural Unfinished (see images) All cast iron products have an as cast surface. This surface shows a light sand texture. Cast aluminum and copper alloy products have a 36 grit random orbital ground surface. This surface reflects light from multiple directions. It is not a linear brushed finish
Click here for a discussion of natural aging
Black Dip is an asphalt coating used only on cast iron.
Enamel Paint can be color matched to your specification. One coat primer one enamel color.
Polyurethane Paint can be color matched to your specification. One coat special primer one polyurethane color top coat.
SHARKGRIP® may be added to enamel or polyurethane paint to improve slip resistance.
Powder Coat can be supplied from any powder manufacturer's standard colors. Powder coat process includes; sand balst , multistage wash and rinse, epoxy primer, exterior rated polyester topcoat. We suggest Cardinal Powder coat.IRONSMITH standard black is Cardinal T241-BK59 Black texture semi gloss TGIC polyester.
We also provide Tiger Drylac RAL colors.
ZINC Undercoats
For premium finishes we offer zinc galvanizing in both hot dip and hot spray methods for steel and iron products.

Special Options:

Black Max rust conversion
A non toxic easily field applied product to turn rusty grates dark instantly.
Baked Oil
IRONSMITH discourages the use of this finish method. Click here for a full discussion.
Brass Patinas
We can provide Birchwood® Technologies M38 and M24 finishes.

IRONSMITH Finish and Material Options

Metal Selection

IRONSMITH cast products; tree grates, trench grates, drain grates and bollards, are available in:

Cast gray iron: Long a standard for gratings and bollards, gray iron offers the best balance of strength, durability and low cost. 100% post consumer recycled metal.
Cast ductile iron: Ductile iron is more malleable and less brittle than gray iron allowing for a greater strength to weight ratio. Best when higher strength and lower weight is needed. High percentage of post consumer metal but may include pre-consumer recycled metal still meeting L.E.E.D. standard for recycled content.
Cast aluminum from 100% post consumer recycled metal. Light weight (1/3 cast iron) yet still strong, does not rust. Unique look when left unfinished.
Cast Bronze/ brass alloys. Standard material used is alloy C854 yellow brass for castings and C385 Architectural bronze for frame angles. Yellow brass contains app. 67% Copper, 29% Zinc, 3% Lead, and 1% Tin. Architectural Bronze contains app. 55 -60% copper,40% zinc, 2 - 3.8% lead . Due to their lead content C854 and C385 alloys may not be suitable for systems to provide water for human consumption. IRONSMITH copper alloy products are not ANSI/NSF 61 tested. Please check your local codes.

Click here for a discussion of bronze / brass

Fabricated Steel Products , frames, tree guards, paver suspension,
from ASTM A36 carbon steel