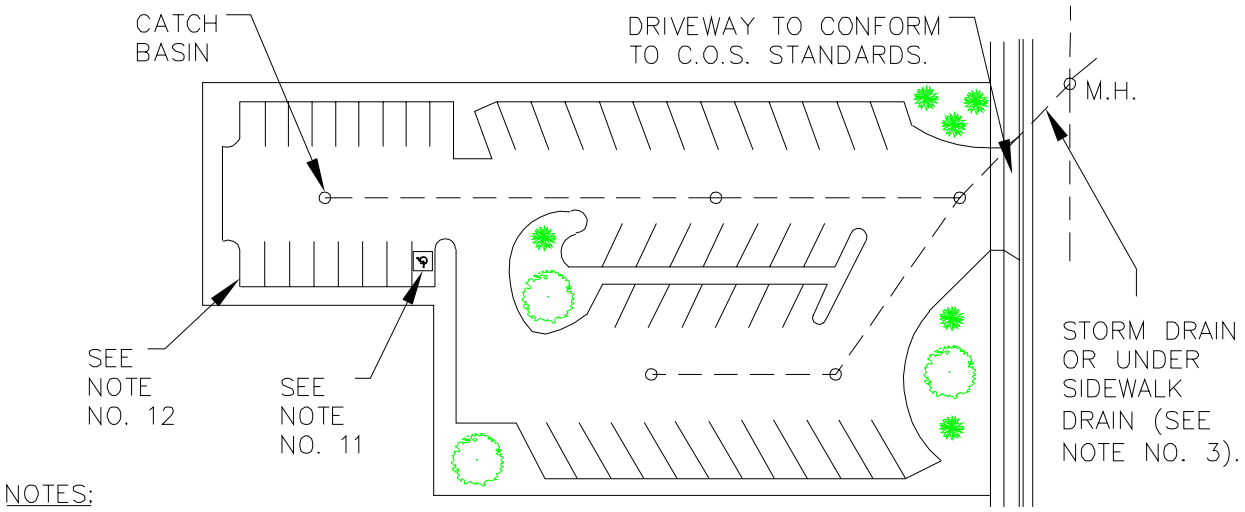


NOTES:

1. THE STANDARD PAVED SURFACE FOR PARKING LOTS, INCLUDING FIRE DEPARTMENT REQUIRED CIRCULATION SHALL BE ASPHALT OR CONCRETE WITH A STANDARD SECTION BASED ON A MINIMUM TI = 4 AND AN R = 5. OTHER ALTERNATIVES OF DUST AND TRACK FREE MATERIALS MAY BE SUBMITTED FOR CITY ENGINEER/FIRE DEPARTMENT APPROVAL. SAND, DECOMPOSED GRANITE, GRAVEL AND/OR SIMILAR TYPE MATERIAL ARE NOT ACCEPTABLE.
2. PARKING LOTS WHICH WILL EXPERIENCE TRUCK TRAFFIC MAY REQUIRE HIGHER T.I. VALUES AND SHALL BE DESIGNED ACCORDINGLY.
3. UNDER SIDEWALK DRAINS ALLOWED FOR PARCELS UP TO ONE ACRE IN SIZE (SEE STANDARD DRAWING NO. 81). LARGER PARCELS MUST CONNECT TO A STORM SEWER AT A CATCH BASIN OR MAINTENANCE HOLE.
4. A MINIMUM CROSS SLOPE OF 1% IS REQUIRED.
* 5. THE MINIMUM NUMBER OF PARKING SPACES REQUIRED SHALL CONFORM TO CHAPTER 16 OF THE STOCKTON MUNICIPAL CODE.
* 6. PARKING LAYOUT AND DESIGN SHALL BE IN CONFORMANCE WITH "PARKING LOT DEVELOPMENT STANDARDS" ESTABLISHED BY THE COMMUNITY DEVELOPMENT DEPARTMENT OF THE CITY OF STOCKTON AND STANDARD PLAN NO. 40A AND NOS. 41 THROUGH 41H.
* 7. ANY PARKING LAYOUT NECESSITATING A CUL-DE-SAC OR SIMILAR TURNING FACILITY FOR REVERSING THE DIRECTION OF TRAVEL IN ORDER TO EXIT FROM THE AREA OR ANY PARKING SPACES WILL GENERALLY BE DISCOURAGED, AND IT SHOULD BE ACCEPTED BY CITY STAFF PRIOR TO INCORPORATION INTO THE PLAN.
* 8. IN ALL PARKING LOT DESIGN, PROVISIONS SHALL BE MADE FOR THE MANEUVERING OF EMERGENCY VEHICLES, AND THE ARRANGEMENT SHALL BE ACCEPTED BY CITY STAFF PRIOR TO INCORPORATION INTO THE PLAN.
* 9. PARKING OR BACKING AREA WITHIN A PARKING LOT SHALL NOT EXTEND INTO THE PUBLIC RIGHT-OF-WAY EXCEPT AS PROVIDED IN THE STOCKTON MUNICIPAL CODE.
10. ALL UNUSABLE AREAS SHALL BE LANDSCAPED WHERE PRACTICAL.
11. END STALLS SHOULD BE PROTECTED FROM THE TURNING MOVEMENTS OF OTHER VEHICLES.

* DEVIATION FROM THESE SECTIONS REQUIRES PLANNING COMMISSION APPROVAL

REV. NO.	REV. DATE	REV. BY
4	6/1/2000	HLE/RH

DIGITIZED 7/1/90

DWG. BY RC

CK. BY

SCALE NONE

PARKING AREA STANDARDS

CITY OF STOCKTON
DEPARTMENT OF PUBLIC WORKS

REVISION APPROVED BY CITY ENGINEER
Finbar J. O'Regan
DATE: 01/09/02

SUPERCEDES DWG. DATED 2/23/95

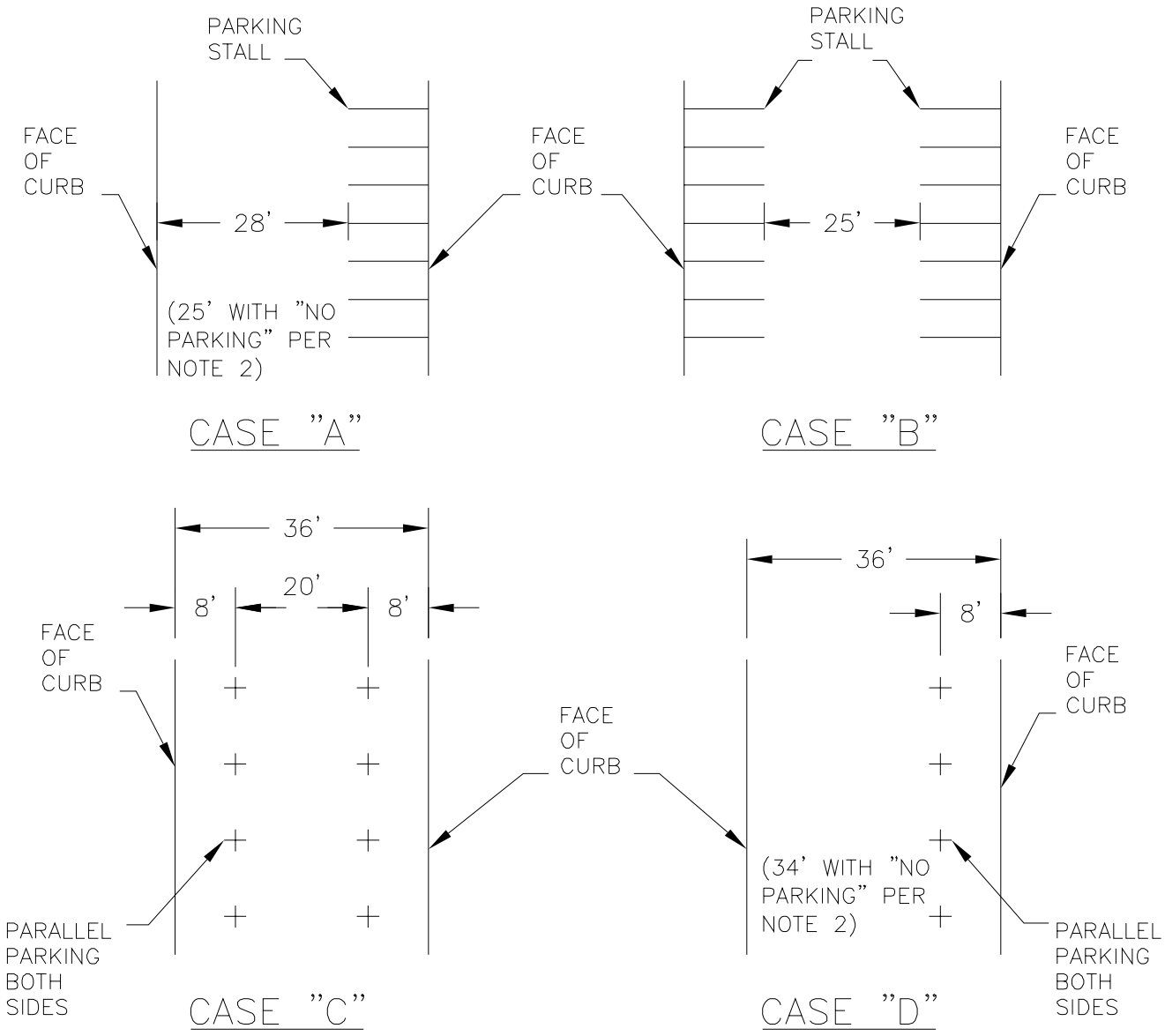
DRAWING NO. 40

(CONT'D FROM DWG. 40)

12. CONTINUOUS CONCRETE CURBING SHALL BE USED AS WHEEL STOPS WHEREVER POSSIBLE. THE USE OF BUMPER BLOCKS IS DISCOURAGED.
13. HANDICAPPED STALLS SHALL COMPLY WITH THE STATE BUILDING CODE AND CITY OF STOCKTON STANDARD PLANS AND SPECIFICATIONS.
14. DEAD-END 90° PARKING SHALL BE PROVIDED WITH ADEQUATE TURNING ROOM.
15. IN LOCATIONS WHERE PARALLEL PARKING IS PERMITTED OR POSSIBLE, AN ADDITIONAL 3'-0" SHALL BE ADDED TO THE AISLE WIDTH TO ACCOMMODATE PARKED VEHICLES ON ONE SIDE OR AN ADDITIONAL 11'-0" SHALL BE ADDED TO THE AISLE WIDTH TO ACCOMMODATE PARKED VEHICLES ON BOTH SIDES (i.e., PARKING ON ONE SIDE 28'-0", ON BOTH SIDES 36'-0"). PARALLEL PARKING IS CONSIDERED POSSIBLE WHEREVER 20'-0" OR MORE OF CLEAR, REASONABLY STRAIGHT CURB EXISTS.
* 16. THE FOLLOWING ARE THE MINIMUM ACCEPTABLE DIMENSION FOR INDIVIDUAL PARKING SPACES:
    A) MINIMUM STANDARD PARKING SPACE – 8'-6" WIDE BY 19'-0" LONG (SEE STRIPING REQUIREMENTS – NO. 17).
    B) MINIMUM COMPACT PARKING SPACE – 7'-6" WIDE BY 15'-0" LONG (SEE STRIPING REQUIREMENTS – NO. 17). 25% OF THE REQUIRED OFF STREET PARKING MAY BE DEVELOPED TO COMPACT SIZE.
    C) SPACES WITHIN GARAGES AND CARPORTS – 9'-0" WIDE BY 19'-0" LONG.
* 17. PARKING SPACES MUST BE DEVELOPED WITH DRAINAGE AND SURFACING AS REQUIRED IN THE CITY OF STOCKTON STANDARD SPECIFICATIONS AND PLANS (SEE DRAWING NO. 40). PARKING SPACE SURFACES SHALL BE STRIPED TO CLEARLY DEFINE EACH PARKING SPACE. IN ADDITION, PARKING LOTS PROVIDING STANDARD SIZE PARKING SPACES THAT ARE LESS THAN 9'-0" WIDE BY 19'-0" LONG (8'-6" BY 19'-0" MIN.) MUST BE DOUBLE STRIPED, WHEREAS PARKING SPACES THAT ARE AT LEAST 9'-0" WIDE BY 19'-0" LONG MAY BE SINGLE STRIPED. COMPACT PARKING SPACES CAN BE SINGLE STRIPED. PARKING SPACE WIDTHS ARE MEASURED ON CENTER. SEE DRAWINGS 41B AND 41C FOR STRIPING DETAILS.
* 18. ALL PARKING LOTS WITH MORE THAN 4 SPACES SHALL CONFORM TO LANDSCAPING AND SCREENING REQUIREMENTS OF THE STOCKTON MUNICIPAL CODE FOR THE "DEVELOPMENT STANDARD FOR OFF-STREET PARKING."
* 19. CIRCULATION REQUIRING USE OF A PUBLIC STREET TO TRAVEL FROM AISLE TO AISLE IN SEARCH OF A PARKING SPACE IS NOT PERMITTED.

* DEVIATION FROM THESE SECTIONS REQUIRES PLANNING COMMISSION APPROVAL

REV. NO.	REV. DATE	REV. BY	ADDITIONAL PARKING AREA STANDARDS	REVISION APPROVED BY CITY ENGINEER
1	6/1/2000	HLE/RH		Finbar J. O'Regan
DIGITIZED	3/17/95			DATE: 01/09/02
DWG. BY PLANNING	SCALE		CITY OF STOCKTON	SUPERCEDES DWG. DATED
CK. BY	NONE		DEPARTMENT OF PUBLIC WORKS	3/17/95
				DRAWING NO. 40A



NOTES:

1. THE ABOVE MINIMUM WIDTHS SHOWN ARE REQUIRED FOR OFF-STREET PARKING AREAS IN CONNECTION WITH BUILDING DEVELOPMENTS.

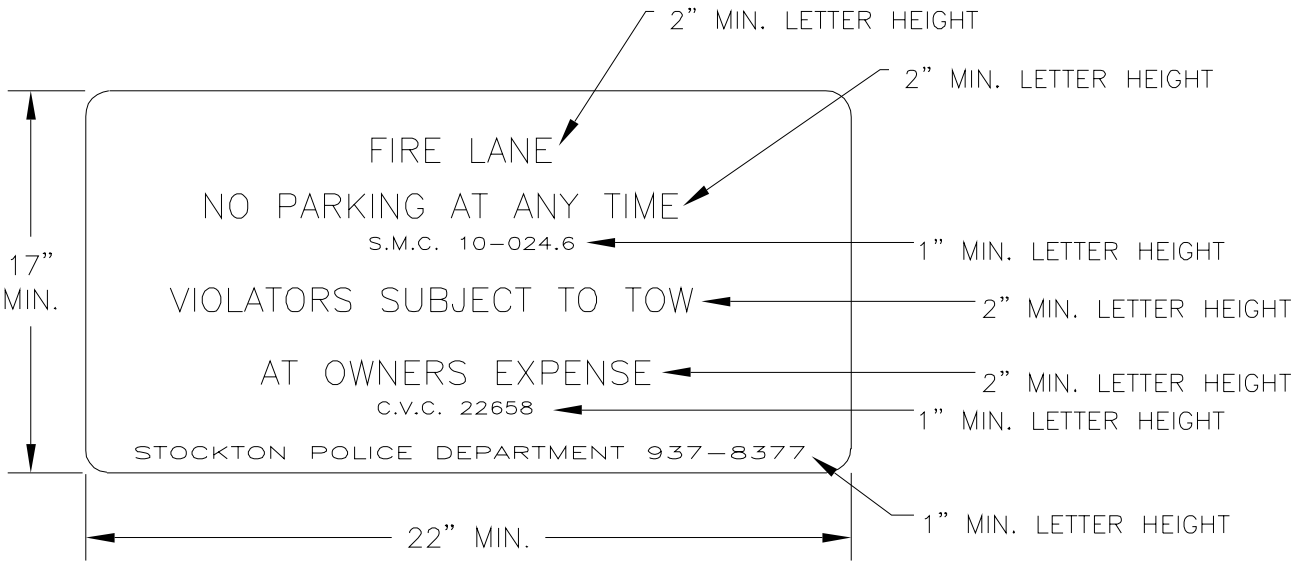
2. WHEN ANY PORTION OF A STRUCTURE IS MORE THAN 150'-0" FROM A PUBLIC STREET. THE ABOVE WIDTHS MAY BE REDUCED WITH THE APPROVAL OF THE FIRE DEPARTMENT AND THE PUBLIC WORKS DEPARTMENT. ANY SUCH REDUCTIONS WILL REQUIRE THE ESTABLISHMENT OF APPROPRIATE "NO PARKING" ZONES TOGETHER WITH THE INSTALLATION OF "NO PARKING" SIGNS BY THE DEVELOPER AS SHOWN ON DRAWING NO. 41A.

3. ALL PARKING AREA CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH STANDARD DRAWING NO. 40.

REV. NO.	REV. DATE	REV. BY	AISLE WIDTH REQUIREMENTS FOR PARKING AREAS	REVISION APPROVED BY CITY ENGINEER
1	6/1/2000	HLE/RH		Finbar J. O'Regan
DIGITIZED	1/1/92			DATE: 01/09/02
DWG. BY	RC	SCALE	CITY OF STOCKTON DEPARTMENT OF PUBLIC WORKS	SUPERCEDES DWG. DATED 1/1/92
CK. BY		NONE		DRAWING NO. 41

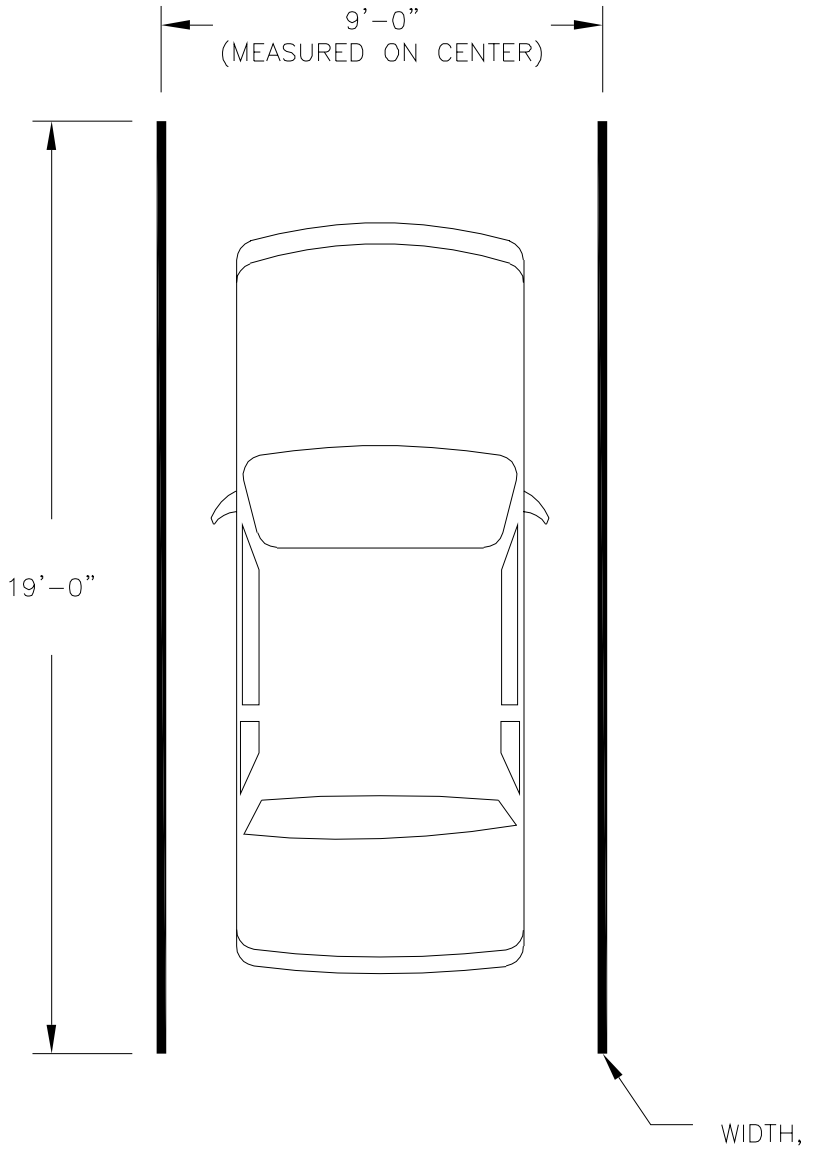
FIRE LANE SIGNING

1. FIRE LANE SIGNS AS DESIGNATED BY THE CITY OF STOCKTON SHALL BE APPROVED BY THE CITY FIRE DEPARTMENT PRIOR TO INSTALLATION.
2. SIGNS SHALL BE ALL WEATHER CONSTRUCTION WITH RED LETTERS ON WHITE BACKGROUND.
3. SIGNS SHALL READ AS FOLLOWS:



REV. NO.	REV. DATE	REV. BY	FIRE LANE SIGNING	REVISION APPROVED BY CITY ENGINEER
2	6/4/94	KB		Finbar J. O'Regan
DIGITIZED	1/1/92			DATE: 01/09/02
DWG. BY RC	SCALE		CITY OF STOCKTON	SUPERCEDES DWG. DATED
CK. BY	NONE		DEPARTMENT OF PUBLIC WORKS	7/1/84
				DRAWING NO. 41A

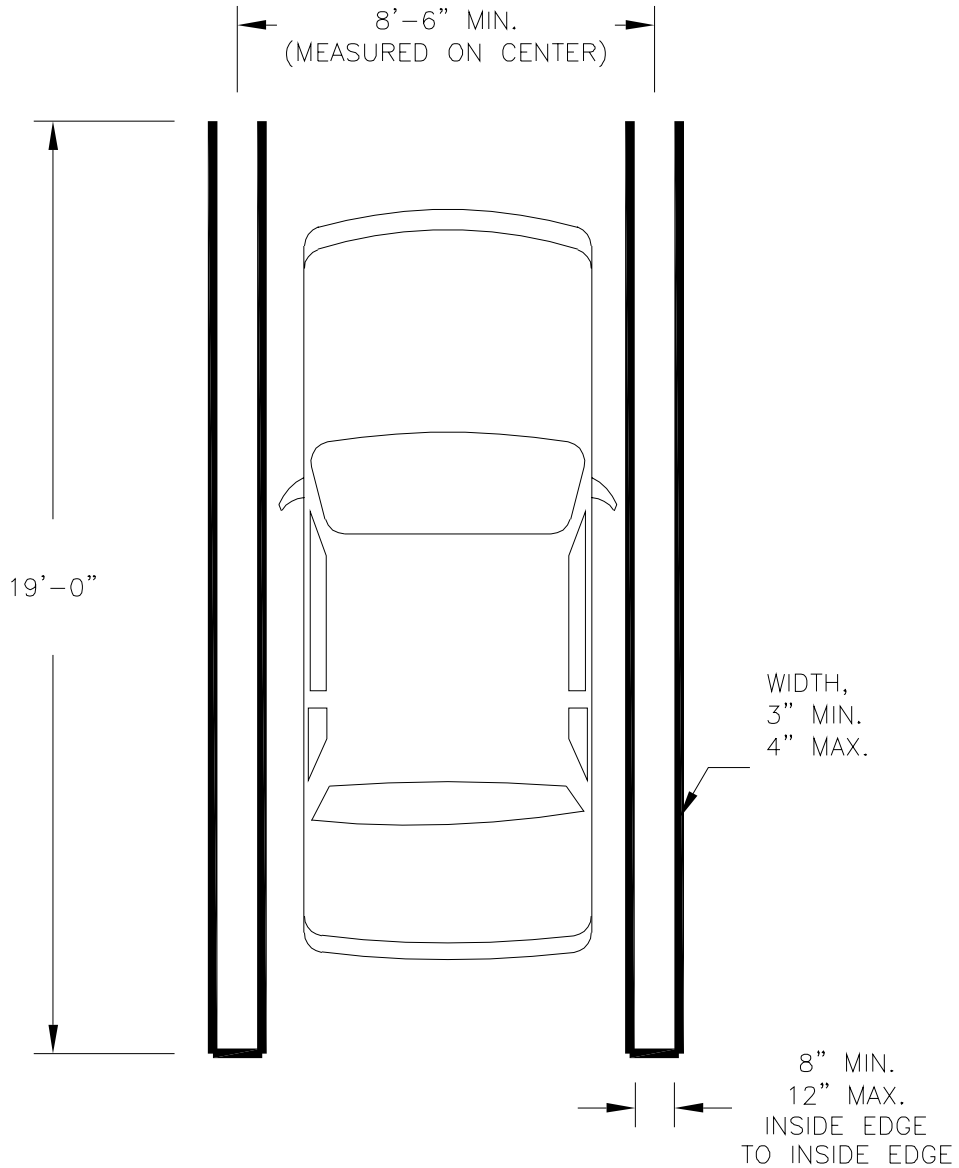
TYPICAL 9' BY 19' PARKING STALL – SINGLE STRIPED



DRIVEWAY AISLE

REV. NO.	REV. DATE	REV. BY	TYPICAL 9' BY 19' PARKING STALL SINGLE STRIPED	DEVIATIONS FROM THIS DRAWING REQUIRE PLANNING COMMISSION APPROVAL
1	6/1/2000	HLE/RH		Finbar J. O'Regan
DIGITIZED	3/17/95			DATE: 01/09/02
DWG. BY PLANNING	SCALE		CITY OF STOCKTON	SUPERCEDES DWG. DATED
CK. BY	NONE		DEPARTMENT OF PUBLIC WORKS	3/17/95
				DRAWING NO. 41B

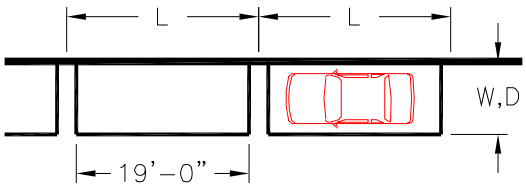
STANDARD PARKING STALL – DOUBLE STRIPED



DRIVEWAY AISLE

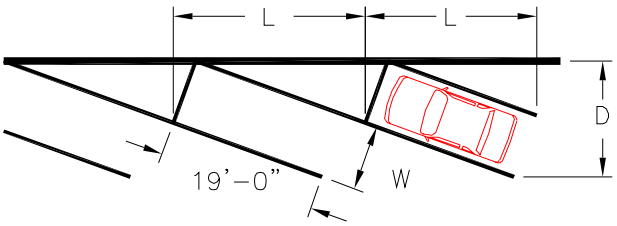
REV. NO.	REV. DATE	REV. BY	STANDARD PARKING STALL DOUBLE STRIPED	DEVIATIONS FROM THIS DRAWING REQUIRE PLANNING COMMISSION APPROVAL
1	6/1/2000	HLE/RH		Finbar J. O'Regan
DIGITIZED	3/17/95			DATE: 01/09/02
DWG. BY PLANNING	SCALE		CITY OF STOCKTON	SUPERCEDES DWG. DATED 3/17/95
CK. BY	NONE		DEPARTMENT OF PUBLIC WORKS	DRAWING NO. 41C

STANDARD PARKING DIMENSIONS

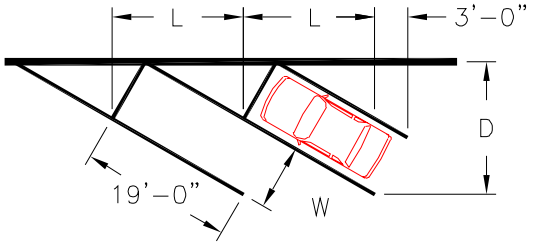


THE PARALLEL DESIGN IS FOR ON-STREET PARKING AND IS NOT GENERALLY ACCEPTABLE WITHIN PARKING LOTS.

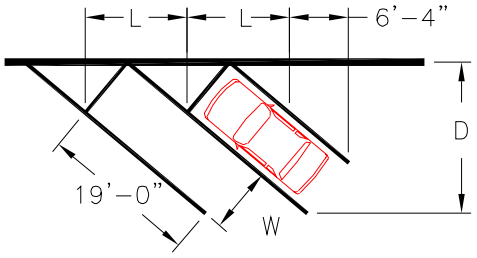
PARK ANGLE	STALL WIDTH (W)	CURB LENGTH PER CAR (L)	STALL DEPTH (D)	MIN. AISLE WIDTH
0°	8'-6"	23'-0"	8'-6"	12'-0"
	9'-0"	23'-0"	9'-0"	12'-0"
	9'-6"	23'-0"	9'-6"	12'-0"



PARK ANGLE	STALL WIDTH (W)	CURB LENGTH PER CAR (L)	STALL DEPTH (D)	MIN. AISLE WIDTH
20°	8'-6"	24'-11"	14'-6"	11'-0"
	9'-0"	26'-4"	15'-0"	11'-0"
	9'-6"	27'-10"	15'-6"	11'-0"



PARK ANGLE	STALL WIDTH (W)	CURB LENGTH PER CAR (L)	STALL DEPTH (D)	MIN. AISLE WIDTH
30°	8'-6"	17'-0"	16'-11"	11'-0"
	9'-0"	18'-0"	17'-4"	11'-0"
	9'-6"	19'-0"	17'-10"	11'-0"



PARK ANGLE	STALL WIDTH (W)	CURB LENGTH PER CAR (L)	STALL DEPTH (D)	MIN. AISLE WIDTH
40°	8'-6"	13'-4"	18'-10"	12'-0"
	9'-0"	14'-0"	19'-2"	12'-0"
	9'-6"	14'-10"	19'-6"	12'-0"

REV. NO.	REV. DATE	REV. BY
1	6/1/2000	HLE/RH
DIGITIZED	3/17/95	
DWG. BY PLANNING	SCALE	
CK. BY	NONE	

STANDARD PARKING STALL DIMENSIONS

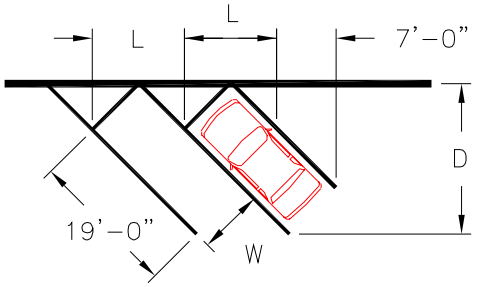
CITY OF STOCKTON
DEPARTMENT OF PUBLIC WORKS

DEVIATIONS FROM THIS DRAWING REQUIRE PLANNING COMMISSION APPROVAL
Finbar J. O'Regan
DATE: 01/09/02

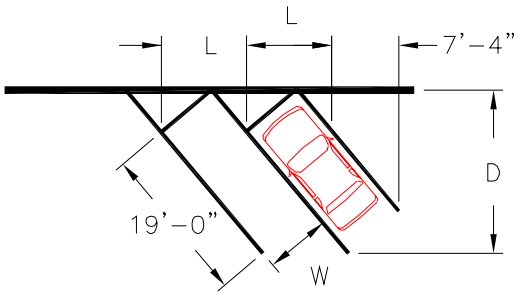
SUPERCEDES DWG. DATED 3/17/95

DRAWING NO. 41D

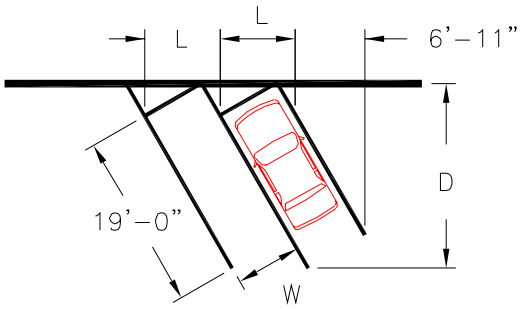
STANDARD PARKING DIMENSIONS



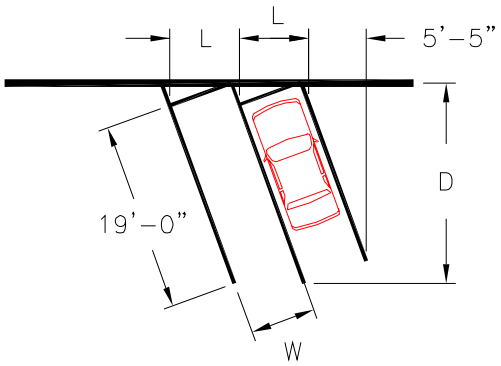
PARK ANGLE	STALL WIDTH (W)	CURB LENGTH PER CAR (L)	STALL DEPTH (D)	MIN. AISLE WIDTH
45°	8'-6"	12'-0"	19'-5"	13'-6"
	9'-0"	12'-10"	19'-11"	13'-6"
	9'-6"	13'-5"	20'-2"	13'-6"



PARK ANGLE	STALL WIDTH (W)	CURB LENGTH PER CAR (L)	STALL DEPTH (D)	MIN. AISLE WIDTH
50°	8'-6"	11'-2"	20'-0"	15'-0"
	9'-0"	11'-10"	20'-5"	15'-0"
	9'-6"	12-5"	20'-10"	15'-0"



PARK ANGLE	STALL WIDTH (W)	CURB LENGTH PER CAR (L)	STALL DEPTH (D)	MIN. AISLE WIDTH
60°	8'-6"	9'-10"	20'-10"	18'-6"
	9'-0"	10'-5"	21'-0"	18'-6"
	9'-6"	11'-0"	21'-4"	18'-6"



PARK ANGLE	STALL WIDTH (W)	CURB LENGTH PER CAR (L)	STALL DEPTH (D)	MIN. AISLE WIDTH
70°	8'-6"	9'-0"	20'-10"	19'-6"
	9'-0"	9'-8"	21'-0"	19'-6"
	9'-6"	10'-2"	21'-4"	19'-6"

REV. NO.	REV. DATE	REV. BY
1	6/1/2000	HLE/RH
DIGITIZED	3/17/95	
DWG. BY PLANNING	SCALE	
CK. BY	NONE	

STANDARD PARKING STALL DIMENSIONS

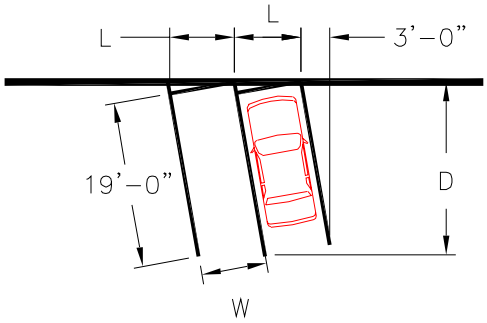
CITY OF STOCKTON
DEPARTMENT OF PUBLIC WORKS

DEVIATIONS FROM THIS DRAWING REQUIRE PLANNING COMMISSION APPROVAL
DATE: 01/09/02

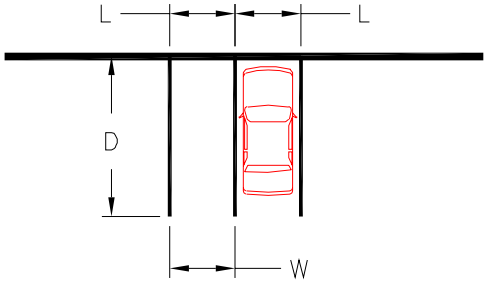
SUPERCEDES DWG. DATED 3/17/95

DRAWING NO. 41E

STANDARD PARKING DIMENSIONS



PARK ANGLE	STALL WIDTH (W)	CURB LENGTH PER CAR (L)	STALL DEPTH (D)	MIN. AISLE WIDTH
80°	8'–6"	8'–8"	20'–4"	24'–0"
	9'–0"	9'–2"	20'–4"	24'–0"
	9'–6"	9'–8"	20'–5"	24'–0"



PARK ANGLE	STALL WIDTH (W)	CURB LENGTH PER CAR (L)	STALL DEPTH (D)	MIN. AISLE WIDTH
90°	8'–6"	8'–6"	19'–0"	25'–0"
	9'–0"	9'–0"	19'–0"	25'–0"
	9'–6"	9'–6"	19'–0"	25'–0"

REV. NO.	REV. DATE	REV. BY
1	6/1/2000	HLE/RH
DIGITIZED	3/17/95	
DWG. BY PLANNING	SCALE	
CK. BY	NONE	

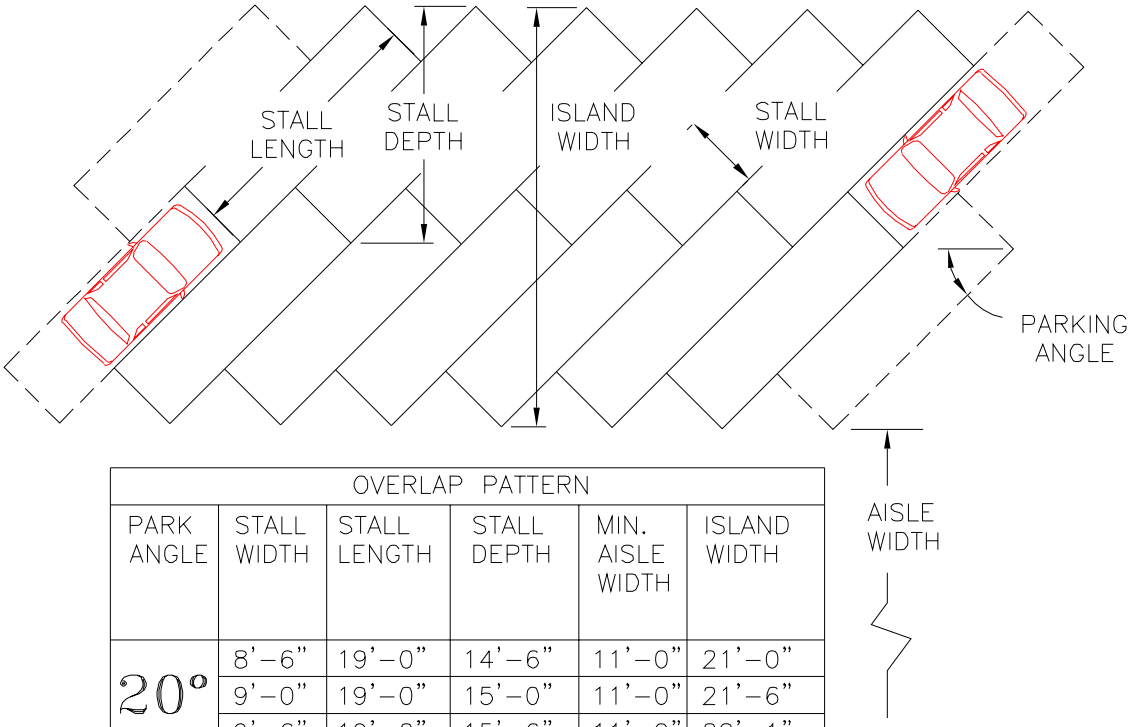
STANDARD PARKING
STALL DIMENSIONS

CITY OF STOCKTON
DEPARTMENT OF PUBLIC WORKS

DEVIATIONS FROM THIS DRAWING REQUIRE PLANNING COMMISSION APPROVAL
Finbarr J. O'Regan
DATE: 01/09/02

SUPERCEDES DWG. DATED 3/17/95

DRAWING NO. 41F



OVERLAP PATTERN					
PARK ANGLE	STALL WIDTH	STALL LENGTH	STALL DEPTH	MIN. AISLE WIDTH	ISLAND WIDTH
20°	8'-6"	19'-0"	14'-6"	11'-0"	21'-0"
	9'-0"	19'-0"	15'-0"	11'-0"	21'-6"
	9'-6"	19'-0"	15'-6"	11'-0"	22'-1"
30°	8'-6"	19'-0"	16'-11"	11'-0"	26'-5"
	9'-0"	19'-0"	17'-4"	11'-0"	26'-10"
	9'-6"	19'-0"	17'-10"	11'-0"	27'-5"
40°	8'-6"	19'-0"	18'-8"	12'-0"	30'-11"
	9'-0"	19'-0"	19'-2"	12'-0"	31'-4"
	9'-6"	19'-0"	19'-6"	12'-0"	31'-8"
45°	8'-6"	19'-0"	19'-5"	13'-6"	32'-10"
	9'-0"	19'-0"	19'-11"	13'-6"	33'-2"
	9'-6"	19'-0"	20'-2"	13'-6"	33'-6"
50°	8'-6"	19'-0"	20'-0"	15'-0"	34'-6"
	9'-0"	19'-0"	20'-5"	15'-0"	35'-0"
	9'-6"	19'-0"	20'-10"	15'-0"	35'-4"
60°	8'-6"	19'-0"	20'-10"	18'-6"	37'-1"
	9'-0"	19'-0"	21'-0"	18'-6"	37'-6"
	9'-6"	19'-0"	21'-4"	18'-6"	37'-7"
70°	8'-6"	19'-0"	20'-10"	19'-6"	38'-8"
	9'-0"	19'-0"	21'-0"	19'-6"	38'-11"
	9'-6"	19'-0"	21'-4"	19'-6"	39'-2"
80°	8'-6"	19'-0"	20'-4"	24'-0"	38'-11"
	9'-0"	19'-0"	20'-4"	24'-0"	38'-8"
	9'-6"	19'-0"	20'-5"	24'-0"	38'-8"
90°	8'-6"	19'-0"	19'-0"	25'-0"	38'-0"
	9'-0"	19'-0"	19'-0"	25'-0"	38'-0"
	9'-6"	19'-0"	19'-0"	25'-0"	38'-0"

REV. NO.	REV. DATE	REV. BY
1	6/1/2000	HLE/RH
DIGITIZED	3/17/95	
DWG. BY PLANNING	SCALE	
CK. BY	NONE	

STANDARD PARKING STALL DIMENSIONS

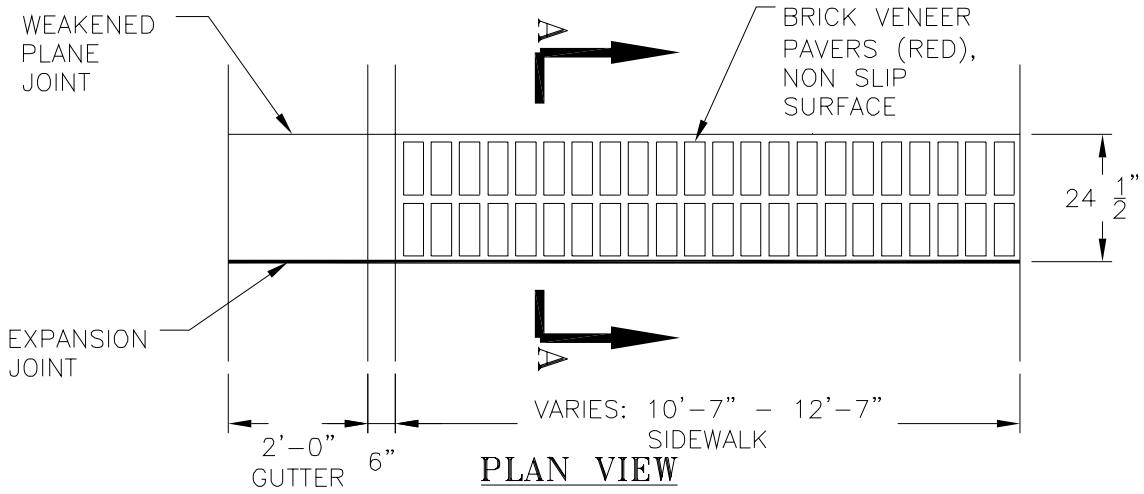
CITY OF STOCKTON
DEPARTMENT OF PUBLIC WORKS

DEVIATIONS FROM THIS DRAWING REQUIRE PLANNING COMMISSION APPROVAL
Finbar J. O'Regan
DATE: 01/09/02

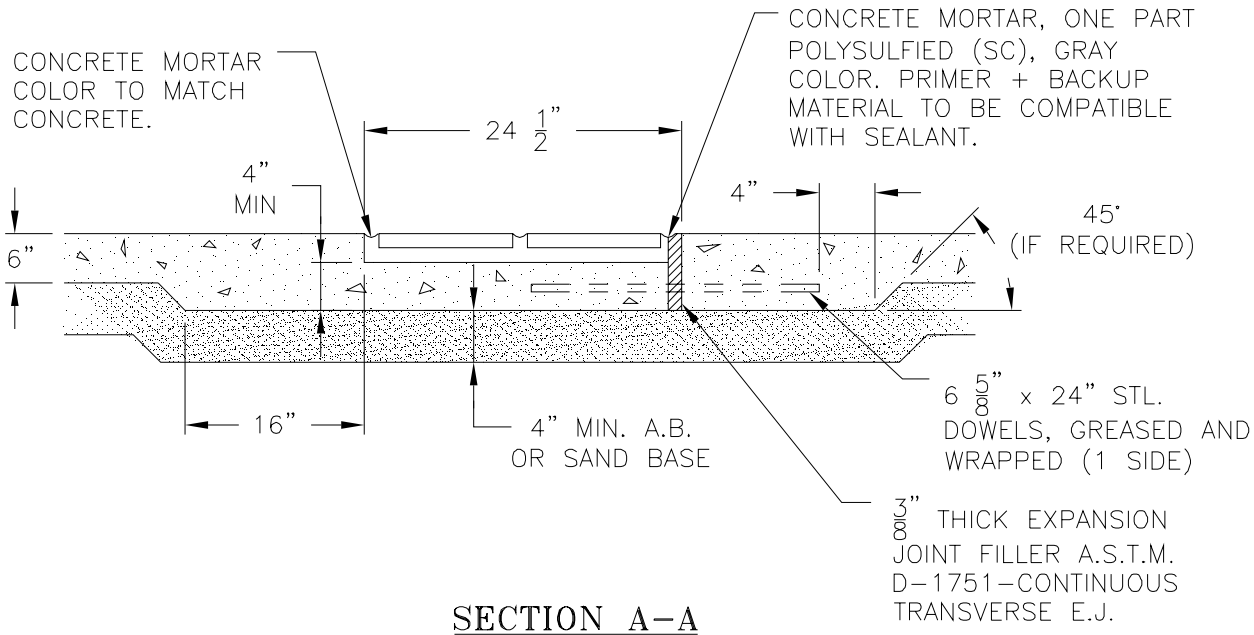
SUPERCEDES DWG. DATED 3/17/95

DRAWING NO. 41G

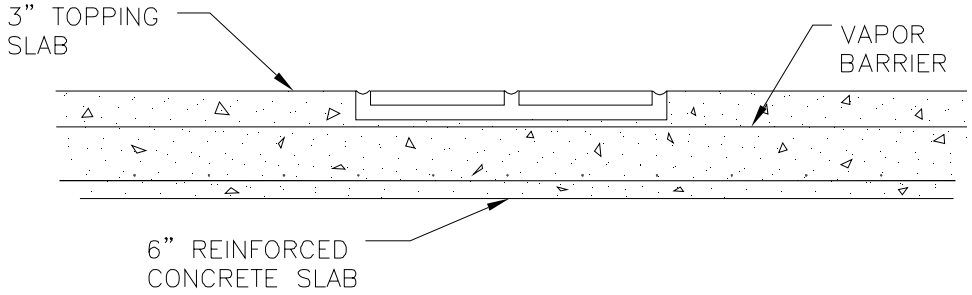
For information regarding Drawing 41H (Compact Parking Stall Dimensions), please call 937-8366.



PLAN VIEW



SECTION A-A

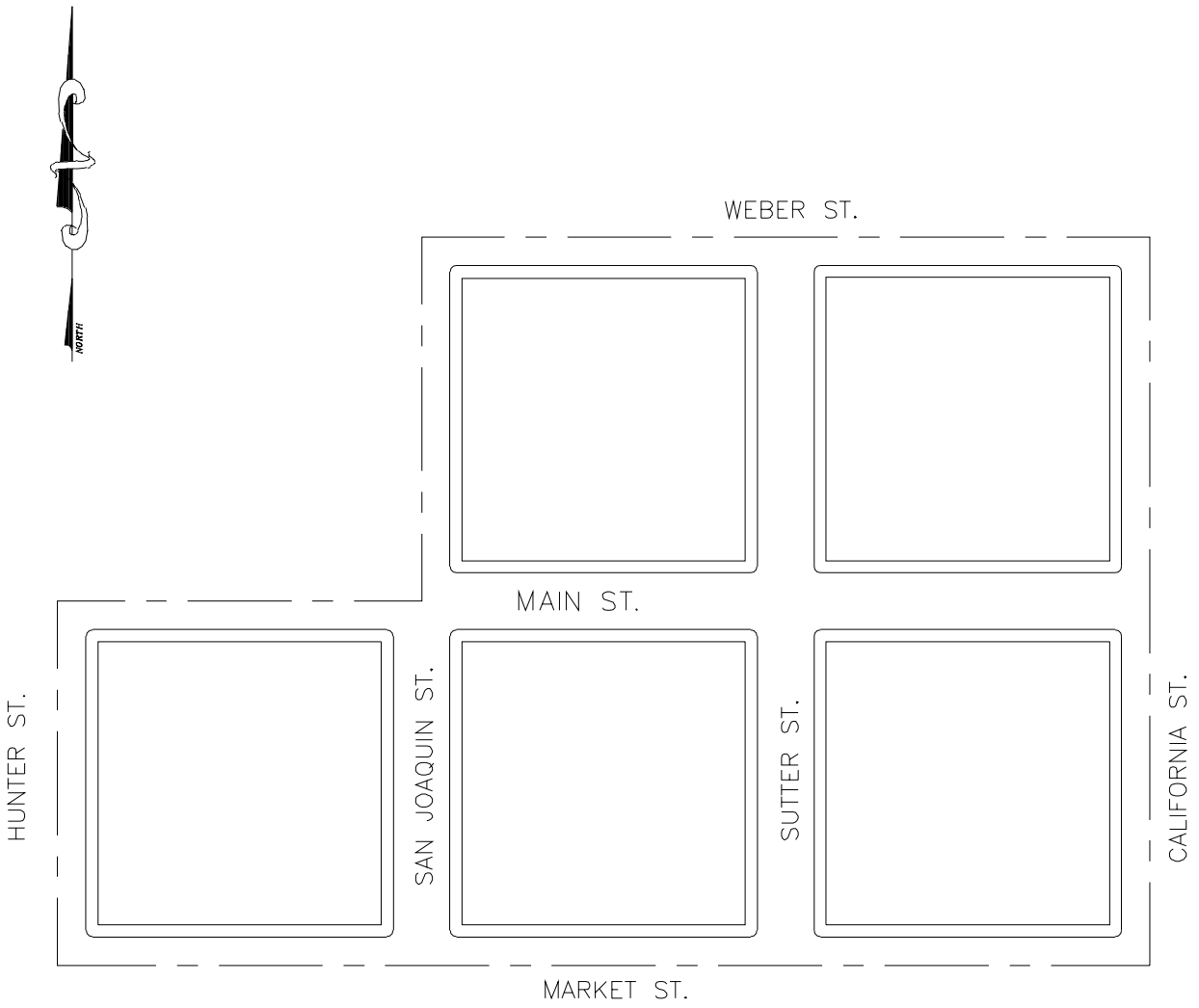


TYPICAL SIDEWALK/BASEMENT ROOF

NOTES:

1. SIDEWALK BRICK STRIPS SHALL BE EQUALLY SPACED 20'-0" TO 25'-0"± O.C.
2. REINFORCED CONCRETE SHALL BE DESIGNED AND SUBMITTED FOR APPROVAL BY THE CITY ENGINEER.

REV. NO.	REV. DATE	REV. BY		
5	6/1/2003	HL/EA	SIDEWALK BRICK STRIP	REVISION APPROVED BY CITY ENGINEER Finbar J. O'Regan DATE: 11/25/03
DIGITIZED	7/1/91			
DWG. BY RC	SCALE		CITY OF STOCKTON DEPARTMENT OF PUBLIC WORKS	SUPERCEDES DWG. DATED 1/9/02
CK. BY	NONE			DRAWING NO. 42



REV. NO.	REV. DATE	REV. BY
1	10/7/93	SA
DIGITIZED	1/1/92	
DWG. BY	RC	SCALE
CK. BY	NS	NONE

AREA REQUIRING BRICK PAVERS IN SIDEWALKS

CITY OF STOCKTON
DEPARTMENT OF PUBLIC WORKS

DIGITIZED VERSION APPROVED BY CITY ENGINEER
Finbar J. O'Regan
DATE: 01/09/02

SUPERCEDES DWG. DATED 7/1/87

DRAWING NO. 42A

PEAK FACTOR:

FOR AVG. FLOW < 0.5 MGD $PF = 2.29\ (AVG.\ FLOW)^{-0.338}$

FOR 0.5 MGD < AVG. FLOW < 1.8 MGD $PF = 2.50\ (AVG.\ FLOW)^{-0.216}$

FOR AVG. FLOW > 1.8 MGD $PF = 2.37\ (AVG.\ FLOW)^{-0.124}$

NOTE:

USE A MAXIMUM PEAKING FACTOR = 5

AVERAGE FLOW:	PLANNING VALUES	DESIGN VALUES	
RESIDENTIAL	GAL/DAY/ACRE	GAL/DAY/UNIT	GAL/DAY/1000S.F.
SINGLE FAMILY	2100	300	---
MULTI FAMILY	6800	270	---
PURD	3700	270	---
COMMERCIAL			
OFFICE	2400	---	90
RETAIL	2000	---	80
EATING AND DRINKING	8600	---	500
WHOLESALE, STORAGE	800	---	40
INDUSTRIAL			
FOOD PROCESSING		SPECIAL	
LIGHT	3000	---	150
HEAVY (LOW WASTEWATER)	3000	---	150
HEAVY (HIGH WASTEWATER)		SPECIAL	
SCHOOLS			
PRIMARY	1800	---	340
SECONDARY	1400	---	310

INFLOW/INFILTRATION (I/I): 400 GALS/DAY/ACRE = 0.0004 MGD/ACRE

DESIGN FLOW: (AVERAGE FLOW + I/I) PEAK FACTOR

REV. NO.	REV. DATE	REV. BY	SANITARY SEWER DESIGN DATA	REVISION APPROVED BY CITY ENGINEER
3	6/1/2000	HLE/RH		Finbar J. O'Regan
DIGITIZED	1/1/92			DATE: 01/09/02
DWG. BY RC	SCALE		CITY OF STOCKTON	SUPERCEDES DWG. DATED
CK. BY	NONE		DEPARTMENT OF PUBLIC WORKS	6/1/94
				DRAWING NO. 45

(CONT'D FROM DWG. NO. 45)

NOTES:

1. PIPE SHALL BE DESIGNED TO HAVE A MINIMUM VELOCITY OF 2 FT/SEC AT DESIGN FLOW. THE USE OF 8" DIAMETER PIPE (NOT EXCEEDING A LENGTH OF 600' AND A MINIMUM SLOPE AS SHOWN IN TABLE ON DWG. NO. 46A) ON NON-EXTENDABLE RUN IS PERMITTED.

2. PUMPING STATIONS SHALL CONFORM TO THE REQUIREMENTS AS DESCRIBED IN CHAPTER 16 STOCKTON MUNICIPAL CODE.

3. A. PUMPING CAPACITY TO HANDLE DESIGN FLOW WITH THE LARGEST PUMP OUT OF SERVICE. THIS SHALL BE DONE BY PROVIDING A REDUNDANT PUMP.
   B. MULTIPLE PUMPS OF EQUAL CAPACITY.
   C. AT LEAST 3 PUMPS, FOR FLOW GREATER THAN 0.5 MGD OR 2 PUMPS FOR FLOW LESS THAN 0.5 MGD.
   D. PUMPING STATIONS SHALL BE EQUIPPED WITH:

      1) TELEMETRY EQUIPMENT CAPABLE OF TRANSMITTING VARIOUS ALARM CONDITIONS SUCH AS HIGH AND LOW SUMP, FLOODED DRY WELL, AND PUMP OR POWER FAILURE, TO A CENTRAL DISPATCH LOCATION.
      2) STANDBY POWER GENERATING EQUIPMENT SIZED TO OPERATE ALL PUMP STATION EQUIPMENT EXCEPT THE REDUNDANT PUMP, UNLESS IT CAN BE SHOWN THAT A SUSTAINED FAILURE WILL NOT CAUSE OVERFLOW OR FLOODING.
      3) FLOW MONITORING EQUIPMENT WITH A METER IN THE DISCHARGE LINE, PUMP RUNNING TIME RECORDERS WITH SUMP LEVEL RECORDERS, OR OTHER APPROVED METHODS. ALSO, PROVISION SHALL BE MADE FOR FACILITATING INSTALLATION OF PORTABLE GRAVITY FLOW METERS IN INFLOW METERS.
      4) EQUIPMENT AS NECESSARY (VENTILATION, FALL PROTECTION, ETC.) TO CONFORM TO O.S.H.A. AND OTHER PERTINENT REGULATORY AGENCY REGULATIONS.

   E. NON-CLOG TYPE PUMPS DESIGNED FOR SANITARY SEWAGE PUMPING.

   F. FORCE MAINS SIZED TO LIMIT VELOCITIES TO APPROXIMATELY 7 FT/SEC FOR UP TO 300 FT. IN LENGTH, TO APPROXIMATELY 5 FT/SEC FOR LENGTH IN EXCESS OF 1000 FT. THESE VALUES ARE APPROXIMATE, AND FINAL DESIGN SHOULD BE BASED UPON ANALYSIS OF A SYSTEM HEAD CURVE BASED UPON COMMERCIALLY AVAILABLE PUMPS AND PIPE DIAMETERS.

   G. ALL NEW STORMWATER PUMP STATIONS MUST BE EQUIPPED WITH A SANITARY LINE CONNECTED TO AN EXISTING SANITARY MAIN ALREADY IN SERVICE, PRIOR TO COMMISSIONING THE STATION. SANITARY SEWER LINES SHALL BE EXTENDED TO ALL NEW STORM WATER PUMP STATIONS. SEE DWG. NO. 76.

REV. NO.	REV. DATE	REV. BY	SANITARY SEWER DESIGN DATA	REVISION APPROVED BY CITY ENGINEER
4	6/1/2003	HL/EA		
DIGITIZED	1/1/92			DATE: 11/11/03
DWG. BY RC	SCALE		CITY OF STOCKTON DEPARTMENT OF PUBLIC WORKS	SUPERCEDES DWG. DATED 01/09/02
CK. BY	NONE			DRAWING NO. 45A

SANITARY DESIGN SHEET

CITY OF STOCKTON

DEPARTMENT OF PUBLIC WORKS

DATE: _____

BY: _____

SHEET ____ OF ____

TITLE: _____

STREET/AREA	FROM MH	TO MH	ACRES*	LOTS	AVER. FLOW** (MGD)	AVER. ACCU. FLOW** (MGD)	PEAKING FACTOR	PEAK FLOW (MGD)	PIPE DIA. (IN.)	LENGTH (FT)	SLOPE (%)	d/D	CAP-ACITY FULL (MGD)	FULL VEL. (FPS)	CAP-ACITY ACTUAL FLOW (MGD)	ACTUAL VEL. (FPS)	REMARKS

* INCLUDING I/I **LOT FLOW + I/I

REV. NO.	REV. DATE	REV. BY
1	6/1/94	KB

DIGITIZED 7/1/90

DWG. BY RC

CK. BY

SCALE NONE

SANITARY DESIGN SHEET

CITY OF STOCKTON
DEPARTMENT OF PUBLIC WORKS

REVISION APPROVED BY CITY ENGINEER

DATE: 01/09/02

SUPERCEDES DWG. DATED 7/1/90

DRAWING NO. 45B

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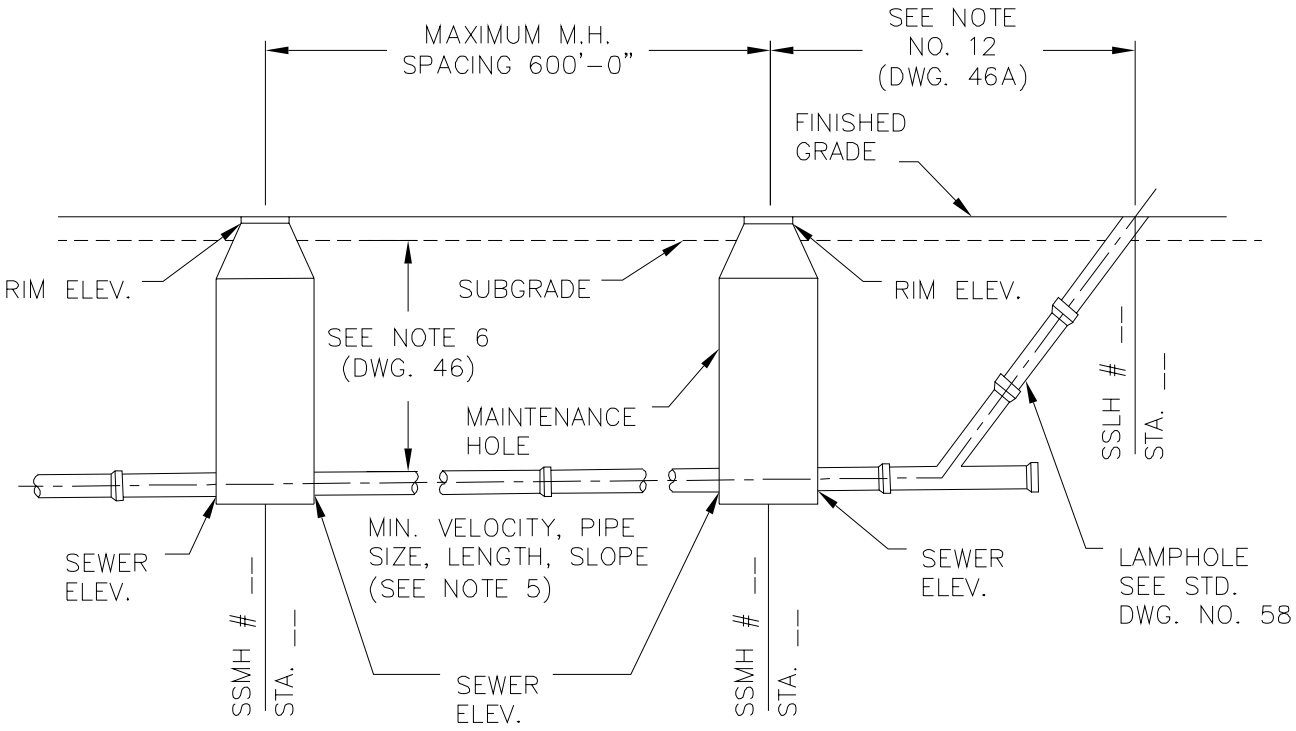


SSLH = SANITARY SEWER LAMP HOLE.

NOTES:

1. THE MINIMUM SIZE PIPE SHALL BE 8" DIAMETER.
2. A M.H. SHALL BE INSTALLED AT ALL INTERSECTING STREETS. INTERMEDIATE M.H. SHALL BE UNIFORMLY SPACED.
3. ALL CONNECTIONS TO SANITARY SEWERS SHALL BE MADE WITH WYE OR TEE. CITY TO INSTALL SADDLE AT OWNER'S/DEVELOPER'S EXPENSE ON EXISTING LINES.
4. THE DEPARTMENT OF PUBLIC WORKS SHALL BE SUPPLIED WITH A RECORD DRAWING PLAN SHOWING LATERAL LOCATIONS BY THE ARCHITECT OR PROJECT ENGINEER.
5. PIPE SHALL BE DESIGNED TO HAVE A MINIMUM VELOCITY OF 2 FPS AT DESIGN FLOW. THE USE OF 8" DIAMETER PIPE (NOT EXCEEDING A LENGTH OF 600' AND A MINIMUM SLOPE AS SHOWN IN TABLE ON DWG NO. 46A) ON NON-EXTENDABLE RUNS IS PERMITTED.
6. SANITARY SEWERS AND SEWER LATERALS SHALL BE DESIGNED TO MINIMIZE THEIR DEPTH AT ALL LOCATIONS. MINIMUM COVER FOR SANITARY SEWERS SHALL BE 4'-6" FROM THE BOTTOM OF SUBGRADE TO THE TOP OF THE PIPE. MINIMUM COVER FOR SANITARY SEWER LATERALS SHALL BE 4'-6" FROM THE FINISHED GRADE AT BACK OF WALK TO THE TOP OF THE LATERAL. IN RESIDENTIAL AREAS, THE DEPTH OF THE SEWER LATERAL, FROM THE FINISHED GRADE AT BACK OF WALK TO TOP OF LATERAL, SHALL BE NO GREATER THAN 7'-0" AT THE PROPERTY LINE. WHERE MINIMUM COVER CANNOT BE OBTAINED, ONLY DUCTILE IRON PIPE OR SDR 26 PIPE SHALL BE USED. CONCRETE ENCASEMENT MAY BE USED IN CERTAIN AREAS ONLY IF APPROVED BY THE CITY ENGINEER. SEE STANDARD DRAWING NO. 61.

REV. NO.	REV. DATE	REV. BY	SANITARY SEWER DATA	REVISION APPROVED BY CITY ENGINEER
5	6/1/2003	HL/EA		Finbar J. O'Regan
DIGITIZED	7/1/91			DATE: 11/25/03
DWG. BY RC	SCALE		CITY OF STOCKTON	SUPERCEDES DWG. DATED
CK. BY	NONE		DEPARTMENT OF PUBLIC WORKS	01/09/02
				DRAWING NO. 46

(CONT'D FROM DWG. 46)

NOTES:

7. CUT SHEETS SHALL BE SUPPLIED TO THE CITY ENGINEER PRIOR TO THE CONSTRUCTION OF SANITARY SEWER.
8. ALL SEWERS MUST BE DESIGNED FOR GRAVITY FLOW UNLESS OTHERWISE PERMITTED BY SPECIAL APPROVAL OF THE CITY ENGINEER. THE CITY REQUIRES MATCHING OF TOPS OF PIPES (CROWNS) RATHER THAN INVERTS UNLESS AN ALTERNATE DESIGN IS APPROVED BY THE CITY ENGINEER AT THE TENTATIVE MAP OR MASTER PLAN STAGE.
9. PIPES AND STRUCTURES SHALL BE LABELED WITH STATIONS AND ELEVATIONS AS SHOWN ABOVE.
10. A SEWER DESIGN SHEET (STD. DWG. NO. 45B) SHALL BE SUBMITTED WITH ALL PROJECT DESIGNS.
11. MANNING "N" SHALL NOT BE LESS THAN 0.011 FOR P.V.C. AND H.D.P.E PIPE, OR LESS THAN 0.013 FOR OTHER PIPE MATERIALS. THE FOLLOWING SLOPES SHALL BE USED AS MINIMUMS:

PIPE SIZE	MIN. SLOPE (N=0.013)	MIN. SLOPE (N=0.011)
6" DIA.	.0070 FT/FT	.0050 FT/FT
8" DIA.	.0045 FT/FT	.0032 FT/FT
10" DIA.	.0025 FT/FT	.0018 FT/FT
12" DIA.	.0020 FT/FT	.0014 FT/FT
15" DIA.	.0015 FT/FT	.0011 FT/FT
18" DIA.	.0012 FT/FT	.0009 FT/FT

12. MAX. 150'-0" LAMPHOLE SPACING, FOR USE ON SHORT RUNS OF PIPE THAT WILL BE EXTENDED AND A M.H. INSTALLED AT A LATER DATE.
13. SANITARY SEWER LATERAL DEPTH IN RESIDENTIAL AREAS SHALL NOT EXCEED 12'-0" FROM THE FINISHED GRADE TO THE POINT OF CONNECTION AT THE SEWER MAIN LINE. (SEE STD. DWG. NO. 63)
14. NO DIRECT SERVICE TAPS SHALL BE ALLOWED ON SEWER MAINS 15" AND LARGER.
15. FOR SANITARY SEWER SERVICE CONNECTIONS TO M.H.'S, NO MORE THAN 1 SHALL BE ALLOWED PER QUADRANT (i.e., IN ANY 1/4 OF THE PERIMETER).

REV. NO.	REV. DATE	REV. BY
4	6/1/2000	HLE/RH
DIGITIZED	7/1/91	
DWG. BY	RC	SCALE
CK. BY		NONE

SANITARY SEWER DATA

CITY OF STOCKTON
DEPARTMENT OF PUBLIC WORKS

REVISION APPROVED BY CITY ENGINEER
Finbar J. O'Regan
DATE: 01/09/02

SUPERCEDES DWG. DATED 2/23/95

DRAWING NO. 46A

STATE OF CALIFORNIA
DEPARTMENT OF HEALTH
CRITERIA FOR THE SEPARATION OF WATER MAINS WITH SANITARY SEWERS AND STORM SEWERS

A. BASIC STANDARDS

THE "CALIFORNIA WATERWORKS STANDARDS" SETS FORTH THE MINIMUM SEPARATION REQUIREMENT FOR WATER MAINS WITH SANITARY AND STORM SEWER LINES. THESE STANDARDS, CONTAINED IN SECTION 64630, TITLE 22, CALIFORNIA ADMINISTRATIVE CODE, SPECIFY:

1) PARALLEL CONSTRUCTION: THE HORIZONTAL DISTANCE BETWEEN PRESSURE WATER MAINS AND SEWER LINES SHALL BE AT LEAST 10 FEET.
2) PERPENDICULAR CONSTRUCTION (CROSSING): PRESSURE WATER MAINS SHALL BE AT LEAST ONE FOOT ABOVE SANITARY SEWER LINES WHERE THESE LINES MUST CROSS.
3) SEPARATION DISTANCES SPECIFIED ABOVE SHALL BE MEASURED FROM THE NEAREST EDGES OF THE FACILITIES.
4) WATER MAINS AND SEWER LINES MUST NOT BE INSTALLED IN THE SAME TRENCH.
5) WATER MAINS AND SEWERS OF 24 INCHES DIAMETER OR GREATER MAY CREATE SPECIAL HAZARDS BECAUSE OF THE LARGE VOLUMES OF FLOW. INSTALLATIONS OF WATER MAINS AND SEWER LINES 24 INCHES DIAMETER OR LARGER MUST BE REVIEWED AND APPROVED BY THE HEALTH AGENCY AND CITY ENGINEER PRIOR TO CONSTRUCTION.
6) WHEREVER THE WORD "SEWER" IS USED IN CONNECTION WITH ANY REQUIREMENTS AS SHOWN ON DRAWINGS 47, 48, AND 49 THE WORD SHALL APPLY EQUALLY TO SANITARY OR STORM SEWER INSTALLATIONS.

B. EXCEPTIONS TO BASIC SEPARATION STANDARDS

LOCAL CONDITIONS, SUCH AS AVAILABLE SPACE, LIMITED SLOPE, EXISTING STRUCTURES, ETC., MAY CREATE A SITUATION WHERE THERE IS NO ALTERNATIVE BUT TO INSTALL WATER MAINS OR SEWER LINES AT A DISTANCE LESS THAN THAT REQUIRED BY THE BASIC SEPARATION STANDARDS. IN SUCH CASES, ALTERNATIVE CONSTRUCTION CRITERIA AS SPECIFIED IN SECTION C SHALL BE FOLLOWED, SUBJECT TO THE SPECIAL PROVISIONS IN SECTION D.

C. ALTERNATE CRITERIA FOR CONSTRUCTION

THE CONSTRUCTION CRITERIA FOR SEWER LINES OR WATER MAINS WHERE THE BASIC SEPARATION STANDARDS CANNOT BE ATTAINED ARE SHOWN ON DRAWINGS 48 AND 49. THERE ARE TWO SITUATIONS ENCOUNTERED:

CASE 1 -- NEW SEWER LINE – NEW OR EXISTING WATER MAIN.

CASE 2 -- NEW WATER MAIN – EXISTING SEWER LINE.

FOR CASE 1, THE ALTERNATE CONSTRUCTION CRITERIA APPLY TO THE SEWER LINE.

FOR CASE 2, THE ALTERNATE CONSTRUCTION CRITERIA MAY APPLY TO EITHER OR BOTH WATER MAIN AND SEWER LINE.

THE CONSTRUCTION CRITERIA APPLY TO THE HOUSE LATERALS THAT CROSS ABOVE A PRESSURE WATER MAIN BUT NOT TO THOSE HOUSE LATERALS THAT CROSS BELOW A PRESSURE WATER MAIN.

CASE 1: NEW SEWER BEING INSTALLED (DRAWING NO. 48)

REV. NO.	REV. DATE	REV. BY	CALIFORNIA HEALTH DEPARTMENT REQUIREMENTS	DIGITIZED VERSION APPROVED BY CITY ENGINEER Finbarr J. O'Regan DATE: 01/09/02	
3	6/1/2000	HLE/RH			
DIGITIZED	1/1/92				
DWG. BY	RC	SCALE	CITY OF STOCKTON DEPARTMENT OF PUBLIC WORKS	SUPERCEDES DWG. DATED 2/23/95	DRAWING NO. 47
CK. BY	NS	NONE			

(CONT'D FROM DWG. 47)

ZONE	SPECIAL CONSTRUCTION REQUIRED FOR SEWER
A	SEWER LINES PARALLEL TO WATER MAINS SHALL NOT BE PERMITTED IN THIS ZONE WITHOUT APPROVAL FROM THE RESPONSIBLE HEALTH AGENCY AND WATER SUPPLIER.
B	A SEWER LINE PLACED PARALLEL TO A WATER LINE SHALL BE CONSTRUCTED OF: 1. EXTRA STRENGTH VITRIFIED CLAY PIPE WITH COMPRESSION JOINTS. 2. PLASTIC SEWER PIPE WITH RUBBER RING JOINTS (PER ASTM D3034) OR EQUIVALENT. 3. CAST OR DUCTILE IRON PIPE WITH COMPRESSION JOINTS.
C	A SEWER LINE CROSSING A WATER MAIN SHALL BE CONSTRUCTED OF: 1. DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING AND MECHANICAL JOINTS. 2. A CONTINUOUS SECTION OF CLASS 200 (DR 14 PER AWWA C900) PLASTIC PIPE OR EQUIVALENT, CENTERED OVER THE PIPE BEING CROSSED. 3. ANY SEWER PIPE WITHIN A CONTINUOUS SLEEVE.
D	A SEWER LINE CROSSING A WATER MAIN SHALL BE CONSTRUCTION OF: 1. A CONTINUOUS SECTION OF DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING. 2. A CONTINUOUS SECTION OF CLASS 200 (DR 14 PER AWWA C900) PLASTIC PIPE OR EQUIVALENT, CENTERED ON THE PIPE BEING CROSSED. 3. ANY SEWER PIPE WITHIN A CONTINUOUS SLEEVE.

CASE 2: NEW WATER MAINS BEING INSTALLED (DRAWING NO. 49)

ZONE	SPECIAL CONSTRUCTION REQUIRED FOR SEWER
A	NO WATER MAINS PARALLEL TO SEWERS SHALL BE CONSTRUCTED WITHOUT APPROVAL FROM THE HEALTH AGENCY.
B	IF THE SEWER PARALLELING THE WATER MAIN DOES NOT MEET THE CASE 1, ZONE B, REQUIREMENTS, THE WATER MAIN SHALL BE CONSTRUCTED OF: 1. CEMENT LINED DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING. 2. DIPPED AND WRAPPED ONE-FOURTH-INCH-THICK WELDED STEEL PIPE. 3. CLASS 200, TYPE II, ASBESTOS-CEMENT PRESSURE PIPE. 4. CLASS 200 PRESSURE RATED PLASTIC WATER PIPE (DR 14 PER AWWA C900) OR EQUIVALENT. 5. REINFORCED CONCRETE PRESSURE PIPE, STEEL CYLINDER TYPE, PER AWWA (C300-74 OR C301-79 OR C303-70).
C	IF THE SEWER CROSSING THE WATER MAIN DOES NOT MEET THE CASE 1, ZONE C, REQUIREMENTS, THE WATER MAIN SHALL HAVE NO JOINTS IN ZONE C AND BE CONSTRUCTED OF:

REV. NO.	REV. DATE	REV. BY
3	6/1/2000	HLE/RH
DIGITIZED	1/1/92	
DWG. BY	RC	SCALE
CK. BY	NS	NONE

CALIFORNIA HEALTH DEPARTMENT REQUIREMENTS

CITY OF STOCKTON
DEPARTMENT OF PUBLIC WORKS

DIGITIZED VERSION APPROVED BY CITY ENGINEER
Finbarr J. O'Regan
DATE: 01/09/02

SUPERCEDES DWG. DATED 2/23/95

DRAWING NO. 47A

(CONT'D FROM DWG. 47A)

1. CEMENT LINED DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING.
2. CLASS 200 PRESSURE RATED PLASTIC WATER PIPE (DR 14 PER AWWA C900) OR EQUIVALENT.
3. REINFORCED CONCRETE PRESSURE PIPE, STEEL CYLINDER TYPE, PER AWWA (C300-74 OR C301-79 OR C303-70). REQUIRES SPECIFIC DESIGN APPROVAL OF PIPE AND FITTING PRIOR TO POSSIBLE USE.

D IF THE SEWER CROSSING THE WATER MAIN DOES NOT MEET THE REQUIREMENTS FOR ZONE D, CASE 1, THE WATER MAIN SHALL HAVE NO JOINTS WITHIN FOUR FEET FROM EITHER SIDE OF THE SEWER AND SHALL BE CONSTRUCTED OF:

1. CEMENT LINED DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING.
2. CLASS 200 PRESSURE RATED PLASTIC WATER PIPE (DR 14 PER AWWA C900) OR EQUIVALENT.
3. REINFORCED CONCRETE PRESSURE PIPE, STEEL CYLINDER TYPE, PER AWWA (C300-74 OR C301-79 OR C303-70). REQUIRES SPECIFIC DESIGN APPROVAL OF PIPE AND FITTING PRIOR TO POSSIBLE USE.

D SPECIAL PROVISIONS

1. THE BASIC SEPARATION STANDARDS ARE APPLICABLE UNDER NORMAL CONDITIONS FOR SEWAGE COLLECTION LINES AND WATER DISTRIBUTION MAINS. MORE STRINGENT REQUIREMENTS MAY BE NECESSARY IF CONDITIONS, SUCH AS HIGH GROUND WATER EXIST.
2. SEWER LINES SHALL NOT BE INSTALLED WITHIN 25 FEET HORIZONTALLY OF A LOW HEAD (5 PSI OR LESS PRESSURED) WATER MAIN.
3. NEW WATER MAINS AND SEWER SHALL BE PRESSURE TESTED WHERE THE CONDUITS ARE LOCATED TEN FEET APART OR LESS.
4. IN THE INSTALLATION OF WATER MAINS OR SEWER LINES, MEASURES SHOULD BE TAKEN TO PREVENT OR MINIMIZE DISTURBANCES OF THE EXISTING LINE.
5. SPECIAL CONSIDERATION SHALL BE GIVEN TO THE SELECTION OF PIPE MATERIALS IF CORROSIVE CONDITIONS ARE LIKELY TO EXIST.
6. SEWER FORCE MAINS

   a. SEWER FORCE MAINS SHALL NOT BE INSTALLED WITHIN TEN FEET (HORIZONTALLY) OF A WATER MAIN.
   b. WHEN A SEWER FORCE MAIN MUST CROSS A WATER LINE, THE FORCE MAIN SHOULD BE AS CLOSE TO PERPENDICULAR AS PRACTICAL. THE SEWER FORCE MAIN SHOULD BE AT LEAST ONE FOOT BELOW THE WATER LINE.
   c. WHEN A NEW SEWER FORCE MAIN CROSSES UNDER AN EXISTING WATER MAIN, ALL PORTIONS OF THE SEWER FORCE MAIN WITHIN TEN FEET (HORIZONTALLY) OF THE WATER MAIN SHALL BE ENCLOSED IN A CONTINUOUS SLEEVE.
   d. WHEN A NEW WATER MAIN CROSSES OVER AN EXISTING SEWER FORCE MAIN, THE WATER MAIN SHALL BE CONSTRUCTED OF PIPE MATERIALS WITH A MINIMUM RATED WORKING PRESSURE OF 200 PSI OR EQUIVALENT PRESSURE RATING.

REV. NO.	REV. DATE	REV. BY
3	6/1/2000	HLE/RH
DIGITIZED	1/1/92	
DWG. BY	RC	SCALE
CK. BY	NS	NONE

CALIFORNIA HEALTH
DEPARTMENT REQUIREMENTS

CITY OF STOCKTON
DEPARTMENT OF PUBLIC WORKS

DIGITIZED VERSION APPROVED BY CITY ENGINEER
Finbarr J. O'Regan
DATE: 01/09/02

SUPERCEDES DWG. DATED 2/23/95

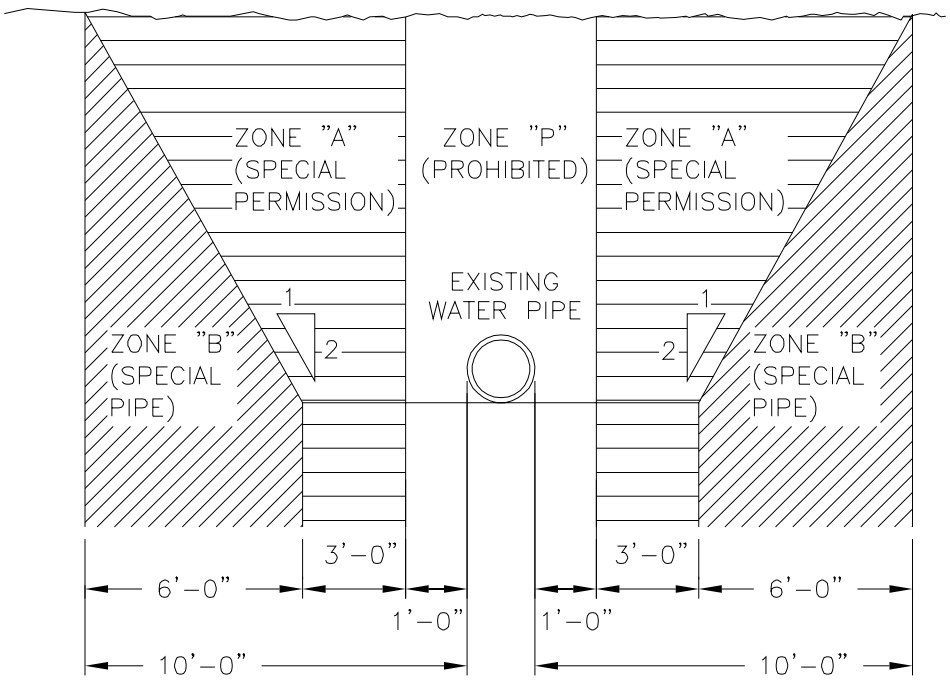
DRAWING NO. 47B

SPECIAL CONSTRUCTION REQUIREMENTS

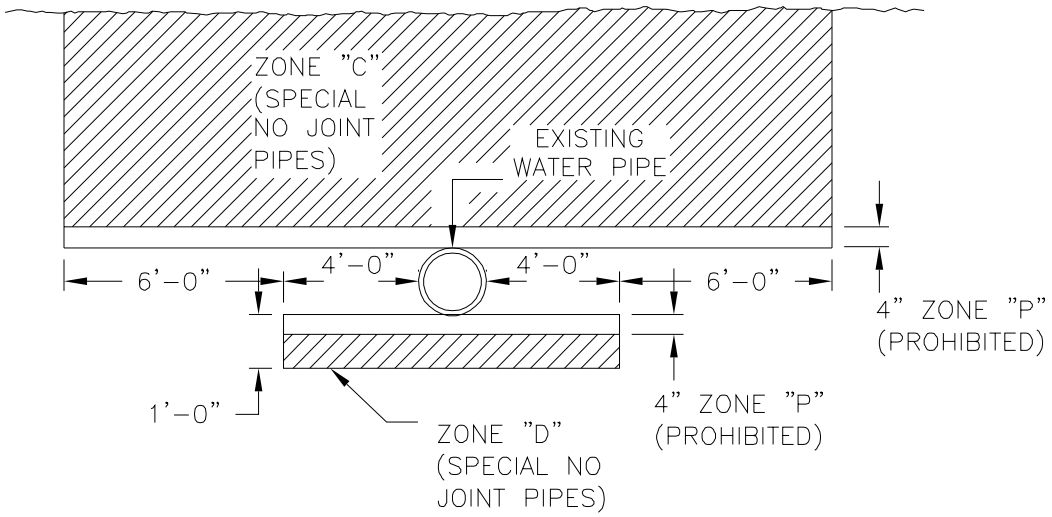
(TO BE USED ONLY WHERE REQUIRED SEPARATION CANNOT BE OBTAINDED)

CASE 1 – NEW SEWER BEING INSTALLED

ZONES A.B.C. AND D INDICATE RESTRICTED AREAS.
ZONES P INDICATE PROHIBITED USE AREAS.



PARALLEL CONSTRUCTION



PERPENDICULAR CONSTRUCTION

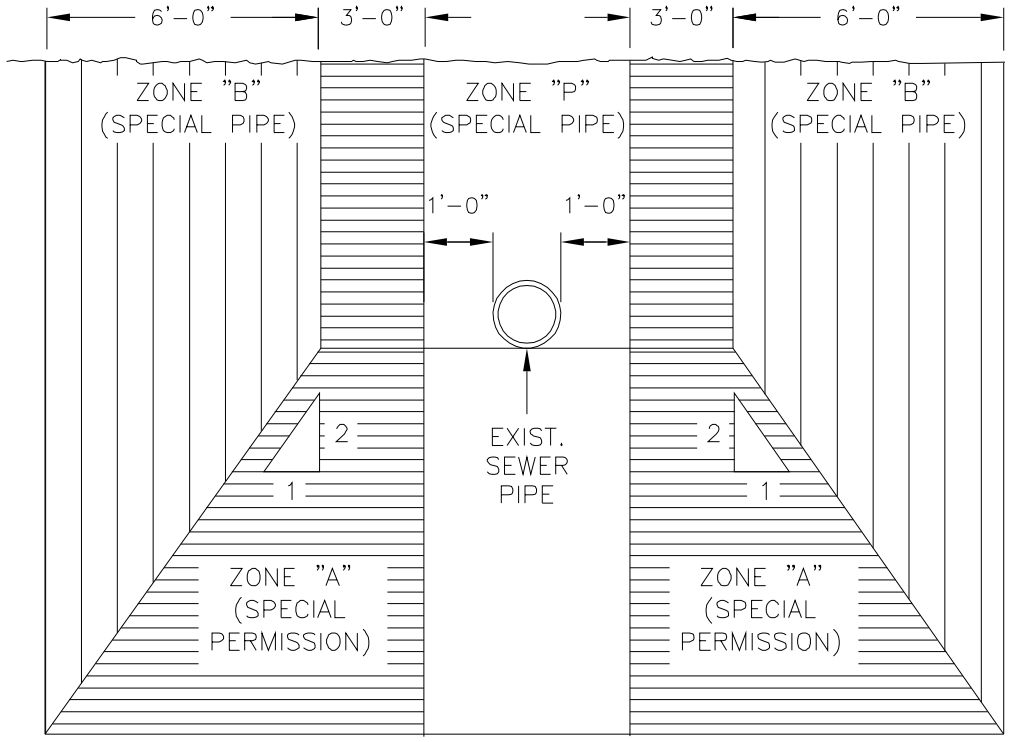
REV. NO.	REV. DATE	REV. BY	CALIFORNIA HEALTH DEPARTMENT REQUIREMENTS	DIGITIZED VERSION APPROVED BY CITY ENGINEER Finbar J. O'Regan DATE: 01/09/02	
1	2/23/95	KB/DE			
DIGITIZED	1/1/92				
DWG. BY RC	SCALE		CITY OF STOCKTON DEPARTMENT OF PUBLIC WORKS	SUPERCEDES DWG. DATED 7/1/85	DRAWING NO. 48
CK. BY	NONE				

SPECIAL CONSTRUCTION REQUIREMENTS

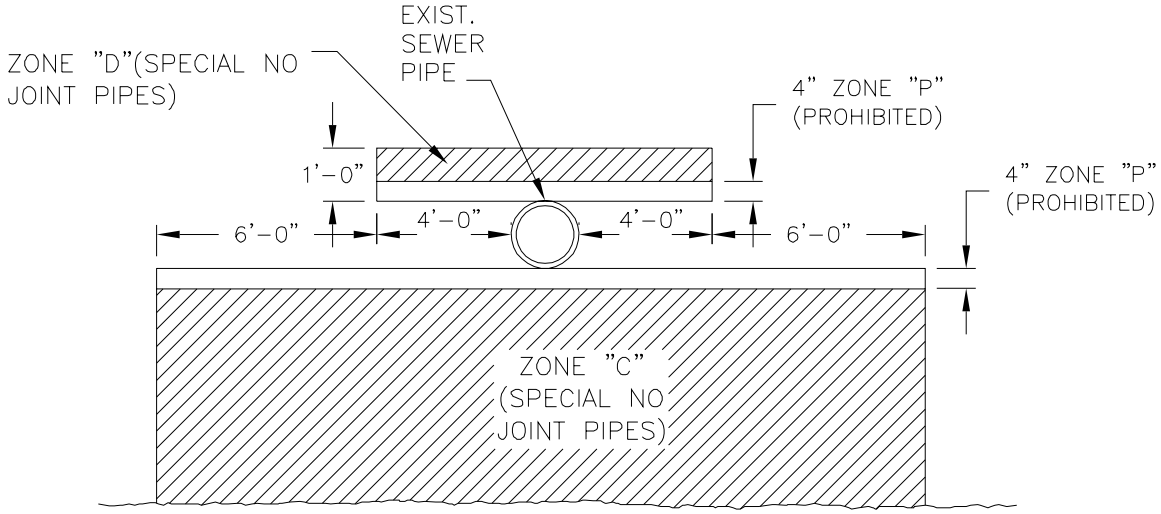
(TO BE USED ONLY WHERE REQUIRED SEPARATION CANNOT BE OBTAINDED)

CASE 2 – NEW WATER LINE BEING INSTALLED

ZONES A.B.C. AND D INDICATE RESTRICTED AREAS.
ZONES P INDICATE PROHIBITED USE AREAS.



PARALLEL CONSTRUCTION



PERPENDICULAR CONSTRUCTION

REV. NO.	REV. DATE	REV. BY	CALIFORNIA HEALTH DEPARTMENT REQUIREMENTS	DIGITIZED VERSION APPROVED BY CITY ENGINEER Finbar J. O'Regan DATE: 01/09/02	
1	2/23/95	KB/DE			
DIGITIZED	1/1/92				
DWG. BY RC	SCALE		CITY OF STOCKTON DEPARTMENT OF PUBLIC WORKS	SUPERCEDES DWG. DATED 7/1/85	DRAWING NO. 49
CK. BY	NONE				