

CITY OF MIDLAND, TEXAS MASTER DRAINAGE PLAN

SECTION 4 SCHARBAUER CHANNEL MASTER PLAN

4.1 GENERAL

The Scharbauer Channel watershed extends from its confluence with Midland Draw at Scharbauer Drive westward to a point approximately 0.5 miles east of Loop 250 and approximately 0.5 miles south of the Andrews Highway (State Highway 158). All of the Scharbauer Channel watershed is located within the detailed Geographic Information System (GIS) coverage and detailed study area of this Master Drainage Plan. Figure 4-1 illustrates the area of the detailed study on the Scharbauer Channel watershed and the position of the Scharbauer Channel in relation to the City.

The Scharbauer Channel watershed is located completely within the corporate limits of the City of Midland. As the City has grown over the years, the Scharbauer Channel watershed has become almost completely developed. Consequently, little runoff mitigation is possible due to a lack of available land or suitable terrain.

4.2 HYDROGRAPHS

A single hydrograph was plotted in Figure 4-2 at the location shown on Figure 4-1 for three hydrologic conditions: 1) existing land use hydrologic conditions, 2) future land use hydrologic conditions and assuming zero stormwater runoff mitigation efforts and 3) future land use hydrologic conditions with all recommended drainage improvements installed.

The hydrograph plot shown in Figure 4-2 is for the Scharbauer Channel immediately upstream of the Midland Draw confluence and illustrates the three conditions listed above. Note that the hydrographs for each condition have two distinct peaks. The first peak which occurs at approximately 20 hours is from the watershed subareas nearest to, and within, the detailed study area, and is referred to as the "in-town" peak. The second peak which occurs around the 48-hour time, referred to as the "out-of-town" peak, is a result of

runoff that overflows into Scharbauer Channel from Jal Draw north of the detailed study area. Some of the runoff from the western Jal Draw watersheds is diverted into the Scharbauer Channel at Whitney Drive and causes much of the "out-of-town" peak. Although no significant drainage improvements are planned for the Scharbauer Channel watershed, the comparative plots of the hydrographs illustrate the effectiveness of the proposed improvements (in other areas such as Jal Draw that affect the Scharbauer Channel) in the mitigation of stormwater runoff.

4.3 LAND USE

Two land use conditions were analyzed in the development of the Master Drainage Plan: existing conditions as of June 1993 and future conditions based on the City's Year 2020 Land Use Plan. The existing condition analysis provided a base line comparison for of the effectiveness of various stormwater runoff mitigation measures.

4.3.1 Existing Land Use

As noted earlier in Section 1, the Scharbauer Channel watershed consists of approximately 7 square miles of drainage area. Because the complete area is considered urban, curve numbers were based on an average antecedent moisture condition (referred to as AMC II).

The Scharbauer Channel watershed subareas and existing condition characteristics are listed in Table 4-1. The times of concentration listed with each subarea were determined using procedures contained in the City of Midland Storm Drainage Design Manual.

4.3.2 Future Land Use

Future land use conditions were based on the City of Midland's Comprehensive Plan and current zoning. The section maps in Figure 4-3 through Figure 4-11 show only the future land use condition.

The future condition characteristics for the Scharbauer Channel watershed subareas are listed in Table 4-1. Direct comparisons of the curve numbers and times of concentration in Table 4-1 show that only four subareas are expected to experience any land use change resulting in an increase in curve number. These four subareas, SC1, SC6, SC12A, and SC12B, are expected to have an increase of 1 to 2 curve number units in the future (Area SC12 is subdivided into SC12A and SC12B for the computer models). All other subareas in the Scharbauer Channel watershed are either completely or near completely developed, and are not expected to experience any significant land use changes. Therefore, existing and future conditions for these unchanged land use subareas are identical. Table 4-2 compares the resulting existing and proposed peak flows for selected points along the main channel. Playa lake hydrology and hydraulic characteristics are summarized in Table 4-3.

4.4 CHANNEL AND ASSOCIATED ROADWAY DRAINAGE IMPROVEMENTS

Because of right-of-way constraints, and the near fully developed conditions in the Scharbauer Channel watershed, no channel or associated roadway drainage improvements are planned. However, it is recommended that the existing channel and roadway drainage structures be carefully maintained to preserve the existing channel and structure conveyance capacities and to minimize the impacts of major runoff events.

4.5 PLAYA LAKES

The Scharbauer Channel playa lakes and their watershed subareas are shown in plan view on Figure 4-3 through Figure 4-11. The blue shading covering each playa location is the approximate surface area of the lake at the base flood elevation (BFE) listed with the playa. Other information listed with each playa (Q_{ex}, V_{ex}, etc.) is explained in the Legend Sheet of Figure 1-2 in Section 1 of this Master Drainage Plan. The tabulated information for each playa lake is repeated in Table 4-3 for easy reference. Each playa lake carries the same designation as its subarea identification. Only one playa lake, located in SC6, has planned improvements. None of the other playa lakes in the Scharbauer Channel watershed can be improved because of a lack of available land. The planned improvements for the playa in SC6 are listed in Table 4-4.

4.6 DETENTION BASINS

Because of the extensive development of the Scharbauer Channel watershed, no suitable locations are available for regional detention basins. However, due to existing flooding concerns, on-site detention may be required as future development occurs, especially if it involves a change of land use that could compound the existing flooding problems.

4.7 ZERO MODIFICATION SUBAREAS

The only subarea in the Scharbauer Channel watershed with master planned improvements is SC6. All other Scharbauer Channel subareas are considered to be "Zero Modification Subareas" because they are already near completely developed and no significant area is available for use in regional stormwater runoff mitigation schemes.

END

Table 4-1

**Scharbauer Channel Master Plan
Watershed Subarea Characteristics**

SUBAREA I.D.	AREA (ACRES)	AREA (SQ. MI.)	EXISTING CONDITION JUNE 1993		FUTURE CONDITION YEAR 2020		NOTES
			CN	Tc HOURS	CN	Tc HOURS	
			SC1	807.07	1.26	88	
SC2	162.43	0.25	92	1.08	92	1.08	In detailed study area.
SC3	349.64	0.55	89	1.08	89	1.08	In detailed study area.
SC4	121.14	0.19	91	0.85	91	0.85	In detailed study area.
SC5	201.39	0.31	86	0.38	86	0.38	In detailed study area.
SC6	240.44	0.38	85	0.73	87	0.73	In detailed study area.
SC7	137.36	0.21	84	0.77	84	0.77	In detailed study area.
SC8	336.03	0.53	85	0.89	85	0.89	In detailed study area.
SC9	200.59	0.31	85	0.71	85	0.71	In detailed study area.
SC10	245.15	0.38	88	0.50	88	0.50	In detailed study area.
SC11	246.77	0.39	86	0.64	86	0.64	In detailed study area.
SC12A	531.55	0.83	82	1.23	84	1.23	In detailed study area.
SC12B	279.70	0.44	82	0.98	84	0.98	In detailed study area.
SC13	153.02	0.24	90	0.40	90	0.40	In detailed study area.
SC14	347.43	0.54	88	0.62	88	0.62	In detailed study area.

Table 4-2

**Channel Subarea Hydrologic Characteristics
Based on 100-Year 24-Hour Event**

SUBAREA I.D.	DESIGNATED LOCATION	EXISTING DISCHARGE		FUTURE DISCHARGE	
		Peak (cfs)	Peak Time (hrs)	Peak (cfs)	Peak Time (hrs)
SC5	Upstream end of channel at Golf Course Road and Scharbauer Drive intersection	1,002	14.25	1,015	14.25
SC9	Upstream of Western Street	2,430	14.25	2,557	14.50
SC12	"A" Street	3,150	14.50	3,272	14.50
SC13	Big Spring Street	3,353	14.50	3,470	14.75
SC14	Prior to Confluence with Midland Draw	3,440	14.75	3,552	14.75

TABLE 4-3

Playa Lake Hydrologic and Hydraulic Characteristics
Based on 100-Year 24-Hour Event

SUBAREA LD.	EXISTING INFLOW		FUTURE INFLOW		LAKE ELEVATION-VOLUME			OVERFLOW CHARACTERISTICS			
	Peak (cfs)	Volume (Ac. Ft.)	Peak (cfs)	Volume (Ac. Ft.)	Base Flood Elevation (msl)	Existing Lake* Volume (Ac. Ft.)	Future Lake Volume (Ac. Ft.)	Existing Overflow Volume (Ac. Ft.)	Future Overflow Volume (Ac. Ft.)	Existing Overflow Peak (cfs)	Future Overflow Peak (cfs)
SC3	858	161.4	859	161.4	2808.3	103.1	103.1	58.3	58.3	373	378
SC6	1,030	102.0	1,054	106.6	2814.8	21.2	23.4	80.8	83.2	1,021	1,046
SC10	903	110.9	903	110.9	2787.5	31.0	31.0	79.9	79.9	573	573
SC11	908	106.9	908	106.9	2780.3	151.9	151.9	0.0	0.0	22	22

* Estimated from City's 2-foot GIS contours.

** SC11 overflow rate due to diversionary flow from other SC subareas.

TABLE 4-4

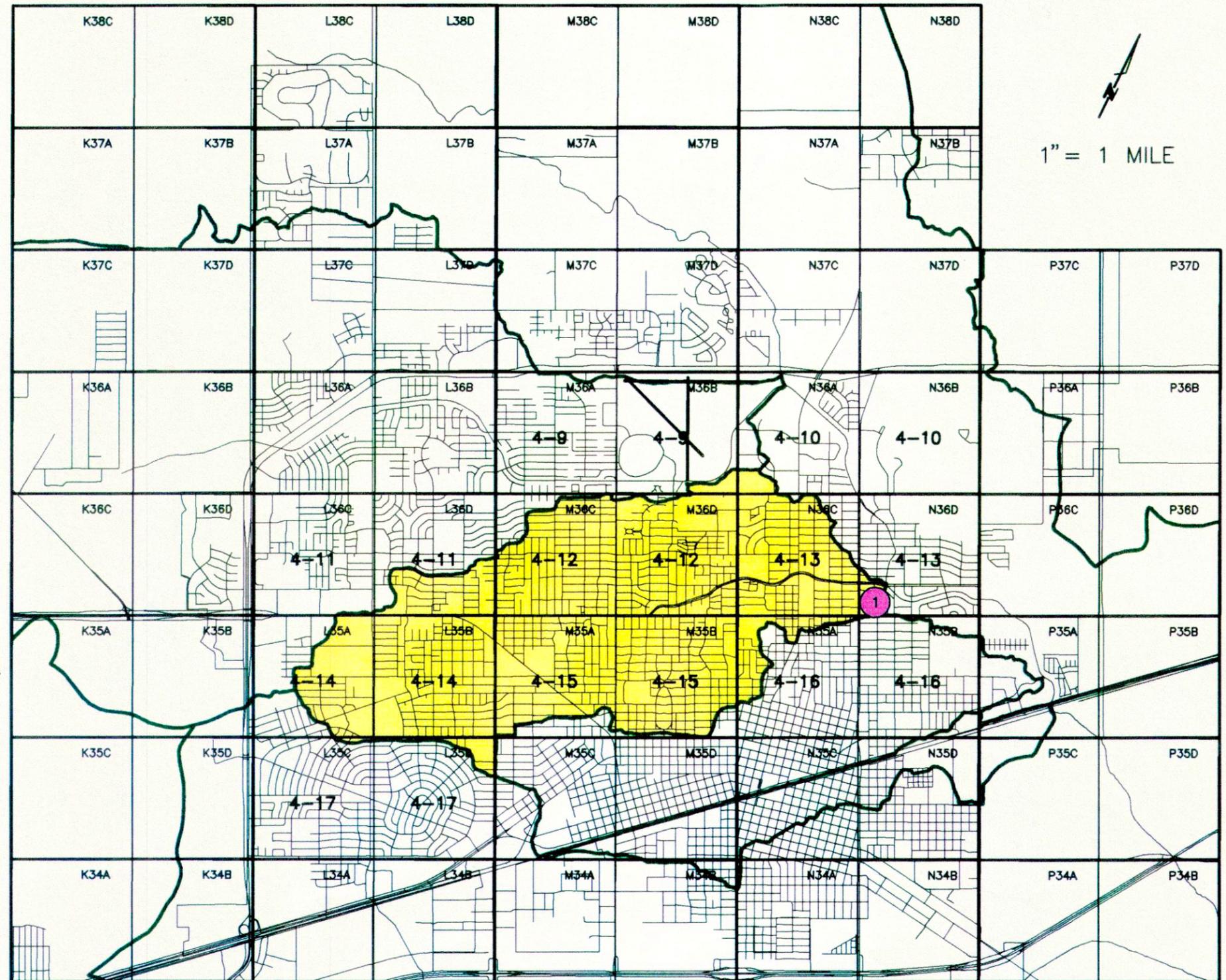
Playa Lake Planned Improvements Summary

SUBAREA I.D.	FIGURE NUMBER	LAKE CREST ELEVATION (msl)	REQUIRED EXCAVATION BELOW CREST ELEVATION (CY)	DRAWDOWN STORM DRAIN	OVERFLOW PATH	PRELIMINARY BUDGET OPINION OF COST TABLE NUMBER	OPINION OF COST (TOTALS)
SC3	4-9	2808.0	None Planned	Existing	To SC5	None	None
SC6	4-5, 4-6	2813.7	3,550	Existing	To SC8	4-5	\$18,420
SC10	4-9	2786.0	None Planned	None Planned	To SC11 Playa Lake	None	None
SC11	4-9, 4-10	2780.2	None Planned	Existing	To SC12	None	None

TABLE 4-5
SCHARBAUER CHANNEL
PRELIMINARY BUDGET OPINION OF COST
CITY OF MIDLAND, TEXAS

PLAYA SC6 IMPROVEMENTS

ITEM	UNIT	UNIT PRICE	QUANTITY	TOTAL
1 PLAYA EXCAVATION	C.Y.	\$4.00	3,550	\$14,200
2 CONSTRUCTION CONTINGENCIES	L.S.	10%	1	\$1,420
3 ENGINEERING				\$1,100
4 SURVEYING, TESTING & RPR				\$1,700
TOTAL FOR PLAYA SC6 IMPROVEMENTS				\$18,420



LEGEND

1 SCHARBAUER CHANNEL PRIOR TO CONFLUENCE WITH MIDLAND DRAW

PAGE

4-8

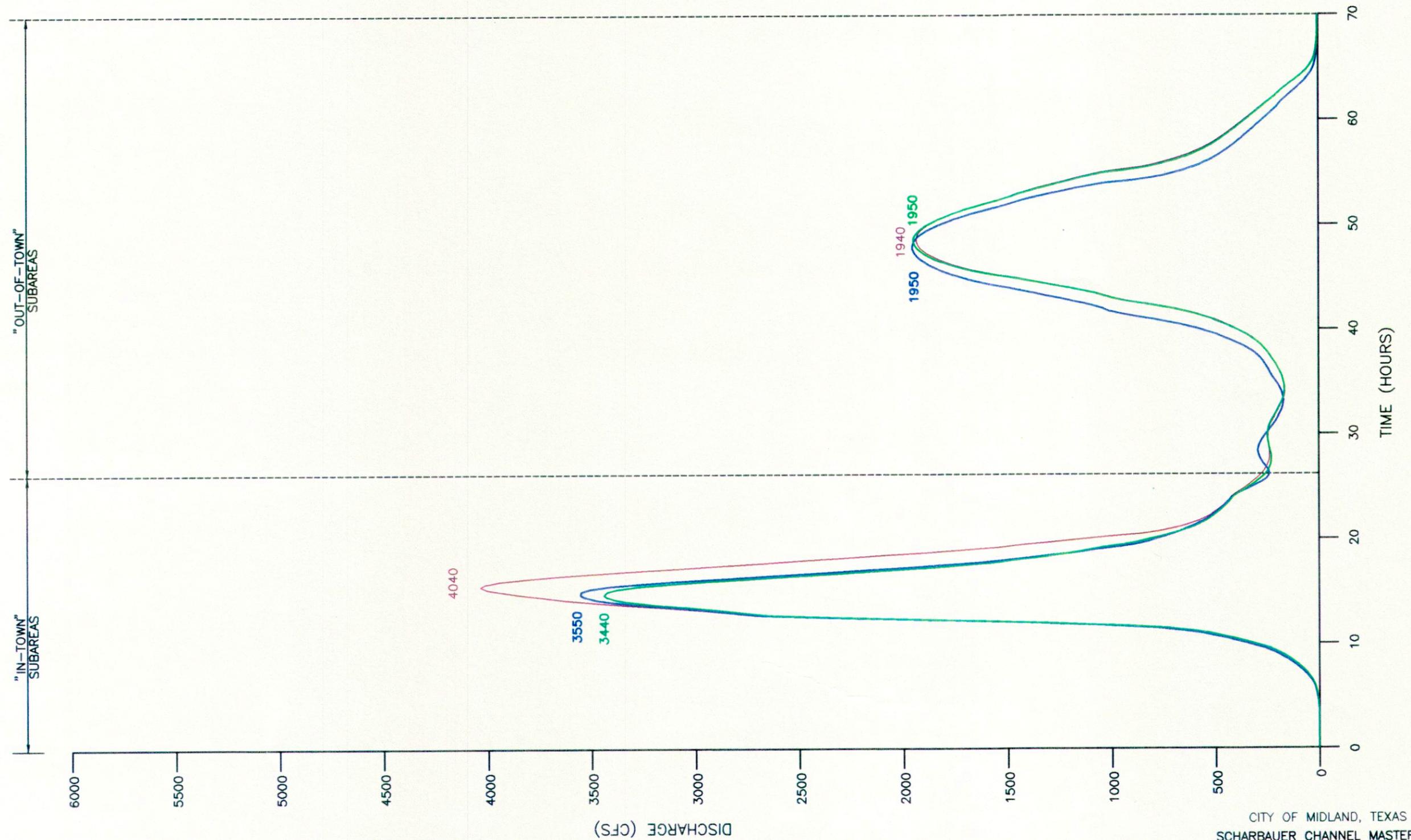
SCHARBAUER CHANNEL WATERSHED, INDEX TO SECTION MAPS

FIGURE 4-1

CITY OF MIDLAND, TEXAS
 SCHARBAUER CHANNEL MASTER PLAN
 WATERSHED MAP INDEX



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SCHARBAUER CHANNEL PRIOR TO CONFLUENCE WITH MIDLAND DRAW

LEGEND

- 100-YEAR EXISTING, JUNE 1993 CONDITIONS —
- 100-YEAR FUTURE, YEAR 2020 NO MODIFICATIONS —
- 100-YEAR FUTURE, YEAR 2020 WITH MODIFICATIONS —

CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
HYDROGRAPH

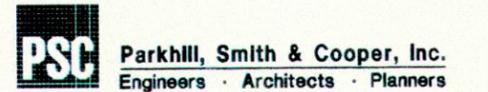


FIGURE 4-2

JOINS SECTION L37D

JOINS SECTION N37C

JOINS SECTION M37C

JOINS SECTION M37D

JOINS SECTION L36B

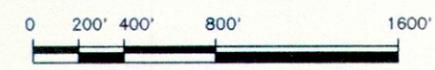
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JOINS SECTION L36D

JOINS SECTION N36C

SECTION M36A

SECTION M36B

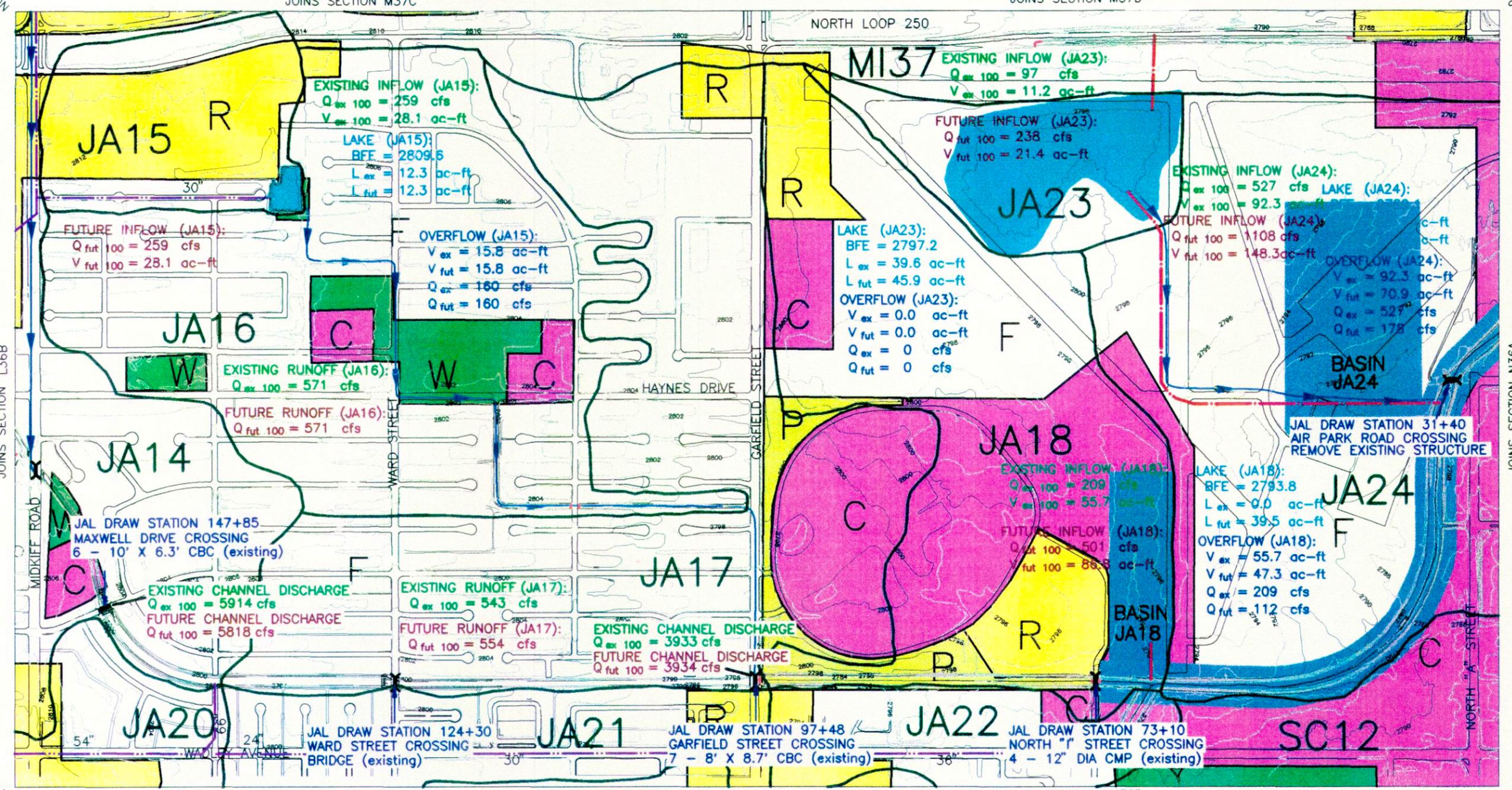


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CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
SECTION MAP

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FIGURE 4-3



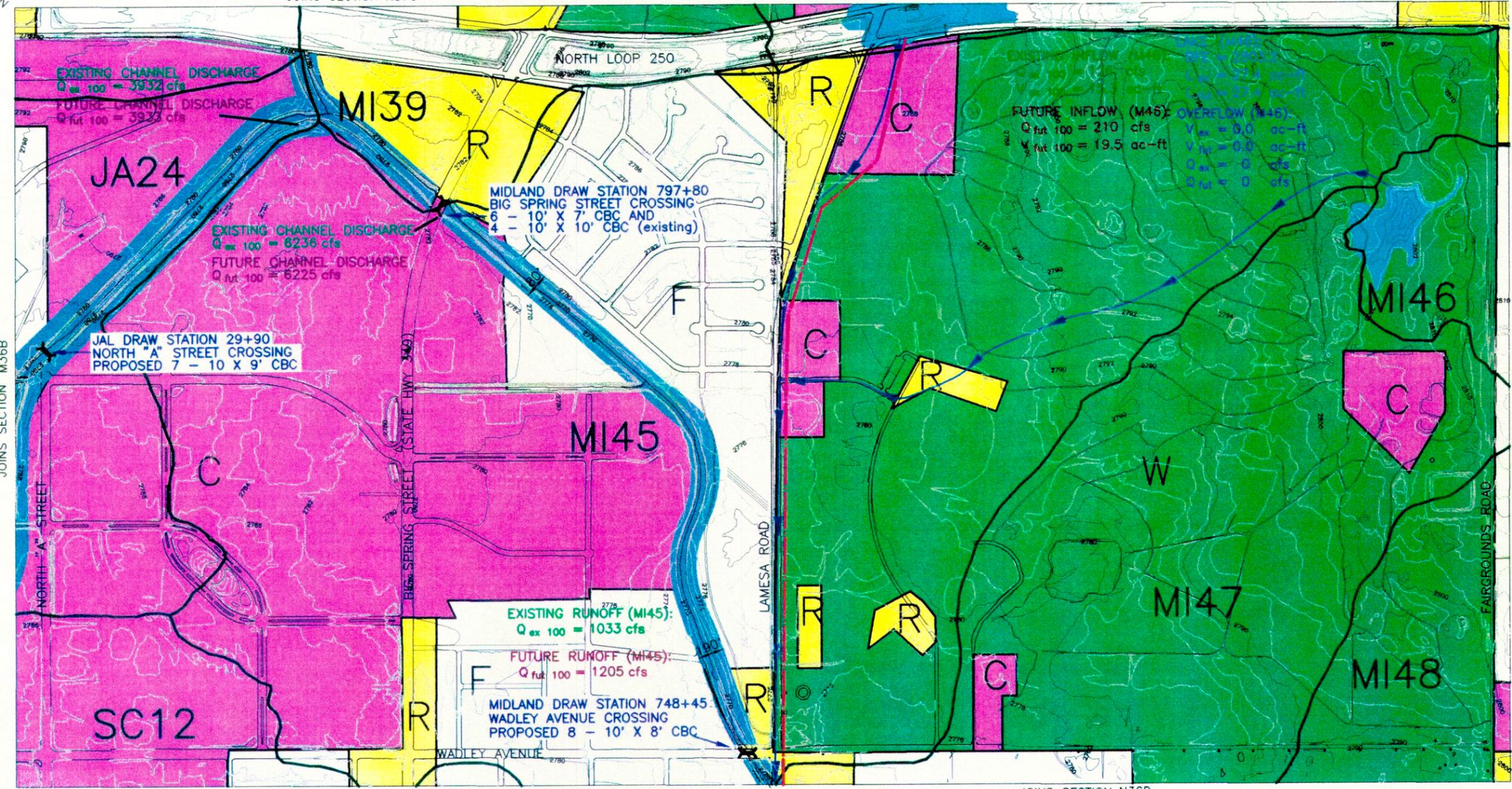
M36AB 7/12/94 JLC

JOINS SECTION M37D

JOINS SECTION N37C

JOINS SECTION N37D

JOINS SECTION P37C



JOINS SECTION M36B

JOINS SECTION P36A

JOINS SECTION M36D

JOINS SECTION N36C

JOINS SECTION N36D

JOINS SECTION P36C

SECTION N36A

SECTION N36B



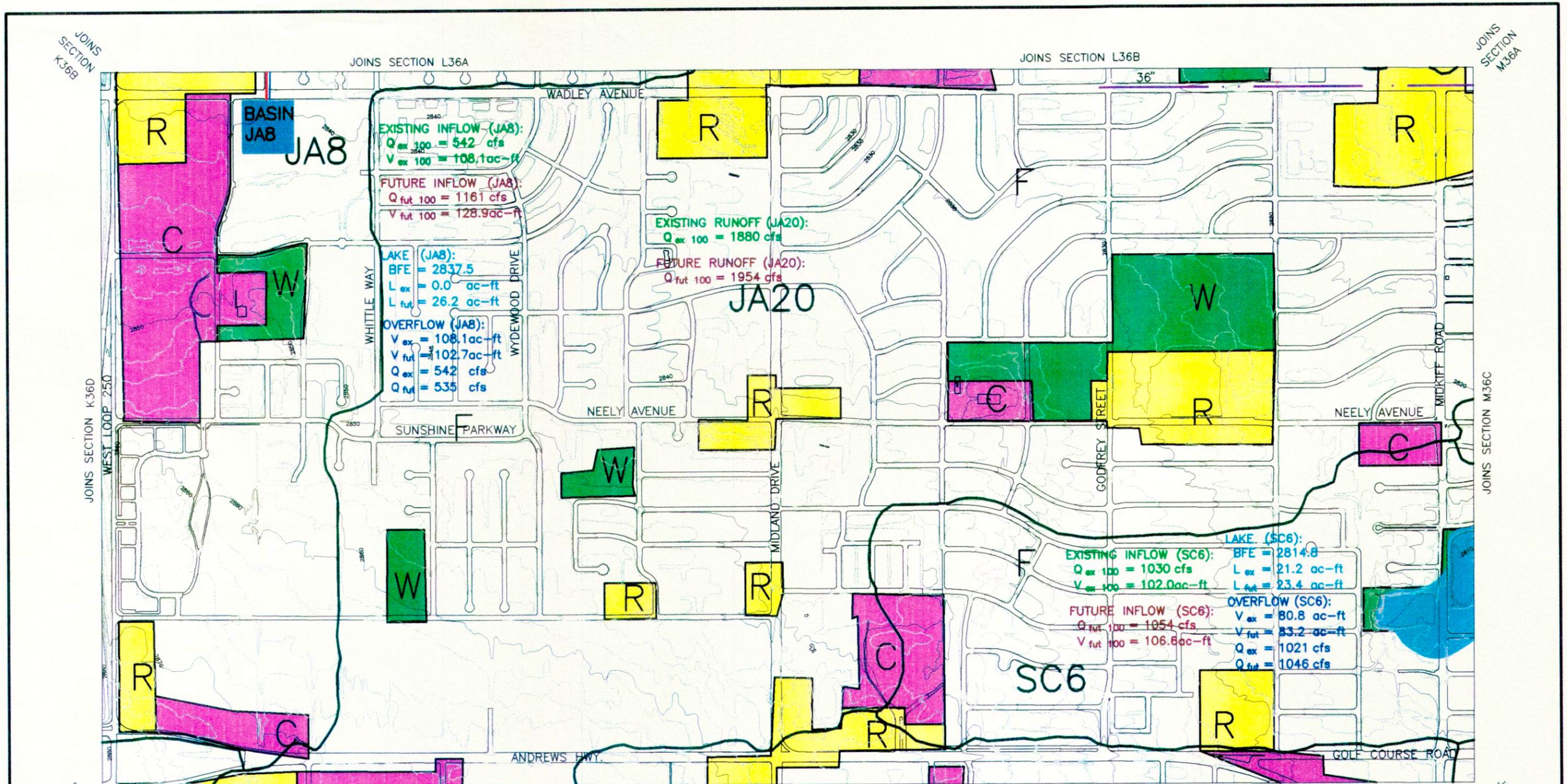
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CITY OF MIDLAND, TEXAS
 SCHARBAUER CHANNEL MASTER PLAN
 SECTION MAP



FIGURE 4-4

N36AB 11/21/ RSK



SECTION L36C

SECTION L36D



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CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
SECTION MAP

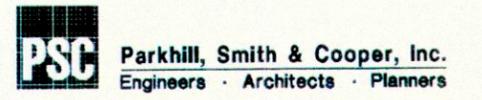


FIGURE 4-5

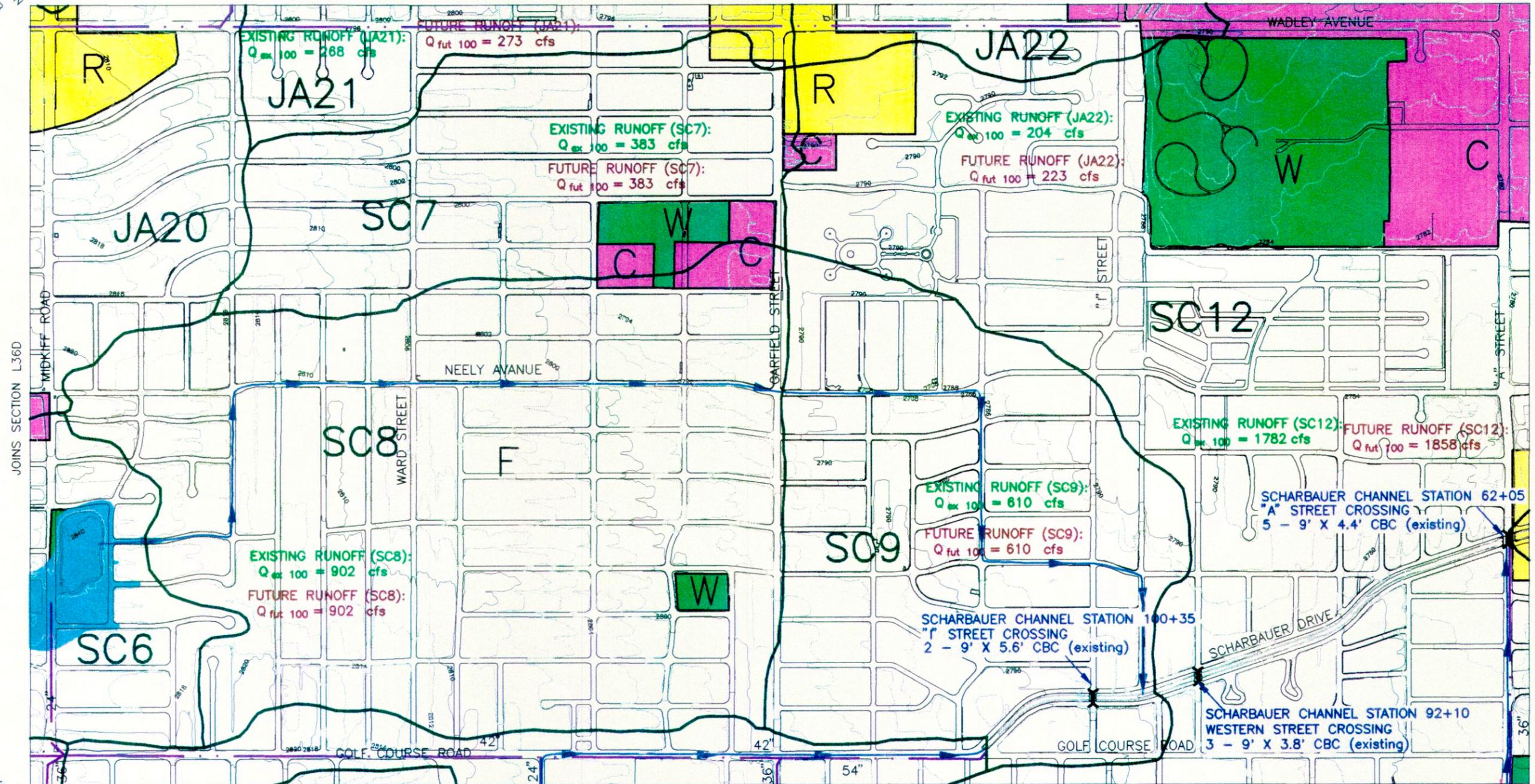
L36CD 7/12/15 5 JLC

JOINS SECTION L36B

JOINS SECTION M36A

JOINS SECTION M36B

JOINS SECTION N36A



SECTION M36C

SECTION M36D

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CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
SECTION MAP



FIGURE 4-6

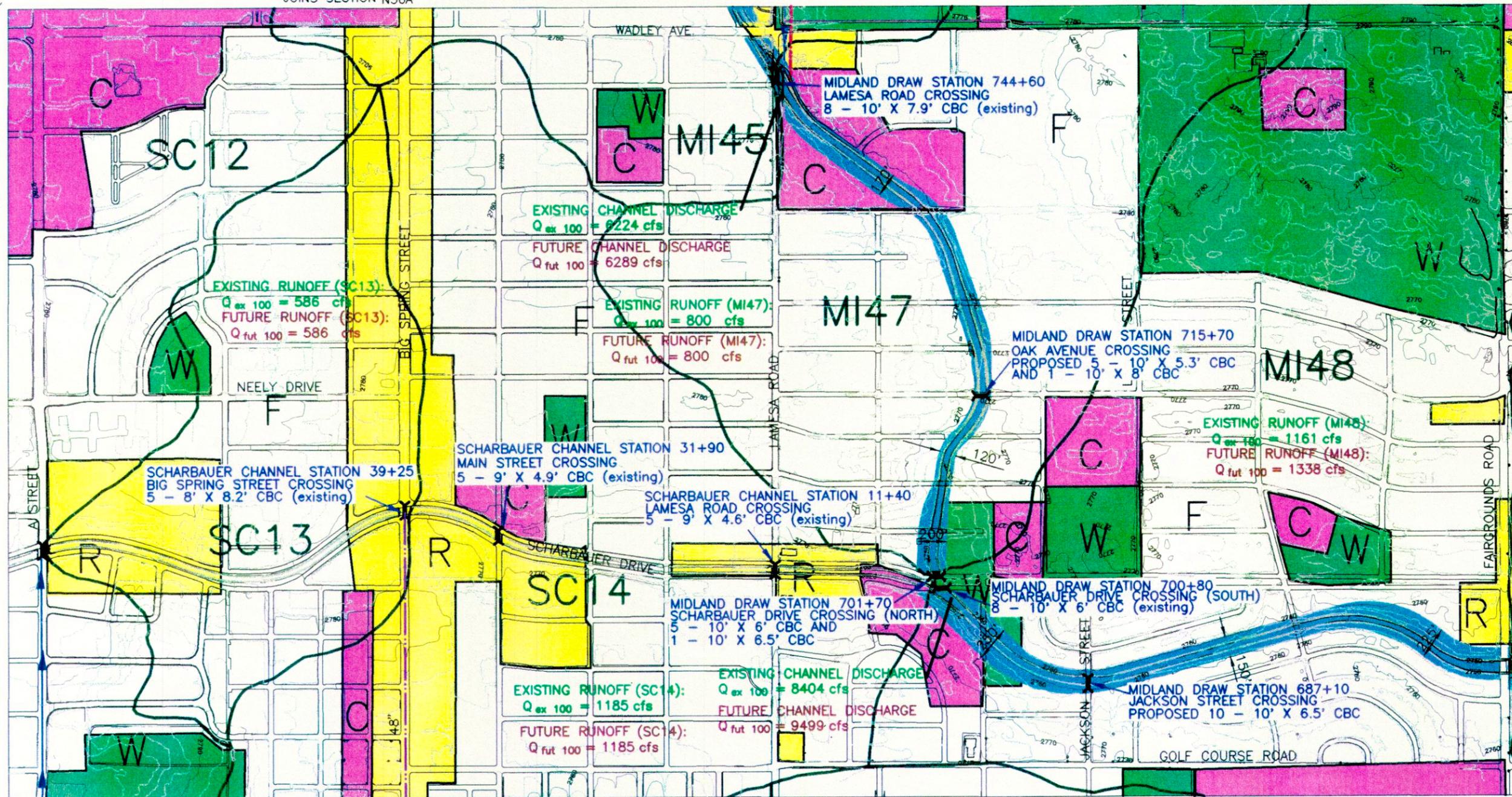
M36CD 7/13/9 JLC

JOINS SECTION M36B

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JOINS SECTION M36D

JOINS SECTION P36C

JOINS SECTION M35B

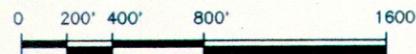
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SECTION N36C

SECTION N36D



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CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
SECTION MAP



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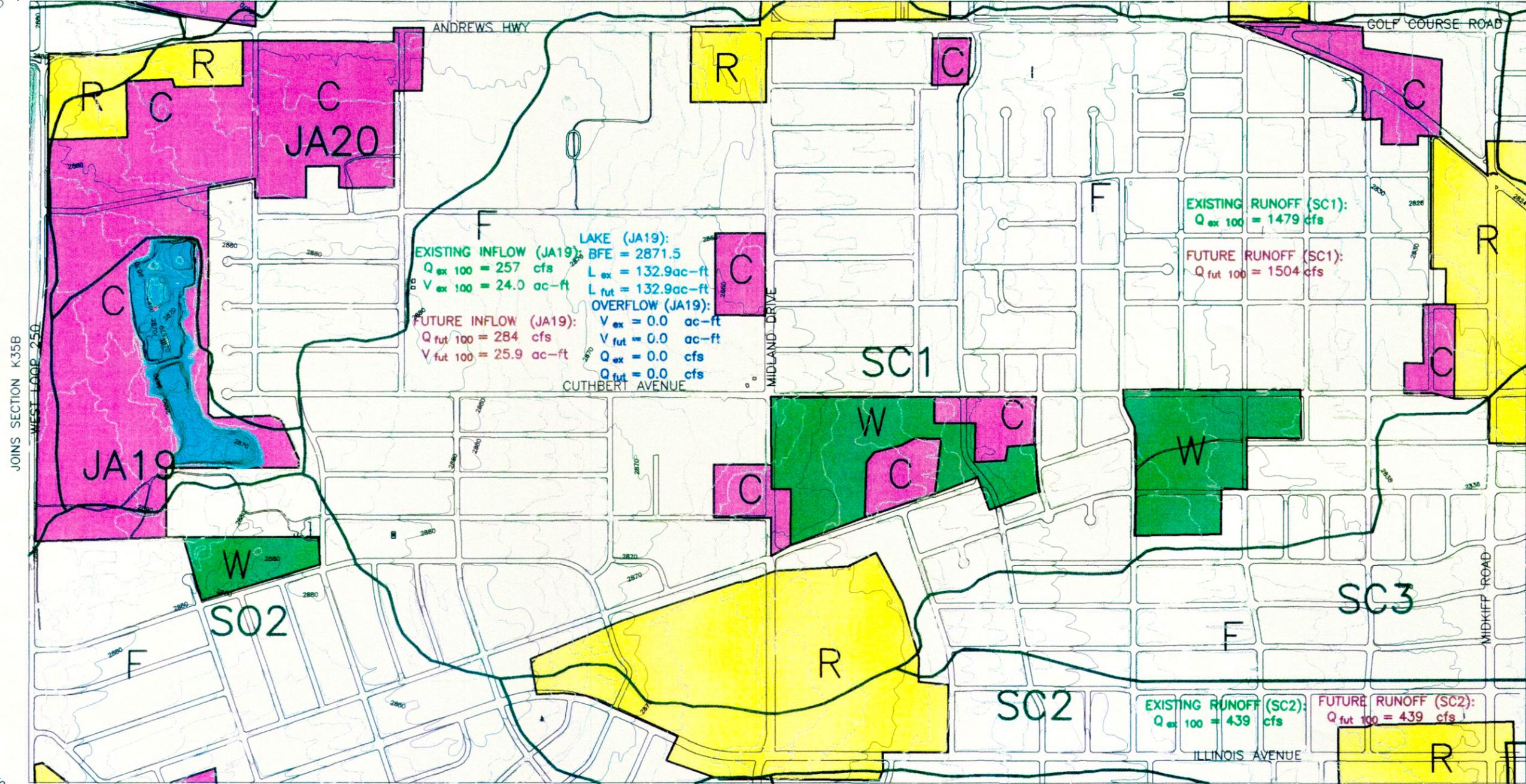
FIGURE 4-7

JOINS SECTION K36D

JOINS SECTION L36C

JOINS SECTION L36D

JOINS SECTION M36C



JOINS SECTION K35B

JOINS SECTION M35A

JOINS SECTION K35D

JOINS SECTION L35C

JOINS SECTION L35D

JOINS SECTION M35C

SECTION L35A

SECTION L35B



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CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
SECTION MAP

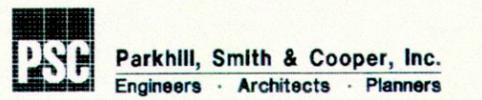


FIGURE 4-8

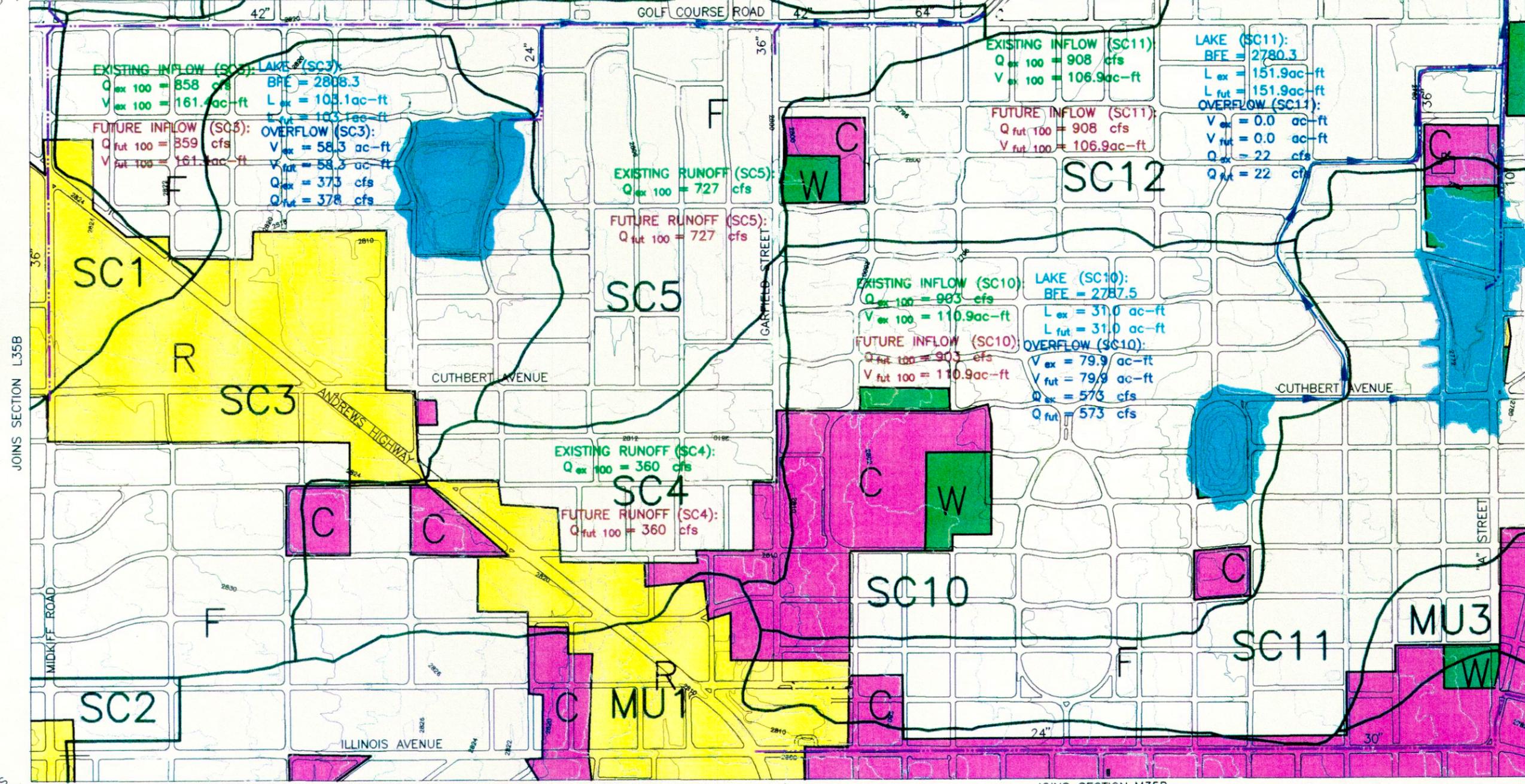
L35AB 7/12/5 JLC

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JOINS SECTION N36C



SECTION M35A

SECTION M35B



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CITY OF MIDLAND, TEXAS
 SCHARBAUER CHANNEL MASTER PLAN
 SECTION MAP

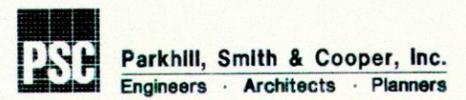


FIGURE 4-9

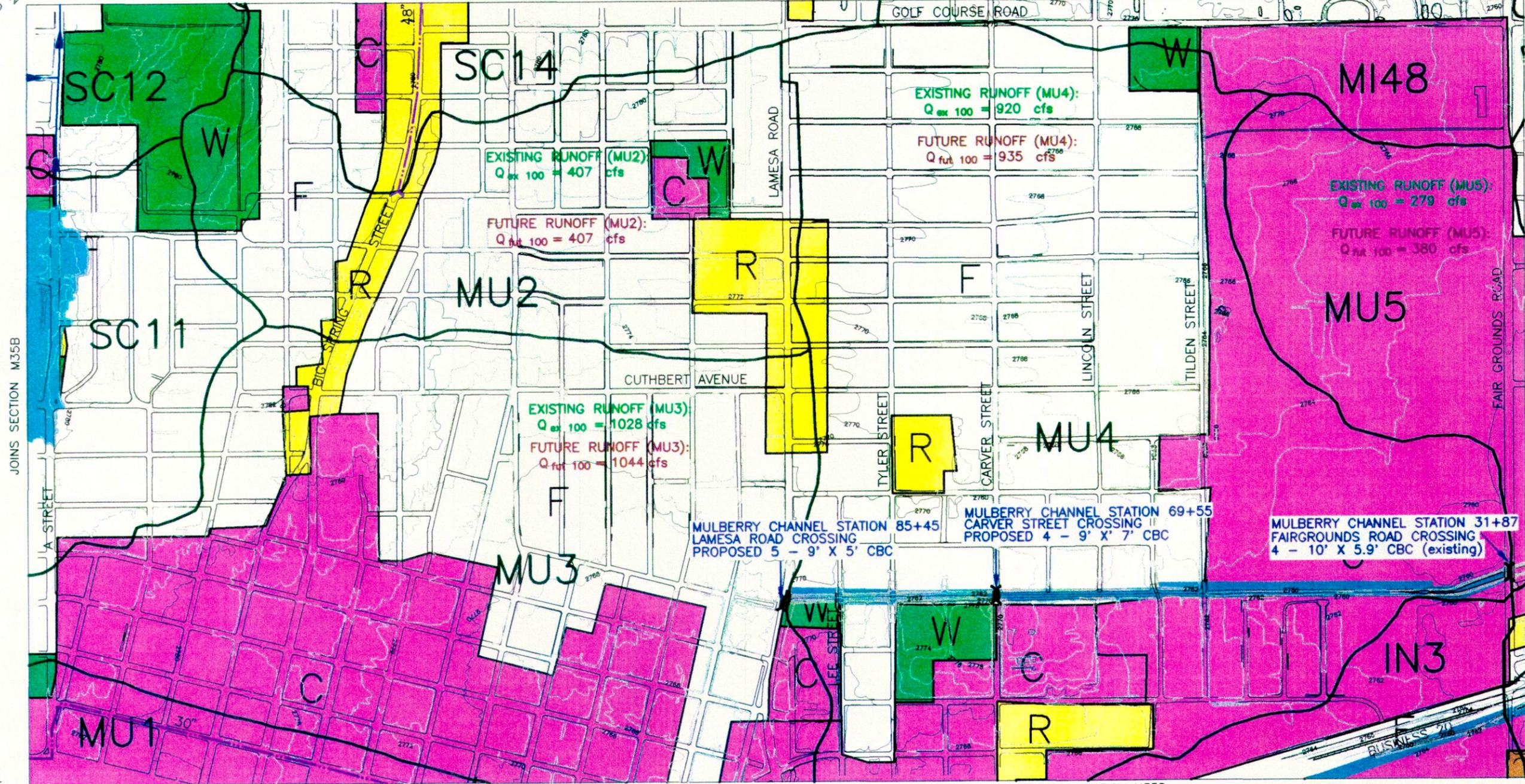
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JOINS SECTION P36C



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JOINS SECTION P35A

JOINS SECTION M35D

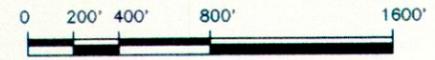
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SECTION N35A

SECTION N35B



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CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
SECTION MAP

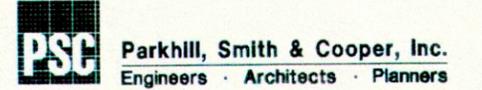


FIGURE 4-10

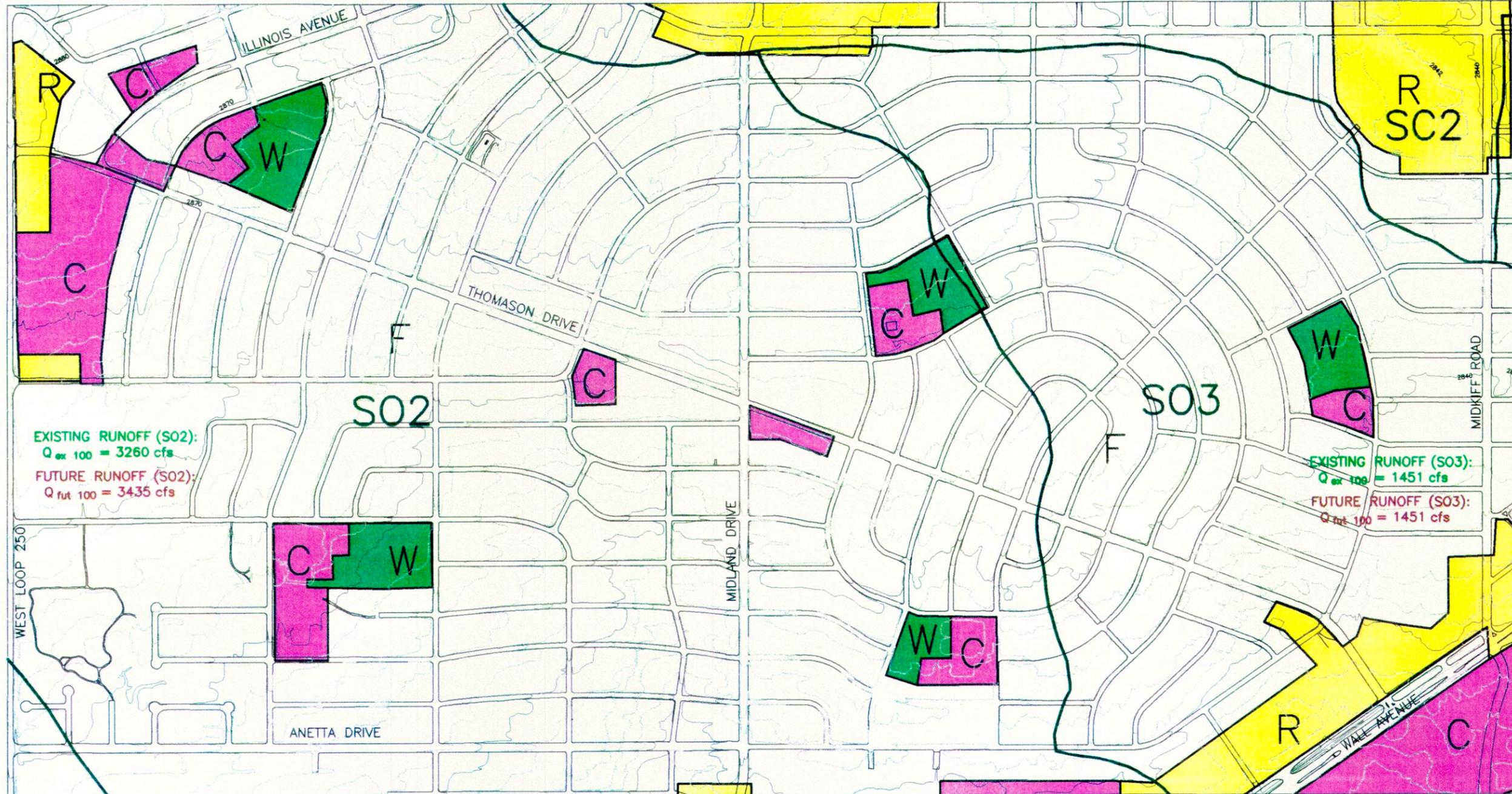
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JOINS SECTION M35A



JOINS SECTION K35D

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SECTION L35C

SECTION L35D



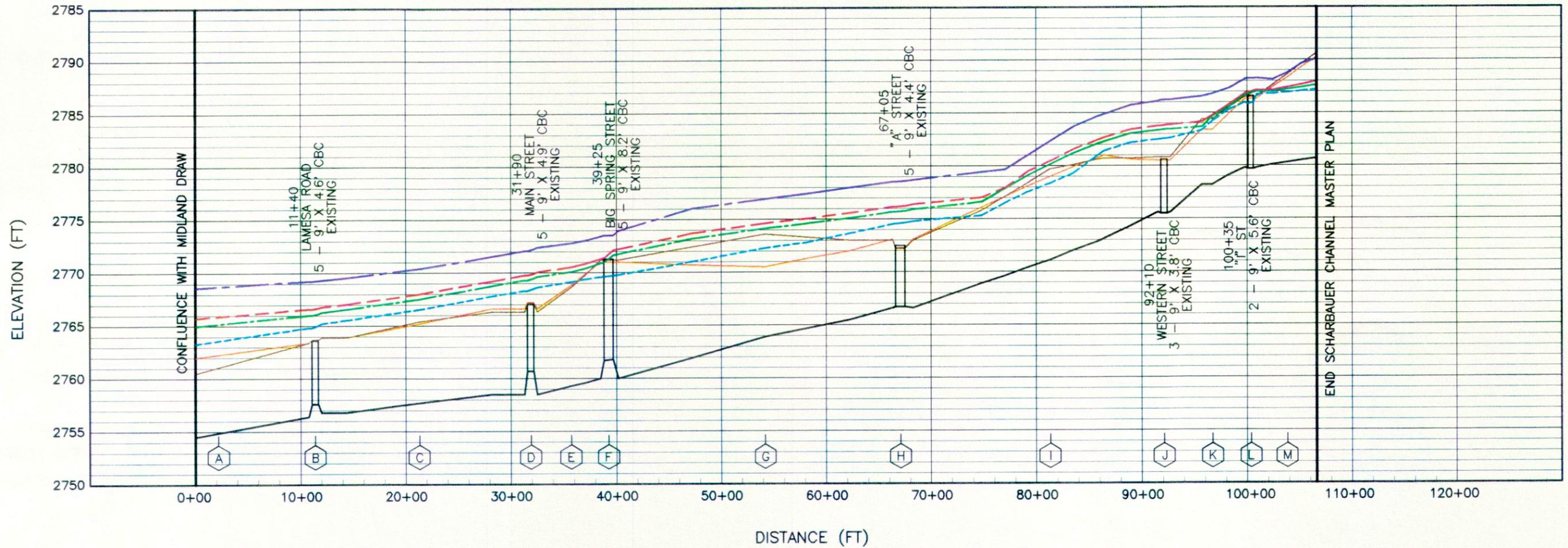
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CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
SECTION MAP

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FIGURE 4-11

K35CD 7/12/99 JLC



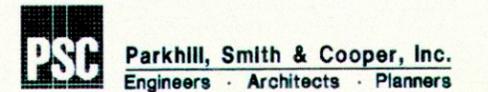
LEGEND

INVERT		10-YEAR	
LEFT BANK		50-YEAR	
RIGHT BANK		100-YEAR	
CROSS SECTION LOCATION		500-YEAR	

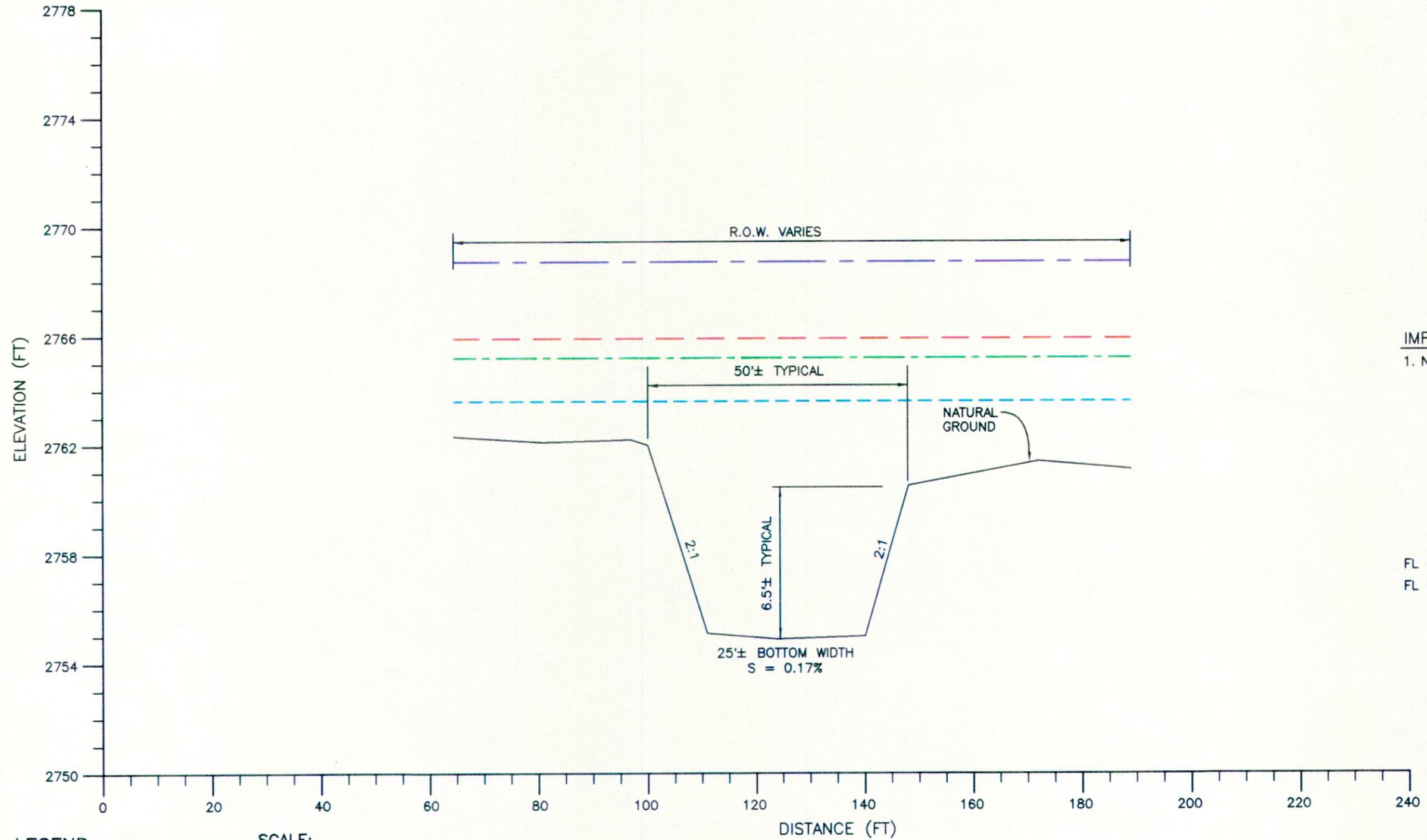
SCHARBAUER CHANNEL
 STATION 0+00 TO STATION 106+60
 FIGURE 4-12

SCALE:
 V: 1" = 10'
 H: 1" = 1000'

CITY OF MIDLAND, TEXAS
 SCHARBAUER CHANNEL MASTER PLAN
 PROFILE



CROSS SECTION A
STATION 2+20



IMPROVEMENTS RECOMMENDED
1. NONE

FL ELEVATION AT 0+00 = 2755.35
FL ELEVATION AT 11+40 = 2757.60

LEGEND

- INVERT ———
- 10-YEAR - - - - -
- 50-YEAR - - - - -
- 100-YEAR - - - - -
- 500-YEAR - - - - -

SCALE:

V: 1" = 4'
H: 1" = 20'

CONFLUENCE WITH MIDLAND DRAW TO LAMESA ROAD
STATION 0+00 TO STATION 11+40

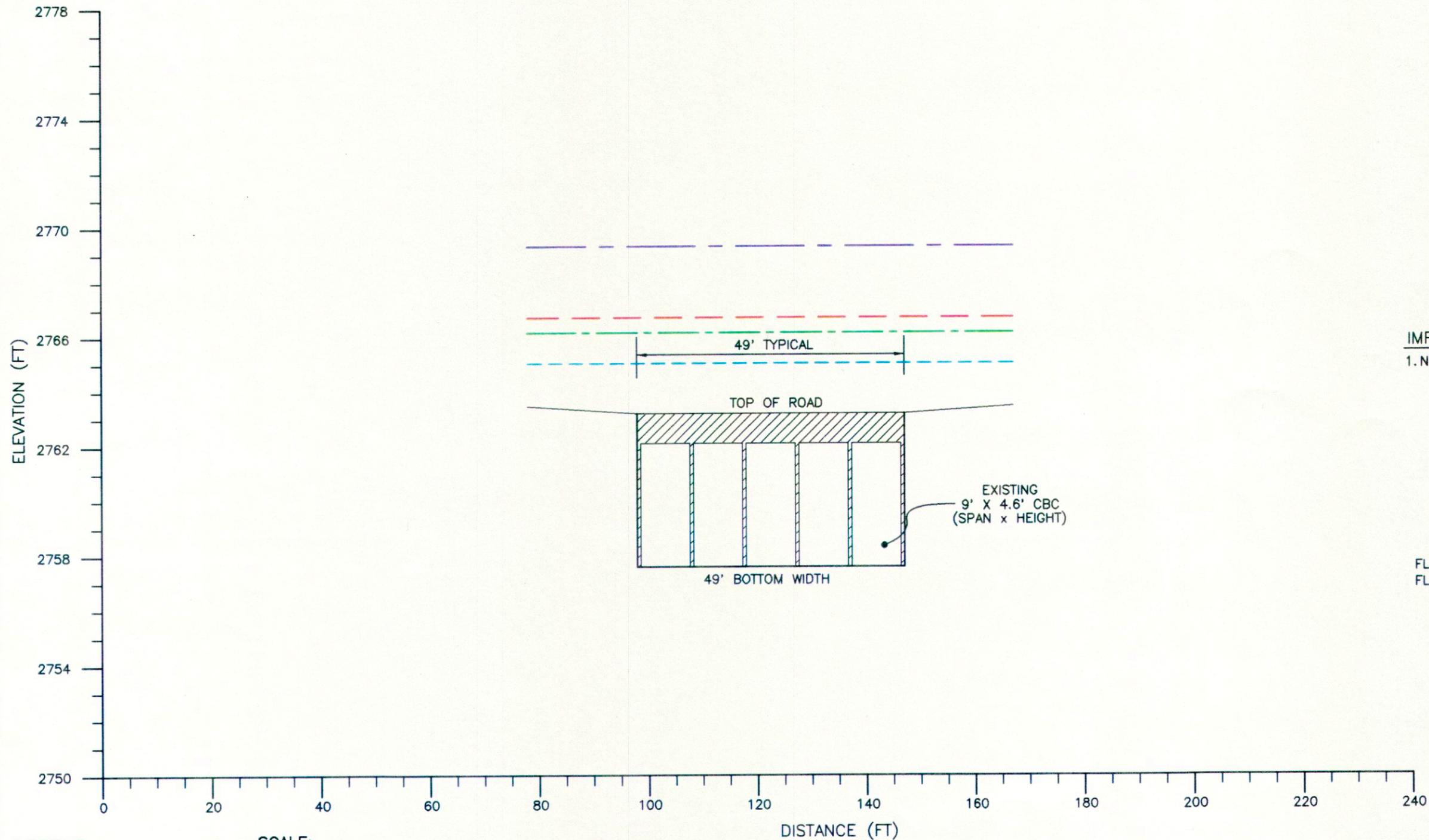
FIGURE 4-13

CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
TYPICAL CROSS SECTION



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CROSS SECTION B
STATION 11+40



IMPROVEMENTS RECOMMENDED
1. NONE

FL ELEVATION AT 11+10 = 2757.60
FL ELEVATION AT 11+70 = 2757.60

LEGEND

INVERT	—————
10-YEAR	- - - - -
50-YEAR	- - - - -
100-YEAR	- - - - -
500-YEAR	- - - - -

SCALE:
V: 1" = 4'
H: 1" = 20'

LAMESA ROAD CROSSING

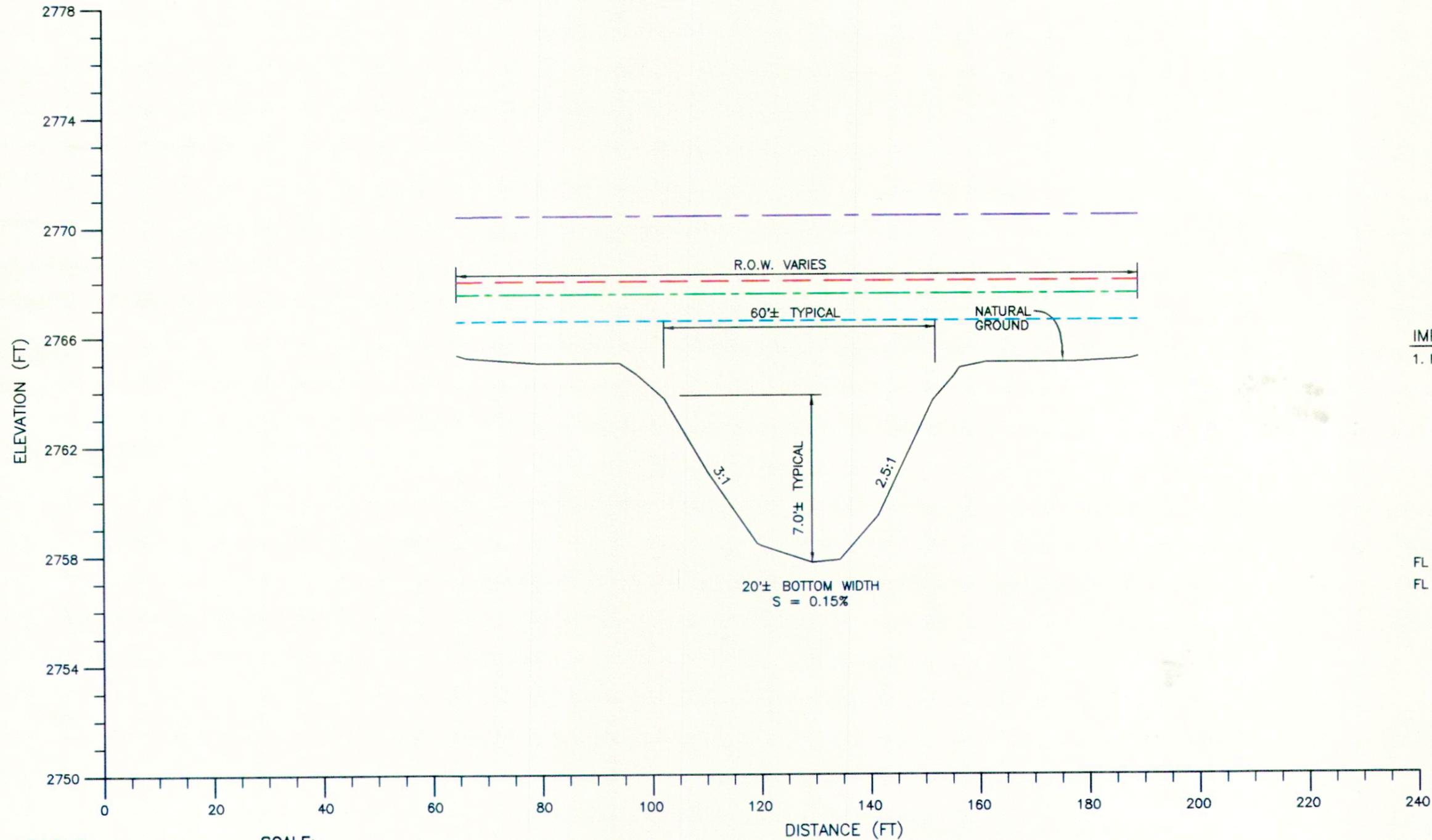
FIGURE 4-14

CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
TYPICAL CROSS SECTION

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11+40 11/27/05 2.45 RSK

CROSS SECTION C
STATION 21+30



IMPROVEMENTS RECOMMENDED
1. NONE

FL ELEVATION AT 11+40 = 2757.60
FL ELEVATION AT 31+90 = 2760.75

LEGEND

- INVERT ————
- 10-YEAR - - - - -
- 50-YEAR - - - - -
- 100-YEAR - - - - -
- 500-YEAR - - - - -

SCALE:

V: 1" = 4'
H: 1" = 20'

LAMESA ROAD TO MAIN STREET
STATION 11+40 TO STATION 31+90

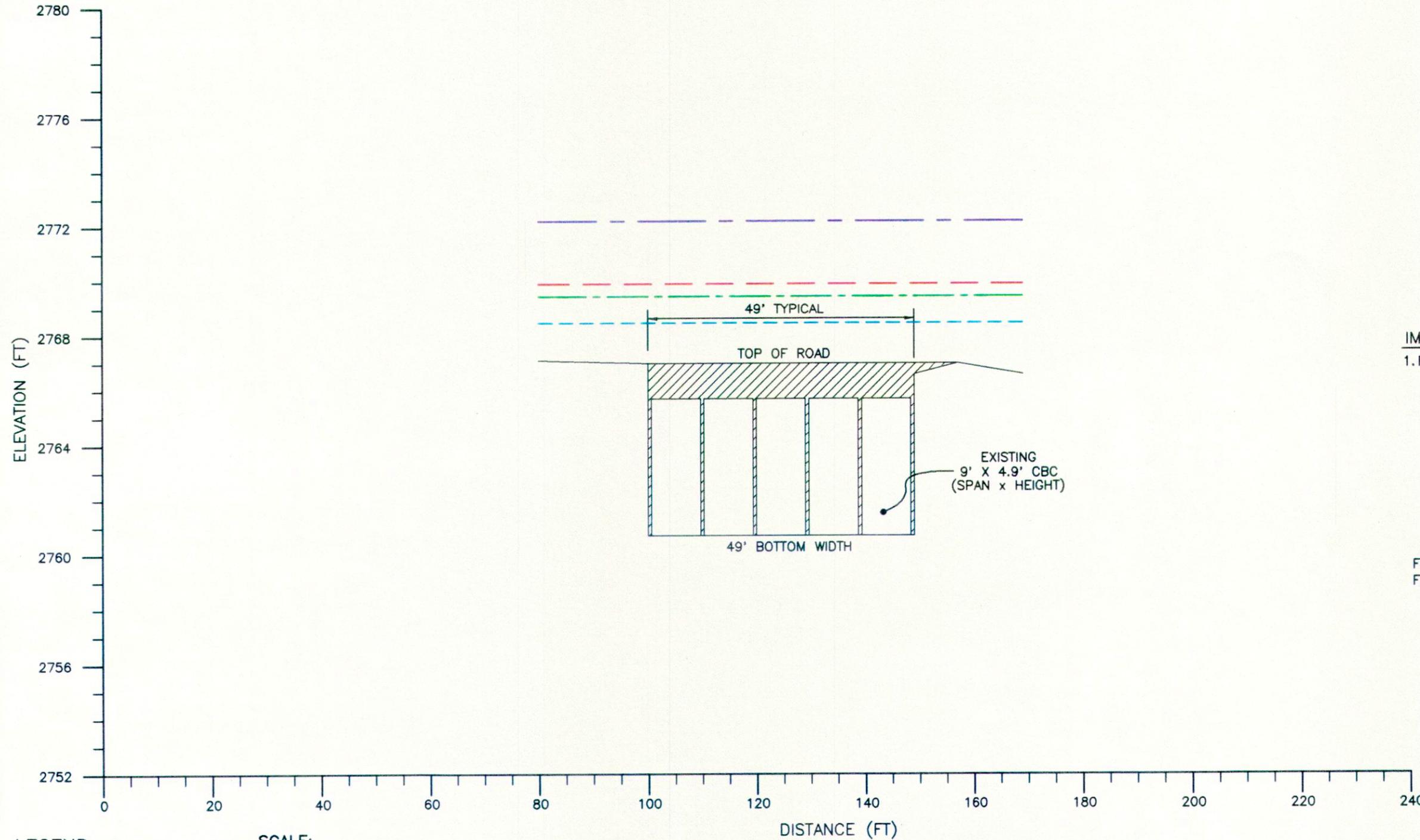
FIGURE 4-15

CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
TYPICAL CROSS SECTION



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CROSS SECTION D
STATION 31+90



IMPROVEMENTS RECOMMENDED
1. NONE

FL ELEVATION AT 31+60 = 2760.70
FL ELEVATION AT 32+20 = 2760.70

LEGEND

- INVERT
- 10-YEAR
- 50-YEAR
- 100-YEAR
- 500-YEAR

SCALE:

V: 1" = 4'
H: 1" = 20'

MAIN STREET CROSSING

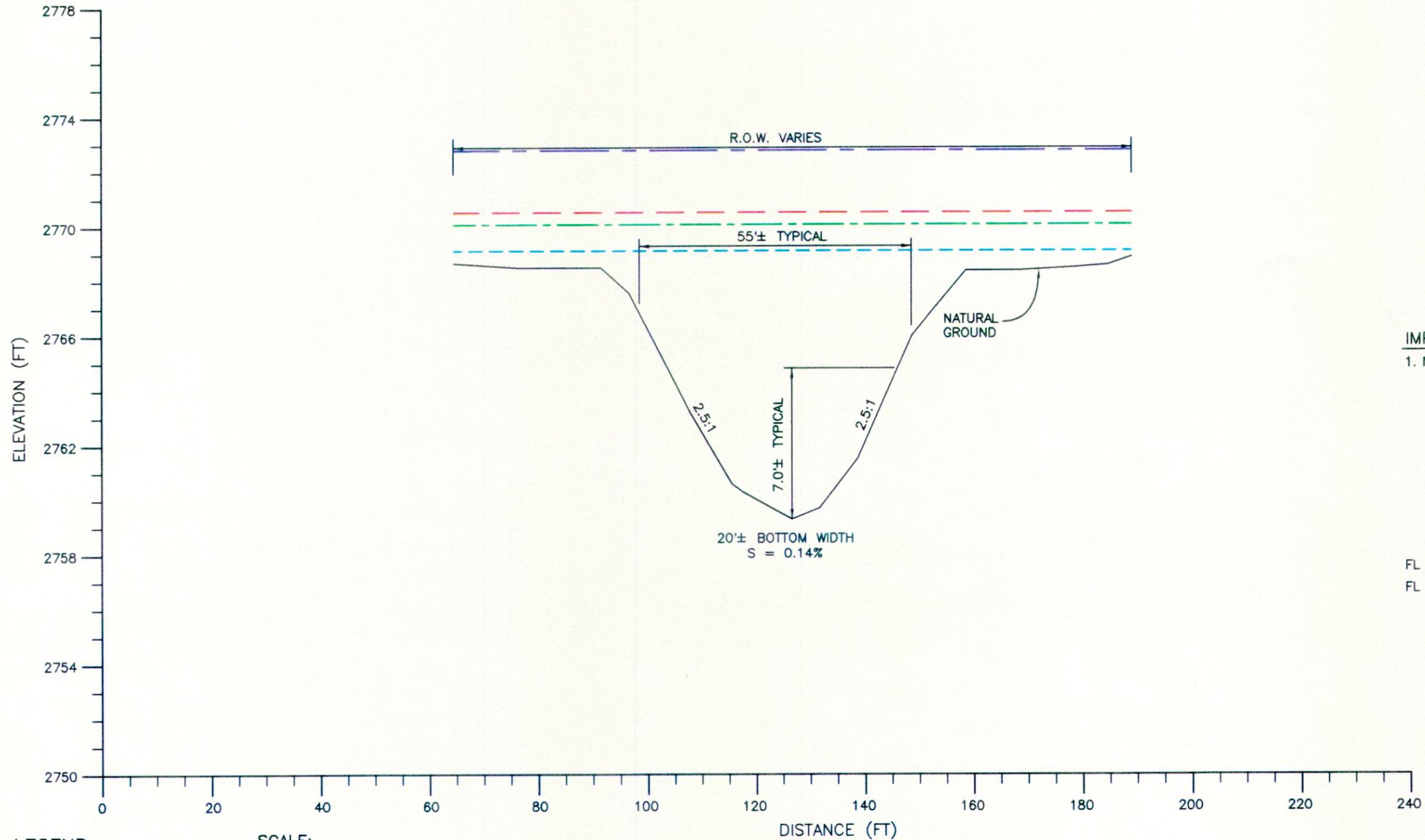
FIGURE 4-16

CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
TYPICAL CROSS SECTION



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CROSS SECTION E
STATION 35+70



IMPROVEMENTS RECOMMENDED
1. NONE

FL ELEVATION AT 31+90 = 2760.70
FL ELEVATION AT 39+25 = 2761.70

LEGEND

INVERT	—————
10-YEAR	- - - - -
50-YEAR	- · - · -
100-YEAR	- · - · -
500-YEAR	- - - - -

SCALE:
V: 1" = 4'
H: 1" = 20'

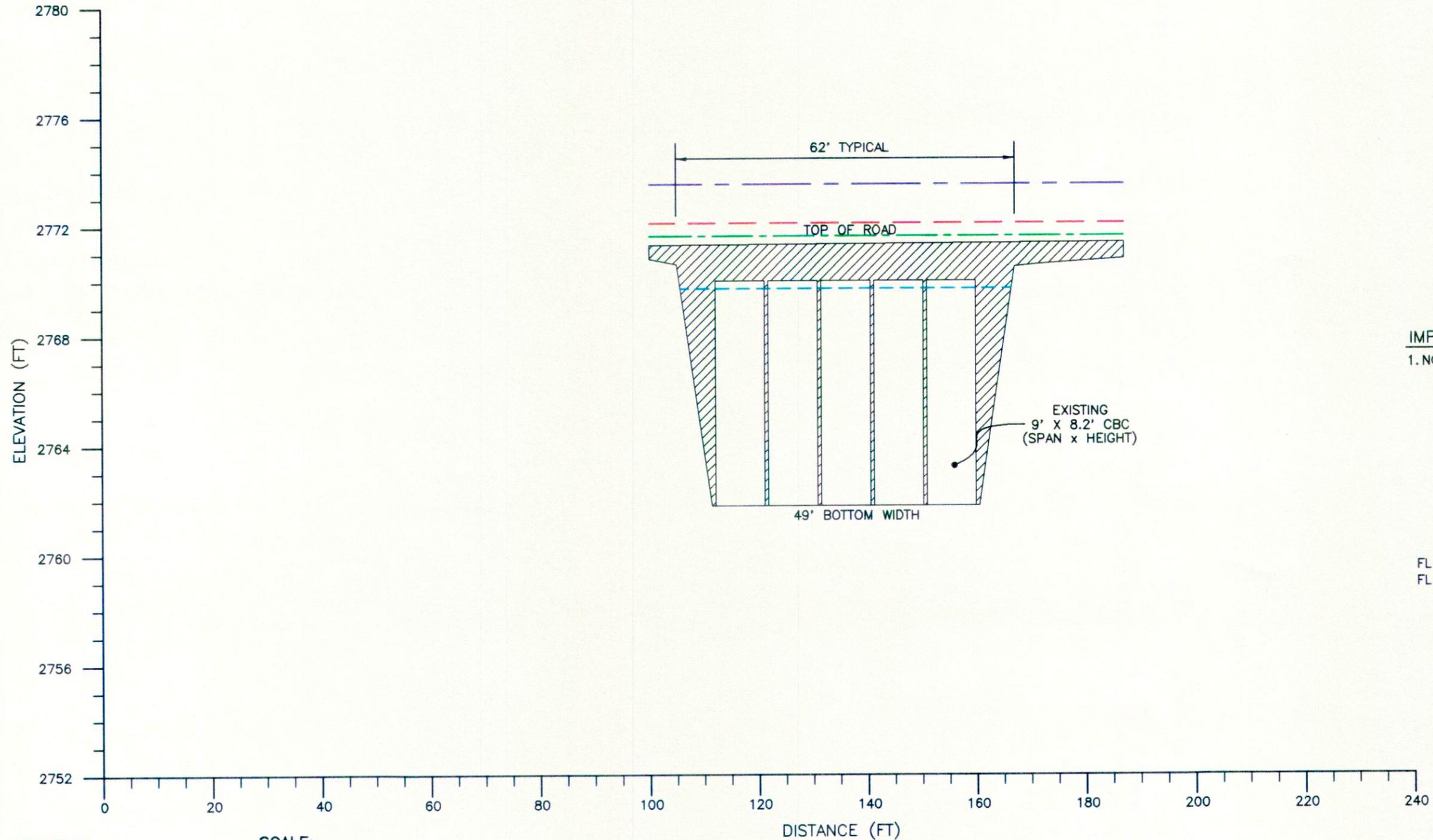
MAIN STREET TO BIG SPRING STREET
STATION 31+90 TO STATION 39+25

FIGURE 4-17

CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
TYPICAL CROSS SECTION

PSC Parkhill, Smith & Cooper, Inc.
Engineers · Architects · Planners

CROSS SECTION F
STATION 39+25



IMPROVEMENTS RECOMMENDED
1. NONE

FL ELEVATION AT 38+80 = 2761.70
FL ELEVATION AT 39+70 = 2761.80

LEGEND

- INVERT ———
- 10-YEAR - - - - -
- 50-YEAR - - - - -
- 100-YEAR - - - - -
- 500-YEAR - - - - -

SCALE:

V: 1" = 4'
H: 1" = 20'

BIG SPRING STREET CROSSING

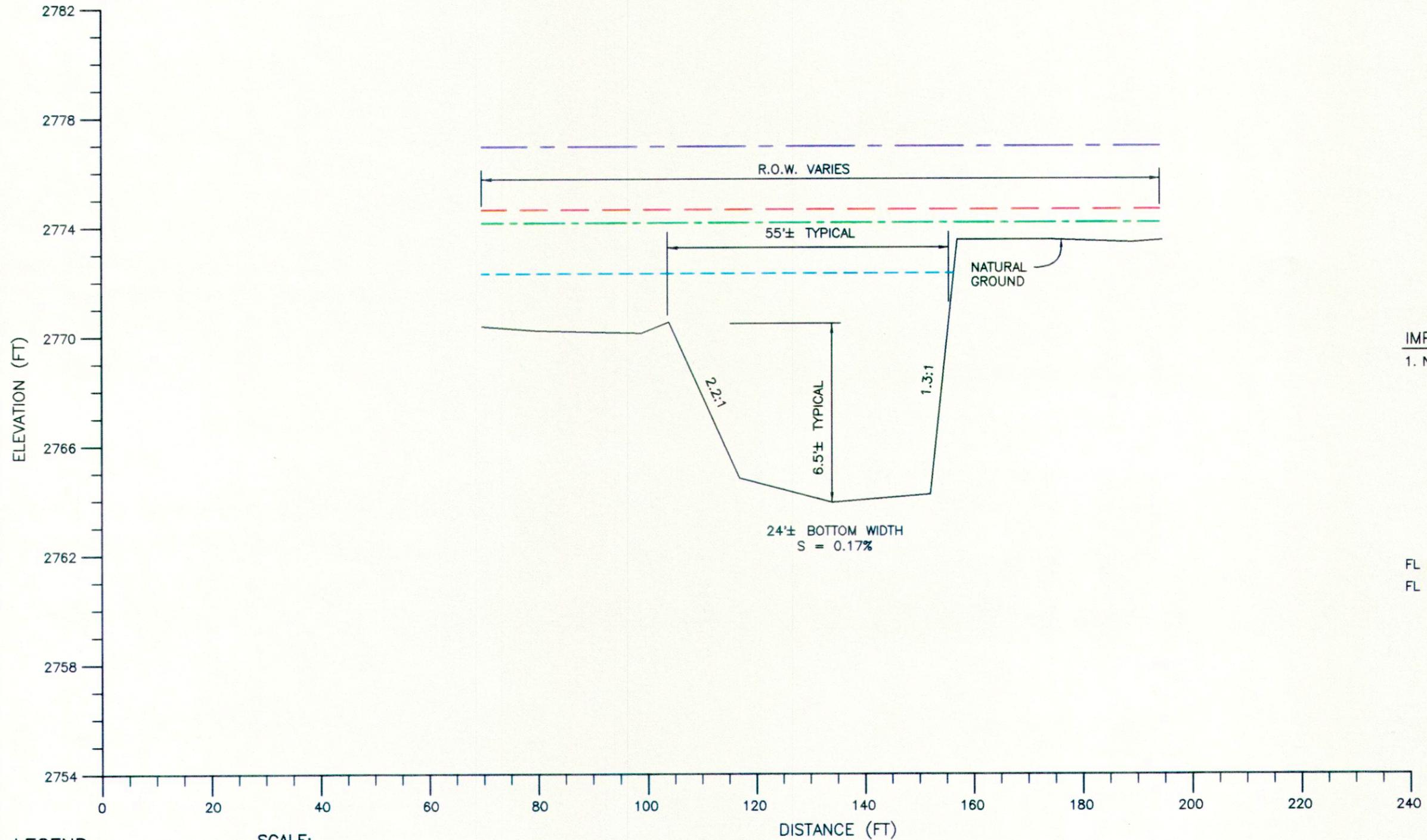
FIGURE 4-18

CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
TYPICAL CROSS SECTION



Parkhill, Smith & Cooper, Inc.
Engineers · Architects · Planners

CROSS SECTION G
STATION 54+20



IMPROVEMENTS RECOMMENDED

1. NONE

FL ELEVATION AT 39+25 = 2760.75

FL ELEVATION AT 67+05 = 2766.70

LEGEND

- INVERT —————
- 10-YEAR - - - - -
- 50-YEAR - - - - -
- 100-YEAR - - - - -
- 500-YEAR - - - - -

SCALE:

V: 1" = 4'
H: 1" = 20'

BIG SPRING STREET TO "A" STREET
STATION 39+25 TO STATION 67+05

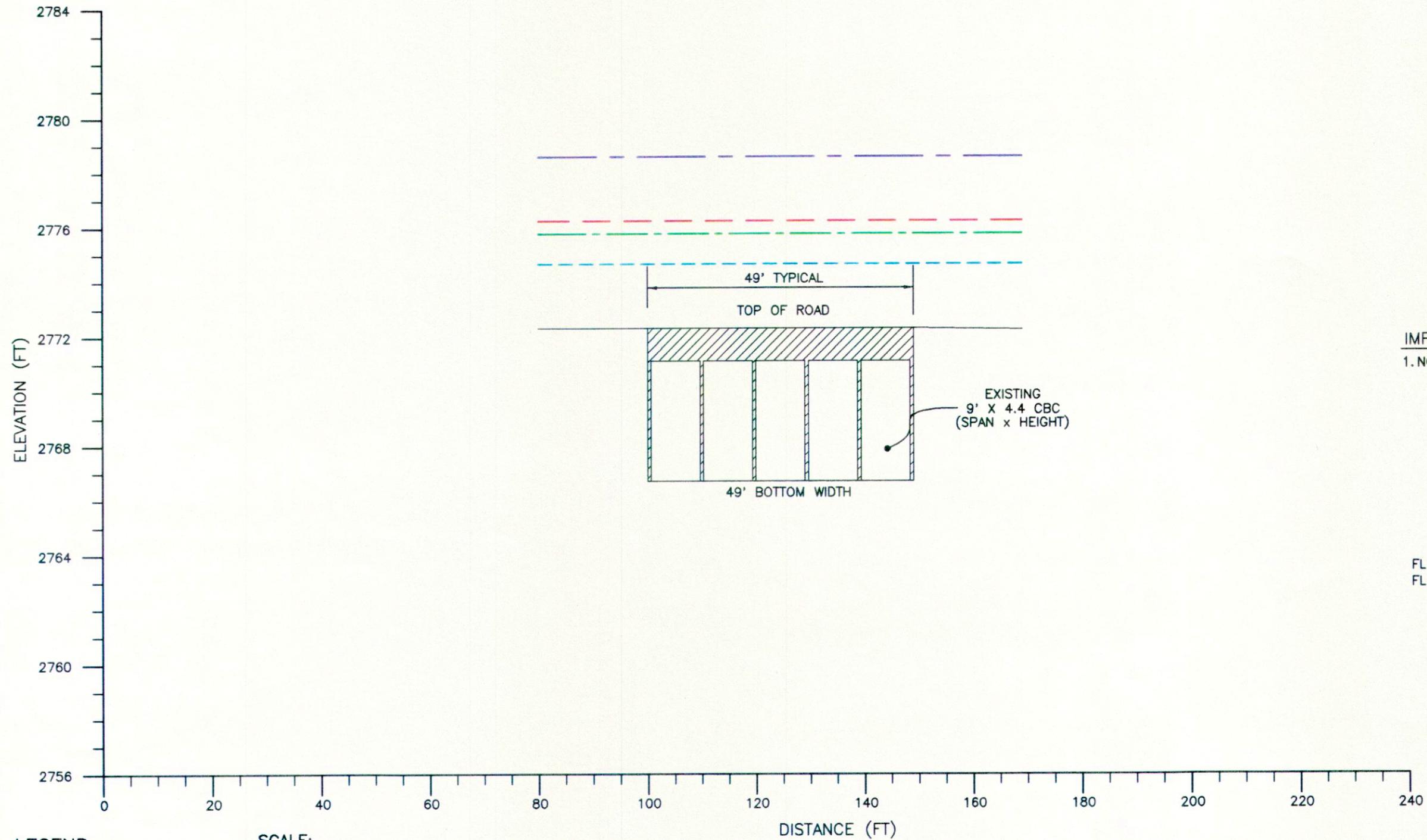
FIGURE 4-19

CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
TYPICAL CROSS SECTION



Parkhill, Smith & Cooper, Inc.
Engineers · Architects · Planners

CROSS SECTION H
STATION 67+05



IMPROVEMENTS RECOMMENDED
1. NONE

FL ELEVATION AT 66+60 = 2766.70
FL ELEVATION AT 67+50 = 2766.70

LEGEND

INVERT	—————
10-YEAR	-----
50-YEAR	-----
100-YEAR	-----
500-YEAR	-----

SCALE:
V: 1" = 4'
H: 1" = 20'

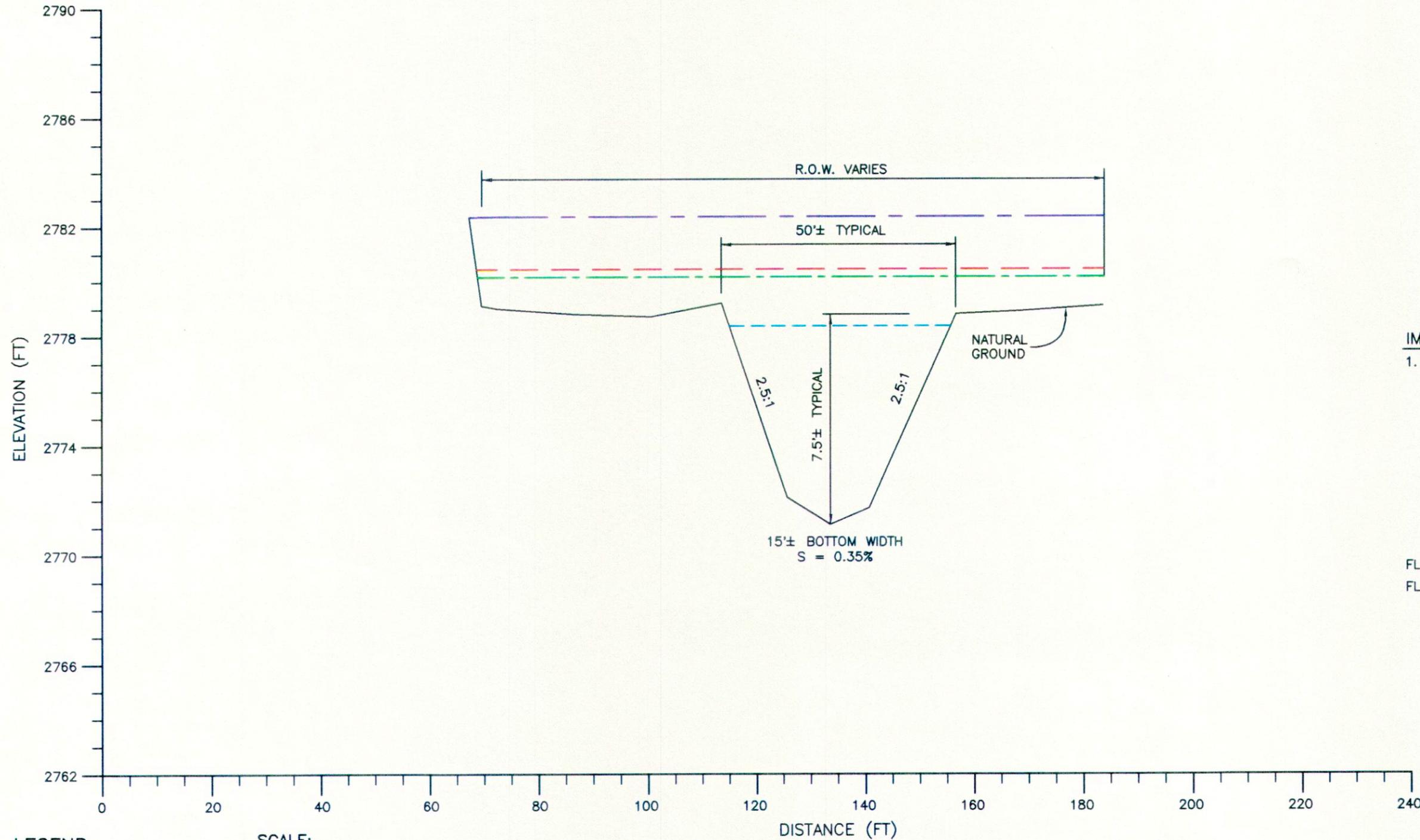
"A" STREET CROSSING

FIGURE 4-20

CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
TYPICAL CROSS SECTION

PSC Parkhill, Smith & Cooper, Inc.
Engineers · Architects · Planners

CROSS SECTION I
STATION 81+30



IMPROVEMENTS RECOMMENDED
1. NONE

FL ELEVATION AT 67+05 = 2766.70
FL ELEVATION AT 92+10 = 2775.50

LEGEND	
INVERT	—————
10-YEAR	- - - - -
50-YEAR	- · - · -
100-YEAR	- · - · -
500-YEAR	- · - · -

SCALE:
V: 1" = 4'
H: 1" = 20'

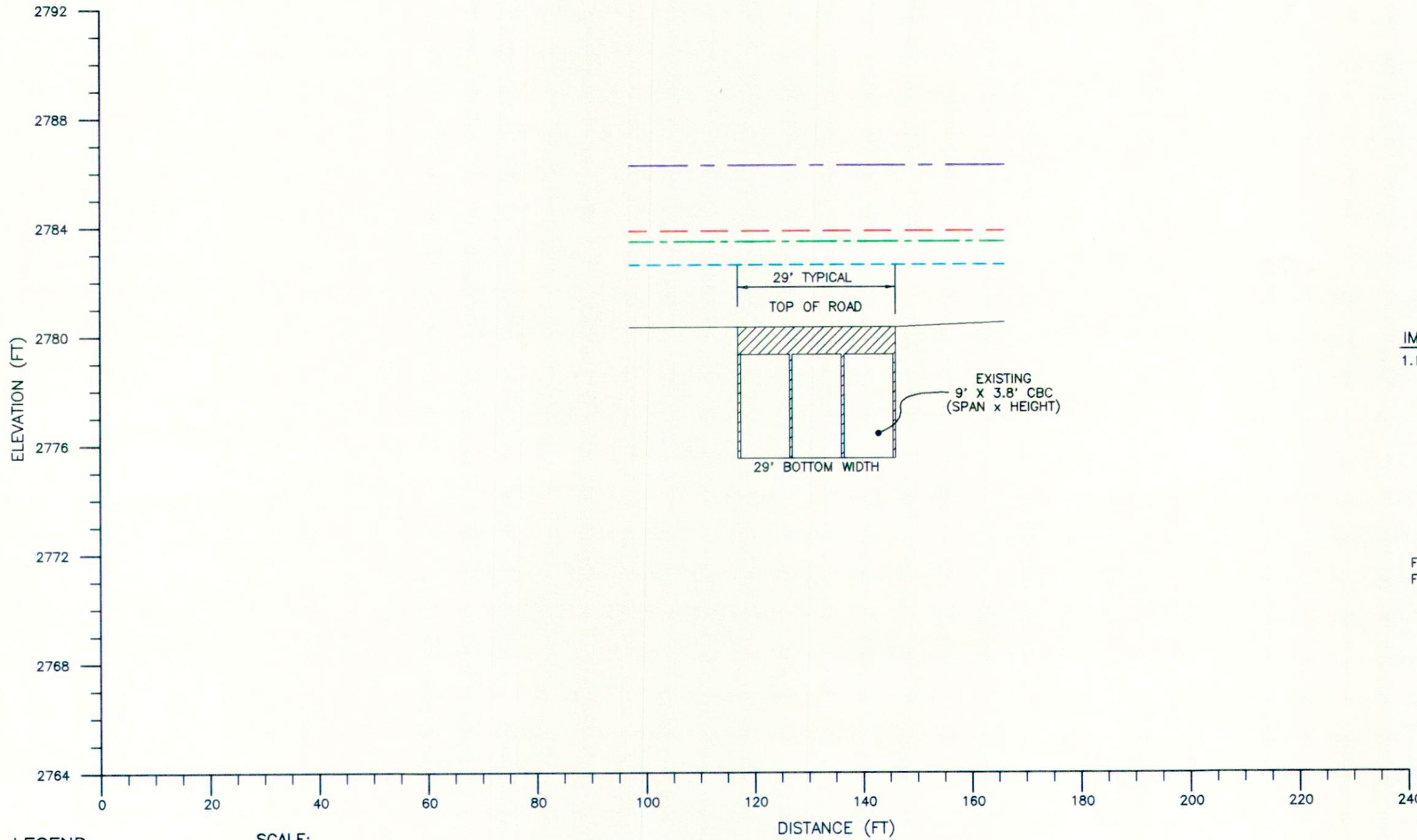
"A" STREET TO WESTERN STREET
STATION 67+05 TO STATION 92+10

FIGURE 4-21

CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
TYPICAL CROSS SECTION

PSC Parkhill, Smith & Cooper, Inc.
Engineers · Architects · Planners

CROSS SECTION J
STATION 92+10



IMPROVEMENTS RECOMMENDED

1. NONE

FL ELEVATION AT 91+80 = 2275.50
FL ELEVATION AT 92+40 = 2275.50

LEGEND

- INVERT —————
- 10-YEAR - - - - -
- 50-YEAR - - - - -
- 100-YEAR - - - - -
- 500-YEAR - - - - -

SCALE:

V: 1" = 4'
H: 1" = 20'

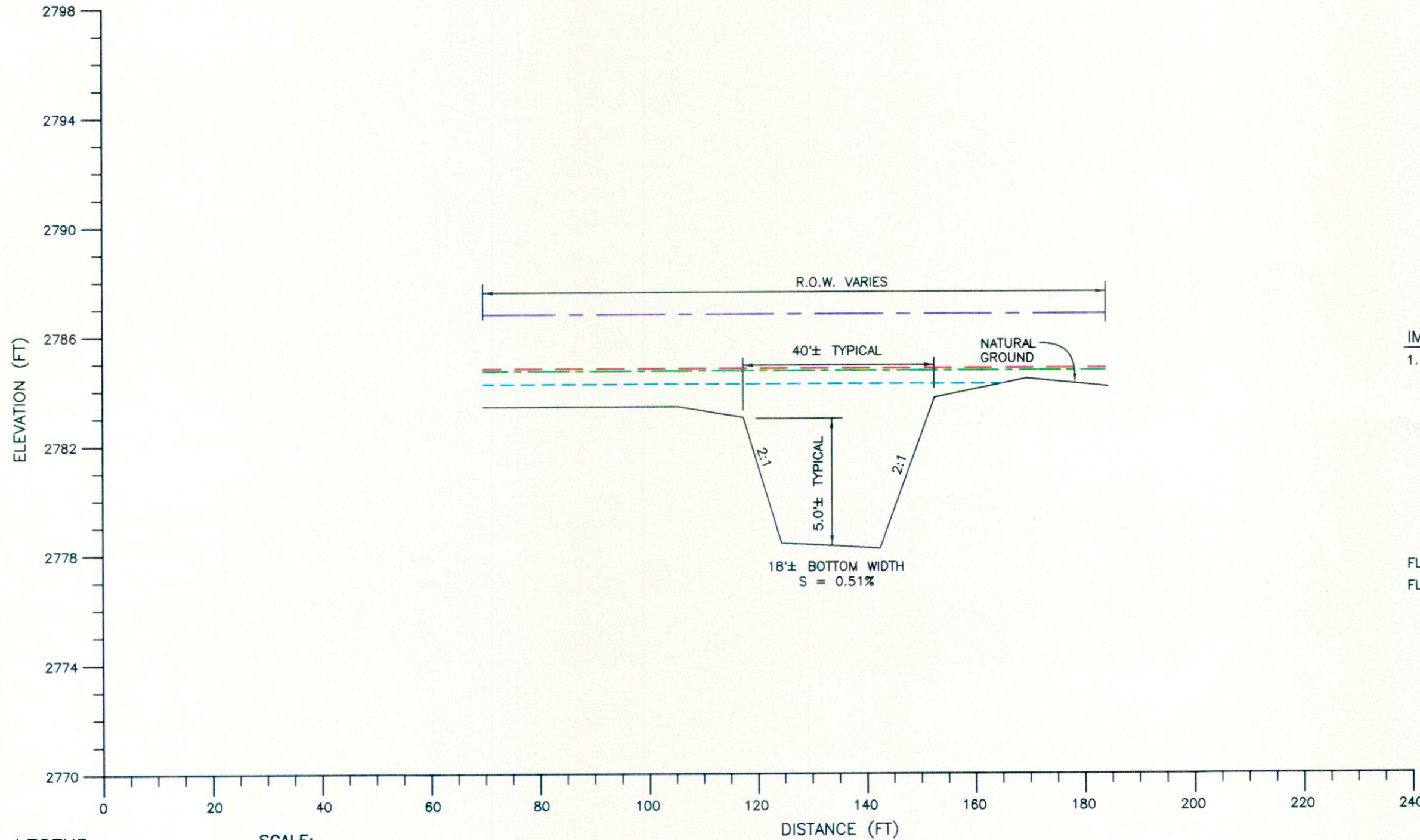
WESTERN STREET CROSSING

FIGURE 4-22

CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
TYPICAL CROSS SECTION

PSC Parkhill, Smith & Cooper, Inc.
Engineers · Architects · Planners

CROSS SECTION K
STATION 96+70



IMPROVEMENTS RECOMMENDED
1. NONE

FL ELEVATION AT 92+10 = 2775.50
FL ELEVATION AT 100+35 = 2779.70

LEGEND

- INVERT —————
- 10-YEAR - - - - -
- 50-YEAR - - - - -
- 100-YEAR - - - - -
- 500-YEAR - - - - -

SCALE:

V: 1" = 4'
H: 1" = 20'

WESTERN STREET TO "I" STREET
STATION 92+10 TO STATION 100+35

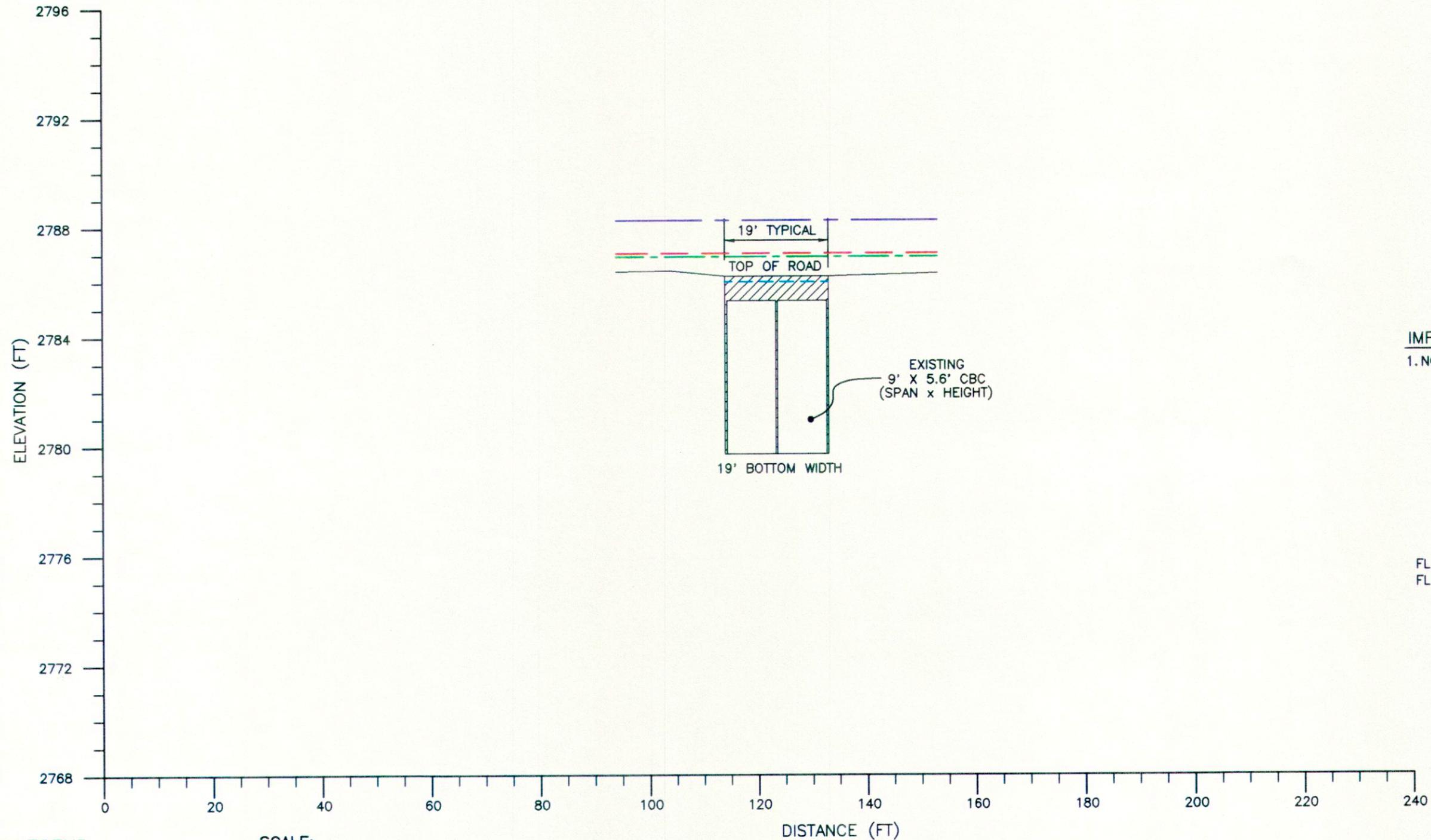
FIGURE 4-23

CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
TYPICAL CROSS SECTION



Parkhill, Smith & Cooper, Inc.
Engineers · Architects · Planners

CROSS SECTION L
STATION 100+35



IMPROVEMENTS RECOMMENDED
1. NONE

FL ELEVATION AT 100+10 = 2779.70
FL ELEVATION AT 100+60 = 2779.70

LEGEND

- INVERT ————
- 10-YEAR - - - - -
- 50-YEAR - - - - -
- 100-YEAR - - - - -
- 500-YEAR - - - - -

SCALE:

V: 1" = 4'
H: 1" = 20'

"I" STREET CROSSING

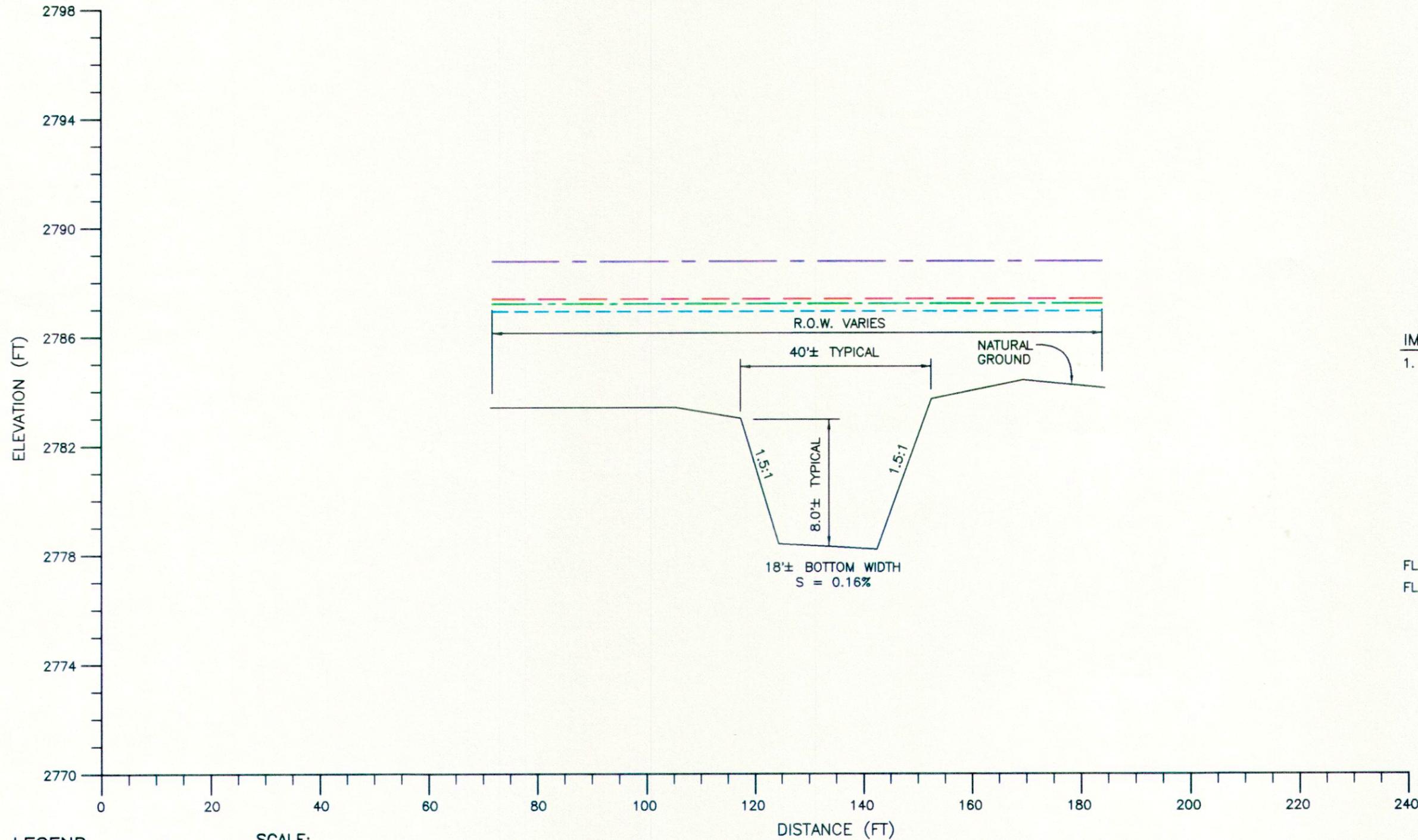
FIGURE 4-24

CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
TYPICAL CROSS SECTION



Parkhill, Smith & Cooper, Inc.
Engineers · Architects · Planners

CROSS SECTION M
STATION 103+80



IMPROVEMENTS RECOMMENDED
1. NONE

FL ELEVATION AT 100+35 = 2779.70
FL ELEVATION AT 106+60 = 2780.70

LEGEND

INVERT	—————
10-YEAR	- - - - -
50-YEAR	- · - · -
100-YEAR	- · - · -
500-YEAR	- - - - -

SCALE:
V: 1" = 4'
H: 1" = 20'

"I" STREET TO 600' UPSTREAM OF "I" STREET
STATION 100+35 TO STATION 106+60

FIGURE 4-25

CITY OF MIDLAND, TEXAS
SCHARBAUER CHANNEL MASTER PLAN
TYPICAL CROSS SECTION

PSC Parkhill, Smith & Cooper, Inc.
Engineers · Architects · Planners