

LEGEND

MATERIALS

CONCRETE
RIP-RAP

LINES

SUBDIVISION BOUNDARY
PROPERTY LINE (PLAN)
PROPERTY LINE (SECTION)
CENTERLINE
EASEMENT LINE
MATCH LINE
SECTION CUT LINE

EARTHWORK

CONTOUR LINE
SPOT ELEVATION
PROJECT / PHASE BOUNDARY
SWALE
DIRECTION OF FLOW

MISCELLANEOUS UTILITIES

GAS LINE
UNDERGROUND TELEPHONE
UNDERGROUND ELECTRICAL
STORM DRAIN
STORM DRAIN MANHOLE
STORM DRAIN INLET

SANITARY SEWER

SANITARY SEWER LINE
SANITARY SEWER MANHOLE
SAS SERVICE CONNECTIONS
SAS CAP OR PLUG
ENCASEMENT

WATER

WATER LINE
WATER SERVICE CONNECTIONS
GATE VALVE
FIRE HYDRANT
BUTTERFLY VALVE
REDUCER
WATER PRESSURE ZONE BOUNDARY

WATER FITTINGS

CAPS AND PLUGS
ELBOW
CROSS
TEE

MISCELLANEOUS

CHAINLINK FENCE
FIELD FENCE
COMMON YARD WALL
RETAINING WALL
POWER OR TELEPHONE POLE

RECORD DRAWING

CONSTRUCTION PLANS
for

TIERRA LA CUEVA
UNIT I

ALBUQUERQUE, NEW MEXICO

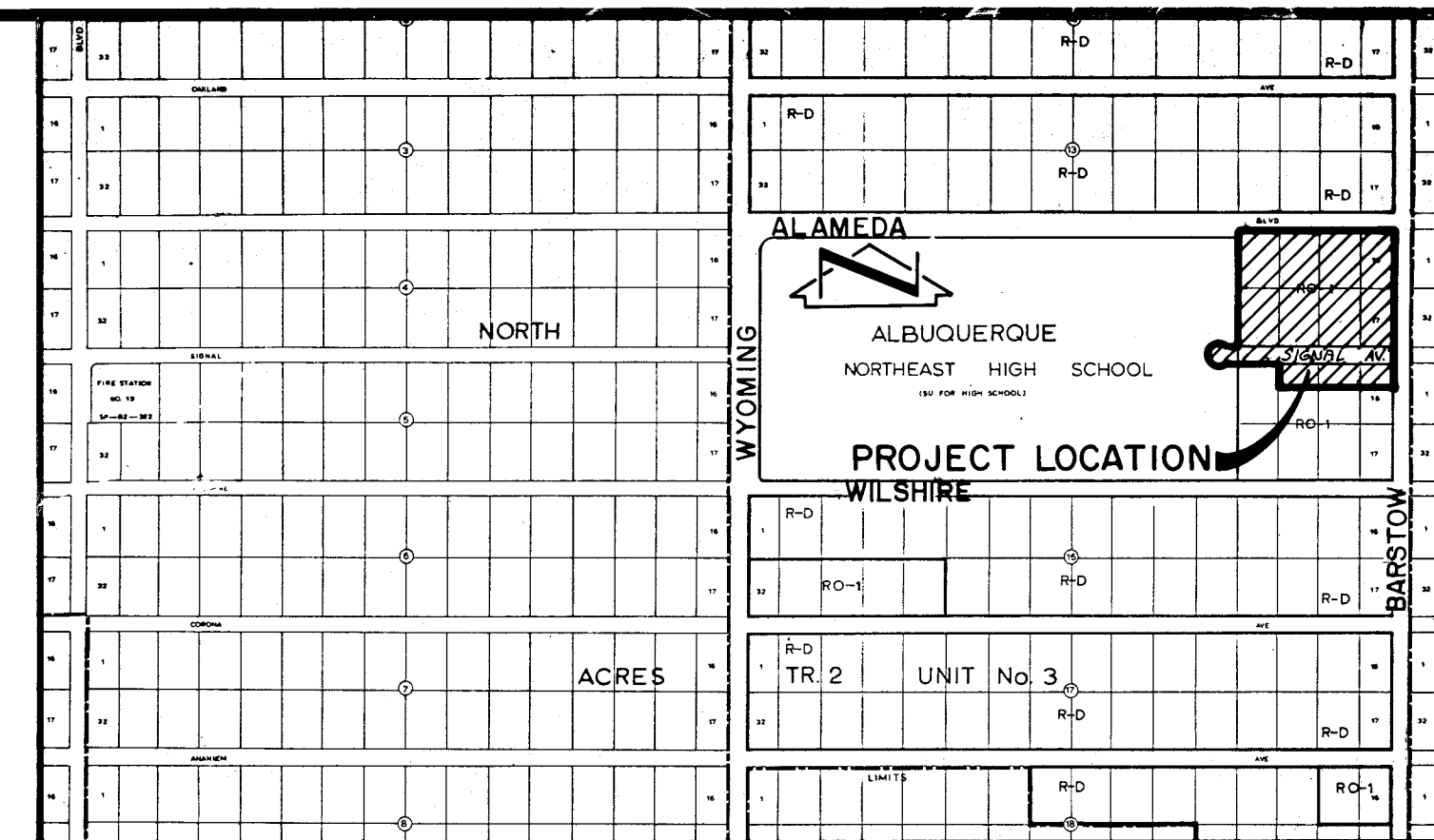
NOVEMBER, 1991

INDEX OF DRAWINGS

SHEET	DESCRIPTION
1.	COVER SHEET, VICINITY MAP, LEGEND, GENERAL NOTES AND INDEX OF DRAWINGS
2.	FINAL PLAT
GRADING & DRAINAGE PLAN	
3.	GRADING & DRAINAGE PLAN
4.	STORM DRAIN IMPROVEMENTS AT ALAMEDA/WYOMING INTERSECTION
5.	GRADING NOTES & SECTIONS
6.	DRAINAGE PLAN & CALCULATIONS
SITE PLAN	
7.	COMPOSITE SITE PLAN / WATER VALVE SHUTOFF PLAN
8.	SECTIONS & DETAILS
9.	TRAFFIC CONTROL DETAILS
PAVING IMPROVEMENTS PLAN AND PROFILE	
10.	ALAMEDA BOULEVARD N.E.
11.	BARSTOW STREET N.E.
12.	TIERRA ALEGRE DRIVE N.E.
13.	SIGNAL AVENUE N.E.
14.	TIERRA LINDA PLACE N.E./TIERRA MONTANA PLACE N.E.
WATER AND SANITARY SEWER EXTENSIONS	
15.	ALAMEDA BOULEVARD N.E.
16.	TIERRA ALEGRE DRIVE N.E.
17.	SIGNAL AVENUE N.E.
18.	TIERRA LINDA PLACE N.E./TIERRA MONTANA PLACE N.E.
RETAINING WALLS	
19.	WALLS # 1 & 2 PLAN & PROFILE
20.	WALL # 3 PLAN & PROFILE

CAUTION:

THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR.



VICINITY MAP
SCALE: 1" = 800' (APPROX.)

C-19

GENERAL NOTES:

- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS - PUBLIC WORKS CONSTRUCTION - 1986.
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 260-1990, FOR LOCATION OF EXISTING UTILITIES.
- IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
- SHOULD A CONFLICT EXIST BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY FOR ALL PARTIES.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING SAFETY AND HEALTH.
- CONTRACTOR SHALL COMPLY WITH SECTION 19 OF THE "STANDARD SPECIFICATIONS".
- ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- BACKFILL COMPACTION SHALL BE ACCORDING TO SPECIFIED STREET USE.
- TACK COAT REQUIREMENTS SHALL BE DETERMINED DURING CONSTRUCTION BY THE PROJECT ENGINEER.
- SIDEWALKS AND WHEELCHAIR RAMPS WITHIN THE CURB RETURNS SHALL BE CONSTRUCTED WHEREVER A NEW CURB RETURN IS CONSTRUCTED.
- IF CURB IS DERESSED FOR A DRIVEPAD OR A HANDICAP RAMP, THE DRIVEPAD OR RAMP SHALL BE CONSTRUCTED PRIOR TO ACCEPTANCE OF THE CURB AND GUTTER.
- ALL STORM DRAINAGE FACILITIES SHALL BE COMPLETED PRIOR TO FINAL ACCEPTANCE.
- CONTRACTOR SHALL COORDINATE WITH THE WATER SYSTEM DIVISION FOR THE EXECUTION OF THE VALVE SHUT OFF PLAN, NOT LESS THAN THREE (3) WORKING DAYS IN ADVANCE OF ANY WORK THAT MAY AFFECT THE EXISTING PUBLIC WATER UTILITIES. ONLY WATER SYSTEM DIVISION PERSONNEL SHALL OPERATE EXISTING VALVES. REFER TO SECTION 18 OF THE SPECIFICATION.
- CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE ENGINEER MAY TAKE NECESSARY MEASURES TO INSURE THE PRESERVATION OF SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERMANENT SURVEY MONUMENTS WITHOUT THE CONSENT OF THE ENGINEER AND SHALL NOTIFY THE ENGINEER AND BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED WITHOUT PERMISSION. REPLACEMENT SHALL BE DONE ONLY BY THE ENGINEER. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATION OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED. REFER TO SECTION 4.4 OF THE SPECIFICATIONS.
- THREE (3) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION THE CONTRACTOR SHALL SUBMIT TO THE CONSTRUCTION CO-ORDINATION DIVISION A DETAILED CONSTRUCTION SCHEDULE. TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL OBTAIN A BARRICADE PERMIT FROM THE CONSTRUCTION CO-ORDINATION DIVISION. CONTRACTOR SHALL NOTIFY BARRICADE ENGINEER (768-2551) PRIOR TO OCCUPYING AN INTERSECTION. CONTRACTOR MUST REFER TO SECTION 19 OF THE STANDARD SPECIFICATION FOR TRAFFIC CONTROL.
- ALL STREET STRIPING ALTERED OR DESTROYED SHALL BE REPLACED IN KIND BY CONTRACTOR TO LOCATION AND IN KIND AS EXISTING OR AS INDICATED BY THIS PLAN SET.

RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects.

Jeffrey G. Mortensen
NMPVNO. 8547
07-20-92
07-09-92
Date

26 4368.900192

APPROVED BY AS BUILT ENGINEER
DATE 7/15/92

REV.	SHEETS	CITY ENGINEER	DATE	USER DEPARTMENT	DATE	USER DEPARTMENT	DATE
1	20						

APPROVED FOR CONSTRUCTION

Jeff Mortensen & Associates, Inc.
8000-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87113
ENGINEERS & (505) 345-4250

1-23-92 C.E.

PROJECT NO 4368 90

12-07-91

SHEET 1 OF 20

DEDICATION AND FREE CONSENT

The undersigned owners of the land shown hereon do hereby consent to the subdivision of said land in the manner shown on this plat and do hereby dedicate the public street rights-of-way and grant the easements shown hereon including the rights of ingress, and egress and the right to trim interfering trees.

9/28/91

ACKNOWLEDGEMENT

STATE OF NEW MEXICO

COUNTY OF BERNALILLO) SS

The foregoing instrument was

September, 1991.

Chau
Notary Public

APPROVALS: DEB CASE NO. 91-78, S-91-11

PLANNING DIRECTOR, CITY OF ALBUQUERQUE, NEW MEXICO

UTILITY DEVELOPMENT, CITY OF ALBUQUERQUE, NEW MEXICO

CITY ENGINEER, CITY OF ALBUQUERQUE, NEW MEXICO

A.M.A.F.C.A.

TRANSPORTATION DEVELOPMENT, CITY OF ALBUQUERQUE, NEW MEXICO

PARKS AND RECREATION, CITY OF ALBUQUERQUE, NEW MEXICO

CITY SURVEYOR, CITY OF ALBUQUERQUE, NEW MEXICO

REAL PROPERTY, CITY OF ALBUQUERQUE, NEW MEXICO

PUBLIC SERVICE COMPANY OF NEW MEXICO

U.S. WEST COMMUNICATIONS

GAS COMPANY OF NEW MEXICO

JONES INTERCABLE

CERTIFICATION
I, William P. Pettit, a registered Professional Surveyor under the laws of the State of New Mexico, do hereby certify that this plat was prepared by me or under my supervision, shows all easements noted in the commitment for title insurance prepared by Albuquerque Title Company, Inc., dated March 7, 1991, File No. 97837MM, meets the minimum requirements of monumentation and surveys of the Albuquerque Subdivision Ordinance, complies with the minimum standards for surveying in New Mexico, and is true and correct to the best of my knowledge and belief.

William P. Pettit, N.M.P.S. 3243



JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (505)345-4250

JDB #910116-1

SHEET 1 OF 2

ACS STA. '6-C19'

NAD-1927 N.M. CENTRAL ZONE
X = 410,170.25
Y = 1,521,452.55
COMBINED FACTOR = 0.9996472
DELTA ALPHA = -0°10'24"

$$\begin{aligned}\Delta &= 90^\circ 11' 09'' \\ R &= 30.00' \\ l &= 47.22'\end{aligned}$$

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects.

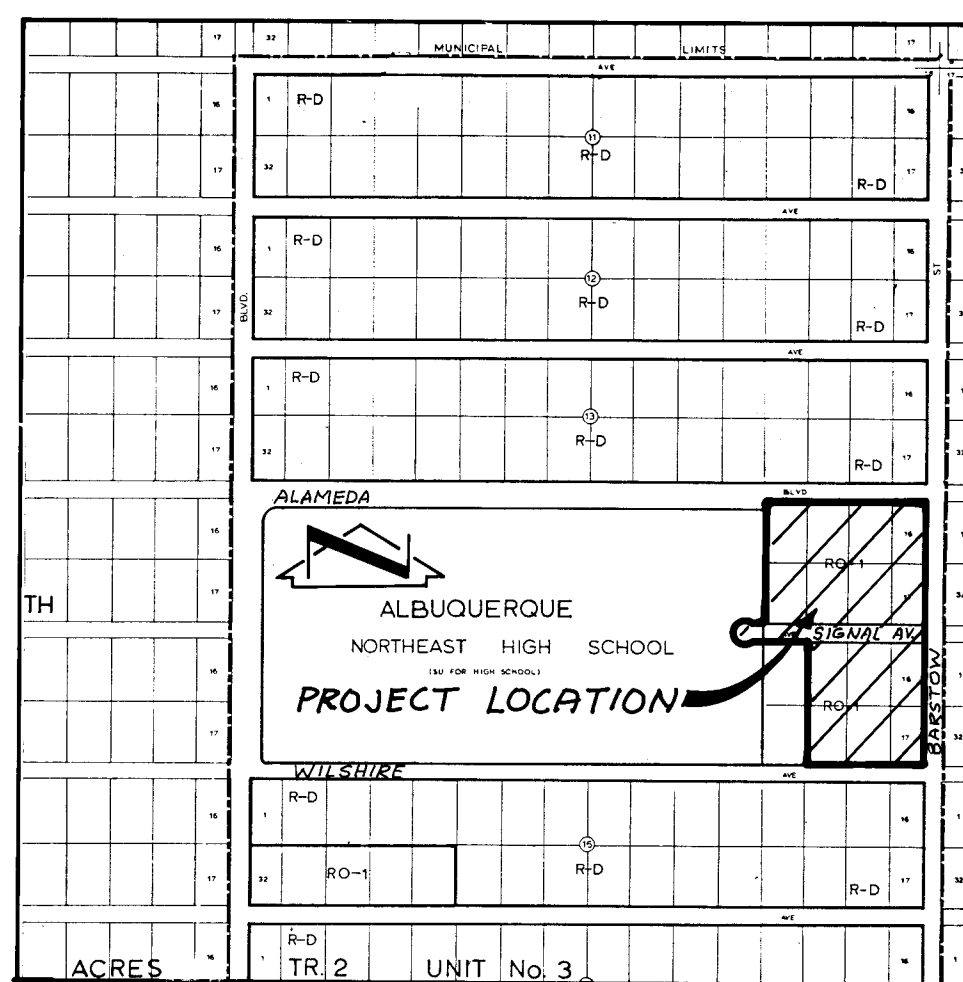
0"W 17.00'

NAD-1927 N.M. CENTRAL ZONE
X = 409,705.54
Y = 1,521,455.37
COMBINED FACTOR = 0.9996477
DELTA ALPHA = -0°10'27"

2, UNIT 3

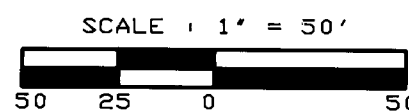
6010-B MIDWAY
ALBUQUERQUE
ENGINEERS & S

SHEET 2 OF 2



VICINITY MAP
SCALE: 1" = 800' (APPROX.)

C-19



PROJECT BENCHMARK

CITY OF ALBUQUERQUE BENCHMARK "HEAVEN", A STANDARD USC & GS BRASS TABLET STAMPED, "HEAVEN 1969", SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND, LOCATED AT THE ENTRANCE WAY TO THE "GATE OF HEAVEN" CEMETERY 0.15 MILE WEST OF THE INTERSECTION OF PASEO DEL NORTE N.E. AND WYOMING BLVD. N.E. STATION IS LOCATED ON THE SOUTH SIDE OF PASEO DEL NORTE.
ELEVATION = 5378.78' (M.S.L.D.)

LEGAL DESCRIPTION

LOTS 14-19, INCLUSIVE, BLOCK 15, NORTH ALBUQUERQUE ACRES, TRACT 2, UNIT 3.

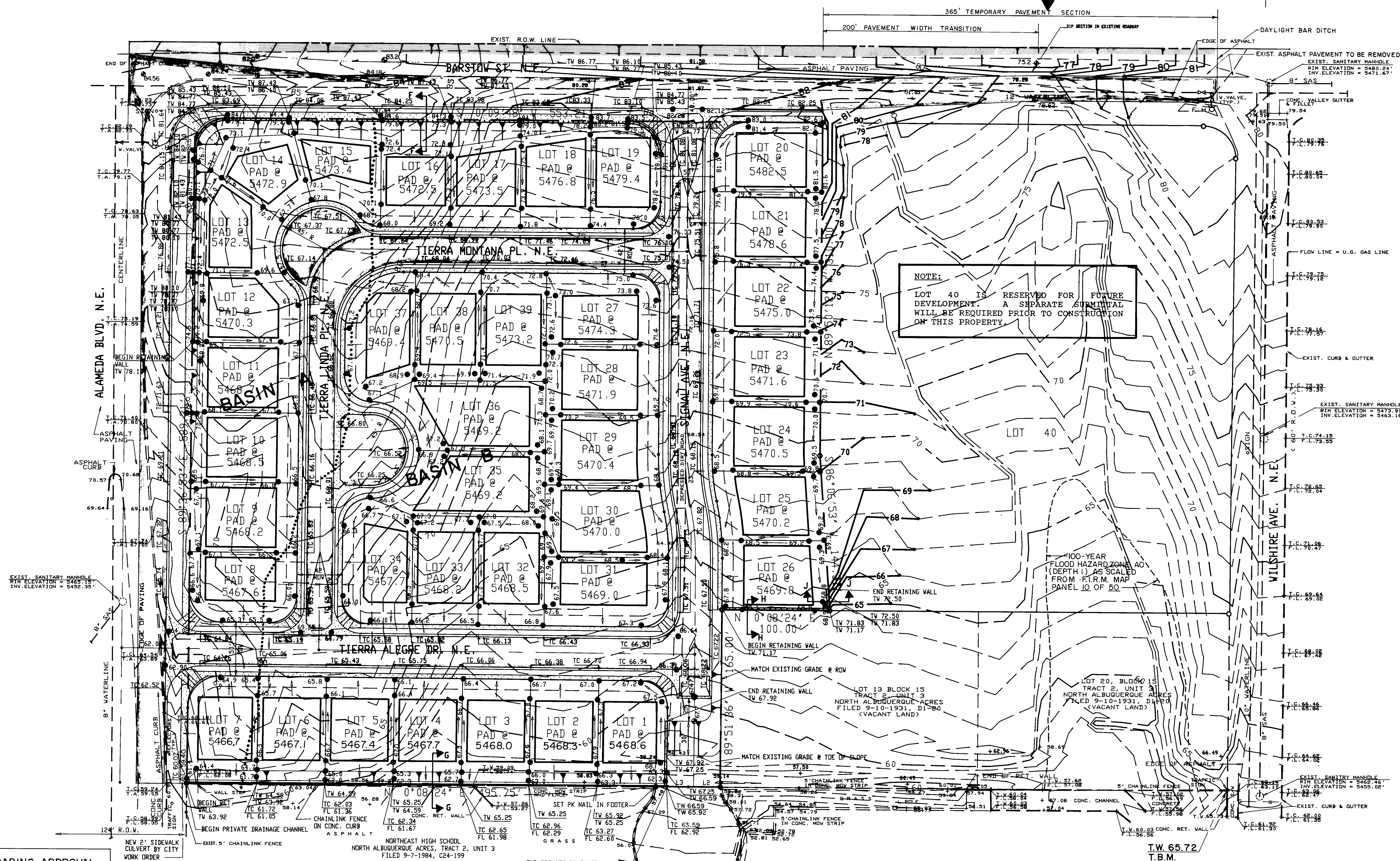
TEMPORARY BENCHMARK

A CHISELED "□", ON TOP OF AN EXISTING END WALL AS SHOWN BELOW.
ELEVATION = 5465.72' (M.S.L.D.)

RECORD DRAWING

LEGEND

- EXISTING BASIN BOUNDARY LINE
- ===== AREA OF SLOPE GREATER THAN 4:1
- ===== NEW ASPHALT
- ===== NEW CONCRETE
- F.L. FLOW LINE
- T.C. TOP OF CURB
- DIRECTION OF FLOW
- ▲ HIGHPOINT



NOTE:
LOT 40 IS RESERVED FOR FUTURE DEVELOPMENT. A SEPARATE SUBMITTAL WILL BE REQUIRED PRIOR TO CONSTRUCTION ON THIS PROPERTY.

100-YEAR FLOOD HAZARD ZONE A0 (DEPTH 1) AS SCALED FROM F.T.R.M. MAP PANEL 10 OF 50

APPROVED FOR ROUGH GRADING

Frank J. Aguirre 10/18/91
HYDROLOGY SECTION DATE

FINAL GRADING APPROVAL

William J. Allen 12-18-91
HYDROLOGY SECTION DATE

C. E. Olsen 10/18/91
AMAFCA DATE

GRADING & DRAINAGE PLAN
TIERRA LA CUEVA
UNIT I

DRB NO:

91-078

DESIGNED BY J.P.K.

DRAWN BY ACAD

APPROVED BY J.G.M.

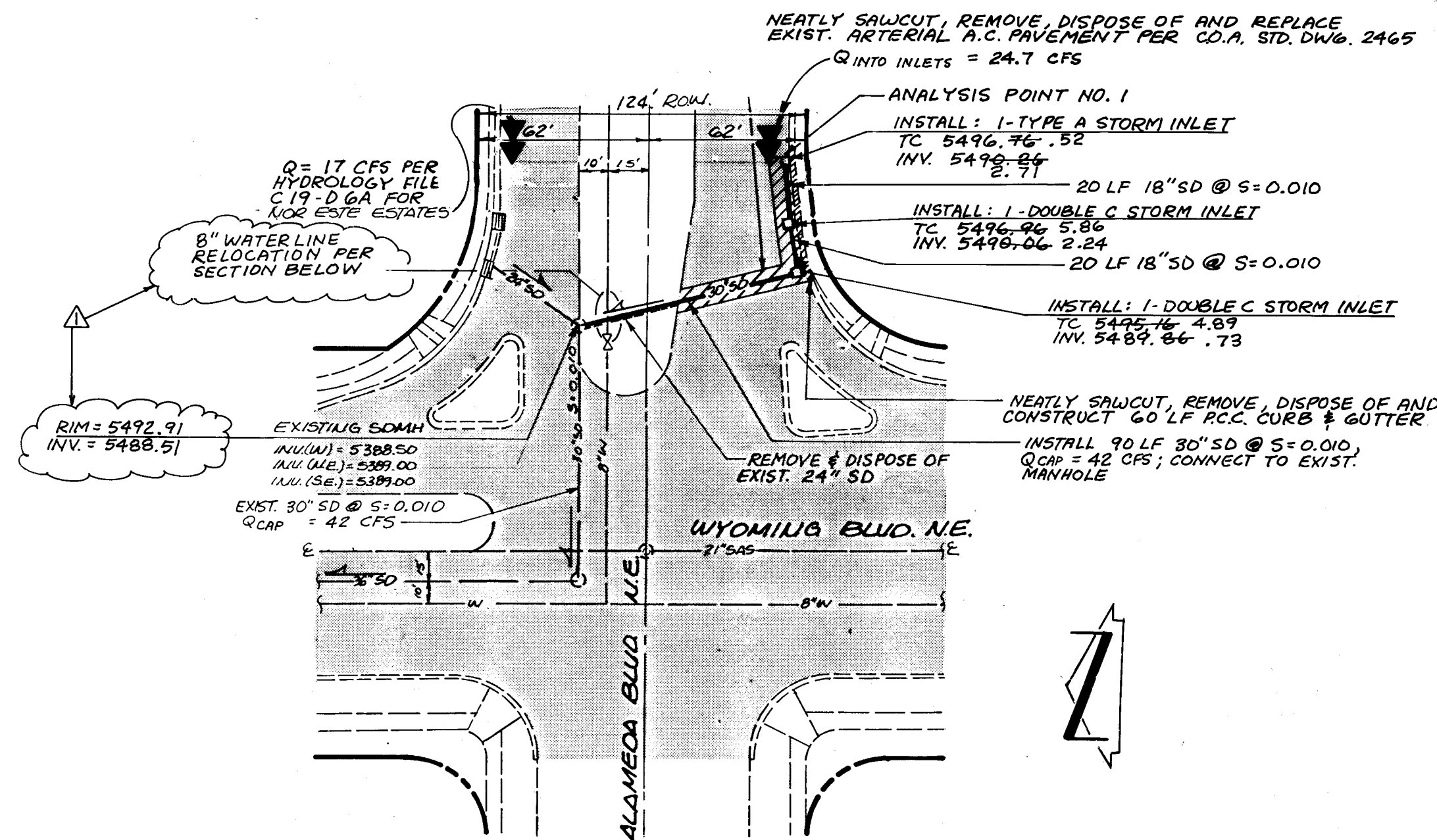
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
26 43 68 90 03 92

INDEX OF DRAWINGS

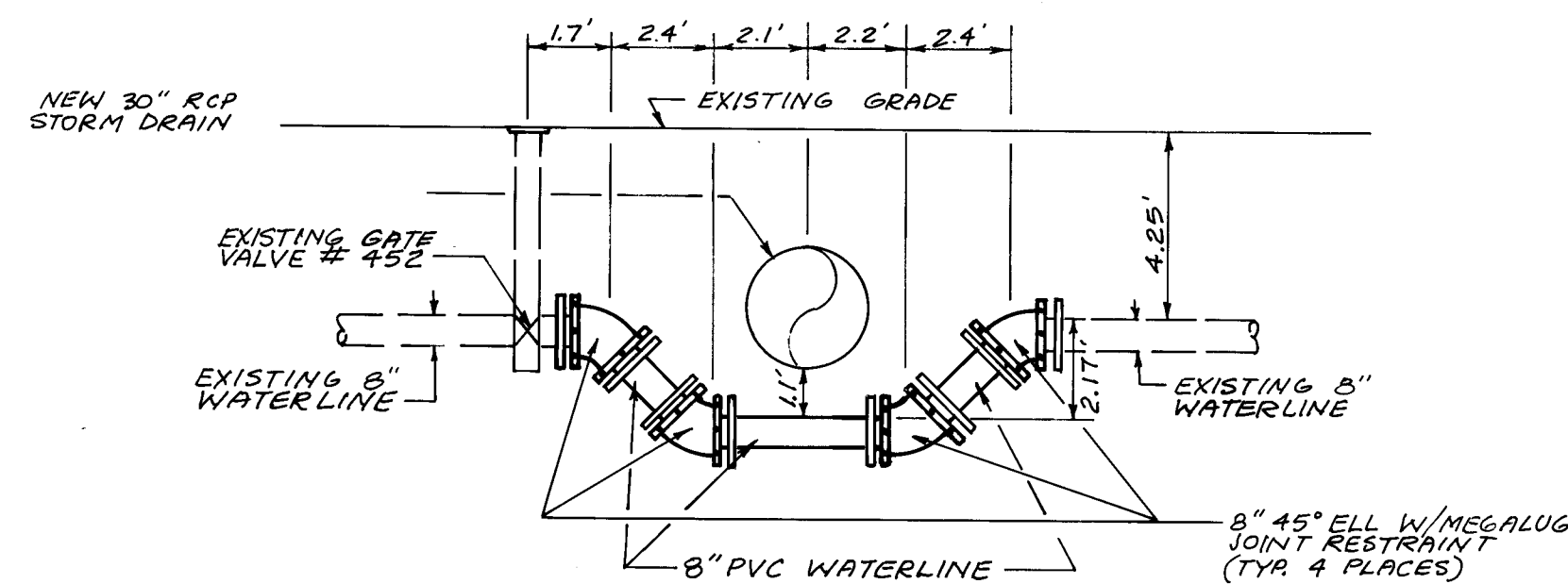
- Grading and Drainage Plan
- Storm Drain Improvements At Alameda/Wyoming Intersection
- Grading Notes & Sections
- Drainage Plan & Calculations



JMA JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (505)345-4250



STORM DRAIN IMPROVEMENT PLAN
SCALE: 1" = 50'



8" WATERLINE RELOCATION SECTION
SCALE: 1" = 4'

GRATING CAPACITIES FOR TYPE "A", "C" and "D"

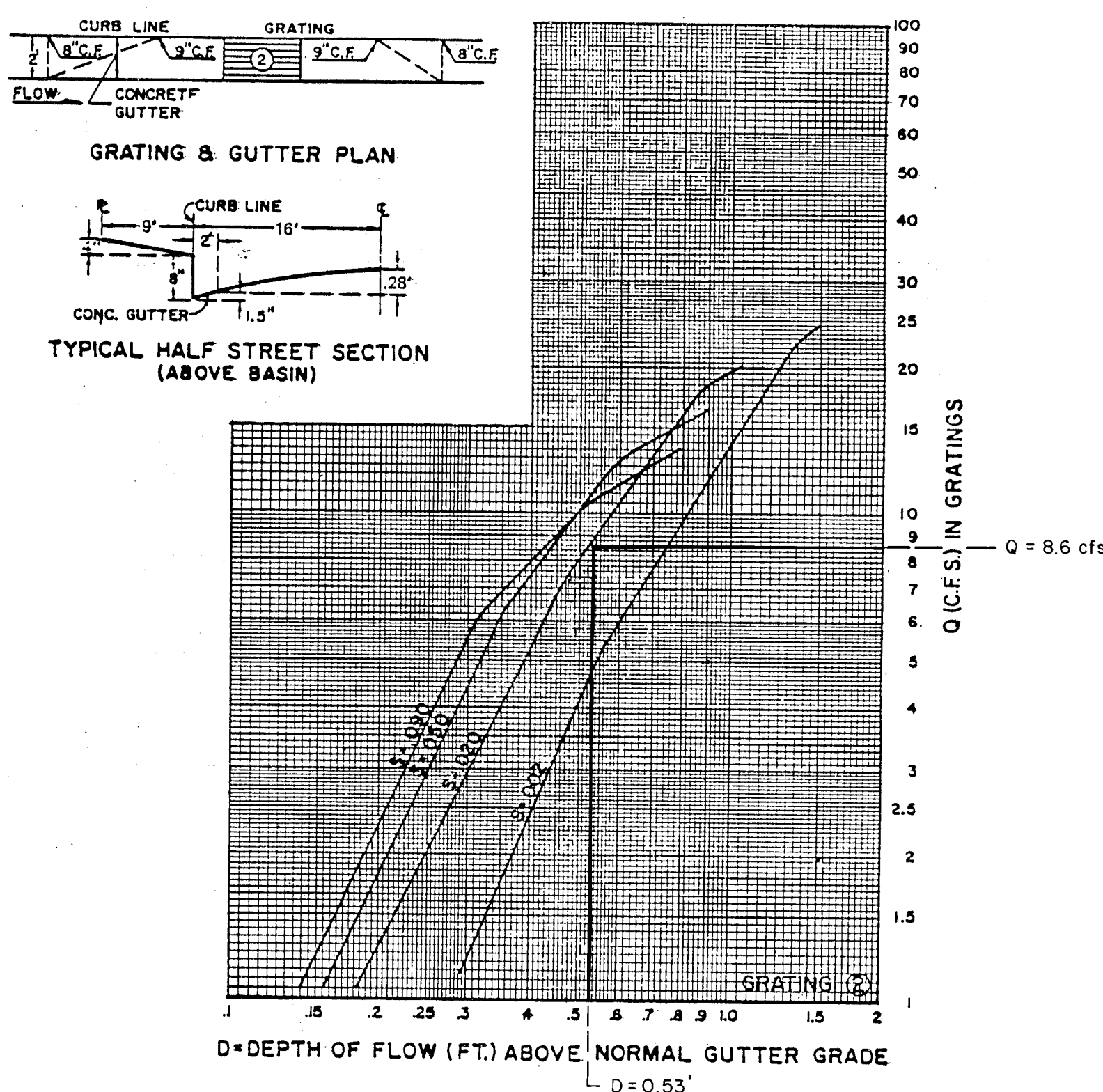


PLATE 22.3 D-5

GRATING CAPACITIES FOR TYPE DOUBLE "C", "C" AND "D"

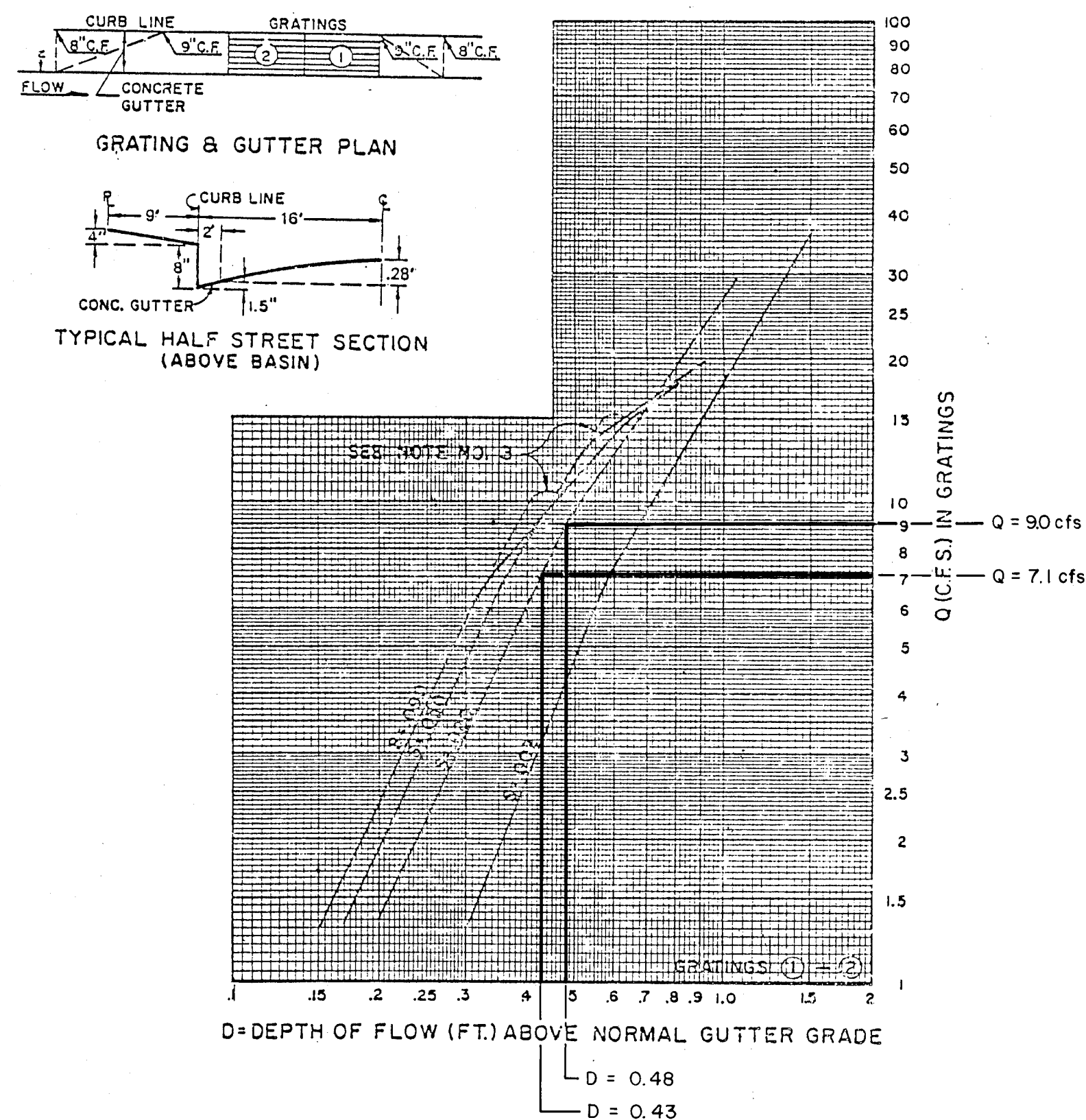


PLATE 22.3 D-6

STREET HYDRAULICS AT ANALYSIS POINT #1

- 100-Year, Half-Street Capacity (See Figure 1)
Manning's Equation: $Q_{cap} = (1.486/n)A(R)^{2/3}(S)^{1/2}$
 $n = [6(0.017) + 3.5(0.025) + 35.5(0.017)]/45 = 0.0176$
 $A = 0.5(0.20)(101' + 0.5(0.87' + 0.17')35' = 19.2 \text{ sf}$
 $P = 45' + 0.67' + 0.17' = 45.84'$
 $R = A/P = 19.2/45.84 = 0.419'$
 $S = 0.0350$
 $Q_{cap} = (1.486/0.0176)19.2(0.419)^{2/3}(0.0350)^{1/2} = 170 \text{ cfs}$
 $Q_{cap} > Q_{100}$ in every case (See Table)
- 10-Year, Half-Street Capacity (One Lane Open)
Use a form of Manning's Equation for Triangular Gutters:
 $Q = (0.468/n)Z(D)^{8/3}(S)^{1/2}$
Where:
 $n = 0.017$ Per DPM
 $Z = \text{Reciprocal of Cross Slope} = 50$
 $D = \text{Depth at Gutter}$
 $S = \text{Street Slope} = 0.0350$
Leaving one travel lane open, the width of flow is 25'.
Therefore, $D = 25'(0.02) = 0.50'$
So $Q_{cap} = (0.468/0.017)50(0.50)^{8/3}(0.0350)^{1/2} = 40.6 \text{ cfs}$
 $Q_{cap} > Q_{10}$ in every case (see Table)
- Depth of Flow per DPM Requirements.
Use Manning's Equation for Triangular Gutters to calculate $D_{100} < 0.87'$ and $D_{10} < 0.50'$, per DPM Requirements
 D_{100} and D_{10} meet DPM Requirements in every case (See Table)
- Depth of Flow for Storm Inlet Capacities.
Use Manning's Equation for Triangular Gutters to calculate D .
(See Table for results)
- Width of Flow, Given D_{10}
 $W_{10} = D_{10}/0.02$
The DPM requires that one travel lane be open.
Because the street width (one-way) at Analysis Point #1 is 35', the ten-year width of flow, W_{10} , must be less than 25'.
 $W_{10} < 25'$ in every case (see Table)
- Velocity of Flow, Given Q_{10} and D_{10}
 $V = Q/A$
 $A = 25D^2$
 $V = Q/(25D^2)$
(See Table for results)
- $D_{10} \times V_{10} < 6.5$ per DPM Requirements.
 $D_{10} \times V_{10} < 6.5$ in every case (see Table)

SUMMARY OF STREET HYDRAULICS AT ANALYSIS POINT NO. 1

CONDITION	Q_{100} (CFS)	Q_{cap} (CFS)	D_{100} (FT)	Q_{10} (CFS)	Q_{cap} (CFS)	D_{10} (FT)	W_{10} (FT)	V_{10} (FPS)	$D_{10} \times V_{10}$
Existing	28.9	170	0.44	19.0	40.6	0.38	19.0	5.3	2.0
Interim (and Inlet 1)	46.8	170	0.53	30.7	40.6	0.45	22.5	6.1	2.7
Ultimate	36.5	170	0.48	24.0	40.6	0.41	20.5	5.7	2.3
Inlet 2	38.2		0.48						
Inlet 3	29.2		0.43						

STORM DRAIN CAPACITIES AT ANALYSIS POINT #1

Inlets

Use the Grating Capacity Charts to determine the quantity of runoff discharged

Q_{100} In Street (cfs)	D_{100} (ft)	Inlet Type	Discharge (cfs)	Q_{100} Remaining (cfs)
46.8	0.53	Single A	8.6	38.2
38.2	0.48	Double C	9.0	29.2
29.2	0.43	Double C	7.1	22.1
TOTAL INTO SYSTEM			24.7	

The Q_{100} into the existing storm drain system via the new inlets on the southeast corner is 25 cfs. The Q_{100} into the existing storm drain system via the existing inlets on the northeast corner is 17 cfs. Thus the total Q_{100} discharged into the system at Analysis Point #1 is 42 cfs.

30" RCP

Use Field's Hydraulic Calculator (Manning's Equation)

Given: $n = 0.013$, $S = 0.01$, $D = 30"$
Then $Q = 42 \text{ cfs}$

The existing storm drain main line on Alameda at Analysis Point #1 is a 30" RCP pipe at $S = 0.01$. Thus its capacity is 42 cfs, which is the total Q_{100} introduced by the inlets. The new storm drain connector pipe at Analysis Point #1 also has a 42 cfs capacity, and thus is capable of accepting the 25 cfs introduced by the new inlets.

RUNOFF COMPARISON AT ANALYSIS POINT #1

Condition	Q_{10}	Q_{100}	Q into S.D.	Q_{100} Remaining	Q_{10} Remaining
Existing	19.0	28.9	0	28.9	19.0
Interim	30.7	46.8	25	21.8	5.7
Ultimate	24.0	36.5	25	15.5	0

RECORD DRAWING

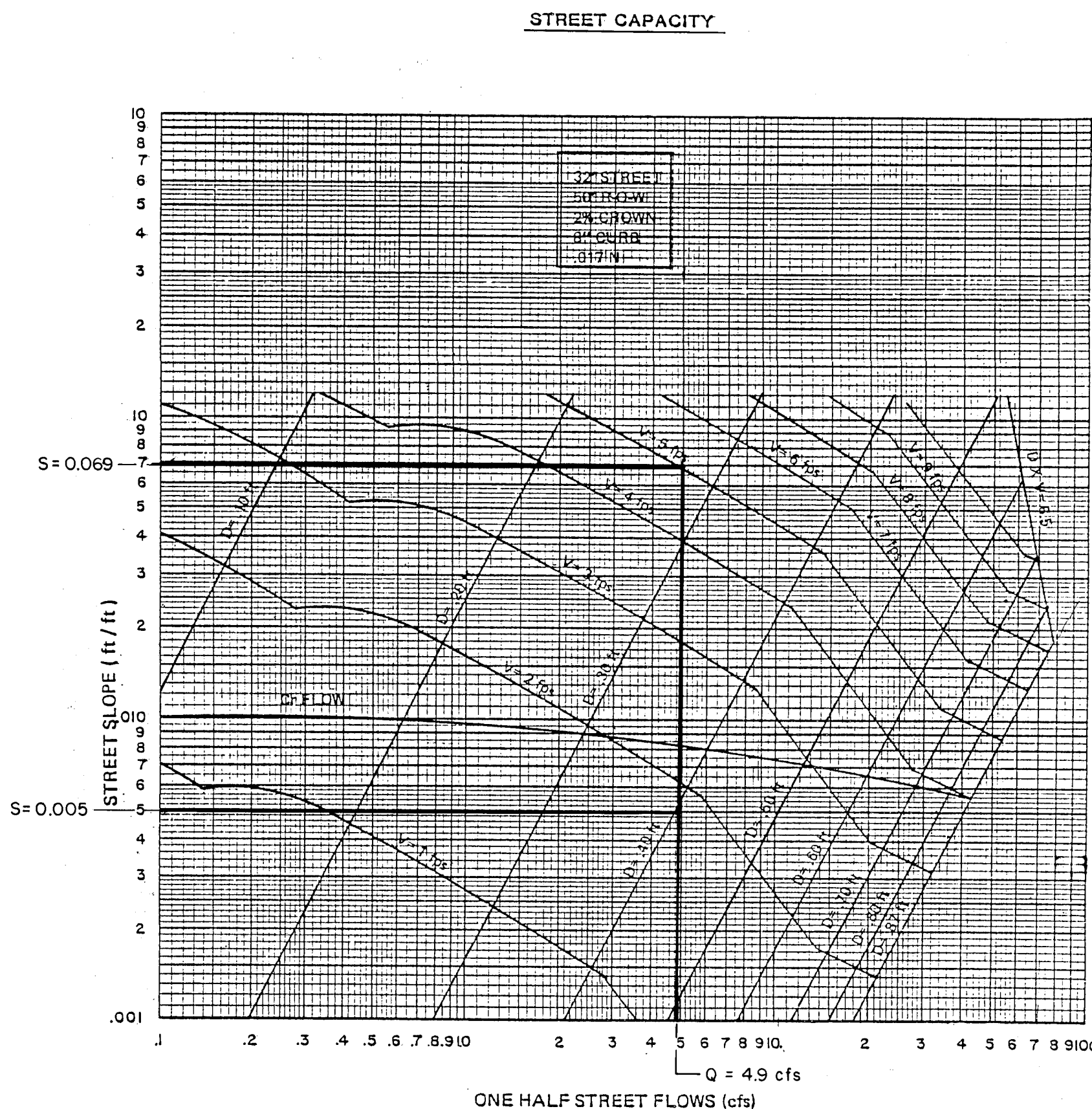


PLATE 22.3 D-1

SCANNED BY
EVLASON

91017

AS BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL	
CONTRACT NO.	DATE	CITY OF ALBUQUERQUE	DATE	NO.	BY	ENGINEER'S SEAL	DATE
CONTRACTOR	DATE	STANDARD USC #33 BRASS TABLET STAMPED HEAVENLY	DATE	A/A	JMA	JEFFREY G. MORTENSEN	DATE
INSPECTOR'S	DATE	1987, SET ALTOP OF A CONCRETE POST FLUSH WITH	DATE			NEW MEXICO	DATE
ACCEPTANCE BY	DATE	THE GROUND LOCATED AT THE ENTRANCE WAY TO THE	DATE			8547	DATE
VERIFICATION BY	DATE	"GATE OF HEAVEN" CEMETARY ONE MILE WEST OF	DATE			007-109-92	DATE
DATE	DATE	THE INTERSECTION OF PASADENA BLVD. AND	DATE			12-18-91	DATE
		WYOMING BLVD. I.E. STATION IS LOCATED ON THE				26 4368 900492	
		SOUTH SIDE OF PASADENA BLVD.					
		ELEVATION = 5378.76' (M.S.L.)					

RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects.

JEFFREY G. MORTENSEN
NEW MEXICO
8547
12-18-91
DATE

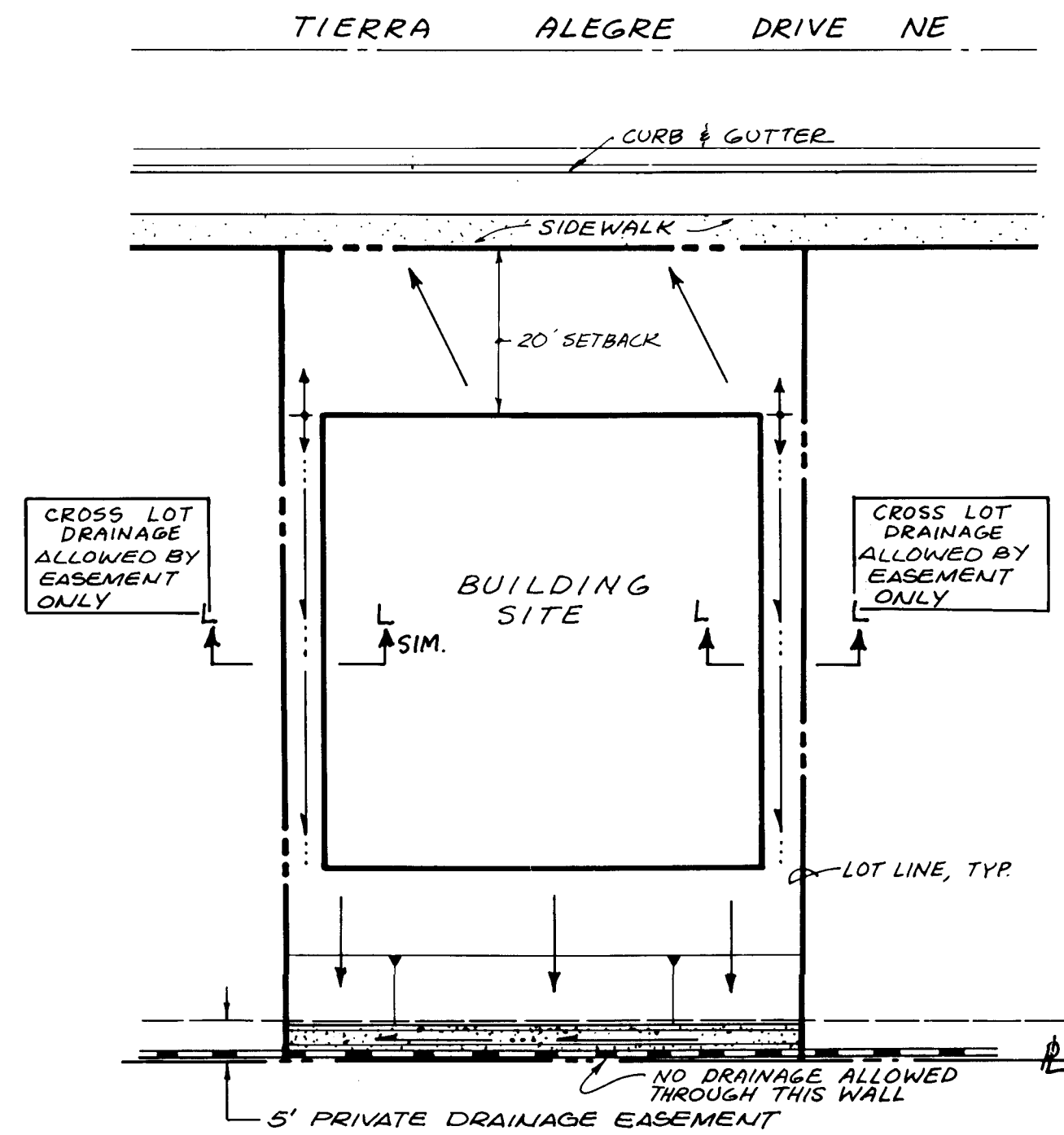
26 4368 900492

NOTE:
WORK ORDER ITEM INCLUDED ON THIS SHEET.

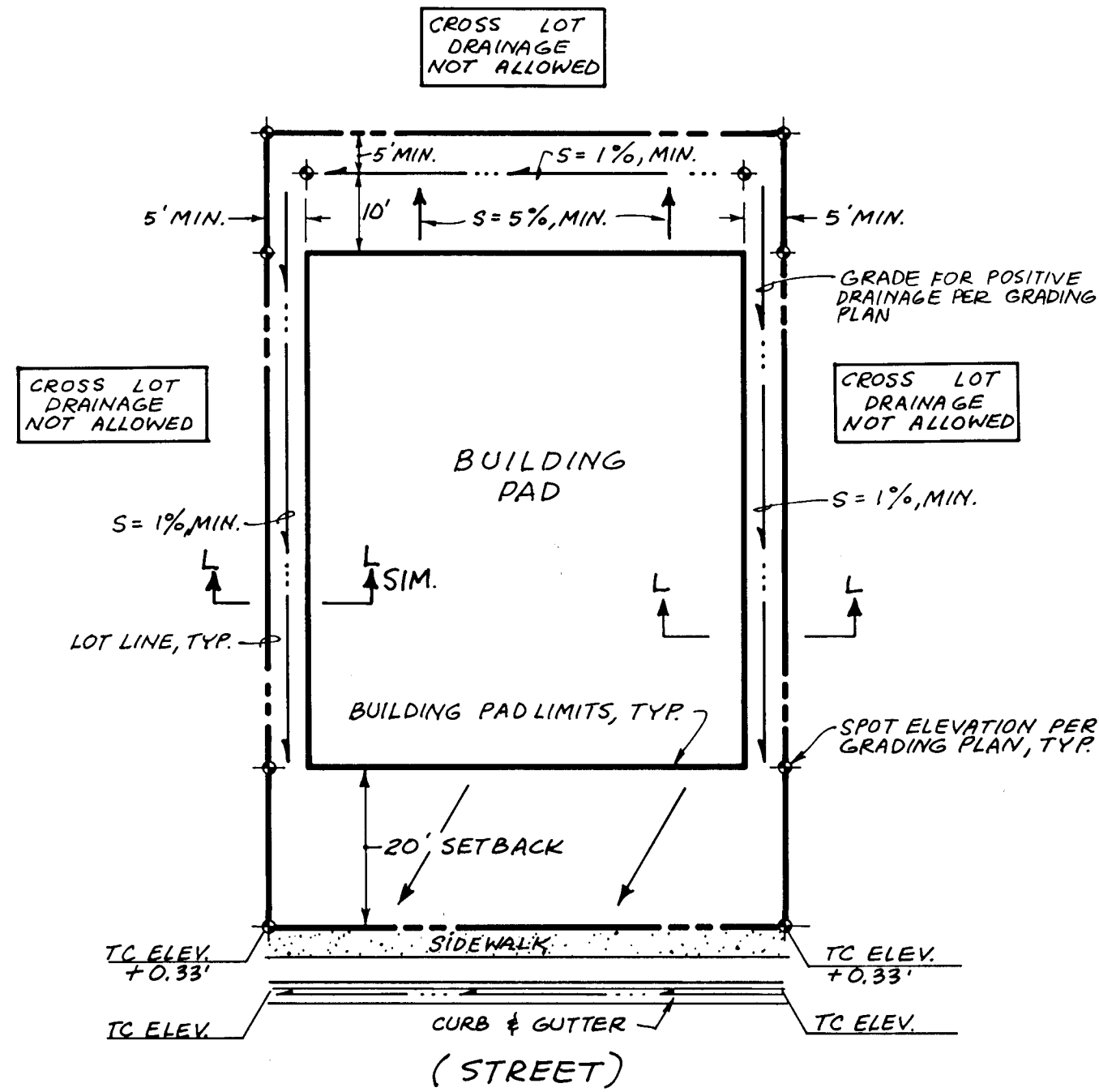
CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP			
TITLE: TIERRA LA CUEVA UNIT I STORM DRAIN IMPROVEMENTS ALAMEDA / WYOMING INTERSECTION			
APPROVALS	ENGINEER	DATE	APPROVALS
DRG. CHAIRMAN	12-23-91	DATE	12-18-91
TRANSPORTATION	12-18-91	DATE	12-18-91
HYDROLOGY	12-18-91	DATE	12-18-91
PROJECT NO.	4368.90	MAP NO.	C-19
SHEET	2	OF	4
SHEET	4	OF	20

GRADING NOTES:

1. ALL FILL SHALL BE COMPACTED TO A MINIMUM OF 90% ASTM D-1557; HOUSE PADS SHALL BE COMPACTED AT 95% ASTM D-1557.
2. THE PAD ELEVATIONS SHOWN HEREON ARE FOR ROUGH GRADING PURPOSES.
3. FINISHED FLOOR ELEVATIONS MAY VARY FROM THE PAD ELEVATIONS AND WILL BE DETERMINED AS A FUNCTION OF INDIVIDUAL HOUSE DESIGN.
4. FINISHED FLOOR ELEVATIONS SHOULD BE ESTABLISHED AT A MINIMUM OF 6 INCHES ABOVE PAD ELEVATIONS; DEVIATIONS FROM THESE GUIDELINES MUST BE BASED ON THE RECOMMENDATIONS AND/OR DESIGN OF A COMPETENT DESIGN PROFESSIONAL.
5. NO CROSS-LOT DRAINAGE WILL BE ALLOWED UNLESS PROVIDED FOR BY PRIVATE DRAINAGE EASEMENT.
6. PERIMETER WALLS SHALL BE CONSTRUCTED BY THE DEVELOPER.
7. YARD (GARDEN) WALLS SHALL BE CONSTRUCTED BY THE LOT OWNER OR ITS BUILDER.
8. THE FINISHED GRADING OF EACH LOT SHALL BE ACCOMPLISHED BY THE LOT OWNER OR ITS BUILDER. RUNOFF SHOULD BE DIRECTED TO THE STREETS OR SAFELY RETAINED ONSITE, IF NECESSARY. REAR YARD PONDING MAY BE UTILIZED PROVIDED THAT ALL OVERFLOW RUNOFF IS CONVEYED BY THE SIDEYARD TO THE FRONT OF THE LOT FROM WHENCE IT WILL FLOW TO THE STREET.
9. MAXIMUM SLOPES SHALL BE 3:1; MINIMUM SLOPES SHALL BE 1%.
10. LOTS 1 THROUGH 7, INCLUSIVE, SHALL BE GRADED PER THE TYPICAL UPHILL LOT GRADING PLAN. LOTS 8 THROUGH 39, INCLUSIVE, SHALL BE GRADED PER THE TYPICAL DOWNHILL LOT GRADING PLAN.
11. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 260-1990, FOR LOCATION OF EXISTING UTILITIES.
12. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
13. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
14. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
15. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.
16. REFER TO SHEETS 19 & 20 FOR RETAINING WALL DESIGN.

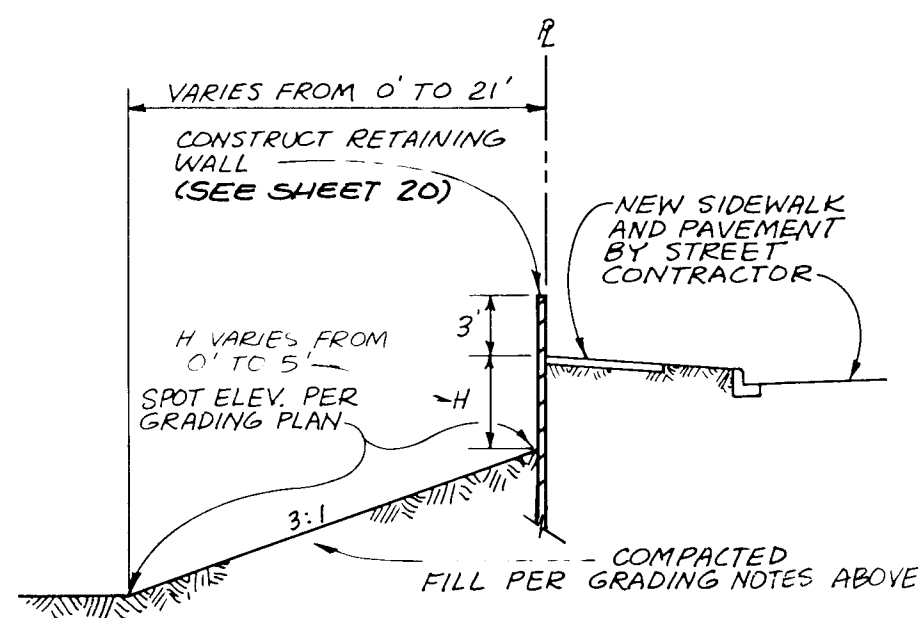


TYPICAL LOT GRADING - LOTS 1-7
SCALE: 1" = 20'

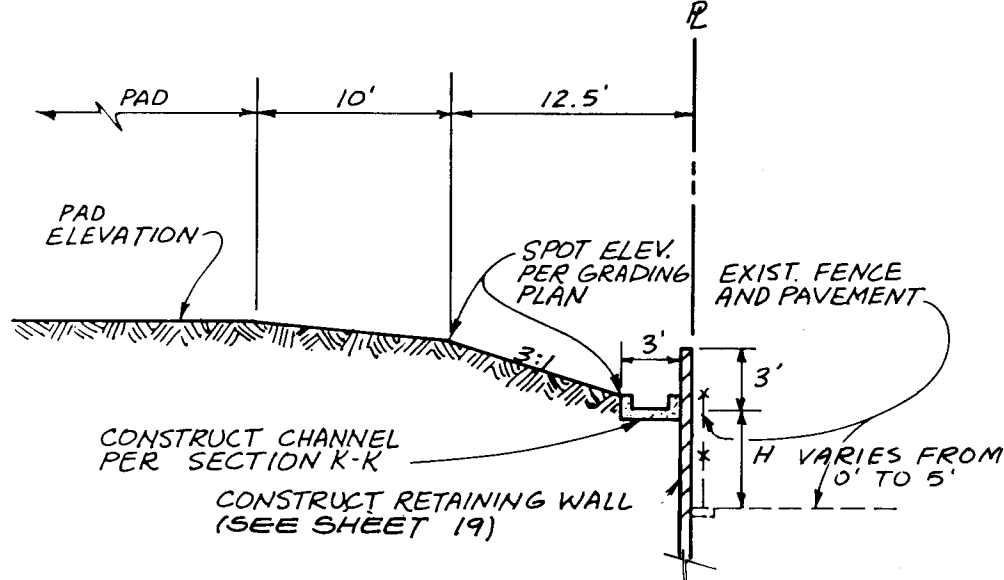


TYPICAL LOT GRADING - LOTS 8-39
SCALE: 1" = 20'

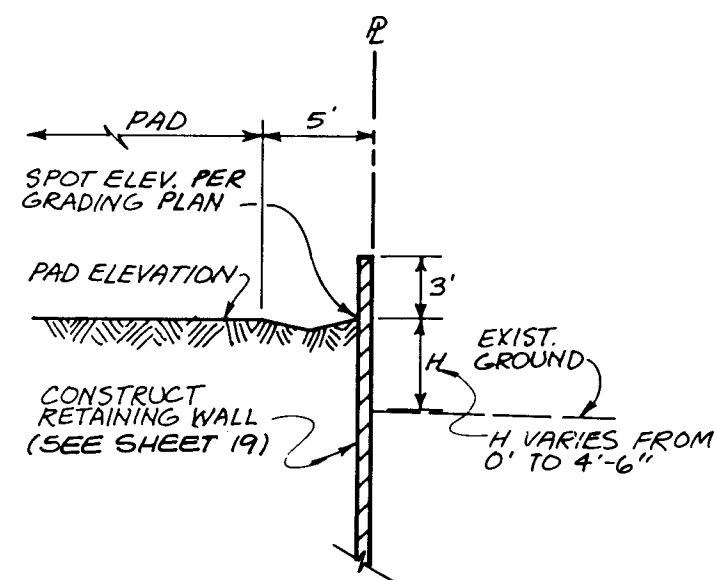
FOR INFORMATION ONLY



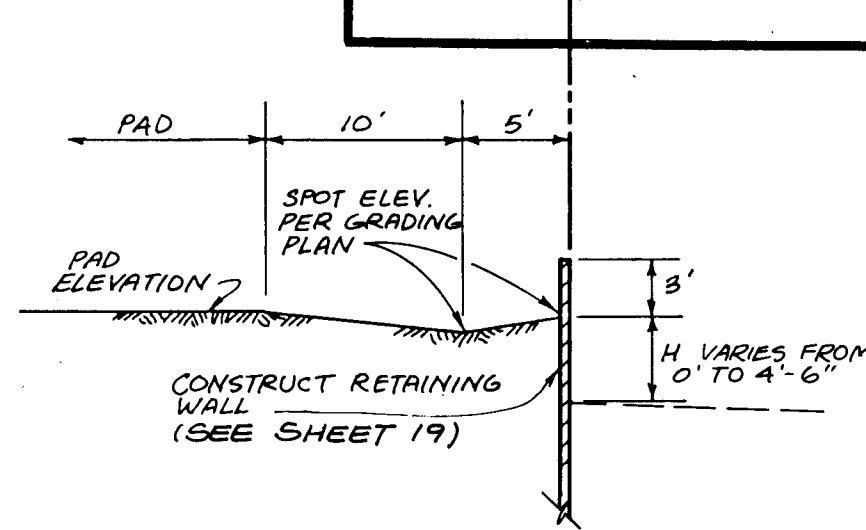
SECTION F-F
SCALE: 1" = 10'



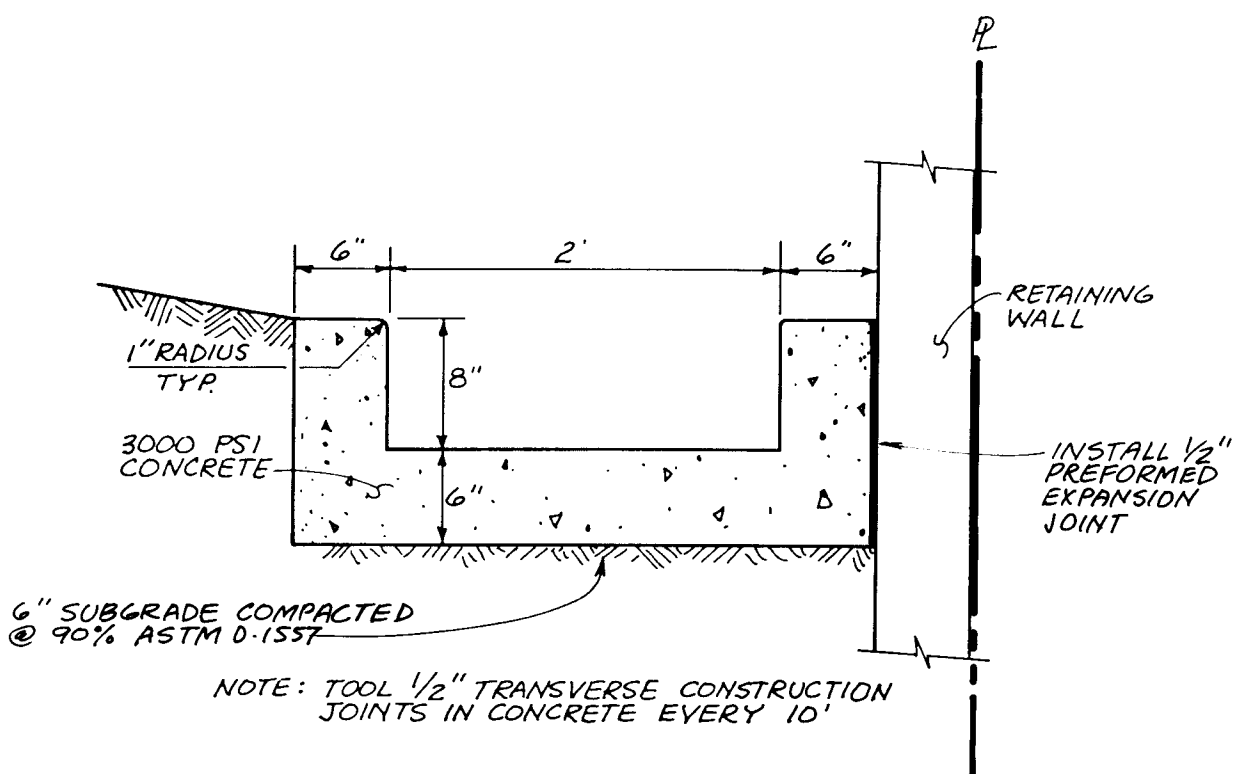
SECTION G-G
SCALE: 1" = 10'



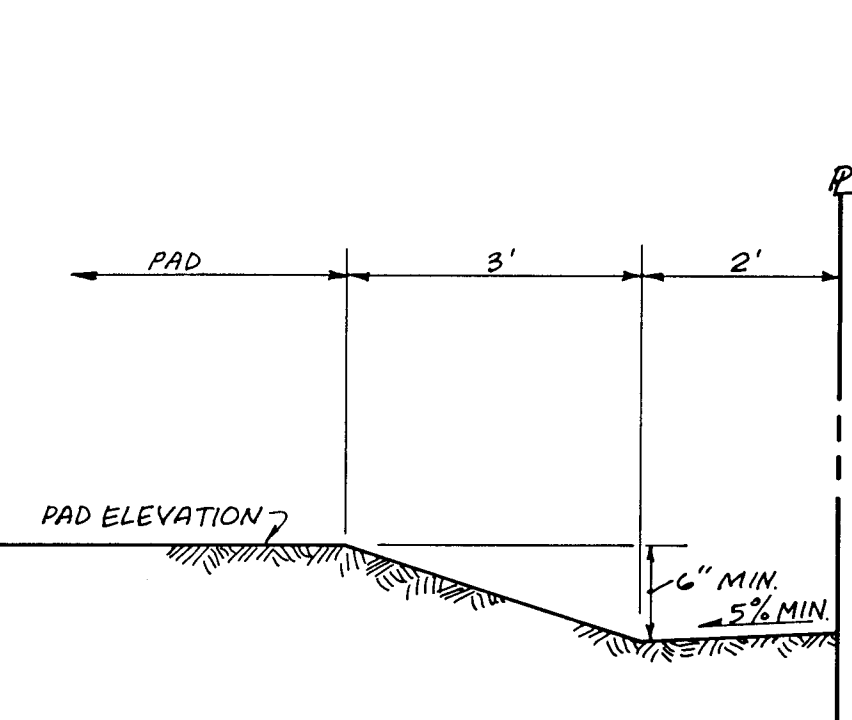
SECTION H-H
SCALE: 1" = 10'



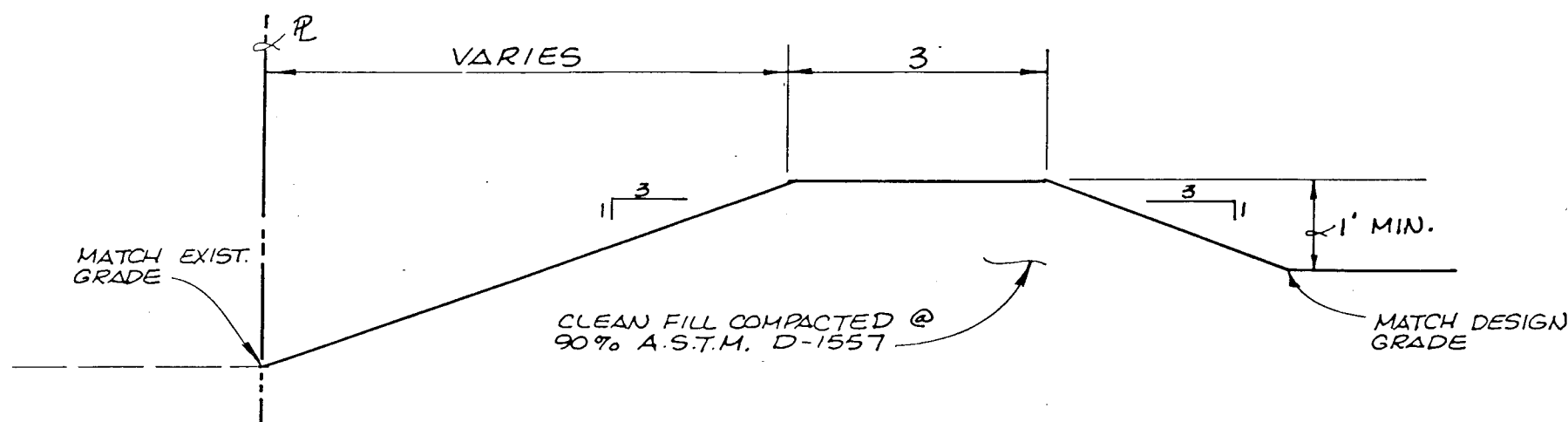
SECTION J-J
SCALE: 1" = 10'



SECTION K-K
SCALE: 1" = 1'



SECTION L-L
SCALE: 1" = 2'



TYPICAL INTERIM EROSION CONTROL BERM SECTION
SCALE: 1" = 2'-0"

NOTE:

FOR THE PURPOSE OF EROSION CONTROL DURING CONSTRUCTION, THE SECTION ABOVE IS RECOMMENDED FOR PLACEMENT AS FOLLOWS:

1. ALONG THE WEST LOT LINES OF LOTS 1 - 6 AND 31 - 33.
2. ALONG THE WEST AND NORTH LOT LINES OF LOTS 7, 8, 26, AND 34.

RECORD DRAWING

26 4368.1900592



PROJECT NO. 4368.90

Jeff Mortensen & Associates, Inc.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (505)345-4250

GRADING NOTES & SECTIONS
TIERRA LA CUEVA
UNIT I

SCANNED BY
BY LASON

DESIGNED BY	DATE	BY	REVISIONS	JOB NO.
J.P.K.	06-92	JHW	RECORD DRAWING	910117
DRAWN BY	DATE	BY	REVISIONS	JOB NO.
C.E.N.	09 / 91			
APPROVED BY	DATE	BY	REVISIONS	JOB NO.
J.G.M.				
				SHEET 3 OF 4

DRAINAGE PLAN

The following items concerning the Tierra La Cueva, Unit I Drainage Plan are contained hereon:

1. Vicinity Map
2. Grading Plan
3. Grading Notes
4. Calculations
5. Sections and Details

As shown by the Vicinity Map, the site is located at the southwest corner of the intersection of Barstow Street N.E. and Alameda Boulevard N.E. The site is bounded on the west by La Cueva High School, on the north by Alameda Boulevard N.E., on the east by Barstow Street N.E., and on the south by the Nor Este Estates Subdivision, which is developing residentially, while the area east of the site is undeveloped. Tierra La Cueva Unit II, abutting the site on the south, is currently undeveloped, but is planned for development upon completion of Unit I. The Drainage Plan for Unit II will be addressed by separate submittal.

According to the "Northeast Heights Drainage Management Plan", Unit I in its existing state drains to two drainage basins: the La Cueva Basin on the north, and an unnamed South Local Basin on the south. This division is reflected by the existing basin boundary dividing the site into Basins A and B. Drainage to the South Local Basin (Basin B) will be eliminated by this grading plan. Thus the south boundary of Unit I will also be a Drainage Basin boundary, and the drainage of each unit can be addressed by separate submittals.

As shown by Panel 10 of 50 of the National Flood Insurance Program Flood Boundary and Floodway Maps for the City of Albuquerque, New Mexico, dated October 14, 1983, this site does not lie within a designated Flood Hazard Zone. Ultimately the runoff from the site will discharge into the La Cueva Arroyo, which is a designated Flood Hazard Zone. Runoff will be conveyed to the west on Alameda, a paved surface, and will then be discharged into an existing storm drain system at Wyoming. This system discharges runoff into the La Cueva Arroyo.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals; 2) the limit and character of the existing improvements; 3) the limit and character of the proposed improvements; and 4) continuity between existing and proposed grades. As shown by this Plan, the project consists of the development of a 40-lot residential subdivision. Included in this development is the construction of onsite paving improvements, perimeter retaining walls, a rear yard trickle channel, and grading improvements. Offsite improvements to be accomplished by City Work Order as part of this project include: the construction of permanent paving on the west half of Barstow Street N.E. adjacent to the site; the construction of the southerly portion (24') of permanent paving on Alameda Boulevard N.E. adjacent to the site; the construction of storm drain improvements at the intersection of Alameda and Wyoming, west of the site. The storm drain improvements consist of storm inlets and pipe which will be connected to an existing system on Wyoming. The existing system was constructed as part of Nor Este Estates (City Project No. 3786, Hydrology File C19-D6A), but was designed with the capacity to discharge runoff from the subject site.

Runoff quantities and drainage requirements at the Wyoming/Alameda intersection (Analysis Point #1) have been analyzed under a sequence of conditions. The first step in the sequence is an analysis of the runoff under existing conditions. The runoff which presently drains to Analysis Point #1 includes the runoff from the south half of the Alameda right-of-way (Basin C); the runoff from the existing onsite Basin A, and the runoff from Basin EA-5, east of Barstow. (The boundaries and area of Basin EA-5 have been copied from the Vineyard Estates Subdivision Watershed Map prepared by this office, dated February 16, 1989, and approved by the City of Albuquerque).

The second step in the sequence is an analysis of runoff during interim development conditions. Interim conditions will exist

when the subject property is developed, and Offsite Basin EA-5 will continue to drain to the Alameda/Wyoming intersection. The Vineyard Conceptual Drainage Plan prepared by this office in 1987 proposed that the runoff from Basin EA-5 be discharged to the north into the La Cueva Arroyo via a future storm drain on Barstow. (This proposed alignment for the diversion of the Basin EA-5 drainage is most likely due to the close proximity of the La Cueva Arroyo to the north where it crosses Barstow). Regardless of future storm drain alignment, storm inlets will be required at the Alameda/Barstow intersection when Basin EA-5 is developed because no storm runoff is permitted to cross arterial streets, per the DPM. Thus, Basin EA-5 runoff ultimately will not cross Barstow. In the interim, runoff from Basin EA-5 will continue to drain to the west to the Alameda/Wyoming intersection. During this same period of time, the increased runoff from onsite Basin A will also drain to the Wyoming intersection.

The third and final step in the sequence is an analysis of runoff during the ultimate state of development in which Basin EA-5 will be diverted to the La Cueva Arroyo via Barstow as previously outlined. At this time, the runoff discharged to the Alameda/Wyoming intersection will be decreased due to the Barstow diversion. Each of these stages in the sequence of development has been analyzed, and the street and storm drain capacities at the Alameda/Wyoming intersection have been computed and shown to meet the requirements of the DPM.

Two onsite drainage concerns are worth noting. First of all, an analysis of the site revealed one hydraulic jump. The jump occurs in the middle of the block on Signal Avenue. Analysis of the jump shows that it complies with DPM criteria. The remainder of the flows on Signal Avenue and Tierra Alegre are subcritical. Due to the minimal street grades at the intersection of Signal Avenue and Tierra Alegre Drive, and due to the crown in the street, it is felt that 100-year runoff will be confined to the paved surfaces at that intersection.

Secondly, a trickle channel has been provided at the rear of the lots on the west side of the subdivision. Due to the large grade difference between the existing improvements at the rear of the lots and the new street at the front of the lots, it was determined that drainage to the rear of the lots was the only feasible option. To drain the entirety of the lots to the facing street would have required rear yard retaining walls of 12' in height, which exceeds the guidelines of the DPM. Mr. Fred Aguirre and Mr. Gilbert Aldaz of City Hydrology concurred with this conclusion, and a trickle channel in a 5' easement at the rear of the lots has been provided per their recommendation.

The calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The peak discharge of runoff has been calculated using the Rational Method while the SCS Method has been used to quantify the volume of runoff generated. Both Methods have been used in accordance with the City of Albuquerque Development Process Manual, Volume II, coupled with the Mayor's Emergency Rule adopted January 14, 1986. As shown by these calculations, the proposed development will result in an increase in runoff generated by the site. The development will, however, result in a net benefit to downstream properties as follows:

1. The existing runoff which drains onto the La Cueva High School property will be diverted to the public right-of-way on Alameda. This will reduce the runoff which is conveyed through the school property, and will benefit the general public.
2. The public storm drain improvements at the Wyoming/Alameda intersection will provide a greater discharge of runoff from the intersection than was originally proposed with the development of Nor Este Estates. This will result in the conveyance of less runoff in the paved streets than had been planned. In fact, all of the ultimate ten-year runoff will be discharged by the new storm drain system, leaving the intersection dry during the ten-year event.
3. The temporary pavement adjacent to the site will be replaced with permanent pavement and curb which will reduce erosion and channelize public runoff on paved surfaces.

CALCULATIONS**Ground Cover Information**

From SCS Bernalillo County Soil Survey,
Plate 11: Embudo - Tijeras Complex
Hydrologic Soil Group: B
Existing Pervious CN = 79 (DPM Plate 22.2 C-3)
Pasture or Range Land: poor condition)
Developed Pervious CN = 69 (DPM Plate 22.2 C-3)
Open space: fair condition)

Time of Concentration/Time to Peak

$$T_c = 0.0078 L^{0.77} / S^{0.385} \text{ (Kirpich Equation)}$$

$$T_p = T_c = 10 \text{ min.}$$

Point Rainfall

$$P_6 = 2.38 \text{ in. (DPM Plate 22.2 D-1)}$$

Rational Method

$$\text{Discharge: } Q = C i A$$

where C varies

$$i = P_6 (6.84) T_c^{-0.51} = 5.03 \text{ in/hr}$$

$$P_6 = 2.38 \text{ in (DPM Plate 22.2D-1)}$$

$$T_c = 10 \text{ min (minimum)}$$

$$A = \text{area, acres}$$

SCS Method

$$\text{Volume: } V = 3630(\text{DRO}) A$$

$$\text{Where DRO} = \text{Direct runoff in inches}$$

$$A = \text{area, acres}$$

Existing Condition

1. Basin A (Onsite)
Atotal = 96,000 sf = 2.21 Ac
Undeveloped Area = 96,000 sf (1.00)
C = 0.40 (Weighted average per Emergency Rule, 1/14/86)
Q100 = C i A = 0.40(5.03)2.21 = 4.4 cfs
% impervious = 0-%
Composite CN = 79 (DPM Plate 22.2 C-3)
DRO = 0.8 in (DPM Plate 22.2 C-4)
V100 = 3630 (DRO)A = 6400 cf
2. Basin B (Onsite)
Atotal = 275,000 sf = 6.31 Ac
Undeveloped Area = 275,000 sf (1.00)
C = 0.40 (Weighted average per Emergency Rule, 1/14/86)
Q100 = C i A = 0.40(5.03)6.31 = 12.7 cfs
% impervious = 0-%
Composite CN = 79 (DPM Plate 22.2 C-3)
DRO = 0.8 in (DPM Plate 22.2 C-4)
V100 = 3630 (DRO)A = 18,000 cf
3. Basin C (Offsite Basin: Alameda from Wyoming to Barstow)
Atotal = 147,000 sf = 3.37 Ac
Paved area = 70,000 sf (0.48)
Landscaped area = 77,000 sf (0.52)
C = 0.59 (Weighted average per Emergency Rule, 1/14/86)
Q100 = C i A = 0.59(5.03)3.37 = 10.0 cfs
Q10 = 0.657Q100 = 6.6 cfs
% impervious = 48 %
Composite CN = 83 (DPM Plate 22.2 C-3)
DRO = 0.97 in (DPM Plate 22.2 C-4)
V100 = 3630 (DRO)A = 12,000 cf

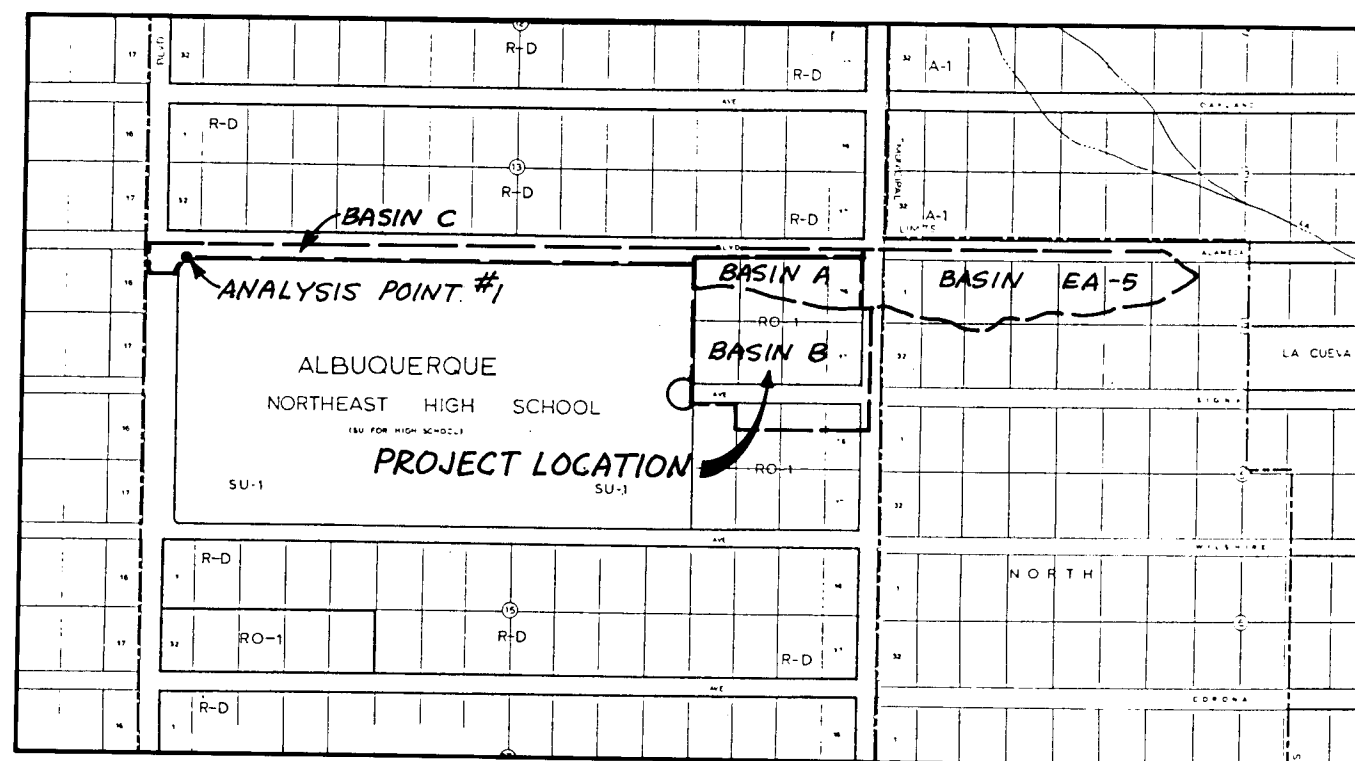
Developed Condition

1. Basin A
Atotal = 371,000 sf = 8.52 Ac
Roof area = 91,000 sf (0.25)
Paved area = 113,000 sf (0.30)
Landscaped area = 167,000 sf (0.45)
C = 0.62 (Weighted average per Emergency Rule, 1/14/86)
Q100 = C i A = 0.62(5.03)8.52 = 26.6 cfs
Q10 = 0.657Q100
Q10 = 17.5 cfs
% impervious = 55 %
Composite CN = 90 (DPM Plate 22.2 C-3)
DRO = 2.4 in (DPM Plate 22.2 C-4)
V100 = 3630 (DRO)A = 74,000 cf
2. Analysis Point 1 - Interim Condition (Basins A, C & EA-5)
Atotal = 962,000 sf = 22.1 Ac
Roof area = 91,000 sf (0.09)
Paved area = 183,000 sf (0.19)
Landscaped area = 244,000 sf (0.25)
Undeveloped area = 444,000 sf (0.46)
C = 0.51 (Weighted average per Emergency Rule, 1/14/86)
i = 4.15 in/hr
Q100 = C i A = 0.51(4.15)22.1 = 46.8 cfs
Q10 = 0.657Q100 = 30.7 cfs
% impervious = 28 %
Composite CN = 77 (DPM Plate 22.2 C-3)
DRO = 0.67 in (DPM Plate 22.2 C-4)
V100 = 3630 (DRO)A = 54,000 cf
3. Analysis Point 1 - Ultimate Condition (Basins A & C)
Atotal = 518,000 sf = 11.9 Ac
Roof area = 91,000 sf (0.18)
Paved area = 183,000 sf (0.35)
Landscaped area = 244,000 sf (0.47)
C = 0.61 (Weighted average per Emergency Rule, 1/14/86)
Q100 = C i A = 0.61(5.03)11.9 = 36.5 cfs
Q10 = 0.657Q100 = 24.0 cfs
% impervious = 53 %
Composite CN = 84 (DPM Plate 22.2 C-3)
DRO = 1.02 in (DPM Plate 22.2 C-4)
V100 = 3630 (DRO)A = 44,000 cf

Comparison

1. Basin A
 $\Delta Q_{100} = 26.6 - 4.4 = 22.2 \text{ cfs (increase)}$
 $\Delta V_{100} = 74,000 - 6,400 = 67,600 \text{ cf (increase)}$
2. Basin B (Discharge to La Cueva High School Property)
 $\Delta Q_{100} = 12.7 - 0 = 12.7 \text{ cfs (decrease)}$
 $\Delta V_{100} = 18,000 - 0 = 18,000 \text{ cf (decrease)}$
3. Analysis Point 1 - Interim Condition
 $\Delta Q_{100} = 46.8 - 28.9 = 17.9 \text{ cfs (increase)}$
 $\Delta Q_{10} = 30.7 - 19.0 = 11.7 \text{ cfs (increase)}$
 $\Delta V_{100} = 54,000 - 27,000 = 27,000 \text{ cf (increase)}$
4. Analysis Point 1 - Ultimate Condition
 $\Delta Q_{100} = 36.5 - 28.9 = 7.6 \text{ cfs (increase)}$
 $\Delta Q_{10} = 24.0 - 19.0 = 5.0 \text{ cfs (increase)}$
 $\Delta V_{100} = 44,000 - 27,000 = 17,000 \text{ cf (increase)}$

FOR INFORMATION ONLY



DRAINAGE BASIN MAP
SCALE: 1" = 800' (APPROX.)

C-19,20

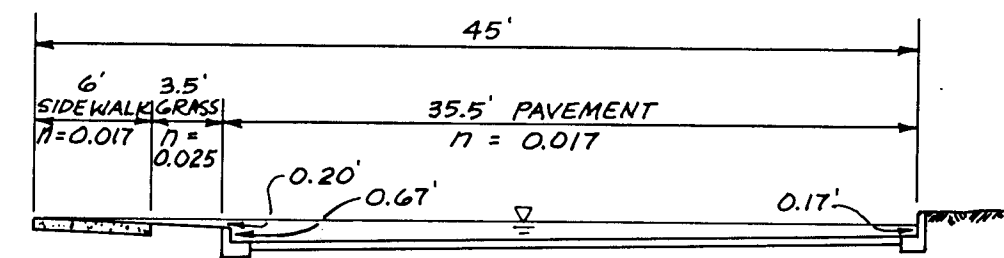


FIGURE 1: 100 YEAR CAPACITY AT A.P. #1
SCALE: 1" = 10'

STREET HYDRAULICS - HYDRAULIC JUMPS ON SIGNAL AVENUE N.E.

1. Given: S = 0.0050 and Q = 4.9 cfs
Find on DPM Plate 22.3 D-1 (32' street):
D₂ = 0.40'
V₂ = 1.8 fps
Flow is subcritical.
2. Given: S = 0.0690 and Q = 4.9 cfs
Find:
D₁ = 0.29'
V₁ = 5 fps
Flow is supercritical; therefore, a hydraulic jump has occurred.
3. Determine height and length of jump
F₁ = V₁ / (gD₁)^(1/2) where g = 32.2 fps²
F₁ = 1.6
From DPM Plate 22.3 E-1 find: TWdepth/D₁ = 1.75
So TWdepth = 0.51'
TWdepth < 0.87' per DPM criteria.
From DPM Plate 22.3 E-2 find: (Length of jump)/D₁ = 6
So Length of jump = 1.74'

This jump will occur some 250' east of the Signal/Tierra Alegre intersection in the vertical curve slope transition and thus will be contained in the right-of-way. Thereafter, flows will be subcritical and no more hydraulic jumps will occur.



RECORD DRAWING

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
26 4368.900692



PROJECT NO. 4368.90

DESIGNED BY	NO	DATE	BY	REVISIONS	JOB NO.
J.P.K.	1	06-92	JHW	RECORD DRAWING	910117
DRAWN BY					DATE
C.E.N.					09 / 91
APPROVED BY					SHEET
J.G.M.					4 OF 4



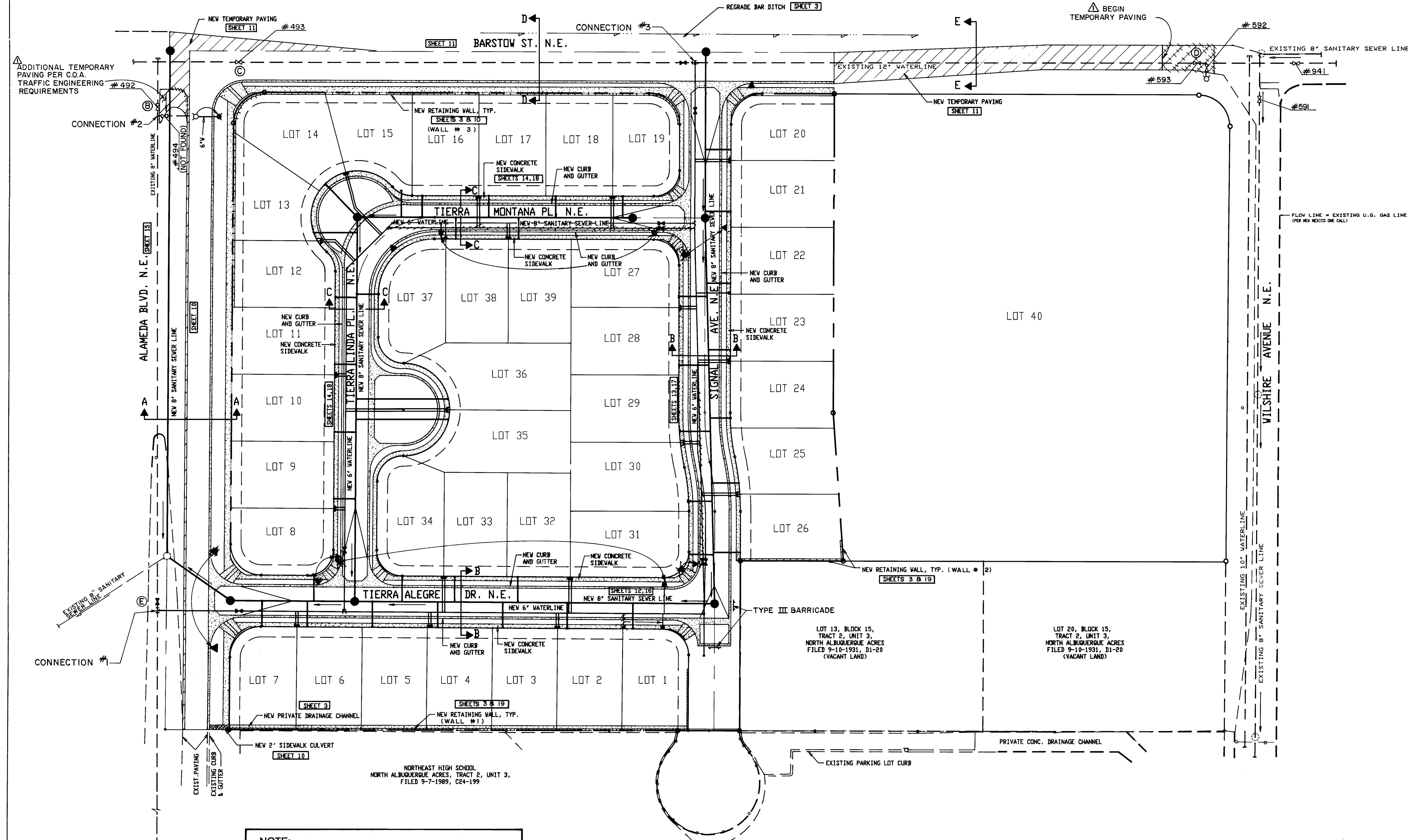
JEFF MORTENSEN & ASSOCIATES, INC.
6010-B MIDWAY PARK BLVD. N.E.
ALBUQUERQUE, NEW MEXICO 87109
ENGINEERS & SURVEYORS (505)345-4250

DRAINAGE PLAN & CALCULATIONS**TIERRA LA CUEVA
UNIT I**

SCANNED BY
BY LASON

RECORD DRAWING

SCALE: 1" = 50'



NOTE:
STREET TREES SHALL BE PLANTED ALONG ALAMEDA BLVD. N.E. & BARSTOW ST. N.E. PER THE STREET TREE ORDINANCE. A MINIMUM OF ONE TREE PER 30 FEET OF STREET FRONTAGE SHALL BE PLANTED WITHIN 19 FEET OF THE STREET BY THE RESPECTIVE LOT DEVELOPER/BUILDER. LOCATING THE STREET TREES WITHIN THE REAR YARDS IS PERMISSIBLE.

- WATER VALVE SHUTOFF PLAN NOTES:
- AS A MINIMUM, THE FOLLOWING VALVES SHALL BE CLOSED TO EFFECT THE RESPECTIVE SHUTOFFS:
 - CONNECTION #1 - VALVES (A) & (B)
 - CONNECTION #2 - VALVES (B) & (C)
 - CONNECTION #3 - VALVES (C) & (D)
 - THE CONTRACTOR SHALL NOTIFY WATER SYSTEMS, THREE (3) WORKING DAYS IN ADVANCE OF ANY WORK THAT MAY AFFECT EXISTING WATERLINE. ALL SHUTOFFS SHALL BE PERFORMED BY THE WATER SYSTEM DIVISION PERSONNEL (857-8200).
 - THE CONTRACTOR SHALL PROVIDE ALL RESTRAINTS AND THRUST BLOCKS NECESSARY TO EFFECT THE NECESSARY SHUTOFFS AND CONNECTIONS.
 - EXISTING WATER VALVE AND WATERLINE INFORMATION OBTAINED FROM CITY OF ALBUQUERQUE RECORD DRAWINGS FOR CITY PROJECTS 2215 AND 2216.
 - AT THE TIME OF WATER SHUTOFF APPLICATION, CONTRACTOR SHALL REQUEST THAT THE WATER SYSTEM DIVISION NOTIFY ALL AFFECTED PROPERTY OWNERS AT LEAST 24 HOURS IN ADVANCE OF THE RESPECTIVE SHUTOFFS.

RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to construction on future projects.

Jeffrey G. Mortensen
N.M.E. No. 8547

LEGEND

▲ STREET LIGHT BY P.N.M.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2	6	4	3	6	8	1	9	0	0	7	9	2		

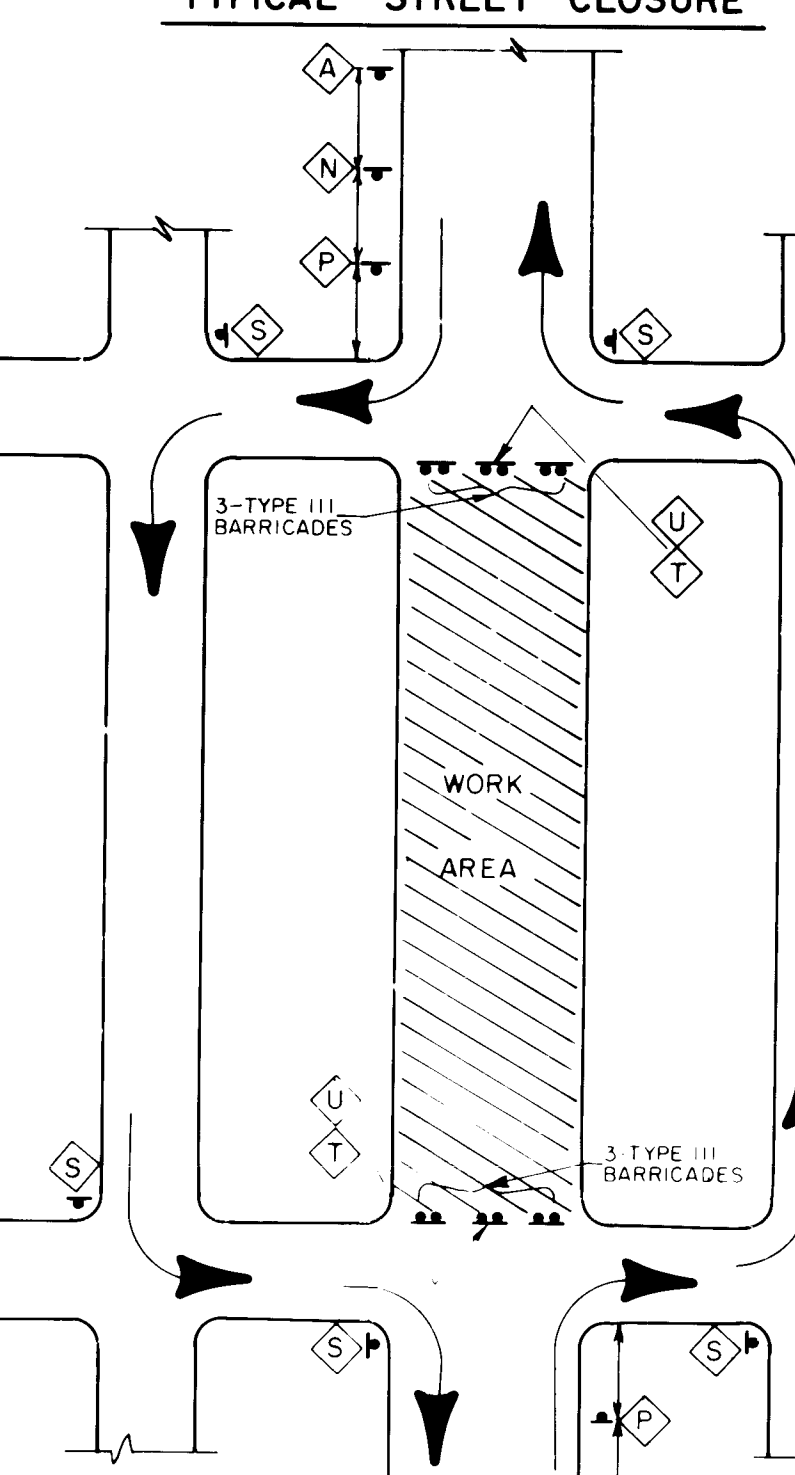
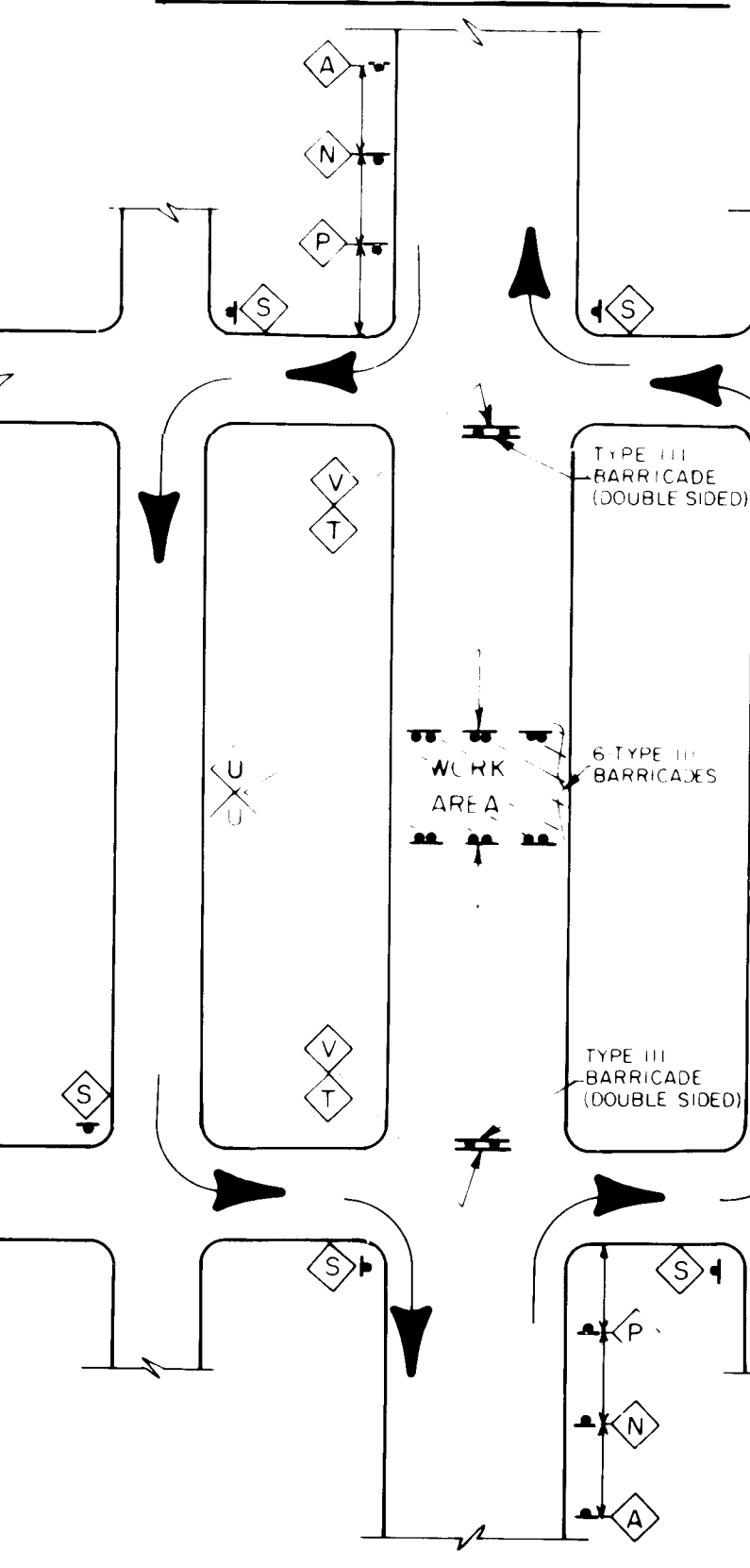
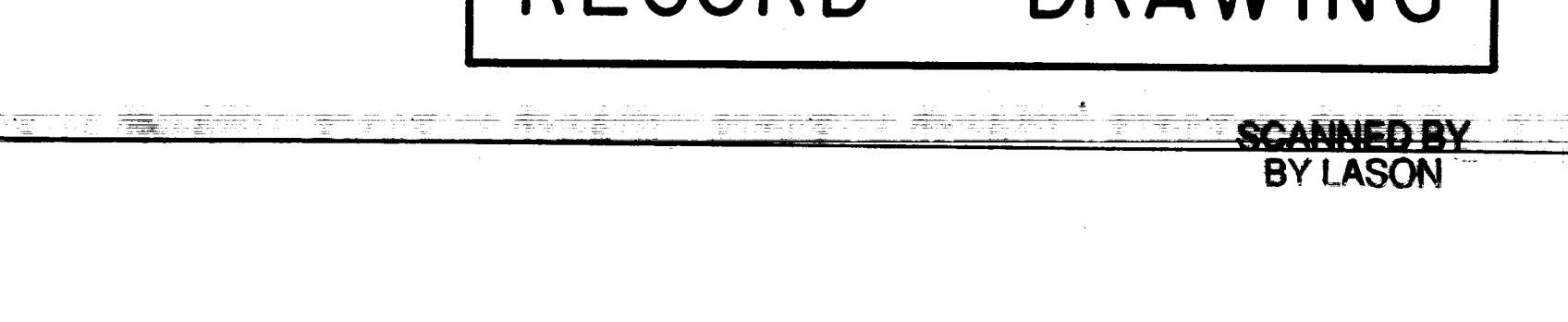
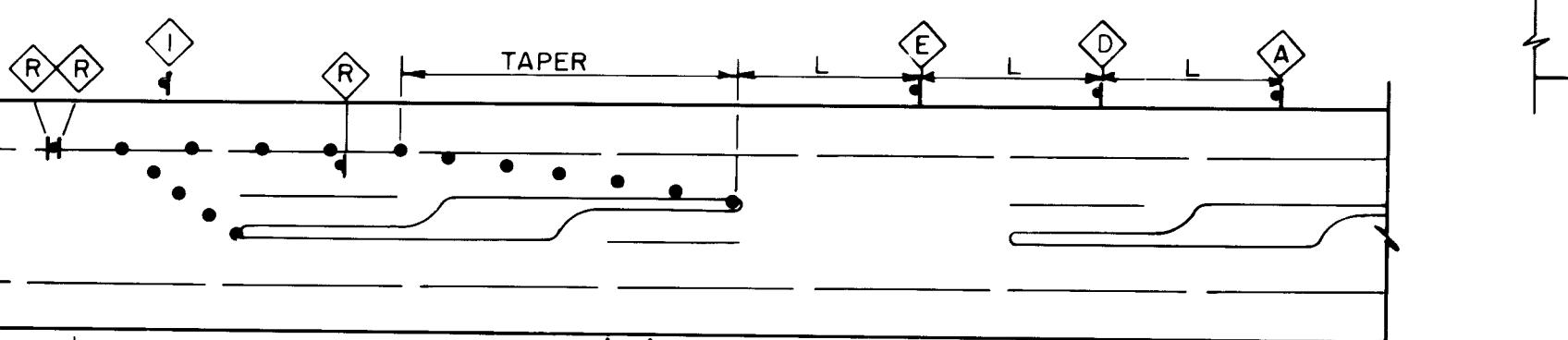
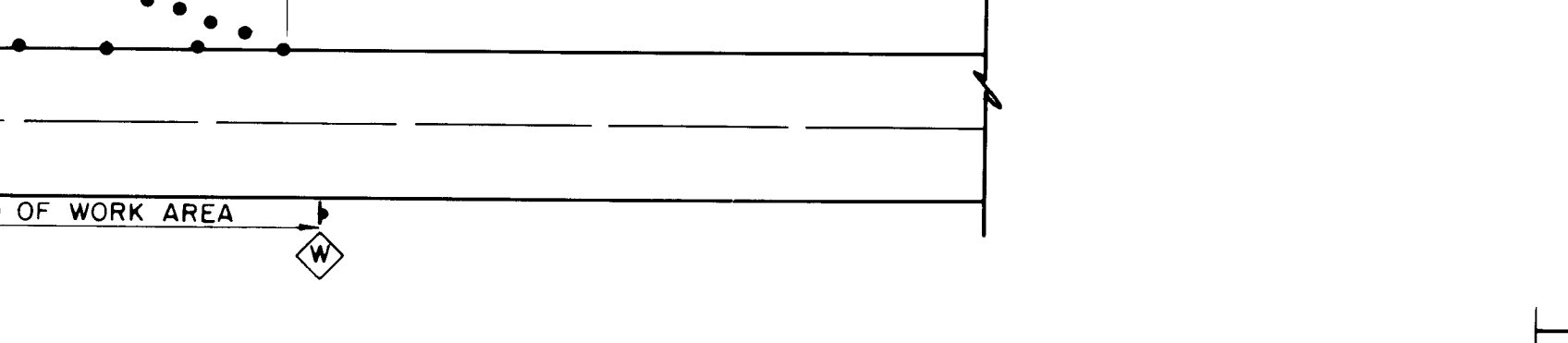
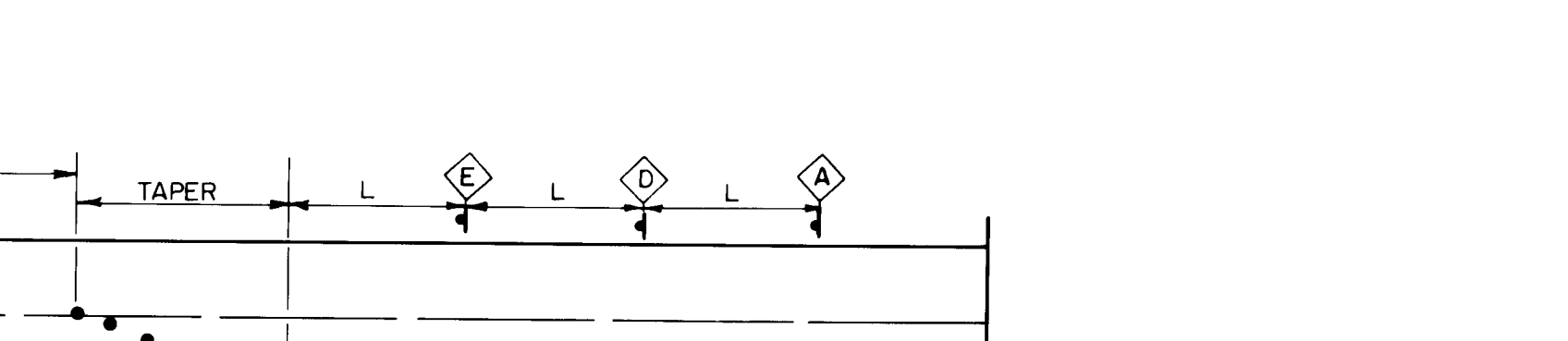
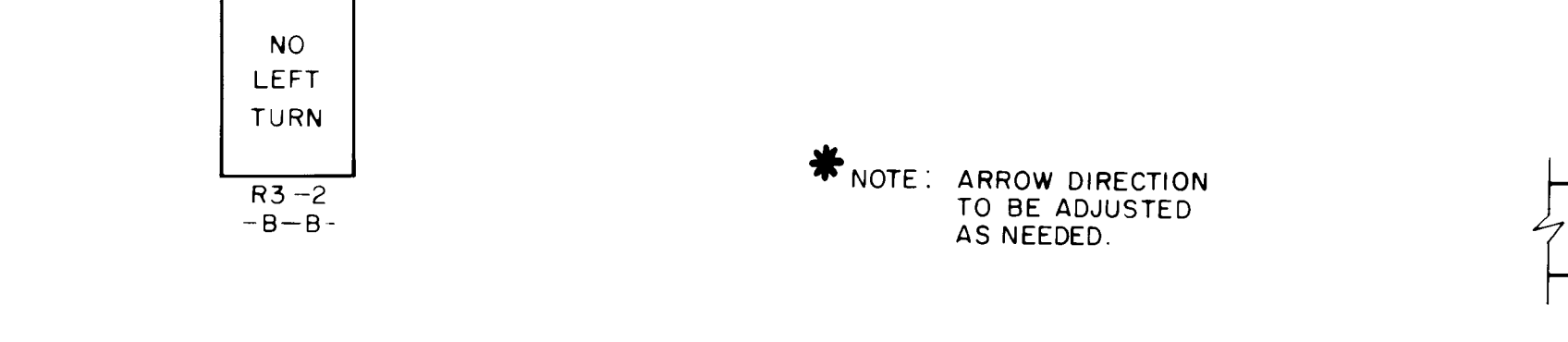
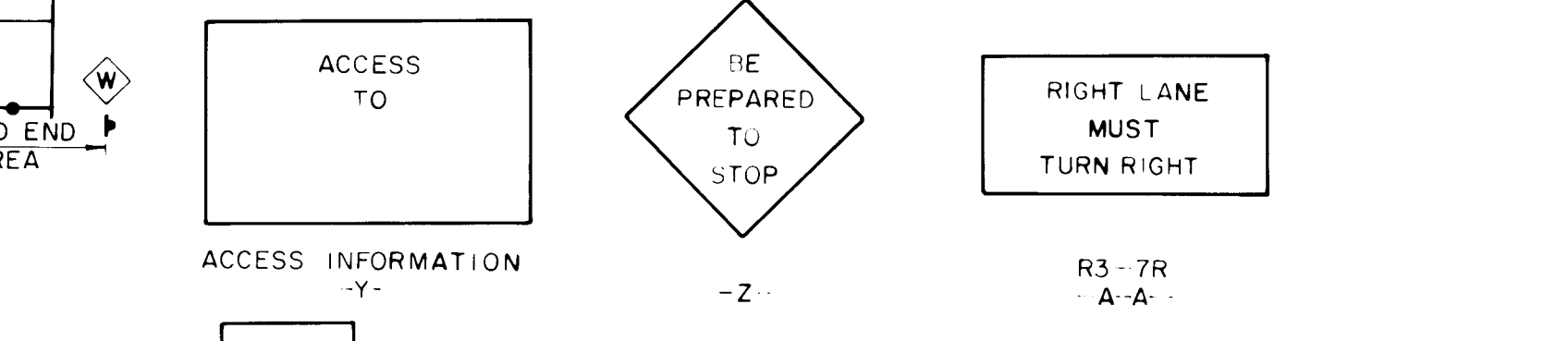
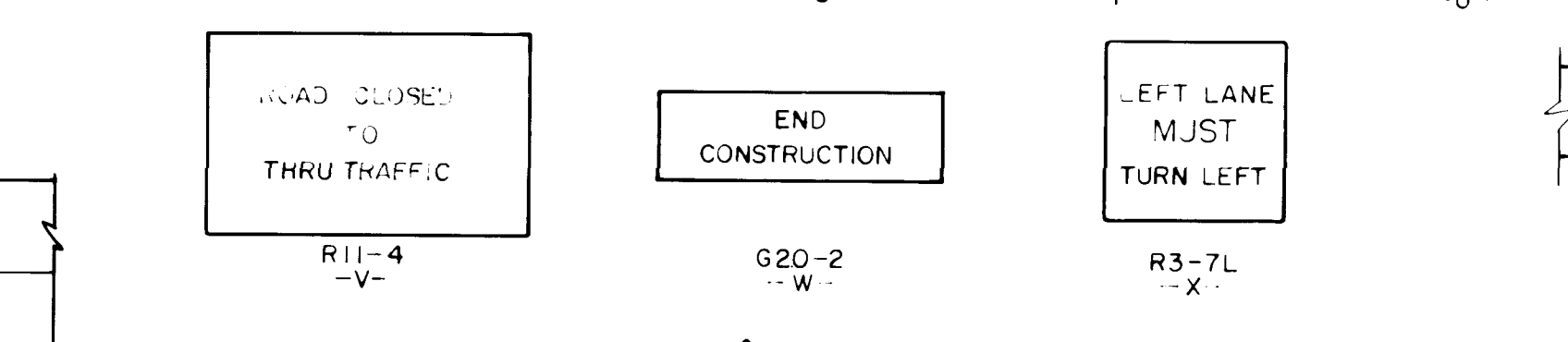
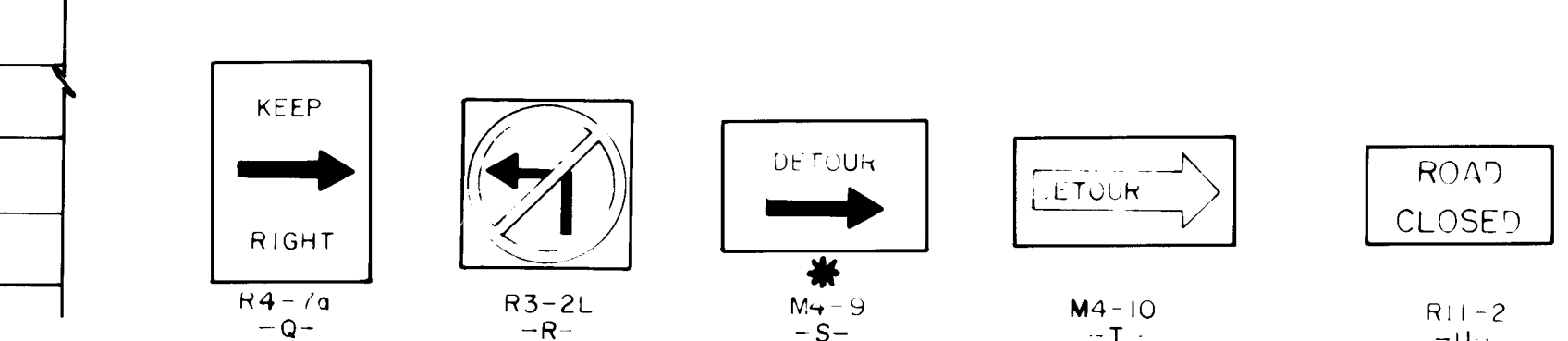
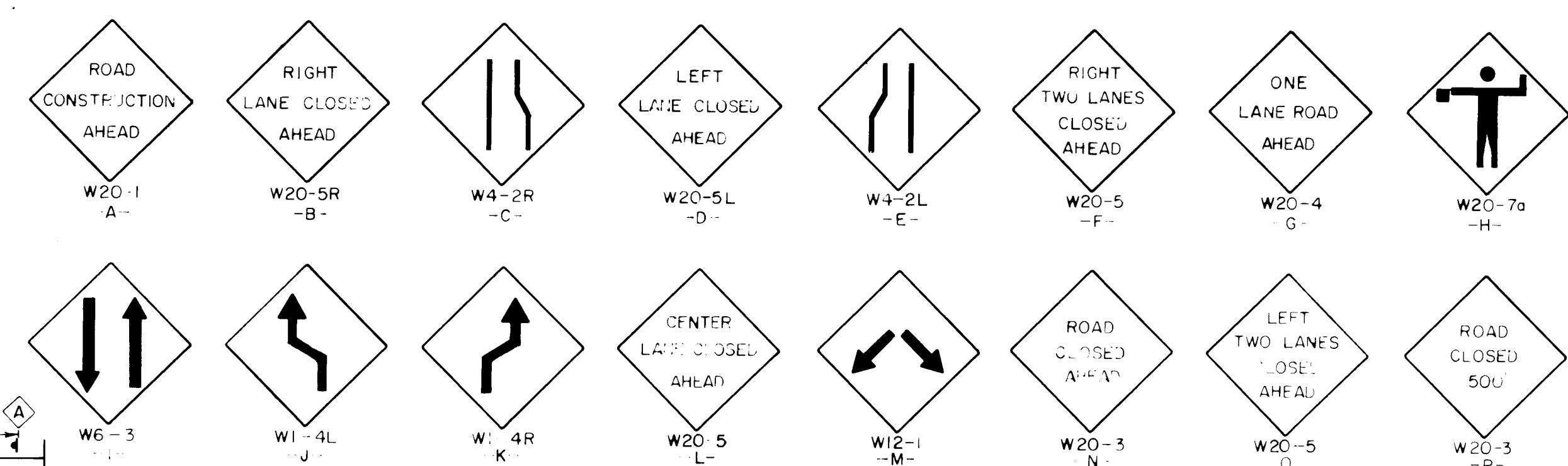
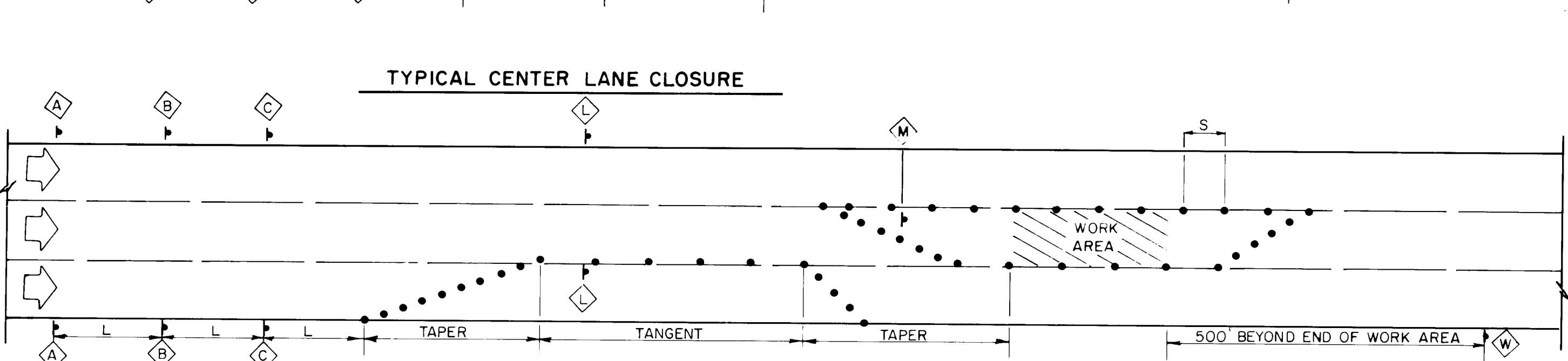
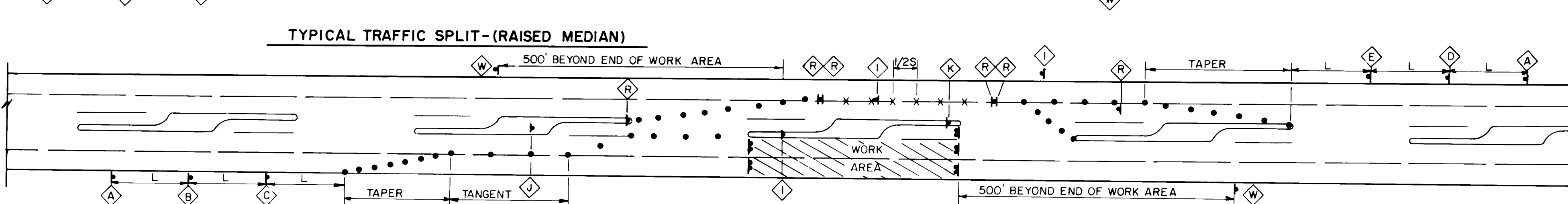
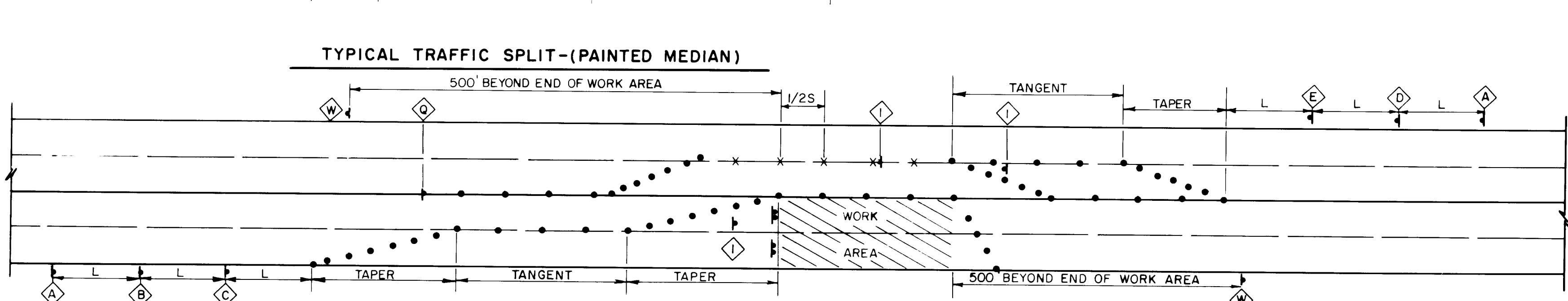
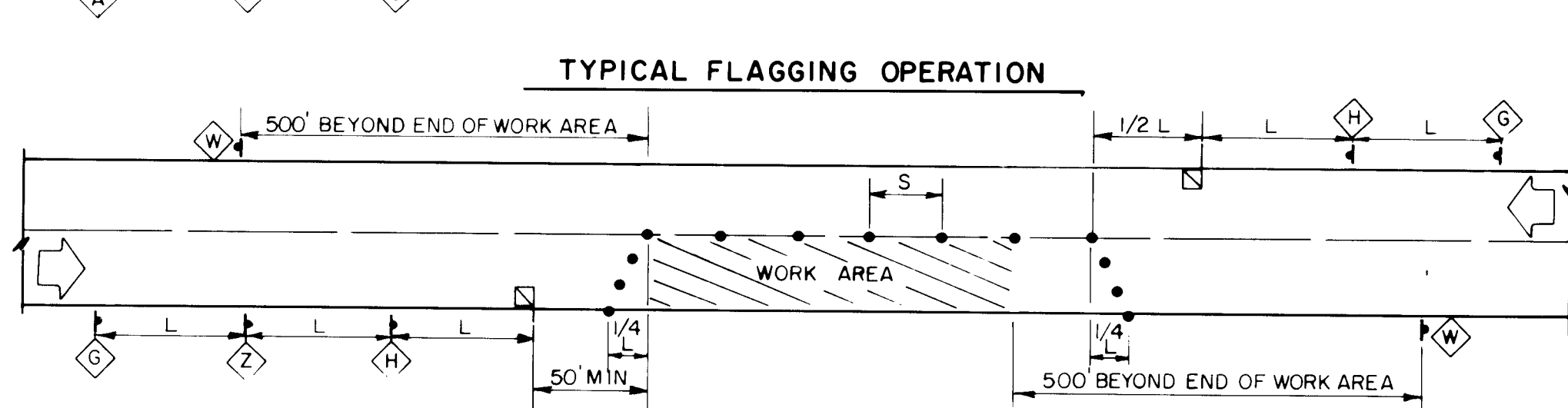
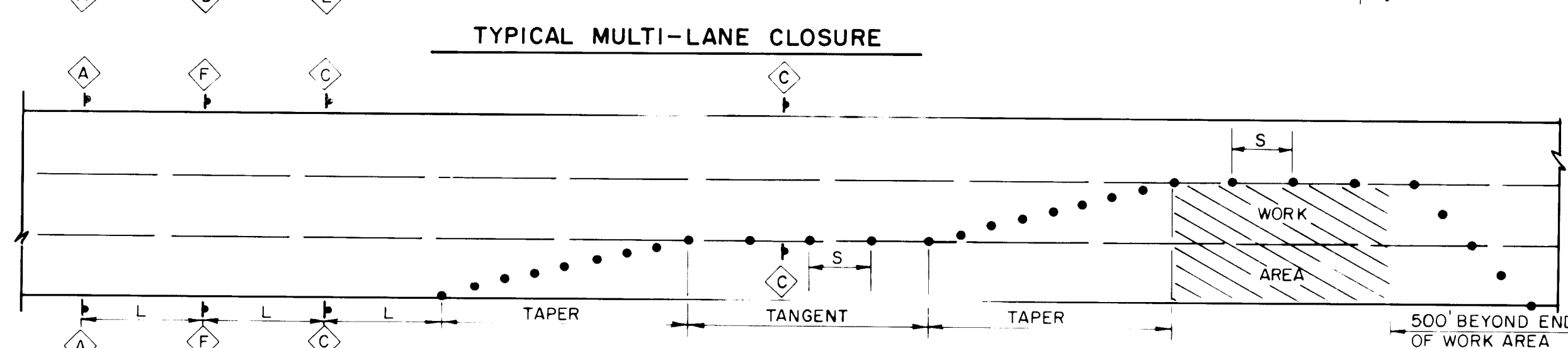
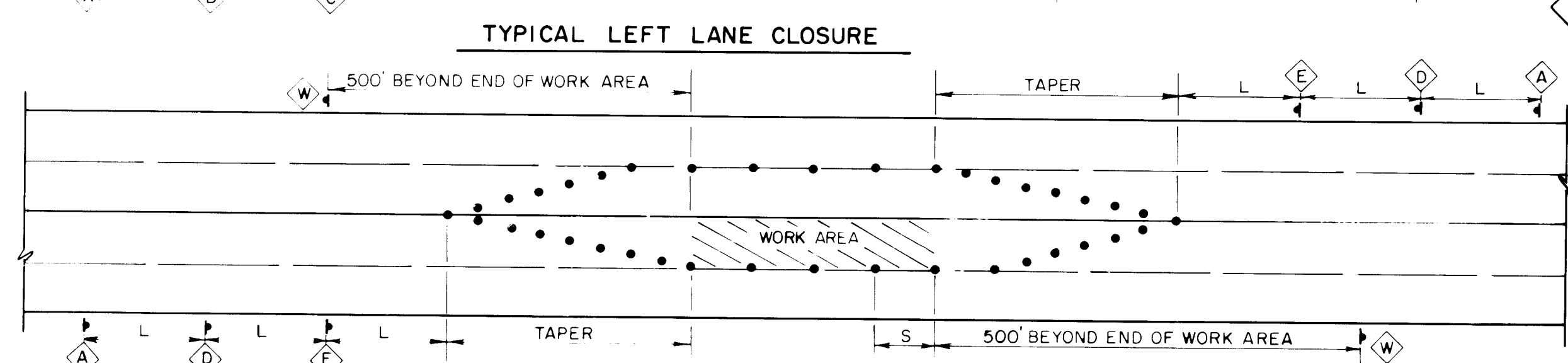
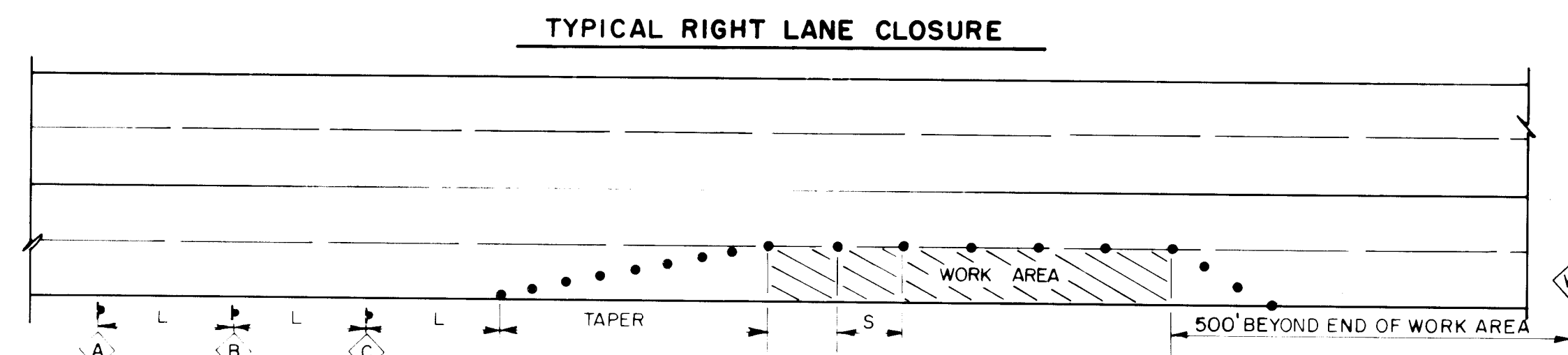
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: TIERRA LA CUEVA UNIT I
COMPOSITE SITE PLAN / WATER VALVE SHUTOFF PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRC CHAIRMAN	<i>[Signature]</i>	12-23-91	WATER	<i>[Signature]</i>	12-18-91
TRANSPORTATION	<i>[Signature]</i>	12-18-91	WASTE WATER	<i>[Signature]</i>	
HYDROLOGY	<i>[Signature]</i>	12-18-91			

PROJECT NO. 4368.90 MAP NO. C - 19 SHEET 7 OF 20

AS BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL		REVISIONS		DESIGN	
CONTRACTOR'S STANDARD	DATE 02/92	CITY OF ALBUQUERQUE BENCHMARK "HEAVEN" A STANDARD	DATE 6/91	NO. N/A	BY J.M.A.	JEFFREY G. MORTENSEN NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 8547	JHW	NO.	DATE	DESIGNED BY J.P.K.	DATE 7/91
INSPECTOR'S FIELD CHECK	DATE 02/92	USC # 65 BOSS TABLE STAMPED "HEAVEN" 1969, SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND	DATE 6/91					REMARKS		DRAWN BY J.M.A.	DATE 7/91
FIELD CHECK BY JHW	DATE 04/92	LOCATED AT THE ENTRANCE WAY TO THE "GATE OF HEAVEN" CEMETERY 0.15 MILE WEST OF THE INTERSECTION OF PASEO DEL NORTE ALE. AND WYOMING	DATE 04/92					DESIGN		CHECKED BY J.G.M.	DATE 10/91
VERIFICATION BY THW	DATE 06/92	SECTION OF PASEO DEL NORTE ALE. AND WYOMING	DATE 06/92								
MICRO-FILM INFORMATION	DATE	BLVD. N.E. STATION IS LOCATED ON THE SOUTH SIDE OF PASEO DEL NORTE	DATE								
RECORDED BY	NO.	ELEVATION = 5378.78' (M.S.L.D.)									



LEGEND

WORK AREA	
	BARRICADE - TYPE I, TYPE II, OR BARREL
	BARRICADE - TYPE III
	VERTICAL PANEL
	WARNING SIGN
	FLAGMAN POSITION
	SPOTTING BETWEEN BARRICADES - A DISTANCE MEASURED IN FEET EQUAL TO THE SPEED OF THE STREET
	TAPER LENGTH - SEE CHART BELOW
	TANGENT LENGTH - IS EQUAL TO THE TAPER LENGTH FOR A GIVEN STREET

NOTES

ALL ADVANCE WARNING SIGNS ARE TO BE DOUBLE INDICATED WHENEVER MEDIANS ARE PRESENT.

TRANSFORMATION FROM EXISTING SIGNALS TO SPAN WIRE IS TO OCCUR AT OFF PEAK HOURS.



RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects.

[Signature]

Willey G. Norcross
MPP# NO. 8547

NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER
8547

Date 07-09-92

SPEED LIMIT (MPH)	TAPER LENGTH (FEET)			MAXIMUM DISTANCE BETWEEN DEVICES (FEET)	MINIMUM NUMBER OF DEVICES REQUIRED
	10' LANE	11' LANE	12' LANE		
25	104	115	125	25	6
30	150	165	185	50	7
35	204	225	245	35	8
40	267	293	320	40	9
45	450	495	540	45	13
50	500	550	600	50	13
55	550	605	660	55	13

7	6	5	4	3	2	1	17	14	15
26	43	68	90	09	92				

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE	TIERRA LA CUEVA UN TRAFFIC CONTROL DE
-------	--

APPROVAL	ENGINEER	DATE	APPROVAL
D.R.C. CHAIRMAN	<i>Ronald Green</i>	12/23/91	WATER
TRANSPORTATION	<i>R. J. [unclear]</i>	12-15-91	WASTE WATER
HYDROLOGY	<i>J. [unclear]</i>	12-18-91	

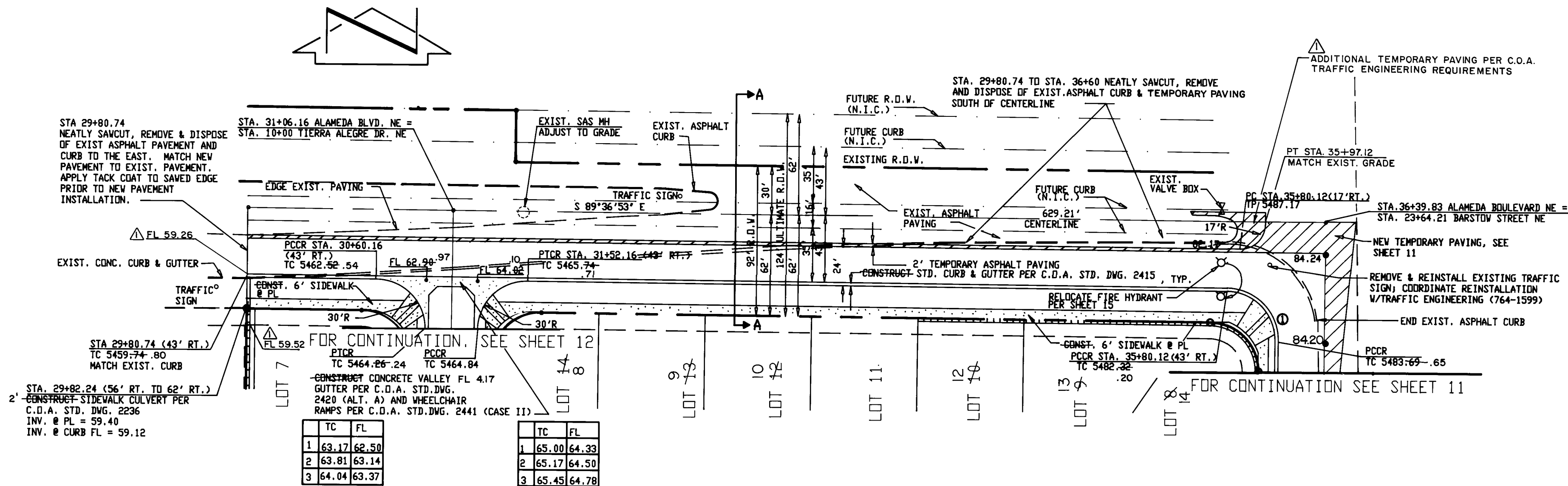
PROJECT NO.	4368.90	MAP NO.	C - 19
-------------	---------	---------	--------

RECORD DRAWING

SCANNED BY
BY LASON

910117

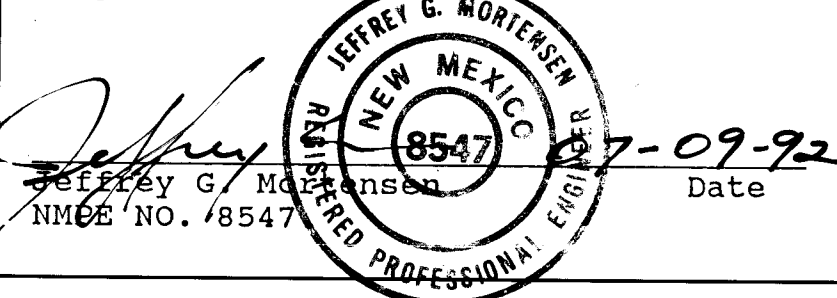
RECORD DRAWING



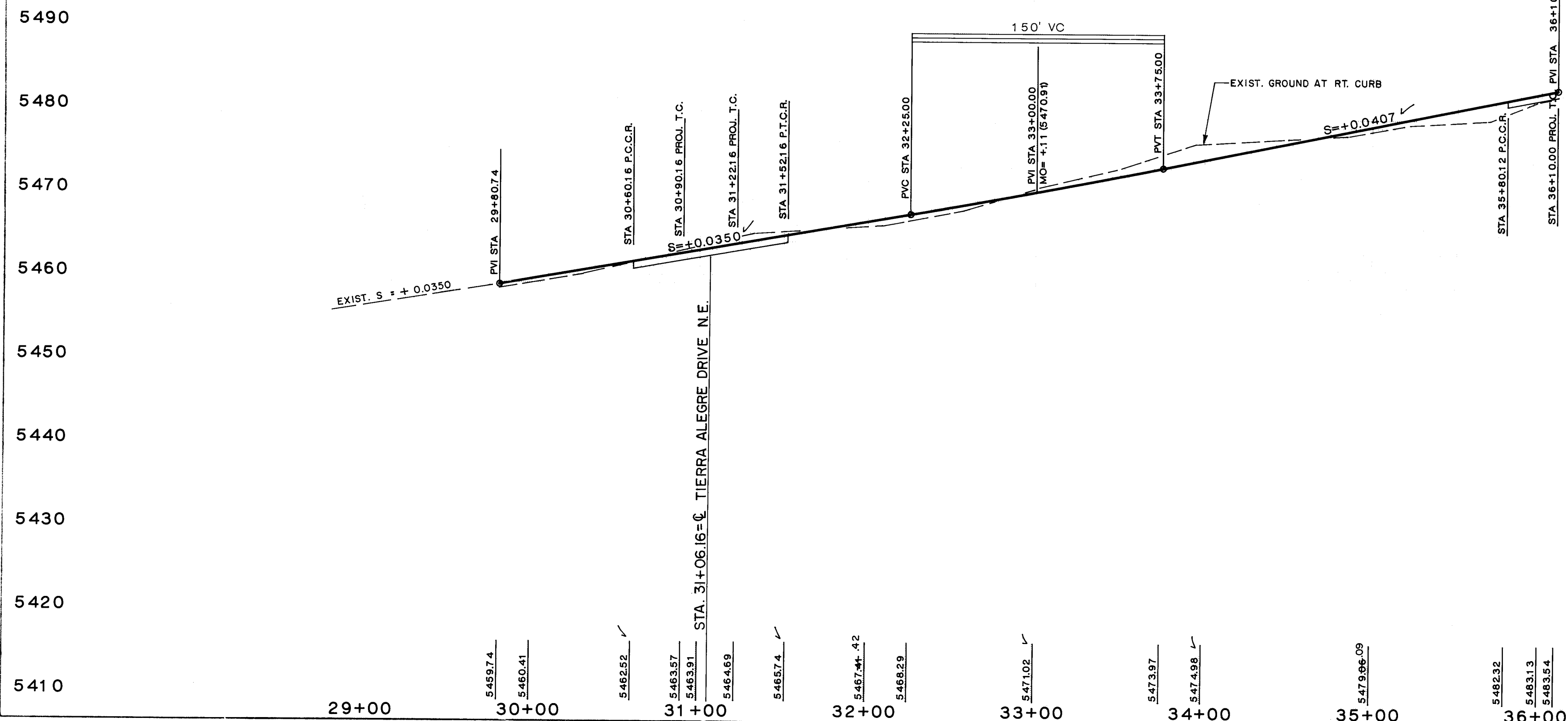
ALAMEDA BOULEVARD NE

RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects.



HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'



TOP OF RIGHT CURB
ELEVATION:

STREET PAVING IMPROVEMENTS

- ALL SLOPES AS SHOWN ON PROFILES ARE BASED ON STREET CENTERLINE STATIONING EXCEPT CUL-DE-SACS WHERE STATIONING IS ALONG FACE-OF-CURB.
- WHERE REMOVAL OF EXISTING CURB AND GUTTER, SIDEWALK OR PAVEMENT IS REQUIRED, THE CONTRACTOR SHALL SAWCUT AND/OR REMOVE TO THE NEAREST JOINT. CURB AND GUTTER SHOWN AS EXISTING AND NOT TO BE REMOVED UNDER THIS CONTRACT WHICH IS DAMAGED OR DISPLACED BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- ALL DIMENSIONS OF CURB AND CURB RETURNS ARE SHOWN TO FACE-OF-CURB.
- ALL SIDEWALK SHOWN HEREON SHALL BE CONSTRUCTED UNDER THIS PROJECT.
- ALL WHEELCHAIR RAMPS MUST BE CONSTRUCTED UNDER THIS WORK ORDER.
- ALL CURB AND GUTTER SHOWN HEREON SHALL BE STANDARD CURB AND GUTTER PER CITY OF ALBUQUERQUE STANDARD DRAWING 2415.

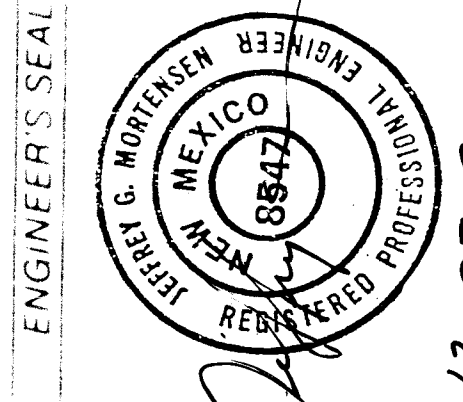
CURVE				TABLE			
CURVE	ARC	DELTA	RADIUS	CURVE	ARC	DELTA	RADIUS
1	47.01	89°46'41"	30.00				

NOTE: CURB RETURNS AT TIERRA ALEGRE DR. INTERSECTION ARE 90°.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
26	43	68	90	71	09	21									

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP					
TITLE TIERRA LA CUEVA UNIT I PAVING IMPROVEMENTS PLAN & PROFILE ALAMEDA BOULEVARD N.E.					
APPROVAL	ENGINEER	DATE	APPROVAL	ENGINEER	DATE
DR. CHAIRMAN	Robert B. B...	12/23/91	WATER	...	12-18-91
TRANSPORTATION	...	12-11-91	WASTE WATER	...	...
HYDROLOGY	...	12-18-91			
PROJECT NO.	4368.90	MAP NO. C-19	SHEET 10	OF 20	

SURVEY INFORMATION		FIELD NOTES		BENCH MARKS		AS-BUILT INFORMATION	
NO.	N/A	DATE	6/91	DATE	6/91	DATE	6/91
BY	JMA	BY	JMA	BY	JMA	BY	JMA

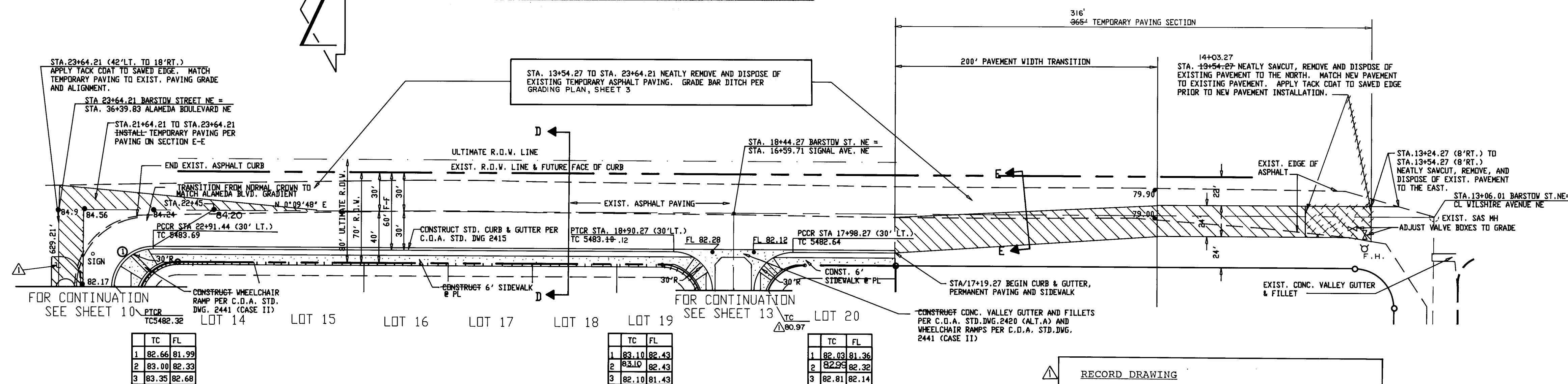


DESIGNED BY	J.P.K.	DATE	7/91
DRAWN BY	J.M.A.	DATE	7/91
CHECKED BY	J.O.M.	DATE	10/91

SCANNED BY
BY IASON

91017

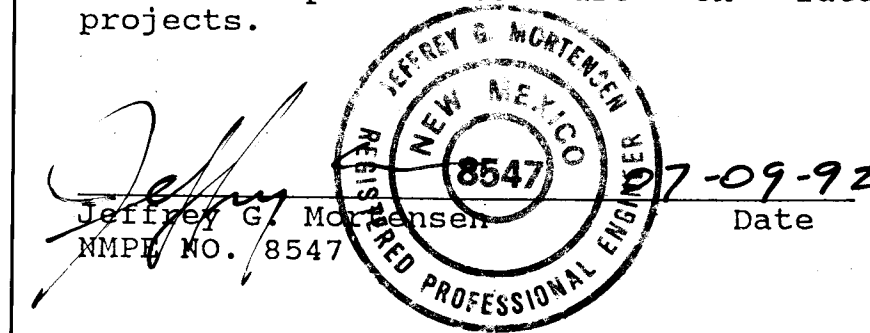
RECORD DRAWING



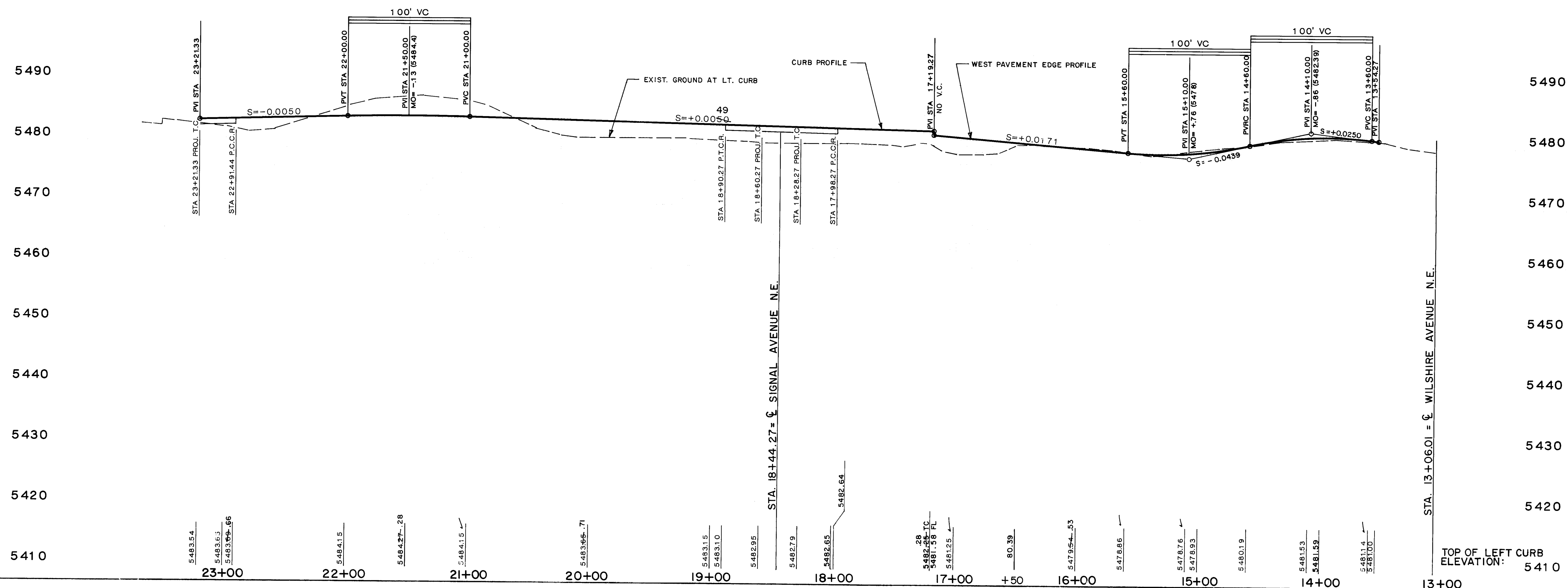
BARSTOW STREET NE

RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects.



HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'

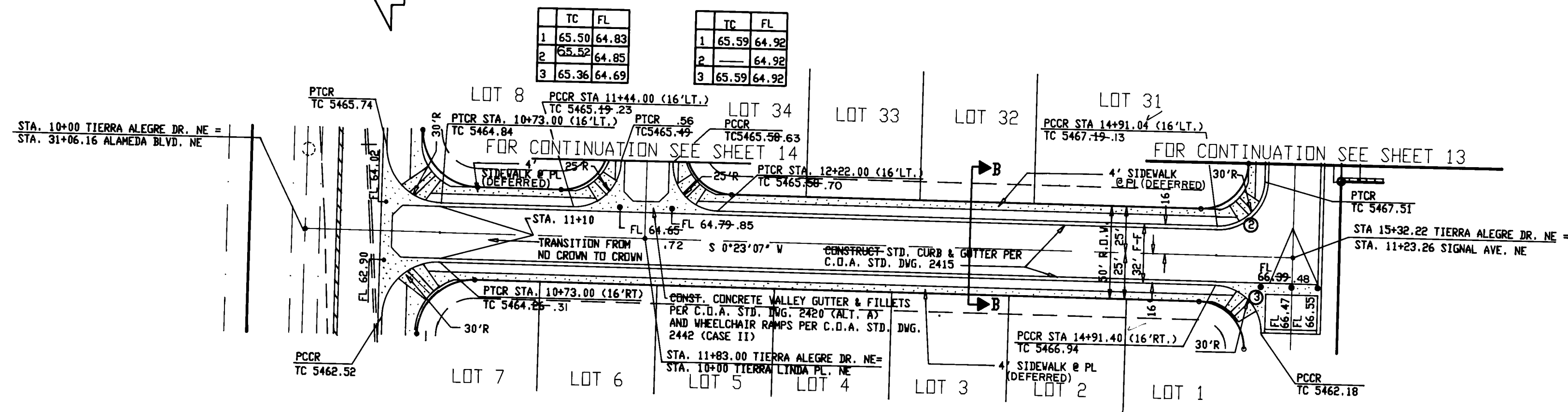


STREET PAVING IMPROVEMENTS

- ALL SLOPES AS SHOWN ON PROFILES ARE BASED ON STREET CENTERLINE STATIONING EXCEPT CUL-DE-SACS WHERE STATIONING IS ALONG FACE-OF-CURB.
- WHERE REMOVAL OF EXISTING CURB AND GUTTER, SIDEWALK OR PAVEMENT IS REQUIRED, THE CONTRACTOR SHALL SAWCUT AND/OR REMOVE TO THE NEAREST JOINT. CURB AND GUTTER SHOWN AS EXISTING AND NOT TO BE REMOVED UNDER THIS CONTRACT WHICH IS DAMAGED OR DISPLACED BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- ALL DIMENSIONS OF CURB AND CURB RETURNS ARE SHOWN TO FACE-OF-CURB.
- ALL SIDEWALK SHOWN HEREON SHALL BE CONSTRUCTED UNDER THIS PROJECT.
- ALL WHEELCHAIR RAMPS MUST BE CONSTRUCTED UNDER THIS WORK ORDER.
- ALL CURB AND GUTTER SHOWN HEREON SHALL BE STANDARD CURB AND GUTTER PER CITY OF ALBUQUERQUE STANDARD DRAWING 2415.

AS BUILT INFORMATION		BENCH MARKS		CITY OF ALBUQUERQUE BENCH MARK "HEAVEN", A STANDARD USC 1 GS 80886 TABLE STAMPED "HEAVEN 1989" SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND LOCATED AT THE ENTRANCE WAY TO THE "GATE OF HEAVEN" CEMETARY 0.15 MILE WEST OF THE INTERSECTION OF PASO DEL NORTE I.E. AND WYOMING BLVD I.E. STATION IS LOCATED ON THE SOUTH SIDE OF PASO DEL NORTE ELEVATION = 5378.76 (M.S.L.D.)	
DATE	DATE	DATE	DATE	DATE	DATE
6/91	6/91	6/91	6/91	6/91	6/91
SURVEY INFORMATION		FIELD NOTES		NO	
BY		BY		BY	
JMA		JMA		JMA	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO		NO	
JMA		JMA		JMA	
DATE		DATE		DATE	
6/91		6/91		6/91	
NO		NO			

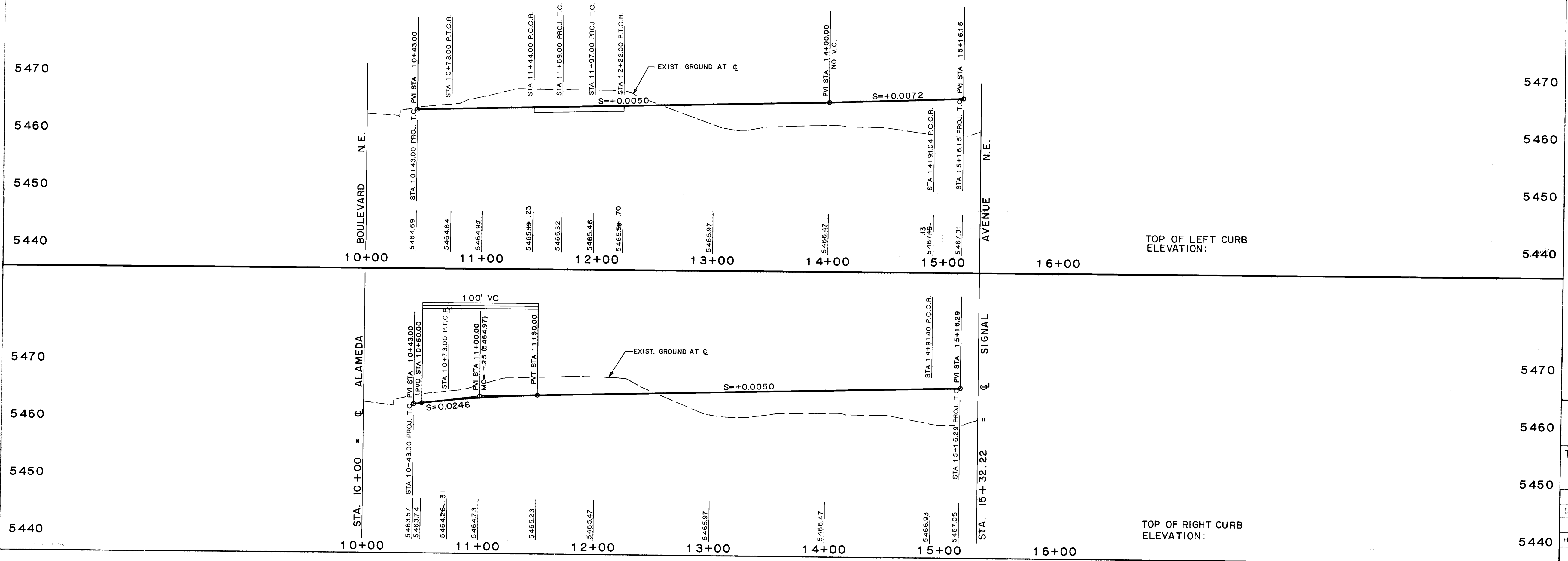
RECORD DRAWING



TIERRA ALEGRE DRIVE NE

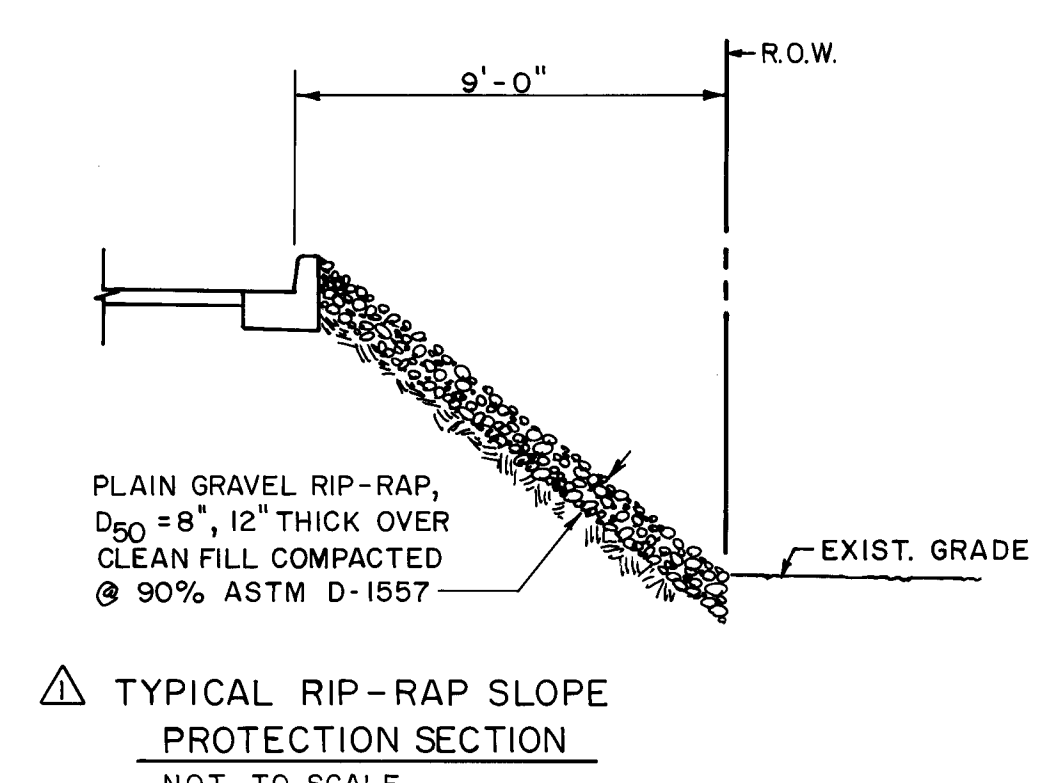
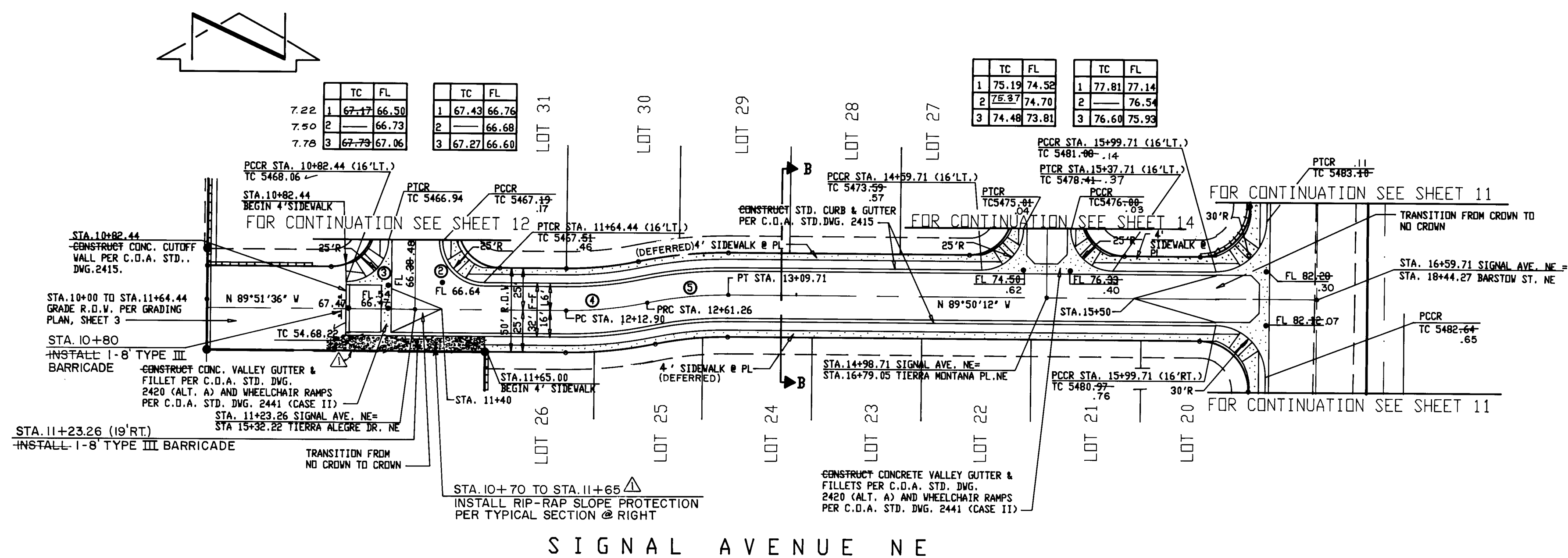
RECORD DRAWING
I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects.
Jeffrey G. Mortensen
Professional Engineer
New Mexico
8547
07-09-92
Date

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'



STREET PAVING IMPROVEMENTS	
1. ALL SLOPES AS SHOWN ON PROFILES ARE BASED ON STREET CENTERLINE STATIONING EXCEPT CUL-DE-SACS WHERE STATIONING IS ALONG FACE-OF-CURB.	
2. WHERE REMOVAL OF EXISTING CURB AND GUTTER, SIDEWALK OR PAVEMENT IS REQUIRED, THE CONTRACTOR SHALL SAWCUT AND/OR REMOVE TO THE NEAREST JOINT. CURB AND GUTTER SHOWN AS EXISTING AND NOT TO BE REMOVED UNDER THIS CONTRACT WHICH IS DAMAGED OR DISPLACED BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.	
3. ALL DIMENSIONS OF CURB AND CURB RETURNS ARE SHOWN TO FACE-OF-CURB.	
4. ALL SIDEWALK SHOWN HEREON SHALL BE CONSTRUCTED UNDER SEPARATE PERMIT (SIDEWALK DEFERRAL).	
5. ALL WHEELCHAIR RAMP MUST BE CONSTRUCTED UNDER THIS WORK ORDER.	
6. ALL CURB AND GUTTER SHOWN HEREON SHALL BE STANDARD CURB AND GUTTER PER CITY OF ALBUQUERQUE STANDARD DRAWING 2415.	
REVISIONS	
NO.	DATE
1	7/91
2	7/91
3	7/91
4	7/91
5	7/91
6	7/91
7	7/91
8	7/91
9	7/91
10	7/91
11	7/91
12	7/91
13	7/91
14	7/91
15	7/91
16	7/91
17	7/91
18	7/91
19	7/91
20	7/91
21	7/91
22	7/91
23	7/91
24	7/91
25	7/91
26	7/91
27	7/91
28	7/91
29	7/91
30	7/91
31	7/91
32	7/91
33	7/91
34	7/91
35	7/91
36	7/91
37	7/91
38	7/91
39	7/91
40	7/91
41	7/91
42	7/91
43	7/91
44	7/91
45	7/91
46	7/91
47	7/91
48	7/91
49	7/91
50	7/91
51	7/91
52	7/91
53	7/91
54	7/91
55	7/91
56	7/91
57	7/91
58	7/91
59	7/91
60	7/91
61	7/91
62	7/91
63	7/91
64	7/91
65	7/91
66	7/91
67	7/91
68	7/91
69	7/91
70	7/91
71	7/91
72	7/91
73	7/91
74	7/91
75	7/91
76	7/91
77	7/91
78	7/91
79	7/91
80	7/91
81	7/91
82	7/91
83	7/91
84	7/91
85	7/91
86	7/91
87	7/91
88	7/91
89	7/91
90	7/91
91	7/91
92	7/91
93	7/91
94	7/91
95	7/91
96	7/91
97	7/91
98	7/91
99	7/91
100	7/91
101	7/91
102	7/91
103	7/91
104	7/91
105	7/91
106	7/91
107	7/91
108	7/91
109	7/91
110	7/91
111	7/91
112	7/91
113	7/91
114	7/91
115	7/91
116	7/91
117	7/91
118	7/91
119	7/91
120	7/91
121	7/91
122	7/91
123	7/91
124	7/91
125	7/91
126	7/91
127	7/91
128	7/91
129	7/91
130	7/91
131	7/91
132	7/91
133	7/91
134	7/91
135	7/91
136	7/91
137	7/91
138	7/91
139	7/91
140	7/91
141	7/91
142	7/91
143	7/91
144	7/91
145	7/91
146	7/91
147	7/91
148	7/91
149	7/91
150	7/91
151	7/91
152	7/91
153	7/91
154	7/91
155	7/91
156	7/91
157	7/91
158	7/91
159	7/91
160	7/91
161	7/91
162	7/91
163	7/91
164	7/91
165	7/91
166	7/91
167	7/91
168	7/91
169	7/91
170	7/91
171	7/91
172	7/91
173	7/91
174	7/91
175	7/91
176	7/91
177	7/91
178	7/91
179	7/91
180	7/91
181	7/91
182	7/91
183	7/91
184	7/91
185	7/91
186	7/91
187	7/91
188	7/91
189	7/91
190	7/91
191	7/91
192	7/91
193	7/91
194	7/91
195	7/91
196	7/91
197	7/91
198	7/91
199	7/91
200	7/91
201	7/91
202	7/91
203	7/91
204	7/91
205	7/91
206	7/91
207	7/91
208	7/91
209	7/91
210	7/91
211	7/91
212	7/91
213	7/91
214	7/91
215	7/91
216	7/91
217	7/91
218	7/91
219	7/91
220	7/91
221	7/91
222	7/91
223	7/91
224	7/91
225	7/91
226	7/91
227	7/91
228	7/91
229	7/91
230	7/91
231	7/91
232	7/91
233	7/91
234	7/91
235	7/91
236	7/91
237	7/91
238	7/91
239	7/91
240	7/91
241	7/91
242	7/91
243	7/91
244	7/91
245	7/91
246	7/91
247	7/91
248	7/91
249	7/91
250	7/91
251	7/91
252	7/91
253	7/91
254	7/91
255	7/91
256	7/91
257	7/91
258	7/91
259	7/91
260	7/91
261	7/91
262	7/91
263	7/91
264	7/91
265	7/91
266	7/91
267	7/91
268	7/91
269	7/91
270	7/91
271	7/91
272	7/91
273	7/91
274	7/91
275	7/91
276	7/91
277	7/91
278	7/91
279	7/91
280	7/91
281	7/91
282	7/91
283	7/91
284	7/91
285	7/91
286	7/91
287	7/91
288	7/91
289	7/91
290	7/91
291	7/91
292	7/91
293	7/91
294	7/91
295	7/91
296	7/91
297	7/91
298	7/91
299	7/91
300	7/91
301	7/91
302	7/91
303	7/91
304	7/91
305	7/91
306	7/91
307	7/91
308	7/91
309	7/91
310	7/91
311	7/91
312	7/91
313	7/91
314	7/91
315	7/91
316	7/91
317	7/91
318	7/91
319	7/91
320	7/91
321	7/91
322	7/91
323	7/91
324	7/91
325	7/91
326	7/91
327	7/91
328	7/91
329	7/91
330	7/91
331	7/91
332	7/91
333	7/91
334	7/91
335	7/91
336	7/91
337	7/91
338	7/91
339	7/91
340	7/91
341	7/91
342	7/91
343	7/91
344	7/91
345	7/91
346	7/91
347	7/91
348	7/91
349	7/91
350	7/91
351	7/91
352	7/91
353	7/91
354	7/91
355	7/91
356	7/91
357	7/91
358	7/91
359	7/91
360	7/91
361	7/91
362	7/91
363	7/91
364	7/91
365	7/91
366	7/91
367	7/91
368	7/91
369	7/91
370	7/91
371	7/91
372	7/91
373	7/91
374	7/91
375	7/91
376	7/91
377	7/91
378	7/91
379	7/91
380	7/91
381	7/91
382	7/91
383	7/91
384	7/91
385	7/91
386	7/91
387	7/91
388	7/91
389	7/91
390	7/91
391	7/91
392	7/91
393	7/91
394	7/91
395	7/91
396	7/91
397	7/91
398	7/91
399	7/91
400	7/91
401	7/91
402	7/91
403	7/91
404	7/91
405	7/91
406	7/91
407	7/91
408	7/91
409	7/91
410	7/91
411	7/91
412	7/91
413	7/91
414	7/91
415	7/91
416	7/91
417	7/91
418	7/91
419	7/91
420	7/91
421	7/91
422	7/91
423	7/91
424	7/91
425	7/91
426	7/91
427	7/91
428	7/91
429	7/91
430	7/91
431	7/91
432	7/91
433	7/91
434	7/91
435	7/91
436	7/91
437	7/91
438	7/91
439	7/91
440	7/91
441	7/91
442	7/91
443	7/91
444	7/91
445	7/91
446	7/91
447	7/91
448	7/91
449	7/91
450	7/91
451	7/91
452	7/91
453	7/91
454	7/91
455	7/91
456	7/91
457	7/91
458	7/91
459	7/91
460	7/91
461	7/91
462	7/91
463	7/91
464	7/91
465	7/91
466	7/91
467	7/91
468	7/91
469	7/91
470	7/91
471	7/91
472	7/91
473	7/91
474	7/91
475	7/91
476	7/91
477	7/91
478	7/91
479	7/91
480	7/91
481	7/91
482	7/91
483	7/91
484	7/91
485	7/91
486	7/91
487	7/91
488	7/91
489	7/91
490	7/91
491	7/91
492	7/91
493	7/91
494	7/91
495	7/91
496	7/91
497	7/91
498	7/91
499	7/91
500	7/91
501	7/91
502	7/91
503	7/91
504	7/91
505	7/91
506	7/91
507	7/91
508	7/91
509	7/91
510	7/91
511	7/91
512	7/91
513	7/91
514	7/91
515	7/91
516	7/91
517	7/91
518	7/91
519	7/91
520	7/91
521	7/91
522	7/91
523	7/91
524	7/91
525	7/91
526	7/91
527	7/91
528	7/91
529	7/91
530	7/91
531	7/91
532	7/91
533	7/91
534	7/91
535	7/91
536	7/91
537	7/91
538	7/91
539	7/91
540	7/91
541	7/91
542	7/91
543	7/91
544	7/91
545	7/91
546	7/91
547	7/91
548	7/91
549	7/91
550	7/91
551	7/91
552	7/91

RECORD DRAWING



HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'

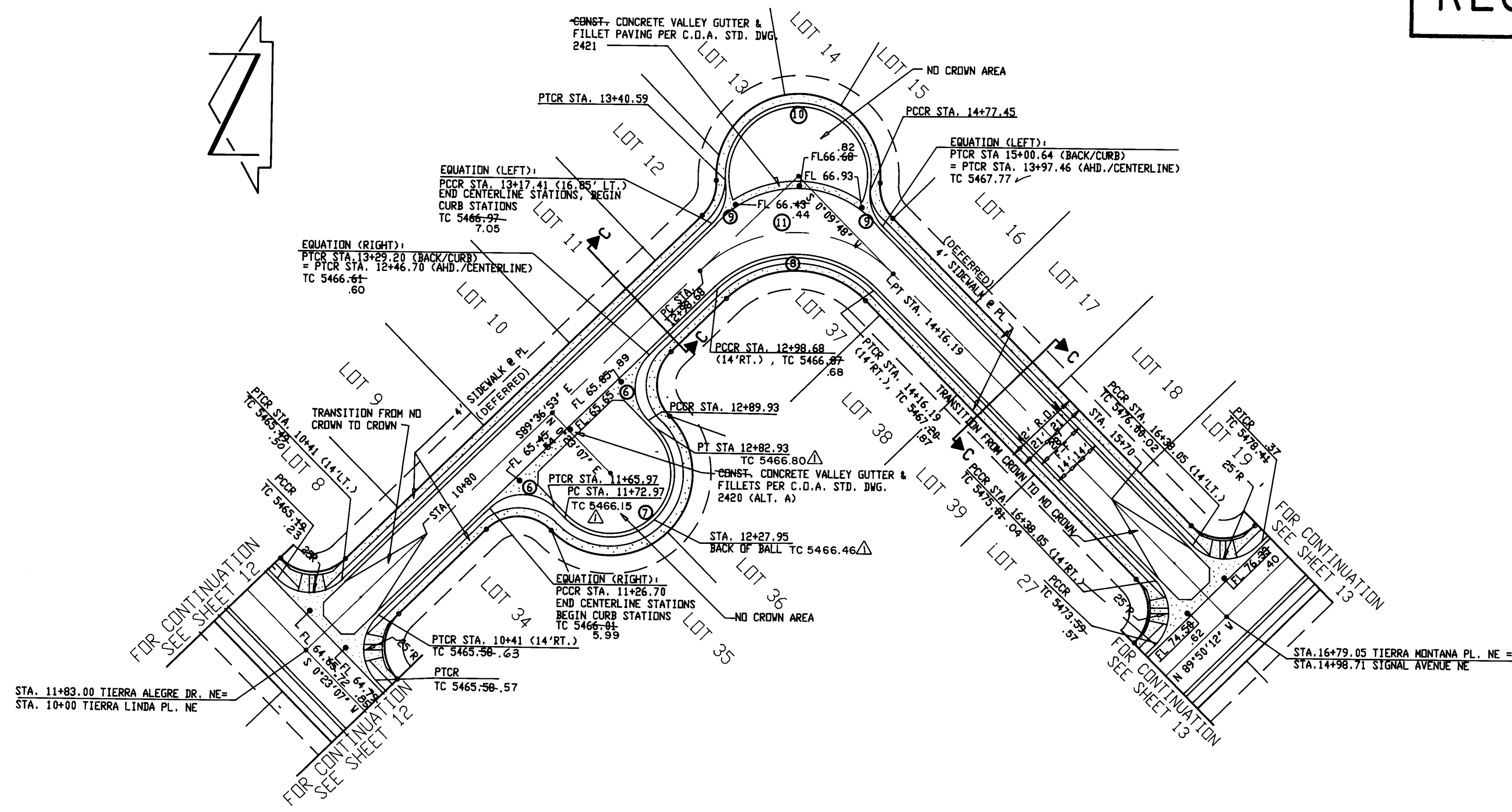


TOP OF LEFT CURB ELEVATION:

TOP OF RIGHT CURB ELEVATION:

STREET PAVING IMPROVEMENTS			AS BUILT INFORMATION			BENCH MARKS			SURVEY INFORMATION			ENGINEER'S SEAL														
1. ALL SLOPES AS SHOWN ON PROFILES ARE BASED ON STREET CENTERLINE STATIONING EXCEPT CUL-DE-SACS WHERE STATIONING IS ALONG FACE-OF-CURB. 2. WHERE REMOVAL OF EXISTING CURB AND GUTTER, SIDEWALK OR PAVEMENT IS REQUIRED, THE CONTRACTOR SHALL SAWCUT AND/OR REMOVE TO THE NEAREST JOINT. CURB AND GUTTER SHOWN AS EXISTING AND NOT TO BE REMOVED UNDER THIS CONTRACT WHICH IS DAMAGED OR DISPLACED BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. 3. ALL DIMENSIONS OF CURB AND CURB RETURNS ARE SHOWN TO FACE-OF-CURB. 4. ALL SIDEWALK SHOWN HEREON SHALL BE CONSTRUCTED UNDER SEPARATE PERMIT (SIDEWALK DEFERRAL). 5. ALL WHEELCHAIR RAMPS MUST BE CONSTRUCTED UNDER THIS WORK ORDER. 6. ALL CURB AND GUTTER SHOWN HEREON SHALL BE STANDARD CURB AND GUTTER PER CITY OF ALBUQUERQUE STANDARD DRAWING 2415.			CITY OF ALBUQUERQUE BENCHMARK "HEAVEN", A STANDARD USC # 65 BRASS TABLET STAMPED "HEAVEN 1987 SET IN TOP OF A CONCRETE POST PLUSH WITH THE GROUND. LOCATED AT THE ENTRANCE WAY TO THE "GATE OF HEAVEN" CEMETERY, 0.15 MILE WEST OF THE INTERSECTION OF PASADENA BLVD. AND WYOMING BLVD. NE. STATION 15 LOCATED ON THE SOUTH SIDE OF PASADENA BLVD. ELEVATION = 5378.78 (M.S.L.D.)			DATE: 6/91 BY: JMA NO: N/A			DATE: 7/91 BY: JMA NO: N/A			DATE: 7/91 BY: JMA NO: N/A														
RECORD DRAWING I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects. DATE: 07-20-92 SIGNATURE: [Signature] NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER			REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>REMARKS</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>07-20-92</td> <td>DESIGN</td> </tr> <tr> <td>2</td> <td>07-20-92</td> <td>DESIGN</td> </tr> </tbody> </table>			NO.	DATE	REMARKS	1	07-20-92	DESIGN	2	07-20-92	DESIGN	DESIGNED BY: J.P.K. DRAWN BY: J.M.A. CHECKED BY: J.G.M.			DATE: 7/91 DATE: 7/91 DATE: 10/91								
NO.	DATE	REMARKS																								
1	07-20-92	DESIGN																								
2	07-20-92	DESIGN																								
CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP TITLE: TIERRA LA CUEVA UNIT I PAVING IMPROVEMENTS PLAN & PROFILE SIGNAL AVENUE NE			APPROVALS <table border="1"> <thead> <tr> <th>ENGINEER</th> <th>DATE</th> <th>APPROVALS</th> <th>ENGINEER</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>[Signature]</td> <td>12-18-91</td> <td>WATER</td> <td>[Signature]</td> <td>12-18-91</td> </tr> <tr> <td>[Signature]</td> <td>12-18-91</td> <td>WASTE WATER</td> <td>[Signature]</td> <td>12-18-91</td> </tr> </tbody> </table>			ENGINEER	DATE	APPROVALS	ENGINEER	DATE	[Signature]	12-18-91	WATER	[Signature]	12-18-91	[Signature]	12-18-91	WASTE WATER	[Signature]	12-18-91	DESIGNED BY: J.P.K. DRAWN BY: J.M.A. CHECKED BY: J.G.M.			DATE: 7/91 DATE: 7/91 DATE: 10/91		
ENGINEER	DATE	APPROVALS	ENGINEER	DATE																						
[Signature]	12-18-91	WATER	[Signature]	12-18-91																						
[Signature]	12-18-91	WASTE WATER	[Signature]	12-18-91																						
PROJECT NO. 4368.90			MAP NO. C-19			SHEET 13 OF 20			910117																	

RECORD DRAWING



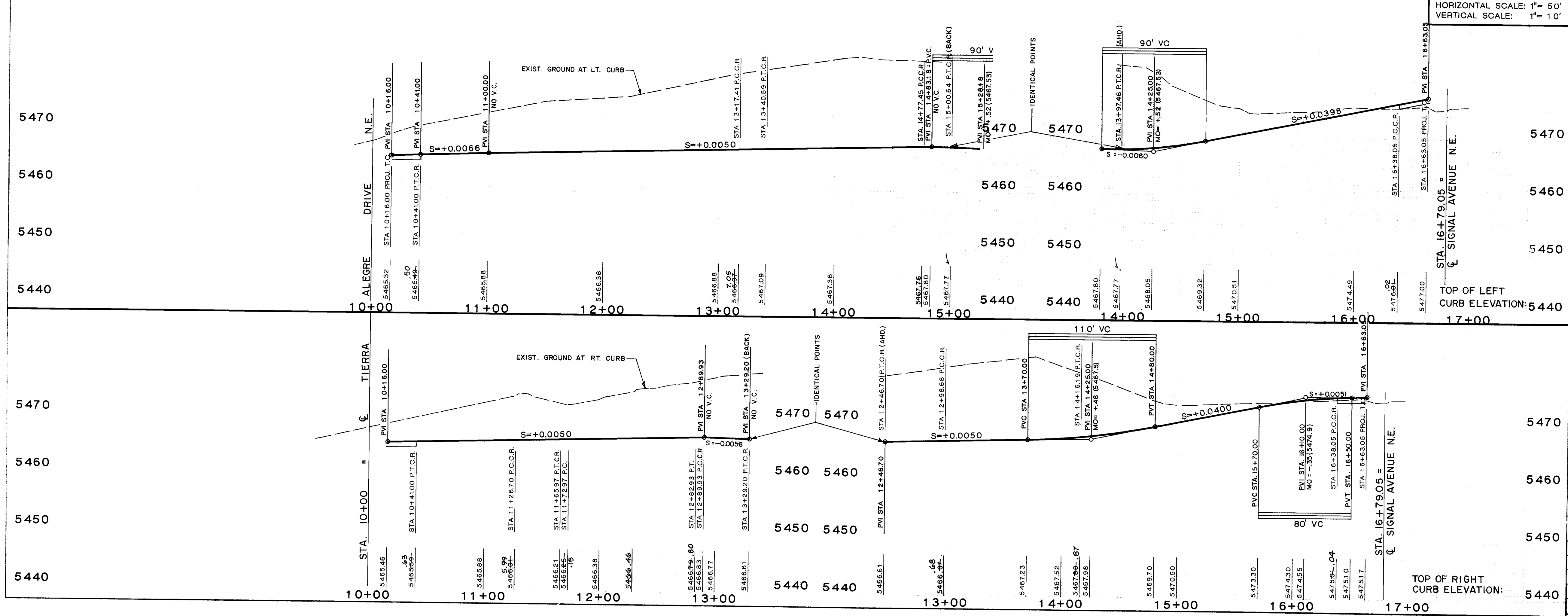
RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects.

Jeffrey G. Mortensen
N.M.P.E. No. 6547

07-09-92 Date

TIERRA LINDA PL. NE / TIERRA MONTANA PL. NE



- STREET PAVING IMPROVEMENTS
- ALL SLOPES AS SHOWN ON PROFILES ARE BASED ON STREET CENTERLINE STATIONING EXCEPT CUL-DE-SACS WHERE STATIONING IS ALONG FACE-OF-CURB.
 - WHERE REMOVAL OF EXISTING CURB AND GUTTER, SIDEWALK OR PAVEMENT IS REQUIRED, THE CONTRACTOR SHALL SAWCUT AND/OR REMOVE TO THE NEAREST JOINT. CURB AND GUTTER SHOWN AS EXISTING AND NOT TO BE REMOVED UNDER THIS CONTRACT WHICH IS DAMAGED OR DISPLACED BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
 - ALL DIMENSIONS OF CURB AND CURB RETURNS ARE SHOWN TO FACE-OF-CURB.
 - ALL SIDEWALK SHOWN HEREON SHALL BE CONSTRUCTED UNDER SEPARATE PERMIT (SIDEWALK DEFERRAL).
 - ALL WHEELCHAIR RAMPS MUST BE CONSTRUCTED UNDER THIS WORK ORDER.
 - ALL CURB AND GUTTER SHOWN HEREON SHALL BE STANDARD CURB AND GUTTER PER CITY OF ALBUQUERQUE STANDARD DRAWING 2415.

RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects.

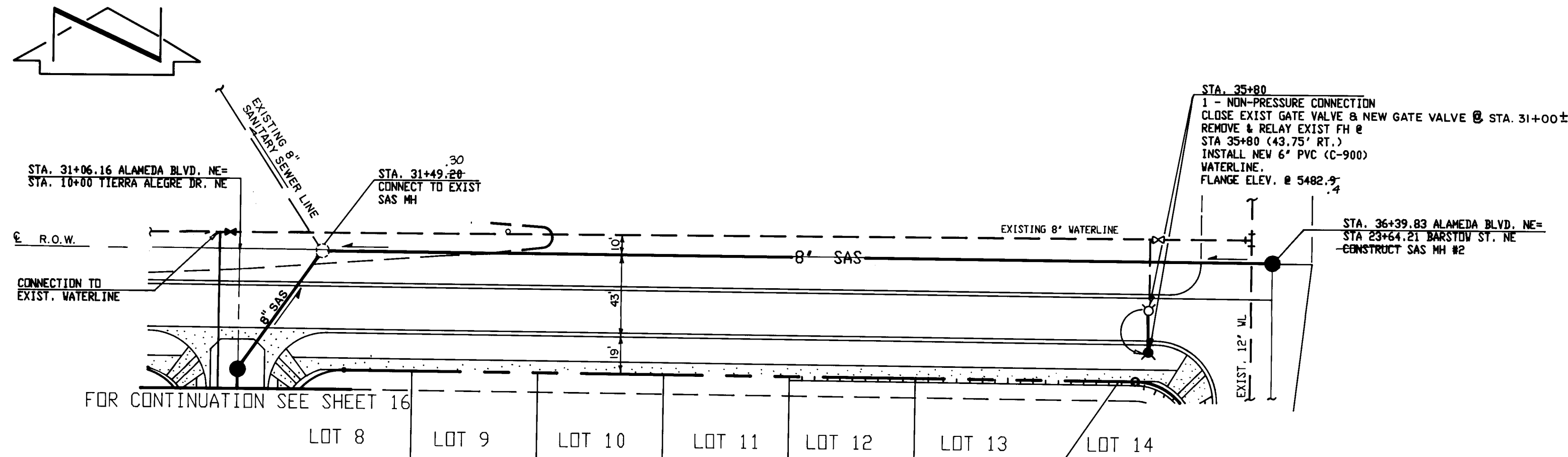
Jeffrey G. Mortensen
N.M.P.E. No. 6547

07-09-92 Date

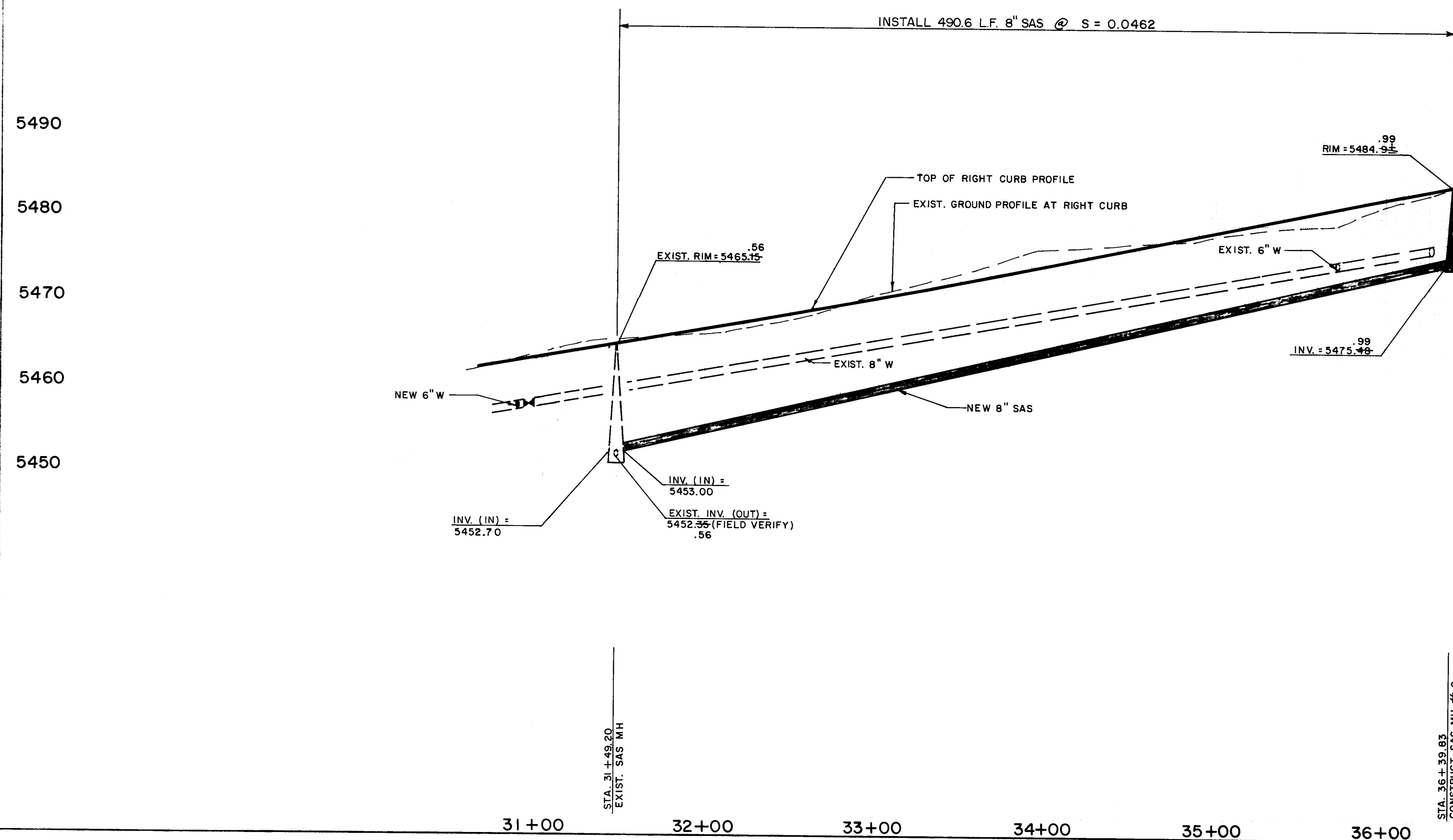
AS-BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL		REVISIONS		PROJECT INFORMATION	
NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE	PROJECT NO.	MAP NO.
1	7/91	1	7/91	1	7/91	1	7/91	1	7/91	4368.90	C-19
2	7/91	2	7/91	2	7/91	2	7/91	2	7/91	14	20
3	7/91	3	7/91	3	7/91	3	7/91	3	7/91		
4	7/91	4	7/91	4	7/91	4	7/91	4	7/91		
5	7/91	5	7/91	5	7/91	5	7/91	5	7/91		
6	7/91	6	7/91	6	7/91	6	7/91	6	7/91		
7	7/91	7	7/91	7	7/91	7	7/91	7	7/91		
8	7/91	8	7/91	8	7/91	8	7/91	8	7/91		
9	7/91	9	7/91	9	7/91	9	7/91	9	7/91		
10	7/91	10	7/91	10	7/91	10	7/91	10	7/91		
11	7/91	11	7/91	11	7/91	11	7/91	11	7/91		

PROJECT NO. 4368.90 MAP NO. C-19 SHEET 14 OF 20

RECORD DRAWING



ALAMEDA BOULEVARD NE



RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects.

Jeffrey G. Mortensen Date 07-09-92
NMP# NO. 8547

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'

SANITARY SEWER SYSTEM:

1. ALL STATIONING IS BASED ON STREET CENTERLINE UNLESS INDICATED OTHERWISE.
2. ALL SEWER PIPE SHALL BE PVC (SDR 35) OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER. VITRIFIED CLAY AND DUCTILE IRON ARE ACCEPTABLE PIPE MATERIALS IN LIEU OF PVC.
3. SLOPES SHOWN ON THE PROFILES ARE BASED ON TRUE DISTANCES.
4. ALL MANHOLES SHALL BE FOUR-FOOT DIAMETER TYPE "E" AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2102 UNLESS OTHERWISE NOTED.
5. SEWER SERVICE LATERALS SHALL BE PROVIDED WITH ELECTRONIC MARKER DISCS AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2125. EMD SHALL BE PROVIDED IN ACCORDANCE WITH THE STANDARD SPECIFICATION.
6. WHERE CONCRETE ENCASED SAS IS SPECIFIED, CONTRACTOR MAY SUBSTITUTE PRESSURE CLASS PIPE EXTENDING MANHOLE TO MANHOLE.

WATER DISTRIBUTION SYSTEM:

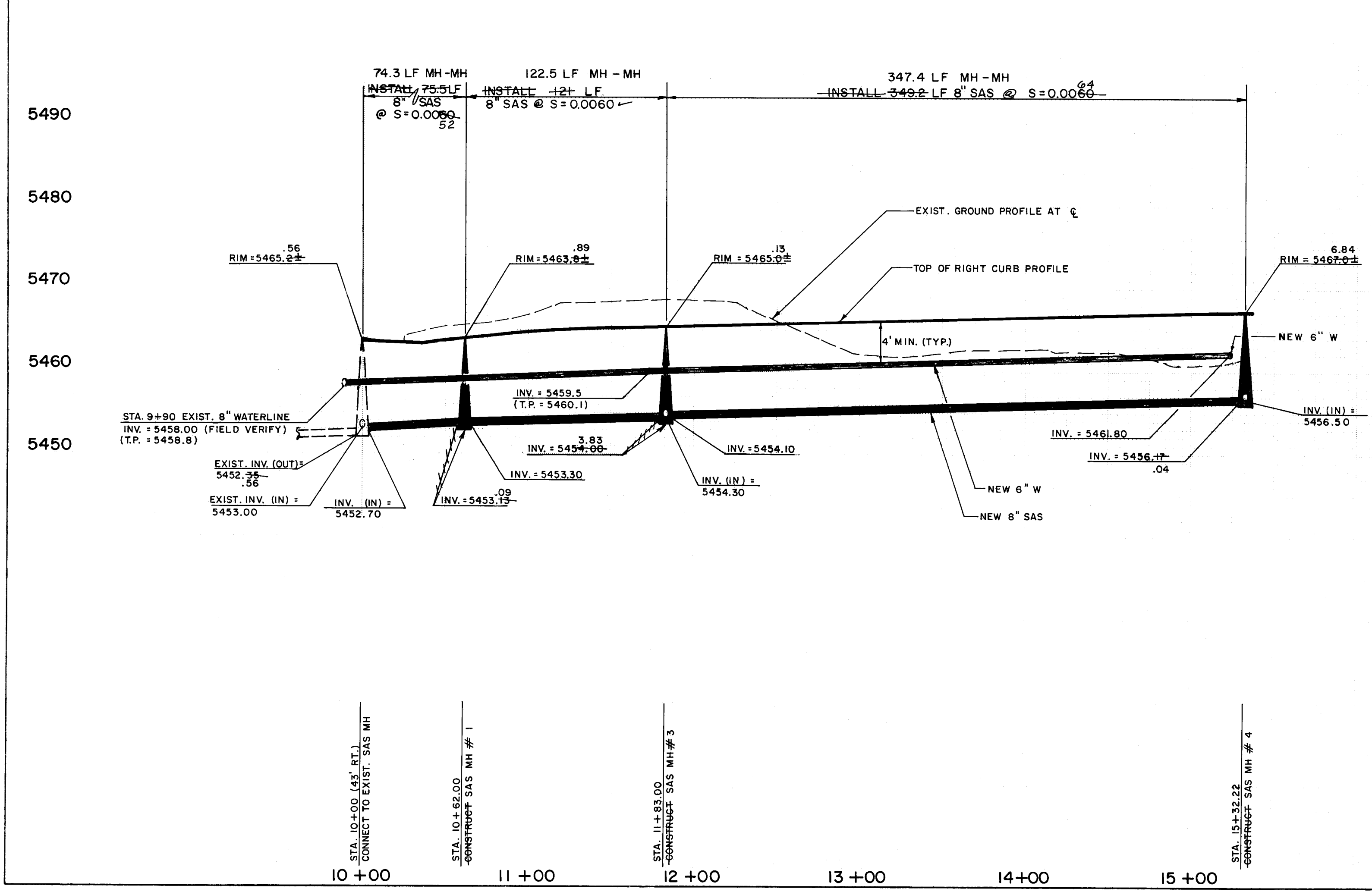
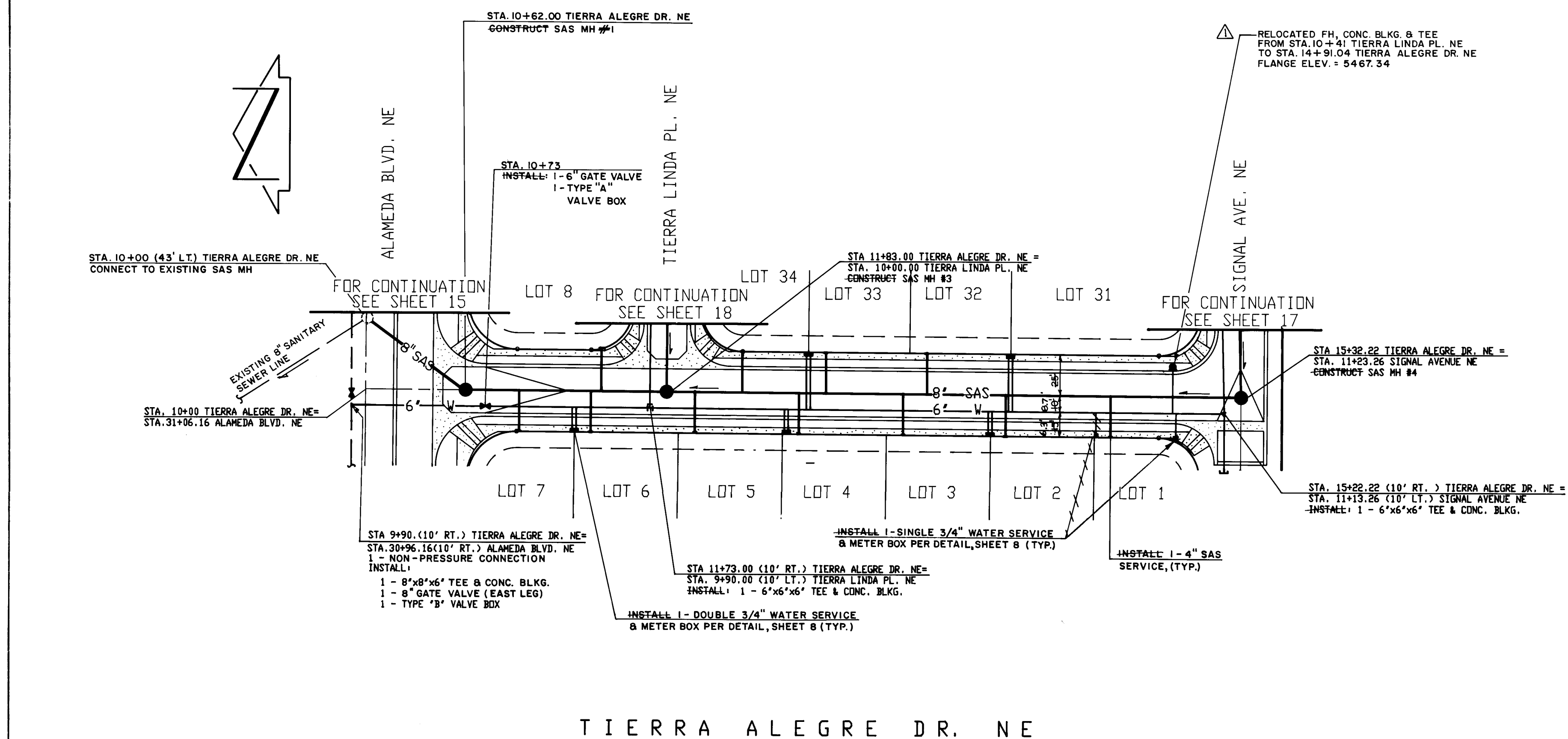
7. ALL STATIONING IS BASED ON STREET CENTERLINE.
8. FOR ALL LINES 12" AND SMALLER, WATER MAIN SHALL BE PVC C-900 PIPE OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER. FOR ALL LINES 12" AND LARGER, WATER MAIN SHALL BE CONCRETE CYLINDER OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER. DUCTILE IRON IS AN ACCEPTABLE PIPE MATERIAL IN LIEU OF PVC AND CONCRETE CYLINDER.
9. WATER LINE SHALL HAVE A MINIMUM COVER OF 4'0" (TOP OF CURB TO TOP OF PIPE).
10. ELECTRONIC MARKER DISCS (EMD) SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD SPECIFICATION.
11. IN ACCORDANCE WITH SECTION 801 OF THE "STANDARD SPECIFICATIONS", METALIZED DETECTABLE WARNING TAPE SHALL BE INSTALLED 18" ABOVE ALL PVC PIPE INSTALLED ON THIS PROJECT.
12. VALVE STEM AND FIRE HYDRANT EXTENSIONS SHALL BE PROVIDED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE COST OF EACH EXTENSION SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION THEREFORE NO SEPARATE PAYMENT WILL BE MADE.
13. JOINT RESTRAINT SHALL BE CONSIDERED INCIDENTAL TO WATERLINE CONSTRUCTION THEREFORE NO SEPARATE PAYMENT WILL BE MADE.

26 4368.90 1592

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE					
TIERRA LA CUEVA UNIT I WATER AND SANITARY SEWER EXTENSIONS ALAMEDA BOULEVARD NE.					
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRG. CHAIRMAN	Randy Shaw	12/23/91	WATER	W. Shaw	12-10-91
TRANSPORTATION	J. Shaw	12-18-91	WASTE WATER	W. Shaw	
HYDROLOGY	J. Shaw	12-18-91			
REVISIONS					
NO.	DATE	REMARKS	DESIGN	DATE	DATE
1	7/7/91		J.P.K.	7/7/91	
2	7/7/91		J.M.A.	7/7/91	
3	10/7/91		J.G.M.	10/7/91	
PROJECT NO. 4368.90 MAP NO. C-19 SHEET 15 OF 20					

RECORD DRAWING



RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects.

Jeffrey G. Mortensen
NMP# NO. 8547

07-09-92 Date

HORIZONTAL SCALE: 1"= 50'
VERTICAL SCALE: 1"= 10'

26 4368.90 1692

SANITARY SEWER SYSTEM:

- ALL STATIONING IS BASED ON STREET CENTERLINE UNLESS INDICATED OTHERWISE.
- ALL SEWER PIPE SHALL BE PVC (SDR 35) OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER. VITRIFIED CLAY AND DUCTILE IRON ARE ACCEPTABLE PIPE MATERIALS IN LIEU OF PVC.
- SLOPES SHOWN ON THE PROFILES ARE BASED ON TRUE DISTANCES.
- ALL MANHOLES SHALL BE FOUR-FOOT DIAMETER TYPE "E" AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2102 UNLESS OTHERWISE NOTED.
- SEWER SERVICE LATERALS SHALL BE PROVIDED WITH ELECTRONIC MARKER DISCS AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2125. EMD SHALL BE PROVIDED IN ACCORDANCE WITH THE STANDARD SPECIFICATION.
- WHERE CONCRETE ENCASED SAS IS SPECIFIED, CONTRACTOR MAY SUBSTITUTE PRESSURE CLASS PIPE EXTENDING MANHOLE TO MANHOLE.

WATER DISTRIBUTION SYSTEM:

- ALL STATIONING IS BASED ON STREET CENTERLINE.
- FOR ALL LINES 12" AND SMALLER, WATER MAIN SHALL BE PVC C-900 PIPE OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER. FOR ALL LINES 12" AND LARGER, WATER MAIN SHALL BE CONCRETE CYLINDER OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER. DUCTILE IRON IS AN ACCEPTABLE PIPE MATERIAL IN LIEU OF PVC AND CONCRETE CYLINDER.
- WATER LINE SHALL HAVE A MINIMUM COVER OF 4'0" (TOP OF CURB TO TOP OF PIPE).
- ELECTRONIC MARKER DISCS (EMD) SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD SPECIFICATION.
- IN ACCORDANCE WITH SECTION 801 OF THE "STANDARD SPECIFICATIONS", METALIZED DETECTABLE WARNING TAPE SHALL BE INSTALLED 18" ABOVE ALL PVC PIPE INSTALLED ON THIS PROJECT.
- VALVE STEM AND FIRE HYDRANT EXTENSIONS SHALL BE PROVIDED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE COST OF EACH EXTENSION SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION THEREFORE NO SEPARATE PAYMENT WILL BE MADE.
- JOINT RESTRAINT SHALL BE CONSIDERED INCIDENTAL TO WATERLINE CONSTRUCTION THEREFORE NO SEPARATE PAYMENT WILL BE MADE.

REVISIONS

NO.	DATE	REMARKS
1	7/91	DESIGN
2	7/91	DESIGN
3	10/91	DESIGN

APPROVALS

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRC CHAIRMAN	Royce	12-23-91	WATER	W. Allen	12-18-91
TRANSPORTATION	R. Allen	12-18-91	WASTE WATER		
HYDROLOGY	R. Allen	12-18-91			

PROJECT NO. 4368.90

MAP NO. C - 19

SHEET 16 OF 20

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP

TITLE

TIERRA LA CUEVA UNIT 1 WATER AND SANITARY SEWER EXTENSIONS TIERRA ALEGRE DRIVE N.E.

ENGINEER'S SEAL

JEFFREY G. MORTENSEN
NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER
8547

12-07-91

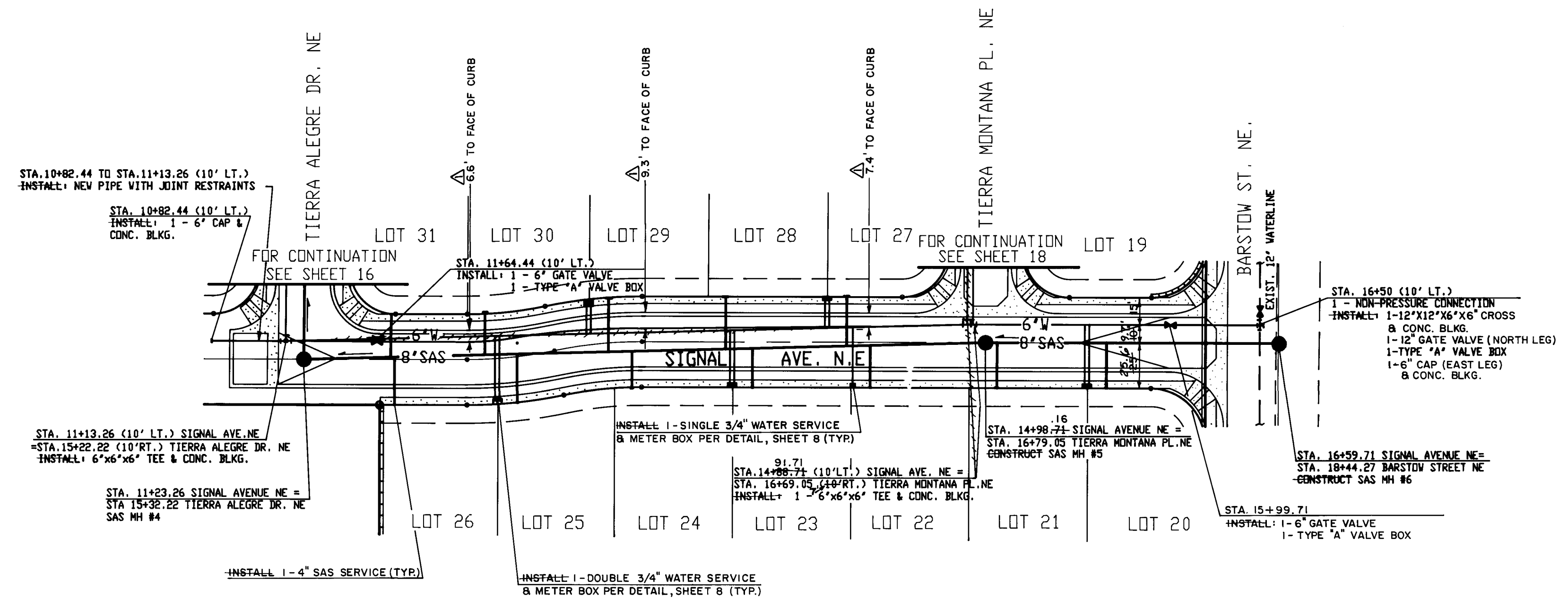
AS-BUILT INFORMATION

DATE	BY	NO.
6/91	JMA	N/A

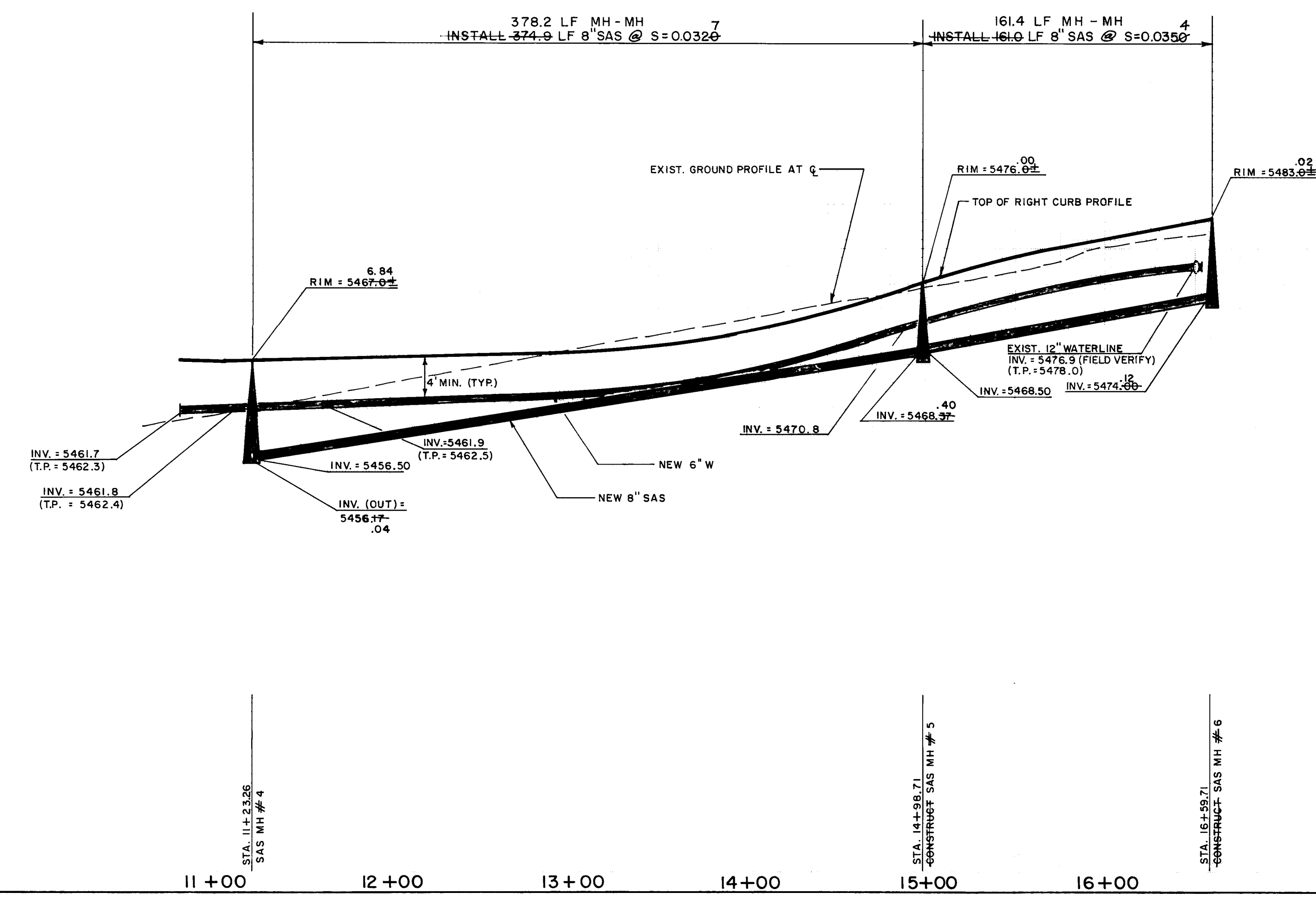
REVISIONS

NO.	DATE	REMARKS
1	7/91	DESIGN
2	7/91	DESIGN
3	10/91	DESIGN

RECORD DRAWING



SIGNAL AVENUE NE



RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects.

Jeffrey G. Mortensen
ENGINEER NO. 8547

07-09-92
Date

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'

SANITARY SEWER SYSTEM:

- ALL STATIONING IS BASED ON STREET CENTERLINE UNLESS INDICATED OTHERWISE.
- ALL SEWER PIPE SHALL BE PVC (SDR 35) OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER. VITRIFIED CLAY AND DUCTILE IRON ARE ACCEPTABLE PIPE MATERIALS IN LIEU OF PVC.
- SLOPES SHOWN ON THE PROFILES ARE BASED ON TRUE DISTANCES.
- ALL MANHOLES SHALL BE FOUR-FOOT DIAMETER TYPE "E" AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2102 UNLESS OTHERWISE NOTED.
- SEWER SERVICE LATERALS SHALL BE PROVIDED WITH ELECTRONIC MARKER DISCS AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2125. EMD SHALL BE PROVIDED IN ACCORDANCE WITH THE STANDARD SPECIFICATION.
- WHERE CONCRETE ENCASED SAS IS SPECIFIED, CONTRACTOR MAY SUBSTITUTE PRESSURE CLASS PIPE EXTENDING MANHOLE TO MANHOLE.

WATER DISTRIBUTION SYSTEM:

- ALL STATIONING IS BASED ON STREET CENTERLINE.
- FOR ALL LINES 12" AND SMALLER, WATER MAIN SHALL BE PVC C-900 PIPE OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER. FOR ALL LINES 12" AND LARGER, WATER MAIN SHALL BE CONCRETE CYLINDER OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER. DUCTILE IRON IS AN ACCEPTABLE PIPE MATERIAL IN LIEU OF PVC AND CONCRETE CYLINDER.
- WATER LINE SHALL HAVE A MINIMUM COVER OF 4'0" (TOP OF CURB TO TOP OF PIPE).
- ELECTRONIC MARKER DISCS (EMD) SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD SPECIFICATION.
- IN ACCORDANCE WITH SECTION 801 OF THE "STANDARD SPECIFICATIONS", METALIZED DETECTABLE WARNING TAPE SHALL BE INSTALLED 18" ABOVE ALL PVC PIPE INSTALLED ON THIS PROJECT.
- VALVE STEM AND FIRE HYDRANT EXTENSIONS SHALL BE PROVIDED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE COST OF EACH EXTENSION SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION THEREFORE NO SEPARATE PAYMENT WILL BE MADE.
- JOINT RESTRAINT SHALL BE CONSIDERED INCIDENTAL TO WATERLINE CONSTRUCTION THEREFORE NO SEPARATE PAYMENT WILL BE MADE.

SCHEDULE OF SANITARY SEWER SERVICES

LOT	STATION	INV. @ P.I.
20	15+64.71	5476.0 75.6
21	14+99.71	5472.8 72.7
22	14+34.71	5469.0 69.1
23	13+69.71	5466.6 66.3
24	13+02.91	5464.9
25	12+38.23	5464.2 63.7
26	11+75.00	5463.0 62.2
27	14+21.52	5468.4 68.3
28	13+56.02	5465.7 65.6
29	12+93.33	5464.4 64.5
30	12+22.90	5464.1 64.0
31	11+73.48	5463.9 62.8

SCHEDULE OF WATER SERVICES/METER BOXES

LOT	STATION	TYPE
20/21	15+54.71	DOUBLE
22	14+24.71	SINGLE
23/24	13+59.71	DOUBLE
25/26	12+28.23	DOUBLE
27/28	14+11.52	DOUBLE
29/30	12+83.33	DOUBLE

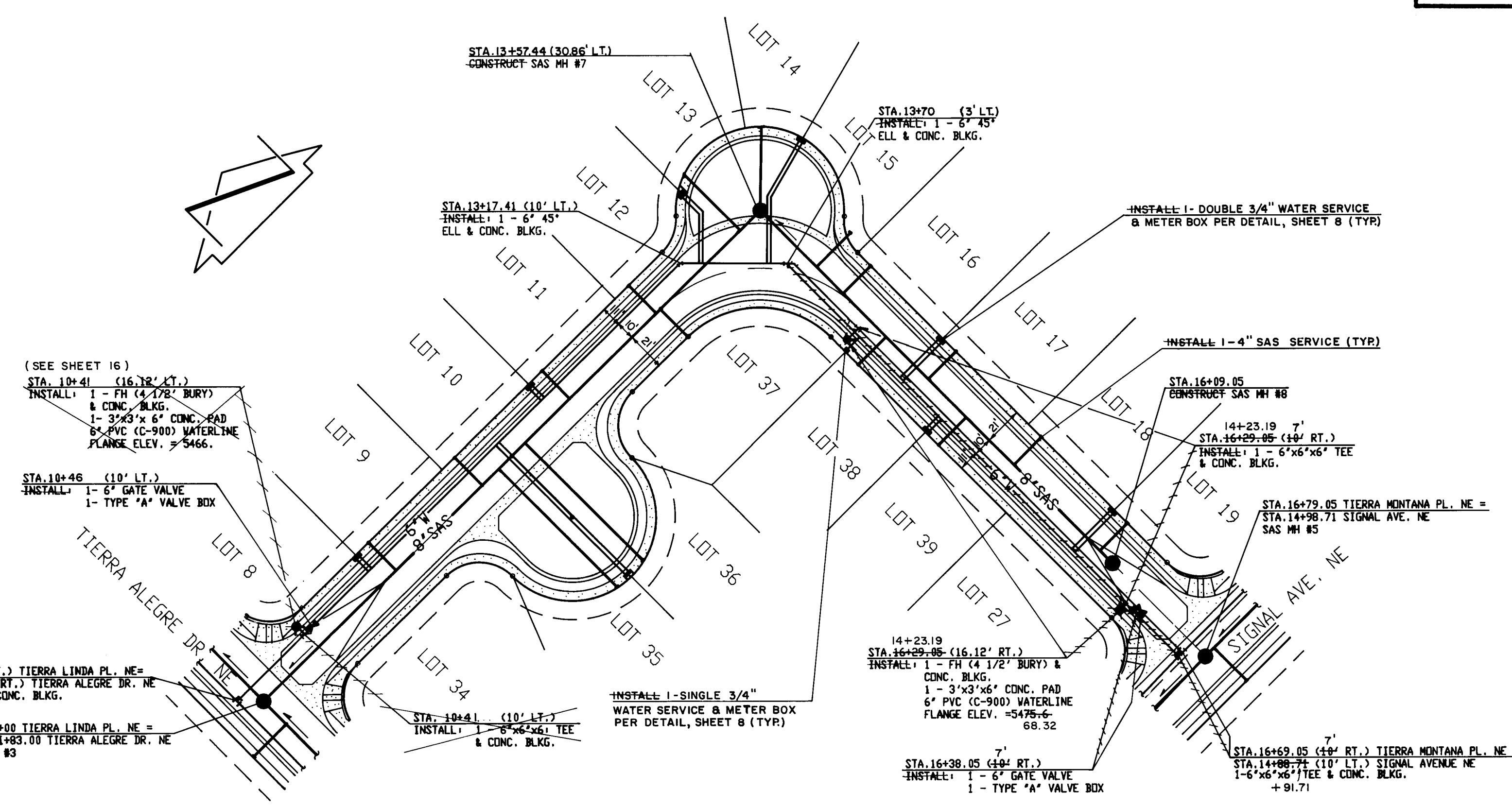
CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP

TITLE TIERRA LA CUEVA UNIT I WATER AND SANITARY SEWER EXTENSIONS SIGNAL AVENUE NE.

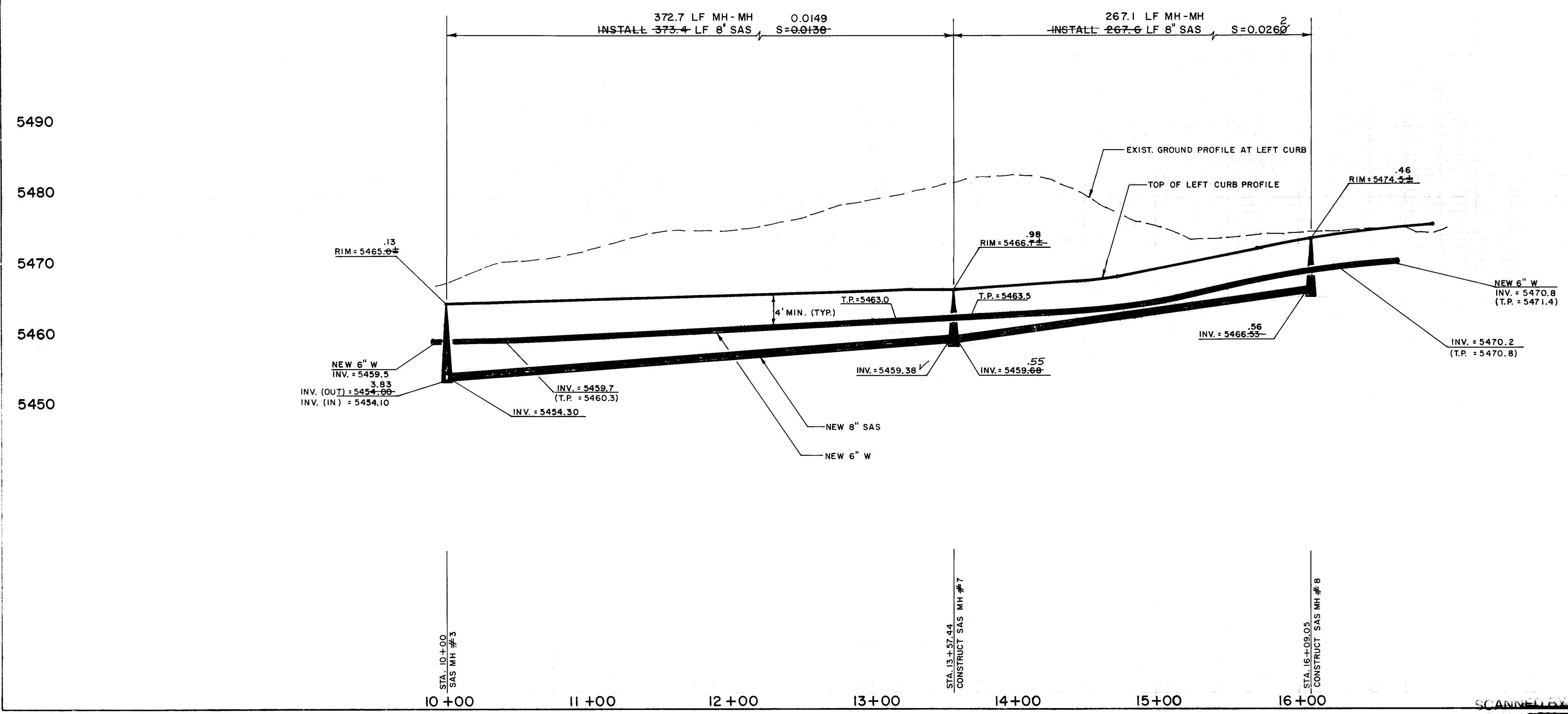
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRG CHAIRMAN	Robert J. Green	02/23/91	WATER	Alfredo	12-18-91
TRANSPORTATION	John J. Smith	12-18-91	WASTE WATER	AND	"
HYDROLOGY	John J. Smith	12-18-91			

PROJECT NO. 4368.90 **MAP NO. C - 19** **SHEET 17 OF 20**

RECORD DRAWING



TIERRA LINDA PL. NE & TIERRA MONTANA PL. NE



RECORD DRAWING

I, Jeffrey G. Mortensen, Registered Professional Engineer in the State of New Mexico, do hereby certify that this "as-built" information was obtained by me or under my supervision and represents the "as-built" conditions of this project, and is true and correct to the best of my knowledge and belief. All vertical and horizontal dimensions should be field verified prior to use on future projects.

Jeffrey G. Mortensen
NMPE NO. 8547

07-09-92
Date

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'

- SANITARY SEWER SYSTEM:**
1. ALL STATIONING IS BASED ON STREET CENTERLINE UNLESS INDICATED OTHERWISE.
 2. ALL SEWER PIPE SHALL BE PVC (SDR 35) OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER. VITRIFIED CLAY AND DUCTILE IRON ARE ACCEPTABLE PIPE MATERIALS IN LIEU OF PVC.
 3. SLOPES SHOWN ON THE PROFILES ARE BASED ON TRUE DISTANCES.
 4. ALL MANHOLES SHALL BE FOUR-FOOT DIAMETER TYPE "E" AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2102 UNLESS OTHERWISE NOTED.
 5. SEWER SERVICE LATERALS SHALL BE PROVIDED WITH ELECTRONIC MARKER DISCS AS PER CITY OF ALBUQUERQUE STANDARD DRAWING 2125. EMD SHALL BE PROVIDED IN ACCORDANCE WITH THE STANDARD SPECIFICATION.
 6. WHERE CONCRETE ENCASED SAS IS SPECIFIED, CONTRACTOR MAY SUBSTITUTE PRESSURE CLASS PIPE EXTENDING MANHOLE TO MANHOLE.
- WATER DISTRIBUTION SYSTEM:**
7. ALL STATIONING IS BASED ON STREET CENTERLINE.
 8. FOR ALL LINES 12" AND SMALLER, WATER MAIN SHALL BE PVC C-900 PIPE OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER. FOR ALL LINES 12" AND LARGER, WATER MAIN SHALL BE CONCRETE CYLINDER OR AS APPROVED BY THE CITY OF ALBUQUERQUE CITY ENGINEER. DUCTILE IRON IS AN ACCEPTABLE PIPE MATERIAL IN LIEU OF PVC AND CONCRETE CYLINDER.
 9. WATER LINE SHALL HAVE A MINIMUM COVER OF 4'0" (TOP OF CURB TO TOP OF PIPE).
 10. ELECTRONIC MARKER DISCS (EMD) SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD SPECIFICATION.
 11. IN ACCORDANCE WITH SECTION 801 OF THE "STANDARD SPECIFICATIONS", METALIZED DETECTABLE WARNING TAPE SHALL BE INSTALLED 18" ABOVE ALL PVC PIPE INSTALLED ON THIS PROJECT.
 12. VALVE STEM AND FIRE HYDRANT EXTENSIONS SHALL BE PROVIDED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE COST OF EACH EXTENSION SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION THEREFORE NO SEPARATE PAYMENT WILL BE MADE.
 13. JOINT RESTRAINT SHALL BE CONSIDERED INCIDENTAL TO WATERLINE CONSTRUCTION THEREFORE NO SEPARATE PAYMENT WILL BE MADE.

SCHEDULE OF SANITARY SEWER SERVICES

LOT	STATION	INV. @ P.L.
9	11+00.00	5462-2 62.5
10	11+65.00	5462-5 62.3
11	12+30.00	5462-8 61.6
12	12+95.00	5463-1 62.8
13	AS SHOWN	5463-5 63.1
14	AS SHOWN	5463-7 62.7
15	AS SHOWN	5464-1 63.0
16	14+09.34	5464-0 63.5
17	14+69.05	5465-7 65.0
18	15+34.05	5466-3 67.0
19	15+99.05	5470-9 69.7
35	11+76.70	5462-9 62.5
36	11+96.70	5462.9
37	12+98.68	5463-2 63.1
38	14+37.31	5464-9 64.8
39	14+98.18	5466-9 66.6

SCHEDULE OF WATER SERVICES/METER BOXES

LOT	STATION	TYPE
8/9	10+90.00	DOUBLE
10/11	12+20.00	DOUBLE
12/13	AS SHOWN	DOUBLE
14/15	AS SHOWN	DOUBLE
16/17	14+59.05	DOUBLE
18/19	15+89.05	DOUBLE
35/36	11+86.70	DOUBLE
37	14+27.31	SINGLE
38/39	14+88.18	DOUBLE

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

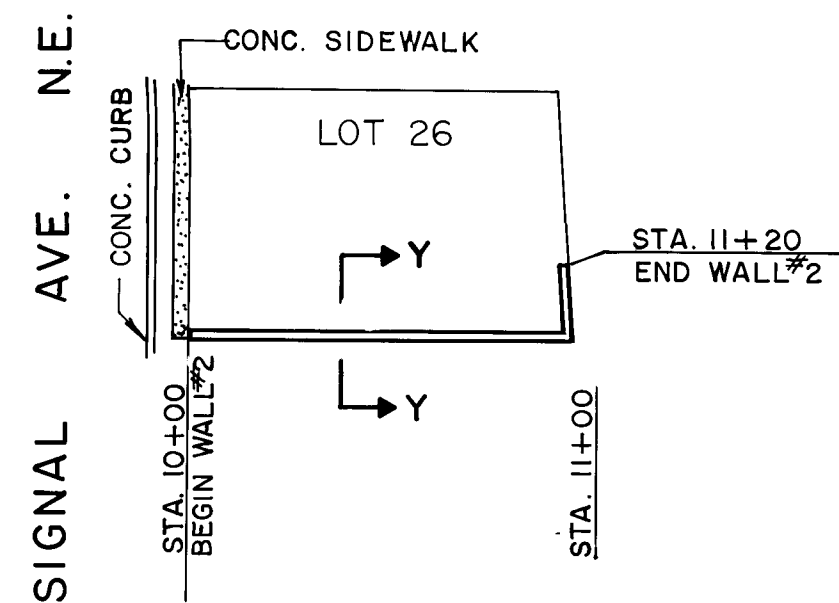
TITLE: TIERRA LA CUEVA UNIT I
WATER AND SANITARY SEWER EXTENSIONS
TIERRA LINDA PLACE N.E. / TIERRA MONTANA PLACE N.E.

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRG CHAIRMAN	<i>Randy Shaw</i>	07/23/91	WATER	<i>W. Shaw</i>	12-18-91
TRANSPORTATION	<i>Jeffrey G. Mortensen</i>	12-18-91	WASTE WATER	<i>W. Shaw</i>	"
HYDROLOGY	<i>W. Shaw</i>	12-18-91			

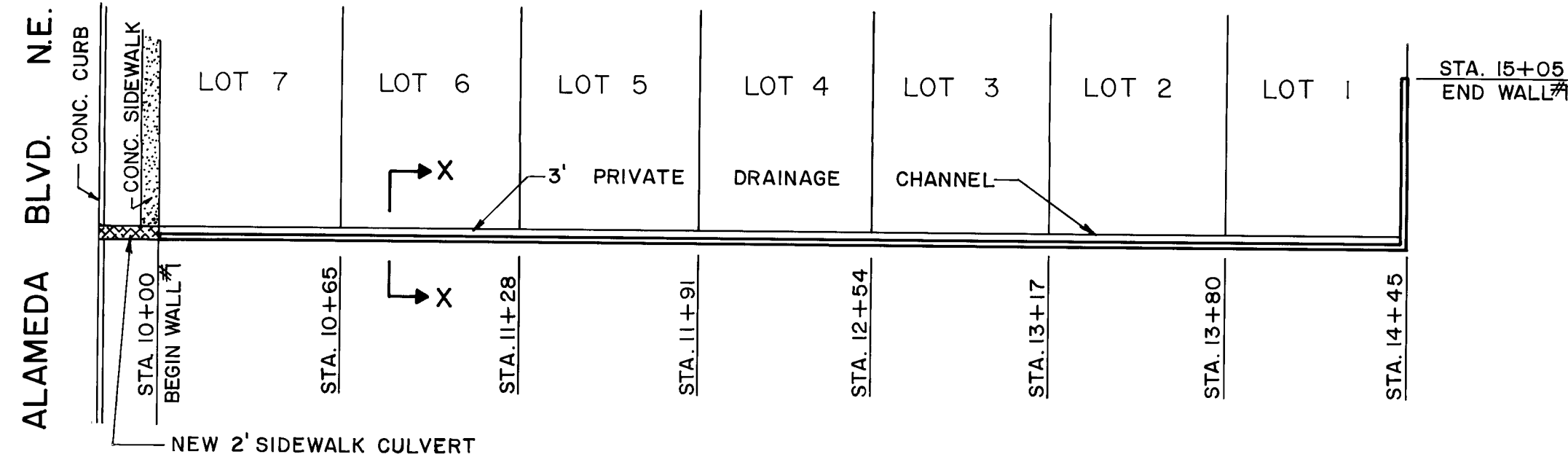
PROJECT NO. 4368.90 MAP NO. C - 19 SHEET 18 OF 20



RECORD DRAWING

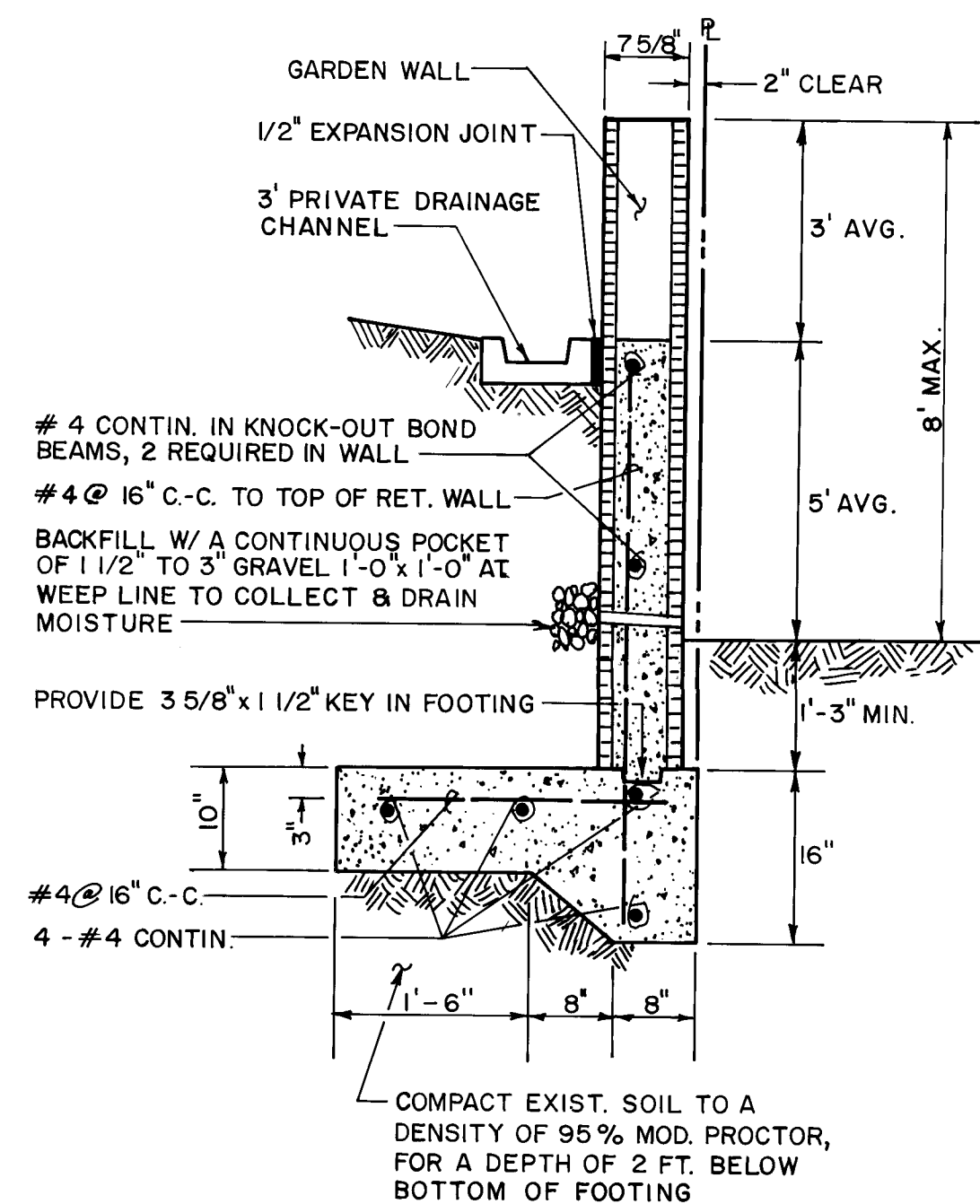


WALL #2

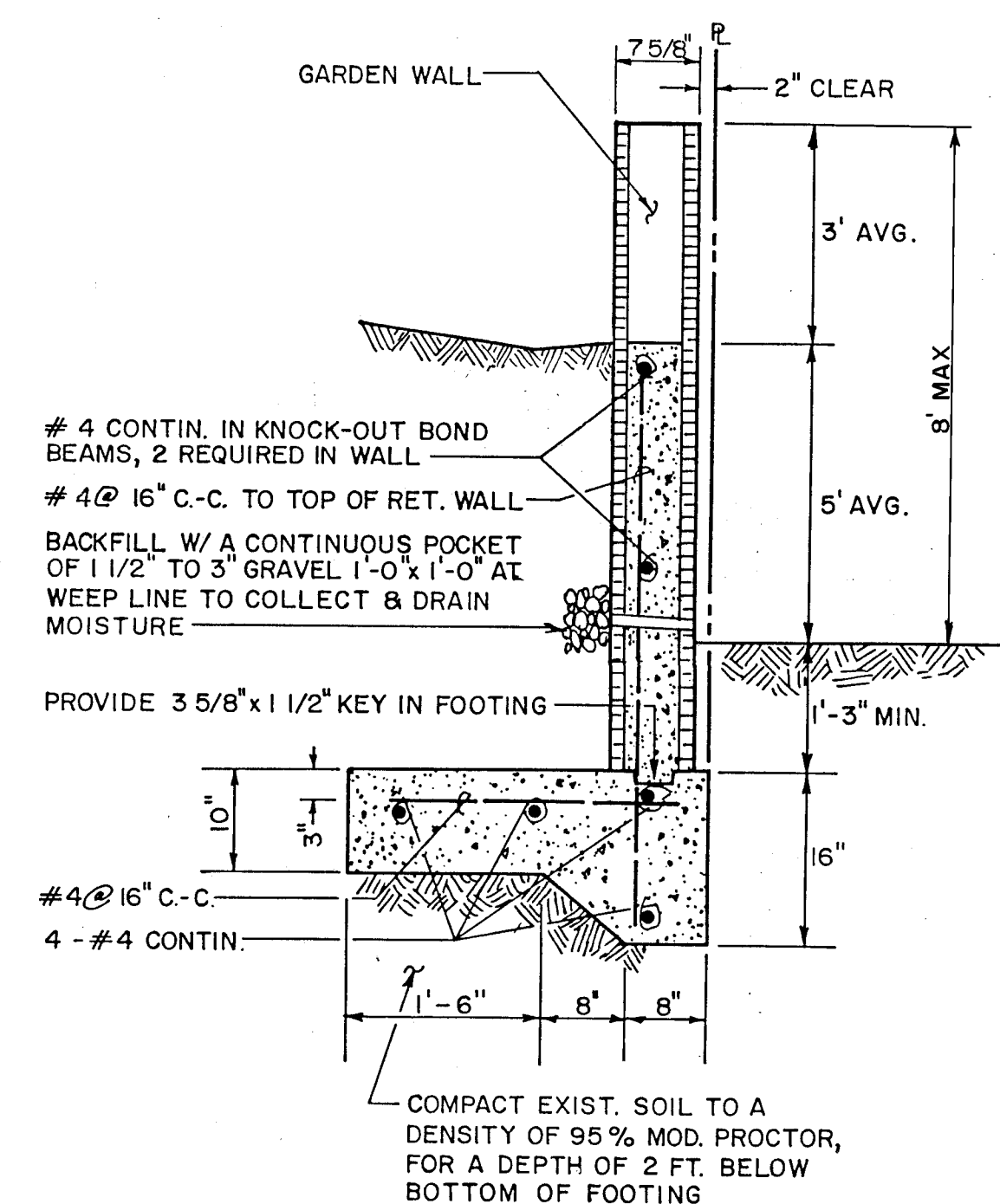


WALL #1

HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=5'



SECTION X-X
SCALE: 3/4"=1'-0"



SECTION Y-Y
SCALE: 3/4"=1'-0"

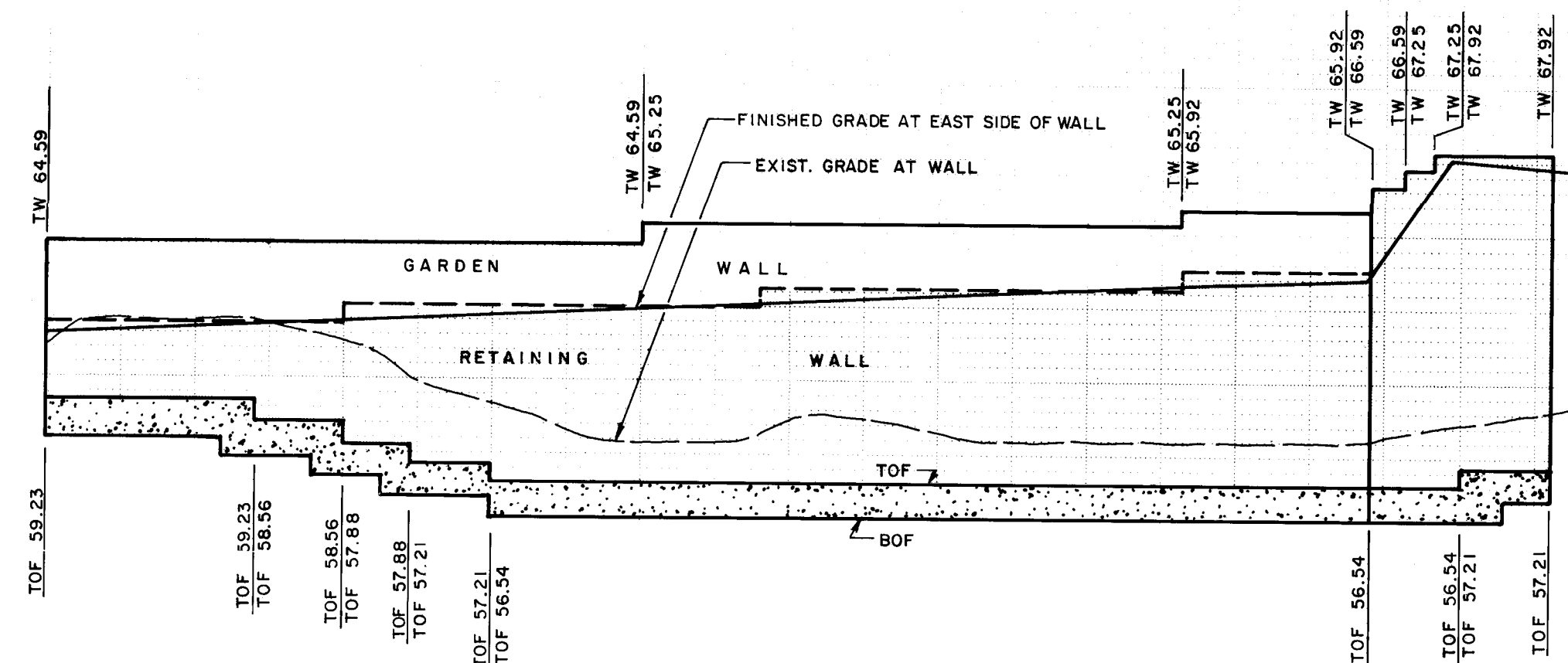
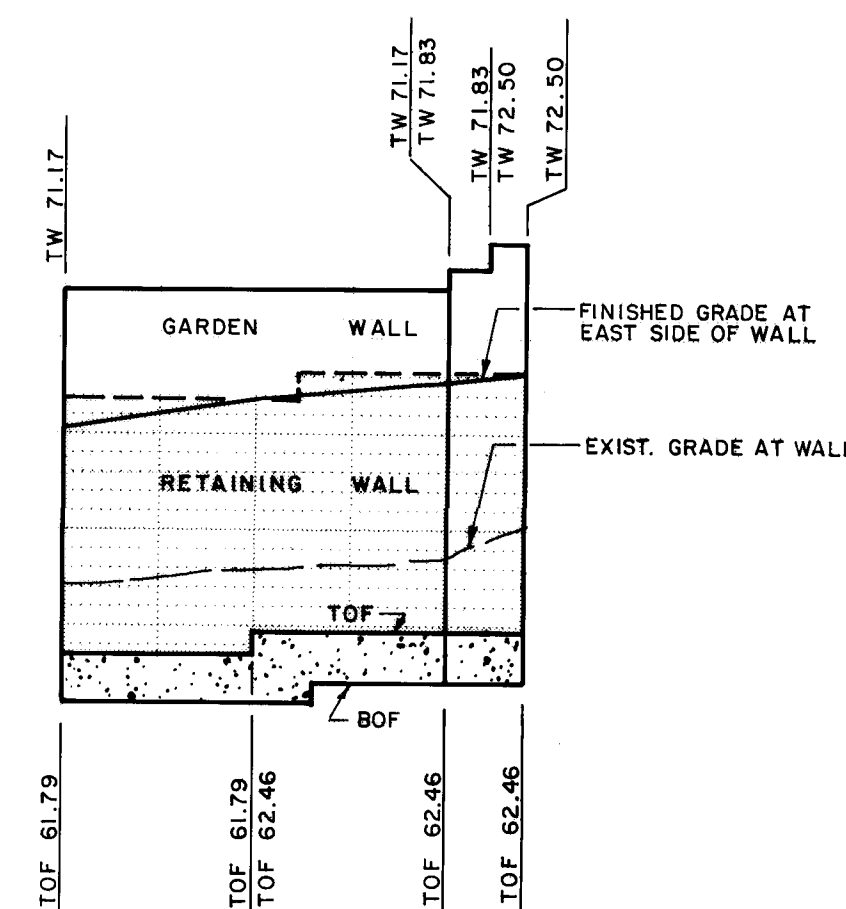
5475

5470

5465

5460

5455



5475

5470

5465

5460

5455

LEGEND
TW TOP OF WALL
TOF TOP OF FOOTING
BOF BOTTOM OF FOOTING

NOTES:

- 8"x8"x16" CMU OF UBC STD. 24-4 OR 24-5.
- USE KNOCK-OUT BOND BEAM BLOCK AT 4'-0" C.C., VERTICALLY, AND 1/4" CONTINUOUS.
- FILL ALL BLOCK VOIDS WITH 3000 PSI CONCRETE.
- REINFORCING TO BE INTERMEDIATE GRADE STEEL. $f_s = 20,000$ psi
- INSTALL DUR-O-WALL REINFORCING EVERY SECOND COURSE.
- SPLICE SHALL BE 40 BAR DIAM. MINIMUM FOR VERTICAL BARS. ALL OTHERS SHALL BE 20 BAR DIAM., MINIMUM.
- CONCRETE FILL SHALL BE 21 DAYS OLD PRIOR TO BACKFILLING.

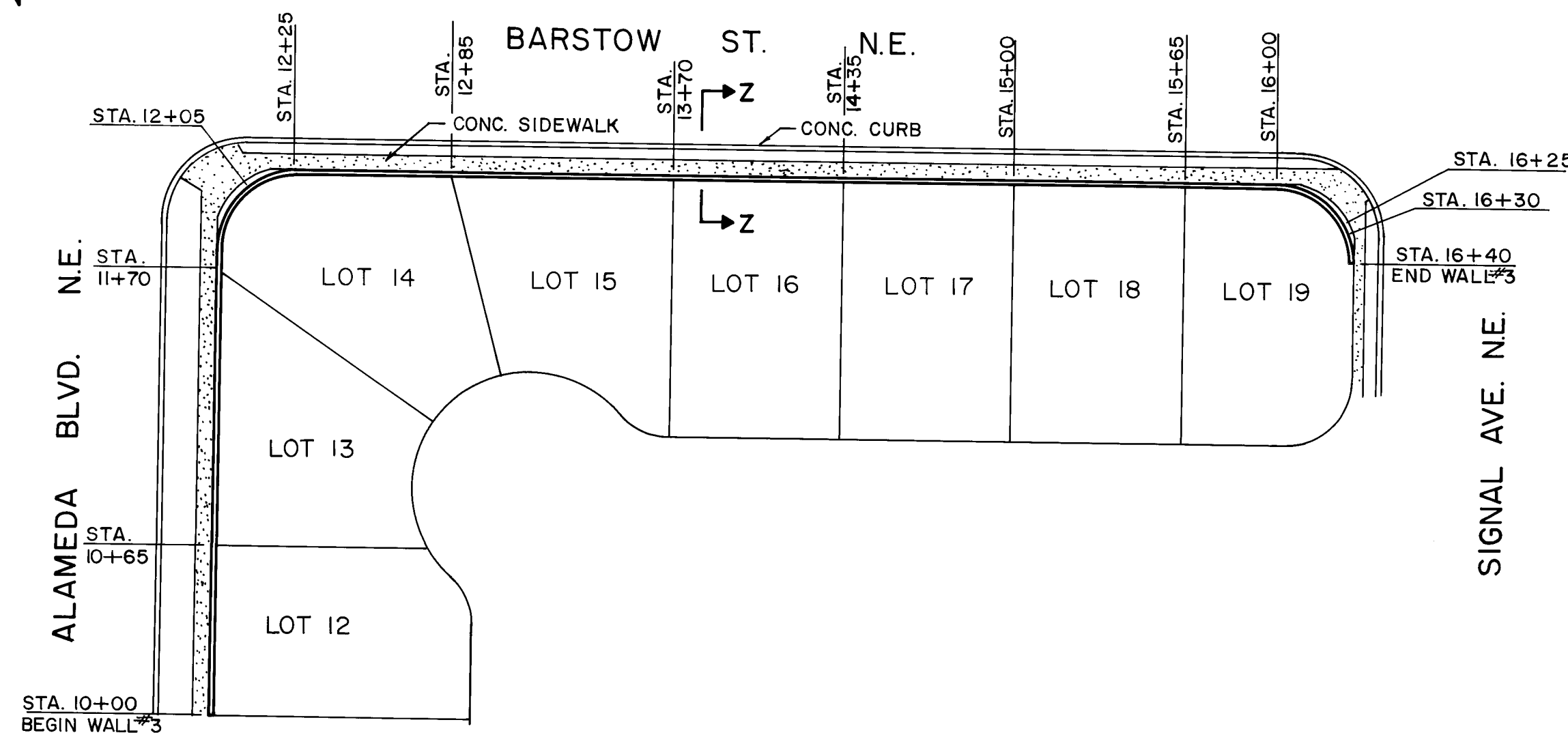
26 4368.90/992

ENGINEER'S SEAL	BY	DATE
JHW	JHW	12/91
REVISIONS	REMARKS	DESIGN
NO	DATE	DESIGNED BY
		DRAWN BY
		CHECKED BY
		J.G.M.

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP			
TITLE: TIERRA LA CUEVA UNIT 1 RETAINING WALLS WALLS #1 & 2 PLAN & PROFILE			
APPROVALS	ENGINEER	DATE	APPROVALS
DRC CHAIRMAN	R. J. J. J.	12/91	WATER
TRANSPORTATION	J. J. J.	12/91	WASTE WATER
HYDROLOGY	J. J. J.	12/91	
PROJECT NO.	4368.90	MAP NO.	C-19
SHEET	19	OF	20

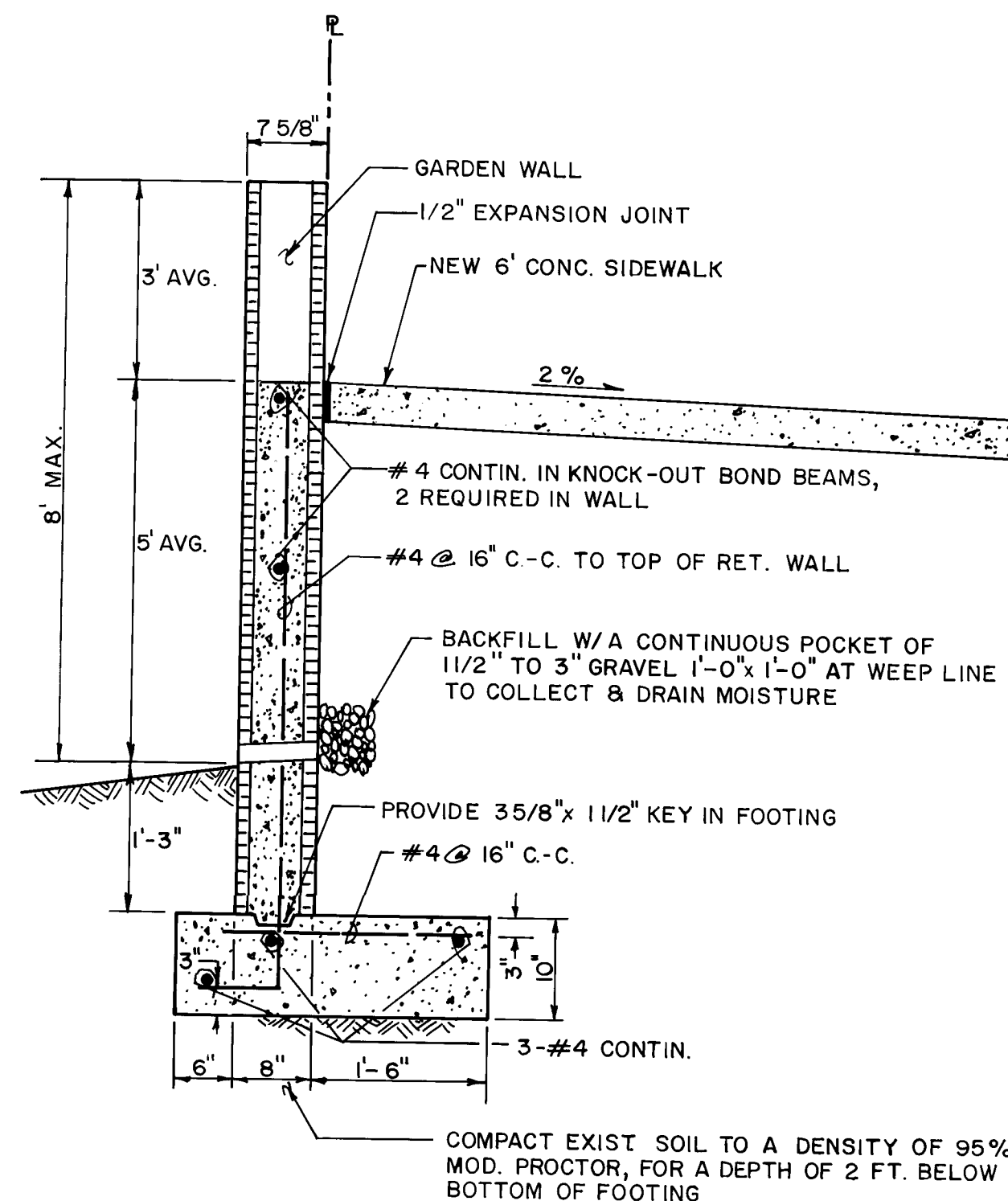
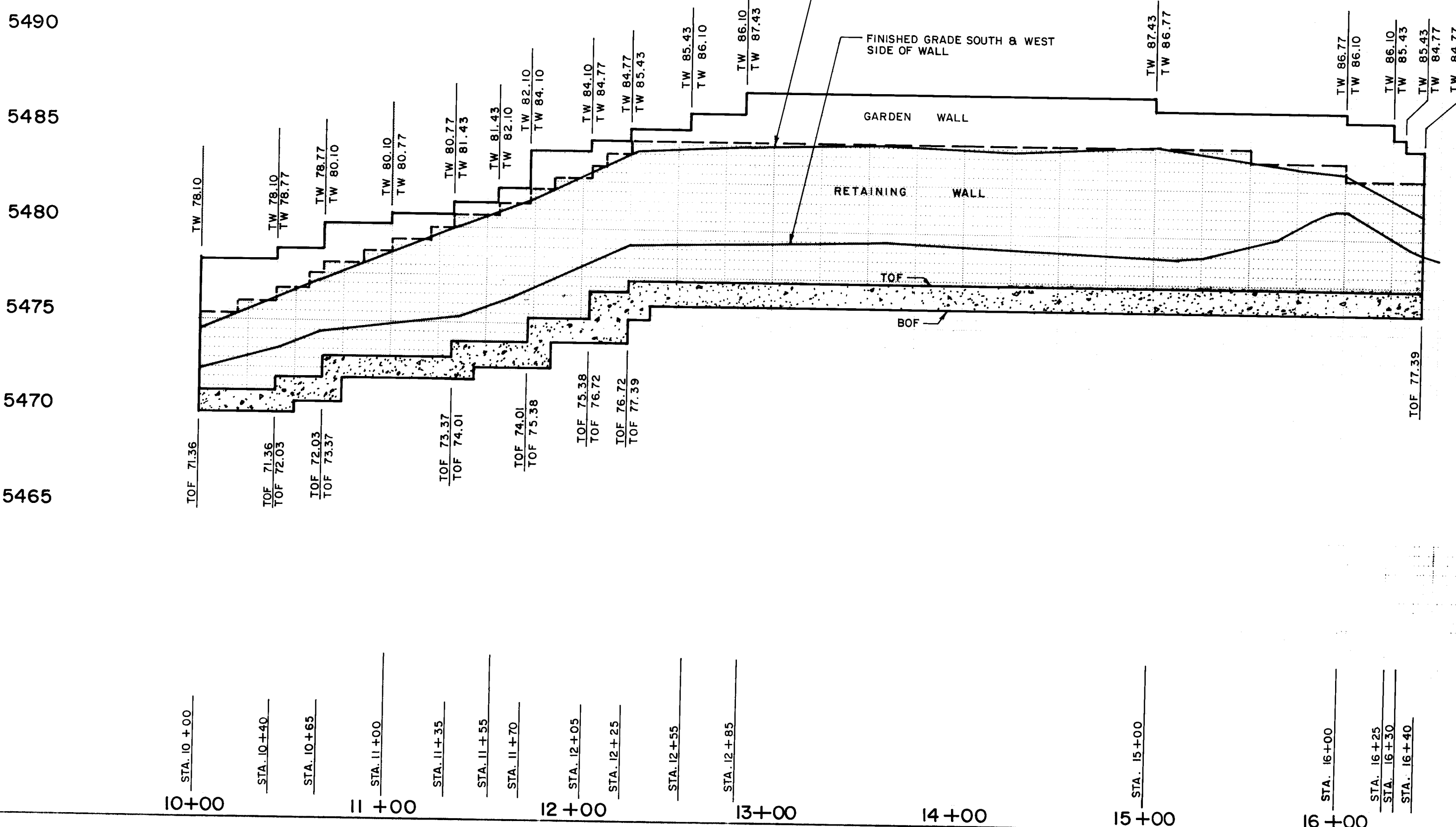


RECORD DRAWING



WALL #3

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



SECTION Z-Z
SCALE: 3/4" = 1'-0"

LEGEND
TW TOP OF WALL
TOF TOP OF FOOTING
BOF BOTTOM OF FOOTING

NOTES:

- 8"x8"x16" CMU OF UBC STD. 24-4 OR 24-5.
- USE KNOCK-OUT BOND BEAM BLOCK AT 4'-0" C.C., VERTICALLY, AND 1#4 CONTINUOUS.
- FILL ALL BLOCK VOIDS WITH 3000 PSI CONCRETE.
- REINFORCING TO BE INTERMEDIATE GRADE STEEL. $f_s = 20,000$ psi
- INSTALL DUR-O-WALL REINFORCING EVERY SECOND COURSE.
- SPLICE SHALL BE 40 BAR DIAM. MINIMUM FOR VERTICAL BARS. ALL OTHERS SHALL BE 20 BAR DIAM., MINIMUM.
- CONCRETE FILL SHALL BE 21 DAYS OLD PRIOR TO BACKFILLING.

NO.	DATE	BY	REVISIONS	DATE	BY	REVISIONS
1	6/91	JMA	AS BUILT INFORMATION			
2			CITY OF ALBUQUERQUE BENCHMARK "HEAVEN" A STANDARD USC # 65 BRASS TABLET STAMPED "NEWBY 1969", SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND LOCATED AT THE ENTRANCE WAY TO THE "GATE OF HEAVEN" CEMETERY 0.15 MILE WEST OF THE INTERSECTION OF PASO DEL NORTE N.E. AND WYOMING BLVD. N.E. STATION IS LOCATED ON THE SOUTH SIDE OF PASO DEL NORTE			
3			ELEVATION: 5378.78 (M.S.L.D.)			

NO.	DATE	BY	REVISIONS	DATE	BY	REVISIONS
1	6/91	JMA	AS BUILT INFORMATION			
2			CITY OF ALBUQUERQUE BENCHMARK "HEAVEN" A STANDARD USC # 65 BRASS TABLET STAMPED "NEWBY 1969", SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND LOCATED AT THE ENTRANCE WAY TO THE "GATE OF HEAVEN" CEMETERY 0.15 MILE WEST OF THE INTERSECTION OF PASO DEL NORTE N.E. AND WYOMING BLVD. N.E. STATION IS LOCATED ON THE SOUTH SIDE OF PASO DEL NORTE			
3			ELEVATION: 5378.78 (M.S.L.D.)			

NO.	DATE	BY	REVISIONS	DATE	BY	REVISIONS
1	6/91	JMA	AS BUILT INFORMATION			
2			CITY OF ALBUQUERQUE BENCHMARK "HEAVEN" A STANDARD USC # 65 BRASS TABLET STAMPED "NEWBY 1969", SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND LOCATED AT THE ENTRANCE WAY TO THE "GATE OF HEAVEN" CEMETERY 0.15 MILE WEST OF THE INTERSECTION OF PASO DEL NORTE N.E. AND WYOMING BLVD. N.E. STATION IS LOCATED ON THE SOUTH SIDE OF PASO DEL NORTE			
3			ELEVATION: 5378.78 (M.S.L.D.)			

NO.	DATE	BY	REVISIONS	DATE	BY	REVISIONS
1	6/91	JMA	AS BUILT INFORMATION			
2			CITY OF ALBUQUERQUE BENCHMARK "HEAVEN" A STANDARD USC # 65 BRASS TABLET STAMPED "NEWBY 1969", SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND LOCATED AT THE ENTRANCE WAY TO THE "GATE OF HEAVEN" CEMETERY 0.15 MILE WEST OF THE INTERSECTION OF PASO DEL NORTE N.E. AND WYOMING BLVD. N.E. STATION IS LOCATED ON THE SOUTH SIDE OF PASO DEL NORTE			
3			ELEVATION: 5378.78 (M.S.L.D.)			

NO.	DATE	BY	REVISIONS	DATE	BY	REVISIONS
1	6/91	JMA	AS BUILT INFORMATION			
2			CITY OF ALBUQUERQUE BENCHMARK "HEAVEN" A STANDARD USC # 65 BRASS TABLET STAMPED "NEWBY 1969", SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND LOCATED AT THE ENTRANCE WAY TO THE "GATE OF HEAVEN" CEMETERY 0.15 MILE WEST OF THE INTERSECTION OF PASO DEL NORTE N.E. AND WYOMING BLVD. N.E. STATION IS LOCATED ON THE SOUTH SIDE OF PASO DEL NORTE			
3			ELEVATION: 5378.78 (M.S.L.D.)			

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE
TIERRA LA CUEVA UNIT I
RETAINING WALLS
WALL #3 PLAN & PROFILE

APPROVALS	ENGINEER	DATE	APPROVED	DATE
DRG CHAIRMAN	12/18/91			
TRANSPORTATION	12/18/91			
HYDROLOGY	12/18/91			

PROJECT NO.	4368.90	MAP NO.	C - 19	SHEET	20	OF	20
-------------	---------	---------	--------	-------	----	----	----