

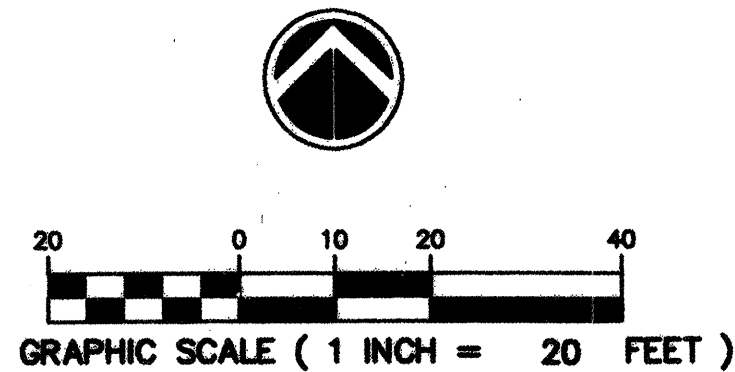








SCANNED BY PW



Lot 9, Block 2  
North Albuquerque Acres  
Tract 2, Unit 3  
(Filed 9/10/31, D1-20)

Lot 10, Block 2  
North Albuquerque Acres  
Tract 2, Unit 3  
(Filed 9/10/31, D1-20)

Lot 11, Block 2  
North Albuquerque Acres  
Tract 2, Unit 3  
(Filed 9/10/31, D1-20)

Lot 21-P1  
Stonebrook Estates  
(Filed 2/11/00, 2000C-51)

Lot 20-P1  
Stonebrook Estates  
(Filed 2/11/00, 2000C-51)

Lot 19-P1  
Stonebrook Estates  
(Filed 2/11/00, 2000C-51)

Lot 18-P1  
Stonebrook Estates  
(Filed 2/11/00, 2000C-51)

PK Nail in the  
face of wall with  
tag 7719

Existing 56" R/W

Storm Drain Manhole  
Rim Elevation 52.1  
18" Invert 46.0

Sanitary Sewer Manhole  
Rim Elevation 56.86  
8" Invert In 51.50  
8" Invert Out 51.40

Sanitary Sewer Manhole  
Rim Elevation 56.86  
8" Invert In 51.50  
8" Invert Out 51.40

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Sanitary Sewer Manhole  
Rim Elevation 56.86  
8" Invert In 51.50  
8" Invert Out 51.40

## DRAINAGE INFORMATION

### LOCATION & DESCRIPTION

THE PROPOSED SITE IS 0.90 ACRES LOCATED ON THE NORTH SIDE OF OAKLAND AVENUE APPROXIMATELY MIDWAY BETWEEN LOUISIANA BOULEVARD AND WYOMING BOULEVARD AS SEEN ON THE ATTACHED VICINITY MAP. THE SITE IS CURRENTLY UNDEVELOPED WITH A TYPICAL DEVELOPED ONE ACRE NORTH ALBUQUERQUE ACRES LOT TO THE EAST, UNDEVELOPED PROPERTY TO THE NORTH, AND HIGHER DENSITY WALLED COMMUNITIES TO THE SOUTH AND WEST. THE PROPOSED DEVELOPMENT WILL BE FIVE (5) SINGLE FAMILY RESIDENTIAL LOTS ON A CUL-DE-SAC.

### FLOODPLAIN STATUS

THIS PROJECT, AS SHOWN ON FEMA'S FLOOD INSURANCE RATE MAP 35001C0137 E, DATED APRIL 2, 2002 IS NOT WITHIN A DESIGNATED 100-YEAR FLOODPLAIN. AN EXHIBIT WITH THE SITE SHOWN ON THE FIRM PANEL IS INCLUDED ON THIS SHEET.

### METHODOLOGY

THE HYDROLOGY FOR THIS PROJECT WAS ANALYZED USING THE QUICK CALCULATIONS OF THE JUNE 1987 RELEASE OF THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, SECTION 22.2.

### PRECIPITATION

THE 100-YR 6-HR DURATION STORM WAS USED AS THE DESIGN STORM FOR THIS ANALYSIS. THIS SITE IS WITHIN ZONE 3 AS IDENTIFIED IN THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL, SECTION 22.2. TABLES WITHIN THIS SECTION WAS USED TO ESTABLISH THE 6-HOUR PRECIPITATION, EXCESS PRECIPITATION, AND PEAK DISCHARGE.

### EXISTING DRAINAGE

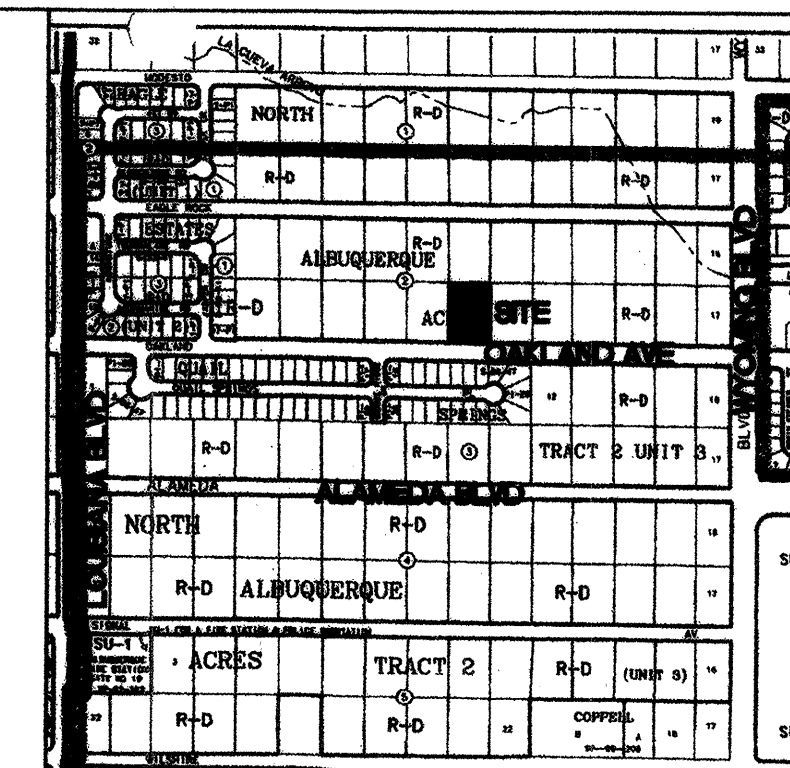
THIS SITE IS LOCATED WITH THE NORTH BOUNDARY AT THE NATURAL HIGH POINT WITH THE PROPERTY TO THE NORTH OF THE SITE DRAINING AWAY FROM THE PROPERTY AND THIS SITE DRAINING SOUTH TO OAKLAND AVENUE. THE NORTH ALBUQUERQUE ACRE LOT TO THE EAST IS ALREADY DEVELOPED WITH APPROXIMATELY THREE QUARTERS OF IT DRAINING TO OAKLAND AVENUE AND THE NORTHWEST QUARTER DRAINING ONTO THIS PROPERTY. THIS OFFSITE BASIN IS IDENTIFIED ON THE GRADING PLAN ON THIS SHEET AND IS DEVELOPED WITH APPROXIMATELY 50% TYPE C AND 50% TYPE D LAND TREATMENTS. THE SOUTH HALF OF OAKLAND AVENUE HAS BEEN CONSTRUCTED ADJACENT TO THIS PROPERTY AND THE FULL 36' STREET SECTION HAS BEEN CONSTRUCTED WEST OF THE SITE. THERE IS AN EXISTING BAR DITCH EAST OF THE SITE ON THE NORTH SIDE OF OAKLAND AVENUE THAT CONVEYS FLOW FROM THE EAST TO THE FULL STREET SECTION WEST OF THE SITE.

### DEVELOPED CONDITION

THIS SITE WILL BE DEVELOPED WITH A SINGLE STREET INTERCEPTING ALL OF THE SITE RUNOFF AND THE OFFSITE BASIN. THE RUNOFF WILL FREE DISCHARGE INTO OAKLAND AVENUE. DUE TO DEVELOPING THE FULL WIDTH STREET SECTION ADJACENT TO THIS PROPERTY, AN APPROXIMATE 8.5' OPENING BETWEEN THE PERMANENT CURB AND GUTTER AND THE EXISTING ASPHALT CURB ON THE NORTH SIDE OF OAKLAND AVENUE WILL BE CREATED. THIS OPENING WILL BE USED TO INTERCEPT THE RUNOFF FROM THE EXISTING BAR DITCH AND BRING IT INTO THE ASPHALT STREET. THIS OPENING WILL NOT CREATE AN OBSTRUCTION FOR TRAFFIC SINCE IT WILL CREATE A WIDER DRIVING LANE FOR WEST BOUND TRAFFIC. STRIPING WILL BE USED BETWEEN THE OPENING AT THE EAST END OF THIS PROJECT AND THE SITE ENTRANCE TO TRANSITION TRAFFIC FROM THE HALF STREET SECTION TO THE FULL SECTION IN A SIMILAR MANNER TO HOW THE CURRENT ASPHALT CURB FUNCTIONS. GREATER CONTROL OF THE BAR DITCH RUNOFF WILL BE GAINED AS IT ENTERS THE PERMANENT STREET BY DEVELOPING THE STREET IN THIS MANNER. THE ATTACHED HYDROLOGIC CALCULATIONS SHOW EXISTING AND PROPOSED CONDITIONS FOR THIS SITE. THE INCREASE FROM 2.64 CFS TO 4.66 CFS FOR THE 100-YEAR PEAK RUNOFF IS INSIGNIFICANT AND WILL HAVE MINIMAL IMPACT ON DOWNSTREAM FACILITIES BY DEVELOPING THE STREET IN THIS MANNER.

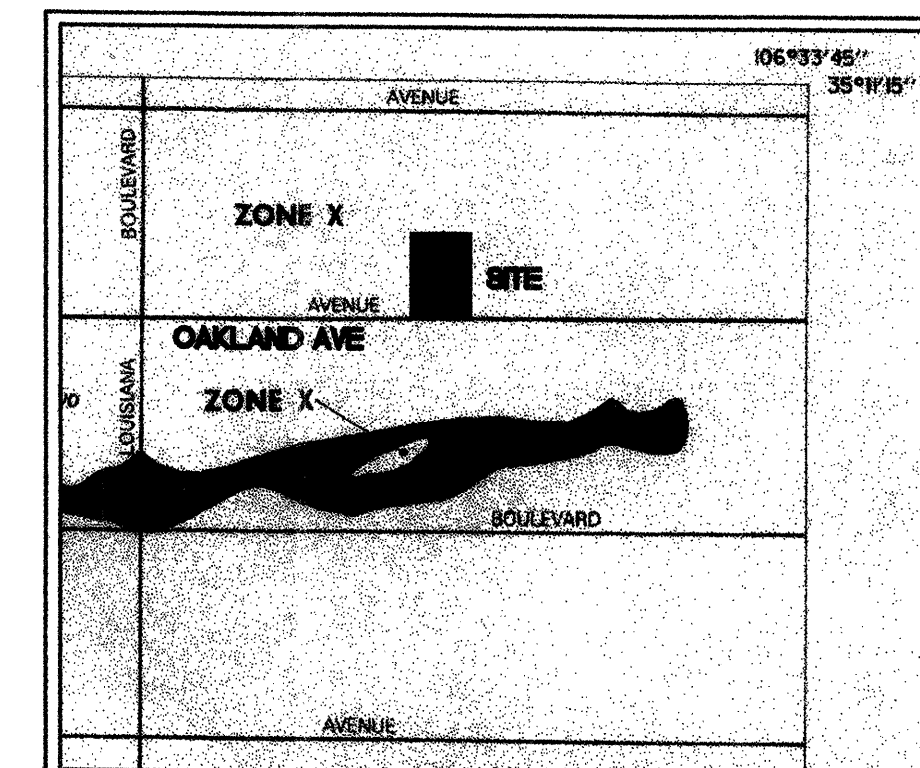
### 100-YEAR HYDROLOGIC CALCULATIONS

| BASIN #   | AREA (acre) | LAND TREATMENT |       |       |       | WEIGHTED E (in) | V (6-hr) (acre-ft)            | V (6-hr) (cu-ft) | V(10 day) (acre-ft) | V(10 day) (cu-ft) | Q (cfs) |
|---|-------------|----------------|-------|-------|-------|-----------------|-------------------------------|------------------|---------------------|-------------------|---------|
|   |             | A (%)          | B (%) | C (%) | D (%) |                 |                               |                  |                     |                   |         |
| EXISTING CONDITIONS   |             |                |       |       |       |                 |                               |                  |                     |                   |         |
| OFFSITE   | 0.2286      | 0.00           | 0.00  | 50.00 | 50.00 | 1.83            | 0.03                          | 1,484            | 0.06                | 2,436             | 0.96    |
| SITE  | 0.9022      | 100.00         | 0.00  | 0.00  | 0.00  | 0.66            | 0.06                          | 2,162            | 0.06                | 2,162             | 1.80    |
| TOTAL   | 1.1276      |                |       |       |       |                 | 0.06                          | 3,686            | 0.11                | 4,607             | 2.64    |
| PROPOSED CONDITIONS   |             |                |       |       |       |                 |                               |                  |                     |                   |         |
| OFFSITE   | 0.2286      | 0.00           | 0.00  | 50.00 | 50.00 | 1.83            | 0.03                          | 1,484            | 0.06                | 2,436             | 0.96    |
| SITE  | 0.9022      | 0.00           | 23.00 | 23.00 | 54.00 | 1.78            | 0.13                          | 5,838            | 0.23                | 9,906             | 3.70    |
| TOTAL   | 1.1276      |                |       |       |       |                 | 0.17                          | 7,333            | 0.28                | 12,342            | 4.66    |
| EXCESS PRECIP.  |             |                |       |       |       |                 |                               |                  |                     |                   |         |
|   |             | 0.06           | 0.92  | 1.29  | 2.36  | Ei (in)         |                               |                  |                     |                   |         |
| PEAK DISCHARGE  |             | 1.87           | 2.6   | 3.45  | 5.02  | Qm (cfs)        |                               |                  |                     |                   |         |
| ZONE = 3  |             |                |       |       |       |                 |                               |                  |                     |                   |         |
| WEIGHTED E (in) = (E <sub>A</sub> )(%A) + (E <sub>B</sub> )(%B) + (E <sub>C</sub> )(%C) + (E <sub>D</sub> )(%D)   |             |                |       |       |       |                 | P <sub>max</sub> (in.) = 2.60 |                  |                     |                   |         |
| V <sub>max</sub> (acre-ft) = (WEIGHTED E)(AREA)/12  |             |                |       |       |       |                 | P <sub>max</sub> (in.) = 3.10 |                  |                     |                   |         |
| V <sub>max</sub> (acre-ft) = V <sub>max</sub> + (A <sub>0</sub> )(P <sub>max</sub> - P <sub>max</sub> )/12  |             |                |       |       |       |                 | P <sub>max</sub> (in.) = 4.90 |                  |                     |                   |         |
| Q (cfs) = (Q <sub>max</sub> )(A <sub>0</sub> ) + (Q <sub>max</sub> )(A <sub>0</sub> ) + (Q <sub>max</sub> )(A <sub>0</sub> ) + (Q <sub>max</sub> )(A <sub>0</sub> ) |             |                |       |       |       |                 |                               |                  |                     |                   |         |



LOT 23, BLOCK 2, TRACT 2, UNIT 3, NORTH ALBUQUERQUE ACRES, BERNALILLO COUNTY, NEW MEXICO, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT THEREOF, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO, ON SEPTEMBER 10, 1931, IN PLAT BOOK D1, PAGE 20.

## LEGAL DESCRIPTION



LARRY READ & ASSOCIATES, Inc.  
Civil Engineers  
4800-C Juan Tabo Blvd. NE  
Albuquerque, New Mexico 87111  
(505) 237-8421

|   |                        |
|---|------------------------|
| CITY OF ALBUQUERQUE<br>PUBLIC WORKS DEPARTMENT<br>ENGINEERING GROUP |                        |
| TITLE: SAHAR SUBDIVISION<br>GRADING AND DRAINAGE PLAN               |                        |
| DESIGN REVIEW COMMITTEE   | CITY ENGINEER APPROVAL |
| PROJECT NO. 6986.81   | MAP NO. C-19           |
| SHEET 3 OF 8  |                        |



FINISH SURFACE OF SUBGRADE SHALL BE MOISTURE CONTROLLED  
AT COMPACTION MOISTURE RANGE, OR PRIME COAT APPLIED  
AS REQUIRED BY THE ENGINEER UNTIL NEXT/FINAL  
SURFACING. COMPLETED SUBGRADE PREPARATION SHALL BE  
PERFORMED AFTER ALL SUBSURFACE R/W UTILITIES  
CONSTRUCTION IS COMPLETED.

**90% MIN. COMPACTION.**

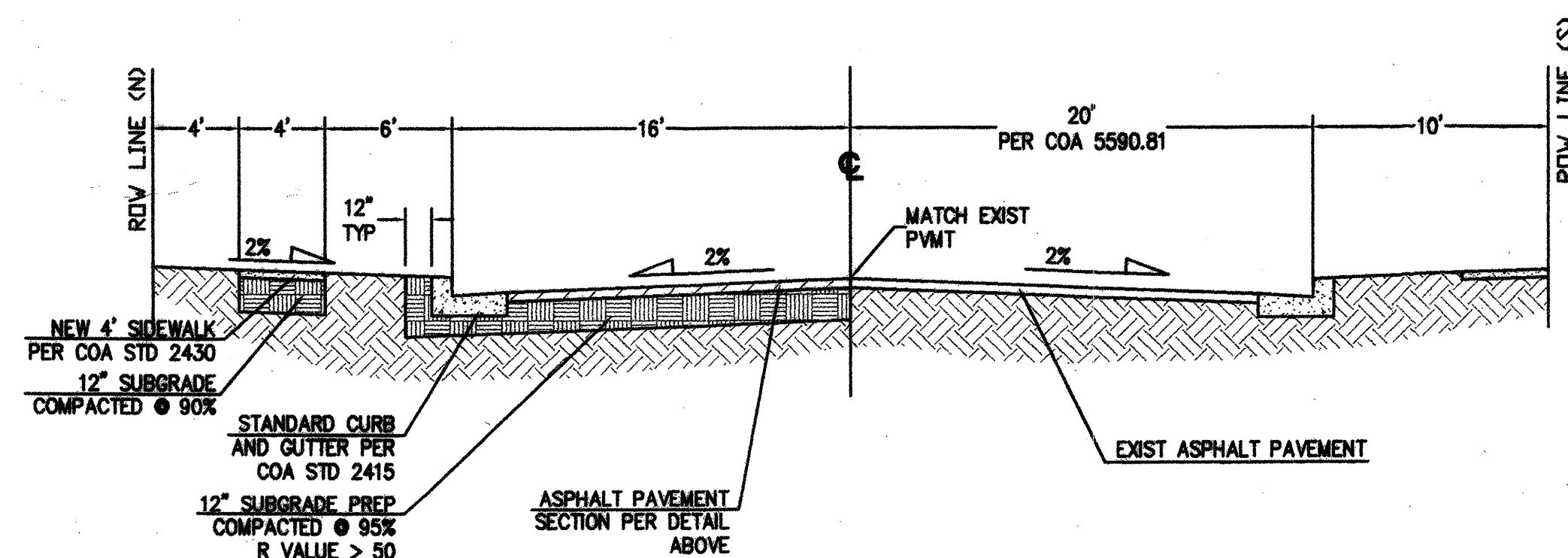
TACK COAT AS REQUIRED BY ENGINEER BETWEEN ALL  
- ASPHALT/AGGREGATE MATERIAL LIFTS.

ASPHALT CONCRETE, 1500 LBS. STABILITY,  
- 1-1/2" TYPE A GRADATION FOR SAHAR COURT  
3" TYPE B GRADATION FOR OAKLAND AVE.

1' SUBGRADE SOIL. R-VALUE > 50 PLACED IN 2 - 6" COMPACTED LIFTS. 95% MIN. COMPACTION AT OPT. MOISTURE +/- 2% ASTM D1557, OR OPT. MOISTURE, TO +4% ASTM D698 FOR SOIL W/ 35% OR MORE MATERIAL PASSING THE NO. 200 SIEVE.

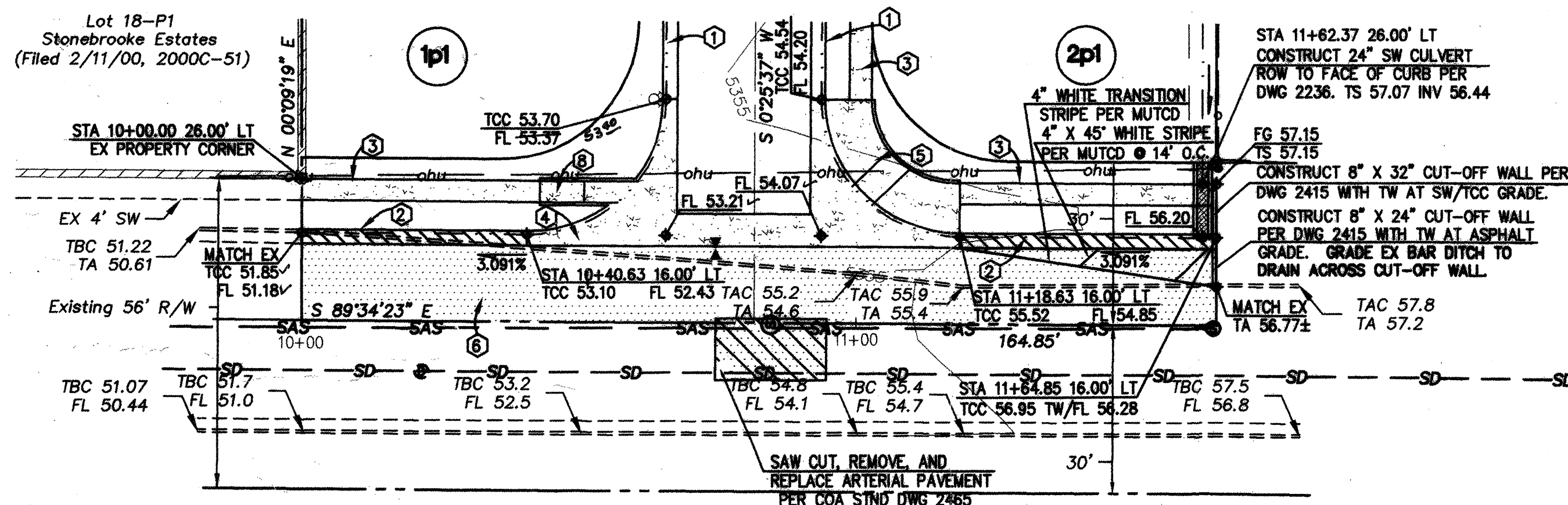
ASPHALT PAVEMENT SECTIONS (REFERENCE COA PROJECT # 5590.81)

N. T. S.



### OAKLAND AVE. - TYPICAL STREET SECTION

SEE SAHAR COURT THIS SHEET FOR CONTINUATION

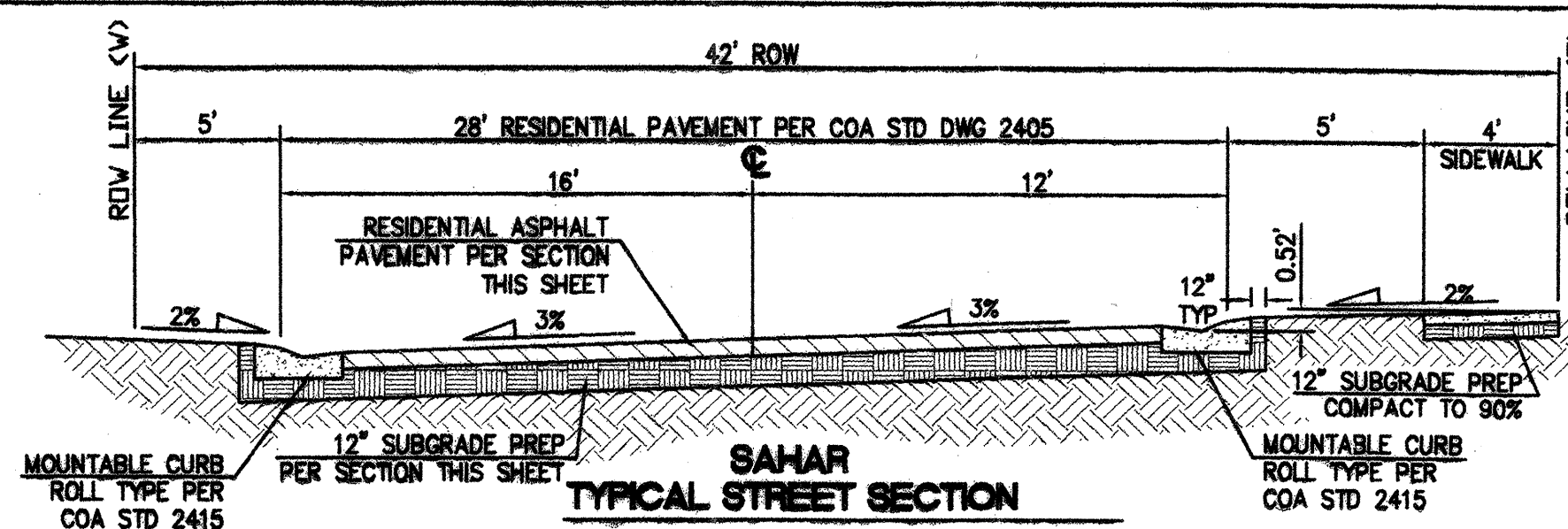
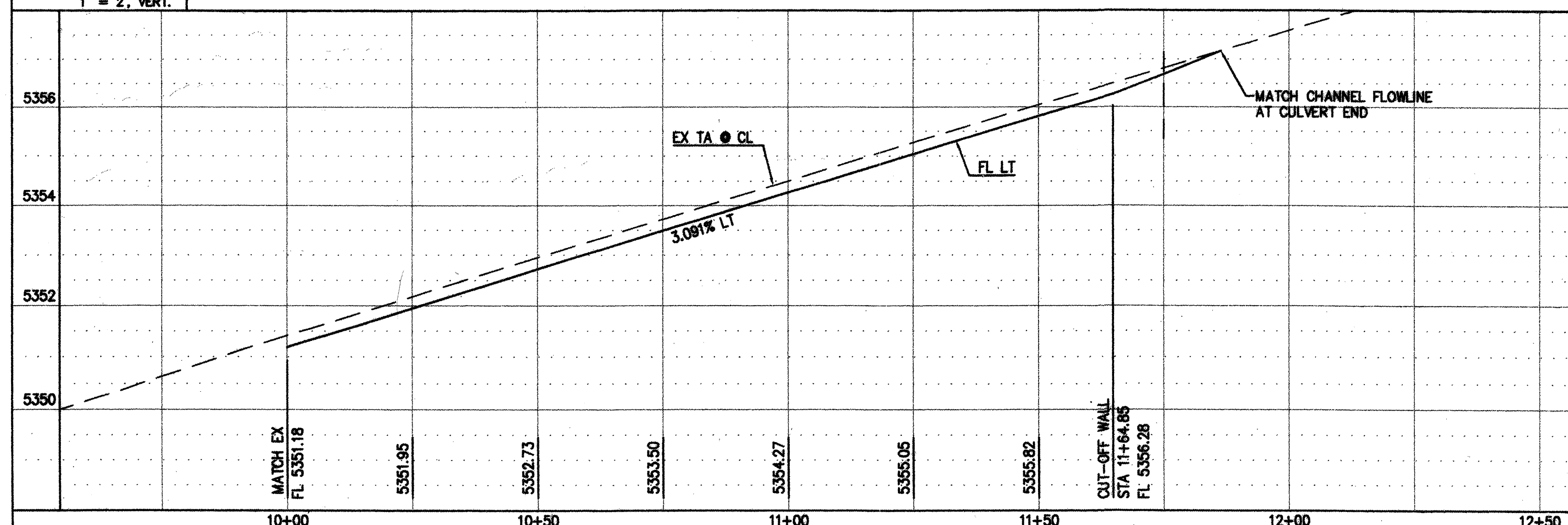


SCALE: 1" = 20', HORIZ.  
1" = 2', VERT.

**OAKLAND AVENUE**

20 0 10 20 40

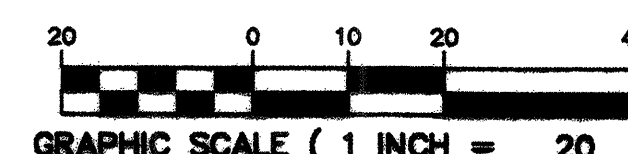
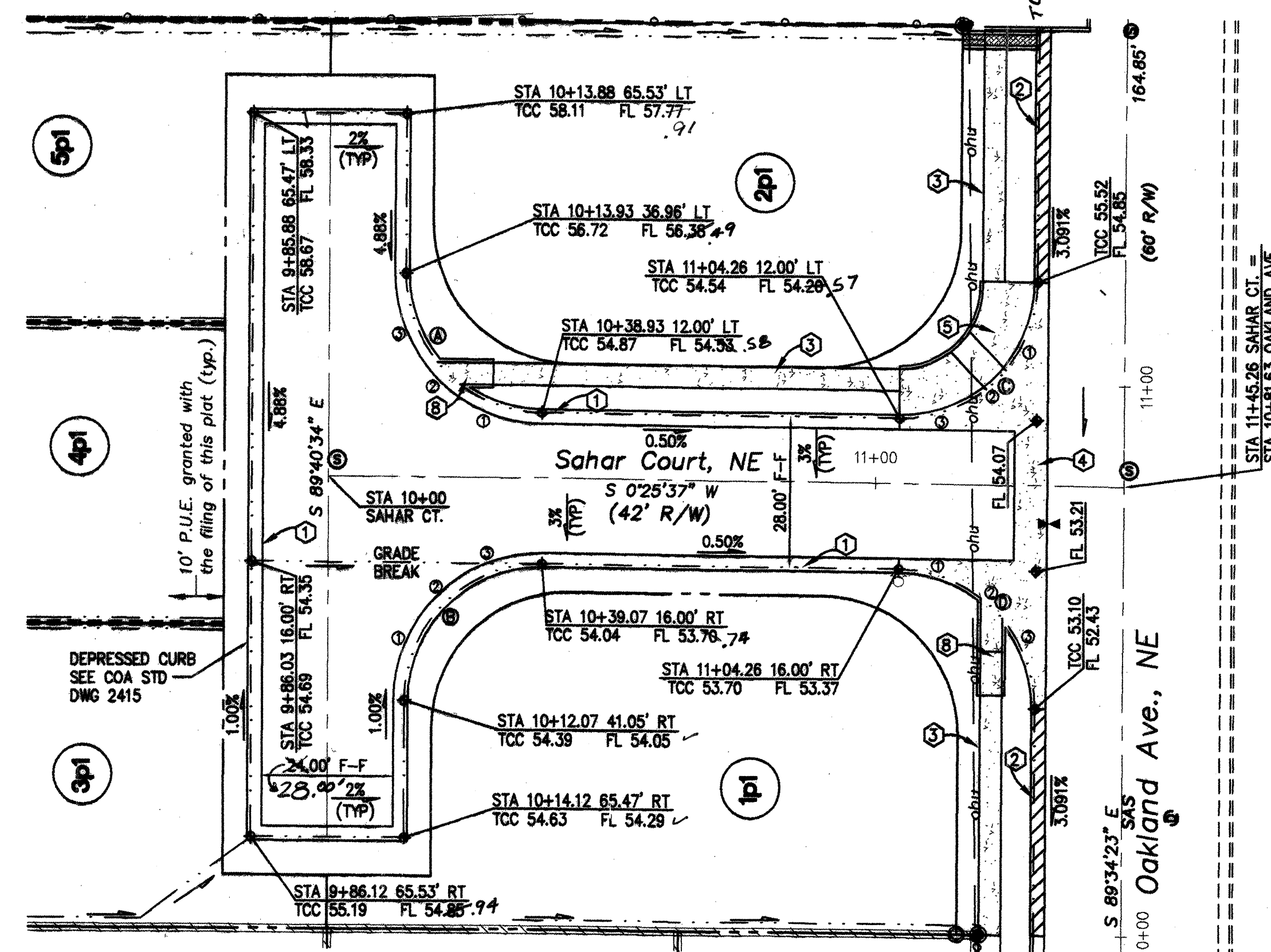
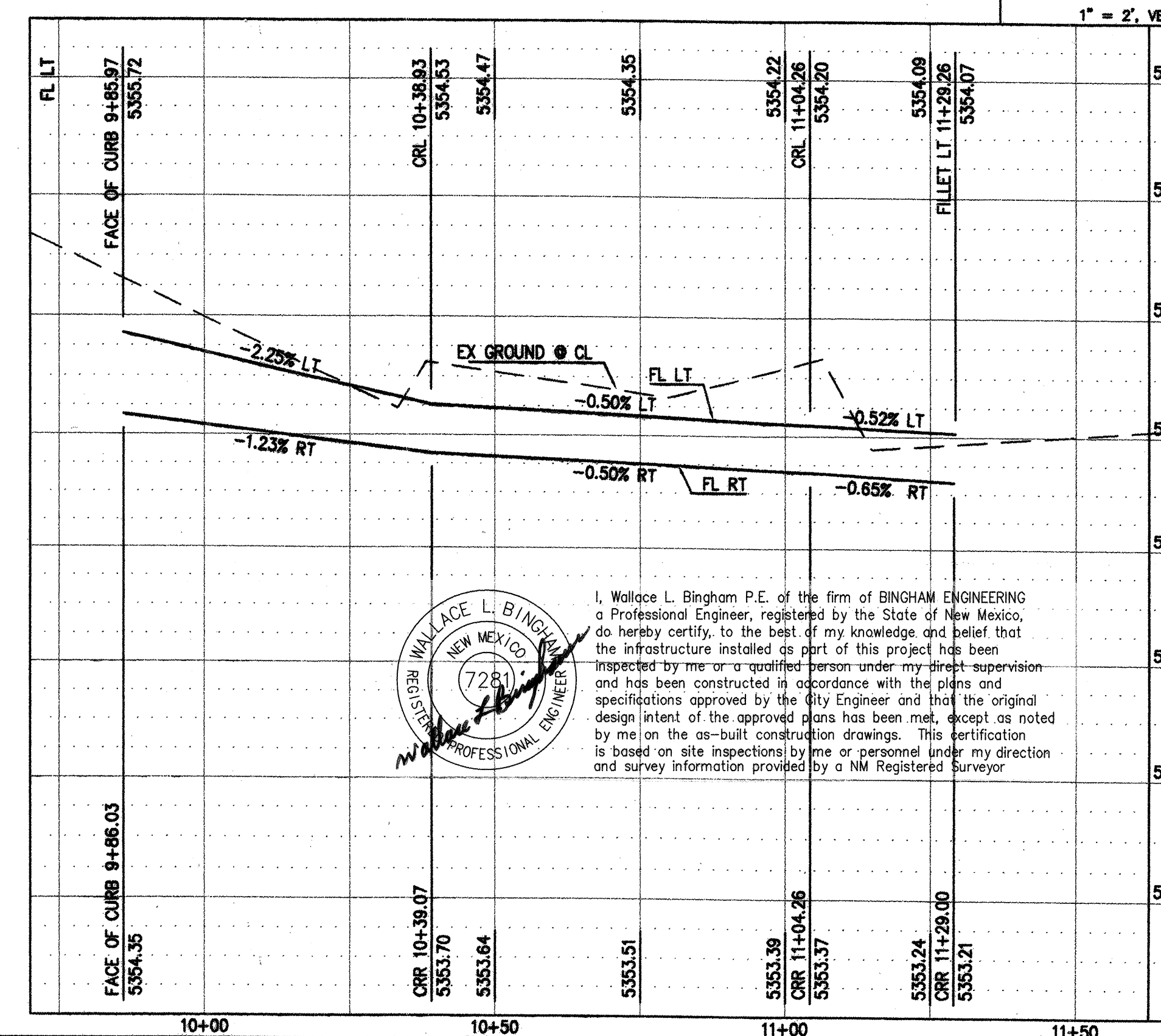
GRAPHIC SCALE ( 1 INCH = 20 FEET )



### TYPICAL STREET SECTION

### KEYED NOTES:

- ① COA MOUNTABLE CURB PER COA STD DWG 2415.
- ② COA STANDARD CURB AND GUTTER PER COA STD DWG 2415.
- ③ NEW 48" CONC SIDEWALK PER COA STD DWG 2430 (OFFSET TYPE).
- ④ 6" CONC VALLEY GUTTER PER COA STD DWG 2420.
- ⑤ WHEEL CHAIR RAMP PER COA STND DWG 2441 CASE II WITH CURB TRANSITIONS PER COA STND DWG 2418.
- ⑥ REMOVE TEMPORARY ASPHALTIC CURB AND PAVEMENT. CONSTRUCT 18' OF ARTERIAL ASPHALTIC PAVEMENT PER DETAIL THIS SHEET.
- ⑦ MATCH EXISTING OAKLAND AVE. ARTERIAL PAVING SECTION. NOT USED.
- ⑧ WHEEL CHAIR RAMP PER COA STND DWG 2426.

**SAHAR COURT**

| O | CURB CURVE DATA |             |              |
|---|-----------------|-------------|--------------|
|   | RADIUS (FT)     | LENGTH (FT) | TANGENT (FT) |
| A | 25.00           | 39.22       | 24.96        |
| B | 25.00           | 39.31       | 25.04        |
| C | 25.00           | 39.27       | 25.00        |
| D | 25.00           | 39.27       | 25.00        |
|   | DELTA           | CHORD (FT)  | CH BRNG      |
| A | 89°53'49"       | 35.32       | S 45°21'31"  |
| B | 90°06'11"       | 35.39       | S 44°37'29"  |
| C | 90°00'00"       | 35.36       | S 44°34'23"  |
| D | 90°00'00"       | 35.36       | S 45°25'37"  |

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(505) 237-8421

CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
ENGINEERING GROUP

TITLE: SAHAR SUBDIVISION  
PAVING  
PLAN AND PROFILE

|                        |      |             |             |
|------------------------|------|-------------|-------------|
| CITY ENGINEER APPROVAL | DATE | MO./DAY/YR. | MO./DAY/YR. |
|------------------------|------|-------------|-------------|

APR - 2 1992  
DESIGN  
REVIEW COMMITTEE

PROJECT NO. 6986.81

|            |      |
|------------|------|
| MAP<br>NO. | C-19 |
|------------|------|

SHEET 4 OF 8

| SURVEY INFORMATION |                         | BENCH MARKS   | AS BUILT INFORMATION   |
|--------------------|-------------------------|---|--|
|                    | FIELD NOTES             |   | CONTRACTOR   |
| NO.                | BY                      | DATE  | <i>Cendor</i>  |
| 1                  | CARTESIAN SURVEYS 03/02 | DATE THE CONCRETE CURB, NNW QUADRANT OF BARSTOWN STREET AND OAKLAND AVENUE, NE ELEVATION = 5480.974 (NCMD 29) | WORK ASSIGNED BY<br><i>Steve Walker</i> DATE<br>ASSISTANCE BY<br><i>Gingraham Engle</i> DATE<br>VERIFICATION BY<br><i>Steve Walker</i> DATE<br>DRAWINGS<br>GENERATED BY<br><i>Gingraham Engle</i> DATE |
|                    | P.O. BOX 44414          |   | MICROFILM INFORMATION  |
|                    | RIO RANCHO, NM 87174    |   | RECORDED BY  |
|                    | PHONE: (505) 896-3050   |   | NO.  |
|                    | FAX: (505) 891-0244     |   |  |
|                    |                         |   |  |
|                    |                         |   |  |

ENGINEER'S SEAL

LAWRENCE D. READ  
NEW HAVEN  
REGISTERED  
10998  
PROFESSIONAL

3/20/63

| NO.         | DATE | REMARKS | BY                  |
|-------------|------|---------|---------------------|
| REVISIONS   |      |         |                     |
| DESIGN      |      |         |                     |
| DESIGNED BY |      | LRA     | DATE SEPTEMBER 2002 |
| DRAWN BY    |      | LRA     | DATE SEPTEMBER 2002 |
| CHECKED BY  |      | LRA     | DATE SEPTEMBER 2002 |



SCANNED BY *PLN*

| SANITARY SEWER SERVICES |          |      |        |             |
|-------------------------|----------|------|--------|-------------|
| LOT                     | STATION  | SIZE | LENGTH | INVERT @ PL |
| 1                       | 10+85.00 | 4"   | 24'    | 50.10       |
| 2                       | 10+90.00 | 4"   | 18'    | 50.60       |
| 3                       | AS SHOWN | 4"   | 64'    | 51.09       |
| 4                       | AS SHOWN | 4"   | 43'    | 50.87       |
| 5                       | AS SHOWN | 4"   | 58'    | 50.97       |

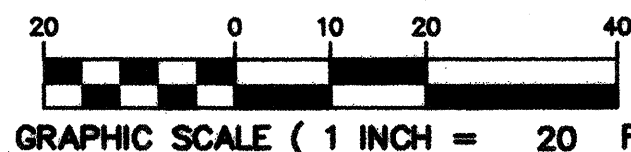
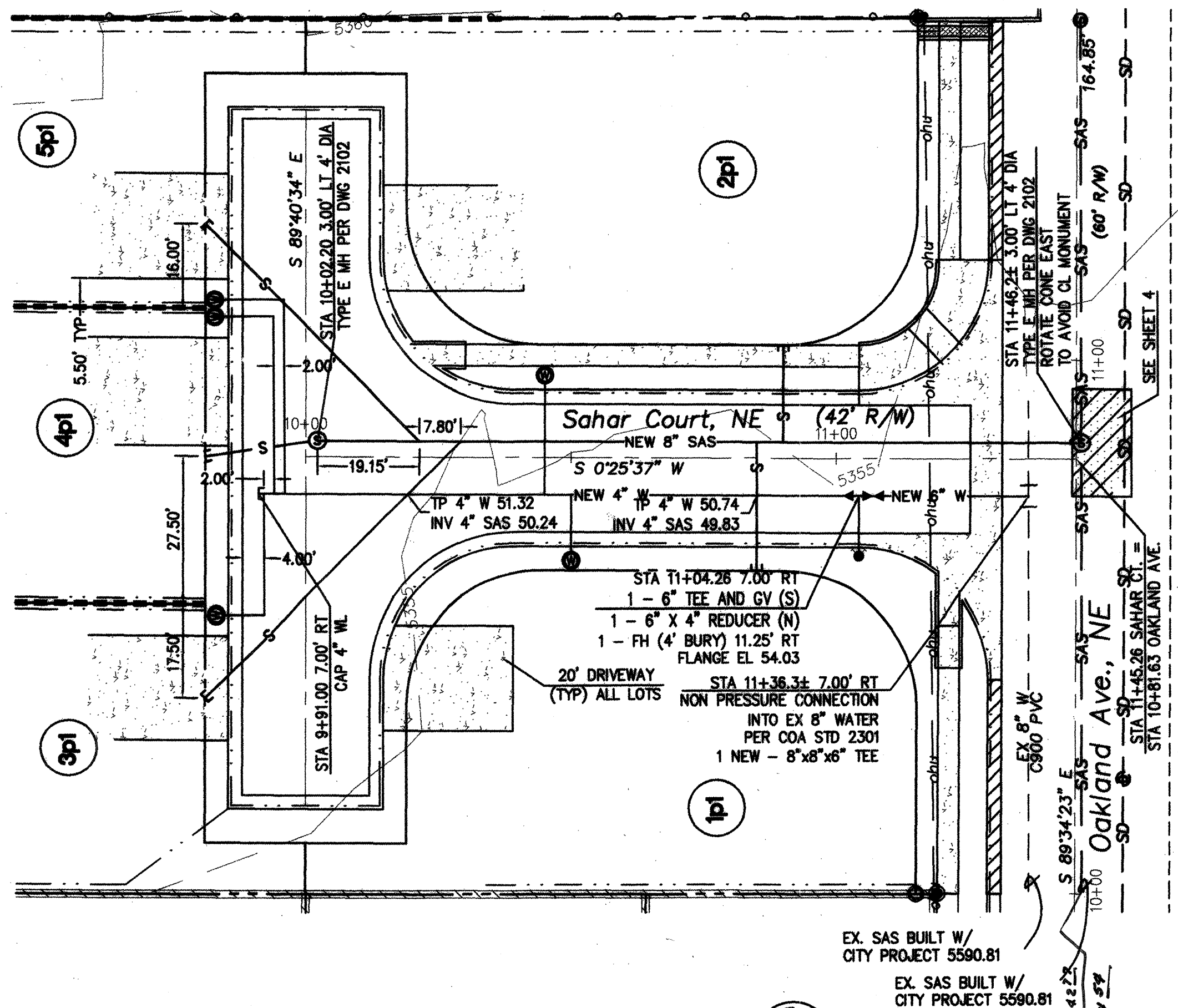
LOT 4'S SERVICE SHALL BE CONSTRUCTED PER COA DWG 2118. ALL OTHER SANITARY SEWER SERVICES SHALL BE CONSTRUCTED PER COA DWG 2125. SERVICES FOR LOTS 1 AND 3 SHALL BE CONSTRUCTED WITH A 8" X 4" DIRECTIONAL WYE AT THE MAIN WITH THE SERVICE INVERT AT THE MAIN SAS SOFFIT.

| WATER SERVICES |         |      |              |        |
|----------------|---------|------|--------------|--------|
| LOT            | STATION | SIZE | LENGTH x DIA | TYPE   |
| 1              | 10+50.0 | 3/4" | 14' x 3/4"   | SINGLE |
| 2              | 10+45.0 | 3/4" | 28' x 3/4"   | SINGLE |
| 3              | 9+92.0  | 3/4" | 34' x 3/4"   | SINGLE |
| 4              | 9+94.0  | 3/4" | 40' x 3/4"   | SINGLE |
| 5              | 9+96.0  | 3/4" | 40' x 3/4"   | SINGLE |

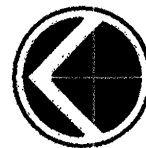
ALL WATER SERVICES SHALL BE CONSTRUCTED PER CITY OF ALBUQUERQUE STANDARD DRAWINGS 2360, 2361, AND THE DETAIL ON SHEET 5A.

#### CONSTRUCTION NOTE

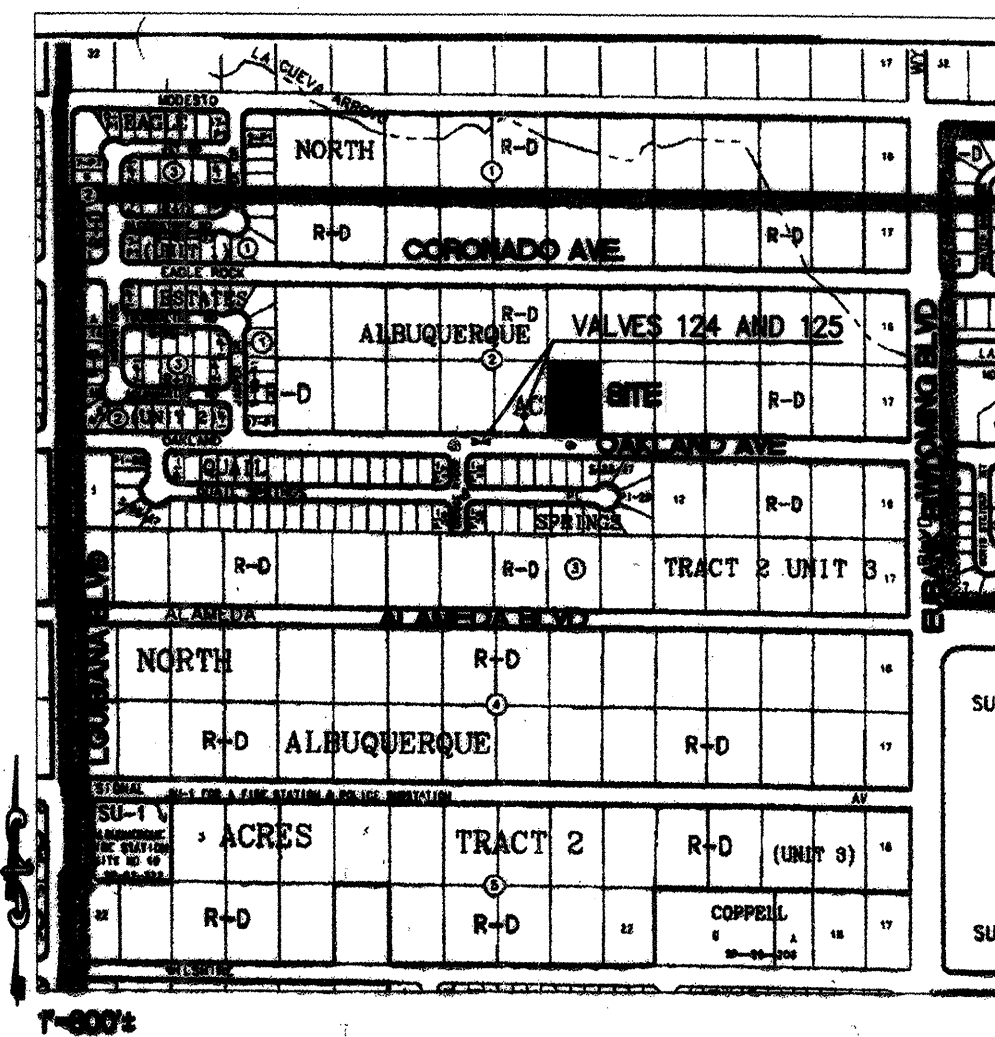
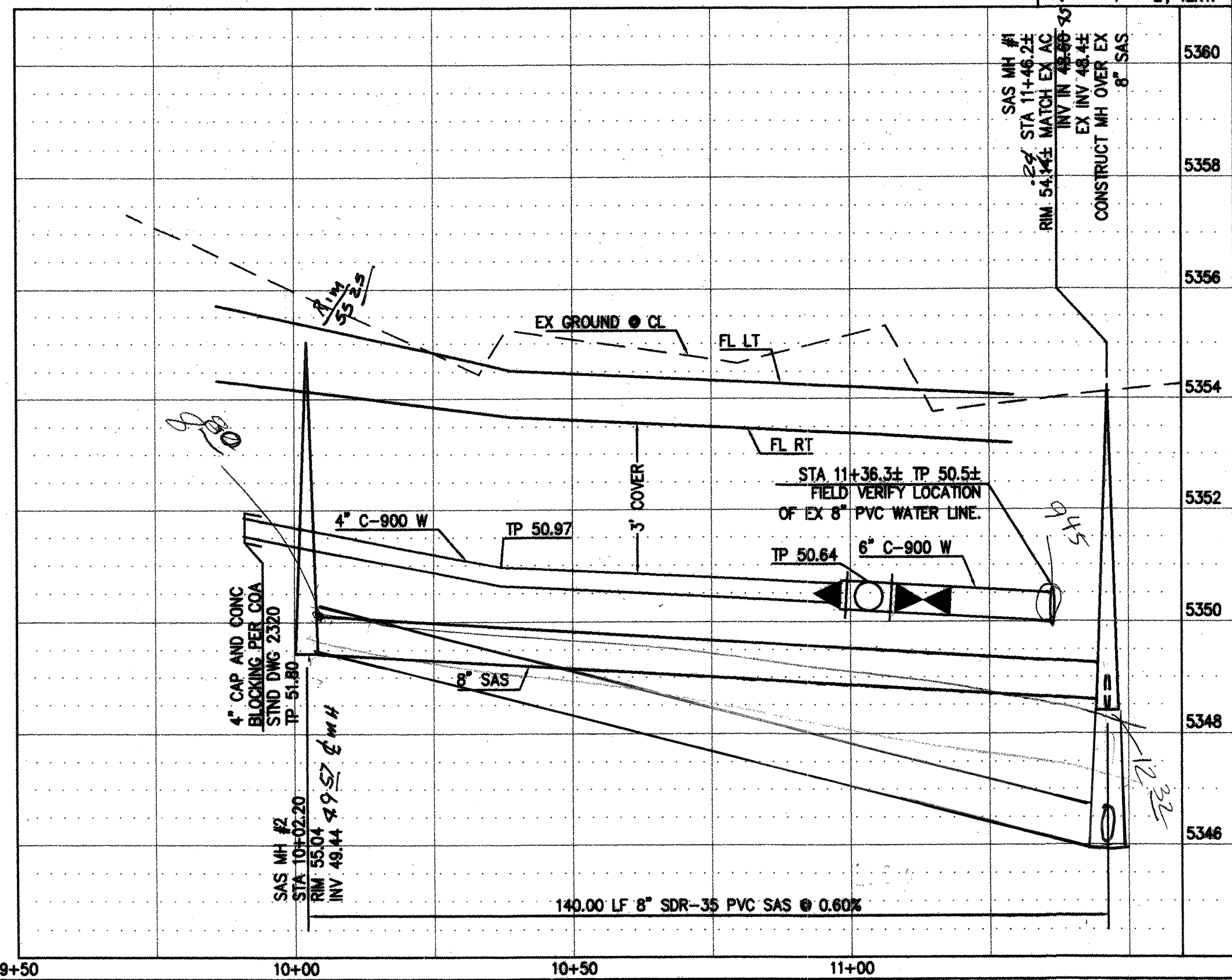
MEGA-LUG RESTRAINED JOINTS (OR APPROVED EQUAL) SHALL BE USED ON ALL JOINTS FOR A MINIMUM DISTANCE OF 32' FROM THE 4" CAP AND 48' FROM THE 6" GATE VALVE. THE 6" GATE VALVE RESTRAINT WILL BE SUFFICIENT FOR THE 6" X 4" REDUCER.



SAHAR COURT

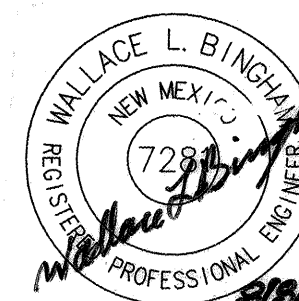


SCALE: 1" = 20' HORIZ.  
1" = 2' VERT.



#### WATER SHUT OFF PLAN

- VALVES NUMBER 124 AND 125 SHALL BE SHUT OFF SO NON PRESSURE CONNECTIONS CAN BE MADE.
- CONTRACTOR SHALL CONTACT WATER SYSTEMS DIVISION (857-8200) SEVEN (7) WORKING DAYS PRIOR TO VALVE SHUT OFF. ONLY WATER SYSTEMS PERSONNEL ARE AUTHORIZED TO OPERATE VALVES.



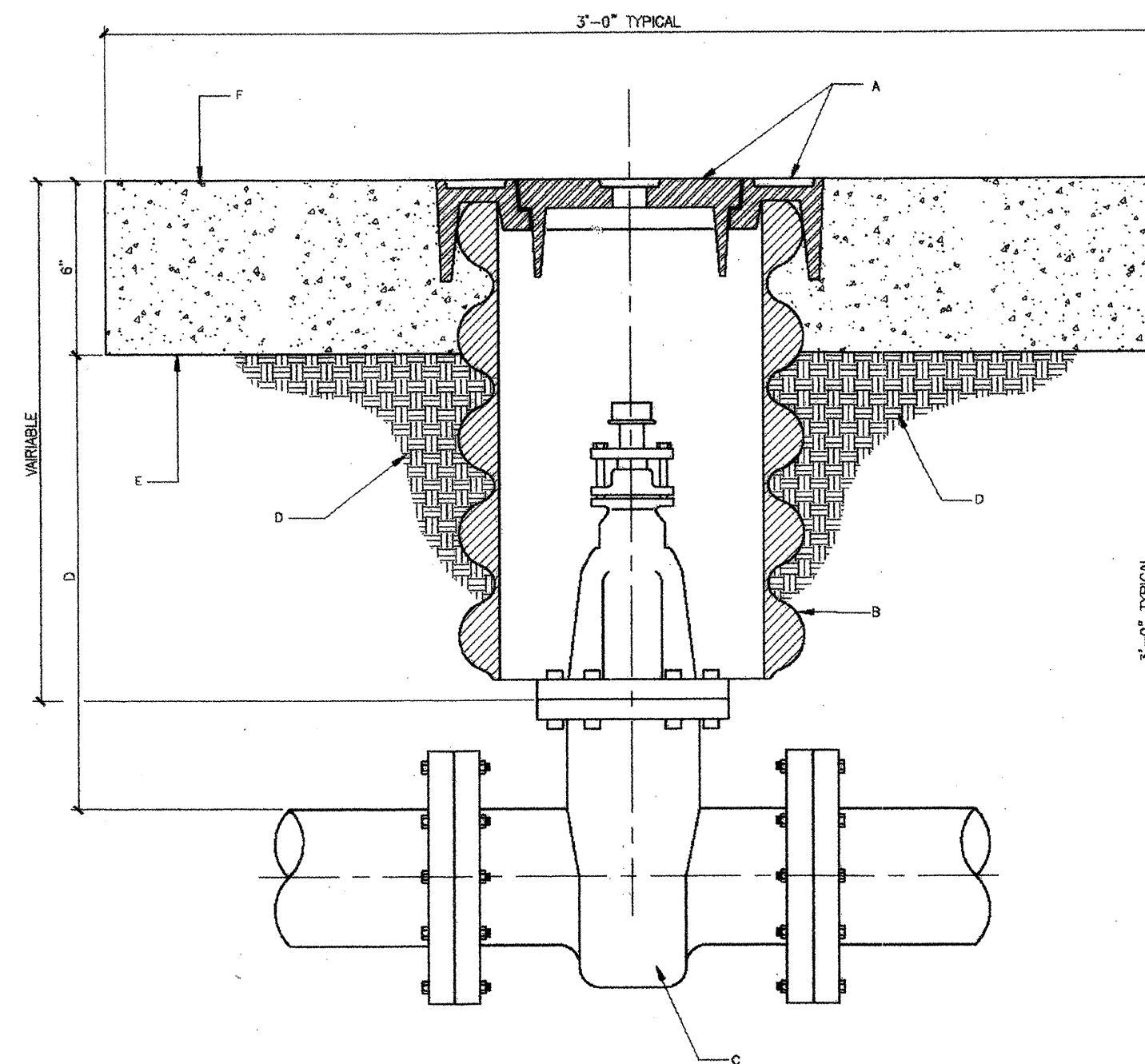
I, Wallace L. Bingham P.E. of the firm of BINGHAM ENGINEERING a Professional Engineer, registered by the State of New Mexico, do hereby certify, to the best of my knowledge and belief that the infrastructure installed as part of this project has been inspected by me or a qualified person under my direct supervision and has been constructed in accordance with the plans and specifications approved by the City Engineer and that the original design intent of the approved plans has been met, except as noted by me on the as-built construction drawings. This certification is based on site inspections by me or personnel under my direction and survey information provided by a NM Registered Surveyor.

LARRY READ & ASSOCIATES, Inc.  
Civil Engineers  
4800-C Juan Tabo Blvd. NE  
Albuquerque, New Mexico 87111  
(505) 237-8421

|  |   |
|--|---|
| CITY OF ALBUQUERQUE<br>PUBLIC WORKS DEPARTMENT<br>ENGINEERING GROUP      |   |
| TITLE: SAHAR SUBDIVISION<br>WATER AND SANITARY SEWER<br>PLAN AND PROFILE |   |
| DESIGN<br>REVIEW COMMITTEE<br>APR - 1 2003                               | CITY ENGINEER APPROVAL<br>MO./DAY/YR. MO./DAY/YR. |
| PROJECT NO. 6986.81  | MAP NO. C-19                                      |
| SHEET 5 OF 8   |   |

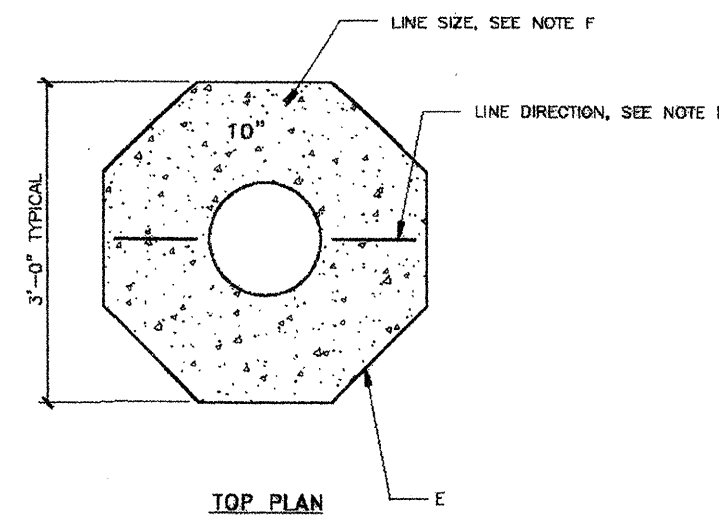


SCANNED BY PLW



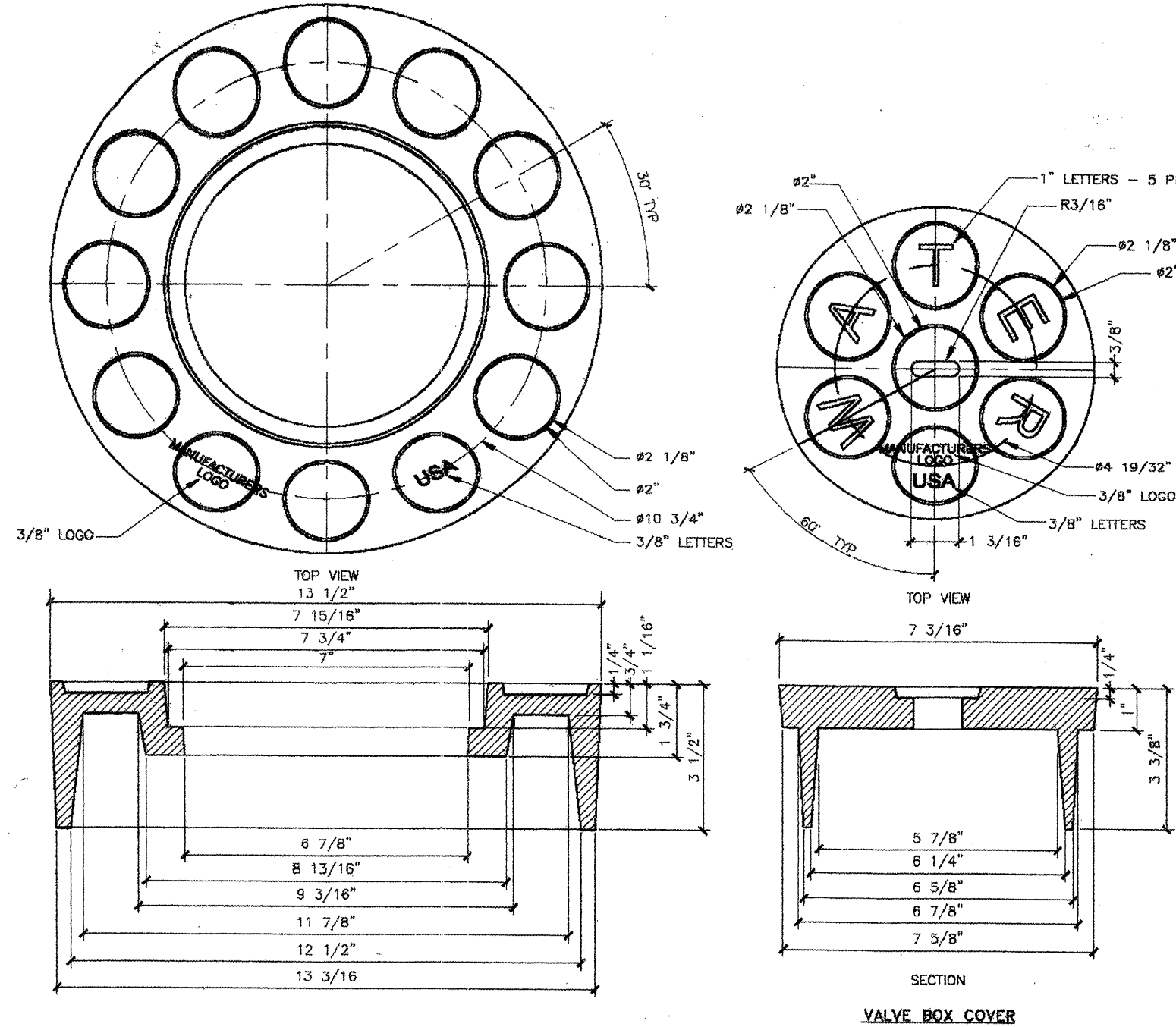
**GENERAL NOTES:**

- VALVE BOX RING AND COVER. SEE DWG. 2328.
- 10" DIAMETER RUBBED OR CORRUGATED PVC OR PE PIPE WITH SMOOTH INTERIOR.
- NEW OR EXISTING VALVE.
- COMPACTED BACKFILL, SOIL OR BASE COURSE MATERIAL (80% COMPACTION). SEE SECTION 701.
- 3'-0"x3'-0" OCTAGONAL CONCRETE COLLAR. COLLAR IS TO BE IMBEDDED IN UNFINISHED CONCRETE AND FLUSH IN PAVED ROADWAY. CONCRETE STRENGTH SHALL BE FOR SECTION 101 OF THE STANDARD SPECIFICATIONS, LATEST EDITION.
- TOP OF CONCRETE COLLAR SHALL BE STAMPED WITH LINE SIZE AND DIRECTION. MINIMUM LETTER SIZE SHALL BE 3" IN HEIGHT.



TOP PLAN

| REVISIONS | CITY OF ALBUQUERQUE |
|-----------|---------------------|
| COA DRAFT | WATER VALVE BOX     |
| DWG. 2326 | JANUARY 2002        |



VALVE BOX RING

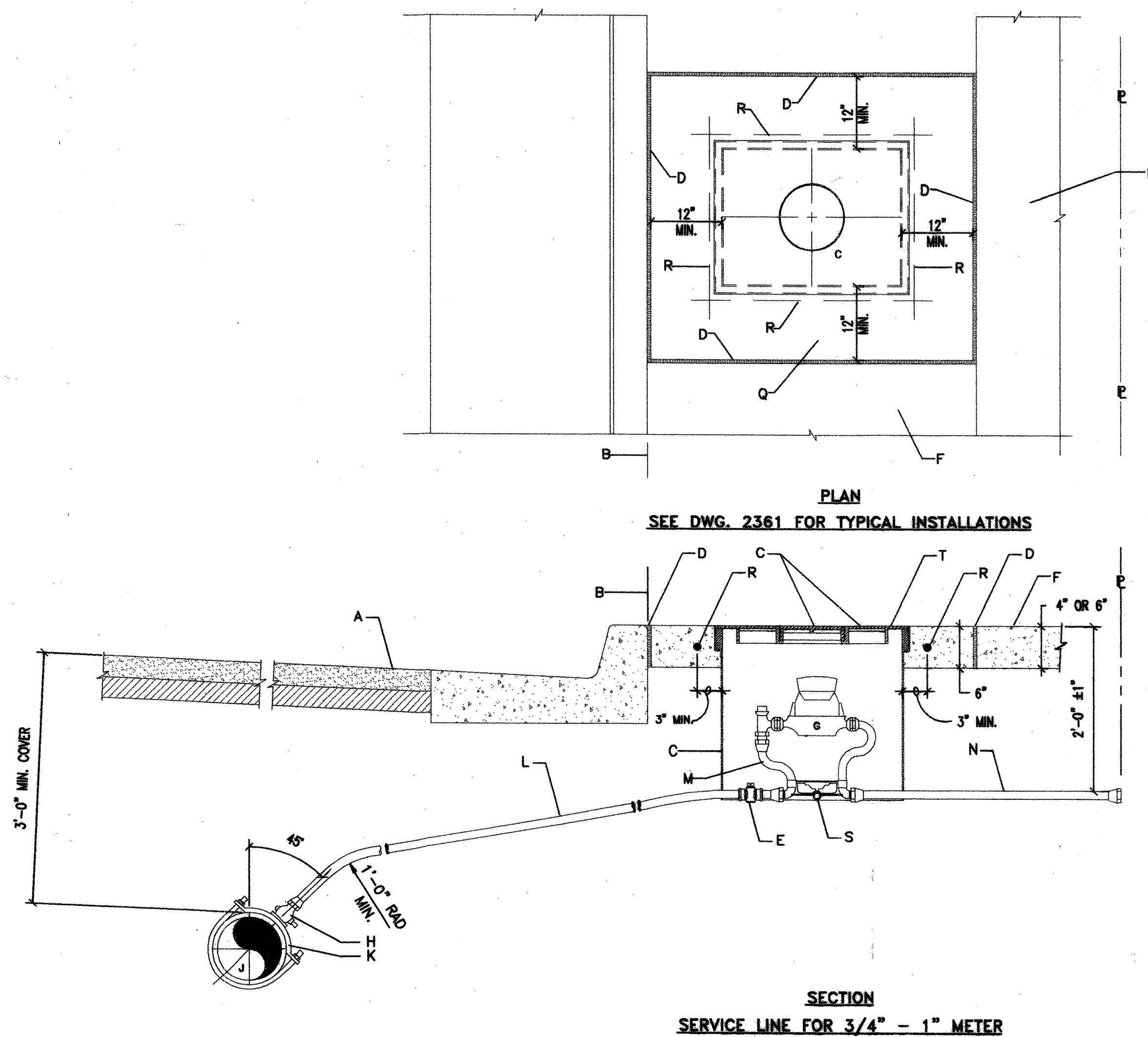
**GENERAL NOTES - RING**

- ALBUQUERQUE VALVE BOX RING DESIGNED TO ACCEPT AN ALBUQUERQUE VALVE BOX COVER.
- THE CASTING NUMBER, MANUFACTURER'S LOGO, DATE OF MANUFACTURE AND "USA" SHALL BE CAST IN A CONSPICUOUS LOCATION ON BOTH THE RING AND THE COVER.
- FILLETS SHALL BE 1/4" UNLESS OTHERWISE SPECIFIED.
- A DRAFT ANGLE OF 3°-5° SHALL BE APPLIED UNLESS OTHERWISE SPECIFIED.
- FINISH: REMOVE EXCESS IRON AND FINISH.
- THIS DETAIL DOES NOT APPLY FOR VALVE BOX RING AND COVER TO BE USED ON REUSE OR NON-POTABLE WATER SYSTEMS.

**GENERAL NOTES - COVER**

- ALBUQUERQUE VALVE BOX COVER DESIGNED TO FIT INTO AN ALBUQUERQUE VALVE BOX RING.
- THE CASTING NUMBER, MANUFACTURER'S LOGO, DATE OF MANUFACTURE AND "USA" SHALL BE CAST IN A CONSPICUOUS LOCATION ON BOTH THE RING AND THE COVER.
- FILLETS SHALL BE 1/4" UNLESS OTHERWISE SPECIFIED.
- A DRAFT ANGLE OF 3°-5° SHALL BE APPLIED UNLESS OTHERWISE SPECIFIED.
- FINISH: REMOVE EXCESS IRON AND FINISH.

| REVISIONS | CITY OF ALBUQUERQUE                |
|-----------|------------------------------------|
| COA DRAFT | WATER RING AND COVER FOR VALVE BOX |
| DWG. 2326 | JANUARY 2002                       |



SECTION

SERVICE LINE FOR 3/4" - 1" METER

**GENERAL NOTES:**

- THE METER SHALL BE SET UTILIZING A COPPER-SETTER. COPPER-SETTER HEIGHT 10" FOR 1" METER. 7" FOR 3/4" METER.
- THE VALVE AND METER REGISTER BOX SHALL BE LOCATED UNDER THE LID OPENING. WHERE TWO METERS ARE TO BE INSTALLED IN A SINGLE METER BOX, THE METER REGISTERS SHALL BE WITHIN READING RANGE OF THE LID OPENING.
- METER BOX LOCATION TO CONFORM TO DWG. 2361.
- WHEN CONTRACTOR DOES NOT INSTALL METER, CONTRACTOR SHALL PROVIDE REMOVABLE PLUGS FOR END OF COPPER-SETTER.
- EXISTING CONCRETE TO BE SAWCUT.

**CONSTRUCTION NOTES:**

- STREET SURFACE.
- BACK OF CURB.
- CAST IRON METER BOX, COVER AND LID. SEE DWG. 2368 OR 2369.
- 1/2" EXPANSION JOINT.
- CURB STOP, LOCATE INSIDE METER BOX.
- SIDEWALK OR DRIVEPAD.
- METER. TOP OF METER TO BE 12"-18" BELOW COVER.
- CORP STOP.
- MAIN WATER LINE.
- TAPPING SADDLE.
- COPPER SERVICE LINE.
- COPPER SETTER.
- TAILPIECE TO PROPERTY LINE WITH INSTA-TITE I.P.T. CAPPED FITTING.
- CONCRETE PAD REQUIRED IN ALL AREAS.
- #4 REBAR CONTINUOUS ALL AROUND METER BOX.
- STABILIZER BAR. 12" LONG X 1/2" DIAMETER GALVANIZED STEEL PIPE.
- METER BOX LID SHALL BE FLUSH WITH SURROUNDING SIDEWALK.

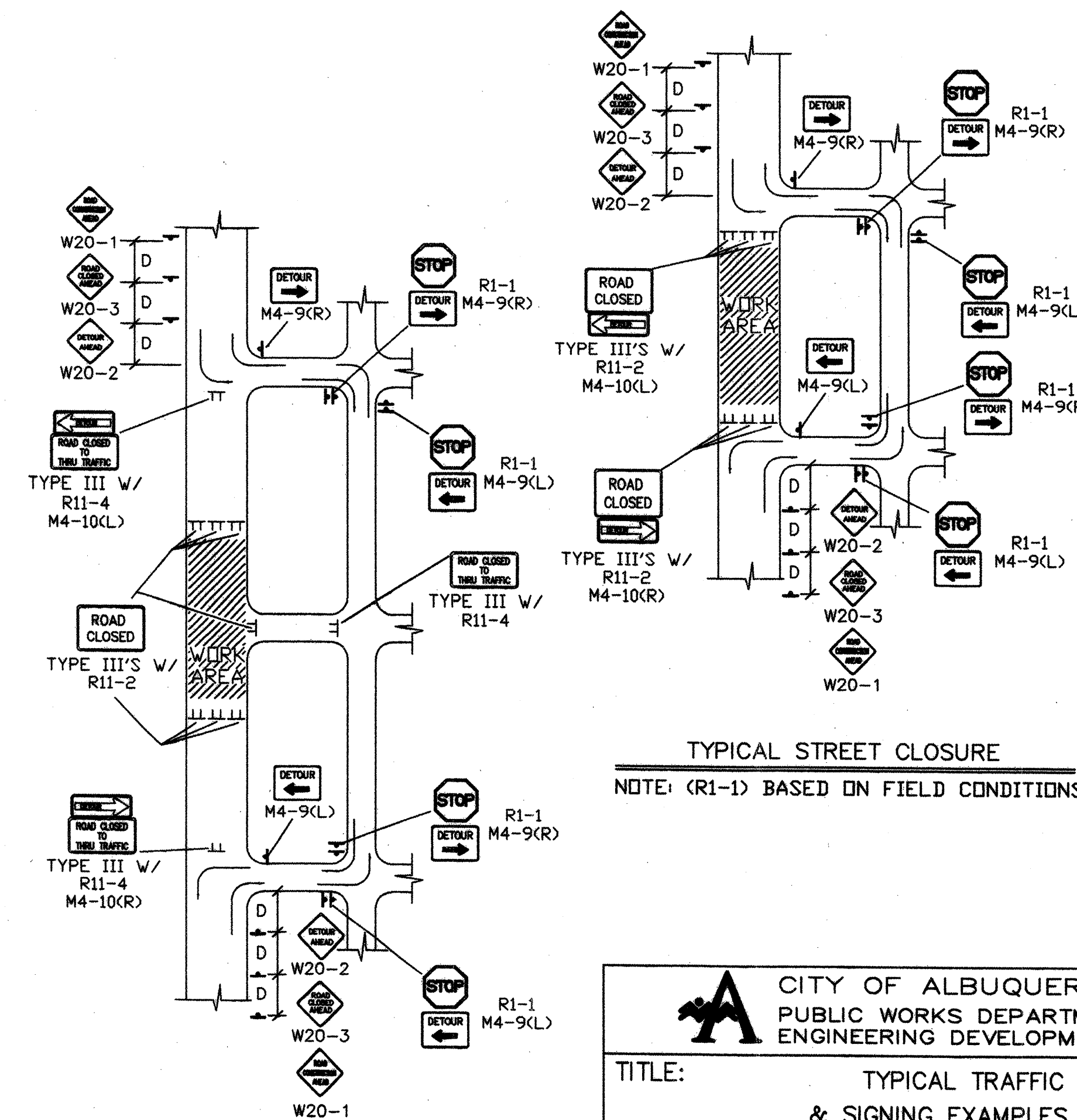
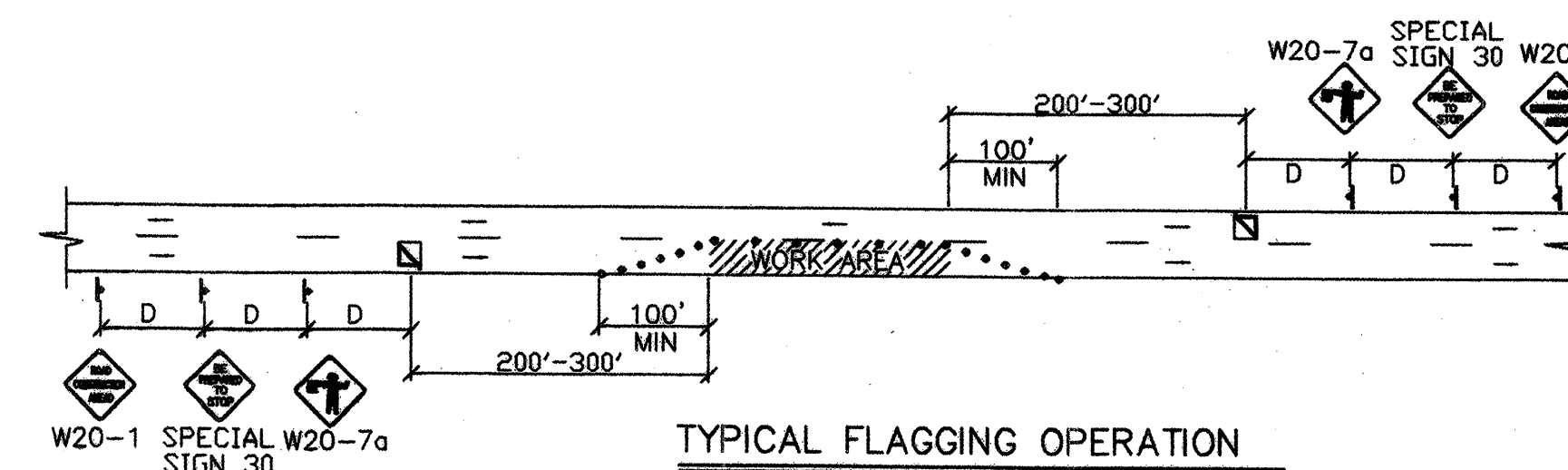
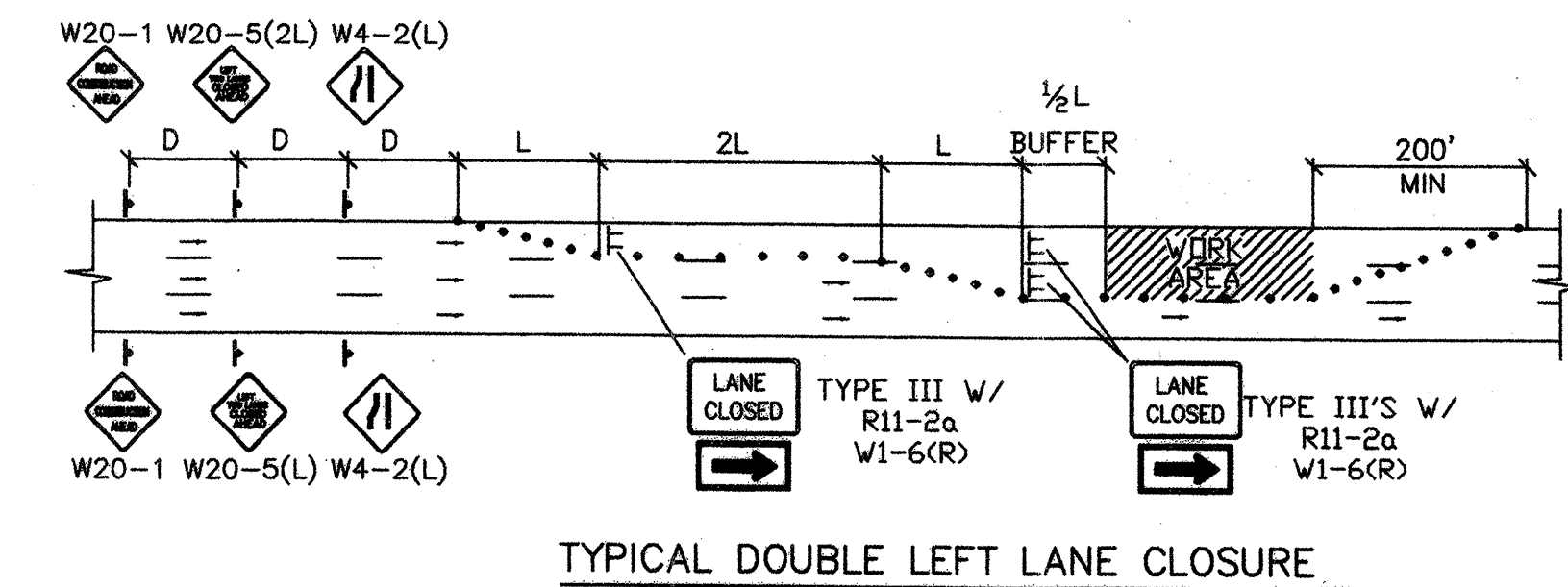
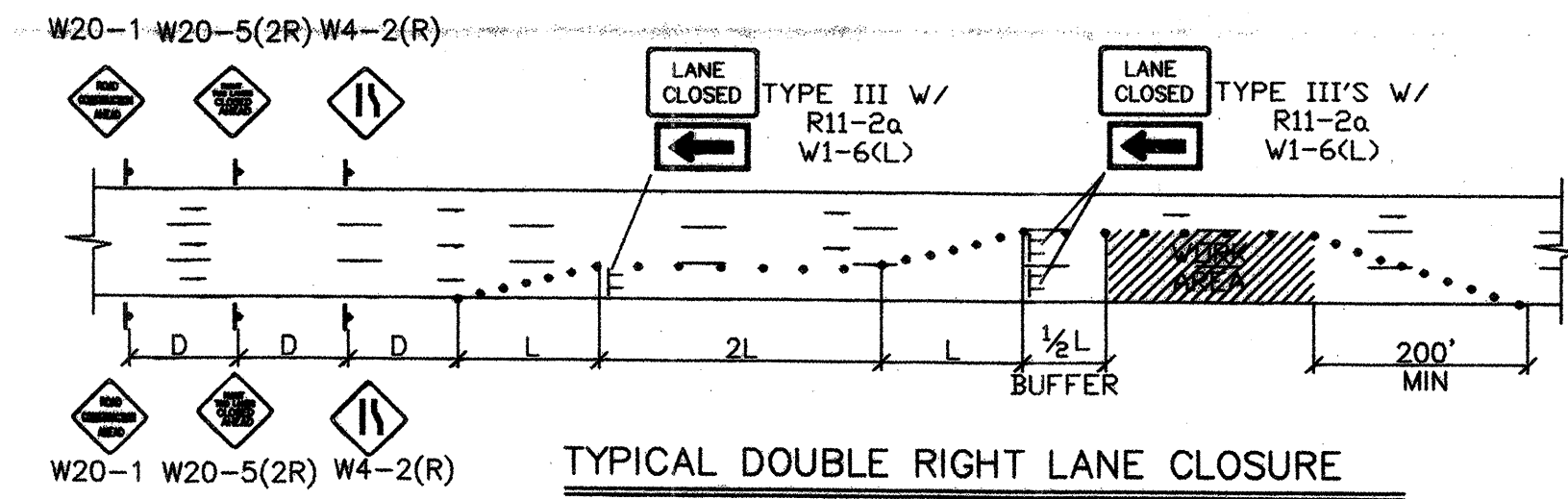
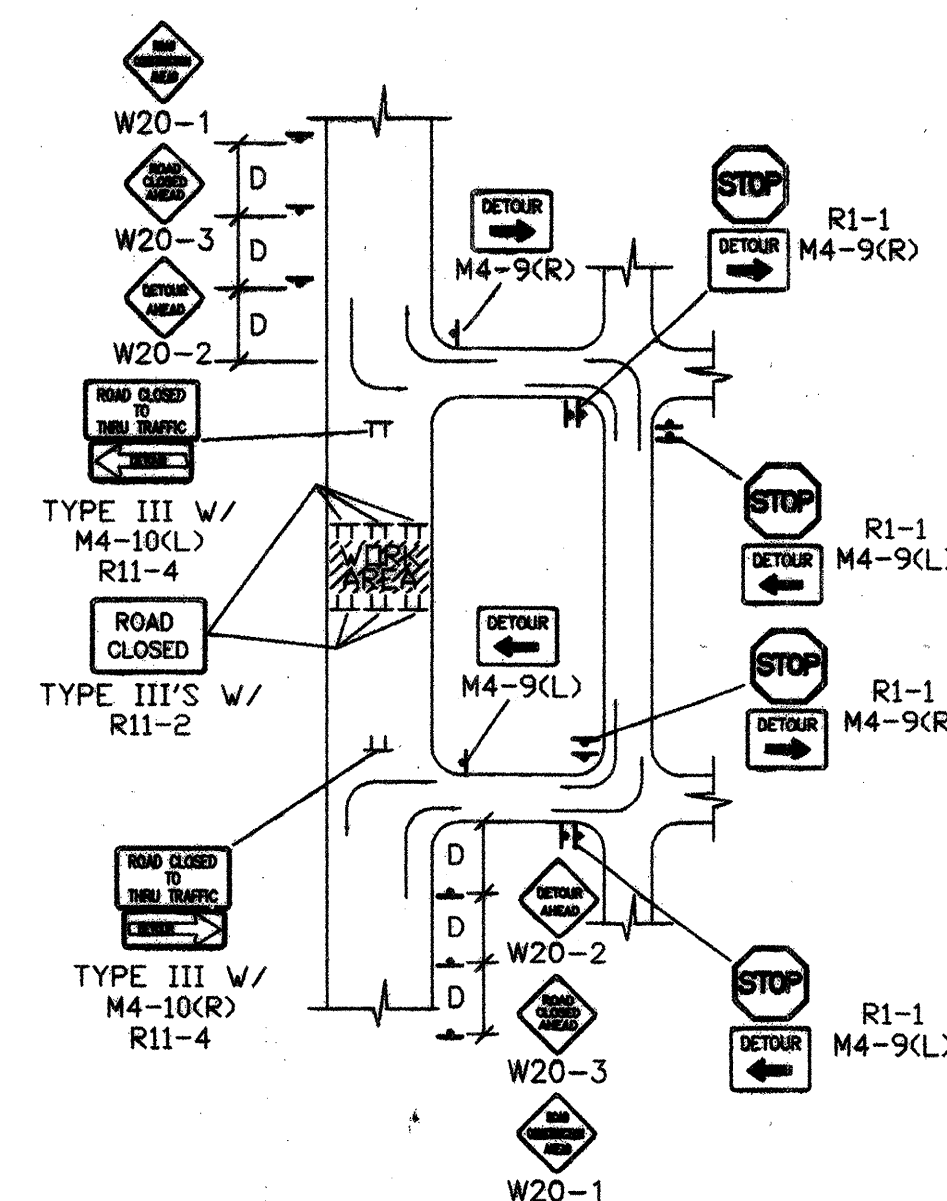
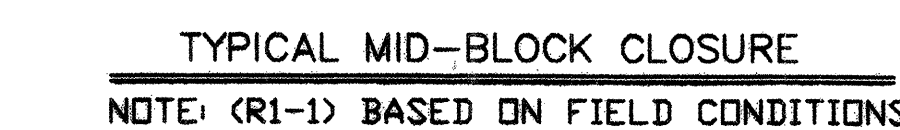
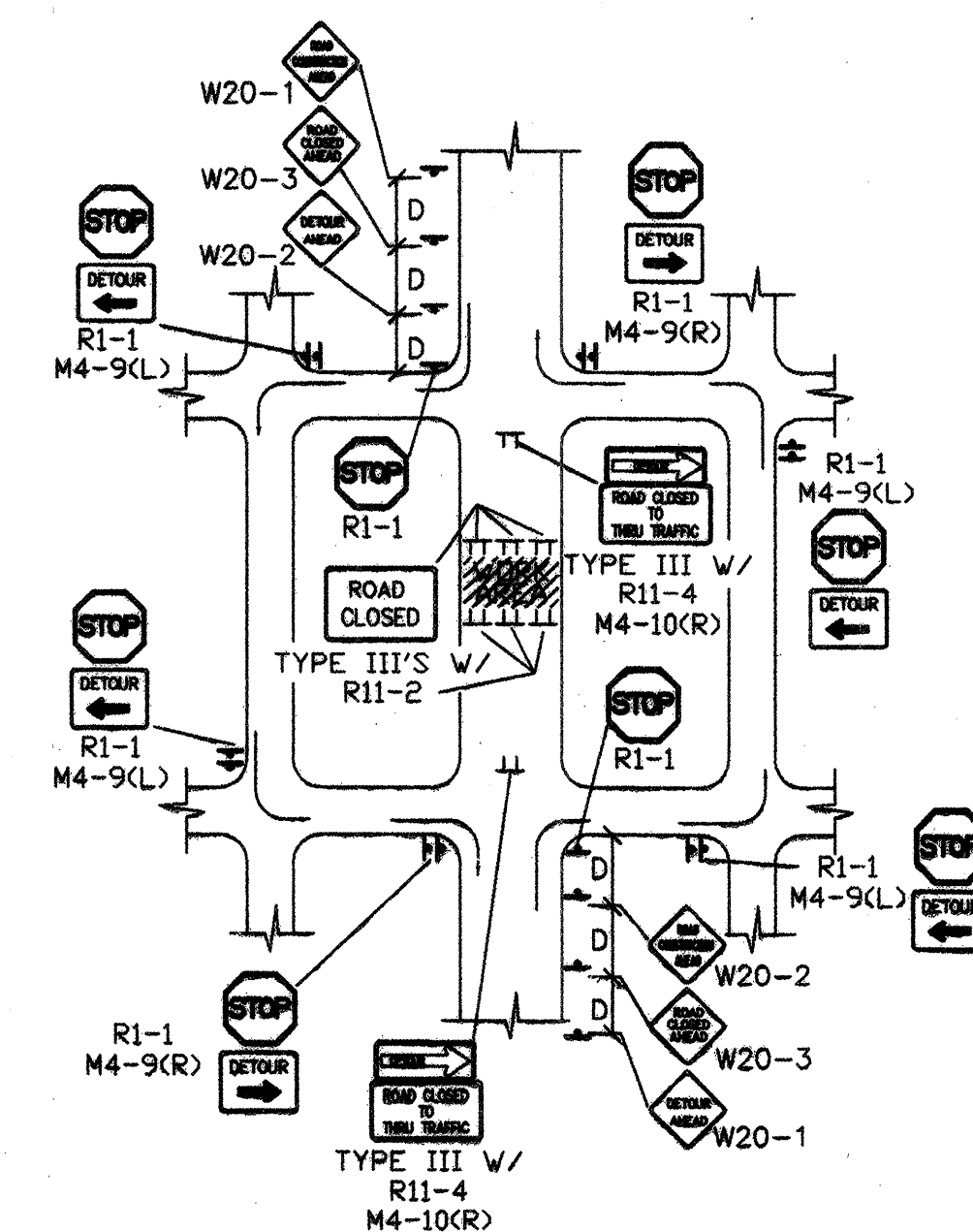
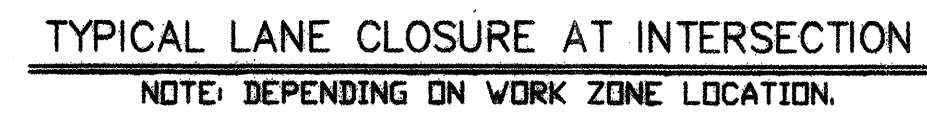
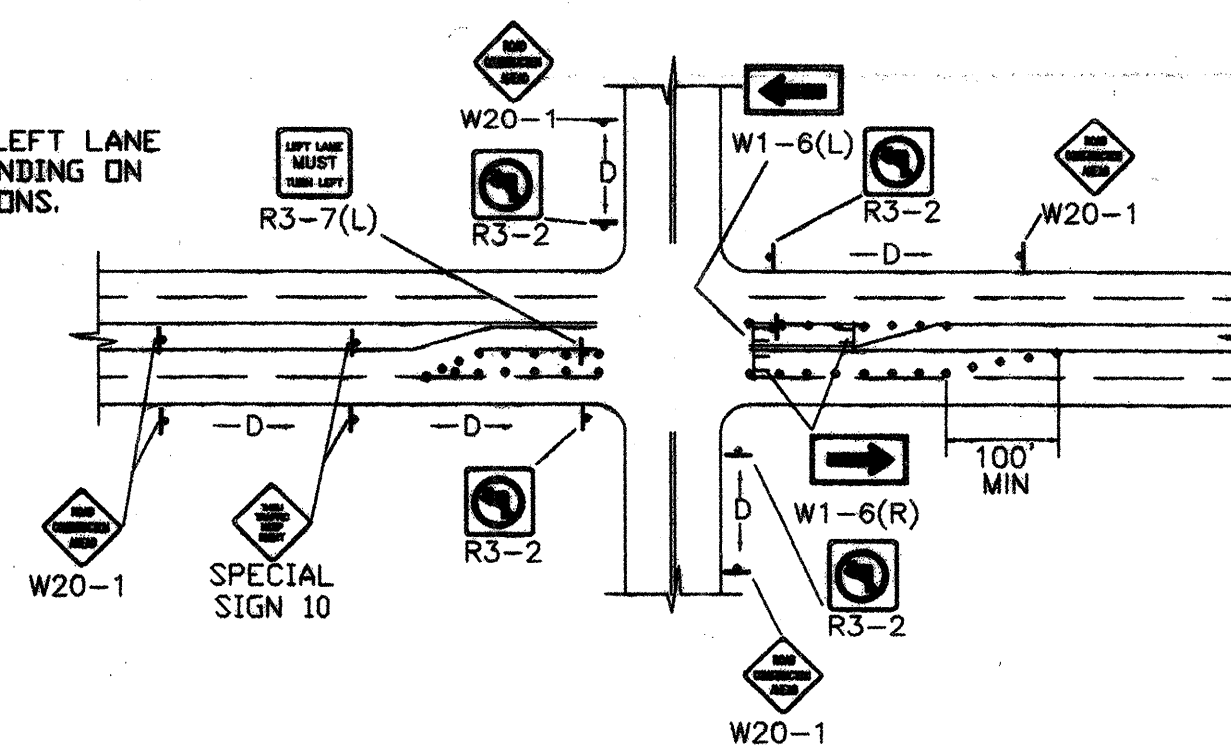
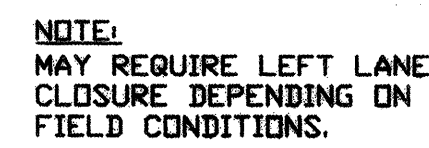
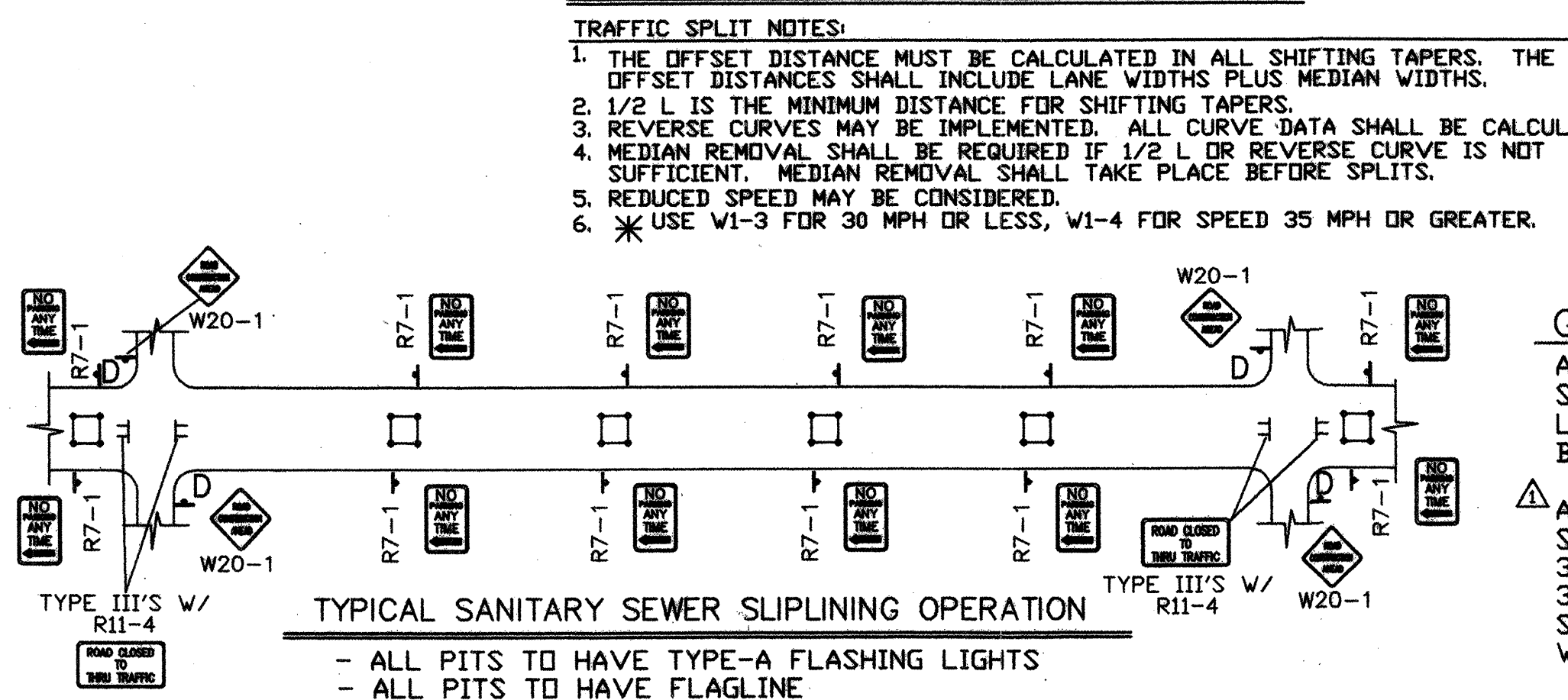
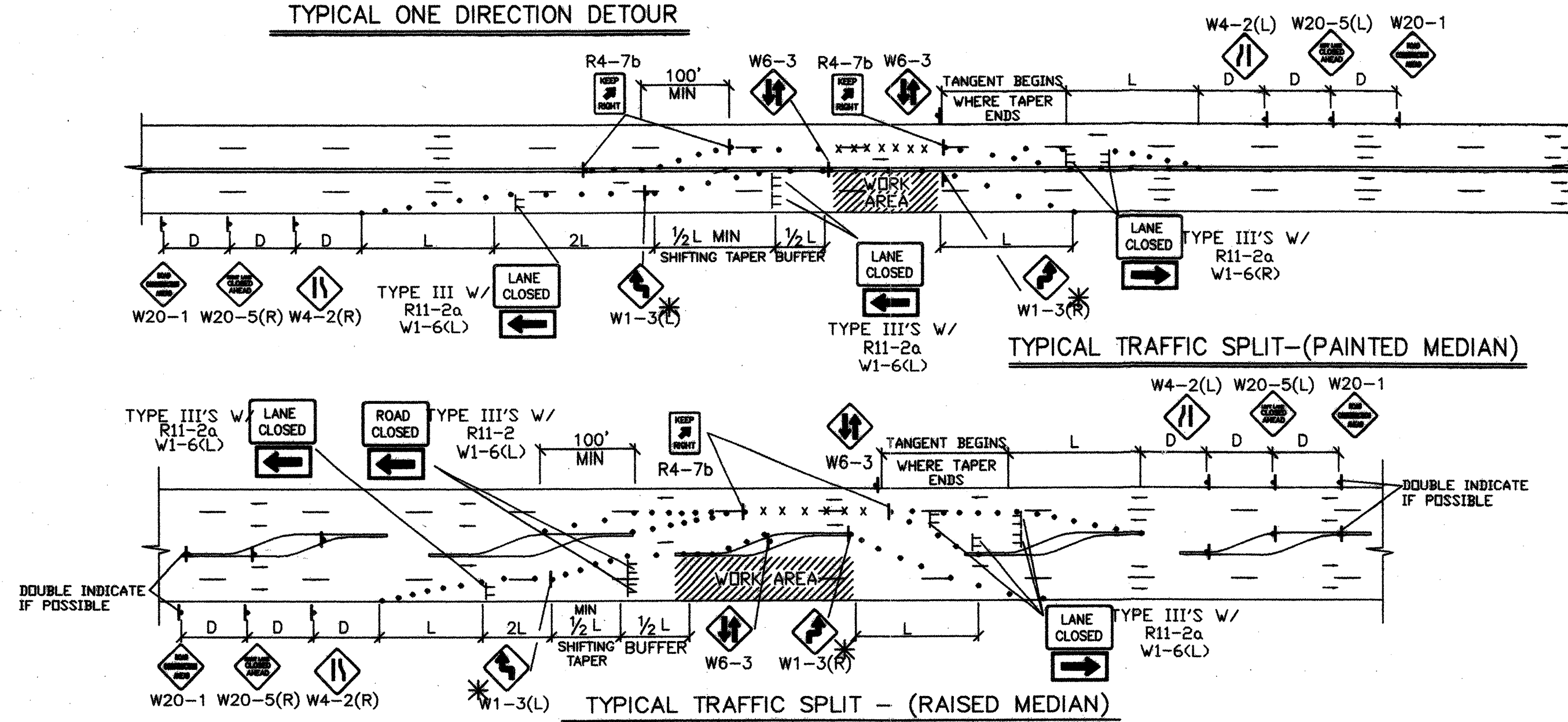
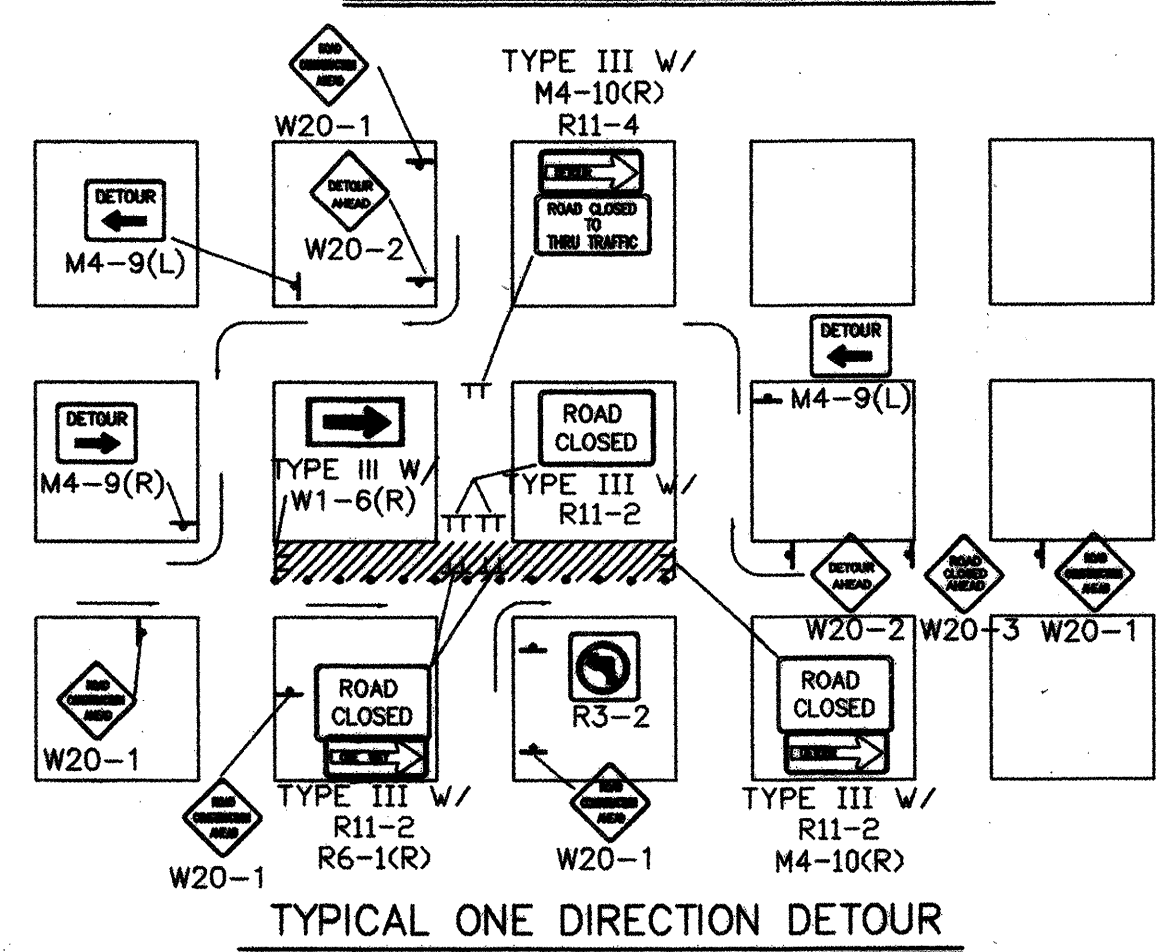
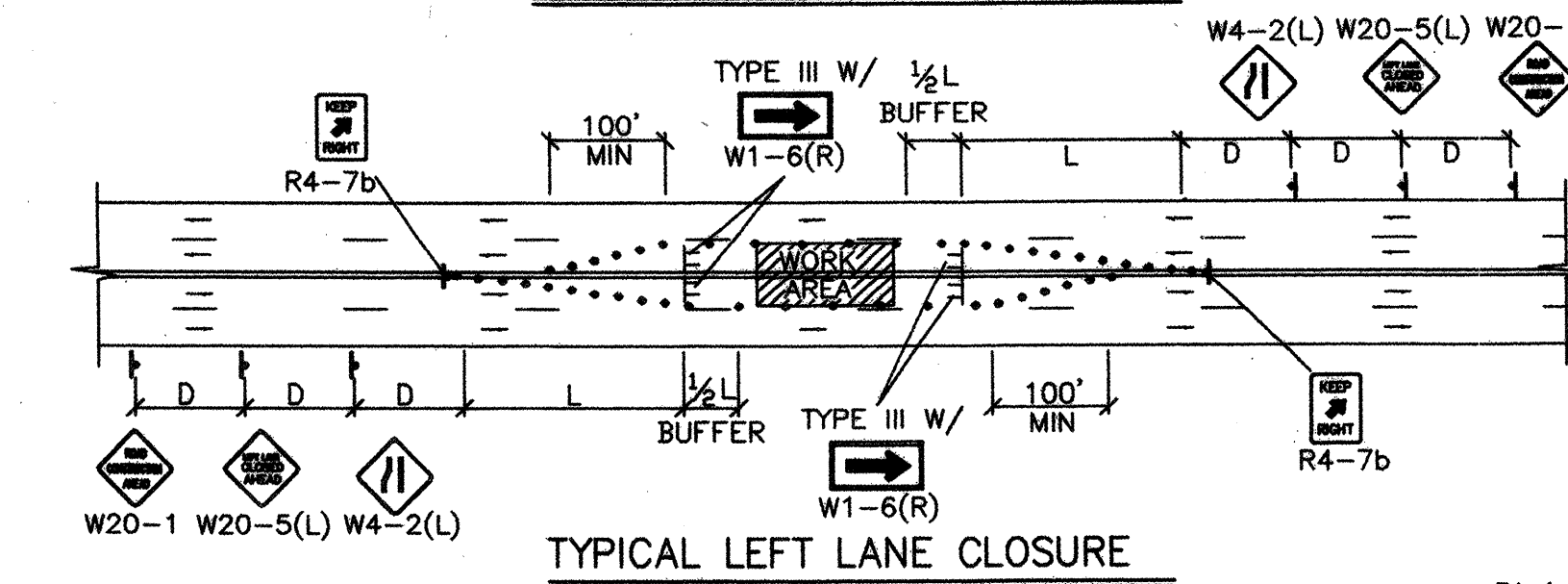
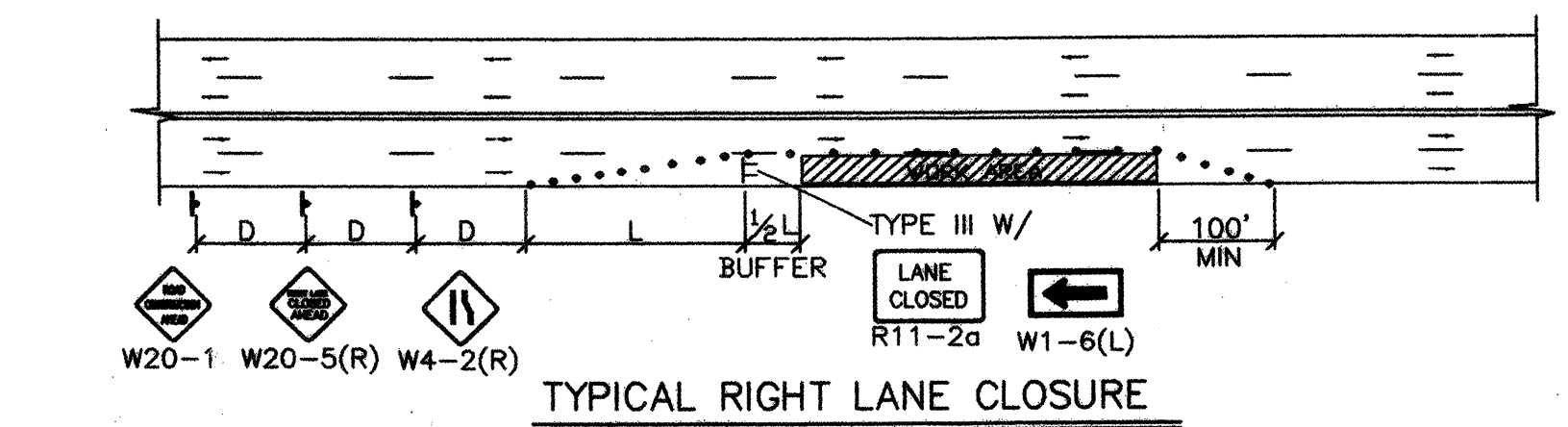
| REVISIONS | CITY OF ALBUQUERQUE                               |
|-----------|---|
| COA DRAFT | WATER 3/4" - 1" METERED SERVICE LINE INSTALLATION |
| DWG.      | MAR 2001  |

LARRY READ & ASSOCIATES, Inc.  
Civil Engineers  
4800-C Juan Tabo Blvd. NE  
Albuquerque, New Mexico 87111  
(505) 237-8421

| CITY OF ALBUQUERQUE<br>PUBLIC WORKS DEPARTMENT<br>ENGINEERING GROUP |                        |             |             |
|---|------------------------|-------------|-------------|
| TITLE: SAHAR SUBDIVISION<br>COA ADDITIONAL DETAILS<br>DRAFT VERSION |                        |             |             |
| DESIGN REVIEW COMMITTEE   | CITY ENGINEER APPROVAL | MO./DAY/YR. | MO./DAY/YR. |
| LAST DESIGN   | LAST DESIGN            |             |             |
| PROJECT NO. 6986.81   | MAP NO. C-19           | SHEET 5A    | OF 8        |

| BENCH MARKS  |  |  |  | AS BUILT INFORMATION |      |             |      |
|--|--|--|--|----------------------|------|-------------|------|
| ACS STATION "11-018" BEING A 1 3/4" ALUMINUM DISK ON TOP OF THE CONCRETE CURB, NNW QUADRANT OF BARSTON STREET AND OAKLAND AVENUE, NE ELEVATION = 5480.974 (NOD 29) |  |  |  | CONTRACTOR           | DATE | INSPECTOR'S | DATE |
| P.O. BOX 44414 RIO RANCHO, NM 87174 PHONE: (505) 886-3050 FAX: (505) 881-0244  |  |  |  | VERIFICATION BY      | DATE | RECORDED BY | DATE |
| COA STANDARD (DRAFT)   |  |  |  | NO.                  |      |             |      |
| ENGINEER'S SEAL  |  |  |  | REMARKS              | DATE | DESIGNED BY | DATE |
|  |  |  |  | REVISIONS            | DATE | DRAWN BY    | DATE |
|  |  |  |  | DESIGN               | DATE | CHECKED BY  | DATE |





**GENERAL NOTE:**  
ALL CONSTRUCTION WARNING  
SIGNS SHALL HAVE A BLACK  
LEGEND ON A ORANGE  
BACKGROUND.

**△ ALL ADVANCE WARNING SIGN  
SHALL BE A MINIMUM OF  
36" THIRTY SIX INCHES BY  
36" THIRTY SIX INCHES IN  
SIZE AND SHALL HAVE ONE  
WARNING LIGHT.**

[illegible]



CONSTRUCTION TRAFFIC CONTROL GENERAL NOTES

1. CONTRACTOR MUST OBTAIN FROM CONSTRUCTION COORDINATION AN EXCAVATION/BARRICADING PERMIT BEFORE ENGAGING IN ANY CONSTRUCTION, MAINTENANCE OR REPAIR WORK IN ANY OF THE CITY OF ALBUQUERQUE'S RIGHTS-OF-WAY. EMERGENCY WORK THAT WOULD PRESERVE LIFE OR PROPERTY IS EXCLUDED WITH THE UNDERSTANDING, THAT A PERMIT SHALL BE OBTAINED WITHIN 24 TO 48 HOURS.
2. CONTRACTOR SHALL AT THE TIME OF PERMIT REQUEST, SUBMIT FOR APPROVAL BY CONSTRUCTION COORDINATION, A TRAFFIC CONTROL PLAN DETAILING ALL EXISTING TOPOGRAPHY SUCH AS LANE WIDTHS, DRIVEWAYS, AND BUSINESS/RESIDENTIAL ACCESSES. THE TRAFFIC CONTROL PLAN SHALL INCLUDE ALL PHASES OF WORK AND SCHEDULES INVOLVED IN THE CONSTRUCTION PROJECT. ANY SEPARATE PHASES OF A CONSTRUCTION PROJECT SHALL BE GIVEN AN INDIVIDUAL PERMIT EACH. BLANKET PERMITS WILL NOT BE ISSUED.
3. THESE TYPICAL TRAFFIC CONTROL PLANS DO NOT REFLECT THE EXISTING TOPOGRAPHY SUCH AS DRIVEWAYS, LANE WIDTHS, AND BUSINESS/RESIDENTIAL ACCESSES. EVERY LOCATION THAT REQUIRES CONSTRUCTION TRAFFIC CONTROL SHALL HAVE A DETAILED TRAFFIC CONTROL PLAN SHOWING ALL EXISTING TOPOGRAPHY.
4. CONSTRUCTION SHALL NOT BEGIN UNLESS A TRAFFIC CONTROL PLAN HAS BEEN APPROVED AND VERIFIED BY CONSTRUCTION COORDINATION.
5. CONSTRUCTION COORDINATION SHALL BE NOTIFIED 48 HOURS PRIOR TO ANY TRAFFIC CONTROL CHANGES NEEDED BY CONTRACTOR, THAT WERE NOT PREVIOUSLY APPROVED. THESE TRAFFIC CONTROL CHANGES SHALL BE REQUESTED IN WRITING ACCOMPANIED WITH A TRAFFIC CONTROL PLAN REFLECTING SUCH CHANGES.
6. ALL CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL COMPLY TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL, SERVICE AND MAINTAIN ALL TRAFFIC CONTROL DEVICES. TRAFFIC CONTROL DEVICES SHALL NOT BE REMOVED OR ALTERED IN ANY WAY WITHOUT THE APPROVAL OF CONSTRUCTION COORDINATION, PER SECTION 6A-4 OF THE MUTCD, LATEST EDITION.
7. THE CONSTRUCTION TRAFFIC CONTROL INITIAL SET-UP SHALL BE BY AN AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED WORK SITE TRAFFIC SUPERVISOR. THE MAINTENANCE AND SERVICING SHALL ALSO BE DONE BY AN ATSSA CERTIFIED WORK SITE TRAFFIC SUPERVISOR OR EQUIVALENT.
8. CONTRACTOR IS RESPONSIBLE TO MAINTAIN AND SERVICE ALL TRAFFIC CONTROL DEVICES 24 HOURS A DAY, 7 DAYS A WEEK THROUGHOUT LENGTH OF PROJECT. CONTRACTOR IS RESPONSIBLE THAT ALL TRAFFIC CONTROL DEVICES COMPLY WITH THE MUTCD, LATEST EDITION.
9. ALL ADVANCE WARNING SIGNS SHALL BE DOUBLE INDICATED WHENEVER THERE ARE MULTI-LANE TRAFFIC IN ANY ONE GIVEN DIRECTION AND THERE IS SUFFICIENT MEDIAN SPACE.
10. ALL BARRICADES IN ALL TAPERS AND TANGENTS SHALL BE PLACED APART, A DISTANCE MEASURED IN FEET, EQUAL TO THAT OF THE POSTED SPEED LIMIT. NO EXCEPTIONS UNLESS APPROVED BY CONSTRUCTION COORDINATION PER MUTCD SECTION 6A-4.
11. ALL WORK IN ARTERIAL ROADWAYS SHALL BE ON A CONTINUOUS 24 HOUR PER DAY BASIS UNTIL COMPLETED.
12. CONTRACTOR IS RESPONSIBLE TO PROVIDE CONSTRUCTION COORDINATION, A WEEKLY LOG OF DAILY INSPECTIONS OF BARRICADE AND MAINTENANCE SCHEDULES ON PROJECTS THAT ARE OVER ONE WEEK DURATION.
13. EQUIPMENT OR MATERIALS SHALL NOT BE STORED WITHIN 15 FEET OF A TRAVELED TRAFFIC LANE DURING NON-WORKING HOURS WITHOUT THE APPROVAL OF CONSTRUCTION COORDINATION.
14. CONTRACTOR SHALL PROVIDE AND MAINTAIN A SAFE AND ADEQUATE MEANS OF CHANNELIZING PEDESTRIAN TRAFFIC AROUND AND THROUGH THE CONSTRUCTION AREA.
15. CONTRACTOR IS RESPONSIBLE FOR OBLITERATION OF ANY CONFLICTING STRIPING AND RESPONSIBLE FOR ALL TEMPORARY STRIPING.
16. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL FACILITIES, BUSINESSES AND/OR RESIDENTS AT ALL TIMES.
17. CONTRACTOR SHALL PROVIDE ACCESS SIGNS FOR BUSINESSES LOCATED WITHIN THE CONSTRUCTION AREA UNDER THE SUPERVISION OF CONSTRUCTION COORDINATION. EACH ACCESS SIGN SHALL HAVE 5 INCH, WHITE OPAQUE LETTERING ON BLUE REFLECTORIZED BACKGROUND. ACCESS SIGNS SHALL BE CONSIDERED INCIDENTAL TO THE BID AND NOT PART OF THE CONTRACT UNLESS OTHERWISE STATED. NO MORE THAN 3 BUSINESSES SHALL BE LISTED ON A ACCESS SIGN. SHOPPING CENTERS AND MALLS SHALL BE LISTED AS SUCH.
18. ALL ADVANCE WARNING SIGNS SHALL MEET THE MINIMUM REFLECTIVE INTENSITY REQUIREMENTS SET FORTH BY THE CITY OF ALBUQUERQUE. CONSTRUCTION COORDINATION SHALL DETERMINE ALL REQUIREMENTS AND APPROVE OR DISAPPROVE ANY ADVANCE WARNING SIGN PER SECTION 6A-4 OF THE MUTCD, LATEST EDITION.
19. 48 HOURS PRIOR TO OCCUPYING OR CLOSING OF A RIGHT-OF-WAY, CONTRACTOR SHALL NOTIFY: POLICE, FIRE DEPARTMENT, SCHOOLS, HOSPITALS, TRANSIT AUTHORITY, BUSINESSES AND/OR RESIDENTS THAT WILL BE AFFECTED BY THE CONSTRUCTION.
20. ANY FIELD ADJUSTMENTS SHALL BE APPROVED BY CONSTRUCTION COORDINATION.

21. EXCAVATIONS SHALL BE PLATED, TEMPORARILY PATCHED OR RESURFACED PRIOR TO OPENING OF TRAFFIC. A MINIMUM OF 11 FEET SHALL BE PROVIDED FOR TRAFFIC IN ANY GIVEN DIRECTION. CONTRACTOR IS RESPONSIBLE FOR ANY WORK INVOLVED IN SATISFYING THESE REQUIREMENTS.
22. CONTRACTOR SHALL AT ALL TIMES COMPLY WITH THE FOLLOWING:
- STANDARDS AND REQUIREMENTS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
  - THE CITY OF ALBUQUERQUE TRAFFIC CODE, LATEST EDITION.
  - SECTION 19 OF THE CITY OF ALBUQUERQUE'S STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION, AS WELL AS OTHER SECTIONS.

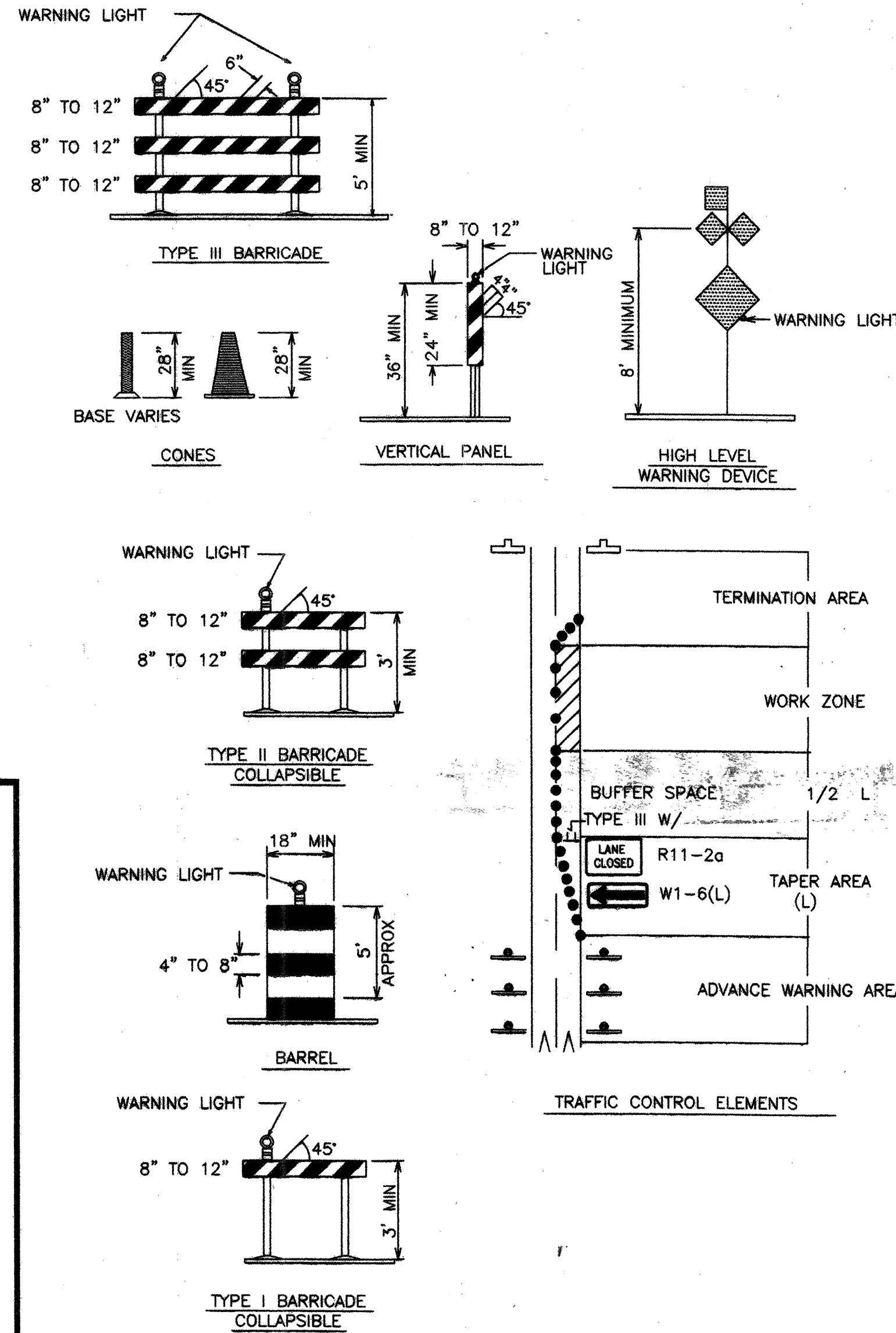
23. FAILURE TO COMPLY WITH ANY OF THE ABOVE MENTIONED, WILL BE ADEQUATE CAUSE TO CEASE ALL WORK ON ANY CONSTRUCTION PROJECT. WORK WILL NOT RESUME UNTIL ALL REQUIREMENTS ARE ADDRESSED AND APPROVED BY CONSTRUCTION COORDINATION.

24. ALL TRAFFIC CONTROL DEVICES SHALL BE KEPT IN NEW-CLEAN CONDITION, WASHING OF EQUIPMENT IS INCIDENTAL TO IT'S PLACEMENT AND MAINTENANCE.

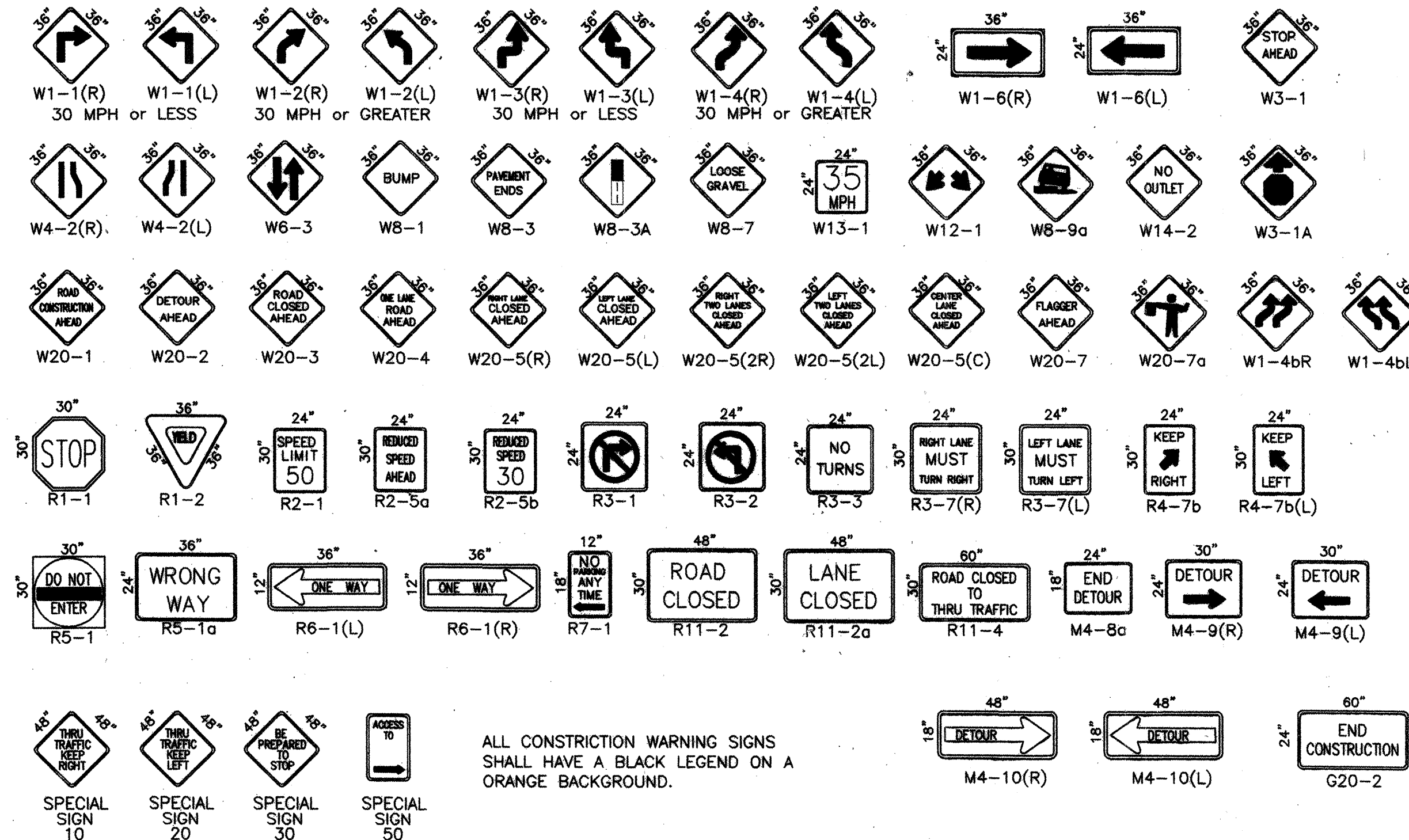
25. TRAFFIC CONTROL STANDARDS APPLY ONLY WHERE THE CONSTRUCTION TRAFFIC CONTROL PLANS ARE NOT SPECIFIC.

26. ADVANCE WARNING SIGNS SHALL BE 36"x36" MIN. WITH SUPER ENGINEERING GRADE SHEETING OR BETTER. MOUNTING HEIGHT AT TOP OF SIGN SHALL BE THE SAME AS FOR A 48" SIGN AS INDICATED IN THE M.U.T.C.D.

27. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORKSITE. ALL GRAFFITI SHALL BE PROMPTLY REMOVED FROM ALL EQUIPMENT, BOTH PERMANENT AND TEMPORARY.



SIGN FACE DETAILS



ALL CONSTRUCTION WARNING SIGNS SHALL HAVE A BLACK LEGEND ON A ORANGE BACKGROUND.

LEGEND

- WORK AREA
- BARRICADE - TYPE I, TYPE II, OR BARREL
- BARRICADE - TYPE III
- VERTICAL PANEL
- WARNING SIGN
- DISTANCE BETWEEN SIGNS - A DISTANCE MEASURED IN FEET EQUAL TO A VALUE OF TEN TIMES THE SPEED LIMIT OF THE STREET
- FLAGMAN POSITION
- SPACING BETWEEN BARRICADES - A DISTANCE MEASURED IN FEET EQUAL TO THE STREET LIMIT OF THE STREET
- TAPER LENGTH - SEE CHART BELOW

THE TANGENT LENGTH IS EQUAL TO THE TAPER LENGTH FOR A GIVEN STREET.

TAPER REQUIREMENT

| SPEED LIMIT (MPH) | TAPER LENGTH(L) (FEET) |          |          | MINIMUM NUMBER OF DEVICES FOR TAPER | MAXIMUM DEVICE SPACING IN FEET |             |
|-------------------|------------------------|----------|----------|-------------------------------------|--------------------------------|-------------|
|                   | 10' LANE               | 11' LANE | 12' LANE |                                     | ALONG TAPER                    | AFTER TAPER |
| 20                | 70                     | 75       | 80       | 5                                   | 20                             | 20          |
| 25                | 105                    | 115      | 125      | 6                                   | 25                             | 25          |
| 30                | 150                    | 165      | 180      | 7                                   | 30                             | 30          |
| 35                | 205                    | 225      | 245      | 8                                   | 35                             | 35          |
| 40                | 270                    | 295      | 320      | 9                                   | 40                             | 40          |
| 45                | 450                    | 495      | 540      | 13                                  | 45                             | 45          |
| 50                | 500                    | 550      | 600      | 13                                  | 50                             | 50          |
| 55                | 550                    | 605      | 660      | 13                                  | 55                             | 55          |

RECOMMENDED SIGN SPACING(D) FOR ADVANCE WARNING SIGN SERIES

| SPEED LIMIT (MPH) | MINIMUM DISTANCE IN FEET BETWEEN SIGNS | FROM LAST SIGN TO TAPER |
|-------------------|--|-------------------------|
| 0-20              | 10 X SPEED LIMIT                       | 10 X SPEED LIMIT        |
| 25-30             | 10 X SPEED LIMIT                       | 10 X SPEED LIMIT        |
| 30-35             | 10 X SPEED LIMIT                       | 10 X SPEED LIMIT        |
| 40-45             | 10 X SPEED LIMIT                       | 10 X SPEED LIMIT        |
| 50-60             | 10 X SPEED LIMIT                       | 10 X SPEED LIMIT        |

TAPER CRITERIA

| TYPE OF TAPER         | TAPER LENGTH      |
|-----------------------|-------------------|
| UPSTREAM TAPER:       |                   |
| MERGING TAPER         | L MINIMUM         |
| SHIFTING TAPER        | 1/2 L MINIMUM     |
| SHOULDER TAPER        | 1/2 L MINIMUM     |
| TWO-WAY TRAFFIC TAPER | 100 FEET MAXIMUM  |
| DOWNSTREAM TAPERS     | 100 FEET PER LANE |

TAPER LENGTH COMPUTATION

| SPEED LIMIT   |                       |
|---|-----------------------|
| 40 MPH OR LESS  | $L = \frac{WS^2}{60}$ |
| 40 MPH OR GREATER                                       | $L = W \times S$      |
| L = TAPER LENGTH  |                       |
| W = WIDTH OF OFFSET IN FEET                             |                       |
| S = POSTED SPEED OR OFF-PEAK 85-PERCENTILE SPEED IN MPH |                       |

|   |                        |              |             |
|---|------------------------|--------------|-------------|
|   |                        |              |             |
| CITY OF ALBUQUERQUE<br>PUBLIC WORKS DEPARTMENT<br>ENGINEERING DEVELOPMENT GROUP |                        |              |             |
| TITLE:<br>SIGNING AND CONSTRUCTION TRAFFIC CONTROL STANDARDS                    |                        |              |             |
| DESIGN REVIEW COMMITTEE   | CITY ENGINEER APPROVAL | MO./DAY/YR.  | MO./DAY/YR. |
| COA STANDARD  | COA STANDARD           |              |             |
| CITY PROJECT NO.  | 6986.91                | ZONE MAP NO. | C-19        |
|   |                        | SHEET        | 7 OF 8      |