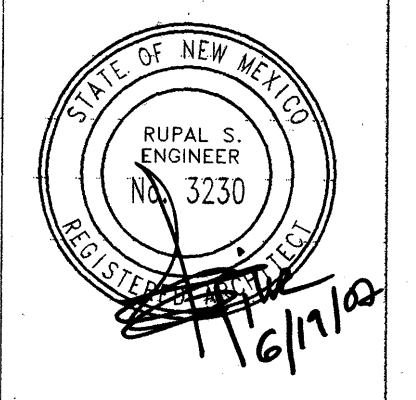


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**HANOVER  
 BUSINESS PARK**

PARKING CALCULATIONS	
TOTAL NET BUILDING AREA -	62640 SQFT
OFFICE/SERVE/RETAIL AREA (80%) -	50115 SQFT
STORAGE AREA (20%) -	12525 SQFT
PARKING SPACES	
75 SPACES FOR 15,000 SQFT @ 200 SQFT PER	
142 SPACES FOR 37,200 SQFT @ 250 SQFT PER	
<b>TOTAL REQUIRED PARKING SPACES = 217</b>	
<b>TOTAL ACTUAL PARKING SPACES = 217</b>	
MOTORCYCLE PARKING SPACES =	5
DISABLED PARKING SPACE REQUIREMENTS (AS PER SECTION 14-16-3-1)	
TOTAL REQUIRED DISABLED PARKING =	8
TOTAL ACTUAL DISABLED PARKING =	8
BICYCLE PARKING SPACES	
1 BICYCLE SPACE FOR EVERY 20 VEHICLE SPACES	
<b>TOTAL REQUIRED BICYCLE SPACES = 12</b>	
<b>TOTAL ACTUAL BICYCLE SPACES = 22</b>	

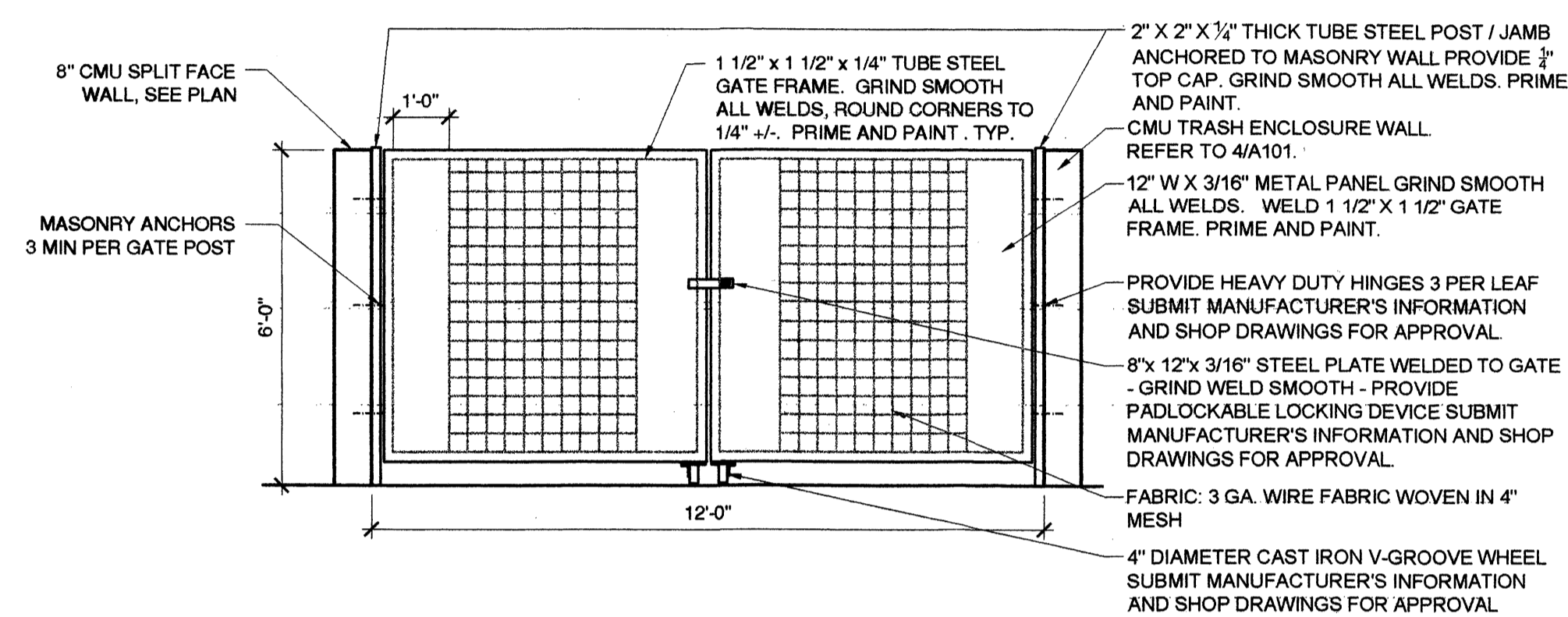
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REVISIONS	
R1	04.16.07
R2	05.30.07

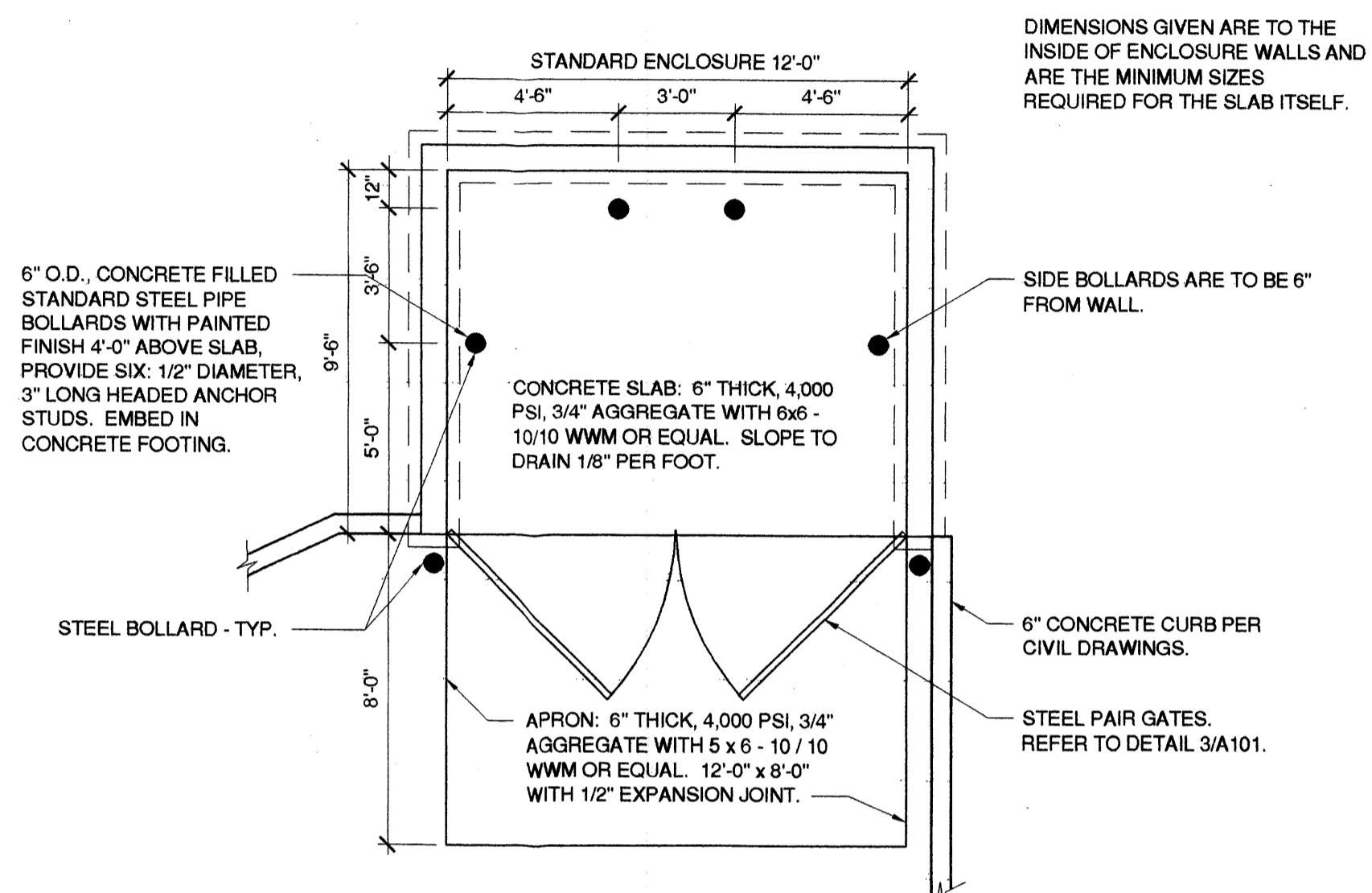
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 CHECKED BY: RE, MJ  
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 SHEET TITLE

**A100.1**

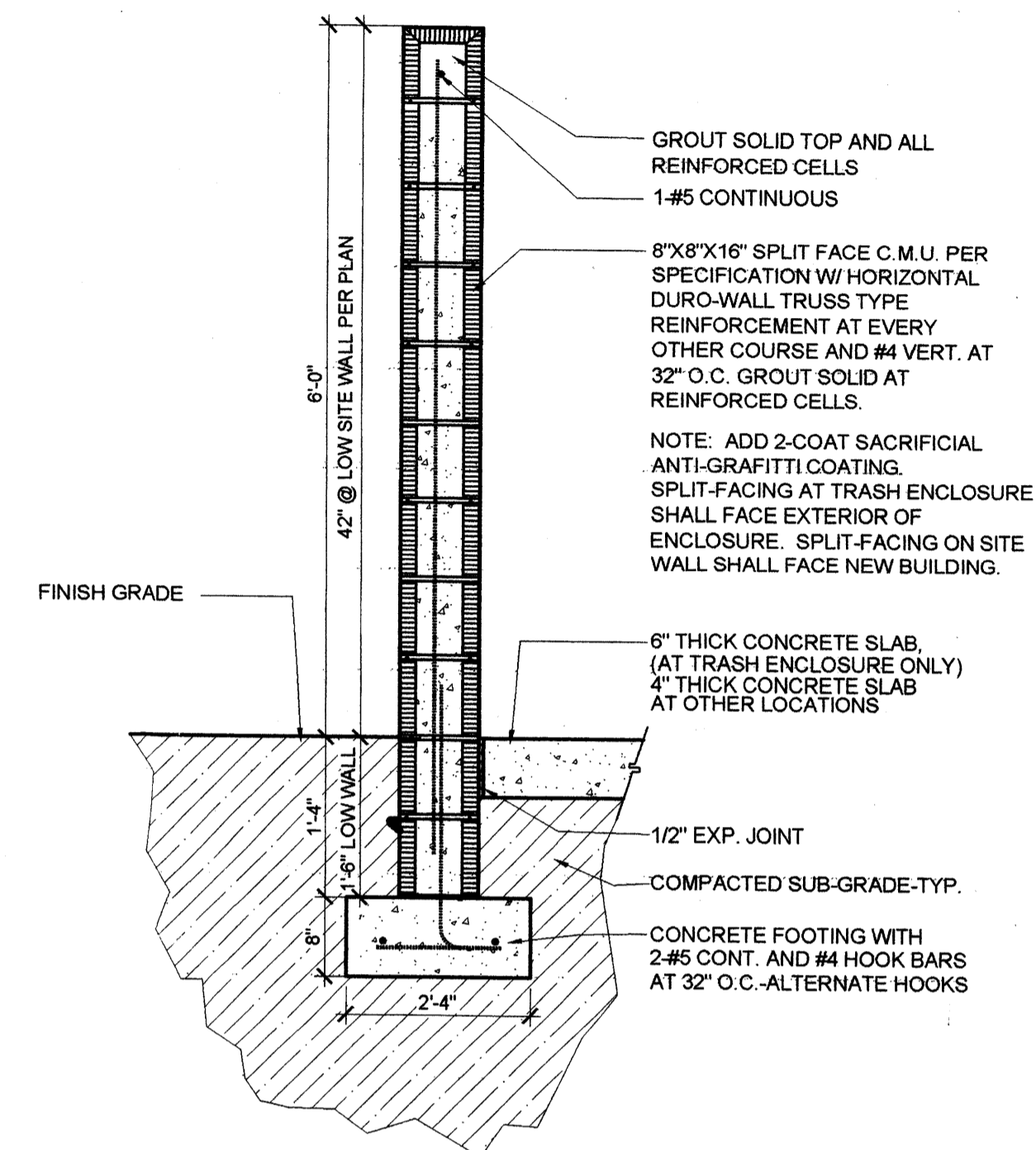
**2 SITE PLAN, CONTINUED**  
 NOT TO SCALE



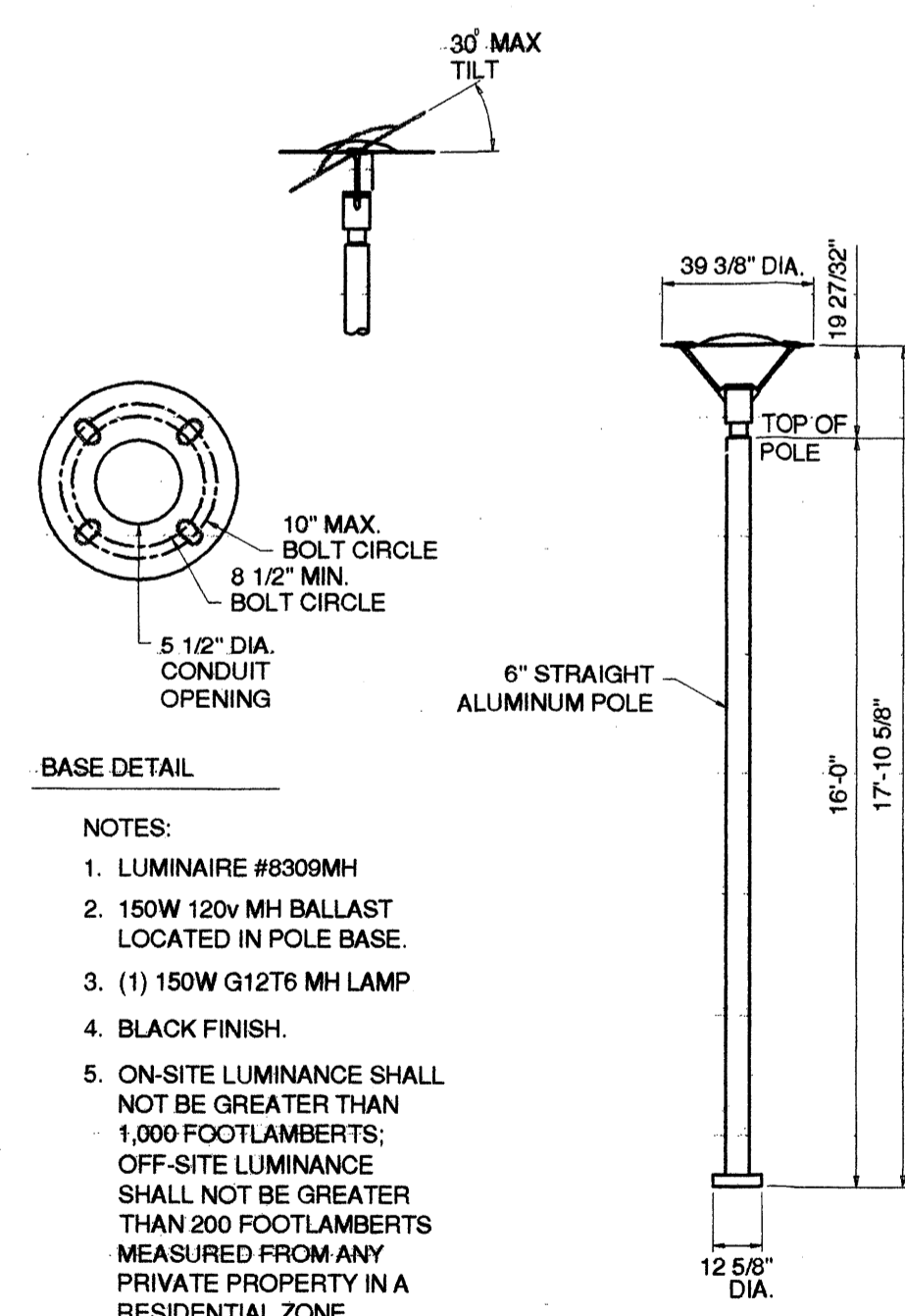
1 TRASH ENCLOSURE FRONT ELEVATION  
3/8" = 1'-0"



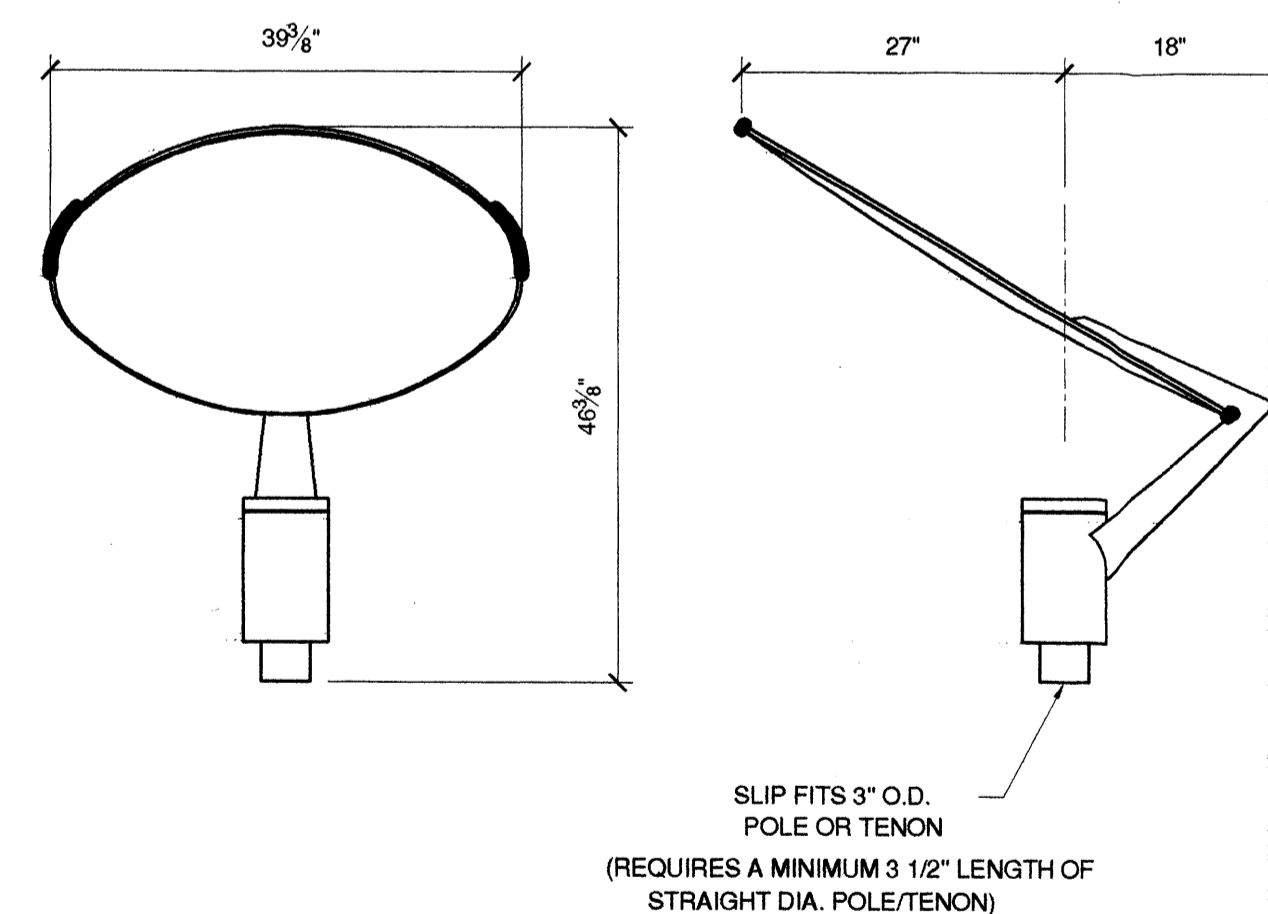
2 ENLARGED TRASH ENCLOSURE PLAN - TYP.  
1/4" = 1'-0"



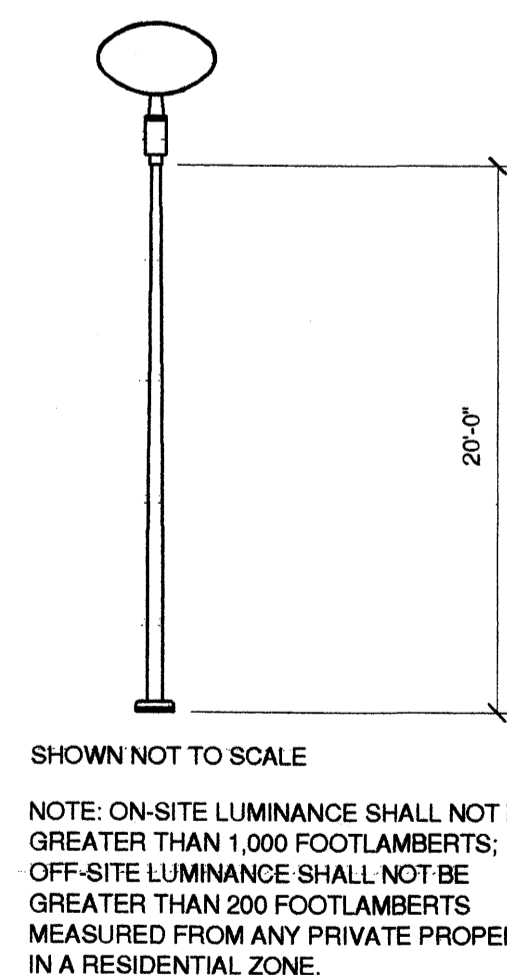
3 TRASH ENCLOSURE / SITE WALL SECTION  
1/2" = 1'-0"



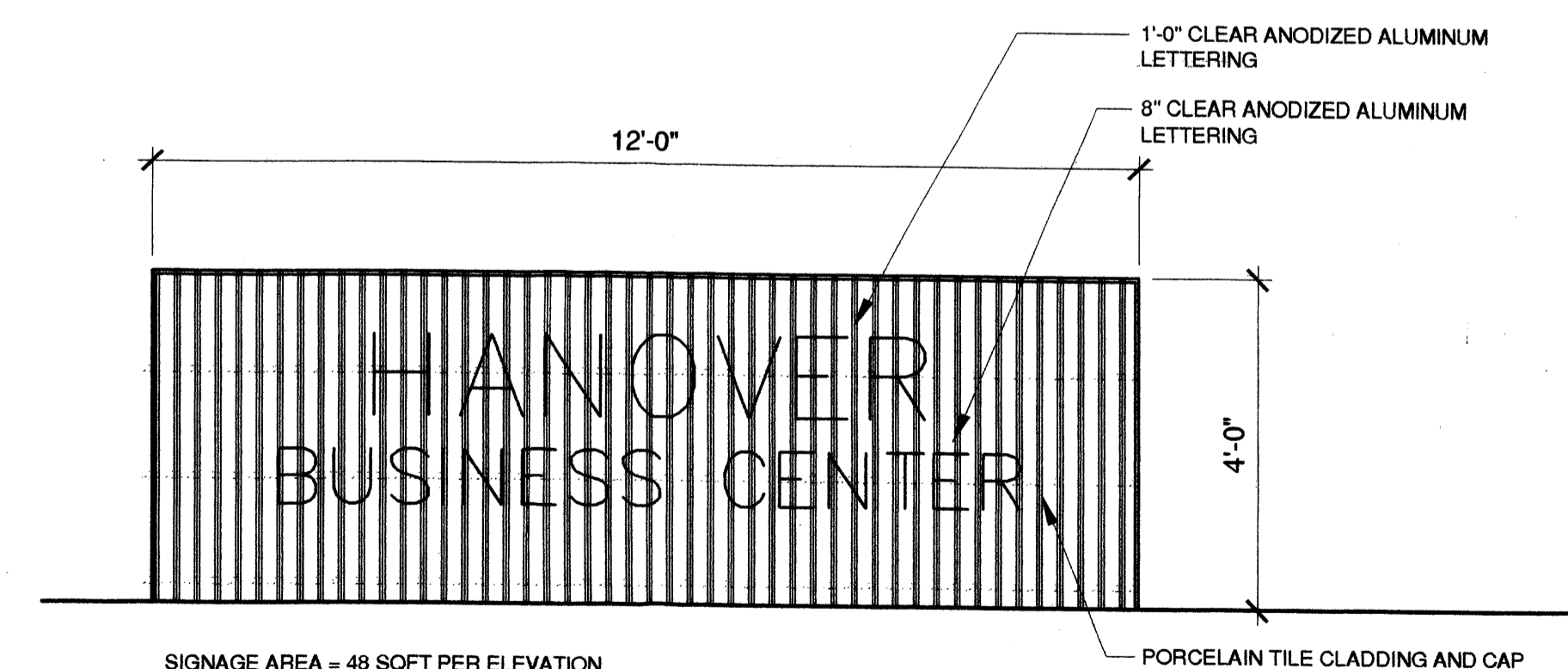
4 SITE LIGHTING, DOMED REFLECTOR - TYP.  
N.T.S.



5 SITE LIGHTING, OVAL REFLECTOR - TYP.  
N.T.S.



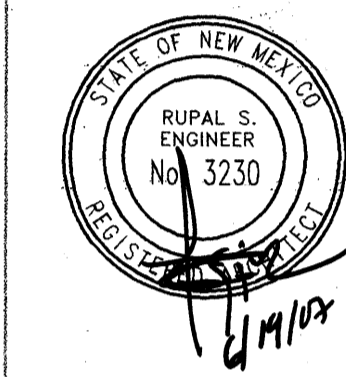
6 MONUMENT SIGN  
1/2" = 1'-0"



GENERAL SHEET NOTES

A. ALL LIGHTING AND LIGHT FIXTURES SHALL COMPLY WITH THE PROVISIONS OF THE C.O.A. COMPREHENSIVE ZONING CODE, SECTION 14-16-3-9 (AREA LIGHTING REGULATIONS).

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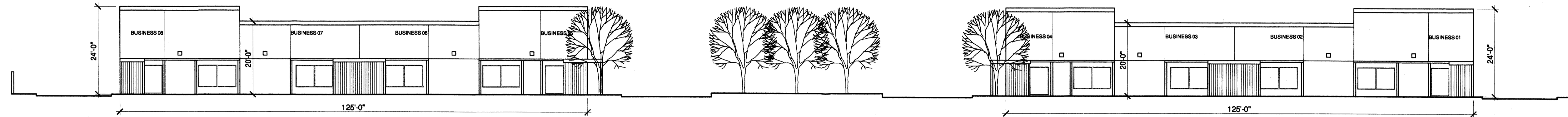
HANOVER  
BUSINESS CENTER

DATE: JUN. 15, 2007

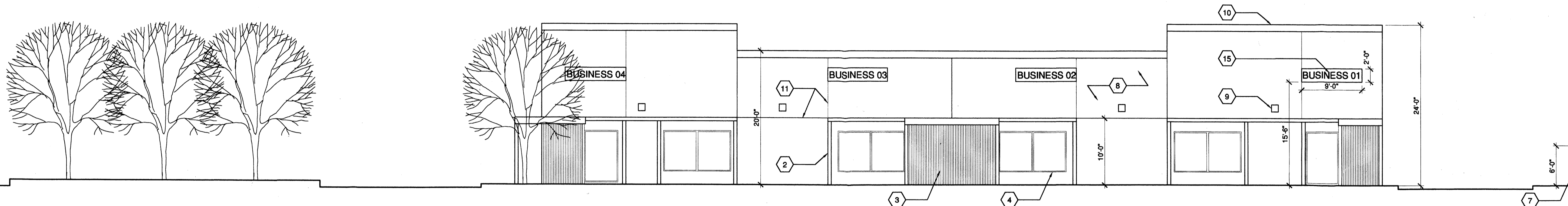
REVISIONS	
R1	04.16-07
R2	06.15-07

PROJECT NO:  
CAD DWG FILE:  
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SITE DETAILS

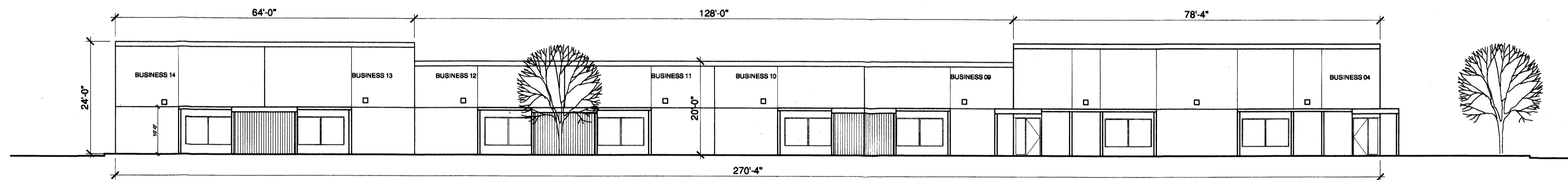
A101



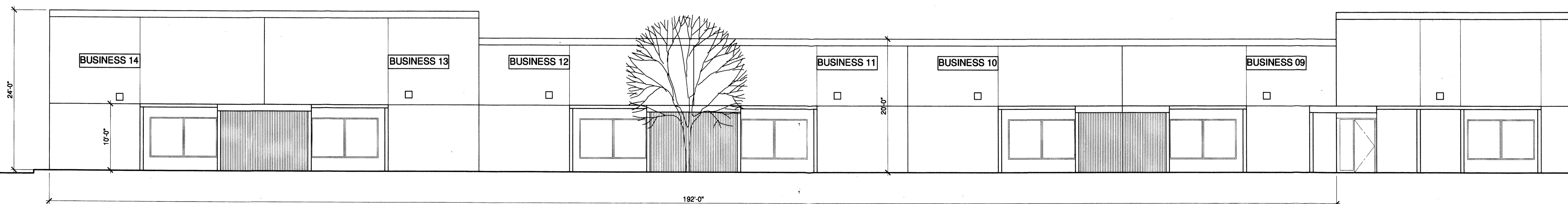
1 N. ELEVATION - OVERALL  
1/16" = 1'-0"



2 N. ELEVATION - DETAIL  
1/8" = 1'-0"



3 W. ELEVATION - OVERALL (E. ELEVATION SIM.)  
1/16" = 1'-0"

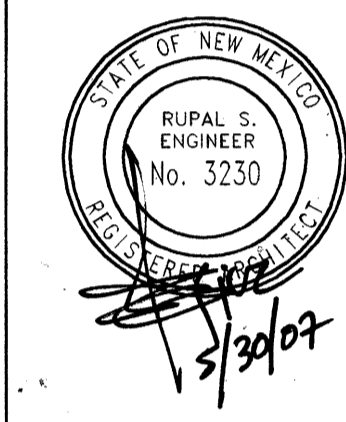


4 W. ELEVATION - DETAIL  
1/8" = 1'-0"

- KEY NOTES (TYPICAL OF ALL BUILDING ELEVATIONS)**
- [NOT SHOWN HERE] BUILDING MOUNTED SIGNAGE. TOTAL SIGN AREA NOT TO EXCEED TWENTY PERCENT OF AREA OF FACADE TO WHICH IT IS APPLIED. THIS SIGNAGE USED FOR FACADES OTHER THAN MAIN ENTRANCE.
  - STEEL BEAM AND POST TRELLIS AND OVERHANG, PAINTED FINISH
  - VERTICAL TILE FINISH - MARRAZI, I SIGILLI "RIGHE NERO"
  - KAWNEER STOREFRONT WINDOW AND FRONT DOOR SYSTEM, ANODIZED FINISH
  - HOLLOW METAL DOOR AND FRAME, PAINTED FINISH
  - CMU DUMPSTER ENCLOSURE
  - 6' H. SITE WALL - REFER TO SITE PLAN
  - 3 COAT STUCCO SYSTEM ON METAL STUD CONSTRUCTION, COLOR BENJAMIN MOORE 'COPLYE GREY' (WARM GRAY)
  - BUILDING MOUNTED LIGHT - BEGA DOWNLIGHT, BLACK FINISH
  - METAL COPING OVER STUCCO PARAPET WALL
  - METAL CONTROL JOINT
  - (NOT USED)
  - (NOT USED)
  - OVERHEAD SECTIONAL DOOR - COLOR TO MATCH ADJACENT STUCCO FINISH
  - BUILDING MOUNTED SIGNAGE - BACK-LIT PROFESSIONALLY PRINTED TRANSLUCENT PANEL, SIGN AREA 18 SQ. FT.

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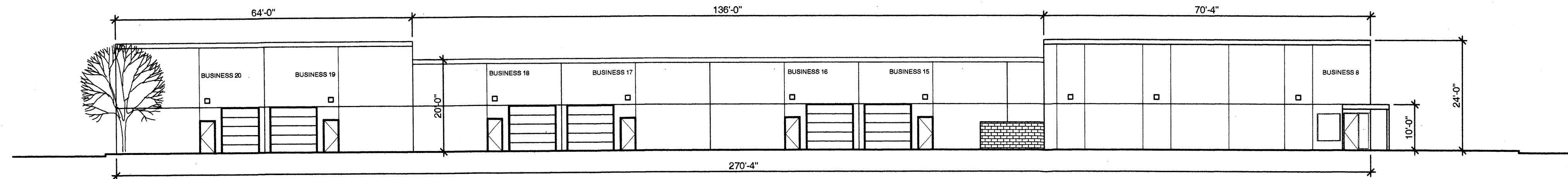
Jan. 12, 2007  
DATE: 04.09.07

REVISIONS	
1	04.16.07

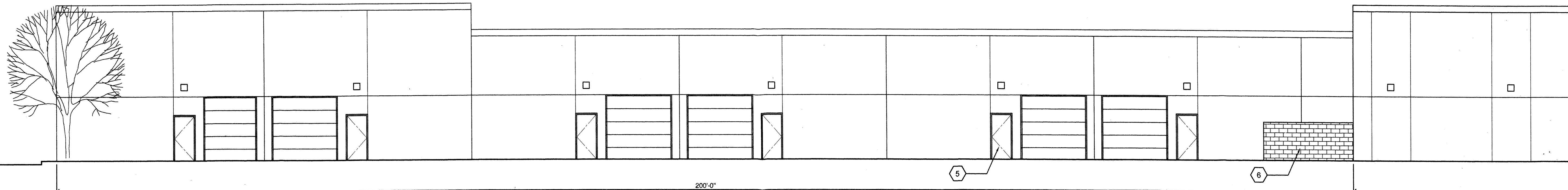
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CAD DWG FILE:  
DRAWN BY: KM  
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BUILDING ELEVATIONS

A201

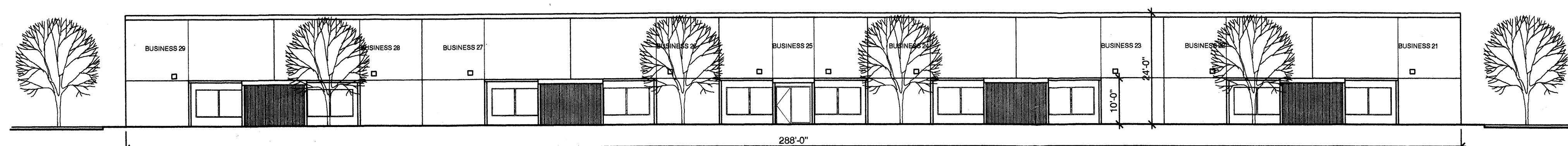
SHEET \_\_\_ OF \_\_\_



1 REAR ELEVATION, E. BLDG. - OVERALL  
1/16" = 1'-0"

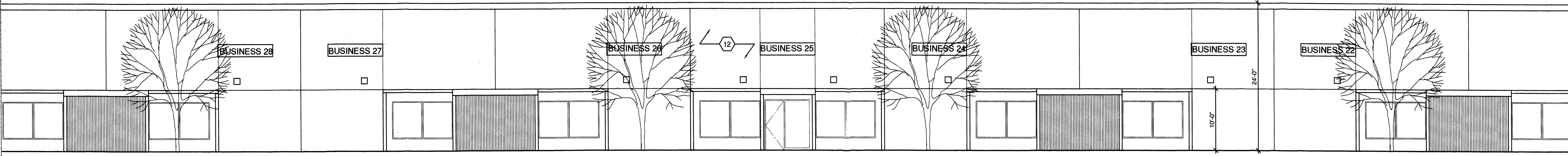


2 REAR ELEVATION, E. BLDG. - DETAIL  
1/8" = 1'-0"

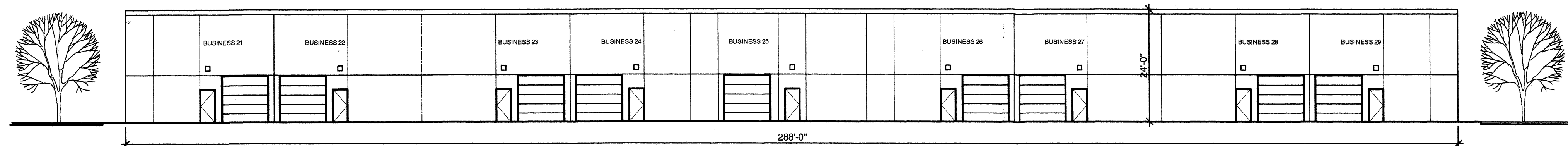


3 FRONT ELEVATION, S. BLDG. - OVERALL  
1/16" = 1'-0"

KEY NOTES (TYPICAL OF ALL BUILDING ELEVATIONS)  
\* REFER TO SHEET A201 FOR KEY NOTE DESCRIPTION



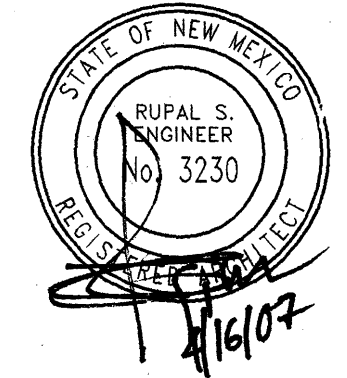
4 FRONT ELEVATION, S. BLDG. - DETAIL  
1/8" = 1'-0"



5 REAR ELEVATION, S. BLDG. - OVERALL  
1/16" = 1'-0"

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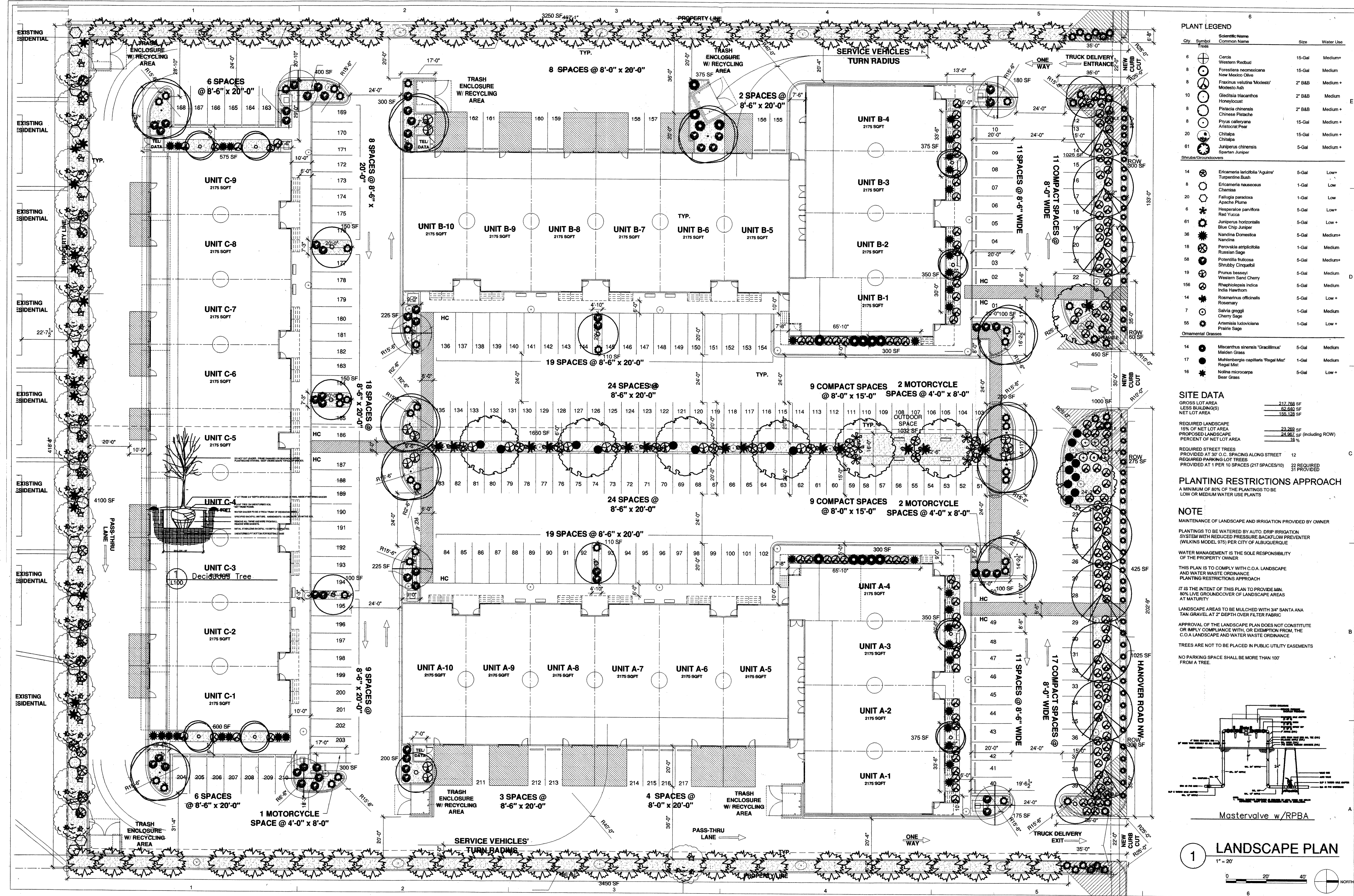
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Jan 12, 2007

DATE:	04.03.07
REVISIONS	
1	04.16.07

PROJECT NO:  
CAD DWG FILE:  
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BUILDING ELEVATIONS

A202



**PLANT LEGEND**

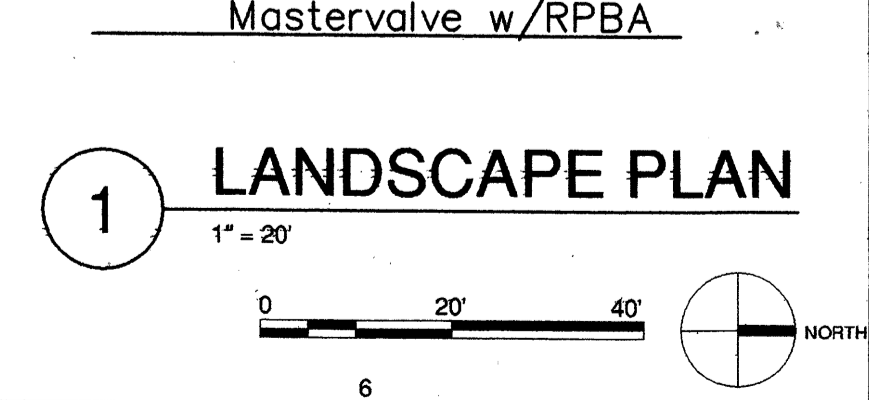
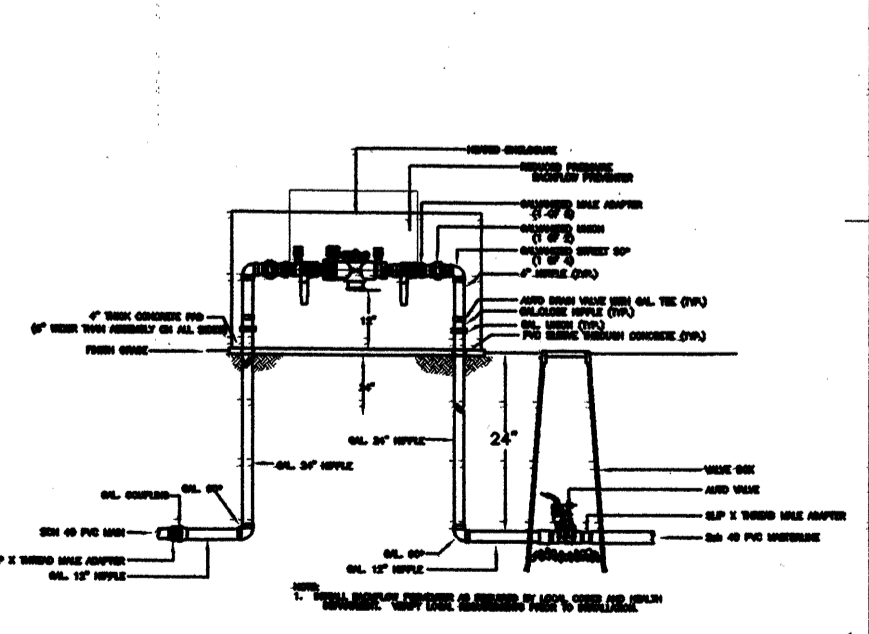
Qty	Symbol	Scientific Name Common Name	Size	Water Use
6	⊕	Cercis	15-Gal	Medium+
8	⊕	Forstiera neomexicana New Mexico Olive	15-Gal	Medium
8	⊕	Fraxinus velutina 'Modesto' Modesto Ash	2" B&B	Medium+
10	⊕	Gleditsia triacanthos Honeylocust	2" B&B	Medium
8	⊕	Pistacia chinensis Chinese Pistache	2" B&B	Medium+
8	⊕	Prunus calleaya Aristocrat Pear	15-Gal	Medium+
20	⊕	Chitalpa Chitalpa	15-Gal	Medium+
61	⊕	Juniperus chinensis Spartan Juniper	5-Gal	Medium+
<b>Shrubs/Groundcovers</b>				
14	⊕	Eriocaulon latifolium 'Aguirre' Turquoise Bush	5-Gal	Low+
8	⊕	Eriocaulon nauseosum Chama	1-Gal	Low
20	⊕	Fallugia paradoxa Apache Plume	1-Gal	Low
6	⊕	Hesperaloe parviflora Red Yucca	5-Gal	Low+
61	⊕	Juniperus horizontalis Blue Chip Juniper	5-Gal	Low+
36	⊕	Nandina domestica Nandina	5-Gal	Medium+
18	⊕	Percovkia stipitilobis Russian Sage	1-Gal	Medium
58	⊕	Potentilla fruticosa Shrubby Cinquefoil	5-Gal	Medium+
19	⊕	Prunus besseyi Western Sand Cherry	5-Gal	Medium
156	⊕	Rhaphtolepis indica India Hawthorn	5-Gal	Medium
14	⊕	Rosmarinus officinalis Rosemary	5-Gal	Low+
7	⊕	Salvia greggii Cherry Sage	1-Gal	Medium
55	⊕	Artemisia ludoviciana Prairie Sage	1-Gal	Low+
<b>Ornamental Grasses</b>				
14	⊕	Miscanthus sinensis 'Gracillimus' Maiden Grass	5-Gal	Medium
17	⊕	Muhlenbergia capillaris 'Regal Mist' Regal Mist	1-Gal	Medium
16	⊕	Nothia microcarpa Bear Grass	5-Gal	Low+

**SITE DATA**

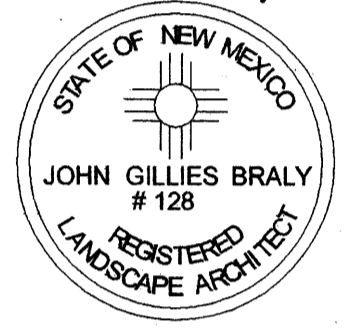
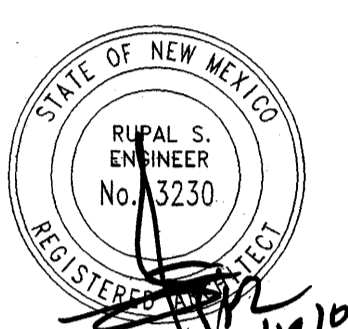
GROSS LOT AREA	217,788 SF
LESS BUILDING(S)	82,560 SF
NET LOT AREA	135,228 SF
REQUIRED LANDSCAPE	23,282 SF
15% OF NET LOT AREA	20,329 SF (including ROW)
PROPOSED LANDSCAPE	24,282 SF
PERCENT OF NET LOT AREA	18%
REQUIRED STREET TREES	12
PROVIDED AT 30' O.C. SPACING ALONG STREET	12
REQUIRED PARKING LOT TREES	22
PROVIDED AT 1 PER 10 SPACES (217 SPACES/10)	22
REQUIRED	31
PROVIDED	31

**PLANTING RESTRICTIONS APPROACH**  
A MINIMUM OF 80% OF THE PLANTINGS TO BE LOW OR MEDIUM WATER USE PLANTS

**NOTE**  
MAINTENANCE OF LANDSCAPE AND IRRIGATION PROVIDED BY OWNER  
PLANTINGS TO BE WATERED BY AUTO. DRIP IRRIGATION SYSTEM WITH REDUCED PRESSURE BACKFLOW PREVENTER (WILKINS MODEL 975) PER CITY OF ALBUQUERQUE  
WATER MANAGEMENT IS THE SOLE RESPONSIBILITY OF THE PROPERTY OWNER  
THIS PLAN IS TO COMPLY WITH C.O.A. LANDSCAPE AND WATER WASTE ORDINANCE  
PLANTING RESTRICTIONS APPROACH  
IT IS THE INTENT OF THIS PLAN TO PROVIDE MIN. 80% LIVE GROUND COVER OF LANDSCAPE AREAS AT MATURITY  
LANDSCAPE AREAS TO BE MULCHED WITH 3" SANTA ANA TAN GRAVEL AT 2" DEPTH OVER FILTER FABRIC  
APPROVAL OF THE LANDSCAPE PLAN DOES NOT CONSTITUTE OR IMPLY COMPLIANCE WITH, OR EXEMPTION FROM, THE C.O.A. LANDSCAPE AND WATER WASTE ORDINANCE  
TREES ARE NOT TO BE PLACED IN PUBLIC UTILITY EASEMENTS  
NO PARKING SPACE SHALL BE MORE THAN 100' FROM A TREE.



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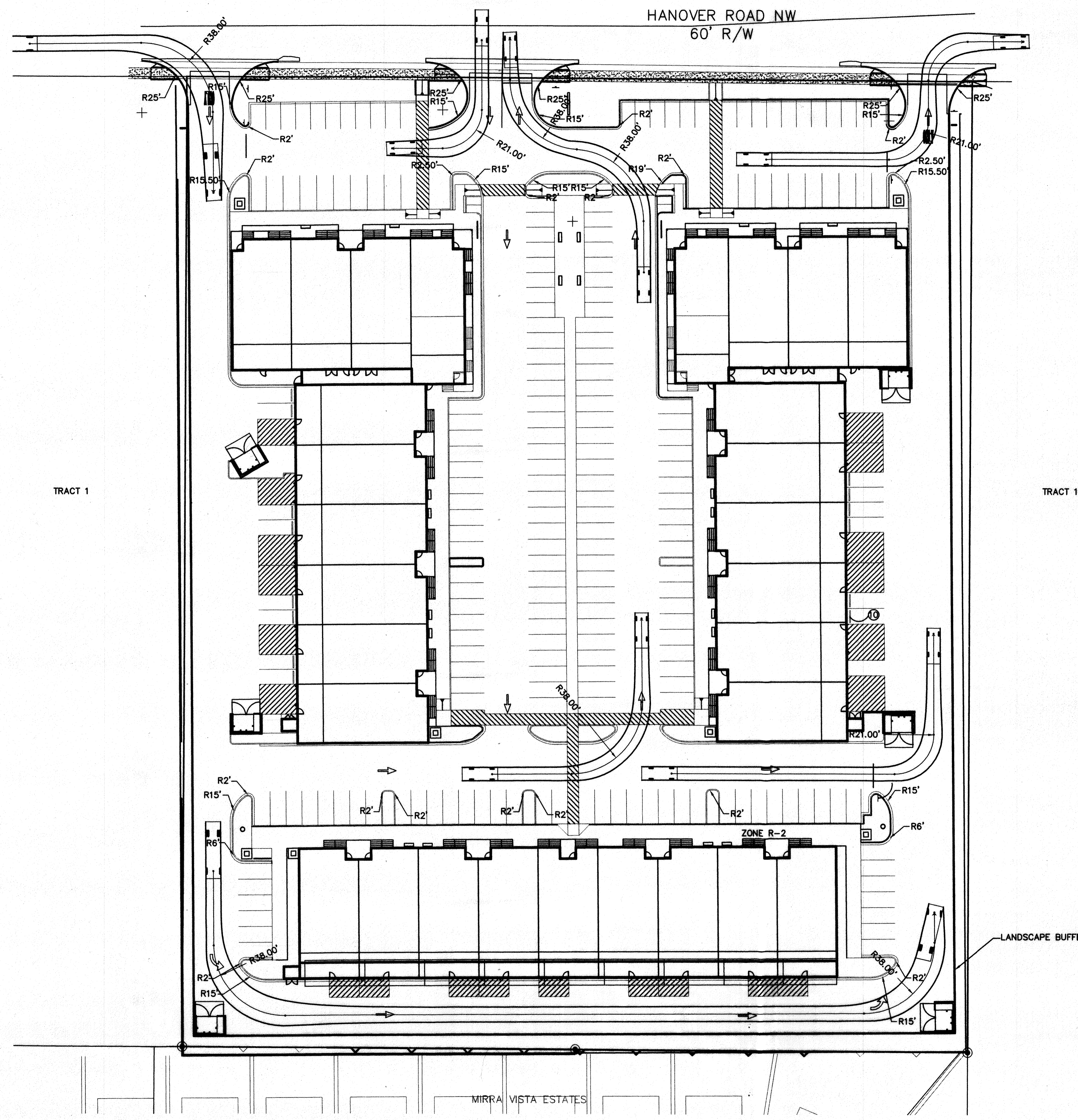
HANOVER  
BUSINESS CENTER

DATE: JUN. 15, 2007

REVISIONS	
R1	04.16.07
R2	06.1.07
R3	06.18.07

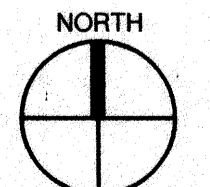
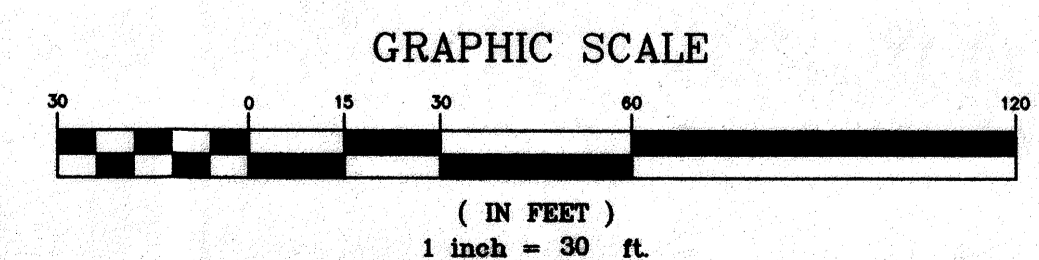
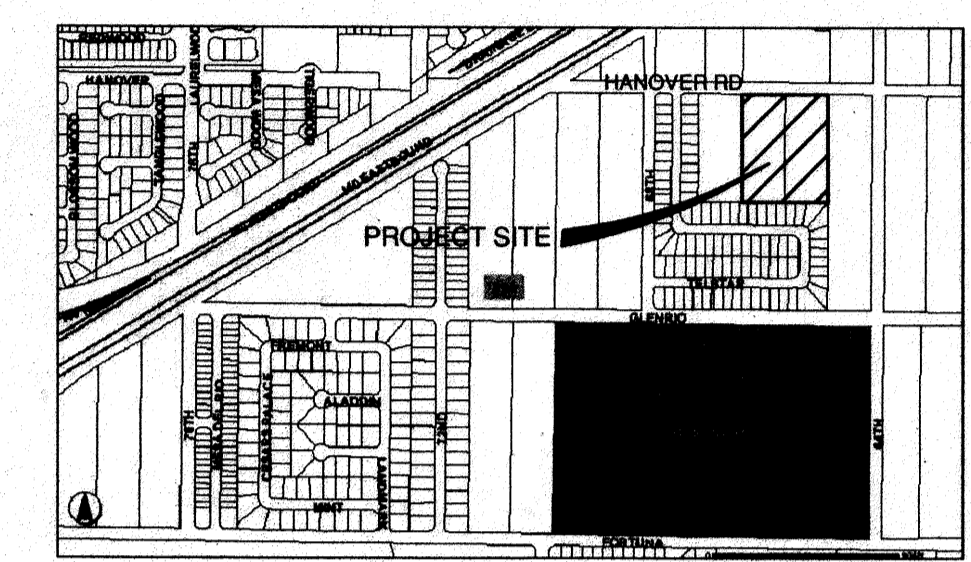
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CAD DWG FILE:  
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1 TRAFFIC CIRCULATION LAYOUT

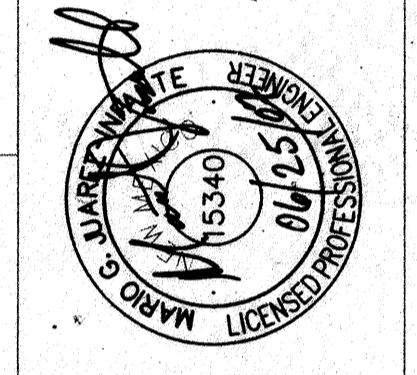
- LEGEND**
- 4" STRIPING
  - PROPOSED ASPHALT
  - PROPOSED CONCRETE
  - EXISTING PROPERTY LINE
  - PROPOSED LANDSCAPE
  - PROPOSED RETAINING WALL
  - EXISTING CMU WALL
  - PROPOSED CURB & GUTTER



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 (505) 348-4000  
 FAX (505) 348-4072  
 WWW.WILSONCO.COM



HANOVER  
 BUSINESS PARK

DATE: JUN. 12, 2007

NO.	REVISIONS

PROJECT NO:  
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 CHECKED BY:  
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 SHEET TITLE

**DESIGN VEHICLE RADIUS PLAN**

C100

SHEET \_\_\_ OF \_\_\_





**Introduction**

A commercial site will be developed at Hannover Road. This commercial site will have an underground drainage system and will be graded to eliminate possible flooding. The site is currently located in a floodplain area according to FEMA; in order to remove the floodplain a LOMR will be required. A both hydrology and hydrologic analysis is needed to analyze how the runoff is going to affect the site as well as the surrounding areas.

**Project Description**

Hannover Business Center is located at Hannover Road, track #2, located in Zone Atlas Map J-10-Z. The legal description is Tract #2 of the Correction Plat of MIRA MESA ESTATES, Tracts 217, 218, 219, and 220, Town of Atrisco Grant, Albuquerque, New Mexico. The purpose of this drainage report is to provide infrastructure and development improvements for the proposed site.

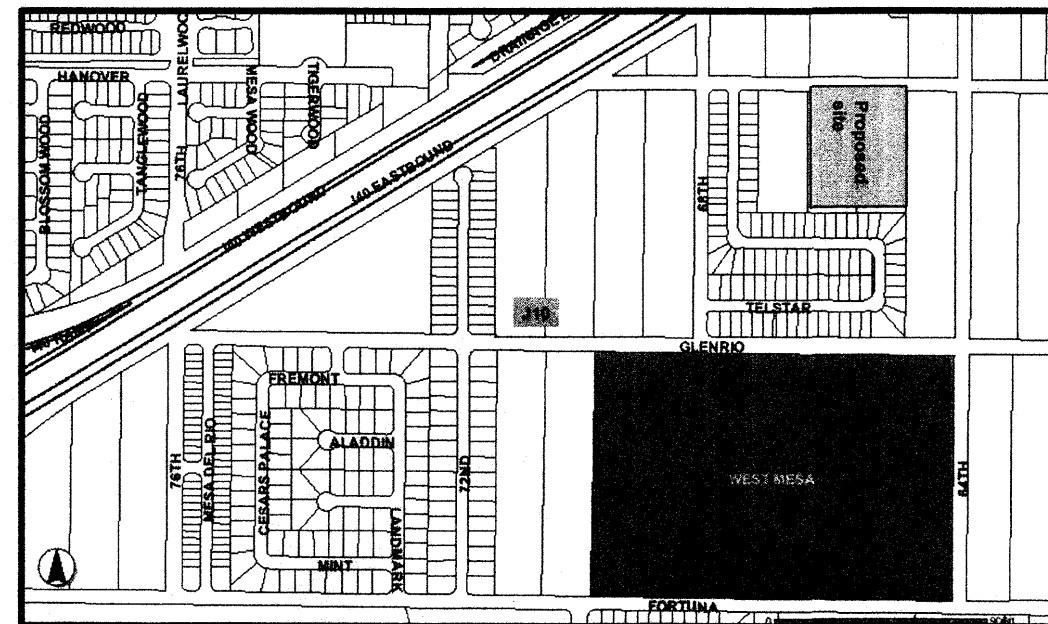


Figure 1.- Hannover business center, Zone Atlas Map J-10-Z

**Hydrology Analysis**

*Existing Conditions*

The existing site is located on a floodplain and naturally drains to the center of the site. The site currently has only one type of soil, Madurez-wink associatin, gently sloping. Soil information was taken from the NRCS website (<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>). The hydrology for the site will be obtained using the 100 year 24 hour event, according to the DPM (Development Process Manual, Vol. 2 for the City of Albuquerque, New Mexico); the site is located in precipitation Zone 1 (West of the Rio Grande). Due to its topography the site was divided in three sub-basins as shown on Figure 2.

The site currently has one type of land treatment (Treatment C according to the DPM manual) which has a total area of 4.88 acres (Same as the Total Site area).

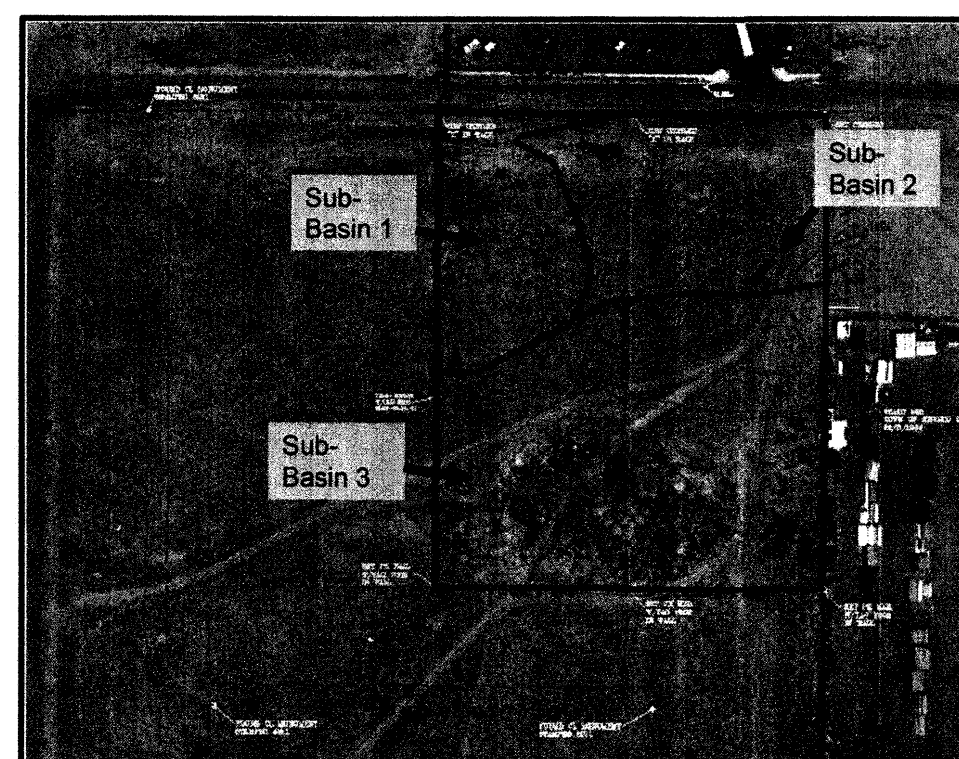


Figure 2.-Hannover business center existing sub-basin division.

The following table is the existing hydrology (Table 1) for Hanover Business Center which includes peak discharge and runoff volume for all the subdivided basins within a 100 year 24 hr event (All calculations were based on the DPM of Albuquerque assuming "Zone 1 and a land treatment C").

Table 1.- Existing hydrology for Hanover Business Center

	TOTAL AREA (sq ft)	Peak Discharge (cfs)	Volume <sub>360</sub> (acre-ft)
Sub Basin 101	38463.6	2.55	0.07
Sub Basin 102	49514.099	3.29	0.14
Sub Basin 103	124393.8	8.26	0.35
<b>TOTAL AREA</b>	<b>2123712</b>	<b>14.1</b>	<b>0.56</b>
<b>TOTAL AREA</b>	<b>4.88 Acres</b>		

**Proposed Conditions**

The site at Hannover Road will be developed into a business complex center. The Business center will be graded to discharge all the runoff into Hannover Road. The total increase of runoff will be 52% of the original runoff.

**Hydrology Analysis**

*Proposed Conditions*

Post development flows are determined based on the proposed watershed boundaries and modified treatments. The site will have 5 different basins; the basins were delineated depending on the discharge location. The basins will have a type D treatment consequently there will be an increase of 52% of discharge runoff and a 32 % of total volumetric runoff. The site will be graded and will have a total 6 inlets;

Table 2.-Proposed Conditions Peak Discharge and Volume

Proposed Basin	Total Area(acres)	Peak Discharge (cfs)	Volume (acre-ft)
Basin 101	0.763	3.36	0.13
Basin 102	1.0142	4.47	0.22
Basin 103	1.11	4.89	0.24
Basin 104	0.9828	4.33	0.22
Basin 105	1.13	4.98	0.25
<b>TOTAL</b>	<b>5.0</b>	<b>22.03</b>	<b>1.06</b>

Table 2 represents the proposed conditions for Hanover Business center. The site will have an increase of 7.9 cfs for total runoff and an increase volumetric flow of 0.5 acre-ft for 6 hrs (V<sub>360</sub>).

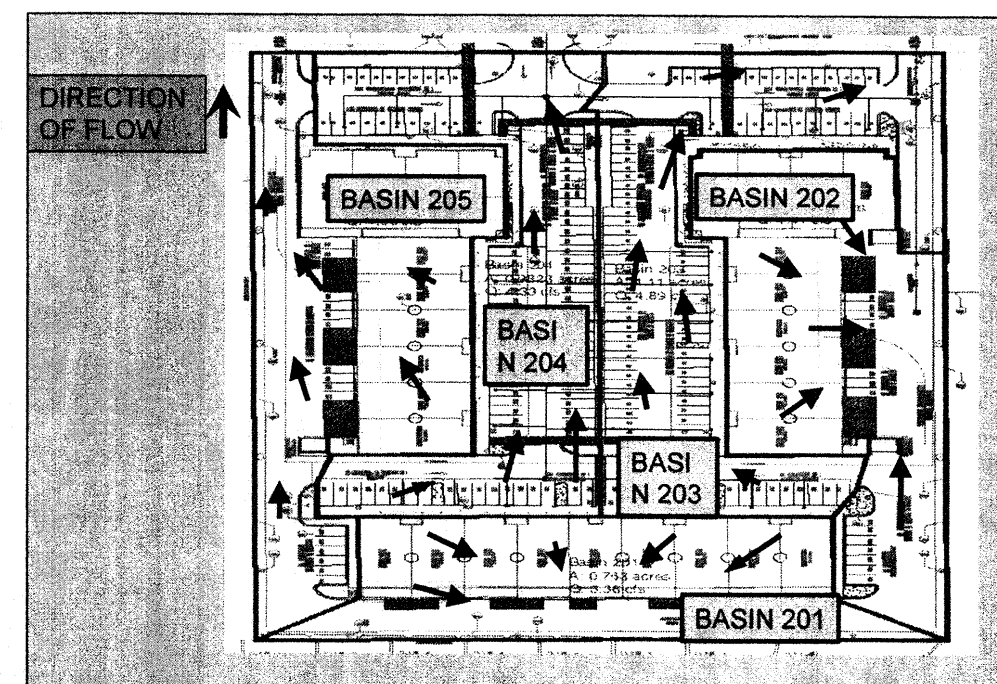


Figure 3.-Hannover business center proposed sub-basin division

**Hydraulics**

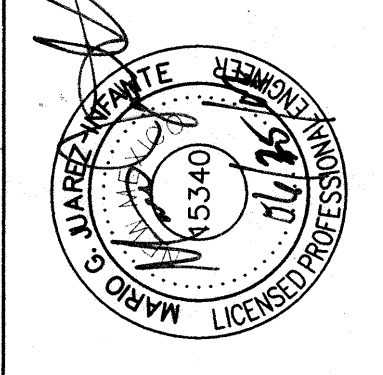
Based on proposed hydrology the hydraulics of the site will be performed. Basins 204 and 205 will be discharging into Hanover Road this will be accomplish by grading the site to the west, basin 201-203 will be draining into an inside site inlet that will be connected to the main storm system on Hanover Road (Figure 3). The catch basin will be a (24" Nyloplast catch basin) and the pipe will be an 18" pipe diameter that will connect to an existing pipe line on Hanover Road. To determine the pipe size diameter Manning's equation was used. A roughness coefficient of 0.013 was assumed (plastic pipe) and a constant (k) of 1.46(for USCS). The peak discharge of the Basins 201-203 was used to calculate the pipe size diameter.

**Conclusion**

Hanover Business Center will be constructed at Hanover Road Zone Atlas Map J-10-Z. The site has approximately 5 acres of land treatment type C (soil compacted by human activity). This site naturally slopes to the center of the site. The total existing runoff is 14.1 cfs and will increase by 52% due to the proposed land treatment change (Type D). The proposed business center will be discharging to 2 out of it's 5 basins into Hanover street (basin 204 and 205) while basin 201-03 will have an underground storm system.

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**HANNOVER BUSINESS PARK**

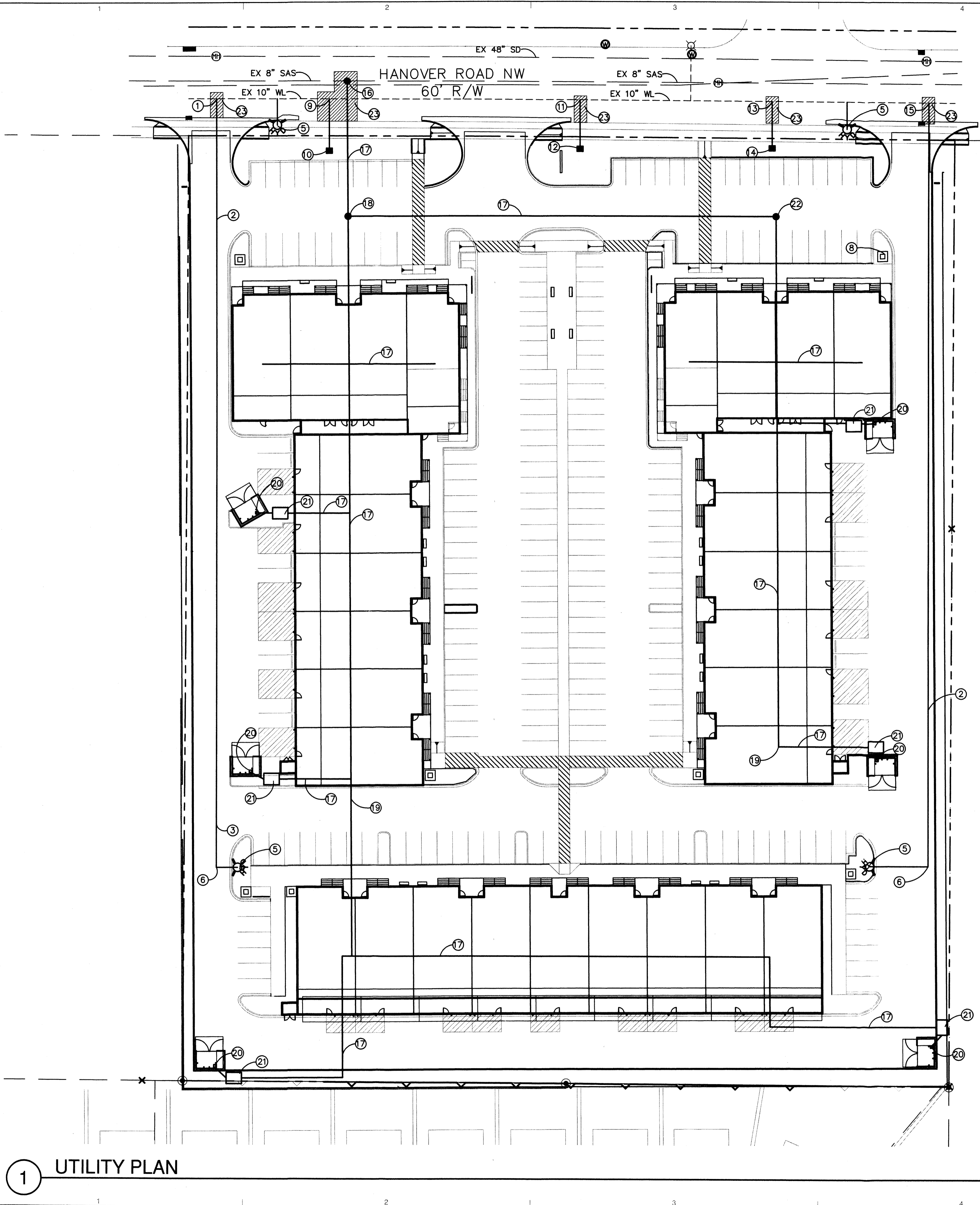
DATE: JUN. 12, 2007

NO.	REVISIONS

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**GRADING & DRAINAGE REPORT**

**C101A**  
SHEET \_\_\_ OF \_\_\_



PVC WATER PIPE THRUST  
HORIZONTAL RESTRAINT REQUIREMENTS (1)  
LENGTHS OF PIPE TO BE RESTRAINED (FEET)

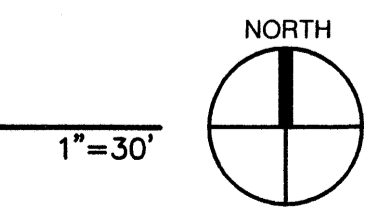
PIPE SIZE	TEE	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
6"	20'	19'			

**LEGEND**

	EXISTING INTERMEDIATE CONTOUR
	EXISTING INDEX CONTOUR
	EXISTING PROPERTY LINE
	PROPOSED FIRE HYDRANT

- KEY NOTES**
- 1 INSTALL 1-10"x6" TEE RESTRAINED
  - 2 NEW 6" PVC WATERLINE
  - 3 INSTALL 1-6" 90° BEND RESTRAINED
  - 4 INSTALL 1-6"x6" TEE
  - 5 INSTALL 1-FH
  - 6 INSTALL 1-6" 90° BEND RESTRAINED
  - 7 INSTALL 1-6"x6" TEE RESTRAINED
  - 8 NOT USED
  - 9 INSTALL 1-10"x6" TEE RESTRAINED
  - 10 INSTALL 1-2" METER W/BOX
  - 11 INSTALL 1-10"x6" TEE RESTRAINED
  - 12 INSTALL 1-2" METER W/BOX
  - 13 INSTALL 1-10"x6" TEE RESTRAINED
  - 14 INSTALL 1-2" METER W/BOX
  - 15 INSTALL 1-10"x6" TEE RESTRAINED
  - 16 INSTALL 1-4" DIA TYPE "E" SAS MH  
RIM=5103.20  
INV IN=5087.87  
INV W=5087.82  
INV E=5087.72
  - 17 NEW 8" PVC SAS
  - 18 INSTALL 1-4" DIA TYPE "E" SAS MH  
RIM=5102.50  
INV N=5096.34  
INV S=5096.44  
INV E=5096.49
  - 19 INSTALL 1-8" SAS TEE
  - 20 INSTALL 1-12" CATCH BASIN
  - 21 INSTALL 1-GREASE TRAP
  - 22 INSTALL 1-4" DIA TYPE "E" SAS MH  
RIM=5103.60  
INV W=5097.85  
INV S=5097.95
  - 23 SAW CUT REMOVE, DISPOSE AND REPLACE

1 UTILITY PLAN



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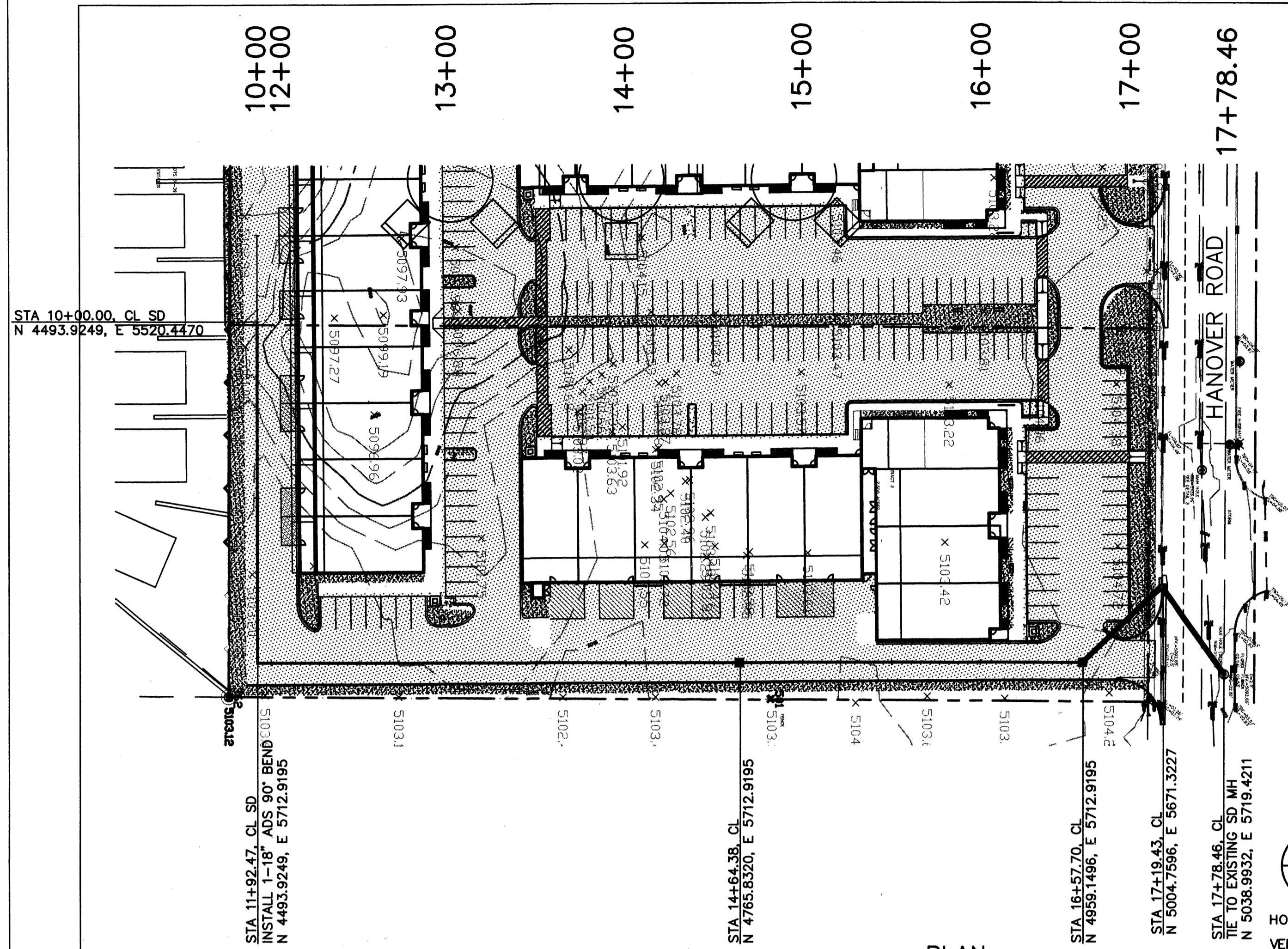
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**UTILITY PLAN**

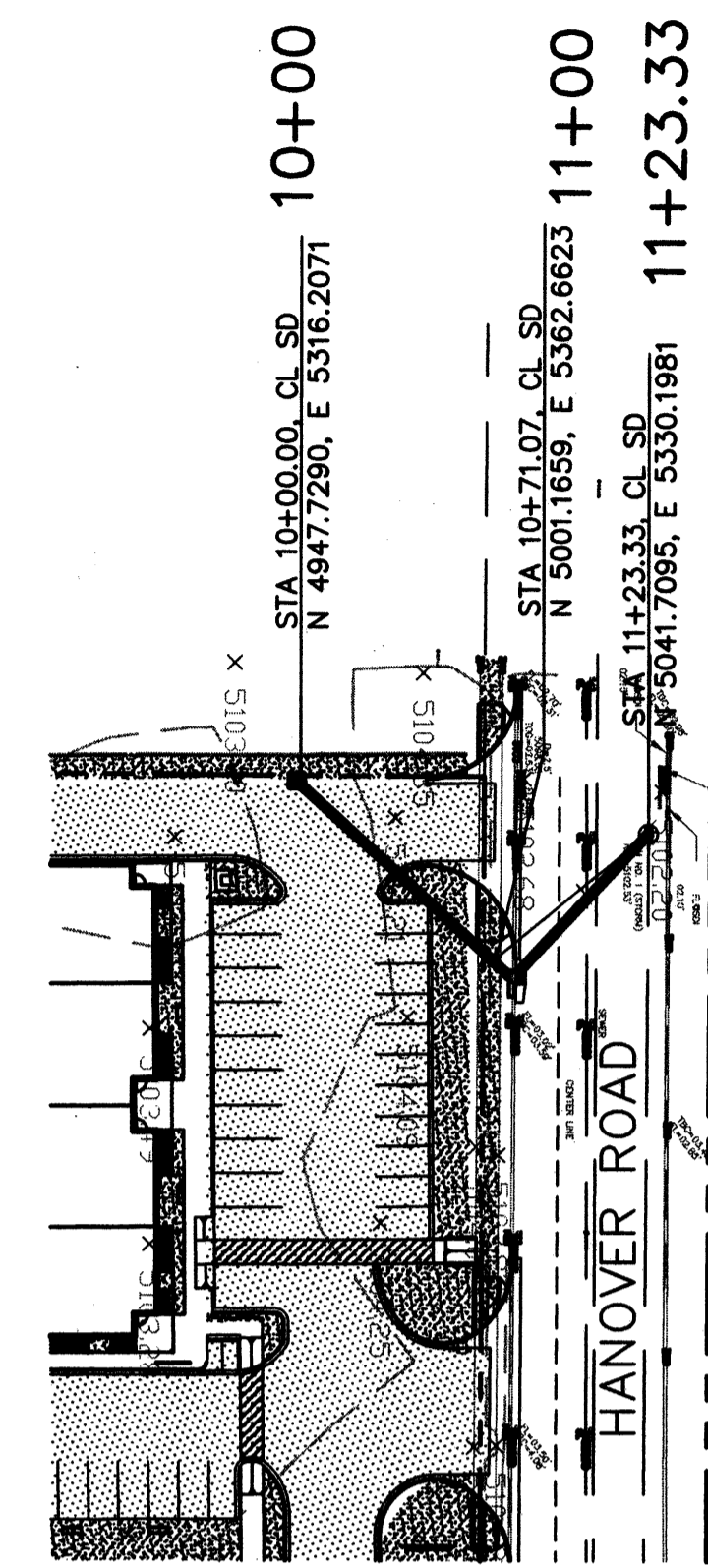
**C102**

SHEET \_\_\_ OF \_\_\_



PLAN

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



PLAN

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

LEGEND

- EXISTING INTERMEDIATE CONTOUR
- EXISTING INDEX CONTOUR
- EXISTING PROPERTY LINE
- TC= TOP OF CURB  
TOG= TOP OF GRATE  
INV= INVERT
- 4" STRIPING
- PROPOSED ASPHALT
- PROPOSED CONCRETE
- PROPOSED LANDSCAPE
- PROPOSED RETAINING WALL
- EXISTING CMU WALL
- PROPOSED CURB & GUTTER

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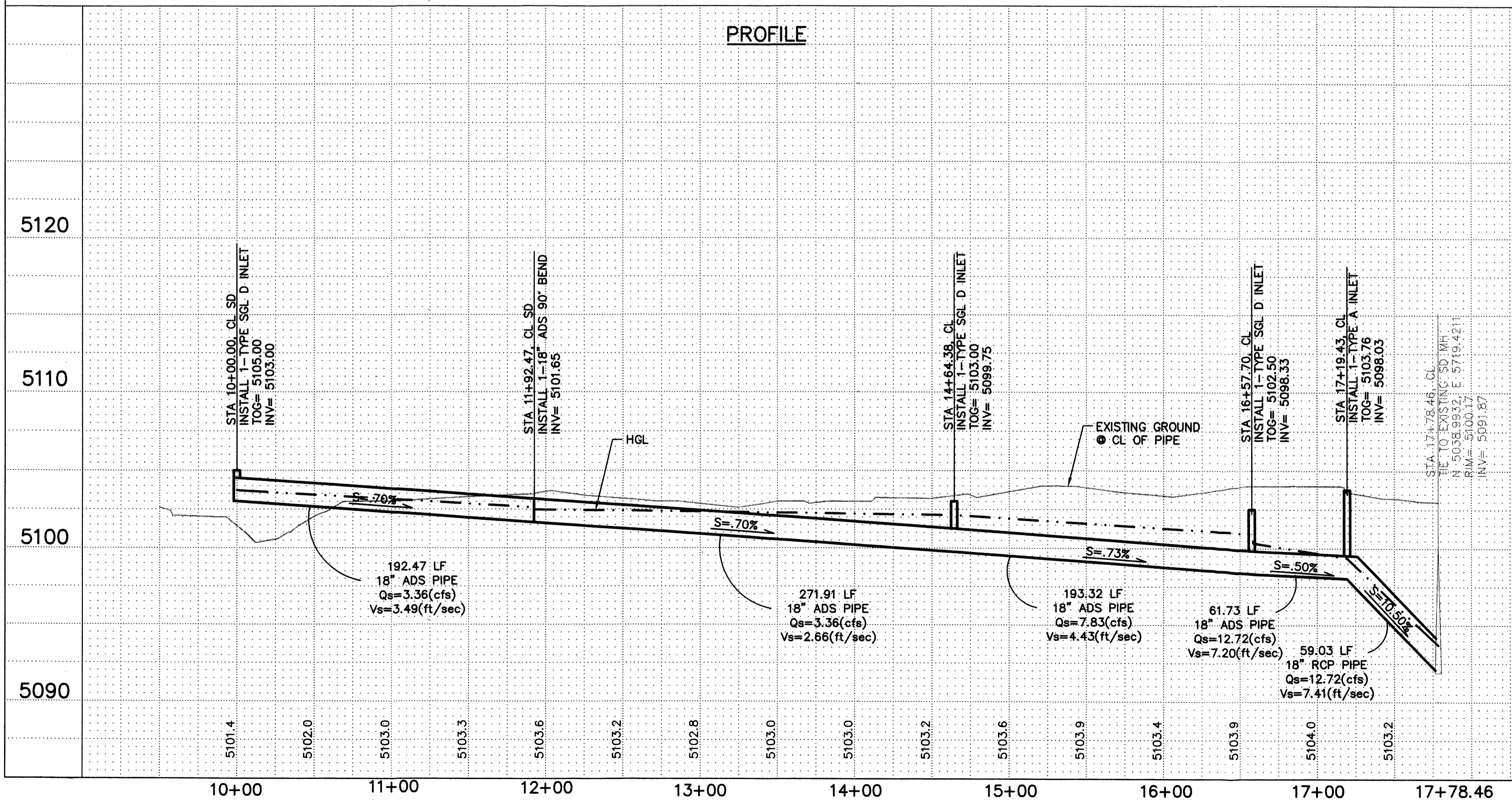
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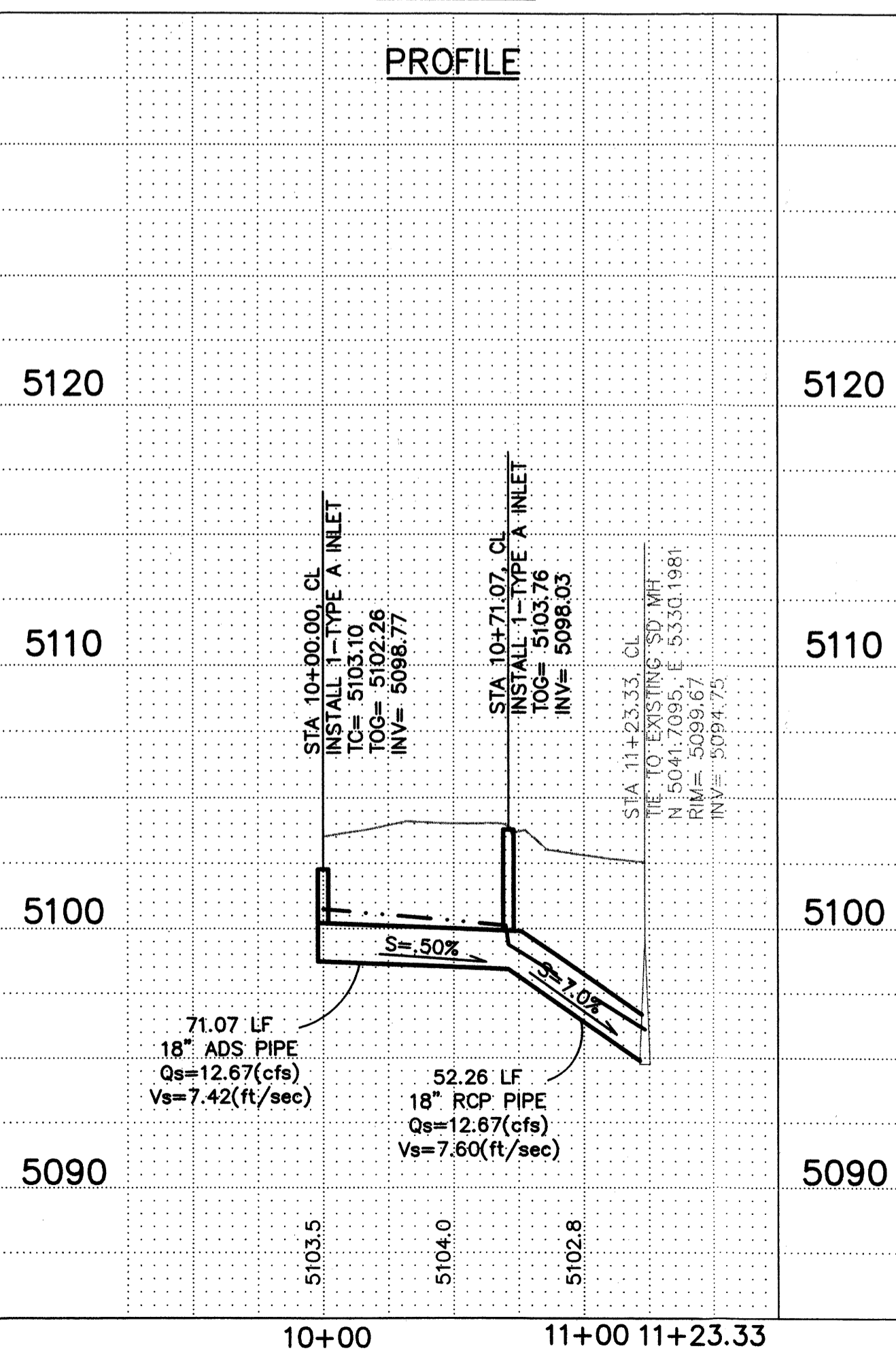
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PROFILE



PROFILE

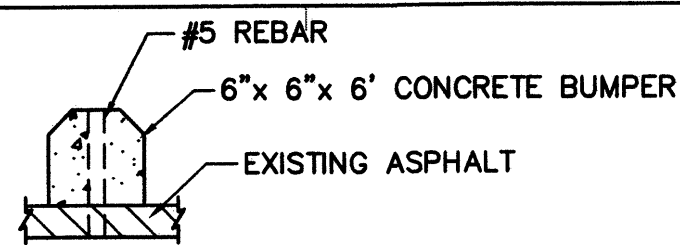


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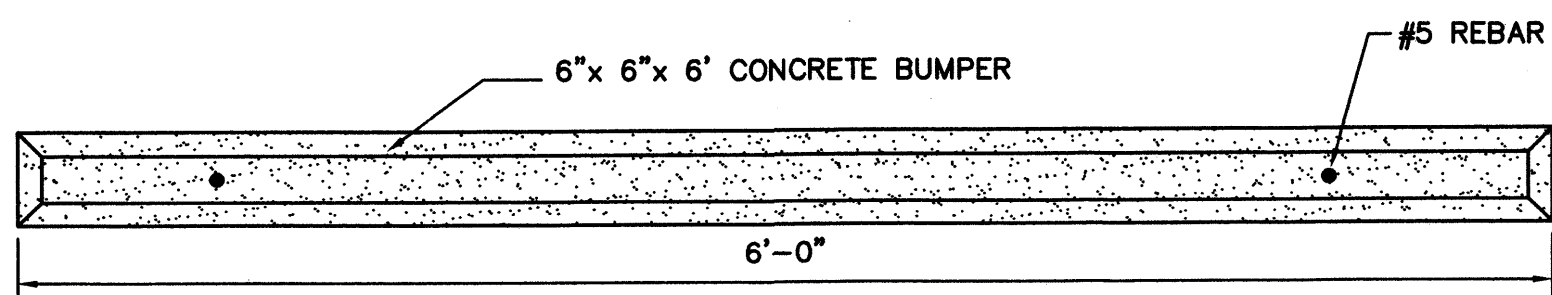
PLAN  
 &  
 PROFILE

**C103**

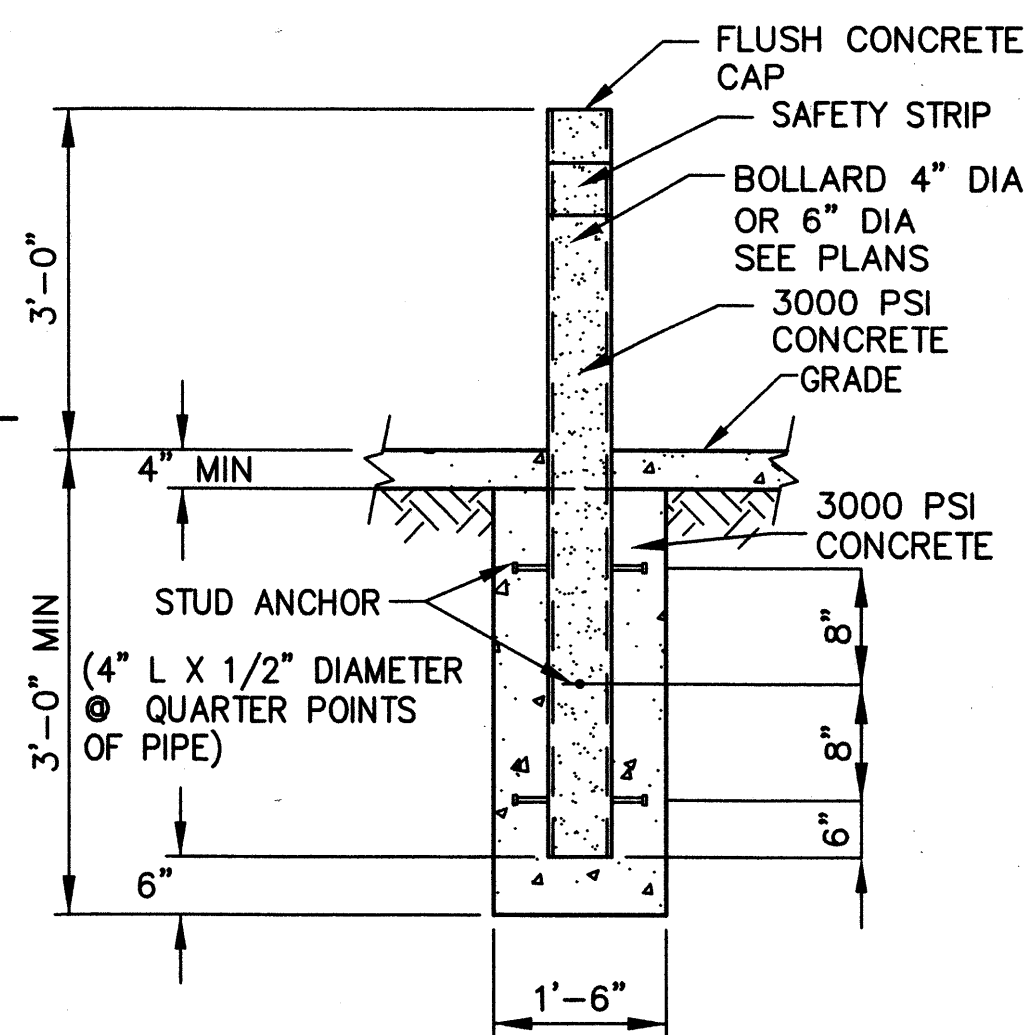
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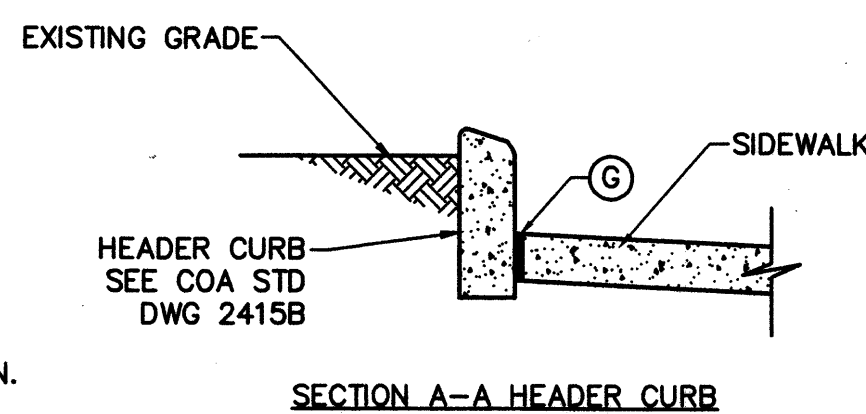
**E1** 6'-0" WHEEL STOP DETAIL  
NTS



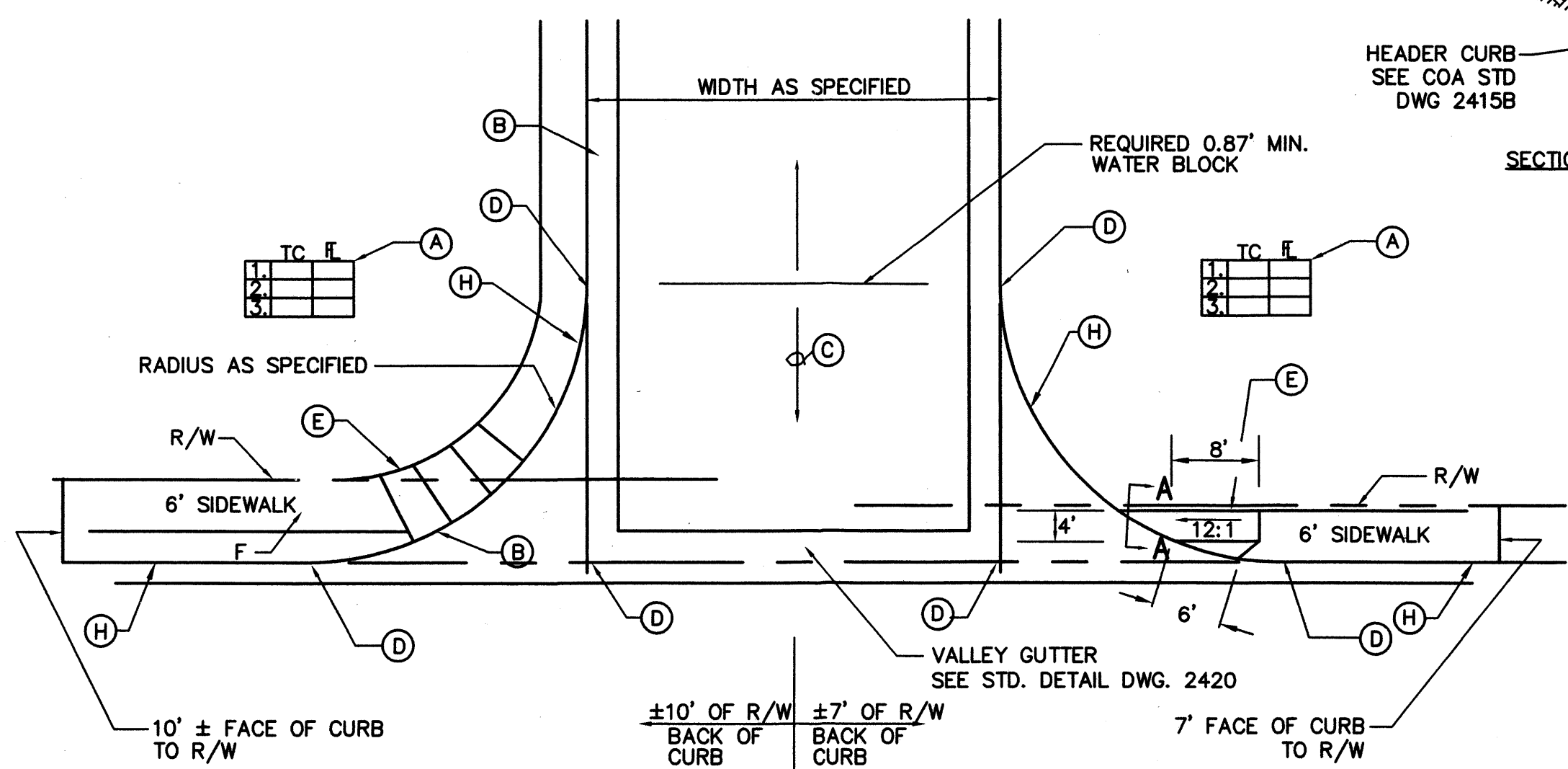
**D1** 6' SIDEWALK DETAIL  
NTS



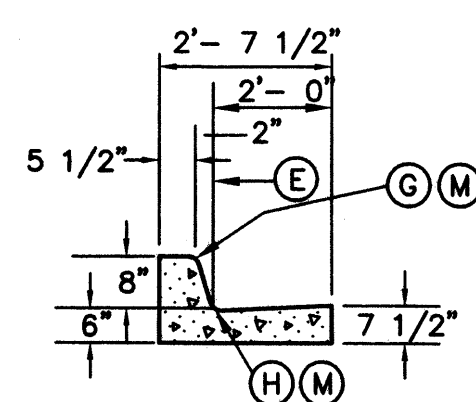
**B4** BOLLARD DETAIL  
NTS



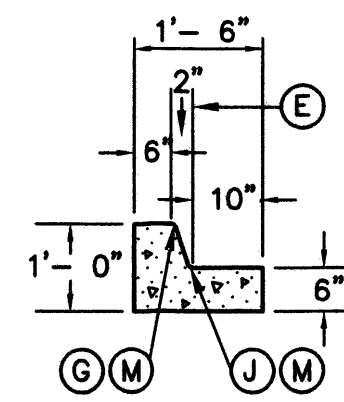
SECTION A-A HEADER CURB



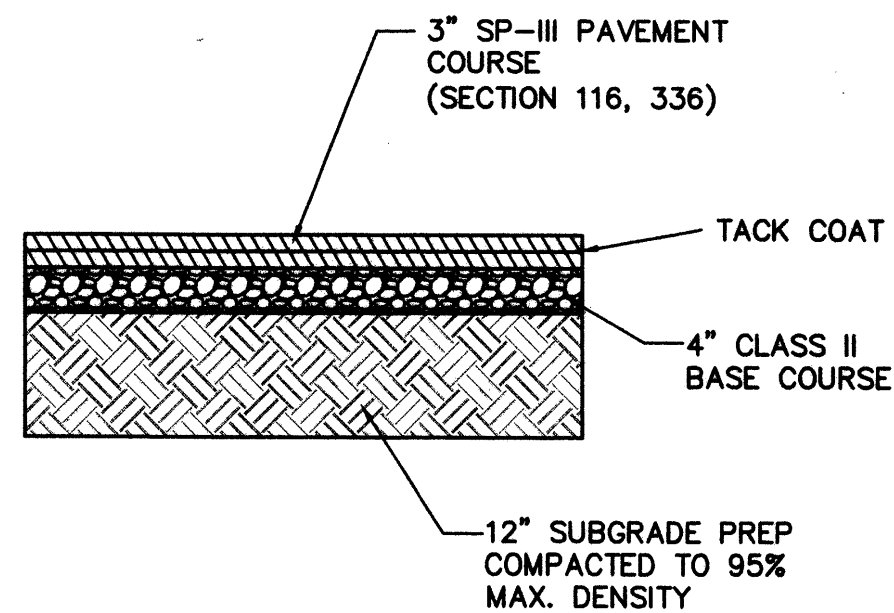
**B1** PRIVATE ENTRANCE DETAIL  
NTS



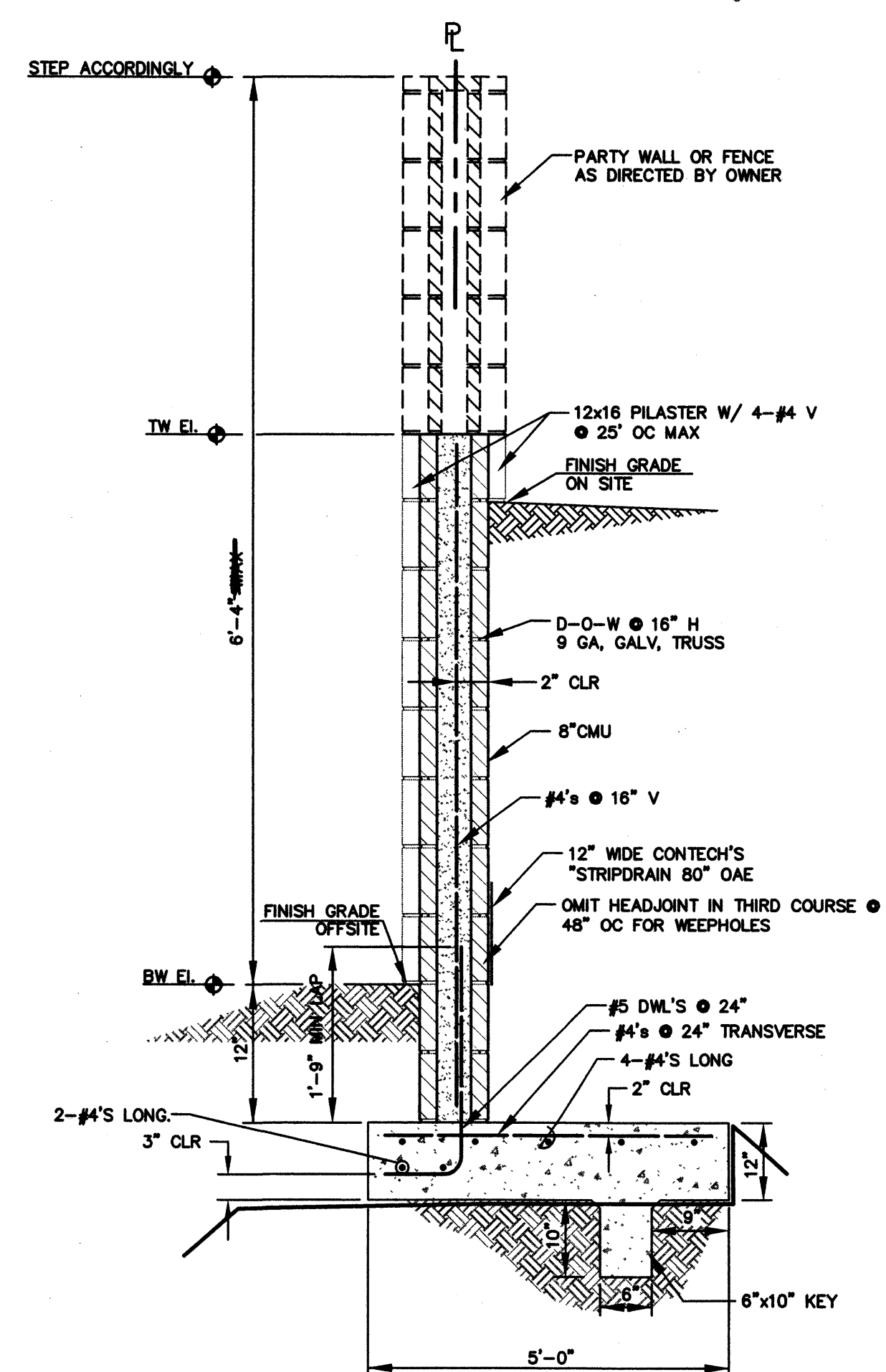
**A1** STANDARD CURB DETAIL  
NTS



**A2** MEDIAN CURB DETAIL  
NTS



**A3** 3" ASPHALT SECTION  
NTS



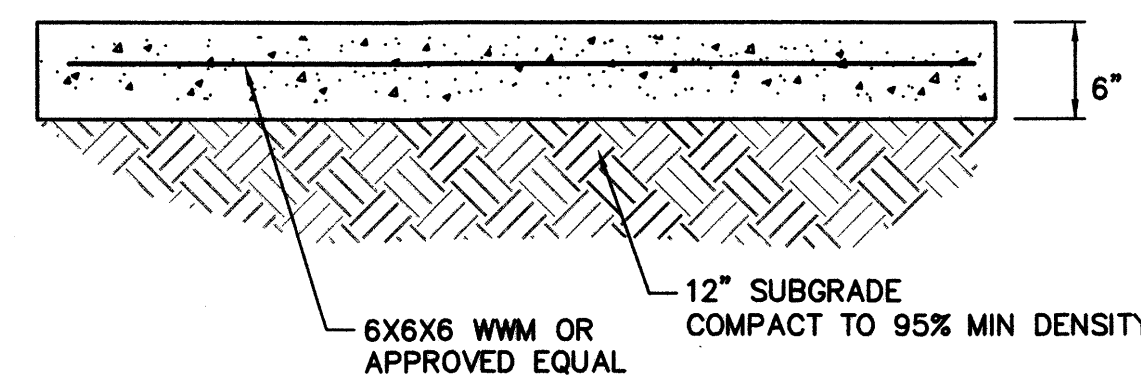
**RETAINING WALL NOTES**

1. CONCRETE MASONRY STRENGTH,  $f'_m = 1500$  PSI, MIN. STRENGTH OF INDIVIDUAL CONCRETE MASONRY UNITS = 1900 PSI.
2. CONCRETE  $f'_c = 3000$  PSI.
3. STEEL REINFORCEMENT PER ASTM A615, GRADE 60. ALL DIMENSIONS SHOWN REFER TO CENTERLINE OF BARS UNLESS NOTED OTHERWISE. MIN. SPLICE LENGTH FOR LONG. #4 BARS = 1'-0".
4. GROUT STRENGTH = 2500 PSI.
5. PROVIDE VERTICAL CONCRETE AND MASONRY CONTROL JOINTS AT 24 FT. INTERVALS. SEE CONTROL JOINT DETAILS. MAKE EVERY FOURTH JOINT IN CONCRETE STEMS AN EXPANSION JOINT (MAXIMUM 90 FT. SPACING). SEE EXPANSION JOINT DETAIL.
6. USE HYDROCID 700B EMULSIFIED ASPHALT, OR EQUAL FOR WATERPROOFING SYSTEM ON FACES IN DIRECT CONTACT WITH RETAINED EARTH.
7. COMPACT BACKFILL BEHIND RETAINING WALLS USING PORTABLE, HAND-OPERATED TAMPERS, OR USE A LOW-STRENGTH LEAN CONCRETE (FLOWABLE FILL).
8. REMOVE ALL SOILS DOWN TO 2 FEET BELOW BOTTOM OF FOOTING AND LATERALLY 2 FEET BEYOND FOOTING. REPLACE WITH STRUCTURAL FILL CONFORMING TO THE PROJECT SPECIFICATIONS AND COMPACT TO 95% MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557.
9. OWNER IS TO PROVIDE SPECIAL INSPECTION OF MASONRY CONSTRUCTION, CONCRETE AND REINFORCEMENT PLACEMENT, AND EARTHWORK IN ACCORDANCE WITH SECTION 17 OF THE BUILDING CODE.

**DESIGN DATA**

1. DESIGN SPECIFICATIONS: 2003 INTERNATIONAL BUILDING CODE
2. MATERIAL STRENGTHS:  
MASONRY  $f'_m = 1500$  PSI  
CONCRETE  $f'_c = 3000$  PSI  
STEEL  $F_y = 60,000$  PSI
3. EARTH PRESSURE: 32 PCF EQUIVALENT FLUID PRESSURE (ACTIVE), 300 PCF EQUIVALENT FLUID PRESSURE (PASSIVE), FRICTION COEFFICIENT 0.40, ALLOWABLE BEARING PRESSURE 1500 PSF
4. WIND VELOCITY: 90 MPH

**B4** SECTION-A RETAINING WALL DETAIL  
NTS



- NOTE:
1. TROWEL FINISH FLAT WORK.
  2.  $f'_c = 3000$  PSI @ 28 DAYS

**A4** 6" PCC REFUSE SECTION  
NTS

**GENERAL NOTES**

**CONSTRUCTION NOTES CURB & GUTTER:**

1. CURBS, GUTTERS & CUT-OFF WALL TO BE CONSTRUCTED OF P.C.C.
2. FOR STANDARD AND MEDIAN C. & G. ADJACENT TO ASPHALT CONCRETE PAVEMENT PROVIDE CONTRACTION JTS 12" MAX., SPACING, 1/2" EXP. JTS. AT CURB RETURNS AND AT A MAXIMUM SPACING OF 120' BETWEEN CURB RETURNS & EACH SIDE OF SEPARATELY CONSTRUCTED DRIVEWAYS. CONSTRUCTION JTS. SHALL BE EITHER SAWS OR TOOLED A MINIMUM OF 1" DEEP AT FINISHED FACES.
3. FOR C & G CUT-OFF WALL PROVIDE CONTRACTION JTS. AT 10' MAX. SPACING, 1/2" EXP. JTS. AT CURB RETURNS AND AT MAX. SPACING OF 100' BETWEEN CURB RETURNS & EACH SIDE OF SEPARATELY CONSTRUCTED DRIVEWAYS. CONTRACTION JTS. SHALL BE EITHER SAWS OR TOOLED A MINIMUM OF 1" DEEP AT ALL FINISHED FACES. REINFORCEMENT SHALL NOT BE USED IN CUT-OFF WALLS. FACES.
4. FOR C & G CONSTRUCTED WITH PORTLAND CEMENT CONCRETE PAVEMENT, CONTRACTION JTS SHALL BE THE SAME AS THE PAVEMENT JOINTS.
5. ALL EDGES SHALL BE EDGED WITH A 3/8" RADIUS EDGING TOOL.
6. STANDARD C & G SHALL BE USED FOR NEW CONSTRUCTION UNLESS OTHERWISE AUTHORIZED BY THE CITY ENGINEER.
7. REMOVE AND REPLACE PAVEMENT 1' WIDE ADJACENT TO LIP OF GUTTER WHEN CONSTRUCTING C & G ADJACENT TO EXISTING ASPHALT CONCRETE PAVEMENT.
8. 1/4" ISOLATION JOINT SHALL BE PLACED BETWEEN SIDEWALK AND C & G WHEN CAST ADJACENT TO EACH OTHER.
9. ADA=AMERICAN WITH DISABILITIES ACT

**KEY NOTES**

**CURB & GUTTER:**

- A. RED CONC. CHANNEL LINING OR CUT-OFF WALL PROVIDE 1/4" EXP. JT. BETWEEN BACK OF CURB & CONC. LINING AND/OR WALL.
- B. VARIABLE, DEPRESS AS NEEDED.
- C. DRIVE NO. 4 BARS 18" DEEP IN HOLES DRILLED 2" O.C. IN EXIST. PAVEMENT. SEAL WITH EPOXY.
- D. EXIST. A.C. OR P.C.C. PAVEMENT.
- E. THEORETICAL FACE OF CURB OR FLOWLINE.
- F. TRAFFIC SIDE.
- G. 3/4" RADIUS.
- H. 1 1/2" RADIUS.
- J. 2" RADIUS.
- K. 24" RADIUS.
- L. TACK COAT.
- M. DIMENSIONS AT ROUNDED CORNERS MEASURED TO INTERSECTION OF STRAIGHT LINES.
- N. 4" A.C., 75BLW/1800 LBS. STABILITY ON TEMPORARY PAVEMENT, 2" AC., 50BLW/1500 STABILITY ON BICYCLE PATHS.
- P. 8" SCARIFIED AND COMPACTED SUBGRADE, 95% MINIMUM COMPACTION AT OPTIMUM MOISTURE -1-2% ATSD D1557, OR OPTIMUM MOISTURE TO 4" ATSD D698. FOR SOILS WITH 35% OR GREATER MATERIAL PASSING THE NO.200 SIEVE.
- Q. ASPHALT CONCRETE PAVEMENT
- R. #4 X CONT. BETWEEN JOINTS
- S. 3" COVER AT JOINTS.
- S. #3 PIN AT 3'-0" O.C. W/STD. HOOK.

**PRIVATE ENTRANCE NOTES:**

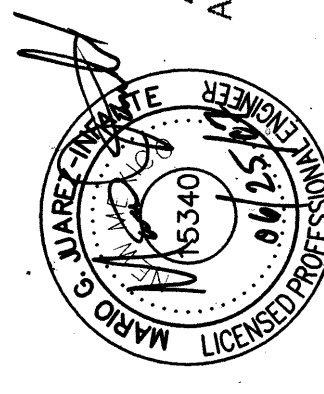
1. THESE DETAILS ARE PROVIDED FOR HIGH TRAFFIC VOLUME PRIVATE ENTRANCES TO COMMERCIAL SITES AND THE LIKE, IN LIEU OF STANDARD DRIVEPADS.

**PRIVATE ENTRANCE CONSTRUCTION NOTES:**

- A. INCLUDE QUARTER POINT ELEVATIONS. SEE STD. DETAIL DWG. 2420.
- B. WHERE INTERIOR SIDEWALK CONNECTION IS TO BE PROVIDED - CONSTRUCT CURB ACCESS RAMPS AS PER STD. DETAIL DWG. 2418 & 2441.
- C. INITIAL GRADE TO BE 4% OR LESS WHEN CONNECTING TO COLLECTOR OR ARTERIAL STREETS, 6% OR LESS WHEN CONNECTING TO LOCAL STREETS.
- D. INCLUDE ELEVATIONS AT EACH END OF CURB RETURN AND INTERSECTIONS OF PROJECTED FLOWLINES. SEE STD DWG 2420
- E. AT PROPERTY LINE CONSTRUCT HEADER CURB SEE STD DWG 2415
- F. IF SIDEWALK IS AGAINST CURB THE SIDEWALK SHOULD BE TRANSITIONED TO KEEP THE CURB ACCESS RAMP IN THE LOCATION SHOWN.
- G. 1/2" EXPANSION JOINT MATERIAL.
- H. THEORETICAL FACE OF CURB OR FLOWLINE

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SITE  
DETAILS

C501

SHEET \_\_\_ OF \_\_\_

- 1.1 THESE DRAWINGS PROVIDE GUIDANCE FOR COMPLIANCE WITH THE CURRENT AMERICANS WITH DISABILITIES ACT (ADA) AND STATE CODE. THESE STANDARDS SHALL APPLY TO ALL NEW AND ALTERED SIDEWALKS.
- 2.1 ANY DESIGN DEVIATION FROM THESE STANDARDS SHALL BE APPROVED BY THE NMDOT ADA COMPLIANCE COMMITTEE.
- 3.1 SURFACES SHALL BE STABLE, FIRM, AND SLIP RESISTANT. SIDEWALK AND CURB RAMP SURFACES SHALL PROVIDE CONSISTENT SLOPES WITHIN EACH SECTION.
- 4.1 ALL BROOM FINISHES SHALL BE PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.
- 5.1 A VERTICAL CHANGE OF 1/4 INCH (9mm) OR LESS IS ALLOWED. IF BETWEEN 1/4 INCH AND 1/2 INCH (6mm AND 13mm), THEN IT NEEDS TO BE BEVELED 2:1. CHANGES GREATER THAN 1/2 INCH SHALL BE RAMPED.
- 6.1 OPENING OR CRACKS IN SIDEWALK SURFACES SHALL NOT EXCEED 1/8 INCH (3mm). ELONGATED OPENING SHOULD BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR OR DIAGONAL TO THE DOMINANT DIRECTION OF TRAVEL.

**SIDEWALKS**

- 7.1 SIDEWALKS, CURB AND GUTTER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SERIAL BSCG-001. (SWCG-001).
- 8.1 THE LEAST POSSIBLE SLOPES SHALL BE USED FOR SIDEWALKS, SIDEWALK RUNNING SLOPE SHALL NOT EXCEED 5% (20:1). AT LOCATIONS WHERE THE RIGHT-OF-WAY IS RESTRICTIVE, THE SIDEWALK RUNNING SLOPE MAY FOLLOW THE ROAD PROFILE.
- 9.1 SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% (50:1).
- 10.1 SIDEWALKS SHALL HAVE A MINIMUM WIDTH OF 60", EXCLUDING THE CURB. EXCEPTION: A 36" WIDE SIDEWALK MAY BE USED WHERE THE RIGHT-OF-WAY IS RESTRICTED, WHERE THE SIDEWALK IS LESS THAN 60" WIDE. A PASSING SPACE SHALL BE PROVIDED EVERY 20 LINEAR FEET, WHEREVER FEASIBLE. PASSING SPACES SHALL BE A MINIMUM OF 60"x60" WITH 45 DEGREE TRANSITION TAPERS, 5% (20:1) MAXIMUM RUNNING SLOPES, AND 2% (50:1) MAXIMUM CROSS SLOPES.
- 11.1 ANY SIGN POSTS, UTILITY POLES, FIRE HYDRANTS, TRAFFIC SIGNAL STANDARDS, LIGHT POLES, ETC. IN THE SIDEWALK SHALL NOT REDUCE THE CLEAR WIDTH TO LESS THAN 32" FOR MORE THAN 24" LENGTH.

**CURB RAMPS**

- 12.1 THE LEAST POSSIBLE CURB RAMP SLOPE SHALL BE USED, FOR COMPLIANCE WITH NMDOT PEDESTRIAN ACCESS DETAILS, CURB RAMP RUNNING SLOPE SHALL NOT EXCEED 6.7% (15:1), WHERE EXISTING TERRAIN IS STEEP. CURB RAMPS NEED NOT EXCEED 15 FEET IN LENGTH.
- 13.1 PROVIDE A FLUSH TRANSITION BETWEEN RAMPS, SIDEWALKS, GUTTER, AND EDGE OF PAVEMENT, FREE OF DRAINAGE LIP. ABRUPT GRADE CHANGES, DROP-OFFS, OR ANY SURFACE IRREGULARITIES. A 5% (20:1) OR FLATTER TRANSITION TAPER SHALL BE PROVIDED FROM THE STREET TO THE GUTTER FOR CURB RAMP LOCATION (THIS MAY REQUIRE SPECIAL TREATMENT OF THE EDGE OF O.G.F.C.) WHEN DIAGONAL (NOT IN LINE WITH CROSSWALKS) RAMPS ARE NECESSARY. A 2% (50:1) TRANSITION OR "LOWER LANDING" SHALL BE PROVIDED. THE GUTTER RUNNING SLOPE (FLOW LINE) SHALL NOT EXCEED 2% MEASURED ALONG THE BOTTOM OF THE RAMP.

- 14.1 CURB RAMPS SHALL BE LOCATED TO PROVIDE THE MOST DIRECT ROUTE OF TRAVEL ACROSS THE TRAFFIC LANES.
- 15.1 TWO DIRECTIONAL (IN LINE WITH TH CROSSWALKS) RAMPS PER CORNER ARE USED IN ORDER TO PROVIDE SHORT AND DIRECT CROSSINGS FOR THE USER.
- 16.1 SIGN POSTS, UTILITY POLES, FIRE HYDRANTS, TRAFFIC SIGNAL STANDARDS, IN THE CURB RAMP INCLUDING SIDE FLARES AND LANDINGS.
- 17.1 IN ORDER TO BETTER ACCOMMODATE CONDITIONS IN THE FIELD, THE CONTRACTOR SHALL OBTAIN FINAL APPROVAL OF CURB RAMP LOCATION FROM THE PROJECT MANAGER AND THE DISTRICT TRAFFIC ENGINEER. WHEN NECESSITATED BY EXISTING PHYSICAL CONDITIONS, ALTERNATE CURB RAMPS MUST BE SUBMITTED TO THE PROJECT MANAGER FOR APPROVAL BY THE DISTRICT TRAFFIC ENGINEER.

**LANDINGS**

- 18.1 LANDING SHALL BE A MINIMUM OF 60"x 60". SLOPES SHALL NOT EXCEED 2% (50:1) IN ALL DIRECTIONS.

**CROSSWALKS**

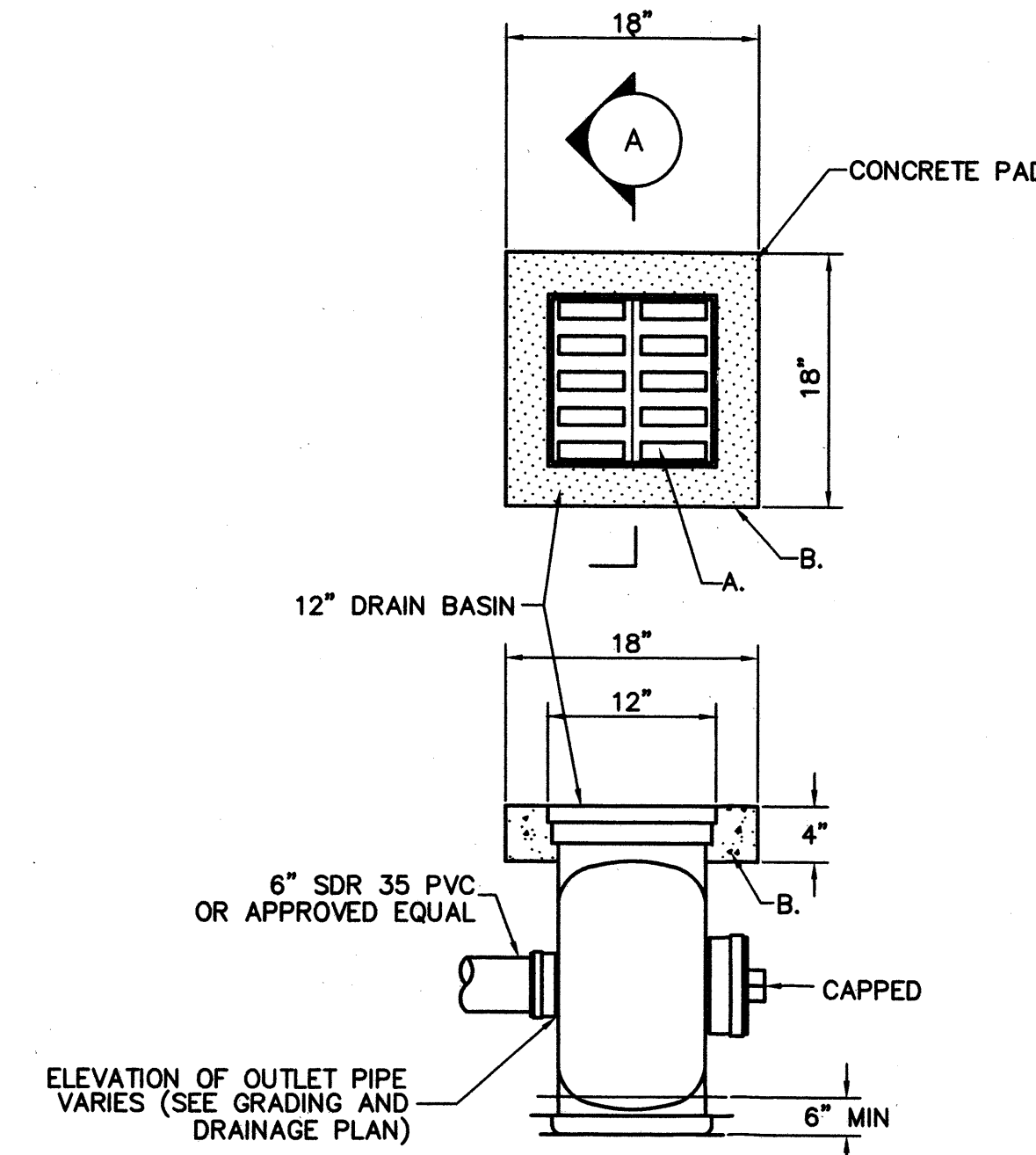
- 19.1 ACCESSIBLE PEDESTRIAN CROSSING SHALL BE WITHIN THE MARKED CROSSWALK.

**DETECTABLE WARNINGS**

- 20.1 DETECTABLE WARNINGS ARE REQUIRED AT ALL STREET INTERSECTIONS, SIGNALIZED DRIVEWAYS, COMMERCIAL DRIVEWAYS 30' WIDE OR GREATER, AND MARKED MID-BLOCK CROSSWALKS.

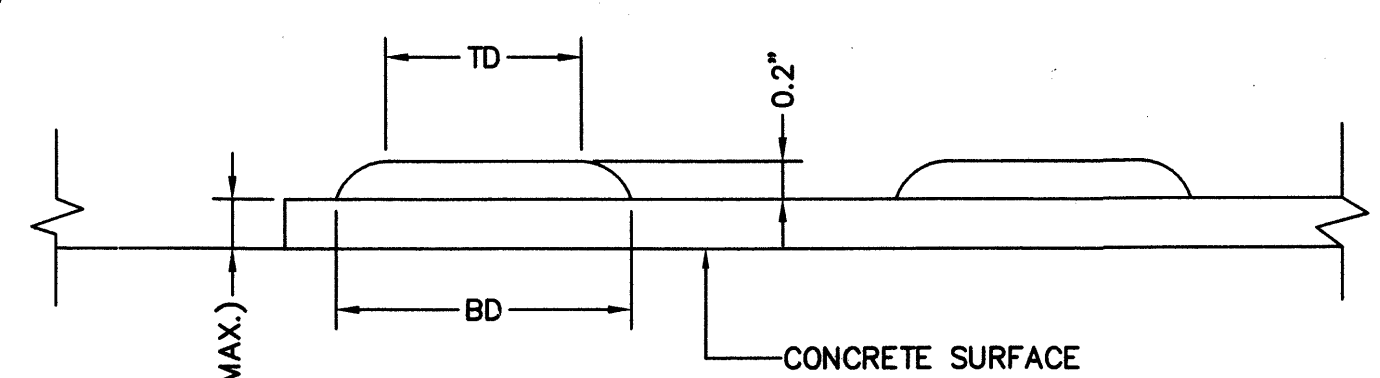
**ALTERATIONS TO EXISTING FACILITIES - GENERAL NOTES:**

- ADDITIONS OR ALTERATIONS TO ANY FACILITY SHALL CONFORM TO THE REQUIREMENTS FOR THE NEW CONSTRUCTION STANDARDS WITHIN THE NMDOT PEDESTRIAN ACCESS DETAILS. ADDITIONS OR ALTERATIONS SHALL NOT BE MADE TO AN EXISTING FACILITY WHICH WILL CAUSE THE EXISTING FACILITY TO BE IN VIOLATION OF ANY PROVISION OF THE NMDOT PEDESTRIAN ACCESS DETAILS. WHERE IT IS TECHNICALLY INFEASIBLE TO COMPLY WITH NEW CONSTRUCTION STANDARDS FOR THE NMDOT PEDESTRIAN ACCESS DETAILS THE FOLLOWING OPTIONS MAY BE USED:
- 21.1 WHERE IT IS NOT FEASIBLE TO INSTALL TWO CURB RAMPS PER CORNER. A SINGLE DIAGONAL CURB RAMP MAY BE USED AFTER RECEIVING APPROVAL FROM THE NMDOT ADA COMPLIANCE COMMITTEE.
- 22.1 WHERE RIGHT-OF-WAY IS RESTRICTED. CURB RAMP LANDING MAY BE 4' X 4'.
- 23.1 DEFINITION OF TECHNICALLY INFEASIBLE: IN THE CONTEXT OF THESE DRAWINGS, WITHIN A ROADWAY OR IMMEDIATE ROADSIDE ENVIRONMENT, MEANS WITH RESPECT TO AN ALTERATION OF A FACILITY, THAT IT HAS LITTLE LIKELIHOOD OR BEING ACCOMPLISHED BECAUSE EXISTING SITE CONDITIONS WOULD REQUIRE SUBSTANTIALLY ALTERING EXISTING DRAINAGE PATTERNS: TRAFFIC FLOW OR SAFETY; OR BECAUSE OTHER EXISTING PHYSICAL INFRASTRUCTURE OR SITE CONSTRAINTS PROHIBIT MODIFICATION OR ADDITION OF ELEMENTS, SPACE OR FEATURES WITH ARE IN FULL AND STRICT COMPLIANCE THE MINIMUM REQUIREMENTS FOR NEW CONSTRUCTION AND WHICH ARE NECESSARY TO PROVIDE ACCESSIBILITY.
- 24.1 WHERE RIGHT-OF-WAY IS RESTRICTED. CURB RAMP SLOPES MAY BE 12:1.



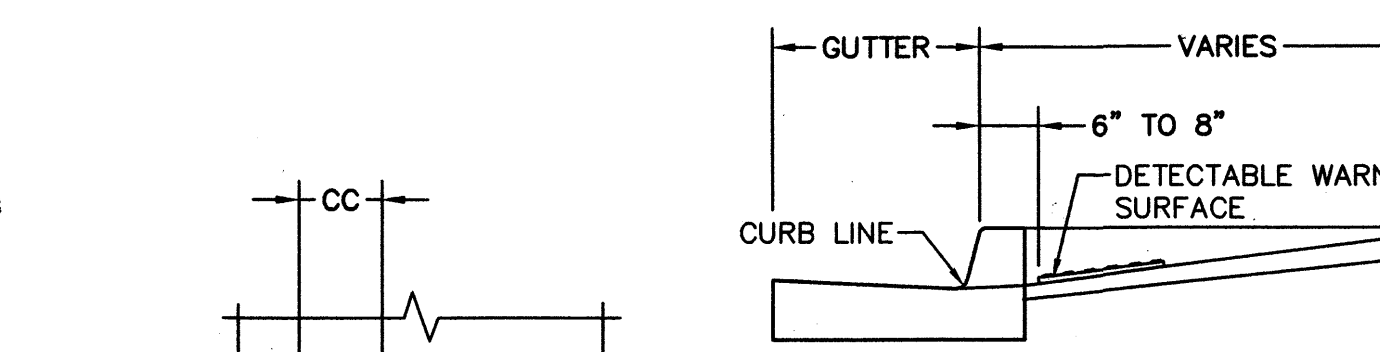
**D5 12" CATCH BASIN DETAIL**  
NTS

**D1 NEW CONSTRUCTION-GENERAL NOTES**  
NTS

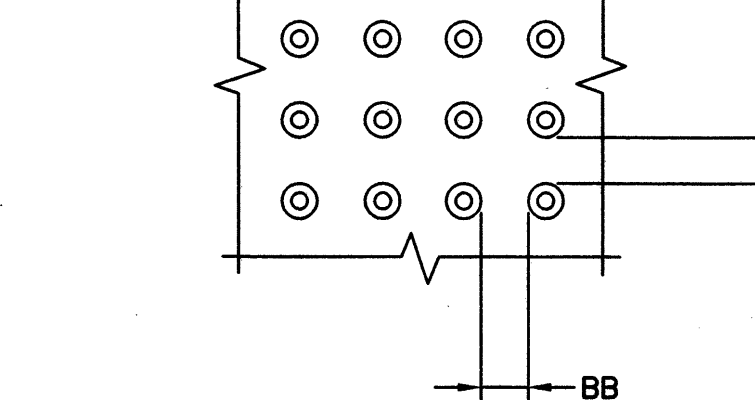


**DOMES SECTION**

- BD - BASE DIAMETER 0.9" MIN. TO 1.4" MAX
- TD - TOP DIAMETER 50% OF BD MIN TO 65% OF BD MAX



**LOCATION**



**DOMES SPACING**

- CC - CENTER TO CENTER SPACING 1.6" MIN. TO 2.4" MAX
- BB - BASE TO BASE SPACING 0.55" MIN

**DOMES SPACING**

DETECTABLE WARNING SURFACES SHALL EXTEND 24" MIN. IN THE DIRECTION OF TRAVEL AND FULL WIDTH OF THE CURB RAMP, LANDING, OR TRANSITION. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF THE CROSS WALK TO PERMIT WHEELS TO ROLL BETWEEN DOMES.

**DEFINITIONS:**

DETECTABLE WARNINGS - A SURFACE FEATURE BUILT IN OR APPLIED TO WALKING SURFACES OR OTHER ELEMENTS TO WARN OF HAZARDS ON A CIRCULATION PATH TO AID PERSONS WITH VISUAL IMPAIRMENTS

CURB LINE - A LINE AT THE FACE OF THE CURB THAT MARKS THE TRANSITION BETWEEN THE SIDEWALK AND THE GUTTER OR ROADWAY

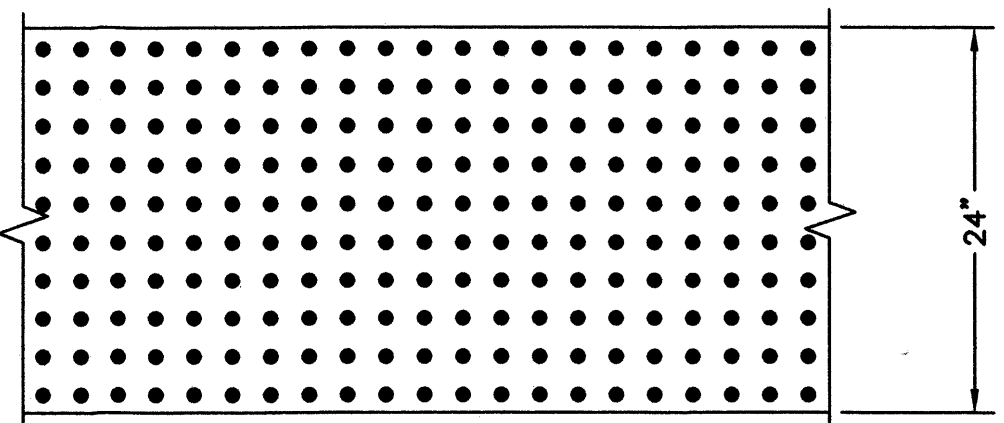
**LOCATION:**

- DETECTABLE WARNING SURFACES SHALL BE PROVIDED WHERE A CURB RAMP OR LANDING CONNECTS TO A CROSSWALK AND OR PEDESTRIAN ROUTE CROSSING A ROADWAY.
- DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6" (150 MM) MINIMUM AND 8" (205 MM) MAXIMUM FROM THE CURB LINE.
- MEDIAN AND REFUGE ISLANDS SHALL HAVE DETECTABLE WARNINGS. DETECTABLE WARNINGS AT CUT THROUGH ISLAND SHALL BE SEPERATED BY A 24" (610 MM) MINIMUM LENGTH OF WALKWAY WITHOUT WARNINGS

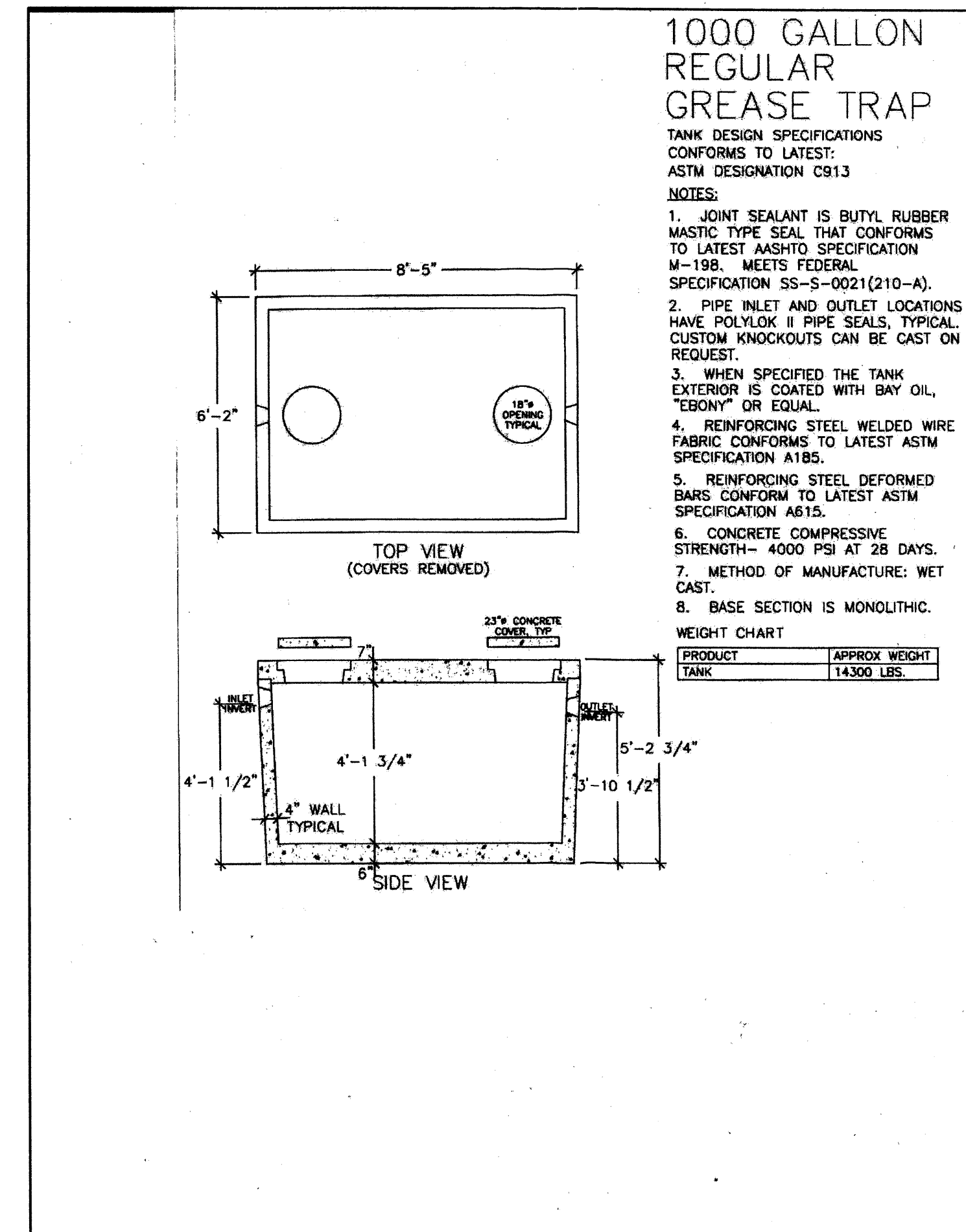
EXCEPTION: DETECTABLE WARNINGS SHALL NOT BE REQUIRED ON CUT THROUGH ISLANDS WHERE THE CROSSINGS ARE CONTROLLED BY SIGNALS AND ARE TIMED FOR FULL CROSSING ON MEDIANS LESS THEN 7' WIDE

**NOTES:**

- DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION OR RECONSTRUCTION OF STREETS, CURBS, OR SIDEWALKS BY ALL PUBLIC AGENCIES AND BY ALL PRIVATE ORGANIZATIONS CONSTRUCTING FACILITIES FOR PUBLIC USE.
- SIDEWALK RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.
- ALL PRODUCTS USED FOR THE DETECTABLE WARNING SURFACES SHALL BE ON THE DEPARTMENT'S APPROVED PRODUCT LIST.
- PRODUCTS SHALL BE CAST-IN-TACT AND RED IN COLOR.



**A1 TRUNCATED DOME**  
NTS

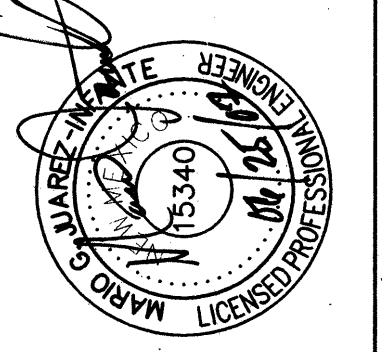


**A5 GREASE TRAP DETAIL**  
NTS

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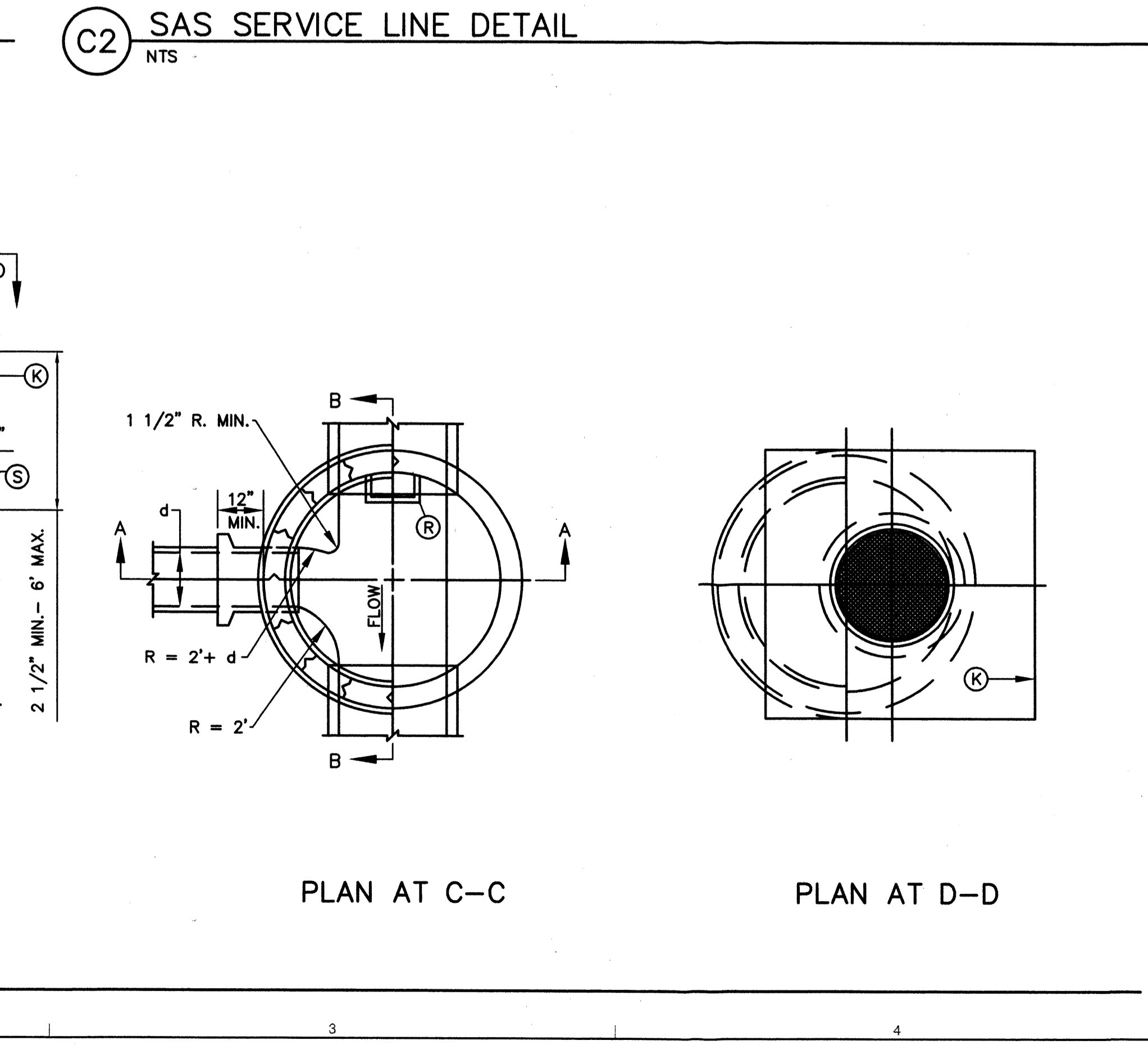
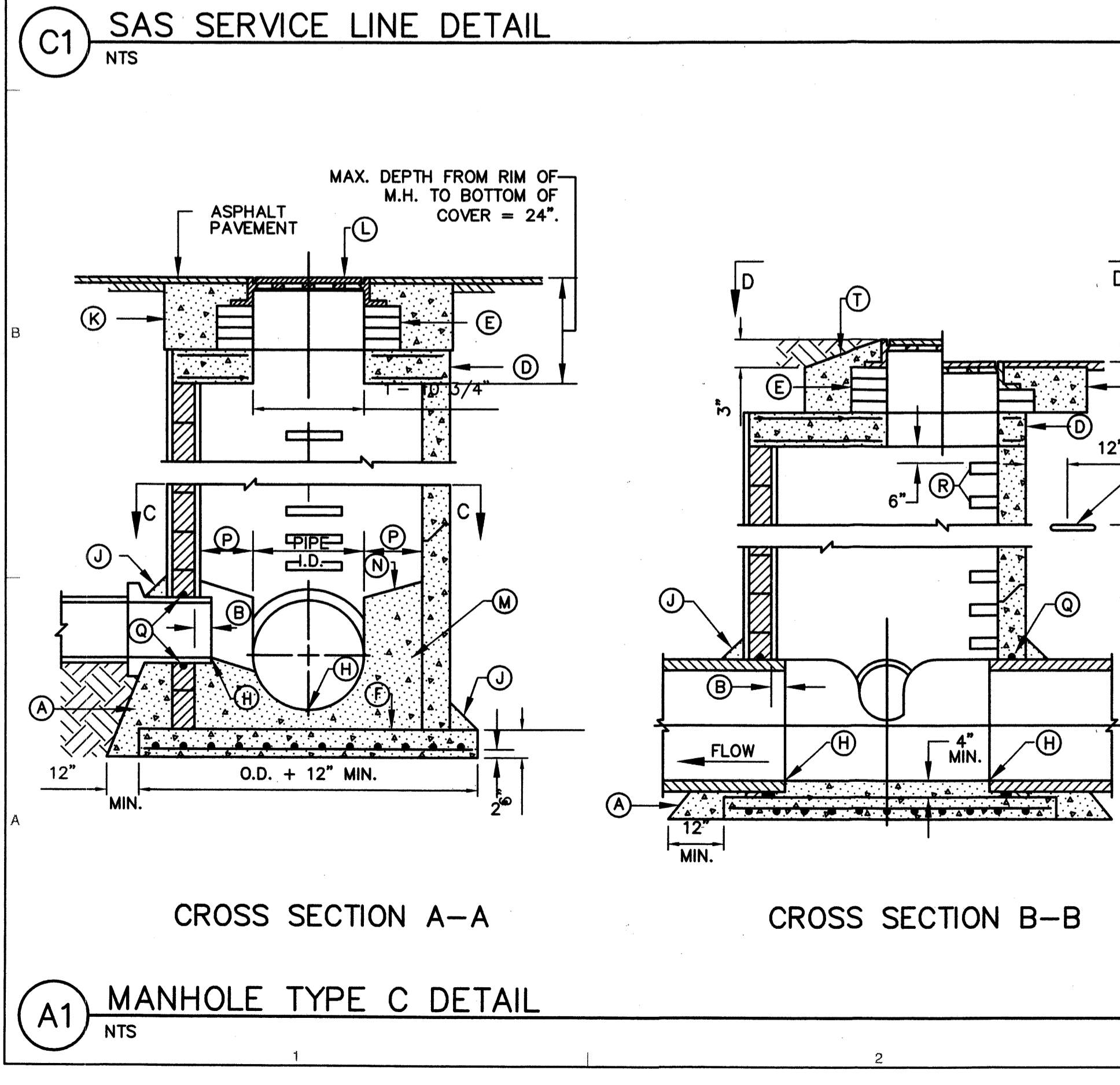
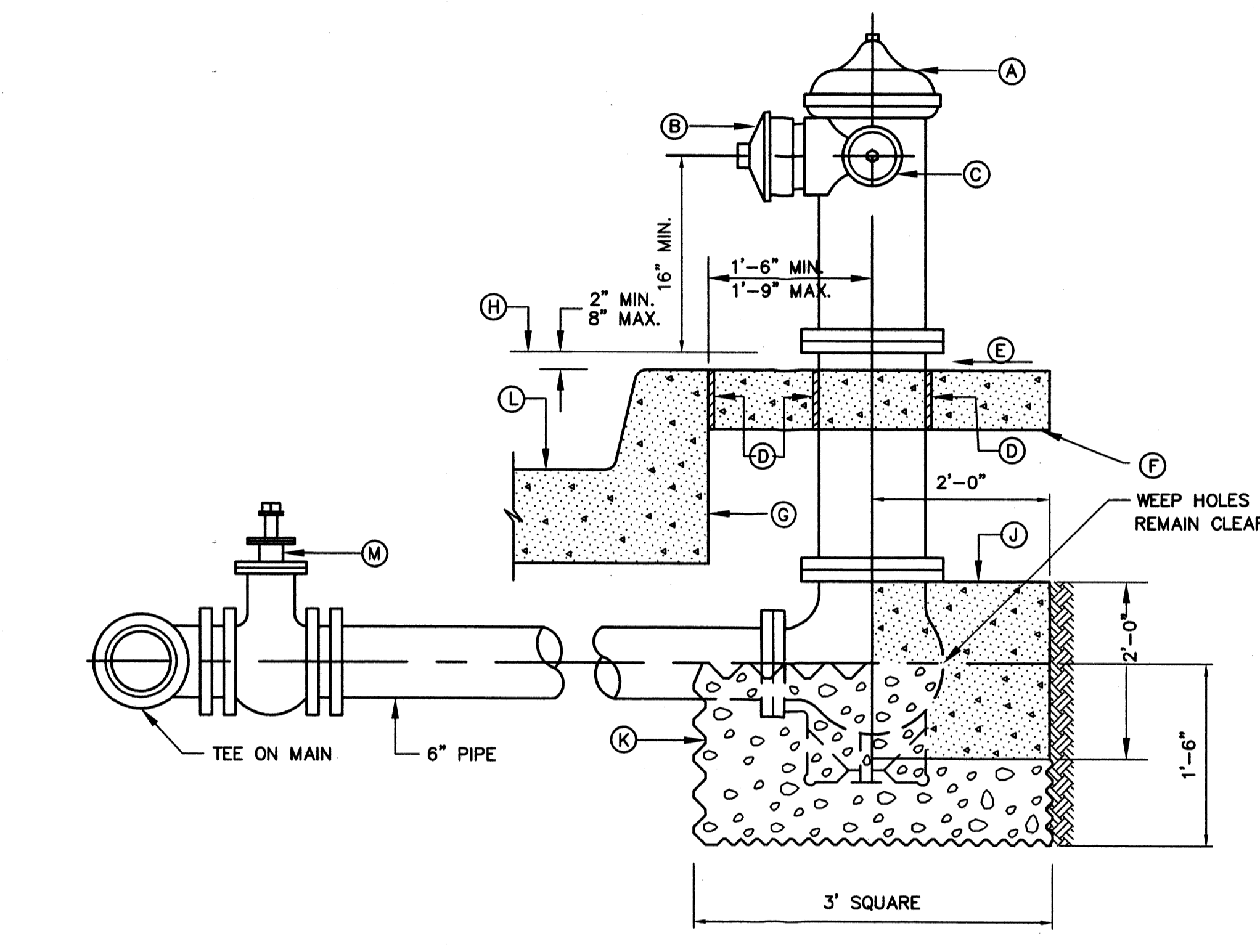
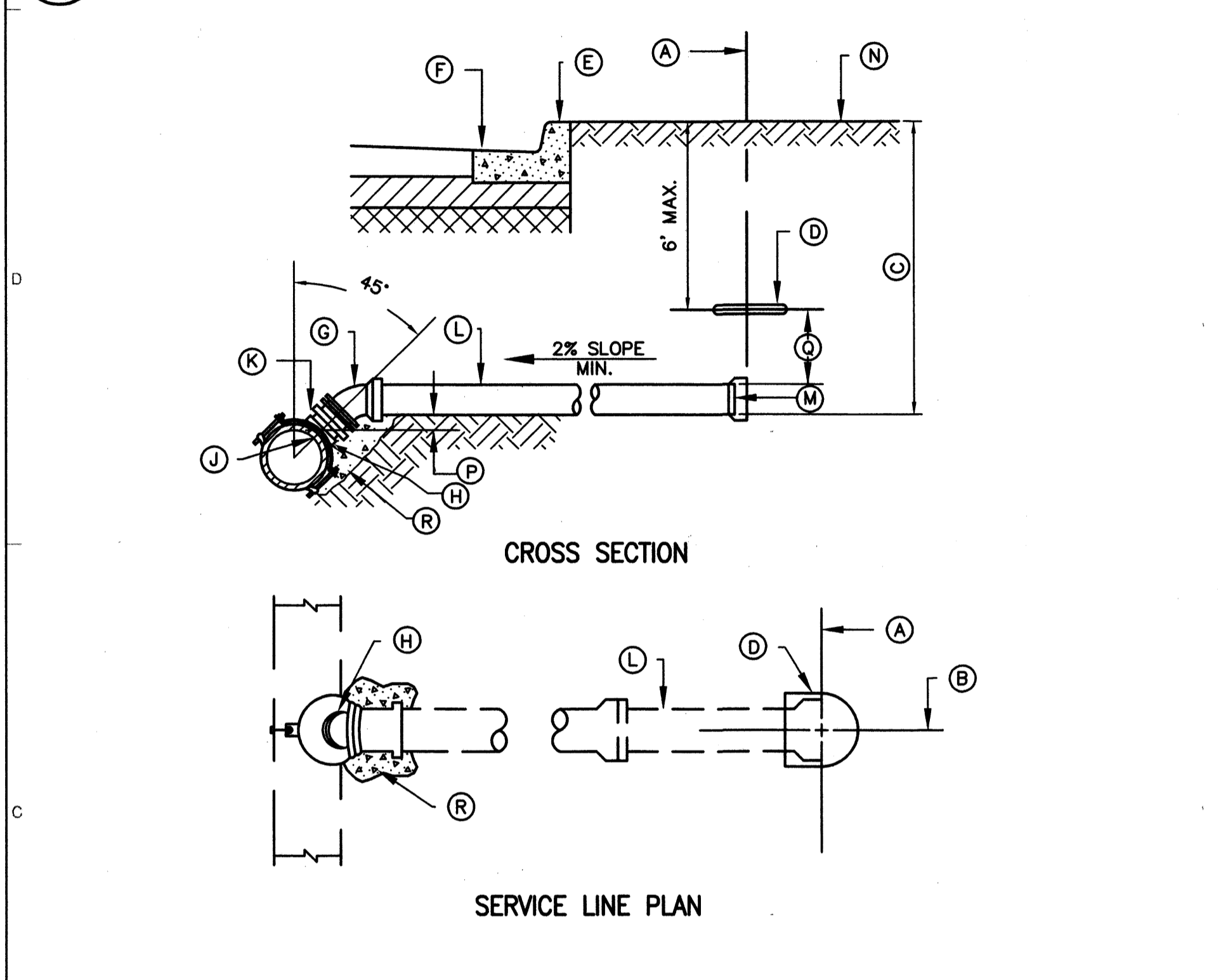
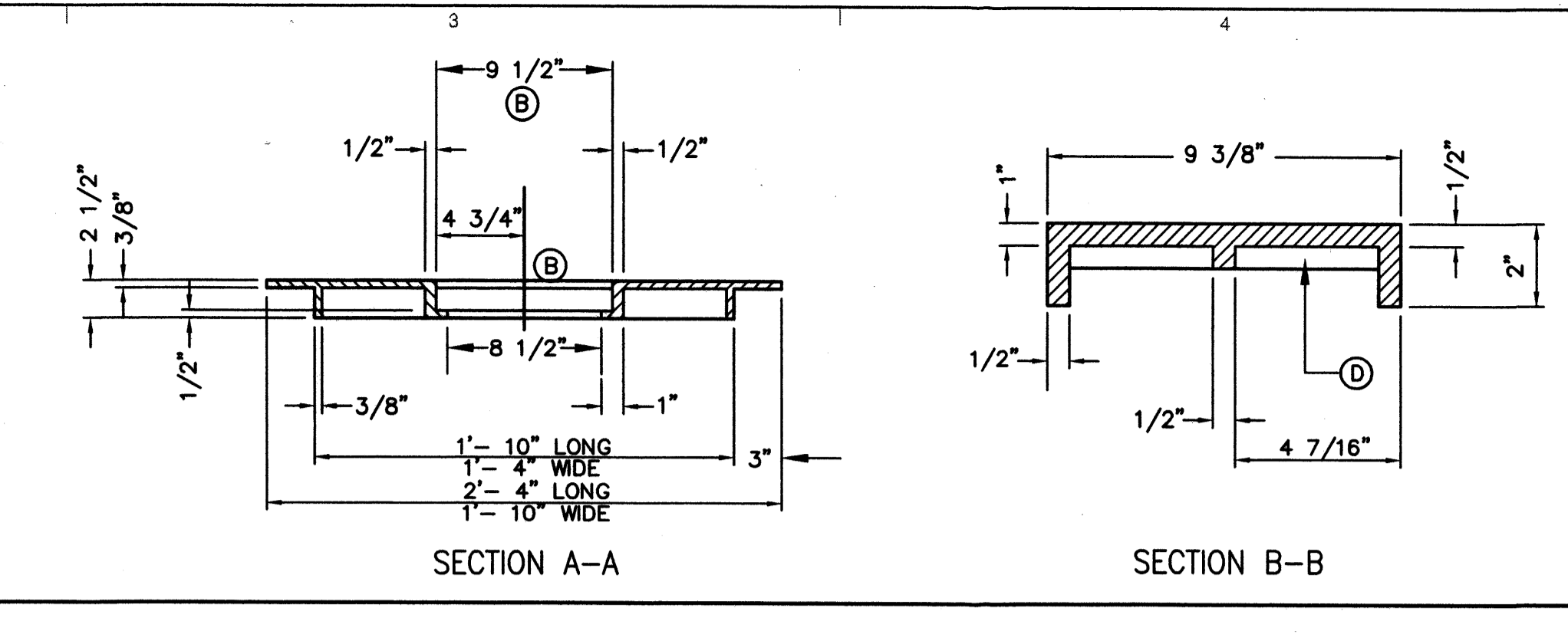
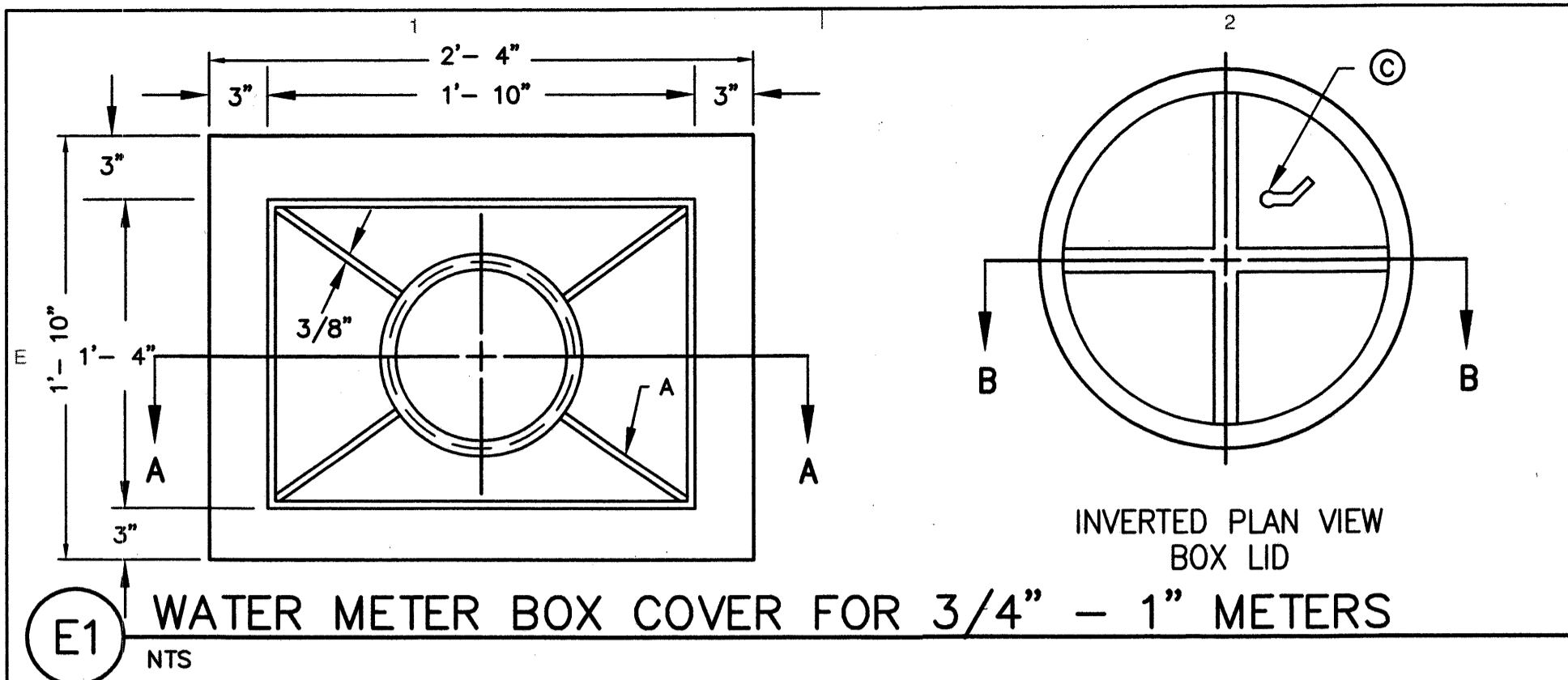
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**C502**

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**GENERAL NOTES**

**CONSTRUCTION NOTES FIRE HYDRANT:**

- NO OBSTRUCTIONS WILL BE PERMITTED WITHIN 3 FT. OF FIRE HYDRANT.
- HYDRANT LEG SHALL BE VALVED IN COMMERCIAL AND INDUSTRIAL AREAS, IN ARTERIAL STREETS AND ON ALL MAIN LINES SIZED 10" AND GREATER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING TOP FLANGE OF FIRE HYDRANT TO THE CONTROLLED ELEVATION LINE.
- FIRE HYDRANT SHALL BE LOCATED AT THE BEGINNING OF CURB RETURN OR AT THE PROPERTY LINE COMMON TO ADJOINING LOTS, UNLESS OTHERWISE SHOWN ON PLANS. SEE DWG. 2360 AND 2347.
- WHEN NEW OR EXISTING SIDEWALK ABUTS CURB, RECONSTRUCT SIDEWALK AS PER DWG. 2430, 2431.
- PUMPER NOZZLE TO BE SET FACING THE TRAVELED WAY, UNLESS OTHERWISE NOTED ON PLANS.

**GENERAL NOTES**

**CONSTRUCTION NOTES TYPE C MANHOLE:**

- USE TYPE C M.H. FOR DEPTHS OF LESS THAN 6' MEASURED FROM INV. TO RIM.
- CONTRACTOR HAS OPTION TO CONSTRUCT TYPE C M.H. IN LIEU OF TYPE E M.H. FOR DEPTHS OF 6' OR MORE.
- DESIGN APPLIES TO 4' & 6' I.D. MANHOLES.
- M.H. GREATER THAN 18" IN DEPTH SHALL ONLY BE CONSTRUCTED PRECAST CONCRETE SECTIONS.
- USE NON-SHRINK GROUT FOR JOINTS, FILLETS AND PENETRATIONS.
- COMPACT ALL BACKFILL AROUND MANHOLE TO 95% POSITION M.H. OPENING OVER THE UPSTREAM SIDE OF MAIN LINE.

**KEY NOTES**

**CONSTRUCTION NOTES FIRE HYDRANT:**

- FIRE HYDRANT PER SPEC'S.
- PUMPER NOZZLE 4 1/2".
- HOSE NOZZLE 2 1/2".
- 1/2" EXPANSION JOINT MATERIAL.
- SLOPE 1/4" PER FT.
- 3' X 3' X 6" CONC. SQ. PAD, TO BE CONSTRUCTED AROUND FIRE HYDRANT'S CENTER LINE WHEN NOT LOCATED WITHIN SIDEWALK OR CONC. AREA.
- BACK OF CURB.
- CONTROLLED ELEV. LINE, LEVEL IN ALL DIRECTIONS.
- CONC. THRUST BLOCK, APPROX. 2' X 2' X 3' TO BE POURED AGAINST UNDISTURBED EARTH, F. H. WEEP HOLE MUST BE UNOBSTRUCTED.
- GRAVEL DRAIN POCKET, COVER TOP SURFACE WITH TAR PAPER.
- STANDARD CURB & GUTTER. FOR OTHER TYPES OF C. & G., OR WHERE NO C. & G. EXIST, THE PLACEMENT OF FIRE HYDRANTS REQUIRES SPECIAL DESIGN.
- IF VALVE IS REQUIRED, VALVE WILL BE CONNECTED TO TEE AT MAIN.

**KEY NOTES**

**CONSTRUCTION NOTES TYPE C MANHOLE:**

- CONCRETE PIPE SUPPORTS SHALL EXTEND OUTSIDE OF M.H. TO BELL OF FIRST JOINT & SHALL CRADLE PIPE TO SPRING LINE. NOT APPLICABLE FLEXIBLE PIPE.
- PIPE PENETRATION INTO MANHOLE SHALL BE FLUSH TO 2" MAX. MEASURED AT SPRINGLINE OF PIPE.
- PRECAST CONCRETE COVER, SEE DWG. 2107.
- USE MAX. 4 COURSES GR. MS BRICK ON UNPAVED STREET FOR FUTURE ADJ. OF M.H. FRAME TO PAVEMENT GRADE. PLASTER INSIDE WITH 1/2" MORTAR.
- CONCRETE BASE TO BE POURED IN PLACE USING NO. 4 BARS AT 6" O.C. EA. WAY FOR M.H. DEPTH OF 18" OR GREATER. NO. 4 BARS AT 12" O.C. EA. WAY FOR M.H. LESS THAN 18" IN DEPTH.
- INV. ELEV. OF STUB OR LATERAL AS SHOWN ON PLANS. 6" GROUT FILLET ON UPPER HALF OF PIPE AND AROUND BASE.
- USE A 5' X 5' CONCRETE PAD IN ALL AREAS.
- FRAME AND COVER, SEE DWG. 2110.
- CONCRETE FILL, 3000 PSI.
- SLOPE 1" PER FT. FROM PIPE CROWN.
- SHIELD TO BE 9" WIDE MIN.
- APPROVED WATERSTOP TO BE COMPATIBLE WITH TYPE OF PIPE.
- STEPS TO BE INSTALLED AS PER SPEC. SECTION 920.4.7. SMD (IN UNPAVED AREAS).
- IN UNPAVED AREAS SET FRAME TO GRADE AND SLOPE TOP OF PAD.

**GENERAL NOTES**

**CONSTRUCTION NOTES WATER METER BOX:**

- SEE DWG. 2369 WHEN LOCATED IN A DRIVEWAY OR ADJACENT TO MOUNTABLE CURB.

**COVER**

- MATERIAL - GRAY C.I.
- ROUND ALL EDGES.
- TOP TO BE ASPHALT PAINTED.
- TOP OF COVER SHALL HAVE AN INTEGRATED CORRUGATED DESIGN TO PREVENT SLIPPING.

**LID**

- MATERIAL - GRAY C.I.
- ROUND ALL EDGES.
- TOP TO BE ASPHALT PAINTED.
- TOP OF LID SHALL HAVE AN INTEGRATED CORRUGATED DESIGN TO PREVENT SLIPPING.
- TOP OF COVER SHALL HAVE INTEGRATED WORDS "CITY WATER METER".
- LID SHALL NOT ROCK ON COVER AND SHALL BE EASILY OPENED.
- THE TOP SURFACE OF THE LID SHALL BE FLUSH WITH TOP OF COVER.

**GENERAL NOTES**

**GENERAL NOTES SAS SERVICE LINE:**

- ALL SERVICE LINES SHALL CONFORM TO THE PLUMBING CODE OF CITY OF ALBUQUERQUE AND TO CHAPTER 24 SECTION 2 PART E, DEVEL. PROC. MANUAL.

**KEY NOTES**

**CONSTRUCTION NOTES SAS SERVICE LINE:**

- RIGHT-OF-WAY LINE.
- SERVICE LINE.
- MIN. OF 4 FT. FROM INVERT TO TOP OF CURB AT RIGHT-OF-WAY LINE.
- ELECTRONIC MARKER DISC, COLOR CODED GREEN, PLACED ONLY IF SERVICE HOOK-UP IS POSTPONED.
- STAMP OR CHISEL 3" SIZE, "S" ON TOP OF CURB OVER LOCATION OF SERVICE LINE, MIN. 1/4" DEEP.
- CURB & GUTTER.
- 22.5' OR 45' BEND.
- CORE DRILLED, USING FOWLER QUIK-WAY DRILL SYSTEM, OR PILOT HOLE CUTTER SYSTEM OR APPROVED EQUAL.
- SERVICE LINE SHALL NOT PROTRUDE INTO SEWER MAIN.
- SANITARY SEWER TAPPING TEE, USING PIONEER OR GENERAL ENGINEERING CO. SADDLES OR APPROVED EQUAL. DO NOT OVER TIGHTEN SADDLE BOLTS WHICH WOULD PREVENT FREE PASSAGE OF REQUIRED MANDREL.
- SERVICE LINE, (C.I. SOIL PIPE, SERVICE WEIGHT PVC SCH 40 OR ABS SCH 40).
- PLUG OR CAP.
- GROUND LEVEL.
- SAME ELEVATION OR HIGHER.
- APPROX. 6" BUT DEPTH OF BURIAL SHALL NOT BE MORE THAN 6'.
- BACKFILL UNDER SERVICE WITH MIN. 1 CUBIC FOOT OF P.C. CONCRETE ("SACKCRETE" OR EQUAL ALLOWABLE THIS INSTALLATION).

**KEY NOTES**

**CONSTRUCTION NOTES WATER METER BOX:**

- 3/8" X 2 3/8" RIB (TYPICAL).
- LID OPENING.
- METER LID KEYHOLE.
- 1/2" THICK RIB.

**KEY NOTES**

- SITE DETAILS
- C503

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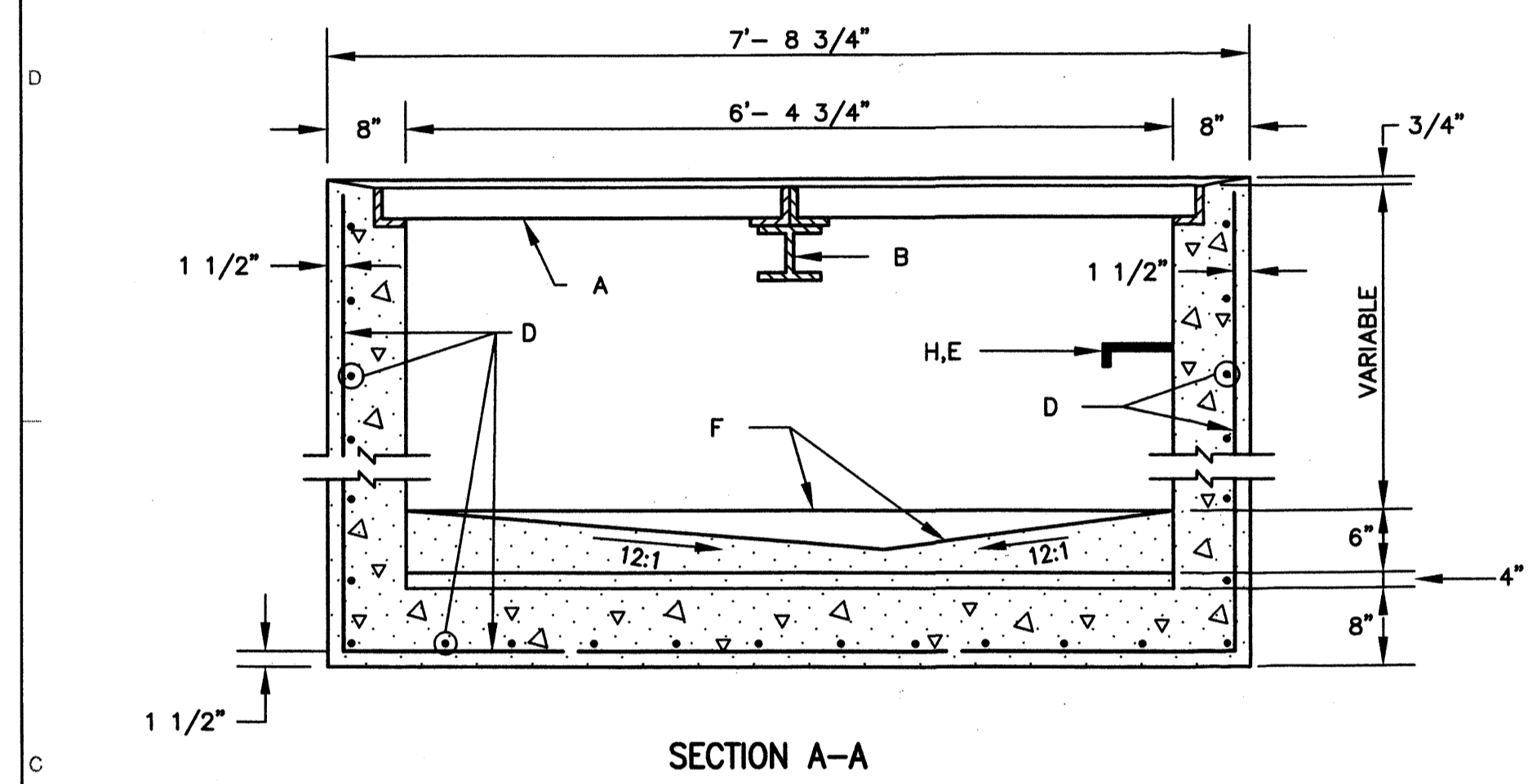
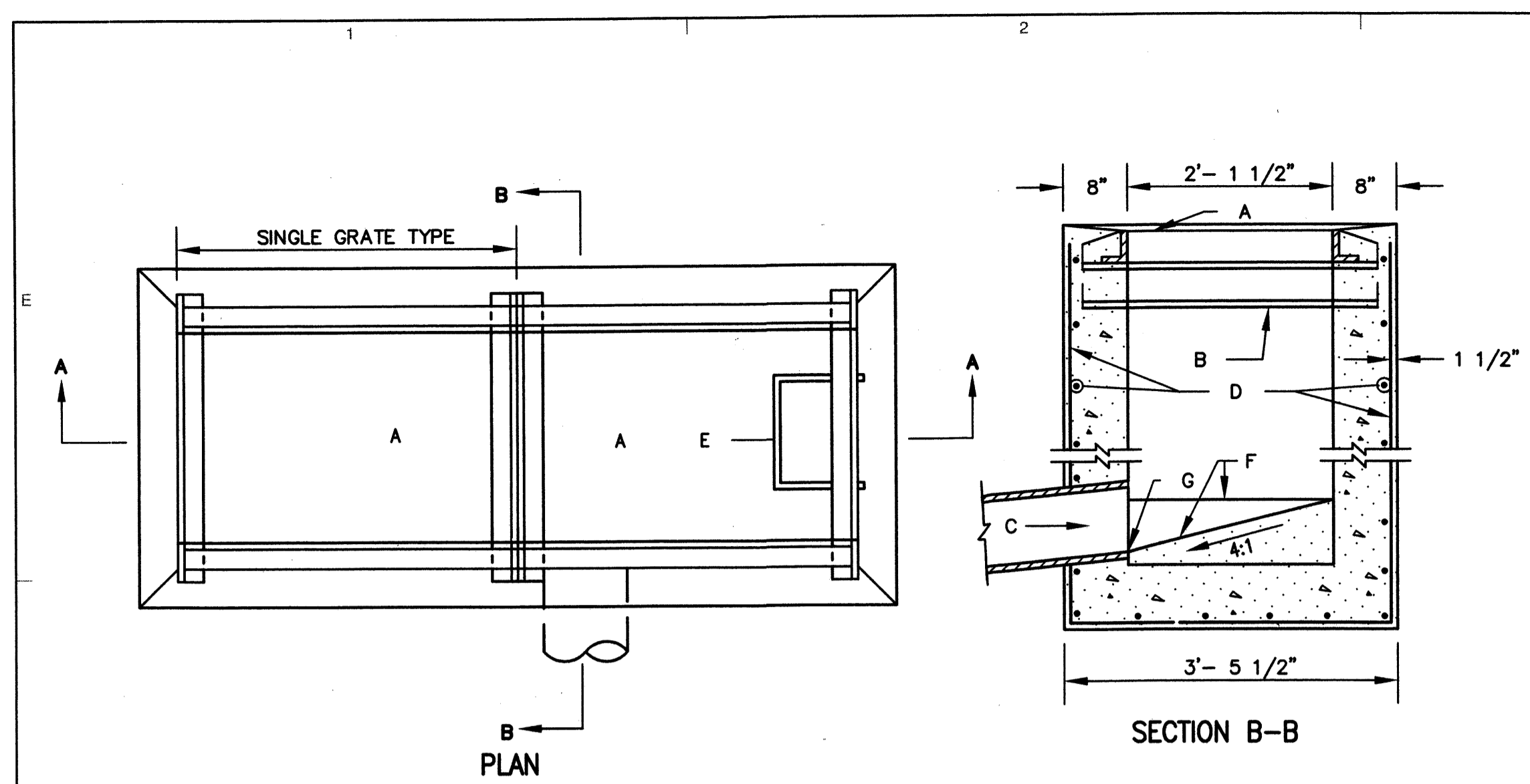
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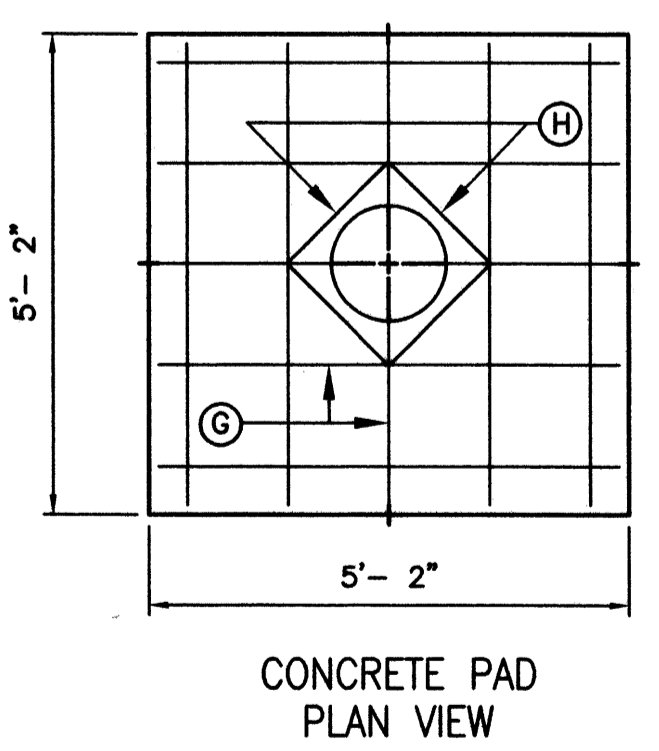
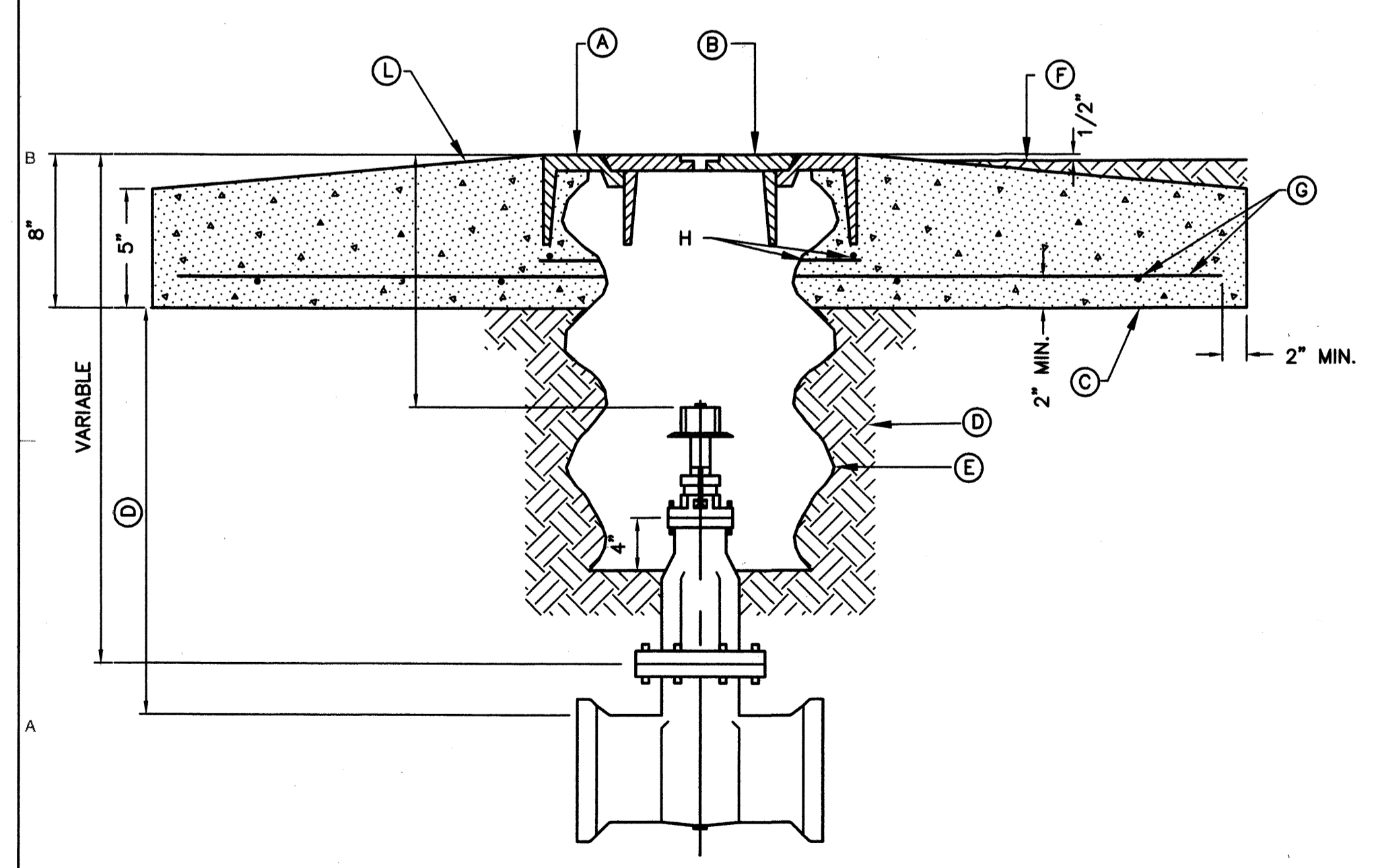
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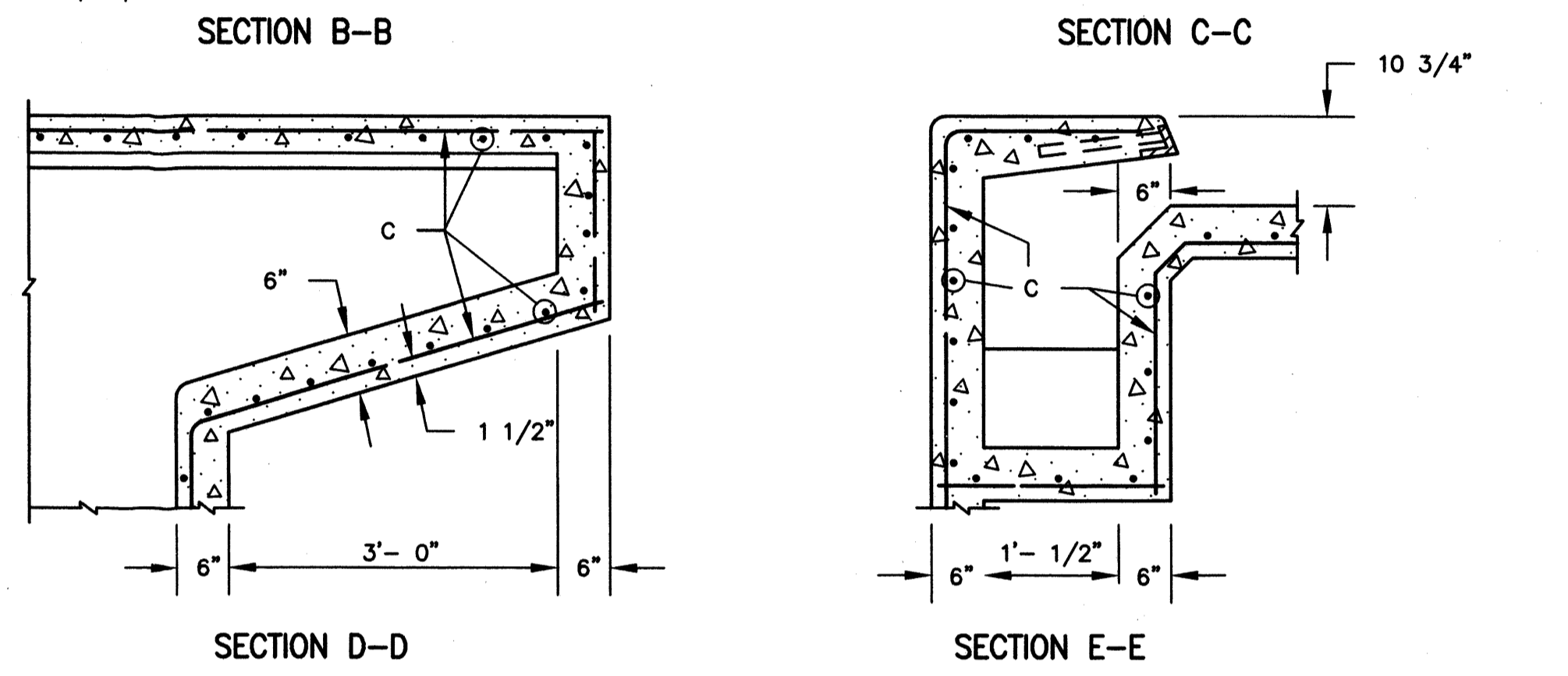
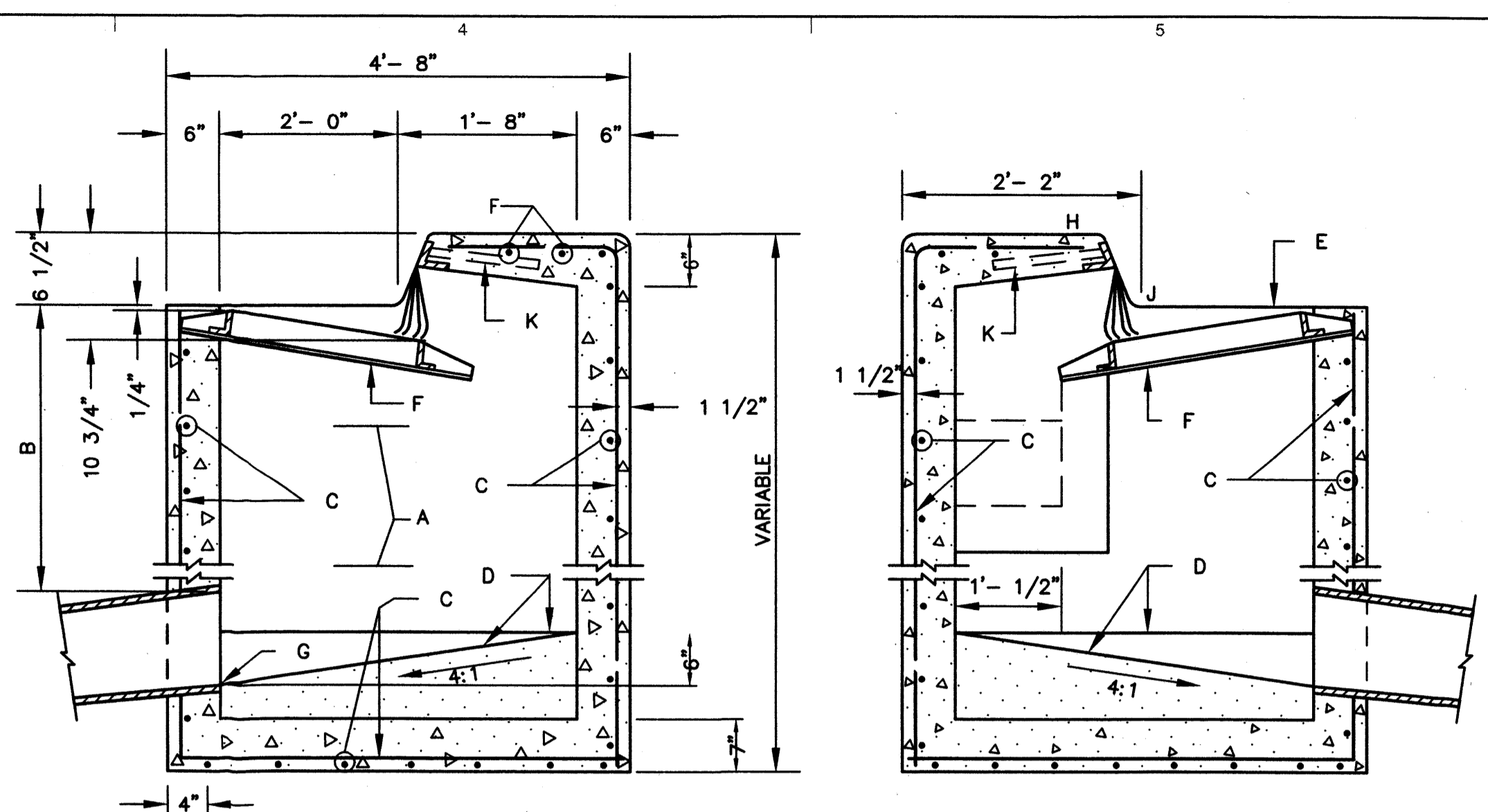
- GENERAL NOTES:**
1. FOR SINGLE GRATE TYPE STORM INLET, DELETE CENTER SUPPORT AND MOVE ONE END WALL TO FORM NEW SINGLE GRATE INLET.
  2. STORM INLET GUTTER TRANSITION WILL BE SHOWN ON THE CONSTRUCTION PLANS.
  3. OUTLET PIPE SIZE, PER DESIGN REQUIREMENT.
  4. FOR FRAME & GRATING, SEE DWG. 2216, 2220 & 2221.
  5. FOR CENTER SUPPORT ASSEMBLY, SEE DWG. 2215.

- CONSTRUCTION NOTES:**
- A. FRAME & GRATE.
  - B. CENTER SUPPORT ASSEMBLY.
  - C. CUT ONE HORIZONTAL AND ONE VERTICAL BAR MAX. AT PIPE OPENING.
  - D. NO. 4 BARS AT 6\" O.C. EACH WAY.
  - E. USE STANDARD STEPS, SEE DRW. 2229.
  - F. CONC. FILL, SEE NOTE C DWG. 2201.
  - G. INVERT PER DESIGN.
  - H. INSTALL STEPS ON DOWNSTREAM FACE.

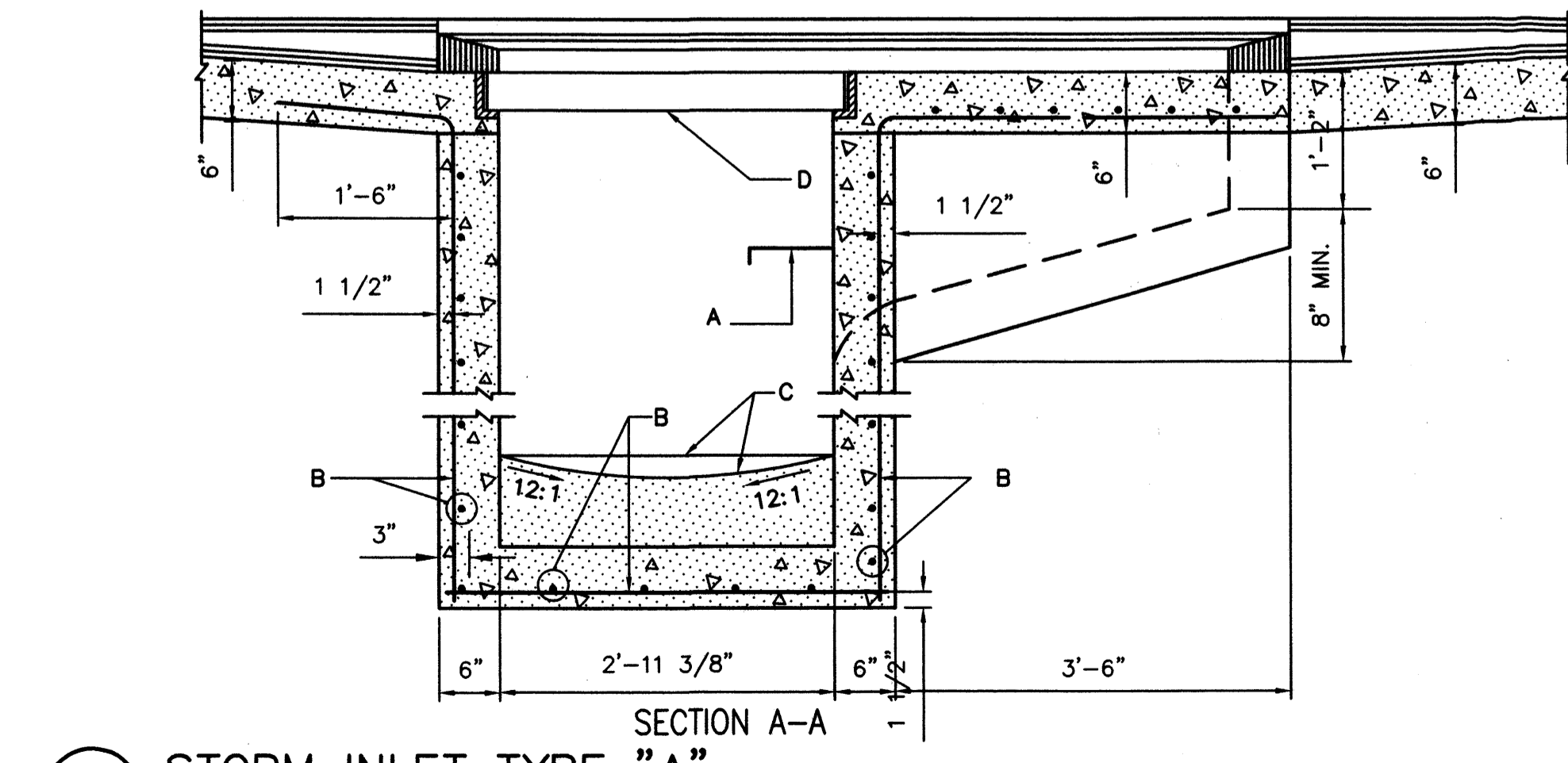
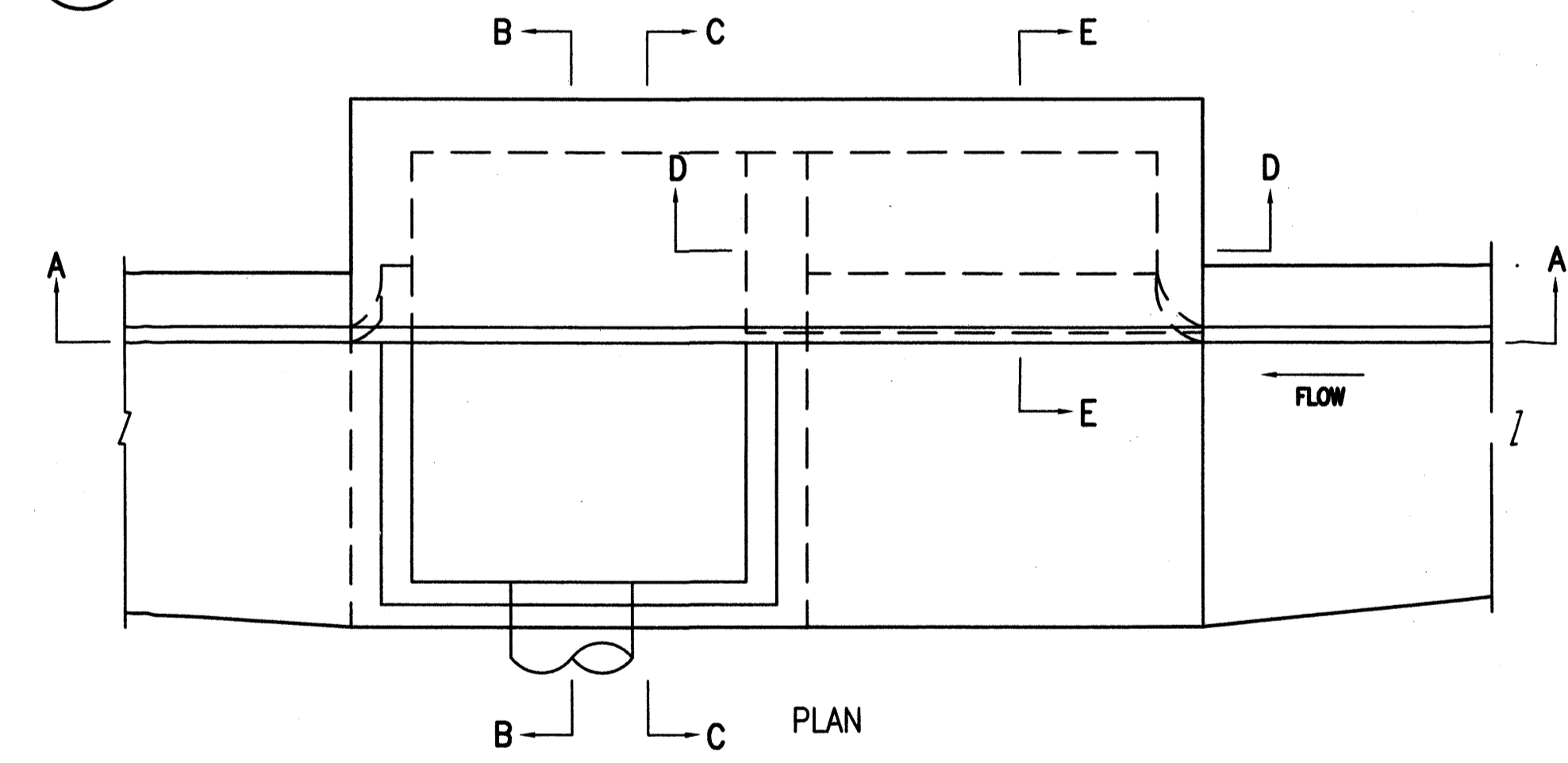
**C1** STORM INLET TYPE "D"  
NTS



**A1** WATER VALVE BOX TYPE B  
NTS



**C4** STORM INLET TYPE "A"  
NTS



**A4** STORM INLET TYPE "A"  
NTS

**GENERAL NOTES**

**CONSTRUCTION NOTES WATER VALVE BOX B:**

1. SIDES OF CONC. PAD TO BE PARALLEL AND PERPENDICULAR TO THE NORMAL STREET TRAFFIC FLOW.
2. USE THIS TYPE VALVE BOX FOR LOCATION IN UNPAVED STREETS OR ALLEYS AND IN NON-TRAFFIC EASEMENTS.

**KEY NOTES**

**CONSTRUCTION NOTES WATER VALVE TYPE B:**

- A. RING.
- B. COVER.
- C. PORTLAND CEMENT CONC. 3000 P.S.I.
- D. COMPACTED EARTH FILL, 90% TO 95% OF MAX. DENSITY AS DETERMINED BY A.S.T.M. D 1557.
- E. 12\" DIA. CORRUGATED GALV. CULVERT PIPE 14 GA. DIPPED IN COAL-TAR ENAMEL OR COATED WITH POLYMERIC COATING. 3 MILS THICK MIN. MEETING REQUIREMENTS SET BY A.A.S.H.T.O. M 246.
- F. GROUND LEVEL.
- G. NO. 4 BARS AT 12\" O.C. EACH WAY.
- H. NO. 4 BARS 1'- 6\" LONG.
- J. 2'- 0\" MAX., USE STEM EXTENSION AS NECESSARY, SEE DWG. 2330 & 2331.
- K. NEW OR EXISTING VALVE.
- L. SCRIBE IN THE FRESH CONCRETE THE SIZE OF THE VALVE.

**GENERAL NOTES**

**GENERAL NOTES FOR TYPE "A" INLET**

1. SEE DWG. 2201 FOR PLAN AND SECTION A-A.
2. GENERAL NOTES 2, 3 & 4 ON DWG. 2201 ALSO APPLY TO THIS DRAWING.
3. FOR ANCHOR DETAIL, SEE DWG. 2205.

**CONSTRUCTION NOTES:**

- A. STORM INLET STEPS, SEE DWG. 2229 FOR SPACING.
- B. 1'- 10\" MIN. UNLESS OTHERWISE DIRECTED.
- C. NO. 4 BARS AT 6\" O. C. EACH WAY.
- D. CONCRETE FILL, MINIMUM SLOPES SHOWN IN SECTIONS.
- E. NORMAL GUTTER.
- F. GRATE FRAME.
- G. INVERT ELEVATION PER DESIGN.
- H. TOP OF CURB.
- J. FLOWLINE.
- K. ANGLE ANCHOR.

**GENERAL NOTES:**

1. SEE DWG. 2202 FOR TYPE "A" INLET SECTIONS.
2. FOR STORM INLET GUTTER TRANSITION, SEE DWG. 2207.
3. OUTLET PIPE SIZE, PER DESIGN REQUIREMENT.
4. FOR FRAME & GRATING, SEE DWG. 2216, 2220 & 2221.

**CONSTRUCTION NOTES:**

- A. FOR STORM INLET DEPTHS GREATER THAN 4', INSTALL STD. STEPS, SEE DWG. 2229. STEPS ARE TO BE INSTALLED ON DOWNSTREAM FACE OF INLET.
- B. NO. 4 BARS AT 6\" O.C. EACH WAY.
- C. CONCRETE FILL, MINIMUM SLOPE SHOWN IN SECTION A-A.
- D. GRATE

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GENERAL NOTES

- DESIGN ELEVATIONS TO BE GIVEN AT EACH END OF THE CURB RETURN (TOP OF CURB ELEV.) AND AT INTERSECTIONS OF PROJECTED FLOWLINES (FLOWLINE ELEV.).
- ON UPSTREAM AND DOWNSTREAM ENDS OF THE INTERSECTION, VALLEY GUTTER CONSTRUCTION SHALL EXTEND TO THE END OF RETURNS.
- THE VALLEY GUTTER TO BE REINFORCED WITH 6" X 6" X NO. 6 GA. WIRE MESH.
- INVERT OF VALLEY GUTTER TO EXTEND FROM FLOWLINE OF UPSTREAM CURB RETURN TO FLOWLINE OF DOWNSTREAM CURB RETURN.
- CURB FLOWLINE AND TOP OF CURB ELEV. SHOWN IN THE BOX CORRESPOND TO QUARTERPOINTS INDICATED ON THE CURB RETURN IN THE CLOCKWISE DIRECTION.
- DENOTES 1/2" EXPANSION JOINT.
- FOR NEW CONSTRUCTION, VALLEY GUTTER SHALL BE CONSTRUCTED PRIOR TO ADJACENT PAVEMENT. ASPHALT CONC. SHALL BE INSTALLED MONOLITHICALLY TO MEET NEW VALLEY GUTTER.
- PRIOR TO CONSTRUCTION OF NEW VALLEY GUTTER ON EXISTING ACCEPTED STREETS, PAVEMENT SHALL BE REMOVED AS SHOWN ON PLANS.

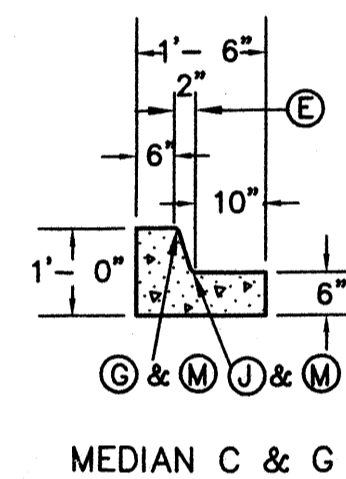
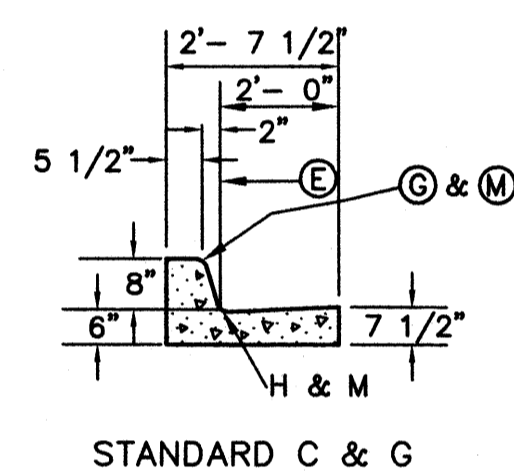
GENERAL NOTES

- CURBS, GUTTERS & CUT-OFF WALL TO BE CONSTRUCTED OF P.C.C.
- FOR STANDARD AND MEDIAN C. & G. ADJACENT TO ASPHALT CONCRETE PAVEMENT PROVIDE CONTRACTION JTS. 12" MAX. SPACING, 1/2" EXP. JTS. AT CURB RETURNS AND AT A MAXIMUM SPACING OF 120' BETWEEN CURB RETURNS & EACH SIDE OF SEPARATELY CONSTRUCTED DRIVEWAYS. CONTRACTION JTS. SHALL BE EITHER SAWED OR TOOLED A MINIMUM OF 1" DEEP AT FINISHED FACES.
- FOR C & G CUT-OFF WALL PROVIDE CONTRACTION JTS. AT 10' MAX. SPACING, 1/2" EXP. JTS. AT CURB RETURNS AND AT MAX. SPACING OF 100' BETWEEN CURB RETURNS & EACH SIDE OF SEPARATELY CONSTRUCTED DRIVEWAYS. CONTRACTION JTS. SHALL BE EITHER SAWED OR TOOLED A MINIMUM OF 1" DEEP AT ALL FINISHED FACES. REINFORCEMENT SHALL NOT BE USED IN CUT-OFF WALLS.
- FOR C & G CONSTRUCTED WITH PORTLAND CEMENT CONCRETE PAVEMENT, CONTRACTION JTS. SHALL BE THE SAME AS THE PAVEMENT JOINTS.
- ALL EDGES SHALL BE EDGED WITH A 3/8" RADIUS EDGING TOOL.
- STANDARD C & G SHALL BE USED FOR NEW CONSTRUCTION UNLESS OTHERWISE AUTHORIZED BY THE CITY ENGINEER.
- REMOVE AND REPLACE PAVEMENT 1' WIDE ADJACENT TO LIP OF GUTTER WHEN CONSTRUCTING C & G ADJACENT TO EXISTING ASPHALT CONCRETE PAVEMENT.
- 1/4" ISOLATION JOINT SHALL BE PLACED BETWEEN SIDEWALK AND C & G WHEN CAST ADJACENT TO EACH OTHER.
- ADA=AMERICAN WITH DISABILITIES ACT

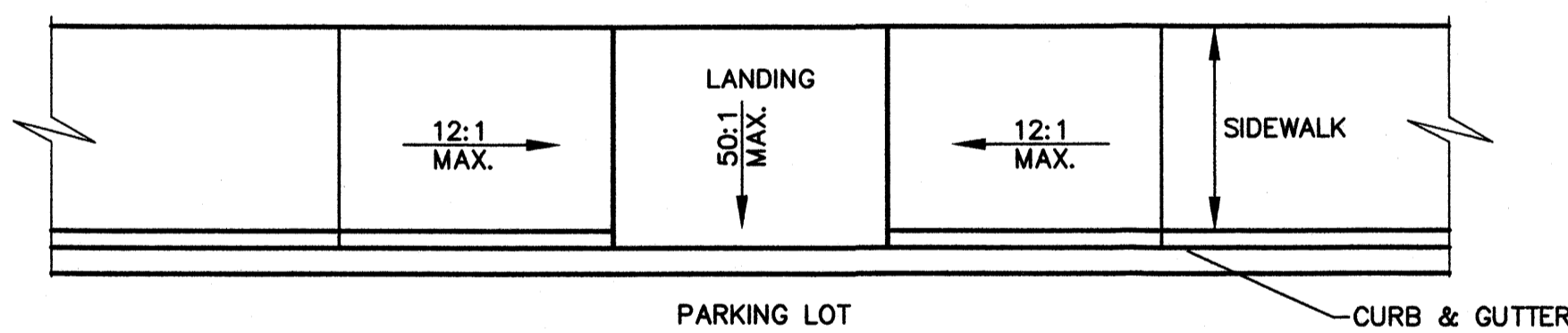
KEY NOTES VALLEY GUTTER

- END OF CURB RETURN, SEE NOTE 1.
- FOR RAMP DETAILS, SEE DWGS. 2418, 2440, 2441.
- INTERSECTION OF FLOWLINES, SEE NOTE 1.
- SURFACE AND CURB TO BE MONOLITHIC.
- DIRECTION OF FLOW.
- FLOWLINE.
- PROJECTED FLOWLINE OF 1 1/2" INVERT, SEE NOTE 2.
- 6" X 6" NO. 6 GA. WIRE MESH.
- BEGIN CROWN WARP TO NO CROWN SECTION AS PER DWGS. 2401 OR AS SPECIFIED ON PLANS OR INDICATED BY THE ENGINEER.
- NO. 4 BARS 3'-0" LONG AT 16" O.C.
- ALTERNATE A, WITH FILLET AS PER PLANS.
- ALTERNATE B, NO FILLET AS PER PLANS.
- THE 1 1/2" INVERT DEPTH MAY BE REDUCED TO IMPROVE RIDEABILITY WITH APPROVAL OF ENGINEER.

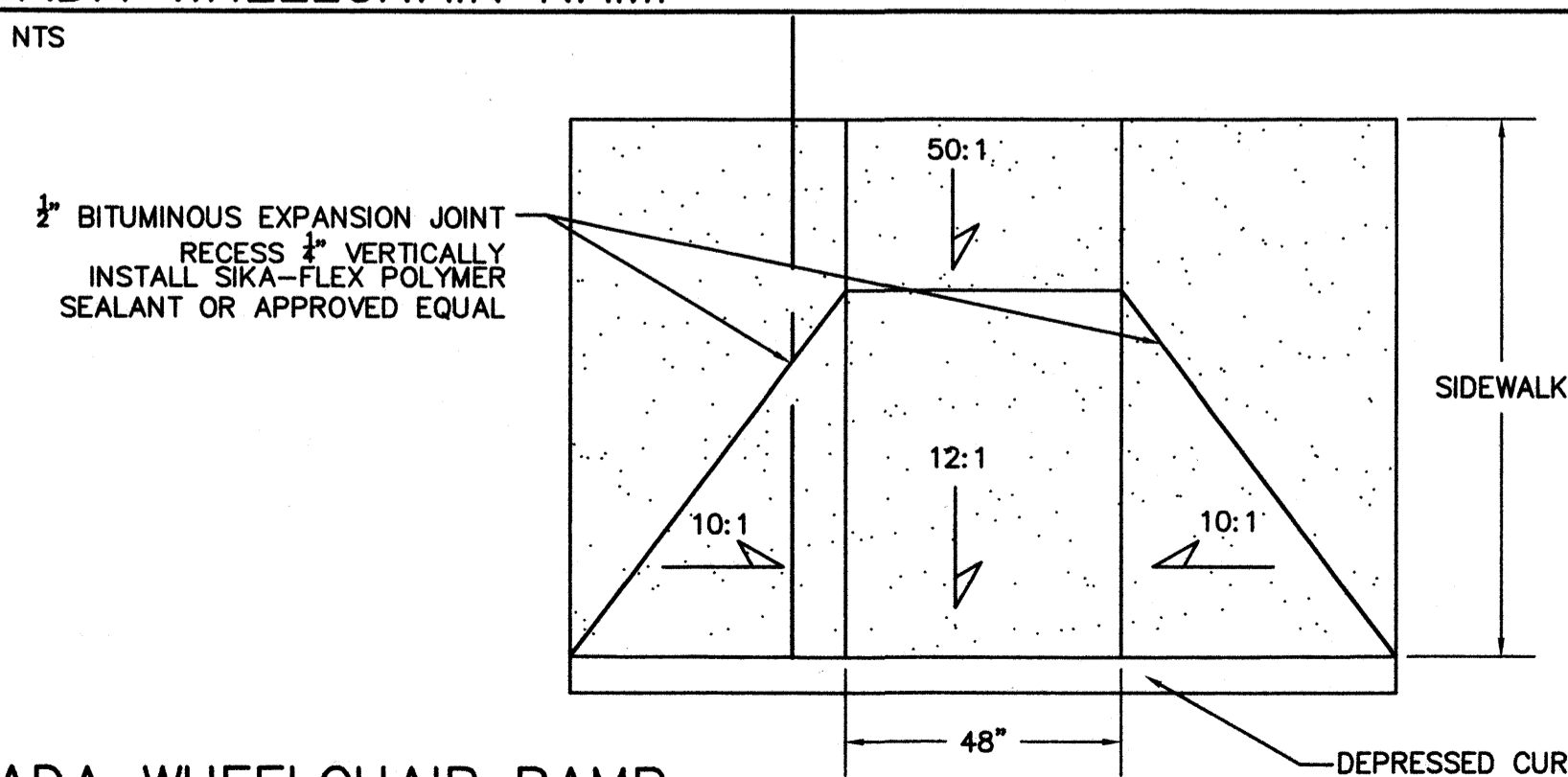
- REQ. CONC. CHANNEL LINING, OR CUT-OFF WALL PROVIDE 1/4" EXP. JT. BETWEEN BACK OF CURB & CONC. LINING AND/OR WALL.
- VARIABLE, DEPRESS AS NEEDED.
- DRIVE NO. 4 BARS 18" DEEP IN HOLES DRILLED 2' O.C. IN EXIST. PAVEMENT, SEAL WITH EPOXY.
- EXIST. A.C. OR P.C.C. PAVEMENT.
- THEORETICAL FACE OF CURB OR FLOWLINE.
- TRAFFIC SIDE.
- 3/4" RADIUS.
- 1 1/2" RADIUS.
- 2" RADIUS.
- 24" RADIUS.
- TACK COAT.
- DIMENSIONS AT ROUNDED CORNERS MEASURED TO INTERSECTION OF STRAIGHT LINES.
- 4" A.C., 75BLW/1800 LBS. STABILITY ON TEMPORARY PAVEMENT, 2" AC., 50BLW/1500 STABILITY ON BICYCLE PATHS.
- 8" SCARIFIED AND COMPACTED SUBGRADE. 95% MINIMUM COMPACTION AT OPTIMUM MOISTURE +/- 2% ATSM D1557, OR OPTIMUM MOISTURE TO +4 ATSM D698. FOR SOILS WITH 35% OR GREATER MATERIAL PASSING THE NO. 200 SIEVE.
- ASPHALT CONCRETE PAVEMENT #4 X CONT. BETWEEN JOINTS
- 3" COVER AT JOINTS
- #3 PIN AT 3'-0" O.C. W/STD. HOOK.



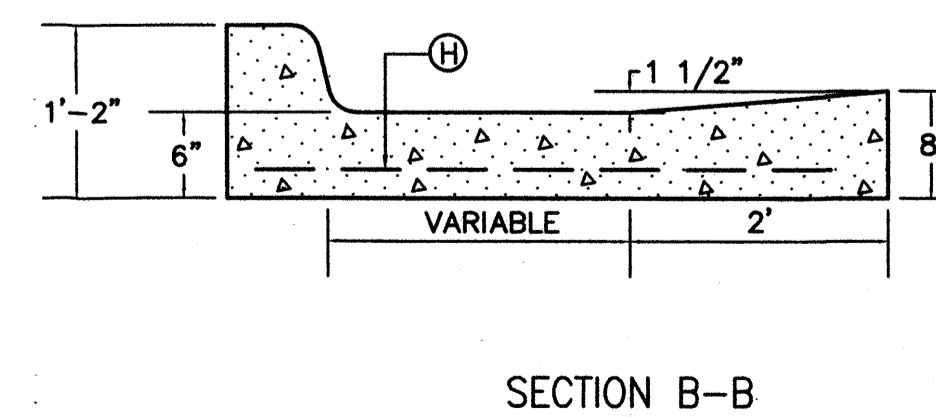
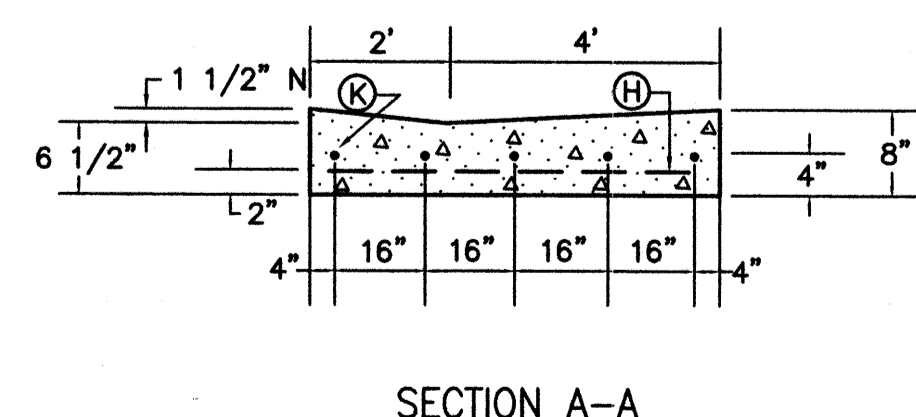
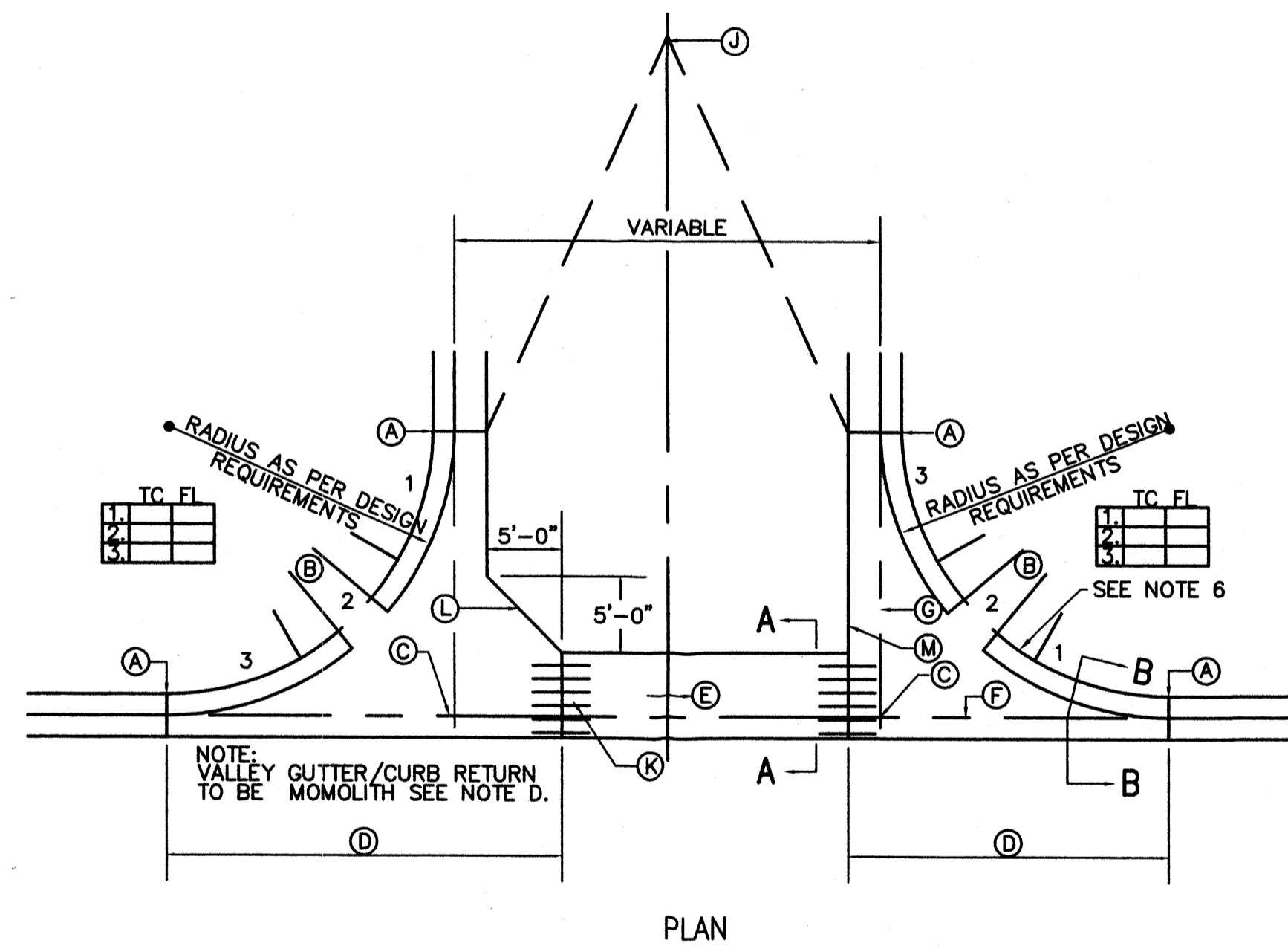
C1 CURB & GUTTER DETAILS



B1 ADA WHEELCHAIR RAMP



A1 ADA WHEELCHAIR RAMP



A3 CONCRETE VALLEY GUTTER

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DATE: JUN. 12, 2007

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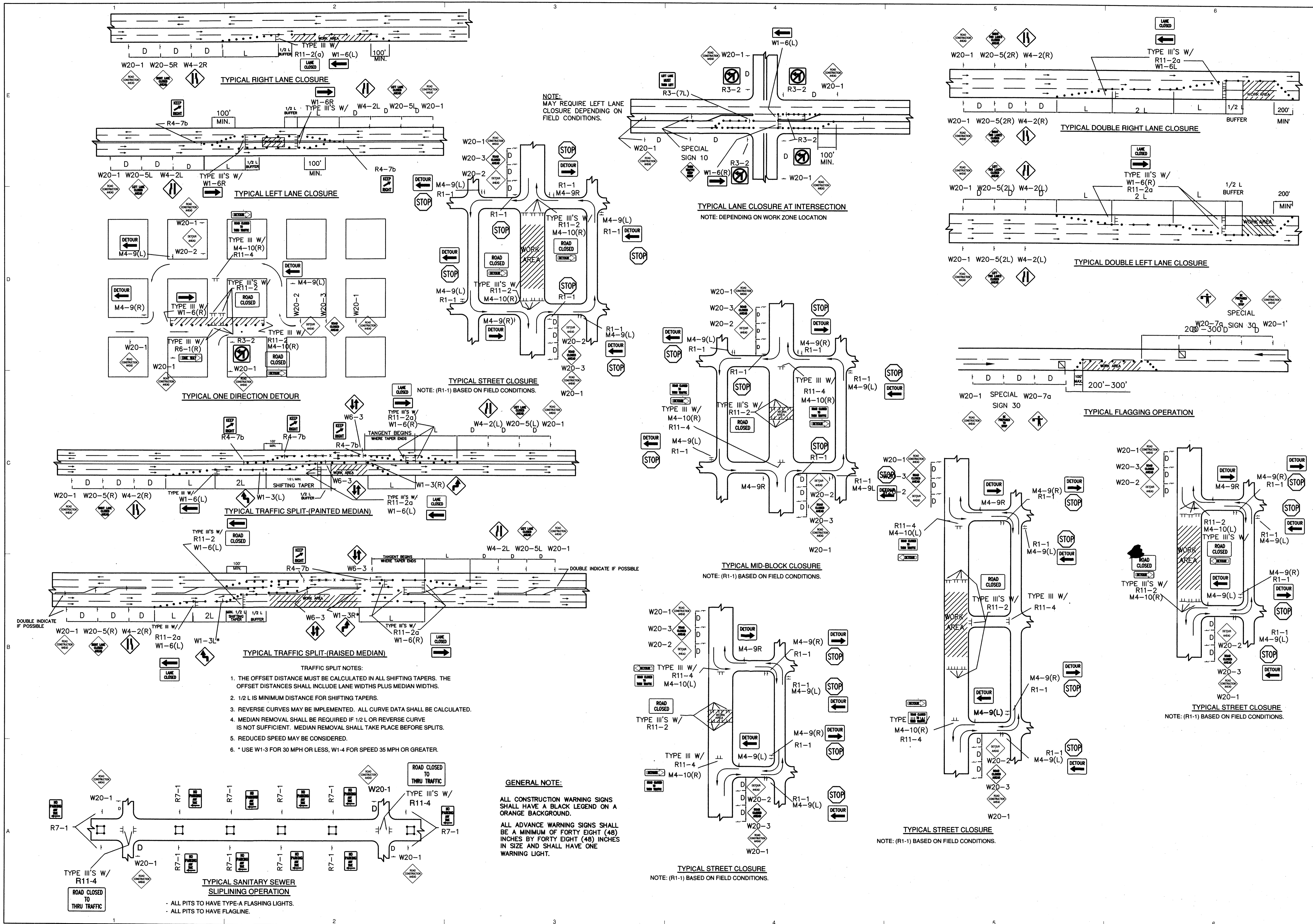
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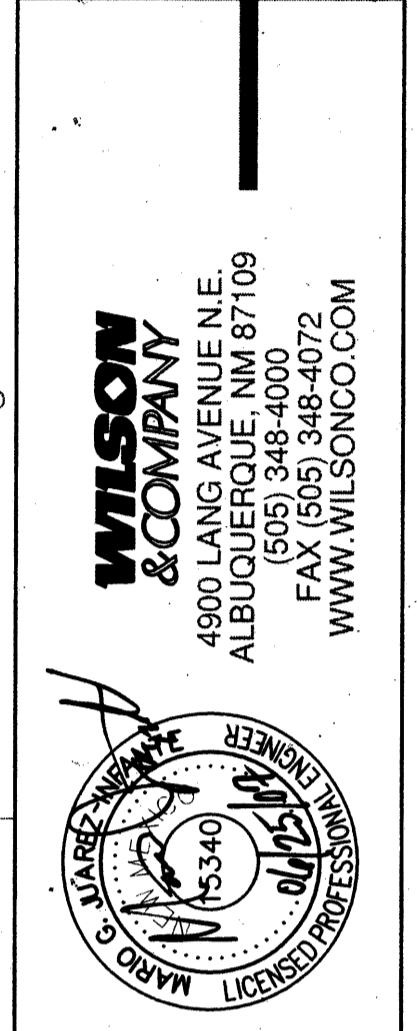
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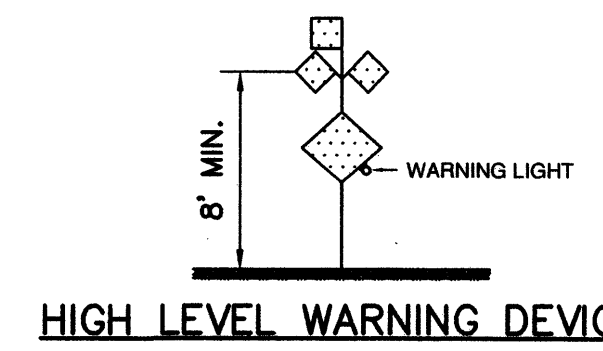
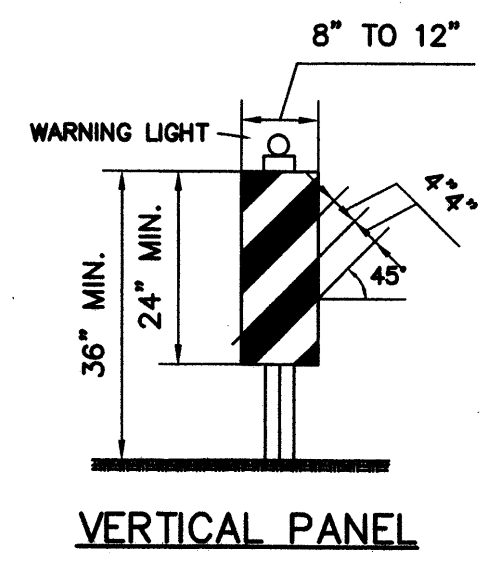
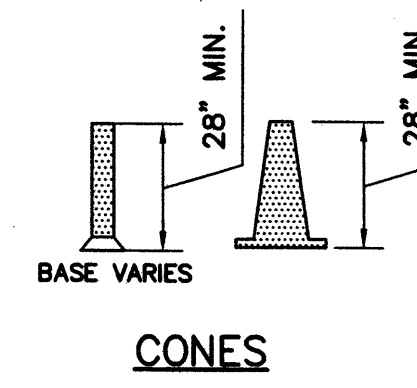
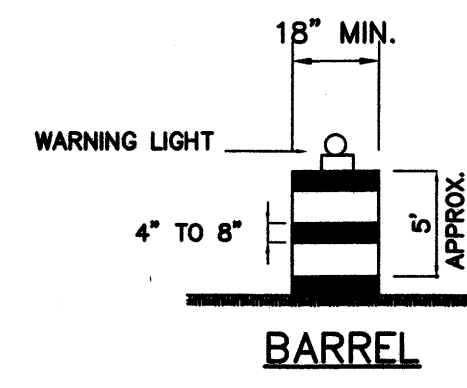
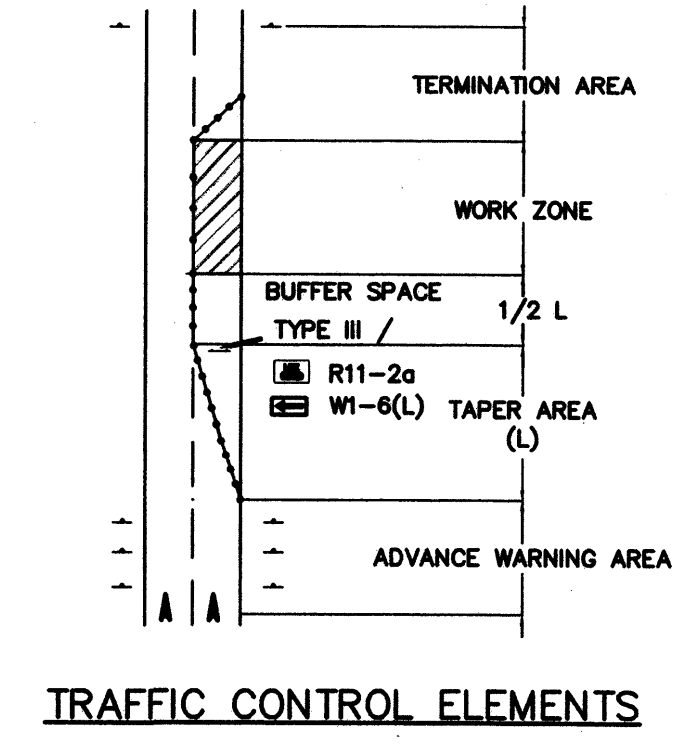
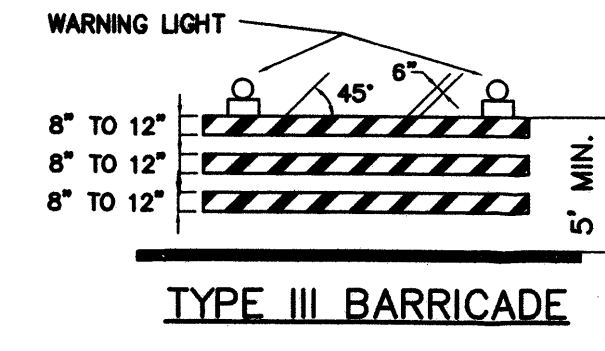
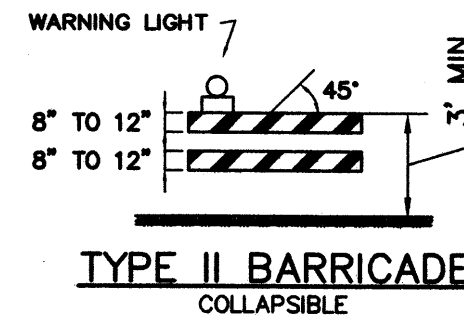
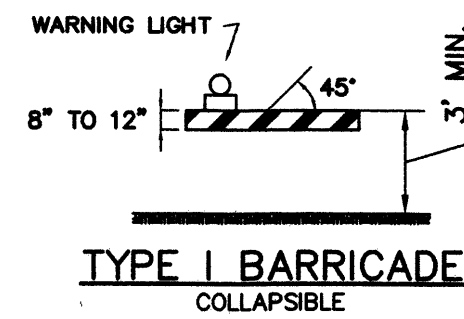
**TEMPORARY TRAFFIC CONTROL**

**C506**

SHEET OF

**CONSTRUCTION TRAFFIC CONTROL GENERAL NOTES**

- 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 RIO RANCHO'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.
- 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.
- 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.
- CONSTRUCTION SHALL NOT BEGIN UNLESS A TRAFFIC CONTROL PLAN HAS BEEN APPROVED AND VERIFIED BY CONSTRUCTION COORDINATION.
- 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.
- 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.
- THE CONSTRUCTION TRAFFIC CONTROL INITIAL SETUP SHALL BE BY AN AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED WORKSITE TRAFFIC SUPERVISOR. THE MAINTENANCE AND SERVICING SHALL ALSO BE DONE BY AN ATSSA CERTIFIED WORKSITE TRAFFIC SUPERVISOR OR EQUIVALENT.
- 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.
- 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.
- 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.
- CONTRACTOR SHALL NOT BEGIN WORK BEFORE 7:00 A.M. OR END WORK AFTER 7:00 P.M. WITHOUT THE APPROVAL OF CONSTRUCTION COORDINATION.
- 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.
- 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.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN A SAFE AND ADEQUATE MEANS OF CHANNELIZING PEDESTRIAN TRAFFIC AROUND AND THROUGH THE CONSTRUCTION AREA.
- CONTRACTOR IS RESPONSIBLE FOR OBLITERATION OF ANY CONFLICTING STRIPING AND RESPONSIBLE FOR ALL TEMPORARY STRIPING.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL FACILITIES, BUSINESSES AND/OR RESIDENTS AT ALL TIMES.
- 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.
- ALL ADVANCE WARNING SIGNS SHALL MEET THE MINIMUM REFLECTIVE INTENSITY REQUIREMENTS SET FORTH BY THE CITY OF RIO RANCHO. CONSTRUCTION COORDINATION SHALL DETERMINE ALL REQUIREMENTS AND APPROVE OR DISAPPROVE ANY ADVANCE WARNING SIGN PER SECTION 6A-4 OF THE MUTCD, LATEST EDITION.
- 24 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.
- ANY FIELD ADJUSTMENTS SHALL BE APPROVED BY CONSTRUCTION COORDINATION.
- 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.
- 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 RIO RANCHO TRAFFIC CODE, LATEST EDITION.
  - ALL SECTIONS OF THE CITY OF ALBUQUERQUE'S STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- 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.
- ALL TRAFFIC CONTROL DEVICES SHALL BE KEPT IN NEW-CLEAN CONDITION. WASHING OF EQUIPMENT IS INCIDENTAL TO ITS PLACEMENT AND MAINTENANCE.
- TRAFFIC CONTROL STANDARDS APPLY ONLY WHERE THE CONSTRUCTION TRAFFIC CONTROL PLANS ARE NOT SPECIFIC.
- ADVANCE WARNING SIGNS SHALL BE 36"x36" WITH SUPER ENGINEERING GRADE SHEETING OR BETTER.



**SIGN FACE DETAILS**

W1-1(R) W1-1(L) W1-2(R) W1-2(L) W1-3(R) W1-3(L) W1-4(R) W1-4(L) W1-6(R) W1-6(L) W3-1

30 MPH or LESS 30 MPH or GREATER 30 MPH or LESS 30 MPH or GREATER

W4-2(R) W4-2(L) W6-3 W8-1 W8-3 W8-3A W8-7 W13-1 W12-1 W8-9a W14-2 W3-1A

ROAD CONSTRUCTION AHEAD DETOUR AHEAD ROAD CLOSED AHEAD ONE LANE ROAD CLOSED AHEAD RIGHT LANE CLOSED AHEAD LEFT LANE CLOSED AHEAD RIGHT TWO LANES CLOSED AHEAD LEFT TWO LANES CLOSED AHEAD CENTER LANE CLOSED AHEAD FLAGGER AHEAD NO OUTLET STOP AHEAD

W20-1 W20-2 W20-3 W20-4 W20-5(R) W20-5(L) W20-5(2L) W20-5(2L) W20-5(C) W20-7 W20-7a W1-4bR W1-4bL

30" STOP 36" YIELD 30" SPEED LIMIT 50 24" REDUCED SPEED AHEAD 30" REDUCED SPEED 30 24" NO TURNS 30" RIGHT LANE MUST TURN RIGHT 30" LEFT LANE MUST TURN LEFT 24" KEEP RIGHT 24" KEEP LEFT

R1-1 R1-2 R2-1 R2-5a R2-5b R3-1 R3-2 R3-3 R3-7(R) R3-7(L) R4-7b R4-7b(L)

30" DO NOT ENTER 36" WRONG WAY 12" ONE WAY 36" ONE WAY 18" NO PARKING ANY TIME 30" ROAD CLOSED 30" LANE CLOSED 60" ROAD CLOSED TO THRU TRAFFIC 18" END DETOUR 24" DETOUR 30" DETOUR 30" DETOUR

R5-1 R5-1a R6-1(R) R6-1(L) R7-1 R11-2 R11-2a R11-4 M4-8a M4-9(R) M4-9(L)

48" DETOUR 48" DETOUR 60" END CONSTRUCTION

M4-10(R) M4-10(L) G20-2

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

**LEGEND**

- WORK AREA
- BARRICADE - TYPE I, TYPE II, OR BARREL
- BARRICADE - TYPE III
- VERTICAL PANEL
- WARNING SIGN
- FLAGMAN POSITION
- D DISTANCE BETWEEN SIGNS (A DISTANCE MEASURED IN FEET EQUAL TO A VALUE OF TEN TIMES THE SPEED LIMIT OF THE STREET)
- S SPACING BETWEEN BARRICADES (A DISTANCE MEASURED IN FEET EQUAL TO THE SPEED LIMIT OF THE STREET)
- L TAPER LENGTH (SEE CHART BELOW)  
\*THE TANGENT LENGTH IS EQUAL TO THE TAPER LENGTH FOR A GIVEN STREET

**TAPER REQUIREMENTS**

SPEED LIMIT (MPH)	TAPER LENGTH IN FEET (L)			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 MILES PER HOUR	MINIMUM DISTANCE IN FEET BETWEEN SIGNS	MINIMUM DISTANCE IN FEET 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 TAPER: ..... 100 FEET PER LANE

**TAPER LENGTH COMPUTATION**

**SPEED LIMIT**

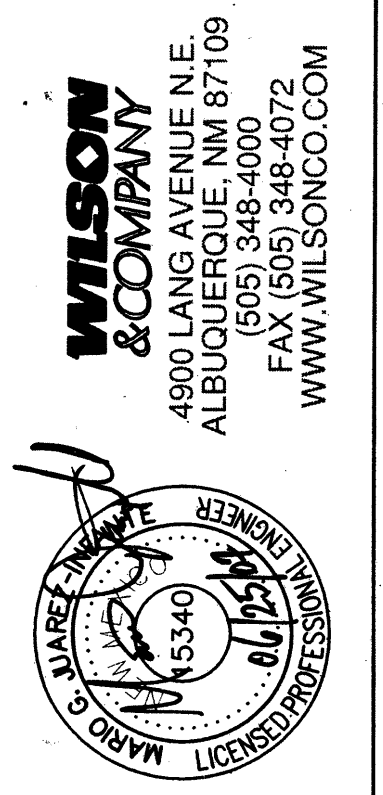
40 MPH OR LESS       $L = \frac{WS^2}{60}$

45 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

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BUSINESS PARK

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SHEET TITLE

**TEMPORARY TRAFFIC CONTROL**

**C507**  
SHEET \_\_\_ OF \_\_\_