#### I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED ALONG THE NORTH 1-25/JEFFERSON CORRIDOR REPRESENTS MODIFICATIONS TO AN EXISTING SITE WITHIN AN INFILL AREA. THE SITE, LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF JEFFERSON STREET NE AND ELLISON STREET NE IS CURRENTLY DEVELOPED AS A HOSPITAL SITE WITH RELATED USES. IT IS PROPOSED TO ADD SEVERAL BUILDING ADDITIONS AND MODEST PARKING LOT IMPROVEMENTS. UPGRADES TO THE EXISTING LANDSCAPING ARE ALSO PROPOSED. THE DRAINAGE CONCEPT FOR THIS SITE WILL BE THE CONTINUED FREE DISCHARGE TO THE PINO ARROYO, A CITY OWNED AND OPERATED CONCRETE DRAINAGE CHANNEL.

#### THIS SUBMITTAL IS MADE IN SUPPORT OF BUILDING PERMIT APPROVAL.

#### II. PROJECT DESCRIPTION

AS SHOWN BY THE VICINITY MAP, THE SITE IS LOCATED AT THE SOUTHEAST CORNER OF JEFFERSON STREET NE AND ELLISON STREET NE. THE CURRENT LEGAL DESCRIPTION IS TRACTS 4A AND 4B1, INTERSTATE INDUSTRIAL TRACT, UNIT 5. AS INDICATED BY PANEL 137 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, NOVEMBER 19, 2003, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE. A DESIGNATED FLOOD HAZARD ZONE IS IDENTIFIED TO THE SOUTH OF THE SITE. THE PUBLIC STORM DRAIN PINO ARROYO MAKES UP THE LIMITS OF THE FLOOD HAZARD ZONE. APPROXIMATELY TWO THIRDS OF THE EXISTING SITE SURFACE DRAINS NORTH TO SOUTH, DISCHARGING DIRECTLY INTO PINO ARROYO VIA CURB OPENINGS ALONG THE SOUTH PARKING LOT CURB. THE REMAINING WESTERN THIRD OF THE SITE DRAINS EAST TO WEST INTO JEFFERSON STREET NE, WHERE IT COLLECTS INTO AN EXISTING PUBLIC STORM DRAIN SYSTEM AND ULTIMATELY DISCHARGES INTO PINO ARROYO. THE CONSTRUCTION PROPOSED FOR THIS SITE WILL NOT ADVERSELY IMPACT DOWNSTREAM FLOW OR DOWNSTREAM PROPERTIES AND WILL NOT ALTER THE EXISTING APPROVED DRAINAGE PATTERNS.

#### III. BACKGROUND DOCUMENTS & RESEARCH

THE FOLLOWING ITEMS WERE REVIEWED IN THE PREPARATION OF THIS SUBMITTAL:

- A. A BOUNDARY AND TOPOGRAPHIC SURVEY OF THE EXISTING SITE PREPARED BY HIGH MESA CONSULTING GROUP, DATED 10/07/2008. THE SUBJECT SURVEY SHOWS THE EXISTING SITE IMPROVEMENTS.
- B. CITY AS-BUILT PLANS OF JEFFERSON STREET NE AND ELLISON STREET NE RECEIVED FROM THE CITY RECORDS. THE AS-BUILT PLANS SHOW THE EXISTING PUBLIC PAVING AND INFRASTRUCTURE IMPROVEMENTS WITHIN THESE PUBLIC
- C. GRADING AND DRAINAGE PLAN PREPARED BY ESPEY. HUSTON & ASSOCIATES, INC. DATED 11/13/87 (D17/D61A). THIS APPROVED DRAINAGE PLAN PERMITS FREE DISCHARGE INTO JEFFERSON STREET NE AND THE PINO ARROYO.
- D. GRADING AND DRAINAGE PLAN FOR THE HEALTHSOUTH SATELLITE PARKING LOT PREPARED BY THIS OFFICE, NMPE 8547, DATED 12-29-2005 AND REVISED 01-31-2006. THIS 2006 SUBMITTAL ADDRESSED THE DESIGN AND DEVELOPMENT OF A STAFF PARKING LOT AT THE NORTHWEST CORNER OF TRACT 4B1. THE DEVELOPED RUNOFF FROM TRACT 4B1 DISCHARGES DIRECTLY TO ELLISON DRIVE NE VIA SIDEWALK CULVERT. THE 2006 DRAINAGE SUBMITTAL REPRESENTS THE DRAINAGE CONDITIONS OF TRACT 4B1 THAT LIES IMMEDIATELY ADJACENT TO THE ORIGINAL HOSPITAL SITE, TRACT 4A.
- SITE DEVELOPMENT PLAN FOR BUILDING PERMIT APPROVAL PREPARED BY BOULDER ASSOCIATES AND HIGH MESA CONSULTING GROUP, DATED NOVEMBER 6, 2008, REVISED DECEMBER 1, 2008 AND SUBMITTED TO EPC FOR REVIEW AND APPROVAL. THE PLAN WAS APPROVED FOR DRB ACTION ON DECEMBER 18, 2008 BY THE CITY OF ALBUQUERQUE ENVIRONMENTAL PLANNING COMMISSION.

RECORD DRAWING LEGEND RECORD INFORMATION (VERIFIED BY ENGINE # AS DESCRIPTION OF BY ENGINEER! RECORD INFORMATION (VERIFIED BY ENGINEER) RECORD INFORMATION (VERIFIED BY ENGINEER)

RECORD INFORMATION (MERIFIED BY ENGINEER AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY AS-BUILT SURVEY) RECORD INFORMATION FROM AS-BUILT SURVEY 22 31.8

#### IV. EXISTING CONDITIONS

AT PRESENT, TRACT 4A IS DEVELOPED AS A HOSPITAL SITE WITH RELATED USES. THE SITE IS CHARACTERIZED BY TWO DRAINAGE BASINS. BASIN A DISCHARGES TO THE ADJACENT CITY STREETS. FROM THIS POINT, THE RUNOFF IS CARRIED WITHIN THE IMPROVED STREETS TO ENTER THE EXISTING PUBLIC STORM DRAIN SYSTEM THAT OUTFALLS TO THE PINO ARROYO. BASIN B DRAINS INTERNALLY AND DISCHARGES DIRECTLY TO THE PINO ARROYO VIA AN EXISTING SIDE INLET SITUATED ON THE NORTH EDGE OF THE CONCRETE CHANNEL.

TRACT 4B1 IS ONLY PARTLY DEVELOPED AS A SATELLITE PARKING LOT FOR HOSPITAL STAFF. REFER TO THE 2006 DRAINAGE SUBMITTAL REFERENCED ABOVE FOR THE EXISTING CONDITIONS OF TRACT 4B1. THE DEVELOPED PORTIONS OF TRACT 4B1 FREE DISCHARGE TO ELLISON DRIVE NE VIA A SIDEWALK CULVERT SITUATED AT THE NORTHWEST CORNER OF THE STAFF PARKING LOT.

OFFSITE FLOWS DO NOT ENTER EITHER SITE. THE ADJACENT CITY STREETS LIE TOPOGRAPHICALLY LOWER, PLUS ARE FULLY IMPROVED WITH CURB AND GUTTER AND PUBLIC STORM DRAIN FACILITIES. TRACT 4B1 IS BOUNDED ON ITS EAST EDGE BY A PRIVATE STREET THAT INTERCEPTS OFFSITE FLOWS FROM THE EAST AND CONVEYS THOSE FLOWS BOTH NORTH AND SOUTH. THE PINO ARROYO LIES TO THE SOUTH OF THE COLLECTIVE SITE. REVIEW OF FIRM PANEL 137 INDICATES THAT FLOWS ARE CONFINED TO THE CONSTRUCTED CHANNEL AND HENCE DOES NOT GENERATE ANY OFFSITE FLOWS.

#### V. DEVELOPED CONDITIONS

THE PROPOSED IMPROVEMENTS CONSIST OF SEVERAL BUILDING ADDITIONS TO THE ORIGINAL HOSPITAL BUILDING. MODEST PARKING LOT IMPROVEMENTS ARE ALSO PROPOSED ALONG WITH LANDSCAPING UPGRADES. THE NET RESULT OF THE PROPOSED IMPROVEMENTS WILL BE A MINOR INCREASE IN IMPERVIOUS AREA RESULTING IN A MINOR INCREASE IN DEVELOPED RUNOFF. REGARDLESS, THE PROPOSED IMPROVEMENTS WILL NOT ALTER DRAINAGE BASIN BOUNDARIES NOR WILL THE PROPOSED IMPROVEMENTS ALTER EXISTING POINTS OF DISCHARGE FROM THE SITE.

#### VI. GRADING PLAN

THE GRADING PLAN SHOWS 1.) EXISTING AND PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1"-0" INTERVALS, 2.) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS, 3.) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS, AND 4.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE PROPOSED IMPROVEMENTS WILL MAINTAIN EXISTING DRAINAGE PATTERNS AND POINTS OF DISCHARGE.

#### VII. CALCULATIONS

CALCULATIONS ANALYZING THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT HAVE BEEN PREPARED FOR THIS PROJECT. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS. AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY, 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. AS SHOWN BY THE RESULTS PRESENTED HEREON, THERE WILL BE A MINIMAL INCREASE IN PEAK DISCHARGE AND RUNOFF VOLUME ASSOCIATED WITH THE PROPOSED DEVELOPMENT ON TRACT 4A. CALCULATIONS FOR TRACT 4B1 HAVE NOT BEEN INCLUDED AS THERE IS NO CHANGE PROPOSED FROM THE 2006 SUBMITTAL REFERENCED ABOVE.

#### VIII. CONCLUSION

THE CONTINUED FREE DISCHARGE OF RUNOFF FROM THIS SITE TO THE PINO ARROYO IS JUSTIFIED DUE TO THE FOLLOWING FACTORS:

I. MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA

NOT BE ALTERED AND HENCE MAINTAINED

- MINIMAL INCREASE IN PEAK DISCHARGE AND VOLUME OF RUNOFF GENERATED 3. PROPOSED DEVELOPMENT IS CONSISTENT WITH THE PREVIOUSLY APPROVED 1987
- AND 2006 DRAINAGE PLANS REFERENCED ABOVE 4. NO ADVERSE IMPACT ON DOWNSTREAM CAPACITY OR DOWNSTREAM PROPERTIES
- 5. THE EXISTING PREVIOUSLY APPROVED DRAINAGE PATTERNS (STATUS QUO) WILL

# CALCULATIONS

#### I. <u>SITE CHARACTERISTICS</u> A. PRECIPITATION ZONE= B. $P_{100/8}$ Hz, $= P_{300} =$ 3.95 $P_{100/10 \text{ DAY}} =$

# C. TOTAL PROJECT AREA $(A_T) =$

#### D. LAND TREATMENTS EXISTING LAND TREATMENT

TREATMENT	AREA (SF/AC)	*
<del></del> B	73,920 / 1.70	29
C	10,600 / 0.24	4
D	170,320 / 3.91	67
DEVELOPED L <b>AND TREATMEN</b>	т	
TDEATMENT	AREA (SE/AC)	%

195,400 / 4.49

#### II. HYDROLOGY

#### A. EXISTING CONDITION

	١.	VOLUME		
		$E_{W} = (E_{A}A_{A} + E_{B}A_{B} + E_{C}A_{C} + E_{D}A_{D})/A_{T}$		
		$E_{\Psi} = (0.78*1.70) + (1.13*0.24) + (2.12*3.91)/5.85 =$	1.69	IN
		$V_{100, 6 HR} = (E_{W}/12)A_{T} = (1.69/12)5.85 = 0.8239 AC-FT =$	35,890	C
:	2.	PEAK DISCHARGE		
		$Q_{P} = Q_{PA} A_{A} + Q_{PB} A_{B} + Q_{PC} A_{C} + Q_{PD} A_{D}$		

В.	DEV	ELOPED CONDITION	
	1.	VOLUME	
		$E_{W} = (E_{A}A_{A} + E_{B}A_{B} + E_{C}A_{C} + E_{D}A_{D})/A_{T}$	4.04.111
		$E_{W} = (0.78*1.34) + (2.12*4.49)/5.83 =$	1.81 IN
		$V_{100, 8 HR} = (E_W/12)A_T = (1.81/12)5.83 = 0.8794 AC-FT =$	38,300 CF
	2.	PEAK DISCHARGE	
		$O_{-} = O_{-}$ A $+O_{-}$ As $+O_{-}$ As $+O_{-}$ As	

•	COMPARISON		
	1. VOLUME $\Delta V_{100, 6 \text{ MR}} = 38,300 - 35,890 =$	2,410 CF	(INCREASE)
	2. PEAK DISCHARGE $\Delta V_{100} = 24.1 - 23.0 =$	1.1 CFS	(INCREASE)

## SO #19 SIGNOFF BLOCK

APPROVALS	NAME	DATE
HYDROLOGY		
SIDE <b>WAL</b> K INSPECTOR		
STORM DRAIN MAINTENANCE		

#### EROSION CONTROL MEASURES:

- 1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE
- 2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
- 3. WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.
- 4. UNLESS FINAL STABILIZATION IS OTHERWISE PROVIDED FOR, ANY AREAS OF EXCESS DISTURBANCE (TRAFFIC ACCESS, STORAGE YARD, EXCAVATED MATERIAL, ETC.) SHALL BE RE-SEEDED ACCORDING TO C.O.A. SPECIFICATION 1012 "NATIVE GRASS SEEDING". THIS WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE

### ENGINEER'S DRAINAGE CERTIFICATION FOR TEMPORARY C.O.

I, JEFFREY G. MORTENSEN, NMPE 8547, OF THE FIRM HIGH MESA CONSULTING GROUP, HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND DRAINED IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 03-25-2009 AND REVISED 04-06-2009 WITH EXCEPTIONS AS NOTED BELOW. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED FROM THE VERIFICATION SURVEY CONDUCTED UNDER THE DIRECT SUPERVISION OF CHARLES G. CALA, JR., NMPS 11184, OF THE FIRM HIGH MESA CONSULTING GROUP, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR TEMPORARY CERTIFICATE OF

THE FOLLOWING EXCEPTIONS ARE NOTED AND MUST BE CORRECTED AND RE-CERTIFIED AS A CONDITION FOR PERMANENT CERTIFICATE OF OCCUPANCY:

- 1. THE 4" PRIVATE STORM DRAIN AT THE NORTHEAST CORNER OF THE SITE WAS CONSTRUCTED TOO FLAT (S = 0.002 + /-) AND MUST BE MODIFIED TO A MINIMUM SLOPE OF S = 0.0050AS DESIGNED AND APPROVED.
- 2. UPON COMPLETION OF THE ABOVE REFERENCED CORRECTION, RE-CERTIFICATION BY THE ENGINEER IS REQUIRED TO SUPPORT ISSUANCE OF A PERMANENT CERTIFICATE OF OCCUPANCY.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE ASPECTS OF THIS PROJECT. THIS CERTIFICATION DOES NOT ADDRESS ADA COMPLIANCE WHICH IS BEYOND THE SCOPE OF GRADING AND DRAINAGE. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.



3 FOR PARKING LOT EXPANSION, SEE SHEET CIS

SURVEY NOTE: THIS IS NOT A BOUNDARY SURVEY. DATA IS SHOWN FOR ORIENTATION ONLY. BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON A BOUNDARY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS 11184, DATED 10-07-2008. THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON A TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS 11184, DATED 10-07-2008.

7000 JEFFERSON STREET ALBUQUERQUE, NEW MEXICO

**HealthSouth** 

Rehabilitation

Hospital, 20-Bed

Addition / Remodel

PROJECT NUMBER

**MARCH 6, 2009** 

1\ HYDROLOGY COMMENTS

4 RECERT. FOR PERM. C.O.

RECORD DRAWING & CERT.

Consulting Group

6010-B MIDWAY PARK BLVD. NE

ALBUQUERQUE, NEW MEXICO 87109

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THE RESERVE AND ADDRESS.

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Boulder, Colorado 80302

04.06.200

2008.039.3

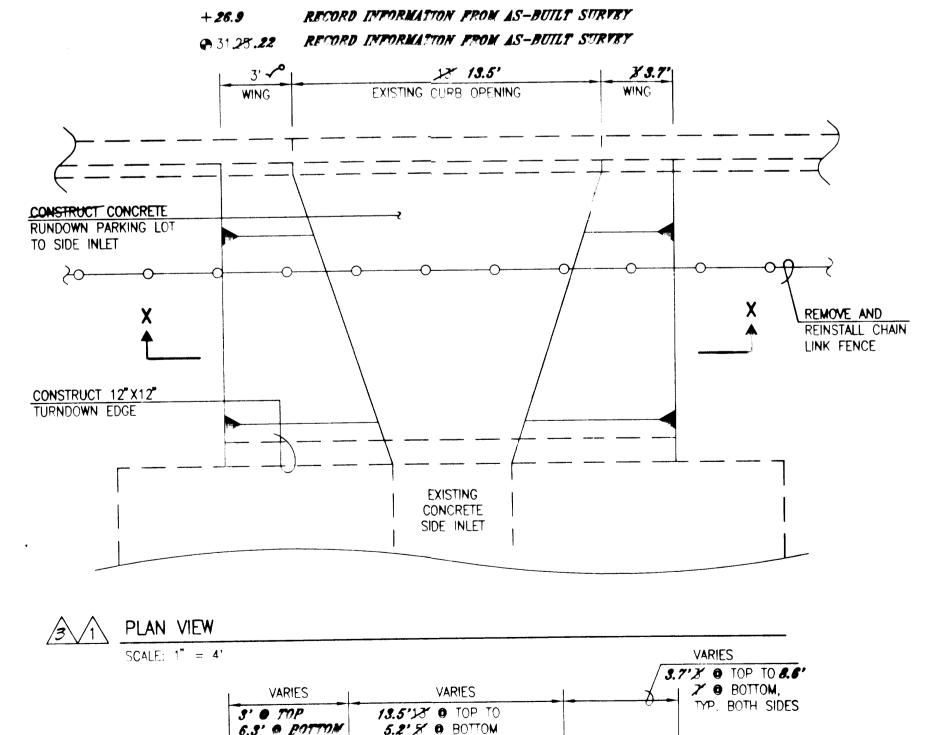
HONE: 505.345.4250 FAX: 505.345.4**254** 

081570.00

DRAWN BY

**DRAINAGE PLAN & CALCULATIONS** 

SHEET NUMBER



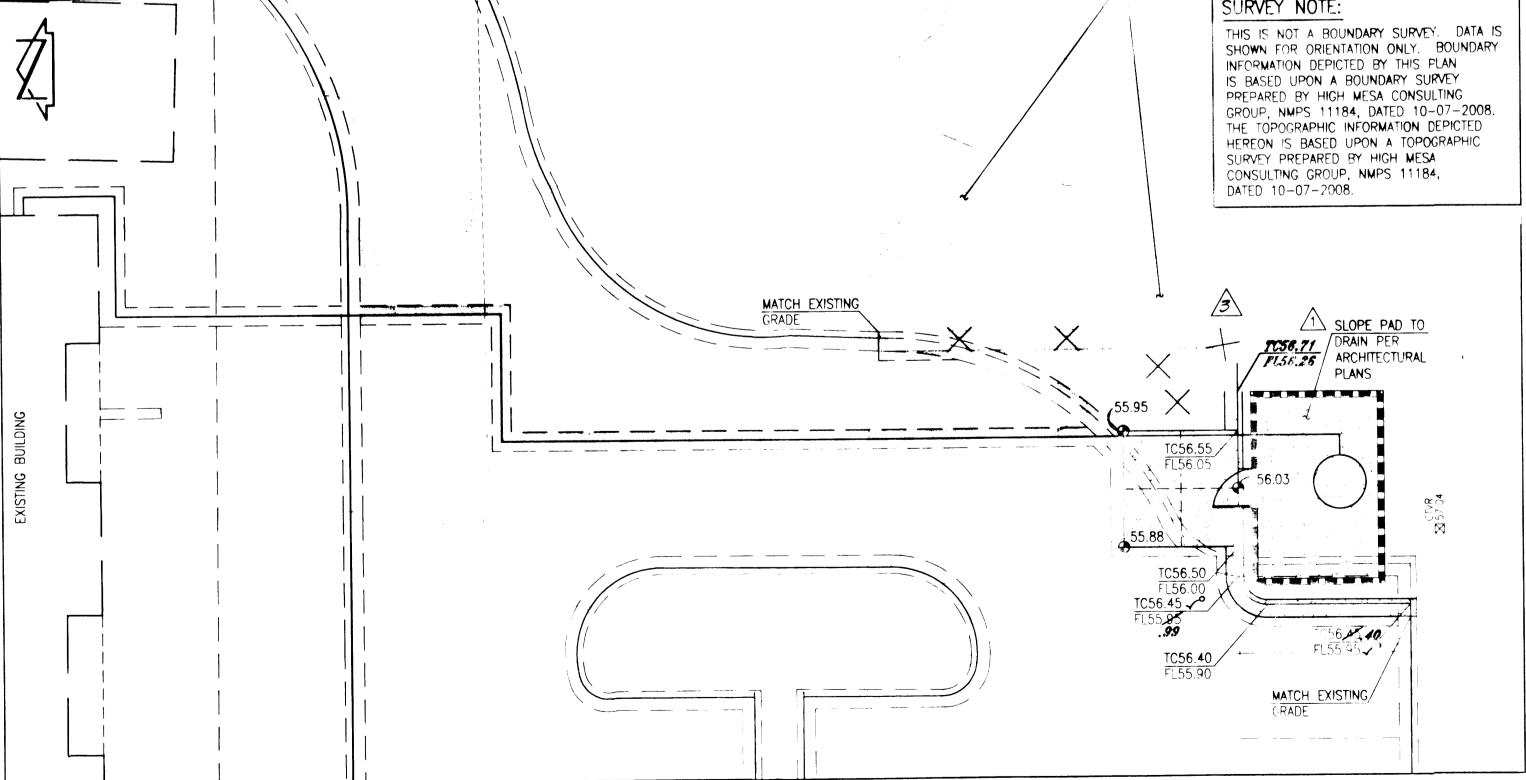
\_\_\_\_\_

8" 3000 'SI CONCRETE W/MEDIUN BROOM FINISH

AND 6" x 6" x NO. 6 GA WWW

12" SUBGRADE COMPACTED

95% ASTM D-1557



DETAIL / SCALE: 1'' = 10' - 0''(BY SEPARATE PERMIT)

SECTION X-X SCALE: 1'' = 4'

TREATMENT

AREA (SE/AC) 58,350 / 1.34

 $Q_P = Q_{100} = (2.28*1.70) + (3.14*0.24) + (4.70*3.91) =$ 

DOME ODED CONDITION

 $Q_P = Q_{PA} A_A + Q_{PR} A_B + Q_{PC} A_C + Q_{PD} A_D$ 

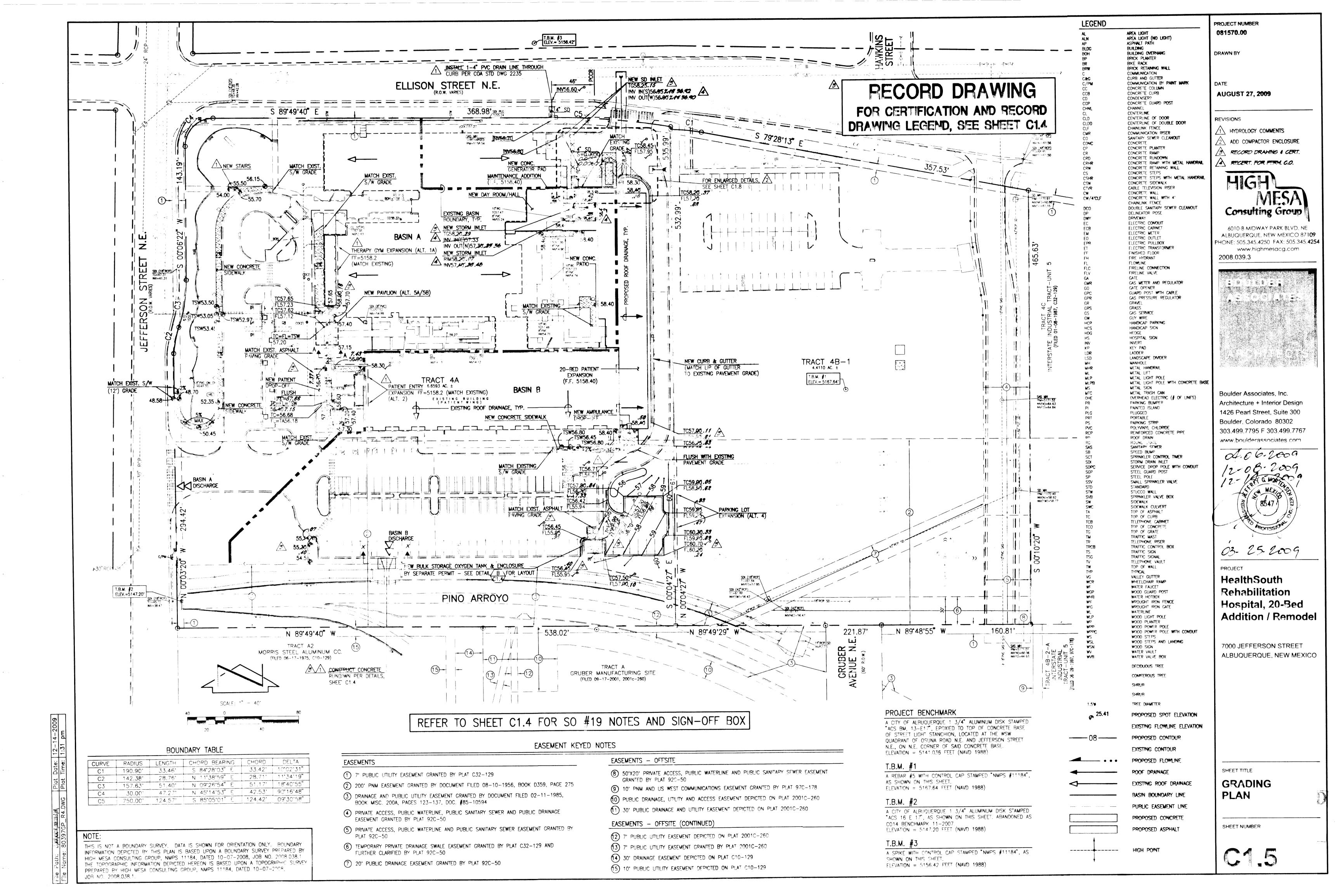
 $Q_P = Q_{100} = (2.28*1.34) + (4.70*4.49) =$ 

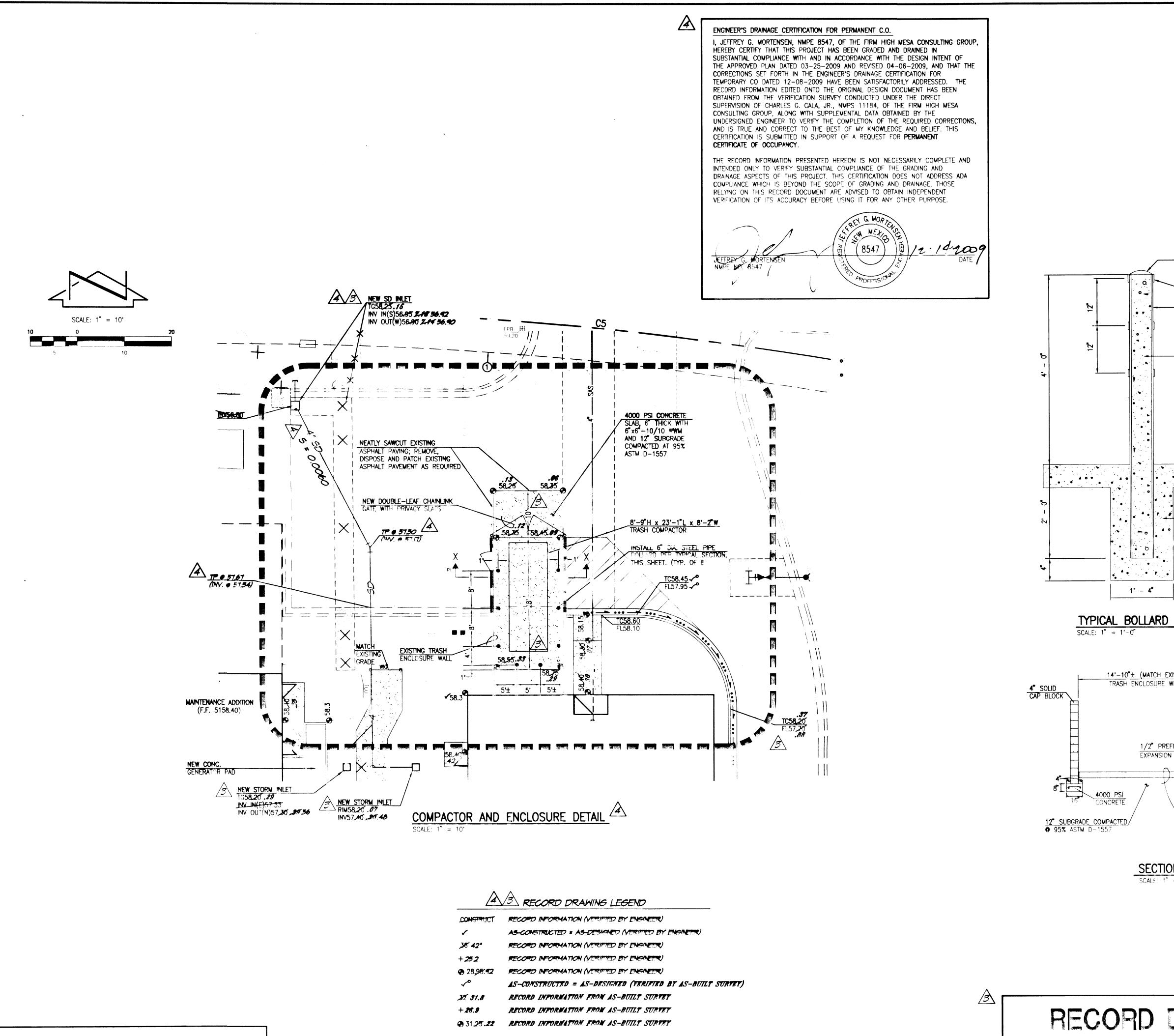
24.1 CF**S** 

253,750 SF

5.83 AC

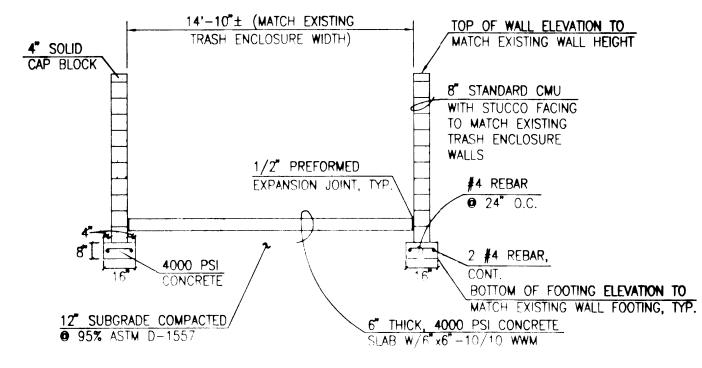
FOR CERTIFICATION FOR PERMANENT C.O., SEE SHEET CI.B.





- CONCRETE WASH CAP " WIDE REFLECTIVE TAPE, TYP. - 6" DIA. STANDARD STEEL PIPE COLUMN PAINT WITH ONE COAT RUST INHIBITIVE PRIMER AND ONE COAT "CHROME YELLOW ---- PORTLAND CEMENT CONCRETE FINISHED REFUSE PAD GRADE 4000 PSI PORTLAND CEMENT CONCRETE

TYPICAL BOLLARD SECTION



SECTION X-X

SCALF: 1" = 4'-0"

RECORD DRAWING FOR CERTIFICATION, SEE SHEET C1.4

HYDROLOGY

PROJECT NUMBER 081570.00

DRAWN BY

REVISIONS

**AUGUST 27, 2009** 

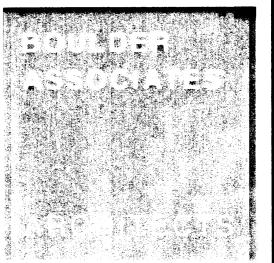
ADD THIS SHEET

3 DRAINAGE CERT. 4 RECERT. FOR PERM. C.O.

Consulting Group

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**2008**.039.**6** 



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12-02-2009



**HealthSouth** Rehabilitation Hospital, 20-Bed Addition / Remodel

7000 JEFFERSON STREET ALBUQUERQUE, NEW MEXICO

**COMPACTER PAD** AND ENCLOSURE DETAIL

JOB NO. 2008.038.1

NOTE:
THIS IS NOT A BOUNDARY SURVEY. DATA IS SHOWN FOR ORIENTATION ONLY. BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON A BOUNDARY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS 11184, DATED 10-07-2008, JOB NO. 2008.038.1. THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON A TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS 11184, DATED 10-07-2008.

