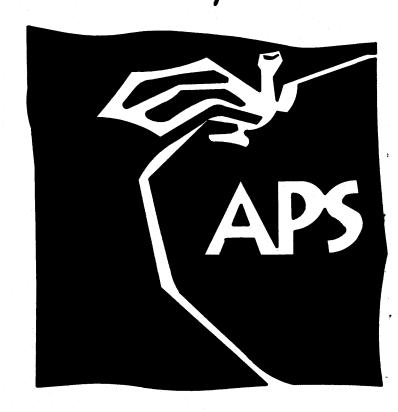
# CONSTRUCTION PLANS

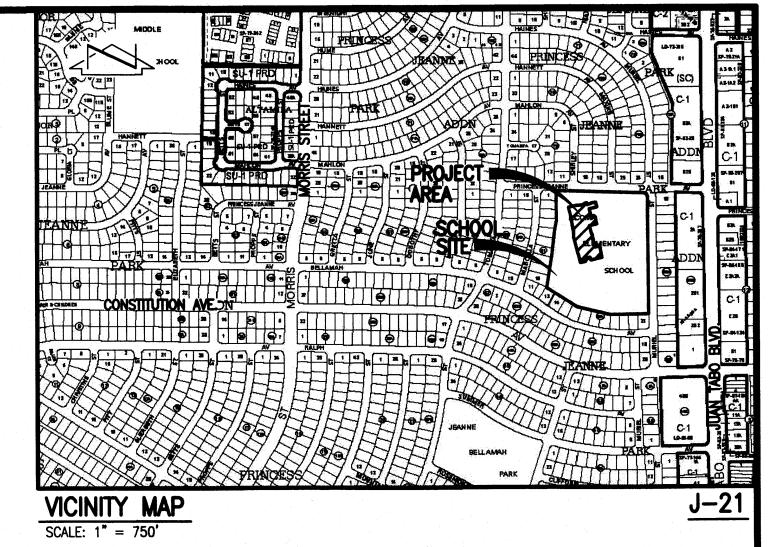
# PAPA PORTABLE CLASSROOM RELOCATIONS ACOMA ELEMENTARY SCHOOL

11800 PRINCESS JEANNE AVENUE NE ALBUQUERQUE, NEW MEXICO JULY, 2016



# NDEX OF DRAWINGS

SHEET	DESCRIPTION
1	COVER SHEET, VICINITY MAP, GENERAL NOTES AND INDEX OF DRAWINGS
2	OVERALL PLAN (FOR ORIENTATION)
3	DEMOLITION PLAN
4	SITE PLAN
5	HEADER CURB SECTIONS
6	PORTABLE CLASSROOM FOUNDATION PLAN
7	GRADING PLAN
8	DRAINAGE PLAN AND CALCULATIONS
9	GRADING, PAVING, RETAINING WALL AND DRAINAGE SECTIONS AND DETAILS
10	UTILITY SITE PLAN
11	PORTABLE CLASSROOM UTILITY CONNECTION SECTIONS AND DETAILS
12	ELECTRICAL PLAN



ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION —

CHANGE IS MADE IN THE FINISHED ELEVATION OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED. CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE

11. IF THE REMOVAL OF EXISTING CURB AND GUTTER, SIDEWALK, AND/OR PAVING IS REQUIRED, THE CONTRACTOR SHALL SAWCUT AND/OR REMOVE TO THE NEAREST JOINT. WHEN ABUTTING NEW PAVEMENT TO EXISTING, THE CONTRACTOR SHALL CUT BACK THE EXISTING PAYING TO A STRAIGHT LINE IN ORDER TO REMOVE ANY BROKEN OR CRACKED PAVEMENT. CURB AND GUTTER AND/OR PAVEMENT SHOWN AS EXISTING AND NOT TO BE REMOVED UNDER THIS CONTRACT AND WHICH IS DAMAGED OR DISPLACED BY THE CONTRACTOR

SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. 12. A DISPOSAL SITE FOR ALL EXCESS EXCAVATION MATERIAL (CONTAMINATED OR OTHERWISE), ASPHALTIC PAVING, CONCRETE PAVING, ETC. SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE REGULATIONS. ALL COSTS INCURRED IN OBTAINING A

DISPOSAL SITE AND IN HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT SHALL 13. A BORROW SITE FOR IMPORT MATERIAL SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE REGULATIONS. ALL

COSTS INCURRED IN OBTAINING A BORROW SITE AND IN HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT SHALL BE MADE.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFELY OBTAINING THE REQUIRED COMPACTION. THE CONTRACTOR SHALL SELECT AND USE METHODS WHICH SHALL NOT BE INJURIOUS OR DAMAGING TO THE EXISTING FACILITIES AND STRUCTURES WHICH SURROUND THE

15. THE CONTRACTOR SHALL CONFINE HIS WORK WITHIN THE CONSTRUCTION LIMITS IN ORDER TO PRESERVE THE EXISTING IMPROVEMENTS AND SO AS NOT TO INTERFERE WITH THE OPERATIONS OF THE EXISTING FACILITIES.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING APPROPRIATE MEANS AND METHODS TO EXCAVATE AND TRENCH AND/OR INSTALL PIPE SO AS TO NOT EXCEED RIGHT-OF-WAY OR EASEMENT LIMITS, AND SO AS NOT TO INTERFERE WITH OTHER UTILITIES OR IMPROVEMENTS. THIS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, SUPPORTING AND REPLACING, IF DAMAGED, ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION. THIS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

18. ALL DIMENSIONS AND RADII OF CURB, CURB RETURNS, AND WALLS ARE SHOWN TO THE FACE OF CURB AND/OR WALL. 19. THE CONTRACTOR SHALL NOTIFY THE OWNER 48 HOURS PRIOR TO STRIPING SO THAT LAYOUT CAN BE VERIFIED.

20. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.

21. WHEN APPLICABLE, CONTRACTOR SHALL SECURE, ON BEHALF OF THE OWNER AND OPERATORS, "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.

22. ALL FILL SHALL BE CLEAN, FREE FROM VEGETATION, DEBRIS, AND OTHER DELETERIOUS MATERIALS, AND SHALL NOT BE CONTAMINATED WITH HYDROCARBONS OR OTHER CHEMICAL CONTAMINANTS.

23. ALL FILL SHALL BE COMPACTED TO A MINIMUM OF 95% ASTM D-1557 UNLESS A GREATER COMPACTION REQUIREMENT IS OTHERWISE

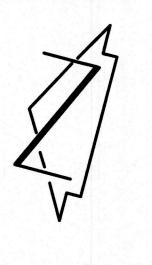
24. CAUTION: THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR. ALL EXCAVATION, TRENCHING AND SHORING ACTIVITIES MUST BE CARRIED OUT IN ACCORDANCE WITH OSHA 29 CFR 1926, SUBPART P-EXCAVATIONS.

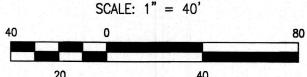
JOB NO. 2015.183.9 USER DEPARTMENT USER DEPARTMENT CITY ENGINEER SHEETS APPROVAL OF REVISIONS



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## **BENCHMARKS**

#### PROJECT BENCHMARK

AGRS SURVEY CONTROL 3 1/4" ALUMINUM DISC STAMPED "15-J22 1990", SET FLUSH IN TOP OF CURB OF THE NORTHERN MEDIAN AT THE INTERSECTION OF CONSTITUTION AVENUE AND JUAN TABO BOULEVARD N.E. ELEVATION = 5597.667 FEET (NAVD 1988)

# TEMPORARY BENCHMARK (T.B.M. #1)

A CHISELED "X" SET IN THE TOP OF A CONCRETE HEADER CURB NEAR THE SOUTHWEST CORNER OF A CLASSROOM BUILDING, AS SHOWN ON THIS SHEET. ELEVATION = 5586.15 FEET (NAVD 1988)

#### TEMPORARY BENCHMARK (T.B.M. #2)

A MAG NAIL SET IN A CONCRETE SIDEWALK NEAR THE CONCRETE RAMP, AS SHOWN ON THIS SHEET. ELEVATION = 5581.45 FEET (NAVD 1988)

#### TEMPORARY BENCHMARK (T.B.M. #3)

A MAG NAIL SET IN A CONCRETE SIDEWALK NEAR THE BUS LOOP, AS SHOWN ON THIS SHEET.

ELEVATION = 5582.92 FEET (NAVD 1988)

# SURVEY NOTE

THIS IS NOT A BOUNDARY SURVEY; APPARENT PROPERTY CORNERS SHOWN FOR ORIENTATION PURPOSES ONLY. THE BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON THE BOUNDARY SURVEY PLAT PREPARED BY HIGH MESA CONSULTING GROUP, NMPS NO. 11184, FILED 02-22-1999, PLAT BOOK 99S, PAGE 35 (981807). TOPOGRAPHIC AND UTILITY INFORMATION IS BASED UPON THE PARTIAL TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS NO. 15075, DATED 05-23-2016 (2015.183.8).

## EASEMENT KEYED NOTES

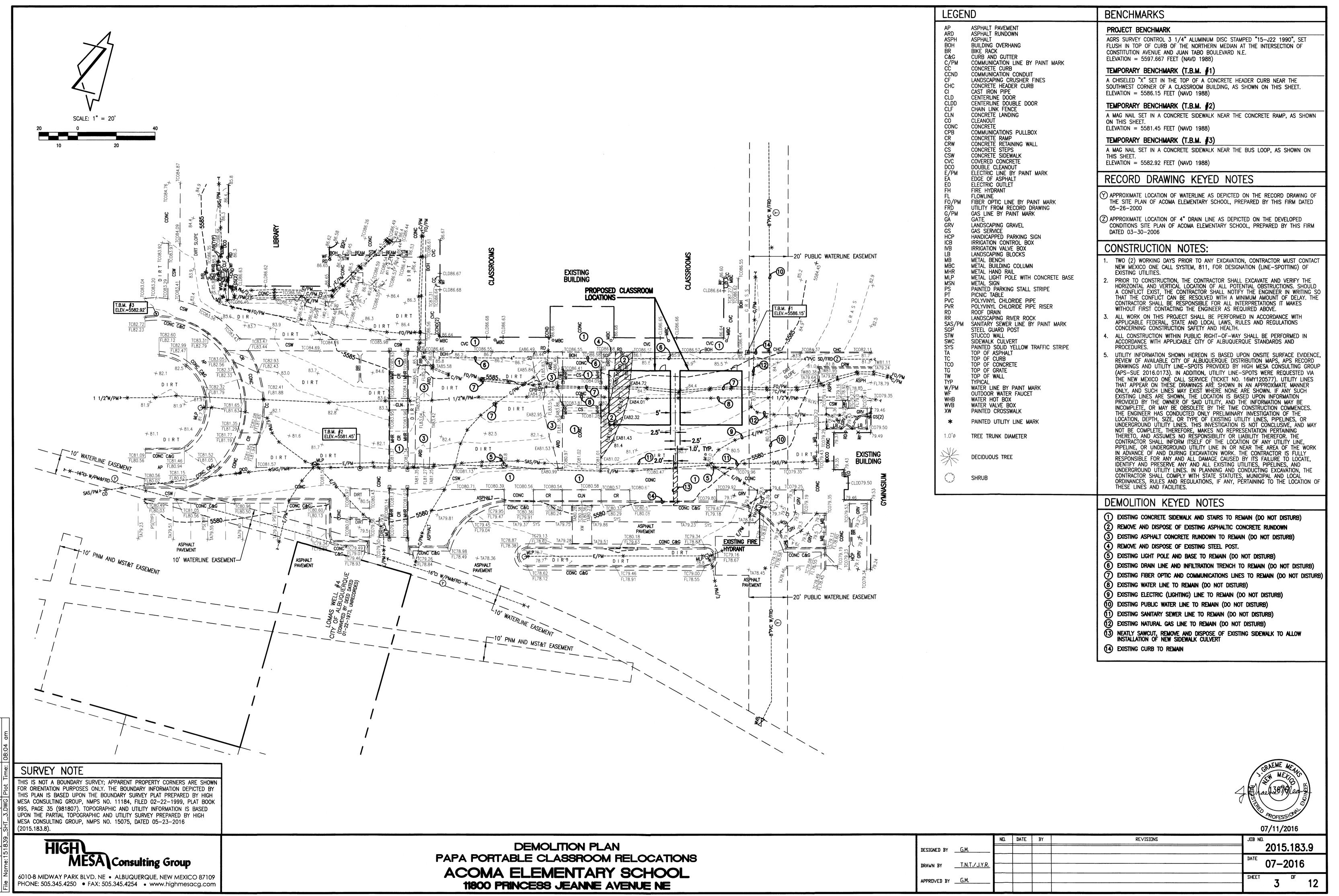
- 10' WATERLINE EASEMENT GRANTED BY DOCUMENT FILED 07-23-1956, BOOK D-357, PAGE 353
- 2 10' PNM AND MST&T EASEMENT GRANTED BY DOCUMENT FILED 08-14-1958, BOOK D-437, PAGE 578
- 3 20' PUBLIC WATERLINE EASEMENT GRANTED BY DOCUMENT FILED 08-06-1999, BOOK 9907, PAGE 517, DOC. #1999060689

HIGH MESA Consulting Group

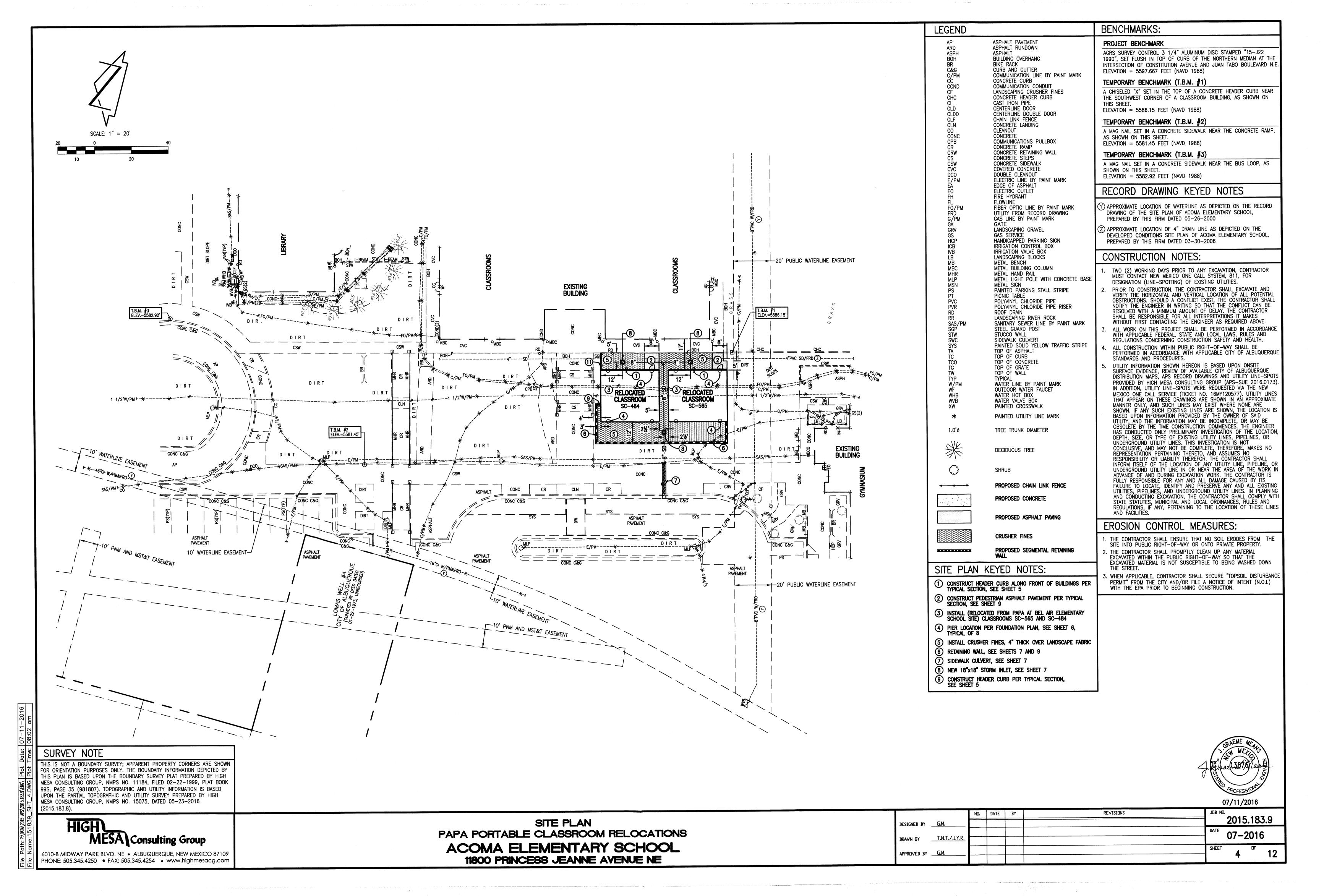
6010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109 PHONE: 505.345.4250 • FAX: 505.345.4254 • www.highmesacg.com

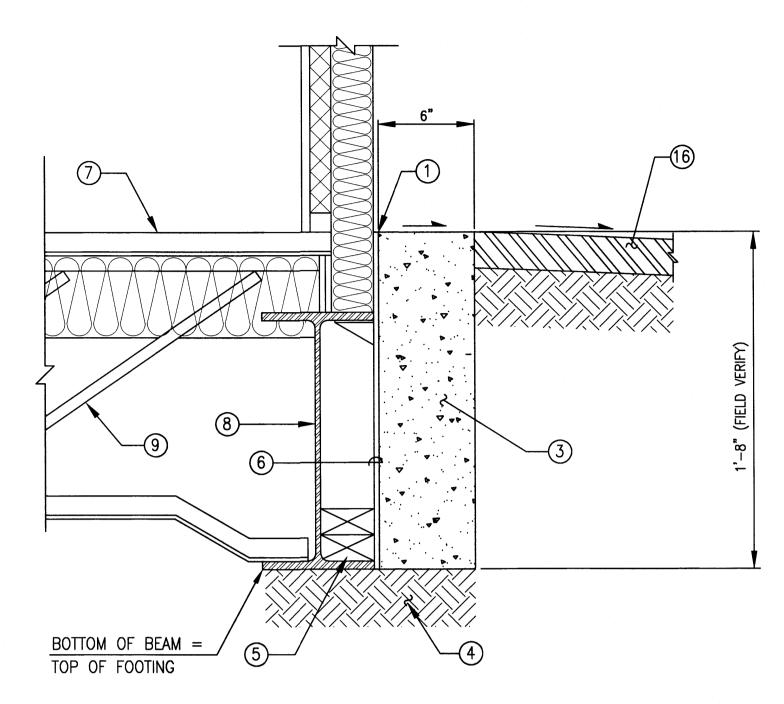
OVERALL PLAN (FOR ORIENTATION) PAPA PORTABLE CLASSROOM RELOCATIONS ACOMA ELEMENTARY SCHOOL 11800 PRINCESS JEANNE AVENUE NE

		ND.	DATE	BY	RE∨ISI□NS	JOB NO.	
DESIGNED BY	G.M.						2015.183.9
DRAWN BY	T.N.T./J.Y.R.					DATE	07-2016
APPROVED BY	G.M.					SHEET	<b>2</b> DF



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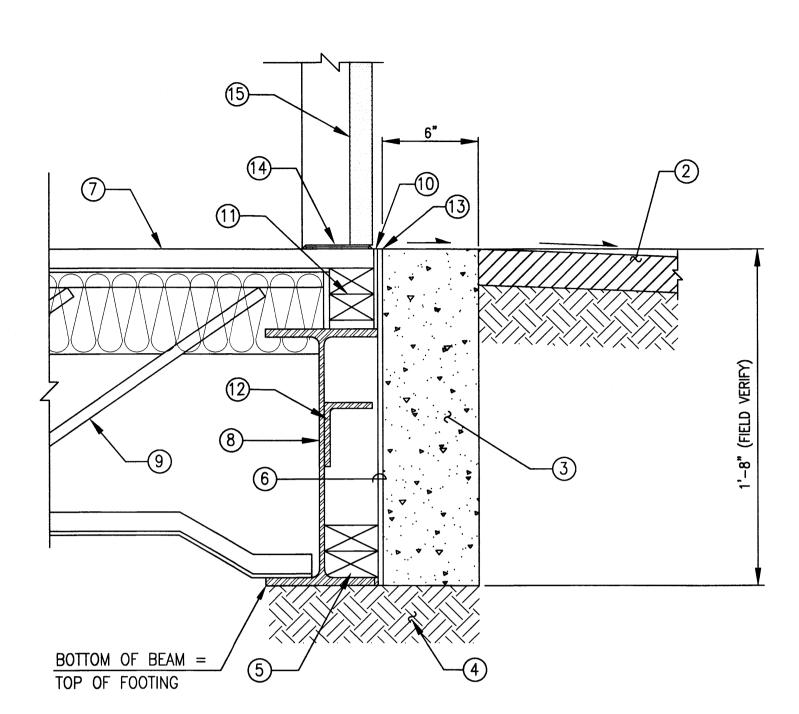


TYPICAL PERIMETER (HEADER) CURB AT BUILDING SECTION

SCALE: 1" = 0'-6"

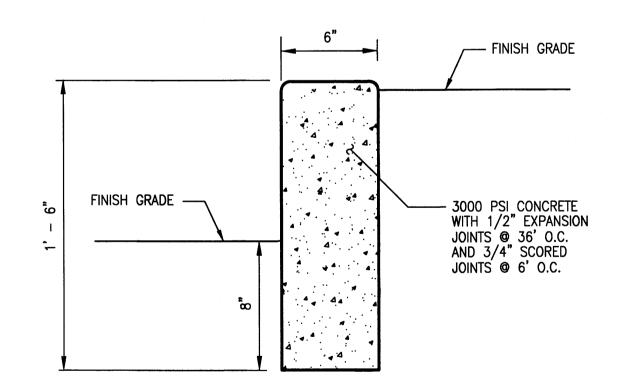
#### KEYED NOTES

- 1 TOP OF CURB AT OR JUST BELOW FINISHED FLOOR ELEVATION
- 2 NEW 2" ASPHALTIC CONCRETE PAVING PER TYPICAL SECTION
  3 CONSTRUCT 3000 PSI CONCRETE HEADER CURB
- 4) 12" SUBGRADE COMPACTED @ 95% ASTM D-1557 (TYPICAL)
- (5) INSTALL 2"x4" WOOD BLOCKING (TREATED)
- 6 INSTALL 36" (MIN.) CEMENT BOARD AS "LEAVE IN-PLACE" FORM
- 7 FINISHED FLOOR ELEVATION
- (8) STEEL BEAM, W-16x40 (EXISTING)
  (9) STEEL BAR JOIST (EXISTING)
- (10) SILL FLASHING (EXISTING)
- (11) WOOD BLOCKING (EXISTING)
- 12) STEEL ANGLE 4"x3"x %"x8' LONG, WELDED TO W16x40 WITH ONE %" DIA. BOLT (EXISTING)
- SET TOP OF CURB NOT MORE THAN 36" BELOW TOP OF BEVELED THRESHOLD FOR ADA COMPLIANCE
- (14) EXISTING THRESHOLD
- (15) EXISTING DOOR
- 16 NEW 4" THICK CRUSHER FINES OVER LANDSCAPE FABRIC



TYPICAL PERIMETER (HEADER) CURB AT DOORWAY SECTION

SCALE: 1" = 0'-6"



(B1) HEADER CURB

CLIDVEY NOTE

THIS IS NOT A BOUNDARY SURVEY; APPARENT PROPERTY CORNERS ARE SHOWN FOR ORIENTATION PURPOSES ONLY. THE BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON THE BOUNDARY SURVEY PLAT PREPARED BY HIGH MESA CONSULTING GROUP, NMPS NO. 11184, FILED 02–22–1999, PLAT BOOK 99S, PAGE 35 (981807). TOPOGRAPHIC AND UTILITY INFORMATION IS BASED UPON THE PARTIAL TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS NO. 15075, DATED 05–23–2016 (2015.183.8).

HIGH Consulting Group

6010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109

PHONE: 505.345.4250 • FAX: 505.345.4254 • www.highmesacg.com

HEADER CURB SECTIONS
PAPA PORTABLE CLASSROOM RELOCATIONS
ACOMA ELEMENTARY SCHOOL
11800 PRINCESS JEANNE AVENUE NE

07/11/2016
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DESIGNED BY G.M.

DESIGNED BY G.M.

DRAWN BY T.N.T./J.Y.R.

APPROVED BY G.M.

NO. DATE BY REVISIONS

2015.183.9

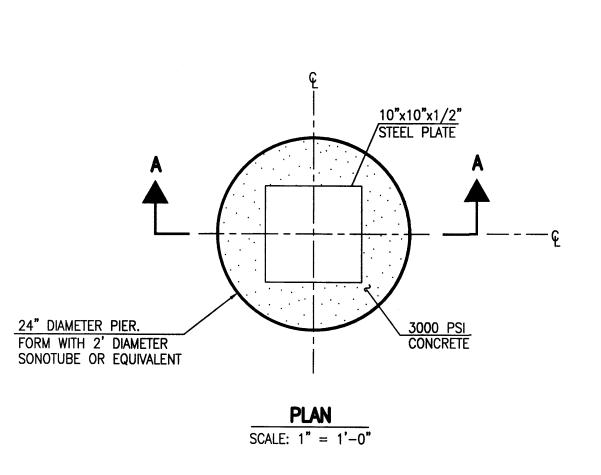
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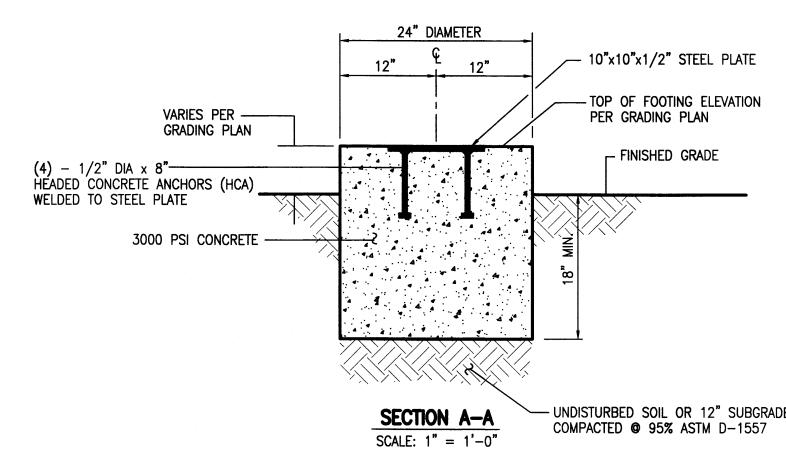
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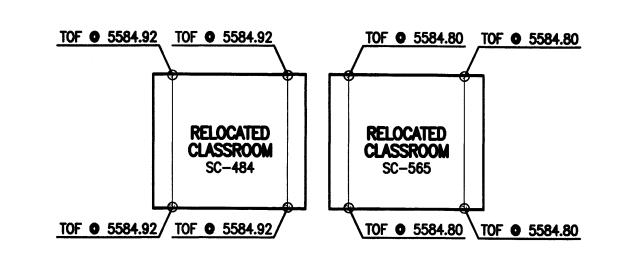
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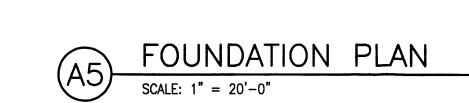
## FOUNDATION AND PORTABLE INSTALLATION NOTES;

- 1. FOUNDATION LOCATIONS SHALL BE STAKED BY THE PROJECT SURVEYOR UNDER CONTRACT WITH THE OWNER.
- 2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN FOUNDATIONS HAVE BEEN EXCAVATED AND ALL FORMS SET.
- 3. PRIOR TO POURING FOUNDATIONS, THE ENGINEER, OR HIS REPRESENTATIVE, SHALL OBSERVE AND APPROVE THE WORK FOR COMPLIANCE WITH THE PLANS AND SPECIFICATIONS.
- 4. THE ENGINEER, OR HIS REPRESENTATIVE, SHALL BE PRESENT TO OBSERVE THE POURING OF CONCRETE WITHIN THE FOUNDATION FORMS.
- 5. UPON COMPLETION OF CONSTRUCTION OF THE FOUNDATIONS, THE PROJECT SURVEYOR SHALL OBTAIN AS-BUILT MEASUREMENTS FOR THE HORIZONTAL AND VERTICAL LOCATIONS OF EACH FOUNDATION.
- 6. PRIOR TO INSTALLATION OF THE PORTABLE CLASSROOM BUILDINGS, THE ENGINEER SHALL REVIEW THE AS-BUILT SURVEY DATA AND PREPARE A FOUNDATION CERTIFICATION. PORTABLE BUILDINGS SHALL NOT BE INSTALLED WITHOUT THE CONSENT OF THE ENGINEER.
- 7. A PRE-INSTALLATION MEETING SHALL BE CONDUCTED PRIOR TO INSTALLATION OF THE PORTABLE CLASSROOM BUILDINGS TO DETERMINE THE CRITERIA FOR ALIGNING EACH BUILDING WITH RESPECT TO THE AS-CONSTRUCTED FOUNDATION LOCATIONS. ANY BUILDING INSTALLED IN ADVANCE OF A PRE-INSTALLATION MEETING SHALL BE ADJUSTED TO THE SATISFACTION OF THE OWNER AND THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.









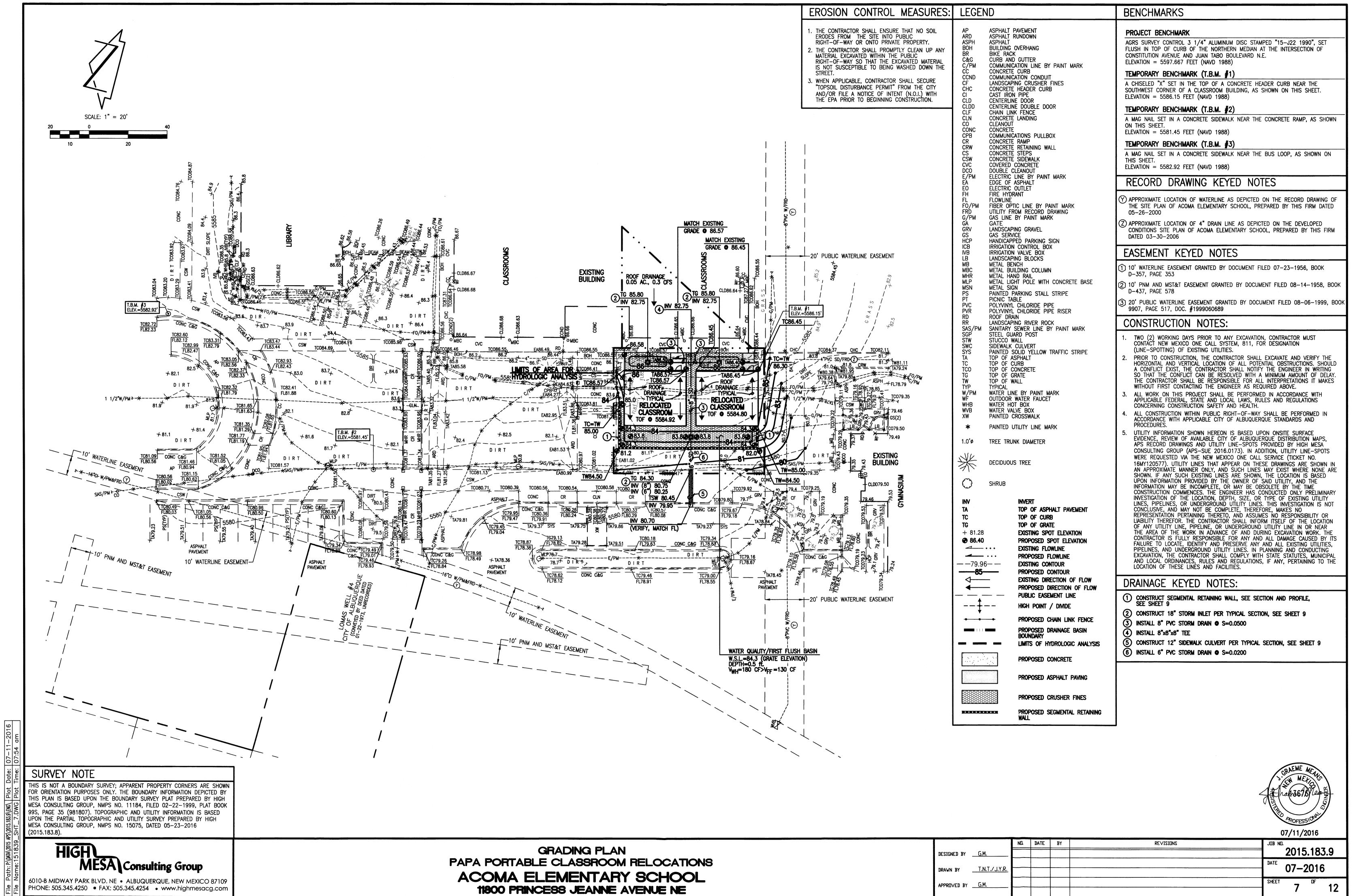


FOOTING DETAILS

MESA Consulting Group

PORTABLE CLASSROOM FOUNDATION PLAN PAPA PORTABLE CLASSROOM RELOCATIONS ACOMA ELEMENTARY SCHOOL 11800 PRINCESS JEANNE AVENUE NE

						0// 11/2	2010		_
	NO.	DATE	BY	REVISIONS	JOB NO.				
DESIGNED BY G.M.	_					2015	<u>.183</u>	<u> 5.9</u>	
TNT / IVE	,				DATE	07-2	2016		
DRAWN BY T.N.T./J.Y.F	<u> </u>					07-2	2010	) 	
APPROVED BY G.M.					SHEET	6	OF	12	
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#### INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED IN THE EAST GATEWAY COMMUNITY AREA OF THE ALBUQUERQUE METROPOLITAN AREA, REPRESENTS A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA. THE PROPOSED CONSTRUCTION CONSISTS OF TWO NEW PORTABLE CLASSROOMS TO BE LOCATED ON AN APS ELEMENTARY SCHOOL SITE, WITH ASSOCIATED PAVED ACCESS AND DRAINAGE IMPROVEMENTS. THE DRAINAGE CONCEPT FOR THE SITE IS TO CAPTURE AND TREAT THE FIRST FLUSH FROM THE PROJECT SITE, AS WELL AS MITIGATE THE INCREASE IN RUNOFF GENERATED BY THE PROPOSED IMPROVEMENTS.

THE SUBMITTAL IS MADE IN SUPPORT OF BUILDING PERMIT TO BE ISSUED BY THE CITY OF ALBUQUERQUE.

#### II. PROJECT DESCRIPTION

AS SHOWN BY THE VICINITY MAP, THE EXISTING SITE IS LOCATED AT THE SOUTHWEST CORNER OF MURIEL STREET NE AND PRINCESS JEANNE AVENUE NE, NEAR THE INTERSECTION OF PRINCESS JEANNE AVENUE AND JUAN TABO BLVD. AS SHOWN BY PANEL 357 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, SEPTEMBER 16, 2012, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE. EXISTING SITE RUNOFF ULTIMATELY DRAINS TO A DOWNSTREAM FLOOD HAZARD ZONE DESIGNATED AO (DEPTH1') WITHIN MORRIS ST NE.

#### III. BACKGROUND DOCUMENTS

#### THE PREPARATION OF THIS PLAN RELIED UPON THE FOLLOWING DOCUMENTS:

- MASTER DRAINAGE PLAN FOR ACOMA ELEMENTARY SCHOOL PREPARED BY HIGH MESA CONSULTING GROUP (FORMERLY JEFF MORTENSEN & ASSOCIATES INC.) DATED 04-22-1994. AS DEPICTED BY THE 1994 PLAN. THE SITE IS DIVIDED INTO TWO BASINS. BASIN A BING A RELATIVELY SMALL, NORTHERN PORTION OF THE SITE THAT DISCHARGES FREELY TO PRINCESS JEANNE AVE NE AND BASIN B MAKING UP THE LARGER, SOUTHERN PORTION OF THE SITE THAT DISCHARGES FREELY TO BELLAMAH AVE NE THROU A PUBLIC DRAINAGE EASEMENT NEAR THE SW CORNER OF THE SITE.
- GRADING AND DRAINAGE PLAN FOR ACOMA ELEMENTARY SCHOOL MULTI-PURPOSE BUILDING BY ISAACSON & ARFMAN, PA, DATED 3-22-1999. THE PLAN SUPPORTED THE CONSTRUCTION OF THE MULTI-PURPOSE GYMNASIUM WITHIN BASIN B. IT DIVIDED BASIN B INTO SUB-BASINS B-1 AND B-2. THE EAST SUB-BASIN B-1 DRAINS FREELY TO BELLMAH AVE NE THROUGH THE AFOREMENTIONED PAVED PUBLIC DRAINAGE EASEMETN. THE WEST BASIN B-2 DRAINS TO A DETENTION POND THAT WAS CONSTRUCTED CONCURRENT WITH THE GYMNASIUM TO DETAIN THE INCREASE IN RUNOFF ATTRIBUTABLE TO THAT CONSTRUCTION. THIS 2016 PROPOSED PORTABLE RELOCATION LIES WITHIN SUB-BASIN B-2.
- PARTIAL TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP. NMPS 15075. DATED 05-23-2016. THE SUBJECT SURVEY PROVIDES THE BASIS FOR THE EXISTING CONDITIONS OF THE SITE DEPICTED BY THIS SUBMITTAL.

#### IV. EXISTING CONDITIONS

THE PROJECT SITE PRESENTLY CONSISTS OF A BARE SOIL SLOPE AND EXISTING PAVED SIDEWALKS LOCATED BETWEEN THE SOUTHWEST CORNER OF THE MAIN CLASSROOM BUILDING AND THE WEST STAFF PARKING LOT. THE PROJECT SITE IS CENTRALLY LOCATED ON THE SCHOOL SITE AND THE SURROUNDING AREAS ARE FULLY DEVELOPED. THE PROJECT SITE LIES WITHIN SUB-BASIN B-2, AS DESCRIBED IN THE BACKGROUND DOCUMENTS ABOVE. A PORTION OF THE ADJACENT CLASSROOM BUILDING ROOF CONTRIBUTES ROOF RUNOFF TO THE PROJECT SITE FROM THE EAST. RUNOFF GENERATED BY THE PROJECT SITE SURFACE DRAINS FROM NORTHEAST TO SOUTHWEST ACROSS THE STAFF PARKING LOT AND INTO A DETENTION POND AT THE SOUTHWEST CORNER OF THE SITE. THE DETENTION POND RELEASES DETAINED FLOWS TO THE AFOREMENTIONED PUBLIC DRAINAGE EASEMENT AND INTO BELLMAH AVE NE.

THERE ARE NO OFFSITE FLOWS FROM THE FULLY DEVELOPED PUBLIC STREETS TO THE NORTH AND EAST OR THE DEVELOPED RESIDENTIAL LOTS THAT ABUT THE SITE TO THE SOUTH AND WEST.

#### V. DEVELOPED CONDITIONS AND FIRST FLUSH

THE PROPOSED CONSTRUCTION CONSISTS OF TWO PORTABLE CLASSROOM BUILDINGS, A SHORT RETAINING WALL TO PROVIDE LEVEL GRADE FOR THE TWO BUILDINGS, PAVED ACCESS TO THE BUILDINGS, AND A PRIVATE STORM DRAIN SYSTEM. THE NEW STORM DRAIN SYSTEM WILL COLLECT AND CONVEY BOTH THE RUNOFF FROM THE PROJECT SITE AS WELL AS THE CONTRIBUTING ROOF RUNOFF FROM THE ADJACENT BUILDING AND DISCHARGE IT VIA SIDEWALK CULVERT INTO THE EXISTING STAFF PARKING LOT TO THE WEST. THERE WILL BE A MINIMAL INCREASE IN RUNOFF GENERATED (170 CF) BY THE PROJECT SITE DUE TO THE INCREASE IN IMPERVIOUS LAND TREATMENT. A DEPRESSED WATER HARVESTING AREA AT THE BACK (WEST) SIDE OF THE PORTABLE BUILDINGS IS DESIGNED TO MITIGATE THIS INCREASE BY PROVIDING A WATER HARVESTING CAPACITY OF 180 CF.

FIRST FLUSH CALCULATIONS FOR THE PROJECT SITE DEMONSTRATE A VOLUME OF 130 CF WILL BE GENERATED BY THE SITE. THE WATER HARVESTING AREA REFERENCED ABOVE HAS A CAPACITY OF 180 CF, THEREFORE THE FIRST FLUSH WILL BE CAPTURED AND TREATED PER THE CITY REQUIREMENTS.

#### AS REFERENCED ABOVE, THERE ARE NO OFFSITE FLOWS THAT ENTER THE SCHOOL SITE.

#### VI. GRADING PLAN

THE GRADING PLANS SHOW 1.) EXISTING AND PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS, 2.) THE LIMIT AND CHARACTER OF THE EXISTING AND PROPOSED IMPROVEMENTS, AND 3.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE PROPÓSED GRADING WILL MAINTAIN THE CURRENT DRAINAGE PATTERN OF RUNOFF DISCHARGE FROM NORTHEAST TO SOUTHWEST VIA NEW PRIVATE STORM DRAIN SYSTEM TO THE WEST PARKING LOT; FROM THIS POINT RUNOFF WILL SURFACE FLOW TO THE EXISTING ONSITE DETENTION POND AND ULTIMATELY TO BELLAMAH AVE NE.

#### VII. EROSION AND SEDIMENT CONTROL PLAN

THIS PROJECT DISTURBS LESS THAN ONE-ACRE OF LAND, THEREFORE, A SEPARATE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS NOT BEEN PREPARED. THE SMALL SIZE OF THIS PROJECT DOES NOT WARRANT THE PREPARATION OF A SITE SPECIFIC EROSION AND SEDIMENT CONTROL PLAN.

#### VIII. CALCULATIONS

THE CALCULATIONS CONTAINED HEREON ANALYZE THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT. 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 DEMONSTRATED BY THESE CALCULATIONS, THE PROPOSED PROJECT WILL RESULT IN A MINIMAL INCREASE IN DEVELOPED RUNOFF (170 CF) GENERATED BY THE SITE. THE AVERAGE END-AREA METHOD WAS USED TO CALCULATE THE WATER HARVESTING VOLUME CAPACITY OF 180 CF, WHICH IS ADEQUATE TO CAPTURE THE 170 CF RUNOFF INCREASE. MANNING'S EQUATION FOR GRAVITY FLOW IN PIPES WAS USED TO SIZE THE PRIVATE STORM DRAIN FOR THE PEAK DISCHARGE OF RUNOFF GENERATED BY THE SITE.

#### IX. CONCLUSIONS

THE FOLLOWING CONCLUSIONS HAVE BEEN ESTABLISHED AS A RESULT OF THE EVALUATIONS CONTAINED HEREIN:

- 1. THIS PROJECT REPRESENTS A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA 2. THE PROPOSED IMPROVEMENTS WILL MAINTAIN THE EXISTING DRAINAGE PATTERNS OF THE SITE 3. THE PROPOSED IMPROVEMENTS WILL RESULT IN A NEGLIGIBLE (170 CF) INCREASE IN THE
- DEVELOPED RUNOFF VOLUME GENERATED BY THE SITE 4. THE PROPOSED IMPROVEMENTS WILL GENERATE A FIRST FLUSH VOLUME OF 130 CF. 5. THE PROPOSED WATER HARVESTING AREA WILL HAVE A CAPACITY OF 180 CF THAT WILL OFFSET THE INCREASE IN DEVELOPED RUNOFF AND CAPTURE AND TREAT THE FIRST FLUSH
- FROM THE PROJECT SITE. 6. THE PROPOSED IMPROVEMENTS WILL NOT ADVERSELY IMPACT DOWNSTREAM PROPERTIES OR DOWNSTREAM DRAINAGE CONDITIONS
- 7. THIS PROJECT IS NOT SUBJECT TO AN EPA NPDES PERMIT OR COA ESC PLAN AS THE SITE IS LESS THAN 1 AC IN SIZE.

# **CALCULATIONS**

1. EXISTING LAND TREATMENT

SITE CHARACTERISTICS		
A. PRECIPITATION ZONE =	<u>4</u>	
B. P <sub>100, 6 HR</sub> = P <sub>360</sub> =	2.9	IN
C. TOTAL PROJECT AREA (A <sub>T</sub> ) =	7,210	SF
TOTAL PROJECT AREA (AT) =	0.17	AC
D. LAND TREATMENTS		

a. PROJECT SITE			
TREATMENT	AREA (SF/A	C)	%
Α	0	SF	0
, ,			
В	0	SF	0
	1 000	0.	
С	4,200		83
	0.10		
D	1,000		17
	0.02	AC	''

b. CONTRIBUTING ROOF A	DE A		
TREATMENT	AREA (SF/A	C)	%
Α	0	SF	0
, (			
В	0	SF	Λ
D			U
С	0	SF	0
<b>)</b>			<u> </u>
D	2,010 <b>0.05</b>	SF	100
	0.05	AC	100

MENT						
AREA (SF/A	C)	%				
A 0 SF						
0	SF	0				
		50				
	AREA (SF/AC 0 0 2,630	AREA (SF/AC) 0 SF				

b. CONTRIBUTING ROOF A	REA				
TREATMENT	AREA (SF/A	C)	%		
Α	0	SF	0		
, ,					
B 0 SF					
C 0 SF					
•	2,010				
D	100				
	0.05	AC	100		

#### HYDROLOGY

#### A. EXISTING CONDITION 100 YEAR

1.	PROJECT SITE
	a. VOLUME 100-YR, 6- HR

 $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$  $E_W = (0.80*0.00) + (1.08*0.00) + (1.46*0.10) + (2.64*0.02)/0.12 =$ 1.66 IN  $V_{100.6 \text{ HR}} = (E_W/12)A_T = (1.66/12)0.12 =$ 

0.06 AC

# b. PEAK DISCHARGE

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

 $Q_P = (2.20 * 0.00) + (2.92 * 0.00) + (3.73 * 0.10) + (5.25 * 0.02) =$ 0.5 CFS 2. CONTRIBUTING ROOF AREA

#### a. VOLUME 100-YR, 6- HR

 $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ 

 $E_W = (0.80*0.00) + (1.08*0.00) + (1.46*0.00) + (2.64*0.05)/0.05 =$ 2.64 IN 0.0110 AC-FT = **480 CF**  $V_{100.6 \text{ HR}} = (E_W/12)A_T = (2.64/12)0.05 =$ 

#### b. PEAK DISCHARGE

 $Q_{P} = Q_{PA}A_{A} + Q_{PB}A_{B} + Q_{PC}A_{C} + Q_{PD}A_{D}$ 

 $Q_P = (2.20 * 0.00) + (2.92 * 0.00) + (3.73 * 0.00) + (5.25 * 0.05) =$ 0.3 CFS

#### **B. DEVELOPED CONDITION** 1. PROJECT SITE

 $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ 

 $E_W = (0.80*0.00) + (1.08*0.00) + (1.46*0.06) + (2.64*0.06)/0.12 =$ 2.05 IN  $V_{100.6 \text{ HR}} = (E_W/12)A_T = (2.05/12)0.12 =$ 0.0205 AC-FT = **890 CF** 

#### b. PEAK DISCHARGE

 $Q_P = Q_{PA}A_A + Q_{PB}A_B + Q_{PC}A_C + Q_{PD}A_D$  $Q_P = (2.20 * 0.00) + (2.92 * 0.00) + (3.73 * 0.06) + (5.25 * 0.06) =$ 0.5 CFS

#### 2. CONTRIBUTING ROOF AREA a. VOLUME

 $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ 

 $E_W = (0.80*0.00) + (1.08*0.00) + (1.46*0.00) + (2.64*0.05)/0.05 =$ 2.64 IN  $V_{100.6 \text{ HR}} = (E_W/12)A_T = (2.64/12)0.05 =$ 0.0110 AC-FT = 480 CF

#### b. PEAK DISCHARGE

 $Q_P = Q_{PA}A_A + Q_{PB}A_B + Q_{PC}A_C + Q_{PD}A_D$  $Q_P = (2.20 * 0.00) + (2.92 * 0.00) + (3.73 * 0.00) + (5.25 * 0.05) =$ 0.3 CFS

# 3. 6" STORM DRAIN CAPACITY

MANNING'S EQUATION FOR GRAVITY FLOW IN PIPES

#### $Q = 1.49/n * A * R^{2/3} * S^{1/2}$ n = 0.013

A = 0.20 CF

R = 0.125 FT

S = 0.02 FT/FTQ = 0.8 CFS

# 4. WATER HARVESTING CAPACITY

		<u> </u>		
ELEV	AREA	VOLUME	ΣVOL	
83.8	0			
		40	40	
84	360			
		140	180	

#### V<sub>WH</sub> = 180 CF

#### C. COMPARISON 1. PROJECT SITE

a. VOLUME 100-YR, 6-HR ΔV <sub>100, 6 HR</sub> =	890 - 720 =	170 CF	(INCREASE)
△ • 100, 6 HR	720	170 01	_("10/\L/\0L)
b. PEAK DISCHARGE			
$\Delta Q_{100} =$	0.5 - 0.5 =	0 CFS	(NO CHANGE)
			_
2. CONTRIBUTING ROOF AREA			
a. VOLUME 100-YR, 6-HR	480 - 480 =	0.05	(NO CHANCE)
$\Delta V_{100, 6 HR} =$	400 - 400 -	0 CF	(NO CHANGE)
b. PEAK DISCHARGE			
$\Delta Q_{100} =$	0.3 - 0.3 =	0 CFS	(NO CHANGE)
			-
3. TOTAL SITE			

1370-1200

170 CF (INCREASE)

0 CFS (NO CHANGE)

b. PEAK DISCHARGE

a. VOLUME 100-YR, 6-HR

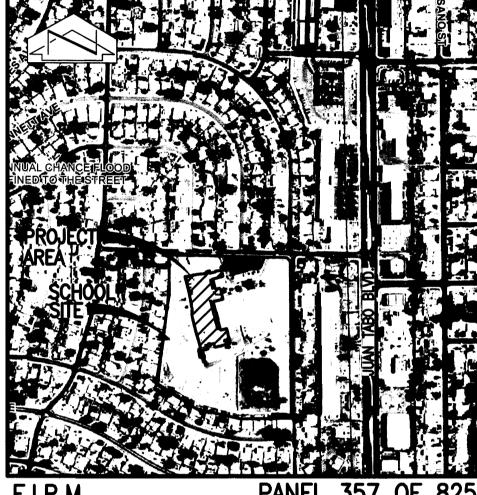
D. FIRST FLUSH CALCULATIONS RETENTION REQUIREMENT <u>a. VOLUME</u>  $V_{FF} = ((P_{FF}-IA_D)/12)A_D$ 

> $V_{FF} = ((0.44-0.10)/12)(4580.00) =$ 130 CF

 $V_{WH} = 180 \text{ CF} > V_{FF} = 130 \text{ CF} : OK$ 

# J-21

VICINITY MAP SCALE: 1" = 750'



PANEL 357 08-16-201

# LEGAL DESCRIPTION

A PORTION OF THE UNPLATTED LANDS OF A.P.S. KNOW AS ACOMA ELEMENTARY SCHOOL, ALBUQUERQUE, NEW MEXICO, AS THE SAME IS SHOWN AND DESIGNATED ON THE BOUNDARY SURVEY PLAT FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON AUGUST 06, 1999, PLAT BOOK 99S, PAGE 35, DOC. #1999023235.

## **BENCHMARKS:**

#### PROJECT BENCHMARK

AGRS SURVEY CONTROL 3 1/4" ALUMINUM DISC STAMPED "15-J22 1990", SET FLUSH IN TOP OF CURB OF THE NORTHERN MEDIAN AT THE INTERSECTION OF CONSTITUTION AVENUE AND JUAN TABO BOULEVARD N.E. ELEVATION = 5597.667 FEET (NAVD 1988)

#### TEMPORARY BENCHMARK (T.B.M. #1)

A CHISELED "X" SET IN THE TOP OF A CONCRETE HEADER CURB NEAR THE SOUTHWEST CORNER OF A CLASSROOM BUILDING, AS SHOWN ON SHEET 7. ELEVATION = 5586.15 FEET (NAVD 1988)

#### TEMPORARY BENCHMARK (T.B.M. #2)

A MAG NAIL SET IN A CONCRETE SIDEWALK NEAR THE CONCRETE RAMP, AS SHOWN

ELEVATION = 5581.45 FEET (NAVD 1988)

#### TEMPORARY BENCHMARK (T.B.M. #3)

A MAG NAIL SET IN A CONCRETE SIDEWALK NEAR THE BUS LOOP, AS SHOWN ON

ELEVATION = 5582.92 FEET (NAVD 1988)



07/11/2016

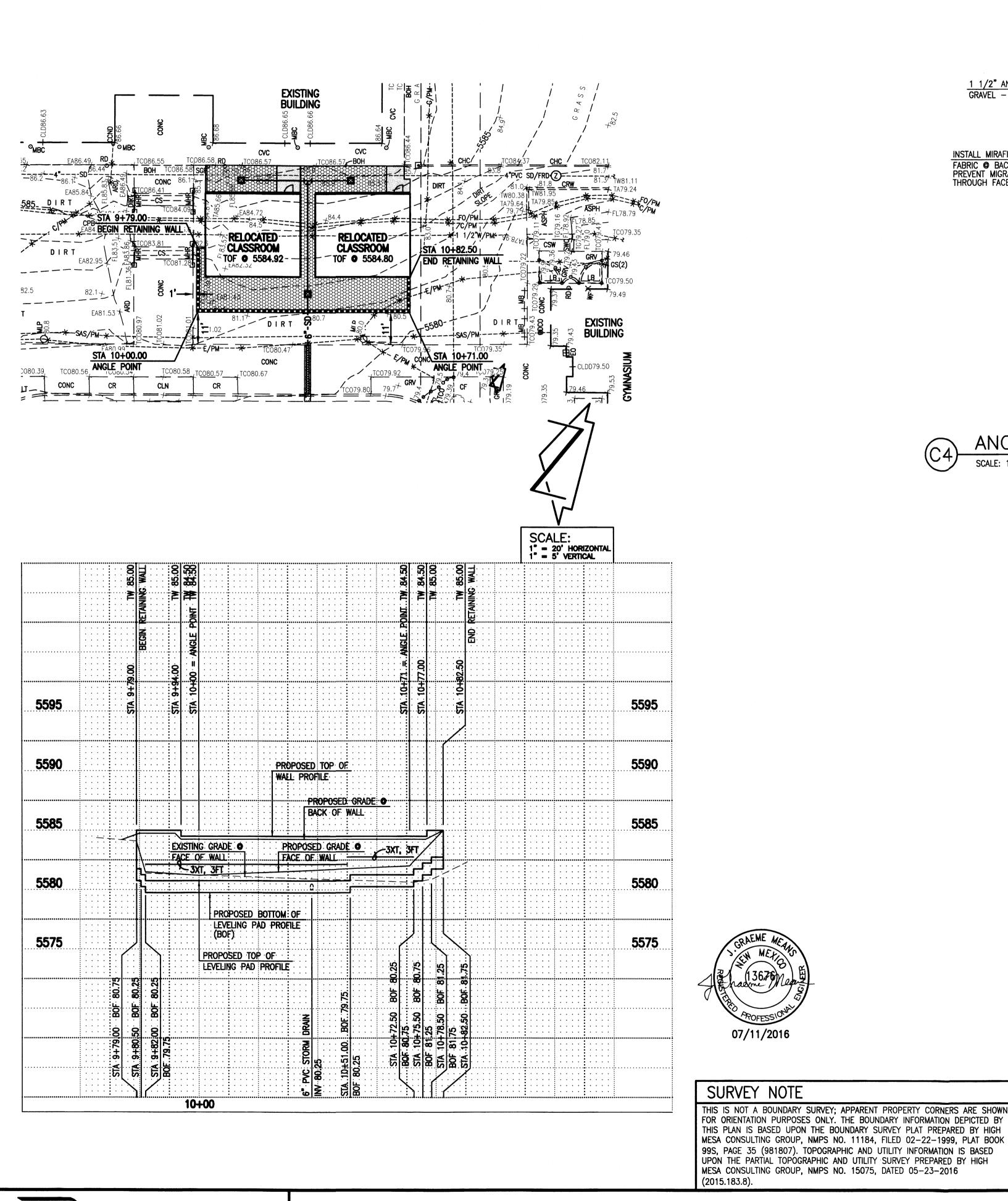
MESA\Consulting Group

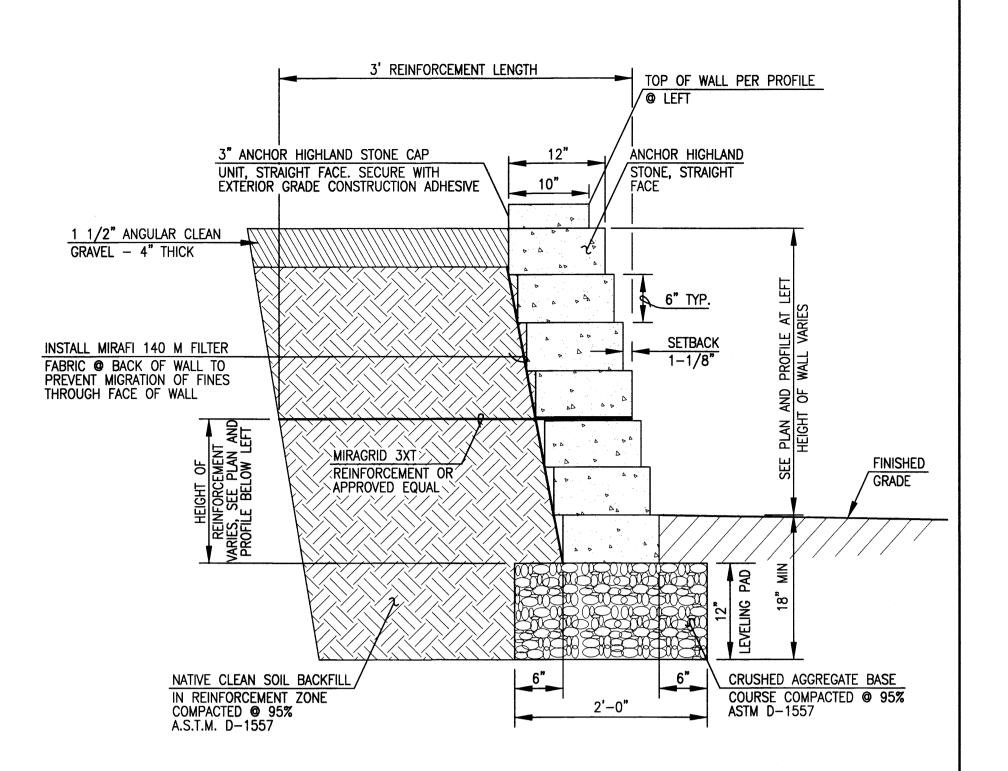
6010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109

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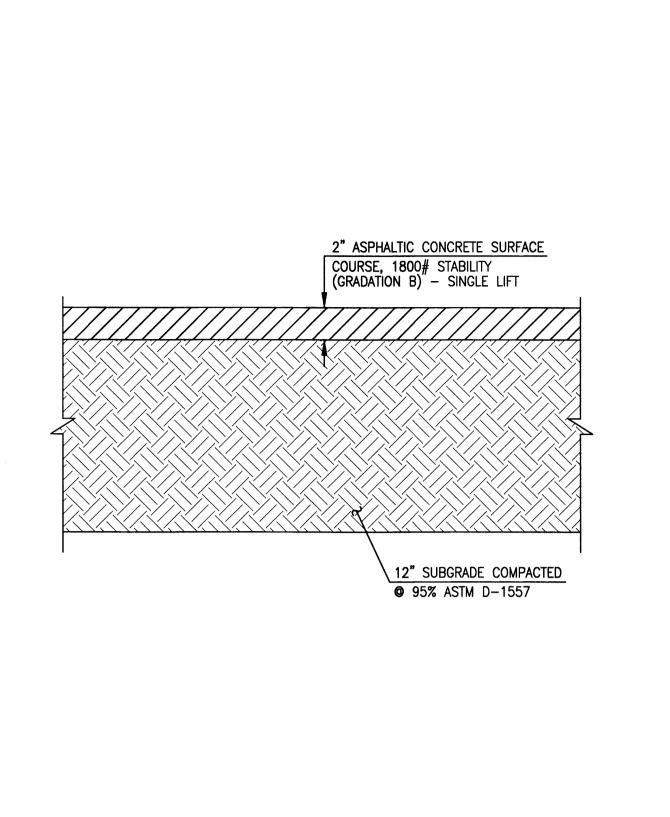
DRAINAGE PLAN AND CALCULATIONS PAPA PORTABLE CLASSROOM RELOCATIONS ACOMA ELEMENTARY SCHOOL 11800 PRINCESS JEANNE AVENUE NE

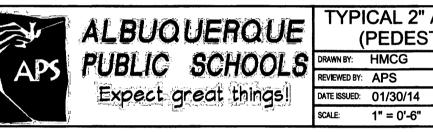
REVISIONS 2015.183.9 DESIGNED BY G.M. 07-2016 \_\_\_T.N.T./J.Y.R DRAWN BY SHEET APPROVED BY G.M.



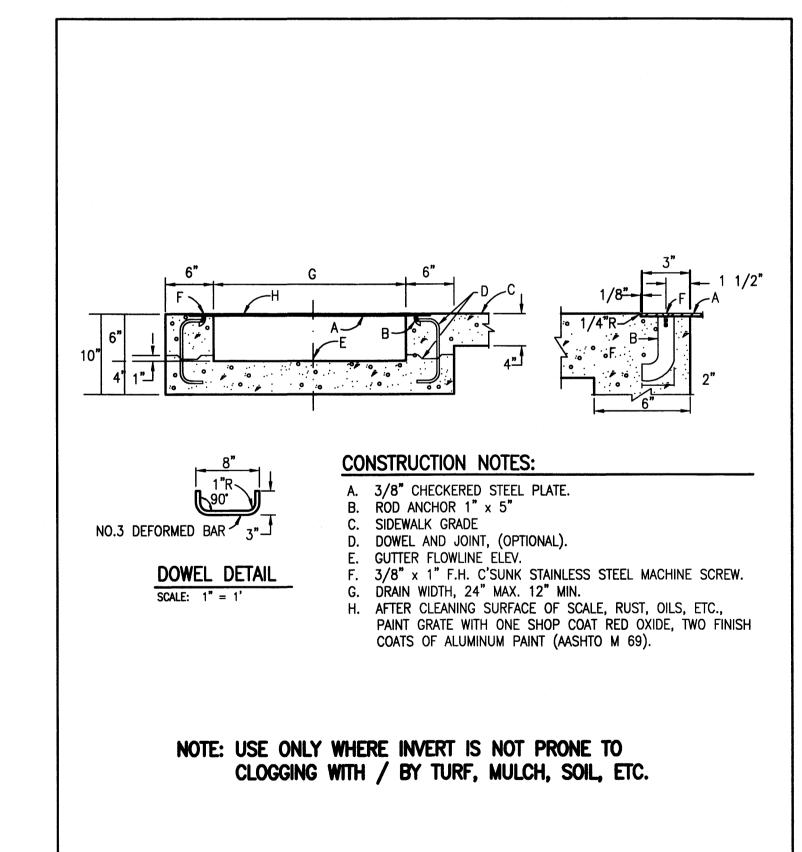


ANCHOR HIGHLAND STONE RETAINING WALL SECTION

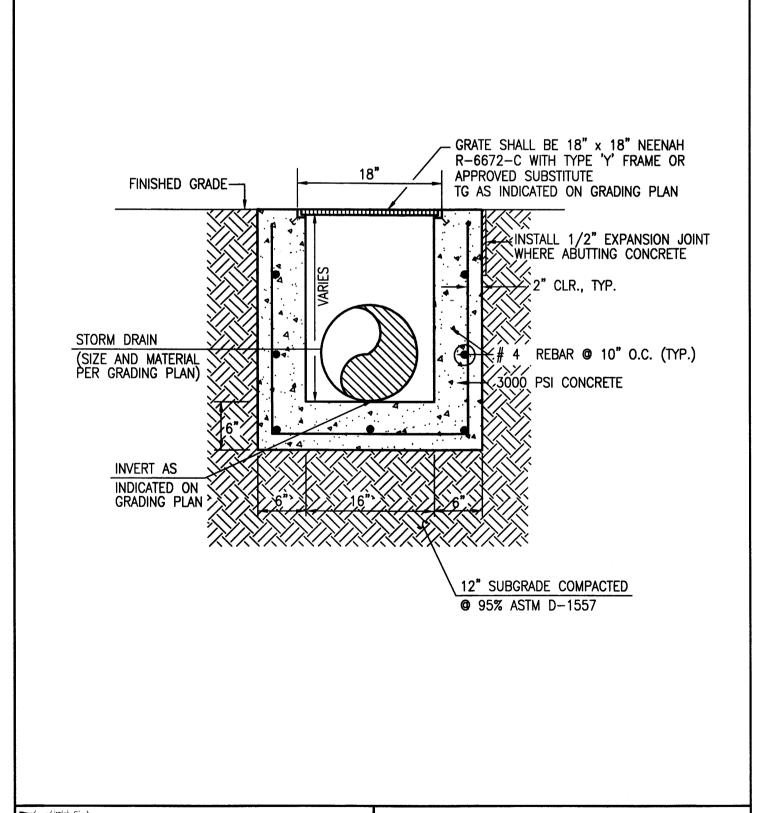




TYPICAL 2" ASPHALT PAVING SECTION (PEDESTRIAN TRAFFIC AREAS) P-301



TYPICAL SIDEWALK CULVERT SECTION Expect great things! DATE ISSUED: 06/25/14 SCALE: 1" = 1'-0"



ALBUQUEROUE TYPICAL 18"x18" STORM INLET SECTION

D-104 DATE ISSUED: 01/29/14 SCALE: 1" = 1'-0" U//11/2010

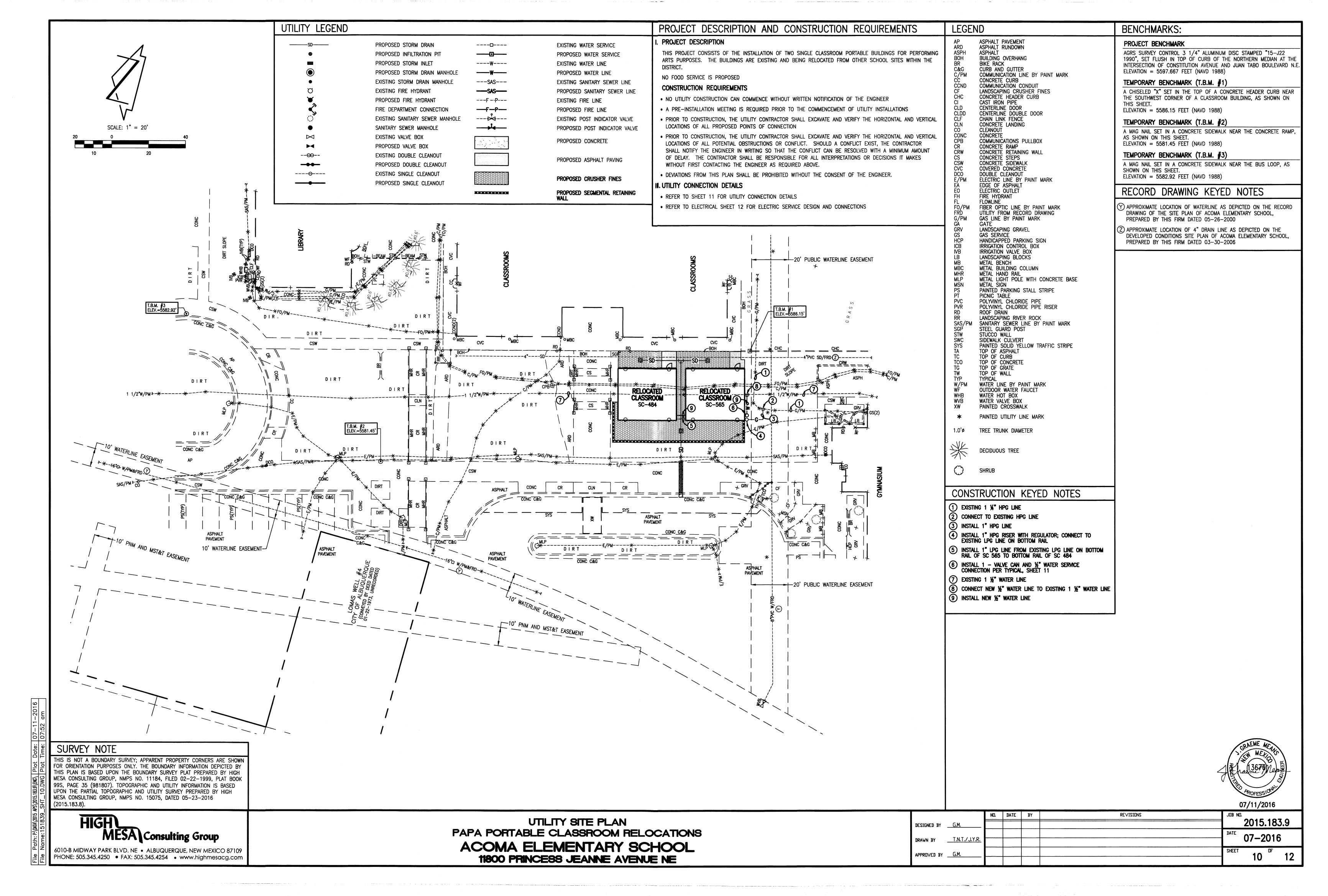
GRADING, PAVING, RETAINING WALL AND DRAINAGE SECTIONS AND DETAILS PAPA PORTABLE CLASSROOM RELOCATIONS

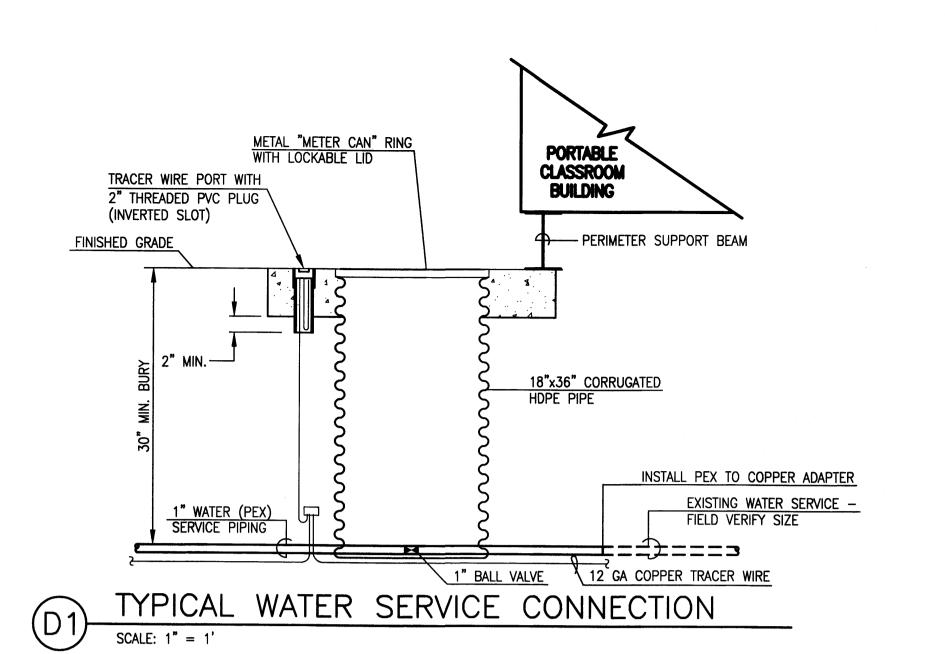
> ACOMA ELEMENTARY SCHOOL 11800 PRINCESS JEANNE AVENUE NE

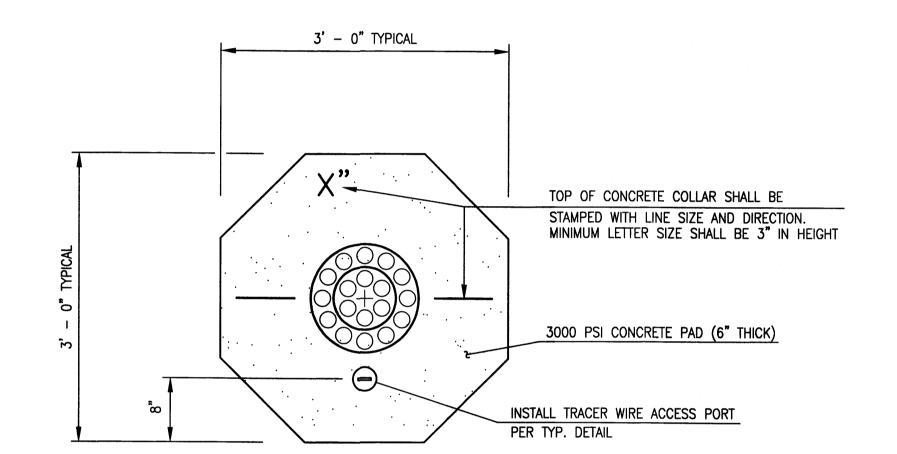
REVISIONS 2015.183.9 DESIGNED BY G.M. 07-2016 T.N.T./J.Y.R. APPROVED BY G.M.

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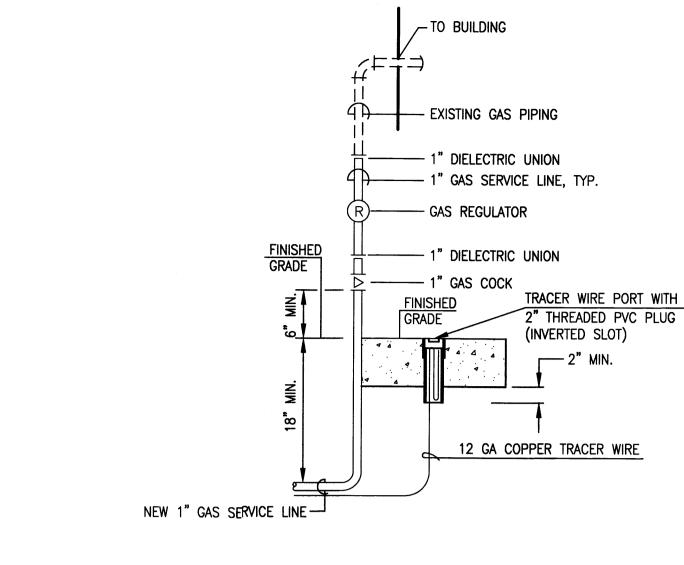
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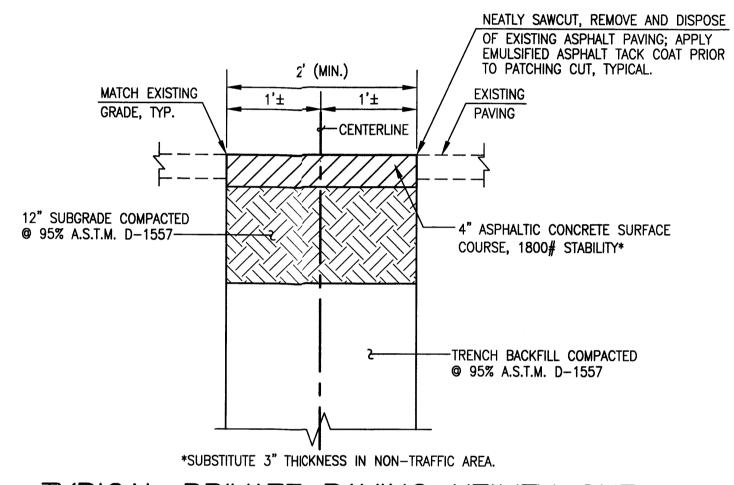




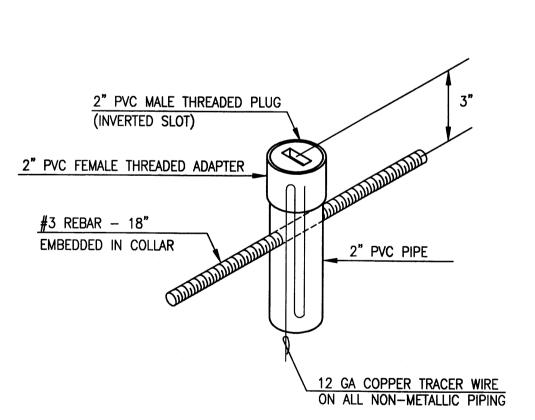
TYPICAL WATER VALVE BOX COLLAR DETAIL



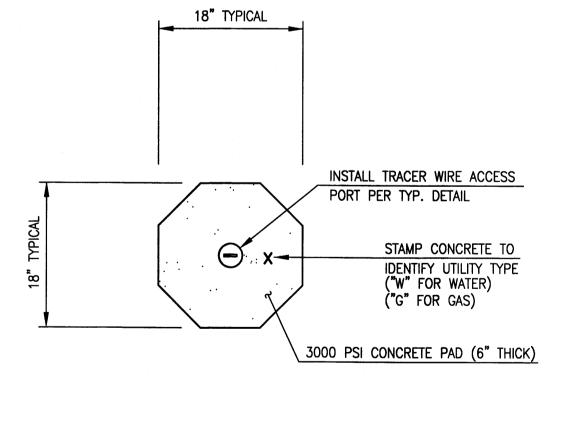
TYPICAL GAS SERVICE CONNECTION



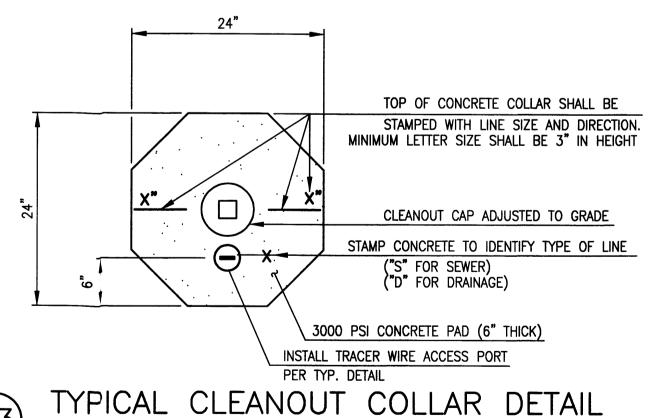
TYPICAL PRIVATE PAVING UTILITY CUT AND PAVEMENT REPLACEMENT SECTION

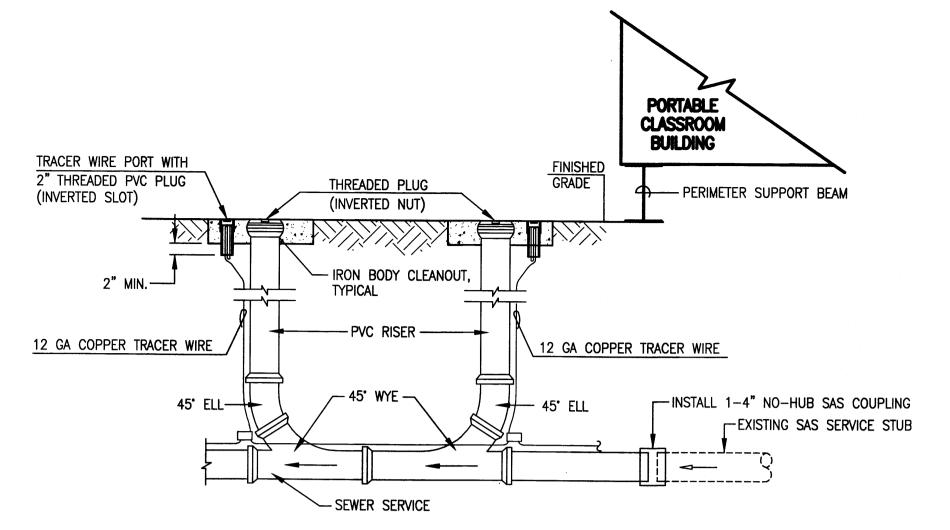




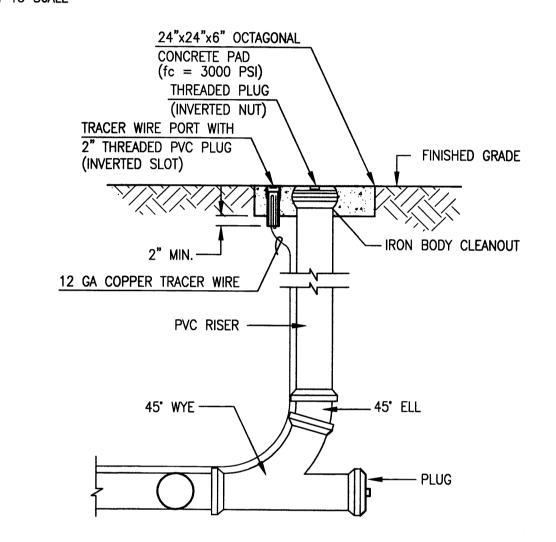




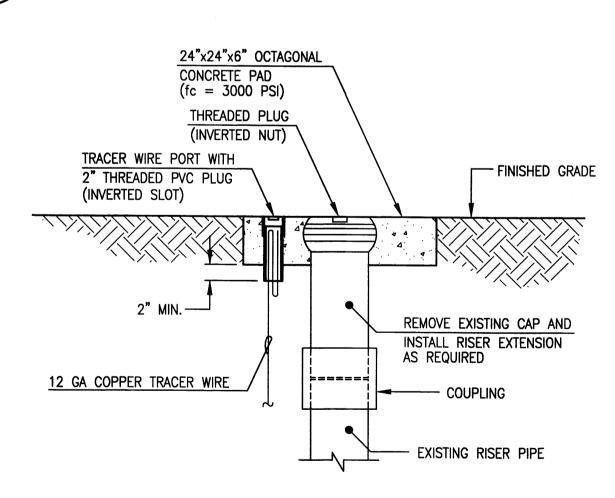




TYPICAL DOUBLE CLEANOUT AND PORTABLE CONNECTION SECTION



TYPICAL SINGLE CLEANOUT SECTION



TYPICAL SINGLE CLEANOUT ADJUSTMENT SECTION NOT TO SCALE

SURVEY	NOTE

UPON THE PARTIAL TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS NO. 15075, DATED 05-23-2016 (2015.183.8).

# MESA Consulting Group

6010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109 PHONE: 505.345.4250 • FAX: 505.345.4254 • www.highmesacg.com

UNDERGROUND PIPING SHALL BE INSTALLED

PORTABLE CLASSROOM UTILITY CONNECTION SECTIONS AND DETAILS PAPA PORTABLE CLASSROOM RELOCATIONS

ACOMA ELEMENTARY SCHOOL 11800 PRINCESS JEANNE AVENUE NE

				_		07/11/2016
		ND.	DATE	BY	RE√ISIONS	JOB NO.
DESIGNED BY	G.M.					2015.183.9
<b>DD</b> 11 11 DV	TNTZIVD					DATE 07-2016
DRAWN BY	T.N.T./J.Y.R.					07-2016
APPROVED BY	G.M.					SHEET OF 12
						11 12