

I, Fred C. Arfman, NMPE No. 7322 of the firm Isaacson & Arfman, P.A. hereby certify that this project has been graded and will drain in substantial compliance with and in accordance with the design intent of the approved plan dated 5-6-13. The record information edited onto the original design document has been obtained by Benjamin M. Aragon, NMPS No. 15268. I further certify that I or a member of my firm under my direct supervision have visited the project site on 04-02-14 and have determined by visual inspection that the survey data provided is representative of actual site conditions and is true and correct to the best of my knowledge and belief. This certification is submitted in support of a request for permanent Certificate of Occupancy.

AREAS OF MODIFICATION BETWEEN APPROVED DRAINAGE GRADING PLAN AND ACTUAL AS-BUILT

Landscaping rock swale with boulders constructed in place of grouted rock erosion protection (2 locations). Owner to maintain. OK

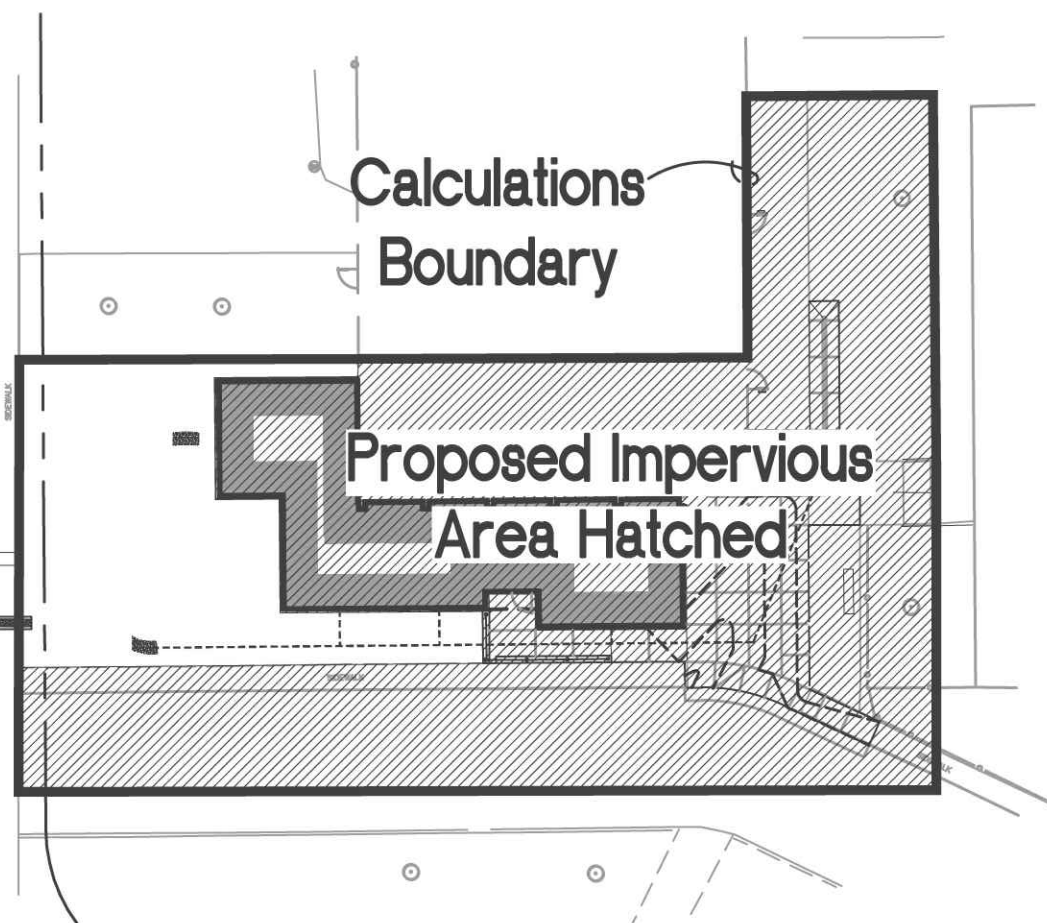
The record information presented hereon is not necessarily complete and intended only to verify substantial compliance of the grading and drainage aspects of this project. Those relying on this record document are advised to obtain independent verification of its accuracy before using it for any other purpose.

FRED C. ARFMAN, NMPE#7322
DATE: 04-02-14

SIDEWALK CULVERT CAPACITY CALCULATION		
Weir equation:	$Q = CLH^{3/2}$	
Constant:	C = 3.33	
Curb height:	H = 0.667 feet	
Opening Length:	L = 1.00 feet	
	Q = 1.8 cfs	

THE PROPOSED 12" WIDE COVERED SIDEWALK CULVERT HAS A CAPACITY OF 1.8 CFS. REQUIRED = 0.9 CFS. OK

CALCULATIONS: 1781 - Mitchell Elementary Cafeteria Addition : 5/9/2012									
Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993									
ON-SITE									
AREA OF COURTYARD DRAINAGE:		10880		SF		=		0.2	
HISTORIC FLOWS:		100-year, 6-hour DEVELOPED FLOWS:				EXCESS PRECIP:			
	Treatment SF	%		Treatment SF	%		Excess Precip. Zone	4	
Area A	=	0	0%	Area A	=	0	0%	E _A	= 0.80
Area B	=	3155	29%	Area B	=	1632	15%	E _B	= 1.08
Area C	=	870	8%	Area C	=	435	4%	E _C	= 1.46
Area D	=	6854	63%	Area D	=	8813	81%	E _D	= 2.64
Total Area	=	10880	100%	Total Area	=	10880	100%		
On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)									
Weighted E =		$E_A A_A + E_B A_B + E_C A_C + E_D A_D$							
		$A_A + A_B + A_C + A_D$							
Historic E	=	2.09 in.		Developed E	=	2.36 in.			
On-Site Volume of Runoff: V ₃₆₀ = $E^*A / 12$									
Historic V ₃₆₀	=	1898 CF		Developed V ₃₆₀	=	2139 CF			
On-Site Peak Discharge Rate: Q _p = $Q_{3A}A_A + Q_{3B}A_B + Q_{3C}A_C + Q_{3D}A_D / 43,560$									
For Precipitation Zone 4									
Q _{3A}		=	2.20		Q _{3C}		=	3.73	
Q _{3B}		=	2.92		Q _{3D}		=	5.25	
Historic Q _p	=	1.11 CFS		Developed Q _p	=	1.21 CFS			

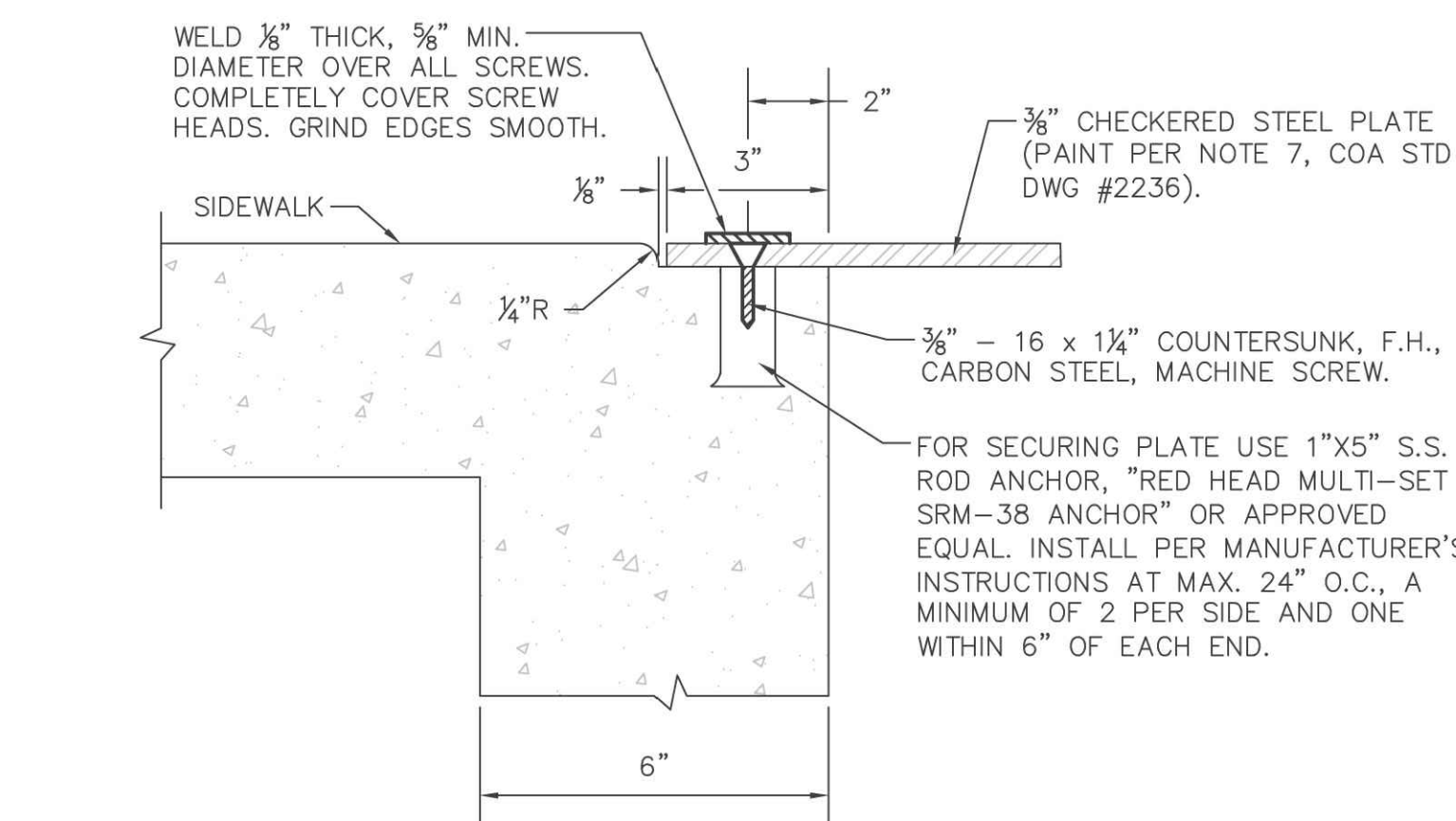


B3

TRENCH DRAIN LAYOUT

ACO POLYMER PRODUCTS, INC. (ACOUA.COM)

SCALE: N.T.S.



A3

C.O.A. STD. DTL. #2236 MODIFICATION COVERED SIDEWALK CULVERT - WELDED COVER

SCALE: N.T.S.

KEYED NOTES

- EXISTING PAVEMENT TO REMAIN.
- 0.1' DESIGN CONTOUR INTERVALS ARE SHOWN THIS AREA TO CLEARLY INDICATE SURFACE DRAINAGE PATTERN.
- CONSTRUCT NEW CONCRETE PAVED WALKS / RAMPS / PLAZAS TO ELEVATIONS SHOWN. NOTE: DUE TO FLATNESS OF SITE, CONTRACTOR SHALL STAKE TO ELEVATIONS SHOWN TO ENSURE POSITIVE DRAINAGE.
- ROOF DISCHARGE TO SOUTH: EXTEND BELOW GRADE TO PROPOSED PRIVATE STORM DRAIN. MAKE WATERTIGHT CONNECTIONS USING ADS-N12WT FITTINGS AS REQUIRED.
- ROOF DISCHARGE TO WEST: INSTALL PRECAST CONCRETE SPLASHPAD (OR OWNER APPROVED EQUAL) AT DOWNSPOUT. EROSION CONTROL BEYOND SPLASHPAD SHALL BE PROVIDED BY OWNER AS PART OF LANDSCAPE PACKAGE.
- EXISTING PORTAL CANOPY DRAINAGE. TYPICAL DRAINAGE OPENINGS IN CANOPIES WILL CONTINUE TO FREE DISCHARGE STORMWATER TO PAVEMENT.
- CONSTRUCT NEW ENTRY LANDING AT ELEVATIONS SHOWN. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
- SLOPE NEW ACCESS WALK FROM EXISTING WALK TO NEW ENTRY LANDING (S-55K). SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
- CONSTRUCT 20' LF ACO K100S TRENCH DRAIN WITHIN NEW CONCRETE PAVEMENT AT ELEVATIONS SHOWN. CONSTRUCT PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
- CONSTRUCT NEW STORM DRAIN FROM INLINE TRENCH DRAIN CATCH BASIN TO DAYLIGHT AT ELEVATIONS SHOWN.
- PROVIDE SWALE WITHIN CONCRETE PLAZA AT ELEVATIONS SHOWN. NOTE: DUE TO FLATNESS OF SITE, CONTRACTOR SHALL STAKE TO ELEVATIONS SHOWN TO ENSURE POSITIVE DRAINAGE.
- CONSTRUCT 12" WIDE (BOTTOM WIDTH) COVERED SIDEWALK CULVERT PER C.O.A. STD. DWG. 2236. EXTEND TWO FEET EAST FROM BACK OF WALK AS SHOWN. BOLT DOWN LID PER C.O.A. APPROVED DETAIL THIS SHEET.
- CONSTRUCT 24" WIDE X 4' LONG X 9" DEEP ROCK EROSION PROTECTION (6" AVG. DIA. ROUNDED ROCK EMBEDDED IN CONCRETE). ADDITIONAL EROSION CONTROL SHALL BE PROVIDED BY OWNER AS PART OF LANDSCAPE PACKAGE DEPENDING ON PROPOSED LANDSCAPE TREATMENT. ENGINEER RECOMMENDS CONTINUATION OF 24" WIDE GROUDED ROCK TO BOTTOM OF WATER HARVESTING BASIN IF LANDSCAPING IS TO BE DIRT OR CRUSHER FINES.

GENERAL NOTES

- COORDINATE WORK WITH SITE PLAN AND DEMOLITION PLAN.
- ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OF OFFSITE.
- ALL SUBGRADE, OVEREXCAVATION, AND FILL SHALL BE PLACED AND/OR COMPACTED PER THE GEOTECHNICAL REPORT AND CITY OF ALBUQUERQUE SPECIFICATIONS.
- FINAL GRADES SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.
- EXISTING UTILITY LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND MAY BE INCOMPLETE OR OBSOLETE. SUCH LINES MAY OR MAY NOT EXIST WHERE SHOWN OR NOT SHOWN. CONTRACTOR SHALL CONTACT NM-811 FOR UTILITY LINE SPOTS TWO WORKING DAYS PRIOR TO CONDUCTING SITE FIELD WORK. CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES.
- ADJUST RIMS OF EXISTING UTILITY FEATURES AS NECESSARY TO MATCH NEW GRADES, TYPICAL.
- WHERE NEW GRADES ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS BETWEEN EXISTING AND PROPOSED SHALL BE SMOOTH AND LEVEL.
- ALL ROOF DRAIN DISCHARGE AND SITE DRAINAGE SWALES WITHIN NON-PAVED AREAS SHALL BE PAVED (GROUTED COBBLE OR CONCRETE) PER A.P.S. STANDARDS.
- ALL COBBLE EROSION PROTECTION TO BE 6" AVG. DIA. ROUNDED ROCK EMBEDDED IN CONCRETE PER A.P.S. STANDARDS. NO LOOSE COBBLE SWALES OR EROSION PROTECTION SHALL BE ALLOWED ON A.P.S. DISTRICT PROPERTIES.
- WATER HARVESTING IN LANDSCAPED AREAS IS ENCOURAGED EXCEPT WITHIN 10' OF ANY BUILDING. DEPRESSIONS SHALL BE BETWEEN 8" AND 12" DEEP.
- ENGINEER RECOMMENDS THAT OWNER INSPECT SITE MONTHLY AND AFTER EACH RAINFALL TO IDENTIFY NEW AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON ACTUAL OCCURRENCES.
- ENGINEER'S CERTIFICATION CANNOT BE PROVIDED UNTIL ALL SITE WORK IS COMPLETE AND EROSION PROTECTION IS INSTALLED PER PLAN. TEMPORARY CERTIFICATES OF OCCUPANCY ARE NO LONGER PROVIDED.

VICINITY MAP



PROJECT DATA

PROPERTY: THE SITE IS PART OF A DEVELOPED APS SCHOOL PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP G-21. THE PROPOSED CONSTRUCTION IS BOUND BY INCA STREET NE TO THE WEST, COMANCHE ROAD TO THE SOUTH AND BY VARIOUS SCHOOL BUILDINGS TO THE NORTH AND EAST.

PROPOSED IMPROVEMENTS: A NEW CAFETERIA ADDITION WILL BE CONSTRUCTED WITH ASSOCIATED SITE WALKS AND LANDSCAPING.

LEGAL: A PORTION OF LOT 22, BLOCK 8, SAN GABRIEL VILLAGE, UNIT 1 (MITCHELL ELEMENTARY SCHOOL), ALBUQUERQUE, NEW MEXICO.

ADDRESS: 10121 COMANCHE ROAD N.E., ALBUQUERQUE, NM 87111

BENCHMARK: A CITY OF ALBUQUERQUE CONTROL BRASS DISC, STAMPED "2-G21A 1978", SET FLUSH IN THE TOP OF THE CONCRETE CURB, SOUTH MEDIAN OF COMANCHE RD. AND JUAN TABO BLVD INTERSECTION.

OFF-SITE: NO OFF-SITE DRAINAGE AFFECTS THIS PROPERTY.

FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP #35001003570, DATED SEPTEMBER 26, 2008, THE SITE IS LOCATED WITHIN FLOODZONE "X" (UNSHADED) DESIGNATED AS 'AREAS OUTSIDE THE 0.2-PERCENT-ANNUAL-CHANCE FLOODPLAIN. NO DEFS OR DEPTHS ARE SHOWN IN THIS ZONE, AND INSURANCE PURCHASE IS NOT REQUIRED.'

DRAINAGE PLAN CONCEPT: THE SITE DEMOLITION AND NEW CONSTRUCTION WILL NOT ALTER EXISTING DRAINAGE PATTERNS. STORMWATER FROM THE PROPOSED ADDITION WILL SURFACE DISCHARGE OR PASS TO A PROPOSED STORM DRAIN SYSTEM. A NEW COVERED SIDEWALK CULVERT WILL BE CONSTRUCTED TO PASS FLOW TO INCA STREET (PREVIOUSLY PASSED OVER PUBLIC WALK). A MINOR INCREASE IN OVERALL SITE DISCHARGE (0.1 CFS) IS ANTICIPATED (SEE CALCULATIONS).

SURVEYOR: WILSON & CO.
4900 LANG AVENUE NE
ALBUQUERQUE, NM 87109
PHONE: (505) 348-4000

LEGEND

- PROPOSED CONTOUR - 1' INCREMENT
- PROPOSED CONTOUR - 0.1' INCREMENT
- PROPOSED SPOT ELEVATION
- FLOW ARROW
- FINISH FLOOR ELEVATION
- EXISTING ELEVATION (±) TO MATCH.
- PROPOSED STORM DRAIN
- PROPOSED TRENCH DRAIN
- AS-BUILT ELEVATION

S.O.19 : NOTICE TO CONTRACTORS

- AN EXCAVATION / CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY.
- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS REVISED THROUGH UPDATE #8.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (CALL '811') FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC / STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

APPROVAL	NAME	DATE
INSPECTOR		

designing today
designing tomorrow

GREGORY T. Hick & ASSOCIATES, P.A.
ARCHITECTS • PLANNERS

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ALBUQUERQUE
PUBLIC SCHOOLS
Expect Great Things



Albuquerque Public Schools
Mitchell Elementary School Cafeteria Addition
10121 Comanche Rd. NE
Albuquerque, New Mexico 87111

Mark	Date	Description

Issue: BID :
GTH Project No.: 1001
Owner Project No.: 0204.00

Acad File No.: CG-1
Date: 04/17/20

Sheet Title:

GRADING & DRAINAGE PLAN

Sheet No.:

CG-101

Sheet of

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1781 CG-101.dwg May 08, 2013