

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor Timothy M. Keller

December 6, 2019

Fred Arfman, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. N.E
Albuquerque, NM 87108

**RE: AIS - Avanyu Retail
12th & Manual NW
Conceptual Grading and Drainage Plan Stamp Date: 11/26/19
Hydrology File: H13D113**

Dear Mr. Arfman:

Based on the submittal received on 11/27/19 the above-referenced submittal is approved for Site Plan for Building Permit.

If you have any questions, please contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2018)

Project Title: Avanyu Retail Building Permit #: _____ Hydrology File #: H13
DRB#: _____ EPC#: _____ Work Order#: _____
Legal Description: Tract A, Plat US BLM Survey of Town of Albuquerque, Section 7 & 8, T10N, R3E
City Address: 12th Street & Menaul Blvd. NW (SE Quadrant)

Applicant: Isaacson & Arfman, PA Contact: Fred C. Arfman
Bryan J. Bobrick
Address: 128 Monroe Street NE - Albuquerque, NM 87108
Phone#: (505) 268-8828 Fax#: _____ E-mail: freda@iacivil.com
bryanb@iacivil.com
Owner: US Indian Service and Bureau of Indian Affairs Contact: _____
Address: 1015 Indian School Road NW - Albuquerque, NM 87104
Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL: _____ PLAT (____# OF LOTS) _____ RESIDENCE ☒ DRB SITE _____ ADMIN SITE

IS THIS A RESUBMITTAL?: _____ Yes ☒ No

DEPARTMENT: _____ TRAFFIC/ TRANSPORTATION ☒ HYDROLOGY/ DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

____ ENGINEER/ARCHITECT CERTIFICATION
____ PAD CERTIFICATION
☒ CONCEPTUAL G & D PLAN
____ GRADING PLAN
____ DRAINAGE MASTER PLAN
____ DRAINAGE REPORT
____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
____ ELEVATION CERTIFICATE
____ CLOMR/LOMR
____ TRAFFIC CIRCULATION LAYOUT (TCL)
____ TRAFFIC IMPACT STUDY (TIS)
____ OTHER (SPECIFY) _____
____ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

☒ BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY
____ PRELIMINARY PLAT APPROVAL
____ SITE PLAN FOR SUB'D APPROVAL
____ SITE PLAN FOR BLDG. PERMIT APPROVAL
____ FINAL PLAT APPROVAL
____ SIA/ RELEASE OF FINANCIAL GUARANTEE
____ FOUNDATION PERMIT APPROVAL
____ GRADING PERMIT APPROVAL
____ SO-19 APPROVAL
____ PAVING PERMIT APPROVAL
____ GRADING/ PAD CERTIFICATION
____ WORK ORDER APPROVAL
____ CLOMR/LOMR
____ FLOODPLAIN DEVELOPMENT PERMIT
____ OTHER (SPECIFY) _____

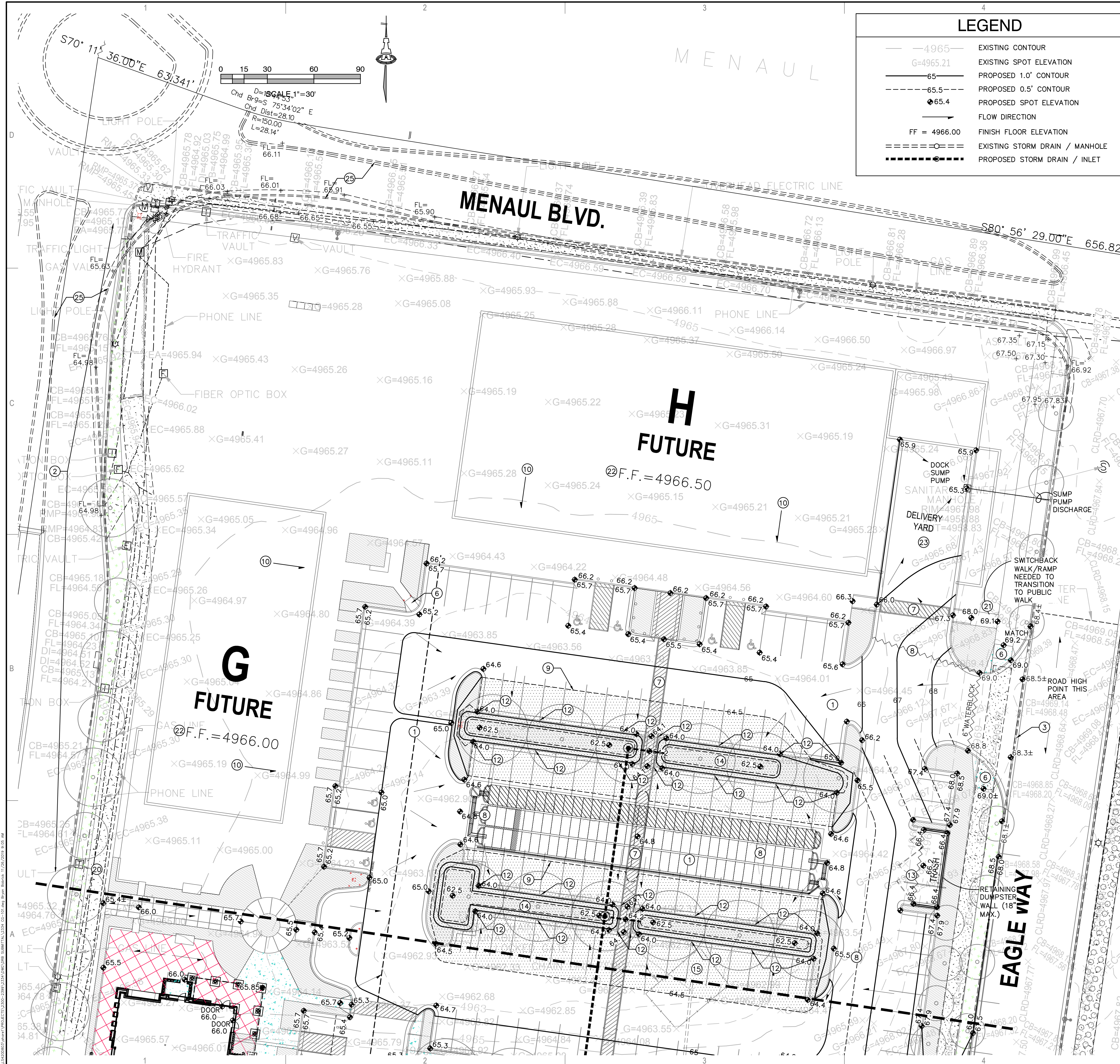
DATE SUBMITTED: November 26, 2019 By: Fred C. Arfman

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

D	1	2		3		4		5		A				
		GENERAL CIVIL NOTES		GRADING NOTES		STORM DRAIN NOTES		UTILITY NOTES						
C	B	A. THE CONTRACTOR SHALL ABIDE BY ALL STATE, LOCAL, AND FEDERAL LAWS, CODES, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA AND ADA REQUIREMENTS.	B. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED ON OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS (COA SPEC.)	C. NO WORK SHALL BE PERFORMED WITHOUT THE APPROPRIATE PERMITS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION, OR PRIOR TO OCCUPANCY, AS APPROPRIATE. IF PERMITS ARE DELAYED OR ISSUED WITH CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ARCHITECT IMMEDIATELY.	D. COORDINATE WORK WITH SITE PLAN, UTILITY PLAN, DEMOLITION PLAN, AND LANDSCAPE PLAN.	E. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING OBSTRUCTIONS, AND CONDITION OF ALL EXISTING INFRASTRUCTURE PRIOR TO CONSTRUCTION. REPORT ALL DISCREPANCIES AND VERIFY THE ENGINEER'S INTENT BEFORE PROCEEDING.	F. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SAFETY.	G. THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS ON SITE AT ALL TIMES.	H. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK. THE CONTRACTOR SHALL REGULARLY UPDATE OWNER AND ARCHITECT REGARDING THE STATUS OF THE INSPECTIONS.	I. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT STRUCTURES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING EXISTING CONDITIONS PRIOR TO CONSTRUCTION.				
B	1	J. CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS. EQUIPMENT SHALL ONLY OBSTRUCT DESIGNATED TRAFFIC LANES IF APPROPRIATE BARRICADING PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL IN THE RIGHT-OF-WAY.	K. THE CONTRACTOR SHALL PROVIDE A CONSTRUCTION TRAFFIC CONTROL AND SIGNING PLAN THAT CONFORMS TO THE LATEST EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND LOCAL REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN BARRICADING PERMITS FROM THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION WORK ON OR ADJACENT TO EXISTING STREETS.	L. THE CONTRACTOR SHALL MAINTAIN ALL BARRICADING AND CONSTRUCTION SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.	M. 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 FIVE 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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF NECESSARY DRY UTILITY ADJUSTMENTS.	N. FIVE WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NM811 (811) FOR LOCATION OF EXISTING UTILITIES.	O. ALL SITE PREPARATION, GRADING OPERATIONS, FOUNDATION CONSTRUCTION, AND PAVEMENT INSTALLATION WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, WHICH WILL BE PROVIDED BY THE OWNER OR ARCHITECT. ALL OTHER WORK SHALL, UNLESS OTHERWISE NOTED IN THE PLANS, BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS (FIRST PRIORITY), AND/OR NMDOT STANDARD SPECIFICATIONS FOR PUBLIC WORK (SECOND PRIORITY.)	P. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OF OFFSITE.	Q. VIBRATORY COMPACTION SHALL NOT BE USED OVER IN-PLACE UTILITIES.	R. SOIL TESTING AND INSPECTION SERVICES DURING SITE OPERATIONS ARE REQUIRED. CONTRACTOR SHALL ALLOW TESTING LABS TO INSPECT AND APPROVE COMPACTED SUBGRADES, BACKFILL, AND FILL LAYERS BEFORE FURTHER CONSTRUCTION WORK IS DONE. SHOULD COMPACTION TESTS INDICATE INADEQUATE DENSITY, CONTRACTOR SHALL PROVIDE ADDITIONAL COMPACTION AND TESTING AT THE CONTRACTOR'S SOLE EXPENSE.				
		2		3		4		5						
						PAVING NOTES		PROJECT DATA						
						A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL WORK RELATED TO PROPOSED PAVING SHOWN ON THE PAVING PLANS INCLUDING: ASPHALT AND OR CONCRETE PAVING, CURBS, GUTTERS, SIDEWALKS, RAMPS, PAVEMENT MARKINGS AND SIGNAGE. ANY WORK NOT ACCEPTED BY THE ARCHITECT OR ENGINEER DUE TO IMPROPER WORKMANSHIP OR LACK OF PROPER COORDINATION SHALL BE REMOVED AND CORRECTLY INSTALLED AT THE CONTRACTOR'S EXPENSE, AS DIRECTED.		PROPERTY: THE SITE IS A PREVIOUSLY DEVELOPED PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP H-13. THE SITE IS BOUND TO THE EAST AND SOUTH BY DEVELOPED COMMERCIAL PROPERTY, TO THE NORTH BY MENAUL BLVD. NW AND TO THE WEST BY 12TH STREET NW.		PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE MULTIPLE COMMERCIAL BUILDINGS WITH ASSOCIATED ASPHALT PAVED ACCESS, PARKING, AND LANDSCAPING.		LEGAL: A PORTION OF TRACT 84E, MRGCD MAP 35 & ADJ. VAC PORTION OF 9TH STREET.		
						B. ALL PAVING, INCLUDING ASPHALT PAVEMENT, CONCRETE PAVEMENT, CURBS, GUTTERS, SIDEWALKS, AND RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH COA SPEC. SECTION 300.		ADDRESS: 2400 12TH STREET NW, ALBUQUERQUE, NM 87104.		BENCHMARK: ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE STATION No. "7-H13", HAVING AN ELEVATION OF 4964.364, NAVD 1988		OFF-SITE: THIS PROPERTY HOUSES A STORM LIFT STATION THAT HAS BEEN DESIGNED TO SERVE THIS PROPERTY AS WELL AS THE PLAZA AND RETAIL PROPERTIES TO THE SOUTH.		
						C. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE INSTALLED IN ACCORDANCE WITH COA SPEC. SECTION 400.		D. ALL PAVEMENT INSTALLATION WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, WHICH WILL BE PROVIDED BY THE OWNER OR ARCHITECT. ALL OTHER WORK SHALL, UNLESS OTHERWISE NOTED IN THE PLANS, BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS (COA SPEC.)		FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP #35001C0331H, THE SITE IS LOCATED WITHIN FLOODZONE "X" SHADED DESIGNATED AS AREAS WITH REDUCED FLOOD RISK DUE TO LEVEE.		DRAINAGE PLAN CONCEPT: ON-SITE RUNOFF WILL BE ROUTED TO SURFACE STORMWATER QUALITY / DETENTION PONDS AND A SUB-SURFACE DETENTION SYSTEM. A PRIVATE STORM DRAIN SYSTEM WILL SLOWLY DISCHARGE TO AN EXISTING STORM LIFT STATION PRESET TO PUMP TO THE PUBLIC STORM DRAIN SYSTEM AT THE PREVIOUSLY APPROVED RATE OF 2.0 CFS WHICH INCLUDES THIS PROJECT AS WELL AS THE PLAZA AND RETAIL PROPERTIES TO THE SOUTH - SAME OWNER). SEE SHEET CG-501 FOR ADDITIONAL INFORMATION.		



LEGEND

—4965—	EXISTING CONTOUR
G=4965.21	EXISTING SPOT ELEVATION
—65—	PROPOSED 1.0' CONTOUR
- - - 65.5 - - -	PROPOSED 0.5' CONTOUR
◆65.4	PROPOSED SPOT ELEVATION
→	FLOW DIRECTION
FF = 4966.00	FINISH FLOOR ELEVATION
===○===	EXISTING STORM DRAIN / MANHOLE
---○---	PROPOSED STORM DRAIN / INLET

VICINITY MAP

KEYED NOTES

THESE NOTES ARE REFERENCED ON SHEETS CG-101 AND CG-102. NOT ALL NOTES ARE USED ON EACH SHEET.

- CONSTRUCT NEW PAVING AND 6" HIGH MEDIAN CURB AND GUTTER AT ELEVATIONS SHOWN. SEE PAVING PLAN FOR MATERIAL, EXTENTS, JOINTS AND PAVING SECTIONS. NOTE: TO ENSURE READABILITY, NOT ALL PAVEMENT SPOT ELEVATIONS SHOW ADJACENT TOP OF CURB / TOP OF WALK ELEVATIONS. TEXT SHOWN WITHIN FLOWLINE INDICATES FLOWLINE ELEVATION. ADD 0.5' TYPICAL FOR TOP OF CURB / TOP OF ADJACENT WALK ELEVATIONS.
- NO WORK SHALL BE PERFORMED IN THE PUBLIC ROW WITHOUT AN APPROVED WORK ORDER OR EXCAVATION PERMIT.
- PROVIDE SMOOTH TRANSITION TO EXISTING PAVEMENT.
- TOP OF ASPHALT TO BE FLUSH WITH TOP OF CONCRETE WALK THIS AREA FOR ADA ACCESS.
- SLOPE WITHIN HANDICAP PARKING AREAS TO BE ADA COMPLAINT. ACCESSIBLE PARKING: TARGET SLOPE = 1% TO 1.5%. SLOPE SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION
- CONSTRUCT ADA COMPLAINT RAMP. TARGET LONGITUDINAL SLOPE = 7% LONGITUDINAL SLOPE SHALL NOT EXCEED 12:1 (8.3%). TARGET CROSS SLOPE = 1% TO 1.5%. CROSS SLOPE SHALL NOT EXCEED 2%.
- CONSTRUCT ADA COMPLAINT PEDESTRIAN ACCESS AT ELEVATIONS SHOWN. TARGET LONGITUDINAL SLOPE = 4.5% LONGITUDINAL SLOPE SHALL NOT EXCEED 20:1 (5%). TARGET CROSS SLOPE = 1% TO 1.5%. CROSS SLOPE SHALL NOT EXCEED 2%.
- HIGH POINT / GRADE BREAK LOCATION.
- 0.5" DESIGN CONTOURS ARE SHOWN DASHED WHERE NECESSARY TO CLARIFY GRADING CONCEPT.
- CONCENTRATED ROOF DISCHARGE DIRECTION. NO MAIN ROOF AREA MAY DISCHARGE TO 12TH STREET OR MENAUL BLVD.
- CONSTRUCT 1.5' WIDE (BOTTOM WIDTH) COVERED SIDEWALK CULVERT TO PASS CONCENTRATED ROOF DISCHARGE TO PAVEMENT. SEE ARCHITECTURAL FOR SPECIFIC ROOF DISCHARGE LOCATIONS. CONSTRUCT PER COA STD. DWG. 2236. SEE CG-501 FOR ADDITIONAL INFORMATION.
- PROVIDE 2.0' WIDE OPENING IN CURB TO PASS FLOW. SEE DETAIL SHEET CG-501.
- CONSTRUCT CONCRETE DUMPSTER PAD SLOPING TO DIRECT LOCALIZED STORMWATER TO PROPOSED SANITARY SEWER DRAINAGE INLET AT LOW POINT. SEE UTILITY PLAN.
- CONSTRUCT 18" DEEP STORMWATER QUALITY RETENTION POND AT ELEVATIONS SHOWN. 2:1 ARMORED SIDE SLOPES (6" AVG. DIA. ANGULAR ROCK. COORDINATE COLOR WITH ARCHITECT.) SEE DETAIL SHEET CG-501. PONDS WHICH DO NOT PROVIDE THE REQUIRED VOLUME MUST BE CORRECTED AT CONTRACTOR'S EXPENSE.
- CONTRACTOR TO PROTECT EXISTING STORM DRAIN LIFT STATION THIS AREA.
- APPROXIMATE LOCATION OF EXISTING STORM DRAIN SYSTEM. RIM AND INVERT ELEVATIONS PER AS-BUILT SURVEY DATA.
- FIELD LOCATE 10' DIA. TYPE E M.H. REMOVE TOP SLAB ACCESS DOOR (ELEV. 4962.0±). RAISE TO NEW PAVEMENT (4964.2±). RECONSTRUCT TOP SLAB WITH ACCESS DOOR. FIELD LOCATE 4'X4' CONCRETE VAULT. REMOVE VAULT ACCESS COVER. RAISE TO NEW PAVEMENT (4964.2±). RECONSTRUCT VAULT ACCESS COVER.
- SEE ELECTRICAL PLANS FOR RELOCATION OF PUMP STATION CONTROL PANEL IN SECURE ENCLOSURE.
- CONSTRUCT PRIVATE STORM DRAIN SYSTEM. SEE SHEET CG-502 FOR SIZES / SLOPES / INLET INFORMATION / MATERIALS.
- CONSTRUCT ADA COMPLAINT TRANSITION WALK TO EXISTING PUBLIC WALK. COORDINATE WITH ARCHITECT.
- CONSTRUCT CONCRETE STEPS TO ACHIEVE REQUIRED GRADE DIFFERENCE. SEE ARCHITECTURAL FOR DETAILS.
- FUTURE BUILDING F.F. ELEVATIONS PROVIDED FOR GENERAL INFORMATION.
- FUTURE DELIVERY YARD MAY REQUIRE SUMP PIT TO DRAIN. TO BE COORDINATED AS PART OF FUTURE PLANS.
- LIMITS OF DETENTION PONDED STORMWATER BASED ON A 0.1 CFS PER ACRE DISCHARGE RATE.
- LINEWORK FOR FUTURE MENAUL BLVD. AND 12TH STREET PROVIDED FOR GENERAL INFORMATION.

STUDIO SW
ARCHITECTS

2101 Mountain Road NW Suite B | Albuquerque NM 87104
505-843-9639 | www.studioswarch.com

© 2019 Studio Southwest Architects, Inc. Duplication or reproduction by any means without the express written consent of Studio Southwest Architects, Inc. is a violation of federal and international law. The information contained in this document is the intellectual property of Studio Southwest Architects, Inc. and all rights thereto are reserved.

CONSULTANTS

Isaacson & Arfman, Inc.
Civil Engineering Consultants

128 Monroe Street NE
Albuquerque, NM 87108
505-268-8828 | www.iacivil.com

Architect Engineer

DRB SUBMITTAL
NOVEMBER 26, 2019

AVANYU RETAIL

2400 12TH STREET
ALBUQUERQUE, NM 87104

Key Plan

NTS

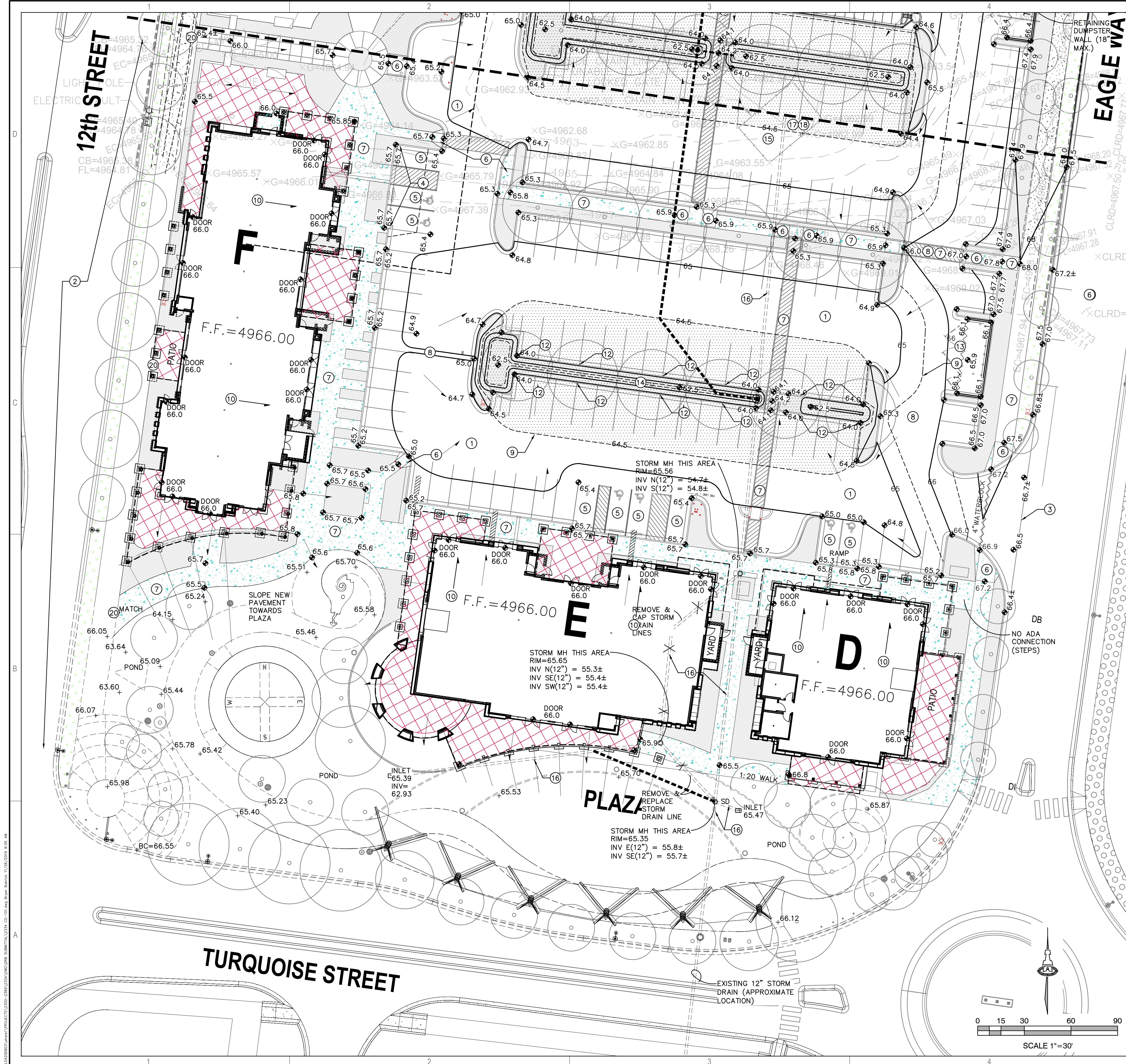
No	Date	Description
Revision Schedule		
ISSUE:	DRB	
PROJECT NUMBER:	IA 2334	
FILE:	2334 CG-101.dwg	
DRAWN BY:	DC	
CHECKED BY:	FCH	
DATE:	-	

SHEET TITLE

GRADING & DRAINAGE PLAN

1 OF 2

CG-101



KEYED NOTES

THESE NOTES ARE REFERENCED ON SHEETS CG-101 AND CG-102. NOT ALL NOTES ARE USED ON EACH SHEET.

- CONSTRUCT NEW PAVING AND 6" HIGH MEDIAN CURB AND GUTTER AT ELEVATIONS SHOWN. SEE PAVING PLAN FOR MATERIAL, EXTENTS, JOINTS AND PAVING SECTIONS. NOTE: TO ENSURE READABILITY, NOT ALL PAVEMENT SPOT ELEVATIONS SHOW ADJACENT TOP OF CURB / TOP OF WALK ELEVATIONS. TEXT SHOWN WITHIN FLOWLINE INDICATES FLOWLINE ELEVATION. ADD 0.5' TYPICAL FOR TOP OF CURB / TOP OF ADJACENT WALK ELEVATIONS.
- NO WORK SHALL BE PERFORMED IN THE PUBLIC ROW WITHOUT AN APPROVED WORK ORDER OR EXCAVATION PERMIT.
- PROVIDE SMOOTH TRANSITION TO EXISTING PAVEMENT.
- TOP OF ASPHALT TO BE FLUSH WITH TOP OF CONCRETE WALK THIS AREA FOR ADA ACCESS.
- SLOPE WITHIN HANDICAP PARKING AREAS TO BE ADA COMPLAINT. ACCESSIBLE PARKING: TARGET SLOPE = 1% TO 1.5%. SLOPE SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION
- CONSTRUCT ADA COMPLAINT RAMP. TARGET LONGITUDINAL SLOPE = 7% LONGITUDINAL SLOPE SHALL NOT EXCEED 12:1 (8.3%). TARGET CROSS SLOPE = 1% TO 1.5%. CROSS SLOPE SHALL NOT EXCEED 2%.
- CONSTRUCT ADA COMPLAINT PEDESTRIAN ACCESS AT ELEVATIONS SHOWN. TARGET LONGITUDINAL SLOPE = 4.5% LONGITUDINAL SLOPE SHALL NOT EXCEED 20:1 (5%). TARGET CROSS SLOPE = 1% TO 1.5%. CROSS SLOPE SHALL NOT EXCEED 2%.
- HIGH POINT / GRADE BREAK LOCATION.
- 0.5' DESIGN CONTOURS ARE SHOWN DASHED WHERE NECESSARY TO CLARIFY GRADING CONCEPT.
- CONCENTRATED ROOF DISCHARGE DIRECTION. NO MAIN ROOF AREA MAY DISCHARGE TO 12TH STREET OR MENAUL BLVD.
- CONSTRUCT 1.5' WIDE (BOTTOM WIDTH) COVERED SIDEWALK CULVERT TO PASS CONCENTRATED ROOF DISCHARGE TO PAVEMENT. SEE ARCHITECTURAL FOR SPECIFIC ROOF DISCHARGE LOCATIONS. CONSTRUCT PER COA STD. DWG. 2236. SEE CG-501 FOR ADDITIONAL INFORMATION.
- PROVIDE 2.0' WIDE OPENING IN CURB TO PASS FLOW. SEE DETAIL SHEET CG-501.
- CONSTRUCT CONCRETE DUMPSTER PAD SLOPING TO DIRECT LOCALIZED STORMWATER TO PROPOSED SANITARY SEWER DRAINAGE INLET AT LOW POINT. SEE UTILITY PLAN.
- CONSTRUCT 18" DEEP STORMWATER QUALITY RETENTION POND AT ELEVATIONS SHOWN. 2:1 ARMORED SIDE SLOPES (6" AVG. DIA. ANGULAR ROCK. COORDINATE COLOR WITH ARCHITECT). SEE DETAIL SHEET CG-501. PONDS WHICH DO NOT PROVIDE THE REQUIRED VOLUME MUST BE CORRECTED AT CONTRACTOR'S EXPENSE.
- CONTRACTOR TO PROTECT EXISTING STORM DRAIN LIFT STATION THIS AREA.
- APPROXIMATE LOCATION OF EXISTING STORM DRAIN SYSTEM. RIM AND INVERT ELEVATIONS PER AS-BUILT SURVEY DATA.
- FIELD LOCATE 10' DIA. TYPE E MH. REMOVE TOP SLAB ACCESS DOOR (ELEV 4962.0±). RAISE TO NEW PAVEMENT (4964.2±). RECONSTRUCT TOP SLAB WITH ACCESS DOOR. FIELD LOCATE 4'X4' CONCRETE VAULT. REMOVE VAULT ACCESS COVER. RAISE TO NEW PAVEMENT (4964.2±). RECONSTRUCT VAULT ACCESS COVER.
- SEE ELECTRICAL PLANS FOR RELOCATION OF PUMP STATION CONTROL PANEL IN SECURE ENCLOSURE.
- CONSTRUCT PRIVATE STORM DRAIN SYSTEM. SEE SHEET CG-502 FOR SIZES / SLOPES / INLET INFORMATION / MATERIALS.
- CONSTRUCT ADA COMPLAINT TRANSITION WALK TO EXISTING PUBLIC WALK. COORDINATE WITH ARCHITECT.
- CONSTRUCT CONCRETE STEPS TO ACHIEVE REQUIRED GRADE DIFFERENCE. SEE ARCHITECTURAL FOR DETAILS.
- FUTURE BUILDING F.F. ELEVATIONS PROVIDED FOR GENERAL INFORMATION.
- FUTURE DELIVERY YARD MAY REQUIRE SUMP PIT TO DRAIN. TO BE COORDINATED AS PART OF FUTURE PLANS.
- LIMITS OF DETENTION PONDED STORMWATER BASED ON A 0.1 CFS PER ACRE DISCHARGE RATE.
- LINEWORK FOR FUTURE MENAUL BLVD. AND 12TH STREET PROVIDED FOR GENERAL INFORMATION.

LEGEND

— 4965 —	EXISTING CONTOUR
— G=4965.21 —	EXISTING SPOT ELEVATION
— 65 —	PROPOSED 1.0' CONTOUR
--- 65.5 ---	PROPOSED 0.5' CONTOUR
◆ 65.4	PROPOSED SPOT ELEVATION
→	FLOW DIRECTION
FF = 4966.00	FINISH FLOOR ELEVATION
== O ==	EXISTING STORM DRAIN / MANHOLE
--- O ---	PROPOSED STORM DRAIN / INLET

STUDIO SW
ARCHITECTS

2101 Mountain Road NW Suite B | Albuquerque NM 87104
505-843-9639 | www.studioswarch.com

© 2019 Studio Southwest Architects, Inc. Duplication or reproduction by any means without the express written consent of Studio Southwest Architects, Inc. is a violation of federal and international law. The information contained in this document is the intellectual property of Studio Southwest Architects, Inc. and all rights thereto are reserved.

CONSULTANTS

Isaacson & Arfman, Inc.
Civil Engineering Consultants

128 Monroe Street NE
Albuquerque, NM 87108
505-268-8828 | www.iacivil.com

Architect Engineer

DRB SUBMITTAL
NOVEMBER 26, 2019

AVANYU RETAIL

2400 12TH STREET
ALBUQUERQUE, NM 87104

Key Plan

NTS

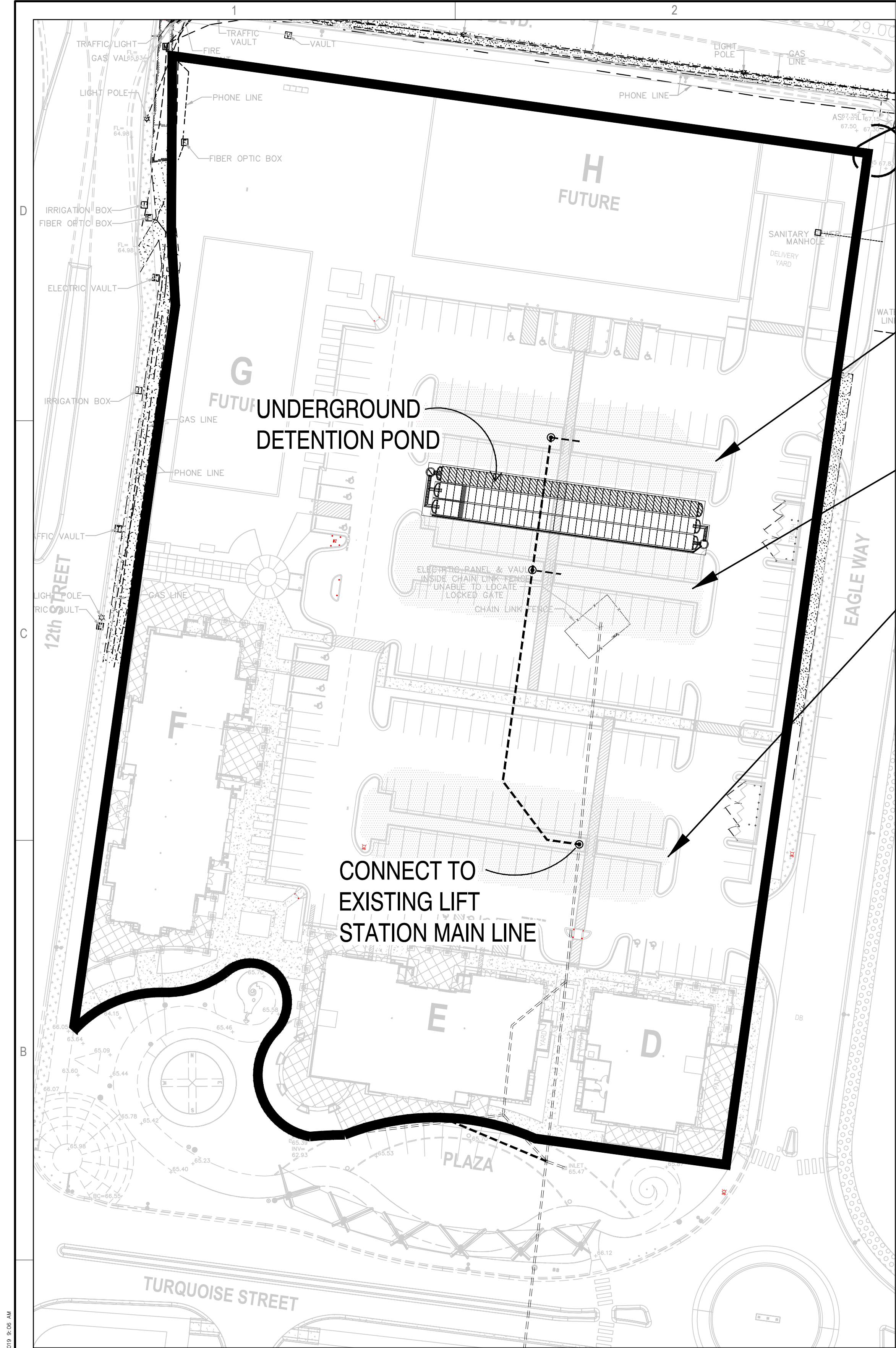
No	Date	Description
Revision Schedule		
ISSUE:	DRB	
PROJECT NUMBER:	IA 2334	
FILE:	2334 CG-101.dwg	
DRAWN BY:	DC	
CHECKED BY:	FCH	
DATE:	-	

SHEET TITLE

GRADING & DRAINAGE PLAN
2 OF 2

CG-102

\\s02002\users\PROJECTS\2334-2334-2334\CG-101.dwg 11/26/2019 9:50 AM



NORTH POND		
Contour	Area	Volume
4964.5	6515	
4964.0	1834	2087 CF
4963.0	992	1413 CF
4962.5	725	429 CF
POND VOLUME = 3930 CF		

CENTER POND		
Contour	Area	Volume
4964.5	8141	
4964.0	1854	2499 CF
4963.0	1125	1490 CF
4962.5	792	479 CF
POND VOLUME = 4468 CF		

SOUTH POND		
Contour	Area	Volume
4964.5	9043	
4964.0	1087	2533 CF
4963.0	530	809 CF
4962.5	258	197 CF
POND VOLUME = 3538 CF		

ALL ROOF AND PARKING WILL DRAIN TO THE INTERIOR. PERIMETER LANDSCAPE AND PAVEMENT WILL DRAIN TO THE SURROUNDING STREETS.

THIS SITE WILL DETAIN THE 100-YEAR 6-HOUR VOLUME WITHIN SURFACE PONDS AND UNDERGROUND OPEN CHAMBER SYSTEM. THESE DETENTION AREAS WILL BE CONNECTED TO THE EXISTING STORM DRAIN LIFT STATION CONSTRUCTED WITH THE ADJACENT SITE (COA HYDROLOGY NO. H13D106). THIS SYSTEM IS DESIGNED TO PUMP 2.0 CFS TO THE PUBLIC STORM DRAIN.

PER THE LIFT STATION DESIGN, THE TOTAL ACREAGE IMPACTING THE LIFT STATION IS 13.1 ACRES. THE PER ACRE DISCHARGE RATE IS 2.0/13.1=.15 CFS/ACRE. THEREFORE, THE DETENTION VOLUME IS BASED ON A DISCHARGE RATE OF 4.5*.15=.68 CFS (SEE INFLOW/OUTFLOW HYDROGRAPH).

TOTAL REQUIRED POND VOLUME=32,285 CF

- SURFACE PONDS
- NORTH = 3930 CF
 - CENTER = 4468 CF
 - SOUTH = 3538 CF

TOTAL SURFACE= 11935 CF

THE REMAINING (32285-11935) 20,350 CF WILL BE COLLECTED IN AN UNDERGROUND STORMTECH MC-4500 STORMWATER DETENTION SYSTEM.

MINOR PERIMETER LANDSCAPING AND PAVEMENT FRONTING MENAUL AND 12TH STREET WILL DISCHARGE TO THE STREETS.

PER THE APPROVED LIFT STATION DESIGN: LEAD PUMP TURNS ON AT 4955.00 LAG PUMP TURNS ON AT 4959.00

CALCULATIONS: 2334 - IPCC - Menaul & 12th - SE Corner : November 20, 2019			
Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993			
100-YEAR, 6-HOUR CALCULATIONS			
AREA OF SITE:	197952 SF	=	4.54 ACRE
100-year, 6-hour			
DEVELOPED FLOWS:		EXCESS PRECIP:	
Area A	=	Treatment SF	%
Area B	=		
Area C	=		
Area D	=		
Total Area	=		100%
On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)		Precip. Zone 2	
Weighted E =		E _A ΔA + E _B ΔB + E _C ΔC + E _D ΔD	
		ΔA + ΔB + ΔC + ΔD	
		Developed E =	
On-Site Volume of Runoff: V ₃₆₀ =		E*A / 12	
		Developed V ₃₆₀ =	
On-Site Peak Discharge Rate: Q _p = Q _{pA} ΔA + Q _{pB} ΔB + Q _{pC} ΔC + Q _{pD} ΔD / 43,560			
For Precipitation Zone 2			
Q _{pA}	=	1.56	
Q _{pB}	=	2.28	
Q _{pC}	=	3.14	
Q _{pD}	=	4.70	
		Developed Q _p =	

CALCULATIONS: 2334 - IPCC - Menaul & 12th - SE Corner : November 20, 2019	
HYDROGRAPH FOR SMALL WATERSHED	
DPM SECTION 22-2 * PAGE A-13/14	

Base time, t_b, for a small watershed hydrograph is,

$$t_b = (2.107 * E * A / Q_p) - (0.25 * A_D / A)$$

Where	E	=	1.94 inches
	A	=	4.54 acres
	A _D	=	3.86 acres
	Q _p	=	19.9 cfs

$$t_b = 0.72 \text{ hours}$$

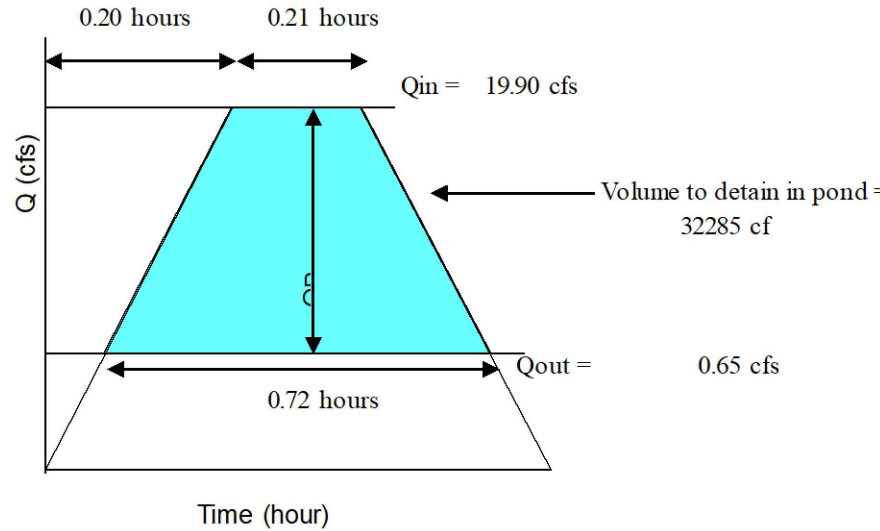
E is the excess precipitation in inches (from DPM TABLE A-8), Q_p is the peak flow, A_D is the area (acres) of treatment D, and A_T is the total area in acres. Using the time of concentration, t_c (hours), the time to peak in hours is:

$$t_p = (0.7 * t_c) + ((1.6 - (A_D / A)) / 12)$$

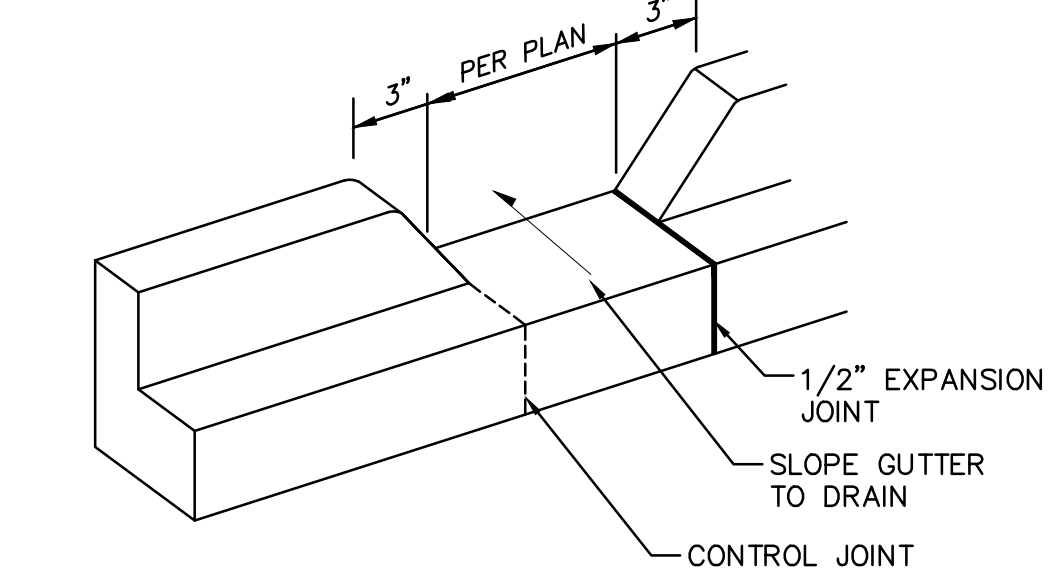
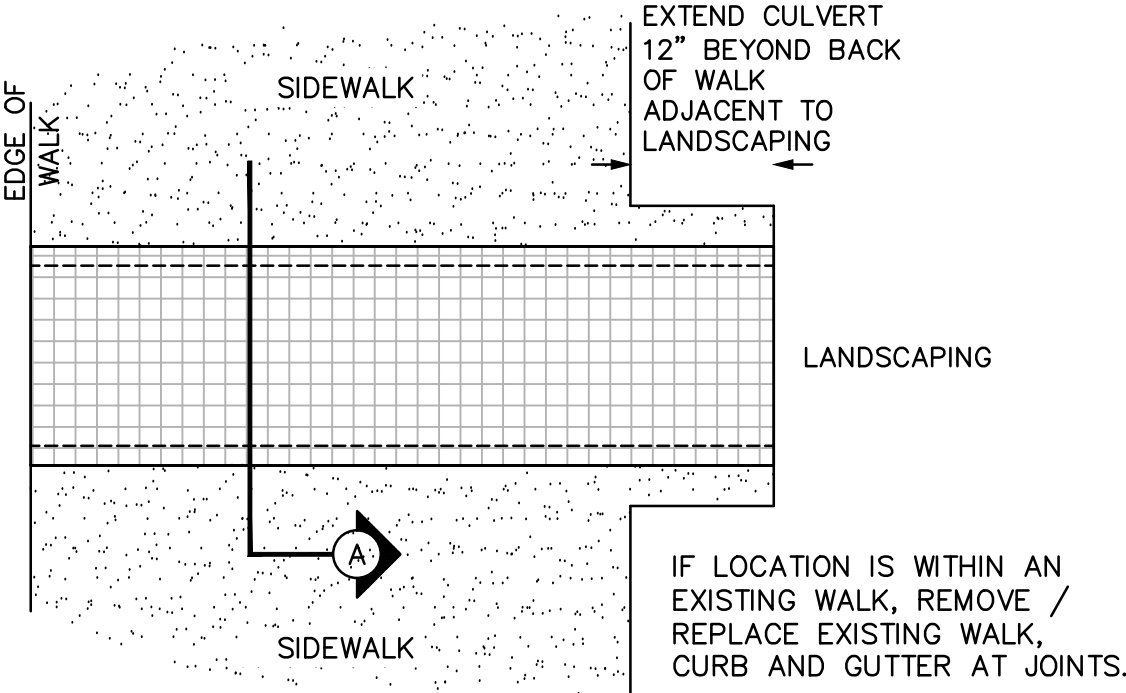
Where t_c = 0.20 hours

$$t_p = 0.20 \text{ hours}$$

Continue the peak for 0.25 * A_D / A_T hours. When A_D is zero, the hydrograph will be triangular. When A_D is not zero, the hydrograph will be trapezoidal. see the graph below:



INFLOW / OUTFLOW HYDROGRAPH



- 6" AVERAGE DIAMETER (D60) ANGULAR ROCK (VARY BETWEEN 4" AND 8" DIAMETER)
- PLACE GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.) BENEATH ALL EROSION PROTECTION
- INSTALL ALL EROSION PROTECTION FLUSH WITH ADJACENT GRADE TO ENSURE RUNOFF CAN BE CAPTURED AND CONVEYED PROPERLY.

EROSION PROTECTION - MEDIUM

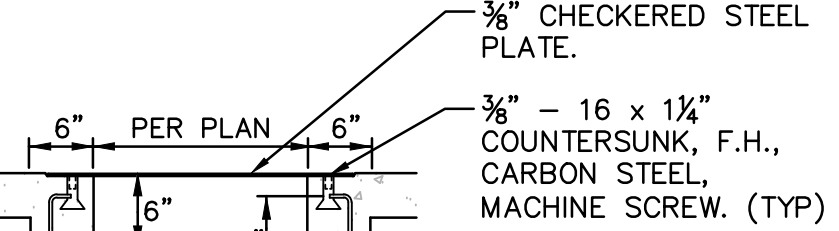
SCALE: N.T.S.

CURB OPENING

SCALE: N.T.S.

WELD 1/8" THICK, 3/8" MIN. DIAMETER OVER ALL SCREWS. COMPLETELY COVER SCREW HEADS. GRIND EDGES SMOOTH.

FOR SECURING PLATE USE 1"x5" S.S. ROD ANCHOR, "RED HEAD MULTI-SET II SRM-38" ANCHOR" OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS AT MAX. 24" O.C., A MINIMUM OF 2 PER SIDE AND ONE WITHIN 6" OF EACH END.



USE NO. 3 DEFORMED BAR DOWELS: SPACED DOWELS AT 18" O.C. MAXIMUM. 1-1/2" MINIMUM FROM FACE OF CONCRETE

SECTION A

COVERED SIDEWALK CULVERT

CONSTRUCT PER COA STD. DWG 2236 WITH MODIFICATIONS PER THIS DETAIL

SCALE: N.T.S.

2101 Mountain Road NW Suite B | Albuquerque NM 87104
505-843-9639 | www.studioswarch.com

© 2019 Studio Southwest Architects, Inc. Duplication or reproduction by any means without the express written consent of Studio Southwest Architects, Inc. is a violation of federal and international law. The information contained in this document is the intellectual property of Studio Southwest Architects, Inc. and all rights thereto are reserved.

CONSULTANTS

Isaacson & Arfman, Inc.
Civil Engineering Consultants

128 Monroe Street NE
Albuquerque, NM 87108
505-268-8828 | www.iacivil.com

Architect Engineer

DRB SUBMITTAL

FRED C. ARFMAN
NEW MEXICO
PROFESSIONAL ENGINEER
NOVEMBER 26, 2019

AVANYU RETAIL

2400 12TH STREET
ALBUQUERQUE, NM 87104

Key Plan

NTS

No	Date	Description
Revision Schedule		

ISSUE:	DRB
PROJECT NUMBER:	IA 2334
FILE:	2334 CG-101.dwg
DRAWN BY:	DC
CHECKED BY:	FCH
DATE:	-

SHEET TITLE

GRADING AND DRAINAGE DETAILS & CALCULATIONS