

DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED IN THE FOOTHILLS AREA OF THE ALBUQUERQUE METROPOLITAN AREA, REPRESENTS A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA. THE SITE IS LOCATED ON THE NORTH SIDE OF BRENTWOOD HILLS BLVD NE, EAST OF CHARWOOD PARK BLVD. NE. THE PROPOSED IMPROVEMENTS CONSIST OF A NEW FREE-STANDING CLASSROOM BUILDING NEAR THE EAST END OF THE SITE. AT PRESENT, THE SITE GENERALLY DRAINS FROM EAST TO WEST AND EXHIBITS SIGNIFICANT TOPOGRAPHIC RELIEF ON THE WEST SIDE OF THE BUILDING SITE. ALL RUNOFF IS VIA SURFACE FLOW AND THERE ARE NO PUBLIC STORM DRAINS IN THE SITE OR ADJACENT CITY STREET. DUE TO THE INFILL STATUS, THE CONTINUED FREE DISCHARGE OF ONSITE RUNOFF TO THE ADJACENT STREET WILL BE MAINTAINED AND HAS BEEN ESTABLISHED BY PROPOSED IMPROVEMENTS. DEVELOPED RUNOFF FROM MOST OF THE NEW BUILDING'S ROOF AREA WILL DISCHARGE DIRECTLY TO THE EAST TO AN EXISTING EMERGENCY ACCESS ROAD THAT WAS CONSTRUCTED WITH THE MOST RECENT PREVIOUS PHASE OF DEVELOPMENT WHICH DISCHARGES DIRECTLY TO THE ADJACENT PUBLIC STREET. THIS PLAN IS SUBMITTED FOR BUILDING PERMIT APPROVAL FOR THE PROPOSED NEW CLASSROOM BUILDING AT THE EAST END OF THE SITE.

II. PROJECT DESCRIPTION

AS SHOWN BY THE CITY ZONING ATLAS PAGE H-22, THE SITE LIES ON NORTH SIDE OF BRENTWOOD HILLS BLVD NE, EAST OF CHELWOOD PARK BLVD. NE. THE PROPERTIES TO THE SOUTH, EAST AND NORTH ARE SINGLE FAMILY RESIDENCES. THE SITE TO THE WEST IS A PUBLIC CITY PARK. THE SITE WAS PLATTED A FEW YEARS AGO AS PART OF THE PREVIOUS PHASES OF DEVELOPMENT. THE LEGAL DESCRIPTION OF THE SITE IS TRACT A, ONATE ELEMENTARY SCHOOL. AS INDICATED BY PANEL 357 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, AUGUST 16, 2012, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE. THE NEAREST FLOOD HAZARD ZONE LIES 1/2 MILE DOWNSTREAM OF THE SITE IS AT THE INTERSECTION OF BRENTWOOD HILLS BLVD NE AND JUAN TABO BLVD NE.

III. BACKGROUND DOCUMENTS & RESEARCH

THE FOLLOWING DOCUMENTS WERE REVIEWED AND REFERENCED IN THE PREPARATION OF THIS DRAINAGE NARRATIVE:

A. GRADING AND DRAINAGE PLAN – ONATE ELEMENTARY SCHOOL DATED 12-30-1983 BY HIGH MESA CONSULTING GROUP (FORMERLY TOM MANN & ASSOCIATES). THIS GRADING PLAN SUPPORTED CONSTRUCTION OF THE GYMNASIUM BUILDING. THIS PLAN IDENTIFIED THE SITE DRAINAGE PATTERNS THAT STILL EXIST TODAY WHEREBY THE NORTHERN PORTION OF THE SITE HAS A GRADED FLOWLINE RUNNING FROM EAST TO WEST TO THE NORTHWEST CORNER OF THE SITE WHERE IT IS FORCED TO TURN SOUTH BY A CURB LOCATED AT THE WEST EDGE OF THE SITE AND GRADUALLY FLOW SOUTH TO THE STREET.

B. ONATE ELEMENTARY SCHOOL DRAINAGE STUDY DATED 04-22-1992, CITY HYDROLOGY FILE H22/D035, BY HIGH MESA CONSULTING GROUP (FORMERLY JEFF MORTENSEN & ASSOCIATES) AND UPDATED 01-04-1994. THIS STUDY IDENTIFIED SEVERAL SITE AREAS WHERE POORLY DEFINED DRAINAGE PATTERNS RESULTED IN AREAS OF EROSION AND STANDING WATER WHICH RESULTED IN SITE MAINTENANCE AND PEDESTRIAN ACCESS PROBLEMS. RECOMMENDATIONS WERE PRESENTED AND PHASE 1 OF THE IMPROVEMENTS INCLUDED CONSTRUCTION OF A NEW PAVED TRACK AT THE WEST END OF THE SITE THAT ALSO SERVES AS A DRAINAGE CONVEYANCE TO CARRY SITE FLOWS SOUTH TO BRENTWOOD HILLS VIA NEW SIDEWALK CULVERTS CONSTRUCTED AS PART OF THE PHASE 1 PROJECT.

C. GRADING AND DRAINAGE PLAN – ONATE ELEMENTARY SCHOOL KITCHEN DATED 01-31-2001, CITY HYDROLOGY FILE H22/D035, BY HIGH MESA CONSULTING GROUP (FORMERLY JEFF MORTENSEN & ASSOCIATES). THIS PLAN SUPPORTED AN ADDITION TO THE KITCHEN. IT REFERENCES AND CONFORMS TO THE PREVIOUSLY APPROVED PLANS.

D. CONSTRUCTION PLANS FOR ONATE ELEMENTARY SCHOOL ACCESS IMPROVEMENTS DATED 4-26-2007 BY HIGH MESA CONSULTING GROUP (FORMERLY JEFF MORTENSEN & ASSOCIATES). THIS PLAN SET DESIGNED THREE IMPROVEMENTS BID LOTS OF WHICH TWO WERE CONSTRUCTED. THE NEW IMPROVEMENTS INCLUDED A DRIVEWAY FOR SERVICE ACCESS AND STANDING WATER WHICH RESULTED IN SITE MAINTENANCE AND PEDESTRIAN ACCESS PROBLEMS. RECOMMENDATIONS WERE PRESENTED AND PHASE 1 OF THE IMPROVEMENTS INCLUDED CONSTRUCTION OF A NEW PAVED TRACK AT THE WEST END OF THE SITE THAT ALSO SERVES AS A DRAINAGE CONVEYANCE TO CARRY SITE FLOWS SOUTH TO BRENTWOOD HILLS VIA NEW SIDEWALK CULVERTS CONSTRUCTED AS PART OF THE PHASE 1 PROJECT.

E. ONATE ELEMENTARY SCHOOL PRIVATE FIRE ROAD AND ACCESS IMPROVEMENTS DATED 03/15/2010, CITY HYDROLOGY FILE H22/D035, ENGINEER'S CERTIFICATION DATED 12/01/2010. THIS PLAN SET INCLUDED THE THIRD BID LOT IMPROVEMENTS IDENTIFIED BY THE FOREMENTIONED ACCESS IMPROVEMENTS PLAN SET (REFERENCE D), AND ALSO A NEW PERMETER EMERGENCY ACCESS ROAD THAT ALSO SERVED TO IMPROVE INTERNAL SITE DRAINAGE AND ELIMINATE PREVIOUS EROSION PROBLEMS. THESE IMPROVEMENTS WERE CONSTRUCTED TO SUPPORT THE NEW KINDERGARTEN CLASSROOM BUILDING THAT IS CURRENTLY UNDER CONSTRUCTION.

F. GRADING AND DRAINAGE PLAN – ONATE ELEMENTARY SCHOOL KINDERGARTEN CLASSROOM DATED 6/17/2010 (H-22/D035) BY HIGH MESA CONSULTING GROUP. THIS PLAN WAS PREPARED AND SUBMITTED TO SUPPORT CONSTRUCTION OF A NEW KINDERGARTEN CLASSROOM BUILDING IMMEDIATELY TO THE NORTH OF THE CURRENTLY PROPOSED CLASSROOM BUILDING. THIS PROJECT IS CURRENTLY UNDER CONSTRUCTION.

IV. EXISTING CONDITIONS

AT PRESENT, THE SITE IS DEVELOPED IS AN ACTIVE ELEMENTARY SCHOOL SITE CONTAINING PERMANENT AND PORTABLE BUILDINGS ALONG WITH PAVED PARKING, PLAYGROUND AND FIELD IMPROVEMENTS, AND LANDSCAPING. THE SITE GENERALLY DRAINS FROM NORTHEAST TO SOUTHWEST DISCHARGING RUNOFF TO THE ADJACENT CITY STREET, BRENTWOOD HILLS BLVD NE. NO APPARENT OFFSITE FLOWS ENTER THE SITE FROM THE RESIDENTIAL PROPERTIES THAT SURROUND THE UPHILL (NORTH AND EAST SIDES) OF THE SITE WHICH HAVE BLOCK WALLS PREVENTING RUNOFF FROM IMPACTING THE SITE.

THE NEW CLASSROOM BUILDING PROPOSED HEREIN WILL BE LOCATED AT THE EAST END OF THE SITE WHICH IS THE SITE'S HIGH POINT FROM WHICH DRAINAGE GENERALLY FLOWS FROM EAST TO WEST. THIS SITE PREVIOUSLY COMPARED PORTABLE CLASSROOMS THAT WERE RELOCATED IN 2010 IN ANTICIPATION OF THIS PROJECT. RUNOFF FROM THIS AREA CURRENTLY DRAINS FROM EAST TO WEST, WHERE IT IS INTERCEPTED BY A CONCRETE RUNDOWN CHANNEL CONSTRUCTED IN 2010 TO SERVE THIS AREA (REFERENCE E) THAT FLOWS FROM NORTH TO SOUTH, TO THE EXISTING PARKING LOT WHICH DRAINS OUT TO BRENTWOOD HILLS BLVD THROUGH THE EXISTING DRIVEWAYS.

THERE IS AN EXISTING PAVED PARKING LOT IMMEDIATELY SOUTH OF THE PROPOSED BUILDING SITE. THIS PARKING LOT DRAINS FROM EAST TO WEST WITH RUNOFF DISCHARGING TO BRENTWOOD HILLS BLVD NE VIA EXISTING DRIVEWAY.

V. DEVELOPED CONDITIONS

THE PROPOSED CLASSROOM ADDITION WILL BE LOCATED IN AN AREA THAT PREVIOUSLY HAD PORTABLE CLASSROOMS AND ASSOCIATED PAVED WALKWAYS. THE NEW BUILDING WILL HAVE ROOF DRAINS DISCHARGING THE MAJORITY OF ROOF DRAINAGE DIRECTLY TO THE EAST TO THE EXISTING EMERGENCY ACCESS ROAD WHICH IS PAVED WITH CURB AND GUTTER AND CARRIES RUNOFF TO BRENTWOOD HILLS BLVD. THE BUILDING SITEWORK WILL INCLUDE CONCRETE WALKWAYS, A PLAZA AREA, AND LANDSCAPING IMPROVEMENTS ON THE NORTH AND WEST SIDES OF THE BUILDING. THE NEW BUILDING SITEWORK WILL DRAIN FROM EAST TO WEST TO AN EXISTING SLOPED AREA (5.5 FT. VERTICAL FALL OVER 20 FT. HORIZONTAL, 5.1 SLOPE) THAT DRAINS DOWN TO THE WEST TO THE EXISTING CONCRETE RUNDOWN CHANNEL THAT DIVERTS RUNOFF TO THE SOUTH. AS DESCRIBED BY THE FOLLOWING, THIS SLOPED AREA WILL BE LANDSCAPED IN A TERRACED MANNER THAT IS DESIGNED TO ACCEPT RUNOFF FROM THE SITE. TWO SMALL, ROCK ROOF AREAS WILL HAVE PIPED ROOF DRAINS THAT WILL DISCHARGE DIRECTLY TO THE LANDSCAPED AREA INTENDING TO SATISFY THE INTENT OF WATER QUALITY REQUIREMENTS. THIS PROJECT ALSO INCLUDES RECONSTRUCTION OF THE EXISTING PAVED PARKING LOT SOUTH OF THE BUILDING. THE PARKING LOT WILL CONTINUE TO DRAIN FROM EAST TO WEST, HOWEVER, SITE RUNOFF WILL NOW BE INTERCEPTED BY A PROPOSED STORM INLET THAT WILL DRAIN INTO A WATER QUALITY BASIN LOCATED AT THE SOUTH END OF THE PROPOSED LANDSCAPED AREA.

AS PREVIOUSLY DESCRIBED, THERE IS A 20 FT. WIDE AREA THAT SLOPES DOWN TO THE DRAINAGE RUNDOWN AT A 5:1 SLOPE. THIS SLOPE WILL BE LANDSCAPED WITH A TERRACED CONCEPT THAT WILL ALLOW FOR RUNOFF TO BE CAPTURED TO ACCEPT RUNOFF FROM THE NEW PROJECT AND MEET THE INTENT OF WATER QUALITY AND FIRST FLUSH REQUIREMENTS. THERE WILL BE NUMEROUS POCKETS TO RETAIN WATER, AND RUNOFF THAT DOES NOT INFILTRATE OR RETAIN WILL OVERFLOW TO THE EXISTING DRAINAGE RUNDOWN. THIS AREA WILL HAVE NATURAL ROCK RETAINING WALLS AND FLAT STONE PLANTING MIXED WITH AREAS OF CRUSHER FINES. DUE TO THE NATURE OF LANDSCAPING IMPROVEMENTS, IT IS DIFFICULT TO QUANTIFY THE PRECISE VOLUME OF RETENTION AND INFILTRATION, HOWEVER, THE PROPOSED SCHEME IS INTENDED TO MEET THE INTENT OF CITY FIRST FLUSH WATER QUALITY REQUIREMENTS. A COPY OF THE DRAINAGE PLAN WHICH INCLUDES DETAILED GRADING INFORMATION IS PROVIDED HEREWITH FOR INFORMATIONAL PURPOSES.

VI. GRADING PLAN

THE GRADING PLAN SHOWS THE 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. THE LIMITS OF EXISTING DRAINAGE BASINS SHALL REMAIN THE SAME.

VII. 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 IMPROVEMENTS WILL RESULT IN A SLIGHT INCREASE (0.4 CFS) IN THE DEVELOPED RUNOFF GENERATED BY THIS PORTION OF THE SITE.

ALTHOUGH THERE WILL BE A SLIGHT INCREASE IN RUNOFF AS COMPARED TO THE EXISTING (BARE SOIL) CONDITION, THE OVERALL NET IMPACT WILL BE OFFSET BY THE FACT THAT THIS AREA WAS MOSTLY IMPERVIOUS PAVING AND PORTABLE CLASSROOM BUILDINGS IN THE PRE-2010 CONDITION. ADDITIONALLY, THERE WILL BE AN UNQUANTIFIED AMOUNT OF RETENTION IN THE TERRACED LANDSCAPING AREA THAT WILL FURTHER REDUCE RUNOFF.

VIII. CONCLUSIONS

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

1. THE PROPOSED IMPROVEMENTS REPRESENT MODIFICATIONS TO AN EXISTING SITE WITHIN AN INFILL AREA
2. THE PROPOSED IMPROVEMENTS WILL MAINTAIN AND NOT ALTER THE EXISTING DRAINAGE PATTERNS OF THE SITE.
3. THE FREE DISCHARGE OF DEVELOPED RUNOFF TO THE ADJACENT CITY STREETS IS CONSISTENT WITH THE PREVIOUSLY APPROVED PLANS FOR THE SCHOOL SITE.
4. THE PROPOSED IMPROVEMENTS WILL RESULT IN A NEGLIGIBLE GROSS INCREASE IN THE DEVELOPED RUNOFF GENERATED BY THIS SITE THAT WILL BE OFFSET BY LANDSCAPED AREA RETENTION
5. THE PROPOSED IMPROVEMENTS WILL RESULT IN A SLIGHT DECREASE IN THE DEVELOPED RUNOFF AS COMPARED TO PRE-EXISTING CONDITIONS
6. THE PROPOSED IMPROVEMENTS WILL NOT ADVERSELY IMPACT DOWNSTREAM PROPERTIES OR DOWNSTREAM DRAINAGE CONDITIONS.
7. THE PROPOSED IMPROVEMENTS WILL NOT BLOCK POTENTIAL OFFSITE FLOWS

CALCULATIONS

I. SITE CHARACTERISTICS

A. PRECIPITATION ZONE = **4**

B. $P_{s,100} = P_{300} =$ **2.90**

C. TOTAL PROJECT AREA (A_T) = **26,100 SF**
0.60 AC

D. LAND TREATMENTS

1. EXISTING LAND TREATMENT

TREATMENT	AREA (SF/AC)	%
A		
B		
C	16,615 / 0.38	64
D	9,485 / 0.22	36
		100

2. DEVELOPED LAND TREATMENT

TREATMENT	AREA (SF/AC)	%
A		
B		
C	4,950 / 0.11	19
D	21,150 / 0.49	81

II. HYDROLOGY

A. EXISTING CONDITION

$$\begin{aligned} a. \text{ VOLUME} \\ E_{10} &= (E_{A10} + E_{B10} + E_{C10} + E_{D10})A_T \\ &= ((0.00*0.8) + (0.00*1.08) + (0.38*1.46) + (0.22*2.64))(0.60) = \mathbf{1.89 \text{ IN}} \\ V_{100} &= (E_{10}/12)A_T = (1.89/12)(26,100) = \mathbf{0.0943 \text{ AC-FT}} = \mathbf{4,108 \text{ CF}} \end{aligned}$$

$$\begin{aligned} b. \text{ PEAK DISCHARGE} \\ Q_p &= Q_{pA10} + Q_{pB10} + Q_{pC10} + Q_{pD10} \\ Q_p &= Q_{100} = ((0.00*2.2) + (0.00*2.92) + (0.38*3.73) + (0.22*5.25)) = \mathbf{2.6 \text{ CFS}} \end{aligned}$$

B. DEVELOPED CONDITION

$$\begin{aligned} a. \text{ VOLUME} \\ E_{10} &= (E_{A10} + E_{B10} + E_{C10} + E_{D10})A_T \\ &= ((0.00*0.8) + (0.00*1.08) + (0.11*1.46) + (0.49*2.64))(0.60) = \mathbf{2.42 \text{ IN}} \\ V_{100} &= (E_{10}/12)A_T = (2.42/12)(26,100) = \mathbf{0.1206 \text{ AC-FT}} = \mathbf{5,255 \text{ CF}} \end{aligned}$$

$$\begin{aligned} b. \text{ PEAK DISCHARGE} \\ Q_p &= Q_{pA10} + Q_{pB10} + Q_{pC10} + Q_{pD10} \\ Q_p &= Q_{100} = ((0.00*2.2) + (0.00*2.92) + (0.11*3.73) + (0.49*5.25)) = \mathbf{3.0 \text{ CFS}} \end{aligned}$$

C. COMPARISON

a. VOLUME	$\Delta V_{100} =$	$5255 - 4108 =$	1,147 CF	(INCREASE)
b. PEAK DISCHARGE	$\Delta Q_{100} =$	$3.0 - 2.6 =$	0.4 CFS	(INCREASE)

ENGINEER'S CERTIFICATION FOR FINAL C.O.

ENGINEER'S CERTIFICATION FOR PERMANENT C.O.

1. J. GRAEME MEANS, NMPE 13676, HEREBY CERTIFY THAT THE PREVIOUSLY IDENTIFIED DEFICIENCIES HAVE BEEN CORRECTED AS NOTED BY THE FOLLOWING AND CERTIFY THIS SITE FOR PERMANENT CERTIFICATE OF OCCUPANCY FOR HYDROLOGY PURPOSES:
- 1) THE SOUTHWEST WATER QUALITY BASIN HAS BEEN CONSTRUCTED AND IS LARGER AND DEEPER THAN DESIGNED. ADDITIONALLY, AN OVERFLOW TROUGH HAS BEEN BUT INTO THE WEST CURB TO CONTROL OVERFLOW.
- 2) THE NORTHEAST ROOF DRAIN RUNOFF HAS BEEN RECONSTRUCTED TO NO LONGER OBSTRUCT THE OUTLET PIPE, AND A NEW RUNDOWN HAS BEEN CONSTRUCTED THAT CONVEYS FLOWS TO THE NORTH WITH POSITIVE SLOPE TO A NEW OUTFALL TO THE ROADWAY.
- 3) AN ADDITIONAL STORM INLET HAS BEEN CONSTRUCTED AT THE WEST END OF THE PARKING LOT TO CAPTURE FIRST FLUSH RUNOFF IN ACCORDANCE WITH THE INTENT OF THE PLAN.

IN ADDITION TO THE PRECEDING, IT IS NOTED HEREIN THAT THE WALL OPENING DESIGNED AT THE NORTHWEST CORNER OF THE MECHANICAL YARD WAS DELETED BECAUSE THE YARD WAS RASSED AND CONSTRUCTED TO SLOPE TO THE SOUTHEAST CORNER OF THE YARD, MAKING THE WALL OPENING UNNECESSARY.

J. Graeme Means
J. GRAEME MEANS, NMPE NO. 13676

ENGINEER'S CERTIFICATION FOR TEMPORARY C.O.

I, J. GRAEME MEANS, NMPE 13676, OF THE FIRM HIGH MESA CONSULTING GROUP HEREBY CERTIFY THAT THIS PROJECT HAS BEEN CONSTRUCTED, GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLANS DATED 11-19-2015 WITH A FEW NOTED EXCEPTIONS THAT NEED TO BE CORRECTED PRIOR TO ISSUANCE OF PERMANENT CERTIFICATE OF OCCUPANCY. THESE EXCEPTIONS DO NOT IMPACT THE SITE TO THE EXTENT THAT A TEMPORARY CERTIFICATE OF OCCUPANCY SHOULD BE WITHHELD.

THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT WAS OBTAINED 08-24-2017 BY HIGH MESA CONSULTING GROUP UNDER THE DIRECTION OF CHARLES CALA, NMPS 11184, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED TO SUPPORT A TEMPORARY CERTIFICATE OF OCCUPANCY FOR THE ONATE ELEMENTARY SCHOOL CLASSROOMS AND DOES NOT REPRESENT A CERTIFICATION FOR PERMANENT CERTIFICATE OF OCCUPANCY.

THE FOLLOWING ITEMS REQUIRE CORRECTION OR ADDITIONAL VERIFICATION PRIOR TO ENGINEER'S FINAL CERTIFICATION FOR PERMANENT CERTIFICATE OF OCCUPANCY:

- 1) THE SOUTHEAST WATER QUALITY BASIN AREA WAS UNDER CONSTRUCTION DURING TIME OF CERTIFICATION. THIS AREA WILL NEED TO BE COMPLETED PER CG-101.
- 2) THE NORTHERNMOST 6" ROOF DRAIN LOCATED ON THE EAST SIDE OF THE BUILDING WAS INSTALLED LOWDOWN THAN DESIGNED AND EMBEDDED INTO THE CONCRETE RUNDOWN. THIS CONDITION WILL NEED TO BE CORRECTED TO NOT BE EMBEDDED INTO THE CONCRETE RUNDOWN AND STILL HAVE POSITIVE DRAINAGE TO THE ADJACENT ROAD. THIS WILL BE ACCOMPLISHED BY CONSTRUCTING A NEW RUNDOWN THAT DISCHARGES TO A POINT APPROXIMATELY 24 FEET TO THE NORTH ALONG THE SIDEWALK.
- 3) THE EAST-WEST FLOWLINE IN THE SOUTH PARKING LOT LACKS DEFINITION AND IT DOES NOT APPEAR THAT PARKING LOT RUNOFF WILL BE CAPTURED BY THE INLET FOR FIRST FLUSH PURPOSES AS INTENDED. THIS AREA WILL BE FLOW TESTED AND IF NECESSARY WILL REQUIRE CORRECTION.

UPON CORRECTION OF THE PRECEDING, A VERIFICATION SURVEY AND CERTIFICATION WILL BE PROVIDED FOR 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.

J. Graeme Means
J. GRAEME MEANS, NMPE NO. 13676

LEGEND

ASPH BOH	ASPHALT BUILDING OVERHANG	INV	INVERT
C&G	CURB AND GUTTER	TA	TOP OF ASPHALT PAVEMENT
C/PM	COMMUNICATION LINE BY PAINT MARK	TC	TOP OF CURB
CAM	SECURITY CAMERA	TO	TOP OF GRATE
CC	CONCRETE CURB	FL	FLOWLINE
CCP	CONCRETE DRIVE PAD	+ 20.05	EXISTING SPOT ELEVATION
CF	LANDSCAPING CRUSHER FINES	14.00	PROPOSED SPOT ELEVATION FOR CURRENT CONSTRUCTION
CD	CAST IRON PIPE	14.00	PROPOSED SPOT ELEVATION
CLF	GENERAL LINE FENCE	4920	EXISTING FLOWLINE
CND	CONCRETE LANDING	20	PROPOSED FLOWLINE
CND	CONCRETE LANDING		EXISTING CONTOUR
CO	CURB OPENING		PROPOSED CONTOUR
CR	CONCRETE RAMP		EXISTING DIRECTION OF FLOW
CRD	CONCRETE RUNDOWN		PROPOSED DIRECTION OF FLOW
CRW	CONCRETE RETAINING WALL		RIGHT OF WAY LINE
CS	CONCRETE STEPS		PUBLIC EASEMENT LINE
CW	CONCRETE SIDEWALK		
DBL	DOUBLE		
DYS	PAINTED YELLOW DOUBLE STRIPE		
E/PM	ELECTRIC LINE BY PAINT MARK		
EA	EDGE OF ASPHALT		
FL	FLOWLINE		
G/PM	GAS LINE BY PAINT MARK		
GM	GAS METER WITH PRESSURE REGULATOR VALVE		
GS	GAS SERVICE		
GVB	METER CAN WITH GAS VALVE		
HCS	HANDICAPPED ACCESS SIGN		
MC/V	METER CAN WITH BIB VALVE		
MHR	METAL HAND RAIL		
MLP	METAL LIGHT POLE ON CONCRETE BASE		
MNT	MOUNTABLE		
OHM	OVERHEAD MAST		
PD	PAINTED PEDESTALS		
PS	PAINTED PARKING STALL STRIPE		
PVC	POLYVINYL CHLORIDE PIPE		
PVP	ASPHALT PAVING PATCH		
RDR	BUILDING ROOF DRAIN		
RR	LANDSCAPING RIVER ROCK		
SAS	SANITARY SEWER		
SAS/PM	SANITARY SEWER LINE BY PAINT MARK		
SD	STORM DRAIN		
SFP	STEEL GUARD POST		
STD	STANDARD		
SW	SIDEWALK		
SWC	SIDEWALK CULVERT		
TA	TOP OF ASPHALT		
TC	TOP OF CURB		
TCO	TOP OF CONCRETE		
TDSW	TURNDOWN SIDEWALK		
TS	TOP OF WALL		
TRN	ELECTRIC TRANSFORMER		
TS	TRAFFIC SIGN		
TW	TOP OF WALL		
TYP	TYPICAL		
VCP	VITRIFIED CLAY PIPE		
W/PM	WATER LINE BY PAINT MARK		
WFT	WATER FAUCET		
WHB	WATER HOT BOX		
WMB	WATER METER BOX		
WW	WATER VAULT		
WVB	WATER VALVE BOX		
WV	WATER VALVE		
WVB	WATER VALVE BOX		
*	PAINTED UTILITY MARKER		
1.2*	TREE TRUNK DIAMETER		
	CONIFEROUS TREE		
	SMALL CONIFEROUS TREE		
	DECIDUOUS TREE		
	SHRUB		
	BOULDER RETAINING WALL		

WATER LINE CONSTRUCTION NOTES:

1. FOR ALL LINES 12" AND SMALLER, WATER MAIN SHALL BE PVC C-900 DR18 PIPE. DUCTILE IRON IS AN ACCEPTABLE PIPE MATERIAL IN LIEU OF PVC.
2. WATER LINE SHALL HAVE A MINIMUM COVER OF 3'-0" (FINISHED GRADE TO TOP OF PIPE). EXTRA DEPTH TRENCHING, IF REQUIRED, SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.
3. IN ACCORDANCE WITH SECTION 801 OF THE "STANDARD SPECIFICATIONS", METALIZED DETECTABLE WARNING TAPE SHALL BE INSTALLED 18" ABOVE ALL PVC PIPE INSTALLED ON THIS PROJECT.
4. JOINT RESTRAINT SHALL BE CONSIDERED INCIDENTAL TO WATER LINE CONSTRUCTION THEREFORE NO SEPARATE PAYMENT WILL BE MADE.
5. JOINT RESTRAINT SHALL BE PROVIDED ON ALL JOINTS OF FIRE LINES.
6. FOR THE PURPOSES OF THIS PROJECT, ALL RESTRAINED JOINTS AND JOINT RESTRAINT SHALL BE MECHANICALLY RESTRAINED. JOINT RESTRAINT LENGTHS SPECIFIED HEREON ARE THE LENGTHS TO BE RESTRAINED EACH SIDE OF THE FITTING.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING APPROPRIATE MEANS AND METHODS TO EXCAVATE AND TRENCH AND INSTALL PIPE SO AS TO NOT EXCEED RIGHT-OF-WAY OR EASEMENT LIMITS, AND SO AS NOT TO INTERFERE WITH OTHER UTILITIES. THIS SHALL BE CONSIDERED INCIDENTAL TO TRENCHING, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, SUPPORTING AND REPLACING, IF DAMAGED, ALL OTHER UTILITIES ENCOUNTERED DURING CONSTRUCTION. THIS SHALL BE CONSIDERED INCIDENTAL TO TRENCHING, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.
9. NEW WATER LINE INSTALLATIONS SHALL INCLUDE INSULATED 12 GAUGE COPPER TRACER WIRE INSTALLED CONTINUOUSLY ALONG THE PIPE WITH WATER-PROOF SPLICE BOXES AT JUNCTIONS AND TEES. TRACER WIRE SHALL BE ACCESSIBLE AT ALL VALVES, BACKFLOW PREVENTERS AND SERVICES. TRACER WIRE INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO TRENCHING, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

SANITARY SEWER CONSTRUCTION NOTES:

1. ALL SEWER PIPE SHALL BE PVC (DWV).
2. SLOPES SHOWN ARE BASED ON TRUE DISTANCES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING APPROPRIATE MEANS AND METHODS TO EXCAVATE AND TRENCH AND INSTALL PIPE SO AS TO NOT EXCEED RIGHT-OF-WAY OR EASEMENT LIMITS, AND SO AS NOT TO INTERFERE WITH OTHER UTILITIES. THIS SHALL BE CONSIDERED INCIDENTAL TO TRENCHING, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, SUPPORTING AND REPLACING, IF DAMAGED, ALL OTHER UTILITIES ENCOUNTERED DURING CONSTRUCTION. THIS SHALL BE CONSIDERED INCIDENTAL TO TRENCHING, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.
5. NEW SANITARY SEWER LINE INSTALLATIONS SHALL INCLUDE INSULATED 12 GAUGE COPPER TRACER WIRE INSTALLED CONTINUOUSLY ALONG THE PIPE WITH WATER-PROOF SPLICE BOXES AT JUNCTIONS AND TEES. TRACER WIRE SHALL BE ACCESSIBLE AT ALL CLEANOUTS AND SERVICES. TRACER WIRE INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO TRENCHING, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

NATURAL GAS CONSTRUCTION NOTES:

1. ALL NATURAL GAS LINES SHALL BE INSTALLED USING PIPE AND FITTING MATERIALS PER PLUMBING SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING APPROPRIATE MEANS AND METHODS TO EXCAVATE AND TRENCH AND INSTALL PIPE SO AS TO NOT EXCEED RIGHT-OF-WAY OR EASEMENT LIMITS, AND SO AS NOT TO INTERFERE WITH OTHER UTILITIES. THIS SHALL BE CONSIDERED INCIDENTAL TO TRENCHING, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, SUPPORTING AND REPLACING, IF DAMAGED, ALL OTHER UTILITIES ENCOUNTERED DURING CONSTRUCTION. THIS SHALL BE CONSIDERED INCIDENTAL TO TRENCHING, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.
4. NEW NATURAL GAS INSTALLATIONS SHALL INCLUDE INSULATED 12 GAUGE COPPER TRACER WIRE INSTALLED CONTINUOUSLY ALONG THE PIPE WITH WATER-PROOF SPLICE BOXES AT JUNCTIONS AND TEES. TRACER WIRE SHALL BE ACCESSIBLE AT ALL VALVES AND BACKFLOW PREVENTERS. TRACER WIRE INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO TRENCHING, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

GENERAL NOTES

1. 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 - 1987, PUBLISHED BY THE NEW MEXICO CHAPTER AMERICAN PUBLIC WORKS ASSOCIATION WORKS (12/08).
2. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 811, FOR DESIGNATION (LINE-SPOTTING) OF EXISTING PUBLIC UTILITIES AND EXISTING UTILITIES OWNED AND OPERATED BY ALBUQUERQUE PUBLIC SCHOOLS.
3. UTILITY INFORMATION SHOWN HEREON IS BASED UPON ONSITE SURFACE EVIDENCE, SCHOOL FILES OF THE ALBUQUERQUE PUBLIC SCHOOLS FACILITIES, RECORD AND OR CONSTRUCTION, COA/BOA/BOA DISTRIBUTION MAPS AND UTILITY LINE-SPOTS PROVIDED BY ONPOINT UTILITY LOCATING SERVICES. SITE UTILITY DIAGRAM DATED FEBRUARY 23, 2015, IN ADDITION UTILITY LINE-SPOTS WERE REQUESTED VIA THE NEW MEXICO ONE CALL SERVICE (TICKET NO. 2015082003). UTILITY LINES THAT APPEAR ON THESE DRAWINGS ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE. THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE 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. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FAC