

CITY OF ALBUQUERQUE



April 29, 2016

Richard J. Berry, Mayor

J. Graeme Means, P.E.
High Mesa Consulting Group
4715 Moon St NE
Albuquerque, NM, 87111

**RE: Chaparral Elementary School
Main Parking Lot Reconstruction
Grading Drainage Plan
Engineer's Stamp Date 3-30-2016 (File:F10D005)**

Dear Mr. Means:

Based upon the information provided in your submittal received 4-1-2016, the above referenced Grading and Drainage Plan is approved for Grading Permit and Paving Permit. We understand that the scope of the project involves the removal and replacement of a portion of the asphalt parking lot.

PO Box 1293

Please attach a copy of this approved plan in the construction sets when submitting for the building permit. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

Albuquerque

If you have any questions, you can contact me at 924-3986.

New Mexico 87103

Sincerely,

www.cabq.gov

Abiel Carrillo, P.E.
Principal Engineer, Planning Department
Development Review Services



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: Chaparral Elementary School Main Parking Lot Reconstruction Building Permit #: _____ City Drainage #: F10 0005

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: Tract B, Chaparral Elementary School

City Address: 6325 Milne Road NW, Albuquerque NM 87120

Engineering Firm: High Mesa Consulting Group Contact: Graeme Means #13676

Address: 6010-B Midway Park Blvd NE, Albuquerque NM 87109

Phone#: 505-345-4250 Fax#: 505-345-4254 E-mail: gmeans@highmesecg.com

Owner: Albuquerque Public Schools Contact: David Ritchey

Address: 915 Oak Street SE, Albuquerque NM 8712502

Phone#: 505-848-8876 Fax#: _____ E-mail: ritchey_d@aps.edu

Architect: see Engineer Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Other Contact: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Check all that Apply:

DEPARTMENT:

- ☒ HYDROLOGY/ DRAINAGE
☐ TRAFFIC/ TRANSPORTATION
☐ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ ARCHITECT CERTIFICATION
☐ CONCEPTUAL G & D PLAN
☒ GRADING PLAN
☐ DRAINAGE MASTER PLAN
☒ DRAINAGE REPORT
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ TRAFFIC IMPACT STUDY (TIS)
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)

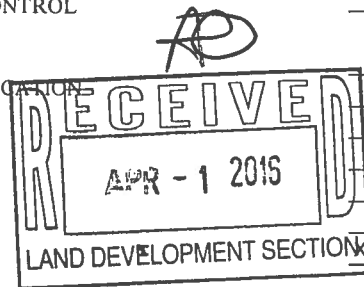
☐ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ☐ Yes ☒ No

DATE SUBMITTED: 03-31-16 By: Justin Schara

CHECK 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
☐ PRE-DESIGN MEETING
☐ OTHER (SPECIFY) _____



COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____

CONSTRUCTION NOTES:

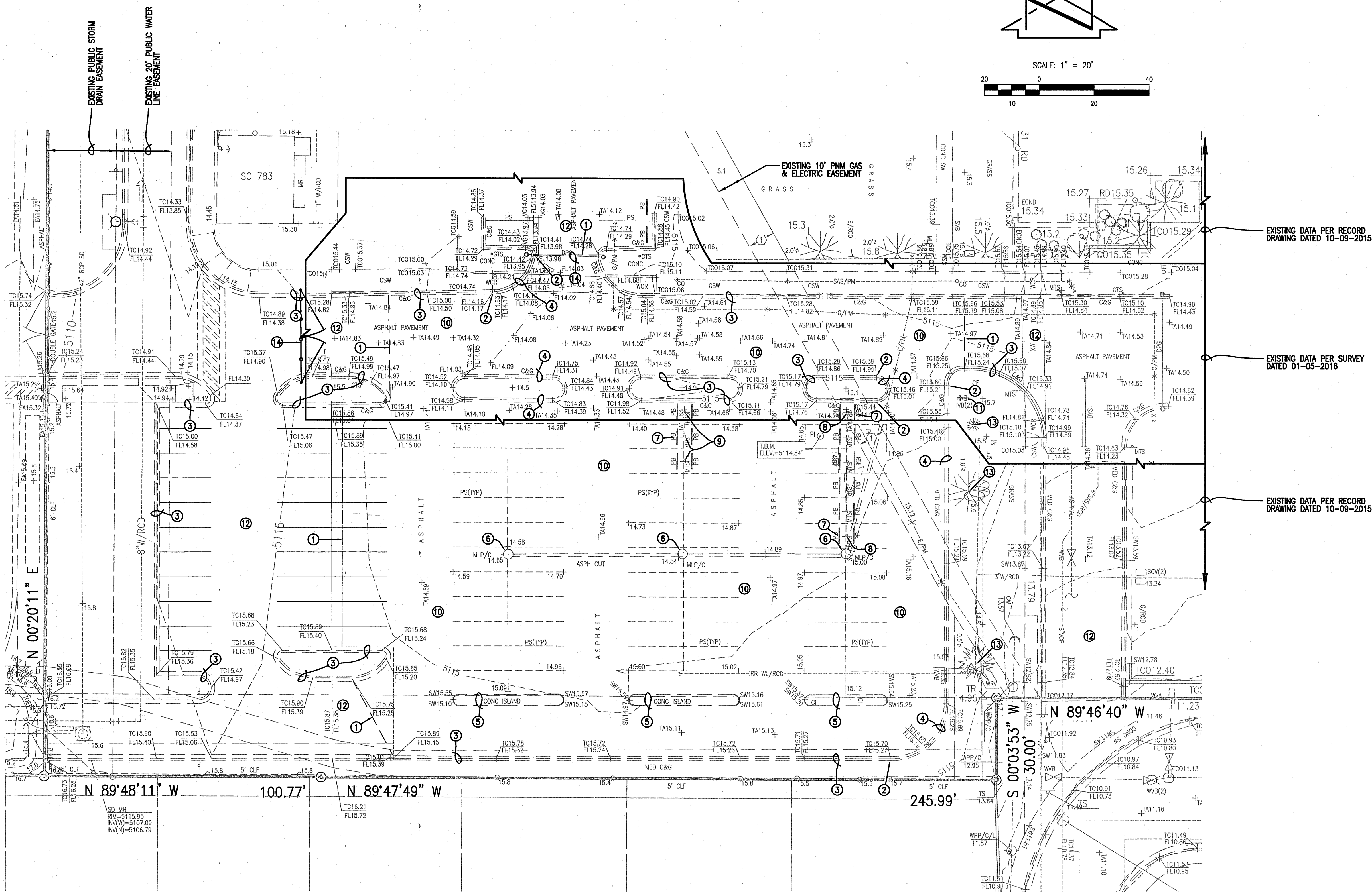
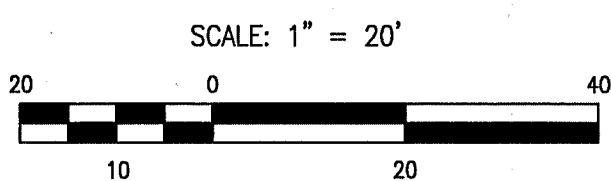
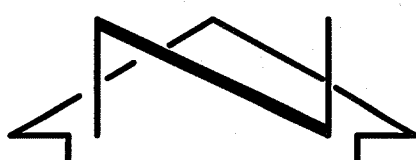
1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 811, FOR DESIGNATION (LINE-SPOTTING) OF EXISTING PUBLIC UTILITIES AND EXISTING UTILITIES OWNED AND OPERATED BY ALBUQUERQUE PUBLIC SCHOOLS.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY 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.
3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
5. UTILITY INFORMATION SHOWN HEREON IS BASED UPON ONSITE SURFACE EVIDENCE AND LIMITED LINE SPOTTING FROM AN UNKNOWN SOURCE. 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 INFORM ITSELF OF 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 FACILITIES.

EROSION CONTROL MEASURES:

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
2. THE CONTRACTOR SHALL PROPERLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
3. NO SPOILS FROM THE PROJECT SHALL BE DEPOSITED IN THE STREET.
4. SPOILS SHALL BE STAGED ON THE UPHILL SIDE OF TRENCHES WHEN TRENCHING IS REQUIRED.
5. THE CONTRACTOR SHALL CLEAN AND REMOVE ALL FUGITIVE DUST, SOIL AND DEBRIS RESULTING FROM THIS PROJECT FROM THE STREET AT THE END OF EACH DAY.
6. CONTRACTOR SHALL LEAVE THE AREA IMMEDIATELY BEHIND THE CURB DEPRESSED TO CONTAIN NUISANCE FLOWS AND SEDIMENT.
7. CONCRETE TRUCKS SHALL BE SENT BACK TO THE PLANT FOR WASHING; THE WASHING OF CONCRETE TRUCKS SHALL NOT BE PERMITTED WITHIN THE PUBLIC RIGHT-OF-WAY.
8. WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.

KEYED NOTES:

- ① NEATLY SAWCUT EXISTING ASPHALT PAVING.
- ② NEATLY SAWCUT EXISTING CURB AND GUTTER @ P.C.
- ③ EXISTING CURB AND GUTTER TO REMAIN.
- ④ REMOVE AND DISPOSE OF EXISTING CURB AND GUTTER.
- ⑤ REMOVE AND DISPOSE OF EXISTING CONCRETE ISLAND.
- ⑥ EXISTING LIGHT POLE TO REMAIN.
- ⑦ REMOVE AND SALVAGE EXISTING WHEELSTOP, TYPICAL.
- ⑧ REMOVE AND SALVAGE EXISTING HANDICAP PARKING SIGN, TYPICAL.
- ⑨ REMOVE AND SALVAGE EXISTING HOV PARKING SIGN, TYPICAL.
- ⑩ PULVERIZE EXISTING ASPHALT PAVING FOR PROCESSING WITH NATIVE SOIL TO MANUFACTURE IN SITU BASE COURSE.
- ⑪ EXISTING VALVE BOX TO REMAIN.
- ⑫ EXISTING ASPHALT PAVING TO REMAIN.
- ⑬ EXISTING TREE TO REMAIN.
- ⑭ EXISTING PIPE GATE TO REMAIN.



NOTE:
THIS IS NOT A BOUNDARY SURVEY; DATA IS SHOWN FOR ORIENTATION ONLY. BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON A BOUNDARY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 04/29/2010 (2008.187.5). THIS IS NOT A TOPOGRAPHIC SURVEY. EXISTING INFORMATION DEPICTED HEREON IS BASED UPON RECORD DRAWINGS BY HIGH MESA CONSULTING GROUP, NMPE 8547, DATED 10/09/2015 (2009.004.8) AND SUPPLEMENTED BY A PARTIAL TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 01/05/2016 (2015.181.9).

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

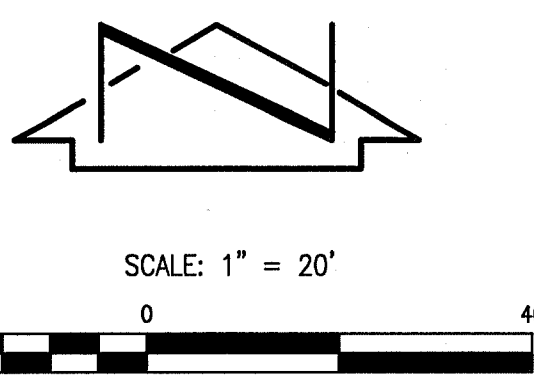
DEMOLITION PLAN MAIN PARKING LOT RECONSTRUCTION CHAPARRAL ELEMENTARY SCHOOL

DESIGNED BY J.G.M.
DRAWN BY S.C.C.
APPROVED BY G.M.

NO.	DATE	BY	REVISIONS











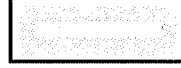

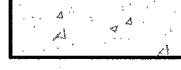

JOB NO.	2015.182.1
DATE	03-2016
SHEET	3 OF 10





C&G	CURB AND GUTTER
CSW	CONCRETE SIDEWALK
EA	EDGE OF ASPHALT
EB	ELECTRIC BOX
EC	EDGE OF CONCRETE
FF	FINISH FLOOR
FIH	FIRE HYDRANT
FL	FLOWLINE
G/PM	GAS BY PAINT MARK
GRV	GRAVEL
HC	HANDICAP PARKING SPACE
HCS	HANDICAP SIGN
MH	MANHOLE
MLP	METAL LIGHT POLE
MLP/C	METAL LIGHT POLE WITH CONCRETE BASE
OHC(2)	OVERHEAD COMMUNICATION (# OF LINES)
OHE(2)	OVERHEAD ELECTRIC (# OF LINES)
PB	PARKING BUMPER
PI	PAINTED ISLAND
PS	PARKING STRIPE
SD	STORM DRAIN
SD/PM	STORM DRAIN BY PAINT MARK
SW	SIDEWALK
SWC	SIDEWALK CULVERT
TA	TOP OF ASPHALT
TC	TOP OF CURB
TCO	TOP OF CONCRETE
TG	TOP OF GRATE
TSW	TOP OF SIDEWALK
TW	TOP OF WALL
TP	TYPICAL
VC	VALLEY GUTTER
WCR	WHEELCHAIR RAMP
WOF	WOOD FENCE
WL	WATERLINE
WL/PM	WATERLINE BY PAINT

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- | | |
|---|--------------------------------|
| + 39.85 | EXISTING ELEVATION |
|  40.50 | PROPOSED SPOT ELEVATION |
|  ... | EXISTING FLOWLINE |
|  ... | PROPOSED FLOWLINE |
| --- 5240 --- | EXISTING CONTOUR |
|  40 | PROPOSED CONTOUR |
|  | EXISTING STORM DRAIN MANHOLE |
|  | EXISTING VALVE BOX |
| * | PAINTED UTILITY MARKER |
| 1.2" | DIAMETER OF TREE |
|  | DECIDUOUS TREE |
|  | SMALL DECIDUOUS TREE |
|  | CONIFEROUS TREE |
|  | PROPOSED CONCRETE |
|  | PROPOSED ASPHALT PAVING |
|  | PROPOSED GRAVEL MULCH |
|  | PROPOSED CRUSHER FINES |
|  | PROPOSED WATER HARVESTING AREA |

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GRADING PLAN MAIN PARKING LOT RECONSTRUCTION CHAPARRAL ELEMENTARY SCHOOL

HIGH MESA Consulting Group

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

		NO.	DATE	BY	REVISIONS	JOB NO.	2015.182.
DESIGNED BY	J.G.M.					DATE	03-2016
DRAWN BY	S.C.C.					SHEET	6 OF 4
APPROVED BY	G.M.						

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DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED ON THE NORTHWEST MESA OF THE ALBUQUERQUE METROPOLITAN AREA, REPRESENTS A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA. THE PROPOSED CONSTRUCTION CONSISTS OF THE RECONSTRUCTION OF AN EXISTING PAVED PARKING LOT DUE TO AGE AND WEAR, AND TO ADD LANDSCAPE ELEMENTS NOT INCLUDED DURING THE INITIAL CONSTRUCTION IN THE 1980S. THE DRAINAGE CONCEPT WILL BE THE CONTINUED DISCHARGE OF DEVELOPED RUNOFF FROM THIS PORTION OF THE EXISTING ELEMENTARY SCHOOL SITE TO THE LADERA BASIN SOUTH SUMP, THE CONCEPT ESTABLISHED BY THE ORIGINAL DRAINAGE PLAN FOR THE SITE DATING BACK TO THE EARLY 1980S. AS PART OF THE PROPOSED RECONSTRUCTION, WATER HARVESTING TO CAPTURE AND TREAT FIRST FLUSH RUNOFF WILL BE INCORPORATED IN NEW AND LARGER PARKING LOT ISLANDS.

THIS SUBMITTAL IS MADE IN SUPPORT OF GRADING AND PAVING PERMIT TO BE ISSUED BY THE CITY OF ALBUQUERQUE.

II. PROJECT DESCRIPTION

AS SHOWN BY THE VICINITY MAP, THE PROPOSED PROJECT SITE IS LOCATED ON THE SOUTH SIDE OF WESTERN TRAIL NW BETWEEN UNSER BLVD. NW AND ATRISCO DRIVE NW. THE PROPOSED PROJECT LIES AT THE SOUTHWEST CORNER OF THE EXISTING ELEMENTARY SCHOOL SITE, AN AREA ORIGINALLY AND PRESENTLY DEVELOPED AS A PAVED PARKING LOT. AS SHOWN BY PANEL 114 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, HOWEVER DOES LIE IMMEDIATELY ADJACENT TO A DESIGNATED FLOOD HAZARD ZONE WHERE THE 100-YEAR FLOOD IS CONTAINED WITHIN THE ADJACENT PARCEL KNOWN AS THE LADERA BASIN SOUTH SUMP, THE DRAINAGE OUTFALL FOR THIS SITE SINCE ITS CONSTRUCTION IN THE EARLY 1980S. THE LADERA BASIN SOUTH SUMP IS A PUBLIC DRAINAGE FACILITY.

III. BACKGROUND DOCUMENTS

THE PREPARATION OF THIS PLAN RELIED UPON THE FOLLOWING DOCUMENTS:

- GRADING AND DRAINAGE PLAN PREPARED BY HIGH MESA CONSULTING GROUP DATED 03-28-2013 (REVISED 5-21-2014) AND SUBSEQUENTLY CERTIFIED FOR CERTIFICATE OF OCCUPANCY 10-09-2015, AS UPDATED TO ADDRESS CLASSROOM BUILDING ADDITIONS AND RELATED SITE IMPROVEMENTS BY BUILDING PERMIT. THE 2015 PLAN RETAINED THE EXISTING PARKING LOT AS PRESENTED IN THE ORIGINAL GRADING AND DRAINAGE PLAN DATED 03-28-2013.
- PARTIAL TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS 11184, DATED 01-05-2016. THE SUBJECT SURVEY PROVIDES THE BASIS FOR A PORTION OF THE EXISTING CONDITIONS OF THE SITE AS DEPICTED BY THIS SUBMITTAL.
- RECORD DRAWING PREPARED BY HIGH MESA CONSULTING GROUP DATED 10-09-2015, NMPE 8547. THE SUBJECT RECORD DRAWING PROVIDES THE BASIS FOR THE EXISTING CONDITIONS OF THE REMAINING PORTIONS OF THE SITE NOT INCLUDED IN THE ABOVE REFERENCED SURVEY DATED 01-05-2016

IV. EXISTING CONDITIONS

THE PROJECT SITE PRESENTLY CONSISTS OF A PAVED PARKING LOT DATING BACK TO THE ORIGINAL CONSTRUCTION OF THE SCHOOL IN THE EARLY TO MID 1980S. THE PROJECT SITE IS BOUNDED ON THE NORTH BY EXISTING PARKING LOT RECENTLY ALLOCATED TO HOUSE PORTABLE CLASSROOM BUILDINGS; ON THE EAST BY AREAS RECENTLY UPDATED BY 2015 BUILDING ADDITIONS AND ASSOCIATED SITE IMPROVEMENTS; ON THE SOUTH BY EXISTING LANDSCAPE BUFFER AND ON THE WEST BY PREVIOUS PARKING LOT EXPANSION TO REMAIN. THE SITE ORIGINALLY DEVELOPED IN THE EARLY 1980S GENERALLY DRAINS FROM WEST TO EAST DISCHARGING TO THE LADERA BASIN SOUTH SUMP, A PUBLIC DRAINAGE FACILITY THAT LIES IMMEDIATELY EAST AND ADJACENT TO THE SCHOOL SITE. CONVEYANCE FROM THE SOUTHWEST CORNER OF THE SCHOOL SITE TO THE LADERA BASIN SOUTH SUMP OCCURS VIA COMBINATION OF SURFACE DRAINAGE AND PRIVATE STORM DRAIN. DISCHARGE TO THE LADERA BASIN SOUTH SUMP OCCURS VIA EXISTING PUBLIC STORM DRAIN WITHIN PUBLIC DRAINAGE EASEMENT AND PRIVATE STORM DRAIN THAT BOTH PASS THROUGH THE EXISTING SCHOOL SITE. THE LADERA BASIN SOUTH SUMP IS THE OUTFALL FOR THIS SITE SINCE ITS ORIGINAL DEVELOPMENT IN THE EARLY 1980S. THE LADERA BASIN SOUTH SUMP IS A DESIGNATED FLOOD HAZARD ZONE THAT COINCIDES WITH A NATURAL PLAYA PRESENT AT THE TIME OF ORIGINAL SCHOOL SITE DEVELOPMENT.

THE PROJECT SITE GENTLY SLOPES FROM WEST TO EAST DISCHARGING TO THE LADERA BASIN SOUTH SUMP REFERENCED ABOVE. AT PRESENT, THE PROJECT SITE CONSISTS OF PAVED PARKING LOT DATING BACK TO INITIAL SCHOOL SITE DEVELOPMENT. AFTER ROUGHLY 30 YEARS OF WEAR AND TEAR, THE PARKING LOT IS SHOWING SIGNS OF DETERIORATION AND IS IN NEED OF RECONSTRUCTION. THE PROJECT SITE IS FRAMED BY EXISTING CURB AND GUTTER ASSOCIATED WITH THE ORIGINAL SCHOOL CONSTRUCTION ON ITS NORTH, EAST AND SOUTH, AND ONE MINOR PARKING LOT EXPANSION OF RECENT VINTAGE TO THE WEST.

THERE ARE NO APPARENT OFFSITE FLOWS IMPACTING THE PROJECT SITE WITH THE EXCEPTION OF THOSE CARRIED THROUGH THE SITE BY EXISTING PUBLIC STORM DRAIN WITHIN PUBLIC STORM DRAIN EASEMENT; THERE ARE NO KNOWN DRAINAGE PROBLEMS ASSOCIATED WITH THE EXISTING CONVEYANCE OF PUBLIC RUNOFF THROUGH THE SITE VIA PUBLIC STORM DRAIN WITHIN PUBLIC DRAINAGE EASEMENT

WITH THE EXCEPTION OF THE OFFSITE FLOWS CONVEYED WITHIN THE ABOVE REFERENCED PUBLIC STORM DRAIN AND ASSOCIATED EASEMENT, THERE ARE NO OFFSITE FLOWS IMPACTING THIS SITE. ALL OFFSITE FLOWS ARE CONTAINED WITHIN THE ABOVE REFERENCED PUBLIC STORM DRAIN AND ASSOCIATED EASEMENT.

V. DEVELOPED CONDITIONS

THE PROPOSED CONSTRUCTION CONSISTS OF THE RECONSTRUCTION OF AN EXISTING PAVED PARKING LOT LOCATED AT THE SOUTHWEST CORNER OF THE EXISTING SCHOOL SITE. AT PRESENT, THIS PORTION OF THE SITE SLOPES FROM SOUTH TO NORTH VIA SHEETFLOW TO EVENTUALLY ENTER A PRIVATE STORM DRAIN THAT FLOWS EAST, DISCHARGING INTO THE LADERA BASIN SOUTH SUMP, THE OUTFALL FOR THIS SITE. THE LADERA BASIN SOUTH SUMP PROVIDES A LOCATION FOR STORM WATER TO COLLECT BEFORE DRAINING VIA PUBLIC STORM DRAIN PIPING TO THE RIO GRANDE. AS SUCH, THE LADERA BASIN SOUTH SUMP SERVES AS A WATER QUALITY FEATURE WHERE POTENTIAL POLLUTANTS CAN BE COLLECTED AND TREATED BEFORE THE COLLECTED STORM WATER CONTINUES TO FLOW EAST TO THE RIO GRANDE.

THE PROPOSED CONSTRUCTION WILL RENOVATE THE AGED PARKING LOT WHILE INCORPORATING AREAS WHERE FIRST FLUSH RUNOFF CAN BE CAPTURED TO SLIGHTLY REDUCE THE VOLUME OF RUNOFF GENERATED BY AND DISCHARGED FROM THE SITE AND ADDRESS WATER QUALITY AT THE SAME TIME. WATER QUALITY IS FURTHER ADDRESSED DOWNSTREAM IN THE LADERA BASIN SOUTH SUMP, AN EXISTING PUBLIC DRAIN POND IMMEDIATELY ADJACENT TO AND DOWNSTREAM FROM THE SITE. OVERFLOW RUNOFF FROM THE LADERA BASIN SOUTH SUMP DISCHARGES TO PUBLIC STORM DRAIN THAT EVENTUALLY REACHES THE RIO GRANDE. THIS PROJECT MAINTAINS THE STATUS QUO WHILE PROVIDING NEW OPPORTUNITIES WHERE DEVELOPED RUNOFF CAN BE COLLECTED AND TREATED.

THE ABOVE DESCRIBED DRAINAGE PATTERN IS CONSISTENT WITH THE EXISTING PATTERN FOR THIS SITE AS ESTABLISHED AND APPROVED IN THE 1990S AND AMENDED OVER TIME.

AS IN THE EXISTING CONDITION, THERE ARE NO OFFSITE FLOWS IMPACTING THE PROJECT SITE. OTHER THAN THOSE PRESENTLY CARRIED WITHIN THE ABOVE REFERENCED PUBLIC STORM DRAIN THAT LIES WITHIN AN EXISTING PUBLIC DRAINAGE EASEMENT PASSING THROUGH THE SITE ENROUTE TO THE LADERA BASIN SOUTH SUMP.

V. 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 PROPOSED GRADING WILL MAINTAIN THE CURRENT DRAINAGE PATTERN OF DISCHARGE FROM SOUTH TO NORTH WITH RUNOFF ENTERING AN EXISTING PRIVATE STORM DRAIN THAT EVENTUALLY DISCHARGES TO THE LADERA BASIN SOUTH SUMP, THE HISTORIC AND PREVIOUSLY APPROVED OUTFALL FOR THIS SITE. THE PROPOSED REPAVING OF THIS PORTION OF THE SCHOOL SITE AFTER MORE THAN 30 YEARS WILL PRESERVE THE EXISTING DRAINAGE PATTERN OF DRAINING TO AN EXISTING PRIVATE STORM DRAIN THAT DISCHARGES TO THE LADERA BASIN SOUTH SUMP IMMEDIATELY EAST, ADJACENT TO AND DOWNSTREAM OF THE SCHOOL SITE. THE PROPOSED REPAVING PROJECT WILL NOT ONLY INTRODUCE NEW AREAS WHERE FIRST FLUSH CAN BE CAPTURED AND TREATED, BUT WILL ALSO NOT INCREASE OVERALL SITE IMPERVIOUSNESS. BY COMBINATION OF CAPTURING FIRST FLUSH, NOT INCREASING SITE IMPERVIOUSNESS, AND ADDING LANDSCAPED PLANTERS FOR WATER HARVESTING, OVERALL SITE RUNOFF WILL NOT BE INCREASED.

THE GRADING PLAN ALSO IDENTIFIES FIVE (5) WATER HARVESTING AREAS (PARKING LOT ISLANDS) DEPRESSED TO PROVIDE A MAXIMUM 6-INCHES OF STORAGE DEPTH PRIOR TO OVERFLOWING BACK TO THE PARKING LOT. THE WATER HARVESTING AREAS ARE INTENDED TO CAPTURE AND TREAT THE FIRST FLUSH OF RUNOFF FROM THE REPAVING OF THE EXISTING PARKING LOT.

VII. EROSION AND SEDIMENT CONTROL PLAN

THIS PROJECT, TOGETHER WITH PREVIOUS PROJECTS, DISTURBS GREATER THAN ONE-ACRE OF LAND. A SEPARATE PREVIOUSLY PREPARED STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS HENCE AMENDED CONCURRENT WITH THE PREPARATION OF THIS SITE (PHASE) SPECIFIC PLAN. IT SHOULD BE FURTHER NOTED THAT ANY SEDIMENT DISCHARGED INTO THE INTERNAL STREETS WITHIN THE SCHOOL SITE BY THIS PORTION OF THE SITE WILL BE PROMPTLY REMOVED BY CONSTRUCTION AND/OR MAINTENANCE STAFF AS PART OF THEIR DUTIES TO KEEP THE PREMISES CLEAN AND PRESENTABLE AT ALL TIMES.

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 CALCULABLE DECREASE IN THE DEVELOPED RUNOFF GENERATED BY THE PROJECT SITE. THE DEVELOPED RUNOFF GENERATED BY THE SITE WILL BE FURTHER MITIGATED BY WATER HARVESTING INTENDED TO CAPTURE AND TREAT FIRST FLUSH. THE NEW WATER HARVESTING AREAS, I.E. DEPRESSED PARKING LOT ISLANDS, WILL CAPTURE AND TREAT THE FIRST FLUSH OF RUNOFF GENERATED BY UPSTREAM AREAS OF REPAVING.

IX. CONCLUSIONS

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

- THE PROPOSED IMPROVEMENTS WILL MAINTAIN AND NOT ALTER THE EXISTING DRAINAGE PATTERNS OF THE PROJECT SITE AND THE AFFECTED PORTIONS OF THE EXISTING SITE.
- THE PROPOSED IMPROVEMENTS WILL RESULT IN A SLIGHT DECREASE IN THE IMPERVIOUSNESS OF THE SITE AND HENCE THE VOLUME OF DEVELOPED RUNOFF VOLUME GENERATED BY THE SITE
- REPAVED PARKING LOT RUNOFF VOLUME WILL BE MITIGATED BY ONSITE WATER HARVESTING DESIGNED TO CAPTURE AND TREAT THE FIRST FLUSH FROM UPSTREAM AREAS OF REPAVING.
- EXTENSIVE STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES ARE NOT PROPOSED DURING CONSTRUCTION BECAUSE ROUTINE MAINTENANCE BY STAFF WILL ENSURE THE CLEAN-UP AND REMOVAL OF ANY SEDIMENT THAT MAY DISCHARGE FROM THE CONSTRUCTION AREA TO DOWNSTREAM PORTIONS OF THE SITE.
- THE PROPOSED IMPROVEMENTS WILL NOT ADVERSELY IMPACT DOWNSTREAM PROPERTIES OR DOWNSTREAM DRAINAGE CONDITIONS
- THIS PROJECT IS SUBJECT TO AN EXISTING EPA NPDES PERMIT AS A PORTION OF AN OVERALL MASTER PLAN THAT COLLECTIVELY DISTURBS GREATER THAN ONE-ACRE; AS SUCH, THIS PLAN IS AN ADDENDUM TO AN EXISTING SWPPP AND ASSOCIATED PERMIT. FUTURE PROJECTS MAY TRIGGER THE NEED FOR THE PREPARATION OF A SUBSEQUENT SWPPP AMENDMENT AND STAND-ALONE SITE SPECIFIC PLAN OR PLANS.
- FIRST FLUSH REQUIREMENTS ARE ADDRESSED BY CREATING NEW WATER HARVESTING AREAS WITHIN THE REPAVED AREAS TO BE RESPONSIVE TO CURRENT STORM WATER QUALITY CONCERNS AND DESIGN STANDARDS NOT IN PLACE THIRTY +/- YEARS AGO.
-

CALCULATIONS

I. SITE CHARACTERISTICS

- A. PRECIPITATION ZONE = 1
- B. $P_{100, 6 \text{ HR}} = P_{360} = 2.20$
- C. TOTAL PROJECT AREA (A_T) = 43,200 SF
1.00 AC
- D. LAND TREATMENTS

1. EXISTING CONDITION

TREATMENT	AREA (SF/AC)	%
A	0 / 0	0
B	0 / 0	0
C	2,780 / 0.07	7
D	40,420 / 0.93	93

2. DEVELOPED CONDITION

TREATMENT	AREA (SF/AC)	%
A	0 / 0	0
B	4,020 / 0.10	10
C	0 / 0	0
D	39,180 / 0.90	90

II. AREA OF DISTURBANCE

AREA OF DISTURBANCE = 1.0 AC ; SEPARATE EROSION & SEDIMENT CONTROL PLAN IS REQ'D

III. HYDROLOGY

A. EXISTING CONDITION

a. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$
$$E_W = (0.44 * 0.00) + (0.67 * 0.00) + (0.99 * 0.07) + (1.97 * 0.93) / 1.00 = 1.90 \text{ IN}$$
$$V_{100, 6 \text{ HR}} = (E_W / 12) A_T = (1.90 / 12) 1.00 = 0.1583 \text{ AC-FT} = 6,900 \text{ CF}$$

b. PEAK DISCHARGE

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$
$$Q_p = Q_{100} = (1.58 * 0.00) + (2.28 * 0.00) + (3.14 * 0.07) + (4.70 * 0.93) = 4.6 \text{ CFS}$$

B. DEVELOPED CONDITION

a. VOLUME

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$
$$E_W = (0.44 * 0.00) + (0.67 * 0.10) + (0.99 * 0.00) + (1.97 * 0.90) / 1.00 = 1.84 \text{ IN}$$
$$V_{100, 6 \text{ HR}} = (E_W / 12) A_T = (1.84 / 12) 1.00 = 0.1533 \text{ AC-FT} = 6,680 \text{ CF}$$

b. PEAK DISCHARGE

$$Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D$$
$$Q_p = Q_{100} = (1.58 * 0.00) + (3.14 * 0.10) + (4.70 * 0.90) = 4.5 \text{ CFS}$$

c. FIRST FLUSH (90TH PERCENTILE STORM EVENT- FROM REPAVED IMPERVIOUS AREA ONLY)

$$E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D) / A_T$$
$$E_W = (0.00 * 0.00) + (0.00 * 0.10) + (0.00 * 0.00) + (0.44 * 0.90) / 1.00 = 0.40 \text{ IN}$$
$$V_{\text{FIRST FLUSH}} = (E_W / 12) A_T = (0.40 / 12) 1.00 = 0.0333 \text{ AC-FT} = 1,450 \text{ CF}$$

D. WATER HARVESTING AREA CAPACITY

i. WATER HARVESTING ISLAND 'A'

ELEV	AREA	VOLUME	ΣVOLUME
5113.7	360	225	225

$$V_{\text{FF 'A' CAPTURED}} = 225 \text{ CF}$$

ii. WATER HARVESTING ISLAND 'B'

ELEV	AREA	VOLUME	ΣVOLUME
5114.3	80	60	60

$$V_{\text{FF 'B' CAPTURED}} = 60 \text{ CF}$$

iii. WATER HARVESTING ISLAND 'C'

ELEV	AREA	VOLUME	ΣVOLUME
5114.4	80	80	80

$$V_{\text{FF 'C' CAPTURED}} = 80 \text{ CF}$$

iv. WATER HARVESTING ISLAND 'D'

ELEV	AREA	VOLUME	ΣVOLUME
5114.5	70	75	75

$$V_{\text{FF 'D' CAPTURED}} = 75 \text{ CF}$$

v. WATER HARVESTING ISLAND 'E'

ELEV	AREA	VOLUME	ΣVOLUME
5114.5	110	110	110

$$V_{\text{FF 'E' CAPTURED}} = 110 \text{ CF}$$

vi. TOTAL WATER HARVESTING CAPACITY

$$V_{\text{FF CAPTURED, DEV}} = 550 \text{ CF} < V_{\text{FIRST FLUSH}} = 1,450 \text{ CF}$$
$$\therefore \text{FIRST FLUSH CAPTURED TO THE MAXIMUM EXTENT PRACTICABLE}$$

C. COMPARISON

a. IMPERVIOUS AREA

$$\Delta A_{\text{IMPERVIOUS}} = A_{\text{IMP DEV}} - A_{\text{IMP EXIST}}$$
$$\Delta A_{\text{IMPERVIOUS}} = 39,180 - 40,240 = -1,060 \text{ CF} \quad (\text{DECREASE})$$

b. VOLUME WITHOUT WATER HARVESTING

$$\Delta V_{100, 6 \text{ HR}} = V_{\text{DEV 100}} - V_{\text{EX 100}}$$
$$\Delta V_{100, 6 \text{ HR}} = 6880 - 6900 = -220 \text{ CF} \quad (\text{DECREASE})$$

c. VOLUME WITH WATER HARVESTING

$$\Delta V_{100, 6 \text{ HR}} = V_{\text{DEV 100}} - V_{\text{EX 100}} - V_{\text{FF CAPTURED, DEV}}$$
$$\Delta V_{100, 6 \text{ HR}} = 6880 - 6900 - 550 = -770 \text{ CF} \quad (\text{DECREASE})$$

d. FIRST FLUSH CAPTURE

$$V_{\text{FF CAPTURED, EXIST}} = 0 \text{ CF} < V_{\text{FF CAPTURED, DEV}} = 770 \text{ CF}$$
$$\therefore \text{FIRST FLUSH CAPTURED INCREASED IN THE DEVELOPED CONDITION}$$

e. PEAK DISCHARGE

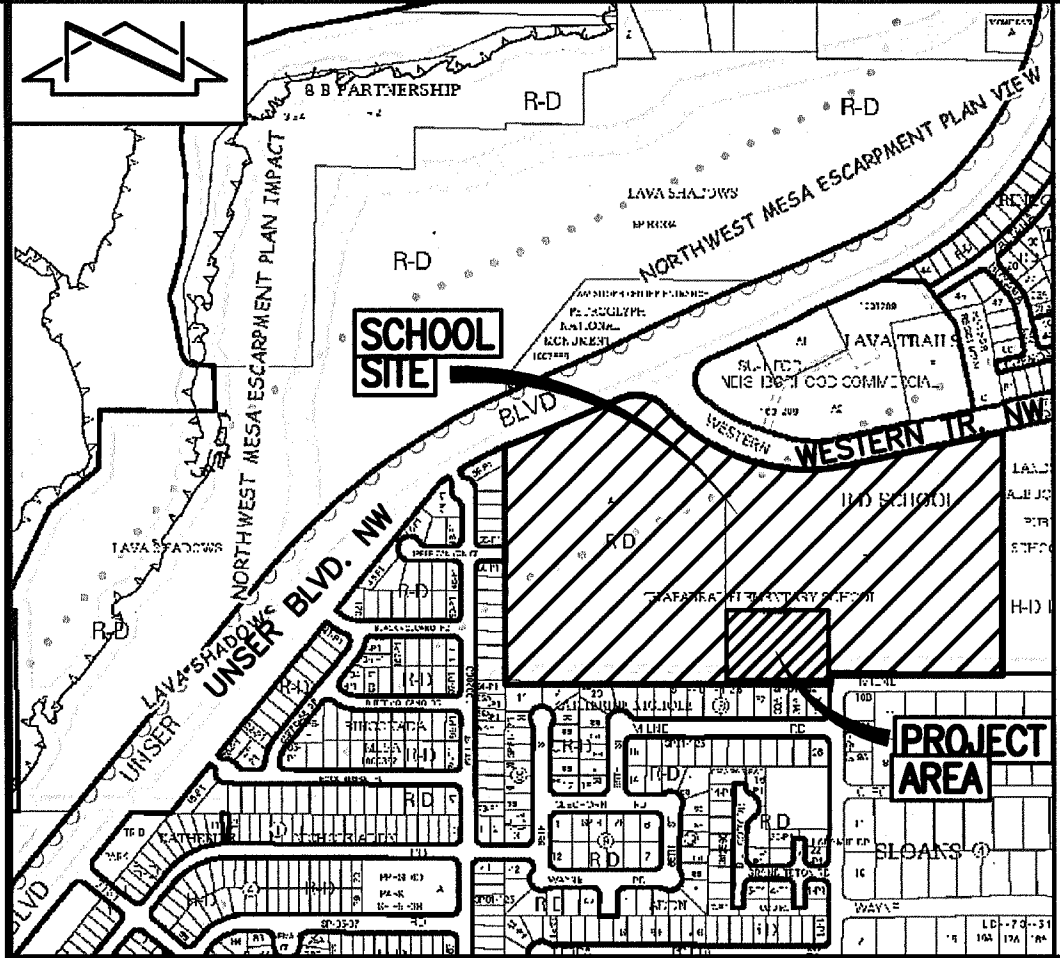
$$\Delta Q_{100} = 4.5 - 4.6 = -0.1 \text{ CFS} \quad (\text{DECREASE})$$

CONSTRUCTION NOTES:

- 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.
- 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.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
- UTILITY INFORMATION SHOWN HEREON IS BASED UPON ONSITE SURFACE EVIDENCE AND LIMITED LINE SPOTTING FROM AN UNKNOWN SOURCE. 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 INFORM ITSELF OF 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 FACILITIES.

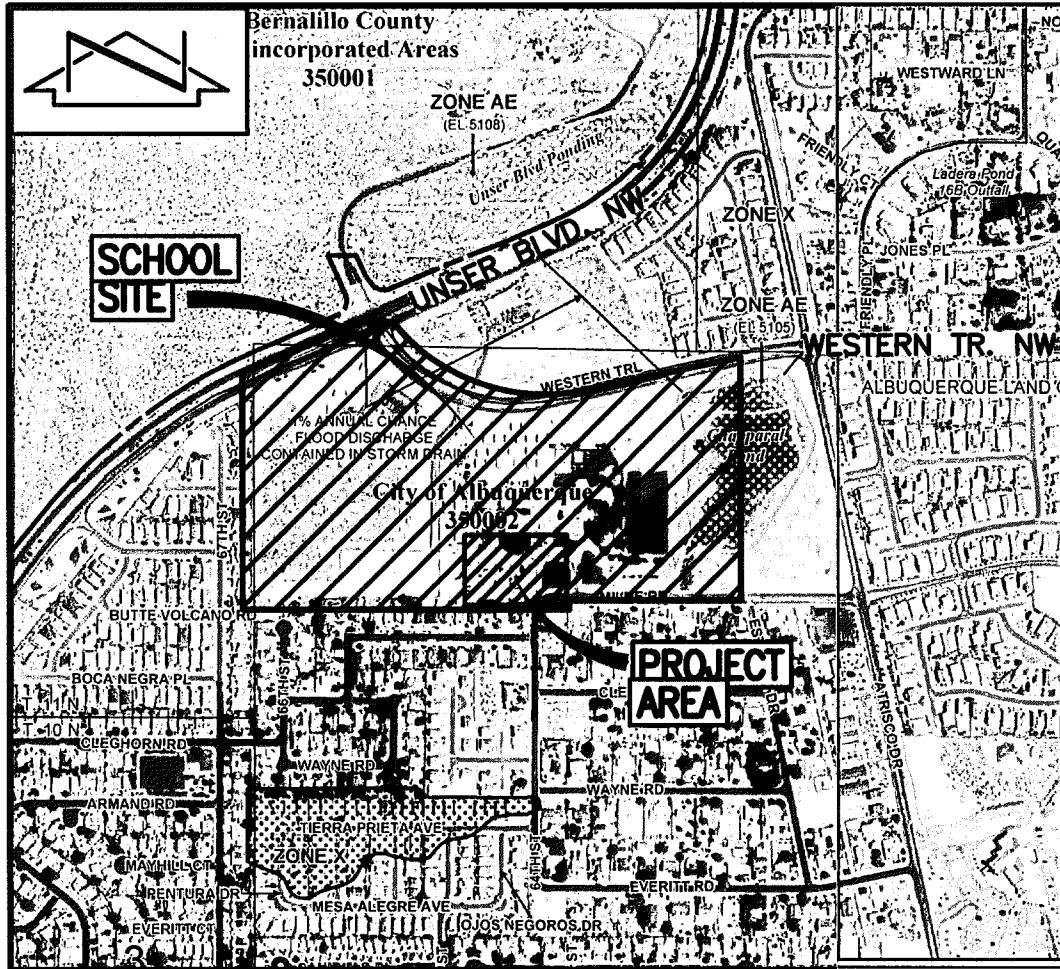
EROSION CONTROL NOTES:

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
- THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
- NO SPOILS FROM THE PROJECT SHALL BE DEPOSITED IN THE STREET.
- SPOILS SHALL BE STAGED ON THE UPHILL SIDE OF TRENCHES WHEN TRENCHING IS REQUIRED.
- THE CONTRACTOR SHALL CLEAN AND REMOVE ALL FUGITIVE DUST, SOIL, AND DEBRIS RESULTING FROM THIS PROJECT FROM THE STREET AT THE END OF EACH DAY.
- CONTRACTOR SHALL LEAVE THE AREA IMMEDIATELY BEHIND THE CURB DEPRESSED TO CONTAIN NUISANCE FLOWS AND SEDIMENT.
- CONCRETE TRUCKS SHALL BE SENT BACK TO THE PLANT FOR WASHING; THE WASHING OF CONCRETE TRUCKS SHALL NOT BE PERMITTED WITHIN THE PUBLIC RIGHT-OF-WAY.
- WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.



VICINITY MAP

SCALE: 1" = 750'



FIRM MAP

SCALE: 1" = 750'

114 of 825

AUGUST 6, 2012

LEGAL DESCRIPTION

TRACT B, CHAPARRAL ELEMENTARY SCHOOL, ALBUQUERQUE, NEW MEXICO

BENCHMARKS

PROJECT BENCHMARK

CITY OF ALBUQUERQUE SURVEY CONTROL 1 3/4" METALLIC DISK STAMPED "ACS BM, 15-111", EPOXIED TO TOP OF CURB 5.20 FEET SOUTH OF THE SSE CURB RETURN OF ATRISCO ROAD N.W. AND WESTERN TRAIL N.W. ELEVATION = 5110.03 FEET (NAVD 88)

T.B.M.

A MAG NAIL IN ASPHALT, AS SHOWN ON SHEET 6. ELEVATION = 5114.84 FEET (NAVD 88)

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DRAINAGE PLAN AND CALCULATIONS MAIN PARKING LOT RECONSTRUCTION CHAPARRAL ELEMENTARY SCHOOL

DESIGNED BY	NO.	DATE	BY	REVISIONS	JOB NO.
J.G.M.					2015.182.1
DRAWN BY					DATE
S.C.C.					03-2016
APPROVED BY					SHEET
G.M.					7 OF 10

