CITY OF ALBUQUERQUE

PLANNING DEPARTMENT - Development Review Services



Richard J. Berry, Mayor

November 26, 2014

Jeffrey G. Mortensen, P.E. High Mesa Consulting Group 6010-B Midway Park Blvd NE Albuquerque, NM 87109

RE: Hotel Old Town – 2000 Bellamah Ave. NW

Grading and Drainage Plan

Engineer's Stamp Date 10-28-2014 (File: J13D066)

Dear Mr. Mortensen:

Based upon the information provided in your submittal received 11-7-14, the above referenced plans are approved for Building Permit and SO-19 Permit with the following condition

• a Flood Plain Permit be obtained prior to construction.

PO Box 1293

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

Albuquerque

A separate SO-19 permit is required for construction within City ROW. A copy of this approval letter must be on hand when applying for the excavation/barricading permit. The work in the City ROW must be inspected and accepted. Contractor must contact Jason Rodriguez at 235-8016 and Construction Coordination at 924-3416 to schedule an inspection.

New Mexico 87103

If you have any questions, you can contact me at 924-3695.

www.cabq.gov

Rita Harmon, P.E.

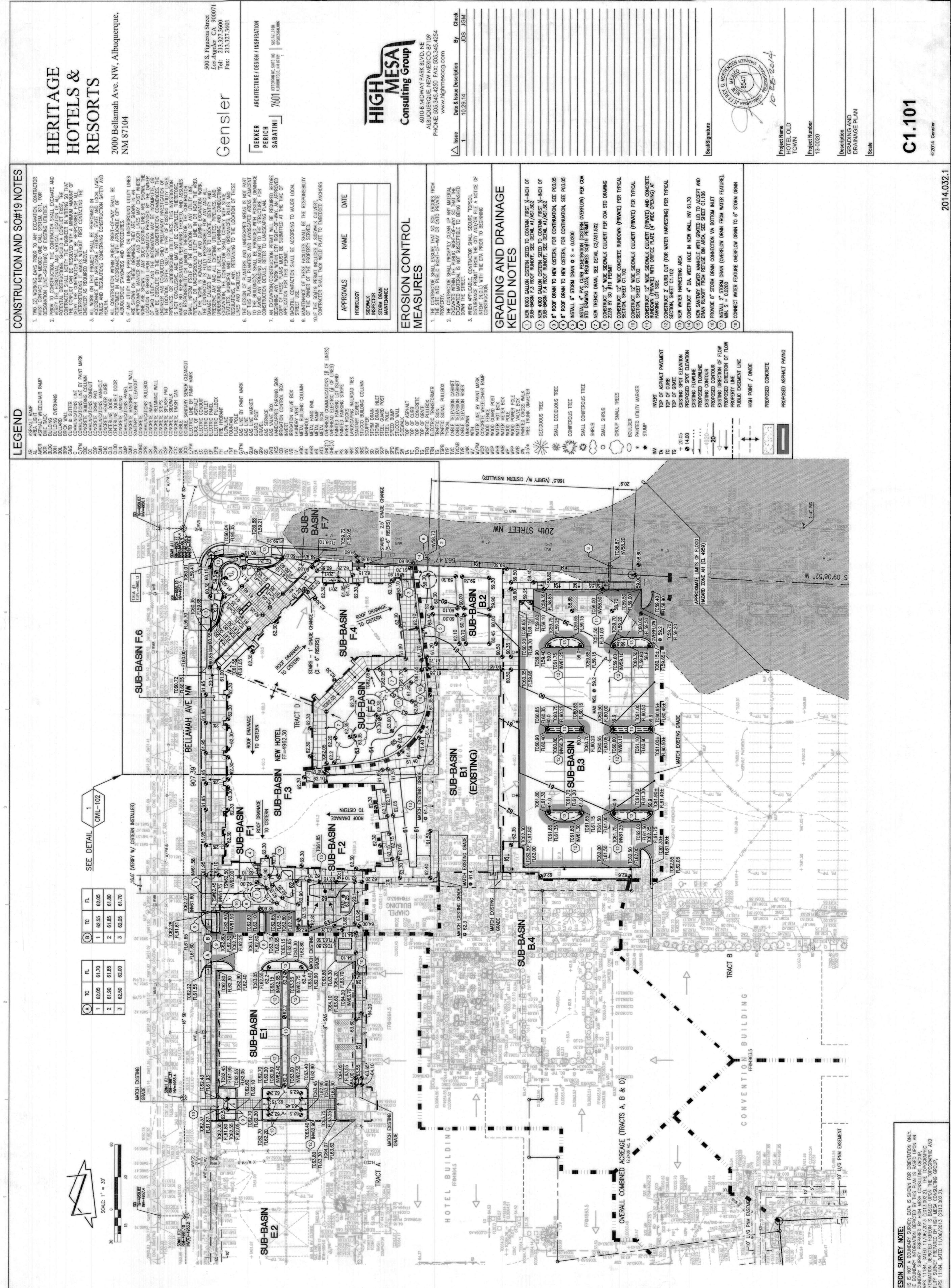
Sincerely,

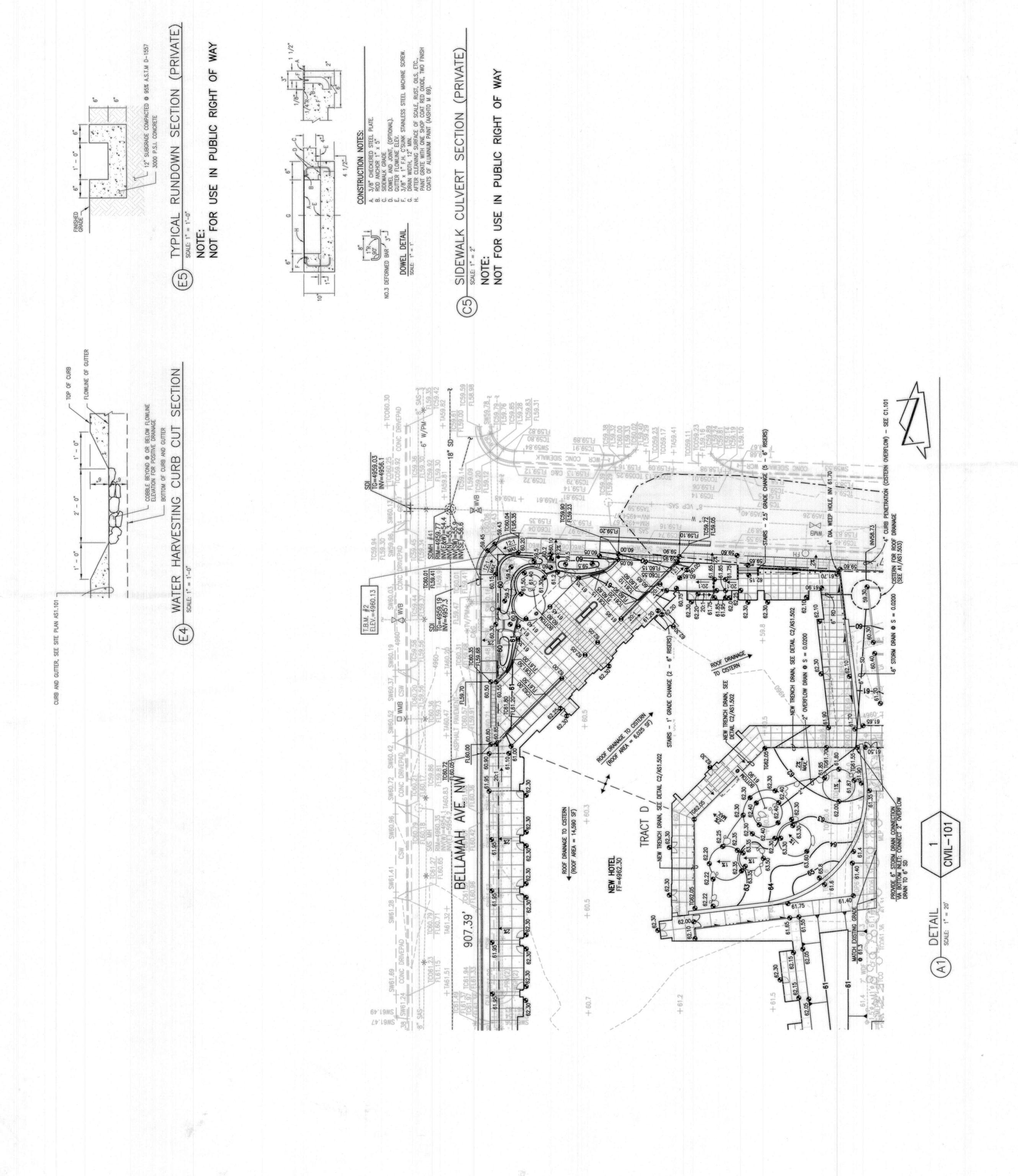
Senior Engineer, Planning Dept. Development Review Services

Orig: Drainage file

c.pdf via Email: Recipient, Monica Ortiz, Jason Rodriguez and Antoinette Baldonado

(DMD)





HERITAGE

HOTELS & RESORTS 2000 Bellamah Ave. NW, Albuquerque, NM 87104

500 S. Figueroa Street

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Consulting Group

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

Date & Issue Descripti 10.29.14

Project Name HOTEL OLD TOWN

Description
DRAINAGE SECTIONS
AND DETAILS

C1.102

2014.032.1

File Path: P:\DATA\2014.032.1\ENG\ Plot Date: 10-28-2014

File Name: 140321_C-102.DWG Plot Time: 12:07 pm

PROJECT, LOCATED WITHIN THE OLD TOWN AREA OF ALBUQUERQUE, REPRESENTS A MODIFICATION TO AN EXISTING SITE WITHIN THE STATE OF THE STATE ASSOCIATED SITE IMPROVEMENTS DECAPED AND PAVING IMPROVEMENTS IS PROPOSED IN THE NORTHEAST CORNER OF THE SITE. THE DRAINAGE CONCEPT FOR THIS IS SITE TO THE ALLOWABLE DISCHARGE RATE AS DEFINED IN THE APPROVED 2014 DRAINAGE MASTER PLAN, AS WELL AS CAPTURE NEW IMPERVIOUS IMPROVEMENTS. THIS WILL BE DONE VIA ONSITE WATER HARVESTING, DETENTION PONDING, AND INSTALLATION OF NEW HOTEL.

THIN AN INFILL AREA. THE EXISTIN NTS. A NEW HOTEL BUILDING WITH AS PROJECT WILL BE TO LIMIT DISCHARE ONSITE THE FIRST FLUSH OF RUN OF CISTERNS TO CAPTURE ROOF RUN

AS SHOWN BY THE VICINITY MAP, THE SITE IS LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF RIO GRANDE BLVD NW AND BELLAMAH AVE NEVELOPED AS A HOTEL WITH CONVENTION SPACE, ASSOCIATED PAYED PARKING AND LANDSCAPING. THE NORTHEAST CORNER OF THE SITE IS CURRENDEVELOPMENT PROPOSED AT THIS TIME. THE CURRENT LEGAL DESCRIPTION IS TRACTS A, B AND D, SHERATON OLD TOWN INN COMPLEX. AS SHOWN BY PANEL THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, REVISED AUGUST SOUTHEAST CORNER OF THE SITE LIES WITHIN A DESIGNATED FLOOD HAZARD ZONE. THE FLOOD HAZARD ZONE HAS BEEN IDENTIFIED AS AN AH ZONE WITH A FLOOD FLOOD ELEVATION OF 4959. IN RECOGNITION OF THIS FLOODPLAIN, THE FINISHED FLOOR OF THE PROPOSED HOTEL BUILDING AND ALL SUBSEQUENT OCCUPIED BE ESTABLISHED AT A MINIMUM OF ONE FOOT ABOVE THE CORRESPONDING FLOOD ZONE ELEVATION.

KISTING CONDITIONS
PROJECT SITE CONSISTS OF THE NORTHEASTERN PORTION OF THE HOTEL SITE. A LARGE MAJORITY OF THE PROJECT SITE IS VACANT, WITH MINIMAL VEGETATION. THE DEVELOPED IONS OF THE SITE CONSIST OF AN OUTDOOR POOL AND DECK, ALONG WITH THE EAST END OF THE PAVED PARKING LOT NORTH OF THE HOTEL. THE PROJECT SITE IS ACTERIZED BY 3 DRAINAGE BASINS, BASINS B, E, AND F. DRAINAGE MASTER PLAN FOR SHERATON OLD TOWN PREPARED BY HIGH MESA CONSULTING GROUP, NMPE 8547, DRAINAGE BASINS FOR THE PROPOSED DEVELOPMENT OF THE SITE, AS WELL AS DRAINAGE AND STORMWATER CONTROL TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NIMPE AND STORMWATER CONTROL EXISTING CONDITIONS OF THE PROJECT OF THE MESA CONSULTING GROUP (NIMPE AND STORMWATER CONTROL EXISTING CONDITIONS OF THE PROJECT OF THE MESA CONSULTING GROUP (NIMPE AND STORMWATER CONTROL EXISTING CONDITIONS OF THE PROJECT OF THE MESA CONSULTING GROUP (NIMPE AND STORMWATER CONTROL EXISTING CONDITIONS OF THE PROJECT OF THE MESA CONSULTING GROUP (NIMPE AND STORMWATER CONTROL EXISTING CONDITIONS OF THE PROJECT OF THE MESA CONSULTING GROUP (NIMPE AND STORMWATER CONTROL EXISTING CONDITIONS OF THE PROJECT OF THE MESA CONSULTING GROUP (NIMPE AND STORMWATER CONTROL EXISTING CONDITIONS OF THE PROPERTY OF THE MESA CONSULTING GROUP (NIMPE AND STORMWATER CONTROL EXISTING CONDITIONS OF THE PROPERTY OF THE MESA CONSULTING GROUP (NIMPE AND STORMWATER CONTROL EXISTENCE AND STORM THE 2014 DMP TERIA FOR PROPO

BASIN F IS CHARACTERIZED BY THE NORTHEAST PORTION OF THE SITE. THIS BASIN CONSISTS OF THE EXISTING UNDEVELOPED VACANT LAND AT THE NORTHEAST CORNER OF THE SITE. RUNOFF FROM THIS BASIN SHEETFLOWS FROM WEST TO EAST ACROSS THE BASIN AND INTO 20TH STREET NW, A FULLY DEVELOPED PUBLIC STREET. THERE IS NO CONCENTRATED POINT OF DISCHARGE FOR THIS BASIN; RUNOFF SHEETFLOWS INTO THE FRONTING STREET. THE EXISTING PEAK RATE OF DISCHARGE GENERATED BY THIS BASIN IS 3.4 CFS/AC. BASIN E IS CHARACTERIZED BY THE NORTHWEST PORTION OF THE SITE. THE PORTION OF THIS BASIN THAT THE PROPOSED PROJECT WILL IMPACT IS DESIGNATED SUB-BASIN E-1. SUB-BASIN E-1 CONSISTS OF THE EASTERN PORTION OF THE PARKING LOT IMMEDIATELY NORTH OF THE EXISTING HOTEL BUILDING. RUNOFF FROM PARKING LOT SHEETFLOWS SOUTH TO NORTH TO A LANDSCAPED BUFFER ALONG THE NORTH EDGE OF THE SITE; EXCESS RUNOFF THAT IS NOT CAPTURED BY THE BUILDING INTO BELLAMAH AVE NW, A FULLY DEVELOPED PUBLIC STREET. THERE IS NO CONCENTRATED POINT OF DISCHARGE FOR THIS SUB-BASIN. THE EXISTING IS ASTECUTED FOR THIS SUB-BASIN. THE EXISTING IS ASTECUTED FOR THIS SUB-BASIN. THE EXISTING IS ASTECUTED FOR THIS SUB-BASIN. BASIN B IS GENERALLY CHARACTERIZED BY THE CENTRAL PORTION OF THE OVERALL SITE. THIS BASIN CONSISTS OF THE HOTEL COURTYARD, SWIMMING POOL AREA, AND UNDEVELOPED VACANT AREA IMMEDIATELY ADJACENT TO THE POOL. THE BASIN GENERALLY DRAINS WEST TO EAST, FLOWING TO AN EXISTING DETENTION DISCHARGES VIA 4" DIAMETER CURB PENETRATION TO 20TH STREET NW. THE EXISTING DETENTION POND AND CURB PENETRATION HAVE MINIMAL CAPACITY COMPARBASIN RUNOFF GENERATED, AND APPEAR TO PROVIDE NEGLIGIBLE PONDING AND CONTROL OF DISCHARGE TO 20TH STREET NW. THE EXISTING PEAK RATE OF GENERATED BY THIS BASIN IS 3.7 CFS/AC.

ERE ARE NO SIGNIFICANT OFFSITE FLOWS ENTERING THE SITE. THE PAVED PARKING LOT SOUTH OF THE SITE DRAINS SOUTH, AWAY FROM THE PROJECT SITE. THINKING LOT AND HOTEL BUILDING LOCATED WEST OF THE PROJECT SITE GENERALLY DRAIN WEST AND NORTH, AWAY FROM THE PROJECT. BELLAMAH AVENUE NW TO TOPOGRAPHICALLY LOWER THAN THE SITE AND THEREFORE CONTRIBUTES NO OFFSITE FLOWS. 20TH STREET NW TO THE EAST IS TOPOGRAPHICALLY LOWER THAN WESTER, THE STREET IS ASSOCIATED WITH A DESIGNATED FLOOD HAZARD ZONE THAT ENCROACHES ON THE PROPERTY. A CORRESPONDING ELEVATION OF 4959 PROPERTY OF THIS FLOOD HAZARD ZONE. ALL BUILDINGS ON THE SITE ARE CONSTRUCTED WITH A FINISHED FLOOR ELEVATION A MINIMUM OF ONE FOOT A PROPERTY.

A CISTERN RECEIVING ROOF RUNOFF FROM THE NEW HOTEL WILL BE INSTALLED BELOW GRADE IN SUB-BASIN B-2. THE CISTERN WILL BE SIZED TO RETAIN BOTH THE FIRST 1/2" OF RUNOFF GENERATED FROM THE EAST PORTION OF THE NEW STAND-ALONE HOTEL BUILDING (DESIGNATED AS SUB-BASIN F.4) AS WELL AS THE DEVELOPED RUNOFF GENERATED BY THE NEW HOTEL COURTYARD (DESIGNATED AS SUB-BASIN F.5). OVERFLOW FROM THE CISTERN WILL BE DISCHARGED VIA 4" PVC CURB PENETRATION TO 20TH STREET NW. SUB-BASIN B.2 CONSISTS OF THE LANDSCAPED AREA IMMEDIATELY EAST OF THE POOL AREA. LANDSCAPED DEPRESSION, WITH OVERFLOW DISCHARGING TO 20TH STREET NW. THE PROPOSED CONSTRUCTION WITHIN BASIN B WILL CONSIST OF A PAVED PARKING LOT EXPANSION IMMEDIATELY SOUTH OF THE SWIMMING POOL, AND LANDSC, IMPROVEMENTS EAST OF THE POOL. THIS BASIN WILL BE DIVIDED INTO FOUR SUB-BASINS.
SUB-BASIN B.1 CONSISTS OF THE EXISTING SWIMMING POOL AND DECK AREA. THIS SUB-BASIN IS ENCLOSED BY A NEW WALL. ALL RUNOFF GENERATED BY THE EXISTING POOL AND DECK AREA. THIS SUB-BASIN IS ENCLOSED BY A NEW WALL. ALL RUNOFF FROM THIS SUB-BASIN. (B, E AND F) AND THE RESPECTIVE NG LOT EXPANSION IMMEDIATELY SO

SUB-BASIN B.3 CONSISTS OF THE PAVED PARKING LOT EXPANSION IMMEDIATELY SOUTH OF THE SWIMMING POOL. RUNOFF GENERATED BY SUB-BASIN B.3 WILL SHEETFI FROM WEST TO EAST ACROSS THE PARKING LOT. SEVERAL LANDSCAPED ISLANDS WITHIN THE PARKING LOT WILL ACT AS WATER HARVESTING AREAS TO CAPTURE (TO MAXIMUM EXTENT PRACTICABLE) THE FIRST FLUSH OF RUNOFF GENERATED BY SUB-BASIN B.3. RUNOFF THAT IS NOT CAPTURED BY THE WATER HARVESTING AREAS VINCHARGE VIA SIDEWALK CULVERT AND RUNDOWN INTO 20TH STREET NW. A 4" CURB OPENING AT THE UPSTREAM END OF THE CULVERT IS SIZED TO NOT EXCEED TO ALLOWABLE DISCHARGE RATE FOR THIS SUB-BASIN OF 2.75 CFS/AC. AS DEMONSTRATED BY THE CALCULATIONS REFERENCED IN SECTION VII, THE PARKING LOT WILL ACT A DETENTION POND SIZED TO CONTAIN THE DETAINED RUNOFF RESULTING FROM CONTROLLED DISCHARGE FROM THE SUB-BASIN.

B.4 CONSISTS OF THE REMAINDER OF BASIN B THAT INCLUDES THE CENTRAL PORTION OF THE EXISTING HOTEL AND COURTYARD THAT ARE UPSTREAM B.3. THIS AREA IS OUTSIDE THE LIMITS OF THE PROPOSED DEVELOPMENT FOR THE PROJECT SITE, THEREFORE NO CHANGE IN HYDROLOGY IS PROPOSED IN EXISTING RUNOFF FROM SUB-BASIN B.4 WILL BE ALLOWED TO FREELY FLOW THROUGH SUB-BASIN B.3 TO ULTIMATELY DISCHARGE TO 20TH STREET NW. 유유

THE PROPOSED CONSTRUCTION WITHIN BASIN E WILL CONSIST OF THE MODIFICATION OF A PORTION OF THE EXISTING PARKING LOT WEST OF THE NEW STAND-ALONE HOTEL BUILDING. THIS BASIN IS DIVIDED INTO TWO SUB-BASINS.

SUB-BASIN E.1 WILL CONSIST OF THE PROPOSED PARKING LOT MODIFICATIONS, INCLUDING THE ELIMINATION OF ELEVEN PARKING SPACES AND THE ADDITION OF NEW CURB AND LANDSCAPED WATER HARVESTING AREAS. THE WATER HARVESTING AREAS WILL BE SIZED TO CAPTURE THE FIRST FLUSH GENERATED BY SUB-BASIN E.1 TO THE MAXIMUM EXTENT PRACTICABLE. RUNOFF WILL GENERALLY SHEET FLOW FROM SOUTHEAST TO NORTHWEST, DRAINING THROUGH A NEW RUNDOWN AND SIDEWALK CULVERT INTO SUB-BASIN E.2, AND ULTIMATELY DISCHARGING TO BELLAMAH AVE NW. THE PROPOSED IMPROVEMENTS WILL RESULT IN A DECREASE IN IMPERVIOUS AREA, CREATING A DECREASE IN THE DEVELOPED CONDITION. SUB-BASIN E.2 CONSISTS OF THE REMAINDER OF BASIN E BEYOND THE PROJECT LIMITS, INCLUDING THE EXISTING HOTEL AND THE N DEVELOPMENT IS CURRENTLY PLANNED FOR SUB-BASIN E-2, THEREFORE NO CHANGE IN HYDROLOGY IS PROPOSED OR ANTICIPATED.

THE PROPOSED CONSTRUCTION WITHIN BASIN F WILL CONSIST OF A NEW STAND-ALONE HOTEL BUILDING, COURTYARD, ASSOCIATED PAVED SIDEWALKS AND LANDSCAPING. BASIN WILL BE DIVIDED INTO SEVEN SUB-BASINS.

SUB-BASIN F.1 CONSISTS OF THE PAVED PARKING AND LANDSCAPED IMPROVEMENTS IMMEDIATELY WEST OF THE NEW HOTEL BUILDING. IN ADDITION, A NEW CISTERN WILL LOCATED IN THIS SUB-BASIN THAT WILL RETAIN THE FIRST ½" OF RUNOFF GENERATED BY THE WEST PORTION OF THE HOTEL ROOF AREA (DESIGNATED AS SUB-BASIN SUB-BASIN F.1 DRAINS FROM SOUTH TO NORTH TO DISCHARGE INTO BELLAMAH AVE NW VIA NEW RUNDOWN AND SIDEWALK CULVERT. LANDSCAPED IMPROVEMENTS WILL GRADED TO ACT AS DEPRESSED WATER HARVESTING AREAS WHERE PRACTICABLE. AS A RESULT OF AN INCREASE IN LANDSCAPED LAND TREATMENT, THE RUNOFF GENER FROM THIS SUB-BASIN WILL BE DECREASED FROM THE EXISTING CONDITION. SUB-BASIN F.2 CONSISTS OF THE NEW PAVED SERVICE AREA IMMEDIATELY WEST OF THE NEW HOTEL BUILDING. TO AVOID RUNOFF FROM THE REFUSE COMPACTOR IN THIS AREA DRAINING TO THE ADJACENT PUBLIC STREET, THIS SUB-BASIN WILL DISCHARGE ALL DEVELOPED RUNOFF TO THE EXISTING PRIVATE SANITARY SEWER SYSTEM VIA A NEW SANITARY SEWER MANHOLE WITH GRATED LID. THEREFORE, NO RUNOFF FROM THIS SUB-BASIN WILL DISCHARGE TO BELLEMAH AVE NW IN THE DEVELOPED CONDITION. SUB-BASIN F.3 CONSISTS OF THE WEST PORTION OF THE NEW HOTEL BUILDING. RUNOFF GENERATED BY THE HOTEL ROOF AREA WILL BE CONVEYED VIA ROOF DRAIN TO A NEW CISTERN INSTALLED IN SUB-BASIN F.1; THE CISTERN IS SIZED TO RETAIN THE FIRST ½" OF ROOF RUNOFF. A 4" PVC CURB PENETRATION WILL DISCHARGE OVERFLOW FROM THE CISTERN NORTH TO BELLAMAH AVE NW.

SUB-BASIN F.5 CONSISTS OF THE NEW HOTEL COURTYARD. RUNOFF FROM THIS BASIN WILL DRAIN TO A NEW TRENCH DRAIN. FROM THIS POINT, RUNOFF WILL BE CONVE VIA PRIVATE STORM DRAIN TO THE NEW CISTERN IN SUB-BASIN B.2 REFERENCED ABOVE. AS PREVIOUSLY MENTIONED (SEE SUB-BASIN B.2), THE CISTERN WILL BE SIZED CAPTURE THE DEVELOPED RUNOFF GENERATED BY SUB-BASIN F.5. A 4" PVC CURB PENETRATION WILL DISCHARGE OVERFLOW FROM THE CISTERN EAST TO 20TH STREET NW UB-BASIN F.4 CONSISTS OF THE EAST PORTION OF THE NEW HOTEL BUILDING. RUNOFF GENERATED BY THE HOTEL ROOF AREA WILL BE CONVEYED VIA ROOF DRAIN TO A EW CISTERN INSTALLED IN SUB-BASIN B.2; THE CISTERN IS SIZED TO RETAIN THE FIRST 1/2" OF ROOF RUNOFF. A 4" PVC CURB PENETRATION WILL DISCHARGE OVERFLOW ROM THE CISTERN EAST TO 20TH STREET NW.

SUB-BASIN F.6 CONSISTS OF THE PAVED SIDEWALKS, VALET DROPOFF AND LANDSCAPED BUFFERS NORTH AND NORTHEAST OF THE NEW HOTEL BUILDING. RU ACROSS THE PAVED IMPROVEMENTS INTO THE LANDSCAPED BUFFERS TO THE MAXIMUM EXTENT PRACTICABLE. THE LANDSCAPED BUFFERS WILL CAPTURE THE FLOWS GENERATED BY SUB-BASIN F.6 TO THE MAXIMUM EXTENT PRACTICABLE. EXCESS RUNOFF THAT IS NOT CAPTURED WITHIN THE LANDSCAPED BUFFERS INTO BELLAMANH AVE NW. DEVELOPED IMPROVEMENTS WILL RESULT IN A NEGLIGIBLE INCREASE IN RUNOFF GENERATED BY THE SUB-BASIN (0.1 CFS), AND A FLUSH VOLUME (120 CF). B-BASIN F.7 CONSISTS OF THE PAVED RESTAURANT PATIO, SIDEWALKS, VALET DROPOFF AND LANDSCAPE BUFFERS EAST OF THE NEW HOTEL BUILDING. RUNOFF WILL EET FLOW ACROSS THE PAVED IMPROVEMENTS, WITH LANDSCAPED BUFFERS CAPTURING RUNOFF TO THE MAXIMUM EXTENT PRACTICABLE. THE LANDSCAPED BUFFERS WILL PROPERTY FLUSH FLOWS GENERATED BY SUB-BASIN F.7 TO THE MAXIMUM EXTENT PRACTICABLE. EXCESS RUNOFF THAT IS NOT CAPTURED WITHIN THE LANDSCAPED FERS SHEETFLOWS TO 20TH STREET NW. DEVELOPED IMPROVEMENTS WILL RESULT IN A NEGLIGIBLE INCREASE IN RUNOFF GENERATED BY THE SUB-BASIN (0.1 CFS), AND NEGLIGIBLE FIRST FLUSH VOLUME (110 CF). THE FIRST FLU S WILL SHEETFLO NEGLIGIBLE FIR

BASIN B: THE PROJECT SITE IMPROVEMENTS WILL RESULT IN A MINOR REDUCTION (1.9 CFS) IN DEVELOPED RUNOFF GENERATED BY BASIN B. THE ALLOWABLE (EXISTIN DISCHARGE RATE OF 10.4 CFS (3.7 CFS/AC) IS MAINTAINED AS A RESULT OF THE PROPOSED DEVELOPMENT.
RUNOFF FROM SUB-BASIN B-1 IS SELF CONTAINED AND THEREFORE WILL RESULT IN A DECREASE IN RUNOFF DISCHARGED TO THE FRONTING PUBLIC STREETS OF 1.7 CFS.
RUNOFF FROM SUB-BASIN B-2 WILL DRAIN WEST TO EAST TO A DEPRESSED, LANDSCAPED AREA THAT WILL MANAGE THE FIRST FLUSH. FIRST FLUSH CALCULATION DEMONSTRATE A VOLUME OF 20 CF DUE TO NEW IMPERVIOUS AREA.

A HYDROGRAPH FOR SUB-BASIN B.3 WAS USED TO CALCULATE THE DETENTION PONDING REQUIRED IN THE NEW PARKING LOT TO MAINTAIN THE ALLOWABLE (EXISTIN DISCHARGE END AREA METHOD WAS USED TO DEMONSTRATE ADEQUATE DETENTION PONDING CAPACITY IN THE SUB-BASIN B.3 PARKING LOT. CALCULATIONS CONTAINED HEREON ANALYZE THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40 ACRE LER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993, USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. THE CALCULATIONS FOR EACH BASIN WITHIN THE PROJECT SITE (B, E AND F) WARRIZED AS FOLLOWS:

BASIN E: THE CURRENT PLANNED IMPROVEMENTS WITHIN SUB-BASIN E-1 (PORTION WITHIN PROJECT SITE) WILL RESULT IN A RESULT OF A DECREASE IN IMPERVIOUS AREA. THE ALLOWABLE (EXISTING) DISCHARGE RATE OF 4.3 CFS/AC IS MAINTAINED.

AS THE AVERAGE END AREA METHOD WAS USED TO DEMONSTRATE A WATER HARVESTING CAPACITY OF 125 CF.

AS THE PROPOSED IMPROVEMENTS REMOVE AND REPLACE EXISTING IMPERVIOUS PAVING WITH PERVIOUS WATER HARVESTING AREAS. WITH AND DISCHARGE RATE OF 1.25 CF.

BASIN F: THE CURRENT PLANNED IMPROVEMENTS WITH PERVIOUS WATER HARVESTING AREAS. WITH AND THE PROPOSED IMPROVEMENTS REMOVE AND REPLACE EXISTING IMPERVIOUS PAVING WITH PERVIOUS WATER HARVESTING AREAS. WITH AND THE PROPOSED IMPROVEMENTS WITH PERVIOUS WATER HARVESTING AREAS. WITH AND THE PROPOSED IMPROVEMENTS WITH PERVIOUS WATER HARVESTING AREAS. WITH AND THE PROPOSED IMPROVEMENTS WITH PERVIOUS WATER HARVESTING AREAS. WITH AND THE PROPOSED IMPROVEMENTS WITH PERVIOUS WATER HARVESTING AREAS. WITH AND THE PROPOSED IMPROVEMENTS WITH PERVIOUS WATER HARVESTING AREAS. WITH AND THE PROPOSED IMPROVEMENTS WITH PERVIOUS WATER HARVESTING AREAS. WITH AND THE PROPOSED IMPROVEMENTS WITH PERVIOUS WATER HARVESTING AREAS. WITH AND THE PROPOSED IMPROVEMENTS WITH PERVIOUS WATER HARVESTING AREAS. BASIN F: THE CURRENT PLANNED IMPROVEMENTS WILL RESULT IN A NEGLIGIBLE INCREASE (0.1 CFS) IN DEVELOPED RUNOFF DISCHARGED FROM BASIN F. THE DEVELOPED DISCHARGE RATE FROM BASIN F IS 1.8 CFS/AC, MEETING THE ALLOWABLE (EXISTING) DISCHARGE RATE OF 3.4 CFS/AC.

THE INCREASE IN IMPERVIOUS AREA RUNOFF IN BASIN F WILL BE MITIGATED THROUGH THE RETENTION OF THE FIRST ONE-HALF INCH OF RUNOFF FROM THE NEW HOTEL BUILDING IN NEW CISTERNS PROPOSED ONSITE IN ADDITION TO WATER HARVESTING AREAS INTENDED TO CAPTURE THE FIRST FLUSH OF RUNOFF GENERATED TO THE MAXIMUM EXTENT PRACTICABLE.

FIRST FLUSH CALCULATIONS DEMONSTRATE A FIRST FLUSH VOLUME OF 70 CF FROM SUB-BASIN F.1, 540 CF FROM SUB-BASIN F.3, 310 CF FROM SUB-BASIN F.4, 80 CF FROM SUB-BASIN F.5, 120 CF FROM SUB-BASIN F.6, AND 110 CF FROM SUB-BASIN F.7. THE COMBINED FIRST FLUSH FROM BASIN F THAT MUST BE MANAGED IS 1,230 CF.

THE AVERAGE END AREA METHOD WAS USED TO DEMONSTRATE A WATER HARVESTING CAPACITY OF 170 CF IN SUB-BASIN F.1 AND 220 CF IN SUB-BASIN F.6. RUNOFF FROM SUB-BASIN F.2 WILL DRAIN TO THE EXISTING PRIVATE SANITARY SEWER SYSTEM AND THEREFORE WILL RESULT IN A DECREASE IN RUNOFF DISCH FRONTING PUBLIC STREETS OF 0.3 CFS (THE EXISTING PEAK DISCHARGE RATE FOR THIS SUB-BASIN)

1/2" RUNOFF CALCULATIONS WERE USED TO DEMONSTRATE THE RUNOFF GENERATED BY THE NEW HOTEL BUILDING (800 CF FROM SUB-BASIN F.3 AND SUB-BASIN F.4) THAT MUST BE CAPTURED IN THE NEW ONSITE CISTERNS.

THE COMBINED RETENTION OF RUNOFF VIA CISTERNS AND WATER HARVESTING IS 1650 CF, GREATER THAN THE REQUIRED FIRST FLUSH OF 1230 CF THAT MUST -BASIN F.3 AND 460

BASIN B

BASIN B

PROPOSED HOTEL DEVELOPMENT WILL SUBDIVIDE THIS BASIN INTO FOUR (4) SUB-BASINS, B.1, B.2, B.3 AND B.4.

THE PROPOSED IMPROVEMENTS TO THE COMPOSITE BASIN WILL RESULT IN A REDUCTION IN THE DEVELOPED RUNOFF DISCHARGED FROM THE SITE. SUB-BASIN SPECIFIED IMPROVEMENTS ARE AS FOLLOWS.

O SUB-BASIN B.1: THIS SUB-BASIN IS SELF CONTAINED; THE RUNOFF GENERATED WILL DRAIN TO AND BE MANAGED BY EXISTING AND PROPOSED LANDSCAPED IMPROVEMENTS, WITH ANY OVERFLOWS CONTAINED BY THE NEW WALL BOUNDING THE POOL AREA.
O SUB-BASIN B.2: THE PROPOSED LANDSCAPED IMPROVEMENTS WILL RESULT IN A DECREASE IN Q100 AND V100 RUNOFF GENERATED. THE NEGLIGIBLE FIRST FLUSH OF DEVELOPED RUNOFF GENERATED (20 CF) WILL BE CAPTURED ONSITE WITHIN A DEPRESS LANDSCAPED WATER HARVESTING AREA. OVERFLOW FROM THIS AREA WILL SHEETFLOW TO 20TH STREET NW.

O SUB-BASIN B.3: THE PROPOSED IMPROVEMENTS WILL RESULT IN AN INCREASE IN Q100 AND V100 RUNOFF GENERATED. TO MITIGATE THIS INCREASE, THE DISCHARGE RATE FROM THIS SUB-BASIN. THE PROPOSED IMPROVEMENTS WILL BE RESTRAINED TO THE EXISTING Q100 RATE FOR THIS SUB-BASIN. THIS WILL BE DONE BY CONTROLLING DISCHARGE FROM THIS SUB-BASIN. THIS WILL BE LIMITED TO THE NEW PARKING LOT; CALCULATIONS DEMONSTRATE THE NEW PARKING LOT HAS CAPACITY TO CONTAIN THE DETAINED RUNOFF VOLUME FROM SUB-BASIN B.3.

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PORTION OF THE NEW HOTEL RATED. TO MITIGATE THIS SHED TO CAPTURE THE FIRST E VIA 4" PVC CURB AND CONTROL THE FIRST

E RELEASED 1 + Qrel F.3 + Qrel F.4 + Q10 0.2 + 0.2 + 0.6 + 0.5 + 0.5

+ 1460 + 860 + 630

0.26 IN 120 CF

0.26 IN 110 CF 1.79 IN 780 CF

#4 (T.B.M.)

IN THE SOUTHWESTERN

SORTS

TELS &

RITAGE

1.81 IN 850 CF

DISCHARGED TO F 2.12 IN 3,390 CF 2.12 IN 460 CF

1.23 IN 940 CF

0.11 IN 80 CF

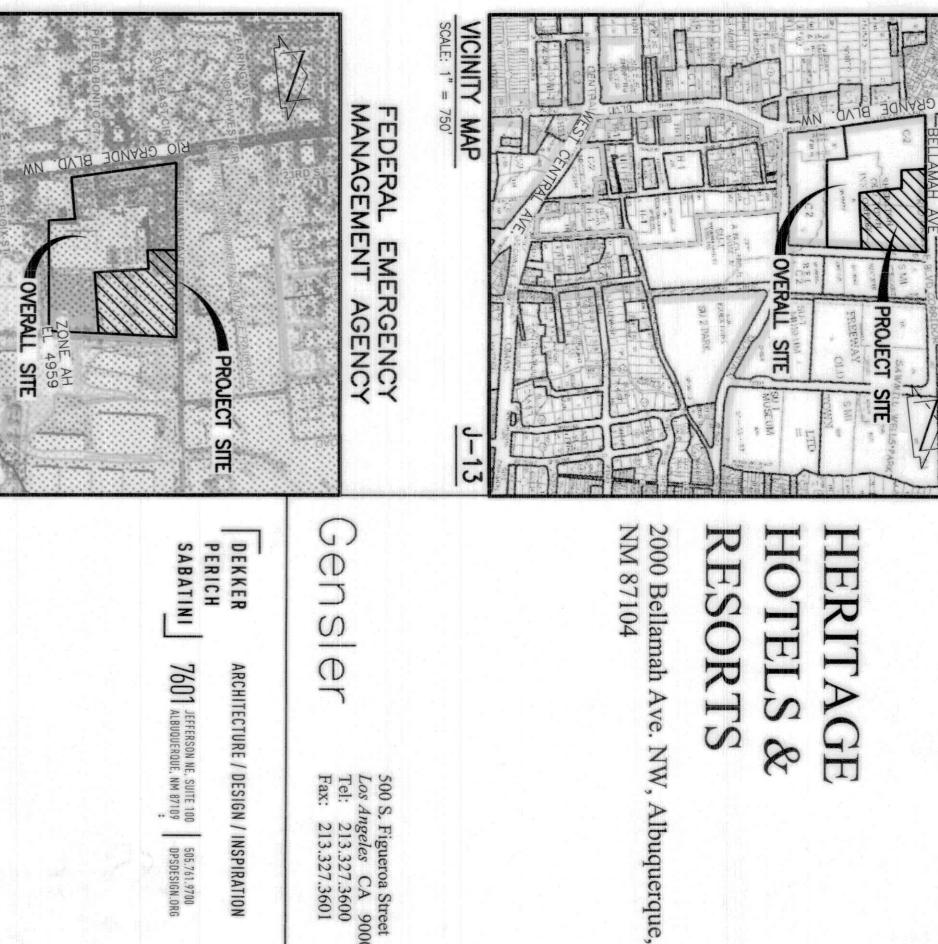
PROJECT BENCHMARK

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

CHISELED "+", BEING THE NORTHEASTERN

F TRACT D, AS SHOWN ON SHEET C-101.

LEVATION = 4960.13 FEET (NAVD 1988) #3 (T.B.M.)



nsler

500 S. Figueroa Street

Los Angeles CA 900071

Tel: 213.327.3600

Fax: 213.327.3601

DEKKER PERICH ARCHITECTURE / DESIGN / INSPIRATION

7601 JEFFERSON NE, SUITE 100 505.761.9700 DPSDESIGN.OF

HIGH MESA Consulting Group

JQUERQUE, NEW MEXICO 87109 :: 505.345.4250 FAX: 505.345.4254 www.highmesacg.com

Date & Issue Description 10.29.14

JDS JGM

HOTEL OF

DRAINAG CALCULA

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