CITY OF ALBUQUERQUE

June 17, 2015



Jeff Mortensen, P.E. High Mesa Consulting Group 6010-B Midway Park Blvd NE Albuquerque, New Mexico 87109

RE: Blue Linx Warehouse 1820 Bellamah Ave NW Grading and Drainage Plan Engineers Stamp Date 5/26/15 (J13D101)

Dear Mr. Mortensen,

Based upon the information provided in your submittal received 4/20/15, this plan is approved for Building Permit, Paving Permit and SO-19.

Please attach a copy of this approved plan to the construction sets in the permitting process prior to sign-off by Hydrology.

Contact Jason Rodriguez at 235-8016 to schedule an inspection for the new 12" storm line connecting into the public storm line. A separate Excavation/Barricading Permit is required for SO-19 construction within City ROW. A copy of this approval letter must be on hand when applying for the permit.

Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

Albuquerque

PO Box 1293

If you have any questions, please contact me at 924-3695 or Rudy Rael at 924-3977.

New Mexico 87103

www.cabq.gov

Sincerely,

Rita Harmon, P.E. Senior Engineer, Hydrology

Planning Department

RR/RH C: File

VII. EROSION AND SEDIMENT CONTROL PLAN

THIS PROJECT DISTURBS LESS THAN ONE-ACRE OF LAND. THEREFORE, A SEPARATE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS NOT BEEN PREPARED. THE SMALL SIZE OF THIS PROJECT DOES NOT WARRANT THE PREPARATION OF A SITE SPECIFIC EROSION AND SEDIMENT CONTROL PLAN. 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 DEVELOPMENT WILL RESULT IN A MINOR INCREASE IN THE DEVELOPED RUNOFF GENERATED BY BASIN N, AND MINOR DECREASES IN BASINS E AND W; RESULTING IN AN OVERALL DECREASE IN DEVELOPED RUNOFF GENERATED BY THE SITE. IN ADDITION, THE AVERAGE END AREA METHOD WAS USED TO QUANTIFY THE CAPACITY OF THE BASIN N AND W WATER HARVESTING AREAS TO DEMONSTRATE THAT THE FIRST FLUSH OF RUNOFF FROM NEW IMPERVIOUS AREA IS MANAGED.

DRAINAGE PLAN IX. CONCLUSIONS INTRODUCTION AND EXECUTIVE SUMMARY THIS PROJECT, LOCATED IN THE OLD TOWN SECTION OF THE ALBUQUERQUE METROPOLITAN AREA, REPRESENTS A MODIFICATION TO AN EXISTING APS SITE WITHIN AN INFILL AREA. THE EXISTING SITE IS DEVELOPED AS A WAREHOUSE WITH OFFICE ADDITION AND ASSOCIATED PAVED PARKING AND ACCESS IMPROVEMENTS. THE PROPOSED DEVELOPMENT IS COMPRISED OF THE DEMOLITION AND REMOVAL OF THE OFFICE ADDITION, RENOVATION OF THE EXISTING WAREHOUSE AND CONSTRUCTION OF NEW PAVED PARKING AND LANDSCAPED THE DRAINAGE CONCEPT FOR THIS PROJECT WILL BE THE DISCHARGE OF RUNOFF FROM THE DEVELOPED PORTIONS OF THE SITE TO LANDSCAPED WATER HARVESTING AREAS, WITH OVERFLOW DRAINING VIA NEW PRIVATE STORM DRAIN CONNECTION TO THE EXISTING PUBLIC STORM DRAIN SYSTEM (MS4) IN BELLAMAH AVE. NW, TO BE CONSTRUCTED VIA SO#19 PERMIT. THE EXISTING PORTIONS OF THE SITE TO REMAIN WILL CONTINUE TO THIS SUBMITTAL IS MADE IN SUPPORT OF BUILDING AND SO#19 PERMIT APPROVALS WITHIN THE JURISDICTION AS SHOWN BY THE VICINITY MAP, THE BLUE-LINX WAREHOUSE IS LOCATED AT THE SOUTHEAST CORNER OF TH INTERSECTION OF BELLAMAH AVE NW AND 19TH STREET NW. THE CURRENT LEGAL DESCRIPTION IS LOT 1-A, FREEWAY-OLD TOWN, LIMITED. AS SHOWN BY PANEL 331 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO DATED 08-16-2012, PORTIONS OF THIS SITE LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE AH (ELEV 4959). HE EXISTING BUILDING FINISHED FLOOR HAS BEEN CONSTRUCTED AT 4960.64 AT IT'S LOWEST POINT AND DOES NOT APPEAR TO BE IN DANGER OF FLOODING. THE NORTH PORTION OF THIS SITE TO BE DEVELOPED DOES NOT APPEAR TO DRAIN TO THE EXISTING FLOOD HAZARD ZONE, AND EXISTING DRAINAGE PATTERNS FOR THE III. BACKGROUND DOCUMENTS THE PREPARATION OF THIS PLAN RELIED UPON THE FOLLOWING DOCUMENTS: REVIEW OF THE ALBUQUERQUE MASTER DRAINAGE STUDY (AMDS) PANEL J13 IDENTIFIES A DESIGNATED FLOOR HAZARD ZONE AH BETWEEN BELLAMAH AVE NW AND MOUNTAIN ROAD NW, A PORTION OF WHICH COINCIDES WITH THE RAILROAD SPURS TO THE WEST AND EAST OF THE PROJECT SITE. THE AMDS INDICATES THAT A A SERIES OF EIGHT DOUBLE 'C' STORM INLETS WAS PLANNED ALONG BELLAMAH AVE NW AND 20TH STREET NW TO ELIMINATE THE DESIGNATED FLOOD HAZARD ZONE AH. REVIEW OF THE CITY OF ALBUQUERQUE 2002 STORMWATER FACILITIES MAP PANEL J-13 IDENTIFIED EIGHT 'C' STORM INLETS LOCATED ALONG BELLAMAH AVE NE AND MOUNTAIN ROAD NW, WHICH INDICATES THAT THE STORM DRAIN IMPROVEMENTS PROPOSED BY THE AMDS REFERENCED ABOVE WERE CONSTRUCTED. HOWEVER, THE 2012 FEMA FLOOD INSURANCE RATE MAP FOR THIS AREA SHOWS THE DESIGNATED FLOOD FLOOD HAZARD ZONE AH STILL REMAINS AND MUST BE ACCOUNTED FOR WHEN DEVELOPING THIS SITE. TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS 11184, DATED 02-20-2015. THIS REFERENCED SURVEY PROVIDES THE BASIS FOR THE EXISTING CONDITIONS OF THE PROJECT SITE THE PROJECT SITE PRESENTLY CONSISTS OF A WAREHOUSE BUILDING WITH OFFICE ADDITION, AND PAVED PARKING AND ACCESS IMPROVEMENTS. THE SITE IS COMPRISED OF FOUR (4) DRAINAGE BASINS, BASINS I S AND W, THAT DISCHARGE ONTO THE ADJACENT LOTS AND/OR TO BELLAMAH AVE NW, A FULLY DEVELOPED BASIN N CONSISTS OF THE OFFICE BUILDING ADDITION AT THE NORTH END OF THE WAREHOUSE ALONG WITH PAVED PARKING AND ACCESS IMPROVEMENTS. THIS BASIN CURRENTLY DRAINS SOUTH TO NORTH AND DISCHARGES DIRECTLY TO BELLAMAH AVE NW VIA EXISTING DRIVEPADS. AT THIS POINT, RUNOFF FLOWS WITHIN WITHIN BELLAMAH AVE NW TO AN EXISTING PUBLIC STORM INLET, WHERE IT ENTERS THE PUBLIC STORM DRAIN SYSTEM WITHIN BELLAMAH AVE NE. BASIN E CONSISTS OF THE EAST HALF OF THE WAREHOUSE BUILDING, THE EAST LOADING DOCK AND A RAILROAD SPUR ALONG THE EAST BOUNDARY OF THE SITE. A FEMA DESIGNATED FLOOD HAZARD ZONE AH WITH A PUBLISHED BFE OF 4959 COINCIDES WITH THE LIMITS OF THE RAILROAD SPUR. THE EXISTING WAREHOUSE FINISHED FLOOR ELEVATION IS 4960.64 AT ITS LOWEST POINT, AND DOES NOT APPEAR TO BE IMPACTED BY THIS FLOOD HAZARD ZONE. RUNOFF FROM THIS BASIN DRAINS WEST TO EAST TO THE GRAVEL—LINED RAILROAD SPUR. THE RAILROAD SPUR IS GRADED GENERALLY FLAT, WHICH, COMBINED WITH THE PERMANER. AND A REAL REPORTS HELL TRAITED THAT DOES NOT INFILITRATE APPEAR. THE PERVIOUS NATURE OF THIS AREA, PROMOTES INFILTRATION. RUNOFF THAT DOES NOT INFILTRATE APPEARS TO DRAIN TO TWO STORM INLETS NEAR THE SOUTHEAST CORNER OF THE SITE. THESE STORM INLETS APPEAR TO BE PRIVATE, AS RESEARCH OF THE CITY OF ALBUQUERQUE PUBLIC STORMWATER FACILITIES MAINDICATES THERE ARE NO PUBLIC STORM DRAINS IN THIS VICINITY. THE OUTLETS FOR THESE INLETS COU NOT BE DETERMINED VIA SITE VISIT OR RESEARCH OF BACKGROUND DOCUMENTS FOR THE SITE. ASPHALT AND CONCRETE PAVING. RUNOFF APPEARS TO SHEETFLOW EAST TO WEST ACROSS THE PAVING DRAIN ONTO A GRAVEL-LINED RAILROAD SPUR IMMEDIATELY WEST OF THE SITE. A FEMA DESIGNATED FLOOD ZONE AH WITH A PUBLISHED BFE OF 4959 COINCIDES WITH THIS RAILROAD SPUR. THE EXISTING WAREHOUSI FINISHED FLOOR ELEVATION IS 4960.64 AND DOES NOT APPEAR TO BE IMPACTED BY THIS FLOOD HAZARD ZONE. BASIN S CONSISTS OF A SMALL PORTION OF PAVING THAT SLOPES NORTH TO SOUTH AWAY FROM THE WAREHOUSE WITH SITE RUNOFF DISCHARGING AS SHEETFLOW ONTO THE NEIGHBORING LOT TO THE SOUTH. THERE ARE NO APPARENT OFFSITE FLOWS IMPACTING THIS SITE. BELLAMAH AVE NW, A FULLY DEVELOPED CITY STREET LIES TO THE NORTH WITH FLOWS APPARENTLY CONFINED TO THE CONSTRUCTED STREET. EXISTING COMMERCIAL LOTS TO THE EAST, SOUTH, AND WEST ARE TOPOGRAPHICALLY PARALLEL TO OR LOWER THAN THE PROJECT SITE AND THEREFORE DO NOT APPEAR TO CONTRIBUTE OFFSITE FLOWS. THE SITE IS TOPOGRAPHICALLY HIGHER THAN THE ADJACENT DESIGNATED FLOOD HAZARD ZONE AH. V. DEVELOPED CONDITIONS THE PROPOSED CONSTRUCTION CONSISTS OF THE DEMOLITION OF THE EXISTING OFFICE ADDITION AT THE NORTH END OF THE WAREHOUSE, RELOCATION OF AN EXISTING DRIVEPAD TO BELLAMAH AVE NW AND CONSTRUCTION OF NEW PAVED PARKING AND LANDSCAPED IMPROVEMENTS. THE PROPOSED IMPROVEMENTS WILL BE LOCATED PRIMARILY WITHIN BASIN N, WITH MINOR PAVING AND/OR LANDSCAPED IMPROVEMENTS IN BASINS E AND W NO DEVELOPMENT IS PROPOSED WITHIN BASIN S. BASIN N IMPROVEMENTS WILL CONSIST OF THE DEMOLITION OF THE OFFICE ADDITION, RELOCATION OF THE NORTHEAST DRIVEPAD FURTHER EAST TO LINE UP WITH THE EXISTING LOADING DOCK, A NEW PAVED PARKING LOT, AND A LANDSCAPED WATER HARVESTING AREA. THE PROPOSED IMPROVEMENTS WILL DRAIN SOUTH TO NORTH INTO THE LANDSCAPED WATER HARVESTING AREA VIA CURB OPENING. THE WATER HARVESTING AREA IS SIZED TO RETAIN THE INCREASE IN DEVELOPED RUNOFF GENERATED BY BASIN N. OVERFLOW RUNOFF WILL DRAIN TO A NEW BEEHIVE INLET AND A NEW 12" PRIVATE STORM DRAIN CONNECTION TO THE BACK OF AN EXISTING PUBLIC STORM INLET IN BELLAMAH AVE NW WILL CONVEY THE RUNOFF TO THE PUBLIC STORM DRAIN SYSTEM IN THE CITY STREET. THIS CONNECTION WILL BE MADE ! THE BASIN N WATER HARVESTING AREA WILL ALSO SERVE TO MANAGE THE FIRST FLUSH OF DEVELOPED RUNOFF FROM THE NEW DISCONNECTED IMPERVIOUS AREAS IN BASIN N. THE NEW IMPERVIOUS AREA (A IMP) CONSISTS OF 0.41 AC OF PAVE PARKING LOT AND SIDEWALKS. THE WATER HARVESTING AREA IS SIZED TO CARTINES AND THE FORM FROM BASIN N. II. HYDROLOGY CAPTURE AND TREAT THE FIRST FLUSH FROM BASIN N. BASIN E IMPROVEMENTS WILL CONSIST OF THE REMOVAL OF EXISTING PAVING AND REPLACED WITH GRAVEI GRAVEL AND LANDSCAPED IMPROVEMENTS NEAR THE NORTHEAST CORNER OF THE SITE. THIS BASIN WILL CONTINUE TO DRAIN FROM WEST TO EAST WITH RUNOFF DRAINING TO THE GRAVEL—LINED RAILROAD SPUR A DESIGNATED FLOOD HAZARD ZONE AH COINCIDES WITH THE LIMITS OF THE RAILROAD SPUR, HOWEVER, THI PROPOSED DEVELOPMENT WILL RESULT IN A MINIMAL DECREASE IN DEVELOPED RUNOFF GENERATED FROM THIS BASIN AND THEREFORE WILL NOT ADVERSELY AFFECT THE FLOOD HAZARD ZONE. THIS DECREASE IS DUI TO REPLACING IMPERVIOUS PAVING WITH PERVIOUS LAND TREATMENT. MANAGING THE FIRST FLUSH OF DEVELOPED RUNOFF FROM BASIN E IS NOT WARRANTED AS THERE IS NO NEW IMPERVIOUS AREA PROPOSED WITHIN THIS BASIN. MINOR AREAS OF EXISTING IMPERVIOUS PAVING WILL BASIN W IMPROVEMENTS WILL CONSIST OF REMOVAL OF A GUARD SHACK ALONG WITH PORTIONS OF ASPHALT PAVEMENT AT THE NORTHWEST CORNER AND ALONG THE WEST BORDER OF THE SITE. NEW ASPHALT PAVING WILL REPLACE THE EXISTING GUARDHOUSE AND A LANDSCAPED BUFFER WILL BE CONSTRUCTED BETWEEN
THE ASPHALT PAVED PARKING LOT AND A RAILROAD SPUR LOCATED IMMEDIATELY WEST OF THE SITE. A
DESIGNATED FLOOD HAZARD ZONE AH COINCIDES WITH THE WEST RAILROAD SPUR, HOWEVER, THE PROPOSED
DEVELOPMENT WILL RESULT IN A MINOR DECREASE IN RUNOFF GENERATED BY THE SITE AND THEREFORE
WILL NOT ADVERSELY THE FLOOD HAZARD ZONE. THIS DECREASE IS DUE TO REPLACING IMPERVIOUS
PAYING WITH PERVIOUS LAND TREATMENT PAVING WITH PERVIOUS LAND TREATMENT. THE BASIN W LANDSCAPED BUFFER WILL SERVE AS A WATER HARVESTING AREA THAT WILL MANAGE THE FIRS FLUSH OF DEVELOPED RUNOFF FROM THE NEW DISCONNECTED IMPERVIOUS AREAS IN BASIN W. THE NEW

2,620 / 0.06 51,070 / 1.17 A. EXISTING CONDITION 1. BASIN N $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ $V_{100} = (E_W/12)A_T = (2.04/12)0.45 = 0.0763 \text{ AC-FT} =$ $Q_P = Q_{PA}A_A + Q_{PB}A_B + Q_{PC}A_C + Q_{PD}A_D$ $Q_P = Q_{100} = ((0.00^*1.56) + (0.00^*2.28) + (0.04^*3.14) + (0.41^*4.70)) =$ $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ $V_{100} = (E_W/12)A_T = (1.95/12)1.00 = 0.1626 AC-FT =$ IMPERVIOUS AREA (A IMP) CONSISTS OF 0.04 AC OF PAVED PARKING. THE WATER HARVESTING AREA IS SIZED TO CAPTURE AND TREAT THE FIRST FLUSH FROM BASIN W. $Q_P = Q_{PA}A_A + Q_{PB}A_B + Q_{PC}A_C + Q_{PD}A_D$ $Q_P = Q_{100} = ((0.00^*1.56) + (0.00^*2.28) + (0.17^*3.14) + (0.83^*4.70)) =$ 4.4 CFS THERE ARE NO PROPOSED IMPROVEMENTS TO BASIN S. RUNOFF FROM BASIN S WILL CONTINUE TO DRAIN SOUTH ON TO THE NEIGHBORING PROPERTY PER THE HISTORICAL DRAINAGE PATTERN. MANAGING THE FIRST FLUSH OF DEVELOPED RUNOFF FROM BASIN S IS NOT WARRANTED AS THERE IS NO NEW IMPERVIOUS AREA PROPOSED WITHIN THIS BASIN. THERE WILL CONTINUE TO BE NO APPARENT OFFSITE FLOWS IMPACTING THE SITE AS A RESULT OF THESE $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ $E_W = ((0.00^*0.53) + (0.00^*0.78) + (0.00^*1.13) + (0.15^*2.12))/0.15 = 2.12 \text{ IN}$ $V_{100} = (E_W/12)A_T = (2.12/12)0.15 = 0.0271 \text{ AC-FT} =$ THE GRADING PLAN SHOWS 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 EXISTING DRAINAGE $Q_P = Q_{PA}A_A + Q_{PB}A_B + Q_{PC}A_C + Q_{PD}A_D$

THE FOLLOWING CONCLUSIONS HAVE BEEN ESTABLISHED AS A RESULT OF THE EVAULATIONS CONTAINED HEREIN: 1. THIS PROJECT IS A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA. 2. THE PROPOSED IMPROVEMENTS WILL RESULT IN A MINOR DECREASE IN DEVELOPED PEAK DISCHARGE AND VOLUME OF RUNOFF GENERATED BY THE SITE. 3. A DESIGNATED FLOOD HAZARD ZONE AH WITH A BFE OF 4959 IS LOCATED IMMEDIATE EAST AND WEST OF THE SITE. THE DESIGNATED FLOOD HAZARD ZONE IS TOPOGRAPHICALLY LOWER THAN THE PROJECT SITE, THE PROPOSED DEVELOPMENT WILL RESULT IN A DECREASE IN RUNOFF DISCHARGED TO THE FLOOD HAZARD ZONE. 4. DEVELOPED WATER HARVESTING AREAS WITHIN BASINS N AND W ARE SIZED TO MANAGE AND CONTROL THE FIRST FLUSH OF RUNOFF FROM THE NEW IMPERVIOUS AREAS. BASINS E AND S DO NOT WARRANT MANAGEMENT OF THE FIRST FLUSH AS THERE ARE NO NEW IMPERVIOUS AREAS PROPOSED WITHIN THESE BASINS. 5. A NEW PRIVATE 12" STORM DRAIN WITHIN BASIN N WILL CONNECT TO THE PUBLIC STORM DRAIN SYSTEM IN BELLAMAH AVE NW BY SO#19 PERMIT. THIS PRIVATE STORM DRAIN WILL CONVEY OVERFLOW RUNOFF FROM THE ONSITE WATER HARVESTING AREA TO THE PUBLIC STORM DRAIN SYSTEM. 6. A SEPARATE EROSION AND SEDIMENT CONTROL PLAN IS NOT SUBMITTED WITH THIS PROJECT AS THE PROJECT . THIS PROJECT IS NOT SUBJECT TO AN EPA NPDES PERMIT SITE CHARACTERISTICS A. PRECIPITATION ZONE : $Q_P = Q_{PA}A_A + Q_{PB}A_B + Q_{PC}A_C + Q_{PD}A_D$ $Q_P = Q_{100} = ((0.00*1.56) + (0.17*2.28) + (0.00*3.14) + (0.46*4.70)) =$ B. P_{6,100} = P₃₆₀ = c. FIRST FLUSH (90TH PERCENTILE STORM EVENT C. TOTAL PROJECT AREA (A+) = 130,000 SF = 2.98 AC $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ TOTAL DISTURBED AREA (ADIST) = 32,660 SF = 0.74 AC $E_W = ((0.00*0.00) + (0.17*0.00) + (0.00*0.00) + (0.46*0.34))/0.63 =$ D. EXISTING LAND TREATMENT $V_{FF,N} = (E_W/12)A_T = (0.25/12)0.63 = 0.0131 \text{ AC-FT} =$ 19,540 SF = 0.45 AC d. WATER HARVESTING CAPACITY (VWH) - MAX WSL @ 4959.0 TREATMENT AREA (SF/AC) AREA VOLUME EVOLUMI 0/0 1.570 / 0.04 17,970 / 0.41 2. BASIN E 43,600 SF = 1.00 AC VWH N = 1480 CF > VFF N = 570 CF .: FIRST FLUSH IS MANAGED AND CONTROLLED TREATMEN' AREA (SF/AC) 0/0 e. CITY OF ALBUQUERQUE ALLOWABLE PEAK DISCHARGE RATE FOR NEW DEVELOPMENT IN THE OLD TOWN AREA 0/0 7.500 / 0.17 Q_{ALLOW BASIN N} = 2.75 CFS/AC * 0.63 AC 36,100 / 0.83 Q_{ALLOW BASIN N} = 1.73 CFS 3. BASIN S 6.680 SF = 0.15 AC f. 8" STORM DRAIN CAPACITY (MANNING'S EQUATION) TREATMENT AREA (SF/AC) $Q = 1.49/n * A * R^{2/3} * S^{1/2}$ 0/0 n = 0.0130/0 A = 0.34 SF0/0 $R^{2/3} = (A/P)^{2/3}$ 6,680 / 0.15 P = 2.07 $R^{2/3} = 0.30$ S = 0.020060,180 SF = 4. BASIN W Q8" = 1.7 CFS < QALLOW BASIN N = 1.73 CFS .: OK TREATMENT AREA (SF/AC) 0/0 2. BASIN E 60,180 / 1.38 a. VOLUME $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ $((0.00^{+}0.53) + (0.02^{+}0.78) + (0.17^{+}1.13) + (0.78^{+}2.12))/0.97 = 1.92 \text{ IN}$ E. DEVELOPED LAND TREATMENT $V_{FF} = (E_W/12)A_T = (1.92/12)0.97 = 0.1546 \text{ AC-FT} =$ 27,530 SF = 0.63 AC AREA (SF/AC) PEAK DISCHARGE TREATMENT $Q_P = Q_{PA}A_A + Q_{PB}A_B + Q_{PC}A_C + Q_{PD}A_D$ 7,350 / 0.17 $Q_P = Q_{100} = ((0.00*1.56) + (0.02*2.28) + (0.17*3.14) + (0.78*4.70)) =$ 20,180 / 0.46 FIRST FLUSH (90TH PERCENTILE STORM EVENT) - NO NEW IMPERVIOUS AREA 42,100 SF = 0.97 AC TREATMENT AREA (SF/AC) 3. BASIN S - NO CHANGE 870 / 0.02 4. BASIN W 7.370 / 0.17 33,860 / 0.78 $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ 3. BASIN S - NO CHANGE $E_W = ((0.00*0.53) + (0.06*0.78) + (0.00*1.13) + (1.17*2.12))/1.23 = 2.05 IN$ 4. BASIN W 53.690 SF = 1.23 AC $V_{100} = (E_W/12)A_T = (2.05/12)1.23 = 0.2110 AC-FT =$ b. PEAK DISCHARGE $Q_P = Q_{PA}A_A + Q_{PB}A_B + Q_{PC}A_C + Q_{PD}A_D$ $Q_P = Q_{100} = ((0.00*1.56) + (0.06*2.28) + (0.00*3.14) + (1.17*4.70)) =$ c. FIRST FLUSH (90TH PERCENTILE STORM EVENT) - 1,630 SF (0.04 AC) OF NEW IMPERVIOUS PAVING $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$ $E_W = ((0.00*0.00) + (0.06*0.00) + (0.00*0.00) + (0.04*0.34))/0.04 = 0.34 \text{ IN}$ $V_{FFW} = (E_W/12)A_T = (0.34/12)0.04 = 0.0011 AC-FT =$ d. WATER HARVESTING CAPACITY (VWH) - MAX WSL @ 4960 AREA VOLUME EVOLUME $E_W = ((0.00^{\circ}0.53) + (0.00^{\circ}0.78) + (0.04^{\circ}1.13) + (0.41^{\circ}2.12))/0.45 = 2.04 \text{ IN}$ V_{WH W} = 460 CF > V_{FF W} = 50 CF :: FIRST FLUSH MANAGED AND CONTROLLED 1. BASIN N $((0.00^{\circ}0.53) + (0.00^{\circ}0.78) + (0.17^{\circ}1.13) + (0.83^{\circ}2.12))/1.00 = 1.95 \text{ IN}$ *V₁₀₀ = b. PEAK DISCHARGE

SECURITY ALARM SENSOR ASPHALT RAMP LECTRIC TRANSFORMER RAFFIC SIGN DUST COLLECTOR BLOWER **ELEVISION RISER** BUILDING OVERHANG CONCRETE BOLLARD CONCRETE VALLEY GUTTER COMMUNICATION LINE BY WATER FAUCET CONCRETE WOOD GUARD POST OMMUNICATION CABINE WATER METER BOX OMMUNICATION CONDUIT WATER MANHOLE-VAULT CONCRETE DRIVE PAD ANDSCAPING CRUSHER FINES WOOD POWER POLE CONCRETE HEADER CURB CENTERLINE DOOF CENTERLINE DOUBLE DOOR WATER VALVE BOX CHAIN LINK PAINTED UTILITY MARKER CHAIN LINK FENCE WITH 0.5'ø TREE TRUNK DIAMETER COMMUNICATION RISER DECIDUOUS TREE CONCRE COMMUNICATION PULLBOX SMALL DECIDUOUS TREE CONCRETE RAMP CONCRETE CONCRET CONIFEROUS TREE CONCRET CONCRE CONCRETE SIDEWALK SMALL SHRUB TREE STUMP CONCRETE DOCK PROPOSED STORM DRAIN ASPHAL LECTRIC BREAKER BOX ECTRIC JUNCTION BOX EXISTING FIRE HYDRANT LECTRIC PROPOSED FIRE HYDRAN EXISTING VALVE BOX ---4)43----FIRE LINE CONNECTION EXISTING WATER SERVICE ----BY PAINT MARK EXISTING WATER LINE PERMANENT MARKER ---SAS---GAS PRESSURE REGULATOR-TEST TOP OF CURB TOP OF GRATE GUY WIRE ANCHOR HANDICAPPED PARKING SIGN + 20.05EXISTING SPOT ELEVATION ASPHALT SPEED HUMP **4.00** RRIGATION CONTROL BOX EXISTING FLOWLINE RRIGATION VALVE BOX · · · PROPOSED FLOWLINE STEEL LADDER ANDSCAPE DIVIDER-BRICK _ - -4970- - EXISTING CONTOUR METAL BUILDING COLUMN METAL HAND RAIL ---- RIGHT OF WAY LINE PUBLIC EASEMENT LINE HIGH POINT / DIVIDE OVERHEAD COMMUNICATION FRHFAD BASIN BOUNDARY PROPOSED DRAINAGE PARKING LO BASIN BOUNDARY PRESSURE RELEASE VALVE PARKING STALL STRIPE PROPOSED CONCRETE REINFORCED CONCRETE PIPE BUILDING ROOF DRAIN ROOF OVERHANG ROLL-UP DOCK DOOR LANDSCAPING RIVER ROCK RAILROAD SWITCH RAILROAD TRACK SANITARY SEWER SANITARY SEWER LINE BY STORM DRAIN INLET STEEL GUARD POST SLIDING GATE RAILROAD TRACK BARRICADE SIDEWALK

_EGEND TELEVISION BY PAINT MARK TELEVISION CABINET UNKNOWN UTILITY BY PAINT MARK WATER LINE BY PAINT MARK CONCRETE WHEELCHAIR RAMP WOOD POWER POLE WITH STREET LIGHT PROPOSED BEEHIVE STORM INLET EXISTING STORM DRAIN MANHOLE EXISTING SANITARY SEWER MANHOLE EXISTING DOUBLE CLEANOUT EXISTING SINGLE CLEANOUT EXISTING SANITARY SEWER LINE TOP OF ASPHALT PAVEMENT PROPOSED SPOT ELEVATION EXISTING DIRECTION OF FLOW PROPOSED DIRECTION OF FLOW SCALE: 1" = 500PROPOSED ASPHALT PAVING PROPOSED GRAVEL PAVING EXISTING FLOOD HAZARD ZONE TEMPORARY BENCHMARK #3 (T.B.M.)

LOT 1-A, FREEWAY-OLD TOWN, LIMITED, ALBUQUERQUE, NEW

PROJECT BENCHMARK

AN AGRS BRASS DISK STAMPED "5-J13A", SET FLUSH WITH TOP OF CURB, AT THE NORTHWEST QUADRANT OF THE INTERSECTION OF MOUNTAIN ROAD N.W. AND 19TH STREET

ELEVATION = 4960.499 FEET (NAVD 1988)

A NAIL WITH WASHER STAMPED "LS 11808" SET AT BACK OF

SIDEWALK, AS SHOWN ON SHEET ELEVATION = 4960.66 FEET (NAVD 1988)

TEMPORARY BENCHMARK #4 (T.B.M.) A MAG NAIL WITH WASHER SET IN ASPHALT, AS SHOWN ON

ELEVATION = 4961.30 FEET (NAVD 1988) TEMPORARY BENCHMARK #5 (T.B.M.)

A MAG NAIL WITH WASHER SET IN ASPHALT, AS SHOWN ON SHEET ELEVATION = 4959.78 FEET (NAVD 1988)

TEMPORARY BENCHMARK #6 (T.B.M.)

A MAG NAIL WITH WASHER SET IN CONCRETE DOCK, AS SHOWN ON SHEET _. ELEVATION = 4962.33 FEET (NAVD 1988)

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DATED 08-16-2012

MESA Consulting Group 6010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109

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14.054.2\ENG\ F

DRAINAGE PLAN AND CALCULATIONS BLUE LINX WAREHOUSE ADAPTIVE RE-USE PROJECT

2. BASIN E

3. BASIN S

4. BASIN W

a. VOLUME

*V₁₀₀ =

b. PEAK DISCHARGE

V_{FF SITE} = V_{FF N} + V_{FF W}

V_{FF SITE} = 570 CF + 50 CF

6. TOTAL WATER HARVESTING ONSITE

V_{WH SITE} = 1480 CF + 460 CF

 $Q_P = Q_{100} = ((0.00*1.56) + (0.00*2.28) + (0.00*3.14) + (0.15*4.70)) =$

 $Q_p = Q_{100} = ((0.00*1.56) + (0.00*2.28) + (0.00*3.14) + (1.38*4.70)) =$

 $V_{100} = (E_W/12)A_T = (1.76/12)0.63 = 0.0928 \text{ AC-FT} =$

 $E_W = ((0.00^*0.53) + (0.17^*0.78) + (0.00^*1.13) + (0.46^*2.12))/0.63 = 1.76 \text{ IN}$

 $Q_P = Q_{PA}A_A + Q_{PB}A_B + Q_{PC}A_C + Q_{PD}A_D$

 $E_W = (E_A A_A + E_B A_B + E_C A_C + E_D A_D)/A_T$

B. DEVELOPED CONDITION

1. BASIN N

 $((0.00^{\circ}0.53) + (0.00^{\circ}0.78) + (0.00^{\circ}1.13) + (1.38^{\circ}2.12))/1.38 = 2.12 \text{ IN}$

(2.12/12)1.38 = 0.2441 AC-FT =

a. VOLUME

*V₁₀₀ =

b. PEAK DISCHARGE

b. PEAK DISCHARGE

6730 - 7080 =

4.2 - 4.4 =

5.6 - 6.5 =

5. TOTAL FIRST FLUSH FROM NEW IMPERVIOUS AREA

		ND.	DATE	BY	REVISIONS
	DESIGNED BY J.D.S.				
	DRAWN BY J.Y.R., S.C.C.				
	APPROVED BY J.G.M.				

V_{WH SITE} = 1,940 CF > V_{FF SITE} = 620 :: FIRST FLUSH MANAGED AND CONTROLLED

720 CF (INCREASE)

0.5 CFS (INCREASE)

-350 CF (DECREASE)

-0.2 CFS (DECREASE)

0 CF (NO CHANGE

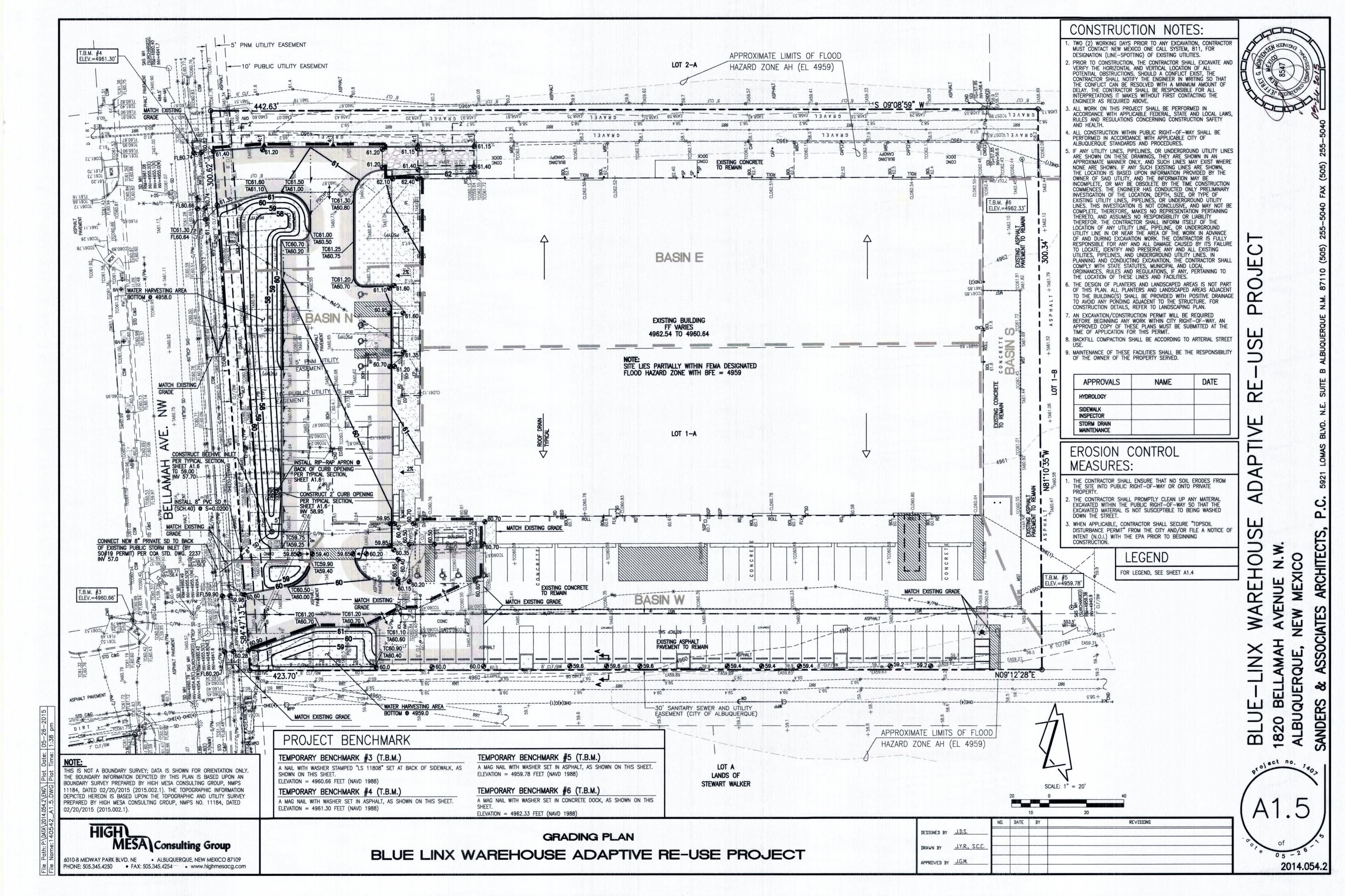
0 CFS (NO CHANGE)

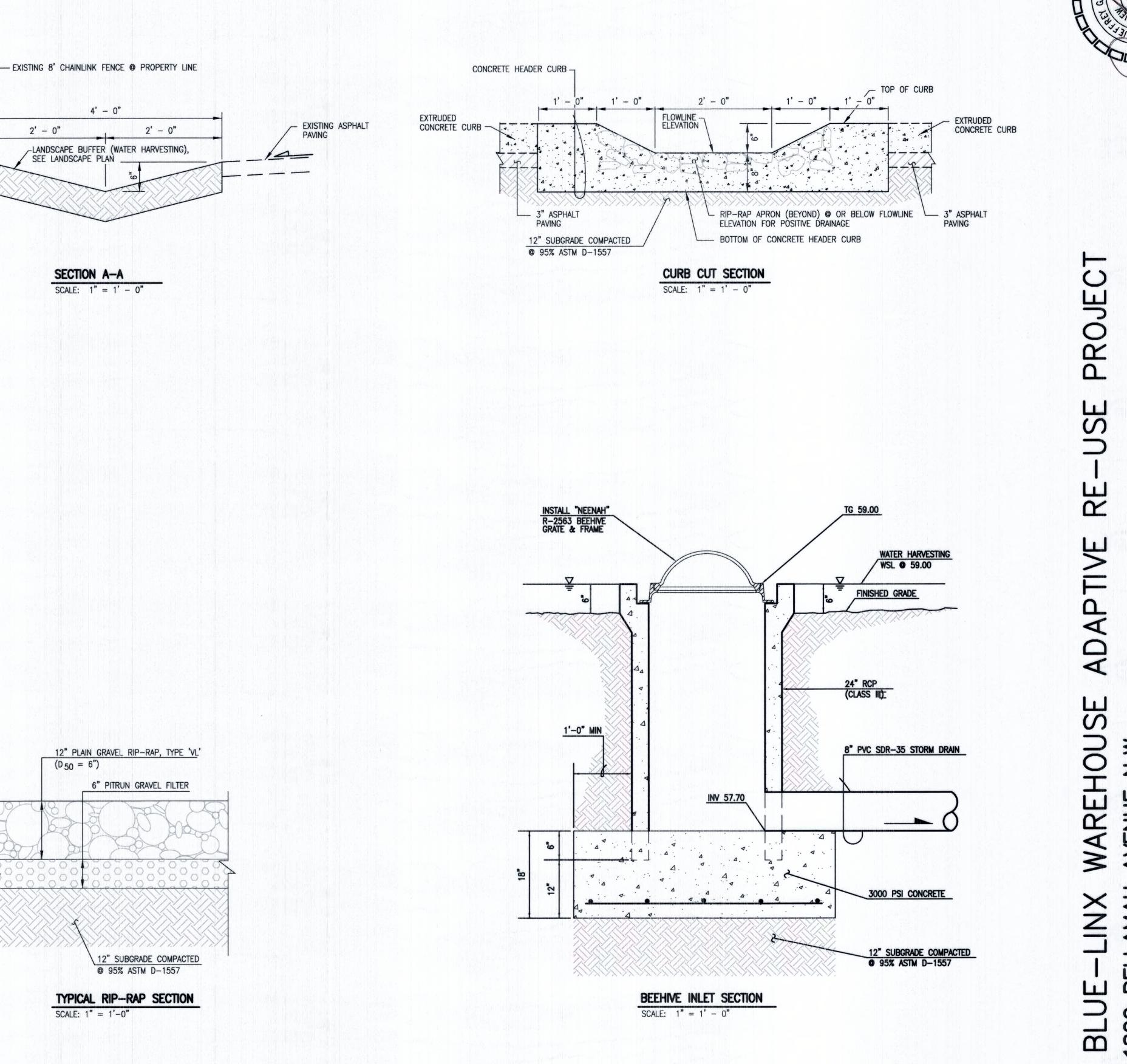
-1,440 CF (DECREASE)

-0.8 CFS (DECREASE)

2.6 CFS

2014.054.2





HIGH MESA Consulting Group

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DRAINAGE DETAILS AND SECTIONS
BLUE LINX WAREHOUSE ADAPTIVE RE-USE PROJECT

MATCH EXISTING GRADE @ P__

EXISTING GRADE -

DESIGNED BY J.D.S.

DRAWN BY J.Y.R., S.C.C.

APPROVED BY J.G.M.

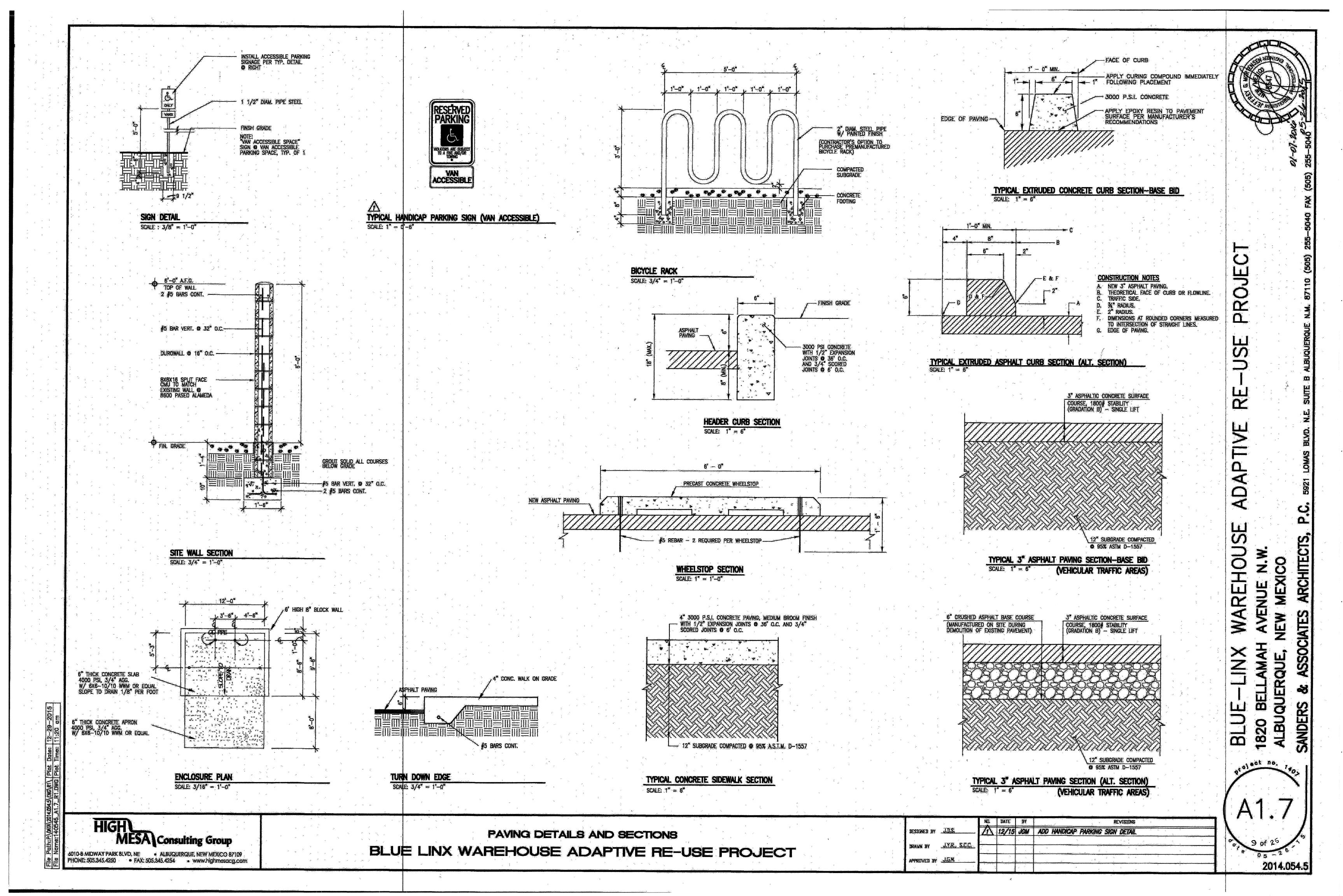
ND. DATE BY REVISIONS

REVISIONS

A1.6

ARCHITECTS,

2014.054.



Floodplain Development Permit Form Planning Dept., City of Albuquerque

Section 1: General Provisions (Applicant to read and sign)

- 1. No work of any kind may start until a permit is issued.
- 2. Applicant is hereby informed that other permits may be required to fulfill local, state, and federal regulatory requirements.
- 3. Applicant hereby gives consent to the Floodplain Administrator and his/her representative to make reasonable inspections required to verify compliance.
- 4. Applicant must provide a Critical Habitat for Threatened & Endangered Species report if working on or near an endangered species area.
- 5. The applicant certifies that all statements herein and in attachments to this application are, to the best of my knowledge, true and accurate.

application are, to the best of my knowledge, true and accurate.
Applicant Signature from Delano Date 6/1/15
Applicant Printed Name Justin Schara Phone #: _345-4250
Section 2: Proposed Development in Special Flood Hazard Area (to be completed by Applicant)
Brief Project Description Renovation of existing warehouse. Includes renovation of inside of the building, demolition of the existing office addition for new paved parking and landscaped / water harvesting improvements.
Applicant is (check one): Owner Builder Engineer/ArchitectX
Project address/Legal Disc/Location: 1820 Bellamah Ave NW Lot 1-A, Freeway-Oldtown, Limited
Description of Work in Special Flood Hazard Area (SFHA):
A. Development Activities
Clearing x Fill Drilling Excavation X
Watercourse Alteration(Including Dredging and Channel Modifications)
Drainage Improvements _X Road, Street or Bridge Construction
Water or Sewer Line Installation _X Paving _X Walls, Fences
Storage of Materials/Equipment for more than a year Materials Volume (cu. Ft.)
Other (Please Specify)
Rev. April 2014

B. Building Development and Building Type
New Building Residential (1-4 Family) Residential (More than 4 Family)
Commercial X Addition Alteration Demolition
Manufactured Home
If an addition or alteration:
Estimated Cost of structure before addition/alteration.
Estimated Cost of Project \$ Percent of value (new/existing)
<u>Is there a Grading & Drainage Plan associated with this work?</u> Yes _X _ No
Drainage file Number: _J-13 D/O/
Section 3: Floodplain Determination (Completed by the Floodplain Administrator)
The proposed development is located in a SFHA Zone (circle one): A AE AH AO
And is located on FIRM Panel: 33/H
And is located in a Floodway:YesXNo
BFE if Applicable: 4959
Drainage File Number: 5/3D/0/
Floodplain Permit Number: 5/3 F/0/
Building Permit / Work Order #: 1
Site specific Instructions: Build & Maintain according
to approved Gracting & Drainage Plan
Dated: 5/26/15
Signed: Date:
Printed Name: Ruk K. Rael

If proposed development is a building complete section 4.

Section 4: Requirements for building in a SFHA:
(To be completed by the Floodplain Administrator or Representative).
BFE (unless not available) Minimum Finished Floor Elevation:
Minimum Lowest Adjacent Grade (LAG):
Change in water elevation (if in a Floodway):
Is flood-proofing required: YES NO
If yes, method of flood-proofing:
Company certifying the flood-proofing:
An Elevation Certificate is required for structural development in a SFHA. A Certificate of
Occupancy will not be granted until the Planning Department receives the Elevation Certificate.
Section 5: Post Development Certification:
A. For structural Development:
Elevation Certificate received on (Date):
Finished Floor Elevation:
Lowest adjacent grade:
The Floodplain Administrator or Representative verifies that the above information is
acceptable is not acceptable per the City of Albuquerque Floodplain Ordinance.
B. The site was visually inspected on (Date)
Certificate of Occupancy approved on (Date)
Signature: Date:
Signature: Date: Printed Name: