CITY OF ALBUQUERQUE

Richard J. Berry, Mayor

May 29, 2017

Farshad Omidvaran, P.E.
Parsons Brinkerhoff
6100 Uptown Blvd NE
Albuquerque, NM 87110

RE: **ABQ Ride Daytona Transit Facility**
Conceptual Grading and Drainage Plan
Engineer's Stamp Date: 5/26/17
Hydrology File: J09D025

Dear Mr. Omidvaran:

Based on the information provided in your submittal received on 5/26/17, the Conceptual Grading and Drainage Plan is approved for Administrative Amendment for Grading Permit and Paving Permit.

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

Sincerely,

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

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

Orig: Drainage File

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2016)

Project Title: ABQ Ride Daytona Design Building Permit #: _____ Hydrology File #: _____

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

Legal Description: Lot A, West Side Transit Facility

City Address: 8001 Daytona Road NW, Albuquerque, NM 87121

Applicant: Daytona Transit Facility (COA) Contact: Nolan Meadows

Address: 8001 Daytona Place, NM, Albuquerque, NM 87121

Phone#: 505-239-9924 Fax#: _____ E-mail: nmeadows@cabq.gov

Other Contact: WSP|Parsons Brinckerhoff Contact: Jim Buckman

Address: 6100 Uptown Blvd. NE Suite 600, Albuquerque, NM 87110

Phone#: 505-878-6577 Fax#: _____ E-mail: Buckman@pbworld.com

Check all that Apply:

DEPARTMENT:

✓ HYDROLOGY/ DRAINAGE

___ TRAFFIC/ TRANSPORTATION

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)

___ OTHER (SPECIFY) _____

___ PRE-DESIGN MEETING?

IS THIS A RESUBMITTAL?: ✓ Yes ___ No

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

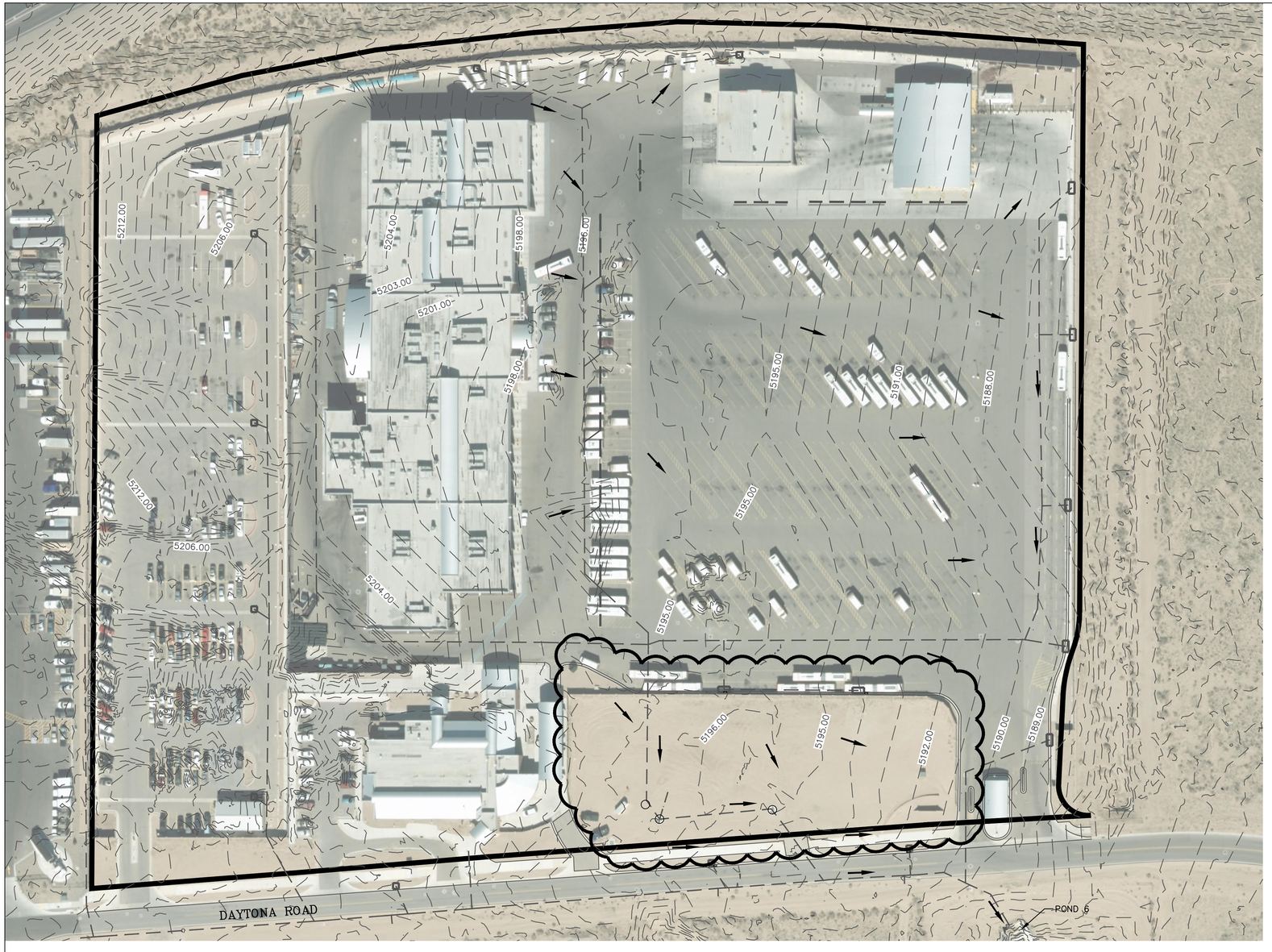
___ CLOMR/LOMR

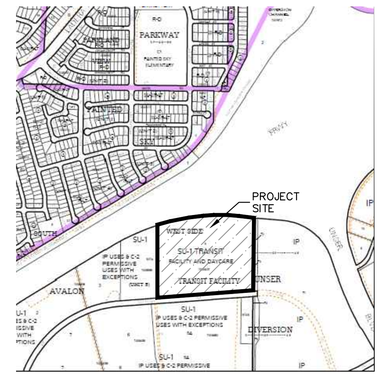
✓ OTHER (SPECIFY) Administrative Amendment

DATE SUBMITTED: 5/26/2017 By: [signature] for Jim Buckman

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

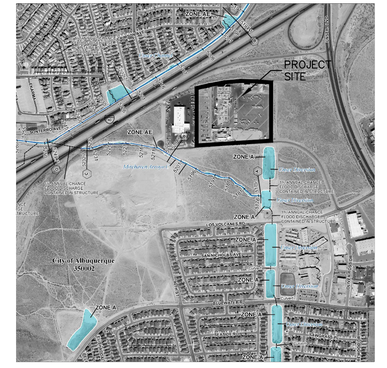
FEE PAID: _____





VICINITY MAP

ZONE ATLAS MAP: J-09-Z



FIRM MAP

MAP# 35001C0328
11/04/2016

LEGEND

- EXISTING FLOW DIRECTION
- EXISTING STORM DRAIN SYSTEM
- EXISTING BASIN BOUNDARY
- EXISTING INLET
- EXISTING TRENCH DRAIN

EXISTING CONDITIONS
THE EXISTING SITE IS NOT LOCATED WITHIN A DESIGNATED FLOOD ZONE. THE ENTIRE SITE DRAINS EASTERLY AND SOUTHEASTERLY TO AN EXISTING STORM DRAIN SYSTEM THAT CONVEYS THE FLOW TO AN EXISTING OFFSITE POND KNOWN AS POND 6 IN THE I-40 SOUTH AND UNSER DIVERSION MINI DMP.

LEGAL DESCRIPTION
LOT A, WEST SIDE TRANSIT FACILITY

NOTE:
THE CLOUDED AREA IDENTIFIES THE PORTION OF THE SITE THAT WOULD BE MODIFIED UNDER THIS PROJECT. NO CHANGES TO THE REMAINDER OF THE SITE ARE ANTICIPATED. SEE SHEET 2, PROPOSED CONDITIONS DRAINAGE BASIN MAP OF THE PLANS FOR THE PROPOSED MODIFICATIONS.

GRAPHIC SCALE
60 0 30 60 120
(IN FEET)
1 inch = 60 ft.

AS BUILT INFORMATION

BENCH MARKS
SURFACE ELEVATIONS DERIVED FROM 2010
BERNALILLO COUNTY LIDAR DATA

CONTRACTOR
WORK STARTED BY
WORK COMPLETED BY
ACCEPTANCE BY
VERIFICATION BY
DRAWINGS CORRECTED BY

MICRO-FILM INFORMATION
RECORDED BY
NO.

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

ENGINEER'S SEAL
FARSHAD H. OMIDVARAN
NEW MEXICO
10720
5/26/17
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REMARKS	BY
		DESIGN	
DESIGNED BY:	FARSHAD OMIDVARAN		DATE 5/26/17
DRAWN BY:	CARLOS D. ROMO		DATE 5/26/17
CHECKED BY:	FARSHAD OMIDVARAN		DATE 5/26/17

PARSONS BRINCKERHOFF

ABQRIDE

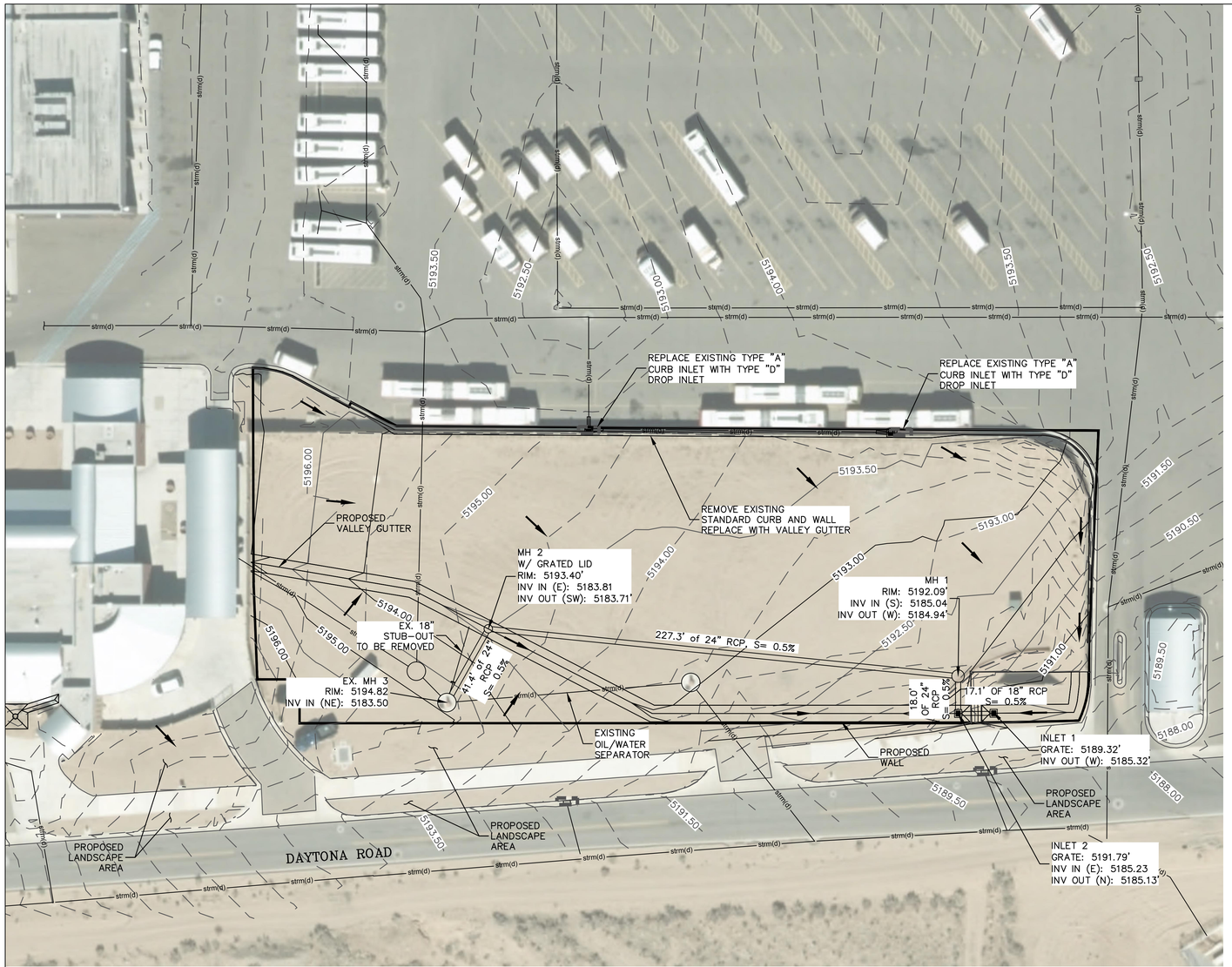
CITY OF ALBUQUERQUE
TRANSIT DEPARTMENT
ABQ RIDE

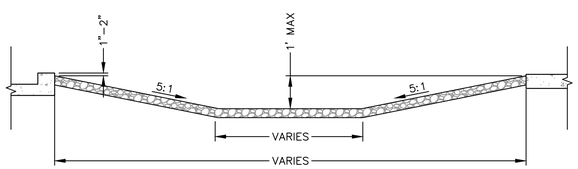
ABQ RIDE DAYTONA DESIGN
CONCEPTUAL GRADING AND DRAINAGE PLAN
EXISTING CONDITIONS DRAINAGE BASIN MAP

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL		MO./DAY/YR.	MO./DAY/YR.

City Project No.	Zone Map No.	Sheet
COA 5658.05	J-09-Z	1 of 2

J:\33749 ABQ Ride Daytona Design\04 Engineering - COA 33749A\Proposed\Drainage\BasinMaps.dwg May 26, 2017 - 12:49pm Saved By: romocd





NOTE:
AREA WILL BE GRAVEL-LINED AND XERISCAPED.

LANDSCAPE AREA SECTION

N.T.S.

LEGEND

- PROPOSED FLOW DIRECTION
- BASIN BOUNDARY
- PROPOSED INLET
- PROPOSED 0.5' CONTOURS
- EXISTING INLET
- EXISTING STORM DRAIN SYSTEM
- PROPOSED STORM DRAIN
- EXISTING 0.5' CONTOURS

GRAPHIC SCALE

30 0 15 30 60

(IN FEET)
1 inch = 30 ft.

THE EFFECTS OF THE IMPROVEMENTS (ADDITIONAL IMPERVIOUS AREA) ON THE DOWNSTREAM FACILITIES

HYDROLOGIC DATA - EXISTING (UNPAVED AREA)								
AREA (acres)	LAND TREATMENT PERCENTAGES BY TYPE				YIELD (cfs/ac)	Q100 (cfs)	V100-24 (ac-ft)	V100-24 (cu-ft)
	A	B	C	D				
1.25	-	-	100	-	2.87	3.6	0.103	4484

HYDROLOGIC DATA - PROPOSED (PAVED AREA)								
AREA (acres)	LAND TREATMENT PERCENTAGES BY TYPE				YIELD (cfs/ac)	Q100 (cfs)	V100-24 (ac-ft)	V100-24 (cu-ft)
	A	B	C	D				
1.25	-	-	-	100	4.37	5.5	0.253	11006

DELTA Q100 = 1.87 CFS

DELTA V100-24 = 6522.36 CU. FT.

THE I-40 SOUTH AND UNSER MINI DMP PREPARED BY EASTERLING CONSULTANTS LLC, APRIL 2014. HAS EVALUATED THIS SITE AS FULLY DEVELOPED AND HAS CONCLUDED THAT THE DOWNSTREAM STORM DRAIN AND POND FACILITIES HAVE SUFFICIENT CAPACITY. THE REPORT DESIGNATES THE SITE AS SUBBASIN A-3D WITH A DRAINAGE AREA OF 19.63 ACRES AND A CURVE NUMBER OF 91 ON THE EXISTING CONDITIONS DRAINAGE BASIN MAP.

THE DAYTONA TRANSIT FACILITY IS COVERED UNDER AN EXISTING EPA'S SWPPP FOR INDUSTRIAL ACTIVITIES AND ANY RUNOFF FROM THE BUS PARKING AREAS MUST GO THROUGH OIL/WATER SEPARATORS. IN COMPLIANCE WITH THE INDUSTRIAL DISCHARGE PERMIT FOR THE SITE, THE RUNOFF FROM THE BUS PARKING AREAS CANNOT BE RETAINED AND INFILTRATED ON SITE, AND IT HAS BEEN DESIGNED TO BE COLLECTED AND CARRIED THROUGH THE EXISTING STORM DRAIN SYSTEM AND OIL/WATER SEPARATORS.

BECAUSE DAYTONA TRANSIT FACILITY IS AN EXISTING, MOSTLY PAVED SITE, IT IS NOT POSSIBLE TO MEET THE CURRENT DPM REQUIREMENTS FOR STORM WATER RETENTION. THE VOLUME OF THE REQUIRED FIRST FLUSH STORM WATER RETENTION IS EQUAL TO: (IMPERVIOUS AREA X (0.44 - 0.1)/12); IMPERVIOUS AREA = 54,353 SQ. FT. AND REQUIRED VOLUME = 1540 CU. FT. A PORTION OF THE REQUIRED FIRST FLUSH VOLUME, CONSISTING OF THE RUNOFF THAT FALLS ON THE PROPOSED LANDSCAPE AREAS AND BUFFERS ALONG THE TRANSIT CENTER FRONTAGE, WILL BE RETAINED ON-SITE. THIS PROVIDED RETENTION VOLUME IS EQUAL TO: (LANDSCAPE & BUFFER AREAS X 0.34)/12; LANDSCAPE AREA = 31,991 SQ. FT., PROVIDED RETENTION VOLUME = 906 CU. FT. THE RUNOFF FROM THE BUS PARKING AREAS WILL GO THROUGH THE OIL/WATER SEPARATORS.

A NEW STORM DRAIN TRUNK LINE, 24" DIAMETER, WILL BE CONSTRUCTED TO DRAIN INTO THE EXISTING OIL/WATER SEPARATORS. THIS NEW STORM DRAIN SYSTEM WILL BE CONNECTED TO THE EXISTING MH 3.

STORM DRAIN TRUNK LINE CAPACITY (FROM MH1 TO MH2)
THE STORM DRAIN TRUNK LINE CAPACITY WAS DETERMINED USING THE ORIFICE AND MANNING'S EQUATION.

ORIFICE EQUATION:
$Q = C_d A(2gD)^{0.5}$; WHERE Cd= 0.60, A= AREA OF THE 24" STORM DRAIN (3.14 SQ.FT), D= 6.7 FT. AND FLOW CAPACITY Q= 39.1 CFS. ALTERNATIVELY THE MANNING'S EQUATIONS WAS ALSO USED.

MANNING EQUATION:
$Q = (1.49/n)AR^{2/3}S^{1/2}$; WHERE n= 0.013, A= 3.14 SQ.FT., R= 0.5 FT., S= 0.005 FT./FT., AND FLOW CAPACITY Q= 16.03 CFS. THE SLOPE OF THE ENERGY GRADE LINE WAS ASSUMED TO BE EQUAL TO THE SLOPE, S, OF THE PROPOSED TRUNK LINE.

THEREFORE, THE CONTROLLING FLOW CAPACITY FOR THE PROPOSED STORM DRAIN IS Q= 16.03 CFS.

THE PROPOSED IMPROVEMENTS UNDER THIS PROJECT WOULD INCREASE THE 100-YEAR FLOW TO 5.5 CFS ±, WHICH IS 2 CFS ± HIGHER THAN THE EXISTING 100-YEAR FLOW OF 3.6 CFS. TWO PROPOSED TYPE D INLETS (LOCATED ON THE SOUTHEAST CORNER OF THE PROJECT SITE) AND ONE MANHOLE WITH GRATE (LOCATED ON THE SOUTHWEST CORNER OF THE PROJECT SITE) WILL CAPTURE THE PROPOSED 100-YEAR FLOW OF 5.5 CFS ±.

DROP INLET CAPACITY
OF THE 5.5 CFS, 1 CFS IS CAPTURED IN INLET 1 AND 4.5 CFS IS CAPTURED IN INLET 2. FOR THE WORST CASE SCENARIO, THE DRAINAGE AT INLET 2 WOULD POND TO A DEPTH (D) OF 0.3'. THE PONDING DEPTH WAS DETERMINED USING THE WEIR EQUATION: $Q = C_W P D^{3/2}$; WHERE C_W= 3.0, P= PERIMETER OF THE DRAINAGE GRATE, 10.8 FT, Q= 4.5 CFS, AND D= 0.3'. THE MAJORITY OF THE PONDING FROM THE 100-YR RUNOFF WOULD BE CONTAINED WITHIN THE VALLEY GUTTER, WITH THE REMAINDER PONDING ALONG THE PROPOSED WALL.

LANDSCAPE NOTES, STREET SCAPE CATEGORY:
THE LANDSCAPE AREA BETWEEN THE SIDEWALK AND BACK OF CURB IS TO BE DEPRESSED AND COVERED IN ROCK TO PREVENT EROSION. SEE THE DETAIL AND NOTES BELOW:

1. SWALE TO HAVE SIDE SLOPES OF 5:1 (H:V)
2. FOR WIDE LANDSCAPE BUFFERS, GREATER THAN 10 FEET, THE MAXIMUM DEPTH IS 10 INCHES.
3. LANDSCAPE BUFFERS 2 FEET AND LESS IN WIDTH ARE EXCLUDED.
4. FINAL GRADE OF DIRT TO BE 1 TO 2 INCHES BELOW TOP OF CURB AND TOP OF SIDEWALK GRADE.
5. SURFACE BETWEEN BACK OF CURB AND SIDEWALK TO BE COVERED WITH GRAVEL MULCH (MIN. ¾"), COBBLES OR RIPRAP. DO NOT FILL ENTIRE SWALE.
6. A CHECK DAM WILL BE REQUIRED FOR SWALES ON STEEPER LONGITUDINAL SLOPES, 2.5% AND GREATER, AND LONGER SECTIONS. THE ENGINEER WILL DETERMINE THE LOCATION.
7. LANDSCAPE FABRIC IS RECOMMENDED, BUT NOT REQUIRED, BETWEEN THE DIRT AND THE STONE. IF LANDSCAPE FABRIC IS TO BE USED IT IS TO BE PERMEABLE.
8. IN THE CASE WHERE THE SIDEWALK IS EXISTING AND THE LANDSCAPE BUFFER IS IMPROVED WITH LANDSCAPE AND/OR SOME FORM OR EROSION PROTECTION, THIS REQUIREMENT DOES NOT APPLY.

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY
WORK COMPLETED BY
ACCEPTANCE BY
VERIFICATION BY
DRAWINGS COMPILED BY
MICRO-FILM INFORMATION
RECORDED BY
NO.

BENCH MARKS
"TRIMBLE VRSNow RTK NETWORK" WITH CHECKS TO NGS CONTROL STATION "NGS Q 424"

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
FARSHAD H. OMIDVARAN
NEW MEXICO
10720
REGISTERED PROFESSIONAL ENGINEER
5/26/17

NO.	DATE	REMARKS	BY

DESIGN
DESIGNED BY: FARSHAD OMIDVARAN DATE 5/26/17
DRAWN BY: CARLOS D. ROMO DATE 5/26/17
CHECKED BY: FARSHAD OMIDVARAN DATE 5/26/17

PARSONS BRINCKERHOFF

ABQ RIDE

CITY OF ALBUQUERQUE
TRANSIT DEPARTMENT
ABQ RIDE

ABQ RIDE DAYTONA DESIGN
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City Project No.	Zone Map No.	Sheet
COA 5658.05	J-09-Z	2 of 2

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