CITY OF ALBUQUERQUE

Richard J. Berry, Mayor

March 30, 2017

Fred C. Arfman, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. N.E
Albuquerque, NM, 87108

RE: Alameda Self Storage – Oakland Storm Drain Improvements
Grading Plan
Stamp Date: 3/2/17
Hydrology File: C18D064A

Dear Mr. Arfman:

Based upon the information provided in your submittal received 3/6/2017, the Grading Plan and Drainage Report (Supplemental Information Onsite Pond Revisions) is approved for Grading Permit and Paving Permit.

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

Renee C. Brissette

Reneé C. Brissette, P.E.
Senior Engineer, Hydrology
Planning Department

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

Orig: Drainage File

MARCH 2, 2017

SUPPLEMENTAL INFORMATION

FOR

ALAMEDA SELF STORAGE BUILDING ADDITIONS

6800 Oakland Ave. NE
Albuquerque, NM

PROJECT NO. 2204

BY

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates

Thomas O. Isaacson, PE(RET.) & LS(RET.)
Fred C. Arfman, PE
Åsa Nilsson-Weber, PE

INTRODUCTION

The Alameda Self-Storage facility was developed in 2006 with an interim drainage solution consisting of a private on-site stormwater retention facility along the west property line. The holding of developed storm waters was required due to limited downstream capacity in the rural type public roadways adjacent to the site and the absence of a storm drain extension from the public system(s) to the west.

The purpose of this report is to support the elimination of the existing on-site detention pond based on the upcoming storm drain system in Oakland Ave.

I. EXISTING CONDITIONS

The approved Grading and Drainage Plan (**C18/D64A –included for information**) for the Alameda Self Storage facility (Property) prepared by this office (I&A Project Number 1418 dated May 2005) consisted of a full build plan and an interim condition plan which required on-site retention ponding until proposed off-site public storm drain infrastructure was available to the site.

II. PROPOSED CONDITIONS

Per the approved 2005 plans and supplemental information, once the Oakland Avenue / Alameda Blvd. storm drain systems are installed, the interim retention pond will no longer be required.

South Basin: The recent (2015) construction of the Alameda Blvd. storm drain and paving improvements included public storm drain with a stub provided to this property. The south First Flush / detention pond was constructed in 2015/16 to release to Alameda Blvd. at the allowable rate of 5.84 cfs.

North Basin: The 1.8 acre North Basin will generate 8.5 cfs. Per the Master Plan, the allowable discharge rate, based on a land treatment ratio of A:0 B:16 C:34 D:50 is 7.0 cfs.

The area outside the perimeter walls will continue to free discharge 0.5 cfs to Oakland Ave. 1.6 acres inside the perimeter walls will drain 8.0 cfs to the proposed detention pond which will provide orifice control to reduce the discharge to 6.5 cfs to the Oakland Ave. storm drain.

Total discharge to Oakland Ave. = 0.5 cfs (exterior basin) + 6.5 (from NW pond) = 7.0 cfs. OK

Total detention will be 8.0 cfs (portion of north basin within perimeter walls) – 6.5 cfs (discharge from pond to Oakland storm drain stub) = 1.5 cfs.

III. FIRST FLUSH REQUIREMENTS

Effective May of 2014, the City of Albuquerque Drainage Ordinance requires that all new development projects, where practicable, shall manage the First Flush defined as the storm water runoff during the early stages of a storm equal to or less than runoff from a 90th Percentile Storm Event (=0.34”/sf impervious area after initial abstraction).

The south pond, constructed in 2015 provides first flush retention volume of 1,800 cf.

The north pond which will be constructed by this project, has an area of 900 sf. At a depth of 1.5’, the available retention volume = 900 sf x 1.5 ft = 1,350 cf. Total First Flush retention = 3,150 cf.

CALCULATIONS: NORTH BASIN

Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE

AREA OF SITE: 77220 SF = 1.8

100-year, 6-hour

ALLOWABLE DISCHARGE:

		Treatment SF	%
Area A	=	0	0%
Area B	=	26254.8	34%
Area C	=	12355.2	16%
Area D	=	38610	50%
Total Area	=	77220	100%

DEVELOPED FLOWS:

		Treatment SF	%
Area A	=	0	0%
Area B	=	3861	5%
Area C	=	3861	5%
Area D	=	69498	90%
Total Area	=	77220	100%

EXCESS PRECIP:

Precip. Zone 3

E_A = 0.66

E_B = 0.92

E_C = 1.29

E_D = 2.36

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted E} = \frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$$

Historic E	=	1.70 in.	Developed E	=	2.23 in.

On-Site Volume of Runoff: V360 = E*A / 12

Historic V_{360}	=	10934 CF	Developed V_{360}	=	14379 CF

On-Site Peak Discharge Rate: $Qp = Q_{pA}A_A+Q_{pB}A_B+Q_{pC}A_C+Q_{pD}A_D / 43{,}560$

For Precipitation Zone 3

Q_{pA}	=	1.87	Q_{pC}	=	3.45
Q_{pB}	=	2.60	Q_{pD}	=	5.02
Historic Q_p	=	7.0 CFS	Developed Q_p	=	8.5 CFS

The allowable discharge to the public storm drain in Oakland is = 7.0 cfs. The exterior of the property (N2) discharges 0.5 cfs. The interior (N1) will control release to 7.0 - 0.5 = 6.5 cfs.

1.6 cfs will be detained. See Hydrograph next page.

BASIN NO. N1 **DESCRIPTION** INTERIOR WALLED AREA

Area of basin flows = 69948 SF = 1.6 Ac.

The following calculations are based on Treatment areas as shown in table to the right

LAND TREATMENT

A = 0%

B = 0%

C = 0%

D = 100%

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 2.36 in.

Sub-basin Volume of Runoff (see formula above)

V_{360} = 13756 CF

Sub-basin Peak Discharge Rate: (see formula above)

Q_P = 8.06 cfs

BASIN NO. N2 **DESCRIPTION** AREA OUTSIDE PERIMETER WALLS

Area of basin flows = 7772 SF = 0.2 Ac.

The following calculations are based on Treatment areas as shown in table to the right

LAND TREATMENT

A = 0%

B = 50%

C = 50%

D = 0%

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.11 in.

Sub-basin Volume of Runoff (see formula above)

V_{360} = 716 CF

Sub-basin Peak Discharge Rate: (see formula above)

Q_P = 0.54 cfs

CALCULATIONS: 0 : 0

HYDROGRAPH FOR SMALL WATERSHED
DPM SECTION 22-2 * PAGE A-13/14

Base time, t_B, for a small watershed hydrograph is,

$tB = (2.107 * E * A / Q_P) - (0.25 * A_D / A)$

Where

E	=	2.36	inches
A	=	1.61	acres
A_D	=	1.61	acres
Q_P	=	8.1	cfs

t_B	=	0.74 hours

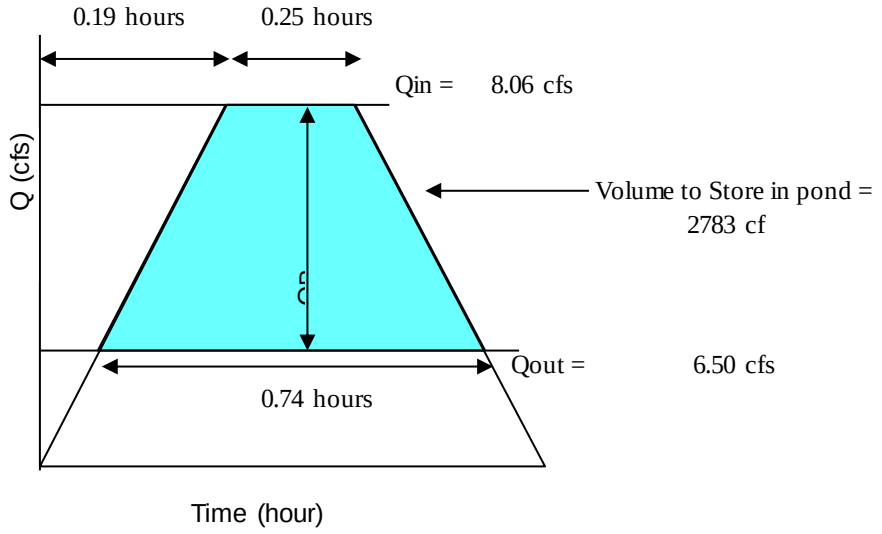
E is the excess precipitation in inches (from DPM TABLE A-8), Q_P is the peak flow, A_D is the area (acres) of treatment D, and A_T is the total area in acres. Using the time of concentration, t_C (hours), the time to peak in hours is:

$t_P = (0.7 * tC) + ((1.6 - (A_D / A)) / 12)$

Where t_C = 0.20 hours

t_P = 0.19 hours

Continue the peak for $0.25 * A_D / A_T$ hours. When A_D is zero, the hydrograph will be triangular. When A_D is not zero, the hyrograph will be trapezoidal. see the graph below:



ORIFICE EQUATION - 13" ORIFICE IN POND WALL TO STORM DRAIN

The Orifice Equation is used to calculate the Flow at the opening of a Channel

$Q = C*A * (2*g*h) ^ 0.5$

Where	Q	=	6.46	cfs	
	C	=	0.6		(indicating that the opening will function at 60% capacity)
	A	=	0.85	sq.ft.	
	g	=	32.2	ft/sec^2	
	h	=	2.48	ft	depth of flow at opening from the center of culvert
		=			

18" outlet pipe
12.5" diameter hole cut orifice plate over outlet pipe
Invert of orifice opening = 73.0
Water Surface at emergency overflow = 76.0
Center of orifice = 73.52

At a head of 2.48' (76.0 - 73.52) a 12.5" dia. opening will pass 6.46 cfs. < 6.5 cfs

ENGINEER'S CERTIFICATION (TEMPORARY)

I, SCOTT M. MCGEE, LICENSED UNDER THE LAWS OF THE STATE OF NEW MEXICO, DO HEREBY IDENTIFY THAT THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLAN (CITY APPROVAL LETTER DATED 05/26/05). THE OWNER CHOSE NOT TO CONSTRUCT THE CONCRETE VALLEY GUTTERS (KEYED NO. 6) AND ACCEPTS THE POSSIBILITY OF BIRD BATHS AND THE ASSOCIATED FUTURE MAINTENANCE EXPENSE. AS-BUILT GRADES WERE FIELD VERIFIED BY SIERRA LAND SURVEYING, NMLS NO. 9052 ON 07/03/06 IN ACCORDANCE WITH THE "NEW MEXICO ENGINEERING AND SURVEYING ACT" SECTION 61-23-1 THROUGH 61-23-32 NMSD (1978).

Scott M McGee — 7/13/06

SCOTT M. MCGEE, NMPE NO. 10519 — DATE

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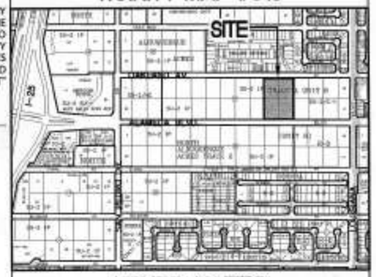
Scott M McGee — 8/08/06

SCOTT M. MCGEE, NMPE NO. 10519 — DATE

VICINITY MAP #C18



KEYED NOTES

1. CONSTRUCT SITE ENTRANCE PER C.O.A. STD. DWG. 2426. SEE ARCHITECTURAL FOR ADD'L INFO. PROVIDE SMOOTH TRANSITION FROM 8" STANDARD CURB AND GUTTER AT STREET TO 6" MEDIAN CURB AND GUTTER ON-SITE.
2. CONSTRUCT ASPHALT PAVING AT ELEVATIONS SHOWN. SEE ARCHITECTURAL FOR PARKING LAYOUT, DIMENSIONS, AND STRIPING.
3. PAVING HIGH POINT.
4. SOUTH HALF OF OAKLAND AVE. INFRASTRUCTURE INCLUDING PAVING, PUBLIC SIDEWALK AND PUBLIC STORM DRAIN TO BE CONSTRUCTED UNDER C.O.A. WORK ORDER.
5. CONSTRUCT 6" HIGH MEDIAN CURB AND GUTTER AT ELEVATIONS SHOWN FOR ALL ON-SITE CURB LOCATIONS. SEE C-2 FOR DTL.
6. CONSTRUCT 2' WIDE CONCRETE VALLEY GUTTER AT FLOWLINE ELEVATIONS SHOWN (0.0050'/' MIN. SLOPE) TO DIRECT SURFACE FLOW. SEE C-2 FOR DTL.
7. PROPOSED STORM DRAIN INLET. SEE C-2 FOR ADD'L INFO.
8. PROPOSED PRIVATE STORM DRAIN SYSTEM (ULTIMATE CONFIGURATION). SEE DETAIL SHEET C-2 FOR INTERIM CONFIGURATION.
9. ROOF FLOWS FROM THE PROPOSED BUILDINGS TO BE RELEASED TO INTERIOR PAVED ACCESS AISLES. NO ROOF DISCHARGE SHALL BE DIRECTED TO EAST OR WEST 10' LANDSCAPE SETBACK. SEE ARCHITECTURAL PLANS.
10. CONTRACTOR TO CONSTRUCT / VERIFY FF ELEVATIONS AND GRADES PER PLAN TO ENSURE DRAINAGE PATTERNS ARE ACHIEVED PER DESIGN.
11. STORM SEWER DISCHARGE LINE TO BE EXTENDED FROM STUB AT PROPERTY LINE TO OAKLAND AVE. STORM DRAIN SYSTEM AS PART OF C.O.A. WORK ORDER. SEE DETAIL SHEET C-2.
12. CONSTRUCT BUILDING RETAINING WALLS AS REQUIRED TO ACHIEVE GRADE DIFFERENCES. SEE ARCHITECTURAL. DESIGN BY OTHERS.
13. CONSTRUCT TEMPORARY OFF-SITE GRADED POND TO DIMENSIONS / ELEVATIONS SHOWN TO RETAIN OFF-SITE BASIN "200" UPSTREAM HISTORIC FLOW. OWNER NOTARIZED "PERMISSION TO GRADE" STATEMENT ON FILE. SEE SEPARATE CALCULATIONS.
14. ADJUST GRADES THIS AREA TO DIRECT OFF-SITE BASIN "100" FLOW TO OAKLAND AVENUE.
15. ADJUST GRADES THIS AREA TO DIRECT OFF-SITE BASIN "300" FLOW TO ALAMEDA BLVD. OWNER NOTARIZED "PERMISSION TO GRADE" STATEMENT ON FILE.
16. DRAINAGE PLAN THIS SHEET REFLECTS FINAL SITE DEVELOPMENT WITH ALAMEDA BLVD. AND OAKLAND AVE. STORM DRAIN SYSTEMS IN PLACE. SEE SHEET C-2 FOR TEMPORARY RETENTION POND (INTERIM CONFIGURATION) THIS AREA.
17. INTERIM CONFIGURATION: CONSTRUCT TEMPORARY GRADED ON-SITE POND TO DIMENSIONS / ELEVATIONS SHOWN TO RETAIN ON-SITE 100-YEAR 10-DAY STORM EVENT. SEE SEPARATE CALCULATIONS.
18. CONSTRUCT 25' WIDE LANDSCAPED SWALE ON SOUTH SIDE OF SITE TO PASS OFF-SITE BASIN "300" FLOW.
19. STORM SEWER DISCHARGE LINE TO BE EXTENDED FROM STUB AT PROPERTY LINE TO ALAMEDA BLVD. STORM DRAIN SYSTEM AS PART OF C.O.A. WORK ORDER. SEE DETAIL SHEET C-2.
20. CONSTRUCT RETAINING GARDEN WALL (<2' HIGH) THIS AREA TO DIVERT OFF-SITE SUB-BASIN "300" DISCHARGE TO ALAMEDA BLVD.
21. PROVIDE 1' WIDE OPENING IN CURB AT FLOWLINE ELEVATIONS SHOWN TO PASS OFF-SITE BASIN "100" DISCHARGE TO OAKLAND AVE.
22. GRADE THIS AREA TO PROVIDE 15' WIDE LANDSCAPED BASIN OVERFLOW AT ELEVATIONS SHOWN.
23. FUTURE ALAMEDA BLVD. INFRASTRUCTURE (PAVING, PUBLIC WALK AND PUBLIC STORM DRAIN).
24. DETENTION POND EXTENTS – SEE CALCULATIONS
25. 1' WIDE X 6" HIGH OPENING AT FLOWLINE TO PASS MINOR FLOW.

Survey Notes

1. Benchmark: City of Albuquerque 9-C18. An aluminum cap located in the southwest of the intersection of San Pedro Avenue & Wilshire Avenue NE. Elevation 5232.47 (Adjusted NAVD88).
2. THIS IS NOT A BOUNDARY SURVEY. APPARENT PROPERTY CORNERS ARE SHOWN FOR ORIENTATION ONLY. BOUNDARY DATA SHOWN IS FROM PREVIOUS SURVEY REFERENCED HEREON.
3. Any easements of underground structures affecting this property, including but not limited to utilities, are not a part of this survey.
4. There are no bearings on the plat of Tract A, Unit B, North Albuquerque Acres, filed 04/24/1936 Volume D, Folio 130.
5. Date of fieldwork: November 18, 2004.

FULLY DEVELOPED – SEE SHEET C-2 FOR PHASE I TEMPORARY RETENTION POND

SCALE 1"=20'

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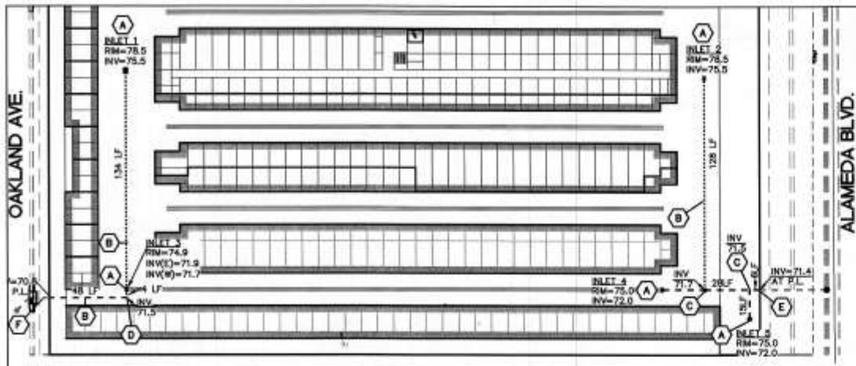
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 Fax. 505-268-2632

Scott M McGee — 5/16/05

1418GRD.dwg / b.b. — 05.16.05

OAKLAND AVE. NE
SELF STORAGE FACILITY
PARKWEST CONSTRUCTION
DRAINAGE AND GRADING PLAN

Project Mgr.	Drawn By	No.	Revisions	Sheet
SMM	B.JS			C-1
Date	Job Number			SH. OF
05.16.05	1418			



ON-SITE STORM DRAIN DESIGN – ULTIMATE CONFIGURATION

KEYED NOTES

FINAL CONFIGURATION – SEE SHEET C-1 FOR GRADES

(A) 30" DIA. NYLOPLAST INLINE DRAIN (#2730AG) WITH 30" DIA. STANDARD GRATE (#3099CGS) AND 12" DIA. OUTLET AT RIM / INVERT ELEVATIONS SHOWN.

(B) ALL STORM DRAIN PIPE TO BE 12" DIA. PVC PIPE AT LENGTHS AND INVERTS SHOWN.

(C) 12" TEE

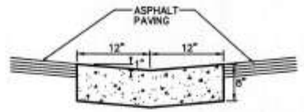
(D) 12" 90° BEND

(E) 12" PVC PIPE EXTENDED TO PROPERTY LINE FOR CONNECTION TO ALAMEDA STORM DRAIN SYSTEM. CONNECTION TO BE MADE AS PART OF ALAMEDA BLVD. CONSTRUCTION. SEE INTERIM PLAN THIS SHEET FOR TEMPORARY ON-SITE PONDING.

(F) 12" PVC PIPE EXTENDED TO PROPERTY LINE FOR CONNECTION TO OAKLAND STORM DRAIN SYSTEM. CONNECTION TO BE MADE AS PART OF OAKLAND AVE. CONSTRUCTION. SEE INTERIM PLAN THIS SHEET FOR TEMPORARY ON-SITE PONDING.

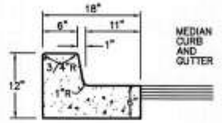
SEE INTERIM CONFIGURATION PLAN THIS SHEET FOR ON-SITE POND AND TEMPORARY STORM DRAIN CONFIGURATION.

0 20 40 80 120
SCALE 1"=40'



PROVIDE CONTRACTION JOINTS @ 10' O.C. MAXIMUM AND EXPANSION JOINTS @ 40' O.C. MAXIMUM

VALLEY GUTTER



GENERAL NOTES

1. PROVIDE CONST. CONTROL JOINTS @ 8' O.C. MAX. AND 1/2" EXPANSION JOINTS @ 48' O.C. MAX
2. EDGES SHOULD BE REMOVED WITH 3/8" EDGING TOOL
3. MEDIAN C & G REQUIRE FULL FORM ON ALL FACES

MEDIAN CURB AND GUTTER

LEGEND

	PROPERTY LINE
+78.55	EXISTING SPOT ELEVATION
79	EXISTING CONTOUR
◆ 78.0	PROPOSED SPOT ELEVATION
80	PROPOSED CONTOUR
	SURFACE FLOW DIRECTION
TG	TOP OF GRADE
TW	TOP OF WALL
TC	TOP OF CURB
FL	FLOW LINE
FF	FINISHED FLOOR
R.O.W.	RIGHT OF WAY
PL	PROPERTY LINE
×77.3	AS-BUILT ELEVATION

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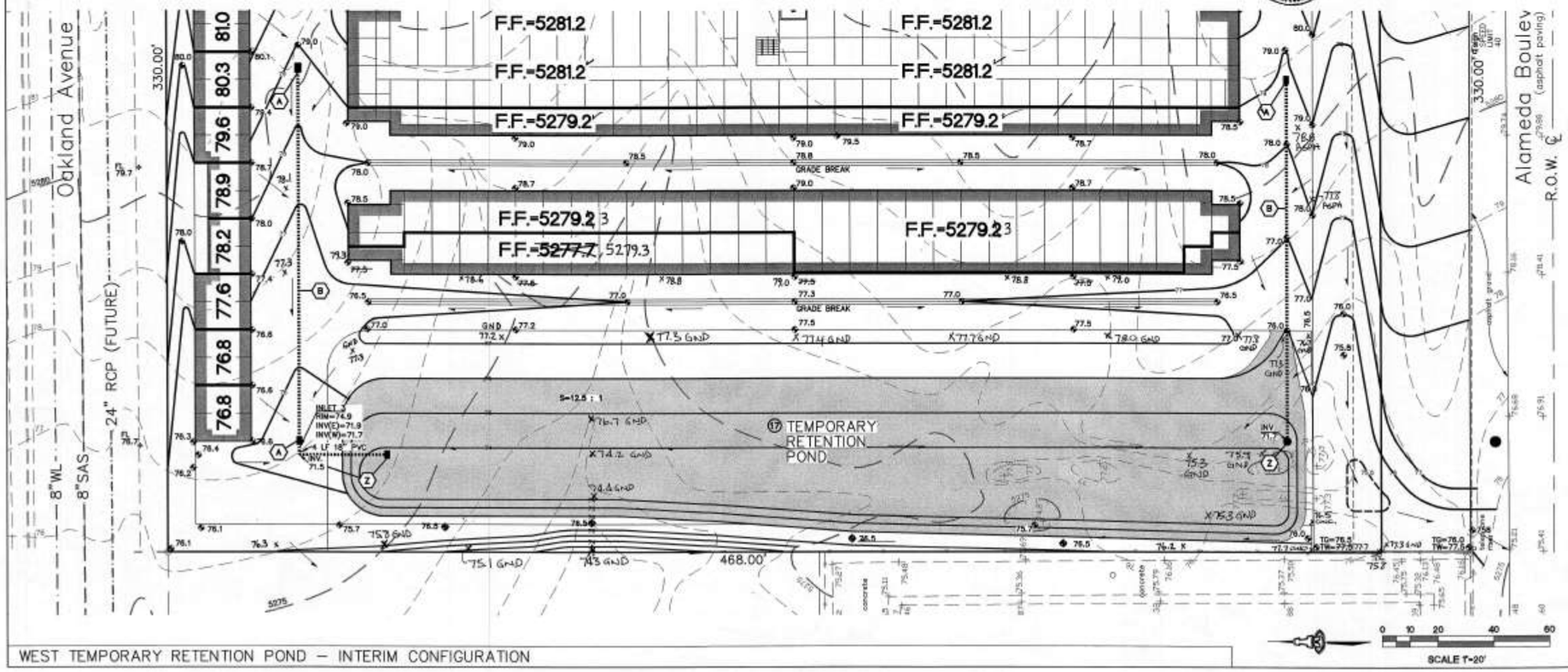
DATE



WEST TEMPORARY RETENTION POND – INTERIM CONFIGURATION

0 10 20 40 60
SCALE 1"=20'

KEYED NOTES

INTERIM GRADING, POND AND STORM DRAIN CONFIGURATION

SEE FINAL CONFIGURATION PLAN AND KEYED NOTES THIS SHEET FOR INLET RIMS AND ELEVATIONS, PIPE SIZES AND LENGTHS, AND FITTINGS. THIS PLAN COVERS INTERIM INFORMATION ONLY.

(A) INLINE DRAIN

(B) 12" PVC PIPE

INTERIM CONFIGURATION PLAN AT LEFT TO BE CONSTRUCTED AND MAINTAINED UNTIL CONNECTIONS ARE MADE TO FUNCTIONING ALAMEDA BLVD. AND THE OAKLAND AVE. PUBLIC STORM DRAIN SYSTEMS AT WHICH TIME, THE FOLLOWING ITEMS MAY BE REMOVED FOR FINAL PHASE CONSTRUCTION.

(Z) EXTEND 12" STORM DRAIN PIPE INTO TEMPORARY 36" CMP VERTICAL OUTLET PIPE TO RELEASE NORTH BASIN FLOW TO TEMPORARY RETENTION POND. CMP RIM=75.0, INVERT=71.5.

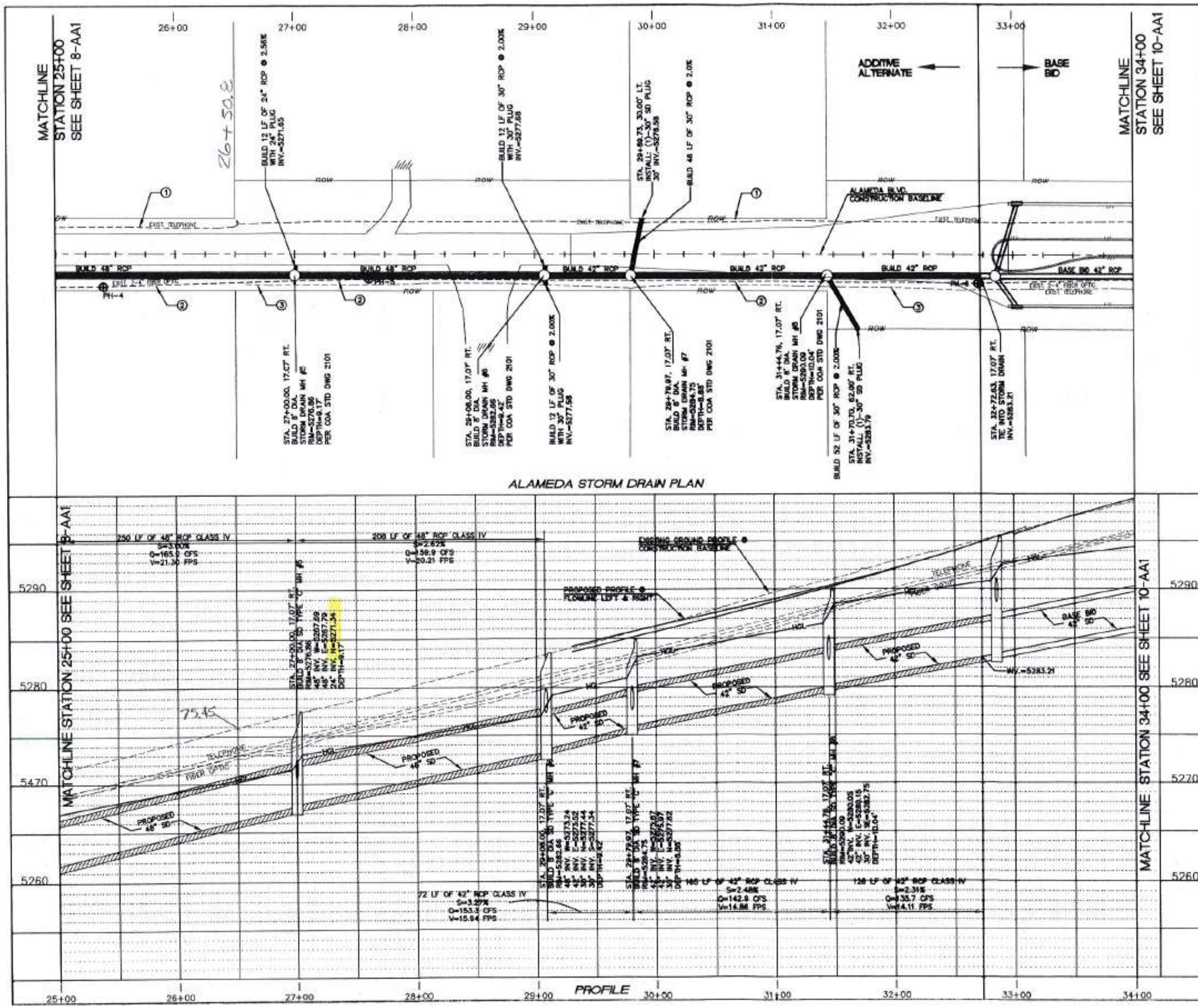
ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 Fax. 505-268-2632
1418GRD.dwg / bjb 05.16.05

OAKLAND AVE. NE SELF STORAGE FACILITY

PARKWEST CONSTRUCTION

DRAINAGE AND GRADING DETAILS

Checked By:	Drawn By:	No.	Revision	
SMM	BJB			C-2
Date:	Job Number:			SH. OF
05.16.05	1418			



KEYED NOTES:

1. EXISTING DIRECT BURY TELEPHONE LINE TO BE REMOVED AND DISPOSED BY CENTURYLINK.
2. EXISTING 2-4" PVC FIBER OPTIC LINES TO BE RELOCATED BY CENTURYLINK.
3. EXISTING TELEPHONE LINE TO BE RELOCATED BY CENTURYLINK.

POT-HOLE INFORMATION

NO.	ELEV. AT TOP OF PIPE	DESCRIPTION		
		UTILITY	MATERIAL	DIAMETER
PH-4	5269.52	FIBER OPT	PVC	2-4"
PH-5	5276.51	FIBER OPT	PVC	2-4"
PH-6	5281.91	FIBER OPT	PVC	2-4"

NOTE:
HGL BASED ON DEVELOPED CONDITIONS WITH FUTURE STORM DRAIN SYSTEM CONSTRUCTED.

SCALE: 1" = 40'

SCALE: 1" = 5'

Thompson Engineering Consultants, Inc.

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
ENGINEERING DIVISION

TITLE: ALAMEDA BLVD. WIDENING

ALAMEDA STORM DRAIN PLAN AND PROFILE STA. 25+00 TO STA. 34+00

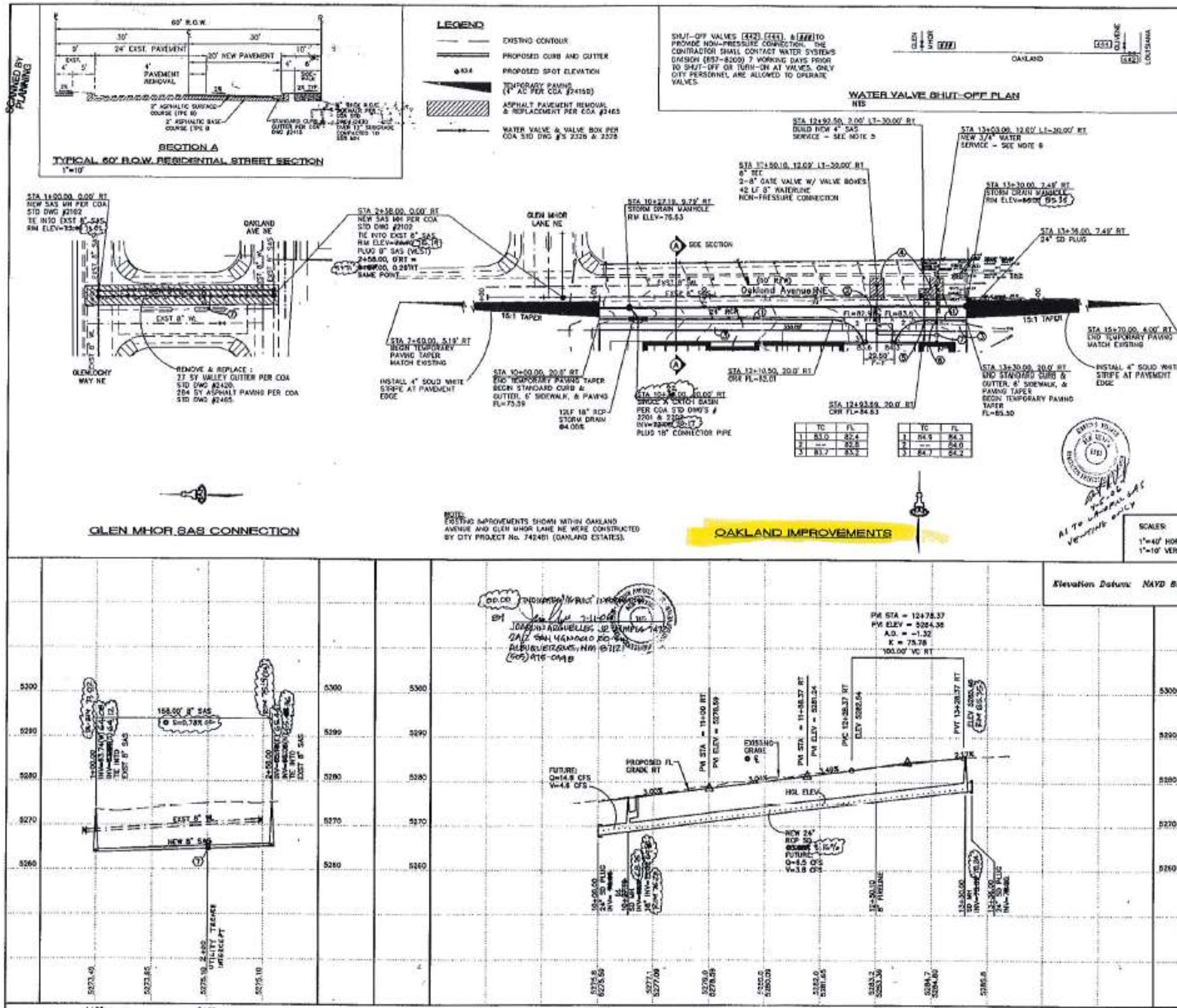
Design Review Committee: APPROVED — DESIGN REVIEW COMMITTEE

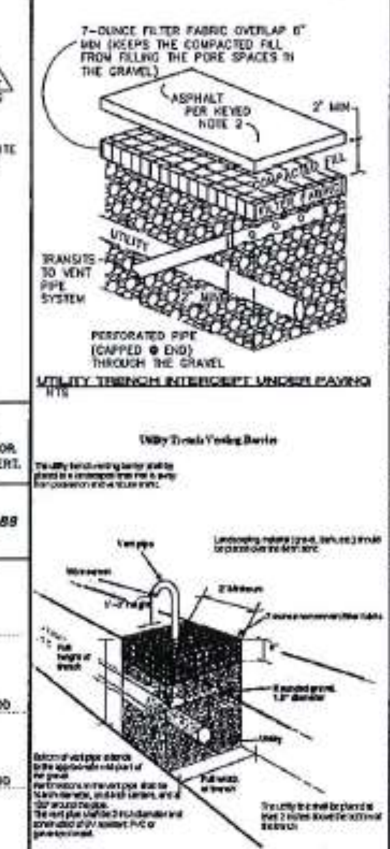
City Engineer Approval: APPROVED — CITY ENGINEER

City Project No.	Zone Map No.	Sequence No.	Sheet	Of
766391	C-18/C-19	4-4	9-AA1	11

DESIGNED BY OBT — DATE 12-2012
DRAWN BY DEM — DATE 12-2012
CHECKED BY OBT — DATE 12-2012

SURVEY INFORMATION — FIELD NOTES: NO. 1599, BY SURVEYING CONTROL INC, DATE 11-2010





KEYED CONSTRUCTION NOTES ○

1. STANDARD CURB & GUTTER PER COA STD DWG #2415A.
2. CONSTRUCT PRIVATE ENTRY DRIVE WITH 25' RADII AND UNI-DIRECTIONAL RAMPS PER COA STD DWG #2426. USE QUARTER POINT ELEVATIONS GIVEN TO TRANSITION FROM 8" CURB TO 6" CURB ONSITE. ASPHALT PAVEMENT AT TURNOUT WITHIN OAKLAND R/W SHALL BE 4" THICKNESS PER COA STD DWG #2415B. BUILD MINIMUM 3' WIDTH AT MAX 2% CROSS-SLOPE (RUNNING EAST-WEST) NORTH OF PROPERTY LINE FOR ADA CROSSING OF ENTRY DRIVE.
3. CONSTRUCT 6" SIDEWALK PER COA STD DWG #2430.
4. REMOVE & REPLACE 5ASY ASPHALT PAVING PER COA STD DWG #2465.
5. NEW 4" SAS SERVICE PER COA STD DWG #2125. INVERT AT SOUTH R/W LINE= 5280.0.
6. INSTALL NEW 3/4" WATER SERVICE AND METER BOX PER COA STD DWG #'S 2361 & 2362.
7. INSTALL UTILITY TRENCH VENT PER DETAIL BELOW. INSTALL 2" DIA SOLID PVC PIPE BETWEEN TRENCHES FOR FIRELINE, SAS SERVICE, WATER SERVICE, & GAS SERVICE (USE PERFORATED PIPE THROUGH TRENCHES).

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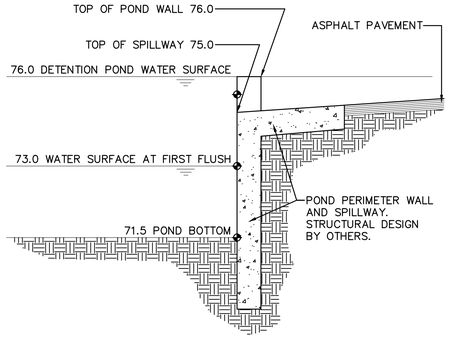
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

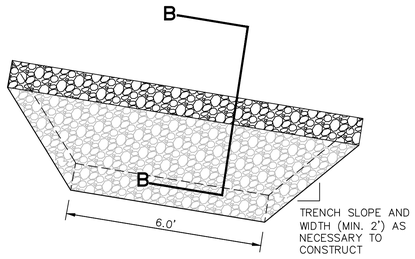
TITLE: OAKLAND AVE. PAVING PLAN & PROFILE
OAKLAND AVENUE GLEN MHOR SAS CONNECTION UTILITY PLAN & PROFILE

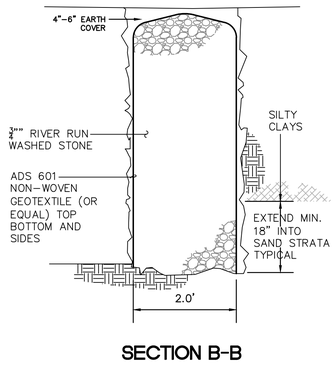
City Project No.	Zone Map No.	Sheet
762581	C-18	4 of 4



SECTION THROUGH POND SPILLWAY

SCALE: N.T.S.





SECTION B-B

PERCOLATION TRENCH

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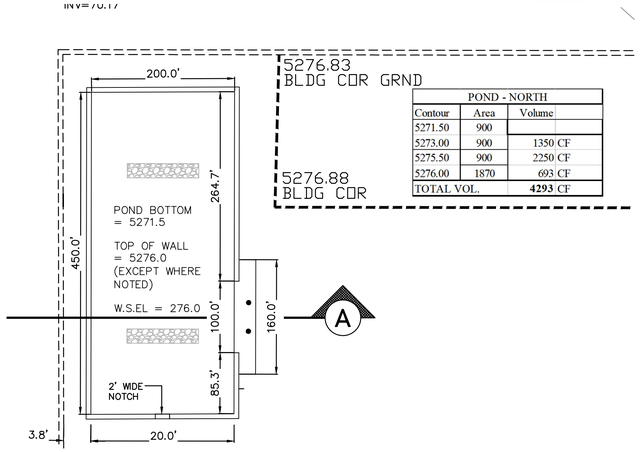
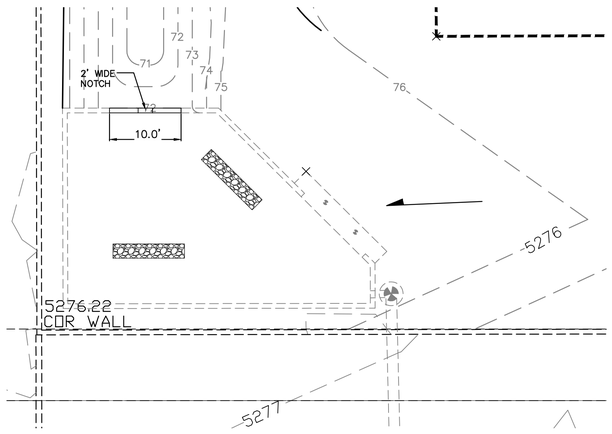


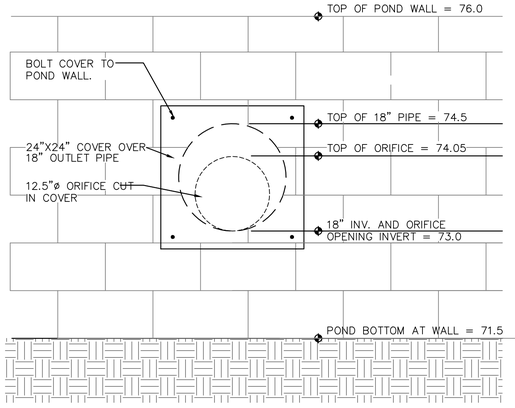
NORTH POND WALL DIMENSIONS

SCALE: 1"=10'



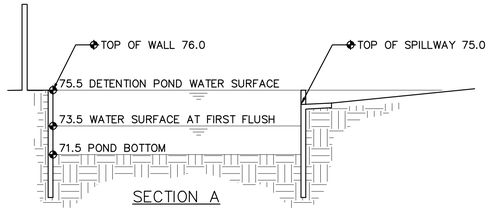
SOUTH POND WALL DIMENSIONS

SCALE: 1"=10'



POND ORIFICE OUTLET

SCALE: 1"=10'



SECTION A: THROUGH NORTH POND

SCALE: 1"=10'

STORM DRAIN NOTES

- INSTALL ALL STORM DRAIN PIPE PER ADS MANUFACTURER'S SPECIFICATIONS.
- ON-SITE PIPE SHALL BE ADS N-12 (WATERTIGHT) OR ENGINEER APPROVED EQUIVALENT. PIPE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. CONNECTION TO OAKLAND STUB (RCP) TO BE WATERTIGHT USING ADS FITTINGS AS REQUIRED.
- STORM DRAINS SHALL BE INSTALLED AT INVERTS AND SLOPES SPECIFIED ON THE PLANS. THE PIPE SHALL DRAIN AT A CONSTANT SLOPE BETWEEN FITTINGS AND MANHOLES. THE PIPE SHALL DRAIN TOWARD THE OUTLET AT ALL LOCATIONS.
- STORM DRAIN SYSTEM WILL REQUIRE REGULAR MAINTENANCE TO ENSURE PROPER FUNCTIONING DURING STORM EVENTS. ENGINEER RECOMMENDS THAT PROPERTY OWNER PUT IN PLACE INSPECTION AND MAINTENANCE CRITERIA SCHEDULED TO OCCUR MONTHLY AND AFTER EACH STORM EVENT.
- VIBRATORY COMPACTION SHALL NOT BE USED OVER IN-PLACE UTILITIES.
- ALL BACKFILL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY PER ASTM D-1557.

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 02.17

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2204 CG-101.dwg Mar 02,2017

ALAMEDA SELF-STORAGE
OAKLAND STORM DRAIN IMPROVEMENTS

PARKS CONSTRUCTION

GRADING AND DRAINAGE DETAILS

Date:	No.	Revision	Date	Job No.
03.02.17				2204
Drawn By: BJB				CG-501
Ckd By: FCA				SH. OF

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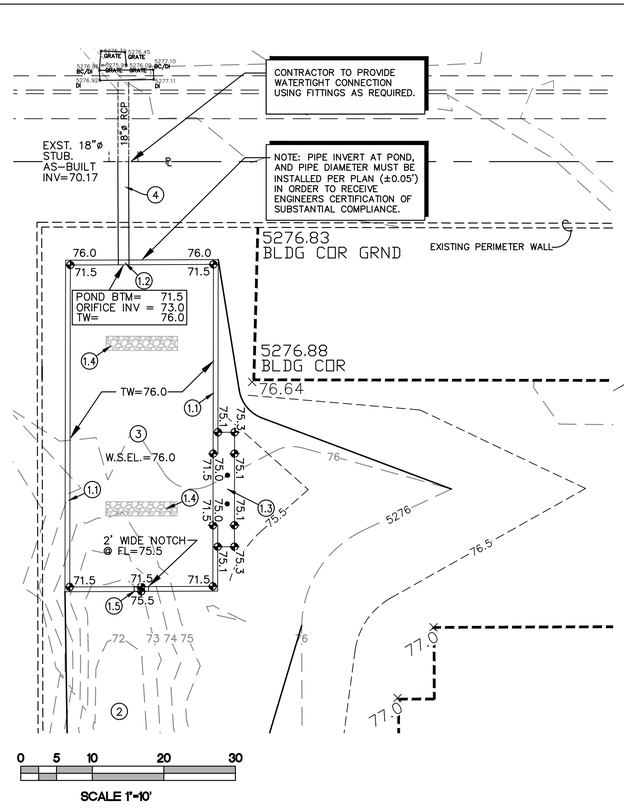

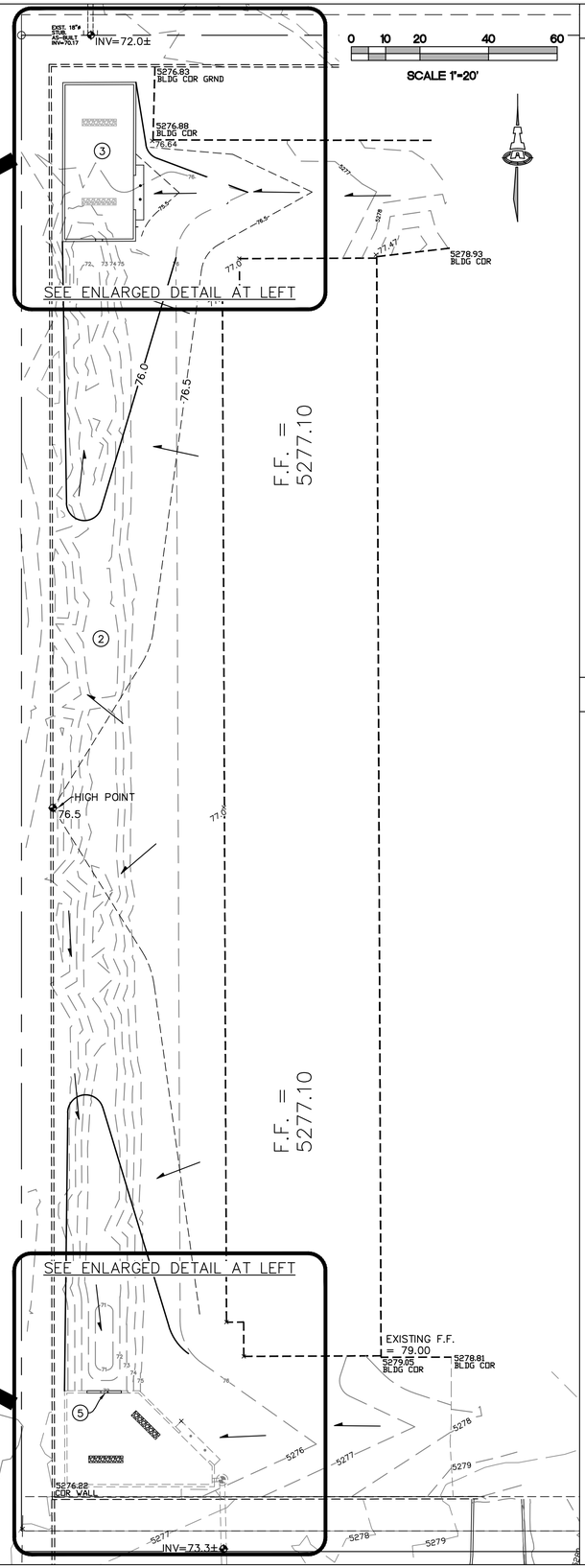

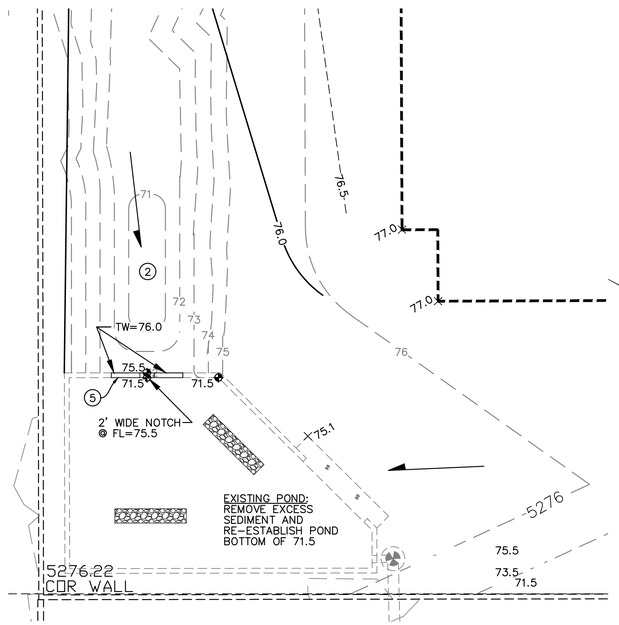

KEYED NOTES

1. CONSTRUCT ON-SITE STORM DRAIN SYSTEM TO INCLUDE:
   - 1.1. POND PERIMETER WALLS @ TW=76.0 (SEE CG-501 FOR DIMENSIONS).
   - 1.2. 18" OUTLET WITH ORIFICE CONTROL.
   - 1.3. CONCRETE SPILLWAY WITH BOLLARDS @ 6' O.C.
   - 1.4. 10'X2'X6'DEEP (MINIMUM) PERCOLATION TRENCH (2 LOCATIONS).
   - 1.5. 2' WIDE X 6" HIGH OPENING IN WALL

   SEE CG-501 FOR DIMENSIONS. STRUCTURAL DESIGN BY OTHERS.

   NOTE: DUE TO MAXIMUM ALLOWABLE DISCHARGE CAPACITY REQUIREMENTS, PRIVATE STORM DRAIN AND ORIFICE RIM, INVERT, AND DIAMETERS MUST BE WITHIN 0.05±' TO BE CONSIDERED 'IN SUBSTANTIAL COMPLIANCE' FOR ENGINEER'S CERTIFICATION.
2. FILL IN TEMPORARY POND (NO LONGER REQUIRED). GRADE TO SLOPE NORTH AND SOUTH. PAVEMENT MATERIAL IS OWNER'S OPTION. CALCULATIONS AND STORM DRAIN DESIGN ARE BASED ON IMPERVIOUS (ASPHALT / CONCRETE).
3. PERMANENT POND BOTTOM TO BE PERVIOUS MATERIAL (DIRT, GRAVEL, ETC.) FOR INFILTRATION OF RETAINED PORTION. OWNER TO MAINTAIN TO ELEVATIONS SHOWN.
4. INSTALL 18"ø ADS N-12 MEGA-GREEN STORM DRAIN (20 LF±) TO EXISTING PRIVATE STUB TO OAKLAND STORM DRAIN SYSTEM.
5. CONSTRUCT 10' SECTION OF SOUTH POND WALL WITH 2' WIDE X 6" HIGH NOTCH AT ELEVATIONS SHOWN.

GENERAL NOTES

A. THE CONTRACTOR SHALL ABIDE BY ALL STATE, LOCAL, AND FEDERAL LAWS, CODES, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA AND ADA REQUIREMENTS.

B. ALL SUBGRADE, OVEREXCAVATION, BACKFILL, AND FILL SHALL BE PLACED AND / OR COMPACTED PER THE GEOTECHNICAL REPORT AND CITY OF ALBUQUERQUE SPECIFICATIONS.

C. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION, OR PRIOR TO OCCUPANCY, AS APPROPRIATE.

D. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING OBSTRUCTIONS, AND THE CONDITION OF ALL EXISTING INFRASTRUCTURE PRIOR TO CONSTRUCTION. REPORT ALL DISCREPANCIES TO THE ENGINEER AND VERIFY THE ENGINEER'S INTENT BEFORE PROCEEDING.

E. THE CONTRACTOR SHALL NOT SCALE DRAWINGS. ONLY WRITTEN DIMENSIONS OR KEYED NOTES SHALL BE USED.

F. CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK.

G. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT STRUCTURES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

H. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE LEGALLY DISPOSED OF.

I. PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.

J. IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

K. EXISTING UTILITY LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND MAY BE INCOMPLETE OR OBSOLETE. SUCH LINES MAY OR MAY NOT EXIST WHERE SHOWN OR NOT SHOWN. CONTRACTOR SHALL CONTACT NM-811 FOR UTILITY LINE SPOTS TWO WORKING DAYS PRIOR TO CONDUCTING SITE FIELD WORK. CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. 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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF NECESSARY DRY UTILITY ADJUSTMENTS.

L. CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION STAKING. CONTRACTOR SHALL LOCATE AND PRESERVE ALL BOUNDARY CORNERS AND REPLACE ANY LOST OR DISTURBED CORNERS AT CONTRACTOR'S SOLE EXPENSE. PROPERTY CORNERS SHALL ONLY BE RESET BY A REGISTERED LAND SURVEYOR.

M. A CURRENT STORMWATER CONTROL PERMIT, INCLUDING AN EROSION SEDIMENT CONTROL PLAN (E.S.C.) FOR EROSION AND SEDIMENT CONTROL IS REQUIRED FOR ALL CONSTRUCTION, DEMOLITION CLEARING, AND GRADING OPERATIONS THAT DISTURB THE SOIL ON ONE ACRE OR MORE OF LAND. OWNER WILL COORDINATE.

N. POST-CONSTRUCTION MAINTENANCE FOR PRIVATE STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE FACILITIES OWNER. PERIODIC INSPECTION AND CERTIFICATIONS OF THE FACILITIES MAY BE REQUIRED BY THE CITY ENGINEER.

O. ADJUST ANY RIMS OF EXISTING UTILITY FEATURES AS NECESSARY TO MATCH NEW GRADES. UTILITIES IN PAVED AREAS SHALL BE HS-25 TRAFFIC RATED.

P. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS SHALL BE SMOOTH.

Q. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY AREAS OF EROSION AND INSTALL EROSION PROTECTION AS NEEDED.

R. ALL SITE PREPARATION, GRADING OPERATIONS, FOUNDATION CONSTRUCTION, AND PAVEMENT INSTALLATION WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, WHICH WILL BE PROVIDED BY THE OWNER.

S. ENGINEER'S CERTIFICATION CANNOT BE PROVIDED UNTIL ALL SITE DRAINAGE IMPROVEMENT WORK IS COMPLETE AND PERMANENT EROSION PROTECTION IS INSTALLED PER PLAN. LANDSCAPING IS NOT REQUIRED FOR CERTIFICATION.

VICINITY MAP

PROJECT DATA

LEGAL DESCRIPTION: LOT 22A, BLOCK 28, NORTH ALBUQUERQUE ACRES, TRACT A, UNIT B

FLOOD ZONE: PER BERNALILLO COUNTY FIRM MAP 35001C0137H, EFFECTIVE ON 08/16/2012, THE SITE IS LOCATED WITHIN FLOODZONE 'X' DESIGNATED AS AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

ENGINEER: FRED C. ARFMAN, P.E.
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SURVEYOR: DAVID COOPER
SIERRA LAND SURVEYING, INC.
1452 S. ST. FRANCIS DRIVE
SANTA FE, NM 87505
PHONE: (505) 983-5932

BENCHMARK: CITY OF ALBUQUERQUE 9-C18. AN ALUMINUM CAP LOCATED IN THE SOUTHWEST OF THE INTERSECTION OF SAN PEDRO AVENUE & WILSHIRE AVENUE NE. ELEVATION 5232.47 (ADJUSTED NAVD88).

LEGEND

- 5277 — EXISTING CONTOUR
- 75 — PROPOSED CONTOUR
- INFILTRATION TRENCH (SEE CG-501)
- 75.0 PROPOSED SPOT ELEVATION
- PROPOSED FLOW ARROW

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 03.02.17

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