LEGEND

☐	NEW 16' TALL POLE LIGHT W/ 50 WATT CERAMIC METAL HALIDE LAMPING (FULL CUT-OFF, SHOE BOX TYPE.)
☼	EXISTING FIRE HYDRANT

CURB RADIUS DATA

R1 = 1'-6"
R2 = 2'-0"
R3 = 3'-0"
R5 = 5'-0"
R8 = 8'-0"
R10 = 10'-0"
R15 = 15'-0"
R20 = 20'-0"
R25 = 25'-0"
R50 = 50'-0"

RADIUS MEASURED TO OUTSIDE FACE OF CURB

ADDRESS:
8500 JEFFERSON ST , NE
ALBUQUERQUE, NM 87113

LEGAL DESCRIPTION:
LOT 14-A-2-A OF UNIT V, LOOP INDUSTRIAL DISTRICT, ALBUQUERQUE, NEW MEXICO, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT THEREOF, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON JANUARY 3, 1997, IN PLAT BOOK 97C, FOLIO 2

ZONING
SU-2 FOR M-1

ZONE ATLAS PAGE
C-17

LEGAL NOTES:
1. CITY OF ALBUQUERQUE UPC NO. 1-017-064-367-234-40256

2. SUBJECT PROPERTY IS LOCATED WITHIN FLOOD ZONE X, DESIGNATING AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOODPLAIN ACCORDING TO THE FLOOD INSURANCE RATE MAP, BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS PER MAP NO. 35001C02137F, EFFECTIVE DATE, NOVEMBER 19, 2003

GENERAL NOTES
[C1.1] ALL STANDARD PARKING SPACES SHALL BE 8'-6"W X 20'-0"D

[C1.2] ALL HANDICAP PARKING SPACES SHALL BE 8'-0"W X 20'-0"D WITH ADJACENT 5'W STRIPED ACCESS AISLE (1 VAN ACCESSIBLE SPACE PER PROPERTY SHALL HAVE AN 8' WIDE ACCESS AISLE). ALL SPACES SHALL HAVE POLE SIGN AND HANDICAP SYMBOL PAVEMENT MARKINGS.

[C1.3] ALL PARKING SPACES, HANDICAP SYMBOLS AND CROSS HATCHED ACCESS AISLES SHALL BE MARKED ON PAVEMENT WITH WHITE ALKYD STRIPING PAINT, TYP.

[C1.4] ALL PARKING SPACES ABUTTING A SIDEWALK SHALL BE PROVIDED WITH A PRECAST CONCRETE PARKING BUMPER LOCATED 2'-0" OFF THE SIDEWALK

KEYED NOTES
[1] ASPHALT PAVED SURFACE - SEE DETAIL 1/C1.1

[2] CONCRETE CURB & GUTTER - SEE DETAILS 2/C1.1

[3] CONCRETE SIDEWALK - SEE DETAIL 4/C1.1 - TYPICAL SIDEWALK WIDTH SHALL BE 6'-0" UNLESS NOTED OTHERWISE.

[4] SIDEWALK RAMP - SEE DETAIL 3/C1.1

[5] SIDEWALK RAMP W/ FLAIRS - SEE DETAIL 6/C1.1

[6] PUBLIC SIDEWALK PER CITY OF ALBUQUERQUE STANDARD *DRAWING 2430 "SIDEWALK DI*

[7] PUBLIC SIDEWALK ADA ACCESS RAMP PER CITY OF ALBUQUERQUE STANDARD *DRAWING 2441 ACCESS RAMP*

[8] CAST IN PLACE CONCRETE DUMPSTER ENCLOSURE W/ GATES - SEE DETAIL 12&13/C1.1

[9] PRECAST CONCRETE BIKE RACK SET IN SIDEWALK - SEE DETAIL 10/C1.1

[10] HANDICAP PARKING SPACE SIGN - ONE SIGN PER HANDICAP PARKING SPACE, TYP. - SEE DETAIL 8/C1.1

[11] EXISTING CONCRETE ROLL CURB TO REMAIN

[12] 16' TALL POLE LIGHT WITH FULL CUT-OFF SHOE BOX TYPE CANOPY

[13] CONCRETE STAIR WITH HAND RAILS - SEE DETAIL 7/C1.1

[14] TRANSFORMER ON CONCRETE PAD PER PNM REQUIREMENTS

[15] CONCRETE ELEC. METER/TRANFORMER SCREEN WALL - SEE DETAIL 9/C1.1 (SMOOTH CONCRETE FINE ON METER MOUNTING FACE OF WALL)

[16] CONCRETE ROLL CURB - SEE DETAIL 5/C1.1

[17] PRECAST CONCRETE PARKING BUMPERS - SET 2'-0" OFF FACE OF SIDEWALK

[18] MONUMENT SIGN - SEE DETAIL 15/C1.1

[19] NEW CURB CUT PER CITY OF ALBUQUERQUE SPECIFICATION *STANDARD DRAWING 2415A "CURB GUTTER AND CURB CUT DETAILS*

[20] EXISTING CURB CUT TO REMAIN *24'-0" WIDE*

SITE CALCULATIONS

USE: OFFICE

PROPERTY AREA: 54,073 SF (1.2413 AC)
GROSS BLDG AREA: 13,704 SF (25%)
NET LEASABLE AREA: 9,736 SF
LANDSCAPE AREA: 8,623 SF (16%)
R.O.W. LANDSCAPING: 553 SF
PAVING & SIDEWALK AREA: 31,746 SF (59%)

GROSS PARKING SPACES REQUIRED: 13,704/200 = 69
(LESS 5% BUS ROUTE CREDIT) = 3
TOTAL PARKING SPACES REQUIRED = 66
HANDICAP PARKING SPACES REQUIRED: 3

PARKING SPACES PROVIDED: 62 + 4 HC (2 VAN ACCESSIBLE) = 66
BIKE RACK SPACES PROVIDED: 3

PROJECT NUMBER: 1004326

APPLICATION NUMBER: 05DRB-01147

IS AND INFRASTRUCTURE LIST REQUIRED? ( ) YES ( ) NO. IF YES, THEN A SET OF APPROVED DRC PLANS WITH A WORK ORDER IS REQUIRED FOR ANY CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY OR FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS

DRB SITE DEVELOPMENT PLAN APPROVAL:

Signature	Date
TRAFFIC ENGINEERING/TRANSPORTATION DIVISION	7-27-05
UTILITIES DEVELOPMENT	7-27-05
Christina Sandoval — PARKS AND RECREATION DEPARTMENT	7/27/05
Bradley L. Bingham — CITY ENGINEER	7/27/05
N/A — ENVIRONMENTAL HEALTH DEPARTMENT (conditional)	
Michael Holton — SOLID WASTE MANAGEMENT	7/27/05
DRB CHAIRPERSON, PLANNING DEPARTMENT	7/27/05

RECEIVED JUL 10 2006 HYDROLOGY SECTION

KNIGHT L. SEAVEY NO. 1470 STATE OF NEW MEXICO REGISTERED ARCHITECT

SITE PLAN

SCALE: 1"=20'

FIRE MARSHAL   DATE

VICINITY MAP/AERIAL
PG. C-17   1"= 100

INSITE WORKS

ADDRESS	57 ROCK POINT PL. NE ALBUQUERQUE, NM 87122
TELE	505.858.0100
FAX	888.791.0154
WEBSITE	insiteworks.com
EMAIL	knight@insiteworks.com

THIS DRAWING IS THE PROPERTY OF INSITE WORKS AND SHALL NOT BE REPRODUCED OR USED IN ANY WAY WITHOUT EXPRESSED WRITTEN CONSENT

Lot 14-A-2-A
Loop Industrial District
Unit 5

ISSUED	7.25.05
PROJECT ID	JLM

JLM Investments
8500 Jefferson St. NE

C1.0DRE

GRAPHIC SCALE
0 10 20 40 80
(IN FEET)
1" = 20 FT

Plan labels

LOT 15
LOOP INDUSTRIAL DISTRICT
UNIT V

FIRESTONE LANE N.E.
(EXISTING PRIVATE ROAD)

JEFFERSON STREET N.E.
(68' R.O.W.)

8500 JEFFERSON ST. NE
LOT 14-A-2-B
LOOP INDUSTRIAL DISTRICT
UNIT V

PROPOSED 13,704 SF
OFFICE BUILDING

LOT 14-A-2-B
LOOP INDUSTRIAL DISTRICT
UNIT V

FIRESTONE LANE N.E.
(EXISTING PRIVATE ROAD)

LOT 14-A-2-E
LOOP INDUSTRIAL DISTRICT
UNIT V

COMMERCIAL BUILDING
8414 JEFFERSON STREET, N.E.
LOT 14-A-2-C
LOOP INDUSTRIAL DISTRICT
UNIT V

LOT 14-A-2-D
LOOP INDUSTRIAL DISTRICT
UNIT V

EXISTING 5' PUBLIC UTILITY EASEMENT
(REC. 6/26/B1, VOL. C18, FOL. 171)

EXISTING PRIVATE ACCESS, PRIVATE DRAINAGE, PUBLIC WATER AND PUBLIC SANITARY SEWER EASEMENT
REC. 1/3/97, VOL. 97C, FOL. 2

EXISTING 10' PRIVATE DRAINAGE EASEMENT
REC. 1/3/97, VOL. 97C, FOL. 2

EXISTING 10' PRIVATE DRAINAGE EASEMENT FOR THE JOINT BENEFIT OF LOTS 14-A-2-A, 14-A-2-C AND 14-A-2-D THEIR SUCCESSORS AND ASSIGNS, TO BE MAINTAINED BY LOTS 14-A-2-A AND 14-A-2-C
REC. 1/3/97, VOL. 97C, FOL. 2

FEMA PANEL 350002 0009

PROJECT LOCATION

ZONE ATLAS MAP C-17

PROJECT LOCATION

LEGAL DESCRIPTION:
TRACT A-14-2
LOOP INDUSTRIAL TRACT UNIT 5

BENCH MARKS:
(1) ACS BRASS CAP
"LOOP INDUSTRIAL DISTRICT UNIT IV"
JEFFERSON/WILSHIRE
ELEVATION = 5131.89

(2) AMAFCA BRASS CAP
"NDC 7-1B2"
ELEVATION = 5064.40

PLANNED DEVELOPMENT

Development planned for Tract 14-A-2, Unit 5, Loop Industrial Tract consists of subdividing the existing 9.4 +/- acre parcel into 8 lots and constructing an industrial park. The property is zoned SU-2/M1. A private access road is planned which provides six lots access to Jefferson Street. The remaining six lots access Jefferson Street via private turnouts. This Drainage and Grading Plan for subdivision recommends drainage management and infrastructure improvements necessary to support the planned development.

The project is located on Jefferson Street between Paseo Del Norte and Wilshire Avenue, in northeast Albuquerque, New Mexico. Existing terrain consists predominately of mild slopes, 1%-3%, with minimal vegetation. The property generally slopes from east to west. The property is not located in a F.E.M.A. flood plain.

EXISTING HYDROLOGIC CONDITIONS

The site is currently undeveloped. The site receives off-site flows from a portion of the mobile home park (1.9 acres) adjacent to its east property line. The remaining runoff originating at the mobile home park is diverted by Brook Street and drained southward to the North Diversion Channel. Flows generated by the site, including off-site flows, drain into Jefferson Street (west), where they are directed south to the AMAFCA North Diversion Channel. A curb drop inlet, approximately 100' south of the site's south property line, accepts flows from Jefferson Street and discharges them to the North Diversion Channel via a 24"/30" storm drain. Excess flow, above the capacity of the curb drop inlet, drains south on Jefferson Street until the AMAFCA North Diversion Channel is reached 550' south of the curb drop inlet. At the site's north property line, Jefferson Street reaches a high point that provides a water block from runoff originating north of the site. Properties to the west drain westerly. The stretch of Jefferson Street between the sites north property line and the AMAFCA North Diversion Channel receives flow from the subject site, including its off-site basin, and 12.8 +/- acres just south of the site. A curb drop inlet connected to a 30" storm sewer is in place at the southwest corner (along Jefferson Street) of the 12.8 acre basin.

PURPOSE OF DRAINAGE AND GRADING PLAN FOR SUBDIVISION

This plan presents necessary drainage and grading improvements required to support subdivision into 8 parcels and the subsequent planned development. In addition, the plan accommodates a phased implementation process for development. As lots A-H are purchased and developed, each lot will be required to submit a detailed grading plan that is intended to function as prescribed by this Drainage and Grading Plan. Submittal of detailed grading plans to the City Hydrology Department for grading plan review and approval, will be required. The grading plans will be stand alone construction documents that include detailed drainage and grading elements, proposed building foot print, foundation elevations, parking areas, landscape areas, roof drains, drainage swales, sidewalk culverts, etc.

Future plans will not be required to address hydrologic analysis except for designing and sizing minor drainage structures such as swales, rundowns, and sidewalk culverts. Pro-rating flow rates established by this plan based on basin area will be an acceptable method for determining these flow rates. Lots X, X and X must incorporate a pro-ration of off-site flows based on the percentage of frontage each lot shares with the mobile home park to the east. B, E & H

ON-SITE HYDROLOGY

On-site hydrologic analysis is provided in order to estimate flow rates conveyed by interior streets, swales, rundowns, and curb drains. Under existing, undeveloped conditions the site is 100% land treatment C, yielding 29.5 and 16.1 cfs for the 100 year and 10 year storm events, respectively. Under proposed conditions the site consists of 30% land treatment C and 70% land treatment yielding 39.8 cfs and 25.5 cfs for the 100 year and 10 year-storm events, respectively. Lots X, X and X accept off-site flows from a portion of the mobile home park (1.9 ac.) to the east. Under both existing, undeveloped and developed conditions the off-site basin is 40% land treatment B and 60% land treatment D, yielding 7.1 and 4.3 cfs for the 100 year and 10 year storm events, respectively.

DEVELOPMENT IMPLEMENTATION AND PHASING

It is planned to build the private access road in conjunction with the first lot constructed. The private access road is available to convey flows generated by lots X, X and X. At this time it is unknown which lot will be constructed first. The private access road will be located in a 38 ft. Private Access and Drainage Easement. A, B, E & H

Lot X may either discharge runoff to the private access road or directly to Jefferson Street via sidewalk culverts. Lots X, X and X will discharge to the private access road. Lot X may discharge to Jefferson Street via sidewalk culverts or to the drainage easement along its north property line. Lot X will discharge to the 10' private drainage easement crossing lots X and X. Lot X will discharge directly to Jefferson Street via sidewalk culverts. Lot X may discharge to Jefferson Street via sidewalk culverts or to the drainage easement along its south property line. Lot X G discharges to the 10' private drainage easement crossing the south side of Lot X. A sidewalk culvert will be required at the outlets of the 10' drainage easements. All sidewalk culverts must be sized and designed accordingly along with the specific plan.

Provisions of the North I-25 Sector Development require minimum 6' landscape buffers along all side and rear property lines. Flow in private drainage easements located in these landscape buffers shall be contained within a concrete rundown or an appropriately sized landscaped swale. (See Hydraulic Calculations.)

INTERIM EROSION CONTROL PLAN

It is planned to grade the site in a phased manner. Areas that are disturbed during construction but do not receive a permanent surface treatment will be required to install erosion control berms, or silt fences and shall be required to revegetate disturbed areas. These measures will be shown on the lot specific grading plans and shall be an integral part of the Top Soil Disturbance Permit. Revegetation will be of a permanent type designed to City of Albuquerque Minimum Specifications for Public Works Construction.

COMPUTATIONS

HYDROLOGY

Analysis per COA DPM Chapter 22.2, HYMO Peak Discharge Method, zone 2
Design Storm 100 year - 6 hour event   Applied Rainfall is 2.35 inches (table 2)
10 year - 6 hour event   Applied Rainfall is 2.35 inches x 0.67 =1.57 inches (table 3)

Runoff/Acre
100 year: B Treatment = 2.28 cfs/ac., C Treatment = 3.14 cfs/ac., D Treatment =, 4.70 cfs/ac.
10 year: B Treatment = 0.95 cfs/ac., C Treatment = 1.71 cfs/ac., D Treatment = 3.14 cfs/ac.

Basin A (Subject Site – 9.4 acres zoned light industrial)
Land Treatments
  Existing Conditions   100.0% Treatment C
  Proposed Conditions   30% Treatment C and 70% Treatment D
Peak Discharge
  Existing Conditions   100 year = 9.4 acres x (1.00x 3.14 cfs/ac.) = 29.5 cfs
            10 year = 9.4 acres x (1.00x 1.71 cfs/ac.) = 16.1 cfs
  Proposed Conditions 100 year = 9.4 acres x (0.30x 3.14 cfs/ac. + 0.70x4.70 cfs/ac.) = 39.8 cfs
            10 year = 9.4 acres x (0.30x 1.71 cfs/ac. + 0.70x3.14 cfs/ac.) = 25.5 cfs

Basin B (Off-site Basin Site – 1.9 acre mobile home park east of site)
Land Treatments
  Existing and Proposed Conditions   40% Treatment B and 60% Treatment D
Peak Discharge
  Existing and Proposed Conditions
            100 year = 1.9 acres x (0.40x 2.28 cfs/ac. + 0.60x4.70 cfs/ac.) = 7.1 cfs
            10 year = 1.9 acres x (0.40x 0.95 cfs/ac. + 0.60x3.14 cfs/ac.) = 4.3 cfs

Basin C (Offsite Basin Site – 0.7 acres of Jefferson Street - south of the subject site's north property line 100' south of the site's southern property line--approximate location of a curb drop inlet.)
Land Treatments
  Existing and Proposed Conditions   32.6% Treatment B and 67.4% Treatment D
Peak Discharge
  Existing and Proposed Conditions
            100 year = 0.7 acres x (0.326x 2.28 cfs/ac. + 0.674x4.70 cfs/ac.) = 2.6 cfs
            10 year = 0.7 acres x (0.326x 0.95 cfs/ac. + 0.674x3.14 cfs/ac.) = 1.8 cfs

Basin D (Site South of Subject Site – 12.8 acres includes 0.7 acres of mobile home park and 2.5 acres of future reservoir site, the remaining will be developed as light industrial)
Land Treatments
  Existing Conditions   2% Treatment B, 95% Treatment C, 3% Treatment D
  Proposed Conditions   2% Treatment B,   42% Treatment C, 56% Treatment D
Peak Discharge
  Existing Conditions   100 year = 12.8 acres x (0.02x 2.28 cfs/ac. + 0.95x3.14 cfs/ac. + 0.03x 4.70) = 40.5 cfs
            10 year = 12.8 acres x (0.02x 0.95 cfs/ac. + 0.95x1.71 cfs/ac. + 0.03x 3.14) = 22.8 cfs
  Proposed Conditions 100 year = 12.8 acres x (0.02x 2.28 cfs/ac. + 0.42x3.14 cfs/ac. + 0.56x 4.70) = 51.1 cfs
            10 year = 12.8 acres x (0.02x 0.95 cfs/ac. + 0.42x1.71 cfs/ac. + 0.56x 3.14) = 31.9 cfs

Basin E (Off-site Basin Site – 0.6 acres of Jefferson Street - 100' south of the subject site's southern property line– to the North Diversion Channel approximate location of a curb drop inlet.)
Land Treatments
  Existing and Proposed Conditions   32.6% Treatment B and 67.4% Treatment D
Peak Discharge
  Existing and Proposed Conditions
            100 year = 0.6 acres x (0.326x 2.28 cfs/ac. + 0.674x4.70 cfs/ac.) = 2.2 cfs
            10 year = 0.6 acres x (0.326x 0.95 cfs/ac. + 0.674x3.14 cfs/ac.) = 1.5 cfs

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STREET HYDRAULICS
Runoff Capacity of Jefferson Street

Street flow depths during peak flow were calculated using Manning's equation. Conjugate depths were calculated for flows in the super-critical state, should conditions be conducive to the formation a hydraulic jump.
  1) only the two tenth-board lanes could be used due to the median, 2) n = 0.017 for the roadway surface, 3) road cross slope = 2.00%,
  4) curb to curb distance = 25', 5) outside curb to inside driving lane = 13 ft, 6) eight inch curbs.

To establish DPM criteria flows the following parameters were used:
  10 year-storm: one lane dry, max. flow depth = 0.5'
  100 year-storm: max. flow depth = 0.87'

The relevant stretch of Jefferson Street has two slope regions: a flatter region fronting the subject site with an average slope 0.85%, and a steeper region with an average slope of 1.60% south of the subject property. Two curb drop inlets service Jefferson Street between the subject site and the North Diversion Channel; at point A and point B, 100 ft and 550 ft south of the subject site, respectively. Analyses were performed to determine peak flow and the resulting flow height within Jefferson Street both immediately before and after interception of flow at each curb drop inlet site. It was assumed 100% of the runoff from basins A, B, and C drain to the curb drop inlet at point A. Inlet capacity was computed to determine the pro-ration of flows intercepted by the curb drop inlet. Basin D was assumed to form two sub-basins; one (1/3 of basin D) discharging upstream of the curb drop inlet at analysis point B and the other (the remaining 2/3 of basin D) discharging immediately downstream of the curb drop inlet at point B. The analysis at point B assumed that the carry-over from the curb drop inlet at point A, the entire basin E, and the upper 1/3 of basin D comprised the peak discharge immediately upstream of the curb drop inlet. The carry-over from the curb drop inlet at point B and the runoff from the remaining 2/3 of basin D comprise the peak flow immediately below point B. The table below summarizes the results of these analyses:

Point of Analysis	Storm Event/Condition	Max. Depth in Street * (ft.)	Peak Street Flow (cfs)	Peak Storm Sewer Flow (cfs)
Point A	10 year storm–DPM criteria	0.26	3.4	-----
Jefferson St. 100' south of subject site–	--existing conditions	0.52	22.2	-----
prior to curb drop inlet	--proposed conditions	0.61	31.6	-----
(street slope = 0.0085 ft/ft)	100 year storm–DPM criteria	0.87	58.8	-----
	--existing conditions	0.70	39.6	-----
	--proposed conditions	0.80	49.5	-----
Point A	10 year storm–DPM criteria	0.26	3.4	11.65
Jefferson St. 100' south of subject site–	--existing conditions	0.40	10.5	15.19
after curb drop inlet	--proposed conditions	0.52	21.7	-----
(street slope = 0.0085 ft/ft)	100 year storm–DPM criteria	0.87	58.8	17.92
	--existing conditions	0.47	16.4	21.05
	--proposed conditions	0.58	28.5	-----
Point B	10 year storm–DPM criteria	0.26	4.6	11.65
Jefferson St. 550' north of subject site–	--existing conditions	0.45 (0.46)	19.6	15.19
prior to curb drop inlet	--proposed conditions	0.55 (0.59)	33.8	-----
(street slope = 0.0160 ft/ft)	100 year storm–DPM criteria	0.87	78.1	17.92
	--existing conditions	0.58 (0.62)	37.5	21.05
	--proposed conditions	0.65 (0.69)	47.7	-----
Point B	10 year storm–DPM criteria	0.26	4.6	21.00
Jefferson St. 550' south of subject site–	--existing conditions	0.55 (0.59)	33.1	29.96
after curb drop inlet	--proposed conditions	0.61 (0.65)	41.4	-----
(street slope = 0.0160 ft/ft)	100 year storm–DPM criteria	0.87	78.1	31.69
	--existing conditions	0.67 (0.69)	49.8	38.53
	--proposed conditions	0.79	64.5	-----

* Normal depths presented are sub-critical, unless the max. flow depth is followed by parenthesis; in which case, the normal depth is super-critical. Numbers in parenthesis denote the depth at sub-critical flow in the event of a hydraulic jump.

Analyses indicates that under existing undeveloped conditions Jefferson Street has insufficient capacity to meet the 10 year minimum design criteria of one dry lane, each direction. Both the 10 year and the 100 year storms, under existing and proposed conditions are contained within the right of way prism. Because the DPM's 10 year criteria could not be met under existing conditions and the effects due to the proposed development produce negligible change in flow depth, it is requested that a variance to this criteria be allowed for the proposed development.

Please note that the hydraulic analysis of Jefferson Street presented above is somewhat conservative. Several median breaks and median drainage culverts along Jefferson Street exist as shown on this plan. With the properties to the west of Jefferson Street draining entirely to the west, the entire capacity of Jefferson's south-bound lanes is available. All flow depths shown above are based on a curbed median. All flows greater than 6" deep in the areas without curb median, noted above, will actually spill over into the south-bound lanes.

STORM SEWER HYDRAULICS

A hydraulic grade line analysis was performed on the storm sewer paralleling Jefferson Street. The storm sewer was determined to have a capacity of 28 cfs in the 24" reach between the curb drop inlets at points A and B. South of point B, the pipe size increases to a 30" diameter with a capacity of 46 cfs.

PRIVATE ACCESS/DRAINAGE EASEMENT HYDRAULICS

This analysis is provided to verify the capacity of the access road to convey flows off-site to Jefferson Street while maintaining depths under the maximums set in the DPM. A, B, E & H
Assume the access road conveys 100% of the runoff from lots X, X and X and the runoff from the off-site basin (1.98 of mobile home park) east of the site.
Peak Discharge
  Proposed Conditions 100 year = 39.8 cfs x (1.24ac. + 1.21ac. +1.21ac. +1.40ac.)/9.4ac.+ 7.1cfs= 28.5 cfs
            10 year = 25.5cfs x (1.24ac. + 1.21ac. +1.21ac. +1.40ac.)/9.4ac.+ 4.3 cfs=18.0 cfs

Street flow depths during peak flow were calculated using Manning's equation. Conjugate depths were calculated for flows in the super-critical state, should conditions be conducive to the formation a hydraulic jump.
  1) use mild slope region, S = 0.0075 ft/ft 2) n = 0.017 for the roadway surface, 3) road cross slope = 1.5%,
  4) curb to curb distance = 25', 5) outside curb to inside driving lane = 13 ft, 6) six inch curbs.
The 100 year and 10 year storm peak flow depths are 0.35 ft and 0.26 ft, respectively. These depths are contained within the roadway prism and well below the DPM's maximum allowable depths.

PRIVATE DRAINAGE EASEMENT HYDRAULICS

The following analyses were provided as guidelines for the development and utilization of the private drainage easements.

Peak Flows:
(C & D)   A   C
10' Drainage Easement Crossing Lots X and X
  Assume lot X & X drain 50% and 100%, respectively, of runoff to easement
  Peak Flow = (0.65ac x 0.5 +0.65ac)/9.4ac. x 39.8 cfs = 7.2 cfs

F & G   F
10' Drainage Easement crossing lot X
  Assume lot X & X drain 50% and 100%, respectively, of runoff to easement
  Peak Flow = (1.22ac. + 0.5 x 0.42ac)/9.4ac. x 39.8 cfs = X cfs
1.86   9.1
For the purpose of this drainage plan the following two options were evaluated for the 10' drainage easements with peak flows of X cfs 9.1
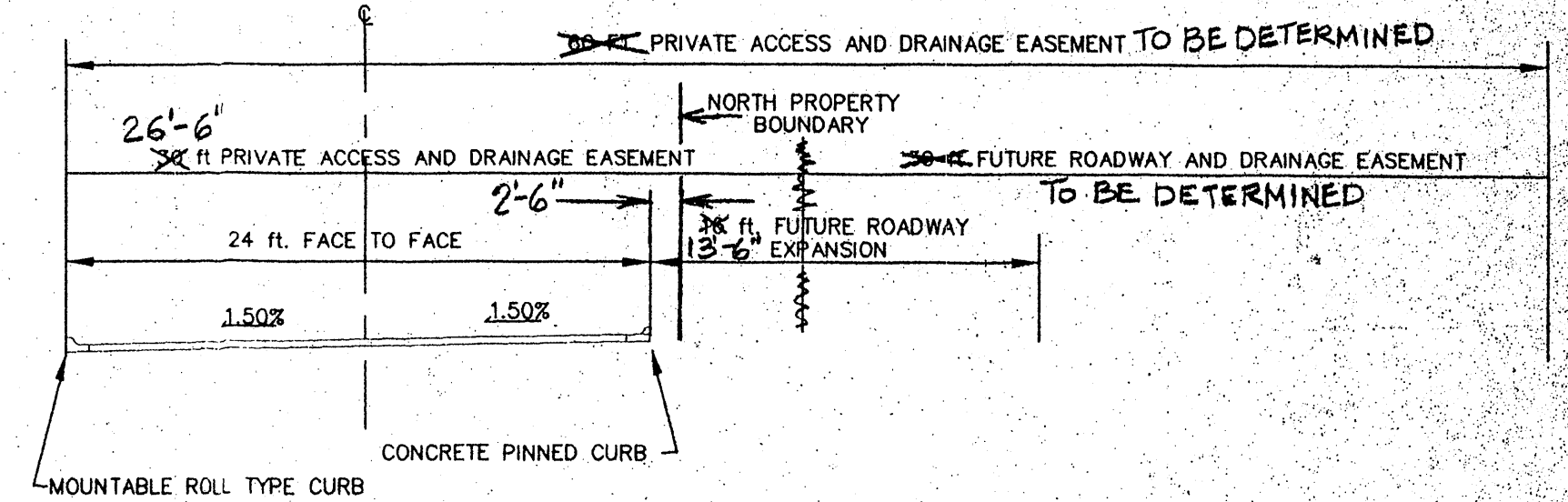
Concrete Rundown Option
  using n = 0.013, slope = 2.0%, a rectangular channel with a width of 7 ft has a normal depth of 0.20 ft and a velocity of 5.3 fps.
  The resulting energy head is 0.64 ft. Use a rectangular channel with a depth of 0.67 ft and a width of 7.0 ft.
  Weir Equation (King and Brater) for entrance channel
  Qcapacity=C * L * (H**3/2)
    C=Weir Factor =2.6   L=Weir Length=7ft
    H=Depth of Water   9.1
  Qcapacity=2.6 * 7.0ft * (.67ft**3/2)=9.8 cfs > X [ok]

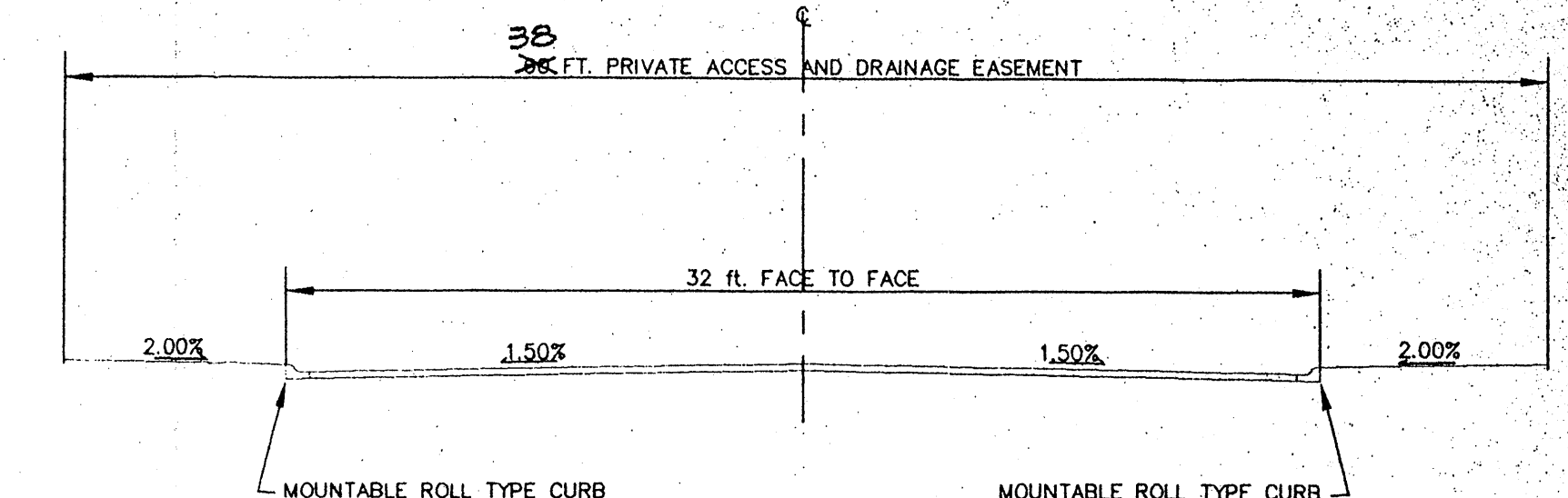**Landscaped Swale Option** (assume a triangular cross section with 3:1 side slopes and grass surface)
  using n = 0.025, slope = 2.0%, a normal depth of 0.75 ft and a velocity of 4.23 fps.
  The resulting energy head is 1.02 ft Use a triangular channel with a depth of 1.5 ft, side slopes of 3:1 and a width of 9.0 ft.
  Weir Equation (King and Brater) for entrance channel
  Qcapacity=C * L * (H**3/2)
    C=Weir Factor =2.6   L=Weir Length=9ft
    H=Depth of Water, use average depth   9.1
  Qcapacity=2.6 * 9.0ft * (0.75 ft**3/2)=15.2 cfs > X [ok]

CONCLUSIONS AND RECOMMENDATIONS

The analysis presented in this drainage plan demonstrate that under existing conditions, flows entering Jefferson Street are such that the DPM 10 year criteria is exceeded. Further, the planned development will not significantly alter the flow conditions in Jefferson over the existing conditions. Under both existing and developed flow conditions storm water is contained within the right of way. Depths shown in the table are actually conservative due to the fact that the flows are allowed to pass to the south-bound side of Jefferson where median curb does not exist. Additionally, it is likely that development of the property to the south will utilize the existing stub at the second inlet (analysis point B) and realize the full benefit of the existing of the existing storm sewer system, further decreasing the flows in the roadway assumed under this plan. Lastly, it should be noted that this project is an in-fill project with existing infrastructure designed and constructed under old criteria. In consideration of the information presented under this drainage plan, a variance from the DPM 10 year criteria is requested.

### TYPICAL SECTION A-A' – PRIVATE ACCESS ROAD
NOT TO SCALE

26'-6"
PRIVATE ACCESS AND DRAINAGE EASEMENT TO BE DETERMINED
NORTH PROPERTY BOUNDARY
ft PRIVATE ACCESS AND DRAINAGE EASEMENT
FUTURE ROADWAY AND DRAINAGE EASEMENT
24 ft. FACE TO FACE
2'-6"
ft. FUTURE ROADWAY EXPANSION
13'-6"
TO BE DETERMINED
1.50%   1.50%
MOUNTABLE ROLL TYPE CURB
CONCRETE PINNED CURB

TYPICAL SECTION B-B' – PRIVATE ACCESS ROAD
NOT TO SCALE

38
ft. PRIVATE ACCESS AND DRAINAGE EASEMENT
32 ft. FACE TO FACE
2.00%   1.50%   1.50%   2.00%
MOUNTABLE ROLL TYPE CURB   MOUNTABLE ROLL TYPE CURB

GRADING AND DRAINAGE CERTIFICATION   Carlos G. Padilla (6/17/97)

CARLOS G. PADILLA
NEW MEXICO
REGISTERED PROFESSIONAL
11040

TRACT 14-A-2
DRAINAGE AND GRADING PLAN
PLATE 1
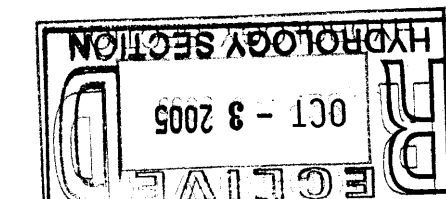
AVID ENGINEERING
Civil • Structural • Transp
5800 Osuna Rd. NE
Albuquerque, NM 87109

RECEIVED
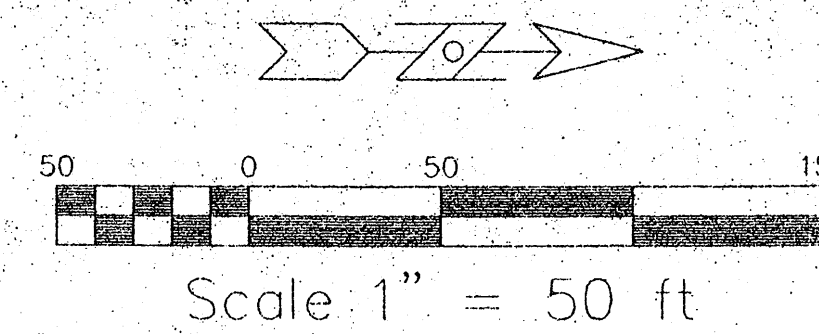OCT -3 2005
HYDROLOGY SECTION

JEFFERSON STREET INDUSTRIAL PARK—GRADING AND DRAINAGE PLAN FOR SUBDIVISION

ANALYSIS POINT B

BASIN E
JEFFERSON ST. R.O.W. 0.60 ACRES

ANALYSIS POINT A

JEFFERSON STREET N.E.

Scale 1" = 50 ft

LEGEND

—5130—	CONTOUR (MAJOR)	— — —	LIQUID NITROGEN LINE
	CONTOUR (MINOR)	— — —	GAS LINE
	CURB AND GUTTER		SANITARY SEWER LINE
	CONCRETE/SIDEWALK	○	SANITARY SEWER MANHOLE
	SIGN		WATER LINE
—○—	CHAIN LINK FENCE	⋈	WATER VALVE
—x—	WOOD FENCE	◇	FIRE HYDRANT
•	POLE		STORM SEWER LINE
→	ANCHOR	▣	STORM SEWER MANHOLE
		▣	DROP INLET
		—E—	OVERHEAD ELECTRIC LINE
→	FLOW LINE		
▬▬	BASIN BOUNDRY		

EXISTING 10' X 30'
ANCHOR EASEMENT
8/4/93 VOL. 93C
FOLIO 224
SEE DETAIL

BASIN C
JEFFERSON ST. R.O.W. 0.70 ACRES

10' PRIVATE DRAINAGE
EASEMENT

EXISTING 10' PUBLIC
UTILITY EASEMENT
8/26/81 VOL. C18
FOLIO 171

24' PUBLIC WATER,
PUBLIC SANITARY
SEWER &
PRIVATE ACCESS
EASEMENT

WATER BLOCK

LOT
14-A-2-F

LOT
14-A-2-C

10' PRIVATE DRAINAGE
EASEMENT GRANTED BY
THIS PLAT, SEE NOTE 12.

LOT
14-A-2-A

10' P.U.E.

R=50'

BASIN D
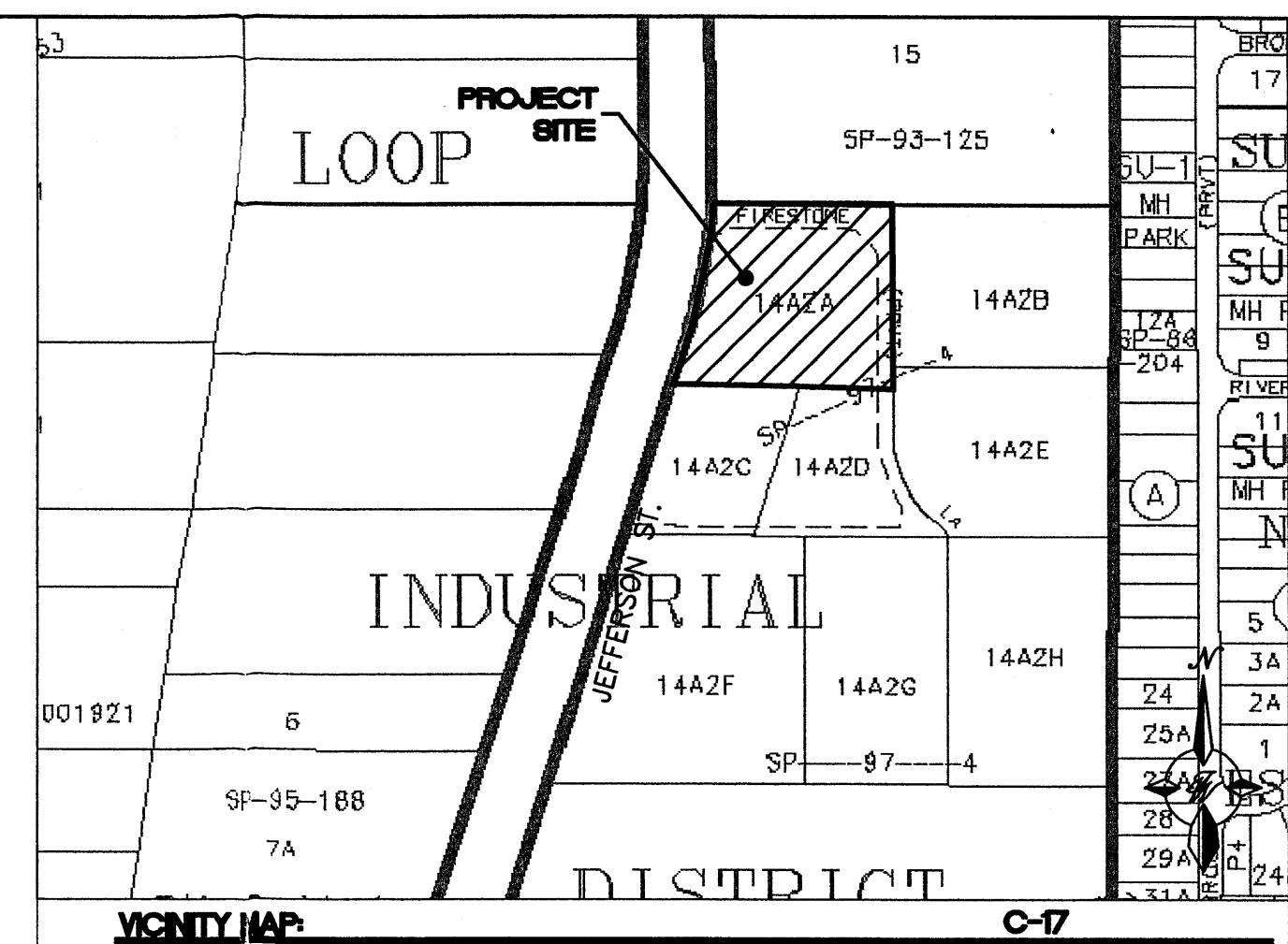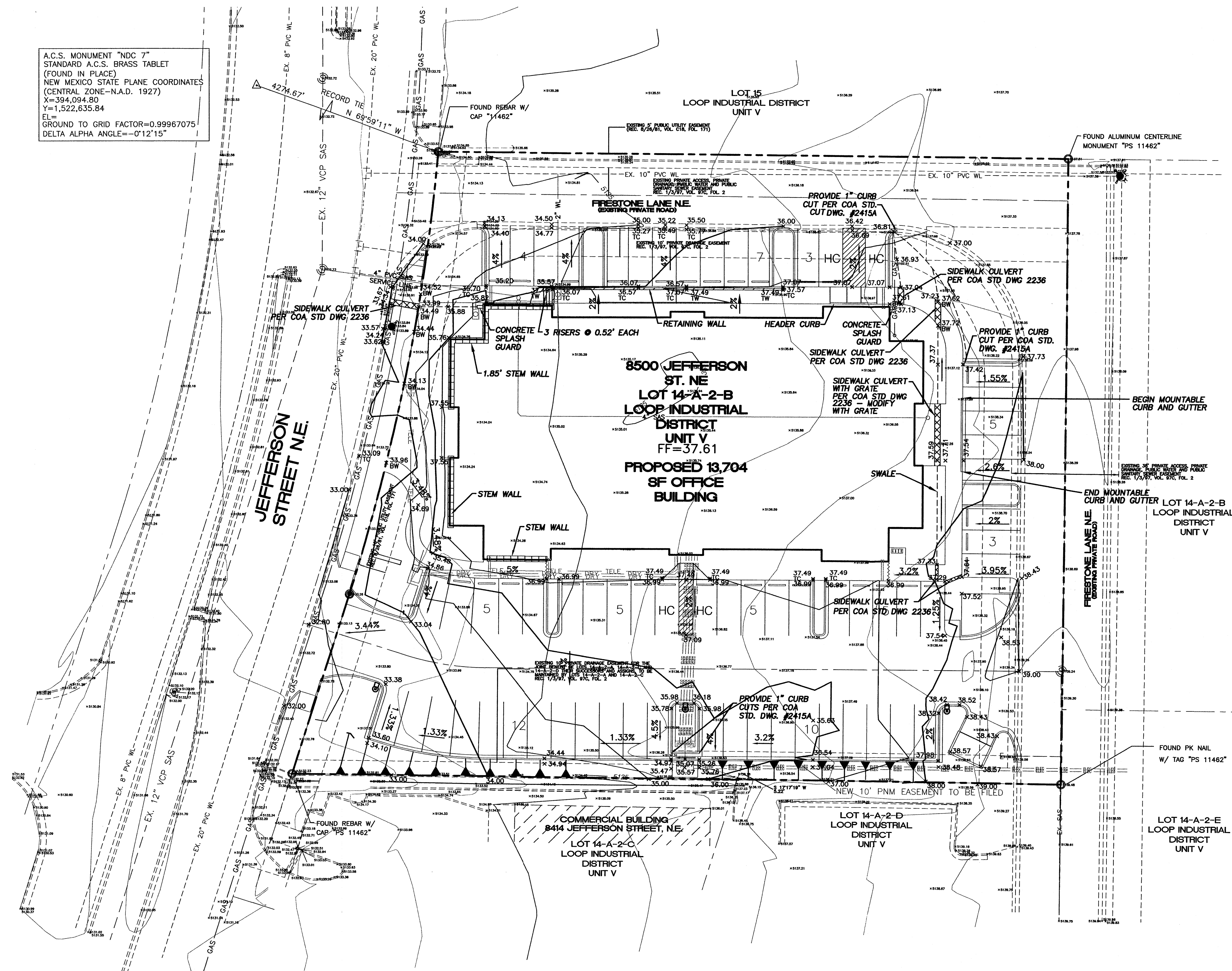12.8 ACRES

LOT
14-A-2-D

VACANT LOT

B

B

PRIVATE ACCESS, PRIVATE DRAINAGE
& PUBLIC WATER EASEMENT
GRANTED BY THIS PLAT
SEE NOTES 6 & 10

LOT
14-A-2-G

LOT 15 DISCHARGES TO
POINTS NORTH OF WATER BLOCK

38' PRIVATE ACCESS,
PRIVATE DRAINAGE,
PUBLIC WATER &
PUBLIC SAN. SEWER,
EASEMENT

BASIN A
SUBJECT SITE 9.4 ACRES

EXISTING 5' PUBLIC
UTILITY EASEMENT
8/26/81
VOL. C18 FOLIO 171

LOT
14-A-2-H

LOT
14-A-2-E

LOT
14-A-2-B

EXISTING
10' PUBLIC
UTILITY
EASEMENT
8/26/81
VOL. C18
FOLIO 171

NORTH DIVERSION CHANNEL

FUTURE RESERVOIR SITE

MOBILE HOME PARK

MOBILE HOME PARK

BROOK STREET

BASIN D EXTENDS AN AVERAGE OF 350'
OF OF SHEET (EAST)

BASIN B
MOBILE HOME PARK 1.9 ACRE

OFF-SITE FLOWS FROM EAST INTERCEPTED
BY BROOK STREET (PUBLIC STREET)

CARLOS G. PADILLA
NEW MEXICO
11040
REGISTERED PROFESSIONAL ENGINEER

TRACT 14-A-2
DRAINAGE AND GRADING PLAN
PLATE 2

HYDROLOGY SECTION
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AVID
ENGINEERING, INC.
Civil ● Structural ● Transportation
5800 Osuna Rd. NE   Suite 200
Albuquerque, NM 87109 – (505) 881-5357

SHEET 5 OF 5

PROJECT SITE

SITE DESIGN

Revision History:

Drawing List:

Key Plan:
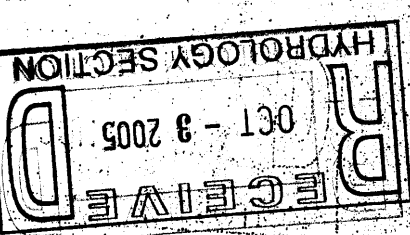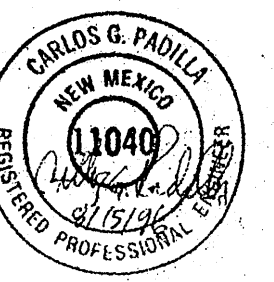
ACS. MONUMENT "NDC 7"
STANDARD A.C.S. BRASS TABLET
(FOUND IN PLACE)
NEW MEXICO STATE PLANE COORDINATES
(CENTRAL ZONE—N.A.D. 1927)
X=394,094.80
Y=1,522,635.84
EL=
GROUND TO GRID FACTOR=0.99967075
DELTA ALPHA ANGLE=−0°12'15"

JEFFERSON STREET N.E.

LOT 15
LOOP INDUSTRIAL DISTRICT
UNIT V

FIRESTONE LANE N.E.
(EXISTING PRIVATE ROAD)

8500 JEFFERSON
ST. NE
LOT 14-A-2-B
LOOP INDUSTRIAL
DISTRICT
UNIT V
FF=37.61

PROPOSED 13,704
SF OFFICE
BUILDING

RETAINING WALL

HEADER CURB

CONCRETE SPLASH GUARD

STEM WALL

SWALE

PROVIDE 1" CURB CUT PER COA STD. CUT DWG. #2415A

SIDEWALK CULVERT PER COA STD DWG 2236

PROVIDE 1" CURB CUT PER COA STD. DWG. #2415A

SIDEWALK CULVERT WITH GRATE PER COA STD DWG 2236 — MODIFY WITH GRATE

BEGIN MOUNTABLE CURB AND GUTTER

END MOUNTABLE CURB AND GUTTER

LOT 14-A-2-B
LOOP INDUSTRIAL
DISTRICT
UNIT V

PROVIDE 1" CURB CUTS PER COA STD. DWG. #2415A

SIDEWALK CULVERT PER COA STD DWG 2236

COMMERCIAL BUILDING
8414 JEFFERSON STREET, N.E.
LOT 14-A-2-C
LOOP INDUSTRIAL
DISTRICT
UNIT V

LOT 14-A-2-D
LOOP INDUSTRIAL
DISTRICT
UNIT V

LOT 14-A-2-E
LOOP INDUSTRIAL
DISTRICT
UNIT V

FOUND PK NAIL W/ TAG "PS 11462"

"NEW 10' PNM EASEMENT TO BE FILED"

FOUND REBAR W/ CAP "PS 11462"

LEGEND

| Symbol	Description
========	EXISTING CURB & GUTTER
————	PROPOSED CURB
————	BOUNDARY LINE
▭▭▭	PROPOSED RETAINING WALL
▭▭▭	PROPOSED STEM WALL
—5011—	EXISTING CONTOUR
—5010—	EXISTING INDEX CONTOUR
→	FLOW ARROW
▶	SLOPE TIE
X 5148.25	PROPOSED SPOT ELEVATION
X 5148.25	EXISTING SPOT ELEVATION

GENERAL NOTES:

1. ALL CONCRETE IS TO BE 4000 PSI @ 28 DAYS.
2. MINIMUM COMPACTION UNDER FOOTINGS IS TO BE 95% PER ASTM. D 1557 FOR A DEPTH OF 12" MOISTURE CONTENT IS TO BE ± 2.0%.
3. BACKFILL AGAINST WALLS IS TO BE HAND-PLACED AND COMPACTED.
4. ALL BARS ARE TO BE GRADE 60, ASTM 615.
5. TRUSS TYPE DUR-O-WALL EVERY OTHER COURSE.
6. DOWELS SHALL BE AT LEAST EQUAL IN SIZE AND SPACING TO V-BARS, SHALL PROJECT A MINIMUM OF 30 BAR DIA. INTO THE FILLED BLOCK CORES, AND SHALL EXTEND TO THE TOE OF THE FOOTING.
7. JOINT REINFORCEMENT CONSISTING OF 9GA. LONGITUDINAL WIRE AND 3/16" CROSS RODS SHALL BE PROVIDED AT 8" CENTERS VERTICALLY.
8. PROVIDE KEY FOR 8" AND 12" WALLS WHERE H EXCEEDS 6'-0"
9. USE EITHER EXPANSION JOINTS ON 20' CENTERS OR PILASTERS EVERY 16'.
10. ALL SPOT ELEVATIONS ARE TRUNCATED FROM 5100 AND REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED. (TC= TOP OF CURB) (BW= BACK OF SIDEWALK) (TW= TOP OF WALL)

EROSION CONTROL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.

2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.

3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.

4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.

5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.
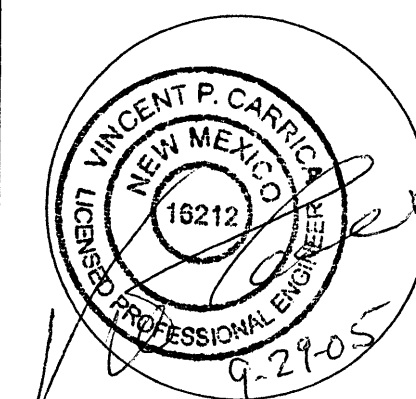
GRAPHIC SCALE
20 10 0 10 20
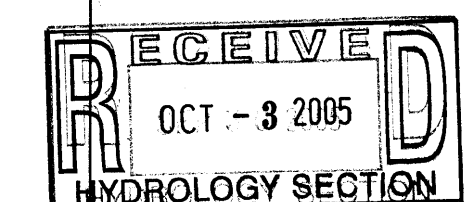SCALE: 1"=20'
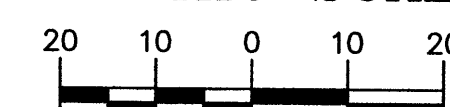
TIERRA WEST, LLC
8509 JEFFERSON NE
ALBUQUERQUE, NEW MEXICO 87113
(505)858-3100
JOB # 24049

GRADING PLAN

For Construction

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HYDROLOGY SECTION

NEW MEXICO
VINCENT P. CASPER
16212
PROFESSIONAL ENGINEER
9-27-05

Project ID: 24049
Path: Z:\2004\24049\Drawings\DRB\24049GRB-9-26-05.dwg
Original Issue Date: 9-28-05
Drawn By: DY
Reviewed By: VC

C3.0

Drawing Number:
Building Owner / Client: JLM Investments
Project Phase: Construction
Project Address: 8500 Jefferson St. N.E. Albuquerque, NM

Project: JLM Investments
Project Phase: Construction