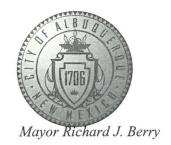
## CITY OF ALBUQUERQUE

Planning Department
Suzanne Lubar, Director



November 18, 2016

David Thompson, P.E. Thompson Engineering Consultants PO Box 65760 Albuquerque, New Mexico 87193

RE: Lot 22-A-1

Grading and Drainage Plan Engineers Stamp Date 11/16/16 (L19D074)

Dear Mr. Thompson,

Based upon the information provided in your submittal received 11/17/16, this plan is approved for Grading Permit and Building Permit.

PO Box 1293

Please inform the Architect/Owner or the contractor to attach a copy of this approved plan dated 11/16/16 to the construction sets in the permitting process prior to sign-off by Hydrology. If this plan is not with the construction plan sets the permitting process will be held up until the plan is provided.

Albuquerque

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

New Mexico 87103

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

www.cabq.gov

Abiel Carrillo, P.E.

Sincerely,

Principal Engineer, Hydrology

Planning Department

RR/AC C: File

#### **DRAINAGE INFORMATION SHEET**

(REV. 1/28/2003rd)

PROJECT TITLE: LOT 22-A-1, EMIL MANN ADDITION DRB #:EPC #:	
LEGAL DESCRIPTION: LOT 22-A-1, EMIL MANN ADDITION CITY ADDRESS: 407 MESILLA SE	
ENGINEERING FIRM: Thompson Engineering Consultants, Inc.  ADDRESS: P.O. Box 65760 CITY, STATE: Albuquerque, NM  OWNER: Michael Platt  ADDRESS: 407 Mesilla SE CITY, STATE: Albuquerque, NM  ARCHITECT: ADDRESS: CITY, STATE:  SURVEYOR: Dehler Surveying ADDRESS: 3827 Palacio Del Rio Grande NW CITY, STATE: Albuquerque, NM  CONTRACTOR: ADDRESS:  ADDRESS:  CONTRACTOR: ADDRESS:	PHONE: 271-2199 ZIP CODE: 87193  CONTACT: Michael Platt PHONE: 639-3959 ZIP CODE: 87108  CONTACT: PHONE: ZIP CODE: CONTACT: PHONE: 2IP CODE: CONTACT: PHONE: 414-8223 ZIP CODE: 87107  CONTACT: Contact Contac
CITY, STATE:	ZIP CODE:
CHECK TYPE OF SUBMITTAL:  DRAINAGE REPORT  DRAINAGE PLAN 1st SUBMITTAL, REQUIRES TCL or equivariant and submittal conceptual grading & drainage plan grading plan  GRADING PLAN  EROSION CONTROL PLAN  ENGINEER'S CERTIFICATION (HYDROLOGY)  CLOMR/LOMR  TRAFFIC CIRCULATION LAYOUT (TCL)  ENGINEER'S CERTIFICATION(TCL)  ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)  OTHER	CHECK TYPE OF APPROVAL SOUGHT:  SIA/FINANCIAL GUARANTEE RELEASE  PRELIMINARY PLAT APPROVAL  S. DEV. PLAN FOR SUB'D. APPROVAL  S. DEV PLAN FOR BLDG. PERMIT APPROVAL  SECTOR PLAN APPROVAL  FINAL PLAT APPROVAL  FOUNDATION PERMIT APPROVAL  XX BUILDING PERMIT APPROVAL  CERTIFICATE OF OCCUPANCY (PERM.)  CERTIFICATE OF OCCUPANCY (TEMP.)  XX GRADING PERMIT APPROVAL  PAVING PERMIT APPROVAL  WORK ORDER APPROVAL  OTHER (SPECIFY)
WAS A PRE-DESIGN CONFERENCE ATTENDED:  YES XX NO COPY PROVIDED	
DATE SUBMITTED: November 17, 2016 BY:	

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

- 1. Conceptual Grading and Drainage Plan: Required for approval of Site Development Plans greater than five acres
- 2. **Drainage Plans:** Required for building permits, grading permits, paving permits, and site plans less than five (5)
- 3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or

# ZUNI ROAD S.E. LOT- 24, BLOCK- 3 EXISTING 40 39. 39.70 DWELLING FF = 5340.80EXISTING CONCRETE ✓ DR\VEPAD RETENTION POND A 100ŶR VOL=800 CF Lot 2 100YR\WSEL=36.50 Ç (V) BASIN A FL<del>∮</del>36.62 OVERFLOW WEIR SEE DETAIL Lot 3 $\geq$ RETENTION POND B FP=5337.80 100YR VOL=2915 CF 100YR WSEL=35.50 Lot 21

## 100-YEAR HYDROLOGIC CALCULATIONS

		LAND TREATMENT			WEIGHTED	100-YEAR PRECIPITATION					
BASIN	AREA	Α	В	С	D	1 E	V (6-hr)	V (6-hr)	V(24-hr)	V(24-hr)	<u>-</u>
#	(acre)	(%)	(%)	(%)	(%)	(in)	(acre-ft)	(cu-ft)	(acre-ft)	(cu-ft)	(cfs)
				E	XISTING	CONDITIONS					
OFF-SITE	0.2304	0.00	62.20	0.00	37.80	1.46	0.03	1,225	0.03	1,383	0.81
ON-SITE	0.3108	0.00	100.00	0.00	0.00	0.92	0.02	1,038	0.02	1,038	0.81
TOTAL RUNOFF	0.54						0.05	2,263	0.06	2,421	1.62
				PR	OPOSED	CONDITIONS	S				
ON-SITE A	0.1551	0.00	0.00	41.00	59.00	1.92	0.02	1,082	0.03	1,248	0.68
ON-SITE B	0.1557	0.00	48.60	0.00	51.40	1.66	0.02	938	0.02	1,084	0.60
TOTAL RUNOFF	0.31						0.05	2,020	0.05	2,331	1.28
EXCESS PRECIP.		0.66	0.92	1.29	2.36	E <sub>i</sub> (in)					
PEAK DISCHARGE		1.87	2.6	3.45	5.02	Q <sub>Pi</sub> (cfs)					
WEIGHTED E (in) = (E <sub>A</sub> )(%A) + (E <sub>B</sub> )(%B) + (E <sub>C</sub> )(%C) + (E <sub>D</sub> )(%D) V <sub>6-HR</sub> (acre-ft) = (WEIGHTED E)(AREA)/12 V <sub>10DAY</sub> (acre-ft) = V <sub>6-HR</sub> + (A <sub>D</sub> )(P <sub>10DAY</sub> - P <sub>6-HR</sub> )/12 Q (cfs) = (Q <sub>PA</sub> )(A <sub>A</sub> ) + (Q <sub>PB</sub> )(A <sub>B</sub> ) + (Q <sub>PC</sub> )(A <sub>C</sub> ) + (Q <sub>PD</sub> )(A <sub>D</sub> )						<u> </u>	ZONE = 3 $P_{6-HR}$ (in.) = 2.60 $P_{24-HR}$ (in.) = 3.10 $P_{10DAY}$ (in.) = 4.90				

## DRAINAGE PLAN:

LEGAL DESCRIPTION: LOTS 22-A-1, BLOCK 3, EMIL MANN ADDITION

### SITE AREA: 0.3108 ACRES

FLOOD HAZARD STATEMENT: F.E.M.A. FLOODWAY BOUNDARY AND FLOODWAY MAP DATED AUGUST 16, 2012 (PANEL NO. 35001C0354H) INDICATES A FLOOD HAZARD ZONE X WHICH IS AN AREA DETERMINED TO BE OUTSIDE THE 500-YEAR FLOODPLAIN.

## EXISTING DRAINAGE CONDITIONS:

THE DRAINAGE ANALYSIS FOR THIS SITE IS IN ACCORDANCE WITH SETION 22 OF THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM), ENTITLED "DRAINAGE, FLOOD CONTROL, AND EROSION CONTROL." THE DESIGN STORM USED FOR BOTH UNDEVELOPED AND DEVELOPED CONDITIONS IS THE 100-YEAR, 24-HOUR STORM EVENT FOR RUNOFF. THE SITE IS LOCATED IN ZONE 3 SO THE 100-YEAR, 24-HOUR STORM EVENT IS 3.10 INCHES. UNDER EXISTING CONDITIONS LOT 22-A-1 IS ASSUMED TO BE LAND TREATMENT B, SINCE THE LOT HAS BEEN PREVIOUSLY GRADED.

LOT 22-A-1 IS LOCATED IN SOUTHEAST ALBUQUERQUE, AT 407 MESILLA STREET. CURRENTLY THE SITE IS UNDEVELOPED. THE PROPERTY DRAINS FROM SOUTHEAST TO NORTHWEST TO A DEPRESSED AREA AT THE NORTHWEST CORNER OF THE PROPERTY. ANY RUNOFF NOT CONTAINED IN THE DEPRESSED AREA CONTINUES WEST THROUGH THE ADJACENT PROPERTIES TO THE WEST. THE EXISTING PEAK RUNOFF FROM LOT 22-A-1 UNDER EXISTING CONDITIONS IS 0.81 CFS AND 1,038 CUBIC FEET OF RUNOFF VOLUME DURING A 100-YEAR, 24-HOUR STORM

OFFSITE FLOWS FROM LOT 24, LOCATED DIRECTLY NORTH OF LOT 22-A-1, DRAINS ONTO LOT 22-A-1 TO THE DEPRESSED AREA AT THE NORTHWEST CORNER OF THE PROPERTY. EXISTING CONDITON PEAK RUNOFF FROM LOT 24 IS 0.81 CFS AND 1,383 CUBIC FEET OF RUNOFF VOLUME DURING A 100-YEAR, 24-HOUR STORM.

### DEVELOPED DRAINAGE CONDITIONS:

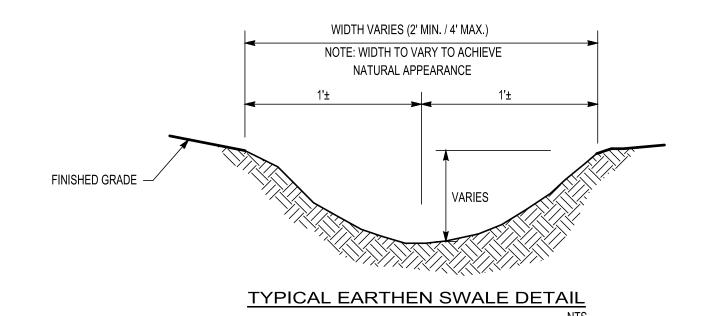
THIS PROJECT INVOLVES THE ADDITION OF 4 MODULAR TOWNHOMES WITH 4' WIDE SIDEWALK AND ONSITE GRAVEL PARKING LOT. AFTER THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS AN INCREASE IN IMPERVIOUS AREA RESULTS IN AN INCREASE IN RUNOFF VOLUMES AND FLOW RATES FROM EXISTING CONDITIONS. THE TOTAL RUNOFF FROM THE SITE AFTER DEVELOPMENT IS 1.28 CFS AND 2,332 CUBIC FEET RUNOFF VOLUME DURING THE DESIGN STORM.

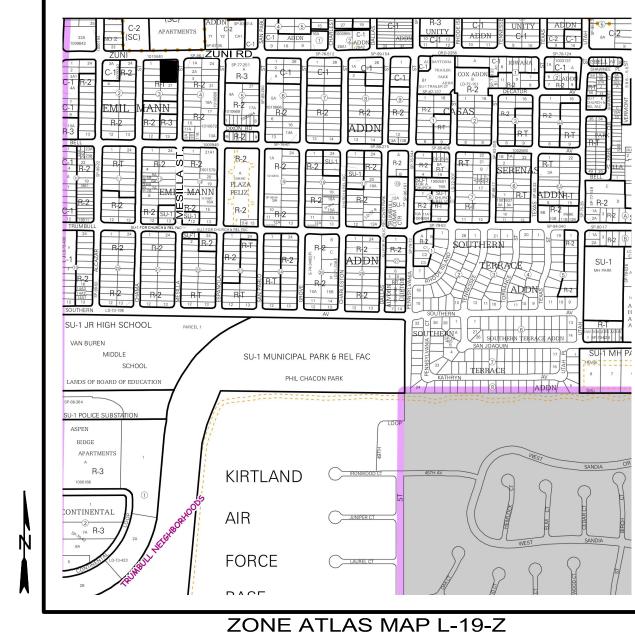
LOT 22-A-1 HAS TWO DRAINAGE BASINS, A AND B. THE PROPOSED DRAINAGE PLAN INCLUDES THE CONSTRUCTION OF ONSITE RETENTION PONDS, ONE IN EACH DRAINAGE BASIN. THE COMBINATION OF THESE PONDS WILL HOLD THE 100-YEAR, 24-HOUR RAINFALL EVENT INCLUDING THE RUNOFF FROM THE OFFSITE BASIN TO THE NORTH.

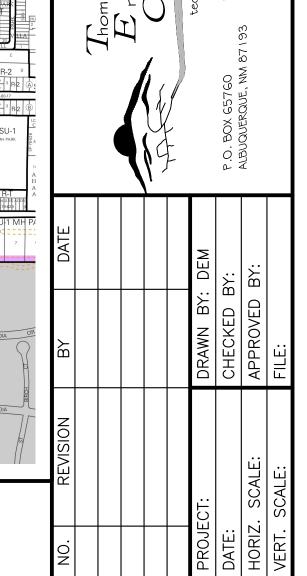
BASIN A INCLUDES THE PARKING AREA AND THE FRONT HALF OF THE TOWNHOMES. RUNOFF FROM BASIN A DRAINS TO POND A, WHICH IS LOCATED IN THE LANDSCAPED AREA AT THE SOUTHWEST CORNER OF THE PARKING LOT. THE TOTAL RUNOFF DRAINING TO POND A FROM BASIN A IS 0.68 CFS AND 1,248 CUBIC FEET OF VOLUME. POND A HAS A CAPACITY OF 800 CUBIC FEET, WHICH IS LESS THAN THE DESIGN STORM. POND A WILL HAVE A MAXIMUM DEPTH OF 1.5 FEET. ANY STORM EVENT GREATER THAN THE CAPACITY OF POND A WILL PASS THROUGH THE EMERGENCY SPILLWAY TO THE SOUTH TO POND B. THE EMEGRENCY SPILLWAY IS A DEPRESSION IN THE SIDEWALK AT THE SOUTHWEST CORNER OF THE POND.

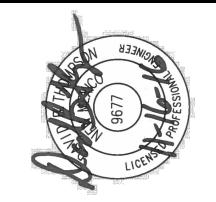
BASIN B INCLUDES RUNOFF FROM THE BACK HALF OF THE TOWNHOMES AND THE LANDSCAPED AREA ADJACENT TO THE BUILDINGS. RUNOFF FROM BASIN B WILL DRAIN TO POND B, WHICH IS LOCATED ALONG THE WEST LOT LINE AND AT THE SOUTHWEST CORNER OF THE SITE. THE FLOWS GENERATED BY BASIN B ARE 1,084 CUBIC FEET AND 0.60 CFS. ALL FLOWS FROM LOT 24 ARE DIVERTED AROUND BASIN A AND INTO POND B IN BASIN B VIA A SWALE. FLOWS GENERATED BY LOT 24 ARE 1,383 CUBIC FEET AND 0.8 CFS. POND B IS DESIGNED TO FULLY RETAIN ALL FLOWS GENERTED BY LOT 24, BASIN B AND THE OVERFLOW VOLUME FROM BASIN A, DURING A 100-YEAR, 24-HOUR RAINFALL EVENT. THE STORAGE VOLUME PROVIDED BY POND B IS 2,915 CUBIC FEET. POND B WILL HAVE A MAXIMUM DEPTH OF 1.5 FEET. IN THE EVENT OF A STORM GREATER THAN THE CAPAPCITY OF POND B, A 6-INCH DEEP, COBBLE-LINED WEIR, SIZED TO PASS THE COMBINED 100-YEAR PEAK FLOW OF 2.09 CFS, WILL BE CONSTRUCTED TO ALLOW PEAK FLOWS GREATER THAN THE 100-YEAR STORM TO DISCHARGE TO THE WEST, WHICH FOLLOWS THE HISTORIC FLOW

SINCE ALL RUNOFF WILL BE RETAINED ONSITE, THE FIRST FLUSH VOLUME WILL ALSO BE CONTAINED IN THE PROPOSED RETENTION PONDS.









FLOW LINE ELEVATIONS
TOP OF SIDEWALK ELEVATIONS
FINISHED PAD ELEVATIONS
EXIST. MAJOR CONTOURS
EXIST. MINOR CONTOURS
BASIN BOUNDARY
BASIN NUMBER
FLOW DIRECTION

**EARTH SWALE** 

SPOT ELEVATIONS

NOTE
FUTURE PROPERTY LINE FENCE MUST HAVE
AN OPENING WHERE THE WEIR AND SWALE OVERFLOW.

LEGEND

39.75

FL=39.75

TS=39.75

FP=39.75

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B-1

