

SCOPE

The proposed improvements include a triplex residential unit of approx. 4,000 sf with associated parking, walks and landscaped areas.

The site is a previously undeveloped residential property located in Albuquerque, New Mexico. Indian School Frontage Road borders the site to the north. The properties to the east, south and west are developed residential sites.

DRAINAGE PLAN CONCEPT

This is an infill site located in a fully developed area. Calculations for the 100-year, 6-hour storm event show an increase in flow due to development of 0.7 cfs.

The site will free discharge into Indian School Frontage Road to enter existing storm drain inlets west of the site.

The intent of this plan is to show:

- Grading relationships between the existing ground elevations and proposed finished elevations in order to facilitate positive drainage to designated discharge points.
- The extent of proposed site improvements, including buildings, walks and pavement.
- The flow rate/volume of rainfall runoff across or around these improvements and methods of handling these flows to meet City of Albuquerque requirements for drainage management.
- The relationship of on-site improvements with existing neighboring property to insure an orderly transition between proposed and surrounding grades.

GENERAL NOTES

LEGAL: Lot 3, Block 4 Ridge Park Albuquerque, Bernalillo County, New Mexico

SURVEYOR: Forstbauer Surveying - Ron Forstbauer - 268-2112

B.M.: 1. Benchmark: City of Albuquerque 1-H17. A square chiseled on top of concrete curb, located on the north side of Indian School Road, 0.25 miles west of the intersection of San Mateo Boulevard NE. Elevation: 5219.34 (1929).

T.B.M.: TBM-top of orange cap in south portion of site (see keyed note #1), CP 6126 Elevation 5224.11

OFF-SITE DRAINAGE: No off-site drainage affects this property.

FLOOD HAZARD: Per Bernalillo County FIRM Map #352 (see plan insert), the site is not located within a flood zone.

EROSION CONTROL: The contractor is responsible for retaining on-site all sediment generated during construction by means of temporary earth berms or silt fences at the low points on the west and north property lines.

CALCULATIONS: Indian School Triplex - November 5, 2002

Calculations are based on the Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

| ON-SITE | | | |
|------------------------------------|-------|----------------------------------|----------------|
| AREA OF SITE: | 13582 | SF | = 0.312 Ac. |
| PREVIOUSLY DEVELOPED FLOWS: | | | |
| On-Site Historic Land Condition | | On-Site Developed Land Condition | PRECIP. ZONE 2 |
| Area a = 0 SF | | Area a = 0 SF | Ea = 0.53 |
| Area b = 13582 SF | | Area b = 2037 SF | Eb = 0.78 |
| Area c = 0 SF | | Area c = 0 SF | Ec = 1.13 |
| Area d = 0 SF | | Area d = 11545 SF | Ed = 2.12 |
| Total Area = 13582 SF | | Total Area = 13582 SF | |

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

Weighted E = $\frac{EaAa + EbAb + EcAc + EdAd}{Aa + Ab + Ac + Ad}$

Previous E = 0.78 in. Proposed E = 1.92 in.

On-Site Volume of Runoff: V360 = $\frac{E^*A}{12}$

Previous V360 = 883 CF Proposed V360 = 2172 CF

On-Site Peak Discharge Rate: $Qp = QpaAa + QpbAb + QpcAc + QpdAd / 43,560$

For Precipitation Zone 2

Qpa = 1.56 Qpb = 3.14

Qbb = 2.28 Qpd = 4.70

Previous Qp = 0.71 CFS Proposed Qp = 1.35 CFS

The site will free discharge flows to Indian School Frontage Road via two sub-basins.

SUB-BASIN 1 - FREE DISCHARGE FROM ACCESS DRIVE TO INDIAN SCHOOL FRONTAGE ROAD

Area of sub-basin flows = 9775 SF = 0.2 Ac.

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

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 2.07 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 1683 CF

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

Qp = 1.03 cfs

SUB-BASIN 2 - FREE DISCHARGE FROM SIDEWALK CULVERT TO INDIAN SCHOOL FRONTAGE ROAD

Area of sub-basin flows = 3807 SF = 0.1 Ac.

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

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.56 in.

Sub-basin Volume of Runoff (see formula above)

V360 = 494 CF

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

Qp = 0.32 cfs

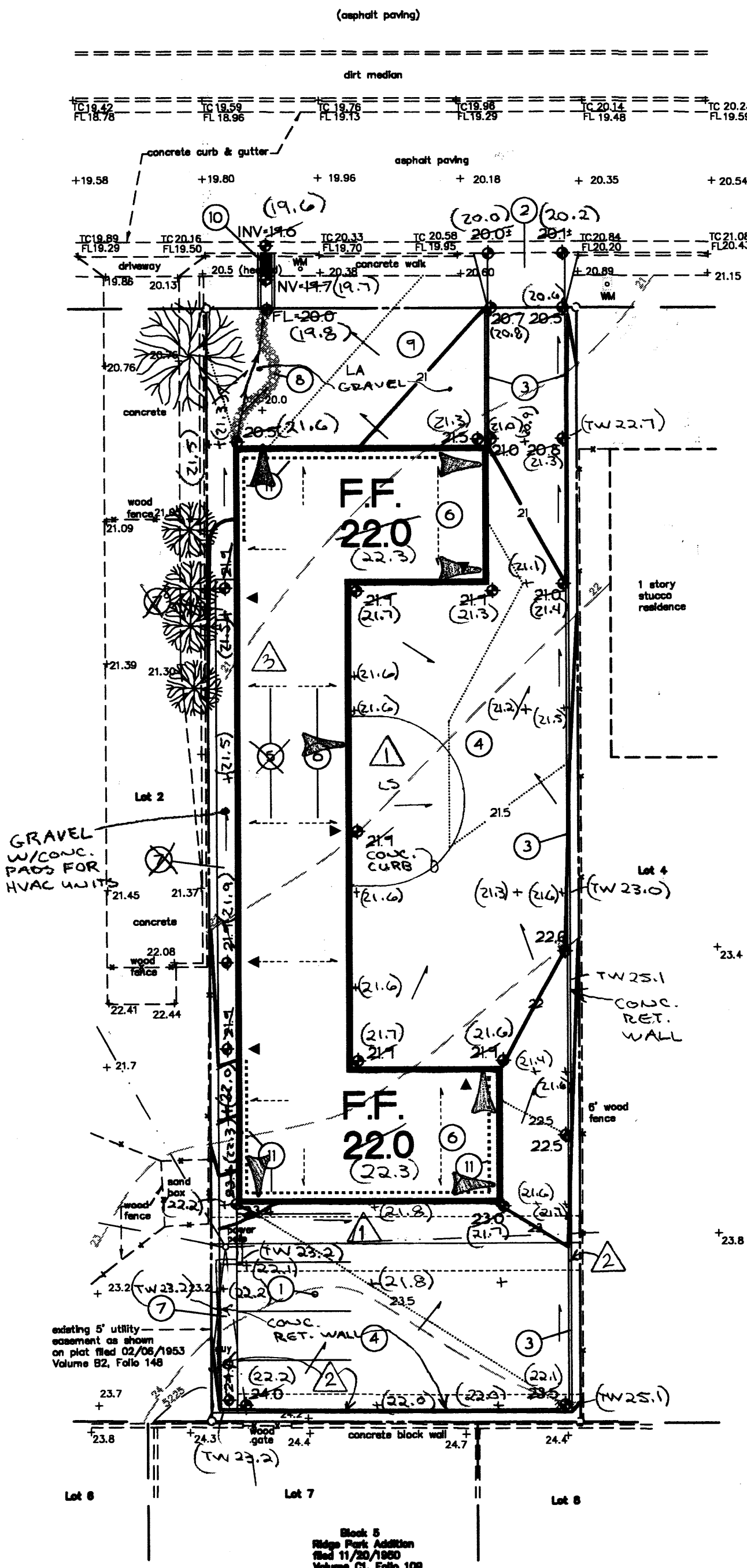
ORIFICE EQUATION - OPENING TO SIDEWALK CULVERT - SUB-BASIN 2

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

Where

| | | | |
|---|---|---------------|---|
| Q | = | 0.32 cfs | |
| C | = | 0.6 | (indicating that the opening will function at 60% capacity) |
| A | = | 0.50 sq.ft. | |
| g | = | 32.2 ft/sec^2 | |
| h | = | 0.018 ft | depth of flow at opening from the flowline |

Approx 0.32 cfs will pass through the sidewalk culvert which has a capacity of 1.7 cfs OK



GENERAL NOTES

- ALL SPOT ELEVATIONS REFERENCE TOP OF PAVING ADD 0.5' FOR TOP OF CURB ELEVATIONS.
- COORDINATE WORK WITH SITE PLAN AND SITE LANDSCAPE PLAN
- ALL COBBLES TO BE 4" - 8" DIA.

LEGEND

| | |
|-----|---|
| --- | SIDEWALK, CURB AND GUTTER EXISTING, PROPOSED |
| --- | BUILDING EXISTING, PROPOSED |
| --- | PROPERTY LINE |
| --- | EXISTING SPOT ELEVATION |
| --- | EXISTING CONTOUR |
| --- | PROPOSED SPOT ELEVATION (AS-BUILT SPOT ELEVATION) |
| --- | PROPOSED CONTOUR |
| --- | PROPOSED 0.5' CONTOUR |
| --- | SURFACE FLOW DIRECTION EXISTING, PROPOSED, ROOF |
| --- | EXTENDED / RETAINING STEMMALL |
| --- | LANDSCAPED AREA |
| --- | FLOW LINE |
| --- | FINISHED FLOOR |
| --- | RIGHT OF WAY |
| --- | PROPERTY LINE |
| --- | POWER POLE |
| --- | ENTRY / EXIT LOCATION |
| --- | ROOF DOWNSPOUT LOCATION |

I, Christopher L. Weiss, NMPE 6653 of C.L. Weiss Engineering, Inc. hereby certify that this project has been graded and will drain in substantial compliance with and in accordance with the design intent of the approved plan dated 11-7-02. The record information edited onto the original design document has been obtained by Ron Forstbauer, NMPS 6126, of the firm Forstbauer Surveying L.L.C. I further certify that my representative has personally visited the project site on 4-11-03 and has determined by visual inspection that the survey data provided is representative of actual site conditions and is true and correct to the best of my knowledge and belief. This certification is submitted in support of a request for Certificate of Occupancy.

AREAS OF MODIFICATION BETWEEN APPROVED DRAINAGE GRADING PLAN AND ACTUAL AS-BUILT

- Landscaped area added. OKAY
- Pavement grades modified. Retaining Wall constructed along boundary. OKAY
- Roof flows guttered and released to asphalt paving. No roof flow drains to west side of building. OKAY
- Roof downspout location. OKAY

The record information presented hereon is not necessarily complete and intended only to verify substantial compliance of the grading and drainage aspects of this project. Those relying on this record document are advised to obtain independent verification of its accuracy before using it for any other purpose.

Christopher L. Weiss, NMPE 6653

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY NOTICE TO CONTRACTOR

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- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXCAVATION PERMIT FOR SIDEWALK CULVERT/DRAIN.
- PROOF OF ACCEPTANCE WILL BE REQUIRED PRIOR TO SIGN OFF OF CERTIFICATE OF OCCUPANCY (C.O.).

INSPECTION APPROVAL:

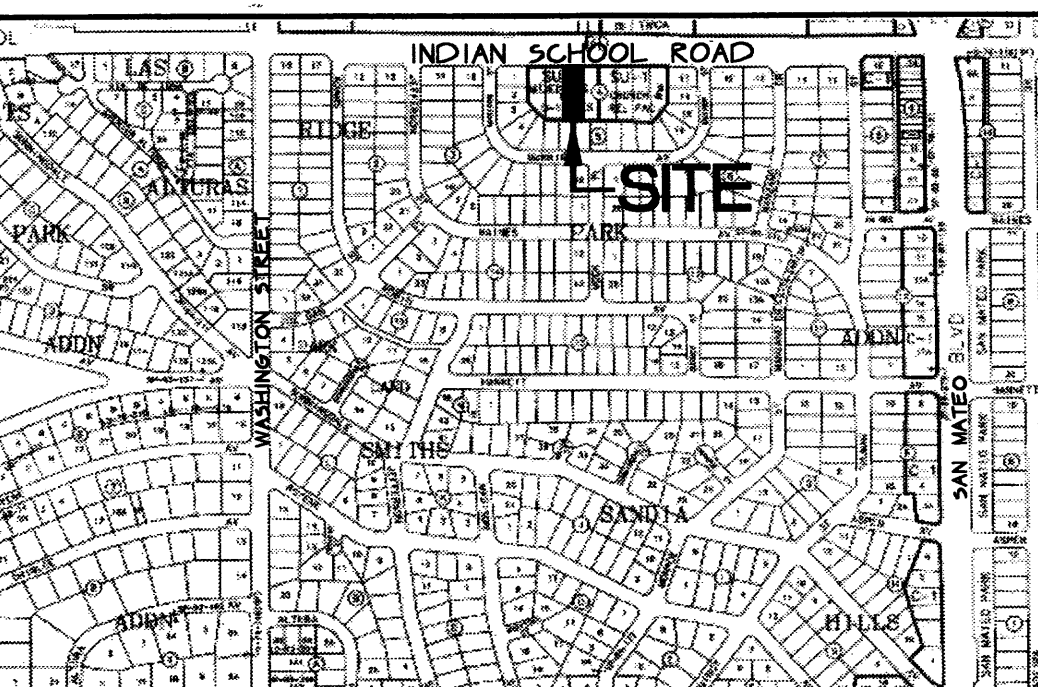
CONSTRUCTION SECTION

DATE

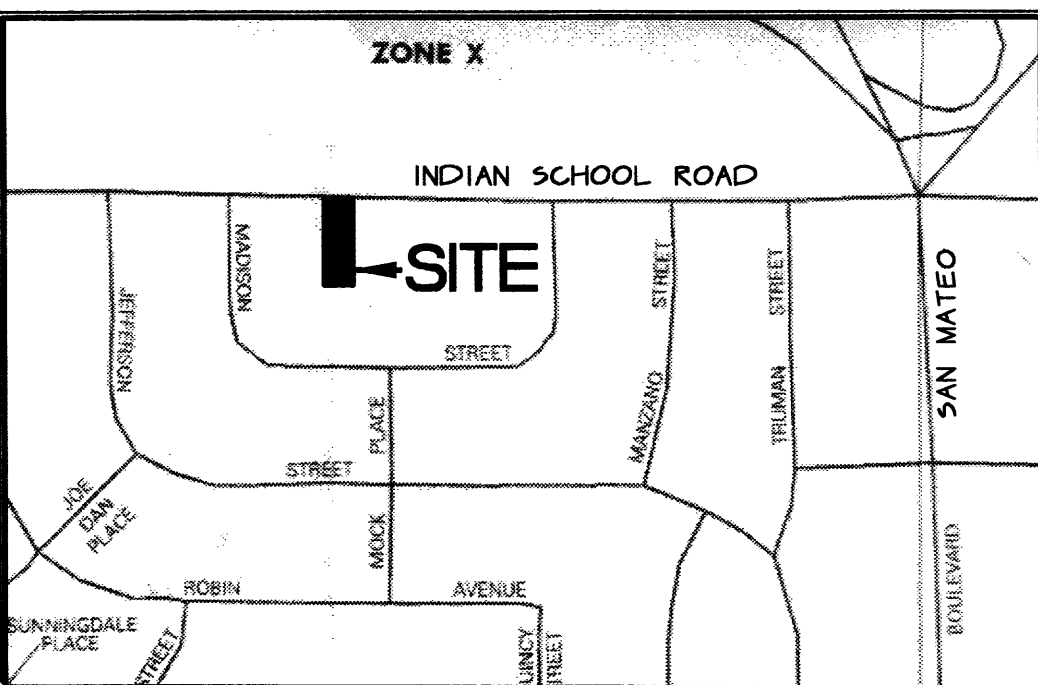
KEYNOTES

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- CONSTRUCT CONCRETE DRIVEPAD ENTRANCE PER C.O.A. STANDARD DTL 2423. MATCH EXISTING TOP OF WALK / FLOWLINE ELEVATIONS FOR SMOOTH TRANSITION SEE ARCHITECTURAL FOR DIMENSIONS.
- CONSTRUCT CONCRETE HEADER CURB THIS AREA PER C.O.A. STD. DWG. 2415. SEE ARCHITECTURAL FOR EXTENTS.
- PROPOSED PAVING. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION REGARDING MATERIAL, PARKING LAYOUT, DIMENSIONS, STRIPING, ETC.
- SEE ARCHITECTURAL FOR GUTTER SYSTEM DETAILS FOR WEST ROOF FLOWS. GUTTER TO RELEASE FLOWS TO COBBLE LINED SWALE AT NORTHWEST CORNER OF PROPOSED BUILDING.
- NORTH, SOUTH AND EAST ROOF FLOWS TO BE RELEASED AS SHEETFLOW DIRECTLY TO PROPOSED ASPHALT PAVING / LANDSCAPING. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
- CONSTRUCT CONCRETE WALK THIS AREA AT GRADES SHOWN. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
- PROVIDE 2' WIDE X 8" DEEP X 3" DEPRESSED COBBLE LINED SWALE FROM GUTTER OUTLET TO PROPOSED SIDEWALK CULVERT.
- GRADE LANDSCAPED AREA TO DRAIN TO PROPOSED SIDEWALK CULVERT.
- CONSTRUCT 1' WIDE SIDEWALK CULVERT WITH STEEL PLATE TOP. MATCH EXISTING WALK / FLOWLINE ELEVATIONS FOR SMOOTH TRANSITION. CONSTRUCT PER C.O.A. STD. DTL 2236
- CONSTRUCT RETAINING / EXTENDED STEM WALL THIS AREA TO ACHIEVE GRADE DIFFERENCES SHOWN.

VICINITY MAP #J-17



FIRM MAP #352



C.L. WEISS ENGINEERING, INC.

SANDIA PARK OFFICE
POST OFFICE BOX 47
SANDIA PARK, NM 87047
5051 261-1600
ALVARADO OFFICE
1100 ALVARADO DR. NE
ALBUQUERQUE, NM 87110
5051 266-3444

Revisions

THIS DESIGN, CALCULATIONS, AND CONCEPTS ARE OWNED BY AND REMAIN THE PROPERTY OF C.L. WEISS ENGINEERING, INC. AND NO PART THEREOF SHALL BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION FOR ANY PURPOSE WHATSOEVER EXCEPT WITH THE WRITTEN PERMISSION OF CHRISTOPHER L. WEISS, P.E. ©

Indian School Triplex 4718 Indian School Road

McClintic

Scale: 1" = 20' Drawn By: D.J.D. Checked By: C.L.W. Job Number: 11-7-02 Date: 11-7-02

Drainage and
Grading Plan

C-1
Sheet 1 of 1

SCOPE

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LEGAL: Lot 3, Block 4 Ridge Park Albuquerque, Bernalillo County, New Mexico

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B.M.: 1. Benchmark: City of Albuquerque 1-H17. A square chiseled on top of concrete curb, located on the north side of Indian School Road, 0.25 miles west of the intersection of San Mateo Boulevard NE. Elevation: 5219.34 (1929).

T.B.M.: TBM-top of orange cap in south portion of site (see keyed note #1), CP 6126 Elevation 5224.11

OFF-SITE DRAINAGE: No off-site drainage affects this property.

FLOOD HAZARD: Per Bernalillo County FIRM Map #352 (see plan insert), the site is not located within a flood zone.

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CALCULATIONS: Indian School Triplex - November 5, 2002

Calculations are based on the Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

| ON-SITE | | | |
|---------------------------------|----------------------------------|----------------------|----------------|
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| PREVIOUSLY DEVELOPED FLOWS: | | | |
| On-Site Historic Land Condition | On-Site Developed Land Condition | Excess Precipitation | Precip. Zone 2 |
| Area a = 0 SF | Area a = 0 SF | Ea = 0.53 | |
| Area b = 13582 SF | Area b = 2037 SF | Eb = 0.78 | |
| Area c = 0 SF | Area c = 0 SF | Ec = 1.13 | |
| Area d = 0 SF | Area d = 11545 SF | Ed = 2.12 | |
| Total Area = 13582 SF | Total Area = 13582 SF | | |

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

$$\text{Weighted E} = \frac{EaAa + EbAb + EcAc + EdAd}{Aa + Ab + Ac + Ad}$$

$$\text{Previous E} = 0.78 \text{ in.} \quad \text{Proposed E} = 1.92 \text{ in.}$$

$$\text{On-Site Volume of Runoff: } V360 = E^*A / 12$$

$$\text{Previous V360} = 883 \text{ CF} \quad \text{Proposed V360} = 2172 \text{ CF}$$

$$\text{On-Site Peak Discharge Rate: } Qp = QpaAa + QpbAb + QpcAc + QpdAd / 43,560$$

For Precipitation Zone 2

$$Qpa = 1.56 \quad Qpb = 2.28 \quad Qpc = 3.14 \quad Qpd = 4.70$$

$$\text{Previous } Qp = 0.71 \text{ CFS} \quad \text{Proposed } Qp = 1.35 \text{ CFS}$$

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

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$$\text{Weighted E} = 2.07 \text{ in.}$$

$$\text{Sub-basin Volume of Runoff (see formula above)}$$

$$V360 = 1683 \text{ CF}$$

$$\text{Sub-basin Peak Discharge Rate: (see formula above)}$$

$$Qp = 1.03 \text{ cfs}$$

| TREATMENT |
|-----------|
| A = 0% |
| B = 4% |
| C = 0% |
| D = 96% |

SUB-BASIN 2 - FREE DISCHARGE FROM SIDEWALK CULVERT TO INDIAN SCHOOL FRONTAGE ROAD

$$\text{Area of sub-basin flows} = 3807 \text{ SF} = 0.1 \text{ Ac.}$$

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

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$$\text{Sub-basin Volume of Runoff (see formula above)}$$

$$V360 = 494 \text{ CF}$$

$$\text{Sub-basin Peak Discharge Rate: (see formula above)}$$

$$Qp = 0.32 \text{ cfs}$$

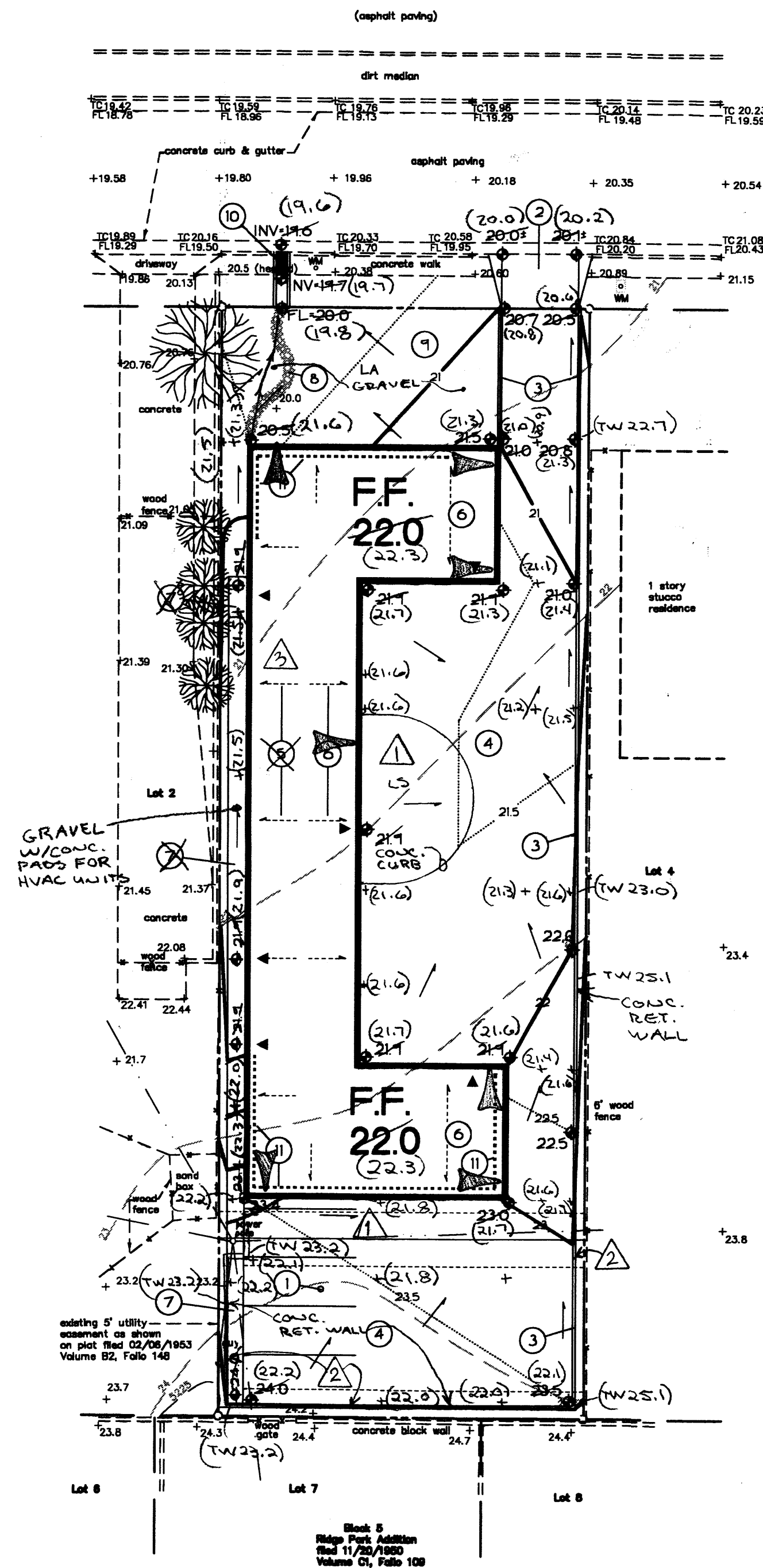
| TREATMENT |
|-----------|
| A = 0% |
| B = 42% |
| C = 0% |
| D = 58% |

ORIFICE EQUATION - OPENING TO SIDEWALK CULVERT - SUB-BASIN 2

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

| | | | | |
|-------|---|---|---------------|---|
| Where | Q | = | 0.32 cfs | |
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GENERAL NOTES

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LEGEND

- SIDEWALK, CURB AND GUTTER (EXISTING, PROPOSED)
- BUILDING EXISTING, PROPOSED
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- EXISTING SPOT ELEVATION
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- SURFACE FLOW DIRECTION (EXISTING, PROPOSED, ROOF)
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- Roof downspout location. OKAY

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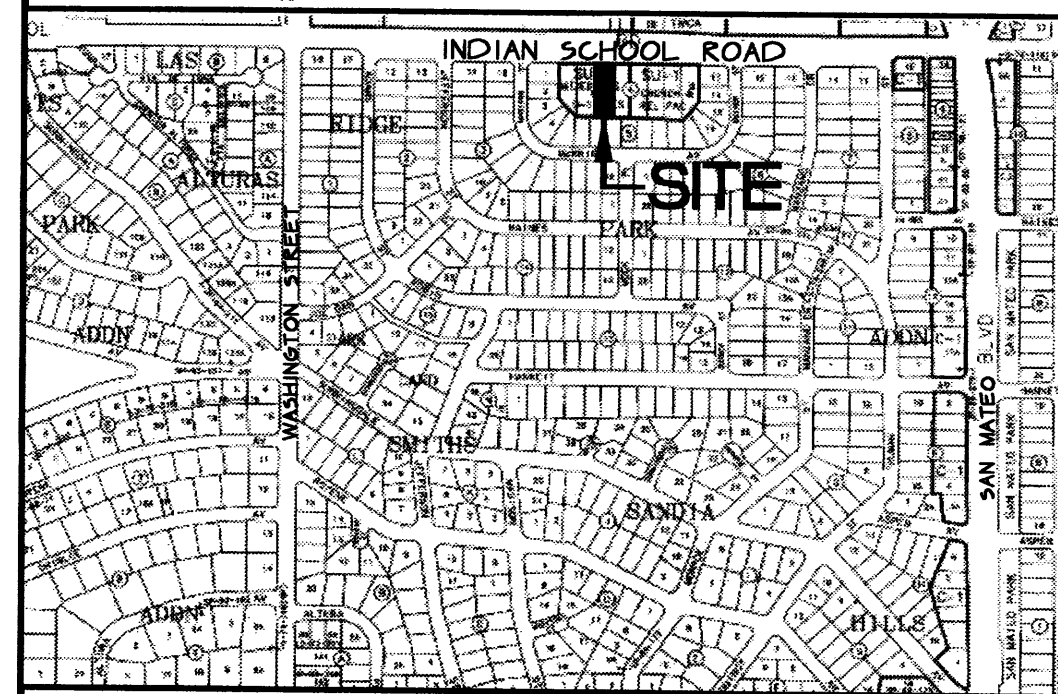
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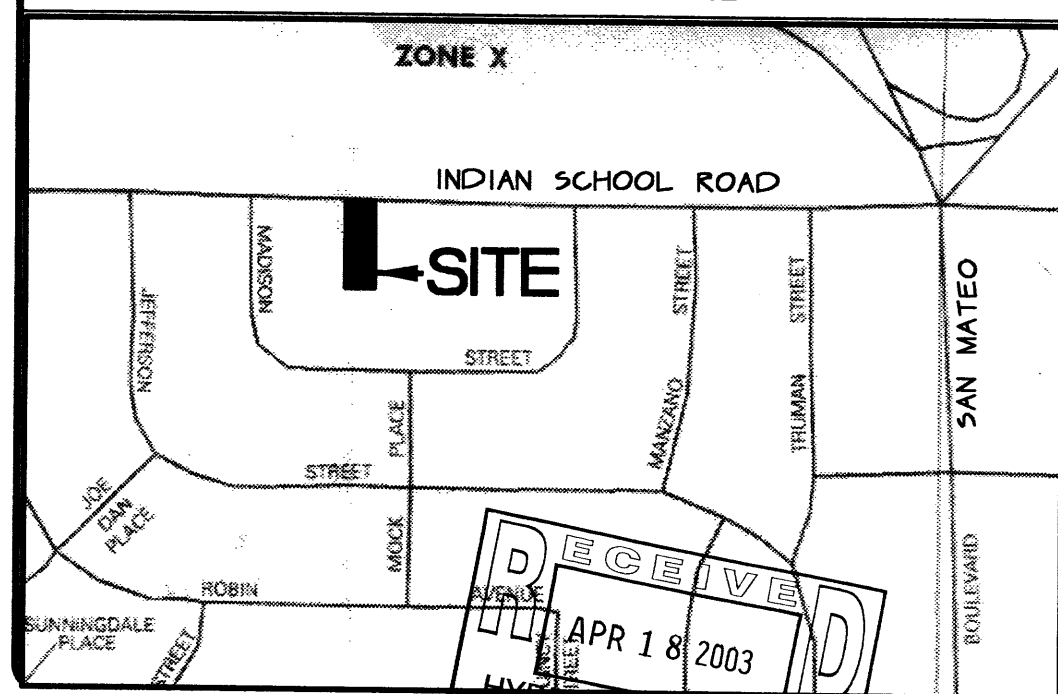
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VICINITY MAP #J-17



FIRM MAP #352



C.L. WEISS ENGINEERING, INC.

SANDIA PARK OFFICE
POST OFFICE BOX 17
SANDIA PARK, NM 87047
(505) 261-1600
ALVARADO OFFICE
100 ALVARADO DR. NE
ALBUQUERQUE, NM 87110
(505) 266-3444

| | | | |
|---|-----------------|-------------------|-------------------|
| Revisions | | | |
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| Indian School Triplex 4718 Indian School Road | | | |
| McClintic | | | |
| Scale 1" = 20' | Drawn By BUB | Checked By CLW | Date 11-7-02 |
| Drainage and Grading Plan | | | C-1 Sh. 1 of 1 |

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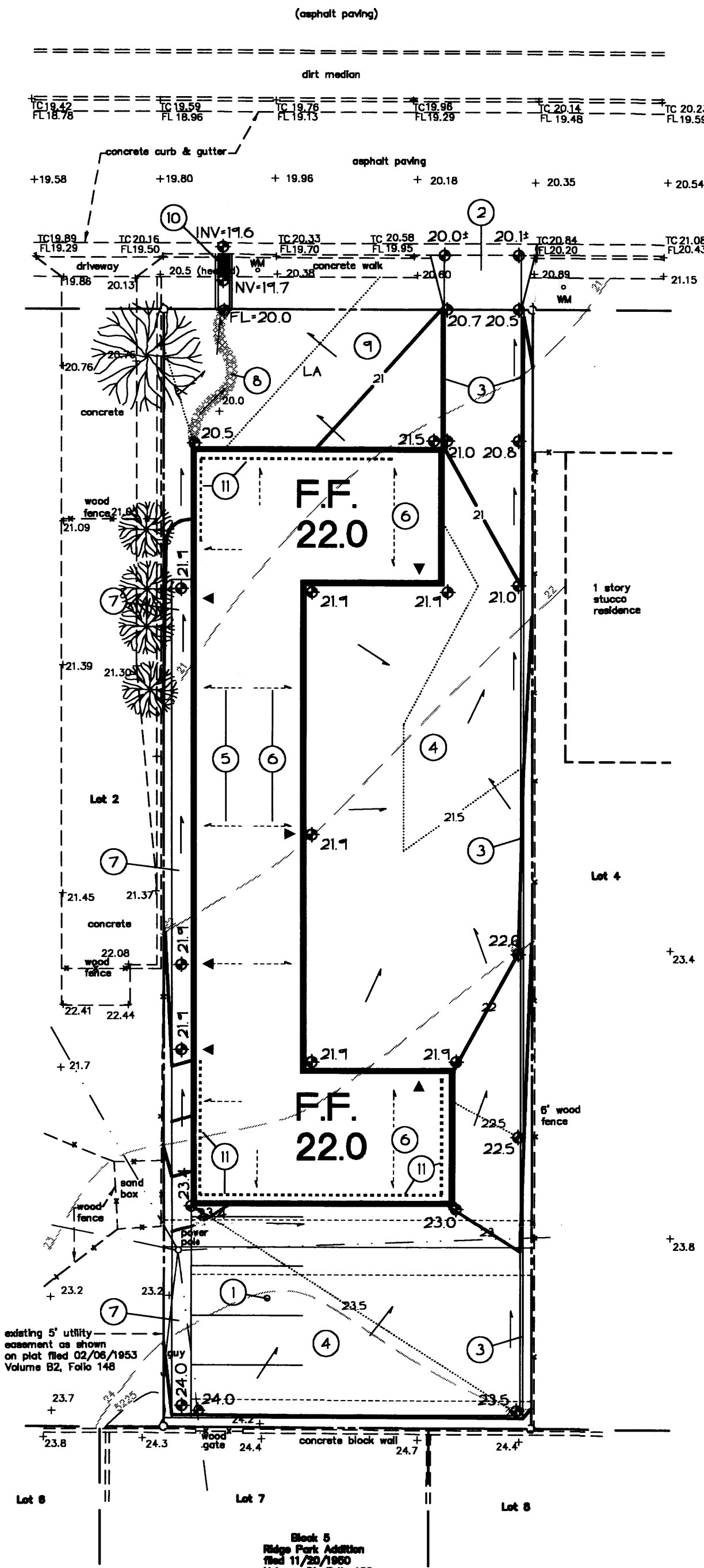
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- COORDINATE WORK WITH SITE PLAN AND SITE LANDSCAPE PLAN.
- ALL COBBLES TO BE 4" - 8" DIA.

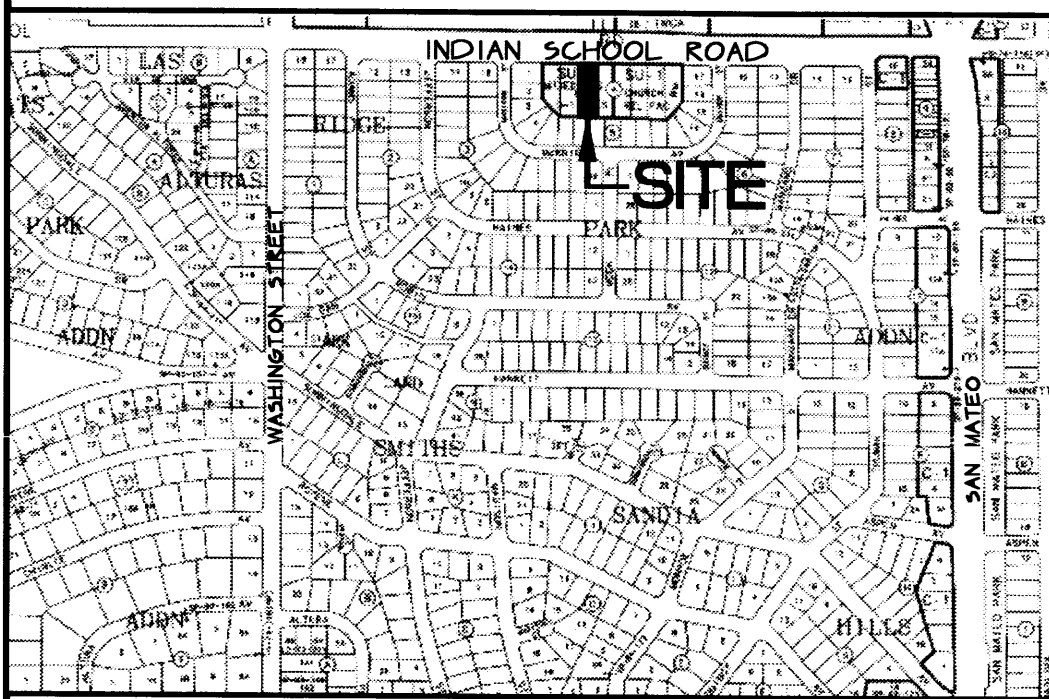
LEGEND

- SIDEWALK, CURB AND GUTTER (EXISTING, PROPOSED)
- BUILDING EXISTING, PROPOSED
- PROPERTY LINE
- EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED CONTOUR
- PROPOSED 0.5' CONTOUR
- SURFACE FLOW DIRECTION (EXISTING, PROPOSED, ROOF)
- EXTENDED / RETAINING STEMWALL
- LANDSCAPED AREA
- FLOW LINE
- FINISHED FLOOR
- RIGHT OF WAY
- PROPERTY LINE
- POWER POLE
- ENTRY / EXIT LOCATION

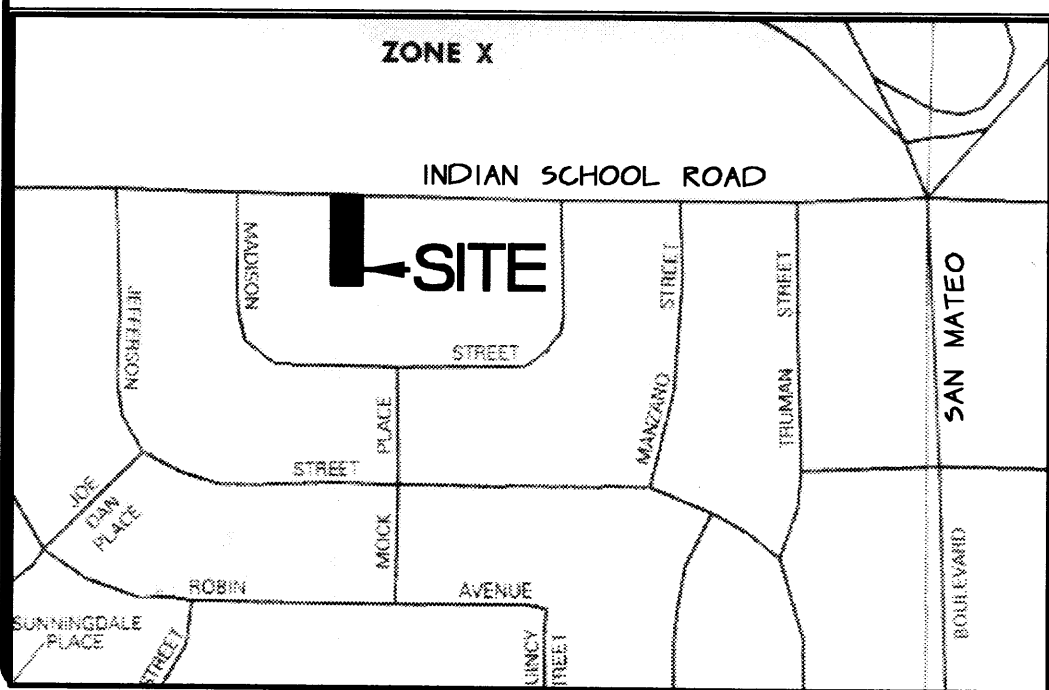
KEYNOTES

- TBM-TOP OF ORANGE CAP, CP 6126 ELEVATION 5224.11
- CONSTRUCT CONCRETE DRIVEPAD ENTRANCE PER C.O.A. STANDARD DTL 2425. MATCH EXISTING TOP OF WALK / FLOWLINE ELEVATIONS FOR SMOOTH TRANSITION. SEE ARCHITECTURAL FOR DIMENSIONS.
- CONSTRUCT CONCRETE HEADER CURB THIS AREA PER C.O.A. STD. DWG. 2415. SEE ARCHITECTURAL FOR EXTENTS.
- PROPOSED PAVING. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION REGARDING MATERIAL, PARKING LAYOUT, DIMENSIONS, STRIPING, ETC.
- SEE ARCHITECTURAL FOR GUTTER SYSTEM DETAILS FOR WEST ROOF FLOWS. GUTTER TO RELEASE FLOWS TO COBBLE LINED SWALE AT NORTHWEST CORNER OF PROPOSED BUILDING.
- NORTH, SOUTH AND EAST ROOF FLOWS TO BE RELEASED AS SHEETFLOW DIRECTLY TO PROPOSED ASPHALT PAVING / LANDSCAPING. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
- CONSTRUCT CONCRETE WALK THIS AREA AT GRADES SHOWN. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
- PROVIDE 2' WIDE X 6" DEEP X 3" DEPRESSED COBBLE LINED SWALE FROM GUTTER OUTLET TO PROPOSED SIDEWALK CULVERT.
- GRADE LANDSCAPED AREA TO DRAIN TO PROPOSED SIDEWALK CULVERT.
- CONSTRUCT 1' WIDE SIDEWALK CULVERT WITH STEEL PLATE TOP. MATCH EXISTING WALK / FLOWLINE ELEVATIONS FOR SMOOTH TRANSITION. CONSTRUCT PER C.O.A. STD. DTL. 2236
- CONSTRUCT RETAINING / EXTENDED STEM WALL THIS AREA TO ACHIEVE GRADE DIFFERENCES SHOWN.

VICINITY MAP #J-17



FIRM MAP #352

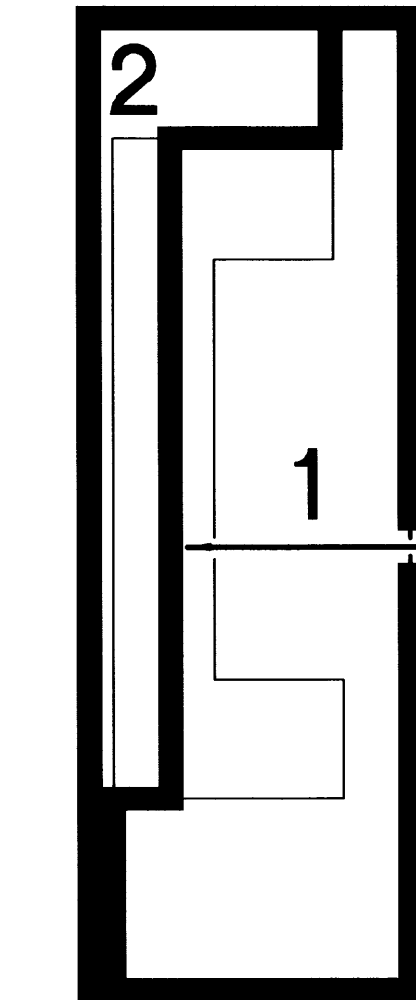


DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY
NOTICE TO CONTRACTOR

- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITHIN A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO COLLECTOR STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXCAVATION PERMIT FOR SIDEWALK CULVERT/DRAIN.
- PROOF OF ACCEPTANCE WILL BE REQUIRED PRIOR TO SIGN OFF FOR CERTIFICATE OF OCCUPANCY (C.O.).

INSPECTION APPROVAL: _____
CONSTRUCTION SECTION DATE

| CALCULATIONS: Indian School Triplex : November 5, 2002 | | | | | | | | | |
|---|---|----------|-------|----------------------------------|---|-----------|--|-----------------------|--|
| Calculations are based on the Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993 | | | | | | | | | |
| ON-SITE | | | | | | | | | |
| AREA OF SITE: | | 13582 | | SF | | = | | 0.312 Ac. | |
| PREVIOUSLY DEVELOPED FLOWS: | | | | PROPOSED DEVELOPED FLOWS: | | | | EXCESS PRECIPITATION: | |
| On-Site Historic Land Condition | | | | On-Site Developed Land Condition | | | | Precip. Zone 2 | |
| Area a = | | 0 SF | | Area a = | | 0 SF | | Ea = 0.53 | |
| Area b = | | 13582 SF | | Area b = | | 2037 SF | | Eb = 0.78 | |
| Area c = | | 0 SF | | Area c = | | 0 SF | | Ec = 1.13 | |
| Area d = | | 0 SF | | Area d = | | 11545 SF | | Ed = 2.12 | |
| Total Area = | | 13582 SF | | Total Area = | | 13582 SF | | | |
| On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm) | | | | | | | | | |
| Weighted E = | | | | $EaAa - EbAb + EcAc + EdAd$ | | | | | |
| | | | | $Aa + Ab + Ac + Ad$ | | | | | |
| Previous E = | | 0.78 in. | | Proposed E = | | 1.92 in. | | | |
| On-Site Volume of Runoff: V360 = | | | | $E * A / 12$ | | | | | |
| Previous V360 = | | 883 CF | | Proposed V360 = | | 2172 CF | | | |
| On-Site Peak Discharge Rate: $Qp = QpaAa - QpbAb + QpcAc + QpdAd / 43,560$ | | | | | | | | | |
| For Precipitation Zone 2 | | | | | | | | | |
| Qpa = | | 1.56 | | Qpc = | | 3.14 | | | |
| Qpb = | | 2.28 | | Qpd = | | 4.70 | | | |
| Previous Qp = | | 0.71 CFS | | Proposed Qp = | | 1.35 CFS | | | |
| The site will free discharge flows to Indian School Frontage Road via two sub-basins. | | | | | | | | | |
| SUB-BASIN 1 - FREE DISCHARGE FROM ACCESS DRIVE TO INDIAN SCHOOL FRONTAGE ROAD | | | | | | | | | |
| Area of sub-basin flows | | 9775 SF | | = | | 0.2 | | Ac. | |
| The following calculations are based on Treatment areas as shown in table to the right | | | | | | | | | |
| Sub-basin Weighted Excess Precipitation (see formula above) | | | | | | | | | |
| Weighted E = | | | | 2.07 in. | | TREATMENT | | | |
| Sub-basin Volume of Runoff (see formula above) | | | | | | | | | |
| V360 = | | | | 1683 CF | | A = 0% | | | |
| Sub-basin Peak Discharge Rate: (see formula above) | | | | | | B = 4% | | | |
| Qp = | | | | 1.03 cfs | | C = 0% | | | |
| | | | | | | D = 96% | | | |
| SUB-BASIN 2 - FREE DISCHARGE FROM SIDEWALK CULVERT TO INDIAN SCHOOL FRONTAGE ROAD | | | | | | | | | |
| Area of sub-basin flows | | 3807 SF | | = | | 0.1 | | Ac. | |
| The following calculations are based on Treatment areas as shown in table to the right | | | | | | | | | |
| Sub-basin Weighted Excess Precipitation (see formula above) | | | | | | | | | |
| Weighted E = | | | | 1.56 in. | | TREATMENT | | | |
| Sub-basin Volume of Runoff (see formula above) | | | | | | | | | |
| V360 = | | | | 494 CF | | A = 0% | | | |
| Sub-basin Peak Discharge Rate: (see formula above) | | | | | | B = 42% | | | |
| Qp = | | | | 0.32 cfs | | C = 0% | | | |
| | | | | | | D = 58% | | | |
| ORIFICE EQUATION - OPENING TO SIDEWALK CULVERT - SUB-BASIN 2 | | | | | | | | | |
| $Q = C^* A * (2^* g^* h)^{.5}$ | | | | | | | | | |
| Where | Q | = | 0.32 | cfs | (indicating that the opening will function at 60% capacity) | | | | |
| | C | = | 0.6 | | | | | | |
| | A | = | 0.50 | sq.ft. | | | | | |
| | g | = | 32.2 | ft/sec^2 | | | | | |
| | h | = | 0.018 | ft | depth of flow at opening from the flowline | | | | |
| Approx 0.32 cfs will pass through the sidewalk culvert which has a capacity of 1.7 cfs OK | | | | | | | | | |



DRAINAGE SUB-BASINS