DRAINAGE INFORMATION SHEET

PROJECT TITLE: Nineteenth St. Parking Lot ZONE ATLAS/DRNG. FILE #: J-13/D3A

LEGAL DESCRIPTION: ____________________

CITY ADDRESS: ____________________

ENGINEERING FIRM: Wilson & Company CONTACT: Bob Sykes

ADDRESS: PO Box 3518 PHONE: 345-5345

OWNER: City of Albuquerque CONTACT: Alan Goodman

ADDRESS: ____________________ PHONE: 768-2740

ARCHITECT: Wilson & Co. CONTACT: Howard Kaplan

ADDRESS: ____________________ PHONE: 345-5345

SURVEYOR: ____________________ CONTACT: ____________________

ADDRESS: ____________________ PHONE: ____________________

CONTRACTOR: ____________________ CONTACT: ____________________

ADDRESS: ____________________ PHONE: ____________________

PRE-DESIGN MEETING:

X YES

___ NO

X COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. ———

EPC NO. ____________________

PROJ. NO. ____________________

RECEIVED MAY 13 1986 HYDROLOGY SECTION

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

X GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

X GRADING/PAVING PERMIT APPROVAL

___ OTHER ____________________ (SPECIFY)

DATE SUBMITTED: Robert F. Sykes

BY: 8 May 1986

RECEIVED
MAY 13 1986
HYDROLOGY SECTION

COMP.
CK.
DATE

WILSON & COMPANY
ENGINEERS & ARCHITECTS

LOC. FILE
PROJ. SHEET
SUBJ. OF

Total Head Available on 10" pipe

TC Elev = 4955.80 ✓
℄ Outlet = 4951.55 ✓
4.25
− Dia Pipe .83
H = 3.42

Assume Head Loss Factor 1.5

$$\frac{H}{F} = \frac{Q^2}{A_2^{\,2}} \times \frac{1}{2g}$$

$$Q^2 = \frac{A^2 H\, 2g}{F}$$

$$Q = A\sqrt{\frac{2gh}{F}}$$

$$F = 1 + K_m + K_p L \text{ (SCS)}$$

$$\frac{3.42}{1.50} \quad \frac{Q^2}{(.55)^2} \times \frac{1}{64.4}$$

$$Q^2 = \frac{3.42 \times (.54)^2 \times 64.4}{1.50}$$

$$Q^2 = 42.82$$

Peak discharge Q = 6.54 cfs 10" PVC Pipe

STORAGE VOLUME AVAILABLE
Area A_1 = 5712 sq ft.

Volume = 1/3 Area × h
h = 0.50
Volume 1/3×5712×0.50
V = 952 cu. ft

Area A_2 = 19,720 sq ft
h = 55.80 − 55.42 = 0.38'

$$\text{Volume} = \tfrac{1}{3}(A_1 + A_2 + \sqrt{A_1 \times A_2})\,h$$

$$= \tfrac{1}{3}(5712 + 19720 + \sqrt{5712 \cdot 19720})\,0.38$$

$$= \tfrac{1}{3}(5712 + 19720 + 10{,}613)\,0.38$$

Volume = 4565 cu ft

Total Volume Before overflow to st = 4565 + 952 = 5517 cu ft
Volume Reqd = 4864 cu ft.

COMP.
CK.
DATE

WILSON & COMPANY
ENGINEERS & ARCHITECTS

LOC. FILE
PROJ. SHEET
SUBJ. OF

time (min)	Q cfs	Inc. Volume	Total Volume	Total Outflow	Storage Vol. Reqd
1	.54	16.2	16.2	392	
2	1.81	70.5	86.7	785	
3	3.54	160.5	247.2	1177	
4	5.62	274.8	522.0	1570	
5	8.52	424.2	946.2	1962	
6	11.97	614.7	1560.9	2354	
7	14.87	805.2	2366.1	2747	–
8	16.87	952.2	3318.3	3139	179
9	17.96	1044.9	4363.2	3532	831
10	18.14	1083.0	5446.2	3924	1522
11	17.96	1083.0	6529.2	4316	2213
12	16.87	1044.9	7574.1	4709	2865
13	15.60	974.1	8548.2	5101	3447
14	14.15	892.5	9440.7	5494	3947
15	12.33	794.4	10,235.1	5886	4349
16	10.16	674.7	10,909.8	6278	4632
17	8.34	555.0	11,464.8	6671	4794
18	7.07	462.3	11,927.1	7063	4864 ← Max Storage
19	5.99	391.8	12,318.9	7456	4863
20	5.08	332.1	12,651.0	7848	4803
22	3.75	529.8	13,180.8	8633	4548
24	2.67	385.2	13,566.0	9418	4148
26	1.94	276.6	13,842.6	10202	3641
28	1.40	200.4	14,043.0	10987	3056
30	1.00	144.0	14,187.0	11772	2415
32	0.73	103.8	14,290.8	12557	1733
34	0.53	75.6	14,366.4	13342	1024
36	0.38	54.6	14,421.0	14,127	295
38	0.27	39.0	14,460.0	14911	–
40	0.20	28.2	14,488.2		
45	0.09	43.5	14,531.7		
50	0.00	13.5	14,545.2		

10" Pipe flow Q_f with $\Delta H = 3.42$
Use factor 1.5 for losses

$$h = 1.5 \frac{Q^2}{A_2} \cdot \frac{1}{2g} : \quad 3.42 = \frac{Q}{(.54)^2} \times 1.5 \times \frac{1}{64.4}$$

$$Q^2 = 42.82 \quad Q = 6.54$$

WILSON & COMPANY
ENGINEERS & ARCHITECTS

505 345-5345

ENGINEERS
ARCHITECTS
PLANNERS

Office Location... 6611 GULTON CT., N.E. ■ ALBUQUERQUE, NEW MEXICO 87109
An Equal Opportunity Employer

Mailing Address... P.O. BOX 3548 ■ ALBUQUERQUE, NEW MEXICO 87190

8 May 1986

RECEIVED
MAY 13 1986
HYDROLOGY SECTION

Mr. Billy Goolsby
Hydrology Section
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: Nineteenth Street Parking Improvements
Grading/Paving Permit Approval
WCEA File: 86-506

Dear Mr. Goolsby:

Attached are grading and layout plans for the proposed Nineteenth Street Parking Lot Improvements.

The storm water will be discharged to the existing storm drainage system via a new inlet and 10-inch pipe discharging to existing catch basin at northwest corner of Nineteenth Street and Old Town Road.

Based on the attached calculation the peak discharge rate from the parking lot is 18.14 cfs and the peak discharge rate for 10-inch pipe is 6.54 cfs. This will necessitate a ponding storage area with a capacity of 4,864 cu.ft. The available capacity for storage is 5,517 cu.ft.

The peak discharge rate from the undevelped site is 10.67 cfs, therefore I believe the proposed improvements will provide some relief for the existing storm drainage system.

I will be glad to answer any questions you may have about this project.

WILSON & COMPANY

Robert F. Sykes, P.E.
Partner

Attachment

-sap

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

May 22, 1986

Robert F. Sykes, P.E.
Wilson & Company
Post Office Box 3548
Albuquerque, New Mexico 87190

RE: GRADING PLAN SUBMITTAL OF 19TH STREET PARKING FACILITY
RECEIVED MAY 13, 1986 FOR GRADING & PAVING PERMIT APPROVAL
(J-13/D3A)

Dear Robert:

The above referenced submittal, dated May 12, 1986, is approved for Grading & Paving permit. This letter will serve as your permit to proceed with work.

A separate permit will be required to tie the proposed 10" PVC storm drain into the existing catch basin.

Notify this office when paving is completed for a final inspection, with reference to the drainage file number.

If you have any questions, call me at 766-7644.

Cordially,

Roger A. Green, PE

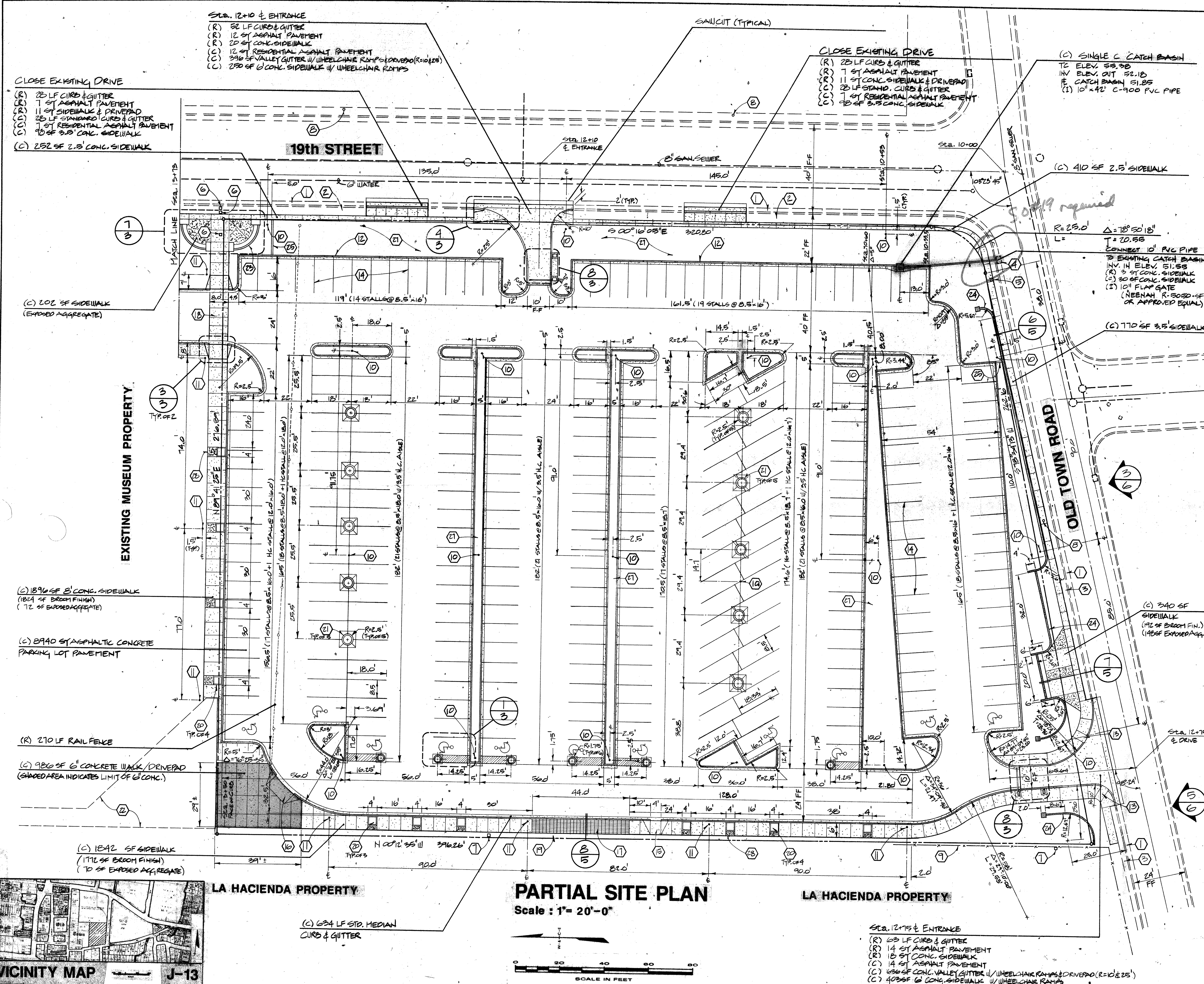
Roger A. Green, P.E.
C.E./Hydrology Section

CC: Alan Goodman, COA;
Parking Division

RAG/bsj

MUNICIPAL DEVELOPMENT DEPARTMENT

[redacted] **ENGINEERING DIVISION** Telephone (505) 766-7467



PARTIAL SITE PLAN

Scale : 1"= 20'-0"

SCALE IN FEET

KEYED NOTES

1. Existing curb and gutter
2. Existing 3.5 ft. sidewalk
3. Existing 2.5 ft. sidewalk
4. Existing drop inlet
5. Existing fire hydrant
6. Existing water meter
7. Existing telephone pedestal
8. Existing power pole
9. Existing chain link fence
10. Light pole, 20 ft. - see Site Electrical Plan
11. Light pole, 10 ft. - See Site Electrical plan
12. Standard median curb and gutter
13. Handicap Ramp - as per City standards
14. 4 inch wide striping - white
15. 4 foot wide handicap ramp
16. 12 foot wide handicap ramp
17. Brick pavers - see Section 8/5
18. 6 inch thick concrete walk
19. Unimproved ground
20. Tree well - 48 inches by 42 inches
21. Tree well - see Section 4/5
22. Existing concrete walk
23. Concrete masonry unit wall with stucco float finish, color to match gate booth
24. Concrete masonry unit wall with stucco float finish, color to match gate booth - Alternate No. 1
25. Mow strip - see Section 11/5
26. 4-inch concrete sidewalk
27. Planting area
28. Exposed aggregate concrete

AS BUILT INFORMATION

CONTRACTOR
WORK STARTED BY
INSPECTOR'S ACCEPTANCE BY
FIELD VERIFICATION BY
DRAWINGS CORRECTED BY
DATE
DATE
DATE

MICRO-FILM INFORMATION
RECORDED BY
DATE
NO.

BENCH MARKS

STA. 5-J13-A BRASS TABLET LOCATED AT THE NORTHWEST CORNER OF 19TH ST. & MOUNTAIN ROAD
ELEV. 4951.81

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

GENERAL NOTES

1. All Dimensions are to face of curb.

APPROVED FOR DRAINAGE
5-22-86
DATE
Robert Shoen Hydrology
SIGNATURE TITLE

LEGAL DESCRIPTION

Tract 233a1
Old Town
Albuquerque, New mexico

ENGINEER'S SEAL

LEGEND

Property Line
Centerline
Existing Utility Line
Existing Curb and Gutter
Proposed Curb and Gutter
Proposed Blockwall
Proposed Concrete Sidewalk (Broom Finish)
Proposed Concrete Sidewalk (Exposed Aggregate)
Proposed Brick Pavers
Handicap Parking Stall
Paint Standard Handicap Symbol

RECEIVED
MAY 13 1986
HYDROLOGY SECTION

REMARKS
REVISIONS
DESIGN
NO. DATE BY

DESIGNED BY HMK DATE 28 MAR. 1986
DRAWN BY FHM DATE 21 APR. 1986
CHECKED BY HMK DATE 28 APR. 1986

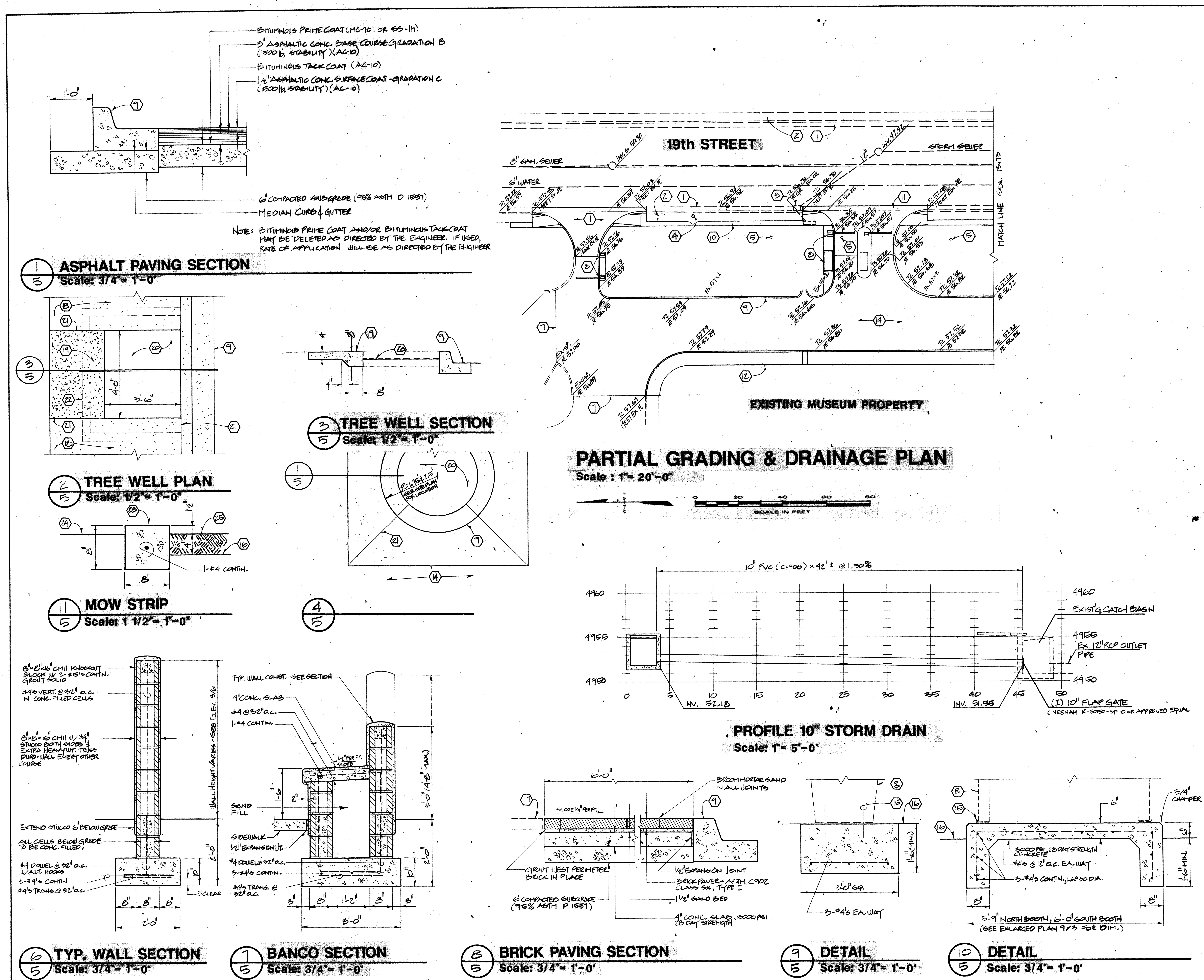
CITY OF ALBUQUERQUE
PARKING DIVISION

19TH STREET PARKING FACILITY

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E.- Design			Traffic		
A.C.E.-Hydrology			Water		

DRAWING NO. 2821 | MAP NO. J-13 | SHEET 2 OF 12

WILSON & COMPANY
ENGINEERS & ARCHITECTS



KEYED NOTES

1. Existing curb and gutter
2. Existing 3.5 foot sidewalk
3. Existing drop inlet
4. Existing fire hydrant
5. Existing water meter
6. Existing 6.0 foot sidewalk
7. Line of existing asphalt paving
8. Parking equipment
9. Standard median curb and gutter
10. 2.5 foot concrete sidewalk
11. Concrete valley gutter
12. 6.0 foot concrete sidewalk
13. DELETED
14. Asphalt paving
15. Anchor as per manufacturer's recommendations
16. Finish grade
17. Future brick pavers
18. Concrete sidewalk - broom finish
19. Concrete sidewalk - exposed aggregate
20. Planting area
21. Expansion joint
22. Line of thickened slab
23. Concrete mow strip
24. Top of sod
25. Top of mulch

LEGEND

Property Line
Centerline
Existing Utility Line
Existing Curb and Gutter
Proposed Curb and Gutter

AS BUILT INFORMATION: CONTRACTOR / WORK STAKED BY / INSPECTORS ACCEPTANCE BY / FIELD VERIFICATION BY / DRAWINGS CORRECTED BY / DATE

MICRO-FILM INFORMATION: RECORDED BY / NO. / DATE

BENCH MARKS: STA. 6-J13-A BRASS TABLET LOCATED AT THE NORTHWEST CORNER OF 19TH ST. & MOUNTAIN RD. ELEV. 4951.87

SURVEY INFORMATION: FIELD NOTES / NO. / BY / DATE

ENGINEER'S SEAL

RECEIVED MAY 13 1986 HYDROLOGY SECTION

REVISIONS: NO. / DATE / REMARKS / BY

DESIGN: DESIGNED BY RFS/HHK DATE 28 MAR. 86; DRAWN BY FHM DATE 21 APR. 86; CHECKED BY RFS/HHK DATE 28 APR. 86

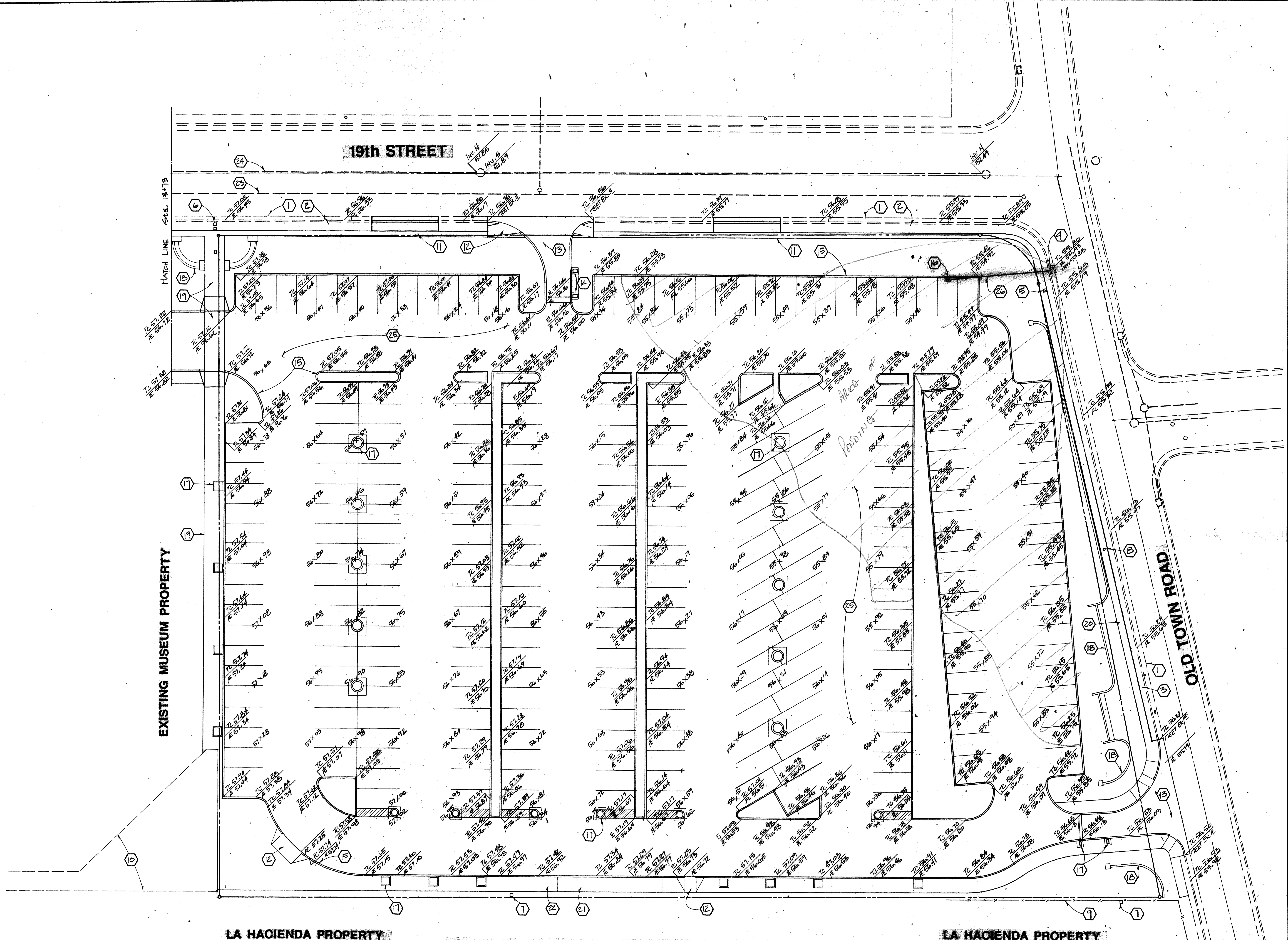
CITY OF ALBUQUERQUE
PARKING DIVISION

19TH STREET PARKING FACILITY

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E.-Design			Traffic		
A.C.E.-Hydrology			Water		

DRAWING NO.	MAP NO.	SHEET	OF
2821	J-13	5	12

WILSON & COMPANY
ENGINEERS & ARCHITECTS
ALBUQUERQUE NEW MEXICO
WCEA File: 86-506



PARTIAL GRADING & DRAINAGE PLAN

Scale : 1" = 20'-0"

0 20 40 60 80
SCALE IN FEET

NOTE: Refer to Sheet 7, Planting Plan, for Location of Raised Planting Areas.

KEYED NOTES

1. Existing curb and gutter
2. Existing 3.5 foot sidewalk
3. Existing 2.5 foot sidewalk
4. Existing drop inlet
5. Existing fire hydrant
6. Existing water meter
7. Existing telephone pedestal
8. Existing power pole
9. Existing chain link fence
10. Existing concrete walk
11. 2.5 foot concrete walk
12. Handicap ramp
13. Valley gutter
14. Parking equipment
15. Standard median curb and gutter
16. Drop inlet - see profile on Sheet 5
17. Planter
18. Concrete masonry wall
19. 8 foot concrete walk
20. 2.5 foot concrete sidewalk
21. Brick paver
22. 6 foot concrete sidewalk
23. 6 inch water line
24. 8 inch sanitary sewer
25. Asphalt paving
26. 10-inch PVC storm drain - see Profile on Sheet 5

AS BUILT INFORMATION

CONTRACTOR
WORK STAKED BY — DATE
INSPECTOR'S ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION

RECORDED BY — DATE
NO.

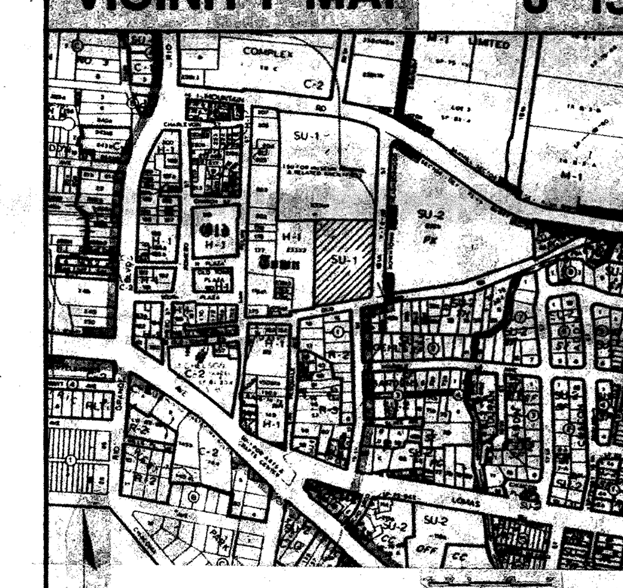
BENCH MARKS

STA. 5 J13A BRASS TABLET LOCATED AT THE NORTHWEST CORNER OF 19TH ST. & MOUNTAIN RD.
ELEV. 4951.87

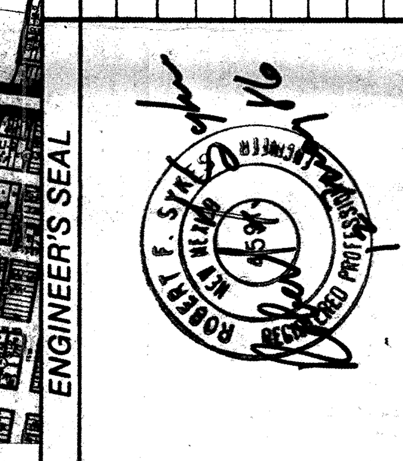
SURVEY INFORMATION

FIELD NOTES
NO. — BY — DATE

VICINITY MAP J-13



ENGINEER'S SEAL



LEGAL DESCRIPTION

Tract 233a1
Old Town
Albuquerque, New mexico

RECEIVED
MAY 13 1986
HYDROLOGY SECTION

LEGEND

Property Line
Centerline
Existing Utility Line
Proposed Utility Line
Existing Curb and Gutter
Proposed Curb and Gutter

REVISIONS

NO. — DATE — REMARKS — BY

DESIGN

DESIGNED BY RFS — DATE 28 MAR. 86
DRAWN BY FHM — DATE 21 APR. 86
CHECKED BY RFS — DATE 28 APR. 86

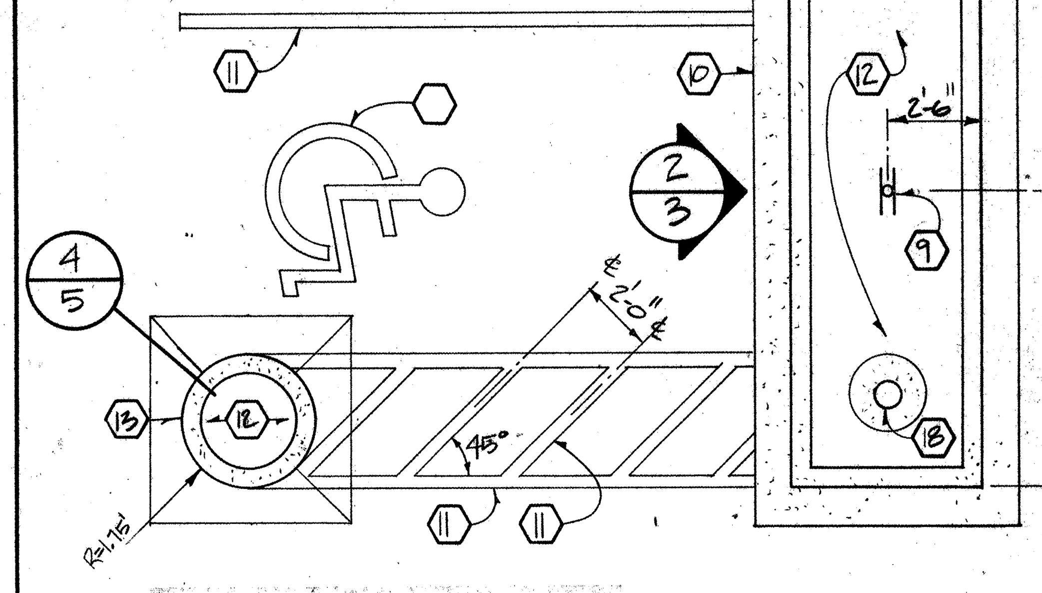
CITY OF ALBUQUERQUE
PARKING DIVISION

19TH STREET PARKING FACILITY

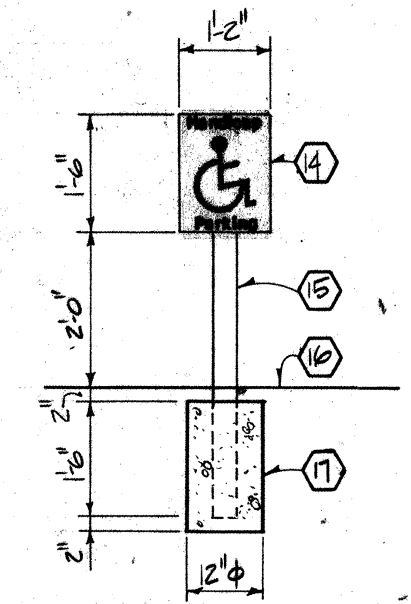
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E.- Design			Traffic		
A.C.E.-Hydrology			Water		

DRAWING NO. 2821 | MAP NO. J-13 | SHEET 4 OF 12

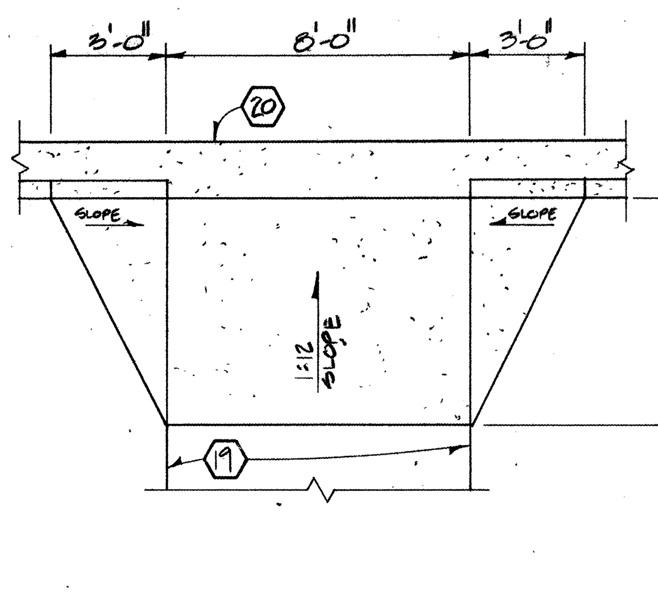
WILSON & COMPANY
ENGINEERS & ARCHITECTS
ALBUQUERQUE NEW MEXICO



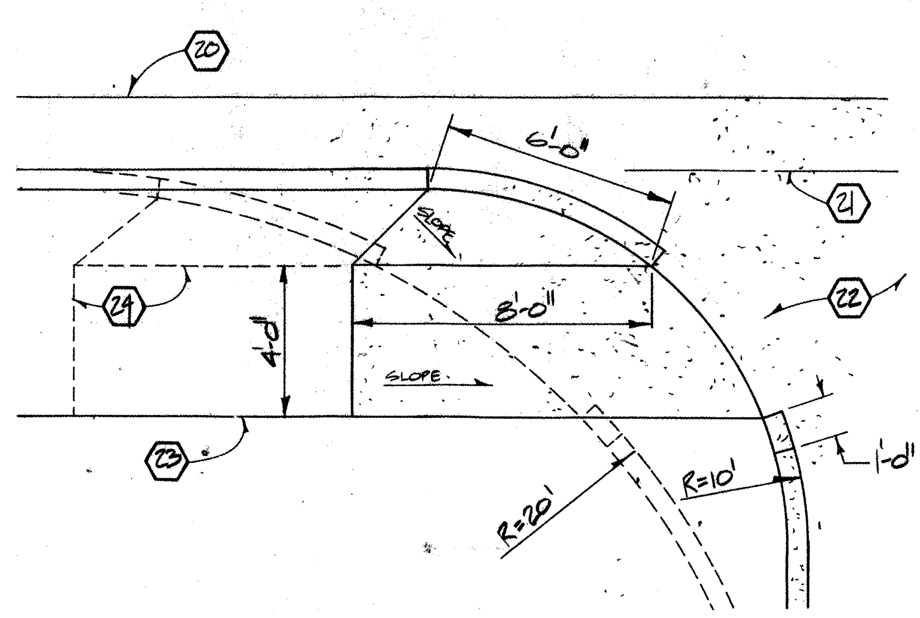
1/3 ENLARGED PLAN
Scale: 1/4" = 1'-0"



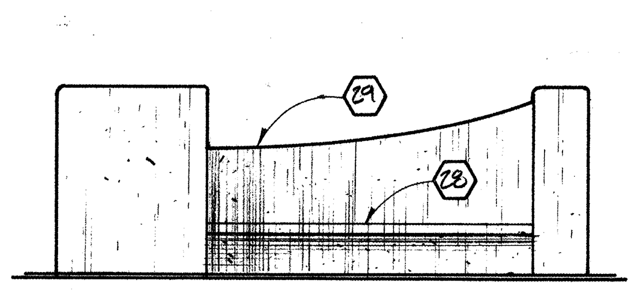
2/3 HANDICAP SIGN
Scale: 1/2" = 1'-0"



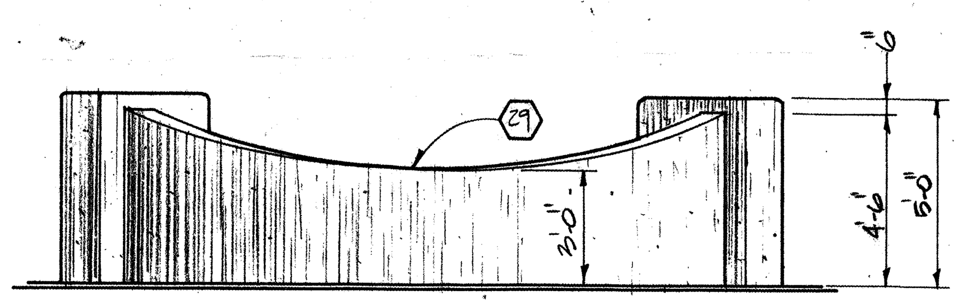
3/3 ENLARGED PLAN
Scale: 1/4" = 1'-0"



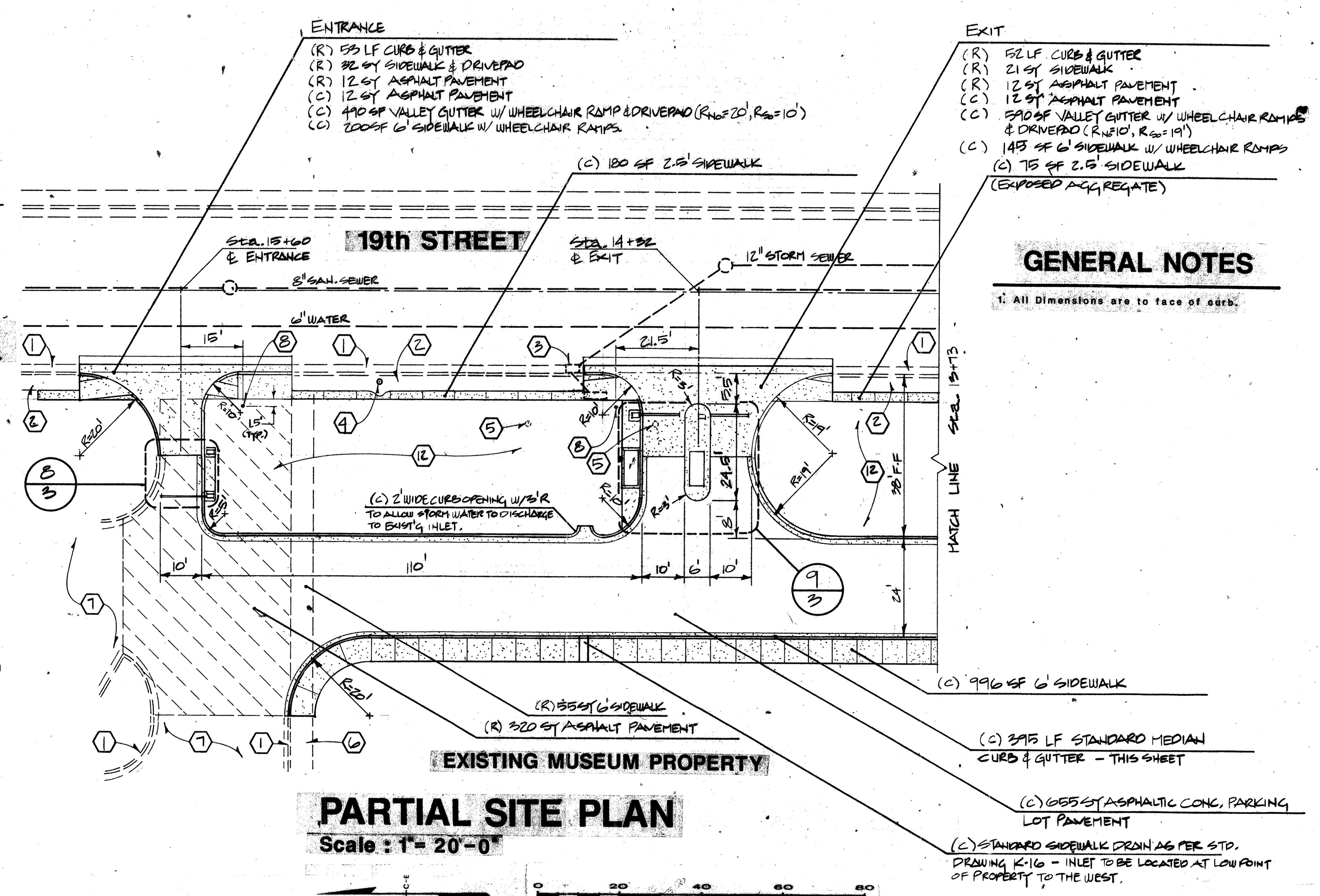
4/3 ENLARGED PLAN
Scale: 1/4" = 1'-0"



5/3 WALL ELEVATION
Scale: 1/4" = 1'-0"



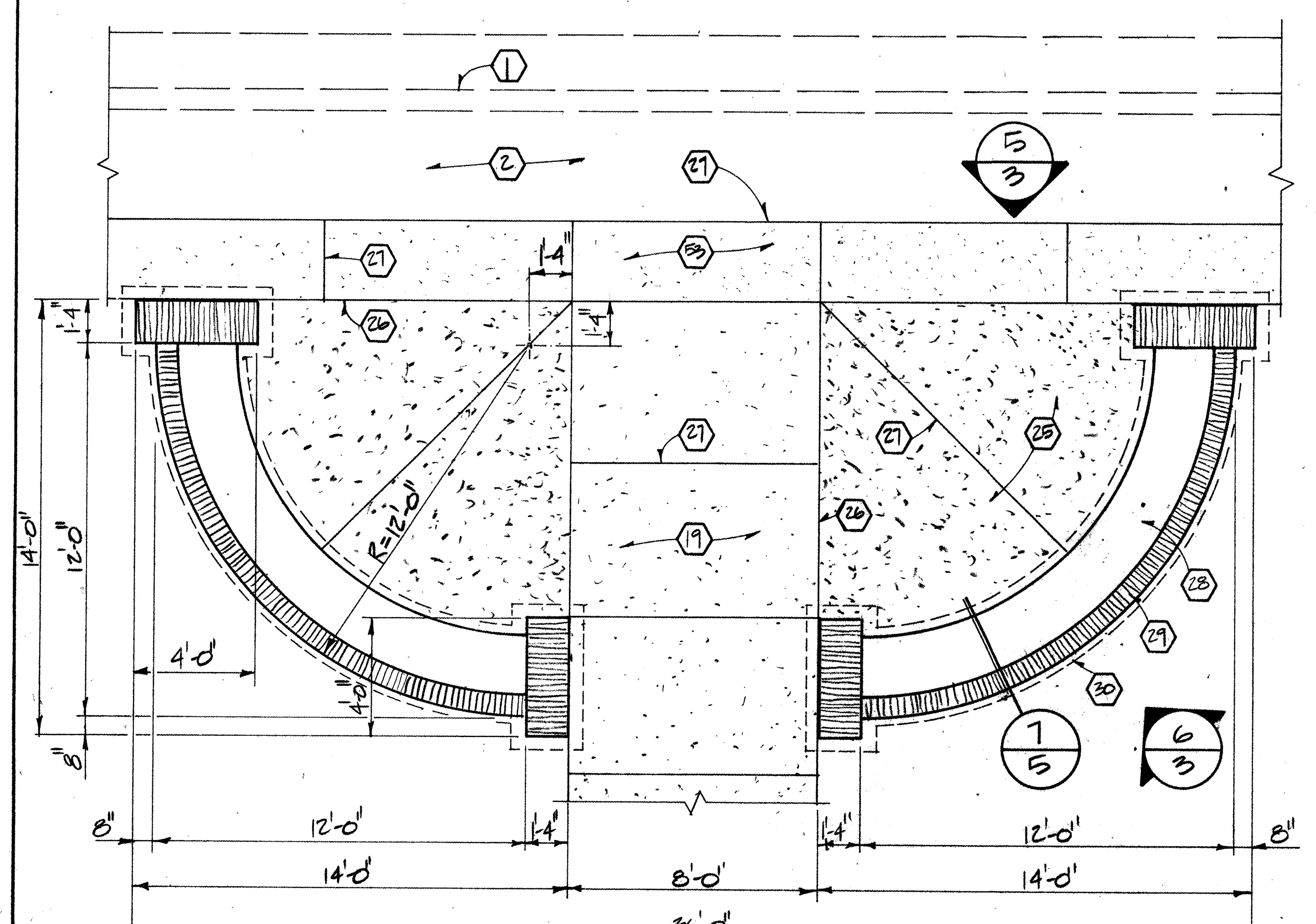
6/3 WALL ELEVATION
Scale: 1/4" = 1'-0"



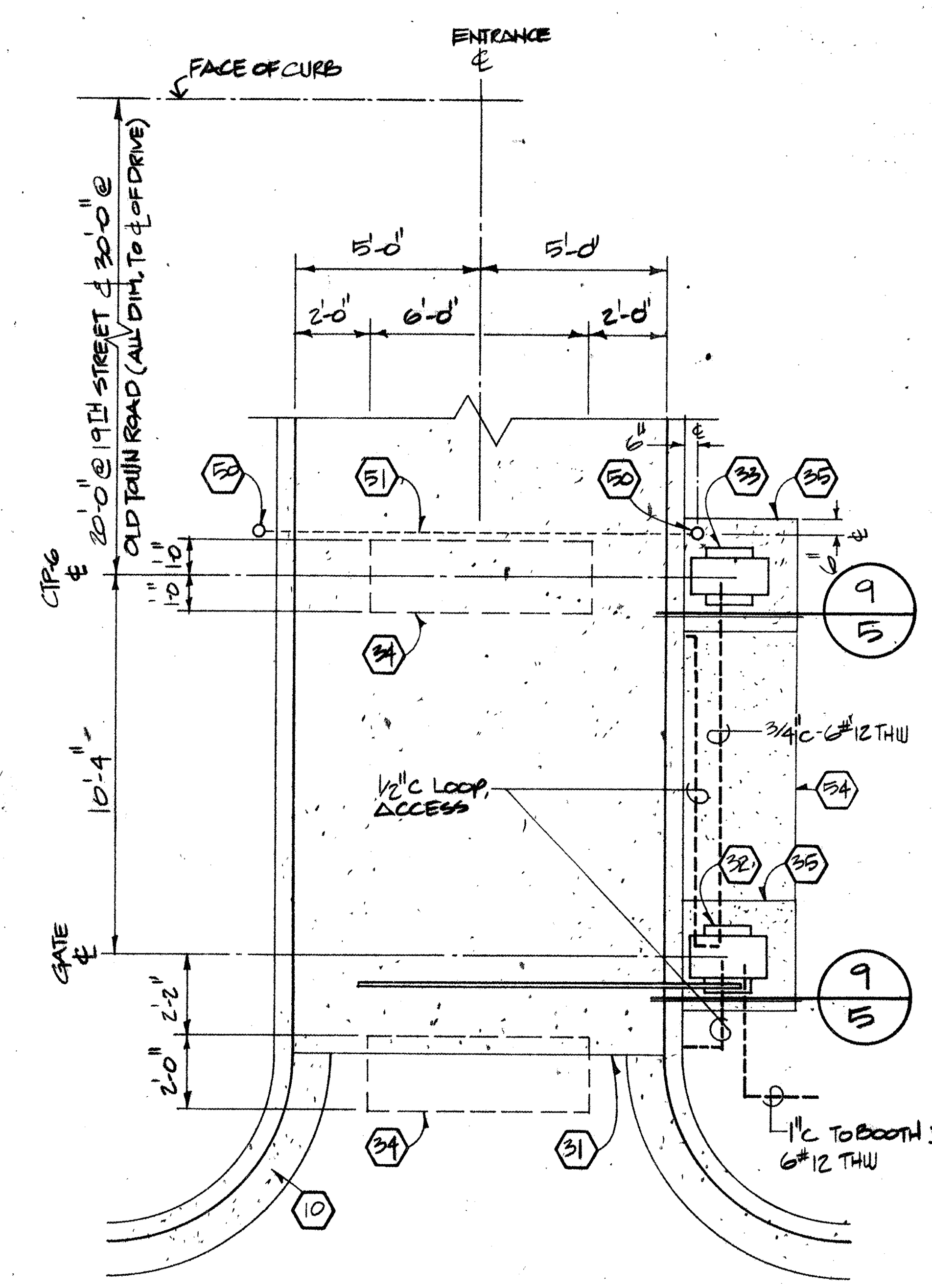
GENERAL NOTES

1. All Dimensions are to face of curb.

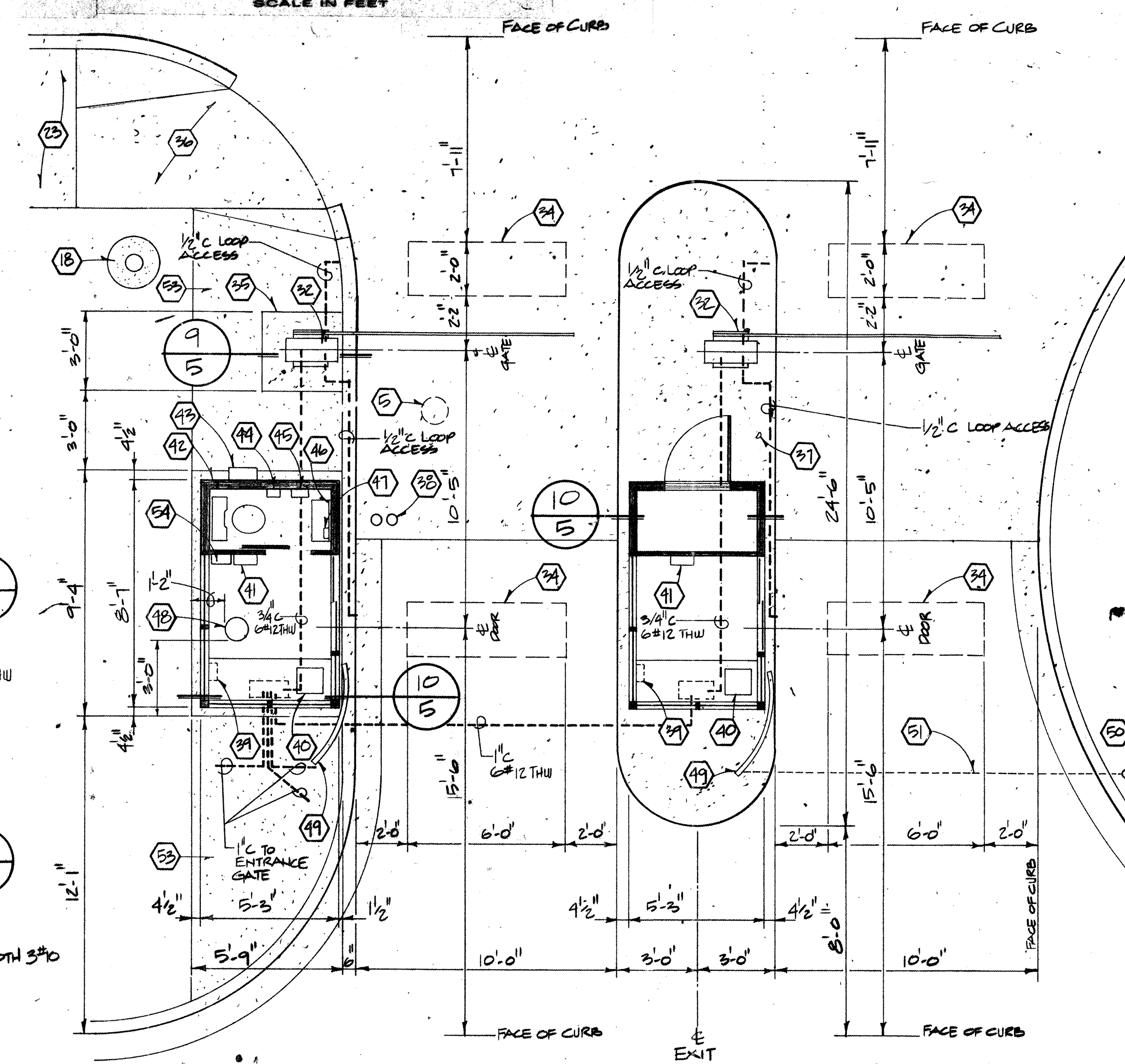
PARTIAL SITE PLAN
Scale: 1" = 20'-0"



7/3 ENLARGED PLAN
Scale: 1/4" = 1'-0"



8/3 ENLARGED PLAN (TYP.)
Scale: 1/4" = 1'-0"



9/3 ENLARGED PLAN
Scale: 1/4" = 1'-0"

KEYED NOTES

1. Existing curb and gutter
2. Existing 3.5 foot sidewalk
3. Existing drop inlet
4. Existing fire hydrant
5. Existing water meter
6. Existing 6.0 foot sidewalk
7. Existing asphalt paving
8. Light pole, 20 ft.
9. Handicap sign - locate at each handicap parking stall
10. Standard median curb and gutter
11. 4 inch wide stripe
12. Planting area
13. Concrete planter - see Section 4/5
14. 20 gauge galvanized metal sign with white markings over blue. Secure to post
15. 4 inch diameter metal post - close top
16. Finish grade
17. 12 inch diameter concrete base
18. Light pole with 24 inch diameter concrete pedestal
19. 8 foot concrete walk - see Site Plan for continuation
20. Standard curb and gutter
21. Flow line of valley gutter
22. Valley gutter
23. 6 foot concrete sidewalk
24. Location of handicap ramp with 20 foot radius
25. Exposed aggregate concrete walk
26. Expansion joint
27. Control joint
28. Stucco on CMU Banco
29. Stucco on CMU wall
30. Line of footing
31. Limit of valley gutter apron - see Site Plan for exact location
32. Parking gate - install as per manufacturer's recommendations
33. Ticket printer and dispenser - install as per manufacturer's recommendations
34. Detector loop - install as per manufacturer's recommendations
35. Concrete equipment base - see Section 9/5
36. Handicap ramp - see Section 4/3
37. Door Stop
38. Sewer cleanout
39. Load center - see Electrical Equipment Schedule
40. Electronic cash register
41. Monitor unit - see Electrical
42. Preassembled building - install as per manufacturer's recommendations. Field verify plumbing requirements and exact location of stub-ins with manufacturer.
43. Electric meter - see Electrical Equipment Schedule
44. Toilet paper dispenser
45. Paper towel dispenser
46. 20" x 20" mirror
47. Liquid soap dispenser
48. Floor safe to be a Century Fire Safe Model No. C5 Star
49. Guardrail - see Detail
50. 4-inch diameter steel post, concrete filled - see Detail
51. Removable chain with 18" x 6" sign - see Detail 4/6
52. 2668 door - see specifications
53. 4-inch concrete slab
54. Irrigation control unit

LEGEND

- Property Line
- Centerline
- Existing Utility Line
- Existing Curb and Gutter
- Proposed Curb and Gutter
- Proposed Blockwall
- Proposed Concrete Sidewalk (Broom Finish)
- Proposed Concrete Sidewalk (Exposed Aggregate)
- Proposed Brick Pavers
- Handicap Parking Stall Paint Standard Handicap Symbol

RECEIVED MAY 13 1986 HYDROLOGY SECTION

AS BUILT INFORMATION

CONTRACTOR	
WORK STARTED BY	DATE
INSPECTORS ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE

MICRO-FILM INFORMATION

RECORDED BY	DATE
NO.	

BENCH MARKS

STA. 5-J13-A BRASS TABLET LOCATED AT THE NORTHWEST CORNER OF 19TH ST. & MOUNTAIN RD. ELEV. 4951.81

SURVEY INFORMATION

NO.	FIELD NOTES BY	DATE

ENGINEER'S SEAL

ROBERT F. ... REGISTERED PROFESSIONAL ENGINEER 5/5/86

REVISIONS

NO.	DATE	REMARKS	BY

DESIGN

DESIGNED BY HMK	DATE 28 MAR. 1986
DRAWN BY FHH	DATE 21 APR. 1986
CHECKED BY HMK	DATE 23 APR. 1986

CITY OF ALBUQUERQUE
PARKING DIVISION

19TH STREET PARKING FACILITY

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E.-Design			Traffic		
A.C.E.-Hydrology			Water		

DRAWING NO. 2821	MAP NO. J-13	SHEET 3	OF 12

WILSON & COMPANY
ENGINEERS & ARCHITECTS
ALBUQUERQUE, NEW MEXICO