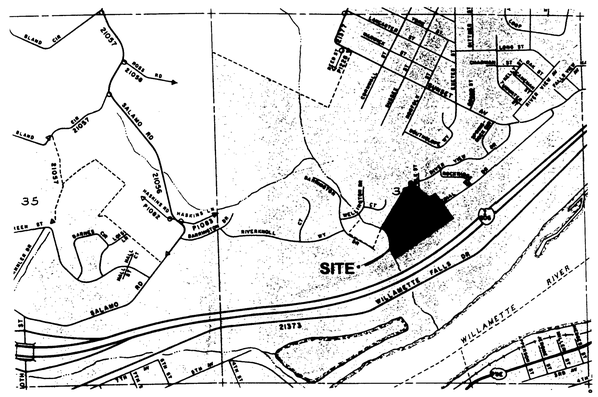
BARRINGTON HEIGHTS 9

DEVELOPED BY

AS-BUILT

NEIL NEDELISKY



VICINITY MAP

INDEX

SHEET	*DESCRIPTION*
1	WATERLINE PLAN
2	SANITARY SEWER PLAN
3	STREET AND STORM DRAIN PLAN
4	STORM DRAIN PLAN / LINE E
5	STREET DETAILS
6	GRADING AND EROSION CONTROL PLAN
7	IMPERIAL DRIVE CROSS SECTIONS
8	RADCLIFFE COURT CROSS SECTIONS / DETAILS
9	DETAILS

JUNE 1993

SISUL ENGINEERING

375 PORTLAND AVENUE

GLADSTONE, OR 97027

West Linn

NOTICE OF FINAL DECISION
FILE NO. SUB-92-05

The West Linn Planning Commission at its meeting of June 15, 1992 approved with conditions "Barrington Heights 8 and 9," File No. SUB-92-05. The subdivision consists of a total of 54 single family residential development lots. The decision was reached after conducting a Public Hearing pursuant to the provisions of Chapter 99.000 of the Community Development Code of the City of West Linn. Based on the Public Hearing and the Findings contained in the Staff Report, the following conditions of approval were established:

1. The applicant shall meet all of the standards of Section 31.070(B) relating to slopes in excess of 12% and related subsections 31.030 (Standards for Construction) and 31.040 (Standards for Maintenance). The applicant shall be required to comply with all of the procedures laid out in Section 31.050.

2. Utility easements measuring at least five feet in width shall be shown along all interior and front property lines.

3. All sanitary, storm drain, and waterline improvements shall follow the City's master plan for that utility and shall be subject to the City Engineer's Approval.

4. Any proposed restrictive covenants shall be submitted for review with the final plat.

5. The private street, Radcliffe Court, shall be constructed to public street standards for residential cul-de-sac streets. The entry access control island and gate shall be designed to permit access by emergency and service vehicles.

6. The traffic island proposed at the east end of Imperial Drive shall be designed to city standards as determined by the City Engineer. Tapers leading to the entryway island shall allow clear vision. The main portion of the island will not be restricted by the clear vision requirements.

7. All trees to be saved shall be fenced-off around the dripline during construction of improvements. These areas shall be posted with signs warning that the trees are not to be cut nor disturbed by excavation or the placement of fill materials.

8. The non-building tracts containing Tanner Creek in Phase 9 shall be dedicated to the city. An appropriate mitigation plan to preserve and/or restore the wetlands/drainageway in accordance with Chapter 30 of the CDC shall be submitted for review and approval by the city.

9. Lots 1, 2, 3, 9, 10, and 25 in Phase 8 and Lots 28 - 39 and 49 - 54, inclusive, in Phase 9 shall not be further divided. These lots are all double or more the minimum lot size required in the R-5 Residential District.

10. Prior to any overlot grading, a grading plan delineating trees to be removed and trees to be retained shall be submitted to the city Planning Department and Parks Department. Retention of significant trees and groupings of trees will be a major criteria in evaluating grading plans.

11. The security fence along FAI-205 shall be brought up to ODOT standards if the rest area remains. A restrictive covenant shall be placed on Lots 10, 11, and 14 - 19 in Phase 8 and Lots 47 - 54 in Phase 9 to assure a standard of fencing if privately installed. The covenant shall be subject to approval by the Planning Department.

12. The developer of Phase 9 shall reserve an access right-of-way from Imperial Drive to the FAI-205 rest area for a period not to exceed 12 months from the date of the final effect of this order unless period is mutually extended by the developer and the city. If it is determined by the city that the access is not needed the city may release the developer from this condition prior to the expiration of the 12 month time limit or any extension thereof.

Appeals to the decision by parties with standing must be filed within fourteen (14) days of the mailing of this decision pursuant to CDC 99.240.

JOHN WYKLE, CHAIRMAN
WEST LINN PLANNING COMMISSION

DATE 6/22/92

Mailed this 24th day of June, 1992.

MOST RECENT REVISION TO THIS SET OF PLANS:

9/27/95

Barrington Heights 9 96

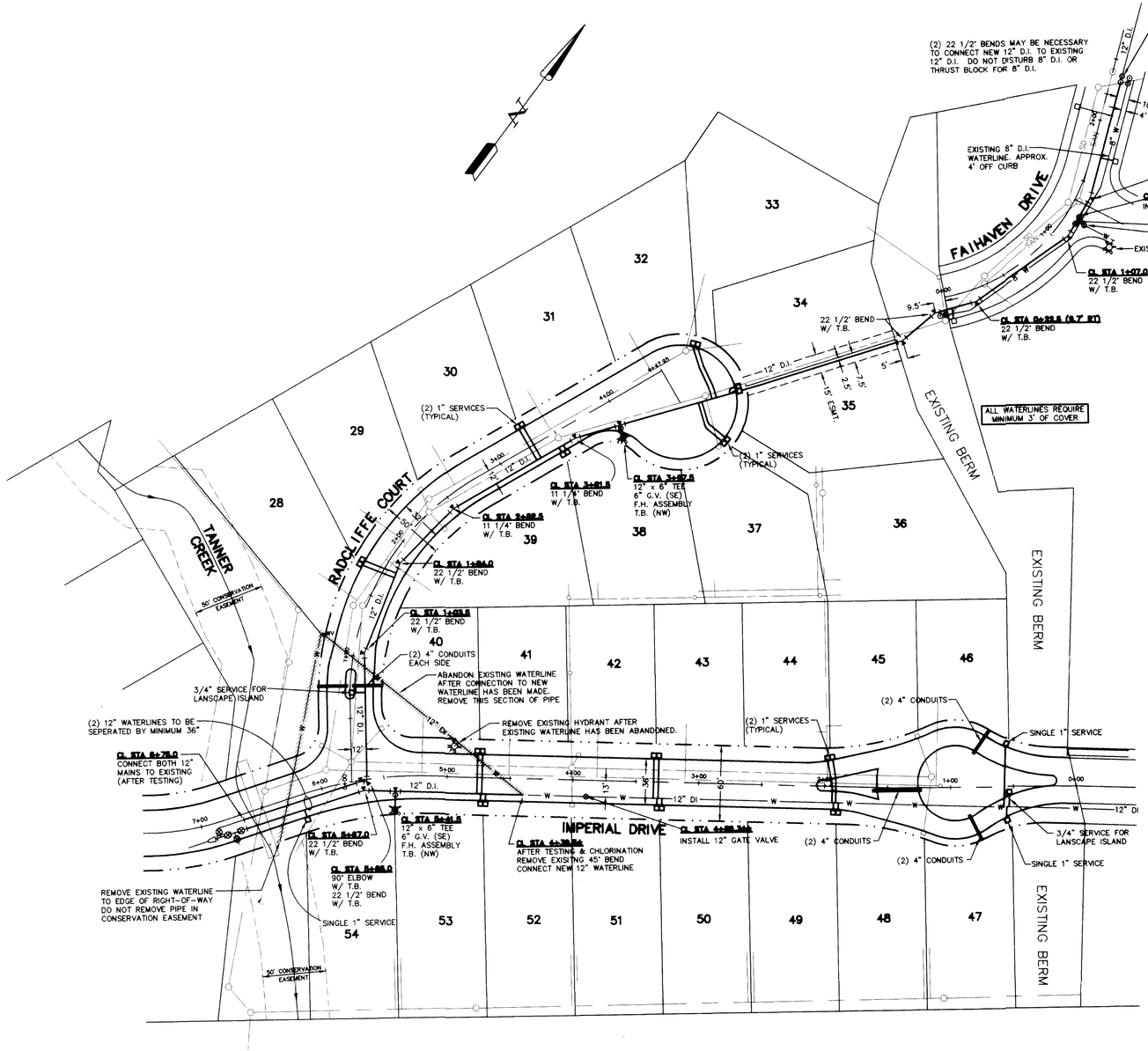
REVISIONS	BY
REVISE PER CITY REVIEW SHOW 36" BETWEEN WL'S MOVE IN CUL-DE-SAC	PS 8/16/96
AS-BUILT 11/13/96	LD

AS-BUILT

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.



REGISTERED PROFESSIONAL ENGINEER 16,651 OREGON MAY 18, 1993 PATRICK A. SISUL
11/25/96

BARRINGTON HEIGHTS 9
NEIL NEDELISKY
Waterline Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

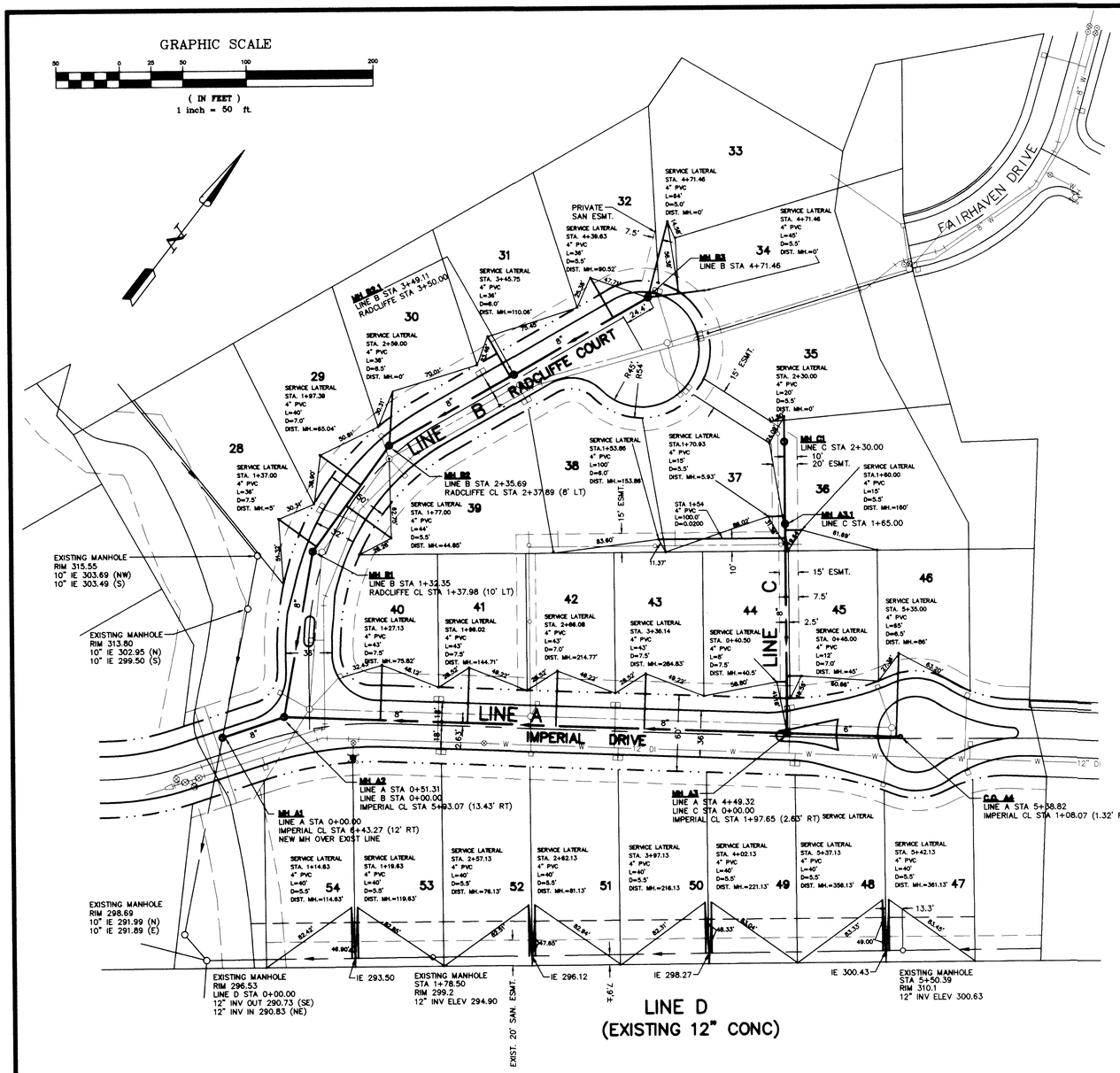
DATE	JUNE 1993
SCALE	1" = 50'
DRAWN	PS
JOB	93-42
SHEET	1 OF 9 SHEETS

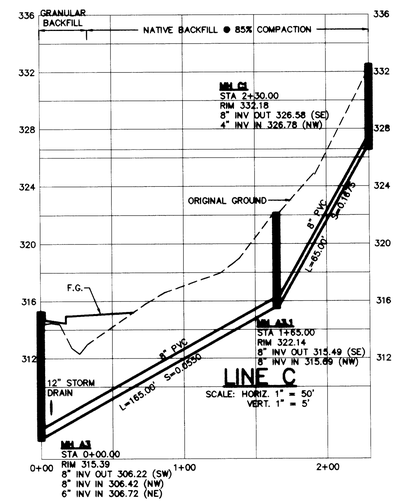
AS-BUILT

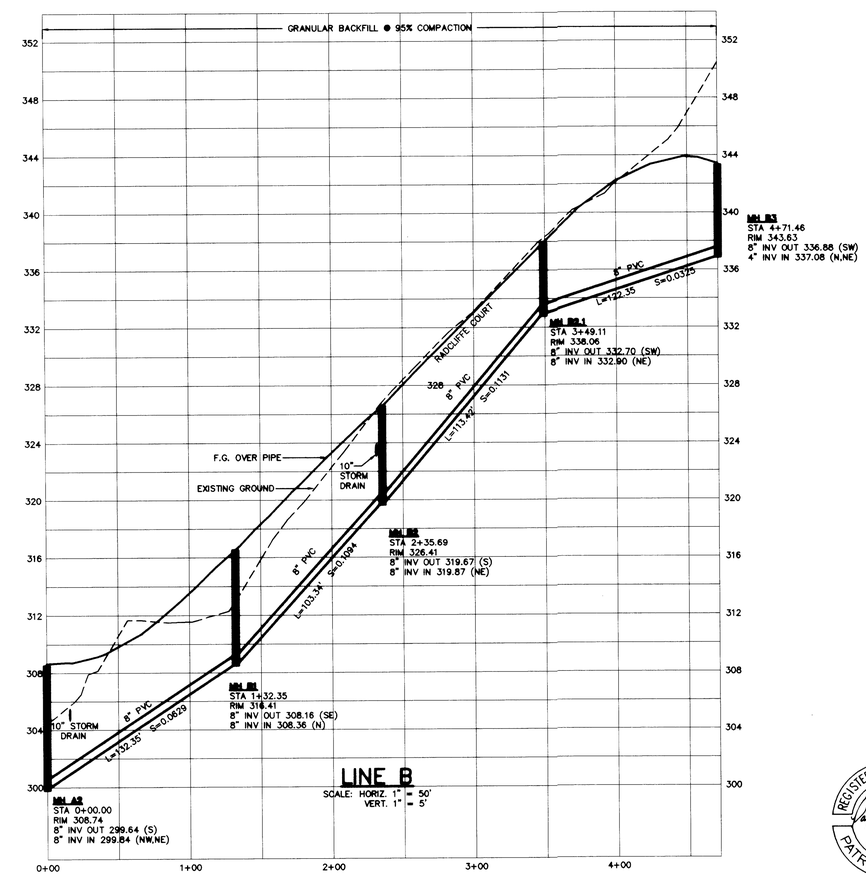
GRAPHIC SCALE

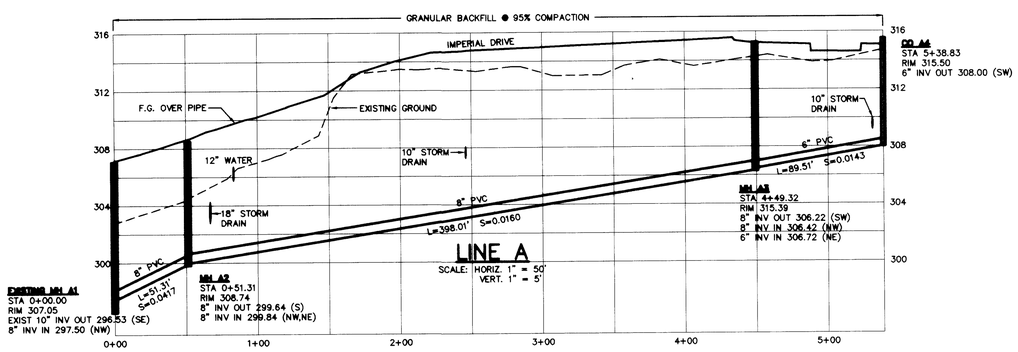
50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.









REGISTERED PROFESSIONAL ENGINEER
PATRICK A. SISUL
OREGON
MAY 18, 1993
EXP 6/30/98
4/24/97

REVISIONS	BY
INCORP. PDX CITY REVIEW MODIFY LINES A,B&C TO ELIMINATE DISC. AREA	PS 5/16/96
INCORP. PDX DIST REVIEW SHOW STATIONS FOR MATERIALS	PS 6/28/96
MODIFY SAN LINES TO AVOID ROCK EXCAVATION PER DEVL REQUEST	PS 11/7/96
AS-BUILT 04/24/97	LD

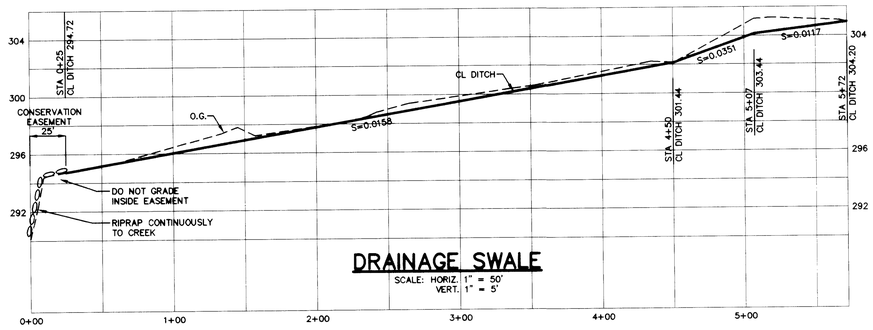
BARRINGTON HEIGHTS 9

NEIL NEDELISKY

Sanitary Sewer Plan

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	JUNE 1993
SCALE	H: 1" = 50' V: 1" = 5'
DRAWN	PS
JOB	93-42
SHEET	2 OF 9 SHEETS

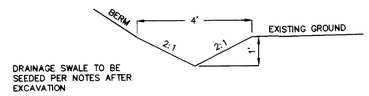


DRAINAGE SWALE

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

CURB RETURN DATA: (ELEVATIONS ARE TOP OF CURB)

CURB	DATA	a	b	c	d
①	Δ = 89°03'48" R = 37.00' L = 57.51'	311.10 IMPERIAL DR. STA 5+21.39	310.26	309.54	310.03 RADCLIFFE CT. STA 0+59.01
②	Δ = 72°55'54" R = 37.00' L = 47.10'	308.24 IMPERIAL DR. STA 6+15.66	308.68	309.06	309.45 RADCLIFFE CT. STA 0+43.43
③	Δ = 74°35'03" R = 34.00' L = 44.26'	340.19 RADCLIFFE CT. STA 3+71.79	340.70	340.76	340.38 PRC



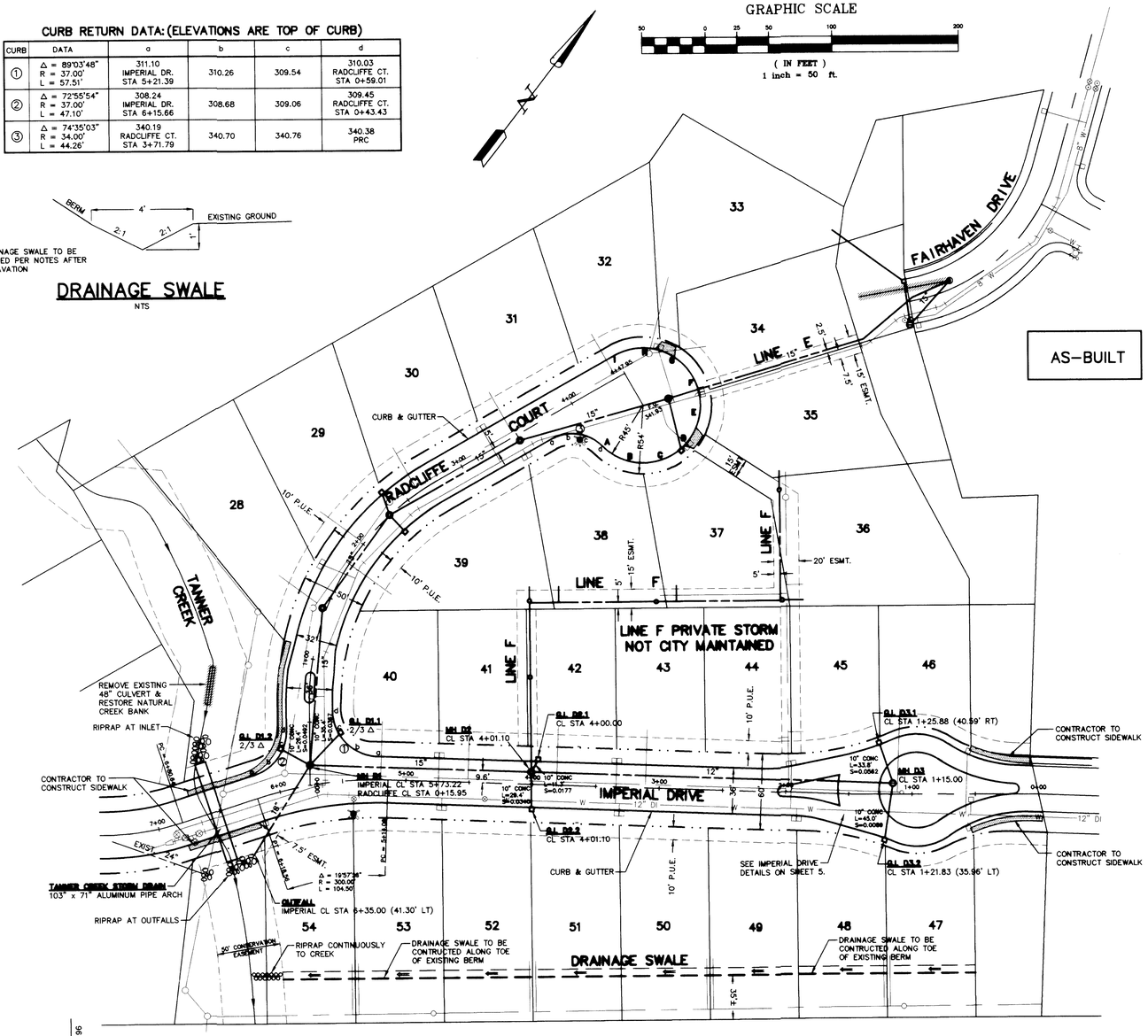
DRAINAGE SWALE TO BE SEEDED PER NOTES AFTER EXCAVATION

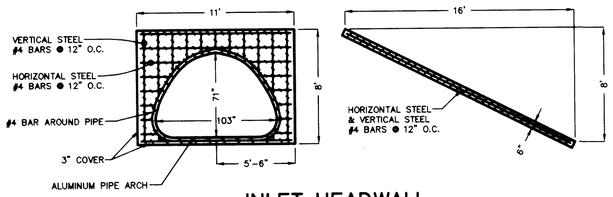
DRAINAGE SWALE

NTS

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

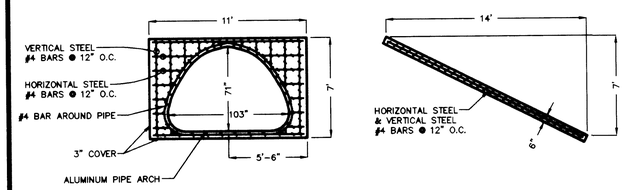




NOTES:
1. USE 3000 PSI CONCRETE & 60000 PSI STEEL.
2. THERE IS TO BE 4" SPACING BETWEEN PIPE & STEEL

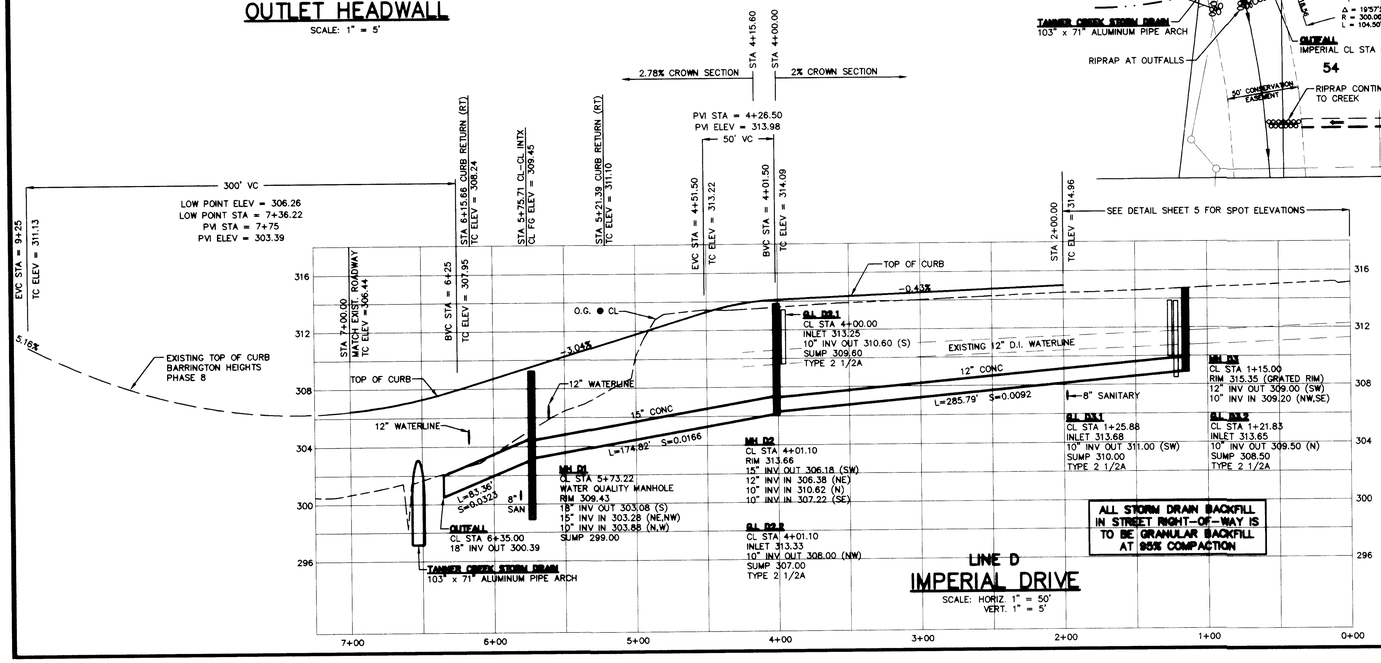
INLET HEADWALL

SCALE: 1" = 5'



OUTLET HEADWALL

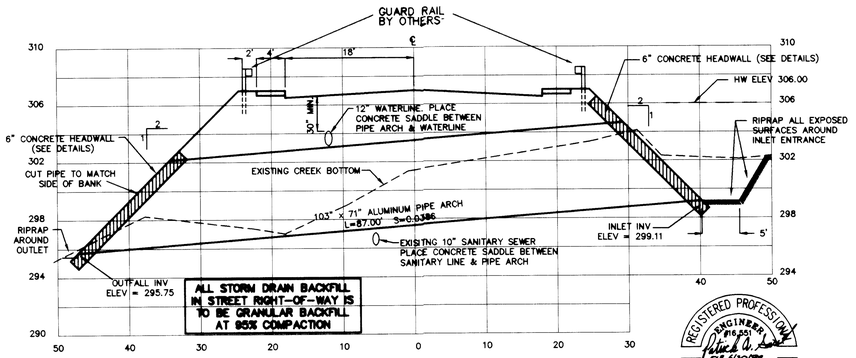
SCALE: 1" = 5'



ALL STORM DRAIN BACKFILL IN STREET RIGHT-OF-WAY IS TO BE GRANULAR BACKFILL AT 95% COMPACTION

LINE D
IMPERIAL DRIVE

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



ALL STORM DRAIN BACKFILL IN STREET RIGHT-OF-WAY IS TO BE GRANULAR BACKFILL AT 95% COMPACTION

TANNER CREEK STORM DRAIN

SCALE: HORIZ. 1" = 10'
VERT. 1" = 5'

REGISTERED PROFESSIONAL ENGINEER #16,551 OREGON MAY 18, 1993 PATRICK A. SISUL

11/25/96

REVISIONS	BY
REVISE PER CITY REVIEW NEW S.D. ALIGNMENTS ALPES, INC.	PS 9/18/96
AS-BUILT 11/13/96	LD

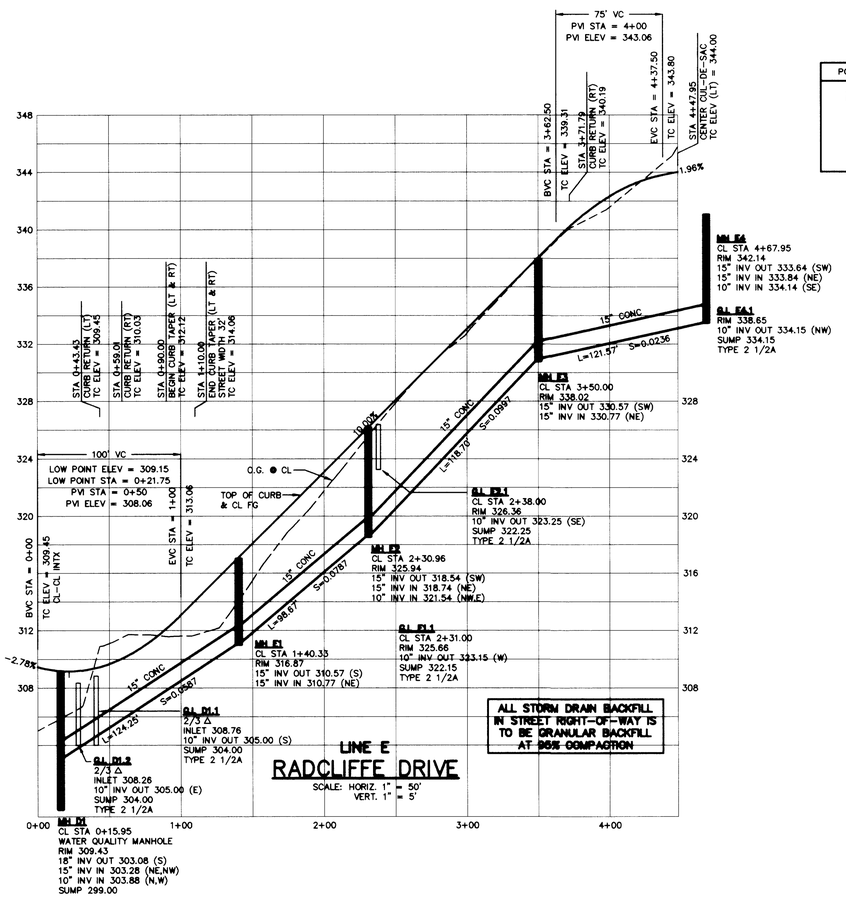
BARRINGTON HEIGHTS 9

Street & Storm Drain
Imperial Drive, Tanner Creek

NEIL NEDELISKY

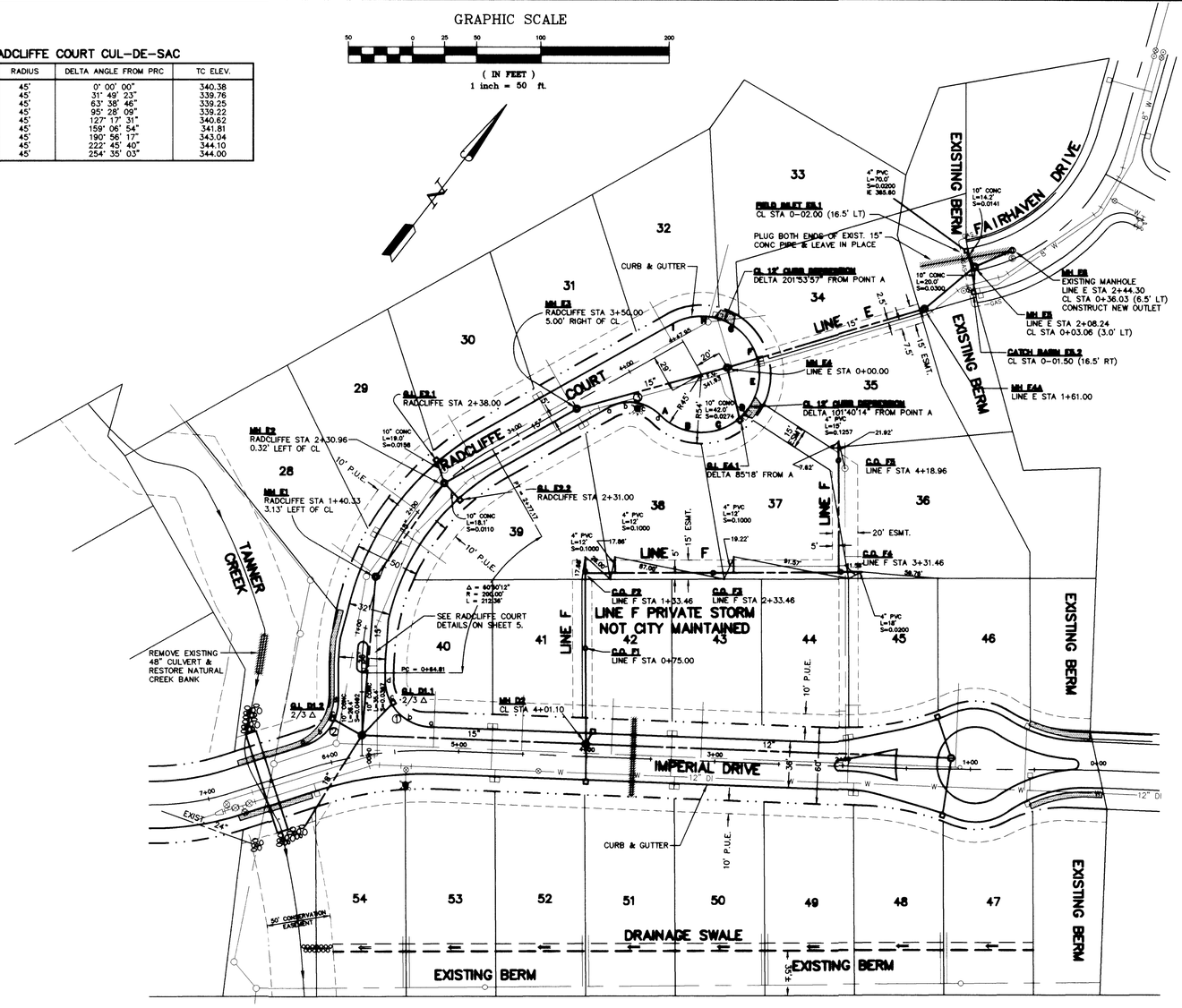
SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

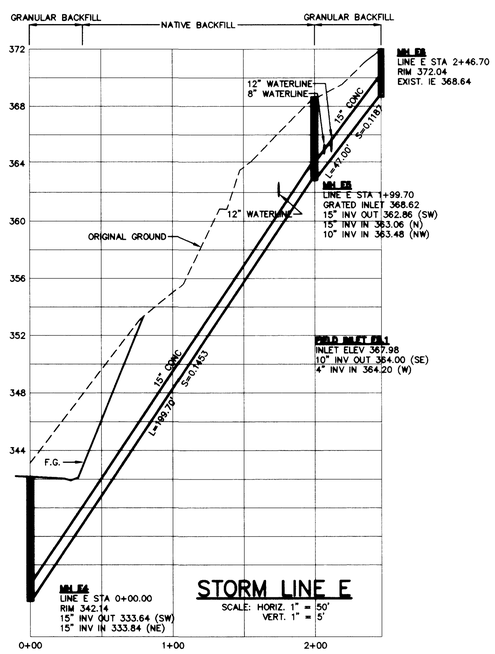
DATE	JUNE 1993
SCALE	H: 1" = 50' V: 1" = 5'
DRAWN	PS
JOB	93-42
SHEET	3 OF 9 SHEETS

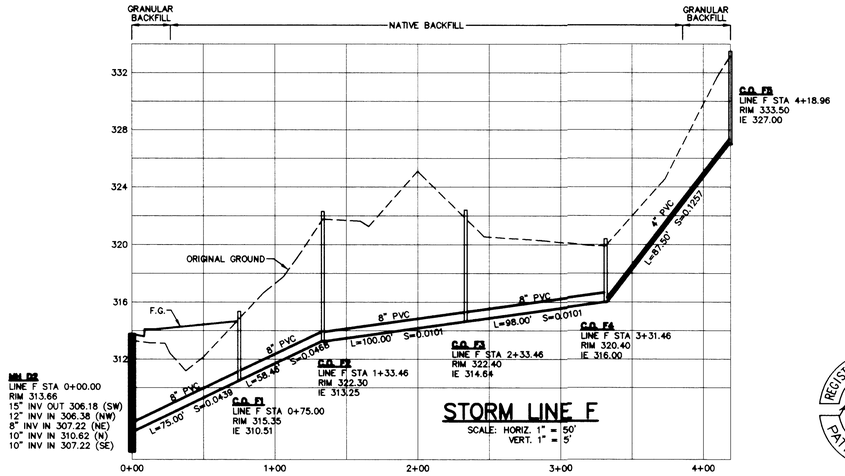


RADCLIFFE COURT CUL-DE-SAC

POINT	RADIUS	DELTA ANGLE FROM PRC	TC ELEV.
A	45'	0° 00' 00"	340.38
B	45'	31° 49' 23"	339.76
C	45'	63° 38' 46"	339.25
D	45'	95° 28' 09"	339.22
E	45'	127° 17' 31"	340.62
F	45'	159° 06' 54"	341.81
G	45'	190° 56' 17"	343.04
H	45'	222° 45' 40"	344.10
I	45'	254° 35' 03"	344.00







AS-BUILT

REGISTERED PROFESSIONAL ENGINEER
#16,551
OREGON
MAY 18, 1993
PATRICK A. SISUL
4/24/97

REVISIONS	BY
REVISE PER CITY REVIEW	PS
NEW S.D. ALIGNMENTS & PIPE SIZES	3/18/96
AS-BUILT 04/24/97	LD

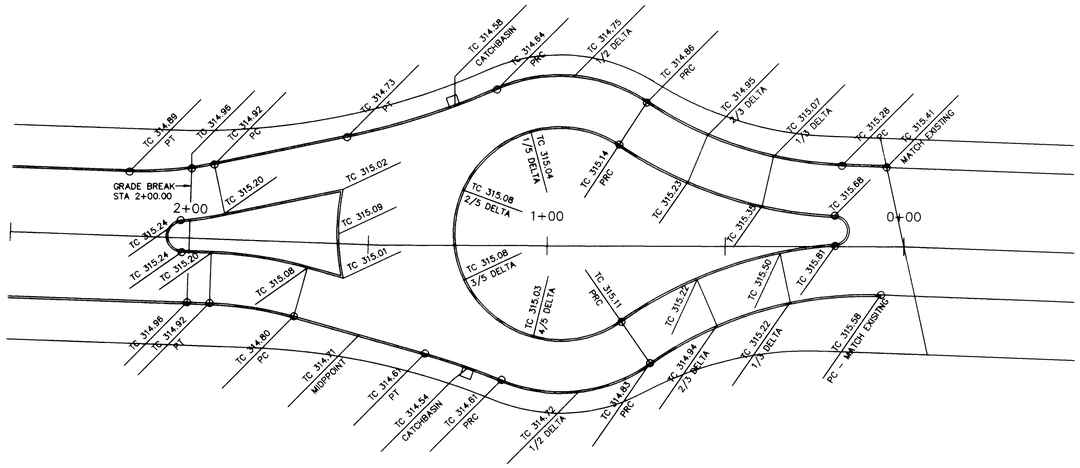
Street & Storm Drain
Radcliffe Drive, Line E, Line F

BARRINGTON HEIGHTS 9

NEIL NEDELISKY

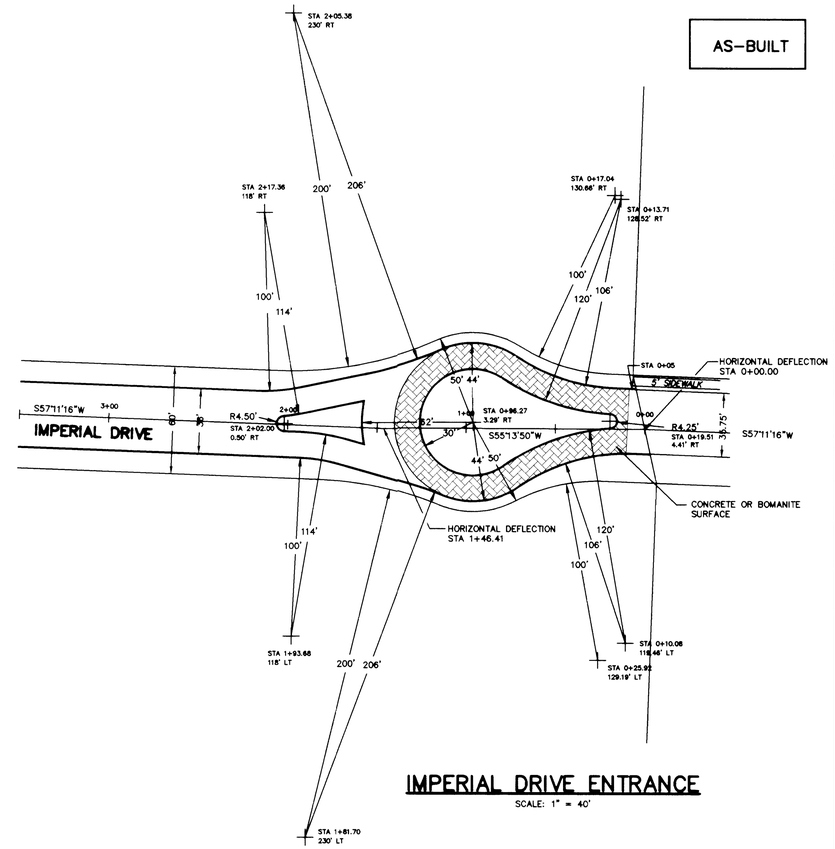
SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	JUNE 1993
SCALE	H: 1" = 50' V: 1" = 5'
DRAWN	PS
JOB	93-42
SHEET	4 OF 9 SHEETS



IMPERIAL DRIVE SPOT ELEVATIONS

NTS



IMPERIAL DRIVE ENTRANCE

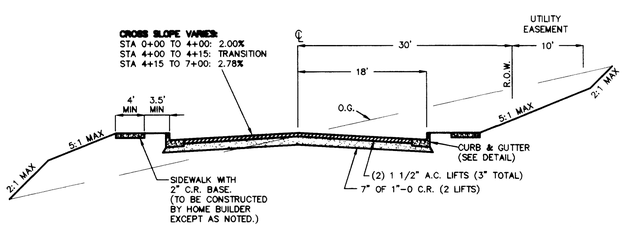
SCALE: 1" = 40'

LEFT CURB INFORMATION

CL STA	DESCRIPTION	T.C.
0+43.43	CURB RETURN	309.45
0+90.00	BEGIN TAPER 18' LT	312.12
1+10.00	END TAPER 16' LT	314.06

RIGHT CURB INFORMATION

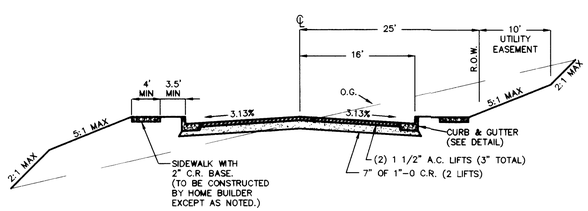
CL STA	DESCRIPTION	T.C.
0+59.01	CURB RETURN	310.03
0+90.00	BEGIN TAPER 18' RT	312.12
1+10.00	END TAPER 16' RT	314.06



IMPERIAL DRIVE

TYPICAL SECTION

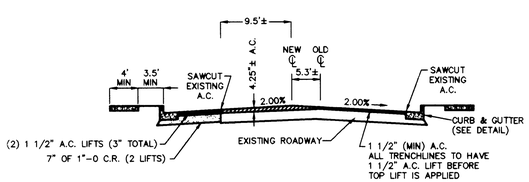
SCALE: HORIZ. 1" = 10'
VERT. 1" = 5'



RADCLIFFE COURT

TYPICAL SECTION

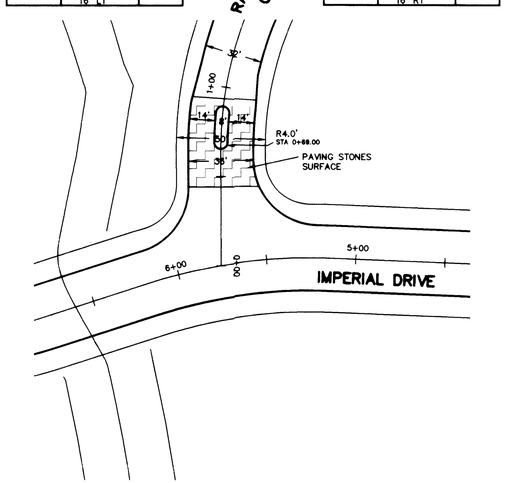
SCALE: HORIZ. 1" = 10'
VERT. 1" = 5'



IMPERIAL STA 2+00 TO STA 3+50

TYPICAL SECTION

SCALE: HORIZ. 1" = 10'
VERT. 1" = 5'



RADCLIFFE COURT ENTRANCE

SCALE: 1" = 40'

REGISTERED PROFESSIONAL ENGINEER (916,93) OREGON MAY 18, 1983 PATRICK A. SISUL
11/25/96

REVISIONS	BY
REVISE PAVING PLAN FOR NEW UTILITY LAYOUT. ADD 3-SLOPES TO SEALE	PS 9/16/96
AS-BUILT 11/13/96	LD

BARRINGTON HEIGHTS 9

NEIL NEDELISKY

Street Details

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	JUNE 1993
SCALE	NOTED
DRAWN	PS
JOB	93-42
SHEET	5 OF 9 SHEETS

ESTIMATED EARTHWORK QUANTITIES (QUANTITIES ARE FROM EG TO SUBGRADE)	
STREET CUT TRENCHLINES	1680 CU. YARDS 2560 CU. YARDS
STREET FILL LOTS 47–54 FILL	3800 CU. YARDS 440 CU. YARDS
NET VOLUME	BALANCED

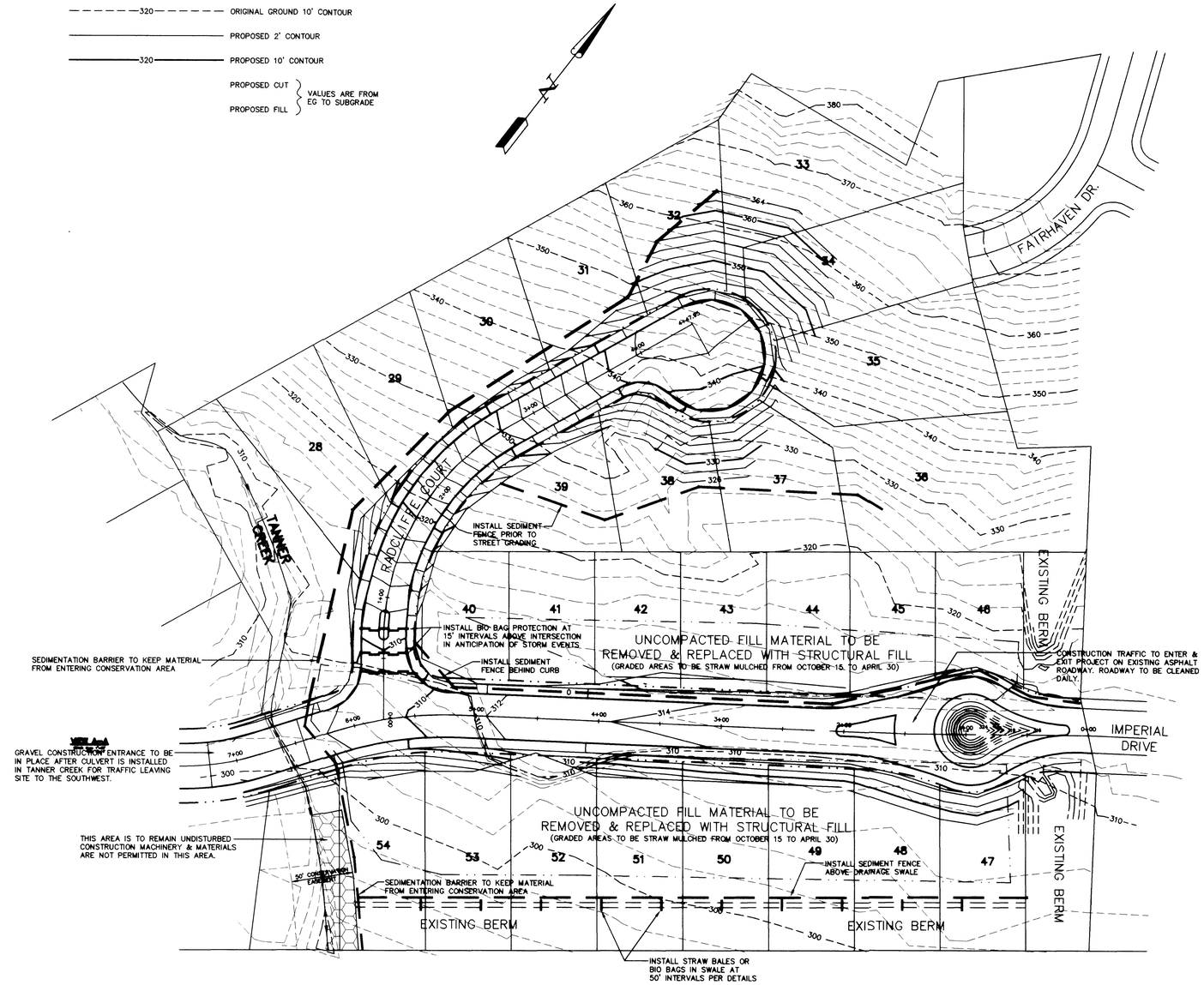
GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

AS-BUILT

ORIGINAL GROUND 2' CONTOUR
320 ORIGINAL GROUND 10' CONTOUR
PROPOSED 2' CONTOUR
320 PROPOSED 10' CONTOUR
PROPOSED CUT
PROPOSED FILL
VALUES ARE FROM EG TO SUBGRADE



REGISTERED PROFESSIONAL ENGINEER
816.551
EXP. 6/30/98
OREGON
MAY 18, 1993
PATRICK A. SISUL
4/24/97

REVISIONS	BY
REVISE GRADING AROUND CUL-DE-SAC BULB & UNDISTURBED AREAS	PS 8/18/95
ADD NOTES RE: STRAW MULCH, SWALE BALES OR BIO BAGS & SW OCE	PS 9/27/95
REVISE PER DEQ. ADD FENCES ALONG IMPRL & ABOVE SWALE, RR & INTL	PS 10/4/95
AS-BUILT 04/24/97	LD

BARRINGTON HEIGHTS 9
NEIL NEDELISKY

Grading and Erosion Control Plan

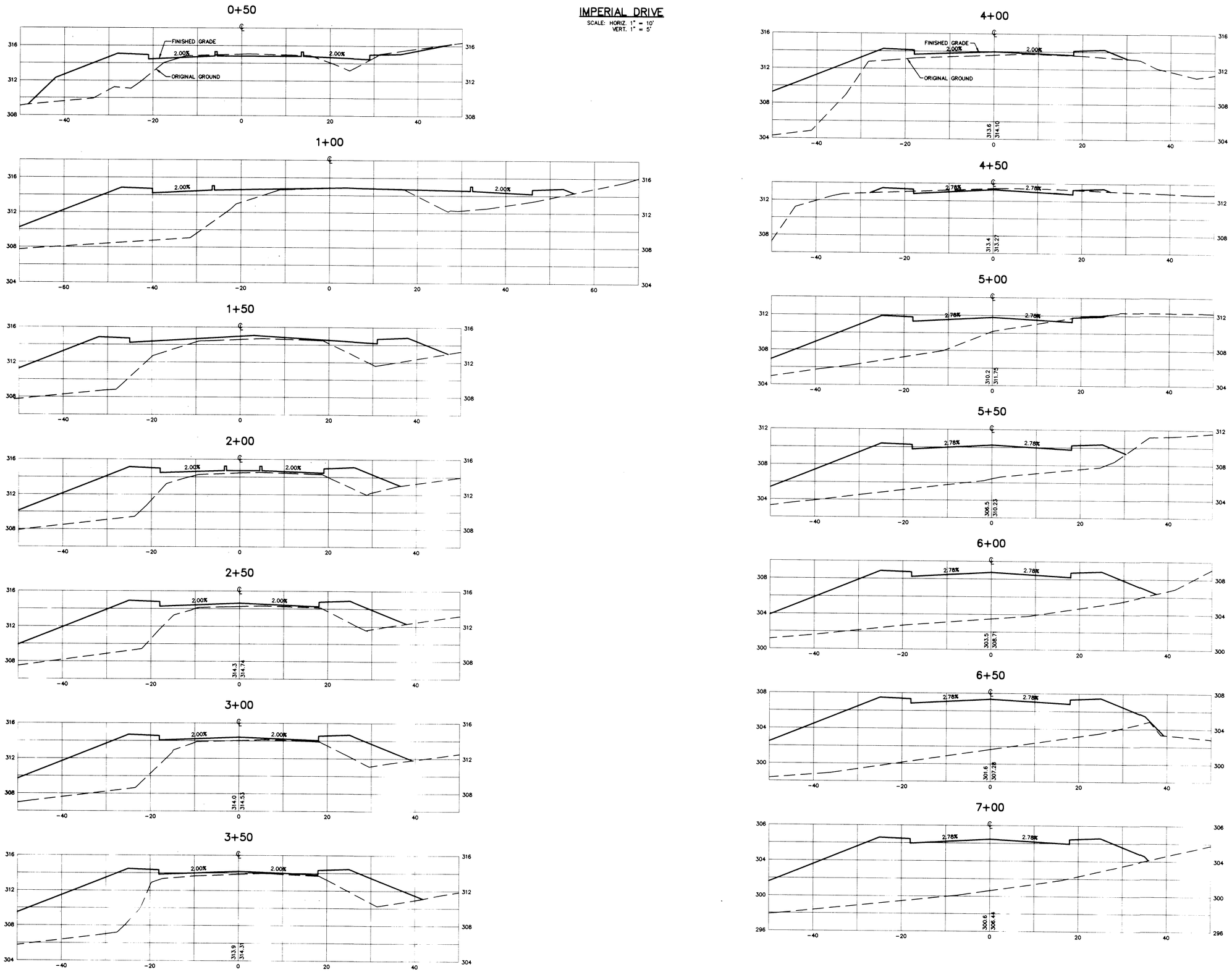
SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE	JUNE 1993
SCALE	1" = 50'
DRAWN	PS
JOB	93-42
SHEET	6
OF	9 SHEETS

IMPERIAL DRIVE

SCALE: HORIZ. 1" = 10'
VERT. 1" = 5'

AS-BUILT



REGISTERED PROFESSIONAL ENGINEER
OREGON
MAY 18, 1993
PATRICK A. SISUL

REVISIONS	BY
SHOW S-1 SLOPE OUT TO CATCHPOINT WITH EXIST.	PS 9/18/95

BARRINGTON HEIGHTS 9
NEIL NEDELISKY

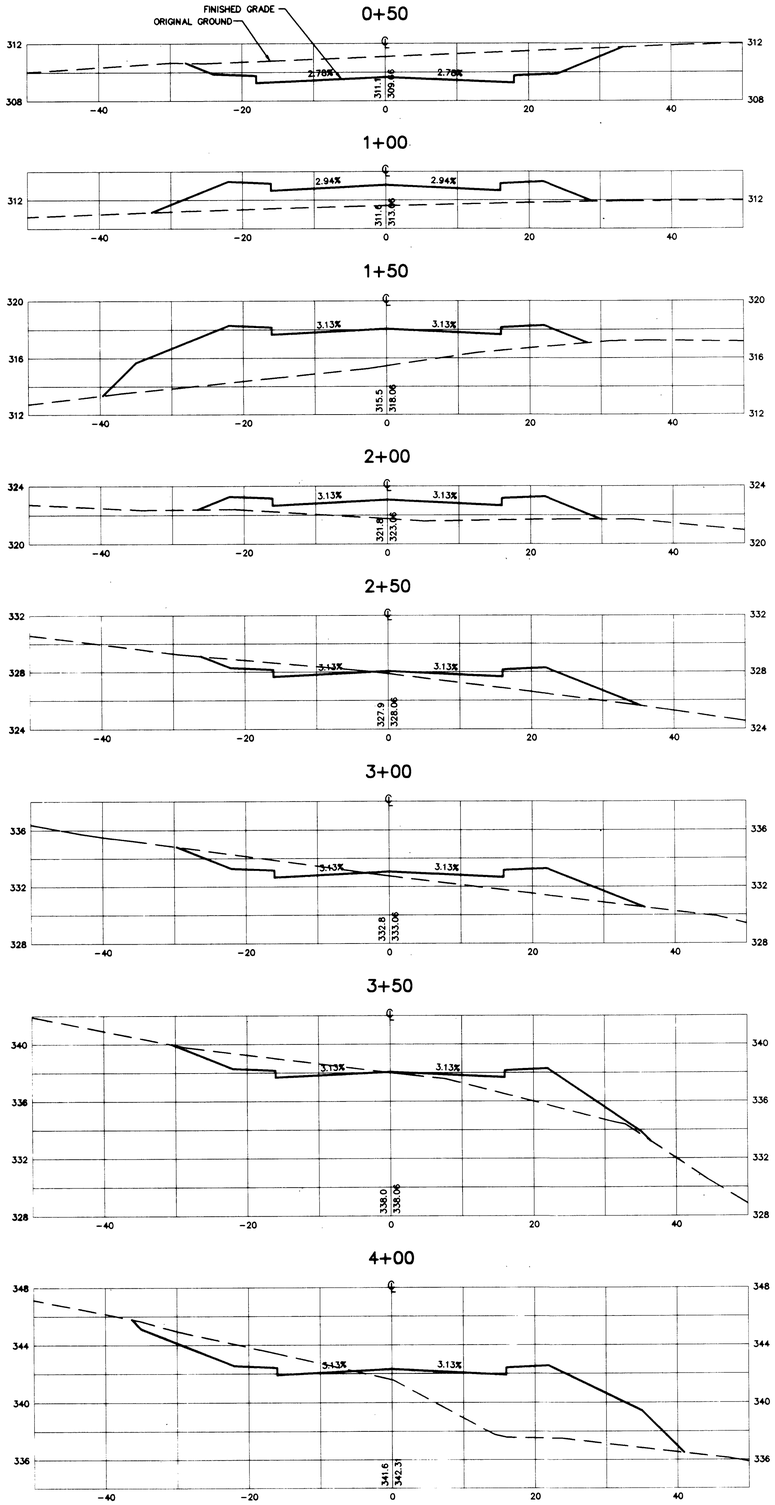
Imperial Drive
Cross Sections

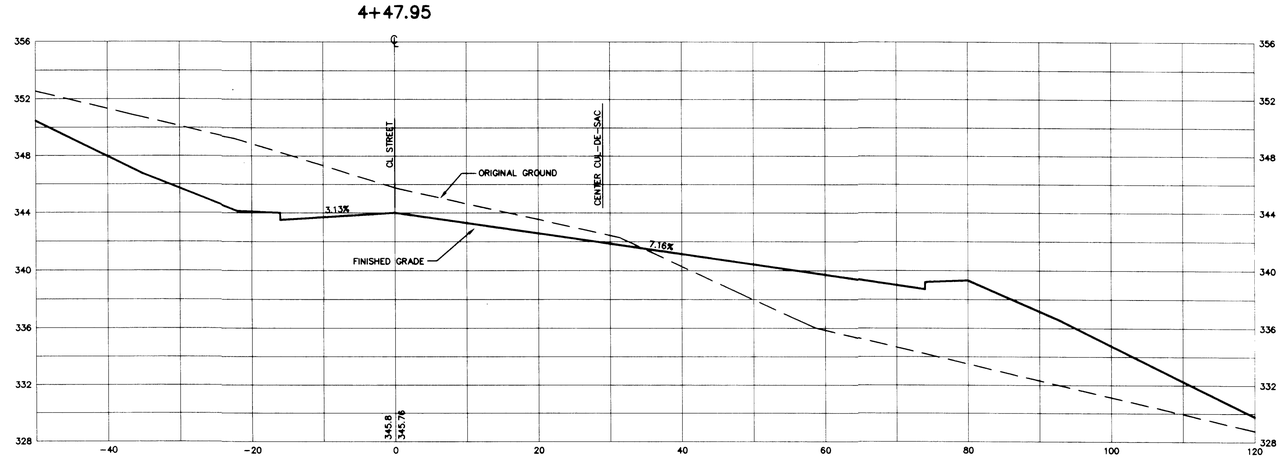
SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE JUNE 1993
SCALE H: 1" = 10' V: 1" = 5'
DRAWN PS
JOB 93-42
SHEET 7 OF 9 SHEETS

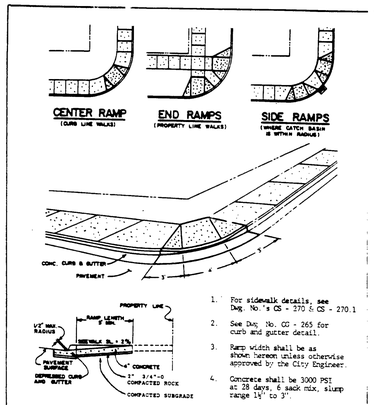
RADCLIFFE COURT

SCALE: HORIZ. 1" = 10'
VERT. 1" = 5'



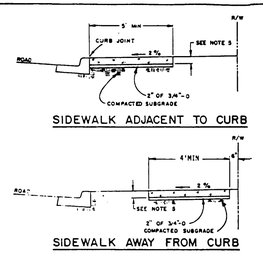


AS-BUILT



1. For sidewalk details, see Dwg. No. 's CS - 270 & CS - 270.1
2. See Dwg. No. CS - 265 for curb and gutter detail.
3. Ramp width shall be as shown hereon unless otherwise approved by the City Engineer.
4. Concrete shall be 3000 PSI at 28 days, 6 sack mix, slump range 1½" to 3".

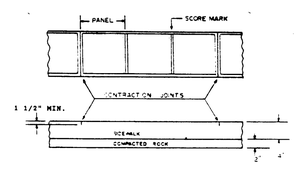
CITY OF WEST LINN	SIDEWALK RAMP
DRAWN BY DDP DATE 3-20-87	
CHECKED BY DATE	
APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. CS - 271



1. Concrete shall be 3000 PSI at 28 days, 6 sack mix, slump range of 1 1/2" to 3".
2. Panel lengths shall be equal to the sidewalk width, but may be adjusted with the City Engineers approval.
3. Contraction joints (1 1/2" deep) shall be placed every third panel, with a max. spacing of 15 feet.

   Joints shall also be placed at the sides of driveway approaches, utility vaults, and wheelchair ramps.
4. A curing compound shall be used, white reflective sheeting shall be used in case of rain.
5. For sidewalks adjacent to the curb & paved at the same time as the curb, the joint between them shall be a trowelled joint with a min. 1/2" radius.
6. The sidewalk shall have a min. thickness of 4" if mountable curb is used or if the sidewalk is intended as a portion of the driveway. Otherwise, the sidewalk shall have a min. thickness of 4".
7. Drain blockouts in the curb shall be extended to the back of the sidewalk with a 6" min. plastic pipe at a 1% slope. A contraction joint shall be placed over the pipe.

CITY OF WEST LINN	CONCRETE SIDEWALK
DRAWN BY DDP DATE 5-26-87	
CHECKED BY DATE 5-27-87	
APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. CS - 270



NOTES

1. EXPANSION JOINTS SHALL NOT BE USED.
2. 1 1/2" MIN. DEEP CONTRACTION JOINTS SHALL BE PLACED AT SIDES OF DRIVEWAY APPROACHES, UTILITY VAULTS, WHEELCHAIR RAMPS, & AT TRANSVERSE SPACING NOT TO EXCEED 15 LF.
3. CONTRACTION JOINTS SHALL MATCH THE EXISTING CURB JOINTS & LAYED THRU FULL WIDTH OF SIDEWALK.
4. PANEL LENGTHS SHALL BE EQUAL TO THE SIDEWALK WIDTH, BUT MAY BE ADJUSTED WITH THE CITY INSPECTORS APPROVAL.
5. SCORE MARKS SHALL BE PLACED PRIOR TO EDGING & BE REMOVED AT SIDES BY THE EDGING.

CITY OF WEST LINN	CONCRETE SIDEWALK JOINT DETAILS
DRAWN BY DDP DATE 5-26-87	
CHECKED BY DATE	
APPROVED BY Earl Reed DATE 5-27-87	DWG. NO. CS - 270.1

REGISTERED PROFESSIONAL ENGINEER
PATRICK A. SISUL
OREGON
MAY 18, 1993

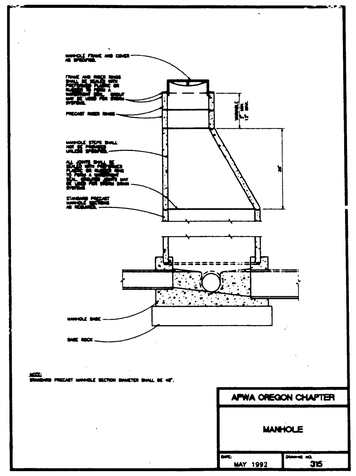
REVISIONS	BY
REVISE CUL-DE-SAC GRADING & X-SECTION	PS 8/18/93

Radcliffe Court Cross Sections Details

BARRINGTON HEIGHTS 9
NEIL NEDELISKY

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

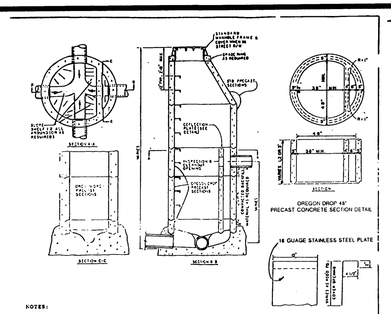
DATE	JUNE 1993
SCALE	H: 1" = 10' V: 1" = 5'
DRAWN	PS
JOB	93-42
SHEET	8 OF 9 SHEETS



APWA OREGON CHAPTER

MANHOLE

DATE MAY 1992 DRAWING NO. 315

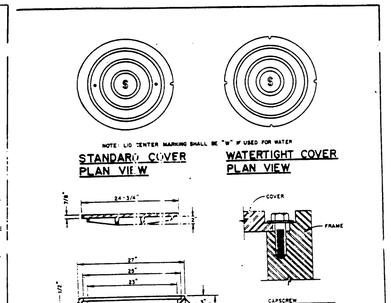


NOTES:

1. PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO A.S.T.M. SPECIFICATIONS C-478. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 P.S.I. AND A 3" TO 4" SLUMP.
2. MANHOLE DIAMETER, JOINT SEALANT, JOINT CONFIGUATION, BASE CONSTRUCTION, STEPS AND OTHER MANHOLE CONSTRUCTION DETAILS SHALL COMPLY WITH THE CONTROLLING AGENCY STANDARDS.
3. IT IS RECOMMENDED THAT THE FIRST OREGON DROP SECTION SIT IN A 12" SECTION FOR EASE IN SHAPING THE CHANNEL IN THE DROP PORTION.

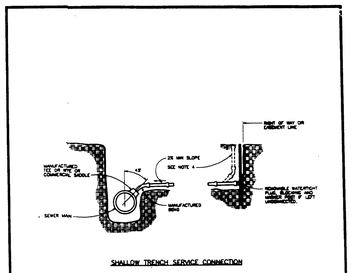
CITY OF WEST LINN — OREGON DROP MANHOLE

DRAWN BY DJS DATE 10-4-88
CHECKED BY DHL DATE 10-5-88
APPROVED BY Earl Reed DATE 10-8-88
DWG. NO. MH-213



CITY OF WEST LINN — MANHOLE FRAME & COVER

DRAWN BY DDP DATE 5-20-92
CHECKED BY " DATE 5-21-92
APPROVED BY Earl Reed DATE 5-27-92
DWG. NO. MH - 212



SHALLOW TRENCH SERVICE CONNECTION

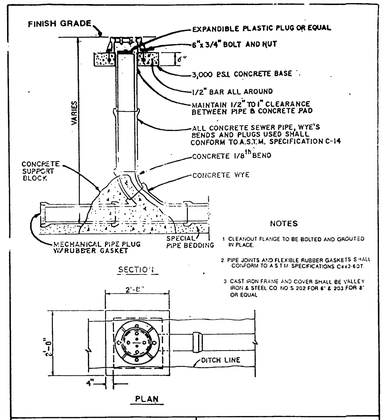
NOTES:

1. PIPE AND FITTINGS SHALL BE COMPATIBLE. ONLY MANUFACTURED FITTINGS SHALL BE USED.
2. MINIMUM DEPTH: AT RIGHT OF WAY OR EASEMENT LINE SHALL BE 4 FEET.
3. MARKER POSTS FOR BURIED PIPE SHALL BE TRUTEST MOD. POST OR EQUAL. POST SHALL BE 4' LONG, 1 1/2" DIAMETER, GREEN FINISH SHALL NOT CORRODE AND SHALL BE PLASTIC BASE.
4. WHEN REQUIRED, A CLEANOUT SHALL BE INSTALLED.

APWA OREGON CHAPTER

SHALLOW TRENCH SERVICE CONNECTION, BLOCKING, AND MARKERS

DATE MAY 1992 DRAWING NO. 308

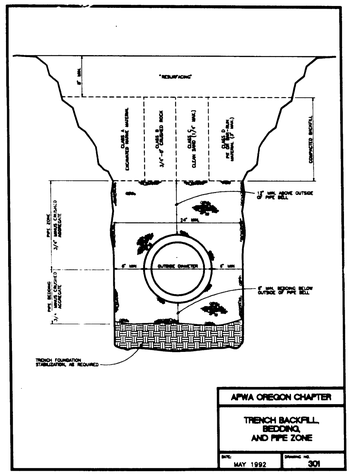


NOTES

1. CLEANOUT FLANGE TO BE BOLTED AND GROUTED IN PLACE.
2. PIPE JOINTS AND FLEXIBLE RUBBER GASKETS SHALL CONFORM TO A.S.T.M. SPECIFICATIONS C-443.
3. CAST IRON FRAME AND COVER SHALL BE VALLEY IRON & STEEL CO. NO. S 202 FOR 4" & 203 FOR 6" OR EQUAL.

CITY OF WEST LINN — SANITARY SEWER CLEANOUT

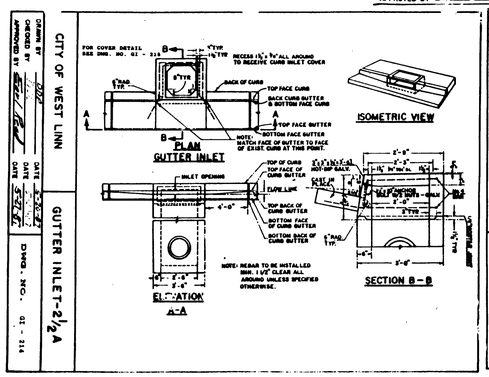
DRAWN BY DDP DATE 10-4-88
CHECKED BY DHL DATE 10-5-88
APPROVED BY Earl Reed DATE 10-12-88
DWG. NO. SS-4



APWA OREGON CHAPTER

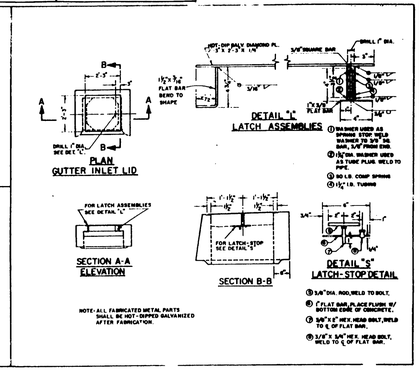
TRENCH BACKFILL, BEDDING, AND PIPE ZONE

DATE MAY 1992 DRAWING NO. 301



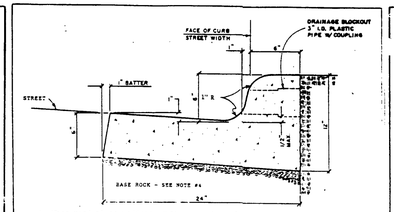
CITY OF WEST LINN — GUTTER INLET-2 1/2 A

DRAWN BY DDP DATE 5-20-92
CHECKED BY " DATE 5-21-92
APPROVED BY Earl Reed DATE 5-27-92
DWG. NO. 01 - 314



CITY OF WEST LINN — GUTTER INLET COVER

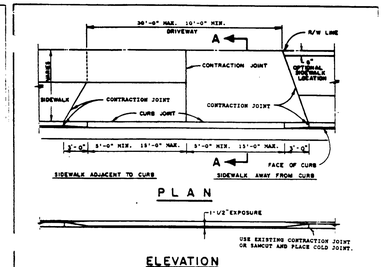
DRAWN BY DDP DATE 5-20-92
CHECKED BY " DATE 5-21-92
APPROVED BY Earl Reed DATE 5-27-92
DWG. NO. 01 - 315



1. When used with 31.32 welions, gutters may be reduced with prior approval for a the 2152 ...liameter.
2. Concrete shall have a breaking strength of 3000 PSI after 28 days.
3. CONTRACTION JOINTS
   A. To be provided:
      1) at each point of tangency of the curb.
      2) at each cold joint.
      3) at each side of inlet structures.
      4) at both sides of an approach.
   B. Spacing to be not more than 15 feet.
   C. The depth of the joint shall be at least 1 1/2".
4. Base rock - 1 1/2" minus, 95% compaction. Rock shall be to subgrade of street structure or 4" in depth, whichever is greater.
5. Drainage block - 3" dia. plastic pipe.
   A. Drainage access through existing curbs shall be by the following:
      1) core drilling.
      2) vertical saw-cut of curb 18" each side of drain & repoured to full depth of curb.

CITY OF WEST LINN — CURB & GUTTER

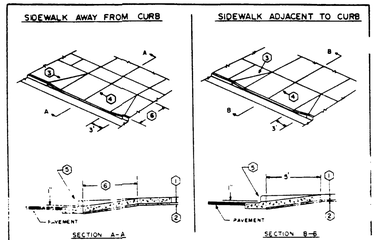
DRAWN BY DDP DATE 5-20-92
CHECKED BY " DATE 5-21-92
APPROVED BY Earl Reed DATE 5-27-92
DWG. NO. CG - 265



1. CONCRETE SHALL HAVE A MINIMUM BREAKING STRENGTH OF 3000 PSI AFTER 28 DAYS. 6 SACK MIX.
2. CURB JOINT SHALL BE A TROWELED JOINT WITH A MIN. 1/2" RADIUS ALONG BACK OF CURB.
3. DRIVEWAY SHALL BE A MINIMUM 6" THICK.

CITY OF WEST LINN — RESIDENTIAL DRIVEWAY

DRAWN BY DDP DATE 5-20-92
CHECKED BY " DATE 5-21-92
APPROVED BY Earl Reed DATE 5-27-92
DWG. NO. DW - 250

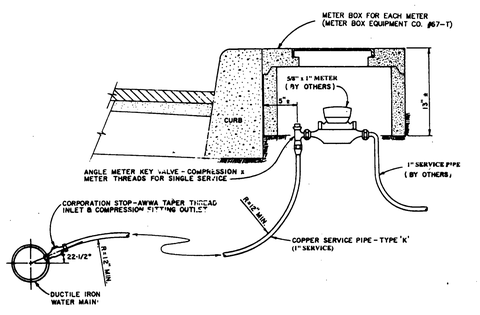


1. Min. thickness shall be 5".
2. 2" of compacted 3/4"-0 aggregate, over compacted subgrade
3. 1" min. deep contraction joints shall be placed at sides of driveway approach.
4. For a 20' driveway, a 1" deep contraction joint shall be placed at the center. An additional joint shall be installed for each additional 15' of driveway width.
5. In areas of curb removal:
   For standard curb, extension shall be to bottom of curb.
   For curb & gutter, extension shall be extended to 10" below top of curb.
6. For sidewalk less than 5' from back of curb, approach shall extend thru the sidewalk.
7. Concrete shall have min. compression strength of 3000 PSI after 28 days.
8. A curing compound is required. White reflective sheeting shall be used in case of rain.
9. The surface finish shall be by cross brooming.

CITY OF WEST LINN — RESIDENTIAL DRIVEWAY DETAILS

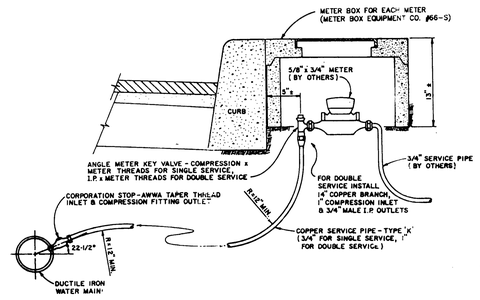
DRAWN BY DDP DATE 5-20-92
CHECKED BY " DATE 5-21-92
APPROVED BY Earl Reed DATE 5-27-92
DWG. NO. DW - 251

AS-BUILT



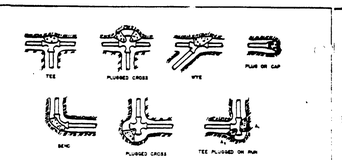
TYPICAL 1" WATER SERVICE

N.T.S.



TYPICAL 3/4" WATER SERVICE

N.T.S.



BEARING AREA OF THRUST BLOCK (in sq. ft.)

FITTING SIZE in inches	TEE, WYE, PLUG or CAP	90° BEND PLUGGED CROSS	TEE PLUGGED ON RUN		45° BEND	22½° BEND	11¼° BEND
			L	R			
4	2.0	1.4	1.0	1.4	1.2	-	-
6	4.1	5.5	4.3	5.5	4.6	1.0	-
8	5.8	9.3	7.6	9.4	8.9	1.9	1.0
10	8.9	14.1	11.6	14.4	14.0	2.9	1.5
12	12.3	19.5	17.0	19.9	19.6	4.1	2.1
14	15.3	24.3	23.0	24.7	24.5	5.1	2.6
16	19.0	31.5	30.0	31.9	31.6	6.6	3.4
18	23.0	38.1	38.0	38.7	38.4	8.0	3.9
20	26.9	43.3	47.0	43.3	43.0	9.4	4.7
24	34.0	54.0	68.0	54.0	54.0	11.9	6.0

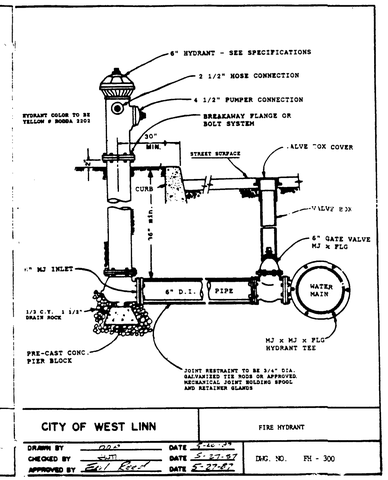
NOTES

1. Concrete shall be poured against undisturbed earth.
2. Concrete shall be mixed using 6 gallons per sack maximum.
3. The required thrust bearing area for various combinations of angles occurring on the pipe, fittings, and appurtenances is as in the table. Bearing area required.
4. If soil allows an equal, required bearing area of fitting shall be in horizontal plane, adjusted if necessary to conform to the real properties and strength of soil bearing against the fitting.
5. Bearing areas are based bearing values to be equal that are attainable and bearing areas of 1000 LBS./SQ. FT. To compute bearing area for different test pressure and soil bearing strength, use the following formula:

$$\text{BEARING AREA} = \frac{\text{TEST PRESSURE}}{\text{SOIL BEARING STRENGTH}} \times \text{TABLE VALUE}$$

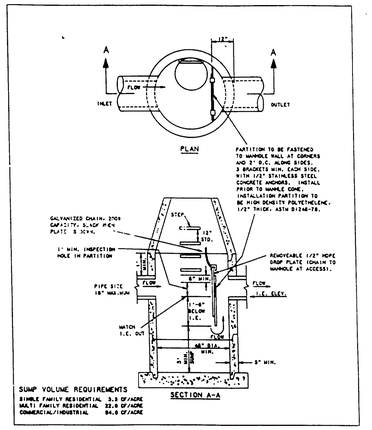
CITY OF WEST LINN — THRUST BLOCKING

DRAWN BY DDP DATE 5-20-92
CHECKED BY " DATE 5-21-92
APPROVED BY Earl Reed DATE 5-27-92
DWG. NO. TB - 302

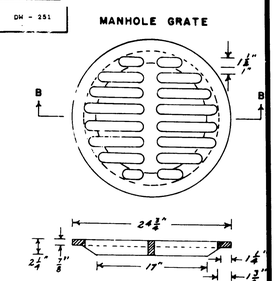


CITY OF WEST LINN — FIRE HYDRANT

DRAWN BY DDP DATE 5-20-92
CHECKED BY " DATE 5-21-92
APPROVED BY Earl Reed DATE 5-27-92
DWG. NO. FH - 300



WATER QUALITY MANHOLE



Construction Staking Notes:

The Developer has contracted with Engineer to provide construction staking as outlined below. The contractor is to give the Engineer/Surveyor at least a week notice of when the first construction staking will be needed. After the initial staking on the project, requests for staking should be given at least 3 working days (72 hours) in advance of when staking is desired. When called to the site for staking the Engineer's surveyor will stake each phase of the project in a manner that is most efficient for the surveyor. Additional staking requested by the contractor or restaking required due to the contractor's carelessness will be charged to the contractor. In addition, if survey control monuments (which will be plainly identified) are destroyed by the contractor, the contractor will be charged for the re-establishment of the monuments. Staking to be provided is as follows:

1. Sanitary sewer cut sewer stakes at the following stations, 10', 25', 50', 100', and every 100' thereafter, following each manhole.
2. Storm drain cut stakes at the following stations, 10', 25', 50', 100', and every 100' thereafter, following each manhole or catch basin.
3. Rough grade stakes for street coring set on centerline at 50 foot stations. Extra stakes will be provided in cul-de-sacs and street knuckles.
4. Set temporary front corners at water service locations and stake waterline angle points and fire hydrant locations (after street coring).
5. Set curb stakes at 50 foot stations on the tangent and 25 foot stations in the curves.
6. Mark property line locations on curbs for private utilities.
7. Once the Contractor has installed the water services (and prior to rocking and paving the street) he is to notify the Engineer that such has been done so that the Engineer's Surveyor can verify that the water services/meters are in the correct location.

Associated Land Surveyors 2-18-93

REGISTERED PROFESSIONAL ENGINEER #16,651 PATRICK A. SISUL OREGON MAY 18, 1993

2/18/93

REVISIONS	BY
REVISE PER ENG. REVIEW	PS 8/4/92
ADD ADDR DETAILS PER DEQ REVIEW	PS 2/18/93

BARRINGTON HEIGHTS 9

NEIL NEDELISKY

Details

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
(503) 657-0188

DATE JUNE 1993
SCALE -
DRAWN PS
JOB 93-42
SHEET 9 OF 9 SHEETS