

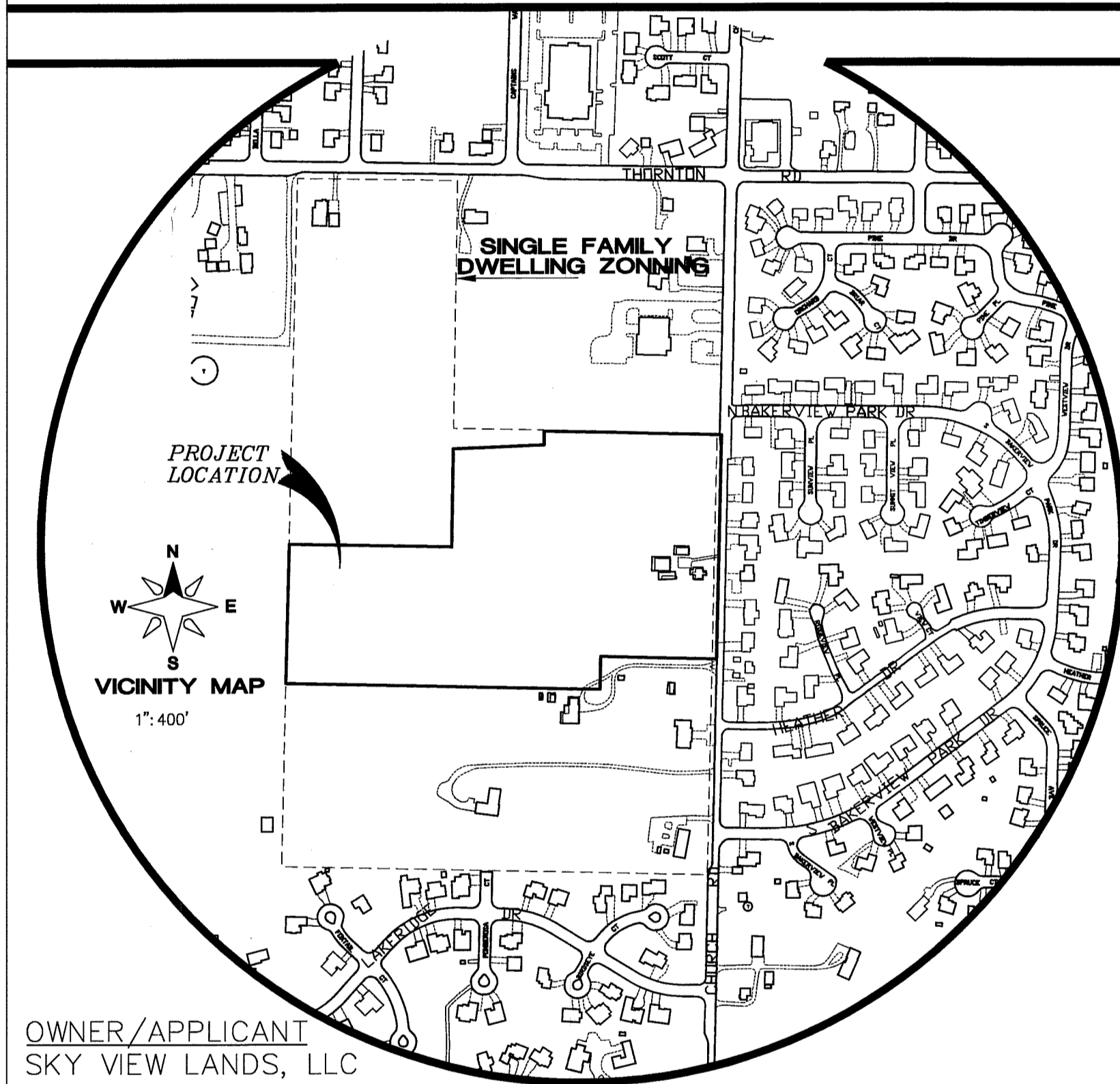
A PORTION OF THE NE 1/4 OF SECTION 24  
 TOWNSHIP 39 N., RANGE 1 E. OF THE W.M.  
 CITY OF FERNDALE, WHATCOM COUNTY, WASHINGTON

# LARSEN'S CHURCH HILL ESTATES

(A PLANNED UNIT DEVELOPMENT)

## AS-BUILT DRAWINGS (PHASE 1)

00 3941.00 7-13-09 DS



**OWNER/APPLICANT**  
 SKY VIEW LANDS, LLC  
 BILL KRAMER  
 1442 SUNSET AVE.  
 FERNDALE, WA 98248  
 CONTACT: SKY VIEW LANDS, LLC  
 (360) 303-0515

**ENGINEER**  
 LDES, INC.  
 5160 INDUSTRIAL PL. #108  
 FERNDALE, WA 98248  
 CONTACT: RAMON LLANOS, P.E.  
 (360) 383-0620

**SURVEYOR**  
 LDES, INC.  
 5160 INDUSTRIAL PL. #108  
 FERNDALE, WA 98248  
 CONTACT: KYLE HAGGITH, PLS.  
 (360) 383-0620

### PHASE 1 IMPROVEMENTS

Sheet Number	Sheet Title
01	COVER SHEET
02	EXISTING CONDITIONS
03	SUBDIVISION PLAN
04	STREET & STORM DRAINAGE PLAN & PROFILE- SIEVERS WAY
05	STREET & STORM DRAINAGE PLAN & PROFILE- SIEVERS WAY
06	STORM DRAINAGE PLAN & PROFILE- SOUTH BOUNDARY LINE
07	STREET & STORM DRAINAGE PLAN & PROFILE- HONEYCUTT & SIEVERS CRT
08	STREET & STORM DRAINAGE PLAN & PROFILE- LOUIS COURT
09	STREET & STORM DRAINAGE PLAN & PROFILE- CHURCH RD
10	CONTROL STRUCTURE & DETENTION POND PLAN AND PROFILE & DETAILS
11	ROOF AND YARD DRAIN PLAN
12	STREET & STORM DRAINAGE DETAILS
13	SANITARY SEWER PLAN & PROFILE- SIEVERS WAY
14	SANITARY SEWER PLAN & PROFILE- SIEVERS WAY
15	SANITARY SEWER PLAN & PROFILE- HONEYCUTT & SIEVERS CRT & LOUIS CRT
16	SANITARY SEWER PLAN & PROFILE- CHURCH RD & PACIFIC HEIGHTS DR
17	SANITARY SEWER DETAILS
18	WATER DISTRIBUTION PLAN & PROFILE- SIEVERS WAY
19	WATER DISTRIBUTION PLAN & PROFILE- SIEVERS WAY
20	WATER DISTRIBUTION PLAN & PROFILE-HONEYCUTT CRT & SIEVERS CRT
21	WATER DISTRIBUTION PLAN & PROFILE - PACIFIC HEIGHTS DR
22	WATER DISTRIBUTION DETAILS
23	COMMON UTILITY - LANDSCAPE - STREET SIGNAGE & LIGHTING PLAN
24	COMMON UTILITY DETAILS
25	COMPOSITE PLAN
26	CITY OF FERNDALE GENERAL NOTES

### CHURCH ROAD IMPROVEMENTS

27	STREET AND STORM DRAINAGE: CHURCH ROAD
28	STREET AND STORM DRAINAGE: CHURCH ROAD
29	DETAILS: STREET AND STORM DRAINAGE
30	CHANNELIZATION PLAN SIGHT DISTANCE
31	WATER DISTRIBUTION PLAN: CHURCH ROAD UTILITY RELOCATION PLAN DETAILS: WATER DISTRIBUTION
32	CITY OF FERNDALE CONSTRUCTION NOTES

### LEGEND:

○	= FOUND YPC PLS#24225	FO-FO	= EXIST FIBER OPTIC LINE
○	= FOUND REBAR NO CAP	OP-OP	= EXIST OVERHEAD POWER
○	= FOUND MONUMENT	P-P	= EXIST UNDERGROUND POWER
○	= FOUND YPC PLS#24218	OT-OT	= EXIST OVERHEAD PHONE
○	= FOUND MIC	T-T	= EXIST UNDERGROUND PHONE
[ ]	= RECORD DATA PER DEED	TV-TV	= EXIST UNDERGROUND TV CABLE
[ ]	= RECORD DATA PER PLAT	C-C	= EXIST GAS MAIN
□	= EXIST SD CATCH BASIN (TYPE I)	W-W	= EXIST WATER LINE
■	= AS-BUILT STORM DRAIN R-Y	S-S	= EXIST SANITARY SEWER LINE
■	= AS-BUILT ROOF AND YARD INLET	D-D	= EXIST STORM DRAIN LINE
■	= AS-BUILT STORM DRAIN CATCH BASIN	O-O	= EXIST CHAIN LINK FENCE
■	= AS-BUILT CONTROL STRUCTURE	X-X	= EXIST BARBED WIRE FENCE
○	= EXIST SANITARY SEWER MANHOLE	□	= EXIST WOOD POST FENCE
○	= EXIST SANITARY SEWER CLEANOUT	-----	= EXIST CONC. FENCE OR RET. WALL
○	= EXIST SANITARY SEWER SERVICE	-----	= EXIST CONTOUR (INDEX)
▲	= AS-BUILT SANITARY SEWER SERVICE	-----	= EXIST CONTOUR (NORMAL)
▲	= AS-BUILT SEWER CLEANOUT	SD-SD	= AS-BUILT STORM DRAIN LINE
●	= AS-BUILT SEWER MANHOLE	SS-SS	= AS-BUILT SAN. SEWER LINE
○	= EXISTING WATER BLOW-OFF VALVE	W-W	= AS-BUILT WATER LINE
□	= EXISTING WATER METER BOX	RY-RY	= AS-BUILT ROOF DRAIN (4"/6" PVC)
□	= EXISTING WATER VALVE	P-P	= UTILITY TRENCH
□	= EXISTING FIRE HYDRANT	-----	= ROAD ASPHALT
□	= EXIST WATER VALVE BOX	-----	= 6" THICK SIDEWALK (DRIVEWAY SECTION)
□	= AS-BUILT WATER METER BOX	-----	= 4" THICK SIDEWALK
□	= AS-BUILT WATER VALVE		
□	= AS-BUILT WATER BLOW OFF		
□	= AS-BUILT REDUCER		
□	= AS-BUILT FIRE HYDRANT		
□	= AS-BUILT THRUST BLOCK		
□	= EXIST POWER/AND OR UTILITY POLE		
□	= EXIST GUY POLE		
□	= EXIST GUY WIRE		
□	= EXIST LIGHT POLE		
□	= EXIST UTILITY POLE		
□	= STREET LIGHT		
□	= EXIST TV BOX		
□	= EXIST TELEPHONE PEDESTAL		
□	= EXIST TELEPHONE MANHOLE		
□	= EXIST MAIL BOX		
□	= EXIST SIGN		
□	= STOP SIGN		
□	= EXIST LANDSCAPING		
□	= EXIST GAS METER		

MAY 25 2009  
 [Signature]  
 CITY OF FERNDALE

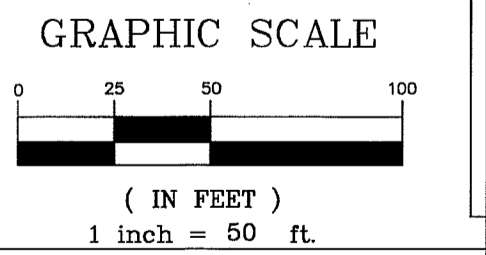
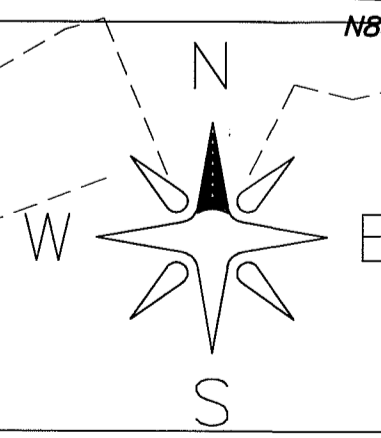
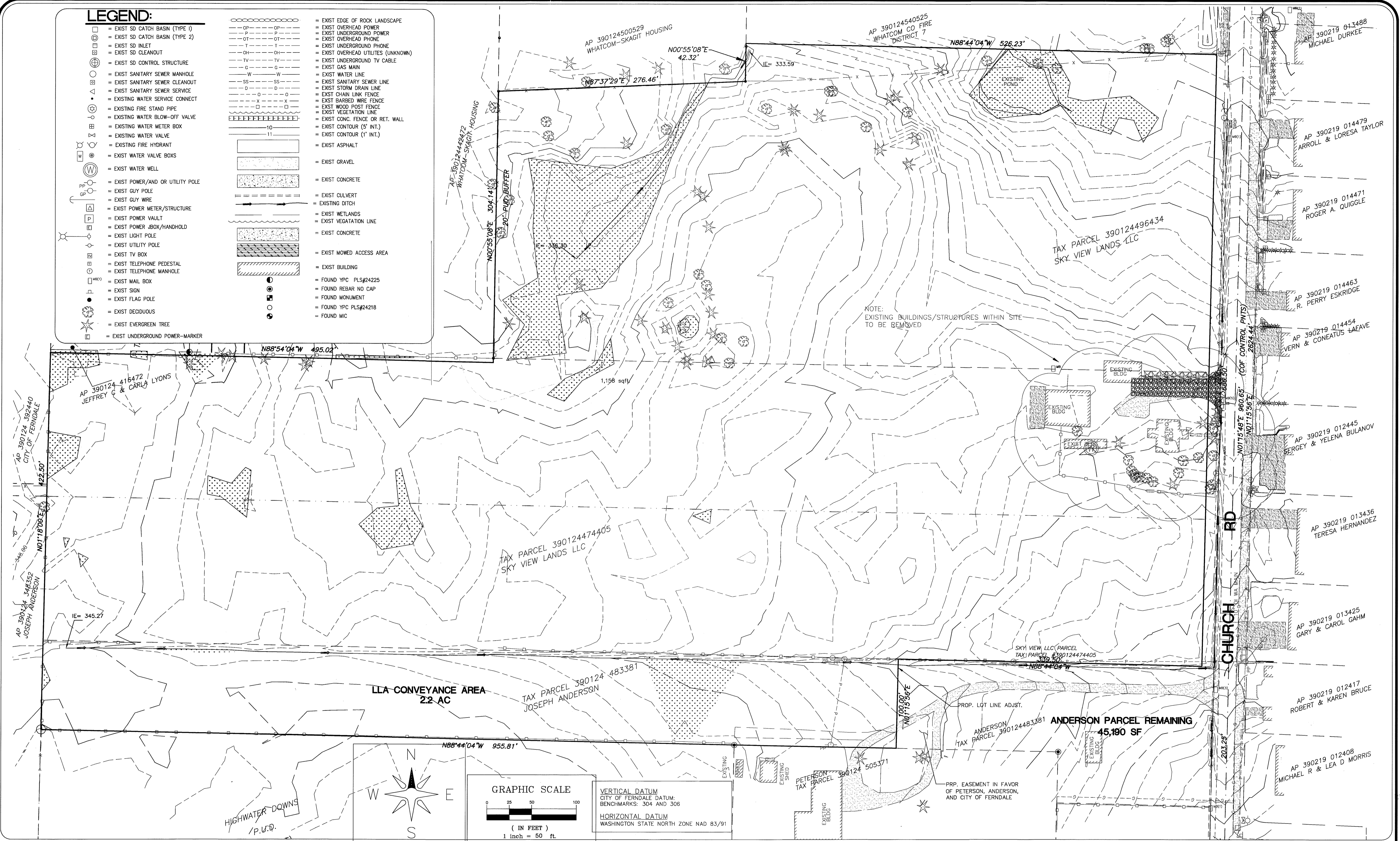
DRAWN BY: [Name] DATE: 12/23/2008 CHECKED BY: [Name] DATE: 12/23/2008	<b>LARSEN'S CHURCH HILL ESTATES</b>	<b>AS-BUILT DRAWING CERTIFICATION</b> I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 1/16/09 [Signature] RAMON LLANOS, P.E.	<b>SURVEYOR'S CERTIFICATION</b> I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 12-06-10 [Signature] KYLE T. HAGGITH, P.L.S.	<b>LDES, INC.</b> 5160 INDUSTRIAL PL #108 FERNDALE, WA 98248 PHONE 360-383-0620 FAX 360-383-0639	<b>LARSEN'S CHURCH HILL ESTATES</b> COVER SHEET <b>AS-BUILT DRAWINGS</b>	<b>REVISIONS - INITIALS/DATE/CMS</b> SR 12/28/07 SUBMITTAL No. 1 SR 6/10/08 SUBMITTAL No. 2 SR 7/15/08 SUBMITTAL No. 3 SR 9/30/08 SUBMITTAL No. 4	SHEET <b>01</b> OF 32
<b>JOB # 06010 FOR: SKY VIEW LANDS, LLC</b>							

R:\Common\Land Projects\2006\0610 HIGHLAND IRAIL\0610-AS BUILT.dwg, COVER SH1, 12/23/2008 8:12:55 AM, 1:1

**LEGEND:**

- EXIST SD CATCH BASIN (TYPE 1)
- EXIST SD CATCH BASIN (TYPE 2)
- EXIST SD INLET
- EXIST SD CLEANOUT
- EXIST SD CONTROL STRUCTURE
- EXIST SANITARY SEWER MANHOLE
- EXIST SANITARY SEWER CLEANOUT
- EXIST SANITARY SEWER SERVICE
- EXISTING WATER SERVICE CONNECT
- EXISTING FIRE STAND PIPE
- EXISTING WATER BLOW-OFF VALVE
- EXISTING WATER METER BOX
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXIST WATER VALVE BOXS
- EXIST WATER WELL
- EXIST POWER/AND OR UTILITY POLE
- EXIST GUY POLE
- EXIST GUY WIRE
- EXIST POWER METER/STRUCTURE
- EXIST POWER VAULT
- EXIST POWER J\_BOX/HANDHOLD
- EXIST LIGHT POLE
- EXIST UTILITY POLE
- EXIST TV BOX
- EXIST TELEPHONE PEDESTAL
- EXIST TELEPHONE MANHOLE
- EXIST MAIL BOX
- EXIST SIGN
- EXIST FLAG POLE
- EXIST DECIDUOUS
- EXIST EVERGREEN TREE
- EXIST UNDERGROUND POWER-MARKER

- EXIST EDGE OF ROCK LANDSCAPE
- EXIST OVERHEAD POWER
- EXIST UNDERGROUND POWER
- EXIST OVERHEAD PHONE
- EXIST UNDERGROUND PHONE
- EXIST OVERHEAD UTILITIES (UNKNOWN)
- EXIST UNDERGROUND TV CABLE
- EXIST GAS MAIN
- EXIST WATER LINE
- EXIST SANITARY SEWER LINE
- EXIST STORM DRAIN LINE
- EXIST CHAIN LINK FENCE
- EXIST BARBED WIRE FENCE
- EXIST WOOD POST FENCE
- EXIST VEGETATION LINE
- EXIST CONC. FENCE OR RET. WALL
- EXIST CONTOUR (5' INT.)
- EXIST CONTOUR (1' INT.)
- EXIST ASPHALT
- EXIST GRAVEL
- EXIST CONCRETE
- EXIST CULVERT
- EXISTING DITCH
- EXIST WETLANDS
- EXIST VEGETATION LINE
- EXIST CONCRETE
- EXIST MOWED ACCESS AREA
- EXIST BUILDING
- FOUND YPC PLS#24225
- FOUND REBAR NO CAP
- FOUND MONUMENT
- FOUND YPC PLS#24218
- FOUND MIC



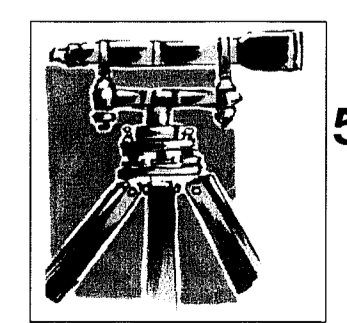
VERTICAL DATUM  
CITY OF FERDALE DATUM;  
BENCHMARKS: 304 AND 306

HORIZONTAL DATUM  
WASHINGTON STATE NORTH ZONE NAD 83/91

DRAWN BY: RL DATE: 12/23/2008  
CHECKED BY: RL DATE: 12/23/2008

**LARSENS CHURCH HILL ESTATES**

JOB # 06010 FOR: SKY VIEW LANDS, LLC



**LDES, INC.**  
5160 INDUSTRIAL PL. #108  
FERNDAL, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

**LARSENS CHURCH HILL ESTATES**  
**EXISTING CONDITIONS**  
**AS-BUILT DRAWINGS**

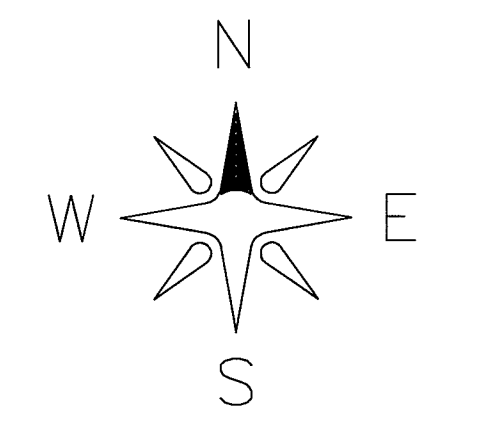
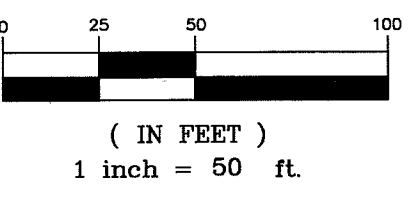
REVISIONS - INTIALS/DATE/CMS	SHEET
SR 12/26/07 SUBMITTAL No. 1	<b>02</b> OF 32
SR 6/10/08 SUBMITTAL No. 2	
SR 9/30/08 SUBMITTAL No. 4	

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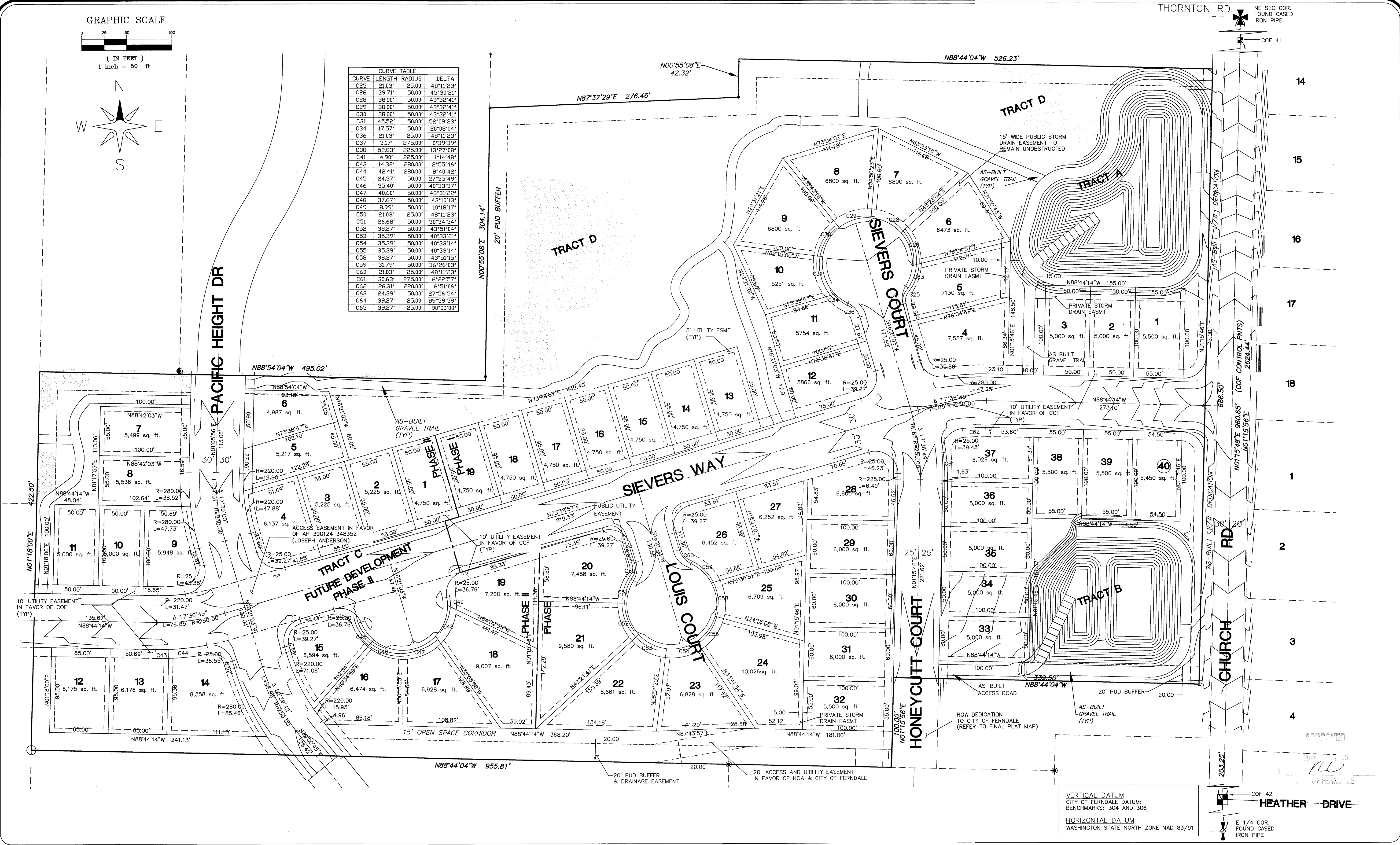
APPROVED  
RL  
CITY OF FERDALE



GRAPHIC SCALE



CURVE	LENGTH	RADIUS	DELTA
C25	21.03'	25.00'	48°11'23"
C26	39.71'	50.00'	45°30'21"
C28	38.00'	50.00'	43°32'41"
C29	38.00'	50.00'	43°32'41"
C30	38.00'	50.00'	43°32'41"
C31	45.52'	50.00'	52°09'23"
C34	17.57'	50.00'	20°08'04"
C36	21.03'	25.00'	48°11'23"
C37	31.77'	275.00'	0°39'39"
C38	52.83'	225.00'	13°27'08"
C41	4.90'	225.00'	1°14'48"
C43	14.32'	280.00'	2°55'46"
C44	42.41'	280.00'	8°40'42"
C45	24.37'	50.00'	27°55'49"
C46	35.40'	50.00'	40°33'37"
C47	40.60'	50.00'	46°31'22"
C48	37.67'	50.00'	43°31'34"
C49	8.39'	50.00'	10°18'17"
C50	21.03'	25.00'	48°11'23"
C51	26.68'	50.00'	30°34'34"
C52	38.27'	50.00'	43°51'04"
C53	35.39'	50.00'	40°33'21"
C54	35.39'	50.00'	40°33'21"
C55	35.39'	50.00'	40°33'21"
C58	38.27'	50.00'	43°51'04"
C59	31.79'	50.00'	36°26'03"
C60	21.03'	25.00'	48°11'23"
C61	30.63'	275.00'	6°22'57"
C62	26.31'	220.00'	6°51'06"
C63	24.39'	50.00'	27°55'49"
C64	39.27'	25.00'	89°59'59"
C65	39.27'	25.00'	90°00'00"



VERTICAL DATUM  
CITY OF FERDALE DATUM;  
BENCHMARKS: 304 AND 306

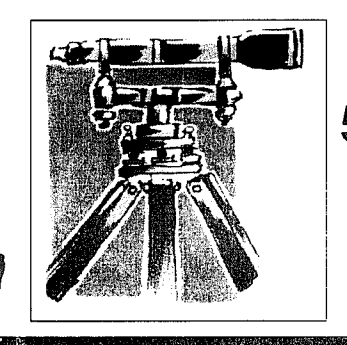
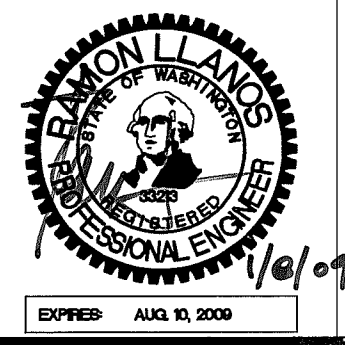
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WASHINGTON STATE NORTH ZONE NAD 83/91

DRAWN BY: SR DATE: 12/23/2008  
CHECKED BY: RL DATE: 12/23/2008

JOB # 06010

**LARSEN'S CHURCH HILL ESTATES**

FOR: **SKY VIEW LANDS, LLC**



**LDES, INC.**  
5160 INDUSTRIAL PL #108  
FERDALE, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

**LARSEN'S CHURCH HILL ESTATES**  
SUBDIVISION PLAN  
**AS-BUILT DRAWINGS**

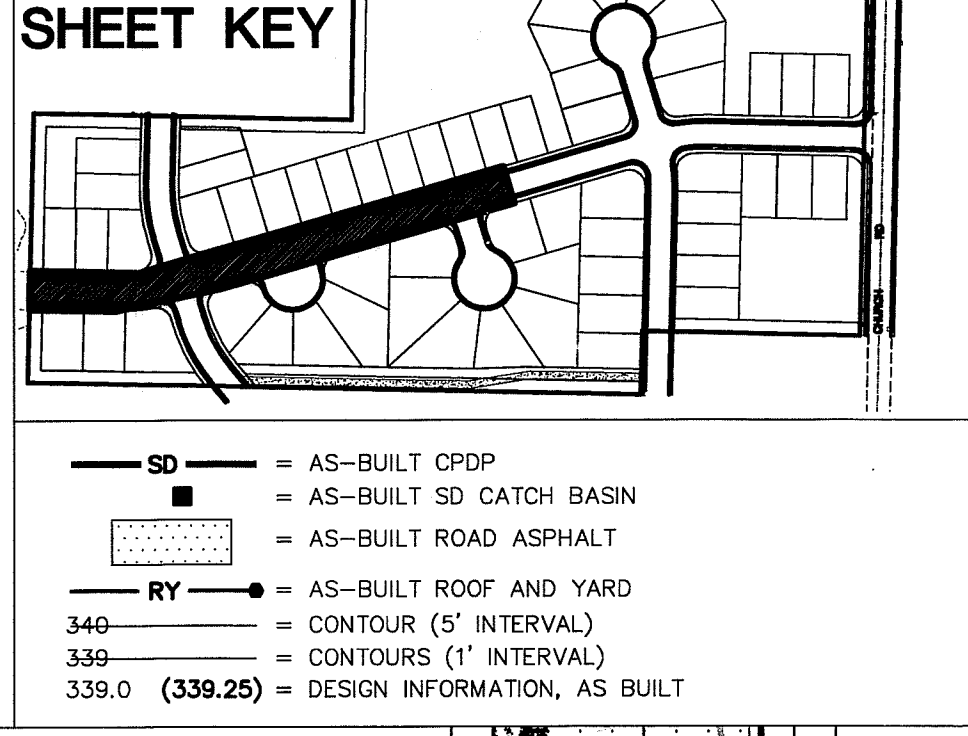
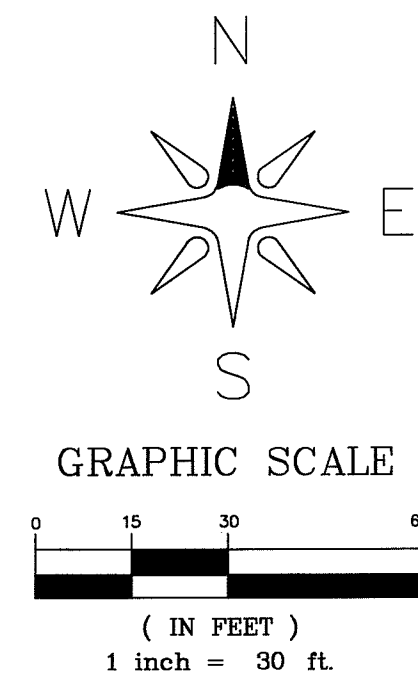
REVISIONS - INITIALS/DATE/CMS	SHEET
SR 12/26/07 SUBMITTAL No. 1	<b>03</b> OF 32
SR 6/10/08 SUBMITTAL No. 2	
SR 7/15/08 SUBMITTAL No. 3	
SR 9/30/08 SUBMITTAL No. 4	

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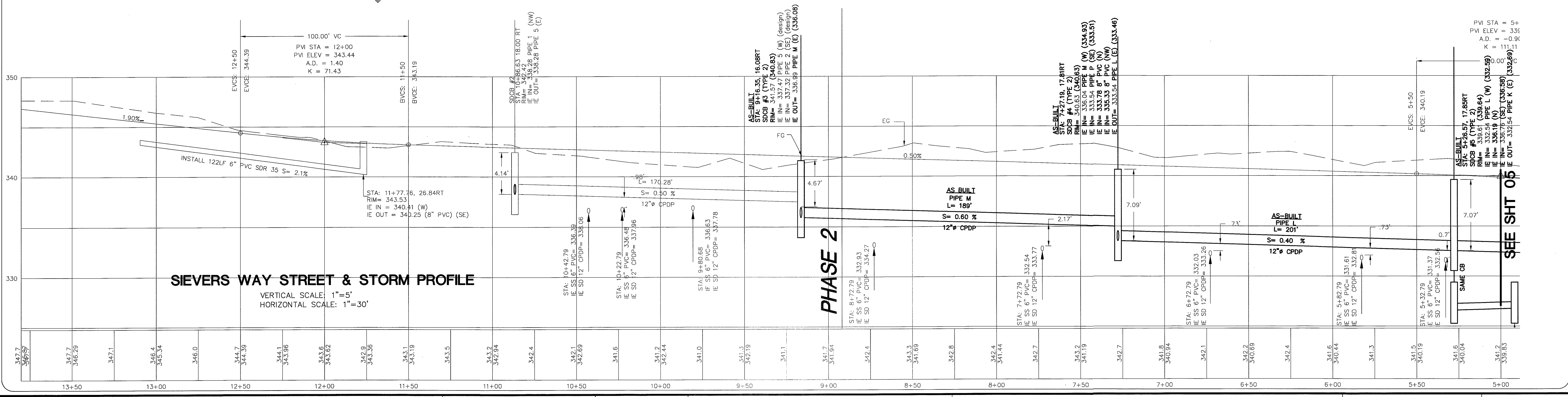
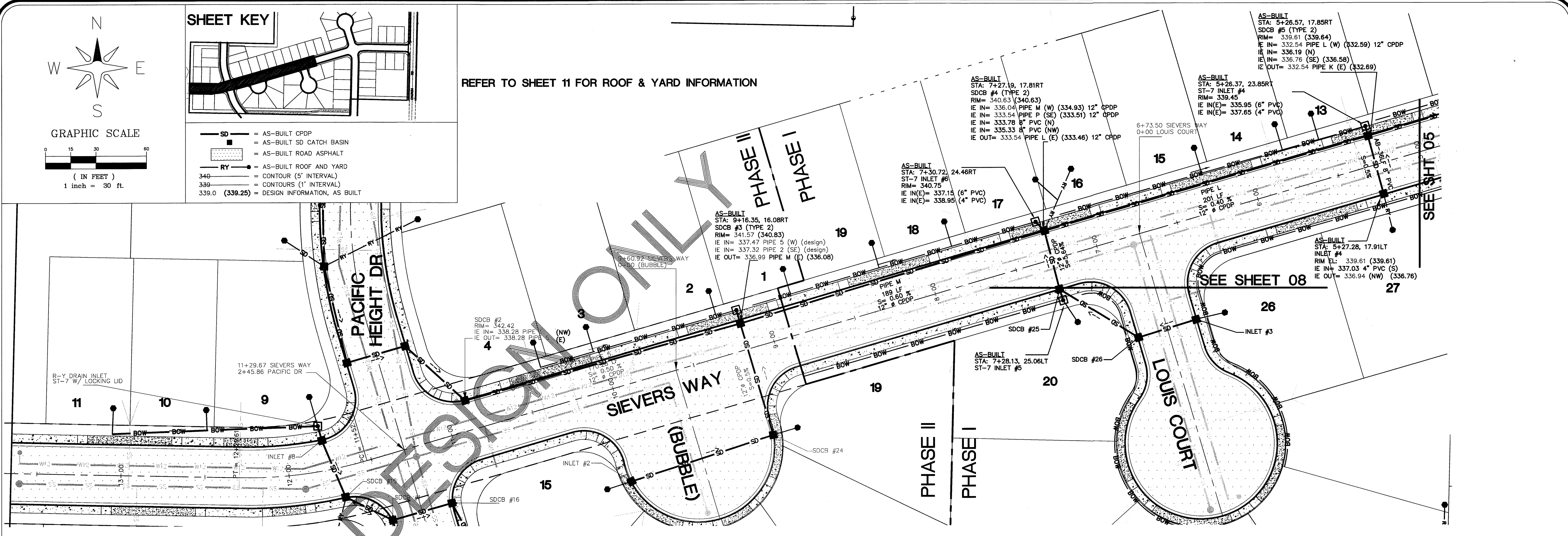
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REFER TO SHEET 11 FOR ROOF & YARD INFORMATION



DRAWN BY: SR DATE: 12/23/2008  
CHECKED BY: RL DATE: 12/23/2008  
JOB # 06010 FOR: SKY VIEW LANDS, LLC

LARSEN'S CHURCH HILL ESTATES  
LDES, INC.  
5160 INDUSTRIAL PL #108  
FERNDALE, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

LARSEN'S CHURCH HILL ESTATES  
STREET & STORM DRAINAGE  
PLAN AND PROFILE  
SIEVERS WAY  
AS-BUILT DRAWINGS

REVISIONS - INITIALS/DATE/CMS  
SHEET 04 OF 32

NO.	DATE	DESCRIPTION
SR 12/26/07		SUBMITTAL No. 1
SR 6/10/08		SUBMITTAL No. 2
SR 7/15/08		SUBMITTAL No. 3
SR 9/30/08		SUBMITTAL No. 4

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BY: [Signature]



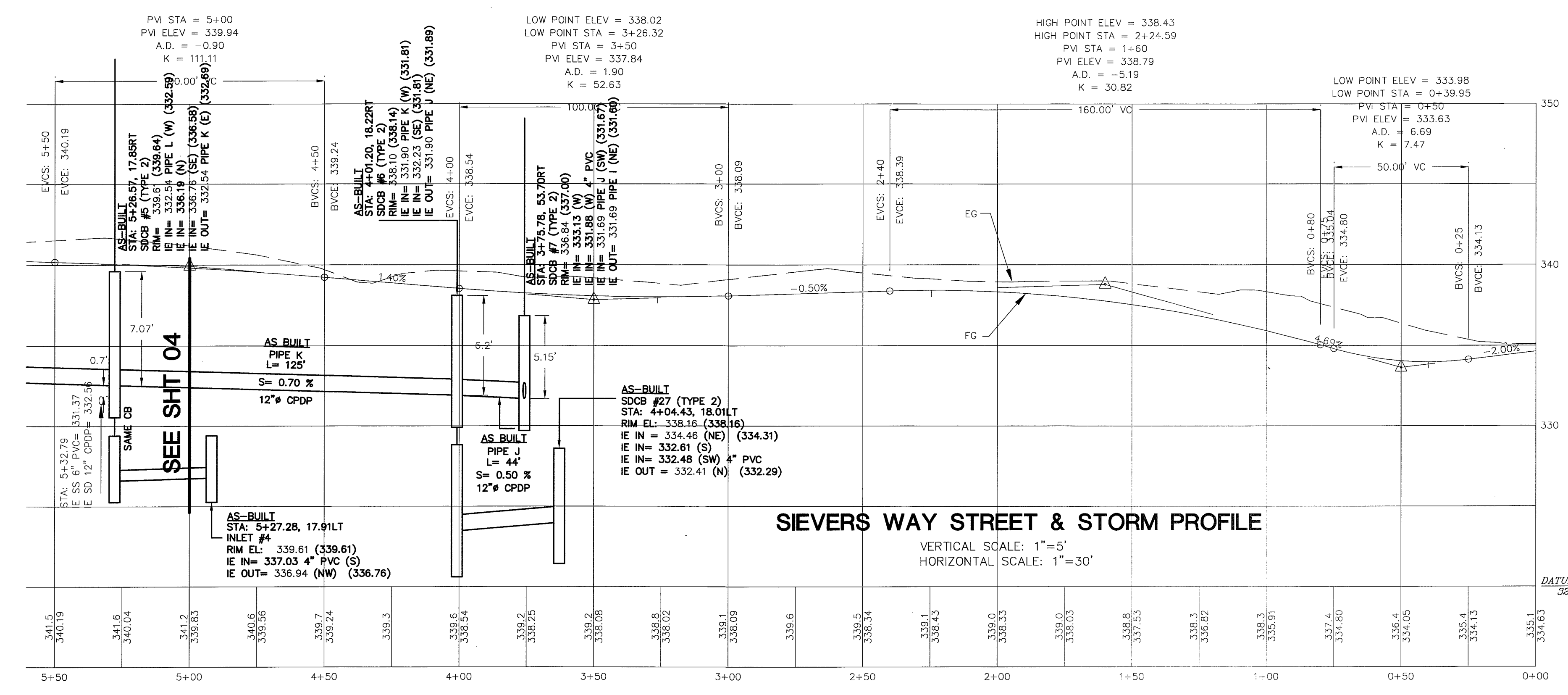
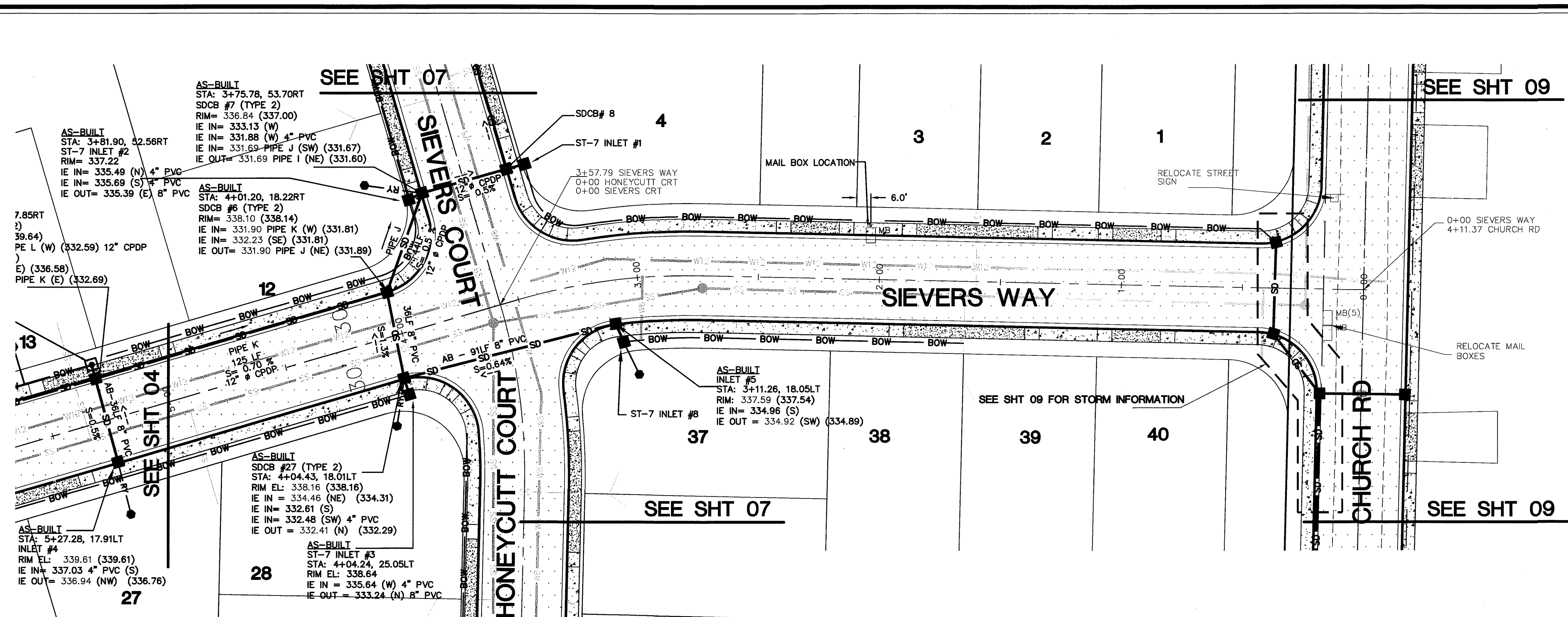
00394.005 7-13-09 DD

**SHEET KEY**

**LEGEND:**

- SD = AS-BUILT CPDP
- AS-BUILT SD CATCH BASIN
- AS-BUILT ROAD ASPHALT
- RY = AS-BUILT ROOF AND YARD
- 340 = CONTOUR (5' INTERVAL)
- 330 = CONTOURS (1' INTERVAL)
- 339.0 (339.25) = DESIGN INFORMATION, AS BUILT

REFER TO SHEET 11 FOR ROOF & YARD INFORMATION

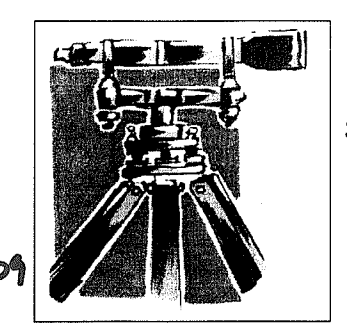
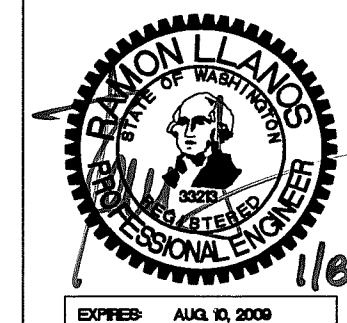


APPROVED  
BY: *RC*  
CITY OF FERNDALE

DRAWN BY: SR DATE: 12/23/2006  
CHECKED BY: RL DATE: 12/23/2006

**LARSEN'S CHURCH HILL ESTATES**

JOB # 06010 FOR: SKY VIEW LANDS, LLC



**LDES, INC.**  
5160 INDUSTRIAL PL #108  
FERNDALE, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

**LARSEN'S CHURCH HILL ESTATES**  
STREET & STORM DRAINAGE  
PLAN AND PROFILE  
SIEVERS WAY  
**AS-BUILT DRAWINGS**

REVISIONS - INTIALS/DATE/CMS	SHEET
SR 12/28/07 SUBMITTAL No. 1	<b>05</b> OF 32
SR 6/10/08 SUBMITTAL No. 2	
SR 7/15/08 SUBMITTAL No. 3	
SR 9/30/08 SUBMITTAL No. 4	

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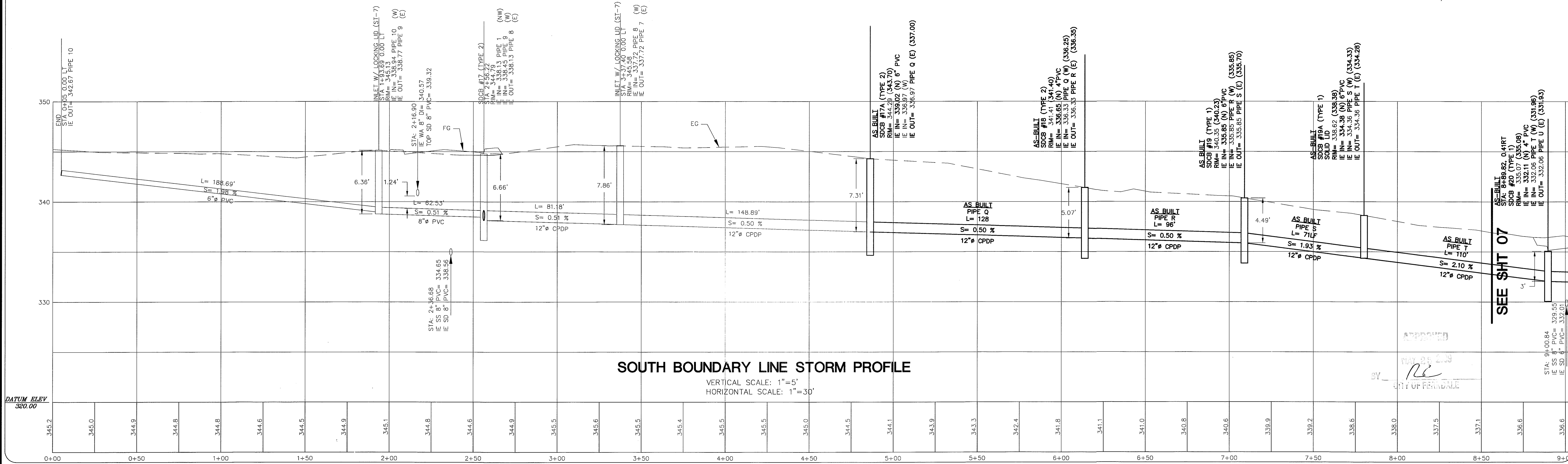
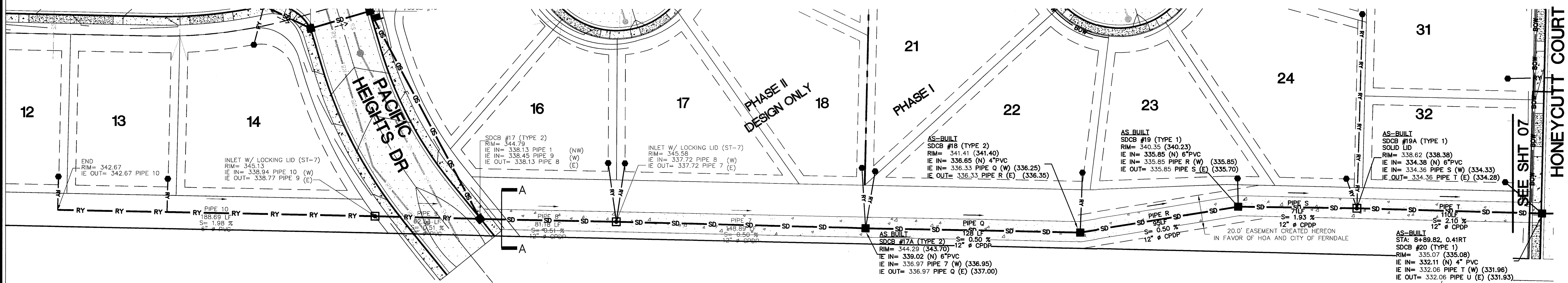
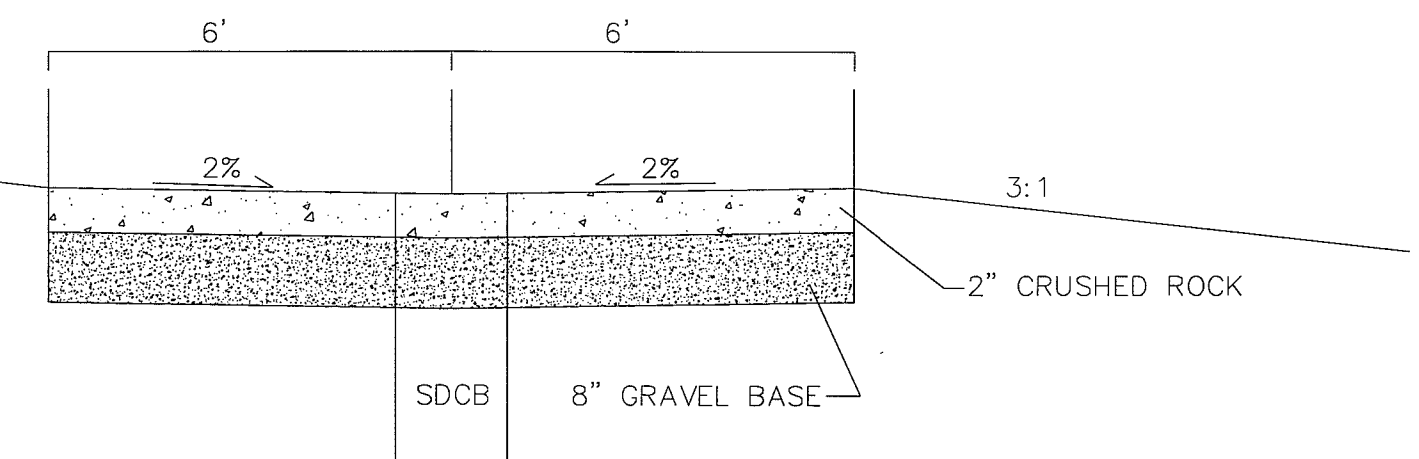
00344.006 7-13-09 DD

REFER TO SHEET 11 FOR ROOF & YARD INFORMATION

**SHEET KEY**

**GRAPHIC SCALE**  
1 inch = 30 ft.

- AS-BUILT CPDP
- AS-BUILT SD CATCH BASIN
- AS-BUILT ROAD ASPHALT
- AS-BUILT ROOF AND YARD
- CONTOUR (5' INTERVAL)
- CONTOURS (1' INTERVAL)
- DESIGN INFORMATION, AS BUILT



DRAWN BY: SH DATE: 12/23/2009  
CHECKED BY: RL DATE: 12/23/2009

**LARSEN'S CHURCH HILL ESTATES**

**JOB # 06010 FOR: SKY VIEW LANDS, LLC**

**LARSEN'S CHURCH HILL ESTATES**  
STORM DRAINAGE  
PLAN AND PROFILE  
SOUTH BOUNDARY LINE  
**AS-BUILT DRAWINGS**

**REVISIONS - INITIALS/DATE/CMS**

SR 12/26/07	SUBMITTAL No. 1
SR 6/10/08	SUBMITTAL No. 2
SR 7/15/08	SUBMITTAL No. 3
SR 9/30/08	SUBMITTAL No. 4

**SHEET 06 OF 32**

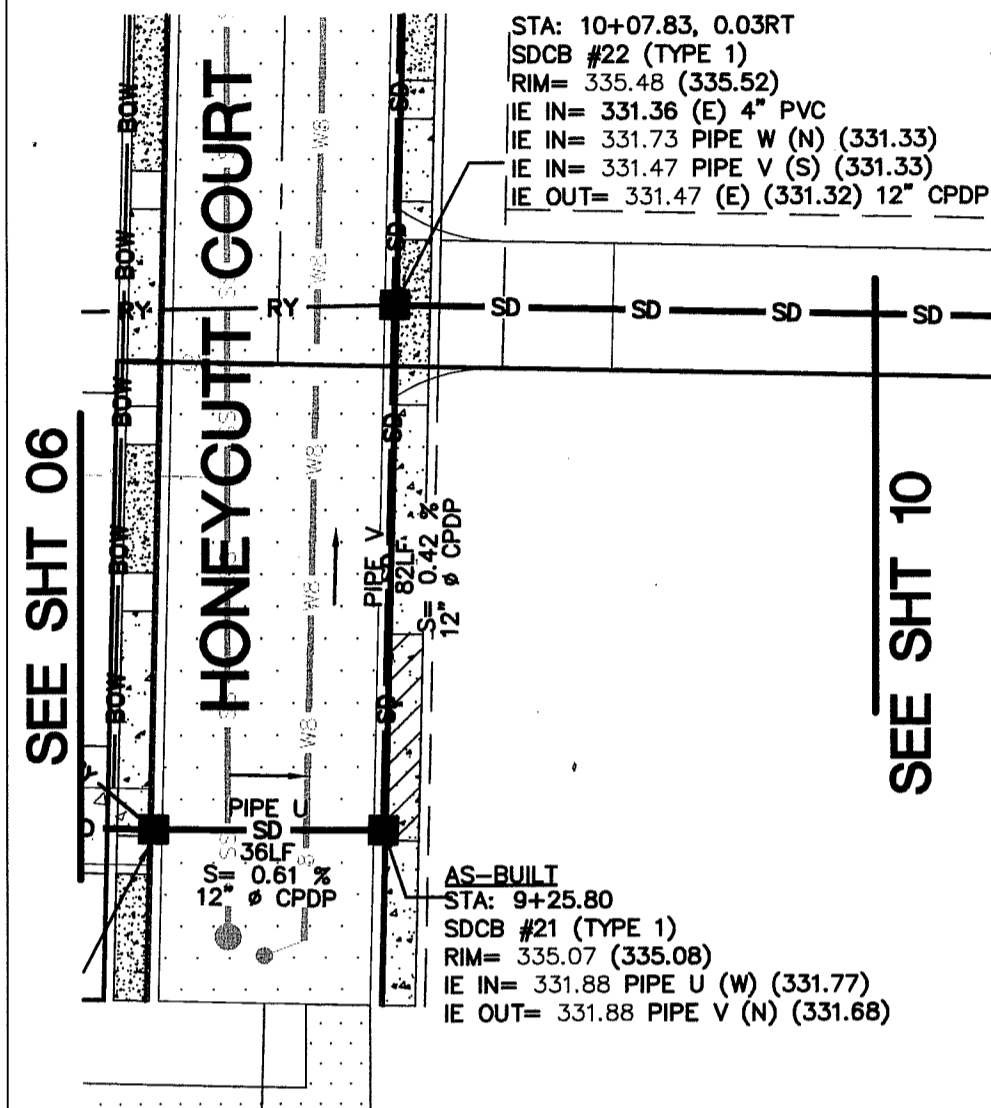
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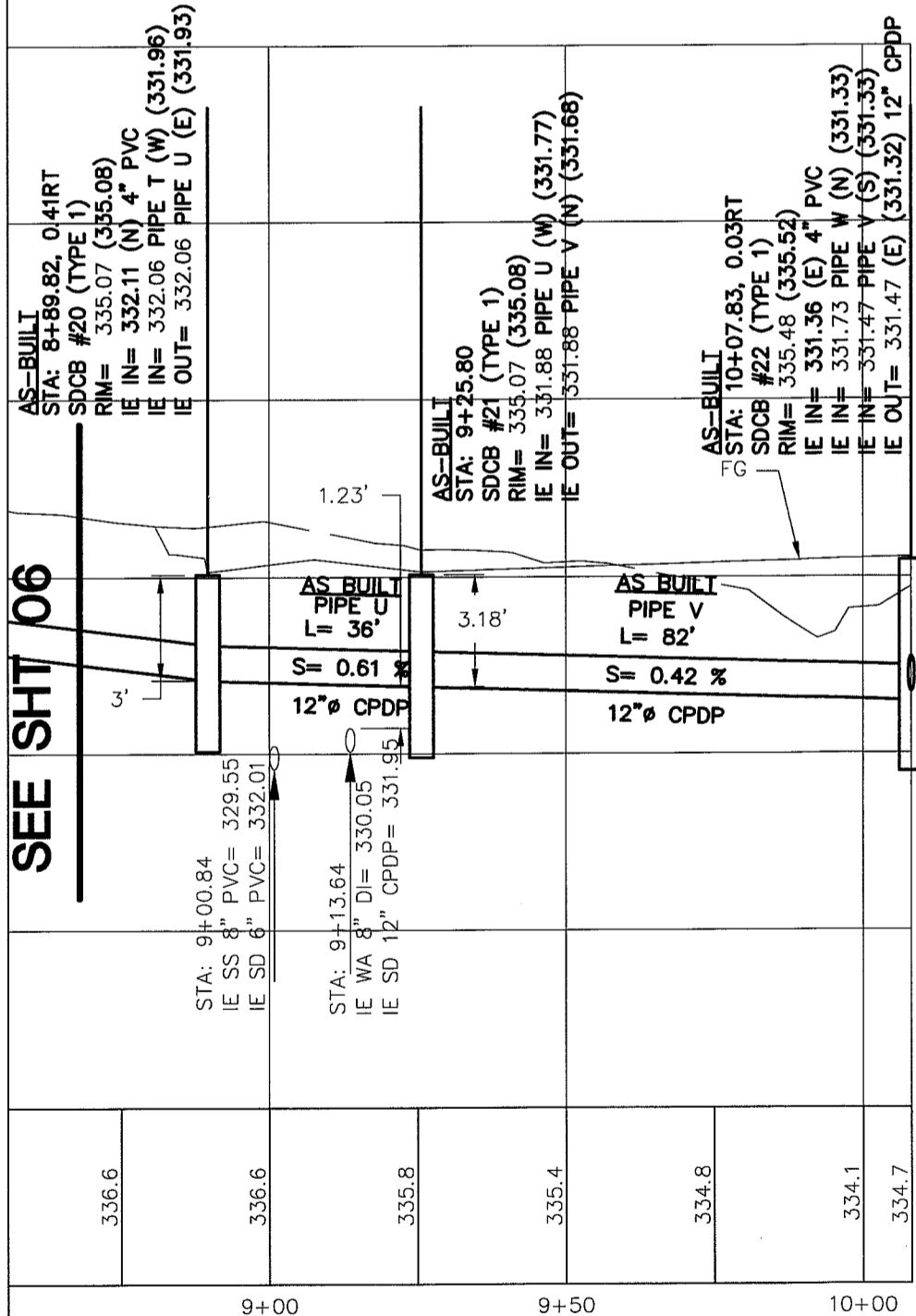
GRAPHIC SCALE

( IN FEET )  
1 inch = 30 ft.

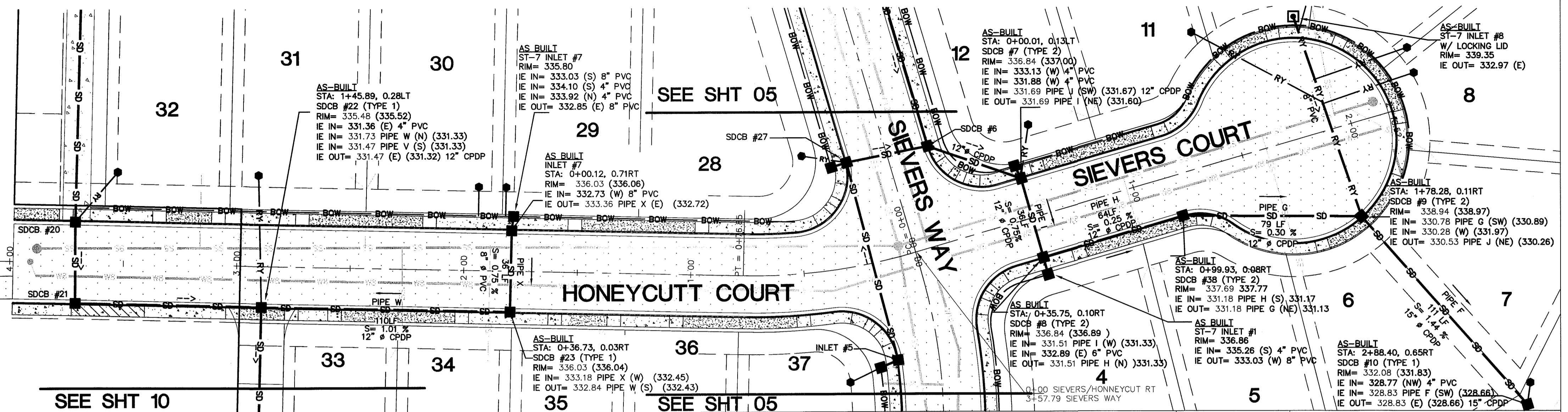


SEE SHT 06

SEE SHT 10



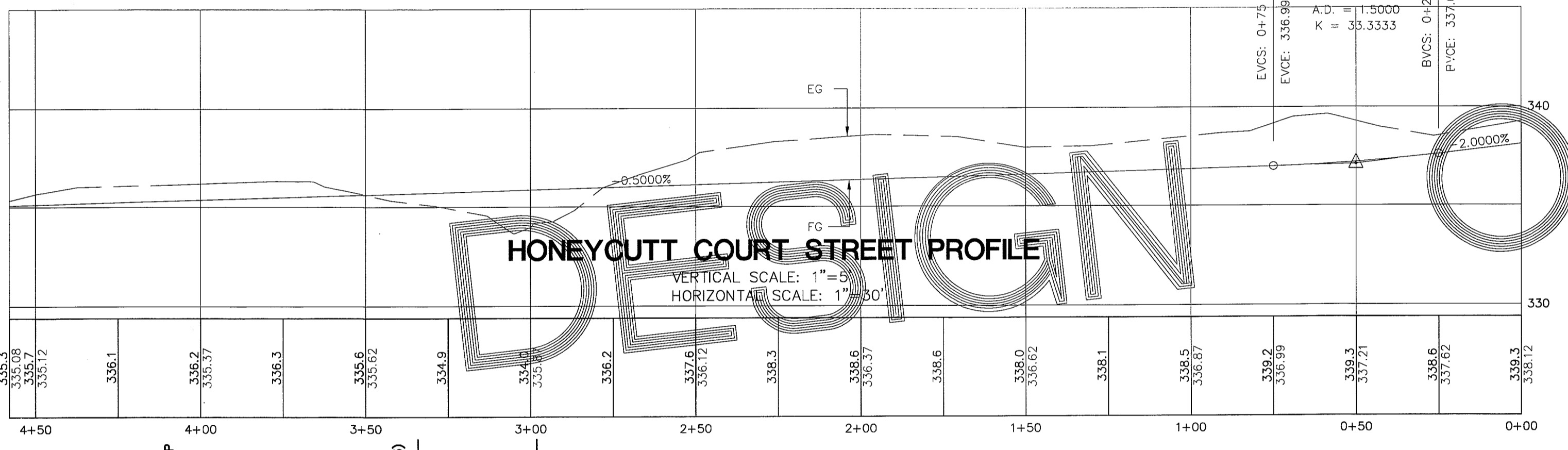
**SOUTH BOUNDARY LINE STORM PROFILE**  
VERTICAL SCALE: 1"=5'  
HORIZONTAL SCALE: 1"=30'



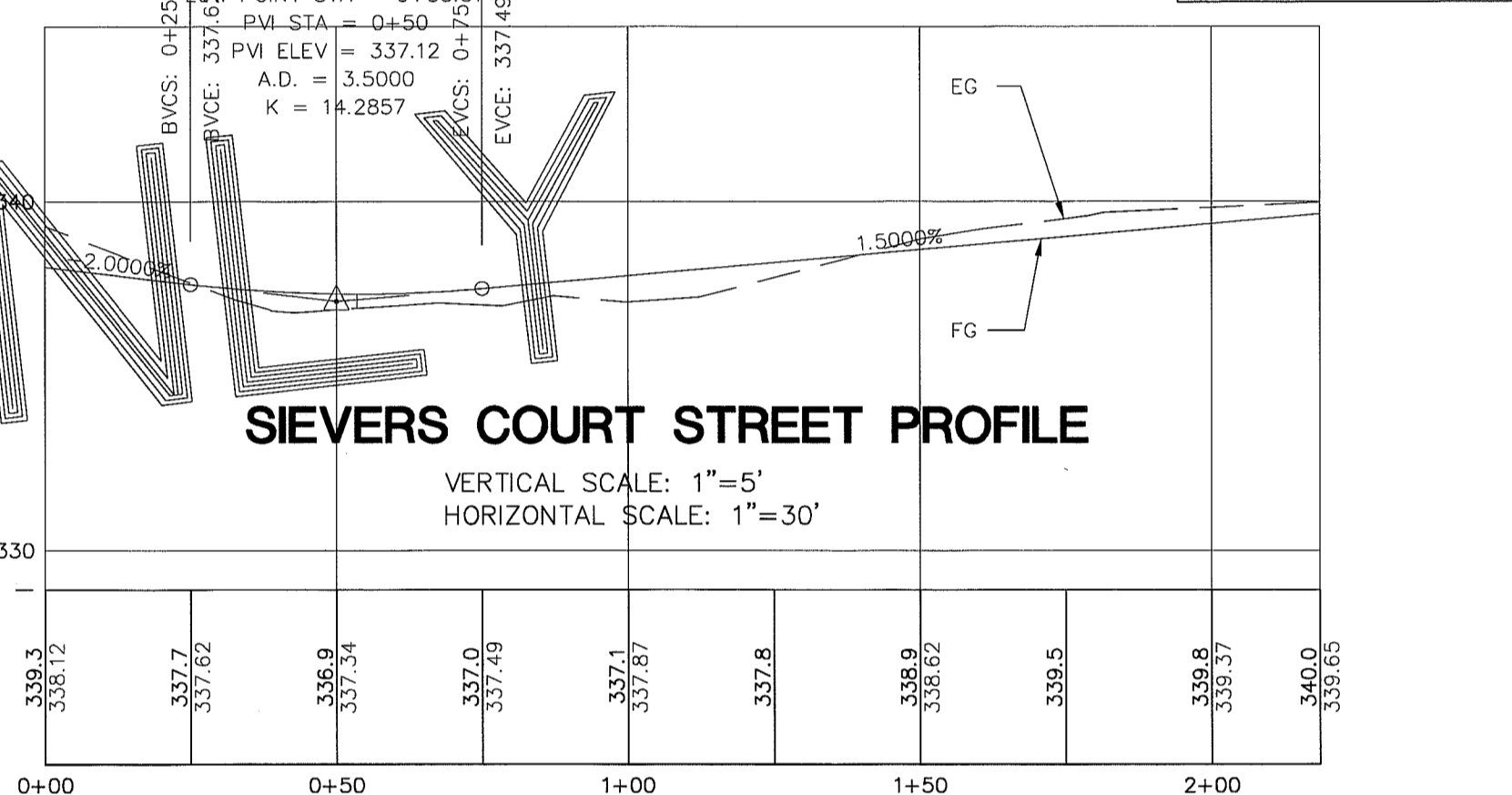
SEE SHT 10

SEE SHT 05

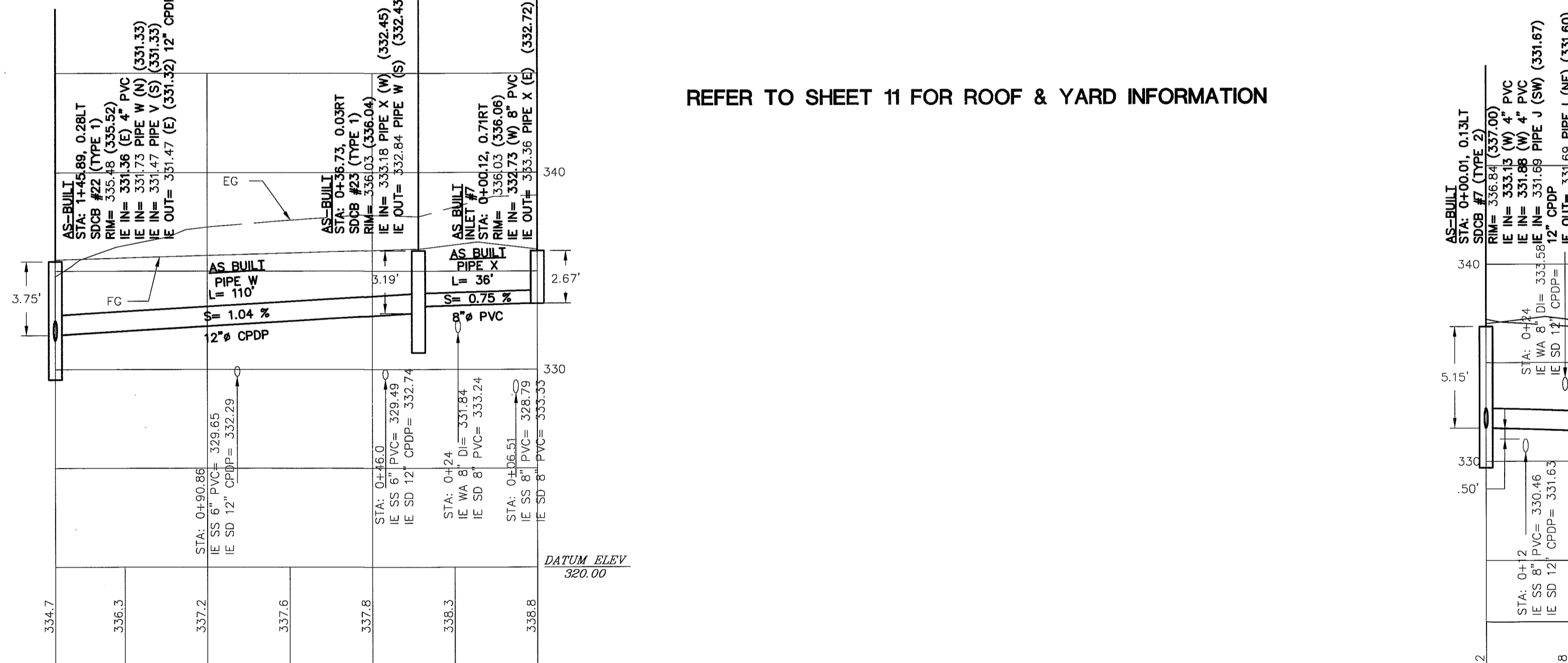
SEE SHT 05



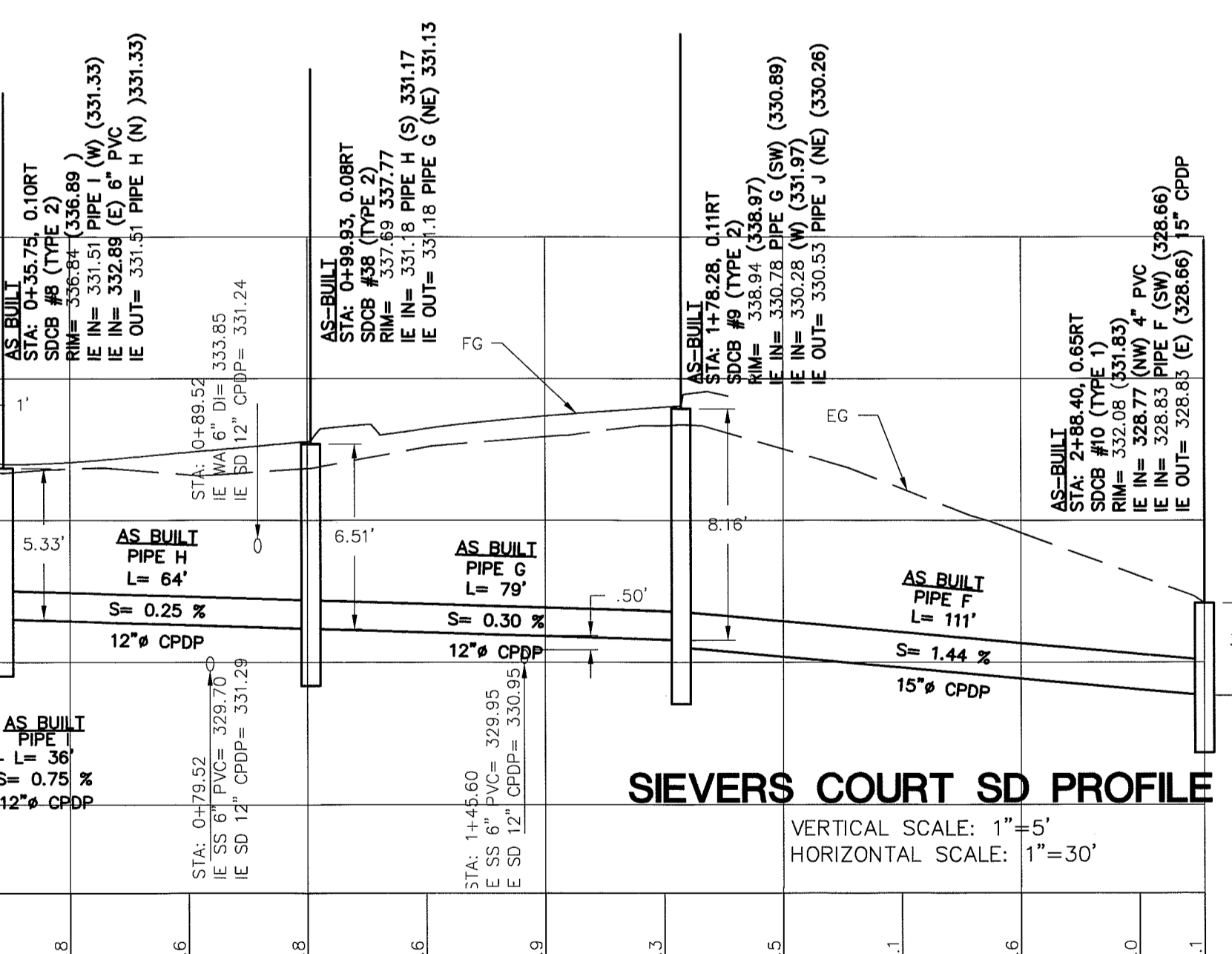
**HONEYCUTT COURT STREET PROFILE**  
VERTICAL SCALE: 1"=5'  
HORIZONTAL SCALE: 1"=30'



**SIEVERS COURT STREET PROFILE**  
VERTICAL SCALE: 1"=5'  
HORIZONTAL SCALE: 1"=30'



**HONEYCUTT COURT STORM DRAIN PROFILE**  
VERTICAL SCALE: 1"=5'  
HORIZONTAL SCALE: 1"=30'

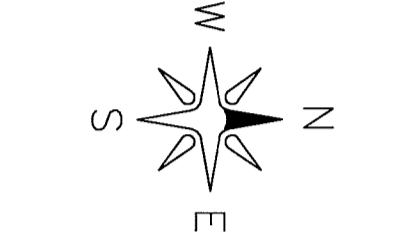
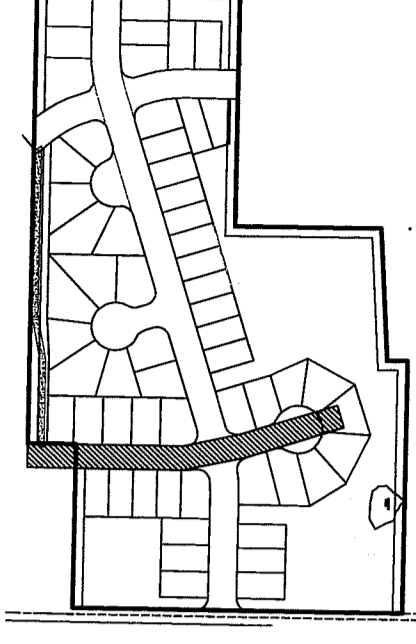


**SIEVERS COURT SD PROFILE**  
VERTICAL SCALE: 1"=5'  
HORIZONTAL SCALE: 1"=30'

REFER TO SHEET 11 FOR ROOF & YARD INFORMATION

DESIGN ONLY

SHEET KEY



GRAPHIC SCALE

( IN FEET )  
1 inch = 30 ft.

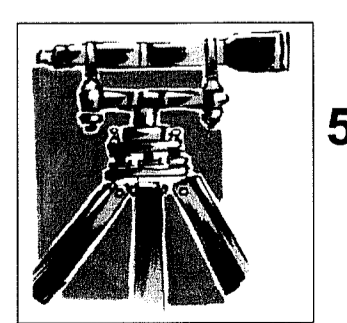
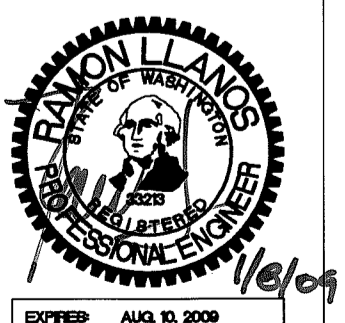
00394.007 7-13-09 DD

DRAWN BY SR DATE 12/23/2009  
CHECKED BY RL DATE 12/23/2009

**LARSEN'S CHURCH HILL ESTATES**

JOB # 06010

FOR: SKY VIEW LANDS, LLC



LDES, INC.  
5160 INDUSTRIAL PL #108  
FERNDALE, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

**LARSEN'S CHURCH HILL ESTATES**  
STREET AND STORM DRAINAGE  
PLAN AND PROFILE  
HONEYCUTT AND SIEVERS CRT  
**AS-BUILT DRAWINGS**

REVISIONS - INITIALS/DATE/CMS	SHEET
SR 12/26/07 SUBMITTAL No. 1	<b>07</b> OF 32
SR 6/10/09 SUBMITTAL No. 2	
SR 9/23/08 SUBMITTAL No. 3	
SR 9/30/08 SUBMITTAL No. 4	

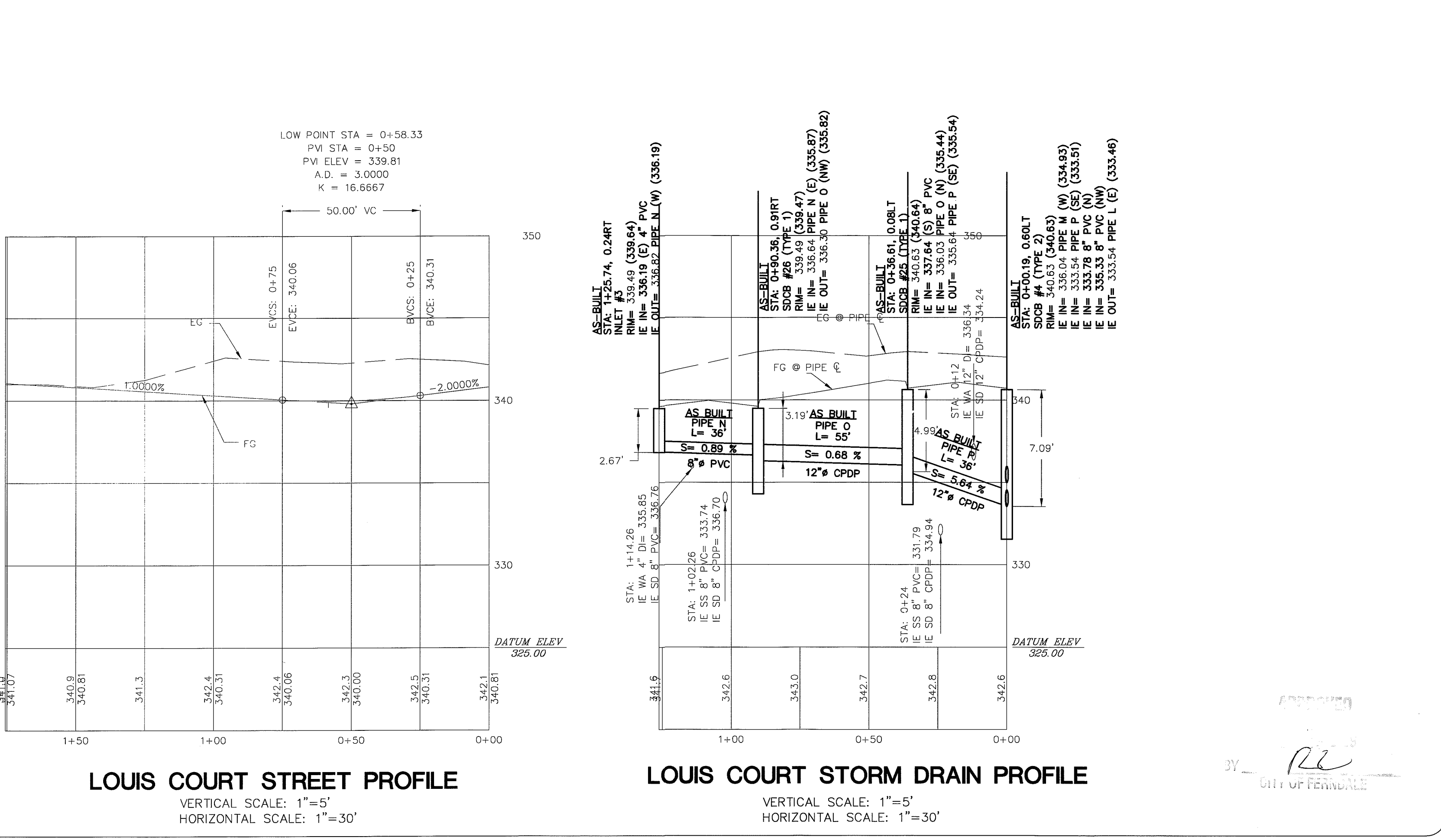
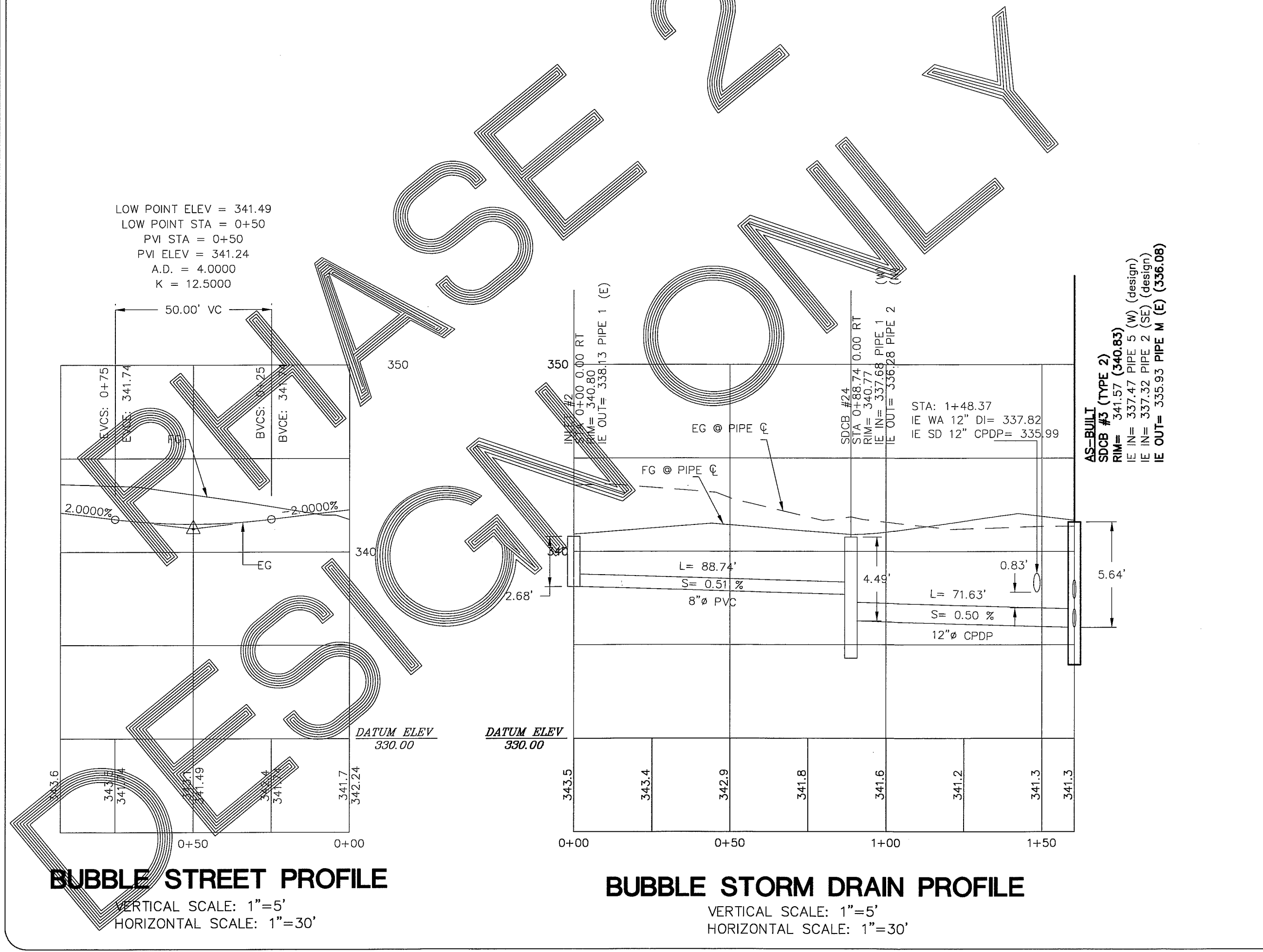
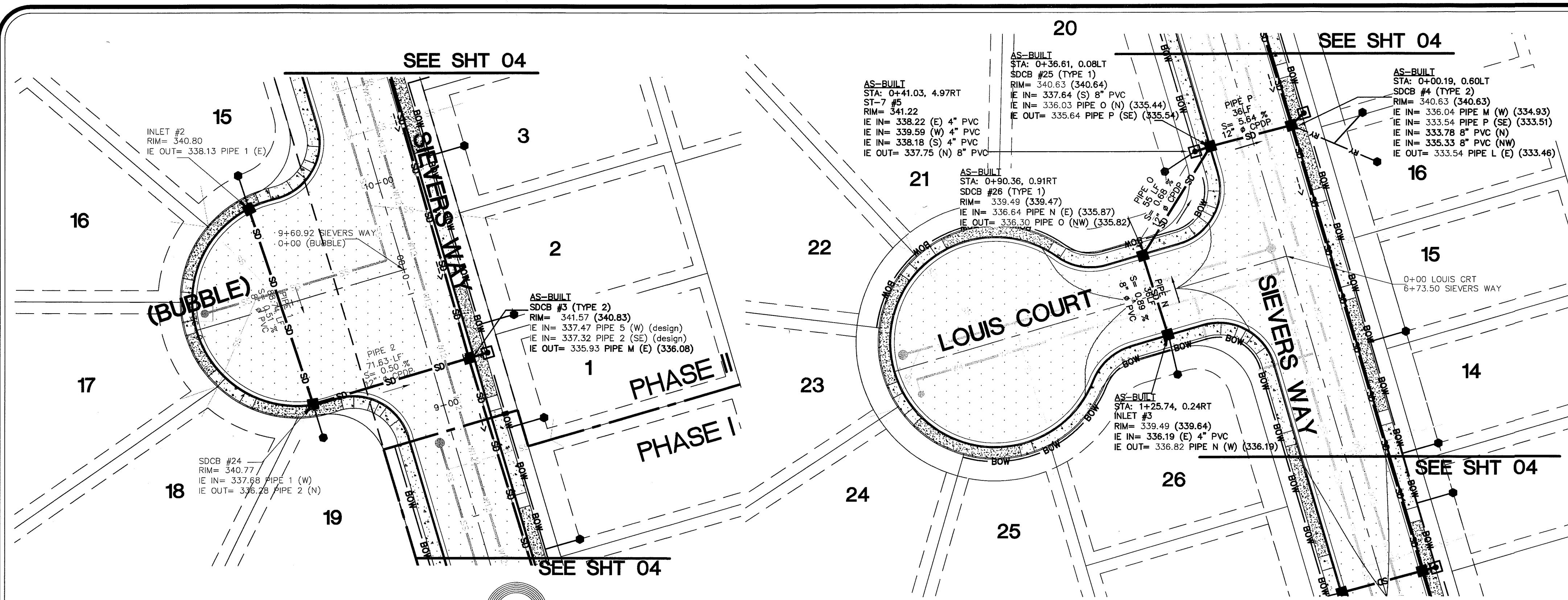


00394.008 7-13-09 DD

**SHEET KEY**

GRAPHIC SCALE  
( IN FEET )  
1 inch = 30 ft.

REFER TO SHEET 11 FOR ROOF & YARD INFORMATION



DRAWN BY SP DATE 12/23/2008  
CHECKED BY RL DATE 12/23/2008

**LARSEN'S CHURCH HILL ESTATES**

JOB # 06010 FOR: SKY VIEW LANDS, LLC

**LARSEN'S CHURCH HILL ESTATES**  
STREET & STORM DRAINAGE  
PLAN AND PROFILE  
LOUIS COURT  
**AS-BUILT DRAWINGS**

REVISIONS - INITIALS/DATE/CMS

SR 12/28/07	SUBMITTAL No. 1
SR 6/10/08	SUBMITTAL No. 2
SR 7/15/08	SUBMITTAL No. 3
SR 9/30/08	SUBMITTAL No. 4

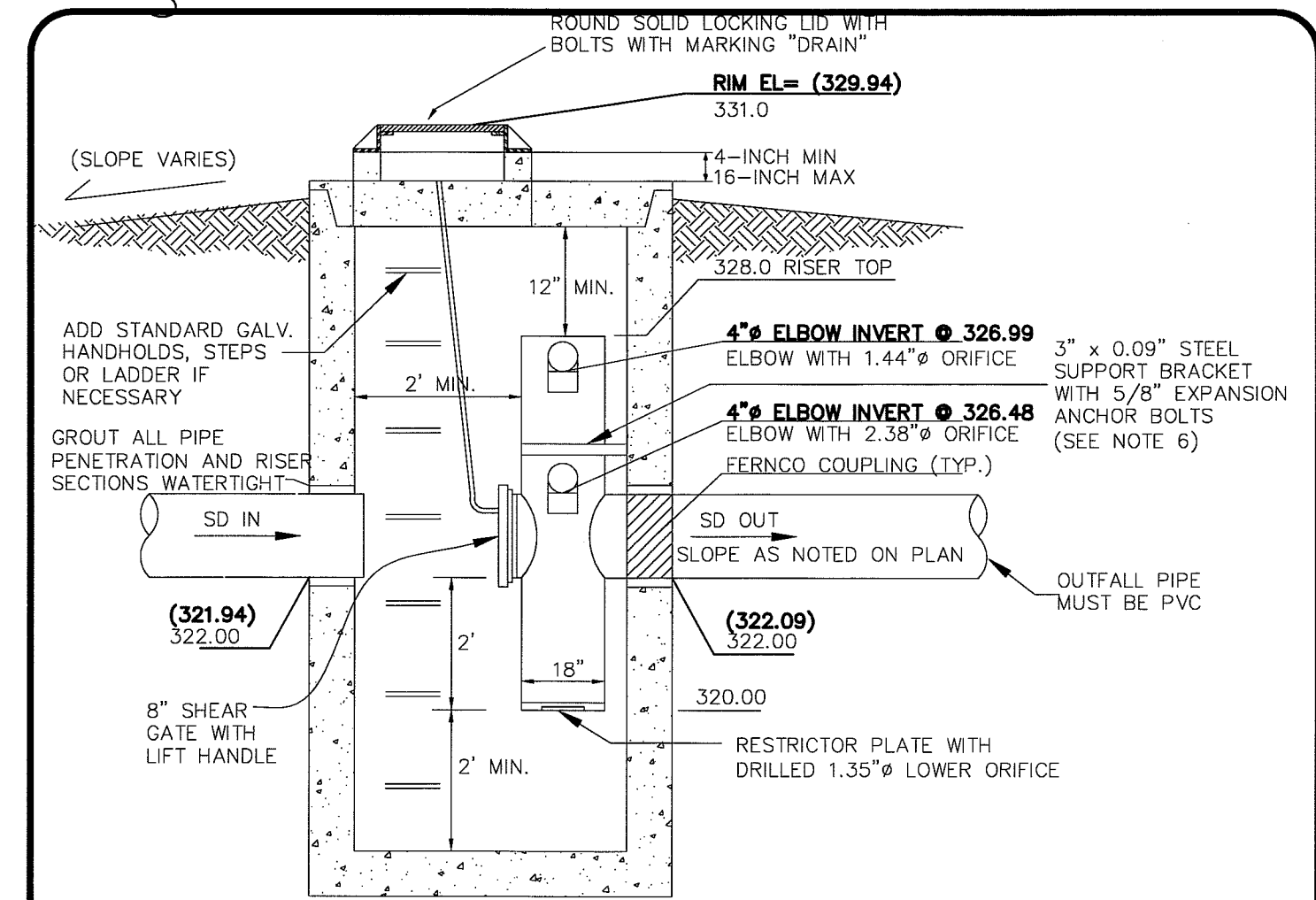
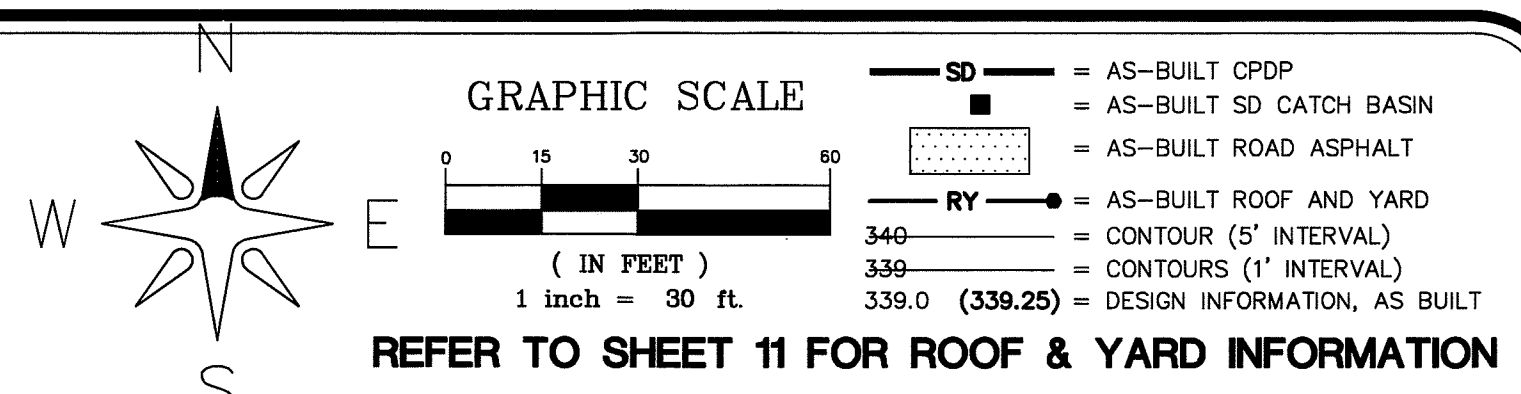
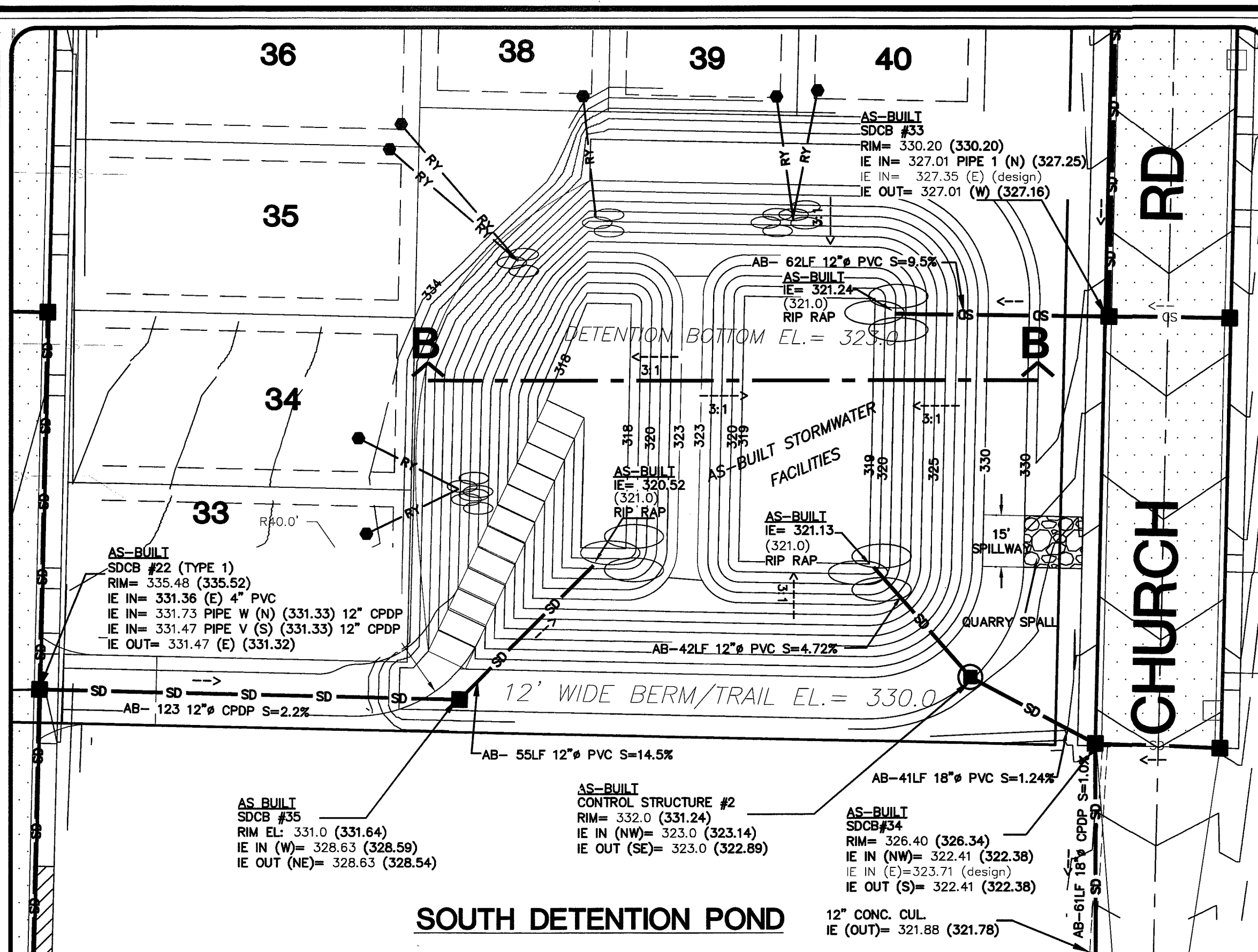
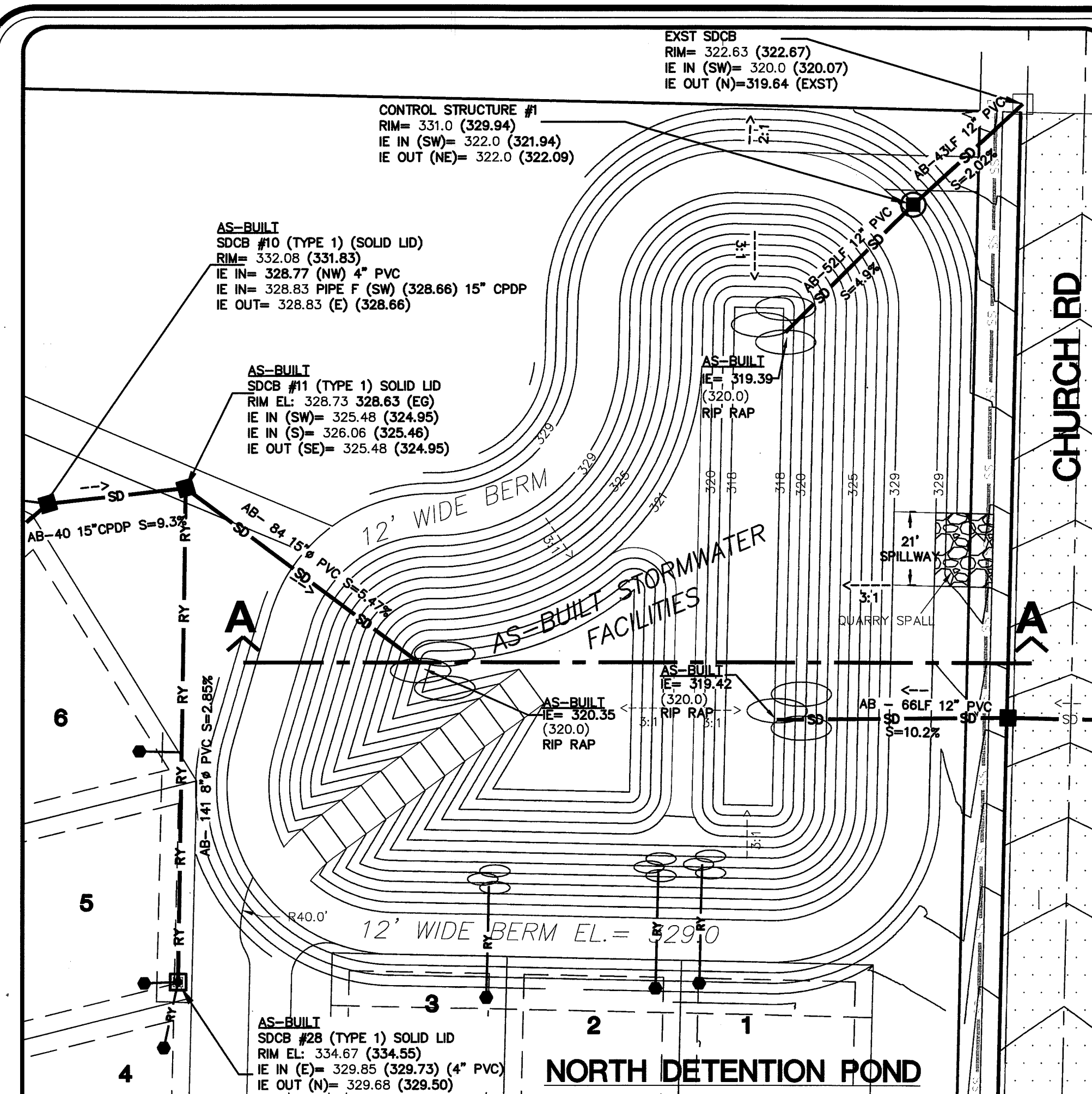
SHEET **08** OF 32

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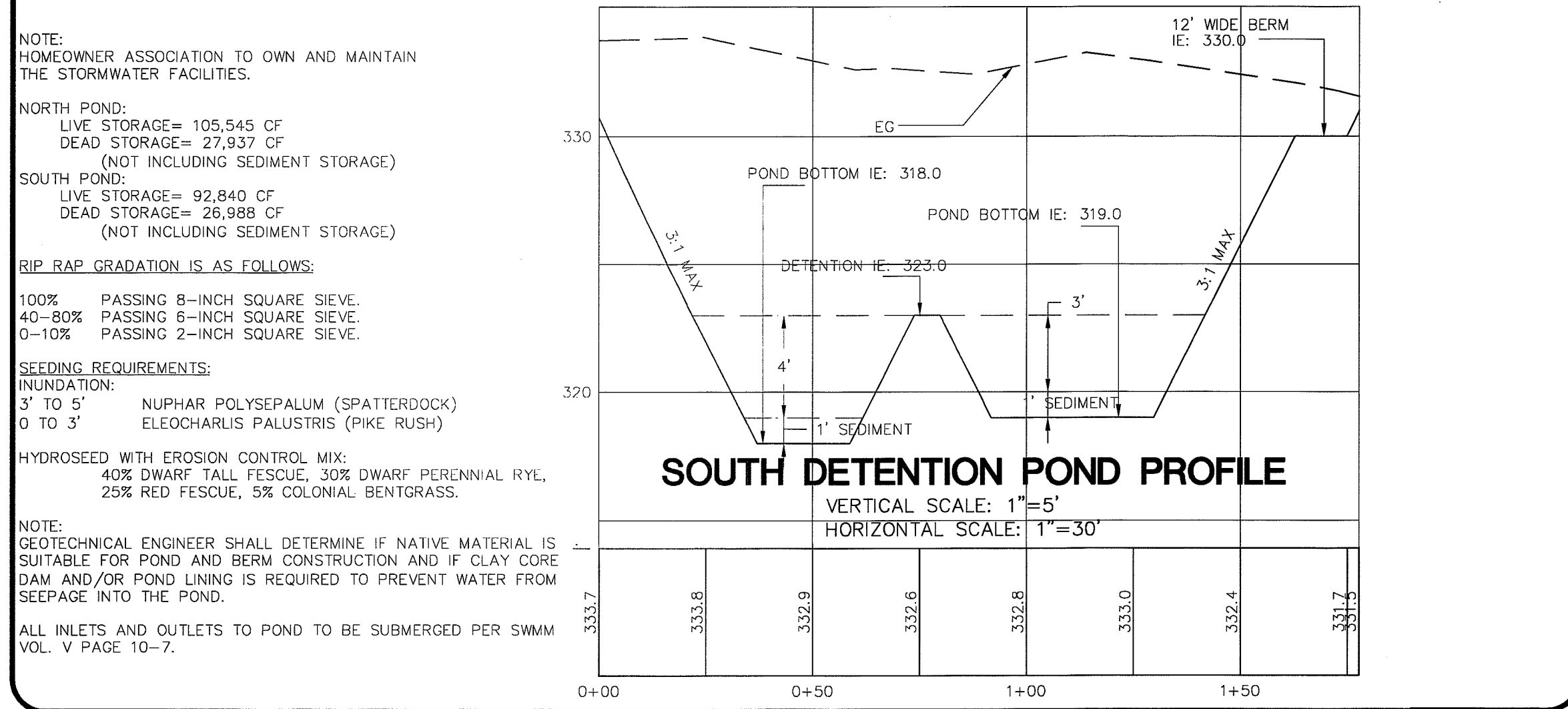
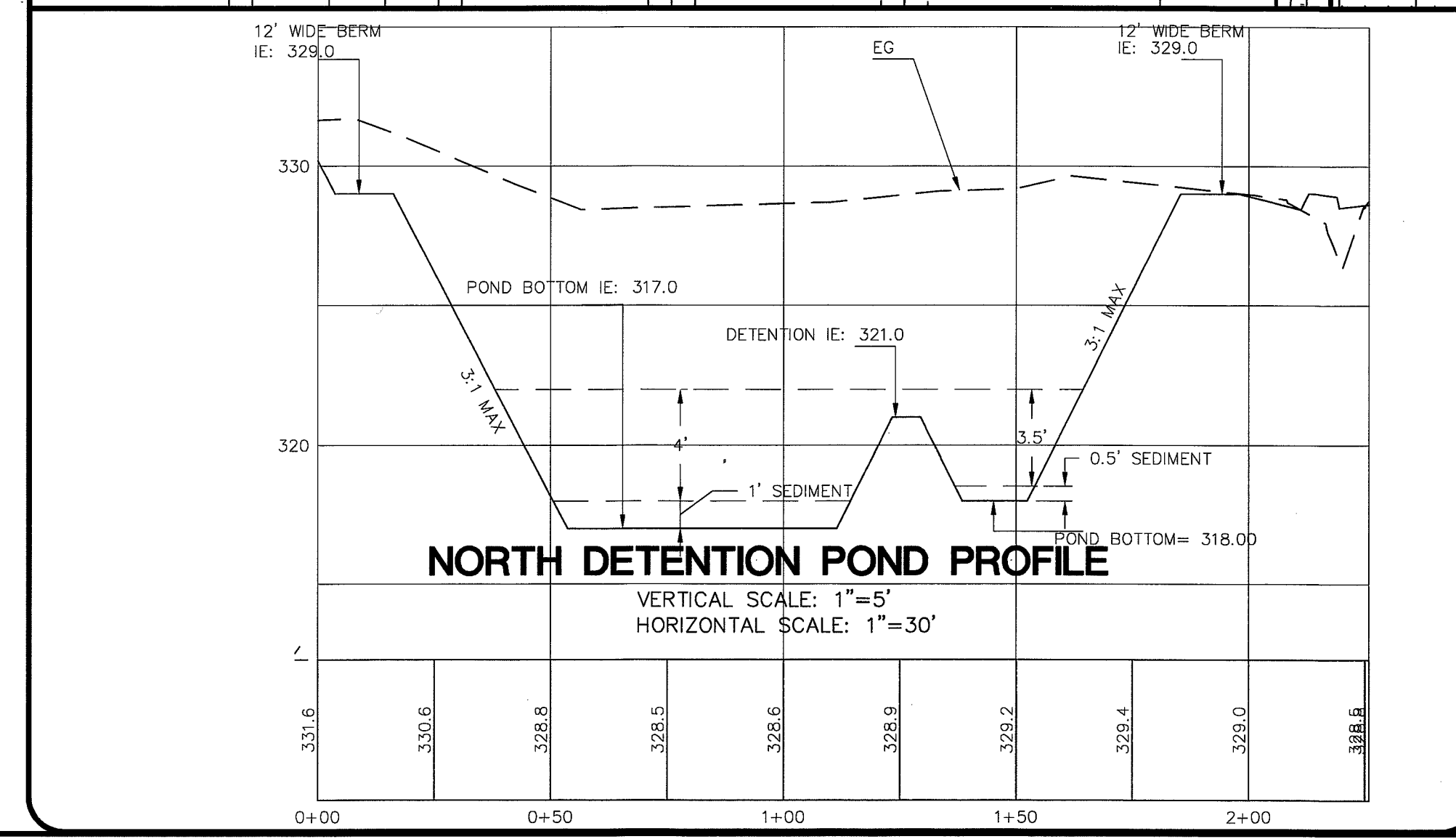
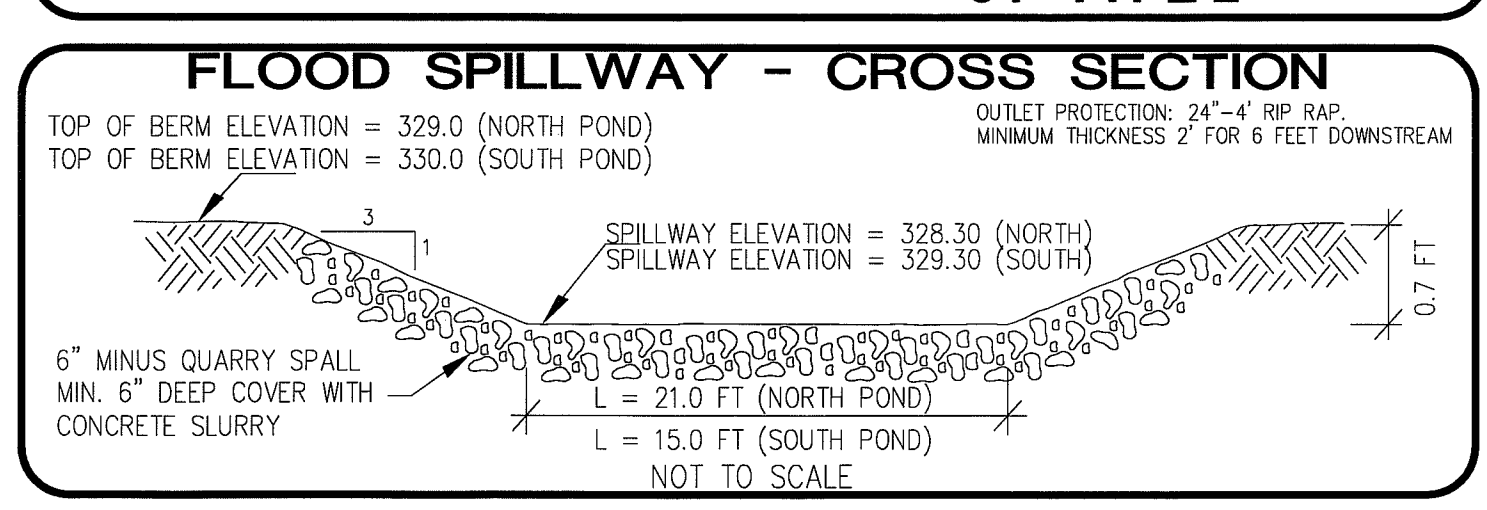
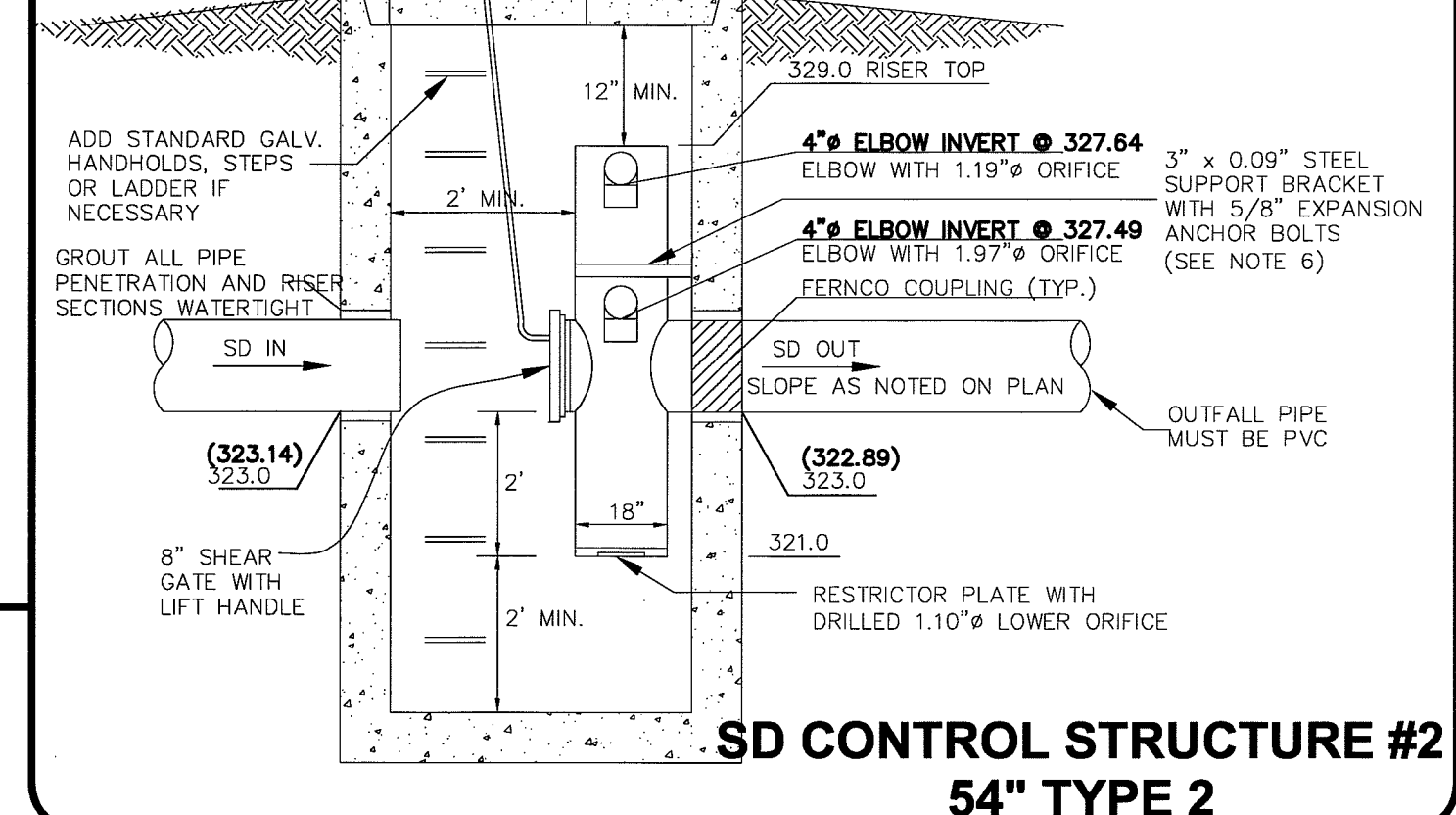
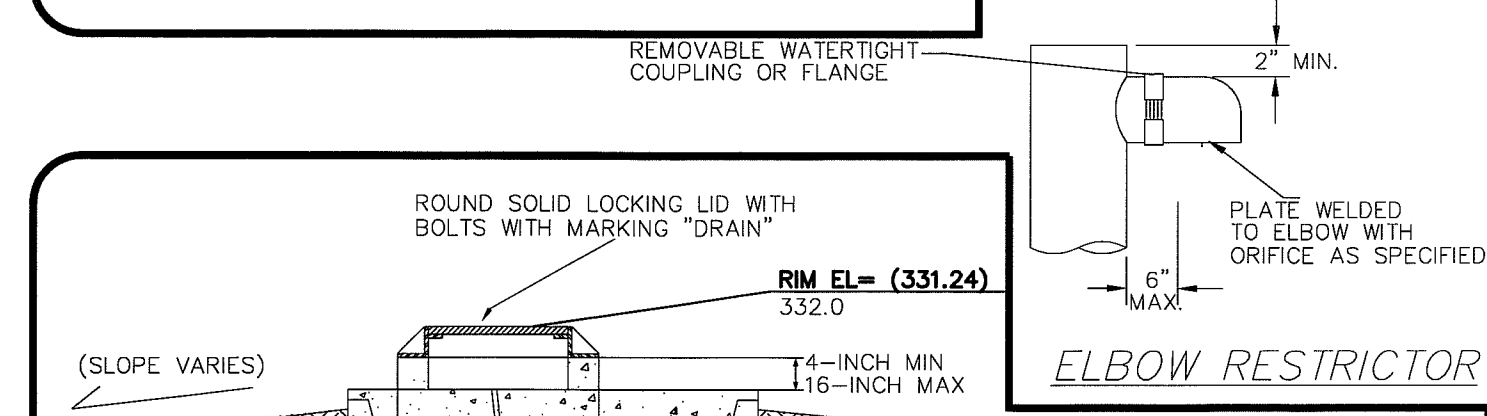






**GENERAL NOTES:**

- ELBOW DIAMETERS SHALL BE LARGER THAN ORIFICE DIAMETERS, TYPICAL.
- ALL PARTS SHALL BE STAINLESS STEEL, ALUMINUM, OR ALUMINIZED STEEL.
- OFFSET FRAME AND LADDER OR STEPS SO CLEANOUT GATE IS VISIBLE FROM TOP AND SO CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE.
- LOCATE ELBOW RESTRICTOR(S) AS NECESSARY TO PROVIDE MINIMUM CLEARANCE AS SHOWN.
- USE EX. MANHOLE AS FEASIBLE AND INSTALL NEW INLET PIPE AND OUTLET CONTROL STRUCTURE.
- THE PIPE SUPPORTS AND THE RESTRICTOR/SEPARATOR SHALL BE CONSTRUCTED OF THE SAME MATERIAL AND BE ANCHORED AT A MAXIMUM SPACING OF 36 INCHES. ATTACHED TO THE PIPE SUPPORTS TO THE MANHOLE WITH 5/8 INCH STAINLESS STEEL EXPANSION BOLTS OR EMBED THE SUPPORTS INTO THE MANHOLE WALL 2 INCHES.



**NOTE:**  
HOMEOWNER ASSOCIATION TO OWN AND MAINTAIN THE STORMWATER FACILITIES.

**NORTH POND:**  
LIVE STORAGE= 105,545 CF  
DEAD STORAGE= 27,937 CF  
(NOT INCLUDING SEDIMENT STORAGE)

**SOUTH POND:**  
LIVE STORAGE= 92,840 CF  
DEAD STORAGE= 26,988 CF  
(NOT INCLUDING SEDIMENT STORAGE)

**RIP RAP GRADATION IS AS FOLLOWS:**

100% PASSING 8-INCH SQUARE SIEVE.  
40-80% PASSING 6-INCH SQUARE SIEVE.  
0-10% PASSING 2-INCH SQUARE SIEVE.

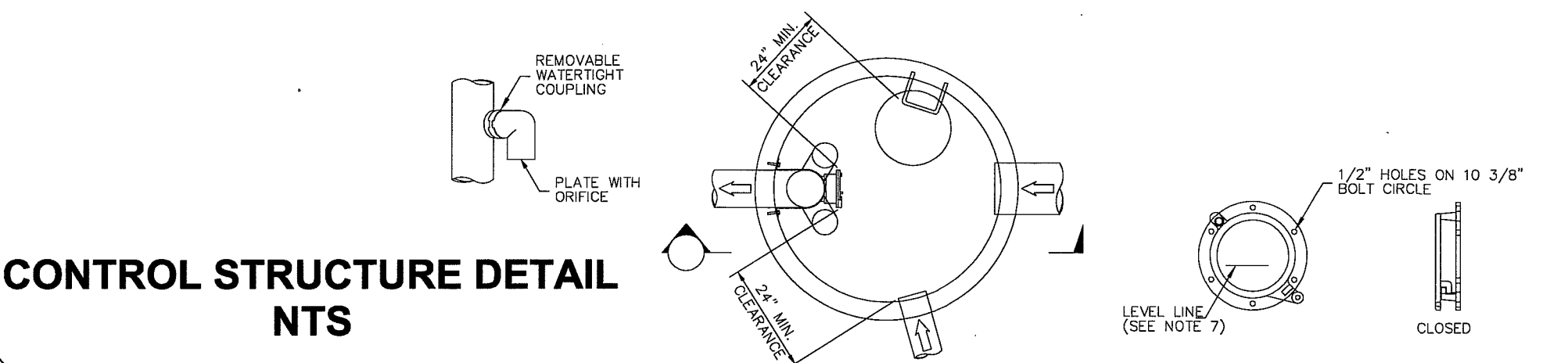
**SEEDING REQUIREMENTS:**

**INUNDATION:**  
3' TO 5' NUPHAR POLYSEPALUM (SPATTERDOCK)  
0 TO 3' ELEOCHARIS PALUSTRIS (PIKE RUSH)

**HYDROSEED WITH EROSION CONTROL MIX:**  
40% DWARF TALL FESCUE, 30% DWARF PERENNIAL RYE,  
25% RED FESCUE, 5% COLONIAL BENTGRASS.

**NOTE:**  
GEOTECHNICAL ENGINEER SHALL DETERMINE IF NATIVE MATERIAL IS SUITABLE FOR POND AND BERM CONSTRUCTION AND IF CLAY CORE DAM AND/OR POND LINING IS REQUIRED TO PREVENT WATER FROM SEEPAGE INTO THE POND.

ALL INLETS AND OUTLETS TO POND TO BE SUBMERGED PER SWMM VOL. V PAGE 10-7.



DRAWN BY SR DATE 12/23/2008  
CHECKED BY RL DATE 12/23/2008

**LARSEN'S CHURCH HILL ESTATES**

**JOB # 06010** FOR: **SKY VIEW LANDS, LLC**

**FERRO-GLASS**  
CORPORATION  
ESTABLISHED 1964

**LDES, INC.**  
5160 INDUSTRIAL PL #108  
FERNDALE, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

**LARSEN'S CHURCH HILL ESTATES**  
CONTROL STRUCTURE DETAILS  
DETENTION POND  
PLAN AND PROFILE  
**AS-BUILT DRAWINGS**

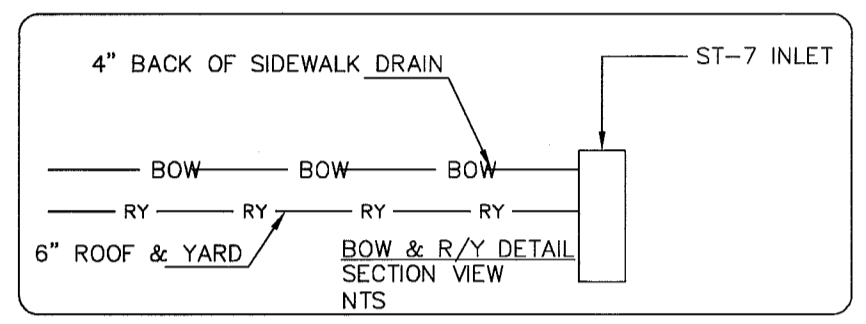
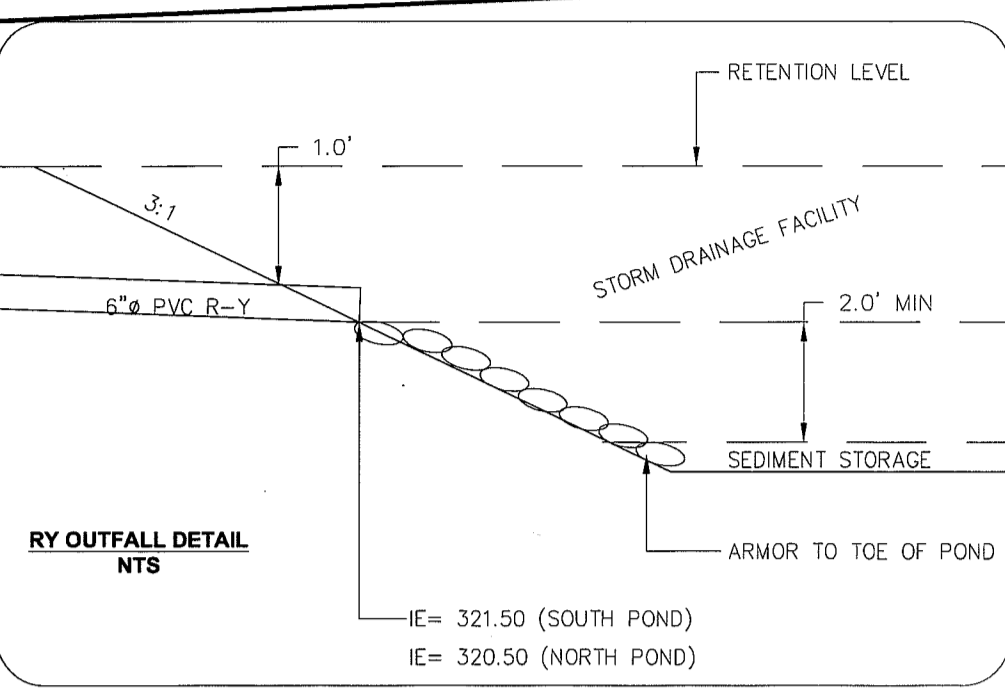
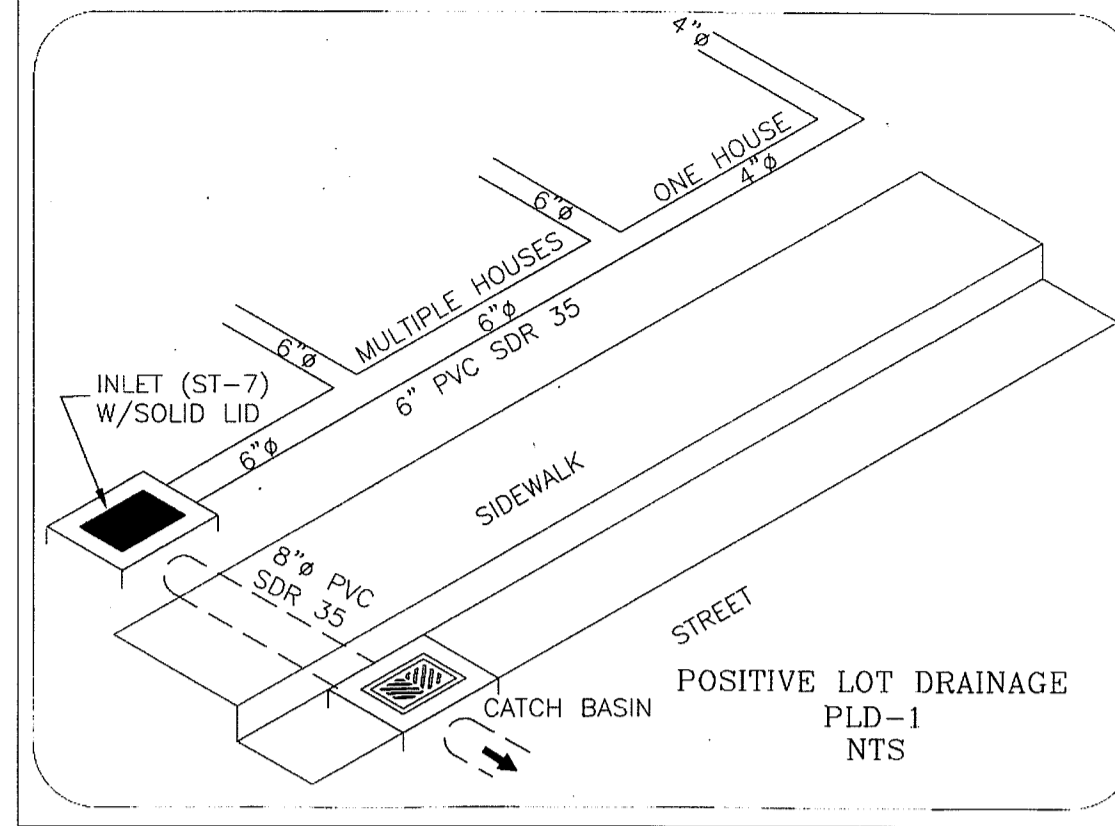
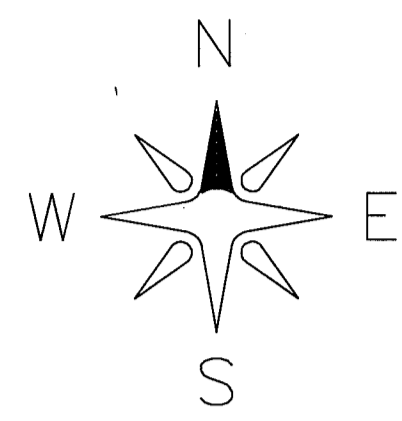
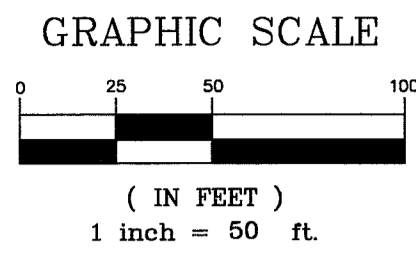
**REVISIONS - INITIALS/DATE/CMS**

SR 12/26/07	SUBMITTAL No. 1
SR 6/11/08	SUBMITTAL No. 2
SR 7/15/08	SUBMITTAL No. 3
SR 9/30/08	SUBMITTAL No. 4

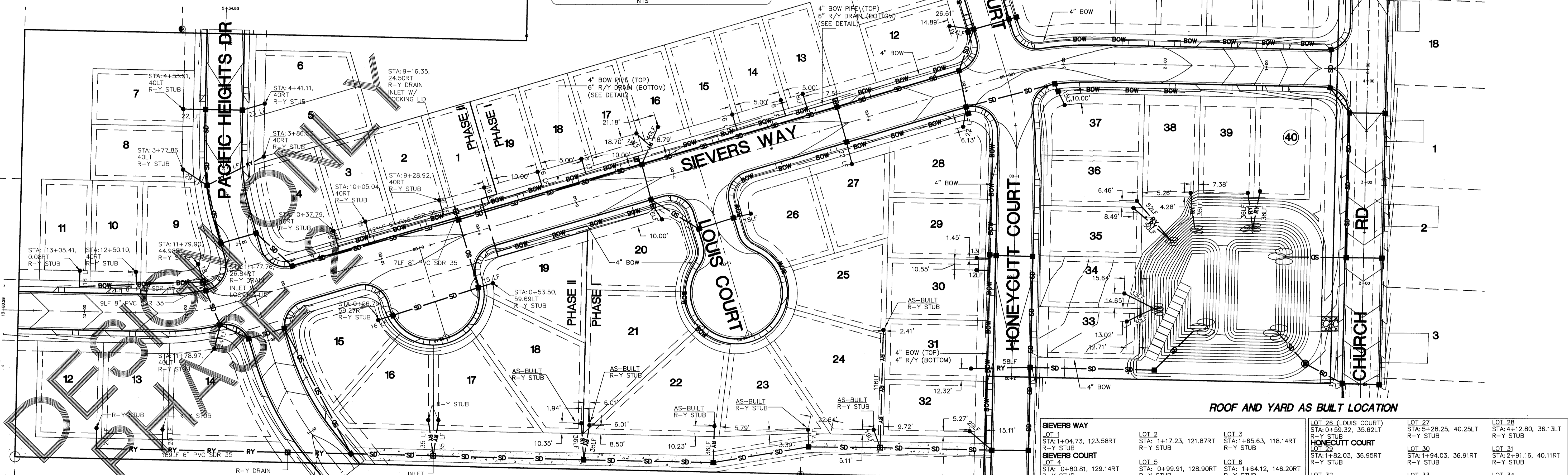
**SHEET 10**  
OF 32

003941.010 7-13-09 DS





NOTE:  
ALL ROOF AND YARD OUTFALLING TO POND TO BE SUBMERGED PER SWMM VOL. 5 PAGE 10.7.



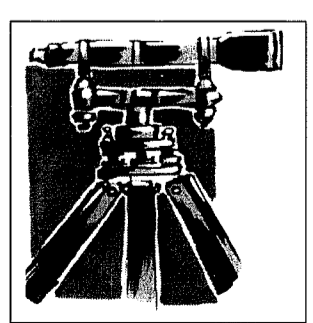
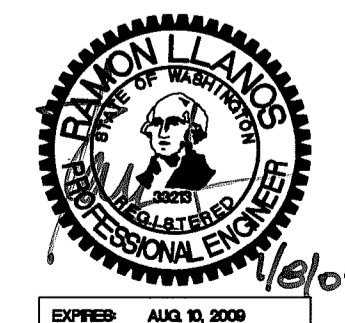
ROOF AND YARD AS BUILT LOCATION

<b>LOT 1</b> STA: 1+04.73, 123.58RT R-Y STUB	<b>LOT 2</b> STA: 1+17.23, 121.87RT R-Y STUB	<b>LOT 3</b> STA: 1+65.63, 118.14RT R-Y STUB	<b>LOT 26 (LOUIS COURT)</b> STA: 0+59.32, 35.62LT R-Y STUB	<b>LOT 27</b> STA: 5+28.25, 40.25LT R-Y STUB	<b>LOT 28</b> STA: 4+12.80, 36.13LT R-Y STUB
<b>LOT 4</b> STA: 0+80.81, 129.14RT R-Y STUB	<b>LOT 5</b> STA: 0+99.91, 128.90RT R-Y STUB	<b>LOT 6</b> STA: 1+64.12, 146.20RT R-Y STUB	<b>LOT 29</b> STA: 1+82.03, 36.95RT R-Y STUB	<b>LOT 30</b> STA: 1+94.03, 36.91RT R-Y STUB	<b>LOT 31</b> STA: 2+91.16, 40.11RT R-Y STUB
<b>LOT 8</b> STA: 2+32.77, 13.89LT R-Y STUB	<b>LOT 9</b> STA: 2+33, 25.30LT R-Y STUB	<b>LOT 10</b> STA: 1+97.88, 59.23LT R-Y STUB	<b>LOT 32</b> STA: 3+53.20, 40.17RT R-Y STUB	<b>LOT 33</b> STA: 2+41.49, 112.29LT R-Y STUB	<b>LOT 34</b> STA: 2+13.83, 109.36LT R-Y STUB
<b>LOT 11</b> STA: 1+43.84, 58.69LT R-Y STUB	<b>LOT 12</b> STA: 0+63.39, 39.89LT R-Y STUB	<b>LOT 13</b> STA: 5+55.29, 40RT R-Y STUB	<b>LOT 35</b> STA: 1+29.33, 116.51LT R-Y STUB	<b>LOT 36</b> STA: 1+22.02, 119.74LT R-Y STUB	<b>LOT 37</b> STA: 1+71.88, 125.72LT R-Y STUB
<b>LOT 16</b> STA: 7+01.61, 48.79RT R-Y STUB	<b>LOT 17</b> STA: 7+23.77, 48.70RT R-Y STUB	<b>LOT 14</b> STA: 5+77.79, 40RT R-Y STUB	<b>LOT 38</b> STA: 3+02.99, 40LT R-Y STUB	<b>LOT 39</b> STA: 1+03.59, 122.65LT R-Y STUB	<b>LOT 40</b> STA: 1+15.52, 124.65LT R-Y STUB
<b>LOT 19</b> STA: 8+27.79, 40RT R-Y STUB	<b>LOT 1</b> (PHASE 2) STA: 8+82.79, 40RT R-Y STUB	<b>LOT 15</b> STA: 6+27.79, 40RT R-Y STUB	<b>LOT 18</b> STA: 7+82.79, 40RT R-Y STUB	<b>LOT 20</b> STA: 7+23.50, 40LT R-Y STUB	

DRAWN BY: SR DATE: 10/20/09  
CHECKED BY: RL DATE: 10/20/09

**LARSEN'S CHURCH HILL ESTATES**

JOB # 06010 FOR: SKY VIEW LANDS, LLC



**LDES, INC.**  
5160 INDUSTRIAL PL. #108  
FERNDALE, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

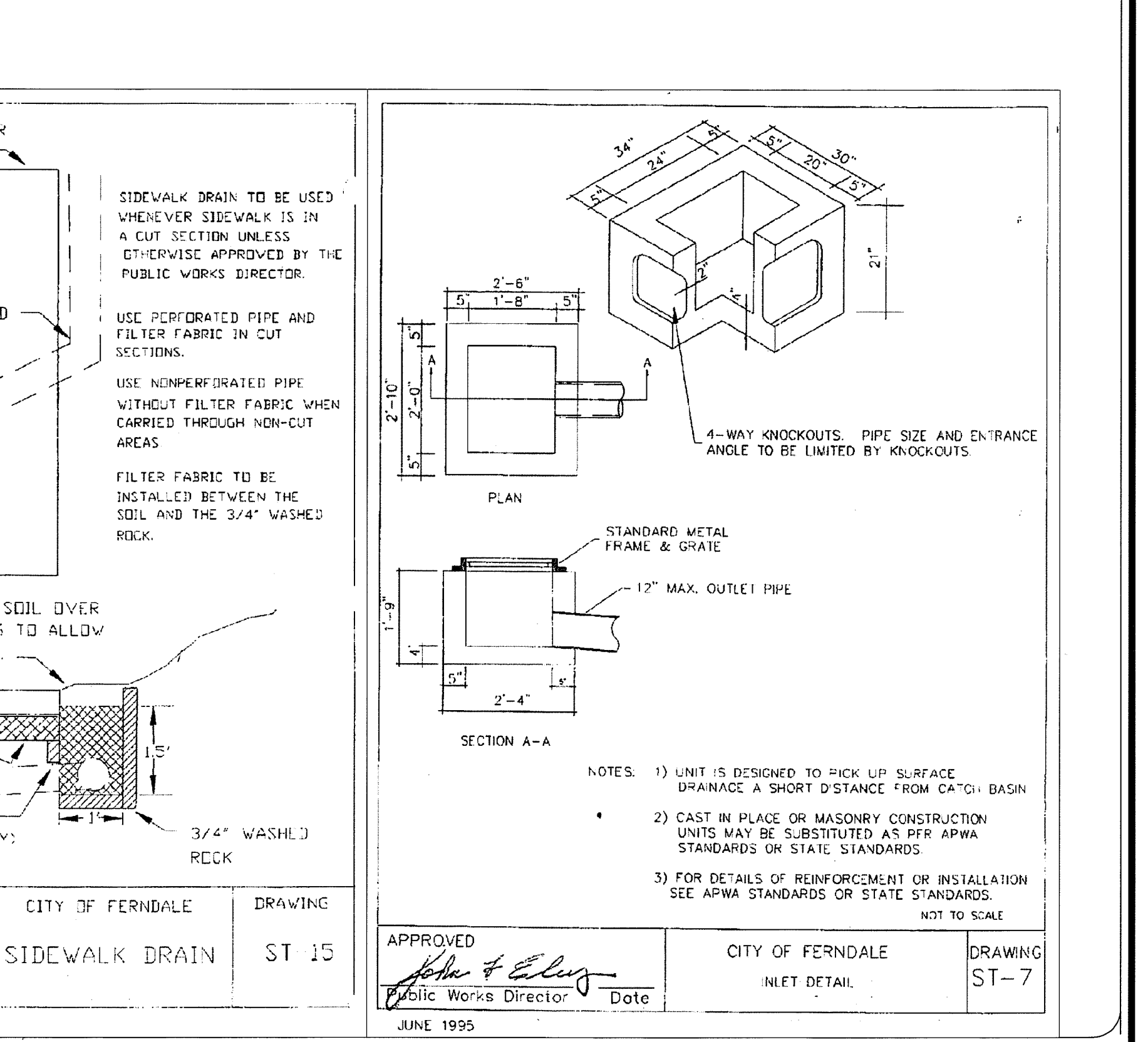
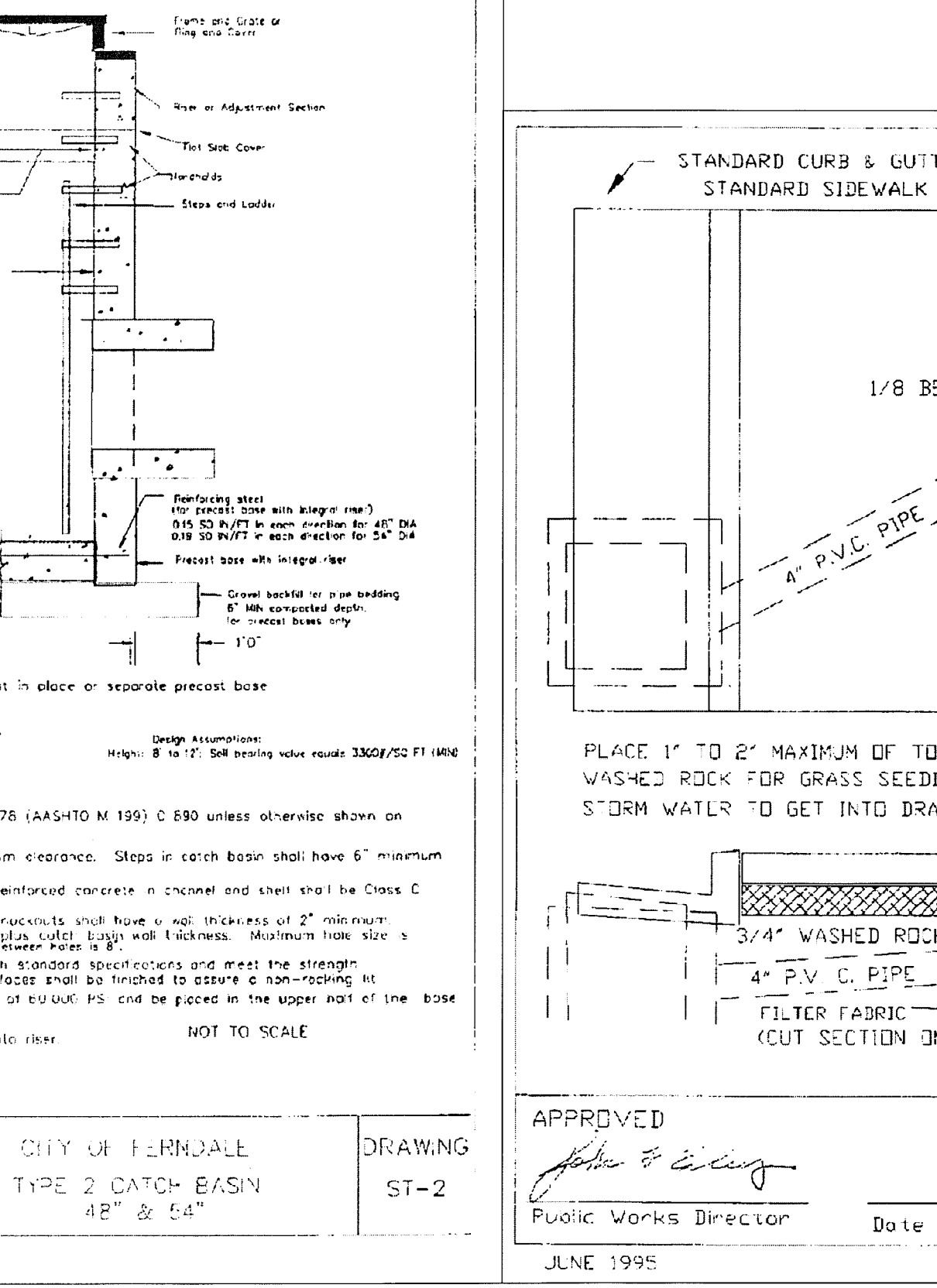
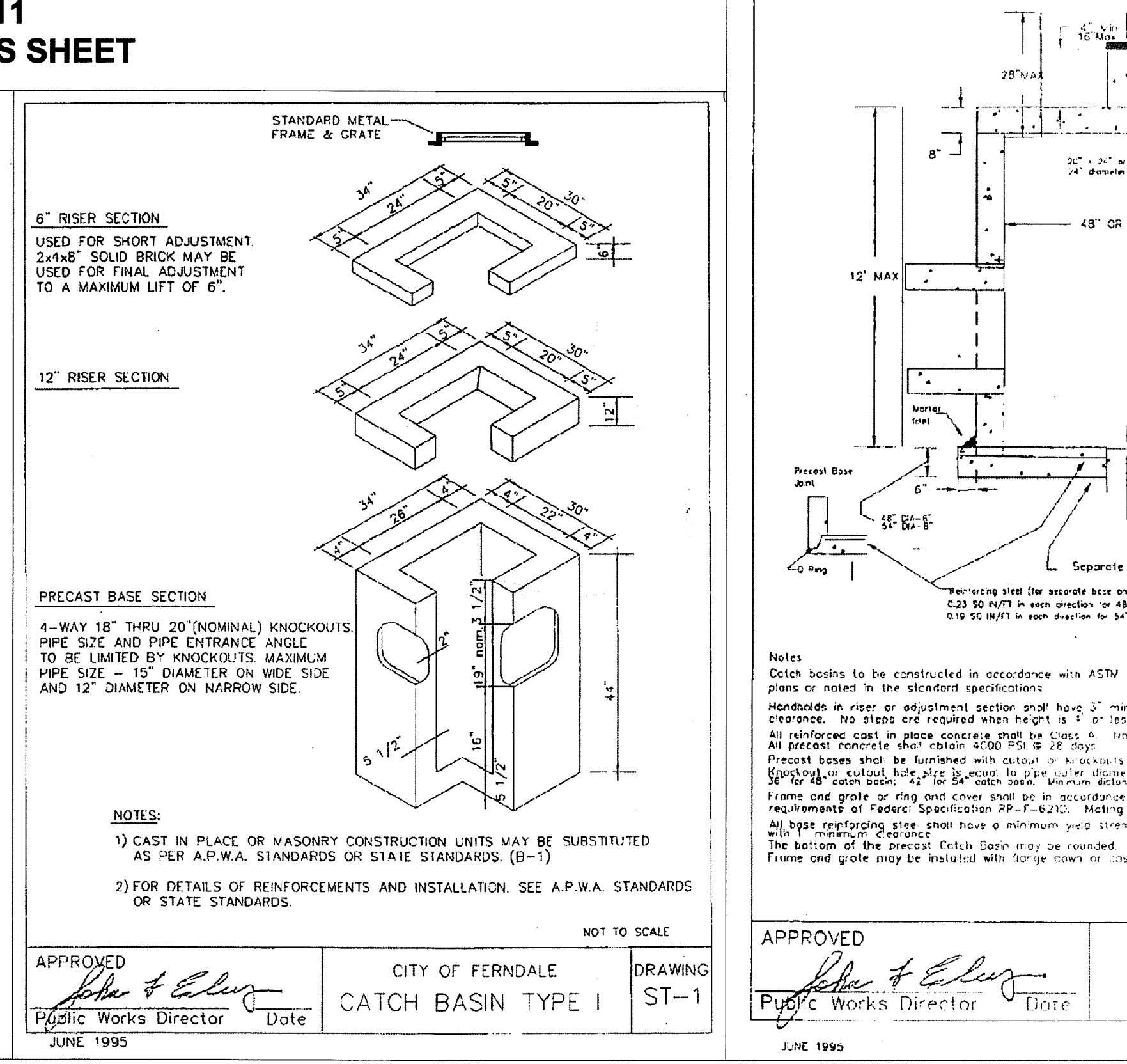
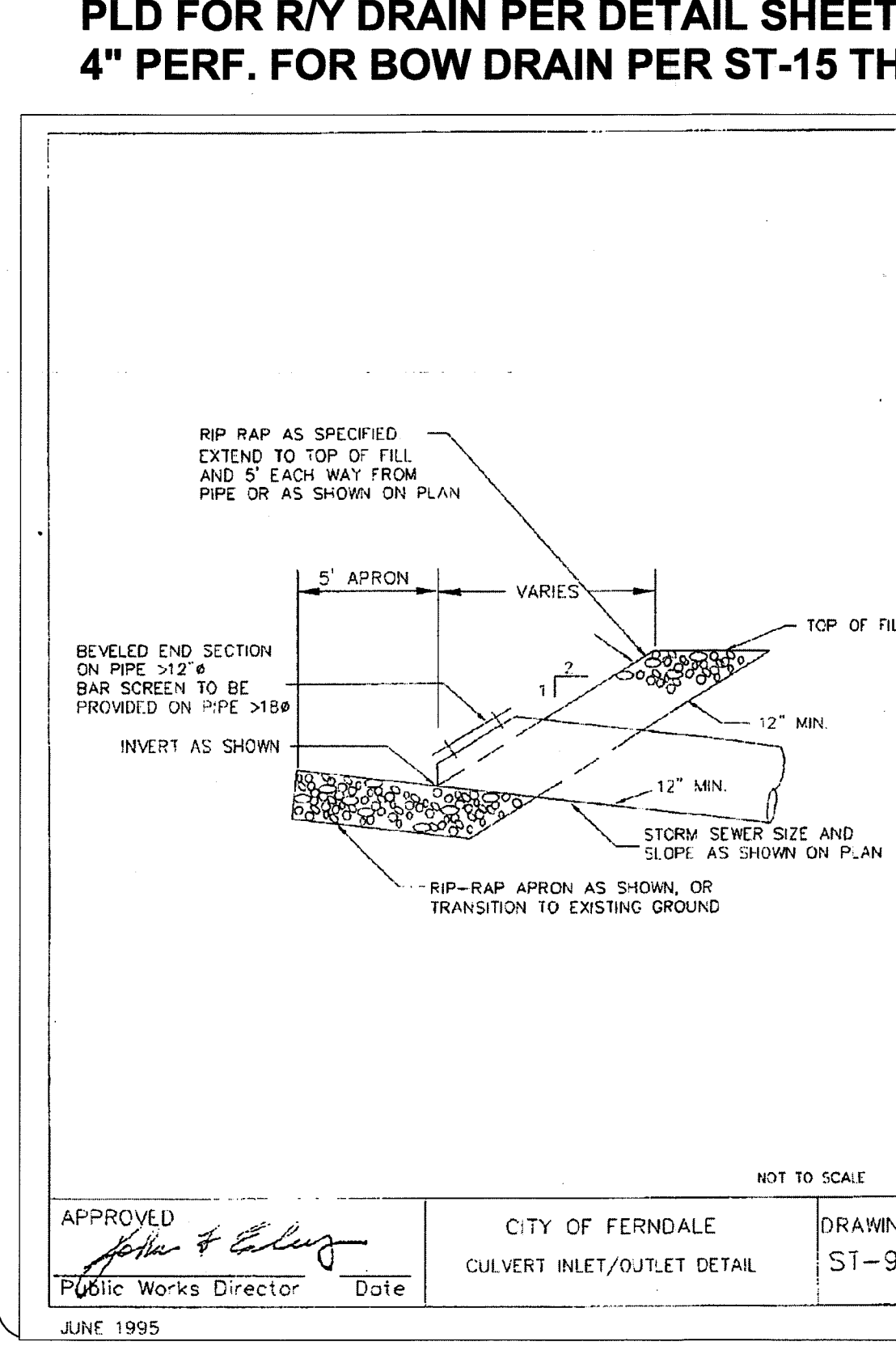
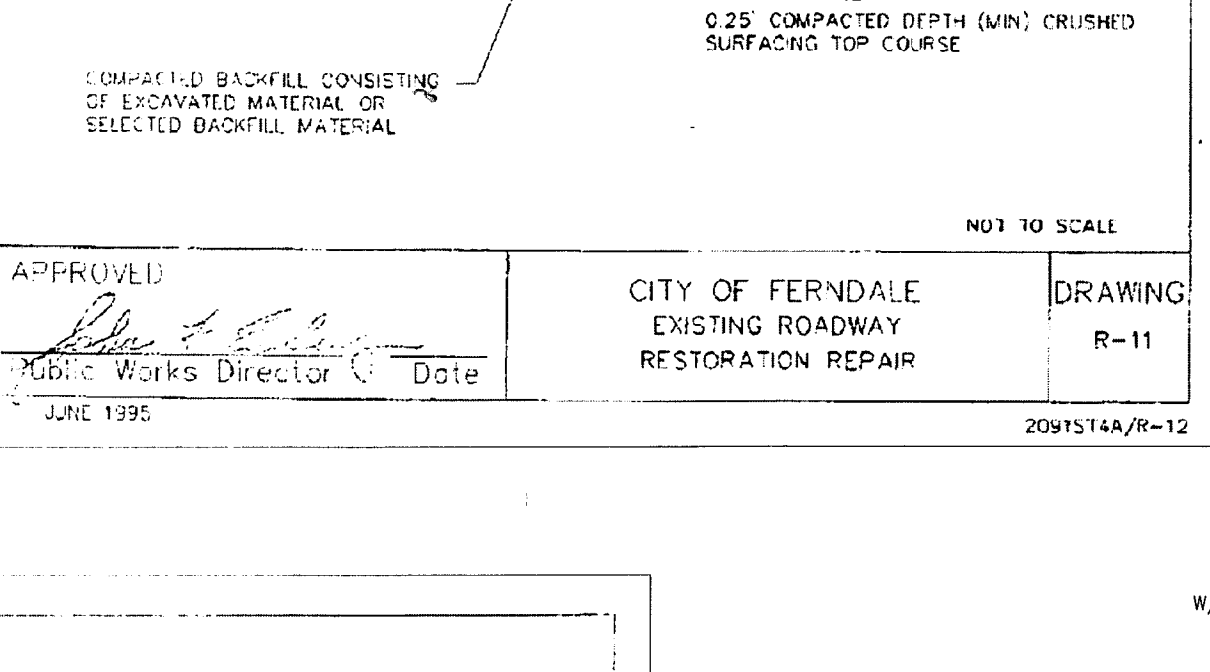
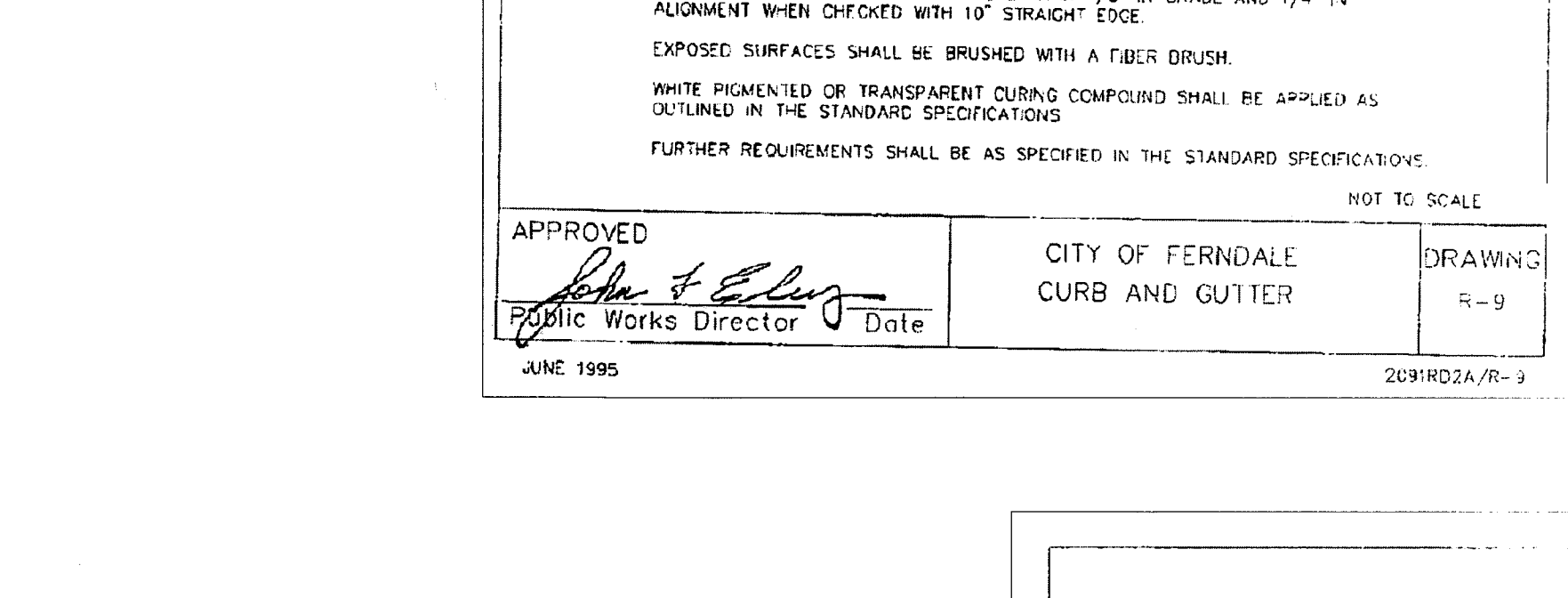
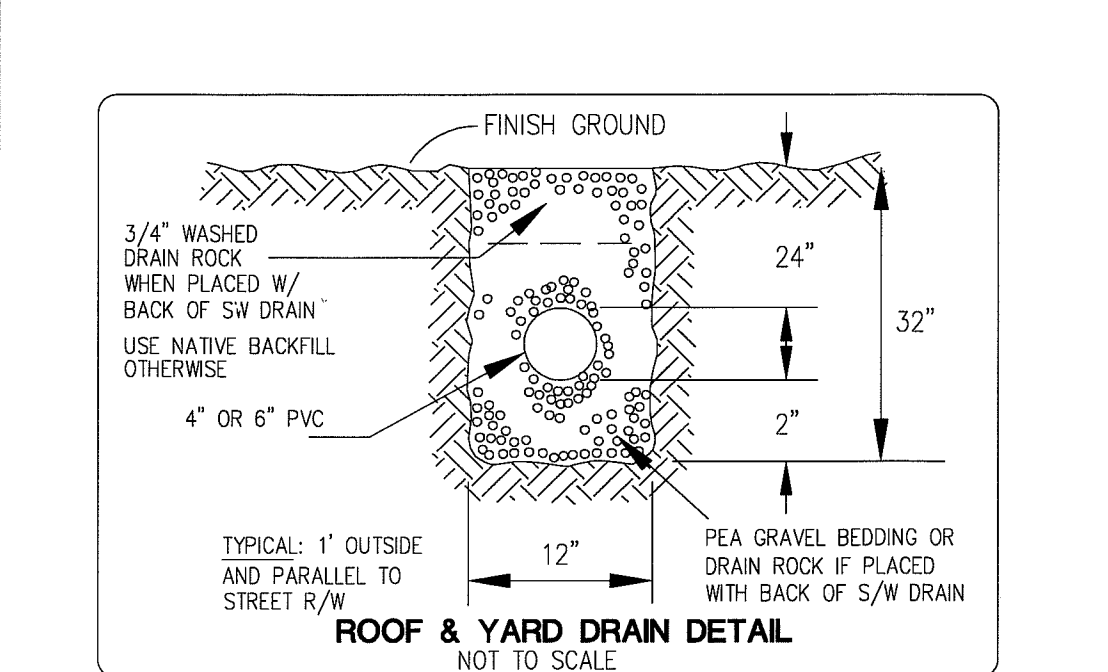
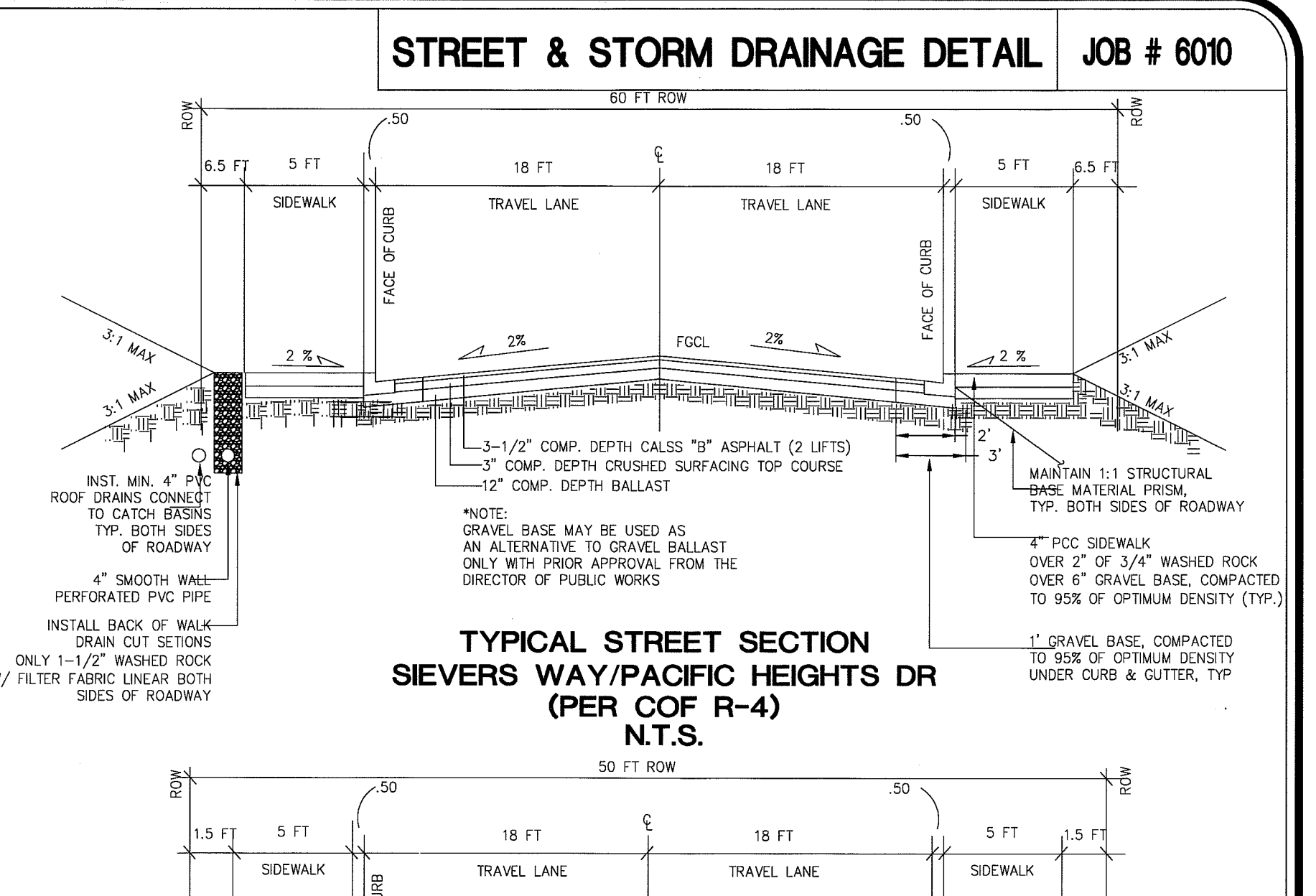
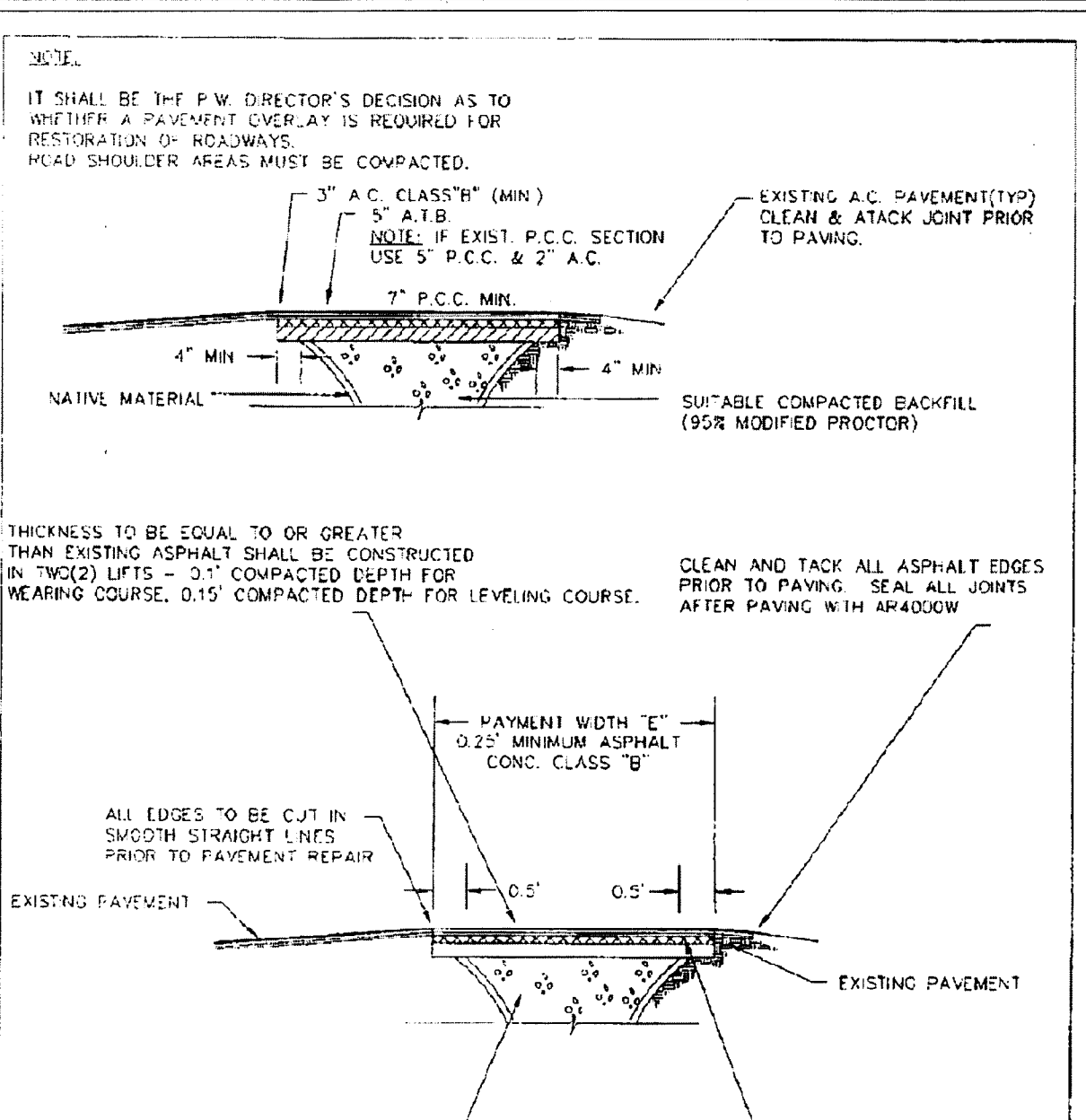
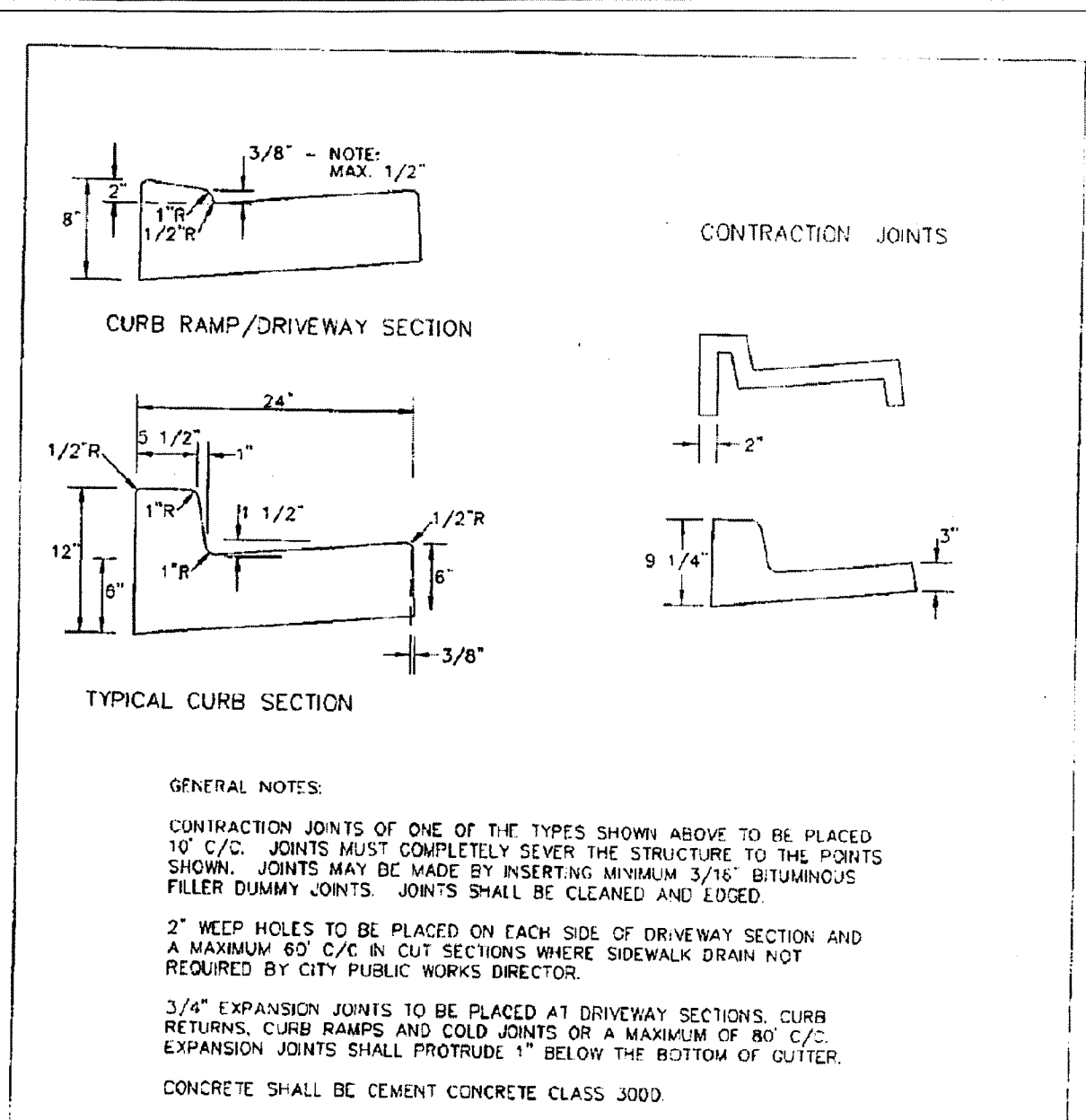
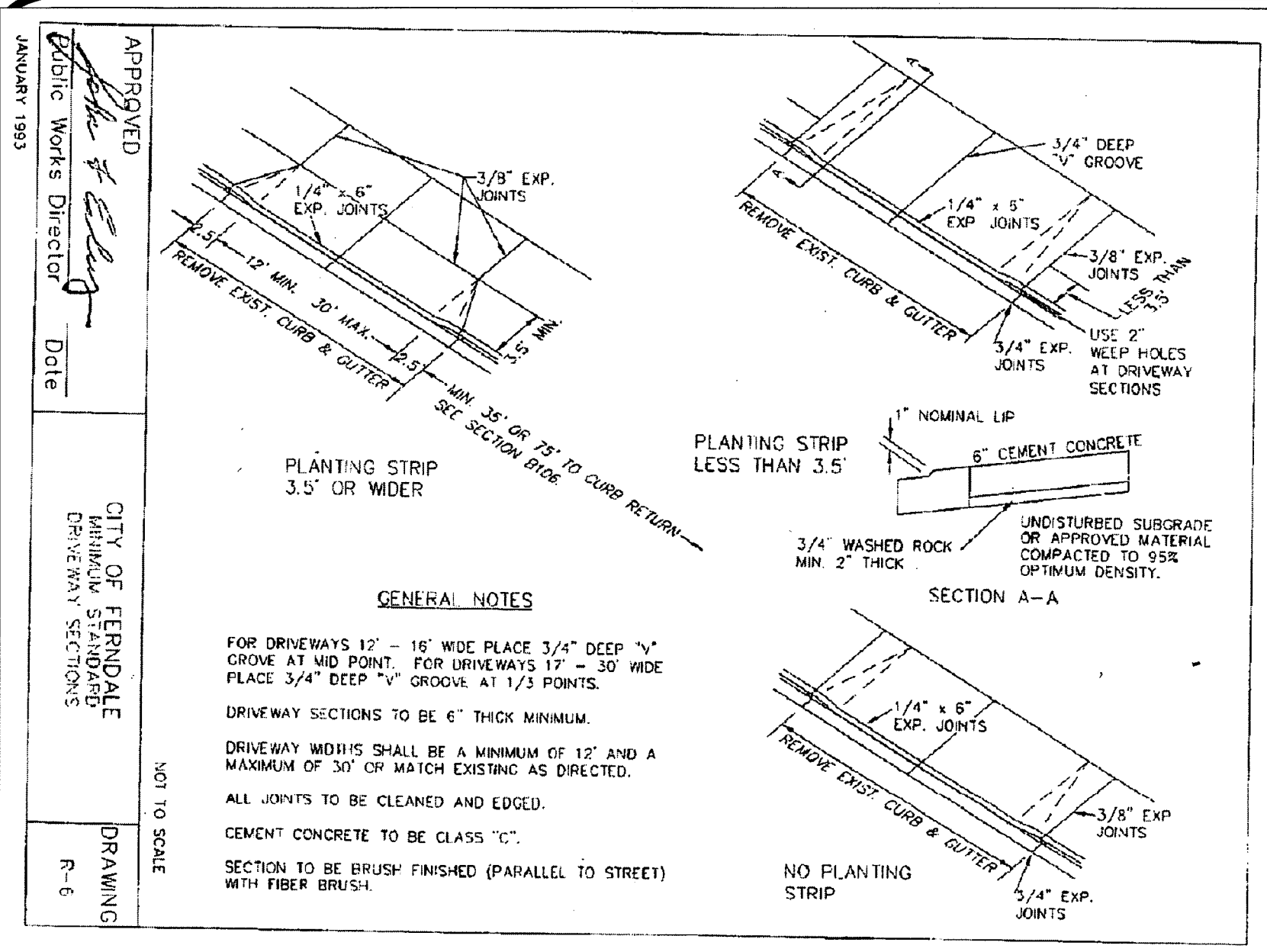
**LARSEN'S CHURCH HILL ESTATES**  
ROOF AND YARD PLAN  
**AS-BUILT DRAWINGS**

REVISIONS - NTS/DATE/CMS		SHEET
SR 12/28/07	SUBMITTAL No. 1	<b>11</b> OF 32
SR 6/11/08	SUBMITTAL No. 2	
SR 9/30/08	SUBMITTAL No. 4	

00394.011 7.13.09 DD

1/20  
1/20





DRAWN BY SR DATE 9/30/2003  
 CHECKED BY RL DATE 9/30/2006

**LARSEN'S CHURCH HILL ESTATES**

**FOR: SKY VIEW LANDS, LLC**

**LDES, INC.**  
 5160 INDUSTRIAL PL. #108  
 FERDALE, WA 98248  
 PHONE 360-383-0620  
 FAX 360-383-0639

**LARSEN'S CHURCH HILL ESTATES STREET & STORM DRAINAGE DETAILS AS-BUILT DRAWINGS**

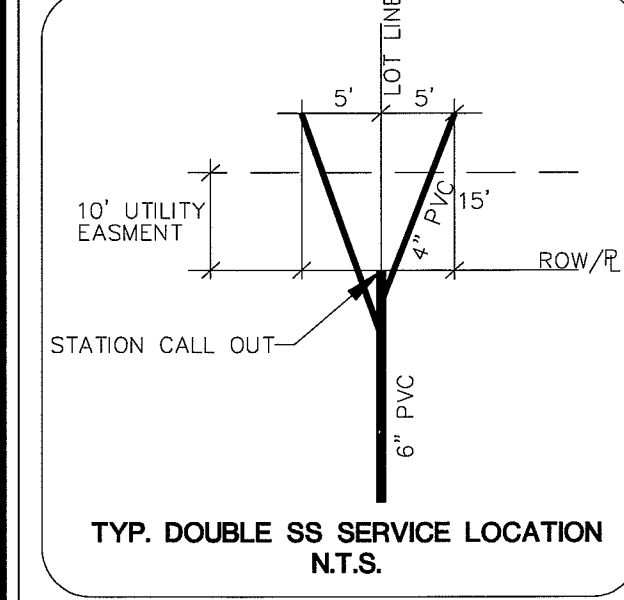
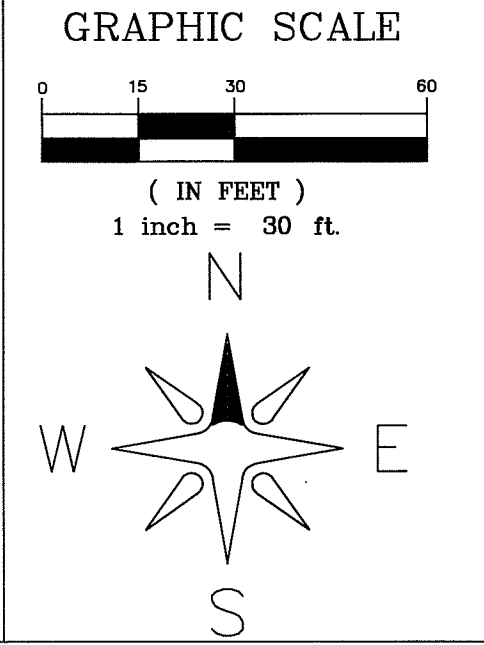
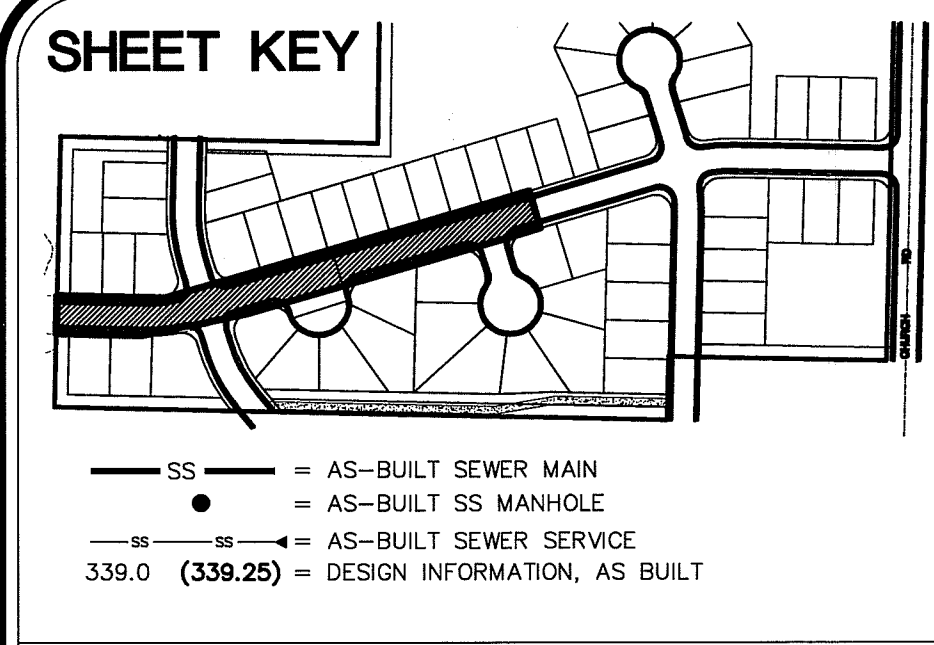
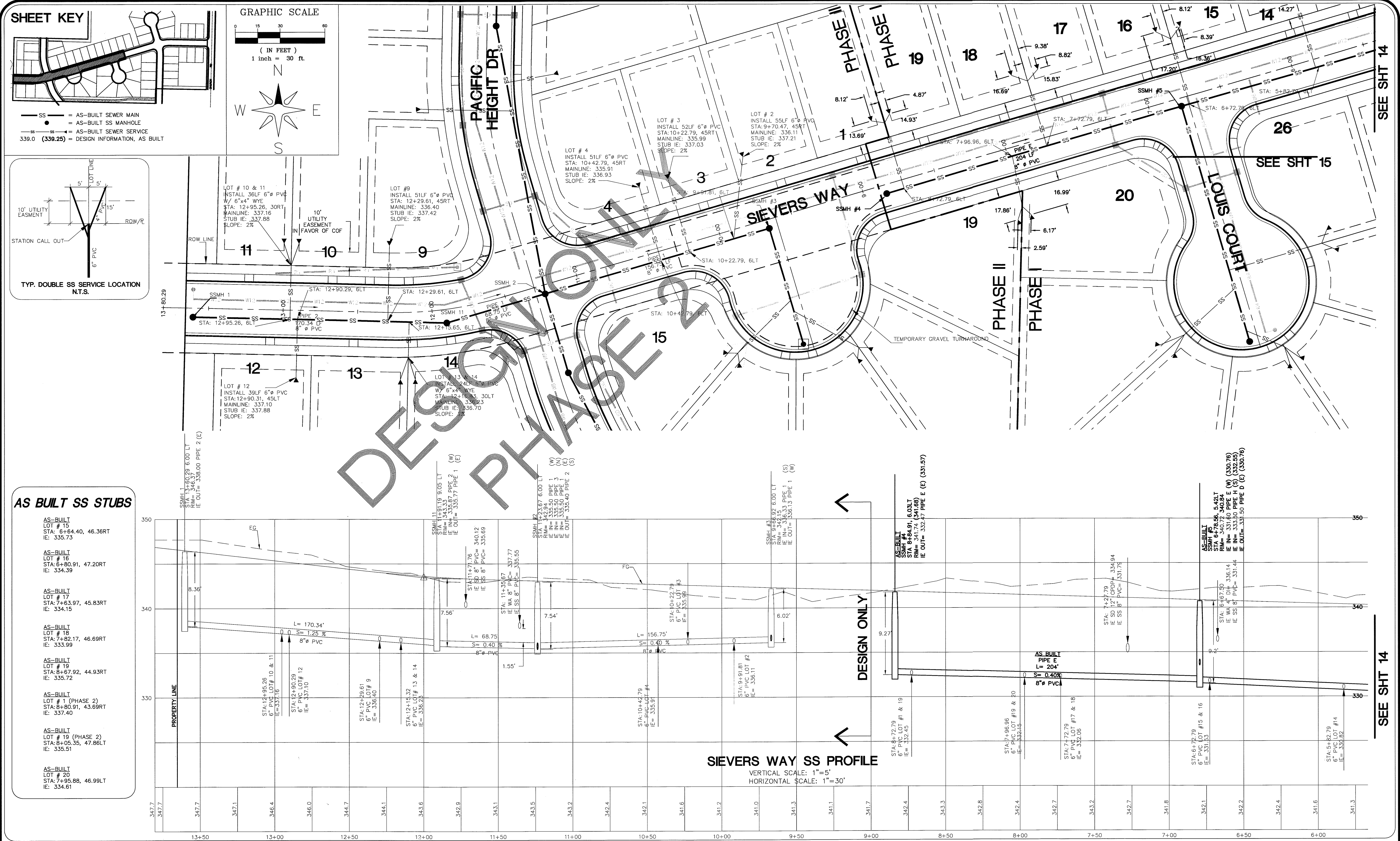
SHEET **12** OF 32

00394.012 7-13-09 DD

APPROVED BY: [Signature] DATE: [Date]

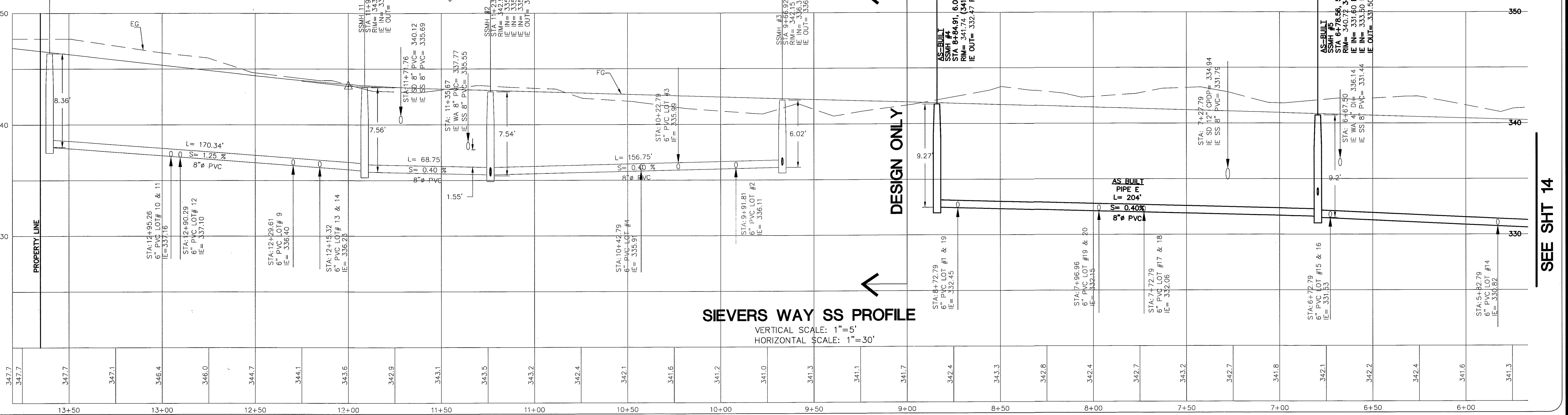


00341.013 7-13-09 DD



**AS BUILT SS STUBS**

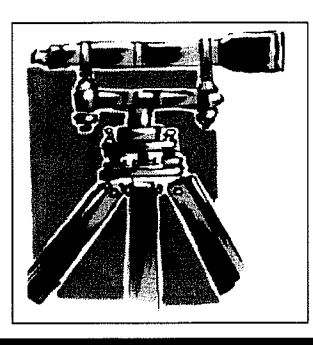
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AS-BUILT LOT # 17 STA: 7+63.97, 45.83RT IE: 334.15
AS-BUILT LOT # 19 STA: 8+67.92, 44.93RT IE: 335.72
AS-BUILT LOT # 19 (PHASE 2) STA: 8+80.91, 43.69RT IE: 337.40
AS-BUILT LOT # 19 (PHASE 2) STA: 8+95.35, 47.86LT IE: 335.51
AS-BUILT LOT # 20 STA: 7+95.88, 46.99LT IE: 334.61



DRAWN BY: SR DATE: 10/20/08  
CHECKED BY: RL DATE: 10/20/08

**LARSEN'S CHURCH HILL ESTATES**

JOB # 06010 FOR: SKY VIEW LANDS, LLC



**LDES, INC.**  
5160 INDUSTRIAL PL #108  
FERNDALE, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

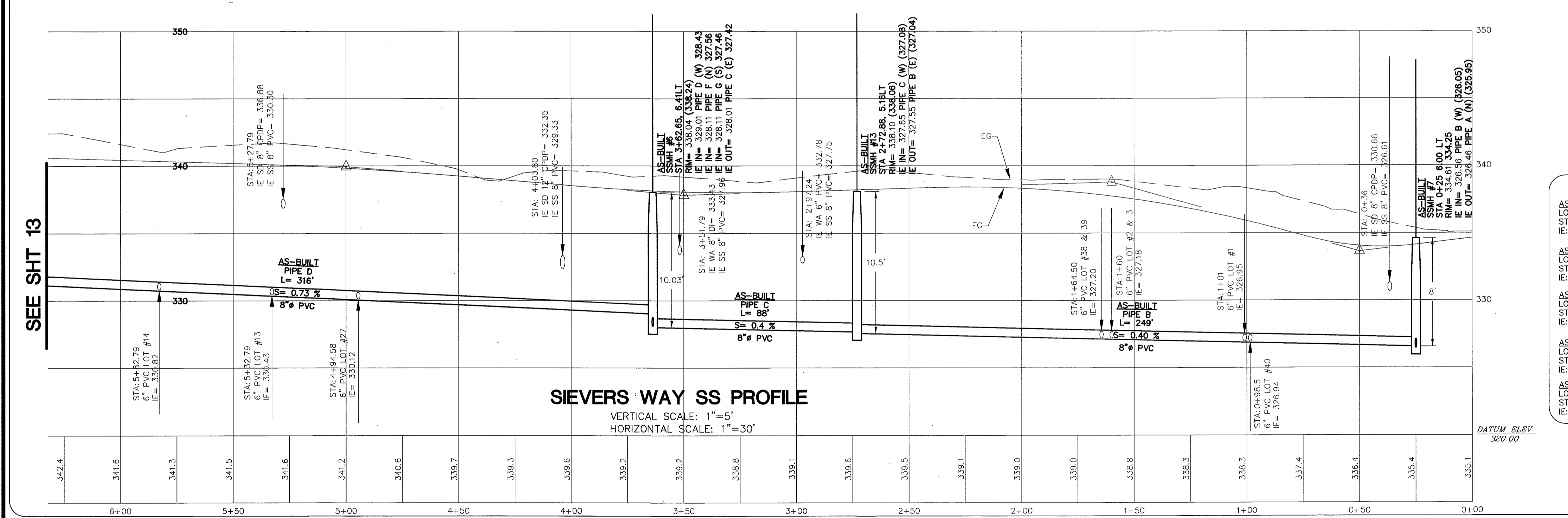
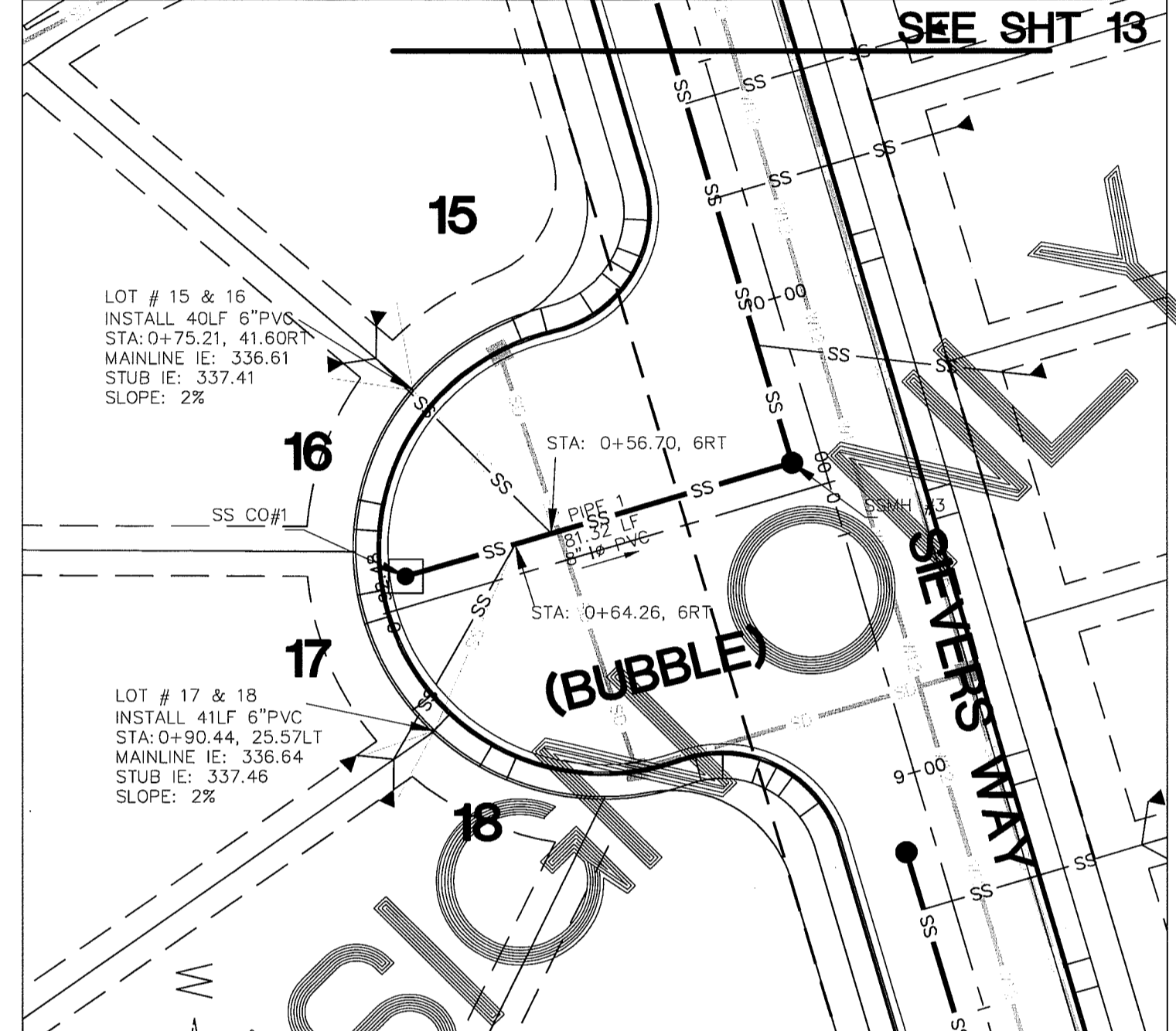
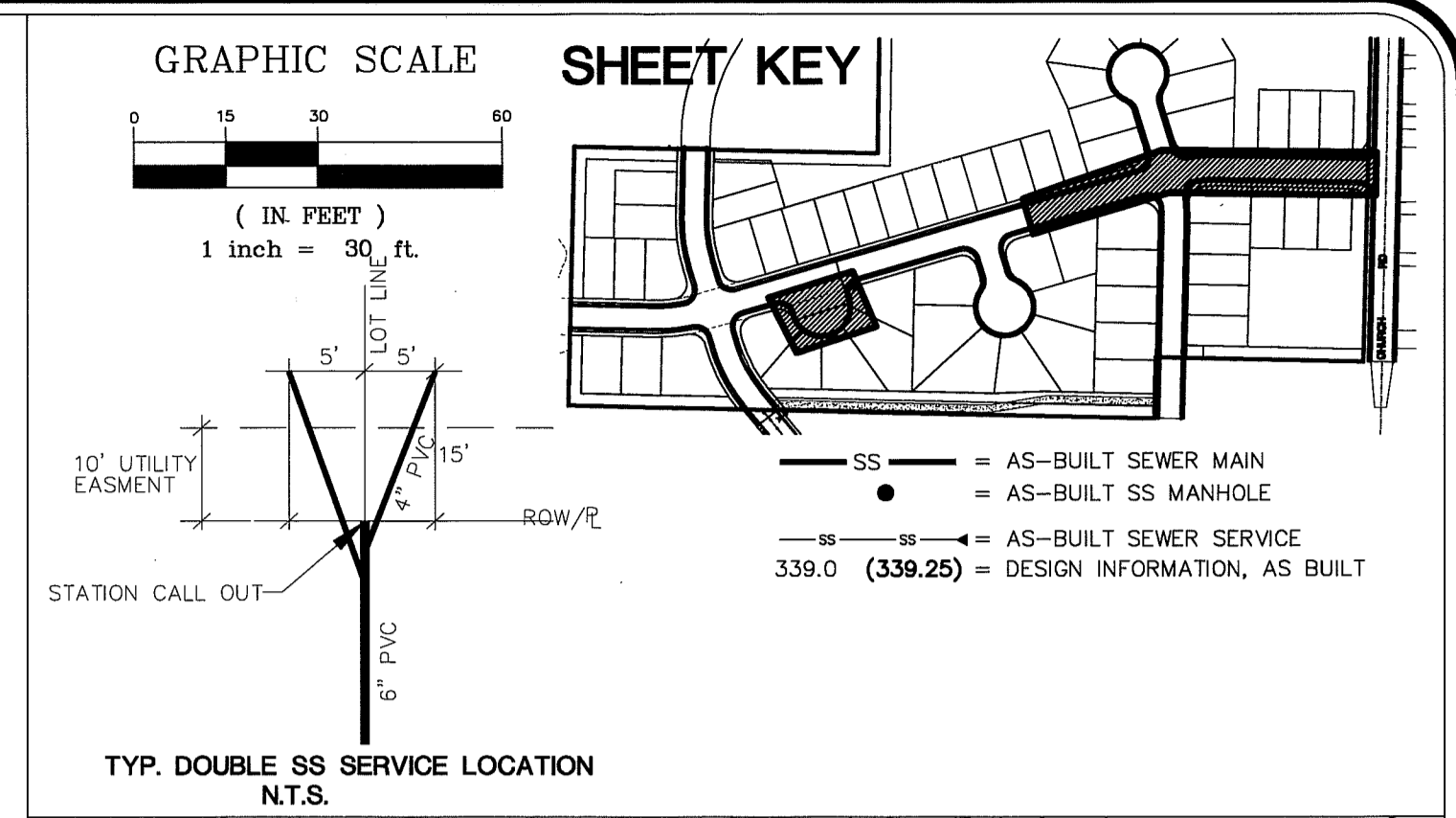
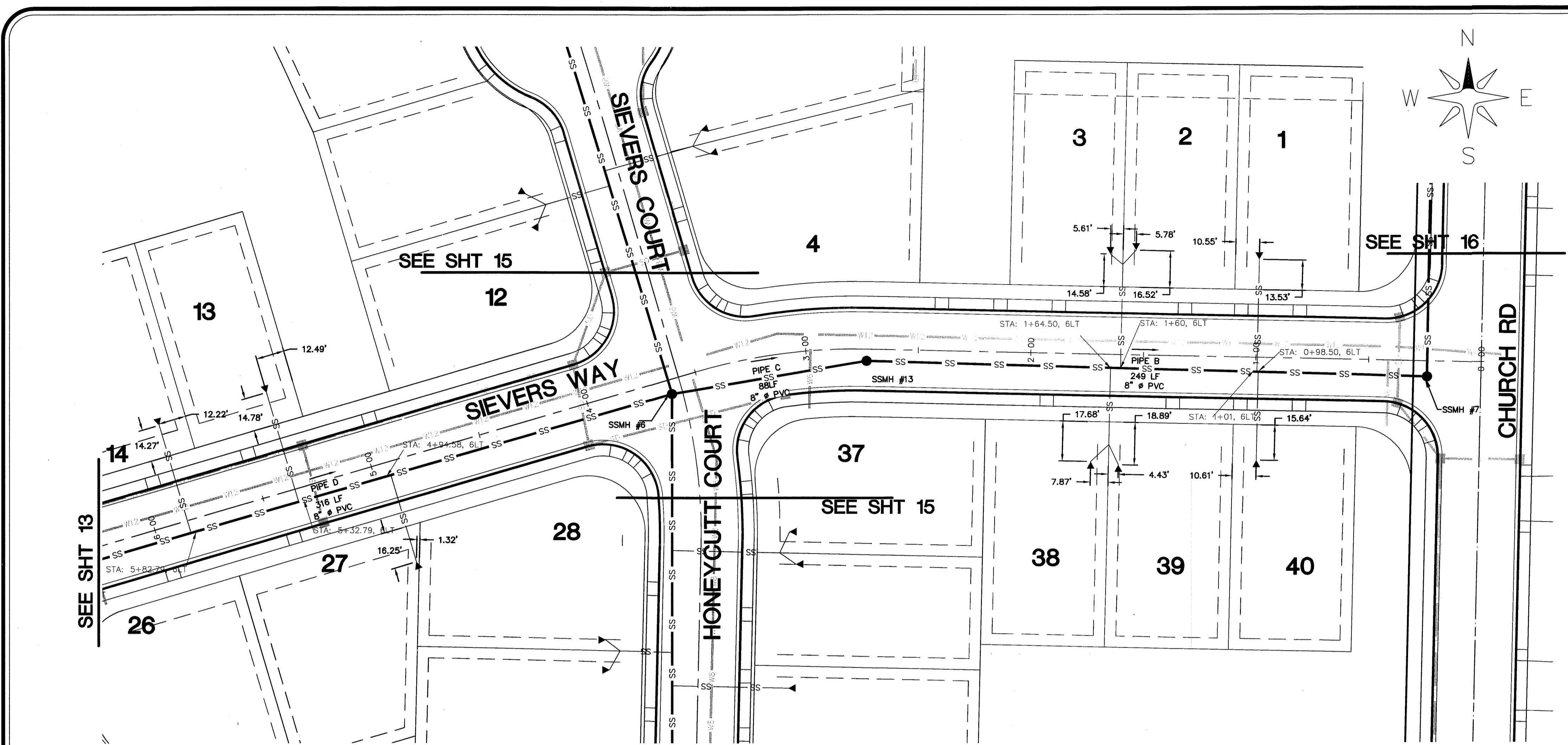
**LARSEN'S CHURCH HILL ESTATES**  
SANITARY SEWER  
PLAN AND PROFILE  
SIEVERS WAY  
**AS-BUILT DRAWINGS**

**REVISIONS - NTALS/DATE/CMS**

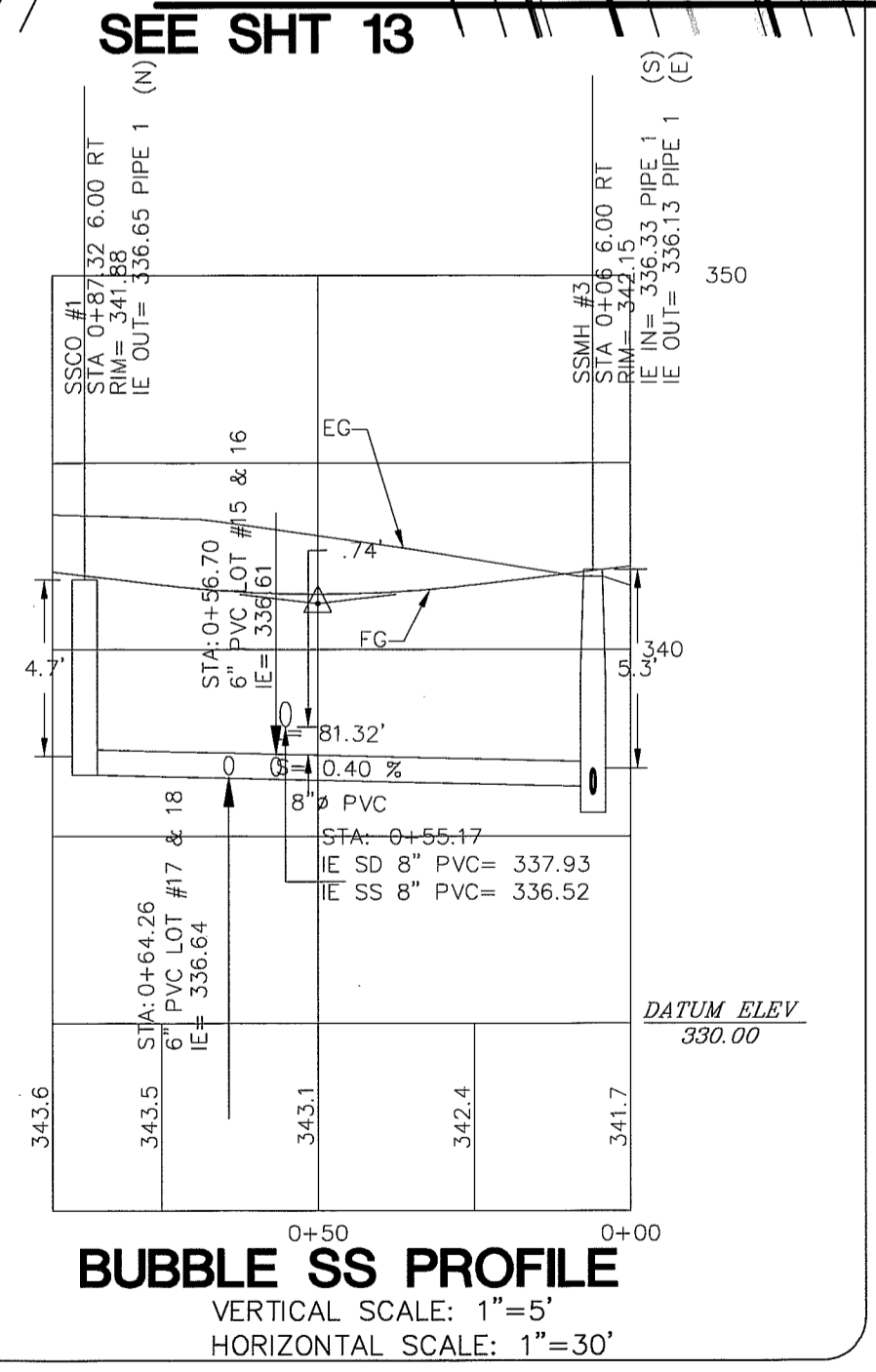
SR 12/26/07	SUBMITTAL No. 1
SR 6/10/08	SUBMITTAL No. 2
SR 7/15/08	SUBMITTAL No. 3
SR 9/30/08	SUBMITTAL No. 4

SHEET **13** OF 32

00394.014 7.13.09 DD



AS BUILT SS STUB	
AS-BUILT LOT # 1 STA: 0+99.45, 43.53RT IE: 328.31	AS-BUILT LOT # 27 STA: 4+92.71, 46.25LT IE: 330.44
AS-BUILT LOT # 2 STA: 1+54.22, 46.52RT IE: 328.82	AS-BUILT LOT # 38 STA: 1+72.37, 47.68LT IE: 330.56
AS-BUILT LOT # 3 STA: 1+65.61, 44.58RT IE: 328.25	AS-BUILT LOT # 36 STA: 1+60.07, 48.89LT IE: 329.86
AS-BUILT LOT # 13 STA: 5+35.29, 44.78RT IE: 331.45	AS-BUILT LOT # 40 STA: 1+98.89, 45.64LT IE: 328.25
AS-BUILT LOT # 14 STA: 5+85.01, 44.27RT IE: 335.57	



DRAWN BY: [Signature] DATE: 6/5/2008  
 CHECKED BY: RL DATE: 6/5/2008  
**LARSEN'S CHURCH HILL ESTATES**  
 FOR: SKY VIEW LANDS, LLC  
 JOB # 06010

**LARSEN'S CHURCH HILL ESTATES**  
 SANITARY SEWER  
 PLAN AND PROFILE  
 SIEVERS WAY  
**AS-BUILT DRAWINGS**

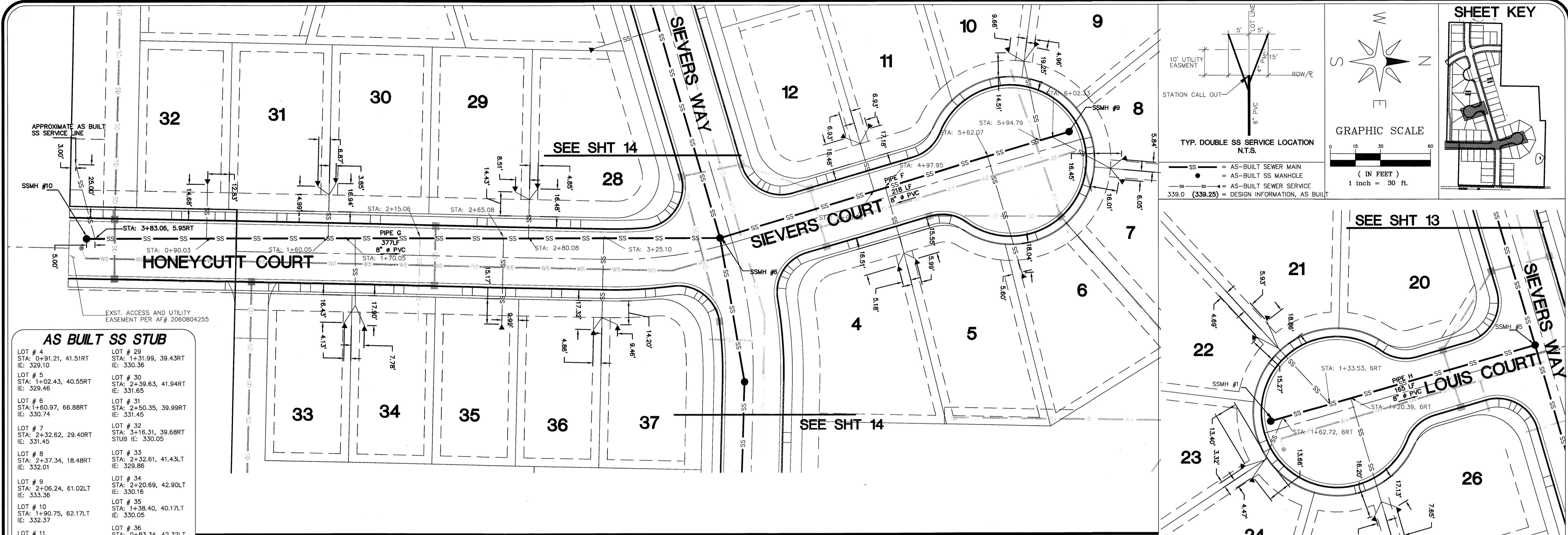
**LDIES, INC.**  
 5160 INDUSTRIAL PL #108  
 FERNDALE, WA 98248  
 PHONE 360-383-0620  
 FAX 360-383-0639

REVISIONS - INITIALS/DATE/CMS		SHEET
SR 12/26/07	SUBMITTAL No. 1	<b>14</b> OF 32
SR 6/10/08	SUBMITTAL No. 2	
SR 7/15/08	SUBMITTAL No. 3	
SR 9/30/08	SUBMITTAL No. 4	

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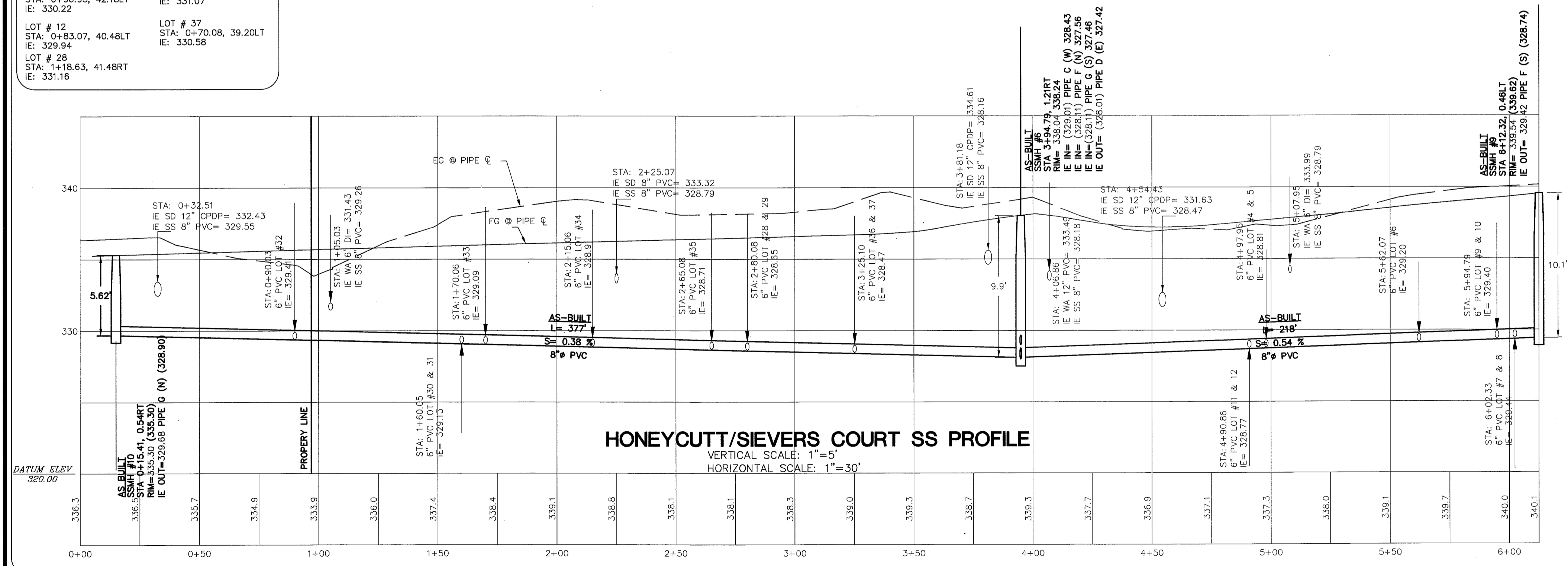


D2 60-51.7 510146200



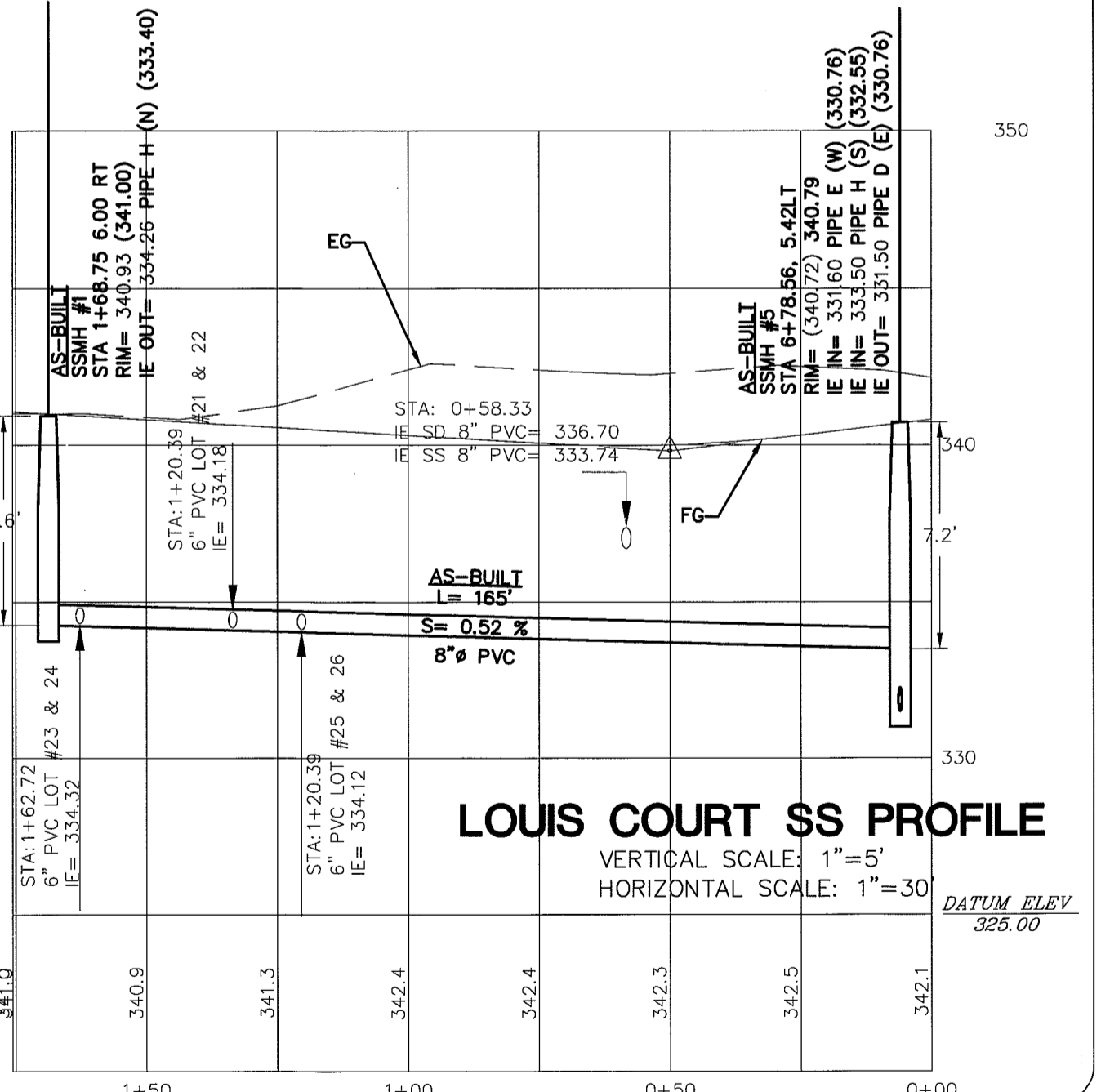
**AS BUILT SS STUB**

LOT # 4 STA: 0+91.21, 41.51RT IE: 329.10	LOT # 29 STA: 1+31.99, 39.43RT IE: 330.36
LOT # 5 STA: 1+02.43, 40.55RT IE: 329.46	LOT # 30 STA: 2+39.63, 41.94RT IE: 331.65
LOT # 6 STA: 1+60.97, 66.88RT IE: 330.74	LOT # 31 STA: 2+50.35, 39.99RT IE: 331.45
LOT # 7 STA: 2+32.62, 29.40RT IE: 331.45	LOT # 32 STA: 3+16.31, 39.68RT STUB IE: 330.05
LOT # 8 STA: 2+37.34, 18.48RT IE: 332.01	LOT # 33 STA: 2+32.61, 41.43LT IE: 329.85
LOT # 9 STA: 2+06.24, 61.02LT IE: 333.36	LOT # 34 STA: 2+20.69, 42.90LT IE: 330.16
LOT # 10 STA: 1+90.75, 62.17LT IE: 332.37	LOT # 35 STA: 1+38.40, 40.17LT IE: 330.05
LOT # 11 STA: 0+96.93, 42.18LT IE: 330.22	LOT # 36 STA: 0+83.34, 42.32LT IE: 331.07
LOT # 12 STA: 0+83.07, 40.48LT IE: 329.94	LOT # 37 STA: 0+70.08, 39.20LT IE: 330.58
LOT # 28 STA: 1+18.63, 41.48RT IE: 331.16	



**AS BUILT SS STUB**

LOT # 21 STA: 1+55.5, 64.15LT IE: 336.21
LOT # 22 STA: 1+63.56, 56.32LT IE: 335.13
LOT # 23 STA: 1+92, 15.70LT IE: 335.10
LOT # 24 STA: 1+89.87, 23.20LT IE: 334.84
LOT # 25 STA: 1+26.36, 66.07LT IE: 335.06
LOT # 26 STA: 1+12.74, 64.72LT IE: 335.23



DRAWN BY: SP DATE: 06/2009  
CHECKED BY: RL DATE: 06/2009

**LARSEN'S CHURCH HILL ESTATES**

JOB # 06010 FOR: SKY VIEW LANDS, LLC



**LDES, INC.**  
5160 INDUSTRIAL PL #108  
FERNDALE, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

**LARSEN'S CHURCH HILL ESTATES**  
SANITARY SEWER  
PLAN AND PROFILE  
HONEYCUTT, SIEVERS & LOUIS COURT  
**AS-BUILT DRAWINGS**

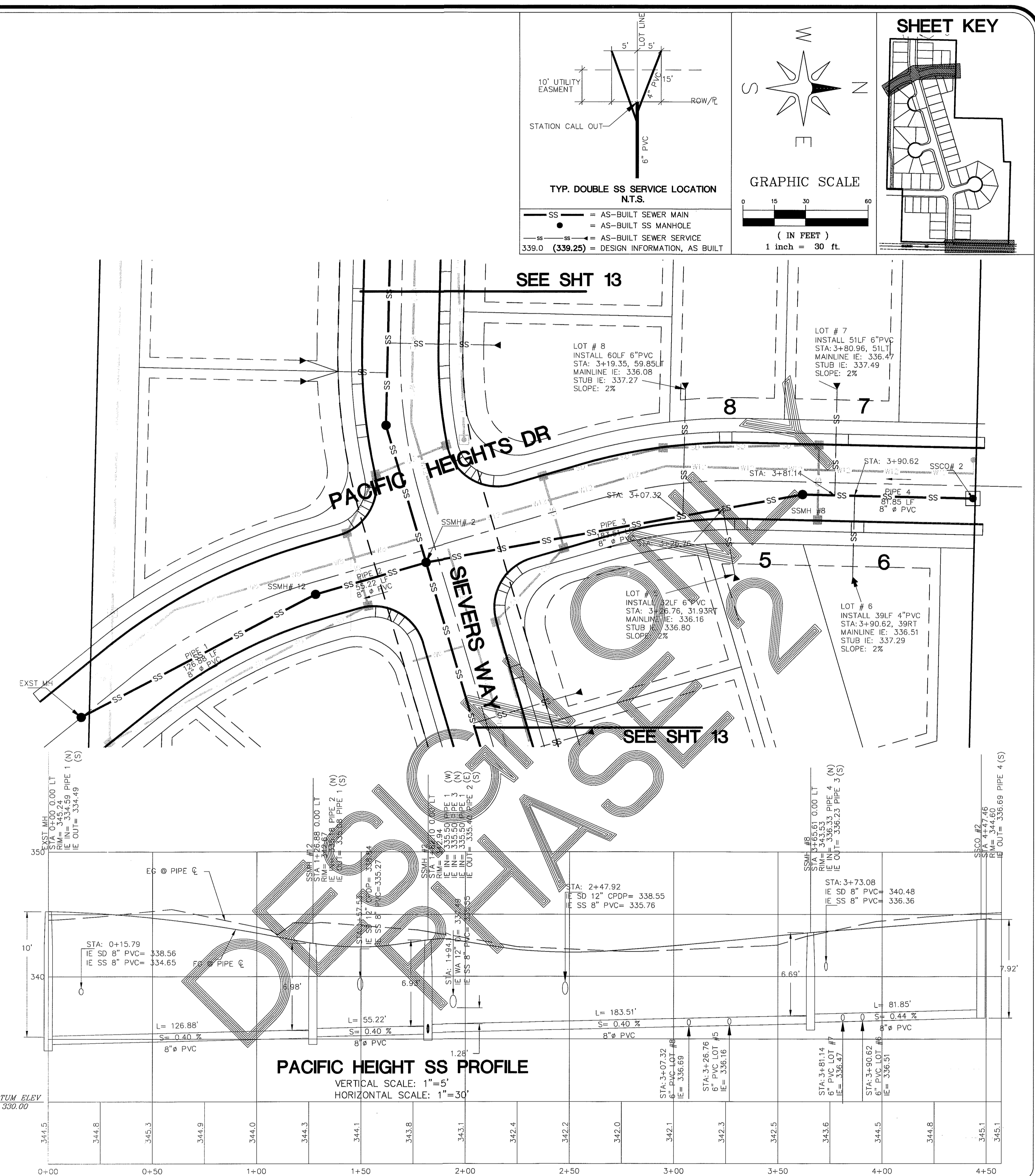
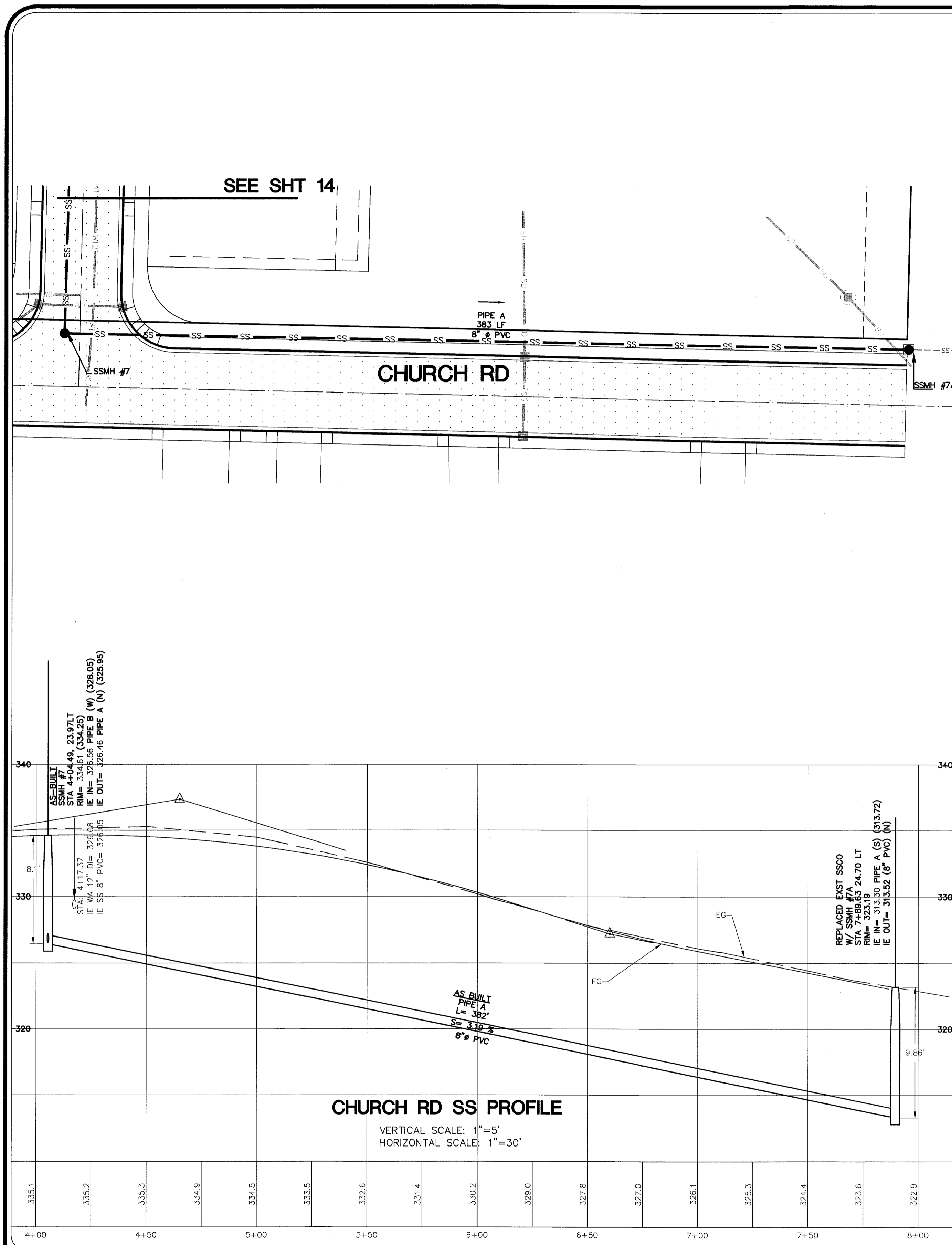
REVISIONS - INITIALS/DATE/CMS

SR 12/26/07	SUBMITTAL No. 1
SR 6/10/08	SUBMITTAL No. 2
SR 7/15/08	SUBMITTAL No. 3
SR 9/30/08	SUBMITTAL No. 4

SHEET **15** OF 32

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00394.016 7.13.09 DD



**SHEET KEY**

**TYP. DOUBLE SS SERVICE LOCATION N.T.S.**

- SS = AS-BUILT SEWER MAIN
- SS (with dot) = AS-BUILT SS MANHOLE
- SS (with arrow) = AS-BUILT SEWER SERVICE
- 339.0 (338.25) = DESIGN INFORMATION, AS BUILT

DRAWN BY SR DATE 7/5/2009  
 CHECKED BY RL DATE 11/5/2009

**LARSEN'S CHURCH HILL ESTATES**

JOB # 06010 FOR: SKY VIEW LANDS, LLC

**LDES, INC.**  
 5160 INDUSTRIAL PL #108  
 FERNDALE, WA 98248  
 PHONE 360-383-0620  
 FAX 360-383-0639

**LARSEN'S CHURCH HILL ESTATES**  
 SANITARY SEWER  
 PLAN AND PROFILE  
 CHURCH RD AND PACIFIC HEIGHTS DR  
**AS-BUILT DRAWINGS**

REVISIONS - INTIALS/DATE/CMS	SHEET
SR 12/26/07 SUBMITTAL No. 1	<b>16</b> OF 32
SR 6/10/08 SUBMITTAL No. 2	
SR 7/15/08 SUBMITTAL No. 3	
SR 9/30/08 SUBMITTAL No. 4	

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00394.017 7-13-09 DD

**NOTES:**

- Provide uniform support under barrel.
- Hand temp under haunches.
- Compact bedding material to 95% MAX density except directly over pipe, hand temp only.
- See "Excavation and Preparation of Trench" in the Sanitary Sewers section of the Standard Specifications for trench width "W" and trenching options. The pipe zone will be the actual trench width, except for Class A bedding. The minimum concrete width shall be 1 1/2' I.D. + 18".
- Trench backfill shall conform to "Backfilling Sewer Trenches" in the Sanitary Sewers section of the Standard Specifications, except that rocks or lumps larger than 1" per foot of pipe diameter shall not be used in the backfill material.
- See "Bedding Material for Flexible Pipe" in the Aggregates section of the Standard Specifications for the material specifications.
- Pipe must be anchored in such a manner as to ensure flow line is maintained.

BEDDING CLASS DESIGN					
DIMENSION	CLASS A	CLASS B	CLASS C	CLASS D	CLASS F
A	4" MIN. 1/4" MAN	*	*	*	*
B	1/4 O.D.	1/2 O.D.	1/8 O.D.	Zero	0.0
C	3/4 O.D.	1/2 O.D.	1/8 O.D.	0.0	0.0

\*A = 4" MIN, 27" I.D. and under; 6" MIN. over 27" I.D.

APPROVED: *John & Elroy*  
Public Works Director Date

CITY OF FERDALE  
PIPE BEDDING FOR  
SANITARY SEWERS

DRAWING  
SS-1

JUNE 1995

**TYPE I - 48" MANHOLE**

NOTES

APPROVED: *John & Elroy*  
Public Works Director Date

CITY OF FERDALE  
TYPE I 48" MANHOLE

DRAWING  
SS-2

JANUARY 1993

**TYPE II - 48" MANHOLE**

MANHOLE

APPROVED: *John & Elroy*  
Public Works Director Date

CITY OF FERDALE  
TYPE II 48" MANHOLE

DRAWING  
SS-3

JANUARY 1993

**8" CLEAN OUT**

APPROVED: *John & Elroy*  
Public Works Director Date

CITY OF FERDALE  
8" CLEAN OUT

DRAWING  
SS-5

JANUARY 1993

**NORMAL INSTALLATION SIDE SEWER  
15" AND SMALLER**

APPROVED: *John & Elroy*  
Public Works Director Date

CITY OF FERDALE  
NORMAL INSTALLATION  
15" AND SMALLER SEWER MAINS

DRAWING  
SS-6

JUNE 1995

**SEWER SERVICE DETAIL**

APPROVED: *John & Elroy*  
Public Works Director Date

CITY OF FERDALE  
DOUBLE SANITARY SEWER SERVICE

DRAWING  
SS-13

JUNE 1995

**TRENCHING DETAIL**

APPROVED: *John & Elroy*  
Public Works Director Date

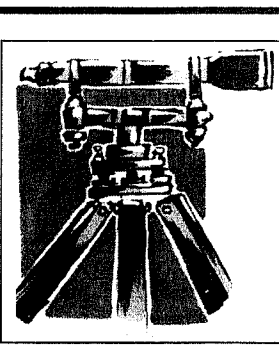
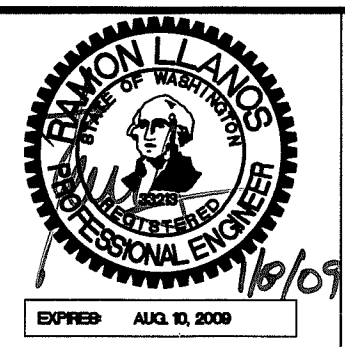
CITY OF FERDALE  
TRENCHING DETAIL

DRAWING  
SS-5

JUNE 1995

DRAWN BY: SR DATE: 1/6/2009  
CHECKED BY: RL DATE: 1/6/2009  
JOB # 06010

**LARSEN'S CHURCH HILL ESTATES**  
FOR: **SKY VIEW LANDS, LLC**



**LDES, INC.**  
5160 INDUSTRIAL PL. #108  
FERDALE, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

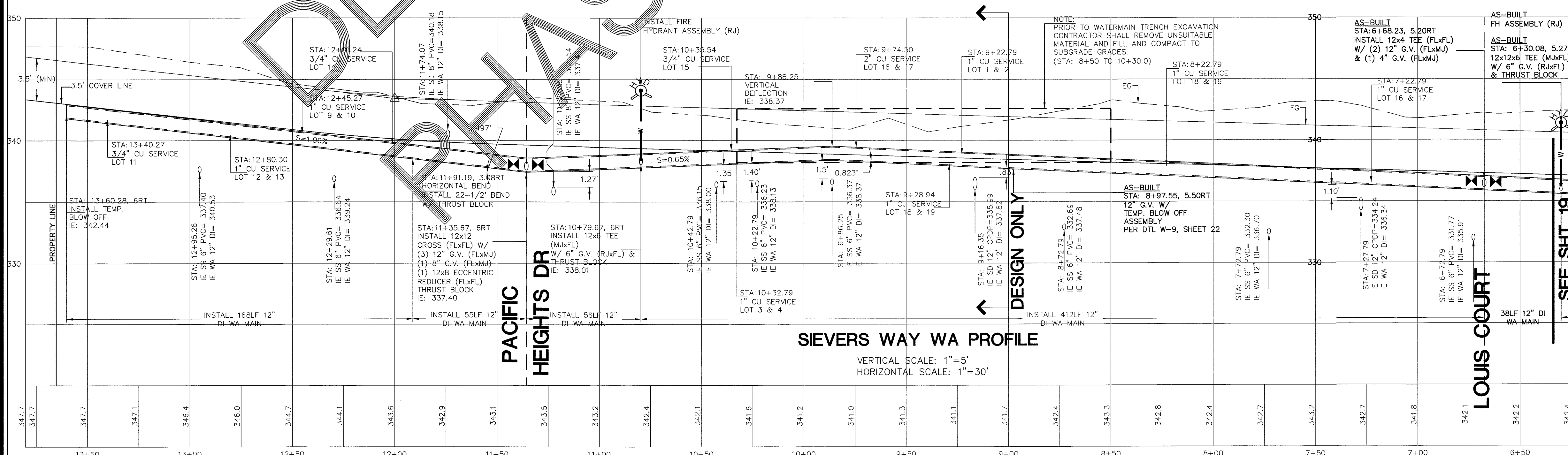
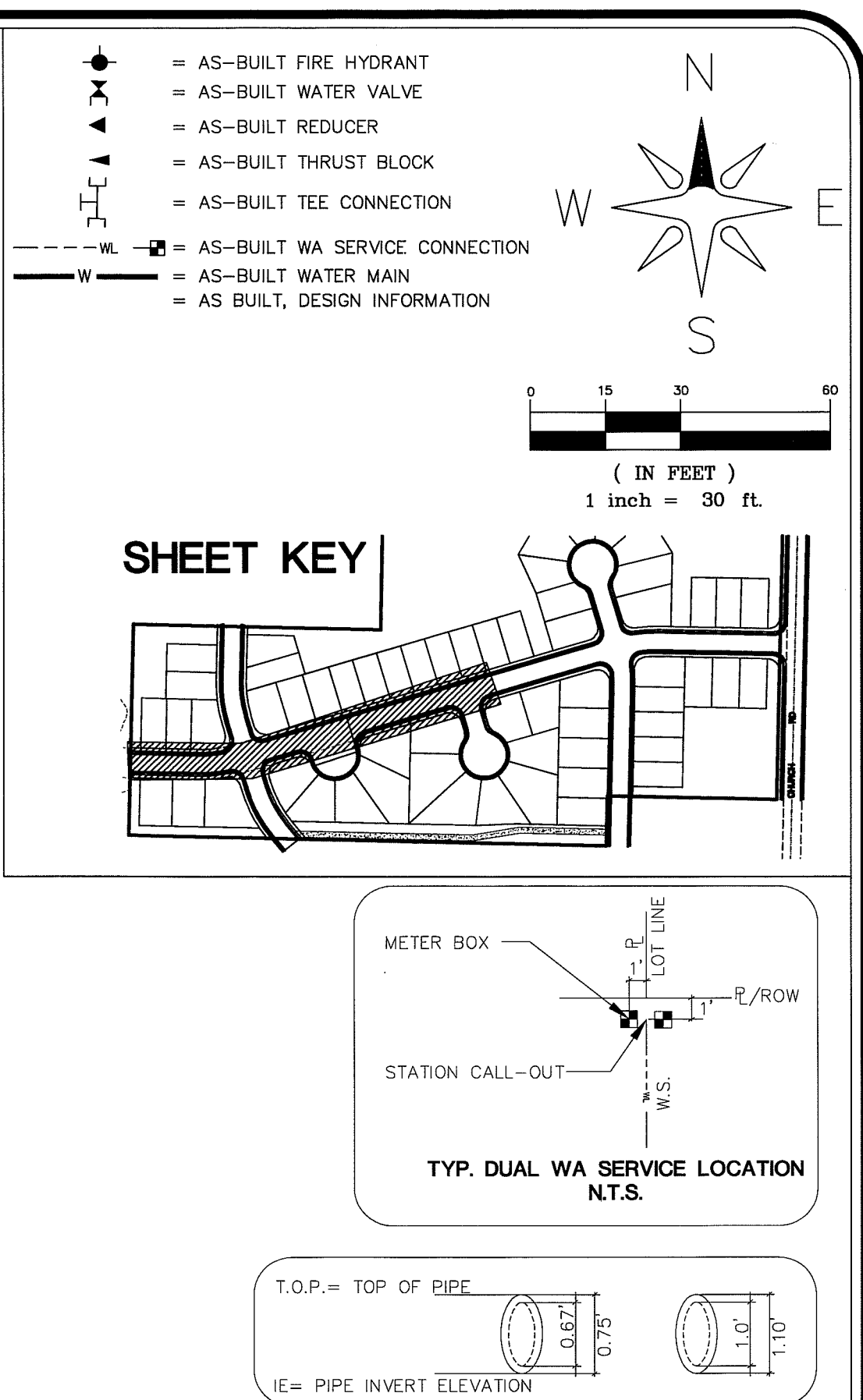
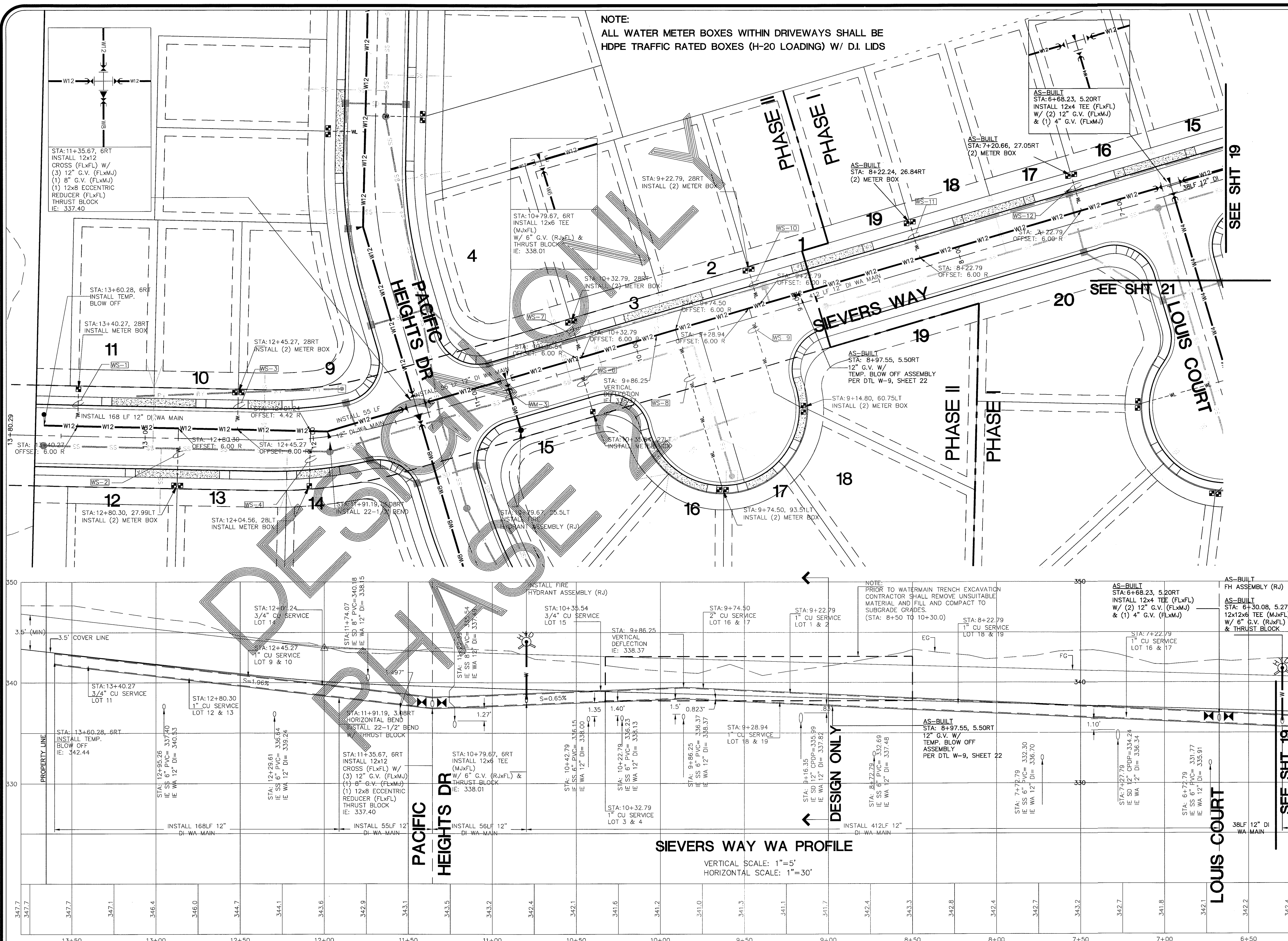
**LARSEN'S CHURCH HILL ESTATES**  
**SANITARY SEWER DETAILS**  
**AS-BUILT DRAWINGS**

SHEET  
**17**  
OF 32

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00394.018 7/13/09 DD



WATER MAIN DISTRIBUTION	WATER LINE SERVICE DISTRIBUTION
WM-1 INSTALL 33 LF 6" WATER MAIN	WS-1 INSTALL 22 LF 1" COPPER WATER LINE SERVICE
WM-2 INSTALL 35 LF 6" WATER MAIN	WS-2 INSTALL 34 LF 1" COPPER WATER LINE SERVICE
WM-3 INSTALL 36 LF 6" WATER MAIN	WS-3 INSTALL 22 LF 1" COPPER WATER LINE SERVICE
	WS-4 INSTALL 33 LF 1" COPPER WATER LINE SERVICE
	WS-5 INSTALL 34 LF 1" COPPER WATER LINE SERVICE
	WS-6 INSTALL 22 LF 1" COPPER WATER LINE SERVICE
	WS-7 INSTALL 22 LF 1" COPPER WATER LINE SERVICE
	WS-8 INSTALL 100 LF 2" COPPER WATER LINE SERVICE
	WS-9 INSTALL 73 LF 1" COPPER WATER LINE SERVICE
	WS-10, 11, 12, 13 INSTALL 22 LF 1" COPPER WATER LINE SERVICE
	WS-14 INSTALL 34 LF 1" COPPER WATER LINE SERVICE
	WS-15, 16 INSTALL 22 LF 1" COPPER WATER LINE SERVICE
	WS-17 INSTALL 22 LF 1" COPPER WATER LINE SERVICE
	WS-18 INSTALL 34 LF 1" COPPER WATER LINE SERVICE
	WS-19 INSTALL 22 LF 1" COPPER WATER LINE SERVICE
	WS-20 INSTALL 22 LF 1" COPPER WATER LINE SERVICE
	WS-21 INSTALL 34 LF 1" COPPER WATER LINE SERVICE

DRAWN BY: SR DATE: 6/5/2009  
 CHECKED BY: RL DATE: 6/5/2009  
**LARSEN'S CHURCH HILL ESTATES**  
 FOR: SKY VIEW LANDS, LLC  
 JOB # 06010

**LDES, INC.**  
 5160 INDUSTRIAL PL #108  
 FERNDALE, WA 98248  
 PHONE 360-383-0620  
 FAX 360-383-0639

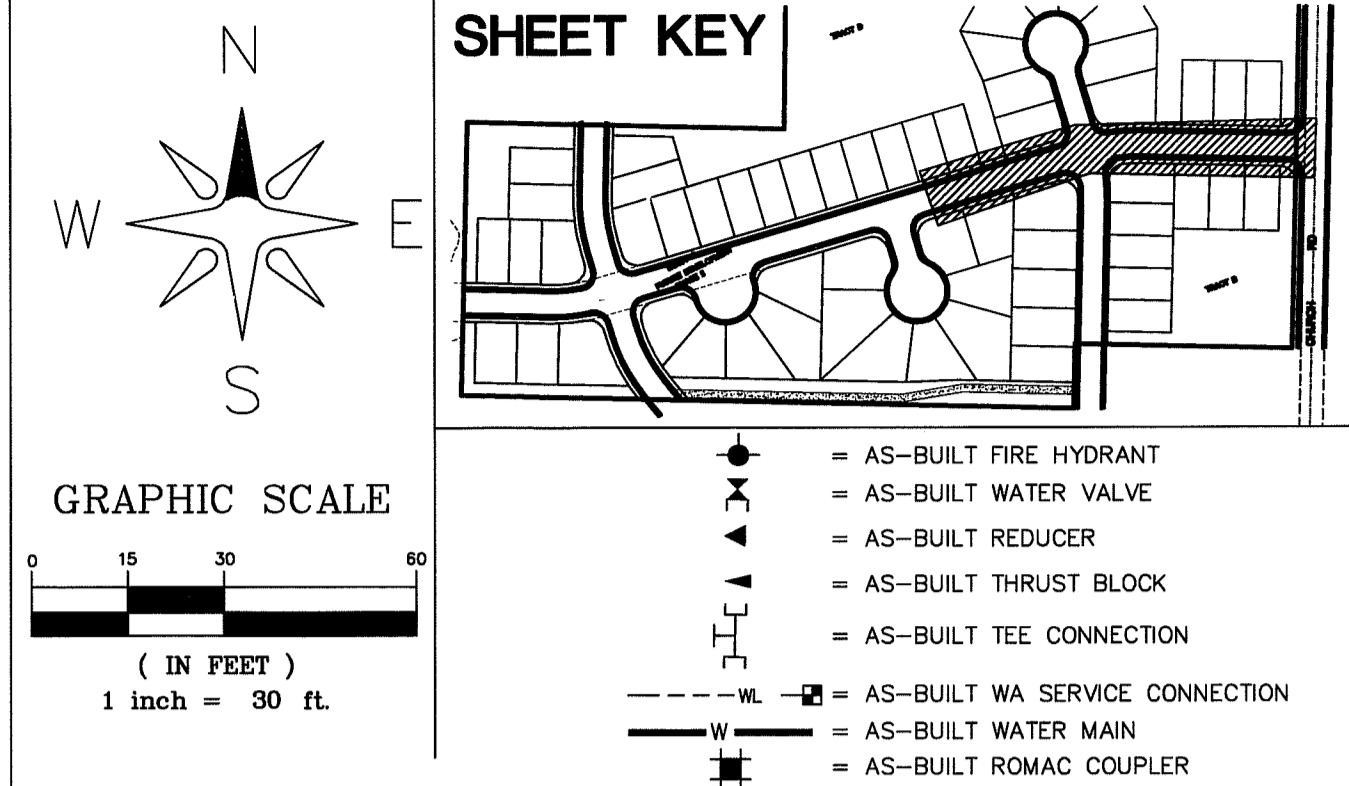
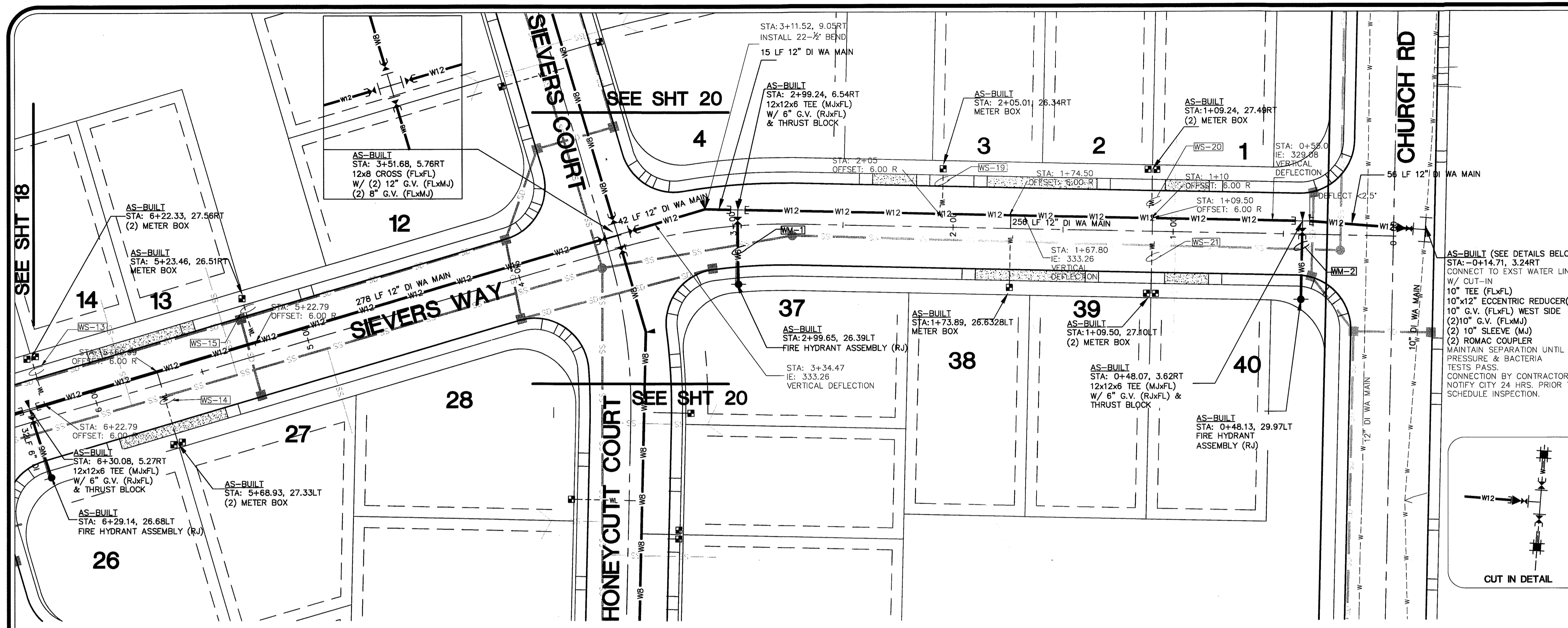
**LARSEN'S CHURCH HILL ESTATES**  
 WATER DISTRIBUTION  
 PLAN AND PROFILE  
 SIEVERS WAY  
**AS-BUILT DRAWINGS**

REVISIONS - INITIALS/DATE/CMS	SHEET
SR 12/26/07 SUBMITTAL No. 1	<b>18</b> OF 32
SR 6/10/08 SUBMITTAL No. 2	
SR 7/15/08 SUBMITTAL No. 3	
SR 9/30/08 SUBMITTAL No. 4	

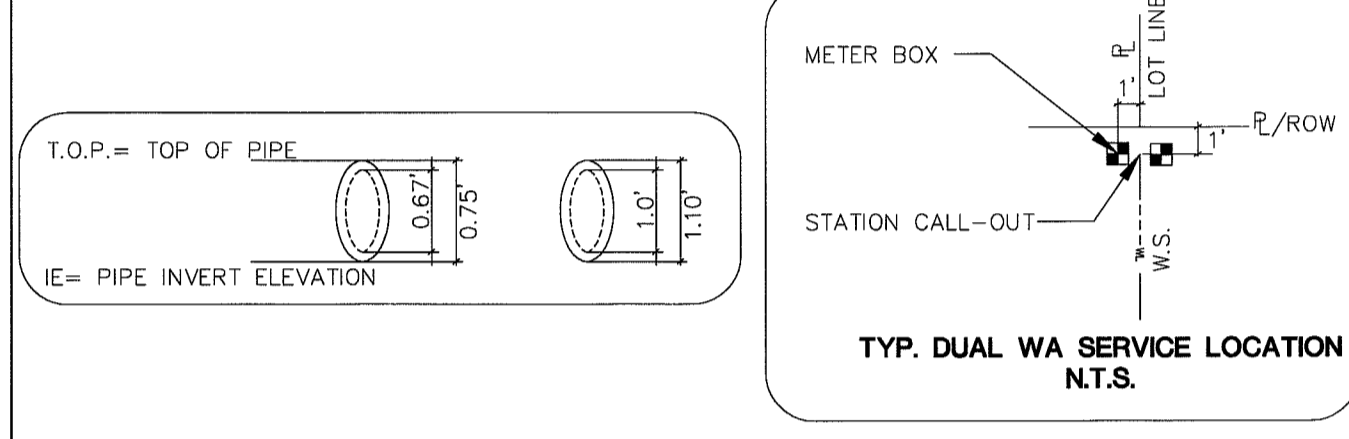
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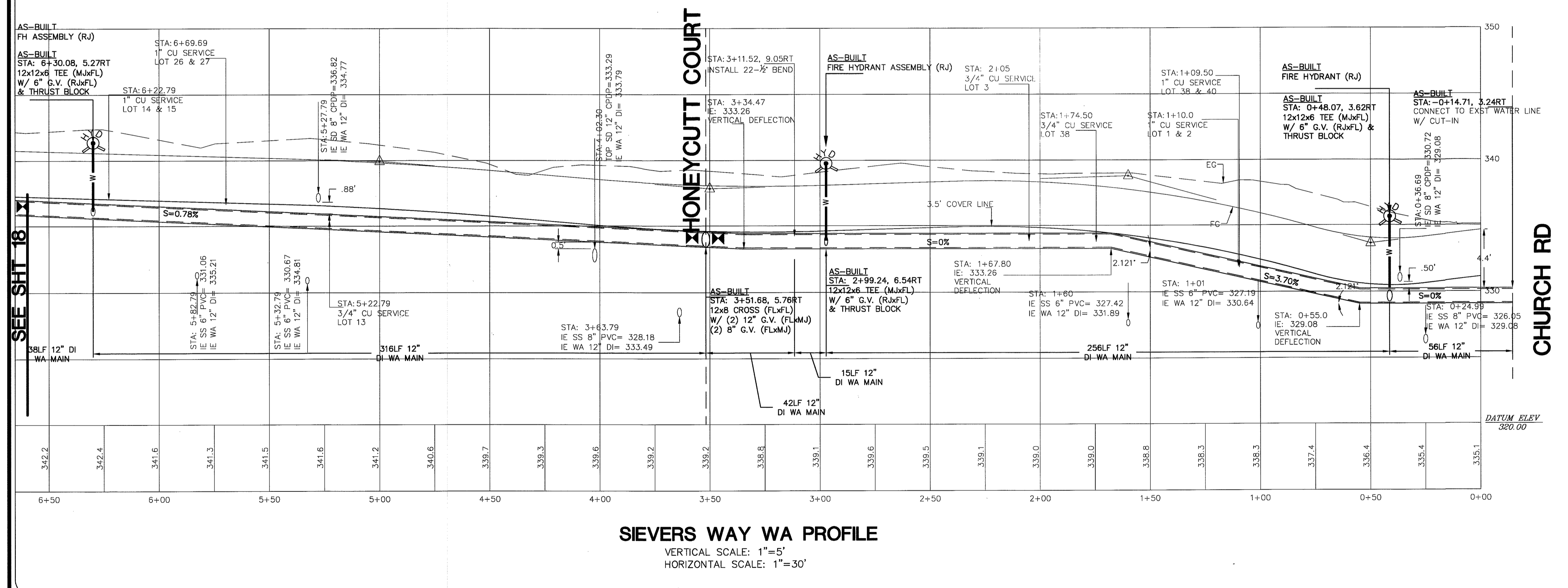
00394.019 7.13.09 DD



**NOTE:**  
 ALL WATER METER BOXES WITHIN DRIVEWAYS SHALL BE HDPE TRAFFIC RATED BOXES (H-20 LOADING) W/ D.I. LIDS



- |   |                                     |
|---|-------------------------------------|
| <b>WATER LINE SERVICE DISTRIBUTION</b>              | <b>WATER MAIN DISTRIBUTION</b>      |
| WS-15<br>INSTALL 22 LF 1" COPPER WATER LINE SERVICE | WM-1<br>INSTALL 33 LF 6" WATER MAIN |
| WS-17<br>INSTALL 22 LF 1" COPPER WATER LINE SERVICE | WM-2<br>INSTALL 35 LF 6" WATER MAIN |
| WS-18<br>INSTALL 34 LF 1" COPPER WATER LINE SERVICE | WM-3<br>INSTALL 36 LF 6" WATER MAIN |
| WS-19<br>INSTALL 22 LF 1" COPPER WATER LINE SERVICE |                                     |
| WS-20<br>INSTALL 22 LF 1" COPPER WATER LINE SERVICE |                                     |
| WS-21<br>INSTALL 34 LF 1" COPPER WATER LINE SERVICE |                                     |



DRAWN BY SR DATE 1/6/2009  
 CHECKED BY RL DATE 1/6/2009

**LARSEN'S CHURCH HILL ESTATES**

**JOB # 06010 FOR: SKY VIEW LANDS, LLC**

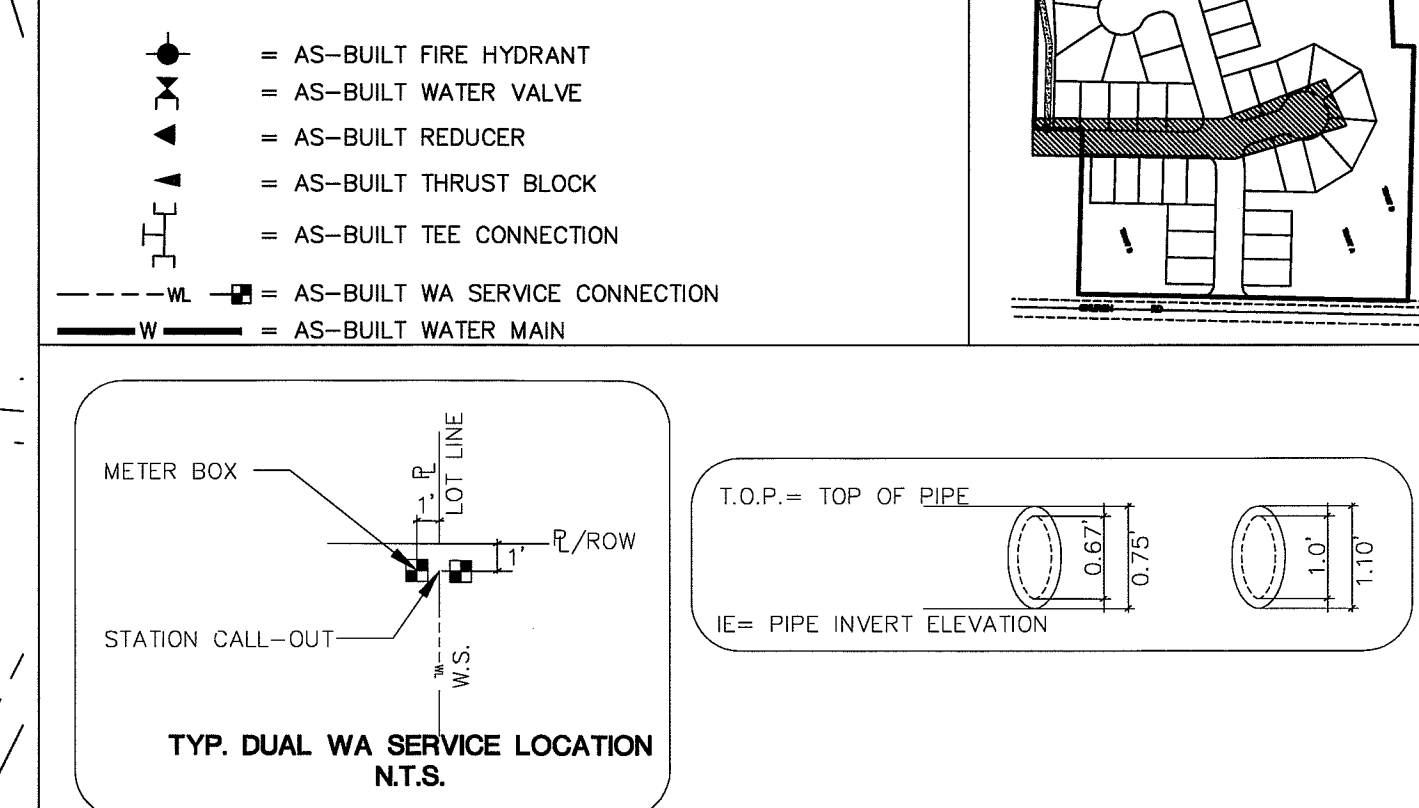
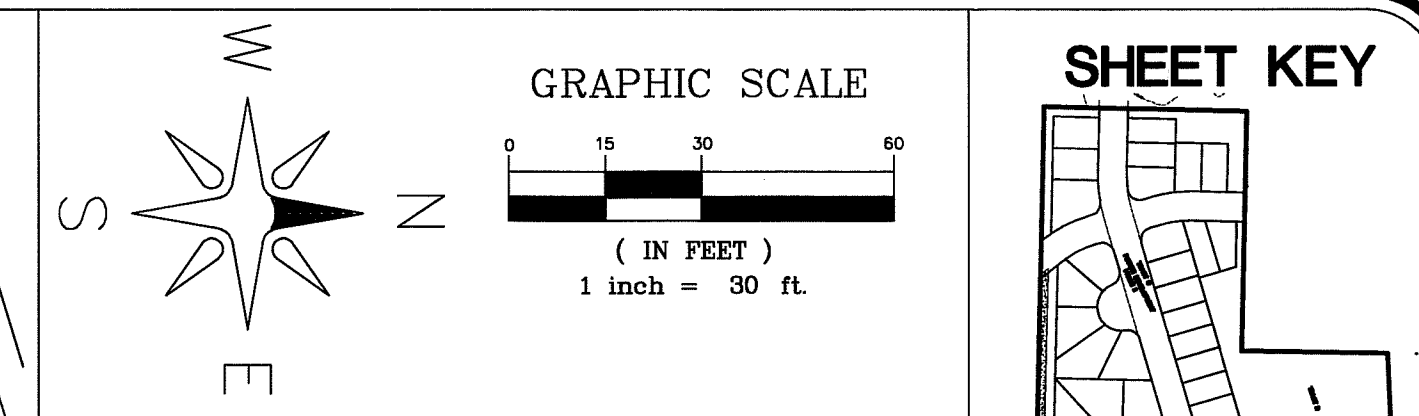
**LARSEN'S CHURCH HILL ESTATES**  
 WATER DISTRIBUTION PLAN AND PROFILE  
 SIEVERS WAY  
**AS-BUILT DRAWINGS**

**LDES, INC.**  
 5160 INDUSTRIAL PL #108  
 FERNDALE, WA 98248  
 PHONE 360-383-0620  
 FAX 360-383-0639

REVISIONS - INITIALS/DATE/CMS		SHEET
SR 12/26/07	SUBMITTAL No. 1	<b>19</b> OF 32
SR 6/10/08	SUBMITTAL No. 2	
SR 7/15/08	SUBMITTAL No. 3	
SR 9/30/08	SUBMITTAL No. 3	

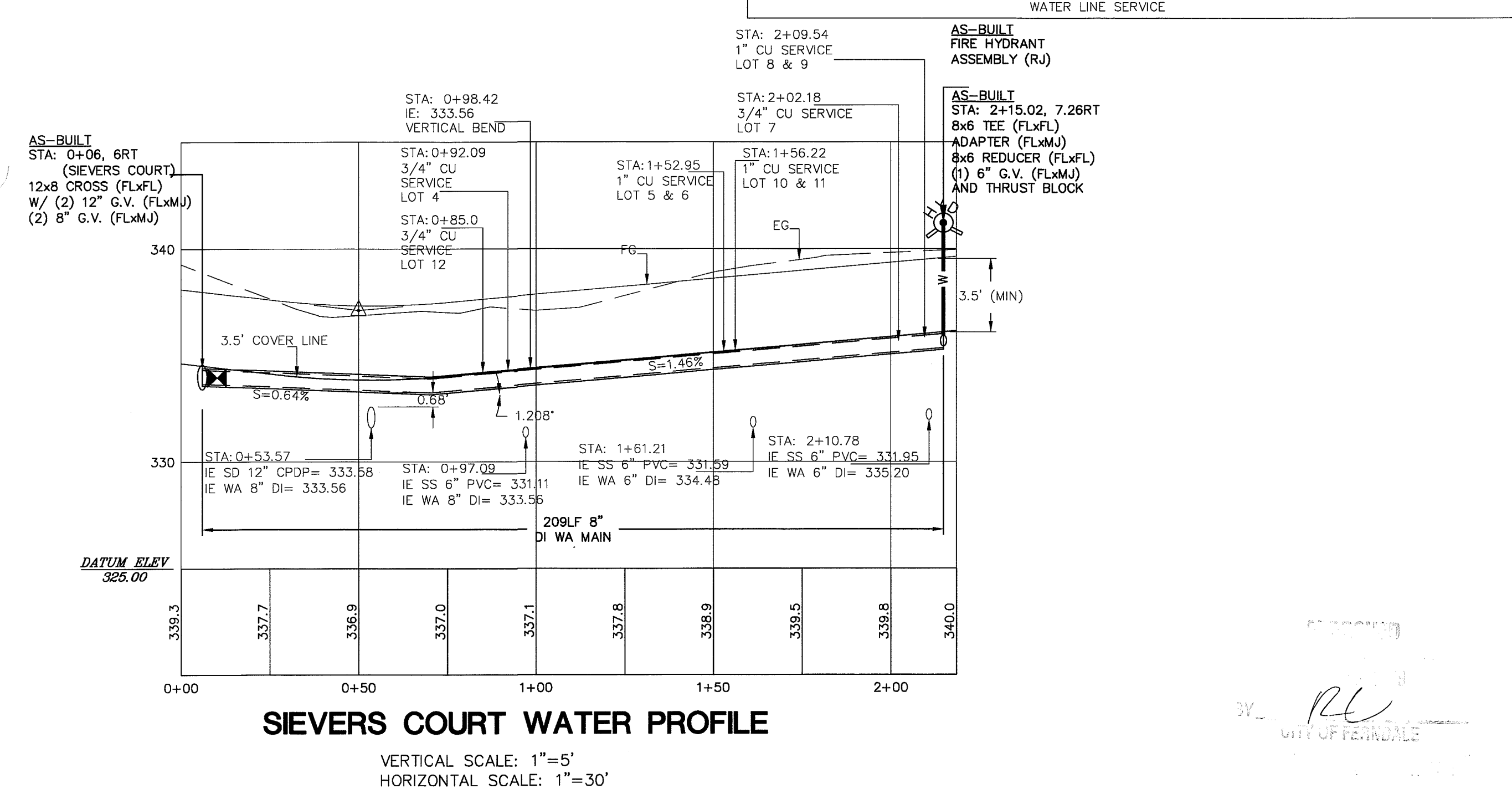
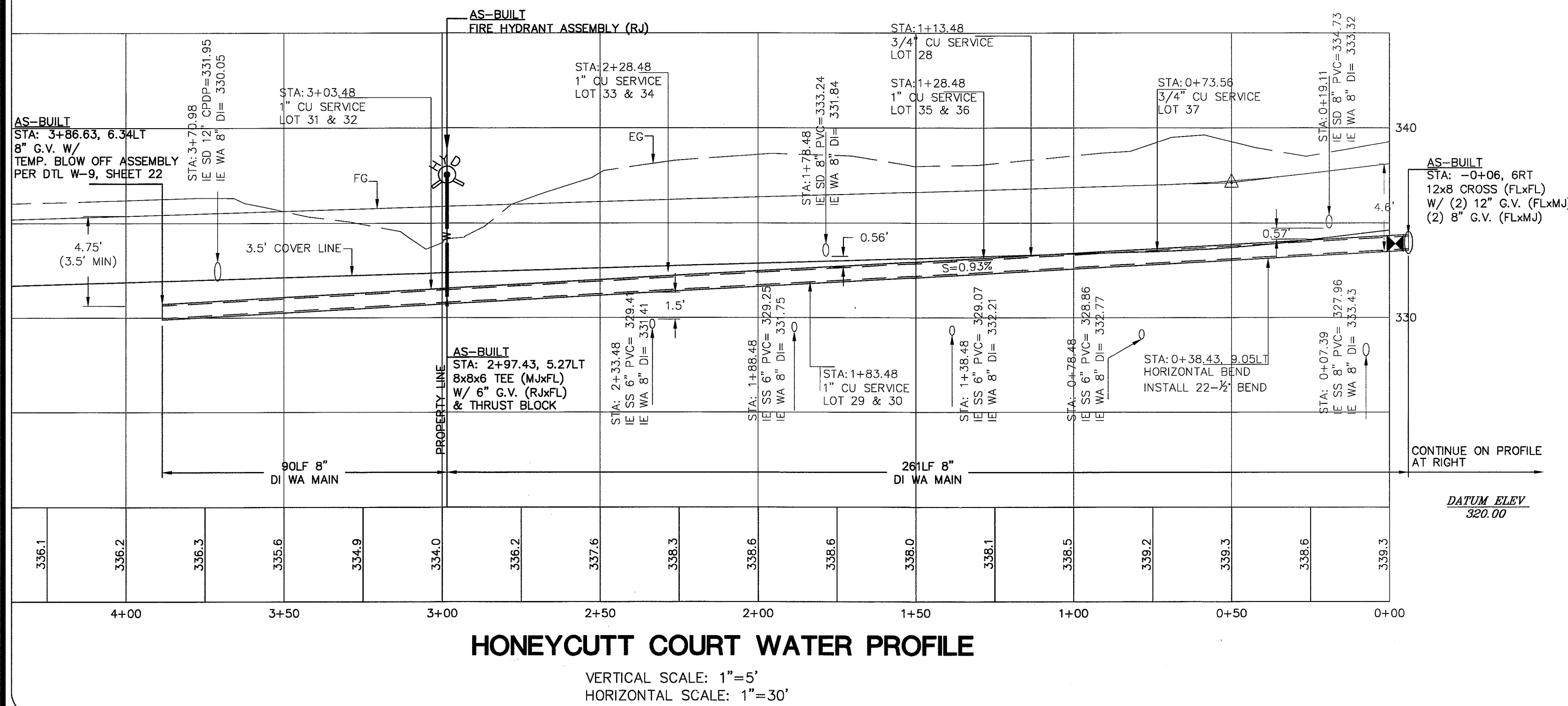
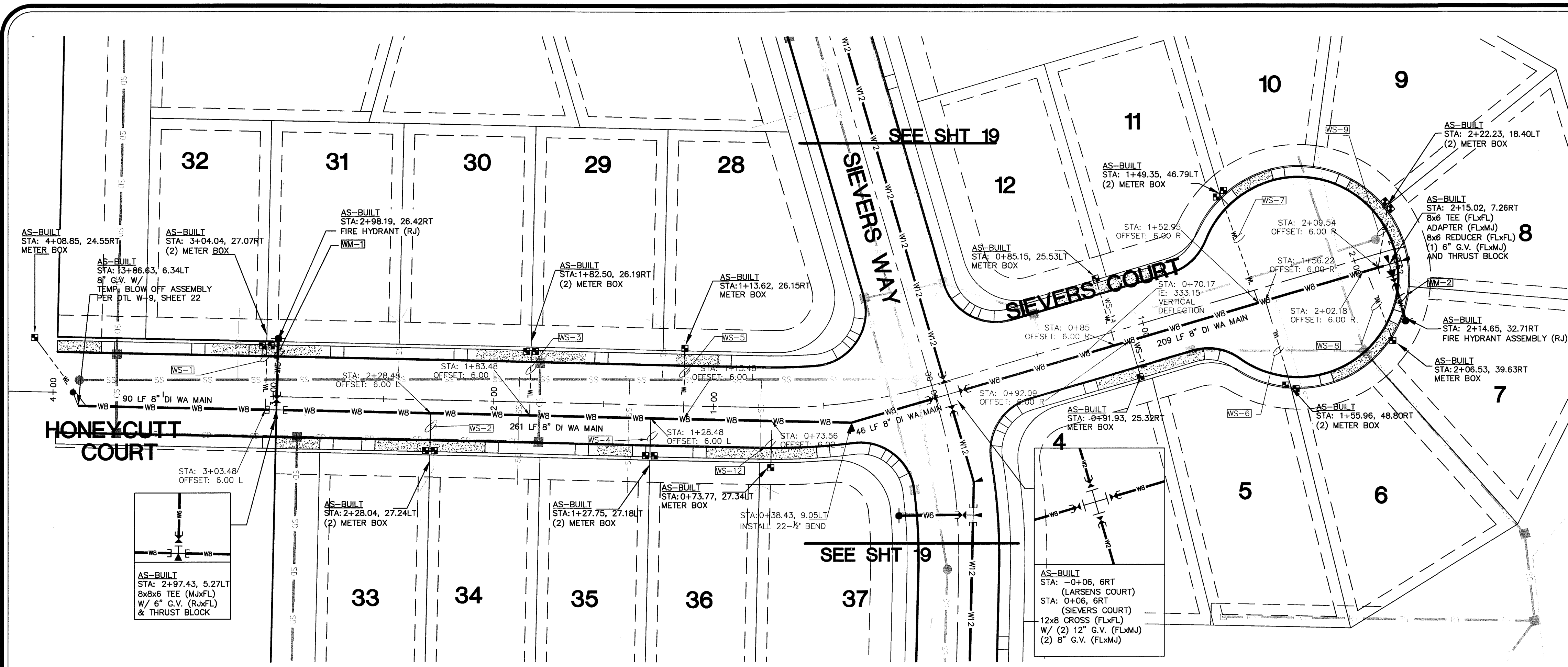
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022800 1:13:09 DD



**NOTE:**  
ALL WATER METER BOXES WITHIN DRIVEWAYS SHALL BE HDPE TRAFFIC RATED BOXES (H-20 LOADING) W/ D.I. LIDS

WATERLINE SERVICE DISTRIBUTION		WATER MAIN DISTRIBUTION
WS-1 INSTALL 29 LF 1" COPPER WATER LINE SERVICE	WS-7 INSTALL 49 LF 1" COPPER WATER LINE SERVICE	WM-1 INSTALL 31 LF 6" WATER MAIN
WS-2 INSTALL 17 LF 1" COPPER WATER LINE SERVICE	WS-8 INSTALL 31 LF 1" COPPER WATER LINE SERVICE	WM-2 INSTALL 26 LF 6" WATER MAIN
WS-3 INSTALL 29 LF 1" COPPER WATER LINE SERVICE	WS-9 INSTALL 28 LF 1" COPPER WATER LINE SERVICE	
WS-4 INSTALL 17 LF 1" COPPER WATER LINE SERVICE	WS-10 INSTALL 12 LF 1" COPPER WATER LINE SERVICE	
WS-5 INSTALL 29 LF 1" COPPER WATER LINE SERVICE	WS-11 INSTALL 34 LF 1" COPPER WATER LINE SERVICE	
WS-6 INSTALL 33 LF 1" COPPER WATER LINE SERVICE	WS-12 & 13 INSTALL 17 LF 1" COPPER WATER LINE SERVICE	
	WS-14 INSTALL 30 LF 1" COPPER WATER LINE SERVICE	

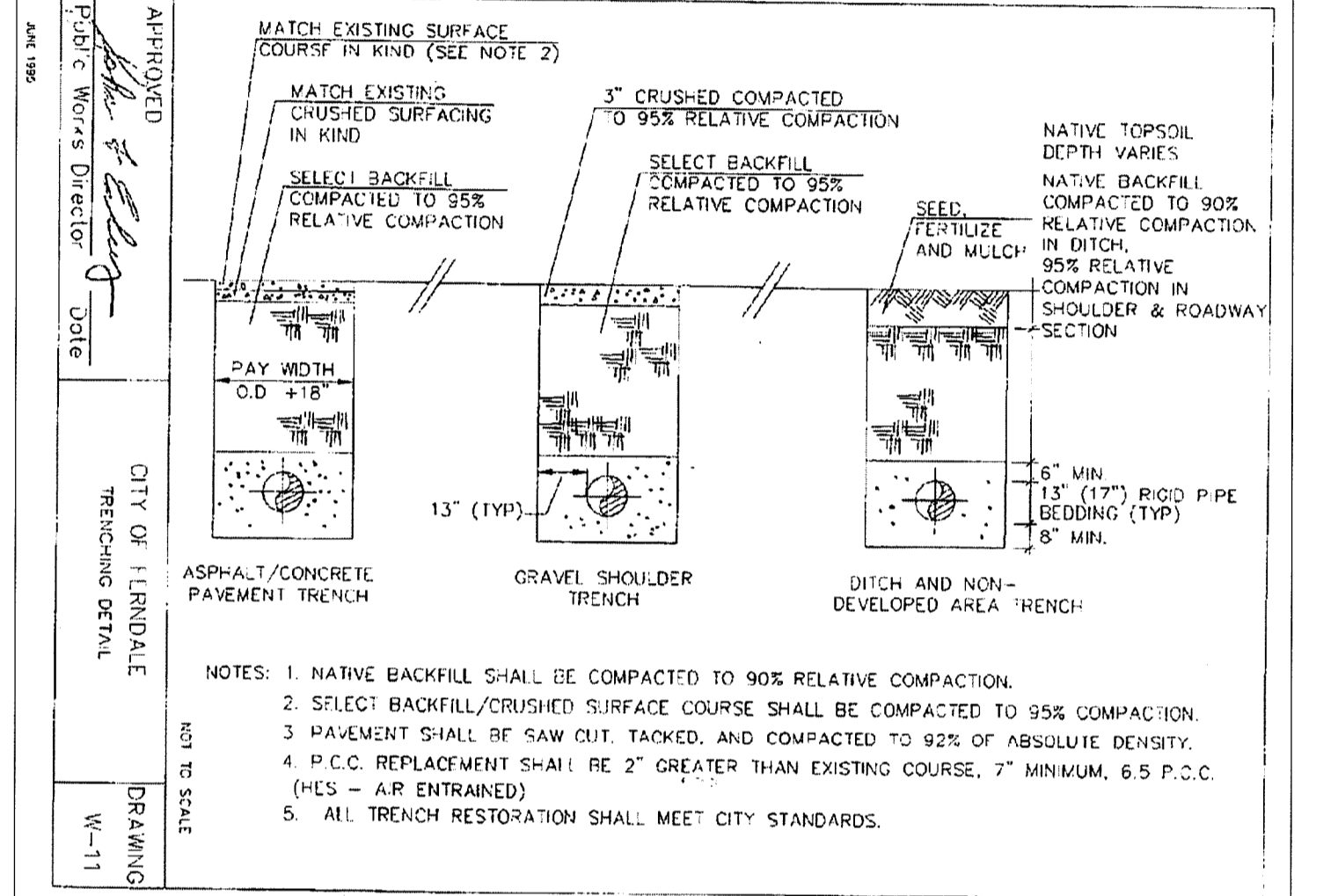
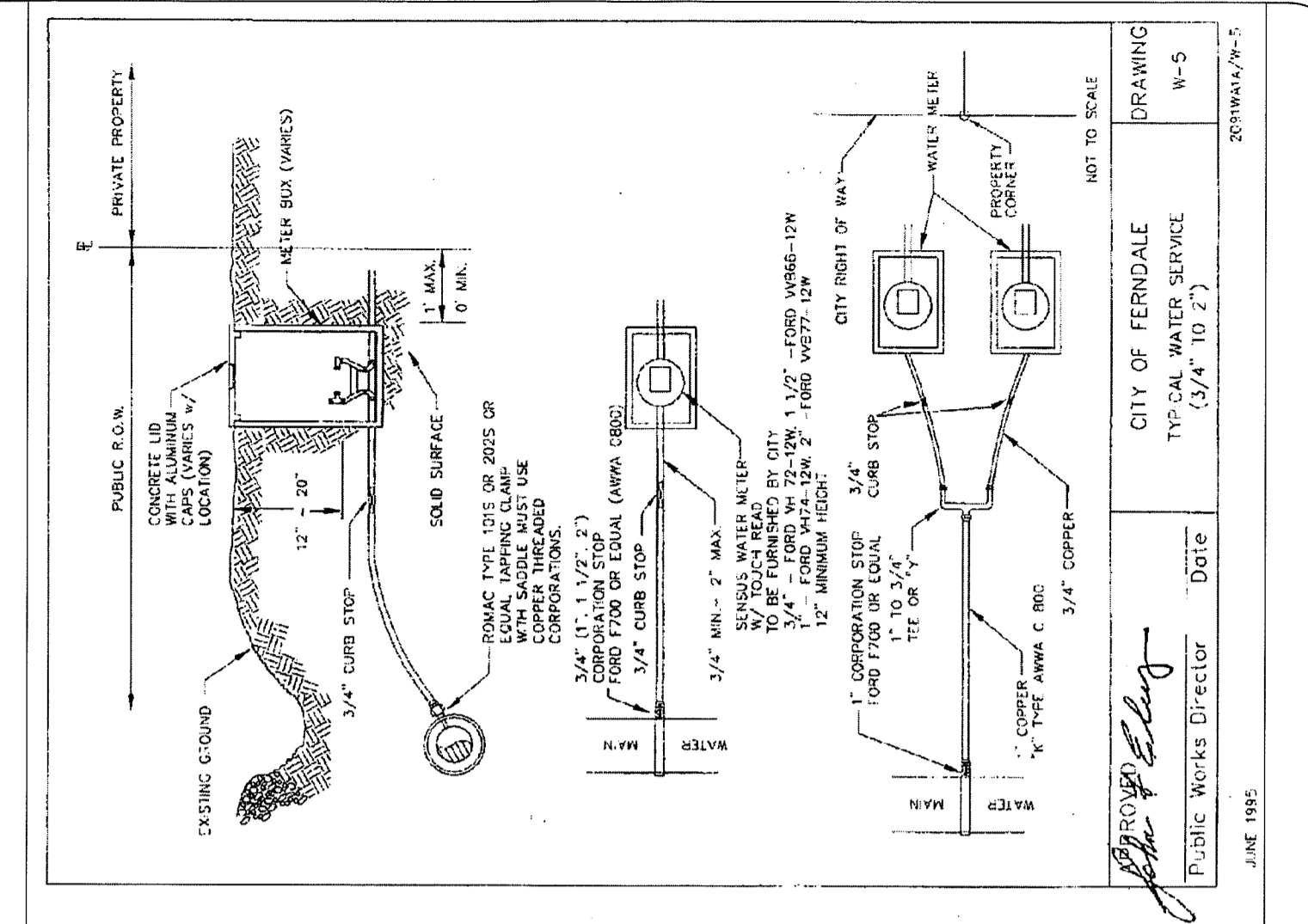
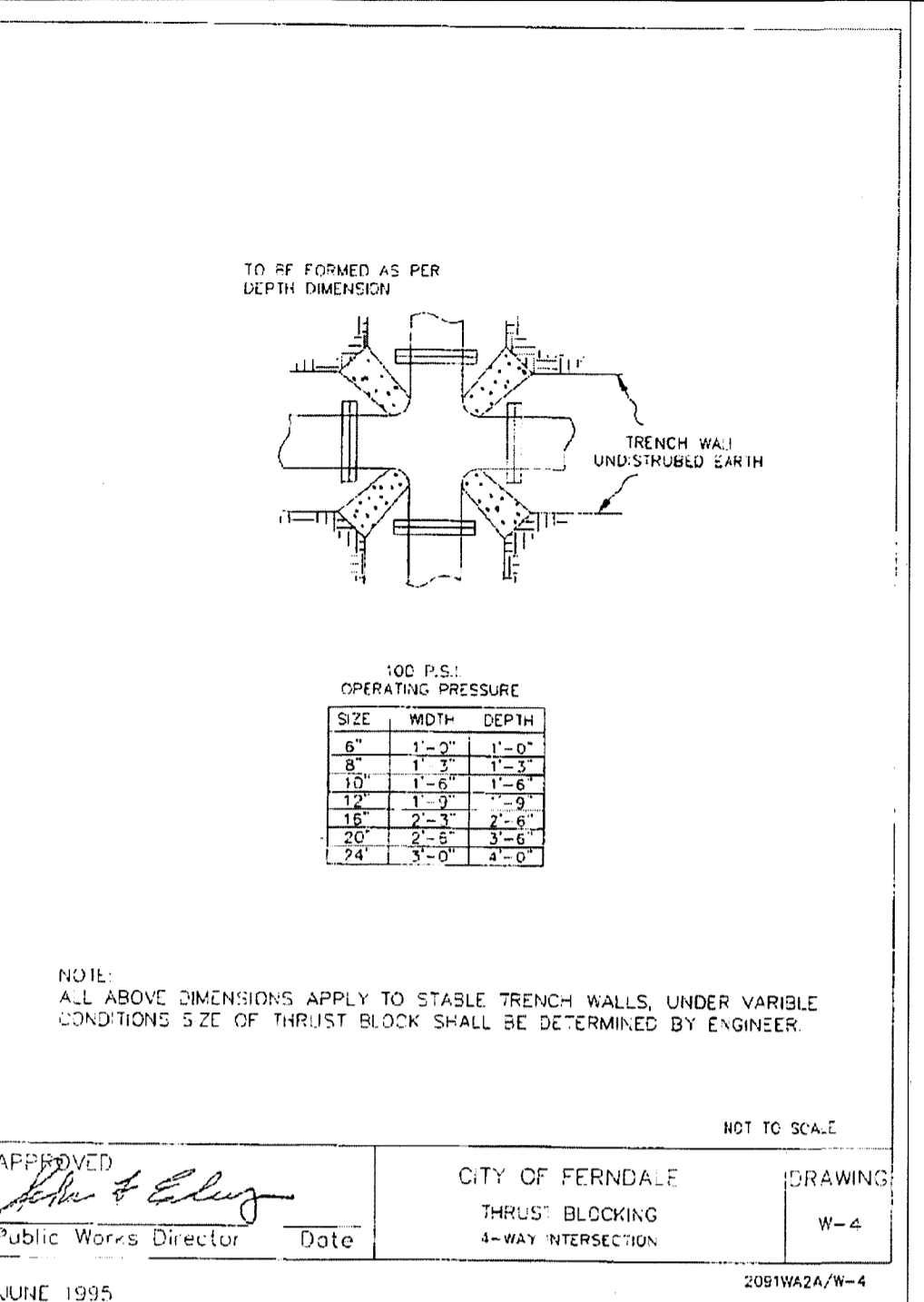
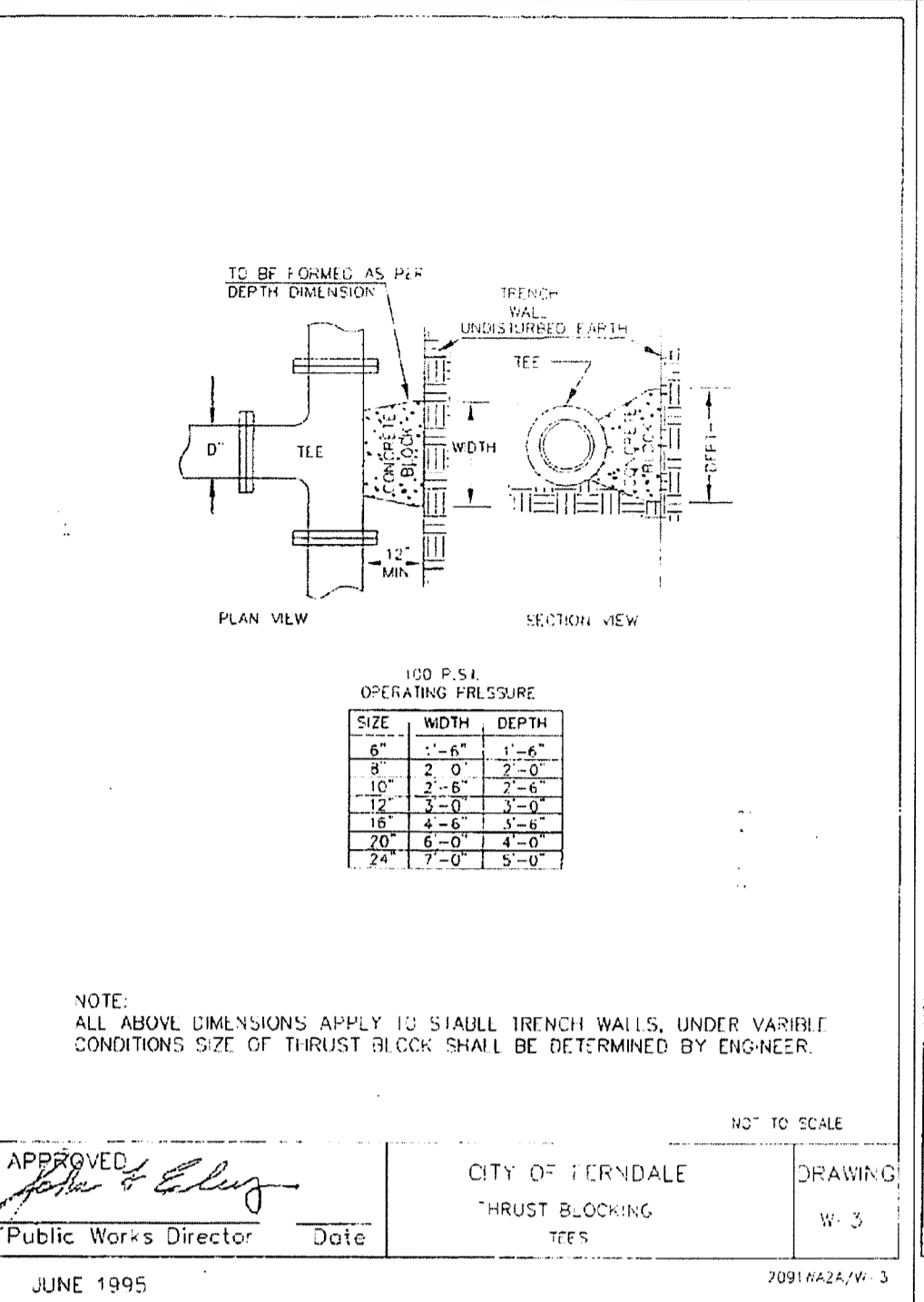
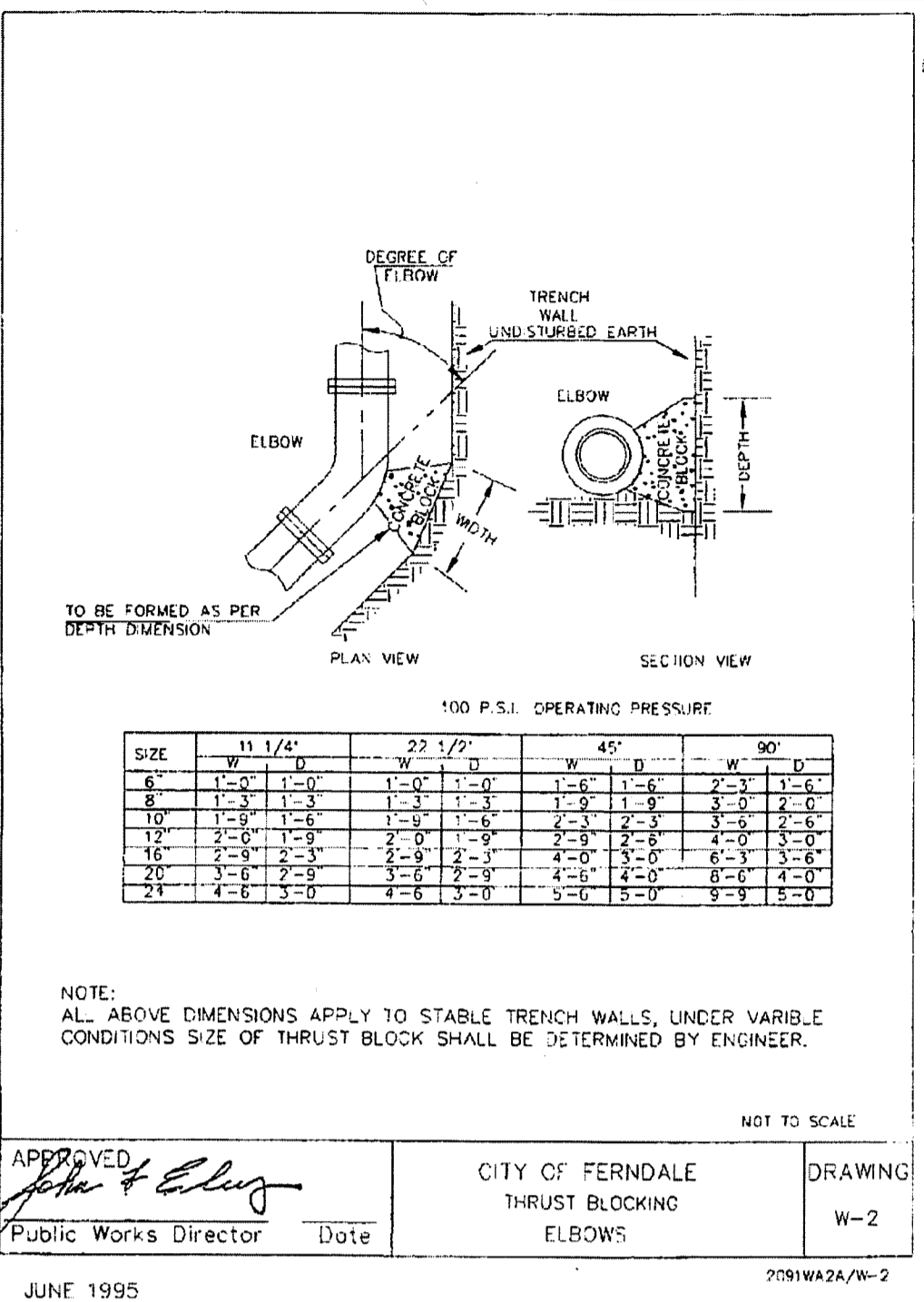
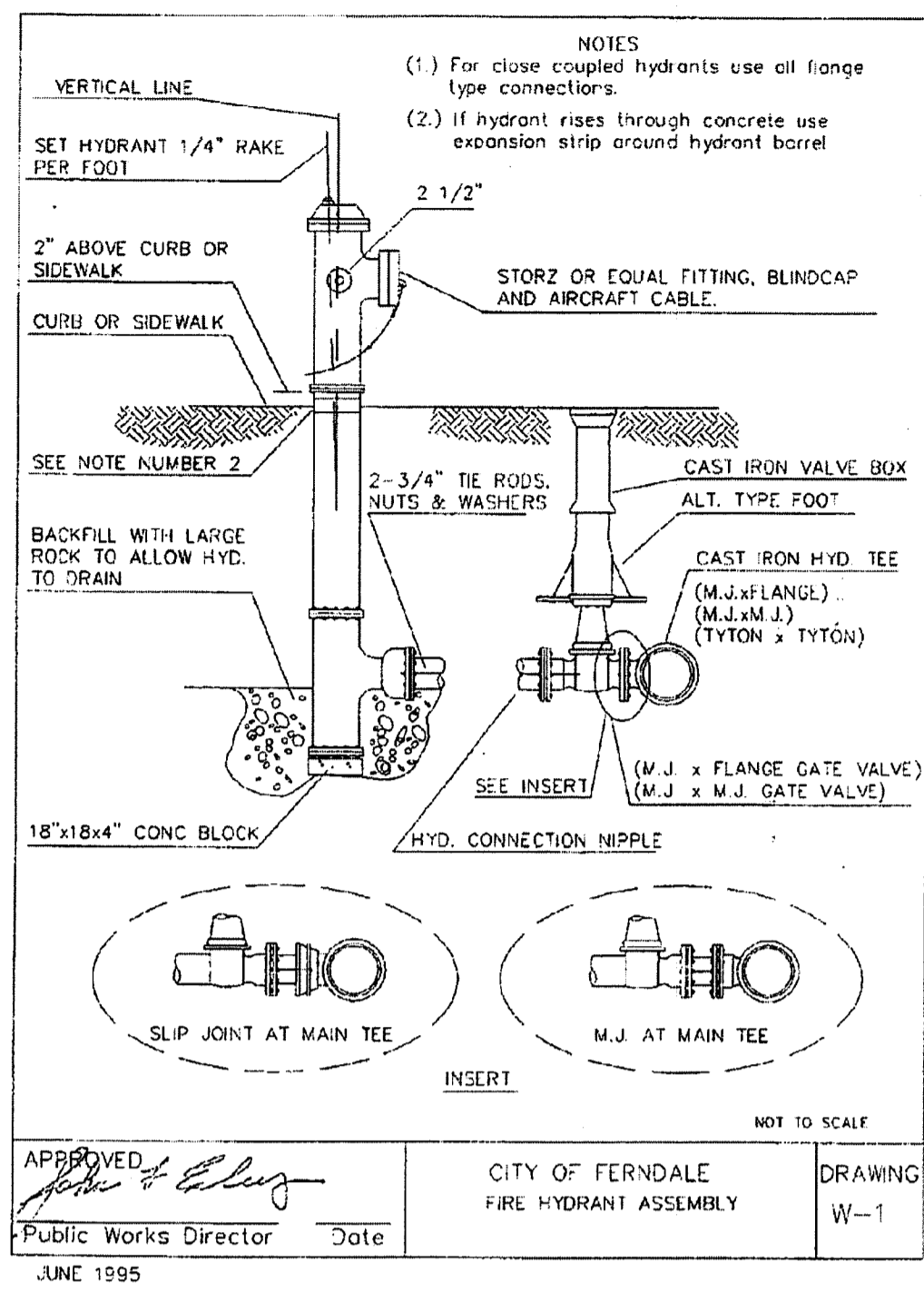


DRAWN BY: SR DATE: 06/20/09	<b>LARSEN'S CHURCH HILL ESTATES</b>			LDES, INC. 5160 INDUSTRIAL PL #108 FERNDALE, WA 98248 PHONE 360-383-0620 FAX 360-383-0639	<b>LARSEN'S CHURCH HILL ESTATES</b> WATER DISTRIBUTION PLAN AND PROFILE HONEYCUTT COURT AND SIEVERS COURT <b>AS-BUILT DRAWINGS</b>	<b>REVISIONS - INITIALS/DATE/CMS</b>	SHEET <b>20</b> OF 32
CHECKED BY: RL DATE: 08/20/09						SR 12/26/07 SUBMITTAL No. 1	
<b>JOB # 06010</b>	<b>FOR: SKY VIEW LANDS, LLC</b>						

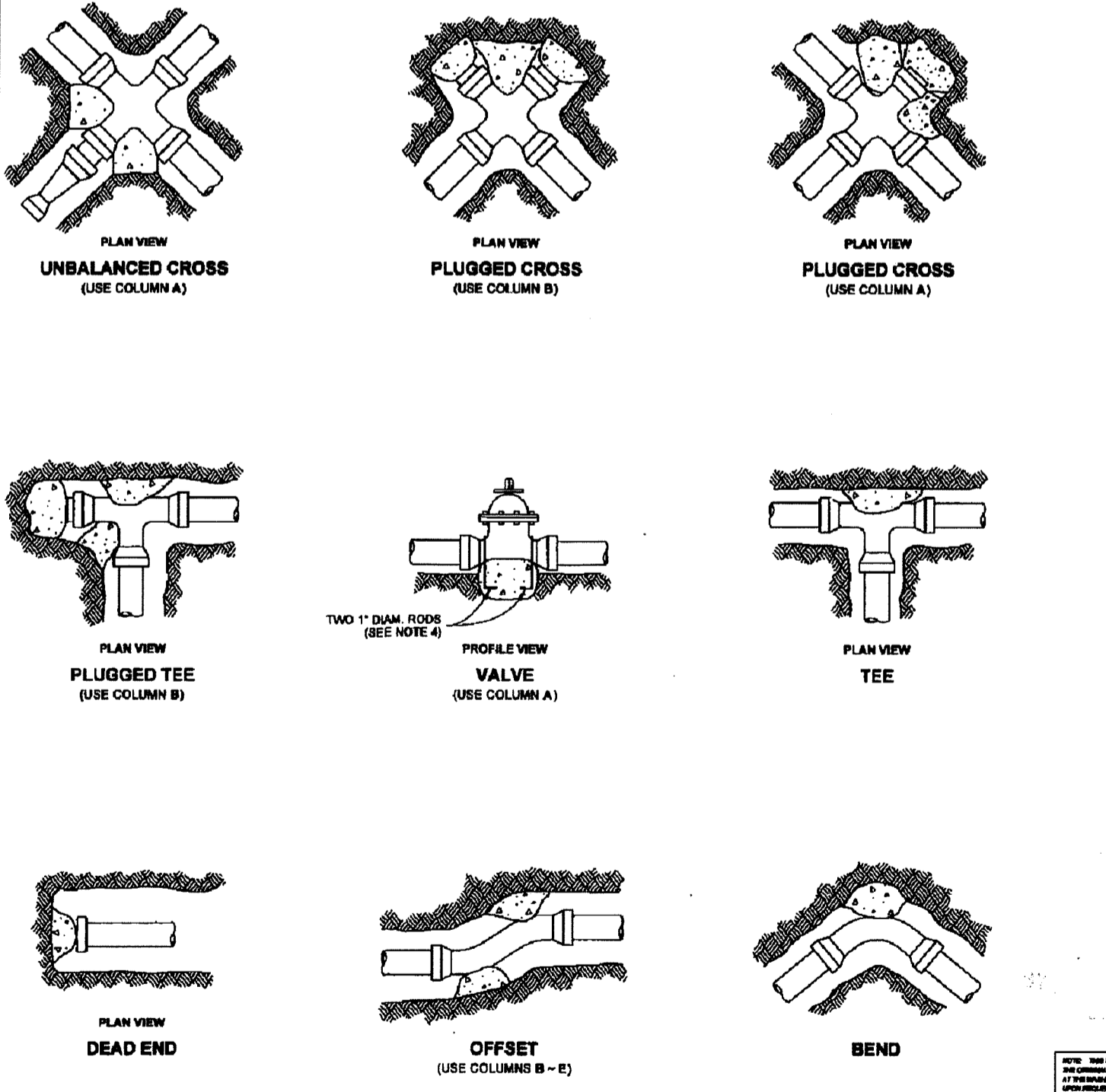
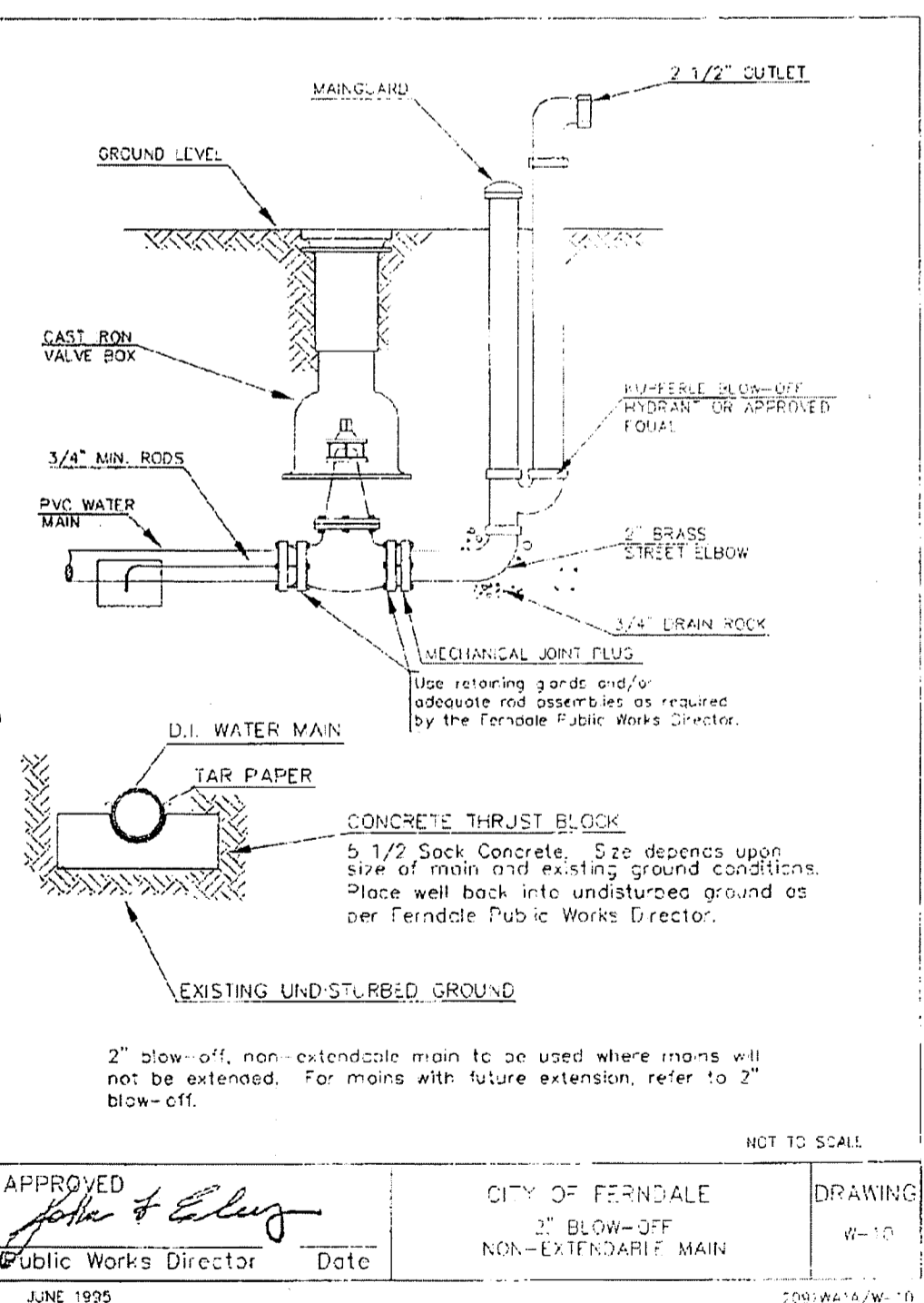
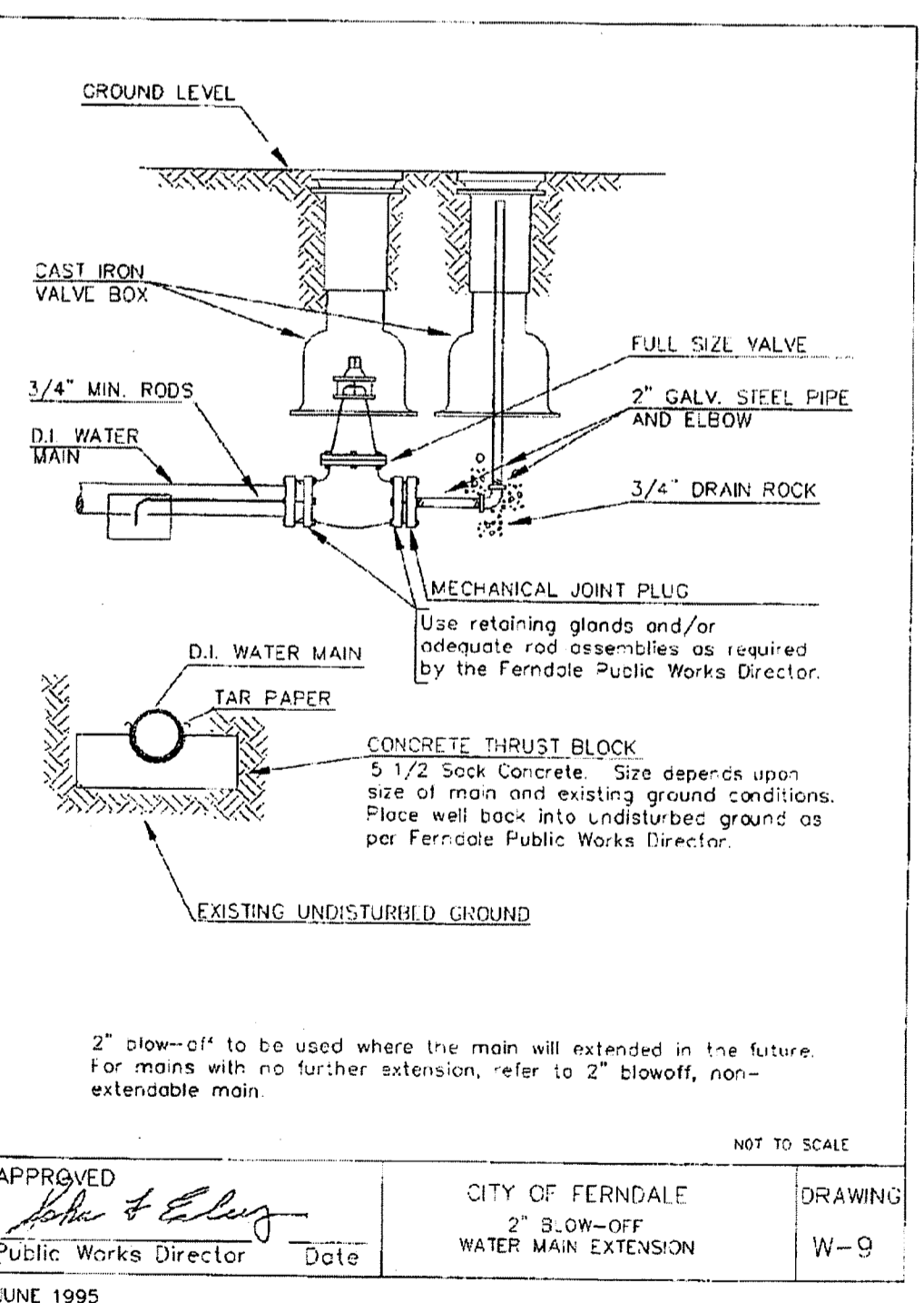
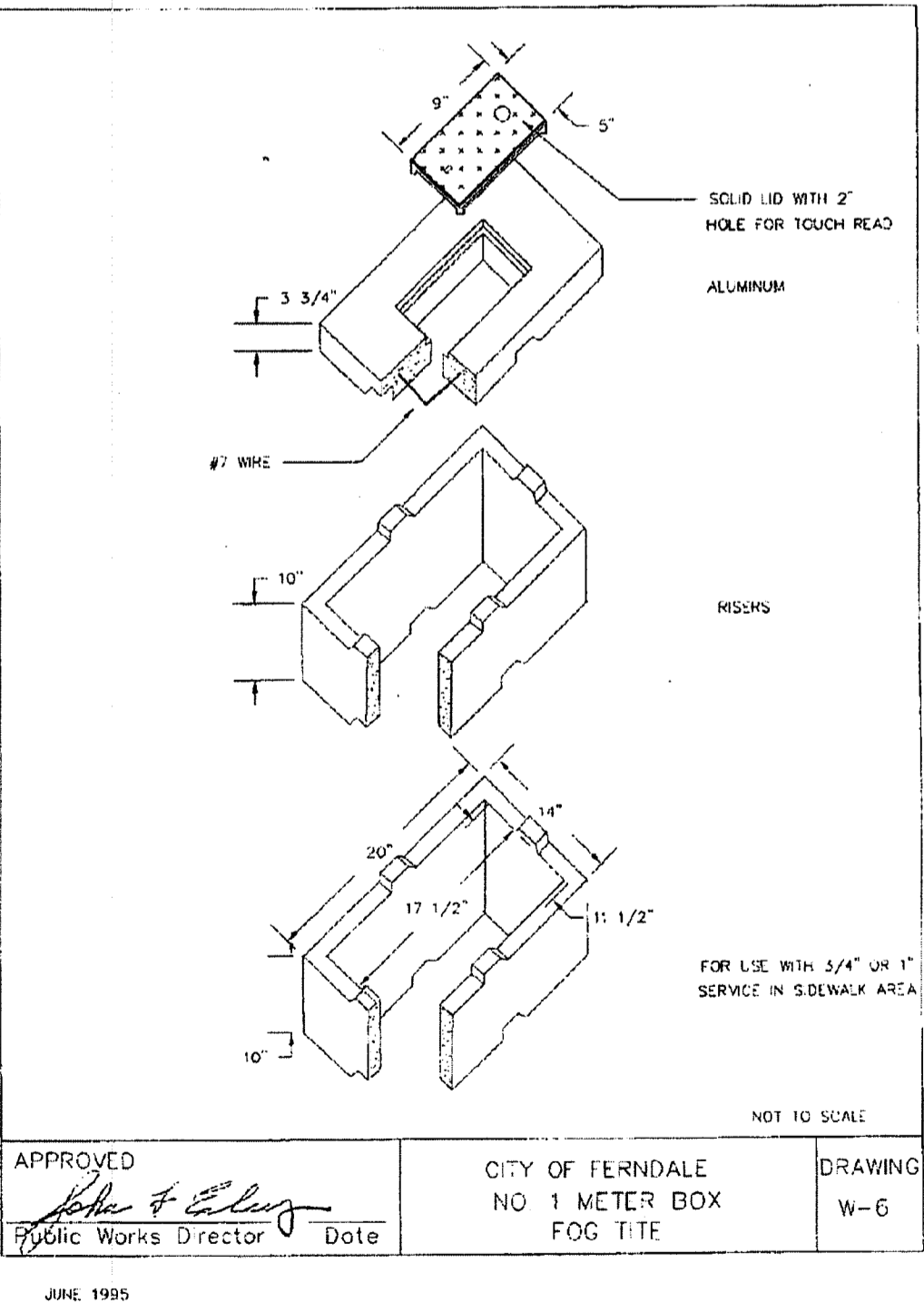








NOTE:  
 CONTRACTOR SHALL USE THE MORE CONSERVATIVE THRUST BLOCK DIMENSIONS SHOWN HEREON.



**NOTES**

- Contractor to provide blocking adequate to withstand full test pressure.
- Divide thrust by safe bearing load to determine required area (in square feet) of concrete to distribute load.
- Area to be adjusted for other pressure conditions.
- Provide two 1" minimum diameter rods on valves up through 10" diameter. Valves larger than 10" require special tie rod design.

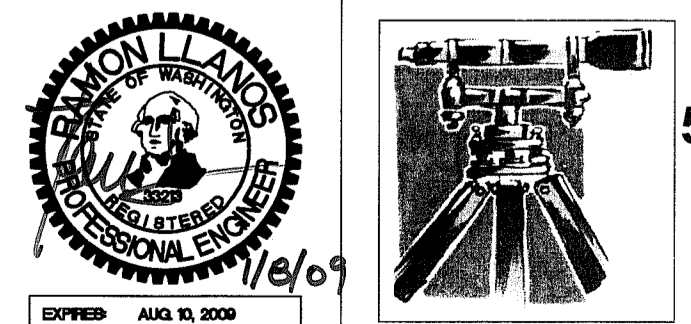
TEST SIZE (INCHES)	TEST PRESSURE (PSI)	THRUST AT FITTINGS IN POUNDS				
		A	B	C	D	E
6"	250	3,140	4,440	2,600	1,220	970
8"	250	7,290	8,260	6,410	2,700	1,380
10"	250	12,560	17,770	8,600	4,900	2,460
12"	250	18,850	27,770	13,030	7,800	3,860
14"	250	26,180	38,860	19,400	11,000	5,540
16"	250	34,600	51,420	26,460	15,010	7,540
18"	250	44,160	65,600	34,470	19,810	9,860

SOIL TYPE	SAFE BEARING LOAD (PSF)
MUCK, PEAT, ETC.	0
SOFT CLAY	1,000
SAND	2,000
SAND AND GRAVEL	3,000
SAND AND GRAVEL CEMENTED WITH CLAY	4,000
HARD SHALE	10,000

**CONCRETE THRUST BLOCK**  
 STANDARD PLAN B-90.40-00  
 SHEET 1 OF 1 SHEET  
 APPROVED FOR PUBLICATION  
 Harold J. Peterfeso 06-09-06  
 Professional Engineer  
 Washington State Department of Transportation

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DRAWN BY: SR DATE: 1/6/2009  
 CHECKED BY: RL DATE: 1/6/2009  
**LARSEN'S CHURCH HILL ESTATES**  
 JOB # 06010 FOR: SKY VIEW LANDS, LLC



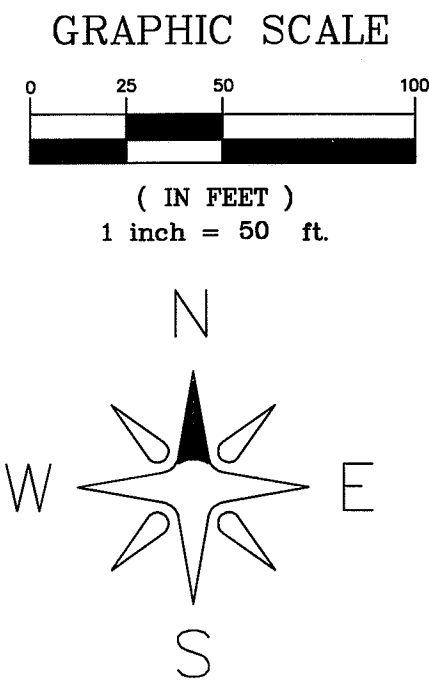
**LDES, INC.**  
 5160 INDUSTRIAL PL. #108  
 FERDALE, WA 98248  
 PHONE 360-383-0620  
 FAX 360-383-0639

**LARSEN'S CHURCH HILL ESTATES**  
 WATER DISTRIBUTION DETAILS  
**AS-BUILT DRAWINGS**

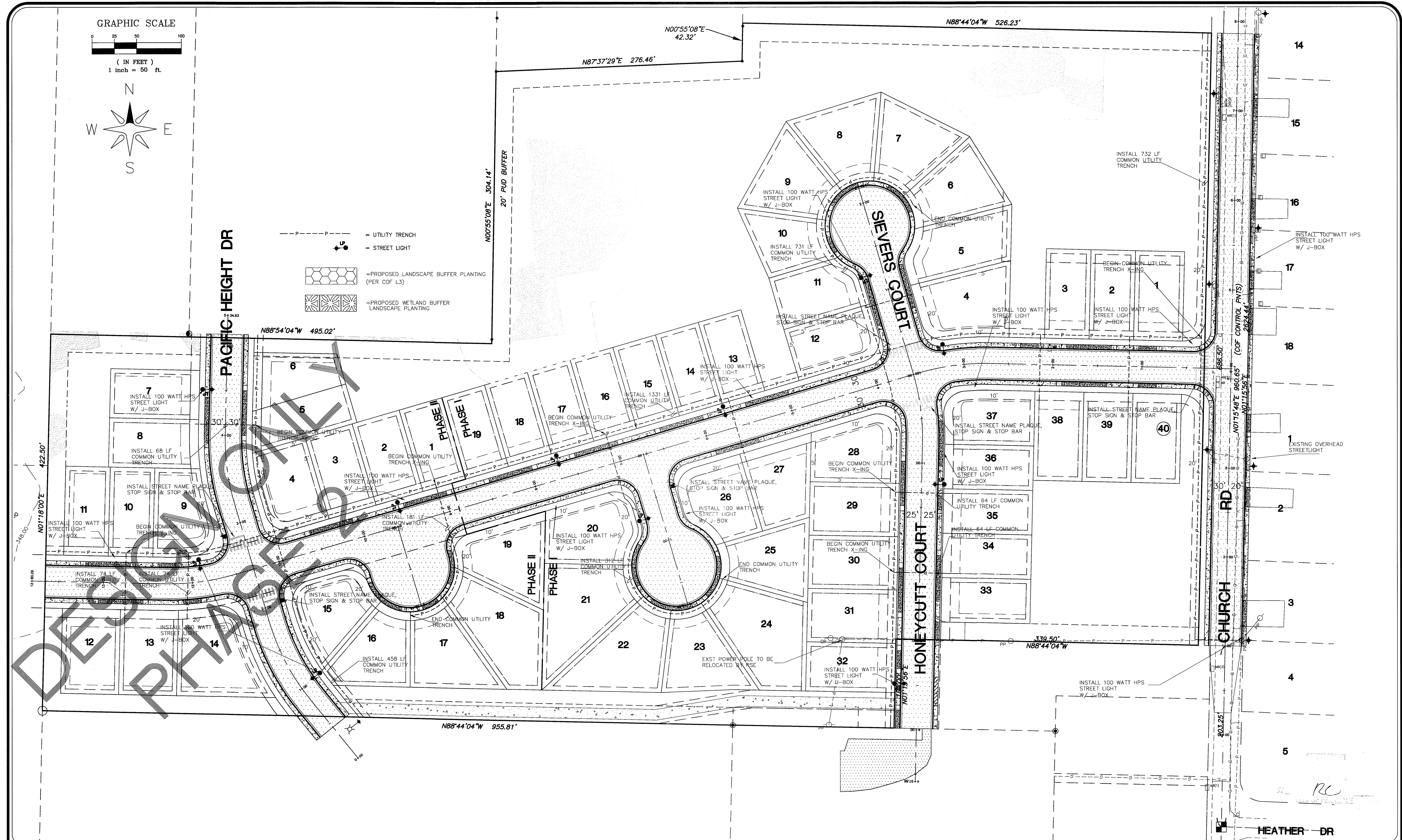
SHEET **22** OF 32

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- P - P - = UTILITY TRENCH
- ⬤ = STREET LIGHT
- [Pattern] = PROPOSED LANDSCAPE BUFFER PLANTING (PER COF L3)
- [Pattern] = PROPOSED WETLAND BUFFER LANDSCAPE PLANTING

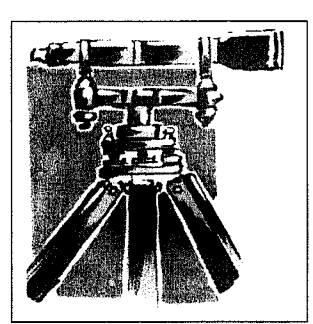
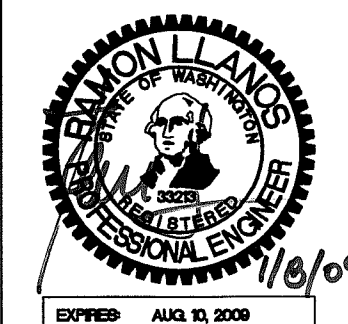


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DRAWN BY: SR DATE: 1/6/2009  
 CHECKED BY: RL DATE: 1/6/2009

**LARSEN'S CHURCH HILL ESTATES**

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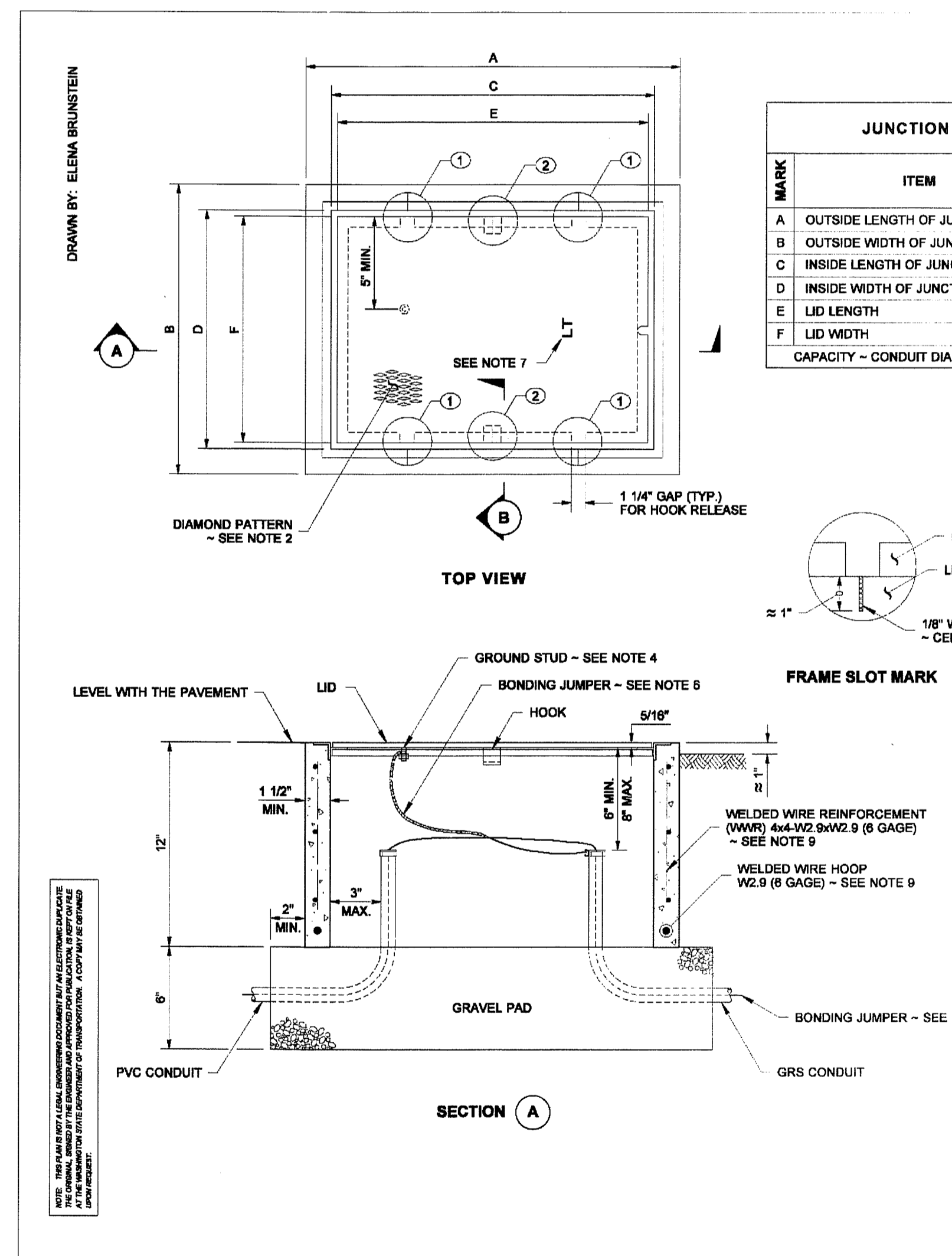
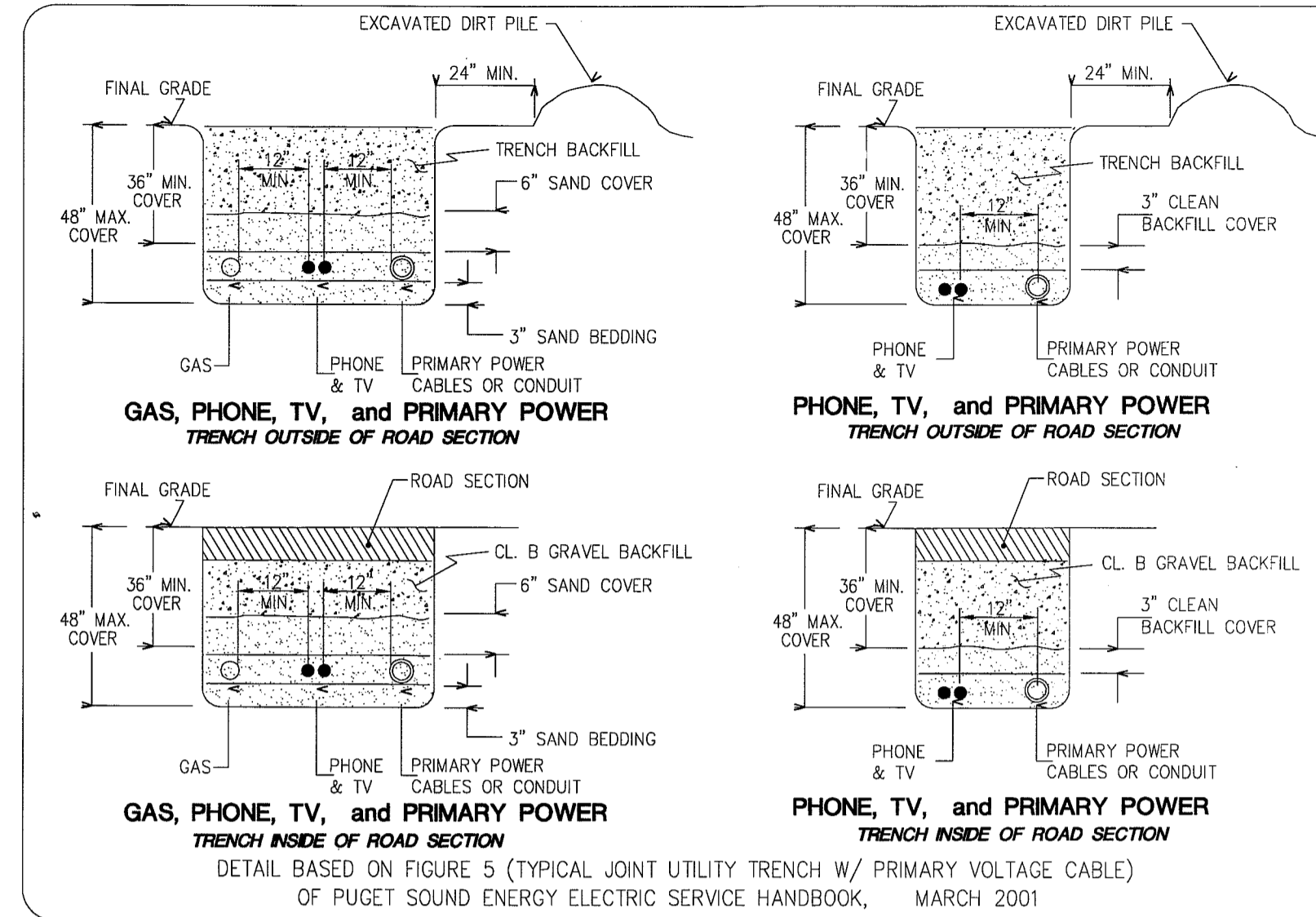
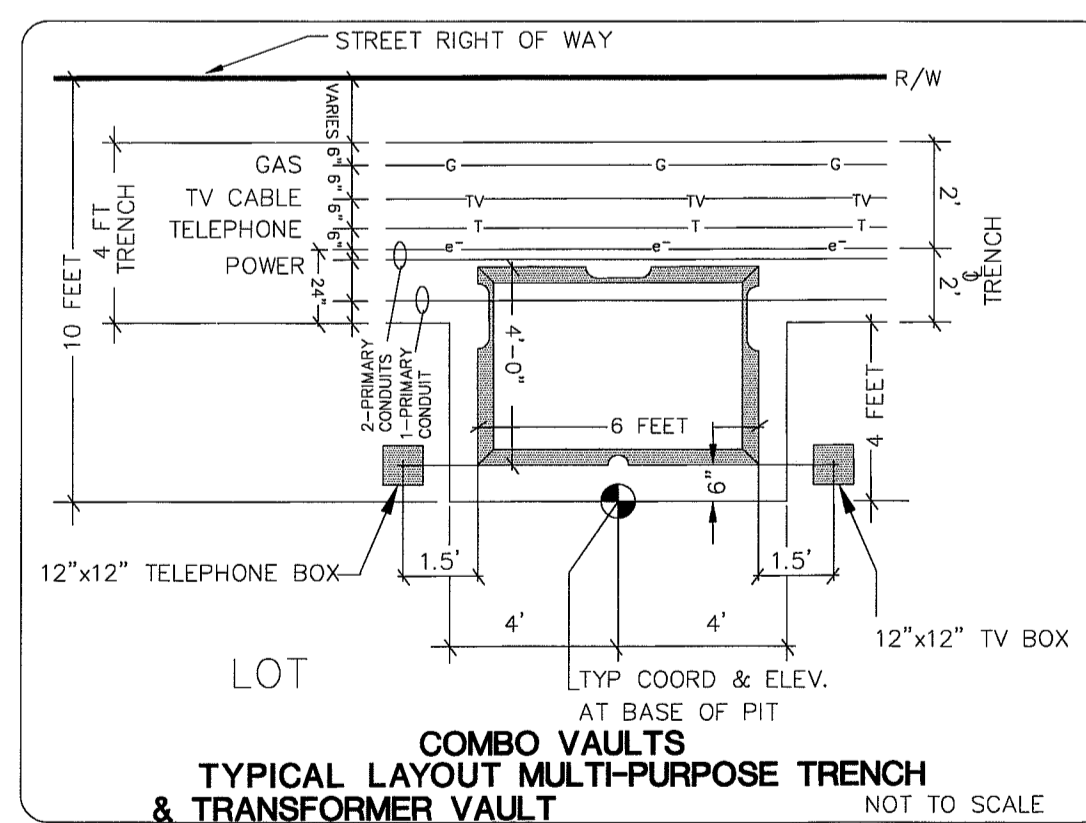
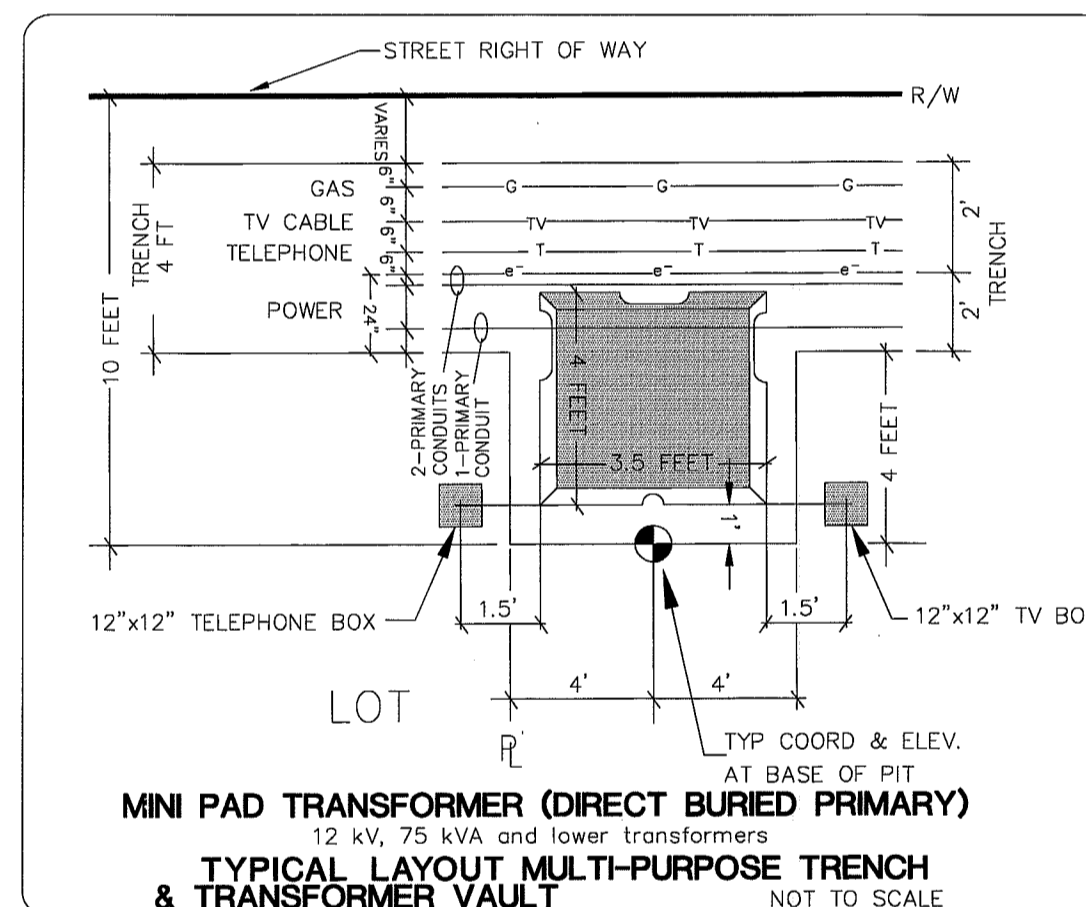
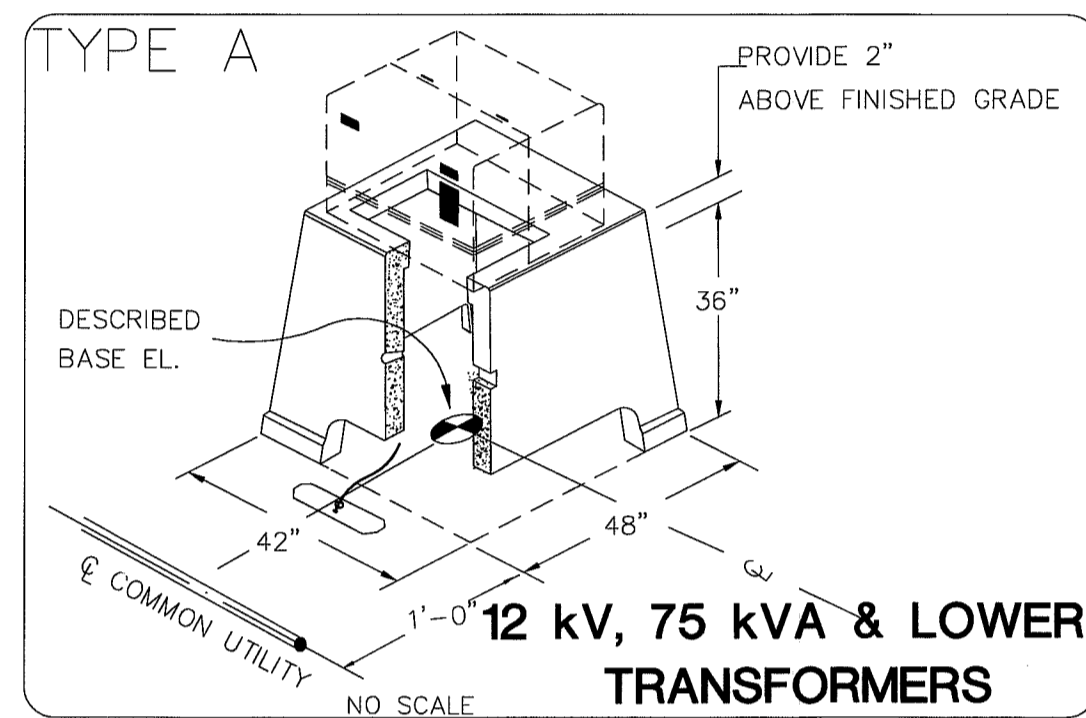
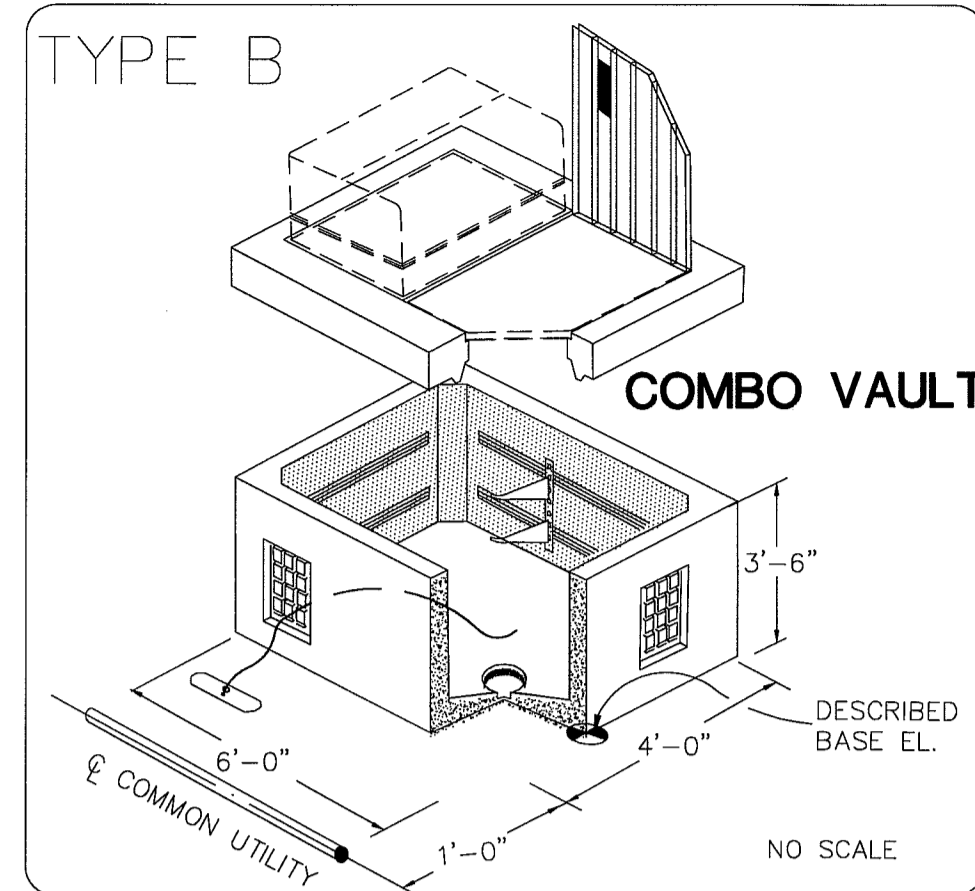
**LDES, INC.**  
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**LARSEN'S CHURCH HILL ESTATES  
 COMMON UTILITY, LANDSCAPE  
 STREET SIGNAGE & LIGHTING PLAN  
 AS-BUILT DRAWINGS**

REVISIONS - INITIALS/DATE/CMS	SHEET
SR 12/28/07 SUBMITTAL No. 1	<b>23</b> OF 32
SR 6/10/08 SUBMITTAL No. 2	
SR 9/30/08 SUBMITTAL No. 4	

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- NOTES**
- All box dimensions are approximate. Exact configurations vary among manufacturers.
  - The lid thicknesses are minimum. The diamond pattern shall be 28% minimum of overall thickness.
  - Lid support members shall be 3/16" minimum thick steel C, L, or T shape, welded to the frame.
  - A 1/4-20NC x 3/4" S.S. ground stud shall be welded to the bottom of the lid; include S.S. nut and flat washer.
  - Bolts and nuts shall be liberally coated with anti-seize compound.
  - Connect a bonding jumper to steel conduit bushing for GRS conduit; connect to equipment grounding conductor for PVC conduit. Bonding Jumper shall be #8 min. x 4' of tinned braided copper.
  - The System Identification letters shall be 1/8" line thickness formed by engraving, stamping, or with a S.S. weld bead. Grind off diamond pattern before forming letters. See System Identification Detail.
  - The Junction Box Type 2 shall be provided with a 12" deep extension when specified in the Contract.
  - See the Standard Specifications for alternative reinforcement and class of concrete.

**SYSTEM IDENTIFICATION DETAIL**

ITS INTELLIGENT TRANSPORTATION SYSTEM

COMM COMMUNICATION SYSTEM

LT LIGHTING SYSTEM

TS TRAFFIC SIGNAL SYSTEM

TEL TELEPHONE SYSTEM

**STANDARD JUNCTION BOX TYPES 1 & 2**

**STANDARD PLAN J-11a**

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Harold J. Peterfeso 09-02-05 DATE

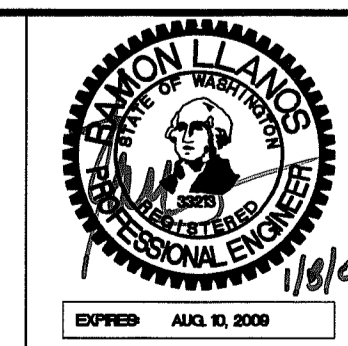
STATE REGISTERED ENGINEER

Washington State Department of Transportation

DRAWN BY: SR DATE: 10/2009  
 CHECKED BY: RL DATE: 10/2009

**LARSEN'S CHURCH HILL ESTATES**

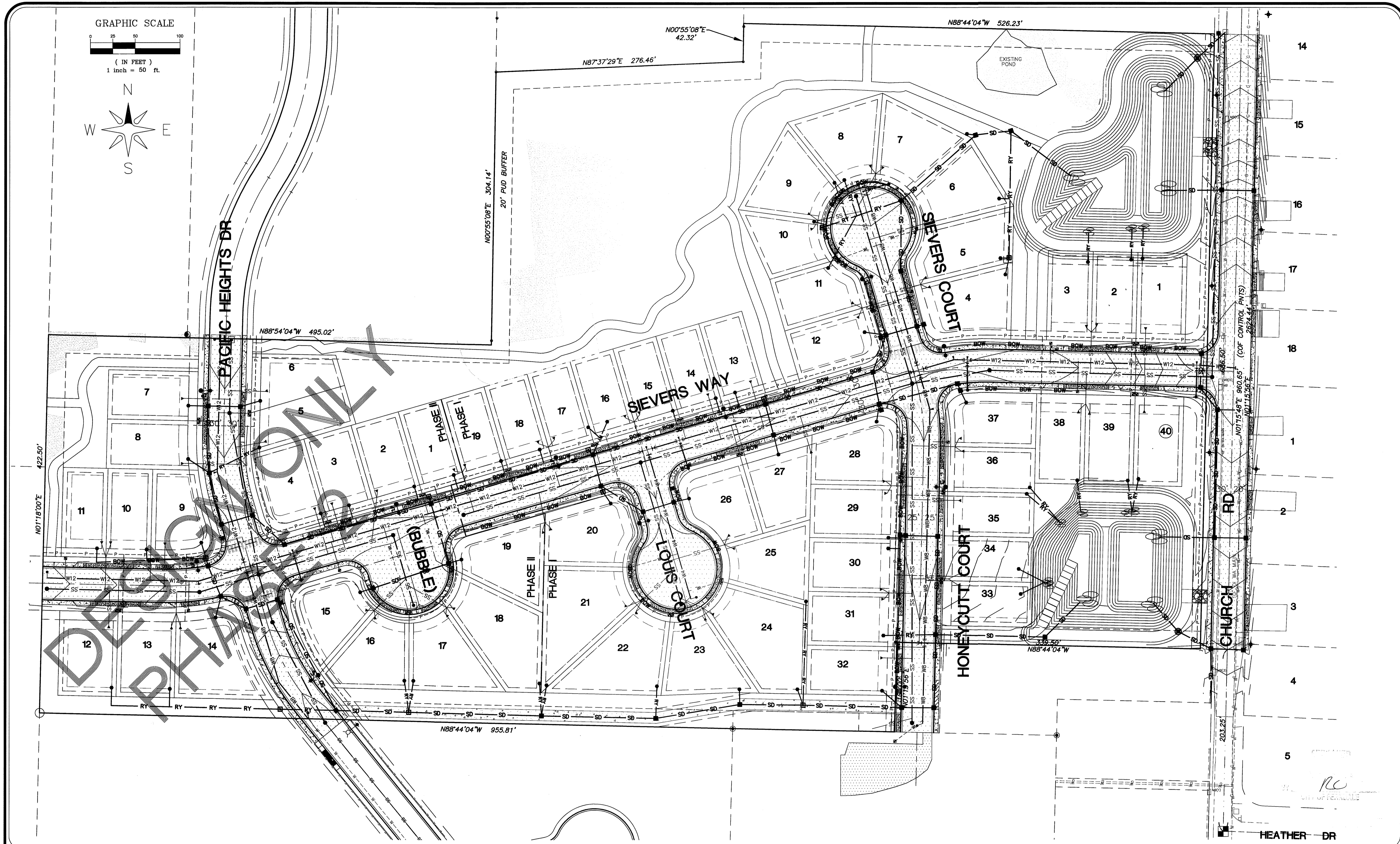
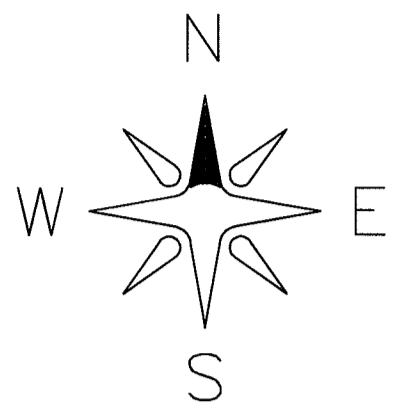
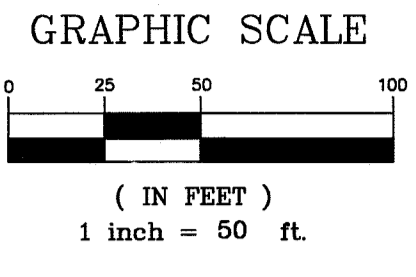
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**LARSEN'S CHURCH HILL ESTATES**  
 COMMON UTILITY DETAILS  
**AS-BUILT DRAWINGS**





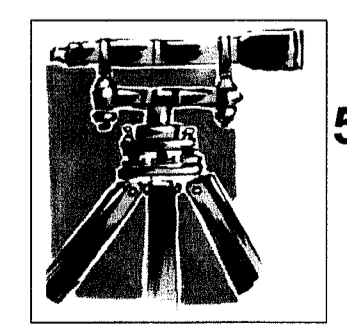
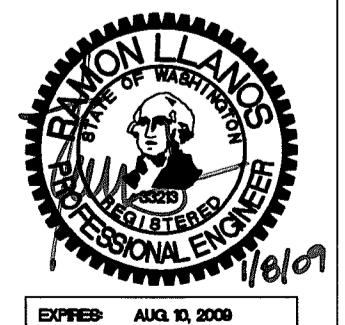
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DRAWN BY: SR DATE: 1/6/2009  
 CHECKED BY: RL DATE: 1/6/2009

**LARSEN'S CHURCH HILL ESTATES**

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**LARSEN'S CHURCH HILL ESTATES**  
**COMPOSITE PLAN**  
**AS-BUILT DRAWINGS**

REVISIONS - INITIALS/DATE/CMS	SHEET
SR 12/26/07 SUBMITTAL No. 1	<b>25</b> OF 32
SR 6/10/08 SUBMITTAL No. 2	
SR 9/30/08 SUBMITTAL No. 4	

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**GENERAL REQUIREMENTS**

- ALL WORK AND MATERIALS SHALL CONFORM TO THESE PLANS AND TO THE REQUIREMENTS OF THE MOST CURRENT EDITION OF THE STATE OF WASHINGTON, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. WORK AND MATERIALS SHALL ALSO CONFORM TO THE CITY OF FERDALE DEVELOPMENT STANDARDS. IN CASE OF A CONFLICT BETWEEN PLANS, REGULATORY STANDARDS OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT WILL PREVAIL.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER CONSTRUCTION DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
- THE CONTRACTOR SHALL OBTAIN REVOCABLE ENCROACHMENT PERMITS FROM THE CITY OF FERDALE AND WHATCOM COUNTY PRIOR TO COMMENCING WORK WITHIN PUBLIC RIGHTS-OF-WAY.
- THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH REPRESENTATIVES OF THE CITY OF FERDALE PUBLIC WORKS DEPARTMENT AND THE PROJECT ENGINEER A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
- ALL WORK AND MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE CITY OF FERDALE. REPRESENTATIVES FROM THE CITY OF FERDALE PUBLIC WORKS DEPARTMENT MUST INSPECT ALL WORK. THE CONTRACTOR SHALL CALL AT LEAST 24 HOURS IN ADVANCE TO SCHEDULE INSPECTIONS AS FOLLOWS:
  - PLACEMENT OF TEMPORARY EROSION CONTROL MEASURES.
  - PLACEMENT OF WATER MAIN AND BACKFILLING OF WATER MAIN TRENCH WITHIN ROAD RIGHTS-OF-WAY OR IN WATERLINE EASEMENTS TO BE DEDICATED TO THE CITY OF FERDALE.
  - PLACEMENT AND BACKFILLING OF UNDERGROUND UTILITIES, STORM SEWER AND SANITARY SEWER WITHIN ROAD RIGHTS-OF-WAY OR IN EASEMENTS TO BE DEDICATED TO THE CITY OF FERDALE.
  - GRADING OF PUBLIC ROADWAY AT:
    - COMPLETION OF EXCAVATION TO SUBGRADE.
    - COMPLETION OF BALLAST COURSE PLACEMENT.
    - COMPLETION OF CRUSHED SURFACING COURSE PLACEMENT.
  - POURING OF CURB AND GUTTER AND SIDEWALK IN PUBLIC ROADWAY.
  - ASPHALT PAVING IN PROGRESS IN PUBLIC ROADWAY.
  - OVERALL INSPECTION FOR FINISHED SHOULDERS, DITCHES, PERMANENT SEEDING AND MONUMENT PLACEMENT.
  - END OF MAINTENANCE PERIOD.
- SITE CLEARING SHALL INCLUDE THE LOCATION AND REMOVAL OF ALL ABOVE GROUND AND BURIED DEBRIS AND WASTE THAT MAY BE PRESENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING SUB-SURFACE CONDITIONS AND SOILS TYPES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT. ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY THAT MAY INTERRUPT NORMAL TRAFFIC FLOW SHALL REQUIRE AT LEAST ONE FLAGGER FOR EACH LANE OF TRAFFIC AFFECTED. ALL SECTIONS OF THE WSDOT STANDARD SPECIFICATIONS 1-07.23-TRAFFIC CONTROL, SHALL APPLY.
- A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- THE CONTRACTOR SHALL INFORM THE ENGINEER AND OBTAIN APPROVAL FROM THE CITY OF FERDALE PUBLIC WORKS DIRECTOR OF ANY PROPOSED DEVIATIONS FROM THE APPROVED PLANS PRIOR TO CONSTRUCTION OF THE REVISED IMPROVEMENTS. THE CONTRACTOR SHALL KEEP RECORDS OF ALL DEVIATIONS AND SHALL FORWARD THEM TO THE ENGINEER AND TO THE CITY OF FERDALE PUBLIC WORKS DEPARTMENT.
- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE BASED UPON A COMBINATION OF FIELD RECONNAISSANCE, FIELD SURVEY AND UTILITY COMPANY RECORDS AND ARE SHOWN ON THESE PLANS IN AN APPROXIMATE WAY ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL OF THE VARIOUS UTILITY COMPANIES TO ARRANGE FOR FIELD LOCATIONS OF ALL EXISTING UTILITY FACILITIES PRIOR TO STARTING CONSTRUCTION. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR COSTS INCURRED BECAUSE OF DAMAGE DONE TO EXISTING FACILITIES BY THE CONTRACTOR'S WORK FORCE, INCLUDING COSTS FOR REPAIRS, WHICH WILL BE CONTRACTOR'S SOLE RESPONSIBILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ALL EXISTING UTILITIES AND TO NOTIFY THE ENGINEER PROMPTLY OF ANY CONFLICT BETWEEN THE APPROVED PLANS AND THE LOCATION OF ANY EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT UTILITY LOCATION SERVICE AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION. PHONE: 1-800-424-5555.
- THE CONTRACTOR SHALL PROTECT ALL PRIVATE AND PUBLIC UTILITIES FROM DAMAGE RESULTING FROM THE WORK. CONTRACTOR SHALL RESTORE ALL PRIVATE AND PUBLIC PROPERTY DISRUPTED BY THE PROJECT IMMEDIATELY AFTER CONSTRUCTION.
- ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST BETWEEN ACTUAL FIELD CONDITIONS AND THE ASSUMED CONDITIONS SHOWN ON THE APPROVED PLANS PRIOR TO PROCEEDING WITH CONSTRUCTION, SO THAT NECESSARY PLAN OR DESIGN CHANGES CAN BE MADE. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR EXTRA WORK, INCLUDING REMOVAL AND RECONSTRUCTION OF NEWLY BUILT IMPROVEMENTS, MADE NECESSARY BY ERRORS OF DIMENSION OR GRADE ON THE APPROVED PLANS, UNLESS SUCH NOTIFICATION WAS GIVEN.
- THROUGHOUT THE PERIOD OF CONSTRUCTION, CONTRACTOR SHALL COMPLY WITH THE TERMS OF ALL PERMITS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CLEARING OR GRADING.
- ALL MATERIALS TESTING REQUIREMENTS FOR THE IMPROVEMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PERFORMED IN ACCORDANCE WITH THE INSTRUCTIONS OF THE CITY OF FERDALE PUBLIC WORKS DIRECTOR. CONTRACTOR SHOULD DETERMINE THESE REQUIREMENTS PRIOR TO THE START OF CONSTRUCTION.
- ALL PORTLAND CEMENT CONCRETE SHALL BE APWA CLASS 3000, PER APWA STANDARD SPECIFICATIONS, SECTION 6-02.3(2)B.
- UNDERGROUND UTILITIES CONSTRUCTION**
  - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ENGINEER TO ASSURE ACCURATE AND TIMELY COLLECTION OF ALL REQUIRED AS-BUILT DATA. THIS DATA MUST ACCURATELY REFLECT THE LOCATIONS OF ALL UNDERGROUND UTILITIES, BOTTOM OF PIPE ELEVATIONS, INVERT ELEVATIONS, MANHOLE LOCATIONS, BLOW-OFF LOCATIONS AND INVERTS OF SERVICE CONNECTIONS (BOTH AT PIPE AND AT PROPERTY LINE), VERTICAL AND HORIZONTAL BENDS, SERVICE BOXES AND METERS, VALVES AND HYDRANTS. CALL AT LEAST 48-HOURS BEFORE BURYING UNDERGROUND PIPE TO ASSURE AND FACILITATE REQUIRED AS-BUILT SURVEY. THE ENGINEER WILL PROVIDE CERTIFIED AS-BUILT MYLARS TO PUBLIC WORKS UPON PROVISIONAL ACCEPTANCE OF ROAD AND UTILITY IMPROVEMENTS.
  - THE CONSTRUCTION OF UNDERGROUND UTILITY LINES SHALL BE SUBJECT TO THE FOLLOWING CRITERIA:
    - NO MORE THAN 500 FEET OF TRENCH SHALL BE OPENED AT ONE TIME.
    - WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF DITCHES.
    - TRENCH DEWATERING DEVICES SHALL DISCHARGE INTO SEDIMENT TRAPS OR SEDIMENT PONDS.
    - WHERE PRACTICAL, INSTALL GRAVITY PIPE UTILITIES PRIOR TO INSTALLATION OF OTHER UTILITIES.
  - UTILITY CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF FERDALE DEVELOPMENT STANDARDS.
  - TESTING OF NEW WATER LINES, SANITARY SEWER LINES, AND STORM SEWER SYSTEMS SHALL NOT BE PERFORMED UNTIL ALL OTHER ADJACENT UTILITIES HAVE BEEN INSTALLED.

**ROAD**

- THE FOLLOWING STANDARD DETAILS SHALL BE USED FOR CONSTRUCTION OF THE STANDARD STREET SECTION:
 

TYPICAL STREET SECTION PCC CURB AND GUTTER PCC SIDEWALKS PCC CURB RAMPS, ADA APPROACHES SIDEWALK DRAINS MONUMENTS	TYPICAL SECTION ON SHEET 09 OF THESE PLANS CITY OF FERDALE STANDARD DETAIL (COFSD) R-9 COFSD R-12 WSDOT STD. DETAIL F-3 COFSD ST-13 COFSD 5-2
--	--
- ALTERNATE PAVEMENT SECTIONS, WHEN DESIGNED BY A LICENSED GEOTECHNICAL ENGINEER, MAY BE SUBMITTED TO THE CITY OF FERDALE PUBLIC WORKS DIRECTOR FOR CONSIDERATION AND, IF APPROVED, USED IN PLACE OF THE PAVEMENT SECTION SHOWN ON THESE PLANS.
- EARTHWORK**
  - THE CONTRACTOR SHALL CLEAR, GRUB AND CLEAN UP THOSE AREAS SHOWN ON THE PLANS.
  - THE CONTRACTOR SHALL RAZE, REMOVE AND DISPOSE OF ALL BUILDING AND FOUNDATIONS, STRUCTURES, FENCES AND OTHER OBSTRUCTIONS THAT LIE WHOLLY OR PARTIALLY WITHIN THE PROJECT LIMITS.
  - THE CONTRACTOR SHALL REMOVE AND REPLACE ALL EXISTING UNCOMPACTED OR POORLY COMPACTED FILL SOILS WITHIN THE ROAD PRISM AT THE DIRECTION OF THE ENGINEER.
  - THE CONTRACTOR SHALL EXCAVATE AND GRADE TO THE ALIGNMENT, GRADE AND CROSS-SECTIONS SHOWN IN THE PLANS OR ESTABLISHED BY THE ENGINEER.
  - MAXIMUM DENSITY AND OPTIMUM MOISTURE FOR GRANULAR MATERIALS WILL BE DETERMINED USING ASTM D-1557 TEST METHOD.
  - UNSATURABLE MATERIAL NOT FIT FOR USE AS A SUB-GRADE SHALL BE EXCAVATED TO THE BOUNDARIES SET BY THE ENGINEER AND REPLACED WITH A SUITABLE BACKFILL MATERIAL.
  - THE ENGINEER IS REQUIRED TO CERTIFY SUBGRADE, IN WRITING, PRIOR TO PAVING.
- BASE COURSES**
  - GRAVEL BASES AND BALLAST SHALL NOT HAVE THE PERCENT PASSING THE U.S. NO. 200 SIEVE EXCEED 5%.
  - BALLAST, GRAVEL BASE AND CRUSHED SURFACING SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DRY DENSITY.
  - OWNER SHALL BE RESPONSIBLE FOR ALL COMPACTON TESTING. ALL TESTING SHALL BE THROUGH ENG. REV. ACCOUNT AND PAID FOR BY OWNER.
- PAVEMENTS**
  - SOIL RESIDUAL HERBICIDE SHALL BE PLACED WITHIN 24 HOURS OF PAVING.
  - A TACK COAT OF ASPHALT SHALL BE APPLIED BETWEEN ALL COURSES OF ASPHALT.
  - ALL PAVEMENT REPAIR SHALL BE SAW-CUT BEFORE REMOVAL. AR-4000W SHALL BE APPLIED TO ALL EDGES OF EXISTING PAVEMENT.
  - WHERE NEWLY CONSTRUCTED PAVING MEETS EXISTING PAVING, THE APPLICANT SHALL OVERLAY AND FEATHER NEW PAVEMENT TO PROVIDE A SMOOTH TRANSITION FROM EXISTING TO PROPOSED PAVING. APPLICATION OF A THIN PAINT COAT OF EMULSIFIED ASPHALT SHALL BE APPLIED TO INSURE PROPER BONDING.
  - ALL PAVEMENT MARKINGS SHALL CONFORM TO THE REQUIREMENTS OF THE MUTCD.
- STREET LIGHTING**
  - CONTRACTOR SHALL PROVIDE STREET ILLUMINATION IN ACCORDANCE WITH THE PROVISIONS OF SECTION 707 OF THE CITY OF FERDALE DEVELOPMENT STANDARDS. 100-WATT HIGH PRESSURE SODIUM LAMPS SHALL BE INSTALLED ON STANDARD CONCRETE OCTAGONAL OR ROUND POLES NO LESS THAN 26 FEET HIGH AND SPACED NO MORE THAN 250' APART, MEASURED ALONG THE PAVEMENT CENTERLINE. POLE LOCATIONS ARE SHOWN ON THESE PLANS.
  - FINAL LOCATIONS OF STREET LIGHTS IS TO BE COORDINATED WITH PUGET SOUND ENERGY.
  - CONTRACTOR IS TO COMPLY WITH THE SPECIFICATIONS SHOWN ON WSDOT STANDARD DETAIL J-11A, STANDARD JUNCTION BOX, UNLESS OTHERWISE DIRECTED BY THE CITY OF FERDALE PUBLIC WORKS DIRECTOR.
  - CONTRACTOR MUST INFORM THE CITY OF FERDALE PUBLIC WORKS DIRECTOR OF A PROPOSED CONNECTION AT LEAST FOUR (4) WORKING DAYS IN ADVANCE.
- MAILBOXES**

MAILBOXES SHALL BE TYPE I, II, AND/OR III - CBU (CENTRAL BOX UNIT), USPS APPROVED.  
FINAL LOCATION AS DETERMINED BY USPS.
- STORM DRAINAGE**
  - THE FOLLOWING STANDARD DETAILS SHALL BE USED FOR CONSTRUCTION OF STORM DRAIN IMPROVEMENTS:
 

"MAIN LINE" CATCH BASINS "RESIDENTIAL SERVICE LINE" CATCH BASINS THRU-CURB INLET FRAME AND GRATE SIDEWALK DRAINS	TYPE 1, 1L OR 2, WSDOT STD. DETAILS 9-1, B-1A OR B-1E CITY OF FERDALE STANDARD DETAIL (COFSD) ST-7 CITY OF FERDALE STANDARD DETAIL (COFSD) ST-8 COFSD ST-15
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  - ALL PIPE AND APPURTENANCES SHALL BE LAID ON A PROPERLY PREPARED FOUNDATION IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATIONS SECTION 7-08.3(1). THIS SHALL INCLUDE LEVELING AND COMPACTING THE TRENCH BOTTOM, THE TOP OF THE FOUNDATION MATERIAL AND ANY REQUIRED PIPE BEDDING TO A UNIFORM GRADE SO THAT THE ENTIRE PIPE IS SUPPORTED BY A UNIFORMLY DENSE UNYIELDING BASE. DRAINAGE MATERIALS SHALL CONFORM TO WSDOT STANDARD SPECIFICATIONS SECTION 9-05.
  - STORM SEWER PIPE HAVING DIAMETERS GREATER THAN 8" SHALL BE CORRUGATED POLYETHYLENE PIPE (CPEP) AND SHALL CONFORM TO WSDOT STANDARD SPECIFICATIONS, SECTION 9-05.20. STORM SEWER PIPE HAVING DIAMETERS 8" AND SMALLER SHALL BE POLYVINYL CHLORIDE (PVC) PIPE AND SHALL CONFORM TO WSDOT STANDARD SPECIFICATIONS, SECTION 9-05.12.
  - ALL CATCH BASIN GRATES SHALL INCLUDE THE STAMPING "OUTFALL TO STREAM, DUMP NO POLLUTANTS".
  - UNLESS OTHERWISE SPECIFIED, CAST IRON PRODUCTS SHALL CONFORM TO ASTM DESIGNATION "A 48 CLASS 30" AND DUCTILE IRON PRODUCTS TO ASTM DESIGNATION "A 536 GRADE 80-55-06".
  - ALL DRAINAGE STRUCTURES, SUCH AS CATCH BASINS AND MANHOLES, NOT LOCATED WITHIN A TRAVELED ROADWAY OR SIDEWALK, SHALL HAVE SOLID LOCKING LIDS. ALL DRAINAGE STRUCTURES ASSOCIATED WITH A PERMANENT RETENTION/DETENTION FACILITY SHALL HAVE SOLID LOCKING LIDS.
  - ALL DRAINAGE SERVICE STUBS SHALL BE MARKED FOR LOCATION WITH A PRESSURE TREATED 2" x 4" TIMBER, PAINTED WHITE OR A WHITE 2" DIA. PVC PIPE. BOTH TYPES OF LOCATION MARKER SHALL BE CONNECTED TO THE SERVICE STUB BY A #12 COPPER WIRE.
  - MULTIPLE RESIDENTIAL STORM DRAIN SERVICES SHALL BE 6" PVC PIPE, DRAINING TO A COFSD ST-7 INLET. 8" PVC PIPE SHALL BE USED TO CONNECT EACH ST-7 INLET TO A NEARBY TYPE 1 OR TYPE 1L CATCH BASIN.
  - ALL STORM STUB INVERT ELEVATIONS SHALL BE CONSTRUCTED TO FACILITATE POSITIVE FLOW TO CATCH BASIN.
  - EACH DRAINAGE SERVICE STUB SHALL BE CAPPED WITH A WATERTIGHT PLUG. EACH STUB SHALL BE MARKED FOR LOCATION WITH A 2" DIAMETER WHITE PVC PIPE (MIN. SCHED. 40) WITH THE TOP 18" STENCILED WITH THE WORD "STORM" AND THE PIPE INVERT INDICATED. THE LOCATION MARKER SHALL BE CONNECTED TO THE SERVICE STUB BY A #12 COPPER WIRE.

**SANITARY SEWER**

- THE FOLLOWING STANDARD DETAILS SHALL BE USED IN CONSTRUCTING SANITARY SEWER IMPROVEMENTS:
 

PIPE BEDDING TRENCH BACKFILL SS MANHOLE, TYPE 1-48" SMHM RING & COVER, TYPE 2 SS CLEANOUTS SIDE SEWERS	CITY OF FERDALE STANDARD DETAIL (COFSD) SS-1 COFSD SS-19 & SS-1 & WSDOT STD. SPEC. SEC. 9-03.12 COFSD SS-2 COFSD SS-9 (BOLT DOWN/WATERTIGHT) COFSD SS-5 COFSD SS-6, SS-8 & SS-13	CITY OF FERDALE STANDARD DETAIL (COFSD) SS-1 COFSD SS-19 & SS-1 & WSDOT STD. SPEC. SEC. 9-03.12 COFSD SS-2 COFSD SS-9 (BOLT DOWN/WATERTIGHT) COFSD SS-5 COFSD SS-6, SS-8 & SS-13
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- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH A.P.W.A. STANDARD SPECIFICATIONS, 1996 EDITION, AND SHALL BE SUBJECT TO APPROVAL BY THE CITY OF FERDALE.
- ALL WORK MUST BE INSPECTED TO THE SATISFACTION OF THE CITY OF FERDALE. 24 HOUR NOTICE MUST BE GIVEN PRIOR TO STARTING WORK. TESTING OF THE SEWER SYSTEM AND ALL CONNECTIONS TO EXISTING MAINS SHALL BE DONE IN THE PRESENCE AND UNDER THE SUPERVISION OF A CITY OF FERDALE REPRESENTATIVE.
- SANITARY SEWER MAINS SHALL BE A MINIMUM 8 INCH DIAMETER PVC PIPE (SDR-35) CONFORMING TO THE PROVISIONS OF ASTM D 3034 AND INSTALLED TO CITY SPECIFICATIONS.
- SANITARY SEWER PIPE BEDDING SHALL BE PEA GRAVEL PER COFSD SS-1. ALL TRENCHES SHALL BE BACKFILLED WITH CLASS B BANK RUN GRAVEL OR SUITABLE NATURAL MATERIAL AS DIRECTED BY THE ENGINEER, AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
- ALL MANHOLES SHALL BE INSTALLED PER CITY OF FERDALE SS-2, SS-3 OR SS-4, AND SHALL BE PRE-CHANNELED. MANHOLE CONES ARE TO BE OFFSET SUCH THAT LADDER RUNGS ARE PARALLEL TO THE FLOW.
- ALL SIDE SEWERS SHALL BE INSTALLED PER CITY OF FERDALE STANDARD DETAILS SS-6, SS-8 OR SS-13, EXCEPT THAT SINGLE SIDE SEWERS SHALL HAVE A MINIMUM DIAMETER OF 4".
- CONTRACTOR SHALL EXTEND SEWER STUBS BEYOND THE STREET RIGHT-OF-WAY LINE.
- EACH SIDE SEWER STUB SHALL BE CAPPED WITH A WATERTIGHT PLUG. EACH STUB SHALL BE MARKED FOR LOCATION PER COFSD SS-14, WITH A 2" DIA. PVC PIPE WITH THE TOP 18" PAINTED WHITE AND STENCILED WITH THE WORD "SEWER". THE LOCATION MARKER SHALL BE CONNECTED TO THE SERVICE STUB BY A #12 COPPER WIRE.

**WATER**

- THE FOLLOWING STANDARD DETAILS SHALL BE USED IN CONSTRUCTING WATER SUPPLY SYSTEM IMPROVEMENTS:
 

TRENCH BACKFILL AIR/VACUUM RELEASE VALVE BLOW-OFF ASSEMBLY FIRE HYDRANT ASSEMBLY THRUST BLOCKING WATER SERVICE	WSDOT STD. DETAIL B21-e COFSD W-9 & W-10 COFSD W-1 COFSD W-2, W-3 & W-4 COFSD W-5	COFSD W-11 & WSDOT STD. SPEC. SEC. 9-03.12 WSDOT STD. DETAIL B21-e COFSD W-9 & W-10 COFSD W-1 COFSD W-2, W-3 & W-4 COFSD W-5
---	---	---
- ALL WATERMAIN PIPE SHALL BE DUCTILE IRON, MINIMUM CLASS 50, PER AWWA STANDARDS H3-71 AND C151-71, WITH CEMENT LINING PER AWWA STANDARD C104-71. ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF FERDALE DEVELOPMENT STANDARDS, SECTIONS 702 AND 705.
- MATERIAL FOR FITTINGS SUCH AS CROSSES, TEES, BENDS, REDUCERS AND SLEEVES SHALL BE DUCTILE IRON. JOINTS SHALL BE M.J., FLANGED OR PUSH-ON JOINTS AND SHALL CONFORM TO AWWA SPECIFICATIONS C-110-71 AND C-104-71.
- CONCRETE BLOCKING SHALL BE AS SPECIFIED IN CITY OF FERDALE STANDARD DETAILS W-2, W-3 AND W-4, OR AS DIRECTED BY THE PROJECT ENGINEER. BLOCKS SHALL BE INSTALLED AS SPECIFIED IN SECTION 7-09.3(2) OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE OR MUNICIPAL CONSTRUCTION. NO PRE-CAST BLOCKS ARE ALLOWED.
- CONNECTIONS TO EXISTING WATER MAINS - PER WSDOT STD SPEC. 7-09.3(19), THE CONTRACTOR MUST NOTIFY THE CITY OF FERDALE PUBLIC WORKS DIRECTOR OF A PROPOSED CONNECTION AT LEAST FOUR WORKING DAYS IN ADVANCE. ALL CONNECTIONS SHALL BE DONE BY THE CONTRACTOR. CONNECTION TO EXISTING CITY WATER SYSTEM SHALL BE PAID IN ADVANCE BY A DEPOSIT.
- ALL HYDROSTATIC TESTING AND DISINFECTION OF WATER MAINS SHALL CONFORM TO SECTIONS 7-09.3(23) AND 7-09.3(24) AND OF THE WSDOT STD SPECIFICATIONS FOR ROAD, BRIDGE OR MUNICIPAL CONSTRUCTION - CURRENT EDITION. HYDROSTATIC TEST PRESSURE FOR WATER MAIN ACCEPTANCE SHALL BE 225 PSI AND SHALL BE DONE ACCORDING TO CITY OF FERDALE REQUIREMENTS. ALL DISINFECTION AND BACTERIOLOGICAL TESTS SHALL BE CONDUCTED BY THE CITY OF FERDALE LABORATORY. THE PIPE WILL NOT PASS TESTING UNLESS A ZERO BACTERIAL COUNT IS MEASURED ON TWO CONSECUTIVE TESTS, CONDUCTED 24 HOURS APART.
- BACKFILL SHALL BE GRAVEL BASE, CLASS B, IN ALL STREET RIGHTS-OF-WAY, COMPACTED TO MINIMUM 95% OPTIMUM DENSITY. IN UNIMPROVED AREAS, MINIMUM COMPACTION SHALL BE 90% OF OPTIMUM DENSITY.
- ALL PIPE SHALL HAVE A MINIMUM COVER OF 42".
- ALL VALVES SHALL BE EITHER GATE OR BUTTERFLY TYPE VALVES AND SHALL BE INSTALLED WITH SLIP TYPE CAST IRON VALVE BOXES.
- GATE VALVES SHALL BE USED FOR LINES 2 INCHES THROUGH 8 INCHES IN DIAMETER. SHORT-BODY VALVES SUITABLE FOR A NONSHOCK SHUT-OFF PRESSURE OF 130 PSI AND SUITABLE FOR DIRECT BURIAL ARE SPECIFIED. GATE VALVES SHALL BE RESILIENT SEATED IRON-BODY, FULL-BRONZE MOUNTED VALVES CONFORMING TO AWWA C509 AND SUITABLE FOR SERVICE WITH THE TYPE AND CLASS OF PIPE USED.
- ALL VALVES SHALL HAVE NONRISING STEMS AND SHALL OPEN COUNTERCLOCKWISE AND SHALL BE EQUIPPED WITH A 2 INCH SQUARE OPERATING NUT. VALVES WILL BE FLANGE OR M.J. JOINTS.
- VALVE MARKERS SHALL BE LOCATED OUTSIDE OF PAVEMENT SECTIONS.
- WATER SERVICE TAP INSTALLATIONS SHALL MEET THE REQUIREMENTS OF THE CITY OF FERDALE DEVELOPMENT STANDARDS. ALL WATER SERVICES SHALL BE MARKED FOR LOCATION WITH A METER BOX PER COFSD W-5.
- FIRE HYDRANTS AND FIRE MAINS MUST CONFORM TO COF STANDARD DETAIL W-1 (WSDOT B-19) AND THE FOLLOWING STANDARDS:
  - FIRE HYDRANTS SHALL HAVE TWO INDIVIDUALLY-VALVED 2-1/2" PORTS AND ONE 5-1/4" MAIN VALVE OPENING. A 4-1/2" NET PUMPER NOZZLE AND A 5" STORZ PORT WITH CAP AND CABLE SHALL BE SUPPLIED. HYDRANTS SHALL EITHER BE IOWA OR M.H. 927H HYDRANTS.
  - FIRE HYDRANTS SHALL HAVE THE STORZ PORT FACING THE REQUIRED ACCESS AND THE BASE FLANGE OF THE HYDRANT MUST NOT VARY MORE THAN 1 FOOT IN ELEVATION FROM THE GRADE LEVEL OF THE REQUIRED ACCESS. THE LOWEST STEM SHALL BE A MINIMUM OF 14" ABOVE THE GROUND. HYDRANTS PAINTED FACTORY YELLOW MAY NOT REQUIRE ADDITIONAL PAINTING.
  - IF THE PUBLIC WORKS DIRECTOR DETERMINES THAT FIRE HYDRANTS ARE VULNERABLE TO VEHICULAR DAMAGE, APPROPRIATE CRASH POSTS SHALL BE PROVIDED. NO OBSTRUCTIONS SHALL EXIST WITHIN A 3-FOOT WORKING AREA OF EACH REQUIRED ACCESS. CRASH POSTS SHALL BE 4" CEMENT-FILLED PIPE A MIN. OF 3' IN HEIGHT WITH A MIN. OF 2" OF PIPE BELOW GRADE. HYDRANT SHUTOFF VALVES SHALL BE LOCATED BETWEEN 5' AND 20' FROM THE HYDRANT.
  - UNDERGROUND SUPPLIES TO FIRE HYDRANTS MUST BE INSPECTED. SUCH INSPECTION SHALL INCLUDE VISUAL INSPECTION OF PIPING AND HYDROSTATIC PRESSURE TESTING TO A MIN. OF 225 PSI OR 50 PSI IN EXCESS OF STREET MAIN PRESSURE, WHICHEVER IS GREATER. A FLOW TEST WILL BE REQUIRED WHEN INSTALLATION IS COMPLETE.
  - FIRE HYDRANTS MUST BE MAINTAINED IN AN OPERABLE CONDITION AT ALL TIMES AND MUST BE REPAIRED OR REPLACED WHEN DEFECTIVE. HYDRANTS SHALL BE FULLY OPERABLE BEFORE CONSTRUCTION COMMENCES ABOVE GRADE LEVEL.

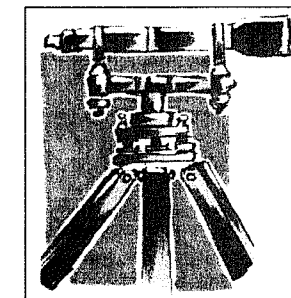
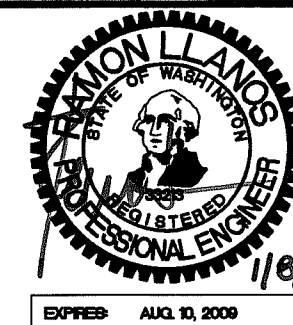
**CITY OF FERDALE CONSTRUCTION NOTES**

DRAWN BY SR DATE 1/6/2009  
CHECKED BY RL DATE 1/6/2009

**LARSEN'S CHURCH HILL ESTATES**

**JOB # 06010**

**FOR: SKY VIEW LANDS, LLC**



**LDES, INC.**  
5160 INDUSTRIAL PL. #108  
FERDALE, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

**LARSEN'S CHURCH HILL ESTATES**  
**CITY OF FERDALE**  
**GENERAL NOTES**  
**AS-BUILT DRAWINGS**

SHEET

**26**

OF 32

*RL*  
CITY OF FERDALE



DD 60-13-1 120 HSS00

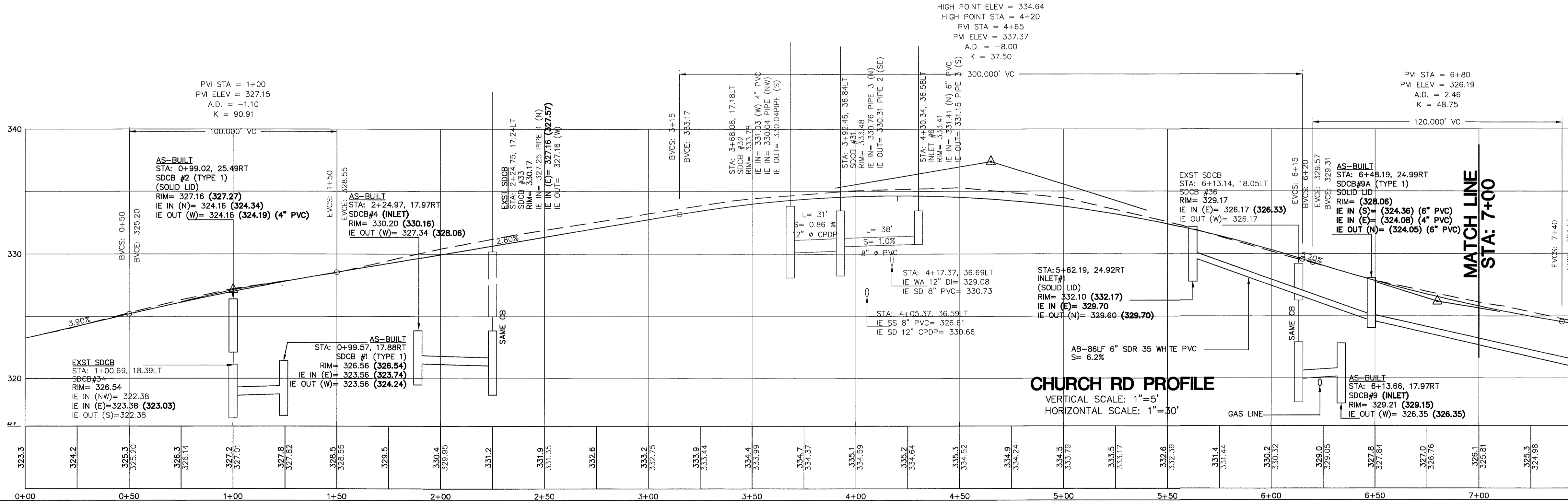
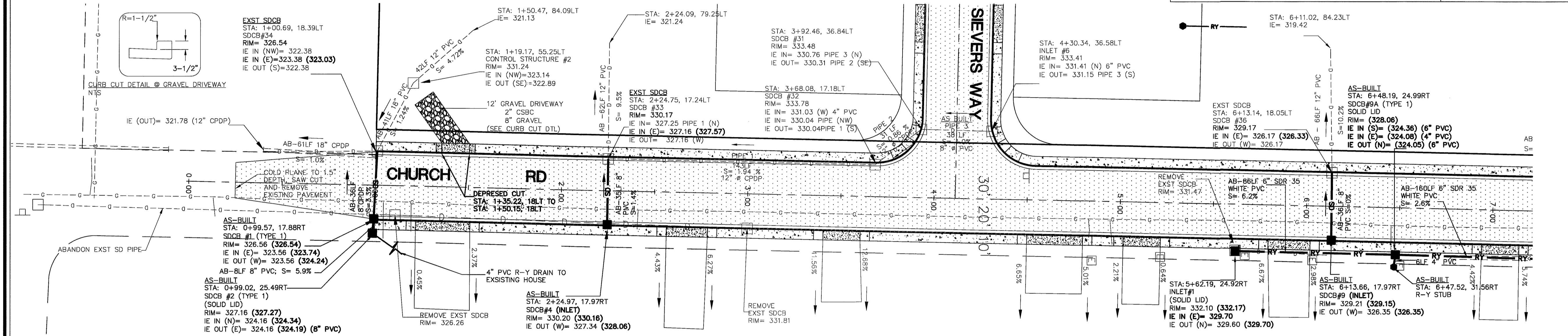
**SHEET KEY**

- = ROAD ASPHALT
- = EXIST SD CATCH BASIN
- = AS-BUILT STORM DRAIN CATCH BASIN
- = EXIST SANITARY SEWER MANHOLE
- = EXISTING WATER METER BOX
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- = EXISTING DITCH
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- = EXST FIRE HYDRANT
- = EXST POWER POLE
- = EXST MAIL BOXES
- = EXST POWER STRUCTURE
- = EXST TRAFFIC SIGN
- = EXST TELEPHONE STRUCTURE
- = EXST SD STRUCTURE

323.15 (323.15) = DESIGN INFORMATION, (AS BUILT)

**GRAPHIC SCALE**

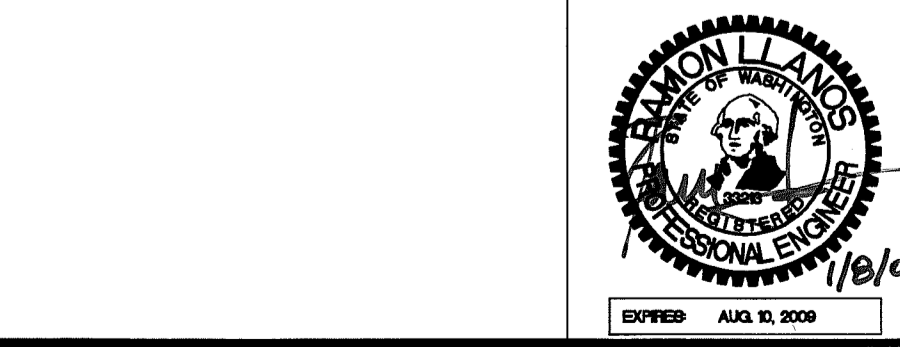
( IN FEET )  
1 inch = 30 ft.



DRAWN BY: SR DATE: 1/8/09  
CHECKED BY: RL DATE: 1/8/09

**CHURCH RD STREET IMPROVEMENTS**

FOR: **CITY OF FERDALE**



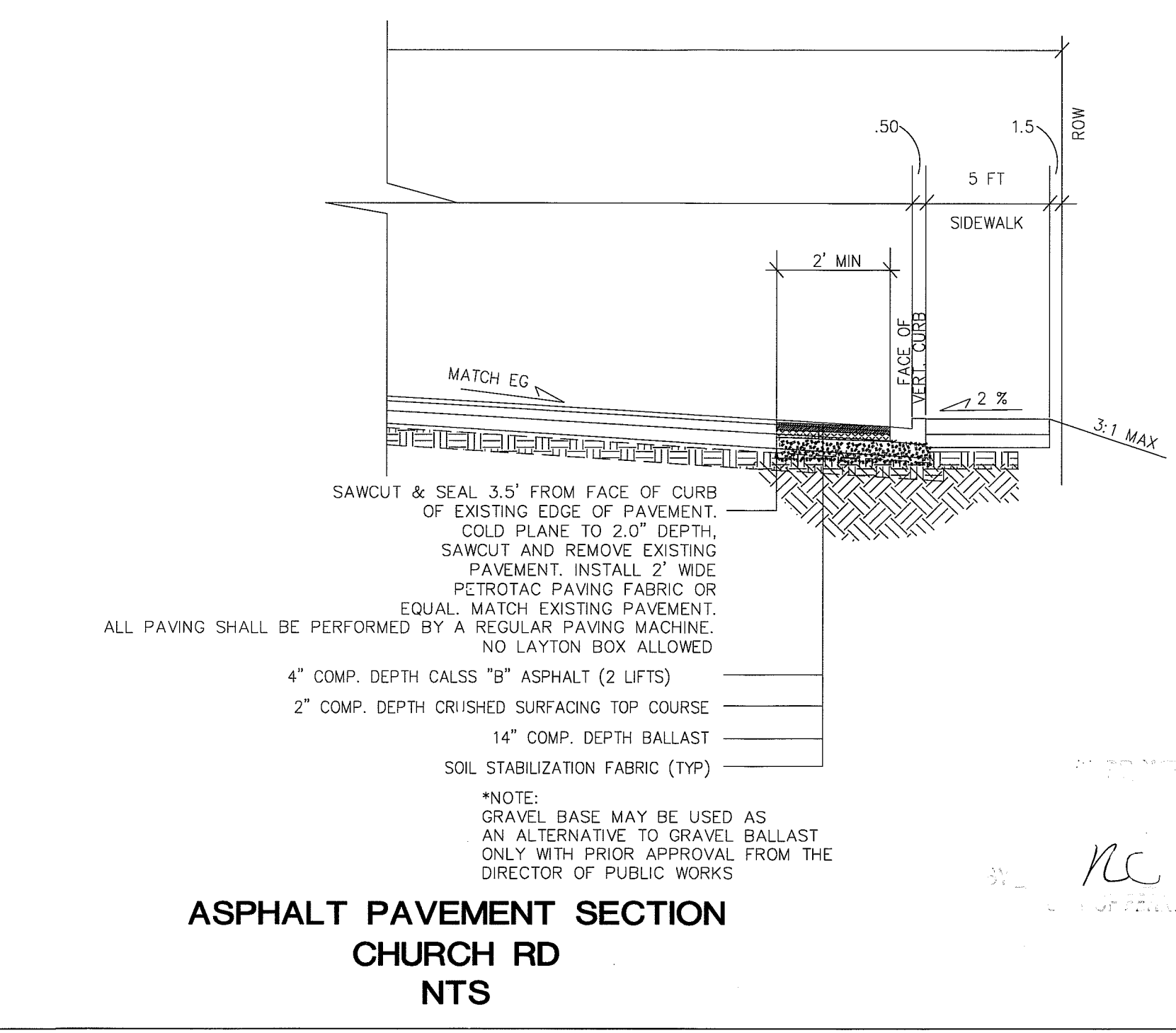
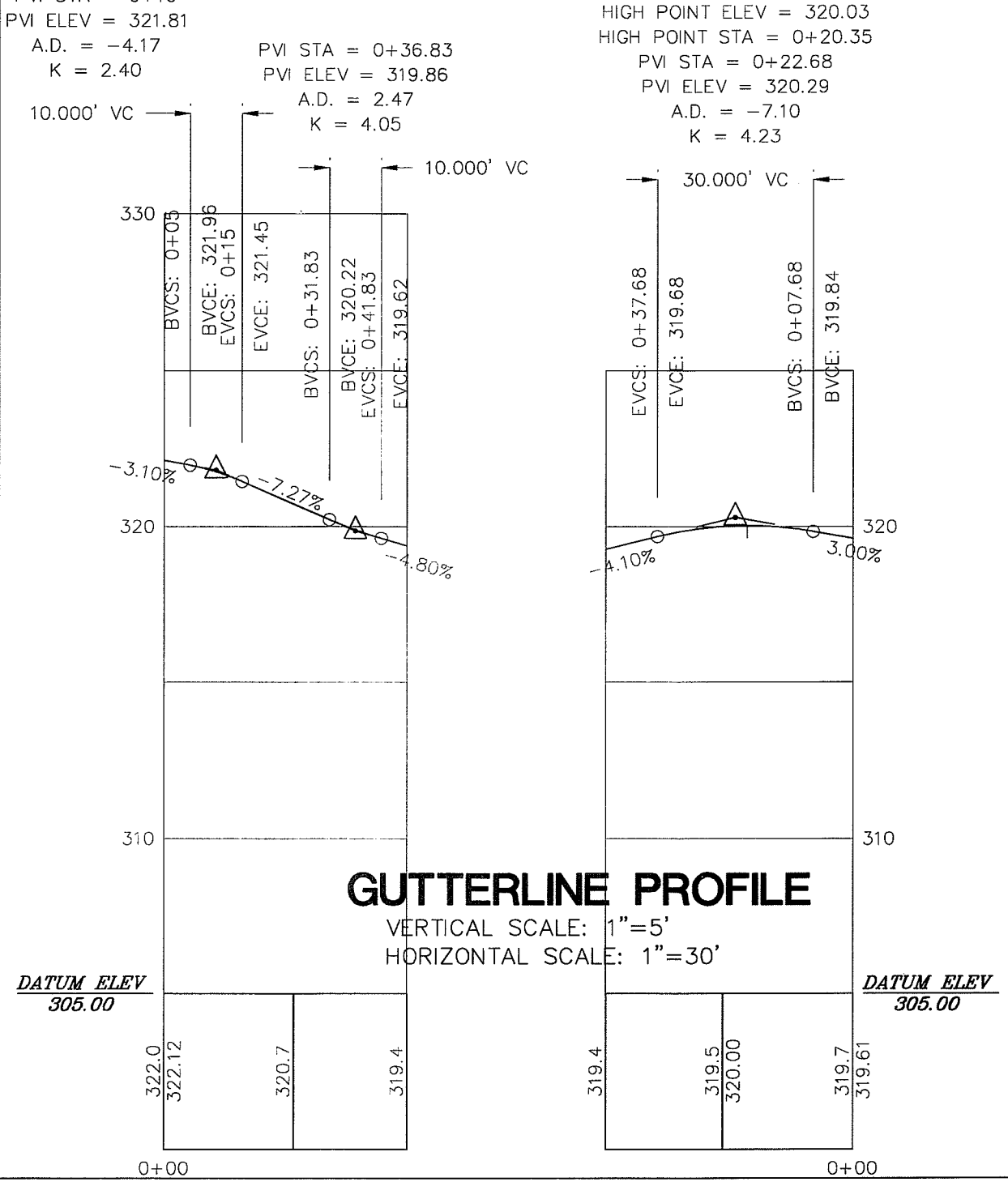
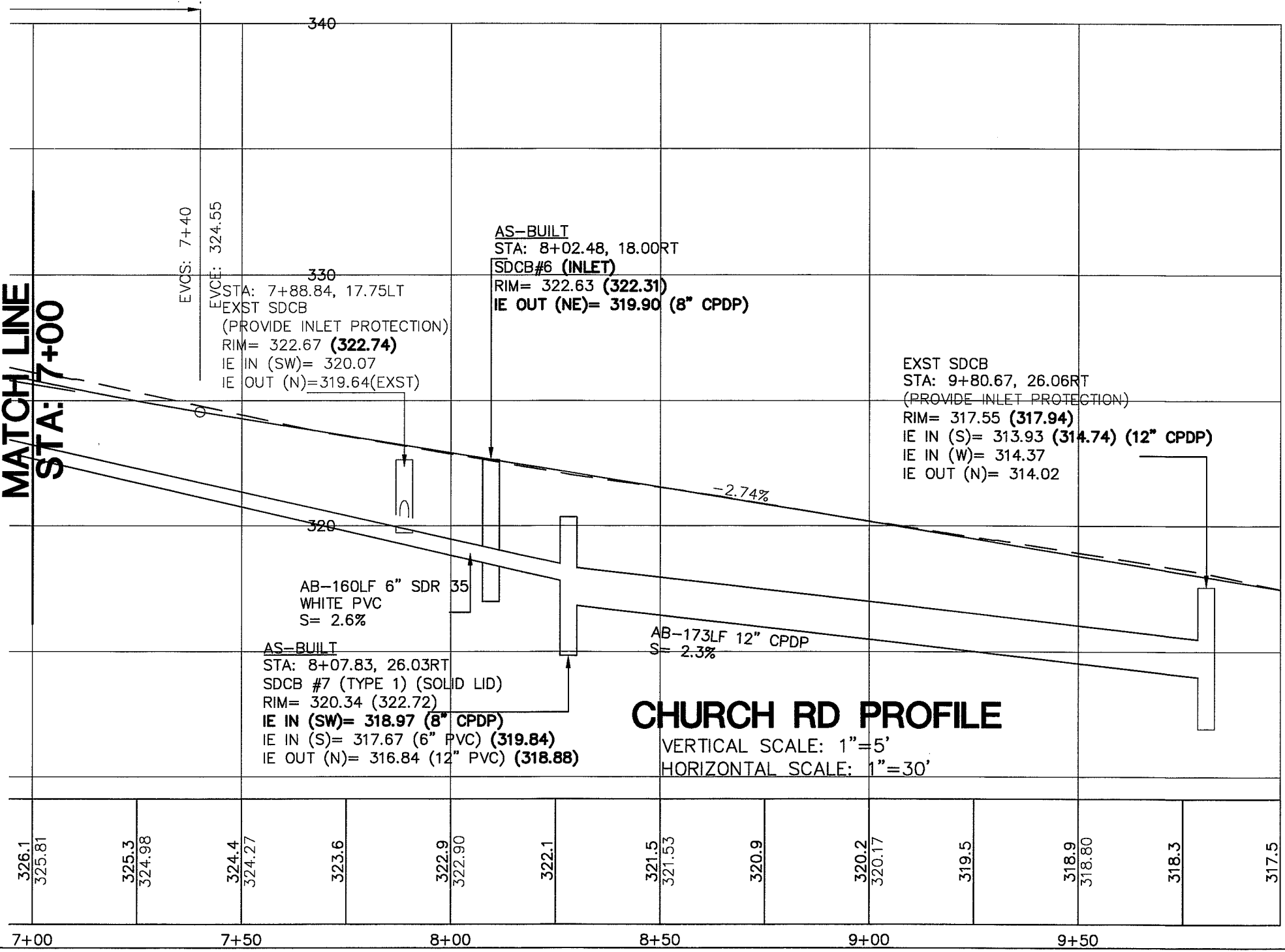
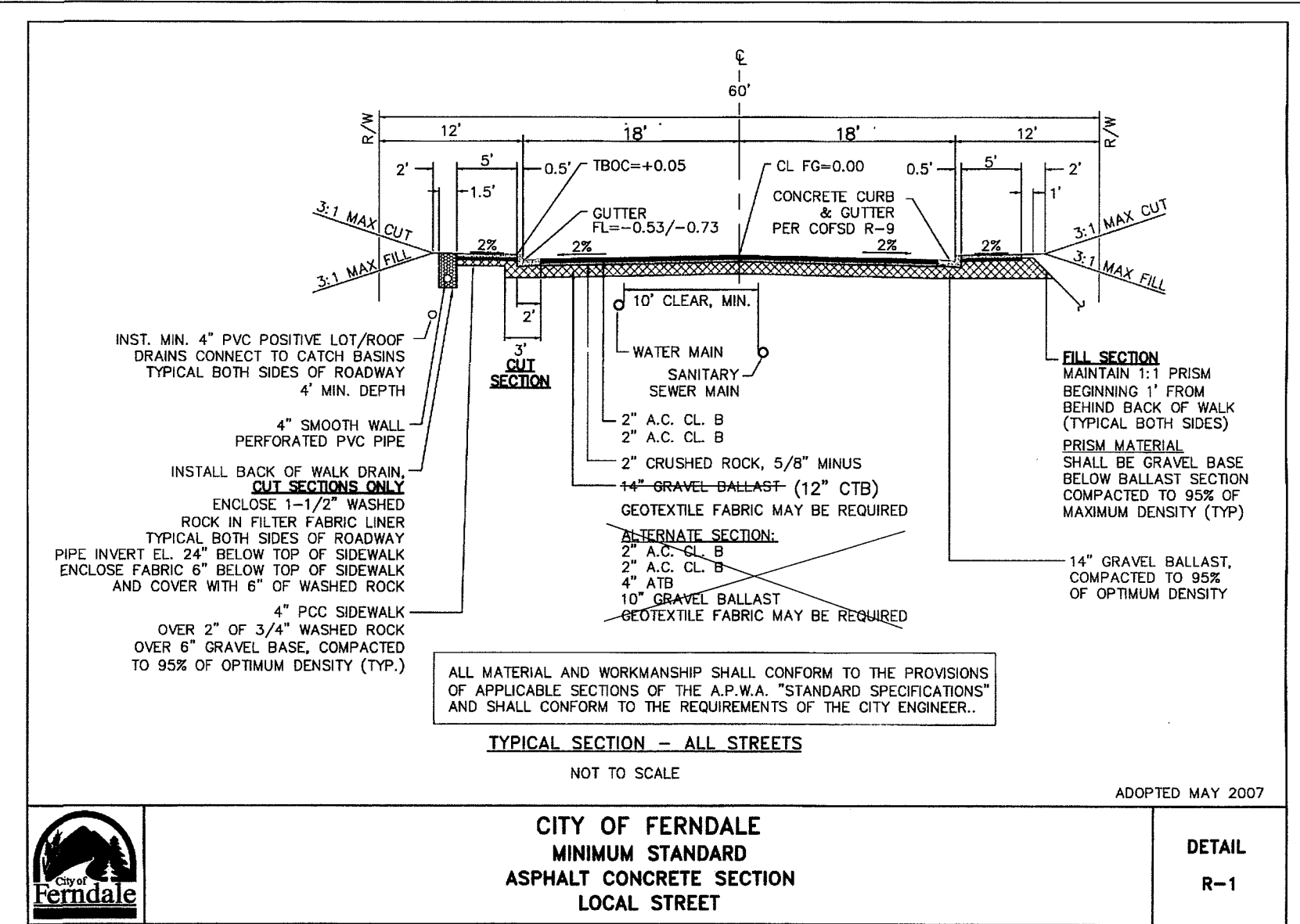
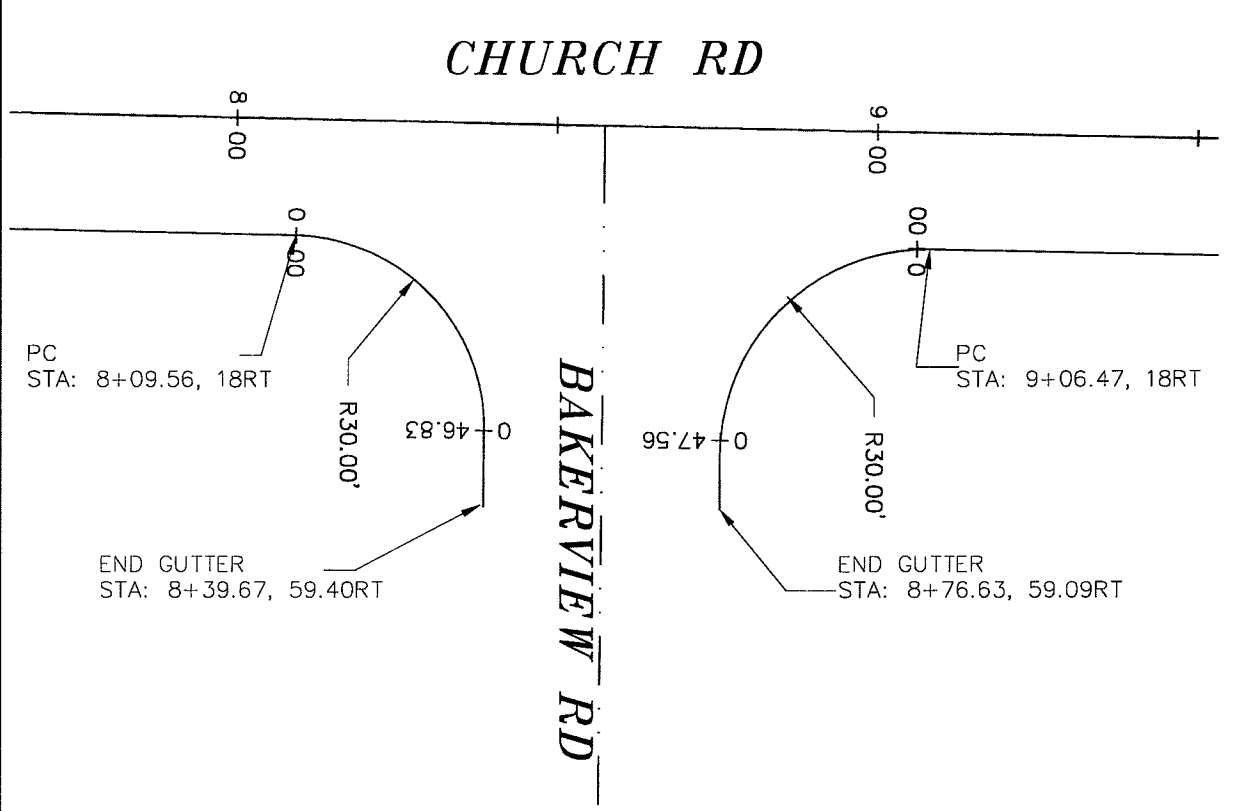
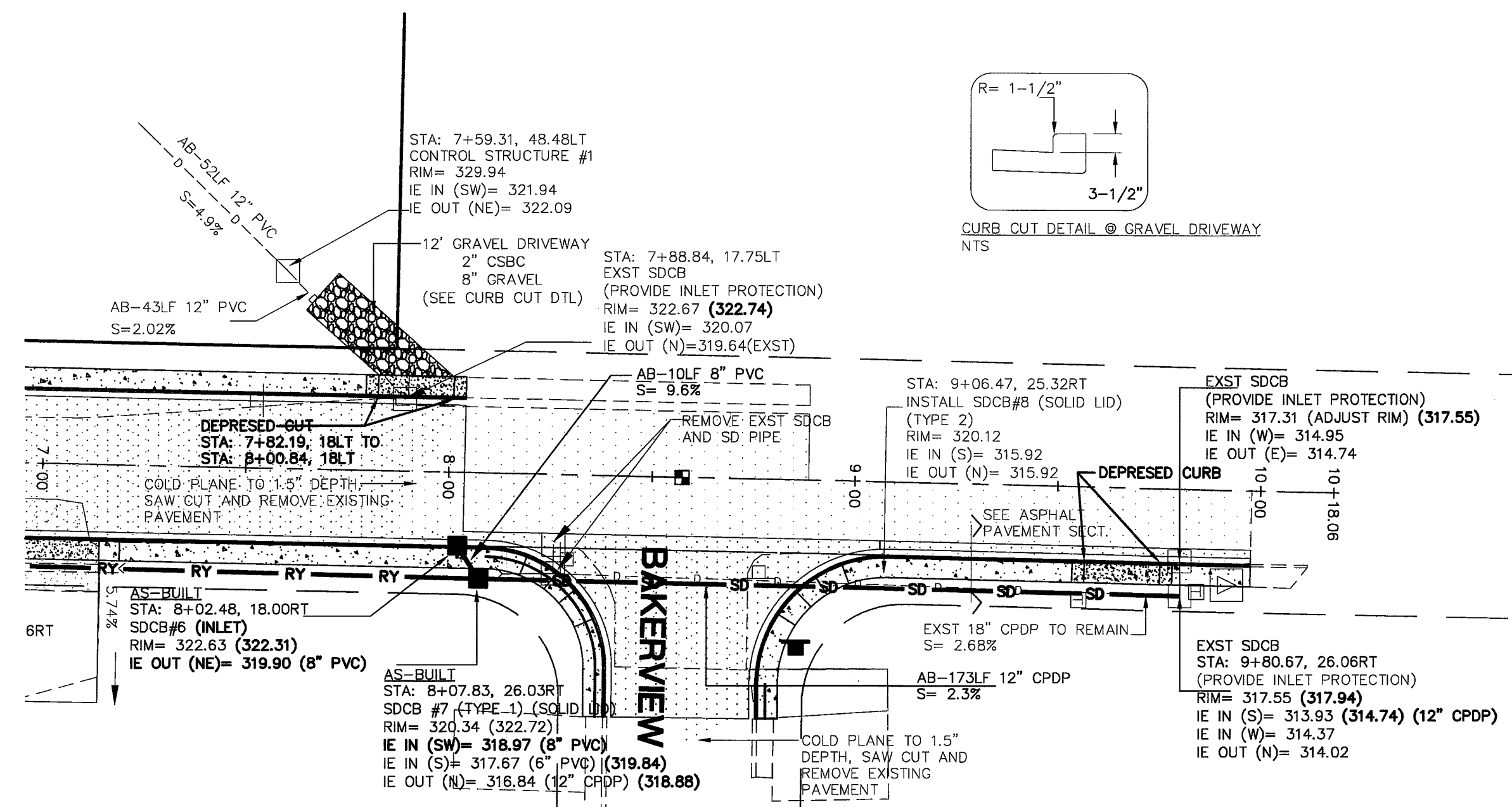
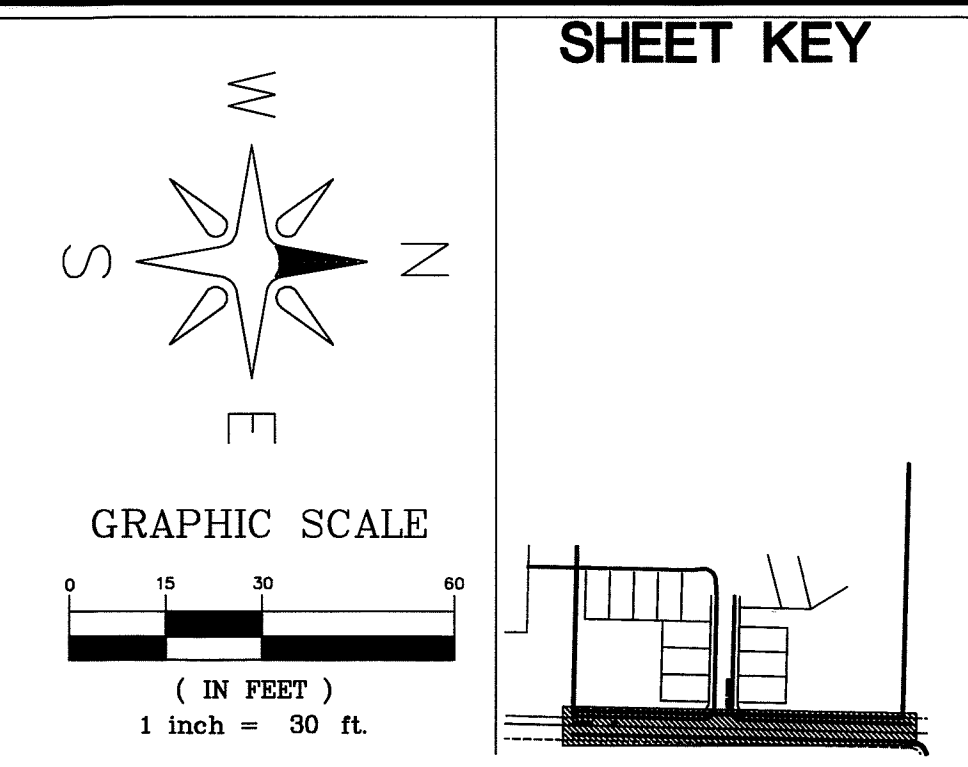
**LDES, INC.**  
5160 INDUSTRIAL PL #108  
FERNDAL, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

**CHURCH ROAD STREET IMPROVEMENTS**  
STREET & STORM DRAINAGE  
PLAN AND PROFILE  
CHURCH RD  
AS-BUILT DRAWING

REVISIONS - INITIALS/DATE/CMS	SHEET
SR 9/16/08 SUBMITTAL #1	<b>27</b>
SR 9/30/08 SUBMITTAL #2	
	OF 32

DD 7-13-09 020.076500

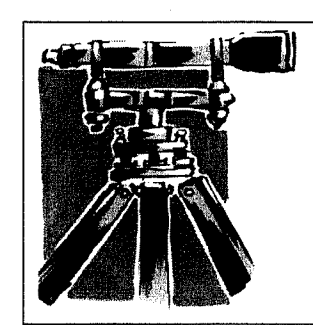
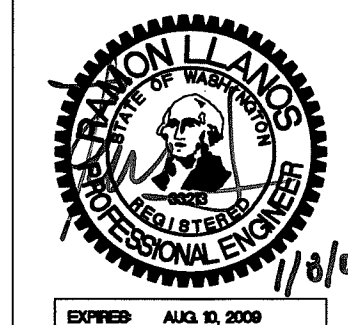
- SHEET KEY**
- = ROAD ASPHALT
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  - = AS-BUILT STORM DRAIN CATCH BASIN
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  - = EXIST POWER STRUCTURE
  - = EXIST TELEPHONE STRUCTURE
  - = EXIST SD STRUCTURE
- 323.15 (323.15) = DESIGN INFORMATION, (AS BUILT)



DRAWN BY SR DATE 9/30/2008  
CHECKED BY RL DATE 9/30/2008

**CHURCH RD STREET IMPROVEMENTS**

JOB # 6010A FOR: CITY OF FERNDALE



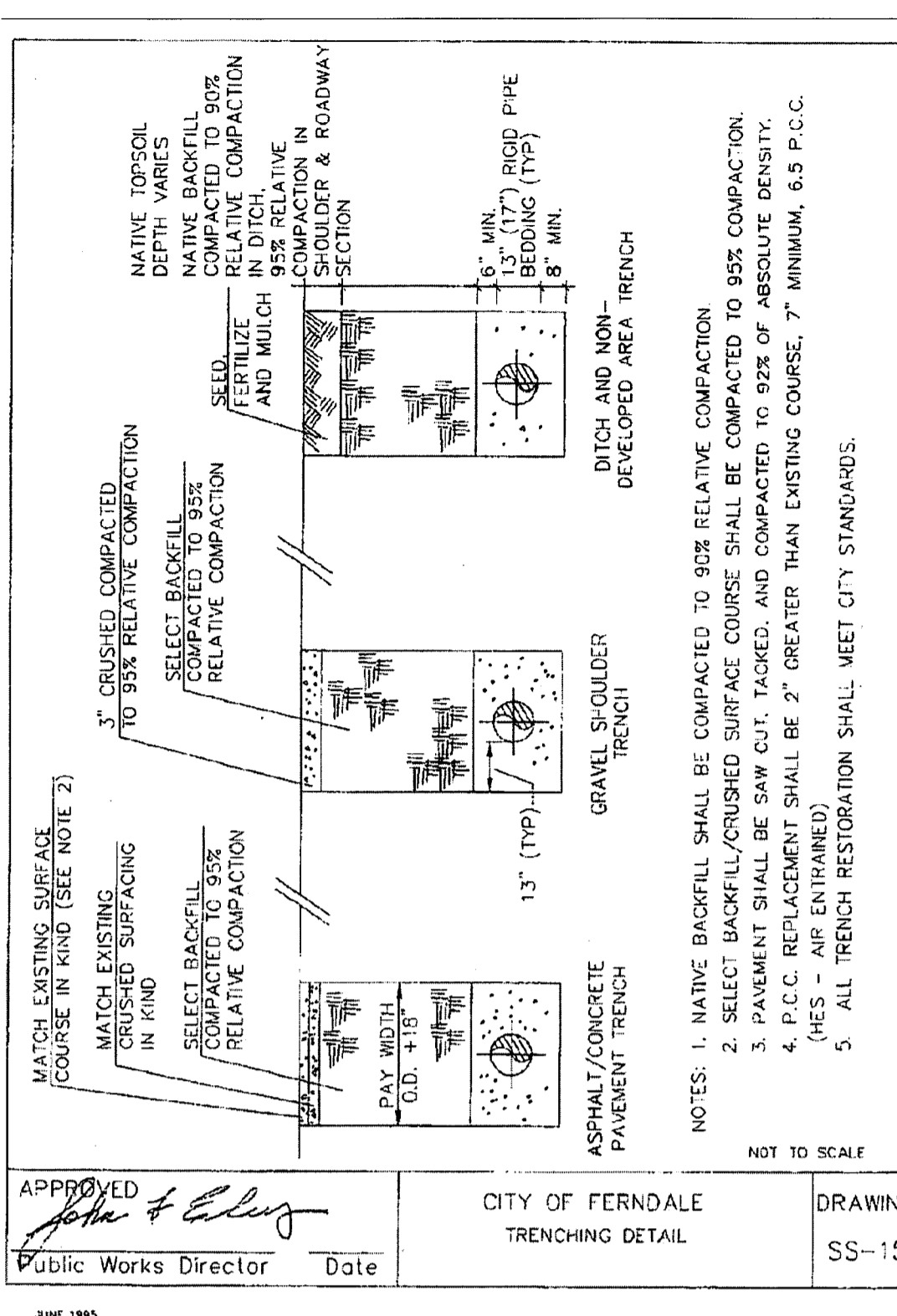
**LDES, INC.**  
5160 INDUSTRIAL PL #108  
FERNDALE, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

**CHURCH ROAD STREET IMPROVEMENTS**  
STREET & STORM DRAINAGE  
PLAN AND PROFILE  
CHURCH RD  
AS-BUILT DRAWING

REVISIONS	INITIALS/DATE/CMS	SHEET
SR 9/16/08	SUBMITTAL #1	28
SR 9/30/08	SUBMITTAL #2	
		OF 32



0334.02 7.13.09 DD

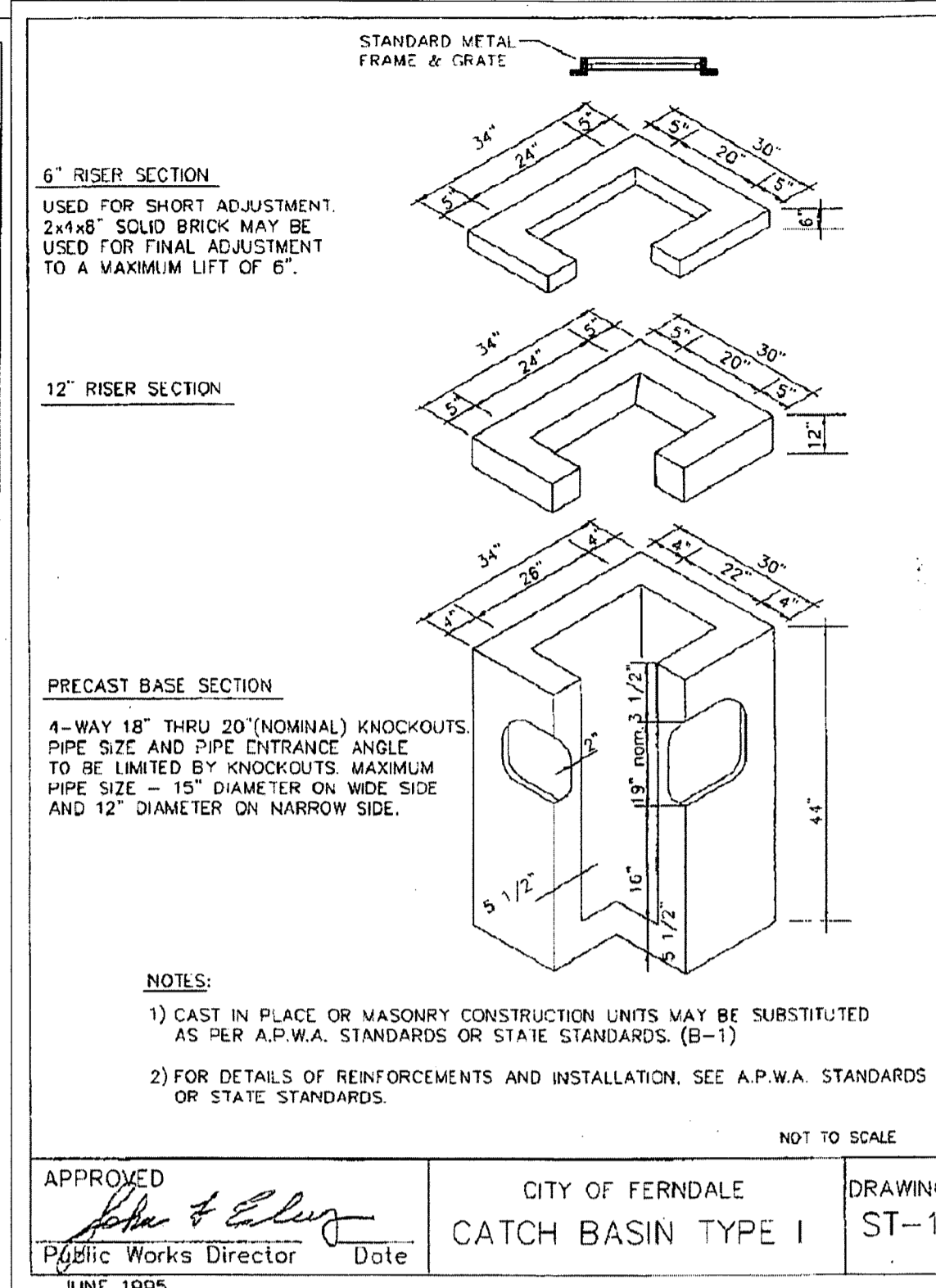


APPROVED: *John & Elly*  
Public Works Director Date

CITY OF FERDALE  
TRENCHING DETAIL

DRAWING  
SS-15

JUNE 1995

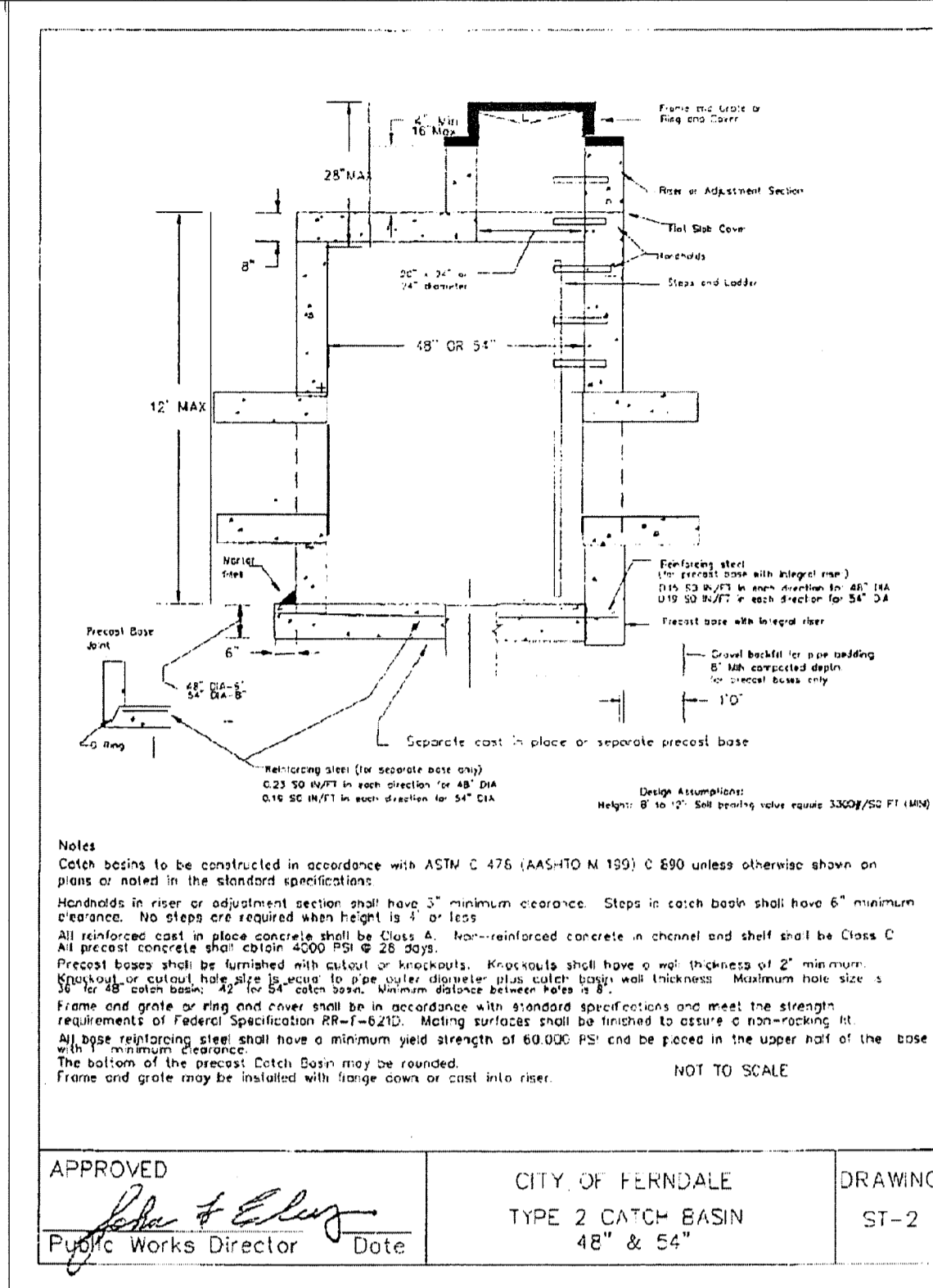


APPROVED: *John & Elly*  
Public Works Director Date

CITY OF FERDALE  
CATCH BASIN TYPE I

DRAWING  
ST-1

JUNE 1995

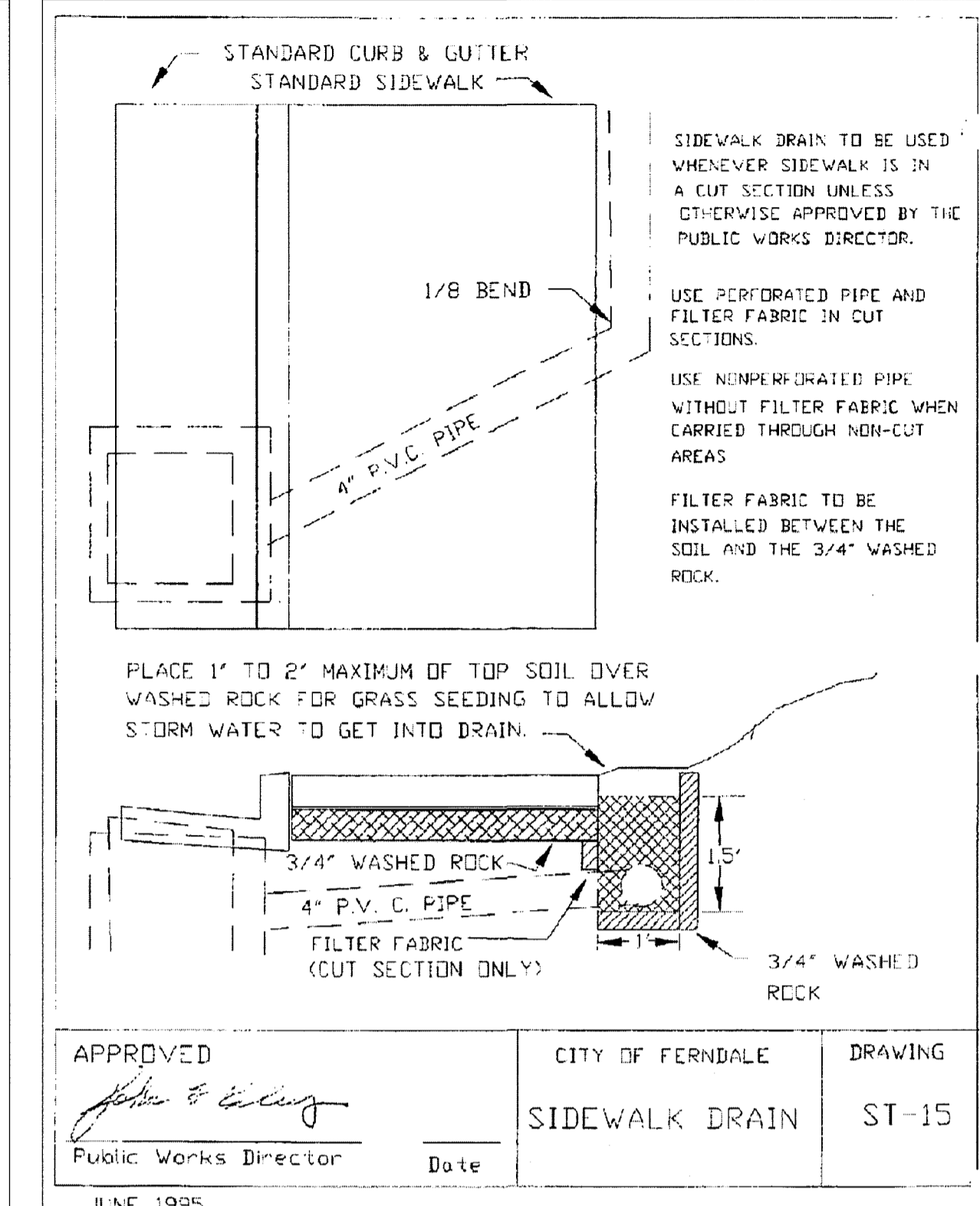


APPROVED: *John & Elly*  
Public Works Director Date

CITY OF FERDALE  
TYPE 2 CATCH BASIN  
48" x 54"

DRAWING  
ST-2

JUNE 1995

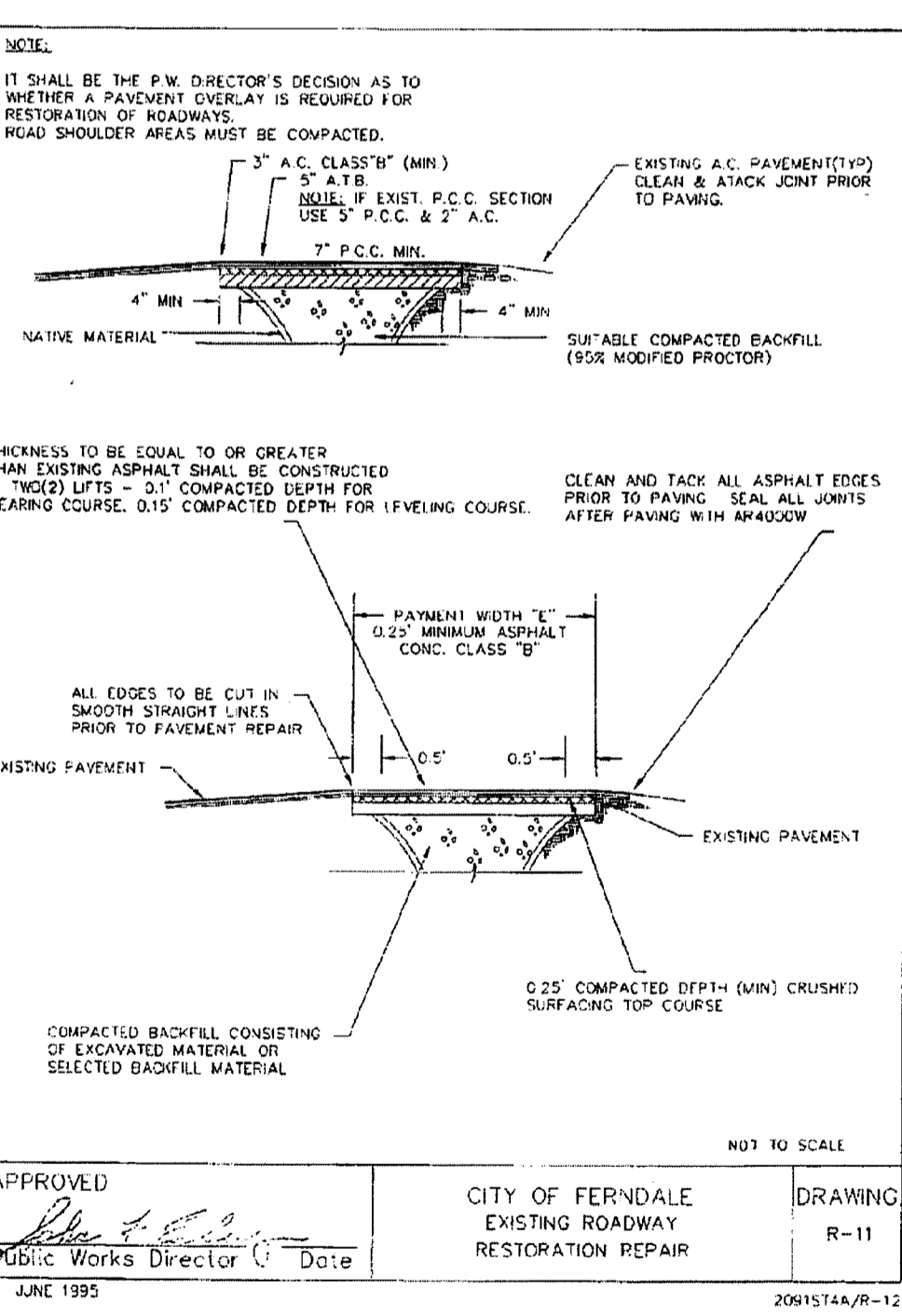


APPROVED: *John & Elly*  
Public Works Director Date

CITY OF FERDALE  
SIDEWALK DRAIN

DRAWING  
ST-15

JUNE 1995

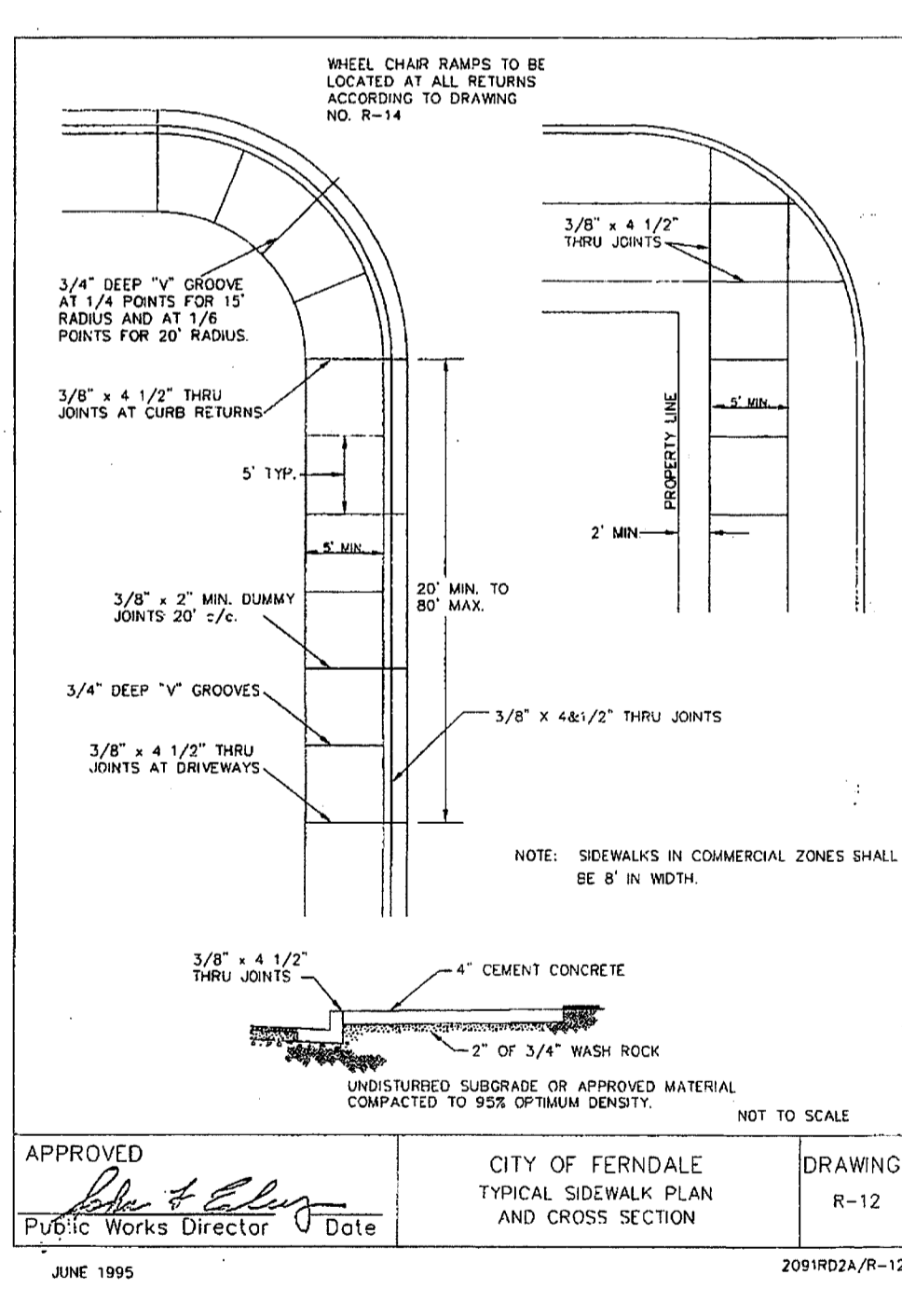


APPROVED: *John & Elly*  
Public Works Director Date

CITY OF FERDALE  
EXISTING ROADWAY RESTORATION REPAIR

DRAWING  
R-11

JUNE 1995

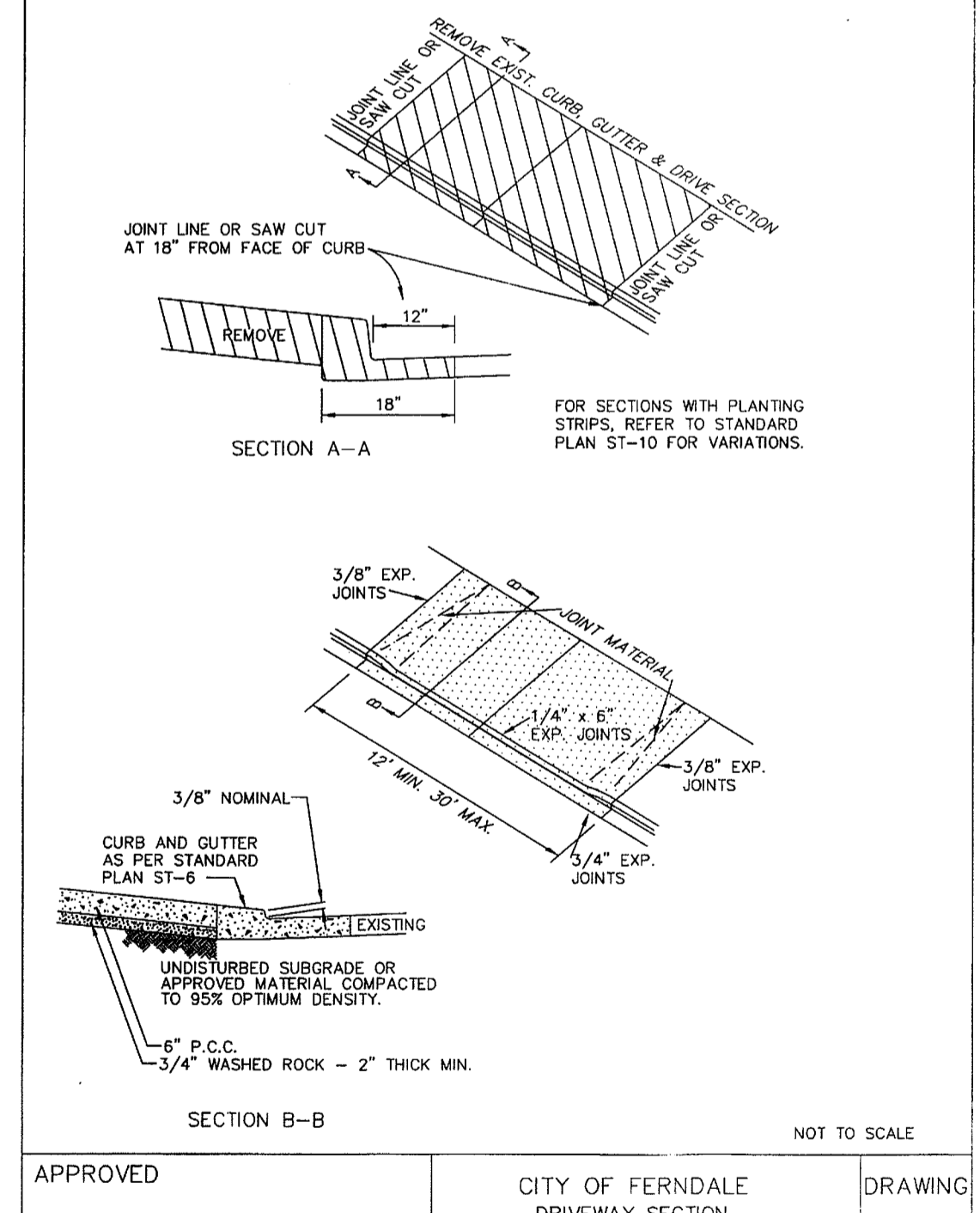


APPROVED: *John & Elly*  
Public Works Director Date

CITY OF FERDALE  
TYPICAL SIDEWALK PLAN AND CROSS SECTION

DRAWING  
R-12

JUNE 1995

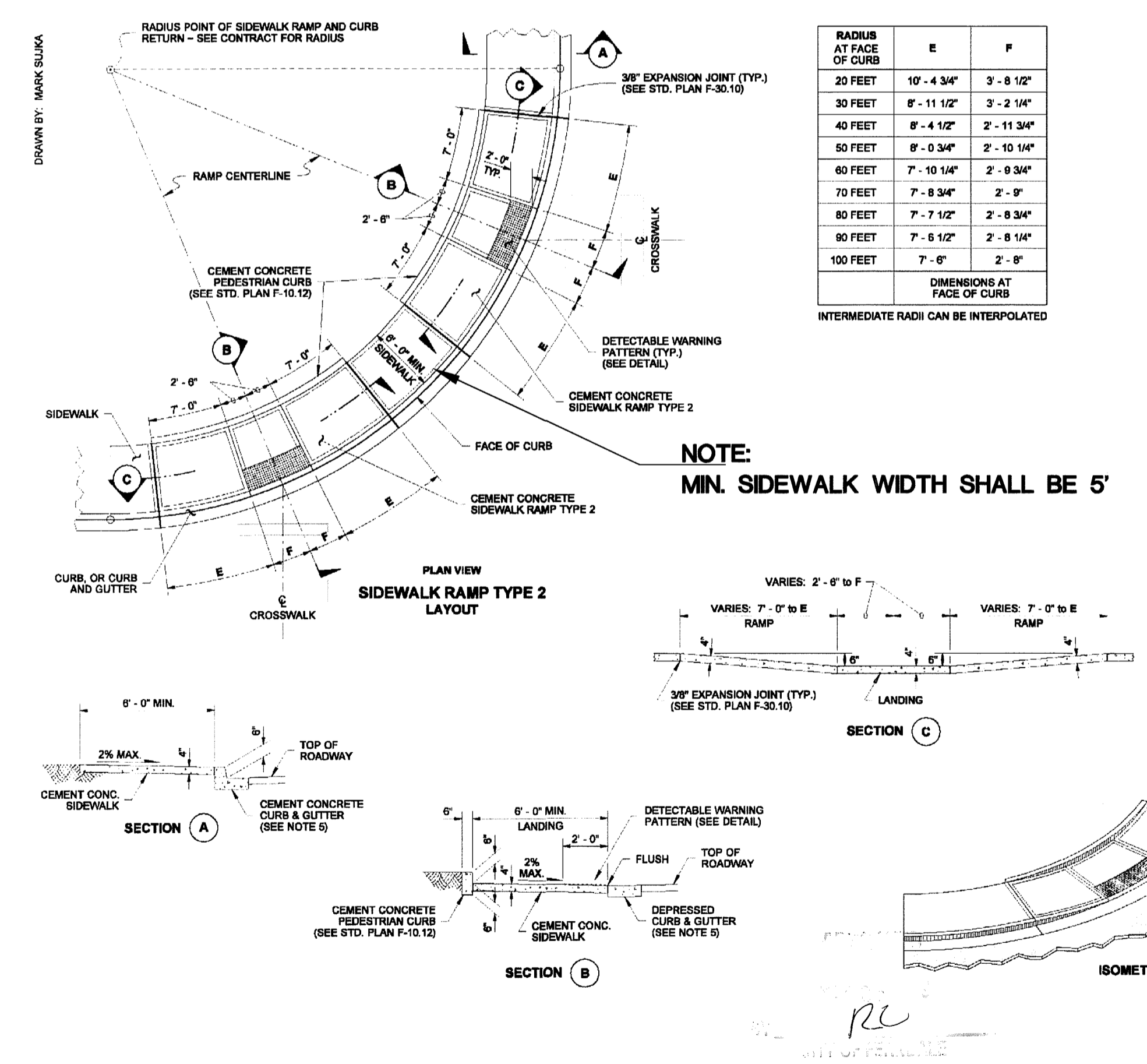


APPROVED: *John & Elly*  
Public Works Director Date

CITY OF FERDALE  
DRIVEWAY SECTION CURB CUT

DRAWING  
R-15

JUNE 1995



**NOTES:**

1. The bottom of the ramp shall have a level area (not in excess of 2% in any direction), 4' x 4'.
2. The Type 2 Ramp Layout requires two (2) of this bid item: "Cement Conc. Sidewalk Ramp Type 2". The bid item does not include the adjacent curb (or Curb & Gutter), the Sidewalk between Ramps, or the Cement Conc. Pedestrian Curb.
3. Ramp slopes shall not be steeper than 12H:1V.
4. Avoid placing drainage structures, junction boxes or other obstructions in front of ramp access areas.
5. Curb & Gutter is shown, see the Contract Plans for the curb design specified. See Standard Plan F-10.12 for curb details.
6. See Std. Plan F-30.10 for sidewalk joint placement and details.

MIN. SIDEWALK WIDTH SHALL BE 5'

THIS PATTERN AREA SHALL BE YELLOW IN COLOR

DETECTABLE WARNING PATTERN DETAIL

	MIN.	MAX.
A	1' 10"	2' 30"
B	5"	1' 12"
C	7 1/8"	34"
D	7"	1' 10"

SEAL LEROY SMITH  
PROFESSIONAL ENGINEER  
EXPIRES AUGUST 26, 2007

**SIDEWALK RAMP TYPE 2 WITH LAYOUT**  
STANDARD PLAN F-40.12-00  
SHEET 1 OF 1 SHEET  
APPROVED FOR PUBLICATION  
**Ken L. Smith** 02-07-07  
STATE ENGINEER  
Washington State Department of Transportation

R:\Common\Land Projects\2005\6010 HIGHLAND IRAIL\dwg\6010-CHURCH-AB.dwg, SD-D-L, 1/6/2009 8:46:42 AM, 1:1

DRAWN BY: SR DATE: 1/6/2009  
CHECKED BY: RL DATE: 1/8/2009

**CHURCH RD STREET IMPROVEMENTS**

JOB # 6010A FOR: CITY OF FERDALE

**LDES, INC.**  
5160 INDUSTRIAL PL #108  
FERDALE, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

**CHURCH ROAD STREET IMPROVEMENTS**  
STREET & STORM DRAINAGE  
DETAILS  
CHURCH RD  
AS-BUILT DRAWING

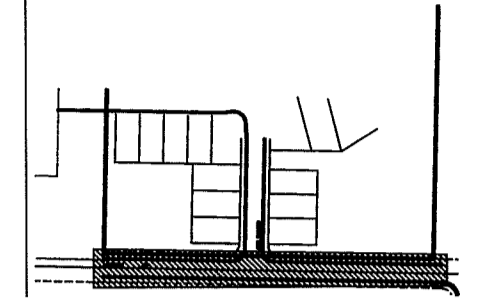
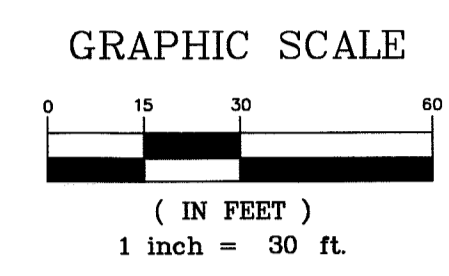
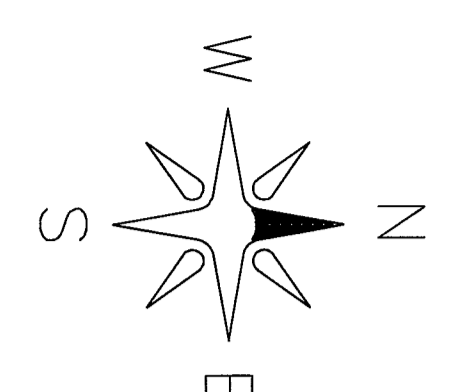
REVISIONS - INITIALS/DATE/CRS

NO.	DATE	INITIALS	DESCRIPTION
SR 9/16/08			SUBMITTAL #1
SR 9/30/08			SUBMITTAL #2

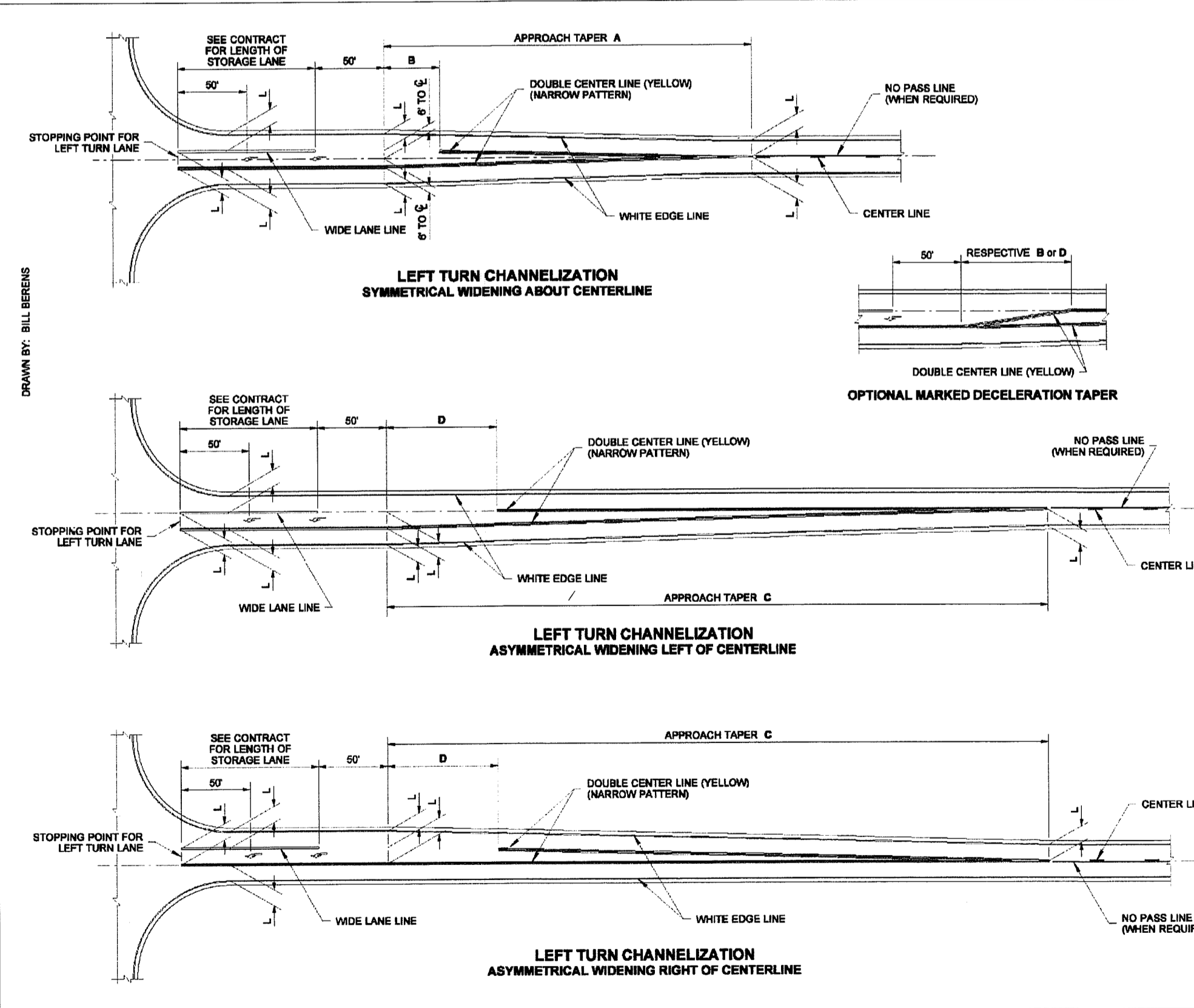
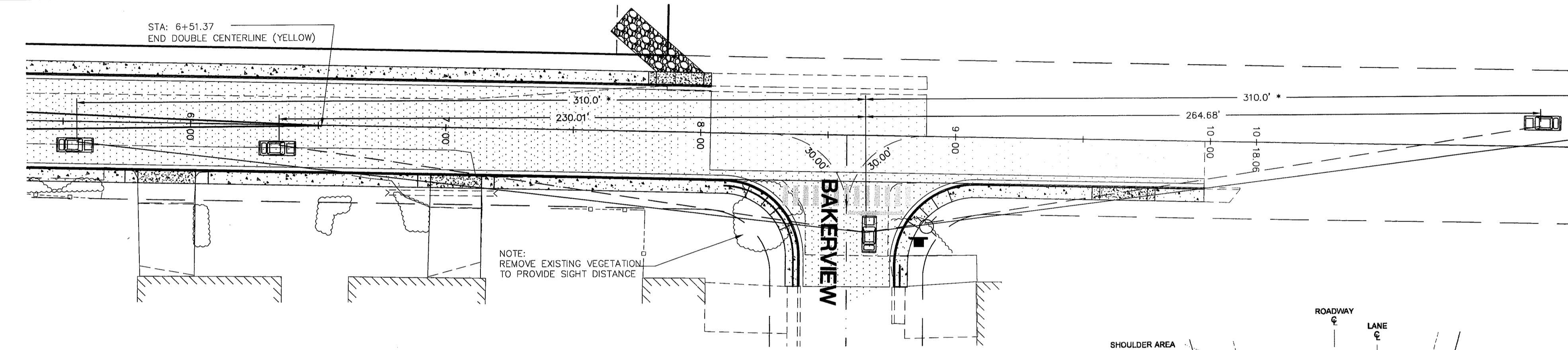
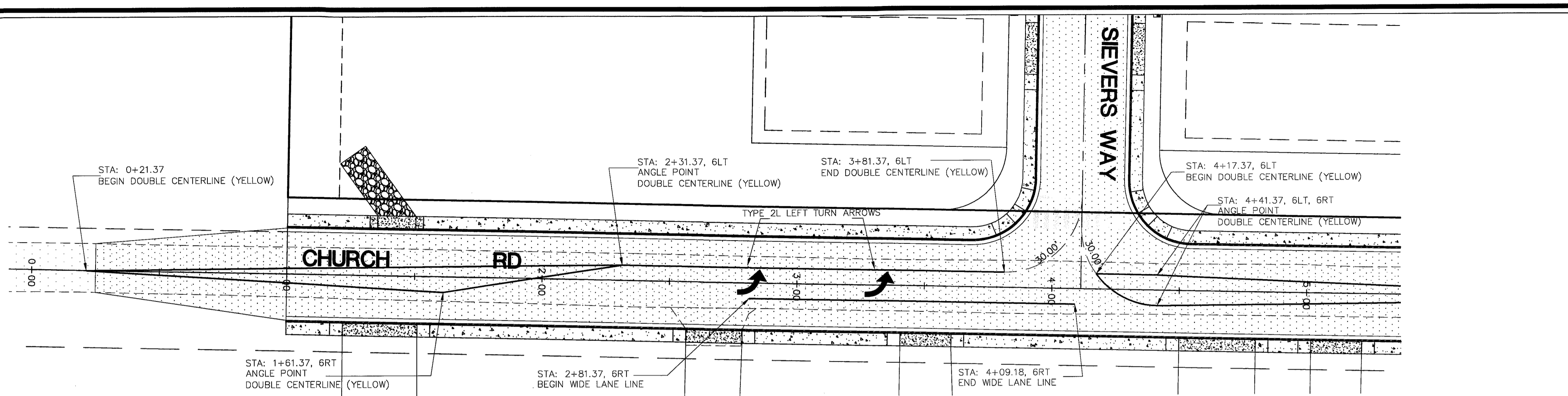
SHEET **29** OF 32

00394.030 7-13-09 DD

SHEET KEY



- ROAD ASPHALT
- EXIST SD CATCH BASIN
- STORM DRAIN CATCH BASIN
- EXIST SANITARY SEWER MANHOLE
- EXIST SANITARY SEWER CLEANOUT
- EXISTING WATER METER BOX
- EXISTING WATER VALVE
- EXISTING DITCH
- EXIST WATER LINE
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**GENERAL NOTES**

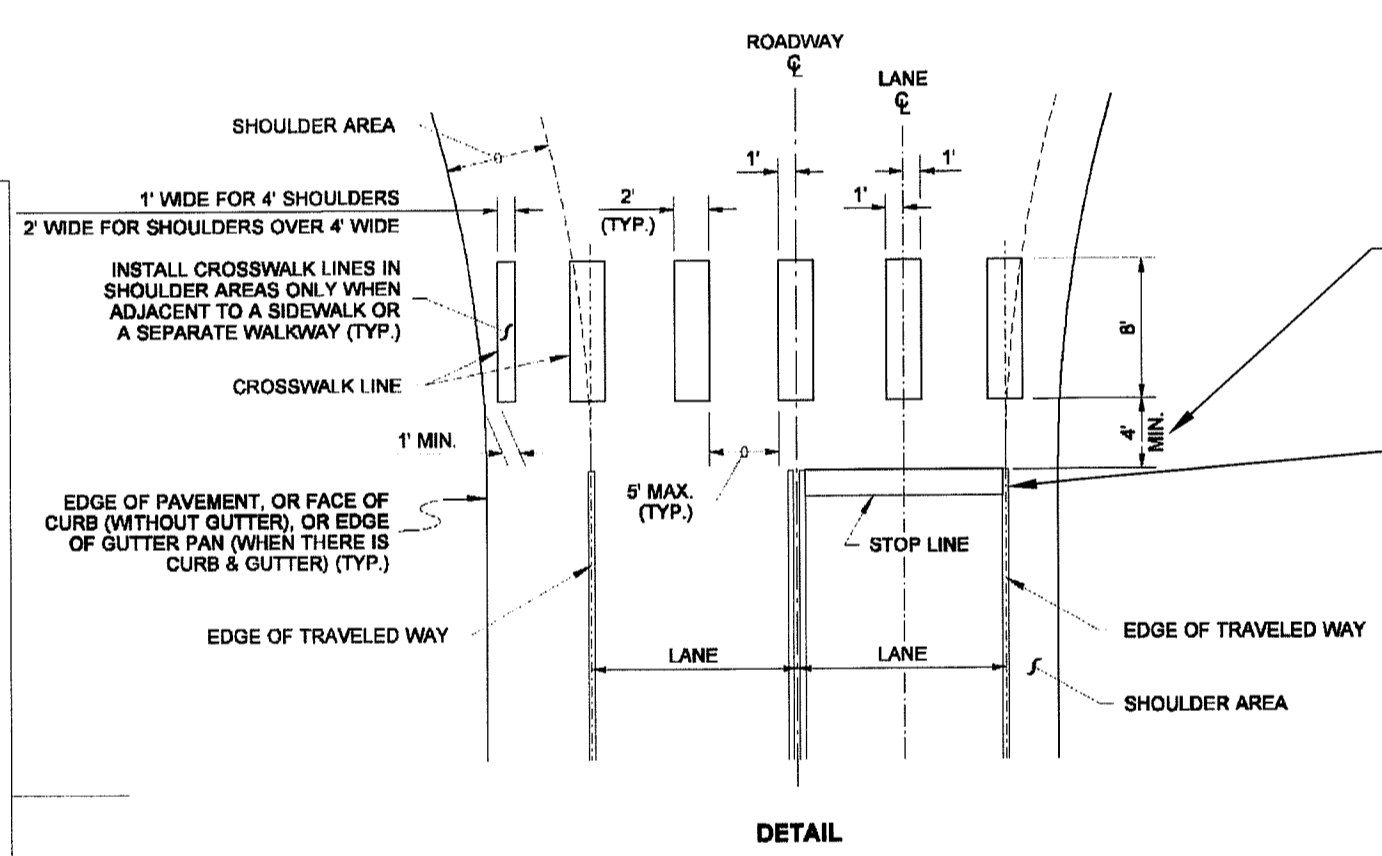
1. The channelization shown on this plan assumes optimal roadway geometric design. The dimensions may vary to fit existing conditions. See Contract.

L = 12 Typical Lane Width. See Contract for specified lane widths.

**LEGEND**

Type 2L Traffic Arrow

POSTED SPEED	APPROACH TAPER A	DIMENSION B	APPROACH TAPER C	DIMENSION D
60 MPH	380'	80'	720'	120'
55 MPH	330'	66'	660'	110'
50 MPH	300'	60'	600'	100'
45 MPH	270'	45'	540'	90'
40 MPH	240'	40'	480'	80'
35 MPH	210'	35'	420'	70'
30 MPH	180'	30'	360'	60'
25 MPH	150'	25'	300'	50'
20 MPH	120'	20'	240'	40'

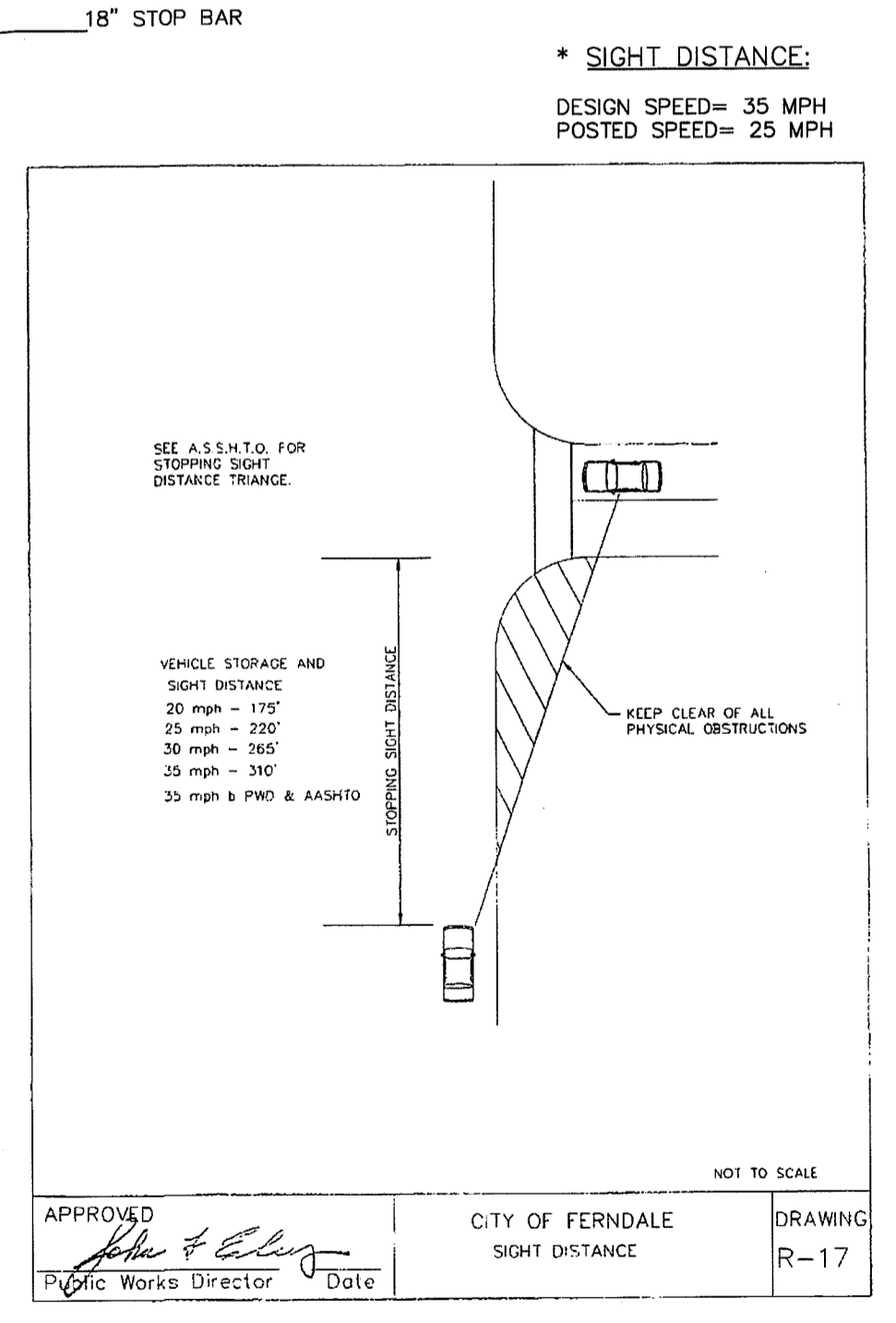


**NOTES**

- See the Contract Plans for locations of crosswalk centerlines.
- To the maximum extent possible, curb ramp centerline should be perpendicular to the crosswalk centerlines.
- To the maximum extent possible, crosswalks should be perpendicular to the centerline of the traveled way.

**CROSSWALK LAYOUT**  
STANDARD PLAN M-15.10-01  
SHEET 1 OF 1 SHEET

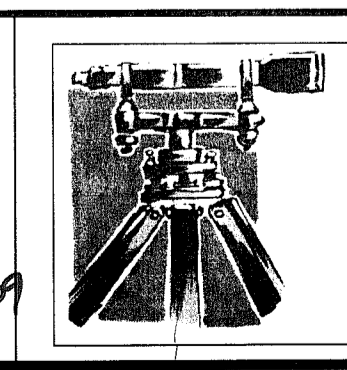
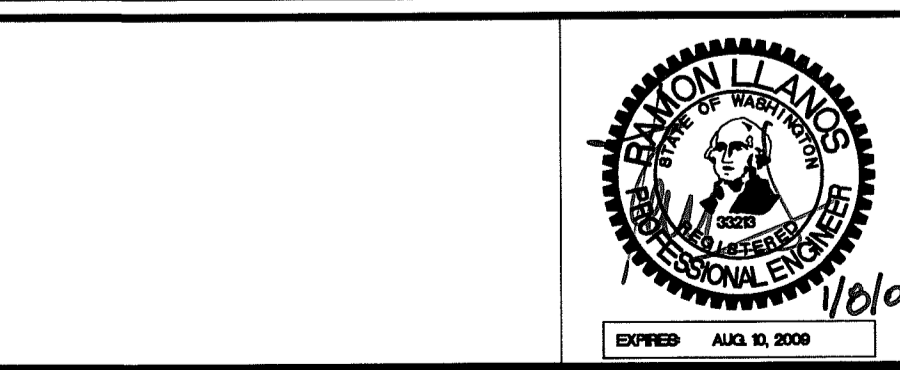
APPROVED FOR PUBLICATION  
**Ken L. Smith** 02-06-07  
STATE ENGINEER  
Washington State Department of Transportation



DRAWN BY: SR DATE: 1/8/2009  
CHECKED BY: RL DATE: 1/8/2009

**CHURCH RD STREET IMPROVEMENTS**

JOB # 6010A FOR: CITY OF FERDALE



**LD&S, INC.**  
5160 INDUSTRIAL PL #108  
FERDALE, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

**CHURCH ROAD STREET IMPROVEMENTS**  
CHANNELIZATION PLAN  
SIGHT DISTANCE  
CHURCH RD  
AS-BUILT DRAWING

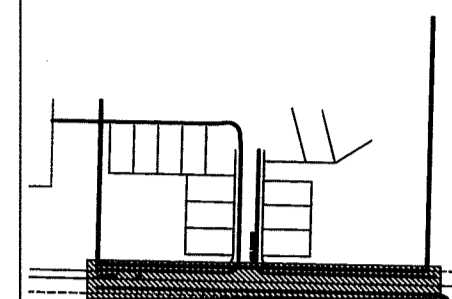
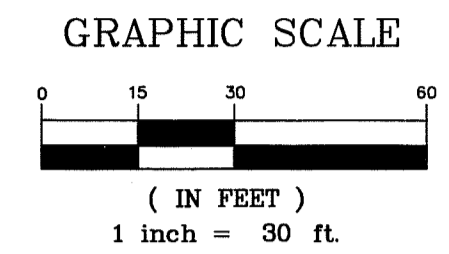
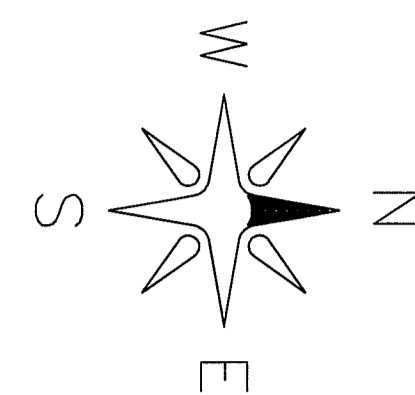
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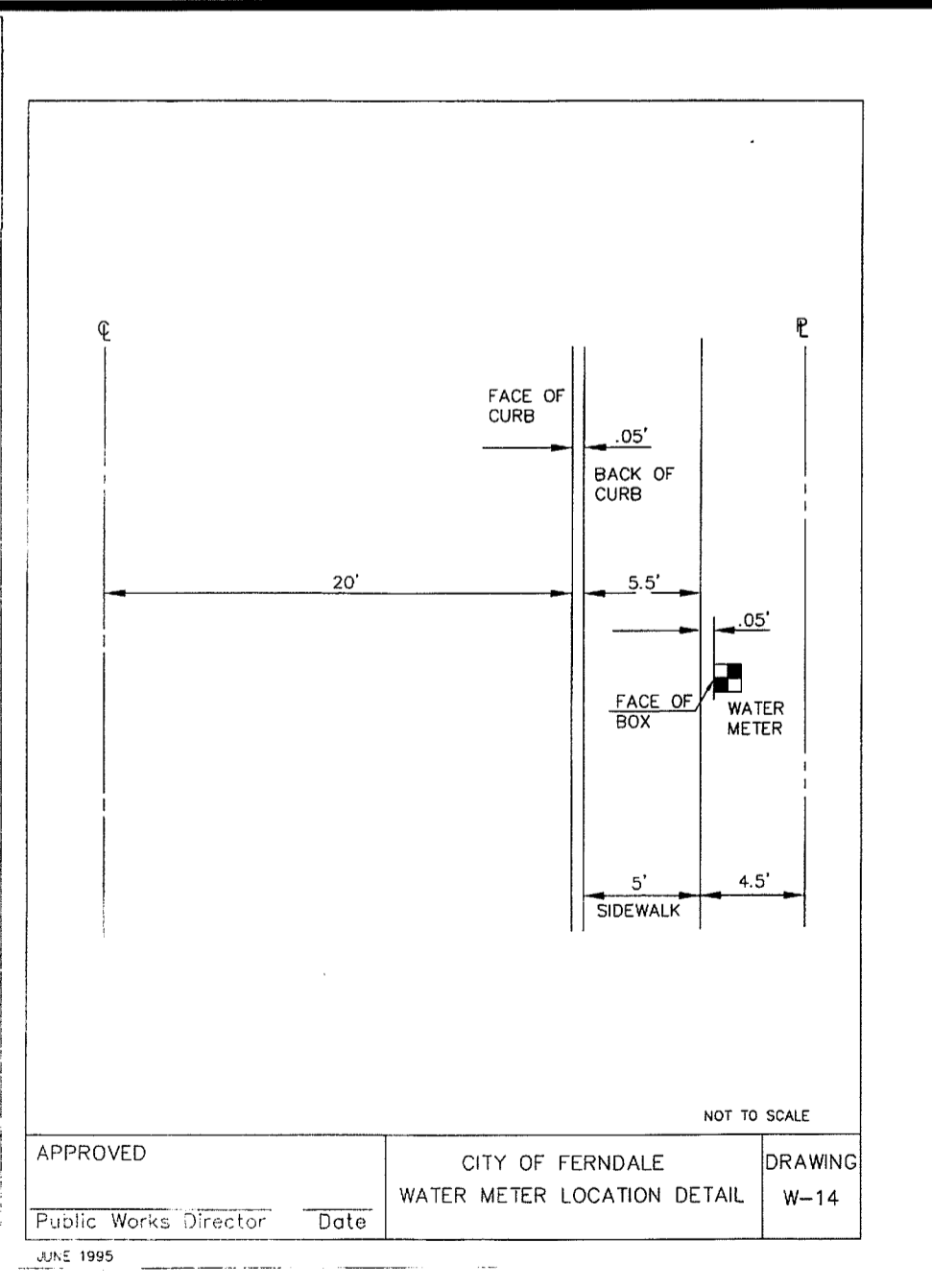
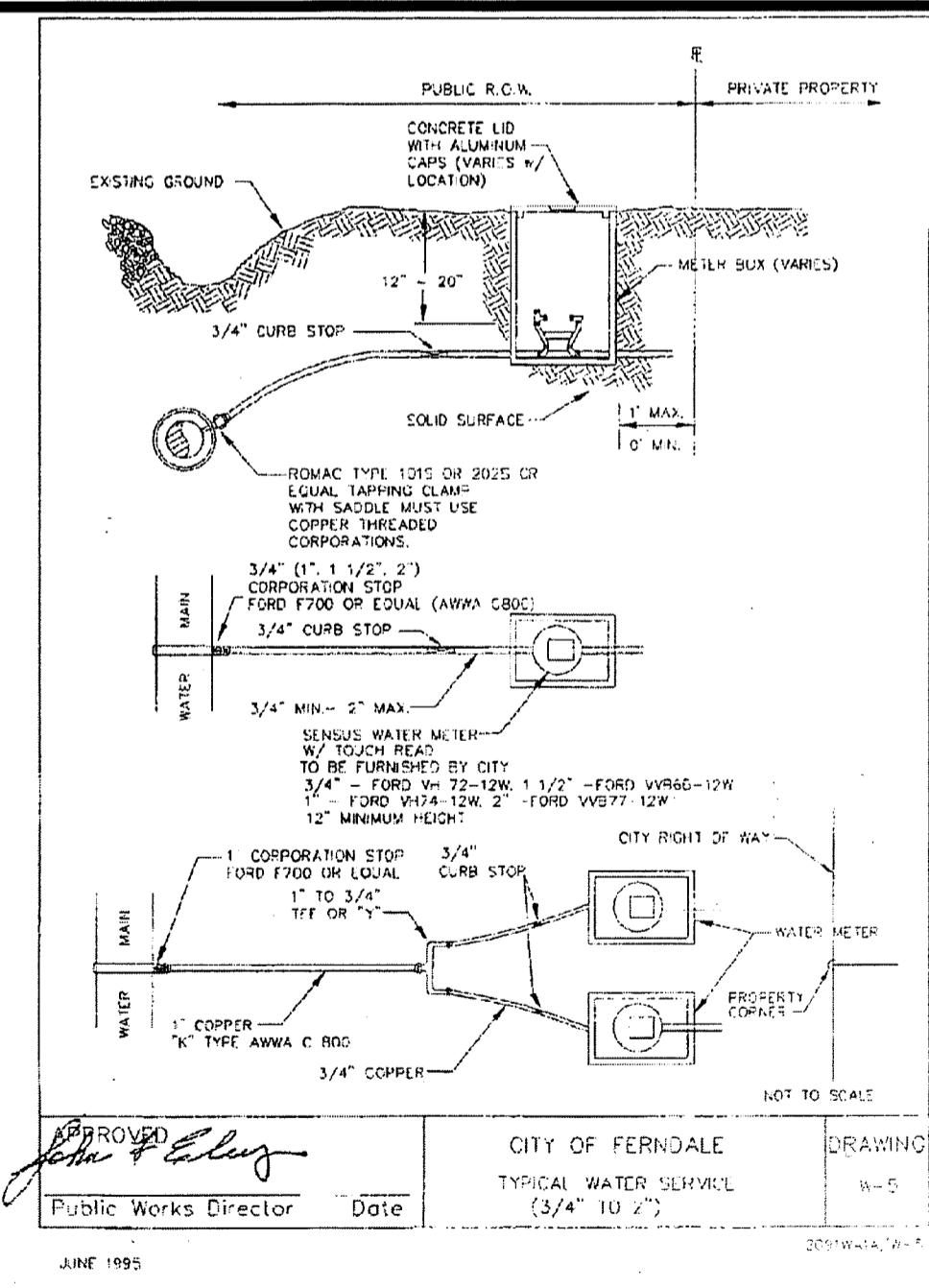
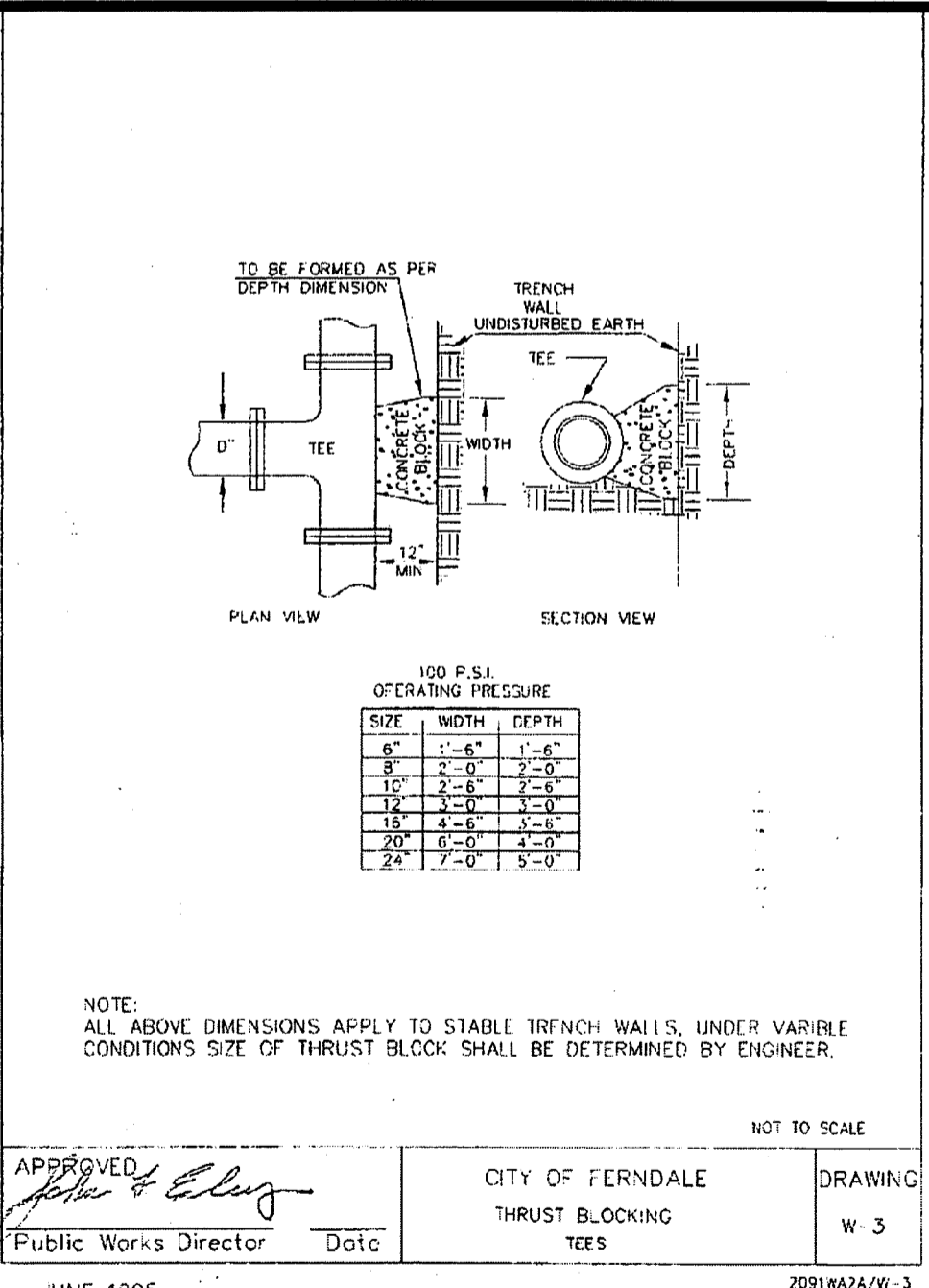
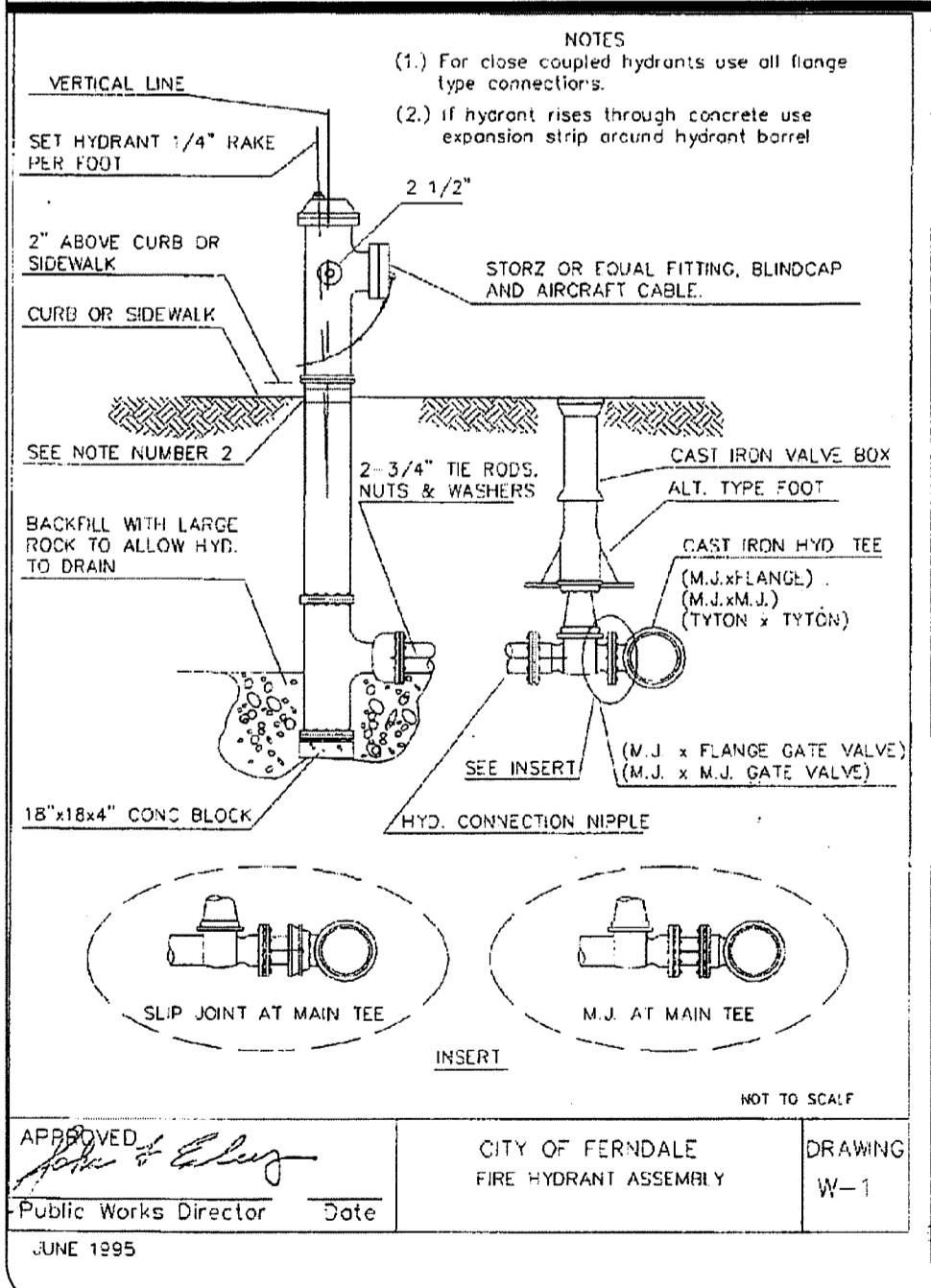
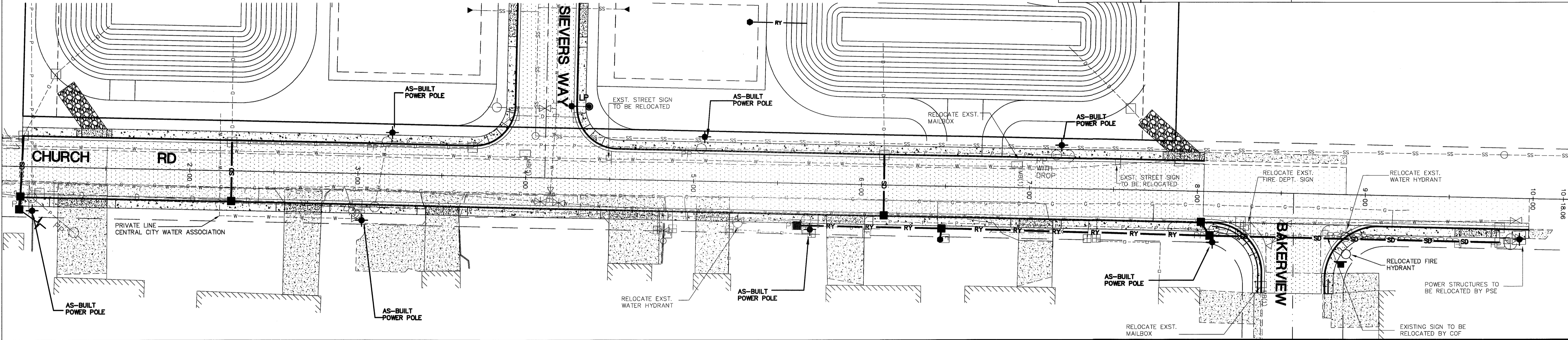
SHEET KEY



- ROAD ASPHALT
- EXIST SD CATCH BASIN
- AS-BUILT STORM DRAIN CATCH BASIN
- EXIST SANITARY SEWER MANHOLE
- EXIST SANITARY SEWER CLEANOUT
- EXISTING WATER METER BOX
- EXISTING WATER VALVE
- EXISTING DITCH
- EXIST WATER LINE
- EXIST SANITARY SEWER LINE
- EXIST STORM DRAIN LINE
- AS-BUILT STORM DRAIN LINE
- RELOCATED FIRE HYDRANT
- EXIST FIRE HYDRANT
- EXIST POWER POLE
- EXIST MAIL BOXES
- EXIST POWER STRUCTURE
- EXIST TRAFFIC SIGN
- EXIST TELEPHONE STRUCTURE
- EXIST SD STRUCTURE
- RELOCATED POWER POLE

**WATER METER NOTE:**  
ALL EXISTING WATER METER BOXES LOCATED ON EAST SIDE OF CHURCH ROAD SHALL BE ADJUSTED TO MATCH PROPOSED BACK OF SIDE WALK FINISH GRADE.

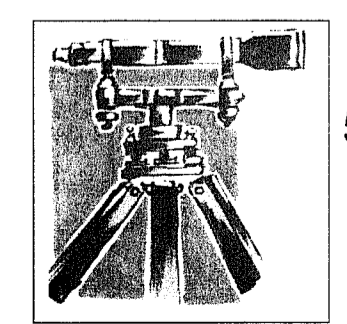
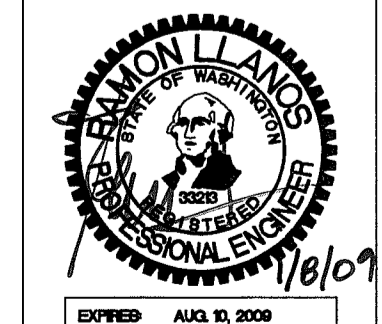
**RESTORATION NOTE:**  
ALL PRIVATE AND PUBLIC AREAS TO BE RESTORED TO EQUAL OR BETTER THAN ORIGINAL CONDITIONS.



DRAWN BY SR DATE 1/6/2009  
CHECKED BY RL DATE 1/6/2009

**CHURCH RD STREET IMPROVEMENTS**

JOB # 6010A FOR: CITY OF FERNDALE



**LDES, INC.**  
5160 INDUSTRIAL PL #108  
FERNDALE, WA 98248  
PHONE 360-383-0620  
FAX 360-383-0639

**CHURCH ROAD STREET IMPROVEMENTS**  
WATER DISTRIBUTION PLAN  
UTILITY RELOCATION PLAN  
CHURCH RD  
AS-BUILT DRAWING

REVISIONS - INITIALS/DATE/CMS	SHEET
SR 9/16/08 SUBMITTAL #1	<b>31</b> OF 32
SR 9/30/08 SUBMITTAL #2	
SR 1/6/09 SUBMITTAL #3	

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GENERAL REQUIREMENTS

- ALL WORK AND MATERIALS SHALL CONFORM TO THESE PLANS AND TO THE REQUIREMENTS OF THE MOST CURRENT EDITION OF THE STATE OF WASHINGTON, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. WORK AND MATERIALS SHALL ALSO CONFORM TO THE CITY OF FERDALE DEVELOPMENT STANDARDS. IN CASE OF A CONFLICT BETWEEN PLANS, REGULATORY STANDARDS OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT WILL PREVAIL.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER CONSTRUCTION DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
- THE CONTRACTOR SHALL OBTAIN REVOCABLE ENCROACHMENT PERMITS FROM THE CITY OF FERDALE AND WHATCOM COUNTY PRIOR TO COMMENCING WORK WITHIN PUBLIC RIGHTS-OF-WAY.
- THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH REPRESENTATIVES OF THE CITY OF FERDALE PUBLIC WORKS DEPARTMENT AND THE PROJECT ENGINEER A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
- ALL WORK AND MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE CITY OF FERDALE. REPRESENTATIVES FROM THE CITY OF FERDALE PUBLIC WORKS DEPARTMENT MUST INSPECT ALL WORK. THE CONTRACTOR SHALL CALL AT LEAST 24 HOURS IN ADVANCE TO SCHEDULE INSPECTIONS AS FOLLOWS:
  - PLACEMENT OF TEMPORARY EROSION CONTROL MEASURES.
  - PLACEMENT OF WATER MAIN AND BACKFILLING OF WATER MAIN TRENCH WITHIN ROAD RIGHTS-OF-WAY OR IN WATERLINE EASEMENTS TO BE DEDICATED TO THE CITY OF FERDALE.
  - PLACEMENT AND BACKFILLING OF UNDERGROUND UTILITIES, STORM SEWER AND SANITARY SEWER WITHIN ROAD RIGHTS-OF-WAY OR IN EASEMENTS TO BE DEDICATED TO THE CITY OF FERDALE.
  - GRADING OF PUBLIC ROADWAY AT:
    - COMPLETION OF EXCAVATION TO SUBGRADE.
    - COMPLETION OF BALLAST COURSE PLACEMENT.
    - COMPLETION OF CRUSHED SURFACING COURSE PLACEMENT.
  - POURING OF CURB AND GUTTER AND SIDEWALK IN PUBLIC ROADWAY.
  - ASPHALT PAVING IN PROGRESS IN PUBLIC ROADWAY.
  - OVERALL INSPECTION FOR FINISHED SHOULDERS, DITCHES, PERMANENT SEEDING AND MONUMENT PLACEMENT.
  - END OF MAINTENANCE PERIOD.
- SITE CLEARING SHALL INCLUDE THE LOCATION AND REMOVAL OF ALL ABOVE GROUND AND BURIED DEBRIS AND WASTE THAT MAY BE PRESENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING SUB-SURFACE CONDITIONS AND SOILS TYPES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY THAT MAY INTERRUPT NORMAL TRAFFIC FLOW SHALL REQUIRE AT LEAST ONE FLAGGER FOR EACH LANE OF TRAFFIC AFFECTED. ALL SECTIONS OF THE WSDOT STANDARD SPECIFICATIONS 1-07.23-TRAFFIC CONTROL, SHALL APPLY.
- A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- THE CONTRACTOR SHALL INFORM THE ENGINEER AND OBTAIN APPROVAL FROM THE CITY OF FERDALE PUBLIC WORKS DIRECTOR OF ANY PROPOSED DEVIATIONS FROM THE APPROVED PLANS PRIOR TO CONSTRUCTION OF THE REVISED IMPROVEMENTS. THE CONTRACTOR SHALL KEEP RECORDS OF ALL DEVIATIONS AND SHALL FORWARD THEM TO THE ENGINEER AND TO THE CITY OF FERDALE PUBLIC WORKS DEPARTMENT.
- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE BASED UPON A COMBINATION OF FIELD RECONNAISSANCE, FIELD SURVEY AND UTILITY COMPANY RECORDS AND ARE SHOWN ON THESE PLANS IN AN APPROXIMATE WAY ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL OF THE VARIOUS UTILITY COMPANIES TO ARRANGE FOR FIELD LOCATIONS OF ALL EXISTING UTILITY FACILITIES PRIOR TO STARTING CONSTRUCTION. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR COSTS INCURRED BECAUSE OF DAMAGE DONE TO EXISTING FACILITIES BY THE CONTRACTOR'S WORK FORCE, INCLUDING COSTS FOR REPAIRS, WHICH WILL BE CONTRACTOR'S SOLE RESPONSIBILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ALL EXISTING UTILITIES AND TO NOTIFY THE ENGINEER PROMPTLY OF ANY CONFLICT BETWEEN THE APPROVED PLANS AND THE LOCATION OF ANY EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT UTILITY LOCATION SERVICE AT LEAST 48 HOURS PRIOR TO STARTING CONSTRUCTION. PHONE: 1-800-424-5555.
- THE CONTRACTOR SHALL PROTECT ALL PRIVATE AND PUBLIC UTILITIES FROM DAMAGE RESULTING FROM THE WORK. CONTRACTOR SHALL RESTORE ALL PRIVATE AND PUBLIC PROPERTY DISRUPTED BY THE PROJECT IMMEDIATELY AFTER CONSTRUCTION.
- ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST BETWEEN ACTUAL FIELD CONDITIONS AND THE ASSUMED CONDITIONS SHOWN ON THE APPROVED PLANS PRIOR TO PROCEEDING WITH CONSTRUCTION, SO THAT NECESSARY PLAN OR DESIGN CHANGES CAN BE MADE. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR EXTRA WORK, INCLUDING REMOVAL AND RECONSTRUCTION OF NEWLY BUILT IMPROVEMENTS, MADE NECESSARY BY ERRORS OF DIMENSION OR GRADE ON THE APPROVED PLANS, UNLESS SUCH NOTIFICATION WAS GIVEN.
- THROUGHOUT THE PERIOD OF CONSTRUCTION, CONTRACTOR SHALL COMPLY WITH THE TERMS OF ALL PERMITS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CLEARING OR GRADING.
- ALL MATERIALS TESTING REQUIREMENTS FOR THE IMPROVEMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PERFORMED IN ACCORDANCE WITH THE INSTRUCTIONS OF THE CITY OF FERDALE PUBLIC WORKS DIRECTOR. CONTRACTOR SHOULD DETERMINE THESE REQUIREMENTS PRIOR TO THE START OF CONSTRUCTION.
- ALL PORTLAND CEMENT CONCRETE SHALL BE APWA CLASS 3000, PER APWA STANDARD SPECIFICATIONS, SECTION 6-02.3(2)B.
- UNDERGROUND UTILITIES CONSTRUCTION
  - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ENGINEER TO ASSURE ACCURATE AND TIMELY COLLECTION OF ALL REQUIRED AS-BUILT DATA. THIS DATA MUST ACCURATELY REFLECT THE LOCATIONS OF ALL UNDERGROUND UTILITIES, BOTTOM OF PIPE ELEVATIONS, INVERT ELEVATIONS, MANHOLE LOCATIONS, BLOW-OFF LOCATIONS AND INVERTS OF SERVICE CONNECTIONS (BOTH AT PIPE AND AT PROPERTY LINE). VERTICAL AND HORIZONTAL BENDS, SERVICE BOXES AND METERS, VALVES AND HYDRANTS. CALL AT LEAST 48 HOURS BEFORE BURYING UNDERGROUND PIPE TO ASSURE AND FACILITATE REQUIRED AS-BUILT SURVEY. THE ENGINEER WILL PROVIDE CERTIFIED AS-BUILT MYLARS TO PUBLIC WORKS UPON PROVISIONAL ACCEPTANCE OF ROAD AND UTILITY IMPROVEMENTS.
  - THE CONSTRUCTION OF UNDERGROUND UTILITY LINES SHALL BE SUBJECT TO THE FOLLOWING CRITERIA:
    - NO MORE THAN 500 FEET OF TRENCH SHALL BE OPENED AT ONE TIME.
    - WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF DITCHES.
    - TRENCH DEWATERING DEVICES SHALL DISCHARGE INTO SEDIMENT TRAPS OR SEDIMENT PONDS.
    - WHERE PRACTICAL, INSTALL GRAVITY PIPE UTILITIES PRIOR TO INSTALLATION OF OTHER UTILITIES.
  - UTILITY CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF FERDALE DEVELOPMENT STANDARDS.
  - TESTING OF NEW WATER LINES, SANITARY SEWER LINES, AND STORM SEWER SYSTEMS SHALL NOT BE PERFORMED UNTIL ALL OTHER ADJACENT UTILITIES HAVE BEEN INSTALLED.

ROAD

- THE FOLLOWING STANDARD DETAILS SHALL BE USED FOR CONSTRUCTION OF THE STANDARD STREET SECTION:
 

TYPICAL STREET SECTION PCC CURB AND GUTTER PCC SIDEWALKS PCC CURB RAMPS, ADA APPROACHES SIDEWALK DRAINS MONUMENTS	TYPICAL SECTION ON SHEET 03 OF THESE PLANS CITY OF FERDALE STANDARD DETAIL (COFSD) R-9 COFSD R-12 WSDOT STD. DETAIL F-3 COFSD ST-15 COFSD S-2
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- ALTERNATE PAVEMENT SECTIONS, WHEN DESIGNED BY A LICENSED GEOTECHNICAL ENGINEER, MAY BE SUBMITTED TO THE CITY OF FERDALE PUBLIC WORKS DIRECTOR FOR CONSIDERATION AND, IF APPROVED, USED IN PLACE OF THE PAVEMENT SECTION SHOWN ON THESE PLANS.
- EARTHWORK
  - THE CONTRACTOR SHALL CLEAR, GRUB AND CLEAN UP THOSE AREAS SHOWN ON THE PLANS.
  - THE CONTRACTOR SHALL RAZE, REMOVE AND DISPOSE OF ALL BUILDING AND FOUNDATIONS, STRUCTURES, FENCES AND OTHER OBSTRUCTIONS THAT LIE WHOLLY OR PARTIALLY WITHIN THE PROJECT LIMITS.
  - THE CONTRACTOR SHALL REMOVE AND REPLACE ALL EXISTING UNCOMPACTED OR POORLY COMPACTED FILL SOILS WITHIN THE ROAD PRISM AT THE DIRECTION OF THE ENGINEER.
  - THE CONTRACTOR SHALL EXCAVATE AND GRADE TO THE ALIGNMENT, GRADE AND CROSS-SECTIONS SHOWN IN THE PLANS OR ESTABLISHED BY THE ENGINEER.
  - MAXIMUM DENSITY AND OPTIMUM MOISTURE FOR GRANULAR MATERIALS WILL BE DETERMINED USING ASTM D-1557 TEST METHOD.
  - UNSUITABLE MATERIAL NOT FIT FOR USE AS A SUB-GRADE SHALL BE EXCAVATED TO THE BOUNDARIES SET BY THE ENGINEER AND REPLACED WITH A SUITABLE BACKFILL MATERIAL.
  - THE ENGINEER IS REQUIRED TO CERTIFY SUBGRADE, IN WRITING, PRIOR TO PAVING.
- BASE COURSES
  - GRAVEL BASES AND BALLAST SHALL NOT HAVE THE PERCENT PASSING THE U.S. NO. 200 SIEVE EXCEED 5%.
  - BALLAST, GRAVEL BASE AND CRUSHED SURFACING SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DRY DENSITY.
  - OWNER SHALL BE RESPONSIBLE FOR ALL COMPACTION TESTING. ALL TESTING SHALL BE THROUGH ENG. REV. ACCOUNT AND PAID FOR BY OWNER.
- PAVEMENTS
  - SOIL RESIDUAL HERBICIDE SHALL BE PLACED WITHIN 24 HOURS OF PAVING.
  - A TACK COAT OF ASPHALT SHALL BE APPLIED BETWEEN ALL COURSES OF ASPHALT.
  - ALL PAVEMENT REPAIR SHALL BE SAW-CUT BEFORE REMOVAL. AR-4000W SHALL BE APPLIED TO ALL EDGES OF EXISTING PAVEMENT.
  - WHERE NEWLY CONSTRUCTED PAVING MEETS EXISTING PAVING, THE APPLICANT SHALL OVERLAY AND FEATHER NEW PAVEMENT TO PROVIDE A SMOOTH TRANSITION FROM EXISTING TO PROPOSED PAVING. APPLICATION OF A THIN PAINT COAT OF EMULSIFIED ASPHALT SHALL BE APPLIED TO INSURE PROPER BONDING.
  - ALL PAVEMENT MARKINGS SHALL CONFORM TO THE REQUIREMENTS OF THE MUTCD.
- STREET LIGHTING
  - CONTRACTOR SHALL PROVIDE STREET ILLUMINATION IN ACCORDANCE WITH THE PROVISIONS OF SECTION 707 OF THE CITY OF FERDALE DEVELOPMENT STANDARDS. 100-WATT HIGH PRESSURE SODIUM LAMPS SHALL BE INSTALLED ON STANDARD CONCRETE OCTAGONAL OR ROUND POLES NO LESS THAN 25 FEET HIGH AND SPACED NO MORE THAN 250' APART, MEASURED ALONG THE PAVEMENT CENTERLINE. POLE LOCATIONS ARE SHOWN ON THESE PLANS.
  - FINAL LOCATIONS OF STREET LIGHTS IS TO BE COORDINATED WITH PUGET SOUND ENERGY.
  - CONTRACTOR IS TO COMPLY WITH THE SPECIFICATIONS SHOWN ON WSDOT STANDARD DETAIL J-11A, STANDARD JUNCTION BOX, UNLESS OTHERWISE DIRECTED BY THE CITY OF FERDALE PUBLIC WORKS DIRECTOR.
  - CONTRACTOR MUST INFORM THE CITY OF FERDALE PUBLIC WORKS DIRECTOR OF A PROPOSED CONNECTION AT LEAST FOUR (4) WORKING DAYS IN ADVANCE.
- MAILBOXES
 

MAILBOXES SHALL BE TYPE I, II, AND/OR III - CBU (CENTRAL BOX UNIT), USPS APPROVED.  
FINAL LOCATION AS DETERMINED BY USPS.
- STORM DRAINAGE
  - THE FOLLOWING STANDARD DETAILS SHALL BE USED FOR CONSTRUCTION OF STORM DRAIN IMPROVEMENTS:
 

"MAIN LINE" CATCH BASINS "RESIDENTIAL SERVICE LINE" CATCH BASINS THRU-CURB INLET FRAME AND GRATE SIDEWALK DRAINS	TYPE 1, 1L OR 2, WSDOT STD. DETAILS B-1, B-1A OR B-1E CITY OF FERDALE STANDARD DETAIL (COFSD) ST-7 CITY OF FERDALE STANDARD DETAIL (COFSD) ST-8 COFSD ST-15
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  - ALL PIPE AND APPURTENANCES SHALL BE LAID ON A PROPERLY PREPARED FOUNDATION IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATIONS SECTION 9-05.3(1). THIS SHALL INCLUDE LEVELING AND COMPACTING THE TRENCH BOTTOM, THE TOP OF THE FOUNDATION MATERIAL AND ANY REQUIRED PIPE BEDDING TO A UNIFORM GRADE SO THAT THE ENTIRE PIPE IS SUPPORTED BY A UNIFORMLY DENSE UNYIELDING BASE. DRAINAGE MATERIALS SHALL CONFORM TO WSDOT STANDARD SPECIFICATIONS SECTION 9-05.
  - STORM SEWER PIPE HAVING DIAMETERS GREATER THAN 8" SHALL BE CORRUGATED POLYETHYLENE PIPE (CPEP) AND SHALL CONFORM TO WSDOT STANDARD SPECIFICATIONS, SECTION 9-05.20. STORM SEWER PIPE HAVING DIAMETERS 8" AND SMALLER SHALL BE POLYVINYL CHLORIDE (PVC) PIPE AND SHALL CONFORM TO WSDOT STANDARD SPECIFICATIONS, SECTION 9-05.12.
  - ALL CATCH BASIN GRATES SHALL INCLUDE THE STAMPING "OUTFALL TO STREAM, DUMP NO POLLUTANTS".
  - UNLESS OTHERWISE SPECIFIED, CAST IRON PRODUCTS SHALL CONFORM TO ASTM DESIGNATION "A 48 CLASS 30" AND DUCTILE IRON PRODUCTS TO ASTM DESIGNATION "A 536 GRADE 80-55-06".
  - ALL DRAINAGE STRUCTURES, SUCH AS CATCH BASINS AND MANHOLES, NOT LOCATED WITHIN A TRAVELED ROADWAY OR SIDEWALK, SHALL HAVE SOLID LOCKING LIDS. ALL DRAINAGE STRUCTURES ASSOCIATED WITH A PERMANENT RETENTION/DETENTION FACILITY SHALL HAVE SOLID LOCKING LIDS.
  - ALL DRAINAGE SERVICE STUBS SHALL BE MARKED FOR LOCATION WITH A PRESSURE TREATED 2" X 4" TIMBER, PAINTED WHITE OR A WHITE 2" DIA. PVC PIPE. BOTH TYPES OF LOCATION MARKER SHALL BE CONNECTED TO THE SERVICE STUB BY A #12 COPPER WIRE.
  - MULTIPLE RESIDENTIAL STORM DRAIN SERVICES SHALL BE 6" PVC PIPE, DRAINING TO A COFSD ST-7 INLET. 8" PVC PIPE SHALL BE USED TO CONNECT EACH ST-7 INLET TO A NEARBY TYPE 1 OR TYPE 1L CATCH BASIN.
  - ALL STORM STUB INVERT ELEVATIONS SHALL BE CONSTRUCTED TO FACILITATE POSITIVE FLOW TO CATCH BASIN.
  - EACH DRAINAGE SERVICE STUB SHALL BE CAPPED WITH A WATERTIGHT PLUG. EACH STUB SHALL BE MARKED FOR LOCATION WITH A 2" DIAMETER WHITE PVC PIPE (MIN. SHED. 40) WITH THE TOP 18" STENCILED WITH THE WORD "STORM" AND THE PIPE INVERT INDICATED. THE LOCATION MARKER SHALL BE CONNECTED TO THE SERVICE STUB BY A #12 COPPER WIRE.

WATER

- THE FOLLOWING STANDARD DETAILS SHALL BE USED IN CONSTRUCTING WATER SUPPLY SYSTEM IMPROVEMENTS:
 

TRENCH BACKFILL AIR/VACUUM RELEASE VALVE BLOW-OFF ASSEMBLY FIRE HYDRANT ASSEMBLY THRUST BLOCKING WATER SERVICE	COFSD W-11 & WSDOT STD. SPEC. SEC. 9-03.12 WSDOT STD. DETAIL B21-0 COFSD W-9 & W-10 COFSD W-1 COFSD W-2, W-3 & W-4 COFSD W-5
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- ALL WATERMAIN PIPE SHALL BE DUCTILE IRON, MINIMUM CLASS 50, PER AWWA STANDARDS H3-71 AND C151-71, WITH CEMENT LINING PER AWWA STANDARD C104-71. ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF FERDALE DEVELOPMENT STANDARDS, SECTIONS 702 AND 705.
- MATERIAL FOR FITTINGS SUCH AS CROSSES, TEES, BENDS, REDUCERS AND SLEEVES SHALL BE DUCTILE IRON. JOINTS SHALL BE M.J., FLANGED OR PUSH-ON JOINTS AND SHALL CONFORM TO AWWA SPECIFICATIONS C-110-71 AND C-104-71.
- CONCRETE BLOCKING SHALL BE AS SPECIFIED IN CITY OF FERDALE STANDARD DETAILS W-2, W-3 AND W-4, OR AS DIRECTED BY THE PROJECT ENGINEER. BLOCKS SHALL BE INSTALLED AS SPECIFIED IN SECTION 7-09.3(2) OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE OR MUNICIPAL CONSTRUCTION. NO PRE-CAST BLOCKS ARE ALLOWED.
- CONNECTIONS TO EXISTING WATER MAINS - PER WSDOT STD SPEC. 7-09.3(19), THE CONTRACTOR MUST NOTIFY THE CITY OF FERDALE PUBLIC WORKS DIRECTOR OF A PROPOSED CONNECTION AT LEAST FOUR WORKING DAYS IN ADVANCE. ALL CONNECTIONS SHALL BE DONE BY THE CONTRACTOR. CONNECTION TO EXISTING CITY WATER SYSTEM SHALL BE PAID IN ADVANCE BY A DEPOSIT.
- ALL HYDROSTATIC TESTING AND DISINFECTION OF WATER MAINS SHALL CONFORM TO SECTIONS 7-09.3(23) AND 7-09.3(24) AND OF THE WSDOT STD SPECIFICATIONS FOR ROAD, BRIDGE OR MUNICIPAL CONSTRUCTION - CURRENT EDITION. HYDROSTATIC TEST PRESSURE FOR WATER MAIN ACCEPTANCE SHALL BE 225 PSI AND SHALL BE DONE ACCORDING TO CITY OF FERDALE REQUIREMENTS. ALL DISINFECTION AND BACTERIOLOGICAL TESTS SHALL BE CONDUCTED BY THE CITY OF FERDALE LABORATORY. THE PIPE WILL NOT PASS TESTING UNLESS A ZERO BACTERIAL COUNT IS MEASURED ON TWO CONSECUTIVE TESTS, CONDUCTED 24 HOURS APART.
- BACKFILL SHALL BE GRAVEL BASE, CLASS B, IN ALL STREET RIGHTS-OF-WAY, COMPACTED TO MINIMUM 95% OPTIMUM DENSITY. IN UNIMPROVED AREAS, MINIMUM COMPACTION SHALL BE 90% OF OPTIMUM DENSITY.
- ALL PIPE SHALL HAVE A MINIMUM COVER OF 42".
- ALL VALVES SHALL BE EITHER GATE OR BUTTERFLY TYPE VALVES AND SHALL BE INSTALLED WITH SLIP TYPE CAST IRON VALVE BOXES.
 

GATE VALVES SHALL BE USED FOR LINES 2 INCHES THROUGH 8 INCHES IN DIAMETER. SHORT-BODY VALVES SUITABLE FOR A NONSHOCK SHUT-OFF PRESSURE OF 130 PSI AND SUITABLE FOR DIRECT BURIAL ARE SPECIFIED. GATE VALVES SHALL BE RESILIENT SEATED IRON-BODY, FULL-BRONZE MOUNTED VALVES CONFORMING TO AWWA C509 AND SUITABLE FOR SERVICE WITH THE TYPE AND CLASS OF PIPE USED.

ALL VALVES SHALL HAVE NONRISING STEMS AND SHALL OPEN COUNTERCLOCKWISE AND SHALL BE EQUIPPED WITH A 2 INCH SQUARE OPERATING NUT. VALVES WILL BE FLANGE OR M.J. JOINTS.

VALVE MARKERS SHALL BE LOCATED OUTSIDE OF PAVEMENT SECTIONS.
- VALVE SERVICE TAP INSTALLATIONS SHALL MEET THE REQUIREMENTS OF THE CITY OF FERDALE DEVELOPMENT STANDARDS. ALL WATER SERVICES SHALL BE MARKED FOR LOCATION WITH A METER BOX PER COFSD W-5.
- FIRE HYDRANTS AND FIRE MAINS MUST CONFORM TO COF STANDARD DETAIL W-1 (WSDOT B-19) AND THE FOLLOWING STANDARDS:
  - FIRE HYDRANTS SHALL HAVE TWO INDIVIDUALLY-VALVED 2-1/2" PORTS AND ONE 5-1/4" MAIN VALVE OPENING. A 4-1/2" NST PUMPER NOZZLE AND A 5" STORZ PORT WITH CAP AND CABLE SHALL BE SUPPLIED. HYDRANTS SHALL EITHER BE IOWA OR M.H. 929T HYDRANTS.
  - FIRE HYDRANTS SHALL HAVE THE STORZ PORT FACING THE REQUIRED ACCESS AND THE BASE FLANGE OF THE HYDRANT MUST NOT VARY MORE THAN 1 FOOT IN ELEVATION FROM THE GRADE LEVEL OF THE REQUIRED ACCESS. THE LOWEST STEM SHALL BE A MINIMUM OF 14" ABOVE THE GROUND. HYDRANTS PAINTED FACTORY YELLOW MAY NOT REQUIRE ADDITION PAINTING.
  - IF THE PUBLIC WORKS DIRECTOR DETERMINES THAT FIRE HYDRANTS ARE VULNERABLE TO VEHICULAR DAMAGE, APPROPRIATE CRASH POSTS SHALL BE PROVIDED. NO OBSTRUCTIONS SHALL EXIST WITHIN A 3-FOOT WORKING AREA OF EACH REQUIRED ACCESS. CRASH POSTS SHALL BE 4" CEMENT-FILLED PIPE A MIN. OF 3' IN HEIGHT WITH A MIN. OF 2" OF PIPE BELOW GRADE. HYDRANT SHUTOFF VALVES SHALL BE LOCATED BETWEEN 5' AND 20' FROM THE HYDRANT.
  - UNDERGROUND SUPPLIES TO FIRE HYDRANTS MUST BE INSPECTED. SUCH INSPECTION SHALL INCLUDE VISUAL INSPECTION OF PIPING AND HYDROSTATIC PRESSURE TESTING TO A MIN. OF 225 PSI OR 50 PSI IN EXCESS OF STREET MAIN PRESSURE, WHICHEVER IS GREATER. A FLOW TEST WILL BE REQUIRED WHEN INSTALLATION IS COMPLETE.
  - FIRE HYDRANTS MUST BE MAINTAINED IN AN OPERABLE CONDITION AT ALL TIMES AND MUST BE REPAIRED OR REPLACED WHEN DEFECTIVE. HYDRANTS SHALL BE FULLY OPERABLE BEFORE CONSTRUCTION COMMENCES ABOVE GRADE LEVEL.

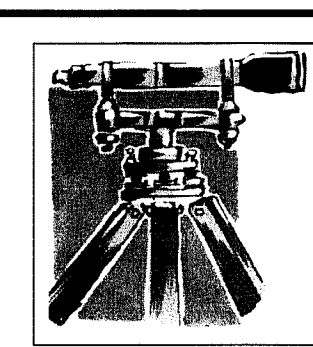
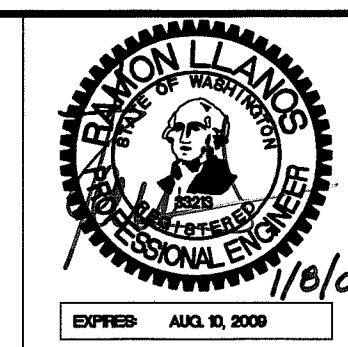
CITY OF FERDALE CONSTRUCTION NOTES

DRAWN BY SR DATE 10/2009  
CHECKED BY RL DATE 10/2009

CHURCH RD STREET IMPROVEMENTS

JOB # 6010A

FOR: CITY OF FERDALE



LDES, INC.  
5160 INDUSTRIAL PL #108  
FERDALE, WA 98248  
PHONE 360-383-0620  
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CHURCH ROAD STREET IMPROVEMENTS

CITY OF FERDALE  
GENERAL NOTES  
AS-BUILT DRAWING

REVISIONS - INITIALS/DATE/CMS		SHEET
SR 9/16/08	SUBMITTAL #1	
SR 9/30/08	SUBMITTAL #2	
		OF 32

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