



PACIFIC SURVEY & ENGINEERING INC
1812 CORNWALL, BELLINGHAM, WA 98225 PHONE: 671.7387 FAX: 671.4685
www.psesurvey.com
EMAIL: pse@psurvey.com

PORTAL COMMONS PLAT

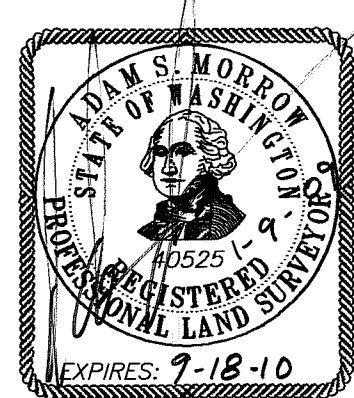
CITY OF FERNDAL, WASHINGTON

SITUATE IN A PORTION OF THE NE 1/4 OF SECTION 17, TOWNSHIP 39 NORTH,
RANGE 2 EAST, W.M., CITY OF FERNDAL, WHATCOM COUNTY, WASHINGTON

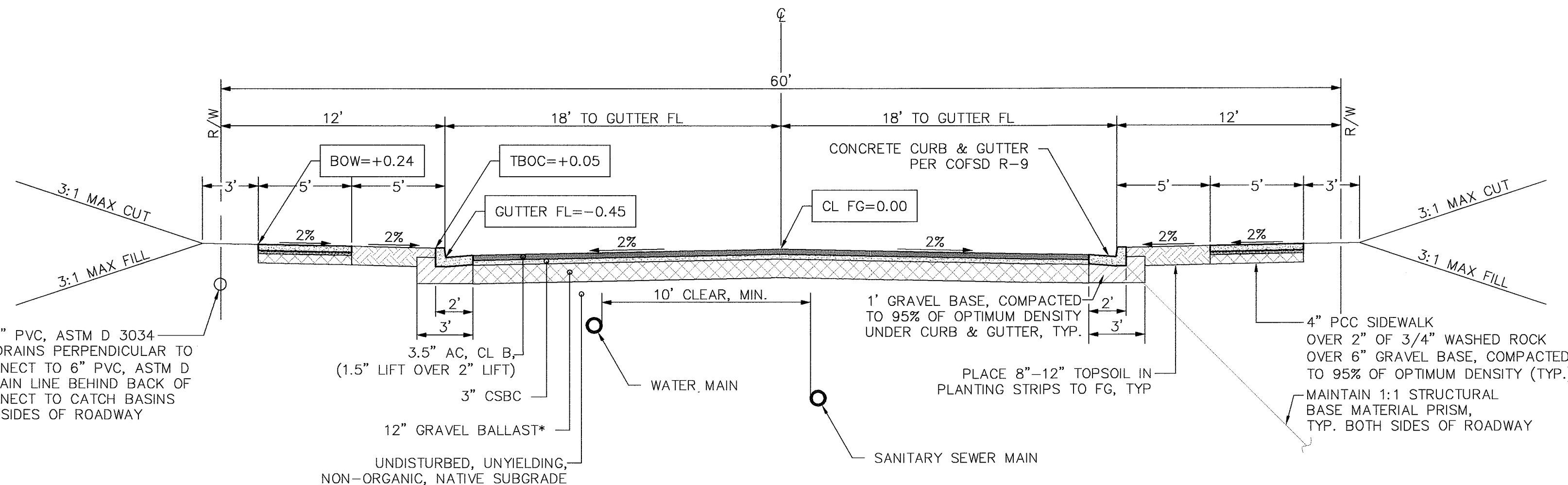
ROADWAY & UTILITY IMPROVEMENT PLANS

AS BUILT SURVEYOR'S CERTIFICATION
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:
December 13, 2007.

ADAM S. MORROW, P.L.S.



INSTALL MIN. 4" PVC, ASTM D 3034
SDR35, ROOF DRAINS PERPENDICULAR TO
SIDEWALK. CONNECT TO 6" PVC, ASTM D
3034 SDR35 MAIN LINE BEHIND BACK OF
SIDEWALK. CONNECT TO CATCH BASINS
TYPICAL BOTH SIDES OF ROADWAY

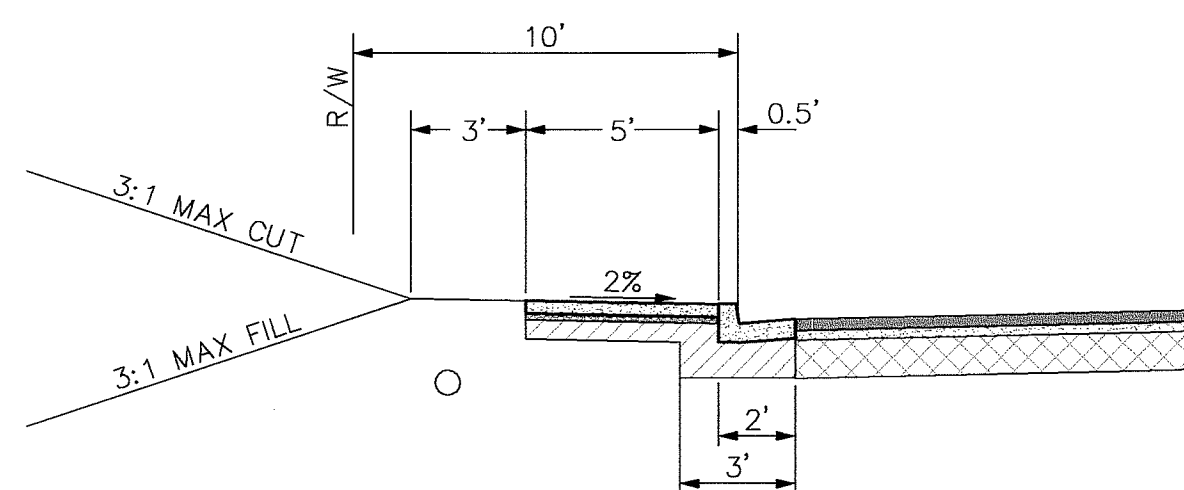


*NOTE:
GRAVEL BASE MAY BE USED AS AN ALTERNATIVE
TO GRAVEL BALLAST ONLY WITH PRIOR APPROVAL
FROM THE DIRECTOR OF PUBLIC WORKS.

ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE PROVISIONS
OF APPLICABLE SECTIONS OF THE A.P.W.A. "STANDARD SPECIFICATIONS"
AND SHALL CONFORM TO THE REQUIREMENTS OF THE CITY ENGINEER..

TYPICAL ROADWAY SECTION ~ RESIDENTIAL STREETS

NOT TO SCALE



NOTE:
SEE TYPICAL ROADWAY SECTION ~ RESIDENTIAL STREETS NOTES ABOVE.

TYPICAL ROADWAY SECTION ~ CUL-DE-SAC

NOT TO SCALE

SURVEY NOTES

- 1) DATA FOR THIS SURVEY WAS GATHERED BY FIELD TRAVERSE UTILIZING
ELECTRONIC DATA COLLECTION IN DECEMBER 2006 AND FEBRUARY 2007..
- 2) EQUIPMENT USED: THEOMAT 00'01.5"
EDM: ± 2 PPM, ± 3 MM
- 3) EXTERIOR BOUNDARY INFORMATION IS AS SHOWN ON D.O. SHORT PLAT, RECORDED
UNDER WHATCOM COUNTY AUDITOR'S FILE NUMBER 1990305363, LEGAL
DESCRIPTION FOR REZONE ON FILE WITH CITY OF FERNDAL, AND PLAT OF
PORTAL MANOR PUD, AS RECORDED UNDER WHATCOM COUNTY AUDITOR'S FILE
NO. 2041205230.
- 4) TOPOGRAPHIC DATA SHOWN HEREON PER FIELD SURVEY PERFORMED BY
NORTHWEST SURVEYING AND GPS IN SEPTEMBER 2001.
- 5) HORIZONTAL DATUM: NAD 83/91
BASIS OF BEARINGS: CITY OF FERNDAL MONUMENTATION NETWORK BEARING
BETWEEN CITY MONUMENTS FERN 03 AND FERN 06 (NOT SHOWN)
BEARING: NORTH 01°53'08" EAST
- 6) VERTICAL DATUM: NGVD 29 (CITY OF FERNDAL)
BENCH MARK: CITY MONUMENT FERN 03 ELEV= 70.19'
- 7) WETLANDS SHOWN HEREON ARE AS DELINEATED BY ATSI AND SURVEYED BY
NORTHWEST SURVEYING AND GPS IN MAY 2006.
- 8) CONTOUR INTERVAL IS 1-FOOT AND ARE COMPUTER GENERATED FROM GROUND
FIELD TOPOGRAPHY GATHERED FOR SAID TOPOGRAPHIC SURVEY UTILIZING
ELECTRONIC DATA COLLECTION.

ROAD INTERSECTION EQUATIONS

STA 13+09.99 "A" STREET = STA 34+25.39 "B" STREET
STA 30+00.00 "B" STREET = STA 50+00.00 "C" STREET

ABBREVIATIONS

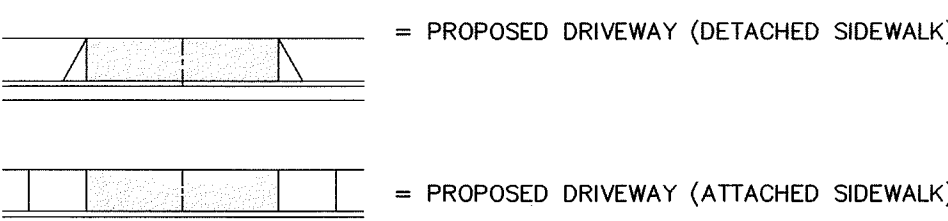
AC	ASPHALT CONCRETE	PC	POINT OF COMPOUND CURVATURE
B/C	BACK OF CURB	PRC	POINT OF REVERSE CURVATURE
BOR	BEGIN CURB RETURN	PT	POINT OF TANGENCY = END CURVE
BOW	BACK OF SIDEWALK	PVI	POINT OF VERTICAL INTERSECTION
BVC	BEGIN VERTICAL CURVE	PWT	PAVEMENT
C&G	CURB AND GUTTER	R	CURVE RADIUS
CL	CENTERLINE OR CLASS	R/W	RIGHT OF WAY
COFSD	CITY OF FERNDAL STANDARD DRAWING	RT	RIGHT
OPP	CORRUGATED POLYETHYLENE PIPE	SD	STORM DRAIN
D	CURVE DELTA	SDCB	STORM DRAIN CATCH BASIN
ECR	END CURB RETURN	SSCO	SANITARY SEWER CLEAN-OUT
EG	EXISTING GRADE	SMH	SANITARY SEWER MANHOLE
EP	EDGE OF PAVEMENT	SWK	SIDEWALK
EVC	END VERTICAL CURVE	STA	STATION
EXST	EXISTING	STD	STANDARD
F&G	FRAME AND GRATE	TBC	TOP BACK OF CURB
FH	FIRE HYDRANT	TFC	TOP FACE OF CURB
F/C	FACE OF CURB	TC	TOP OF CURB
FT	FINISH FLOOR	T/P	TOP OF PIPE
FG	FINISH GRADE	TYP.	TYPICAL
FL	FLOWLINE OR FLANGE	WL	WATER LINE
LEV	INVERT ELEVATION		
INV	INVERT		
L	CURVE LENGTH		
LT	LEFT		
MJ	MECHANICAL JOINT		
NTS	NOT TO SCALE		
PC	POINT OF CURVATURE = BEGIN CURVE		

STREET NAME ABBREVIATIONS:

"A" 'A' STREET
"B" 'B' STREET
"C" 'C' STREET

PROPOSED FEATURE SYMBOL LEGEND

○	= PROPOSED SURVEY MONUMENT	┌─┐	= PROPOSED TEE, MJ x FL
●	= PROPOSED STORM DRAIN CATCH BASIN, TYPE 2	┌─┐	= PROPOSED TEE, FL
■	= PROPOSED STORM DRAIN CATCH BASIN, TYPE 1	┌─┐	= PROPOSED 90° BEND, MJ
○	= PROPOSED STORM DRAIN INLET/OUTLET	┌─┐	= PROPOSED 90° BEND, FL
●	= PROPOSED SANITARY SEWER MANHOLE	┌─┐	= PROPOSED 45° BEND, MJ
○	= PROPOSED SANITARY SEWER CLEANOUT	┌─┐	= PROPOSED 45° BEND, FL
★	= PROPOSED STREETLIGHT	┌─┐	= PROPOSED 22.5° BEND, MJ
○	= PROPOSED STREET SIGN	┌─┐	= PROPOSED 22.5° BEND, FL
─	= PROPOSED TYPE 3 BARRICADE	┌─┐	= PROPOSED 11.25° BEND, FL
─	= PROPOSED SINGLE SANITARY SEWER SERVICE	┌─┐	= PROPOSED 11.25° BEND, MJ
─	= PROPOSED DOUBLE WATER SERVICE	┌─┐	= PROPOSED FL x MJ ADAPTER
─	= PROPOSED SINGLE WATER SERVICE	┌─┐	= PROPOSED THRUST BLOCK
─	= PROPOSED GATE VALVE, FL		
─	= PROPOSED GATE VALVE, MJ x FL		
─	= PROPOSED GATE VALVE, MJ		
─	= PROPOSED REDUCER, FL x MJ		
─	= PROPOSED REDUCER, MJ x FL		
─	= PROPOSED REDUCER, MJ		
─	= PROPOSED WATER BLOW-OFF ASSEMBLY		
─	= PROPOSED FIRE HYDRANT		



PROPOSED LINE LEGEND

---	= PROPOSED ROADWAY CENTERLINE
---	= PROPOSED RIGHT OF WAY LINE
---	= PROPOSED EASEMENT LINE
---	= PROPOSED EDGE OF ASPHALT
---	= PROPOSED CURB & GUTTER
---	= PROPOSED BACK OF SIDEWALK
---	= PROPOSED STORM DRAIN LINE
---	= PROPOSED SANITARY SEWER LINE
---	= PROPOSED WATER LINE
---	= PROPOSED BACK OF WALK DRAIN
---	= PROPOSED EDGE OF GRAVEL
---	= PROPOSED CUT/FILL SLOPES

APPROVED

BY: *Robert Kule*
CITY OF FERNDAL

AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
"AB" HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

AS-BUILT
DRAWING

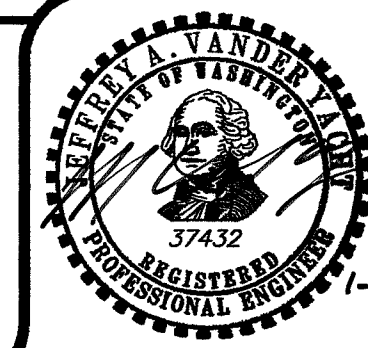
AS BUILT ENGINEER'S CERTIFICATION
I hereby certify that the improvements in Portal Commons have
been inspected by Pacific Survey and Engineering, Inc., and to
the best of knowledge, have been constructed in conformance
with the City of Ferndale Development Standards, The City of
Ferndale Municipal Code, subsequent standards adopted by
reference therein, and standard engineering practice.

JERRY A. VANDER YACHT, P.E.

PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
COVER SHEET

JOB #: 2006187

SHEET 1 OF 20



WHATCOM SKAGIT
HOUSING
5373 GUIDE MERIDIAN, BLDG. E #105
BELLINGHAM, WASHINGTON 98226

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	No.	DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA	HORIZ: N.A.					1	ISSUED FOR REVIEW 02/21/07
STAKING:				DESIGN	BEA	JVY	VERT: N.A.					2	RESPONSE TO PLAN CHECK 03/21/07
ASBUILT:				XREF:								3	ISSUED FOR APPROVAL 04/27/07
				DWG: P:\Pse Project\2006187\DWGS\COVER_NOTES_DETAILS_AB.dwg								4	AS-BUILT DRAWINGS 01/09/09
SURVEY REFERENCE				PLAN CHECK				REVISIONS				ISSUE	



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EXISTING CONDITIONS MAP

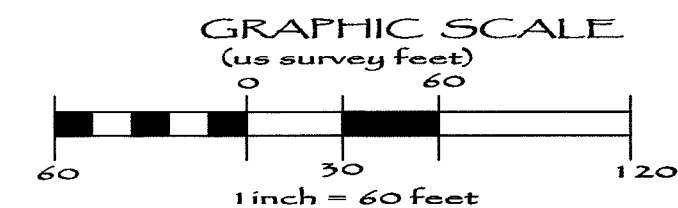
SITUATE IN A PORTION OF THE NE 1/4 OF SECTION 17, TOWNSHIP 39 NORTH,
RANGE 2 EAST, W.M., CITY OF FERDALE, WHATCOM COUNTY, WASHINGTON

JEFFREY D. RAYBORN
P.O. BOX 5592
BELLINGHAM, WA 98227-5592

JONATHAN BOULDIN
6450 PORTAL WAY
FERDALE, WA 98248

LOT B
(R9 8.5 ZONE)
384,935 SF
8.837 AC

WETLAND "B"
425 SF



EXISTING FEATURE SYMBOL LEGEND

- EXISTING MONUMENT
- EXISTING REBAR AND CAP PLS#...
- EXISTING STORM DRAIN CLEANOUT
- EXISTING STORM DRAIN CATCH BASIN MANHOLE
- EXISTING STORM DRAIN SERVICE
- EXISTING CATCH BASIN
- EXISTING SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER SERVICE
- EXISTING WATER METER
- EXISTING FIRE HYDRANT
- EXISTING STREET LIGHT POLE
- EXISTING ELECTRICAL PEDESTAL/RISER
- EXISTING ELECTRIC METER/SWITCH
- EXISTING CABLE PEDESTAL/RISER
- EXISTING TELEPHONE PEDESTAL/RISER
- EXISTING TELEPHONE HANDHOLD

EXISTING LINE LEGEND

- EXISTING ROADWAY CENTERLINE
- EXISTING EDGE OF ASPHALT
- EXISTING EDGE OF CONCRETE
- EXISTING EDGE OF GRAVEL ROAD
- EXISTING CURB
- EXISTING SIDEWALK
- EXISTING STORM CULVERT
- EXISTING STORM DRAIN LINE
- EXISTING SANITARY SEWER LINE
- EXISTING WATER LINE
- EXISTING UNDERGROUND POWER
- EXISTING UNDERGROUND TELEPHONE LINE
- EXISTING UNDERGROUND GAS LINE
- EXISTING TOP OF SLOPE LINE
- EXISTING TOE OF SLOPE LINE
- EXISTING CHAINLINK FENCE
- EXISTING WOOD FENCE

SURVEYORS NOTES

- DATA FOR THIS SURVEY WAS GATHERED BY FIELD TRAVERSE UTILIZING ELECTRONIC DATA COLLECTION IN DECEMBER 2006 AND FEBRUARY 2007.
- EQUIPMENT USED: THEOMAT 00'01.5" EDM: ± 1 PPM, ± 2 MM
- HORIZONTAL DATUM: NAD 83/91, WA STATE PLANE NORTH ZONE (CITY OF FERDALE)
- BASIS OF BEARINGS: CITY OF FERDALE MONUMENTATION NETWORK - BEARING BETWEEN CITY MONUMENTS FERN 03 AND FERN 06 (NOT SHOWN) BEARING: NORTH 01°53'08" EAST
- VERTICAL DATUM: CITY OF FERDALE (NGVD 29)
- CONTOUR INTERVAL IS 1'-FOOT AND ARE COMPUTER GENERATED FROM GROUND FIELD TOPOGRAPHY GATHER FOR THIS SURVEY UTILIZING ELECTRONIC DATA COLLECTION.
- PACIFIC SURVEYING AND ENGINEERING INC., ASSUMES NO LIABILITY FOR ANY SUBSURFACE CONDITIONS OR FEATURES THAT MAY EXIST THAT ARE UNDETECTABLE AND/OR NOT VISIBLE.
- EXTERIOR BOUNDARY INFORMATION IS AS SHOWN ON D.O. SHORT PLAT, RECORDED UNDER WHATCOM COUNTY AUDITOR'S FILE NUMBER 1990305363, LEGAL DESCRIPTION FOR REZONE ON FILE WITH CITY OF FERDALE, AND PLAT OF PORTAL MANOR PUD, AS RECORDED UNDER WHATCOM COUNTY AUDITOR'S FILE NO. 2041205230

AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
"(AB)" HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

AS-BUILT
DRAWING

APPROVED
BY
CITY OF FERDALE

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	No.	DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA	HORIZ: 1" = 60'					1	ISSUED FOR REVIEW 02/21/07
STAKING:				DESIGN	BEA	JVY	VERT: N.A.					2	RESPONSE TO PLAN CHECK 03/21/07
ASBUILT:				XREF:								3	ISSUED FOR APPROVAL 04/27/07
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SURVEY REFERENCE		VERTICAL DATUM		PLAN CHECK		REVISIONS		ISSUE					

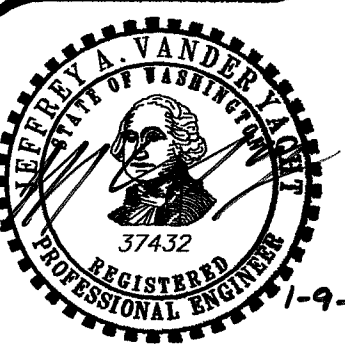


WHATCOM SKAGIT
HOUSING
5373 GUIDE MERIDIAN, BLDG. #105
BELLINGHAM, WASHINGTON 98226

PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
EXISTING CONDITIONS
MAP

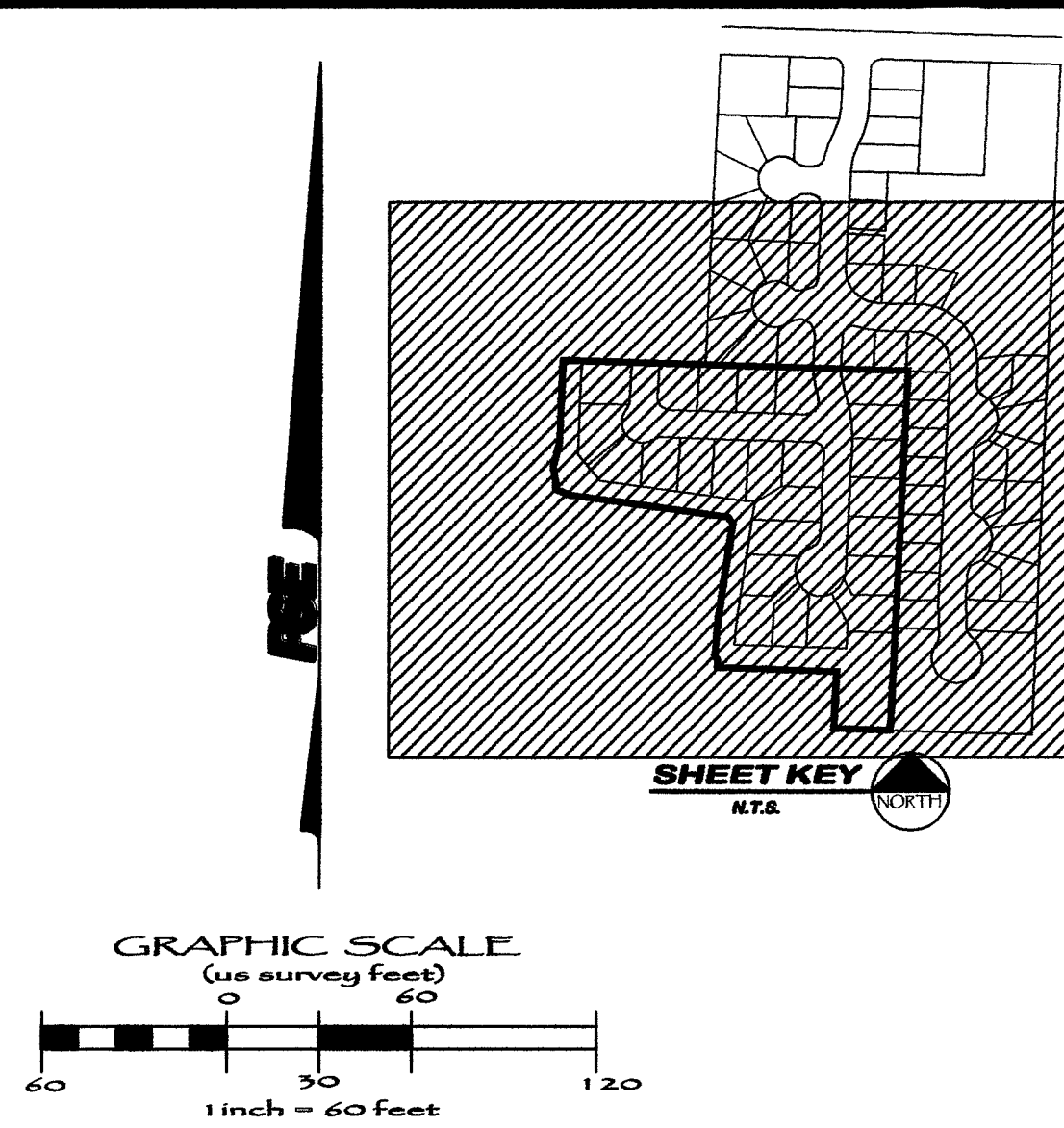
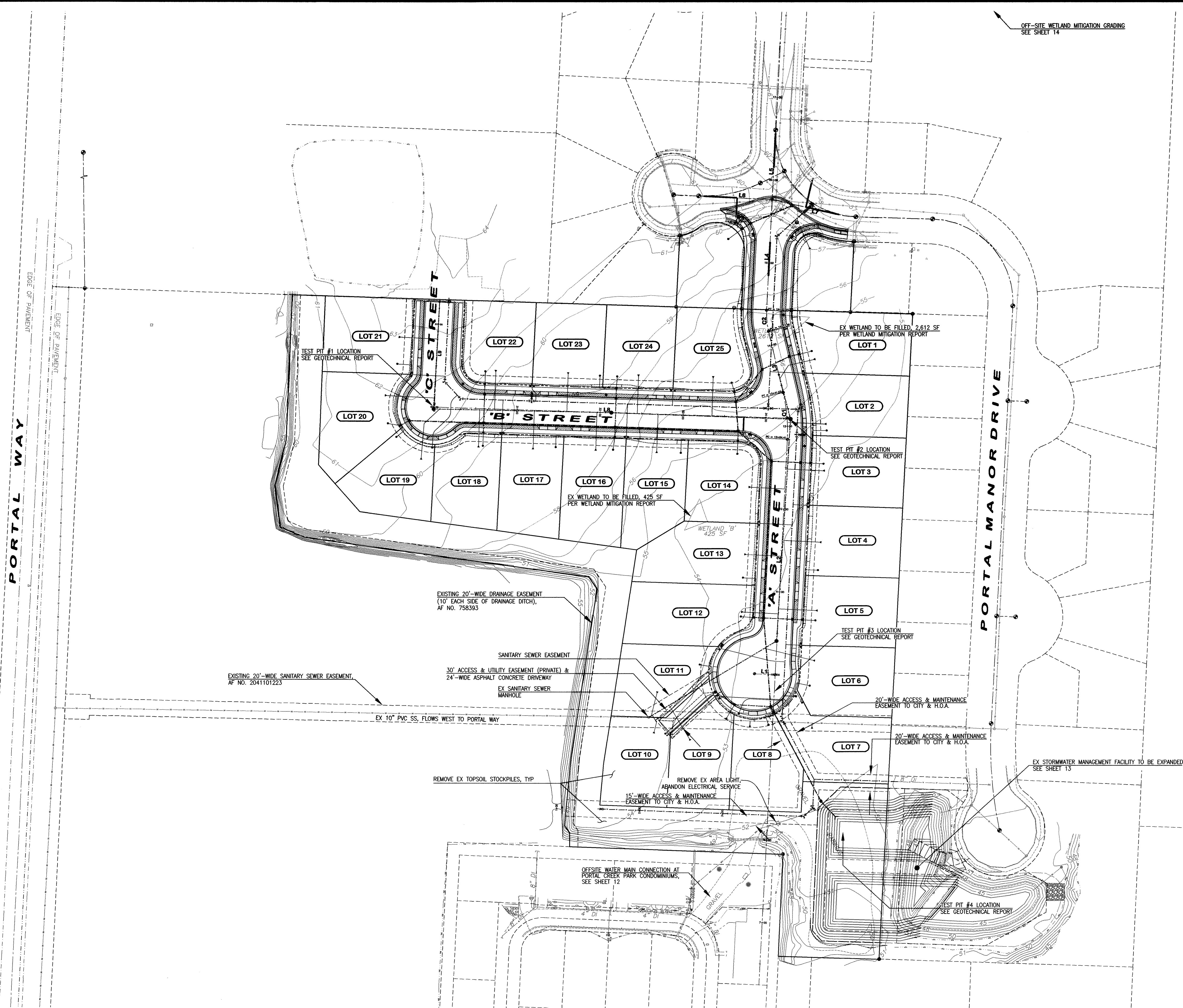
JOB #: 2006187

SHEET 2 OF 20





PACIFIC SURVEY & ENGINEERING INC
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LINE TABLE - ROADWAY CENTERLINE			
LINE	LENGTH	BEARING	DESCRIPTION
L1	25.00'	S87°13'16"E	'A' STREET
L2	284.41'	N02°46'44"E	'A' STREET
L3	76.15'	N13°22'41"W	'A' STREET
L4	133.65'	N02°46'45"E	'A' STREET
L5	83.84'	N02°46'45"E	PORTAL MANOR DR.
L6	88.61'	S87°13'16"E	PORTAL MANOR DR.
L7	83.84'	S77°10'32"E	PORTAL MANOR DR.
L8	425.39'	S88°13'16"E	'B' STREET
L9	130.12'	N02°46'44"E	'C' STREET

CURVE TABLE - ROADWAY CENTERLINE			
LINE	DELTA	RADIUS	LENGTH
C1	16°16'25"	200.00'	56.81'
C2	16°16'26"	90.00'	25.56'

CONSTRUCTION NOTES:

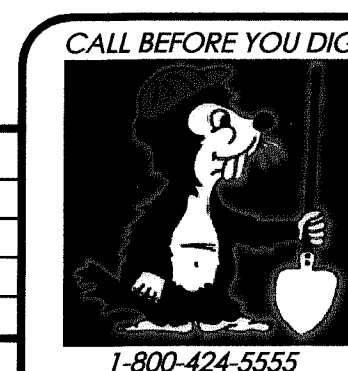
- THE SITE SHALL BE CLEARED TO THE CLEARING LIMITS SHOWN ON THE TEMPORARY EROSION AND SEDIMENT CONTROL PLAN (SHEET 15) EXCEPT WHERE PRESERVATION OF NATURAL VEGETATION IS NOTED.
- GRUBBING SHALL BE LIMITED TO AREAS REQUIRED FOR CONSTRUCTION OF ROADWAYS, PONDS, AND UTILITIES.

AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
"AS-B" HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

AS-BUILT
DRAWING

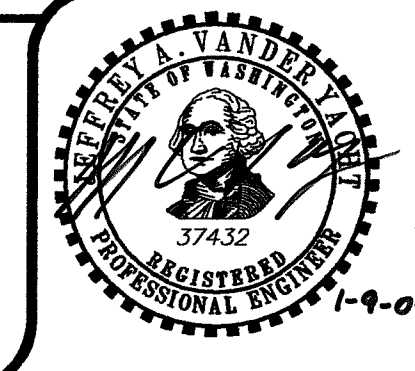
APPROVED
BY [Signature]
CITY OF BELLINGHAM

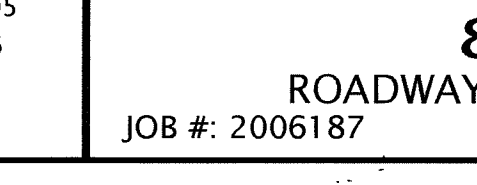
FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	No.	DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA	HORIZ: 1" = 60'					1	ISSUED FOR REVIEW 02/21/07
STAKING:				DESIGN	BEA	JVY	VERT: N.A.					2	RESPONSE TO PLAN CHECK 03/21/07
AS-BUILT:				XREF:								3	ISSUED FOR APPROVAL 04/27/07
				DWG: P:\Pse Project\2006187\DWGS\ENG_BASE_AB.dwg								4	AS-BUILT DRAWINGS 01/09/09
SURVEY REFERENCE				PLAN CHECK				REVISIONS				ISSUE	
VERTICAL DATUM													

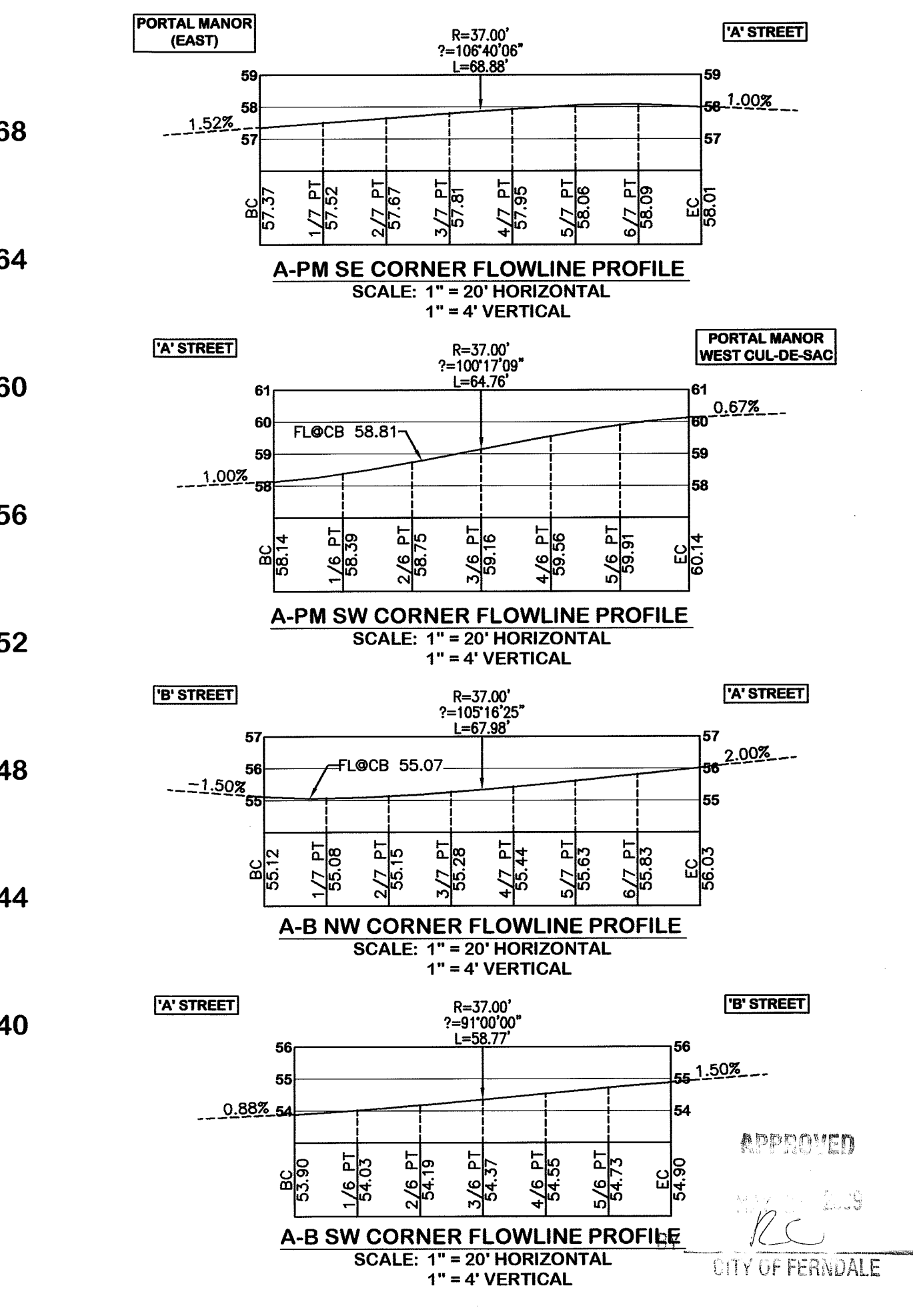
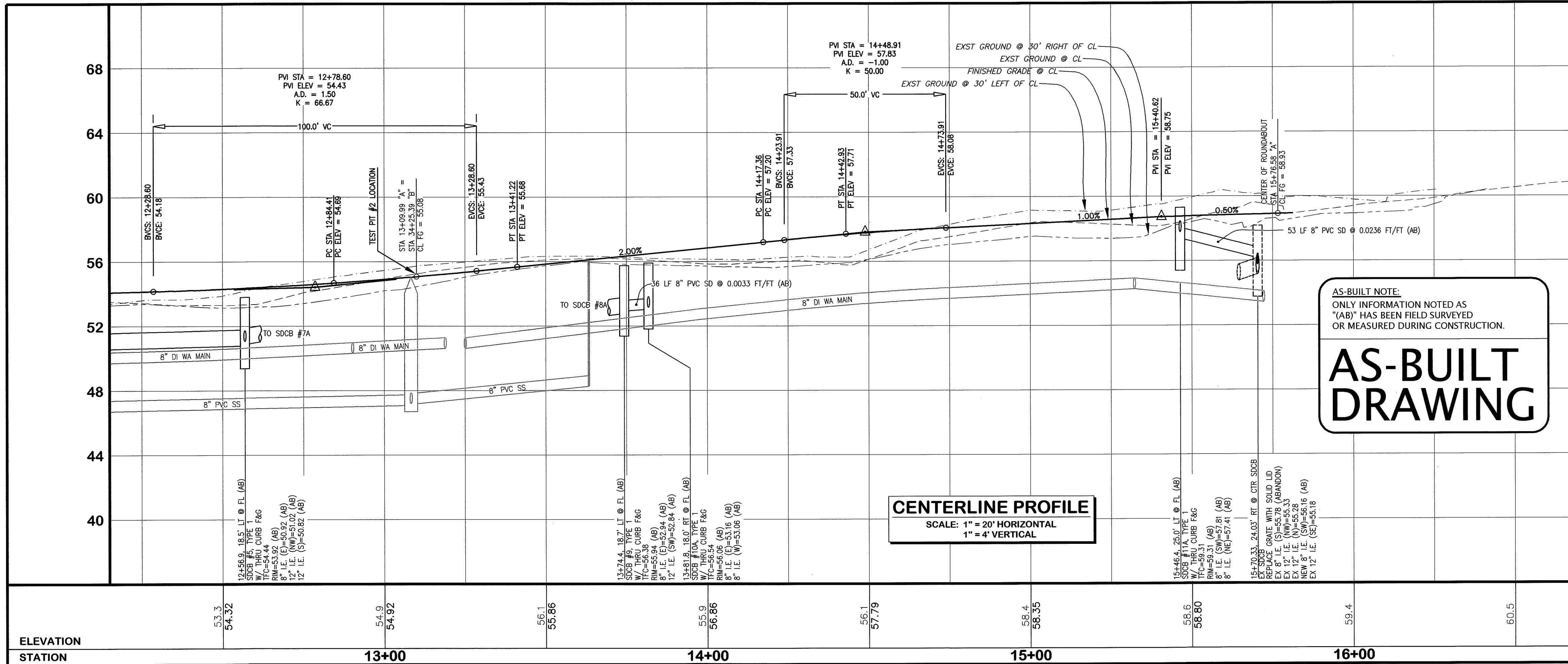
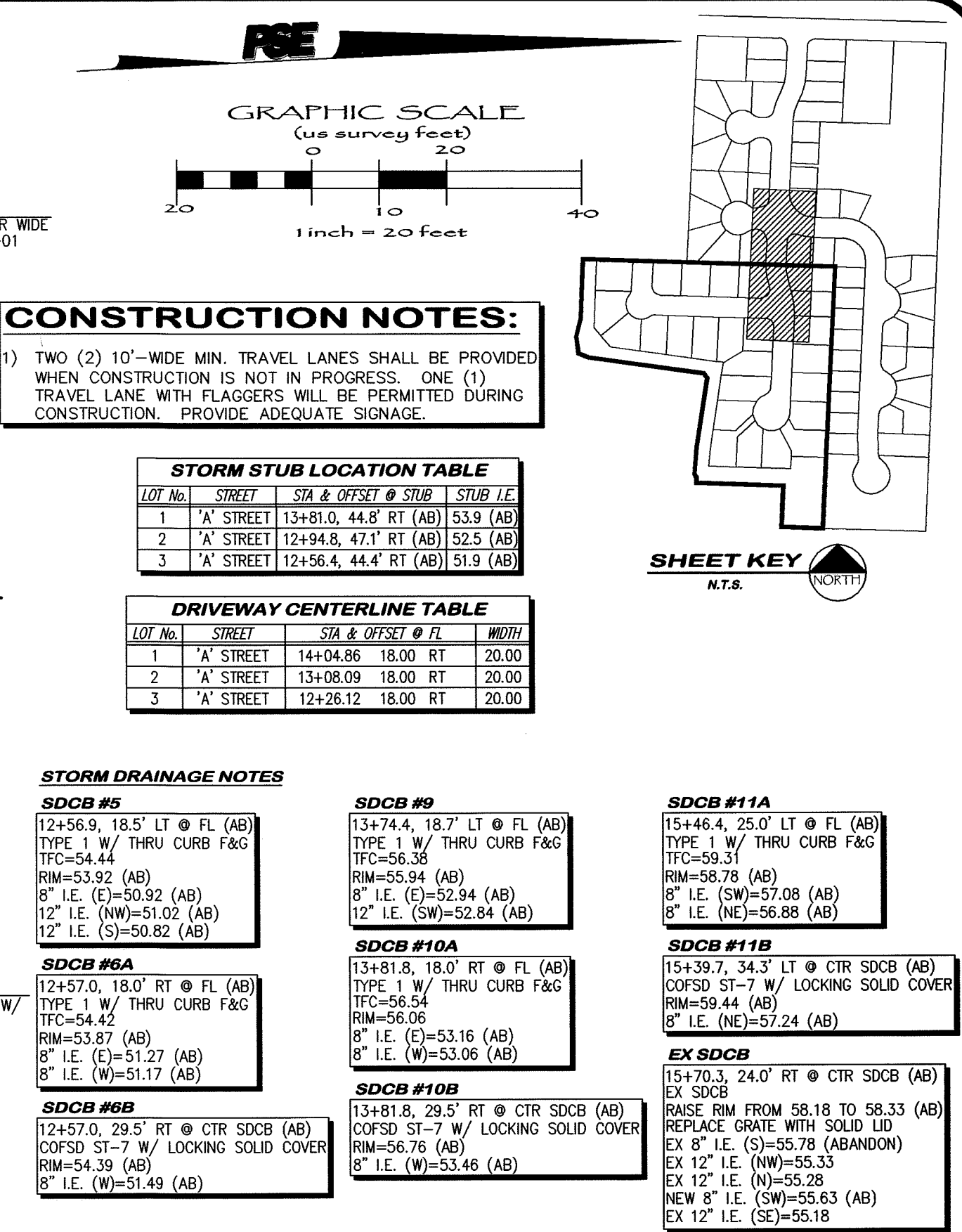
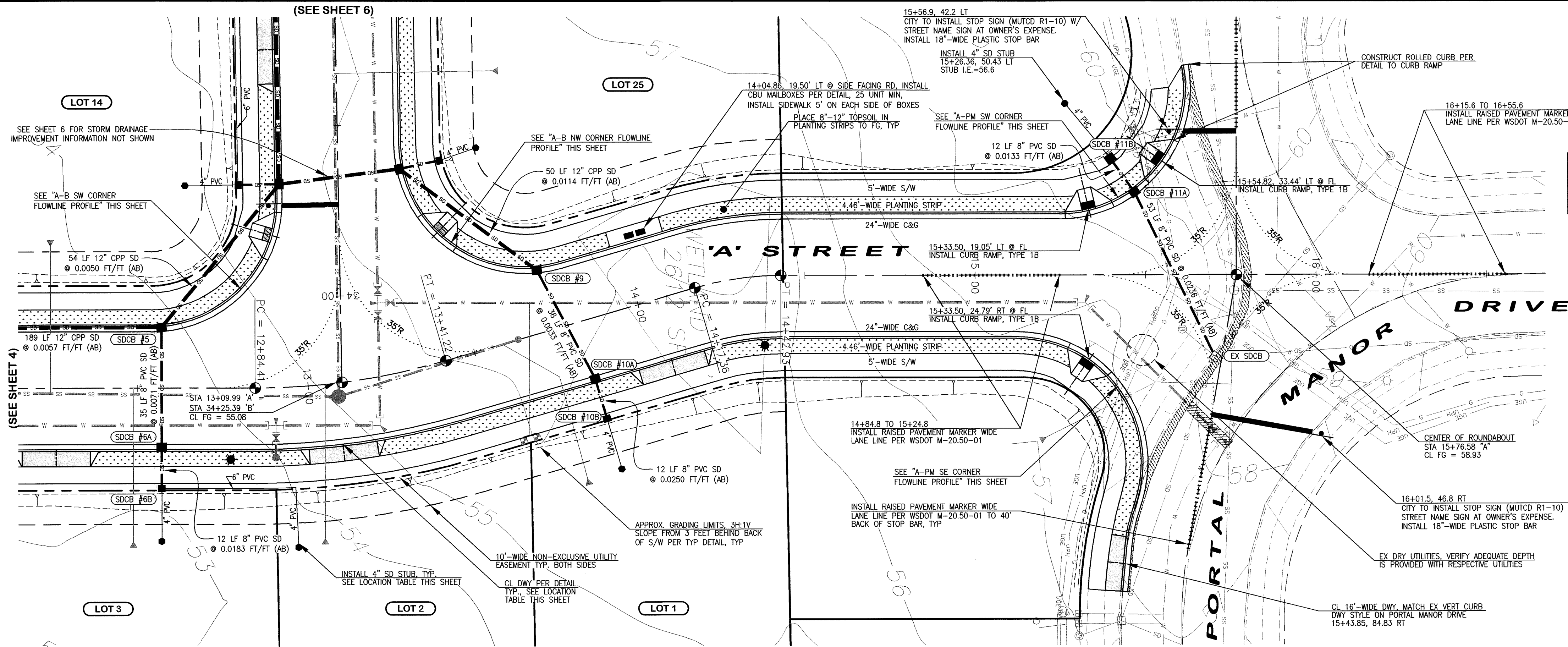


WHATCOM SKAGIT HOUSING
3733 GUIDE MERIDIAN, BLDG. E #105
BELLINGHAM, WASHINGTON 98226

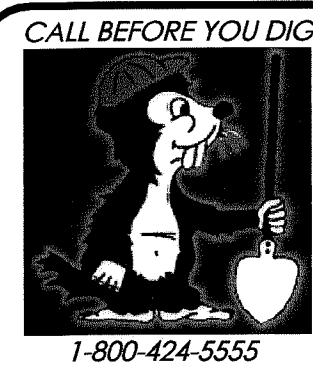
PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
PROJECT OVERVIEW
MAP





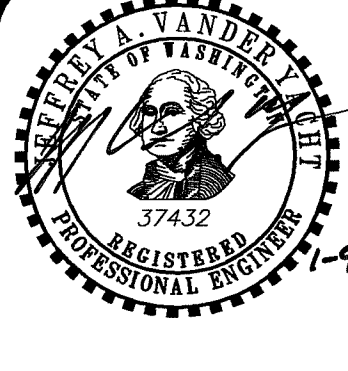


FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	NO.	DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA						1	ISSUED FOR REVIEW 02/21/07
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SURVEY REFERENCE		VERTICAL DATUM		PLAN CHECK		REVISIONS		ISSUE					



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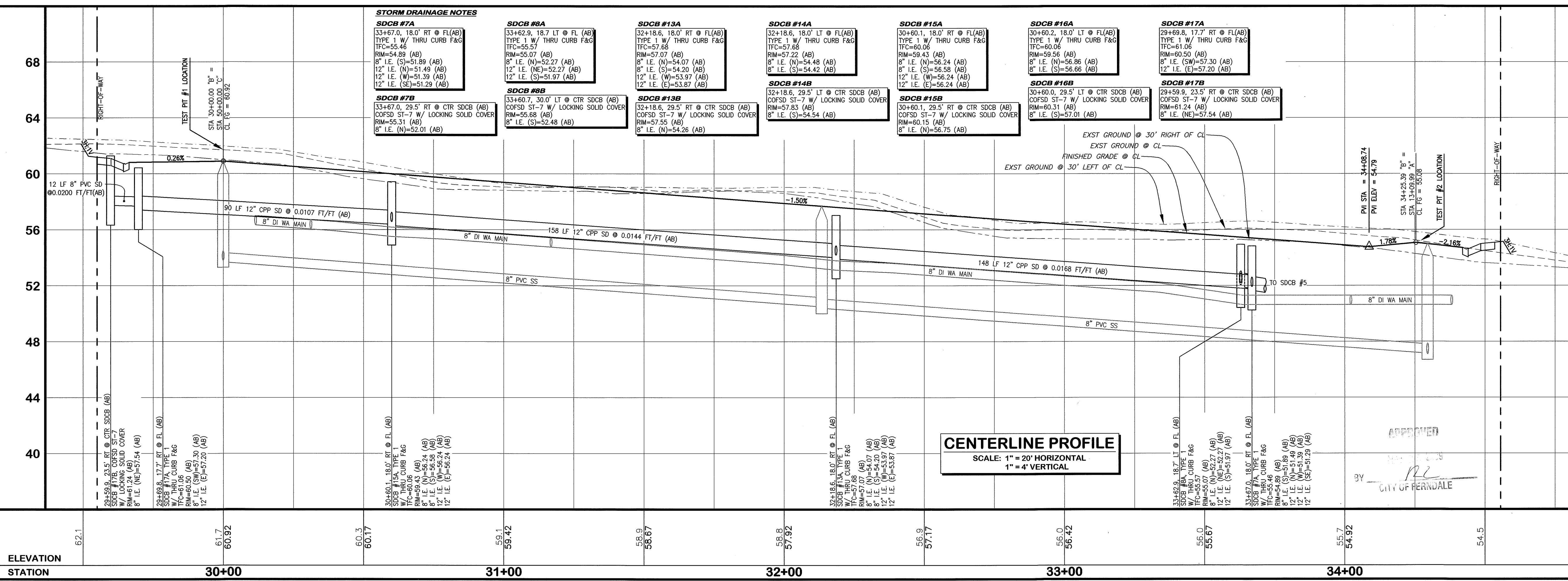
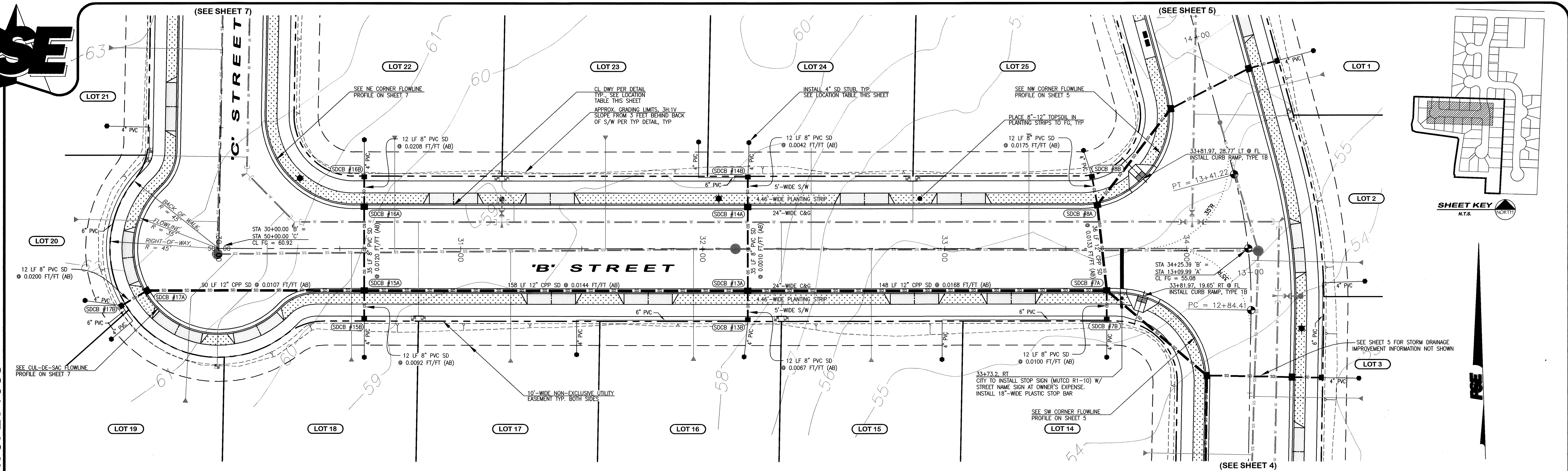
PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
'A' STREET ~ STATIONS
12+20 to 16+70
ROADWAY & STORM DRAINAGE IMPROVEMENTS
JOB #: 2006187
SHEET 5 OF 20





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EMAIL: pse@psurvey.com

PACIFIC SURVEY & ENGINEERING INC
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STORM STUB LOCATION TABLE				
LOT NO.	STREET	STA. & OFFSET @ FL	STUB LT	STUB RT
14	'B' STREET	33+66.2, 44.8' RT (AB)	52.5 (AB)	
15	'B' STREET	32+98.9, 45.9' RT (AB)	53.9 (AB)	
16	'B' STREET	32+17.1, 44.7' RT (AB)	54.0 (AB)	
17	'B' STREET	31+47.9, 43.8' RT (AB)	56.6 (AB)	
18	'B' STREET	30+61.1, 44.7' RT (AB)	57.1 (AB)	
19	'B' STREET	29+55.6, 37.4' RT (AB)	58.5 (AB)	
20	'B' STREET	29+44.8, 21.4' RT (AB)	59.8 (AB)	
21	'C' STREET	50+49.9, 47.1' LT (AB)	60.2 (AB)	
22	'B' STREET	30+60.3, 45.4' LT (AB)	57.8 (AB)	
23	'B' STREET	31+98.2, 44.2' LT (AB)	56.6 (AB)	
24	'B' STREET	32+19.1, 43.9' LT (AB)	55.0 (AB)	
25	'B' STREET	33+57.3, 40.5' LT (AB)	52.8 (AB)	

DRIVEWAY CENTERLINE TABLE			
LOT NO.	STREET	STA. & OFFSET @ FL	WIDTH
14	'B' STREET	33+27.48, 18.00 RT	20.00
15	'B' STREET	32+87.48, 18.00 RT	20.00
16	'B' STREET	31+77.46, 18.00 RT	20.00
17	'B' STREET	31+37.46, 18.00 RT	20.00
18	'B' STREET	30+15.29, 31.49 RT	20.00
19	'B' STREET	29+63.98, 31.12 RT	20.00
20	'B' STREET	29+65.17, 3.41 RT	20.00
21	'C' STREET	50+58.40, 18.00 LT	20.00
22	'B' STREET	30+96.96, 18.00 LT	20.00
23	'B' STREET	31+36.96, 18.00 LT	20.00
24	'B' STREET	32+66.83, 18.00 LT	20.00
25	'B' STREET	33+06.83, 18.00 LT	20.00

AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
(AB) HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

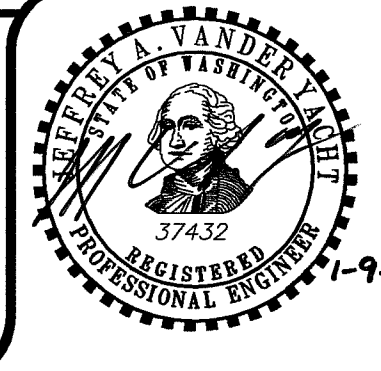
AS-BUILT
DRAWING

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	NO.	DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA						1	ISSUED FOR REVIEW 02/21/07
STAKING:				DESIGN	BEA	JVY						2	RESPONSE TO PLAN CHECK 03/21/07
AS-BUILT:				XREF:								3	ISSUED FOR APPROVAL 04/27/07
SURVEY REFERENCE		VERTICAL DATUM		DWG:								4	AS-BUILT DRAWINGS 01/09/09
					PLAN CHECK		REVISIONS			ISSUE			

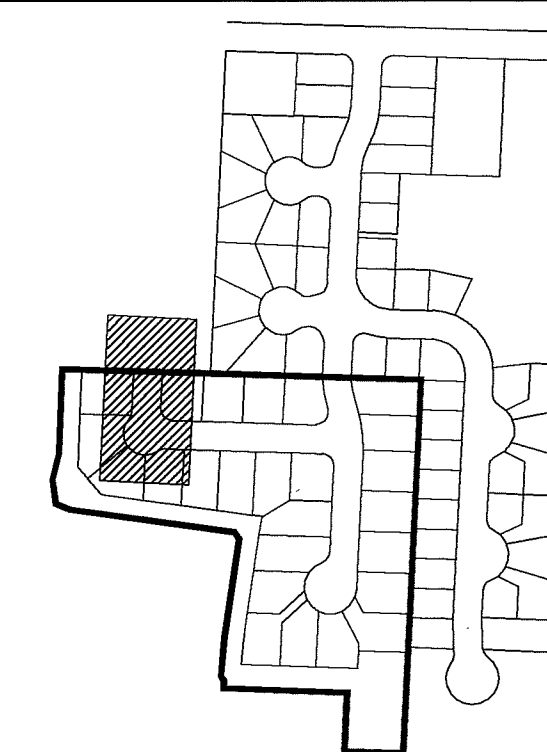
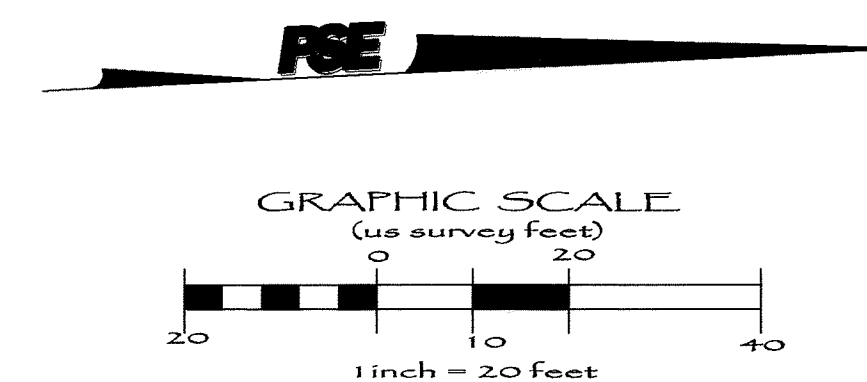
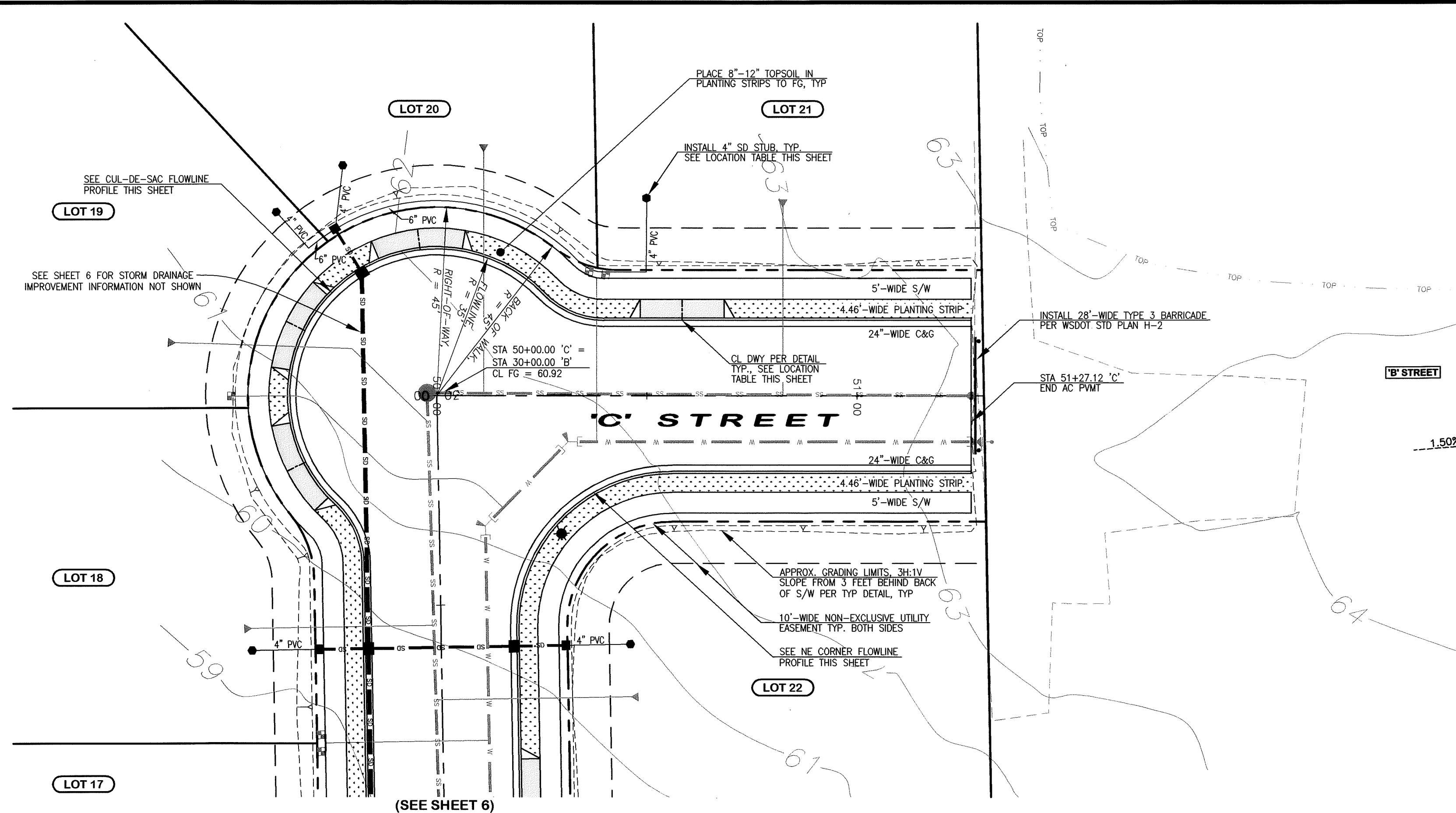


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BELLINGHAM, WASHINGTON 98226

PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
'B' STREET ~ STATIONS
29+35 TO 34+80
ROADWAY & STORM DRAINAGE IMPROVEMENTS
JOB #: 2006187
SHEET 6 OF 20



00388.006 7-10-09 DJD



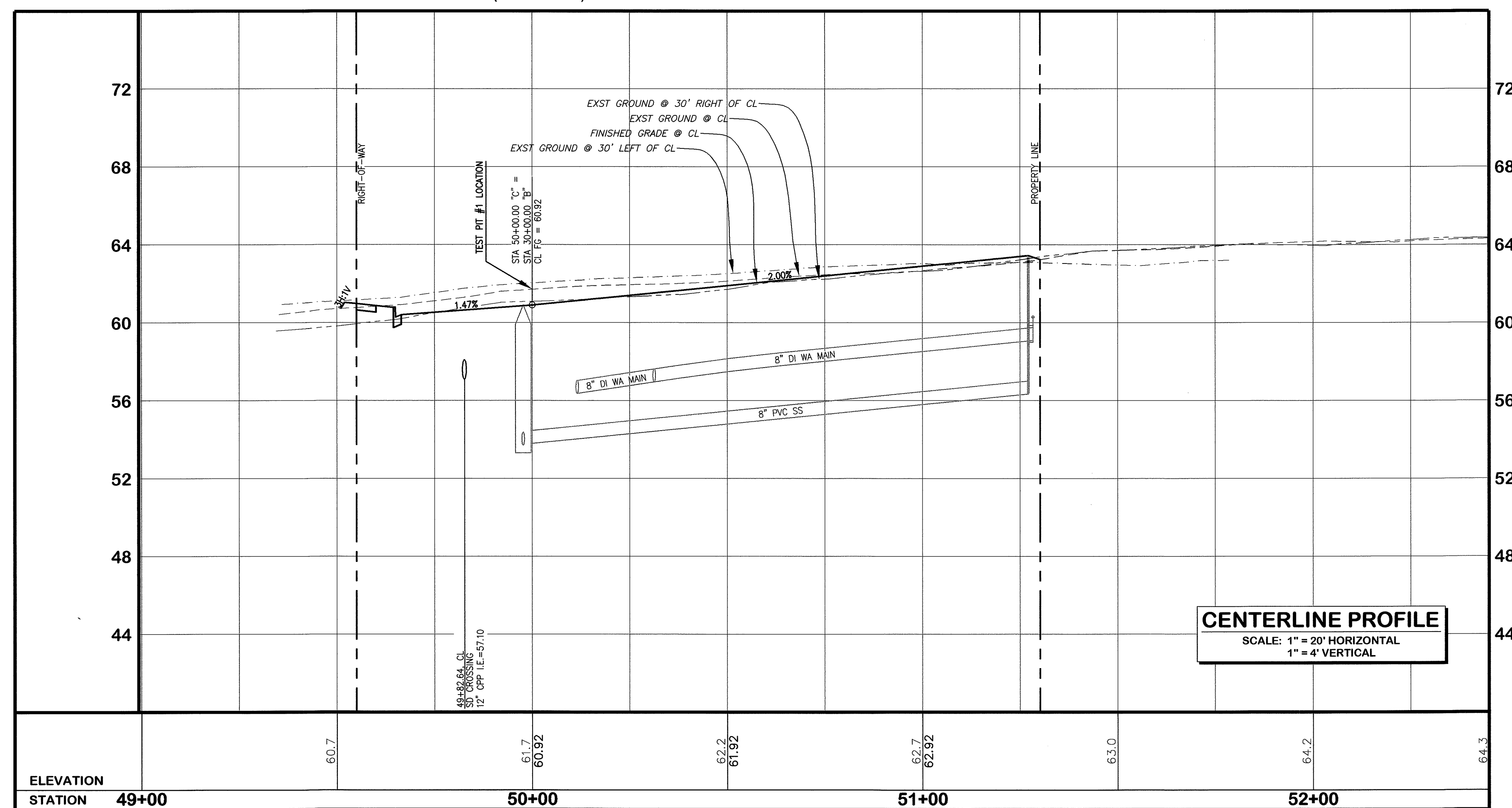
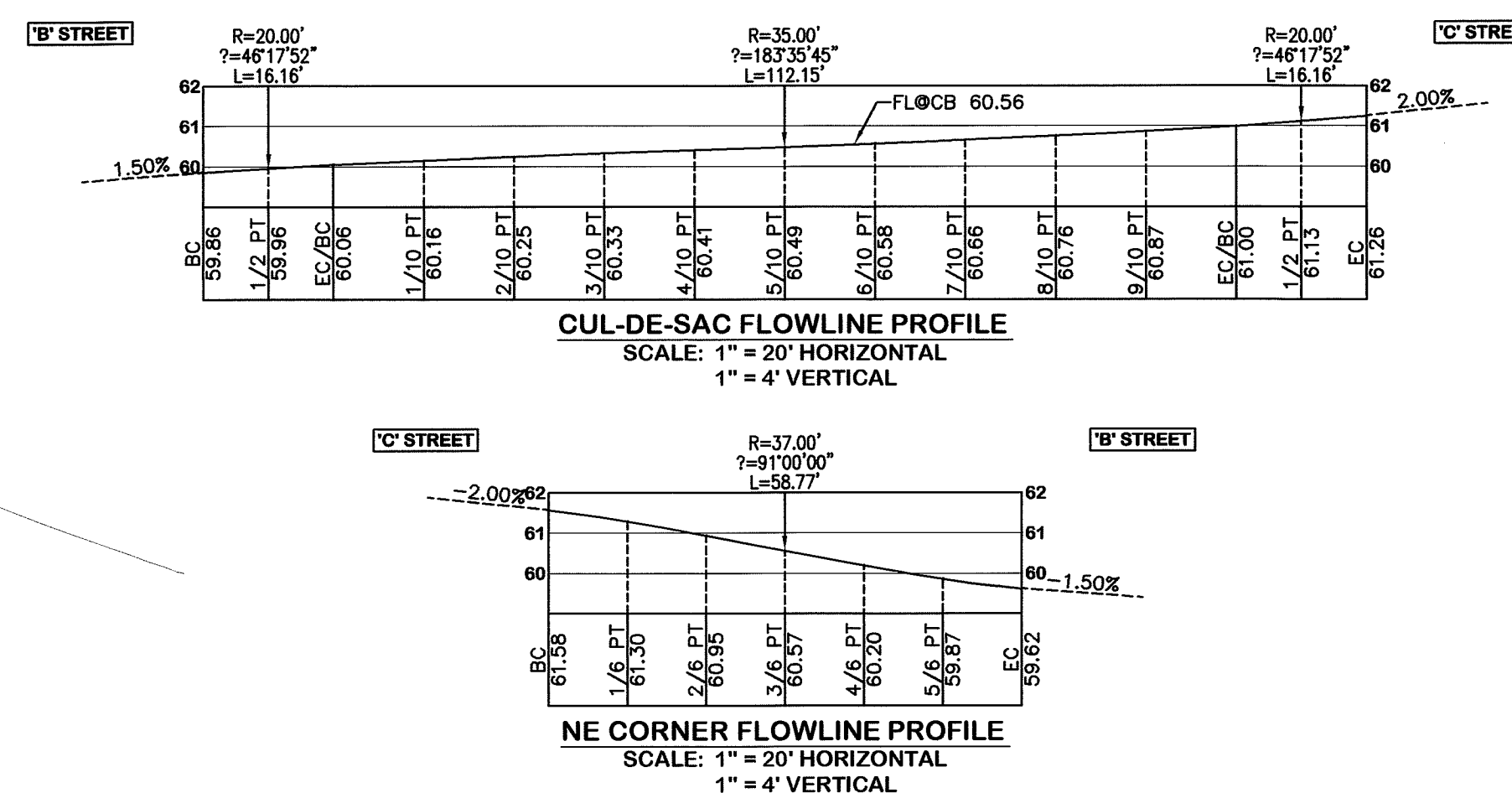
SHEET KEY

NTS

 NORTH

LOT No.	STREET	STA & OFFSET @ STUB	STUB I.
18	'B' STREET	30+61.1, 44.7' RT (AB)	57.1 (A)
19	'B' STREET	29+55.6, 37.4' RT (AB)	58.5 (A)
20	'B' STREET	29+44.8, 21.4' RT (AB)	59.0 (A)
21	'C' STREET	50+49.9, 47.1' LT (AB)	60.2 (A)
22	'B' STREET	30+60.3, 45.4' LT (AB)	57.8 (A)

LOT No.	STREET	STA & OFFSET @ FL		WID.
18	'B' STREET	30+15.29	31.49 RT	20.00
19	'B' STREET	29+83.98	31.12 RT	20.00
20	'B' STREET	29+65.17	3.41 RT	20.00
21	'C' STREET	50+58.40	18.00 LT	20.00



AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
"(AB)" HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

AS-BUILT DRAWING

APPROVED
BY RC
CITY OF FERNDA

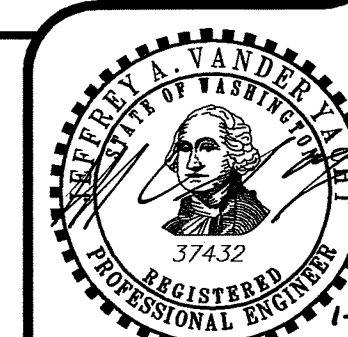
{CORRESPONDING WATER & SANITARY SEWER IMPROVEMENTS SEE SHEET 11}

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	No.		DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA						1	ISSUED FOR REVIEW	02/21/0
STAKING:				DESIGN	BEA	JVY						2	RESPONSE TO PLAN CHECK	03/21/0
ASBUILT:				XREF:								3	ISSUED FOR APPROVAL	04/27/0
				DWG:								4	AS-BUILT DRAWINGS	01/08/06
SURVEY REFERENCE		VERTICAL DATUM			PLAN CHECK					REVISIONS			ISSUE	



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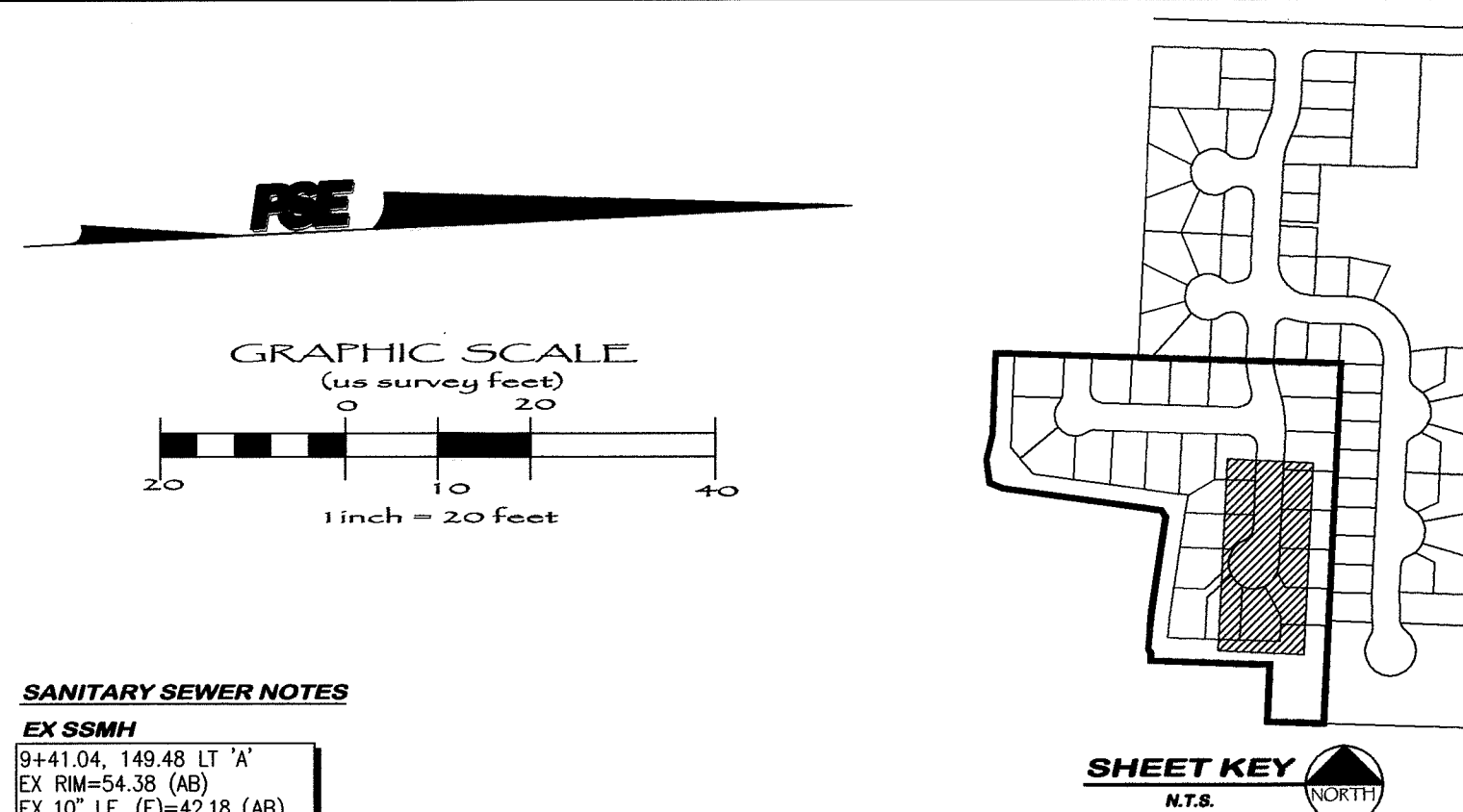
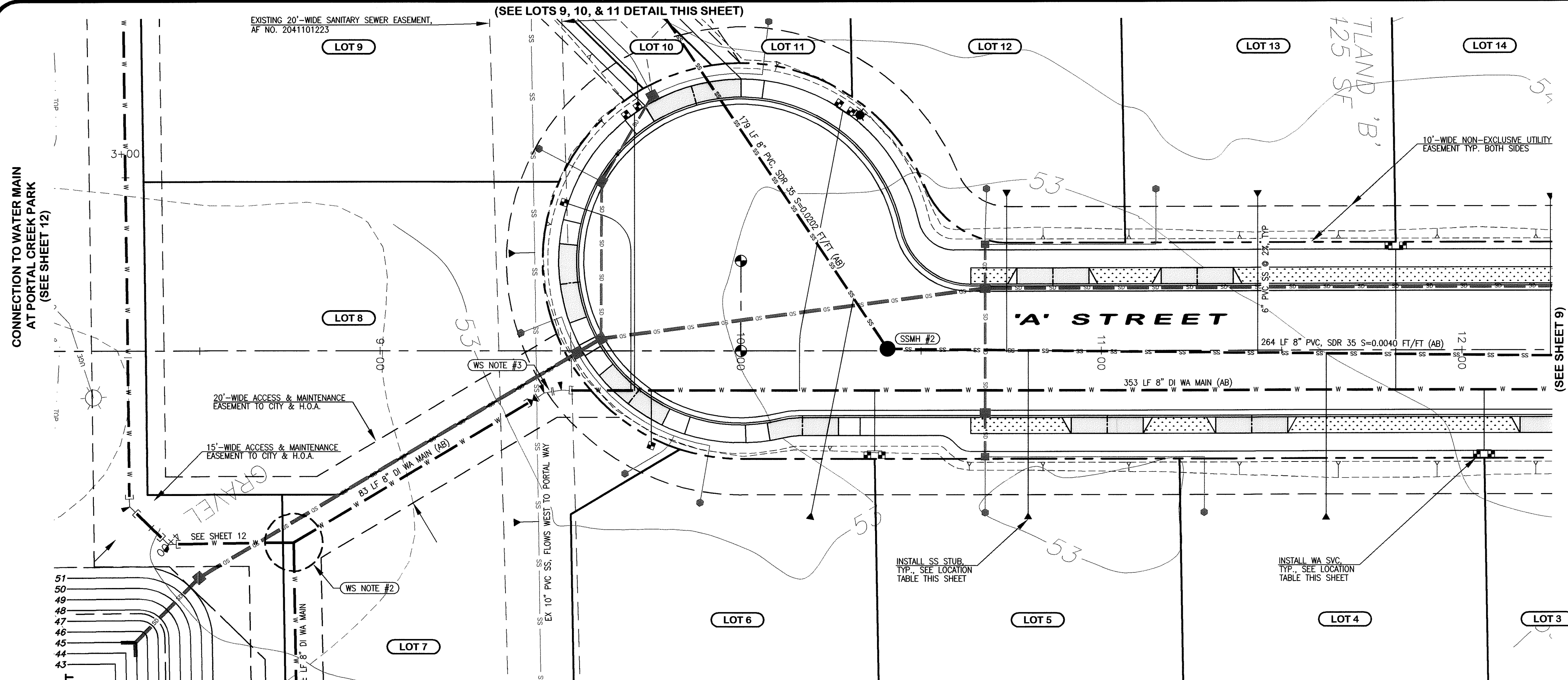
PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
'C' STREET ~ STATIONS
49+00 to 52+45
ROADWAY & STORM DRAINAGE IMPROVEMENTS





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EMAIL: pse@psurvey.com

PACIFIC SURVEY & ENGINEERING INC
1812 CORNWALL, BELLINGHAM, WA 98225 PHONE:671.7387 FAX:671.4685



SANITARY SEWER NOTES

EX SSMH
9+41.04, 149.48 LT 'A'
EX RM=54.38 (AB)
EX 10' I.E. (S)=42.18 (AB)
EX 10' I.E. (W)=42.08 (AB)
NEW 8" I.E. (NE)=42.38 (AB)

SSMH #2
10+40.7, 0.5' LT (AB)
RM=53.19 (AB)
8" I.E. (N)=46.09 (AB)
8" I.E. (SW)=45.59 (AB)

WATER SYSTEM NOTES

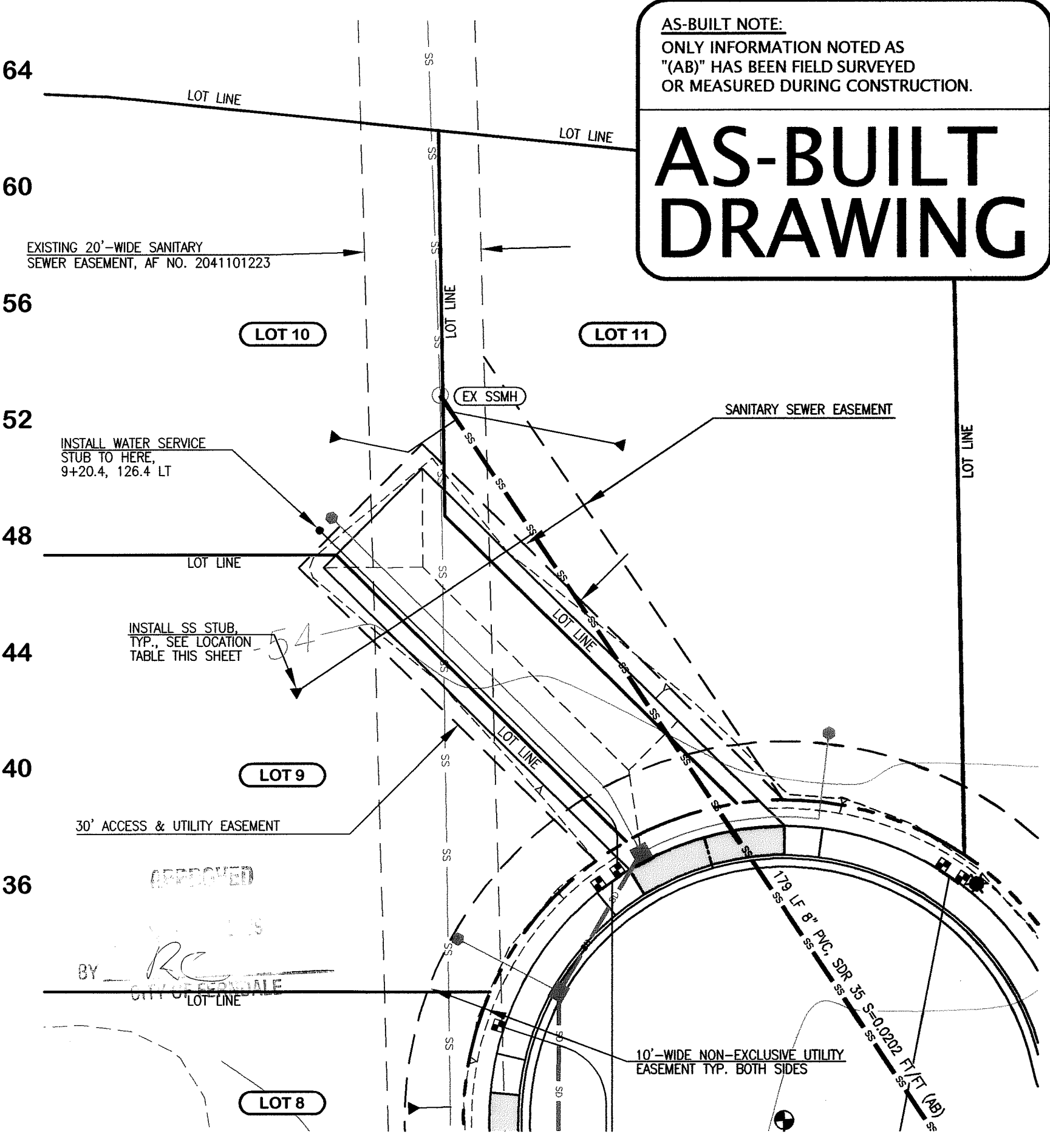
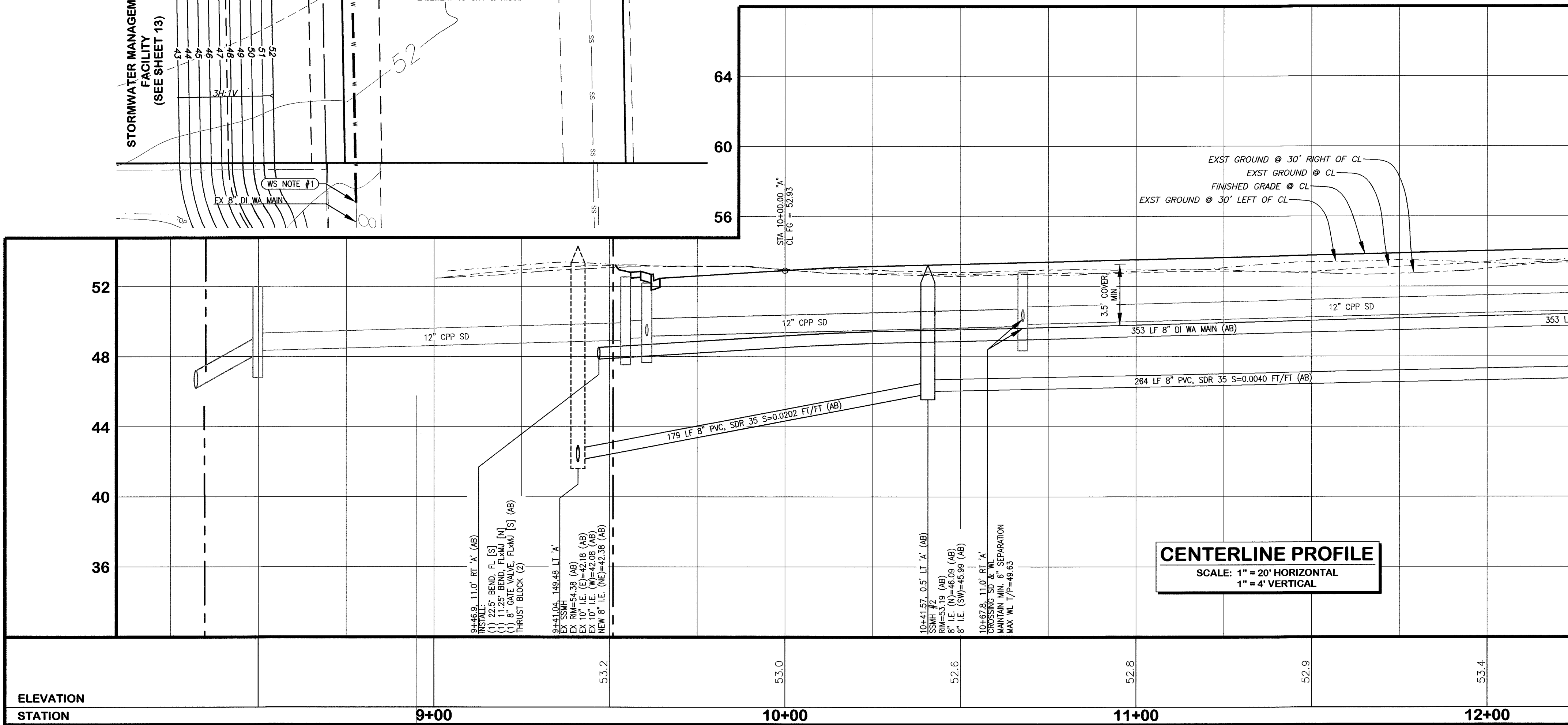
WS NOTE #1
8+77.8(±), 154.3' RT (±) 'A'
MAKE CONNECTION TO EX 8" WA MAIN
SEPARATION REQ'D UNTIL BACTERIA &
PRESSURE TESTS PASS & THE CONNECTION
CAN BE MADE. COORDINATE WITH CITY

WS NOTE #2
8+76.1, 53.3' RT 'A' (AB)
INSTALL:
(1) 8"x8" TEE, FL (AB)
(2) 22.5' BEND, FL [N]
(1) 11.25' BEND, FL [N]
(3) 8" GATE VALVE, FLXW [N, S, & E] (AB)
THRUST BLOCK (3)

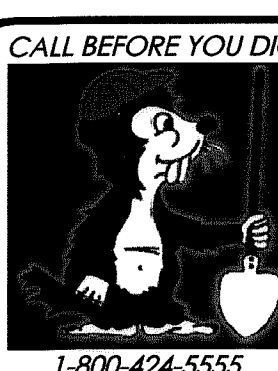
WS NOTE #3
9+46.9, 11.0' RT 'A' (AB)
INSTALL:
(1) 22.5' BEND, FL [S]
(1) 11.25' BEND, FLXW [N]
(1) 8" GATE VALVE, FLXW [S] (AB)
THRUST BLOCK (2)

SEWER STUB LOCATION TABLE						
LOT NO.	STREET	STA & OFFSET @ MAIN	TYPE	STA & OFFSET @ STUB	STUB I.E.	DETAIL
4	'A' STREET	11+64.2, 0.0 CL	SINGLE	11+62.3, 45.4' RT (AB)	47.8 (AB)	SS-6
5	'A' STREET	10+79.7, 0.0 CL	SINGLE	10+79.5, 45.1' RT (AB)	47.8 (AB)	SS-5
6	'A' STREET	10+31.4, 15.2 LT	SINGLE	10+19.6, 44.4' RT (AB)	48.6 (AB)	SS-6
7	'A' STREET	LOCATE EX SS MAIN	SINGLE	9+38.9, 47.6' RT (AB)	48.2 (AB)	SS-8
8	'A' STREET	LOCATE EX SS MAIN	SINGLE	9+37.5, 27.2' LT (AB)	48.9 (AB)	SS-8
9	'A' STREET	9+60.4, 120.7 LT	SINGLE	9+17.4, 99.2' LT (AB)	49.4 (AB)	SS-8
10	'A' STREET	9+24.0, 142.0 LT	SINGLE	9+23.8, 142.1' LT (AB)	49.2 (AB)	SS-8
11	'A' STREET	9+85.1, 137.9 LT	SINGLE	9+70.8, 141.2' LT (AB)	48.6 (AB)	SS-8
12	'A' STREET	10+74.2, 0.0 CL	SINGLE	10+73.7, 42.8' LT (AB)	47.8 (AB)	SS-5
13	'A' STREET	11+43.7, 0.0 CL	SINGLE	11+43.3, 42.8' LT (AB)	47.5 (AB)	SS-6

WATER SVC LOCATION TABLE			
LOT NO.	STREET	STA & OFFSET	TYPE
3	'A' STREET	12+07.4, 29.8' RT (AB)	>1" DUAL
4	'A' STREET	12+04.8, 29.9' RT (AB)	>1" DUAL
5	'A' STREET	10+38.7, 30.1' RT (AB)	>1" DUAL
6	'A' STREET	10+36.0, 30.0' RT (AB)	>1" DUAL
7	'A' STREET	9+75.2, 26.3' RT (AB)	3/4" SINGLE
8	'A' STREET	9+50.0, 42.2' LT (AB)	3/4" SINGLE
9	'A' STREET	9+68.1, 66.3' LT (AB)	>1" DUAL
10	'A' STREET	9+70.8, 68.3' LT (AB)	>1" DUAL
11	'A' STREET	10+28.0, 68.8' LT (AB)	>1" DUAL
12	'A' STREET	10+30.3, 67.4' LT (AB)	>1" DUAL
13	'A' STREET	11+80.5, 29.9' LT (AB)	>1" DUAL
14	'A' STREET	11+83.2, 29.9' LT (AB)	>1" DUAL

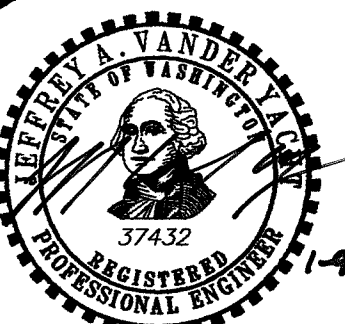


FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	No.	DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA						1	02/21/07
STAKING:				DESIGN	BEA	JVY						2	03/21/07
ASBUILT:				XREF:								3	04/27/07
				DWG:								4	01/09/08
SURVEY REFERENCE		VERTICAL DATUM		PLAN CHECK						REVISIONS		ISSUE	



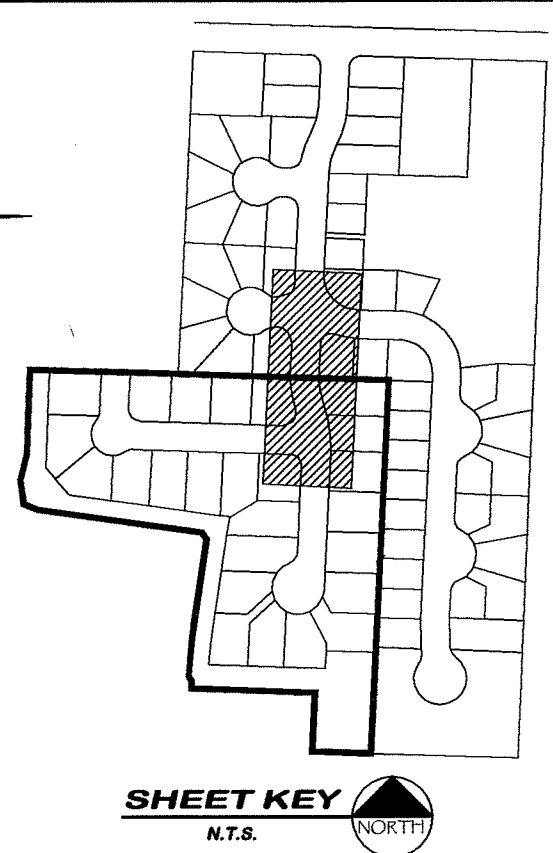
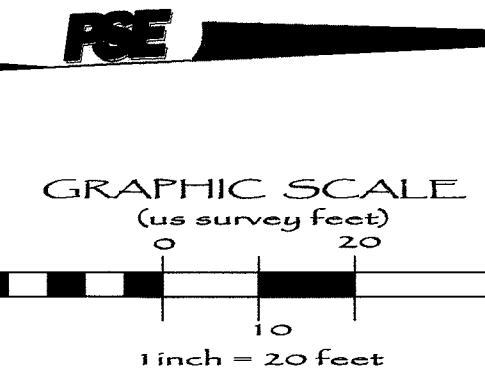
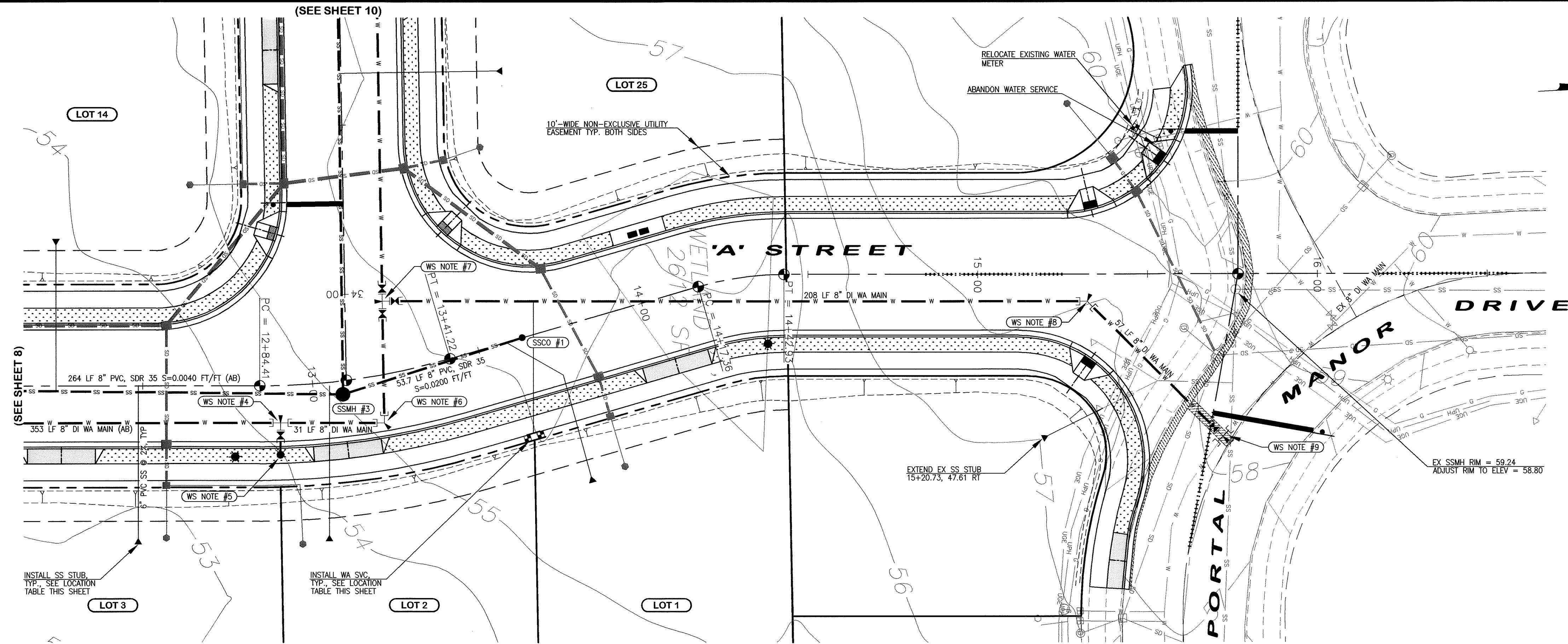
WHATCOM SKAGIT HOUSING
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BELLINGHAM, WASHINGTON 98226

PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
'A' STREET ~ STATIONS
8+10 to 12+20
WATER & SANITARY SEWER IMPROVEMENTS
JOB #: 2006187
SHEET 8 OF 20





PACIFIC SURVEY & ENGINEERING INC
1812 CORNWALL, BELLINGHAM, WA 98225 PHONE: 671.7387 FAX: 671.4685
www.psesurvey.com
EMAIL: pse@psurvey.com



SEWER STUB LOCATION TABLE									
LOT No.	STREET	STA & OFFSET @ MAIN	TYPE	STA & OFFSET @ STUB	STUB I.E.	DETAIL			
1	A' STREET	13+58.4 0.0 CL	CL	13+71.0 45.7 RT (AB)	50.5 (AB)	SS-G			
2	A' STREET	13+04.9 0.0 CL	CL	13+00.8 46.3 RT (AB)	49.33 (AB)	SS-G			
3	A' STREET	12+48.7 0.0 CL	CL	12+47.8 45.7 RT (AB)	49.0 (AB)	SS-G			
14	A' STREET	12+27.7 0.0 CL	CL	12+24.5 41.6 LT (AB)	48.7 (AB)	SS-G			

WATER SVC LOCATION TABLE			
LOT No.	STREET	STA & OFFSET	TYPE
1	A' STREET	13+58.6 30.2 RT (AB)	> 1" DUAL
2	A' STREET	13+56.9 29.8 RT (AB)	> 1" DUAL

SANITARY SEWER NOTES

SSMH #3
13+08.5, 4.0' RT 'A' (AB)
= 34+29.6, 1.0' RT 'B' (AB)
RM=55.05 (AB)
8" I.E. (N)=47.24 (AB)
8" I.E. (W)=47.24 (AB)
8" I.E. (S)=47.14 (AB)

SSCO #1
13+63.38, CL 'A'
RM=56.12
8" I.E. (S)=48.27

WATER SYSTEM NOTES

WS NOTE #4
12+90.3, 11.1' RT 'A' (AB)
INSTALL:
(1) 8"x8" TEE, MJ&FL (AB)
(2) 9" LF (S) DI SPOOL
PER COPS W-1
THRUST BLOCK

WS NOTE #5
12+90.0, 20.5' RT 'A' (AB)
INSTALL:
(1) HYDRANT ASSEMBLY
PER COPS W-1
RESTRAIN FH ASSEMBLY
FG 54.85 AT FH

WS NOTE #6
34+38.2, 11.0' LT 'B' (AB)
INSTALL:
(1) 90° BEND, MJ
THRUST BLOCK

WS NOTE #7
34+02.3, 11.0' LT 'B' (AB)
INSTALL:
(1) 8"x8" TEE, FL (AB)
(2) 8" GATE VALVE, FL&MJ [W, N, & E] (AB)
THRUST BLOCK

WS NOTE #8
15+32.3, 8.0' RT 'A' (AB)
INSTALL:
(1) 45° BEND, MJ
THRUST BLOCK

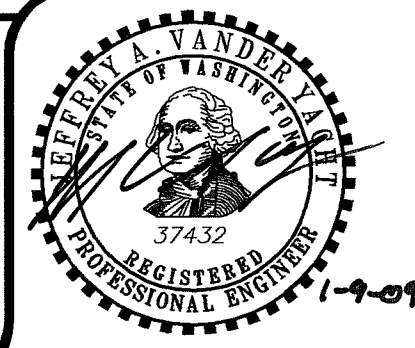
WS NOTE #9
15+72.2, 48.0' RT 'A' (AB)
MAKE CONNECTION TO EX 8" WA MAIN
INSTALL:
(1) 8"x8" TAPPING SLEEVE
(2) 8" GATE VALVE, FL&MJ [SW]
SEPARATION REQ'D UNTIL BACTERIA &
PRESSURE TESTS PASS & THE CONNECTION
CAN BE MADE, COORDINATE WITH CITY

APPROVED

BY: [Signature]
CITY OF FERDALE

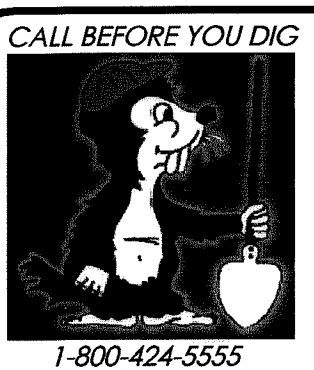
AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
(AB) HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

**AS-BUILT
DRAWING**



{CORRESPONDING ROADWAY & STORM DRAINAGE IMPROVEMENTS SEE SHEET 5}

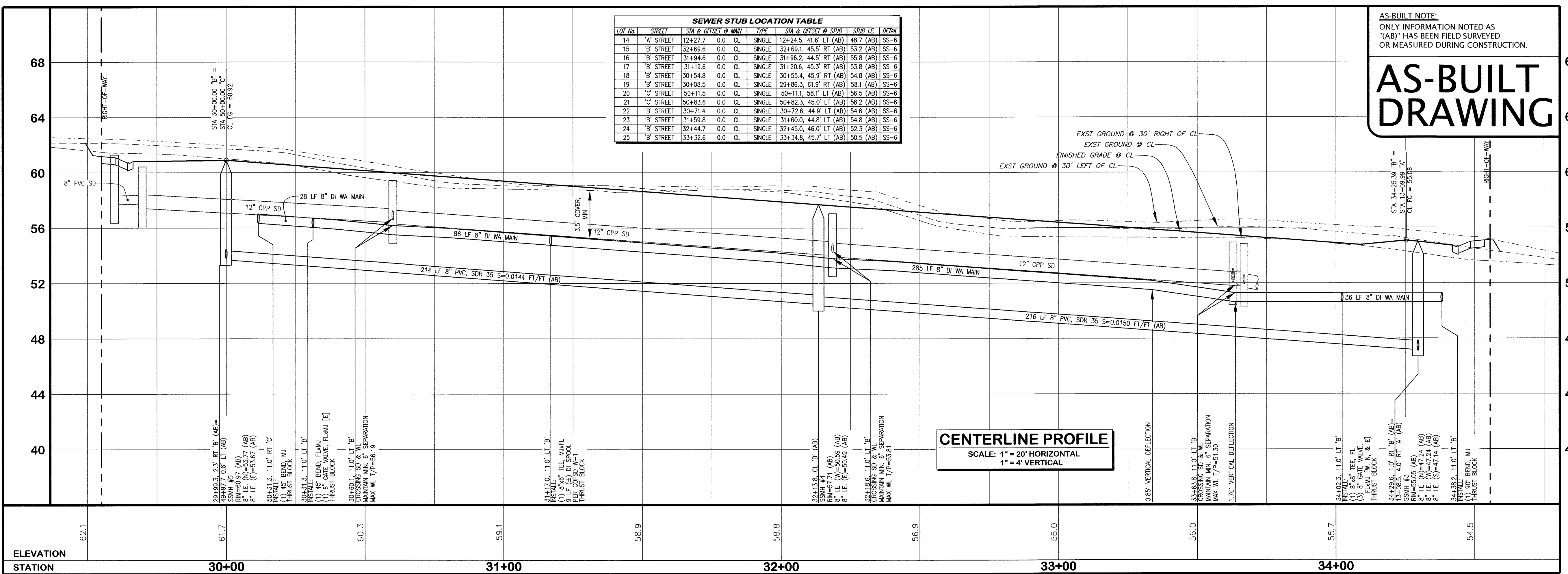
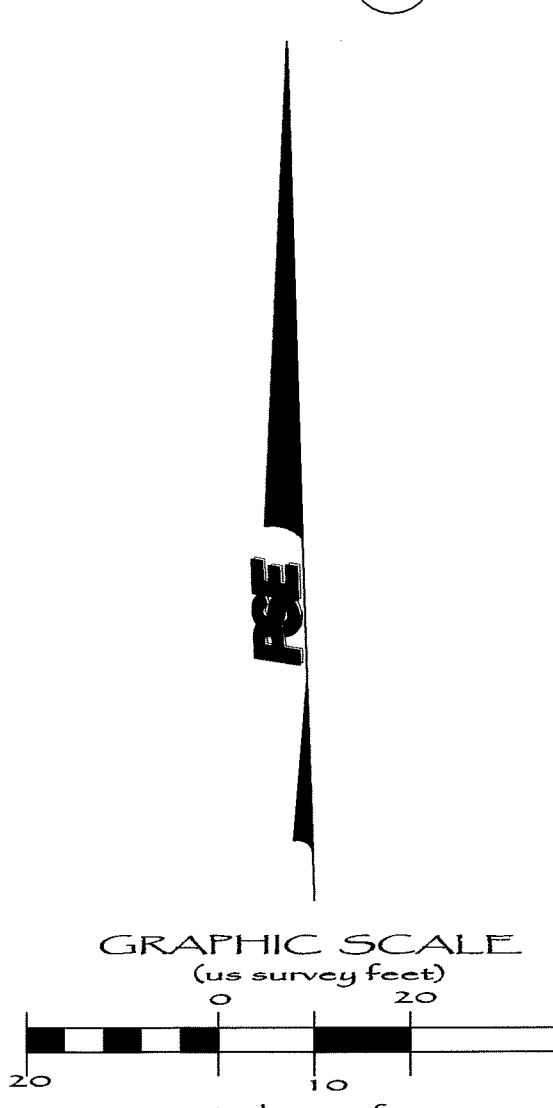
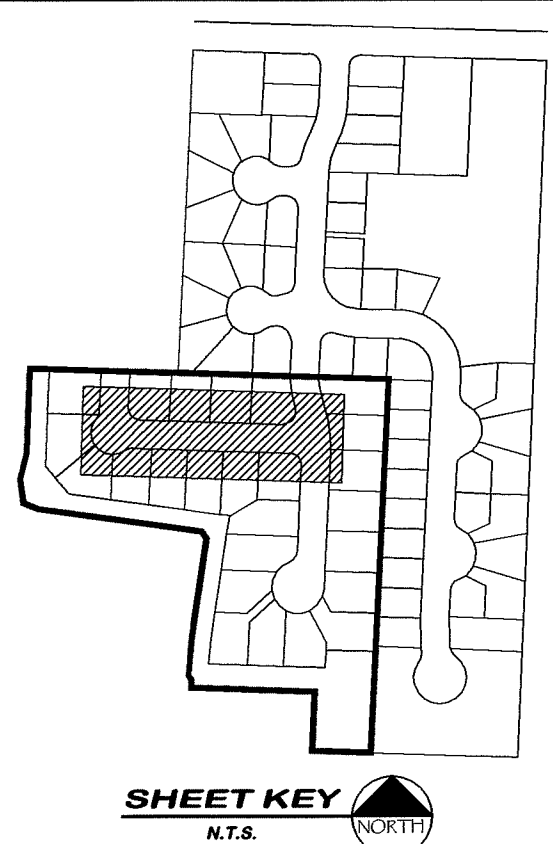
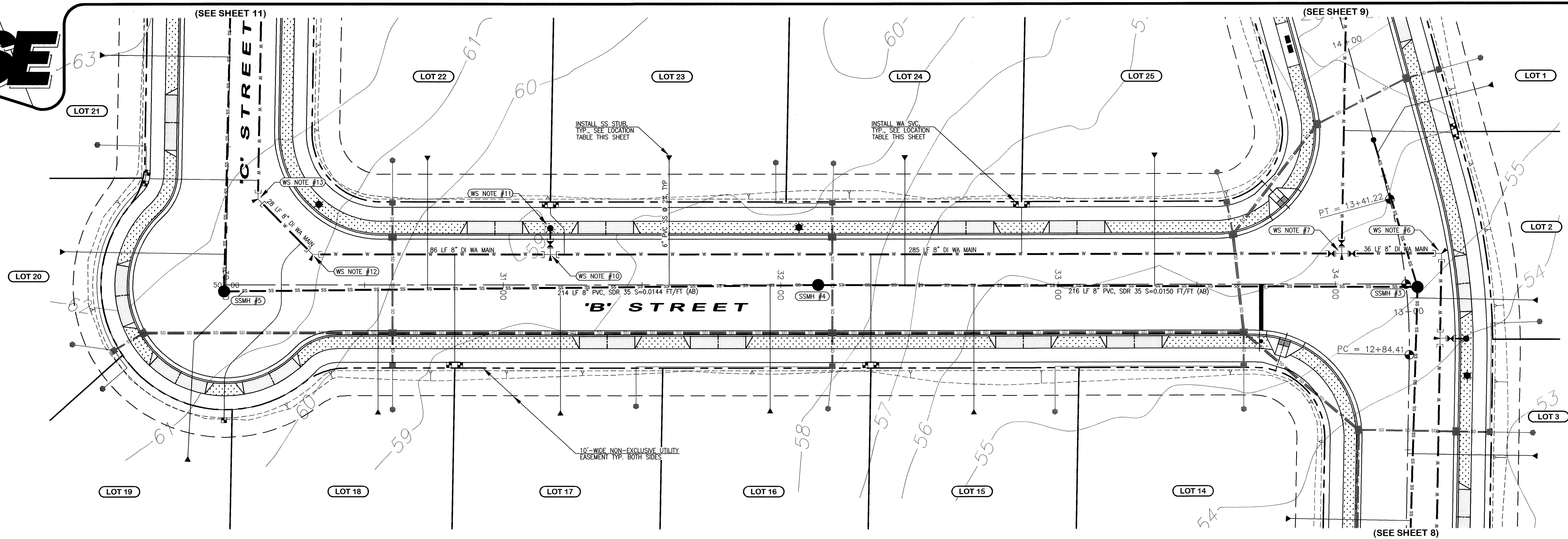
FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	No.	DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA						1	02/21/07
STAKING:				DESIGN	BEA	JVY						2	03/21/07
ASBUILT:				XREF:								3	04/27/07
				DWG:								4	01/09/08
SURVEY REFERENCE											REVISIONS		
VERTICAL DATUM											ISSUE		
PLAN CHECK													



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PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
A' STREET ~ STATIONS
12+20 to 16+70
WATER & SANITARY SEWER IMPROVEMENTS

JOB #: 2006187 SHEET 9 OF 20



AS-BUILT DRAWING

AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
"AB" HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

WATER SVC LOCATION TABLE				
LOT No.	STREET	S/A & OFFSET	TYPE	
15	'B' STREET	32+33.7, 29.8' RT (AB)		
16	'B' STREET	32+51.2, 29.5' RT (AB)		
17	'B' STREET	30+83.7, 60.2' RT (AB)	1" DUAL	
18	'B' STREET	30+81.2, 29.9' RT (AB)	1" DUAL	
19	'B' STREET	29+99.3, 48.9' RT (AB)	3/4" SINGLE	
20	'C' STREET	50+37.0, 30.9' LT (AB)	1" DUAL	
21	'C' STREET	50+39.8, 30.4' LT (AB)	1" DUAL	
22	'B' STREET	31+15.9, 29.9' LT (AB)	1" DUAL	
23	'B' STREET	31+18.3, 19.9' LT (AB)	1" DUAL	
24	'B' STREET	32+88.5, 30.2' LT (AB)	1" DUAL	
25	'B' STREET	32+87.9, 30.0' LT (AB)	1" DUAL	

SANITARY SEWER NOTES	
SSMH #3	SSMH #5
13+08.5, 4.0' RT 'A' (AB)	29+99.3, 2.3' RT 'B' (AB)
34+29.6, 1.0' RT 'B' (AB)	49+97.7, 0.6' LT (AB)
RM=55.05 (AB)	RM=60.97 (AB)
8" I.E. (W)=47.24 (AB)	8" I.E. (W)=53.77 (AB)
8" I.E. (E)=47.24 (AB)	8" I.E. (E)=53.67 (AB)
8" I.E. (S)=47.14 (AB)	

SSMH #4	
32+13.8, CL 'B' (AB)	
RM=57.71 (AB)	
8" I.E. (W)=50.59 (AB)	
8" I.E. (E)=50.49 (AB)	

WATER SYSTEM NOTES	
WS NOTE #6	
34+38.2, 11.0' LT 'B'	
INSTALL:	
(1) 90° BEND, MJ	
THRUST BLOCK	

WS NOTE #7	
34+02.3, 11.0' LT 'B' (AB)	
INSTALL:	
(1) 8"x8" TEE, FL (AB)	
(3) 8" GATE VALVE, FLxMJ [W, N, & E] (AB)	
THRUST BLOCK	

WS NOTE #10	
31+17.0, 11.0' LT 'B'	
INSTALL:	
(1) 8"x8" TEE, MJxFL	
9 LF (3) 3" DI SPOOL	
PER COFSD W=1	
THRUST BLOCK	

WS NOTE #11	
31+17.0, 20.5' LT 'B'	
INSTALL:	
(1) HYDRANT ASSEMBLY	
PER COFSD W=1	
RESTRAIN FH ASSEMBLY	
PER COFSD AT FH	

WS NOTE #12	
30+31.3, 11.0' LT 'B'	
INSTALL:	
(1) 45° BEND, FLxMJ	
THRUST BLOCK	

WS NOTE #13	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #14	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #15	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #16	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #17	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #18	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #19	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #20	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #21	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #22	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #23	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #24	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #25	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #26	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #27	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #28	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #29	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #30	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #31	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #32	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #33	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #34	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #35	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #36	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #37	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #38	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #39	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #40	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #41	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #42	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #43	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #44	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #45	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #46	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #47	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #48	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #49	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #50	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #51	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #52	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #53	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #54	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #55	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #56	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #57	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #58	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #59	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #60	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #61	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #62	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #63	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #64	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #65	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #66	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #67	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #68	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #69	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #70	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #71	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #72	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #73	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #74	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #75	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

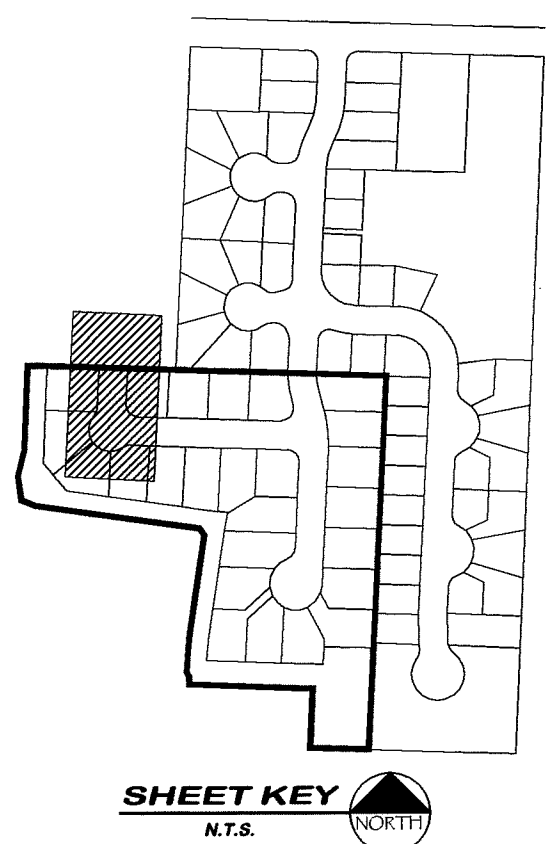
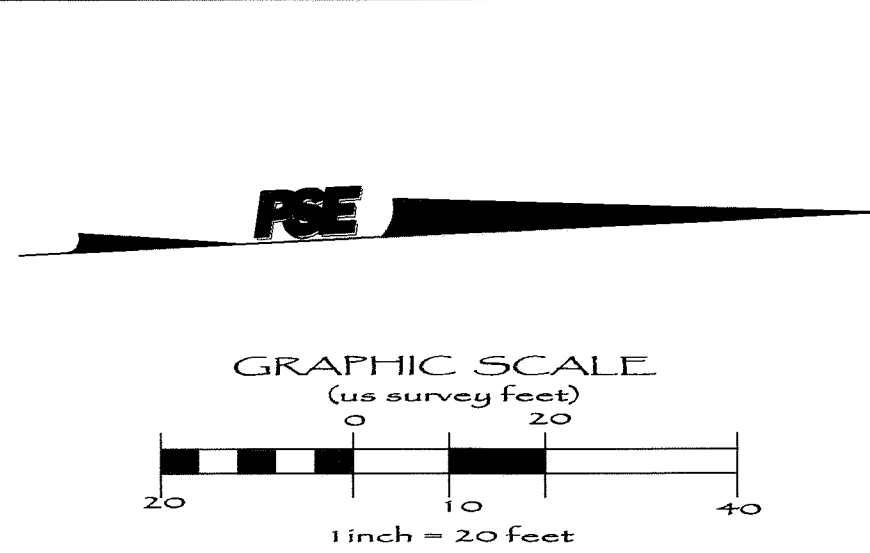
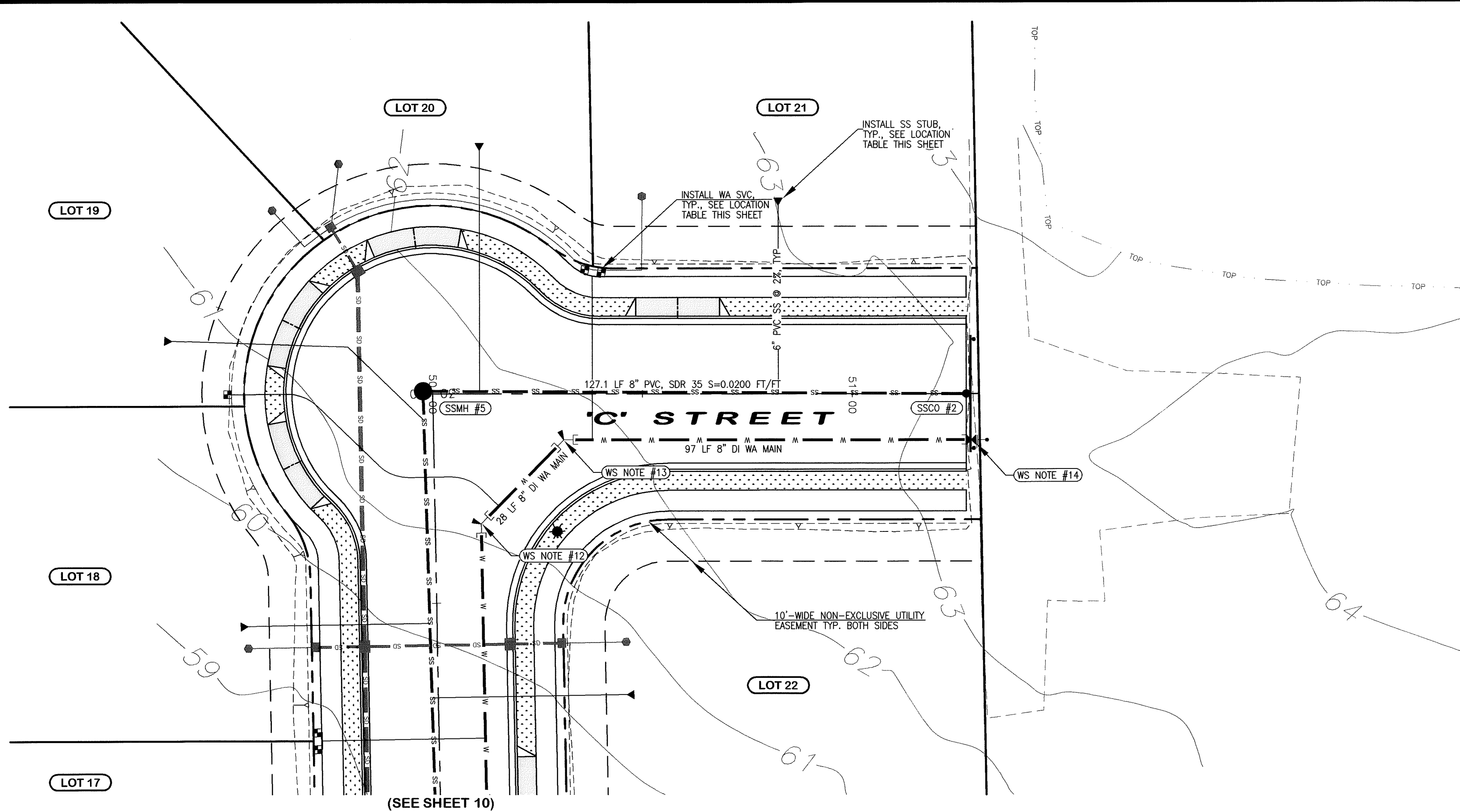
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50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #77	
50+31.3, 11.0' RT 'C'	
INSTALL:	
(1) 45° BEND, MJ	
THRUST BLOCK	

WS NOTE #78	



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EMAIL: pse@psurvey.com



SANITARY SEWER NOTES

SSMH #5
29+99.3, 2.3' RT 'B' (AB)
=49+97.7, 0.6' LT (AB)
RM=60.97 (AB)
8" I.E. (N)=53.77 (AB)
8" I.E. (S)=53.67 (AB)

SSCO #2
51+27.12, CL 'C'
RM=63.46
8" I.E. (S)=56.35

WATER SYSTEM NOTES

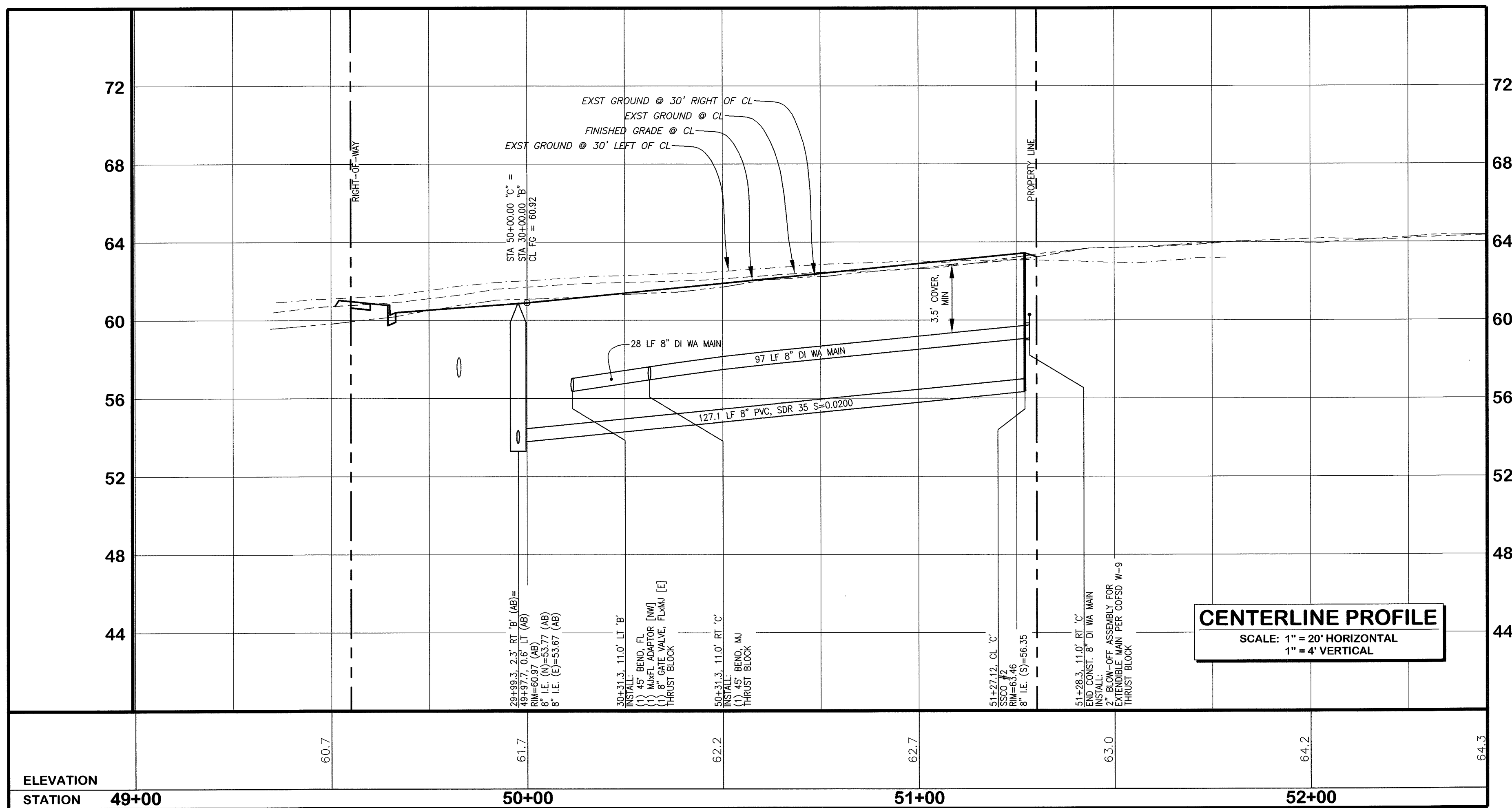
WS NOTE #12
30+31.3, 11.0' LT 'B'
INSTALL:
(1) 45° BEND, FL&MJ
THRUST BLOCK

WS NOTE #13
50+31.3, 11.0' RT 'C'
INSTALL:
(1) 45° BEND, MJ
THRUST BLOCK

WS NOTE #14
51+28.3, 11.0' RT 'C'
END CONST. 8" DI WA MAIN
INSTALL: 8" GATE VALVE,
2" BLOW-OFF ASSEMBLY FOR
EXTENDIBLE MAIN PER COPS W-9
THRUST BLOCK

SEWER STUB LOCATION TABLE						
LOT No.	STREET	STA & OFFSET @ MAIN	TYPE	STA & OFFSET @ STUB	STUB I.E.	DETAIL
18	'B' STREET	30+54.8	0.0 CL	SINGLE	30+55.4, 45.9' RT (AB)	54.8 (AB) SS-6
19	'B' STREET	30+08.5	0.0 CL	SINGLE	29+96.3, 61.9' RT (AB)	58.1 (AB) SS-6
20	'C' STREET	50+11.5	0.0 CL	SINGLE	50+11.1, 58.1' LT (AB)	56.5 (AB) SS-6
21	'C' STREET	50+83.6	0.0 CL	SINGLE	50+82.3, 45.0' LT (AB)	58.2 (AB) SS-6
22	'B' STREET	30+71.4	0.0 CL	SINGLE	30+72.6, 44.9' LT (AB)	54.6 (AB) SS-6

WATER SVC LOCATION TABLE			
LOT No.	STREET	STA & OFFSET	TYPE
17	'B' STREET	30+83.7, 60.2' RT (AB)	1" DUAL
18	'B' STREET	30+81.2, 29.9' RT (AB)	3/4" SINGLE
19	'B' STREET	29+99.3, 48.9' RT (AB)	3/4" SINGLE
20	'C' STREET	50+37.0, 30.9' LT (AB)	1" DUAL
21	'C' STREET	50+39.8, 30.4' LT (AB)	1" DUAL



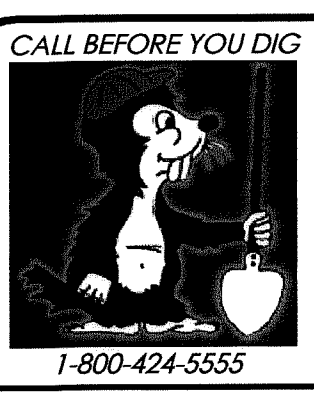
AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
"AB" HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

**AS-BUILT
DRAWING**

APPROVED
BY [Signature]
CITY OF PERNIALE

(CORRESPONDING ROADWAY & STORM DRAINAGE IMPROVEMENTS SEE SHEET 7)

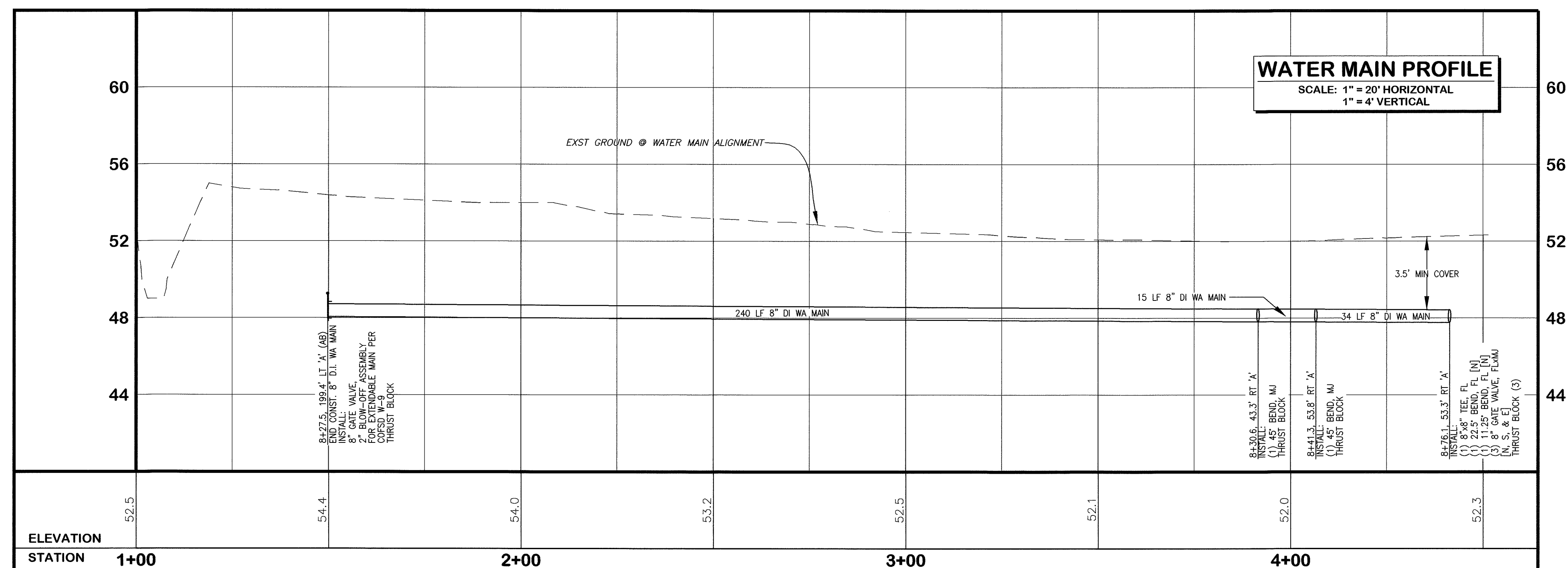
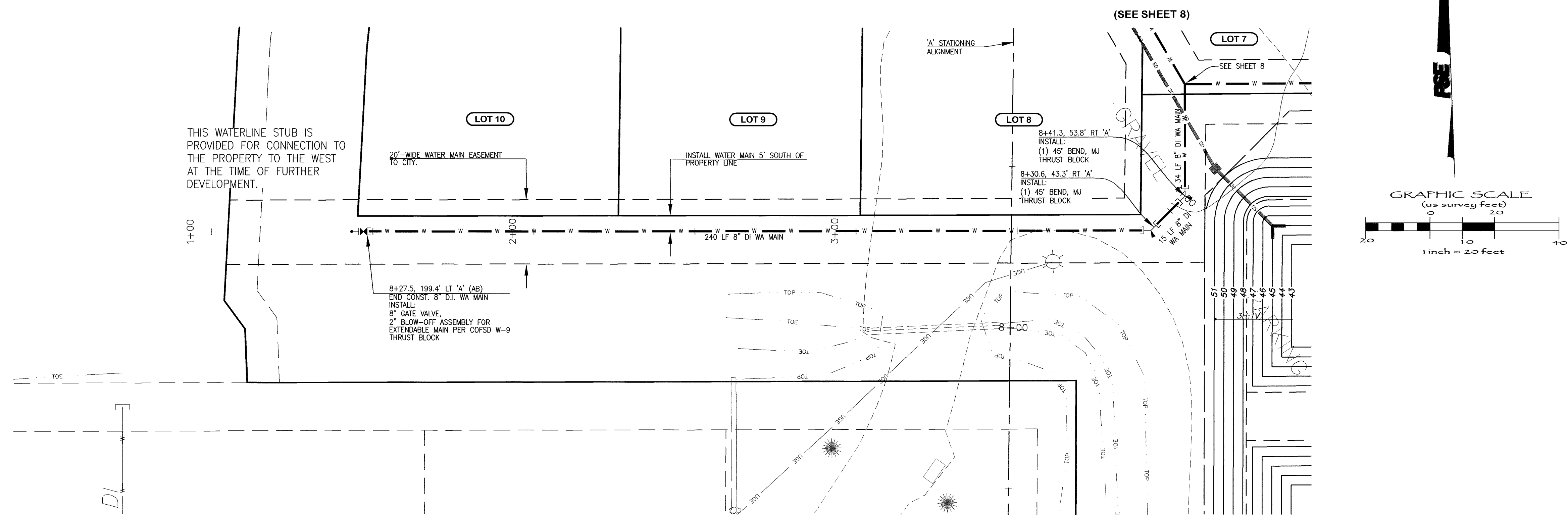
FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	No.	DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA						1	ISSUED FOR REVIEW 02/21/07
STAKING:				DESIGN	BEA	JVY						2	RESPONSE TO PLAN CHECK 03/21/07
ASBUILT:				XREF:								3	ISSUED FOR APPROVAL 04/21/07
				DWG:								4	AS-BUILT DRAWINGS 01/09/08
SURVEY REFERENCE				PLAN CHECK				REVISIONS				ISSUE	
VERTICAL DATUM													



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PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
'C' STREET ~ STATIONS
49+00 to 52+45
WATER & SANITARY SEWER IMPROVEMENTS





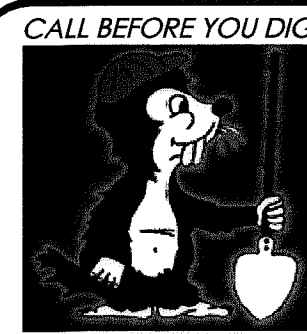
AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
"(AB)" HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

AS-BUILT DRAWING

62200

100-443887-10
 5
 RC
 CITY OF FERNDALE

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	No.	DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA						1	ISSUED FOR REVIEW 02/21/07
STAKING:				DESIGN	BEA	JVY						2	RESPONSE TO PLAN CHECK 03/21/07
ASBUILT:				XREF:								3	ISSUED FOR APPROVAL 04/27/07
				DWG:								4	AS-BUILT DRAWINGS 01/09/09
SURVEY REFERENCE		VERTICAL DATUM				PLAN CHECK				REVISIONS			ISSUE

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BELLINGHAM, WASHINGTON 98226

PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS

OFF-SITE WATER MAIN CONNECTION

WATER & SANITARY SEWER IMPROVEMENTS

JOB #: 2006187

SHEET 12 OF 20



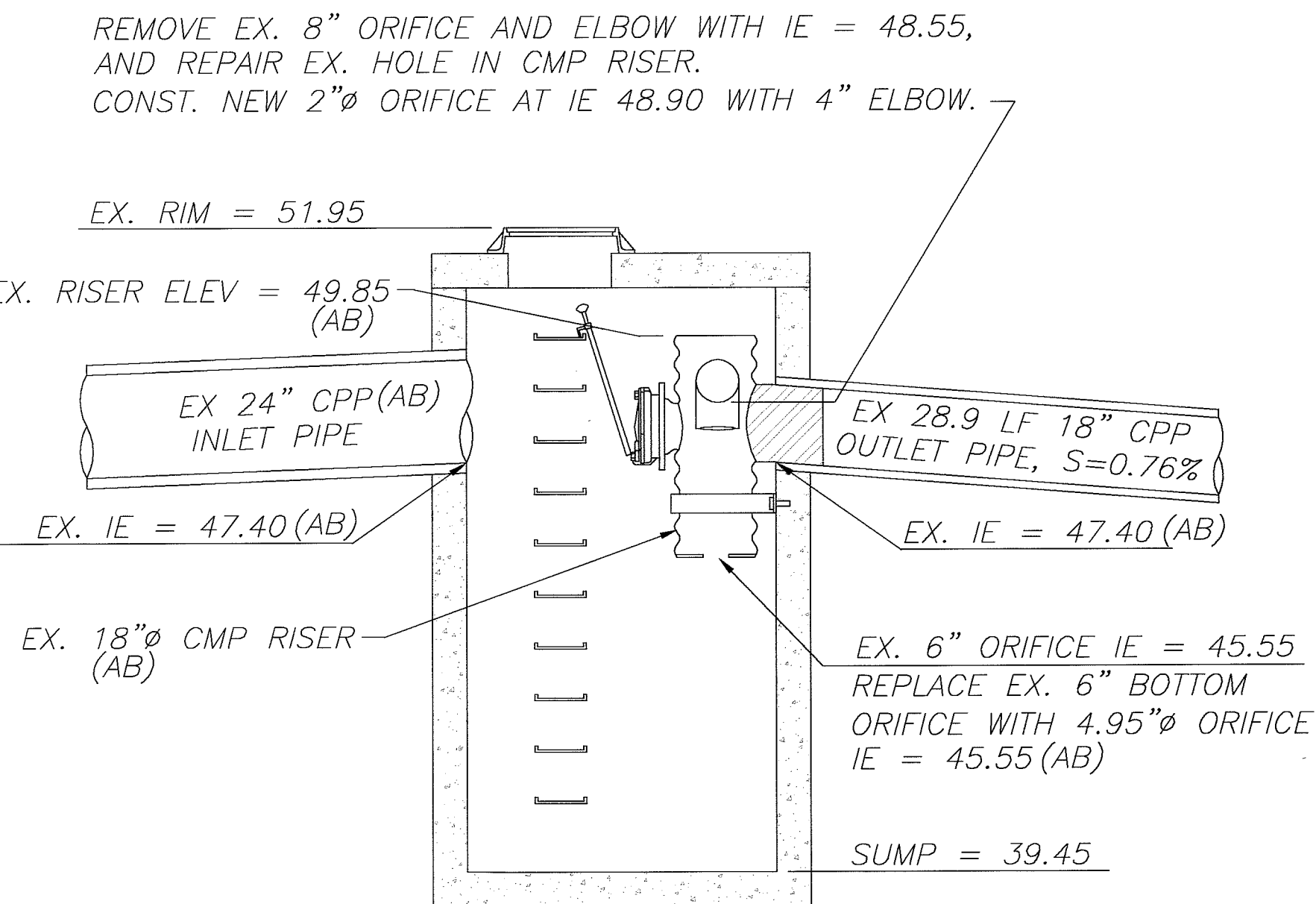
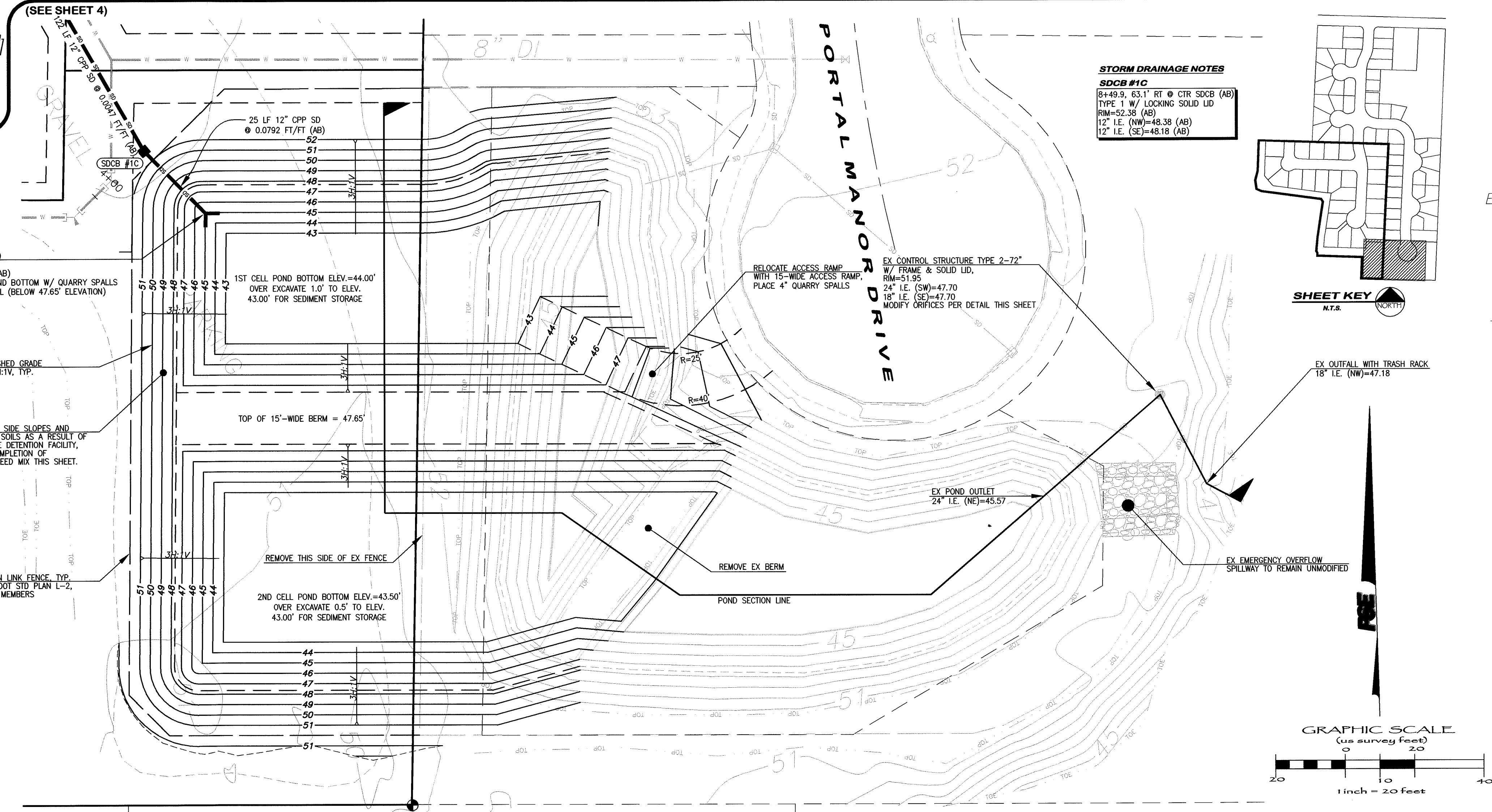
5-9-0

00388.012 7.10.09 DD



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EMAIL: pse@psurvey.com

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1812 CORNWALL, BELLINGHAM, WA 98225 PHONE: 671.7387 FAX: 671.4685



SECTION VIEW
EX CONTROL STRUCTURE
TYPE II - 72"

STORM DETENTION POND SLOPES
SEED MIX CONSTITUENTS

ALL POND SIDE SLOPES AND AREAS DISTURBED AS A
RESULT OF CONSTRUCTION OF THE DETENTION POND
FACILITY SHALL BE HYDROSEED WITH THE FOLLOWING
"LOW GROW" SEED MIX AT A RATE OF 2.5# PER 1000 SF:

SEED NAME	% OF MIX
DWARF TALL FESCUE	40%
DWARF PERENNIAL RYE "BARCLAY"	30%
RED FESCUE	25%
COLONIAL BENTGRASS	5%

POND DESIGN INFORMATION:

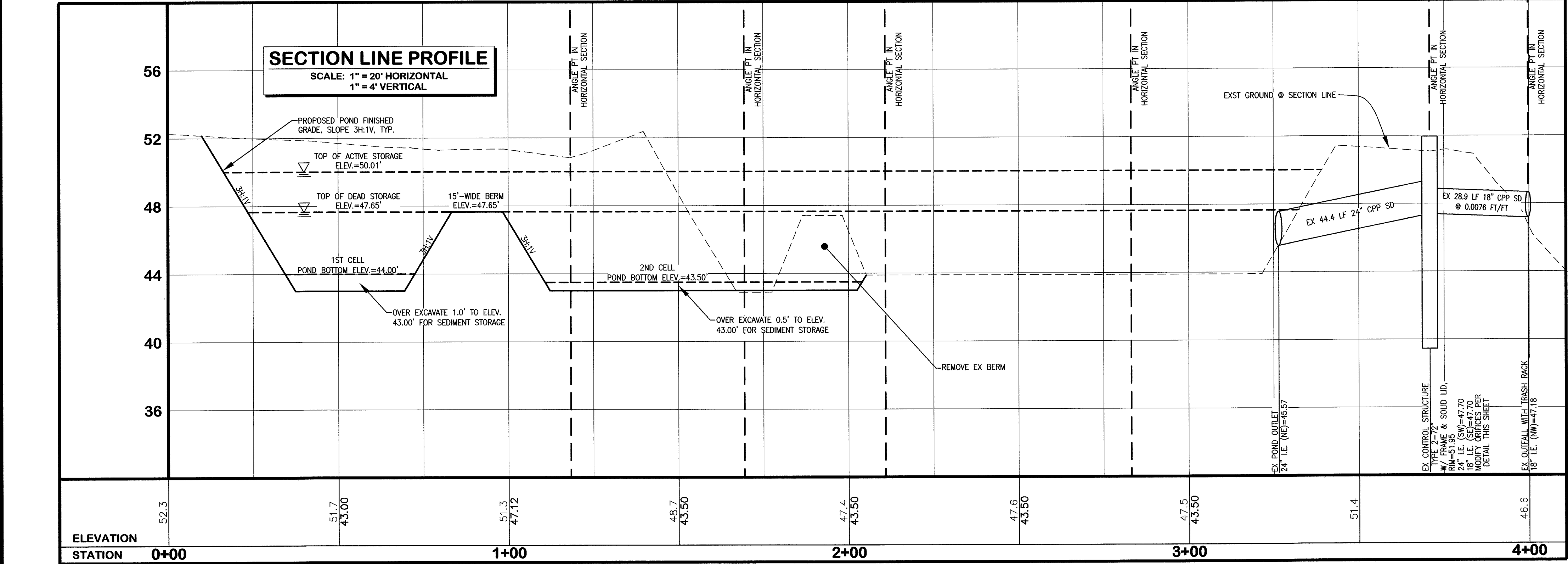
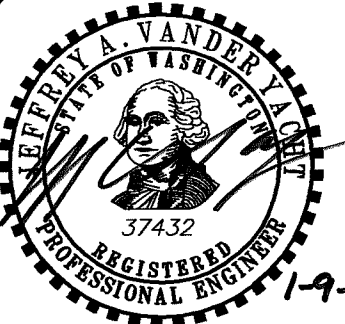
WET POND DEAD STORAGE
BOTTOM CELL 1 ELEV. = 44.00'
(OVER-EXCAVATE 1.0' TO ELEV. 43.00'
FOR SEDIMENT STORAGE)
BOTTOM CELL 2 ELEV. = 44.00'
(OVER-EXCAVATE 0.5' TO ELEV. 43.50'
FOR SEDIMENT STORAGE)
TOP ELEV. = 47.65'
VOLUME CELL 1 = 23,258 CF (34%)
VOLUME CELL 2 = 45,364 CF (66%)
TOTAL = 68,622 CF (100%)

TOTAL DETENTION ACTIVE STORAGE
VOLUME (47.65' to 50.01') = 68,310 CF
BOTTOM ELEV. = 47.65'
TOP ELEV. = 50.01'
EX OVERFLOW SPILLWAY ELEV. = 50.14'
MAX. OVERFLOW ELEV. = 50.46'

AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
"AB" HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

**AS-BUILT
DRAWING**

APPROVED
BY: [Signature]
CITY OF FERDALE



FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	No.	DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA	HORIZ: 1" = 20'					1	02/21/07
STAKING:				DESIGN	BEA	JVY	VERT: 1" = 4'					2	03/21/07
AS-BUILT:				XREF:								3	04/27/07
				DWG: P:\Pse Project\2006187\DWGS\ENG_BASE_AB.dwg								4	01/09/08
SURVEY REFERENCE	VERTICAL DATUM	PLAN CHECK	REVISIONS	ISSUE									

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1-800-424-5555

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BELLINGHAM, WASHINGTON 98226

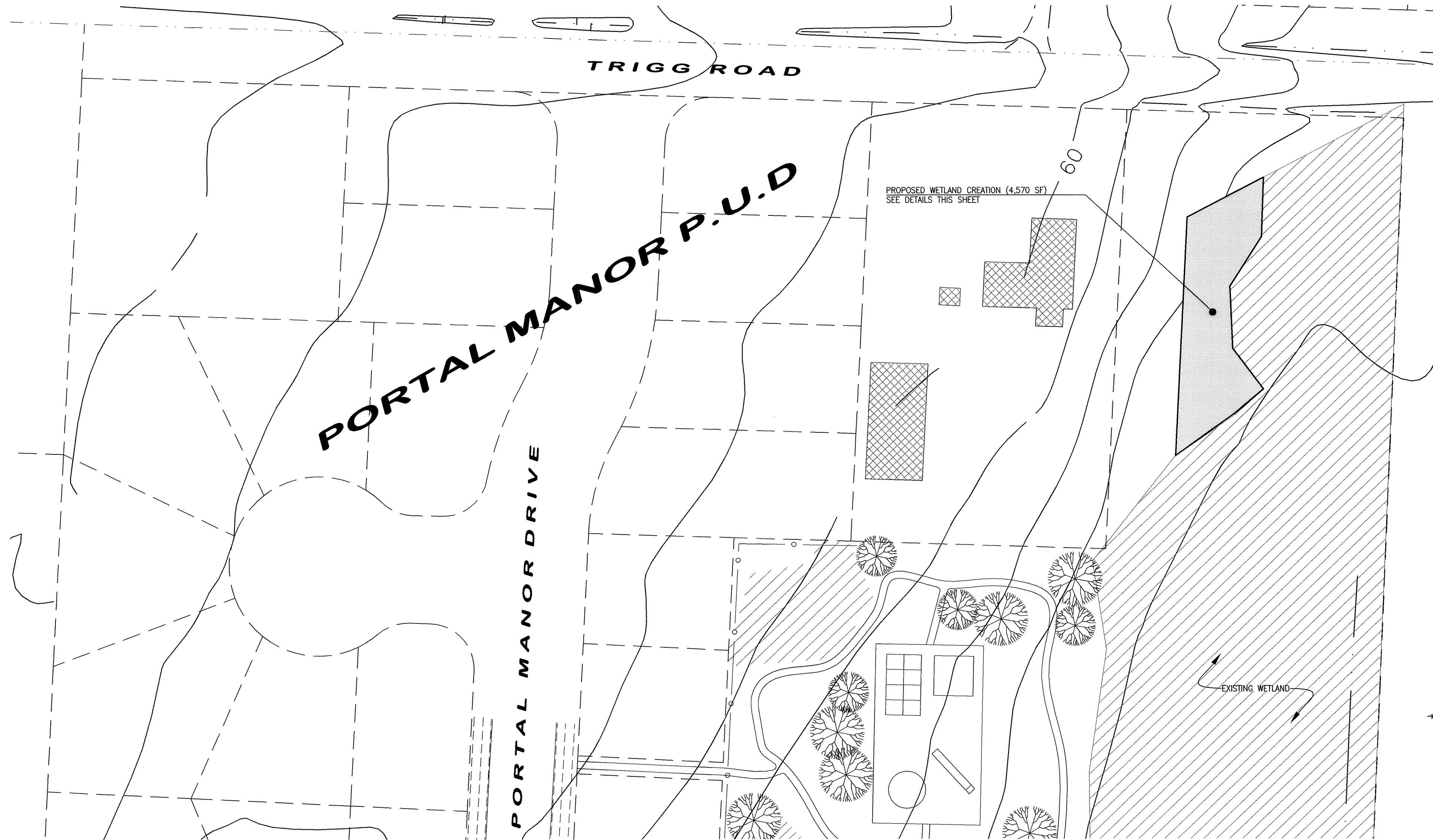
PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
STORMWATER MANAGEMENT
FACILITY DETAILS

JOB #: 2006187

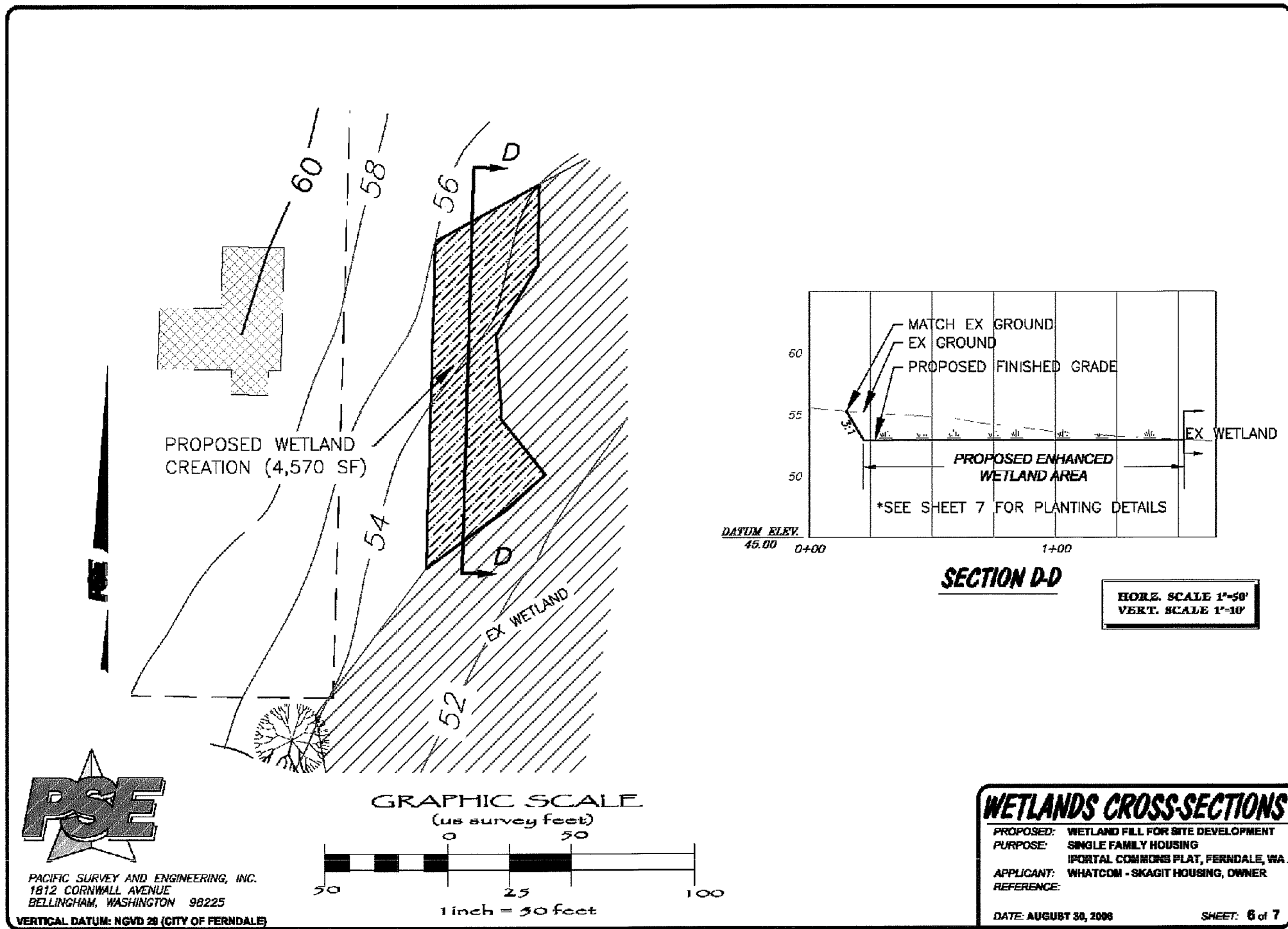
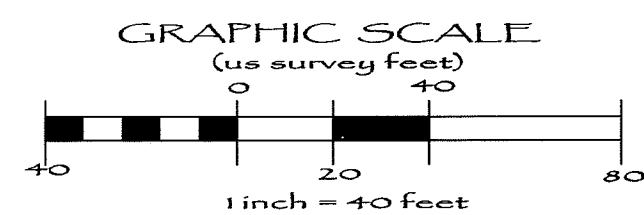
SHEET 13 OF 20



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www.psesurvey.com EMAIL: pse@psurvey.com



SHEET KEY
N.T.S.



CONSTRUCTION NOTES:

- 1) THE CONTOURS USED TO GENERATE THIS GRADING DESIGN ARE TAKEN FROM THE CITY OF FERNDALE AERIAL TOPOGRAPHY AND ARE BASED ON A DIFFERENT DATUM THAN THAT USED FOR THE CIVIL DRAWINGS IN THIS SET OF PLANS. THE INTENT OF THE CROSS-SECTION SHOWN IS TO CREATE A LEVEL GROUND SURFACE THAT WILL RETAIN WATER TO HYDRATE A CREATED WETLAND.
- 2) TOPSOIL SHALL BE STRIPPED FROM WETLAND CREATION AREA, THE SUBGRADE EXCAVATED TO 18 INCHES BELOW FINISHED GRADE, AND 18 INCHES OF TOPSOIL REPLACED TO FINISHED GRADE.
- 3) THE WETLAND BIOLOGIST, JIM WIGGINS OF ATSI, SHALL BE CONTACTED PRIOR TO WETLAND CREATION AREA GRADING. HIS PHONE NUMBER IS (360) 856-2139.
- 4) WETLAND PLANTING IS NOT INCLUDED IN THIS CONTRACT.

AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
'(AB)' HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

**AS-BUILT
DRAWING**

APPROVED

BY: [Signature]
CITY OF FERNDALE

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	No.	DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA	HORIZ: 1" = 40'					1	ISSUED FOR REVIEW 02/21/07
STAKING:				DESIGN	BEA	JVY	VERT: N.A.					2	RESPONSE TO PLAN CHECK 03/21/07
ASBUILT:				XREF:								3	ISSUED FOR APPROVAL 04/27/07
				DWG: P:\Pse Project\2006187\DWGS\WETLAND_MITIGATION_PLAN_AB.dwg								4	AS-BUILT DRAWINGS 01/09/08
SURVEY REFERENCE	VERTICAL DATUM	PLAN CHECK	REVISIONS	ISSUE									

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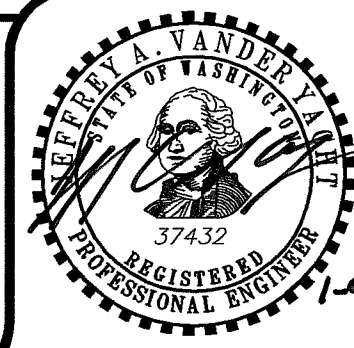
1-800-424-5555

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**PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
OFF-SITE WETLAND
MITIGATION GRADING**

JOB #: 2006187

SHEET 14 OF 20

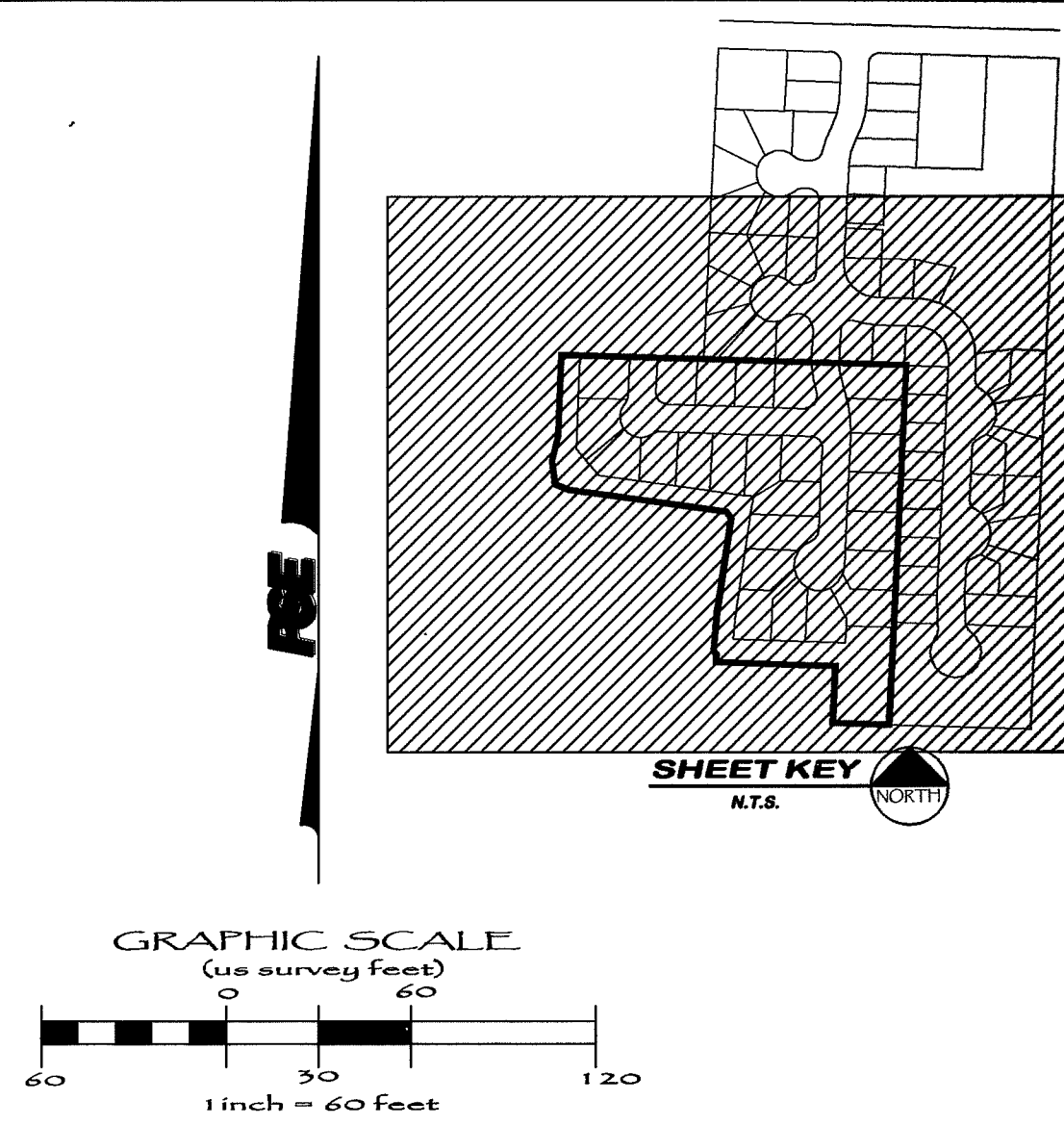


1-9-07

00393.014 7-10-09 DD



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EMAIL: pse@psurvey.com



EROSION CONTROL NOTES

- 1) COVER ALL DIRT/GRAVEL PILES WITH PLASTIC SHEETING DURING CONSTRUCTION WHEN NOT IN USE.
- 2) NATIVE SOILS AREA CLASSIFIED AS "EDMONDS-WOODLYN LOAM" HYDROLOGIC GROUP D & AS "TROMP LOAM" HYDROLOGIC GROUP C PER "SOIL SURVEY OF WHATCOM COUNTY," SCS 1992.
- 3) CONSTRUCTION SCHEDULE- PENDING APPROVAL OF PLANS FROM CITY OF FERNDALE, BEGINNING SPRING 2007.
- 4) INLET PROTECTION SHALL BE PROVIDED FOR ALL NEW DRAINAGE STRUCTURES IN ADDITION TO WHERE INDICATED ON PLANS.
- 5) SEE SHEET 16 FOR ADDITIONAL EROSION CONTROL NOTES & DETAILS.

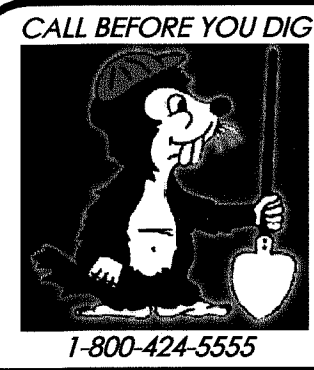
EROSION CONTROL LEGEND

- VEG WSDOE BMP C101 PRESERVING NATURAL VEGETATION
 - CE WSDOE BMP C105 STABILIZED CONSTRUCTION ENTRANCE
 - PS WSDOE BMP C120 TEMPORARY AND PERMANENT SEEDING
 - MU WSDOE BMP C121 MULCHING
 - DC WSDOE BMP C140 DUST CONTROL
 - IP WSDOE BMP C220 STORM DRAIN INLET PROTECTION (SEE NOTE 4)
 - FF WSDOE BMP C233 SILT FENCE (SEE NOTE 5)
- INDICATES CLEARING LIMITS
- DRAINAGE FLOW DIRECTION ARROWS (SHEET FLOW OR SHALLOW CHANNEL FLOW)

AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
"AS-B" HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

**AS-BUILT
DRAWING**

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	No.	DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA	HORIZ: 1" = 60'					1	ISSUED FOR REVIEW 02/21/07
STAKING:				DESIGN	BEA	JYY	VERT: N.A.					2	RESPONSE TO PLAN CHECK 03/21/07
ASBUILT:				XREF:								3	ISSUED FOR APPROVAL 04/27/07
				DWG: P:\Pse Project\2006187\DWGS\ENG_BASE_AB.dwg								4	AS-BUILT DRAWINGS 01/08/09
SURVEY REFERENCE				PLAN CHECK				REVISIONS				ISSUE	

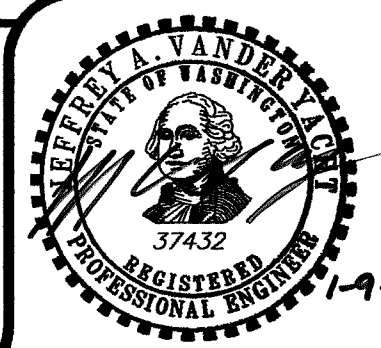


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**PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
TEMPORARY EROSION &
SEDIMENT CONTROL PLAN**

JOB #: 2006187

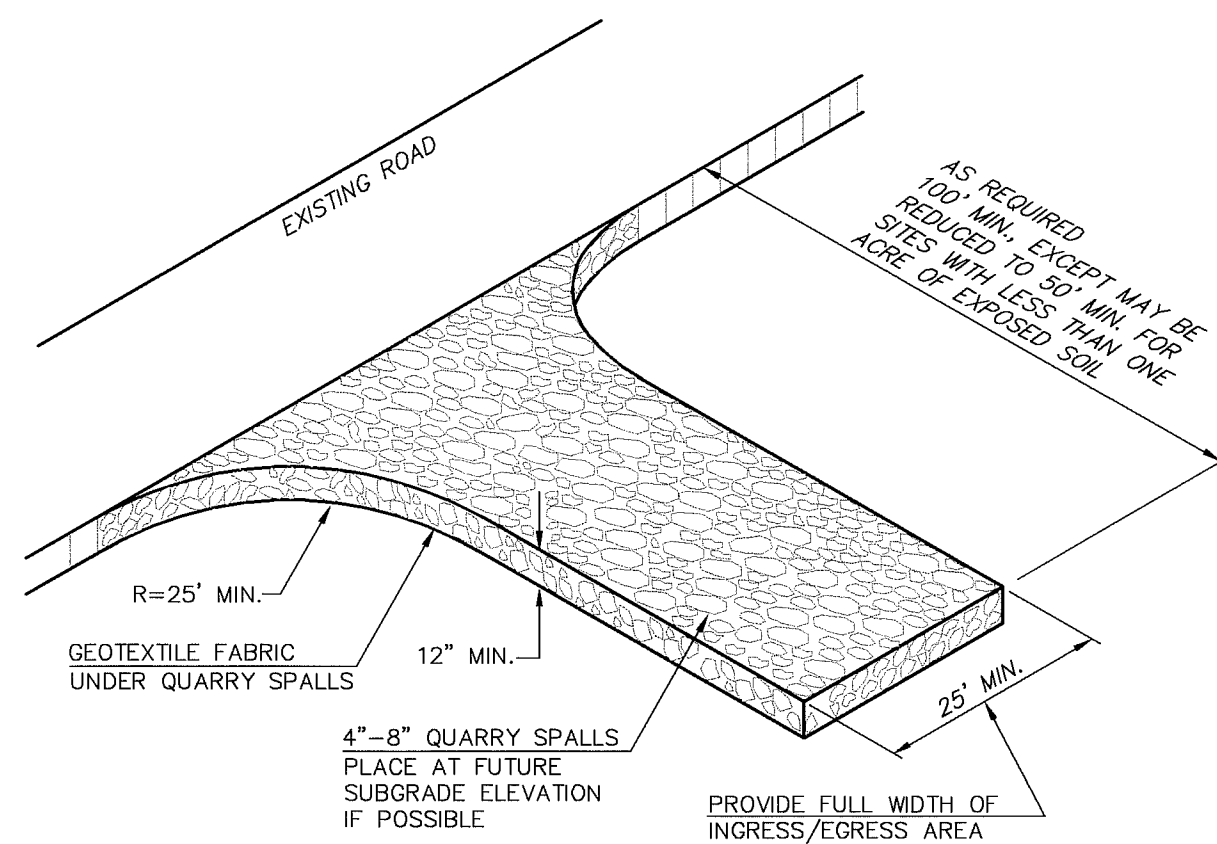
SHEET 15 OF 20



00388.015 7.10.09 DD



EROSION & SEDIMENT CONTROL DETAILS

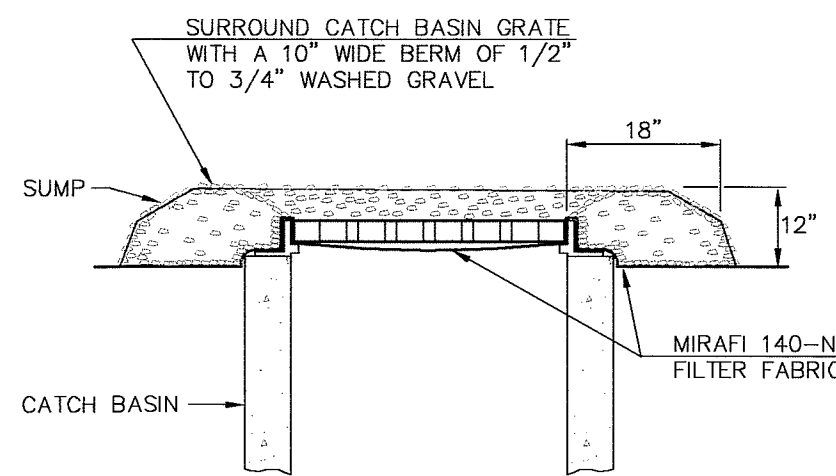


ROCK STABILIZATION CONSTRUCTION ROAD ENTRANCE

MAINTENANCE:

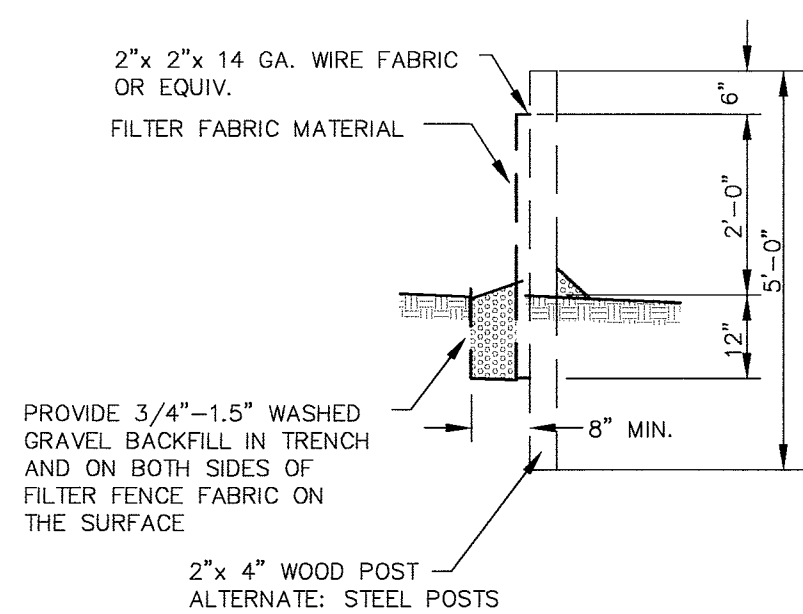
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 4 TO 8-INCH STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

MULCH SPECIFICATIONS			
Mulch Material	Quality Standards	Application Rates	Remarks
Straw	Air-dried; free from undesirable seed and coarse material	2"-3" thick; 2-3 bales per 1000 sq. ft. or 2-3 tons per acre	Cost-effective protection when applied with adequate thickness. Hand-application generally requires greater thickness than blown straw. Straw should be crimped to avoid wind blow. The thickness of straw may be reduced by half when used in conjunction with seeding.
Wood Fiber Cellulose	No growth inhibiting factors	Approx. 25-30 lbs. per 1000 sq. ft. or 1000-1500 lbs per acre	Shall be applied with hydromulcher. Shall not be used without seed and tackifier unless the application rate is at least doubled. Some wood fiber with very long fibers can be effective at lower application rates and without seed or tackifier.
Compost	No visible water or dust during handling. Must be purchased from supplier with Solid Waste Handling Permit.	2" thick min.; approx. 100 tons per acre (approx. 800 lbs per yard)	More effective control can be obtained by increasing thickness to 3". Excellent mulch for protecting final grades until landscaping because it can be directly seeded or tilled into soil as an amendment. Sources for compost are available from the King County Commission for Marketing Recyclable Materials at 296-4439.
Chipped Site Vegetation	Average size shall be several inches.	2" minimum thickness	This is a cost-effective way to dispose of debris from clearing and grubbing and eliminates the problems associated with burning. It should generally not be used on slopes above approx. 10% because of its tendency to be transported by runoff. It is not recommended within 200 feet of surface waters. If seeding is expected shortly after mulch, the decomposition of the chipped vegetation may tie up nutrients important to grass establishment.



INTERIM CATCH BASIN GRATE PROTECTION

NOT TO SCALE



SILT FILTER FENCE DETAIL

NOT TO SCALE

TEMPORARY EROSION/SEDIMENTATION CONTROL

- A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- APPROVAL OF THESE TEMPORARY EROSION/SEDIMENTATION CONTROL (TESC) PLANS DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
- THE IMPLEMENTATION OF THESE TESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THESE TESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
- THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
- THE TESC FACILITIES SHOWN ON THE PLANS MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS.
- THE TESC FACILITIES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE TESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS.
- THE TESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
- ANY AREA STRIPPED OF VEGETATION, INCLUDING ROADWAY EMBANKMENTS, WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 7 DAYS, SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED TESC METHODS (E.G., SEEDING, MULCHING, NETTING, EROSION BLANKETS, ETC.).
- ANY AREA NEEDING TESC MEASURES, NOT REQUIRING IMMEDIATE ATTENTION, SHALL BE ADDRESSED WITHIN FIFTEEN (15) DAYS.
- THE TESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 24 HOURS FOLLOWING A STORM EVENT.
- AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.
- STABILIZED CONSTRUCTION ENTRANCES AND WASH PADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
- DURING THE TIME PERIOD OF OCTOBER 1 THROUGH APRIL 30, ALL PROJECT DISTURBED AREAS GREATER THAN 5,000 SQUARE FEET, THAT ARE TO BE LEFT UNWORKED FOR MORE THAN 12 HOURS, SHALL BE COVERED BY ONE OF THE FOLLOWING COVER MEASURES: MULCH, SODDING OR PLASTIC COVERING.
- ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION OR DISPERSION SYSTEM, THE FACILITY SHALL NOT BE USED AS A TEMPORARY SETTLING BASIN. NO UNDERGROUND DETENTION TANK, DETENTION VAULT, OR SYSTEM WHICH BACKS UNDER OR INTO A POND SHALL BE USED AS A TEMPORARY SETTLING BASIN.
- WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (E.G. ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).
- WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF TWO INCHES.
- ALL EROSION/SEDIMENTATION CONTROL PONDS WITH A DEAD STORAGE DEPTH EXCEEDING 6 INCHES MUST HAVE SLOPES NOT STEEPER THAN 3H:1V.
- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.
- EROSION/SEDIMENTATION CONTROL FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS IN THESE PLANS. LOCATIONS MAY BE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY INSPECTOR.

NPDES NOTES

- THE CONTRACTOR SHALL KEEP A RECORD OF THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR. WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, AND WHEN STABILIZATION MEASURES ARE IMPLEMENTED.
- ALL EROSION CONTROL FACILITIES SHALL BE INSPECTED, MAINTAINED AND REPAIRED BY THE CONTRACTOR AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL ON SITE EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES PER 24 HOUR PERIOD. AN INSPECTION REPORT FILE SHALL BE MAINTAINED BY THE CONTRACTOR.

FILTER FENCE NOTES

- THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-INCH OVERLAP AND BOTH ENDS SECURELY FASTENED TO THE POST.
- THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS (WHERE FEASIBLE). THE FENCE POSTS SHALL BE SPACED AT A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 30 INCHES).
- A TRENCH SHALL BE EXCAVATED, ROUGHLY 8 INCHES WIDE AND 12 INCHES DEEP, UPSLOPE AND ADJACENT TO THE WOOD POST TO ALLOW THE FILTER FABRIC TO BE BURIED.
- WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 1 INCH LONG, THE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 4 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE AND 20 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
- WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF STANDARD NOTE 5 APPLYING.
- THE TRENCH SHALL BE BACKFILLED WITH 3/4-INCH MINIMUM DIAMETER WASHED GRAVEL.
- FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
- FILTER FABRIC FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

SEEDING NOTES

- SEEDBED PREPARATION MAY INCLUDE THE FOLLOWING:
 - IF INFERTILE OR COARSE TEXTURED SUBSOIL WILL BE EXPOSED DURING GRADING, STOCKPILE TOPSOIL AND RE-SPREAD IT OVER THE FINISHED SLOPE AND ROLL IT TO PROVIDE A FIRM BASE.
 - IF CONSTRUCTION FILLS HAVE LEFT SOIL EXPOSED WITH A LOOSE, ROUGH OR IRREGULAR SURFACE, TRACK WALK UP SLOPE.
 - IF CUTS OR CONSTRUCTION EQUIPMENT HAVE LEFT A TIGHTLY COMPACTED SURFACE, BREAK WITH CHISEL PLOW OR OTHER SUITABLE EQUIPMENT.
 - PERFORM ALL CULTURAL OPERATIONS ACROSS OR AT RIGHT ANGLES TO THE SLOPES (CONTOURED). THE SEEDBED SHOULD BE FIRM WITH A FAIRLY FINE SURFACE AFTER ROUGHENING.
- FERTILIZATION - AS PER SUPPLIER'S RECOMMENDATIONS. DEVELOPMENTS ADJACENT TO WATER BODIES MUST USE NON-PHOSPHOROUS FERTILIZER.
- HYDROSEEDING APPLICATIONS WITH APPROVED SEED-MULCH-FERTILIZER MIXTURES MAY ALSO BE USED.
- SEEDING - APPLY APPROPRIATE MIXTURE TO THE PREPARED SEEDBED AT A RATE OF 120 LBS/ACRE. COVER THE SEED WITH TOPSOIL OR MULCH NO DEEPER THAN ONE-HALF INCH.

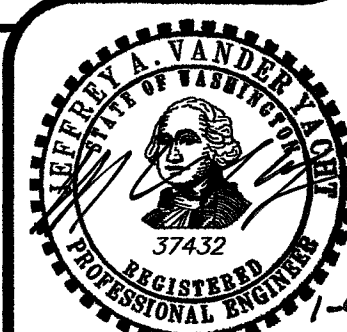
TEMPORARY EROSION CONTROL SEED MIX	PROPORTIONS BY WEIGHT	PERCENT PURITY	PERCENT GERMINATION
CHEWINGS OR RED FESCUE	40%	98	90
ANNUAL OR PERENNIAL RYE	40%	98	90
REDDOP OR COLONIAL BENTGRASS	10%	92	85
WHITE DUTCH CLOVER	10%	98	90

AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
"AB" HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

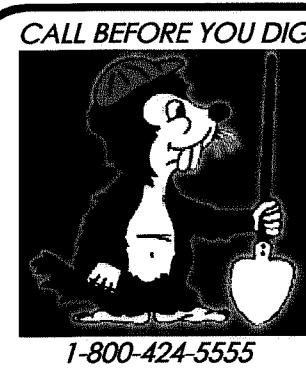
AS-BUILT
DRAWING

APPROVED

BY CITY OF PERNAMBA



FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	No.	DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA	HORIZ: N.A.					1	ISSUED FOR REVIEW 02/21/07
STAKING:				DESIGN	BEA	JVY	VERT: N.A.					2	RESPONSE TO PLAN CHECK 03/21/07
ASBUILT:				XREF:								3	ISSUED FOR APPROVAL 04/27/07
				DWG: P:\Pse Project\2006187\DWGS\COVER_NOTES_DETAILS_AB.dwg								4	AS-BUILT DRAWINGS 01/08/09
SURVEY REFERENCE		VERTICAL DATUM		PLAN CHECK		REVISIONS		ISSUE					



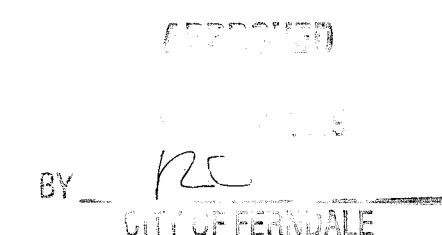
WHATCOM SKAGIT
HOUSING
5373 GUIDE MERIDIAN, BLDG. E #105
BELLINGHAM, WASHINGTON 98226

PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
EROSION & SEDIMENT
CONTROL DETAILS

JOB #: 2006187

SHEET 16 OF 20

00388.018 7.10.09 DD





www.psesurvey.com
EMAIL: pse@psurvey.com

PACIFIC SURVEY & ENGINEERING INC
1812 CORNWALL, BELLINGHAM, WA 98225 PHONE:671.7387 FAX:671.4685

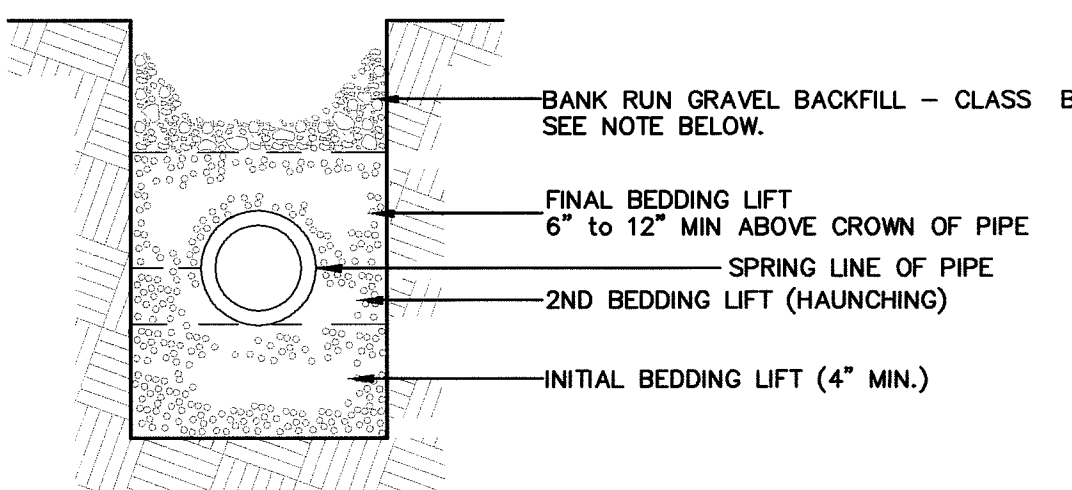
WATER SYSTEM DETAILS

BEDDING SPECIFICATIONS FOR D.I.P. WATERLINE

THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS ARE TO BE USED IN CONJUNCTION WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, CURRENT EDITION:

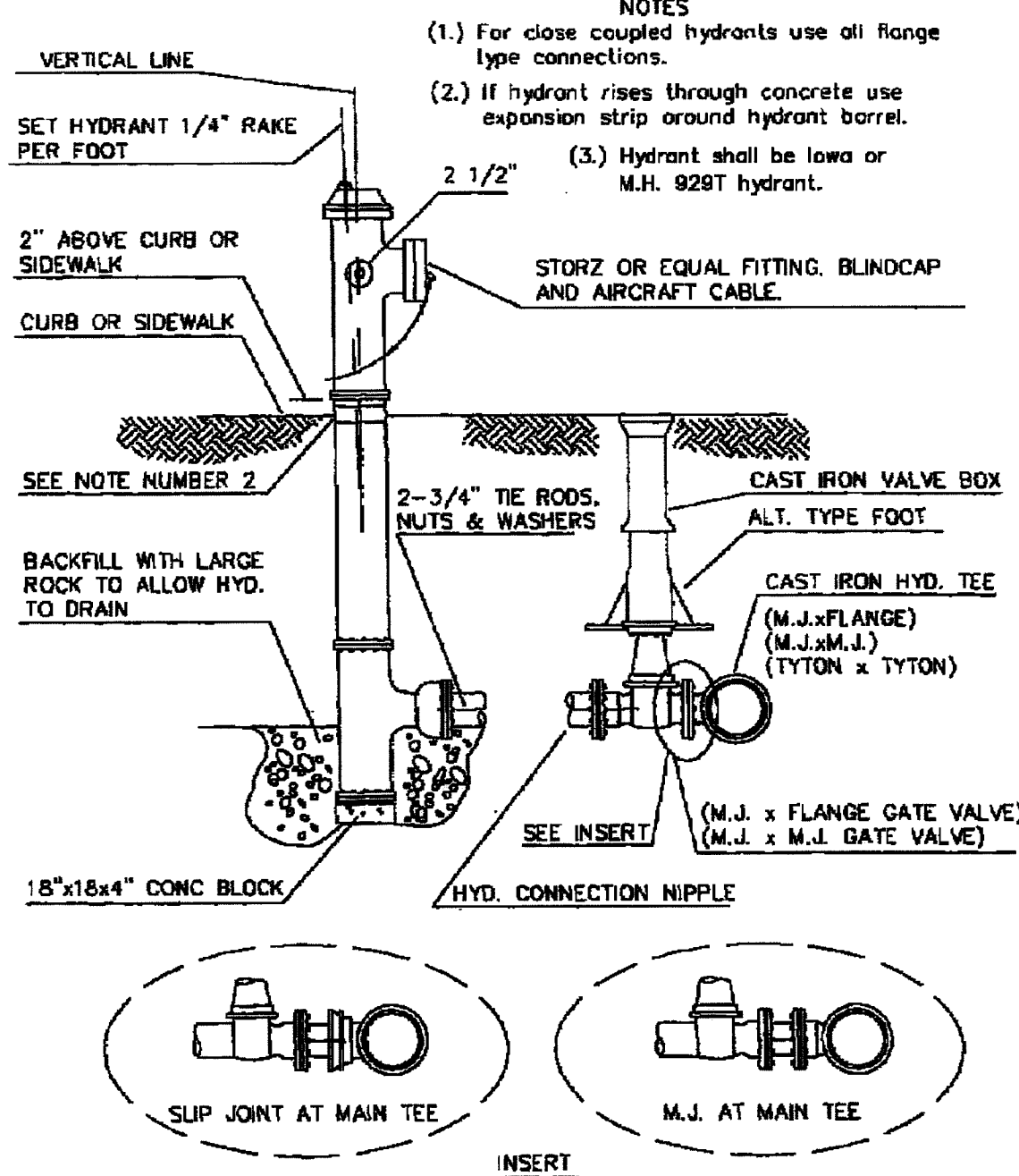
BEDDING FOR DUCTILE IRON PIPE WATERLINE--

BEDDING MATERIAL FOR THE DUCTILE IRON PIPE SHALL BE SELECT GRANULAR MATERIAL FREE FROM WOOD WASTE, ORGANIC MATERIAL, OR OTHER EXTRANEOUS OR OBJECTIONABLE MATERIALS AND SHALL HAVE A MAXIMUM DIMENSION OF 1-1/2 INCHES OR APPROVED PIPE BEDDING PER WSDOT SPECIFICATION SECTION 7-10.3(9). MATERIAL SHALL BE PLACED TO A MINIMUM DEPTH OF 4 INCHES UNDER THE PIPE AND 6 INCHES OVER THE TOP OF THE PIPE. THE BEDDING MATERIAL SHALL BE RAMMED AND TAMPED AROUND THE PIPE TO 95 PERCENT OF MAXIMUM DENSITY BY APPROVED HAND-HELD TOOLS, SO AS TO PROVIDE FIRM AND UNIFORM SUPPORT FOR THE FULL LENGTH OF THE PIPE, VALVES, AND FITTINGS. CARE SHALL BE TAKEN TO PREVENT ANY DAMAGE TO THE PIPE OR ITS PROTECTIVE COATING. PEA GRAVEL AND BUCKSHOT ARE NOT ACCEPTABLE BEDDING MATERIAL.

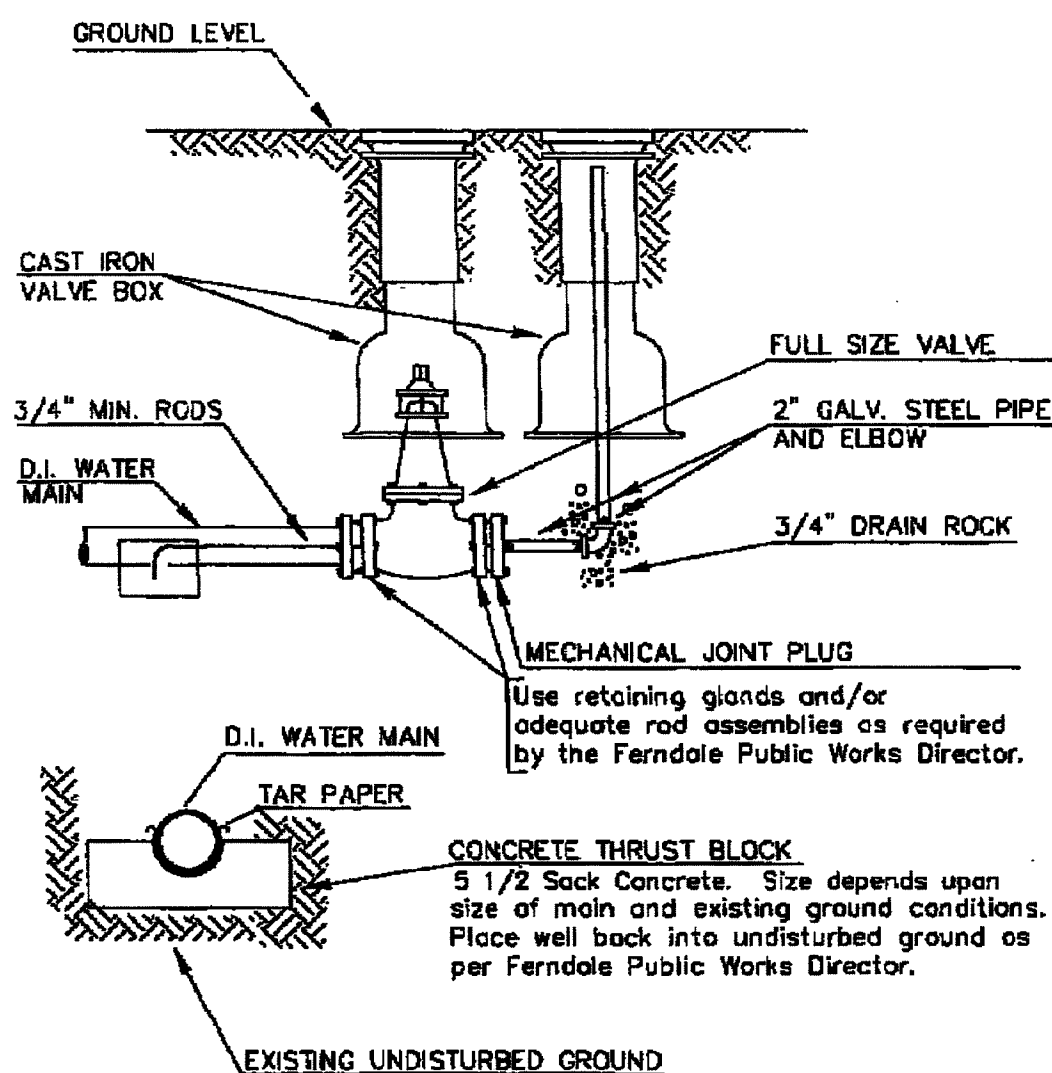
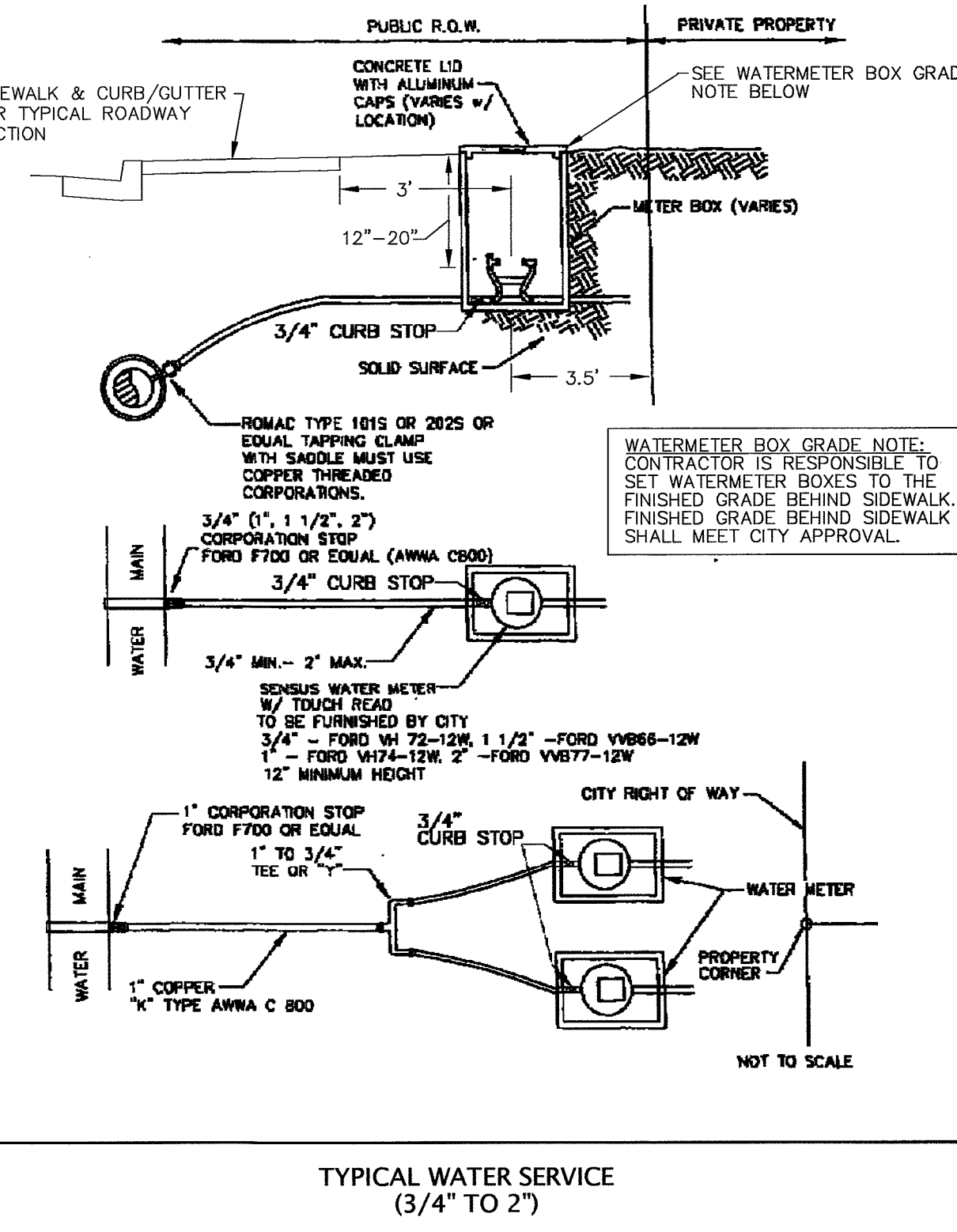


BACKFILL - WHEREVER A TRENCH IS EXCAVATED IN THE EXISTING OR PROPOSED ROADWAY, SIDEWALK OR OTHER AREAS WHERE SETTLEMENT WOULD BE DETRIMENTAL, THE ENTIRE TRENCH SHALL BE BACKFILLED WITH IMPORTED GRAVEL AND COMPACTED TO 95% OF MAXIMUM DENSITY.

DIP WATERLINE BEDDING
DETAIL

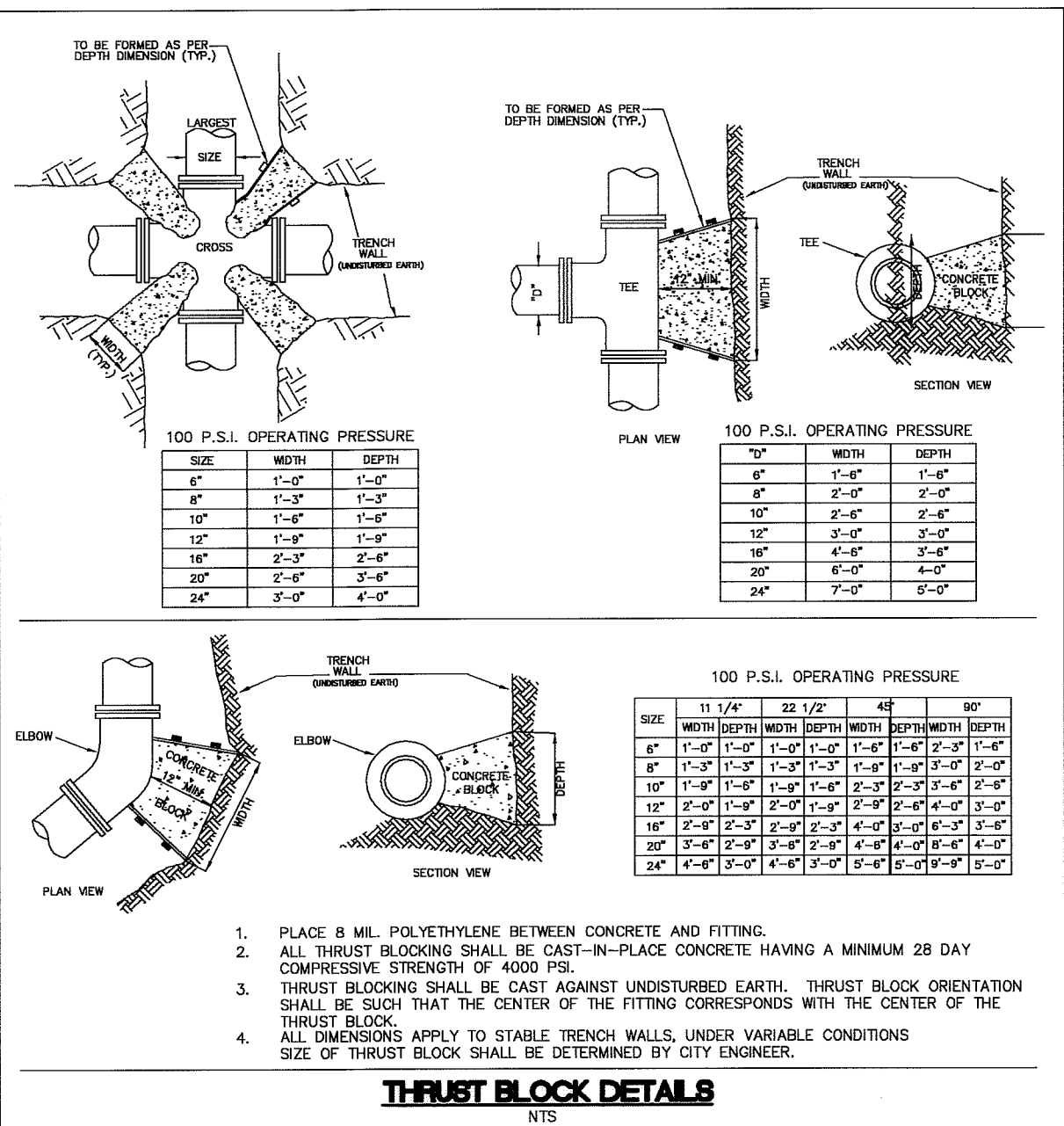


APPROVED: [Signature] DATE: [Blank]
Public Works Director
CITY OF FERNDALE
FIRE HYDRANT ASSEMBLY
DRAWING W-1
JUNE 1995



2" blow-off to be used where the main will be extended in the future. For mains with no further extension, refer to 2" blowoff, non-extendable main.

APPROVED: [Signature] DATE: [Blank]
Public Works Director
CITY OF FERNDALE
2" BLOW-OFF
WATER MAIN EXTENSION
DRAWING W-9
JUNE 1995

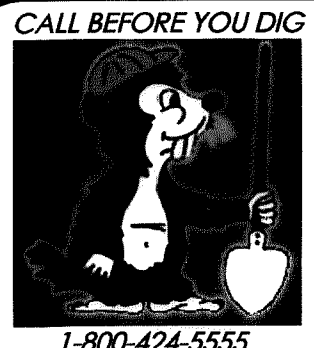


AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
"AS-B" HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

AS-BUILT
DRAWING

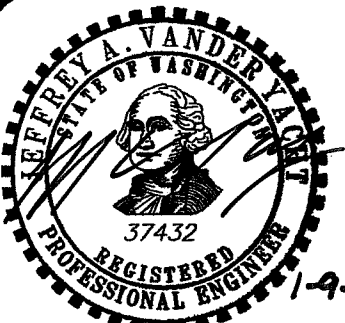
APPROVED: [Signature]
BY: [Signature]
CITY OF FERNDALE

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	No.	DATE	
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA	HORIZ: N.A.					1	ISSUED FOR REVIEW 02/21/07	
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SURVEY REFERENCE		VERTICAL DATUM		PLAN CHECK				REVISIONS				ISSUE		



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PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
WATER SYSTEM DETAILS





www.psesurvey.com
EMAIL: pse@psurvey.com

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1812 CORNWALL, BELLINGHAM, WA 98225 PHONE:671.7387 FAX:671.4685

GENERAL CONSTRUCTION NOTES

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 CONTRACTOR. ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY THAT MAY INTERRUPT NORMAL TRAFFIC FLOW SHALL BE FLAGGED BY 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 THE 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 1 OF THESE PLANS CITY OF FERDALE STANDARD DETAIL (COFSD) R-9 COFSD R-12 & TYP. SECTION ON SHEET 1 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.
- PROJECT SURVEYOR OR THEIR DESIGNEE SHALL SURVEY THE ELEVATION OF THE COMPLETED SUBGRADE ALONG THE ROADWAY CENTERLINE AT 25-FOOT INTERVALS. THE PROJECT SURVEYOR SHALL SUBMIT THE SURVEY DATA TO THE CITY OF FERDALE AND THE ENGINEER FOR REVIEW. ALL SUBGRADE ELEVATIONS SHALL BE AT OR BELOW THE DESIGN SUBGRADE ELEVATION. NO TOLERANCE IS PROVIDED FOR SUBGRADE ABOVE THE DESIGN SUBGRADE ELEVATION. OTHER METHODS OF SUBGRADE CERTIFICATION MAY BE USED IF MUTUALLY AGREED UPON BY THE CITY, CONTRACTOR, AND ENGINEER.
- ROADWAY EXCAVATION WITHIN THE ROADWAY PRISM SHALL BE CUT TO A UNIFORM GRADE. THE COMPLETED SUBGRADE SURFACE SHALL NOT VARY MORE THAN 0.10-FOOT FROM THE LOWER EDGE OF A 15-FOOT STRAIGHTEDGE PLACED ON THE SUBGRADE PARALLEL TO THE CENTERLINE UNLESS APPROVED BY THE ENGINEER.
- 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 PROVIDE A SMOOTH TRANSITION FROM EXISTING TO PROPOSED PAVING. CONTRACTOR SHALL COLD PLANE PER DIMENSIONS SPECIFIED ON THE PLANS, AND INSTALL A MINIMUM 2-FOOT WIDE PETROTAC PAVING FABRIC, OR EQUIVALENT, OVER JOINT BETWEEN PAVING LIFTS.
 - 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**
 - MAILBOX STRUCTURES SHALL BE IN ACCORDANCE WITH DETAIL SHEET 15.
 - FINAL LOCATION AS DETERMINED BY USPS AND APPROVED BY CITY OF FERDALE.
 - MAILBOXES SHALL BE TYPE I, II, AND/OR III - CBU (CENTRAL BOX UNIT), USPS APPROVED.

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 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.
- BACK OF WALK DRAIN SHALL BE 4" SMOOTH WALL PERFORATED PVC PIPE, ASTM D 3034 SDR35, INSTALLED IN CUT SECTIONS PER COFSD ST-15.
- 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.
- EACH DRAINAGE SERVICE STUB SHALL BE CAPPED WITH A WATERTIGHT PLUG. EACH STUB SHALL BE MARKED FOR LOCATION WITH A 2" DIA. WHITE PVC PIPE (MIN. SCHEDULE 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.
- LOT/ROOF DRAIN SERVICES SHALL BE MIN. 4" PVC PIPE, ASTM D 3034 SDR35. 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, TYPE 1L, OR TYPE 2 CATCH BASIN.
- ALL STORM STUB INVERT ELEVATIONS SHALL BE CONSTRUCTED TO FACILITATE POSITIVE FLOW TO CATCH BASIN.

SANITARY SEWER

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

PIPE BEDDING TRENCH BACKFILL SS MANHOLE, TYPE 1--48" SSMH RING & COVER, TYPE 2 SS CLEANOUTS SIDE SEWERS	CITY OF FERDALE STANDARD DETAIL (COFSD) SS-1 COFSD SS-15 & 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 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 5 FEET BEYOND UTILITY CORRIDOR OR 15 FEET BEYOND RIGHT-OF-WAY LINE.
- EACH SIDE SEWER STUB SHALL BE CAPPED WITH A WATERTIGHT PLUG. EACH STUB SHALL BE MARKED FOR LOCATION WITH A 2" DIA. PVC PIPE (MIN. SCHEDULE 40) WITH THE TOP 18" PAINTED GREEN AND STENCILED WITH THE WORD "SEWER" 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:

PIPE BEDDING TRENCH BACKFILL BLOW-OFF ASSEMBLY FIRE HYDRANT ASSEMBLY THRUST BLOCKING WATER SERVICE	SEE DETAIL, SHEET 16 COFSD W-11 & WSDOT STD. SPEC. SEC. 9-03.12 COFSD W-9 & W-10 COFSD W-1 COFSD W-2, W-3 & W-4 COFSD W-6, & DETAIL SHEET 16
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- ALL WATER MAIN 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 7-11.3(1) OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD 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.
- CONNECTIONS TO EXISTING WATER MAINS - 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 SECTION 7-09.3 OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD 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 NON-SHOCK 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.

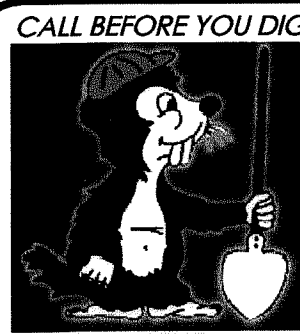
ALL VALVES SHALL HAVE NON-RISING STEMS AND SHALL OPEN COUNTERCLOCKWISE AND SHALL BE EQUIPPED WITH A 2 INCH SQUARE OPERATING NUT. VALVES WILL BE FLANGE OR M.J. JOINTS.

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 SERVICE STUB ENDS SHALL BE MARKED FOR LOCATION WITH A 4" LONG 2" X 4" TIMBER, PAINTED BLUE.
- CONTRACTOR IS RESPONSIBLE TO SET WATERMETER BOXES TO THE FINISHED GRADE BEHIND SIDEWALK. FINISHED GRADE BEHIND SIDEWALK SHALL MEET CITY APPROVAL.
- 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.
 - 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 5-FOOT WORKING AREA OF EACH REQUIRED ACCESS. CRASH POSTS SHALL BE 4" CEMENT-FILLED PIPE 6 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 200 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.

AS-BUILT NOTE:
ONLY INFORMATION NOTED AS
"(AB)" HAS BEEN FIELD SURVEYED
OR MEASURED DURING CONSTRUCTION.

AS-BUILT DRAWING

APPROVED
BY
CITY OF FERDALE



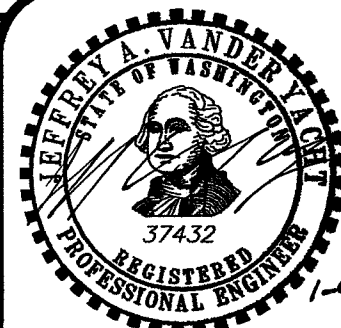
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BELLINGHAM, WASHINGTON 98226

PORTAL COMMONS
ROADWAY & UTILITY IMPROVEMENT PLANS
**GENERAL CONSTRUCTION
NOTES**

JOB #: 2006187

SHEET 20 OF 20



1-9-09

06388.020 7-10-09 DD

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.	DATA	DRAWN BY	CHECKED BY	SCALE	REV	DATE	DESCRIPTION	BY	No.	DATE
DESIGN: SEE SURVEY NOTES, SHEET 1				BASE	BEA	BEA	HORIZ: N.A.					1	ISSUED FOR REVIEW 02/21/07
STAKING:				DESIGN	BEA	JVY	VERT: N.A.					2	RESPONSE TO PLAN CHECK 03/21/07
ASBUILT:				XREF:								3	ISSUED FOR APPROVAL 04/21/07
				DWG: P:\Pse Project\2006187\DWGS\COVER_NOTES_DETAILS_AB.dwg								4	AS-BUILT DRAWINGS 01/08/08
SURVEY REFERENCE	VERTICAL DATUM		PLAN CHECK		REVISIONS		ISSUE						