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

ROSEBERRY HEIGHTS

CITY OF FERNDALE, WASHINGTON

SITUATE IN A PORTION OF THE SW 1/4 OF SECTION 18, TOWNSHIP 39 NORTH,
RANGE 2 EAST, W.M., CITY OF FERNDALE, WHATCOM COUNTY, WASHINGTON

ROADWAY & UTILITY IMPROVEMENT PLANS

CITY OF FERNDALE PROJECT # LP 2006-05

00357.001 1.25.08

SURVEY NOTES

1) DATA FOR THIS SURVEY WAS GATHERED BY FIELD TRAVERSE UTILIZING ELECTRONIC DATA COLLECTION IN 1991.
2) EQUIPMENT USED: THEOMAT 00'01.5"
EDM: ± 2 PPM, ± 3 MM
3) HORIZONTAL DATUM: NAD 83/91 (CITY OF FERNDALE)
BASIS OF BEARINGS: CITY CONTROL PT. #310 TO #311 PER CITY OF FERNDALE CONTROL NETWORK
BEARING: NORTH 61°41'13" EAST, 955.79 FEET.
4) VERTICAL DATUM: NGVD 29 (CITY OF FERNDALE).
BENCH MARK: CITY OF FERNDALE CONTROL PT. #311 – BRASS DISC IN CONCRETE – NICHOLAS DRIVE (AS SHOWN HEREON)
ELEV.=219.84'
5) CONTOUR INTERVALS ARE TWO-FEET AND ARE SHOWN PER TOPOGRAPHIC FIELD SURVEY PERFORMED BY CHRISTIE AND CHRISTIE IN JANUARY AND MAY OF 2006.
6) PACIFIC SURVEYING AND ENGINEERING INC., ASSUMES NO LIABILITY FOR ANY SUBSURFACE CONDITIONS OR FEATURES THAT MAY EXIST THAT ARE UNDETECTABLE AND/OR NOT VISIBLE.
7) BOUNDARY INFORMATION SHOWN HEREON IS PER ROSEBERRY HEIGHTS LOT LINE ADJUSTMENT, AS RECORDED UNDER A.F. No. 2060604872.

ROAD INTERSECTION EQUATIONS

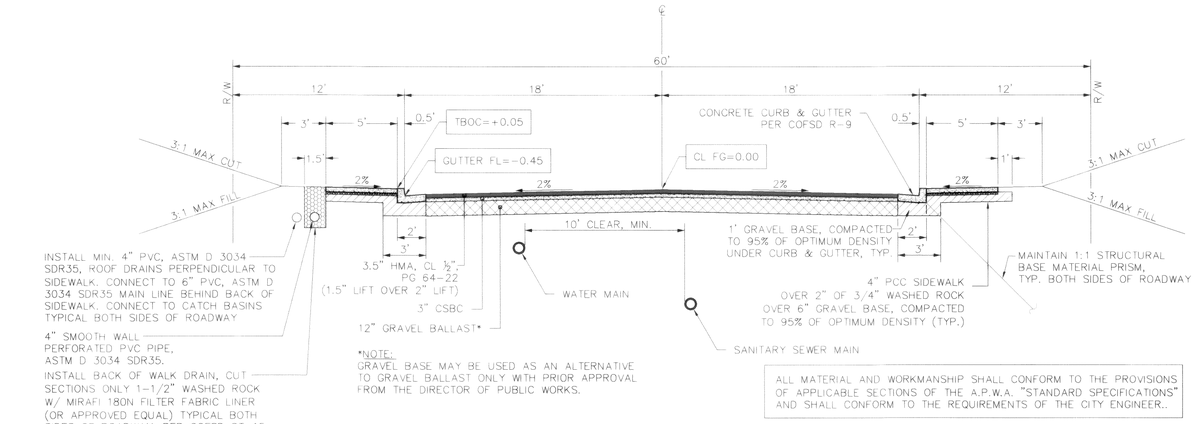
STA 11+31.08 NICHOLAS DRIVE = STA 25+23.19 GORDON DRIVE
STA 22+22.36 GORDON DRIVE = STA 30+00.00 GORDON COURT

ABBREVIATIONS

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

STREET NAME ABBREVIATIONS:

NICH/ND	NICHOLAS DRIVE
GORD/GD	GORDON DRIVE
GORD/GC	GORDON COURT



*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

PROPOSED FEATURE SYMBOL LEGEND

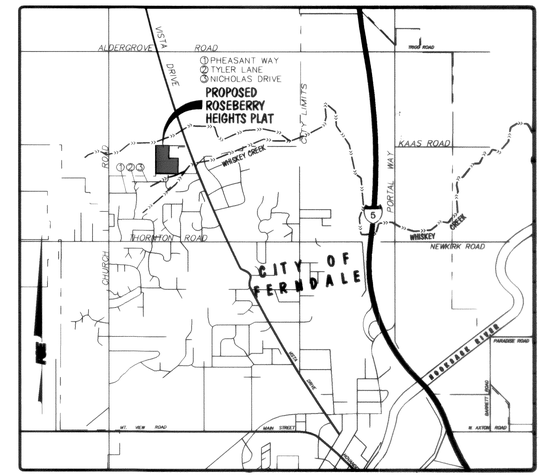
- = PROPOSED SURVEY MONUMENT
- = PROPOSED STORM DRAIN CATCH BASIN, TYPE 2
- = PROPOSED STORM DRAIN CATCH BASIN, TYPE 1
- = PROPOSED STORM DRAIN CLEANOUT
- = PROPOSED STORM DRAIN INLET/OUTLET
- = PROPOSED SANITARY SEWER MANHOLE
- SSCO = PROPOSED SANITARY SEWER CLEANOUT
- = PROPOSED DOUBLE WATER SERVICE
- = PROPOSED SINGLE WATER SERVICE
- = PROPOSED GATE VALVE
- = PROPOSED WATER BLOW-OFF ASSEMBLY
- = PROPOSED REDUCER
- = PROPOSED FIRE HYDRANT
- = PROPOSED STREETLIGHT
- = PROPOSED STREET SIGN
- = PROPOSED TYPE 3 BARRICADE
- = PROPOSED SINGLE SANITARY SEWER SERVICE
- = PROPOSED DRIVEWAY
- = PROPOSED TEE, MJ x FL
- = PROPOSED 45° BEND, MJ
- = PROPOSED 22.5° BEND, MJ
- = PROPOSED 22.5° BEND, FL
- = PROPOSED 11.25° BEND, FL
- = PROPOSED FL x MJ ADAPTER

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
- SD = PROPOSED STORM DRAIN LINE
- SS = PROPOSED SANITARY SEWER LINE
- W = PROPOSED WATER LINE
- = PROPOSED BACK OF WALK DRAIN
- = PROPOSED EDGE OF GRAVEL
- = PROPOSED CUT/FILL SLOPES

VICINITY MAP

NOT TO SCALE



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19 WATER SYSTEM DETAILS
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AS BUILT CERTIFICATION
I hereby certify that the improvements in Roseberry Heights have been inspected by Pacific Survey and Engineering, Inc. and constructed in conformance with the plans approved by the Public Works Director for said development and the general specifications adopted by the City of Ferndale Department of Public Works.

JEFFREY A. VANDER YACHT, P.E.

JEFFREY A. VANDER YACHT — STATE OF WASHINGTON — 37432 — REGISTERED PROFESSIONAL ENGINEER — 12-20-07

EXPIRES: 10/10/07

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

AS-BUILT DRAWING

APPROVED
JAN 17 2008
CITY OF FERNDALE

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE		VERTICAL DATUM	

DATA	DRAWN BY	CHECKED BY	SCALE
BASE	AM	MB	HORIZ: N.A.
DESIGN	MB	JVY	VERT: N.A.
XREF:			
DWG: COVER_NOTES_DETAILS_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
REVISIONS			

No.		DATE
2	REVISED PER COF COMMENTS	08/28/06
3	REVISED PER COF COMMENTS	09/28/06
4	AS-BUILT DRAWINGS	10/12/07
5	AS-BUILT DRAWINGS	12/17/07
ISSUE		

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1-800-424-5555

CROWN POINT DEVELOPMENT, INC.
6540 NORTH STAR ROAD
FERNDALE, WA 98248

ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
COVER SHEET

JOB #: 2005198

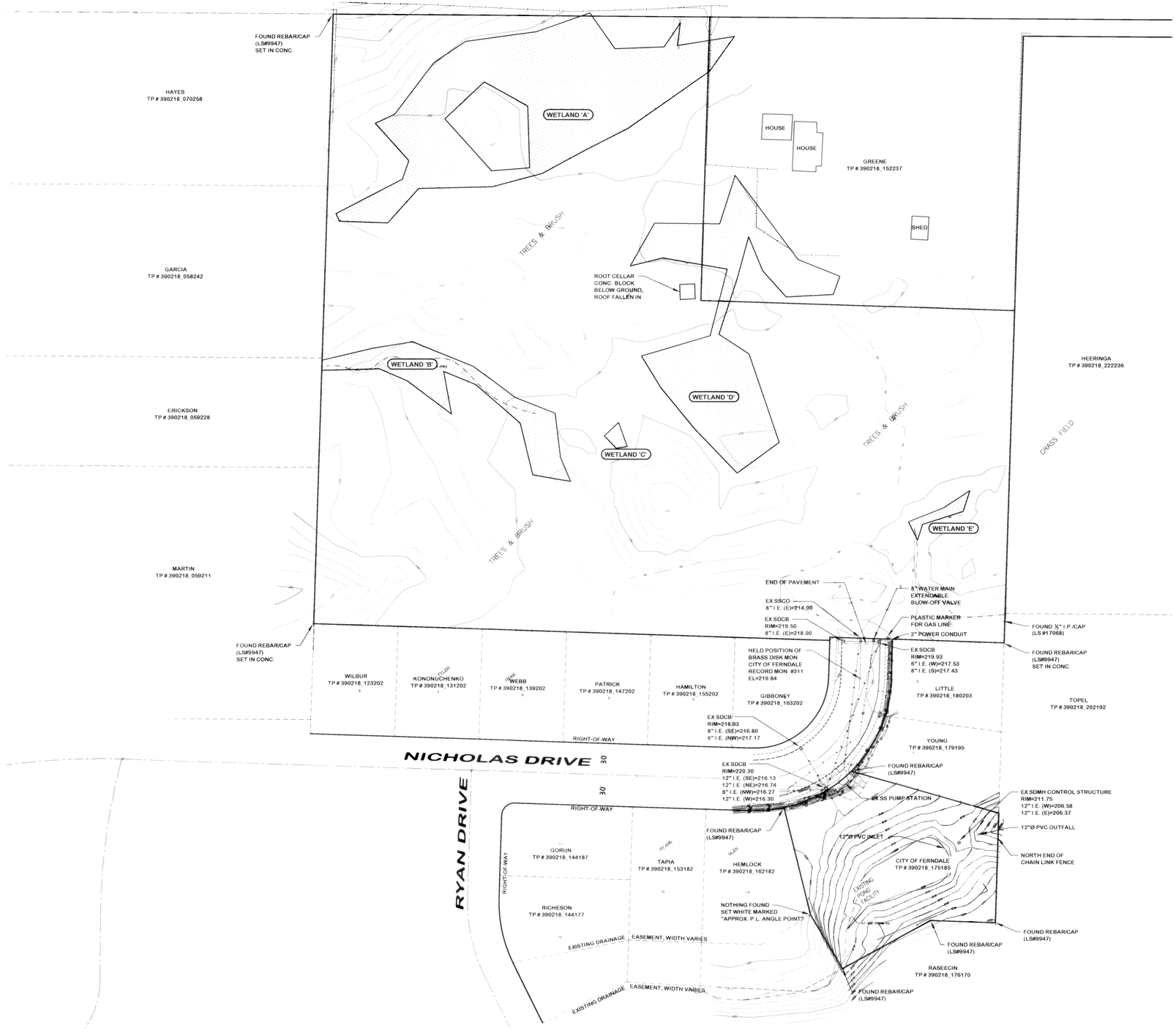
SHEET 1 OF 20

JEFFREY A. VANDER YACHT — STATE OF WASHINGTON — 37432 — REGISTERED PROFESSIONAL ENGINEER — 12-20-07

EXPIRES: 10/10/07

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

00857.002 1"=25' 08 KC



GRAPHIC SCALE
(us survey feet)
0 50
50 25 100
1 inch = 50 feet

APPROVED
JAN 17 2008
CITY OF FERNDALE

AS-BUILT NOTE:
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AS-BUILT DRAWING

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

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DESIGN	MB	JVY	VERT: N.A.
XREF:			
DWG: ENG\BASE\AB\005198\DWGS\ENG_BASE_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
1	10/25/06	NEW SD @ CONNECTION TO NICHOLAS DRIVE	MB
2	1/30/07	WATER MAIN RELOCATION ALONG NICHOLAS DRIVE	MB
3	4/2/07	SD/SS CROSSING IN EXISTING NICHOLAS DRIVE	JVY
REVISIONS			

No.		DATE
2	REVISED PER COF COMMENTS	08/28/06
3	REVISED PER COF COMMENTS	09/28/06
4	AS-BUILT DRAWINGS	10/10/07
5	AS-BUILT DRAWINGS	12/17/07
ISSUE		

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CROWN POINT DEVELOPMENT, INC.
6540 NORTH STAR ROAD
FERNDALE, WA 98248

ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS

EXISTING CONDITIONS MAP

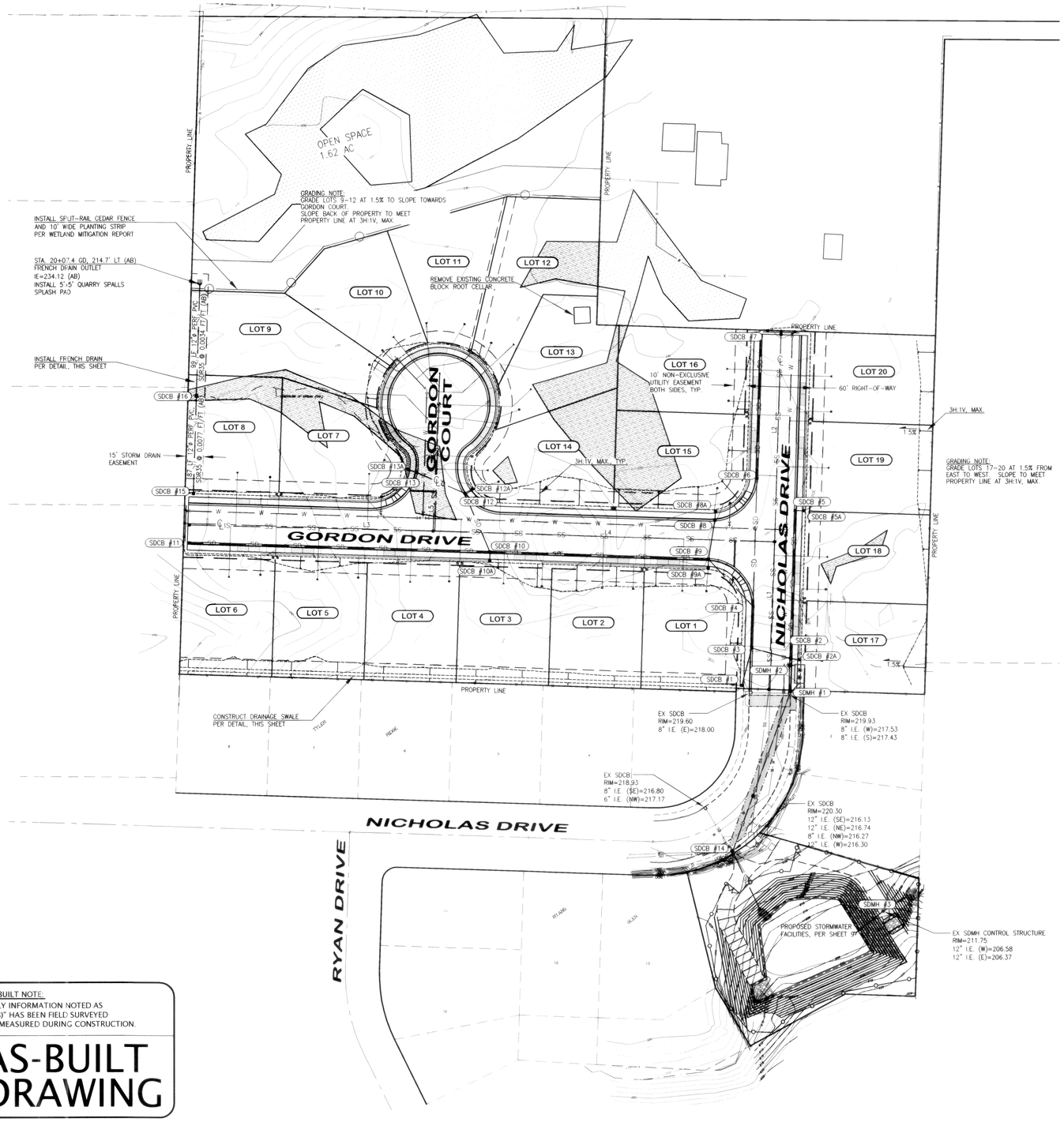
JOB #: 2005198

SHEET 2 OF 20

STATE OF WASHINGTON
KENNETH A. VANDERHAM
37432
REGISTERED PROFESSIONAL ENGINEER
12-20-07

EXPIRES: 10/10/08

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



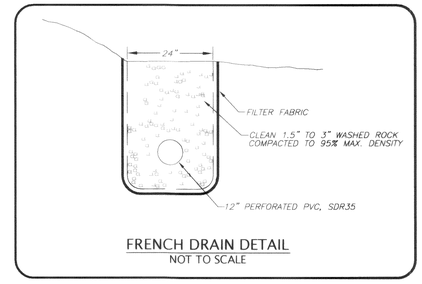
GRAPHIC SCALE
(us survey feet)
0 30
30 25 100
1 inch = 30 feet

LINE TABLE ~ ROADWAY CENTERLINE			
LINE	LENGTH	BEARING	DESCRIPTION
L1	131.08'	N01°47'42"E	NICHOLAS DR
L2	187.72'	N01°47'42"E	NICHOLAS DR
L3	222.36'	S88°12'18"E	GORDON DR
L4	300.84'	S88°12'18"E	GORDON DR
L5	112.84'	S01°47'42"E	GORDON CT

STORM DRAINAGE NOTES

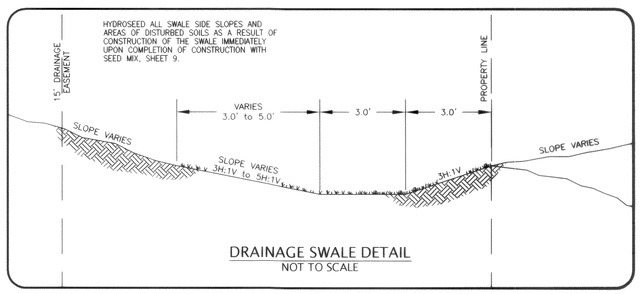
SDCB #15
20+07.50, 26.50' LT @ CTR SDCB (AB)
TYPE 1 W/ STD FRAME & SOLID COVER
RIM=237.54 (AB)
12" I.E. (N)=235.29 (AB)

SDCB #16
20+07.50, 113.63' LT @ CTR SDCB (AB)
TYPE 1 W/ STD FRAME & SOLID COVER
RIM=236.19 (AB)
12" I.E. (S)=234.62 (AB)
12" I.E. (N)=234.46 (AB)



FRENCH DRAIN DETAIL
NOT TO SCALE

APPROVED
JAN 17 2008
BY
CITY OF FERNDALE



DRAINAGE SWALE DETAIL
NOT TO SCALE

AS-BUILT NOTE:
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AS-BUILT DRAWING

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

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BASE	AM	MB	HORIZ: 1" = 50'
DESIGN	MB	JVY	VERT: N.A.
XREF:			
DWG: ENG_BASE_AB\2005198\DWGS\ENG_BASE_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
1	10/25/06	NEW SD @ CONNECTION TO NICHOLAS DRIVE	MB
2	1/30/07	WATER MAIN RELOCATION ALONG NICHOLAS DRIVE	MB
3	4/2/07	SD/SS CROSSING IN EXISTING NICHOLAS DRIVE	JVY
REVISIONS			

No.		DATE
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4	AS-BUILT DRAWINGS	10/10/07
5	AS-BUILT DRAWINGS	12/17/07
ISSUE		

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CROWN POINT DEVELOPMENT, INC.
6540 NORTH STAR ROAD
FERNDALE, WA 98248

ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS

PROJECT OVERVIEWIEW MAP

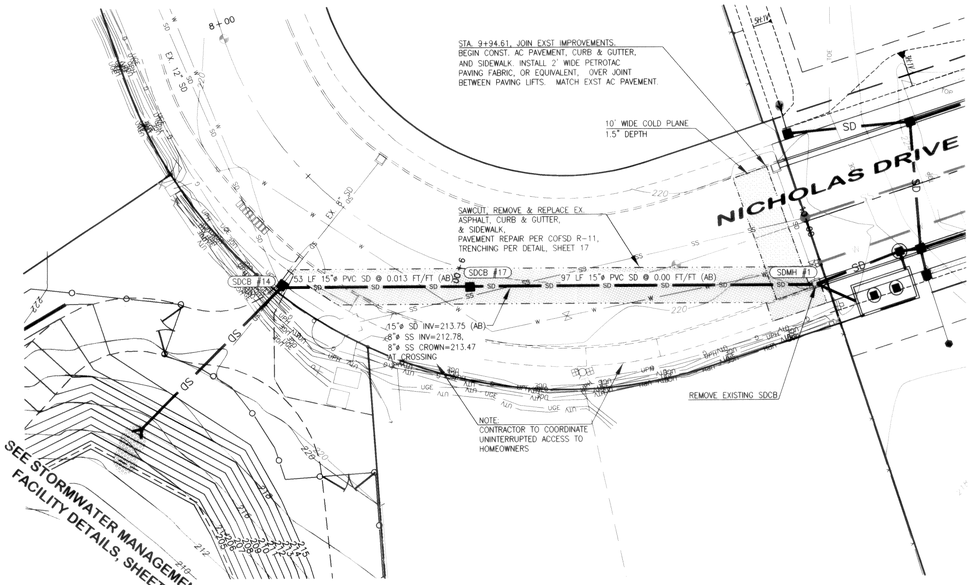
JOB #: 2005198

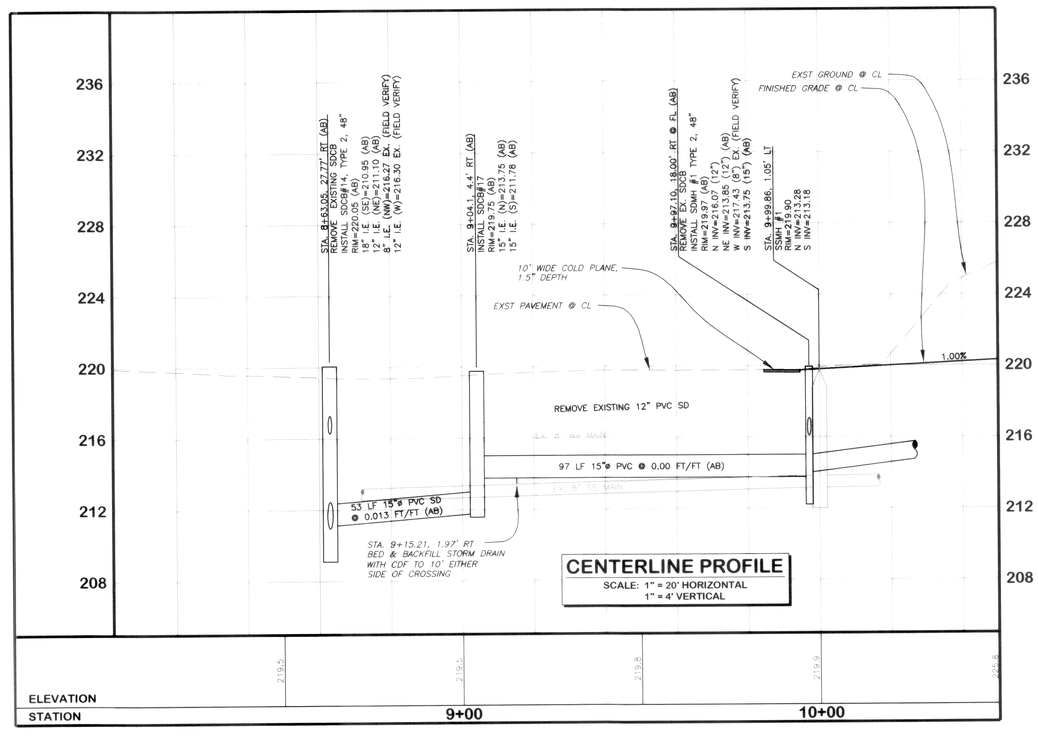
SHEET 3 OF 20

REGISTERED PROFESSIONAL ENGINEER
RICHARD A. VANDERHAM
STATE OF WASHINGTON
37432
12-20-07
EXPIRES: 10/10/08

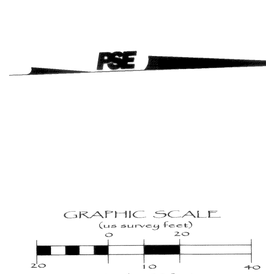
c:\857.003 1.25.08

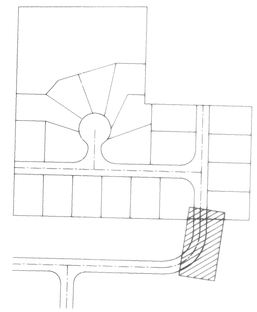
PACIFIC SURVEY & ENGINEERING INC
1812 CORNWALL, BELLINGHAM, WA 98225 PHONE:671.7387 FAX:671.4685
EMAIL: pse@psesurvey.com www.psesurvey.com





CENTERLINE PROFILE
SCALE: 1" = 20' HORIZONTAL
1" = 4' VERTICAL





STORM DRAINAGE NOTES

SDMH #1
9+97.10, 18.0' RT @ FL (AB)
TYPE 2, 48" W/ THRU CURB F&G
TFC=220.56
RIM=219.97 (AB)
12" I.E. (N)=216.07
12" I.E. (NE)=213.85 (AB)
8" I.E. (W)=217.43 EX (FIELD VERIFY)
15" I.E. (S)=213.75 (AB)

SDCB #14
8+63.05, 27.77' RT @ CTR SDCB (AB)
REMOVE EXISTING SDCB
INSTALL TYPE 2, 48" W/ STD FRAME & GRATE
RIM=220.05 (AB)
18" I.E. (SE)=210.95 (AB)
15" I.E. (NE)=211.10 (AB)
8" I.E. (NW)=216.27 EX (FIELD VERIFY)
12" I.E. (W)=216.30 EX (FIELD VERIFY)

SDCB #17
STA 9+04.1, 4.4' RT (AB)
INSTALL SDCB #17
RIM=219.75 (AB)
15" I.E. (N)=213.75 (AB)
15" I.E. (S)=211.78 (AB)

APPROVED
JAN 17 2008
BY
CITY OF FERNDALE

AS-BUILT NOTE:
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AS-BUILT DRAWING

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

DATA	DRAWN BY	CHECKED BY	SCALE
BASE	AM	MB	H: 1"=20'
DESIGN	MB	JVY	V: 1"=4'
XREF:			
DWG: ENG_BASE_AB.dwg			
PLAN CHECK			

REV.	DATE	DESCRIPTION	BY
1	10/25/06	NEW SD @ CONNECTION TO NICHOLAS DRIVE	MB
2	1/30/07	WATER MAIN RELOCATION ALONG NICHOLAS DRIVE	MB
3	4/2/07	SD/SS CROSSING IN EXISTING NICHOLAS DRIVE	JVY
REVISIONS			

No.		DATE
2	REVISED PER COF COMMENTS	08/28/06
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4	AS-BUILT DRAWINGS	10/10/07
5	AS-BUILT DRAWINGS	12/17/07
ISSUE		

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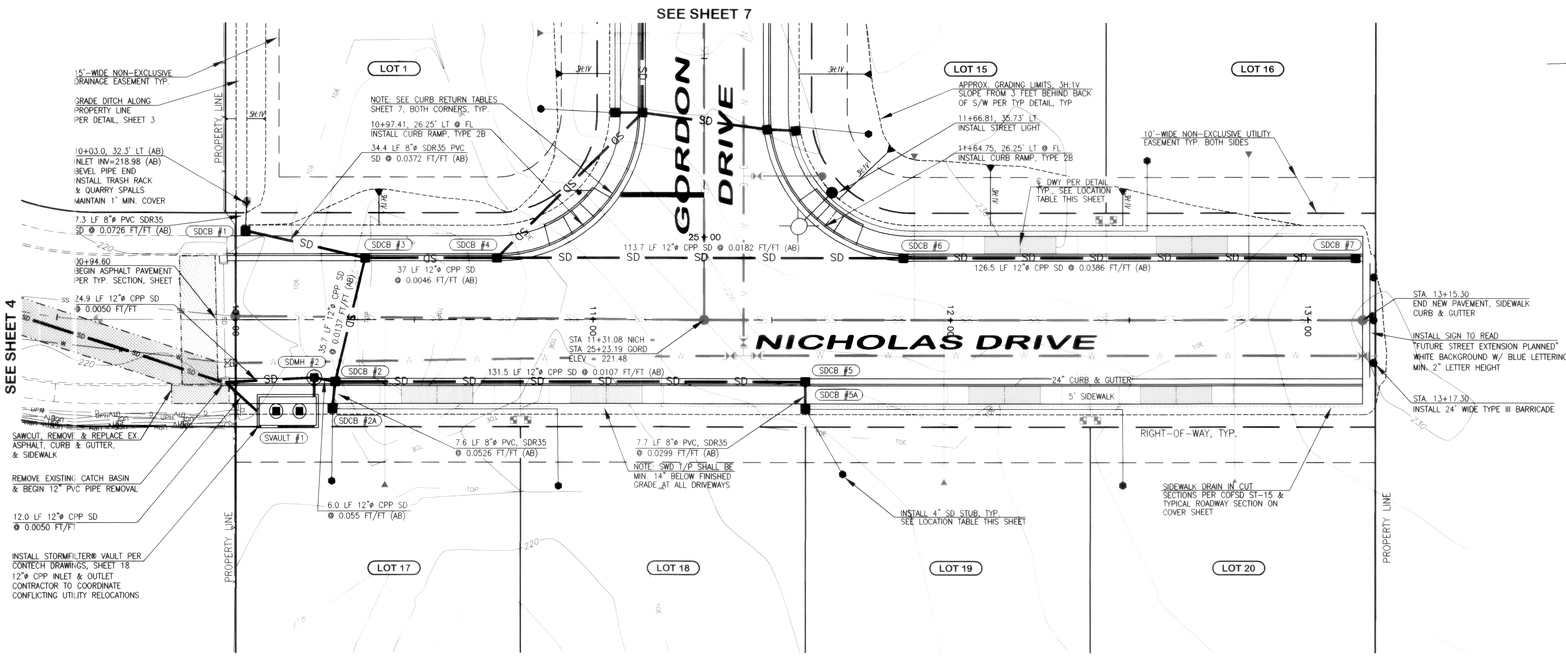
6540 NORTH STAR ROAD
FERNDALE, WA 98248

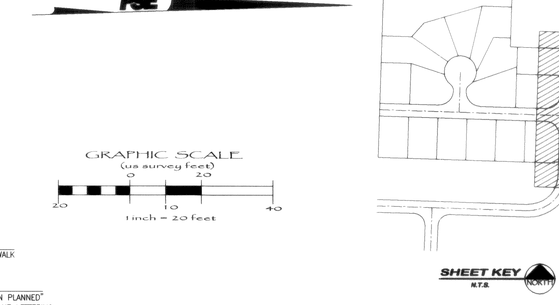
ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
NICHOLAS DRIVE ~
STATIONS 8+15 to 10+00
ROADWAY & STORM DRAINAGE IMPROVEMENTS
JOB #: 2005198
SHEET 4 OF 20

REGISTERED PROFESSIONAL ENGINEER
JEFFREY A. VANDERHOEK
374.32
12-20-07
EXPIRES: 10/10/08

C0357.004 1.25.08 KB

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



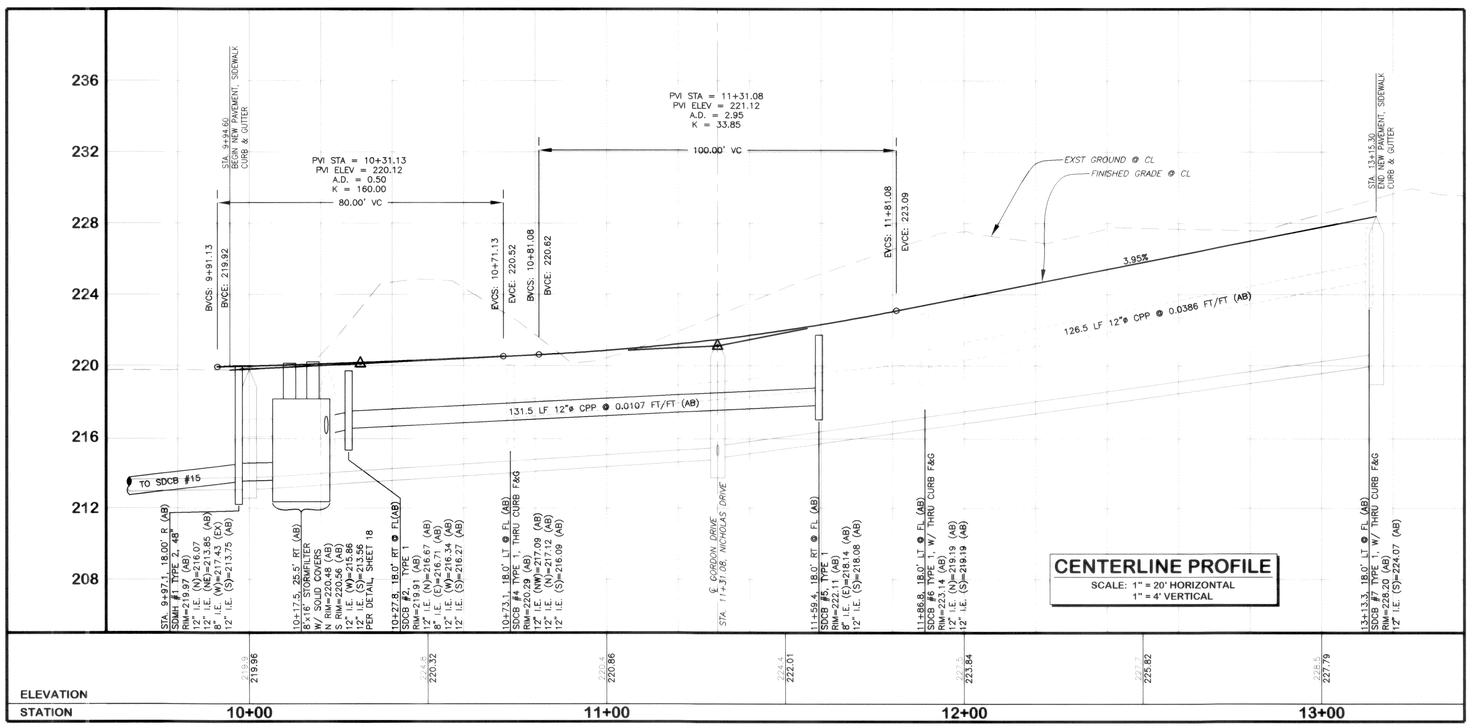


STORM STUB LOCATION TABLE

LOT No.	STREET	STA & OFFSET @ STUB	STUB I.E.	
16	NICHOLAS DR	12+54.9 44.8 LT(AB)	224.42	(AB)
17	NICHOLAS DR	10+26.8 45.2 RT(AB)	217.28	(AB)
18	NICHOLAS DR	10+90.2 46.6 RT(AB)	218.03	(AB)
19	NICHOLAS DR	11+69.8 43.3 RT(AB)	218.23	(AB)
20	NICHOLAS DR	12+48.1 46.4 RT(AB)	223.00	(AB)

DRIVEWAY CENTERLINE TABLE

LOT No.	STREET	STA & OFFSET @ FL		WIDTH
15	NICHOLAS DR	12+19.42	18.50 LT	20.00
16	NICHOLAS DR	12+67.42	18.50 LT	20.00
17	NICHOLAS DR	10+56.31	18.50 RT	20.00
18	NICHOLAS DR	11+03.68	18.50 RT	20.00
19	NICHOLAS DR	12+15.08	18.50 RT	20.00
20	NICHOLAS DR	12+63.08	18.50 RT	20.00



STORM DRAINAGE NOTES

SDMH #2
10+21.8, 18.0' RT @ FL (AB)
STORMWATER360 STORMGATE MANHOLE W/ LOCKING, SOLID COVER
RIM=220.04 (AB)
12" I.E. (N)=215.94 (AB)
12" I.E. (E)=215.79 (AB)
12" I.E. (S)=215.79 (AB)
PER DETAIL, SHEET 18

SVAULT #1
10+17.5, 25.5' RT @ CTR N RIM (AB)
CONTECH 8'x16' STORMFILTER
W/ LOCKING, SOLID COVERS
N RIM=220.48 (AB)
S RIM=220.56 (AB)
12" I.E. (W)=215.86
12" I.E. (S)=213.56
PER DETAIL, SHEET 18

SDCB #1
10+02.7, 25.0' LT @ CTR SDCB (AB)
TYPE 1 W/ STD FRAME & SOLID COVER
RIM=220.33 (AB)
8" I.E. (N)=218.31 (AB)
8" I.E. (W)=218.45 (AB)

SDCB #2A
10+27.0, 25.0' RT @ CTR SDCB (AB)
TYPE 1 W/ STD FRAME & SOLID COVER
RIM=220.60 (AB)
8" I.E. (E)=217.11 (AB)

SDCB #2
10+27.8, 18.0' RT @ FL(AB)
TYPE 1 W/ THRU CURB F&G
TFC=220.33
RIM=219.91 (AB)
12" I.E. (N)=216.67 (AB)
8" I.E. (E)=216.71 (AB)
12" I.E. (W)=216.34 (AB)
12" I.E. (S)=216.27 (AB)

SDCB #3
10+36.2, 18.0' LT @ FL(AB)
TYPE 1 W/ THRU CURB F&G
TFC=220.40
RIM=219.96 (AB)
12" I.E. (N)=216.92 (AB)
8" I.E. (S)=217.03 (AB)
12" I.E. (E)=216.83 (AB)

SDCB #4
10+73.1, 18.0' LT @ FL(AB)
TYPE 1 W/ THRU CURB F&G
TFC=220.67
RIM=220.29 (AB)
12" I.E. (NW)=217.09 (AB)
12" I.E. (N)=217.12 (AB)
12" I.E. (S)=217.09 (AB)

SDCB #5
11+59.4, 18.0' RT @ FL(AB)
TYPE 1 W/ THRU CURB F&G
TFC=222.74
RIM=222.11 (AB)
8" I.E. (E)=218.14 (AB)
12" I.E. (S)=218.08 (AB)

SDCB #5A
11+59.2, 25.0' RT @ CTR SDCB (AB)
TYPE 1 W/ STD FRAME & SOLID COVER
RIM=222.65 (AB)
8" I.E. (W)=218.37 (AB)

SDCB #6
11+86.8, 18.0' LT @ FL(AB)
TYPE 1 W/ THRU CURB F&G
TFC=223.55
RIM=223.14 (AB)
12" I.E. (N)=219.19 (AB)
12" I.E. (S)=219.19 (AB)

SDCB #7
13+13.3, 18.0' LT @ FL(AB)
TYPE 1 W/ THRU CURB F&G
TFC=228.83
RIM=228.20 (AB)
12" I.E. (S)=224.07 (AB)

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FLOWLINE ELEVATION TABLE

STATION		℄ ELEV.	LT FL ELEV.	RT FL ELEV.
9+94.60	NICH	219.93	219.58	219.96
10+00.00	NICH	219.96	219.61	219.90
10+10.00	NICH	220.02	219.66	219.82
10+20.00	NICH	220.09	219.71	219.78
10+30.00	NICH	220.16	219.76	219.77
10+40.00	NICH	220.23	219.82	219.79
10+50.00	NICH	220.32	219.88	219.85
10+60.00	NICH	220.41	219.96	219.94
10+70.00	NICH	220.50	220.05	220.04
10+80.00	NICH	220.60	220.14	220.14

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

AS-BUILT DRAWING

{CORRESPONDING WATER & SANITARY SEWER IMPROVEMENTS SEE SHEET 10}

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE		VERTICAL DATUM	

DATA	DRAWN BY	CHECKED BY	SCALE
BASE	AM	MB	H: 1"=20'
DESIGN	MB	JVY	V: 1"=4'
XREF:			
DWG: ENG_BASE_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
1	10/25/06	NEW SD @ CONNECTION TO NICHOLAS DRIVE	MB
2	1/30/07	WATER MAIN RELOCATION ALONG NICHOLAS DRIVE	MB
3	4/2/07	SD/SS CROSSING IN EXISTING NICHOLAS DRIVE	JVY
REVISIONS			

No.		DATE
2	REVISED PER COF COMMENTS	08/28/06
3	REVISED PER COF COMMENTS	09/28/06
4	AS-BUILT DRAWINGS	10/10/07
5	AS-BUILT DRAWINGS	12/17/07
ISSUE		

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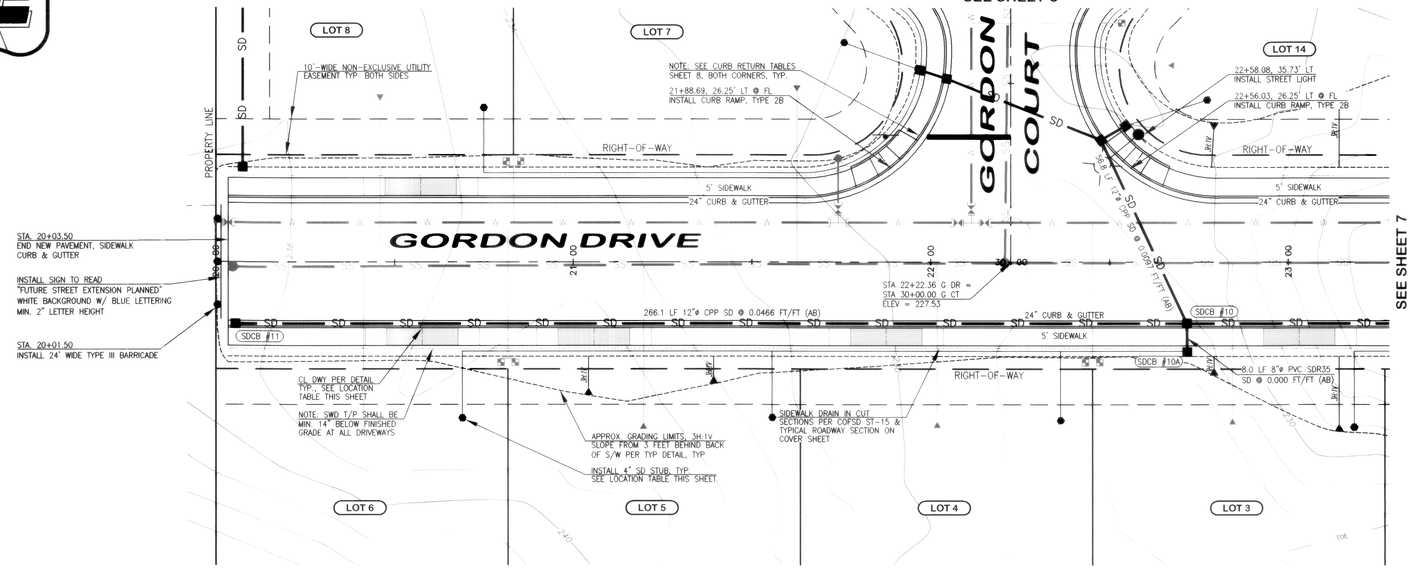
CROWN POINT DEVELOPMENT, INC.
6540 NORTH STAR ROAD
FERNDALE, WA 98248

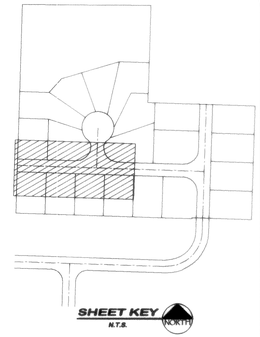
ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
NICHOLAS DRIVE ~ STATIONS 10+00 to 13+15
ROADWAY & STORM DRAINAGE IMPROVEMENTS
JOB #: 2005198
SHEET 5 OF 20

JEREMY VANDERPOOL
STATE OF WASHINGTON
17432
REGISTERED PROFESSIONAL ENGINEER
11-20-07
EXPIRES: 10/10/08

00357.00S 1:25:08

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





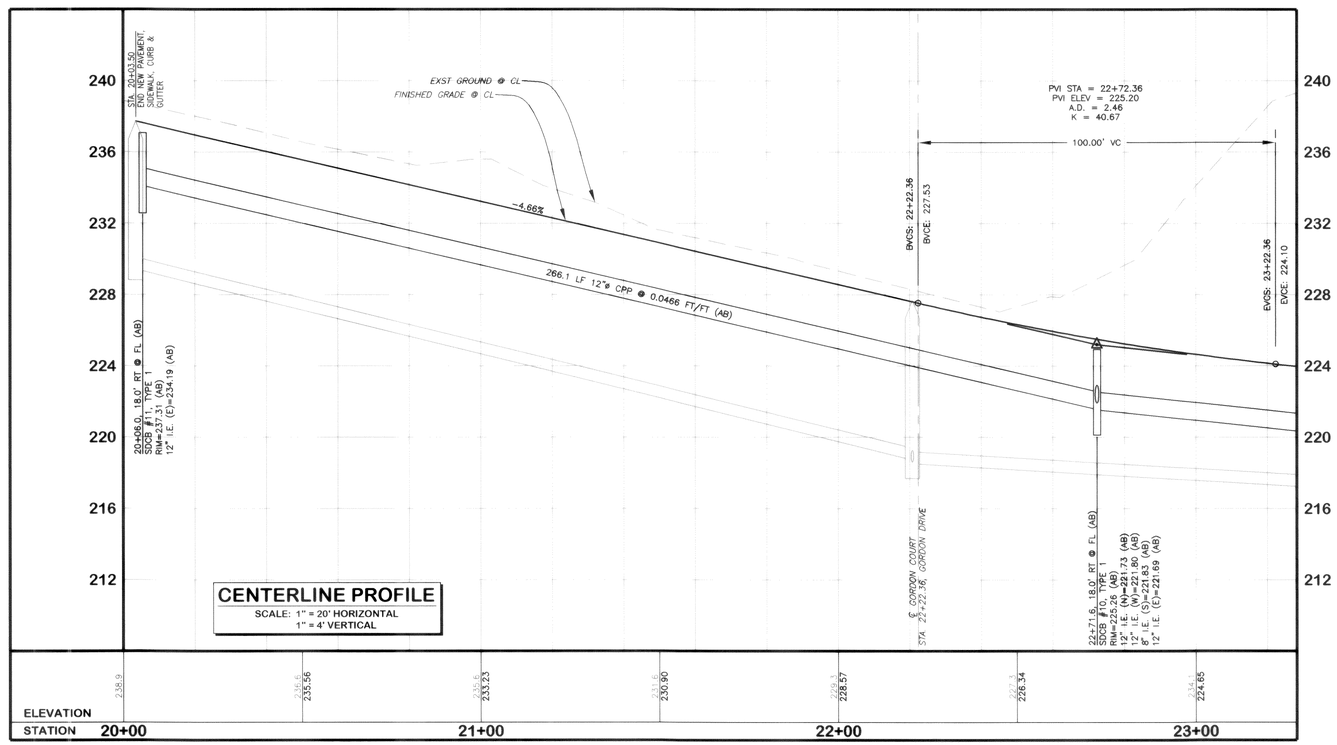
GRAPHIC SCALE
(us survey feet)
0 20
20 10 40
1 inch = 20 feet

STORM STUB LOCATION TABLE

LOT No.	STREET	STA & OFFSET @ STUB	STUB I.E.	
4	GORDON DR	22+36.3 44.5 RT(AB)	223.52	(AB)
5	GORDON DR	21+55.6 43.7 RT(AB)	227.49	(AB)
6	GORDON DR	20+88.9 43.8 RT(AB)	231.03	(AB)
8	GORDON DR	20+74.9 43.2 LT(AB)	230.27	(AB)

DRIVEWAY CENTERLINE TABLE

LOT No.	STREET	STA & OFFSET @ TL	WIDTH
3	GORDON DR	23+03.00 18.50 RT	20.00
4	GORDON DR	21+87.50 18.50 RT	20.00
5	GORDON DR	21+05.75 18.50 RT	20.00
6	GORDON DR	20+57.75 18.50 RT	20.00
8	GORDON DR	20+57.25 18.50 LT	20.00



CENTERLINE PROFILE
SCALE: 1" = 20' HORIZONTAL
1" = 4' VERTICAL

STORM DRAINAGE NOTES

SDCB #10
22+71.6, 18.0' RT @ FL(AB)
TYPE 1 W/ THRU CURB F&G
TFC=225.55
RIM=225.26 (AB)
12" I.E. (N)=221.73 (AB)
12" I.E. (W)=221.80 (AB)
8" I.E. (S)=221.83 (AB)
12" I.E. (E)=221.69 (AB)

SDCB #10A
22+71.7, 25.0' RT @ CTR SDCB (AB)
TYPE 1 W/ SOLID COVER
RIM=225.68 (AB)
8" I.E. (N)=221.83 (AB)

SDCB #11
20+06.0, 18.0' RT @ FL(AB)
TYPE 1 W/ THRU CURB F&G
TFC=237.69
RIM=237.31 (AB)
12" I.E. (E)=234.19 (AB)

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

AS-BUILT DRAWING

{CORRESPONDING WATER & SANITARY SEWER IMPROVEMENTS SEE SHEET 11}

FIELD BOOKS	TBM NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

DATA	DRAWN BY	CHECKED BY	SCALE
BASE	AM	MB	H: 1"=20'
DESIGN	MB	JVY	V: 1"=4'
XREF:			
DWG: ENG_BASE_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
1	10/25/06	NEW SD @ CONNECTION TO NICHOLAS DRIVE	MB
2	1/30/07	WATER MAIN RELOCATION ALONG NICHOLAS DRIVE	MB
3	4/2/07	SD/SS CROSSING IN EXISTING NICHOLAS DRIVE	JVY
REVISIONS			

No.		DATE
2	REVISED PER COF COMMENTS	08/28/06
3	REVISED PER COF COMMENTS	09/28/06
4	AS-BUILT DRAWINGS	10/10/07
5	AS-BUILT DRAWINGS	12/17/07
ISSUE		

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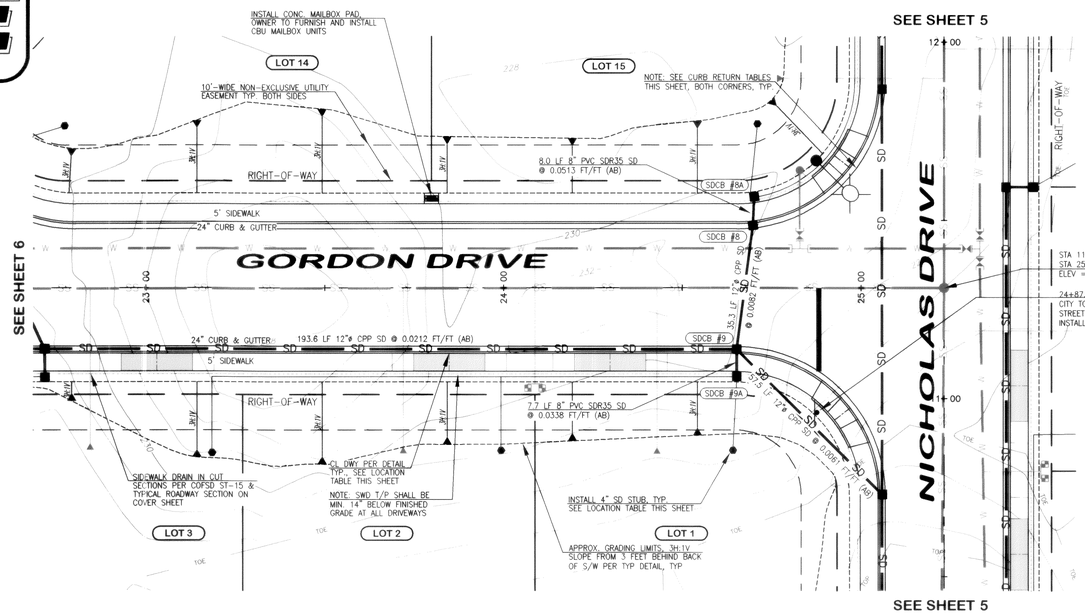
FERNDALE, WA 98248

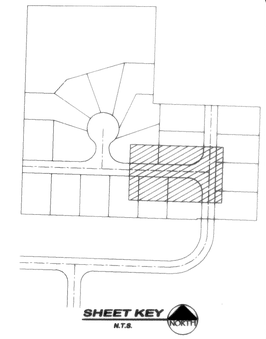
ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
GORDON DRIVE ~ STATIONS 23+00 to 25+25
ROADWAY & STORM DRAINAGE IMPROVEMENTS
JOB #: 2005198 SHEET 6 OF 20

REGISTERED PROFESSIONAL ENGINEER 17432 12-20-07
EXPIRES: 10/10/08

00357.006 1.25.08 KE

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





SW CORNER CURB RETURN TABLE
R=40.00' Δ=90°00'00" L=62.83'

STATION		OFFSET	FL ELEV.
BCR 10+73.08	NICH	18.00' LT	220.17
1/7L 10+81.98	NICH	19.00' LT	220.24
2/7L 10+90.44	NICH	21.96' LT	220.28
3/7L 10+98.02	NICH	26.73' LT	220.37
4/7L 24+90.13	GORD	26.73' RT	220.44
5/7L 24+82.55	GORD	21.96' RT	220.51
6/7L 24+74.09	GORD	19.00' RT	220.57
ECR 24+65.19	GORD	18.00' RT	220.59

NW CORNER CURB RETURN TABLE
R=40.00' Δ=90°00'00" L=62.83'

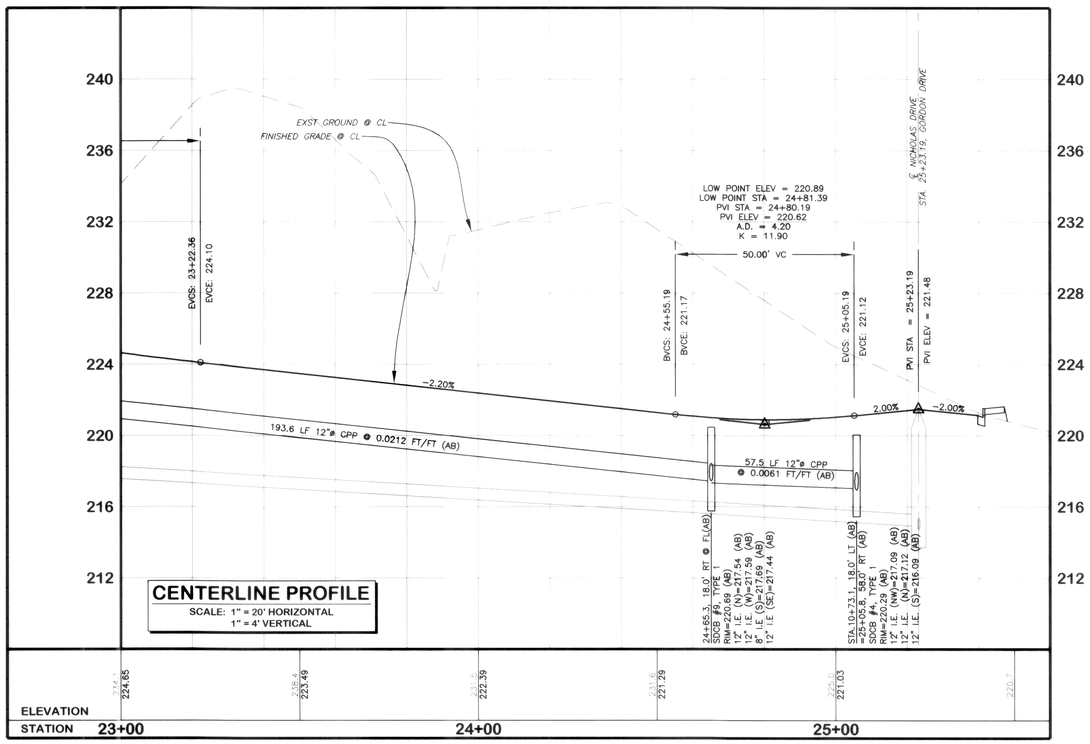
STATION		OFFSET	FL ELEV.
BCR 24+65.19	GORD	18.00' LT	220.59
1/7L 24+74.09	GORD	19.00' LT	220.62
2/7L 24+82.55	GORD	21.96' LT	220.88
3/7L 24+90.13	GORD	26.73' LT	221.25
4/7L 11+64.14	NICH	26.73' LT	221.69
5/7L 11+71.73	NICH	21.96' LT	222.16
6/7L 11+80.18	NICH	19.00' LT	222.63
ECR 11+89.08	NICH	18.00' LT	223.05

STORM STUB LOCATION TABLE

LOT No.	STREET	STA & OFFSET @ STUB	STUB I.E.	
1	GORDON DR	24+64.1 45.8 RT(AB)	218.11	(AB)
2	GORDON DR	23+99.3 45.8 RT(AB)	218.89	(AB)
3	GORDON DR	23+18.4 46.4 RT(AB)	221.49	(AB)
15	GORDON DR	24+71.0 45.9 LT(AB)	218.51	(AB)

DRIVEWAY CENTERLINE TABLE

LOT No.	STREET	STA & OFFSET @ FL	WIDTH
1	GORDON DR	24+29.75 18.50 RT	20.00
2	GORDON DR	23+84.75 18.50 RT	20.00



STORM DRAINAGE NOTES

SDCB #8
24+69.1, 18.4' LT @ FL(AB)
TYPE 1 W/ THRU CURB F&G
TFC=221.11
RIM=220.75 (AB)
8" I.E. (N)=217.87 (AB)
12" I.E. (S)=217.83 (AB)

SDCB #8A
24+70.0, 25.6' LT @ CTR SDCB (AB)
TYPE 1 W/ SOLID COVER
RIM=221.34 (AB)
8" I.E. (S)=218.28 (AB)

SDCB #9
24+65.3, 18.0' RT @ FL(AB)
TYPE 1 W/ THRU CURB F&G
TFC=221.09
RIM=220.69 (AB)
12" I.E. (N)=217.54 (AB)
12" I.E. (W)=217.59 (AB)
8" I.E. (S)=217.69 (AB)
12" I.E. (SE)=217.44 (AB)

SDCB #9A
24+65.0, 25.4' RT @ CTR SDCB (AB)
TYPE 1 W/ SOLID COVER
RIM=221.23 (AB)
8" I.E. (N)=217.95 (AB)

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CITY OF FERNDALE

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

AS-BUILT DRAWING

{CORRESPONDING WATER & SANITARY SEWER IMPROVEMENTS SEE SHEET 12}

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

DATA	DRAWN BY	CHECKED BY	SCALE
BASE	AM	MB	H: 1"=20'
DESIGN	MB	JVY	V: 1"=4'
XREF:			
DWG: ENG_BASE_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
1	10/25/06	NEW SD @ CONNECTION TO NICHOLAS DRIVE	MB
2	1/30/07	WATER MAIN RELOCATION ALONG NICHOLAS DRIVE	MB
3	4/2/07	SD/SS CROSSING IN EXISTING NICHOLAS DRIVE	JVY
REVISIONS			

No.		DATE
2	REVISED PER COF COMMENTS	08/28/06
3	REVISED PER COF COMMENTS	09/28/06
4	AS-BUILT DRAWINGS	10/10/07
5	AS-BUILT DRAWINGS	12/17/07
ISSUE		

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CROWN POINT DEVELOPMENT, INC.
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FERNDALE, WA 98248

ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
GORDON DRIVE ~ STATIONS 23+00 to 25+25
ROADWAY & STORM DRAINAGE IMPROVEMENTS
JOB #: 2005198
SHEET 7 OF 20

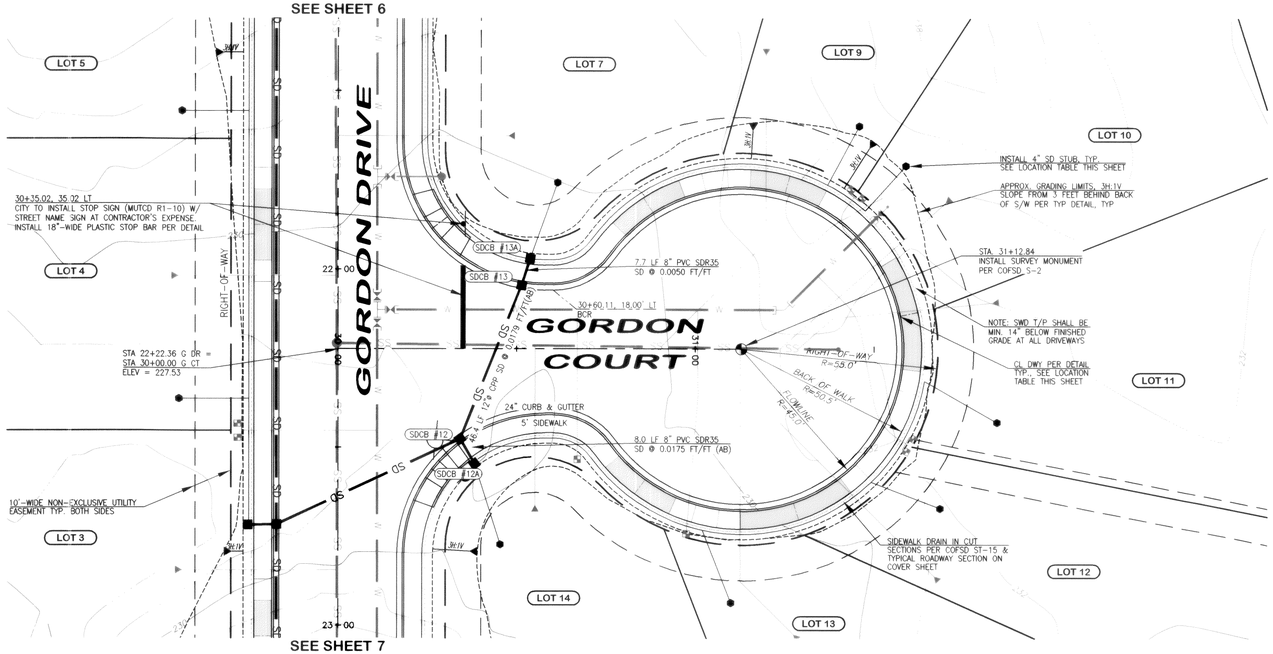
STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER JEFFREY A. VANDERHOEF 17432
12-20-07
EXPIRES: 10/10/08

C0357.007 1.25.08 KK

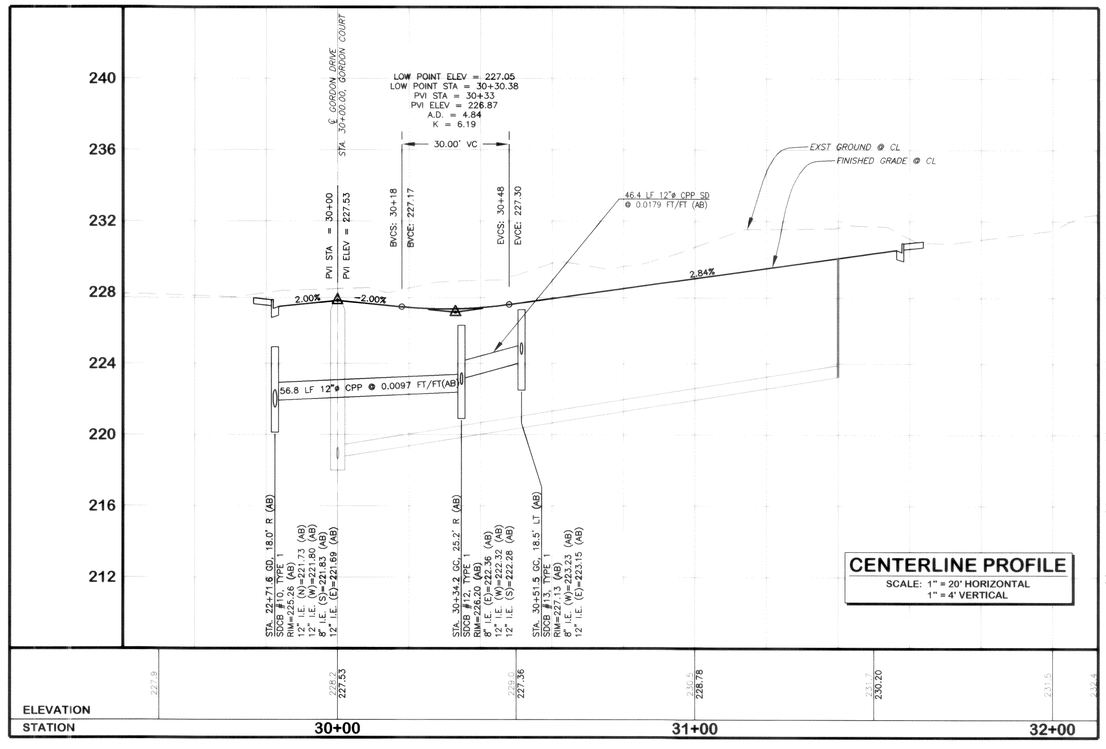
PACIFIC SURVEY & ENGINEERING INC
1812 CORNWALL, BELLINGHAM, WA 98225 PHONE: 671.7387 FAX: 671.4685
EMAIL: pse@psesurvey.com www.psesurvey.com

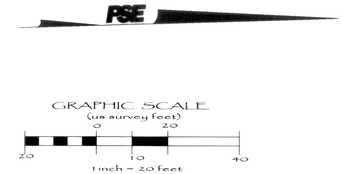
CC 357.008 1:25.08

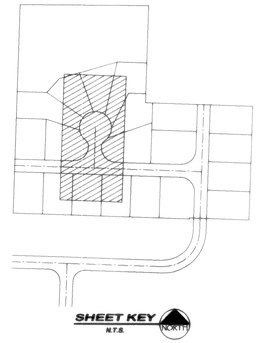
SEE SHEET 6



SEE SHEET 7







NW CORNER CURB RETURN TABLE
R=40.00' Δ=90°00'00" L=62.83'

STATION @ FL	OFFSET	FL ELEV.
BCR 21+64.36 G DR	18.00' LT	229.78
1/7L 21+73.26 G DR	19.00' LT	229.30
2/7L 21+81.71 G DR	21.96' LT	228.77
3/7L 21+89.30 G DR	26.73' LT	228.26
4/7L 30+33.06 G CT	26.73' LT	227.79
5/7L 30+40.64 G CT	21.96' LT	227.40
6/7L 30+49.10 G CT	19.00' LT	227.14
ECR 30+58.00 G CT	18.00' LT	227.13

NE CORNER CURB RETURN TABLE
R=40.00' Δ=90°00'00" L=62.83'

STATION @FL	OFFSET	FL ELEV.
BCR 30+58.00 G CT	18.00' RT	227.13
1/7L 30+49.10 G CT	19.00' RT	226.84
2/7L 30+40.64 G CT	21.96' RT	226.51
3/7L 30+33.06 G CT	26.73' RT	226.16
4/7L 22+55.41 G DR	26.73' LT	225.80
5/7L 22+63.00 G DR	21.96' LT	225.45
6/7L 22.71.46 G DR	19.00' LT	225.11
ECR 22+80.36 G DR	18.00' LT	224.79

STORM STUB LOCATION TABLE

LOT No.	STREET	STA & OFFSET @ STUB	STUB I.E.	
7	GORDON CT	30+61.4 46.6 LT(AB)	224.01	(AB)
9	GORDON CT	31+45.8 62.6 LT(AB)	227.52	(AB)
10	GORDON CT	31+58.8 51.4 LT(AB)	226.93	(AB)
11	GORDON CT	31+84.3 20.5 RT(AB)	226.67	(AB)
12	GORDON CT	31+68.4 44.7 RT(AB)	225.81	(AB)
13	GORDON CT	31+09.8 71.2 RT(AB)	225.74	(AB)
14	GORDON CT	30.45.34 54.9 RT(AB)	222.85	(AB)

DRIVEWAY CENTERLINE TABLE

LOT No.	STREET	STA & OFFSET @ FL	WIDTH
7	GORDON CT	30+88.10 38.19 LT	20.00
9	GORDON CT	31+25.04 43.83 LT	20.00
10	GORDON CT	31+57.36 9.42 LT	36.00
11	GORDON CT	31+57.36 9.42 LT	36.00
12	GORDON CT	31+27.36 43.12 RT	36.00
13	GORDON CT	31+27.36 43.12 RT	36.00
14	GORDON CT	30+85.94 36.69 RT	20.00

GORDON CT. CUL-DE-SAC CURB RETURN TABLE
R=20.00' Δ=54°13'27" L=18.93'

STATION @FL	OFFSET	FL ELEV.
BCR 30+60.11 G CT	18.00 LT	227.20
1/2L 30+69.22 G CT	20.20 LT	227.34
ECR 30+76.33 G CT	26.30 LT	227.50
R=45.00' Δ=288°26'54" L=226.55'		
STATION @ FL	OFFSET	FL ELEV.
BCR 30+76.33 G CT	26.31 LT	227.50
1/23L 30+82.92 G CT	33.61 LT	227.67
2/23L 30+90.93 G CT	39.30 LT	227.86
3/23L 30+99.98 G CT	43.12 LT	228.06
4/23L 31+09.66 G CT	44.89 LT	228.27
5/23L 31+19.48 G CT	44.51 LT	228.50
6/23L 31+28.98 G CT	42.00 LT	228.75
7/23L 31+37.72 G CT	37.50 LT	229.02
8/23L 31+45.27 G CT	31.20 LT	229.32
9/23L 31+51.27 G CT	23.41 LT	229.63
10/23L 31+55.44 G CT	14.51 LT	229.93
11/23L 31+57.57 G CT	4.92 LT	230.17
12/23L 31+57.57 G CT	4.92 RT	230.17
13/23L 31+55.44 G CT	14.51 RT	229.93
14/23L 31+51.27 G CT	23.41 RT	229.63
15/23L 31+45.27 G CT	31.20 RT	229.32
16/23L 31+37.72 G CT	37.50 RT	229.02
17/23L 31+28.98 G CT	42.00 RT	228.75
18/23L 31+19.48 G CT	44.51 RT	228.50
19/23L 31+09.66 G CT	44.89 RT	228.27
20/23L30+99.98 G CT	43.12 RT	228.06
21/23L30+90.93 G CT	39.30 RT	227.86
22/23L30+82.92 G CT	33.61 RT	227.67
ECR 30+76.33 G CT	26.31 RT	227.50
R=20.00' Δ=54°13'27" L=18.93'		
STATION @ FL	OFFSET	FL ELEV.
BCR 30+76.33 G CT	26.31 RT	227.50
1/2L 30+69.22 G CT	20.20 RT	227.34
ECR 30+60.11 G CT	18.00 RT	227.20

STORM DRAINAGE NOTES

SDCB #12
30+34.2, 25.2' RT @ FL(AB)
TYPE 1 W/ THRU CURB F&G
TFC=226.76
RIM=226.20 (AB)
8" I.E. (E)=222.36 (AB)
12" I.E. (W)=222.32 (AB)
12" I.E. (S)=222.28 (AB)

SDCB #12A
30+38.2, 32.2' RT @ CTR SDCB (AB)
TYPE 1 W/ SOLID COVER
RIM=226.70 (AB)
8" I.E. (W)=222.50 (AB)

SDCB #13
30+51.5, 18.5' LT @ FL(AB)
TYPE 1 W/ THRU CURB F&G
TFC=227.64
RIM=227.13 (AB)
8" I.E. (W)=223.23 (AB)
12" I.E. (E)=223.15 (AB)

SDCB #13A
30+53.8, 25.4' LT @ CTR SDCB (AB)
TYPE 1 W/ SOLID COVER
RIM=227.66 (AB)
8" I.E. (E)=224.17 (AB)

APPROVED
JAN 17 2008
BY
CITY OF FERNDALE

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

AS-BUILT DRAWING

{CORRESPONDING WATER & SANITARY SEWER IMPROVEMENTS SEE SHEET 13}

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

DATA	DRAWN BY:	CHECKED BY:	SCALE
BASE	AM	MB	H: 1"=20'
DESIGN	MB	JVV	V. 1"=4'
XREF:			
DWG: ENG_BASE_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
1	10/25/06	NEW SD @ CONNECTION TO NICHOLAS DRIVE	MB
2	1/30/07	WATER MAIN RELOCATION ALONG NICHOLAS DRIVE	MB
3	4/2/07	SD/SS CROSSING IN EXISTING NICHOLAS DRIVE	JVV
REVISIONS			

No.		DATE
2	REVISED PER COF COMMENTS	08/28/06
3	REVISED PER COF COMMENTS	09/28/06
4	AS-BUILT DRAWINGS	10/10/07
5	AS-BUILT DRAWINGS	12/17/07
ISSUE		

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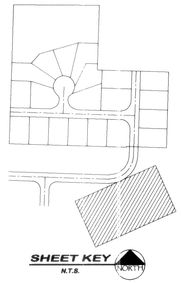
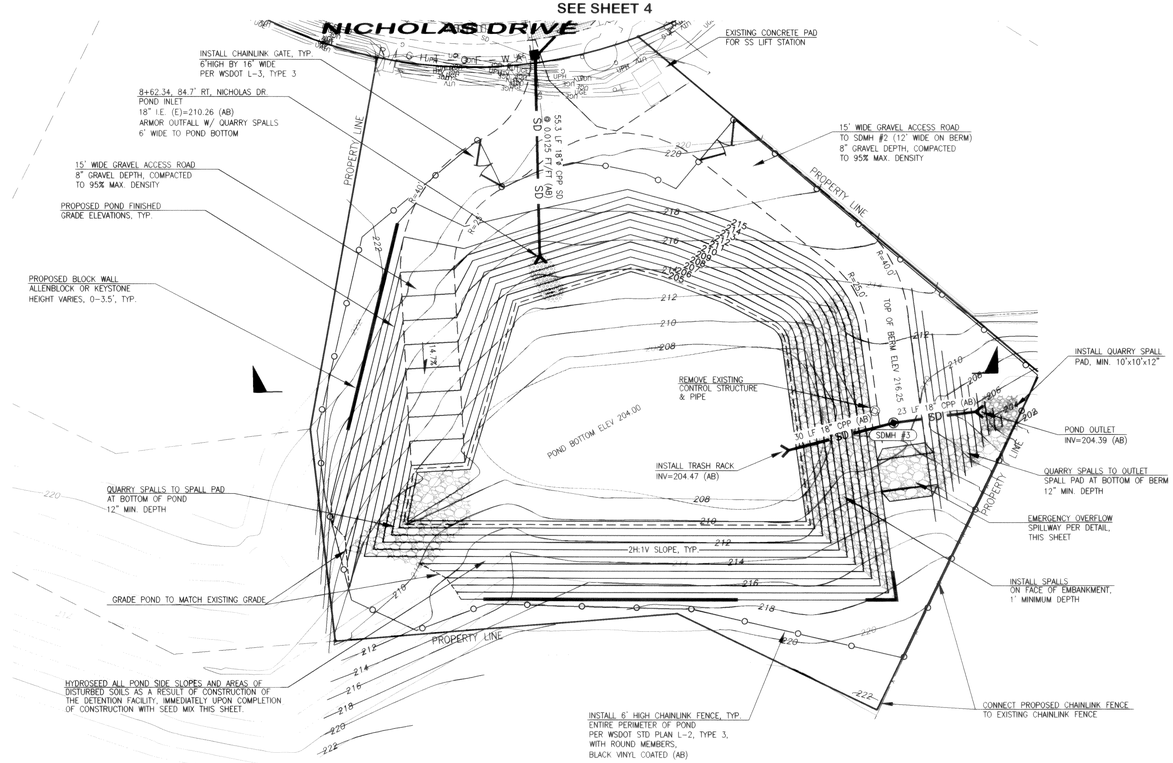
CROWN POINT DEVELOPMENT, INC.
6540 NORTH STAR ROAD
FERNDALE, WA 98248

ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
GORDON COURT
ROADWAY & STORM DRAINAGE IMPROVEMENTS
JOB #: 2005198
SHEET 8 OF 20

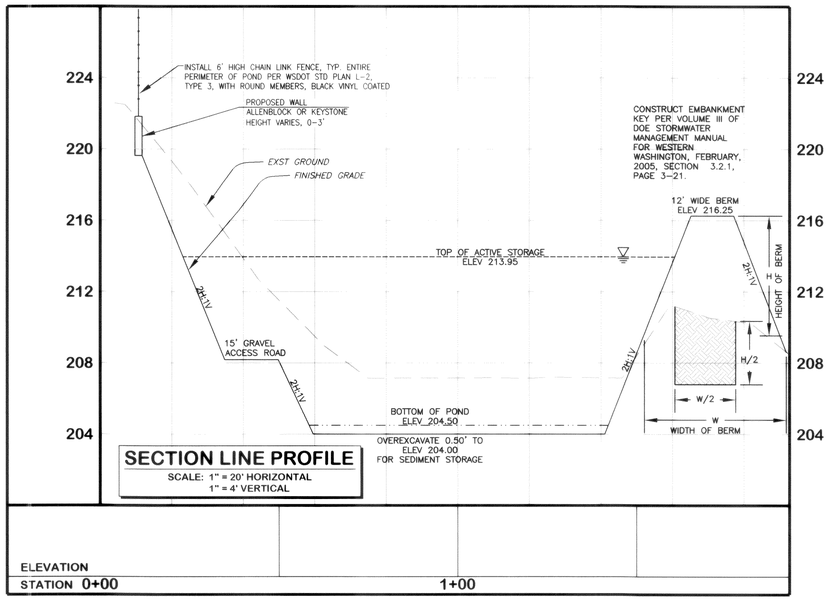
STEPHEN A. VANDEHEY — STATE OF WASHINGTON — 37432 — REGISTERED PROFESSIONAL ENGINEER — 12-20-07
EXPIRES: 10/10/08

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





GRAPHIC SCALE
(us survey feet)
0 10 20 40
1 inch = 20 feet



POND DESIGN INFORMATION:

DETENTION ACTIVE STORAGE
VOLUME (204.50' to 213.95') = 122,043 CF
BOTTOM ELEV. = 204.0' (AB)
TOP ELEV. = 213.89' (AB)
OVERFLOW SPILLWAY ELEV. = 215.25' (AB)
MAX. OVERFLOW ELEV. = 215.70'
TOP BERM ELEV. = 216.2' (AB)

STORM DRAINAGE NOTES

SDMH #3

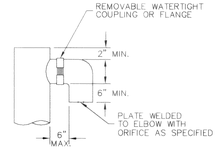
B+96.8, 158.0' RT, NICH. DR. @ CTR SDCB (AB)
CONTROL STRUCTURE TYPE 2-54"
W/ FRAME & LOCKING SOLID LID, PER DETAIL
RIM=216.87 (AB)
18" I.E. (E)=204.40 (AB)
18" I.E. (W)=204.40 (AB)

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 HYDOSEEDED 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%

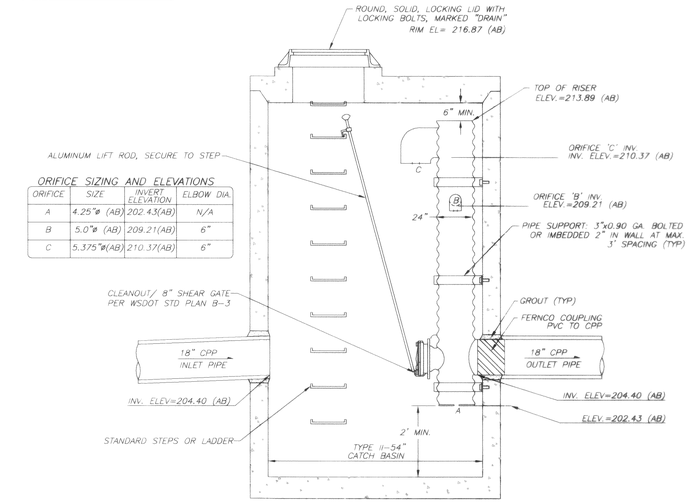
POND BERM EMBANKMENT NOTES:
1) POND BERM EMBANKMENT SHALL BE CONSTRUCTED ON NATIVE CONSOLIDATED SOIL (OR ADEQUATELY COMPACTED AND STABLE FILL SOILS ANLAYZED BY A GEOTECHNICAL ENGINEER) FREE OF LOOSE SURFACE MATERIALS, ROOTS, AND OTHER ORGANIC DEBRIS. 2) EMBANKMENT COMPACTION SHALL BE ACCOMPLISHED IN SUCH A MANNER AS TO PRODUCE A DENSE, LOW PERMEABILITY ENGINEERED FILL THAT CAN TOLERATE POST-CONSTRUCTION SETTLEMENTS WITH A MINIMUM OF CRACKING. THE EMBANKMENT FILL SHALL BE PLACED ON A STABLE SUBGRADE AND COMPACTED TO 95% OF THE STANDARD PROCTOR MAXIMUM DENSITY, ASTM PROCEDURE D698. PLACEMENT MOISTURE CONTENT SHALL LIE WITHIN 1% DRY TO 3% WET OF THE OPTIMUM MOISTURE CONTENT. 3) THE BERM EMBANKMENT SHALL BE CONSTRUCTED OF SOILS WITH THE FOLLOWING CHARACTERISTICS PER THE UNITED STATES DEPT. OF AGRICULTURE'S TEXTURAL TRIANGLE: A MINIMUM OF 20% SILT AND CLAY, A MAXIMUM OF 60% SAND, A MAXIMUM OF 60% SILT, WITH NOMINAL GRAVEL AND COBBLE CONTENT.



ELBOW RESTRICTOR

NOTES:

1. ALL ORIFICES TO BE FABRICATED BY SHOP DRILLING HOLES OF APPROPRIATE DIAMETER IN METAL PLATE, AND WELDING IT INTO PLACE AT THE BOTTOM OF THE MAIN RISER AND THE THREE ELBOWS.
2. PIPE SUPPORT BRACKETS AND THE RESTRICTOR/SEPARATOR SHALL BE OF THE SAME MATERIAL, AND BE ANCHORED AT 3' MAXIMUM SPACING.
3. ALL METAL PARTS SHALL BE CORROSION RESISTANT. ALL GALVANIZED STEEL PARTS SHALL BE ASPHALT TREATMENT 1 COATED.
4. THE RESTRICTOR/SEPARATOR STANDPIPE SHALL BE FABRICATED FROM 0.060" ALUMINUM, 0.064" ALUMINIZED STEEL, OR 0.064" GALVANIZED STEEL, IN ACCORDANCE WITH AASHTO M36, M196, M197 AND M274. GALVANIZED STEEL SHALL BE ASPHALT TREATMENT 1 COATED.
5. IF A METAL OUTLET PIPE CONNECTS TO A CEMENT CONCRETE PIPE, THE OUTLET PIPE SHALL HAVE A SMOOTH OUTSIDE DIAMETER EQUAL TO THE INSIDE DIAMETER OF THE CONCRETE PIPE LESS 1/4".
6. THE FRAME AND LADDER (OR STEPS) SHALL OFFSET SO THAT:
   A: THE CLEANOUT GATE IS VISIBLE FROM THE TOP.
   B: THE CLIMB DOWN CLEAR SPACE OF 2 FEET IS BETWEEN THE RISER AND CLEANOUT GATE.
   C: THE FRAME IS CLEAR OF THE CURB. (IF APPLICABLE)



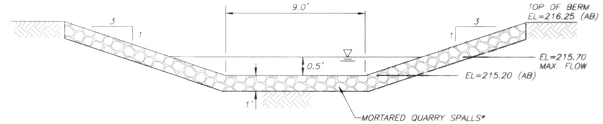
ORIFICE SIZING AND ELEVATIONS

ORIFICE	SIZE	INVERT ELEVATION	ELBOW DIA.
A	4.25"ø (AB)	202.43(AB)	N/A
B	5.0"ø (AB)	209.21(AB)	6"
C	5.375"ø(AB)	210.37(AB)	6"

SECTION VIEW

CONTROL STRUCTURE TYPE II - 54"

NOT TO SCALE



*QUARRY SPALLS TO BE WELL GRADED W/ ROCK GRADATION AS FOLLOWS:
100% PASSING 8" SQUARE SIEVE
40-60% PASSING 6" SQUARE SIEVE
0-10% PASSING 2" SQUARE SIEVE

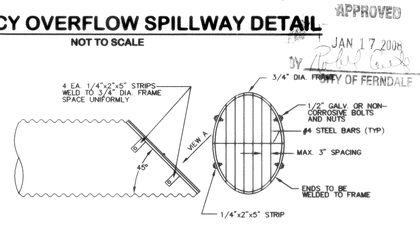
EMERGENCY OVERFLOW SPILLWAY DETAIL

NOT TO SCALE

APPROVED
JAN 17 2008
CITY OF FERNDALE

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

AS-BUILT DRAWING



VIEW A

TRASH RACK

NOT TO SCALE

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

DATA	DRAWN BY:	CHECKED BY:	SCALE
BASE	AM	MB	HORIZ: 1" = 20'
DESIGN	MB	JVY	VERT: 1" = 4'
XREF:			
DWG: ENG_BASE_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
1	10/25/06	NEW SD @ CONNECTION TO NICHOLAS DRIVE	MB
2	1/30/07	WATER MAIN RELOCATION ALONG NICHOLAS DRIVE	MB
3	4/2/07	SD/SS CROSSING IN EXISTING NICHOLAS DRIVE	JVY
REVISIONS			

No.		DATE
2	REVISED PER COF COMMENTS	08/28/06
3	REVISED PER COF COMMENTS	09/28/06
4	AS-BUILT DRAWINGS	10/10/07
5	AS-BUILT DRAWINGS	12/17/07
ISSUE		

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CROWN POINT DEVELOPMENT, INC.
6540 NORTH STAR ROAD
FERNDALE, WA 98248

ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
STORMWATER MANAGEMENT FACILITY DETAILS

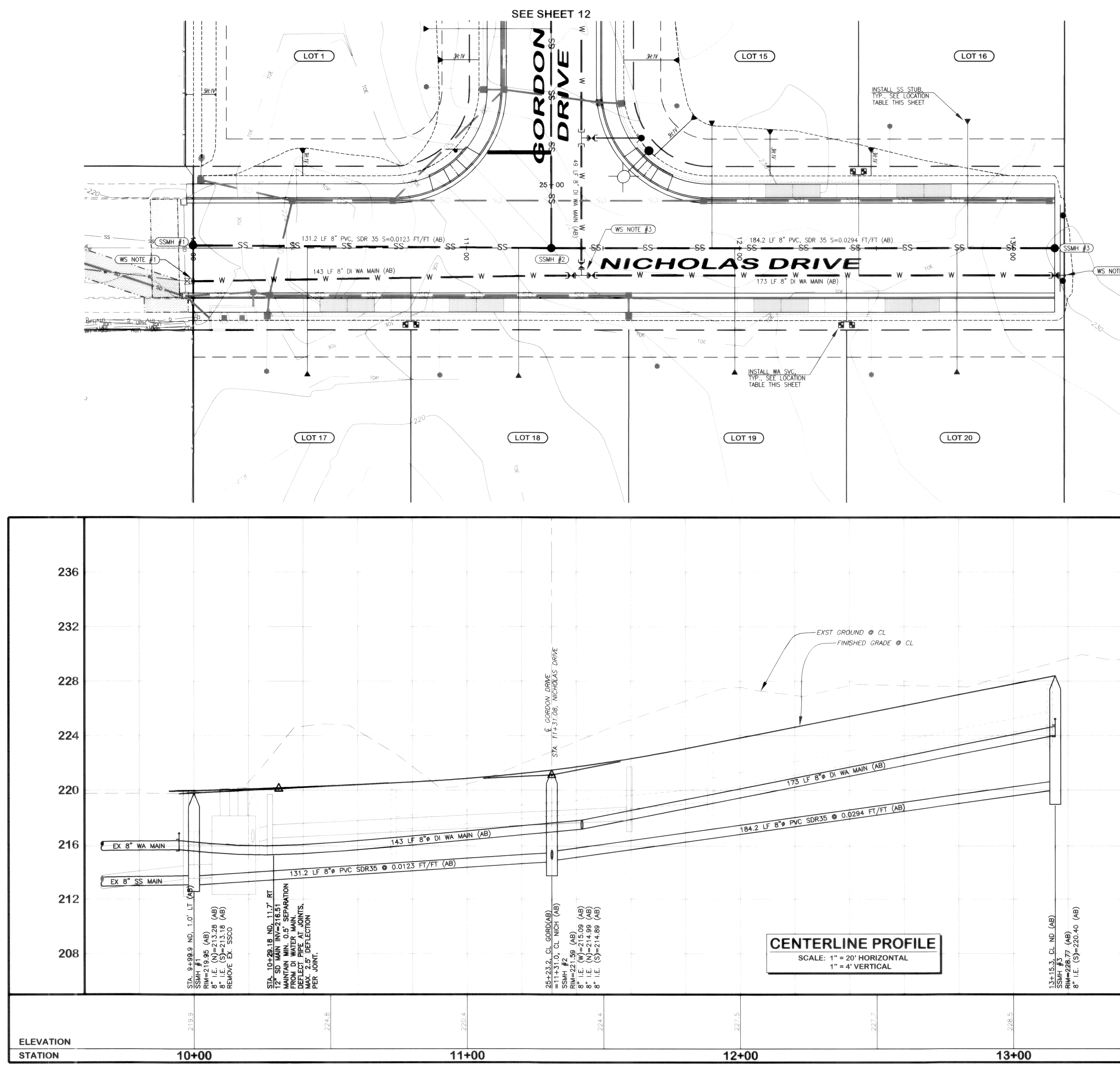
JOB #: 2005198 SHEET 9 OF 20

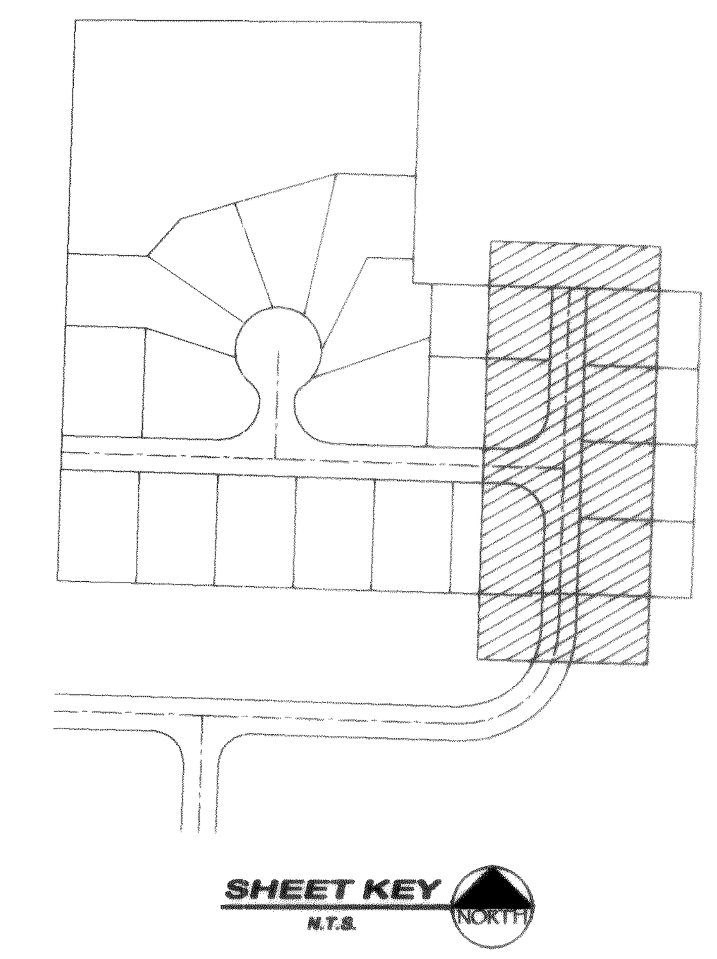
EXPIRES: 10/10/08

0285.009 1:25:08

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

SEE SHEET 12





GRAPHIC SCALE
(us survey feet)
1 inch = 20 feet

SHEET KEY
N.T.S.

SEWER STUB LOCATION TABLE

LOT No.	STREET	STA & OFFSET @ MAIN	TYPE	STA & OFFSET @ STUB	STUB I.E.	DETAIL
15	GORDON DR	11+94.6 0.00 --	SINGLE	11+89.8 44.9 LT (AB)	217.51	SS-6
16	NICHOLAS DR	12+82.0 0.00 --	SINGLE	12+83.4 45.5 LT (AB)	219.96	SS-6
17	NICHOLAS DR	10+43.2 0.71 LT	SINGLE	10+41.8 45.2 RT (AB)	214.51	SS-6
18	NICHOLAS DR	11+19.4 0.00 --	SINGLE	11+19.1 45.9 RT (AB)	215.47	SS-6
19	NICHOLAS DR	11+99.3 0.00 --	SINGLE	11+98.1 44.5 RT (AB)	217.64	SS-6
20	NICHOLAS DR	12+79.0 0.00 --	SINGLE	12+79.5 44.5 RT (AB)	219.88	SS-6

WATER SVC LOCATION TABLE

LOT No.	STREET	STA & OFFSET	TYPE
15	NICHOLAS DR	12+42.7 28.6 LT(AB)	1" DUAL
16	NICHOLAS DR	12+44.0 28.6 LT(AB)	
17	NICHOLAS DR	10+79.2 29.1 RT(AB)	1" DUAL
18	NICHOLAS DR	10+80.5 29.2 RT(AB)	
19	NICHOLAS DR	12+38.5 28.7 RT(AB)	1" DUAL
20	NICHOLAS DR	12+39.9 28.8 RT(AB)	

SANITARY SEWER NOTES

SSMH #1
9+99.9, 1.0' LT (AB)
RIM=219.95 (AB)
8" I.E. (N)=213.28 (AB)
8" I.E. (S)=213.18 (AB)
REMOVE EX. SSCO

SSMH #2
25+23.2, CL GORD(AB)
=11+31.0, CL NICH (AB)
RIM=221.59 (AB)
8" I.E. (W)=215.09 (AB)
8" I.E. (N)=214.99 (AB)
8" I.E. (S)=214.89 (AB)

SSMH #3
13+15.3, CL (AB)
RIM=228.77 (AB)
8" I.E. (S)=220.40 (AB)

WATER SYSTEM NOTES

WS NOTE #1
9+99.4, 12.1' RT (AB)
REMOVE EXST 2" BLOW-OFF ASSEMBLY.
BEGIN INSTALL 8" DI WA MAIN,
MAKE CONNECTION TO EXST 8" DIP WA MAIN,
SEPARATION REQUIRED UNTIL BACTERIA & PRESSURE TESTS PASS & THE CONNECTION CAN BE MADE.

WS NOTE #2 (DELETED)
DELETED

WS NOTE #3
11+42.0, 9.0' RT (AB)
INSTALL:
(1) 8"x8" TEE, FLxFL (AB)
(3) 8" GATE VALVES, FLxMJ(AB)
THRUST BLOCK

WS NOTE #4
13+15.3, 10.0' RT (AB)
END CONST. 8" DI WA MAIN
INSTALL:
2" BLOW-OFF ASSEMBLY FOR EXTENDIBLE MAIN PER COFSD W-9
THRUST BLOCK

WS NOTE #11 (DELETED)
DELETED

APPROVED
JAN 17 2008
BY [signature]
CITY OF FERNDALE

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.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

DATA	DRAWN BY	CHECKED BY	SCALE
BASE	AM	MB	H: 1"=20'
DESIGN	MB	JVY	V: 1"=4'
XREF:			
DWG: ENG_BASE_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
1	10/25/06	NEW SD @ CONNECTION TO NICHOLAS DRIVE	MB
2	1/30/07	WATER MAIN RELOCATION ALONG NICHOLAS DRIVE	MB
3	4/2/07	SD/SS CROSSING IN EXISTING NICHOLAS DRIVE	JVY
		REVISIONS	

No.	ISSUE	DATE
2	REVISED PER COF COMMENTS	08/28/06
3	REVISED PER COF COMMENTS	09/28/06
4	AS-BUILT DRAWINGS	10/10/07
5	AS-BUILT DRAWINGS	12/17/07

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1-800-424-5555

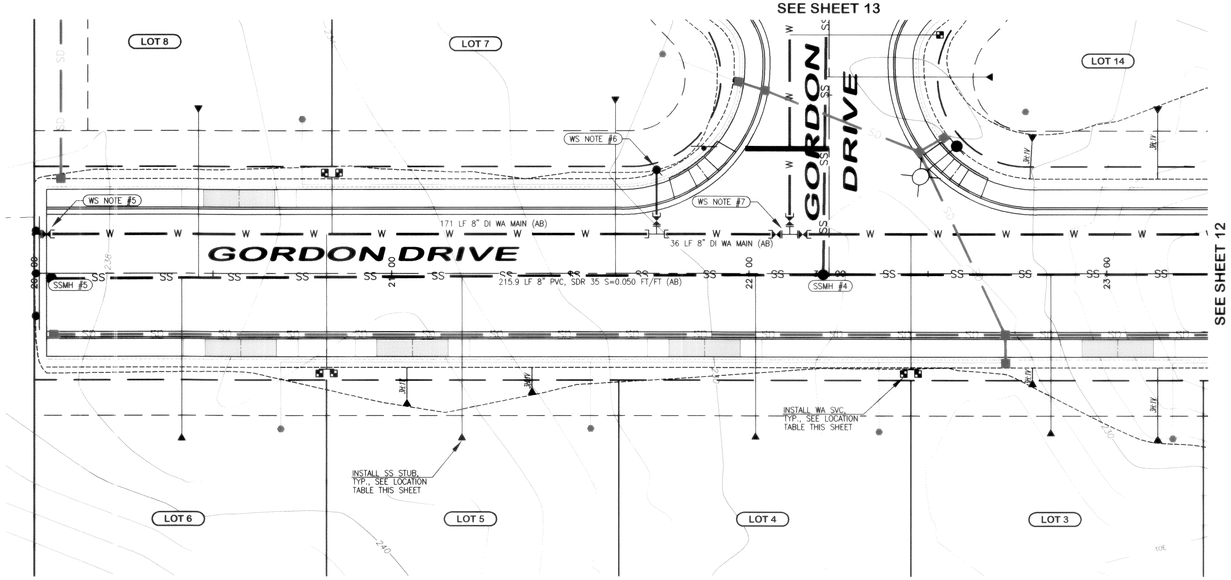
CROWN POINT DEVELOPMENT, INC.
6540 NORTH STAR ROAD
FERNDALE, WA 98248

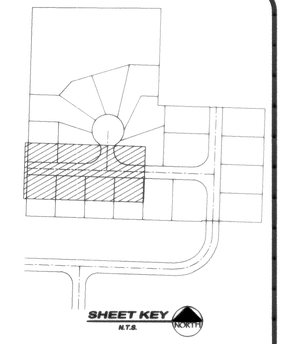
ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
NICHOLAS DRIVE ~ STATIONS 10+00 to 13+15
WATER & SANITARY SEWER IMPROVEMENTS
JOB #: 2005198

37432
REGISTERED PROFESSIONAL ENGINEER
12-20-07
EXPIRES: 10/10/09

00357.010 1-25-08

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





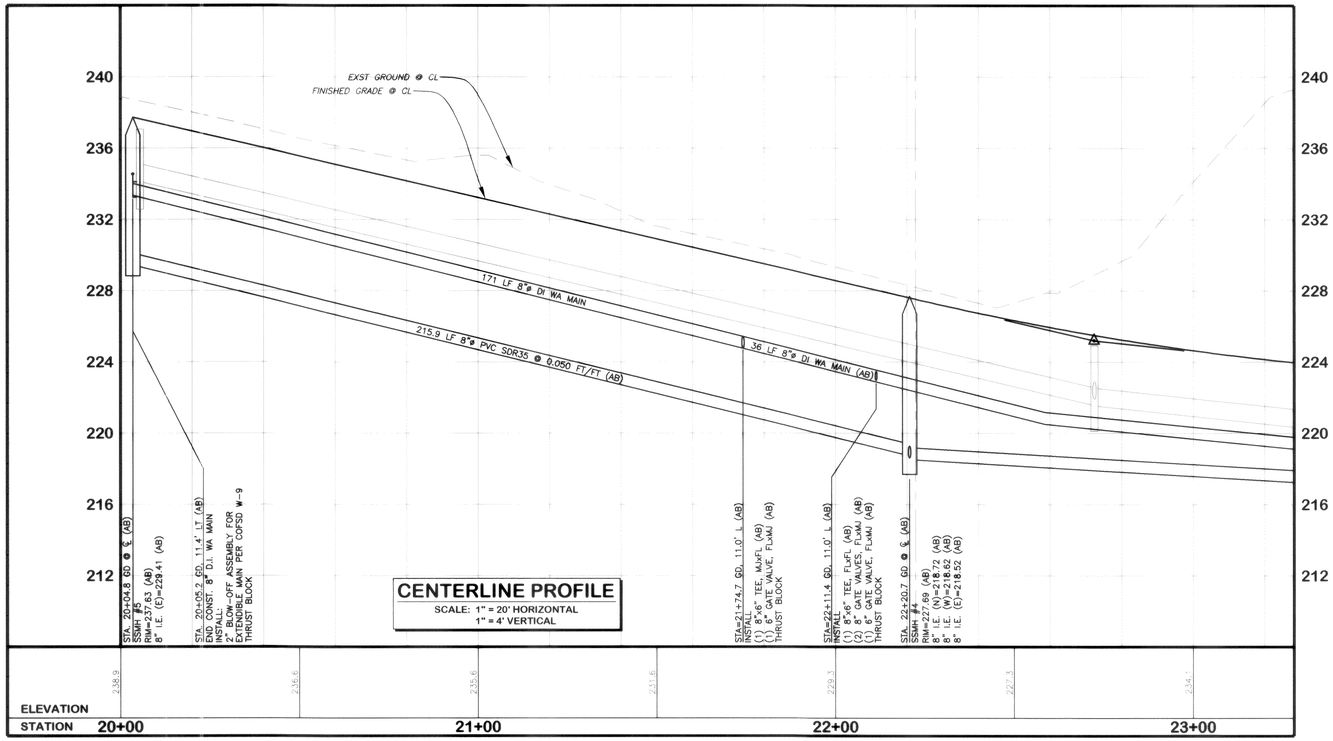
GRAPHIC SCALE
(us survey feet)
0 20
20 10 40
1 inch = 20 feet

SEWER STUB LOCATION TABLE

LOT No.	STREET	STA & OFFSET @ MAIN		TYPE	STA & OFFSET @ STUB		STUB I.E.	DETAIL
3	GORDON DR	22+86.4	0.00	SINGLE	22+84.4	43.8 RT (AB)	218.57	SS-6
4	GORDON DR	22+04.5	0.00	SINGLE	22+01.8	44.8 RT (AB)	220.30	SS-6
5	GORDON DR	21+23.0	0.00	SINGLE	21+19.6	45.1 RT (AB)	224.36	SS-6
6	GORDON DR	20+41.4	0.00	SINGLE	20+41.2	45.3 RT (AB)	228.43	SS-6
7	GORDON DR	21+62.1	0.00	SINGLE	21+62.6	47.7 LT (AB)	222.41	SS-6
8	GORDON DR	20+44.4	0.00	SINGLE	20+45.9	45.1 LT (AB)	228.28	SS-6

WATER SVC LOCATION TABLE

LOT No.	STREET	STA & OFFSET	TYPE
3	GORDON DR	22+46.3 28.8 RT(AB)	1" DUAL
4	GORDON DR	22+45.0 28.8 RT(AB)	
5	GORDON DR	20+82.6 28.7 RT(AB)	1" DUAL
6	GORDON DR	20+81.2 28.6 RT(AB)	
7	GORDON DR	20+83.9 28.3 LT(AB)	1" DUAL
8	GORDON DR	20+82.6 28.4 LT(AB)	



SANITARY SEWER NOTES

SSMH #4
22+20.7, CL GD (AB) = 30+00.0, 1.6' LT GC (AB)
RIM=227.69 (AB)
8" I.E. (N)=218.72 (AB)
8" I.E. (W)=218.62 (AB)
8" I.E. (E)=218.52 (AB)

SSMH #5
20+04.8, CL (AB)
RIM=237.63 (AB)
8" I.E. (E)=229.41 (AB)

WATER SYSTEM NOTES

WS NOTE #5
20+05.2, 11.4' LT (AB)
END CONST. 8" DI WA MAIN
INSTALL:
2" BLOW-OFF ASSEMBLY FOR EXTENDIBLE MAIN PER COFSD W-9
THRUST BLOCK

WS NOTE #6
21+74.7, 29.0' LT (AB)
INSTALL:
(1) 8"x6" TEE, FL (AB)
(1) 6" GATE VALVE, FLxMJ [N] (AB)
(1) HYDRANT ASSEMBLY PER DETAIL, FG 229.91 AT FH (AB)
THRUST BLOCK

WS NOTE #7
22+11.4, 11.0' LT G DR. (AB)
INSTALL:
(1) 8"x6" TEE, FL 9AB)
(1) 6" GATE VALVE, FLxMJ [N] (AB)
(2) 8" GATE VALVE, FLxMJ [E & W] (AB)
THRUST BLOCK

APPROVED
JAN 17 2008
BY
CITY OF FERNDALE

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 6}

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE		VERTICAL DATUM	

DATA	DRAWN BY	CHECKED BY	SCALE
BASE	AM	MB	H: 1"=20'
DESIGN	MB	JVY	V: 1"=4'
XREF:			
DWG: ENG_BASE_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
1	10/25/06	NEW SD @ CONNECTION TO NICHOLAS DRIVE	MB
2	1/30/07	WATER MAIN RELOCATION ALONG NICHOLAS DRIVE	MB
3	4/2/07	SD/SS CROSSING IN EXISTING NICHOLAS DRIVE	JVY
		REVISIONS	

No.		DATE
2	REVISED PER COF COMMENTS	08/28/06
3	REVISED PER COF COMMENTS	09/28/06
4	AS-BUILT DRAWINGS	10/10/07
5	AS-BUILT DRAWINGS	12/17/07
	ISSUE	

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CROWN POINT DEVELOPMENT, INC.
6540 NORTH STAR ROAD
FERNDALE, WA 98248

ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
GORDON DRIVE ~
STATIONS 20+00 to 23+00
WATER & SANITARY SEWER IMPROVEMENTS
JOB #: 2005198
SHEET 11 OF 20

BEVERLY VANDERPOOL
STATE OF WASHINGTON
37432
REGISTERED PROFESSIONAL ENGINEER
12-10-07
EXPIRES: 10/10/08

C0857.dll 1:2500

PACIFIC SURVEY & ENGINEERING INC
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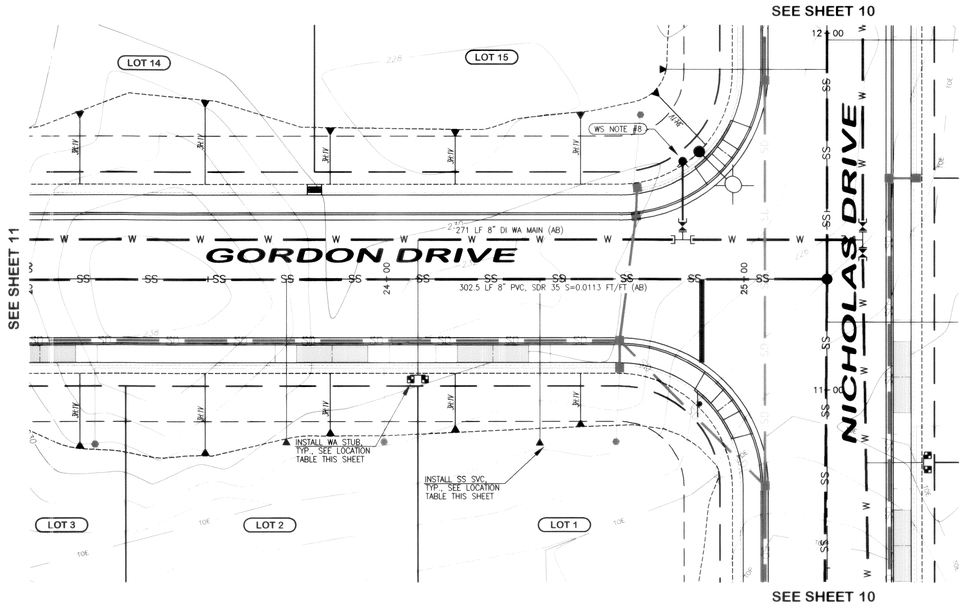
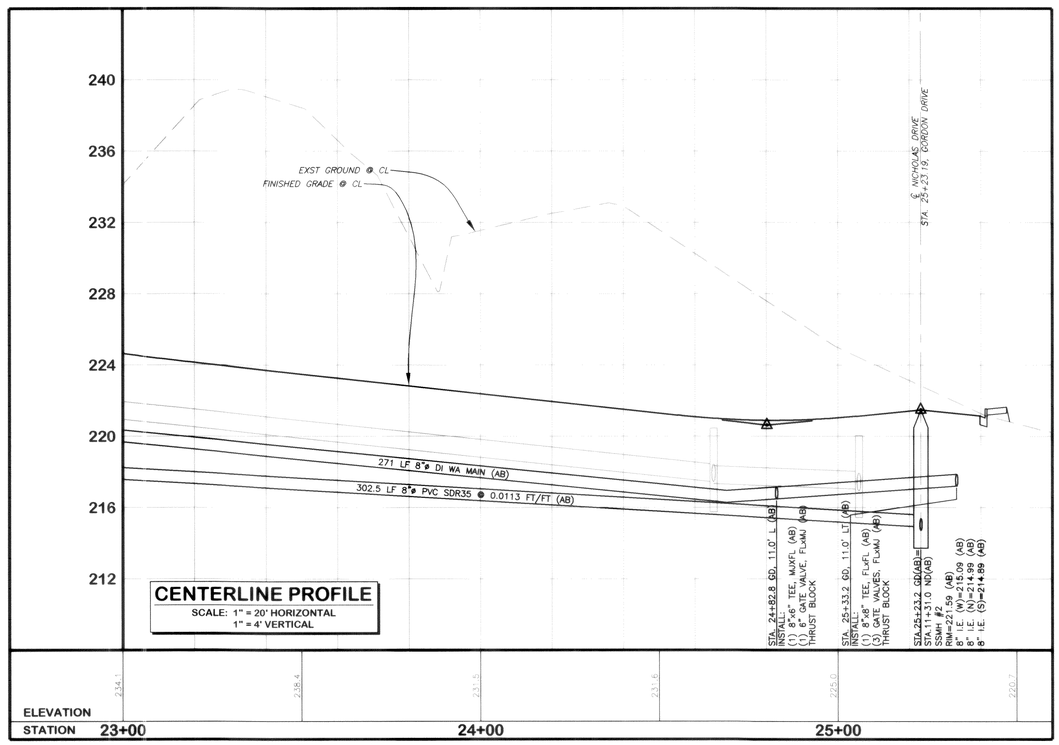
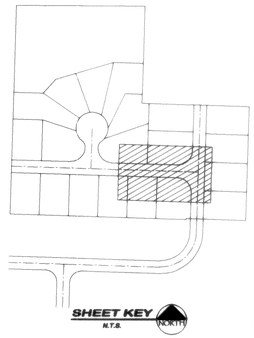
EMAIL: pse@psesurvey.com www.psesurvey.com





GRAPHIC SCALE
(as survey feet)
0 20
20 10 40
1 inch = 20 feet



SEWER STUB LOCATION TABLE

LOT No.	STREET	STA & OFFSET @ MAIN	TYPE	STA & OFFSET @ STUB	STUB I.E.	DETAIL
1	GORDON DR	24+44.6 0.00 ---	SINGLE	24+42.9 45.0 RT (AB)	216.73	SS-6
2	GORDON DR	23+68.4 0.00 ---	SINGLE	23+71.9 44.8 RT (AB)	217.62	SS-6

WATER SVC LOCATION TABLE

LOT No.	STREET	STA & OFFSET	TYPE
1	GORDON DR	24+09.4 29.0 RT(AB)	1" DUAL
2	GORDON DR	24+08.2 29.0 RT(AB)	

WATER SYSTEM NOTES

WS NOTE #8

24+82.80, 33.0' LT (AB)
INSTALL:
(1) 8"x6" TEE, FL (AB)
(1) 6" GATE VALVE, FLxMJ [N] (AB)
(1) HYDRANT ASSEMBLY PER DETAIL, FG 222.29 AT FH (AB)
THRUST BLOCK

APPROVED
JAN 17 2008
BY
CITY OF FERNDALE

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 7}

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

DATA	DRAWN BY:	CHECKED BY:	SCALE
BASE	AM	MB	H: 1"=20'
DESIGN	MB	JVY	V: 1"=4'
XREF:			
DWG: ENG_BASE_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
1	10/25/06	NEW SD @ CONNECTION TO NICHOLAS DRIVE	MB
2	1/30/07	WATER MAIN RELOCATION ALONG NICHOLAS DRIVE	MB
3	4/2/07	SD/SS CROSSING IN EXISTING NICHOLAS DRIVE	JVY
REVISIONS			

No.		DATE
2	REVISED PER COF COMMENTS	08/28/06
3	REVISED PER COF COMMENTS	09/28/06
4	AS-BUILT DRAWINGS	10/10/07
5	AS-BUILT DRAWINGS	12/17/07
ISSUE		

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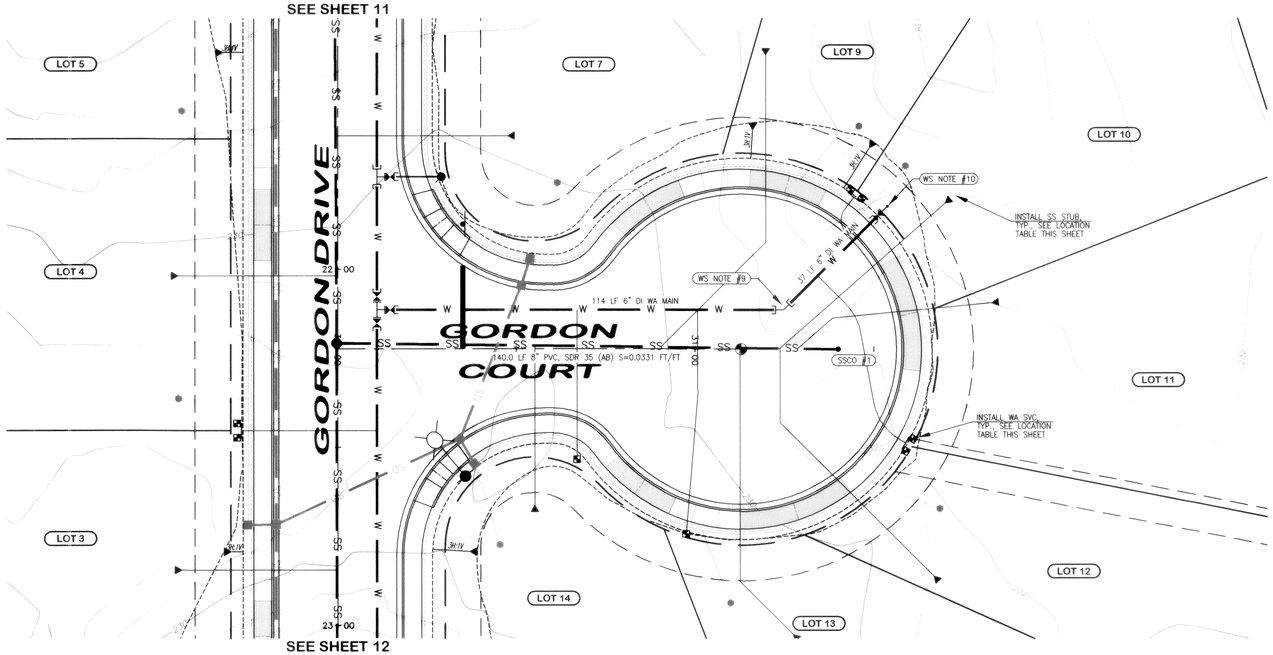
CROWN POINT DEVELOPMENT, INC.
6540 NORTH STAR ROAD
FERNDALE, WA 98248

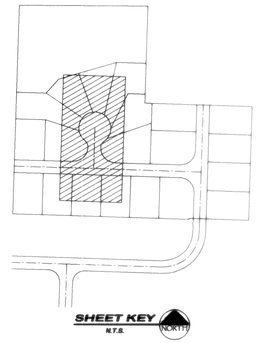
ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
GORDON DRIVE ~ STATIONS 23+00 to 25+25
WATER & SANITARY SEWER IMPROVEMENTS
JOB #: 2005198
SHEET 12 OF 20

REGISTERED PROFESSIONAL ENGINEER
STATE OF WASHINGTON
STEPHEN A. VANDER STOEP
37432
12-20-07
EXPIRES: 10/10/08

CO857.012 1-25-08

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





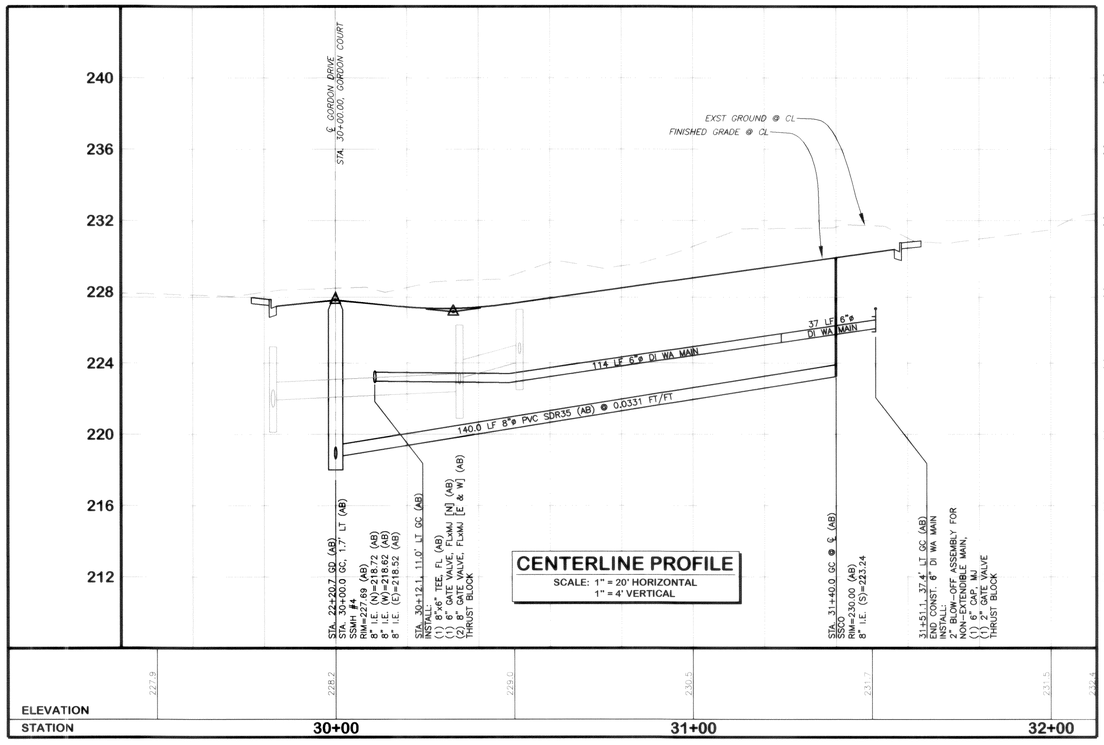
GRAPHIC SCALE
(us survey feet)
20 0 10 20 40
1 inch = 20 feet

SEWER STUB LOCATION TABLE

LOT No.	STREET	STA & OFFSET @ MAIN			TYPE	STA & OFFSET @ STUB		STUB I.E.	DETAIL
9	GORDON CT	31+04.1	0.00	--	SINGLE	31+19.8	82.5 LT (AB)	223.63	SS-6
10	GORDON CT	31+22.2	0.00	--	SINGLE	31+70.0	41.0 LT (AB)	223.94	SS-6
11	GORDON CT	31+27.4	0.00	--	SINGLE	31+83.1	13.1 LT (AB)	224.00	SS-6
12	GORDON CT	31+17.0	0.00	--	SINGLE	31+66.7	63.7 RT (AB)	223.92	SS-6
13	GORDON CT	31+08.4	0.00	--	SINGLE	31+27.4	80.1 RT (AB)	223.74	SS-6
14	GORDON CT	30+56.9	0.00	--	SINGLE	30+55.2	43.9 RT (AB)	221.39	SS-6

WATER SVC LOCATION TABLE

LOT No.	STREET	STA & OFFSET	TYPE
9	GORDON CT	31+44.0 44.0 LT(AB)	1" DUAL
10	GORDON CT	31+45.2 43.0 LT(AB)	
11	GORDON CT	31+60.5 26.2 RT(AB)	1" DUAL
12	GORDON CT	31+59.6 27.0 RT(AB)	
13	GORDON CT	30+97.9 51.6 RT(AB)	3/4" SINGLE
14	GORDON CT	30+66.9 31.0 RT(AB)	3/4" SINGLE



SANITARY SEWER NOTES

SSCO #1
31+40.0, CL (AB)
RIM=230.00 (AB)
8" I.E. (S)=223.24
CLEANOUT PER COFSD SS-5

WATER SYSTEM NOTES

WS NOTE #9
10+26.45, 10.85' LT
INSTALL:
(1) 6" 45° BEND, MJxMJ
THRUST BLOCK

WS NOTE #10
31+51.1, 37.4' LT (AB)
END CONST. 6" DI WA MAIN
INSTALL:
2" BLOW-OFF ASSEMBLY FOR NON-EXTENDIBLE MAIN,
(1) 6" CAP, MJ
(1) 2" GATE VALVE
THRUST BLOCK

APPROVED
JAN 17 2008
BY
CITY OF FERNDALE

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 8}

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

DATA	DRAWN BY:	CHECKED BY:	SCALE
BASE	AM	MB	H: 1"=20'
DESIGN	MB	JVY	V: 1"=4'
XREF:			
DWG: ENG_BASE_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
1	10/25/06	NEW SD @ CONNECTION TO NICHOLAS DRIVE	MB
2	1/30/07	WATER MAIN RELOCATION ALONG NICHOLAS DRIVE	MB
3	4/2/07	SD/SS CROSSING IN EXISTING NICHOLAS DRIVE	JVY
REVISIONS			

No.		DATE
2	REVISED PER COF COMMENTS	08/28/06
3	REVISED PER COF COMMENTS	09/28/06
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FERNDALE, WA 98248

ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
GORDON COURT
WATER & SANITARY SEWER IMPROVEMENTS
JOB #: 2005198
SHEET 13 OF 20

REBECCA VANDERHAM
STATE OF WASHINGTON
17432
REGISTERED PROFESSIONAL ENGINEER
12-20-07
EXPIRES: 10/10/08

00357.018 1.25.08 KB

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1812 CORNWALL, BELLINGHAM, WA 98225 PHONE:671.7387 FAX:671.4685 EMAIL: pse@psesurvey.com www.psesurvey.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 "WHATCOM SILT LOAM" HYDROLOGIC GROUP C AND "WHATCOM LABOUNTY SILT LOAM" HYDROLOGIC GROUP C PER "SOIL SURVEY OF WHATCOM COUNTY," SCS 1992.
3) CONSTRUCTION SCHEDULE-- PENDING APPROVAL OF PLANS FROM CITY OF FERNDALE, BEGINNING FALL 2006.
4) INLET PROTECTION SHALL BE PROVIDED FOR ALL NEW DRAINAGE STRUCTURES IN ADDITION TO WHERE INDICATED ON PLANS.
5) SILT FENCING SHALL BE INSTALLED ALONG PROJECT BOUNDARY IN ADDITION TO WHERE INDICATED ON PLANS.
6) SEE SHEET 15 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
CD	WSDOE BMP C207 CHECK DAMS
OP	WSDOE BMP C209 OUTLET PROTECTION
IP	WSDOE BMP C220 STORM DRAIN INLET PROTECTION (SEE NOTE 4)
SB	WSDOE BMP C241 TEMPORARY SEDIMENT POND
FF	WSDOE BMP C233 SILT FENCE (SEE NOTE 5)

INDICATES CLEARING LIMITS

DRAINAGE FLOW DIRECTION ARROWS (SHEET FLOW OR SHALLOW CHANNEL FLOW)

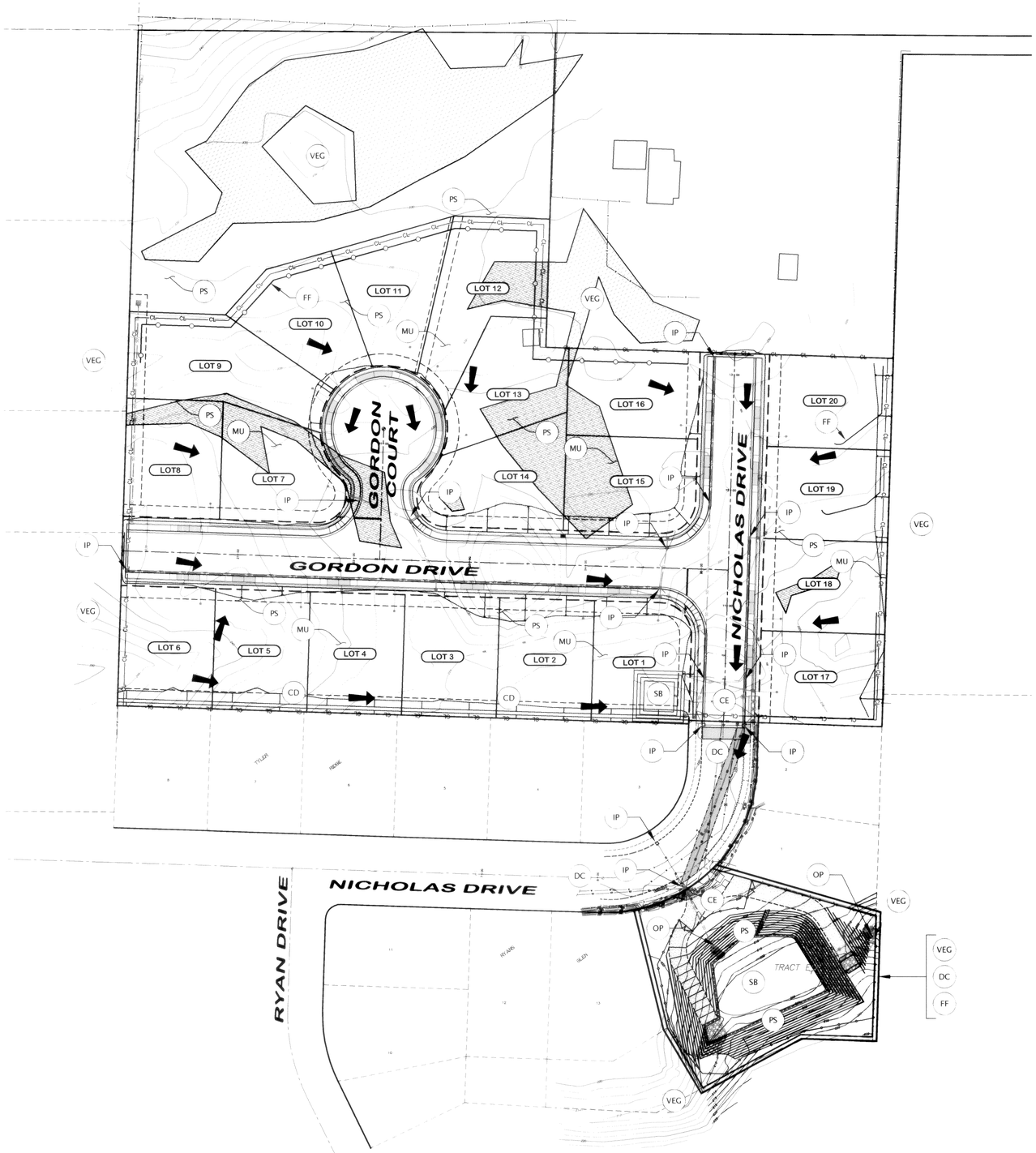
Construction Sequencing:

Part 1:
- 1.1 Construct temporary stilling basin BMP at existing stormwater pond at south end of site to remove sediment from construction activities prior to conveyance into Whiskey Creek.
- 1.2 Construct temporary stilling basin BMP at end of proposed drainage swale along southern property line. Minimum 45'x45' top of basin, 3' deep, 3H:1V side slopes.
- 1.3 Install 12" storm drain main between SDCB #1 and SDCB #15 along Nicholas Drive. Remove and replace catch basin structures as necessary.
- 1.4 Construct drainage swale along southern property line.
- 1.5 Direct all stormwater runoff from development to temporary stilling basins.

Part 2:
- 2.1 Construct balance of stormwater pond, continue using as temporary stilling basin until complete project build out.
- 2.2 Construct proposed road sections and utilities.
- 2.3 Grade lots as necessary and stabilize exposed soil.

Part 3:
- 3.1 Remove stilling basin from end of drainage swale.
- 3.2 Direct all stormwater runoff from development through Stormfilter vault.
- 3.3 Place stormwater pond on-line.

Construct remaining improvements.



GRAPHIC SCALE (in survey feet)
0 40
40 0 20 80
1 inch = 40 feet

APPROVED
JAN 17 2008
BY
CITY OF FERNDALE

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AS-BUILT DRAWING

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

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DWG: ENG_BASE_AB.dwg			
PLAN CHECK			

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FERNDALE, WA 98248

ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS

TEMPORARY EROSION & SEDIMENT CONTROL PLAN

JOB #: 2005198 SHEET 14 OF 20

REGISTERED PROFESSIONAL ENGINEER
ROBERT A. VANDERHOEK
STATE OF WASHINGTON
37432
12-20-07
EXPIRES: 10/10/08

00887.014 1:25:08

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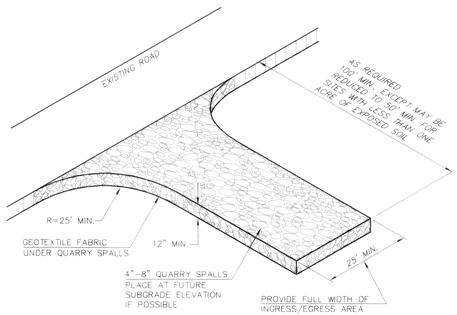
1812 CORNWALL, BELLINGHAM, WA 98225 PHONE:671.7387 FAX:671.4685
EMAIL: pse@psesurvey.com www.psesurvey.com

TEMPORARY EROSION & SEDIMENT CONTROL DETAILS



ROCK STABILIZATION CONSTRUCTION ROAD ENTRANCE

NOT TO SCALE

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.

TEMPORARY EROSION/SEDIMENTATION CONTROL

1. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
2. 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.).
3. 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.
4. 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.
5. 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.
6. 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.
7. THE TESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
8. 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.).
9. ANY AREA NEEDING TESC MEASURES, NOT REQUIRING IMMEDIATE ATTENTION, SHALL BE ADDRESSED WITHIN FIFTEEN (15) DAYS.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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.
15. 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).
16. WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF TWO INCHES.
17. ALL EROSION/SEDIMENTATION CONTROL PONDS WITH A DEAD STORAGE DEPTH EXCEEDING 6 INCHES MUST HAVE SLOPES NOT STEEPER THAN 3H:1V.
18. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.
19. 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

1. 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.
2. 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

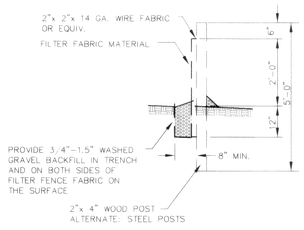
1. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-INCH OVERLAP AND BOTH ENDS SECURELY FASTENED TO THE POST.
2. THE FILTER FABRIC 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).
3. 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.
4. 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, TIE 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.
5. 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.
6. 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.
7. THE TRENCH SHALL BE BACKFILLED WITH 3/4-INCH MINIMUM DIAMETER WASHED GRAVEL.
8. FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
9. FILTER FABRIC FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

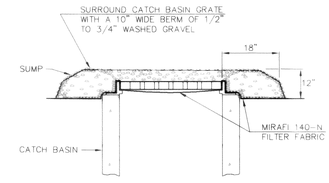
SEEDING NOTES

1. SEEDBED PREPARATION MAY INCLUDE THE FOLLOWING:
   - A. IF INFERTILE OR COURSE 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.
   - B. IF CONSTRUCTION FILLS HAVE LEFT SOIL EXPOSED WITH A LOOSE, ROUGH OR IRREGULAR SURFACE, TRACK WALK UP SLOPE.
   - C. IF CUTS OR CONSTRUCTION EQUIPMENT HAVE LEFT A TIGHTLY COMPACTED SURFACE, BREAK WITH CHISEL PLOW OR OTHER SUITABLE EQUIPMENT.
   - D. 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.
2. FERTILIZATION - AS PER SUPPLIER'S RECOMMENDATIONS. DEVELOPMENTS ADJACENT TO WATER BODIES MUST USE NON-PHOSPHOROUS FERTILIZER.
3. HYDROSEEDING APPLICATIONS WITH APPROVED SEED-MULCH-FERTILIZER MIXTURES MAY ALSO BE USED.
4. 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
REDTOP OR COLONIAL BENTGRASS	10%	92	85
WHITE DUTCH CLOVER	10%	98	90

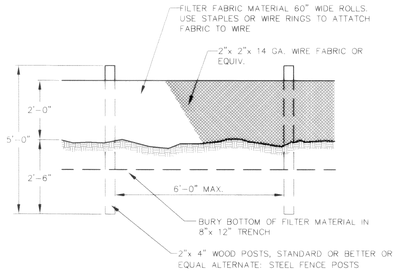
MULCH SPECIFICATIONS			
Mulch Material	Quality Standards	Application Rates	Remarks
Straw	Air-dried; free from undesirable seed and coarse material	2"-3" thick; 2-3 bales per 1000 sq. ft. or 2-3 tons per acre	Cost-effective protection when applied with adequate thickness. Hand-application generally requires 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 munch, 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

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AS-BUILT DRAWING

APPROVED
JAN. 17 2008
BY
CITY OF FERNDALE

CO 867.01S 1.25.08

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DESIGN: SEE SURVEY NOTES, SHEET 1			
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PLAN CHECK			

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REVISIONS			

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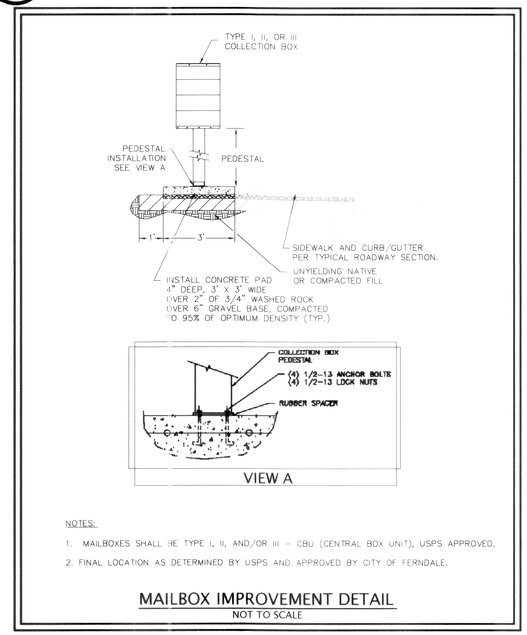
ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
TEMPORARY EROSION & SEDIMENT CONTROL DETAILS
JOB #: 2005198 SHEET 15 OF 20

REGISTERED PROFESSIONAL ENGINEER
37432
12-20-07
EXPIRES: 10/10/08

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

ROADWAY & SURFACE IMPROVEMENT DETAILS

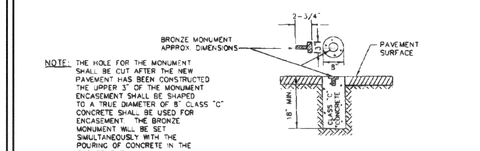


NOTES:

1. MAILBOXES SHALL BE TYPE I, II, AND/OR III – CBU (CENTRAL BOX UNIT), USPS APPROVED.
2. FINAL LOCATION AS DETERMINED BY USPS AND APPROVED BY CITY OF FERNDALE.

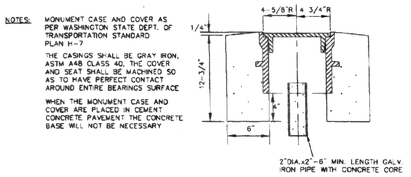
MAILBOX IMPROVEMENT DETAIL

NOT TO SCALE



NOTE: THE HOLE FOR THE MONUMENT SHALL BE CUT AFTER THE NEW PAVEMENT HAS BEEN CONSTRUCTED THE UPPER 3" OF THE MONUMENT ENCASEMENT SHALL BE SHAPED TO A TRUE DIAMETER OF 8" CLASS "C" CONCRETE SHALL BE USED FOR ENCASEMENT. THE BRONZE MONUMENT WILL BE SET SIMULTANEOUSLY WITH THE POURING OF CONCRETE IN THE ENCASEMENT

SURVEY MONUMENT DETAIL



NOTES: MONUMENT CASE AND COVER AS PER WASHINGTON STATE DEPT. OF TRANSPORTATION STANDARD PLAN H-7

THE CASINGS SHALL BE GRAY IRON, ASTM A48 CLASS 40. THE COVER AND SEAT SHALL BE MACHINED SO AS TO HAVE PERFECT CONTACT AROUND ENTIRE BEARINGS SURFACE.

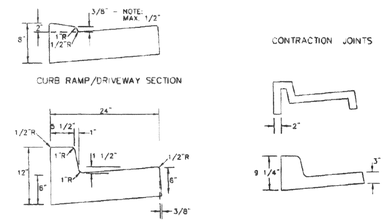
WHEN THE MONUMENT CASE AND COVER ARE PLACED IN CEMENT CONCRETE PAVEMENT THE CONCRETE BASE WILL NOT BE NECESSARY

SURVEY MONUMENT AND CASE DETAILS

NOT TO SCALE

APPROVED	CITY OF FERNDALE	DRAWING
Public Works Director Date	SURVEY MONUMENTS FOR ON-ROAD USE	S-2

JUNE 1995 — 2091SVIA/S-2



GENERAL NOTES:

CONTRACTION JOINTS OF ONE OF THE TYPES SHOWN ABOVE TO BE PLACED 10' C/C. JOINTS MUST COMPLETELY SEVER THE STRUCTURE TO THE POINTS SHOWN. JOINTS MAY BE MADE BY INSERTING MINIMUM 3/16" BITUMINOUS FILLER DUMMY JOINTS. JOINTS SHALL BE CLEANED AND EDGED.

2" WEEP HOLES TO BE PLACED ON EACH SIDE OF DRIVEWAY SECTION AND A MAXIMUM 60' C/C IN CUT SECTIONS WHERE SIDEWALK DRAIN NOT REQUIRED BY CITY PUBLIC WORKS DIRECTOR.

3/4" EXPANSION JOINTS TO BE PLACED AT DRIVEWAY SECTIONS, CURB RETURNS, CURB RAMPS AND COLD JOINTS OR A MAXIMUM OF 60' C/C. EXPANSION JOINTS SHALL PROTRUDE ½" BELOW THE BOTTOM OF GUTTER.

CONCRETE SHALL BE CEMENT CONCRETE CLASS 3000.

FINISHED WORK SHALL NOT VARY MORE THAN 1/8" IN GRADE AND 1/4" IN ALIGNMENT WHEN CHECKED WITH 10' STRAIGHT EDGE.

EXPOSED SURFACES SHALL BE BRUSHED WITH A FIBER BRUSH.

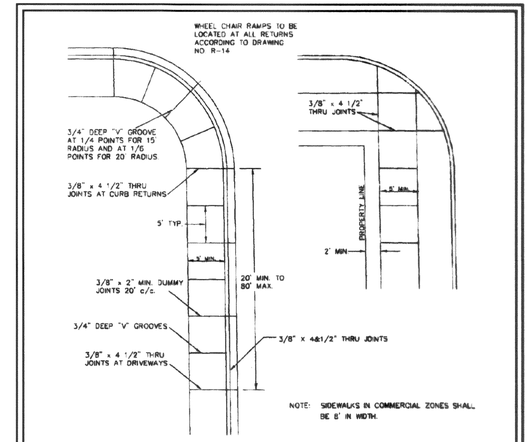
WHITE PIGMENTED OR TRANSPARENT CURING COMPOUND SHALL BE APPLIED AS OUTLINED IN THE STANDARD SPECIFICATIONS.

FURTHER REQUIREMENTS SHALL BE AS SPECIFIED IN THE STANDARD SPECIFICATIONS.

NOT TO SCALE

APPROVED	CITY OF FERNDALE	DRAWING
Public Works Director Date	CURB AND GUTTER	R-9

JUNE 1995 — 2091RD2A/R-9

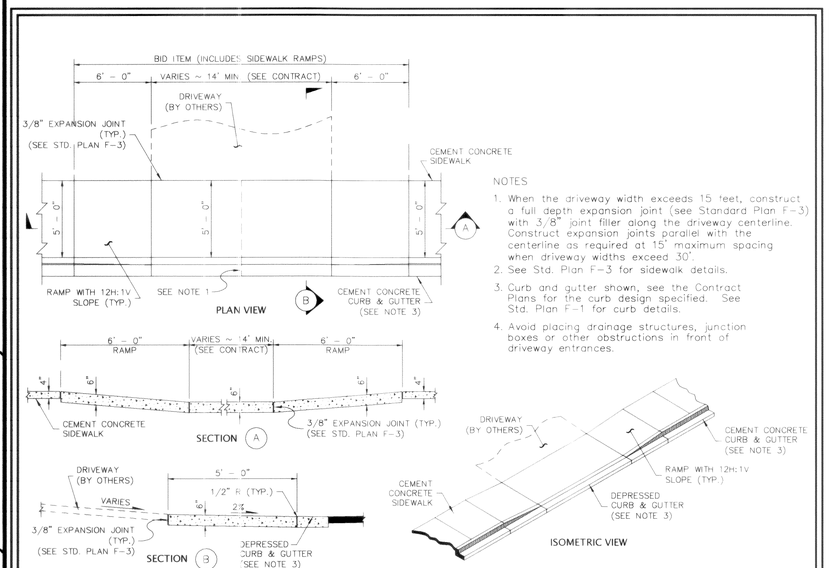


NOTE: SIDEWALKS IN COMMERCIAL ZONES SHALL BE 8' IN WIDTH.

NOT TO SCALE

APPROVED	CITY OF FERNDALE	DRAWING
Public Works Director Date	TYPICAL SIDEWALK PLAN AND CROSS SECTION	R-12

JUNE 1995 — 2091RD2A/R-12



NOTES

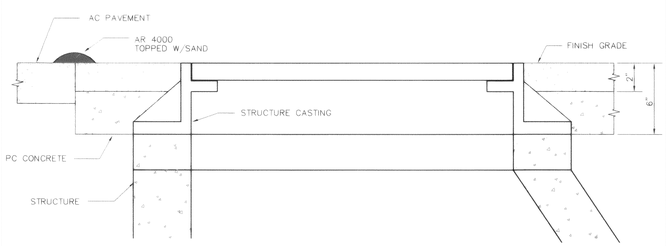
1. When the driveway width exceeds 15 feet, construct a full depth expansion joint (see Standard Plan F-3) with 3/8" joint filler along the driveway centerline. Construct expansion joints parallel with the centerline as required at 15' maximum spacing when driveway widths exceed 30'.
2. See Std. Plan F-3 for sidewalk details.
3. Curb and gutter shown, see the Contract Plans for the curb design specified. See Std. Plan F-1 for curb details.
4. Avoid placing drainage structures, junction boxes or other obstructions in front of driveway entrances.

CONCRETE DRIVEWAY APPROACH DETAIL

NOTES:

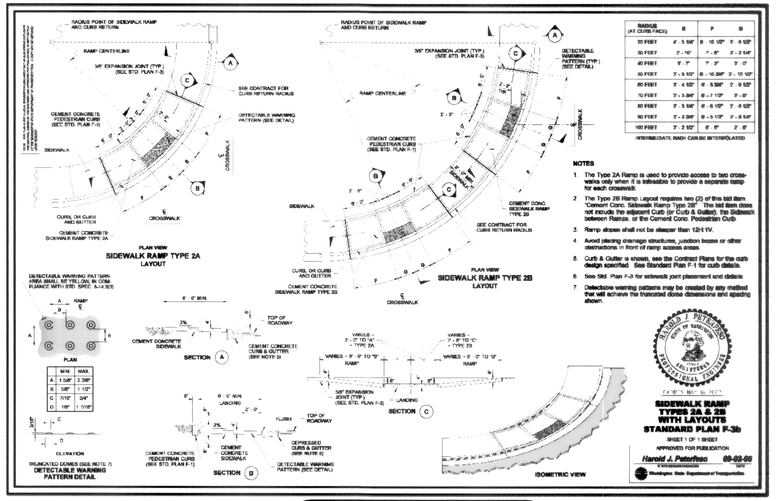
ALL FRAMES, COVERS AND VALVE BOXES SHALL BE RAISED TO FINISHED GRADE AFTER THE FINAL LIFT OF PAVING HAS BEEN COMPLETED. THE FOLLOWING PROCEDURE SHALL BE USED:

1. CUT THE ASPHALT IN AN EVEN CIRCLE AROUND THE STRUCTURE CASTING TO BE ADJUSTED.
2. REMOVE THE FILL MATERIAL WITHIN THE CUT PAVEMENT AREA TO 6 INCHES MIN. BELOW FINISH GRADE.
3. PLACE THE CASTING AT FINISH GRADE.
4. PLACE PORTLAND CEMENT CONCRETE TO WITHIN THE TOP 2 INCHES OF FINISH GRADE.
5. APPLY TACK TO THE STRUCTURE CASTING, CUT PAVEMENT, AND PC CONCRETE.
6. 6. PLACE AND COMPACT 2 INCHES OF ASPHALT CONCRETE CLASS B TO FINISH GRADE.
7. SEAL PAVEMENT JOINTS WITH HOT AR4000 AND TOP WITH SAND.



ADJUSTING CASTINGS TO FINISHED GRADE

NTS



NOTES

1. The Type 2A Ramp is used to provide access to two crosswalks only when it is infeasible to provide a separate ramp for each crosswalk.
2. The Type 2B Ramp Layout requires two (2) of this bid item "Cement Conc. Sidewalk Ramp Type 2B". 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-1 for curb details.
6. See Std. Plan F-3 for sidewalk joint placement and details.
7. Detectable warning patterns may be created by any method that will achieve the truncated dome dimensions and spacing shown.

SIDEWALK RAMP TYPES 2A & 2B WITH LAYOUTS STANDARD PLAN F-3b

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Harold J. Peterfreund 09-02-05

Washington State Department of Transportation

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

AS-BUILT DRAWING

APPROVED
JAN 17 2008
BY
CITY OF FERNDALE

FIELD BOOKS	TBM NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

DATA	DRAWN BY	CHECKED BY	SCALE
BASE	AM	MB	HORIZ: N.A.
DESIGN	MB	JVY	VERT: N.A.
XREF:			
DWG: COVER_NOTES_DETAILS_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
REVISIONS			

No.		DATE
2	REVISED PER COF COMMENTS	08/28/06
3	REVISED PER COF COMMENTS	09/28/06
4	AS-BUILT DRAWINGS	10/12/07
5	AS-BUILT DRAWINGS	12/17/07
ISSUE		

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CROWN POINT DEVELOPMENT, INC.
6540 NORTH STAR ROAD
FERNDALE, WA 98248

ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
ROADWAY & SURFACE IMPROVEMENT DETAILS
JOB #: 2005198
SHEET 16 OF 20

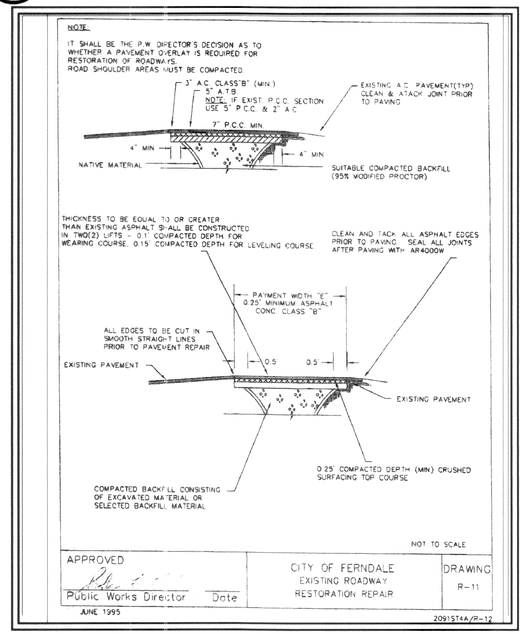
REGISTERED PROFESSIONAL ENGINEER — JAMES V. TANDERUP — 37432 — STATE OF WASHINGTON
12-20-07
EXPIRES: 10/10/08

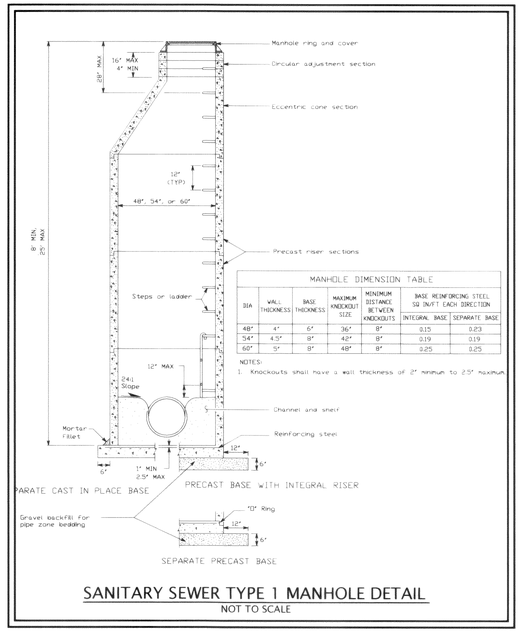
00857.010 1:25.08

SANITARY SEWER & STORM DRAINAGE DETAILS

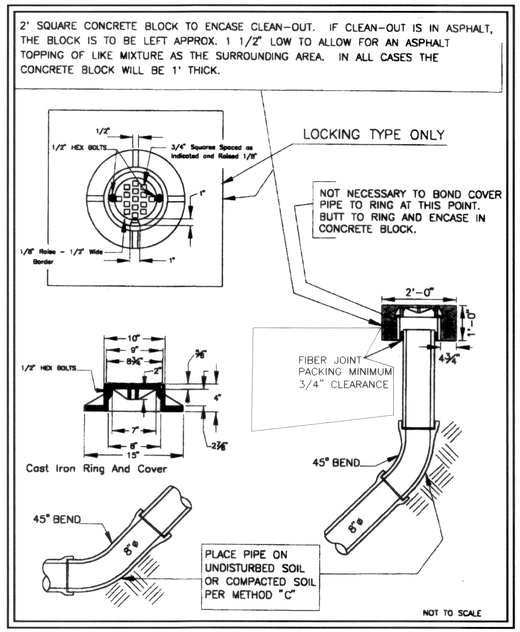
PACIFIC SURVEY & ENGINEERING INC
1812 CORNWALL, BELLINGHAM, WA 98225 PHONE: 671.7387 FAX: 671.4685
www.psesurvey.com EMAIL: pse@psesurvey.com

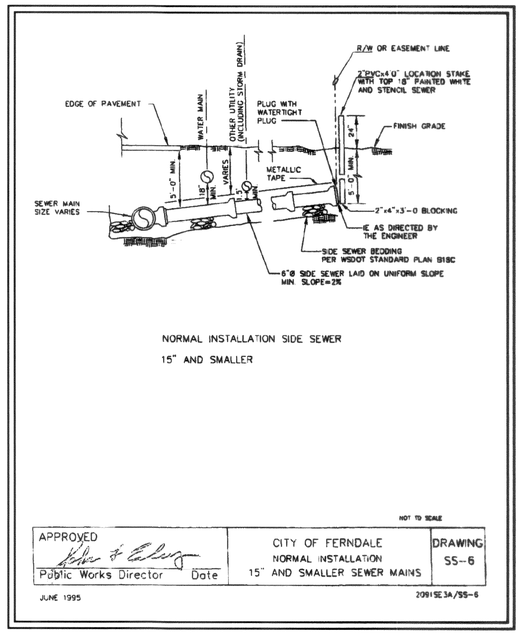
C0887.017 1:25.00

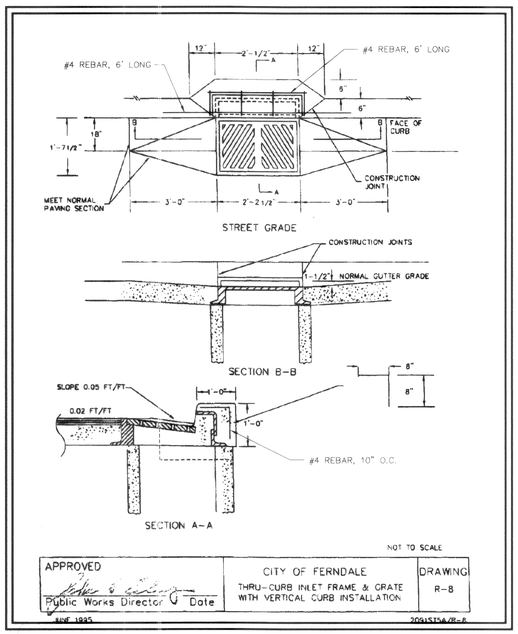


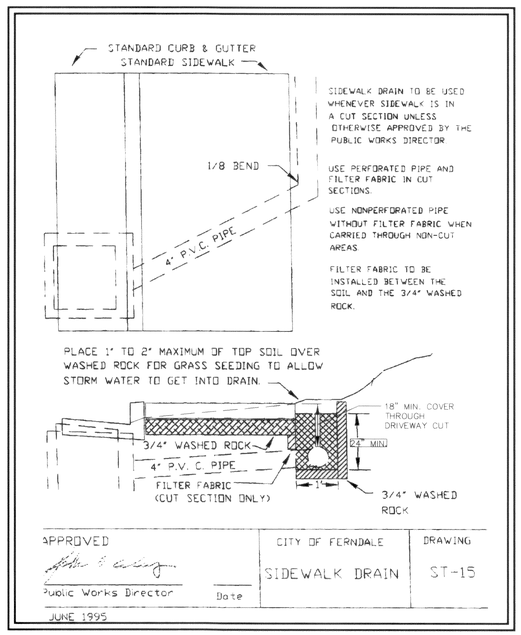


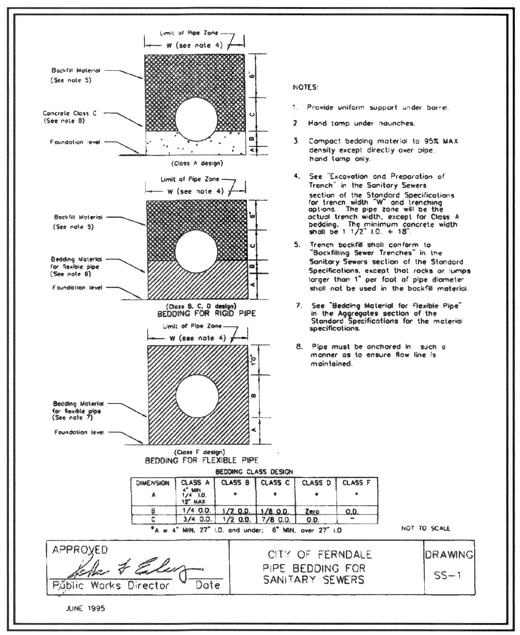
SANITARY SEWER TYPE 1 MANHOLE DETAIL
NOT TO SCALE

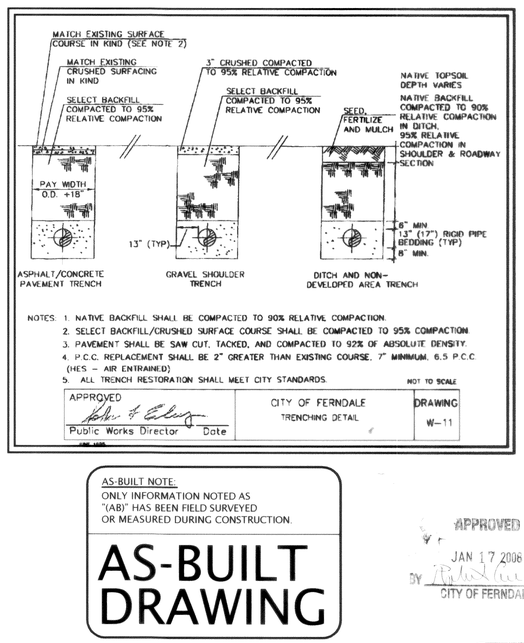












AS-BUILT NOTE:
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AS-BUILT DRAWING

APPROVED
JAN 17 2008
BY
CITY OF FERNDALE

FIELD BOOKS	TBM. NO.	LOCATION	ELEV.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE		VERTICAL DATUM	

DATA	DRAWN BY	CHECKED BY	SCALE
BASE	AM	MB	HORIZ: N.A.
DESIGN	MB	JVY	VERT: N.A.
XREF:			
DWG: COVER_NOTES_DETAILS_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
REVISIONS			

No.		DATE
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4	AS-BUILT DRAWINGS	10/12/07
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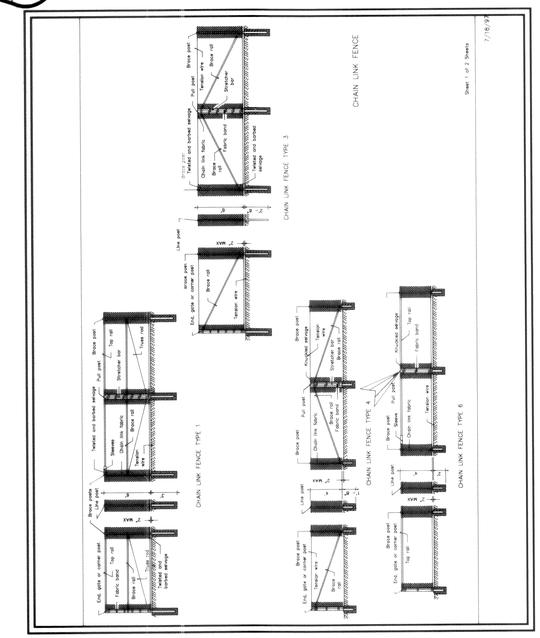
CROWN POINT DEVELOPMENT, INC.
6540 NORTH STAR ROAD
FERNDALE, WA 98248

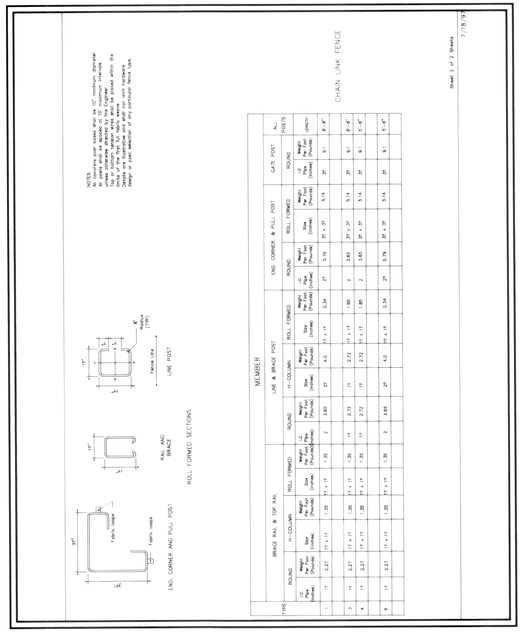
ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
SANITARY SEWER & STORM DRAINAGE DETAILS
JOB #: 2005198
SHEET 17 OF 20

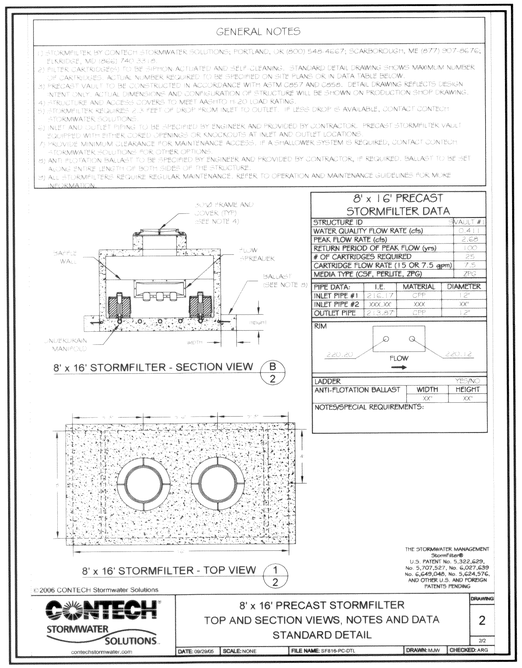
REGISTERED PROFESSIONAL ENGINEER 17432 BRADLEY A. VANDER STOEP 12-20-07
EXPIRES: 10/10/08

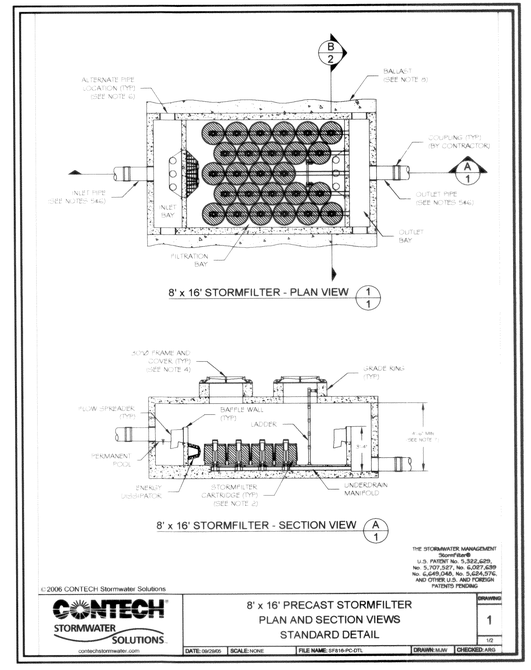
PACIFIC SURVEY & ENGINEERING INC
1812 CORNWALL, BELLINGHAM, WA 98225 PHONE:671.7387 FAX:671.4685
EMAIL: pse@psesurvey.com www.psesurvey.com

STORM DRAINAGE DETAILS









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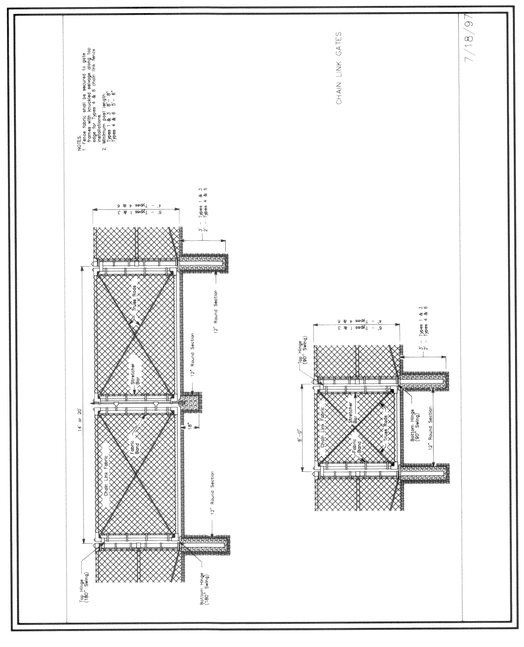
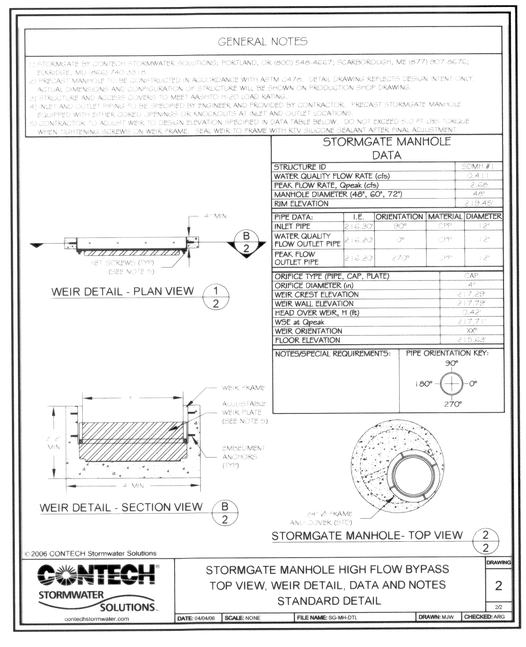
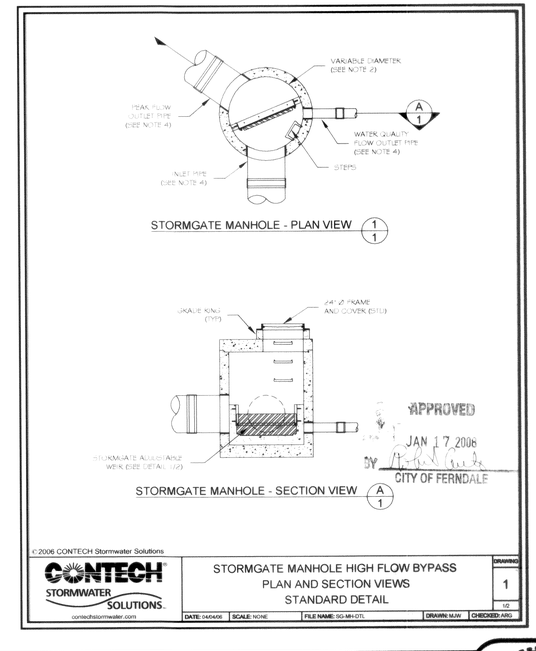
AS-BUILT DRAWING







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STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

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DESIGN	MB	JVY	VERT: N.A.
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REVISIONS			

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6540 NORTH STAR ROAD
FERNDALE, WA 98248

ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
STORM DRAINAGE DETAILS

JOB #: 2005198
SHEET 18 OF 20

REGISTERED PROFESSIONAL ENGINEER
BRADLEY A. VANDERWALL
37432
12-20-07
EXPIRES: 10/10/08

00357.018 1.25.08 KP

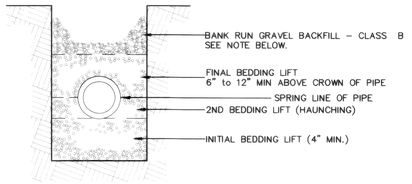
WATER SYSTEM DETAILS

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–

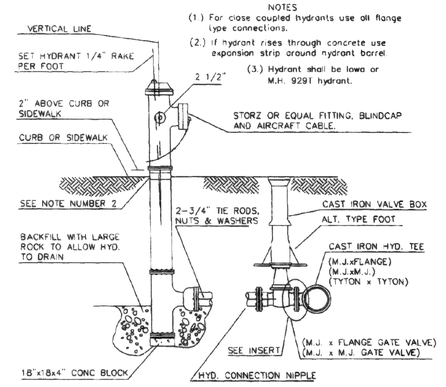
BEDDING MATERIAL FOR THE DUCTILE IRON PIPE SHALL BE SELECT GRANULAR MATERIAL FREE FROM WOOD WASTE, ORGANIC MATERIAL, OR OTHER EXTRANEOUS OR OJECTIONALBLE MATERIALS AND SHALL HAVE A MAXIMUM DIMENSION OF 1–1/2 INCHES OR APPROVED PIPE BEDDING PER WSDOT SPECIFICATION SECTION 7–10.3(9). MATERIAL SHALL BE PLACED TO A MIMIMUM DIPETH 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

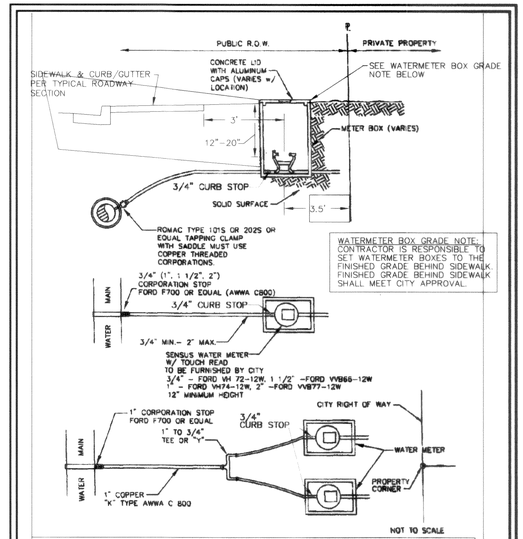
NOTES
(1.) For close coupled hydrants use all flange type connections.
(2.) If hydrant rises through concrete use expansion strip around hydrant barrel.
(3.) Hydrant shall be Iowa or M.H. 929T hydrant.



NOT TO SCALE

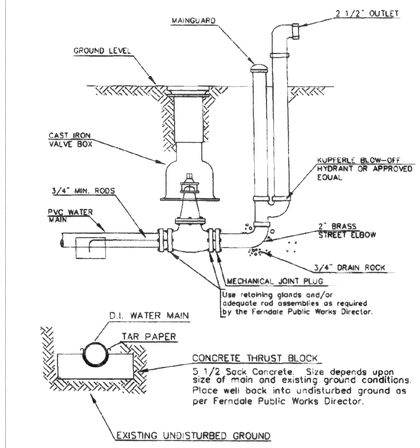
APPROVED	CITY OF FERNDALE	DRAWING
Public Works Director Date	FIRE HYDRANT ASSEMBLY	W–1

JUNE 1995



NOT TO SCALE

TYPICAL WATER SERVICE (3/4" TO 2")

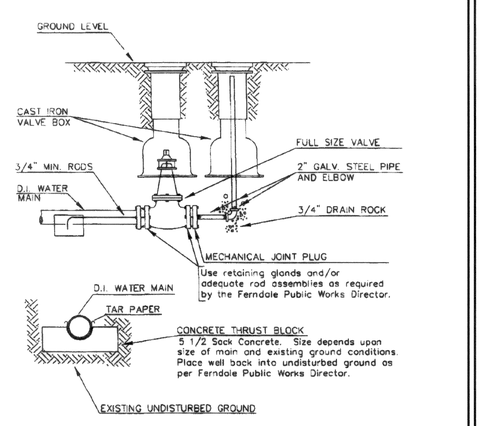


2" blow–off, non–extendable main to be used where mains will not be extended. For mains with future extension, refer to 2" blow–off.

NOT TO SCALE

APPROVED	CITY OF FERNDALE	DRAWING
Public Works Director Date	2" BLOW–OFF NON–EXTENDABLE MAIN	W–10

JUNE 1995 2091WA1A/W–10

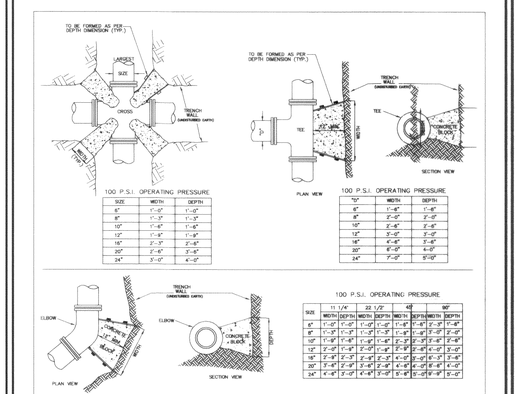


2" blow–off to be used where the main will extended in the future. For mains with no further extension, refer to 2" blowoff, non–extendable main.

NOT TO SCALE

APPROVED	CITY OF FERNDALE	DRAWING
Public Works Director Date	2" BLOW–OFF WATER MAIN EXTENSION	W–9

JUNE 1995



1. PLACE 8 MIL. POLYETHYLENE BETWEEN CONCRETE AND FITTING.
2. ALL THRUST BLOCKING SHALL BE CAST–IN–PLACE CONCRETE HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.
3. THRUST BLOCKING SHALL BE CAST AGAINST UNDISTURBED EARTH. THRUST BLOCK ORIENTATION SHALL BE SUCH THAT THE CENTER OF THE FITTING CORRESPONDS WITH THE CENTER OF THE THRUST BLOCK.
4. ALL DIMENSIONS APPLY TO STABLE TRENCH WALLS, UNDER VARIABLE CONDITIONS, SIZE OF THRUST BLOCK SHALL BE DETERMINED BY CITY ENGINEER.

APPROVED
FEB 1 JAN 17 2008
BY
CITY OF FERNDALE

THRUST BLOCK DETAILS
NTS.

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.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

DATA	DRAWN BY	CHECKED BY	SCALE
BASE	AM	MB	HORIZ: N.A.
DESIGN	MB	JVY	VERT: N.A.
XREF:			
DWG: COVER_NOTES_DETAILS_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
REVISIONS			

No.		DATE
2	REVISED PER COF COMMENTS	08/28/06
3	REVISED PER COF COMMENTS	09/28/06
4	AS–BUILT DRAWINGS	10/12/07
5	AS–BUILT DRAWINGS	12/17/07
ISSUE		

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CROWN POINT DEVELOPMENT, INC.
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FERNDALE, WA 98248

ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
WATER SYSTEM DETAILS

JOB #: 2005198

SHEET 19 OF 20

STATE OF WASHINGTON 37432 REGISTERED PROFESSIONAL ENGINEER 12-20-07
EXPIRES: 10/10/08

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

00357.019 1.25.08 KW

PACIFIC SURVEY & ENGINEERING INC
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GENERAL CONSTRUCTION NOTES

GENERAL REQUIREMENTS

1. 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 FERNDALE DEVELOPMENT STANDARDS. IN CASE OF A CONFLICT BETWEEN PLANS, REGULATORY STANDARDS OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT WILL PREVAIL.

2. 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.

3. THE CONTRACTOR SHALL OBTAIN REVOCABLE ENCROACHMENT PERMITS FROM THE CITY OF FERNDALE AND WHATCOM COUNTY PRIOR TO COMMENCING WORK WITHIN PUBLIC RIGHTS-OF-WAY.

4. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH REPRESENTATIVES OF THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT AND THE PROJECT ENGINEER A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

5. ALL WORK AND MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE CITY OF FERNDALE. REPRESENTATIVES FROM THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT MUST INSPECT ALL WORK. THE CONTRACTOR SHALL CALL AT LEAST 24 HOURS IN ADVANCE TO SCHEDULE INSPECTIONS AS FOLLOWS:
   A. PLACEMENT OF TEMPORARY EROSION CONTROL MEASURES.
   B. 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 FERNDALE.
   C. 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 FERNDALE.
   D. GRADING OF PUBLIC ROADWAY AT:
      1) COMPLETION OF EXCAVATION TO SUBGRADE.
      2) COMPLETION OF BALLAST COURSE PLACEMENT.
      3) COMPLETION OF CRUSHED SURFACING COURSE PLACEMENT.
   E. POURING OF CURB AND GUTTER AND SIDEWALK IN PUBLIC ROADWAY.
   F. ASPHALT PAVING IN PROGRESS IN PUBLIC ROADWAY.
   G. OVERALL INSPECTION FOR FINISHED SHOULDERS, DITCHES, PERMANENT SEEDING AND MONUMENT PLACEMENT.
   H. END OF MAINTENANCE PERIOD.

6. 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.

7. 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 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.

8. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

9. THE CONTRACTOR SHALL INFORM THE ENGINEER AND OBTAIN APPROVAL FROM THE CITY OF FERNDALE 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 FERNDALE PUBLIC WORKS DEPARTMENT.

10. 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.

11. 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.

12. 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.

13. THROUGHOUT THE PERIOD OF CONSTRUCTION, CONTRACTOR SHALL COMPLY WITH THE TERMS OF ALL PERMITS.

14. 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.

15. 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 FERNDALE PUBLIC WORKS DIRECTOR. CONTRACTOR SHOULD DETERMINE THESE REQUIREMENTS PRIOR TO THE START OF CONSTRUCTION.

16. ALL PORTLAND CEMENT CONCRETE SHALL BE APWA CLASS 3000, PER APWA STANDARD SPECIFICATIONS, SECTION 6-02.3(2)B.

17. UNDERGROUND UTILITIES CONSTRUCTION

   A. 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.

   B. THE CONSTRUCTION OF UNDERGROUND UTILITY LINES SHALL BE SUBJECT TO THE FOLLOWING CRITERIA:
      i. NO MORE THAN 500 FEET OF TRENCH SHALL BE OPENED AT ONE TIME.
      ii. WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF DITCHES.
      iii. TRENCH DEWATERING DEVICES SHALL DISCHARGE INTO SEDIMENT TRAPS OR SEDIMENT PONDS.
      iv. WHERE PRACTICAL, INSTALL GRAVITY PIPE UTILITIES PRIOR TO INSTALLATION OF OTHER UTILITIES.

   C. UTILITY CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF FERNDALE DEVELOPMENT STANDARDS.

   D. 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

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

TYPICAL STREET SECTION	TYPICAL SECTION ON SHEET 1 OF THESE PLANS
PCC CURB AND GUTTER	CITY OF FERNDALE STANDARD DETAIL (COFSD) R-9
PCC SIDEWALKS	COFSD R-12 & TYP. SECTION ON SHEET 1
PCC CURB RAMPS, ADA APPROACHES	WSDOT STD. DETAIL F-3
SIDEWALK DRAINS	COFSD ST-15
MONUMENTS	COFSD S-2

2. ALTERNATE PAVEMENT SECTIONS, WHEN DESIGNED BY A LICENSED GEOTECHNICAL ENGINEER, MAY BE SUBMITTED TO THE CITY OF FERNDALE PUBLIC WORKS DIRECTOR FOR CONSIDERATION AND, IF APPROVED, USED IN PLACE OF THE PAVEMENT SECTION SHOWN ON THESE PLANS.

3. 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 FERNDALE 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.

4. 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.

5. EARTHWORK

   A. THE CONTRACTOR SHALL CLEAR, GRUB AND CLEAN UP THOSE AREAS SHOWN ON THE PLANS.

   B. 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.

   C. THE CONTRACTOR SHALL REMOVE AND REPLACE ALL EXISTING UNCOMPACTED OR POORLY COMPACTED FILL SOILS WITHIN THE THE ROAD PRISM AT THE DIRECTION OF THE ENGINEER.

   D. THE CONTRACTOR SHALL EXCAVATE AND GRADE TO THE ALIGNMENT, GRADE AND CROSS-SECTIONS SHOWN IN THE PLANS OR ESTABLISHED BY THE ENGINEER.

   E. MAXIMUM DENSITY AND OPTIMUM MOISTURE FOR GRANULAR MATERIALS WILL BE DETERMINED USING ASTM D-1557 TEST METHOD.

   F. 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.

   G. THE ENGINEER IS REQUIRED TO CERTIFY SUBGRADE, IN WRITING, PRIOR TO PAVING.

6. BASE COURSES

   A. GRAVEL BASES AND BALLAST SHALL NOT HAVE THE PERCENT PASSING THE U.S. NO. 200 SIEVE EXCEED 5%.

   B. BALLAST, GRAVEL BASE AND CRUSHED SURFACING SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DRY DENSITY.

   C. OWNER SHALL BE RESPONSIBLE FOR ALL COMPACTION TESTING. ALL TESTING SHALL BE THROUGH ENG. REV. ACCOUNT AND PAID FOR BY OWNER.

7. PAVEMENTS

   A. SOIL RESIDUAL HERBICIDE SHALL BE PLACED WITHIN 24 HOURS OF PAVING.

   B. A TACK COAT OF ASPHALT SHALL BE APPLIED BETWEEN ALL COURSES OF ASPHALT.

   C. ALL PAVEMENT REPAIR SHALL BE SAW-CUT BEFORE REMOVAL. AR-4000W SHALL BE APPLIED TO ALL EDGES OF EXISTING PAVEMENT.

   D. 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.

   E. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE REQUIREMENTS OF THE MUTCD.

8. STREET LIGHTING

   A. CONTRACTOR SHALL PROVIDE STREET ILLUMINATION IN ACCORDANCE WITH THE PROVISIONS OF SECTION 707 OF THE CITY OF FERNDALE 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 NO MORE THAN 250' APART, MEASURED ALONG THE PAVEMENT CENTERLINE. POLE LOCATIONS ARE SHOWN ON THESE PLANS.

   B. FINAL LOCATIONS OF STREET LIGHTS IS TO BE COORDINATED WITH PUGET SOUND ENERGY.

   C. CONTRACTOR IS TO COMPLY WITH THE SPECIFICATIONS SHOWN ON WSDOT STANDARD DETAIL J-11A, STANDARD JUNCTION BOX, UNLESS OTHERWISE DIRECTED BY THE CITY OF FERNDALE PUBLIC WORKS DIRECTOR.

   D. CONTRACTOR MUST INFORM THE CITY OF FERNDALE PUBLIC WORKS DIRECTOR OF A PROPOSED CONNECTION AT LEAST FOUR (4) WORKING DAYS IN ADVANCE.

9. MAILBOXES

   A. MAILBOX STRUCTURES SHALL BE IN ACCORDANCE WITH DETAIL SHEET 16. FINAL LOCATION AS DETERMINED BY USPS AND APPROVED BY CITY OF FERNDALE.

   B. MAILBOXES SHALL BE TYPE I, II, AND/OR III - CBU (CENTRAL BOX UNIT), USPS APPROVED.

STORM DRAINAGE

1. THE FOLLOWING STANDARD DETAILS SHALL BE USED FOR CONSTRUCTION OF STORM DRAIN IMPROVEMENTS:

"MAIN LINE" CATCH BASINS	TYPE 1, 1L OR 2, WSDOT STD. DETAILS B-1, B-1A OR B-1E
"RESIDENTIAL SERVICE LINE" CATCH BASINS	CITY OF FERNDALE STANDARD DETAIL (COFSD) ST-7
THRU-CURB INLET FRAME AND GRATE	CITY OF FERNDALE STANDARD DETAIL (COFSD) ST-8
SIDEWALK DRAINS	COFSD ST-15

2. 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.

3. STORM SEWER PIPE HAVING DIAMETERS GREATER THAN 8" SHALL BE CORRUGATED POLYETHYLENE PIPE (CPP) 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.

4. BACK OF WALK DRAIN SHALL BE 4" SMOOTH WALL PERFORATED PVC PIPE, ASTM D 3034 SDR35, INSTALLED IN CUT SECTIONS PER COFSD ST-15.

5. ALL CATCH BASIN GRATES SHALL INCLUDE THE STAMPING "OUTFALL TO STREAM, DUMP NO POLLUTANTS".

6. 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".

7. 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.

8. 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.

9. 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.

10. ALL STORM STUB INVERT ELEVATIONS SHALL BE CONSTRUCTED TO FACILITATE POSITIVE FLOW TO CATCH BASIN.

SANITARY SEWER

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

PIPE BEDDING	CITY OF FERNDALE STANDARD DETAIL (COFSD) SS-1
TRENCH BACKFILL	COFSD SS-15 & SS-1 & WSDOT STD. SPEC. SEC. 9-03.12
SS MANHOLE, TYPE 1-48"	COFSD SS-2
SSMH RING & COVER, TYPE 2	COFSD SS-9 (BOLT DOWN/WATERTIGHT)
SS CLEANOUTS	COFSD SS-5
SIDE SEWERS	COFSD SS-6, SS-8 & SS-13

2. 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 FERNDALE.

3. ALL WORK MUST BE INSPECTED TO THE SATISFACTION OF THE CITY OF FERNDALE. 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 FERNDALE REPRESENTATIVE.

4. 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.

5. 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.

6. ALL MANHOLES SHALL BE INSTALLED PER CITY OF FERNDALE 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.

7. ALL SIDE SEWERS SHALL BE INSTALLED PER CITY OF FERNDALE STANDARD DETAILS SS-6, SS-8 OR SS-13, EXCEPT THAT SINGLE SIDE SEWERS SHALL HAVE A MINIMUM DIAMETER OF 4".

8. CONTRACTOR SHALL EXTEND SEWER STUBS 5 FEET BEYOND UTILITY CORRIDOR OR 15 FEET BEYOND RIGHT-OF-WAY LINE.

9. 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

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

PIPE BEDDING	SEE DETAIL, SHEET 16
TRENCH BACKFILL	COFSD W-11 & WSDOT STD. SPEC. SEC. 9-03.12
BLOW-OFF ASSEMBLY	COFSD W-9 & W-10
FIRE HYDRANT ASSEMBLY	COFSD W-1
THRUST BLOCKING	COFSD W-2, W-3 & W-4
WATER SERVICE	COFSD W-6, & DETAIL SHEET 16

2. 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 FERNDALE DEVELOPMENT STANDARDS, SECTIONS 702 AND 705.

3. 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.

4. CONCRETE BLOCKING SHALL BE AS SPECIFIED IN CITY OF FERNDALE 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(13) OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE OR MUNICIPAL CONSTRUCTION. NO PRE-CAST BLOCKS ARE ALLOWED.

5. CONNECTIONS TO EXISTING WATER MAINS - THE CONTRACTOR MUST NOTIFY THE CITY OF FERNDALE 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.

6. 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 FERNDALE REQUIREMENTS. ALL DISINFECTION AND BACTERIOLOGICAL TESTS SHALL BE CONDUCTED BY THE CITY OF FERNDALE LABORATORY. THE PIPE WILL NOT PASS TESTING UNLESS A ZERO BACTERIAL COUNT IS MEASURED ON TWO CONSECUTIVE TESTS, CONDUCTED 24 HOURS APART.

7. 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.

8. ALL PIPE SHALL HAVE A MINIMUM COVER OF 42".

9. 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.

10. WATER SERVICE TAP INSTALLATIONS SHALL MEET THE REQUIREMENTS OF THE CITY OF FERNDALE DEVELOPMENT STANDARDS. ALL WATER SERVICE STUB ENDS SHALL BE MARKED FOR LOCATION WITH A 4' LONG 2" X 4" TIMBER, PAINTED BLUE.

11. CONTRACTOR IS RESPONSIBLE TO SET WATERMETER BOXES TO THE FINISHED GRADE BEHIND SIDEWALK. FINISHED GRADE BEHIND SIDEWALK SHALL MEET CITY APPROVAL.

12. FIRE HYDRANTS AND FIRE MAINS MUST CONFORM TO COF STANDARD DETAIL W-1 (WSDOT B-19) AND THE FOLLOWING STANDARDS:

   A. 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.

   B. 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.

   C. 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.

   D. 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.

   E. 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.

APPROVED
JAN 17 2008
BY _____
CITY OF FERNDALE

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.
DESIGN: SEE SURVEY NOTES, SHEET 1			
STAKING:			
ASBUILT:			
SURVEY REFERENCE	VERTICAL DATUM		

DATA	DRAWN BY	CHECKED BY	SCALE
BASE	AM	MB	HORIZ: N.A.
DESIGN	MB	JVY	VERT: N.A.
XREF:			
DWG: COVER_NOTES_DETAILS_AB.dwg			
PLAN CHECK			

REV	DATE	DESCRIPTION	BY
REVISIONS			

No.	ISSUE	DATE
2	REVISED PER COF COMMENTS	08/28/06
3	REVISED PER COF COMMENTS	09/28/06
4	AS-BUILT DRAWINGS	10/12/07
5	AS-BUILT DRAWINGS	12/11/07

CALL BEFORE YOU DIG
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CROWN POINT DEVELOPMENT, INC.
6540 NORTH STAR ROAD
FERNDALE, WA 98248

ROSEBERRY HEIGHTS
ROADWAY & UTILITY IMPROVEMENT PLANS
GENERAL CONSTRUCTION NOTES
JOB #: 2005198 SHEET 20 OF 20

REGISTERED PROFESSIONAL ENGINEER
JEREMY VANDERWOOD
STATE OF WASHINGTON
37432
12-20-07
EXPIRES: 10/10/08

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