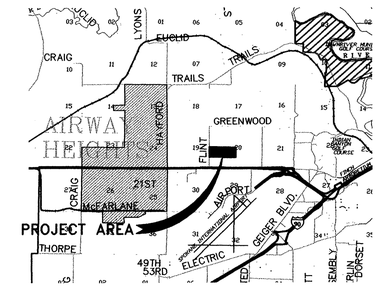
ROAD AND DRAINAGE IMPROVEMENTS

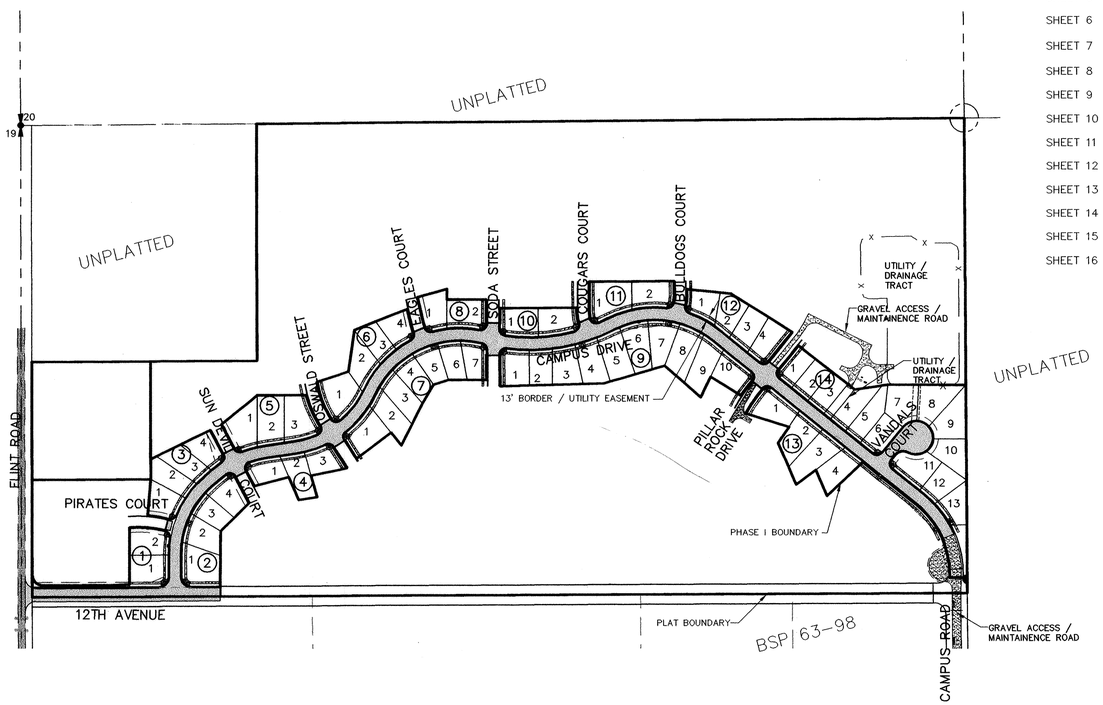
PILLAR ROCK ESTATES

IN THE NORTH 1/2 OF THE SOUTHWEST 1/4,
SECTION 20, TOWNSHIP 25 NORTH, RANGE 42 EAST, W.M.
SPOKANE COUNTY, WASHINGTON

SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT
ORIGINAL
"AS-BUILTS"
CERTIFIED RECORD DRAWINGS
PROJECT #: P1959
DATE ACCEPTED: 5/19/09



VICINITY MAP
NTS.



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CERTIFICATION

THE DESIGN IMPROVEMENTS SHOWN IN THIS SET OF PLANS AND CALCULATIONS CONFORM TO THE APPLICABLE EDITIONS OF THE SPOKANE COUNTY STANDARDS FOR ROAD AND SEWER CONSTRUCTION AND THE SPOKANE COUNTY GUIDELINES FOR STORM WATER MANAGEMENT. I APPROVE THESE PLANS FOR CONSTRUCTION.

CHAD HEIMBIGNER DATE

DEVELOPER DATE

LEGEND

EXISTING FEATURES

- ASPHALT PAVEMENT
- CURB
- SIDEWALK
- FOUND POINT AS NOTED
- DRYWELL
- GUY WIRE POLE
- POWER POLE
- TELEPHONE ENCLOSURE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- WELL
- SANITARY SEWER MANHOLE
- WATER LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE / CULVERT
- POWER LINE (OHP OR UGP)
- TELEPHONE LINE (OHT OR UGT)
- GAS LINE – UNDERGROUND
- CONTOURS
- FENCE – BARBED WIRE
- FIBER OPTIC LINE
- TREE – CONIFER

PROPOSED IMPROVEMENTS

- ASPHALT SURFACING – SEE DESIGN PLANS FOR SPECIFICATIONS
- CURB – SEE DESIGN PLANS FOR TYPE
- SIDEWALK – SEE DESIGN PLANS FOR SPECIFICATIONS
- DRYWELL – SEE DESIGN PLANS FOR SPECIFICATIONS
- STORM MANHOLE – SEE DESIGN PLANS FOR SPECIFICATIONS
- CONCRETE INLET
- POWER POLE
- WATER VALVE
- FIRE HYDRANT
- WATER SHUTOFF / WATER VAULT
- SANITARY SEWER MANHOLE
- CLEANOUT (CO)
- 8"WA — WATER LINE (AS SIZED)
- 8"SS — SANITARY SEWER LINE (AS SIZED)
- SD — STORM DRAIN LINE / CULVERT
- UTILITY TRENCHING
- GAS LINE TRENCHING
- 1924 — CONTOURS
- STORM WATER SWALE / POND
- DIRECTION OF SURFACE STORM WATER DRAINAGE
- 1924.50 / 1924.00 — TOP OF CURB ELEVATION / FLOWLINE ELEVATION
- CURB INLET / 1924.00 — CURB INLET / INLET ELEVATION AT FLOWLINE
- 1924.00 — FINISHED GRADE ELEVATION

GRAPHIC SCALE

200 0 100 200 400

(IN FEET)
1 inch = 200 ft.

RECORD DRAWING:
FOR ON-SITE ROAD AND DRAINAGE

1– INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2– CONTRACTOR(S): RUDEEN DEVELOPMENT
3– CONSTRUCTION PERIOD: 2008
4– DRAWING REVISIONS BY: WJC DATE: 12/31/08
5– CHECKED BY: CBM DATE: 5/11/09

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"I have reviewed the construction and to my knowledge find it to be in substantial conformance with the approved certified plans and Standard Specifications except as noted."

CALL BEFORE YOU DIG 456-8000

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
LAND SURVEYING LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING LAND USE PLANNING
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: COVER AND INDEX SHEET ROAD AND DRAINAGE IMPROVEMENTS

PROJECT TITLE: PILLAR ROCK ESTATES – PHASE I SPOKANE COUNTY, WA

SEAL: CARSTON R. MOLLENKOPF, STATE OF WASHINGTON, 18912, REGISTERED PROFESSIONAL ENGINEER

DATE	03/15/06
DRAWN	EMF
CHECKED	CH
PROJECT NUMBER	05-038
DRAWING NO.	1 OF 16
	COVER

P-1959 Eng As Built

05038-ONsite-c-ST-REC.dwg COVER

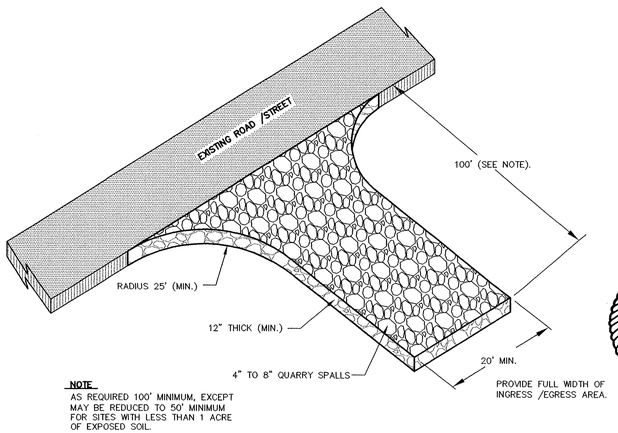
rojects\2005\05-038 Rudeen - Pillar Rock Estates\Record drawings\05038-ONsite-c-ST-REC.dwg, COVER, 4/20/2009 7:28:40 AM, 1:1, WJC

DEFINITION: A TEMPORARY STONE-STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE.

PURPOSE: TO REDUCE THE AMOUNT OF MUD, DIRT, ROCK, ETC. TRANSPORTED ONTO PUBLIC ROADS BY MOTOR VEHICLES OR RUNOFF BY CONSTRUCTING A STABILIZED PAD OF ROCK SPALLS AT ENTRANCES TO CONSTRUCTION SITES AND WASHING OF TIRES DURING EGRESS.

CONDITIONS WHERE PRACTICE APPLIES: WHEREVER TRAFFIC WILL BE LEAVING A CONSTRUCTION SITE AND MOVING DIRECTLY ONTO A PUBLIC ROAD OR OTHER PAVED AREAS.

MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2-INCH STONES, 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.



NOTE
AS REQUIRED 100' MINIMUM, EXCEPT MAY BE REDUCED TO 50' MINIMUM FOR SITES WITH LESS THAN 1 ACRE OF EXPOSED SOIL.

STABILIZED CONSTRUCTION ENTRANCE/ TIRE WASH (CE)
NTS

DEFINITION: A TEMPORARY SEDIMENT BARRIER CONSISTING OF A FILTER FABRIC STRETCHED ACROSS AND ATTACHED TO SUPPORTING POSTS AND ENTRENCHED. THE FILTER FENCE IS CONSTRUCTED OF STAKES AND SYNTHETIC FILTER FABRIC WITH A RIGID WIRE FENCE BACKING WHERE NECESSARY FOR SUPPORT.

PURPOSE: 1. TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT UNDER SHEET FLOW CONDITIONS FROM DISTURBED AREAS DURING CONSTRUCTION OPERATIONS IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE SITE.

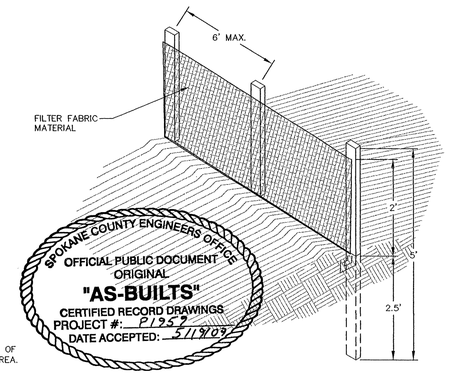
2. TO DECREASE THE VELOCITY OF SHEET FLOWS.

CONDITIONS WHERE PRACTICE APPLIES: FILTER FENCES MUST BE PROVIDED JUST UPSTREAM OF THE POINT(S) OF DISCHARGE OF RUNOFF FROM A SITE, BEFORE THE FLOW BECOMES CONCENTRATED. THEY MAY ALSO BE REQUIRED:

1. BELOW DISTURBED AREAS WHERE RUNOFF MAY OCCUR IN THE FORM OF SHEET AND RILL EROSION; WHEREVER RUNOFF HAS THE POTENTIAL TO IMPACT DOWNSTREAM RESOURCES.

2. PERPENDICULAR TO MINOR SWALES OR DITCH LINES FROM CONTRIBUTING DRAINAGE AREAS UP TO ONE ACRE IN SIZE.

3. CONTRACTOR SHALL COORDINATE WITH DESIGN ENGINEER FOR ACTUAL PLACEMENT LOCATIONS.



SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT
ORIGINAL
"AS-BUILTS"
CERTIFIED RECORD DRAWINGS
PROJECT #: P1959
DATE ACCEPTED: 5/11/09

STANDARD NOTES: A. THE FILTER FABRIC FENCE SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, OVERLAP FILTER CLOTH AND SECURELY FASTEN BOTH ENDS TO THE POST.

B. POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 30 INCHES (WHERE PHYSICALLY POSSIBLE).

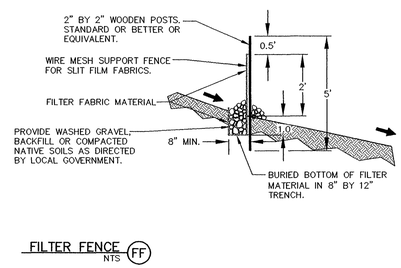
C. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 8 INCHES WIDE AND 12 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER. THE TRENCH SHALL BE CONSTRUCTED TO FOLLOW THE CONTOURS.

D. WHEN SLIT FILM 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.

E. SLIT FILM FILTER FABRIC SHALL BE WIRED TO THE FENCE, AND 20 INCHES OF THE FABRIC SHALL EXTEND 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. OTHER TYPES OF FABRIC MAY BE STAPLED TO THE FENCE.

F. WHEN EXTRA-STRENGTH OR MONOFILAMENT 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 "E" APPLYING. EXTRA CARE SHOULD BE USED WHEN JOINING OR OVERLAPPING THESE STIFFER FABRICS.

G. LOCAL GOVERNMENTS MAY SPECIFY THE USE OF PROPERLY COMPACTED NATIVE MATERIALS. IN MANY INSTANCES, THIS MAY BE THE PREFERRED ALTERNATIVE BECAUSE THE SOIL FORMS A MORE CONTINUOUS CONTACT WITH THE TRENCH BELOW.

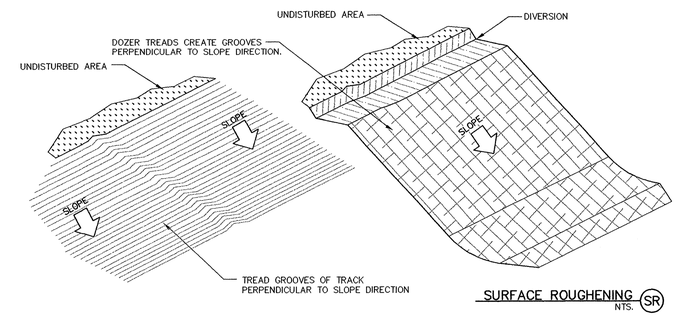


FILTER FENCE (FF)
NTS

DEFINITION: PROVISION OF A ROUGH SOIL SURFACE WITH HORIZONTAL DEPRESSIONS CREATED BY OPERATING A TILLER OR OTHER SUITABLE EQUIPMENT ON THE CONTOUR OR BY LEAVING SLOPES IN A ROUGHED CONDITION BY NOT FILE GRADING THEM.

PURPOSE: TO AID IN ESTABLISHMENT OF VEGETATIVE COVER, REDUCE RUNOFF VELOCITY, INCREASE INFILTRATION, AND PROVIDE FOR SEDIMENT TRAPPING.

CONDITIONS WHERE PRACTICE APPLIES: ALL SLOPES STEEPER THAN 3:1, AND GREATER THAN 5 VERTICAL FEET, REQUIRE SURFACE ROUGHENING; EITHER STAIR-STEP GRADING, GROOVING, FURROWING, OR TRACKING IF THEY ARE TO BE STABILIZED WITH VEGETATION.



SURFACE ROUGHENING (SR)
NTS.

"I have reviewed the construction and to my knowledge find it to be in substantial conformance with the approved certified plans and Standard Specifications except as noted."

RECORD DRAWING:
FOR ON-SITE ROAD AND DRAINAGE

1- INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2- CONTRACTOR(S): RUDEEN DEVELOPMENT
3- CONSTRUCTION PERIOD: 2008
4- DRAWING REVISIONS BY: WJC DATE: 12/31/08
5- CHECKED BY: CBM DATE: 5/11/09

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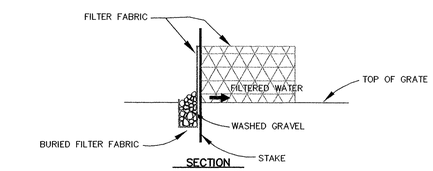
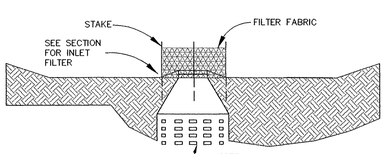
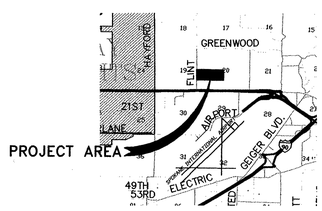


SECTION

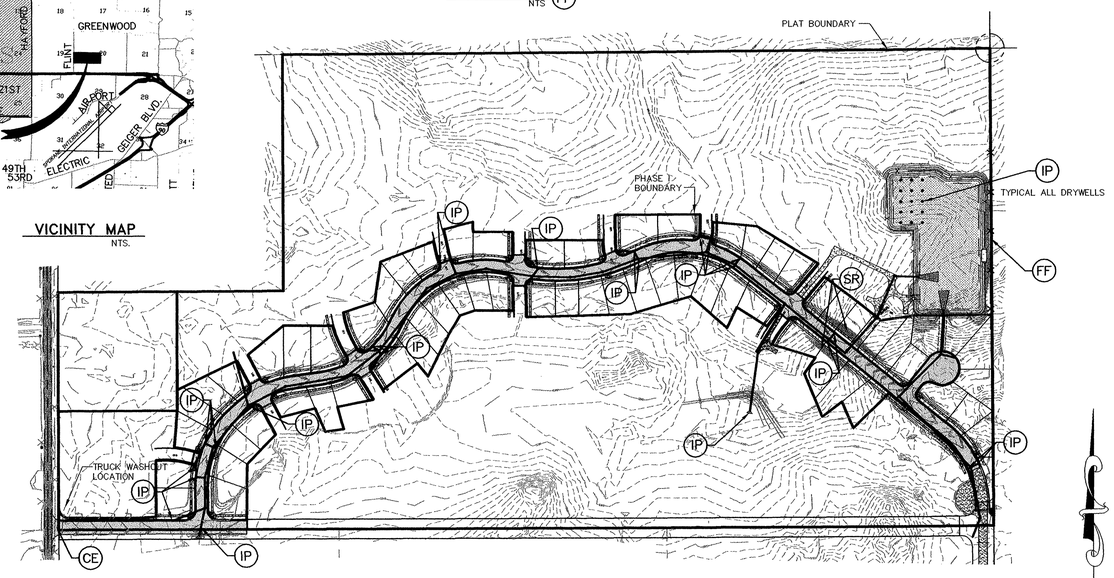


NOTE:
1. ALL DRYWELLS, INLETS, CATCH BASIN AND ANY OTHER STORMDRAIN FIXTURES WITH GRATED INLETS SHALL BE PROTECTED.
2. PROTECTION SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED.

TEMPORARY INLET PROTECTION (IP)
NTS.



VICINITY MAP
NTS.



CONTACT PERSON / PROPERTY OWNER PERMIT APPLICANT

BART BENNETT
14532 169TH DRIVE SE
SUITE #166
MONROE, WASHINGTON 98272

PROJECT / SITE DESCRIPTION

THE PROPOSED PROJECT INCLUDES THE DEVELOPMENT OF PUBLIC ROADS TO SERVE SINGLE FAMILY HOMES. CURRENT SITE CONSISTS OF AGRICULTURAL AND FORESTED LAND, GENERALLY SLOPING TO THE EAST. SLOPES RANGE FROM RELATIVELY FLAT TO 7% WITH SOME ROCK OUTCROPS.

SOIL TYPE

THE SOILS IN THIS REGION OF THE SUBJECT PROPERTY HAVE BEEN IDENTIFIED AS UHLIG, CHENEY, HESSELTINE, HARDESTY, BONG AND PHOEBE SERIES. ALL SOILS ONSITE ARE CONSIDERED TYPE "B" SOILS.

ESC MEASURES

FILTER FENCE SHALL BE USED TO AID IN CONTAINING ANY SEDIMENT ON THE SITE DURING CONSTRUCTION. STABILIZED CONSTRUCTION ENTRANCES SHALL BE USED AT POINTS OF INGRESS AND EGRESS FOR CONSTRUCTION VEHICLES. DRYWELL/INLET PROTECTION SHALL BE USED AT ALL STORMWATER PIPE INLETS OR DRYWELLS.

REFER TO PLAN VIEW ON THIS SHEET FOR APPROXIMATE LOCATION OF THE ABOVE ITEMS.

THE EROSION AND SEDIMENT CONTROL PLAN MEETS THE REQUIREMENTS AS LISTED IN CHAPTER 4.5 OF THE GUIDELINES FOR STORMWATER MANAGEMENT. THIS ESC PLAN REPRESENTS A GUIDELINE FOR THE CONTRACTOR TO FOLLOW. THE CONTRACTOR SHALL BE RESPONSIBLE TO FOLLOW ALL SPOKANE COUNTY REQUIREMENTS FOR REOSION AND SEDIMENT CONTROL.

CHAD HEIMBIGNER, P.E. DATE

NOTE: REFER TO COVER AND INDEX SHEET FOR VICINITY MAP.

DEVELOPER DATE

CALL BEFORE YOU DIG 456-8000

DATUM
NAVD 1988

BENCHMARK
TBM: WSDOT #GP32002-104
3" BRASS DISC 0.32 MILES EAST OF FLINT ROAD, 10.7 METERS NORTH OF NORTH FOG STRIPE OF SR002.
ELEVATION=2315.42 (NAVD88)

ER1) An Erosion /Sedimentation Control (ESC) plan is required for this project. Implementation of the ESC plan, and construction, maintenance, and upgrading of the ESC facilities are the responsibility of the Developer until all construction is completed and accepted by Spokane County, or until vegetation is established throughout the site, and accepted by Spokane County, whichever is later.

ER2) Approval of the ESC plan does not constitute approval of any of the proposed road, storm drainage, grading or utility design elements shown on the ESC plan.

ER3) The Erosion /Sedimentation control measures shown are the minimum requirements for the anticipated site conditions. The Contractor shall inspect and maintain these ESC measures daily, and shall maintain and upgrade these measures as necessary to prevent sediment-laden water from either flowing off the site, or into new or existing storm drainage facilities, such as drywells, culverts, or gravel galleries.

ER4) The Contractor/Developer is responsible for installing Rock Construction Entries at any and all locations used to enter or exit the project site.

ER5) Geotextile fabric is to be place on the rims of drywells, catch basins and inlets until such time the vegetation on the site is established and the threat of sediment deposition in to the drainage system is mitigated.

CONSTRUCTION SPECIFICATIONS

GRAPHIC SCALE
200 0 100 200 400
(IN FEET)
1 inch = 200 ft.

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
LAND SURVEYING LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING LAND USE PLANNING
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: EROSION / SEDIMENT CONTROL PLAN

PROJECT TITLE: PILLAR ROCK ESTATES - PHASE I
SPOKANE COUNTY, WA

SEAL: CASTON B. HARTSON, STATE OF WASHINGTON, 18912, REGISTERED PROFESSIONAL ENGINEER, 5/11/09

DATE	03/15/06
DRAWN	EMF
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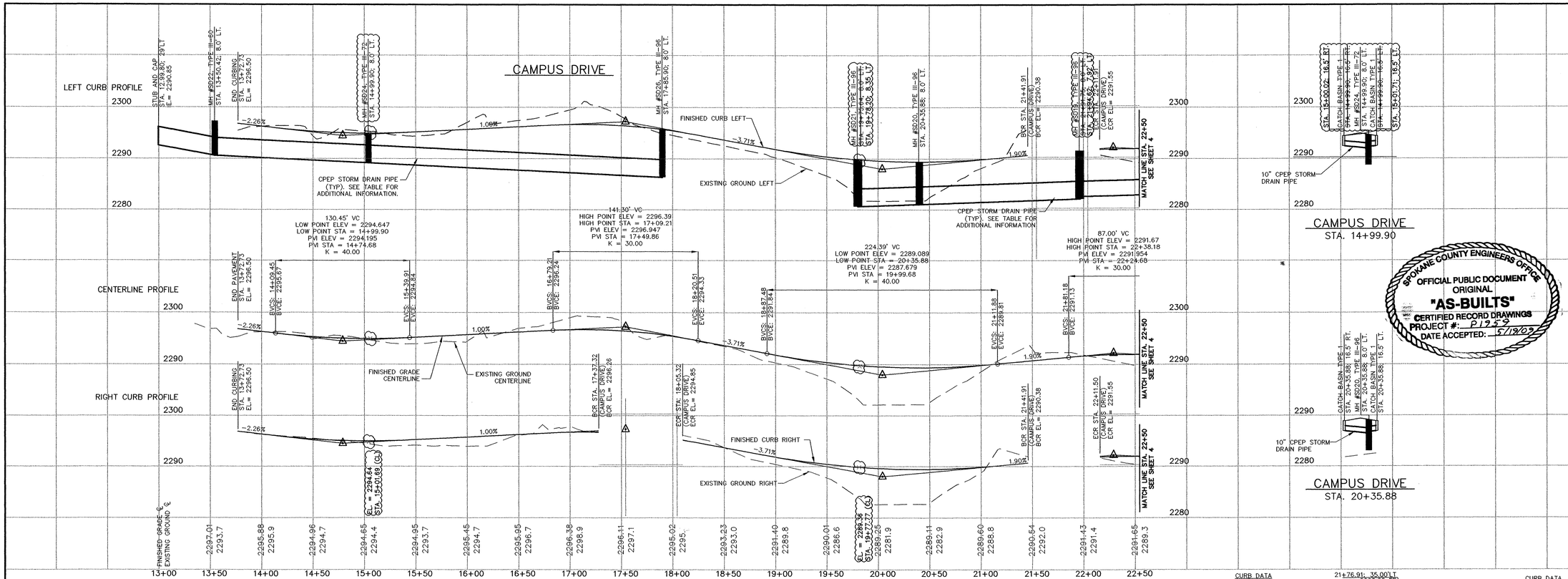
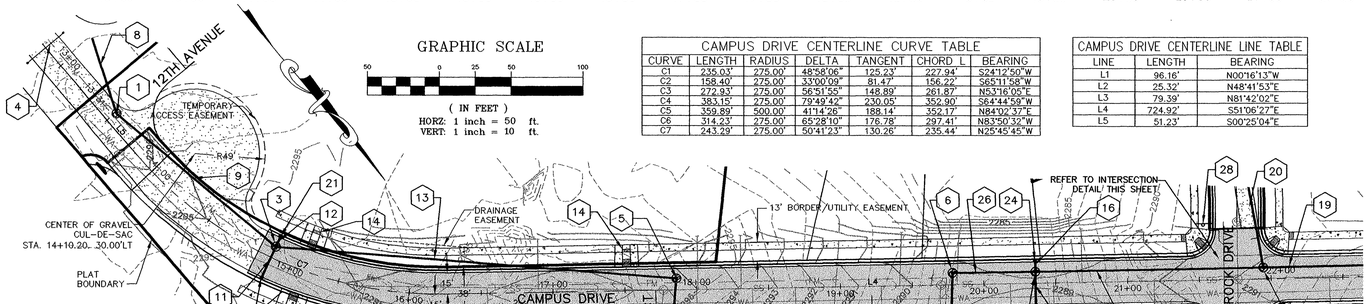
PROJECT NUMBER	05-038
DRAWING NO.	2 OF 16
	EROSION

P1959 Eng As-Builts

05038-ONsite-c-ST-REC.dwg EROSION

\Projects\2005\05-038 Rudeen - Pillar Rock Estates\Record drawings\05038-ONsite-c-ST-REC.dwg, EROSION, 4/20/2009 7:28:47 AM, 1:1, WJC





GRAPHIC SCALE

(IN FEET)
HORZ: 1 inch = 50 ft.
VERT: 1 inch = 10 ft.

CAMPUS DRIVE CENTERLINE CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD L	BEARING
C1	235.03'	275.00'	48°58'06"	125.23'	227.94'	S24°12'50"W
C2	158.40'	275.00'	33°00'09"	81.47'	156.22'	S65°11'58"W
C3	272.93'	275.00'	56°51'55"	148.89'	261.87'	N53°16'05"E
C4	383.15'	275.00'	79°49'42"	230.05'	352.90'	S64°44'50"W
C5	359.89'	500.00'	41°14'26"	188.14'	352.17'	N84°02'37"E
C6	314.23'	275.00'	65°28'10"	176.78'	297.41'	N83°50'32"W
C7	243.29'	275.00'	50°41'23"	130.26'	235.44'	N25°45'45"W

CAMPUS DRIVE CENTERLINE LINE TABLE		
LINE	LENGTH	BEARING
L1	96.16'	N00°16'13"W
L2	25.32'	N48°41'53"E
L3	79.39'	N81°42'02"E
L4	724.92'	S51°06'27"E
L5	51.23'	S00°25'04"E

NOTES

1. SEE CONSTRUCTION SPECIFICATIONS SHOWN ON DETAIL SHEET.
2. ALL CURB RETURNS SHALL BE CONSTRUCTED WITH A 20' RADIUS AT EDGE OF TRAVELED WAY UNLESS OTHERWISE SHOWN.
3. ALL CURB AND OFFSET DATA IS REFERENCED TO BACK OF CURB, UNLESS OTHERWISE NOTED.
4. EXISTING UTILITY LINE LOCATIONS HAVE BEEN EXTRACTED FROM RECORD UTILITY DRAWINGS AND FOUND SURFACE FEATURES. FIELD VERIFY EXACT LOCATIONS.
5. EXISTING UTILITIES CONFLICTING WITH PROPOSED IMPROVEMENTS SHALL BE RELOCATED AS NEEDED PRIOR TO CONSTRUCTION. COORDINATE WITH THE APPLICABLE UTILITY COMPANY.
6. 1.0' (MIN.) OF COVER SHALL BE MAINTAINED OVER ALL STORM DRAIN PIPES.

"I have reviewed the construction and to my knowledge find it to be in substantial conformance with the approved certified plans and Standard Specifications except as noted."

NOTES

7. CURB INLETS SHALL BE CONSTRUCTED 1" LOWER THAN THE FLOW LINE OF THE CURB PER SPOKANE COUNTY STANDARD B-18. ASPHALT AND CURB TO HAVE SMOOTH TAPER INTO CURB INLETS.
8. W.S.D.O.T. TYPE 2 INLETS SHALL BE PLACED SO THAT THE LONGER SIDE OF THE STRUCTURE IS PERPENDICULAR TO THE CURB. THE SHORTER SIDE SHALL ABUT THE FACE OF THE CURB.
9. CONTRACTOR SHALL VERIFY UTILITY SERVICE ELEVATIONS AT ALL CROSSINGS PRIOR TO CONSTRUCTION OF ROAD AND DRAINAGE IMPROVEMENTS.
10. ALL STATIONING REFERENCES CAMPUS DRIVE ALIGNMENT.

RECORD DRAWING:

FOR ON-SITE ROAD AND DRAINAGE

1– INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2– CONTRACTOR(S): RUDEEN DEVELOPMENT
3– CONSTRUCTION PERIOD: 2008
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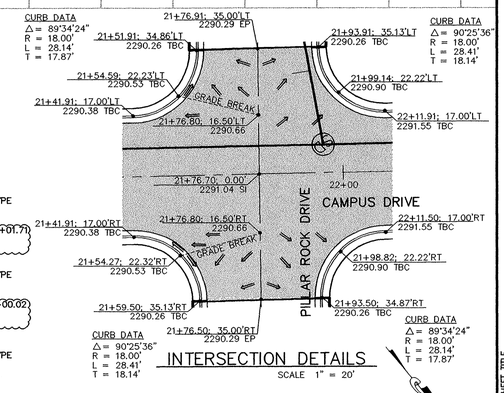
DATUM DRAWING

BENCHMARK

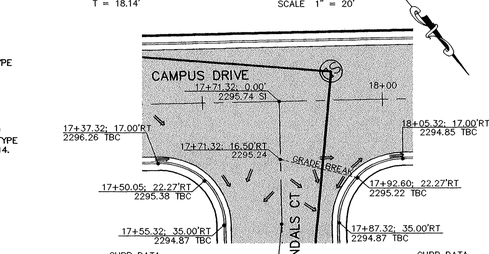
TBM: WSDOT #GP32002–104
3" BRASS DISC 0.32 MILES EAST OF FLINT ROAD, 10.7 METERS NORTH OF NORTH FOG STRIPE OF SR002.
ELEVATION=2315.42 (NAVD88)

TABLE

1. MANHOLE TYPE III–60 (MH #SD22) SPOKANE COUNTY STD. U–6 W/ TYPE 4 FRAME AND SOLID LID, STD U–14. STA. 13+50.42; 8' LT. RIM EL.= 2295.30 IE.= 2290.30 (N,S)
2. NOT USED
3. MANHOLE TYPE III–72 (MH #SD24) SPOKANE COUNTY STD. U–6 W/ TYPE 4 FRAME AND SOLID LID, STD U–14. STA. 14+99.90; 8' LT. RIM EL.= ~~2294.45~~ 2294.57 IE.= ~~2288.84 (NW, S)~~ 2288.87 IE.= ~~2291.60 (NE)~~ IE.= ~~2291.92 (SW)~~
4. EXTERIOR PIPE BOLLARD WITH UTILITY MAINTAINENCE / FIRE TRUCK ACCESS CONTROL CHAIN, SEE DETAIL SHEET. PROVIDE REFLECTIVE SIGN THAT STATES "UTILITY MAINTAINENCE / FIRE ACCESS ONLY". SEE DETAIL SHEET 9
5. MANHOLE TYPE III–96 (MH #SD26) SPOKANE COUNTY STD. U–6 W/ TYPE 4 FRAME AND SOLID LID, STD U–14. STA. 17+85.90; 8'LT. RIM EL.= 2295.28 IE.= 2286.04 (SE,NE)
6. MANHOLE TYPE III–96 (MH #SD21) SPOKANE COUNTY STD. U–6 W/ TYPE 4 FRAME AND SOLID LID, STD U–14. STA. ~~19+75.64; 8' LT.~~ 19+78.20; 8.35' LT. RIM EL.= ~~2289.34~~ 2289.22 IE.= ~~2289.85 (NE,NW)~~ 2289.82
7. MANHOLE TYPE III–96 (MH #SD19) SPOKANE COUNTY STD. U–6 W/ TYPE 4 FRAME AND SOLID LID, STD U–14. STA. 21+91.75; 8' LT. 21+94.62, 7.92' LT. RIM EL.= ~~2291.16~~ 2291.07 IE.= 2281.93 (SE,) IE.= 2282.33 (SW,NW)
8. 36" CPEP STORM DRAIN PIPE L.= 55' S.= 1.0% STUB AND CAP FOR FUTURE CONNECTION. (IE.= 2290.85)
9. 36" CPEP STORM DRAIN PIPE L.= 146' S.= 1.0%
10. NOT USED
11. 10" CPEP STORM DRAIN PIPE L.= 23' S.= 2.0%
12. 10" CPEP STORM DRAIN PIPE L.= 7' S.= 2.0%
13. 36" CPEP STORM DRAIN PIPE L.= 280' S.= 1.0%
14. SIDEWALK RAMP TYPE 2A PER WSDOT STANDARD PLAN F–3b
15. SEE SHEET 8 FOR DESIGN/ CONTINUATION OF STORM SEWER
16. 10" CPEP STORM DRAIN PIPE L.= 7' S.= 2.0%
17. 10" CPEP STORM DRAIN PIPE L.= 23' S.= 2.0%
18. 42" CPEP STORM DRAIN PIPE L.= 156' S.= 0.5%
19. 36" CPEP STORM DRAIN PIPE L.= 180' S.= 0.5%
20. SEE SHEET 11 FOR DESIGN /CONTINUATION OF PILLAR ROCK DRIVE STORM SEWER
21. CATCH BASIN TYPE 1 SPOKANE COUNTY STD. B–4 W/TYPE 2 METAL FRAME, STD. B–11, AND TYPE 3 METAL GRATE, STD. B–14. ~~STA. 14+99.90; 16.5' LT.~~ STA. 15+01.71 GRATE EL.= ~~2294.06~~ 2294.26 IE.= ~~2292.06~~ 2291.76
22. CATCH BASIN TYPE 1 SPOKANE COUNTY STD. B–4 W/TYPE 2 METAL FRAME, STD. B–11, AND TYPE 3 METAL GRATE, STD. B–14. ~~STA. 14+99.90; 16.5' RT.~~ STA. 15+00.02 GRATE EL.= ~~2294.06~~ 2294.02 IE.= ~~2292.06~~ 2292.02
23. CATCH BASIN TYPE 1 SPOKANE COUNTY STD. B–4 W/TYPE 2 METAL FRAME, STD. B–11, AND TYPE 3 METAL GRATE, STD. B–14. STA. 20+35.88; 16.5' RT. GRATE EL.= 2288.51 IE.= 2286.51
24. CATCH BASIN TYPE 1 SPOKANE COUNTY STD. B–4 W/TYPE 2 METAL FRAME, STD. B–11, AND TYPE 3 METAL GRATE, STD. B–14. STA. 20+35.88; 16.5' LT. GRATE EL.= 2288.51 IE.= 2286.51
25. MANHOLE TYPE III–96 (MH #SD20) SPOKANE COUNTY STD. U–6 W/ TYPE 4 FRAME AND SOLID LID, STD U–14. STA. 20+35.88; 8' LT. RIM EL.= 2288.89 IE.= 2281.15 (SE,NW) IE.= 2286.05 (NE) IE.= 2286.37 (SW)
26. 42" CPEP STORM DRAIN PIPE L.= 60' S.= 0.5%
27. SEE SHEET 11 FOR DESIGN/CONTINUATION OF STORM SEWER
28. STOP AND STREET SIGNS PER MUTCD AND SPOKANE COUNTY STANDARDS
29. CURB RAMP DESIGN "B" PER SPOKANE COUNTY STANDARD A–5 (TYPICAL)



INTERSECTION DETAILS
SCALE 1" = 20'



DEVELOPER DATE

CALL BEFORE YOU DIG 456–8000

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
LAND SURVEYING LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING LAND USE PLANNING
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509–242–1000 FAX 509–242–1001

SHEET TITLE: CAMPUS DRIVE PLAN AND PROFILE STA 13+31 TO 22+50

PROJECT TITLE: PILLAR ROCK ESTATES – PHASE I SPOKANE COUNTY, WA

SEAL: GASTON R. MORENO, STATE OF WASHINGTON, 18912, REGISTERED PROFESSIONAL ENGINEER, 5/11/09

DATE	03/15/06
DRAWN	EMF
CHECKED	CH
PROJECT NUMBER	05–038
DRAWING NO.	3 OF 16
	STREET

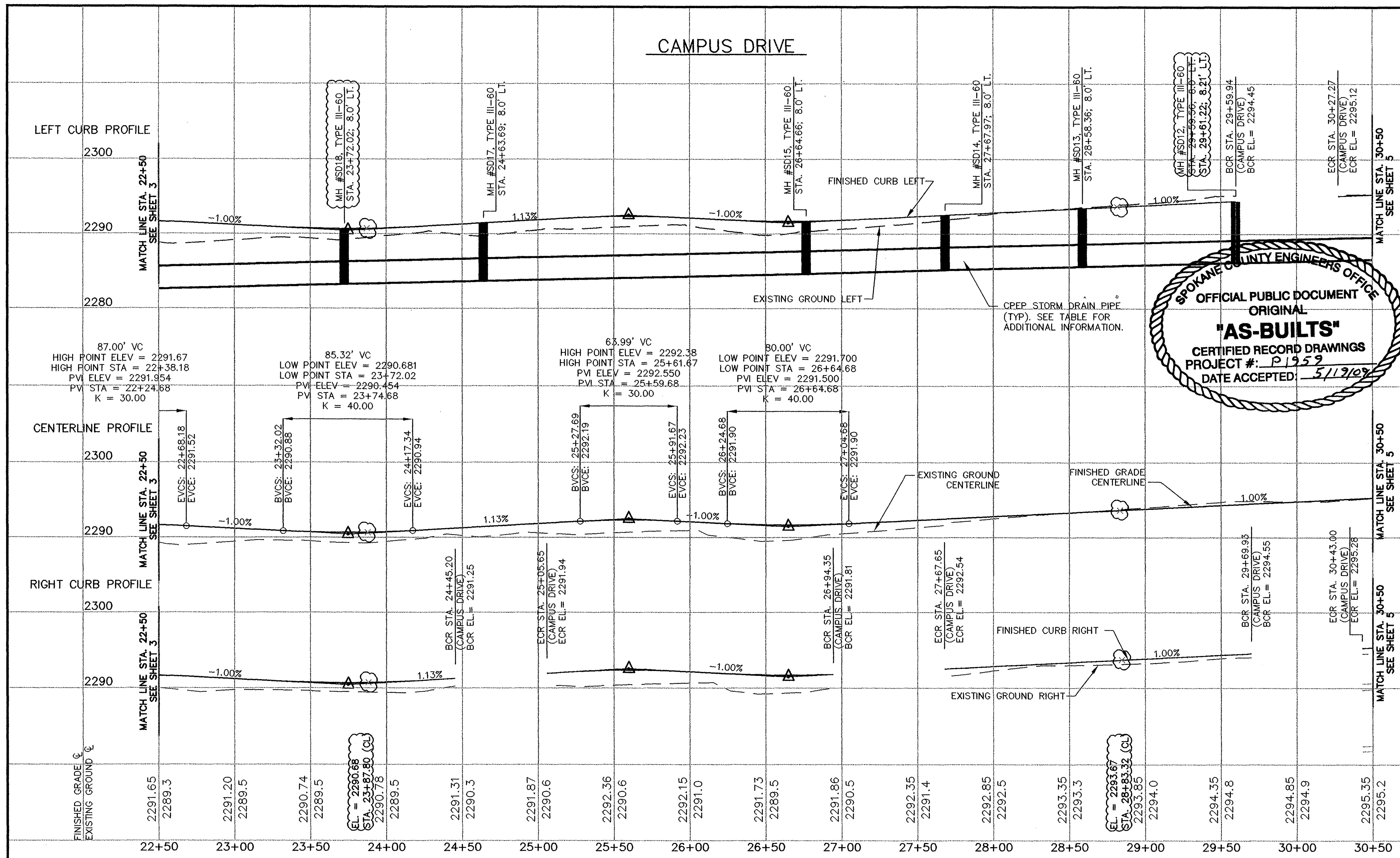
SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT ORIGINAL
"AS-BUILTS"
CERTIFIED RECORD DRAWINGS
PROJECT #: P1959
DATE ACCEPTED: 5/19/09

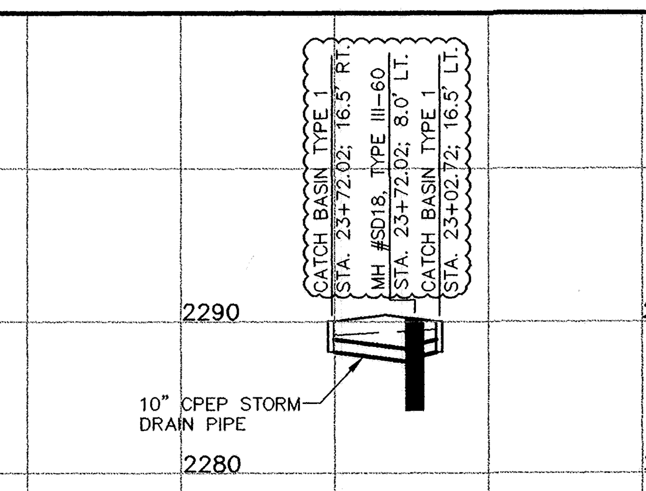
P-1959 Eng As Built

05038–ONsite–c–ST–REC.dwg ST–1

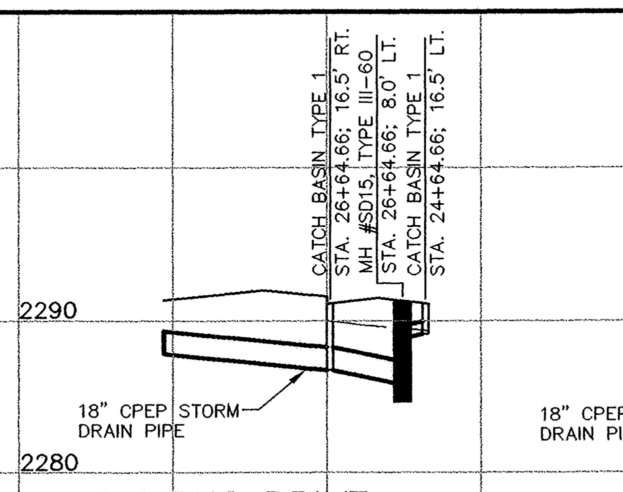
rojects\2005\05-038 Rudeen - Pillar Rock Estates\Record drawings\05038-ONsite-c-ST-REC.dwg, ST-1, 4/20/2009 7:29:02 AM, 1:1, WJC

CAMPUS DRIVE

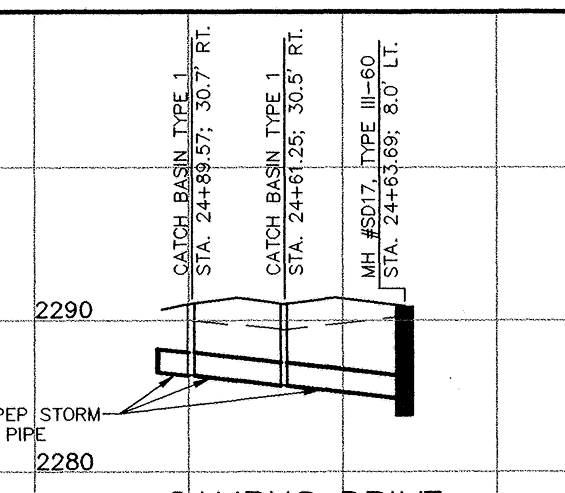




CAMPUS DRIVE
STA. 23+72.02



CAMPUS DRIVE
STA. 26+64.66



CAMPUS DRIVE
BULLDOG CT. INTERSECTION

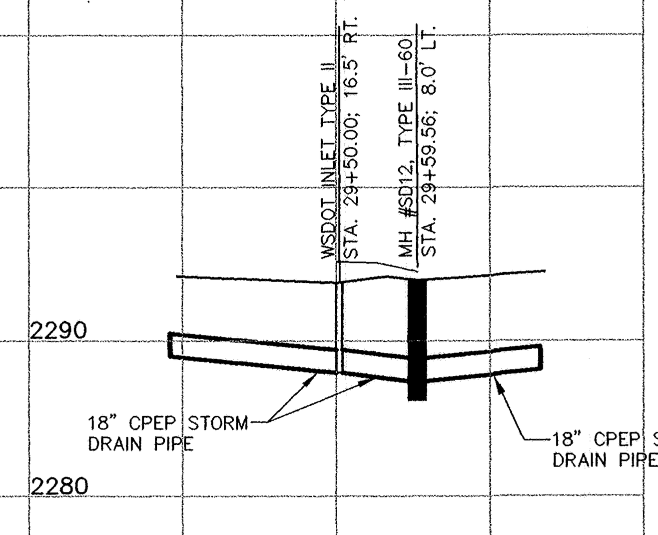
SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT
ORIGINAL
"AS-BUILTS"
CERTIFIED RECORD DRAWINGS
PROJECT #: P1959
DATE ACCEPTED: 5/19/09

RECORD DRAWING:
FOR ON-SITE ROAD AND DRAINAGE

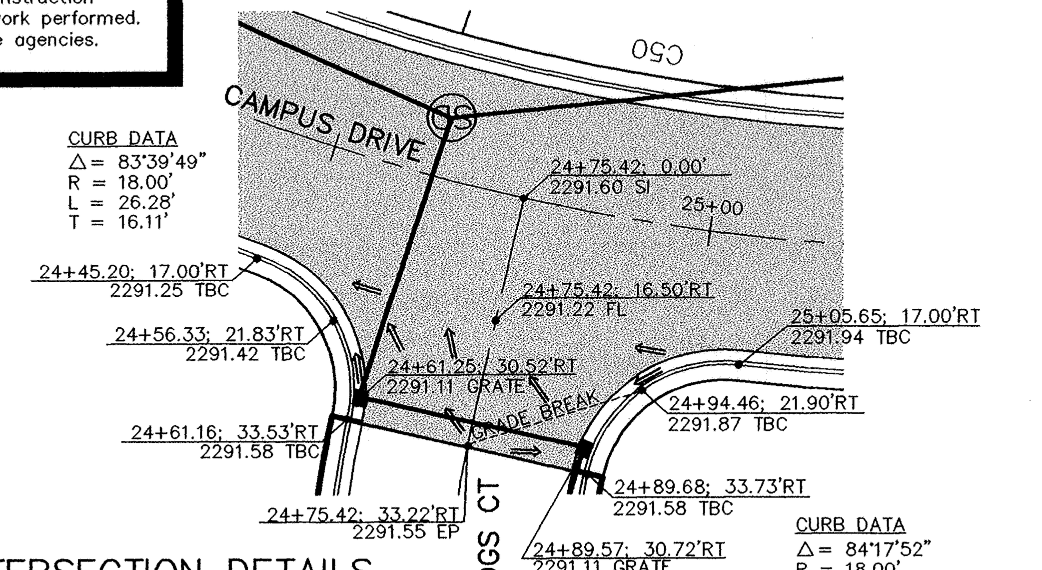
1– INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2– CONTRACTOR(S): RUDEEN DEVELOPMENT
3– CONSTRUCTION PERIOD: 2008
4– DRAWING REVISIONS BY: WJC DATE: 12/31/08
5– CHECKED BY: CBM DATE: 5/11/09

DOCUMENT LIMITATIONS: This document only represents an illustration of improvements recorded in place and is not an exact representation of location or placement. Only data shown in balloon (balloon) represents information obtained from post construction survey This does not certify acceptability or approvability of construction work performed. Actual location of improvements should be verified by user and appropriate agencies.

"I have reviewed the construction and to my knowledge find it to be in substantial conformance with the approved certified plans and Standard Specifications except as noted."



CAMPUS DRIVE
STA. 29+50.00



INTERSECTION DETAILS
SCALE 1" = 20'

NOTES

1. SEE CONSTRUCTION SPECIFICATIONS SHOWN ON DETAIL SHEET.
2. ALL CURB RETURNS SHALL BE CONSTRUCTED WITH A 20' RADIUS AT EDGE OF TRAVELED WAY UNLESS OTHERWISE SHOWN.
3. ALL CURB AND OFFSET DATA IS REFERENCED TO BACK OF CURB, UNLESS OTHERWISE NOTED.
4. EXISTING UTILITY LINE LOCATIONS HAVE BEEN EXTRACTED FROM RECORD UTILITY DRAWINGS AND FOUND SURFACE FEATURES. FIELD VERIFY EXACT LOCATIONS.
5. EXISTING UTILITIES CONFLICTING WITH PROPOSED IMPROVEMENTS SHALL BE RELOCATED AS NEEDED PRIOR TO CONSTRUCTION. COORDINATE WITH THE APPLICABLE UTILITY COMPANY.
6. 1.0' (MIN.) OF COVER SHALL BE MAINTAINED OVER ALL STORM DRAIN PIPES.

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
HORZ: 1 inch = 50 ft.
VERT: 1 inch = 10 ft.

NOTES

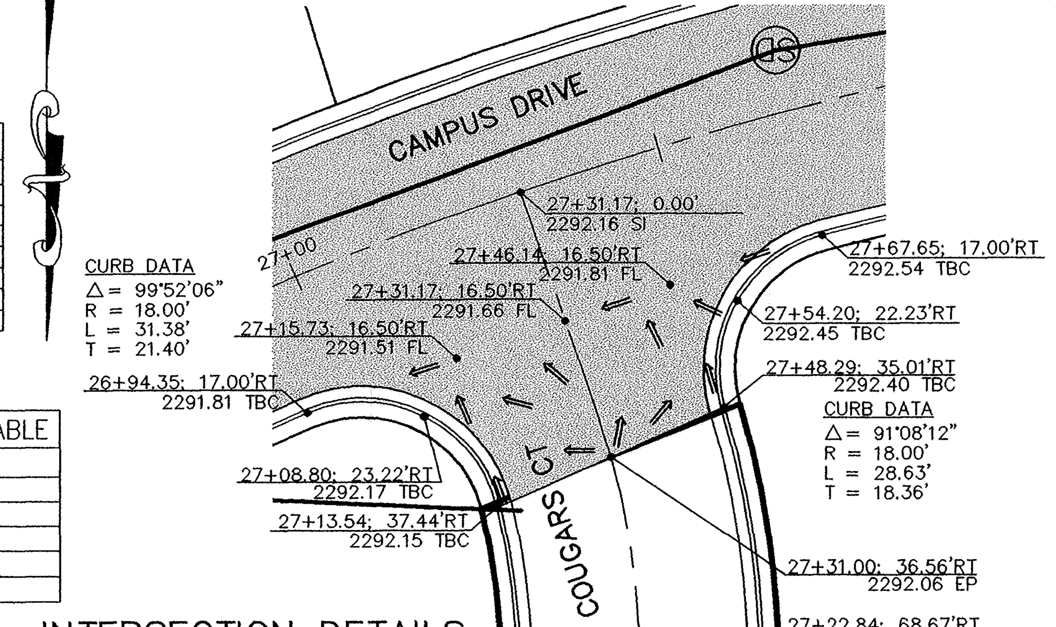
7. CURB INLETS SHALL BE CONSTRUCTED 1" LOWER THAN THE FLOW LINE OF THE CURB PER SPOKANE COUNTY STANDARD B-18. ASPHALT AND CURB TO HAVE SMOOTH TAPER INTO CURB INLETS.
8. W.S.D.O.T. TYPE 2 INLETS SHALL BE PLACED SO THAT THE LONGER SIDE OF THE STRUCTURE IS PERPENDICULAR TO THE CURB. THE SHORTER SIDE SHALL ABUT THE FACE OF THE CURB.
9. CONTRACTOR SHALL VERIFY UTILITY SERVICE ELEVATIONS AT ALL CROSSINGS PRIOR TO CONSTRUCTION OF ROAD AND DRAINAGE IMPROVEMENTS.
10. ALL STATIONING REFERENCES CAMPUS DRIVE ALIGNMENT.

CAMPUS DRIVE CENTERLINE CURVE TABLE

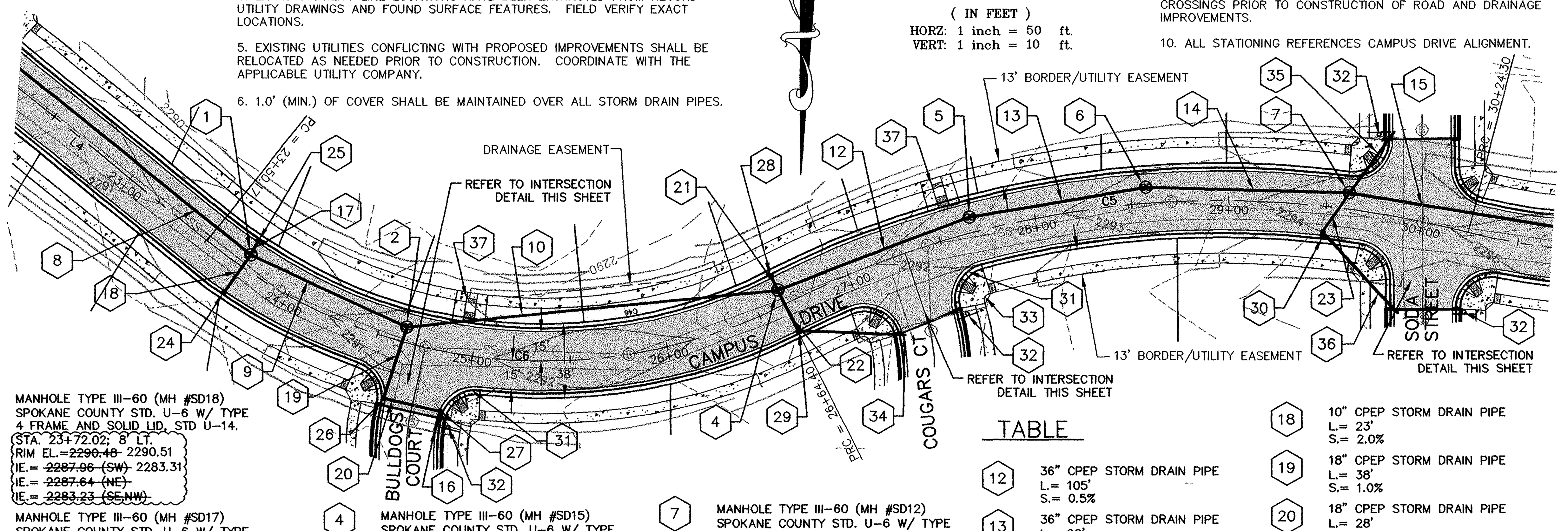
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD L	BEARING
C1	235.03'	275.00'	48°58'06"	125.23'	227.94'	S24°12'50"W
C2	158.40'	275.00'	33°00'09"	81.47'	156.22'	S65°11'58"W
C3	272.93'	275.00'	56°51'55"	148.89'	261.87'	N53°16'05"E
C4	383.15'	275.00'	79°49'42"	230.05'	352.90'	S64°44'59"W
C5	359.89'	500.00'	41°14'26"	188.14'	352.17'	N84°02'37"E
C6	314.23'	275.00'	65°28'10"	176.78'	297.41'	N83°50'32"W
C7	243.29'	275.00'	50°41'23"	130.26'	235.44'	N25°45'45"W

CAMPUS DRIVE CENTERLINE LINE TABLE

LINE	LENGTH	BEARING
L1	96.16'	N00°16'13"W
L2	25.32'	N48°41'53"E
L3	79.39'	N81°42'02"E
L4	724.92'	S51°06'27"E
L5	51.23'	S00°25'04"E



INTERSECTION DETAILS
SCALE 1" = 20'



TABLE

(1) MANHOLE TYPE III-60 (MH #SD18)
SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID, STD U-14.
STA. 23+72.02; 8' LT.
RIM EL.= ~~2290.48~~ 2290.51
IE.= ~~2287.96 (SW)~~ 2283.31
IE.= ~~2287.64 (NE)~~
IE.= ~~2283.23 (SE,NW)~~

(2) MANHOLE TYPE III-60 (MH #SD17)
SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID, STD U-14.
STA. 24+63.69; 8' LT.
RIM EL.= 2291.27
IE.= 2284.88 (N)
IE.= 2283.68 (W,E)

(3) NOT USED

(4) MANHOLE TYPE III-60 (MH #SD15)
SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID, STD U-14.
STA. 26+64.66; 8' LT.
RIM EL.= 2291.52
IE.= 2284.63 (E,W)
IE.= 2285.83 (N)
IE.= 2288.98 (S)

(5) MANHOLE TYPE III-60 (MH #SD14)
SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID, STD U-14.
STA. 27+67.97; 8'LT.
RIM EL.= 2292.54
IE.= 2285.16 (E,W)

(6) MANHOLE TYPE III-60 (MH #SD13)
SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID, STD U-14.
STA. 28+58.36; 8' LT.
RIM EL.= 2293.24
IE.= 2285.62 (E,W)

(7) MANHOLE TYPE III-60 (MH #SD12)
SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID, STD U-14.
STA. ~~29+59.56; 8' LT.~~ 29+61.22; 8' LT
RIM EL.= ~~2294.25~~ 2294.16
IE.= ~~2286.14 (E,W)~~ 2285.66
IE.= ~~2287.34 (N)~~
IE.= ~~2287.34 (S)~~

(8) 36" CPEP STORM DRAIN PIPE
L.= 180'
S.= 0.5%

(9) 36" CPEP STORM DRAIN PIPE
L.= 89'
S.= 0.5%

(10) 36" CPEP STORM DRAIN PIPE
L.= 190'
S.= 0.5%

(11) NOT USED

(12) 36" CPEP STORM DRAIN PIPE
L.= 105'
S.= 0.5%

(13) 36" CPEP STORM DRAIN PIPE
L.= 92'
S.= 0.5%

(14) 36" CPEP STORM DRAIN PIPE
L.= 103'
S.= 0.50%

(15) 36" CPEP STORM DRAIN PIPE
L.= 133'
S.= 0.5%

(16) 18" CPEP STORM DRAIN PIPE
L.=10'
S.= 1.0%
STUB AND CAP FOR FUTURE CONNECTION. (IE.= 2285.84)

(17) 10" CPEP STORM DRAIN PIPE
L.= 7'
S.= 2.0%

(18) 10" CPEP STORM DRAIN PIPE
L.= 23'
S.= 2.0%

(19) 18" CPEP STORM DRAIN PIPE
L.= 38'
S.= 1.0%

(20) 18" CPEP STORM DRAIN PIPE
L.= 28'
S.= 1.0%

(21) 10" CPEP STORM DRAIN PIPE
L.= 7'
S.= 2.0%

(22) 18" CPEP STORM DRAIN PIPE
L.= 23'
S.= 2.0%

(23) 18" CPEP STORM DRAIN PIPE
L.= 24'
S.= 2.0%

(24) CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 2 METAL FRAME, STD. B-11, AND TYPE 3 METAL GRATE, STD. B-14.
STA. 23+72.02; 16.5' RT.
GRATE EL.= ~~2290.10~~ 2290.22
IE.= ~~2288.10 (OUT)~~ 2287.72

(25) CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 2 METAL FRAME, STD. B-11, AND TYPE 3 METAL GRATE, STD. B-14.
STA. 23+72.02; 16.5' LT.
GRATE EL.= ~~2290.10~~ 2290.22
IE.= ~~2288.10 (OUT)~~ 2287.22

(26) CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 1 METAL FRAME, STD. B-10, AND TYPE 1 METAL GRATE, STD. B-12.
STA. 24+61.25; 30.52' RT.
GRATE EL.= 2291.11
IE.= 2285.26 (S)
IE.= 2285.36 (W)

(27) CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 2 METAL FRAME, STD. B-11, AND TYPE 3 METAL GRATE, STD. B-14.
STA. 24+89.57; 30.72' RT.
GRATE EL.= 2291.11
IE.= 2285.64 (E)
IE.= 2285.74 (N)

(28) CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 2 METAL FRAME, STD. B-11, AND TYPE 3 METAL GRATE, STD. B-14.
STA. 26+64.66; 16.5' LT.
GRATE EL.= 2291.12
IE.= 2289.12 (OUT)

(29) CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 2 METAL FRAME, STD. B-11, AND TYPE 3 METAL GRATE, STD. B-14.
STA. 26+64.66; 16.5' RT.
GRATE EL.= 2291.12
IE.= 2286.29 (S)
IE.= 2286.39 (NW)

(30) WSDOT INLET TYPE 2
WSDOT STD. B-4c W/FRAME AND VANED GRATE, WSDOT STD. B-4d
SEE NOTE 8
STA. 29+50.00, 16.50' RT.
GRATE EL.= 2293.77
IE.= 2287.82 (OUT)
IE.= 2287.92 (IN)

(31) TYPE "B" CONCRETE CURB AND GUTTER IN "OUTFLOW" CONFIGURATION. SEE DETAIL SHEET.

(32) STOP AND STREET SIGNS PER MUTCD AND SPOKANE COUNTY STANDARDS

(33) CURB RAMP DESIGN "B" PER SPOKANE COUNTY STANDARD A-5 (TYPICAL)

(34) 18" CPEP STORM DRAIN PIPE
L.= 53'
S.= 2.0%
STUB AND CAP FOR FUTURE CONNECTION (IE= 2287.45)

(35) 18" CPEP STORM DRAIN PIPE
L.= 40'
S.= 2.0%
STUB AND CAP FOR FUTURE CONNECTION. (IE.= 2288.14)

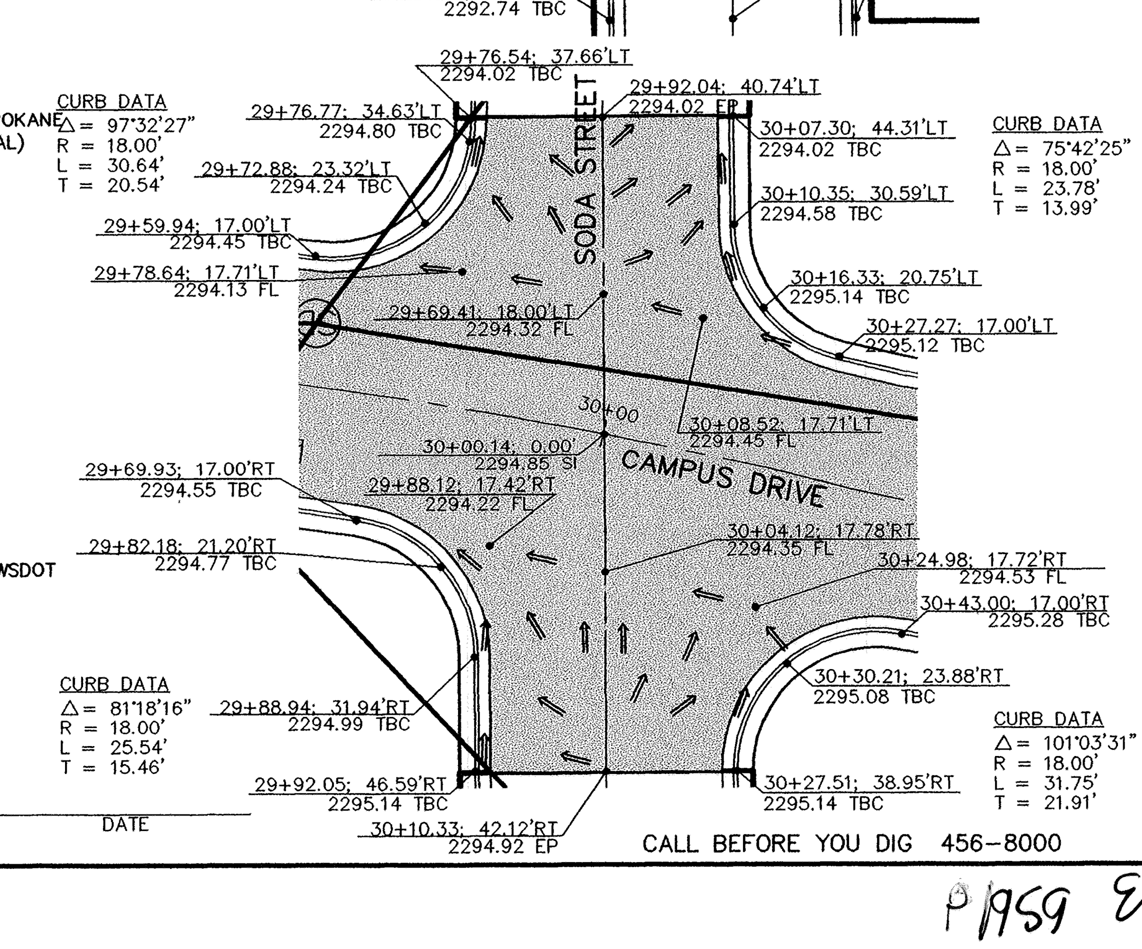
(36) 18" CPEP STORM DRAIN PIPE
L.= 54'
S.= 2.0%
STUB AND CAP FOR FUTURE CONNECTION. (IE.= 2288.90)

(37) SIDEWALK RAMP TYPE 24 PER WSDOT STANDARD PLAN F-3b

BENCHMARK

DATUM NAVD88

TBM: WSDOT #GP32002-104
3" BRASS DISC 0.32 MILES EAST OF FLINT ROAD, 10.7 METERS NORTH OF NORTH FOG STRIPE OF SR002.
ELEVATION=2315.42 (NAVD88)



DEVELOPER DATE

CALL BEFORE YOU DIG 456-8000

No.	DESC. / DATE	BY
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3		
2		
1		

SE
STORHAUG ENGINEERING
LAND SURVEYING LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING LAND USE PLANNING
510 EAST THIRD AVE, SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE
CAMPUS DRIVE PLAN AND PROFILE
STA 22+50 TO 30+50

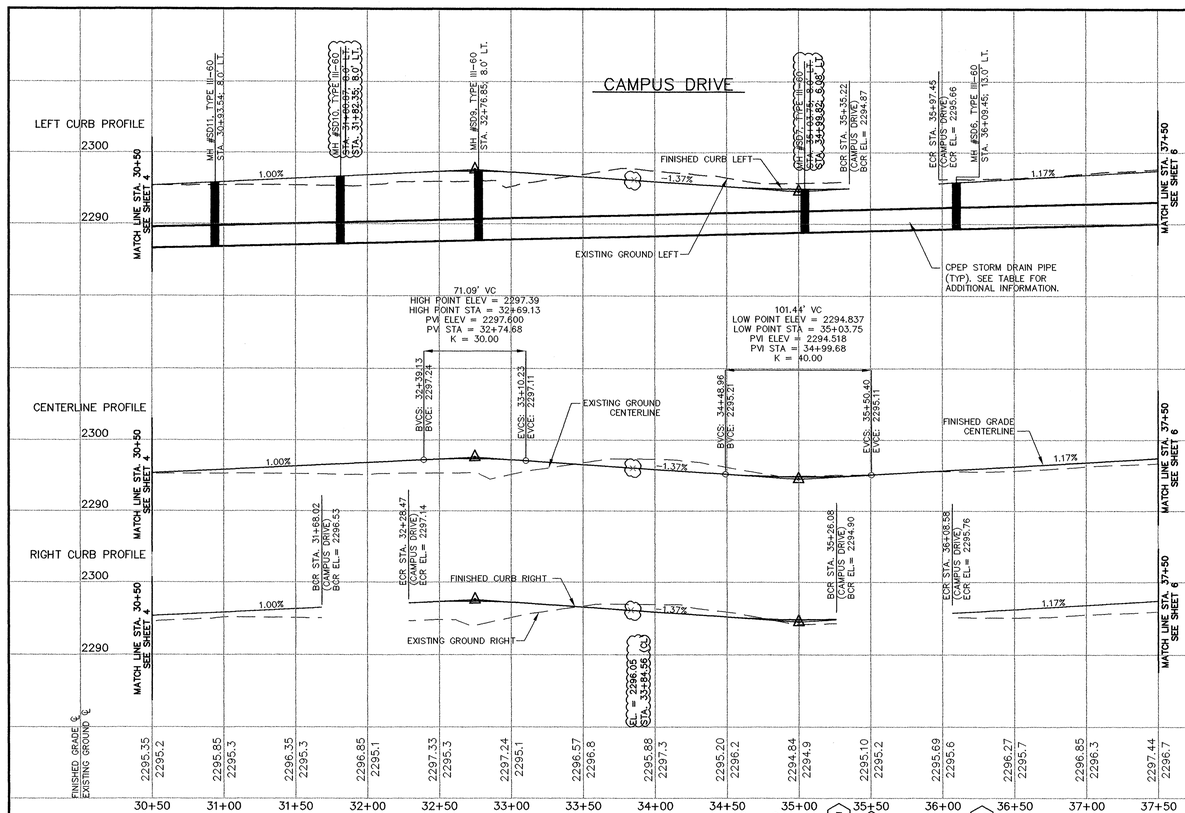
PROJECT TITLE
PILLAR ROCK ESTATES - PHASE I
SPOKANE COUNTY, WA

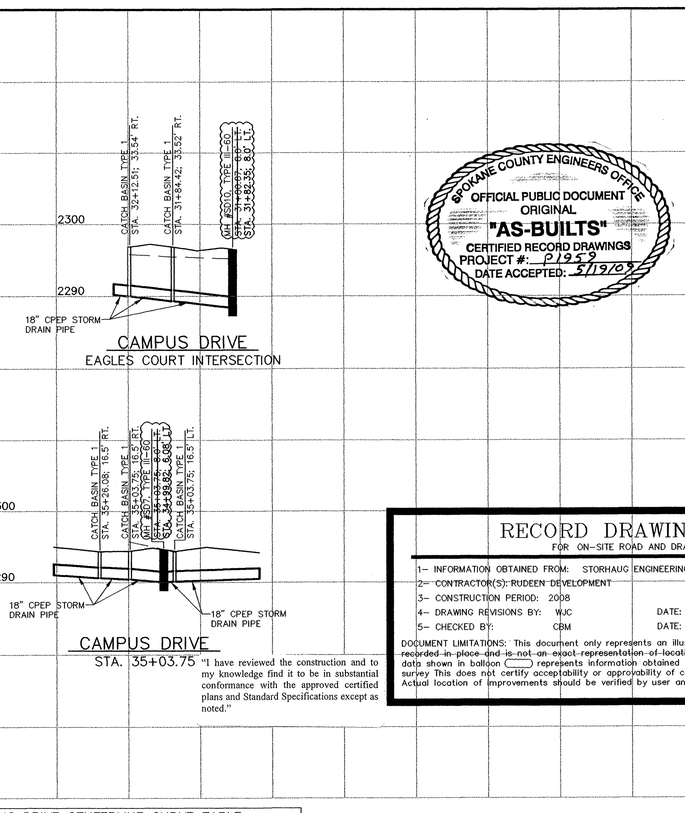
SEAL
CARSTON B. MORTENSON
STATE OF WASHINGTON
42912
REGISTERED
PROFESSIONAL ENGINEER
5/11/09

DATE	03/15/06
DRAWN	EMF
CHECKED	CH
PROJECT NUMBER	05-038
DRAWING NO.	4 OF 16
	STREET

P1959 Eng As Built

05038-ONsite-c-ST-REC.dwg ST-2
rojects\2005\05-038 Rudeen - Pillar Rock Estates\Record drawings\05038-ONsite-c-ST-REC.dwg, ST-2, 4/20/2009 7:29:12 AM, 1:1, WJC





SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT ORIGINAL
"AS-BUILTS"
CERTIFIED RECORD DRAWINGS
PROJECT #: P1959
DATE ACCEPTED: 5/19/09

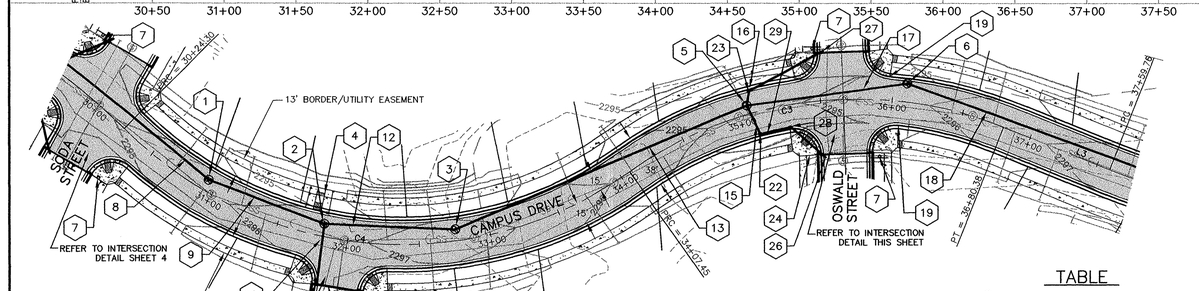
"I have reviewed the construction and to my knowledge find it to be in substantial conformance with the approved certified plans and Standard Specifications except as noted."

RECORD DRAWING

FOR ON-SITE ROAD AND DRAINAGE

1– INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2– CONTRACTOR(S): RUDEEN DEVELOPMENT
3– CONSTRUCTION PERIOD: 2008
4– DRAWING REVISIONS BY: WJC DATE: 12/31/08
5– CHECKED BY: CBM DATE: 5/11/09

DOCUMENT LIMITATIONS: This document only represents an illustration of improvements recorded in place and is not an exact representation of location or placement. Only data shown in balloon ( ) represents information obtained from post construction survey. This does not certify acceptability or approvability of construction work performed. Actual location of improvements should be verified by user and appropriate agencies.



NOTES

1. SEE CONSTRUCTION SPECIFICATIONS SHOWN ON DETAIL SHEET.
2. ALL CURB RETURNS SHALL BE CONSTRUCTED WITH A 20' RADIUS AT EDGE OF TRAVELED WAY UNLESS OTHERWISE SHOWN.
3. ALL CURB AND OFFSET DATA IS REFERENCED TO BACK OF CURB, UNLESS OTHERWISE NOTED.
4. EXISTING UTILITY LINE LOCATIONS HAVE BEEN EXTRACTED FROM RECORD UTILITY DRAWINGS AND FOUND SURFACE FEATURES. FIELD VERIFY EXACT LOCATIONS.
5. EXISTING UTILITIES CONFLICTING WITH PROPOSED IMPROVEMENTS SHALL BE RELOCATED AS NEEDED PRIOR TO CONSTRUCTION. COORDINATE WITH THE APPLICABLE UTILITY COMPANY.
6. 1.0' (MIN.) OF COVER SHALL BE MAINTAINED OVER ALL STORM DRAIN PIPES.
7. CURB INLETS SHALL BE CONSTRUCTED 1" LOWER THAN THE FLOW LINE OF THE CURB PER SPOKANE COUNTY STANDARD B–18. ASPHALT AND CURB TO HAVE SMOOTH TAPER INTO CURB INLETS.
8. W.S.D.O.T. TYPE 2 INLETS SHALL BE PLACED SO THAT THE LONGER SIDE OF THE STRUCTURE IS PERPENDICULAR TO THE CURB. THE SHORTER SIDE SHALL ABUT THE FACE OF THE CURB.
9. CONTRACTOR SHALL VERIFY UTILITY SERVICE ELEVATIONS AT ALL CROSSINGS PRIOR TO CONSTRUCTION OF ROAD AND DRAINAGE IMPROVEMENTS.
10. ALL STATIONING REFERENCES CAMPUS DRIVE ALIGNMENT.

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
HORZ: 1 inch = 50 ft.
VERT: 1 inch = 10 ft.

BATCH PLANT

BENCHMARK

TBM: WSDOT #GP32002–104
3" BRASS DISC 0.32 MILES EAST OF FLINT ROAD, 10.7 METERS NORTH OF NORTH FOG STRIPE OF SR002.
ELEVATION=2315.42 (NAVD88)

TABLE

1. MANHOLE TYPE III–60 (MH #SD11) SPOKANE COUNTY STD. U–6 W/ TYPE 4 FRAME AND SOLID LID, STD U–14. STA. 30+93.54; 8' LT. RIM EL.=2295.59 IE.= 2286.81 (E,W)
2. MANHOLE TYPE III–60 (MH #SD10) SPOKANE COUNTY STD. U–6 W/ TYPE 4 FRAME AND SOLID LID, STD U–14. ~~STA. 31+88.87; 8' LT.~~ STA. 31+82.35 RIM EL.= ~~2296.46~~ 2296.43 IE.= ~~2287.23 (E,W)~~ 2287.03 IE.= ~~2288.43 (N)~~
3. MANHOLE TYPE III–60 (MH #SD9) SPOKANE COUNTY STD. U–6 W/ TYPE 4 FRAME AND SOLID LID, STD U–14. STA. 32+76.85; 8' LT. RIM EL.= 2297.17 IE.= 2287.70 (NE,SE)
4. SIDEWALK RAMP TYPE 24 PER WSDOT STANDARD PLAN F–3b
5. MANHOLE TYPE III–60 (MH #SD7) SPOKANE COUNTY STD. U–6 W/ TYPE 4 FRAME AND SOLID LID, STD U–14. ~~STA. 35+03.75; 8' LT.~~ STA. 34+99.82, 6.08' LT. RIM EL.= ~~2294.63~~ 2294.59 IE.= ~~2288.82 (NE,SE)~~ 2288.19 IE.= ~~2290.02 (SE)~~ IE.= ~~2290.02 (NW)~~
6. MANHOLE TYPE III–60 (MH #SD6) SPOKANE COUNTY STD. U–6 W/ TYPE 4 FRAME AND SOLID LID, STD U–14. STA. 36+09.45; 13' LT. RIM EL.= 2295.60 IE.= 2289.37 (NE,W)
7. STOP AND STREET SIGNS PER MUTCD AND SPOKANE COUNTY STANDARDS
8. 36" CPEP STORM DRAIN PIPE L.= 133' S.= 0.5%
9. 36" CPEP STORM DRAIN PIPE L.= 84' S.= 0.5%
10. 18" CPEP STORM DRAIN PIPE L.= 41' S.= 2.0%
11. 18" CPEP STORM DRAIN PIPE L.= 28' S.= 2.0%
12. 36" CPEP STORM DRAIN PIPE L.= 93' S.= 0.5%
13. 36" CPEP STORM DRAIN PIPE L.= 224' S.= 0.5%
14. NOT USED
15. 18" CPEP STORM DRAIN PIPE L.= 23' S.= 2.0%
16. 18" CPEP STORM DRAIN PIPE L.= 7' S.= 2.0%
17. 36" CPEP STORM DRAIN PIPE L.= 110' S.= 0.5%
18. 36" CPEP STORM DRAIN PIPE L.= 175' S.= 0.5%
19. TYPE "B" CONCRETE CURB AND GUTTER IN "OUTFLOW" CONFIGURATION. SEE DETAIL SHEET
20. CATCH BASIN TYPE 1 SPOKANE COUNTY STD. B–4 W/TYPE 1 METAL FRAME, STD. B–10, AND TYPE 1 METAL GRATE, STD. B–12. STA. 31+84.42; 33.52' RT. GRATE EL.= 2296.28 IE.= 2289.25 (S) IE.= 2289.35 (W)
21. CATCH BASIN TYPE 1 SPOKANE COUNTY STD. B–4 W/TYPE 2 METAL FRAME, STD. B–11, AND TYPE 3 METAL GRATE, STD. B–14. STA. 32+12.51; 33.54' RT. GRATE EL.= 2296.78 IE.= 2289.41 (E) IE.= 2290.01 (N)
22. CATCH BASIN TYPE 1 SPOKANE COUNTY STD. B–4 W/TYPE 2 METAL FRAME, STD. B–11, AND TYPE 3 METAL GRATE, STD. B–14. STA. 35+03.75; 16.5' RT. GRATE EL.= 2294.26 IE.= 2290.48 (OUT) IE.= 2290.58 (IN)
23. CATCH BASIN TYPE 1 SPOKANE COUNTY STD. B–4 W/TYPE 2 METAL FRAME, STD. B–11, AND TYPE 3 METAL GRATE, STD. B–14. STA. 35+03.75; 16.5' LT. GRATE EL.= 2294.26 IE.= 2290.16 (OUT) IE.= 2290.26 (IN)
24. CURB RAMP DESIGN "B" PER SPOKANE COUNTY STANDARD A–5 (TYPICAL)
25. 18" CPEP STORM DRAIN PIPE L.=10' S.= 2.0% STUB AND CAP FOR FUTURE CONNECTION. (IE.= 2290.21)
26. 18" CPEP STORM DRAIN PIPE L.=32' S.= 1.0% STUB AND CAP FOR FUTURE CONNECTION. (IE.= 2290.20)
27. 18" CPEP STORM DRAIN PIPE L.=58' S.= 1.0% STUB AND CAP FOR FUTURE CONNECTION. (IE.= 2290.84)
28. GRATE INLET TYPE 2 WSDOT STD. B–4c W/FRAME AND VANED GRATE, WSDOT STD. B–4d SEE NOTE 8 STA. 35+26.08; 16.5' RT. GRATE EL.= 2294.30 IE.= 2290.78 (OUT) IE.= 2290.88 (IN)
29. 18" CPEP STORM DRAIN PIPE L.= 20' S.= 1.0%

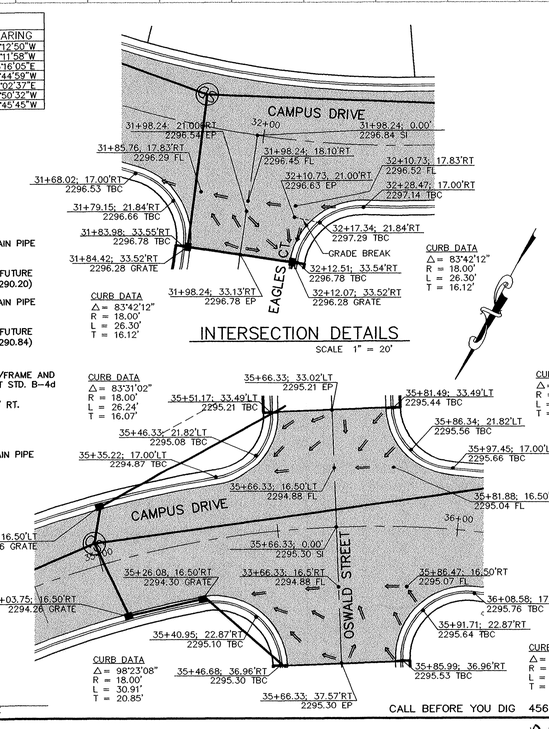
DEVELOPER DATE

CAMPUS DRIVE CENTERLINE CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD L	BEARING
C1	235.03'	275.00'	48°58'06"	125.23'	227.94'	S24°12'50"W
C2	158.40'	275.00'	33°00'09"	81.47'	156.22'	S65°11'58"W
C3	272.93'	275.00'	56°51'55"	148.89'	261.87'	N53°16'00"E
C4	383.15'	275.00'	79°49'42"	230.05'	352.90'	S64°44'59"W
C5	359.89'	500.00'	41°14'26"	188.14'	352.17'	N84°02'37"E
C6	314.23'	275.00'	65°28'10"	176.78'	297.41'	N83°50'32"W
C7	243.29'	275.00'	50°41'23"	130.26'	235.44'	N25°45'45"W

CAMPUS DRIVE CENTERLINE LINE TABLE

LINE	LENGTH	BEARING
L1	96.16'	N00°16'13"W
L2	25.32'	N48°41'53"E
L3	79.39'	N81°42'02"E
L4	724.92'	S51°06'27"E



CALL BEFORE YOU DIG 456–8000

No.	DESC. / DATE	BY
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1		

STORHAUG ENGINEERING
LAND SURVEYING | LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING | LAND USE PLANNING
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-7000 FAX 509-242-7001

SHEET TITLE: CAMPUS DRIVE PLAN AND PROFILE STA 30+50 TO 37+50

PROJECT TITLE: PILLAR ROCK ESTATES – PHASE I SPOKANE COUNTY, WA

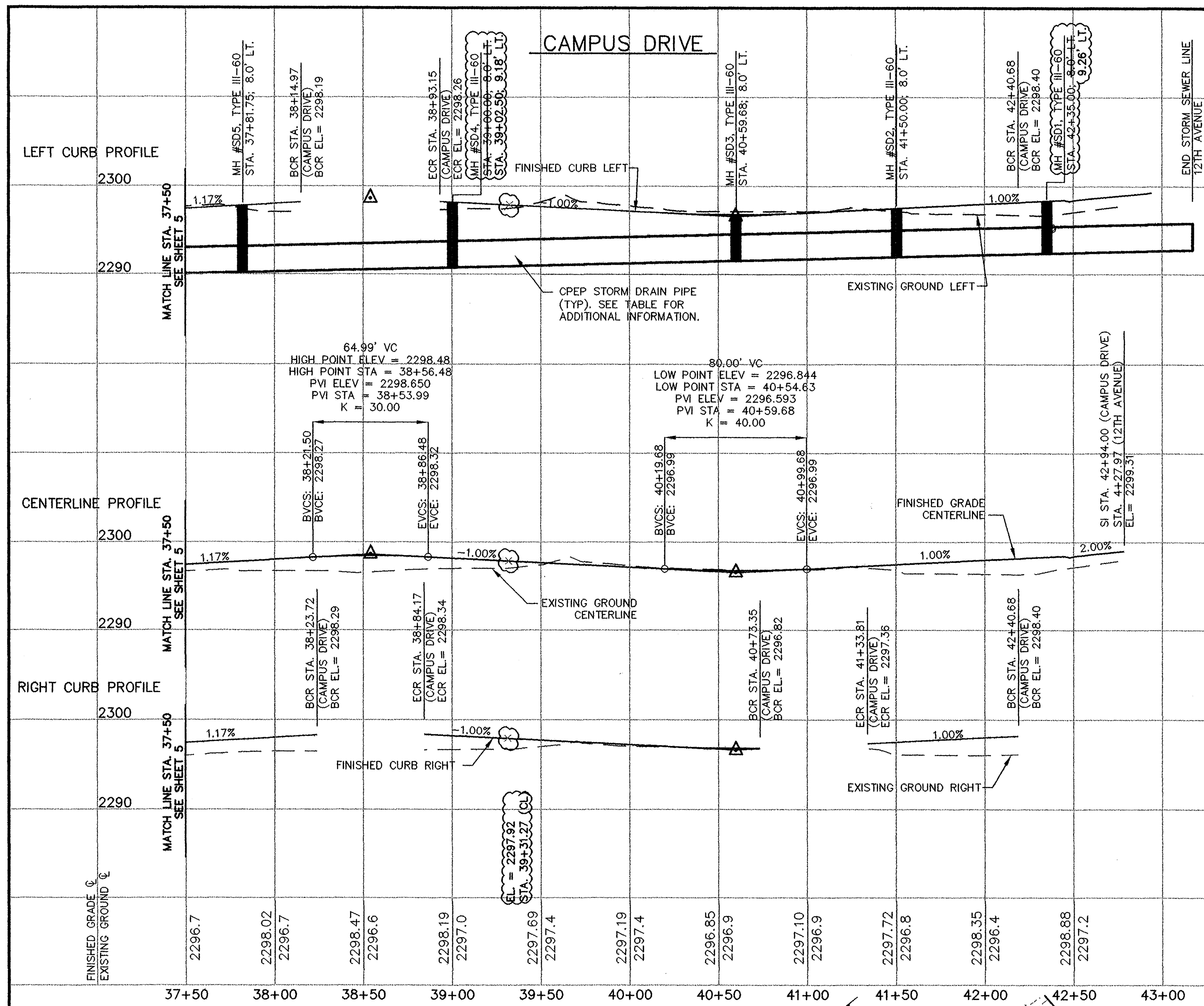
SEAL: JASON B. MORTENSON, STATE OF WASHINGTON, 43918, REGISTERED PROFESSIONAL ENGINEER, 5/11/09

DATE	03/15/06
DRAWN	EMF
CHECKED	CH
PROJECT NUMBER	05–038
DRAWING NO.	5 OF 16
	STREET

P-1959 Eng As Built

05038–ONsite–c–ST–REC.dwg ST–3

objects/2005/05-038 Rudeen - Pillar Rock Estates/Record drawings/05038-ONsite-c-ST-REC.dwg, ST-3, 4/20/2009 7:29:34 AM, 1:1, WJC

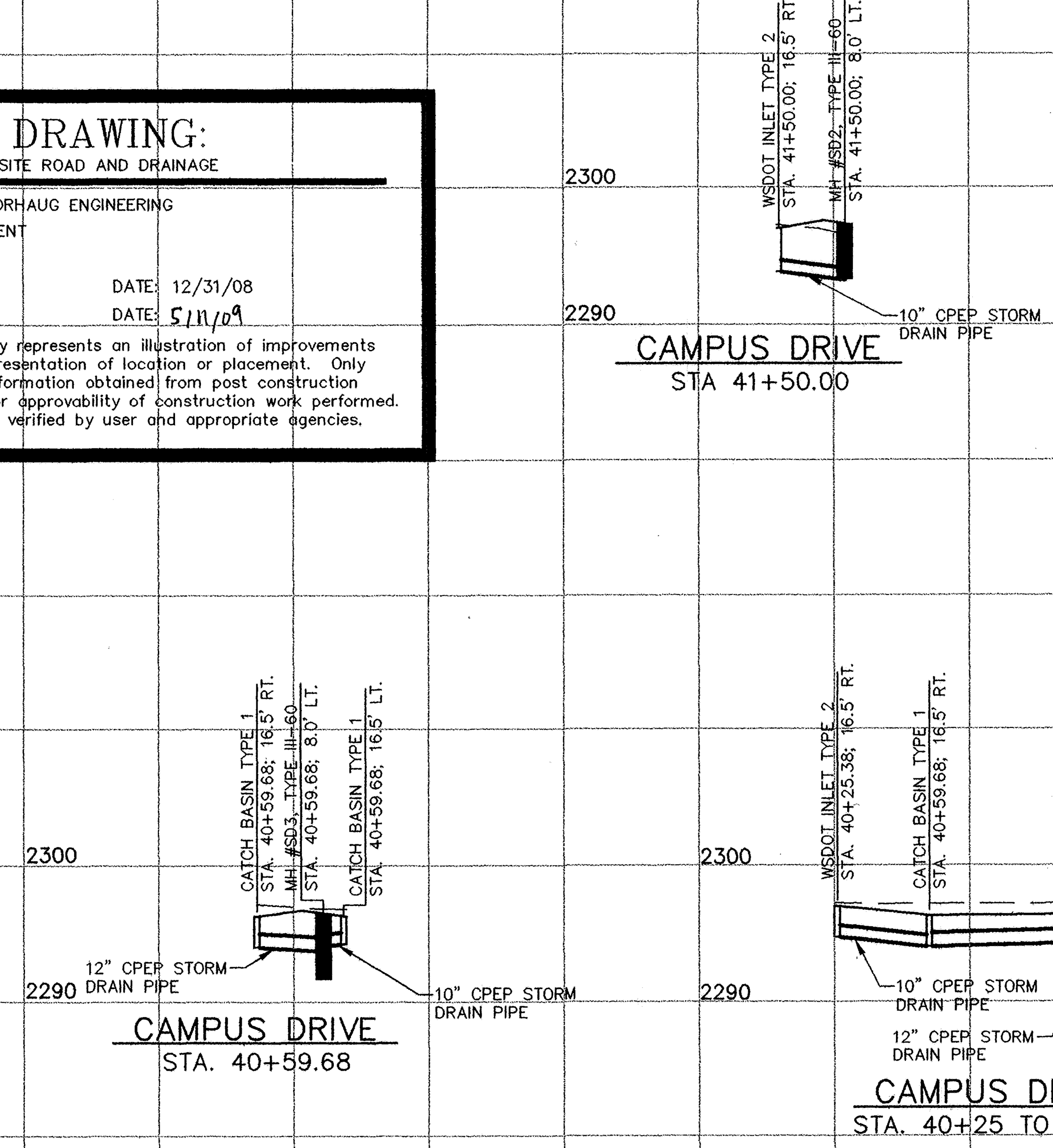


RECORD DRAWING:
FOR ON-SITE ROAD AND DRAINAGE

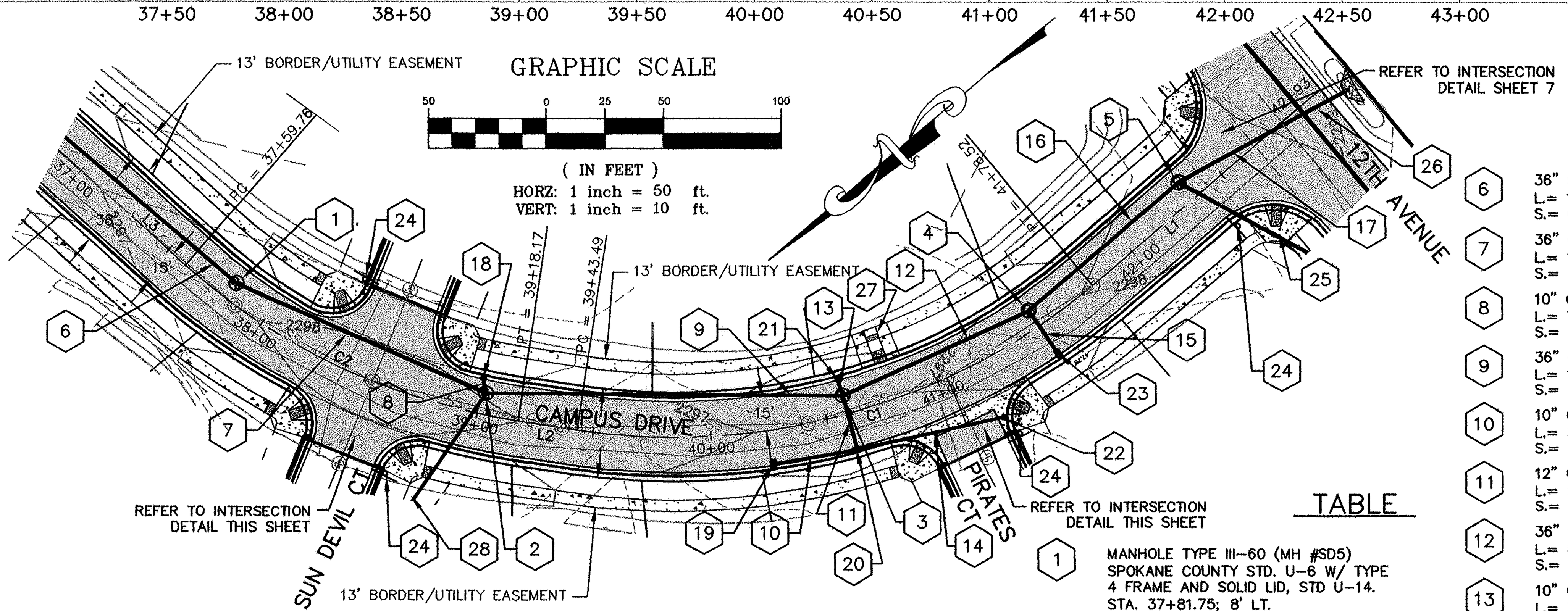
1– INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2– CONTRACTOR(S): RUDEEN DEVELOPMENT
3– CONSTRUCTION PERIOD: 2008
4– DRAWING REVISIONS BY: WJC DATE: 12/31/08
5– CHECKED BY: CBM DATE: 5/11/09

DOCUMENT LIMITATIONS: This document only represents an illustration of improvements recorded in place and is not an exact representation of location or placement. Only data shown in balloon represents information obtained from post construction survey This does not certify acceptability or approvability of construction work performed. Actual location of improvements should be verified by user and appropriate agencies.

"I have reviewed the construction and to my knowledge find it to be in substantial conformance with the approved certified plans and Standard Specifications except as noted."



SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT
ORIGINAL
"AS-BUILTS"
CERTIFIED RECORD DRAWINGS
PROJECT #: P1959
DATE ACCEPTED: 5/19/09



No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
LAND SURVEYING LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING LAND USE PLANNING
510 EAST THIRD AVE, SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

NOTES

1. SEE CONSTRUCTION SPECIFICATIONS SHOWN ON DETAIL SHEET.
2. ALL CURB RETURNS SHALL BE CONSTRUCTED WITH A 20' RADIUS AT EDGE OF TRAVELED WAY UNLESS OTHERWISE SHOWN.
3. ALL CURB AND OFFSET DATA IS REFERENCED TO BACK OF CURB, UNLESS OTHERWISE NOTED.
4. EXISTING UTILITY LINE LOCATIONS HAVE BEEN EXTRACTED FROM RECORD UTILITY DRAWINGS AND FOUND SURFACE FEATURES. FIELD VERIFY EXACT LOCATIONS.
5. EXISTING UTILITIES CONFLICTING WITH PROPOSED IMPROVEMENTS SHALL BE RELOCATED AS NEEDED PRIOR TO CONSTRUCTION. COORDINATE WITH THE APPLICABLE UTILITY COMPANY.
6. 1.0' (MIN.) OF COVER SHALL BE MAINTAINED OVER ALL STORM DRAIN PIPES.
7. CURB INLETS SHALL BE CONSTRUCTED 1" LOWER THAN THE FLOW LINE OF THE CURB PER SPOKANE COUNTY STANDARD B-18. ASPHALT AND CURB TO HAVE SMOOTH TAPER INTO CURB INLETS.
8. W.S.D.O.T. TYPE 2 INLETS SHALL BE PLACED SO THAT THE LONGER SIDE OF THE STRUCTURE IS PERPENDICULAR TO THE CURB. THE SHORTER SIDE SHALL ABUT THE FACE OF THE CURB.
9. CONTRACTOR SHALL VERIFY UTILITY SERVICE ELEVATIONS AT ALL CROSSINGS PRIOR TO CONSTRUCTION OF ROAD AND DRAINAGE IMPROVEMENTS.
10. ALL STATIONING REFERENCES CAMPUS DRIVE ALIGNMENT.

DATUM NAVD88

BENCHMARK
TBM: WSDOT #GP32002-104
3" BRASS DISC 0.32 MILES EAST OF FLINT ROAD, 10.7 METERS NORTH OF NORTH FOG STRIPE OF SR002.
ELEVATION=2315.42 (NAVD88)

05038-ONsite-c-ST-REC.dwg ST-4

TABLE

(1) MANHOLE TYPE III-60 (MH #SD5)
SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID, STD U-14.
STA. 37+81.75; 8' LT.
RIM EL.=2297.61
IE.= 2290.25 (E,W)

(2) MANHOLE TYPE III-72 (MH #SD4)
SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID, STD U-14.
STA. ~~39+00.00; 8' LT.~~ 39+02.50; 9.18' LT.
RIM EL.= 2297.98
IE.= ~~2290.82 (NE,SW, N)~~ 2289.98
IE.= ~~2294.97 (SE)~~

(3) MANHOLE TYPE III-60 (MH #SD3)
SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID, STD U-14.
STA. 40+59.68; 8' LT.
RIM EL.= 2296.59
IE.= 2291.59 (NE,S)
IE.= 2294.07 (E)
IE.= 2293.76 (W)

(4) MANHOLE TYPE III-60 (MH #SD2)
SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID, STD U-14.
STA. 41+50.00; 8' LT.
RIM EL.= 2297.29
IE.= 2292.03 (N,S)
IE.= 2294.23 (W)

(5) MANHOLE TYPE III-60 (MH #SD1)
SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID, STD U-14.
STA. 42+35.00; ~~8' LT.~~ 9.26' LT.
RIM EL.= ~~2298.14~~ 2298.02
IE.= ~~2292.45 (N,S)~~ 2291.42
IE.= ~~2295.12 (W)~~

(6) 36" CPEP STORM DRAIN PIPE
L.= 175'
S.= 0.5%

(7) 36" CPEP STORM DRAIN PIPE
L.= 114'
S.= 0.5%

(8) 10" CPEP STORM DRAIN PIPE
L.= 7'
S.= 2.0%

(9) 36" CPEP STORM DRAIN PIPE
L.= 154'
S.= 0.5%

(10) 10" CPEP STORM DRAIN PIPE
L.= 34'
S.= 2.0%

(11) 12" CPEP STORM DRAIN PIPE
L.= 23'
S.= 1.0%

(12) 36" CPEP STORM DRAIN PIPE
L.= 87'
S.= 0.5%

(13) 10" CPEP STORM DRAIN PIPE
L.= 7'
S.= 2.0%

(14) 12" CPEP STORM DRAIN PIPE
L.= 62'
S.= 0.5%

(15) 10" CPEP STORM DRAIN PIPE
L.= 23'
S.= 3.0%

(16) 36" CPEP STORM DRAIN PIPE
L.= 84'
S.= 0.5%

(17) 36" CPEP STORM DRAIN PIPE
L.= 81'
S.= 3.1%
IE= 2295.00 (INLET AT SUMP)

(18) CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 1 METAL FRAME, STD. B-10, AND TYPE 1 METAL GRATE, STD. B-12.
STA. 39+00.00; 16.5' LT.
GRATE EL.= 2297.61
IE.= 2295.11 (OUT)

(19) GRATE INLET TYPE 2
WSDOT STD. B-4c W/FRAME AND VANED GRATE, WSDOT STD. B-4d
SEE NOTE 8
STA. 40+25.38, 16.5' RT.
GRATE EL.= 2296.94
IE.= 2294.67 (OUT)

(20) CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 2 METAL FRAME, STD. B-11, AND TYPE 3 METAL GRATE, STD. B-14.
STA. 40+59.68; 16.5' RT.
GRATE EL.= 2296.21
IE.= 2293.99

(21) CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 2 METAL FRAME, STD. B-11, AND TYPE 3 METAL GRATE, STD. B-14.
STA. 40+59.68; 16.5' LT.
GRATE EL.= 2296.21
IE.= 2294.21 (OUT)

(22) CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 2 METAL FRAME, STD. B-11, AND TYPE 3 METAL GRATE, STD. B-14.
STA. 41+17.74, 25.59' RT.
GRATE EL.= 2296.32
IE.= 2294.32 (OUT)

(23) GRATE INLET TYPE 2
WSDOT STD. B-4c W/FRAME AND VANED GRATE, WSDOT STD. B-4d
SEE NOTE 8
STA. 41+50.00; 16.5' RT.
GRATE EL.= 2296.92
IE.= 2294.92

(24) STOP AND STREET SIGNS PER MUTCD AND SPOKANE COUNTY STANDARDS

(25) CURB RAMP DESIGN "B" PER SPOKANE COUNTY STANDARD A-5 (TYPICAL)

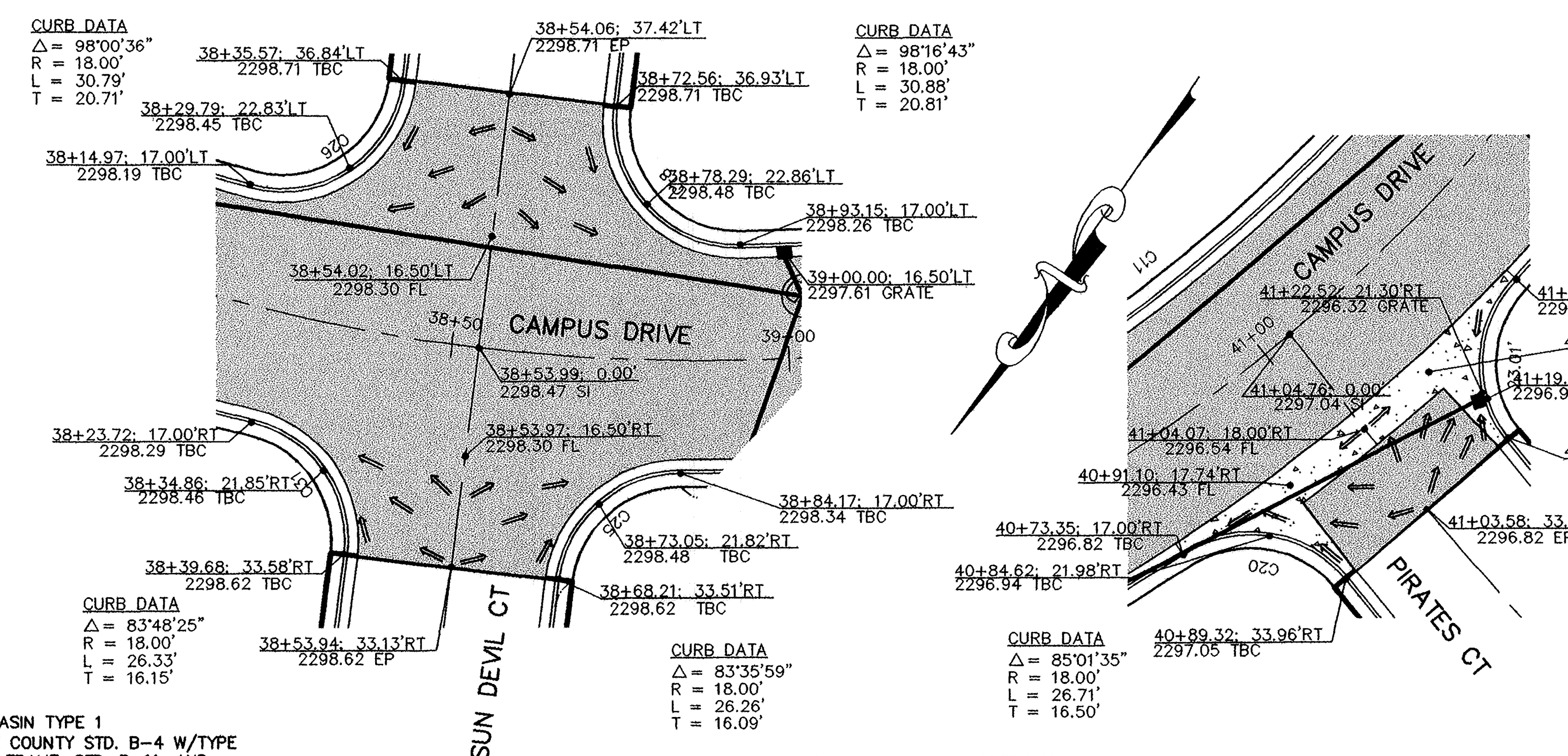
(26) END STORM DRAIN PIPE AT TEMPORARY SUMP. CONSTRUCT INVERT ELEVATION 1.0' ABOVE BOTTOM OF TEMPORARY SUMP. PROVIDE TRASH RACK / PIPE GRATE ON INLET OF STORM DRAIN PIPE. PROVIDE RIPRAP AT PIPE INLET RIPRAP TO CONSIST OF FIELD ROCK SIZED PER RIPRAP TABLE. REFER TO DETAIL ON SHEET 10 .COMPLETELY COVER PIPE TO 6' FROM PIPE INLET.

(27) SIDEWALK RAMP TYPE 24 PER WSDOT STANDARD PLAN F-3b

(28) SEE SHEET 16 FOR DESIGN/ CONTINUATION OF STORM SEWER

RIP RAP SIZE

LOCATION	MIN.	AVG.	MAX.	THICKNESS
PIPE INLET	1.5"	6.0"	8.3"	12.0"
RIP RAP PAD TO BE 6' AT BASE, 15' AT END AND 6 FEET DEEP				



INTERSECTION DETAILS
SCALE 1" = 20'

CAMPUS DRIVE CENTERLINE CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD L	BEARING
C1	235.03'	275.00'	48°58'06"	125.23'	227.94'	S24°12'50"W
C2	158.40'	275.00'	33°00'09"	81.47'	156.22'	S65°11'58"W
C3	272.93'	275.00'	56°51'55"	148.89'	261.87'	N53°16'05"E
C4	383.15'	275.00'	79°49'42"	230.05'	352.90'	S64°44'59"W
C5	359.89'	500.00'	41°14'26"	188.14'	352.17'	N84°02'37"E
C6	314.23'	275.00'	65°28'10"	176.78'	297.41'	N83°50'32"W
C7	243.29'	275.00'	50°41'23"	130.26'	235.44'	N25°45'45"W

CAMPUS DRIVE CENTERLINE LINE TABLE		
LINE	LENGTH	BEARING
L1	96.16'	N00°16'13"W
L2	25.32'	N48°41'53"E
L3	79.39'	N81°42'02"E
L4	724.92'	S51°06'27"E
L5	51.23'	S00°25'04"E

DEVELOPER DATE

CALL BEFORE YOU DIG 456-8000

SHEET TITLE
CAMPUS DRIVE PLAN AND PROFILE STA 37+50 TO 42+93

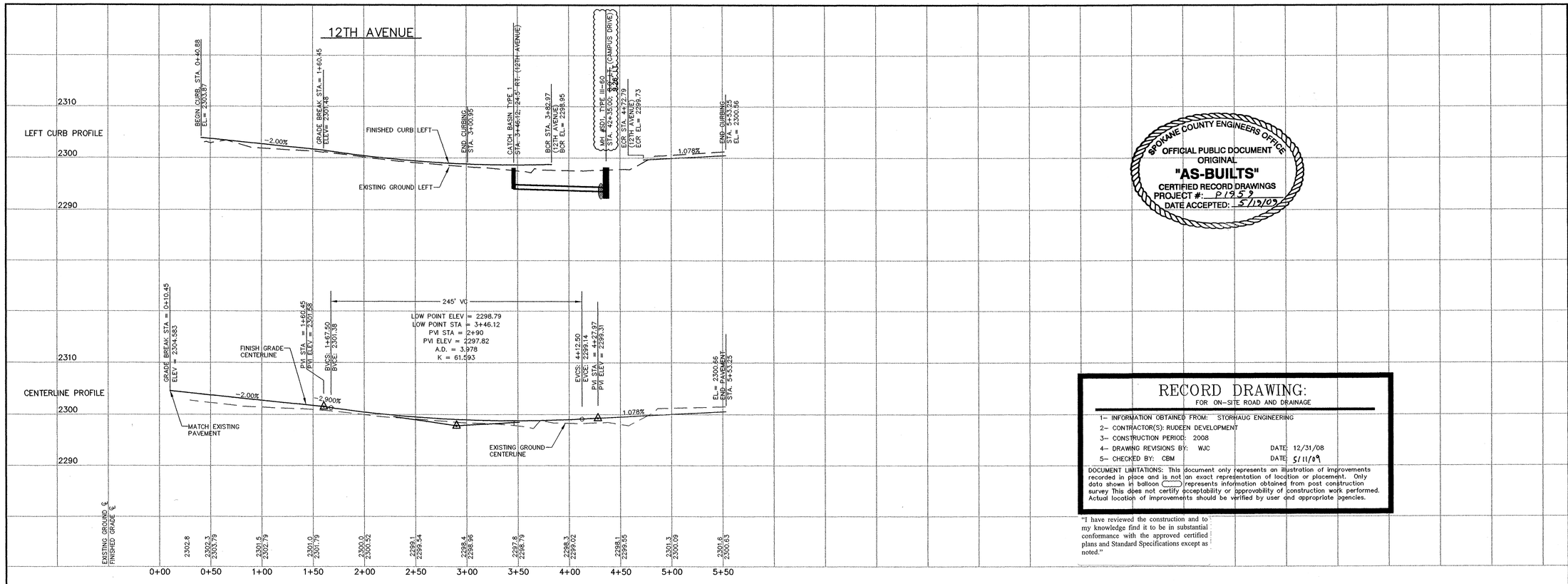
PROJECT TITLE
PILLAR ROCK ESTATES – PHASE I SPOKANE COUNTY, WA

SEAL
CARSTON B. MORTENSON STATE OF WASHINGTON 46312 REGISTERED PROFESSIONAL ENGINEER
Carston Mortenson 5/11/09

DATE	3/23/06
DRAWN	EMF
CHECKED	CH
PROJECT NUMBER	05-038
DRAWING NO.	6 OF 16
	STREET

P-1959 Eng As Built

rojects\2005\05-038 Rudeen - Pillar Rock Estates\Record drawings\05038-ONsite-c-ST-REC.dwg, ST-4, 4/20/2009 7:29:58 AM, 1:1, WJC



SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT
ORIGINAL
"AS-BUILTS"
CERTIFIED RECORD DRAWINGS
PROJECT #: P1959
DATE ACCEPTED: 5/12/09

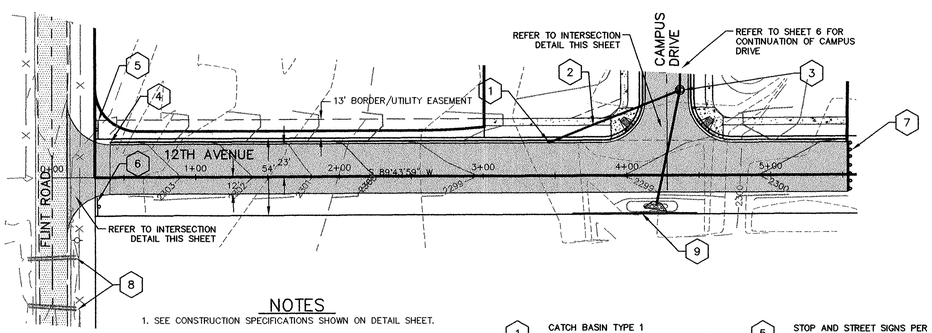
RECORD DRAWING:

FOR ON-SITE ROAD AND DRAINAGE

1– INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2– CONTRACTOR(S): RUDEEN DEVELOPMENT
3– CONSTRUCTION PERIOD: 2008
4– DRAWING REVISIONS BY: WJC DATE: 12/31/08
5– CHECKED BY: CBM DATE: 5/11/09

DOCUMENT LIMITATIONS: This document only represents an illustration of improvements recorded in place and is not an exact representation of location or placement. Only data shown in balloon ( ) represents information obtained from post construction survey. This does not certify acceptability or approvability of construction work performed. Actual location of improvements should be verified by user and appropriate agencies.

"I have reviewed the construction and to my knowledge find it to be in substantial conformance with the approved certified plans and Standard Specifications except as noted."



NOTES

1. SEE CONSTRUCTION SPECIFICATIONS SHOWN ON DETAIL SHEET.
2. ALL CURB RETURNS SHALL BE CONSTRUCTED WITH A 20' RADIUS AT EDGE OF TRAVELED WAY UNLESS OTHERWISE SHOWN.
3. ALL CURB AND OFFSET DATA IS REFERENCED TO BACK OF CURB, UNLESS OTHERWISE NOTED.
4. EXISTING UTILITY LINE LOCATIONS HAVE BEEN EXTRACTED FROM RECORD UTILITY DRAWINGS AND FOUND SURFACE FEATURES. FIELD VERIFY EXACT LOCATIONS.
5. EXISTING UTILITIES CONFLICTING WITH PROPOSED IMPROVEMENTS SHALL BE RELOCATED AS NEEDED PRIOR TO CONSTRUCTION. COORDINATE WITH THE APPLICABLE UTILITY COMPANY.
6. 1.0' (MIN.) OF COVER SHALL BE MAINTAINED OVER ALL STORM DRAIN PIPES.
7. CURB INLETS SHALL BE CONSTRUCTED 1" LOWER THAN THE FLOW LINE OF THE CURB PER SPOKANE COUNTY STANDARD B-18. ASPHALT AND CURB TO HAVE SMOOTH TAPER INTO CURB INLETS.
8. W.S.D.O.T. TYPE 2 INLETS SHALL BE PLACED SO THAT THE LONGER SIDE OF THE STRUCTURE IS PERPENDICULAR TO THE CURB. THE SHORTER SIDE SHALL ABUT THE FACE OF THE CURB.
9. CONTRACTOR SHALL VERIFY UTILITY SERVICE ELEVATIONS AT ALL CROSSINGS PRIOR TO CONSTRUCTION OF ROAD AND DRAINAGE IMPROVEMENTS.

1. CATCH BASIN TYPE 1
SPOKANE COUNTY STD. B-4 W/TYPE 2 METAL FRAME, STD. B-11, AND TYPE 3 METAL GRATE, STD. B-14.
STA. 3+46.12; 24.5' LT.
GRATE EL.= 2298.09
IE.= 2296.08 (OUT)

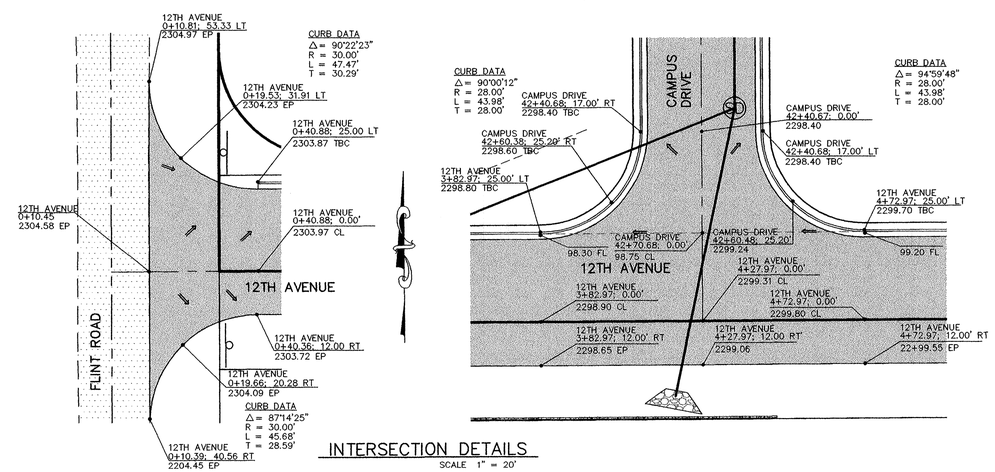
2. 12" CPEP STORM DRAIN PIPE
L.= 96'
S.= 1.0%

3. MANHOLE TYPE III-60 (MH #SD1)
SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID, STD U-14.
STA. 42+35.00; ~~9.2'~~ 9.26' LT.
RIM EL.= ~~2298.14~~ 2298.02
IE.= ~~2292.45 (N,S)~~ 2291.42
~~IE.= 2296.12 (W)~~

4. NOSE-DOWN CURB.
SEE DETAIL SHEET

5. STOP AND STREET SIGNS PER MUTCD AND SPOKANE COUNTY STANDARDS.
6. "NO OUTLET" SIGN PER MUTCD AND SPOKANE COUNTY STANDARDS.
7. TYPE III BARRACADE PER WSDOT STANDARD PLAN H-2.
8. EXISTING CULVERT
9. SEGMENTAL RETAINING WALL DESIGN BY OTHERS. RETAINING WALL CONSTRUCTION AND SPECIFICATIONS SHALL CONFORM WITH MANUFACTURERS REQUIREMENTS AND SPECIFICATIONS.

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
HORZ: 1 inch = 50 ft.
VERT: 1 inch = 10 ft.



INTERSECTION DETAILS
SCALE 1" = 20'

BENCHMARK
TBM: WSDOT #GP32002-104
3" BRASS DISC 0.32 MILES EAST OF FLINT ROAD, 10.7 METERS NORTH OF NORTH FOG STRIPE OF SR002.
ELEVATION=2315.42 (NAVD88)

DEVELOPER DATE

CALL BEFORE YOU DIG 456-8000

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
LAND SURVEYING LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING LAND USE PLANNING
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: 12TH AVENUE PLAN AND PROFILE STA 0+00 TO 5+53.25

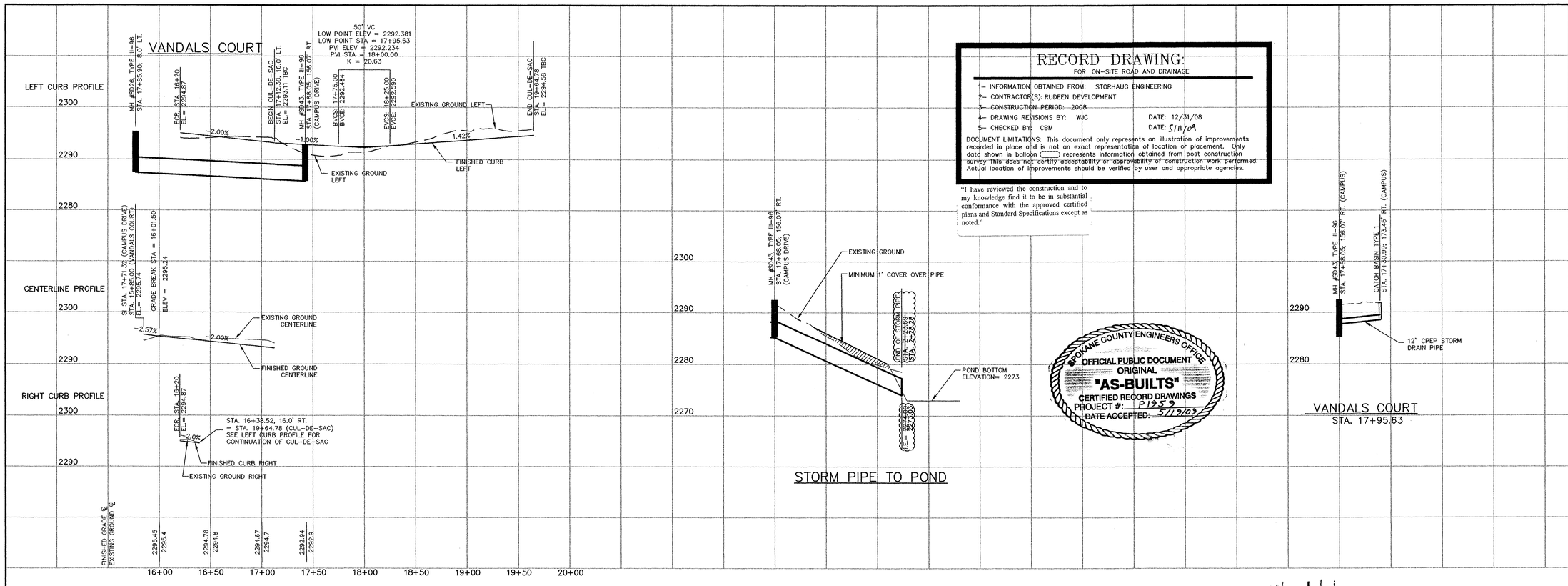
PROJECT TITLE: PILLAR ROCK ESTATES – PHASE I SPOKANE COUNTY, WA

SEAL: KARSTON R. MORTENSON, STATE OF WASHINGTON, 48919, REGISTERED PROFESSIONAL ENGINEER, 5/11/09

DATE	03/15/06
DRAWN	EMF
CHECKED	CH
PROJECT NUMBER	05-038
DRAWING NO.	7 OF 16
	STREET

P1959 Engr's Built

05038-OnSite-c-ST-REC.dwg ST-5



RECORD DRAWING

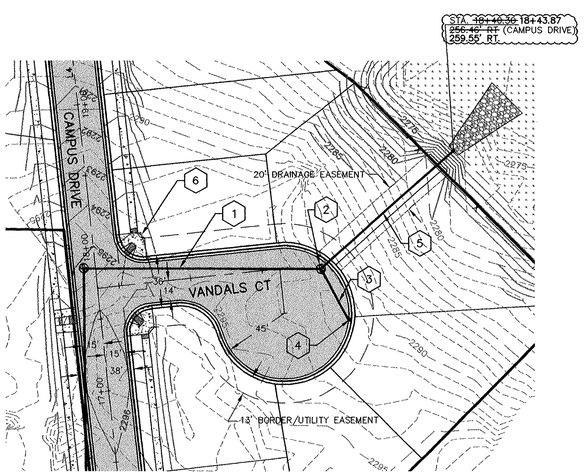
FOR ON-SITE ROAD AND DRAINAGE

1- INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2- CONTRACTOR(S): RUDEEN DEVELOPMENT
3- CONSTRUCTION PERIOD: 2008
4- DRAWING REVISIONS BY: WJC DATE: 12/31/08
5- CHECKED BY: CBM DATE: 5/11/09

DOCUMENT LIMITATIONS: This document only represents an illustration of improvements recorded in place and is not an exact representation of location or placement. Only data shown in balloon ( ) represents information obtained from post construction survey. This does not certify acceptability or approvability of construction work performed. Actual location of improvements should be verified by user and appropriate agencies.

"I have reviewed the construction and to my knowledge find it to be in substantial conformance with the approved certified plans and Standard Specifications except as noted."

SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT
ORIGINAL
"AS-BUILTS"
CERTIFIED RECORD DRAWINGS
PROJECT #: P1959
DATE ACCEPTED: 5/19/09



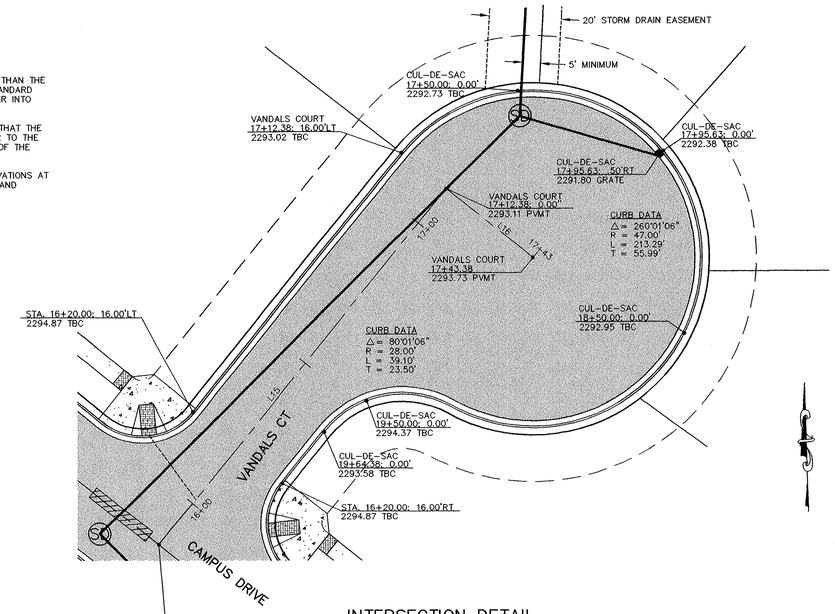
NOTES

1. SEE CONSTRUCTION SPECIFICATIONS SHOWN ON DETAIL SHEET.
2. ALL CURB RETURNS SHALL BE CONSTRUCTED WITH A 20' RADIUS AT EDGE OF TRAVELED WAY UNLESS OTHERWISE SHOWN.
3. ALL CURB AND OFFSET DATA IS REFERENCED TO BACK OF CURB, UNLESS OTHERWISE NOTED.
4. EXISTING UTILITY LINE LOCATIONS HAVE BEEN EXTRACTED FROM RECORD UTILITY DRAWINGS AND FOUND SURFACE FEATURES. FIELD VERIFY EXACT LOCATIONS.
5. EXISTING UTILITIES CONFLICTING WITH PROPOSED IMPROVEMENTS SHALL BE RELOCATED AS NEEDED PRIOR TO CONSTRUCTION. COORDINATE WITH THE APPLICABLE UTILITY COMPANY.
6. 1.0' (MIN.) OF COVER SHALL BE MAINTAINED OVER ALL STORM DRAIN PIPES.
7. CURB INLETS SHALL BE CONSTRUCTED 1" LOWER THAN THE FLOW LINE OF THE CURB PER SPOKANE COUNTY STANDARD B-18. ASPHALT AND CURB TO HAVE SMOOTH TAPER INTO CURB INLETS.
8. W.S.D.O.T. TYPE 2 INLETS SHALL BE PLACED SO THAT THE LONGER SIDE OF THE STRUCTURE IS PERPENDICULAR TO THE CURB. THE SHORTER SIDE SHALL ABUT THE FACE OF THE CURB.
9. CONTRACTOR SHALL VERIFY UTILITY SERVICE ELEVATIONS AT ALL CROSSINGS PRIOR TO CONSTRUCTION OF ROAD AND DRAINAGE IMPROVEMENTS.

TABLE

1. 36" CPEP STORM DRAIN PIPE
   L= 165'
   S= 0.5%
2. MANHOLE TYPE III-96 (MH SD#43)
   SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID, STD U-14.
   STA. 17+68.05; 156.07' RT. (CAMPUS DRIVE)
   RIM EL.= 2292.50
   IE.= 2285.21 (SW,N)
   IE.= 2287.71 (E)
3. 12" CPEP STORM DRAIN PIPE
   L= 40'
   S= 2.0%
4. CATCH BASIN TYPE 1
   SPOKANE COUNTY STD. B-4 W/TYPE 2 METAL FRAME, STD. B-11, AND TYPE 3 METAL GRATE, STD. B-14.
   STA. 17+30.99; 173.45' RT.
   GRATE EL.= 2291.80
   IE.= 2288.51 (OUT)
5. 36' CPEP STORM DRAIN PIPE
   L= 124'
   S= 9.0%
   IE= ~~2274.08~~ (OUTLET AT POND) 2273.03
6. CURB RAMP DESIGN "B" PER SPOKANE COUNTY STANDARD A-5 (TYPICAL)

LINE TABLE		
LINE	LENGTH	BEARING
L15	127.38'	N38°53'33"E
L16	31.00'	S51°06'27"E



INTERSECTION DETAIL
SCALE 1" = 20'

GRAPHIC SCALE
50 0 25 50 100
(IN FEET)
HORZ: 1 inch = 50 ft.
VERT: 1 inch = 10 ft.

DATUM
NAVD88

BENCHMARK
TBM: WSDOT #GP32002-104
3" BRASS DISC 0.32 MILES EAST OF FLINT ROAD, 10.7 METERS NORTH OF NORTH FOG STRIPE OF SR002.
ELEVATION=2315.42 (NAVD88)

DEVELOPER DATE

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P1959 Eng AsBuilt

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
LAND SURVEYING | LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING | LAND USE PLANNING
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: VANDALS COURT PLAN AND PROFILE STA 15+85 TO 17+43.38

PROJECT TITLE: PILLAR ROCK ESTATES - PHASE I SPOKANE COUNTY, WA

SEAL: LARSON R. MORTENSON, STATE OF WASHINGTON, 18818, REGISTERED PROFESSIONAL ENGINEER, 5/11/09

DATE	03/15/06
DRAWN	EMF
CHECKED	CH
PROJECT NUMBER	05-038
DRAWING NO.	8 OF 16
	STREET

05038-ONsite-c-ST-REC.dwg ST-6

1) All work and materials shall be in conformance with the "SPOKANE COUNTY STANDARDS FOR ROAD AND SEWER CONSTRUCTION" 1999, and as amended.

2) Locations of existing utilities shown in the plans are approximate. Prior to site construction, the Contractor shall be responsible for locating all underground and overhead utilities. Any conflicting utilities shall be relocated prior to construction of road and drainage facilities. Call the underground utility location service at 456-8000 before you dig.

3) The Contractor is required to have a complete set of the approved road and drainage plans on the job site whenever construction is in progress. Coordinate with Spokane County and Design Engineer prior to construction. The contractor shall obtain all applicable permits prior to beginning construction and coordinate with the governing regulatory agencies regarding construction and inspection requirements.

4) If the Contractor discovers any discrepancies between the plans and existing conditions encountered, the Contractor shall immediately notify the Design Engineer.

5) For construction of drywells, install filter fabric (Amoco 4545 or approved equivalent) between the washed drain rock and the native soils.

6) For any curb grades less than 0.8% (0.008 ft/ft), a Washington State licensed Professional Land Surveyor shall verify that the curb forms are at the grades noted on the approved plans, prior to placement of curb material. The Contractor is responsible for arranging and coordinating work with the Professional Land Surveyor.

7) The Contractor shall employ a licensed surveyor to verify that the cross gutter forms are at the correct plane grade prior to concrete placement. The cross gutters shall be constructed prior to paving, and the pavement shall then match the edge of concrete gutter.

8) The contractor shall review all geotechnical recommendations and investigation reports associated with the subject development prior to starting construction. Any discrepancies between design plans and geotechnical report shall be reported to the Design Engineer. Construction shall comply with recommendations of the geotechnical reports.

9) The contractor shall demolish and remove existing structures and associated improvements on the subject site prior to starting construction. Contractor shall coordinate demolition activities with owner for further direction and extent of work.

10) The floor of a Grassed Percolation Area (GPA) swale includes the level portion of the floor of the swale, and the sideslopes of the swale up to the GPA overflow elevation or top of drywell. The soil located in the floor of the GPA swale shall be a medium to well-draining material, with a minimum infiltration rate of 0.5 inches per hour. The Engineer shall provide a written statement which verifies that all GPA swales conform to this requirement. This written statement shall be submitted to the Spokane County Engineer's Office prior to installing finished landscaping/sod and prior to final acceptance. The swale floor material shall be installed to a native soil stratum which also meets or exceeds this minimum percolation rate of 0.5 inches per hour.

11) Irrigation system for storm water management ponds shall be provided by Contractor/Developer. Irrigation system shall be design/build.

12) Storm drain pipes shall be Polyethylene (CPEP) smooth wall pipe per Advanced Drainage Systems (ADS) N-12, constructed per WSDOT/APWA standard specifications.

13) The contractor shall be responsible for all traffic control in accordance with M.U.T.C.D. and Spokane County Standards prior to disruption of any traffic. No work shall commence until all approved traffic control is in place and the appropriate agency notification has taken place.

14) Where new asphalt joins existing, the existing asphalt shall be cut to a neat vertical edge and tacked with asphalt emulsion type CSS-1 in accordance with the standard specifications. The new asphalt shall be feathered back over existing to provide for a seal at the saw cut location and the joint sealed with grade AR-4000W paving asphalt.

15) Compaction of sub grade, rock and asphalt shall be in accordance with the standard specifications.

16) Coordinate with the governing regulatory agency regarding construction / installation of street name and regulatory signs.

17) Maintain a minimum of 10 feet horizontal clearance between water pipe and pipe carrying non-potable water. At crossings, there shall be a minimum vertical clearance of 18 inches between water pipe (above) and pipe carrying non-potable water (below). Installations for utilities other than potable water may be installed at a clearance less than those stated above if the non-potable line is sleeved per the governing regulatory agency specifications.

18) Drywell installation shall be per Spokane County Standard Plans.

19) The contractor shall comply with all requirements for storm water discharge associated with construction activity.

20) Unless elevations and/or contours are otherwise shown, new finish grade surfaces shall be placed to allow for positive drainage to curb, gutter, or other runoff collection devices. Maintain positive drainage away from buildings.

CONSTRUCTION SPECIFICATIONS

Provide fresh, clean new crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America. Provide seed mixture composed of grass species and percentages as follows:

20 percent Elka Perennial Rye

20 percent Durar Hard Fescue

45 percent Covar Sheep /Fescue

15 percent Reubens Canadian Bluegrass

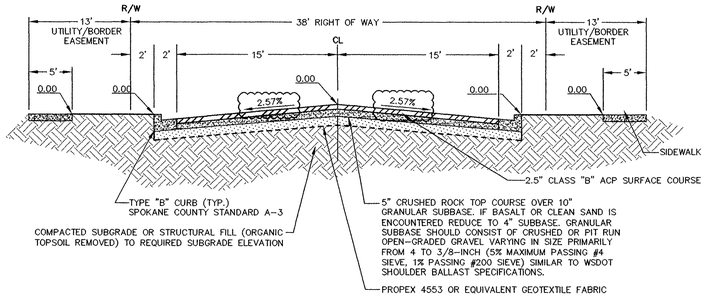
Provide mixture composed of grass seed and fertilizer in percentages as follows:

Grass seed mixture: 90 lbs. per acre
Fertilizer: 16:16:16 timed release composition, 300 lbs. per acre

All seeding of slopes shall be done in accordance with WSDOT Standard Specifications.

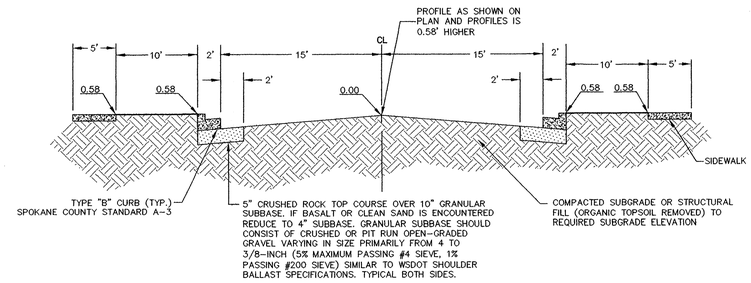
Contractor shall irrigate seeded areas until seed has germinated and has been accepted by Spokane County.

SEEDING SPECIFICATIONS



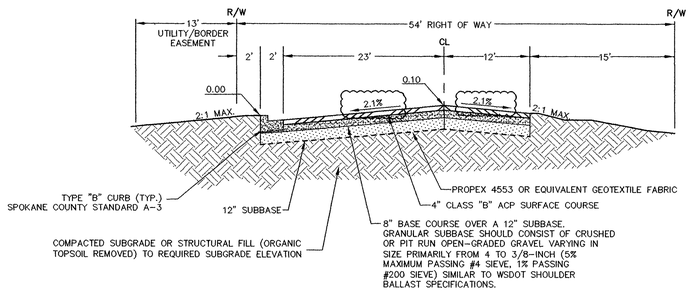
CAMPUS DRIVE ROAD SECTION

NTS



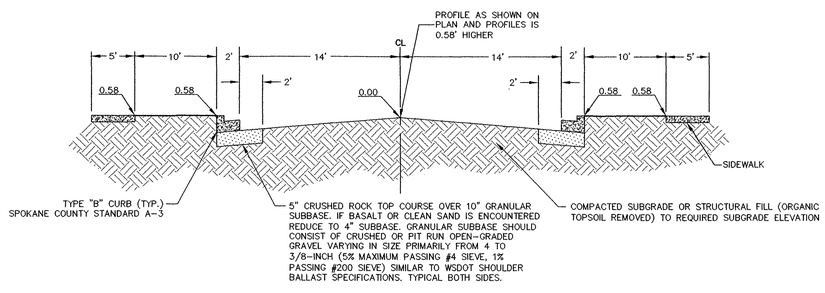
LOCAL ACCESS STUB ROAD SECTION

OSWALD STREET, SODA STREET, PILLAR ROCK DRIVE NTS



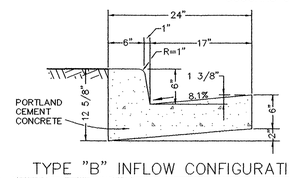
12TH AVENUE ROAD SECTION

NTS



MINOR STUB ROAD SECTION

PIRATES COURT, SUN DEVIL COURT, EAGLES COURT, COUGARS COURT, BULLDOGS COURT NTS

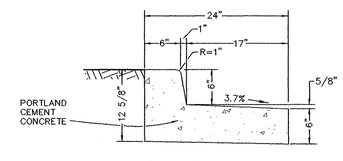


TYPE "B" INFLOW CONFIGURATION

NOTES

1. GUTTER CROSS SLOPES TO BE 8.1% WHEN DRAINING TOWARD CURB AND 3.7% WHEN DRAINING AWAY FROM CURB. SEE STREET PLAN FOR SLOPE DIRECTION.

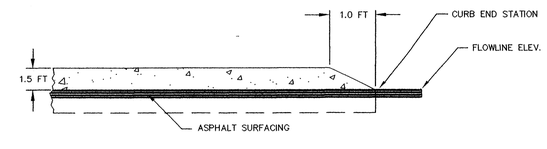
2. REFER TO SPOKANE COUNTY STANDARD A-3 FOR ADDITIONAL INFORMATION.



TYPE "B" OUTFLOW CONFIGURATION

CURB DETAILS

NTS



CURB NOSE-DOWN DETAIL

NTS

SPOKANE COUNTY ENGINEERS OFFICE
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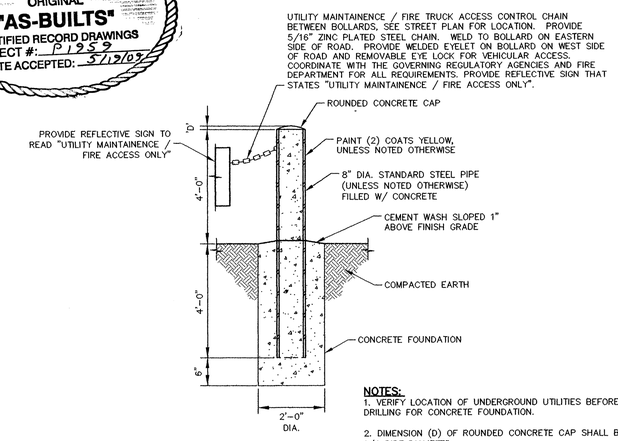
PROJECT #: P1959
DATE ACCEPTED: 5/12/09



NOTES:
1. VERIFY LOCATION OF UNDERGROUND UTILITIES BEFORE DRILLING FOR CONCRETE FOUNDATION.

2. DIMENSION (D) OF ROUNDED CONCRETE CAP SHALL BE 1/4 PIPE DIAMETER.

EXTERIOR PIPE BOLLARD

NTS

RECORD DRAWING:

FOR ON-SITE ROAD AND DRAINAGE

1- INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2- CONTRACTOR(S): RUDEEN DEVELOPMENT
3- CONSTRUCTION PERIOD: 2008
4- DRAWING REVISIONS BY: WJC DATE: 12/31/08
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CALL BEFORE YOU DIG 456-8000

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
LAND SURVEYING | LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING | LAND USE PLANNING
510 EAST THIRD AVE, SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: DETAIL SHEET

PROJECT TITLE: PILLAR ROCK ESTATES - PHASE I
SPOKANE COUNTY, WA

SEAL: CASTON J. MORTENSEN, STATE OF WASHINGTON, 36812, REGISTERED PROFESSIONAL ENGINEER, 5/11/09

DATE	03/15/06
DRAWN	EMF
CHECKED	CH
PROJECT NUMBER	05-038
DRAWING NO.	9 OF 16
	DETAIL

P-1959 Eng As Built

05038-ONsite-c-ST-REC.dwg ST-DETAIL

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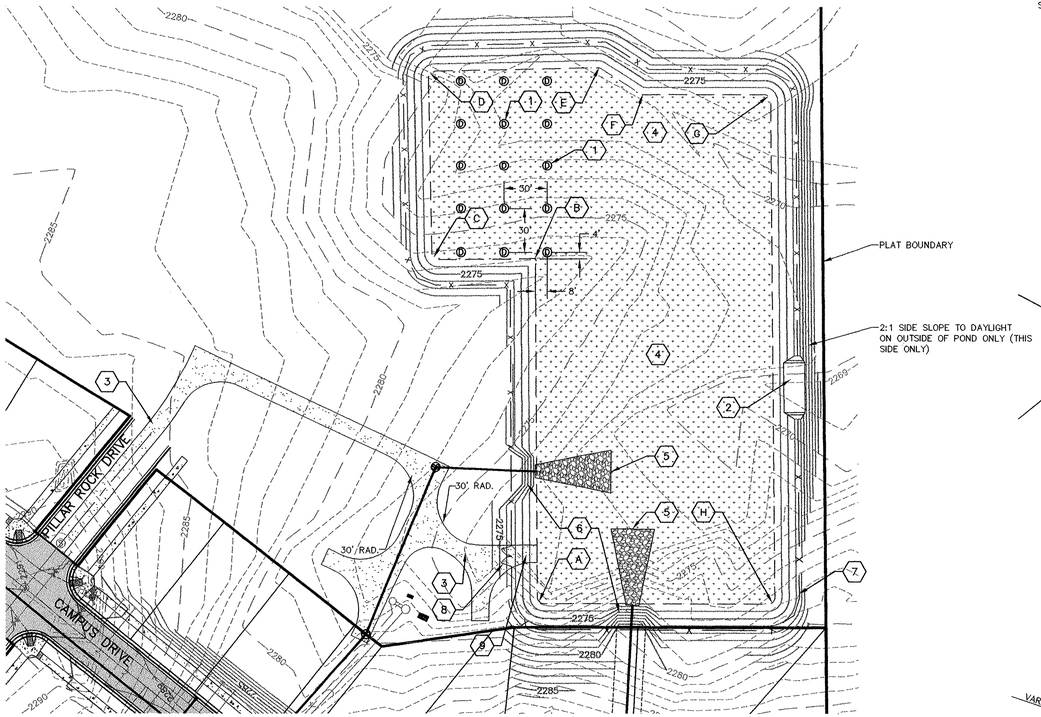
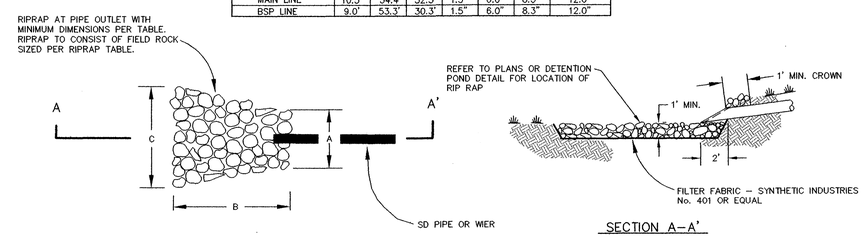


DETENTION POND

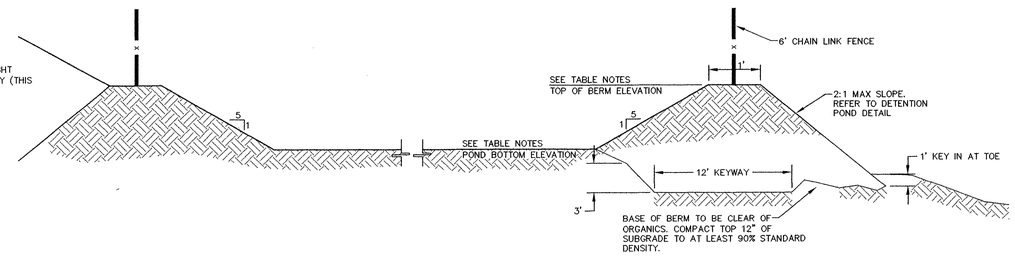
1" = 50'

LOCATION	A	B	C	MIN.	AVG.	MAX.	THICKNESS
MAIN LINE	10.5'	54.4	32.3'	1.5"	6.0"	8.3"	12.0"
BSP LINE	9.0'	53.3'	30.3'	1.5"	6.0"	8.3"	12.0"



PIPE OUTLET / RIPRAP DETAIL

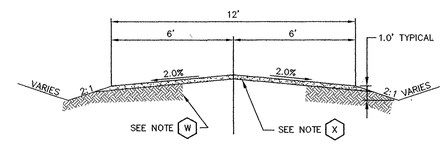
NTS



POND BERM / DETENTION POND SECTION

NTS

NOTES:
1. BOTTOM OF POND AND NON-BERM AREAS OF POND SHALL BE PLANTED WITH NATIVE-TYPE GRASSES ACCLIMATED TO ARID CONDITIONS.
2. THE BASE OF THE BERM SHALL BE FIRM, UNYIELDING SUBGRADE, FREE OF ORGANICS AND FILL MATERIAL.
3. STANDARD DENSITY SHALL BE IN ACCORDANCE WITH ASTM D-1557.
4. THE POND BERM SHALL BE CONSTRUCTED OF NATIVE MATERIAL OR SIMILAR GRANULAR SOIL. THE BERM SHALL BE COMPACTED TO 95% OF THE MAXIMUM UNIT WEIGHT AS DETERMINED BY THE MODIFIED PROCTOR METHOD AND INSTALLED AT A MAXIMUM OF 6" LIFTS.



W STRIP AND DISPOSE OF TOPSOIL (4" TO 6" DEPTH) PRIOR TO PROOF ROLLING SUBGRADE TO 95% AS DEFINED BY ASTM D1557 (MODIFIED PROCTOR).

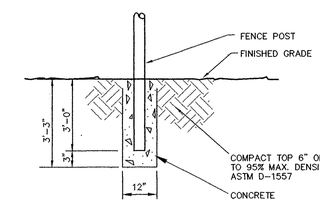
X 6" COMPACTED DEPTH CRUSHED ROCK SURFACING.

Y ROAD GRADE NOT TO EXCEED 12% GRADE.

Z ALL WORK SHALL CONFORM TO SPOKANE COUNTY DIVISION OF BUILDING AND CODE ENFORCEMENT EXHIBIT B-28.

MAINTENANCE ROAD SECTION

NTS



FENCE POST DETAIL

NTS

SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT
ORIGINAL
"AS-BUILTS"
CERTIFIED RECORD DRAWINGS
PROJECT #: P1959
DATE ACCEPTED: 5/19/09

COORDINATE TABLE

A	N 11926.22 E 12424.58
B	N 12166.24 E 12423.75
C	N 12165.89 E 12351.58
D	N 12298.00 E 12349.51
E	N 12300.31 E 12468.26
F	N 12281.27 E 12497.28
G	N 12281.28 E 12587.55
H	N 11926.00 E 12589.95

TABLE

1. 15 SPOKANE COUNTY DRYWELLS (TYPICAL) STD. B-1a TYPE "B" W/ TYPE 4 FRAME & GRATE RIM EL. = 2273.50 SHALL BE PLACED AT 30' O/C SPACING AS SHOWN
2. OVERFLOW WEIR (SEE DETAIL)
3. GRAVEL MAINTENANCE ROAD (SEE DETAIL)
4. DETENTION POND TOP OF BERM EL.= 2276.20 BOTTOM EL.= 2273.00 BOTTOM AREA= 72,605 SF DEPTH= 3.2 FT. MAX. WATER SURFACE EL.= 2275.13 50-YEAR DESIGN STORM
5. RIP RAP PAD (SEE DETAIL)
6. CONSTRUCT 2:1 SIDE SLOPES ON TOP OF PIPES AND 5:1 SIDE SLOPES EVERYWHERE ELSE UNLESS NOTED OTHERWISE.
7. 6' CHAIN LINK FENCE. SEE DETAIL THIS SHEET
8. DOUBLE SWING GATE. SEE DETAIL THIS SHEET.
9. MAINTENANCE / ACCESS ROAD SHALL NOT EXCEED 5:1 SLOPE.

"I have reviewed the construction and to my knowledge find it to be in substantial conformance with the approved certified plans and Standard Specifications except as noted."

RECORD DRAWING:

FOR ON-SITE ROAD AND DRAINAGE

1- INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2- CONTRACTOR(S): RUDEEN DEVELOPMENT
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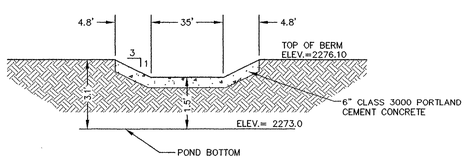
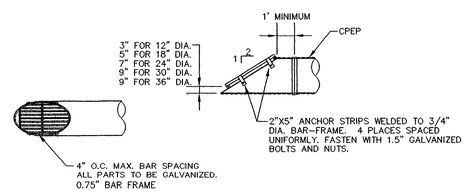


OVERFLOW WEIR SECTION

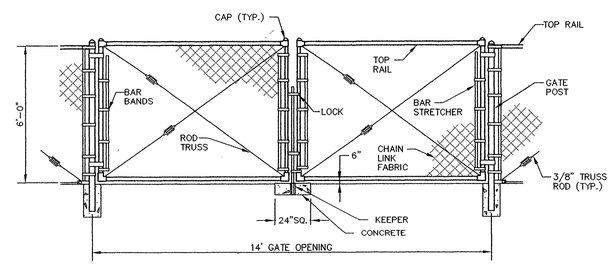
NTS



NOTE: TRASH RACKS REQUIRED ON ALL PIPES GREATER THAN 18" IN DIAMETER THAT HAVE AN EXPOSED INLET OR OUTFALL WHICH ARE NOT LOCATED WITHIN AN ENCLOSED FENCE AREA.

TRASH RACK / PIPE GRATE DETAIL

NTS



NOTES:
1. SEE W.S.D.O.T. STANDARD PLAN L-2 FOR MEMBER SIZE.
2. GATES SHALL HAVE 6" CLEARANCE ABOVE PAVEMENT OR GROUND.
3. CHAIN LINK FENCE TO BE CONSTRUCTED PER W.S.D.O.T. SPECIFICATIONS TYPE 3.

DOUBLE SWING GATE

NTS

CALL BEFORE YOU DIG 456-8000

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
LAND SURVEYING LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING LAND USE PLANNING
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: DETENTION POND DETAILS

PROJECT TITLE: PILLAR ROCK ESTATES–PHASE 1 SPOKANE COUNTY, WA

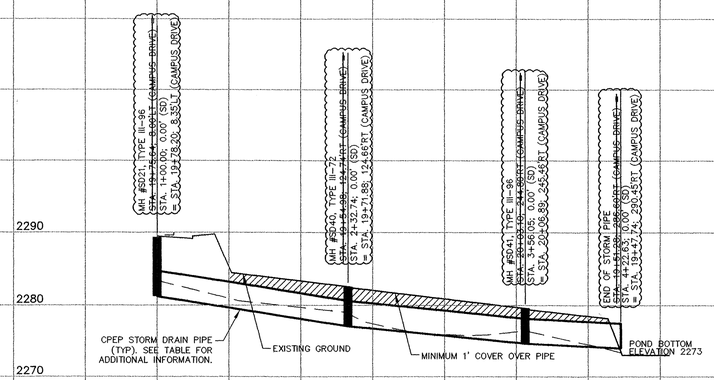
SEAL: CARSTON B. MORTENSON, STATE OF WASHINGTON, 40918, REGISTERED PROFESSIONAL ENGINEER, 5/11/09

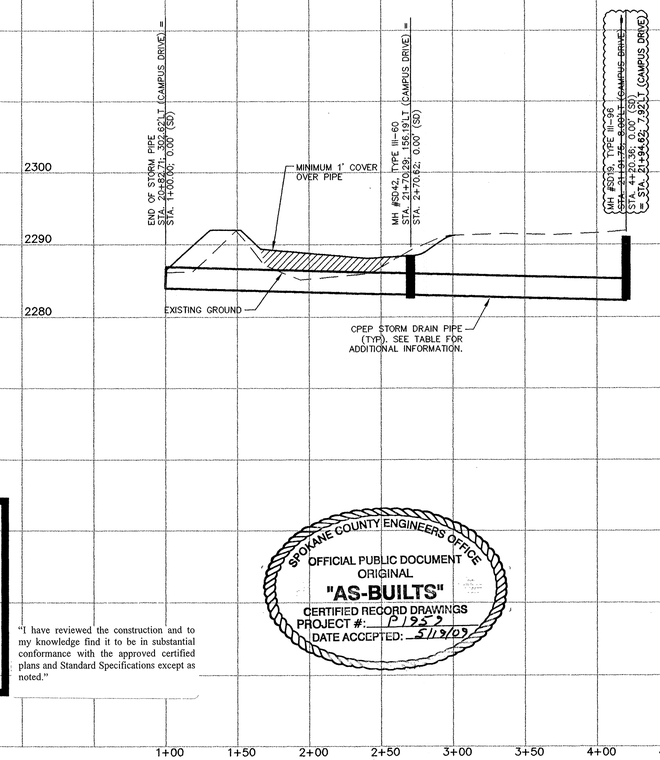
DATE	03/15/06
DRAWN	EMF
CHECKED	CH
PROJECT NUMBER	05-038
DRAWING NO.	10 OF 16
	DETAIL

P-1959 Eng As Builts

05038-ONsite-c-ST-REC.dwg SD1

Projects\2005\05-038 Rudeen - Pillar Rock Estates\Record drawings\05038-ONsite-c-ST-REC.dwg, SD1, 4/20/2009 7:36:39 AM, 1:1, WJC





RECORD DRAWING:

FOR ON-SITE ROAD AND DRAINAGE

1– INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
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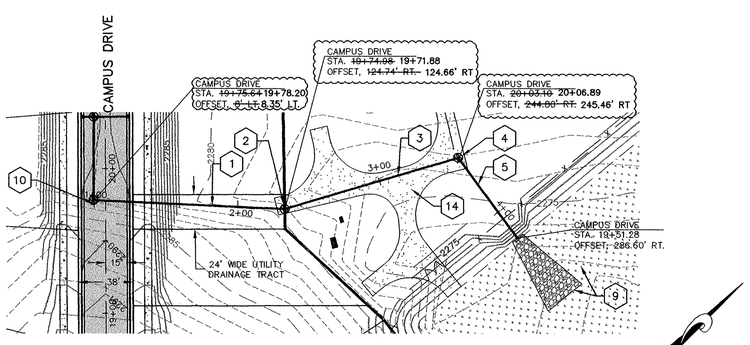
SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT
ORIGINAL
"AS-BUILTS"
CERTIFIED RECORD DRAWINGS
PROJECT #: P1959
DATE ACCEPTED: 5/13/09

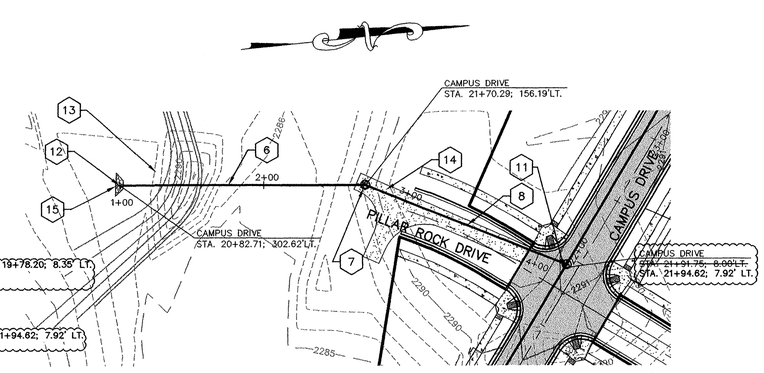


SDMH 19+75.64 TO POND

1" = 50'

TABLE

1. 42" CPEP STORM DRAIN PIPE
   L= 133'
   S= 2.8%
2. MANHOLE TYPE III-72 (MH #SD40)
   SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID. STD U-14.
   STA. ~~19+74.98; 124.74' RT.~~ 19+71.88; 124.66' RT.
   RIM EL.= ~~2280.50~~ 2283.15
   IE.= 2277.12 (SW, NE)
3. 42" CPEP STORM DRAIN PIPE
   L= 123'
   S= 2.0%
4. MANHOLE TYPE III-96 (MH #SD41)
   SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID. STD U-14.
   STA. ~~20+03.10; 244.80' RT.~~ 20+06.87; 245.47' RT.
   RIM EL.= ~~2280.17~~ 2281.21
   IE.= 2274.67 (SW, E)
5. 42" CPEP STORM DRAIN PIPE
   L= 67'
   S= 1.0%
   IE.= 2274.00 (OUTLET AT POND)
6. 36" CPEP STORM DRAIN PIPE
   L= 171'
   S= 0.5%
   IE.= 2284.00 (INLET AT SUMP)
7. MANHOLE TYPE III-60 (MH #SD42)
   SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID. STD U-14.
   STA. 21+70.29; 156.19' LT.
   RIM EL.= 2288.56
   IE.= 2283.08 (SW, NE)
8. 36" CPEP STORM DRAIN PIPE
   L= 150'
   S= 0.50%
9. REFER TO DETENTION POND DETAILS ON SHEET 10 FOR ADDITIONAL INFORMATION
10. MANHOLE TYPE III-96 (MH #SD21)
    SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID. STD U-14.
    STA. ~~19+75.64; 8.8' LT.~~ = STA. 1+00.00 = 19+78.20; 8.35' LT.
    RIM EL.= ~~2280.34~~ 2289.22
    IE.= ~~2280.95 (NE,NW)~~ 2280.82
11. MANHOLE TYPE III-96 (MH #SD19)
    SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID. STD U-14.
    STA. ~~21+91.75; 8.8' LT.~~ = STA. 4+20.36 = 21+94.62; 7.92' LT.
    RIM EL.= ~~2291.12~~ 2291.07
    IE.= 2282.33 (NW,SW)
    IE.= 2281.93 (SE)
12. END STORM DRAIN PIPE AT TEMPORARY SUMP. CONSTRUCT INVERT ELEVATION 1.0' ABOVE BOTTOM OF TEMPORARY SUMP. PROVIDE TRASH RACK / PIPE GRATE ON INLET OF STORM DRAIN PIPE. REFER TO DETAIL ON SHEET 10.
13. CONSTRUCT TEMPORARY SUMP.
14. GRAVEL MAINTENANCE ROAD REFER TO DETAIL ON SHEET 10.
15. RIPRAP AT PIPE INLET WITH MINIMUM DIMENSIONS PER TABLE. RIPRAP TO CONSIST OF FIELD ROCK SIZED PER RIPRAP TABLE. (SIZED SAME AS PIPE OUTLET RIPRAP). COMPLETELY COVER PIPE TO 6' FROM PIPE INLET.



SDMH 21+91.75 TO SOUTH

1" = 50'

RIP RAP SIZE

LOCATION	MIN.	AVG.	MAX.	THICKNESS
PIPE INLET	1.5"	6.0"	8.3"	12.0"
RIP RAP PAD TO BE 6' AT BASE, 15' AT END AND 6 FEET DEEP				

NOTES

1. SEE CONSTRUCTION SPECIFICATIONS SHOWN ON DETAIL SHEET.
2. ALL CURB RETURNS SHALL BE CONSTRUCTED WITH A 20' RADIUS AT EDGE OF TRAVELED WAY UNLESS OTHERWISE SHOWN.
3. ALL CURB AND OFFSET DATA IS REFERENCED TO BACK OF CURB, UNLESS OTHERWISE NOTED.
4. EXISTING UTILITY LINE LOCATIONS HAVE BEEN EXTRACTED FROM RECORD UTILITY DRAWINGS AND FOUND SURFACE FEATURES. FIELD VERIFY EXACT LOCATIONS.
5. EXISTING UTILITIES CONFLICTING WITH PROPOSED IMPROVEMENTS SHALL BE RELOCATED AS NEEDED PRIOR TO CONSTRUCTION. COORDINATE WITH THE APPLICABLE UTILITY COMPANY.
6. 1.0' (MIN.) OF COVER SHALL BE MAINTAINED OVER ALL STORM DRAIN PIPES.
7. CURB INLETS SHALL BE CONSTRUCTED 1" LOWER THAN THE FLOW LINE OF THE CURB PER SPOKANE COUNTY STANDARD B-18. ASPHALT AND CURB TO HAVE SMOOTH TAPER INTO CURB INLETS.
8. W.S.D.O.T. TYPE 2 INLETS SHALL BE PLACED SO THAT THE LONGER SIDE OF THE STRUCTURE IS PERPENDICULAR TO THE CURB. THE SHORTER SIDE SHALL ABUT THE FACE OF THE CURB.
9. CONTRACTOR SHALL VERIFY UTILITY SERVICE ELEVATIONS AT ALL CROSSINGS PRIOR TO CONSTRUCTION OF ROAD AND DRAINAGE IMPROVEMENTS.

CALL BEFORE YOU DIG 456-8000

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
LAND SURVEYING LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING LAND USE PLANNING
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: STORM DRAIN PLAN AND PROFILES

PROJECT TITLE: PILLAR ROCK ESTATES – PHASE I
SPOKANE COUNTY, WA

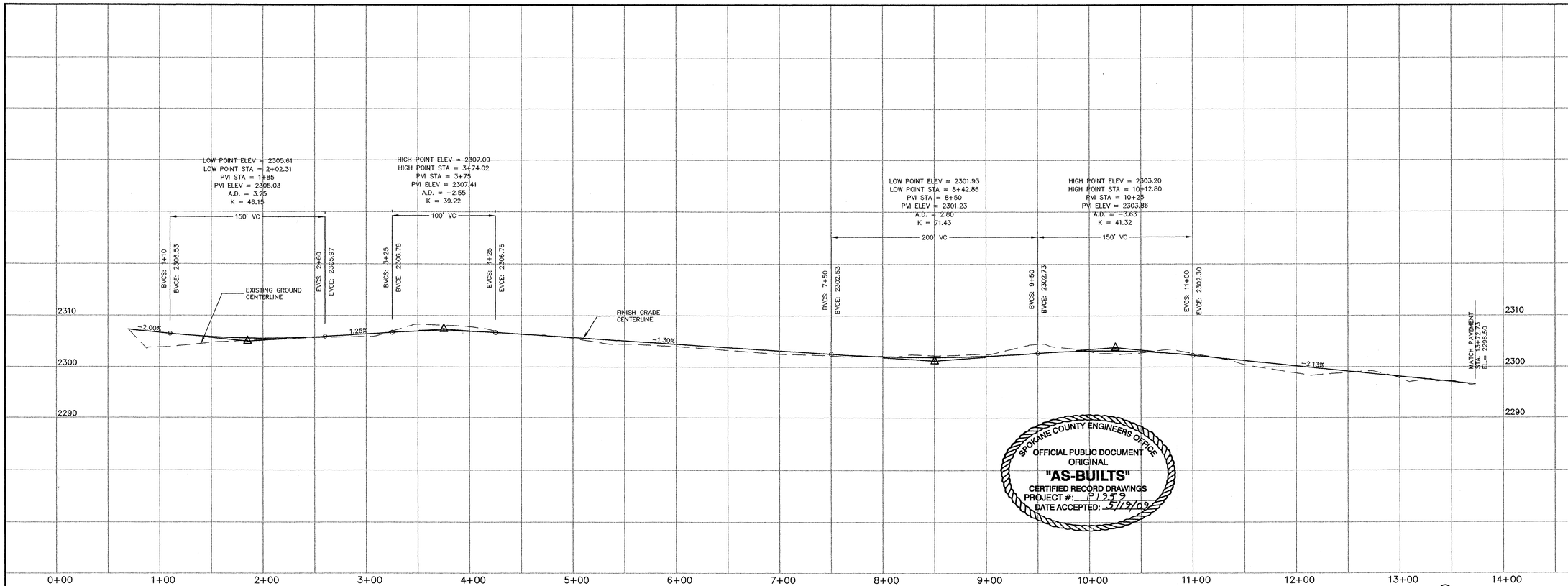
SEAL: CARLTON B. MORTENSEN, STATE OF WASHINGTON, 18012, REGISTERED PROFESSIONAL ENGINEER, 5/11/09

DATE	03/15/06
DRAWN	EMF
CHECKED	CH
PROJECT NUMBER	05-038
DRAWING NO.	11 OF 16
	DETAIL

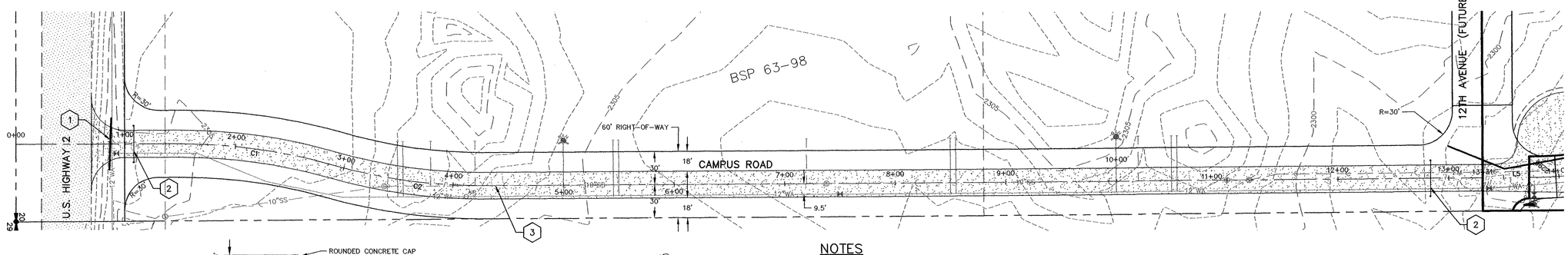
P1959 Eng As Built

05038-ONsite-c-ST-REC.dwg SD2

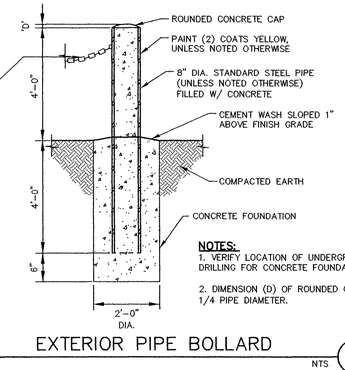
'project\2005\05-038 Rudeen - Pillar Rock Estates\Record drawings\05038-ONsite-c-ST-REC.dwg, SD2, 4/20/2009 7:30:47 AM, 1:1, WJC



SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT
ORIGINAL
"AS-BUILTS"
CERTIFIED RECORD DRAWINGS
PROJECT #: P1959
DATE ACCEPTED: 5/19/09



UTILITY MAINTAINENCE / FIRE TRUCK ACCESS CONTROL CHAIN BETWEEN BOLLARDS, SEE STREET PLAN FOR LOCATION. PROVIDE 5/16" ZINC PLATED STEEL CHAIN. WELD TO BOLLARD ON EASTERN SIDE OF ROAD. PROVIDE WELDED EYELET ON BOLLARD ON WEST SIDE OF ROAD AND REMOVABLE EYE LOCK FOR VEHICULAR ACCESS. COORDINATE WITH THE GOVERNING REGULATORY AGENCIES AND FIRE DEPARTMENT FOR ALL REQUIREMENTS.



NOTES:
1. VERIFY LOCATION OF UNDERGROUND UTILITIES BEFORE DRILLING FOR CONCRETE FOUNDATION.
2. DIMENSION (D) OF ROUNDED CONCRETE CAP SHALL BE 1/4 PIPE DIAMETER.

EXTERIOR PIPE BOLLARD

NTS

NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH 2004 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION AS PROMULGATED JOINTLY BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) AND THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA).

2. UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE LOCATIONS ONLY, BASED ON INTERPRETATION OF FIELD-LOCATIONS SURFACE FEATURES. ADDITIONAL UNDERGROUND FEATURES MAY EXIST WITHIN THE PROJECT AREA, AND ARE NOT SHOWN ON THESE PLANS.

3. PRIOR TO EXCAVATION THE CONTRACTOR SHALL CALL THE UTILITY LOCATION REQUEST CENTER AT 456-8000.

RECORD DRAWING:

FOR ON-SITE ROAD AND DRAINAGE

1- INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2- CONTRACTOR(S): RUDEEN DEVELOPMENT
3- CONSTRUCTION PERIOD: 2008
4- DRAWING REVISIONS BY: WJC DATE: 12/31/08
5- CHECKED BY: CBM DATE: 5/11/09

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TABLE

1. 18' CMP CULVERT
   L= 46'
   S= 0.54%
   I.E.= 2304.00 (W)
   I.E.= 2303.75 (E)
2. EXTERIOR PIPE BOLLARD WITH UTILITY MAINTAINENCE / FIRE TRUCK ACCESS CONTROL CHAIN, SEE DETAIL SHEET. PROVIDE REFLECTIVE SIGN THAT STATES "UTILITY MAINTAINENCE / FIRE ACCESS ONLY". SEE DETAIL SHEET 9
3. 24' WIDE GRAVEL ACCESS ROAD
   6" CRUSHED TOP COURSE, 3/4" MINUS COMPACTED TO 95% MAX. DENSITY (ASTM D698).

LINE TABLE		
LINE	LENGTH	BEARING
L1	147.87	N00°16'51"W
L2	107.94	N00°25'04"W
L3	792.87	N00°25'04"W

"I have reviewed the construction and to my knowledge find it to be in substantial conformance with the approved certified plans and Standard Specifications except as noted."

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED GRAVEL SURFACING
- 1924 EXISTING CONTOURS
- FUTURE CONNECTION RIGHT OF WAY

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
HORZ: 1 inch = 50 ft.
VERT: 1 inch = 10 ft.

CALL BEFORE YOU DIG 456-8000

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
LAND SURVEYING LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING LAND USE PLANNING
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: CAMPUS ACCESS ROAD DETAILS

PROJECT TITLE: PILLAR ROCK ESTATES - PHASE I
SPOKANE COUNTY, WA

SEAL: CARLSTON B. MORTENSON, STATE OF WASHINGTON, 19818, REGISTERED PROFESSIONAL ENGINEER, 5/11/09

DATE	03/15/06
DRAWN	EMF
CHECKED	CH
PROJECT NUMBER	05-038
DRAWING NO.	12 OF 16
	STREET

P-1959 Eng'rs. Builts

05038-ONsite-c-ST-REC.dwg ST-ACCESS

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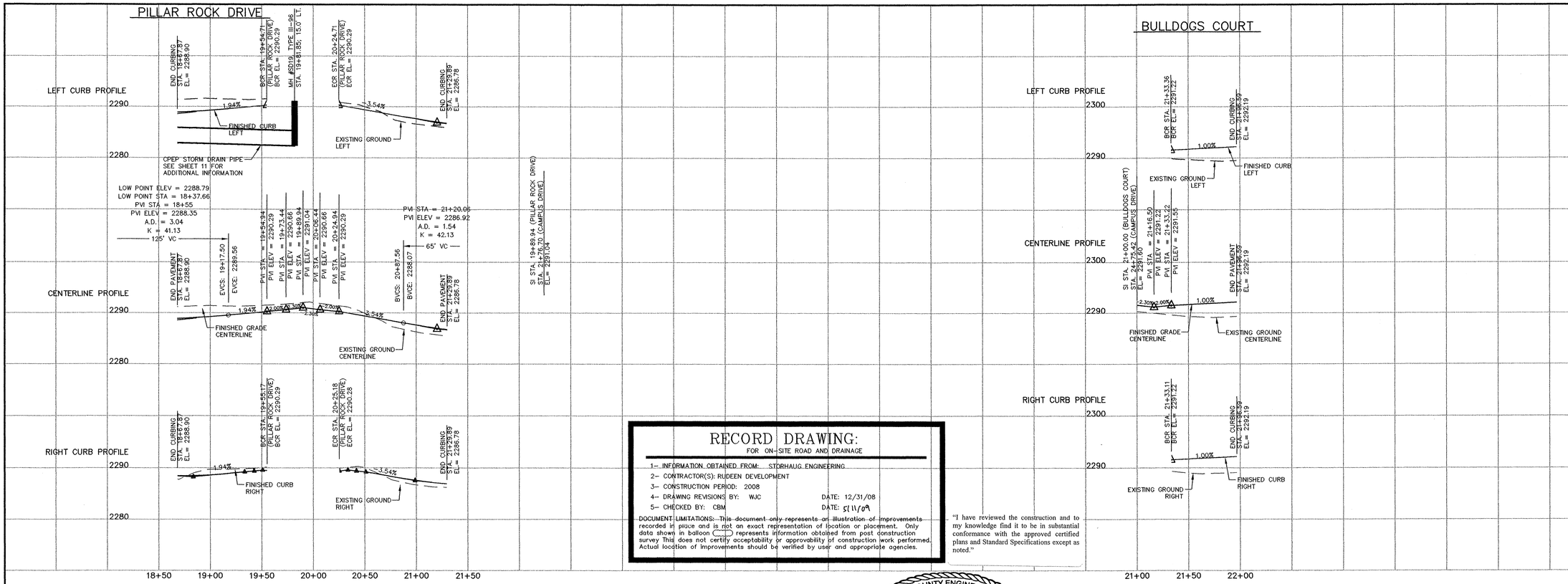

RECORD DRAWING:

FOR ON-SITE ROAD AND DRAINAGE

1– INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2– CONTRACTOR(S): RUDEEN DEVELOPMENT
3– CONSTRUCTION PERIOD: 2008
4– DRAWING REVISIONS BY: WJC DATE: 12/31/08
5– CHECKED BY: CBM DATE: 5/11/09

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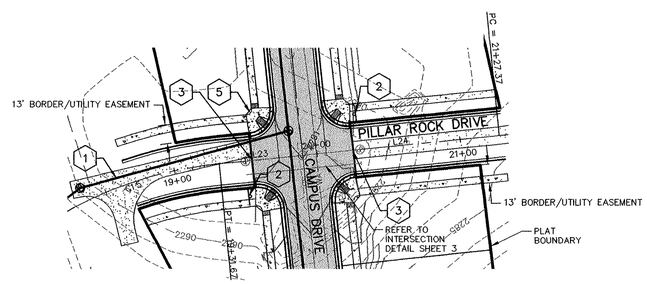
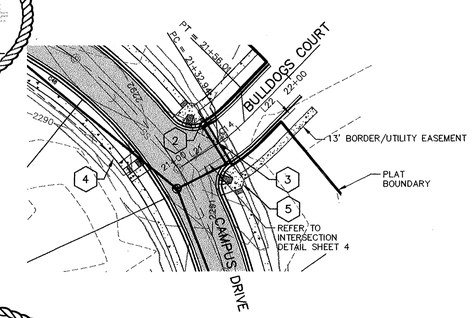
OFFICIAL PUBLIC DOCUMENT
ORIGINAL
"AS-BUILTS"
CERTIFIED RECORD DRAWINGS
PROJECT #: P1959
DATE ACCEPTED: 5/12/09





NOTES

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9. CONTRACTOR SHALL VERIFY UTILITY SERVICE ELEVATIONS AT ALL CROSSINGS PRIOR TO CONSTRUCTION OF ROAD AND DRAINAGE IMPROVEMENTS.

SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT
ORIGINAL
"AS-BUILTS"
CERTIFIED RECORD DRAWINGS
PROJECT #: P1959
DATE ACCEPTED: 5/12/09

TABLE

1. SEE SHEET 11 FOR DESIGN /CONTINUATION OF PILLAR ROCK DRIVE STORM SEWER
2. STOP AND STREET SIGNS PER MUTCD AND SPOKANE COUNTY STANDARDS
3. TRANSITION FROM EDGE OF PAVING TO EXISTING GROUND AT 5:1 SLOPE MAXIMUM
4. SIDEWALK RAMP TYPE 2A PER WSDOT STANDARD PLAN F-3b
5. CURB RAMP DESIGN "B" PER SPOKANE COUNTY STANDARD A-5 (TYPICAL)

LINE TABLE

LINE	LENGTH	BEARING
L23	58.27'	S39°13'53"W
L24	137.43'	N39°13'53"E

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD L	BEARING
C15	63.80'	275.00'	13°17'35"	32.05'	63.66'	S32°35'05"W

LINE TABLE

LINE	LENGTH	BEARING
L21	32.94'	S12°47'49"W
L22	40.58'	S00°25'04"E

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD L	BEARING
C14	23.06'	100.00'	13°12'53"	11.58'	23.01'	N06°11'22"E

DATUM

BENCHMARK

TBM: WSDOT #GP32002-104
3" BRASS DISC 0.32 MILES EAST OF FLINT ROAD, 10.7 METERS NORTH OF NORTH FOG STRIPE OF SR002.
ELEVATION=2315.42 (NAVD88)

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
HORZ: 1 inch = 50 ft.
VERT: 1 inch = 10 ft.

DEVELOPER DATE

CALL BEFORE YOU DIG 456-8000

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
LAND SURVEYING LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING LAND USE PLANNING
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: PLAN AND PROFILE
PILLAR ROCK DR. & BULLDOGS CT.

PROJECT TITLE: PILLAR ROCK ESTATES – PHASE I
SPOKANE COUNTY, WA

SEAL: CASTON B. MORRISON, STATE OF WASHINGTON, 18912, REGISTERED PROFESSIONAL ENGINEER, 5/11/09

DATE	03/15/06
DRAWN	JAL
CHECKED	CH
PROJECT NUMBER	05-038
DRAWING NO.	13 OF 16
	STREET

P-1959 Eng As-Builts

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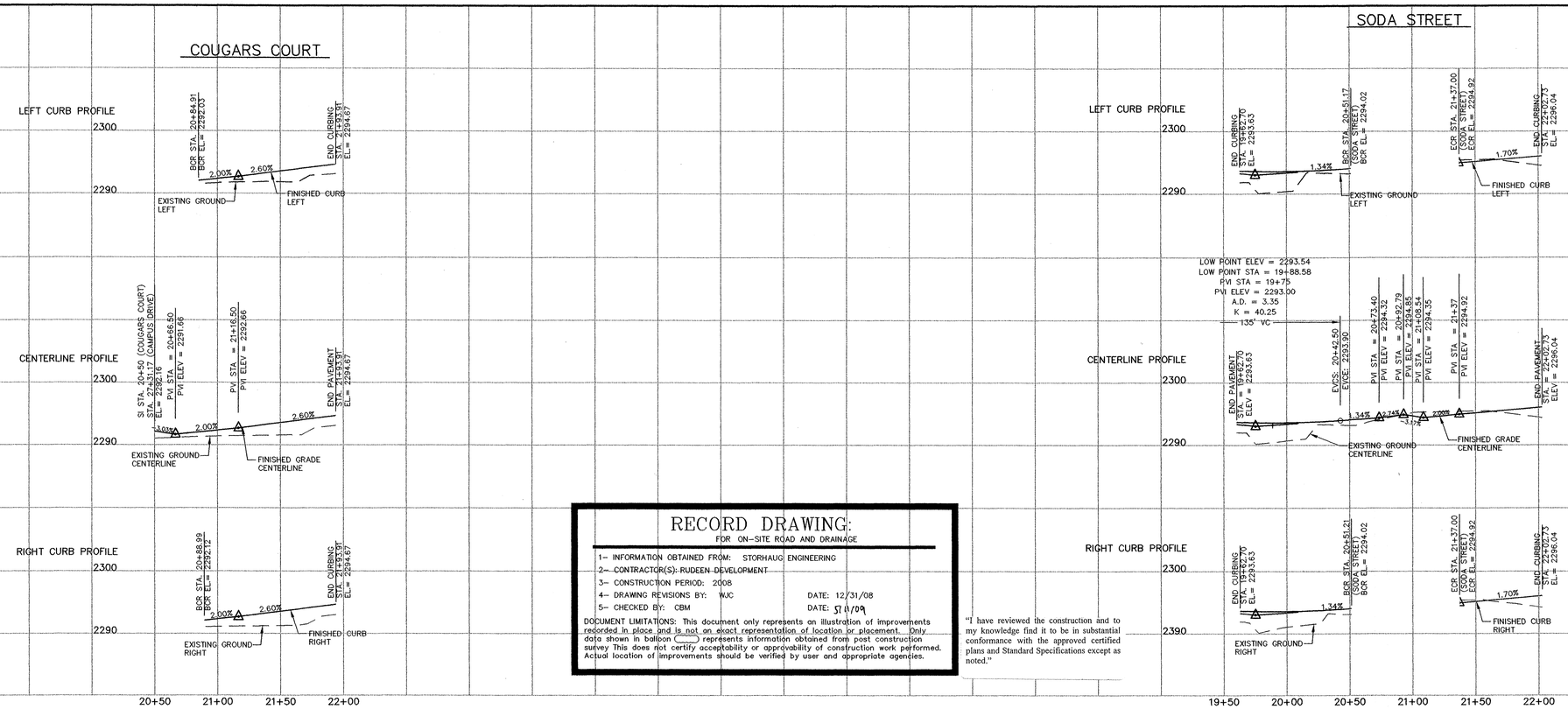

RECORD DRAWING

FOR ON-SITE ROAD AND DRAINAGE

1– INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2– CONTRACTOR(S): RUDEEN DEVELOPMENT
3– CONSTRUCTION PERIOD: 2008
4– DRAWING REVISIONS BY: WJC DATE: 12/31/08
5– CHECKED BY: CBM DATE: 5/1/09

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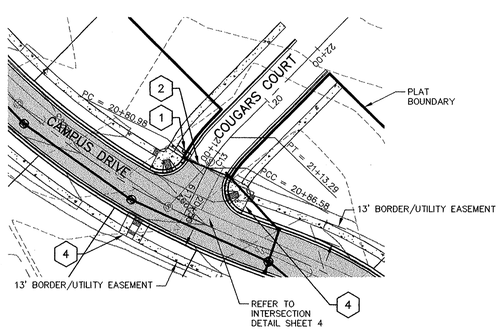

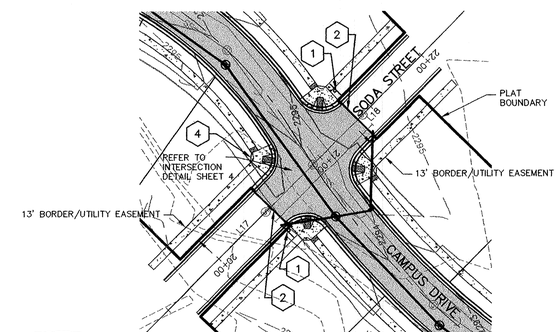

NOTES

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TABLE

1. STOP AND STREET SIGNS PER MUTCD AND SPOKANE COUNTY STANDARDS
2. TRANSITION FROM EDGE OF PAVING TO EXISTING GROUND AT 5:1 SLOPE MAXIMUM
3. SIDEWALK RAMP TYPE 2A PER WSDOT STANDARD PLAN F–3b
4. CURB RAMP DESIGN "B" PER SPOKANE COUNTY STANDARD A–5 (TYPICAL)

LINE TABLE		
LINE	LENGTH	BEARING
L19	30.98	S18°55'34"E
L20	80.62	S00°25'04"E

CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD L	BEARING
C13	32.30'	100.00'	18°30'30"	16.29'	32.16'	S09°40'19"E

LINE TABLE		
LINE	LENGTH	BEARING
L17	130.09	S00°15'41"E
L18	109.95	S00°15'41"E

SPOKANE COUNTY ENGINEERS OFFICE
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PROJECT #: P1959
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BENCHMARK

TBM: WSDOT #GP32002–104
3" BRASS DISC 0.32 MILES EAST OF FLINT ROAD, 10.7 METERS NORTH OF NORTH FOG STRIPE OF SR002.
ELEVATION=2315.42 (NAVD88)

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
HORZ: 1 inch = 50 ft.
VERT: 1 inch = 10 ft.

DEVELOPER DATE

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P1959 Eng As-Built

No.	DESC. / DATE	BY
4		
3		
2		
1		

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LAND SURVEYING | LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING | LAND USE PLANNING
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: PLAN AND PROFILE COUGARS CT. & SODA ST.

PROJECT TITLE: PILLAR ROCK ESTATES – PHASE I SPOKANE COUNTY, WA

SEAL: CARSTON B. MORTENSON, STATE OF WASHINGTON, 42918, REGISTERED PROFESSIONAL ENGINEER, 5/1/09

DATE	03/15/06
DRAWN	JAL
CHECKED	CH
PROJECT NUMBER	05–038
DRAWING NO.	14 OF 16
	STREET

05038–ONsite–c–ST–REC.dwg STUB–2

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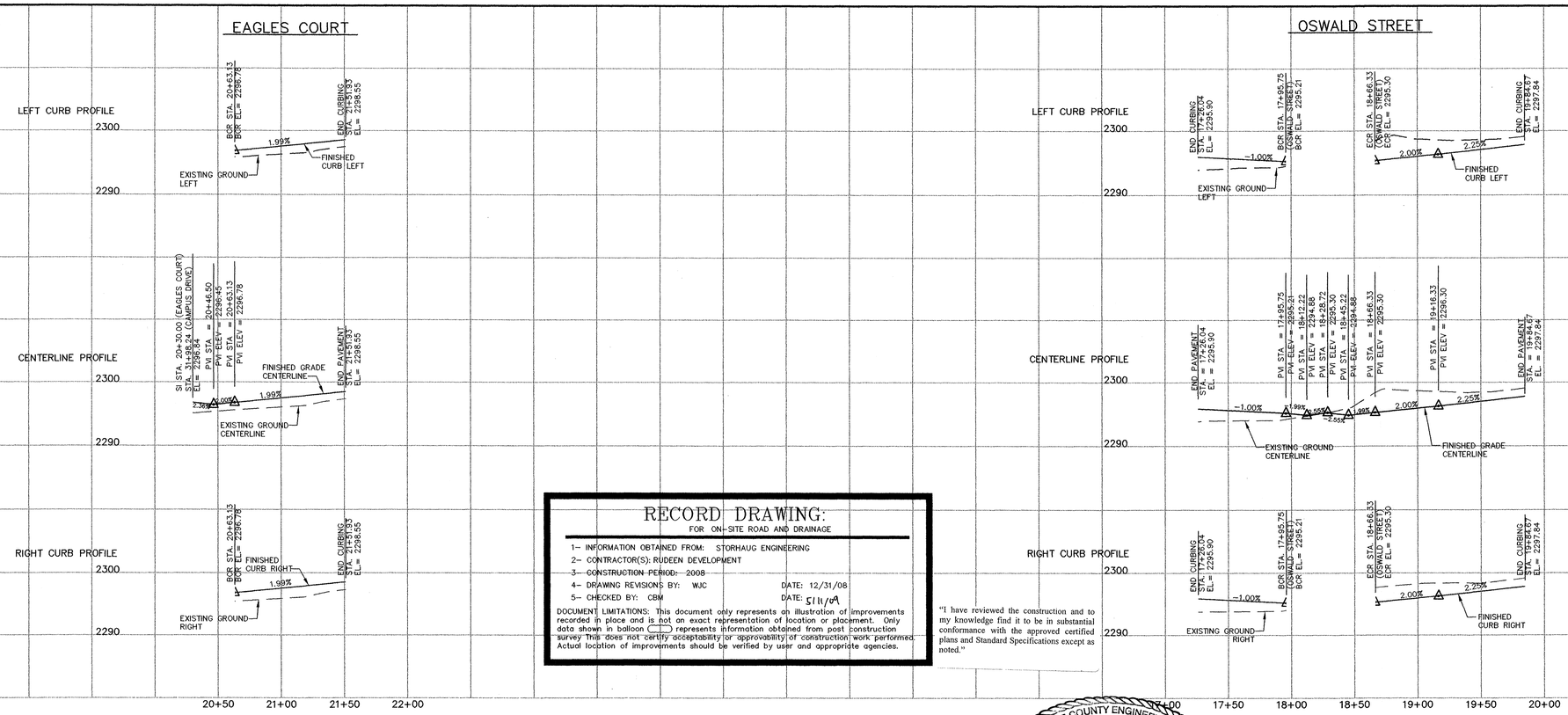

RECORD DRAWING:

FOR ON-SITE ROAD AND DRAINAGE

1– INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2– CONTRACTOR(S): RUDEEN DEVELOPMENT
3– CONSTRUCTION PERIOD: 2008
4– DRAWING REVISIONS BY: WJC DATE: 12/31/08
5– CHECKED BY: CBM DATE: 5/11/09

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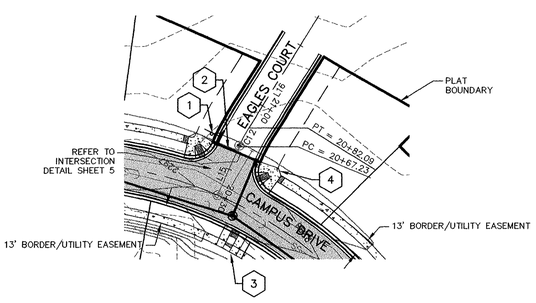
PROJECT #: P1959
DATE ACCEPTED: 5/19/09



LINE TABLE		
LINE	LENGTH	BEARING
L15	37.23	N21°34'39"W
L16	69.83	N13°03'41"W

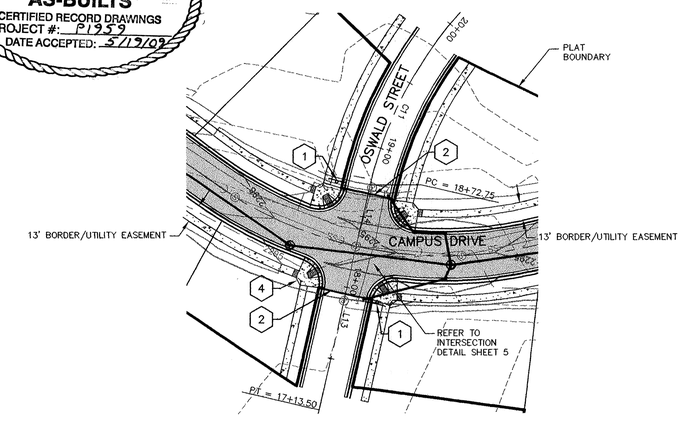
CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD L	BEARING
C12	14.86'	100.00'	8°30'58"	7.45'	14.85'	S17°19'10"E

TABLE

1. STOP AND STREET SIGNS PER MUTCD AND SPOKANE COUNTY STANDARDS
2. TRANSITION FROM EDGE OF PAVING TO EXISTING GROUND AT 5:1 SLOPE MAXIMUM
3. SIDEWALK RAMP TYPE 2A PER WSDOT STANDARD PLAN F-3b
4. CURB RAMP DESIGN "B" PER SPOKANE COUNTY STANDARD A-5 (TYPICAL)

NOTES

1. SEE CONSTRUCTION SPECIFICATIONS SHOWN ON DETAIL SHEET.
2. ALL CURB RETURNS SHALL BE CONSTRUCTED WITH A 20' RADIUS AT EDGE OF TRAVELED WAY UNLESS OTHERWISE SHOWN.
3. ALL CURB AND OFFSET DATA IS REFERENCED TO BACK OF CURB, UNLESS OTHERWISE NOTED.
4. EXISTING UTILITY LINE LOCATIONS HAVE BEEN EXTRACTED FROM RECORD UTILITY DRAWINGS AND FOUND SURFACE FEATURES. FIELD VERIFY EXACT LOCATIONS.
5. EXISTING UTILITIES CONFLICTING WITH PROPOSED IMPROVEMENTS SHALL BE RELOCATED AS NEEDED PRIOR TO CONSTRUCTION. COORDINATE WITH THE APPLICABLE UTILITY COMPANY.
6. 1.0' (MIN.) OF COVER SHALL BE MAINTAINED OVER ALL STORM DRAIN PIPES.
7. CURB INLETS SHALL BE CONSTRUCTED 1" LOWER THAN THE FLOW LINE OF THE CURB PER SPOKANE COUNTY STANDARD B-18. ASPHALT AND CURB TO HAVE SMOOTH TAPER INTO CURB INLETS.
8. W.S.D.O.T. TYPE 2 INLETS SHALL BE PLACED SO THAT THE LONGER SIDE OF THE STRUCTURE IS PERPENDICULAR TO THE CURB. THE SHORTER SIDE SHALL ABUT THE FACE OF THE CURB.
9. CONTRACTOR SHALL VERIFY UTILITY SERVICE ELEVATIONS AT ALL CROSSINGS PRIOR TO CONSTRUCTION OF ROAD AND DRAINAGE IMPROVEMENTS.



LINE TABLE		
LINE	LENGTH	BEARING
L13	102.73	S32°03'39"E
L14	43.98	S32°03'39"E

CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD L	BEARING
C11	111.93'	275.00'	23°19'12"	56.75'	111.16'	S20°24'03"E

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
HORZ: 1 inch = 50 ft.
VERT: 1 inch = 10 ft.

DATUM

BENCHMARK

TBM: WSDOT #GP32002-104
3" BRASS DISC 0.32 MILES EAST OF FLINT ROAD, 10.7 METERS NORTH OF NORTH FOG STRIPE OF SR002.
ELEVATION=2315.42 (NAVD88)

DEVELOPER DATE

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P-1959 Eng As-Built

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
LAND SURVEYING LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING LAND USE PLANNING
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: PLAN AND PROFILE EAGLES CT. & OSWALD ST.

PROJECT TITLE: PILLAR ROCK ESTATES – PHASE I SPOKANE COUNTY, WA

SEAL: CARLTON B. MORTESEN, STATE OF WASHINGTON, 40012, REGISTERED PROFESSIONAL ENGINEER, 5/11/09

DATE	03/15/06
DRAWN	JAL
CHECKED	CH
PROJECT NUMBER	05-038
DRAWING NO.	15 OF 16
	STREET

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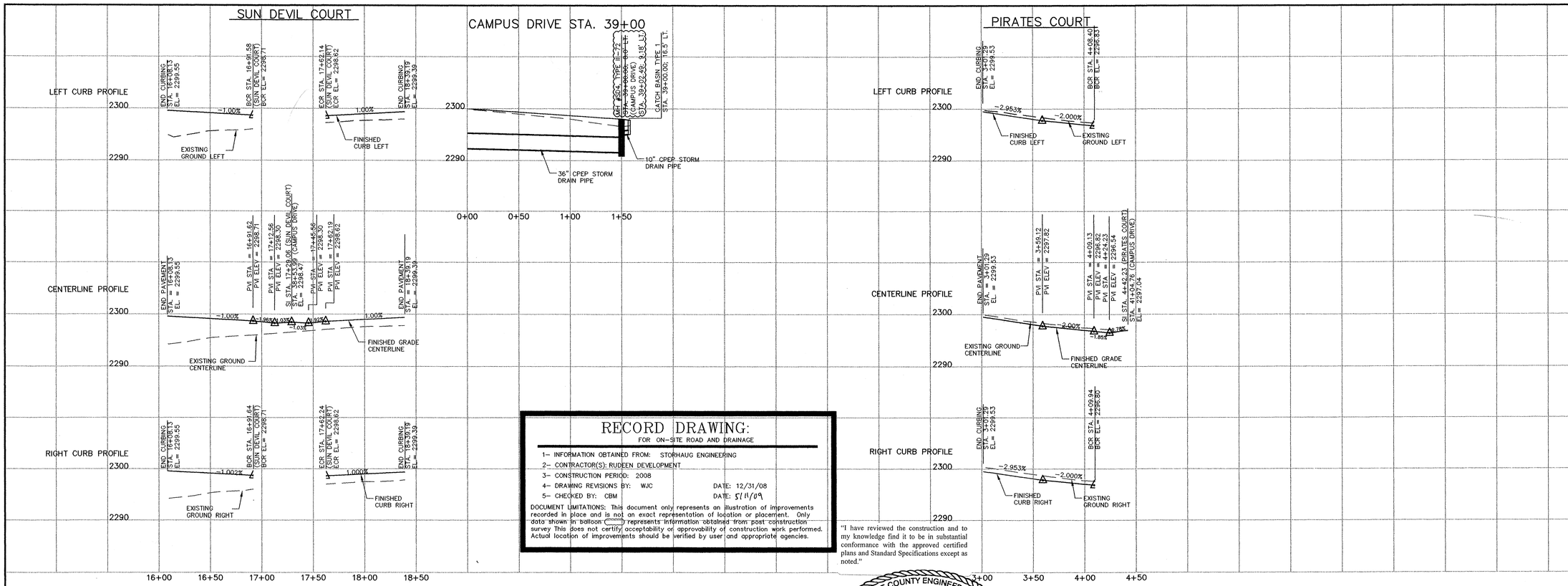


RECORD DRAWING:

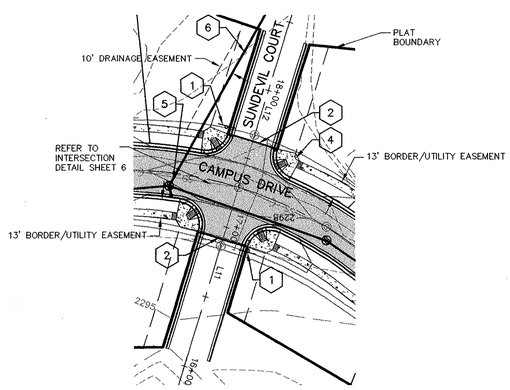
FOR ON-SITE ROAD AND DRAINAGE

1- INFORMATION OBTAINED FROM: STORHAUG ENGINEERING
2- CONTRACTOR(S): RUDEEN DEVELOPMENT
3- CONSTRUCTION PERIOD: 2008
4- DRAWING REVISIONS BY: WJC DATE: 12/31/08
5- CHECKED BY: CBM DATE: 5/11/09

DOCUMENT LIMITATIONS: This document only represents an illustration of improvements recorded in place and is not an exact representation of location or placement. Only data shown in balloon ( ) represents information obtained from post construction survey This does not certify acceptability or approvability of construction work performed. Actual location of improvements should be verified by user and appropriate agencies.

"I have reviewed the construction and to my knowledge find it to be in substantial conformance with the approved certified plans and Standard Specifications except as noted."

SPOKANE COUNTY ENGINEERS OFFICE
OFFICIAL PUBLIC DOCUMENT
ORIGINAL
"AS-BUILTS"
CERTIFIED RECORD DRAWINGS
PROJECT #: P1959
DATE ACCEPTED: 5/19/09



LINE TABLE		
LINE	LENGTH	BEARING
L11	120.94	S27°50'23"E
L12	110.13	S27°50'23"E

NOTES

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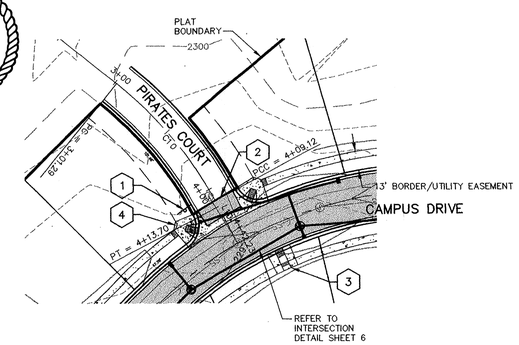
TABLE

1. STOP AND STREET SIGNS PER MUTCD AND SPOKANE COUNTY STANDARDS
2. TRANSITION FROM EDGE OF PAVING TO EXISTING GROUND AT 5:1 SLOPE MAXIMUM
3. SIDEWALK RAMP TYPE 2A PER WSDOT STANDARD PLAN F-3b
4. CURB RAMP DESIGN "B" PER SPOKANE COUNTY STANDARD A-5 (TYPICAL)
5. MANHOLE TYPE III-72 (MH #SD4) SPOKANE COUNTY STD. U-6 W/ TYPE 4 FRAME AND SOLID LID, STD U-14. STA. ~~39+00.00; 8.17'~~ 39+02.49; 9.18' LT. RIM EL.= ~~2297.98~~ 2297.91 IE.= ~~2290.82 (NE,SW, N)~~ 2289.98 IE.= ~~2294.07 (SE)~~
6. 36" CPEP STORM DRAIN PIPE L=150.00' S=0.5% STUB AND CAP FOR FUTURE CONNECTION (IE.=2291.57)



LINE TABLE		
LINE	LENGTH	BEARING
L10	33.11	N72°36'27"W

CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD L	BEARING
C10	107.83'	275.00'	22°27'57"	54.62'	107.14'	N84°43'48"W

BENCHMARK

TBM: WSDOT #GP32002-104
3" BRASS DISC 0.32 MILES EAST OF FLINT ROAD, 10.7 METERS NORTH OF NORTH FOG STRIPE OF SR002.
ELEVATION=2315.42 (NAVD88)

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
HORZ: 1 inch = 50 ft.
VERT: 1 inch = 10 ft.

DEVELOPER DATE

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P-1959 Eng As Builts

No.	DESC. / DATE	BY
4		
3		
2		
1		

STORHAUG ENGINEERING
LAND SURVEYING LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING LAND USE PLANNING
510 EAST THIRD AVE. SPOKANE, WA 99202
PHONE 509-242-1000 FAX 509-242-1001

SHEET TITLE: PLAN AND PROFILE SUN DEVIL CT. & PIRATES CT.

PROJECT TITLE: PILLAR ROCK ESTATES - PHASE I SPOKANE COUNTY, WA

SEAL: CARLTON R. MORTENSEN, STATE OF WASHINGTON, 22818, REGISTERED PROFESSIONAL ENGINEER, 5/11/09

DATE	03/15/06
DRAWN	JAL
CHECKED	CH
PROJECT NUMBER	05-038
DRAWING NO.	16 OF 16
	STREET

05038-ONsite-c-ST-REC.dwg STUB-4

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