

CLAIM OF BENEFICIAL USE for Permits claiming more than 0.1 cfs and All Transfers



Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us

SECTION 1 GENERAL INFORMATION

1. File Information

APPLICATION # (G, R, S OR T) T-10256	PERMIT # (IF APPLICABLE)	PERMIT AMENDMENT # (IF APPLICABLE)
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2. Property Owner (current owner information)

APPLICANT/BUSINESS NAME Aspen Creek MHC, LLC		PHONE NO. 541-815-1105	ADDITIONAL CONTACT NO. 541-548-9354
ADDRESS 19772 MacArthur Boulevard, Suite 100			
CITY Irvine	STATE CA	ZIP 92612	E-MAIL aspencreekmhc@gmail.com

If the current property owner is not the permit or transfer holder of record, it is recommended that an assignment be filed with the Department. **The COBU must be signed by each permit or transfer holder of record.**

3. Permit or transfer holder of record (this may, or may not, be the current property owner)

PERMIT OR TRANSFER HOLDER OF RECORD Aspen Creek MHC, LLC		RECEIVED BY OWRD	
ADDRESS 19772 MacArthur Boulevard, Suite 100			
		JAN 25 2013	
CITY Irvine	STATE CA	ZIP 92612	SALEM, OR

ADDITIONAL PERMIT OR TRANSFER HOLDER OF RECORD Central Oregon Irrigation District		
ADDRESS 1055 SW Lake Court		
CITY Redmond	STATE OR	ZIP 97756

4. Date of Site Inspection: **September 27, 2012**

5. Person(s) interviewed and description of their association with the project:

NAME	DATE	ASSOCIATION WITH THE PROJECT
Paul Carder	9-27-12	Manager of Mobile Home Community
Carey Penhollow	10-15-12	COID District Watermaster

6. County: **Deschutes**

7. If any property described in the place of use of the permit or transfer final order is excluded from this report, identify the owner of record for that property (ORS 537.230(4)):

OWNER OF RECORD NA			RECEIVED BY OWRD
ADDRESS			
CITY	STATE	ZIP	JAN 25 2013
			SALEM, OR

SECTION 2 SYSTEM DESCRIPTION

A. Points of Diversion/Appropriation

1. Point of diversion/appropriation name or number:

POINT OF DIVERSION/APPROPRIATION (POD/POA) NAME OR NUMBER (CORRESPOND TO MAP)	WELL LOG ID # FOR ALL WORK PERFORMED ON THE WELL (IF APPLICABLE)	WELL TAG # (IF APPLICABLE)
	NA – no well	

Attach each well log available for the well (include the log for the original well and any subsequent alterations, reconstructions, or deepenings)

2. Point of diversion/appropriation source and, if from surface water, the tributary:

POD/POA NAME OR NUMBER	SOURCE	TRIBUTARY
COID POD #11	Deschutes River	Columbia River

3. Developed use(s), period of use, and rate for each use:

POD/POA NAME OR NUMBER	USES	IF IRRIGATION, LIST CROP TYPE	SEASON OR MONTHS WHEN WATER WAS USED	RATE OR VOLUME FOR USE (CFS, GPM, OR AF)
Aspen Creek	Quasi Municipal		April 1 to October 31	28.53 AF
Sub of COID 11				after trans loss & quasi conversion
Total Quantity of Water Used				28.53 AF

4. Provide a general narrative description of the distribution works. This description must trace the water system from each point of diversion or appropriation to the place of use:

POD #11 is COID's main diversion from the Deschutes River in Bend, Oregon. Aspen Creek MHC takes delivery from COID's Lateral #C-14-1-1, near the SW corner of the service area. A 12" CMP pipe, about 30 feet long, runs between the head gate and a concrete weir box. There, Aspen Creek's delivery passes over a 12 inch wide Cipolletti weir and then to nearby Pond #1 via an 8 inch diameter PVC pipe. The water then flows from Pond #1 to Pond #2 via a concrete lined creek that also serves as a landscape/water feature. The length of the creek is approximately 1190 feet. Where the creek passes beneath streets, 8 inch diameter PVC pipes are used as culverts. A 7.5 HP pump is located at Pond #2. The pump pressurizes a system of irrigation mains consisting of a buried 6 inch PVC spine, and 3 inch PVC laterals The laterals feed smaller pipe irrigation systems via 45 electric valves controlled by three Rainbird ESP-32MC timers.

SECTION 2

SYSTEM DESCRIPTION (B through H)

Are there multiple PODs or POAs?

NO

If "YES" you will need to copy and complete Sections 2B through 2H for each POD/POA.

POD/POA Name or Number this section describes (only needed if there is more than one):

Pod #11 is COID's main diversion from the Deschutes River in Bend, Oregon. Aspen Creek MHC takes delivery from COIDs Lateral #C-14-1-1, near the SW corner of the service area.

B. Place of Use

1. Is the right for municipal use?

YES

C. Diversion and Delivery System Information

Provide the following information concerning the diversion and delivery system. Information provided must describe the equipment used to transport and apply the water from the point of diversion/appropriation to the place of use.

1. Is a pump used?

YES

If "NO" items 2 through item 6 may be deleted.

2. Pump Information

MANUFACTURER	MODEL	SERIAL NUMBER	TYPE (CENTRIFUGAL, TURBINE OR SUBMERSIBLE)	INTAKE SIZE	DISCHARGE SIZE
Berkley	L1018	worn off	Centrifugal	2 inch	1.5 inch

3. Motor Information

MANUFACTURER	HORSEPOWER
Baldor	7.5

4. Theoretical Pump Capacity

HORSEPOWER	OPERATING PSI	LIFT FROM SOURCE TO PUMP *IF A WELL, THE WATER LEVEL DURING PUMPING	LIFT FROM PUMP TO PLACE OF USE	TOTAL PUMP OUTPUT (IN CFS)
7.5	50 psi	Flooded suction - 1 ft.	10 feet	0.32

5. Provide pump calculations:

$Q = (\text{horsepower})(\text{pump efficiency})/\text{total head in feet}$

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$Q = (7.5 \text{ hp})(6.61)/(127^2 - 1^2 + 10^2 + 20^2 \text{ in head loss}) = 0.32 \text{ cfs} = 142 \text{ gpm}$

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6. Measured Pump Capacity (using meter if meter was present and system was operating)

INITIAL METER READING	ENDING METER READING	DURATION OF TIME OBSERVED	TOTAL PUMP OUTPUT (IN CFS)
NA no meter		4 hours	

Reminder: For pump calculations use the reference information at the end of this document.

7. Is the distribution system piped?

YES

If "NO" items 8 through item 11 may be deleted.

8. Mainline Information

MAINLINE SIZE	LENGTH	TYPE OF PIPE	BURIED OR ABOVE GROUND
6 inch	508 feet	pvc	buried

9. Lateral or Handline Information

LATERAL OR HANDLINE SIZE	LENGTH	TYPE OF PIPE	BURIED OR ABOVE GROUND
3 inch	Varies to 575	pvc	buried

10. Sprinkler Information

SIZE	OPERATING PSI	SPRINKLER OUTPUT (GPM)	TOTAL NUMBER OF SPRINKLERS	MAXIMUM NUMBER USED	TOTAL SPRINKLER OUTPUT (CFS)
varies	50 psi		Hundreds		

Reminder: For sprinkler output determination use the reference information at the end of this document.

11. Pivot Information

MANUFACTURER	MAXIMUM WETTED RADIUS	OPERATING PSI	TOTAL PIVOT OUTPUT (GPM)	TOTAL PIVOT OUTPUT (CFS)
NA				

12. Additional notes or comments related to the system:

The pump pressurizes a system of irrigation lines consisting of a buried 6 inch PVC spine that runs from Pond #2 through the middle of the service area in a westerly direction, and 3 inch PVC laterals that branch off in north and south directions. The laterals feed smaller pipe irrigation systems via 45 electric valves controlled by three Rainbird ESP-32MC timers. The irrigation system runs approximately 3 hours per day during Season 1 and 6.5 hours per day during Season 3. Irrigation cycles are typically at night. Pond #2 stores the delivery water between irrigation cycles. The irrigation system was operated 4 hours during the day of and while the site inspection was being conducted. A second pump, located west of Pond #2, returns water to Ponds 1 to enhance the flow in the water feature creek as the water circulates in a closed loop. The second circulation pump was turned off, and the system was allowed to stabilize, prior to the measurement of system flows by the CWRE. Operation of the circulation pump did however verify the creek and piping included in gravity delivery system have perhaps three times the capacity needed to deliver the right.

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D. Groundwater Source Information (Well and Sump)

1. Is the appropriation from ground water (well or sump)?

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NO

E. Storage

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1. Does the distribution system include in-system storage (i.e. storage tank, bulge in system / reservoir)

YES

If "NO", item 2 and 3 relating to this section may be deleted.

If "YES" is it a: Storage Tank NO
 Bulge in System / Reservoir YES

Complete appropriate table(s), unused table may be deleted.

2. Storage Tank:

MATERIAL (CONCRETE, FIBERGLASS, METAL, ETC.)	CAPACITY (IN GALLONS)	ABOVE GROUND OR BURIED
NA		

3. Bulge in System / Reservoir:

RESERVOIR NAME OR NUMBER (CORRESPOND TO MAP)	APPROXIMATE DAM HEIGHT	APPROXIMATE CAPACITY (IN ACRE FEET)
Pond #2	Depth approx. 4 feet	0.25 ACFT above intake

F. Gravity Flow Pipe

(THE DEPARTMENT TYPICALLY USES THE HAZEN-WILLIAM'S FORMULA FOR A GRAVITY FLOW PIPE SYSTEM)

1. Does the system involve a gravity flow pipe? YES

If "NO", items 2 through 4 relating to this section may be deleted.

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2. Complete the table:

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PIPE SIZE	PIPE TYPE	"C" FACTOR	AMOUNT OF FALL	LENGTH OF PIPE	SLOPE	COMPUTED RATE OF WATER FLOW (IN CFS)
8 inch	pvc	150	0.007 feet	44 feet	.0002	0.11

3. Provide calculations:

See the attached calculations for Open Channel Flow in Pipes using the Manning's equation. The depth of flow in the pipe on the day of the inspection was 4 inches. The observed water depth in the 8 inch pipe and resulting flow rate in cfs has been highlighted in yellow.

4. If an actual measurement was taken, provide the following:

DATE OF MEASUREMENT	WHO MADE THE MEASUREMENT	MEASUREMENT METHOD	MEASURED QUANTITY OF WATER (IN CFS)
9-27-12	Matt Steele, WRE	12" Cipolletti Weir	0.091

Attach measurement notes.

The crest of the weir was not submerged on the day of the inspection. However, the downstream water level was high enough that air was not flowing behind/beneath the nappe and a condition of free fall was not occurring. As a result, the accuracy of the flow measurement using the weir was probably compromised.

G. Gravity Flow Canal or Ditch

(THE DEPARTMENT TYPICALLY USES MANNING'S FORMULA FOR CANALS AND DITCHES)

1. Is a gravity flow canal or ditch used to convey the water as part of the distribution system? YES

If "NO", items 2 through 4 relating to this section may be deleted.

2. Complete the table:

CANAL OR DITCH TYPE (MATERIAL)	TOP WIDTH OF CANAL OR DITCH	BOTTOM WIDTH OF CANAL OR DITCH	DEPTH	"N" FACTOR	AMOUNT OF FALL	LENGTH OF CANAL / DITCH	SLOPE	COMPUTED RATE (IN CFS)
Concrete	1.67 ft.	1.67 ft.	0.062	.025	.05'	3'	0.017	0.11

3. Provide calculations:

$$V = 1.486(((1.67 \times 0.06)/(1.67 + 0.06 + 0.06))^{.667}((0.017)^{0.5}))/0.025 = 1.1 \text{ fps}$$

$$Q = VA = (1.1 \text{ fps})(1.67' \times 0.06') = 0.11 \text{ cfs}$$

4. If an actual measurement was taken, provide the following:

DATE OF MEASUREMENT	WHO MADE THE MEASUREMENT	MEASUREMENT METHOD	MEASURED QUANTITY OF WATER (IN CFS)
9-27-12	Matt Steele	Uniform open channel	0.11 cfs

Attach measurement notes.

Note: The measurement was made in a short and uniform section of the otherwise irregular creek. The uniform section was a smooth and level trough cut in concrete. It measured 20 inches wide and about 2 inches deep. Water was flowing at a depth of 0.75 inches. The velocity of the water was measured by placing small leaves in the water and timing the movements with a stop watch. The objects covered 3 feet in 3 seconds.

H. Reservoir

1. Does the claim involve a reservoir modified through a transfer?

NO

**SECTION 3
CONDITIONS**

All conditions contained in the permit, permit amendment, transfer final order, or any extension final order shall be addressed. Reports that do not address all performance related conditions will be returned.

1. Time Limits:

Permits, transfer final orders, and any extension final orders contain any or all of the following dates: the date when the actual construction work was to begin, the date when the construction was to be completed, and the date when the complete application of water to the proposed use was to be completed. These dates may be referred to as ABC dates. Describe how the water user has complied with each of the development timelines established in the permit, extension or transfer final order:

	DATE FROM PERMIT OR TRANSFER	DATE ACCOMPLISHED*	DESCRIPTION OF ACTIONS TAKEN BY WATER USER TO COMPLY WITH THE TIME LIMITS
ISSUANCE DATE	Dec. 26, 2007		
BEGIN CONSTRUCTION (A)			
COMPLETE CONSTRUCTION (B)			
COMPLETE APPLICATION OF WATER (C)	Oct. 1, 2013	Sept. 25, 2012	Used the water for several seasons. Hired CWRE to complete COBU.

* MUST BE WITHIN PERIOD BETWEEN PERMIT, TRANSFER FINAL ORDER, OR ANY EXTENSION FINAL ORDER ISSUANCE AND THE DATE TO COMPLETELY APPLY WATER

2. Is there an extension final order(s)?

NO

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4. Initial Water Level Measurements:

5. Annual Static Water Level Measurements:

a. Was the water user required to submit annual static water level measurements? **NO**

6. Pump Test (Required for most ground water permits prior to issuance of a certificate)

a. Did the permit require the submittal of a pump test? **NO**

7. Measurement Conditions:

a. Does the permit, permit amendment, transfer final order, or any extension final order require the installation of a meter or approved measuring device? **NO**

8. Recording and reporting conditions

a. Is the water user required to report the water use to the Department? **NO**

If the reports have not been submitted, attach a copy of the reports if available.

9. Fish Screening

a. Are any points of diversion required to be screened to prevent fish from entering the point of diversion? **NO**

10. By-pass Devices

a. Are any points of diversion required to have a by-pass device to prevent fish from entering the point of diversion? **NO**

11. Other conditions required by permit, permit amendment final order, extension final order, or transfer final order:

a. Were there special well construction standards? **NO**

b. Was submittal of a ground water monitoring plan required? **NO**

c. Was the water user required to restore the riparian area if it was disturbed? **NO**

d. Was a fishway required? **NO**

e. Was submittal of a letter from an engineer required prior to storage of water? **NO**

f. Was submittal of a water management and conservation plan required? **NO**

g. Other conditions? **NO**

If "YES" to any of the above, identify the condition and describe the water user's actions to comply with the condition(s):

[Empty rectangular box for providing details on conditions]

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SECTION 4 VARIATIONS

Include a description of variations from the permit, permit amendment final order, extension final order, or transfer final order. (i.e. *“The permit allowed three points of diversion. The water user only developed one of the points.”* or *“The permit allowed 40.0 acres of irrigation. The water user only developed 10.0 acres.”*)

***The Maximum Rate Authorized in the Final Order (finding #5) is 0.23 cfs for Season 3. The maximum duty by the order (finding #5) is 73.84 AF. The Maximum Rate Authorized in the Order reflected an allowance of 45% for canal system transmission loss. At this end use, the transmission loss allowance has been depleted and the Maximum Rate Authorized during Season 3 for purposes of irrigation would be 0.159 cfs (0.23 cfs /1.45 = 0.159 cfs). The maximum annual volume of water used for irrigation, once transmission losses were deducted, was 50.92 acre-feet (73.84 AF/1.45) prior to the change of use. The maximum annual volume of water for quasi-municipal use allowed by the Order for this right is now 28.53 acre-feet (finding #17). The irrigation to quasi-municipal transfer and consumption conversion results in a Maximum Rate Authorized, for purposes of this report, of 0.089 cfs (0.159 cfs x 28.53/50.92). Please see the attached Duty and Rate Calculations sheet**

SECTION 5 ATTACHMENTS

Provide a list of any additional documents you are attaching to this report:

ATTACHMENT NAME	DESCRIPTION
Duty & Rate Calculations	Spreadsheet that accounts for system losses and use conversions.
Open Channel Flow in Pipe	Spreadsheet that calculates flows at varies depths and slopes.

SECTION 6 CLAIM SUMMARY

POD / POA NAME OR #	MAXIMUM RATE AUTHORIZED	CALCULATED THEORETICAL RATE BASED ON SYSTEM	AMOUNT OF WATER MEASURED	USE	# OF ACRES ALLOWED	# OF ACRES DEVELOPED
Aspen Ck	0.089 cfs *	0.32 cfs (pump)	0.10 cfs	Quasi –mun.	7.47	7.47
COID #11						

SECTION 7 CLAIM OF BENEFICIAL USE MAP

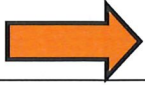
The Claim of Beneficial Use Map must be submitted with this claim. Claims submitted without the Claim of Beneficial Use map will be returned. The map shall be submitted on poly film at a scale of 1” = 1320 feet, 1” = 400 feet, or the original full-size scale of the county assessor map for the location.

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Provide a general description of the survey method used to prepare the map. Examples of possible methods include, but are not limited to, a traverse survey, GPS, or the use of aerial photos. If the basis of the survey is an aerial photo, provide the source, date, series and the aerial photo identification number.



The quasi –municipal service area is defined by the boundary of the plat for Aspen Creek Mobile Home Subdivision. The plat is recorded with the Deschutes County Surveyor's office under file CS16905. Our firm monumented the parcel boundaries and prepared that plat. The drawing file for the plat was used as a basis for the COBU map. Low altitude aerial photography data was collected during the plat process. The resulting aerial photograph was utilized during the site inspection to identify, verify, and note the locations of key irrigation delivery and pumping system components.

Map Checklist

Please be sure that the map you submit includes ALL the items listed below.

(Reminder: Incomplete maps and/or claims may be returned.)

- Map on polyester film
- Appropriate scale (1" = 400 feet, 1" = 1320 feet, or the original full-size scale of the county assessor map)
- Township, Range, Section, Donation Land Claims, and Government Lots
- If irrigation, number of acres irrigated within each projected Donation Land Claims, Government Lots, Quarter-Quarters
- Locations of fish screens and/or fish by-pass devices in relationship to point of diversion
- Locations of meters and/or measuring devices in relationship to point of diversion or appropriation
- Conveyance structures illustrated (pumps, reservoirs, pipelines, ditches, etc.)
- Point(s) of diversion or appropriation (illustrated and coordinates)
- Tax lot boundaries and numbers
- Source illustrated if surface water
- Disclaimer ("This map is not intended to provide legal dimensions or locations of property ownership lines")
- Application and permit number or transfer number
- North arrow
- Legend
- CWRE stamp and signature

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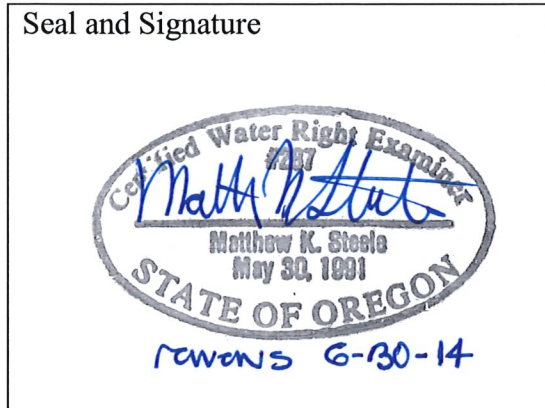
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**SECTION 8
SIGNATURES**

CWRE Statement, Seal and Signature

The facts contained in this Claim of Beneficial Use are true and correct to the best of my knowledge.



CWRE NAME Matthew K. Steele		PHONE NO. 541-389-9351	ADDITIONAL CONTACT NO. 541-388-1192
ADDRESS c/o Hickman Williams & Associates Inc., 62930 O.B. Riley Road, Suite 100			
CITY Bend	STATE OR	ZIP 97701	E-MAIL matts@hwa-inc.org

Permit or Transfer Holder's of Record Signature or Acknowledgement

This Claim of Beneficial Use must be signed by each permit or transfer holder of record.

The facts contained in this Claim of Beneficial Use are true and correct to the best of my knowledge. I request that the Department issue a water right certificate.

SIGNATURE	PRINT OR TYPE NAME	DATE
	Brian Fitterer, Aspen Creek MHC, LLC	1.2.13
	Steve Johnson, COID	15 Jan. 2013

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DUTY vs. RATE CALCULATIONS

By: Matt Steele, PE, WRE

IRRIGATED AREA: **7.47** acres
 IRRIGATION CYCLE PERIOD: **6.5** hrs/day for SEASON: **3**
 CANAL TRANSMISSION LOSS: **45** %
 CONSUMPTIVE LOSS: **47.14** %
 IRRIGATION CONSUMPTION: **1.8** AF per acre
 MAX ANNUAL VOLUME : **28.52** AF

MAXIMUM DUTY and RATES - Including Transmission Losses

Season	Length Days	Rate (cfs/acre)	Volume (cf)	Volume (acre-ft)	Diversion Rate (gpm/acre)	Diversion Rate (gpm)	Diversion Rate (cfs)	Pump Rate (gpm)
1	60	0.0124	64282	1.48	5.56	41.5	0.093	153.2
2	29	0.0166	41593	0.95	7.44	55.6	0.124	205.1
3	122	0.0308	324657	7.45	13.80	103.1	0.230	380.6

Total Volume (Duty): 9.88 AF per acre
 Annual Volume : 73.83 AF

MAXIMUM DUTY and RATES - Excluding Canal Transmission Losses

Season	Length Days	Rate (cfs/acre)	Volume (cf)	Volume (acre-ft)	Diversion Rate (gpm/acre)	Diversion Rate (gpm)	Diversion Rate (cfs)	Pump Rate (gpm)
1	60	0.00855	44332	1.02	3.83	28.6	0.064	105.7
2	29	0.01145	28685	0.66	5.13	38.3	0.086	141.5
3	122	0.02124	223901	5.14	9.52	71.1	0.159	262.5

Total Volume (Duty): 6.82 AF per acre
 Annual Volume : 50.92 AF

DUTY and RATES - Excluding Canal Transmission Losses & Consumptives Loss Conversion

Season	Length Days	Rate (cfs/acre)	Volume (cf)	Volume (acre-ft)	Diversion Rate (gpm/acre)	Diversion Rate (gpm)	Diversion Rate (cfs)	Pump Rate (gpm)
1	60	0.00479	24834	0.57	2.15	16.0	0.036	59.2
2	29	0.00641	16069	0.37	2.87	21.5	0.048	79.2
3	122	0.01190	125427	2.88	5.33	39.8	0.089	147.0

Total Volume (Duty): 3.82 AF per acre
 Annual Volume : **28.52** AF

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Open Channel Flow in Pipes

Method: Manning's Formula Solution
 Project Name: **Aspen Creek MHC**
 Project Number: **120906**
 Date: **17-Oct-12**
 Run Name: **Culvert crossings**
 Design Flow: **0.1 cfs** or **45 gpm**
 Length: **44 feet**
 Fall: **0.007 feet**

Type of Pipe: **PVC Ring Tite**
 Pipe Size (D) : **8 inches**

Roughness Coefficient: **0.009**
 Cross Section Area: **0.34** sqr. feet
 Hydraulic Radius (Full): **0.165** feet
 Slope: **0.0002** feet/feet
 Full Flow (Q) cfs = **0.21** gpm = **95**
 Full Velocity (V) fps = **0.63**

Flow Depth (%)	Depth in Pipe (inches)	Flows (cfs)	Velocity (ft/sec)
10	0.8	0.01	0.24
15	1.2	0.01	0.33
20	1.6	0.02	0.39
25	2.0	0.03	0.44
30	2.4	0.04	0.48
35	2.8	0.06	0.53
40	3.2	0.07	0.56
45	3.6	0.09	0.59
50	4.0	0.11	0.63
55	4.4	0.12	0.65
60	4.8	0.14	0.67
65	5.2	0.16	0.69
70	5.6	0.18	0.70
75	6.0	0.20	0.71
80	6.4	0.21	0.71
85	6.8	0.22	0.71
90	7.2	0.23	0.70
95	7.6	0.23	0.68
100	8.0	0.21	0.63

Data Entered

Results Computed

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engineers · planners · surveyors
Hickman, Williams & Associates, Inc.

TRANSMITTAL

TO:	Oregon Water Resources Department	DATE:	1-22-13
ADDRESS:	725 Summer Street NE, Suite A Salem, OR 97301-1266	PAGES:	Several
		FAX:	
RE:	COBU for Transfer # T-10256 (Aspen Creek MHC)	PROJECT #:	120906

BY CARRIER INDICATED WE ARE SENDING THE FOLLOWING:

Enclosed
 Fax
 Pickup
 Messenger
 US Mail
 FedEx / UPS

● Description:

- 1- Completed and signed COBU application form (10 pages),
- 2- Claim of Beneficial Use Map (on mylar),
- 3- Duty and Rate Calculations (spreadsheet),
- 4- Open Channel Flow in Pipes (spreadsheet).

● Remarks:

The attached Claim of Beneficial Use (COBU) is being filed for the change in character of use and the change in place use requested in Transfer Application T-10256 and approved in the Final Order dated December 26th, 2007.

Please contact me if you have any questions or comments.

Thank You,

Matthew K. Steele, PE, WRE
(541) 389-9351
matts@hwa-inc.org

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SALEM, OR

cc: Aspen Creek MHC, COID

62930 O.B. Riley Road, Suite 100 ♦ Bend, OR 97701
Ph (541) 389-9351 ♦ FAX (541) 388-5416

If this box is checked, please acknowledge the receipt of this transmittal by signing below.
Please fax to 541-388-5416

Received by: _____
Date: _____