NRCS Materials Summary

Total GPM = 448.20 (79.84 Ac)

Total Pods = 146

Total 6" PVC Mainline = 2,600'
Total 5" PVC Mainline = N/A'
Total 4" PVC Mainline = 3,300'
Total 3" PVC Mainline = N/A'
Total 2" PVC Mainline = 400'

Total 6" Alum. Tubing = 200'

Total 4" Flex Hose = 40'

L 500 Fish Screen w/ 6" Suction = 1

Pump Trailer = 1

40hp Centrifugal Pump = 1

Estimated Water Requirement :

Soil Type = (33) Kirkendall, (48)Quosantana
Available Water Capacity @ 0- 24" Profile Combined Average 0.20 In/In
Crop Type = Pasture
Maximum Rooting Depth = 24"
Total Plant Available Water In Root Zone = 4.80" (0.20 In/In Average x 24")
Maximum Daily ETc = 0.18" (Dora Climate Site)
Maximum Soil Water Deficiency = 50% (Allowable Depletion =4.80"x.50 = 2.40")
Soil Maximum Irrigation Interval (days) = 13.3 (2.40"A.D. / 0.18"ETc)
Gross Application = 2.84" (2.13" A.D. / .75eff @ 10 Day Interval, Max Et =.213")
Application Efficiency = 75%

10 Day/ 250' Block System Design Gross Application = 2.84" (2.13" A.D. / .75eff. @ 10 Day Interval / 1 Moves Per Day / Max. ETc Increase = 0.213" Daily)
(Nelson R2000/ #16 Noz. @ 45psi = 3.07 gpm)
(0.118" Application Rate x 24hr = 2.84 " Applied Gross x .75 eff. = 2.13" / .18 Etc = 11.83 Days

Physical Soil Properties:

Map Symbol & Soil Name	Depth In.	Available Water Capacity In./ In.	Basic Sprinkler Intake Rate In. per Hr
33 : Kirkendall	0 - 7 7 - 42	0.19 - 0.21 0.19 - 0.21	N/A (SIL)
48 : Quosantana	0 - 13 13 - 48	0.19 - 0.21 0.19 - 0.21	N/A (SIL)

Application Rate & Interval :

24 Hr set x 0.118" hr = 2.84 " Applied (Gross) 3.07gpm #16 @45psi
10 Day/250' Block Interval/Return w/ 1 Move per Day (50' x 50' spacing)

Total K-line "Blocks" = 17 qty
Total K-line Pods Continues = 146 qty

Total Acres Irrigated = 79.84
Total K-Line GPM = 448.20

Design Point :

Intake screen loss = 1.5'
Suction line loss = 0.5'
Check valve loss = 1.6'
Suction Lift (vert.) = 10.0'
Discharge lift (vert) = 26.0'
Mainline loss (4.49 psi) = 10.37' (PVC / C value used = 150)
K-line leader loss (9.5 psi) = 21.95' (Poly / C value used = 145) 43.65 mm I.D. x 150'
K-line 13 pod loss (6.26 psi) = 14.46' (Poly / C value used = 145) 43.65 mm I.D.
Sprinkler oper.(50.0psi) = 115.50' #16 Noz. @ 45psi / 3.07 gpm after regulator

201.88'
10% Margin = 20.18' (8.74 psi)
448.20 TGPM @ 221.98 TDH (96.10 psi)

Pump Selection :

2.5YH Cornell 40hp Pump w/ 8.0625" Imp.

450 TGPM @ 228' TDH (98.70psi) /
74% eff./ 10.1' NPSHR / 35.0Hpr

NRCS Job Class:

442 Irrigation System Sprinkler, Job Class (Control Factor #1 = II) (Control Factor #2 = II)
430DD Irrigation Water Conveyance,High Pressure,Under Ground Pipeline, Job Class (Control Factor #1 = II)
533C Pumping Plant for Water Control,Centrifugal Pump,Job Class (Control Factor #1 = II) (Control Factor #2 = IV)

NRCS Constuction Specification References:

___CS-02 Pollution Control
___CS-52 Conduit and Pipelines
___CS-53 Valves and Meters
___CS-62 Pump
___CS-113 Excavation and Backfill of Trenches for Conduits and Pipelines

NRCS Material Specification References:

___MS-206 Plastic Pipe
___MS-218 Valves and Meters

Key

6" Band Lock Aluminum (200')
6" PVC Class 160 (2,600')
4" PVC Schd 40 Solvent Weld (3,300')
2" PVC Schd 40 Solvent Weld (400')
Nelson R2000 #16 Nozzle/ Mini Regulators Nozzle 70' diam.
45 psi = 3.07 gpm
50' x 50' spacing = 0.118"per hr application rate

K-line valve outlet
Working Section
Soil Type Contour
K-line Leader
Air Vent
Pressure Relief
Check Valve

Project : 2012 EQIP Project Farm# Tract # (McDonald)

Date : 3/21/2012

Prepared For : Myrtle Lane Dairy
52831 Old Broadbent Rd
Myrtle Point, Oregon 97458
Tom Brown
Phone 541-297-3757

Designer:
Tye Fountain, TSP# 06-5455
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Drawing # #1 of #4

Last up-date : 3/21/2012

Quote # TBA

Scale : 0' 100' 200' 300' 400' 500'

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