Baughman

July 18, 2013

Mr. Scott Lindebak, P.E. CFM
Storm Water Engineer
City of Wichita

RE: Skyway West 2nd & 3rd Additions
Additional Information

Scott,

Below and attached is the additional information as requested by you for the above referenced plat(s).

Skyway West 2nd

You have requested a channel section be designed to convey the runoff from the north and that it be included in the drainage easement on the plat. The ditch size to convey the runoff will have a 5' bottom width, 3:1 sideslopes, and will have a capacity of over 100cfs at 2' of depth. This should convey the 100-year storm event from the north offsite property. A 30' Drainage Easement will be sufficient for a ditch section with these properties. Attached is the model output for the proposed ditch section which shows the capacity and channel properties in more detail.

Skyway West 3rd

Per your request, we have added a 20' Drainage Easement along the west property line in order to convey future runoff from the west into the platted Reserve B. Also, we have sized a box culvert crossing to be used at the northeast corner of the property. At this point, downstream of detention in Reserve A, there will be approximately 200 cfs discharging at this point, which is this properties' access from Maize Road. A proposed box structure, an 8'x4' RCBC, will be utilized at this point to cross for access while conveying the 100-year storm event from the south to the north. The box calculations are attached.

If there are any other questions or concerns please feel free to contact me via phone at 316.262.7271 or via email at tkurth@baughmanco.com.

Thanks.
Baughman Company, PA

Trevor R. Kurth, P.E. CFM
Chief Water Resources Engineer

Cc: File

ENGINEERING
SURVEYING
PLANNING
LANDSCAPE ARCHITECTURE

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Channel Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc. Thursday, Jul 18 2013

<Name>

Trapezoidal

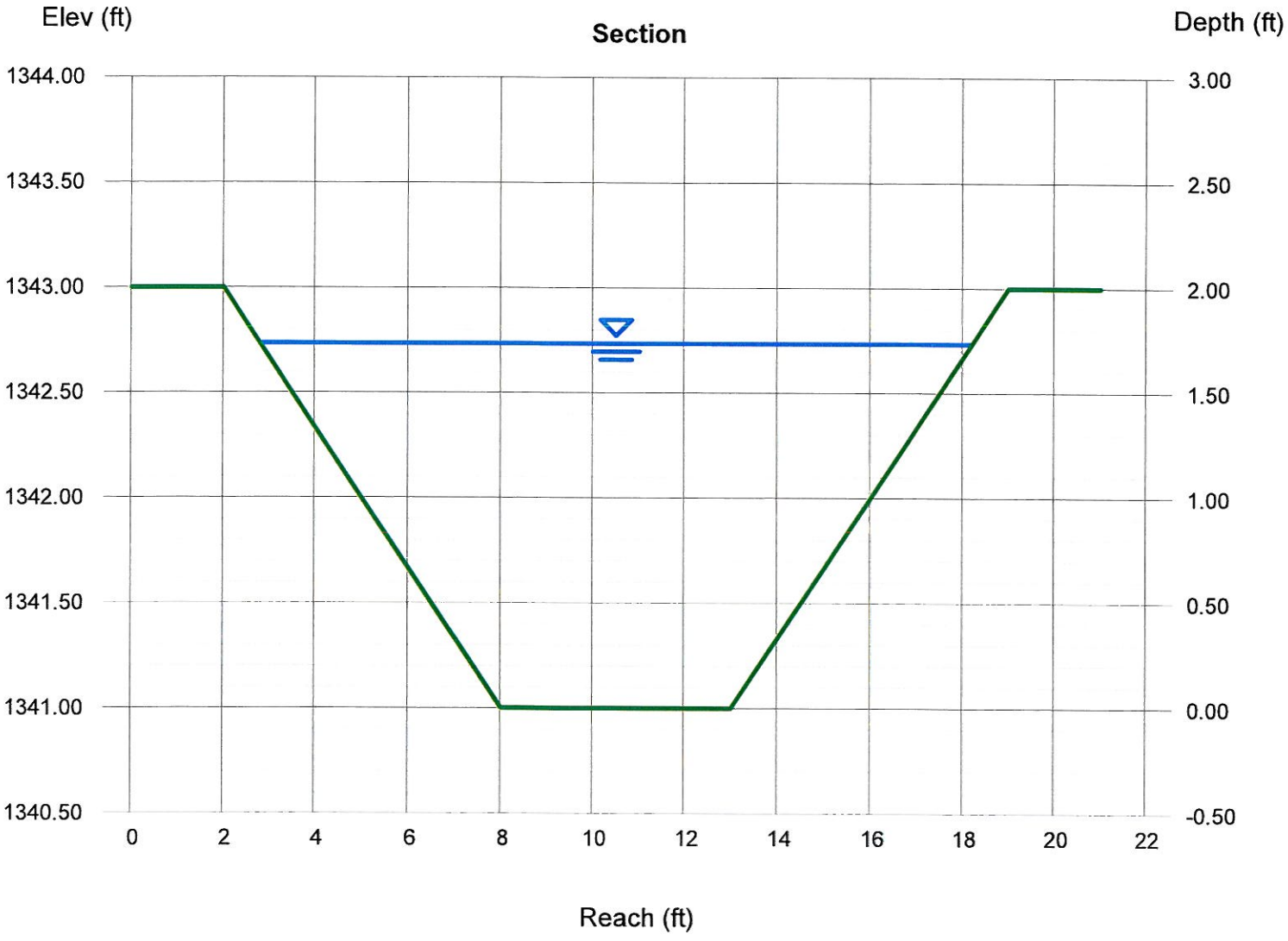
Bottom Width (ft)	= 5.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 2.00
Invert Elev (ft)	= 1341.00
Slope (%)	= 0.50
N-Value	= 0.020

Calculations

Compute by:	Q vs Depth
No. Increments	= 15

Highlighted

Depth (ft)	= 1.73
Q (cfs)	= 99.44
Area (sqft)	= 17.68
Velocity (ft/s)	= 5.62
Wetted Perim (ft)	= 15.96
Crit Depth, Yc (ft)	= 1.53
Top Width (ft)	= 15.40
EGL (ft)	= 2.23



Culvert Report

2013 Hydraflow Express Extension for AutoCAD® Civil 3D® 2011 by Autodesk, Inc.

Box Culvert

Invert Elev Dn (ft)	= 1326.00
Pipe Length (ft)	= 50.00
Slope (%)	= 0.50
Invert Elev Up (ft)	= 1326.25
Rise (in)	= 48.0
Shape	= Box
Span (in)	= 96.0
No. Barrels	= 1
n-Value	= 0.013
Inlet Edge	= 0
Coeff. K,M,c,Y,k	= 0.021, 1.33, 0.0463, 0.75, 0.7

Embankment

Top Elevation (ft)	= 1332.00
Top Width (ft)	= 20.00
Crest Width (ft)	= 10.00

Calculations

Qmin (cfs)	= 20.00
Qmax (cfs)	= 300.00
Tailwater Elev (ft)	= (dc+D)/2

Highlighted

Qtotal (cfs)	= 240.00
Qpipe (cfs)	= 240.00
Qovertop (cfs)	= 0.00
Veloc Dn (ft/s)	= 8.53
Veloc Up (ft/s)	= 9.18
HGL Dn (ft)	= 1329.52
HGL Up (ft)	= 1329.52
Hw Elev (ft)	= 1331.84
Hw/D (ft)	= 1.40
Flow Regime	= Inlet Control