

CITY OF OVERLAND PARK PLANNING AND DEVELOPMENT SERVICES

INTRACITY COMMUNICATION

August 6, 2019

Rhonda Clark – SPS

**SUBDIVISION NAME – SOLERA RESERVE 3RD PLAT
PIP2018-00002**

NOTE: Building Permits will not be issued until the applicant produces a Sanitary Sewer Connection Permit from Johnson County Wastewater.

SWALE GRADING

The following lots include, or are adjacent to engineered swales designed for purposes of stormwater conveyance. An engineered plot plan is required for these lots in conformance with City requirements.

Minimum Low Openings must be a minimum of 1 foot above the 100-year storm energy grade line as measured perpendicular to the swale.

<u>LOT</u>	<u>SWALE</u>	<u>EGL DEPTH (FEET)</u>
42	B-B	0.73
43	B-B	0.73
44	B-B	0.73
45	B-B	0.73
46	B-B	0.73
47	B-B	0.73
55	C-C	0.81
67	I-I	0.08
67	A-A	0.63
68	A-A	0.63
69	D-D	0.16
69	H-H	0.26
70	E-E	0.68
71	E-E	0.68
72	E-E	0.68
72	F-F	0.58

73	F-F	0.58
74	F-F	0.58
75	F-F	0.58
76	F-F	0.58
76	G-G	0.23
77	G-G	0.23
78	G-G	0.23

BERM GRADING

The following lots include berms designed to direct stormwater runoff. An engineered plot plan is required for these lots that show preserving or constructing berms as shown on the subdivision as-built grading plan.

LOT

67
69
70
75
76
78

MLO SET BY ENGINEER

The following lots are adjacent to large open stormwater conveyances which require freeboard for all building openings and tops of foundation walls. An engineered plot plan is required for these lots which show the minimum low opening established on the subdivision as-built grading plan and actual proposed building openings and top of foundation wall elevations.

LOT

MLO (All Building Openings)

37	986.37
38	986.54

FOUNDATION INVESTIGATION

The following lots are constructed over areas that require special foundation designs to minimize potential for geotechnical related problems. The foundation investigation must be submitted and approved prior to a footing inspection. An Engineered plot plan is NOT required for this condition.

<u>LOT</u>	<u>CONDITION</u>
37	Pond
38	Pond
39	Pond
40	Pond
41	Slope
42	Slope
43	Slope
44	Slope
45	Slope
46	Slope
48	Slope
49	Slope
50	Slope
51	Slope
52	Slope
53	Slope
54	Slope
55	Slope
57	Slope
58	Slope
59	Slope
60	Slope
61	Slope
62	Slope
63	Slope
64	Slope
65	Slope
66	Slope
67	Pond

LOT GRADING

The following lots require specific grading to ensure proper drainage paths between lots. An engineered plot plan is required for these lots which show the drainage paths based upon grading specified by the Engineer.

Lot

77
78
79
80

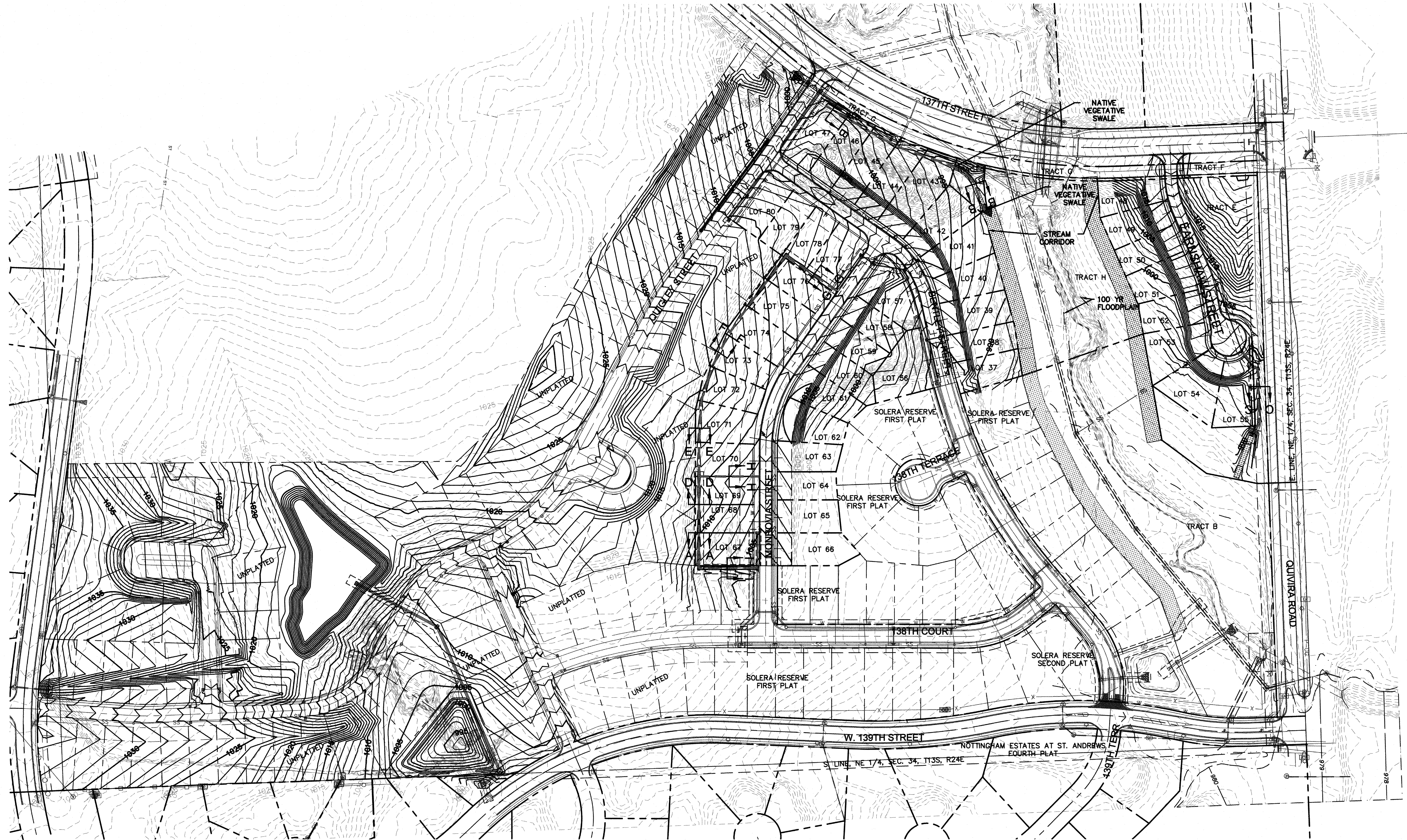
If you have any questions, please contact me.



Stephanie Byard
Engineering Technician II

c: Seth Reece, PLA, Olsson Associates
CJ Shipwright, Olsson Associates
Tony Meyers, P.E., Engineering Services Manager
Mark Zarda, Inspector
Jeff Hunt - Supervisor, Public Works Maintenance
Irina Idelson, Engineering Technician, Public Works
Durk Putnam, PRG 137 Quivira LLC, Developer
Solera Reserve 3rd Plat Flood File
City website

DWG: F:\PROJECTS\15-3297\40-Design\AutoCAD\Final Plans\Sheets\LDV\02_PHASE 2 STREET & STORMWATER\BUILT\SC_GRD_53297.dwg USER: cshlpwright
DATE: Jul 30, 2019 5:42pm XREFS: C:GRD_53297 V:PI 53297 C:PHASE 53297 C:PSMT 53297 C:PSURF 53297



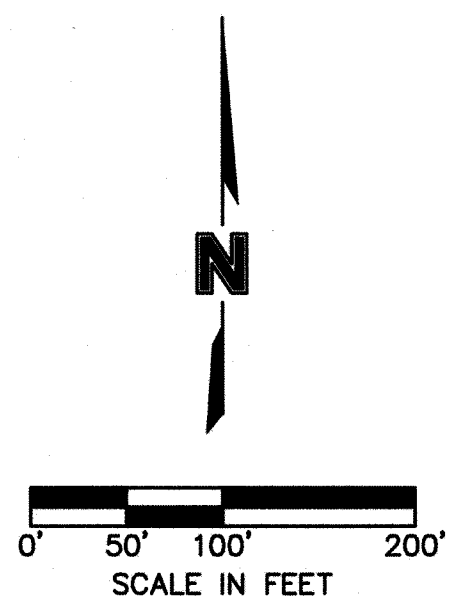
AS-BUILT
06-20-2019

ENGINEERING SERVICES DIVISION
Planning and Development Services Department
City of Overland Park, Kansas
Date: 06/11/19
Reviewed By: SNTB
APPROVED APPROVED AS NOTED REJECTED

- LEGEND**
- PROPERTY LINE
 - EXISTING CONTOUR
 - PROPOSED CONTOUR
 - CONSTRUCT STORM SEWER
 - CONSTRUCT CONCRETE CURB & GUTTER
 - INSTALL CONCRETE SIDEWALK
 - INSTALL HEAVY DUTY ASPHALT PAVEMENT

- LEGEND (CONT.)**
- SS SS INSTALL SANITARY SEWER SERVICE
 - UGE UGE INSTALL ELECTRICAL LINE
 - W W INSTALL DOMESTIC WATER SERVICE
 - FP FP INSTALL FIRE PROTECTION LINE
 - GAS GAS INSTALL GAS SERVICE
 - ENGINEERED SWALE - SEE CALCULATIONS AND DETAIL ON SHEET C2.02

NOTES:
1. CONTRACTOR TO CONSTRUCT SWALES ACCORDING TO DIMENSION CALLOUTS FOUND ON SHEET C2.02.



OVERALL GRADING PLAN		2017	
STREET, STORM SEWER & STREET LIGHTING PLANS		OVERLAND PARK, KANSAS	
SOLERA RESERVE, THIRD PLAT		139TH STREET & QUIVIRA ROAD	
OVERLAND PARK, KANSAS		2017	
REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	07/12/2019	CITY COMMENTS	CJS
2	07/12/2019	CITY COMMENTS	CJS
REVISIONS			

drawn by: CJS
checked by: SNTB
approved by: SNTB
QA/QC by: MAP
project no.: A15-3297
drawing no.: C:GRD_53297.dwg
date: 06/20/2019

SHEET
C1



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AUG 01 2019

DWG: P:\PROJECTS\15-3297\40-Design\AutoCAD\Final Plans\Sheet\LDV\F02_PHASE 2 STREET & STORMWATER-BUILT.TSC GRD_53297.dwg
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Channel Report

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

Tuesday, Jul 16 2019

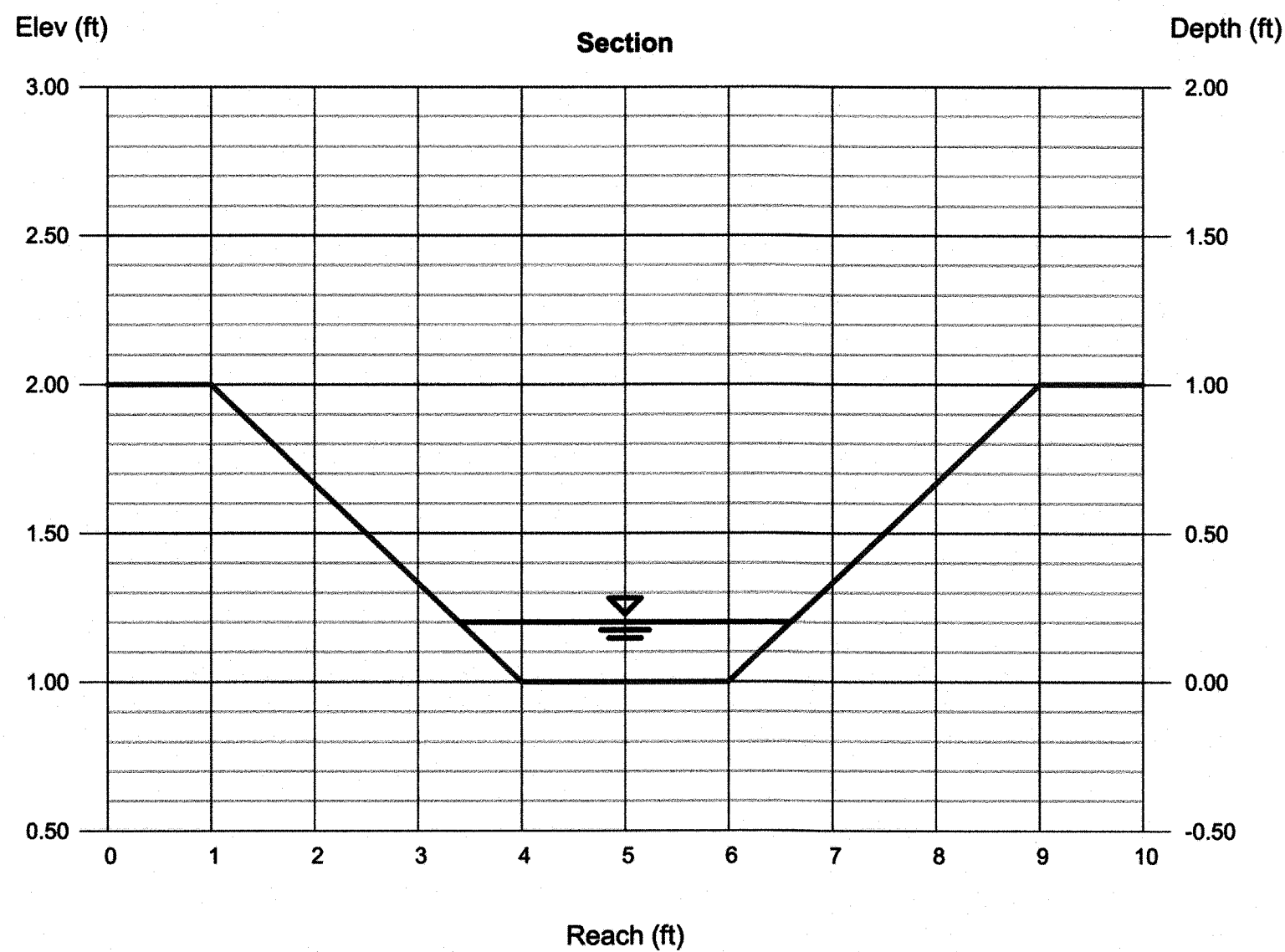
SWALE A

Trapezoidal
Bottom Width (ft) = 2.00
Side Slopes (z:1) = 3.00, 3.00
Total Depth (ft) = 1.00
Invert Elev (ft) = 1.00
Slope (%) = 2.50
N-Value = 0.013

Highlighted
Depth (ft) = 0.20
Q (cfs) = 2.750
Area (sqft) = 0.52
Velocity (ft/s) = 5.29
Wetted Perim (ft) = 3.26
Crit Depth, Yc (ft) = 0.33
Top Width (ft) = 3.20
EGL (ft) = 0.63

Calculations
Compute by: Known Q
Known Q (cfs) = 2.75

Drainage Area=0.97 acres
C=0.51
1 100=10.32 inches/hour
1 10=7.35 inches/hour



Channel Report

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

Tuesday, Jul 16 2019

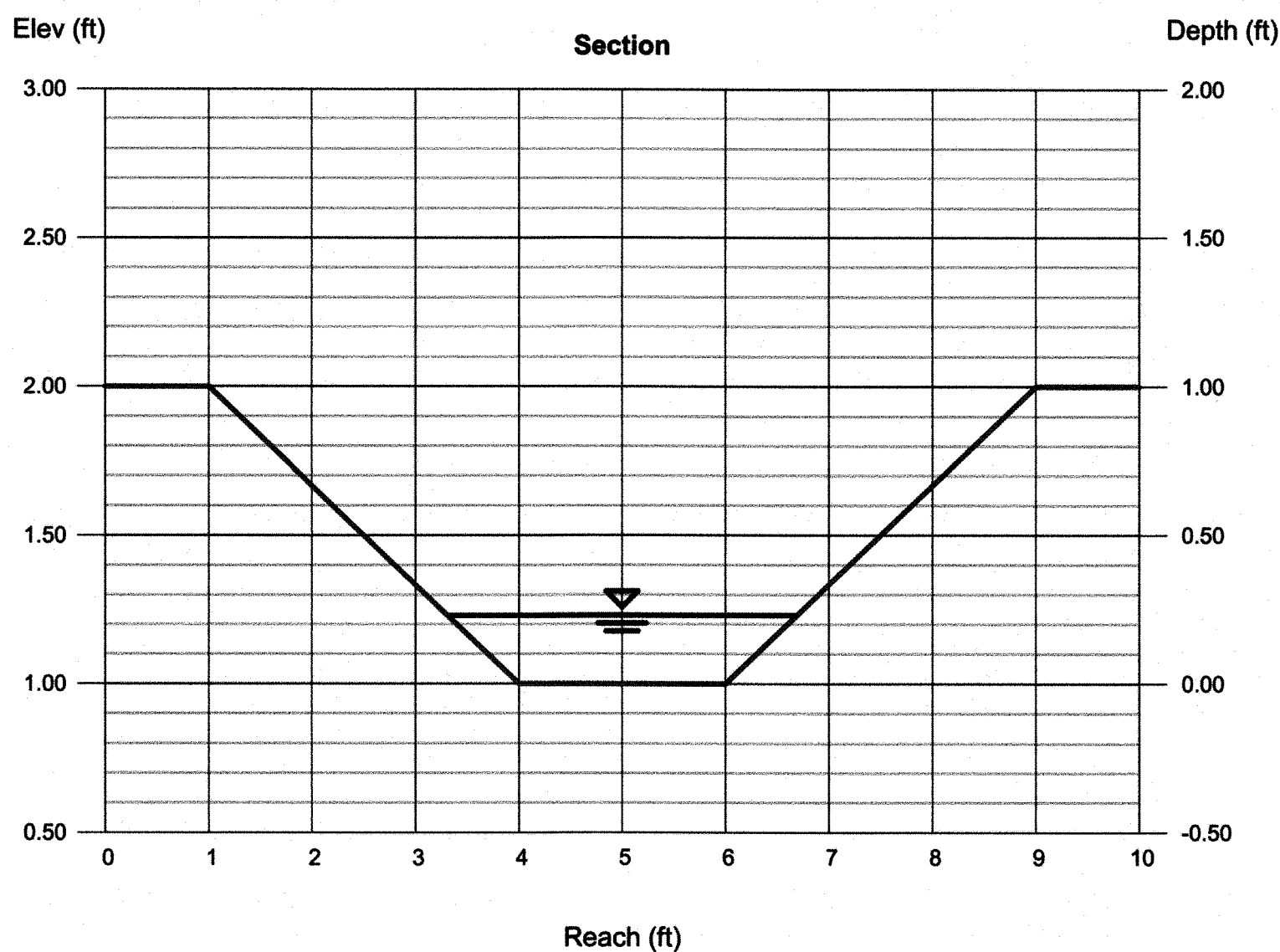
SWALE B

Trapezoidal
Bottom Width (ft) = 2.00
Side Slopes (z:1) = 3.00, 3.00
Total Depth (ft) = 1.00
Invert Elev (ft) = 1.00
Slope (%) = 2.50
N-Value = 0.013

Highlighted
Depth (ft) = 0.23
Q (cfs) = 3.510
Area (sqft) = 0.62
Velocity (ft/s) = 5.67
Wetted Perim (ft) = 3.45
Crit Depth, Yc (ft) = 0.38
Top Width (ft) = 3.38
EGL (ft) = 0.73

Calculations
Compute by: Known Q
Known Q (cfs) = 3.51

Drainage Area=1.24 acres
C=0.51
1 100=10.32 inches/hour
1 10=7.35 inches/hour



Channel Report

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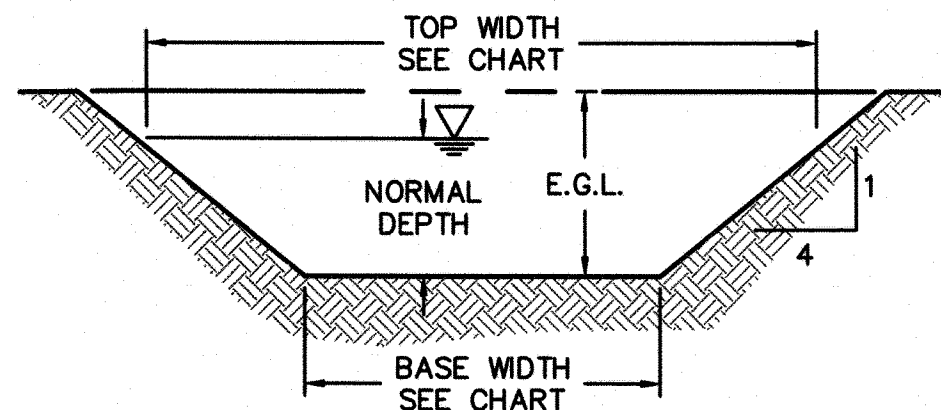
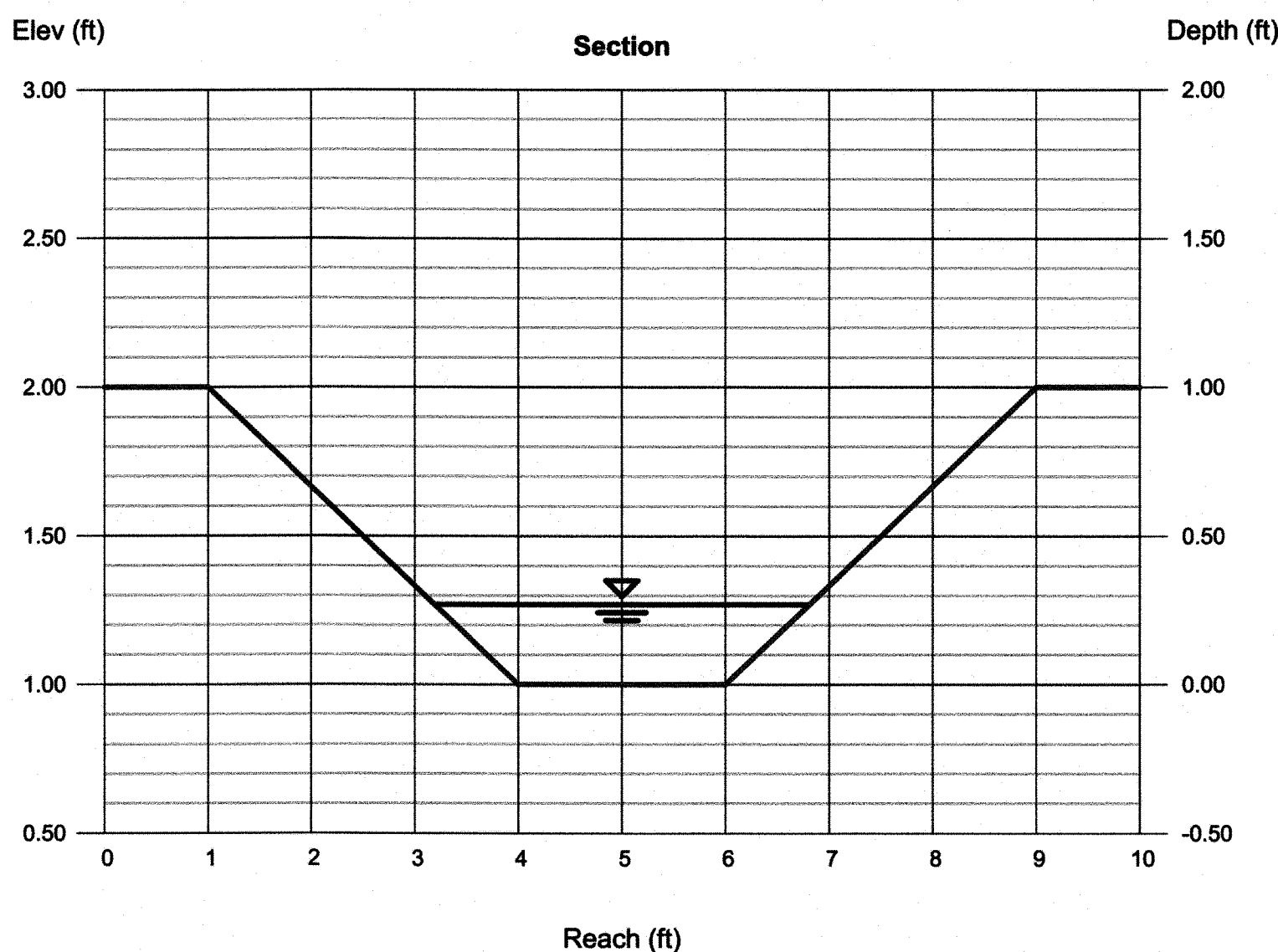
SWALE C

Trapezoidal
Bottom Width (ft) = 2.00
Side Slopes (z:1) = 3.00, 3.00
Total Depth (ft) = 1.00
Invert Elev (ft) = 1.00
Slope (%) = 2.50
N-Value = 0.013

Highlighted
Depth (ft) = 0.27
Q (cfs) = 4.470
Area (sqft) = 0.76
Velocity (ft/s) = 5.89
Wetted Perim (ft) = 3.71
Crit Depth, Yc (ft) = 0.44
Top Width (ft) = 3.62
EGL (ft) = 0.81

Calculations
Compute by: Known Q
Known Q (cfs) = 4.47

Drainage Area=1.58 acres
C=0.51
1 100=10.32 inches/hour
1 10=7.35 inches/hour



100 YR - 10 YR OVERFLOW SWALE SECTIONS SECTION A AND B NOT TO SCALE

NOTE:
GRADE SWALES TO E.G.L.

100 YR - 10 YR. RUNOFF CALCULATIONS
 $Q = K * C * ((100 - 10) * A)$
 $K = 1.00 (10 - YR) \& 1.25 (100 - YR)$
 $C = 0.51$
 $Q_{OVERFLOW} = Q_{100} - Q_{10}$

MANNINGS "N" = 0.03 FOR SWALES

FOUNDATION INVESTIGATION REQUIRED:
LOTS DESIGNATED F.I.R. MEET THE CHARACTERISTICS IDENTIFIED IN THE CITY OF OVERLAND PARK MINIMUM RESIDENTIAL FOUNDATION STANDARDS AND WILL REQUIRE SPECIAL CONSIDERATION BY AN ARCHITECT OR ENGINEER PRIOR TO ISSUANCE OF A BUILDING PERMIT.

NOTE:
CHANNELS SHALL BE VEGETATED IMMEDIATELY AFTER FINAL GRADES ARE ESTABLISHED.

AS-BUILT

06-20-2019

Channel Report

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

Tuesday, Jul 16 2019

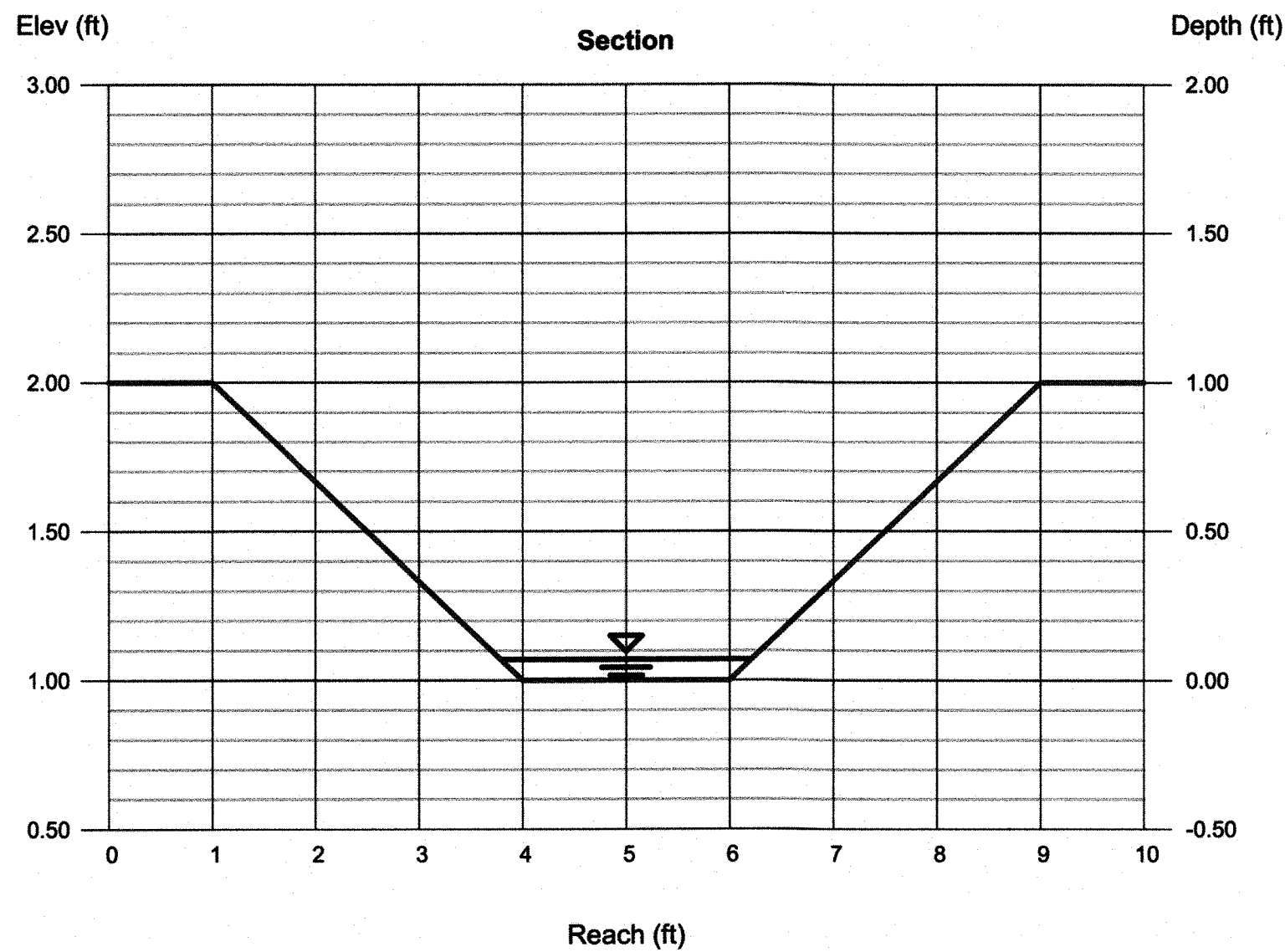
SWALE D

Trapezoidal
Bottom Width (ft) = 2.00
Side Slopes (z:1) = 3.00, 3.00
Total Depth (ft) = 1.00
Invert Elev (ft) = 1.00
Slope (%) = 2.50
N-Value = 0.013

Highlighted
Depth (ft) = 0.07
Q (cfs) = 0.370
Area (sqft) = 0.15
Velocity (ft/s) = 2.39
Wetted Perim (ft) = 2.44
Crit Depth, Yc (ft) = 0.10
Top Width (ft) = 2.42
EGL (ft) = 0.16

Calculations
Compute by: Known Q
Known Q (cfs) = 0.37

Drainage Area=0.13 acres
C=0.51
1 100=10.32 inches/hour
1 10=7.35 inches/hour



Channel Report

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Tuesday, Jul 16 2019

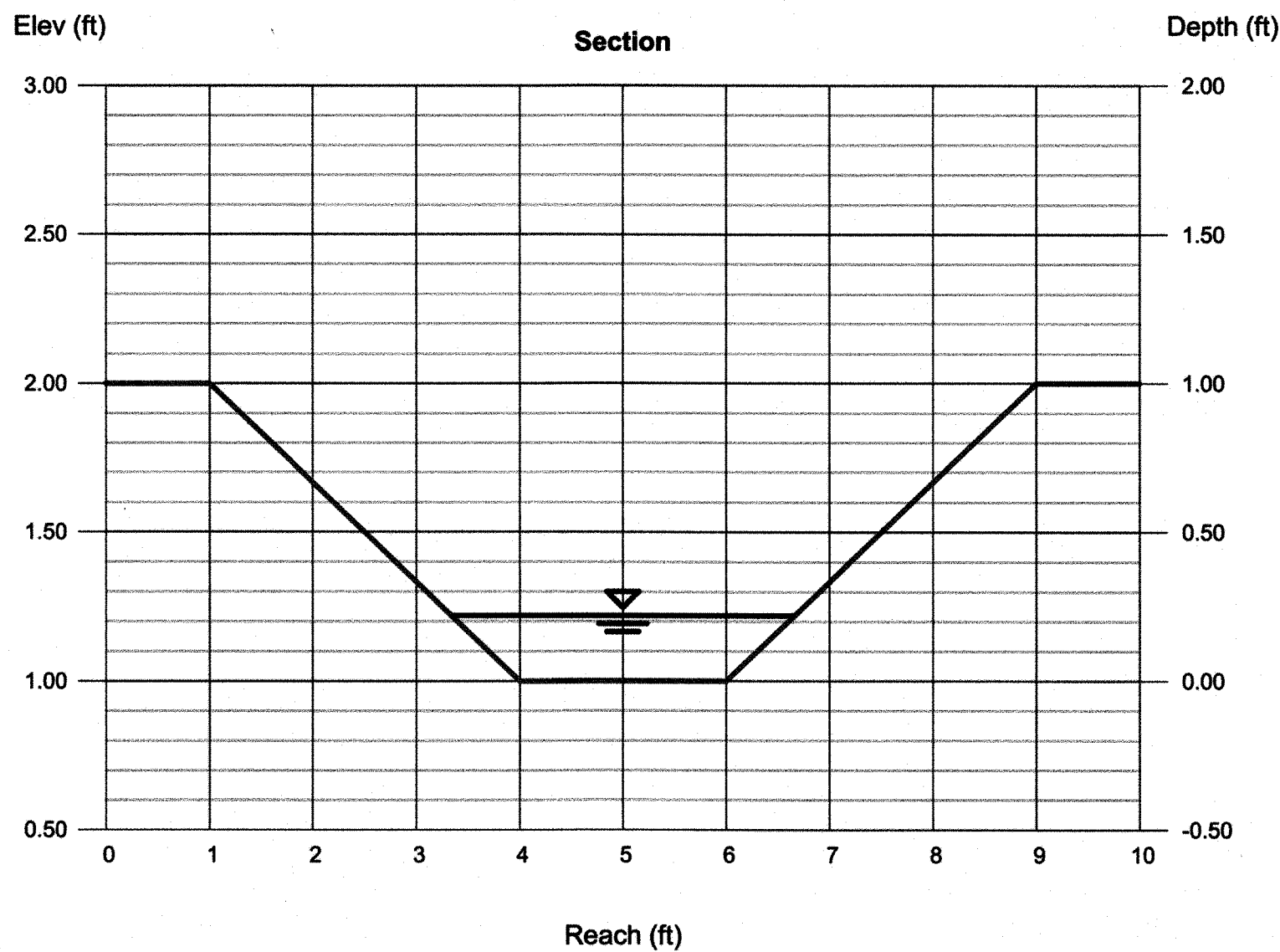
SWALE E

Trapezoidal
Bottom Width (ft) = 2.00
Side Slopes (z:1) = 3.00, 3.00
Total Depth (ft) = 1.00
Invert Elev (ft) = 1.00
Slope (%) = 2.50
N-Value = 0.013

Highlighted
Depth (ft) = 0.22
Q (cfs) = 3.170
Area (sqft) = 0.59
Velocity (ft/s) = 5.42
Wetted Perim (ft) = 3.39
Crit Depth, Yc (ft) = 0.36
Top Width (ft) = 3.32
EGL (ft) = 0.68

Calculations
Compute by: Known Q
Known Q (cfs) = 3.17

Drainage Area=1.12 acres
C=0.51
1 100=10.32 inches/hour
1 10=7.35 inches/hour



Channel Report

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Tuesday, Jul 16 2019

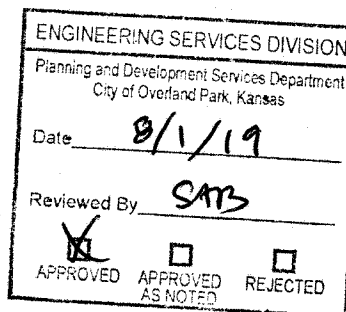
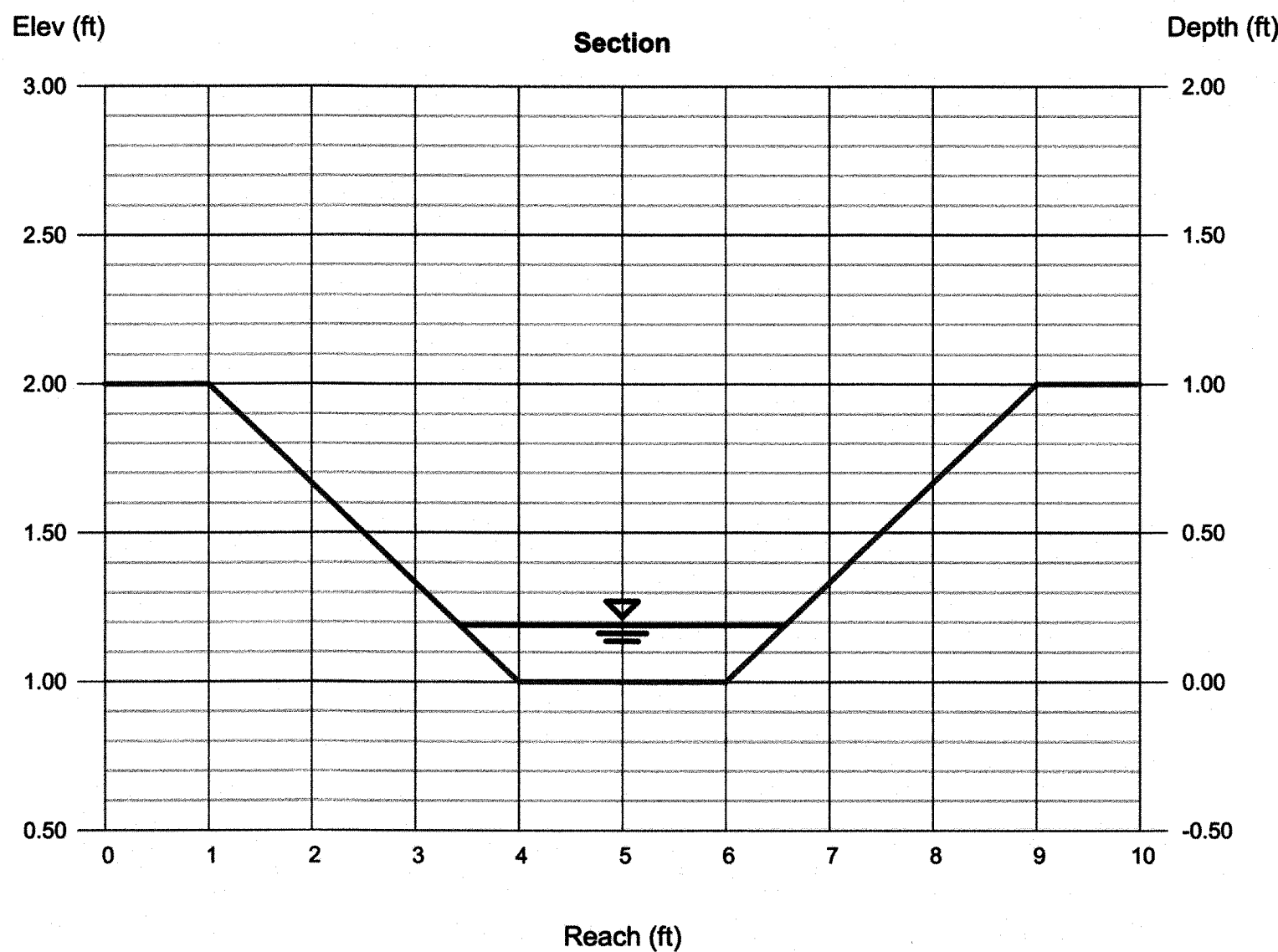
SWALE F

Trapezoidal
Bottom Width (ft) = 2.00
Side Slopes (z:1) = 3.00, 3.00
Total Depth (ft) = 1.00
Invert Elev (ft) = 1.00
Slope (%) = 2.50
N-Value = 0.013

Highlighted
Depth (ft) = 0.19
Q (cfs) = 2.460
Area (sqft) = 0.49
Velocity (ft/s) = 5.04
Wetted Perim (ft) = 3.20
Crit Depth, Yc (ft) = 0.31
Top Width (ft) = 3.14
EGL (ft) = 0.58

Calculations
Compute by: Known Q
Known Q (cfs) = 2.46

Drainage Area=0.87 acres
C=0.51
1 100=10.32 inches/hour
1 10=7.35 inches/hour



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REV.	NO.	DATE	REVISIONS DESCRIPTION
1	07/16/2019	CJS	CITY COMMENTS
2	07/16/2019	CJS	CITY COMMENTS

GRADING CALCULATIONS
STREET, STORM SEWER & STREET LIGHTING PLANS
SOLERA RESERVE, THIRD PLAT
139TH STREET & QUIVIRA ROAD
OVERLAND PARK, KANSAS

drawn by: CJS
checked by: S.M.S.
approved by: S.M.S.
QA/QC by: MAP
project no.: A15-3297
drawing no.: C GRD 53297.dwg
date: 06/20/2019

SHEET
C2

REVISIONS

2017

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Channel Report

Hydrowflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Tuesday, Jul 16 2019

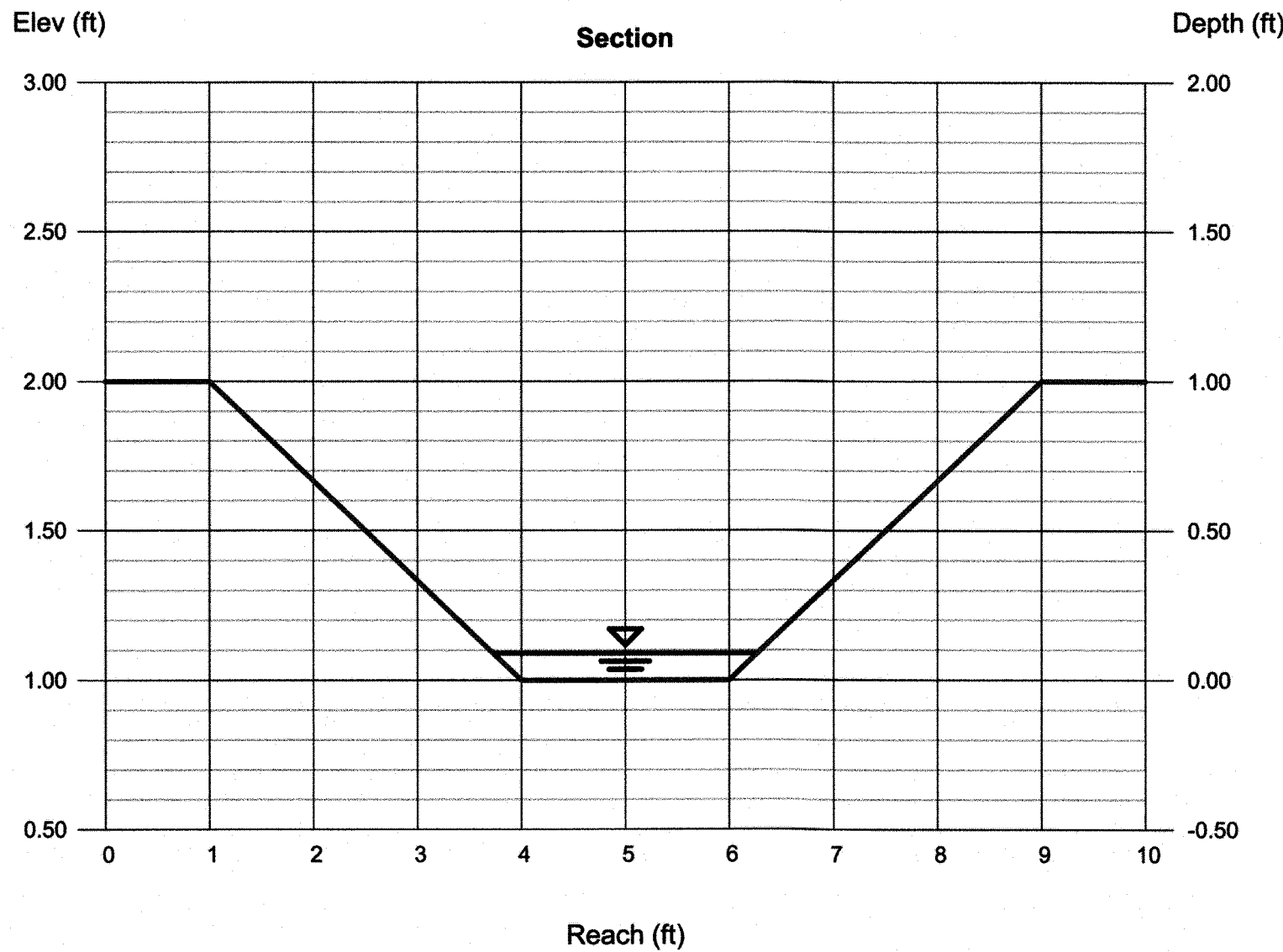
SWALE G

Trapezoidal
Bottom Width (ft) = 2.00
Side Slopes (z:1) = 3.00, 3.00
Total Depth (ft) = 1.00
Invert Elev (ft) = 1.00
Slope (%) = 2.50
N-Value = 0.013

Highlighted
Depth (ft) = 0.09
Q (cfs) = 0.620
Area (sqft) = 0.20
Velocity (ft/s) = 3.03
Wetted Perim (ft) = 2.57
Crit Depth, Yc (ft) = 0.14
Top Width (ft) = 2.54
EGL (ft) = 0.23

Calculations
Compute by: Known Q
Known Q (cfs) = 0.62

Drainage Area=0.22 acres
C=0.51
i 100=10.32 inches/hour
i 10=7.35 inches/hour



Channel Report

Hydrowflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

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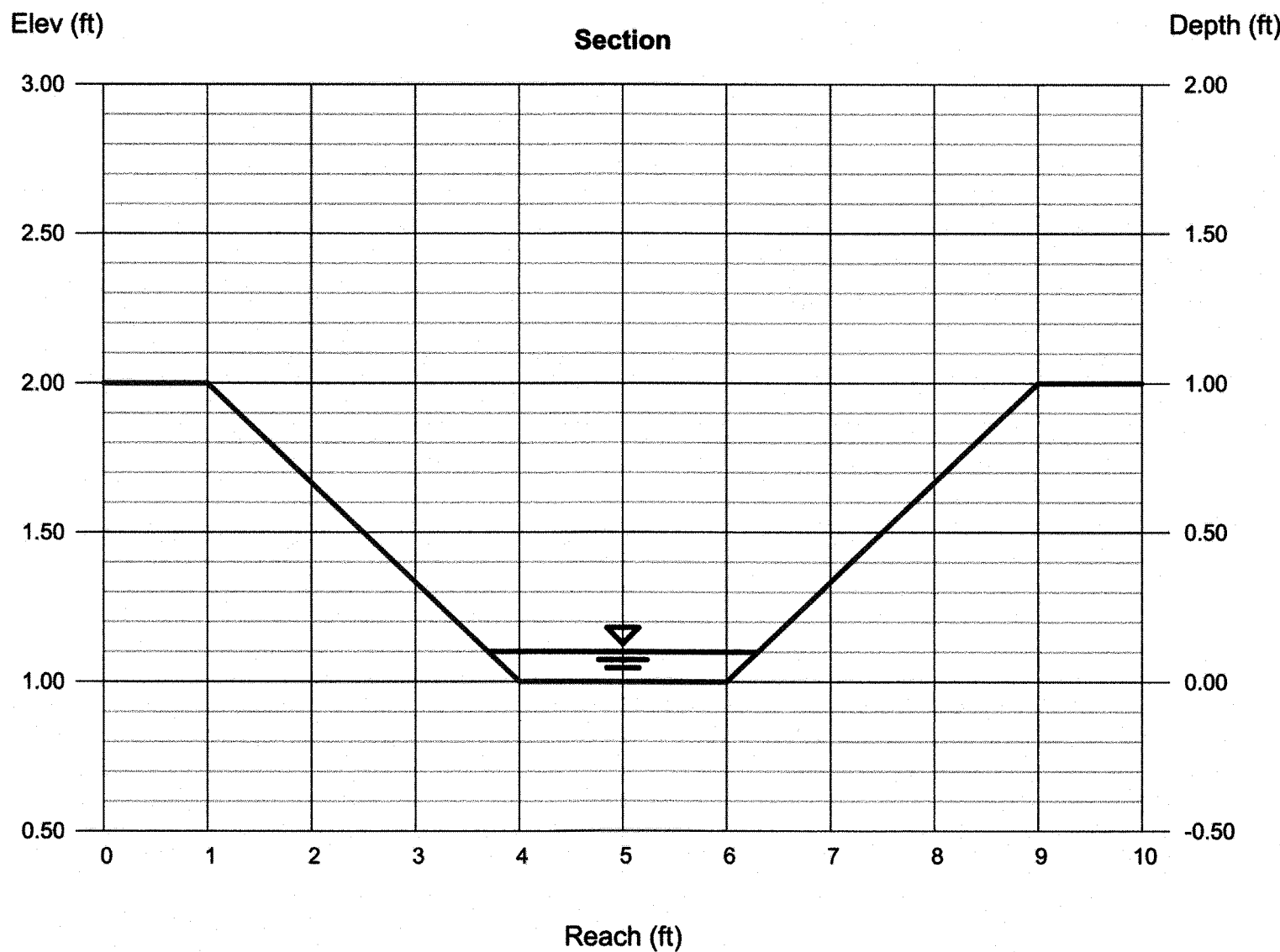
SWALE H

Trapezoidal
Bottom Width (ft) = 2.00
Side Slopes (z:1) = 3.00, 3.00
Total Depth (ft) = 1.00
Invert Elev (ft) = 1.00
Slope (%) = 2.50
N-Value = 0.013

Highlighted
Depth (ft) = 0.10
Q (cfs) = 0.740
Area (sqft) = 0.23
Velocity (ft/s) = 3.22
Wetted Perim (ft) = 2.63
Crit Depth, Yc (ft) = 0.15
Top Width (ft) = 2.60
EGL (ft) = 0.26

Calculations
Compute by: Known Q
Known Q (cfs) = 0.74

Drainage Area=0.22 acres
C=0.51
i 100=10.32 inches/hour
i 10=7.35 inches/hour



Channel Report

Hydrowflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Tuesday, Jul 16 2019

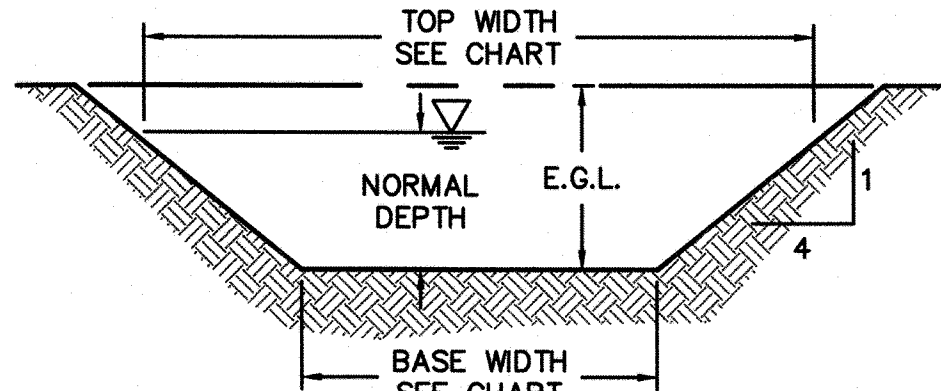
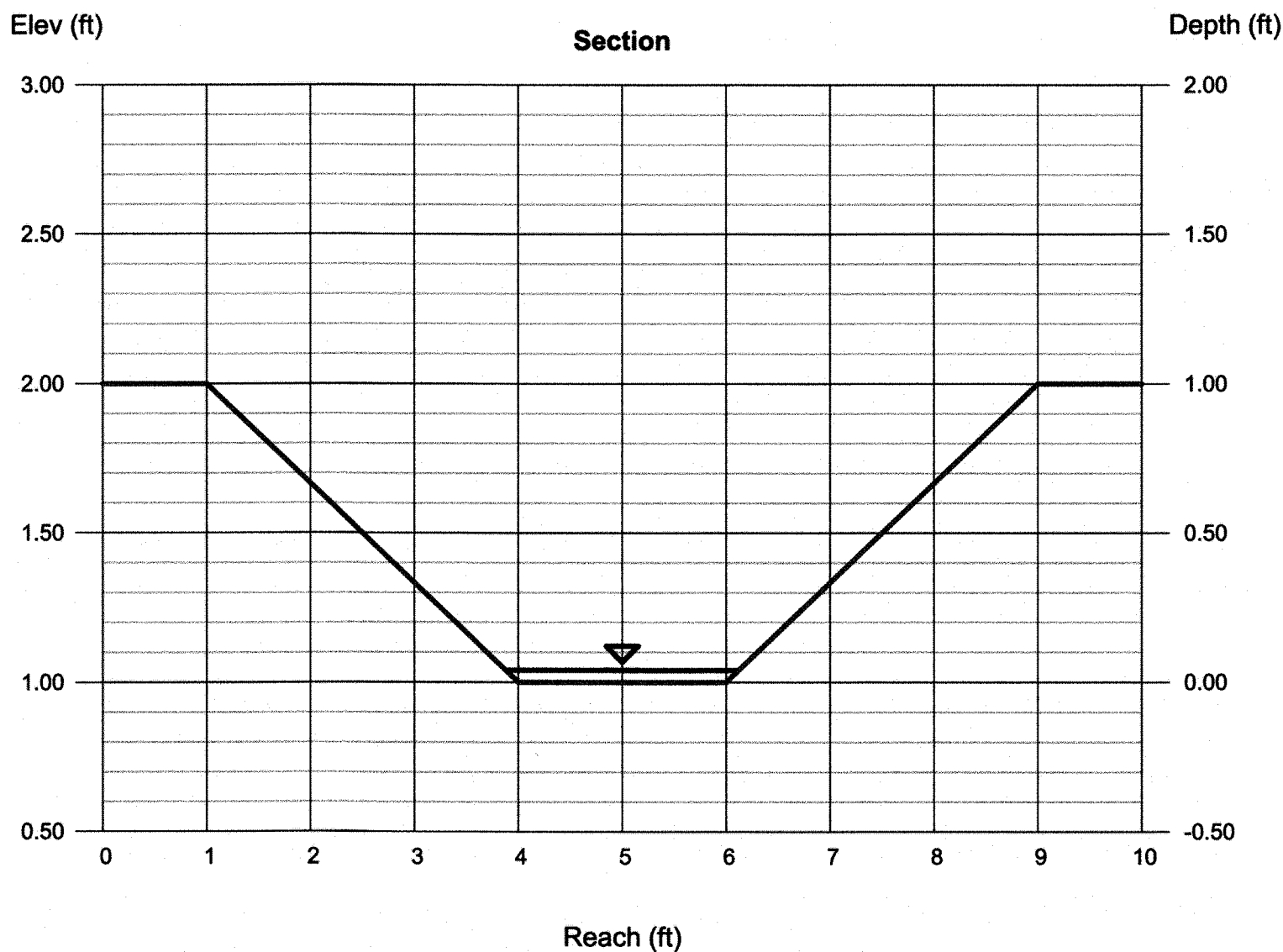
SWALE I

Trapezoidal
Bottom Width (ft) = 2.00
Side Slopes (z:1) = 3.00, 3.00
Total Depth (ft) = 1.00
Invert Elev (ft) = 1.00
Slope (%) = 2.50
N-Value = 0.013

Highlighted
Depth (ft) = 0.04
Q (cfs) = 0.140
Area (sqft) = 0.08
Velocity (ft/s) = 1.65
Wetted Perim (ft) = 2.25
Crit Depth, Yc (ft) = 0.06
Top Width (ft) = 2.24
EGL (ft) = 0.08

Calculations
Compute by: Known Q
Known Q (cfs) = 0.14

Drainage Area=0.05 acres
C=0.51
i 100=10.32 inches/hour
i 10=7.35 inches/hour



100 YR - 10 YR OVERFLOW SWALE SECTIONS SECTION A AND B NOT TO SCALE

NOTE:
GRADE SWALES TO E.G.L.

100 YR - 10 YR. RUNOFF CALCULATIONS
 $Q = K * C * (H_{100} - H_{10}) * A$
 $K = 1.00 (10 - YR) \& 1.25 (100 - YR)$
 $C = 0.51$
 $Q_{OVERFLOW} = Q_{100} - Q_{10}$

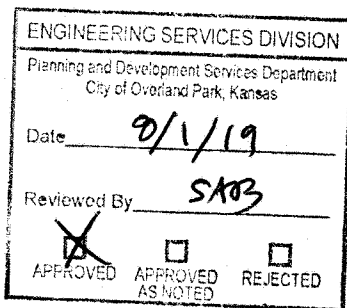
MANNINGS "N" = 0.03 FOR SWALES

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REV.	NO.	DATE	REVISIONS DESCRIPTION	BY	C/S	C/S
1	07/16/2019		CITY COMMENTS			
2	07/16/2019		CITY COMMENTS			

GRADING CALCULATIONS
STREET, STORM SEWER & STREET LIGHTING PLANS
SOLERA RESERVE, THIRD PLAT
139TH STREET & QUIVIRA ROAD
OVERLAND PARK, KANSAS

drawn by: CJS
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approved by: SAR
QA/QC by: MAP
project no.: A15-3297
drawing no.: C_GRD_53297.dwg
date: 06/20/2019

SHEET
C3

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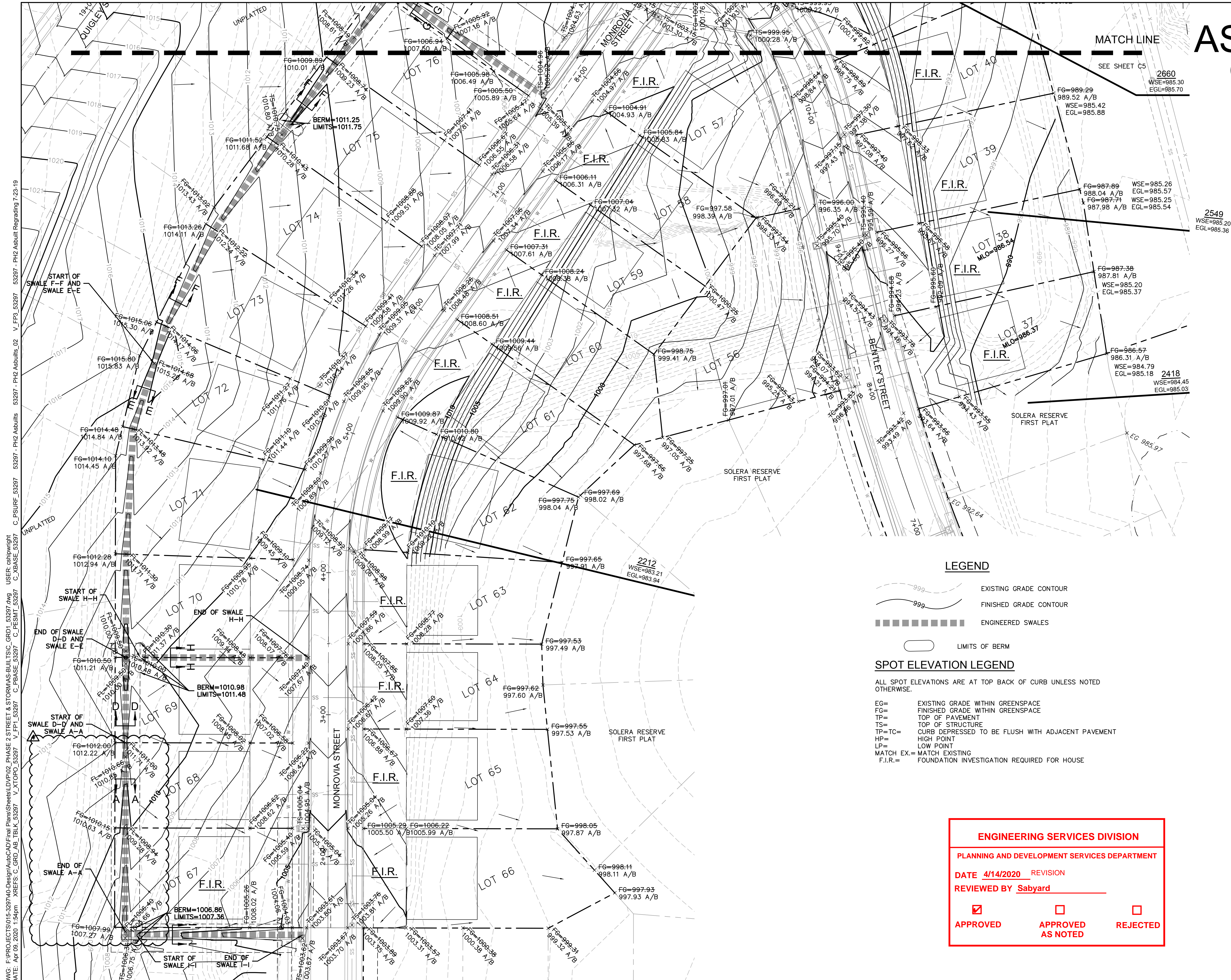
STREET, STORM SEWER & STREET LIGHTING PLANS

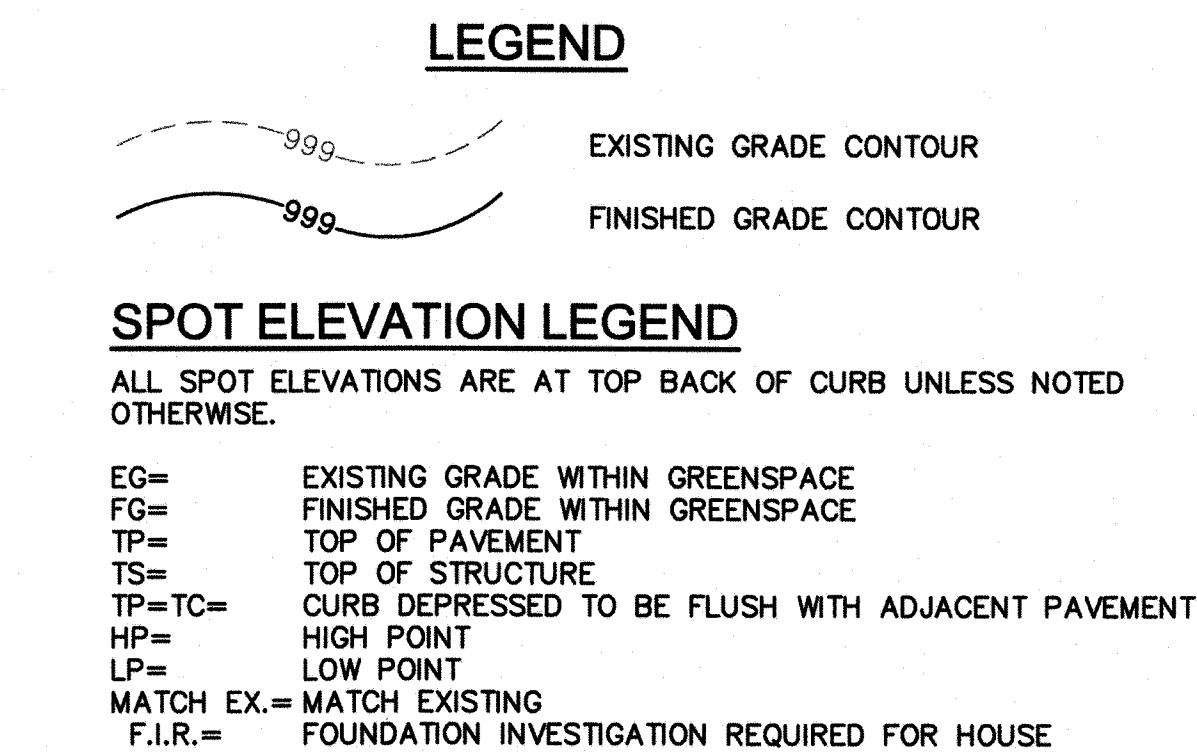
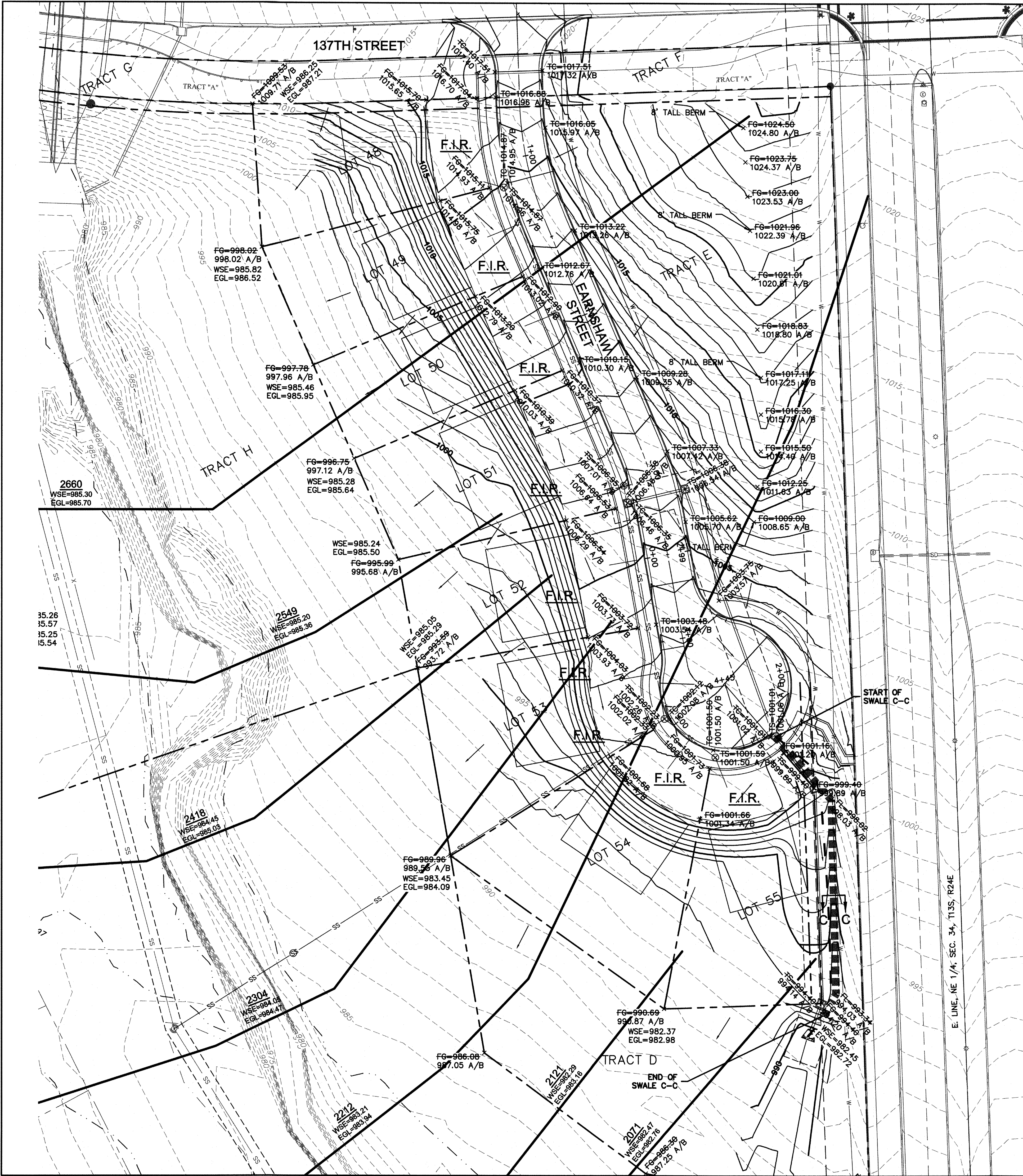
SULERA RESERVE, THIRD PLAT
139TH STREET & QUIVIRA ROAD

OVERLAND PARK, KANSAS

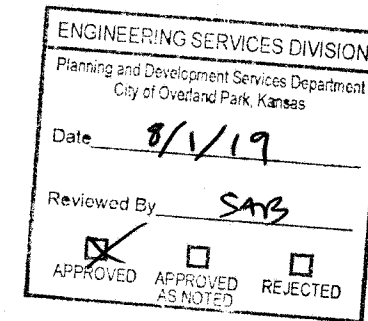
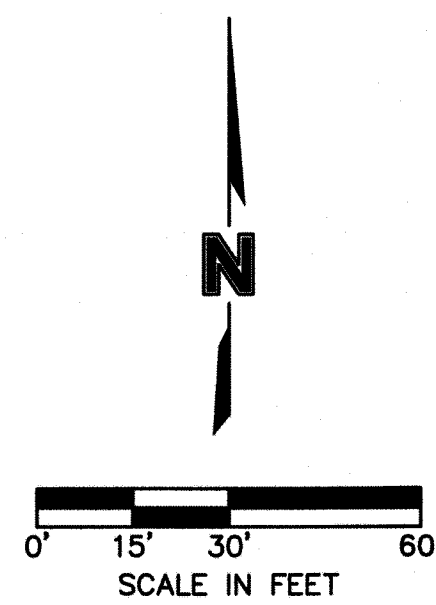
Drawn by: CJS
 Checked by: MAP
 Approved by: SAR
 A/QC by: MAP
 Project no.: A15-3297
 Drawing no.: C GRD1 53297.dwg
 Date: 06/20/2019

SHEET 
C4





AS-BUILT
06-20-2019

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