Plank Law Firm

A Legal Professional Association

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RECEIVED
AUG 26 2015
GC PLANNING COMMISSION

August 26, 2015

Kimberly Shields
Planning and GIS Supervisor
City of Grove City, Ohio
4035 Broadway
Grove City, OH 43123

Via Hand Delivery

RE: Application #201506290045

Ms. Shields:

The majority of the items addressed in the City's 7/16/2015 staff comments have been addressed as reflected on the revised plans accompanying this letter. The following items vary from code-required development standards and variances are requested:

1. Item 1. A variance to permit parking in the building setback area.

2. Item 6. A variance to reduce the required parking spaces by five (5) spaces.

The following items are to be discussed:

3. Item 4. Applicant's preference is that the sidewalk across the parking area to the store be striped. The parking area will be landscaped and screened from Broadway and the aesthetic quality of a stamped brick would be lost. Moreover, a raised parking/drive creates snow plowing problems.

4. Item 18. See Sheet 6 of the submittal showing fire truck turning movement.

5. Item 26. The suggested Stream Corridor Protection Zone has been calculated and delineated on the development plan. A portion of the parking lot and drive aisle are within the suggested corridor. Currently, the property is mowed to the bank of

Brown Run. Applicant would propose to plant recommended plant species in the remaining portion of the suggested stream corridor area, resulting in more effective stream protection than what currently exists.

Thank you for your consideration.

Sincerely yours,

Donald T. Plank

DTP/bp

Encl.

329.00//Corres/LtrShields Response to Staff (8-26-15)

DESCRIPTION OF PROJECT

O'REILLY AUTO PARTS

A new O'Reilly Auto Parts store is proposed for the property immediately south of the CVS store at the Southwest corner of Broadway and Southwest Blvd. The property is 0.97 acres and access to both Broadway and Southwest Blvd. will be through the existing drives currently used by CVS.

The O'Reilly building will be four-sided brick with front façade facing Broadway. The architectural style will be similar to that of the CVS store but distinctive enough to maintain the look and feel of an independently designed structure.

Parking is proposed on three sides of the building with handicapped parking and limited customer parking in the front of the building. Employee parking is at the rear of the building. The parking area in front of the O'Reilly store will be landscaped to screen the parking area from Broadway and pass-by traffic.

RECEIVED
JUN 29 2015
GC PLANNING COMMISSION

SITE DEVELOPMENT PLAN

O'REILLY AUTO PARTS
BROADWAY & SOUTHWEST BLVD.
GROVE CITY, OH 43123

2015

SITE DATA

ADDRESS: BROADWAY & SOUTHWEST BLVD., GROVE CITY, OH 43123

TAX DISTRICT/PARCEL: 040-013660

SITE AREA: 0.97 ACRES (42,273 S.F.) TO BE SPLIT OUT FROM 8.567 ACRE TRACT

ZONING: C-2, RETAIL COMMERCIAL (EXISTING & PROPOSED)

PROPOSED USE: RETAIL

PROPOSED BUILDING AREA: 7,596 S.F.

PROPOSED BUILDING HEIGHT: = 24'-8"

REQUIRED PARKING SPACES: RETAIL = 7,596 S.F.
MINIMUM PARKING = 1:200 >> 7,596/200 = 38

PROPOSED PARKING SPACES = 33 SPACES (VARIANCE FOR 5 PARKING SPACES REQUIRED)

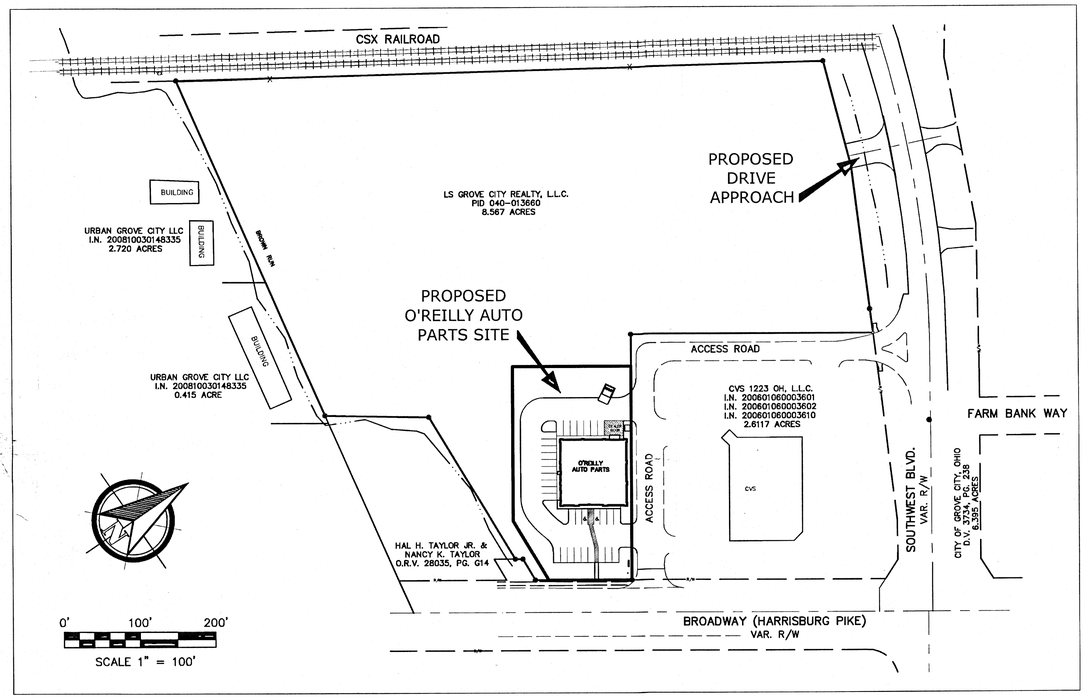
REQUIRED HANDICAP PARKING SPACES = 2 SPACES

PROVIDED HANDICAP PARKING SPACES = 2 SPACES

SETBACKS: PARKING – 15' FRONT
10' SIDE AND REAR (50% REDUCTION IF ACCEPTABLE LANDSCAPE OR SCREENING IS PROVIDED)
BUILDING – 30' FRONT
6' SIDE AND REAR

SITE DATA TABLE

TOTAL SITE AREA:	0.97 AC.
TOTAL DISTURBED AREA:	0.90 AC. ±
PRE-DEVELOPED IMPERVIOUS AREA:	0.00 AC.
POST-DEVELOPED IMPERVIOUS AREA:	0.66 AC.



INDEX MAP
SCALE: 1" = 100'

LOCATION MAP
NO SCALE

REVISIONS	

DRAWING INDEX

1 – Title Page

CIVIL

2 – Site Dimension Plan

3 – Site Utility Plan

4 – Site Grading Plan

5 – Miscellaneous Site Details

6 – Miscellaneous Site Details

LANDSCAPE

LP1 – LANDSCAPE PLAN

ARCHITECTURAL

A3 – EXTERIOR ELEVATIONS

ELECTRIC

SP1 – SITE LIGHTING PHOTOMETRICS

APPLICANT/DEVELOPER:
LS GROVE CITY REALTY, LLC
635 BROOKSEDGE BLVD.
WESTERVILLE, OHIO 43081
CONTACT: JOE SMILEY
PHONE: (614) 301-5469
JSMILEY@L-STRATEGIES.COM

CIVIL ENGINEER:
IBI GROUP
635 BROOKSEDGE BLVD.
WESTERVILLE, OHIO 43081
CONTACT: ERIC CHENEVEY
PHONE: (614) 818-4900
FAX: (614) 818-4901
ERIC.CHENEVEY@BIGROUP.COM

ARCHITECT:
BUDDY WEBB AND COMPANY
3057 EAST CAIRO
SPRINGFIELD, MISSOURI 65802
CONTACT: BONNIE WILSON
PHONE: (417) 877-1385
BONNIE@WEBBARCH.COM

MECHANICAL & ELECTRICAL ENG.:
SMITH-GOTH ENGINEERS, INC.
3855 S. JEFFERSON AVE.
SPRINGFIELD, MISSOURI 65807
CONTACT: WENDY BENNETT
PHONE: (417) 882-2200
WBENNETT@SMITHGOTH.COM

LANDSCAPE ARCHITECT:
PLAN-IT STUDIOS, LLC
7792 OLENTANGY RIVER ROAD
SUITE G
COLUMBUS, OHIO 43235
CONTACT: ANDY ENGLISH
PHONE: (614) 403-1442
AENGLISH@PLANITSTUDIOS.COM

STATE OF OHIO
DAVID L. CHIESA
S-7740
REGISTERED
PROFESSIONAL SURVEYOR

I CERTIFY THAT THE PREMISES COVERED BY THE PLAN HAVE BEEN SURVEYED, THAT THE PLAN IS CORRECT, AND THAT THE MONUMENTS SHOWN ON THE PLAT WILL BE SET IN ACCORDANCE WITH SECTION 1101.051.

SIGNATURE 8-26-15 DATE

CITY OF GROVE CITY APPROVALS
"City of Grove City" signatures on this plan signify only concurrence with the purpose and general location of the project. All technical details remain the responsibility of the Engineer preparing the plans

CITY ADMINISTRATOR, CITY OF GROVE CITY — DATE

SERVICE DIRECTOR, CITY OF GROVE CITY — DATE

REVIEWER FOR THE CITY OF GROVE CITY — DATE

JACKSON TOWNSHIP FIRE DEPARTMENT — DATE

RECEIVED
AUG 26 2015
GC PLANNING COMMISSION

OHIO Utilities Protection SERVICE
Call Before You Dig
800-362-2764 or 8-1-1
www.oups.org

REV	DATE	DESCRIPTION	BY

STATE OF OHIO
ERIC P. CHENEVEY
E-55806
REGISTERED
PROFESSIONAL ENGINEER

ERIC P. CHENEVEY
OHIO ENGINEER NO. 55806

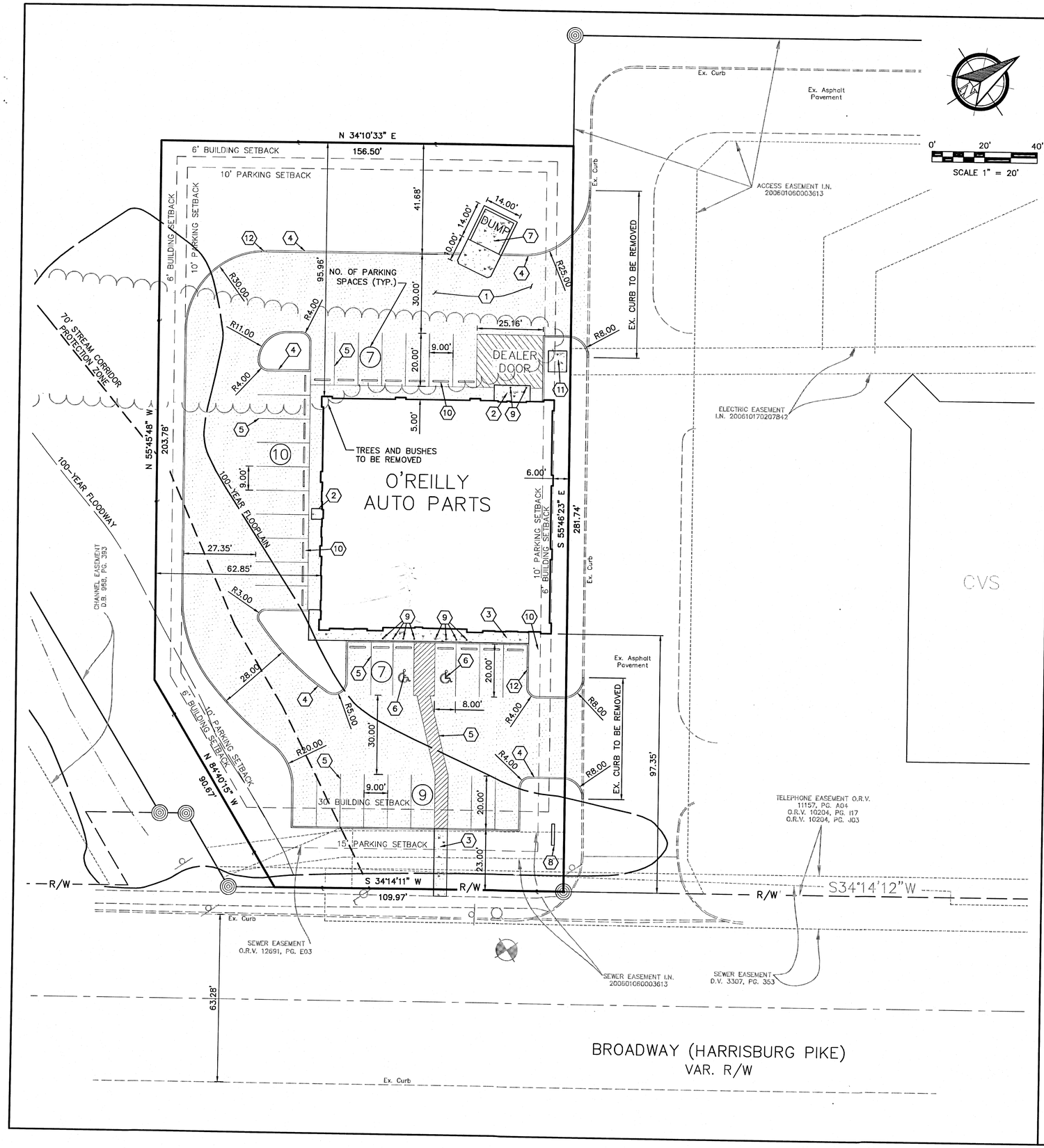
8-24-15
DATE

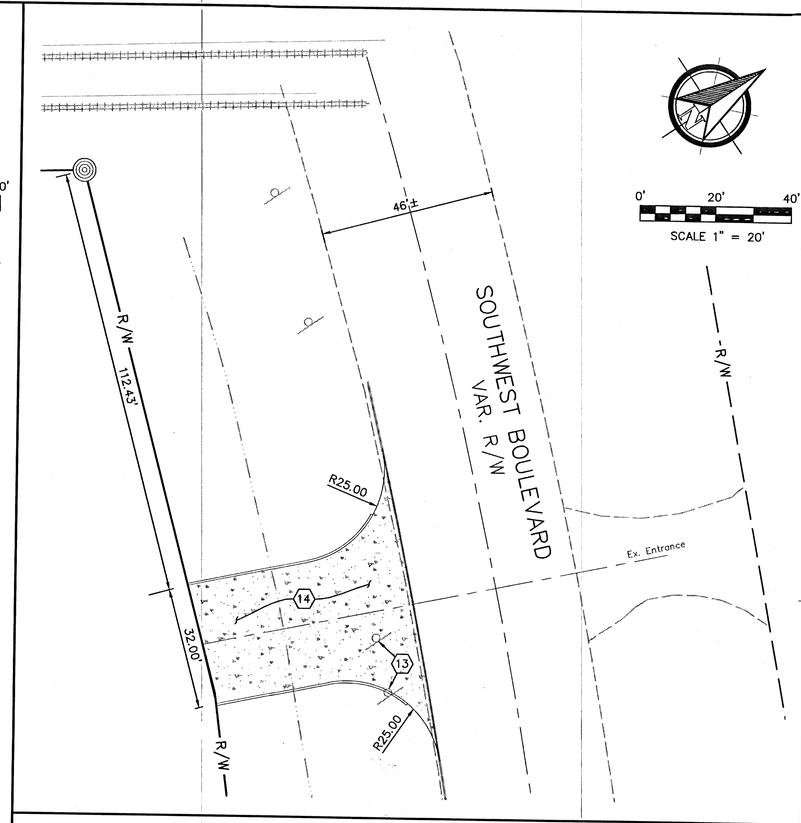
PREPARED BY:
IBI GROUP
635 Brooksedge Boulevard
Westerville OH 43081 USA
tel 614 818 4900
fax 614 818 4901
ibigroup.com

PREPARED FOR:
O'Reilly AUTO PARTS

DRAWN BY: TJS
STD ISSUE DATE: 8/26/2015
REVIEWED BY: EPC
DATE ISSUED: 8/26/2015

PLANS: DEVELOPMENT PLAN
SHEET TITLE: Title Page
SITE ADDRESS: Grove City, OH
SITE ID: O'Reilly's Project Site
SHEET NO. 1





KEY NOTES

1. PROPOSED ASPHALT PAVEMENT
2. PROPOSED CONCRETE SLAB.
3. PROPOSED ITEM 608 ~ CONCRETE SIDEWALK.
4. PROPOSED ITEM 609 ~ CURB, STRAIGHT 18".
5. PROPOSED ITEM 642 ~ PAVEMENT STRIPING (WHITE).
6. PROPOSED ADA PARKING.
7. PROPOSED DUMPSTER ENCLOSURE WITH WOOD GATES AND CONCRETE SLAB. SEE DETAIL SHEET FOR ADDITIONAL INFORMATION.
8. PROPOSED MONUMENT SIGN WITH 8' MAXIMUM HEIGHT & MAXIMUM 25 S.F. OF COPY AREA ON EACH SIDE. SIGN TO HAVE A BRICK BASE (MATCHING THAT USED IN PRIMARY STRUCTURE). SEE DETAIL SHEET FOR ADDITIONAL INFORMATION.
9. PROPOSED BOLLARD WITH DECORATIVE FINISH (COLOR BLACK). BOLLARD TO BE A RELIANCE FOUNDRY CO. LTD. R-7539 (SECURITY/ANTI-RAM) BOLLARD, OR APPROVED EQUAL. SEE DETAIL SHEET FOR ADDITIONAL INFORMATION.
10. PROPOSED WHEEL STOP.
11. PROPOSED CONCRETE TRANSFORMER PAD.
12. PROVIDE 24-INCH WIDE X 6-INCH HIGH OPENING IN CURB.
13. RELOCATE EXISTING SIGNS.
14. PROPOSED CONCRETE DRIVEWAY APRON.

LEGEND

ASPHALT PAVEMENT

CONCRETE

PROPERTY LINE

REV	DATE	DESCRIPTION	BY

STATE OF OHIO
ERIC P. CHENEVEY
E-55806
REGISTERED
PROFESSIONAL ENGINEER

ERIC P. CHENEVEY
OHIO ENGINEER NO. 55806

8-24-15
DATE

PREPARED BY:
IBI
IBI GROUP
535 Brooksedge Boulevard
Westerville OH 43081 USA
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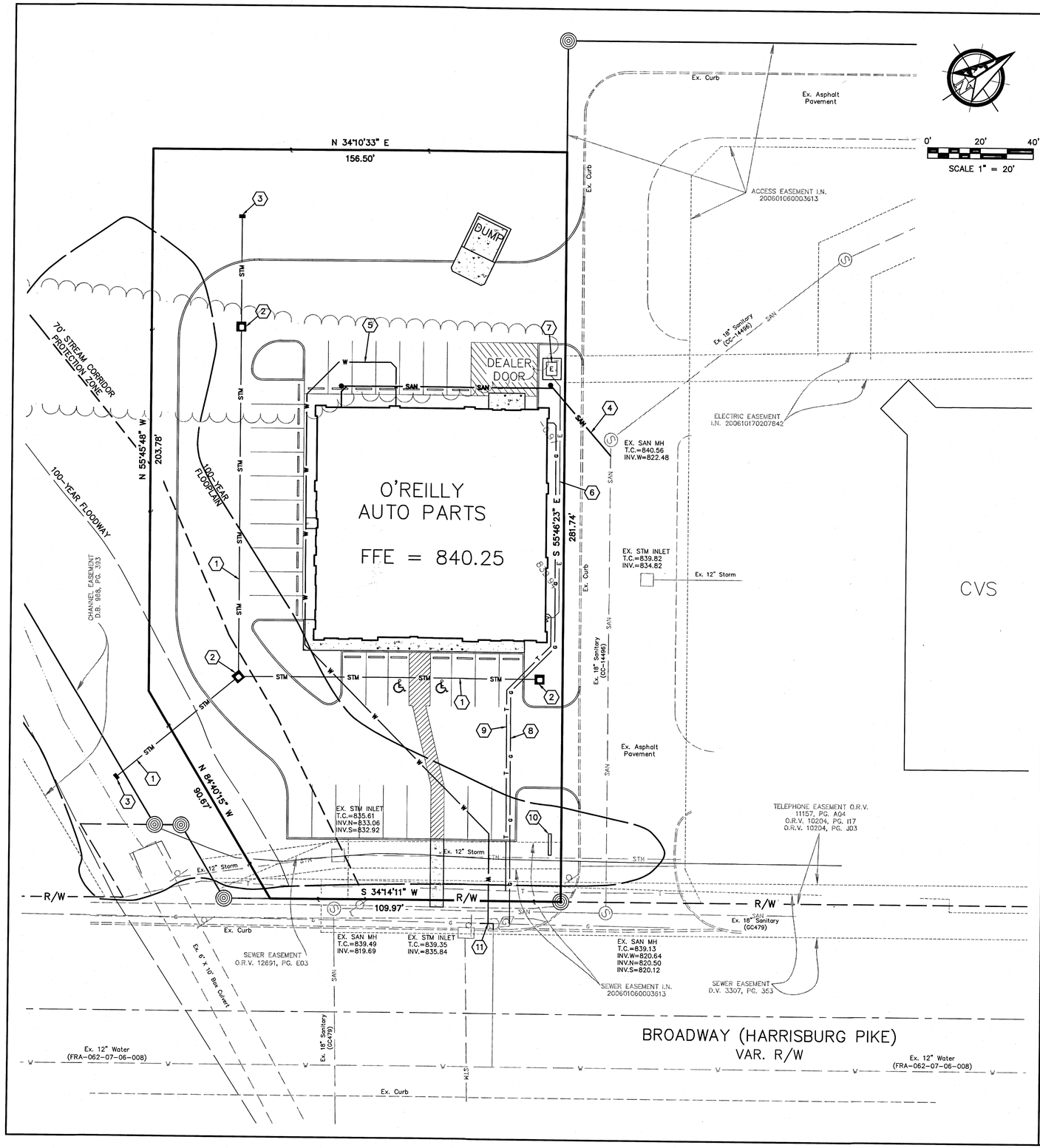
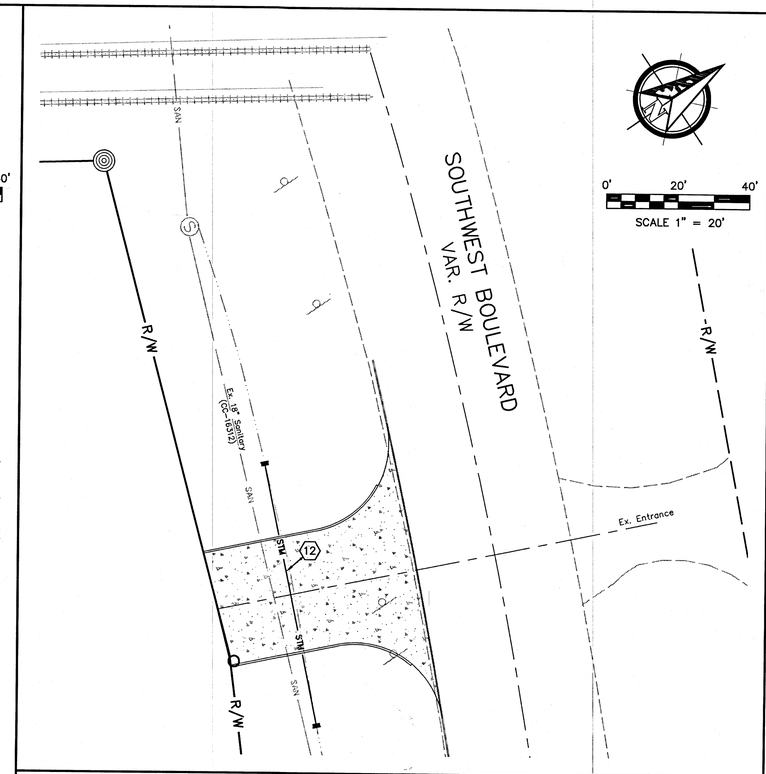
fax 614 818 4901
ibigroup.com

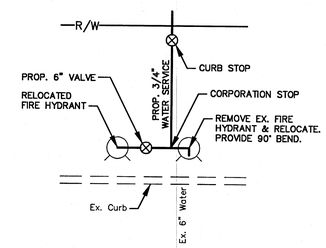
PREPARED FOR:
O'Reilly AUTO PARTS

DRAWN BY T.LS
STD. ISSUE DATE 8/26/2015
REVIEWED BY EPC
DATE ISSUED 8/26/2015

SHEET NO. 2
PLANS DEVELOPMENT PLAN
SHEET TITLE Site Dimension Plan
SITE ID
SITE ADDRESS O'Reilly's Project Site
Grove City, OH







WATER SERVICE CONNECTION DETAIL
NO SCALE

LEGEND

STM	PROP. STORM SEWER
SAN	PROP. 6" SANITARY SEWER LATERAL
W	PROP. 3/4" WATER SERVICE
G	PROP. GAS SERVICE
E	PROP. ELECTRIC SERVICE
T	PROP. TELEPHONE SERVICE
E	ELECTRIC TRANSFORMER AND PAD

KEY NOTES

1. PROPOSED 8" STORM SEWER.
2. PROPOSED CATCH BASIN.
3. PROPOSED HEADWALL.
4. PROPOSED 6" SANITARY LATERAL @ 2.08% MINIMUM SLOPE.
5. PROPOSED 3/4" WATER SERVICE. WATER METER TO BE LOCATED INSIDE BUILDING.
6. PROPOSED ELECTRICAL SERVICE.
7. PROPOSED ELECTRIC TRANSFORMER AND CONCRETE PAD.
8. PROPOSED GAS SERVICE.
9. PROPOSED TELEPHONE SERVICE.
10. PROPOSED MONUMENT SIGN.
11. SEE WATER SERVICE CONNECTION DETAIL.
12. PROPOSED 12" STORM SEWER.

NOTES

1. MECHANICAL EQUIPMENT IS TO BE LOCATED ON BUILDING ROOF AND WILL BE SCREENED BY BUILDING PARAPET.

REV	DATE	DESCRIPTION	BY

STATE OF OHIO
ERIC P. CHENEVEY
E-55806
REGISTERED
PROFESSIONAL ENGINEER

ERIC P. CHENEVEY
OHIO ENGINEER NO. 55806

8-24-15
DATE

PREPARED BY:
IBI GROUP
635 Brooksedge Boulevard
Westerville, OH 43081 USA
tel 614 818 4900
fax 614 818 4901
ibigroup.com

PREPARED FOR:
O'Reilly AUTO PARTS

DRAWN BY	STD. ISSUE DATE
TJS	8/26/2015
REVIEWED BY	DATE ISSUED
EPC	8/26/2015

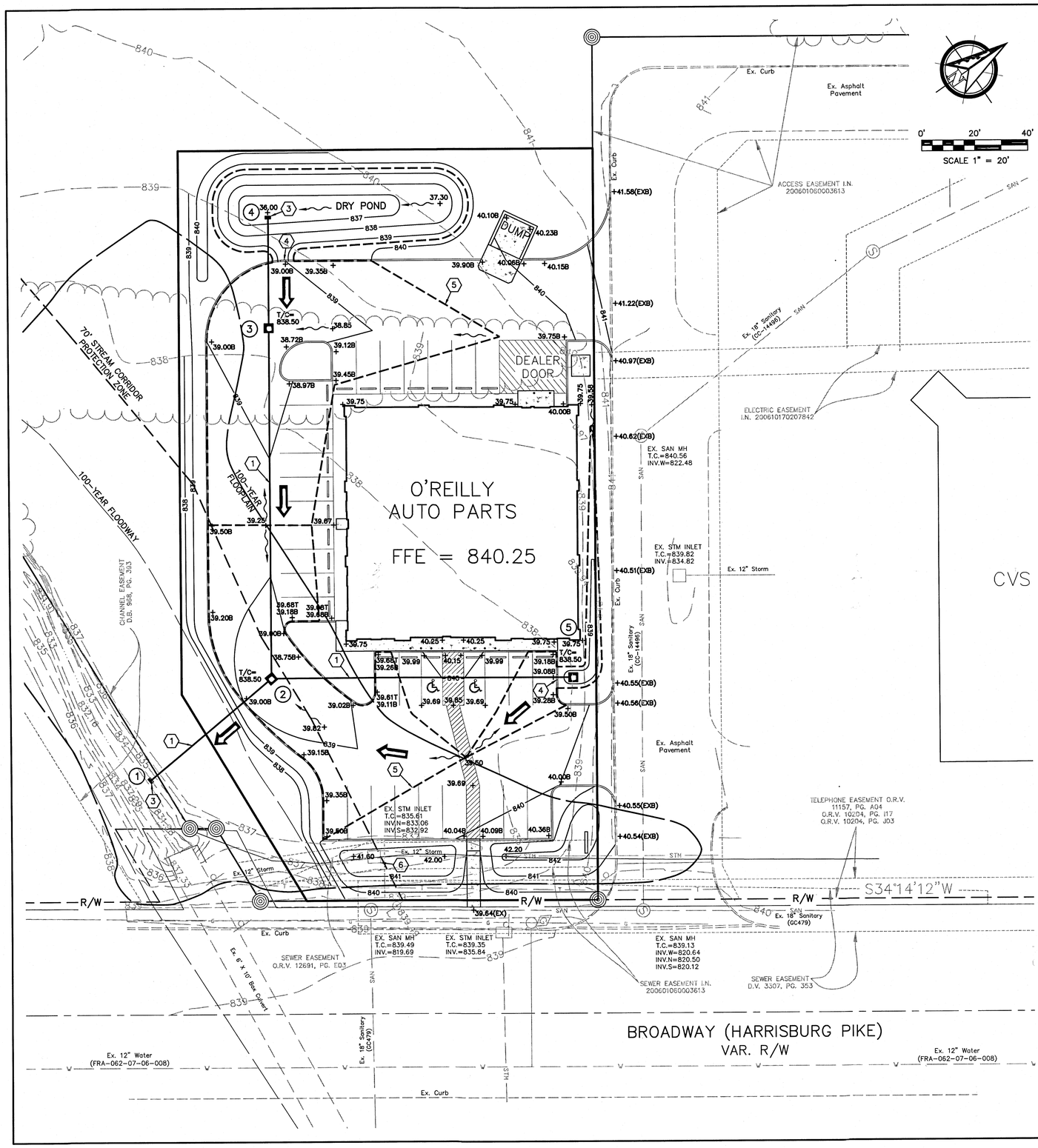
SITE ADDRESS: O'Reilly's Project Site — Grove City, OH

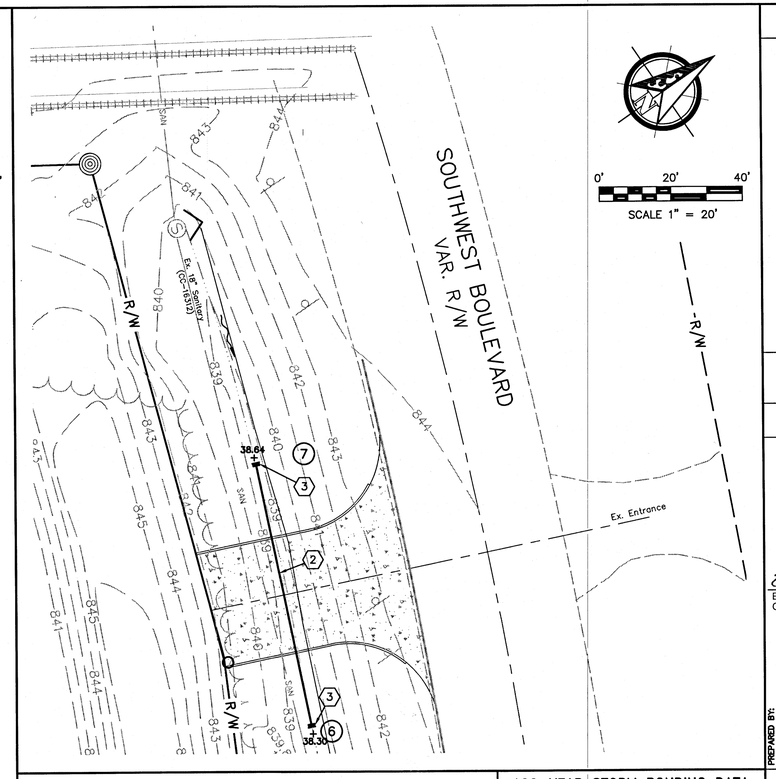
PLANS: DEVELOPMENT PLAN

SHEET TITLE: Site Utility Plan

SITE ID: -

SHEET NO. 3





LEGEND

—℄—	CENTERLINE
—R/W—	RIGHT OF WAY LINE
—P—	PROPERTY LINES
—STM—	STORM SEWER
—S—	SANITARY SEWER
—W—	WATER LINE
—T—	TELEPHONE LINE
—E—	ELECTRIC LINE
—G—	GAS LINE
—CTV—	EXISTING CABLE T.V.
—903—	EXISTING CONTOUR
+ 39.99	PROPOSED SPOT ELEVATION (ADD 800)
+ 39.99(EXB)	EXISTING SPOT ELEVATION AT BOTTOM OF CURB (ADD 800)
—903—	PROPOSED CONTOUR
	PROPOSED CONCRETE
	DIRECTION OF SURFACE FLOW
	MAJOR STORM RUNOFF PATH
	100 YR. STORM WATER DETENTION PONDING LIMITS 100 YR. PONDING ELEVATION = 839.50
+39.68T 39.18B	PROPOSED TOP OF CURB ELEVATION (ADD 800) PROPOSED BOTTOM OF CURB ELEVATION (ADD 800)

100-YEAR STORM PONDING DATA

AREA	PONDING ELEVATION	PONDING PROVIDED	PONDING REQUIRED
2	839.50	1,590 C.F.	
3	839.50	1,991 C.F.	
4	839.50	4,307 C.F.	
5	839.50	341 C.F.	
	TOTAL	8,229 C.F.	
TOTAL (25-YEAR CRITICAL STORM)			4,968 C.F.
TOTAL (100-YEAR STORM)			6,937 C.F.

STORM WATER NARRATIVE

STORM WATER DETENTION WILL BE DESIGNED IN ACCORDANCE WITH SECTION 1101.05 (g). STORM WATER WILL BE STORED IN THE PARKING LOT AND IN A DRY POND (LOCATED ON THE NORTH SIDE OF THE PROPERTY). THE STORM SEWER SYSTEM WILL OUTFALL INTO AN EXISTING 12" STORM SEWER LOCATED BETWEEN THE PARKING LOT AND BROADWAY. THE EXISTING 12" STORM SEWER FLOWS TOWARDS BROWN RUN.

THERE IS LESS THAN ONE ACRE OF DISTURBANCE ANTICIPATED WITH THIS PROJECT. AS INDICATED IN THE OHIO EPA GUIDELINES, WATER QUALITY MEASURES ARE NOT NEEDED FOR DEVELOPMENTS WITH LESS THAN ONE ACRE OF DISTURBANCE.

KEY NOTES

1. PROPOSED 8" STORM SEWER.
2. PROPOSED 12" STORM SEWER.
3. PROPOSED HEADWALL.
4. PROVIDE 24-INCH WIDE X 6-INCH HIGH OPENING IN CURB.
5. LIMITS OF STORM WATER PONDING (ELEVATION = 839.50). A 12" MAXIMUM DEPTH IS PROVIDED IN THE PARKING LOT.
6. EXISITNG CATCH BASIN TO BE ADJUSTED TO MEET PROPOSED GRADE.

REV	DATE	DESCRIPTION	BY

STATE OF OHIO
ERIC P. CHENEVEY
E-55806
REGISTERED
PROFESSIONAL ENGINEER

ERIC P. CHENEVEY
OHIO ENGINEER NO. 55806

8-24-15
DATE

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fax 614 818 4901
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O'Reilly AUTO PARTS

PREPARED FOR:

DRAWN BY T.JS
STD ISSUE DATE 8/26/2015
REVIEWED BY EPC
DATE ISSUED 8/26/2015

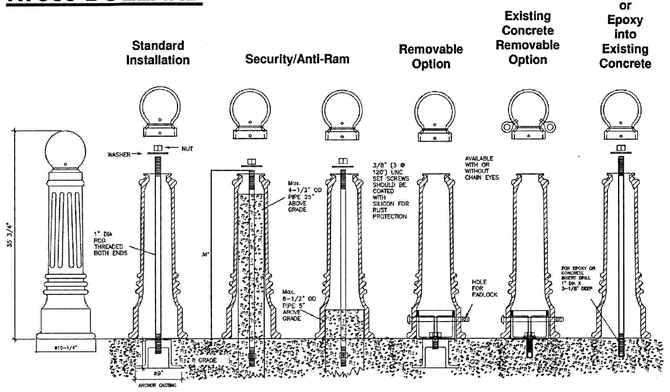
PLANS
DEVELOPMENT PLAN

SHEET TITLE
Site Grading Plan

SITE ID -
SITE ADDRESS O'Reilly's Project Site
Grove City, OH

SHEET NO.
4

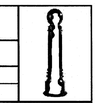
R7539 BOLLARD



RELIANCE FOUNDRY CO. LTD.

BOLLARD DETAIL
NO SCALE

R-7539 BOLLARD — SPECIFICATION SHEET



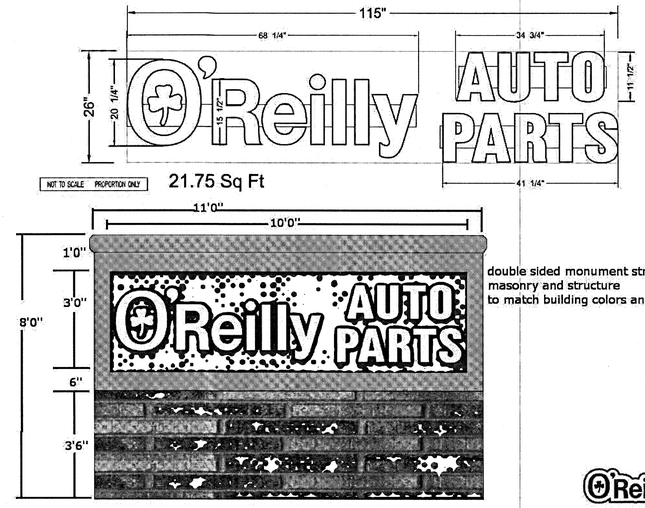
MATERIAL	CAST DUCTILE IRON, ASTM A536 GRADE 65-45-12 OR CAST ALUMINUM	
COATING	MATERIAL	POLYESTER POWDER COAT
	COLOR	BLACK (OTHER COATING OPTIONS AVAILABLE)

HARDWARE	DESCRIPTION	STANDARD INSTALLATION	SECURITY / ANTI-RAM	REMOVABLE	REMOVABLE EXISTING CONCRETE	EXISTING CONCRETE EPOXY	EXISTING CONCRETE INSERT
STEEL, PLATED OR GALVANIZED UNLESS OTHERWISE NOTED	32" X 1" UNC ROD	1	1			1	
	32" X ½" UNC ROD						1
	1" UNC NUT	1	2			1	
	¾" UNC NUT						1
	3 ½" O.D. 1" I.D. WASHER	1	1			1	1
	3/8" UNC SETSCREWS, BLACK ANODIZED	3	3	3	3	3	3
	3/8" UNC SETSCREWS FOR CHAIN EYE LOOP HOLES, BLACK ANODIZED (NOT REQUIRED IF USING CHAIN EYES)	2	2	2	2	2	2
MATERIALS AND SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE	CONCRETE ANCHOR CASTING, TAPPED FOR 1" UNC DUCTILE IRON (ASTM A536 GRADE 65-45-12)	1		1			
	REMOVABLE MOUNT (CAST STEEL ASTM A27 N-2)			1	1		
	1" BOLT X 1-½"			1			
	¾" BOLT X 2-¾"				1		
	¾" FLAT WASHER				1		1
	1" FLAT WASHER			1			
	LOCKING PADLOCK PIN (FORGED STEEL)			1	1		
	¾" UNC CONCRETE INSERT, PLATED				1		1
	TURF EPOXY (1 TURF = 5-10 INSTALLATIONS)					1	
	TUBE SILICONE (1 TUBE = 30 INSTALLATIONS)	1	1	1	1	1	1
	CHAIN EYES, 3/8" UNC 1" ID X 1-¾" OD, POWDER COATED TO MATCH BOLLARD	1 OR 2 (OPTIONAL)	1 OR 2 (OPTIONAL)	1 OR 2 (OPTIONAL)	1 OR 2 (OPTIONAL)	1 OR 2 (OPTIONAL)	1 OR 2 (OPTIONAL)

WEIGHTS		STANDARD INSTALLATION		SECURITY / ANTI-RAM		REMOVABLE		REMOVABLE EXISTING CONCRETE		EXISTING CONCRETE EPOXY		EXISTING CONCRETE INSERT	
		KGS	LBS	KGS	LBS	KGS	LBS	KGS	LBS	KGS	LBS	KGS	LBS
	BOLLARD ASSEMBLY (IRON / ALUMINUM)	54/17	120/37	54/17	120/37	54/17	120/37	54/17	120/37	54/17	120/37	54/17	120/37
	HARDWARE	3.5	8	3.5	8	2	4.5	2	4.5	3.5	8	3.5	8
	ANCHOR CASTING	9	20	N/A	N/A	9	20	N/A	N/A	N/A	N/A	N/A	N/A
	TOTAL (SHIPPING) WEIGHT (IRON / ALUMINUM)	67/30	148/65	58/21	128/45	65/28	145/62	56/19	125/42	58/21	128/45	58/21	128/45

RELIANCE FOUNDRY CO. LTD.
#207 - 6450 - 146TH STREET, SURREY, BRITISH COLUMBIA, CANADA V3S-7G7
TOLL-FREE: 1-888-735-5680 PHONE: 604-592-4333 FAX: 604-590-8875 EMAIL: INFO@RELIANCE-FOUNDRY.COM
WWW.BOLLARDS.CA / WWW.RELIANCE-FOUNDRY.COM

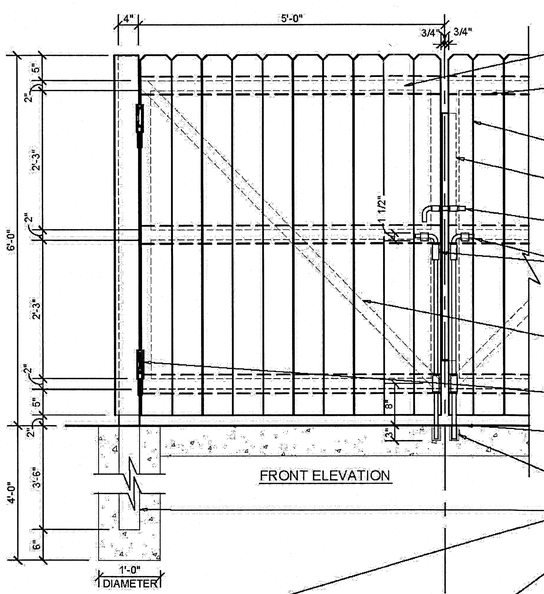
BOLLARD DETAIL
NO SCALE

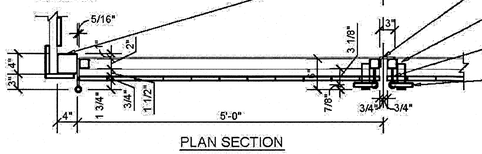


double sided monument structure, masonry and structure to match building colors and materials

MONUMENT SIGN
NO SCALE

NOTE: PROVIDE STAINED WOOD GATES





GATE FRAME: STEEL TUBE 2"x 2"x 1/4" WITH WELDED JOINTS.

TREATED 2 X 4's HORIZONTAL ON STEEL FRAME ATTACHED WITH 1/4" GALV. CARRIAGE BOLTS AT 12" O.C..

TREATED 1X6 WITH DOG EAR TOPS.

ASTRAGAL: STEEL ANGLE 2" X 3" X 1/4" X 4'-0".

HEAVY DUTY SLIDE BOLT LATCH EQUAL TO STANLEY #SP1271#.

CAIN BOLTS: 3/4" DIA. BENT ROD 4" X 3'-4" LONG WITH 3" LONG STEEL PIPE ROD GUIDES AND 1/4" BENT PLATE ROD CATCH WITH 1/4" ATTACHMENT PLATE.

TENSION STRAP: 1/4" X 2" STEEL BAR WELDED TO BACK OF FRAME.

STEEL FABRICATED HINGES, REFER POST ELEVATIONS.

CONCRETE PAD, REFER SITE DEVELOPMENT FOR TYPE AND LOCATION.

1" DIA. ROD SLEEVE.

HINGE POST: TUBE STEEL 4" x 4" x 1/4" WITH 1/4" CAP PLATE

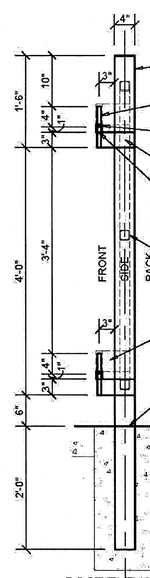
ASTRAGAL: STEEL ANGLE 2" X 3" X 1/4" X 4'-0".

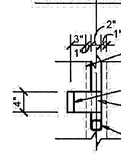
1/4" BENT PLATE ROD GUIDE CATCH.

3" LONG STEEL PIPE ROD GUIDES WITH 1/4" ATTACHMENT PLATE.

CAIN BOLTS: 3/4" DIA. BENT ROD 4" X 3'-4" LONG

ALL MTL. PARTS PRIMED W/ METAL PRIMER & PAINTED SW 6468 "HUNT CLUB".





HINGE POST: TUBE STEEL 4" x 4" x 1/4" WITH 1/4" CAP PLATE

3/4" DIA. STEEL ROD HINGE PIN (FIELD GREASE)

(2) LOOSE FLAT WASHERS WITH GREASE AT TOP AND BOTTOM HINGES.

5/16" X 3" STEEL PLATE HINGE PIN BRACKET.

3/4" I.D. SCHEDULE 80 PIPE X 1" LONG WELDED TO HINGE PIN ROD.

GATE FRAME ASSEMBLY (IN FOREGROUND)

HINGE ASSEMBLY (SHOWN AS HIDDEN). REFER HINGE ELEVATION.

CONCRETE PAD, REFER SITE DEVELOPMENT FOR TYPE AND LOCATION.

NOTE:
ALL FIXED ASSEMBLIES TO BE FILLET WELDED.

HINGE POST ASSEMBLY (BEYOND). REFER ELEVATION.

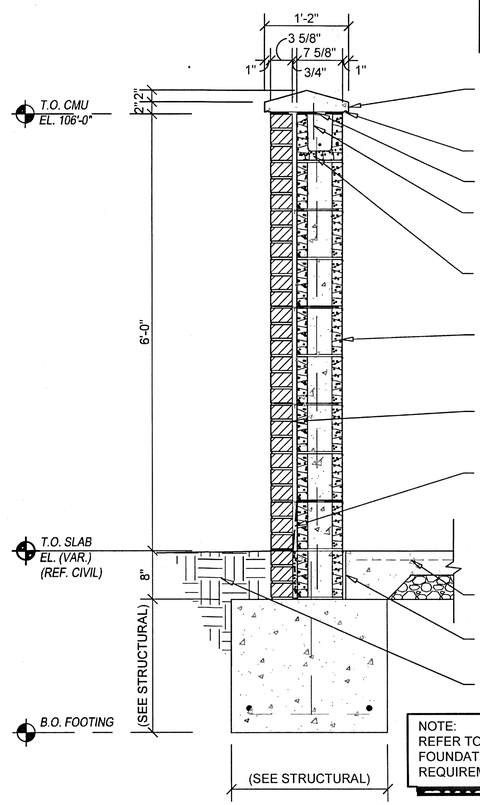
3/4" I.D. SCHEDULE 80 PIPE HINGE PIN SLEEVE.

5/16" STEEL PLATE SLEEVE BRACKET.

HINGE END OF GATE ASSEMBLY. REFER ELEVATION AND PLAN SECTION.

TRASH ENCLOSURE GATE DETAIL
NO SCALE

NOTE:
MASONRY TEXTURES AND COLORS TO MATCH BUILDING. REFER TO ARCHITECTURAL DRAWINGS.



ARCHITECTURAL PRECAST CONCRETE UNIT CAP WITH BACKER ROD AND SEALANT AT BUTT JOINTS.

DRIP EDGE CAST INTO CAP (TYP.)

FLEXIBLE FLASHING, CONTINUOUS.

#3 DOWEL X 6" AT 32" O.C. EXTENDING 1 1/2" MIN. INTO PRECAST AND BOND BEAM. MORTAR IN PLACE.

6" SMOOTH FACE CONCRETE MASONRY UNIT (CMU) BOND BEAM UNIT.

8" SMOOTH FACE CONCRETE MASONRY UNIT (CMU) IN STACK BOND WITH HORIZONTAL REINFORCEMENT AT 16" O.C.. GROUT ALL CELLS FULL.

CLAY MASONRY VENEER WITH WALL TIES AT 16" O.C. VERT. AND 32" O.C. HORIZ.

FLEXIBLE FLASHING TO EXTEND UP 8" AND THRU VENEER MASONRY AT FIRST BED JOINT ABOVE GRADE. LAP BUTT JOINTS 8" MIN. AND MASTIC. PROVIDE MORTAR NET WITH ROPE WEEPS AT 32" O.C. GROUT BELOW GRADE CAVITY FULL.

CONCRETE PAVEMENT, REFER TO SITE PLAN FOR TYPE.

1/2" ISOLATION JOINT WITH ASPHALTIC FILLER AND SEALER.

LAWN OR PAVEMENT, REFER TO SITE PLAN.

NOTE:
REFER TO STRUCTURAL FOR FOUNDATIONS AND REINFORCEMENT REQUIREMENTS.

TRASH ENCLOSURE SCREEN WALL DETAIL
NO SCALE

REV	DATE	DESCRIPTION	BY

STATE OF OHIO — ERIC P. CHENEVEY E-55806 — REGISTERED PROFESSIONAL ENGINEER

ERIC P. CHENEVEY
OHIO ENGINEER NO. 55806

8-24-15
DATE

PREPARED BY:
IBI GROUP
635 Brooksedge Boulevard
Westerville OH 43081 USA
tel 614 818 4900
fax 614 818 4901
ibigroup.com

PREPARED FOR: O'Reilly AUTO PARTS

DRAWN BY	TJS
STD ISSUE DATE	8/26/2015
REVIEWED BY	EPC
DATE ISSUED	6/26/2015

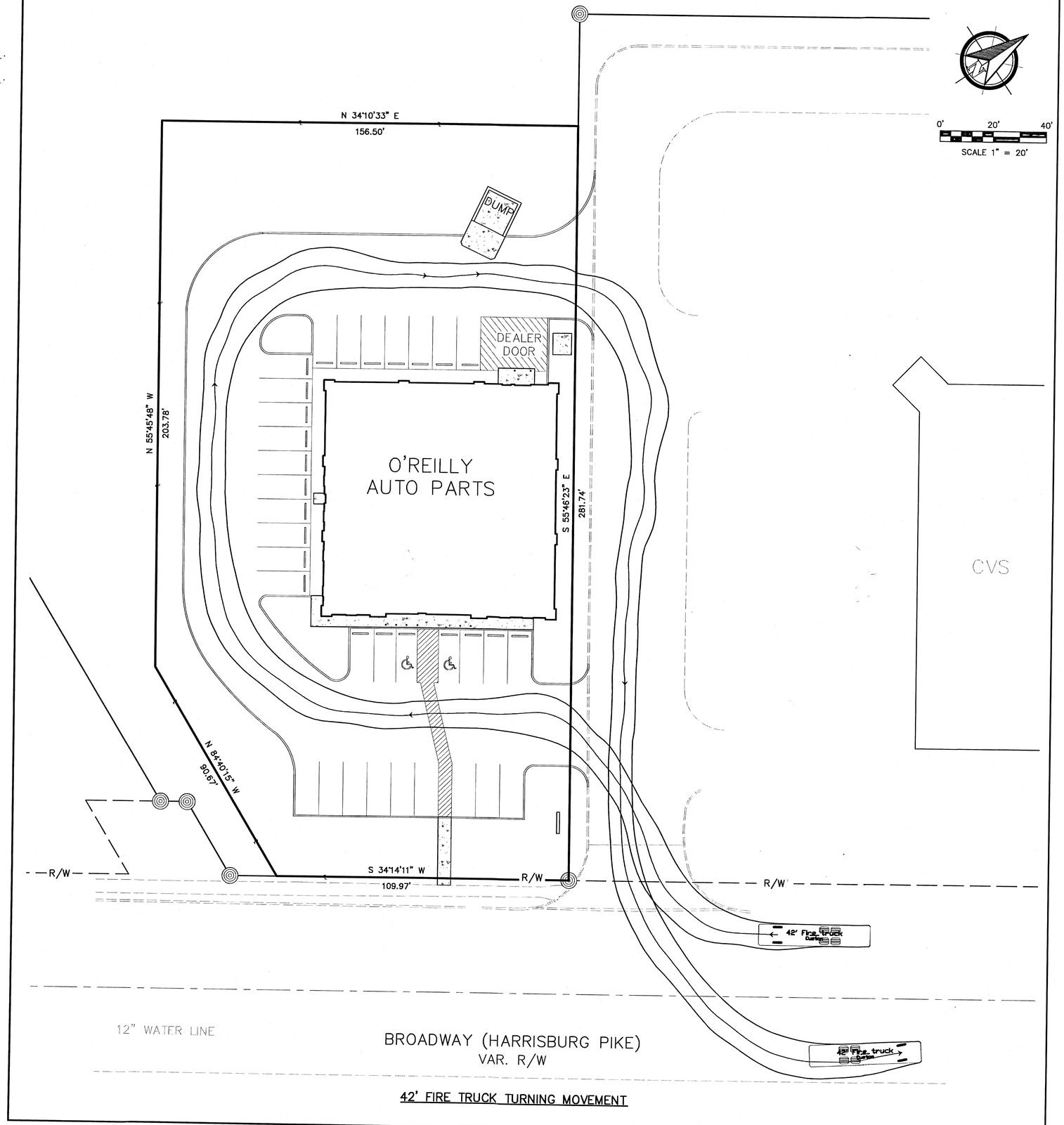
PLANS: DEVELOPMENT PLAN

SHEET TITLE: Miscellaneous Site Details

SITE ID: -

SITE ADDRESS: O'Reilly's Project Site, Grove City, OH

SHEET NO. 5



42' FIRE TRUCK TURNING MOVEMENT

REV	DATE	DESCRIPTION	BY

STATE OF OHIO
ERIC P. CHENEVEY
E-55806
REGISTERED
PROFESSIONAL ENGINEER

ERIC P. CHENEVEY
OHIO ENGINEER NO. 55806

8-24-15
DATE

PREPARED BY:
BI GROUP
635 Brooksedge Boulevard
Westerville OH 43081 USA
tel 614 818 4900
fax 614 818 4901
bigroup.com

PREPARED FOR:
O'Reilly AUTO PARTS

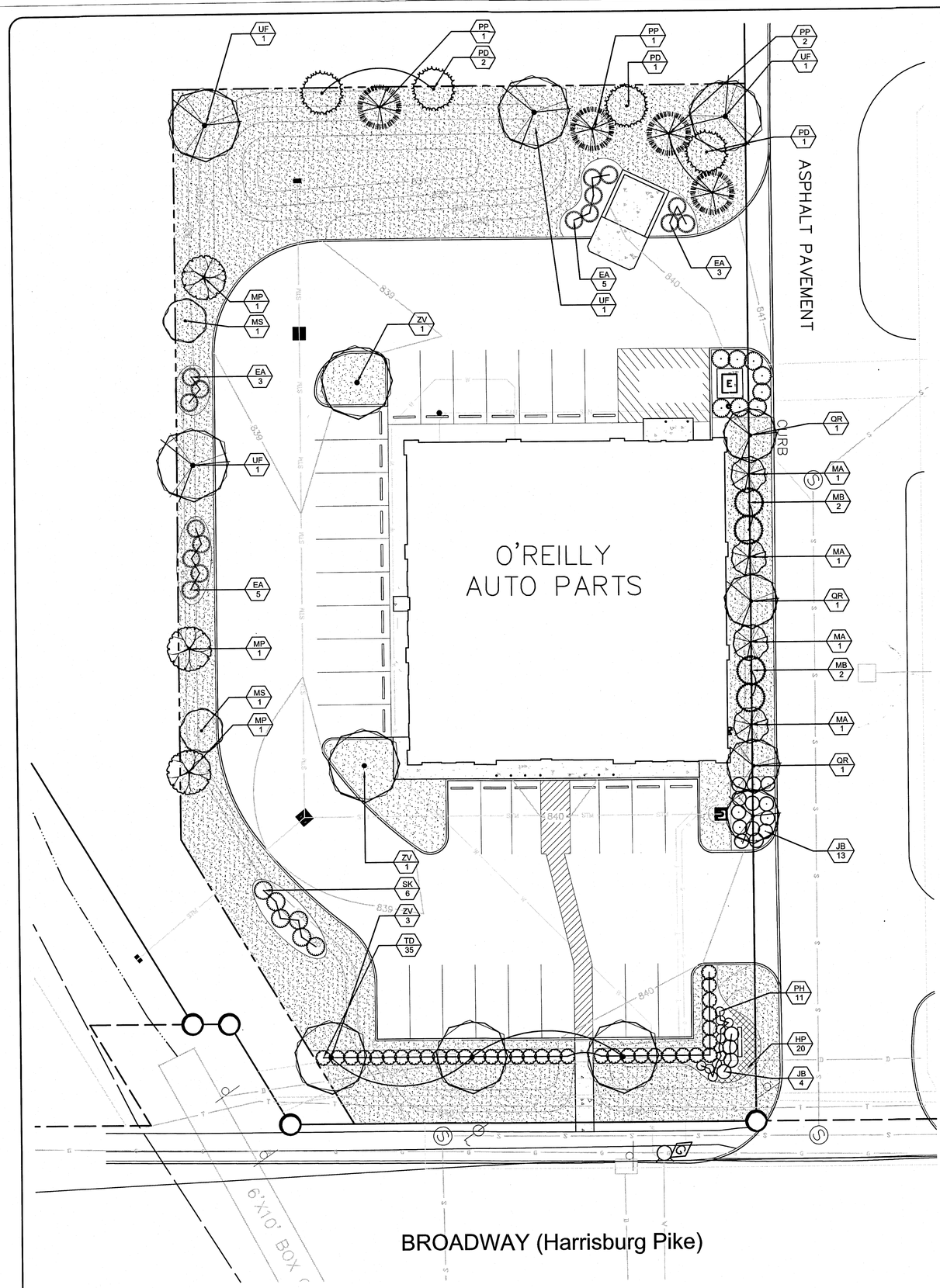
DRAWN BY TJS
STD ISSUE DATE 8/26/2015
REVIEWED BY EPC
DATE ISSUED 8/26/2015

PLANS
DEVELOPMENT PLAN

SHEET TITLE
Miscellaneous Site Details

SITE ID -
SITE ADDRESS O'Reilly's Project Site
Grove City, OH

SHEET NO.
6



PLANT SCHEDULE

TREES	QTY	COMMON NAME / BOTANICAL NAME	CONT	CAL	SIZE
MA	4	Adirondack Crabapple / Malus x `Adirondack`	B & B	1.75"Cal	
MB	4	Red Barron Crab Apple / Malus x `Red Barron`	B & B	1.75"Cal	
MP	3	Prairifire Crab Apple / Malus x `Prairifire`	B & B	1.75"Cal	
MS	2	Snowdrift Crab Apple / Malus x `Snowdrift`	B & B	1.75"Cal	
PD	4	Black Hills Spruce / Picea glauca `Densata`	B & B		6'-7' HT.
PP	4	Colorado Spruce / Picea pungens	B & B		6'-7' HT.
QR	4	Regal Prince English Oak / Quercus robur `Regal Prince`	B & B	2"Cal	
UF	4	American Elm / Ulmus x `Frontier`	B & B	2"Cal	
ZV	5	Sawleaf Zelkova / Zelkova serrata `Village Green`	B & B	2"Cal	

SHRUBS	QTY	COMMON NAME / BOTANICAL NAME	CONT
EA	16	Rudy Haag Burning Bush / Euonymus alatus `Rudy Haag`	5 gal
JB	17	Blue Forest Juniper / Juniperus sabina `Blue Forest`	5 gal
PH	11	Hameln Dwarf Fountain Grass / Pennisetum alopecuroides `Hameln`	2 gal
SK	14	Miss Kim Lilac / Syringa patula `Miss Kim`	5 gal
TD	35	Dense Yew / Taxus x media `Densiformis`	36" HT

GROUND COVERS	CODE	QTY	COMMON NAME / BOTANICAL NAME	CONT	SPACING
	HP	20	Daylily / Hemerocallis x `Purple`	1 gal	24" o.c.
	LAWN	13,518 sf	Drought Tolerant Fescue Blend / Turf Hydroseed	seed	

NOTES

1. CONSULT PLANT SCHEDULE FOR PLANT SIZES AND SPECIFICATIONS.

2. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES PRIOR TO INSTALLATION. NOTIFY LANDSCAPE ARCHITECT IF FIELD CONDITIONS WARRANT ADJUSTMENT OF PLANT LOCATIONS.

3. CONTRACTOR IS RESPONSIBLE FOR ALL PLANTS DRAWN ON PLANS. PLANT LIST QUANTITIES ARE FOR CONVENIENCE ONLY.

4. ALL SHRUB AND GROUND COVER BEDS (EXISTING AND NEW) TO BE MULCHED WITH A MINIMUM OF 3 INCHES OF DOUBLE SHREDDED HARDWOOD MULCH.

5. CONTRACTOR TO PROVIDE A FULL 1 YEAR GUARANTEE ON ALL PLANTS INSTALLED AND PROVIDE COMPLETE MAINTENANCE ON ALL WORK DONE BEGINNING ON THE DAY OF APPROVAL FROM OWNER'S REPRESENTATIVE AND CONTINUING FOR A THREE MONTH DURATION AT WHICH TIME OWNER'S REPRESENTATIVE WILL DECLARE JOB ACCEPTANCE.

6. EACH PLANTING TO BE FREE FROM DISEASE, INSECT INFESTATION AND MECHANICAL INJURIES AND, IN ALL RESPECTS, BE READY FOR FIELD PLANTING.

7. ALL PLANTS TO CONFORM TO THE AMERICAN STANDARD FOR NURSERYMEN STOCK (ANSI-Z60.1-2004) IN REGARDS TO SIZING, GROWING AND B&B SPECIFICATIONS.

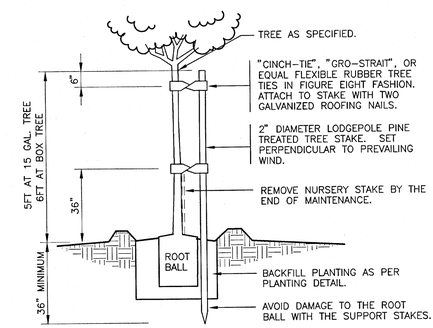
8A. PLANTING HOLES TO BE DUG A MINIMUM OF TWICE THE WIDTH AND 6-8 INCHES DEEPER THAN THE SIZE OF THE ROOT BALL OF BOTH SHRUB AND TREE AND TO BE AMENDED WITH ORGANIC SOIL CONDITIONER. (I.E. NATURES HELPER OR

8B. IN AREAS WHERE BEDROCK OR HEAVILY COMPACTED ROCK FILL IS ENCOUNTERED, THE PLANTING HOLES ARE TO BE DUG TO A MINIMUM OF THREE TIMES THE WIDTH AND ONE FOOT DEEPER THAN THE SIZE OF THE ROOT BALL. NOTIFY LANDSCAPE ARCHITECT IF FIELD CONDITIONS WARRANT ADJUSTMENT OF PLANT LOCATIONS.

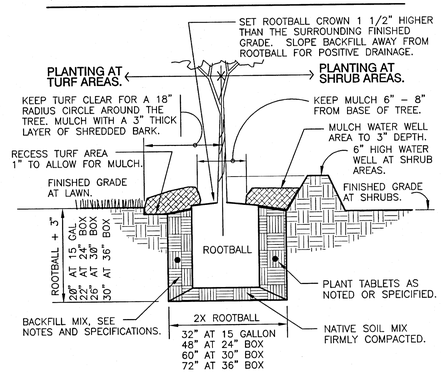
9. EXISTING GRASS TO BE REMOVED, IF PRESENT, AND TOPSOIL TO BE SPREAD SMOOTH AND HAND-RAKED TO REMOVE ALL ROCKS AND DEBRIS LARGER THAT 1 INCH IN DIAMETER PRIOR TO LAYING SOD OR SEEDING.

10. ALL CHANGES TO DESIGN OR PLANT SUBSTITUTIONS ARE TO BE AUTHORIZED BY THE LANDSCAPE ARCHITECT.

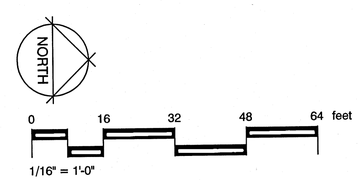
11. TOPSOIL MIX TO BE 3 PARTS SCREENED TOPSOIL AND 1 PART ORGANIC MATERIAL. (I.E. NATURE'S HELPER OR PRO MIX).



STAKING DETAIL



PLANT PIT DETAIL



1 TREE SINGLE STAKE PLANTING

1" = 1'-0"

32 9343.16-03

plan-it studios
7792 Olentangy River Road
Suite G
Columbus, OH 43235
614-403-1442

O'Reilly Auto Parts

Broadway
Grove City, Ohio 43123

PROJECT NO:
PROJECT #015-019

ISSUE DATE
August 25, 2015

SHEET INFORMATION

SEAL:

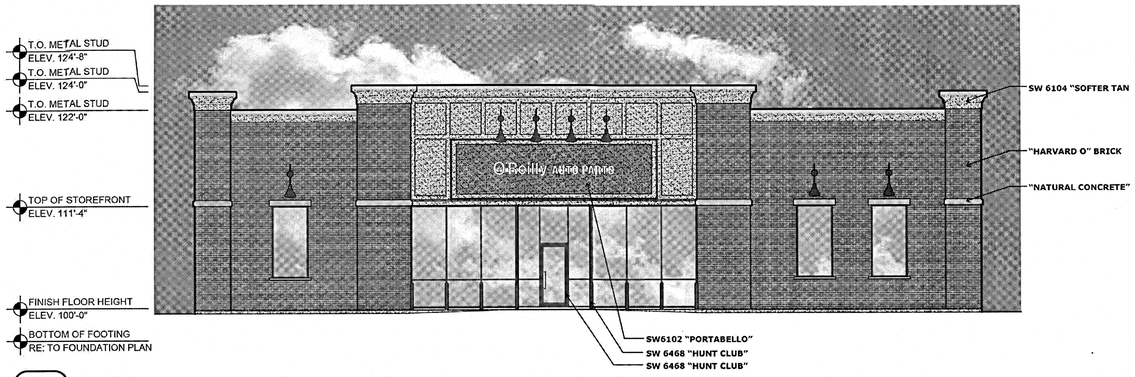
andrew j. english | larch. 1001 | exp: 10.31.2015

SHEET TITLE
Landscape Plan

SCALE
Noted

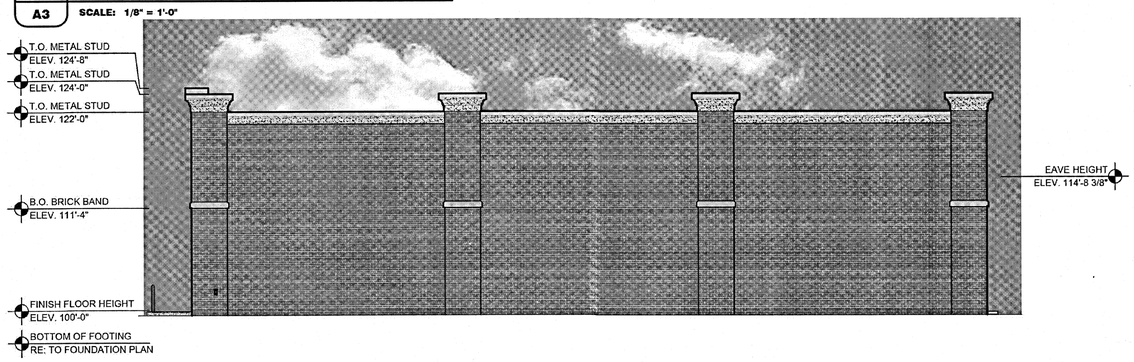
SHEET NO.

LP-1



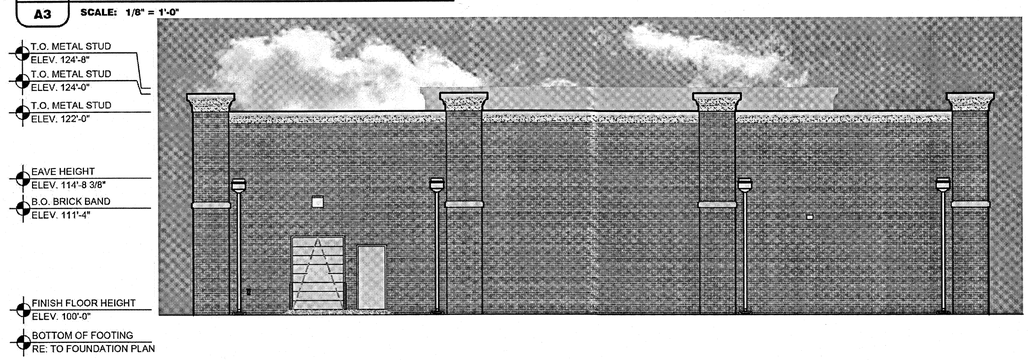
1 A3 FRONT ELEVATION

SCALE: 1/8" = 1'-0"



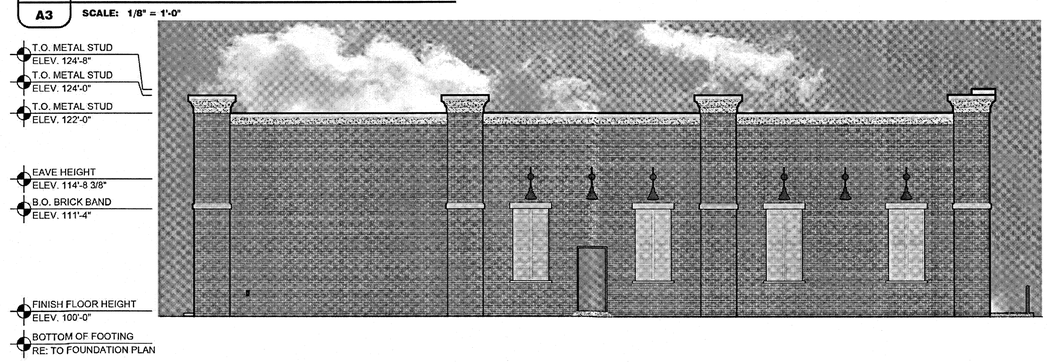
2 A3 SIDE ELEVATION

SCALE: 1/8" = 1'-0"



3 A3 REAR ELEVATION

SCALE: 1/8" = 1'-0"



4 A3 SIDE ELEVATION

SCALE: 1/8" = 1'-0"

EXTERIOR FINISH SCHEDULE

TYPE:	COMPANY TYPE:	COLOR:	CITY APPROVED HPA COLOR:
BRICK	ACME BRICK (OR APPROVED EQUAL)	BRICK COLOR: HARVARD 0 MORTAR COLOR: NATURAL SIZE: MODULAR COURSING: RUNNING	BRYCE CANYON 1903
EXTERIOR INSULATION AND FINISH SYSTEM (E.I.F.S.)	DRYVIT - OUTSULATION PLUS MD SANDBLAST FINISH	SW 6104 'SOFTER TAN' ORAP011030S WITH DRYVIT STRATOTONE HIGH PERFORMANCE COLORANT (FACTORY MIXED ONLY) FIELD COLOR: SW 6104 'SOFTER TAN' ACCENT COLOR (BEHIND SIGN): SW 6102 ' PORTABELLO'	FIELD COLOR: CRUMPET 2068 ACCENT COLOR: TBD
ARCHITECTURAL PRE-CAST WATER TABLE, WINDOW HEADER & SILL	PER LOCAL SUPPLIER	NATURAL CONCRETE	TIMIDITY 2289
STOREFRONT (NO SUBSTITUTES)	EFCO	IVY	DEEP JUNGLE 1450
	KAWNEER	DARK IVY	
	VISTA WALL	INTERSTATE GREEN	
PRE-FABRICATED SHUTTERS	EQUAL TO LARSON SHUTTER COMPANY ATLANTIC ARCHITECTURAL COLLECTION LOUVERED COLONIAL EXTERIOR SHUTTERS	FACTORY PRIME FIELD PAINTED SW 6104 'SOFTER TAN'	CRUMPET 2068
BOLLARDS	IN FIELD	SHERWIN WILLIAMS SW 6468 HUNT CLUB EXTERIOR SEMI -GLOSS LATEX	DEEP JUNGLE 1450
EXTERIOR DOOR & OVERHEAD DOOR AT PARTS AREA 'C'	OWNER	FACTORY PRIME, FIELD PAINT SW 6104 'SOFTER TAN'	CRUMPET 2068
EXTERIOR DOOR AT PARTS AREA 'A'	OWNER	FACTORY PRIME, FIELD PAINT TO MATCH BRICK COLOR	BRYCE CANYON 1903
SHEET METAL CAP FLASHING	BY METAL BUILDING MFG'R FACTORY PRIMED, FIELD BROKEN, FIELD PAINTED	SW 6104 'SOFTER TAN' CLEAR COAT--DIAMOND CLAD CLEAR COAT URETHANE B65T105/B65V105/B65C105-- 3 COMPONENT	CRUMPET 2068

PRELIMINARY
NOT FOR CONSTRUCTION OR PERMIT

SHEETS BEARING THIS SEAL ARE AUTHENTICATED, RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS OR INSTRUMENTS ARE DISCLAIMED.

O'Reilly AUTO PARTS
CORPORATE OFFICES
233 SOUTH PATTERSON
SPRINGFIELD, MISSOURI 65802
(417) 862-2674 TELEPHONE

PROJECT:
NEW O'REILLY AUTO PARTS STORE
BROADWAY
GROVE CITY, OHIO

EXTERIOR ELEVATIONS

Buddy D. Webb
Architect - Consultant
3057 EAST CAIRO
SPRINGFIELD, MISSOURI 65802
(417) 877-1385 TELEPHONE
(417) 877-9736 FAX

DRAWN BY: BMW
CHECKED BY: BDW
DATE: 04/10/15
REVISION:
PROJECT NUMBER: GV1
SHEET NUMBER A3

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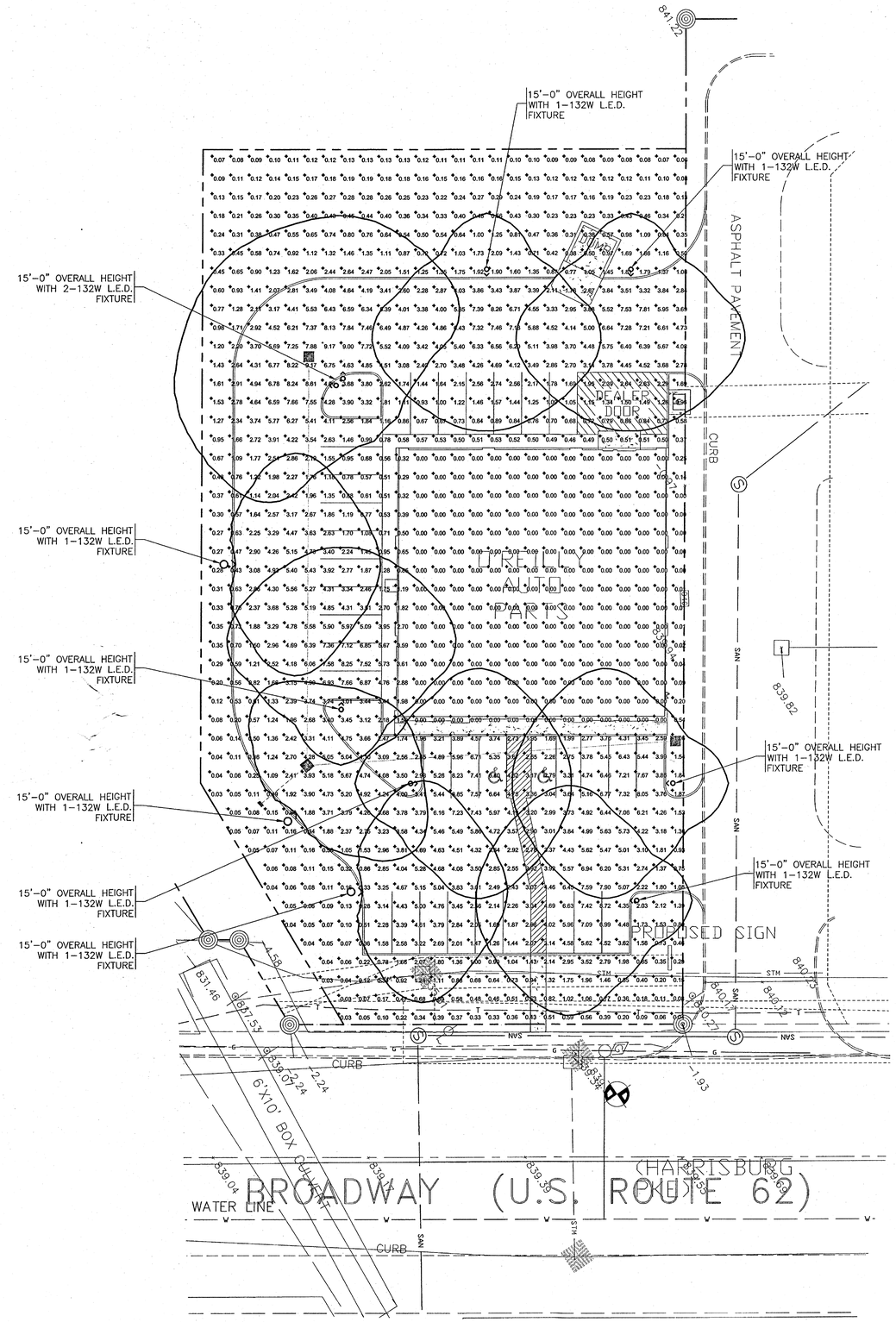
Statistics							
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
Parking	+	1.99 fc	9.17 fc				0.2:1

LIGHT FIXTURE SCHEDULE

MARK	MFR.	CATALOG NUMBER
132W	ARCHITECTURAL AREA LIGHTING	UCL-T4-56LED-4K-700-132WATTS
POLE	ARCHITECTURAL AREA LIGHTING	PR5-5R12.5-250
ARM	ARCHITECTURAL AREA LIGHTING	SLA- 7(5)
ARM	ARCHITECTURAL AREA LIGHTING	SLA- 7(5)-2 (TWIN ARMS FOR 5" O.D. POLE)



SITE LIGHTING PHOTOMETRICS

SCALE: 1"=20'

NORMAN E. GOTH 71608 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI

6/25/15

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O'Reilly AUTO PARTS
CORPORATE OFFICES
233 SOUTH PATTERSON
SPRINGFIELD, MISSOURI 65802
(417) 862-2674 TELEPHONE

PROJECT:
NEW O'REILLY AUTO PARTS STORE
BROADWAY
GROVE CITY, OHIO

SITE LIGHTING PHOTOMETRICS

SGE SMITH-GOTH ENGINEERS, INC.
3855 S. JEFFERSON AVE.
SPRINGFIELD, MO 65807
P: 417-882-3200
F: 417-882-1188
WWW.SMITHGOTH.COM

DRAWN BY:	CHECKED BY:
JTH	NEG

DATE: 04/10/15

REVISION:

PROJECT NUMBER: GV1

SHEET NUMBER: SP1

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RECEIVED
AUG 26 2015
CC PLANNING COMMISSION

EXTERIOR FINISH SCHEDULE

TYPE:	COMPANY TYPE:	COLOR:	CITY APPROVED HPA COLOR:
BRICK	ACME BRICK (OR APPROVED EQUAL)	BRICK COLOR: HARVARD 0 MORTAR COLOR: NATURAL SIZE: MODULAR COURSING: RUNNING	BRYCE CANYON 1903
EXTERIOR INSULATION AND FINISH SYSTEM (E.I.F.S.)	DRYVIT - OUTSULATION PLUS MD SANDBLAST FINISH	SW 6104 'SOFTER TAN' ORAP011030S WITH DRYVIT STRATOTONE HIGH PERFORMANCE COLORANT (FACTORY MIXED ONLY) FIELD COLOR: SW 6104 'SOFTER TAN' ACCENT COLOR (BEHIND SIGN): SW 6102 ' PORTABELLO'	FIELD COLOR: CRUMPET 2068 ACCENT COLOR: TBD
ARCHITECTURAL PRE-CAST WATER TABLE, WINDOW HEADER & SILL	PER LOCAL SUPPLIER	NATURAL CONCRETE	TIMIDITY 2289
STOREFRONT (NO SUBSTITUTES)	EFCO	IVY	DEEP JUNGLE 1450
	KAWNEER	DARK IVY	
	VISTA WALL	INTERSTATE GREEN	
PRE-FABRICATED SHUTTERS	EQUAL TO LARSON SHUTTER COMPANY ATLANTIC ARCHITECTURAL COLLECTION LOUVERED COLONIAL EXTERIOR SHUTTERS	FACTORY PRIME FIELD PAINTED SW 6104 'SOFTER TAN'	CRUMPET 2068
BOLLARDS	IN FIELD	SHERWIN WILLIAMS SW 6468 HUNT CLUB EXTERIOR SEMI -GLOSS LATEX	DEEP JUNGLE 1450
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SHEET METAL CAP FLASHING	BY METAL BUILDING MFG'R FACTORY PRIMED, FIELD BROKEN, FIELD PAINTED	SW 6104 'SOFTER TAN' CLEAR COAT–DIAMOND CLAD CLEAR COAT URETHANE B65T105/B65V105/B65C105-- 3 COMPONENT	CRUMPET 2068

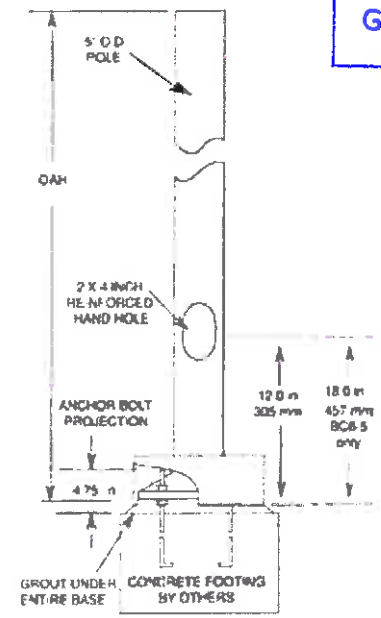
Poles - PR5

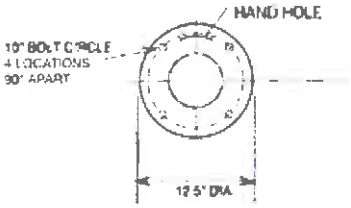
5" ROUND (RD) POLE

RECEIVED
JUN 29 2015
GC PLANNING COMMISSION

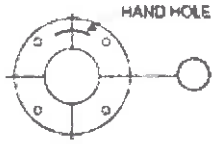
DATE	TYPE

PR5
BASE / POLE/WALL / OPTIONS

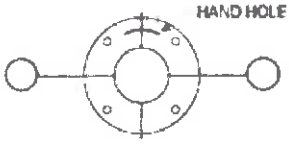




BOTTOM VIEW
(INDICATES POLE IS LAYING DOWN WITH HAND HOLE FACING UP)



SINGLE FIXTURE MOUNTING ORIENTATION
BOTTOM VIEW
(INDICATES POLE IS LAYING DOWN WITH HAND HOLE FACING UP)



DOUBLE FIXTURE MOUNTING ORIENTATION
BOTTOM VIEW
(INDICATES POLE IS LAYING DOWN WITH HAND HOLE FACING UP)

CATALOG NO.

	BASE	POLE	OAH	SHAFT	WT	MAXIMUM ALLOWABLE EPA (MPH) 85	90	100	110	120	130	140	150
☐	PR5	5R14-188	14' (4.3m)	5" RD x .188"	68	32.3	28.5	22.7	18.6	15.5	13.1	11.2	9.6
☐	PR5	5R16-188	16' (4.9m)	5" RD x .188"	75	27.3	23.9	19.0	15.5	12.8	10.8	9.2	7.9
☐	PR5	5R18-188	18' (5.5m)	5" RD x .188"	82	22.8	19.8	15.6	12.7	10.5	8.8	7.4	6.4
☐	PR5	5R20-188	20' (6.2m)	5" RD x .188"	88	18.9	16.4	12.8	10.3	8.5	7.0	5.9	5.0
☐	PR5	5R22-188	22' (6.8m)	5" RD x .188"	95	15.8	13.5	10.4	8.3	6.8	5.6	4.7	3.9
☐	PR5	5R24-188	24' (7.4m)	5" RD x .188"	101	13.1	11.1	8.4	6.6	5.3	4.3	3.6	3.0
☐	PR5	5R25-188	25' (7.7m)	5" RD x .188"	105	11.9	10.0	7.5	5.9	4.7	3.8	3.1	2.5
☐	PR5	5R14-250	14' (4.3m)	5" RD x .250"	83	35.7	31.5	25.2	20.6	17.2	14.5	12.4	10.7
☐	PR5	5R16-250	16' (4.9m)	5" RD x .250"	92	30.5	26.8	21.3	17.4	14.5	12.2	10.4	9.0
☐	PR5	5R18-250	18' (5.5m)	5" RD x .250"	100	25.8	22.5	17.8	14.5	12.0	10.1	8.6	7.3
☐	PR5	5R20-250	20' (6.2m)	5" RD x .250"	109	21.8	18.9	14.8	12.0	9.9	8.3	7.0	6.0
☐	PR5	5R22-250	22' (6.8m)	5" RD x .250"	118	18.5	15.9	12.4	9.9	8.1	6.7	5.7	4.8
☐	PR5	5R24-250	24' (7.4m)	5" RD x .250"	127	15.7	13.4	10.3	8.2	6.6	5.5	4.5	3.8
☐	PR5	5R25-250	25' (7.7m)	5" RD x .250"	131	14.5	12.3	9.3	7.4	6.0	4.9	4.0	3.4

Note: Overall height is measured to top of pole.

SPECIFICATIONS
Base shall be cast aluminum #356 alloy, free of any porosity, foreign materials, or cosmetic fillers. Base casting shall be heat treated to a T-6 condition, and of uniform wall thickness, with no warping or mold shifting.

WARNINGS
Caution must be exercised in the selection of a design wind speed when the pole is to be installed in a special wind region (as indicated by the wind map) or in an area where wind speed is unpredictable.

AAL recommends consulting a local engineer when the pole is to be installed in an area that may be subject to extreme weather and exposure.

Poles installed on structures such as buildings and bridges may be subjected to vibration, oscillations, and other fatigue effects which are not covered by the AAL warranty.

The use of banners or other appendages can severely affect the loading of a pole. No banner or other appendage should be attached to an AAL pole unless approved by AAL.

If the products are to be used on an existing foundation or on other structures, the customer assumes all responsibility for the structural integrity of the existing foundation, anchorage or structures and all the consequences arising therefrom.

CAUTION
Poles should never be erected without the luminaire installed. Warranty is voided if the pole is erected without the luminaire. The warranty is voided if the pole is not grouted under the entire base after installation.

ANCHOR BOLTS shall be hot dip galvanized steel. Eight galvanized hex nuts and flat washers, and a bolt circle template shall be provided. Anchor bolt for poles are 3/4" x 24" x 3".

See options/accessories details on page 2.

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Ref: PR5.pdf copyright 2005, design patented

Poles - PR5

5" ROUND (RD) POLE

OPTIONS / ACCESSORIES

☐ AD5
This adapter is to be used only with standard AAL arms and post top mount fixtures that slip over a 4" od pole. The AD5 is a cast aluminum adapter that slips into the arm or over a 5"/125mm od pole.

☐ FH
Flag holder. (Specify location on pole)

☐ FS1
Double weatherproof fuse holder. Fuse by others.

☐ FS2
Single weatherproof fuse holder. Fuse by others.

☐ PCR
Low profile twist lock photocell receptacle with cast pole cap top. Secures to the top of the pole with three stainless steel set screws. Photocell by others.

☐ RBC
Cast aluminum receptacle housing, integrally welded to the pole. Includes a NEC approved clear weatherproof cover. Does not include a receptacle or internal wiring.

☐ TEN
2 3/8" O.D. X 4" Long.

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Contemporary Arms – SLA 7

DATE TYPE

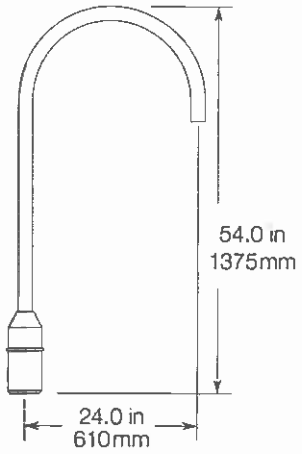
SLA 7

Slips over 4" pole
Weight: 9 LBS. EPA: 1.34

The arm shall be of one piece unitized aluminum construction, fully welded and assembled. The slip fitter shall be cast aluminum with an internal wire-way and pole stop. The arm shall be prewired with a quick connector for easy installation.

The arm shall have a cast aluminum fitter welded to the top of the arm(s) for attaching the fixture. The fixture shall be mounted with three stainless steel bolts through the top of the arm fitter into the fixture. The attachment point shall have a silicone pad for sealing the fixture to arm connection.

The arm shall slip over a 4"/100MM diameter pole or tenon. The cast aluminum slip fitter shall have six stainless steel cup point set screws for securing the arm to the pole or tenon.



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Contemporary Arms – SLA 7(5)

DATE TYPE

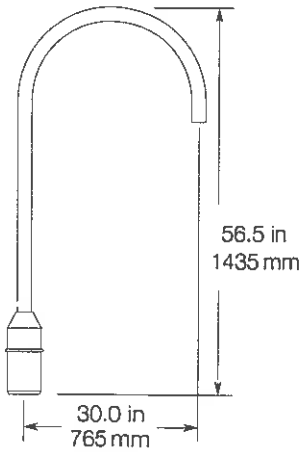
SLA 7(5)

Slips over 5" pole
Weight: 11 LBS. EPA: 1.73

The arm shall be of one piece unitized aluminum construction, fully welded and assembled. The slip fitter shall be cast aluminum with an internal wireway and pole stop. The arm shall be prewired with a quick connector for easy installation.

The arm shall have a cast aluminum fitter welded to the top of the arm(s) for attaching the fixture. The fixture shall be mounted with three stainless steel bolts through the top of the arm fitter into the fixture. The attachment point shall have a silicone pad for sealing the fixture to arm connection.

The arm shall slip over a 5"/125MM diameter pole or tenon. The cast aluminum slip fitter shall have six stainless steel cup point set screws for securing the arm to the pole or tenon.



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Contemporary Arms – SLA 7-2

DATE TYPE

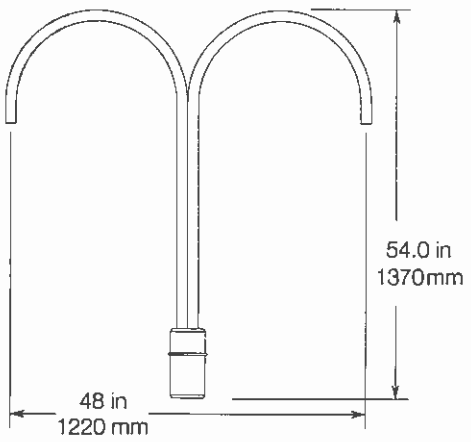
SLA 7-2

Twin arms, slips over 4" pole
Weight: 16 LBS. EPA: 2.34

The arms shall be of one piece unitized aluminum construction, fully welded and assembled. The slip fitter shall be cast aluminum with an internal wire-way and pole stop. The arm shall be prewired with a quick connector for easy installation.

The arms shall have a cast aluminum fitter welded to the top of the arm(s) for attaching the fixture. The fixture shall be mounted with three stainless steel bolts through the top of the arm fitter into the fixture. The attachment point shall have a silicone pad for sealing the fixture to arm connection.

The arm shall slip over a 4"/100MM diameter pole or tenon. The cast aluminum slip fitter shall have six stainless steel cup point set screws for securing the arm to the pole or tenon.



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Contemporary Arms – SLA 7(5)-2

DATE TYPE

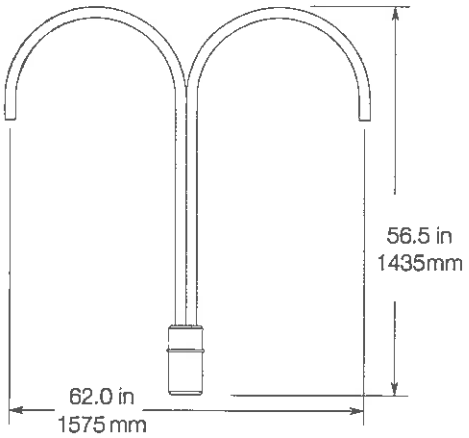
SLA 7(5)-2

Twin arms, slips over 5" pole
Weight: 18 LBS. EPA: 2.60

The arms shall be of one piece unitized aluminum construction, fully welded and assembled. The slip fitter shall be cast aluminum with an internal wire-way and pole stop. The arm shall be prewired with a quick connector for easy installation.

The arms shall have a cast aluminum fitter welded to the top of the arm(s) for attaching the fixture. The fixture shall be mounted with three stainless steel bolts through the top of the arm fitter into the fixture. The attachment point shall have a silicone pad for sealing the fixture to arm connection.

The arm shall slip over a 5"/125MM diameter pole or tenon. The cast aluminum slip fitter shall have six stainless steel cup point set screws for securing the arm to the pole or tenon.



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Universe Collection® – UCL

 DATE TYPE

Large Scale - Horizontal Reflector
Updated: 01/2010

- Modular system with five luminous options, four hood options, and two optical systems for customization to complement site design
- Type 2,3,4 and 5 full cutoff horizontal reflectors (without luminous element)
- Pole, wall, and pendant mounting options
- EISA compliant
- IP65 rated
- Powder coat finish in 13 standard colors with a polymer primer sealer

EISA compliant fixtures
architectural arealighting
EFFICIENT EFFECTIVE ECO-FRIENDLY

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Universe Collection® – UCL

DATE TYPE

Fixture	Luminous Element/Hood	Optics	Lamp/Ballast	Color	Hood Options	Options
1	2	3	4	5	6	7

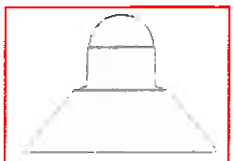
1. FIXTURE

❑ **UCL** Universe Large (Horizontal Reflector)

2. LUMINOUS ELEMENT AND HOOD

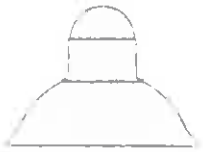
NO LUMINOUS ELEMENT

❑ **ANG**
Angled Hood



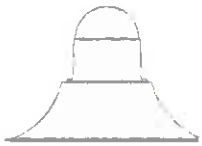
HT: 21.4"/545mm
DIA: 30"/760mm

❑ **BEL**
Bell Hood



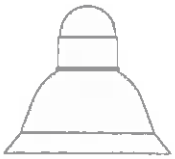
HT: 22"/560mm
DIA: 30"/760mm

❑ **FLR**
Flared Hood



HT: 21"/535mm
DIA: 32"/810mm

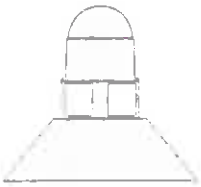
❑ **SKB**
Skirted Bell Hood



HT: 27.25"/693mm
DIA: 32"/810mm

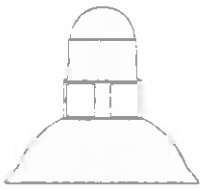
4 LUMINOUS WINDOWS

❑ **WND-ANG**
Angled Hood



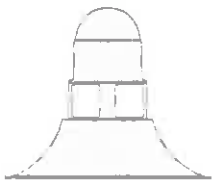
HT: 26.7"/680mm
DIA: 30"/760mm

❑ **WND-BEL**
Bell Hood



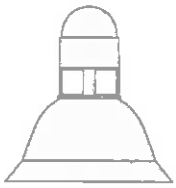
HT: 26.7"/680mm
DIA: 30"/760mm

❑ **WND-FLR**
Flared Hood



HT: 26.7"/680mm
DIA: 32"/810mm

❑ **WND-SKB**
Skirted Bell Hood



HT: 32.5"/826mm
DIA: 32"/810mm

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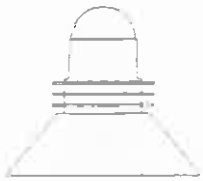
Fixture	Luminous Element/Hood	Optics	Lamp/Ballast	Color	Hood Options	Options
1	2	3	4	5	6	7

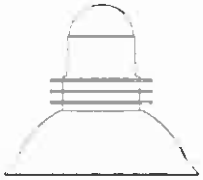
SOLID RINGS

❑ **SR-ANG**
Angled Hood



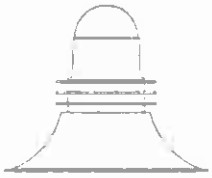
HT: 26.7"/680mm
DIA: 30"/760mm

❑ **SR-BEL**
Bell Hood



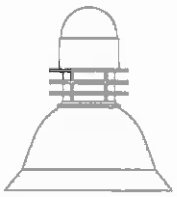
HT: 26.7"/680mm
DIA: 30"/760mm

❑ **SR-FLR**
Flared Hood



HT: 26.7"/680mm
DIA: 32"/810mm

❑ **SR-SKB**
Skirted Bell Hood



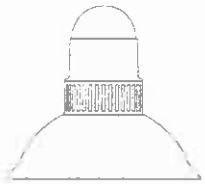
HT: 32.25"/820mm
DIA: 32"/810mm

VERTICAL SLOTS

❑ **VSL-ANG**
Angled Hood

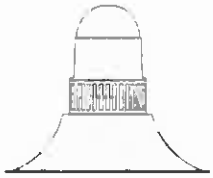
HT: 26.7"/680mm
DIA: 30"/760mm

❑ **VSL-BEL**
Bell Hood



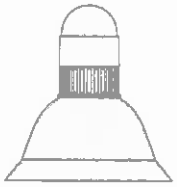
HT: 26.7"/680mm
DIA: 30"/760mm

❑ **VSL-FLR**
Flared Hood



HT: 26.7"/680mm
DIA: 32"/810mm

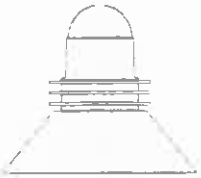
❑ **VSL-SKB**
Skirted Bell Hood



HT: 32.5"/826mm
DIA: 32"/810mm

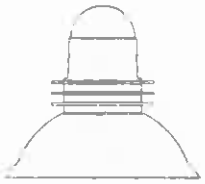
LUMINOUS RINGS

❑ **LUM-ANG**
Angled Hood



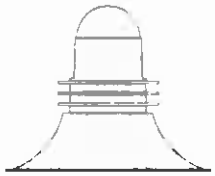
HT: 26.7"/680mm
DIA: 30"/760mm

❑ **LUM-BEL**
Bell Hood



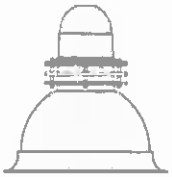
HT: 26.7"/680mm
DIA: 30"/760mm

❑ **LUM-FLR**
Flared Hood



HT: 26.7"/680mm
DIA: 32"/810mm

❑ **LUM-SKB**
Skirted Bell Hood



HT: 32.25"/820mm
DIA: 32"/810mm

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Fixture	Luminous Element/Hood	Optics	Lamp/Ballast	Color	Hood Options	Options
1	2	3	4	5	6	7

3. OPTICS

- ❑ H2 Type 2 horizontal reflector, flat glass lens
- ❑ H3 Type 3 horizontal reflector, flat glass lens
- ❑ H4 Type 4 horizontal reflector, flat glass lens
- ❑ H5 Type 5 horizontal reflector, flat glass lens

4. LAMP/BALLAST

- ❑ 150PSMH Pulse start 150 watt metal halide 120/208/240/277 volt ballast. Use mogul base ED-28 lamp.
- ❑ 250PSMH Pulse start 250 watt metal halide 120/208/240/277 volt ballast. Use mogul base, ED-28 lamp.
- ❑ 320PSMH Pulse start 320 watt metal halide 120/208/240/277 volt ballast. Use mogul base, ED-28 lamp.
- ❑ 350PSMH Pulse start 350 watt metal halide 120/208/240/277 volt ballast. Use mogul base, ED-28 lamp.
- ❑ 400PSMH Pulse start 400 watt metal halide 120/208/240/277 volt ballast. Use mogul base, ED-28 lamp.
- ❑ 150HPS High pressure sodium 120/208/240/277 volt ballast. Use mogul base, ED-23 1/2 lamp.
- ❑ 250HPS High pressure sodium 120/208/240/277 volt ballast. Use mogul base, ED-18 lamp.
- ❑ 400HPS High pressure sodium 120/208/240/277 volt ballast. Use mogul base, ED-18 lamp.

All ballasts are factory wired for 277 volts, unless specified. Lamps not included.
All applicable ballasts are EISA compliant.

5. COLOR

- ❑ AWT Arctic White
- ❑ BLK Black
- ❑ MTB Matte Black
- ❑ DGN Dark Green
- ❑ DBZ Dark Bronze
- ❑ WRZ Weathered Bronze
- ❑ BRM Metallic Bronze
- ❑ VBL Verde Blue
- ❑ CRT Corten
- ❑ MAL Matte Aluminum
- ❑ MDG Medium Grey
- ❑ ATG Antique Green
- ❑ LGY Light Grey
- ❑ RAL/PREMIUM COLOR Provide a RAL 4 digit color number
- ❑ CUSTOM COLOR Please provide a color chip for matching

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Fixture	Luminous Element/Hood	Optics	Lamp/Ballast	Color	Hood Options	Options
1	2	3	4	5	6	7

6. HOOD OPTIONS

- ❑ COP — Copper hood
- ❑ STS — Stainless steel hood

The natural copper and stainless steel hoods are unfinished to develop a patina over time. All painted hoods have the underside of the hoods finished in high reflectance white.

7. OPTIONS

- ❑ FLD — Lightly diffused finish on flat glass lens
- ❑ HSS — House side shield
- ❑ QRS — Restrike controller and T-4 mini-can socket. Not required with electronic ballast. (Lamp wattage not to exceed ballast wattage).
- ❑ QL — Socket for T-4 mini-can lamp, field wired to a separate circuit. (Lamp wattage not to exceed ballast wattage).
- ❑ 347 — 120/240/347 volt ballast for HID lamp
- ❑ PMS — Pendant mount with 48"/1220mm stem and canopy with swivel. Stem and canopy painted white. 45° max. movement.
- ❑ SLC — Internal sleeve to block light from the lens when a Luminous Element is chosen: WND, SR, VSL or LUM

INNER LENS - (LUM Option only) Optional inner lens adds color to the ring edges when illuminated.

- ❑ BL — Blue acrylic inner lens
- ❑ RD — Red acrylic inner lens
- ❑ GRN — Green acrylic inner lens

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Specifications

HOUSING

The fixture ballast housing shall be one-piece die cast aluminum. The luminous rings shall be clear acrylic with an internal lens. The lens shall be lightly diffused acrylic, sealed to the housing and shade with molded silicone gaskets. The hood and spacers shall be heavy gage spun aluminum with hemmed edges for added rigidity.

All internal and external hardware shall be stainless steel.

Reflector models shall consist of a die cast aluminum door frame and ring assembly. The hood ring assembly shall be fully sealed with a molded silicone gasket. The door frame shall be hinged to the ring and opened with two captive fasteners for relamping. The tempered sag glass lens is held in the door frame with a molded silicone gasket.

FULL CUTOFF

The reflector models, less luminous element, is classified as full cutoff, meaning there is zero light emitted at 90° horizontal or above.

OPTICAL ASSEMBLY

The reflector module shall be composed of faceted, semi specular anodized aluminum panels rigidly attached in an aluminum tray. The reflector shall be easily removed by loosening four screws and lifting it out the tray. The reflector tray shall be rotatable on 90° centers for orienting the light distribution. The reflectors shall meet ANSI-IES standards for full cutoff.

ELECTRICAL

The ballast shall be mounted on a prewired tray with a quick disconnect plug and removed by loosening two captive screws. HID ballasts are high power factor, rated for -30°C starting. Sockets are medium or G12 base, pulse rated porcelain. Ballasts are multi-tap, wired at the factory for 277 volts, unless specified.

INSTALLATION & MOUNTING

The fixture shall be attached to the arm assembly with three stainless steel bolts. The connection shall be sealed with a silicone compression gasket.

FINISH

Fixture finish consists of a five stage pretreatment regimen with a polymer primer sealer, oven dry off and top coated with a thermoset super TGIC polyester powder coat finish. The finish shall meet the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance.

EISA COMPLIANCE

AAL is committed to complying with U.S. EISA requirements. All applicable products manufactured for sale in the United States after January 1, 2009, meet EISA requirements.

CERTIFICATION

The fixture shall be listed with ETL and U.L.for outdoor, wet location use, UL1598 and Canadian CSA Std. C22.2 NO.250. IP=65

WARRANTY

Fixture is warranted for three years. Ballast components carry the ballast manufacturer's limited warranty. Any unauthorized return, repair, replacement or modification of the Product(s) shall void this warranty. This warranty applies only to the use of the Product(s) as intended by AAL and does not cover any misapplication or misuse of said Product(s), or installation in hazardous or corrosive environments. Contact AAL for complete warranty language, exceptions, and limitations.

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Universe Collection® – UCS

Small Scale
Updated: 01/2010

- Now available with highly efficient LED technology
  - IES Type 5 distribution
  - Two color temperatures, 3500K and 5100K
- Modular system offers five luminous choices and five hood options for customization to complement site design
- Full cutoff option available
- Pole, wall, or pendant mounting options
- Opal glass lens, IES Type 5 distribution for soft, general lighting
- EISA compliant
- IP65 rated
- Powder coat finish in 13 standard colors with a polymer primer sealer

NEW LED

EISA compliant fixtures
architectural arealighting
EFFICIENT EFFECTIVE ECO-FRIENDLY

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Universe Collection® – UCS

 DATE TYPE

Luminaire	Luminous Element/Hood	Lamp/Ballast	Color	Options	Mounting
1	2	3	4	5	6

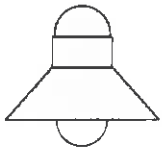
1. **LUMINAIRE**

❑ **UCS** Universe Small WT: 14 lbs

2. LUMINOUS ELEMENT AND **HOOD**

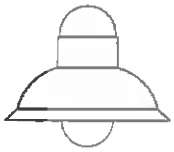
NO LUMINOUS ELEMENT

❑ **ANG**
Angled Hood



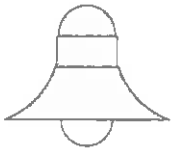
HT: 12.75"/325mm
DIA: 15"/380mm
EPA: 0.29

❑ BEL
Bell Hood



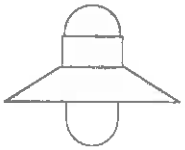
HT: 12.75"/325mm
DIA: 15"/380mm
EPA: 0.30

❑ FLR
Flared Hood



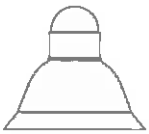
HT: 12.75"/325mm
DIA: 15"/380mm
EPA: 0.28

❑ STR
Straight Hood



HT: 12.75"/325mm
DIA: 16"/405mm
EPA: 0.27

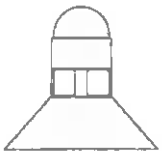
❑ SKB
Skirted Bell Hood



HT: 13"/330mm
DIA: 15"/380mm
EPA: 0.38

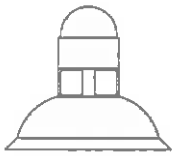
4 LUMINOUS WINDOWS

❑ WND-ANG
Angled Hood



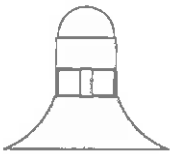
HT: 12.75"/325mm
DIA: 15"/380mm
EPA: 0.31

❑ WND-BEL
Bell Hood



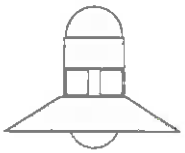
HT: 12.75"/325mm
DIA: 15"/380mm
EPA: 0.34

❑ WND-FLR
Flared Hood



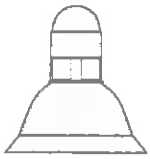
HT: 12.75"/325mm
DIA: 15"/380mm
EPA: 0.30

❑ WND-STR
Straight Hood



HT: 12.75"/325mm
DIA: 16"/405mm
EPA: 0.28

❑ WND-SKB
Skirted Bell Hood



HT: 16"/405mm
DIA: 15"/380mm
EPA: 0.43

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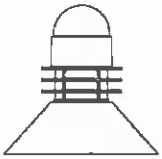
Universe Collection® – ucs

 DATE TYPE

Luminaire	Luminous Element/Hood	Lamp/Ballast	Color	Options	Mounting
1	2	3	4	5	6

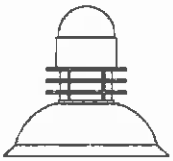
SOLID RINGS

❑ SR-ANG
Angled Hood



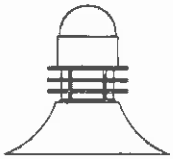
HT: 13.5"/340mm
DIA: 15"/380mm
EPA: 0.32

❑ SR-BEL
Bell Hood



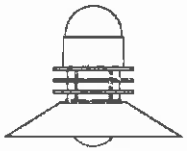
HT: 13"/330mm
DIA: 15"/380mm
EPA: 0.34

❑ SR-FLR
Flared Hood



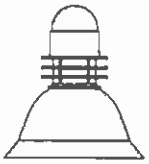
HT: 13"/330mm
DIA: 15"/380mm
EPA: 0.30

❑ SR-STR
Straight Hood



HT: 12.75"/325mm
DIA: 16"/405mm
EPA: 0.28

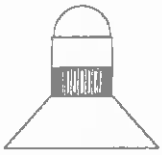
❑ SR-SKB
Skirted Bell Hood



HT: 16"/405mm
DIA: 15"/380mm
EPA: 0.43

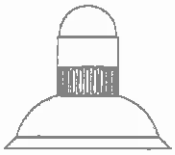
VERTICAL SLOTS

❑ VSL-ANG
Angled Hood



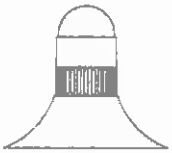
HT: 12.75"/325mm
DIA: 15"/380mm
EPA: 0.31

❑ VSL-BEL
Bell Hood



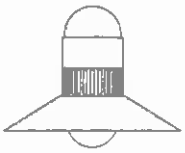
HT: 12.75"/325mm
DIA: 15"/380mm
EPA: 0.34

❑ VSL-FLR
Flared Hood



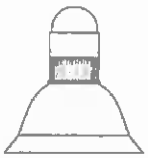
HT: 12.75"/325mm
DIA: 15"/380mm
EPA: 0.30

❑ VSL-STR
Straight Hood



HT: 12.75"/325mm
DIA: 16"/405mm
EPA: 0.28

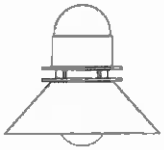
❑ VSL-SKB
Skirted Bell Hood



HT: 16"/405mm
DIA: 15"/380mm
EPA: 0.43

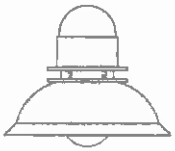
LUMINOUS RINGS

❑ LUM-ANG
Angled Hood



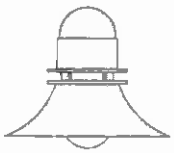
HT: 13.5"/340mm
DIA: 15"/380mm
EPA: 0.29

❑ LUM-BEL
Bell Hood



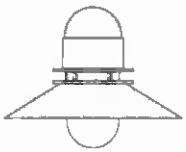
HT: 13"/330mm
DIA: 15"/380mm
EPA: 0.33

❑ LUM-FLR
Flared Hood



HT: 13"/330mm
DIA: 15"/380mm
EPA: 0.28

❑ LUM-STR
Straight Hood



HT: 12.75"/325mm
DIA: 16"/405mm
EPA: 0.27

❑ LUM-SKB
Skirted Bell Hood

HT: 15"/380mm
DIA: 15"/380mm
EPA: 0.41

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Luminaire	Luminous Element/Hood	Lamp/Ballast	Color	Options	Mounting
1	2	3	4	5	6

3. LAMP/BALLAST

❑	12LED-WW	12 light emitting diode array (32 watts). Warm white (3500K). 120 thru 277 volt.
❑	12LED-BW	12 light emitting diode array (32 watts). Bright white (5100K). 120 thru 277 volt.
❑	CF	Compact fluorescent, electronic 120 thru 277 volt ballast. -18°C min start temp. Use 4-pin 26, 32 or 42 watt lamp. Specify wattage.
❑	50MH	50 watt metal halide 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
❑	70MH	70 watt metal halide 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.
❑	70MHT6	70 watt metal halide 120/277/347 volt ballast. Use G12 base, T-6 ceramic lamp.
❑	50HPS	50 watt high pressure sodium 120/277 volt ballast. Use medium base, ED-17 lamp.
❑	70HPS	70 watt high pressure sodium 120/208/240/277 volt ballast. Use medium base, ED-17 lamp.

All ballasts and LED drivers are factory wired for 277 volts, unless specified. Lamps not included (except for LED options). For pole mounted fixtures, the ballast is located in the arm. All applicable ballasts are EISA compliant.

4. COLOR

❑	AWT	Arctic White
❑	BLK	Black
❑	MTB	Matte Black
❑	DGN	Dark Green
❑	DBZ	Dark Bronze
❑	WRZ	Weathered Bronze
❑	BRM	Metallic Bronze
❑	VBL	Verde Blue
❑	CRT	Corten
❑	MAL	Matte Aluminum
❑	MDG	Medium Grey
❑	ATG	Antique Green
❑	LGY	Light Grey
❑	RAL/PREMIUM COLOR	Provide a RAL 4 digit color number
❑	CUSTOM COLOR	Please provide a color chip for matching

5. OPTIONS – HOOD FINISH

❑	COP	Copper hood
❑	STS	Stainless steel hood

The natural copper and stainless steel hoods are unfinished to develop a patina over time. All hoods have the under side finished in high reflectance white.

OPTIONS – INTERNAL

❑	SLC	Internal sleeve to block light from the lens when a luminous element is chosen.
❑	347	120/240/347 volt ballast for HID lamp/ballast except the 50MH and 50HPS. **Not available with LED.**
❑	FCO	Full cutoff shield. Replaces luminous element.

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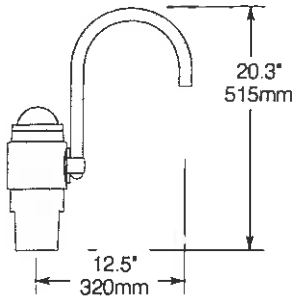
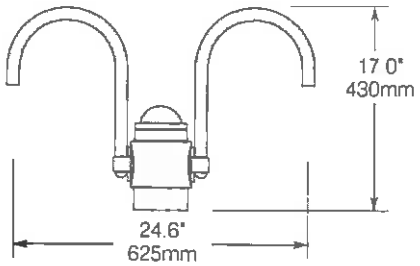
Luminaire	Luminous Element/Hood	Lamp/Ballast	Color	Options	Mounting
1	2	3	4	5	6

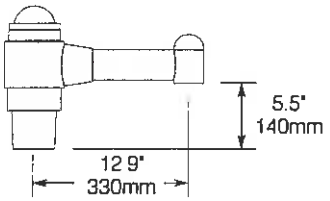
6. MOUNTING

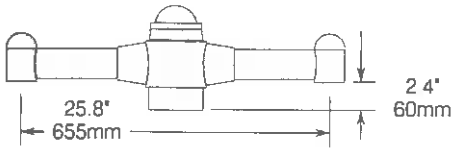




❑ PCVS Curved arm, fits over a 3"/75mm pole

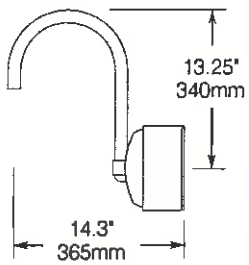
❑ PCVT Twin curved arm, fits over a 4"/100mm pole
The top 6"/150mm of the pole top shall have an open, clear unobstructed area for the ballast assembly

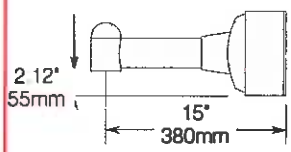




❑ PSTS Straight arm, fits over a 3"/75mm pole

❑ PSTT Twin straight arm, fits over a 4"/100mm pole
The top 6"/150mm of the pole top shall have an open, clear unobstructed area for the ballast assembly





❑ **WCV**
Wall mount curved arm, integral ballast. Uses the mounting plate with a prewired ballast.

❑ **WST**
Wall mount straight arm, integral ballast. Uses the mounting plate with a prewired ballast.

❑ **PMS**
Pendant mount with 48"/1220mm stem and swivel fits over a standard octagonal j-box. Remote ballast required.

❑ **SBE**
Pendant mount with 48"/1220mm stem and surface mounted ballast enclosure.

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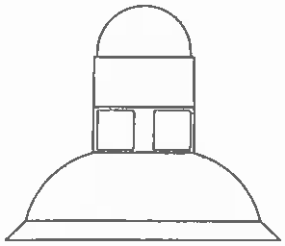
Specifications



HT: 12.75"/325mm to 16"/405mm
DIA: 14"/355mm to 16"/405mm
WT: 14 lbs. IP rating: 55

HOUSING

The fixture and ballast housing shall be one piece cast aluminum. The luminous rings shall be acrylic with an aluminum spacer and stainless steel rods. The lens shall be tempered, borosilicate opal glass. The lens shall be gasketed and screwed onto the housing for lamp access. The hoods shall be heavy gage spun aluminum with hemmed edges for added rigidity.
All internal and external hardware shall be stainless steel

FULL CUTOFF

The full cutoff shield is used in place of the luminous element when the FCO option is chosen. It lowers the hood to cover the opal lens, providing IES full cutoff classification meaning there is zero light emitted at 90° horizontal or above. The O.A.H of the UCS fixture with the FCO option is 14.25"/362mm with the bell hood, 14"/356mm with the skirted bell hood, or 13.25"/337mm for others.

ELECTRICAL

The ballast shall be mounted to a cast plate, prewired with a quick disconnect plug. HID ballasts are high power factor, rated for -30°C starting. Sockets are medium base, pulse rated porcelain. Compact fluorescent socket is for a 26, 32 or 42 watt lamp, 4 pin, GX24q-4, with an electronic ballast, -18°C starting temperature. Ballasts are wired at the factory for 277 volts, unless specified. Standard LED color temperatures are 3500K and 5100K. Other color temperatures available. Please contact factory. LED constant current driver operates
at 700mA.

INSTALLATION & MOUNTING

Pole mount: The fixture shall be welded to the arm assembly for both the wall and pole mounting models. The single fixture pole mounted arms PCVS and PSTS shall have an integral ballast compartment, and slip over a 3"/75mm pole. The twin fixture pole mounted arms PCVT and PSTT shall have an integral ballast compartment, and slip over an open top, 4"/100mm pole. The top 6"/150mm of the pole top shall have a clear, unobstructed area for the ballast assembly.

Wall mount: The wall mounted ballast housing shall be welded together with the arm and fixture as a unitized assembly. A cast aluminum wall plate shall have the ballast assembly installed and prewired for easy installation. The fixture assembly shall slip over the wall plate and secure with three stainless steel set screws. The mounting system shall allow for horizontal adjustment to level the fixture independent of the mounting plate orientation.

Pendant mount SBE

The ballast is factory assembled and wired to the mounting plate. A .75"/18mm hole is provided for wiring access to the the J-box. Seal the back plate to the wall surface with an appropriate silicone caulk. Three .375"/10mm holes on 120° centers, on a 5"/125mm circle are provided on the back plate for anchoring. Use appropriate stainless steel fasteners for anchoring.

FINISH

Fixture finish consists of a five stage pretreatment regimen with a polymer primer sealer, oven dry off and top coated with a thermoset super TGIC polyester powder coat finish. The finish shall meet the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance.

CERTIFICATION

The fixture shall be listed with ETL and U.L. for outdoor, wet location use, UL1598 and Canadian CSA Std. C22.2 No.250. IP=65

EISA COMPLIANCE

AAL is committed to complying with U.S. EISA requirements. All applicable products manufactured for sale in the United States after January 1, 2009, meet EISA requirements.

WARRANTY

Fixture is warranted for three years. Ballast components carry the ballast manufacturer's limited warranty. Any unauthorized return, repair, replacement or modification of the Product(s) shall void this warranty. This warranty applies only to the use of the Product(s) as intended by AAL and does not cover any misapplication or misuse of said Product(s), or installation in hazardous or corrosive environments. Contact AAL for complete warranty language, exceptions, and limitations.

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RIPARIAN SETBACK CALCULATION
O'REILLY AUTO PARTS
BROADWAY & SOUTHWEST BOULEVARD
GROVE CITY, OHIO

August 25, 2015

The riparian setback calculation is based on the criteria set forth in the "Natural Stream Protection Policy, City of Grove City, Ohio" dated September 6, 2006.

SW = 129*(DA)^0.43

Where: SW = setback width measured in feet, centered on the watercourse
DA = drainage area in square miles (minimum SW = 25 feet)

The drainage area (DA) is 1.21 square miles and was derived from StreamStats. The StreamStats drainage area map and basin characteristics report are attached for reference.

SW = 129*(1.21)^0.43 = 140 feet, therefore a 70 foot riparian setback is required from the center of the water course

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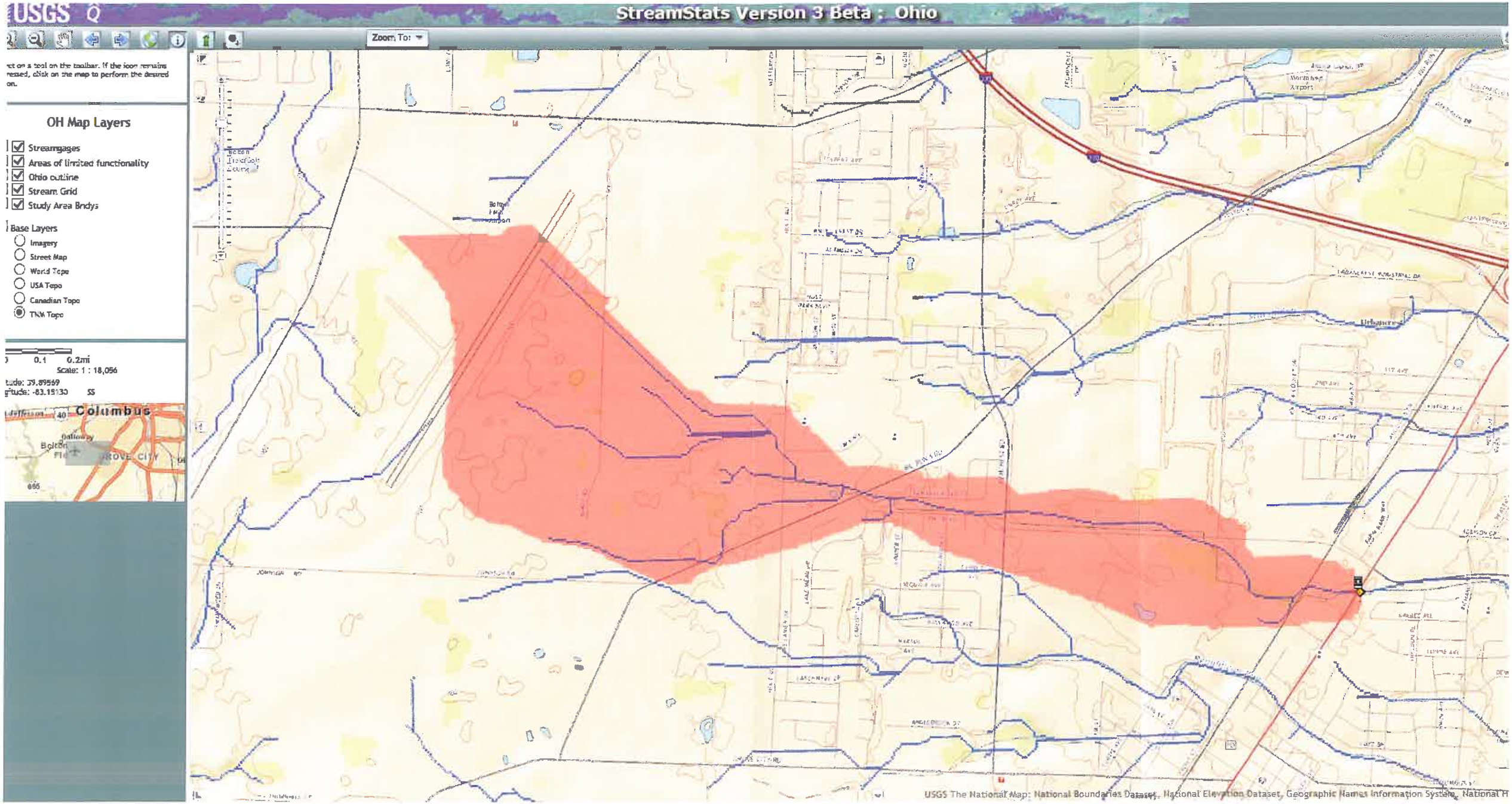
AUG 26 2015
GC PLANNING COMMISSION


USGS
StreamStats Version 3 Beta : Ohio
Zoom To:
OH Map Layers
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Areas of limited functionality
Ohio outline
Stream Grid
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Base Layers
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Street Map
World Topo
USA Topo
Canadian Topo
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Columbus
USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National H

StreamStats Version 3 Beta

Basin Characteristics Ungaged Site Report

Date: Thurs Aug 20, 2015 6:36:17 AM GMT-4
NAD 1983 Latitude: 39.8901 (39 53 24)
NAD 1983 Longitude: -83.0866 (-83 05 12)

Label	Value	Units	Definition
OHREGA	1	dimensionless	Ohio Region A Indicator
OHREGC	0	dimensionless	Ohio Region C Indicator
DRNAREA	1.21	square miles	Area that drains to a point on a stream
LAT_CENT	39.8955	decimal degrees	Latitude of Basin Centroid
CSL1085LFP	19.8	feet per mi	Change in elevation divided by length between points 10 and 85 percent of distance along the longest flow path to the basin divide, LFP from 2D grid
LONG_CENT	83.1198	decimal degrees	Longitude Basin Centroid
PRECIP	37.9	inches	Mean Annual Precipitation
STREAM_VARG	0.61	dimensionless	Streamflow variability index as defined in WRIR 02-4068, computed from regional grid
FOREST	2.93	percent	Percentage of area covered by forest
LC92STOR	0.69	percent	Percentage of water bodies and wetlands determined from the NLCD
LC11IMP	16.8	percent	Percentage of impervious area determined from NLCD 2011 impervious dataset
LC11DEV	51.6	percent	Percentage of land-use from NLCD 2011 classes 21-24

STORM WATER REPORT FOR:

O'REILLY AUTO PARTS

BROADWAY & SOUTHWEST BOULEVARD
GROVE CITY, OHIO

August 25, 2015

STATE OF OHIO
ERIC P. CHENEVEY 55806
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The proposed O'Reilly Auto Parts building/site is located on 0.97 acres, which will be split out from an 8.567 acre tract (PID 040-013660). The proposed site is located in the southwest corner of the Broadway and Southwest Boulevard intersection (just south of the existing CVS).

The existing site is pervious (predominantly grass with a few trees) and drains southward to Brown Run. There is an existing 12" storm sewer system located between the proposed parking lot and Broadway. This existing 12" storm sewer flows south to Brown Run as well. From this point, Brown Run flows to the east where an existing 6' x 10' box culvert conveys drainage under Broadway.

The proposed development consists of 7,569 s.f. building, asphalt parking lot, sidewalk, trash enclosure, and green space. Approximately 0.66 acres of the 0.97 acres is impervious. In order to avoid disturbing the floodway, the proposed storm sewer will connect to a catch basin located in the existing 12" storm system.

The Critical Storm Method will be utilized to analyze the storm water detention requirements.

Given the fact that the proposed site disturbs less than 1 (one) acre, a Storm Water Pollution Prevention Plan (SWPPP) and water quality measures are not incorporated into the design and/or construction plans.

DETERMINE CRITICAL STORM

The runoff volume generated from a 1-year (pre-dev.) storm must be compared to the runoff volume generated from a 1-year (post-dev.) storm. This will determine the critical design storm for the storm water detention system. According to the Soils Report, Type 'C' soils are anticipated on this site.

In this analysis, a CN = 98 will be used for impervious area and a CN = 79 will be used for pervious areas. Following is the weighted CN value for the post-development condition.

$$CN = \frac{0.66\ (98) + 0.31\ (79)}{0.97} = 92$$

In this study, the "Hydrographs" program was used to generate the runoff volumes. A copy of the summary data is attached. Based on the results from this program, the critical storm events for the site are as follows:

1-year (pre-dev.) storm volume = 2,407 c.f.
Q for 1-year (pre-dev.) storm = 1.118 cfs

1-year (post-dev.) storm volume = 5,609 c.f.
Q for 1-year (post-dev.) storm = 2.701 cfs

$$\% \text{ increase in runoff} = \frac{5{,}609 - 2{,}407}{2{,}407} = 133\% >> \text{25-year critical storm}$$

The runoff generated from the 25-year (post-dev.) storm event must be released at a rate equal to or less than the 1-year (pre-dev.) runoff rate. In addition, the 50-year and 100-year post-

development storms must be released at a rate equal to or less than the corresponding pre-development storms. The 1, 2, 5, 10, 25, 50 & 100-year storms will be evaluated in this report.

ROUTE STORM EVENTS THROUGH STRUCTURE # 2

For this study, the storage volume required to detain the various storms was obtained through using pipes, dry pond, and parking lot areas. An orifice plate will be placed on structure # 2 to restrict flow.

Based on the proposed grading plan, 0.921 acres will flow through structure # 2, and 0.136 acres will flow undetained. The allowable release rate permitted through structure # 2 (for any storm event) consists of the pre-developed flow rate minus the undetained flow rate.

The resulting data from routing each design year storm through the above mentioned scenario is attached.

Following is a table showing the proposed release rates for each storm (post-development) through structure # 2 and the allowable release rates for each storm (pre-development).

Storm Event	Pre-Dev. Release Rate	Proposed Release Rate
1-Year	1.118 cfs	0.593 cfs
2- Year	1.634 cfs	0.692 cfs
5-Year	2.425 cfs	0.841 cfs
10-Year	3.107 cfs	0.943 cfs
25-Year	4.105 cfs	1.089 cfs (Critical Storm) << 1.118 cfs
50-Year	4.955 cfs	1.213 cfs
100-Year	5.860 cfs	1.345 cfs

Watershed Model Schematic

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3

Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	1.118	1.634	------	2.425	3.107	4.105	4.955	5.860	OReilly (Pre-Dev)
2	SCS Runoff	------	2.701	3.414	------	4.426	5.253	6.404	7.353	8.347	OReilly (Post-Dev)
3	SCS Runoff	------	0.160	0.234	------	0.347	0.444	0.584	0.703	0.830	OReilly (Post-Dev) Undetained
4	SCS Runoff	------	2.573	3.194	------	4.069	4.781	5.773	6.591	7.447	OReilly (Post-Dev) Routing
5	Reservoir	4	0.465	0.496	------	0.503	0.509	0.518	0.525	0.533	OReilly - Thru Orifice
6	Combine	3, 5	0.593	0.692	------	0.841	0.943	1.089	1.213	1.345	OReilly - Combined On-site and Unde

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.118	1	719	2,407	---	---	---	OReilly (Pre-Dev)
2	SCS Runoff	2.701	1	717	5,609	---	---	---	OReilly (Post-Dev)
3	SCS Runoff	0.160	1	718	328	---	---	---	OReilly (Post-Dev) Undetained
4	SCS Runoff	2.573	1	717	5,462	---	---	---	OReilly (Post-Dev) Routing
5	Reservoir	0.465	1	727	5,462	4	837.92	1,714	OReilly - Thru Orifice
6	Combine	0.593	1	719	5,790	3, 5	---	---	OReilly - Combined On-site and Unde

Hydraflow Rainfall Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	——
2	69.8703	13.1000	0.8658	——
3	0.0000	0.0000	0.0000	——
5	79.2597	14.6000	0.8369	——
10	88.2351	15.5000	0.8279	——
25	102.6072	16.5000	0.8217	——
50	114.8193	17.2000	0.8199	——
100	127.1596	17.8000	0.8186	——

File name: SampleFHA.idf

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.69	4.61	3.89	3.38	2.99	2.69	2.44	2.24	2.07	1.93	1.81	1.70
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.57	5.43	4.65	4.08	3.65	3.30	3.02	2.79	2.59	2.42	2.27	2.15
10	7.24	6.04	5.21	4.59	4.12	3.74	3.43	3.17	2.95	2.77	2.60	2.46
25	8.25	6.95	6.03	5.34	4.80	4.38	4.02	3.73	3.48	3.26	3.07	2.91
50	9.04	7.65	6.66	5.92	5.34	4.87	4.49	4.16	3.88	3.65	3.44	3.25
100	9.83	8.36	7.30	6.50	5.87	5.36	4.94	4.59	4.29	4.03	3.80	3.60

Tc = time in minutes. Values may exceed 60.

Precip. file name: Sample.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	2.20	2.63	0.00	3.24	3.74	4.44	5.02	5.63
SCS 6-Hr	0.00	1.80	0.00	0.00	2.60	0.00	0.00	4.00
Huff-1st	0.00	1.55	0.00	2.75	4.00	5.38	6.50	8.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	1.55	0.00	2.75	4.00	5.38	6.50	8.00
Custom	0.00	1.75	0.00	2.80	3.90	5.25	6.00	7.10

POND INFORMATION

Pond Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Pond No. 1 - OReilly

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	833.91	n/a	0	0
2.09	836.00	n/a	122	122
4.59	838.50	n/a	2,076	2,198
5.59	839.50	n/a	6,153	8,351

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 4.00	0.00	0.00	0.00
Span (in)	= 4.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 833.91	0.00	0.00	0.00
Length (ft)	= 61.75	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

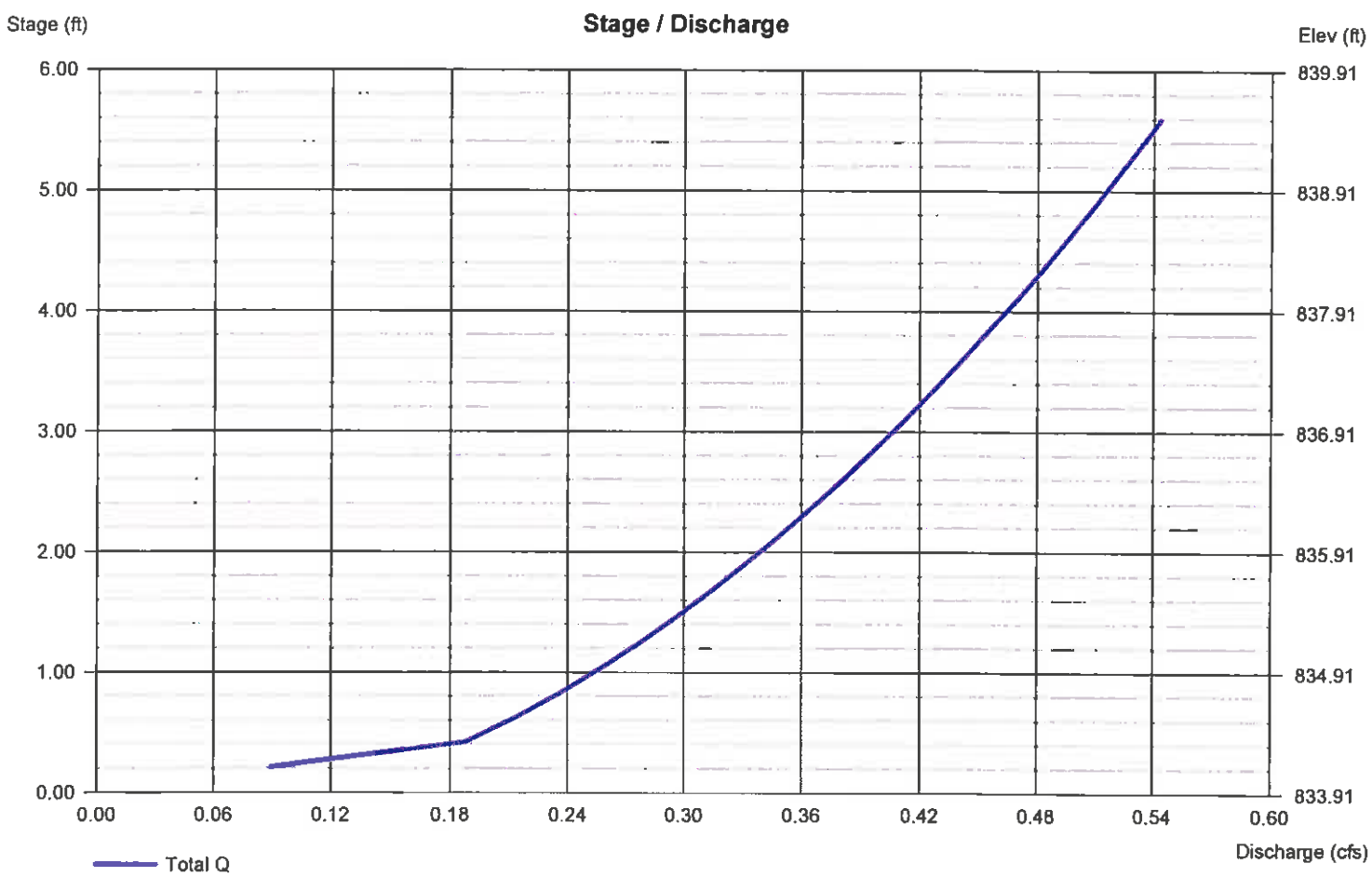
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



HYDROGRAPH NO. 1

PRE-DEVELOPMENT FLOWS
(1.057 ACRES)

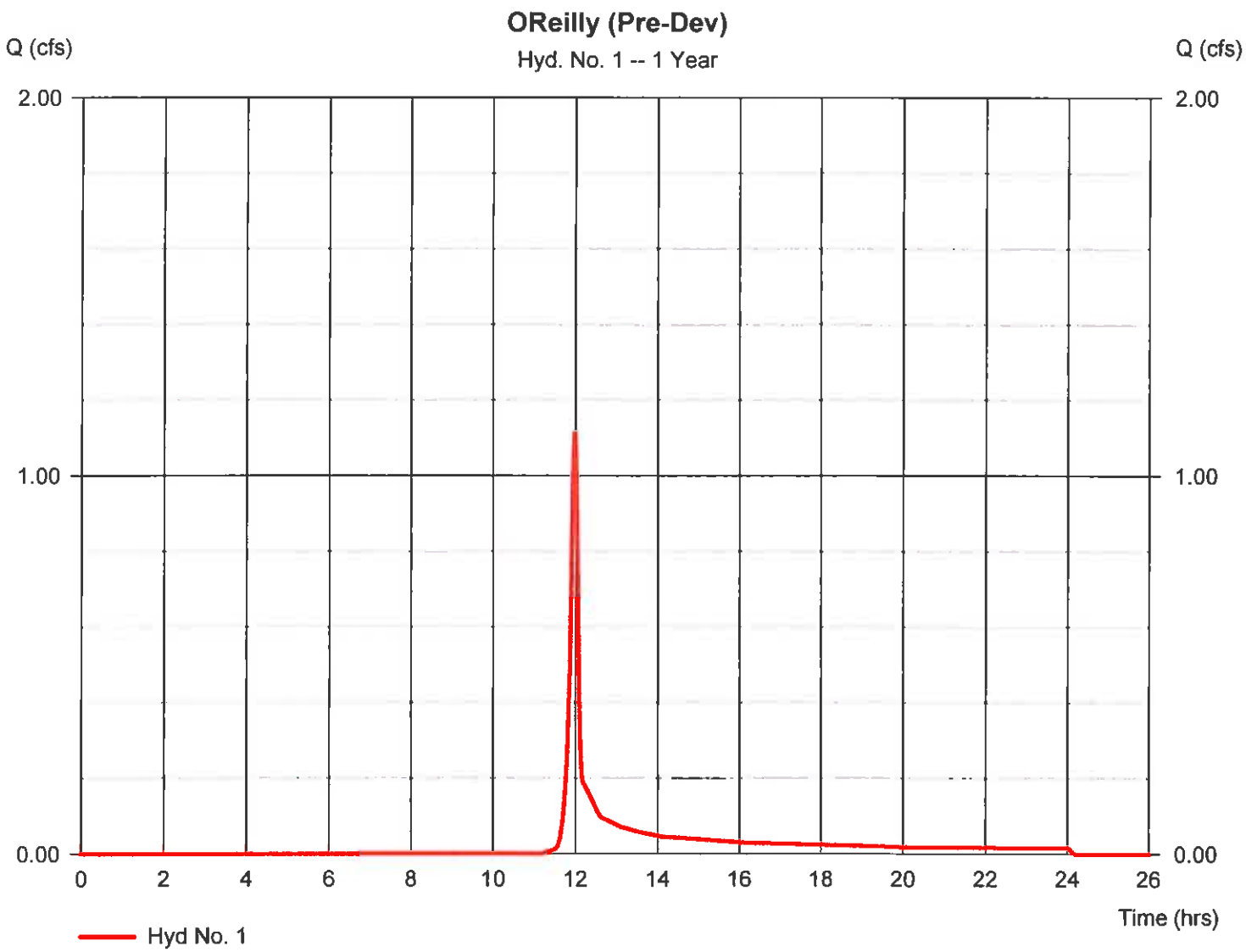
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 1

OReilly (Pre-Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 1.118 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.98 hrs
Time interval	= 1 min	Hyd. volume	= 2,407 cuft
Drainage area	= 1.057 ac	Curve number	= 79
Basin Slope	= 1.8 %	Hydraulic length	= 220 ft
Tc method	= LAG	Time of conc. (Tc)	= 7.29 min
Total precip.	= 2.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



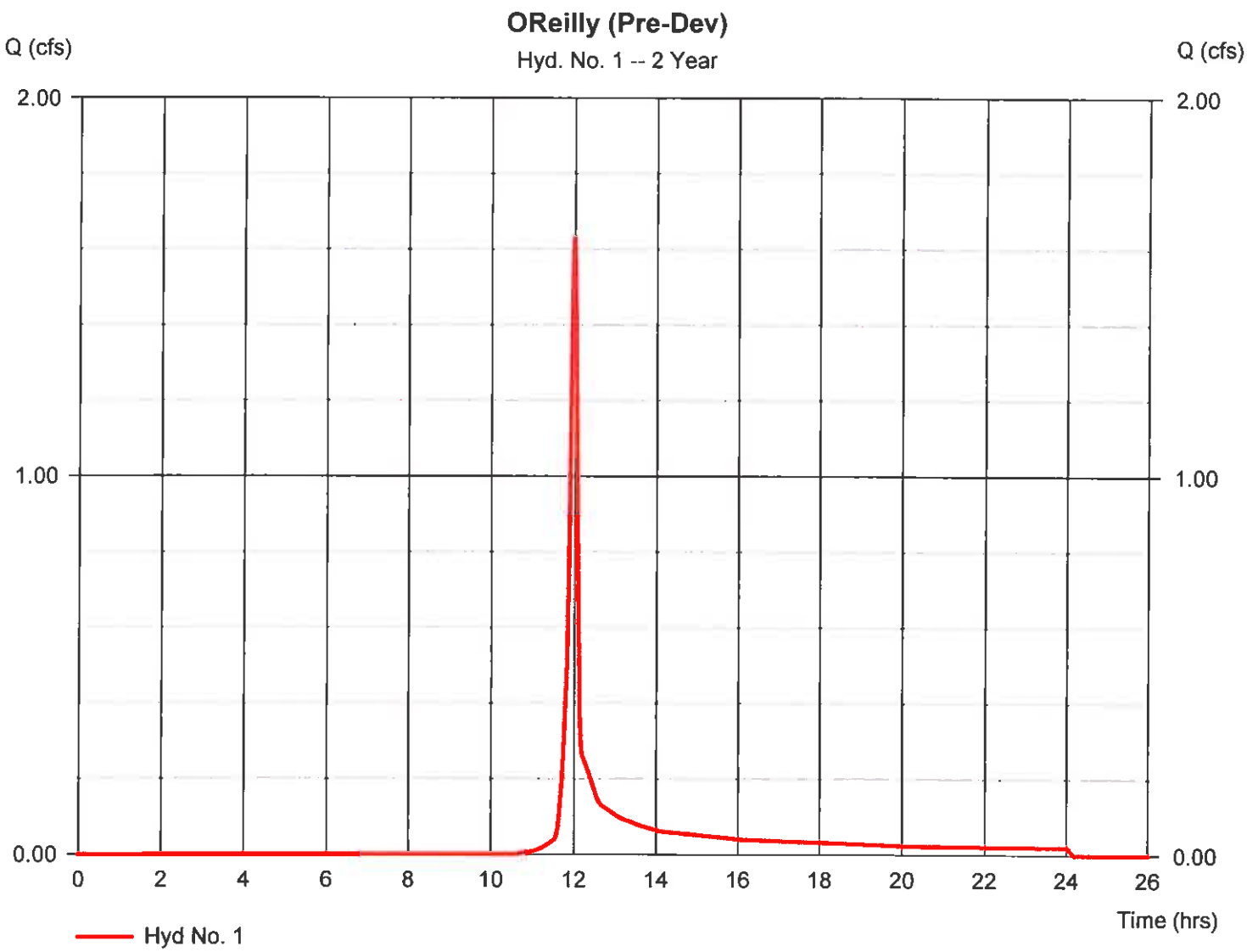
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 1

OReilly (Pre-Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 1.634 cfs
Storm frequency	= 2 yrs	Time to peak	= 11.98 hrs
Time interval	= 1 min	Hyd. volume	= 3,463 cuft
Drainage area	= 1.057 ac	Curve number	= 79
Basin Slope	= 1.8 %	Hydraulic length	= 220 ft
Tc method	= LAG	Time of conc. (Tc)	= 7.29 min
Total precip.	= 2.63 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



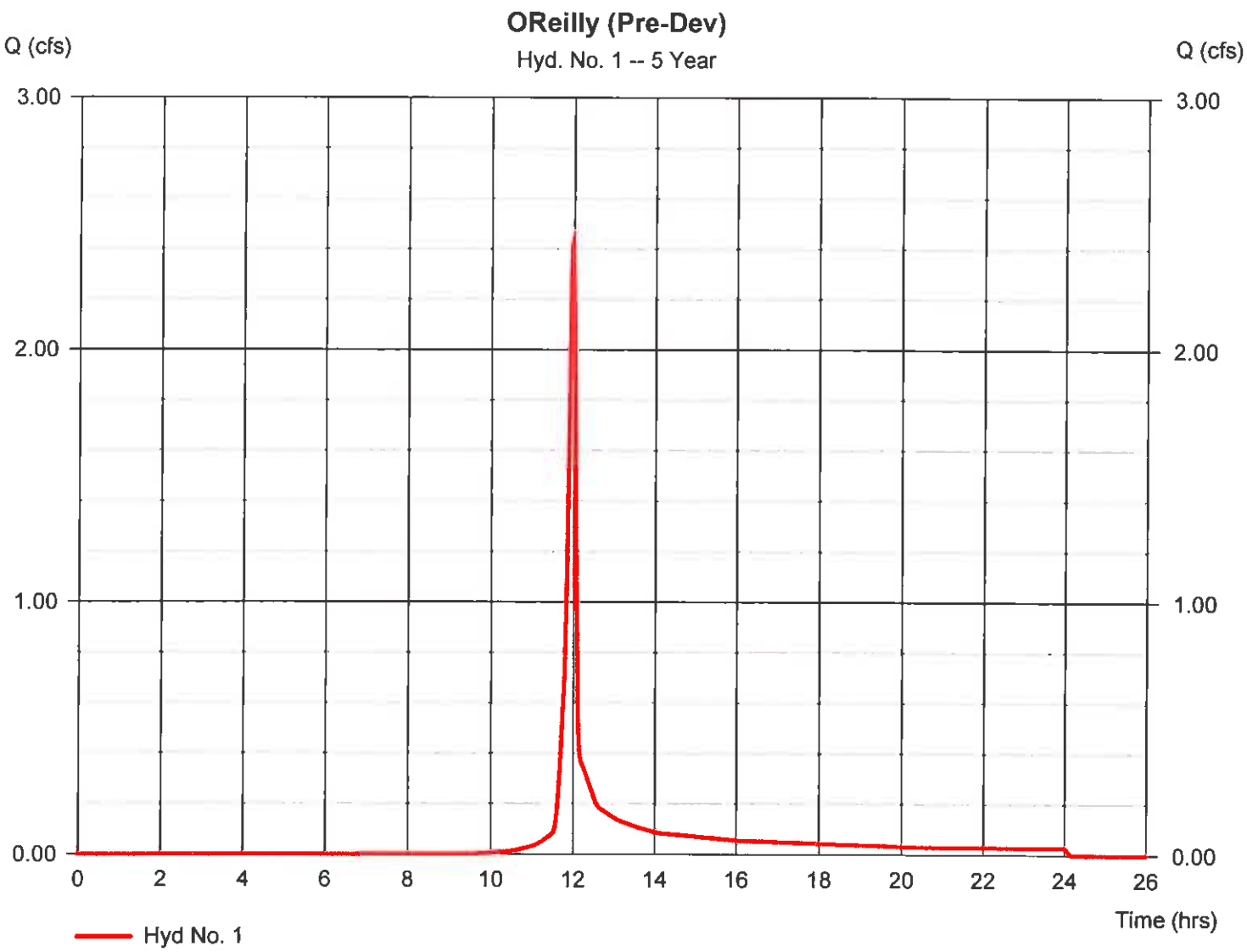
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 1

OReilly (Pre-Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.425 cfs
Storm frequency	= 5 yrs	Time to peak	= 11.98 hrs
Time interval	= 1 min	Hyd. volume	= 5,113 cuft
Drainage area	= 1.057 ac	Curve number	= 79
Basin Slope	= 1.8 %	Hydraulic length	= 220 ft
Tc method	= LAG	Time of conc. (Tc)	= 7.29 min
Total precip.	= 3.24 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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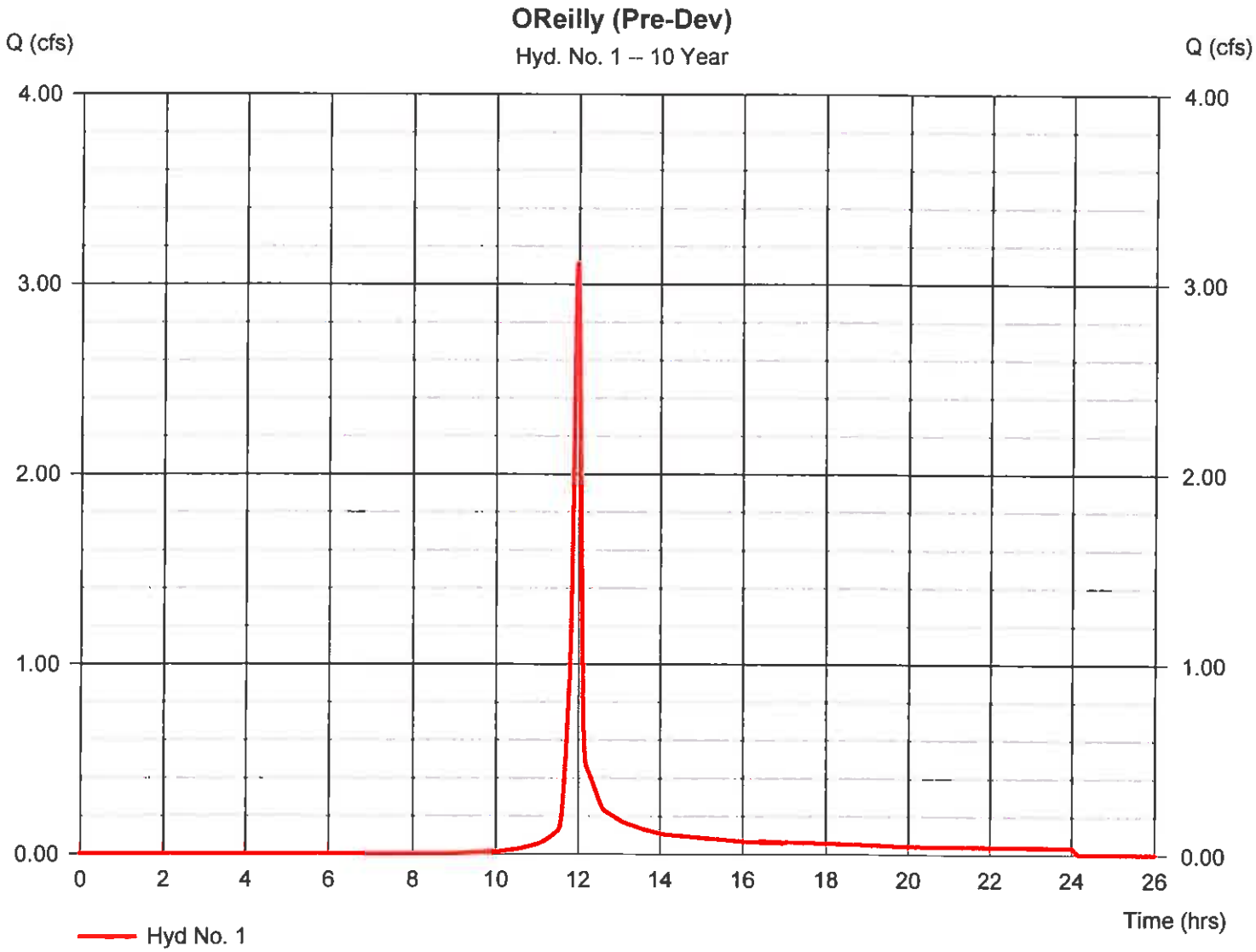
Hyd. No. 1

OReilly (Pre-Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 3.107 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.98 hrs
Time interval	= 1 min	Hyd. volume	= 6,564 cuft
Drainage area	= 1.057 ac	Curve number	= 79
Basin Slope	= 1.8 %	Hydraulic length	= 220 ft
Tc method	= LAG	Time of conc. (Tc)	= 7.29 min
Total precip.	= 3.74 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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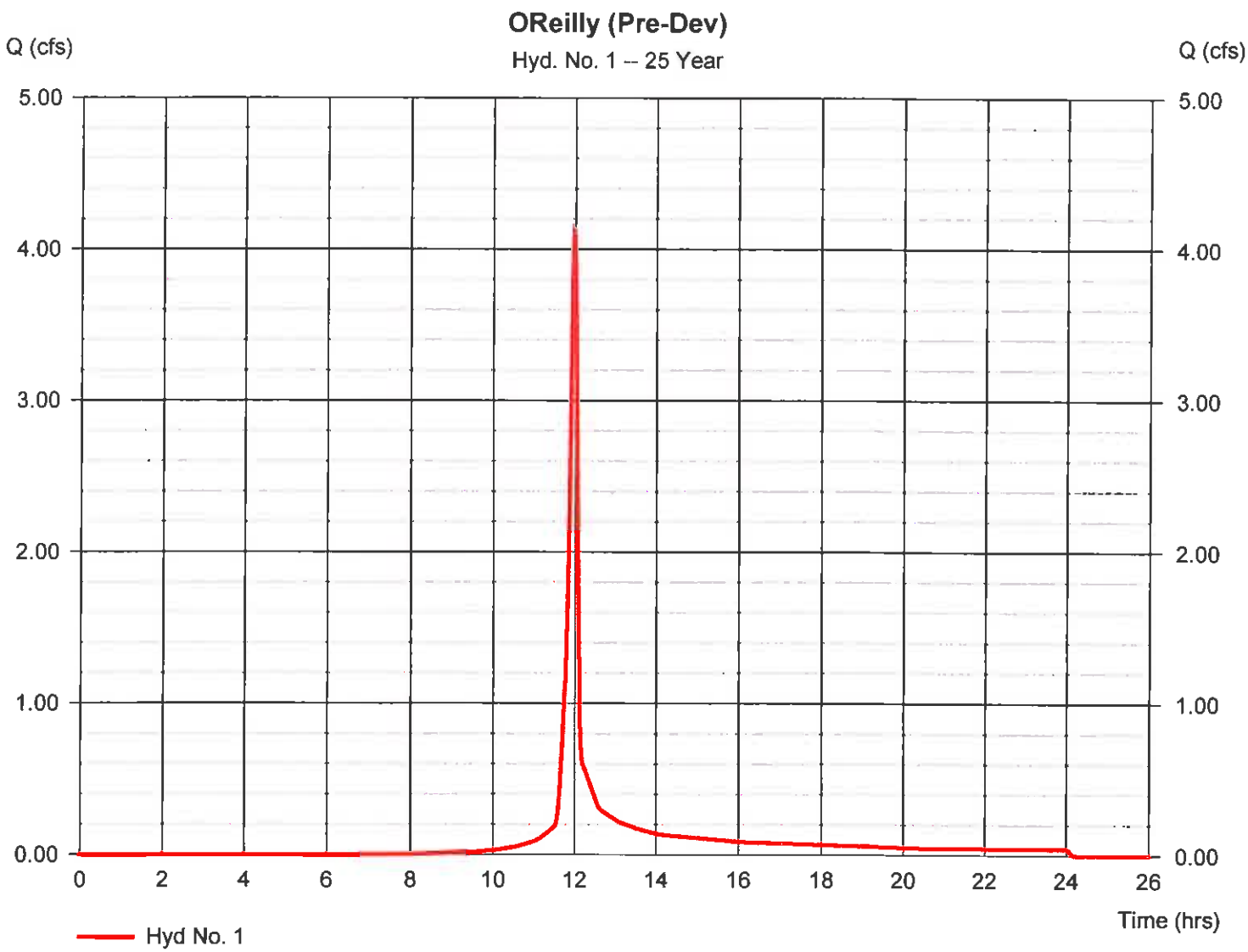
Hyd. No. 1

OReilly (Pre-Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 4.105 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.97 hrs
Time interval	= 1 min	Hyd. volume	= 8,702 cuft
Drainage area	= 1.057 ac	Curve number	= 79
Basin Slope	= 1.8 %	Hydraulic length	= 220 ft
Tc method	= LAG	Time of conc. (Tc)	= 7.29 min
Total precip.	= 4.44 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



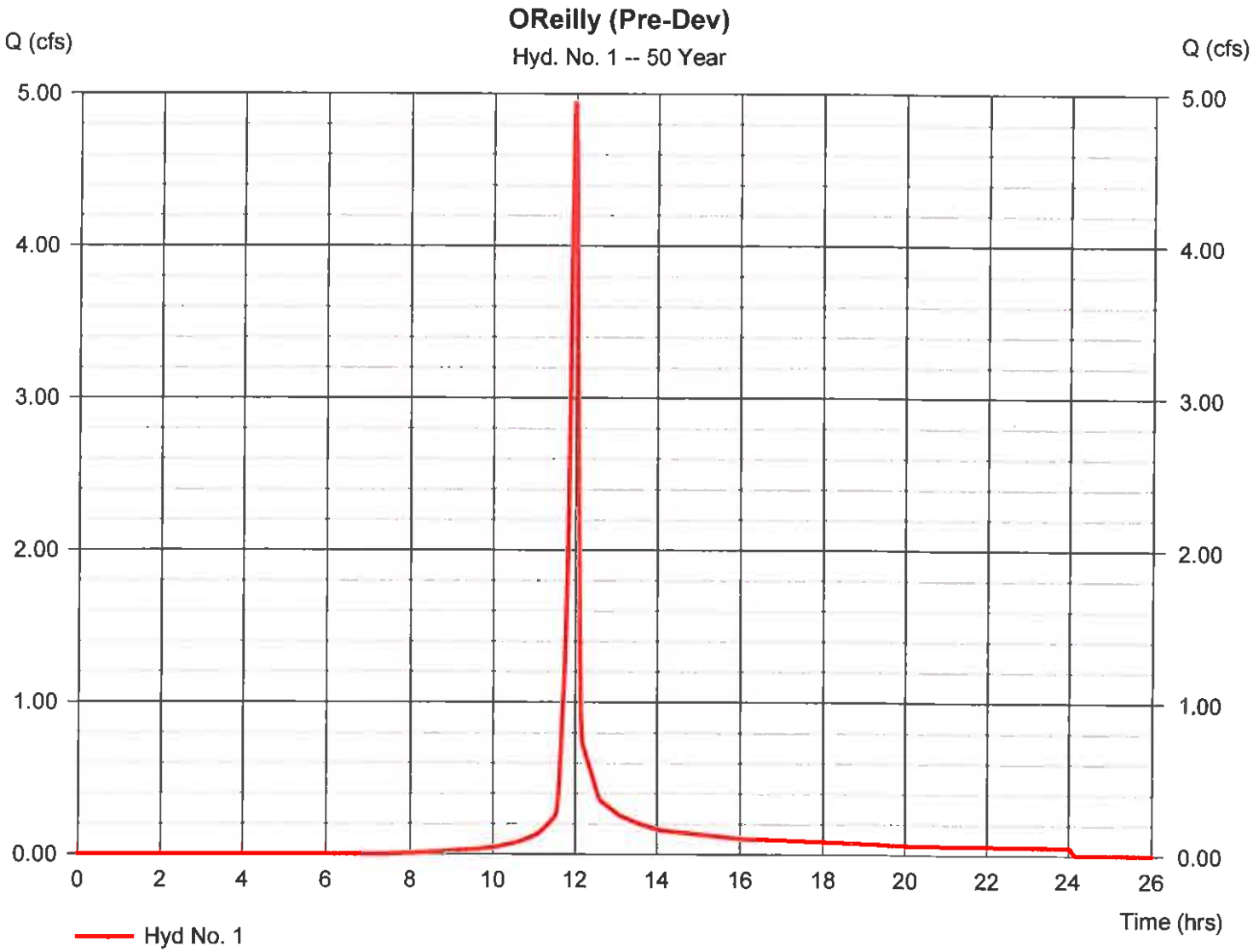
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 1

OReilly (Pre-Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 4.955 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.97 hrs
Time interval	= 1 min	Hyd. volume	= 10,545 cuft
Drainage area	= 1.057 ac	Curve number	= 79
Basin Slope	= 1.8 %	Hydraulic length	= 220 ft
Tc method	= LAG	Time of conc. (Tc)	= 7.29 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



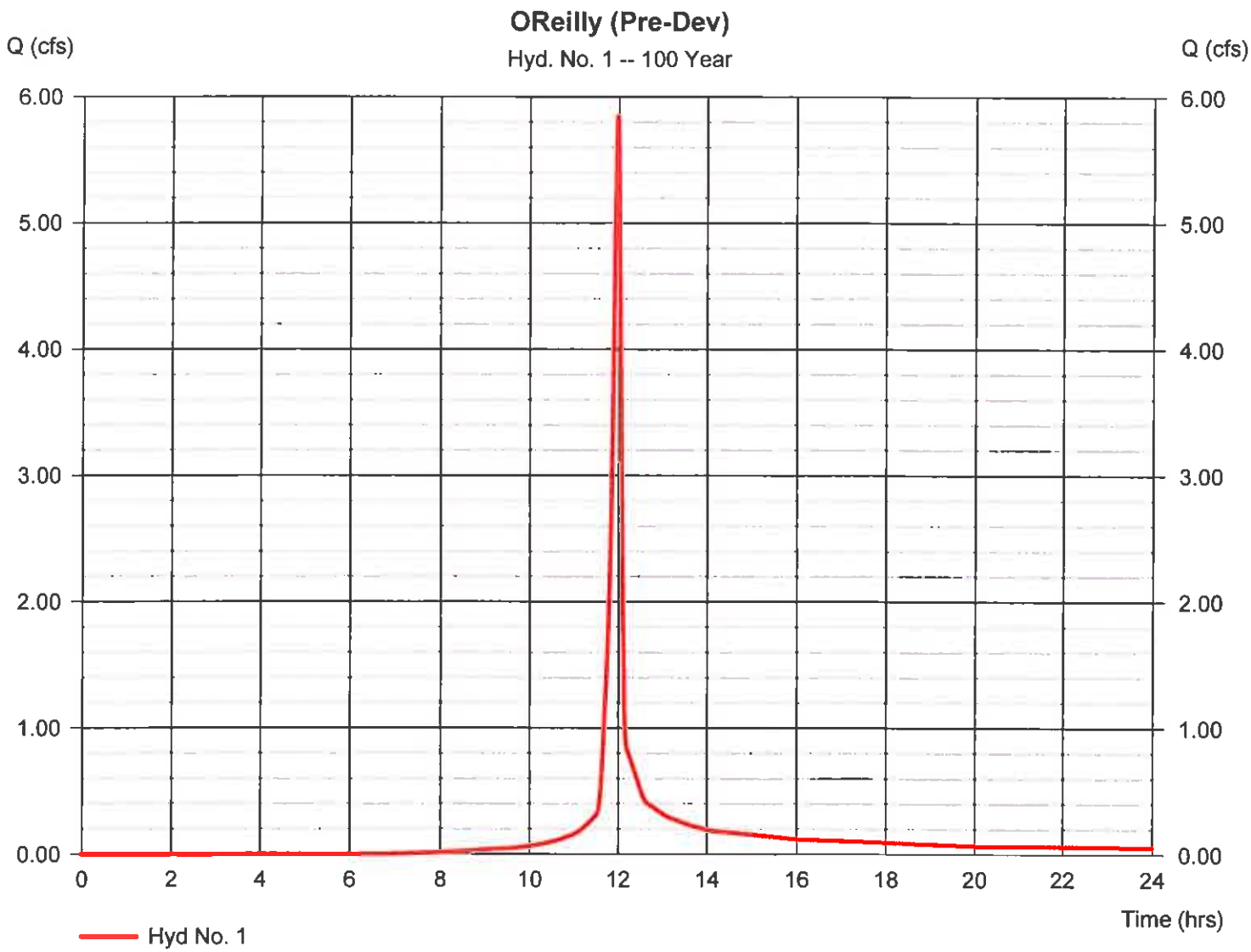
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 1

OReilly (Pre-Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 5.860 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.97 hrs
Time interval	= 1 min	Hyd. volume	= 12,536 cuft
Drainage area	= 1.057 ac	Curve number	= 79
Basin Slope	= 1.8 %	Hydraulic length	= 220 ft
Tc method	= LAG	Time of conc. (Tc)	= 7.29 min
Total precip.	= 5.63 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



HYDROGRAPH NO. 2

POST-DEVELOPMENT FLOWS
(1.057 ACRES)

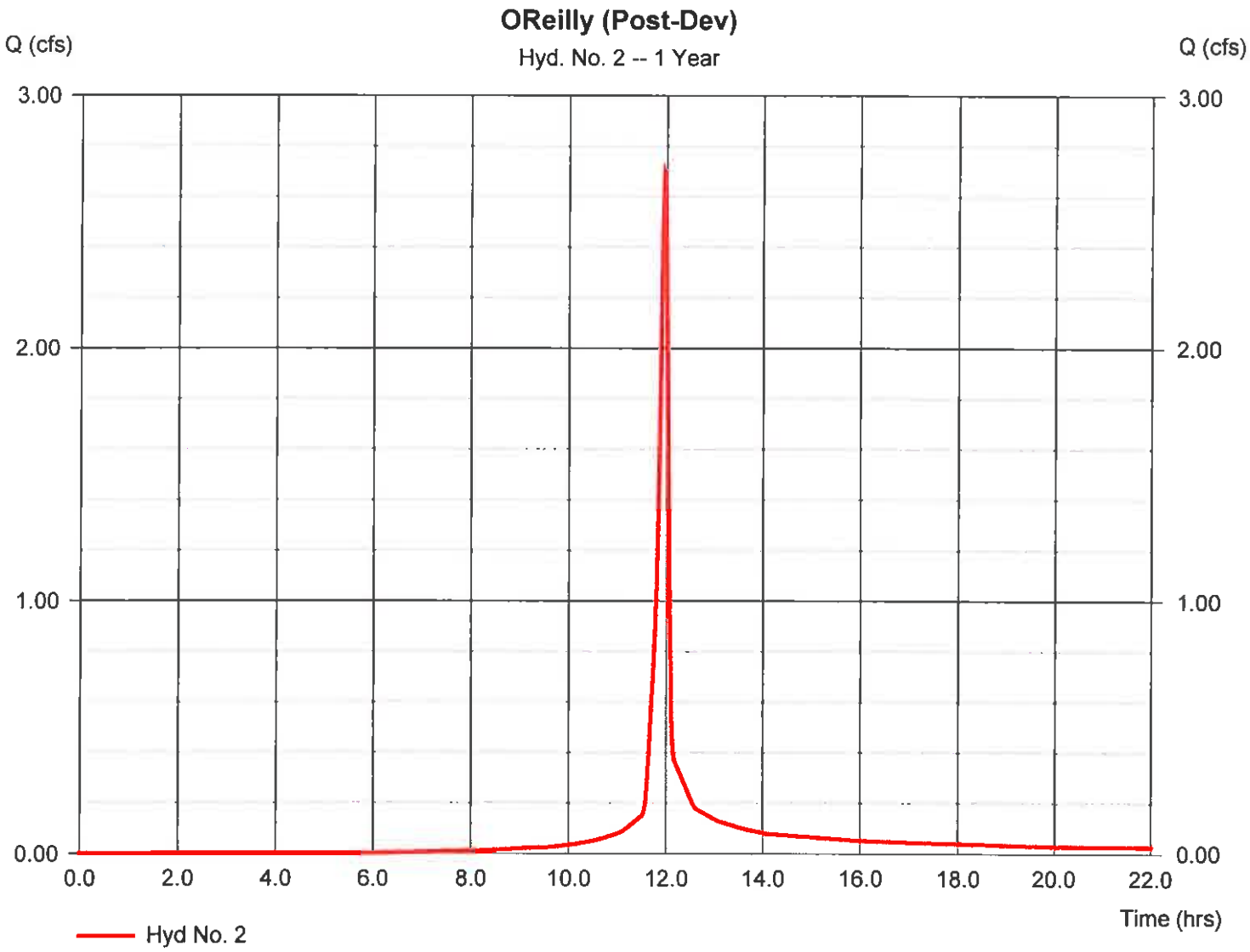
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 2

OReilly (Post-Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.701 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.95 hrs
Time interval	= 1 min	Hyd. volume	= 5,609 cuft
Drainage area	= 1.057 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



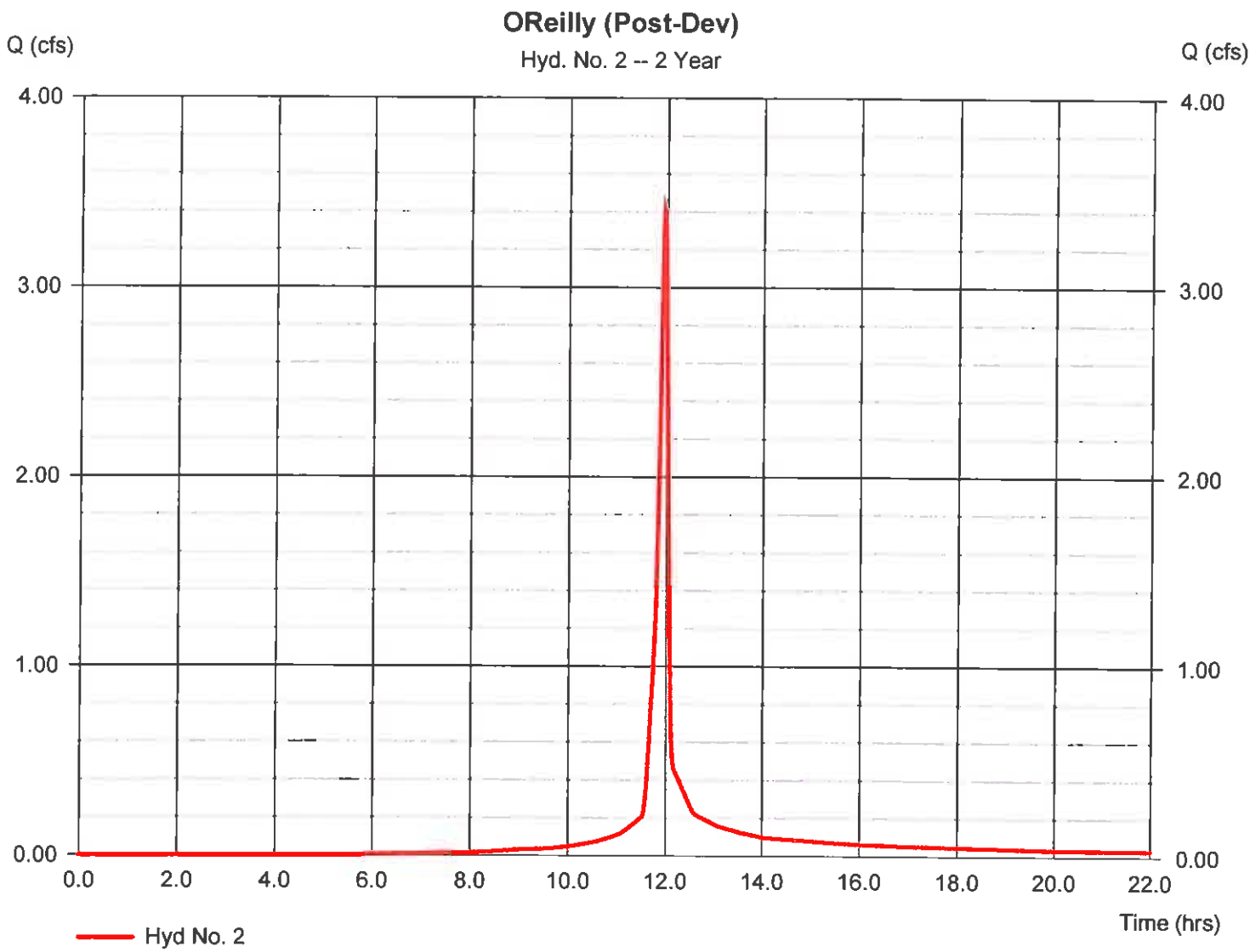
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 2

OReilly (Post-Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 3.414 cfs
Storm frequency	= 2 yrs	Time to peak	= 11.95 hrs
Time interval	= 1 min	Hyd. volume	= 7,177 cuft
Drainage area	= 1.057 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.63 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



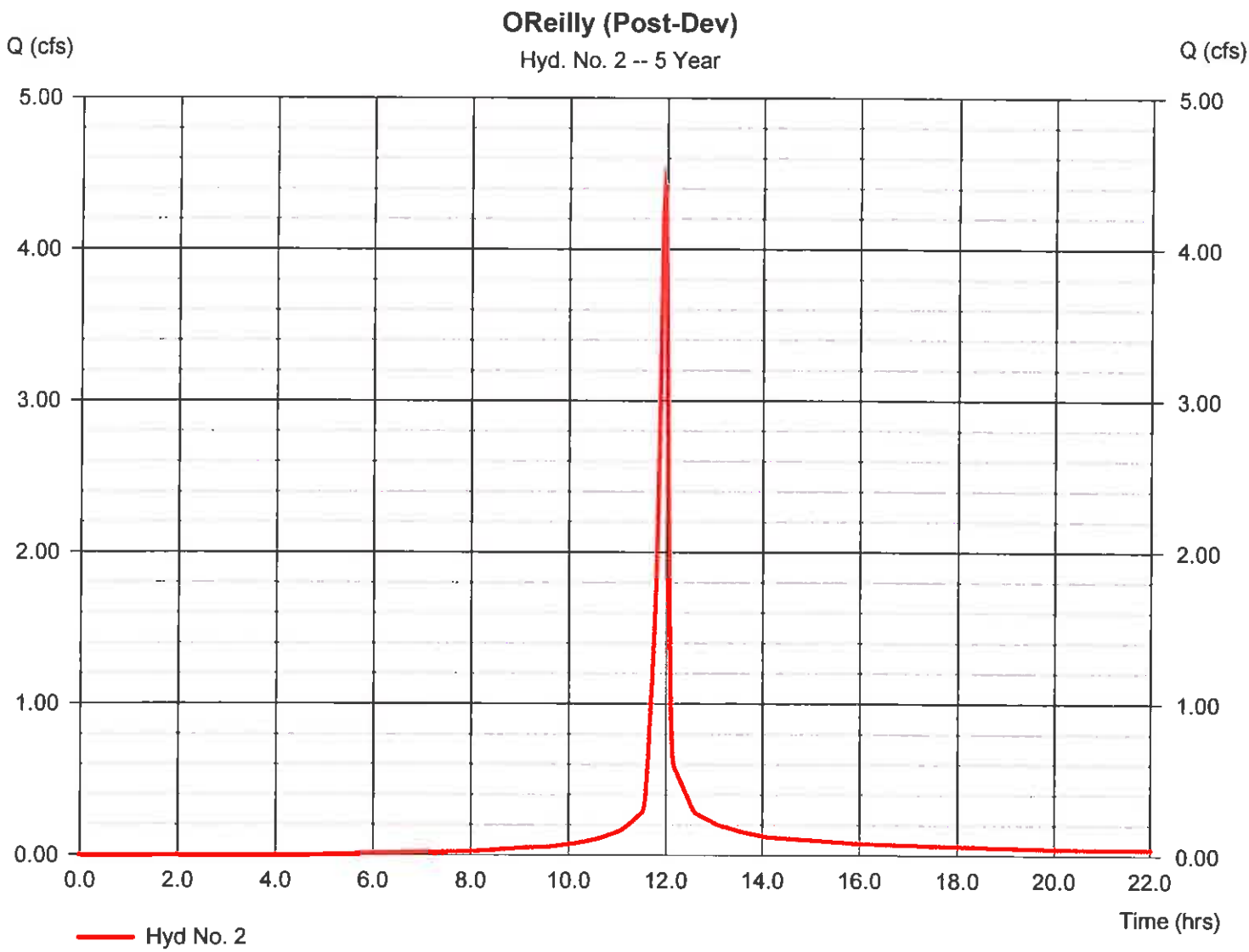
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 2

OReilly (Post-Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 4.426 cfs
Storm frequency	= 5 yrs	Time to peak	= 11.95 hrs
Time interval	= 1 min	Hyd. volume	= 9,451 cuft
Drainage area	= 1.057 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.24 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



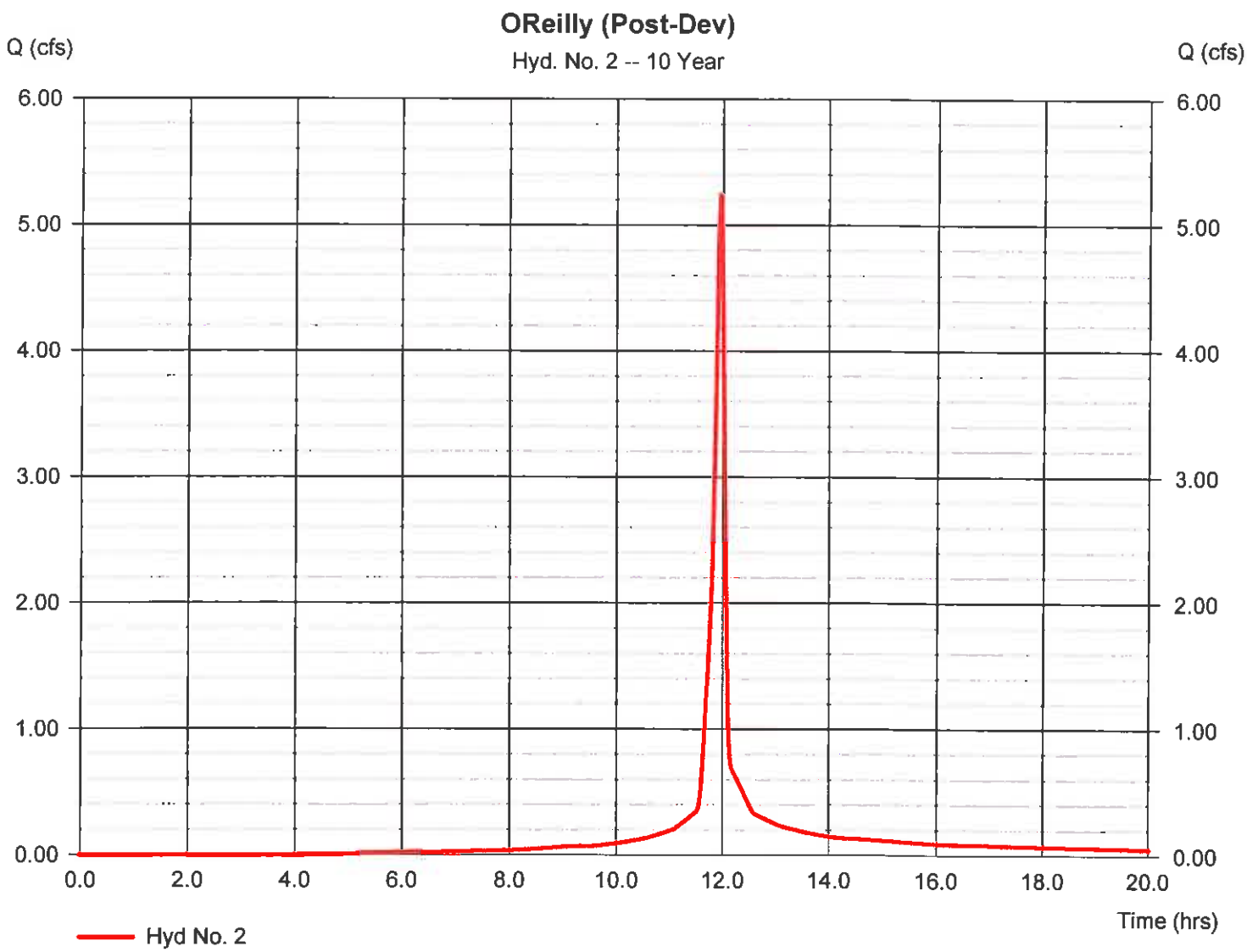
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 2

OReilly (Post-Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 5.253 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.95 hrs
Time interval	= 1 min	Hyd. volume	= 11,344 cuft
Drainage area	= 1.057 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.74 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



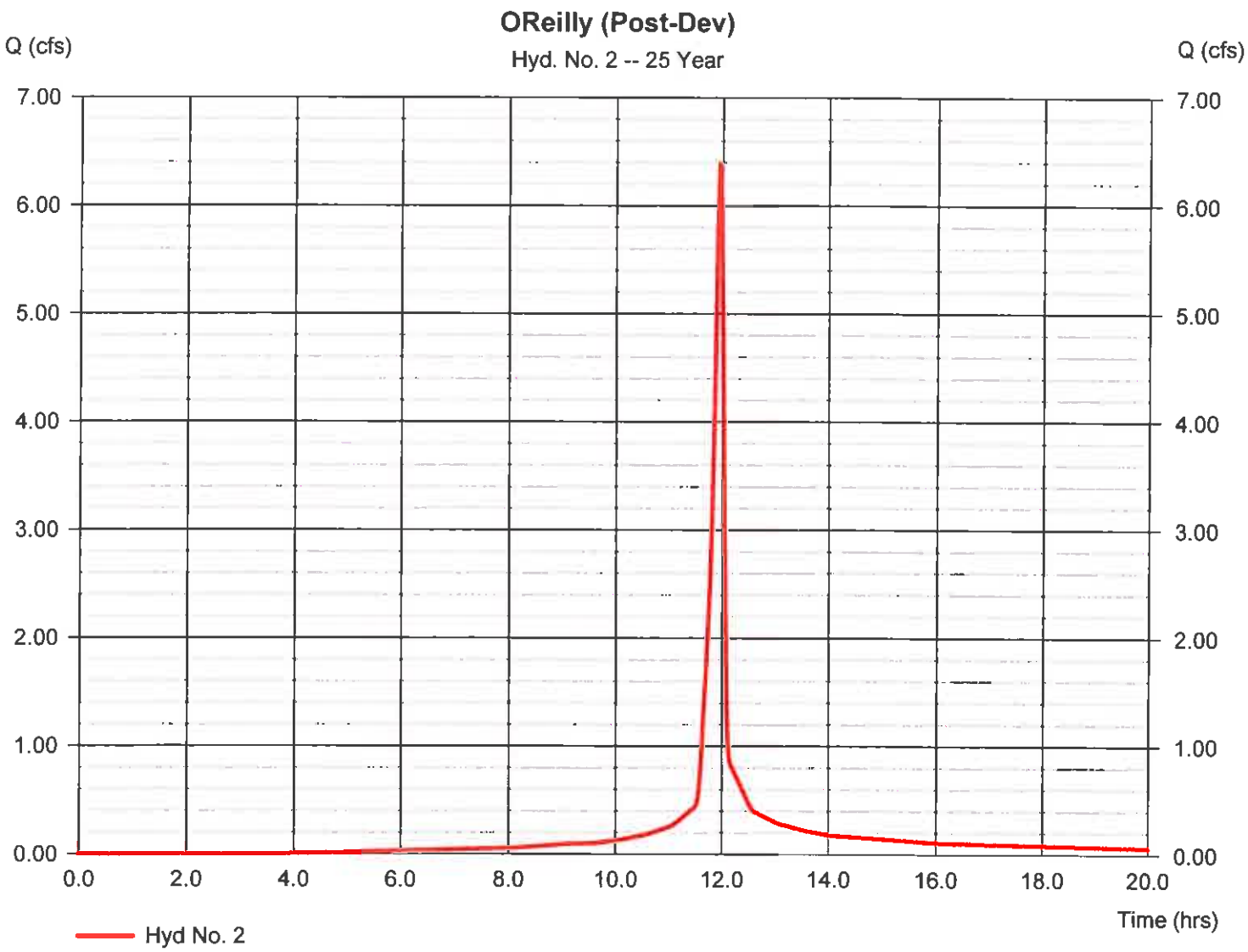
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 2

OReilly (Post-Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 6.404 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.95 hrs
Time interval	= 1 min	Hyd. volume	= 14,022 cuft
Drainage area	= 1.057 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.44 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



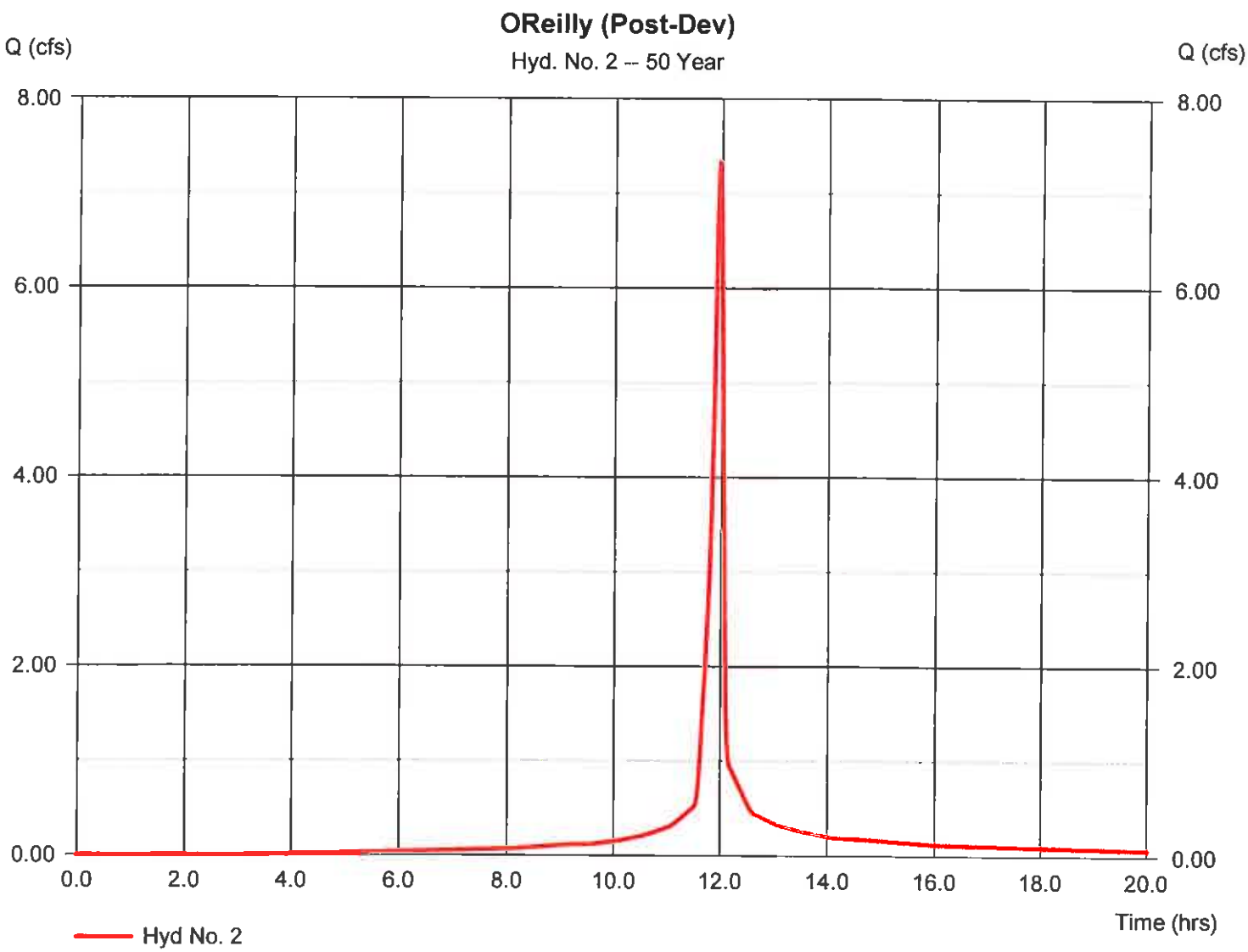
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 2

OReilly (Post-Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 7.353 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.95 hrs
Time interval	= 1 min	Hyd. volume	= 16,258 cuft
Drainage area	= 1.057 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



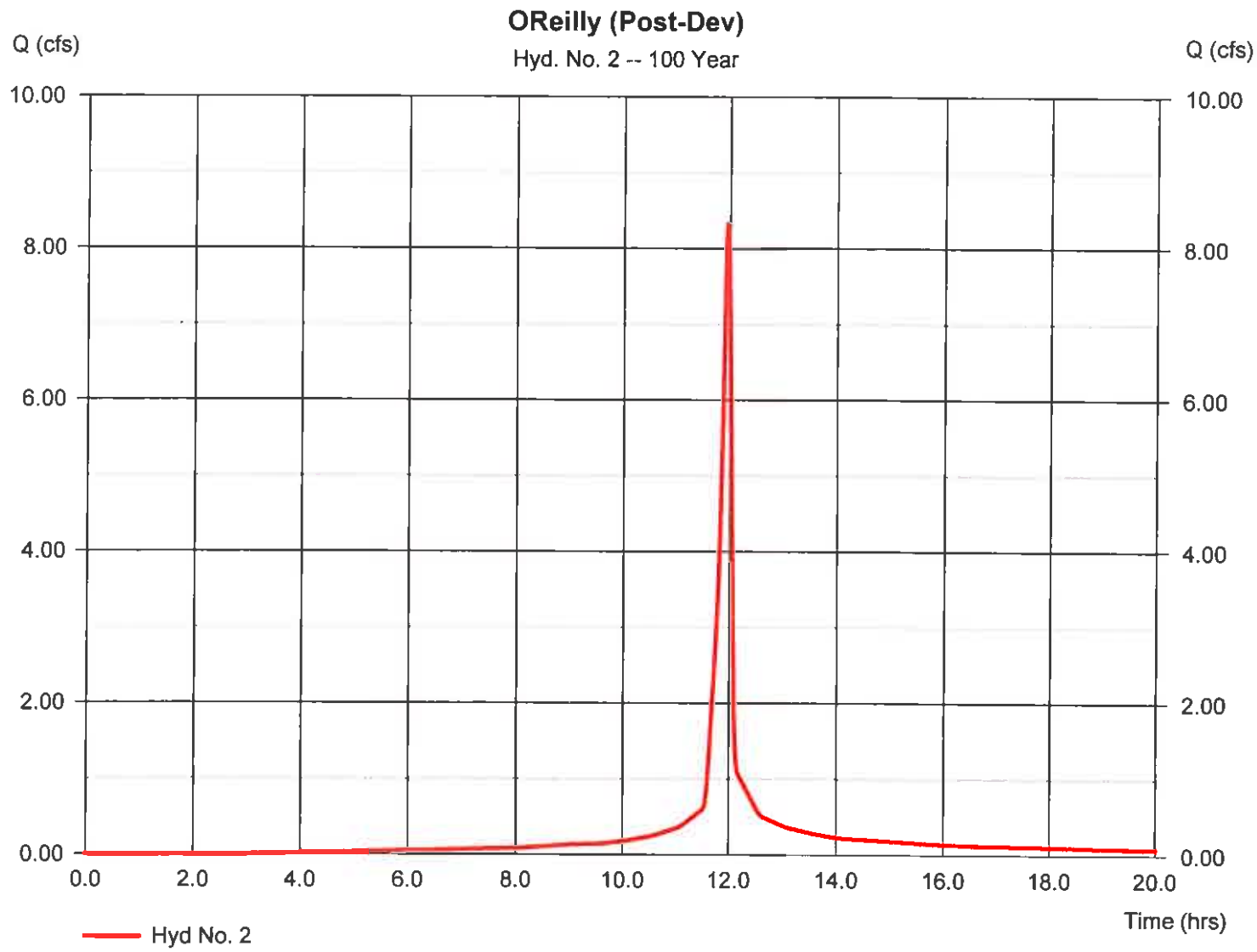
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 2

OReilly (Post-Dev)

Hydrograph type	= SCS Runoff	Peak discharge	= 8.347 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.95 hrs
Time interval	= 1 min	Hyd. volume	= 18,621 cuft
Drainage area	= 1.057 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.63 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



HYDROGRAPH NO. 3

UNDETAINED FLOWS
(0.136 ACRES)

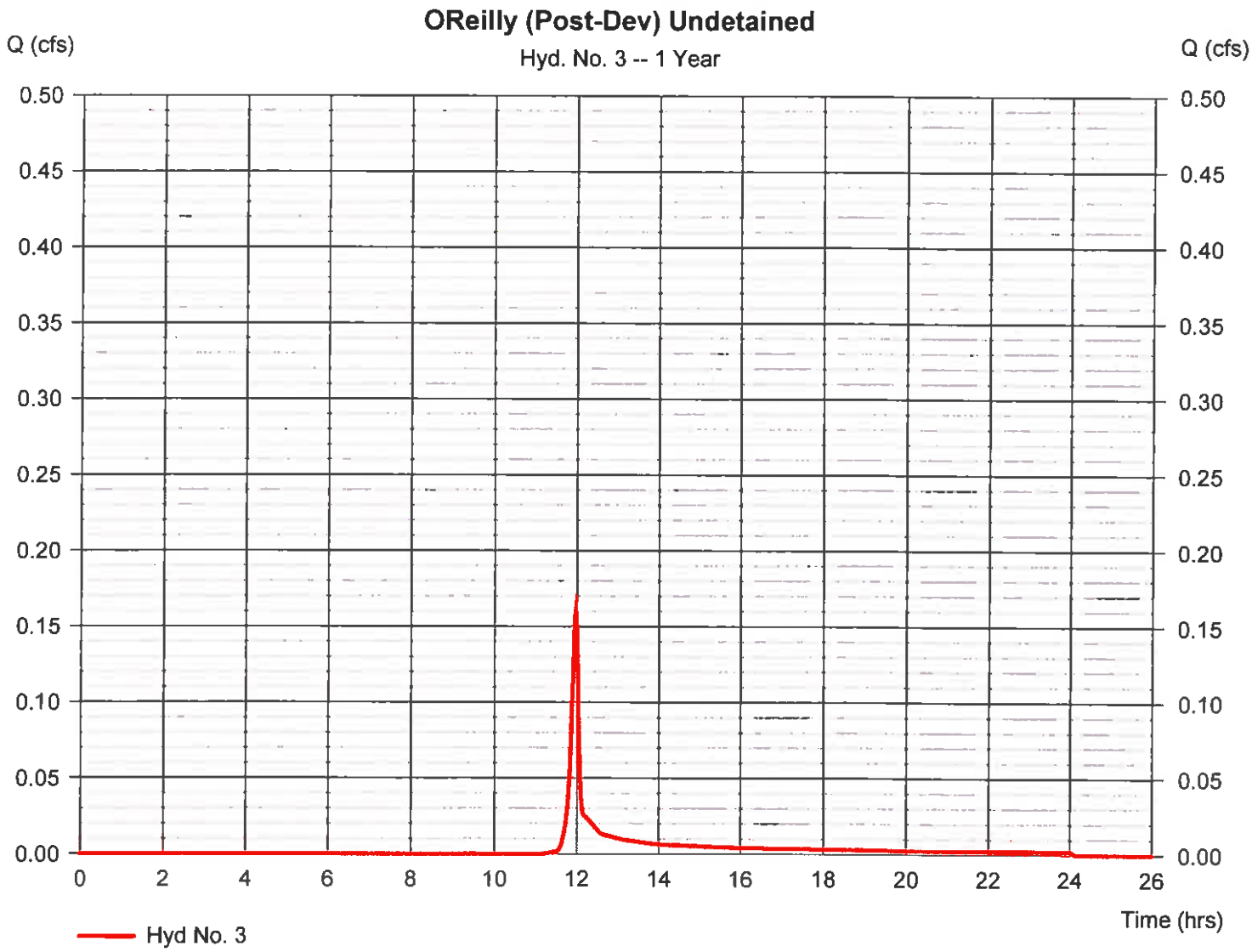
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 3

OReilly (Post-Dev) Undetained

Hydrograph type	= SCS Runoff	Peak discharge	= 0.160 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 1 min	Hyd. volume	= 328 cuft
Drainage area	= 0.136 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



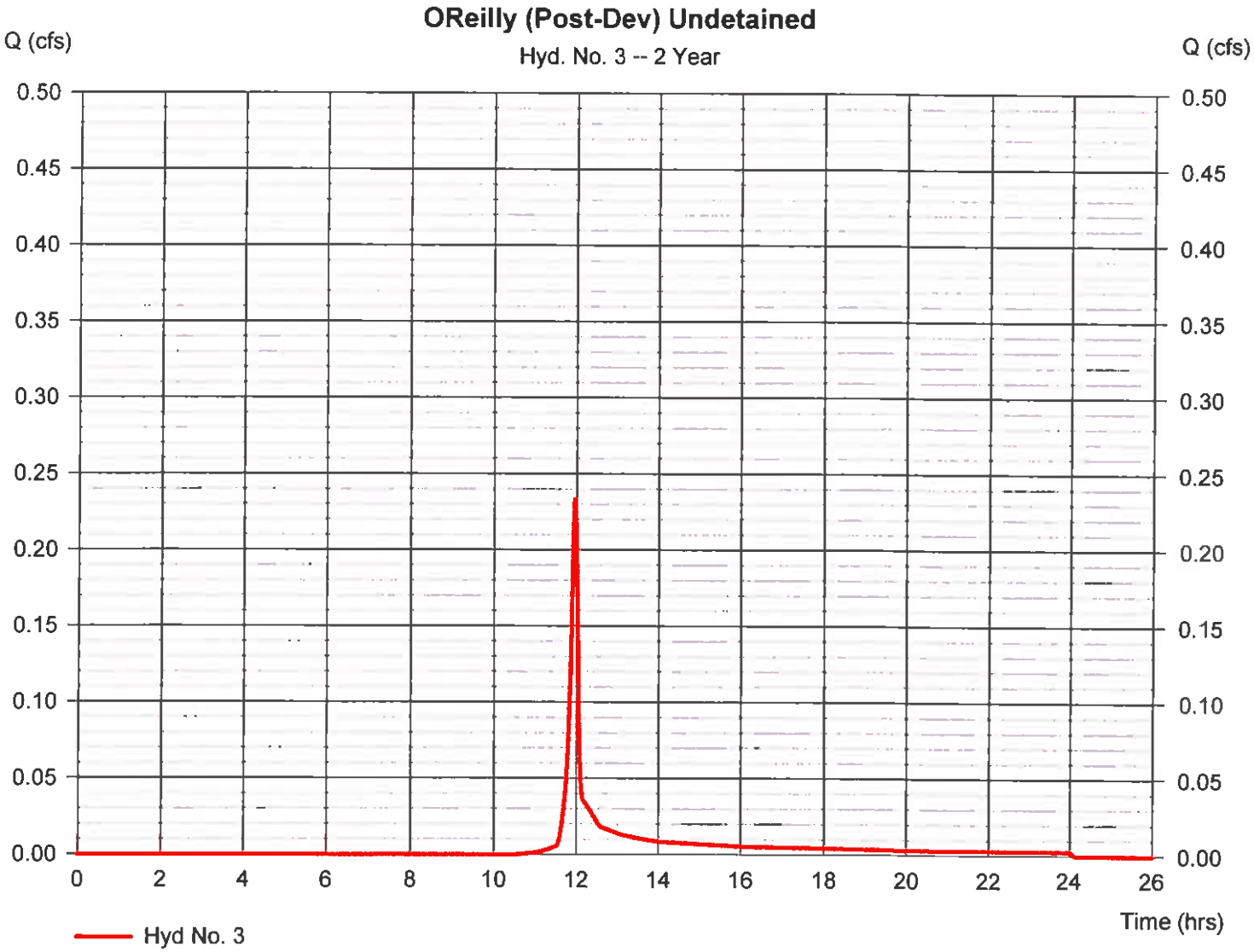
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 3

OReilly (Post-Dev) Undetained

Hydrograph type	= SCS Runoff	Peak discharge	= 0.234 cfs
Storm frequency	= 2 yrs	Time to peak	= 11.97 hrs
Time interval	= 1 min	Hyd. volume	= 471 cuft
Drainage area	= 0.136 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.63 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



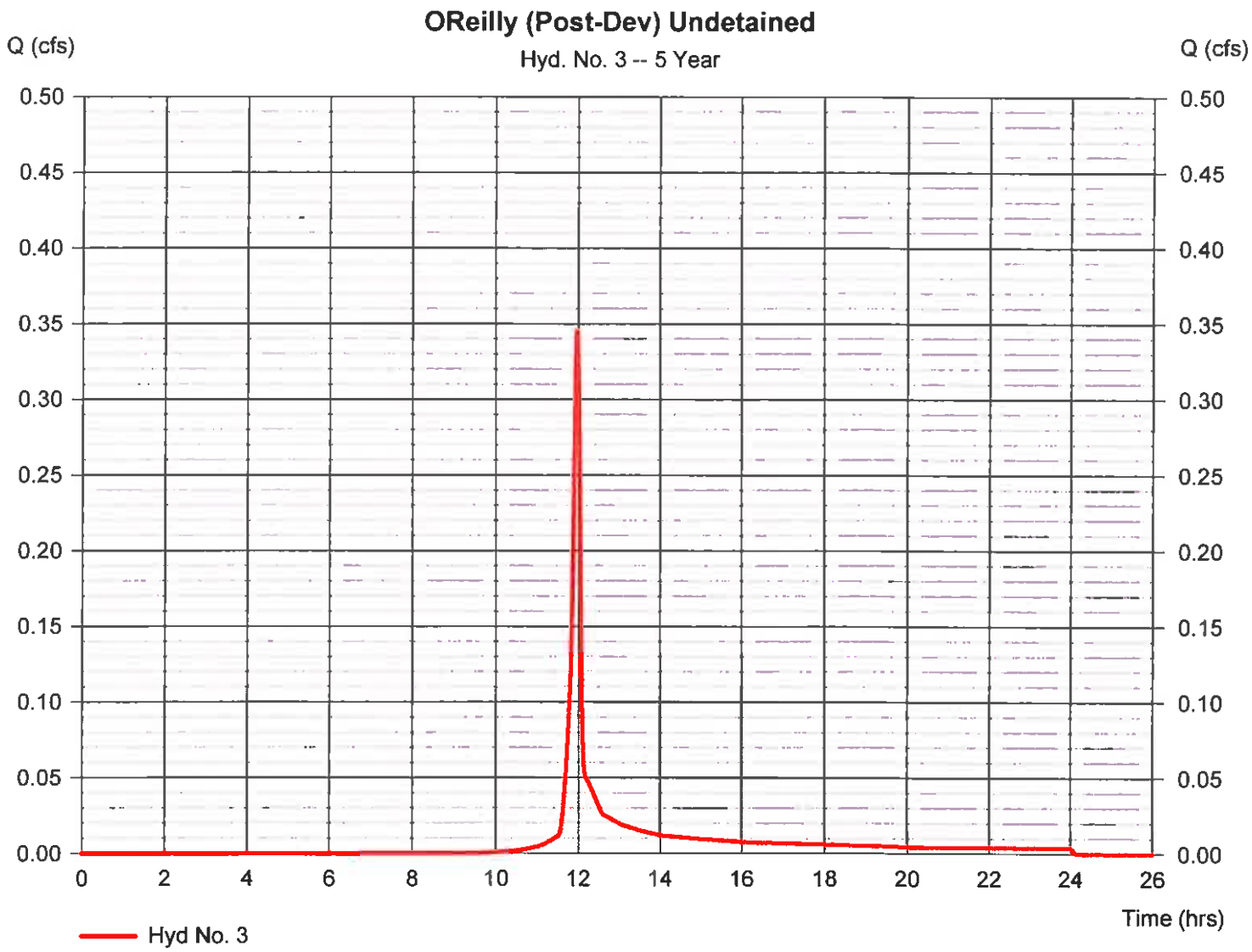
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 3

OReilly (Post-Dev) Undetained

Hydrograph type	= SCS Runoff	Peak discharge	= 0.347 cfs
Storm frequency	= 5 yrs	Time to peak	= 11.97 hrs
Time interval	= 1 min	Hyd. volume	= 696 cuft
Drainage area	= 0.136 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.24 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



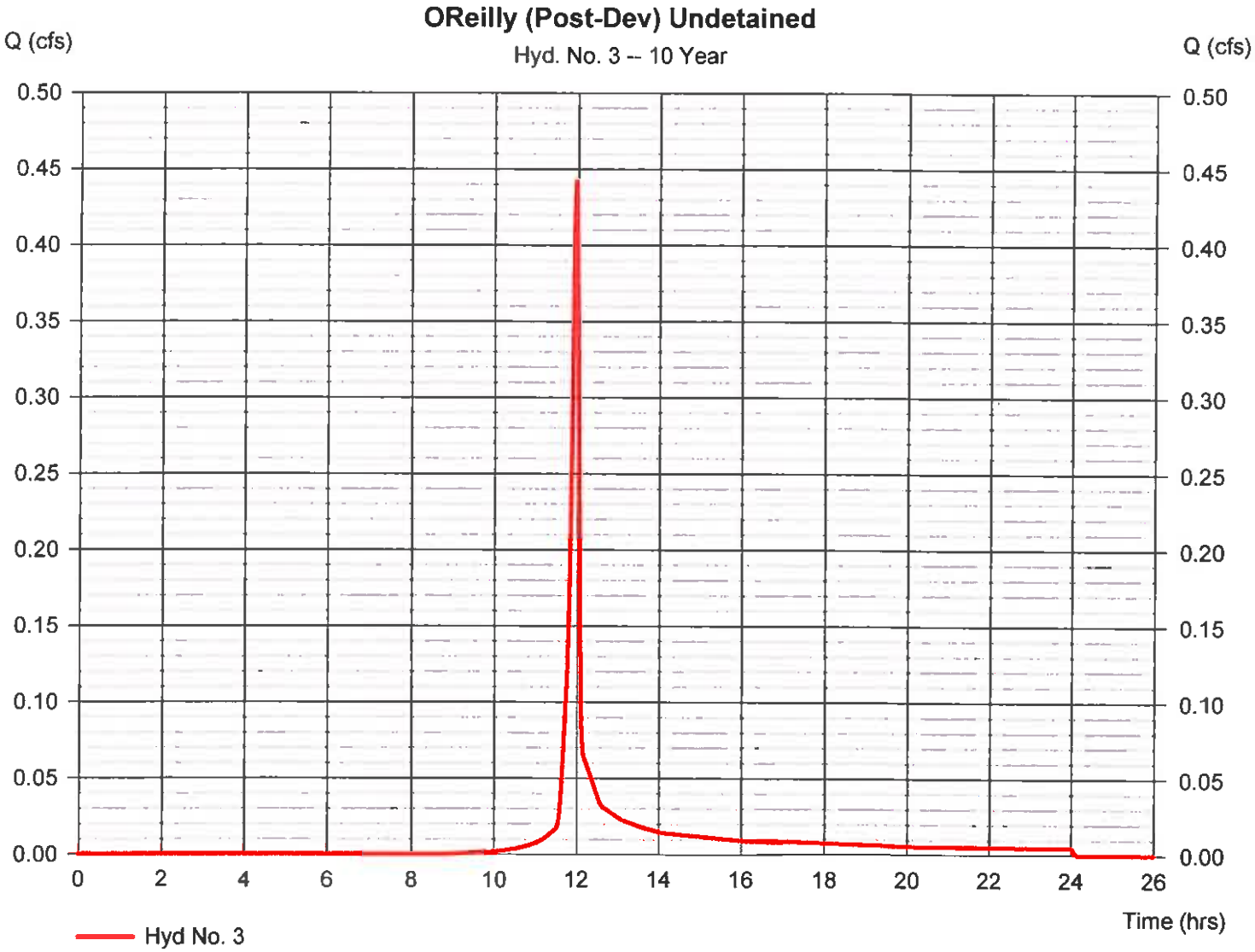
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 3

OReilly (Post-Dev) Undetained

Hydrograph type	= SCS Runoff	Peak discharge	= 0.444 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.97 hrs
Time interval	= 1 min	Hyd. volume	= 893 cuft
Drainage area	= 0.136 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.74 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



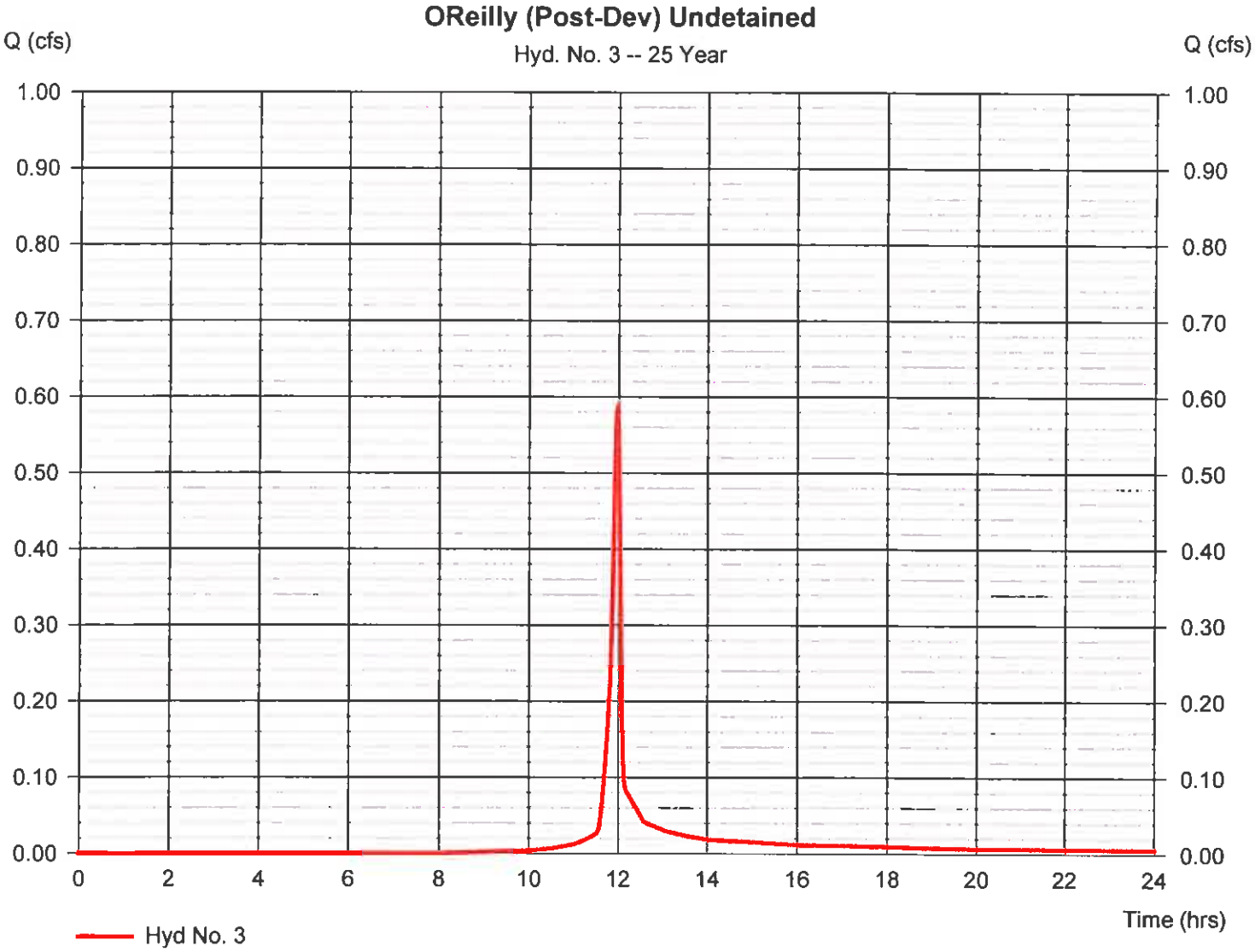
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 3

OReilly (Post-Dev) Undetained

Hydrograph type	= SCS Runoff	Peak discharge	= 0.584 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.97 hrs
Time interval	= 1 min	Hyd. volume	= 1,184 cuft
Drainage area	= 0.136 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.44 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



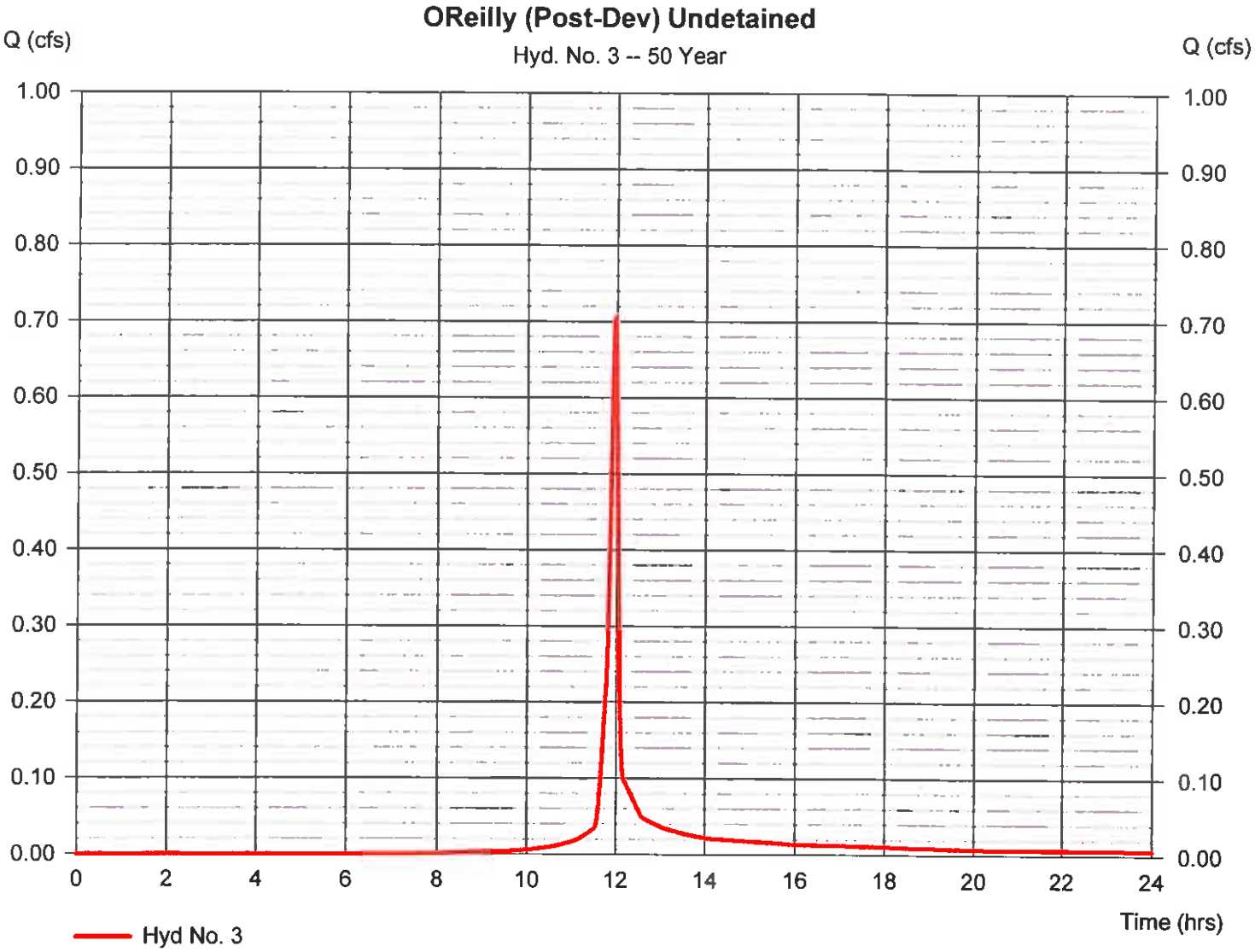
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 3

OReilly (Post-Dev) Undetained

Hydrograph type	= SCS Runoff	Peak discharge	= 0.703 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.97 hrs
Time interval	= 1 min	Hyd. volume	= 1,435 cuft
Drainage area	= 0.136 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



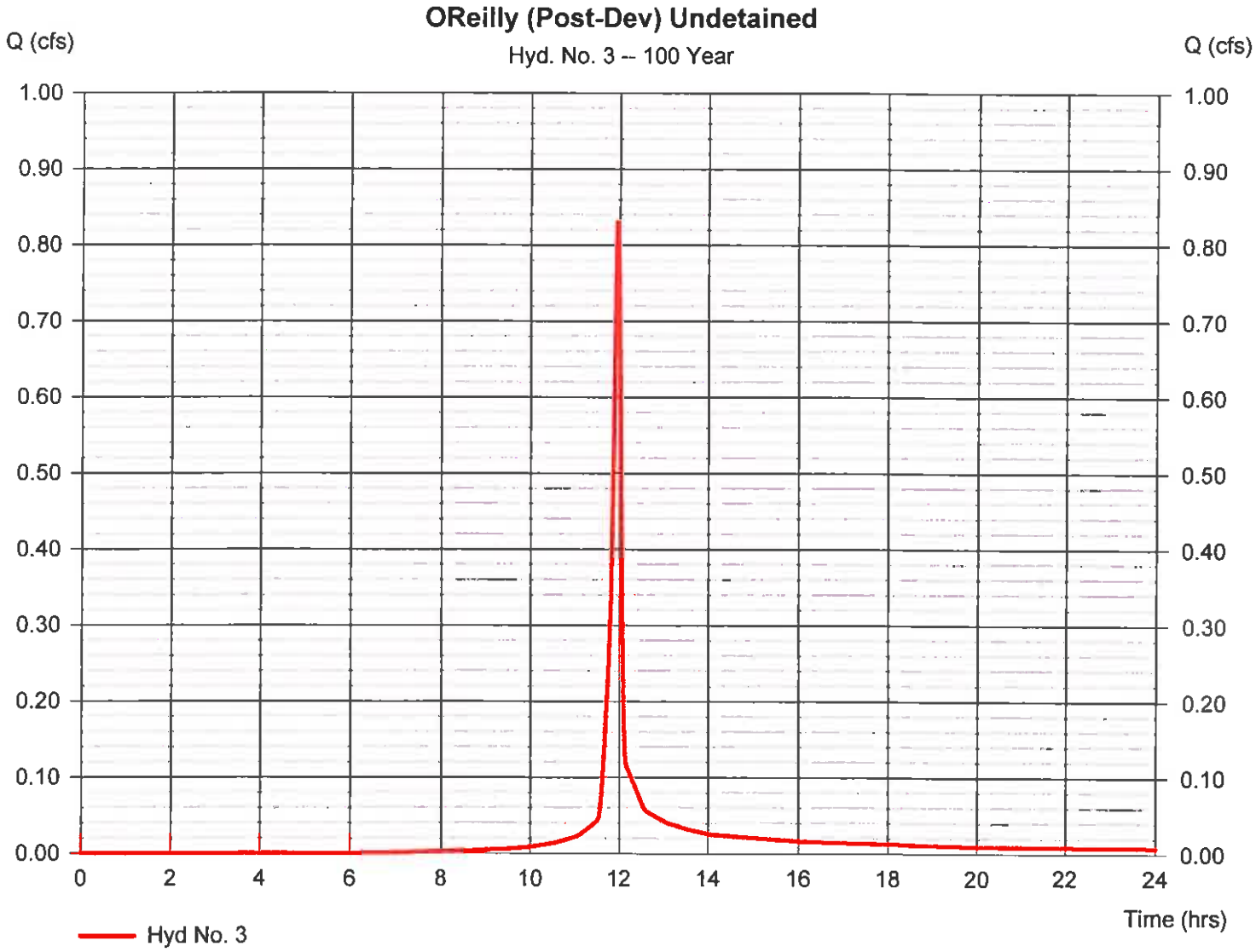
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 3

OReilly (Post-Dev) Undetained

Hydrograph type	= SCS Runoff	Peak discharge	= 0.830 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.97 hrs
Time interval	= 1 min	Hyd. volume	= 1,706 cuft
Drainage area	= 0.136 ac	Curve number	= 79
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.63 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



HYDROGRAPH NO. 4

POST-DEVELOPMENT FLOWS
(0.921 ACRES)

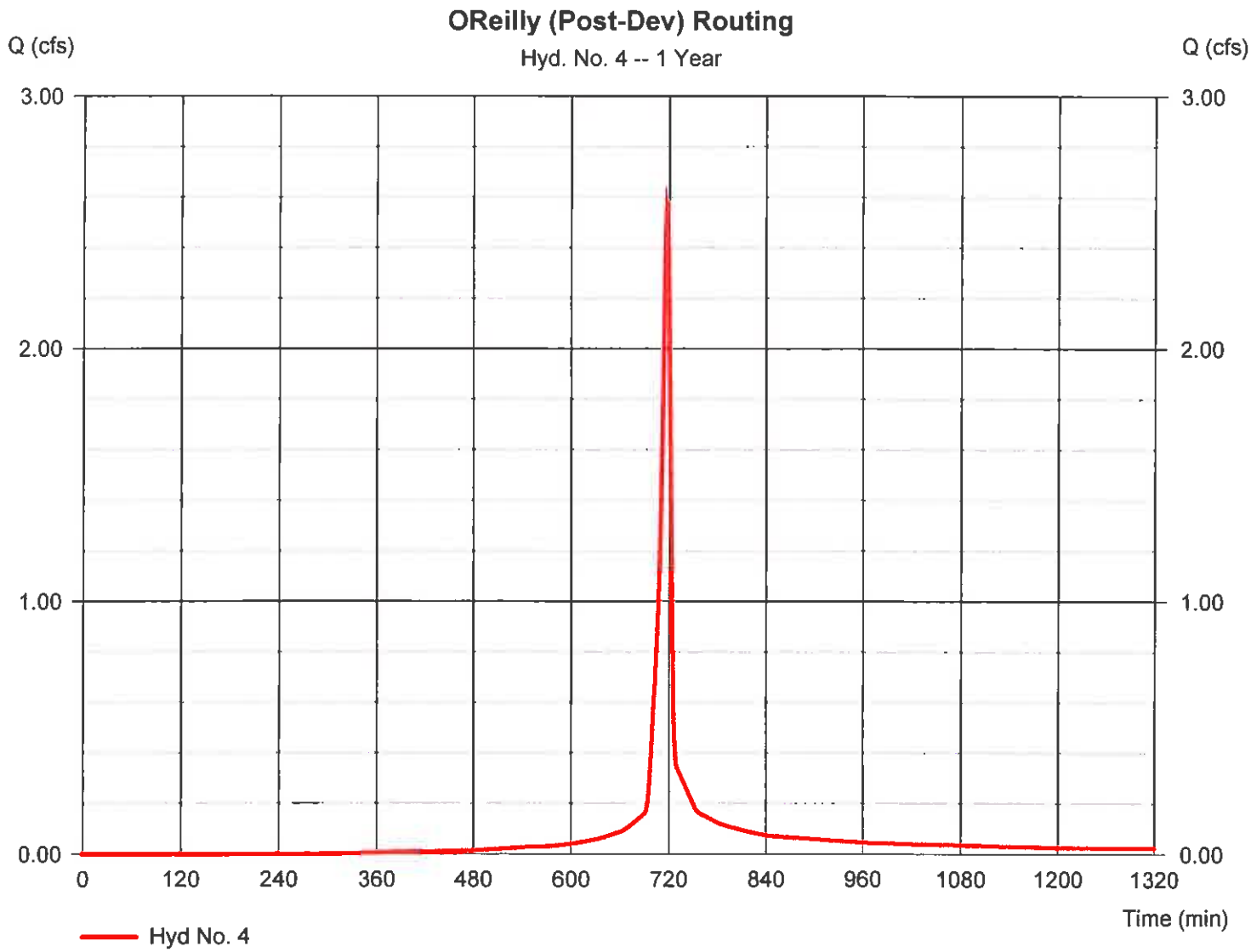
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 4

OReilly (Post-Dev) Routing

Hydrograph type	= SCS Runoff	Peak discharge	= 2.573 cfs
Storm frequency	= 1 yrs	Time to peak	= 717 min
Time interval	= 1 min	Hyd. volume	= 5,462 cuft
Drainage area	= 0.921 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



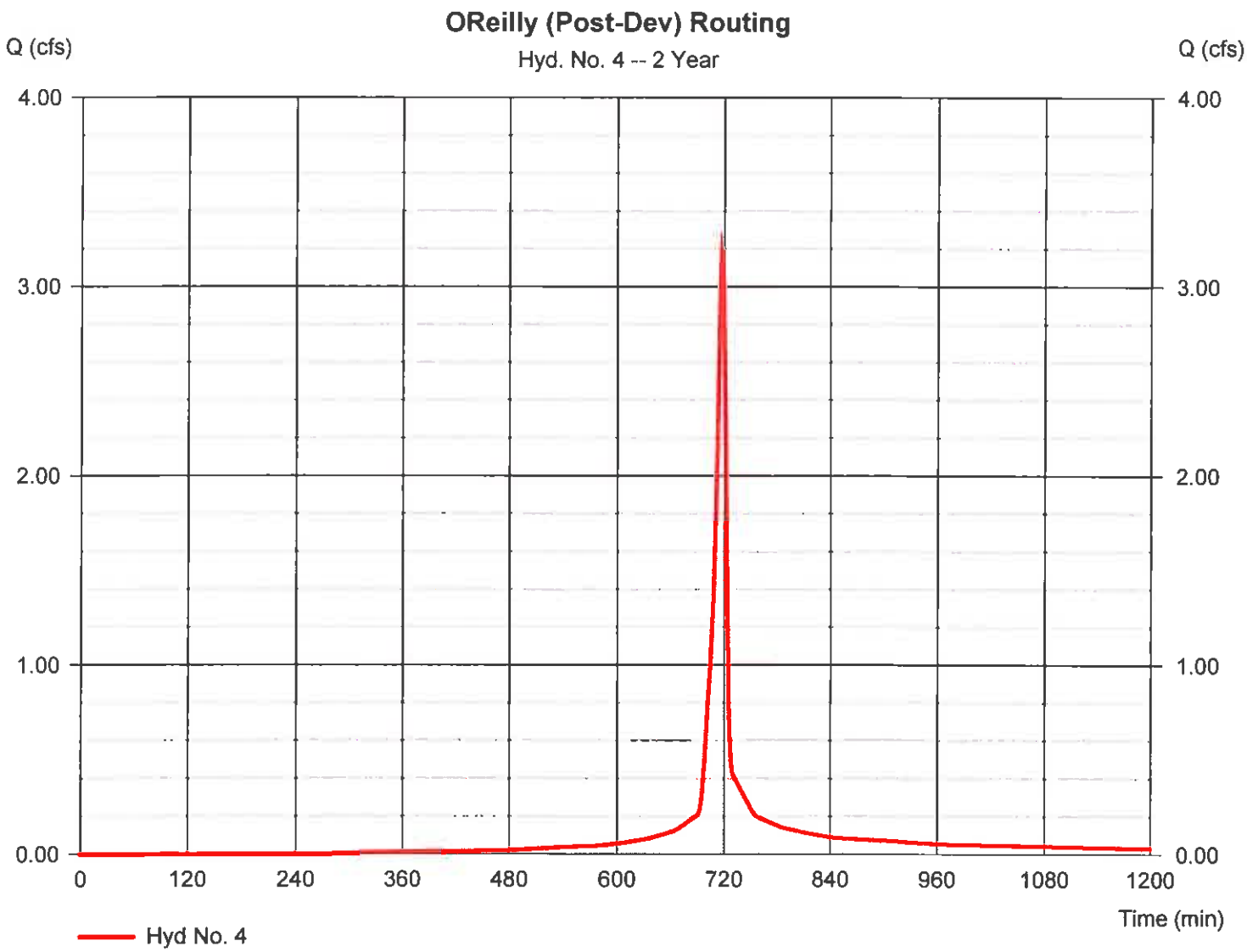
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 4

OReilly (Post-Dev) Routing

Hydrograph type	= SCS Runoff	Peak discharge	= 3.194 cfs
Storm frequency	= 2 yrs	Time to peak	= 717 min
Time interval	= 1 min	Hyd. volume	= 6,874 cuft
Drainage area	= 0.921 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.63 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



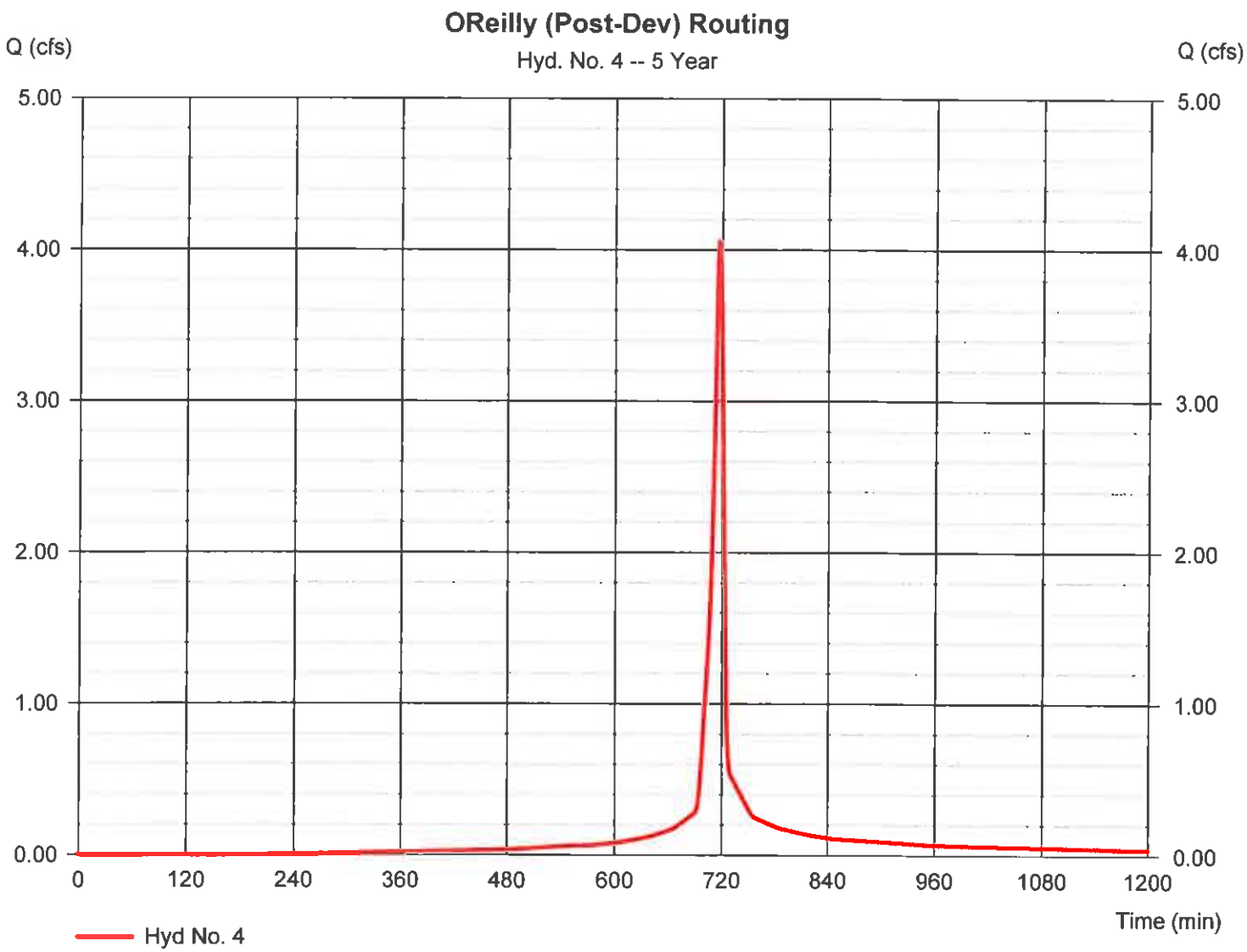
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 4

OReilly (Post-Dev) Routing

Hydrograph type	= SCS Runoff	Peak discharge	= 4.069 cfs
Storm frequency	= 5 yrs	Time to peak	= 717 min
Time interval	= 1 min	Hyd. volume	= 8,904 cuft
Drainage area	= 0.921 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.24 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



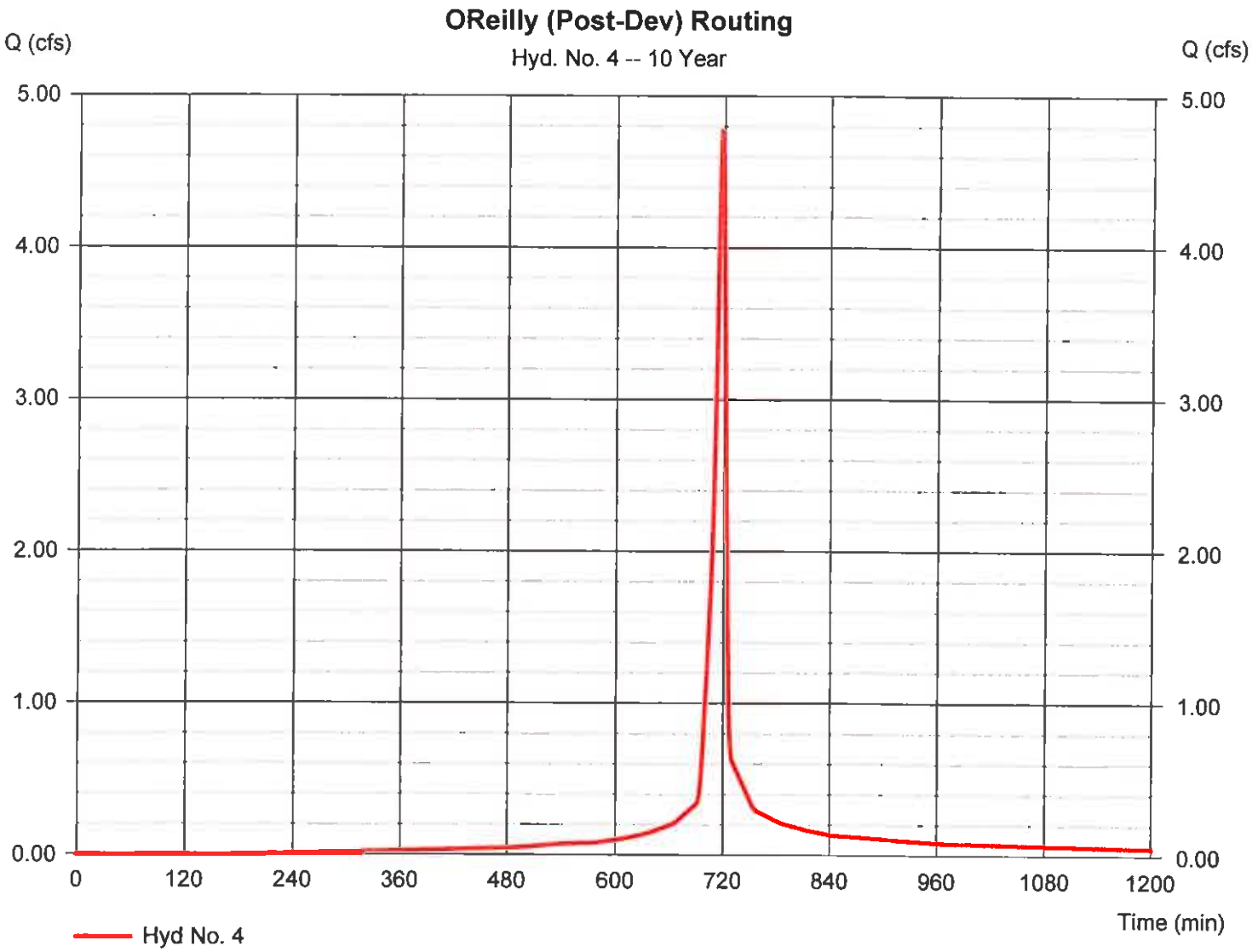
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 4

OReilly (Post-Dev) Routing

Hydrograph type	= SCS Runoff	Peak discharge	= 4.781 cfs
Storm frequency	= 10 yrs	Time to peak	= 717 min
Time interval	= 1 min	Hyd. volume	= 10,584 cuft
Drainage area	= 0.921 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.74 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



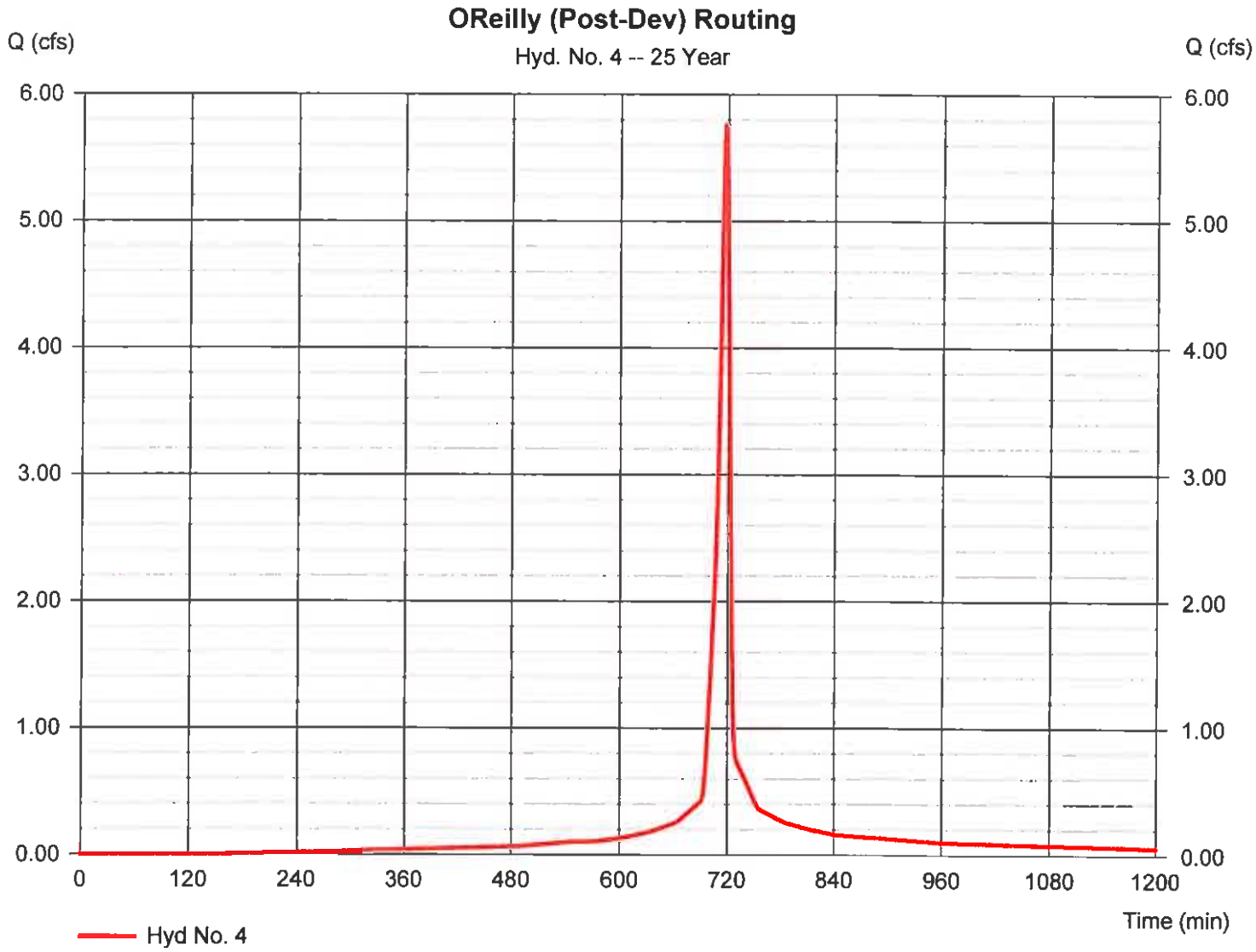
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 4

OReilly (Post-Dev) Routing

Hydrograph type	= SCS Runoff	Peak discharge	= 5.773 cfs
Storm frequency	= 25 yrs	Time to peak	= 717 min
Time interval	= 1 min	Hyd. volume	= 12,951 cuft
Drainage area	= 0.921 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.44 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



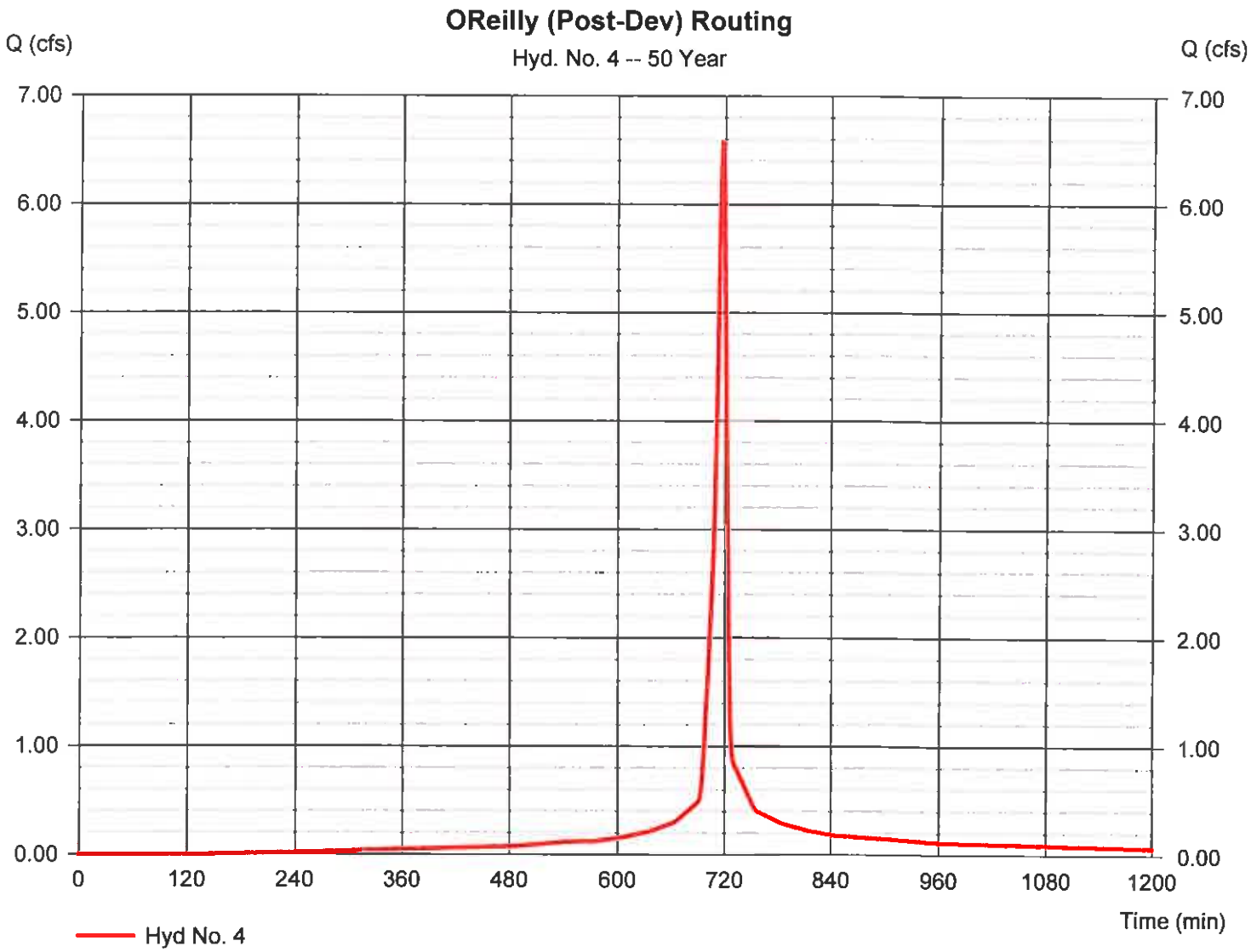
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 4

OReilly (Post-Dev) Routing

Hydrograph type	= SCS Runoff	Peak discharge	= 6.591 cfs
Storm frequency	= 50 yrs	Time to peak	= 717 min
Time interval	= 1 min	Hyd. volume	= 14,921 cuft
Drainage area	= 0.921 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.02 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



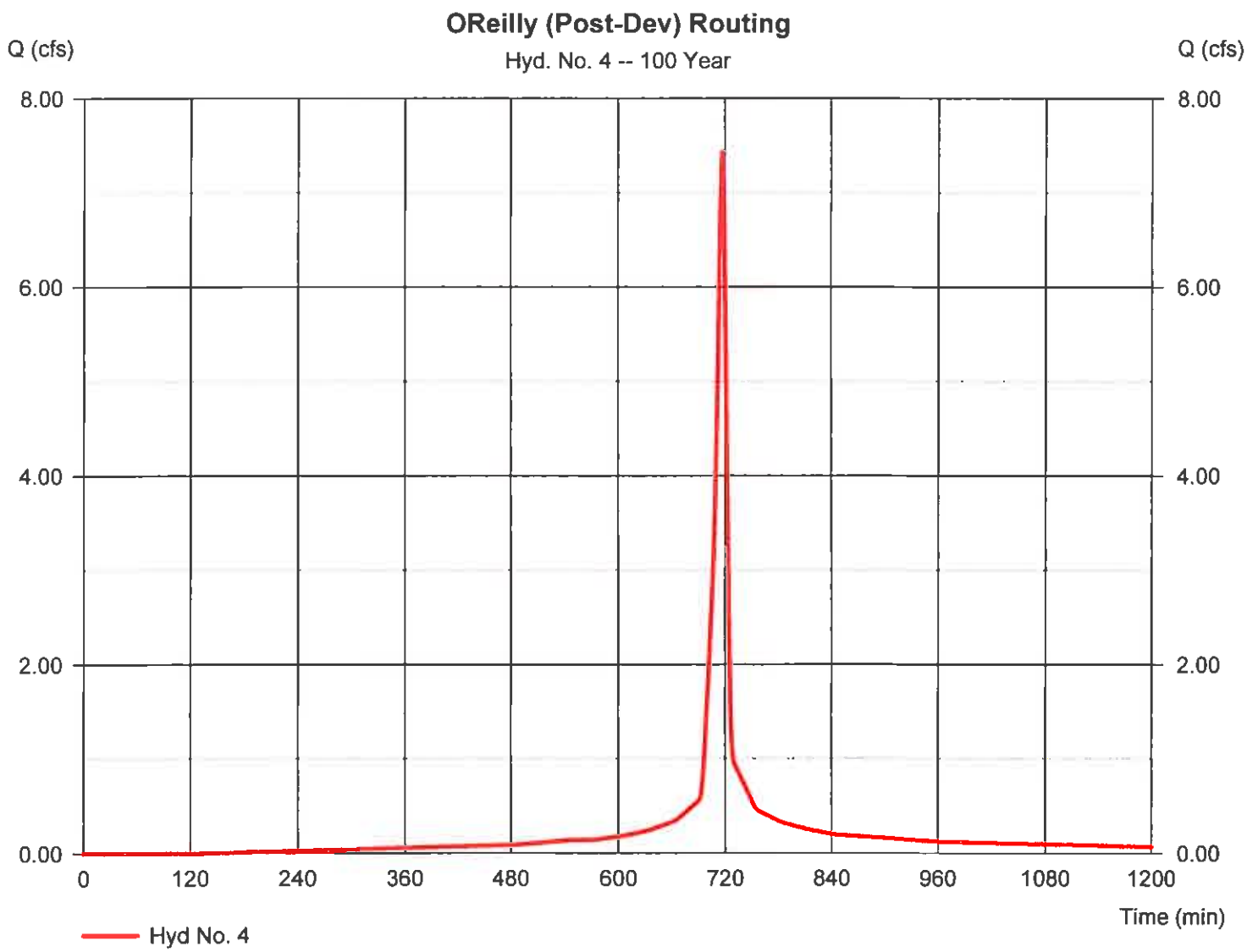
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 4

OReilly (Post-Dev) Routing

Hydrograph type	= SCS Runoff	Peak discharge	= 7.447 cfs
Storm frequency	= 100 yrs	Time to peak	= 717 min
Time interval	= 1 min	Hyd. volume	= 16,999 cuft
Drainage area	= 0.921 ac	Curve number	= 94
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.63 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



HYDROGRAPH NO. 5

ROUTING OF POST-DEVELOPMENT FLOWS THRU ORIFICE # 2 (0.921 ACRES)

Hydrograph Report

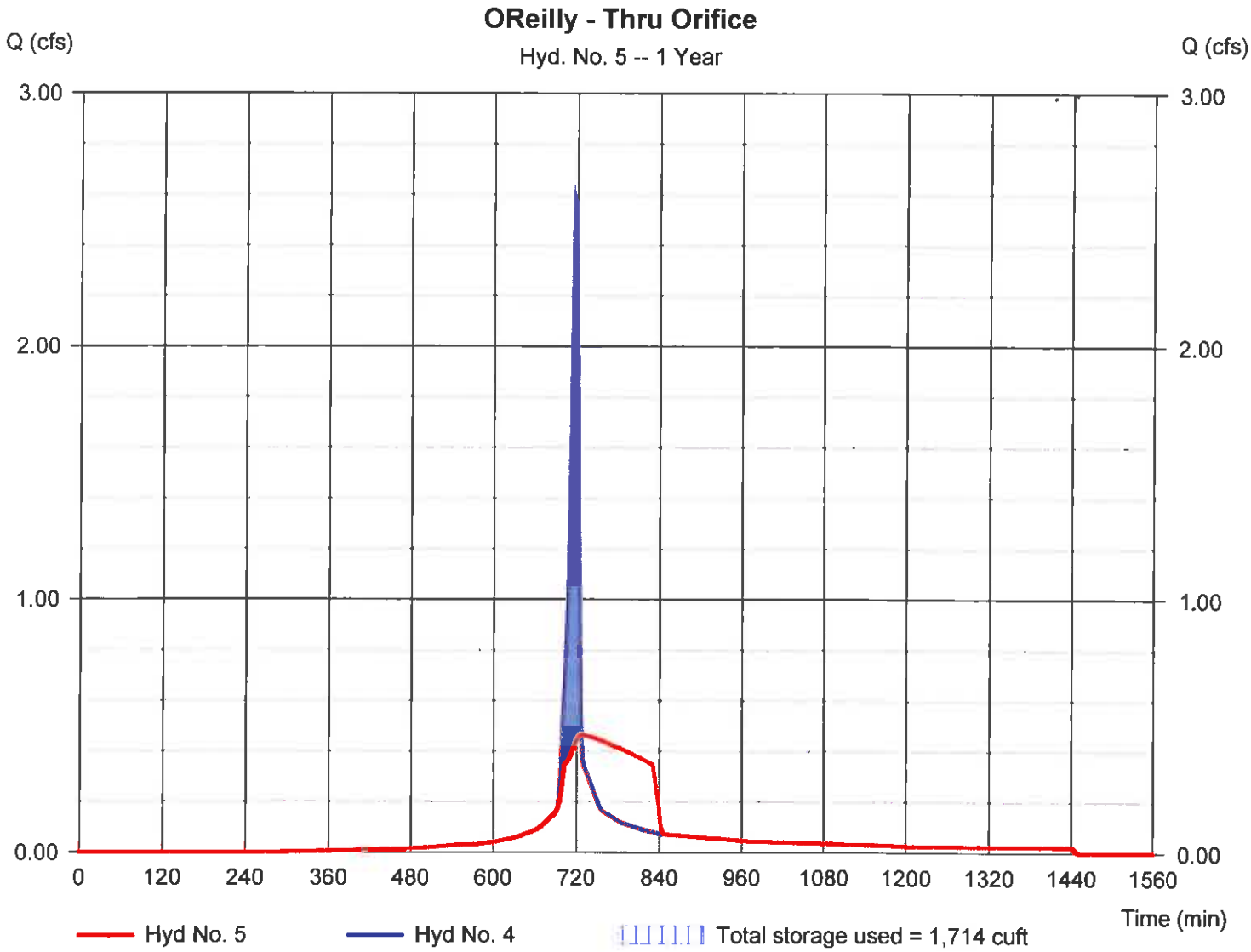
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 5

OReilly - Thru Orifice

Hydrograph type	= Reservoir	Peak discharge	= 0.465 cfs
Storm frequency	= 1 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 5,462 cuft
Inflow hyd. No.	= 4 - OReilly (Post-Dev) Routing	Max. Elevation	= 837.92 ft
Reservoir name	= OReilly	Max. Storage	= 1,714 cuft

Storage Indication method used.



Hydrograph Report

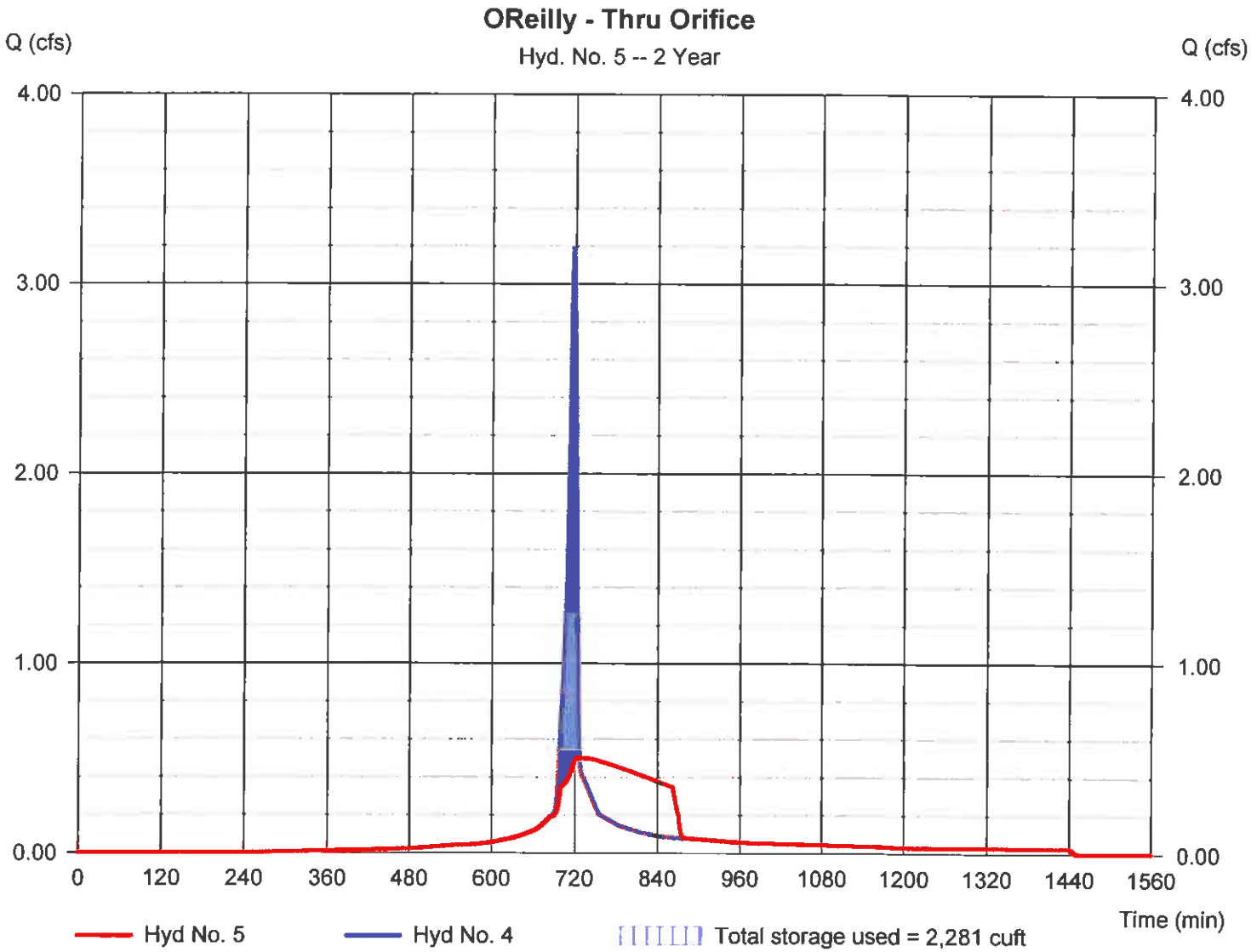
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 5

OReilly - Thru Orifice

Hydrograph type	= Reservoir	Peak discharge	= 0.496 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 1 min	Hyd. volume	= 6,874 cuft
Inflow hyd. No.	= 4 - OReilly (Post-Dev) Routing	Max. Elevation	= 838.51 ft
Reservoir name	= OReilly	Max. Storage	= 2,281 cuft

Storage Indication method used.



Hydrograph Report

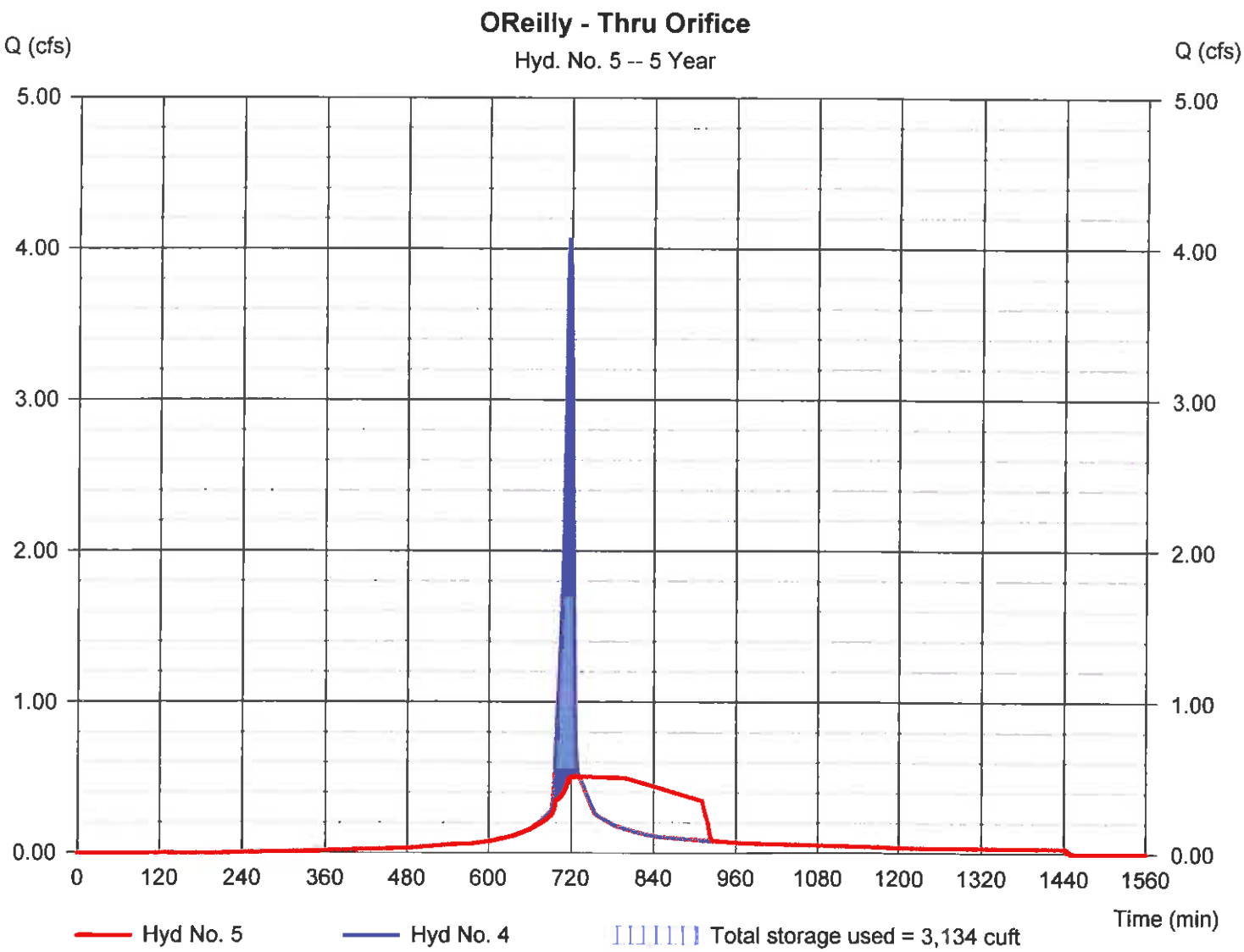
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 5

OReilly - Thru Orifice

Hydrograph type	= Reservoir	Peak discharge	= 0.503 cfs
Storm frequency	= 5 yrs	Time to peak	= 732 min
Time interval	= 1 min	Hyd. volume	= 8,904 cuft
Inflow hyd. No.	= 4 - OReilly (Post-Dev) Routing	Max. Elevation	= 838.65 ft
Reservoir name	= OReilly	Max. Storage	= 3,134 cuft

Storage Indication method used.



Hydrograph Report

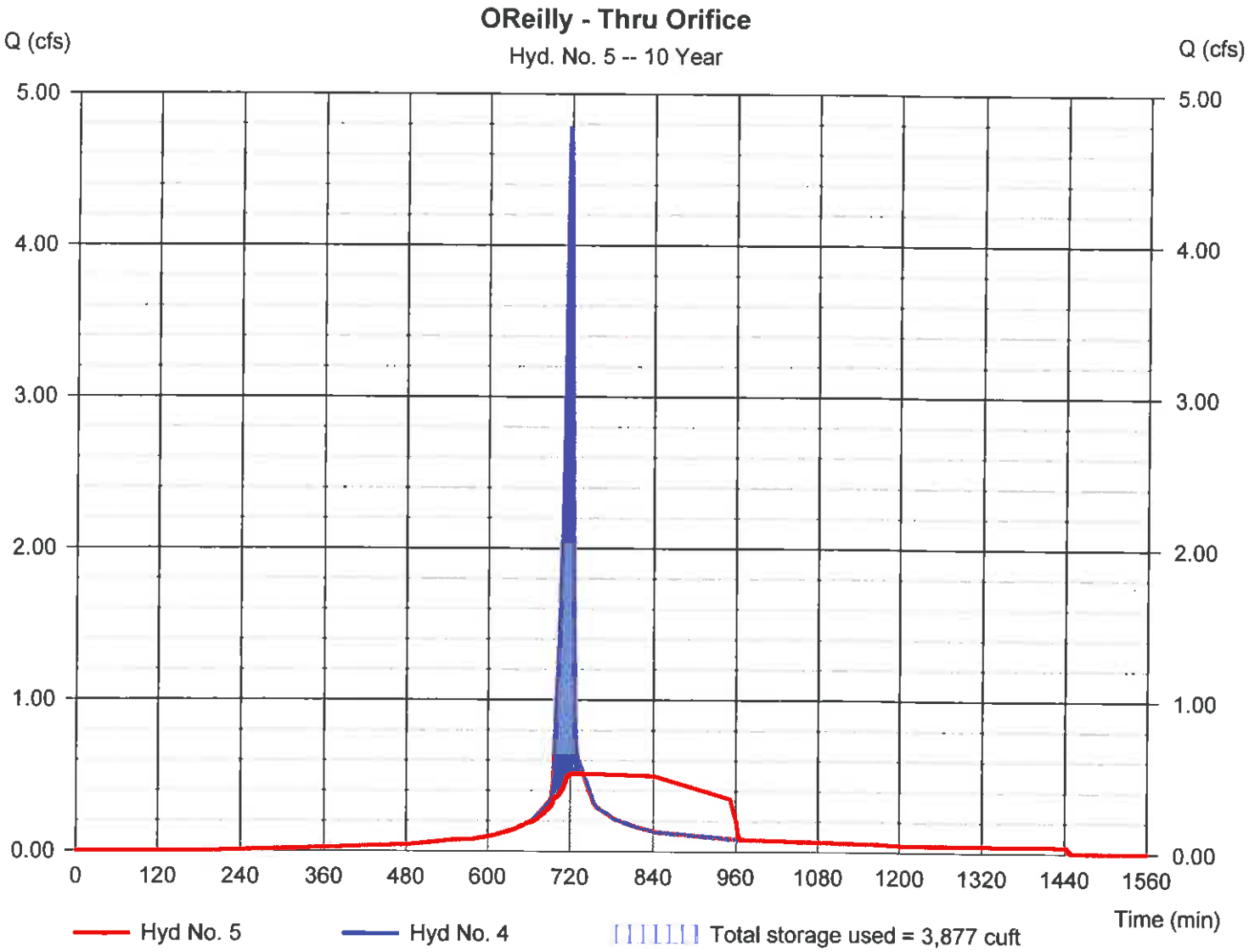
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 5

OReilly - Thru Orifice

Hydrograph type	= Reservoir	Peak discharge	= 0.509 cfs
Storm frequency	= 10 yrs	Time to peak	= 738 min
Time interval	= 1 min	Hyd. volume	= 10,584 cuft
Inflow hyd. No.	= 4 - OReilly (Post-Dev) Routing	Max. Elevation	= 838.77 ft
Reservoir name	= OReilly	Max. Storage	= 3,877 cuft

Storage Indication method used.



Hydrograph Report

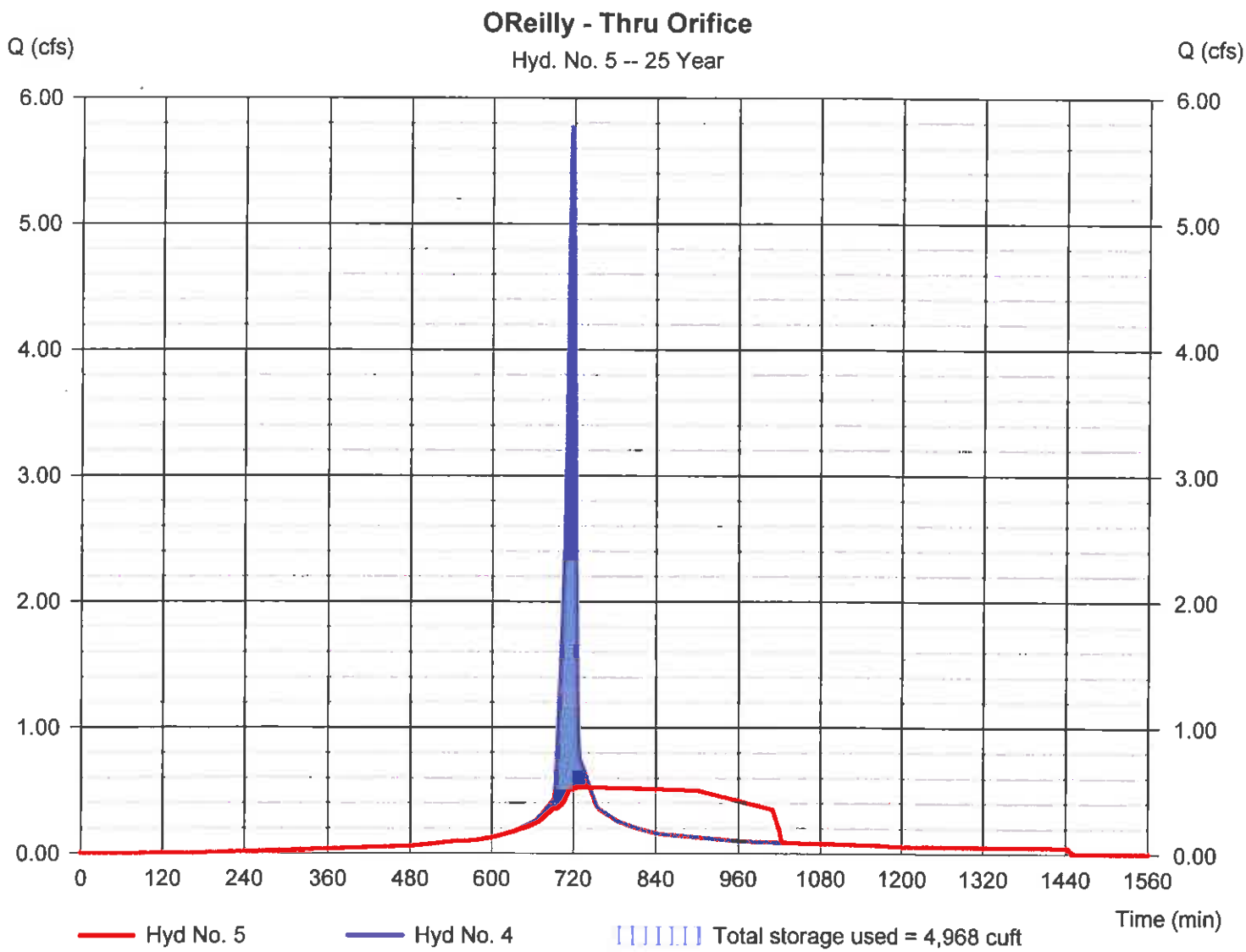
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 5

OReilly - Thru Orifice

Hydrograph type	= Reservoir	Peak discharge	= 0.518 cfs
Storm frequency	= 25 yrs	Time to peak	= 744 min
Time interval	= 1 min	Hyd. volume	= 12,951 cuft
Inflow hyd. No.	= 4 - OReilly (Post-Dev) Routing	Max. Elevation	= 838.95 ft
Reservoir name	= OReilly	Max. Storage	= 4,968 cuft

Storage Indication method used



Hydrograph Report

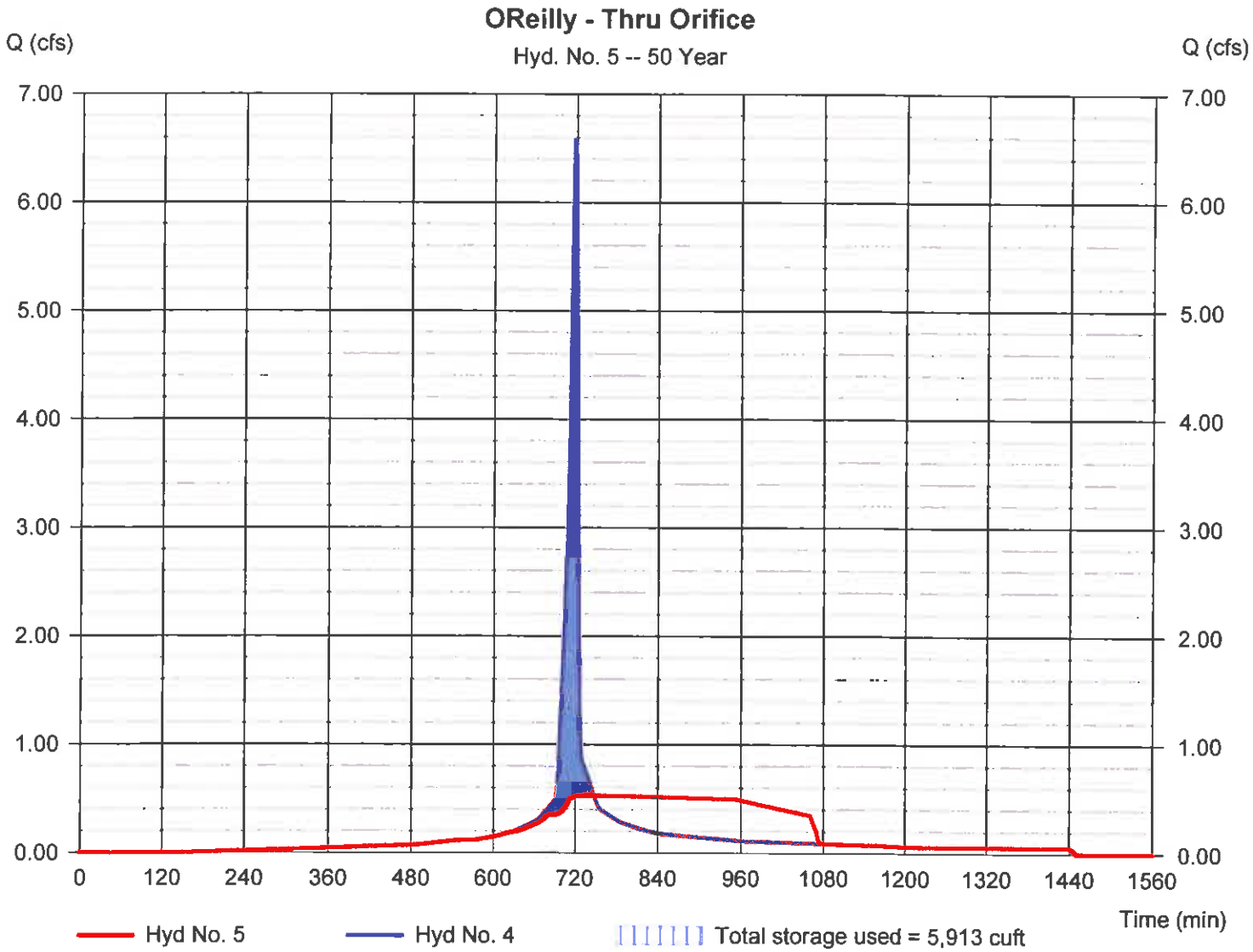
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 5

OReilly - Thru Orifice

Hydrograph type	= Reservoir	Peak discharge	= 0.525 cfs
Storm frequency	= 50 yrs	Time to peak	= 748 min
Time interval	= 1 min	Hyd. volume	= 14,921 cuft
Inflow hyd. No.	= 4 - OReilly (Post-Dev) Routing	Max. Elevation	= 839.10 ft
Reservoir name	= OReilly	Max. Storage	= 5,913 cuft

Storage Indication method used.



Hydrograph Report

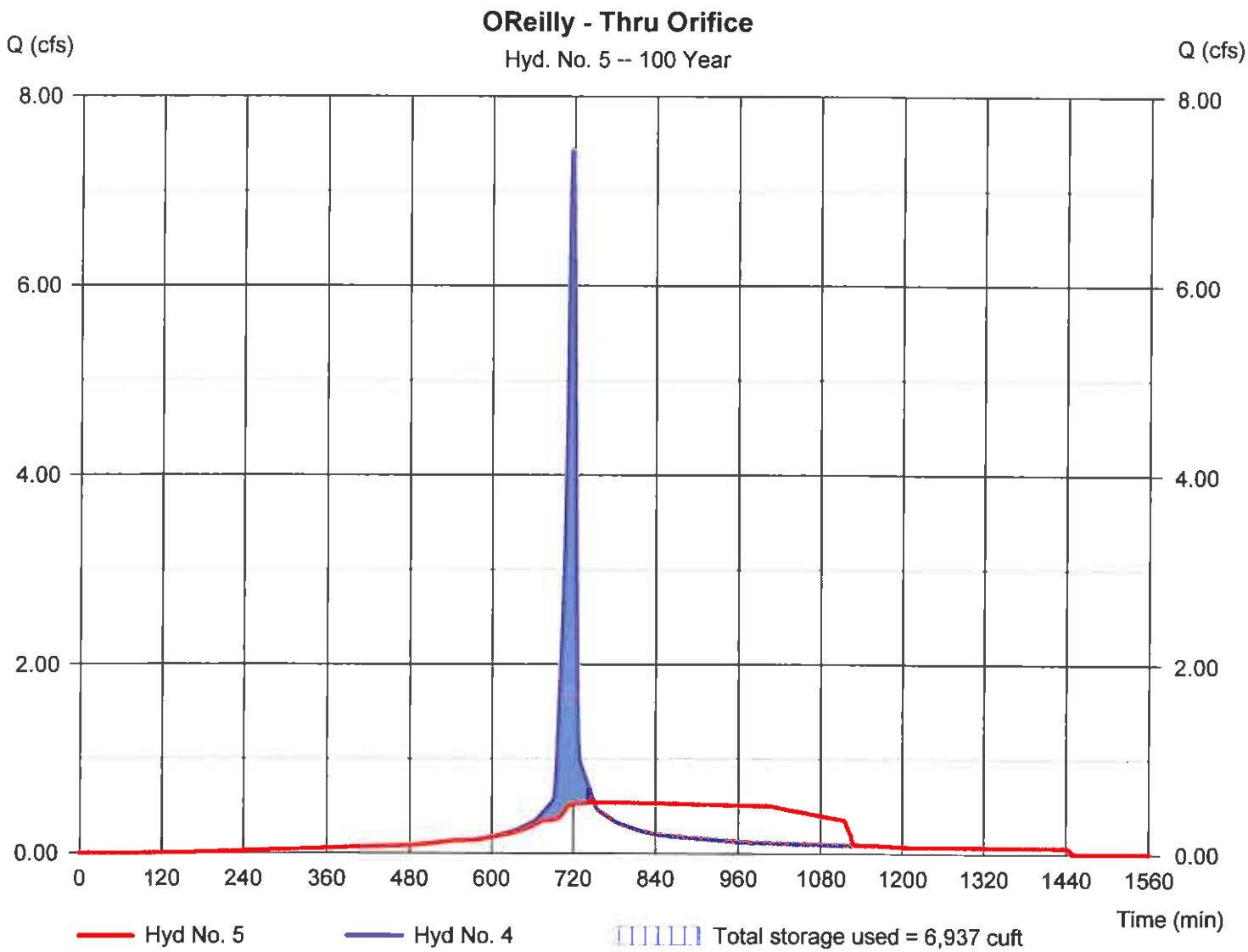
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 5

OReilly - Thru Orifice

Hydrograph type	= Reservoir	Peak discharge	= 0.533 cfs
Storm frequency	= 100 yrs	Time to peak	= 751 min
Time interval	= 1 min	Hyd. volume	= 16,998 cuft
Inflow hyd. No.	= 4 - OReilly (Post-Dev) Routing	Max. Elevation	= 839.27 ft
Reservoir name	= OReilly	Max. Storage	= 6,937 cuft

Storage Indication method used.



HYDROGRAPH NO. 6

COMBINED POST-DEVELOPMENT FLOWS (ON-SITE + UNDETAINED) (1.057 ACRES)

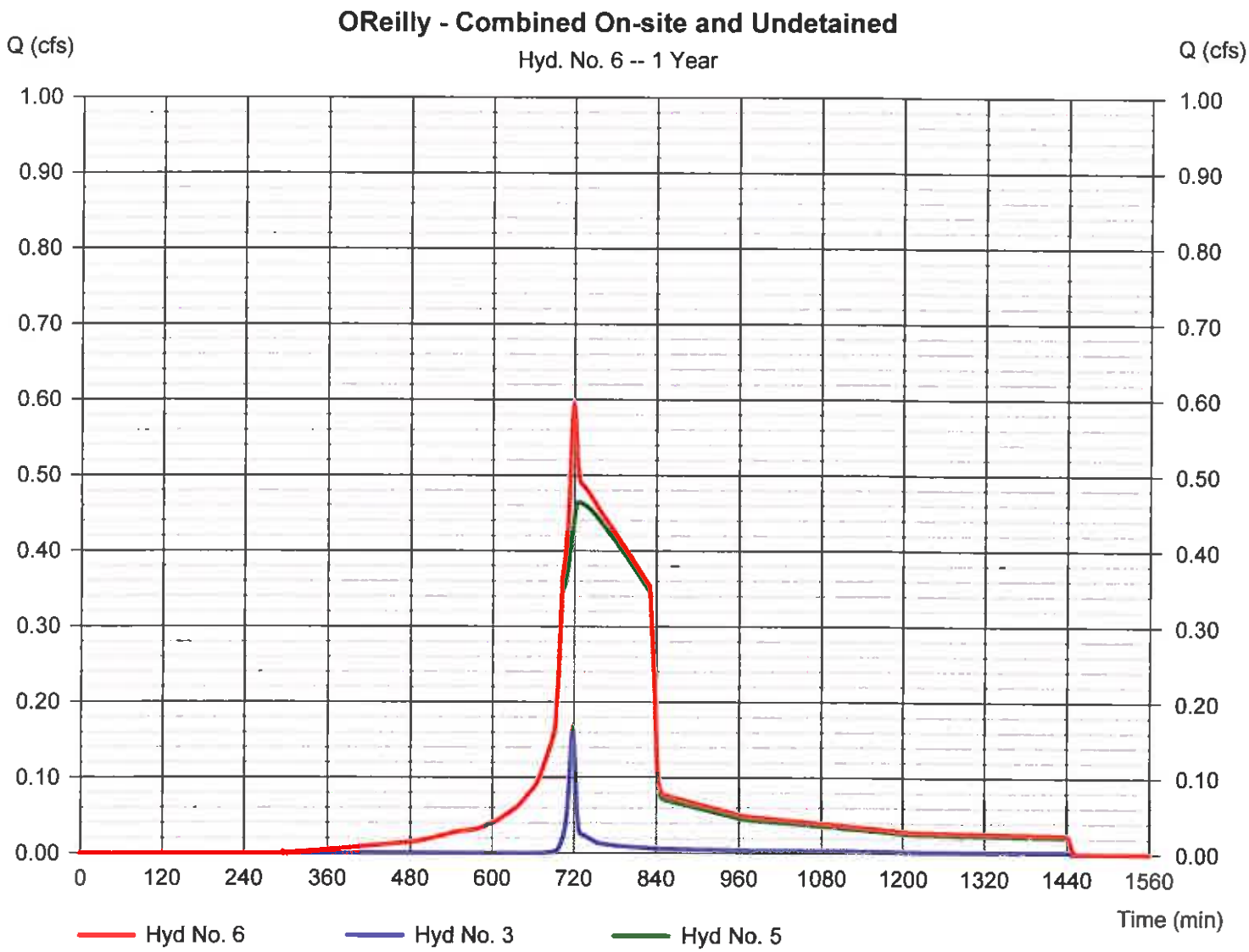
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 6

OReilly - Combined On-site and Undetained

Hydrograph type	= Combine	Peak discharge	= 0.593 cfs
Storm frequency	= 1 yrs	Time to peak	= 719 min
Time interval	= 1 min	Hyd. volume	= 5,790 cuft
Inflow hyds.	= 3, 5	Contrib. drain. area	= 0.136 ac



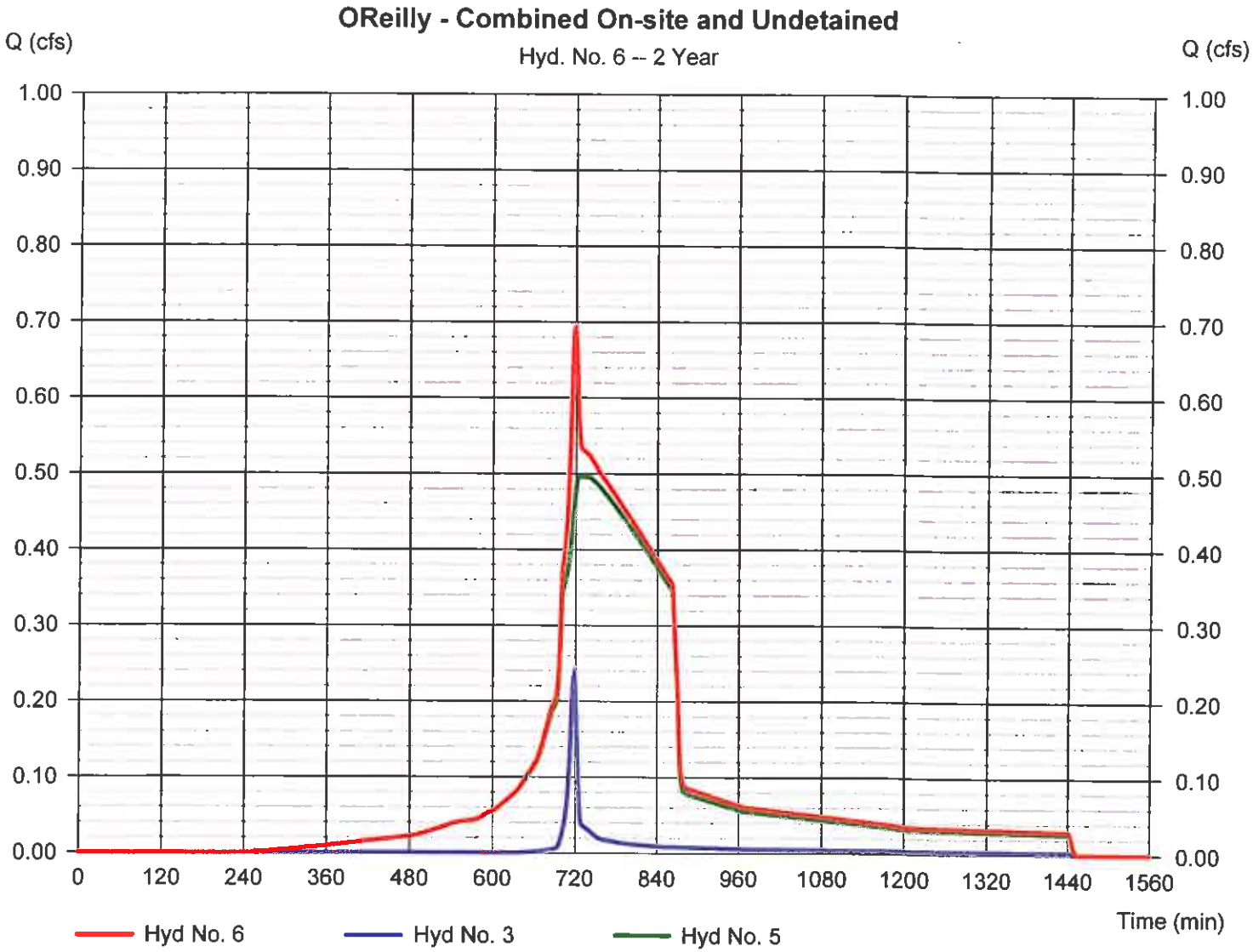
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 6

OReilly - Combined On-site and Undetained

Hydrograph type	= Combine	Peak discharge	= 0.692 cfs
Storm frequency	= 2 yrs	Time to peak	= 719 min
Time interval	= 1 min	Hyd. volume	= 7,345 cuft
Inflow hyds.	= 3, 5	Contrib. drain. area	= 0.136 ac



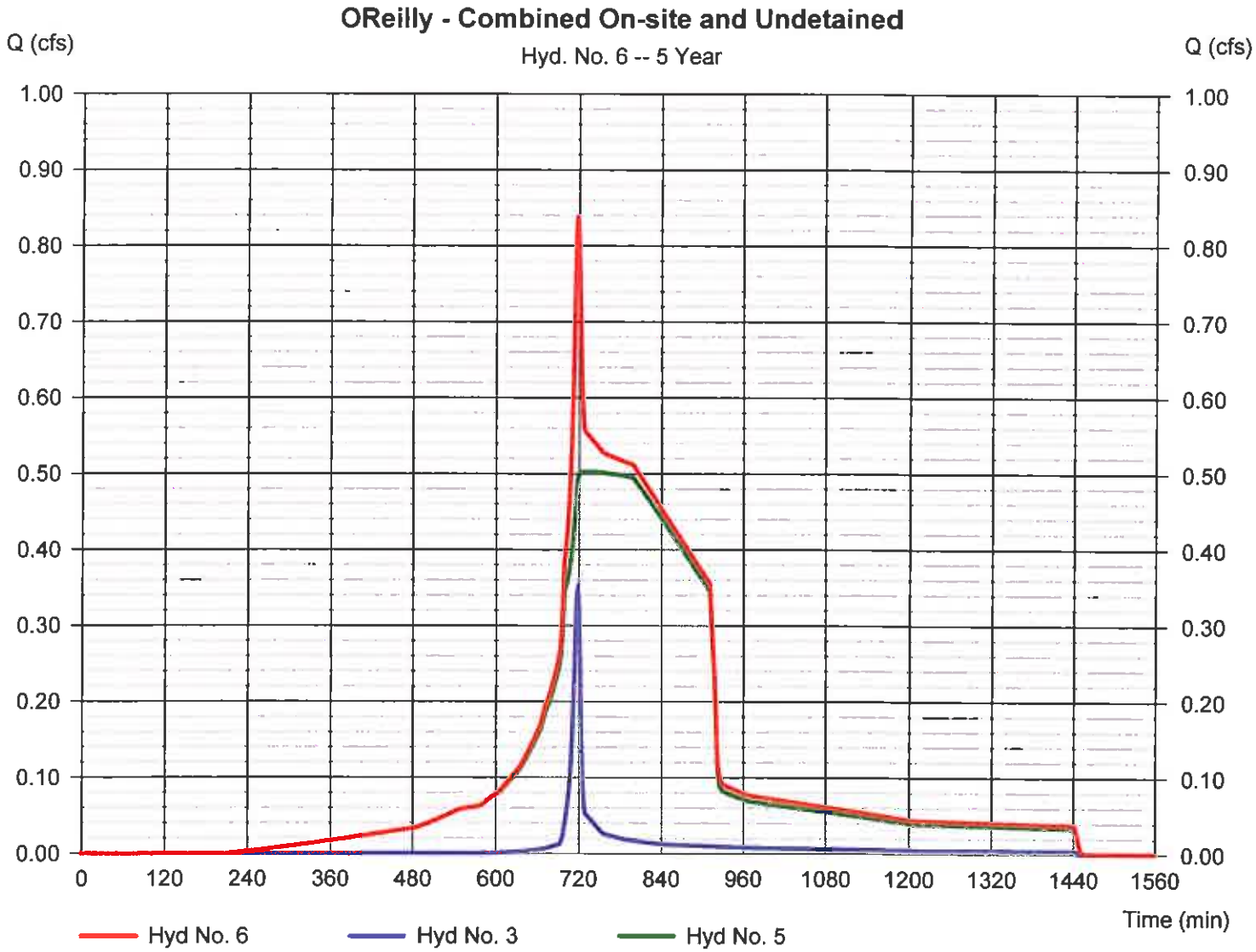
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 6

OReilly - Combined On-site and Undetained

Hydrograph type	= Combine	Peak discharge	= 0.841 cfs
Storm frequency	= 5 yrs	Time to peak	= 718 min
Time interval	= 1 min	Hyd. volume	= 9,600 cuft
Inflow hyds.	= 3, 5	Contrib. drain. area	= 0.136 ac



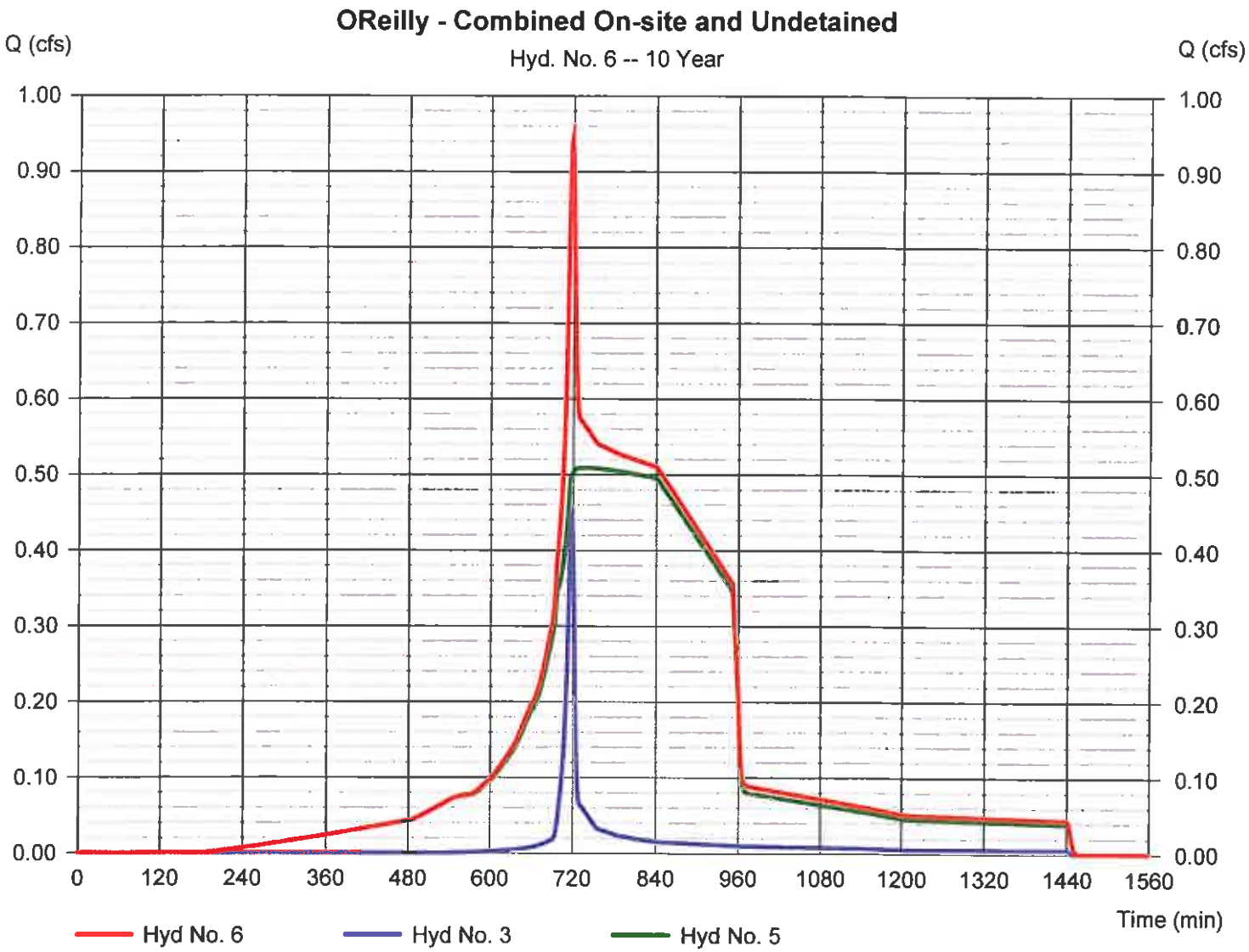
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 6

OReilly - Combined On-site and Undetained

Hydrograph type	= Combine	Peak discharge	= 0.943 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 1 min	Hyd. volume	= 11,477 cuft
Inflow hyds.	= 3, 5	Contrib. drain. area	= 0.136 ac



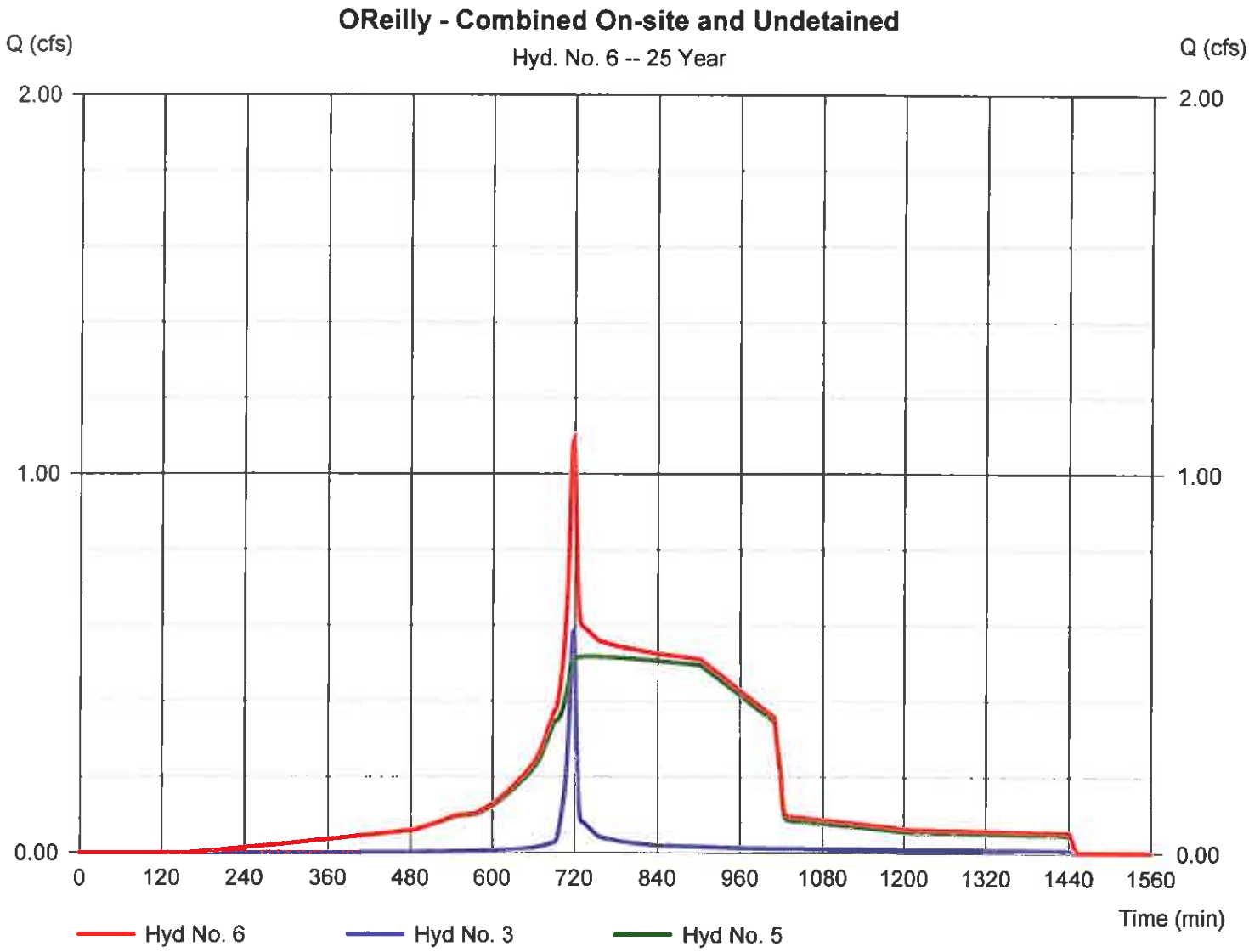
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 6

OReilly - Combined On-site and Undetained

Hydrograph type	= Combine	Peak discharge	= 1.089 cfs
Storm frequency	= 25 yrs	Time to peak	= 718 min
Time interval	= 1 min	Hyd. volume	= 14,135 cuft
Inflow hyds.	= 3, 5	Contrib. drain. area	= 0.136 ac



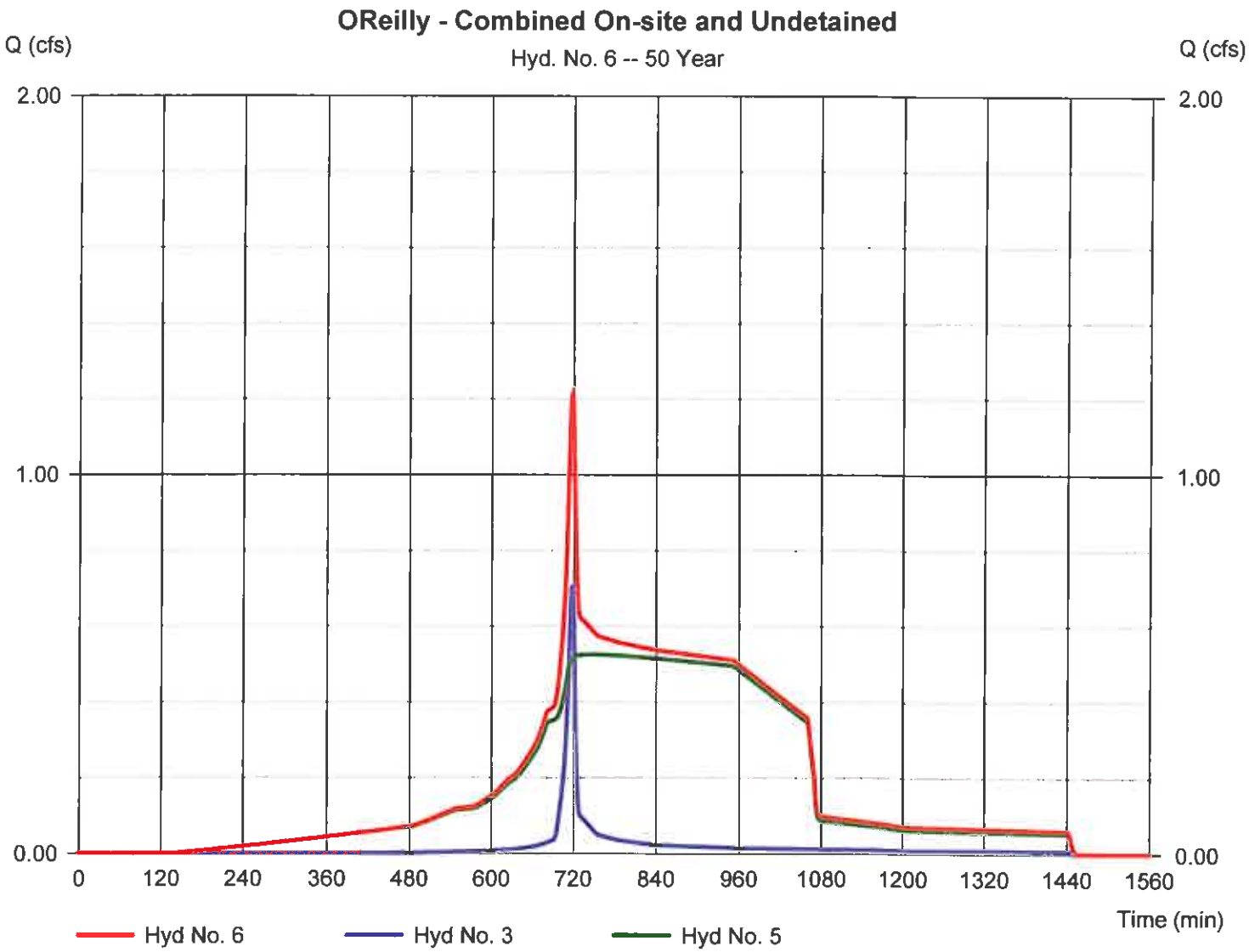
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

Hyd. No. 6

OReilly - Combined On-site and Undetained

Hydrograph type	= Combine	Peak discharge	= 1.213 cfs
Storm frequency	= 50 yrs	Time to peak	= 718 min
Time interval	= 1 min	Hyd. volume	= 16,356 cuft
Inflow hyds.	= 3, 5	Contrib. drain. area	= 0.136 ac



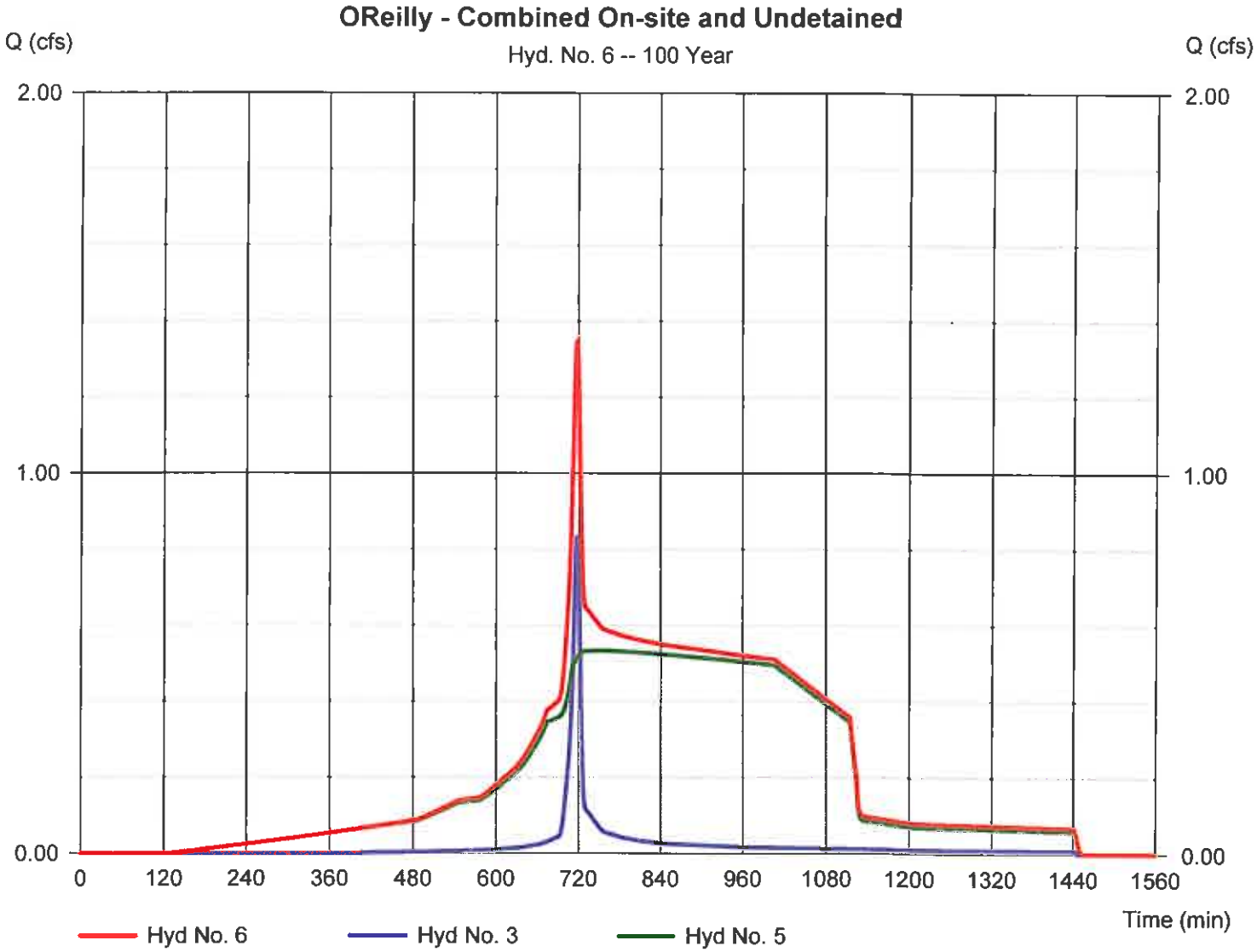
Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3 Tuesday, 08 / 25 / 2015

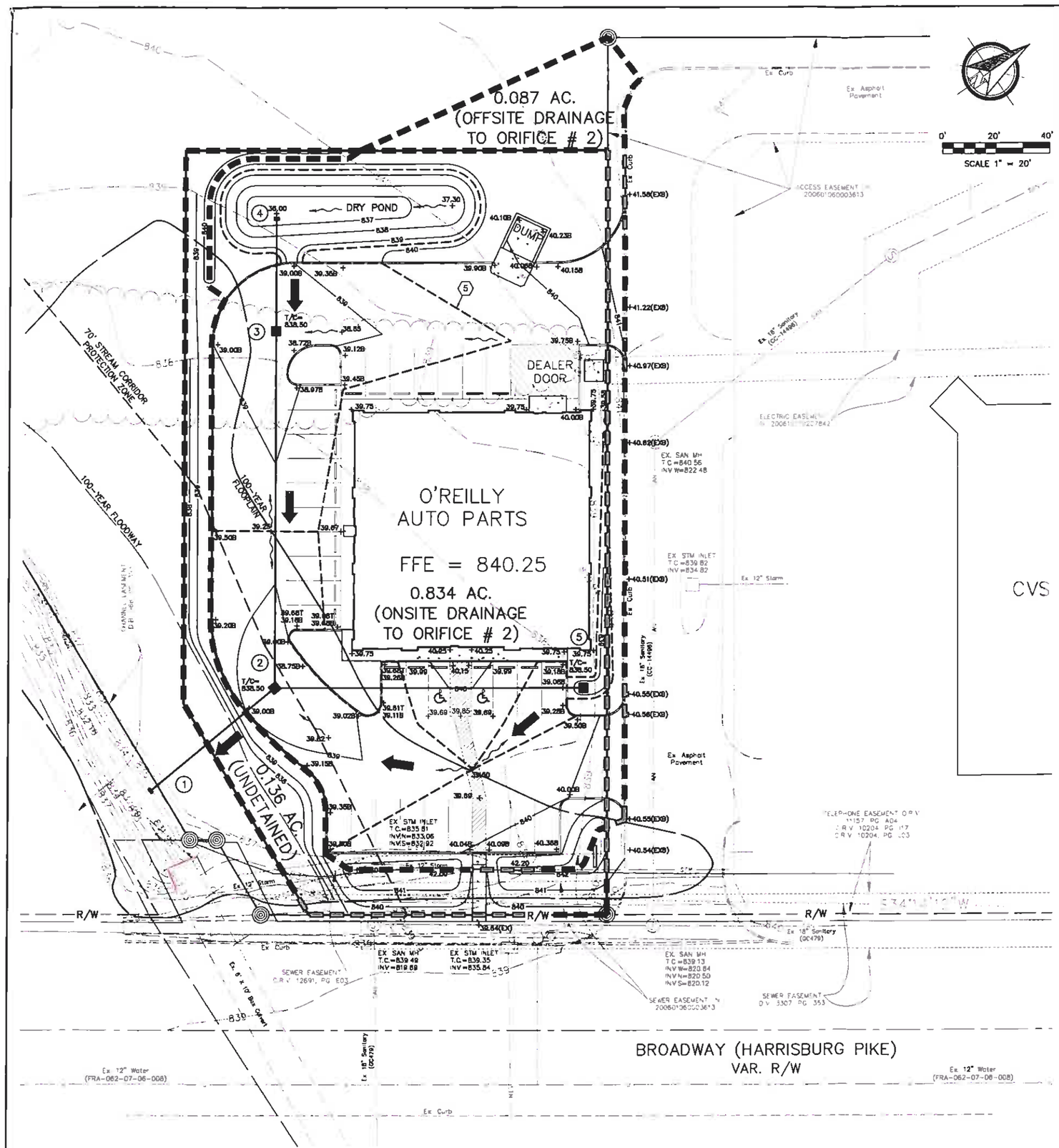
Hyd. No. 6

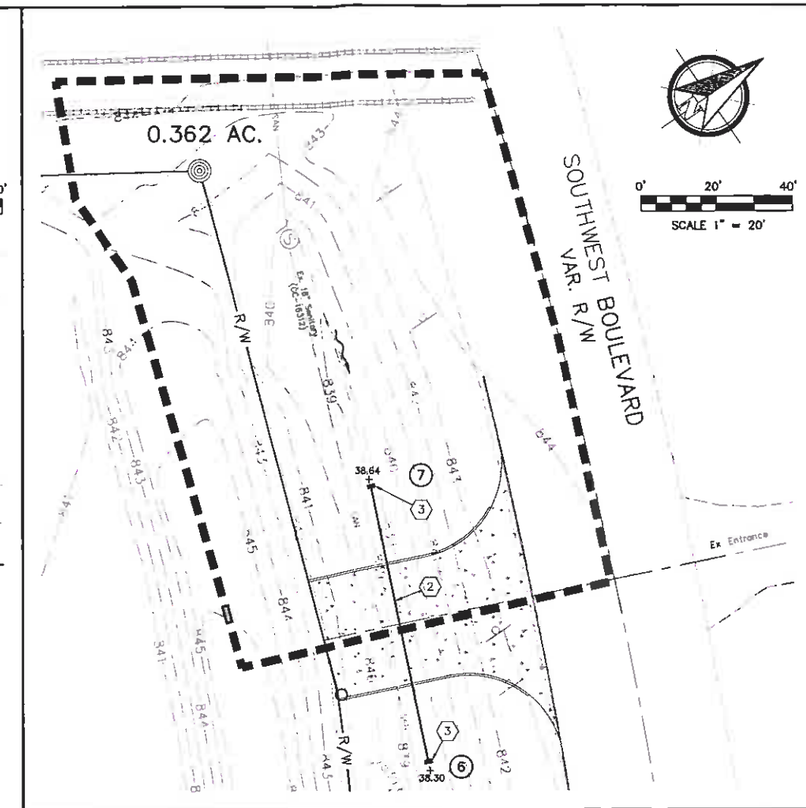
OReilly - Combined On-site and Undetained

Hydrograph type	= Combine	Peak discharge	= 1.345 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 1 min	Hyd. volume	= 18,704 cuft
Inflow hyds.	= 3, 5	Contrib. drain. area	= 0.136 ac



DRAINAGE DIVIDES MAP





LEGEND

℄	CENTERLINE
R/W	RIGHT OF WAY LINE
PL	PROPERTY LINES
STM	STORM SEWER
S	SANITARY SEWER
W	WATER LINE
T	TELEPHONE LINE
E	ELECTRIC LINE
G	GAS LINE
CTV	EXISTING CABLE T.V.
903	EXISTING CONTOUR
+ 39.99	PROPOSED SPOT ELEVATION (ADD 800)
+ 39.99(EXB)	EXISTING SPOT ELEVATION AT BOTTOM OF CURB (ADD 800)
903	PROPOSED CONTOUR
	PROPOSED CONCRETE
	DIRECTION OF SURFACE FLOW
	MAJOR STORM RUNOFF PATH
	100 YR. STORM WATER DETENTION PONDING LIMITS 100 YR. PONDING ELEVATION = 839.50
+39.68T 39.18B	PROPOSED TOP OF CURB ELEVATION (ADD 800) PROPOSED BOTTOM OF CURB ELEVATION (ADD 800)

REV	DATE	DESCRIPTION	BY

STATE OF OHIO
ERIC P. CHENEVEY
E-55806
REGISTERED
PROFESSIONAL ENGINEER

ERIC P CHENEVEY
OHIO ENGINEER NO. 55806

8-24-15
DATE

PREPARED BY:
IBI
IBI GROUP
635 Brookridge Boulevard
Westerville OH 43081 USA
tel 614 818 4900
fax 614 818 4901
ibigroup.com

PREPARED FOR:
O'Reilly AUTO PARTS

DRAWN BY TJS
STD ISSUE DATE 8/26/2015
REVIEWED BY EPC
DATE ISSUED 8/26/2015
Grove City, OH

PLANS
DEVELOPMENT PLAN

SHEET TITLE
Proposed Drainage Divides

SITE ID
SITE ADDRESS
O'Reilly's Project Site

SHEET NO.
1