

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	MARK JOERSZ 636-346-6139 MARK.JOERSZ@ADS-PIPE.COM
ADS SALES REP:	BRIAN SNELSON 618-593-6135 BRIAN.SNELSON@ADS-PIPE.COM
PROJECT NO:	135631

APPROVED BY:

SIGNED: _____

DATE: _____

COMPANY: _____

PHONE / EMAIL: _____



THE DOWNSTREAM DEFENDER® AND FIRST DEFENSE® ARE DESIGNED, MANUFACTURED AND SUPPLIED BY HYDRO INTERNATIONAL PLC, AND ALL TRADEMARKS ARE THE PROPERTY OF HYDRO INTERNATIONAL PLC.

WEBSTER UNIVERSITY

ST. LOUIS, MISSOURI

CONTRACTOR PROVIDED DELIVERY SCHEDULE & SITE INFORMATION:

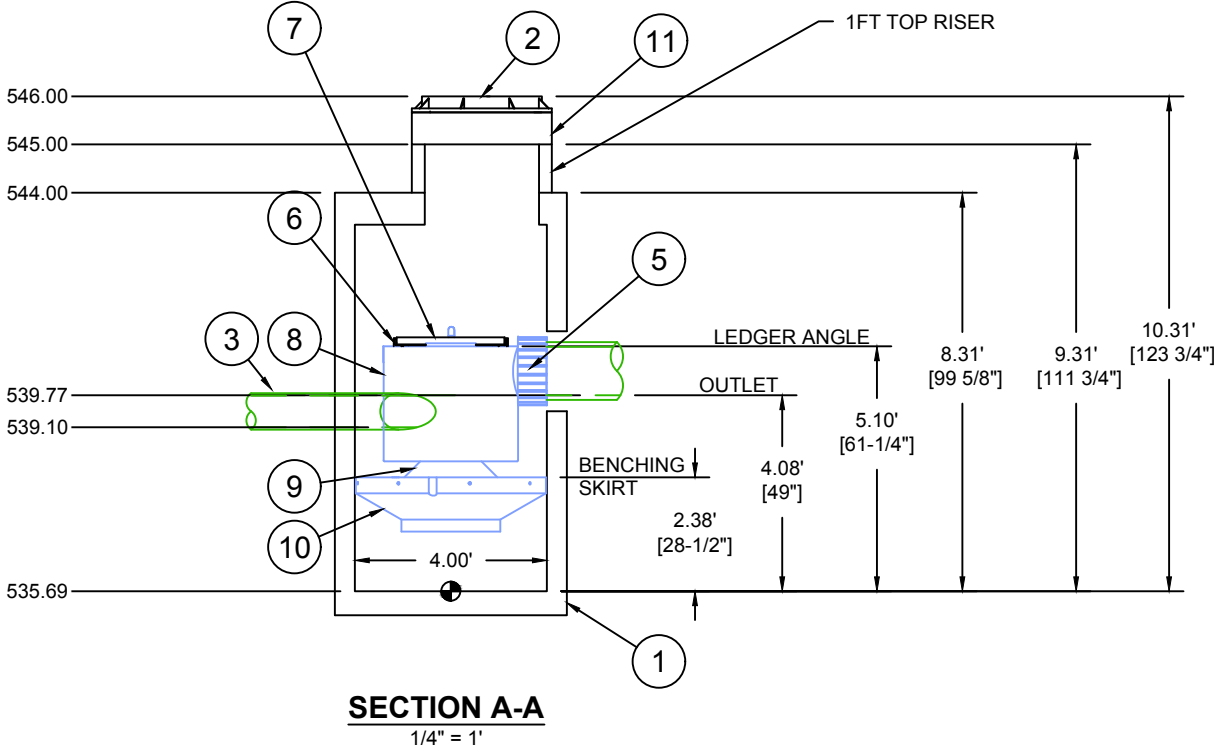
SCHEDULING INFORMATION									
SYSTEM DESIGNATION / SIZE									
SYSTEM DELIVERY DATE									

*ACTUAL DATE REQUIRED, ASAP IS NOT ACCEPTABLE AND A MINIMUM OF 4 WEEKS MUST BE PROVIDED UNLESS OTHERWISE DISCUSSED WITH A SALES REPRESENTATIVE.

DELIVERY INFORMATION			
JOB SITE STREET ADDRESS		CITY	
CONTACT		CONTACT PHONE	
ALTERNATE CONTACT		ALTERNATE PHONE	

DIRECTIONS TO JOB SITE FROM NEAREST INTERSTATE:
(PLEASE NO MAPS)

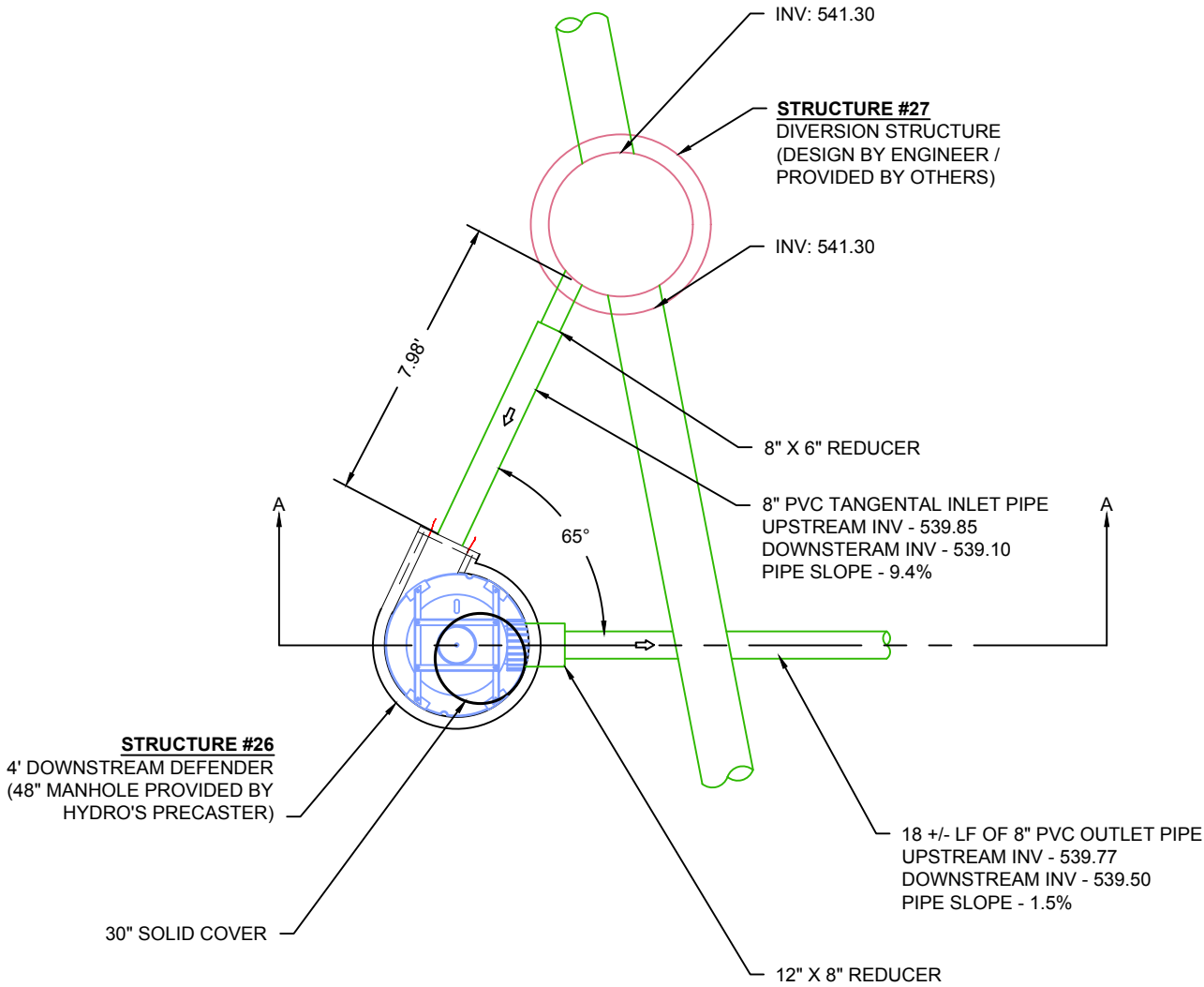
PARTS LIST: 4' DOWNSTREAM DEFENDER			
ITEM	SIZE (IN)	MATERIAL	DESCRIPTION
1	48	CONCRETE	I.D. PRECAST MANHOLE
2	30	-	FRAME & COVER
3	8	PVC	INLET PIPE (BY OTHERS)
4	12/8	PVC	OUTLET PIPE (BY OTHERS)
5	12	-	PIPE COUPLING (BY OTHERS)
6	-	-	LEDGER ANGLE
7	-	-	SUPPORT FRAME
8	-	-	DIP PLATE
9	-	-	CENTER SHAFT & CONE
10	-	-	BENCHING SKIRT
11	-	-	MATERIALS & LABOR TO ACHIEVE FINAL GRADE (BY OTHERS)



- CAPACITIES
- PEAK TREATMENT FLOW: 3.0 CFS (85 L/S)
 - SEDIMENT STORAGE CAPACITY: 0.70 YD³ (0.54 m³)
 - OIL STORAGE CAPACITY: 70 GALLONS (265 LITERS)

- ADDITIONAL DESIGN INFORMATION
- THE OUTLET PIPE STUB IS A ROTO-MOLDED PRODUCT WITH AN I.D. OF 12" THAT CANNOT BE MODIFIED. TO AVOID THE USE OF A REDUCER OR EXPANDER ON THE OUTLET A 12" OUTLET PIPE SHOULD BE USED IF POSSIBLE.
 - ONLY SMALLER INLET PIPES MAY BE USED. THE INLET PIPE INVERT SHOULD BE PLACED ONE INLET PIPE DIAMETER BELOW THE OUTLET PIPE INVERT. THE I.D. OF THE INLET PIPE SHOULD BE PLACED TANGENT TO THE I.D. OF THE MANHOLE. HEADLOSS AT 3.0 CFS WITH A 12" INLET: 8" (203 mm). HEADLOSS WILL INCREASE WITH SMALLER INLET PIPES.
 - SEDIMENT SHALL BE STORED IN A ZONE THAT IS ISOLATED FROM THE MAIN FLOW PATH AND PROTECTED FROM RE-ENTRAINMENT BY THE BENCHING SKIRT.

HIL REF #: 16-13458

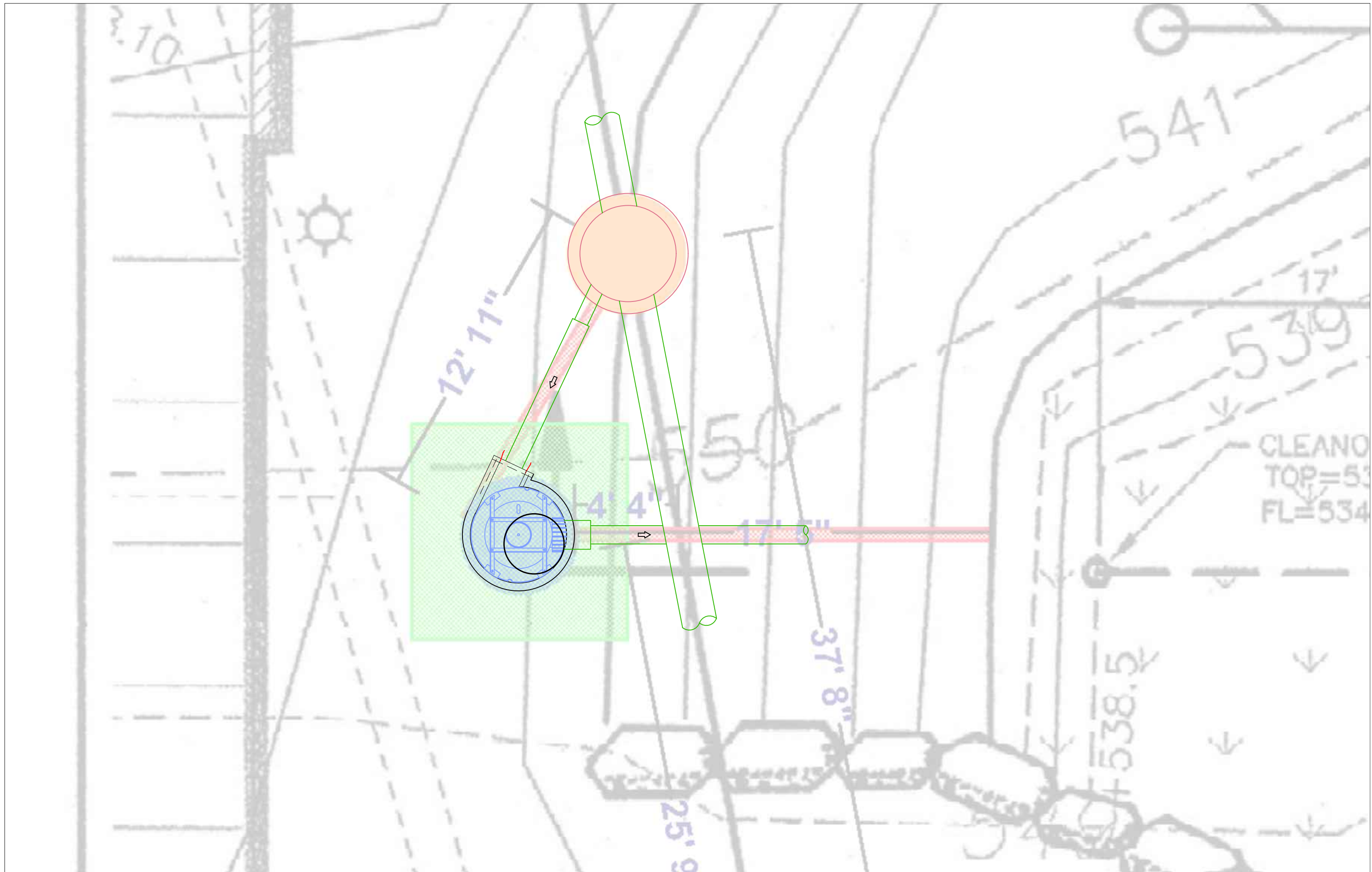


NOTES:
ENGINEER TO CONFIRM ALL INVERTS ARE FROM THE SAME REFERENCE DATUM AND THAT THE HEIGHT AND ELEVATIONS OF THE DOWNSTREAM DEFENDER STRUCTURE WILL SUIT THE SITE.

PLAN VIEW
1" = 5'

WEBSTER UNIVERSITY ST. LOUIS, MO		DATE: 03-04-16	DRAWN: DHC	PROJECT #: 135631	CHECKED: BL
DESCRIPTION	CHK	DRW	REV	STORMWATER SOLUTIONS 94 HUTCHINS DR. PORTLAND, ME 04102-1930 (207) 756-6200 WWW.HYDRO-INT.COM Hydro International THE DOWNSTREAM DEFENDER® AND FIRST DEFENSE® ARE DESIGNED, MANUFACTURED AND ASSEMBLED BY HYDRO INTERNATIONAL, INC. TRADEMARKS ARE THE PROPERTY OF HYDRO INTERNATIONAL, INC.	
ADD INLET REDUCER	JLM	JLM	04/27/16		
CHANGES PER HIL	DAF	DAF	4/29/2016		
4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473 Hydro ADVANCED DRAINAGE SYSTEMS, INC.		AS NOTED		SHEET 2 OF 2	

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.





77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0092

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 06/17/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

RE: Downstream Defender Shop Drawing

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☒ Shop Drawings	☒ Approval	☒ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☐ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	SENT VIA:	☐ Returned
☐ Specifications		☐ Returned for Corrections
☐ Other:		☐ Due Date:

Item	Package	Code	Rev.	Copies	Date	Description	Status
Submittal		221423-003	1		06/17/2016	Downstream Defender Shop Drawing	Submitted

NOTES:

CC: Paric Corporation, Kathy Bathe

Project Coordinator: Paric Corporation, Kathy Bathe

Signed: _____
Devin Gates



SUBMITTAL TRANSMITTAL

345 Marshall Avenue Suite 302, Webster Groves, MO 63119
314-421-0042 phone, 314-231-9157 fax

To: Paric Corporation
77 Westport Plaza, Suite 250
St. Louis, MO 63146

From: Ethan Gwinn
Date: 6/16/2016

Attn: Jason Szachnieski

Project Name:
CASTLE Project Number:
Architect/Engineer's Project Number:

Subm. #: 2 **Sub/Vendor:** Advanced Drainage Systems

PLEASE FIND ENCLOSED:

Copies	Date	No.	Description
1	6/16/2016	1	4' Downstream Defender

ACTION:

☒ For Approval	☐ Approved As Submitted
☐ For your Use	☐ Approved As Noted
☐ As requested	☐ Revise & Resubmit

COMMENTS:

CC: File