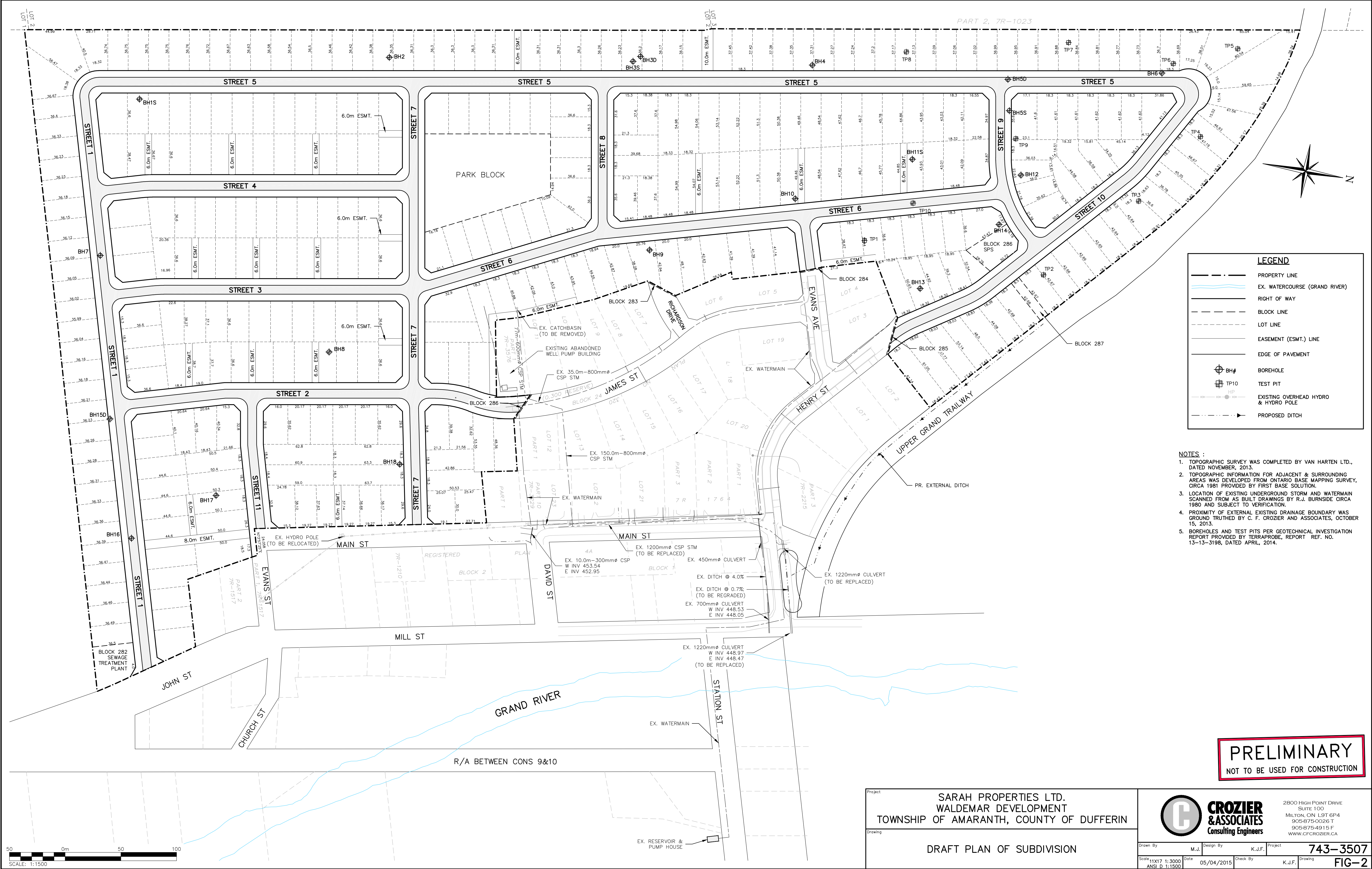


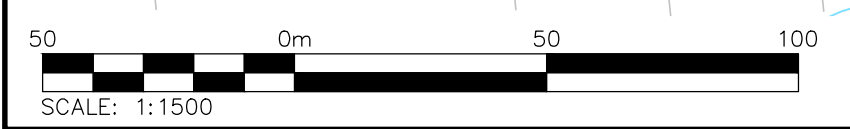
LEGEND

- PROPERTY LINE
- EX. WATERCOURSE (GRAND RIVER)
- RIGHT OF WAY
- BLOCK LINE
- LOT LINE
- EASEMENT (ESMT.) LINE
- EDGE OF PAVEMENT
- BOREHOLE
- TEST PIT
- EXISTING OVERHEAD HYDRO & HYDRO POLE
- PROPOSED DITCH

- NOTES :**
1. TOPOGRAPHIC SURVEY WAS COMPLETED BY VAN HARTEN LTD., DATED NOVEMBER, 2013.
 2. TOPOGRAPHIC INFORMATION FOR ADJACENT & SURROUNDING AREAS WAS DEVELOPED FROM ONTARIO BASE MAPPING SURVEY, CIRCA 1981 PROVIDED BY FIRST BASE SOLUTION.
 3. LOCATION OF EXISTING UNDERGROUND STORM AND WATERMAIN SCANNED FROM AS BUILT DRAWINGS BY R.J. BURNSIDE CIRCA 1980 AND SUBJECT TO VERIFICATION.
 4. PROXIMITY OF EXTERNAL EXISTING DRAINAGE BOUNDARY WAS GROUND TRUTHED BY C. F. CROZIER AND ASSOCIATES, OCTOBER 15, 2013.
 5. BOREHOLES AND TEST PITS PER GEOTECHNICAL INVESTIGATION REPORT PROVIDED BY TERRAPROBE, REPORT REF. NO. 13-13-3198, DATED APRIL, 2014.



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NOT TO BE USED FOR CONSTRUCTION



Project: SARAH PROPERTIES LTD.
WALDEMAR DEVELOPMENT
TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN

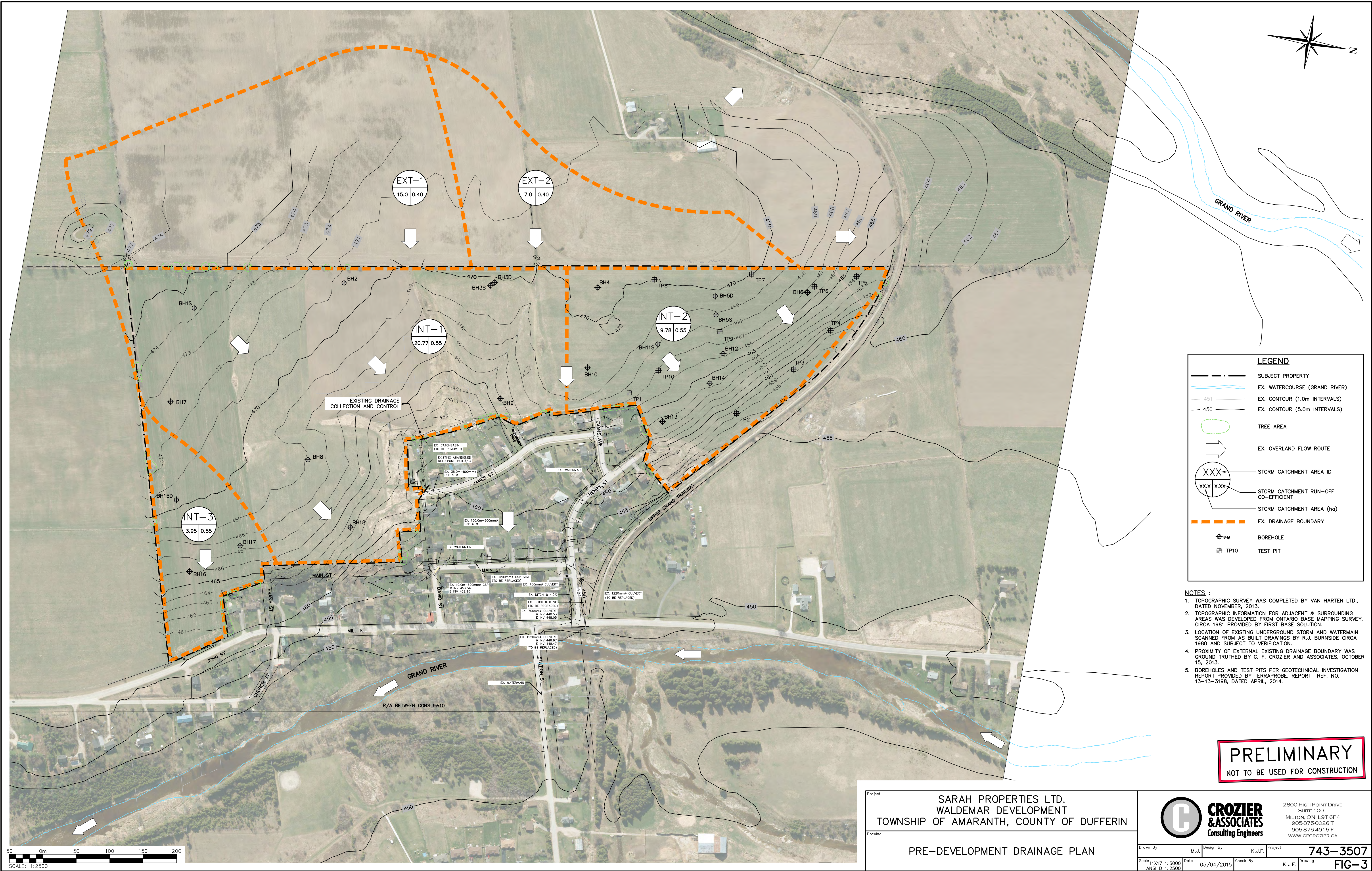
Drawing: DRAFT PLAN OF SUBDIVISION

CROZIER & ASSOCIATES
Consulting Engineers

2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn By: M.J. Design By: K.J.F. Project: 743-3507

Scale: 11x17 1:3000 Date: 05/04/2015 Check By: K.J.F. Drawing: FIG-2



LEGEND

	SUBJECT PROPERTY
	EX. WATERCOURSE (GRAND RIVER)
	EX. CONTOUR (1.0m INTERVALS)
	EX. CONTOUR (5.0m INTERVALS)
	TREE AREA
	EX. OVERLAND FLOW ROUTE
	STORM CATCHMENT AREA ID
	STORM CATCHMENT RUN-OFF CO-EFFICIENT
	STORM CATCHMENT AREA (ha)
	EX. DRAINAGE BOUNDARY
	BOREHOLE
	TEST PIT

- NOTES :**
1. TOPOGRAPHIC SURVEY WAS COMPLETED BY VAN HARTEN LTD., DATED NOVEMBER, 2013.
 2. TOPOGRAPHIC INFORMATION FOR ADJACENT & SURROUNDING AREAS WAS DEVELOPED FROM ONTARIO BASE MAPPING SURVEY, CIRCA 1981 PROVIDED BY FIRST BASE SOLUTION.
 3. LOCATION OF EXISTING UNDERGROUND STORM AND WATERMAIN SCANNED FROM AS BUILT DRAWINGS BY R.J. BURNSIDE CIRCA 1980 AND SUBJECT TO VERIFICATION.
 4. PROXIMITY OF EXTERNAL EXISTING DRAINAGE BOUNDARY WAS GROUND TRUTHED BY C. F. CROZIER AND ASSOCIATES, OCTOBER 15, 2013.
 5. BOREHOLES AND TEST PITS PER GEOTECHNICAL INVESTIGATION REPORT PROVIDED BY TERRAPROBE, REPORT REF. NO. 13-13-3198, DATED APRIL, 2014.

PRELIMINARY
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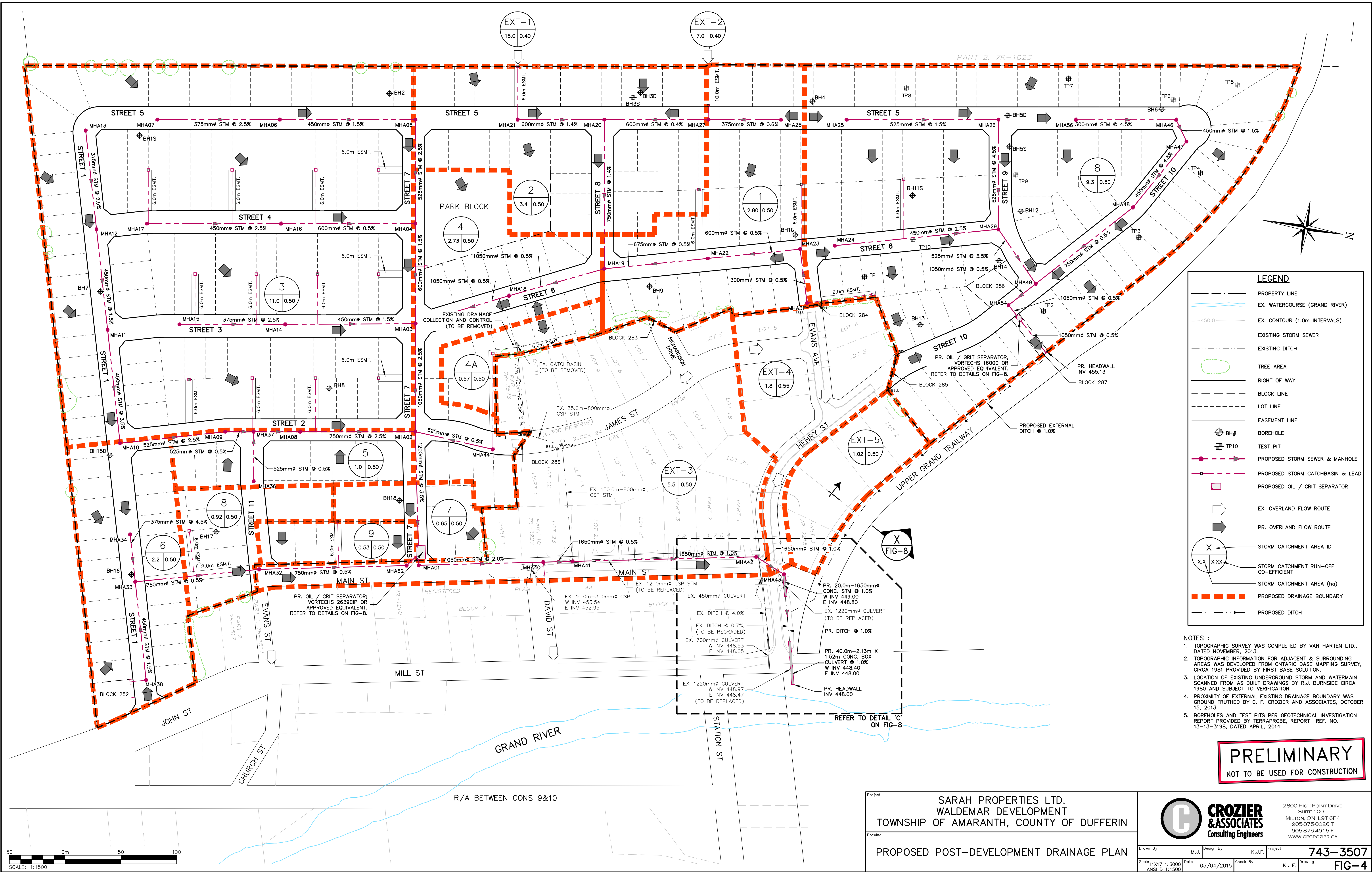
Project
SARAH PROPERTIES LTD.
WALDEMAR DEVELOPMENT
TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN

Drawing
PRE-DEVELOPMENT DRAINAGE PLAN

CROZIER & ASSOCIATES
Consulting Engineers

2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn By	M.J.	Design By	K.J.F.	Project	743-3507
Scale	11X17 1:5000 ANSI D 1:2500	Date	05/04/2015	Check By	K.J.F.
					FIG-3



LEGEND

- PROPERTY LINE
- EX. WATERCOURSE (GRAND RIVER)
- EX. CONTOUR (1.0m INTERVALS)
- EXISTING STORM SEWER
- EXISTING DITCH
- TREE AREA
- RIGHT OF WAY
- BLOCK LINE
- LOT LINE
- EASEMENT LINE
- BOREHOLE
- TEST PIT
- PROPOSED STORM SEWER & MANHOLE
- PROPOSED STORM CATCHBASIN & LEAD
- PROPOSED OIL / GRIT SEPARATOR
- EX. OVERLAND FLOW ROUTE
- PR. OVERLAND FLOW ROUTE
- STORM CATCHMENT AREA ID
- STORM CATCHMENT RUN-OFF CO-EFFICIENT
- STORM CATCHMENT AREA (ha)
- PROPOSED DRAINAGE BOUNDARY
- PROPOSED DITCH

- NOTES :**
1. TOPOGRAPHIC SURVEY WAS COMPLETED BY VAN HARTEN LTD., DATED NOVEMBER, 2013.
 2. TOPOGRAPHIC INFORMATION FOR ADJACENT & SURROUNDING AREAS WAS DEVELOPED FROM ONTARIO BASE MAPPING SURVEY, CIRCA 1981 PROVIDED BY FIRST BASE SOLUTION.
 3. LOCATION OF EXISTING UNDERGROUND STORM AND WATERMAIN SCANNED FROM AS BUILT DRAWINGS BY R.J. BURNSIDE CIRCA 1980 AND SUBJECT TO VERIFICATION.
 4. PROXIMITY OF EXTERNAL EXISTING DRAINAGE BOUNDARY WAS GROUND TRUTHED BY C. F. CROZIER AND ASSOCIATES, OCTOBER 15, 2013.
 5. BOREHOLES AND TEST PITS PER GEOTECHNICAL INVESTIGATION REPORT PROVIDED BY TERRAPROBE, REPORT REF. NO. 13-13-3198, DATED APRIL, 2014.

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Project: SARAH PROPERTIES LTD.
WALDEMAR DEVELOPMENT
TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN

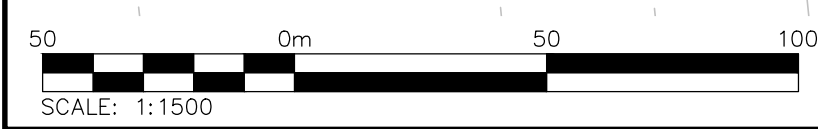
Drawing: PROPOSED POST-DEVELOPMENT DRAINAGE PLAN

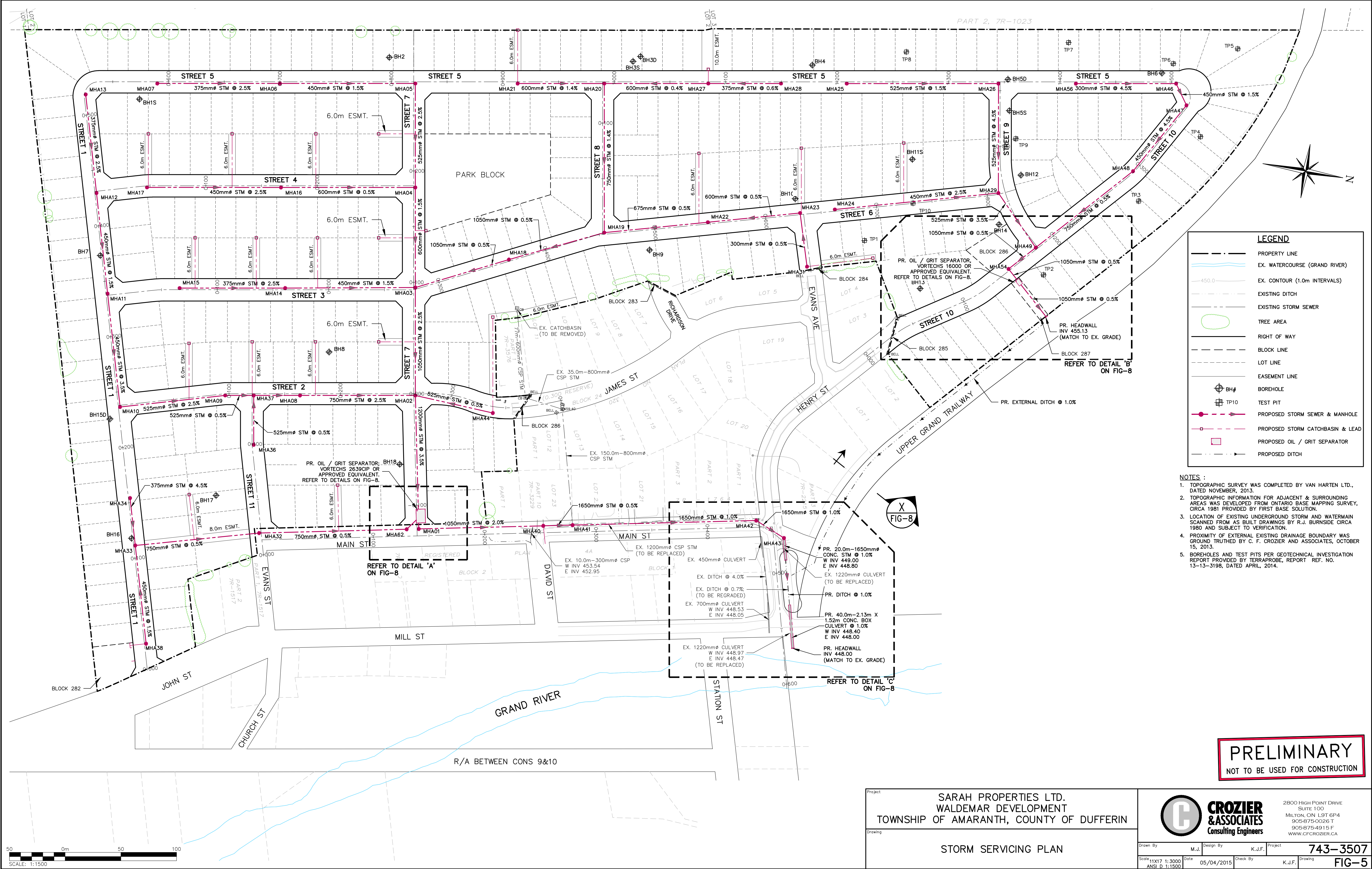
CROZIER & ASSOCIATES
Consulting Engineers

2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0267
905-875-4915 F
WWW.CFCROZIER.CA

Drawn By: M.J. Design By: K.J.F. Project: 743-3507

Scale: 11x17 1:3000 Date: 05/04/2015 Check By: K.J.F. Drawing: FIG-4





LEGEND

- PROPERTY LINE
- EX. WATERCOURSE (GRAND RIVER)
- EX. CONTOUR (1.0m INTERVALS)
- EXISTING DITCH
- EXISTING STORM SEWER
- TREE AREA
- RIGHT OF WAY
- BLOCK LINE
- LOT LINE
- EASEMENT LINE
- BOREHOLE
- TEST PIT
- PROPOSED STORM SEWER & MANHOLE
- PROPOSED STORM CATCHBASIN & LEAD
- PROPOSED OIL / GRIT SEPARATOR
- PROPOSED DITCH

- NOTES :**
1. TOPOGRAPHIC SURVEY WAS COMPLETED BY VAN HARTEN LTD., DATED NOVEMBER, 2013.
 2. TOPOGRAPHIC INFORMATION FOR ADJACENT & SURROUNDING AREAS WAS DEVELOPED FROM ONTARIO BASE MAPPING SURVEY, CIRCA 1981 PROVIDED BY FIRST BASE SOLUTION.
 3. LOCATION OF EXISTING UNDERGROUND STORM AND WATERMAIN SCANNED FROM AS BUILT DRAWINGS BY R.J. BURNSIDE CIRCA 1980 AND SUBJECT TO VERIFICATION.
 4. PROXIMITY OF EXTERNAL EXISTING DRAINAGE BOUNDARY WAS GROUND TRUTHED BY C. F. CROZIER AND ASSOCIATES, OCTOBER 15, 2013.
 5. BOREHOLES AND TEST PITS PER GEOTECHNICAL INVESTIGATION REPORT PROVIDED BY TERRAPROBE, REPORT REF. NO. 13-13-3198, DATED APRIL, 2014.

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NOT TO BE USED FOR CONSTRUCTION

Project: SARAH PROPERTIES LTD.
WALDEMAR DEVELOPMENT
TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN

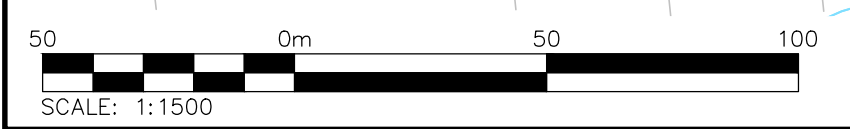
Drawing: STORM SERVICING PLAN

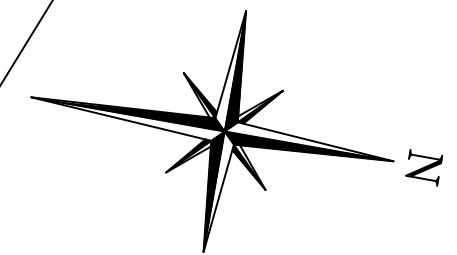
CROZIER & ASSOCIATES
Consulting Engineers

2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CFCROZIER.CA

Drawn By: M.J. Design By: K.J.F. Project: 743-3507

Scale: 11x17 1:3000 Date: 05/04/2015 Check By: K.J.F. Drawing: FIG-5



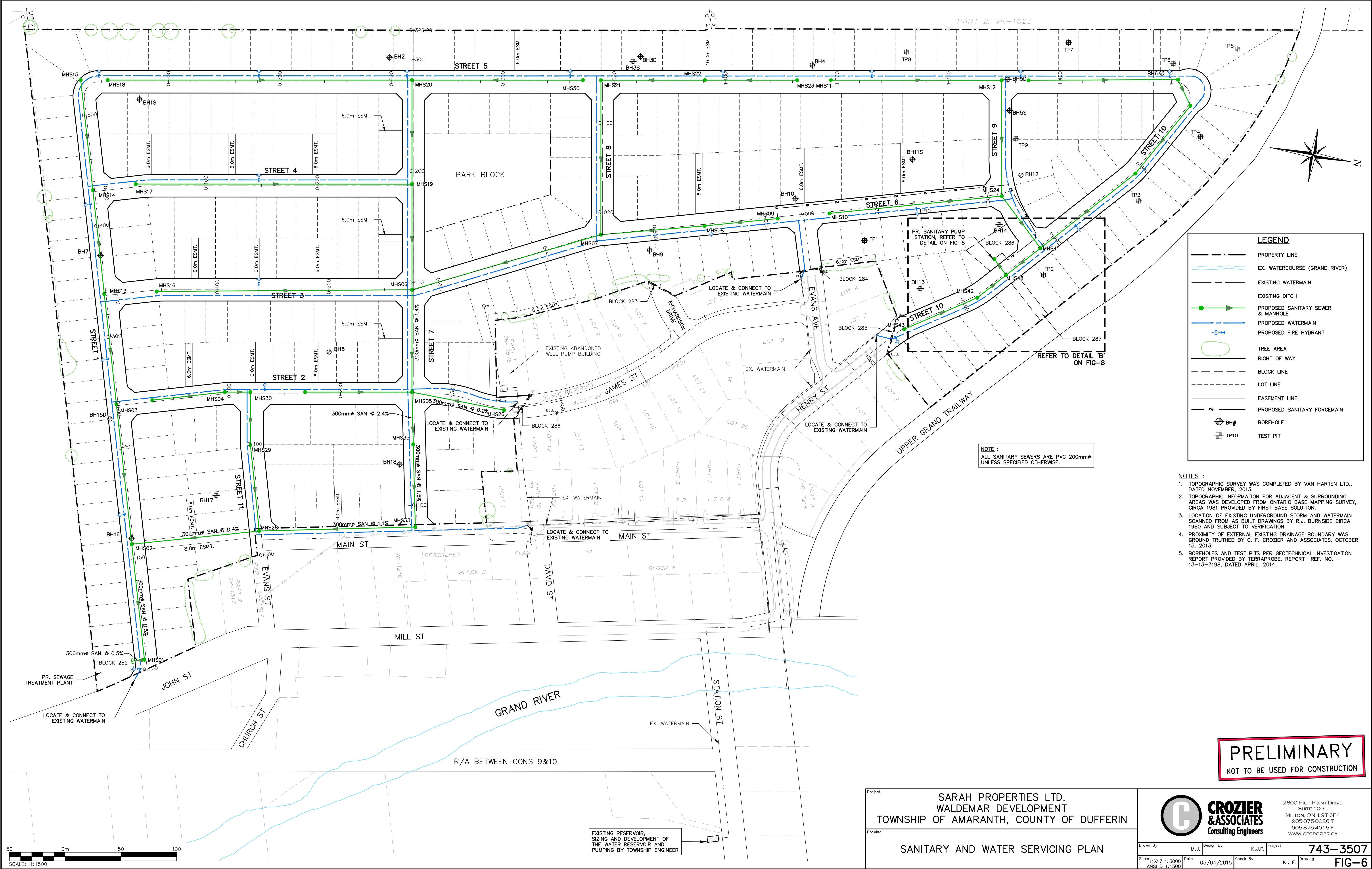


LEGEND

	PROPERTY LINE
	EX. WATERCOURSE (GRAND RIVER)
	EXISTING WATERMAIN
	EXISTING DITCH
	PROPOSED SANITARY SEWER & MANHOLE
	PROPOSED WATERMAIN
	PROPOSED FIRE HYDRANT
	TREE AREA
	RIGHT OF WAY
	BLOCK LINE
	LOT LINE
	EASEMENT LINE
	PROPOSED SANITARY FORCEMAIN
	BOREHOLE
	TEST PIT

- NOTES :**
1. TOPOGRAPHIC SURVEY WAS COMPLETED BY VAN HARTEN LTD., DATED NOVEMBER, 2013.
 2. TOPOGRAPHIC INFORMATION FOR ADJACENT & SURROUNDING AREAS WAS DEVELOPED FROM ONTARIO BASE MAPPING SURVEY, CIRCA 1981 PROVIDED BY FIRST BASE SOLUTION.
 3. LOCATION OF EXISTING UNDERGROUND STORM AND WATERMAIN SCANNED FROM AS BUILT DRAWINGS BY R.J. BURNSIDE CIRCA 1980 AND SUBJECT TO VERIFICATION.
 4. PROXIMITY OF EXTERNAL EXISTING DRAINAGE BOUNDARY WAS GROUND TRUTHED BY C. F. CROZIER AND ASSOCIATES, OCTOBER 15, 2013.
 5. BOREHOLES AND TEST PITS PER GEOTECHNICAL INVESTIGATION REPORT PROVIDED BY TERRAPROBE, REPORT REF. NO. 13-13-3198, DATED APRIL, 2014.

NOTE :
ALL SANITARY SEWERS ARE PVC 200mm# UNLESS SPECIFIED OTHERWISE.



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Project: SARAH PROPERTIES LTD.
WALDEMAR DEVELOPMENT
TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN

Drawing: SANITARY AND WATER SERVICING PLAN

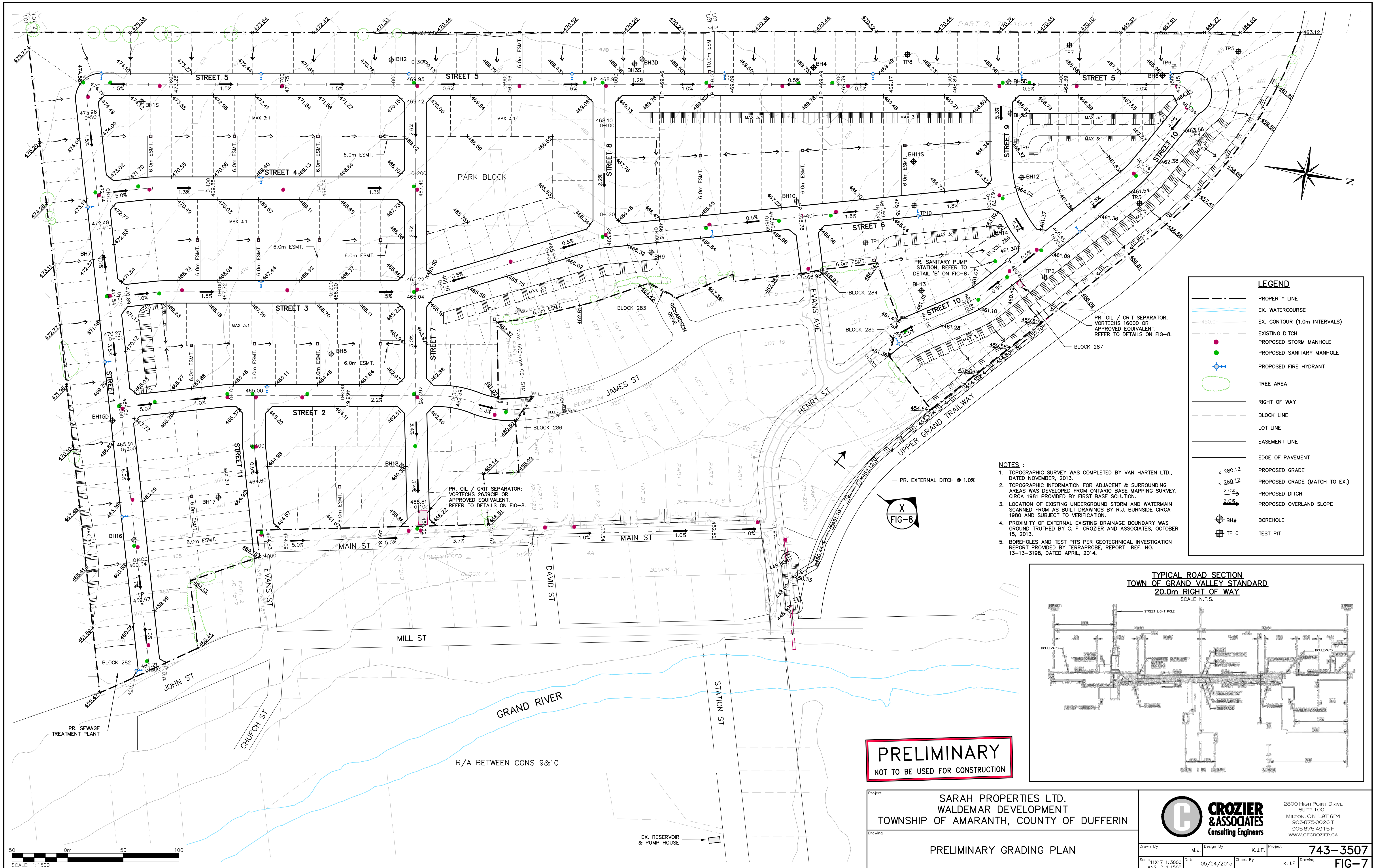
CROZIER & ASSOCIATES
Consulting Engineers

2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0026 T
905-875-4915 F
WWW.CCROZIER.CA

Drawn By: M.J. Design By: K.J.F. Project: 743-3507

Scale: 11x17 1:3000 Date: 05/04/2015 Check By: K.J.F. Drawing: FIG-6

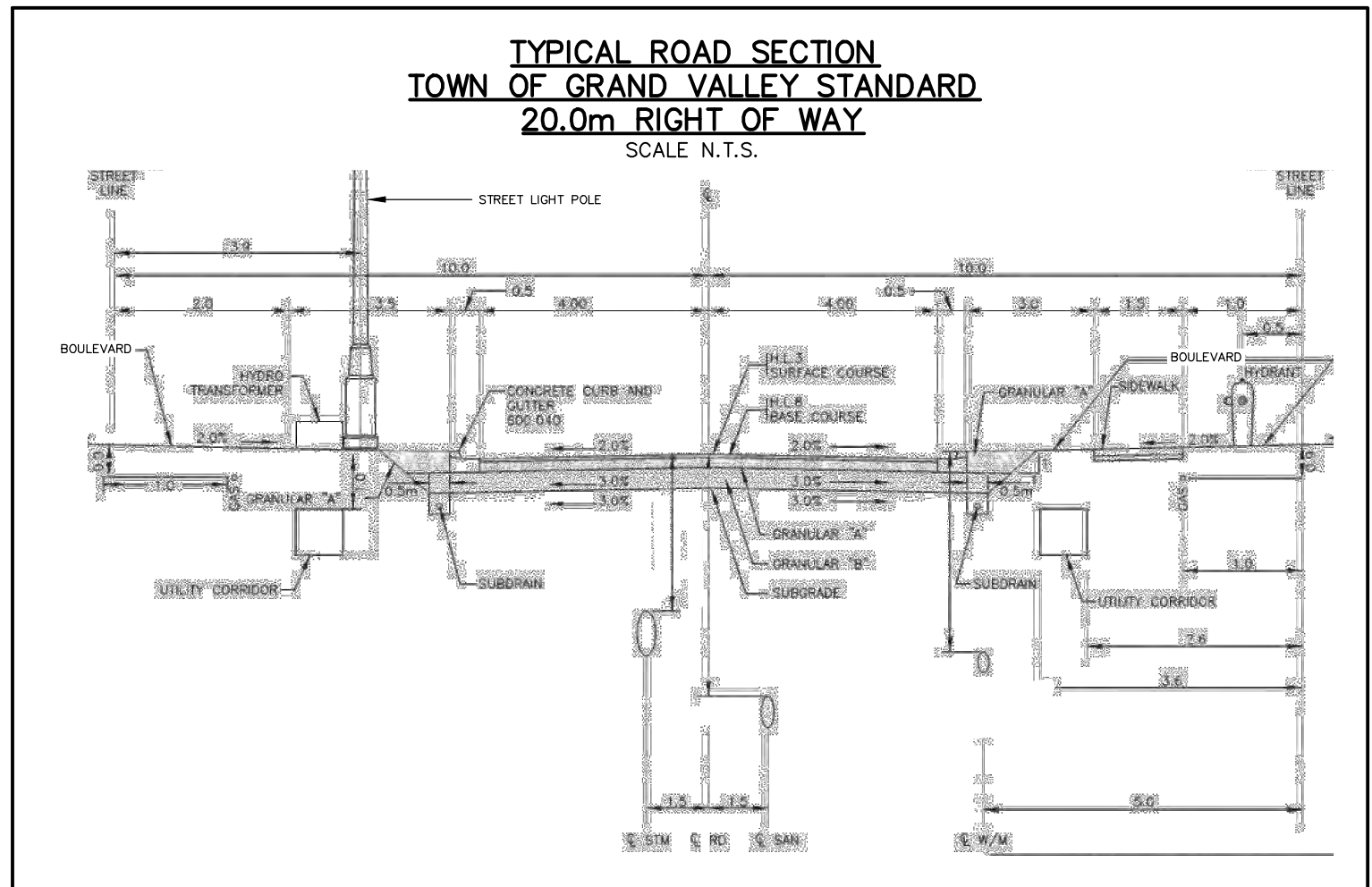
EXISTING RESERVOIR,
SIZING AND DEVELOPMENT OF
THE WATER RESERVOIR AND
PUMPING BY TOWNSHIP ENGINEER



LEGEND

- PROPERTY LINE
- EX. WATERCOURSE
- EX. CONTOUR (1.0m INTERVALS)
- EXISTING DITCH
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED FIRE HYDRANT
- TREE AREA
- RIGHT OF WAY
- BLOCK LINE
- LOT LINE
- EASEMENT LINE
- EDGE OF PAVEMENT
- x 280.12 PROPOSED GRADE
- x 280.12 PROPOSED GRADE (MATCH TO EX.)
- 2.0% PROPOSED DITCH
- 2.0% PROPOSED OVERLAND SLOPE
- BH# BOREHOLE
- TP10 TEST PIT

- NOTES :**
1. TOPOGRAPHIC SURVEY WAS COMPLETED BY VAN HARTEN LTD., DATED NOVEMBER, 2013.
 2. TOPOGRAPHIC INFORMATION FOR ADJACENT & SURROUNDING AREAS WAS DEVELOPED FROM ONTARIO BASE MAPPING SURVEY, CIRCA 1981 PROVIDED BY FIRST BASE SOLUTION.
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 5. BOREHOLES AND TEST PITS PER GEOTECHNICAL INVESTIGATION REPORT PROVIDED BY TERRAPROBE, REPORT REF. NO. 13-13-3198, DATED APRIL, 2014.



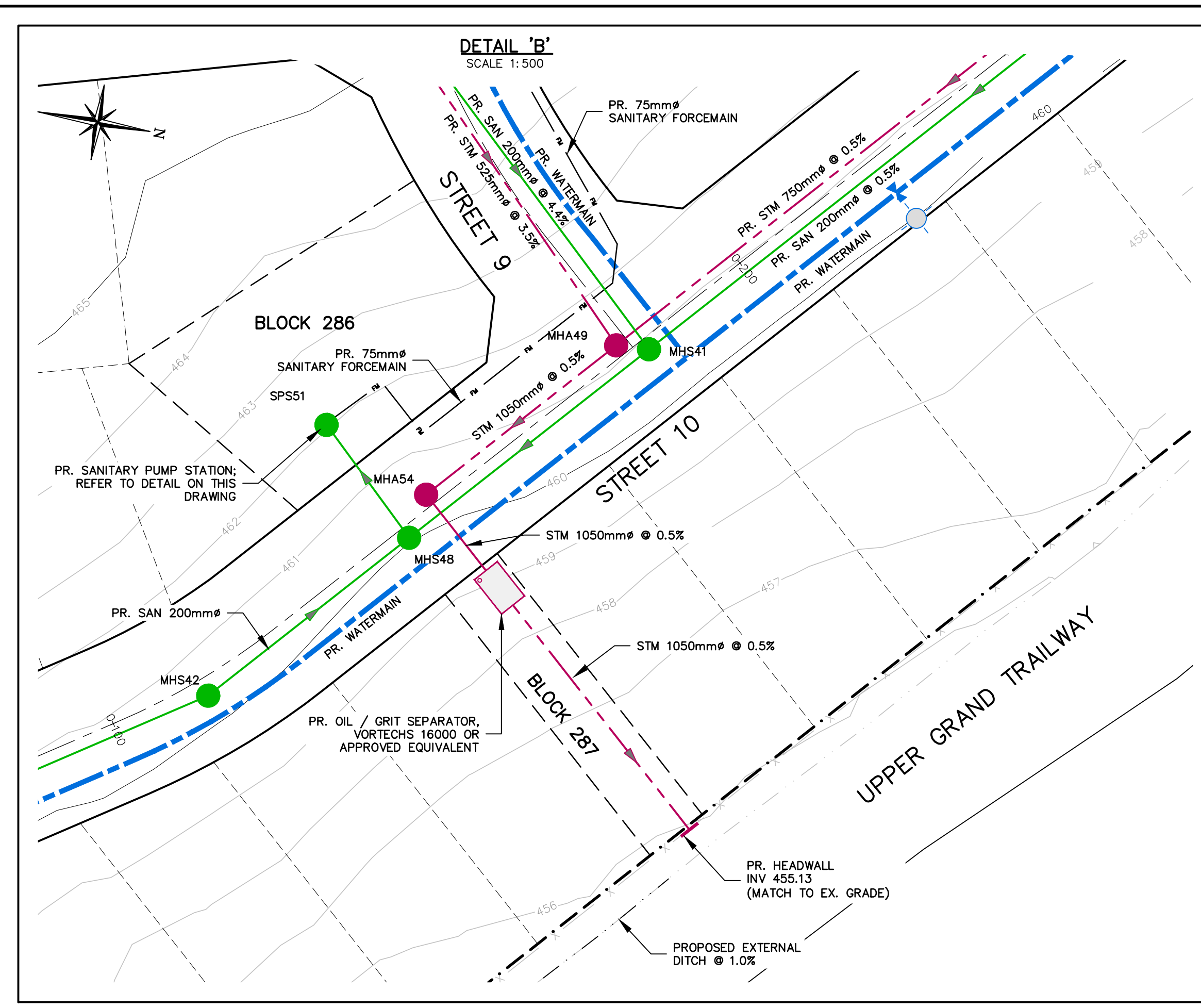
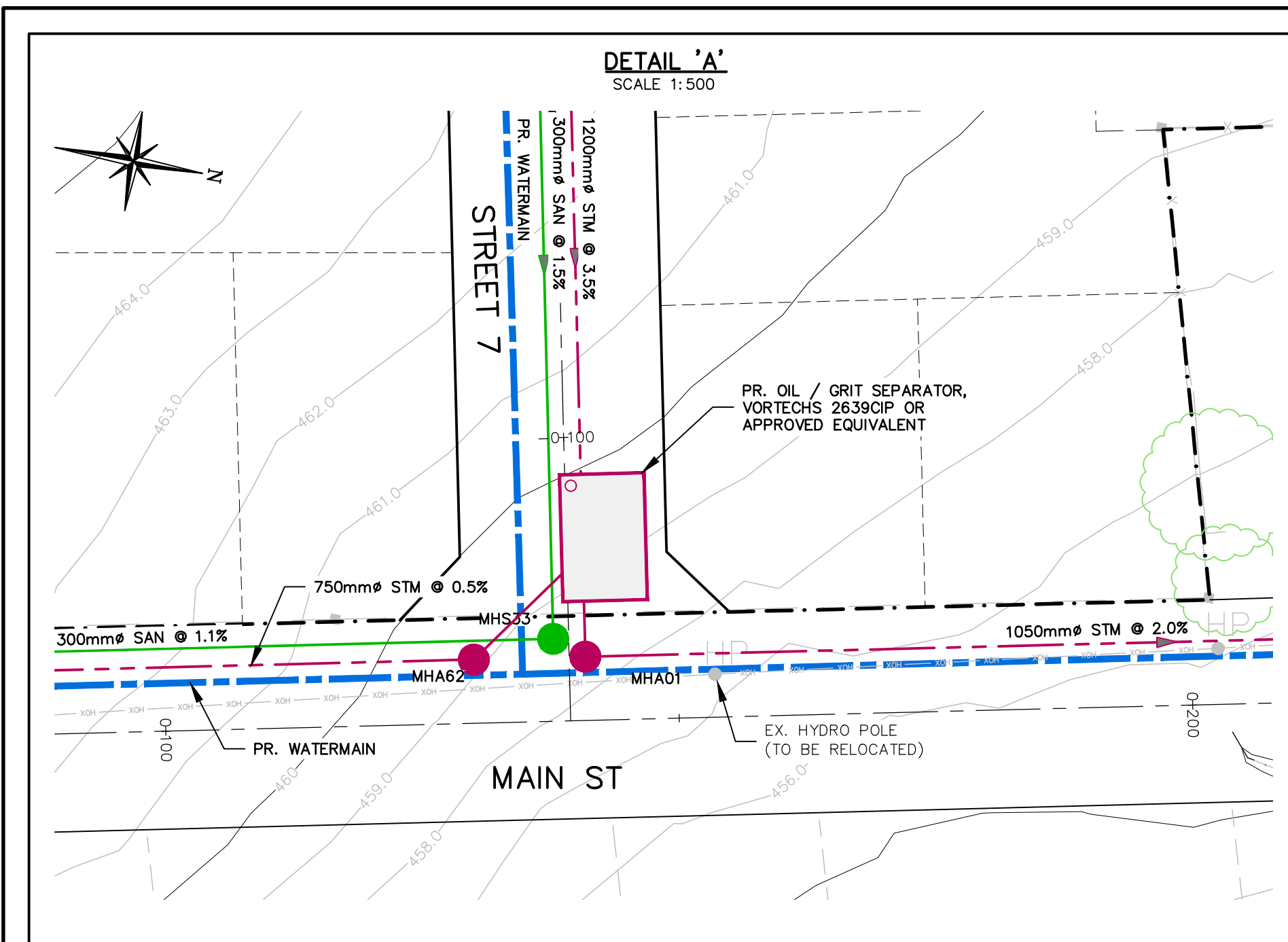
PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Project: SARAH PROPERTIES LTD.
WALDEMAR DEVELOPMENT
TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN

CROZIER & ASSOCIATES
Consulting Engineers
2800 HIGH POINT DRIVE
SUITE 100
MILTON, ON L9T 6P4
905-875-0267
905-875-4915 F
WWW.CFCROZIER.CA

Drawing: PRELIMINARY GRADING PLAN

Scale: 11x17 1:3000
ANSI D 1:1500
Date: 05/04/2015
Check By: K.J.F.
Project: 743-3507
Drawing: FIG-7

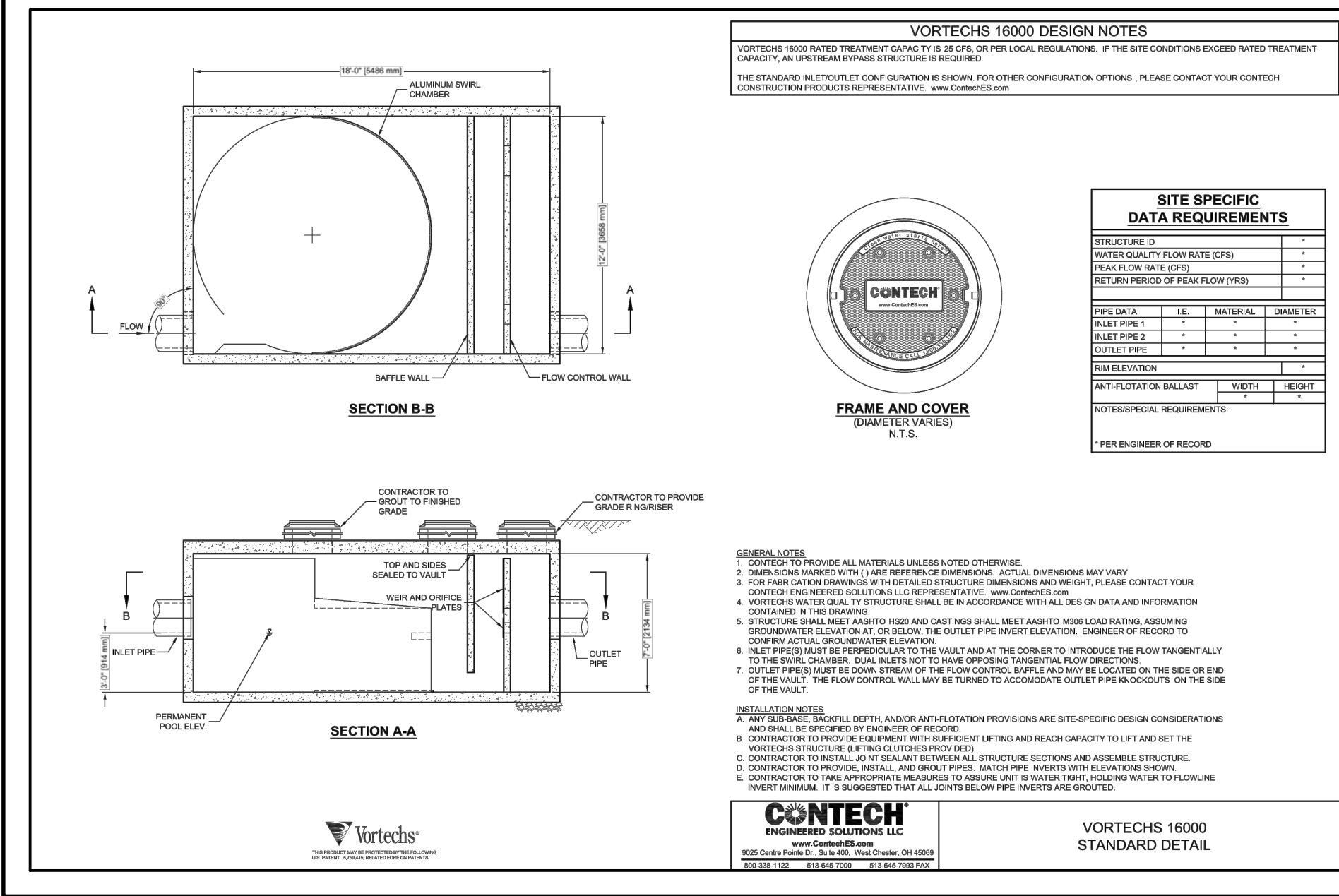
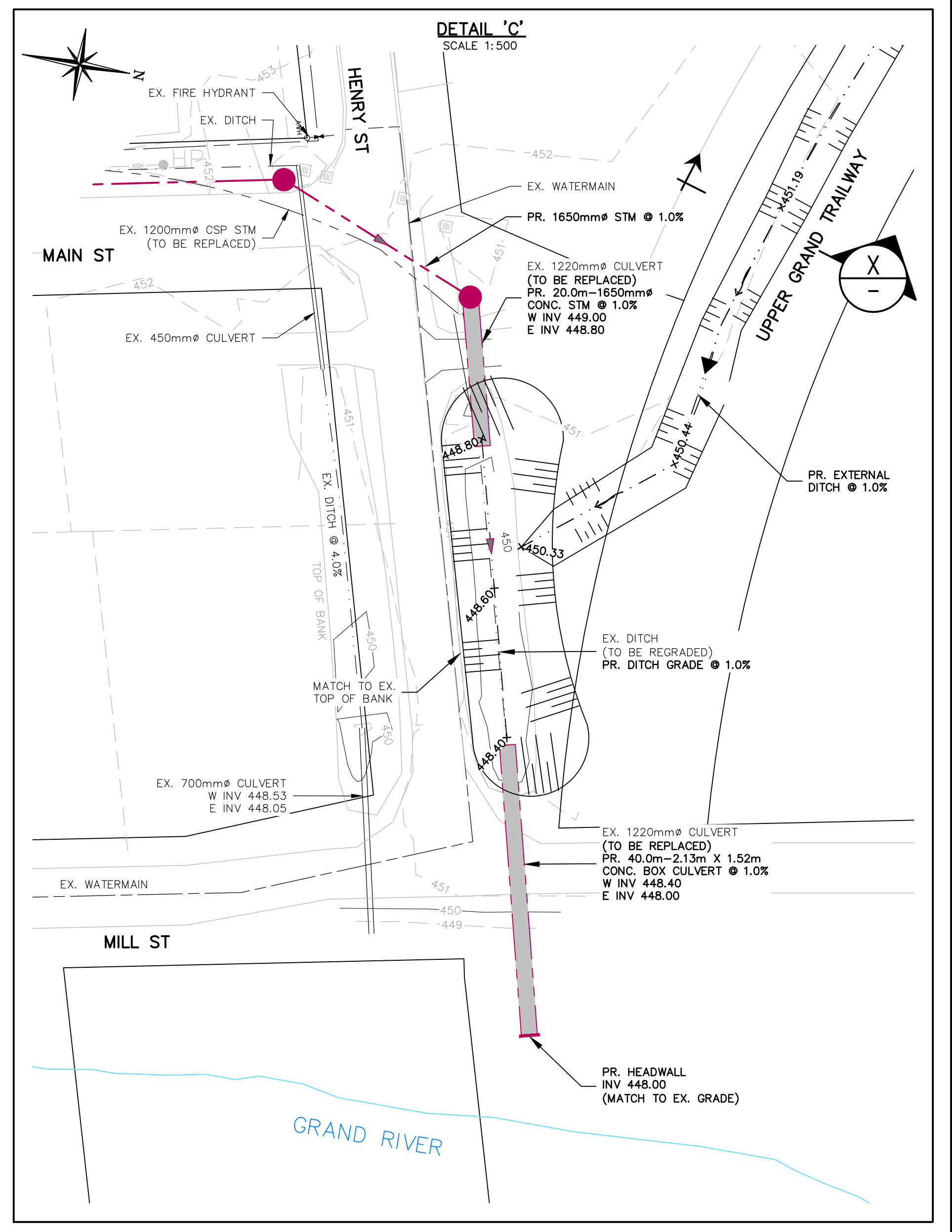
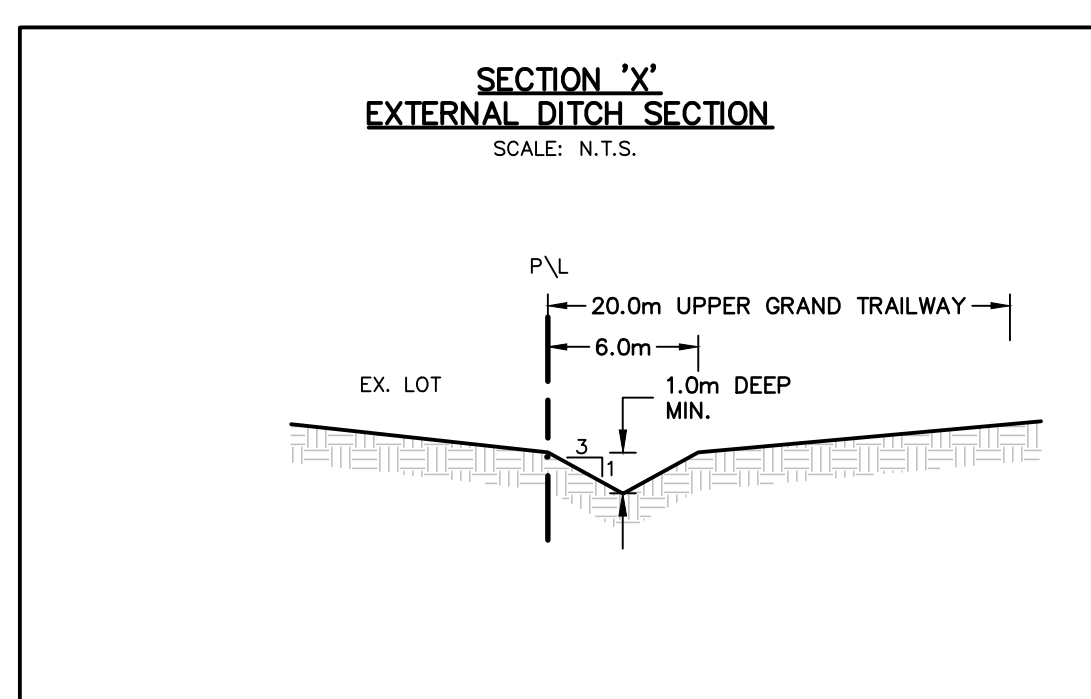
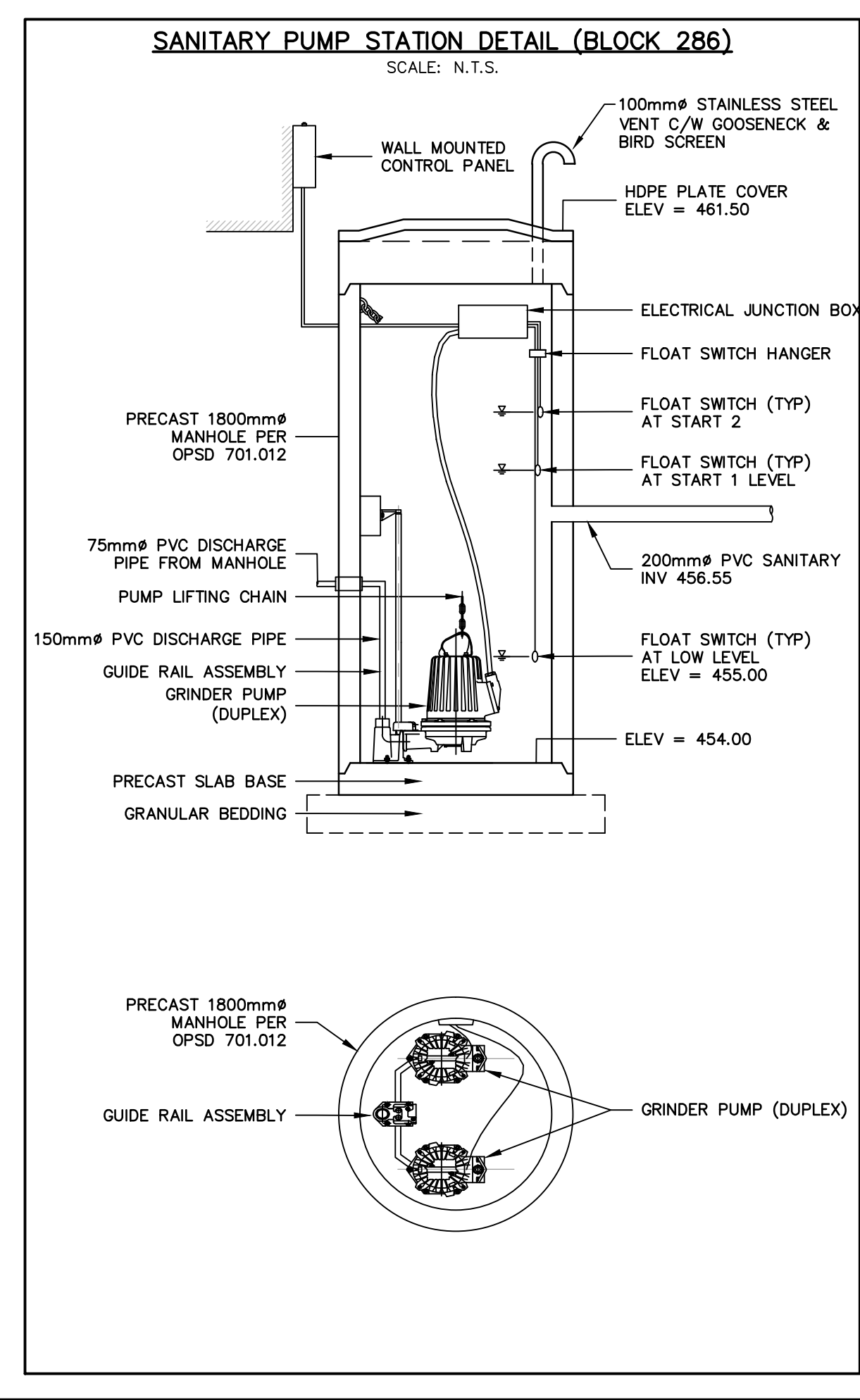
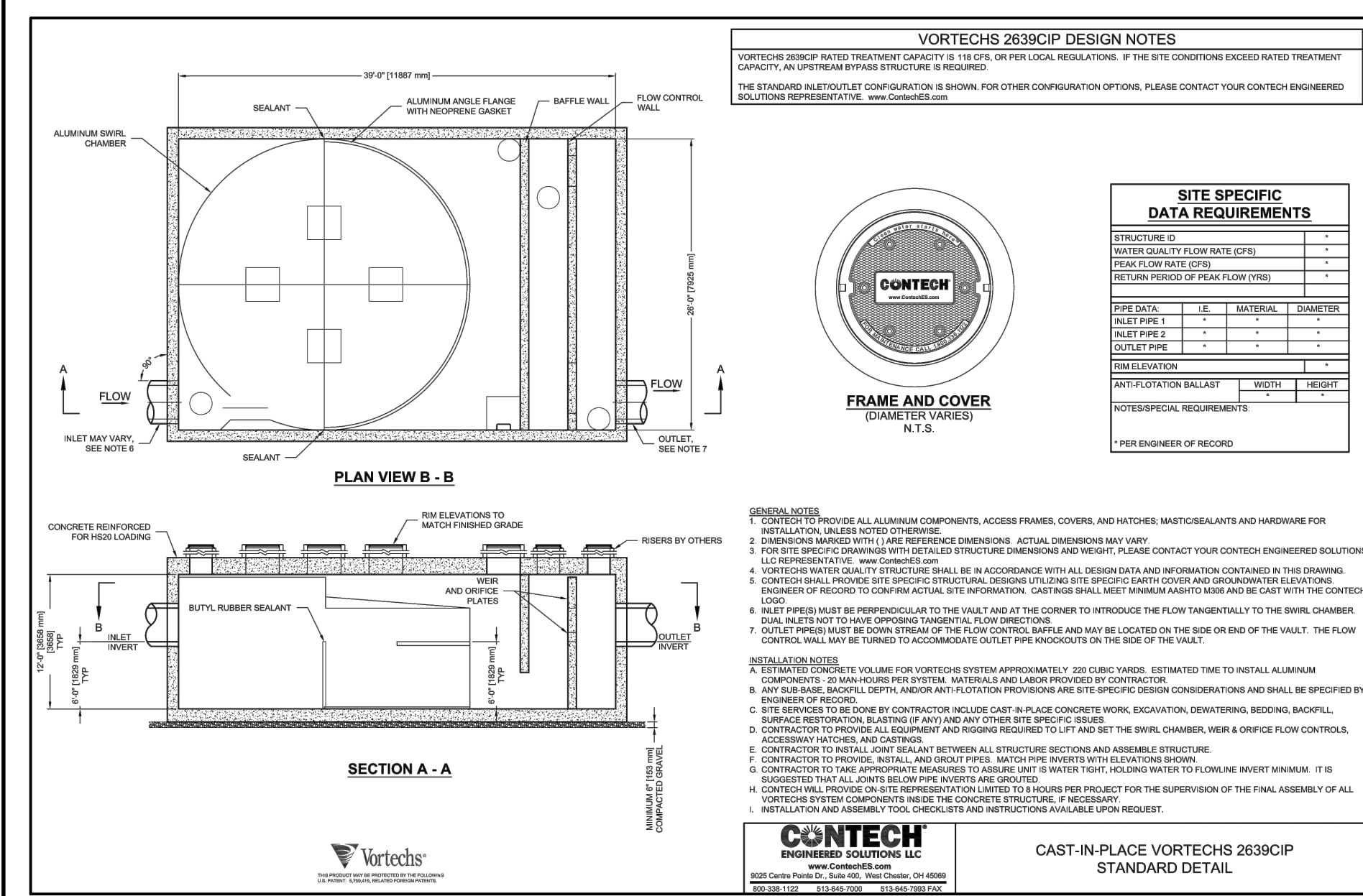


NOTES:

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- BOREHOLES AND TEST PITS PER GEOTECHNICAL INVESTIGATION REPORT PROVIDED BY TERRAPROBE, REPORT REF. NO. 13-13-3198, DATED APRIL, 2014.

LEGEND

- PROPERTY LINE
- EX. CONTOUR (1.0m INTERVALS)
- EXISTING WATERMAIN AND VALVE & BOX
- EXISTING STORM SEWER
- EXISTING DITCH
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN
- PROPOSED FIRE HYDRANT
- PROPOSED STORM SEWER & MANHOLE
- RIGHT OF WAY
- BLOCK LINE
- LOT LINE
- PROPOSED SANITARY FORCEMAIN
- BH# BOREHOLE
- TP10 TEST PIT
- PROPOSED DITCH



PRELIMINARY
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Project: SARAH PROPERTIES LTD. WALDEMAR DEVELOPMENT TOWNSHIP OF AMARANTH, COUNTY OF DUFFERIN

Drawing: DETAILS

Drawn By: M.J. Design By: K.J.F. Project: 743-3507

Scale: N.T.S. Date: 05/04/2015 Check By: K.J.F. Drawing: FIG-8

CROZIER & ASSOCIATES
Consulting Engineers

2800 HIGH POINT DRIVE SUITE 100 MILTON, ON L9T 6P4 905-875-0026 T 905-875-4015 F WWW.CFCROZIER.CA