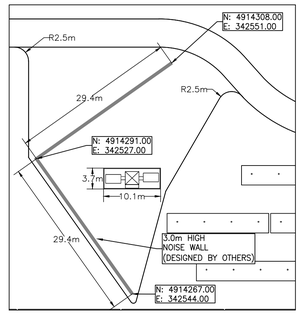
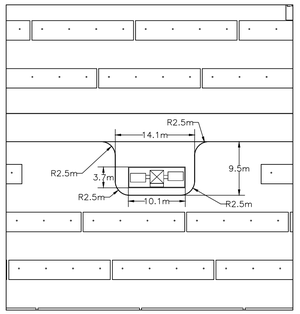
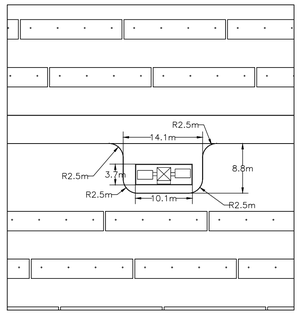


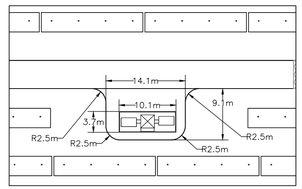
INVERTER STATION
(ISA1 & ISA2)
SCALE 1:500



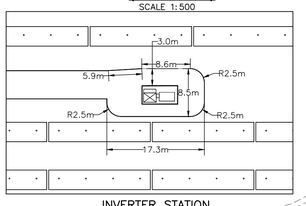
INVERTER STATION
(ISA3 & ISA4)
SCALE 1:500



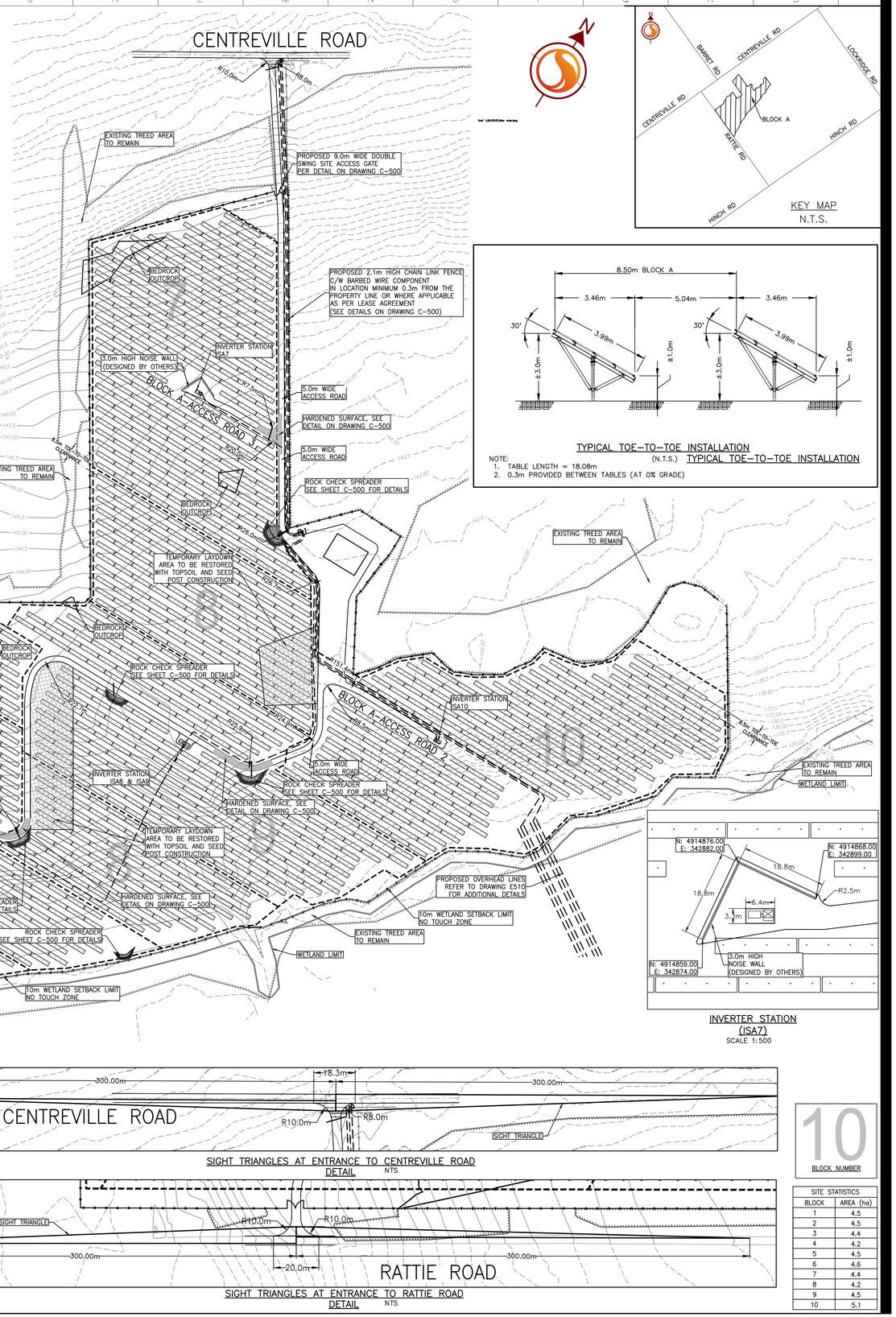
INVERTER STATION
(ISA5 & ISA6)
SCALE 1:500



INVERTER STATION
(ISA8 & ISA9)
SCALE 1:500



INVERTER STATION
(ISA10)
SCALE 1:500



KEY MAP
N.T.S.

TYPICAL TOE-TO-TOE INSTALLATION
(N.T.S.) TYPICAL TOE-TO-TOE INSTALLATION

NOTE:
1. TABLE LENGTH = 18.08m
2. 0.3m PROVIDED BETWEEN TABLES (AT 0% GRADE)

INVERTER STATION
(ISA7)
SCALE 1:500

SIGHT TRIANGLES AT ENTRANCE TO CENTREVILLE ROAD
DETAIL NTS

SIGHT TRIANGLES AT ENTRANCE TO RATTIE ROAD
DETAIL NTS

SITE STATISTICS	
BLOCK	AREA (ha)
1	4.5
2	4.5
3	4.4
4	4.2
5	4.5
6	4.6
7	4.4
8	4.2
9	4.5
10	5.1

10
BLOCK NUMBER

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300 Hagey Boulevard
Waterloo ON Canada
Tel. 519.579.4410
www.stantec.com

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7. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ALL DRAINAGE AND MEASURES TO CONTROL WATER. THE SITE IS TO BE FINE GRADED/LEVELED LEAVING THE SITE IN A NEAT APPEARANCE SUCH THAT POSITIVE DRAINAGE IS ACHIEVED EVERYWHERE PRIOR TO THE INSTALLATION OF SOLAR PANELS.
8. CONSTRUCTION TURNING RADIUS LIMITS IDENTIFY AREAS WHERE ADDITIONAL ROAD WIDTH IS REQUIRED TO ALLOW FOR ADEQUATE CLEARANCE FOR CONSTRUCTION VEHICLES.
9. CULVERTS ARE TO BE INSTALLED AS PER OPSD 802.010. SOIL TYPE TO BE CONFIRMED ON SITE FOR DETERMINATION OF TRENCH WIDTH.
10. ALL AREAS WITHIN THE PROPOSED WORKS ARE TO BE RE-VEGETATED USING NATIVE TOPSOIL AND SEED. MIX AND APPLICATION RATE/METHOD TO BE SUBMITTED AND APPROVED BY OWNER PRIOR TO IMPLEMENTATION.
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12. GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010.
13. CULVERT TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 421. HEIGHT OF FILL TABLE FOR CSP CULVERTS TO COMPLY WITH OPSD 805.010.
14. RIPRAP AT CULVERT OUTLETS SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B-B.
15. ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
16. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

Legend

PROPOSED	EXISTING
FENCE	
	EX. CONTOUR 185.0
	LIDAR CONTOUR 184.5
TEMPORARY LAYDOWN AREA (MATERIAL STRUCTURE TO BE DETERMINED ON SITE)	
	TREE LINE
SOLAR ARRAY BLOCK DELINEATOR	
SWALE	
CULVERT	
SLOPE (3:1 UNLESS NOTED OTHERWISE)	
INVERTER STATION	
SOLAR PANEL TABLE	
AC CABLE TRENCH	
DC CABLE TRENCH	
PROPOSED FILL AREA	
HARDENED SURFACE REFER TO C-500 FOR DETAILS	
POTENTIAL ROCK OUTCROP LOCATION	
10m SETBACK LIMIT NO TOUCH ZONE	
WETLAND BOUNDARY	
ROCK CHECK SPREADER	

Revision	By	Appd.	YY.MM.DD
B. ISSUED FOR TENDER	MALM	DS	18.01.16
A. ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21

File Name: 133560220_R-SP-Block A.dwg | Dwn. KC | Chkd. DS | Dsgn. KC | YY.MM.DD 17.11.09

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A
SITE PLAN

Project No. 133560220
Scale 1:2000 (0, 20, 60, 100m)
Drawing No. C-011
Sheet 1 of 1
Revision A

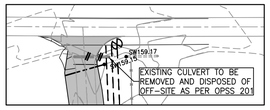
V:\01614\active\133560220\design\drawings_0A\civil_block_A\sheet_files\133560220_R-SP-Block A.dwg
20/09/2018 / 8:7:34 PM BY: AM-Waterloo, Nicholas

Version: 2.0 Modified By: Joel Veenstra Modified: 1/17/2018 8:38:38 AM Status: Open

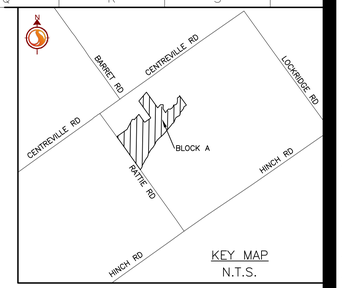
ORIGINAL SHEET - ARCH D

CENTREVILLE ROAD

RATTIE ROAD



DETAIL-1
CULVERT REMOVAL
SCALE 1:750



KEY MAP
N.T.S.

Xref: \BLOCKS\lidar note.dwg

NOTE:
LIDAR HAS BEEN USED TO SUPPLEMENT THE TOPOGRAPHICAL AND ILLUSTRATE EXTERNAL SITE DRAINAGE PATTERN. CONTRACTOR IS RESPONSIBLE TO REVIEW ONSITE ELEVATIONS PRIOR TO COMMENCEMENT OF ANY WORK ONSITE AND ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER OF RECORD

EXISTING CULVERT TO REMAIN
DETAIL-1 THIS SHEET
EXISTING CULVERT TO BE REMOVED AND DISPOSED OF OFF-SITE AS PER OPSS 201
EXISTING FENCE TO REMAIN
PROPOSED 9.0m WIDE DOUBLE SWING SITE ACCESS GATE PER DETAIL ON DRAWING C-500
EXISTING TREED AREA TO REMAIN
POTENTIAL BEDROCK OUTCROP LOCATION
EXISTING TREED AREA TO BE CLEARED, GRUBBED AND REMOVED OFF SITE PER OPSS 201
EXISTING TREED AREA TO REMAIN
PROPOSED 2.1m HIGH CHAIN LINK FENCE C/W BARBED WIRE COMPONENT IN LOCATION MINIMUM 0.3m FROM THE PROPERTY LINE OR WHERE APPLICABLE AS PER LEASE AGREEMENT (SEE DETAILSS ON DRAWING C-500)
EXISTING TREED AREA TO REMAIN
EXISTING TREED AREAIO BE CLEARED, GRUBBED AND REMOVED OFF SITE PER OPSS 201
POTENTIAL BEDROCK OUTCROP LOCATION
EXISTING TREED AREA TO REMAIN
POTENTIAL BEDROCK OUTCROP LOCATION
PROPOSED 2.1m HIGH CHAIN LINK FENCE C/W BARBED WIRE COMPONENT IN LOCATION MINIMUM 0.3m FROM THE PROPERTY LINE OR WHERE APPLICABLE AS PER LEASE AGREEMENT (SEE DETAILSS ON DRAWING C-500)
POTENTIAL BEDROCK OUTCROP LOCATION
EXISTING TREED AREA TO REMAIN
POTENTIAL BEDROCK OUTCROP LOCATION
PROPOSED 9.0m WIDE DOUBLE SWING SITE ACCESS GATE PER DETAIL ON DRAWING C-500
POTENTIAL BEDROCK OUTCROP LOCATION
POTENTIAL BEDROCK OUTCROP LOCATION
TEMPORARY LAYDOWN AREA TOPSOIL REMOVAL AS REQUIRED AREA TO BE RESTORED WITH TOPSOIL AND SEED POST CONSTRUCTION
TEMPORARY LAYDOWN AREA TOPSOIL REMOVAL AS REQUIRED AREA TO BE RESTORED WITH TOPSOIL AND SEED POST CONSTRUCTION
POTENTIAL BEDROCK OUTCROP LOCATION
EXISTING TREED AREA TO REMAIN
TEMPORARY LAYDOWN AREA TOPSOIL REMOVAL AS REQUIRED AREA TO BE RESTORED WITH TOPSOIL AND SEED POST CONSTRUCTION
WETLAND LIMIT
10m WETLAND SETBACK LIMIT NO TOUCH ZONE
EXISTING VEGETATION TO REMAIN UNDISTURBED
EXISTING TREED AREA TO BE CLEARED, GRUBBED AND REMOVED OFF SITE PER OPSS 201
EXISTING VEGETATION TO REMAIN UNDISTURBED
TREE CLEARING TO BE LIMITED TO PROVIDE ADEQUATE CONSTRUCTION AREA & TO PROVIDE ELECTRICAL SAFETY CLEARANCES AREA TO BE GRADED FOLLOWING TREE CLEARING TO MAINTAIN EXISTING DRAINAGE PATTERN. PROPOSED PILE ELEVATIONS TO BE CONFIRMED UPON RECEIPT OF DETAILED TOPOGRAPHIC SURVEY FOLLOWING TREE CLEARING.
WETLAND LIMIT
EXISTING TREED AREA TO REMAIN
TREE CLEARING TO BE LIMITED TO PROVIDE ADEQUATE CONSTRUCTION AREA & TO PROVIDE ELECTRICAL SAFETY CLEARANCES AREA TO BE GRADED FOLLOWING TREE CLEARING TO MAINTAIN EXISTING DRAINAGE PATTERN. PROPOSED PILE ELEVATIONS TO BE CONFIRMED UPON RECEIPT OF DETAILED TOPOGRAPHIC SURVEY FOLLOWING TREE CLEARING.
EXISTING TREED AREA TO BE CLEARED, GRUBBED AND REMOVED OFF SITE PER OPSS 201
10m WETLAND SETBACK LIMIT NO TOUCH ZONE
WETLAND LIMIT

Legend

PROPOSED	EXISTING
	FENCE
	EX. CONTOUR 295.5
	LIDAR CONTOUR 184.5
	TREE LINE
	EX. WETLAND LIMIT
	NO TOUCH LIMIT
	EXISTING TREED AREA TO BE CLEARED, GRUBBED AND DISPOSED OF OFF-SITE
	TOPSOIL CLEARING LIMITS
	REMOVALS
	OVERLAND FLOW DIRECTION
	POTENTIAL ROCK OUTCROP LOCATION

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Revision	By	Appd.	YY.MM.DD
B. ISSUED FOR TENDER	MALM	DS	18.01.16
A. ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21

File Name: 133560220_C-DP-BLOCK_A.dwg	Dwn.	Chkd.	Dsgn.	YY.MM.DD
	KC	DS	KC	17.11.28

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A
EXISTING CONDITIONS, CLEARING, GRUBBING AND FENCING PLAN

Project No.	Scale	Drawing No.	Sheet	Revision
133560220	1:2000 (0 20 60 100m)	C-051	1 of 1	A

Version: 2.0 Modified By: Joel Veenstra Modified: 1/17/2018 8:36:38 AM Status: Open

V:\0161\active\133560220\design\drawing_04\civil\Block_A\sheet_files\133560220_C-DP-BLOCK_A.dwg
2018/01/16 7:25 PM By: AMAgboola, Mohamed

ORIGINAL SHEET - ARCH D

NOISE WALL CAN BE TEMPORARILY REMOVED FOR POST CONSTRUCTION ACCESS TO INVERTER STATIONS.

EXISTING EXPOSED BEDROCK FRACTURE INFILLING TO BE MINIMIZED IF REQUIRED, FILL TO BE OF COARSE GRANULAR MATERIAL. REFER TO HYDROGEOLOGICAL ASSESSMENT (2017, HARDEN ENVIRONMENTAL SERVICES LTD.)

NOTE:

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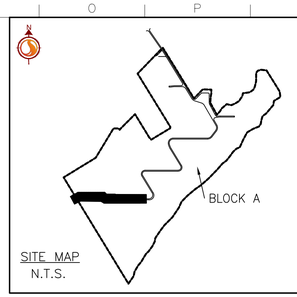
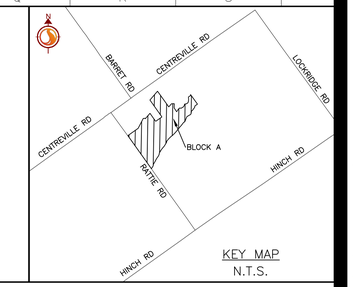
THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE STORM WATER MANAGEMENT PLAN DATED JANUARY 16, 2018.

FOR ACCESS ROAD TYPICAL CROSS-SECTION REFER TO DRAWING C-500.

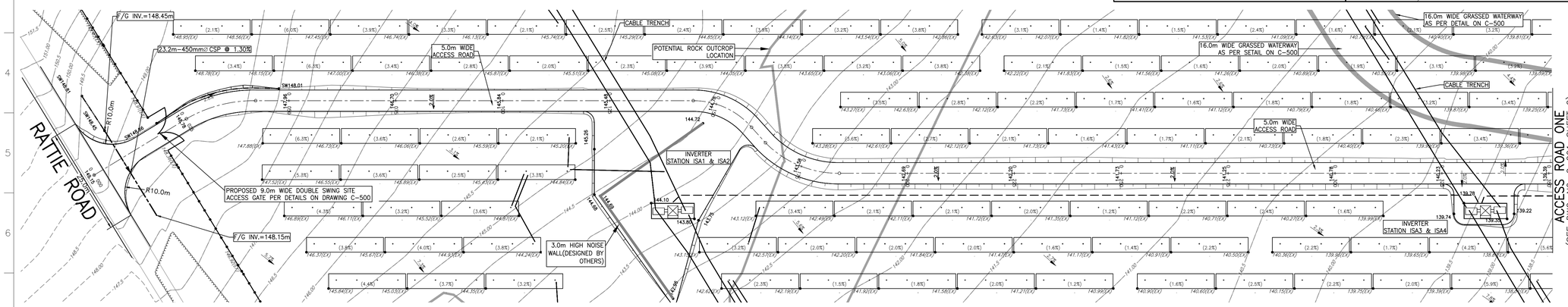
REFER TO ELECTRICAL DRAWINGS FOR FINAL LOCATIONS AND DETAIL OF TRENCHING



SITE MAP
N.T.S.



KEY MAP
N.T.S.



BLOCK A – ACCESS ROAD ONE

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16. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

Legend

PROPOSED	EXISTING
187.00	185.19 (EX)
FENCE	
	EX. CONTOUR 185.0
	LIDAR CONTOUR 184.5
TEMPORARY LAYDOWN AREA (MATERIAL STRUCTURE TO BE DETERMINED ON SITE)	
PROPOSED FILL AREA	
TREE LINE	
2.0% GRADE	
SWALE	
CULVERT	
	EXISTING INTERPOLATED BEDROCK
SLOPE (3:1 UNLESS NOTED OTHERWISE)	
ROCK SPREADER SWALE	
AC CABLE TRENCH	
DC CABLE TRENCH	
POTENTIAL ROCK OUTCROP LOCATION	
HARDENED SURFACE	
GRASSED WATERWAY (SEE C-500 FOR DETAILS)	
ROCK CHECK DAM (RCD)	
DIVERSION BERM	

Revision	By	Appd.	YY.MM.DD
B. ISSUED FOR TENDER	MALM	DS	18.01.16
A. ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21

File Name: 133560220_C-ST-BLOCK_A.dwg	Dwn.	Chkd.	Dsgn.	YY.MM.DD
	KC	DS	KC	17.11.09

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A ACCESS ROAD ONE
PLAN & PROFILE
STA 0+000 - 0+325

Project No.	Scale				
133560220	1:500H	0	5	15	25m
	1:50V	0	0.5	1.5	2.5m

Drawing No.	Sheet	Revision
C-201	1 of 7	A

V:\01614\active\133560220\design\drawings_DA\civil_block_A\sheet_files\133560220_C-ST-BLOCK_A.dwg
2018/01/16 7:29 PM By: Mahboob, Mohamed

ORIGINAL SHEET - ARCH D

Version: 2.0 Modified By: Joel Veenstra Modified: 1/17/2018 8:36:38 AM Status: Open

NOISE WALL CAN BE TEMPORARILY REMOVED FOR POST CONSTRUCTION ACCESS TO INVERTER STATIONS

EXISTING EXPOSED BEDROCK FRACTURE INFILLING TO BE MINIMIZED IF REQUIRED, FILL TO BE OF COARSE GRANULAR MATERIAL. REFER TO HYDROGEOLOGICAL ASSESSMENT (2017, HARDEN ENVIRONMENTAL SERVICES LTD.)

NOTE:

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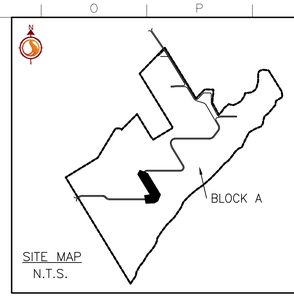
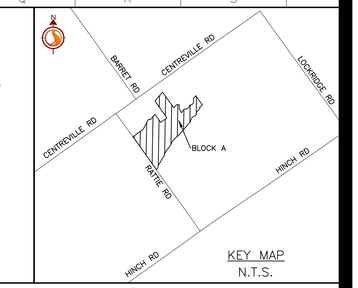
FOR ACCESS ROAD TYPICAL CROSS-SECTION REFER TO DRAWING C-500.

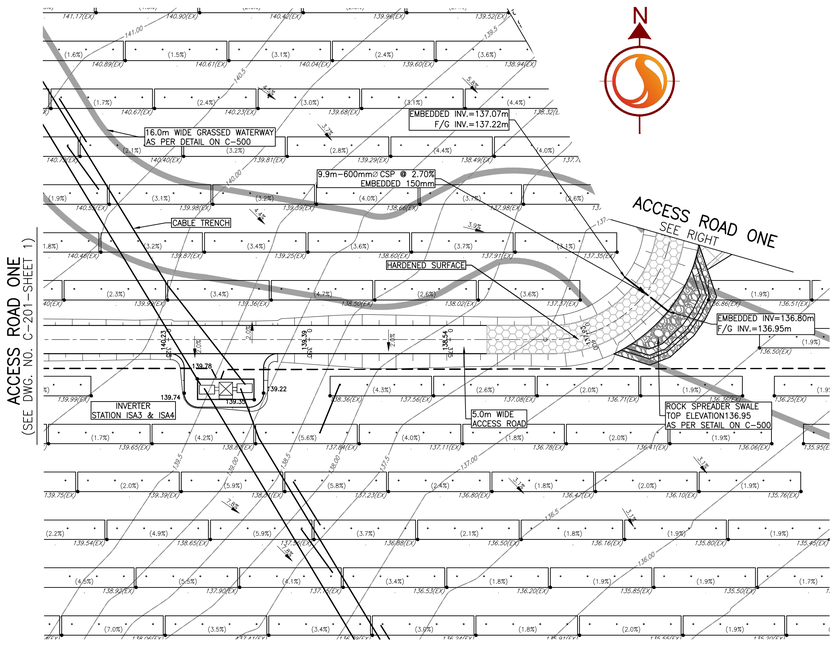
REFER TO ELECTRICAL DRAWINGS FOR FINAL LOCATIONS AND DETAIL OF TRENCHING



SITE MAP
N.T.S.



KEY MAP
N.T.S.



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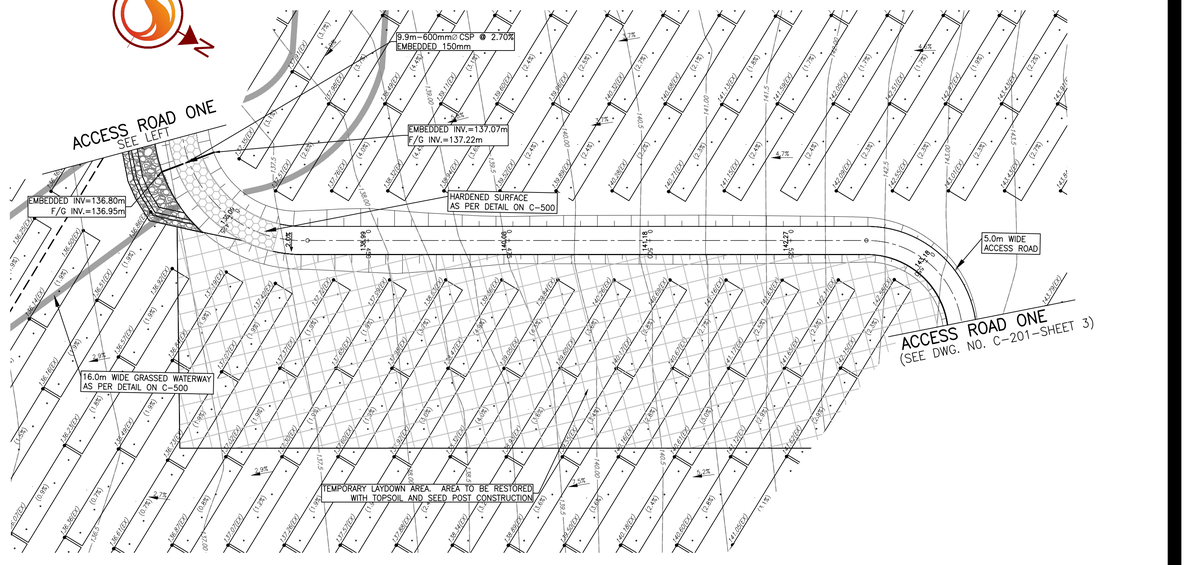

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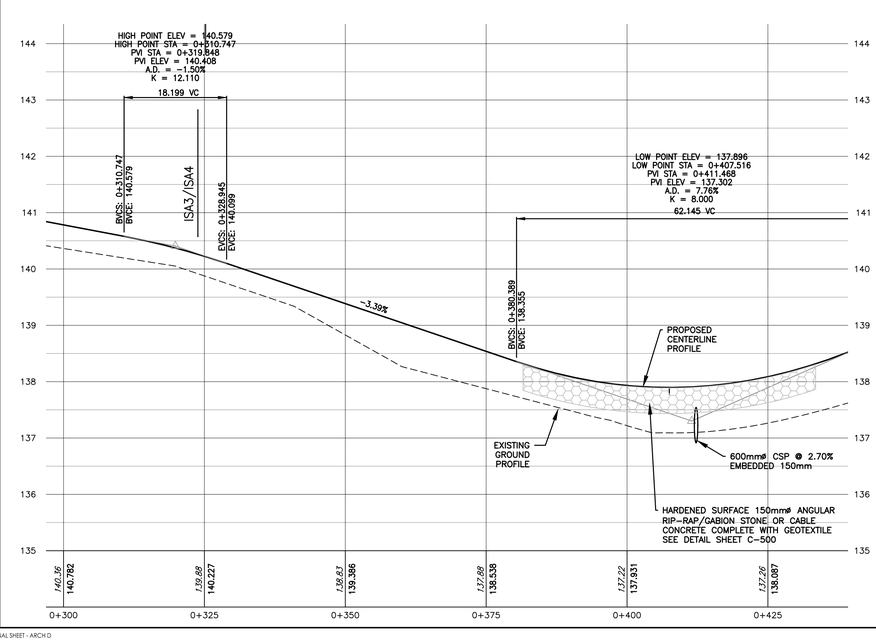

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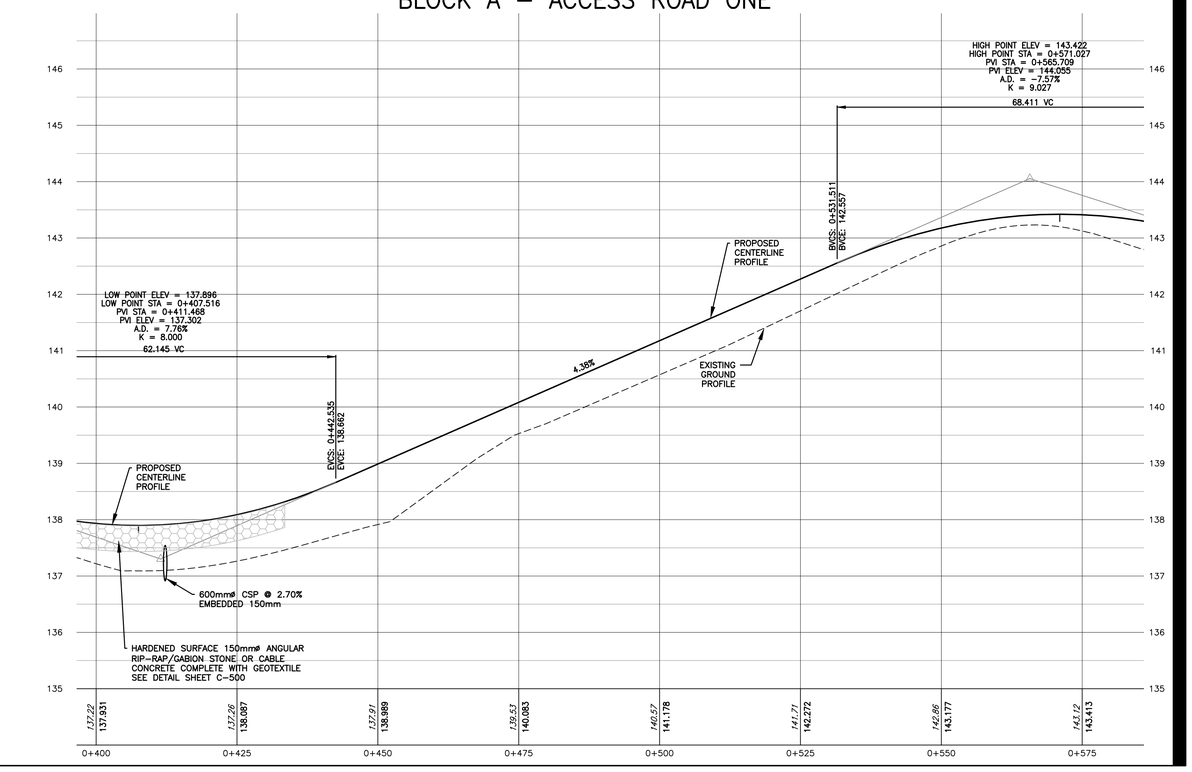

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7. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ALL DRAINAGE AND MEASURES TO CONTROL WATER. THE SITE IS TO BE FINE GRADED/LEVELED LEAVING THE SITE IN A NEAT APPEARANCE SUCH THAT POSITIVE DRAINAGE IS ACHIEVED EVERYWHERE PRIOR TO THE INSTALLATION OF SOLAR PANELS.
8. CONSTRUCTION TURNING RADIUS LIMITS IDENTIFY AREAS WHERE ADDITIONAL ROAD WIDTH IS REQUIRED TO ALLOW FOR ADEQUATE CLEARANCE FOR CONSTRUCTION VEHICLES.
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14. RIPRAP AT CULVERT OUTLETS SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B-B.
15. ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
16. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

Legend

PROPOSED	EXISTING
187.00 ELEVATION	185.19 (EX)
FENCE	
EX. CONTOUR	185.0
LIDAR CONTOUR	184.5
TEMPORARY LAYDOWN AREA (MATERIAL STRUCTURE TO BE DETERMINED ON SITE)	
PROPOSED FILL AREA	
TREE LINE	
2.0% GRADE	
SWALE	
CULVERT	
EXISTING INTERPOLATED BEDROCK	
SLOPE (3:1 UNLESS NOTED OTHERWISE)	
ROCK SPREADER SWALE	
AC CABLE TRENCH	
DC CABLE TRENCH	
POTENTIAL ROCK OUTCROP LOCATION	
HARDENED SURFACE	
GRASSED WATERWAY (SEE C-500 FOR DETAILS)	
ROCK CHECK DAM (RCD)	
DIVERSION BERM	

Revision	By	Appd.	YY.MM.DD
B. ISSUED FOR TENDER	MALM	DS	18.01.16
A. ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21

File Name: 133560220_C-ST-BLOCK_A.dwg	Dwn.	Chkd.	Dsgn.	YY.MM.DD
	KC	DS	KC	17.11.09

Permit-Seal

Client/Project
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LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A ACCESS ROAD ONE
PLAN & PROFILE
STA. 0+325 -0+575

Project No.	Scale	
133560220	1:500H 0 5 15 25m 1:50V 0 0.5 1.5 2.5m	
Drawing No.	Sheet	Revision
C-201	2 of 7	A

V:\1016\active\133560220\design\drawing_06\civil\block_A\sheet_files\133560220_C-ST-BLOCK_A.dwg
2018/01/16 7:31 PM By: AMajstorski, Mohamed
ORIGINAL SHEET - ARCH D
Version: 2.0 Modified By: Joel Veenstra Modified: 1/17/2018 8:38:38 AM Status: Open

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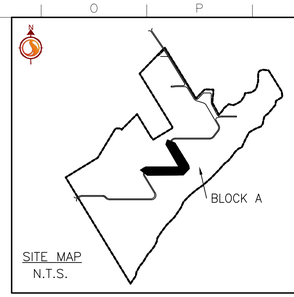
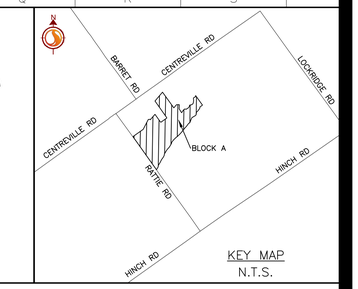


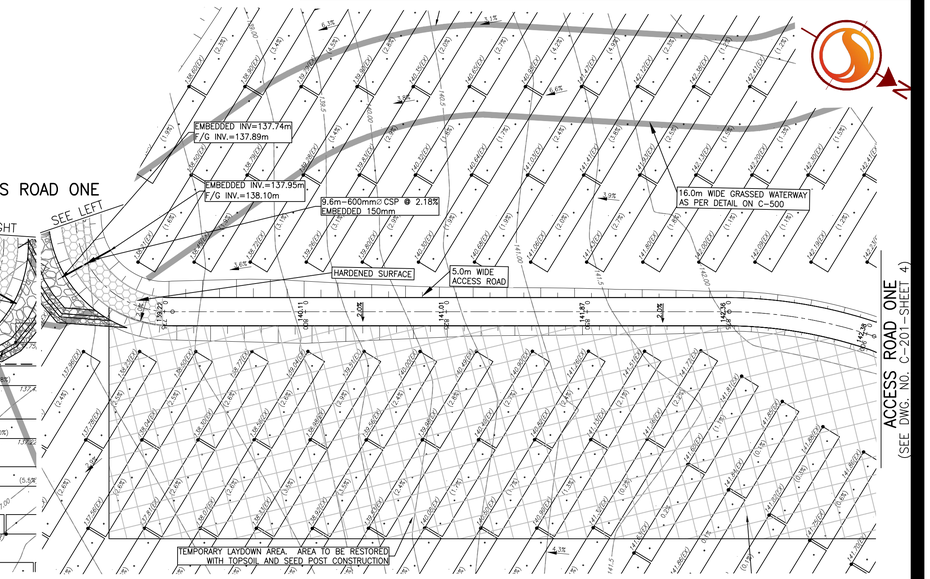
SITE MAP
N.T.S.



KEY MAP
N.T.S.



BLOCK A – ACCESS ROAD ONE



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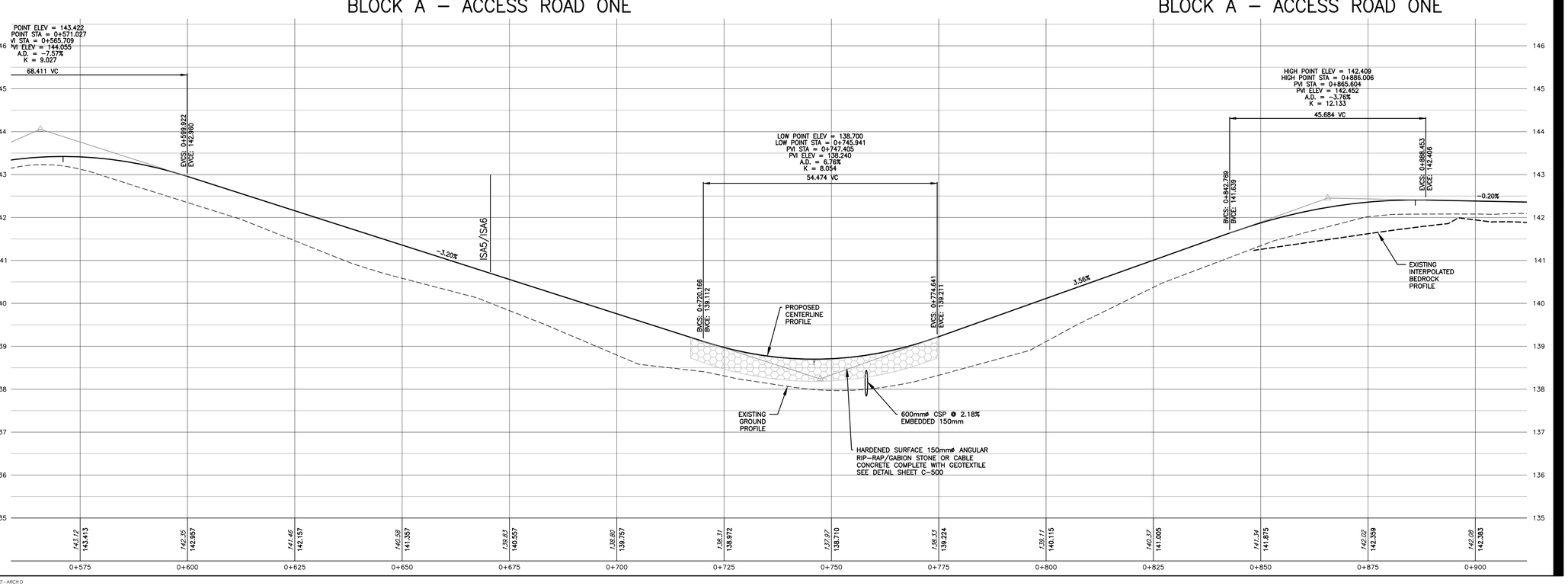

Legend

PROPOSED	EXISTING
187.00 ELEVATION	185.19 (EX)
FENCE	
EX. CONTOUR	185.0
LIDAR CONTOUR	184.5
TEMPORARY LAYDOWN AREA (MATERIAL STRUCTURE TO BE DETERMINED ON SITE)	
PROPOSED FILL AREA	
TREE LINE	
2.0% GRADE	
SWALE	
CULVERT	
EXISTING INTERPOLATED BEDROCK	
SLOPE (3:1 UNLESS NOTED OTHERWISE)	
ROCK SPREADER SWALE	
AC CABLE TRENCH	
DC CABLE TRENCH	
POTENTIAL ROCK OUTCROP LOCATION	
HARDENED SURFACE	
GRASSED WATERWAY (SEE C-500 FOR DETAILS)	
ROCK CHECK DAM (RCD)	
DIVERSION BERM	

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B.	ISSUED FOR TENDER	MALM	DS	18.01.16
A.	ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21
Revision		By	Appd.	YY.MM.DD
File Name:	133560220_C-ST-BLOCK_A.dwg	KC	DS	KC 17.11.09
		Dwn.	Chkd.	Dsgn. YY.MM.DD

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A ACCESS ROAD ONE
PLAN & PROFILE
STA. 0+575 - 0+900

Project No. 133560220

Scale 1:500H 1:50V

Drawing No. C-201

Sheet 3 of 7

Revision A

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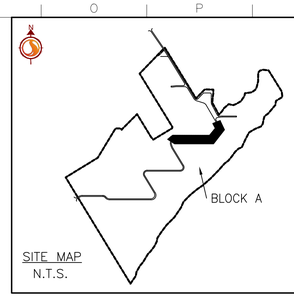
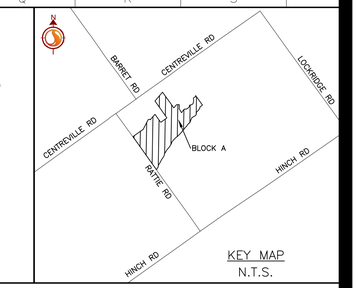
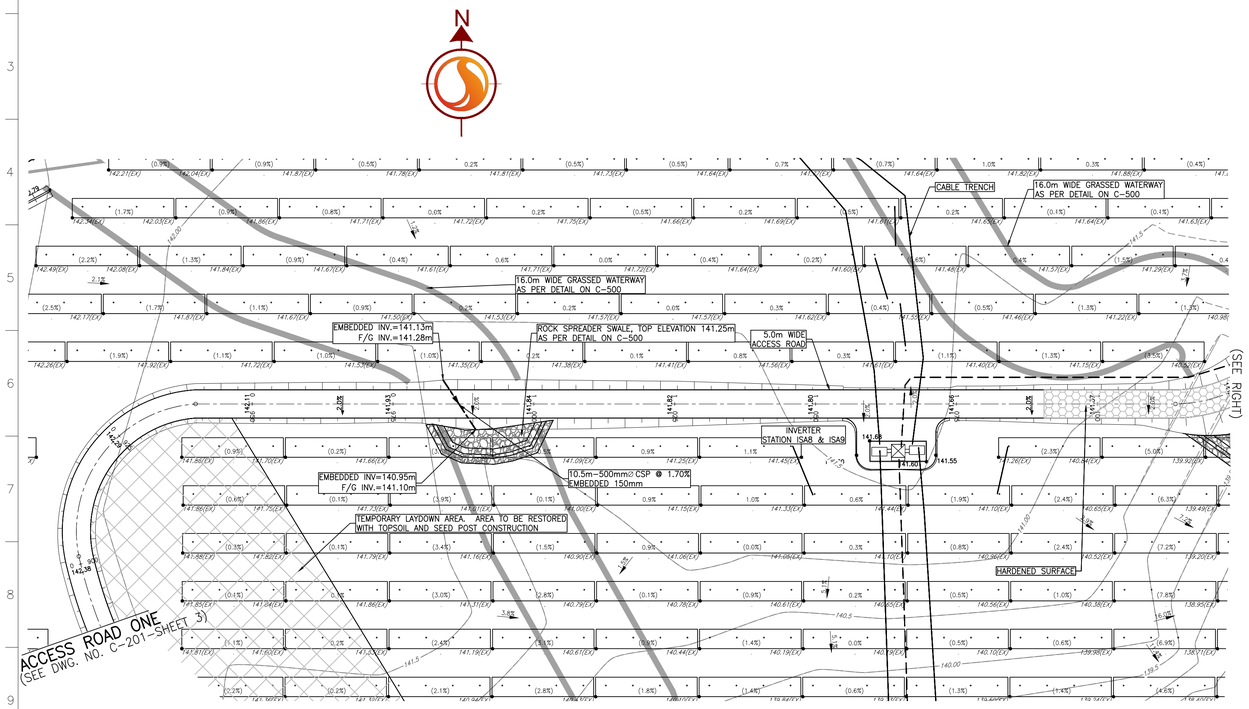
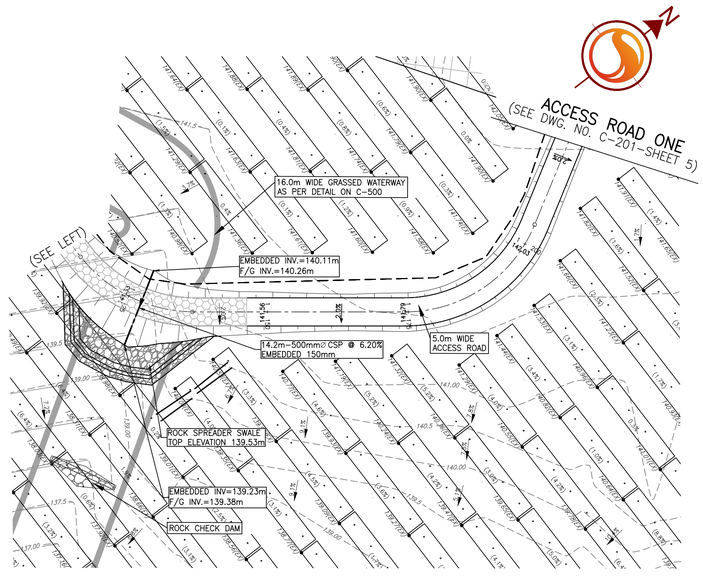
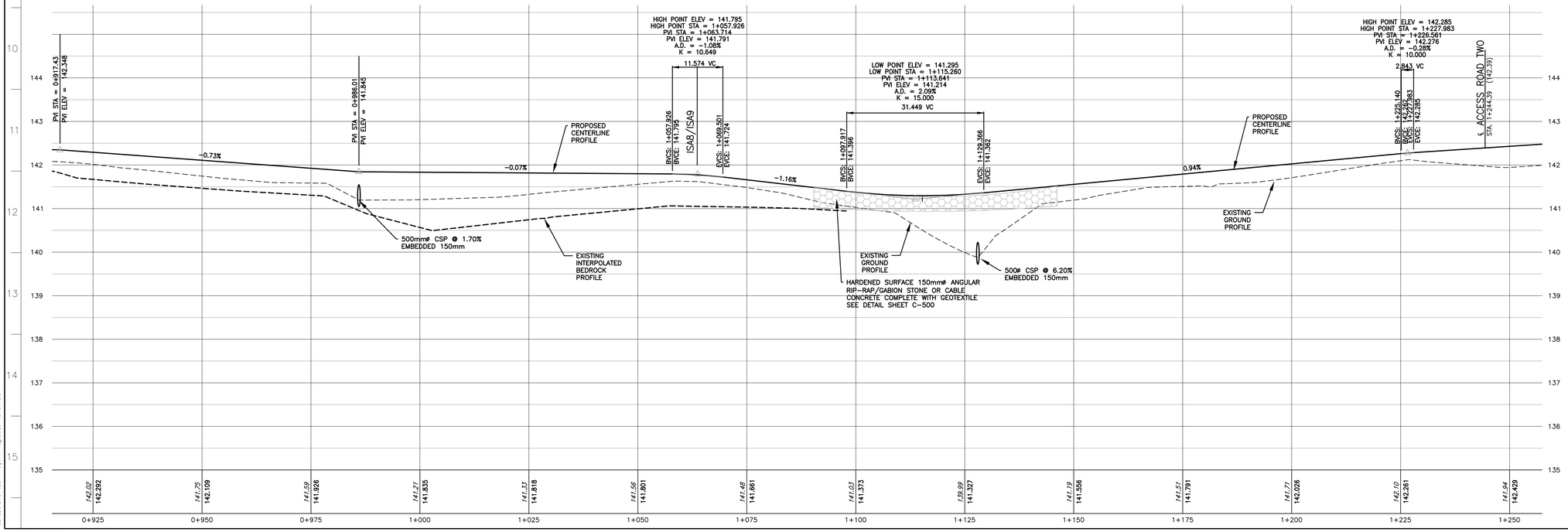








BLOCK A – ACCESS ROAD ONE



BLOCK A – ACCESS ROAD ONE

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Legend

PROPOSED	EXISTING
187.00	185.19 (EX) — ELEVATION
	FENCE
	185.0 — EX. CONTOUR
	184.5 — LIDAR CONTOUR
	TEMPORARY LAYDOWN AREA (MATERIAL STRUCTURE TO BE DETERMINED ON SITE)
	PROPOSED FILL AREA
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2.0%	GRADE
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	CULVERT
	EXISTING INTERPOLATED BEDROCK
	SLOPE (3:1 UNLESS NOTED OTHERWISE)
	ROCK SPREADER SWALE
	AC CABLE TRENCH
	DC CABLE TRENCH
	POTENTIAL ROCK OUTCROP LOCATION
	HARDENED SURFACE
	GRASSED WATERWAY (SEE C-500 FOR DETAILS)
	ROCK CHECK DAM (RCD)
	DIVERSION BERM

	Revision	By	Appd.	YY.MM.DD
B.	ISSUED FOR TENDER	MALM	DS	18.01.16
A.	ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21

File Name: 133560220_C-ST-BLOCK_A.dwg	Dwn.	Chkd.	Dsgn.	YY.MM.DD
	KC	DS	KC	17.11.09

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A ACCESS ROAD ONE
PLAN & PROFILE
STA. 0+925 - 1+225

Project No. 133560220
Scale 1:500H 0 5 15 25m; 1:50V 0 0.5 1.5 2.5m
Drawing No. C-201
Sheet 4 of 7
Revision A

V:\01614\active\133560220\design\drawing_04\civil\block_A\sheet_files\133560220_C-ST-BLOCK_A.dwg
2018/01/16 7:33 PM BY: AHMADNOUL, MOHAMED

ORIGINAL SHEET - ARCH D

Status: Open
Modified: 1/17/2018 8:38:38 AM
Modified By: Joel Veenstra
Version: 2.0

NOISE WALL CAN BE TEMPORARILY REMOVED FOR POST CONSTRUCTION ACCESS TO INVERTER STATIONS

EXISTING EXPOSED BEDROCK FRACTURE INFILLING TO BE MINIMIZED IF REQUIRED, FILL TO BE OF COARSE GRANULAR MATERIAL. REFER TO HYDROGEOLOGICAL ASSESSMENT (2017, HARDEN ENVIRONMENTAL SERVICES LTD.)

NOTE:

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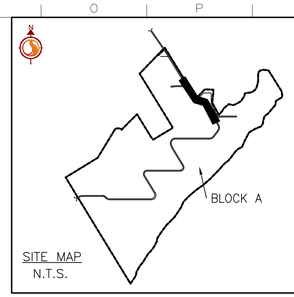
FOR ACCESS ROAD TYPICAL CROSS-SECTION REFER TO DRAWING C-500.

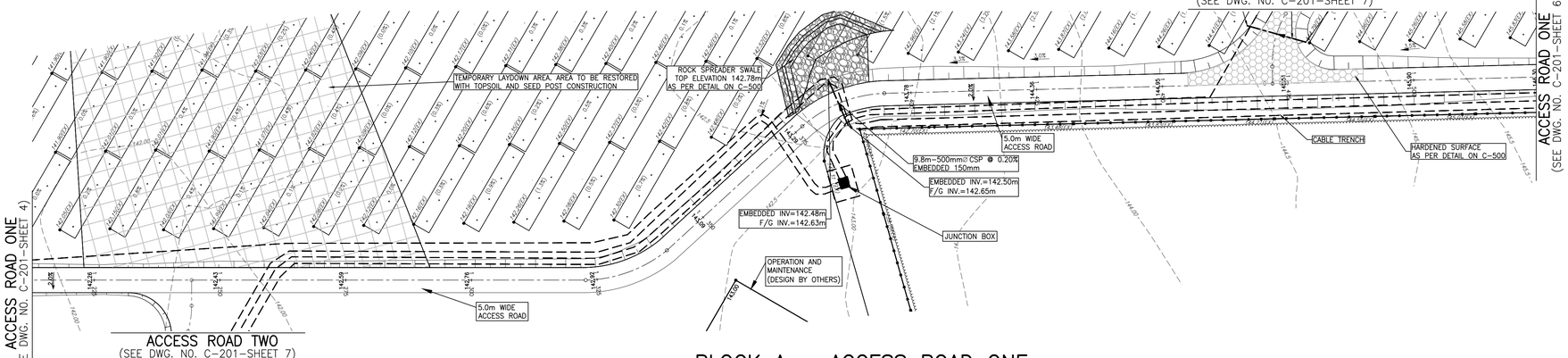
REFER TO ELECTRICAL DRAWINGS FOR FINAL LOCATIONS OF TRENCHING



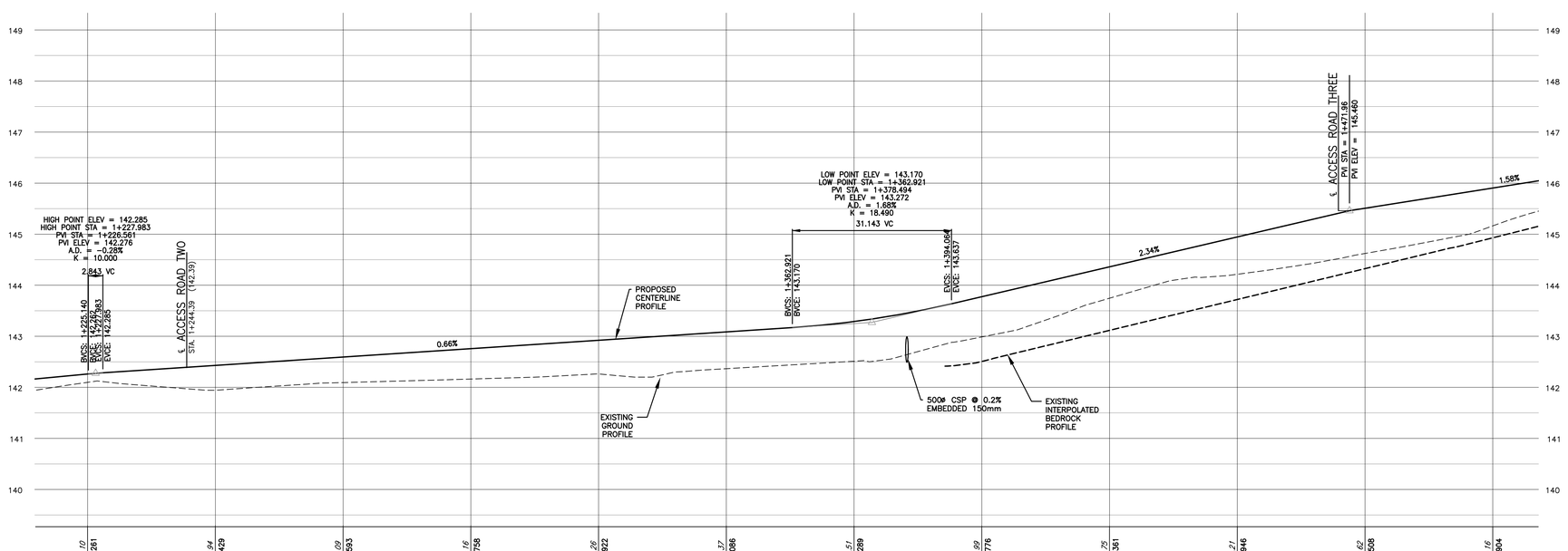
SITE MAP
N.T.S.



KEY MAP
N.T.S.



BLOCK A – ACCESS ROAD ONE



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6. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY.
7. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ALL DRAINAGE AND MEASURES TO CONTROL WATER. THE SITE IS TO BE FINE GRADED/LEVELED LEAVING THE SITE IN A NEAT APPEARANCE SUCH THAT POSITIVE DRAINAGE IS ACHIEVED EVERYWHERE PRIOR TO THE INSTALLATION OF SOLAR PANELS.
8. CONSTRUCTION TURNING RADIUS LIMITS IDENTIFY AREAS WHERE ADDITIONAL ROAD WIDTH IS REQUIRED TO ALLOW FOR ADEQUATE CLEARANCE FOR CONSTRUCTION VEHICLES.
9. CULVERTS ARE TO BE INSTALLED AS PER OPSD 802.010. SOIL TYPE TO BE CONFIRMED ON SITE FOR DETERMINATION OF TRENCH WIDTH.
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13. CULVERT TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 421. HEIGHT OF FILL TABLE FOR CSP CULVERTS TO COMPLY WITH OPSD 805.010.
14. RIPRAP AT CULVERT OUTLETS SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B-B.
15. ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
16. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

Legend

PROPOSED		EXISTING
87.00	ELEVATION	185.19 (EX)
	FENCE	
	EX. CONTOUR	185.0
	LIDAR CONTOUR	184.5
	TEMPORARY LAYDOWN AREA (MATERIAL STRUCTURE TO BE DETERMINED ON SITE)	
	PROPOSED FILL AREA	
	TREE LINE	
2.0%	GRADE	
	SWALE	
	CULVERT	
	EXISTING INTERPOLATED BEDROCK	
	SLOPE (3:1 UNLESS NOTED OTHERWISE)	
	ROCK SPREADER SWALE	
	AC CABLE TRENCH DC CABLE TRENCH	
	POTENTIAL ROCK OUTCROP LOCATION	
	HARDENED SURFACE	
	GRASSED WATERWAY (SEE C-500 FOR DETAILS)	
	ROCK CHECK DAM (RCD)	
	DIVERSION BERM	

Revision	By	Appd.	YY.MM.DD
B. ISSUED FOR TENDER	MALM	DS	18.01.16
A ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21

File Name: 133560220_C-ST-BLOCK_A.dwg	KC	DS	KC	17.11.09
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A ACCESS ROAD ONE
PLAN & PROFILE
STA. 1+225 - 1+575

Project No. 133560220

Scale 1:500H 1:50V

Drawing No. C-201

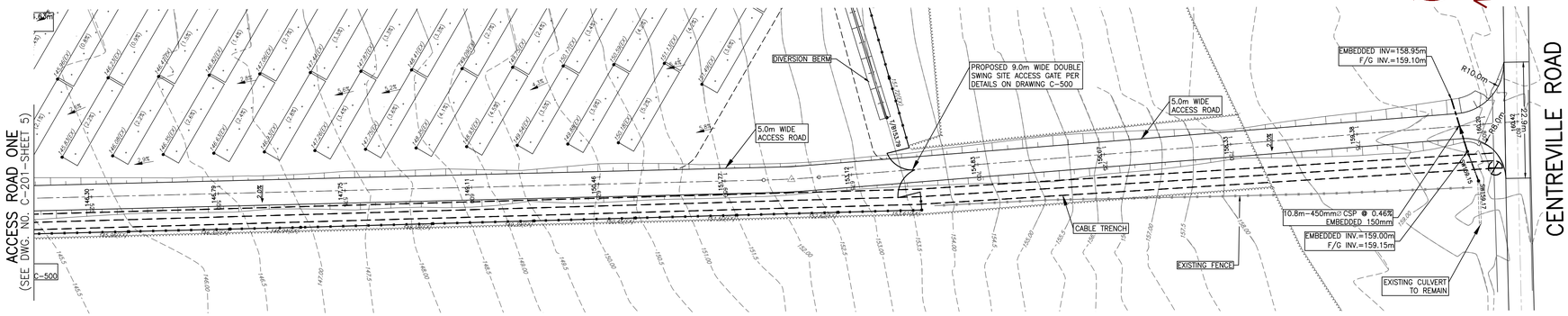
Sheet 5 of 7

Revision A

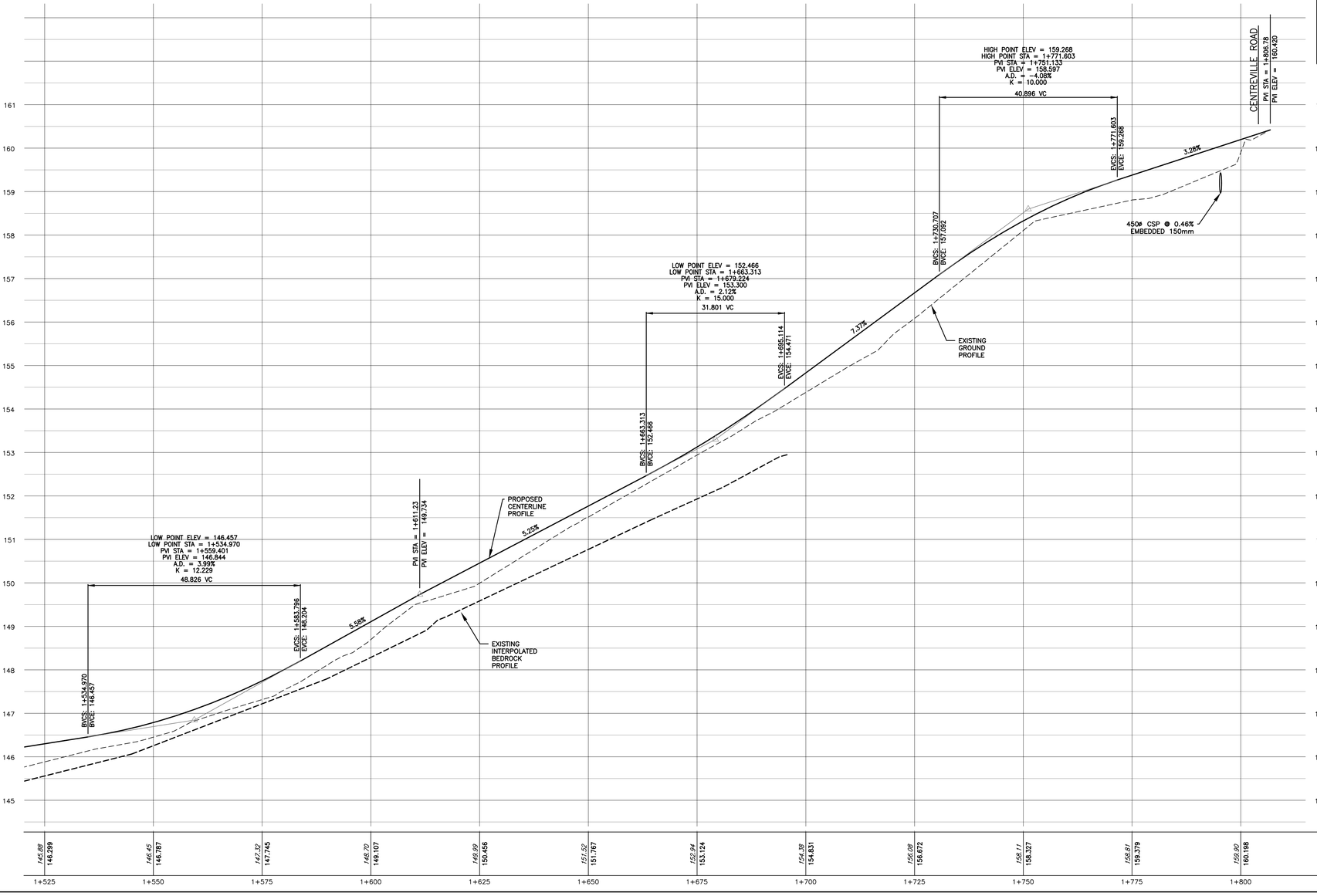
V:\01614\active\133560220\design\drawings\civil\block_A\sheet_files\133560220_C-ST-BLOCK_A.dwg
2018/01/16 7:39 PM By: AlMajdoub, Mohamed

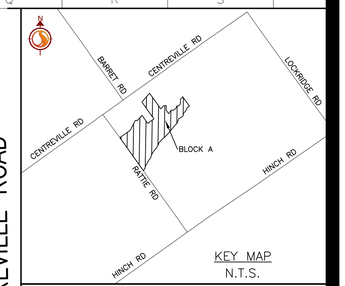
ORIGINAL SHEET - ARCH D

Version: 2.0 Modified By: Joel Veenstra Modified: 1/17/2018 8:36:38 AM Status: Open

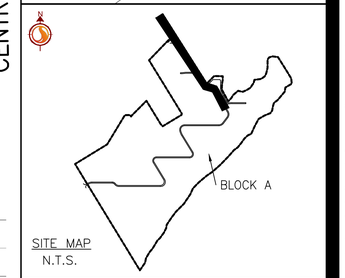


BLOCK A – ACCESS ROAD ONE





KEY MAP
N.T.S.



SITE MAP
N.T.S.

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Legend

PROPOSED		EXISTING
187.00	ELEVATION	185.19 (EX)
	FENCE	
	EX. CONTOUR	185.0
	LIDAR CONTOUR	184.5
	TEMPORARY LAYDOWN AREA (MATERIAL STRUCTURE TO BE DETERMINED ON SITE)	
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	TREE LINE	
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	SWALE	
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Revision	By	Appd.	YY.MM.DD
B. ISSUED FOR TENDER	MALM	DS	18.01.16
A ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21

File Name: 133560220_C-ST-BLOCK_A.dwg	Dwn.	Chkd.	Dsgn.	YY.MM.DD
	KC	DS	KC	17.11.09

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A ACCESS ROAD ONE
PLAN & PROFILE
STA 1+525 TO 1+800

Project No. 133560220

Scale 1:500H 1:50V

Drawing No. C-201

Sheet 6 of 7

Revision A

V:\01614\active\133560220\design\drawing_file\civil_block_A\sheet_files\133560220_C-ST-BLOCK_A.dwg
2018/01/16 7:37 PM By: AlMajbob, Mohamed

Version: 2.0 Modified By: Joel Veenstra Modified: 1/17/2018 8:36:38 AM Status: Open

ORIGINAL SHEET - ARCH D

NOISE WALL CAN BE TEMPORARILY REMOVED FOR POST CONSTRUCTION ACCESS TO INVERTER STATIONS

EXISTING EXPOSED BEDROCK FRACTURE INFILLING TO BE MINIMIZED IF REQUIRED, FILL TO BE OF COARSE GRANULAR MATERIAL. REFER TO HYDROGEOLOGICAL ASSESSMENT (2017, HARDEN ENVIRONMENTAL SERVICES LTD.)

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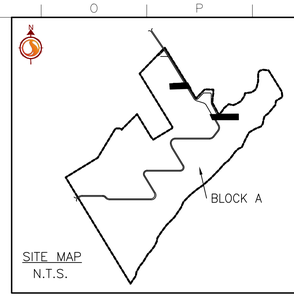
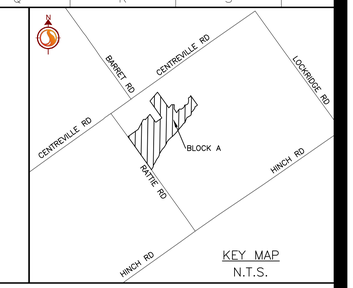
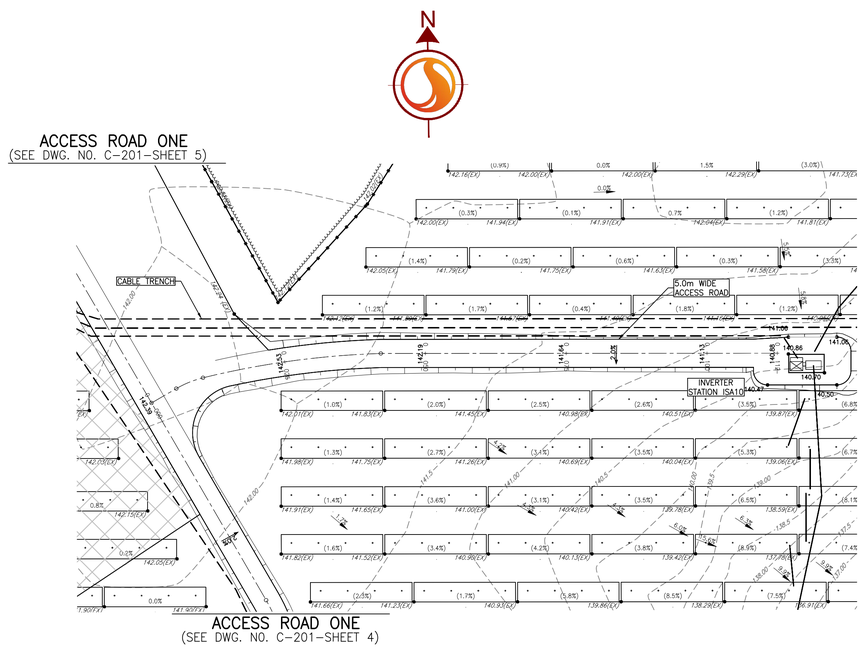


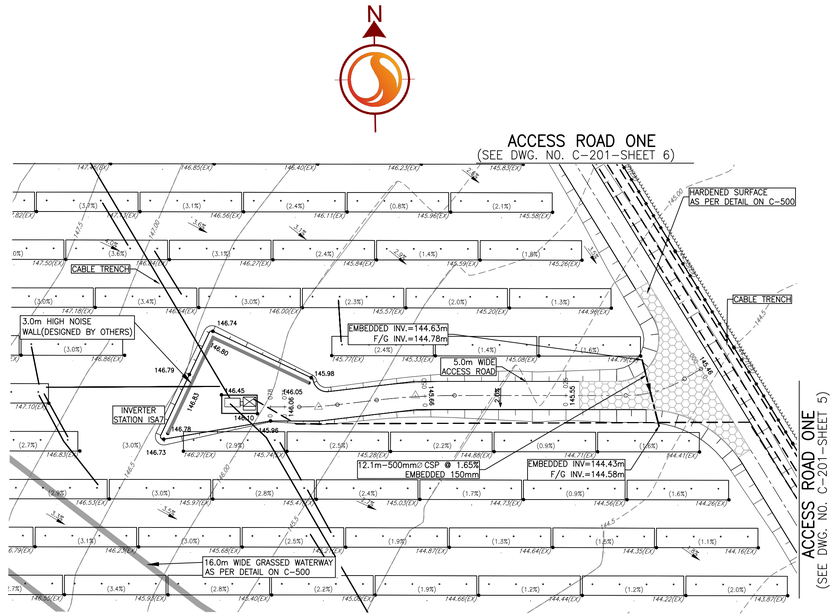
SITE MAP
N.T.S.



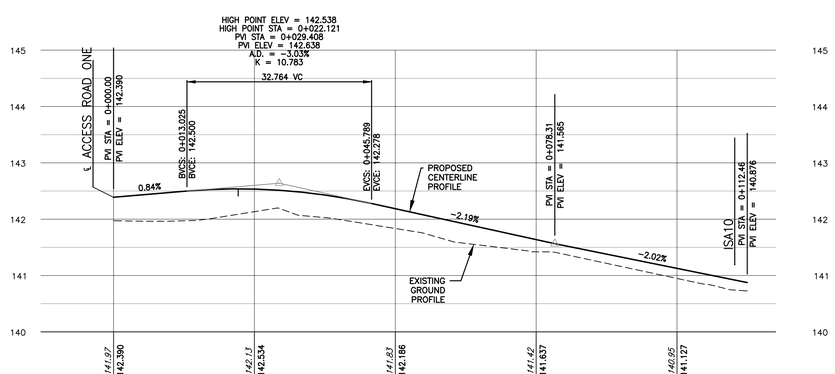
KEY MAP
N.T.S.

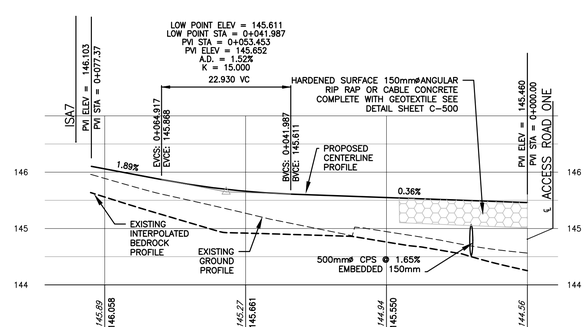


BLOCK A – ACCESS ROAD TWO



BLOCK A – ACCESS ROAD THREE





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Legend

PROPOSED		EXISTING
187.00	ELEVATION	185.19 (EX)
	FENCE	
	EX. CONTOUR	185.0
	LIDAR CONTOUR	184.5
	TEMPORARY LAYDOWN AREA (MATERIAL STRUCTURE TO BE DETERMINED ON SITE)	
	PROPOSED FILL AREA	
	TREE LINE	
2.0%	GRADE	
	SWALE	
	CULVERT	
	EXISTING INTERPOLATED BEDROCK	
	SLOPE (3:1 UNLESS NOTED OTHERWISE)	
	ROCK SPREADER SWALE	
	AC CABLE TRENCH	
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	POTENTIAL ROCK OUTCROP LOCATION	
	HARDENED SURFACE	
	GRASSED WATERWAY (SEE C-500 FOR DETAILS)	
	ROCK CHECK DAM (RCD)	
	DIVERSION BERM	

B.	ISSUED FOR TENDER	MALM	DS	18.01.16
A	ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21
Revision		By	Appd.	YY.MM.DD

File Name: 133560220_C-ST-BLOCK_A.dwg	KC	DS	KC	17.11.09
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project

LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

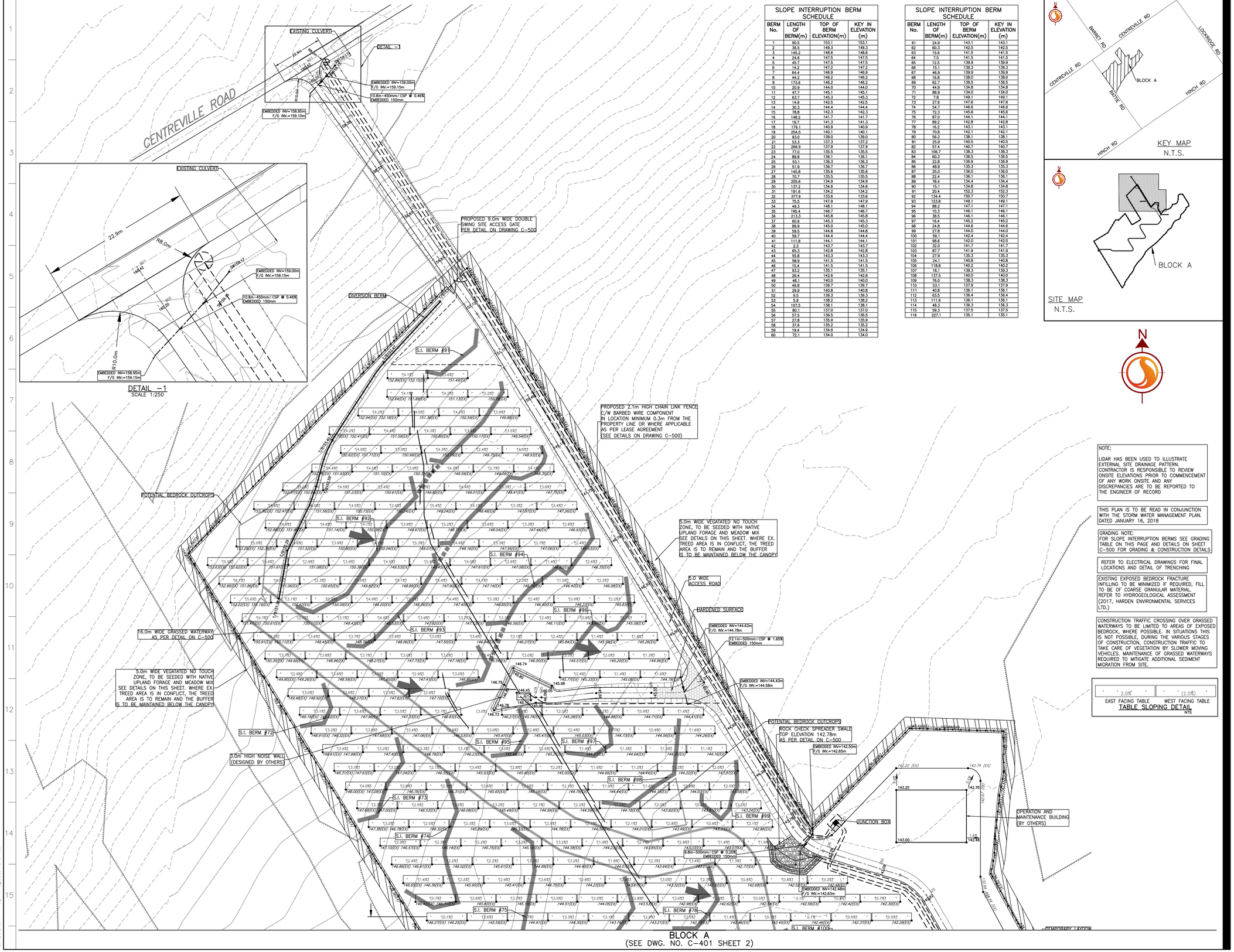
County of Lennox and Addington, Ontario

Title

BLOCK A ACCESS ROAD TWO & THREE
PLAN & PROFILE
STA. 0+000 - 0+113 & 0+000 - 0+078

Project No.	Scale	Revision
133560220	1:500H 0 5 15 25m; 1:50V 0 0.5 1.5 2.5m	
Drawing No.	Sheet	
C-201	7 of 7	A

Version: 2.0 Modified By: Joel Veenstra Modified: 1/17/2018 8:38:38 AM Status: Open
V:\1016\active\133560220\design\drawing_04\civil\Block_A\sheet_files\133560220_C-ST-BLOCK_A.dwg 2018/01/17 8:40 PM By: AMirzaouli, Mohamed
ORIGINAL SHEET - ARCH D



SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
1	90.5	153.1	153.1
2	36.5	149.3	149.3
3	145.2	148.6	148.6
4	24.6	147.5	147.5
5	45.7	147.5	147.5
6	14.2	147.2	147.2
7	64.4	146.9	146.9
8	44.2	146.2	146.2
9	173.6	146.2	146.2
10	20.9	144.0	144.0
11	47.7	145.1	145.1
12	63.7	145.3	145.3
13	14.9	142.5	142.5
14	30.3	144.4	144.4
15	78.8	142.3	142.3
16	148.2	141.7	141.7
17	19.7	141.3	141.3
18	178.1	140.9	140.9
19	254.5	140.1	140.1
20	93.0	139.0	139.0
21	53.3	137.3	137.2
22	266.9	137.9	137.9
23	77.0	135.5	135.5
24	89.8	136.1	136.1
25	53.1	136.3	136.3
26	51.9	136.7	136.7
27	145.8	135.6	135.6
28	70.7	135.5	135.5
29	205.6	134.9	134.9
30	137.2	134.6	134.6
31	191.6	134.2	134.2
32	377.9	133.6	133.6
33	75.5	147.9	147.9
34	49.3	148.1	148.1
35	195.4	146.7	146.7
36	213.3	145.8	145.8
37	60.9	145.3	145.3
38	89.9	145.0	145.0
39	59.5	144.8	144.8
40	59.7	144.4	144.4
41	111.8	144.1	144.1
42	2.3	143.7	143.7
43	65.3	142.8	142.8
44	55.8	143.3	143.3
45	58.9	141.5	141.5
46	15.4	141.5	141.5
47	93.2	135.1	135.1
48	26.4	142.6	142.6
49	48.1	140.0	140.0
50	46.8	139.7	139.7
51	29.9	140.8	140.8
52	9.5	139.3	139.3
53	5.9	138.2	138.2
54	107.5	138.1	138.1
55	80.1	137.0	137.0
56	57.5	136.5	136.5
57	27.8	135.9	135.9
58	37.6	135.2	135.2
59	19.4	134.9	134.9
60	72.1	134.0	134.0

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
61	24.9	143.1	143.1
62	60.3	142.5	142.5
63	15.6	141.5	141.5
64	7.5	141.5	141.5
65	12.5	139.9	139.9
66	15.1	139.3	139.3
67	46.9	139.9	139.9
68	16.8	138.0	138.0
69	62.7	136.5	136.5
70	44.9	134.8	134.8
71	86.9	134.0	134.0
72	7.8	149.1	149.1
73	27.6	147.6	147.6
74	54.7	146.6	146.6
75	72.3	145.8	145.8
76	87.0	144.1	144.1
77	89.2	142.8	142.8
78	16.2	143.1	143.1
79	70.8	142.1	142.1
80	56.2	138.1	138.1
81	25.9	140.5	140.5
82	57.4	140.7	140.7
83	108.7	138.3	138.3
84	60.3	136.5	136.5
85	22.8	136.9	136.9
86	48.9	135.3	135.3
87	25.0	136.0	136.0
88	22.4	136.1	136.1
89	78.4	134.4	134.4
90	15.1	134.8	134.8
91	20.4	152.3	152.3
92	134.4	150.7	150.7
93	103.8	149.1	149.1
94	88.2	147.1	147.1
95	10.3	146.1	146.1
96	38.5	146.1	146.1
97	16.4	145.2	145.2
98	24.8	144.6	144.6
99	27.8	144.0	144.0
100	59.1	142.4	142.4
101	98.6	142.0	142.0
102	32.0	141.7	141.7
103	87.7	141.9	141.9
104	27.9	135.3	135.3
105	24.1	140.8	140.8
106	118.8	140.2	140.2
107	18.1	139.3	139.3
108	137.5	140.0	140.0
109	76.0	138.3	138.3
110	53.1	137.9	137.9
111	40.8	136.1	136.1
112	63.5	136.4	136.4
113	111.6	136.1	136.1
114	48.3	136.3	136.3
115	59.3	137.5	137.5
116	227.1	135.1	135.1

KEY MAP
N.T.S.

SITE MAP
N.T.S.

NOTE:
LIDAR HAS BEEN USED TO ILLUSTRATE EXTERNAL SITE DRAINAGE PATTERN. CONTRACTOR IS RESPONSIBLE TO REVIEW ONSITE ELEVATIONS PRIOR TO COMMENCEMENT OF ANY WORK ONSITE AND ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER OF RECORD

THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE STORM WATER MANAGEMENT PLAN. DATED JANUARY 16, 2018

GRADING NOTE:
FOR SLOPE INTERRUPTION BERMS SEE GRADING TABLE ON THIS PAGE AND DETAILS ON SHEET C–500 FOR GRADING & CONSTRUCTION DETAILS

REFER TO ELECTRICAL DRAWINGS FOR FINAL LOCATIONS AND DETAIL OF TRENCHING

EXISTING EXPOSED BEDROCK FRACTURE INFILLING TO BE MINIMIZED IF REQUIRED, FILL TO BE OF COARSE GRANULAR MATERIAL. REFER TO HYDROGEOLOGICAL ASSESSMENT (2017, HARDEN ENVIRONMENTAL SERVICES LTD.)

CONSTRUCTION TRAFFIC CROSSING OVER GRASSED WATERWAYS TO BE LIMITED TO AREAS OF EXPOSED BEDROCK, WHERE POSSIBLE. IN SITUATIONS THIS IS NOT POSSIBLE, DURING THE VARIOUS STAGES OF CONSTRUCTION, CONSTRUCTION TRAFFIC TO TAKE CARE OF VEGETATION BY SLOWER MOVING VEHICLES. MAINTENANCE OF GRASSED WATERWAYS REQUIRED TO MITIGATE ADDITIONAL SEDIMENT MIGRATION FROM SITE.

TABLE SLOPING DETAIL
NTS

Stantec
Stantec Consulting Ltd.
300 Hagey Boulevard
Waterloo ON Canada
Tel. 519.579.4410
www.stantec.com

PCL CONSTRUCTION LEADERS

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Notes

1. TOPOGRAPHIC INFORMATION CONDUCTED BY LESLIE M. HIGGINSON AND RECEIVED OCTOBER 24, 2017. TOPOGRAPHIC SURVEY IS UTM 18. LIDAR INFORMATION CONDUCTED BY TULLOCH ENGINEERING ON JUNE 27, 2016. LIDAR SURVEY IS UTM 18. BEDROCK SURVEY INFORMATION PROVIDED BY PCL CONSTRUCTORS LTD. RECEIVED ON OCTOBER 31, 2017.
2. EXISTING VEGETATION INFORMATION IS APPROXIMATE, PROVIDED FROM AERIAL IMAGERY. CONTRACTOR TO CONFIRM ALL TREE & SHRUB LOCATION ON SITE.
3. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS IN THIS SET PREPARED BY STANTEC CONSULTING LTD.
4. THE CONTRACTOR MUST CHECK AND VERIFY DIMENSIONS; OBTAIN ALL UTILITY LOCATES AND OBTAIN ALL REQUIRED PERMITS/LICENSES AND VERIFY ELEVATIONS OF EXISTING SERVICES BEFORE PROCEEDING WITH ANY WORK.
5. ALL CONSTRUCTION WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS (LATEST EDITION).
6. IF, FOR UNFORESEEN REASONS, THE OWNER AND/OR HIS/HER REPRESENTATIVE MUST ENCROACH ONTO PRIVATE LANDS TO UNDERTAKE ANY WORKS, HE/SHE MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON THE PRIVATE PROPERTY TO PERFORM ANY WORKS. COPIES OF THESE LETTERS OF CONSENT MUST BE SUBMITTED TO THE OWNER AND CONTRACTOR AND A COPY IS TO BE KEPT ON FILE ON SITE PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT THE PROPERTY OWNERS OWN RISK.
7. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT–OF–WAY.
8. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ALL DRAINAGE AND MEASURES TO CONTROL WATER. THE SITE IS TO BE FINE GRADED/LEVELED LEAVING THE SITE IN A NEAT APPEARANCE SUCH THAT POSITIVE DRAINAGE IS ACHIEVED EVERYWHERE PRIOR TO THE INSTALLATION OF SOLAR PANELS.
9. CONSTRUCTION TURNING RADIUS LIMITS IDENTIFY AREAS WHERE ADDITIONAL ROAD WIDTH IS REQUIRED TO ALLOW FOR ADEQUATE CLEARANCE FOR CONSTRUCTION VEHICLES.
10. CULVERTS ARE TO BE INSTALLED AS PER OPSD 802.010. SOIL TYPE TO BE CONFIRMED ON SITE FOR DETERMINATION OF TRENCH WIDTH.
11. ALL AREAS WITHIN THE PROPOSED WORKS ARE TO BE RE–VEGETATED USING NATIVE TOPSOIL AND SEED. MIX AND APPLICATION RATE/METHOD TO BE SUBMITTED AND APPROVED BY OWNER PRIOR TO IMPLEMENTATION.
12. CLEARING AND GRUBBING AND REMOVALS TO BE COMPLETED IN ACCORDANCE WITH OPSS 201. TEMPORARY EROSION CONTROL TO BE COMPLETED IN ACCORDANCE WITH OPSS 577.
13. GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010.
14. CULVERT TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 421. HEIGHT OF FILL TABLE FOR CSP CULVERTS TO COMPLY WITH OPSD 805.010.
15. RIPRAP AT CULVERT OUTLETS SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B–B.
16. ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
17. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

Legend

PROPOSED 187.00 — EXISTING 185.19(EX)

- ELEVATION
- FENCE
- EX. CONTOUR — 185.0
- LIDAR CONTOUR — 184.5
- TEMPORARY LAYDOWN AREA (MATERIAL STRUCTURE TO BE DETERMINED ON SITE)
- 5.0M WIDE VEGETATIVE BUFFER
- TREE LINE
- GRADE 2.0%
- SWALE
- CULVERT
- SLOPE (3:1 UNLESS NOTED OTHERWISE)
- ROCK SPREADER SWALE
- AC CABLE TRENCH
- DC CABLE TRENCH
- POTENTIAL BEDROCK OUTCROPS
- TEMPORARY REMOVAL OF S.I. BERM FOR TRENCH INSTALLATION. TRENCHES TO BE LINED WITH CLAY OR FILLED WITH CONCRETE IF INSTALLED IN BEDROCK
- OVERLAND FLOW DIRECTION
- SLOPE INTERRUPTION BERM (SEE DETAIL ON SHEET C–500)
- GRASSED WATERWAY (SEE C–500 FOR DETAILS)
- DIVERSION BERM
- HARDENED SURFACE
- ROCK CHECK DAM

Revision	By	Appd.	YY.MM.DD
B. ISSUED FOR TENDER	MALM	DS	18.01.16
A. ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21

File Name: 133560220_C-GP-BLOCK_A.dwg — Dwn. KC — Chkd. DS — Dsgn. KC — YY.MM.DD 17.11.09

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A
GRADING PLAN

Project No. 133560220
Scale 1:750 (0, 7.5, 22.5, 37.5)
Drawing No. C-401
Sheet 1 of 6
Revision A

Status: Open
Modified: 1/17/2018 8:36:36 AM
Modified By: Joel Veenstra
Version: 2.0
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2018/01/16 7:41 PM By: AMHopkins(Antonella Hopkins)
ORIGINAL SHEET - ARCH D

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
1	90.5	153.1	153.1
2	36.5	149.3	149.3
3	145.2	148.6	148.6
4	24.6	147.5	147.5
5	45.7	147.5	147.5
6	14.2	147.2	147.2
7	64.4	146.9	146.9
8	44.2	146.2	146.2
9	173.6	146.2	146.2
10	20.9	144.0	144.0
11	47.7	145.1	145.1
12	63.7	145.3	145.3
13	14.9	142.5	142.5
14	30.3	144.4	144.4
15	78.8	142.3	142.3
16	148.2	141.7	141.7
17	19.7	141.3	141.3
18	179.1	140.9	140.9
19	254.5	140.1	140.1
20	93.0	139.0	139.0
21	53.3	137.3	137.2
22	266.9	137.9	137.9
23	77.0	135.5	135.5
24	89.8	136.1	136.1
25	53.1	136.3	136.3
26	51.9	136.7	136.7
27	145.8	135.6	135.6
28	70.7	135.5	135.5
29	205.6	134.9	134.9
30	137.2	134.6	134.6
31	191.6	134.2	134.2
32	377.9	133.6	133.6
33	75.5	147.9	147.9
34	49.3	148.1	148.1
35	195.4	146.7	146.7
36	213.3	145.8	145.8
37	60.9	145.3	145.3
38	89.9	145.0	145.0
39	59.5	144.8	144.8
40	59.7	144.4	144.4
41	111.8	144.1	144.1
42	2.3	143.7	143.7
43	65.3	142.8	142.8
44	55.8	143.3	143.3
45	58.9	141.5	141.5
46	15.4	141.5	141.5
47	93.2	135.1	135.1
48	26.4	142.6	142.6
49	48.1	140.0	140.0
50	46.8	139.7	139.7
51	29.9	140.8	140.8
52	9.5	139.3	139.3
53	5.9	138.2	138.2
54	107.5	138.1	138.1
55	80.1	137.0	137.0
56	57.5	136.5	136.5
57	27.8	135.9	135.9
58	37.6	135.2	135.2
59	19.4	134.9	134.9
60	72.1	134.0	134.0

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
61	24.9	143.1	143.1
62	60.3	142.5	142.5
63	15.6	141.5	141.5
64	7.5	141.5	141.5
65	12.5	139.9	139.9
66	15.1	139.3	139.3
67	46.9	139.9	139.9
68	16.8	138.0	138.0
69	62.7	136.5	136.5
70	44.9	134.8	134.8
71	86.9	134.0	134.0
72	7.8	149.1	149.1
73	27.6	147.6	147.6
74	54.7	146.6	146.6
75	72.3	145.6	145.6
76	87.0	144.1	144.1
77	89.2	142.8	142.8
78	16.2	143.1	143.1
79	70.8	142.1	142.1
80	56.2	138.1	138.1
81	25.9	140.5	140.5
82	57.4	140.7	140.7
83	106.7	138.3	138.3
84	60.3	136.5	136.5
85	22.8	136.9	136.9
86	48.9	135.3	135.3
87	25.0	136.0	136.0
88	22.4	136.1	136.1
89	78.4	134.4	134.4
90	15.1	134.8	134.8
91	20.4	152.3	152.3
92	134.4	150.7	150.7
93	123.8	149.1	149.1
94	88.2	147.1	147.1
95	10.3	146.1	146.1
96	38.5	146.1	146.1
97	16.4	145.2	145.2
98	24.8	144.6	144.6
99	27.8	144.0	144.0
100	59.1	142.4	142.4
101	98.6	142.0	142.0
102	32.0	141.7	141.7
103	87.7	141.9	141.9
104	27.9	135.3	135.3
105	24.1	140.8	140.8
106	118.8	140.2	140.2
107	18.1	139.3	139.3
108	137.5	140.0	140.0
109	76.0	138.3	138.3
110	53.1	137.9	137.9
111	40.8	136.1	136.1
112	63.5	136.4	136.4
113	111.6	136.1	136.1
114	48.3	136.3	136.3
115	59.3	137.5	137.5
116	227.1	135.1	135.1

NOTE:
LIDAR HAS BEEN USED TO ILLUSTRATE EXTERNAL SITE DRAINAGE PATTERN. CONTRACTOR IS RESPONSIBLE TO REVIEW ONSITE ELEVATIONS PRIOR TO COMMENCEMENT OF ANY WORK ONSITE AND ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER OF RECORD

THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE STORM WATER MANAGEMENT PLAN. DATED JANUARY 16, 2018

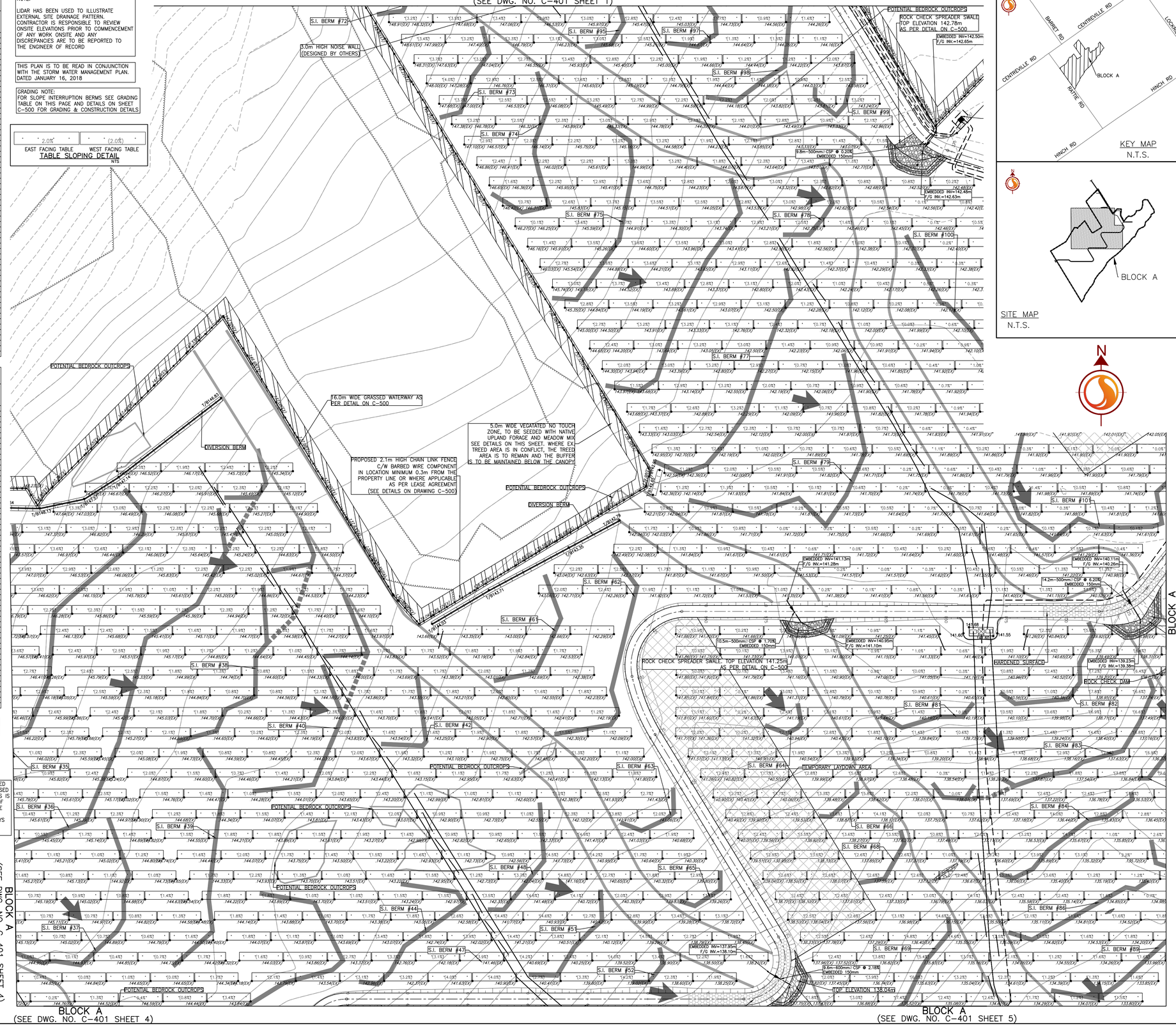
GRADING NOTE:
FOR SLOPE INTERRUPTION BERMS SEE GRADING TABLE ON THIS PAGE AND DETAILS ON SHEET C-500 FOR GRADING & CONSTRUCTION DETAILS

EAST FACING TABLE — 2.0% — WEST FACING TABLE — (2.0%)
TABLE SLOPING DETAIL
NTS

REFER TO ELECTRICAL DRAWINGS FOR FINAL LOCATIONS DETAIL OF TRENCHING

EXISTING EXPOSED BEDROCK FRACTURE INFILLING TO BE MINIMIZED IF REQUIRED, FILL TO BE OF COARSE GRANULAR MATERIAL, REFER TO HYDROGEOLOGICAL ASSESSMENT (2017, HARDEN ENVIRONMENTAL SERVICES LTD.)

CONSTRUCTION TRAFFIC CROSSING OVER GRASSED WATERWAYS TO BE LIMITED TO AREAS OF EXPOSED BEDROCK, WHERE POSSIBLE. IN SITUATIONS THIS IS NOT POSSIBLE, DURING THE VARIOUS STAGES OF CONSTRUCTION, CONSTRUCTION TRAFFIC TO TAKE CARE OF VEGETATION BY SLOWER MOVING VEHICLES. MAINTENANCE OF GRASSED WATERWAYS REQUIRED TO MITIGATE ADDITIONAL SEDIMENT MIGRATION FROM SITE.


BLOCK A
(SEE DWG. NO. C-401 SHEET 1)
(SEE DWG. NO. C-401 SHEET 3)
(SEE DWG. NO. C-401 SHEET 4)
(SEE DWG. NO. C-401 SHEET 5)
S.I. BERM #72
S.I. BERM #95
S.I. BERM #97
S.I. BERM #98
S.I. BERM #73
S.I. BERM #74
S.I. BERM #99
S.I. BERM #75
S.I. BERM #78
S.I. BERM #100
S.I. BERM #77
S.I. BERM #79
S.I. BERM #101
S.I. BERM #62
S.I. BERM #61
S.I. BERM #38
S.I. BERM #40
S.I. BERM #42
S.I. BERM #39
S.I. BERM #48
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S.I. BERM #47
S.I. BERM #51
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S.I. BERM #81
S.I. BERM #82
S.I. BERM #63
S.I. BERM #64
S.I. BERM #83
S.I. BERM #66
S.I. BERM #84
S.I. BERM #68
S.I. BERM #65
S.I. BERM #86
S.I. BERM #69
S.I. BERM #59
5.0m HIGH NOISE WALL (DESIGNED BY OTHERS)
POTENTIAL BEDROCK OUTCROPS
ROCK CHECK SPREADER SWALE TOP ELEVATION 142.78m AS PER DETAIL ON C-500
EMBEDDED INV=142.50m
F/G INV.=142.65m
16.0m WIDE GRASSED WATERWAY AS PER DETAIL ON C-500
DIVERSION BERM
PROPOSED 2.1m HIGH CHAIN LINK FENCE C/W BARBED WIRE COMPONENT IN LOCATION MINIMUM 0.3m FROM THE PROPERTY LINE OR WHERE APPLICABLE AS PER LEASE AGREEMENT (SEE DETAILS ON DRAWING C-500)
5.0m WIDE VEGATATED NO TOUCH ZONE, TO BE SEEDED WITH NATIVE UPLAND FORAGE AND MEADOW MIX SEE DETAILS ON THIS SHEET, WHERE EX TREED AREA IS IN CONFLICT THE TREED AREA IS TO REMAIN AND THE BUFFER IS TO BE MAINTAINED BELOW THE CANOPY
T/B146.13
T/B145.71
T/B145.35
T/B145.79
T/B145.77
T/B145.71
T/B145.35
T/B145.79
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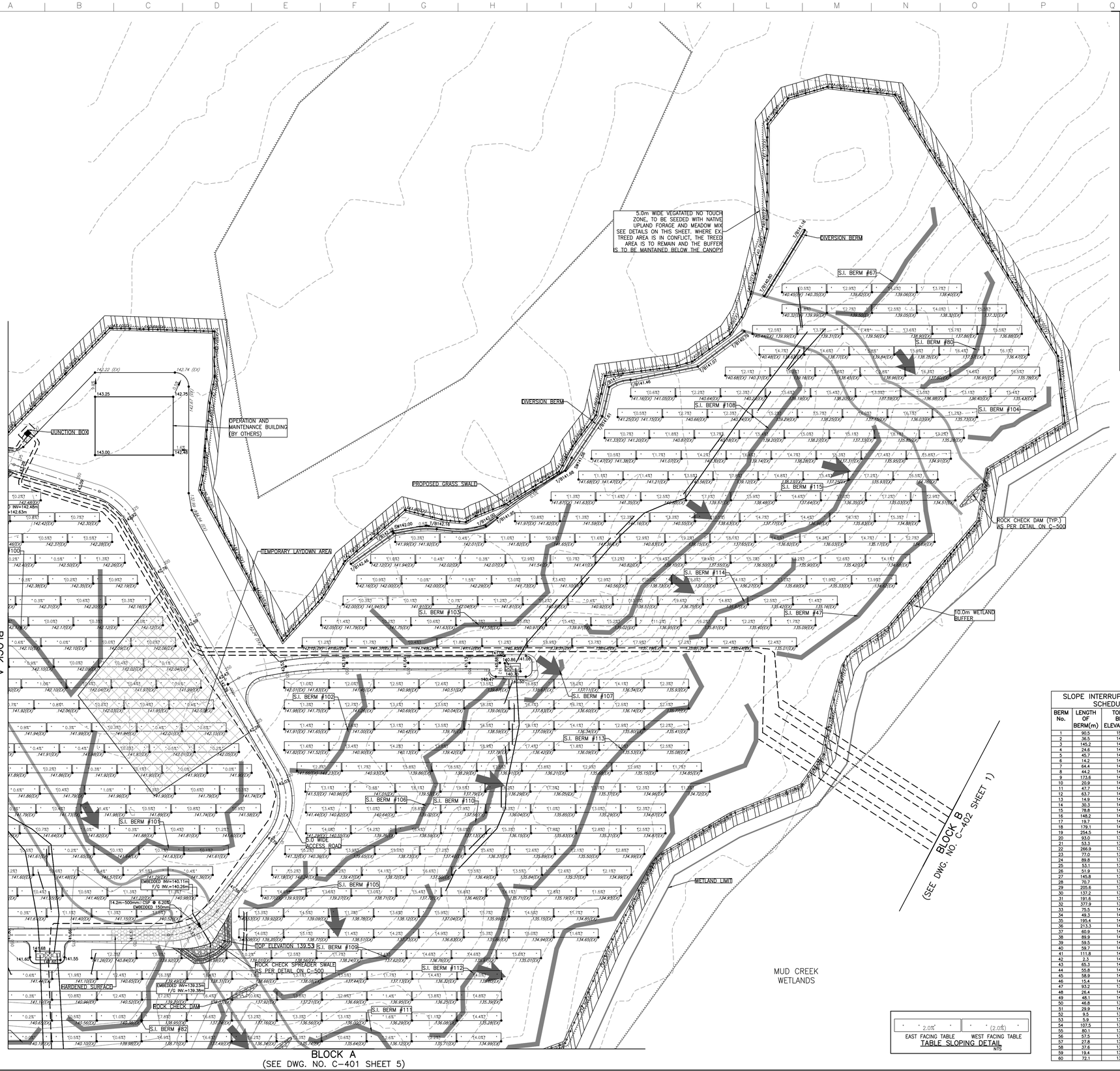
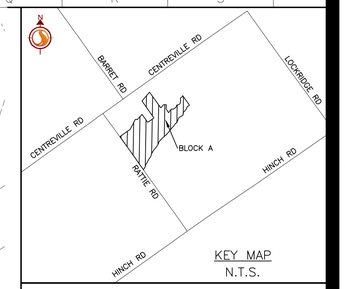
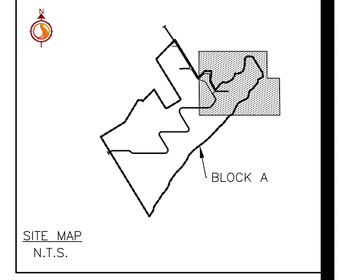
T/B145.79
T/B145.77





KEY MAP
N.T.S.



SITE MAP
N.T.S.

NOTE:
LIDAR HAS BEEN USED TO ILLUSTRATE EXTERNAL SITE DRAINAGE PATTERN. CONTRACTOR IS RESPONSIBLE TO REVIEW ONSITE ELEVATIONS PRIOR TO COMMENCEMENT OF ANY WORK ONSITE AND ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER OF RECORD

THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE STORM WATER MANAGEMENT PLAN. DATED JANUARY 16, 2018

GRADING NOTE:
FOR SLOPE INTERRUPTION BERMS SEE GRADING TABLE ON THIS PAGE AND DETAILS ON SHEET C-500 FOR GRADING & CONSTRUCTION DETAILS

REFER TO ELECTRICAL DRAWINGS FOR FINAL LOCATIONS AND DETAIL OF TRENCHING

EXISTING EXPOSED BEDROCK FRACTURE INFILLING TO BE MINIMIZED IF REQUIRED, FILL TO BE OF COARSE GRANULAR MATERIAL. REFER TO HYDROGEOLOGICAL ASSESSMENT (2017, HARDEN ENVIRONMENTAL SERVICES LTD.)

CONSTRUCTION TRAFFIC CROSSING OVER GRASSED WATERWAYS TO BE LIMITED TO AREAS OF EXPOSED BEDROCK, WHERE POSSIBLE. IN SITUATIONS THIS IS NOT POSSIBLE, DURING THE VARIOUS STAGES OF CONSTRUCTION, CONSTRUCTION TRAFFIC TO TAKE CARE OF VEGETATION BY SLOWER MOVING VEHICLES. MAINTENANCE OF GRASSED WATERWAYS REQUIRED TO MITIGATE ADDITIONAL SEDIMENT MIGRATION FROM SITE.

2.0% (2.0%)
EAST FACING TABLE WEST FACING TABLE
TABLE SLOPING DETAIL
NTS

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
1	90.5	153.1	153.1
2	36.5	149.3	149.3
3	145.2	148.6	148.6
4	24.6	147.5	147.5
5	45.7	147.5	147.5
6	14.2	147.2	147.2
7	64.4	146.9	146.9
8	44.2	146.2	146.2
9	173.6	146.2	146.2
10	20.9	144.0	144.0
11	47.7	145.1	145.1
12	63.7	145.3	145.3
13	14.9	142.5	142.5
14	30.3	144.4	144.4
15	78.8	142.3	142.3
16	148.2	141.7	141.7
17	19.7	141.3	141.3
18	179.1	140.9	140.9
19	254.5	140.1	140.1
20	83.0	139.0	139.0
21	53.3	137.3	137.2
22	266.9	137.9	137.9
23	77.0	135.5	135.5
24	89.8	136.1	136.1
25	53.1	136.3	136.3
26	51.9	136.7	136.7
27	145.8	135.6	135.6
28	70.7	135.5	135.5
29	205.6	134.9	134.9
30	137.2	134.6	134.6
31	191.6	134.2	134.2
32	377.9	133.6	133.6
33	75.5	147.9	147.9
34	49.3	148.1	148.1
35	195.4	146.7	146.7
36	213.3	145.8	145.8
37	60.9	145.3	145.3
38	89.9	145.0	145.0
39	59.5	144.8	144.8
40	59.7	144.4	144.4
41	111.8	144.1	144.1
42	2.3	143.7	143.7
43	65.3	142.8	142.8
44	55.8	143.3	143.3
45	58.9	141.5	141.5
46	15.4	141.5	141.5
47	93.2	135.1	135.1
48	26.4	142.6	142.6
49	48.1	140.0	140.0
50	48.8	139.7	139.7
51	29.9	140.8	140.8
52	9.5	139.3	139.3
53	5.9	138.2	138.2
54	107.5	138.1	138.1
55	80.1	137.0	137.0
56	57.5	136.5	136.5
57	27.8	135.9	135.9
58	37.6	135.2	135.2
59	19.4	134.9	134.9
60	72.1	134.0	134.0

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
61	24.9	143.1	143.1
62	60.3	142.5	142.5
63	15.6	141.5	141.5
64	7.5	141.5	141.5
65	12.5	139.9	139.9
66	15.1	139.3	139.3
67	46.9	139.9	139.9
68	16.8	138.0	138.0
69	62.7	136.5	136.5
70	44.9	134.8	134.8
71	86.9	134.0	134.0
72	7.8	149.1	149.1
73	27.6	147.6	147.6
74	54.7	146.6	146.6
75	72.3	145.6	145.6
76	87.0	144.1	144.1
77	89.2	142.8	142.8
78	16.2	143.1	143.1
79	70.8	142.1	142.1
80	56.2	138.1	138.1
81	25.9	140.5	140.5
82	57.4	140.7	140.7
83	106.7	138.3	138.3
84	60.3	136.5	136.5
85	22.8	136.9	136.9
86	48.9	135.3	135.3
87	25.0	136.0	136.0
88	22.4	136.1	136.1
89	78.4	134.4	134.4
90	15.1	134.8	134.8
91	20.4	152.3	152.3
92	134.4	150.7	150.7
93	123.8	149.1	149.1
94	88.2	147.1	147.1
95	10.3	146.1	146.1
96	38.5	146.1	146.1
97	16.4	145.2	145.2
98	24.8	144.6	144.6
99	27.8	144.0	144.0
100	59.1	142.4	142.4
101	98.6	142.0	142.0
102	32.0	141.7	141.7
103	87.7	141.9	141.9
104	27.9	135.3	135.3
105	24.1	140.8	140.8
106	118.8	140.2	140.2
107	18.1	139.3	139.3
108	137.5	140.0	140.0
109	76.0	138.3	138.3
110	53.1	137.9	137.9
111	40.8	136.1	136.1
112	63.5	136.4	136.4
113	111.6	136.1	136.1
114	48.3	136.3	136.3
115	59.3	137.5	137.5
116	227.1	135.1	135.1

Legend

PROPOSED		EXISTING
167.00	ELEVATION	165.19(EX)
	FENCE	
	EX. CONTOUR	185.0
	LIDAR CONTOUR	184.5
	TEMPORARY LAYDOWN AREA (MATERIAL STRUCTURE TO BE DETERMINED ON SITE)	
	5.0M WIDE VEGETATIVE BUFFER	
	TREE LINE	
2.0%	GRADE	
	SWALE	
	CULVERT	
	SLOPE (3:1 UNLESS NOTED OTHERWISE)	
	ROCK SPREADER SWALE	
	AC CABLE TRENCH	
	DC CABLE TRENCH	
	POTENTIAL BEDROCK OUTCROPS	
	TEMPORARY REMOVAL OF S.I. BERM FOR TRENCH INSTALLATION. TRENCHES TO BE LINED WITH CLAY OR FILLED WITH CONCRETE IF INSTALLED IN BEDROCK	
	OVERLAND FLOW DIRECTION	
	SLOPE INTERRUPTION BERM (SEE DETAIL ON SHEET C-500)	
	GRASSED WATERWAY (SEE C-500 FOR DETAILS)	
	DIVERSION BERM	
	HARDENED SURFACE	
	ROCK CHECK DAM	

B.	ISSUED FOR TENDER	MALM	DS	18.01.16
A.	ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21
Revision		By	Appd.	YY.MM.DD

File Name: 133560220_C-GP-BLOCK_A.dwg	KC	DS	KC	17.11.09
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A
GRADING PLAN

Project No.	Scale				
133560220	1:750	0	7.5	22.5	37.5m
Drawing No.	Sheet		Revision		
C-401	3 of 6		A		

Stantec
Stantec Consulting Ltd.
300 Hagey Boulevard
Waterloo ON Canada
Tel. 519.579.4410
www.stantec.com

PCL CONSTRUCTION LEADERS

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Notes
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2. EXISTING VEGETATION INFORMATION IS APPROXIMATE, PROVIDED FROM AERIAL IMAGERY. CONTRACTOR TO CONFIRM ALL TREE & SHRUB LOCATION ON SITE.
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4. THE CONTRACTOR MUST CHECK AND VERIFY DIMENSIONS; OBTAIN ALL UTILITY LOCATES AND OBTAIN ALL REQUIRED PERMITS/LICENSES AND VERIFY ELEVATIONS OF EXISTING SERVICES BEFORE PROCEEDING WITH ANY WORK.
5. ALL CONSTRUCTION WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS (LATEST EDITION).
6. IF, FOR UNFORESEEN REASONS, THE OWNER AND/OR HIS/HER REPRESENTATIVE MUST ENCROACH ONTO PRIVATE LANDS TO UNDERTAKE ANY WORKS, HE/SHE MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON THE PRIVATE PROPERTY TO PERFORM ANY WORKS. COPIES OF THESE LETTERS OF CONSENT MUST BE SUBMITTED TO THE OWNER AND CONTRACTOR AND A COPY IS TO BE KEPT ON FILE ON SITE PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT THE PROPERTY OWNERS OWN RISK.
7. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY.
8. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ALL DRAINAGE AND MEASURES TO CONTROL WATER. THE SITE IS TO BE FINE GRADED/LEVELED LEAVING THE SITE IN A NEAT APPEARANCE SUCH THAT POSITIVE DRAINAGE IS ACHIEVED EVERYWHERE PRIOR TO THE INSTALLATION OF SOLAR PANELS.
9. CONSTRUCTION TURNING RADIUS LIMITS IDENTIFY AREAS WHERE ADDITIONAL ROAD WIDTH IS REQUIRED TO ALLOW FOR ADEQUATE CLEARANCE FOR CONSTRUCTION VEHICLES.
10. CULVERTS ARE TO BE INSTALLED AS PER OPSD 802.010. SOIL TYPE TO BE CONFIRMED ON SITE FOR DETERMINATION OF TRENCH WIDTH.
11. ALL AREAS WITHIN THE PROPOSED WORKS ARE TO BE RE-VEGETATED USING NATIVE TOPSOIL AND SEED. MIX AND APPLICATION RATE/METHOD TO BE SUBMITTED AND APPROVED BY OWNER PRIOR TO IMPLEMENTATION.
12. CLEARING AND GRUBBING AND REMOVALS TO BE COMPLETED IN ACCORDANCE WITH OPSS 201. TEMPORARY EROSION CONTROL TO BE COMPLETED IN ACCORDANCE WITH OPSS 577.
13. GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010.
14. CULVERT TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 421. HEIGHT OF FILL TABLE FOR CSP CULVERTS TO COMPLY WITH OPSD 805.010.
15. RIPRAP AT CULVERT OUTLETS SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B-B.
16. ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
17. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

ORIGINAL SHEET - ARCH D
V:\01614\active\133560220\design\drawing_06\civil_block_A\sheet_files\133560220_C-GP-BLOCK_A.dwg
2018/01/16 7:42 PM By: AMcIsaac, Marshmed
Status: Open
Modified: 1/17/2018 8:36:38 AM
Modified By: Joel Vepsalainen
Version: 2.0

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
1	90.5	153.1	153.1
2	36.5	149.3	149.3
3	145.2	148.6	148.6
4	24.6	147.5	147.5
5	45.7	147.5	147.5
6	14.2	147.2	147.2
7	64.4	146.9	146.9
8	44.2	146.2	146.2
9	173.6	146.2	146.2
10	20.9	144.0	144.0
11	47.7	145.1	145.1
12	63.7	145.3	145.3
13	14.9	142.5	142.5
14	30.3	144.4	144.4
15	78.8	142.3	142.3
16	148.2	141.7	141.7
17	19.7	141.3	141.3
18	179.1	140.9	140.9
19	254.5	140.1	140.1
20	93.0	139.0	139.0
21	53.3	137.3	137.2
22	266.9	137.9	137.9
23	77.0	135.5	135.5
24	89.8	136.1	136.1
25	53.1	136.3	136.3
26	51.9	136.7	136.7
27	145.8	135.6	135.6
28	70.7	135.5	135.5
29	205.6	134.9	134.9
30	137.2	134.6	134.6
31	191.6	134.2	134.2
32	377.9	133.6	133.6
33	73.5	147.9	147.9
34	49.3	148.1	148.1
35	195.4	146.7	146.7
36	213.3	145.8	145.8
37	60.9	145.3	145.3
38	89.9	145.0	145.0
39	59.5	144.8	144.8
40	59.7	144.4	144.4
41	111.8	144.1	144.1
42	2.3	143.7	143.7
43	65.3	142.8	142.8
44	55.8	143.3	143.3
45	58.9	141.5	141.5
46	15.4	141.5	141.5
47	93.2	135.1	135.1
48	28.4	142.6	142.6
49	48.1	140.0	140.0
50	46.8	139.7	139.7
51	29.9	140.8	140.8
52	9.5	139.3	139.3
53	5.9	138.2	138.2
54	107.5	138.1	138.1
55	80.1	137.0	137.0
56	57.5	136.5	136.5
57	27.8	135.9	135.9
58	37.6	135.2	135.2
59	19.4	134.9	134.9
60	72.1	134.0	134.0

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BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
61	24.9	143.1	143.1
62	60.3	142.5	142.5
63	15.6	141.5	141.5
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65	12.5	139.9	139.9
66	15.1	139.3	139.3
67	46.9	139.9	139.9
68	16.8	138.0	138.0
69	62.7	136.5	136.5
70	44.9	134.8	134.8
71	86.9	134.0	134.0
72	7.8	149.1	149.1
73	27.6	147.6	147.6
74	54.7	146.6	146.6
75	72.3	145.6	145.6
76	87.0	144.1	144.1
77	89.2	142.8	142.8
78	16.2	143.1	143.1
79	70.8	142.1	142.1
80	56.2	138.1	138.1
81	25.9	140.5	140.5
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87	25.0	136.0	136.0
88	22.4	136.1	136.1
89	78.4	134.4	134.4
90	15.1	134.8	134.8
91	204.4	152.3	152.3
92	134.4	150.7	150.7
93	133.9	149.1	149.1
94	88.2	147.1	147.1
95	10.3	146.1	146.1
96	38.5	146.1	146.1
97	16.4	145.2	145.2
98	21.4	144.6	144.6
99	27.8	144.0	144.0
100	59.1	142.4	142.4
101	98.6	142.0	142.0
102	32.0	141.7	141.7
103	87.7	141.9	141.9
104	27.9	135.3	135.3
105	24.1	140.8	140.8
106	118.8	140.2	140.2
107	18.1	139.3	139.3
108	137.5	140.0	140.0
109	76.0	138.3	138.3
110	53.1	137.9	137.9
111	40.8	136.1	136.1
112	63.5	136.4	136.4
113	111.6	136.1	136.1
114	46.3	136.3	136.3
115	59.3	137.5	137.5
116	227.1	135.1	135.1

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2.0%	(2.0%)
EAST FACING TABLE	WEST FACING TABLE

TABLE SLOPING DETAIL
NTS

PROPOSED 2.1m HIGH CHAIN LINK FENCE C/W BARBED WIRE COMPONENT IN LOCATION MINIMUM 0.3m FROM THE PROPERTY LINE OR WHERE APPLICABLE AS PER LEASE AGREEMENT (SEE DETAILS ON DRAWING C-500)

6.0m WIDE GRASSED WATERWAY AS PER DETAIL ON C-500

5.0m WIDE VEGATATED NO TOUCH ZONE, TO BE SEEDED WITH NATIVE UPLAND FORAGE AND MEADOW MIX SEE DETAILS ON THIS SHEET. WHERE EX. TREED AREA IS IN CONFLICT, THE TREED AREA IS TO REMAIN AND THE BUFFER IS TO BE MAINTAINED BELOW THE CANOPY

PROPOSED 9.0m WIDE DOUBLE SWING SITE ACCESS GATE PER DETAIL ON DRAWING C-500

450mmø CSP CONTRACTOR TO FIELD FIT CULVERT AND DITCH TO BE REGRADED TO ACCOMMODATE POSITIVE DRAINAGE

3.0m HIGH NOISE WALL (DESIGNED BY OTHERS)

5.0 WIDE ACCESS ROAD

BLOCK A
(SEE DWG. NO. C-401 SHEET 2)

BLOCK A
(SEE DWG. NO. C-401 SHEET 5)

BLOCK A
(SEE DWG. NO. C-401 SHEET 6)

DIVERSION BERM

S.I. BERM #1 … S.I. BERM #60

POTENTIAL BEDROCK OUTCROPS

HARDENED SURFACE

TEMPORARY LAYDOWN AREA

ROCK CHECK SPREADER SWALE AS PER DETAIL ON C-500

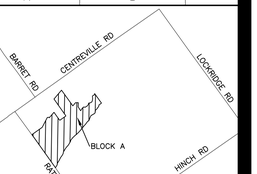
EMBEDDED INV=137.07m
F/G INV.=137.22m

EMBEDDED INV=136.80m
F/G INV.=136.95m

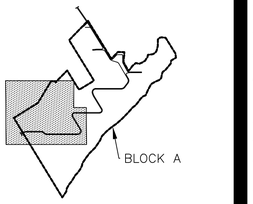
TOP ELEVATION

RATTIE ROAD

KEY MAP
N.T.S.



SITE MAP
N.T.S.



N

Legend

PROPOSED 187.00	EXISTING 185.19(EX)
ELEVATION	
FENCE	
EX. CONTOUR	185.0
LIDAR CONTOUR	184.5
TEMPORARY LAYDOWN AREA (MATERIAL STRUCTURE TO BE DETERMINED ON SITE)	
5.0M WIDE VEGETATIVE BUFFER	
TREE LINE	
GRADE	
SWALE	
CULVERT	
SLOPE (3:1 UNLESS NOTED OTHERWISE)	
ROCK SPREADER SWALE	
AC CABLE TRENCH	
DC CABLE TRENCH	
POTENTIAL BEDROCK OUTCROPS	
TEMPORARY REMOVAL OF S.I. BERM FOR TRENCH INSTALLATION, TRENCHES TO BE LINED WITH CLAY OR FILLED WITH CONCRETE IF INSTALLED IN BEDROCK	
OVERLAND FLOW DIRECTION	
SLOPE INTERRUPTION BERM (SEE DETAIL ON SHEET C-500)	
GRASSED WATERWAY (SEE C-500 FOR DETAILS)	
DIVERSION BERM	
HARDENED SURFACE	
ROCK CHECK DAM	

Notes

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8. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ALL DRAINAGE AND MEASURES TO CONTROL WATER. THE SITE IS TO BE FINE GRADED/LEVELED LEAVING THE SITE IN A NEAT APPEARANCE SUCH THAT POSITIVE DRAINAGE IS ACHIEVED EVERYWHERE PRIOR TO THE INSTALLATION OF SOLAR PANELS.
9. CONSTRUCTION TURNING LIMITS IDENTIFY AREAS WHERE ADDITIONAL ROAD WIDTH IS REQUIRED TO ALLOW FOR ADEQUATE CLEARANCE FOR CONSTRUCTION VEHICLES.
10. CULVERTS ARE TO BE INSTALLED AS PER OPSD 802.010. SOIL TYPE TO BE CONFIRMED ON SITE FOR DETERMINATION OF TRENCH WIDTH.
11. ALL AREAS WITHIN THE PROPOSED WORKS ARE TO BE RE-VEGETATED USING NATIVE TOPSOIL AND SEED. MIX AND APPLICATION RATE/METHOD TO BE SUBMITTED AND APPROVED BY OWNER PRIOR TO IMPLEMENTATION.
12. CLEARING AND GRUBBING AND REMOVALS TO BE COMPLETED IN ACCORDANCE WITH OPSS 201. TEMPORARY EROSION CONTROL TO BE COMPLETED IN ACCORDANCE WITH OPSS 577.
13. GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL 'A' TO BE USED IN ACCORDANCE WITH OPSS 1010.
14. CULVERT TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 421. HEIGHT OF FILL TABLE FOR CSP CULVERTS TO COMPLY WITH OPSD 805.010.
15. RIPRAP AT CULVERT OUTLETS SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B-B.
16. ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
17. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

Revision	By	Appd.	YY.MM.DD
B. ISSUED FOR TENDER	MALM	DS	18.01.16
A. ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21

File Name: 133560220_C-GP-BLOCK_A.dwg	KC	DS	KC	17.11.09
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A
GRADING PLAN

Project No.	Scale
133560220	1:750 (0, 7.5, 22.5, 37.5m)
Drawing No.	Sheet / Revision
C-401	4 of 6 / A

Stantec
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PCL CONSTRUCTION LEADERS

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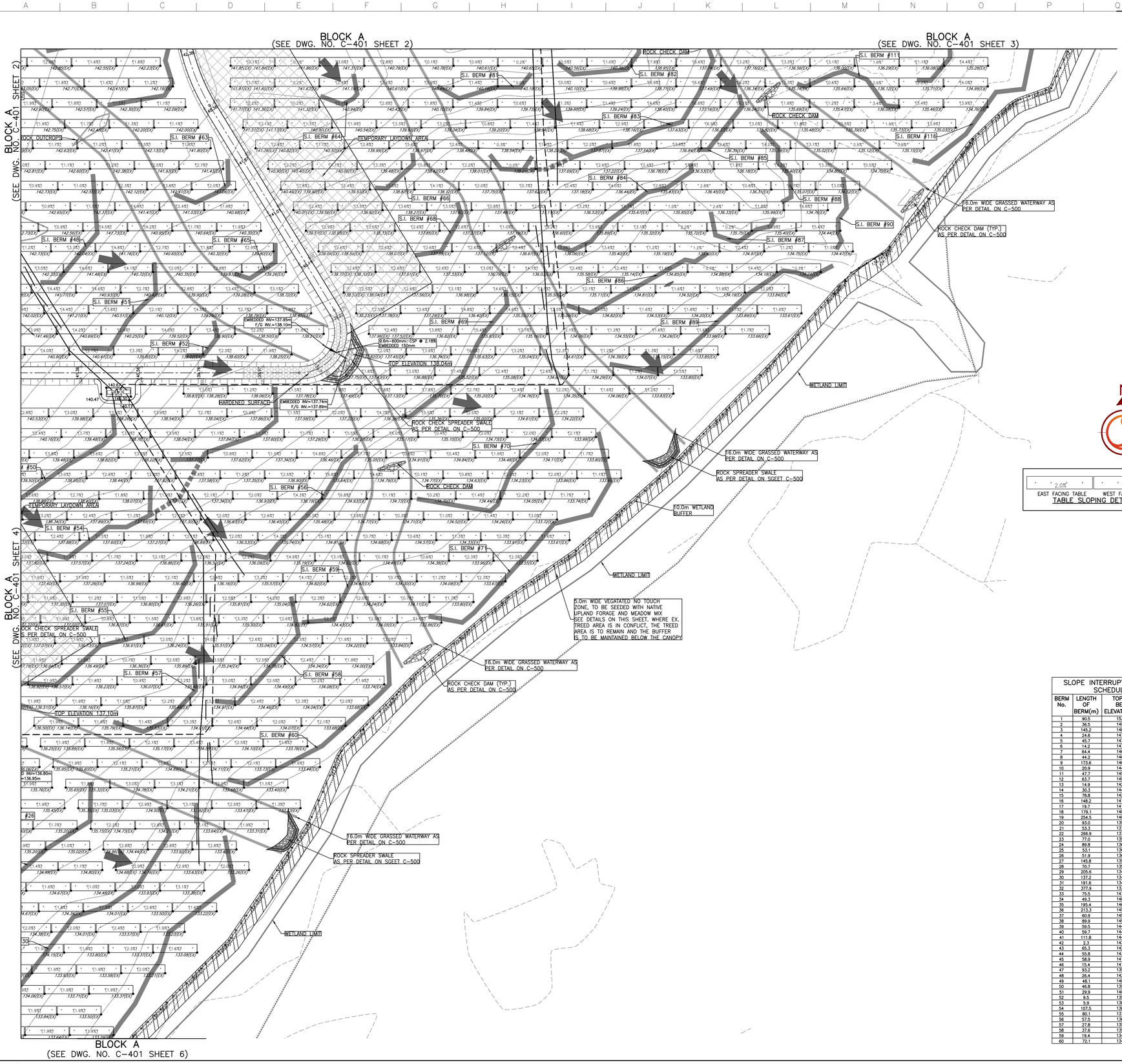
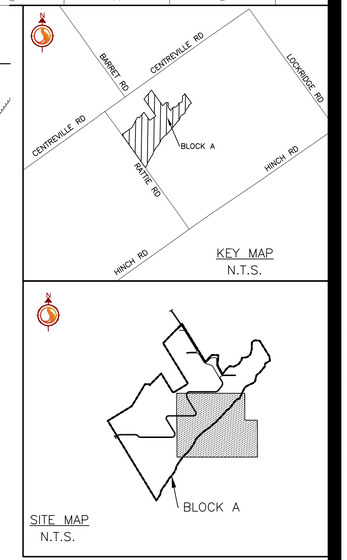
Status: Open
Modified: 1/17/2018 8:38:38 AM
Modified By: Joel Veenstra
Version: 2.0





N

2.0%
(2.0%)
EAST FACING TABLE
WEST FACING TABLE
TABLE SLOPING DETAIL
NTS

NOTE:
LIDAR HAS BEEN USED TO ILLUSTRATE EXTERNAL SITE DRAINAGE PATTERN. CONTRACTOR IS RESPONSIBLE TO REVIEW ONSITE ELEVATIONS PRIOR TO COMMENCEMENT OF ANY WORK ONSITE AND ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER OF RECORD

THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE STORM WATER MANAGEMENT PLAN. DATED JANUARY 16, 2018

GRADING NOTE:
FOR SLOPE INTERRUPTION BERMS SEE GRADING TABLE ON THIS PAGE AND DETAILS ON SHEET C-500 FOR GRADING & CONSTRUCTION DETAILS

REFER TO ELECTRICAL DRAWINGS FOR FINAL LOCATIONS AND DETAIL OF TRENCHING

EXISTING EXPOSED BEDROCK FRACTURE INFILLING TO BE MINIMIZED IF REQUIRED, FILL TO BE OF COARSE GRANULAR MATERIAL. REFER TO HYDROGEOLOGICAL ASSESSMENT (2017, HARDEN ENVIRONMENTAL SERVICES LTD.)

CONSTRUCTION TRAFFIC CROSSING OVER GRASSED WATERWAYS TO BE LIMITED TO AREAS OF EXPOSED BEDROCK, WHERE POSSIBLE. IN SITUATIONS THIS IS NOT POSSIBLE, DURING THE VARIOUS STAGES OF CONSTRUCTION, CONSTRUCTION TRAFFIC TO TAKE CARE OF VEGETATION BY SLOWER MOVING VEHICLES. MAINTENANCE OF GRASSED WATERWAYS REQUIRED TO MITIGATE ADDITIONAL SEDIMENT MIGRATION FROM SITE.

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
1	90.5	153.1	153.1
2	36.5	149.3	149.3
3	145.2	148.6	148.6
4	24.6	147.5	147.5
5	45.7	147.5	147.5
6	14.2	147.2	147.2
7	64.4	146.9	146.9
8	44.2	146.2	146.2
9	173.6	146.2	146.2
10	20.9	144.0	144.0
11	47.7	145.1	145.1
12	63.7	145.3	145.3
13	14.9	142.5	142.5
14	30.3	144.4	144.4
15	78.8	142.3	142.3
16	148.2	141.7	141.7
17	19.7	141.3	141.3
18	179.1	140.9	140.9
19	254.5	140.1	140.1
20	93.0	139.0	139.0
21	53.3	137.3	137.2
22	266.9	137.9	137.9
23	77.0	135.5	135.5
24	89.8	136.1	136.1
25	53.1	136.3	136.3
26	51.9	136.7	136.7
27	145.8	135.6	135.6
28	70.7	135.5	135.5
29	205.6	134.9	134.9
30	137.2	134.6	134.6
31	191.6	134.2	134.2
32	377.9	133.6	133.6
33	75.5	147.9	147.9
34	49.3	148.1	148.1
35	195.4	146.7	146.7
36	213.3	145.8	145.8
37	60.9	145.3	145.3
38	89.9	145.0	145.0
39	59.5	144.8	144.8
40	59.7	144.4	144.4
41	111.8	144.1	144.1
42	2.3	143.7	143.7
43	65.3	142.8	142.8
44	55.8	143.3	143.3
45	58.9	141.5	141.5
46	15.4	141.5	141.5
47	93.2	135.1	135.1
48	26.4	142.6	142.6
49	48.1	140.0	140.0
50	46.8	139.7	139.7
51	29.9	140.8	140.8
52	9.5	139.3	139.3
53	5.9	138.2	138.2
54	107.5	138.1	138.1
55	80.1	137.0	137.0
56	57.5	136.5	136.5
57	27.8	135.9	135.9
58	37.6	135.2	135.2
59	19.4	134.9	134.9
60	72.1	134.0	134.0

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
61	24.9	143.1	143.1
62	60.3	142.5	142.5
63	15.6	141.5	141.5
64	7.5	141.5	141.5
65	12.5	139.9	139.9
66	15.1	139.3	139.3
67	46.9	139.9	139.9
68	16.8	138.0	138.0
69	62.7	136.5	136.5
70	44.9	134.8	134.8
71	86.9	134.0	134.0
72	7.4	149.1	149.1
73	27.6	147.6	147.6
74	54.7	146.6	146.6
75	72.3	145.6	145.6
76	87.0	144.1	144.1
77	89.2	142.8	142.8
78	16.2	143.1	143.1
79	70.8	142.1	142.1
80	56.2	138.1	138.1
81	25.9	140.5	140.5
82	57.4	140.7	140.7
83	106.7	138.3	138.3
84	60.3	136.5	136.5
85	22.8	136.9	136.9
86	48.9	135.3	135.3
87	25.0	136.0	136.0
88	22.4	136.1	136.1
89	78.4	134.4	134.4
90	15.1	134.8	134.8
91	20.4	152.3	152.3
92	134.4	150.7	150.7
93	123.8	149.1	149.1
94	88.2	147.1	147.1
95	10.3	146.1	146.1
96	38.5	146.1	146.1
97	16.4	145.2	145.2
98	24.8	144.6	144.6
99	27.8	144.0	144.0
100	59.1	142.4	142.4
101	98.6	142.0	142.0
102	32.0	141.7	141.7
103	87.7	141.9	141.9
104	27.9	135.3	135.3
105	24.1	140.8	140.8
106	118.8	140.2	140.2
107	18.1	139.3	139.3
108	137.5	140.0	140.0
109	76.0	138.3	138.3
110	53.1	137.9	137.9
111	40.8	136.1	136.1
112	63.5	136.4	136.4
113	111.6	136.1	136.1
114	48.3	136.3	136.3
115	59.3	137.5	137.5
116	227.1	135.1	135.1

Legend

PROPOSED 187.00	EXISTING 185.19(EX)
ELEVATION	
FENCE	
EX. CONTOUR	185.0
LIDAR CONTOUR	184.5
TEMPORARY LAYDOWN AREA (MATERIAL STRUCTURE TO BE DETERMINED ON SITE)	
5.0M WIDE VEGETATIVE BUFFER	
TREE LINE	
2.0% GRADE	
SWALE	
CULVERT	
SLOPE (3:1 UNLESS NOTED OTHERWISE)	
ROCK SPREADER SWALE	
AC CABLE TRENCH	
DC CABLE TRENCH	
POTENTIAL BEDROCK OUTCROPS	
TEMPORARY REMOVAL OF S.I. BERM FOR TRENCH INSTALLATION. TRENCHES TO BE LINED WITH CLAY OR FILLED WITH CONCRETE IF INSTALLED IN BEDROCK	
OVERLAND FLOW DIRECTION	
SLOPE INTERRUPTION BERM (SEE DETAIL ON SHEET C-500)	
GRASSED WATERWAY (SEE C-500 FOR DETAILS)	
DIVERSION BERM	
HARDENED SURFACE	
ROCK CHECK DAM	

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300 Hagey Boulevard
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Notes
1. TOPOGRAPHIC INFORMATION CONDUCTED BY LESLIE M. HIGGINSON AND RECEIVED OCTOBER 24, 2017. TOPOGRAPHIC SURVEY IS UTM 18. LIDAR INFORMATION CONDUCTED BY TULLOCH ENGINEERING ON JUNE 27, 2016. LIDAR SURVEY IS UTM 18. BEDROCK SURVEY INFORMATION PROVIDED BY PCL CONSTRUCTORS LTD. RECEIVED ON OCTOBER 31, 2017.
2. EXISTING VEGETATION INFORMATION IS APPROXIMATE, PROVIDED FROM AERIAL IMAGERY. CONTRACTOR TO CONFIRM ALL TREE & SHRUB LOCATION ON SITE.
3. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS IN THIS SET PREPARED BY STANTEC CONSULTING LTD.
4. THE CONTRACTOR MUST CHECK AND VERIFY DIMENSIONS; OBTAIN ALL UTILITY LOCATES AND OBTAIN ALL REQUIRED PERMITS/LICENSES AND VERIFY ELEVATIONS OF EXISTING SERVICES BEFORE PROCEEDING WITH ANY WORK.
5. ALL CONSTRUCTION WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS (LATEST EDITION).
6. IF, FOR UNFORESEEN REASONS, THE OWNER AND/OR HIS/HER REPRESENTATIVE MUST ENCROACH ONTO PRIVATE LANDS TO UNDERTAKE ANY WORKS, HE/SHE MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON THE PRIVATE PROPERTY TO PERFORM ANY WORKS. COPIES OF THESE LETTERS OF CONSENT MUST BE SUBMITTED TO THE OWNER AND CONTRACTOR AND A COPY IS TO BE KEPT ON FILE ON SITE PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT THE PROPERTY OWNERS OWN RISK.
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8. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ALL DRAINAGE AND MEASURES TO CONTROL WATER. THE SITE IS TO BE FINE GRADED/LEVELED LEAVING THE SITE IN A NEAT APPEARANCE SUCH THAT POSITIVE DRAINAGE IS ACHIEVED EVERYWHERE PRIOR TO THE INSTALLATION OF SOLAR PANELS.
9. CONSTRUCTION TURNING RADIUS LIMITS IDENTIFY AREAS WHERE ADDITIONAL ROAD WIDTH IS REQUIRED TO ALLOW FOR ADEQUATE CLEARANCE FOR CONSTRUCTION VEHICLES.
10. CULVERTS ARE TO BE INSTALLED AS PER OPSD 802.010. SOIL TYPE TO BE CONFIRMED ON SITE FOR DETERMINATION OF TRENCH WIDTH.
11. ALL AREAS WITHIN THE PROPOSED WORKS ARE TO BE RE-VEGETATED USING NATIVE TOPSOIL AND SEED. MIX AND APPLICATION RATE/METHOD TO BE SUBMITTED AND APPROVED BY OWNER PRIOR TO IMPLEMENTATION.
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13. TEMPORARY EROSION CONTROL TO BE COMPLETED IN ACCORDANCE WITH OPSS 577.
14. GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010.
15. CULVERT TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 421. HEIGHT OF FILL TABLE FOR CSP CULVERTS TO COMPLY WITH OPSD 805.010.
16. RIPRAP AT CULVERT OUTLETS SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B-B.
17. ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
18. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

B.	ISSUED FOR TENDER	MALM	DS	18.01.16
A.	ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21
Revision		By	Appd.	YY.MM.DD

File Name: 133560220_C-GP-BLOCK_A.dwg	KC	DS	KC	17.11.09
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

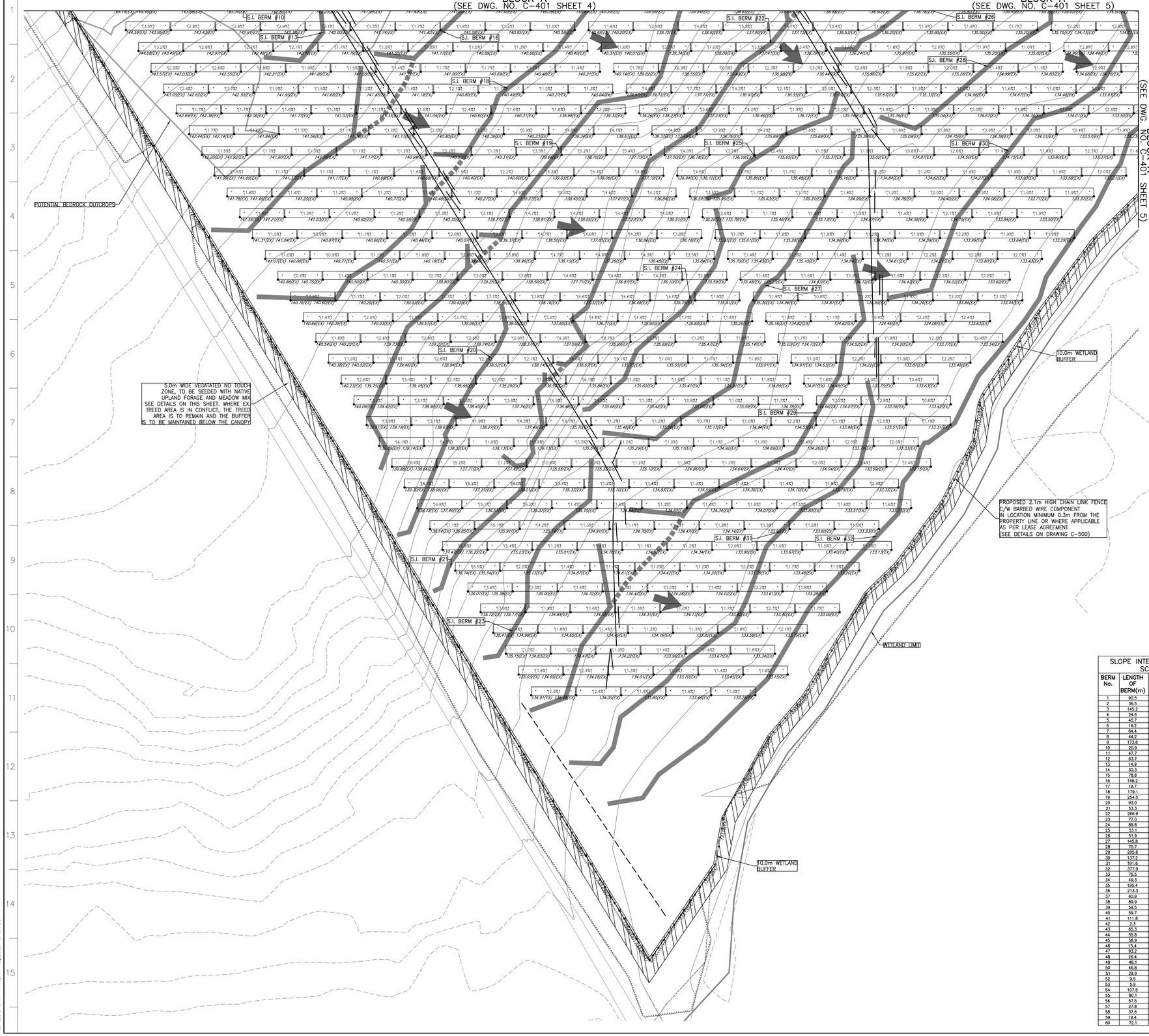
Title
BLOCK A
GRADING PLAN

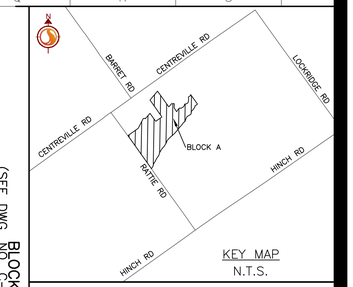
Project No.	Scale
133560220	1:750 (0, 7.5, 22.5, 37.5m)
Drawing No.	Sheet / Revision
C-401	5 of 6 / A

V:\01614\active\133560220\design\drawing\BA\civil_block_A\sheet_files\133560220_C-GP-BLOCK_A.dwg
2018/01/16 7:43 PM By: AHaqbaz.b. Mohamed

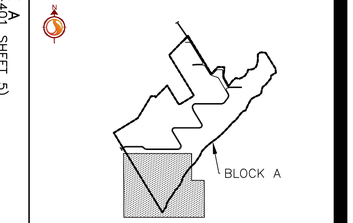
ORIGINAL SHEET - ARCH D

Version: 2.0 Modified By: Joel Veenstra Modified: 11/7/2018 8:36:38 AM Status: Open





KEY MAP
N.T.S.



SITE MAP
N.T.S.

NOTE:
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THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE STORM WATER MANAGEMENT PLAN. DATED JANUARY 16, 2018

GRADING NOTE:
FOR SLOPE INTERRUPTION BERMS SEE GRADING TABLE ON THIS PAGE AND DETAILS ON SHEET C-500 FOR GRADING & CONSTRUCTION DETAILS

REFER TO ELECTRICAL DRAWINGS FOR FINAL LOCATIONS AND DETAIL OF TRENCHING

EXISTING EXPOSED BEDROCK FRACTURE INFILLING TO BE MINIMIZED IF REQUIRED, FILL TO BE OF COARSE GRANULAR MATERIAL, REFER TO HYDROGEOLOGICAL ASSESSMENT (2017, HARDEN ENVIRONMENTAL SERVICES LTD.)

CONSTRUCTION TRAFFIC CROSSING OVER GRASSED WATERWAYS TO BE LIMITED TO AREAS OF EXPOSED BEDROCK, WHERE POSSIBLE. IN SITUATIONS THIS IS NOT POSSIBLE, DURING THE VARIOUS STAGES OF CONSTRUCTION, CONSTRUCTION TRAFFIC TO TAKE CARE OF VEGETATION BY SLOWER MOVING VEHICLES. MAINTENANCE OF GRASSED WATERWAYS REQUIRED TO MITIGATE ADDITIONAL SEDIMENT MIGRATION FROM SITE.



TABLE SLOPING DETAIL
NTS

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
1	90.5	153.1	153.1
2	36.5	149.3	149.3
3	145.2	148.6	148.6
4	24.6	147.5	147.5
5	45.7	147.5	147.5
6	14.2	147.2	147.2
7	64.4	146.9	146.9
8	44.2	146.2	146.2
9	173.6	146.2	146.2
10	20.9	144.0	144.0
11	47.7	145.1	145.1
12	63.7	145.3	145.3
13	14.9	142.5	142.5
14	30.3	144.4	144.4
15	78.8	142.3	142.3
16	148.2	141.7	141.7
17	19.7	141.3	141.3
18	179.1	140.9	140.9
19	254.5	140.1	140.1
20	93.0	139.0	139.0
21	53.3	137.3	137.2
22	266.9	137.9	137.9
23	77.0	135.5	135.5
24	89.8	136.1	136.1
25	53.1	136.3	136.3
26	51.9	136.7	136.7
27	145.8	135.6	135.6
28	70.7	135.5	135.5
29	205.8	134.9	134.9
30	137.2	134.6	134.6
31	191.6	134.2	134.2
32	377.9	133.6	133.6
33	75.5	147.9	147.9
34	49.3	148.1	148.1
35	195.4	146.7	146.7
36	213.3	145.8	145.8
37	60.9	145.3	145.3
38	89.9	145.0	145.0
39	59.5	144.8	144.8
40	59.7	144.4	144.4
41	111.8	144.1	144.1
42	2.3	143.7	143.7
43	65.3	142.8	142.8
44	55.8	143.3	143.3
45	58.9	141.5	141.5
46	15.4	141.5	141.5
47	93.2	135.1	135.1
48	26.4	142.6	142.6
49	48.1	140.0	140.0
50	46.8	139.7	139.7
51	29.9	140.8	140.8
52	9.5	139.3	139.3
53	5.9	138.2	138.2
54	107.5	138.1	138.1
55	80.1	137.0	137.0
56	57.5	136.5	136.5
57	27.8	135.9	135.9
58	37.6	135.2	135.2
59	19.4	134.9	134.9
60	72.1	134.0	134.0

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
61	24.9	143.1	143.1
62	60.3	142.5	142.5
63	15.6	141.5	141.5
64	7.5	141.5	141.5
65	12.5	139.9	139.9
66	15.1	139.3	139.3
67	46.9	139.9	139.9
68	16.8	138.0	138.0
69	82.7	136.5	136.5
70	44.9	134.8	134.8
71	86.9	134.0	134.0
72	7.8	149.1	149.1
73	27.6	147.6	147.6
74	54.7	146.6	146.6
75	72.3	145.6	145.6
76	87.0	144.1	144.1
77	89.2	142.8	142.8
78	16.2	143.1	143.1
79	70.8	142.1	142.1
80	56.2	138.1	138.1
81	25.9	140.5	140.5
82	57.4	140.7	140.7
83	106.7	138.3	138.3
84	60.3	136.5	136.5
85	22.8	136.9	136.9
86	48.9	135.3	135.3
87	25.0	136.0	136.0
88	22.4	136.1	136.1
89	78.4	134.4	134.4
90	15.1	134.8	134.8
91	20.4	152.3	152.3
92	134.4	150.7	150.7
93	123.8	149.1	149.1
94	88.2	147.1	147.1
95	10.3	146.1	146.1
96	38.5	146.1	146.1
97	16.4	145.2	145.2
98	24.8	144.6	144.6
99	27.8	144.0	144.0
100	59.1	142.4	142.4
101	98.6	142.0	142.0
102	32.0	141.7	141.7
103	87.7	141.9	141.9
104	27.9	130.3	130.3
105	24.1	140.8	140.8
106	118.8	140.2	140.2
107	18.1	139.3	139.3
108	137.5	140.0	140.0
109	76.0	138.3	138.3
110	53.1	137.9	137.9
111	40.8	136.1	136.1
112	63.5	136.4	136.4
113	111.6	136.1	136.1
114	48.3	136.3	136.3
115	59.3	137.5	137.5
116	227.1	135.1	135.1

Legend

PROPOSED 167.00	EXISTING 165.19(EX)
ELEVATION	
FENCE	
EX. CONTOUR	185.0
LIDAR CONTOUR	184.5
TEMPORARY LAYDOWN AREA (MATERIAL STRUCTURE TO BE DETERMINED ON SITE)	
5.0M WIDE VEGETATIVE BUFFER	
TREE LINE	
2.0% GRADE	
SWALE	
CULVERT	
SLOPE (3:1 UNLESS NOTED OTHERWISE)	
ROCK SPREADER SWALE	
AC CABLE TRENCH	
DC CABLE TRENCH	
POTENTIAL BEDROCK OUTCROPS	
TEMPORARY REMOVAL OF S.I. BERM FOR TRENCH INSTALLATION. TRENCHES TO BE LINED WITH CLAY OR FILLED WITH CONCRETE IF INSTALLED IN BEDROCK	
OVERLAND FLOW DIRECTION	
SLOPE INTERRUPTION BERM (SEE DETAIL ON SHEET C-500)	
GRASSED WATERWAY (SEE C-500 FOR DETAILS)	
DIVERSION BERM	
HARDENED SURFACE	
ROCK CHECK DAM	

Notes

1. TOPOGRAPHIC INFORMATION CONDUCTED BY LESLIE M. HIGGINSON AND RECEIVED OCTOBER 24, 2017. TOPOGRAPHIC SURVEY IS UTM 18. LIDAR INFORMATION CONDUCTED BY TULLOCH ENGINEERING ON JUNE 27, 2016. LIDAR SURVEY IS UTM 18. BEDROCK SURVEY INFORMATION PROVIDED BY PCL CONSTRUCTORS LTD. RECEIVED ON OCTOBER 31, 2017.
2. EXISTING VEGETATION INFORMATION IS APPROXIMATE, PROVIDED FROM AERIAL IMAGERY. CONTRACTOR TO CONFIRM ALL TREE & SHRUB LOCATION ON SITE.
3. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS IN THIS SET PREPARED BY STANTEC CONSULTING LTD.
4. THE CONTRACTOR MUST CHECK AND VERIFY DIMENSIONS; OBTAIN ALL UTILITY LOCATES AND OBTAIN ALL REQUIRED PERMITS/LICENSES AND VERIFY ELEVATIONS OF EXISTING SERVICES BEFORE PROCEEDING WITH ANY WORK.
5. ALL CONSTRUCTION WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS (LATEST EDITION).
6. IF, FOR UNFORESEEN REASONS, THE OWNER AND/OR HIS/HER REPRESENTATIVE MUST ENCROACH ONTO PRIVATE LANDS TO UNDERTAKE ANY WORKS, HE/SHE MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON THE PRIVATE PROPERTY TO PERFORM ANY WORKS. COPIES OF THESE LETTERS OF CONSENT MUST BE SUBMITTED TO THE OWNER AND CONTRACTOR AND A COPY IS TO BE KEPT ON FILE ON SITE PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT THE PROPERTY OWNERS OWN RISK.
7. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY.
8. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ALL DRAINAGE AND MEASURES TO CONTROL WATER. THE SITE IS TO BE FINE GRADED/LEVELED LEAVING THE SITE IN A NEAT APPEARANCE SUCH THAT POSITIVE DRAINAGE IS ACHIEVED EVERYWHERE PRIOR TO THE INSTALLATION OF SOLAR PANELS.
9. CONSTRUCTION TURNING RADIUS LIMITS IDENTIFY AREAS WHERE ADDITIONAL ROAD WIDTH IS REQUIRED TO ALLOW FOR ADEQUATE CLEARANCE FOR CONSTRUCTION VEHICLES.
10. CULVERTS ARE TO BE INSTALLED AS PER OPSD 802.010. SOIL TYPE TO BE CONFIRMED ON SITE FOR DETERMINATION OF TRENCH WIDTH.
11. ALL AREAS WITHIN THE PROPOSED WORKS ARE TO BE RE-VEGETATED USING NATIVE TOPSOIL AND SEED. MIX AND APPLICATION RATE/METHOD TO BE SUBMITTED AND APPROVED BY OWNER PRIOR TO IMPLEMENTATION.
12. CLEARING AND GRUBBING AND REMOVALS TO BE COMPLETED IN ACCORDANCE WITH OPSS 201.
13. TEMPORARY EROSION CONTROL TO BE COMPLETED IN ACCORDANCE WITH OPSS 577.
14. GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010.
15. CULVERT TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 421. HEIGHT OF FILL TABLE FOR CSP CULVERTS TO COMPLY WITH OPSD 805.010.
16. RIPRAP AT CULVERT OUTLETS SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B-B.
17. ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
18. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

Stantec

Stantec Consulting Ltd.
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Revision	By	Appd.	YY.MM.DD
B. ISSUED FOR TENDER	MALM	DS	18.01.16
A. ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21

File Name: 133560220_C-GP-BLOCK_A.dwg	Dwn.	Chkd.	Dsgn.	YY.MM.DD
	KC	DS	KC	17.11.09

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

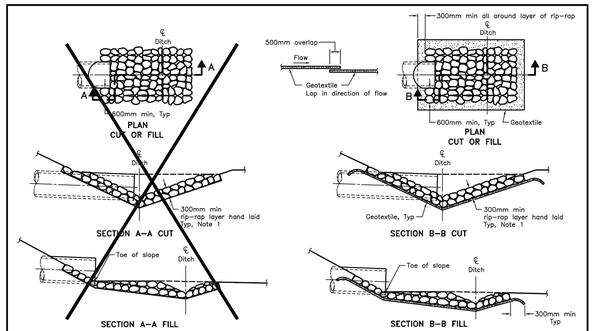
Title
BLOCK A
GRADING PLAN

Project No.	Scale	Sheet	Revision
133560220	1:750 (0, 7.5, 22.5, 37.5m)	6 of 6	A
Drawing No.			
C-401			

V:\01614\active\133560220\design\drawings\civil\block_A\sheet_files\133560220_C-GP-BLOCK_A.dwg
2018/01/16 7:54 PM By: AHMadsen, Mohamed

Version: 2.0 Modified By: Joel Veenstra Modified: 1/17/2018 8:36:38 AM Status: Open

ORIGINAL SHEET - ARCH D

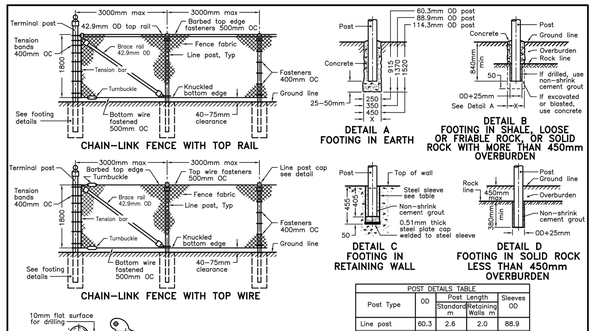


NOTES:
1 The thickness of the rip-rap layer shall be at least 1.5 times the rip-rap mean diameter.

A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2013	Rev 2
GENERAL RIP-RAP LAYOUT FOR SEWER AND CULVERT OUTLETS		
		OPSD 810.010

RIP-RAP TO BE PLACED:
-3 x THE CULVERT DIAMETER WIDE
-4 x THE CULVERT DIAMETER LONG
-FOR MULTIPLE CULVERTS THE WIDTH AND LENGTH ARE TO BE MULTIPLIED BY THE NUMBER OF CULVERTS. FOR THE WIDTH 0.5m BETWEEN CULVERTS IS TO BE ADDED

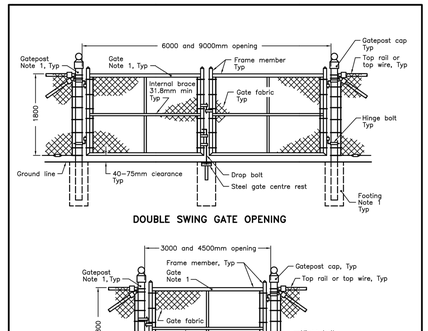


POST DETAILS TABLE				
Post Type	OD	Post Length		Sleeves OD
		Standard	Retaining Walls m	
Line post	60.3	2.6	2.0	88.9
Terminal post	88.9	2.9	2.3	114.3

NOTE:
A Fence as viewed from the roadway.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2005	Rev 1
FENCE, CHAIN-LINK INSTALLATION - ROADWAY		
		OPSD - 972.130

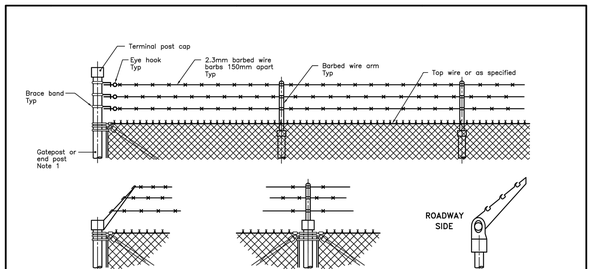
* NOTE: PERIMETER FENCE FABRIC IS TO BE BURIED A MINIMUM OF 100mm-200mm IN THE GROUND, WHERE SOIL DEPTHS ALLOW, TO PREVENT WILDLIFE FROM BURROWING UNDER AND ENTERING THE FACILITY. WHERE THE FENCE FABRIC IS INSTALLED OVER BEDROCK, THE BOTTOM OF THE FENCE FABRIC IS TO BE FLUSH WITH GROUND SURFACE AND ADDITIONAL MEASURES ARE TO BE INSTALLED TO PREVENT WILDLIFE ACCESS UNDER THE FENCE FABRIC. ADDITIONAL MEASURES CAN BE FOUND ON PERIMETER SILT FENCE DETAIL ON DRAWING C-650



NOTES:
1 For footing details and Gate and Gatepost Details Table refer to OPSD 972.132.

A Gates as viewed from the roadway.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
FENCE, CHAIN-LINK COMPONENT - GATE		
		OPSD 972.102

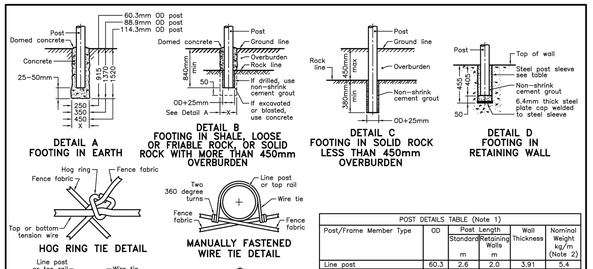


NOTES:
1 Terminal post shall be lengthened when barbed wire is specified, except when barbed wire arms are used.

A Installation as viewed from the roadway.
B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 2
FENCE, CHAIN-LINK COMPONENT - BARBED WIRE		
		OPSD 972.101

NOTE:
THE PERIMETER FENCE IS TO HAVE CONTACT WITH THE GROUND SURFACE TO PREVENT ENTRY OF WILDLIFE. WHERE IT IS NOT FEASIBLE FOR THE FENCE TO DIRECTLY CONTACT THE GROUND, OTHER MEASURES WILL BE INSTALLED TO PREVENT WILDLIFE ACCESS UNDER THE FENCE. REFER TO PERIMETER SILT FENCE DETAIL ON DRAWING C-650 FOR SILT FENCE KEY-IN DEPTH TO PRVENT WILDLIFE ACCESS.

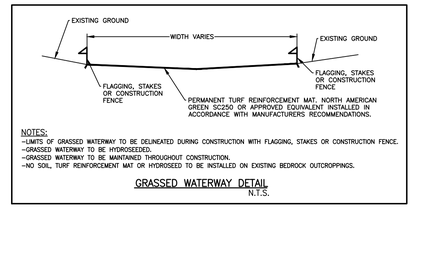


POST DETAILS TABLE (Note 1)						
Post/Frame Member Type		OD	Post Length		Wall Thickness	Nominal Weight kg/m (Note 2)
			Standard m	Retaining Walls m		
Line post		60.3	2.6	2.0	3.91	5.4
Terminal Post		88.9	2.9	2.3	5.49	11.3
Gates (Single 3.0m, Double 6.0m)	Gatepost	88.9	2.6	n/a	5.49	11.3
	Frame Members	42.2	n/a	n/a	3.56	3.4
Gates (Single 4.5m, Double 9.0m)	Gatepost	114.3	2.9	n/a	6.02	16.1
	Frame Members	48.3	n/a	n/a	3.68	4.0
Post Sleeves	Line Post	88.9	n/a	0.455	5.49	11.3
	Terminal Post	114.3	n/a	0.455	6.02	16.1

NOTES:
1 All posts and frame members are Schedule 40, Regular Grade, steel pipe.
2 The actual weight shall not vary by more than 10% of the nominal weight.

A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2012	Rev 0
FENCE, CHAIN-LINK DETAILS AND TABLE		
		OPSD 972.132



NOTES:
-LIMITS OF GRASSED WATERWAY TO BE DELINEATED DURING CONSTRUCTION WITH FLAGGING, STAKES OR CONSTRUCTION FENCE.
-GRASSED WATERWAY TO BE HYDROSEEDED.
-GRASSED WATERWAY TO BE MAINTAINED THROUGHOUT CONSTRUCTION.
-NO SOIL, TURF REINFORCEMENT MAT OR HYDROSEED TO BE INSTALLED ON EXISTING BEDROCK OUTCROPPINGS.

GRASSED WATERWAY DETAIL
N.T.S.

Stantec
Stantec Consulting Ltd.
300 Hagey Boulevard
Waterloo ON Canada
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www.stantec.com

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5. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY.
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12. CULVERT TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 421. HEIGHT OF FILL TABLE FOR CSP CULVERTS TO COMPLY WITH OPSD 805.010.
13. RIPRAP SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B-B.
14. ROCK SPOIL FROM PILE INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

G.	REVISED NOTES AND DETAILS	MALM	DS	18.01.16
F.	REVISED NOTES AND DETAILS	DRR	DS	17.12.21
E.	REVISED NOTES AND DETAILS	MALM	DS	17.12.15
D.	REVISED NOTES AND DETAILS	DRR	DS	17.11.30
C.	REVISED NOTES AND DETAILS	KDB	DS	17.11.23
B.	ISSUED FOR TENDER	DRR	DS	17.11.23
A.	ISSUED FOR CLIENT REVIEW	MALM	DS	17.10.31
Revision		By	Appd.	YY.MM.DD

File Name: 133560220_C-DT.dwg	DRR	DS	DRR	17.10.18
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

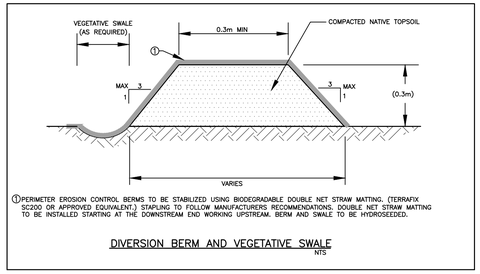
County of Lennox and Addington, Ontario

Title
GENERAL DETAILS AND NOTES

Project No.	Scale	
133560220	AS NOTED	
Drawing No.	Sheet	Revision
C-500	1 of 2	G

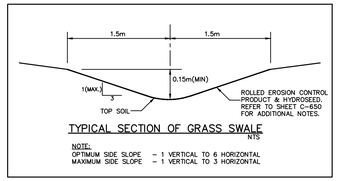
Version: 2.0 Modified By: Joel Veenstra Modified: 1/17/2018 8:36:38 AM Status: Open

ORIGINAL SHEET - ARCH D



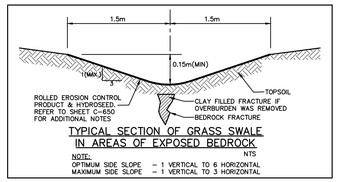
①PERIMETER EROSION CONTROL BERMS TO BE STABILIZED USING BIODEGRADABLE DOUBLE NET STRAW MATTING. (TERRAFIX SC200 OR APPROVED EQUIVALENT.) STAPLING TO FOLLOW MANUFACTURERS RECOMMENDATIONS. DOUBLE NET STRAW MATTING TO BE INSTALLED STARTING AT THE DOWNSTREAM END WORKING UPSTREAM. BERM AND SWALE TO BE HYDROSEEDED.

DIVERSION BERM AND VEGETATIVE SWALE
NTS



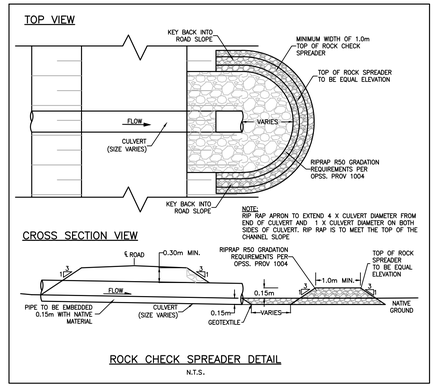
TYPICAL SECTION OF GRASS SWALE
NTS

NOTE:
OPTIMUM SIDE SLOPE – 1 VERTICAL TO 6 HORIZONTAL
MAXIMUM SIDE SLOPE – 1 VERTICAL TO 3 HORIZONTAL

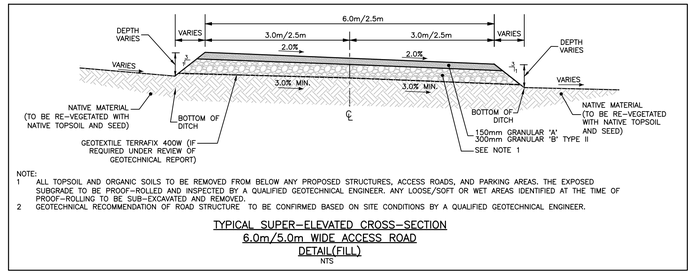


TYPICAL SECTION OF GRASS SWALE IN AREAS OF EXPOSED BEDROCK
NTS

NOTE:
OPTIMUM SIDE SLOPE – 1 VERTICAL TO 6 HORIZONTAL
MAXIMUM SIDE SLOPE – 1 VERTICAL TO 3 HORIZONTAL

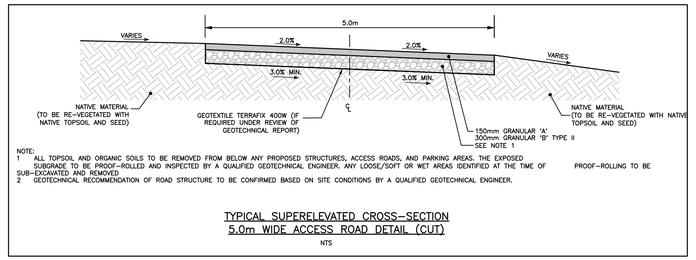


ROCK CHECK SPREADER DETAIL
N.T.S.



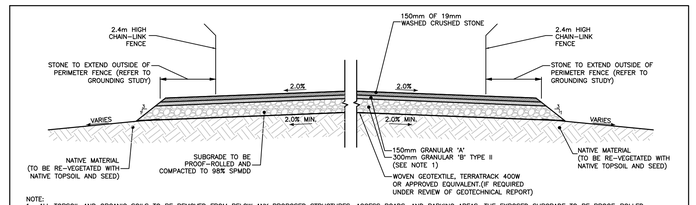
NOTE:
1 ALL TOPSOIL AND ORGANIC SOILS TO BE REMOVED FROM BELOW ANY PROPOSED STRUCTURES, ACCESS ROADS, AND PARKING AREAS. THE EXPOSED SUBGRADE TO BE PROOF-ROLLED AND INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER. ANY LOOSE/SOFT OR WET AREAS IDENTIFIED AT THE TIME OF PROOF-ROLLING TO BE SUB-EXCAVATED AND REMOVED.
2 GEOTECHNICAL RECOMMENDATION OF ROAD STRUCTURE TO BE CONFIRMED BASED ON SITE CONDITIONS BY A QUALIFIED GEOTECHNICAL ENGINEER.

TYPICAL SUPER-ELEVATED CROSS-SECTION 6.0m/5.0m WIDE ACCESS ROAD DETAIL(FILL)
NTS



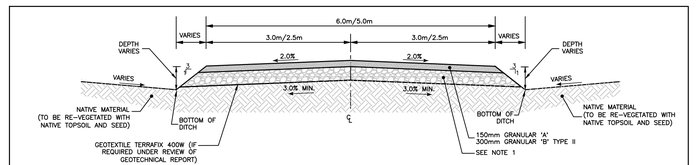
NOTE:
1 ALL TOPSOIL AND ORGANIC SOILS TO BE REMOVED FROM BELOW ANY PROPOSED STRUCTURES, ACCESS ROADS, AND PARKING AREAS. THE EXPOSED SUBGRADE TO BE PROOF-ROLLED AND INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER. ANY LOOSE/SOFT OR WET AREAS IDENTIFIED AT THE TIME OF PROOF-ROLLING TO BE SUB-EXCAVATED AND REMOVED
2 GEOTECHNICAL RECOMMENDATION OF ROAD STRUCTURE TO BE CONFIRMED BASED ON SITE CONDITIONS BY A QUALIFIED GEOTECHNICAL ENGINEER.

TYPICAL SUPERELEVATED CROSS-SECTION 5.0m WIDE ACCESS ROAD DETAIL (CUT)
NTS



NOTE:
1. ALL TOPSOIL AND ORGANIC SOILS TO BE REMOVED FROM BELOW ANY PROPOSED STRUCTURES, ACCESS ROADS, AND PARKING AREAS. THE EXPOSED SUBGRADE TO BE PROOF-ROLLED, COMPACTED TO 98% SPMDD, AND INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER. ANY LOOSE/SOFT OR WET AREAS IDENTIFIED AT THE TIME OF PROOF-ROLLING TO BE SUB-EXCAVATED AND REMOVED.

COLLECTOR SUBSTATION TYPICAL CROSS-SECTION
NTS



NOTE:
1 ALL TOPSOIL AND ORGANIC SOILS TO BE REMOVED FROM BELOW ANY PROPOSED STRUCTURES, ACCESS ROADS, AND PARKING AREAS. THE EXPOSED SUBGRADE TO BE PROOF-ROLLED AND INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER. ANY LOOSE/SOFT OR WET AREAS IDENTIFIED AT THE TIME OF PROOF-ROLLING TO BE SUB-EXCAVATED AND REMOVED.
2 GEOTECHNICAL RECOMMENDATION OF ROAD STRUCTURE TO BE CONFIRMED BASED ON SITE CONDITIONS BY A QUALIFIED GEOTECHNICAL ENGINEER.

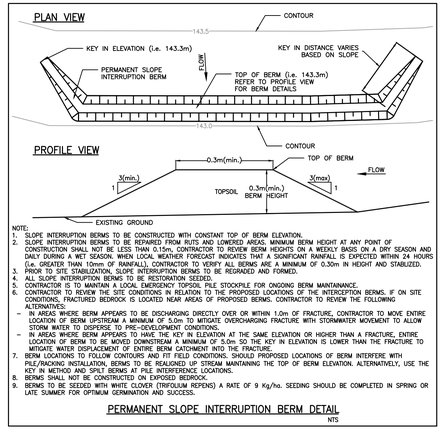
TYPICAL CROSS-SECTION 6.0m/5.0m WIDE ACCESS ROAD DETAIL (FILL)
NTS

ROAD CONSTRUCTION NOTES

1. THE FOREGOING DESIGN ASSUMES THAT CONSTRUCTION IS CARRIED OUT DURING DRY PERIODS AND THE SUB-GRADE IS STABLE UNDER THE LOAD OF CONSTRUCTION EQUIPMENT. IF CONSTRUCTION IS CARRIED OUT DURING WET WEATHER AND HEAVING OR ROLLING OF THE SUB-GRADE IS EXPERIENCED, ADDITIONAL THICKNESS OF GRANULAR ROAD BASE MAY BE REQUIRED AND INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER.
2. THE LONG-TERM PERFORMANCE OF THE ROAD BASE STRUCTURE IS HIGHLY DEPENDENT UPON THE SUB-GRADE SUPPORT CONDITIONS. STRINGENT CONSTRUCTION CONTROL PROCEDURES SHALL BE MAINTAINED TO ENSURE THAT UNIFORM SUB-GRADE MOISTURE AND DENSITY CONDITIONS ARE ACHIEVED. IF, DURING THE EXCAVATION PROCESS, NATIVE MATERIAL APPEARS SUITABLE TO BE USED AS ROAD SUB-BASE A GRAIN SIZE ANALYSIS MUST BE COMPLETED TO DETERMINE IF THE MATERIAL CAN BE LEFT IN PLACE AND WHETHER A REDUCTION IN DEPTH OF THE GRANULAR ROAD STRUCTURE IS WARRANTED. THE UNDERLYING SUB-GRADE SHALL BE FREE OF DEPRESSIONS AND IS TO BE SLOPED TO PROVIDE POSITIVE SURFACE DRAINAGE. SURFACE WATER SHALL NOT BE PERMITTED TO POND ADJACENT TO THE OUTSIDE EDGES.
3. AS PART OF THE SUB-GRADE PREPARATION, PROPOSED ROADWAYS SHALL BE STRIPPED OF TOPSOIL AND OBVIOUSLY UNSUITABLE MATERIAL. FILL REQUIRED TO RAISE THE SUB-GRADE TO DESIGN ELEVATIONS SHALL BE ORGANIC-FREE AND SHALL HAVE A MOISTURE CONTENT WHICH WILL PERMIT COMPACTION TO THE DENSITIES INDICATED. THE SUB-GRADE SHALL BE SHAPED, CROWNED AND THEN PROOF-ROLLED IN THE PRESENCE OF A GEOTECHNICAL CONSULTANT. SOFT OR SPONGY SUB-GRADE AREAS SHALL BE SUB-EXCAVATED AND REPLACED WITH SUITABLE APPROVED BACKFILL COMPACTED TO 98 PERCENT SPMDD.
4. ACCESS ROAD CONSTRUCTION FROM MUNICIPAL ROAD TO SITE PERIMETER FENCING TO BE CONSTRUCTED WITH HARDENING COMPOUND (i.e. CALCIUM CHLORIDE) TO DISCOURAGE TURTLE NESTING. HARDENING COMPOUND USED MUST HAVE NO POTENTIAL TO CONTAMINATE GROUNDWATER OR DOMESTIC WELLS.

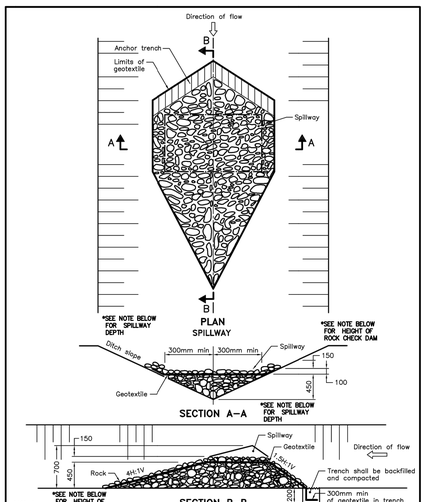
AREA GRADING NOTES

1. TOPSOIL IS TO BE STRIPPED ONLY IN AREAS REQUIRING EARTHWORKS AND PLACED IN TEMPORARY STOCKPILES, REFER TO ADDITIONAL NOTES ON C-650 REGARDING TOPSOIL STOCK PILING.
2. ALL TEMPORARY TOPSOIL STOCKPILES TO BE LOCATED IN CONSTRUCTION LAY DOWN AREAS AS SHOWN ON PLANS. SHOULD NO STOCKPILES LOCATIONS BE PROVIDED ON THE GRADING PLANS, LOCATIONS TO BE CONFIRMED WITH CONTRACT ADMINISTRATOR.
3. ROADWAYS AND STONE BASE LAY DOWN AREAS ARE TO BE PLACED ON NATIVE GROUND AFTER TOPSOIL HAS BEEN STRIPPED.
4. ALL ADDITIONAL TOPSOIL IS TO BE SPREAD IN DESIGNATED FILL AREAS IDENTIFIED ON THE GRADING PLANS (INCREASE IF ADDITIONAL TOPSOIL IS AVAILABLE).
5. INFILLING OF BEDROCK SURFACE FRACTURES SHALL BE MINIMIZED AND WHERE FILLING IS REQUIRED, COARSE GRANULAR FILL SHALL BE USED.
6. SCARIFICATION TO BE PREFORMED AT THE END OF CONSTRUCTION, BEFORE RESTORATION SEEDING.



NOTE:
1. SLOPE INTERRUPTION BERMS TO BE CONSTRUCTED WITH CONSTANT TOP OF BERM ELEVATION.
2. SLOPE INTERRUPTION BERMS TO BE REPAIRED FROM RUTS AND LOWERED AREAS. MINIMUM BERM HEIGHT AT ANY POINT OF CONSTRUCTION SHALL NOT BE LESS THAN 0.15m, CONTRACTOR TO REVIEW BERM HEIGHTS ON A WEEKLY BASIS ON A DRY SEASON AND DAILY DURING A WET SEASON. WHEN LOCAL WEATHER FORECAST INDICATES THAT A SIGNIFICANT RAINFALL IS EXPECTED WITHIN 24 HOURS (i.e. GREATER THAN 10mm OF RAINFALL), CONTRACTOR TO VERIFY ALL BERMS ARE A MINIMUM OF 0.30m IN HEIGHT AND STABILIZED.
3. PRIOR TO SITE STABILIZATION, SLOPE INTERRUPTION BERMS TO BE REGRADED AND FORMED.
4. ALL SLOPE INTERRUPTION BERMS TO BE RESTORATION SEEDED.
5. CONTRACTOR IS TO MAINTAIN A LOCAL EMERGENCY TOPSOIL PILE STOCKPILE FOR ONGOING BERM MAINTANANCE.
6. CONTRACTOR TO REVIEW THE SITE CONDITIONS IN RELATION TO THE PROPOSED LOCATIONS OF THE INTERCEPTION BERMS. IF ON SITE CONDITIONS, FRACTURED BEDROCK IS LOCATED NEAR AREAS OF PROPOSED BERMS, CONTRACTOR TO REVIEW THE FOLLOWING ALTERNATIVES:
   – IN AREAS WHERE BERM APPEARS TO BE DISCHARGING DIRECTLY OVER OR WITHIN 1.0m OF FRACTURE, CONTRACTOR TO MOVE ENTIRE LOCATION OF BERM UPSTREAM A MINIMUM OF 5.0m TO MITIGATE OVERCHARGING FRACTURE WITH STORMWATER MOVEMENT TO ALLOW STORM WATER TO DISPERSE TO PRE-DEVELOPMENT CONDITIONS.
   – IN AREAS WHERE BERM APPEARS TO HAVE THE KEY IN ELEVATION AT THE SAME ELEVATION OR HIGHER THAN A FRACTURE, ENTIRE LOCATION OF BERM TO BE MOVED DOWNSTREAM A MINIMUM OF 5.0m SO THE KEY IN ELEVATION IS LOWER THAN THE FRACTURE TO MITIGATE WATER DISPLACEMENT OF ENTIRE BERM CATCHMENT INTO THE FRACTURE.
7. BERM LOCATIONS TO FOLLOW CONTOURS AND FIT FIELD CONDITIONS. SHOULD PROPOSED LOCATIONS OF BERM INTERFERE WITH PILE/RACKING INSTALLATION, BERMS TO BE REALIGNED UP STREAM MAINTAINING THE TOP OF BERM ELEVATION. ALTERNATIVELY, USE THE KEY IN METHOD AND SPLIT BERMS AT PILE INTERFERENCE LOCATIONS.
8. BERMS SHALL NOT BE CONSTRUCTED ON EXPOSED BEDROCK.
9. BERMS TO BE SEEDED WITH WHITE CLOVER (TRIFOLIUM REPENS) A RATE OF 9 Kg/ha. SEEDING SHOULD BE COMPLETED IN SPRING OR LATE SUMMER FOR OPTIMUM GERMINATION AND SUCCESS.

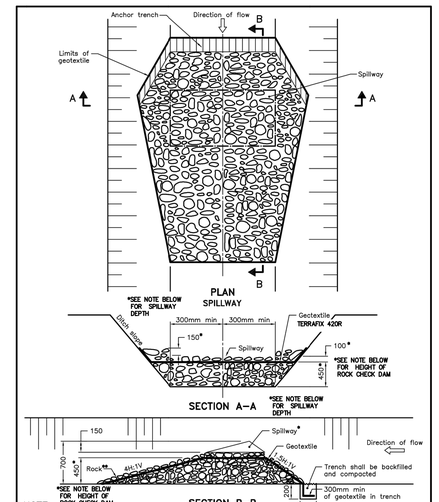
PERMANENT SLOPE INTERRUPTION BERM DETAIL
NTS



NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev	2
ROCK FLOW CHECK DAM V-DITCH			OPSD 219.210

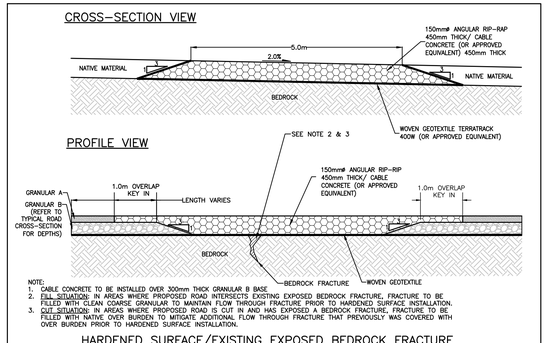
*THE 550mm HEIGHT OF ROCK CHECK DAM TO VARY PER SITE AND TO SUIT LOCAL CONDITIONS. THIS VARIANCE IS NOTED ON ENGINEER DRAWINGS AS HEIGHT OF DAM. SPILLWAY DEPTH ALSO NOTED ON THE ENGINEER DRAWINGS.
**RIP RAP TO BE IN ACCORDANCE WITH OPSS 1004
RIP RAP R50 GRADATION



NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev	2
ROCK FLOW CHECK DAM FLAT BOTTOM DITCH			OPSD 219.211

*THE 550mm HEIGHT OF ROCK CHECK DAM TO VARY PER SITE AND TO SUIT LOCAL CONDITIONS. THIS VARIANCE IS NOTED ON ENGINEER DRAWINGS AS HEIGHT OF DAM. SPILLWAY DEPTH ALSO NOTED ON THE ENGINEER DRAWINGS.
**RIP RAP TO BE IN ACCORDANCE WITH OPSS 1004
RIP RAP R50 GRADATION



NOTE:
1. CABLE CONCRETE TO BE INSTALLED OVER 300mm THICK GRANULAR B BASE.
2. FILL SITUATION: IN AREAS WHERE PROPOSED ROAD INTERSECTS EXISTING EXPOSED BEDROCK FRACTURE, FRACTURE TO BE FILLED WITH CLEAN COARSE GRANULAR TO MAINTAIN FLOW THROUGH FRACTURE PRIOR TO HARDENED SURFACE INSTALLATION.
3. CUT SITUATION: IN AREAS WHERE PROPOSED ROAD IS CUT IN AND HAS EXPOSED A BEDROCK FRACTURE, FRACTURE TO BE FILLED WITH NATIVE OVER BURDEN TO MITIGATE ADDITIONAL FLOW THROUGH FRACTURE THAT PREVIOUSLY WAS COVERED WITH OVER BURDEN PRIOR TO HARDENED SURFACE INSTALLATION.

HARDENED SURFACE/EXISTING EXPOSED BEDROCK FRACTURE ACCESS ROAD DETAIL
NTS

Stantec
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PCL CONSTRUCTION LEADERS

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Notes

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2. THE CONTRACTOR MUST CHECK AND VERIFY DIMENSIONS; OBTAIN ALL UTILITY LOCATES AND OBTAIN ALL REQUIRED PERMITS/LICENSES AND VERIFY ELEVATIONS OF EXISTING SERVICES BEFORE PROCEEDING WITH ANY WORK.
3. ALL CONSTRUCTION WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS (LATEST EDITION).
4. IF, FOR UNFORESEEN REASONS, THE OWNER AND/OR HIS/HER REPRESENTATIVE MUST ENCROACH ONTO PRIVATE LANDS TO UNDERTAKE ANY WORKS, HE/SHE MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON THE PRIVATE PROPERTY TO PERFORM ANY WORKS. COPIES OF THESE LETTERS OF CONSENT MUST BE SUBMITTED TO STANTEC, PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT THE PROPERTY OWNERS OWN RISK.
5. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY.
6. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ALL DRAINAGE AND MEASURES TO CONTROL WATER. THE SITE IS TO BE FINE GRADED/LEVELED LEAVING THE SITE IN A NEAT APPEARANCE SUCH THAT POSITIVE DRAINAGE IS ACHIEVED EVERYWHERE PRIOR TO THE INSTALLATION OF SOLAR PANELS.
7. CONSTRUCTION TURNING RADIUS LIMITS IDENTIFY AREAS WHERE ADDITIONAL ROAD WIDTH IS REQUIRED TO ALLOW FOR ADEQUATE CLEARANCE FOR CONSTRUCTION VEHICLES.
8. CULVERTS ARE TO BE INSTALLED AS PER OPSD 802.010. SOIL TYPE TO BE CONFIRMED ON SITE FOR DETERMINATION OF TRENCH WIDTH.
9. ALL AREAS WITHIN THE PROPOSED WORKS ARE TO BE RE-VEGETATED USING NATIVE TOPSOIL AND SEED. MIX AND APPLICATION RATE/METHOD TO BE SUBMITTED AND APPROVED BY OWNER PRIOR TO IMPLEMENTATION.
10. CLEARING AND GRUBBING AND REMOVALS TO BE COMPLETED IN ACCORDANCE WITH OPSS 201. TEMPORARY EROSION CONTROL TO BE COMPLETED IN ACCORDANCE WITH OPSS 577.
11. GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010.
12. CULVERT TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 421. HEIGHT OF FILL TABLE FOR CSP CULVERTS TO COMPLY WITH OPSD 805.010.
13. RIPRAP SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B-B.
14. ROCK SPOIL FROM PILE INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

Revision	By	Appd.	YY.MM.DD
G. REVISED NOTES AND DETAILS	MALM	DS	18.01.16
F. REVISED NOTES AND DETAILS	DRR	DS	17.12.21
E. REVISED NOTES AND DETAILS	MALM	DS	17.12.15
D. REVISED NOTES AND DETAILS	DRR	DS	17.11.30
C. REVISED NOTES AND DETAILS	KDB	DS	17.11.23
B. ISSUED FOR TENDER	DRR	DS	17.11.23
A. ISSUED FOR CLIENT REVIEW	MALM	DS	17.10.31

File Name: 133560220_C-DT.dwg	Dwn.	Chkd.	Dsgn.	YY.MM.DD
	DRR	DS	DRR	17.10.18

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

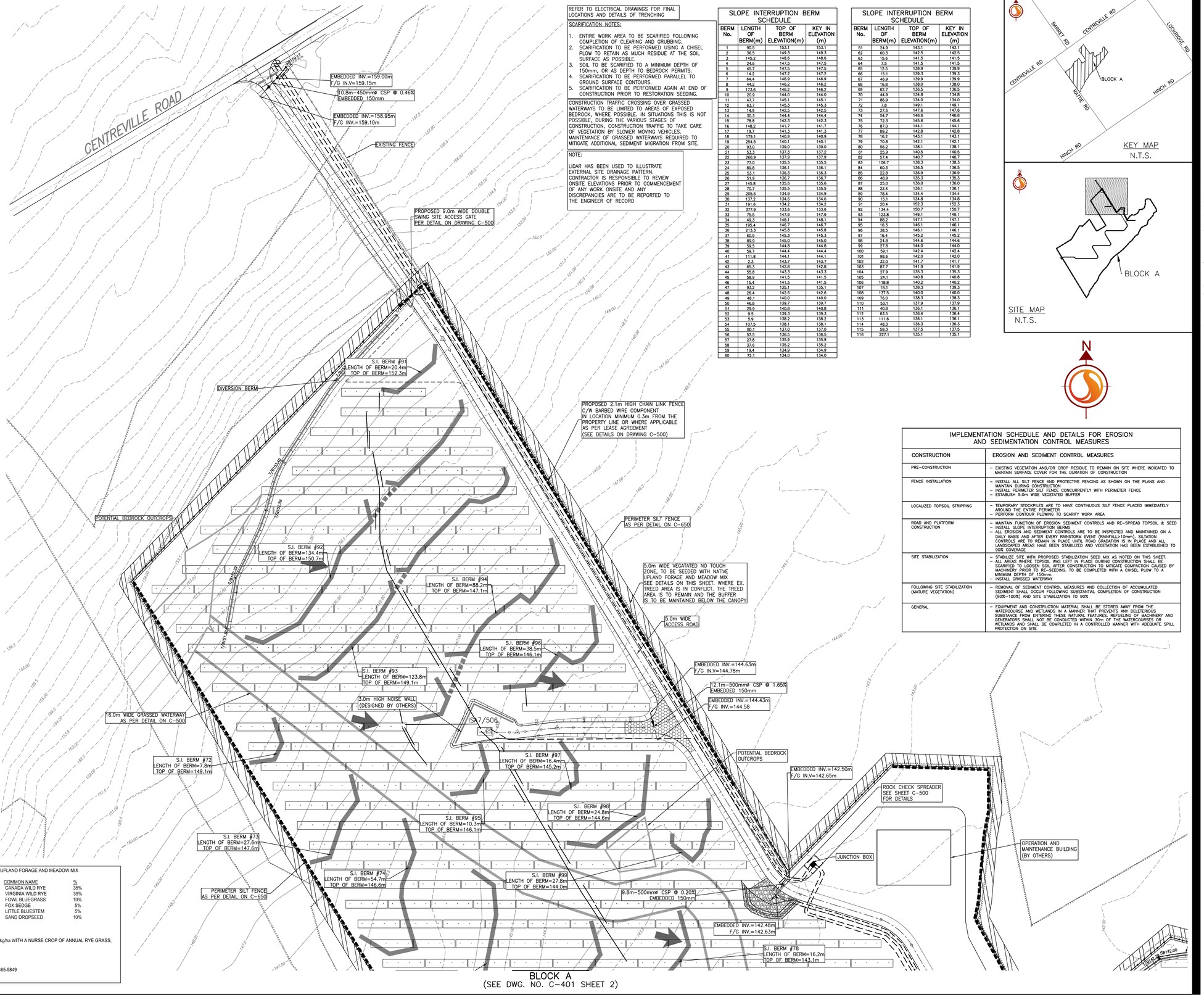
County of Lennox and Addington, Ontario

Title
GENERAL DETAILS AND NOTES

Project No.	Scale	
133560220	AS NOTED	
Drawing No.	Sheet	Revision
C-500	2 of 2	G

Status: Open
Modified: 1/17/2018 8:36:38 AM
Modified By: Joel Veenstra
Version: 2.0

ORIGINAL SHEET - ARCH D



REFER TO ELECTRICAL DRAWINGS FOR FINAL LOCATIONS AND DETAILS OF TRENCHING

SCARIFICATION NOTES:

1. ENTIRE WORK AREA TO BE SCARIFIED FOLLOWING COMPLETION OF CLEARING AND GRUBBING.
2. SCARIFICATION TO BE PERFORMED USING A CHISEL PLOW TO RETAIN AS MUCH RESIDUE AT THE SOIL SURFACE AS POSSIBLE.
3. SOIL TO BE SCARIFIED TO A MINIMUM DEPTH OF 150mm, OR AS DEPTH TO BEDROCK PERMITS.
4. SCARIFICATION TO BE PERFORMED PARALLEL TO GROUND SURFACE CONTOURS.
5. SCARIFICATION TO BE PERFORMED AGAIN AT END OF CONSTRUCTION PRIOR TO RESTORATION SEEDING.

CONSTRUCTION TRAFFIC CROSSING OVER GRASSED WATERWAYS TO BE LIMITED TO AREAS OF EXPOSED BEDROCK, WHERE POSSIBLE. IN SITUATIONS THIS IS NOT POSSIBLE, DURING THE VARIOUS STAGES OF CONSTRUCTION, CONSTRUCTION TRAFFIC TO TAKE CARE OF VEGETATION BY SLOWER MOVING VEHICLES. MAINTENANCE OF GRASSED WATERWAYS REQUIRED TO MITIGATE ADDITIONAL SEDIMENT MIGRATION FROM SITE.

NOTE:

LIDAR HAS BEEN USED TO ILLUSTRATE EXTERNAL SITE DRAINAGE PATTERN. CONTRACTOR IS RESPONSIBLE TO REVIEW ONSITE ELEVATIONS PRIOR TO COMMENCEMENT OF ANY WORK ONSITE AND ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER OF RECORD

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
1	90.5	153.1	153.1
2	36.5	149.3	149.3
3	145.2	148.6	148.6
4	24.6	147.5	147.5
5	45.7	147.5	147.5
6	14.2	147.2	147.2
7	64.4	146.9	146.9
8	44.2	146.2	146.2
9	173.6	146.2	146.2
10	20.9	144.0	144.0
11	47.7	145.1	145.1
12	63.7	145.3	145.3
13	14.9	142.5	142.5
14	30.3	144.4	144.4
15	78.8	142.3	142.3
16	148.2	141.7	141.7
17	19.7	141.3	141.3
18	178.1	140.9	140.9
19	254.5	140.1	140.1
20	93.0	139.0	139.0
21	53.3	137.3	137.3
22	266.9	137.9	137.9
23	77.0	135.5	135.5
24	89.8	136.1	136.1
25	53.1	136.3	136.3
26	51.9	136.7	136.7
27	145.8	135.6	135.6
28	70.7	135.5	135.5
29	205.6	134.9	134.9
30	137.2	134.6	134.6
31	191.6	134.2	134.2
32	377.9	133.6	133.6
33	75.5	147.9	147.9
34	49.3	148.1	148.1
35	195.4	146.7	146.7
36	213.3	145.8	145.8
37	60.9	145.3	145.3
38	89.8	145.0	145.0
39	59.5	144.8	144.8
40	59.7	144.4	144.4
41	111.8	144.1	144.1
42	2.3	143.7	143.7
43	65.3	142.8	142.8
44	55.8	143.3	143.3
45	58.9	141.5	141.5
46	15.4	141.5	141.5
47	93.2	135.1	135.1
48	26.4	142.6	142.6
49	48.1	140.0	140.0
50	46.8	139.7	139.7
51	29.9	140.8	140.8
52	9.5	139.3	139.3
53	5.9	138.2	138.2
54	107.5	138.1	138.1
55	80.1	137.0	137.0
56	57.5	136.5	136.5
57	27.8	135.9	135.9
58	37.6	135.2	135.2
59	19.4	134.9	134.9
60	72.1	134.0	134.0

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
61	24.9	143.1	143.1
62	60.3	142.5	142.5
63	15.6	141.5	141.5
64	7.5	141.5	141.5
65	12.5	139.9	139.9
66	15.1	139.3	139.3
67	46.9	139.9	139.9
68	16.8	138.0	138.0
69	62.7	136.5	136.5
70	44.9	134.8	134.8
71	86.9	134.0	134.0
72	7.8	149.1	149.1
73	27.6	147.6	147.6
74	54.7	146.6	146.6
75	72.3	145.6	145.6
76	87.0	144.1	144.1
77	89.2	142.8	142.8
78	16.2	143.1	143.1
79	70.8	142.1	142.1
80	56.2	138.1	138.1
81	25.9	140.5	140.5
82	57.4	140.7	140.7
83	106.7	138.3	138.3
84	60.3	136.5	136.5
85	22.8	136.9	136.9
86	48.9	135.3	135.3
87	25.0	136.0	136.0
88	22.4	136.1	136.1
89	78.4	134.4	134.4
90	15.1	134.8	134.8
91	20.4	152.3	152.3
92	134.4	150.7	150.7
93	123.8	149.1	149.1
94	88.2	147.1	147.1
95	10.3	146.1	146.1
96	38.5	146.1	146.1
97	16.4	145.2	145.2
98	24.8	144.6	144.6
99	27.8	144.0	144.0
100	59.1	142.4	142.4
101	98.6	142.0	142.0
102	32.0	141.7	141.7
103	87.7	141.9	141.9
104	27.9	135.3	135.3
105	24.1	140.8	140.8
106	118.8	140.2	140.2
107	18.1	139.3	139.3
108	137.5	140.0	140.0
109	76.0	138.3	138.3
110	53.1	137.9	137.9
111	40.8	136.1	136.1
112	63.5	136.4	136.4
113	111.6	136.1	136.1
114	48.3	136.3	136.3
115	59.3	137.5	137.5
116	227.1	135.1	135.1

IMPLEMENTATION SCHEDULE AND DETAILS FOR EROSION AND SEDIMENTATION CONTROL MEASURES

CONSTRUCTION	EROSION AND SEDIMENT CONTROL MEASURES
PRE–CONSTRUCTION	– EXISTING VEGETATION AND/OR CROP RESIDUE TO REMAIN ON SITE WHERE INDICATED TO MAINTAIN SURFACE COVER FOR THE DURATION OF CONSTRUCTION
FENCE INSTALLATION	– INSTALL ALL SILT FENCE AND PROTECTIVE FENCING AS SHOWN ON THE PLANS AND MAINTAIN DURING CONSTRUCTION – INSTALL PERIMETER SILT FENCE CONCURRENTLY WITH PERIMETER FENCE – ESTABLISH 5.0m WIDE VEGETATED BUFFER
LOCALIZED TOPSOIL STRIPPING	– TEMPORARY STOCKPILES ARE TO HAVE CONTINUOUS SILT FENCE PLACED IMMEDIATELY AROUND THE ENTIRE PERIMETER – PERFORM CONTOUR PLOWING TO SCARIFY WORK AREA
ROAD AND PLATFORM CONSTRUCTION	– MAINTAIN FUNCTION OF EROSION SEDIMENT CONTROLS AND RE–SPREAD TOPSOIL & SEED – INSTALL SLOPE INTERRUPTION BERMS – ALL EROSION AND SEDIMENT CONTROLS ARE TO BE INSPECTED AND MAINTAINED ON A DAILY BASIS AND AFTER EVERY RAINSTORM EVENT (RAINFALL>10mm). SILTATION CONTROLS ARE TO REMAIN IN PLACE UNTIL ROAD GRADATION IS IN PLACE AND ALL LANDSCAPED AREAS HAVE BEEN STABILIZED AND VEGETATION HAS BEEN ESTABLISHED TO 90% COVERAGE
SITE STABILIZATION	– STABILIZE SITE WITH PROPOSED STABILIZATION SEED MIX AS NOTED ON THIS SHEET. – ALL AREAS WHERE TOPSOIL WAS LEFT IN PLACE DURING CONSTRUCTION SHALL BE SCARIFIED TO LOOSEN SOIL AFTER CONSTRUCTION TO MITIGATE COMPACTION CAUSED BY MACHINERY PRIOR TO RE–SEEDING. TO BE COMPLETED WITH A CHISEL PLOW TO A MINIMUM DEPTH OF 150mm. – INSTALL GRASSED WATERWAY
FOLLOWING SITE STABILIZATION (MATURE VEGETATION)	– REMOVAL OF SEDIMENT CONTROL MEASURES AND COLLECTION OF ACCUMULATED SEDIMENT SHALL OCCUR FOLLOWING SUBSTANTIAL COMPLETION OF CONSTRUCTION (90%–100%) AND SITE STABILIZATION TO 90%
GENERAL	– EQUIPMENT AND CONSTRUCTION MATERIAL SHALL BE STORED AWAY FROM THE WATERCOURSE AND WETLANDS IN A MANNER THAT PREVENTS ANY DELETERIOUS SUBSTANCE FROM ENTERING THESE NATURAL FEATURES. REFUELING OF MACHINERY AND GENERATORS SHALL NOT BE CONDUCTED WITHIN 30m OF THE WATERCOURSES OR WETLANDS AND SHALL BE COMPLETED IN A CONTROLLED MANNER WITH ADEQUATE SPILL PROTECTION ON SITE

OSC SEED MIX #8140 - NATIVE UPLAND FORAGE AND MEADOW MIX

LATIN NAME	COMMON NAME	%
ELYMUS CANDENSIS	CANADA WILD RYE	35%
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	35%
POA PALUSTRIS	FOWL BLUEGRASS	10%
CAREX VULPINOIDEA	FOX SEDGE	5%
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	5%
SPOROBOLUS CRYPTANDRUS	SAND DROPSEED	10%

APPLICATION:
SOW SEED MIX AT RATE OF 25kg/ha WITH A NURSE CROP OF ANNUAL RYE GRASS, SEEDED AT A RATE OF 22kg/ha

AVAILABLE FROM:
ONTARIO SEED COMPANY
PHONE: 519-888-0557 or 1-800-465-5849
FAX: 519-866-0605

KEY MAP
N.T.S.

SITE MAP
N.T.S.

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Notes

1. TOPOGRAPHIC INFORMATION CONDUCTED BY LESLIE M. HIGGINSON AND RECEIVED OCTOBER 20, 2017. TOPOGRAPHIC SURVEY IS UTM 18. LIDAR INFORMATION CONDUCTED BY TILLOCH ENGINEERING ON JUNE 27, 2016. LIDAR SURVEY IS UTM 18. BEDROCK SURVEY INFORMATION PROVIDED BY PCL CONSTRUCTORS LTD. RECEIVED ON OCTOBER 31, 2017. EXISTING VEGETATION INFORMATION IS APPROXIMATE, PROVIDED FROM AERIAL IMAGERY. CONTRACTOR TO CONFIRM ALL TREE & SHRUB LOCATION ON SITE.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS IN THIS SET PREPARED BY STANTEC CONSULTING LTD.
3. THE CONTRACTOR MUST CHECK AND VERIFY DIMENSIONS; OBTAIN ALL UTILITY LOCATES AND OBTAIN ALL REQUIRED PERMITS/LICENSES AND VERIFY ELEVATIONS OF EXISTING SERVICES BEFORE PROCEEDING WITH ANY WORK.
4. ALL CONSTRUCTION WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS (LATEST EDITION).
5. IF, FOR UNFORESEEN REASONS, THE OWNER AND/OR HIS/HER REPRESENTATIVE MUST ENCROACH ONTO PRIVATE LANDS TO UNDERTAKE ANY WORKS, HE/SHE MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON THE PRIVATE PROPERTY TO PERFORM ANY WORKS. COPIES OF THESE LETTERS OF CONSENT MUST BE SUBMITTED TO THE OWNER AND CONTRACTOR AND A COPY IS TO BE KEPT ON FILE ON SITE PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT THE PROPERTY OWNERS OWN RISK.
6. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT–OF–WAY.
7. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ALL DRAINAGE AND MEASURES TO CONTROL WATER. THE SITE IS TO BE FINE GRADED/LEVELED LEAVING THE SITE IN A NEAT APPEARANCE SUCH THAT POSITIVE DRAINAGE IS ACHIEVED EVERYWHERE PRIOR TO THE INSTALLATION OF SOLAR PANELS.
8. CONSTRUCTION TURNING RADIUS LIMITS IDENTIFY AREAS WHERE ADDITIONAL ROAD WIDTH IS REQUIRED TO ALLOW FOR ADEQUATE CLEARANCE FOR CONSTRUCTION VEHICLES.
9. CULVERTS ARE TO BE INSTALLED AS PER OPSD 802.010. SOIL TYPE TO BE CONFIRMED ON SITE FOR DETERMINATION OF TRENCH WIDTH.
10. ALL AREAS WITHIN THE PROPOSED WORKS ARE TO BE RE–VEGETATED USING NATIVE TOPSOIL AND SEED, MIX AND APPLICATION RATE/METHOD TO BE SUBMITTED AND APPROVED BY OWNER PRIOR TO IMPLEMENTATION.
11. CLEARING AND GRUBBING AND REMOVALS TO BE COMPLETED IN ACCORDANCE WITH OPSS 201. TEMPORARY EROSION CONTROL TO BE COMPLETED IN ACCORDANCE WITH OPSS 577.
12. GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 208. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010.
13. CULVERT TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 421. HEIGHT OF FILL TABLE FOR CSP CULVERTS TO COMPLY WITH OPSD 805.010.
14. RIPRAP AT CULVERT OUTLETS SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B–B.
15. ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
16. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

Legend

PROPOSED	EXISTING
FENCE	
	295.5 TOPOGRAPHIC SURVEY CONTOUR
	295.5 LIDAR CONTOUR
HEAVY DUTY SILT FENCE (SEE DETAILS ON SHEET C–650)	
SWALE	
CULVERT	
ROCK CHECK DAMS (SEE DETAILS ON SHEET C–650)	
OVERLAND FLOW DIRECTION	
SLOPE INTERRUPTION BERM (SEE DETAIL ON SHEET 1 C–604)	
TEMPORARY REMOVAL OF S.I. BERM FOR TRENCH INSTALLATION. TRENCHES TO BE LINED WITH CLAY OR FILLED WITH CONCRETE IF INSTALLED IN BEDROCK	
5.0M WIDE VEGETATIVE BUFFER	
HARDENED SURFACE	
AC CABLE TRENCH	
DC CABLE TRENCH	
POTENTIAL ROCK OUTCROP LOCATIONS	
GRASSED WATERWAY (SEE C–500 FOR DETAILS)	
DIVERSION BERM	
ROCK SPREADER SWALE	

Revision	By	Appd.	YY.MM.DD
B ISSUED FOR TENDER	MALM	DS	18.01.16
A ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21

File Name: 133560220_C-EC-BLOCK_A.dwg	Dwn.	Chkd.	Dsgn.	YY.MM.DD
	KC	DS	KC	17.11.30

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT
54MW GROUND-MOUNT SOLAR FARM
County of Lennox and Addington, Ontario

Title
BLOCK A
SEDIMENTATION AND EROSION CONTROL PLAN

Project No.	Scale	Drawing No.	Sheet	Revision
133560220	1:750 (0 7.5 22.5 37.5m)	C-601	1 of 6	B

V:\01614\active\133560220\design\drawing_file\civil_data\C_Block_A\sheet_files\133560220_C-EC-BLOCK_A.dwg
2018/01/16 5:44 PM By: Santos, Dan
ORIGINAL SHEET - ARCH D
Version: 2.0 Modified By: Joel Veenstra Modified: 1/17/2018 8:36:38 AM Status: Open

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
1	90.5	153.1	153.1
2	36.5	149.3	149.3
3	145.2	148.6	148.6
4	24.6	147.5	147.5
5	45.7	147.5	147.5
6	14.2	147.2	147.2
7	64.4	146.9	146.9
8	44.2	146.2	146.2
9	173.6	146.2	146.2
10	20.9	144.0	144.0
11	47.7	145.1	145.1
12	63.7	145.3	145.3
13	14.9	142.5	142.5
14	30.3	144.4	144.4
15	78.8	142.3	142.3
16	148.2	141.7	141.7
17	19.7	141.3	141.3
18	179.1	140.9	140.9
19	254.5	140.1	140.1
20	93.0	139.0	139.0
21	53.3	137.3	137.2
22	266.9	137.9	137.9
23	77.0	135.5	135.5
24	89.8	136.1	136.1
25	53.1	136.3	136.3
26	51.9	136.7	136.7
27	145.8	135.6	135.6
28	70.7	135.5	135.5
29	205.6	134.9	134.9
30	137.2	134.6	134.6
31	191.6	134.2	134.2
32	377.9	133.6	133.6
33	75.5	147.9	147.9
34	49.3	148.1	148.1
35	195.4	146.7	146.7
36	213.3	145.8	145.8
37	60.9	145.3	145.3
38	89.9	145.0	145.0
39	59.5	144.8	144.8
40	59.7	144.4	144.4
41	111.8	144.1	144.1
42	2.3	143.7	143.7
43	65.3	142.8	142.8
44	55.8	143.3	143.3
45	58.9	141.5	141.5
46	15.4	141.5	141.5
47	93.2	135.1	135.1
48	26.4	142.6	142.6
49	48.1	140.0	140.0
50	46.8	139.7	139.7
51	29.9	140.8	140.8
52	9.5	139.3	139.3
53	5.9	138.2	138.2
54	107.5	138.1	138.1
55	80.1	137.0	137.0
56	57.5	136.5	136.5
57	27.8	135.9	135.9
58	37.6	135.2	135.2
59	19.4	134.9	134.9
60	72.1	134.0	134.0

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
61	24.9	143.1	143.1
62	60.3	142.5	142.5
63	15.6	141.5	141.5
64	7.5	141.5	141.5
65	12.5	139.9	139.9
66	15.1	139.3	139.3
67	46.9	139.9	139.9
68	16.8	138.0	138.0
69	62.7	136.5	136.5
70	44.9	134.8	134.8
71	86.9	134.0	134.0
72	7.8	149.1	149.1
73	27.6	147.6	147.6
74	54.7	146.6	146.6
75	72.3	145.6	145.6
76	87.0	144.1	144.1
77	89.2	142.8	142.8
78	16.2	143.1	143.1
79	70.8	142.1	142.1
80	56.2	138.1	138.1
81	25.9	140.5	140.5
82	57.4	140.7	140.7
83	106.7	138.3	138.3
84	60.3	136.5	136.5
85	22.8	136.9	136.9
86	48.9	135.3	135.3
87	25.0	136.0	136.0
88	22.4	136.1	136.1
89	78.4	134.4	134.4
90	15.1	134.8	134.8
91	20.4	152.3	152.3
92	134.4	150.7	150.7
93	123.8	149.1	149.1
94	88.2	147.1	147.1
95	10.3	146.1	146.1
96	38.5	146.1	146.1
97	16.4	145.2	145.2
98	24.8	144.6	144.6
99	27.8	144.0	144.0
100	59.1	142.4	142.4
101	98.6	142.0	142.0
102	32.0	141.7	141.7
103	87.7	141.9	141.9
104	27.9	135.3	135.3
105	24.1	140.8	140.8
106	118.8	140.2	140.2
107	18.1	139.3	139.3
108	137.3	140.0	140.0
109	76.0	138.3	138.3
110	53.1	137.9	137.9
111	40.8	136.1	136.1
112	63.5	136.4	136.4
113	111.6	136.1	136.1
114	48.3	136.3	136.3
115	59.3	137.5	137.5
116	227.1	135.1	135.1

NOTE:

LIDAR HAS BEEN USED TO ILLUSTRATE EXTERNAL SITE DRAINAGE PATTERN. CONTRACTOR IS RESPONSIBLE TO REVIEW ONSITE ELEVATIONS PRIOR TO COMMENCEMENT OF ANY WORK ONSITE AND ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER OF RECORD

OSC SEED MIX #8140 - NATIVE UPLAND FORAGE AND MEADOW MIX

LATIN NAME	COMMON NAME	%
ELYMUS CANDENSIS	CANADA WILD RYE	35%
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	35%
POA PALUSTRIS	FOWL BLUEGRASS	10%
CAREX VULPINOIDEA	FOX SEDGE	5%
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	5%
SPOROBOLUS CRYPTANDRUS	SAND DROPSEED	10%

APPLICATION:
SOW SEED MIX AT RATE OF 25kg/ha WITH A NURSE CROP OF ANNUAL RYE GRASS, SEEDED AT A RATE OF 22kg/ha

AVAILABLE FROM:
ONTARIO SEED COMPANY
PHONE: 519-886-0557 or 1-800-465-5849
FAX: 519-866-0605

SCARIFICATION NOTES:

1. ENTIRE WORK AREA TO BE SCARIFIED FOLLOWING COMPLETION OF CLEARING AND GRUBBING.
2. SCARIFICATION TO BE PERFORMED USING A CHISEL PLOW TO RETAIN AS MUCH RESIDUE AT THE SOIL SURFACE AS POSSIBLE.
3. SOIL TO BE SCARIFIED TO A MINIMUM DEPTH OF 150mm, OR AS DEPTH TO BEDROCK PERMITS.
4. SCARIFICATION TO BE PERFORMED PARALLEL TO GROUND SURFACE CONTOURS.
5. SCARIFICATION TO BE PERFORMED AGAIN AT END OF CONSTRUCTION PRIOR TO RESTORATION SEEDING.

REFER TO ELECTRICAL DRAWINGS FOR FINAL LOCATIONS AND DETAILS OF TRENCHING

CONSTRUCTION TRAFFIC CROSSING OVER GRASSED WATERWAYS TO BE LIMITED TO AREAS OF EXPOSED BEDROCK, WHERE POSSIBLE. IN SITUATIONS THIS IS NOT POSSIBLE, DURING THE VARIOUS STAGES OF CONSTRUCTION, CONSTRUCTION TRAFFIC TO TAKE CARE OF VEGETATION BY SLOWER MOVING VEHICLES. MAINTENANCE OF GRASSED WATERWAYS REQUIRED TO MITIGATE ADDITIONAL SEDIMENT MIGRATION FROM SITE.

BLOCK A
(SEE DWG. NO. C-401 SHEET 1)

S.I. BERM #72
LENGTH OF BERM=7.8m
TOP OF BERM=149.1m

S.I. BERM #73
LENGTH OF BERM=27.6m
TOP OF BERM=147.6m

S.I. BERM #74
LENGTH OF BERM=54.7m
TOP OF BERM=146.6m

S.I. BERM #75
LENGTH OF BERM=72.3m
TOP OF BERM=145.6m

S.I. BERM #76
LENGTH OF BERM=87.0m
TOP OF BERM=144.1m

S.I. BERM #77
LENGTH OF BERM=89.2m
TOP OF BERM=142.8m

S.I. BERM #95
LENGTH OF BERM=10.3m
TOP OF BERM=146.1m

S.I. BERM #98
LENGTH OF BERM=24.8m
TOP OF BERM=144.6m

S.I. BERM #99
LENGTH OF BERM=27.8m
TOP OF BERM=144.0m

S.I. BERM #78
LENGTH OF BERM=16.2m
TOP OF BERM=143.1m

S.I. BERM #100
LENGTH OF BERM=59.1m
TOP OF BERM=142.4m

S.I. BERM #79
LENGTH OF BERM=70.8m
TOP OF BERM=142.1m

S.I. BERM #101
LENGTH OF BERM=98.6m
TOP OF BERM=142.0m

PERIMETER SILT FENCE AS PER DETAIL ON C-650

9.8m-500mmø CSP @ 0.20% EMBEDDED 150mm

EMBEDDED INV.=142.50m
F/G IN.V=142.65m

EMBEDDED INV.=142.48m
F/G INV.=142.63m

16.0m WIDE GRASSED WATERWAY AS PER DETAIL ON C-500

5.0m WIDE VEGATATED NO TOUCH ZONE, TO BE SEEDED WITH NATIVE UPLAND FORAGE AND MEADOW MIX SEE DETAILS ON THIS SHEET. WHERE EX. TREED AREA IS IN CONFLICT, THE TREED AREA IS TO REMAIN AND THE BUFFER IS TO BE MAINTAINED BELOW THE CANOPY

DIVERSION BERM

POTENTIAL BEDROCK OUTCROPS

T/RM=148.5

T/RM=147.57

T/RM=147.14

T/RM=148.13

DIVERSION BERM

T/RM=143.36

T/RM=143.71

T/RM=143.63

16.0m WIDE GRASSED WATERWAY AS PER DETAIL ON C-500

S.I. BERM #42
LENGTH OF BERM=2.3m
TOP OF BERM=143.7m

S.I. BERM #62
LENGTH OF BERM=60.3m
TOP OF BERM=142.5m

S.I. BERM #61
LENGTH OF BERM=24.9m
TOP OF BERM=143.1m

10.5m-500mmø CSP @ 1.70% EMBEDDED 150mm

EMBEDDED INV.=141.13m
F/G IN.V=141.28m

EMBEDDED INV.=140.95m
F/G INV.=141.10m

EMBEDDED INV.=140.11m
F/G IN.V=140.26m

ISA8/494

ISA9/498

ROCK CHECK SPREADER SEE SHEET C-500 FOR DETAILS

HARDENED SURFACE

S.I. BERM #38
LENGTH OF BERM=89.9m
TOP OF BERM=145.0m

16.0m WIDE GRASSED WATERWAY AS PER DETAIL ON C-500

S.I. BERM #40
LENGTH OF BERM=59.7m
TOP OF BERM=144.4m

S.I. BERM #64
LENGTH OF BERM=7.5m
TOP OF BERM=141.5m

S.I. BERM #81
LENGTH OF BERM=25.9m
TOP OF BERM=140.5m

S.I. BERM #82
LENGTH OF BERM=57.4m
TOP OF BERM=140.7m

S.I. BERM #83
LENGTH OF BERM=106.7m
TOP OF BERM=138.3m

EMBEDDED INV.=139.23m
F/G INV.=139.38m

S.I. BERM #35
LENGTH OF BERM=195.4m
TOP OF BERM=146.7m

POTENTIAL BEDROCK OUTCROPS

S.I. BERM #63
LENGTH OF BERM=15.6m
TOP OF BERM=141.5m

S.I. BERM #48
LENGTH OF BERM=26.4m
TOP OF BERM=142.6m

POTENTIAL BEDROCK OUTCROPS

BERM #36
RM=213.3m
RM=145.8m

S.I. BERM #39
LENGTH OF BERM=59.5m
TOP OF BERM=144.8m

S.I. BERM #66
LENGTH OF BERM=15.1m
TOP OF BERM=139.3m

S.I. BERM #68
LENGTH OF BERM=16.8m
TOP OF BERM=138.0m

S.I. BERM #65
LENGTH OF BERM=12.5m
TOP OF BERM=139.9m

POTENTIAL BEDROCK OUTCROPS

S.I. BERM #44
LENGTH OF BERM=55.8m
TOP OF BERM=143.3m

S.I. BERM #51
LENGTH OF BERM=29.9m
TOP OF BERM=140.8m

S.I. BERM #37
LENGTH OF BERM=60.9m
TOP OF BERM=145.3m

EMBEDDED INV.=137.95m
F/G IN.V=138.10m

S.I. BERM #52
LENGTH OF BERM=9.5m
TOP OF BERM=139.3m

HARDENED SURFACE

9.6m-600mmø CS
EMBEDDED 150mm

EMBEDDED INV.=137.74m
F/G INV.=137.89m

16.0m WIDE GRASSED WATERWAY AS PER DETAIL ON C-500

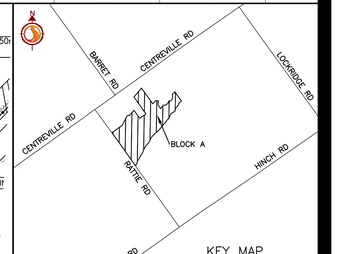
BLOCK A
(SEE DWG. NO. C-401 SHEET 4)

BLOCK A
(SEE DWG. NO. C-401 SHEET 5)

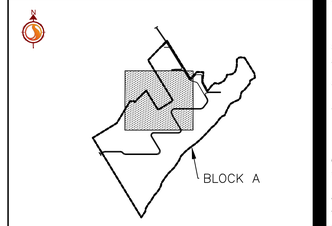
BLOCK A
(SEE DWG. NO. C-401 SHEET 3)

IMPLEMENTATION SCHEDULE AND DETAILS FOR EROSION AND SEDIMENTATION CONTROL MEASURES

CONSTRUCTION	EROSION AND SEDIMENT CONTROL MEASURES
PRE-CONSTRUCTION	– EXISTING VEGETATION AND/OR CROP RESIDUE TO REMAIN ON SITE WHERE INDICATED TO MAINTAIN SURFACE COVER FOR THE DURATION OF CONSTRUCTION
FENCE INSTALLATION	– INSTALL ALL SILT FENCE AND PROTECTIVE FENCING AS SHOWN ON THE PLANS AND MAINTAIN DURING CONSTRUCTION – INSTALL PERIMETER SILT FENCE CONCURRENTLY WITH PERIMETER FENCE – ESTABLISH 5.0m WIDE VEGETATED BUFFER
LOCALIZED TOPSOIL STRIPPING	– TEMPORARY STOCKPILES ARE TO HAVE CONTINUOUS SILT FENCE PLACED IMMEDIATELY AROUND THE ENTIRE PERIMETER – PERFORM CONTOUR PLOWING TO SCARIFY WORK AREA
ROAD AND PLATFORM CONSTRUCTION	– MAINTAIN FUNCTION OF EROSION SEDIMENT CONTROLS AND RE-SPREAD TOPSOIL & SEED – INSTALL SLOPE INTERRUPTION BERMS – ALL EROSION AND SEDIMENT CONTROLS ARE TO BE INSPECTED AND MAINTAINED ON A DAILY BASIS AND AFTER EVERY RAINSTORM EVENT (RAINFALL>10mm). SILTATION CONTROLS ARE TO REMAIN IN PLACE UNTIL ROAD GRADATION IS IN PLACE AND ALL LANDSCAPED AREAS HAVE BEEN STABILIZED AND VEGETATION HAS BEEN ESTABLISHED TO 90% COVERAGE
SITE STABILIZATION	– STABILIZE SITE WITH PROPOSED STABILIZATION SEED MIX AS NOTED ON THIS SHEET. – ALL AREAS WHERE TOPSOIL WAS LEFT IN PLACE DURING CONSTRUCTION SHALL BE SCARIFIED TO LOOSEN SOIL AFTER CONSTRUCTION TO MITIGATE COMPACTION CAUSED BY MACHINERY PRIOR TO RE-SEEDING. TO BE COMPLETED WITH A CHISEL PLOW TO A MINIMUM DEPTH OF 150mm. – INSTALL GRASSED WATERWAY
FOLLOWING SITE STABILIZATION (MATURE VEGETATION)	– REMOVAL OF SEDIMENT CONTROL MEASURES AND COLLECTION OF ACCUMULATED SEDIMENT SHALL OCCUR FOLLOWING SUBSTANTIAL COMPLETION OF CONSTRUCTION (90%-100%) AND SITE STABILIZATION TO 90%
GENERAL	– EQUIPMENT AND CONSTRUCTION MATERIAL SHALL BE STORED AWAY FROM THE WATERCOURSE AND WETLANDS IN A MANNER THAT PREVENTS ANY DELETERIOUS SUBSTANCE FROM ENTERING THESE NATURAL FEATURES. REFUELING OF MACHINERY AND GENERATORS SHALL NOT BE CONDUCTED WITHIN 30m OF THE WATERCOURSES OR WETLANDS AND SHALL BE COMPLETED IN A CONTROLLED MANNER WITH ADEQUATE SPILL PROTECTION ON SITE



KEY MAP
N.T.S.



SITE MAP
N.T.S.

Stantec Consulting Ltd.
300 Hagey Boulevard
Waterloo ON Canada
Tel. 519.579.4410
www.stantec.com

PCL CONSTRUCTION LEADERS

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Notes

1. TOPOGRAPHIC INFORMATION CONDUCTED BY LESLIE M. HIGGINSON AND RECEIVED OCTOBER 20, 2017. TOPOGRAPHIC SURVEY IS UTM 18. LIDAR INFORMATION CONDUCTED BY TULLOCH ENGINEERING ON JUNE 27, 2016. LIDAR SURVEY IS UTM 18. BEDROCK SURVEY INFORMATION PROVIDED BY PCL CONSTRUCTORS LTD. RECEIVED ON OCTOBER 31, 2017. EXISTING VEGETATION INFORMATION IS APPROXIMATE, PROVIDED FROM AERIAL IMAGERY. CONTRACTOR TO CONFIRM ALL TREE & SHRUB LOCATION ON SITE.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS IN THIS SET PREPARED BY STANTEC CONSULTING LTD.
3. THE CONTRACTOR MUST CHECK AND VERIFY DIMENSIONS; OBTAIN ALL UTILITY LOCATES AND OBTAIN ALL REQUIRED PERMITS/LICENSES AND VERIFY ELEVATIONS OF EXISTING SERVICES BEFORE PROCEEDING WITH ANY WORK.
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16. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

Legend

PROPOSED	EXISTING
FENCE	
TOPOGRAPHIC SURVEY CONTOUR	295.5
LIDAR CONTOUR	295.5
HEAVY DUTY SILT FENCE (SEE DETAILS ON SHEET C-650)	
SWALE	
CULVERT	
ROCK CHECK DAMS (SEE DETAILS ON SHEET C-650)	
OVERLAND FLOW DIRECTION	
SLOPE INTERRUPTION BERM (SEE DETAIL ON SHEET 1 C-604)	
TEMPORARY REMOVAL OF S.I. BERM FOR TRENCH INSTALLATION. TRENCHES TO BE LINED WITH CLAY OR FILLED WITH CONCRETE IF INSTALLED IN BEDROCK	
5.0M WIDE VEGETATIVE BUFFER	
HARDENED SURFACE	
AC CABLE TRENCH	
DC CABLE TRENCH	
POTENTIAL ROCK OUTCROP LOCATIONS	
GRASSED WATERWAY (SEE C-500 FOR DETAILS)	
DIVERSION BERM	
ROCK SPREADER SWALE	

B	ISSUED FOR TENDER	MALM	DS	18.01.16
A	ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21
Revision		By	Appd.	YY.MM.DD

File Name: 133560220_C-EC-BLOCK_A.dwg	KC	DS	KC	17.11.30
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A
SEDIMENTATION AND EROSION CONTROL PLAN

Project No.	Scale	Revision
133560220	1:750 (0, 7.5, 22.5, 37.5m)	
Drawing No.	Sheet	
C-601	2 of 6	B

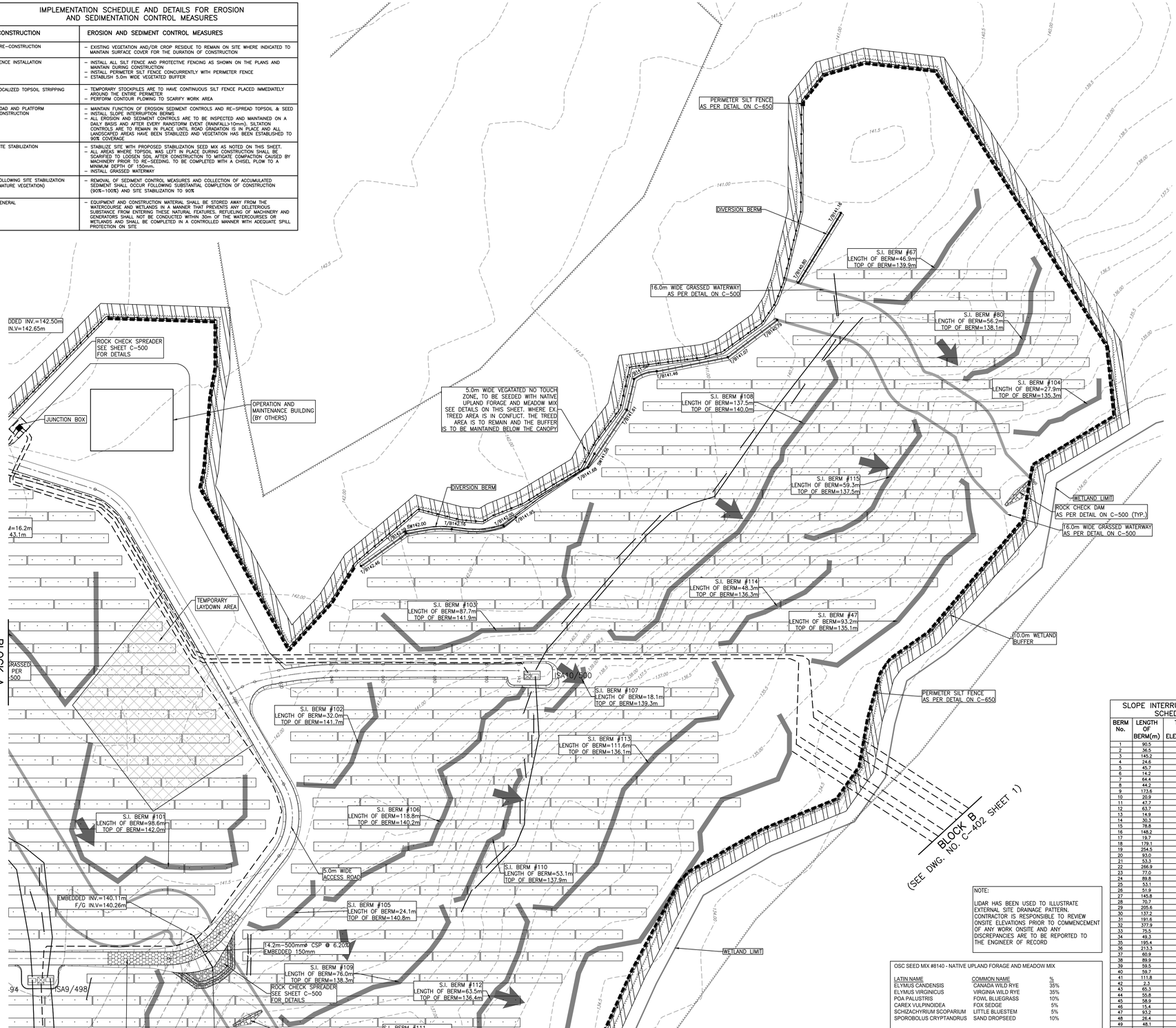
V:\01614\active\133560220\design\drawing_04\civil\Block_A\sheet_files\133560220_C-EC-BLOCK_A.dwg
2018/01/16 7:43 PM By: Stantec, Dan

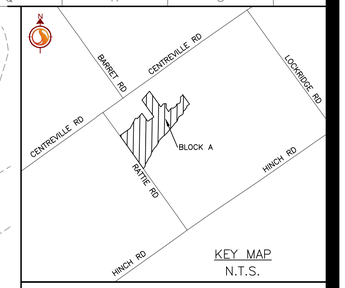
Version: 2.0 Modified By: Joel Veenstra Modified: 1/17/2018 8:38:38 AM Status: Open

ORIGINAL SHEET - ARCH D

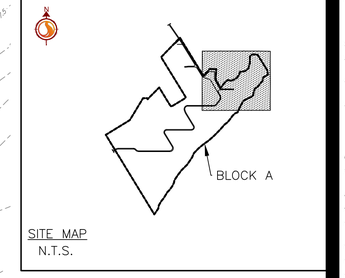
IMPLEMENTATION SCHEDULE AND DETAILS FOR EROSION AND SEDIMENTATION CONTROL MEASURES

CONSTRUCTION	EROSION AND SEDIMENT CONTROL MEASURES
PRE-CONSTRUCTION	– EXISTING VEGETATION AND/OR CROP RESIDUE TO REMAIN ON SITE WHERE INDICATED TO MAINTAIN SURFACE COVER FOR THE DURATION OF CONSTRUCTION
FENCE INSTALLATION	– INSTALL ALL SILT FENCE AND PROTECTIVE FENCING AS SHOWN ON THE PLANS AND MAINTAIN DURING CONSTRUCTION – INSTALL PERIMETER SILT FENCE CONCURRENTLY WITH PERIMETER FENCE – ESTABLISH 5.0m WIDE VEGETATED BUFFER
LOCALIZED TOPSOIL STRIPPING	– TEMPORARY STOCKPILES ARE TO HAVE CONTINUOUS SILT FENCE PLACED IMMEDIATELY AROUND THE ENTIRE PERIMETER – PERFORM CONTOUR PLOWING TO SCARIFY WORK AREA
ROAD AND PLATFORM CONSTRUCTION	– MAINTAIN FUNCTION OF EROSION SEDIMENT CONTROLS AND RE-SPREAD TOPSOIL & SEED – INSTALL SLOPE INTERRUPTION BERMS – ALL EROSION AND SEDIMENT CONTROLS ARE TO BE INSPECTED AND MAINTAINED ON A DAILY BASIS AND AFTER EVERY RAINSTORM EVENT (RAINFALL>10mm). SILTATION CONTROLS ARE TO REMAIN IN PLACE UNTIL ROAD GRADATION IS IN PLACE AND ALL LANDSCAPED AREAS HAVE BEEN STABILIZED AND VEGETATION HAS BEEN ESTABLISHED TO 90% COVERAGE
SITE STABILIZATION	– STABILIZE SITE WITH PROPOSED STABILIZATION SEED MIX AS NOTED ON THIS SHEET. – ALL AREAS WHERE TOPSOIL WAS LEFT IN PLACE DURING CONSTRUCTION SHALL BE SCARIFIED TO LOOSEN SOIL AFTER CONSTRUCTION TO MITIGATE COMPACTION CAUSED BY MACHINERY PRIOR TO RE-SEEDING. TO BE COMPLETED WITH A CHISEL PLOW TO A MINIMUM DEPTH OF 150mm. – INSTALL GRASSED WATERWAY
FOLLOWING SITE STABILIZATION (MATURE VEGETATION)	– REMOVAL OF SEDIMENT CONTROL MEASURES AND COLLECTION OF ACCUMULATED SEDIMENT SHALL OCCUR FOLLOWING SUBSTANTIAL COMPLETION OF CONSTRUCTION (90%–100%) AND SITE STABILIZATION TO 90%
GENERAL	– EQUIPMENT AND CONSTRUCTION MATERIAL SHALL BE STORED AWAY FROM THE WATERCOURSE AND WETLANDS IN A MANNER THAT PREVENTS ANY DELETERIOUS SUBSTANCE FROM ENTERING THESE NATURAL FEATURES. REFUELING OF MACHINERY AND GENERATORS SHALL NOT BE CONDUCTED WITHIN 30m OF THE WATERCOURSES OR WETLANDS AND SHALL BE COMPLETED IN A CONTROLLED MANNER WITH ADEQUATE SPILL PROTECTION ON SITE





KEY MAP
N.T.S.



SITE MAP
N.T.S.

SCARIFICATION NOTES:

1. ENTIRE WORK AREA TO BE SCARIFIED FOLLOWING COMPLETION OF CLEARING AND GRUBBING.
2. SCARIFICATION TO BE PERFORMED USING A CHISEL PLOW TO RETAIN AS MUCH RESIDUE AT THE SOIL SURFACE AS POSSIBLE.
3. SOIL TO BE SCARIFIED TO A MINIMUM DEPTH OF 150mm, OR AS DEPTH TO BEDROCK PERMITS.
4. SCARIFICATION TO BE PERFORMED PARALLEL TO GROUND SURFACE CONTOURS.
5. SCARIFICATION TO BE PERFORMED AGAIN AT END OF CONSTRUCTION PRIOR TO RESTORATION SEEDING.

REFER TO ELECTRICAL DRAWINGS FOR FINAL LOCATIONS AND DETAILS OF TRENCHING

CONSTRUCTION TRAFFIC CROSSING OVER GRASSED WATERWAYS TO BE LIMITED TO AREAS OF EXPOSED BEDROCK, WHERE POSSIBLE. IN SITUATIONS THIS IS NOT POSSIBLE, DURING THE VARIOUS STAGES OF CONSTRUCTION, CONSTRUCTION TRAFFIC TO TAKE CARE OF VEGETATION BY SLOWER MOVING VEHICLES. MAINTENANCE OF GRASSED WATERWAYS REQUIRED TO MITIGATE ADDITIONAL SEDIMENT MIGRATION FROM SITE.

NOTE:
LIDAR HAS BEEN USED TO ILLUSTRATE EXTERNAL SITE DRAINAGE PATTERN. CONTRACTOR IS RESPONSIBLE TO REVIEW ONSITE ELEVATIONS PRIOR TO COMMENCEMENT OF ANY WORK ONSITE AND ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER OF RECORD

OSC SEED MIX #8140 - NATIVE UPLAND FORAGE AND MEADOW MIX

LATIN NAME	COMMON NAME	%
ELYMUS CANDENSIS	CANADA WILD RYE	35%
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	35%
POA PALUSTRIS	FOWL BLUEGRASS	10%
CAREX VULPINOIDEA	FOX SEDGE	5%
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	5%
SPOROBOLUS CRYPTANDRUS	SAND DROPSEED	10%

APPLICATION:
SOW SEED MIX AT RATE OF 25kg/ha WITH A NURSE CROP OF ANNUAL RYE GRASS, SEEDED AT A RATE OF 22kg/ha

AVAILABLE FROM:
ONTARIO SEED COMPANY
PHONE: 519-886-0557 or 1-800-465-5849
FAX: 519-866-0605

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
1	90.5	153.1	153.1
2	36.5	149.3	149.3
3	145.2	148.6	148.6
4	24.6	147.5	147.5
5	45.7	147.5	147.5
6	14.2	147.2	147.2
7	64.4	146.9	146.9
8	44.2	146.2	146.2
9	173.6	146.2	146.2
10	20.9	144.0	144.0
11	47.7	145.1	145.1
12	63.7	145.3	145.3
13	14.9	142.5	142.5
14	30.3	144.4	144.4
15	78.8	142.3	142.3
16	148.2	141.7	141.7
17	19.7	141.3	141.3
18	179.1	140.9	140.9
19	254.5	140.1	140.1
20	93.0	139.0	139.0
21	53.3	137.3	137.2
22	266.9	137.9	137.9
23	77.0	135.5	135.5
24	89.8	136.1	136.1
25	53.1	136.3	136.3
26	51.9	136.7	136.7
27	145.8	135.6	135.6
28	70.7	135.5	135.5
29	205.6	134.9	134.9
30	137.2	134.6	134.6
31	191.6	134.2	134.2
32	377.9	133.6	133.6
33	75.5	147.9	147.9
34	49.3	148.1	148.1
35	195.4	146.7	146.7
36	213.3	145.8	145.8
37	60.9	145.3	145.3
38	89.9	145.0	145.0
39	59.5	144.8	144.8
40	59.7	144.4	144.4
41	111.8	144.1	144.1
42	2.3	143.7	143.7
43	65.3	142.8	142.8
44	55.8	143.3	143.3
45	58.9	141.5	141.5
46	15.4	141.5	141.5
47	93.2	135.1	135.1
48	26.4	142.6	142.6
49	48.1	140.0	140.0
50	46.8	139.7	139.7
51	29.9	140.8	140.8
52	9.5	139.3	139.3
53	5.9	138.2	138.2
54	107.5	138.1	138.1
55	80.1	137.0	137.0
56	57.5	136.5	136.5
57	27.8	135.9	135.9
58	37.6	135.2	135.2
59	19.4	134.9	134.9
60	72.1	134.0	134.0

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
61	24.9	143.1	143.1
62	60.3	142.5	142.5
63	15.6	141.5	141.5
64	7.5	141.5	141.5
65	12.5	139.9	139.9
66	15.1	139.3	139.3
67	46.9	139.9	139.9
68	16.8	138.0	138.0
69	62.7	136.5	136.5
70	44.9	134.8	134.8
71	86.9	134.0	134.0
72	7.8	149.1	149.1
73	27.6	147.6	147.6
74	54.7	146.6	146.6
75	72.3	145.6	145.6
76	87.0	144.1	144.1
77	89.2	142.8	142.8
78	16.2	143.1	143.1
79	70.8	142.1	142.1
80	56.2	138.1	138.1
81	25.9	140.5	140.5
82	57.4	140.7	140.7
83	106.7	138.3	138.3
84	60.3	136.5	136.5
85	22.8	136.9	136.9
86	48.9	135.3	135.3
87	25.0	136.0	136.0
88	22.4	136.1	136.1
89	78.4	134.4	134.4
90	15.1	134.8	134.8
91	20.4	152.3	152.3
92	134.4	150.7	150.7
93	123.8	149.1	149.1
94	88.2	147.1	147.1
95	10.3	146.1	146.1
96	36.5	146.1	146.1
97	16.4	145.2	145.2
98	24.8	144.6	144.6
99	27.8	144.0	144.0
100	59.1	142.4	142.4
101	98.6	142.0	142.0
102	32.0	141.7	141.7
103	87.7	141.9	141.9
104	27.9	135.3	135.3
105	24.1	140.8	140.8
106	118.8	140.2	140.2
107	18.1	139.3	139.3
108	137.5	140.0	140.0
109	76.0	138.3	138.3
110	53.1	137.9	137.9
111	40.8	136.1	136.1
112	63.5	136.4	136.4
113	111.6	136.1	136.1
114	48.3	136.3	136.3
115	59.3	137.5	137.5
116	227.1	135.1	135.1

Stantec

Stantec Consulting Ltd.
300 Hagey Boulevard
Waterloo ON Canada
Tel. 519.579.4410
www.stantec.com

PCL
CONSTRUCTION LEADERS

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Notes

1. TOPOGRAPHIC INFORMATION CONDUCTED BY LESLIE M. HIGGINSON AND RECEIVED OCTOBER 20, 2017. TOPOGRAPHIC SURVEY IS UTM 18. LIDAR INFORMATION CONDUCTED BY TULOCH ENGINEERING ON JUNE 27, 2016. LIDAR SURVEY IS UTM 18. BEDROCK SURVEY INFORMATION PROVIDED BY PCL CONSTRUCTORS LTD. RECEIVED ON OCTOBER 31, 2017. EXISTING VEGETATION INFORMATION IS APPROXIMATE, PROVIDED FROM AERIAL IMAGERY. CONTRACTOR TO CONFIRM ALL TREE & SHRUB LOCATION ON SITE.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS IN THIS SET PREPARED BY STANTEC CONSULTING LTD.
3. THE CONTRACTOR MUST CHECK AND VERIFY DIMENSIONS; OBTAIN ALL UTILITY LOCATES AND OBTAIN ALL REQUIRED PERMITS/LICENSES AND VERIFY ELEVATIONS OF EXISTING SERVICES BEFORE PROCEEDING WITH ANY WORK.
4. ALL CONSTRUCTION WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS (LATEST EDITION).
5. IF, FOR UNFORESEEN REASONS, THE OWNER AND/OR HIS/HER REPRESENTATIVE MUST ENCROACH ONTO PRIVATE LANDS TO UNDERTAKE ANY WORKS, HE/SHE MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON THE PRIVATE PROPERTY TO PERFORM ANY WORKS. COPIES OF THESE LETTERS OF CONSENT MUST BE SUBMITTED TO THE OWNER AND CONTRACTOR AND A COPY IS TO BE KEPT ON FILE ON SITE PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT THE PROPERTY OWNERS OWN RISK.
6. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY.
7. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ALL DRAINAGE AND MEASURES TO CONTROL WATER. THE SITE IS TO BE FINE GRADED/LEVELED LEAVING THE SITE IN A NEAT APPEARANCE SUCH THAT POSITIVE DRAINAGE IS ACHIEVED EVERYWHERE PRIOR TO THE INSTALLATION OF SOLAR PANELS.
8. CONSTRUCTION TURNING RADIUS LIMITS IDENTIFY AREAS WHERE ADDITIONAL ROAD WIDTH IS REQUIRED TO ALLOW FOR ADEQUATE CLEARANCE FOR CONSTRUCTION VEHICLES.
9. CULVERTS ARE TO BE INSTALLED AS PER OPSD 802.010. SOIL TYPE TO BE CONFIRMED ON SITE FOR DETERMINATION OF TRENCH WIDTH.
10. ALL AREAS WITHIN THE PROPOSED WORKS ARE TO BE RE-VEGETATED USING NATIVE TOPSOIL AND SEED. MIX AND APPLICATION RATE/METHOD TO BE SUBMITTED AND APPROVED BY OWNER PRIOR TO IMPLEMENTATION.
11. CLEARING AND GRUBBING AND REMOVALS TO BE COMPLETED IN ACCORDANCE WITH OPSS 201. TEMPORARY EROSION CONTROL TO BE COMPLETED IN ACCORDANCE WITH OPSS 577.
12. GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010.
13. CULVERT TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 421. HEIGHT OF FILL TABLE FOR CSP CULVERTS TO COMPLY WITH OPSD 805.010.
14. RIPRAP AT CULVERT OUTLETS SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B–B.
15. ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
16. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

Legend

PROPOSED	EXISTING
	FENCE
	TOPOGRAPHIC SURVEY CONTOUR
	LIDAR CONTOUR
	HEAVY DUTY SILT FENCE (SEE DETAILS ON SHEET C–650)
	SWALE
	CULVERT
	ROCK CHECK DAMS (SEE DETAILS ON SHEET C–650)
	OVERLAND FLOW DIRECTION
	SLOPE INTERRUPTION BERM (SEE DETAIL ON SHEET 1 C–604)
	TEMPORARY REMOVAL OF S.I. BERM FOR TRENCH INSTALLATION. TRENCHES TO BE LINED WITH CLAY OR FILLED WITH CONCRETE IF INSTALLED IN BEDROCK
	5.0M WIDE VEGETATIVE BUFFER
	HARDENED SURFACE
	AC CABLE TRENCH
	DC CABLE TRENCH
	POTENTIAL ROCK OUTCROP LOCATIONS
	GRASSED WATERWAY (SEE C–500 FOR DETAILS)
	DIVERSION BERM
	ROCK SPREADER SWALE

B	ISSUED FOR TENDER	MALM	DS	18.01.16
A	ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21
Revision		By	Appd.	YY.MM.DD

File Name: 133560220_C-EC-BLOCK_A.dwg	KC	DS	KC	17.11.30
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A
SEDIMENTATION AND EROSION CONTROL PLAN

Project No.	Scale
133560220	1:750 (0, 7.5, 22.5, 37.5m)
Drawing No.	Sheet / Revision
C-601	3 of 6 / B

Status: Open
Modified: 1/17/2018 8:38:38 AM
Modified By: Joel Veenstra
Version: 2.0
V:\0164\active\133560220\design\drawing_04\civil\Block_A\sheet_files\133560220_C-EC-BLOCK_A.dwg
2018/01/16 7:43 PM By: Samtes, Dan
ORIGINAL SHEET - ARCH D

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
1	90.5	153.1	153.1
2	36.5	149.3	149.3
3	145.2	148.6	148.6
4	24.6	147.5	147.5
5	45.7	147.5	147.5
6	14.2	147.2	147.2
7	64.4	146.9	146.9
8	44.2	146.2	146.2
9	173.6	146.2	146.2
10	20.9	144.0	144.0
11	47.7	145.1	145.1
12	63.7	145.3	145.3
13	14.9	142.5	142.5
14	30.3	144.4	144.4
15	78.8	142.3	142.3
16	148.2	141.7	141.7
17	19.7	141.3	141.3
18	179.1	140.9	140.9
19	254.5	140.1	140.1
20	93.0	139.0	139.0
21	53.3	137.3	137.2
22	266.9	137.9	137.9
23	77.0	135.5	135.5
24	89.8	136.1	136.1
25	53.1	136.3	136.3
26	51.9	136.7	136.7
27	145.8	135.6	135.6
28	70.7	135.5	135.5
29	205.6	134.9	134.9
30	137.2	134.6	134.6
31	191.6	134.2	134.2
32	377.9	133.6	133.6
33	75.5	147.9	147.9
34	49.3	148.1	148.1
35	195.4	146.7	146.7
36	213.3	145.8	145.8
37	60.9	145.3	145.3
38	89.9	145.0	145.0
39	59.5	144.8	144.8
40	59.7	144.4	144.4
41	111.8	144.1	144.1
42	2.3	143.7	143.7
43	65.3	142.8	142.8
44	55.8	143.3	143.3
45	58.9	141.5	141.5
46	15.4	141.5	141.5
47	93.2	135.1	135.1
48	26.4	142.6	142.6
49	48.1	140.0	140.0
50	46.8	139.7	139.7
51	29.9	140.8	140.8
52	9.5	139.3	139.3
53	5.9	138.2	138.2
54	107.5	138.1	138.1
55	80.1	137.0	137.0
56	57.5	136.5	136.5
57	27.8	135.9	135.9
58	37.6	135.2	135.2
59	19.4	134.9	134.9
60	72.1	134.0	134.0

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
61	24.9	143.1	143.1
62	60.3	142.5	142.5
63	15.6	141.5	141.5
64	7.5	141.5	141.5
65	12.5	139.9	139.9
66	15.1	139.3	139.3
67	46.9	139.9	139.9
68	16.8	138.0	138.0
69	62.7	136.5	136.5
70	44.9	134.8	134.8
71	86.9	134.0	134.0
72	7.8	149.1	149.1
73	27.6	147.6	147.6
74	54.7	146.6	146.6
75	72.3	145.6	145.6
76	87.0	144.1	144.1
77	89.2	142.8	142.8
78	16.2	143.1	143.1
79	70.8	142.1	142.1
80	56.2	138.1	138.1
81	25.9	140.5	140.5
82	57.4	140.7	140.7
83	106.7	138.3	138.3
84	60.3	136.5	136.5
85	22.8	136.9	136.9
86	48.9	135.3	135.3
87	25.0	136.0	136.0
88	22.4	136.1	136.1
89	78.4	134.4	134.4
90	15.1	134.8	134.8
91	20.4	152.3	152.3
92	134.4	150.7	150.7
93	123.8	149.1	149.1
94	88.2	147.1	147.1
95	10.3	146.1	146.1
96	38.5	146.1	146.1
97	16.4	145.2	145.2
98	24.8	144.6	144.6
99	27.8	144.0	144.0
100	59.1	142.4	142.4
101	98.6	142.0	142.0
102	32.0	141.7	141.7
103	87.7	141.9	141.9
104	27.9	135.3	135.3
105	24.1	140.8	140.8
106	118.8	140.2	140.2
107	18.1	139.3	139.3
108	137.5	140.0	140.0
109	78.0	138.3	138.3
110	53.1	137.9	137.9
111	40.8	136.1	136.1
112	84.5	134.4	134.4
113	111.6	136.1	136.1
114	48.3	136.3	136.3
115	59.3	137.5	137.5
116	227.1	135.1	135.1

IMPLEMENTATION SCHEDULE AND DETAILS FOR EROSION AND SEDIMENTATION CONTROL MEASURES

CONSTRUCTION	EROSION and SEDIMENT CONTROL MEASURES
PRE-CONSTRUCTION	– EXISTING VEGETATION AND/OR CROP RESIDUE TO REMAIN ON SITE WHERE INDICATED TO MAINTAIN SURFACE COVER FOR THE DURATION OF CONSTRUCTION
FENCE INSTALLATION	– INSTALL ALL SILT FENCE AND PROTECTIVE FENCING AS SHOWN ON THE PLANS AND MAINTAIN DURING CONSTRUCTION – INSTALL PERIMETER SILT FENCE CONCURRENTLY WITH PERIMETER FENCE – ESTABLISH 5.0m WIDE VEGETATED BUFFER
LOCALIZED TOPSOIL STRIPPING	– TEMPORARY STOCKPILES ARE TO HAVE CONTINUOUS SILT FENCE PLACED IMMEDIATELY AROUND THE ENTIRE PERIMETER – PERFORM CONTOUR PLOWING TO SCARIFY WORK AREA
ROAD AND PLATFORM CONSTRUCTION	– MAINTAIN FUNCTION OF EROSION SEDIMENT CONTROLS AND RE-SPREAD TOPSOIL & SEED – INSTALL SLOPE INTERRUPTION BERMS – ALL EROSION AND SEDIMENT CONTROLS ARE TO BE INSPECTED AND MAINTAINED ON A DAILY BASIS AND AFTER EVERY RAINSTORM EVENT (RAIN>0.1mm/h). SILTATION CONTROLS ARE TO REMAIN IN PLACE UNTIL ROAD GRADATION IS IN PLACE AND ALL LANDSCAPED AREAS HAVE BEEN STABILIZED AND VEGETATION HAS BEEN ESTABLISHED TO 90% COVERAGE
SITE STABILIZATION	– STABILIZE SITE WITH PROPOSED STABILIZATION SEED MX AS NOTED ON THIS SHEET. – ALL AREAS WHERE TOPSOIL WAS LEFT IN PLACE DURING CONSTRUCTION SHALL BE SCARIFIED TO LOOSEN SOIL AFTER CONSTRUCTION TO MITIGATE COMPACTION CAUSED BY MACHINERY PRIOR TO RE-SEEDING. TO BE COMPLETED WITH A CHISEL PLOW TO A MINIMUM DEPTH OF 150mm. – INSTALL GRASSED WATERWAY
FOLLOWING SITE STABILIZATION (MATURE VEGETATION)	– REMOVAL OF SEDIMENT CONTROL MEASURES AND COLLECTION OF ACCUMULATED SEDIMENT SHALL OCCUR FOLLOWING SUBSTANTIAL COMPLETION OF CONSTRUCTION (90%-100%) AND SITE STABILIZATION TO 90%
GENERAL	– EQUIPMENT AND CONSTRUCTION MATERIAL SHALL BE STORED AWAY FROM THE WATERCOURSE AND WETLANDS IN A MANNER THAT PREVENTS ANY DELETERIOUS SUBSTANCE FROM ENTERING THESE NATURAL FEATURES. REFUELING OF MACHINERY AND GENERATORS SHALL NOT BE CONDUCTED WITHIN 30m OF THE WATERCOURSES OR WETLANDS AND SHALL BE COMPLETED IN A CONTROLLED MANNER WITH ADEQUATE SPILL PROTECTION ON SITE

SCARIFICATION NOTES:

1. ENTIRE WORK AREA TO BE SCARIFIED FOLLOWING COMPLETION OF CLEARING AND GRUBBING.
2. SCARIFICATION TO BE PERFORMED USING A CHISEL PLOW TO RETAIN AS MUCH RESIDUE AT THE SOIL SURFACE AS POSSIBLE.
3. SOIL TO BE SCARIFIED TO A MINIMUM DEPTH OF 150mm, OR AS DEPTH TO BEDROCK PERMITS.
4. SCARIFICATION TO BE PERFORMED PARALLEL TO GROUND SURFACE CONTOURS.
5. SCARIFICATION TO BE PERFORMED AGAIN AT END OF CONSTRUCTION PRIOR TO RESTORATION SEEDING.

NOTE:
LIDAR HAS BEEN USED TO ILLUSTRATE EXTERNAL SITE DRAINAGE PATTERN. CONTRACTOR IS RESPONSIBLE TO REVIEW ONSITE ELEVATIONS PRIOR TO COMMENCEMENT OF ANY WORK ONSITE AND ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER OF RECORD

REFER TO ELECTRICAL DRAWINGS FOR FINAL LOCATIONS AND DETAILS OF TRENCHING

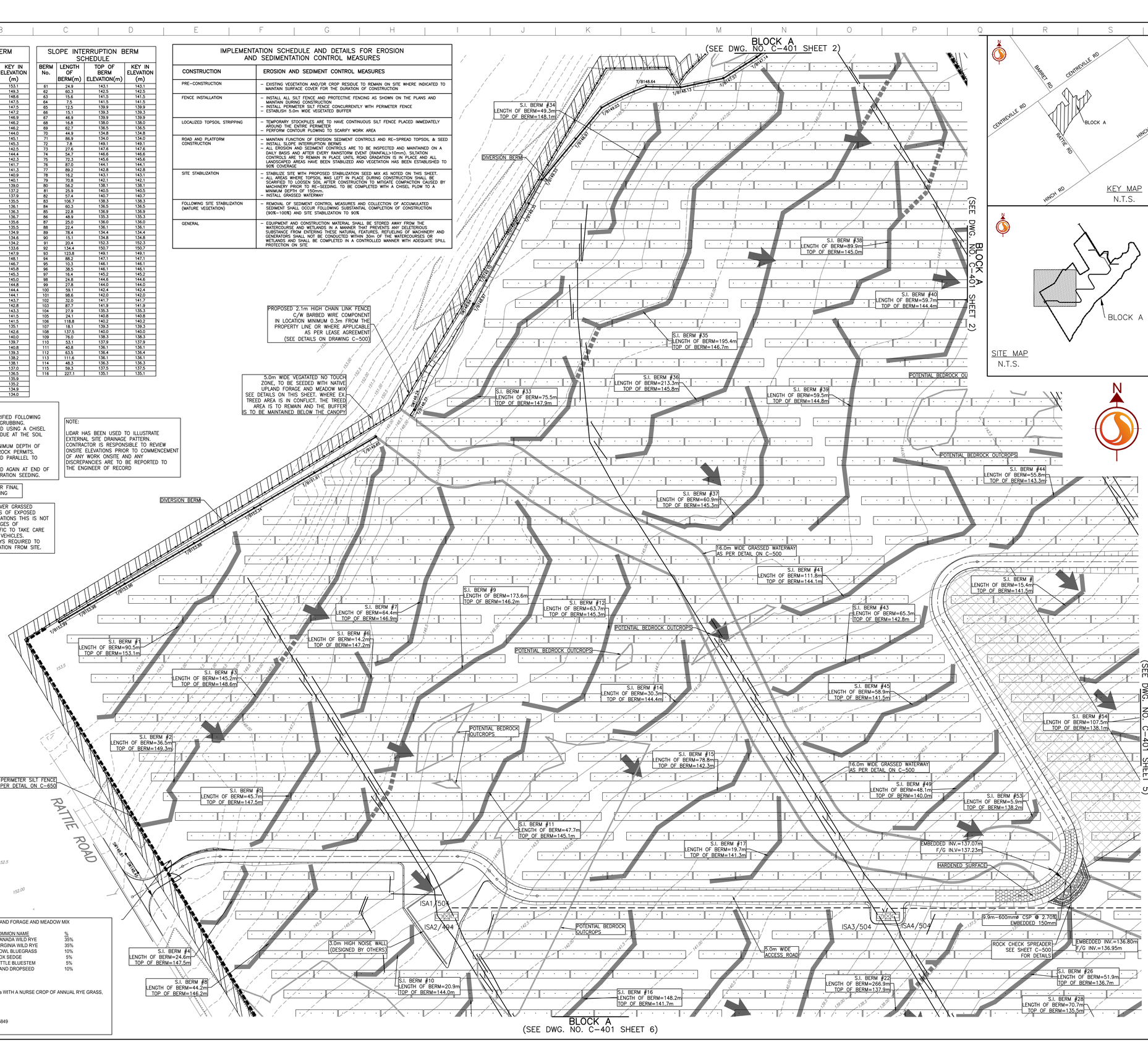
CONSTRUCTION TRAFFIC CROSSING OVER GRASSED WATERWAYS TO BE LIMITED TO AREAS OF EXPOSED BEDROCK, WHERE POSSIBLE. IN SITUATIONS THIS IS NOT POSSIBLE, DURING THE VARIOUS STAGES OF CONSTRUCTION, CONSTRUCTION TRAFFIC TO TAKE CARE OF VEGETATION BY SLOWER MOVING VEHICLES. MAINTENANCE OF GRASSED WATERWAYS REQUIRED TO MITIGATE ADDITIONAL SEDIMENT MIGRATION FROM SITE.

OSC SEED MIX #8140 - NATIVE UPLAND FORAGE AND MEADOW MIX

LATIN NAME	COMMON NAME	%
ELYMUS CANDENSIS	CANADA WILD RYE	35%
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	35%
POA PALUSTRIS	FOWL BLUEGRASS	10%
CAREX VULPINOIDEA	FOX SEDGE	5%
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	5%
SPOROBOLUS CRYPTANDRUS	SAND DROPSEED	10%

APPLICATION:
SOW SEED MIX AT RATE OF 25kg/ha WITH A NURSE CROP OF ANNUAL RYE GRASS, SEEDED AT A RATE OF 22kg/ha

AVAILABLE FROM:
ONTARIO SEED COMPANY
PHONE: 519-866-0557 or 1-800-465-5849
FAX: 519-866-0605



KEY MAP
N.T.S.

SITE MAP
N.T.S.

Legend

PROPOSED	EXISTING
FENCE	
TOPOGRAPHIC SURVEY CONTOUR	295.5
LIDAR CONTOUR	295.5
HEAVY DUTY SILT FENCE (SEE DETAILS ON SHEET C-650)	
SWALE	
CULVERT	
ROCK CHECK DAMS (SEE DETAILS ON SHEET C-650)	
OVERLAND FLOW DIRECTION	
SLOPE INTERRUPTION BERM (SEE DETAIL ON SHEET 1 C-604)	
TEMPORARY REMOVAL OF S.I. BERM FOR TRENCH INSTALLATION. TRENCHES TO BE LINED WITH CLAY OR FILLED WITH CONCRETE IF INSTALLED IN BEDROCK	
5.0M WIDE VEGETATIVE BUFFER	
HARDENED SURFACE	
AC CABLE TRENCH	
DC CABLE TRENCH	
POTENTIAL ROCK OUTCROP LOCATIONS	
GRASSED WATERWAY (SEE C-500 FOR DETAILS)	
DIVERSION BERM	
ROCK SPREADER SWALE	

B	ISSUED FOR TENDER	MALM	DS	18.01.16
A	ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21
Revision		By	Appd.	YY.MM.DD

File Name: 133560220_C-EC-BLOCK_A.dwg	KC	DS	KC	17.11.30
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Stantec

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300 Hagey Boulevard
Waterloo ON Canada
Tel. 519.579.4410
www.stantec.com

PCL
CONSTRUCTION LEADERS

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Notes

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2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS IN THIS SET PREPARED BY STANTEC CONSULTING LTD.
3. THE CONTRACTOR MUST CHECK AND VERIFY DIMENSIONS; OBTAIN ALL UTILITY LOCATES AND OBTAIN ALL REQUIRED PERMITS/LICENSES AND VERIFY ELEVATIONS OF EXISTING SERVICES BEFORE PROCEEDING WITH ANY WORK.
4. ALL CONSTRUCTION WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS (LATEST EDITION).
5. IF, FOR UNFORESEEN REASONS, THE OWNER AND/OR HIS/HER REPRESENTATIVE MUST ENCROACH ONTO PRIVATE LANDS TO UNDERTAKE ANY WORKS, HE/SHE MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON THE PRIVATE PROPERTY TO PERFORM ANY WORKS. COPIES OF THESE LETTERS OF CONSENT MUST BE SUBMITTED TO THE OWNER AND CONTRACTOR AND A COPY IS TO BE KEPT ON FILE ON SITE PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT THE PROPERTY OWNERS OWN RISK.
6. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY.
7. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ALL DRAINAGE AND MEASURES TO CONTROL WATER. THE SITE IS TO BE FINE GRADED/LEVELED LEAVING THE SITE IN A NEAT APPEARANCE SUCH THAT POSITIVE DRAINAGE IS ACHIEVED EVERYWHERE PRIOR TO THE INSTALLATION OF SOLAR PANELS.
8. CONSTRUCTION TURNING RADIUS LIMITS IDENTIFY AREAS WHERE ADDITIONAL ROAD WIDTH IS REQUIRED TO ALLOW FOR ADEQUATE TURNING FOR CONSTRUCTION VEHICLES.
9. CULVERTS ARE TO BE INSTALLED AS PER OPSD 802.010. SOIL TYPE TO BE CONFIRMED ON SITE FOR DETERMINATION OF TRENCH WIDTH.
10. ALL AREAS WITHIN THE PROPOSED WORKS ARE TO BE RE-VEGETATED USING NATIVE TOPSOIL AND SEED MIX AND APPLICATION RATE/METHOD TO BE SUBMITTED AND APPROVED BY OWNER PRIOR TO IMPLEMENTATION.
11. CLEARING AND GRUBBING AND REMOVALS TO BE COMPLETED IN ACCORDANCE WITH OPSS 201. TEMPORARY EROSION CONTROL TO BE COMPLETED IN ACCORDANCE WITH OPSS 577.
12. GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010.
13. CULVERT TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 421. HEIGHT OF FILL TABLE FOR CSP CULVERTS TO COMPLY WITH OPSD 805.010.
14. RIPRAP AT CULVERT OUTLETS SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B-B.
15. ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
16. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A
SEDIMENTATION AND EROSION CONTROL PLAN

Project No.	Scale	Drawing No.	Sheet	Revision
133560220	1:750 (0 7.5 22.5 37.5m)	C-601	4 of 6	B

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2018/01/16 5:43 PM By: Santos, Dan

Version: 2.0 Modified By: Joel Veenstra Modified: 1/17/2018 8:36:38 AM Status: Open

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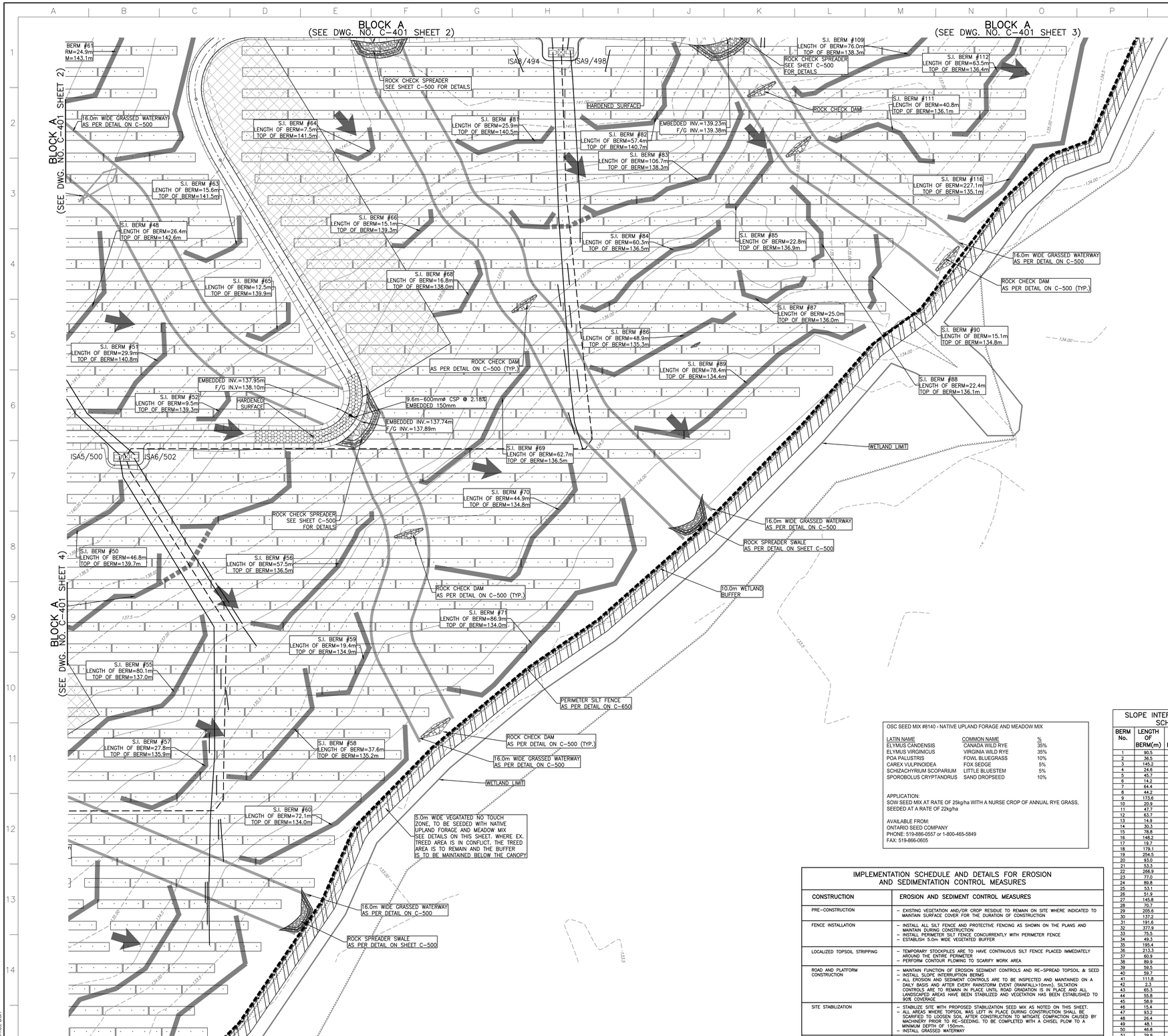
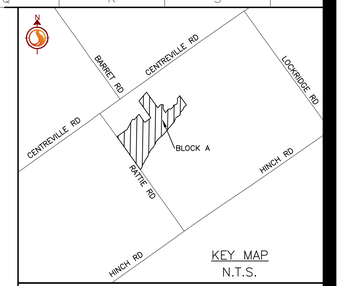
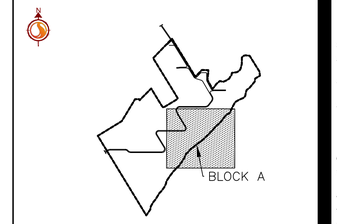




KEY MAP
N.T.S.



SITE MAP
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AVAILABLE FROM:
ONTARIO SEED COMPANY
PHONE: 519-886-0557 or 1-800-465-5849
FAX: 519-886-0605

IMPLEMENTATION SCHEDULE AND DETAILS FOR EROSION AND SEDIMENTATION CONTROL MEASURES

CONSTRUCTION	EROSION AND SEDIMENT CONTROL MEASURES
PRE-CONSTRUCTION	– EXISTING VEGETATION AND/OR CROP RESIDUE TO REMAIN ON SITE WHERE INDICATED TO MAINTAIN SURFACE COVER FOR THE DURATION OF CONSTRUCTION
FENCE INSTALLATION	– INSTALL ALL SILT FENCE AND PROTECTIVE FENCING AS SHOWN ON THE PLANS AND MAINTAIN DURING CONSTRUCTION – INSTALL PERIMETER SILT FENCE CONCURRENTLY WITH PERIMETER FENCE – ESTABLISH 5.0m WIDE VEGETATED BUFFER
LOCALIZED TOPSOIL STRIPPING	– TEMPORARY STOCKPILES ARE TO HAVE CONTINUOUS SILT FENCE PLACED IMMEDIATELY AROUND THE ENTIRE PERIMETER – PERFORM CONTOUR PLOWING TO SCARIFY WORK AREA
ROAD AND PLATFORM CONSTRUCTION	– MAINTAIN FUNCTION OF EROSION SEDIMENT CONTROLS AND RE-SPREAD TOPSOIL & SEED – INSTALL SLOPE INTERRUPTION BERMS – ALL EROSION AND SEDIMENT CONTROLS ARE TO BE INSPECTED AND MAINTAINED ON A DAILY BASIS AND AFTER EVERY RAINSTORM EVENT (RAINFALL>10mm). SILTATION CONTROLS ARE TO REMAIN IN PLACE UNTIL ROAD GRADATION IS IN PLACE AND ALL LANDSCAPED AREAS HAVE BEEN STABILIZED AND VEGETATION HAS BEEN ESTABLISHED TO 90% COVERAGE
SITE STABILIZATION	– STABILIZE SITE WITH PROPOSED STABILIZATION SEED MIX AS NOTED ON THIS SHEET. – ALL AREAS WHERE TOPSOIL WAS LEFT IN PLACE DURING CONSTRUCTION SHALL BE SCARIFIED TO LOOSEN SOIL AFTER CONSTRUCTION TO MITIGATE COMPACTION CAUSED BY MACHINERY PRIOR TO RE-SEEDING. TO BE COMPLETED WITH A CHISEL PLOW TO A MINIMUM DEPTH OF 150mm. – INSTALL GRASSED WATERWAY
FOLLOWING SITE STABILIZATION (MATURE VEGETATION)	– REMOVAL OF SEDIMENT CONTROL MEASURES AND COLLECTION OF ACCUMULATED SEDIMENT SHALL OCCUR FOLLOWING SUBSTANTIAL COMPLETION OF CONSTRUCTION (90%-100%) AND SITE STABILIZATION TO 90%
GENERAL	– EQUIPMENT AND CONSTRUCTION MATERIAL SHALL BE STORED AWAY FROM THE WATERCOURSE AND WETLANDS IN A MANNER THAT PREVENTS ANY DELETERIOUS SUBSTANCE FROM ENTERING THESE NATURAL FEATURES. REFUELING OF MACHINERY AND GENERATORS SHALL NOT BE CONDUCTED WITHIN 30m OF THE WATERCOURSES OR WETLANDS AND SHALL BE COMPLETED IN A CONTROLLED MANNER WITH ADEQUATE SPILL PROTECTION ON SITE

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
1	90.5	153.1	153.1
2	36.5	149.3	149.3
3	145.2	148.6	148.6
4	24.6	147.5	147.5
5	45.7	147.5	147.5
6	14.2	147.2	147.2
7	64.4	146.9	146.9
8	44.2	146.2	146.2
9	173.6	146.2	146.2
10	20.9	144.0	144.0
11	47.7	145.1	145.1
12	63.7	145.3	145.3
13	14.9	142.5	142.5
14	30.3	144.4	144.4
15	78.8	142.3	142.3
16	148.2	141.7	141.7
17	19.7	141.3	141.3
18	179.1	140.9	140.9
19	254.5	140.1	140.1
20	93.0	139.0	139.0
21	53.3	137.3	137.2
22	266.9	137.9	137.9
23	77.0	135.5	135.5
24	89.8	136.1	136.1
25	53.1	136.3	136.3
26	51.9	136.7	136.7
27	145.8	135.6	135.6
28	70.7	135.5	135.5
29	205.6	134.9	134.9
30	137.2	134.6	134.6
31	191.6	134.2	134.2
32	377.9	133.6	133.6
33	75.5	147.9	147.9
34	49.3	148.1	148.1
35	195.4	146.7	146.7
36	213.3	145.8	145.8
37	60.9	145.3	145.3
38	89.9	145.0	145.0
39	59.5	144.8	144.8
40	59.7	144.4	144.4
41	111.8	144.1	144.1
42	2.3	143.7	143.7
43	65.3	142.8	142.8
44	55.8	143.3	143.3
45	58.9	141.5	141.5
46	15.4	141.5	141.5
47	93.2	135.1	135.1
48	26.4	142.6	142.6
49	48.1	140.0	140.0
50	46.8	139.7	139.7
51	29.9	140.8	140.8
52	9.5	139.3	139.3
53	5.9	138.2	138.2
54	107.5	138.1	138.1
55	80.1	137.0	137.0
56	57.5	136.5	136.5
57	27.8	135.9	135.9
58	37.6	135.2	135.2
59	19.4	134.9	134.9
60	72.1	134.0	134.0

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
61	24.9	143.1	143.1
62	60.3	142.5	142.5
63	15.6	141.5	141.5
64	7.5	141.5	141.5
65	12.5	139.9	139.9
66	15.1	139.3	139.3
67	46.9	139.9	139.9
68	16.8	138.0	138.0
69	62.7	136.5	136.5
70	44.9	134.8	134.8
71	86.9	134.0	134.0
72	7.8	149.1	149.1
73	27.6	147.6	147.6
74	54.7	146.6	146.6
75	72.3	145.6	145.6
76	87.0	144.1	144.1
77	89.2	142.8	142.8
78	16.2	143.1	143.1
79	70.8	142.1	142.1
80	56.2	138.1	138.1
81	25.9	140.5	140.5
82	57.4	140.7	140.7
83	106.7	138.3	138.3
84	60.3	136.5	136.5
85	22.8	136.9	136.9
86	48.9	135.3	135.3
87	25.0	136.0	136.0
88	22.4	136.1	136.1
89	78.4	134.4	134.4
90	15.1	134.8	134.8
91	20.4	152.3	152.3
92	134.4	150.7	150.7
93	123.8	149.1	149.1
94	88.2	147.1	147.1
95	10.3	146.1	146.1
96	38.5	146.1	146.1
97	16.4	145.2	145.2
98	24.8	144.6	144.6
99	27.8	144.0	144.0
100	59.1	142.4	142.4
101	98.6	142.0	142.0
102	32.0	141.7	141.7
103	87.7	141.9	141.9
104	27.9	135.3	135.3
105	24.1	140.8	140.8
106	118.8	140.2	140.2
107	18.1	139.3	139.3
108	137.5	140.0	140.0
109	76.0	138.3	138.3
110	53.1	137.9	137.9
111	40.8	136.1	136.1
112	63.5	136.4	136.4
113	111.6	136.1	136.1
114	48.3	136.3	136.3
115	59.3	137.5	137.5
116	227.1	135.1	135.1

Notes

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8. CONSTRUCTION TURNING RADIUS LIMITS IDENTIFY AREAS WHERE ADDITIONAL ROAD WIDTH IS REQUIRED TO ALLOW FOR ADEQUATE CLEARANCE FOR CONSTRUCTION VEHICLES.
9. CULVERTS ARE TO BE INSTALLED AS PER OPSD 802.010. SOIL TYPE TO BE CONFIRMED ON SITE FOR DETERMINATION OF TRENCH WIDTH.
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12. GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010.
13. CULVERT TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 421. HEIGHT OF FILL TABLE FOR CSP CULVERTS TO COMPLY WITH OPSD 805.010.
14. RIPRAP AT CULVERT OUTLETS SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B-B.
15. ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
16. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

Legend

PROPOSED	EXISTING
FENCE	
TOPOGRAPHIC SURVEY CONTOUR	295.5
LIDAR CONTOUR	295.5
HEAVY DUTY SILT FENCE (SEE DETAILS ON SHEET C-650)	
SWALE	
CULVERT	
ROCK CHECK DAMS (SEE DETAILS ON SHEET C-650)	
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TEMPORARY REMOVAL OF S.I. BERM FOR TRENCH INSTALLATION. TRENCHES TO BE LINED WITH CLAY OR FILLED WITH CONCRETE IF INSTALLED IN BEDROCK	
5.0M WIDE VEGETATIVE BUFFER	
HARDENED SURFACE	
AC CABLE TRENCH	
DC CABLE TRENCH	
POTENTIAL ROCK OUTCROP LOCATIONS	
GRASSED WATERWAY (SEE C-500 FOR DETAILS)	
DIVERSION BERM	
ROCK SPREADER SWALE	

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PCL
CONSTRUCTION LEADERS

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B	ISSUED FOR TENDER	MALM	DS	18.01.16
A	ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21
Revision		By	Appd.	YY.MM.DD
File Name: 133560220_C-EC-BLOCK_A.dwg		KC	DS	KC 17.11.30
		Dwn.	Chkd.	Dsgn. YY.MM.DD

Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
BLOCK A
SEDIMENTATION AND EROSION CONTROL PLAN

Project No. 133560220
Scale 1:750 (0, 7.5, 22.5, 37.5m)
Drawing No. C-601
Sheet 5 of 6
Revision B

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2018/01/16 5:45 PM By: Stantec, Dsm
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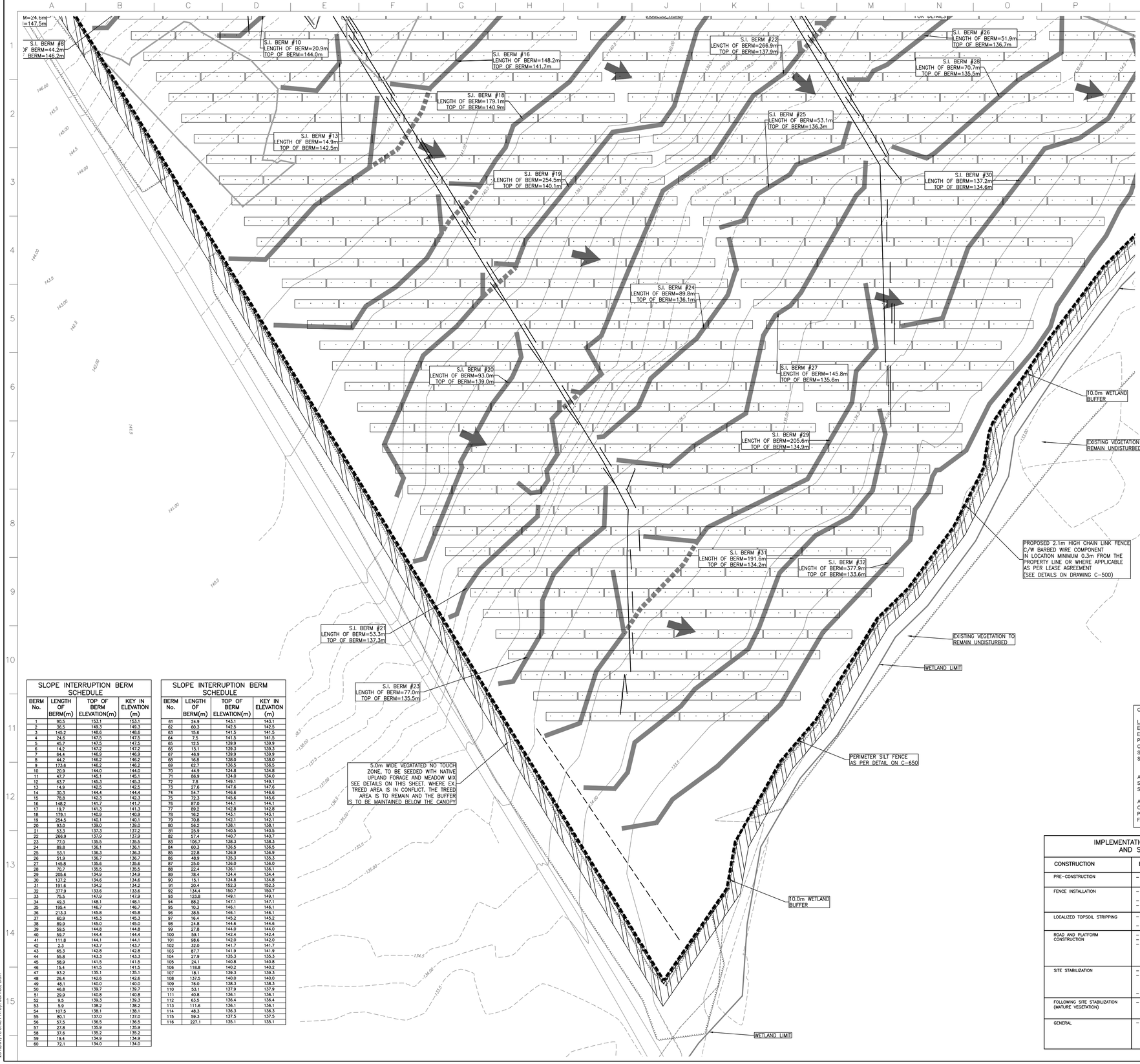
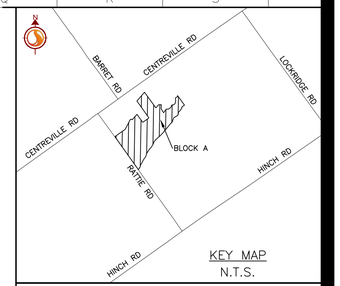
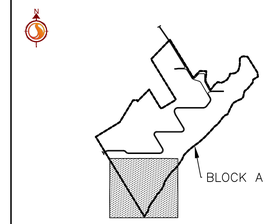
Version: 2.0 Modified By: Joel Veenstra Modified: 1/17/2018 8:38:38 AM Status: Open





KEY MAP
N.T.S.



SITE MAP
N.T.S.

NOTE:

LIDAR HAS BEEN USED TO ILLUSTRATE EXTERNAL SITE DRAINAGE PATTERN. CONTRACTOR IS RESPONSIBLE TO REVIEW ONSITE ELEVATIONS PRIOR TO COMMENCEMENT OF ANY WORK ONSITE AND ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER OF RECORD

SCARIFICATION NOTES:

1. ENTIRE WORK AREA TO BE SCARIFIED FOLLOWING COMPLETION OF CLEARING AND GRUBBING.
2. SCARIFICATION TO BE PERFORMED USING A CHISEL PLOW TO RETAIN AS MUCH RESIDUE AT THE SOIL SURFACE AS POSSIBLE.
3. SOIL TO BE SCARIFIED TO A MINIMUM DEPTH OF 150mm, OR AS DEPTH TO BEDROCK PERMITS.
4. SCARIFICATION TO BE PERFORMED PARALLEL TO GROUND SURFACE CONTOURS.
5. SCARIFICATION TO BE PERFORMED AGAIN AT END OF CONSTRUCTION PRIOR TO RESTORATION SEEDING.

REFER TO ELECTRICAL DRAWINGS FOR FINAL LOCATIONS AND DETAILS OF TRENCHING

CONSTRUCTION TRAFFIC CROSSING OVER GRASSED WATERWAYS TO BE LIMITED TO AREAS OF EXPOSED BEDROCK, WHERE POSSIBLE. IN SITUATIONS THIS IS NOT POSSIBLE, DURING THE VARIOUS STAGES OF CONSTRUCTION, CONSTRUCTION TRAFFIC TO TAKE CARE OF VEGETATION BY SLOWER MOVING VEHICLES. MAINTENANCE OF GRASSED WATERWAYS REQUIRED TO MITIGATE ADDITIONAL SEDIMENT MIGRATION FROM SITE.

OSC SEED MIX #8140 - NATIVE UPLAND FORAGE AND MEADOW MIX

LATIN NAME	COMMON NAME	%
ELYMUS CANDENSIS	CANADA WILD RYE	35%
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	35%
POA PALUSTRIS	FOWL BLUEGRASS	10%
CAREX VULPINOIDEA	FOX SEDGE	5%
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	5%
SPOROBOLUS CRYPTANDRUS	SAND DROPSEED	10%

APPLICATION:
SOW SEED MIX AT RATE OF 25kg/ha WITH A NURSE CROP OF ANNUAL RYE GRASS, SEEDED AT A RATE OF 22kg/ha

AVAILABLE FROM:
ONTARIO SEED COMPANY
PHONE: 519-886-0557 or 1-800-465-5849
FAX: 519-866-0605

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
1	90.5	153.1	153.1
2	36.5	149.3	149.3
3	145.2	148.6	148.6
4	24.6	147.5	147.5
5	45.7	147.5	147.5
6	14.2	147.2	147.2
7	64.4	146.9	146.9
8	44.2	146.2	146.2
9	173.6	146.2	146.2
10	20.9	144.0	144.0
11	47.7	145.1	145.1
12	63.7	145.3	145.3
13	14.9	142.5	142.5
14	30.3	144.4	144.4
15	78.8	142.3	142.3
16	148.2	141.7	141.7
17	19.7	141.3	141.3
18	179.1	140.9	140.9
19	254.5	140.1	140.1
20	93.0	139.0	139.0
21	53.3	137.3	137.2
22	266.9	137.9	137.9
23	77.0	135.5	135.5
24	89.8	136.1	136.1
25	53.1	136.3	136.3
26	51.9	136.7	136.7
27	145.8	135.6	135.6
28	70.7	135.5	135.5
29	205.6	134.9	134.9
30	137.2	134.6	134.6
31	191.6	134.2	134.2
32	377.9	133.6	133.6
33	75.5	147.9	147.9
34	49.3	148.1	148.1
35	195.4	146.7	146.7
36	213.3	145.8	145.8
37	60.9	145.3	145.3
38	89.9	145.0	145.0
39	59.5	144.8	144.8
40	59.7	144.4	144.4
41	111.8	144.1	144.1
42	2.3	143.7	143.7
43	65.3	142.8	142.8
44	55.8	143.3	143.3
45	58.9	141.5	141.5
46	15.4	141.5	141.5
47	93.2	135.1	135.1
48	26.4	142.6	142.6
49	48.1	140.0	140.0
50	46.8	139.7	139.7
51	29.9	140.8	140.8
52	9.5	139.3	139.3
53	5.9	138.2	138.2
54	107.5	138.1	138.1
55	80.1	137.0	137.0
56	57.5	136.5	136.5
57	27.8	135.9	135.9
58	37.6	135.2	135.2
59	19.4	134.9	134.9
60	72.1	134.0	134.0

SLOPE INTERRUPTION BERM SCHEDULE

BERM No.	LENGTH OF BERM(m)	TOP OF BERM ELEVATION(m)	KEY IN ELEVATION (m)
61	24.9	143.1	143.1
62	60.3	142.5	142.5
63	15.6	141.5	141.5
64	7.5	141.5	141.5
65	12.5	139.9	139.9
66	15.1	139.3	139.3
67	46.9	139.9	139.9
68	16.8	138.0	138.0
69	62.7	136.5	136.5
70	44.9	134.8	134.8
71	86.9	134.0	134.0
72	7.8	149.1	149.1
73	27.6	147.6	147.6
74	54.7	146.6	146.6
75	72.3	145.6	145.6
76	87.0	144.1	144.1
77	89.2	142.8	142.8
78	16.2	143.1	143.1
79	70.8	142.1	142.1
80	56.2	138.1	138.1
81	25.9	140.5	140.5
82	57.4	140.7	140.7
83	106.7	138.3	138.3
84	60.3	136.5	136.5
85	22.8	136.9	136.9
86	48.9	135.3	135.3
87	25.0	136.0	136.0
88	22.4	136.1	136.1
89	78.4	134.4	134.4
90	15.1	134.8	134.8
91	20.4	152.3	152.3
92	134.4	150.7	150.7
93	123.8	149.1	149.1
94	88.2	147.1	147.1
95	10.3	146.1	146.1
96	38.5	146.1	146.1
97	16.4	145.2	145.2
98	24.8	144.6	144.6
99	27.8	144.0	144.0
100	59.1	142.4	142.4
101	98.6	142.0	142.0
102	32.0	141.7	141.7
103	87.7	141.9	141.9
104	27.9	135.3	135.3
105	24.1	140.8	140.8
106	118.8	140.2	140.2
107	18.1	139.3	139.3
108	137.5	140.0	140.0
109	76.0	138.3	138.3
110	53.1	137.9	137.9
111	40.8	136.1	136.1
112	63.5	136.4	136.4
113	111.6	136.1	136.1
114	48.3	136.3	136.3
115	59.3	137.5	137.5
116	227.1	135.1	135.1

IMPLEMENTATION SCHEDULE AND DETAILS FOR EROSION AND SEDIMENTATION CONTROL MEASURES

CONSTRUCTION	EROSION AND SEDIMENT CONTROL MEASURES
PRE-CONSTRUCTION	– EXISTING VEGETATION AND/OR CROP RESIDUE TO REMAIN ON SITE WHERE INDICATED TO MAINTAIN SURFACE COVER FOR THE DURATION OF CONSTRUCTION
FENCE INSTALLATION	– INSTALL ALL SILT FENCE AND PROTECTIVE FENCING AS SHOWN ON THE PLANS AND MAINTAIN DURING CONSTRUCTION – INSTALL PERIMETER SILT FENCE CONCURRENTLY WITH PERIMETER FENCE – ESTABLISH 5.0m WIDE VEGETATED BUFFER
LOCALIZED TOPSOIL STRIPPING	– TEMPORARY STOCKPILES ARE TO HAVE CONTINUOUS SILT FENCE PLACED IMMEDIATELY AROUND THE ENTIRE PERIMETER – PERFORM CONTOUR PLOWING TO SCARIFY WORK AREA
ROAD AND PLATFORM CONSTRUCTION	– MAINTAIN FUNCTION OF EROSION SEDIMENT CONTROLS AND RE-SPREAD TOPSOIL & SEED – INSTALL SLOPE INTERRUPTION BERMS – ALL EROSION AND SEDIMENT CONTROLS ARE TO BE INSPECTED AND MAINTAINED ON A DAILY BASIS AND AFTER EVERY RAINSTORM EVENT (RAINFALL>10mm). SILTATION CONTROLS ARE TO REMAIN IN PLACE UNTIL ROAD GRADATION IS IN PLACE AND ALL LANDSCAPED AREAS HAVE BEEN STABILIZED AND VEGETATION HAS BEEN ESTABLISHED TO 90% COVERAGE
SITE STABILIZATION	– STABILIZE SITE WITH PROPOSED STABILIZATION SEED MIX AS NOTED ON THIS SHEET. – ALL AREAS WHERE TOPSOIL WAS LEFT IN PLACE DURING CONSTRUCTION SHALL BE SCARIFIED TO LOOSEN SOIL AFTER CONSTRUCTION TO MITIGATE COMPACTION CAUSED BY MACHINERY PRIOR TO RE-SEEDING. TO BE COMPLETED WITH A CHISEL PLOW TO A MINIMUM DEPTH OF 150mm. – INSTALL GRASSED WATERWAY
FOLLOWING SITE STABILIZATION (MATURE VEGETATION)	– REMOVAL OF SEDIMENT CONTROL MEASURES AND COLLECTION OF ACCUMULATED SEDIMENT SHALL OCCUR FOLLOWING SUBSTANTIAL COMPLETION OF CONSTRUCTION (90%-100%) AND SITE STABILIZATION TO 90%
GENERAL	– EQUIPMENT AND CONSTRUCTION MATERIAL SHALL BE STORED AWAY FROM THE WATERCOURSE AND WETLANDS IN A MANNER THAT PREVENTS ANY DELETERIOUS SUBSTANCE FROM ENTERING THESE NATURAL FEATURES. REFUELING OF MACHINERY AND GENERATORS SHALL NOT BE CONDUCTED WITHIN 30m OF THE WATERCOURSES OR WETLANDS AND SHALL BE COMPLETED IN A CONTROLLED MANNER WITH ADEQUATE SPILL PROTECTION ON SITE

Legend

PROPOSED	EXISTING
FENCE	
TOPOGRAPHIC SURVEY CONTOUR	295.5
LIDAR CONTOUR	295.5
HEAVY DUTY SILT FENCE (SEE DETAILS ON SHEET C-650)	
SWALE	
CULVERT	
ROCK CHECK DAMS (SEE DETAILS ON SHEET C-650)	
OVERLAND FLOW DIRECTION	
SLOPE INTERRUPTION BERM (SEE DETAIL ON SHEET 1 C-604)	
TEMPORARY REMOVAL OF S.I. BERM FOR TRENCH INSTALLATION. TRENCHES TO BE LINED WITH CLAY OR FILLED WITH CONCRETE IF INSTALLED IN BEDROCK	
5.0M WIDE VEGETATIVE BUFFER	
HARDENED SURFACE	
AC CABLE TRENCH	
DC CABLE TRENCH	
POTENTIAL ROCK OUTCROP LOCATIONS	
GRASSED WATERWAY (SEE C-500 FOR DETAILS)	
DIVERSION BERM	
ROCK SPREADER SWALE	

B	ISSUED FOR TENDER	MALM	DS	18.01.16
A	ISSUED FOR CLIENT REVIEW	KC	DS	17.12.21
Revision		By	Appd.	YY.MM.DD

File Name: 133560220_C-EC-BLOCK_A.dwg	KC	DS	KC	17.11.30
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project

LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title

BLOCK A
SEDIMENTATION AND EROSION CONTROL PLAN

Project No.	Scale	Revision
133560220	1:750 (0, 7.5, 22.5, 37.5m)	
Drawing No.	Sheet	
C-601	6 of 6	B

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Notes

1. TOPOGRAPHIC INFORMATION CONDUCTED BY LESLIE M. HIGGINSON AND RECEIVED OCTOBER 20, 2017. TOPOGRAPHIC SURVEY IS UTM 18. LIDAR INFORMATION CONDUCTED BY TULLOCH ENGINEERING ON JUNE 27, 2016. LIDAR SURVEY IS UTM 18. BEDROCK SURVEY INFORMATION PROVIDED BY PCL CONSTRUCTORS LTD. RECEIVED ON OCTOBER 31, 2017. EXISTING VEGETATION INFORMATION IS APPROXIMATE, PROVIDED FROM AERIAL IMAGERY. CONTRACTOR TO CONFIRM ALL TREE & SHRUB LOCATION ON SITE.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS IN THIS SET PREPARED BY STANTEC CONSULTING LTD.
3. THE CONTRACTOR MUST CHECK AND VERIFY DIMENSIONS; OBTAIN ALL UTILITY LOCATES AND OBTAIN ALL REQUIRED PERMITS/LICENSES AND VERIFY ELEVATIONS OF EXISTING SERVICES BEFORE PROCEEDING WITH ANY WORK.
4. ALL CONSTRUCTION WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS (LATEST EDITION).
5. IF, FOR UNFORESEEN REASONS, THE OWNER AND/OR HIS/HER REPRESENTATIVE MUST ENCROACH ONTO PRIVATE LANDS TO UNDERTAKE ANY WORKS, HE/SHE MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON THE PRIVATE PROPERTY TO PERFORM ANY WORKS. COPIES OF THESE LETTERS OF CONSENT MUST BE SUBMITTED TO THE OWNER AND CONTRACTOR AND A COPY IS TO BE KEPT ON FILE ON SITE PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT THE PROPERTY OWNERS OWN RISK.
6. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY.
7. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ALL DRAINAGE AND MEASURES TO CONTROL WATER. THE SITE IS TO BE FINE GRADED/LEVELED LEAVING THE SITE IN A NEAT APPEARANCE SUCH THAT POSITIVE DRAINAGE IS ACHIEVED EVERYWHERE PRIOR TO THE INSTALLATION OF SOLAR PANELS.
8. CONSTRUCTION TURNING RADIUS LIMITS IDENTIFY AREAS WHERE ADDITIONAL ROAD WIDTH IS REQUIRED TO ALLOW FOR ADEQUATE CLEARANCE FOR CONSTRUCTION VEHICLES.
9. CULVERTS ARE TO BE INSTALLED AS PER OPSD 802.010. SOIL TYPE TO BE CONFIRMED ON SITE FOR DETERMINATION OF TRENCH WIDTH.
10. ALL AREAS WITHIN THE PROPOSED WORKS ARE TO BE RE-VEGETATED USING NATIVE TOPSOIL AND SEED. MIX AND APPLICATION RATE/METHOD TO BE SUBMITTED AND APPROVED BY OWNER PRIOR TO IMPLEMENTATION.
11. CLEARING AND GRUBBING AND REMOVALS TO BE COMPLETED IN ACCORDANCE WITH OPSS 201. TEMPORARY EROSION CONTROL TO BE COMPLETED IN ACCORDANCE WITH OPSS 577.
12. GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010.
13. CULVERT TO BE CONSTRUCTED IN ACCORDANCE WITH OPSS 421. HEIGHT OF FILL TABLE FOR CSP CULVERTS TO COMPLY WITH OPSD 805.010.
14. RIPRAP AT CULVERT OUTLETS SHALL BE IN ACCORDANCE WITH OPSD 810.010 SECTION B-B.
15. ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
16. ROCK SPOIL FROM INSTALLATION TO BE REMOVED FROM GROUND SURFACE PRIOR TO GROUND PREPARATION FOR RESTORATION SEEDING.

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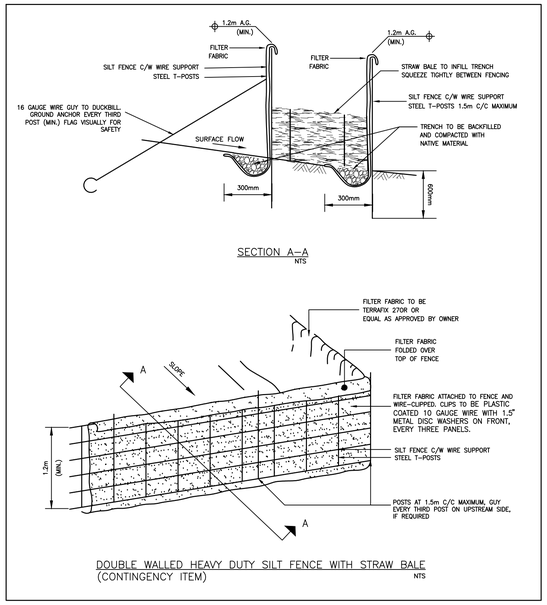
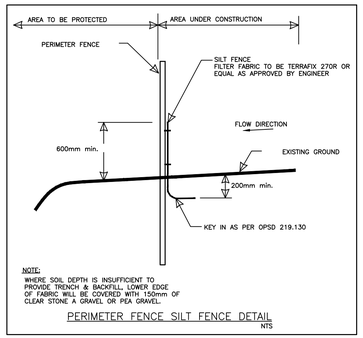
2018/01/16 5:46 PM By: Santos, Dan
Status: Open
Modified: 1/17/2018 8:36:36 AM
Modified By: Joel Veenstra
Version: 2.0
ORIGINAL SHEET - ARCH D



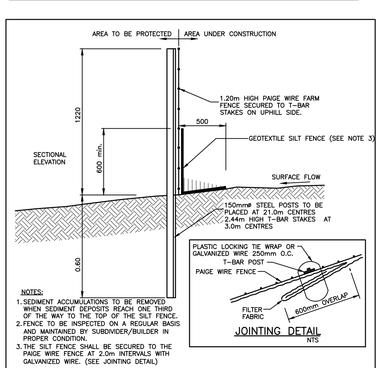
SECTION A–A
NTS

DOUBLE WALLED HEAVY DUTY SILT FENCE WITH STRAW BALE
(CONTINGENCY ITEM)
NTS



NOTE:
WHERE SOIL DEPTH IS INSUFFICIENT TO PROVIDE TRENCH & BACKFILL, LOWER EDGE OF FABRIC WILL BE COVERED WITH 150mm OF CLEAR STONE A GRAVEL OR PEA GRAVEL.

PERIMETER FENCE SILT FENCE DETAIL
NTS



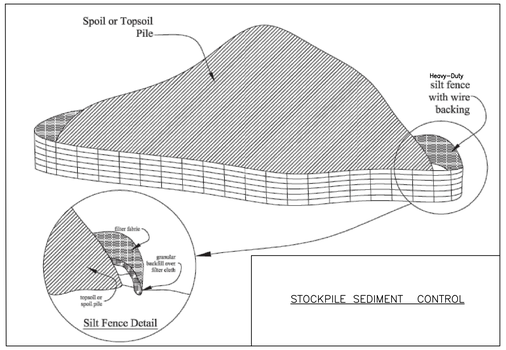
NOTES:
1. SEDIMENT ACCUMULATIONS TO BE REMOVED WHEN SEDIMENT DEPOSITS REACH ONE THIRD OF THE WAY TO THE TOP OF THE SILT FENCE.
2. FENCE TO BE INSPECTED ON A REGULAR BASIS AND MAINTAINED BY SUBDIVIDER/BUILDER IN PROPER CONDITION.
3. THE SILT FENCE SHALL BE SECURED TO THE PAIGE WIRE FENCE AT 2.0m INTERVALS WITH GALVANIZED WIRE. (SEE JOINTING DETAIL)
4. WHERE SOIL DEPTH IS INSUFFICIENT TO PROVIDE TRENCH & BACKFILL, LOWER EDGE OF FABRIC WILL BE COVERED WITH 150mm OF CLEAR STONE A GRAVEL

HEAVY DUTY SILT FENCE DETAIL
(CONTINGENCY ITEM)
NTS

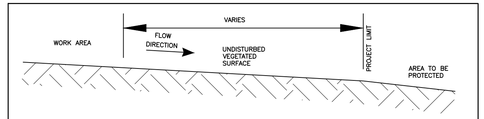
NOTE:
ALL SLOPES TO BE HYDRO SEEDED ON 100mm TOPSOIL.

TEMPORARY DIVERSION SWALE
(TYPICAL CROSS-SECTION)
NTS

(CONTINGENCY ITEM)

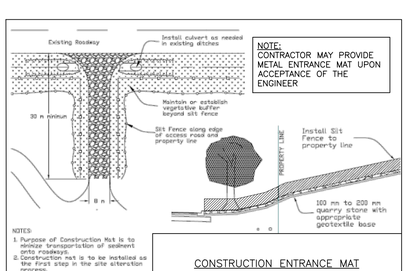


STOCKPILE SEDIMENT CONTROL



NOTE: –ANY AREAS OF BARE SOIL OR SPARSE VEGETATION TO BE SCARIFIED TO A DEPTH OF 100mm AND HYDROSEEDED
–LIMITS OF VEGETATED FILTER STRIP TO BE DELINEATED WITH STAKES, FLAGGING OR CONSTRUCTION FENCE

VEGETATED FILTER STRIP DETAIL
NTS



NOTES:
1. Purpose of Construction Mat is to minimize transportation of sediment onto roadways.
2. Construction mat is to be installed as the first step in the site alteration process.
3. Construction mats are required where paved roads are within 300 m of the site.

NOTE:
CONTRACTOR MAY PROVIDE METAL ENTRANCE MAT UPON ACCEPTANCE OF THE ENGINEER

CONSTRUCTION ENTRANCE MAT

EROSION AND SEDIMENT CONTROL NOTES:
(SEE DETAILS THIS SHEET)

1. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM DURING CONSTRUCTION ACTIVITIES. THIS INCLUDES LIMITING THE AMOUNT AND DURATION OF EXPOSED SOIL AND INSTALLING SILT FENCES AND OTHER SEDIMENT TRAPS/FILTERS SIMILAR TO THOSE ILLUSTRATED HEREIN.
2. EROSION AND SEDIMENT CONTROL WORKS SHALL BE INSTALLED AND IN WORKING CONDITION PRIOR TO COMMENCEMENT OF CONSTRUCTION RELATED ACITVITIES.
3. SEDIMENT CONTROL MEASURES ADJACENT TO CONSTRUCTION AREAS MAY REQUIRE REMOVAL / RELOCATION IN ORDER TO COMPLETE SPECIFIC CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL ENSURE THAT ADEQUATE SEDIMENT CONTROL MEASURES ARE IN PLACE AT ALL TIMES.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN AND BOLSTER EROSION AND SEDIMENT CONTROL MEASURES AS NECESSARY TO KEEP THEM EFFECTIVE AND MINIMIZE THE POTENTIAL FOR EROSION AND MIGRATION OF SEDIMENT TO THE DOWNSTREAM NATURAL ENVIRONMENT
5. AT THE DISCRETION OF THE OWNER OR OWNER'S CONSULTANT, ADDITIONAL SILT CONTROL DEVICES SHALL BE INSTALLED AT DESIGNATED LOCATIONS.
6. STOCKPILED MATERIAL IS TO BE STORED AWAY FROM WATER BODIES, WETLANDS AND OTHER SENSITIVE RECEIVERS IN A MANNER THAT PREVENTS ANY DELETERIOUS SUBSTANCE FROM ENTERING THAT FEATURE AND BE SURROUNDED BY EROSION CONTROL MEASURE WHERE MATERIAL IS TO BE LEFT IN PLACE IN EXCESS OF 10 DAYS OR PRIOR TO A RAIN EVENT, WHICHEVER OCCURS SOONER.
7. SEDIMENT THAT IS ACCUMULATED BY THE TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED IN A MANNER THAT AVOIDS ESCAPE OF THE SEDIMENT TO THE DOWNSTREAM SIDE OF THE CONTROL MEASURE AND AVOIDS DAMAGE TO THE CONTROL MEASURE. ALL SEDIMENT SHALL BE REMOVED AND TOPSOIL WITH SEED TO BE ADDED IF NECESSARY.
8. ACCUMULATED SEDIMENT IS TO BE REMOVED AND DISPOSED OF AS PER OPSS 180, PRIOR TO THE REMOVAL OF ANY CONTROL MEASURE.
9. SILT FENCE AND EROSION CONTROL STRUCTURES TO BE CHECKED DAILY AND AFTER EACH RAINFALL (>10mm) BY A QUALIFIED INSPECTOR FOR DEFICIENCIES. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES ONE THIRD OF THE WAY TO THE TOP OF THE BARRIER.
10. STOCKPILED MATERIAL IS TO BE STORED A SUFFICIENT DISTANCE FROM WATERCOURSES, TO PRECLUDE SEDIMENT INPUTS DUE TO EROSION OF STORED SOIL MATERIALS. WHERE STOCKPILED EXCAVATED NATIVE MATERIALS AND IMPORTED MATERIALS WITH A D50 LESS THAN 4.75mm ARE TO BE LEFT IN PLACE UNDISTURBED IN EXCESS OF 30 DAYS, STOCKPILES ARE TO BE COVERED WITH A ROLLED EROSION CONTROL PRODUCT (RECP) SUCH AS A TARP, SINGLE NET STRAW MAT OR DOUBLE NET STRAW MAT. IMPORTED MATERIALS WITH A D50 OF 4.75mm OR GREATER CAN REMAIN UNCOVERED. GRANULAR A AND B (TYPE II) GRADATION REQUIREMENTS ALLOW UP TO 55% PERCENT PASSING A 4.75mm SIEVE (#4 SIEVE), AND MAY BE STOCKPILED WITHOUT COVERING WITH AN RECP.
11. EROSION AND SEDIMENT CONTROL MONITORING RECORDS SHALL BE KEPT AND MADE AVAILABLE TO THE MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE AND QUINTE CONSERVATION UPON REQUEST.
12. IN THE EVENT OF INCLEMENT WEATHER OR UNFAVOURABLE TERRAIN FOR CONSTRUCTION, CONSTRUCTION BEST PRACTICES, SUCH AS TEMPORARY RIP–MATS MAY BE USED TO PREVENT DISRUPTION OF SURFACE SOILS AND VEGETATIVE COVER BY CONSTRUCTION VEHICLES AND EQUIPMENT.
13. EQUIPMENT AND CONSTRUCTION MATERIAL SHALL BE STORED AWAY FROM WATER BODIES IN A MANNER THAT PREVENTS ANY DELETERIOUS SUBSTANCE FROM ENTERING THE WATER, REFUELLING OF MACHINERY AND GENERATORS SHALL NOT BE CONDUCTED WITHIN 30m OF A WATER BODY OR WETLAND AND SHALL BE COMPLETED IN A CONTROLLED MANNER WITH ADEQUATE SPILL PROTECTION ON SITE.
14. ADDITIONAL CONTROLS MAY BE REQUIRED DUE TO UNFORESEEN CIRCUMSTANCES, CHANGING SITE CONDITIONS OR IF THE PROPOSED CONTROLS DO NOT ACHIEVE THEIR ANTICIPATED RESULT. IN THESE CIRCUMSTANCES, ADDITIONAL CONTROLS WILL BE INSTALLED CONSISTENT WITH THE EROSION AND SEDIMENT CONTROL GUIDELINE FOR URBAN CONSTRUCTION (GREATER GOLDEN HORSESHOE CONSERVATION AUTHORITIES, DECEMBER, 2006). THE LOCATIONS AND APPLICATION OF THE CONTROLS WILL BE APPROVED BY THE INSPECTOR PRIOR TO THEIR INSTALLATION.
15. PUBLIC ROADS TO BE CLEANED DAILY OF ACCUMULATED SEDIMENT CAUSED BY CONSTRUCTION.
16. IN ADDITION TO BEING RESPONSIBLE FOR ENSURING THAT THE PRESCRIBED MEASURES ARE INSTITUTED AND FUNCTIONING AS INTENDED, THE CONTRACTOR IS ALSO RESPONSIBLE FOR IMPLEMENTING ANY INTERIM OR EMERGENCY MEASURES REQUIRED, TO ENSURE THAT NO SEDIMENT IS DISCHARGED TO THE NATURAL ENVIRONMENT. THE FOLLOWING EXTRA EQUIPMENT/MATERIALS ARE TO BE KEPT ON SITE AS A CONTINGENCY, IN CASE THE PROPOSED CONTROL MEASURES ARE BREACHED.
    - SILT FENCE
    - FILTER CLOTH
    - PUMPS
    - CLEAN RIP–RAP (FREE OF FINES) FOR ROCK CHECK DAMS
    - SAND BAGS
    - ANY ADDITIONAL MATERIAL DEEMED NECESSARY TO REPAIR/ CONSTRUCT PROPOSED MEASURES OR TO ADEQUATELY DEAL WITH UNEXPECTED HIGH FLOWS

DURING AREA GRADING :

1. TOPSOIL IS TO BE STRIPPED ONLY IN AREAS REQUIRING EARTHWORKS AND PLACED IN STOCKPILES AT THE LOCATIONS SHOWN ON THE PLANS OR AS APPROVED BY THE QUALIFIED ENVIRONMENTAL SITE INSPECTOR.
2. ROADWAYS AND LAY DOWN YARDS ARE TO BE PLACED ON NATIVE GROUND AFTER TOPSOIL HAS BEEN STRIPPED
3. ALL TOPSOIL IS TO BE RE–SPREAD ON CONSTRUCTION IMPACTED AREAS TO A MINIMUM DEPTH OF 150mm AFTER FINAL GRADING IS COMPLETION.
4. NO TOPSOIL MAY BE EXPORTED FROM THE SITE.
5. INFILLING OF BEDROCK FRACTURES SHALL BE MINIMIZED AND IF NECESSARY, COARSE GRANULAR FILL SHALL BE USED.

SEEDING MAINTENANCE NOTES:

1. CONTRACTOR SHALL REPAIR AND RESEED DEAD OR BARE SPOTS PRIOR TO SUBSTANTIAL COMPLETION.
2. SEEDING SHALL BE WATERED AS REQUIRED TO ESTABLISH WEED–FREE, HEALTHY ESTABLISHMENT OF SEED MIX.
3. CONTROL NOXIOUS AND INVASIVE WEED GROWTH DURING (2) YEAR MAINTENANCE PERIOD. NATIVE SPECIES THAT HAVE GERMINATED NATURALLY SHALL BE RETAINED (i.e. GOLDENRODS, ASTERS etc.) REFER TO OMAFRA's NOXIOUS WEEDS IN ONTARIO FOR A LIST OF SPECIES TO BE REMOVED
http://www.omafra.gov.on.ca/english/crops/facts/noxious_weeds.htm
4. SEEDED AREAS SHALL BE UNIFORM, FREE OF RUTS EROSION AND/OR BARE AND DEAD SPOTS, FREE OF WEEDS, AND HAVE, MINIMUM 80% COVER OF GERMINATED PERENNIAL SEED FOR FINAL ACCEPTANCE.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO SEEDED AREAS AND SHALL RESTORE IT TO ORIGINAL CONDITION TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR.
6. THE CONTRACTOR SHALL REPAIR ANY RILLS FORMED BELOW THE LOWER EDGE OF THE SOLAR PANELS PRIOR TO SEEDING.

AFTER AREA GRADING :

1. ALL AREAS WHERE ACTIVE CONSTRUCTION IS NOT EXPECTED FOR 30 DAYS SHALL BE RE–SEEDED WITH NATIVE PLANT SPECIES PER LANDSCAPE PLAN
2. REMOVAL OF SEDIMENT CONTROL MEASURES AND COLLECTION OF ACCUMULATED SEDIMENT SHALL OCCUR FOLLOWING SUBSTANTIAL COMPLETION OF CONSTRUCTION (90%–100%) AND SITE STABILIZATION TO 90%

SILT FENCE NOTES (AS PER OPSD):

1. STAKES/POSTS ARE TO BE INSTALLED ON THE DOWNSTREAM SIDE OF THE BARRIER.
2. SILT FENCE FABRIC TO BE TERRAFIX 270R OR EQUIVALENT.
3. CONTRACTOR TO MONITOR SILT FENCE FOR UV DEGRADATION AND UNDERMINING
4. PAIGE WIRE TO BE 16 GAUGE OR HEAVIER

ROLLED EROSION CONTROL PRODUCT (RECP) NOTES:

1. EITHER ROLLED EROSION CONTROL PRODUCTS (RECP) OR MULCHMAX ULTRA AT 500KG/HA ARE TO BE USED ON 3:1 SLOPES OR GREATER.
2. RECP SHALL BE BIODEGRADABLE AND CONSIST OF STRAW, STRAW–COCONUT, OR COCONUT FIBER WHICH ARE HELD IN PLACE BY NETTING SEWN ON BOTH SIDES OF THE MATERIAL.
3. RECP MUST BE SECURED ON STOCKPILE BY STAPLING AT THE BOTTOM OF THE SLOPE AND UPHILL TRENCHES ON THE STOCKPILE/SLOPED SURFACE.
4. RECP PRODUCTS ARE TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS. INSTALLATION TO BE INSPECTED AND REPAIRED AS NEEDED.
5. RECP ARE TO BE APPLIED AS SOON AS POSSIBLE FOLLOWING GRADING AND SEEDING OF SUBJECT AREAS.
6. SURFACES ARE TO BE SMOOTH AND FREE OF STONES AND DEBRIS OR OTHER WEED CLUMPS PRIOR TO RECP BEING INSTALLED.
7. CONTRACTOR TO ENSURE THAT RECP IS SECURED AT THE TOP OF THE SLOPE IN A TRENCH AND OVERLAP (SIDE TO SIDE AND BOTTOM TO TOP)
8. CONTRACTOR TO INSPECT THE SITE DAILY AND AFTER EVERY SIGNIFICANT RAINFALL EVENT (>10mm) AND IDENTIFY AREAS OF EROSION OR POTENTIAL EROSION. BEST MANAGEMENT PRACTICES ARE TO BE USED TO CONTROL THE EROSION. METHODS OF CONTROL MAY INCLUDE THE USE OF EROSION CONTROL BLANKETS C/W SEEDING, HYDRAULIC MULCH OR STRAW MULCH, OR SOIL BINDER. SOILS ARE TO BE STABILIZED AS SOON AS AREAS ARE IDENTIFIED TO PREVENT FURTHER EROSION.
9. CONTRACTORS TO ENSURE THAT RILLING/GULLYING RECTIFIED PRIOR TO RECP OR MULCHMAX ULTRA INSTALLATION OR CONTRACTOR TO MONITOR RUNOFF UNDER THE RECP FOLLOWING INSTALLATION.

HYDRAULIC MULCH NOTES:

1. COORDINATE/CONSULT WITH OWNER PRIOR TO UTILIZING ANY HYDRAULIC MULCH. TIMELINES AND SEEDING METHODS NEED TO BE CAREFULLY CONSIDERED PRIOR TO IMPLEMENTATION.
2. ENSURE THAT A TACKIFIER IS USED TO KEEP PRODUCT IN PLACE.
3. APPLY SEED MIX PRIOR TO MULCH WITH TACKIFIER.
4. HYDRAULIC MULCH IS TO BE APPLIED AS SOON AS GRADING AND SEEDING WORK IS COMPLETE TO ENSURE STABILIZATION OF SOILS.
5. RE–APPLY HYDRAULIC MULCH IF THE SUBJECT AREA IS DAMAGED OR ERODED BY WIND OR WATER, SURFACE COVERAGE MUST BE AT LEAST 80% AT ALL TIMES.

CULVERT NOTES:

1. CULVERT SLOPE TO MATCH EXISTING DITCH GRADE UNLESS OTHERWISE NOTED.
2. CULVERT TO BE EMBEDDED 10% OF PIPE DIAMETER BELOW DITCH INVERT OR AS NOTED.
3. CULVERTS TO BE CORRUGATED STEEL PIPE (CSP). PIPE MATERIAL TO BE GALVANIZED STEEL AND HAVE A 68mm x 13mm CORRUGATION WITH 1.6mm METAL THICKNESS.
4. CULVERT TO BE INSTALLED IN ACCORDANCE WITH OPSD 802.010.
5. CULVERT ELEVATIONS ARE APPROXIMATE AND ARE TO BE FINALIZED IN THE FIELD.

SCARIFICATION NOTES:

1. ENTIRE WORK AREA TO BE SCARIFIED FOLLOWING COMPLETION OF CLEARING AND GRUBBING.
2. SCARIFICATION TO BE PERFORMED USING A CHISEL PLOW TO RETAIN AS MUCH RESIDUE AT THE SOIL SURFACE AS POSSIBLE.
3. SOIL TO BE SCARIFIED TO A MINIMUM DEPTH OF 150mm, OR AS DEPTH TO BEDROCK PERMITS.
4. SCARIFICATION TO BE PERFORMED PARALLEL TO GROUND SURFACE CONTOURS.
5. SCARIFICATION TO BE PREFORMED AGAIN AT THE END OF CONSTRUCTION, IMMEDIATELY BEFORE RESTORATION SEEDING.

CONTINGENCY MEASURES WHERE FAILURE RISK IS HIGH:

1. WHERE MONITORING HAS IDENTIFIED A HIGH POTENTIAL FOR FAILURE, THE CONTRACTOR SHALL IMMEDIATELY TAKE STEPS TO REDUCE THE RISK. STEPS MAY INCLUDE REPAIRS TO EXISTING MEASURES, MODIFICATIONS TO EXISTING MEASURES, AND THE ADDITION OF NEW MEASURES.
2. WHEN THE LOCAL WEATHER FORECAST INDICATES THAT SIGNIFICANT (I.E >10mm) RAINFALL IS EXPECTED WITHIN 24 HOURS, THE CONTRACTOR SHALL VERIFY ALL EROSION AND SEDIMENT CONTROL MEASURES ARE SECURE.

CONTINGENCY MEASURES IN CASE OF FAILURE:

1. THE CONTRACTOR WILL CEASE CONSTRUCTION RELATED WORK AND FOCUS ON EROSION AND SEDIMENT CONTROL REPAIRS TO EFFECTIVELY STABILIZE THE SITE WHERE A FAILURE HAS OCCURRED OR IS IMMINENT.
2. ALL SPILLS SHALL BE REPORTED TO THE ENVIRONMENTAL MONITOR FOR ASSESSMENT AND DOCUMENTATION, AND TO ESTABLISH A REMEDIAL PLAN BASED ON THE PROJECT–SPECIFIC SPILL RESPONSE PLAN. BASED ON THE ASSESSMENT OF THE EXTENT OF THE IMPACT, THE ENVIRONMENTAL MONITOR SHALL DETERMINE IF THE MOECC SPILLS ACTION CENTRE SHOULD BE NOTIFIED. SHOULD THE INCIDENT REQUIRE THAT THE SPILLS ACTION CENTRE BE NOTIFIED, THIS NOTIFICATION WILL BE UNDERTAKEN AS QUICKLY AS POSSIBLE BY CALLING 1–800–268–6060.
3. IF SIGNIFICANT LONG–TERM DAMAGE TO DOWNSTREAM FISH HABITAT OR PROPERTY IS SUSPECTED, THE ENVIRONMENTAL MONITOR WILL IMMEDIATELY ASSESS AND DOCUMENT THE SITUATION AND REPORT THE INCIDENT TO THE MOECC SPILLS ACTION CENTRE. THE CONTRACTOR WILL DEVELOP A RESTORATION PLAN IN CONSULTATION WITH MOECC. DEVELOPMENT OF THE INITIAL RESTORATION PLAN WILL BEGIN WITHIN 24 HOURS OF THE DISCOVERY OF SEDIMENT DISCHARGE, AND WILL BE IMPLEMENTED AS SOON AS POSSIBLE, FOLLOWING CONSULTATION AND APPROVAL FROM THE MOECC, QC, DFO (IF NECESSARY) AND THE TOWNSHIP OF STONE MILLS
4. THE RESTORATION PLAN WILL ADDRESS:
    - REMOVAL AND DISPOSAL OF SEDIMENT FROM OUTSIDE THE WORK LIMITS,
    - RESTORATION OF THE AFFECTED AREA, AND
    - RESTORATION OF ANY AREAS DISTURBED THROUGH DEPOSITION OR REMOVAL.

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PCL CONSTRUCTION LEADERS

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Notes

Revision	By	Appd.	YY.MM.DD
G. ISSUED FOR TENDER	DRR	DS	18.01.16
F. REVISED NOTES AND DETAILS	DRR	DS	17.12.21
E. UPDATED DETAILS	MALM	DS	17.12.15
D. UPDATED ESC NOTES	DRR	DS	17.11.30
C. UPDATED ESC NOTES	DRR	DS	17.11.23
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Permit-Seal

Client/Project
LOYALIST SOLAR LP
LOYALIST SOLAR PROJECT

54MW GROUND-MOUNT SOLAR FARM

County of Lennox and Addington, Ontario

Title
SEDIMENTATION AND EROSION CONTROLS DETAILS

Project No.	Scale	
133560220	AS NOTED	
Drawing No.	Sheet	Revision
C-650	1 of 1	G

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