NIAGARA COLLEGE
GLENDALE CAMPUS
PARKING LOT RECONSTRUCTION

DRAWING INDEX

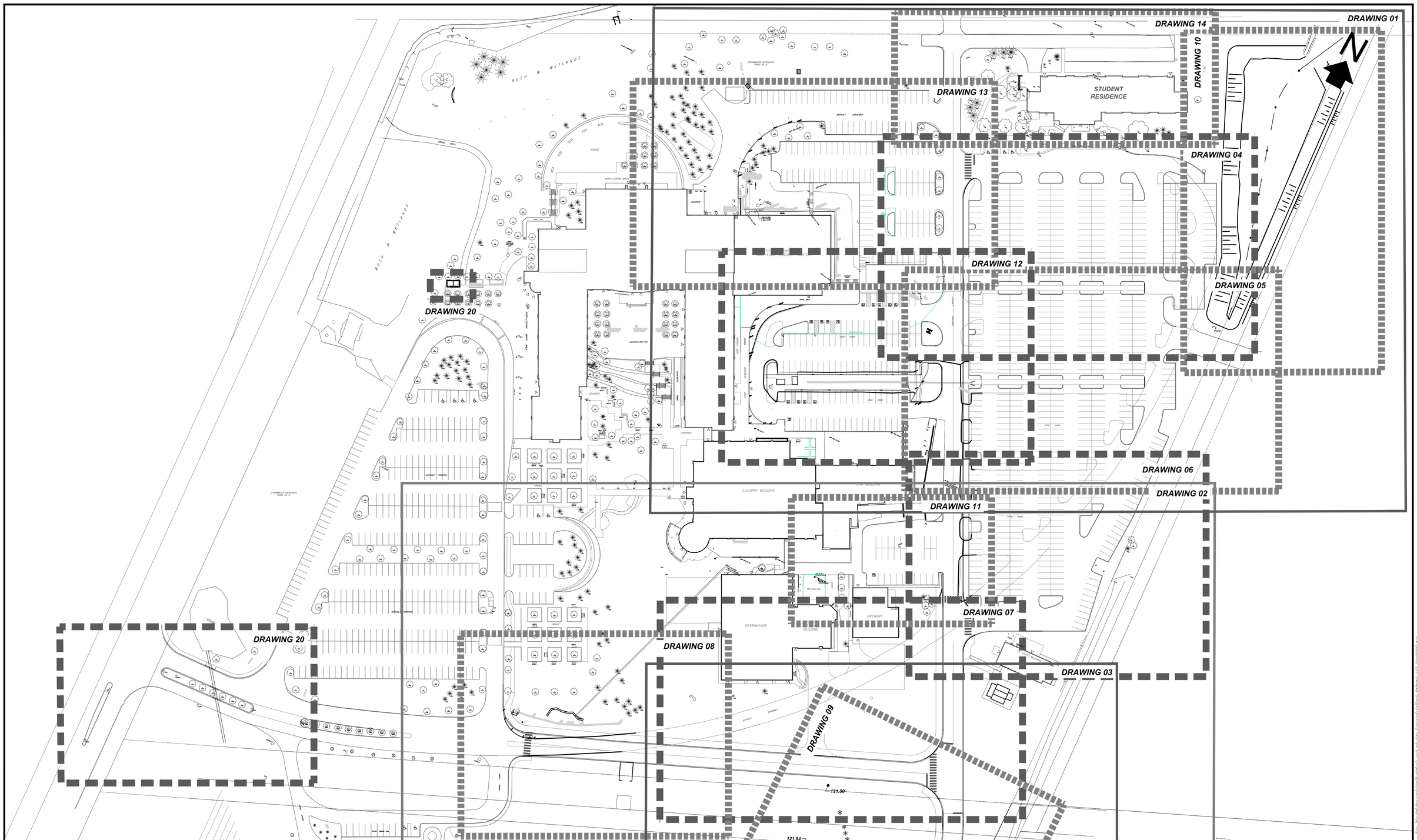
DRAWING TITLE	DRAWING No.
CIVIL DRAWING KEY	00
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EXISTING CONDITIONS - REMOVALS DRAWING 2	02
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LIGHTING LAYOUT	SL-4
LIGHTING LAYOUT	SL-5

UEM PROJECT No. 17-112

URBAN & ENVIRONMENTAL MANAGEMENT INC.
PROFESSIONAL CONSULTING SERVICES
UEM

NIAGARA COLLEGE
GLENDALE CAMPUS
PARKING LOT RECONSTRUCTION

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PROJ. NO. 17-112

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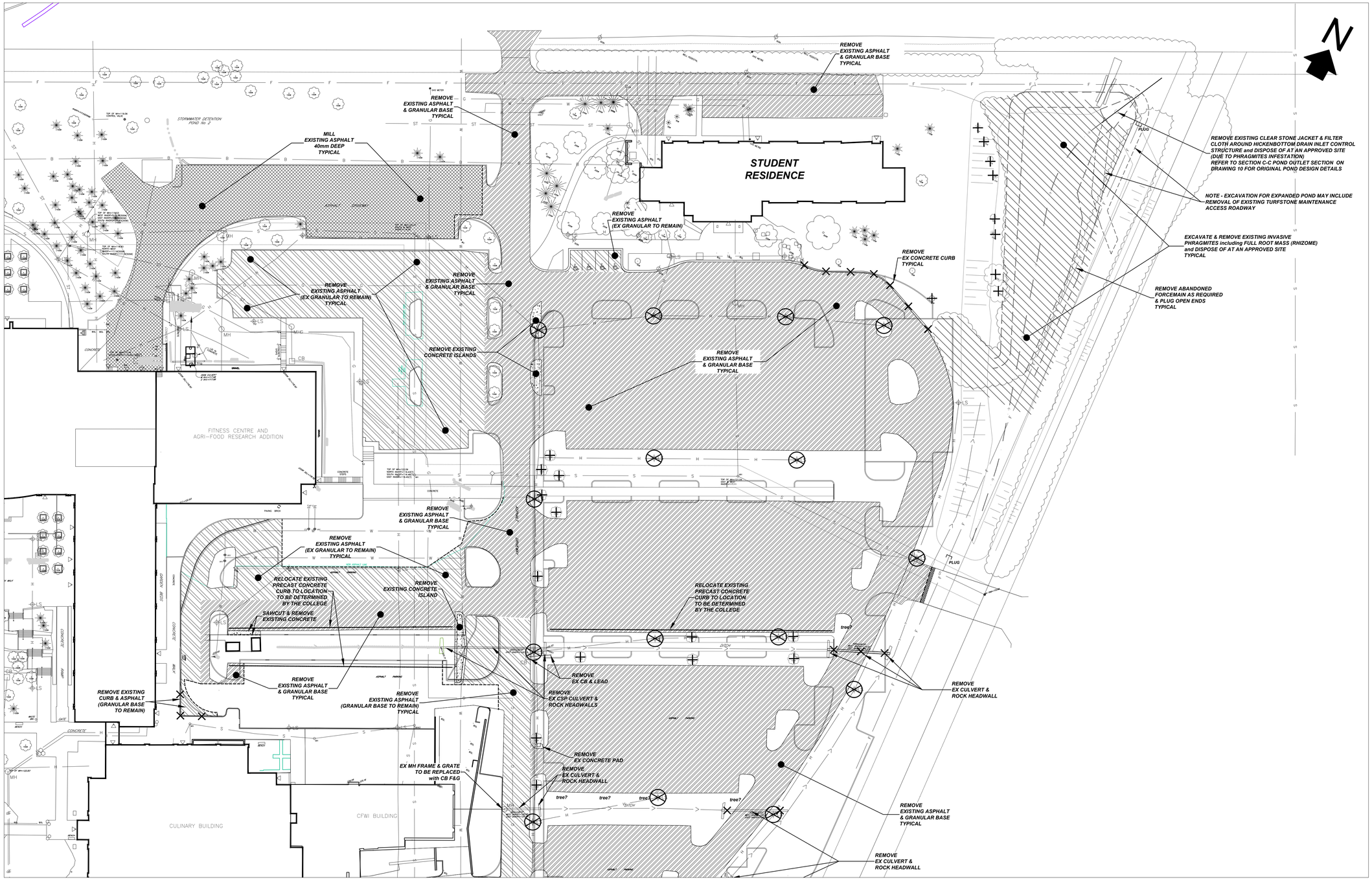
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NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
CIVIL DRAWING KEY

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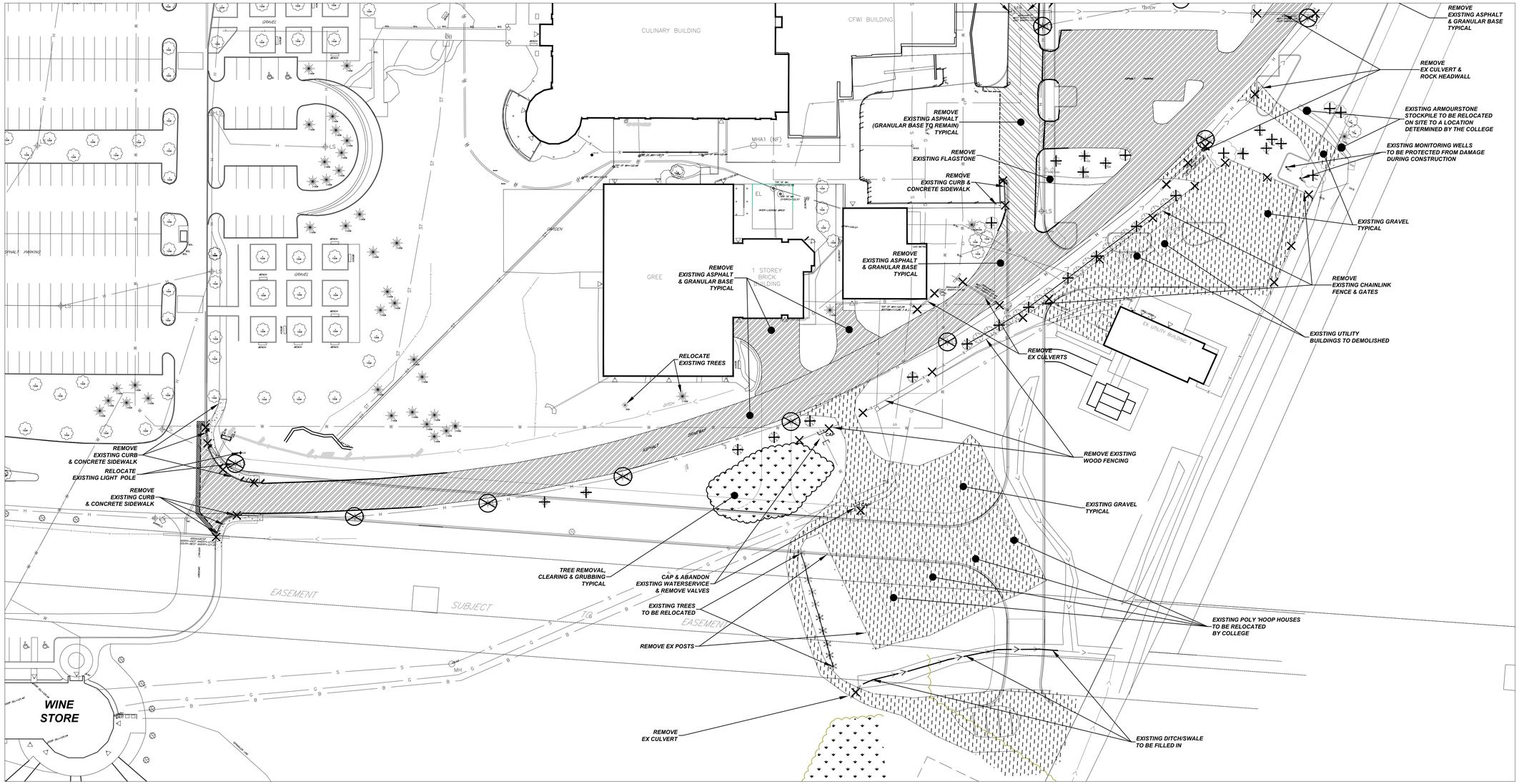
NIAGARA COLLEGE - NOTL CAMPUS PARKING LOT RECONSTRUCTION
EXISTING CONDITIONS - REMOVALS DRAWING 1

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FOR CONTINUATION SEE DRAWING 01



FOR CONTINUATION SEE DRAWING 03

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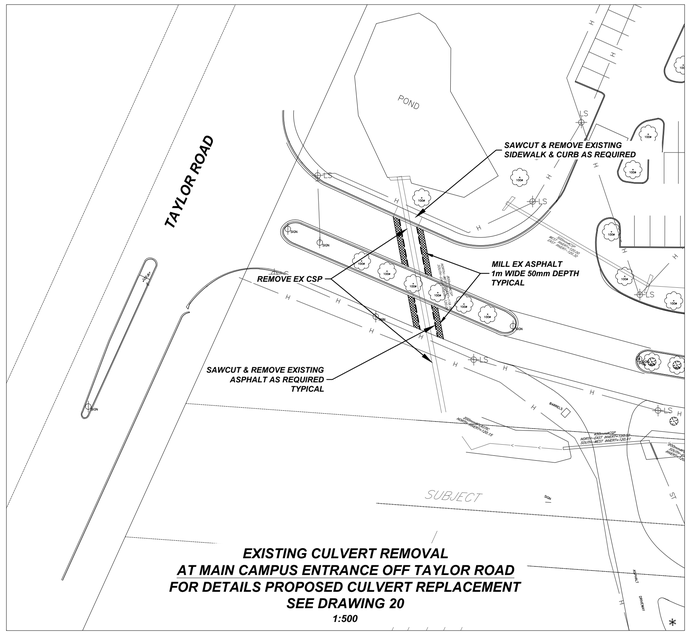
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NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
EXISTING CONDITIONS - REMOVALS DRAWING 2

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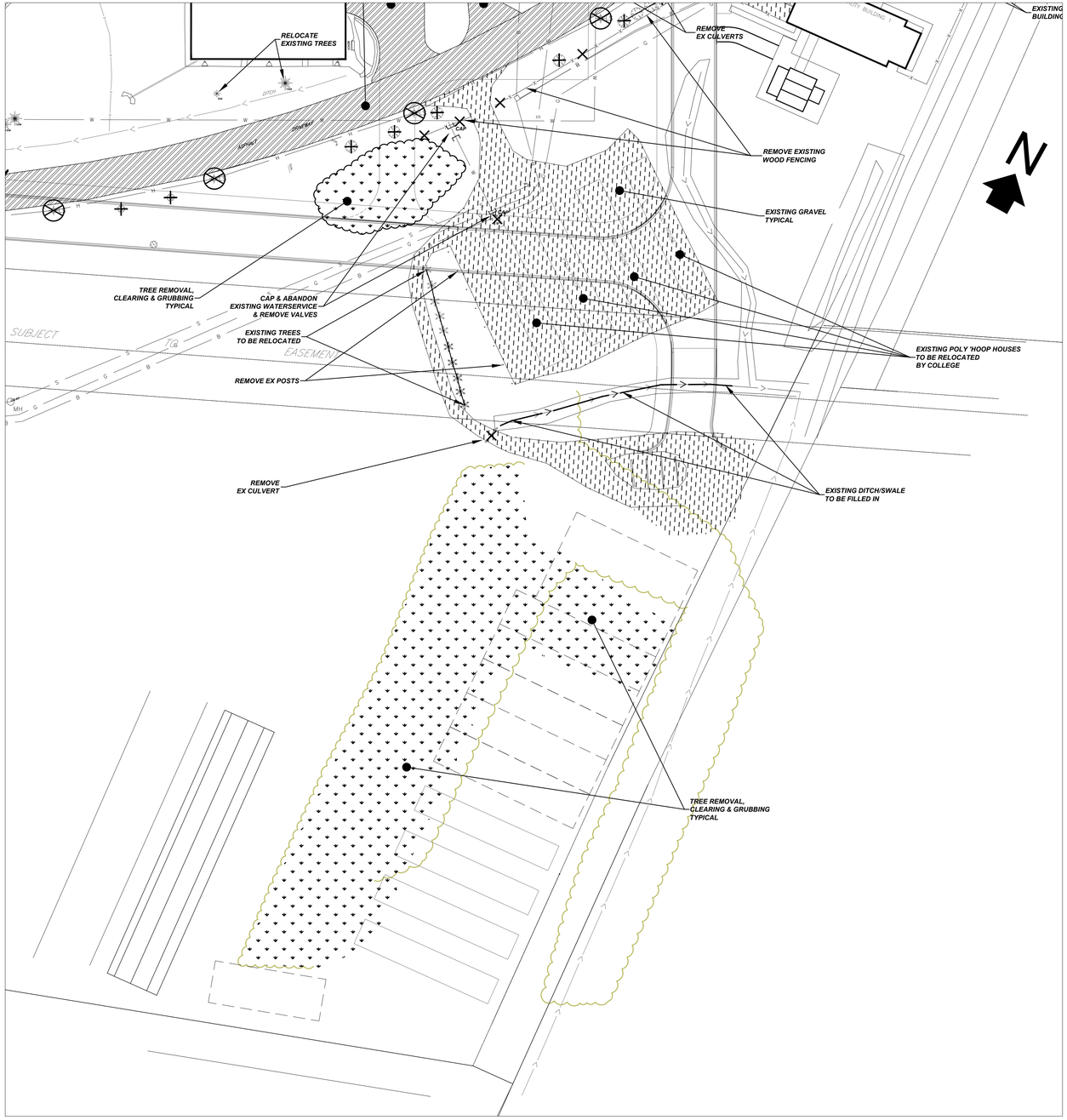
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EXISTING CULVERT REMOVAL
AT MAIN CAMPUS ENTRANCE OFF TAYLOR ROAD
FOR DETAILS PROPOSED CULVERT REPLACEMENT
SEE DRAWING 20
1:500

FOR CONTINUATION SEE DRAWING 02



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NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
EXISTING CONDITIONS - REMOVALS DRAWING 3

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DWG. No. 03
MUN. REF No.

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FOR CONTINUATION SEE DRAWING 13 & 14

FOR CONTINUATION (POND) SEE DRAWING 13

FOR CONTINUATION SEE DRAWING 10

FOR CONTINUATION SEE DRAWING 12

FOR CONTINUATION SEE DRAWING 05

N

MATCH EX CURB

CB32 705.010
RIM 119.80
INV OUT 118.66

PR 23m - 300Ø STM at 0.65%

PROP CONCRETE BARRIER CURB OPSD 600.110 TYPICAL

CB32

ADJUST EX MH

PROP CONCRETE BARRIER CURB OPSD 600.110 TYPICAL

LIMIT OF FULL DEPTH EXCAVATION TYPICAL

CB28

CB28 705.010
RIM 120.74
INV OUT 119.35

PR 11m - 200Ø STM at 0.57%

PROP CONCRETE BARRIER CURB OPSD 600.110 TYPICAL

CB29

CB29 705.010
RIM 120.83
INV IN 119.29 250
INV OUT 119.24 300

PR 31m - 300Ø STM at 1.0%

DCBMH30

CBMH30 701.011
RIM 120.46
INV IN 118.93
INV OUT 118.88

PR 37m - 300Ø STM at 0.5%

DCBMH31

DCBMH31 701.011
RIM 120.29
INV IN 118.69
INV OUT 118.64

PR 39m - 375Ø STM at 0.56%

PROP 100Ø HDPE SUBDRAIN with FILTER CLOTH 3m LONG IN 2 DIRECTIONS FROM CATCHBASIN TYPICAL

CONNECT SUBDRAIN TO PIPE

PR 8m - 900Ø STM at 0.5%

MH33

MH33 701.013
RIM 120.11
INV IN 118.36 900
INV IN 118.44 375
INV OUT 118.31 900

PROPOSED PERMEABLE PAVING DRAINAGE OUTLET SEE DRAWING 16

STORMCEPTOR OIL/GRIT SEPARATOR STC4000
RIM 120.00
INV IN 118.27 900
INV OUT 118.27 900

QUICK HEADWALL BY HANSON or APPROVED EQUAL w/GRATE & HANDRAILS
INV 118.25

PR 14m - 900Ø STM at 0.36%

PROP 100Ø HDPE SUBDRAIN with FILTER CLOTH TYPICAL

ADJUST EX MH

OUTLET SUBDRAIN TO POND

PR 10.5m - 450Ø STM at 0.67%

250Ø at 0.57%

CB26

CB26 705.010
RIM 120.42
INV OUT 118.88

PLUG

PR 37m - 450Ø STM at 0.59%

CBMH24

CBMH24 701.010
RIM 120.79
INV IN 119.20
INV OUT 119.13

CBMH25

CBMH25 701.010
RIM 120.46
INV IN 118.91
INV OUT118.86

PR 21m - 450Ø STM at 0.52%

CBMH20

CBMH20 701.012
RIM 120.46
INV IN 119.00 300
INV IN 118.69 825
INV OUT 118.64 900

PR 20m

CB21 705.010
RIM 121.23
INV IN 119.95
INV OUT 119.88

CBMH23

SAWCUT EXISTING ASPHALT

MILL EX ASPHALT 1m WIDE 50mm DEPTH TYPICAL

MH RIM=119.86

PROP CONCRETE BARRIER CURB OPSD 600.110 TYPICAL

PROP COLOURED CONCRETE SIDEWALK & CURBS TYPICAL

MATCH TO EXISTING CURB

PROP 200mm THICK COLOURED CONCRETE CROSSWALK & TAPER ASPHALT THICKNESS AS PER OPSD 310.060 BOTH SIDES TYPICAL

MILL EDGE BEFORE OVERLAY

ASPHALT & GRAVEL

CONCRETE

DUCT BANK

PR 2.3m WIDE CONCRETE SIDEWALK

PR 600.040 CURB & GUTTER

0+460

0+440

0+420

0+400

0+380

2%

EV

HYD

MH

SIGN

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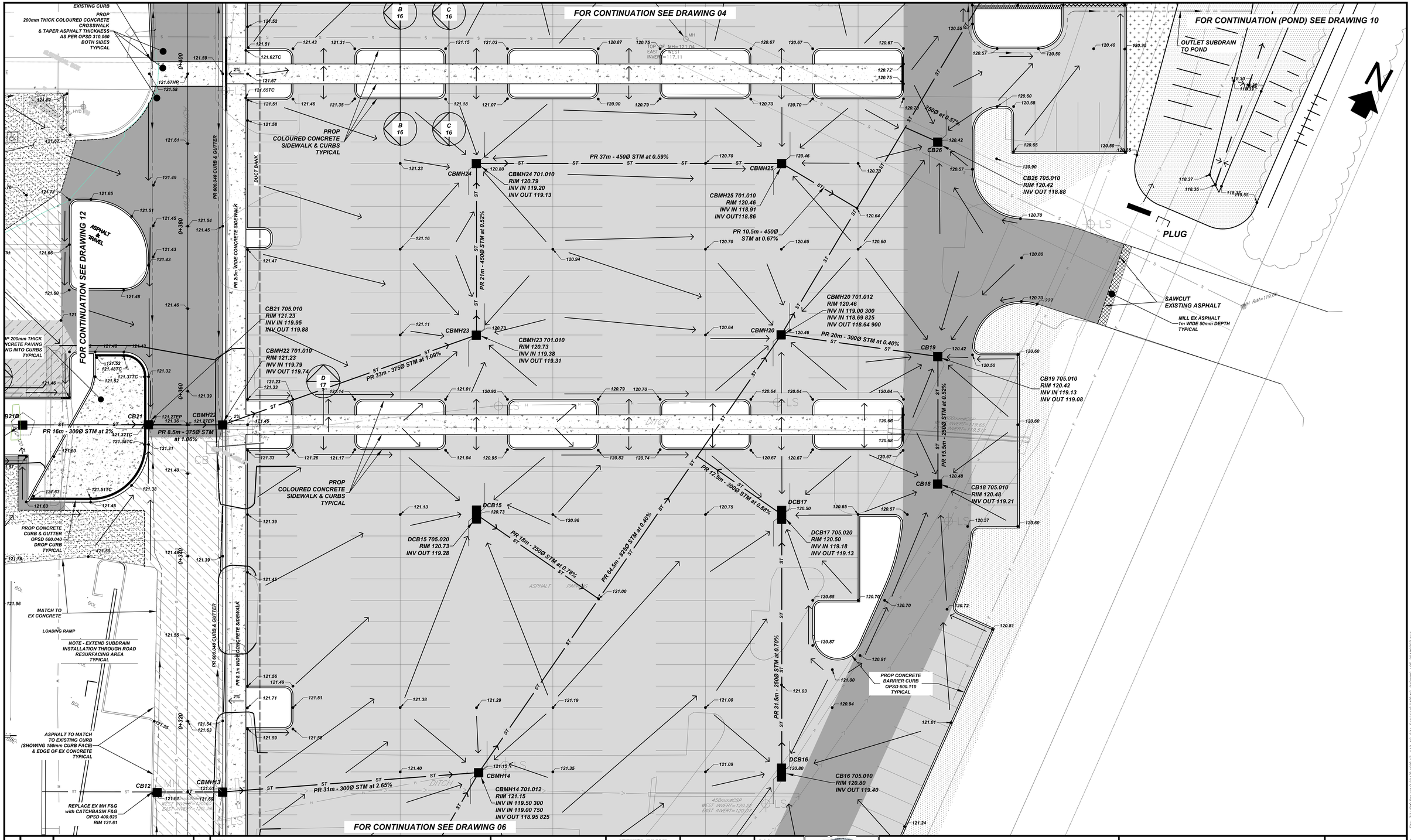
NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
PARKING LOT 1

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PROJ. NO. 17-112

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NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
PARKING LOT 2

UEM URBAN & ENVIRONMENTAL MANAGEMENT INC. PROFESSIONAL CONSULTING SERVICES

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FOR CONTINUATION SEE DRAWING 05

ASPHALT TO MATCH TO EXISTING CURB (SHOWING 150mm CURB FACE) & EDGE OF EX CONCRETE TYPICAL

REPLACE EX MH F&G with CATCHBASIN F&G OPSD 400.020 RIM 121.61

50mm HL3HS ASPHALT 70mm HL8HS ASPHALT ON EX GRANULAR BASE (REGRADED AS REQUIRED) TYPICAL

NOTE - EXTEND SUBDRAIN INSTALLATION THROUGH ROAD RESURFACING AREA TYPICAL

PROP CONCRETE BARRIER CURB OPSD 600.110 MATCH TO EXISTING CURB

FOR CONTINUATION SEE DRAWING 11

SAWCUT & MATCH TO EXISTING ASPHALT BASE

MATCH TO EXISTING CURB

NEW SIDEWALK TO EXISTING SIDEWALK & CURB

PROPOSED BERM

FOR CONTINUATION SEE DRAWING 07

CB12

CBMH13

CBMH14

CBMH14 701.012
RIM 121.15
INV IN 119.50 300
INV IN 119.00 750
INV OUT 118.95 825

PR 31m - 300Ø STM at 2.65%

PR 19.5m - 300Ø STM at 3.42%

PR 62.5m - 750Ø STM at 0.40%

PROP 100Ø HDPE SUBDRAIN with FILTER CLOTH 3m LONG IN 2 DIRECTIONS FROM CATCHBASIN TYPICAL

CBMH11

CBMH11 701.010
RIM 121.47
INVs IN 119.96
INV OUT 119.86

PR 29.5m - 250Ø STM at 0.50%

CB10

CB10 705.010
INV OUT120.11

PR 35.5m - 250Ø STM at 0.51%

DCB16

CB16 705.010
RIM 120.80
INV OUT 119.40

DCB9

DCB9 705.020
RIM 121.49
INV OUT 120.13

EXISTING MONITORING WELLS TO BE PROTECTED FROM DAMAGE DURING CONSTRUCTION

PROP 1.5m WIDE, 150mm DEEP GRANULAR 'A' WALKWAY TO MATCH TO EXISTING PATHWAY

MH8 701.012
RIM 122.25
INV IN 119.30 750
INV OUT 119.25 750

PR 2.3m WIDE CONCRETE SIDEWALK

PR 600.040 CURB & GUTTER

9.38m @ 10.6%

9.89m @ 1.31%

CB7D

CB7C

ADJUST EX MH

CB7C 705.010
RIM 121.80
INV OUT 120.35
PR 10m - 250Ø
STM at 7.2%

PROPOSED 3m WIDE CONCRETE SIDEWALK

PROP CONCRETE BARRIER CURB OPSD 600.110 TYPICAL

PROP CHAIN LINK FENCE OPSD 972.130 TYPICAL

PROP 8m WIDE SLIDING CANTILEVER GATE

EX UTILITY BUILDING 1

FOR CONTINUATION SEE DRAWING 07
SIDEWALK TO MATCH NEW

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PROFESSIONAL ENGINEER S. BRANT PROVINCE OF ONTARIO

NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
PARKING LOT 3

URBAN & ENVIRONMENTAL MANAGEMENT INC.
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SCALE HORZ 1 : 200
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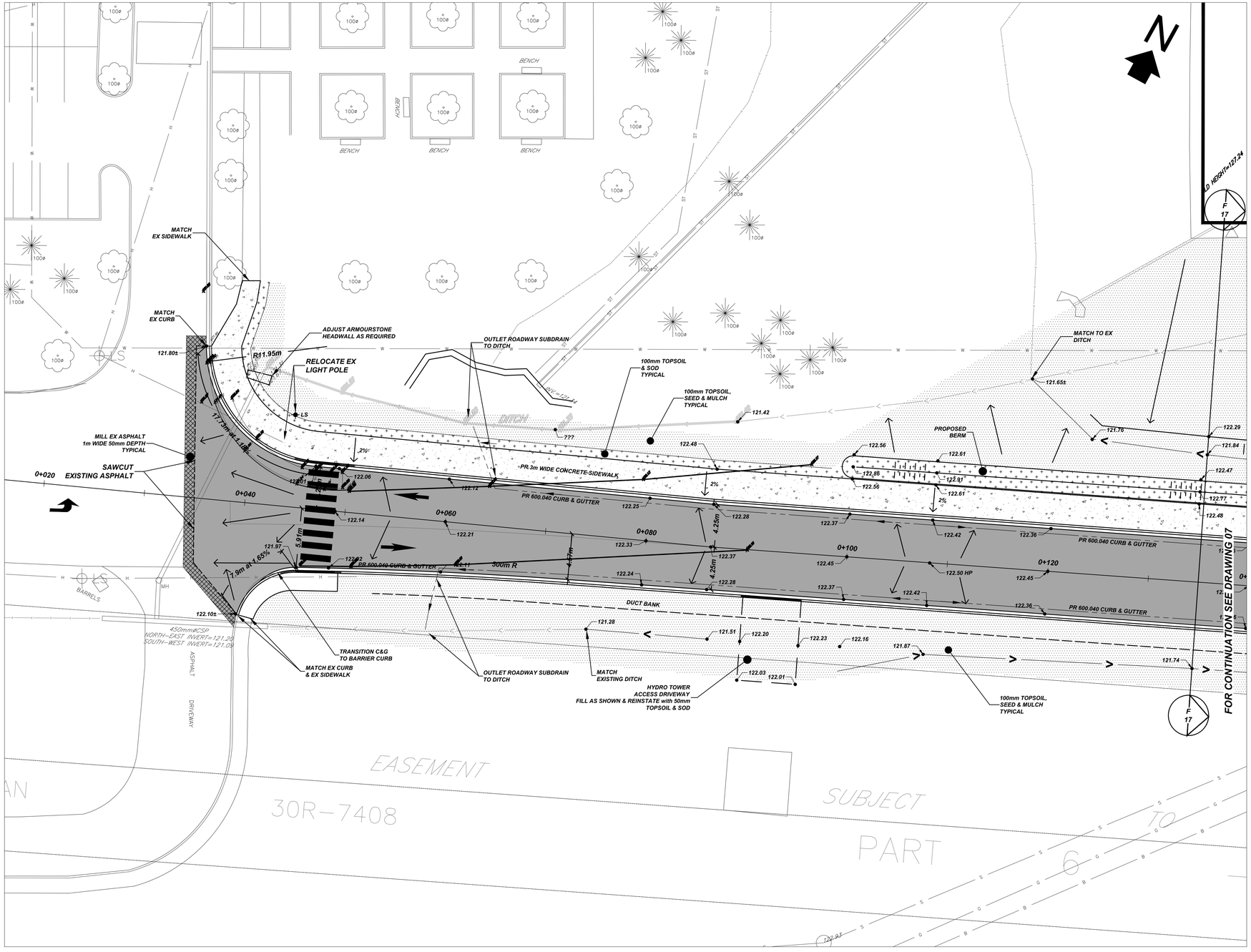
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NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
ENTRANCE ROAD REALIGNMENT 1

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DSGN AK
DR AK
CHK SB
APVD

S. BRANT — PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
ENTRANCE ROAD REALIGNMENT 2

URBAN & ENVIRONMENTAL MANAGEMENT INC.
PROFESSIONAL CONSULTING SERVICES

UEM No. 17–112
SCALE HORZ 1 : 200
DWG. No. 08
MUN. REF No.

PROJ. NO. 17-112

Plotted: Mar 07, 2019 - 12:24pm File: Z:\UEM\Projects\2017\17-112_NC_Site Servicing\12-ENG-PAN\Xrefs\17-112_NC_Site Servicing_12-ENG-PAN_20180307.dwg

FOR CONTINUATION SEE DRAWING 08

FOR CONTINUATION SEE DRAWING 07

EX HOPS FIELD

EX APPLE ORCHARD

EX APPLE ORCHARD

EX HOPS FIELD

PROP DITCH 65m at 0.5%

MATCH TO EXISTING

PROP DITCH 18m at 0.5%

PROP DITCH 31m at 0.5%

PROP TOPSOIL, SEED & MULCH TYPICAL

PROP DITCH 24m at 0.71%

PROP DITCH 28m at 0.5%

GRADE HYDRO EASEMENT TO DRAIN TO NEW DITCHES TYPICAL

3000 CULVERT

CAP

PROP DITCH 62m at 0.5%

PROP DITCH 62m at 0.5%

FUTURE MAINTENANCE BARN BY OTHERS

AREA TO BE FILLED, GRADED & COMPACTED WITH APPROVED SELECT NATIVE MATERIAL

PROP HOOP HOUSE ON NATIVE MATERIAL BASE

PROP HOOP HOUSE ON NATIVE MATERIAL BASE

PROP HOOP HOUSE ON GRANULAR BASE

PROP HOOP HOUSE ON GRANULAR BASE

PROP 400mm GRANULAR 'A' ON GEOTEXTILE TYPICAL

PROP 300mm GRANULAR 'A' ON GEOTEXTILE TYPICAL

PROP SAN MH OPSD 701.010 RIM 122.50 INV IN 119.35 INV OUT 119.30

CAP 150Ø SANITARY LATERAL STUB & MARK LOCATION with 2x4 to FINISHED SURFACE

PROP 50Ø MAIN STOP

PROP 50mm FORD METER PIT PDV HG0744-20-72-NL TO BE SUPPLIED & INSTALLED BY CONTRACTOR METER SUPPLIED & INSTALLED BY TOWN FORCES

PROP 25to29 REDUCER & 19mm NON-FREEZE YARD HYDRANT F165904 BY JAY R. SMITH DEPTH OF BURY = 1.52m

PROP 25Ø MAIN STOP

PROP 25Ø PEXa WATERSERVICE

PROP 25Ø CURB STOP

PROP 50Ø PEXa WATERSERVICE

PR 50m - 150Ø PVC DR28 SANITARY at 1%

PR 150Ø PVC DR18 WATERSERVICE

PROP HYDRANT SET OPSD 1105.010

PROP STRAW BALE CHECK DAM OPSD 219.180 TYPICAL

PROP SILT FENCE OPSD 219.100 TYPICAL

PROP STRAW BALE CHECK DAM IN EXISTING DITCH OPSD 219.180 TYPICAL

14.61m at 2.0%

10m AT 0.5%

7.68m at 3%

6m WIDE DROP CURB FOR TOWER ACCESS

CBMHTTPTTT RIM 121.76 INV IN 119.74 45ØS INV IN 120.07 250SW INV OUT 119.63 150N

CB1 TS6-010 RIM 121.29 INV OUT 120.14 wh SILT SACK

7.03m at 1.42%

121.70EP

121.71EP

121.84

121.98

121.94

122.01

122.21

122.24

122.11

122.11

122.29

122.28

122.36

122.44

122.33

122.33

122.64

122.59

122.75

122.86

122.88

122.95

123.05

123.06

123.08

123.00

123.04

123.20

123.15

123.34

122.99

122.68

122.53

122.89

122.95

123.00

122.37

122.75

122.79

122.74

122.87

123.00

122.80

122.67

122.50

122.05

121.81

121.96

122.42

122.36

122.30

122.30

121.64

121.50

EX122.48

No.	DATE	REVISION	BY
4	MAR 08/19	ISSUED FOR TENDER	AK
3	FEB 06/19	REVISED & ISSUED FOR REVIEW	AK
2	JUN 27/18	ISSUED FOR TENDER	AK
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PROFESSIONAL ENGINEER S. BRANT PROVINCE OF ONTARIO

NIAGARA COLLEGE - NOTL CAMPUS PARKING LOT RECONSTRUCTION AGRI-YARD

URBAN & ENVIRONMENTAL MANAGEMENT INC. PROFESSIONAL CONSULTING SERVICES

UEM No. 17-112

SCALE HORZ 1 : 250

DWG. No. 09

MUN. REF No.

PROJ. NO. 17-112

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FOR CONTINUATION SEE DRAWING 05

FOR CONTINUATION SEE DRAWING 04

FOR CONTINUATION SEE DRAWING 14

N

PLUG

SAWCUT EXISTING ASPHALT

MILL EX ASPHALT 1m WIDE 50mm DEPTH TYPICAL

MH 33

PROPOSED TOP OF SLOPE TO MATCH EXISTING GROUND

REGRADE EXISTING SWALE 1% GRADE MINIMUM

PROPOSED LIGHT DUTY STRAW BALE BARRIER OPSD 219.100

QUICK HEADWALL BY HANSON or APPROVED EQUAL w/GRATE & HANDRAILS INV 118.25

PROPOSED TOE OF SLOPE

APPROXIMATE LIMITS OF EXISTING POND

PROPOSED 100mm TOP SOIL, SEED & MULCH (SEED MIX AS PER SPECIFICATIONS) TYPICAL

PROPOSED BOTTOM OF POND CHANNEL at 0.5% TYPICAL

EXTEND EXISTING SIDE SLOPE

EXISTING HICKENBOTTOM CLEANOUT CAP TO BE EXPOSED (LOCATION APPROX)

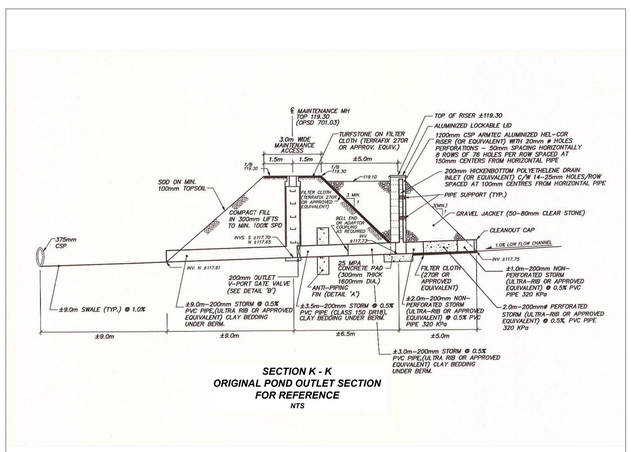
EXISTING POND OVERFLOW WEIR TO REMAIN

PROPOSED LIGHT DUTY STRAW BALE BARRIER OPSD 219.100

EXISTING HICKENBOTTOM GRAVEL JACKET (50-80mm CLEAR STONE) TO BE REMOVED & REPLACED including FILTER CLOTH (270R or APPROVED EQUAL)

EXISTING HICKENBOTTOM DRAIN CHAMBER CONCTRACTOR TO RE-SEAT or SEAL 90° RISER JOINT CONNECTION

PLUG



SECTION K - K
ORIGINAL POND OUTLET SECTION FOR REFERENCE
NTS

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2	JUN 27/18	ISSUED FOR TENDER	AK
1	JUN 06/18	ISSUED FOR REVIEW	AK

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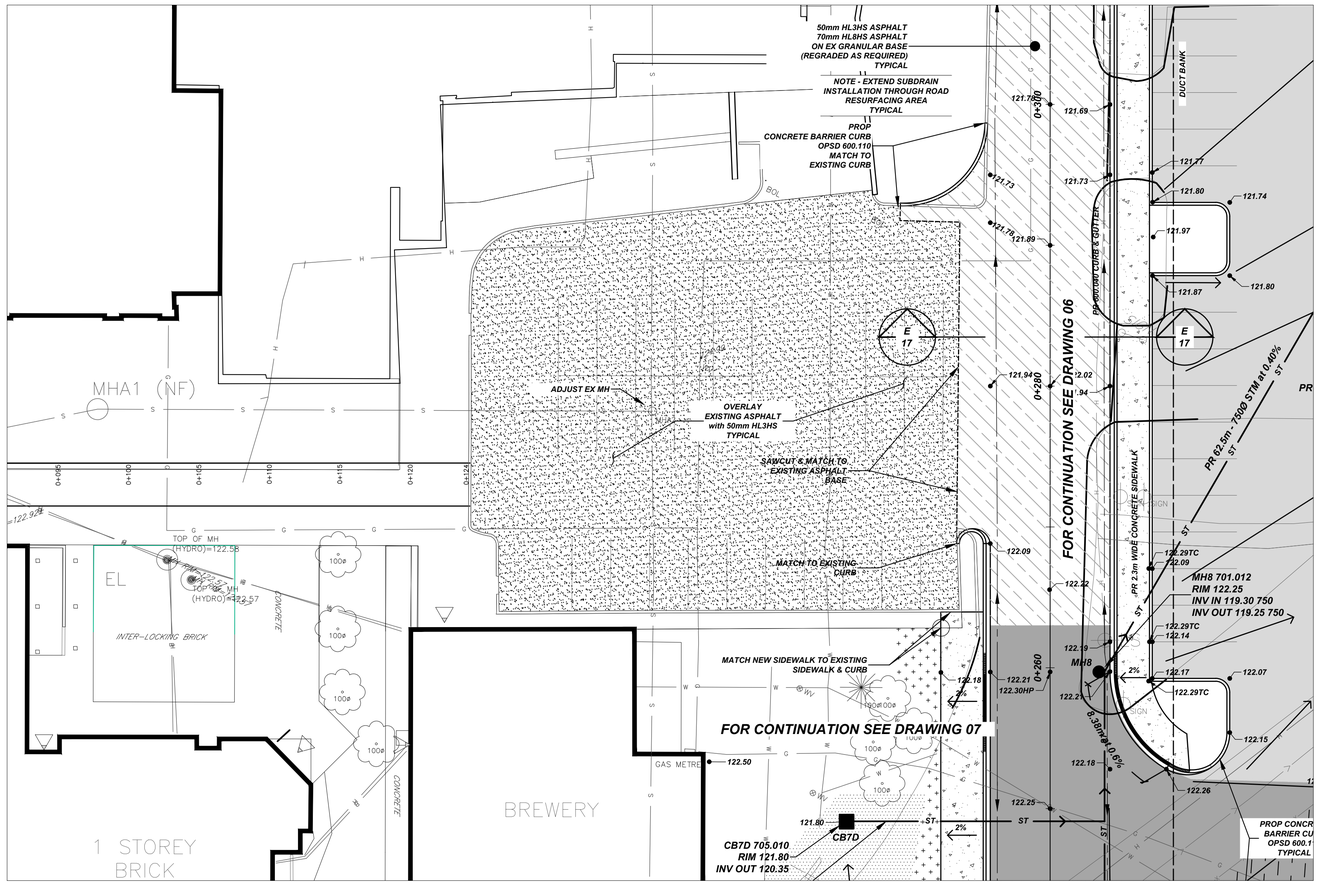
NIAGARA COLLEGE - NOTL CAMPUS PARKING LOT RECONSTRUCTION STORMWATER MANAGEMENT POND

UEM URBAN & ENVIRONMENTAL MANAGEMENT INC. PROFESSIONAL CONSULTING SERVICES

UEM No.	17–112
SCALE HORZ	1 : 200
DWG. No.	10
MUN. REF No.	

PROJ. NO. 17-112

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PROJ. NO. 17-112

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CHK SB
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PROFESSIONAL ENGINEER S. BRANT PROVINCE OF ONTARIO

NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
EXISTING PARKING LOT 1

URBAN & ENVIRONMENTAL MANAGEMENT INC. PROFESSIONAL CONSULTING SERVICES

UEM No. 17-112
SCALE HORZ 1 : 200
DWG. No. 11
MUN. REF No.

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FITNESS CENTRE AND
AGRI-FOOD RESEARCH ADDITION

PROPOSED CONCRETE SUPER-ELEVATED MOUNTABLE CURB DETAIL
NTS

MATCH TO EXISTING LANDING
FOR CONTINUATION SEE DRAWING 13
MATCH TO EXISTING CURB
PROP 200mm THICK COLOURED CONCRETE CROSSWALK & TAPER ASPHALT THICKNESS AS PER OPSD 310.060 BOTH SIDES TYPICAL
FOR CONTINUATION SEE DRAWING 04
PR 600.040 CURB & GUTTER
PROP COLOURED CONCRETE SIDEWALK & CURBS TYPICAL
DUCT BANK
PR 2.3m WIDE CONCRETE SIDEWALK
CBMH24
CBMH23
CBMH22 701.010
RIM 121.23
INV IN 119.79
INV OUT 119.74
PR 33m - 375Ø STM at 1.09%
CB21 705.010
RIM 121.23
INV IN 119.95
INV OUT 119.88
PR 21m - 450Ø STM at 0.52%
CONCRETE STEPS
DOOR SILL=118.54
CONCRETE
MH
PAVING BRICK
CAP CAP
J 19
D 17
B 16
C 16
PROP CONCRETE SUPER-ELEVATED MOUNTABLE CURB SEE DETAIL TYPICAL
MILL EDGE BEFORE OVERLAY
OVERLAY EXISTING ASPHALT with 50mm HL3HS TYPICAL
ADJUST EX WV
ADJUST EX MH
ASPHALT
GRAVEL
50mm HL3HS ASPHALT
50mm HL8HS ASPHALT
ON EX GRANULAR BASE
(REGRADED AS REQUIRED)
TYPICAL
SAWCUT EXISTING CONCRETE PAD & MATCH TOP OF CURB TO TOP OF CONCRETE
FULL DEPTH EXCAVATION MODIFIED LIGHT DUTY PAVING
50mm HL3HS
50mm HL8HS
400mm GRAN 'A'
TYPICAL
PROP 200mm THICK CONCRETE PAVING including DOWELLING INTO CURBS TYPICAL
SHOW 150mm CURB FACE TYPICAL
REINSTATE with APPROVED SELECT NATIVE SOIL COMPACTED & 100mm TOPSOIL BEHIND NEW CURB
MATCH TO EXISTING CURB
PROP CONCRETE SIDEWALK
PROP CONCRETE BARRIER CURB OPSD 600.110
PROP CURB OUTLET TYPICAL
PROP CONCRETE BARRIER CURB OPSD 600.110 TYPICAL
OVERLAY EXISTING ASPHALT with 50mm HL3HS TYPICAL
PROP CONCRETE CURB & GUTTER OPSD 600.040 DROP CURB TYPICAL
ADJUST EX MH
MATCH TO EX CONCRETE
LOADING RAMP
NOTE - EXTEND SUBDRAIN INSTALLATION THROUGH ROAD RESURFACING AREA TYPICAL
SHOW 150mm CURB FACE TYPICAL
CB 705.010
RIM 120.80
INV OUT 120.27
with SILT SACK
CB21B
CB21
CBMH22
PR 16m - 300Ø STM at 2%
PR 8.5m - 375Ø STM at 1.06%
PR 600.040 CURB & GUTTER
PR 2.3m WIDE CONCRETE SIDEWALK
DCB15 705.020
RIM 120.73
INV OUT 119.28
GARDEN BEDS
CONCRETE
EXISTING DITCH
BENCH
MH RIM=122.81
MH RIM=122.48
MH RIM=122.08
0+400
0+380
0+360
0+340
0+320

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PROJ. NO. 17-112

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CHK SB
APVD

REGISTERED PROFESSIONAL ENGINEER S. BRANT PROVINCE OF ONTARIO

NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
EXISTING PARKING LOT 2
REHABILITATION

URBAN & ENVIRONMENTAL MANAGEMENT INC.
PROFESSIONAL CONSULTING SERVICES

UEM No. 17-112
SCALE HORZ 1 : 200
DWG. No. 12
MUN. REF No.

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FOR CONTINUATION SEE DRAWING 14

45° CONCRETE CURB OUTLET OPSD 605.010 MODIFIED for BARRIER CURB with RIP RAP on FILTER CLOTH OPSD 810.010

OUTLET INV 118.19 REGRADE as REQUIRED TO ENSURE PROPER DRAINAGE FLOW to LOW FLOW CHANNEL with RIP RAP on FILTER CLOTH OPSD 810.010

PR 8m - 300Ø STM ST @ 2%

CB36

CB36 705.010 RIM 119.10 INVs 118.22

PR 13m - 300Ø STM at 4.5%

PROP CONCRETE BARRIER CURB OPSD 600.110 (SHOW 150mm CURB FACE) TYPICAL

CURB TERMINATION OPSD 608.010

CB35 705.010 RIM 119.32 INVs 118.30

MATCH TO EXISTING CURB

CB34 705.010 RIM 119.91 INV 118.36

CB35

PR 12m - 300Ø STM at 4.6%

OVERLAY EXISTING ASPHALT with 50mm HL3HS TYPICAL

LIMIT OF FULL DEPTH EXCAVATION TYPICAL

ADJUST EX MH

PROP CONCRETE BARRIER CURB OPSD 600.110 TYPICAL

0+480

0+460

0+440

0+420

0+400

TOP OF MH=119.53
WEST INVERT=116.78(500ø)
EAST INVERT=116.60(400ø)
SOUTH INVERT=117.03(200ø)

TOP OF MH=118.83
NORTH-WEST INVERT=117.16(500ø)
SOUTH INVERT=117.19(500ø)

CB34

50mm HL3HS ASPHALT
50mm HL8HS ASPHALT
ON EX GRANULAR BASE
(REGRADED AS REQUIRED)
TYPICAL

LIMIT OF FULL DEPTH EXCAVATION TYPICAL

CB28

CB28 705.010 RIM 120.74 INV OUT 119.35

PR 31m - 250Ø STM at 0.57%

MATCH EXISTING CURBS (ALLOW for 150mm CURB FACE) TYPICAL

PROP CONCRETE BARRIER CURB OPSD 600.110 TYPICAL

CB29

CB29 705.010 RIM 120.83 INV IN 119.29 250 INV OUT 119.24 300

PR 31m - 300

PROP CONCRETE BARRIER CURB OPSD 600.110 TYPICAL

PR 2.5m WIDE CONCRETE SIDEWALK

DUCT BANK

FOR CONTINUATION SEE DRAWING 04

PR 600.040 CURB & GUTTER

MATCH TO EXISTING LANDING

MATCH TO EXISTING CURB

PROP 200mm THICK COLOURED CONCRETE CROSSWALK & TAPER ASPHALT THICKNESS AS PER OPSD 310.060 BOTH SIDES TYPICAL

TOP OF MH=122.09
NORTH INVERT=116.43(?)
SOUTH INVERT=116.48(?)
EAST INVERT=116.45(?)

FOR CONTINUATION SEE DRAWING 12

FITNESS CENTRE AND
AGRI-FOOD RESEARCH ADDITION

BRICK

CONCRETE

GRAVEL

CONCRETE STEPS

CONCRETE STEPS

LID IN CONCRETE

300ø CULVERT
W INV.=117.98
E INV.=117.98

DOOR SILL=118.50

DOOR SILL=118.54

EF=118.59

EF=117.52

EF=122.93

SIGN

N

No.	DATE	REVISION	BY
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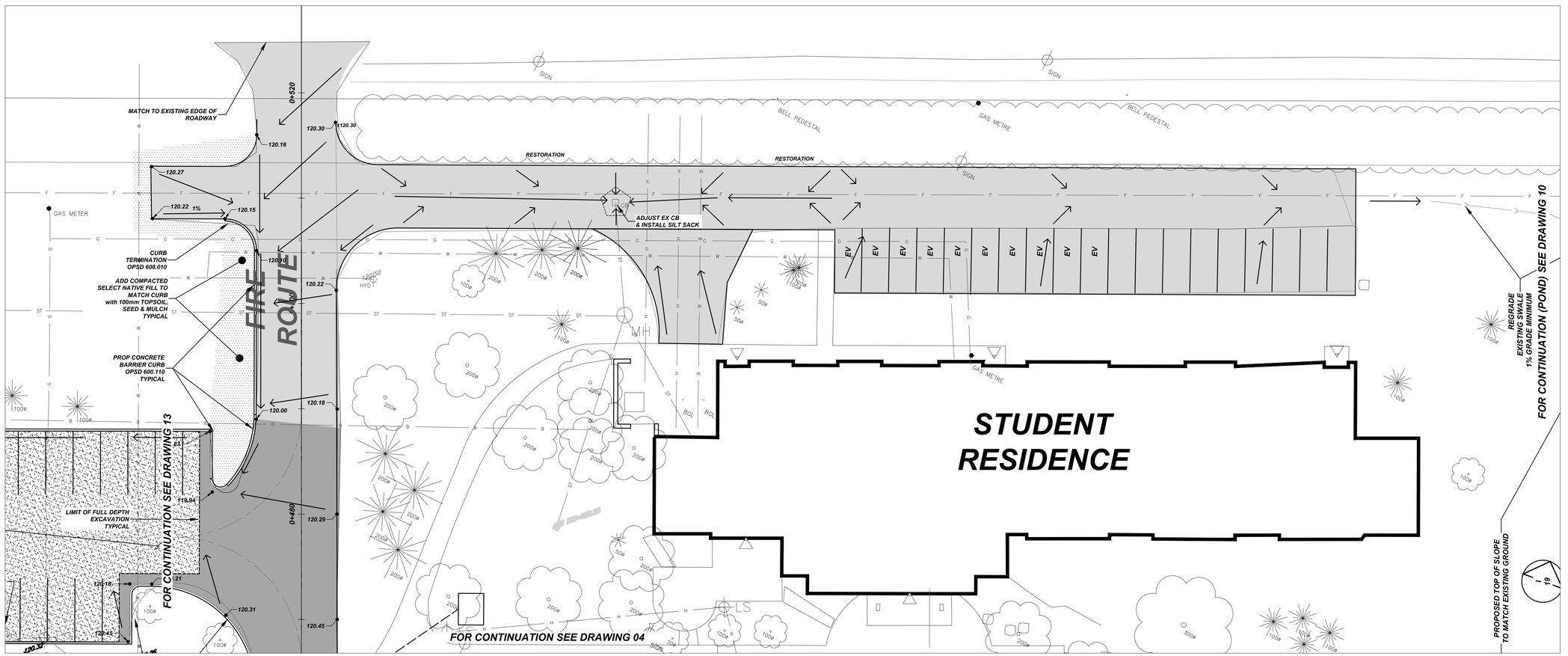
NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
EXISTING PARKING LOTS 3 & 4
REHABILITATION

URBAN & ENVIRONMENTAL MANAGEMENT INC.
PROFESSIONAL CONSULTING SERVICES

UEM No. 17-112
SCALE HORZ 1 : 200
DWG. No. 13
MUN. REF No.

PROJ. NO. 17-112

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File: Z:\UEM\Projects\2017\1001\17-112 NC Site Servicing\12-CAD\NC PARKING LOT 20190307.dwg



PROJ. NO. 17-112

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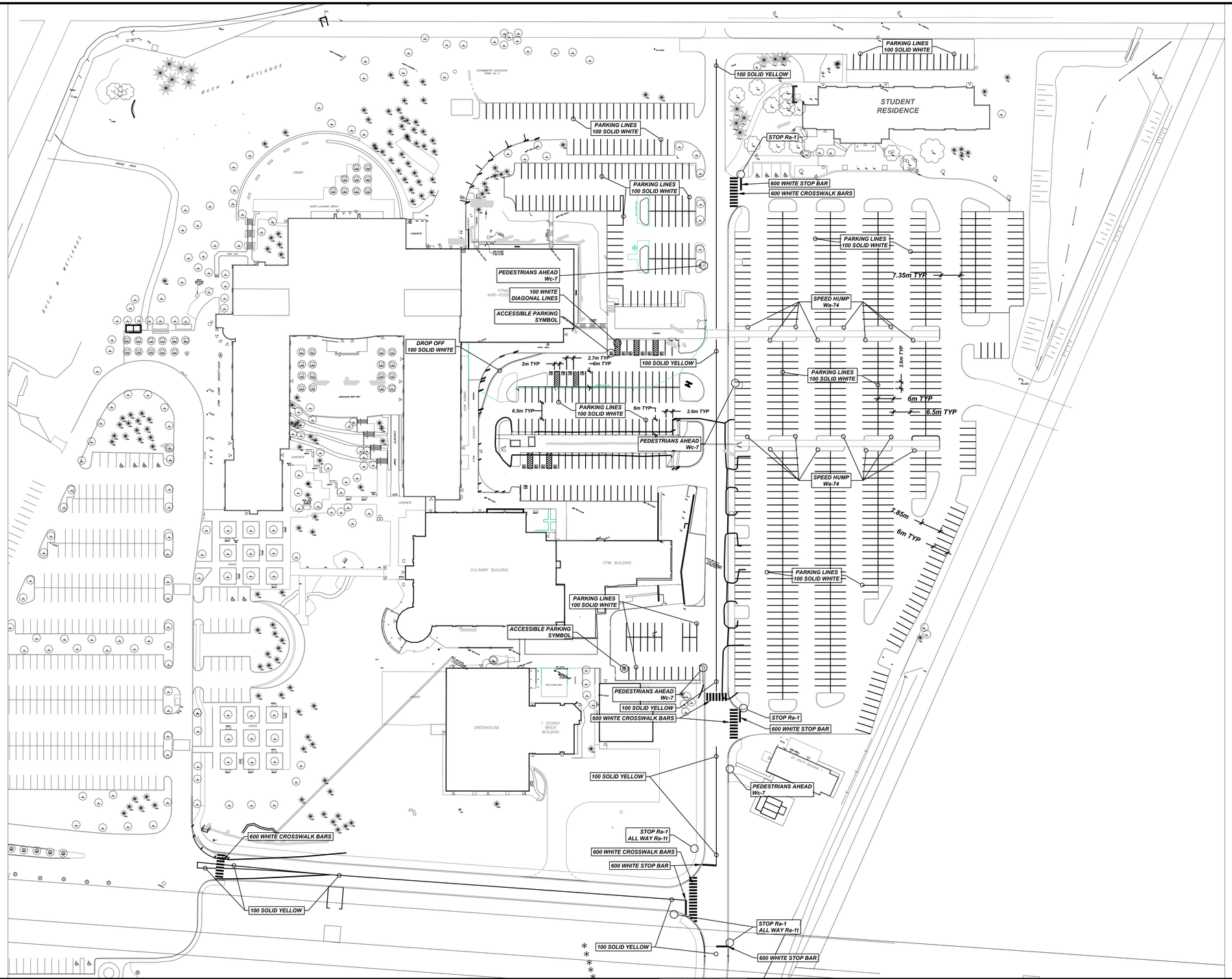
PROFESSIONAL ENGINEER S. BRANT PROVINCE OF ONTARIO

NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
EXISTING PARKING LOT 5 (RESIDENCE) RECONSTRUCTION

URBAN & ENVIRONMENTAL MANAGEMENT INC. PROFESSIONAL CONSULTING SERVICES

UEM No.	17–112
SCALE HORZ	1 : 200
DWG. No.	14
MUN. REF No.	

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CHK SB
APVD

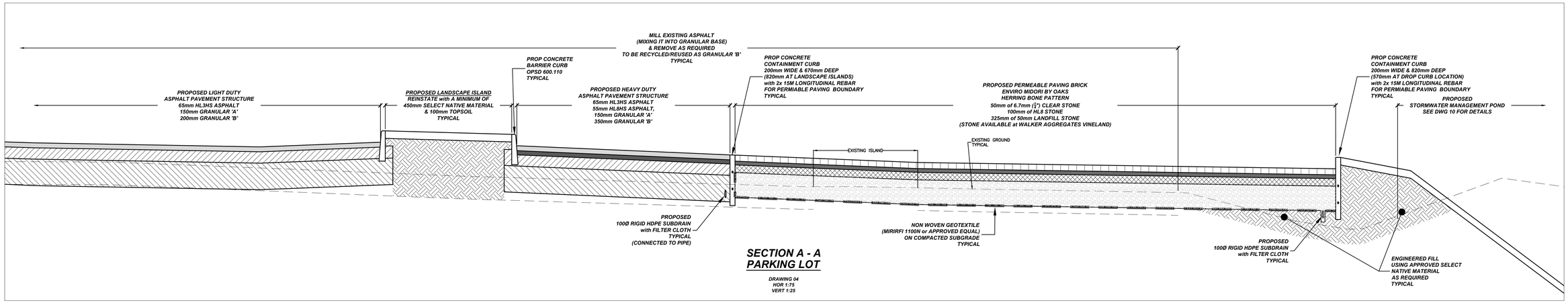
PROFESSIONAL ENGINEER S. BRANT March 7/19 PROVINCE OF ONTARIO

NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
LINEPAINTING & SIGNS

URBAN & ENVIRONMENTAL MANAGEMENT INC.
PROFESSIONAL CONSULTING SERVICES

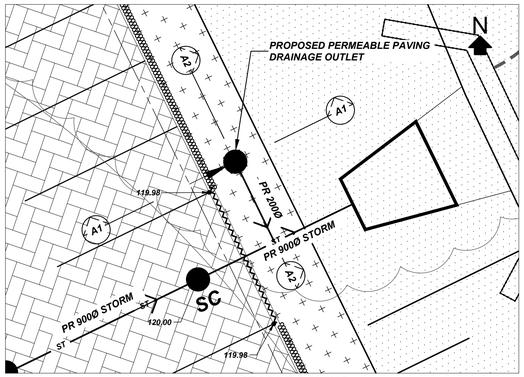
UEM No. 17-112
SCALE HORZ 1 : 750
DWG. No. 15
MUN. REF No.

Plotted: Mar 07, 2019 - 12:25pm File: Z:\UEM Projects\2017\17-112 NC Site Servicing\CAD\NC PARKING LOT 20190307.dwg

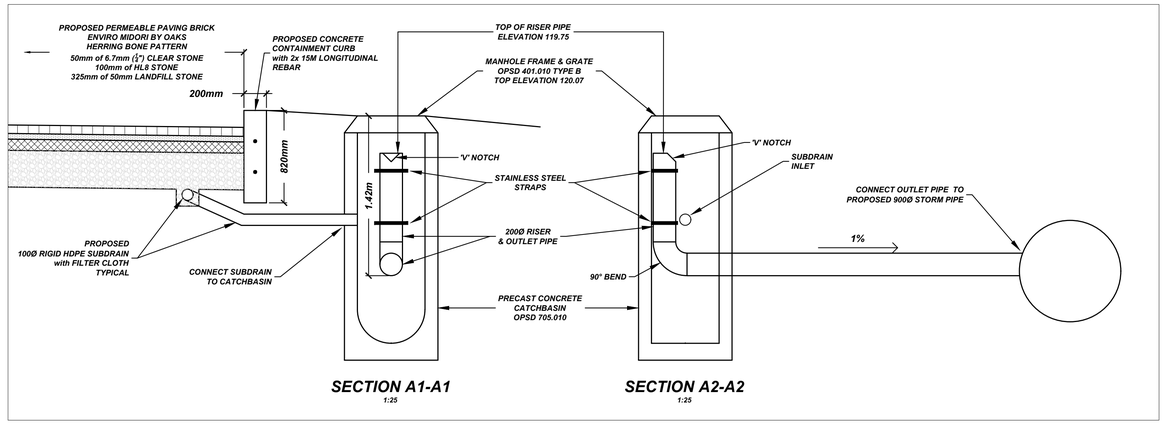


SECTION A - A
PARKING LOT

DRAWING 04
HOR 1:75
VERT 1:25

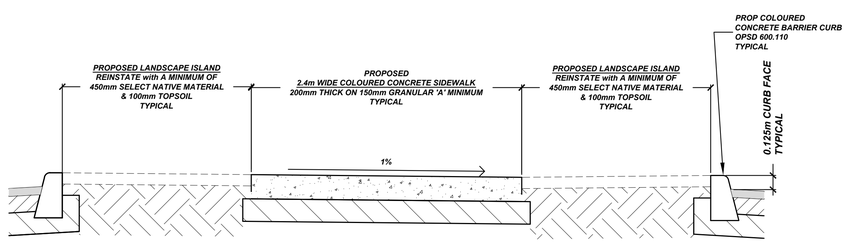


PERMEABLE PAVING
DRAINAGE OUTLET STRUCTURE
1:100



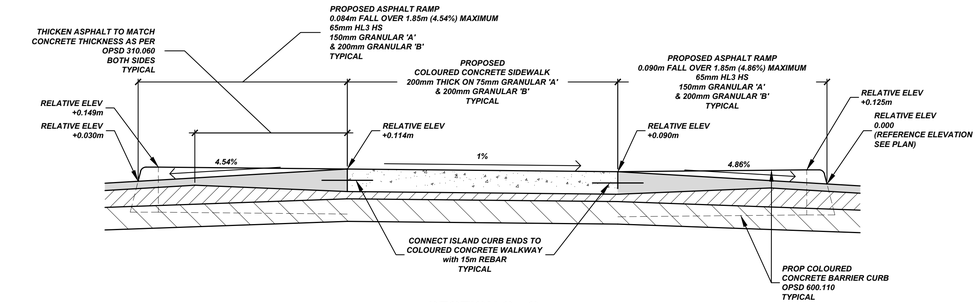
SECTION A1-A1
1:25

SECTION A2-A2
1:25



SECTION B - B
COLOURED CONCRETE PEDESTRIAN WALKWAY
in LANDSCAPE ISLAND

DRAWING 04 & 05
HOR & VERT 1:25



SECTION C - C
COLOURED CONCRETE PEDESTRIAN WALKWAY
across PARKING AISLES

DRAWING 04 & 05
HOR & VERT 1:25

PROJ. NO. 17-112

No.	DATE	REVISION	BY
3	MAR 08/19	ISSUED FOR TENDER	AK
2	JUN 27/18	ISSUED FOR TENDER	AK
1	JUN 06/18	ISSUED FOR REVIEW	AK

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DR	AK
CHK	SB
APVD	

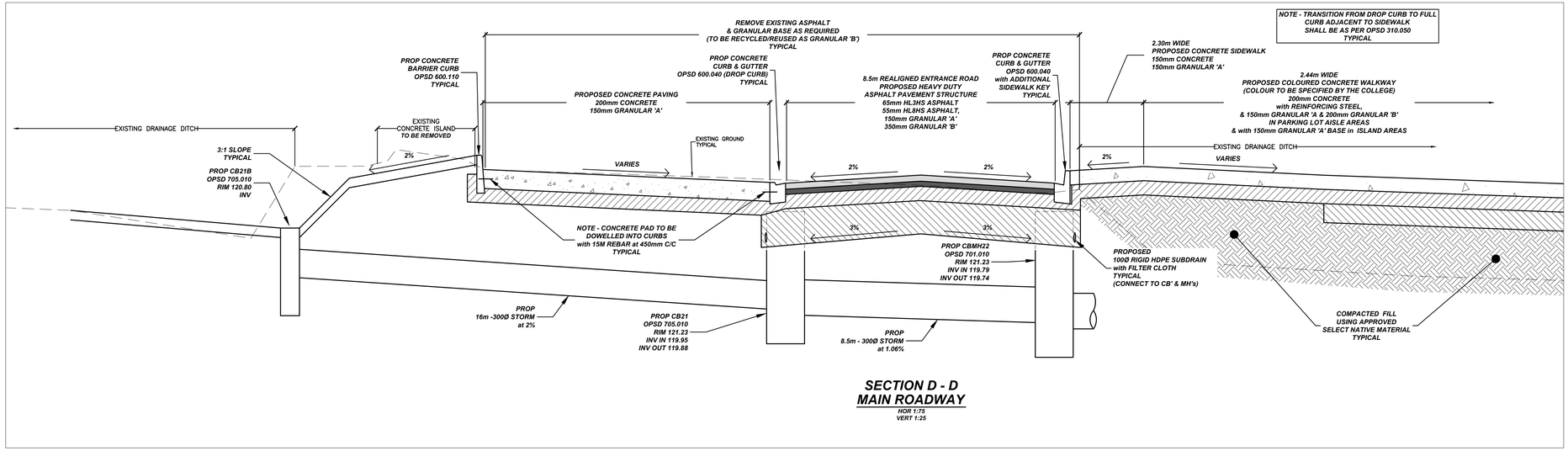
PROFESSIONAL ENGINEER S. BRANT PROVINCE OF ONTARIO

NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
SECTIONS A, B & C
& PERMEABLE PAVING DRAINAGE OUTLET DETAILS

URBAN & ENVIRONMENTAL MANAGEMENT INC.
PROFESSIONAL CONSULTING SERVICES

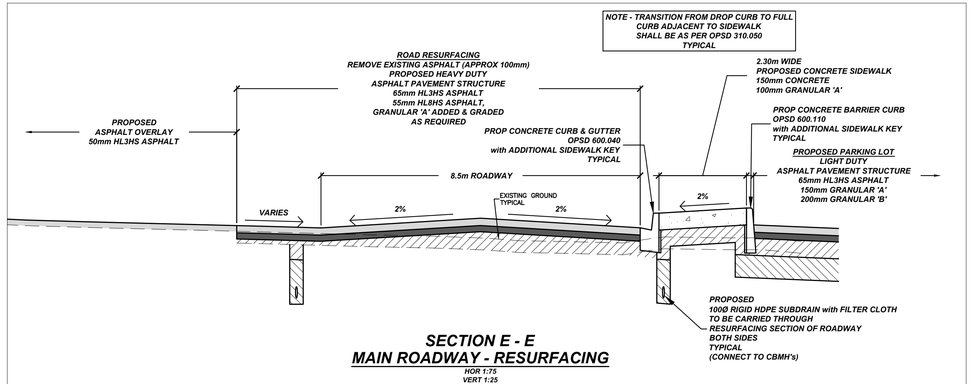
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DWG. No. 16
MUN. REF No.

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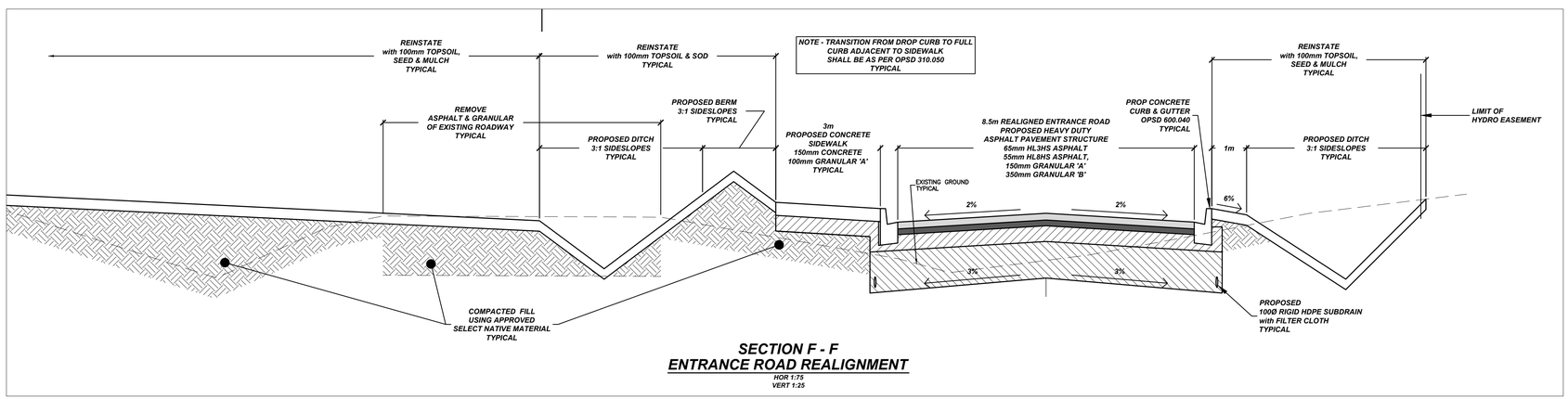
SECTION D - D
MAIN ROADWAY

HOR 1:75
VERT 1:25



SECTION E - E
MAIN ROADWAY - RESURFACING

HOR 1:75
VERT 1:25



SECTION F - F
ENTRANCE ROAD REALIGNMENT

HOR 1:75
VERT 1:25

PROJ. NO. 17-112

No.	DATE	REVISION	BY
2	JUN 27/18	ISSUED FOR TENDER	AK
1	JUN 06/18	ISSUED FOR REVIEW	AK

NOTES
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DR	AK
CHK	SB
APVD	

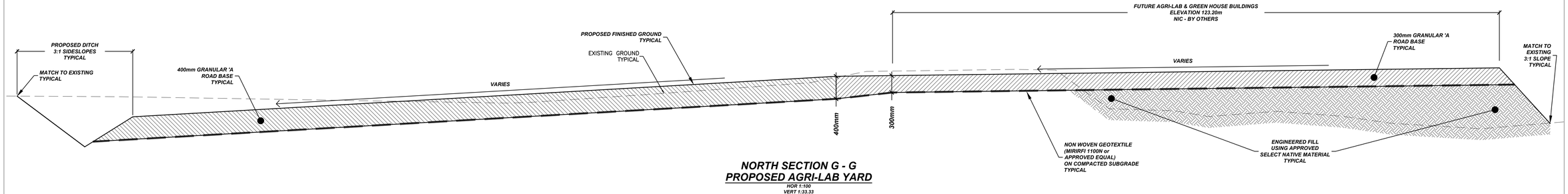
S. BRANT — PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
SECTION D, E & F

URBAN & ENVIRONMENTAL MANAGEMENT INC.
PROFESSIONAL CONSULTING SERVICES

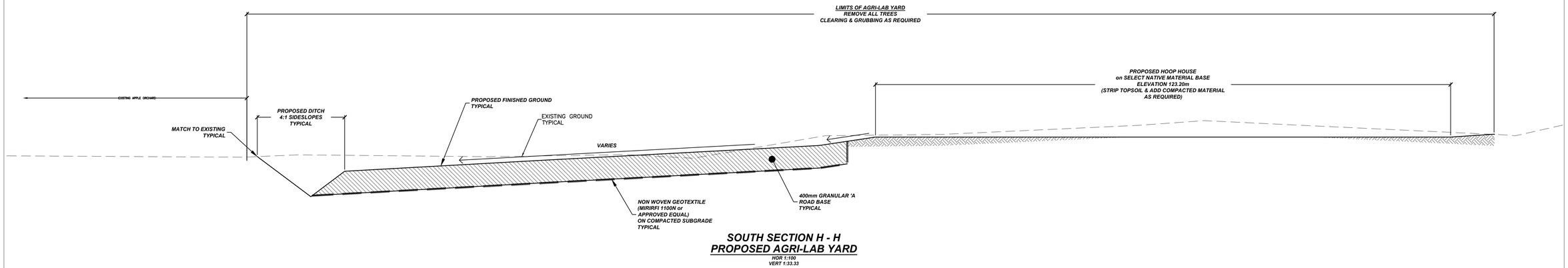
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MUN. REF No.	

Plotted: Mar 07, 2019 – 12:25pm
File: Z:\UEM\Projects\2017\17-112 NC Site Servicing\CAD\NC AMKmkt LOT 20180307.dwg



NORTH SECTION G - G
PROPOSED AGRI-LAB YARD

HOR 1:100
VERT 1:33.33



SOUTH SECTION H - H
PROPOSED AGRI-LAB YARD

HOR 1:100
VERT 1:33.33

PROJ. NO. 17-112

No.	DATE	REVISION	BY
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2	JUN 27/18	ISSUED FOR TENDER	AK
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APVD	

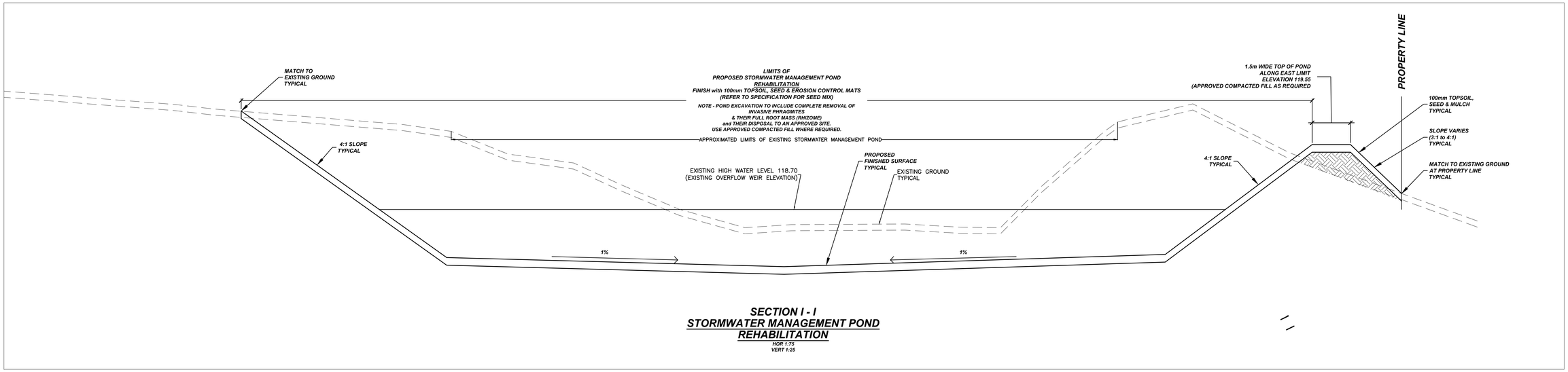
REGISTERED PROFESSIONAL ENGINEER S. BRANT PROVINCE OF ONTARIO

NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
SECTIONS G & H

URBAN & ENVIRONMENTAL MANAGEMENT INC.
PROFESSIONAL CONSULTING SERVICES

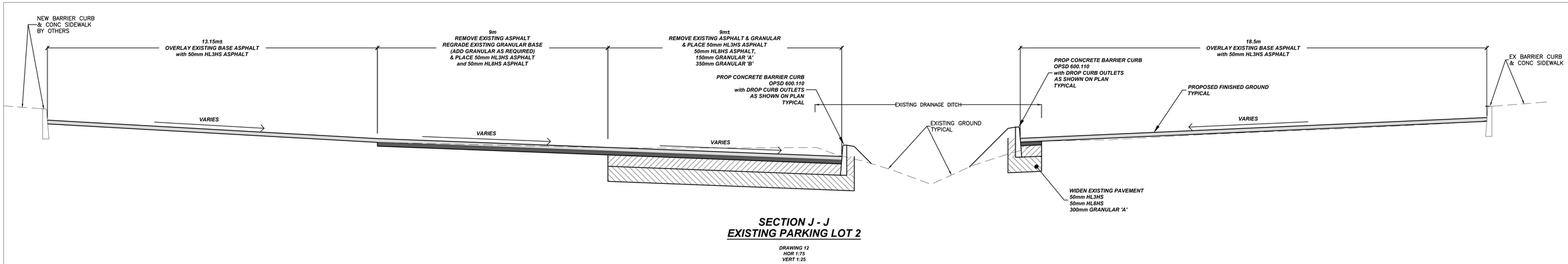
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SCALE	
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MUN. REF No.	

Plotted: Mar 07, 2019 – 12:25pm File: Z:\UEM Projects\2017\100\17-112 NC Site Servicing\USA\NC PARKING LOT 20190307.dwg



SECTION I - I
STORMWATER MANAGEMENT POND REHABILITATION

HOR 1:75
VERT 1:25



SECTION J - J
EXISTING PARKING LOT 2

DRAWING 12
HOR 1:75
VERT 1:25

PROJ. NO. 17-112

No.	DATE	REVISION	BY
2	JUN 27/18	ISSUED FOR TENDER	AK
1	JUN 06/18	ISSUED FOR REVIEW	AK

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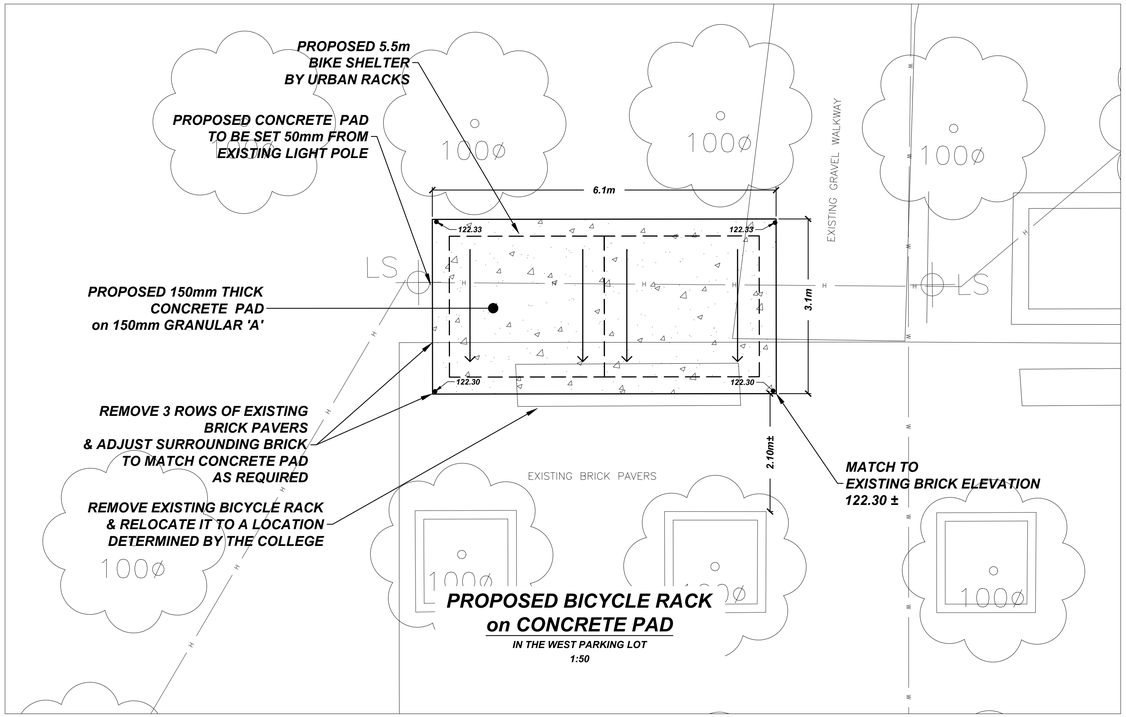
NIAGARA COLLEGE - NOTL CAMPUS
PARKING LOT RECONSTRUCTION
SECTIONS I & J

URBAN & ENVIRONMENTAL MANAGEMENT INC.
PROFESSIONAL CONSULTING SERVICES

UEM No.	17-112
SCALE	
DWG. No.	19
MUN. REF No.	

HOR 1:75
VERT 1:25

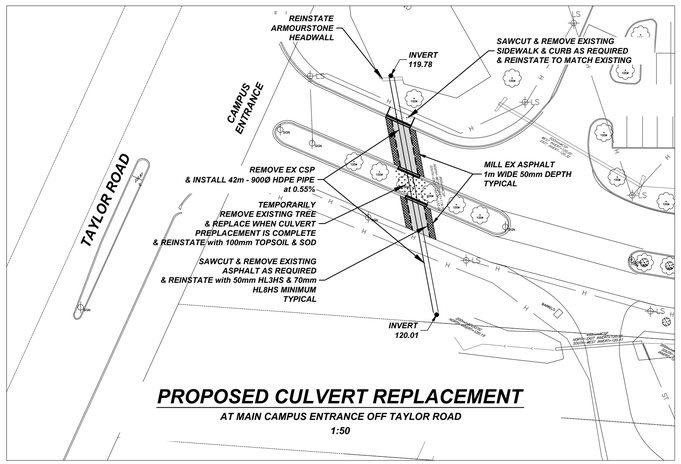
Plotted: Mar 07, 2019 – 12:25pm File: Z:\UEM\Projects\2017\17001\17-112 NC Site Servicing\CAD\NC PARKING LOT 20190307.dwg



PROPOSED BICYCLE RACK on CONCRETE PAD

IN THE WEST PARKING LOT

1:50



PROPOSED CULVERT REPLACEMENT

AT MAIN CAMPUS ENTRANCE OFF TAYLOR ROAD

1:50

EXISTING & PROPOSED SANITARY

EXISTING & PROPOSED WATERMAIN OR SERVICE

PROPOSED WATERSERVICE METER PIT

PROPOSED STORM

PROPOSED 3m OF 100Ø HDPE SUBDRAIN with FILTER CLOTH in TWO DIRECTIONS CONNECTED TO CB or MANHOLE

PROPOSED SUBDRAIN (LOCATIONS APPROXIMATE)

PROPOSED CONCRETE BARRIER CURB & CONCRETE CURB & GUTTER (with DROP CURBs & TRANSITIONS)

PROPOSED CONTAINMENT CURB 670mm HIGH & PROPOSED CONTAINMENT CURB 820mm HIGH (SHOWING 150mm CURB FACE)

PROPOSED TOP OF FINISHED SURFACE (ASPHALT, CONCRETE PAD or TOPSOIL) & TOP OF PROPOSED CURB (TC)

PROPOSED SURFACE DRAINAGE FLOW DIRECTION

EXISTING & PROPOSED SWALE or DITCH

EXISTING & PROPOSED FENCE

PROPOSED SILT FENCE OPSD 219.110

PROPOSED LIGHT DUTY STRAW BALE BARRIER & STRAW BALE CHECK DAM

PROPOSED SILT SACK FOR CB or STRUCTURE

PROPOSED DUCT BANK

EXISTING UNDERGROUND GAS, BELL/COMMUNICATIONS, HYDRO/LIGHTING

EXISTING TREES & BUSH

ABANDONED FORCEMAIN

REMOVAL OF ITEM (ie EX LIGHT POLE, EX TREE, EX CURB or EX CULVERT)

PROPOSED SAWCUT

CLEARING & GRUBBING

MILLING OF EXISTING ASPHALT 40mm or 50mm DEEP

REMOVAL OF EXISTING ASPHALT & GRANULAR MATERIAL

REMOVAL OF EXISTING ASPHALT

EXISTING GRANULAR MATERIAL

PROPOSED LIGHT DUTY ASPHALT PAVEMENT STRUCTURE

PROPOSED HEAVY DUTY ASPHALT PAVEMENT STRUCTURE

PROPOSED PERMEABLE BRICK PAVEMENT STRUCTURE

PROPOSED 100mm TOPSOIL & SOD

PROPOSED 100mm TOPSOIL, SEED & MULCH

PROPOSED 50mm HL3HS ASPHALT OVERLAY

PROPOSED CONCRETE SIDEWALK or PAVEMENT or PAD

PROPOSED ASPHALT BASE & TOP PAVING on REGRADED EXISTING GRANULAR BASE

PROPOSED MODIFIED LIGHT DUTY PAVING

PROPOSED 400mm THICK GRANULAR

PROPOSED 300mm THICK GRANULAR

PROJ. NO. 17-112

No.	DATE	REVISION	BY
3	MAR 08/19	ISSUED FOR TENDER	AK
2	JUN 27/18	ISSUED FOR TENDER	AK
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PROFESSIONAL ENGINEERS PROVINCE OF ONTARIO S. BRANT

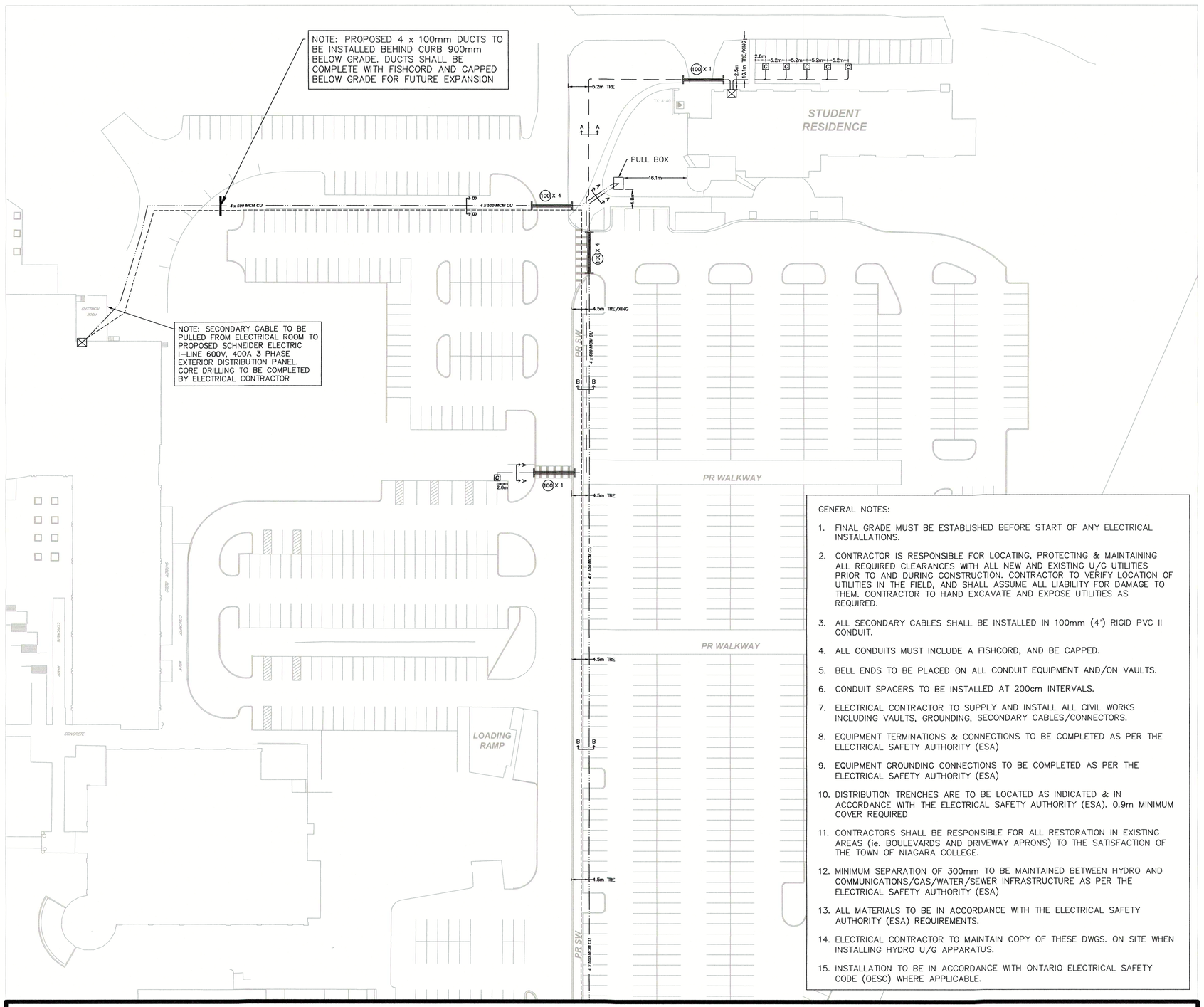
NIAGARA COLLEGE - NOTL CAMPUS PARKING LOT RECONSTRUCTION BIKE RACK, CULVERT REPLACEMENT & LEGEND

URBAN & ENVIRONMENTAL MANAGEMENT INC. PROFESSIONAL CONSULTING SERVICES

UEM No.	17-112
SCALE	
DWG. No.	20
MUN. REF No.	

HORZ
VERT.

Plotted: Mar 07, 2019 – 12:25pm File: Z:\UEM\Projects\2017\17-112 NC Site Servicing\CAD\NC PARKING LOT 20190307.dwg



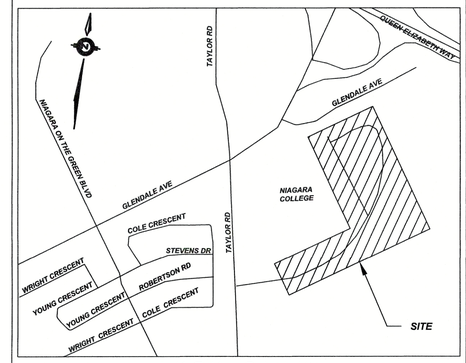
GENERAL NOTES:

1. FINAL GRADE MUST BE ESTABLISHED BEFORE START OF ANY ELECTRICAL INSTALLATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR LOCATING, PROTECTING & MAINTAINING ALL REQUIRED CLEARANCES WITH ALL NEW AND EXISTING U/G UTILITIES PRIOR TO AND DURING CONSTRUCTION. CONTRACTOR TO VERIFY LOCATION OF UTILITIES IN THE FIELD, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM. CONTRACTOR TO HAND EXCAVATE AND EXPOSE UTILITIES AS REQUIRED.
3. ALL SECONDARY CABLES SHALL BE INSTALLED IN 100mm (4") RIGID PVC II CONDUIT.
4. ALL CONDUITS MUST INCLUDE A FISHCORD, AND BE CAPPED.
5. BELL ENDS TO BE PLACED ON ALL CONDUIT EQUIPMENT AND/ON VAULTS.
6. CONDUIT SPACERS TO BE INSTALLED AT 200cm INTERVALS.
7. ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL ALL CIVIL WORKS INCLUDING VAULTS, GROUNDING, SECONDARY CABLES/CONNECTORS.
8. EQUIPMENT TERMINATIONS & CONNECTIONS TO BE COMPLETED AS PER THE ELECTRICAL SAFETY AUTHORITY (ESA)
9. EQUIPMENT GROUNDING CONNECTIONS TO BE COMPLETED AS PER THE ELECTRICAL SAFETY AUTHORITY (ESA)
10. DISTRIBUTION TRENCHES ARE TO BE LOCATED AS INDICATED & IN ACCORDANCE WITH THE ELECTRICAL SAFETY AUTHORITY (ESA). 0.9m MINIMUM COVER REQUIRED
11. CONTRACTORS SHALL BE RESPONSIBLE FOR ALL RESTORATION IN EXISTING AREAS (ie. BOULEVARDS AND DRIVEWAY APRONS) TO THE SATISFACTION OF THE TOWN OF NIAGARA COLLEGE.
12. MINIMUM SEPARATION OF 300mm TO BE MAINTAINED BETWEEN HYDRO AND COMMUNICATIONS/GAS/WATER/SEWER INFRASTRUCTURE AS PER THE ELECTRICAL SAFETY AUTHORITY (ESA)
13. ALL MATERIALS TO BE IN ACCORDANCE WITH THE ELECTRICAL SAFETY AUTHORITY (ESA) REQUIREMENTS.
14. ELECTRICAL CONTRACTOR TO MAINTAIN COPY OF THESE DWGS. ON SITE WHEN INSTALLING HYDRO U/G APPARATUS.
15. INSTALLATION TO BE IN ACCORDANCE WITH ONTARIO ELECTRICAL SAFETY CODE (OESC) WHERE APPLICABLE.

FOR CONTINUATION SEE PAGE EL-2

LEGEND

- 1 RUN OF 4–1C #500MCM CU RWU90 XLPEI PVCJ 1000V SECONDARY CABLE (400A SERVICE). CABLE INSTALLED IN 1–100mm PVC II DUCT 900mm BELOW GRADE
- 1/C – #8 AWG CU RWU90 XLPEI PRCJ 600V T90 BUILDING WIRE, CABLE INSTALLED IN 1–100mm PVC II DUCT 900mm BELOW GRADE
- 1/C – #3 AWG CU RWU90 XLPEI PVCK 1000V SECONDARY CABLE (400A SERVICE BONDING CABLE)
- 100 X 4 — ROAD CROSSING WITH DUCT SIZE AND QUANTITIES
- PROPOSED SCHNEIDER ELECTRIC I–LINE PANELBOARD 600V, 400A HCM14644M WITH DOOR, TYPE 3R/12 ENCLOSURE MOUNTED ON CONCRETE PAD
- PROPOSED SCHNEIDER ELECTRICAL EVLINK DUAL PEDESTAL, LEVEL 2 CHARGER 120/208V 1ϕ ELECTRIC 30A VEHICLE CHARGING STATION. CAT# EV230PDRR
- TX 4140 — EXISTING 3ϕ TRANSFORMER.
- UTILITY SOLUTIONS PULL BOX 1.8m x 1.8m (6' x 6') PRODUCT# E–10B C/W E–12
- 100mm CONCRETE ENCASED DUCTS



KEY PLAN
N.T.S.

REVISIONS

No.	DESCRIPTION	DATE	BY	APPROVED
1.	ISSUED FOR PRICING TENDER	JUNE 28/18	KM	SD

PROPOSED ELECTRICAL LAYOUT

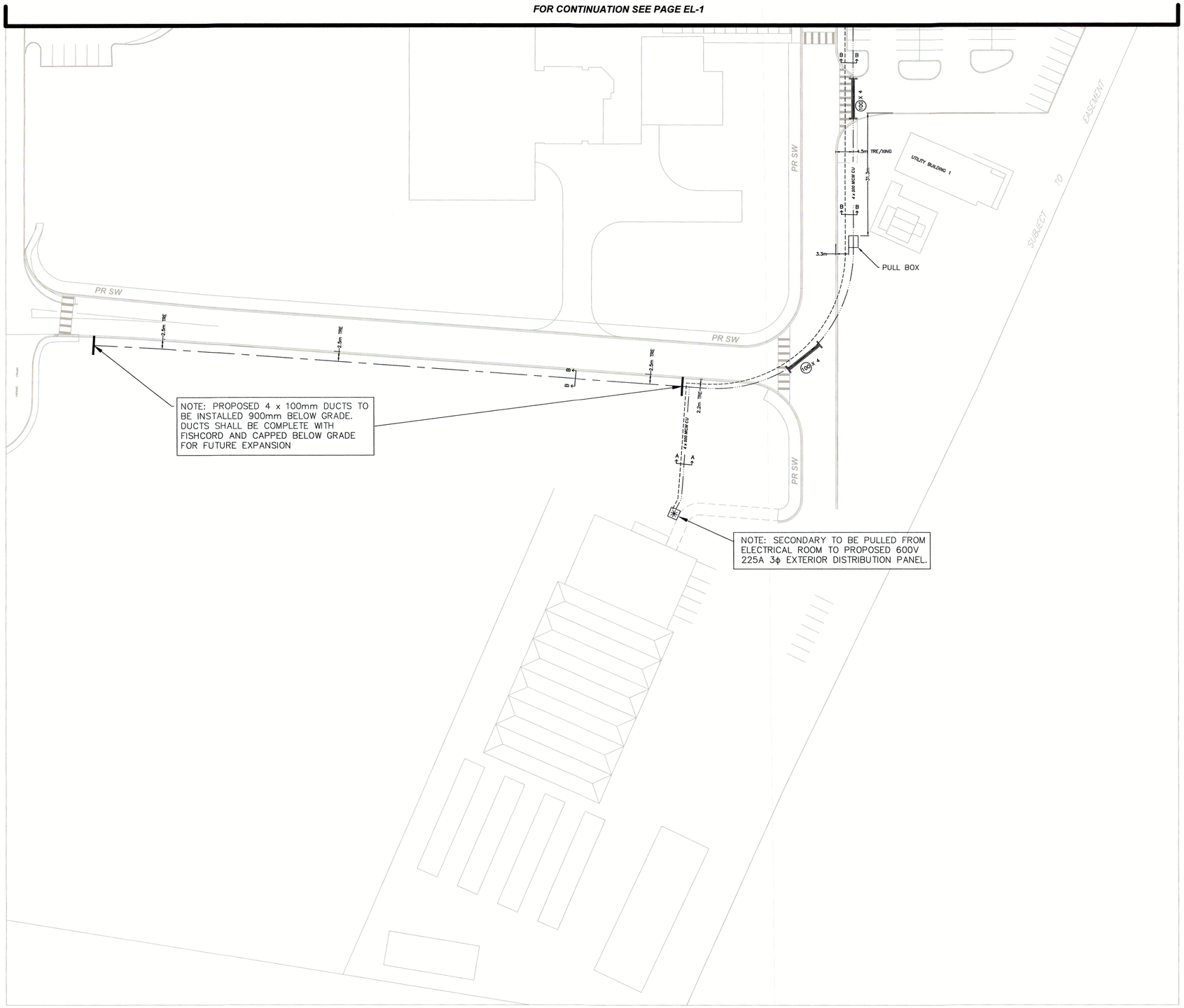
NIAGARA COLLEGE
NIAGARA ON THE LAKE CAMPUS

LICENSED PROFESSIONAL ENGINEER
R. C. HOLDER
100190960
06/28/18
PROVINCE OF ONTARIO

DPM Energy
8000 Jane Street
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Suite 200
Vaughan, ON
L4K 5B8
T 905.597.7200
F 905.597.7271
E-mail: info@dpmenergy.com
www.dpmenergy.com

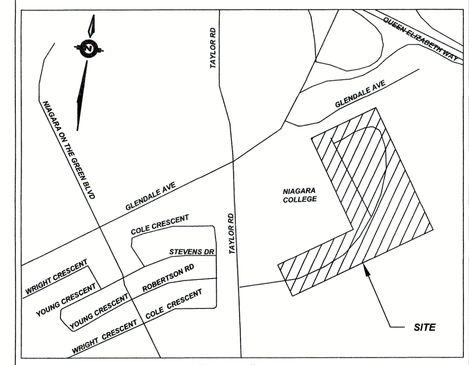
DATE : JUNE 12, 2018	DRAWN BY : AS	PROJECT No. 255A 17 121	
SCALE : 1:500	DESIGNED BY : AS	DRAWING No. EL–1	
	CHECKED BY : SD		

FOR CONTINUATION SEE PAGE EL-1



LEGEND

- 1 RUN OF 4–1C #500mcm CU RWU90 XLPEI PVCJ 1000V SECONDARY CABLE (400A SERVICE). CABLE INSTALLED IN 1–100mm PVC II DUCT 900mm BELOW GRADE
- U/G SECONDARY CABLE 600V T90 BUILDING WIRE, #8 AWG CU PVCJ TRIPLEX, CABLE INSTALLED IN 1–100mm PVC II DUCT 900mm BELOW GRADE
- 100 X 4 — ROAD CROSSING WITH DUCT SIZE AND QUANTITIES
- PROPOSED SCHNEIDER ELECTRIC I–LINE PANELBOARD 600V, 400A INTERIOR ASSEMBLY HCM14644M WITH DOOR, TYPE 3R/12 ENCLOSURE MOUNTED ON CONCRETE PAD
- PROPOSED SCHNEIDER ELECTRICAL EVLINK DUAL PEDESTAL, LEVEL 2 CHARGER 120/208V 1ϕ ELECTRIC 30A VEHICLE CHARGING STATION. CAT# EV230PDRR
- TX 4140 — EXISTING 3ϕ TRANSFORMER.
- UTILITY SOLUTIONS PULL BOX 1.8m x 1.8m (6' x 6') PRODUCT# E–10B C/W E–12
- 100mm CONCRETE ENCASED DUCTS



KEY PLAN
N.T.S.

REVISIONS

No.	DESCRIPTION	DATE	BY	APPROVED
1.	ISSUED FOR PRICING TENDER	JUNE 28/18	KM	SD

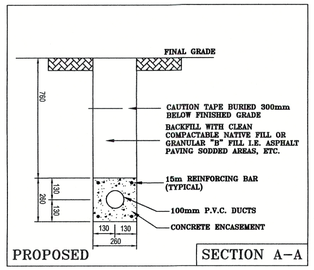
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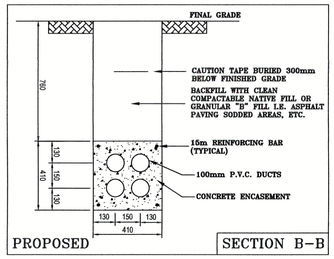
NIAGARA COLLEGE
NIAGARA ON THE LAKE CAMPUS

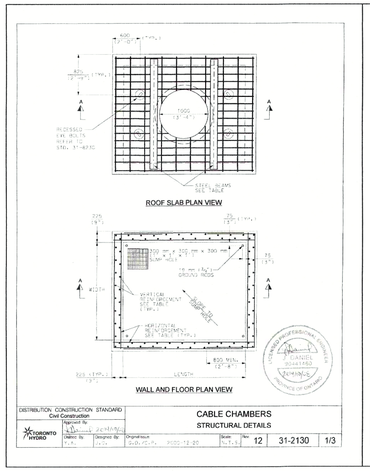
LICENSED PROFESSIONAL ENGINEER
R. C. HOLDER
100190960
06/28/18
PROVINCE OF ONTARIO

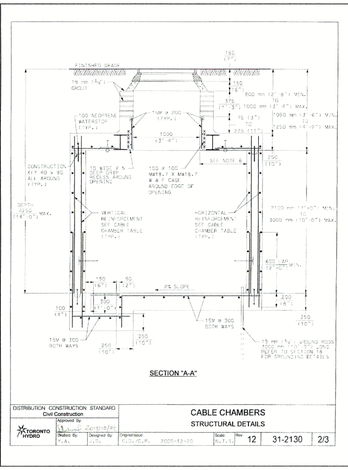
DPM Energy
8000 Jane Street
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Suite 200
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T 905.597.7200
F 905.597.7271
E-mail: info@dpmenergy.com
www.dpmenergy.com

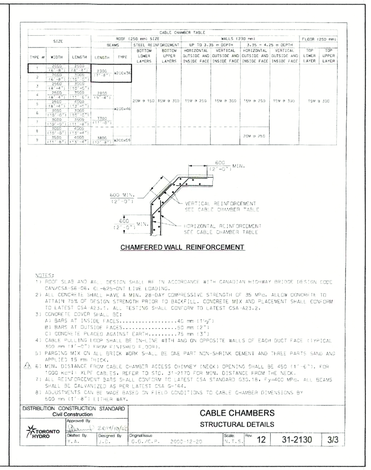
DATE : JUNE 12, 2018	DRAWN BY :	AS	PROJECT No. 255A 17 121
SCALE : 1:500	DESIGNED BY :	AS	DRAWING No. EL–2
	CHECKED BY :	SD	

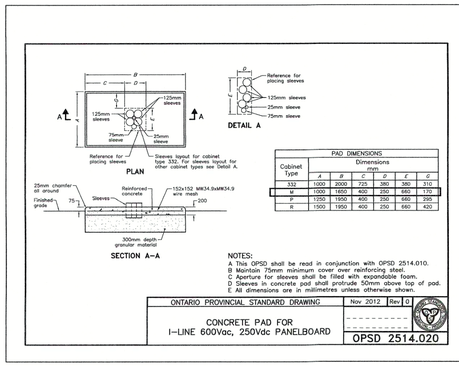


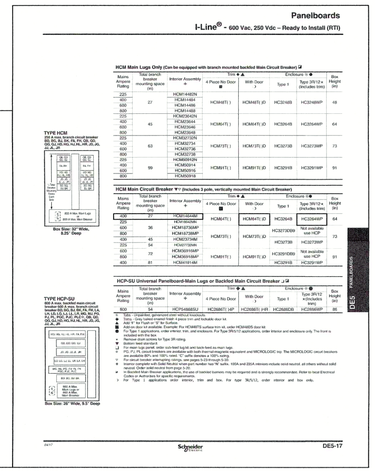


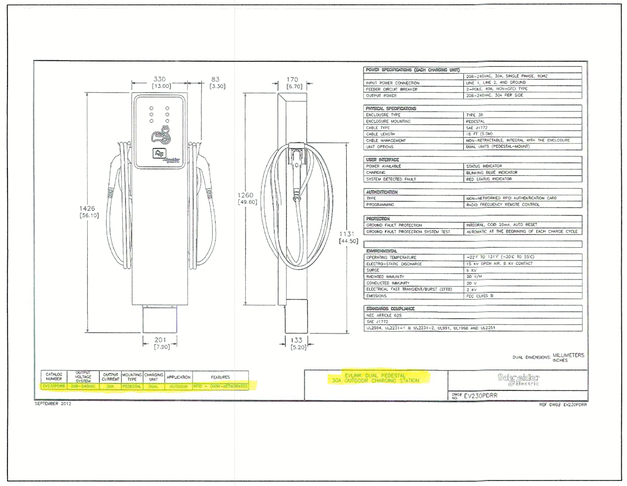


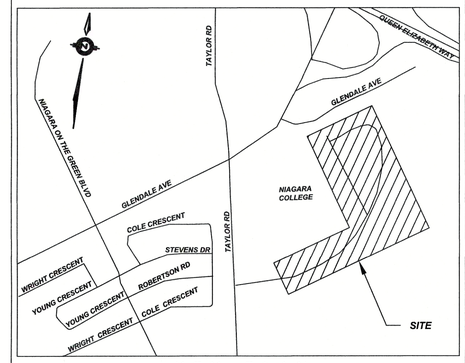












KEY PLAN
N.T.S.

REVISIONS

No.	DESCRIPTION	DATE	BY	APPROVED
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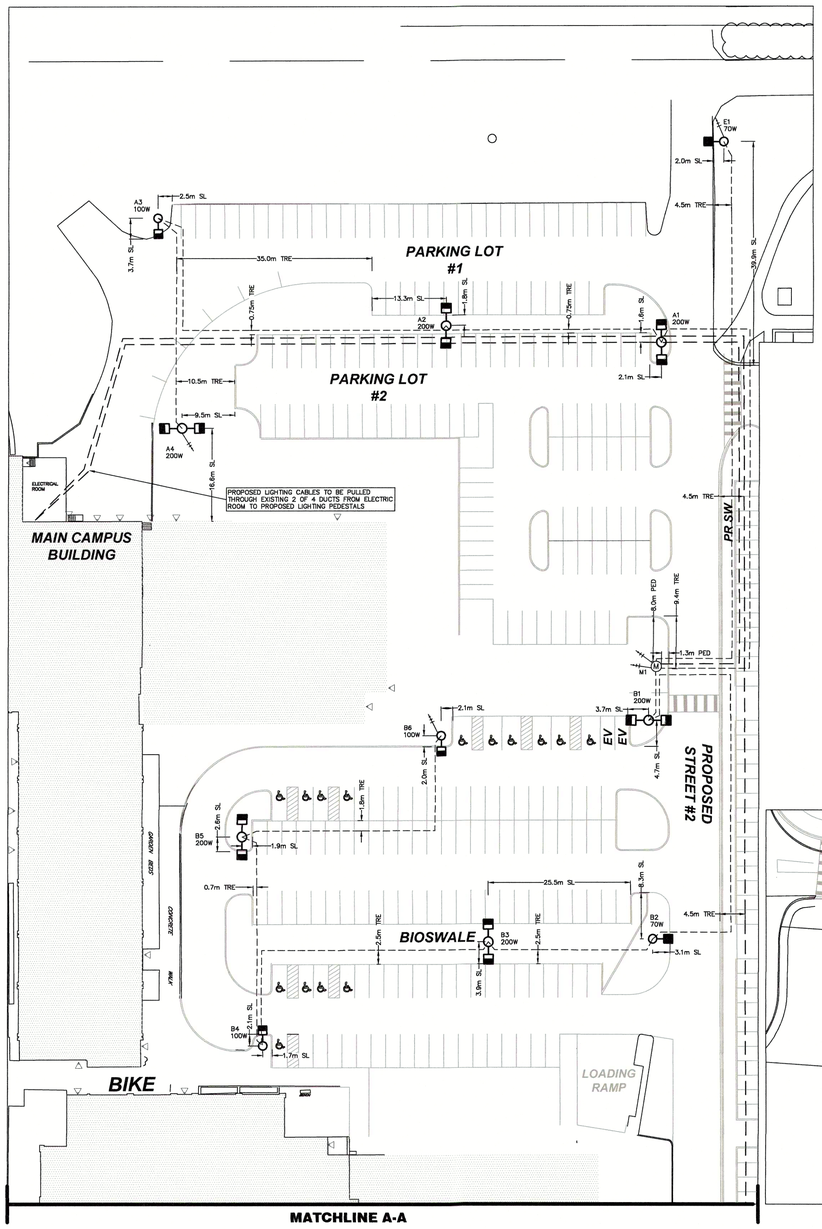
DETAIL SHEET 1

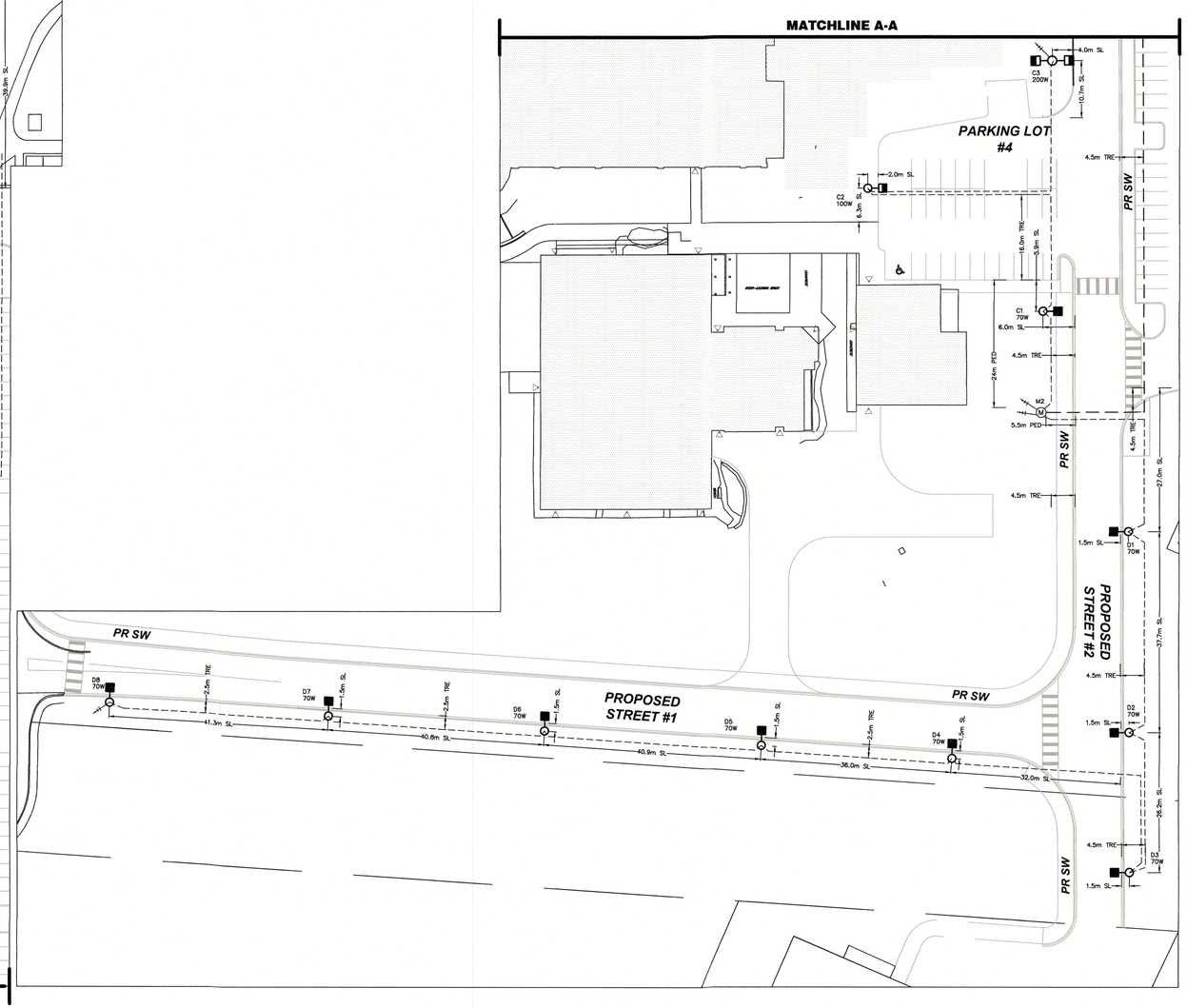
NIAGARA COLLEGE
NIAGARA ON THE LAKE CAMPUS

LICENSED PROFESSIONAL ENGINEER
R.C. HOLDER
100190960
06/28/18
PROVINCE OF ONTARIO

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www.dpmenergy.com

DATE : JUNE 12, 2018	DRAWN BY :	AS	PROJECT No. 255A 17 121
SCALE :	DESIGNED BY :	AS	DRAWING No. EL–3
	CHECKED BY :	SD	





NOTE:
ALL STREETLIGHT DUCTS ALONG PROPOSED STREET #2 NORTH OF PEDESTAL M2 TO BE INSTALLED AS PER PHASE 3

LEGEND

100W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT#P-275-BPO-G). 100W EVOLVE AREA LIGHT LED TYPE IV (CAT# EANB_E4730___), 10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

100W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT#P-275-BPO-G). 2 x 100W EVOLVE AREA LIGHT LED TYPE IV (CAT# EANB_E4730___),10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

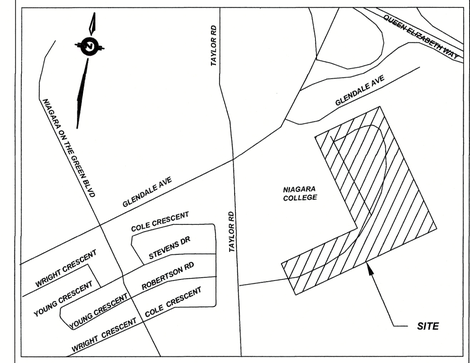
70W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT# P-275-BPO-G). 70W EVOLVE AREA LIGHT LED TYPE III (CAT# EANB_E3730___), 10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

PROPOSED STREET LIGHT METERED PEDESTAL BY PEDESTAL SOLUTIONS INC. C/W PRECAST CONCRETE BASE & PL27-TCV METERBASE MOUNTED ON THE BACK, SLT MODEL, 22KA RATING, 1P-100A, 120/208V MAIN BREAKER AND FOUR (1P-40A) BRANCH CIRCUIT BREAKERS.

STREETLIGHT CABLE: 2-#6 CU. RWU90 & 1-#6 RWU90 CU. (GREEN). CABLE SHALL BE IN DIRECT BURIED 100mm PVC TYPE II DUCT AT 900mm BELOW FINISHED GRADE.

PEDESTAL FEED CABLE: 3-#6 RWU90 XLPEI CU. CABLE SHALL BE IN DIRECT BURIED 100mm PVC TYPE II DUCT AT 900mm BELOW FINISHED GRADE

GROUND ROD.



KEY PLAN
N.T.S.

REVISIONS

No.	DESCRIPTION	DATE	BY	APPROVED
1.	ISSUED FOR TENDER PRICING	JUNE.27/18	AS	SD

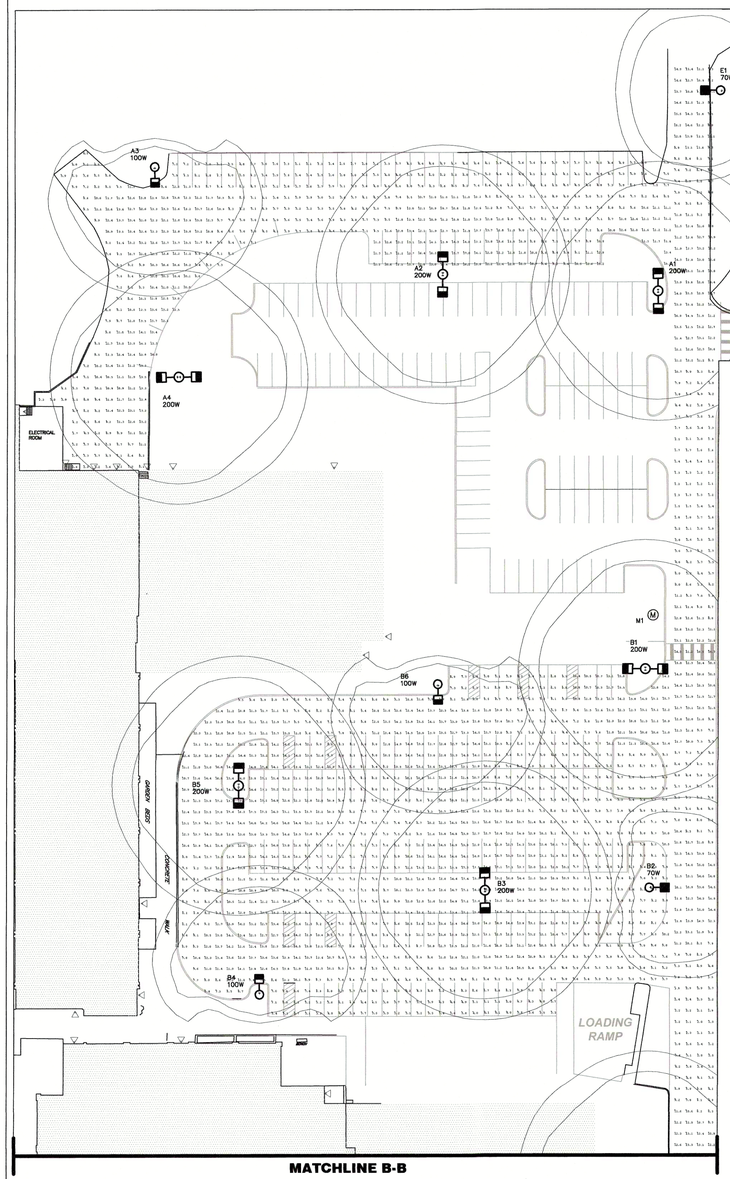
PHASE 1 (SEPTEMBER 2018)
LIGHTING LAYOUT

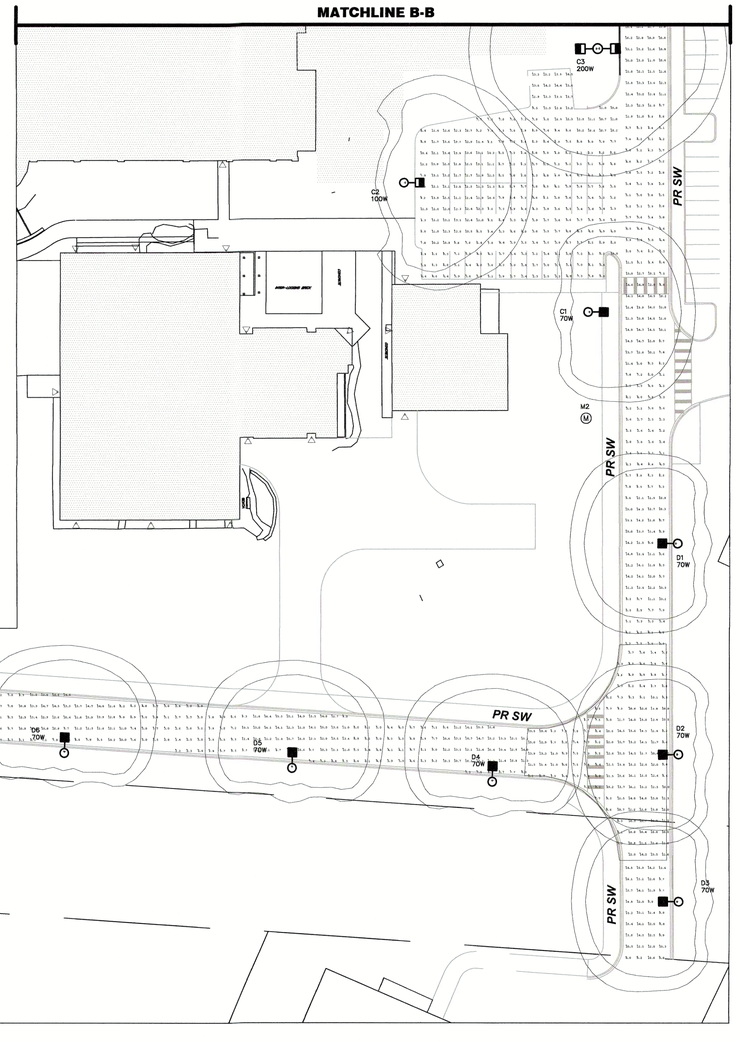
NIAGARA COLLEGE
NIAGARA ON THE LAKE CAMPUS

LICENSED PROFESSIONAL ENGINEER
R. C. HOLDER
100190960
06/27/18
PROVINCE OF ONTARIO

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DATE : JUNE 12, 2018	DRAWN BY : AS	PROJECT No. 255A 17 121
SCALE : 1:500	DESIGNED BY : AS	DRAWING No. SL-1
	CHECKED BY : SD	





NOTES:

1) PROPOSED STREET #1, PROPOSED STREET #2, PARKING LOT #1, #2, #4 ARE PRE-CURFEW PARKING LOTS AS PER RP-20-14
THE REQUIREMENTS ARE:
AVG ILLUMINANCE 5.0lux, AVG/MIN 4.0:1, MAX/MIN 15.0:1

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	11	EANB_C3730	SINGLE	N.A.	0.810	EANB_C3730
	7	EANB_E4730	BACK-BACK	N.A.	0.810	EANB_E4730
	4	EANB_E4730_1	SINGLE	N.A.	0.810	EANB_E4730

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Bioswale	Illuminance	Lux	9.51	17.5	3.1	3.07	5.65
Intersection	Illuminance	Lux	10.12	16.1	3.2	3.16	5.03
Parking Lot #1	Illuminance	Lux	8.36	17.0	2.1	3.98	8.10
Parking Lot #4	Illuminance	Lux	7.60	14.5	2.3	3.30	6.30
Proposed Street #1	Illuminance	Lux	8.50	15.5	2.2	3.86	7.05
Proposed Street #2	Illuminance	Lux	8.42	17.2	1.1	7.65	15.64

LEGEND

100W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT#P-275-BPO-G). 100W EVOLVE AREA LIGHT LED TYPE IV (CAT# EANB_E4730___), 10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

100W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT#P-275-BPO-G). 2 x 100W EVOLVE AREA LIGHT LED TYPE IV (CAT# EANB_E4730___),10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

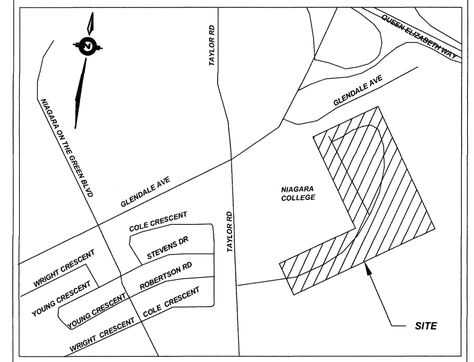
70W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT# P-275-BPO-G). 70W EVOLVE AREA LIGHT LED TYPE III (CAT# EANB_E3730___), 10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

PX — PROPOSED STREET LIGHT METERED PEDESTAL BY PEDESTAL SOLUTIONS INC. C/W PRECAST CONCRETE BASE & PL27-TCV METERBASE MOUNTED ON THE BACK, SLT MODEL, 22KA RATING, 1P-100A, 120/208V MAIN BREAKER AND FOUR (1P-40A) BRANCH CIRCUIT BREAKERS.

STREETLIGHT CABLE: 2-#6 CU. RWU90 & 1-#6 RWU90 CU. (GREEN). CABLE SHALL BE IN DIRECT BURIED 100mm PVC TYPE II DUCT AT 900mm BELOW FINISHED GRADE.

PEDESTAL FEED CABLE: 3-#6 RWU90 XLPEI CU. CABLE SHALL BE IN DIRECT BURIED 100mm PVC TYPE II DUCT AT 900mm BELOW FINISHED GRADE

GROUND ROD.



KEY PLAN
N.T.S.

REVISIONS

No.	DESCRIPTION	DATE	BY	APPROVED
1.	ISSUED FOR TENDER PRICING	JUNE.27/18	AS	SD

PHASE 1 (SEPTEMBER 2018)
PHOTOMETRICS

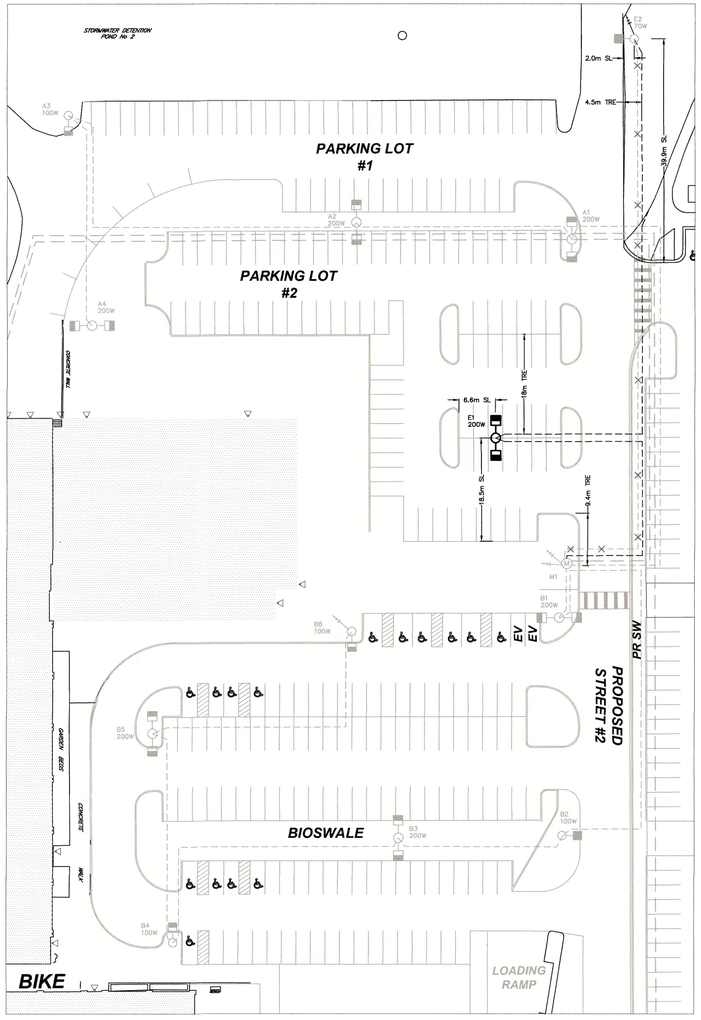
NIAGARA COLLEGE
NIAGARA ON THE LAKE CAMPUS

LICENSED PROFESSIONAL ENGINEER
R. C. HOLDER
100190060
06/27/18
PROVINCE OF ONTARIO

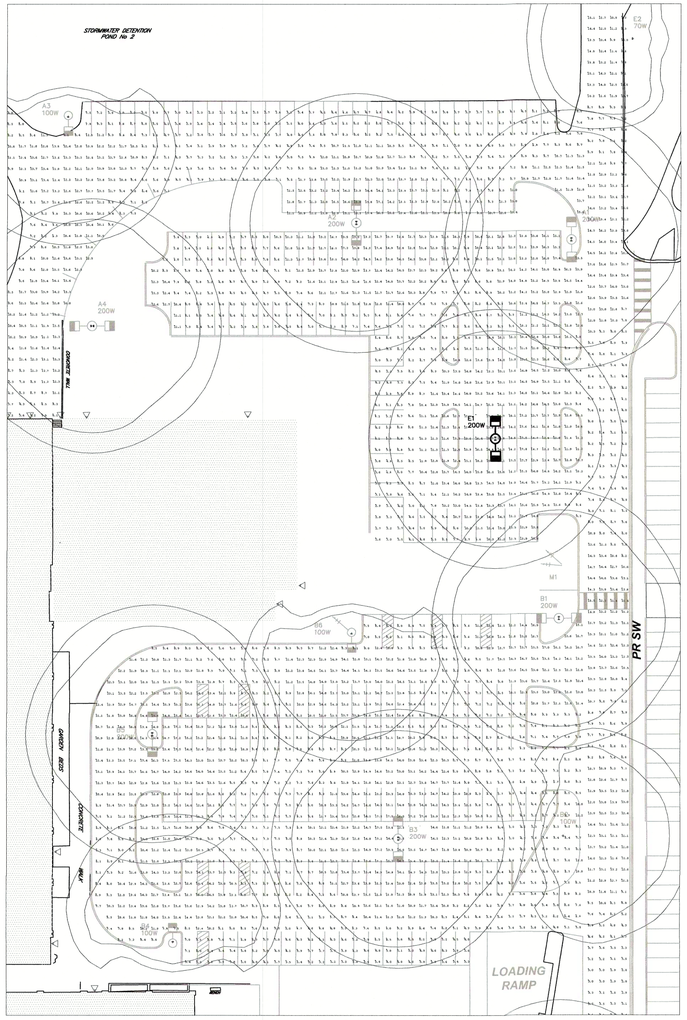
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DATE : JUNE 12, 2018
DRAWN BY : AS
PROJECT No. 255A 17 121
SCALE : 1:500
DESIGNED BY : AS
DRAWING No. SL-2
CHECKED BY : SD

STREETLIGHT LAYOUT



PHOTOMETRICS



NOTE:
ALL STREETLIGHT DUCTS ALONG PROPOSED STREET #2 NORTH OF PEDESTAL M2 TO BE INSTALLED AS PER PHASE 3

NOTES:

1) PARKING LOT #2 IS A PRE-CURFEW PARKING LOT AS PER RP-20-14
THE REQUIREMENTS ARE:
AVG ILLUMINANCE 5.0lux, AVG/MIN 4.0:1, MAX/MIN 15.0.1

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	10	EANB_C3730_____	SINGLE	N.A.	0.810	EANB_C3730
	8	EANB_E4730_____	BACK-BACK	N.A.	0.810	EANB_E4730_____
	5	EANB_E4730_____1	SINGLE	N.A.	0.810	EANB_E4730_____

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Bioswale	Illuminance	Lux	9.95	17.5	3.2	3.11	5.47
Intersection	Illuminance	Lux	10.11	16.1	3.2	3.16	5.03
Parking Lot #1	Illuminance	Lux	8.39	17.1	2.1	4.00	8.14
Parking Lot #2	Illuminance	Lux	10.31	18.2	2.6	3.97	7.00
Parking Lot #4	Illuminance	Lux	7.60	14.5	2.3	3.30	6.30
Proposed Street #1	Illuminance	Lux	8.49	15.6	2.2	3.86	7.09
Proposed Street #2	Illuminance	Lux	9.24	17.6	2.2	4.20	8.00

LEGEND

100W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT#P-275-BPO-G). 100W EVOLVE AREA LIGHT LED TYPE IV (CAT# EANB_E4730___), 10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

100W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT#P-275-BPO-G). 2 x 100W EVOLVE AREA LIGHT LED TYPE IV (CAT# EANB_E4730___),10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

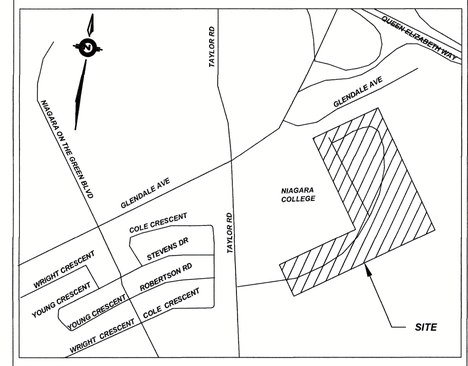
70W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT# P-275-BPO-G). 70W EVOLVE AREA LIGHT LED TYPE III (CAT# EANB_E3730___), 10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

M PX — PROPOSED STREET LIGHT METERED PEDESTAL BY PEDESTAL SOLUTIONS INC. C/W PRECAST CONCRETE BASE & PL27-TCV METERBASE MOUNTED ON THE BACK, SLT MODEL, 22KA RATING, 1P-100A, 120/208V MAIN BREAKER AND FOUR (1P-40A) BRANCH CIRCUIT BREAKERS.

STREETLIGHT CABLE: 2-#6 CU. RWU90 & 1-#6 RWU90 CU. (GREEN). CABLE SHALL BE IN DIRECT BURIED 100mm PVC TYPE II DUCT AT 900mm BELOW FINISHED GRADE.

PEDESTAL FEED CABLE: 3-#6 RWU90 XLPEI CU. CABLE SHALL BE IN DIRECT BURIED 100mm PVC TYPE II DUCT AT 900mm BELOW FINISHED GRADE

GROUND ROD.



KEY PLAN
N.T.S.

REVISIONS

No.	DESCRIPTION	DATE	BY	APPROVED
1.	ISSUED FOR TENDER PRICING	JUNE.27/18	AS	SD

PHASE 2 (OCTOBER 2018)
LIGHTING LAYOUT & PHOTOMETRICS

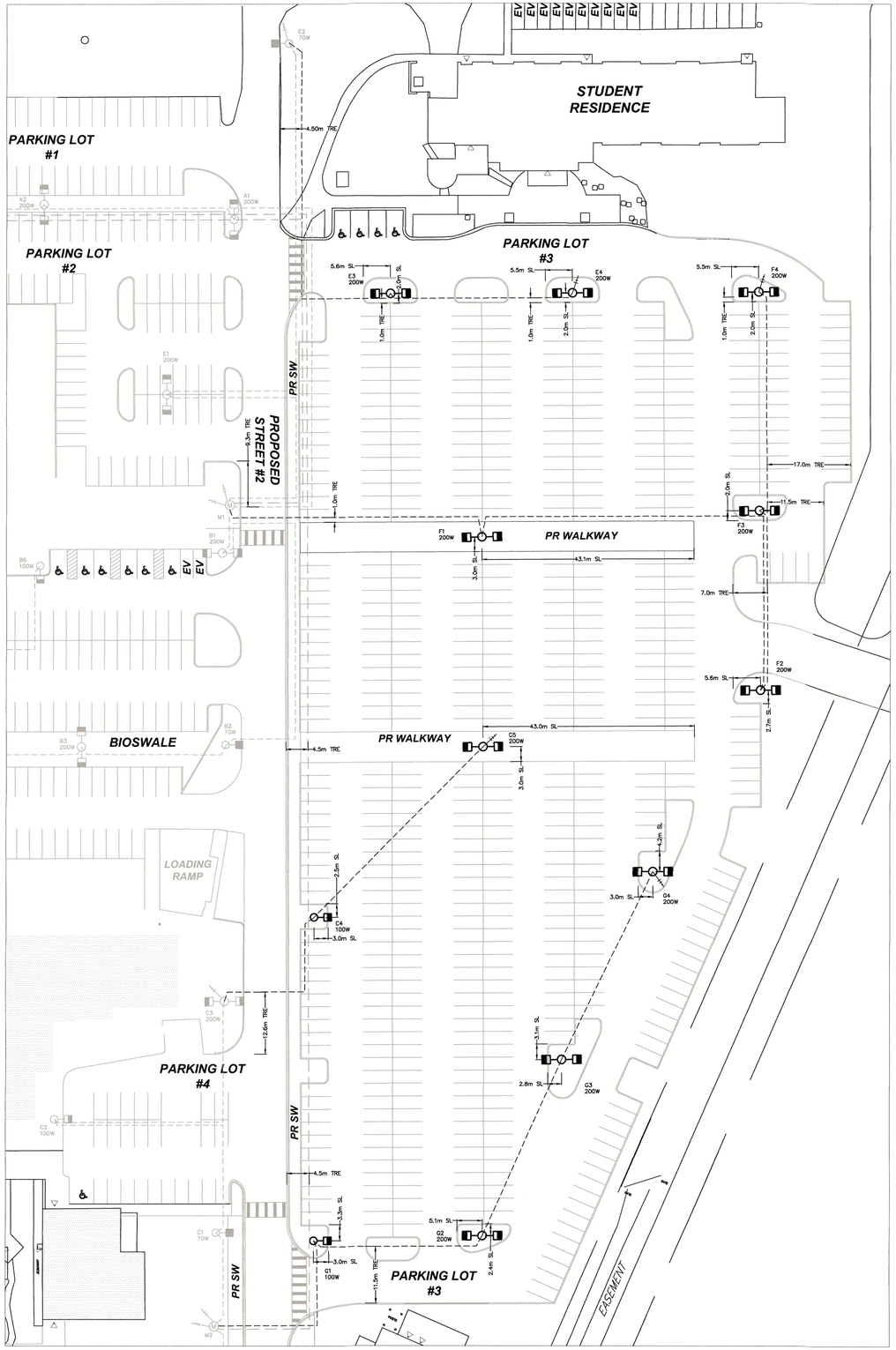
NIAGARA COLLEGE
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DATE : JUNE 12, 2018	DRAWN BY : AS	PROJECT No. 255A 17 121
SCALE : 1:500	DESIGNED BY : AS	DRAWING No. SL-3
	CHECKED BY : SD	

STREETLIGHT LAYOUT



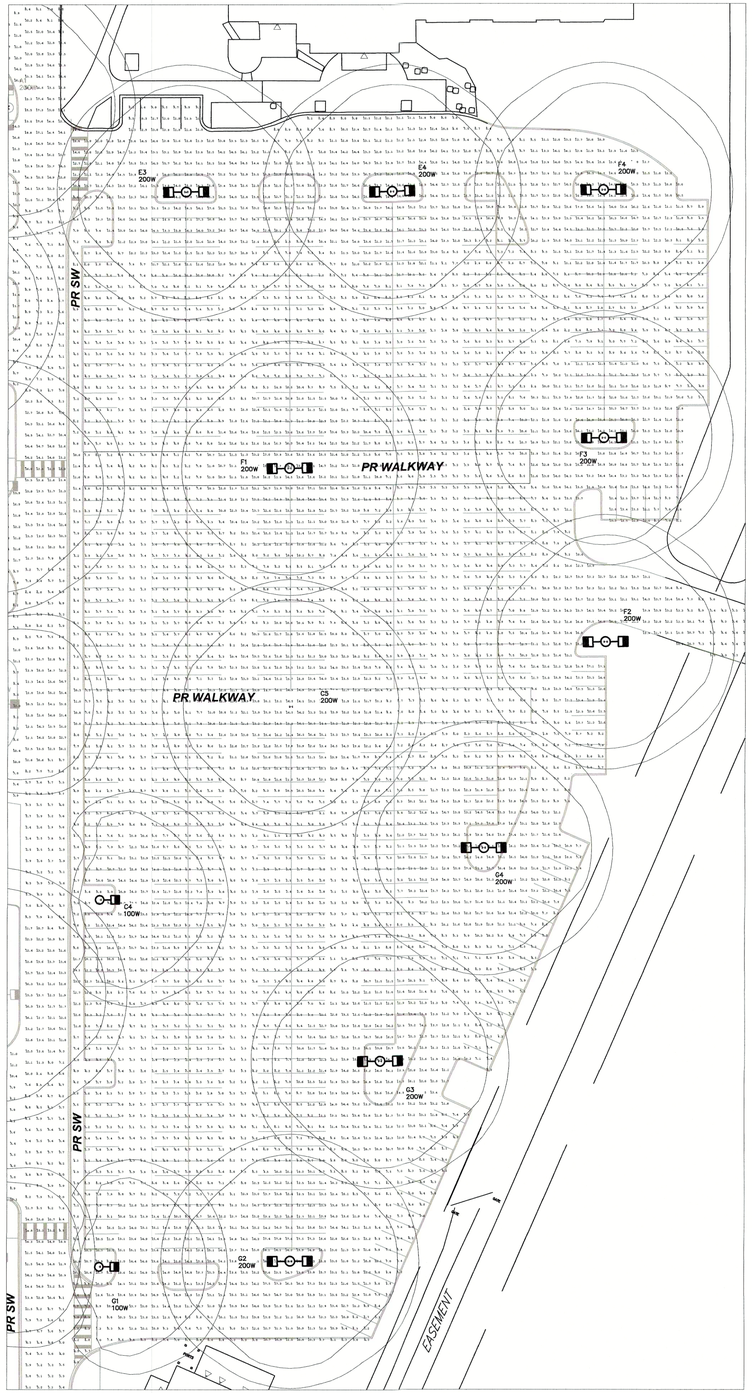
NOTES:

1) PROPOSED STREET #1, PROPOSED STREET #2, PARKING LOT #1, #2, #3, #4 ARE PRE-CURFEW PARKING LOTS AS PER RP-20-14
THE REQUIREMENTS ARE:
AVG ILLUMINANCE 5.0lux, AVG/MIN 4.0:1, MAX/MIN 15.0.1

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
C1	11	EANB_C3730	SINGLE	N.A.	0.810	EANB_C3730
C2	18	EANB_E4730	BACK-BACK	N.A.	0.810	EANB_E4730
	6	EANB_E4730_1	SINGLE	N.A.	0.810	EANB_E4730

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Bioswale	Illuminance	Lux	10.57	25.8	3.3	3.20	6.91
Intersection	Illuminance	Lux	10.11	16.1	3.2	3.16	5.03
Parking Lot #1	Illuminance	Lux	8.42	17.1	2.1	4.01	8.14
Parking Lot #2	Illuminance	Lux	10.38	19.2	2.6	3.99	7.00
Parking Lot #3	Illuminance	Lux	8.51	19.2	2.4	3.55	7.58
Parking Lot #4	Illuminance	Lux	7.66	14.5	2.3	3.33	6.30
Proposed Street #1	Illuminance	Lux	8.49	15.5	2.2	3.86	7.05
Proposed Street #2	Illuminance	Lux	9.58	19.8	2.4	3.99	7.83

PHOTOMETRICS



LEGEND

100W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT#P-275-BPO-G). 100W EVOLVE AREA LIGHT LED TYPE IV (CAT# EANB_E4730___), 10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

100W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT#P-275-BPO-G). 2 x 100W EVOLVE AREA LIGHT LED TYPE IV (CAT# EANB_E4730___),10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

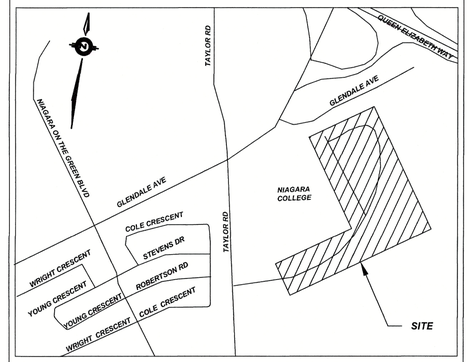
70W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT# P-275-BPO-G). 70W EVOLVE AREA LIGHT LED TYPE III (CAT# EANB_E3730___), 10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

PROPOSED STREET LIGHT METERED PEDESTAL BY PEDESTAL SOLUTIONS INC. C/W PRECAST CONCRETE BASE & PL27-TCV METERBASE MOUNTED ON THE BACK, SLT MODEL, 22KA RATING, 1P-100A, 120/208V MAIN BREAKER AND FOUR (1P-40A) BRANCH CIRCUIT BREAKERS.

STREETLIGHT CABLE: 2-#6 CU. RWU90 & 1-#6 RWU90 CU. (GREEN). CABLE SHALL BE IN DIRECT BURIED 100mm PVC TYPE II DUCT AT 900mm BELOW FINISHED GRADE.

PEDESTAL FEED CABLE: 3-#6 RWU90 XLPEI CU. CABLE SHALL BE IN DIRECT BURIED 100mm PVC TYPE II DUCT AT 900mm BELOW FINISHED GRADE

GROUND ROD.



KEY PLAN
N.T.S.

REVISIONS

No.	DESCRIPTION	DATE	BY	APPROVED
1.	ISSUED FOR TENDER PRICING	JUNE.27/18	AS	SD

PHASE 3 (2019)
LIGHTING LAYOUT & PHOTOMETRICS

NIAGARA COLLEGE
NIAGARA ON THE LAKE CAMPUS

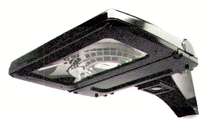
LICENSED PROFESSIONAL ENGINEER
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PROVINCE OF ONTARIO

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DATE : JUNE 12, 2018	DRAWN BY : AS	PROJECT No. 255A 17 121
SCALE : 1:500	DESIGNED BY : AS	DRAWING No. SL-4
	CHECKED BY : SD	

Evolve™ LED Area Light

N Series (EANB)



current powered by GE

Product Features

The next generation of the GE Evolve™ LED Area Light is an exciting solution to efficiently illuminate site and area applications. The smaller form design of the EANB fixture provides superior illuminance at impressive size ROIs. The exclusive optical ring design effectively directs the light and produces impressive vertical illuminance and glare control. Additionally, the Evolve LED Area Light provides significant operating cost benefits over the life of each fixture with reduced energy consumption and a long rated life that virtually eliminates ongoing maintenance expenses.

Site, area, roadway and general lighting applications utilizing advanced LED optical systems providing high uniformity, excellent vertical light distribution, reduced offsite visibility, reduced on-site glare and effective pavement light levels.
Obtain a truly optimized and efficient parking space with dimming and occupancy sensing features.

Die-cast aluminum housing.
Slim architectural design encapsulates an integral heat sink and light engine ensuring maximum heat transfer, long LED life, and a reduced EPA (Effective Projected Area-EPA).
Meets ZG vibration level per ANSI C136.31-2010.

Structured LED arrays for optimized area light photometric distribution.
Evolve light engine with directional reflectors designed to optimize application efficiency and minimize glare.
Utilizes high brightness LEDs, 70 CRI at 5000K, 4000K and 5000K typical.

Projected L90>50,000 hours per IES TM-21
Projected Lxx per IES TM-21 at 25°C for reference

EANB	530	530	4.9K

NOTES: 1) Photometrics are at 4K (4000K) is a typical. 2) LED Lumen data is for reference only. Actual lumen output may vary from fixture to fixture due to manufacturing tolerances.

Operating Ambient Temperature (OAT)	
10	1.04
25	1.00
30	0.99
40	0.97
50	0.96

DLC Standard qualified models available. Please refer to for complete information.

IP6 rated, suitable for wet locations.
IP66 rated optical enclosure per ANSI C136.25-2009.
Temperature rated at -40° to 50°C.
Uplight Light Output Ratio (ULOR) = 0.
Title 24 compliant with 1V motion sensor option.
Compliant with the material restriction requirements of RoHS.

10-inch (254mm) mounting arm for square pole prewired with 24-inch (610mm) leads.

10-inch (254mm) mounting arm for round pole prewired with 24-inch (610mm) leads.

Slipfitter mounting for 2 3/8-inch (60mm) O.D. pipe prewired with 24-inch (610mm) leads.

10-inch (254mm) mounting arm for round or square pole prewired with 24-inch (610mm) leads.

Corrosion-resistant polyester powder painted, minimum 2.0 mil, thickness.
Standard colors: Black & Dark Bronze.
RAL & custom colors available.

120-277 VAC and 347-480 VAC available.
System power factor is >90% and THD <20%.
ANSI C136.41 7-pin dimming receptacle standard.
ANSI photo electric sensors (PE) available for all voltages (must be ordered separately).
Dimming/Controls options:
- Wired 0-10V continuous dimming
- DALI digital dimming. Contact manufacturer for availability.
- Standalone motion sensor based dimming using "H" option code.

Surge Protection per ANSI C136.2-2015.
- 6kV/3kA "Basic" surge protection, standard.
- 10kV/5kA "Enhanced" surge protection optional.

FR Accessories - See Page 3

Page 2

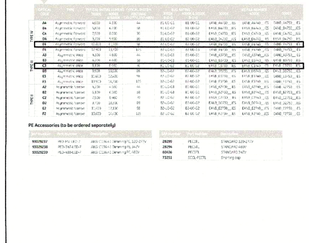
Ordering Number Logic

Evolve™ LED Area Light N Series (EANB)



E A N B _ _ _ _ _ _ _ 7





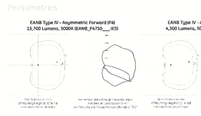


PE Accessories (to be ordered separately)

9507627GY	PE 3-PIN, 120-277 V	28299	PE 7-PIN, 347-480 V, LCD OUTPUT
9507625GY	PE 7-PIN, 120-277 V	28298	PE 7-PIN, 347-480 V
9507623GY	PE 3-PIN, 347-480 V	28296	PE 7-PIN, 120-277 V
		73252	PE 7-PIN, 277 V

Photometrics

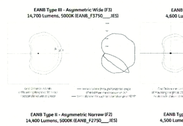
EANB Type IV - Asymmetric Forward (P4)
13,700 Lumens, 5000K (EANB_P4750_ _ _ _RS)



EANB Type IV - Asymmetric Forward (A4)
4,500 Lumens, 5000K (EANB_A4750_ _ _ _RS)



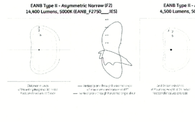
EANB Type III - Asymmetric Wide (P3)
14,700 Lumens, 5000K (EANB_P3750_ _ _ _RS)



EANB Type III - Asymmetric Wide (A3)
4,600 Lumens, 5000K (EANB_A3750_ _ _ _RS)



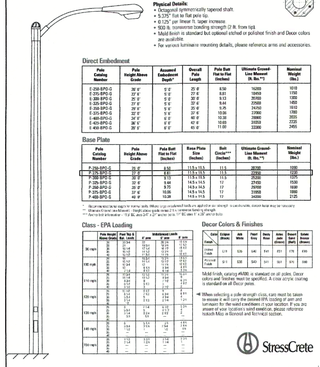
EANB Type II - Asymmetric Narrow (P2)
14,400 Lumens, 5000K (EANB_P2750_ _ _ _RS)



EANB Type II - Asymmetric Narrow (A2)
4,500 Lumens, 5000K (EANB_A2750_ _ _ _RS)



Octagonal Class B - Medium Duty Pole



Octagonal Class B - Medium Duty Pole

Physical Details:
- Octagonal symmetrically tapered shaft
- 5.25° (or tenon) rise to
- 0.125" (3.2mm) wall thickness
- 500 lb. maximum bundling strength (2 ft. from top)
- Mast boom is standard but optional etched or polished finish and Decor colors are available
- For various luminaire mounting details, please reference arms and accessories.

Direct Embedment

Pole Catalog Number	Pole Height Above Grade	Assumed Embedment Depth*	Overall Pole Length	Pole Butt Flat to Flat (inches)	Ultimate Ground Line Moment lb. lbs.**	Nominal Weight (lbs.)
E-250-BPO-G	30' 0"	5' 0"	35' 0"	8.50	16300	1010
E-250-BPO-G	27' 0"	5' 0"	32' 0"	8.50	16300	1010
E-250-BPO-G	27' 0"	5' 0"	32' 0"	9.53	21500	1130
E-250-BPO-G	27' 0"	5' 0"	32' 0"	9.41	21500	1450
E-250-BPO-G	25' 0"	5' 0"	30' 0"	10.00	21500	1350
E-400-BPO-G	30' 0"	6' 0"	36' 0"	10.00	28800	1550
E-400-BPO-G	30' 0"	6' 0"	36' 0"	10.00	28800	2035
E-400-BPO-G	30' 0"	6' 0"	36' 0"	11.00	32000	2035
E-400-BPO-G	28' 0"	6' 0"	34' 0"	11.00	32000	2455

Base Plate

Pole Catalog Number	Pole Height Above Grade	Base Plate Size (inches)	Base Plate Flat to Flat (inches)	Bolt Circle** (inches)	Ultimate Ground Line Moment lb. lbs.**	Nominal Weight (lbs.)
P-250-BPO-G	30' 0"	1 1/4	13 1/2	11.5	20700	1200
P-250-BPO-G	28' 0"	1 1/4	13 1/2	11.5	20700	1200
P-250-BPO-G	27' 0"	1 1/4	13 1/2	11.5	20700	1200
P-250-BPO-G	25' 0"	1 1/4	13 1/2	11.5	21500	1035
P-250-BPO-G	20' 0"	0.75	14 3/4	13	25700	1040
P-250-BPO-G	18' 0"	0.75	14 3/4	13	25700	1040
P-400-BPO-G	30' 0"	1 1/4	15 1/2	13	31000	2100

*Pole embedment depth is for direct embedment installations only. Actual embedment depth may vary depending on soil strength and pole loading. Consult a qualified engineer to determine embedment depth for your application.
**For anchor information - 12 BC bolts 24" x 2" anchor arc 5 1/2" BC and 1" x 36" anchor bolts.

Class - EPA Loading

Pole Catalog Number	Max Arm Length (ft)	Max Arm Weight (lbs)	Antenna Mounting Capacity			Max Arm Length (ft)	Max Arm Weight (lbs)	Antenna Mounting Capacity		
			1 @ 0°	2 @ 180°	3 @ 120°			1 @ 0°	2 @ 180°	3 @ 120°
E-250	6	50	2.5	2.5	2.5	8	50	2.5	2.5	2.5
E-250	8	50	2.5	2.5	2.5	10	50	2.5	2.5	2.5
E-250	10	50	2.5	2.5	2.5	12	50	2.5	2.5	2.5
E-250	12	50	2.5	2.5	2.5	14	50	2.5	2.5	2.5
E-250	14	50	2.5	2.5	2.5	16	50	2.5	2.5	2.5
E-250	16	50	2.5	2.5	2.5	18	50	2.5	2.5	2.5
E-250	18	50	2.5	2.5	2.5	20	50	2.5	2.5	2.5
E-250	20	50	2.5	2.5	2.5	22	50	2.5	2.5	2.5
E-250	22	50	2.5	2.5	2.5	24	50	2.5	2.5	2.5
E-250	24	50	2.5	2.5	2.5	26	50	2.5	2.5	2.5
E-250	26	50	2.5	2.5	2.5	28	50	2.5	2.5	2.5
E-250	28	50	2.5	2.5	2.5	30	50	2.5	2.5	2.5
E-400	6	50	2.5	2.5	2.5	8	50	2.5	2.5	2.5
E-400	8	50	2.5	2.5	2.5	10	50	2.5	2.5	2.5
E-400	10	50	2.5	2.5	2.5	12	50	2.5	2.5	2.5
E-400	12	50	2.5	2.5	2.5	14	50	2.5	2.5	2.5
E-400	14	50	2.5	2.5	2.5	16	50	2.5	2.5	2.5
E-400	16	50	2.5	2.5	2.5	18	50	2.5	2.5	2.5
E-400	18	50	2.5	2.5	2.5	20	50	2.5	2.5	2.5
E-400	20	50	2.5	2.5	2.5	22	50	2.5	2.5	2.5
E-400	22	50	2.5	2.5	2.5	24	50	2.5	2.5	2.5
E-400	24	50	2.5	2.5	2.5	26	50	2.5	2.5	2.5
E-400	26	50	2.5	2.5	2.5	28	50	2.5	2.5	2.5
E-400	28	50	2.5	2.5	2.5	30	50	2.5	2.5	2.5

Decor Colors & Finishes

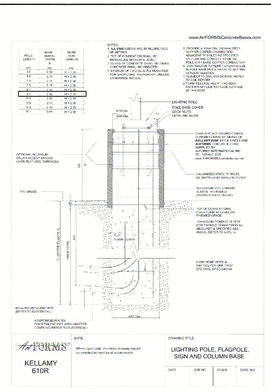
Finish	Color	Gloss (60°)	Hour* Salt Fog	Hour* Humidity	Hour* Xenon (Exterior)	Hour* Xenon (Interior)	Hour* UV (Exterior)
Standard Paint	Black	0.5	576	648	840	840	576
DB Gold	Gold	0.7	528	360	504	504	504
Dk Bronze	Bronze						
Lt Bronze	Bronze						
Dk Green	Green						
Lt Green	Green						
Dk Blue	Blue						
Lt Blue	Blue						
Dk Red	Red						
Lt Red	Red						
Dk Grey	Grey						
Lt Grey	Grey						
White	White						

Multi-finish, varying #1000 is standard on all poles. Decor colors and finishes must be specified. A clear acrylic coating is standard on all Decor poles.

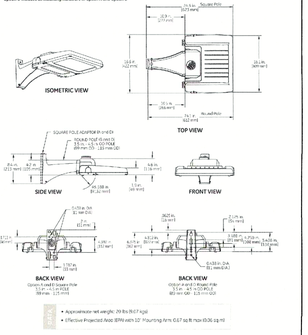
*When selecting a pole strength class, care must be taken to ensure it will carry the desired EPA loading at user and luminaire for the wind conditions in your location. If you are unsure of your location's wind velocities, please reference Suburb Map as directed and fill in each location.

StressCrete

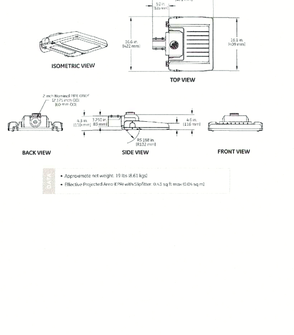
LP-13



Product Dimensions



- Approximate net weight: 19 lbs (8.61 kgs)
- Effective Projected Area: 0.79 sqft with 3G° Mounting Arm (0.07 sq ft max (0.06 sq m)



- Approximate net weight: 19 lbs (8.61 kgs)
- Effective Projected Area: 0.79 sqft with 3G° Mounting Arm (0.07 sq ft max (0.06 sq m)

Hi-Mast Sensor Option

- Intended for high-mounting applications, between 35-50ft (4.57 & 15.6m) For mounting heights exceeding 30ft, pole mounted sensors are recommended.
- Provides a coverage area radius for walking motion of 15-20ft (4.57 & 6.09m)
- Provides 270° of coverage (+-90° as filtered by the pole).
- Comes standard with 50% dimmed light output with no occupancy, and full power at occupancy.
- Comes standard with photocell function. Note: It is not necessary to also purchase PE receptacle or control.
- Comes standard with a 5 minute occupancy time delay and a 5 minute ramp down to the 50% dimmed level.
- Must order with decorative mounting arm options "A" or "B".
- Failure power increase of 5W expected with sensor use.

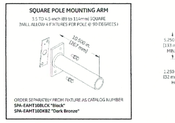
Note: Standard options may be reprogrammed in the field. Reprogramming instructions included in product shipment.



Mounting Information



SQUARE POLE MOUNTING ARM
3.5 TO 6.5 inch (89 to 165mm) DIAMETER
SMALL ALLOW 4 STATUES FOR POLE OF 190 DEGREES

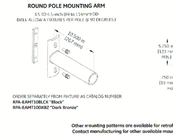


ORDER SEPARATELY FROM FIXTURE AS CATALOG NUMBER
SPA-EANT10BLCK "Black"
SPA-EANT10DKBZ "Dark Bronze"

ROUND POLE MOUNTING ARM
3.5 TO 6.5 inch (89 to 165mm) DIA.
SMALL ALLOW 4 STATUES FOR POLE OF 190 DEGREES

ORDER SEPARATELY FROM FIXTURE AS CATALOG NUMBER
RPA-EANT10BLCK "Black"
RPA-EANT10DKBZ "Dark Bronze"

SQUARE POLE MOUNTING
3.5 in DIA.
(89 mm DIA.)



ROUND POLE MOUNTING
3.5 TO 6.5 inch (89 to 165mm) DIA.
SMALL ALLOW 4 STATUES FOR POLE OF 190 DEGREES



Other mounting patterns are available for retrofit installations. Contact manufacturing for other available mounting patterns.

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Strengthening Arms and Accessories

Spun concrete poles can be adapted to fit most arms or accessories. Our standards are detailed in the "Arms and Accessories" section of this catalog. If a specific item is not shown, please call your local representative or our sales office.

When requesting Stress-Crete to supply arms, please state no. or comparable by catch luminaire.

Finishes

Most finish is standard on all poles. If a Decor or custom finish is desired it must be specified in the pole catalog number. Please see tenon style front page for colors/tenon or turn to Decor section.

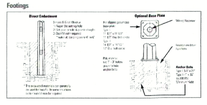
Standard Openings and Handhole

- Standard handhole is 4" x 6" (standard reference Camival and Technical section)
- 3 1/2" x 5" is the standard handhole size located 12" above grade. Both 4 and the right 16 long orientation are available in non-metallic, non-conductive injection molded material or a rugged high density cast one.
- Standard receptacle fastenings are 1/4" stainless steel with orifice drive deep head for the Canadian Tamper-Track Tolerance #3 (square) head in Canada. Tamperproof and non-standard fasteners are available but must be specified.
- Standard above grade entry apertures are split and are notched but are generally 1 1/4" diameter holes or 1 1/2" x 3" openings. Below grade apertures are 2 1/2" x 5" double openings 18" below grade or long split openings.
- Non-standard sizes can be made available on request - please contact us for sales office.
- Galvanized steel or zinc inserts are available in 1/8" increments from 5/8" through 3 3/4".
- Through holes are normal 1/2", 3/4", 1".

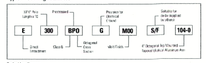
Electrical Grounding

The last letter of the pole catalog number "G" specifies that the pole will be supplied complete with a #6 stranded copper ground wire. When properly connected, this will electrically ground the pole. If the pole is not to be electrically grounded, simply delete the letter "G" from the catalog number.

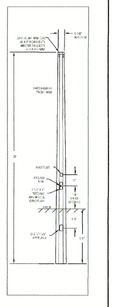
Footings

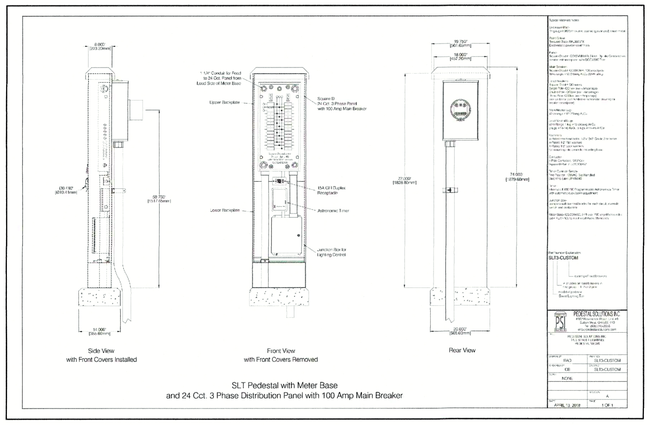


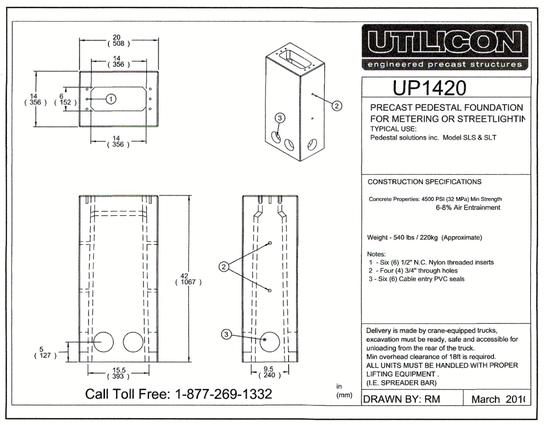
Typical Catalog Numbers



Typical No. of Spun:
- Spun bearing size - when ordered arm or base plate.
- Spun length - when ordered with base plate, the dimension length.
- Spun edge and length of arm.
- If required, select protective material of grounding of arm.
- Spun finish - standard or decorative.
- Spun fabricated mounting plate - two and used accessories.







LEGEND

100W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT#P-275-BPO-G). 100W EVOLVE AREA LIGHT LED TYPE IV (CAT# EANB_E4730___), 10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

100W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT#P-275-BPO-G). 2 x 100W EVOLVE AREA LIGHT LED TYPE IV (CAT# EANB_E4730___),10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

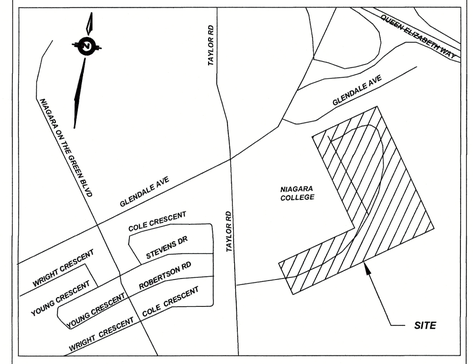
70W — PROPOSED STREETLIGHT: 27' (8.22m) OCTAGONAL BLACK CONCRETE BASE MOUNTED POLE (CAT# P-275-BPO-G). 70W EVOLVE AREA LIGHT LED TYPE III (CAT# EANB_E3730___), 10" ARM, IN BLACK FINISH, PHOTOCELL AND CONCRETE FOOTING AS PER KELLAMY 610R

PX — PROPOSED STREET LIGHT METERED PEDESTAL BY PEDESTAL SOLUTIONS INC. C/W PRECAST CONCRETE BASE & PL27-TCV METERBASE MOUNTED ON THE BACK, SLT MODEL, 22KA RATING, 1P-100A, 120/208V MAIN BREAKER AND FOUR (1P-40A) BRANCH CIRCUIT BREAKERS.

STREETLIGHT CABLE: 2-#6 CU. RWU90 & 1-#6 RWU90 CU. (GREEN). CABLE SHALL BE IN DIRECT BURIED 100mm PVC TYPE II DUCT AT 900mm BELOW FINISHED GRADE.

PEDESTAL FEED CABLE: 3-#6 RWU90 XLPEI CU. CABLE SHALL BE IN DIRECT BURIED 100mm PVC TYPE II DUCT AT 900mm BELOW FINISHED GRADE

GROUND ROD.



KEY PLAN
N.T.S.

REVISIONS

No.	DESCRIPTION	DATE	BY	APPROVED
1.	ISSUED FOR TENDER PRICING	JUNE.27/18	AS	SD

DETAILS & STANDARDS

NIAGARA COLLEGE
NIAGARA ON THE LAKE CAMPUS

LICENSED PROFESSIONAL ENGINEER
R. C. HOLDER
100190960
06/27/18
PROVINCE OF ONTARIO

DPM Energy
8000 Jane Street
Building A
Suite 200
Vaughan, ON
L4K 5B8
T 905.597.7200
F 905.597.7271
E-mail: info@dpmenergy.com
www.dpmenergy.com

DATE: JUNE 12, 2018	DRAWN BY:	AS	PROJECT No. 255A 17 121
SCALE: 1:500	DESIGNED BY:	AS	DRAWING No. SL-5
	CHECKED BY:	SD	