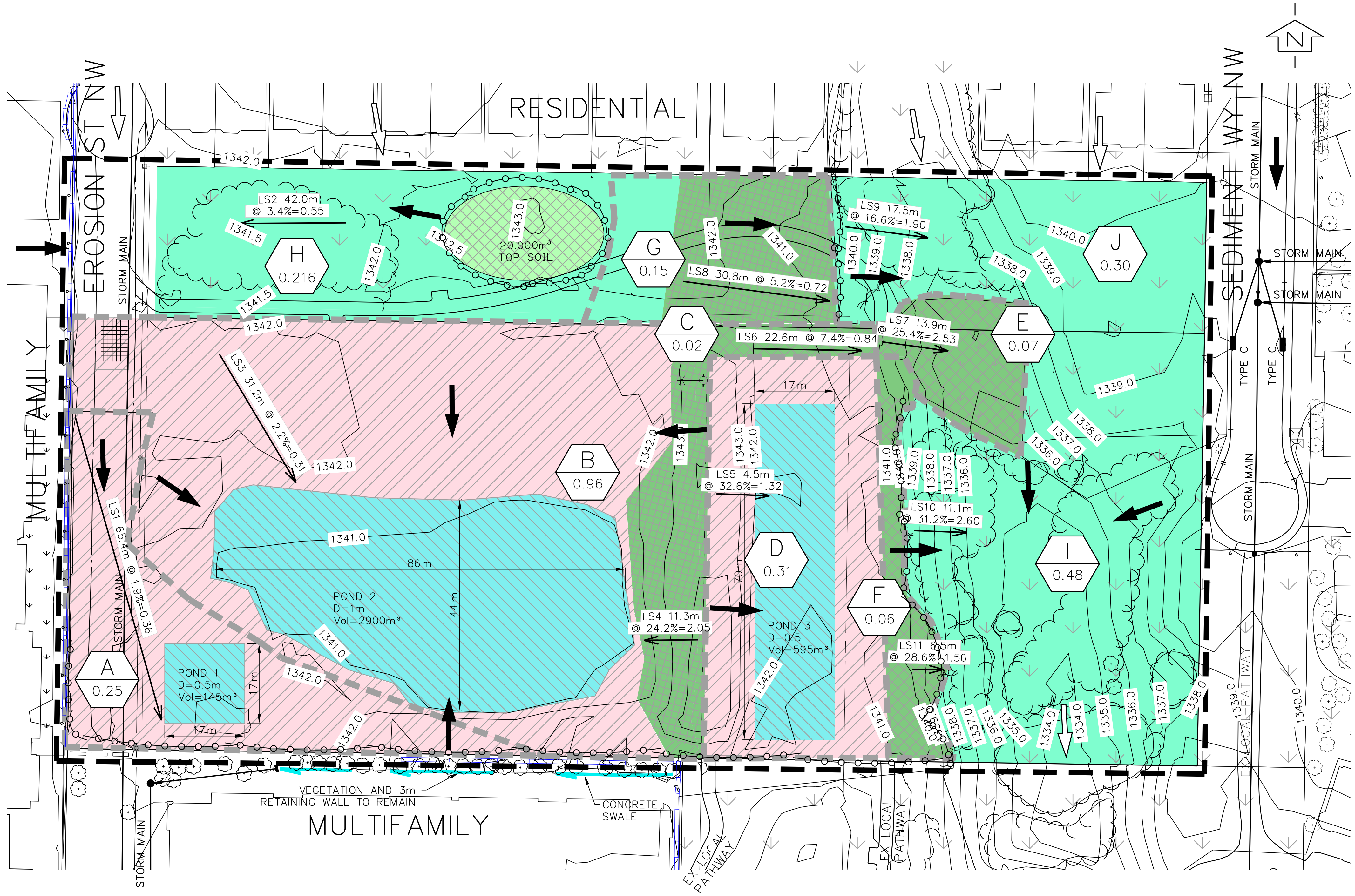


LEGEND:

- CONSTRUCTION BOUNDARY
- EXISTING GROUND CONTOURS MINOR – 0.5m INTERVAL
- 1207.0 — EXISTING GROUND CONTOURS MAJOR – 1.0m INTERVAL
- DRAINAGE DIVIDES
- A 0.00 — DRAINAGE DIVIDE LABEL DRAINAGE DIVIDE AREA IN ha
- OVERLAND FLOW DIRECTION
- RUN–ON / RUN–OFF LOCATIONS
- STORM MAIN
- SOLID TOP MANHOLE
- GRATED TOP MANHOLE
- CATCH BASIN
- CONCRETE SWALE
- BUILDING (ROOF)
- CONCRETE PAD
- VEGETATION
- HYDROMULCH (200.1.4) (INSERT PRODUCT NAME HERE)
- SURFACE ROUGHENING (200.2.5)
- SEDIMENT TRAP (200.2.2)
- STABILIZED GRAVEL ACCESS (200.3.1)
- CLEAN WASHED GRAVEL (200.1.6)
- CONCRETE WALKWAYS/ASPHALT PATHWAY
- PAVEMENT
- TURF SOD (200.1.2)
- STONE PAVERS
- PLANTER BEDS – RAISED OR WITH BORDER THAT WILL CONTAIN CONTENTS
- SILT FENCE (200.2.6)
- TREES – INDIVIDUAL
- TREES – OUTLINE
- RETAINING WALL
- STONE WALL
- CULVERT

CITY OF CALGARY OFFICE USE

MIN SIZE 5cm X 8cm

CITY FILE No.

No	YY–MM	ISSUE	BY	APP
A	17–01	PRELIMINARY APPROVAL	GG	PB

SEAL

SEAL

PERMIT TO PRACTICE

OWNER

CONSULTANT

PROJECT NAME

PROJECT NAME
PHASE 1

DRAWING TITLE

BEFORE DEVELOPMENT

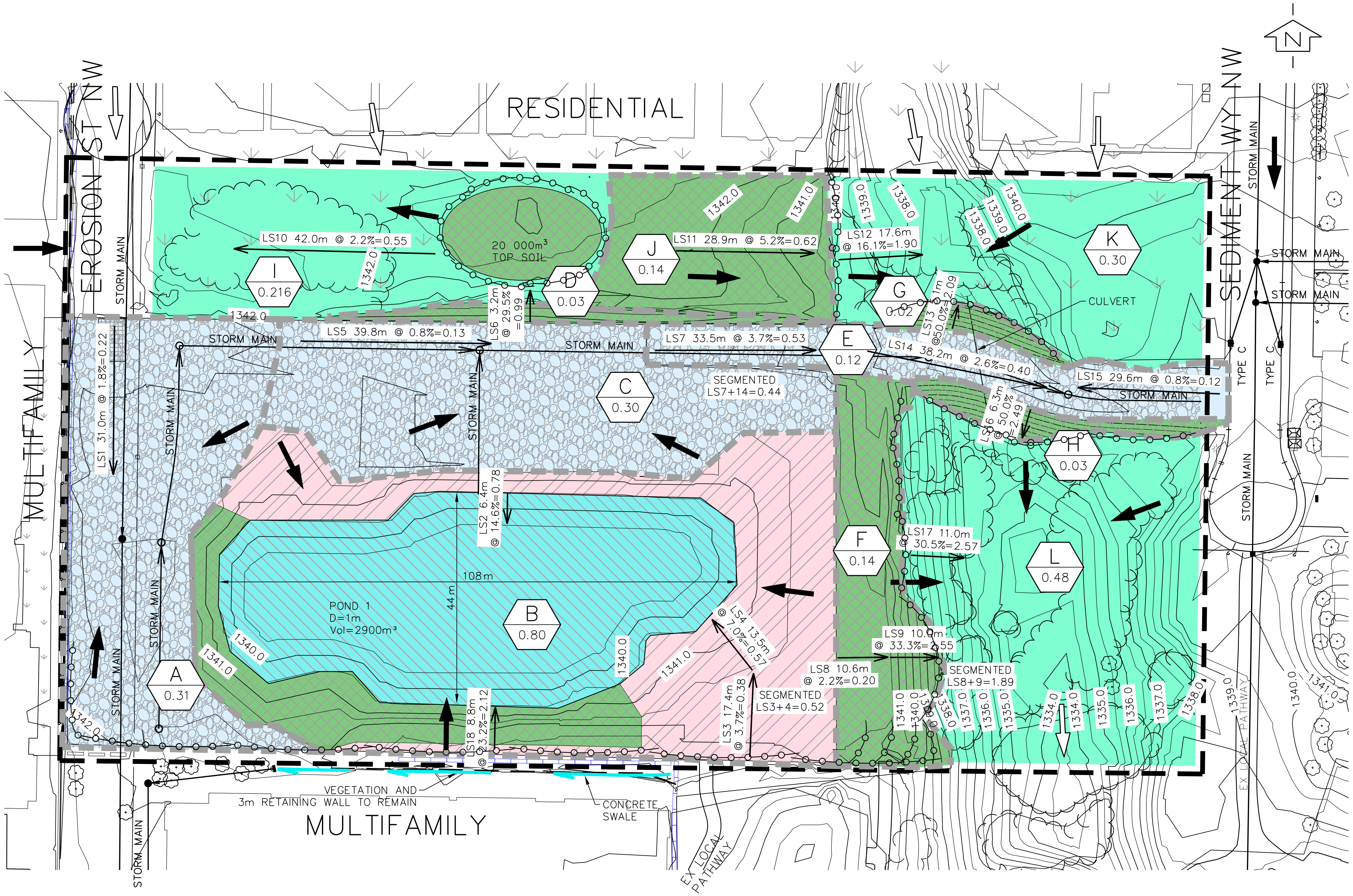
SCALE

1:1000

0 5 10 20 30m

DESIGN RC	DATE 2017–01–28		
DRAWN GG	PROJECT NUMBER CGY–00081296–00		
CHECKED TA	DRAWING CODE ESC5	ISS A	REV 0
APPROVED PB			

Calgary



LEGEND:

- CONSTRUCTION BOUNDARY
- EXISTING GROUND CONTOURS MINOR – 0.5m INTERVAL
- 1207.0 EXISTING GROUND CONTOURS MAJOR – 1.0m INTERVAL
- DRAINAGE DIVIDES
- A 0.00 DRAINAGE DIVIDE LABEL DRAINAGE DIVIDE AREA IN ha
- OVERLAND FLOW DIRECTION
- RUN–ON / RUN–OFF LOCATIONS
- STORM MAIN
- SOLID TOP MANHOLE
- GRATED TOP MANHOLE
- CATCH BASIN
- CONCRETE SWALE
- BUILDING (ROOF)
- CONCRETE PAD
- VEGETATION
- HYDROMULCH (200.1.4) (INSERT PRODUCT NAME HERE)
- SURFACE ROUGHENING (200.2.5)
- SEDIMENT TRAP (200.2.2)
- STABILIZED GRAVEL ACCESS (200.3.1)
- CLEAN WASHED GRAVEL (200.1.6)
- CONCRETE WALKWAYS/ASPHALT PATHWAY
- PAVEMENT
- TURF SOD (200.1.2)
- STONE PAVERS
- PLANTER BEDS – RAISED OR WITH BORDER THAT WILL CONTAIN CONTENTS
- SILT FENCE (200.2.6)
- TREES – INDIVIDUAL
- TREES – OUTLINE
- RETAINING WALL
- STONE WALL
- CULVERT

CITY OF CALGARY OFFICE USE

MIN SIZE 5cm X 8cm

CITY FILE No. DA2017–1234

No	YY–MM	ISSUE	BY	APP
A	17–01	PRELIMINARY APPROVAL	GG	PB

SEAL | SEAL

PERMIT TO PRACTICE

OWNER

CONSULTANT

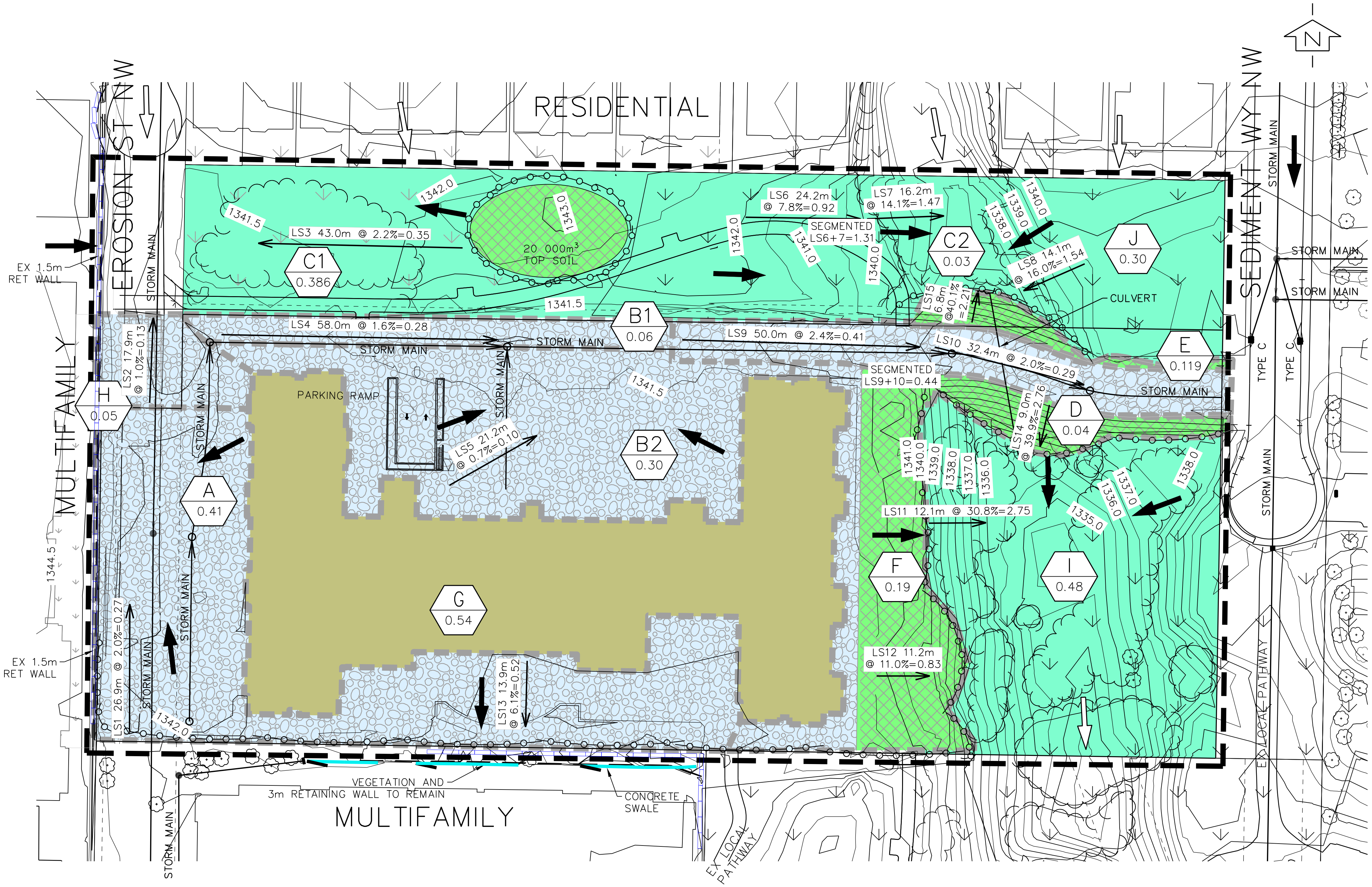
PROJECT NAME
PROJECT NAME
PHASE 1

DRAWING TITLE
POST UNDERGROUND

SCALE 1:1000
0 5 10 20 30m

DESIGN RC	DATE 2017–01–28		
DRAWN GG	PROJECT NUMBER CGY–00081296–00		
CHECKED TA	DRAWING CODE ESC6	ISS A	REV 0
APPROVED PB			

Calgary



LEGEND:

- CONSTRUCTION BOUNDARY
- EXISTING GROUND CONTOURS MINOR – 0.5m INTERVAL
- 1207.0 EXISTING GROUND CONTOURS MAJOR – 1.0m INTERVAL
- DRAINAGE DIVIDES
- A 0.00 DRAINAGE DIVIDE LABEL DRAINAGE DIVIDE AREA IN ha
- OVERLAND FLOW DIRECTION
- RUN–ON / RUN–OFF LOCATIONS
- STORM MAIN
- SOLID TOP MANHOLE
- GRATED TOP MANHOLE
- CATCH BASIN
- CONCRETE SWALE
- BUILDING (ROOF)
- CONCRETE PAD
- VEGETATION
- HYDROMULCH (200.1.4) (INSERT PRODUCT NAME HERE)
- SURFACE ROUGHENING (200.2.5)
- SEDIMENT TRAP (200.2.2)
- STABILIZED GRAVEL ACCESS (200.3.1)
- CLEAN WASHED GRAVEL (200.1.6)
- CONCRETE WALKWAYS/ASPHALT PATHWAY
- PAVEMENT
- TURF SOD (200.1.2)
- STONE PAVERS
- PLANTER BEDS – RAISED OR WITH BORDER THAT WILL CONTAIN CONTENTS
- SILT FENCE (200.2.6)
- TREES – INDIVIDUAL
- TREES – OUTLINE
- RETAINING WALL
- STONE WALL
- CULVERT

CITY OF CALGARY OFFICE USE

MIN SIZE 5cm X 8cm

CITY FILE No. DA2017–1234

No	YY–MM	ISSUE	BY	APP
A	17–01	PRELIMINARY APPROVAL	GG	PB

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PERMIT TO PRACTICE

OWNER

CONSULTANT

PROJECT NAME

PROJECT NAME
PHASE 1

DRAWING TITLE

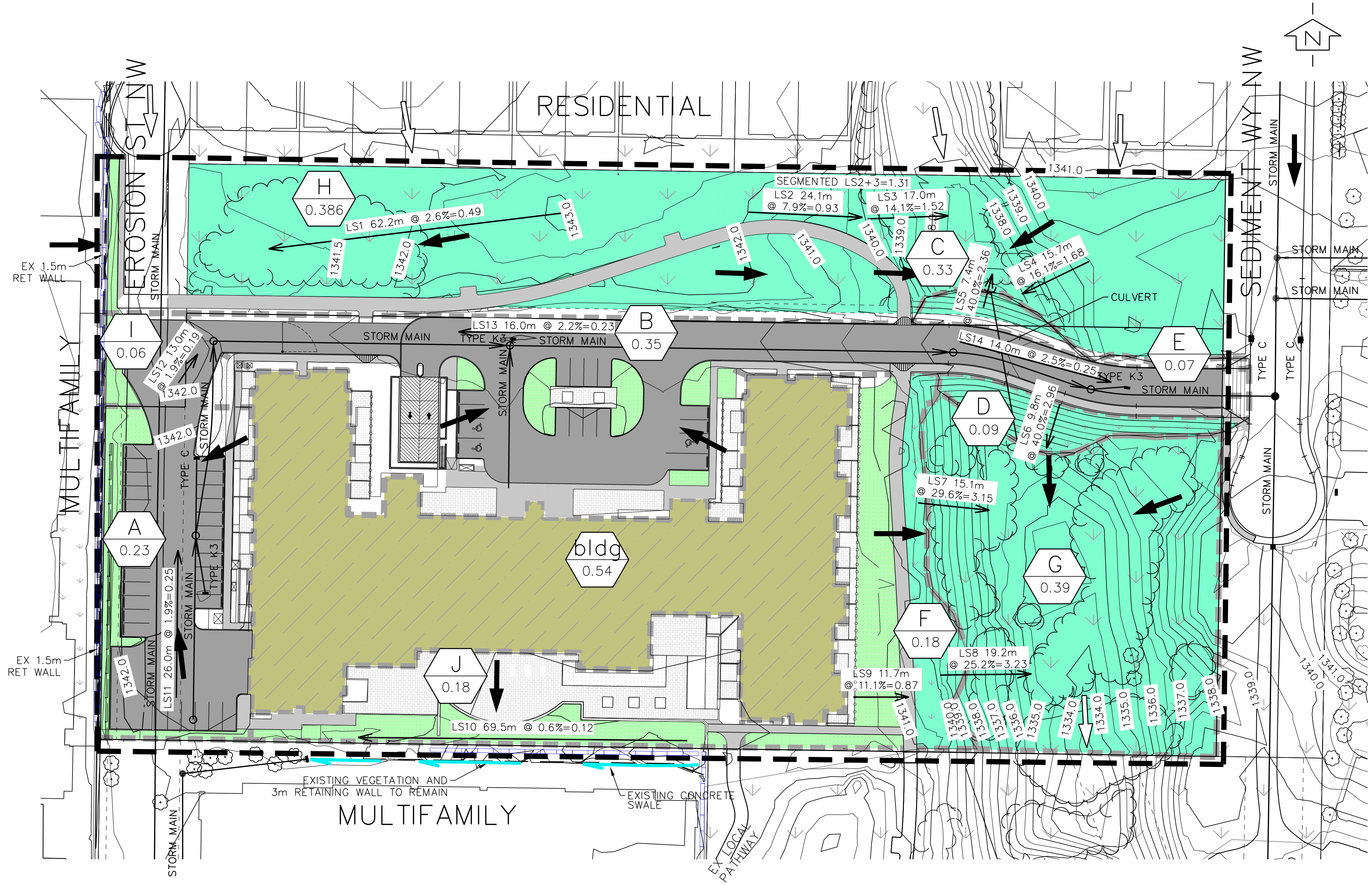
ABOVE GROUND WORK

SCALE 1:1000

0 5 10 20 30m

DESIGN RC	DATE 2017–01–28		
DRAWN GG	PROJECT NUMBER CGY–00081296–00		
CHECKED TA	DRAWING CODE	ISS	REV
APPROVED PB	ESC7	A	0

Calgary



LEGEND:

CONSTRUCTION BOUNDARY
EXISTING GROUND CONTOURS MINOR – 0.5m INTERVAL
1207.0 EXISTING GROUND CONTOURS MAJOR – 1.0m INTERVAL
DRAINAGE DIVIDES
A 0.00 DRAINAGE DIVIDE LABEL DRAINAGE DIVIDE AREA IN ha
OVERLAND FLOW DIRECTION
RUN–ON / RUN–OFF LOCATIONS
STORM MAIN
SOLID TOP MANHOLE
GRATED TOP MANHOLE
CATCH BASIN
CONCRETE SWALE
BUILDING (ROOF)
CONCRETE PAD
VEGETATION
HYDROMULCH (200.1.4) (INSERT PRODUCT NAME HERE)
SURFACE ROUGHENING (200.2.5)
SEDIMENT TRAP (200.2.2)
STABILIZED GRAVEL ACCESS (200.3.1)
CLEAN WASHED GRAVEL (200.1.6)
CONCRETE WALKWAYS/ASPHALT PATHWAY
PAVEMENT
TURF SOD (200.1.2)
STONE PAVERS
PLANTER BEDS – RAISED OR WITH BORDER THAT WILL CONTAIN CONTENTS
SILT FENCE (200.2.6)
TREES – INDIVIDUAL
TREES – OUTLINE
RETAINING WALL
STONE WALL
CULVERT

CITY OF CALGARY OFFICE USE

MIN SIZE 5cm X 8cm

CITY FILE No. DA2017–1234

No	YY–MM	ISSUE	BY	APP
A	17–01	PRELIMINARY APPROVAL	GG	PB

SEAL

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PERMIT TO PRACTICE

OWNER

CONSULTANT

PROJECT NAME

PROJECT NAME
PHASE 1

DRAWING TITLE

DEVELOPMENT COMPLETION

SCALE 1:1000

0 5 10 20 30m

DESIGN RC	DATE 2017–01–28		
DRAWN GG	PROJECT NUMBER CGY–00081296–00		
CHECKED TA	DRAWING CODE ESC8	ISS A	REV 0
APPROVED PB			

14.0 RUSLE Calculations

Drawing Code: ESC5

1	2	3	4	5	6	7	8	9	10	11	12	13
											Site Erosion Potential	
Drainage Area Identifier	LS Identifier	LS Area Size (in Ha)	Slope and Slope Length (LS)	Description of Controls and Practices	R-Value	K-Value	LS-Value	C-Value(s)	P-Value(s)	A-Value Tonnes/ha*yr Must be at or below 2 tonnes/ha*yr	Soil Loss With Controls and Practices Tonnes/yr	Soil Loss Without Controls and Practices Tonnes/yr
Area #1	LS21	0.5	20% @ 50m	-Sediment pond -Mulch, tackifier, seed	320	0.048	5.17	0.01	0.1	0.079	0.04	39.7
A	LS1	0.25	1.9% @ 65.4 m	-Surface Roughening -Pond 1	320	0.046	0.36	1	0.36	1.908	0.477	1.3
B	LS4	0.96	24.2% @ 11.3 m	-Hydromulch -Pond 2	320	0.046	2.05	0.01	0.1	0.030	0.029	29
C	LS6	0.02	7.4% @ 22.6 m	-Hydromulch	320	0.046	0.84	0.01	1	0.124	0.002	0.2
D	LS5	0.31	32.6% @ 4.5 m	-Surface Roughening -Pond 3	320	0.046	1.32	1	0.09	1.749	0.542	6
E	LS7	0.07	25.4% @ 2.53 m	-Hydromulch	320	0.046	2.53	0.01	1	0.372	0.026	2.6
F	LS11	0.06	28.6% @ 1.56	-Hydromulch	320	0.046	1.56	0.01	1	0.230	0.014	1.4
G	LS8	0.15	5.2% @ 30.8 m	-Hydromulch	320	0.046	0.72	0.01	1	0.106	0.016	1.6
H	LS2	0.216	3.4% @ 42 m	-Existing vegetation	320	0.046	0.55	0.01	1	0.081	0.017	1.7
I	LS10	0.48	31.2% @ 11.1	- Existing vegetation	320	0.046	2.60	0.01	1	0.372	0.179	17.9
J	LS9	0.3	16.6% @ 17.5 m	-Existing vegetation	320	0.046	1.9	0.01	1	0.280	0.084	8.4
					320					0.000	0	0
					320					0.000	0	0
					320					0.000	0	0
					320					0.000	0	0
					320					0.000	0	0
					320					0.000	0	0
Overall Site Size		2.816								Total Soil Loss Estimates	1.38637376	70.154048

Supplemental Information

14.0 RUSLE Calculations

Drawing Code: ESC6

1	2	3	4	5	6	7	8	9	10	11	12	13
											Site Erosion Potential	
Drainage Area Identifier	LS Identifier	LS Area Size (in Ha)	Slope and Slope Length (LS)	Description of Controls and Practices	R-Value	K-Value	LS-Value	C-Value(s)	P-Value(s)	A-Value Tonnes/ha*yr Must be at or below 2 tonnes/ha*yr	Soil Loss With Controls and Practices Tonnes/yr	Soil Loss Without Controls and Practices Tonnes/yr
Area #1	LS21	0.5	20% @ 50m	-Sediment pond -Mulch, tackifier, seed	320	0.048	5.17	0.01	0.1	0.079	0.04	39.7
A	LS1	0.31	1.8% @ 31 m	-Clean washed gravel	320	0.046	0.22	0.05	1	0.162	0.05	1
B	LS18	0.8	23.3% @ 8.8 m	- Hydromulch -Pond 1	320	0.046	2.12	0.01	0.1	0.031	0.025	25
C	LS5	0.3	0.8% @ 39.8 m	-Clean washed gravel	320	0.046	0.13	0.05	1	0.096	0.029	0.6
D	LS6	0.03	29.5% @ 3.2 m	-Hydromulch	320	0.046	0.99	0.01	1	0.146	0.004	0.4
E	LS7	0.12	3.7 % @ 33.5 m	-Clean washed gravel	320	0.046	0.53	0.05	1	0.390	0.047	0.9
F	LS8 & 9	0.14	segmented	-Hydromulch	320	0.046	1.89	0.01	1	0.278	0.039	3.9
G	LS13	0.02	50% @ 5.1 m	-Hydromulch	320	0.046	2.09	0.01	1	0.308	0.006	0.6
H	LS16	0.03	50% @ 6.3 m	-Hydromulch	320	0.046	2.49	0.01	1	0.367	0.011	1.1
I	LS10	0.216	2.2% @ 42 m	-Existing vegetation	320	0.046	0.55	0.01	1	0.081	0.017	1.7
J	LS11	0.14	5.2% @ 28.9 m	-Hydromulch	320	0.046	0.62	0.01	1	0.091	0.013	1.3
K	LS12	0.3	16.1% @ 17.6 m	-Existing vegetation	320	0.046	1.9	0.01	1	0.280	0.084	8.4
L	LS17	0.48	30.5% @ 11 m	-Existing vegetation	320	0.046	2.57	0.01	1	0.378	0.182	18.2
					320					0.000	0	0
					320					0.000	0	0
					320					0.000	0	0
					320					0.000	0	0
Overall Site Size		2.886								Total Soil Loss Estimates	0.50689792	63.101696

Supplemental Information

Area F segmented - LS8 2.2% @ 10.6 m = 0.20, LS9 33.3% @ 10 m = 2.55

14.0 RUSLE Calculations

Drawing Code: ESC7

1	2	3	4	5	6	7	8	9	10	11	12	13
											Site Erosion Potential	
Drainage Area Identifier	LS Identifier	LS Area Size (in Ha)	Slope and Slope Length (LS)	Description of Controls and Practices	R-Value	K-Value	LS-Value	C-Value(s)	P-Value(s)	A-Value Tonnes/ha*yr Must be at or below 2 tonnes/ha*yr	Soil Loss With Controls and Practices Tonnes/yr	Soil Loss Without Controls and Practices Tonnes/yr
Area #1	LS21	0.5	20% @ 50m	-Sediment pond -Mulch, tackifier, seed	320	0.048	5.17	0.01	0.1	0.079	0.04	39.7
A	LS1	0.41	2% @ 26.9 m	-Clean washed gravel	320	0.046	0.27	0.05	1	0.199	0.081	1.6
B1	LS4	0.06	1.6% @ 58 m	-Clean washed gravel	320	0.046	0.28	0.05	1	0.206	0.012	0.2
B2	LS5	0.3	0.7% @ 21.2 m	-Clean washed gravel	320	0.046	0.1	0.05	1	0.074	0.022	0.4
C1	LS3	0.386	2.2% @ 43 m	-Sod	320	0.046	0.35	0.01	1	0.052	0.02	2
C2	LS15	0.03	40.1% @ 6.8 m	-Hydromulch	320	0.046	2.21	0.01	1	0.325	0.01	1
D	LS14	0.04	39.9% @ 9 m	-Hydromulch	320	0.046	2.76	0.01	1	0.406	0.016	1.6
E	LS9	0.119	2.4% @50 m	-Clean washed gravel	320	0.046	0.41	0.05	1	0.302	0.036	0.7
F	LS12	0.19	11% @ 11.2 m	-Hydromulch	320	0.046	0.83	0.01	1	0.122	0.023	2.3
G	LS13	0.54	6.1% @ 13.9 m	-Clean washed gravel	320	0.046	0.52	0.05	1	0.383	0.207	4.1
H	LS2	0.05	1% @ 17.9 m	- Clean washed gravel	320	0.046	0.13	0.05	1	0.096	0.005	0.1
I	LS11	0.48	30.8% @ 12.1 m	-Sod	320	0.046	2.75	0.01	1	0.405	0.194	19.4
J	LS8	0.3	16% @ 14.1 m	- Sod	320	0.046	1.54	0.01	1	0.227	0.068	6.8
					320					0.000	0	0
					320					0.000	0	0
					320					0.000	0	0
					320					0.000	0	0
Overall Site Size		2.905								Total Soil Loss Estimates	0.69470304	40.4

Supplemental Information

14.0 RUSLE Calculations

Drawing Code: ESC8

1	2	3	4	5	6	7	8	9	10	11	12	13
											Site Erosion Potential	
Drainage Area Identifier	LS Identifier	LS Area Size (in Ha)	Slope and Slope Length (LS)	Description of Controls and Practices	R-Value	K-Value	LS-Value	C-Value(s)	P-Value(s)	A-Value Tonnes/ha*yr Must be at or below 2 tonnes/ha*yr	Soil Loss With Controls and Practices Tonnes/yr	Soil Loss Without Controls and Practices Tonnes/yr
Area #1	LS21	0.5	20% @ 50m	-Sediment pond -Mulch, tackifier, seed	320	0.048	5.17	0.01	0.1	0.079	0.04	39.7
A	LS11	0.23	1.9% @ 26 m	-Pavement	320	0.046	0.25	0.001	1	0.004	0.001	0.8
B	LS13	0.35	2.2% @ 16 m	-Pavement	320	0.046	0.23	0.001	1	0.003	0.001	1.2
C	LS5	0.33	40% @7.4 m	-Existing vegetation	320	0.046	2.36	0.01	1	0.347	0.115	11.5
D	LS6	0.09	40% @ 9.8 m	-Existing vegetation	320	0.046	2.96	0.01	1	0.436	0.039	3.9
E	LS14	0.07	2.5% @ 14 m	-Pavement	320	0.046	0.25	0.001	1	0.004	0	0.3
F	LS9	0.18	11.1% @ 11.7	-Sod	320	0.046	0.87	0.01	1	0.128	0.023	2.3
G	LS8	0.39	25.2% @ 19.2	-Existing vegetation	320	0.046	3.23	0.01	1	0.475	0.185	18.5
H	LS1	0.386	2.6% @ 62.2 m	-Existing vegetation	320	0.046	0.49	0.01	1	0.072	0.028	2.8
I	LS12	0.06	1.9% @ 13 m	-Pavement	320	0.046	0.19	0.001	1	0.003	0	0.2
J	LS10	0.72	0.6% @ 69.5 m	-Sod	320	0.046	0.12	0.01	1	0.018	0.013	1.3
					320					0.000	0	0
					320					0.000	0	0
					320					0.000	0	0
					320					0.000	0	0
					320					0.000	0	0
					320					0.000	0	0
Overall Site Size		2.806								Total Soil Loss Estimates	0.40534906	42.7459968

Supplemental Information

15.0 Sediment Containment Systems Data

A	B	C	D	E	F	G
Drawing	Location (referenced on Drawings)	Sediment containment System Identifier	Volume in Cubic Metres	Area Served in Hectares	Design Volume	P-Value
ESC5	A	Pond 1	145	0.25	580	0.4
ESC5	B	Pond 2	2,900	0.96	3,020	0.1
ESC5	D	Pond 3	595	0.31	1,919	0.1
ESC6	B	Pond 1	2,900	0.8	3,625	0.1