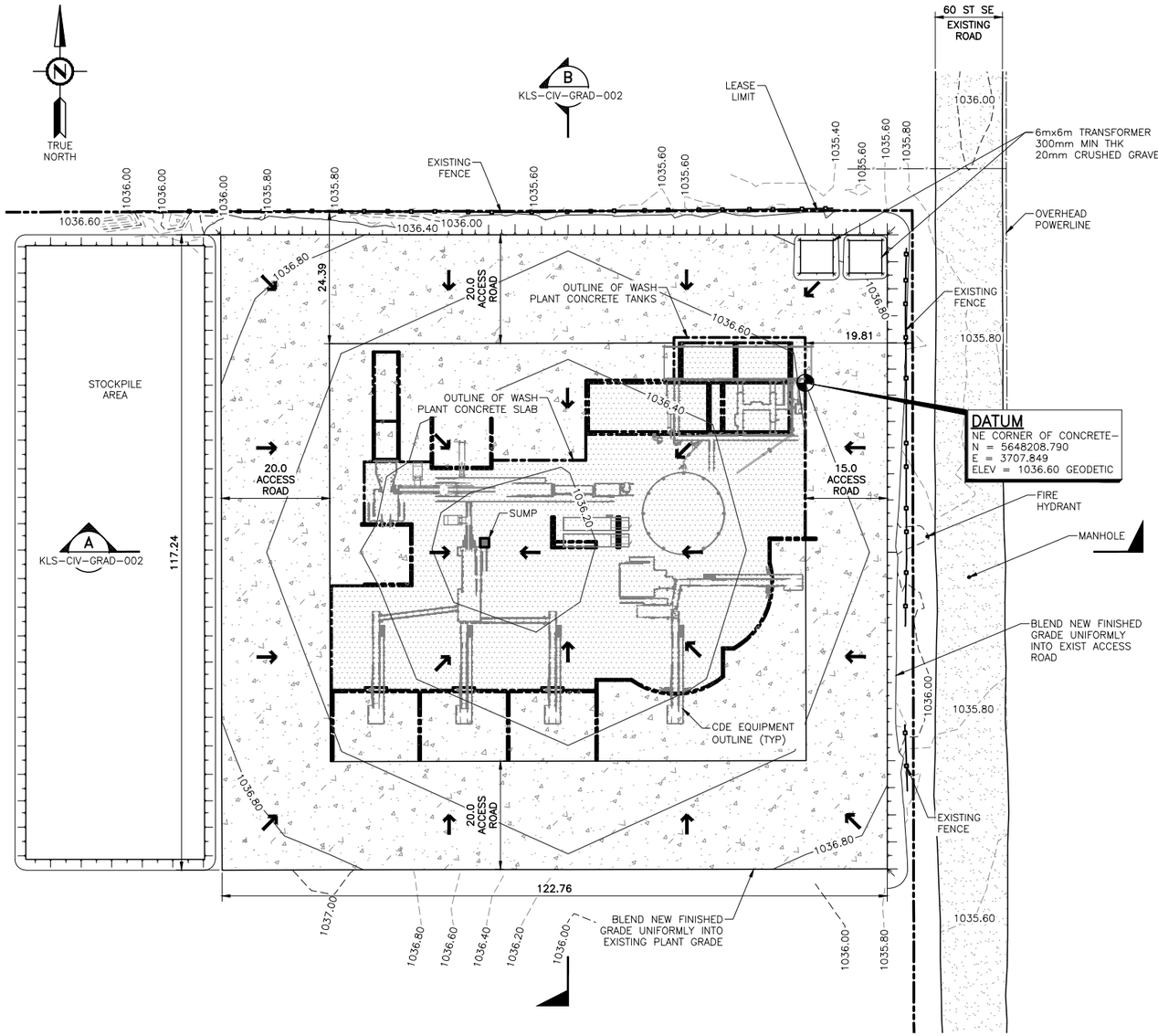


SITE PLAN
SCALE: 1:500

CONSTRUCTION NOTES:

1. ALL COORDINATES AND ELEVATIONS ARE IN METERS AND ARE FOR FINISHED GRADE. ALL COORDINATES ARE ALBERTA NAD83; 3 DEGREE ZONE, CENTRED AT 114 DEG WEST COORDINATE SYSTEM.
2. ALL ELEVATIONS SHOWN ARE GEODETIC DATUM. ELEVATIONS ARE BASED ON SURVEY INFORMATION PROVIDED BY KLS EARTHWORKS & ENVIRONMENTAL.
3. NEW GRADING IS TO BE CARRIED OUT AS INDICATED. PERFORM EARTHWORKS TO THE LINES AND GRADES SHOWN. MAKE SLOPES FREE FROM ROOTS AND STONES. TRIM SURFACES NEATLY AND SMOOTHLY PROVIDING GOOD AND EFFICIENT DRAINAGE AS SHOWN.
4. ROADS AND WASH PLANT SITE SHALL BE PREPARED AS FOLLOWS:
   a. COMPACT SUB-GRADE TO A MINIMUM OF 98% OF SPMDD.
   b. PROOF-ROLL THE SUB-GRADE AND REPAIR AS NECESSARY.
   c. PLACE GEOTEXTILE FABRIC OR GEOGRID AS REQUIRED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
   d. PLACE BASE GRAVEL IN 150mm THICK LIFTS AND COMPACT TO 100% OF SPMDD.

LEGEND:

- DIRECTION OF FLOW
- 690.00 — EXISTING CONTOUR LINES
- 690.00 — PROPOSED CONTOUR LINES
- WASH PLANT CONCRETE SLAB
  - CONCRETE SLAB (BY OTHERS)

  COMBINED SUBGRADE FOR CONCRETE FOOTING AND CONCRETE SLAB:
  - 25mm CRUSHED GRAVEL
  - HDPE LINER
- LIGHT DUTY GRAVEL ROAD:
  - 100mm THK 20mm CRUSHED GRAVEL
  - 200mm THK 75mm PITRUN BASE GRAVEL

  SUBGRADE:
  - 25mm CRUSHED GRAVEL
  - HDPE LINER

NOTES:

1. REFER TO SURVEY PLAN K21-100 WASH PLANT LAYOUT BY KLS EARTHWORKS & ENVIRONMENTAL

REV	DATE	DESCRIPTION	DRWN	CHK'D	APP'D	PMCLP A.F.E. NO.
0	2022/XX/XX	ISSUED FOR PERMIT	DS	SL	RF	

PERMIT TO PRACTICE
TEKARRA PROJECT SERVICES LTD.
PERMIT NUMBER: P 10987
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

PROFESSIONAL ENGINEER ALBERTA SHENG (SAM) LIU

PREPARED BY TEKARRA

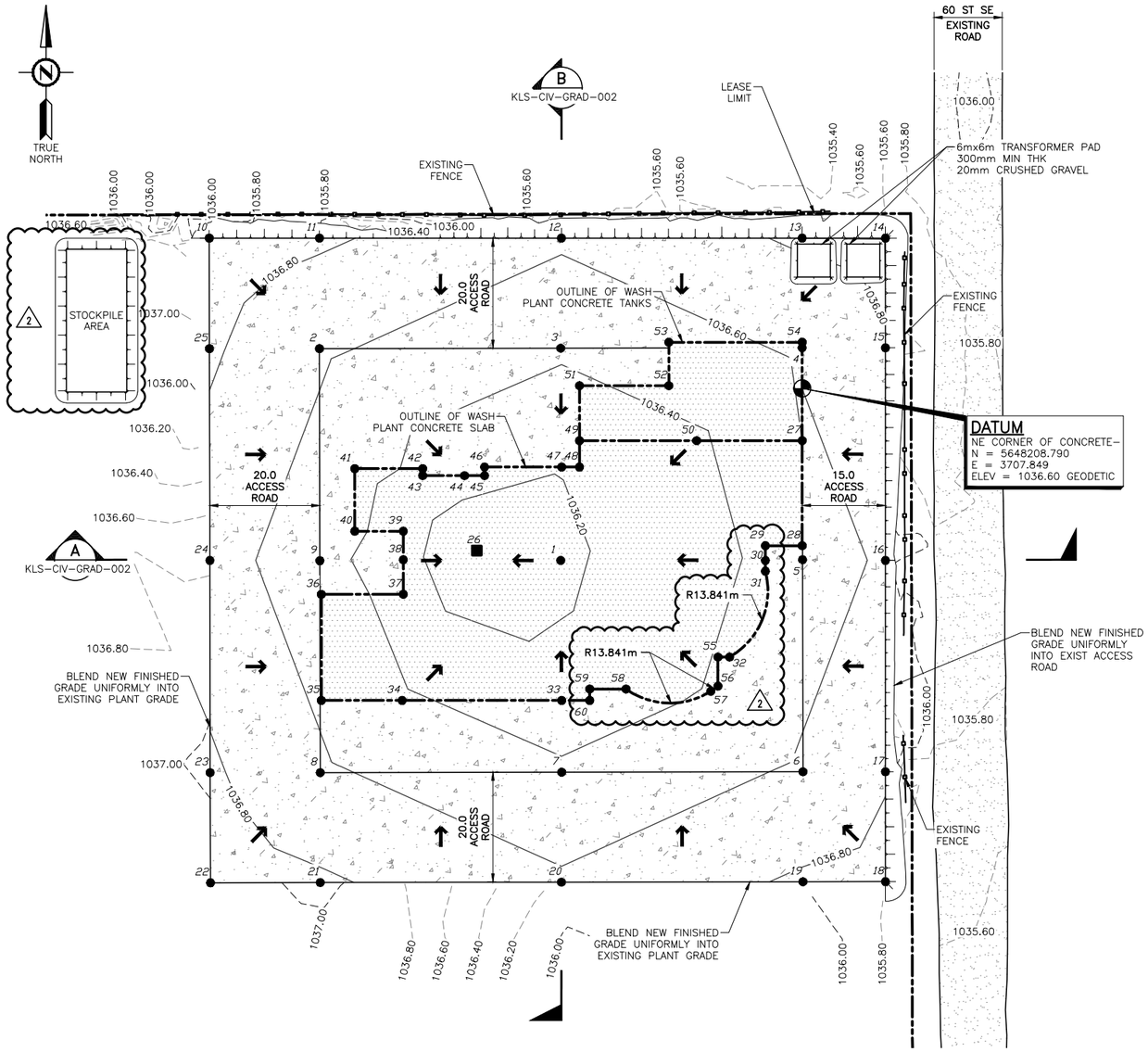
DRAWN BY	DS	DATE	2021/10/07
CHCK'D BY	SL	DATE	2021/10/07
APPV'D BY	RF	DATE	2021/10/07
CLIENT APP		DATE	

KLS EARTHWORKS & ENVIRONMENTAL — WORK & LIVE SAFE

WASH PLANT

SITE PLAN

DRAWING NUMBER	TITLE/DESCRIPTION	GENERAL NOTES	PERMIT	ENGINEERING	EPCM PROJ# 21-KLS-001	DRAWING SCALE	PREVIOUS DRAWING NUMBER	DRAWING NUMBER	REV
REFERENCE DRAWINGS		(UNLESS OTHERWISE SPECIFIED)	PROFESSIONAL STAMPS		EPCM DRWG#	AS NOTED		KLS-CIV-SITE-001	0



FINISHED GRADING PLAN
SCALE: 1:500

SITE QUANTITIES

APPROX. SITE VOLUMES UNADJUSTED	
NET CUT	1357m3
20mm CRUSHED GRAVEL	1098m3
75mm PITRUN GRAVEL	2154m3
TOTAL EXCAVATION	20390m3
COMPACTED BACKFILL	174m3
25mm CRUSHED GRAVEL	19611m3
HDPE LINER	14878m2

1. ALL QUANTITIES ARE APPROXIMATE AND ARE ±10%.
2. QUANTITES ARE BASED ON DESIGNED ROUGH GRADE

LEGEND:

- POINT (SEE POINT TABLE)
- SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING CONTOUR LINES
- PROPOSED CONTOUR LINES
- WASH PLANT CONCRETE SLAB
  - CONCRETE SLAB (BY OTHERS)
  - COMBINED SUBGRADE FOR CONCRETE FOOTING AND CONCRETE SLAB:
  - 25mm CRUSHED GRAVEL
  - HDPE LINER
- LIGHT DUTY GRAVEL ROAD:
  - 100mm THK 20mm CRUSHED GRAVEL
  - 200mm THK 75mm PITRUN BASE GRAVEL
  - SUBGRADE:
  - 25mm CRUSHED GRAVEL
  - HDPE LINER

GRAVEL GRADATION LIMITS

METRIC SIEVE SIZE	% PASSING BY WEIGHT	
	MINIMUM	MAXIMUM
40	–	100
25	70	94
16	55	85
10	44	74
5	32	62
1.25	17	43
0.63	12	34
0.315	8	26
0.16	5	18
0.08	2	10

CRUSHED GRAVEL SHALL HAVE A MINIMUM CRUSHED FACE COUNT OF 60% ON TWO OR MORE FACES.

NOTE: GEOTECHNICAL CONSULTANT SHALL CONFIRM THIS GRADATION PRIOR TO CONSTRUCTION

CONSTRUCTION NOTES:

1. ALL COORDINATES AND ELEVATIONS ARE IN METERS AND ARE FOR FINISHED GRADE. ALL COORDINATES ARE ALBERTA NAD83; 3 DEGREE ZONE, CENTRED AT 114 DEG WEST COORDINATE SYSTEM.
2. ALL ELEVATIONS SHOWN ARE GEODETIC DATUM. ELEVATIONS ARE BASED ON SURVEY INFORMATION PROVIDED BY KLS EARTHWORKS & ENVIRONMENTAL.
3. NEW GRADING IS TO BE CARRIED OUT AS INDICATED. PERFORM EARTHWORKS TO THE LINES AND GRADES SHOWN. MAKE SLOPES FREE FROM ROOTS AND STONES. TRIM SURFACES NEATLY AND SMOOTHLY PROVIDING GOOD AND EFFICIENT DRAINAGE AS SHOWN.
4. ROADS AND WASH PLANT SITE SHALL BE PREPARED AS FOLLOWS:
   a. COMPACT SUB-GRADE TO A MINIMUM OF 98% OF SPMDD.
   b. PROOF-ROLL THE SUB-GRADE AND REPAIR AS NECESSARY.
   c. PLACE GEOTEXTILE FABRIC OR GEOGRID AS REQUIRED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
   d. PLACE BASE GRAVEL IN 150mm THICK LIFTS AND COMPACT TO 100% OF SPMDD.
5. THE GRADATION OF 40mm SURFACE GRAVEL SHALL FOLLOW THE GRADATION TABLE ON THIS DRAWING.

POINT COORDINATE TABLE

POINT NO	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	5648177.51	3664.06	1034.54	HIGH POINT OF HDPE LINER (SEE SECTIONS)
2	5648216.02	3620.04	1036.63	EDGE OF WASH PLANT SITE
3	5648216.10	3664.06	1036.43	EDGE OF WASH PLANT SITE
4	5648216.18	3707.84	1036.63	EDGE OF WASH PLANT SITE
5	5648177.51	3707.91	1036.48	EDGE OF WASH PLANT SITE
6	5648139.08	3707.99	1036.63	EDGE OF WASH PLANT SITE
7	5648139.00	3664.06	1036.43	EDGE OF WASH PLANT SITE
8	5648138.92	3620.19	1036.63	EDGE OF WASH PLANT SITE
9	5648177.51	3620.11	1036.48	EDGE OF WASH PLANT SITE
10	5648236.13	3600.00	1036.91	EDGE OF ACCESS ROAD
11	5648236.13	3620.04	1036.83	EDGE OF ACCESS ROAD
12	5648236.13	3664.06	1036.63	EDGE OF ACCESS ROAD
13	5648236.13	3707.84	1036.83	EDGE OF ACCESS ROAD
14	5648236.13	3722.99	1036.88	EDGE OF ACCESS ROAD
15	5648216.18	3722.99	1036.78	EDGE OF ACCESS ROAD
16	5648177.51	3722.99	1036.63	EDGE OF ACCESS ROAD
17	5648139.08	3722.99	1036.78	EDGE OF ACCESS ROAD
18	5648119.11	3722.99	1036.88	EDGE OF ACCESS ROAD
19	5648119.08	3707.99	1036.83	EDGE OF ACCESS ROAD
20	5648119.00	3664.06	1036.63	EDGE OF ACCESS ROAD
21	5648118.94	3620.19	1036.83	EDGE OF ACCESS ROAD
22	5648118.88	3600.23	1036.91	EDGE OF ACCESS ROAD
23	5648138.92	3600.19	1036.83	EDGE OF ACCESS ROAD
24	5648177.51	3600.11	1036.68	EDGE OF ACCESS ROAD
25	5648216.02	3600.04	1036.83	EDGE OF ACCESS ROAD
26	5648179.31	3648.67	1036.06	LOW POINT/CENTER OF SUMP
27	5648199.29	3707.85	1036.60	OUTLINE OF WASH PLANT CONCRETE SLAB
28	5648180.18	3707.85	1036.49	OUTLINE OF WASH PLANT CONCRETE SLAB
29	5648180.18	3701.15	1036.44	OUTLINE OF WASH PLANT CONCRETE SLAB
30	5648177.51	3701.15	1036.43	OUTLINE OF WASH PLANT CONCRETE SLAB
31	5648175.55	3701.15	1036.44	OUTLINE OF WASH PLANT CONCRETE SLAB
32	5648159.94	3694.64	1036.43	OUTLINE OF WASH PLANT CONCRETE SLAB
33	5648152.05	3664.06	1036.30	OUTLINE OF WASH PLANT CONCRETE SLAB
34	5648152.05	3635.13	1036.43	OUTLINE OF WASH PLANT CONCRETE SLAB
35	5648152.05	3620.40	1036.58	OUTLINE OF WASH PLANT CONCRETE SLAB
36	5648171.35	3620.40	1036.50	OUTLINE OF WASH PLANT CONCRETE SLAB
37	5648171.35	3635.30	1036.30	OUTLINE OF WASH PLANT CONCRETE SLAB
38	5648177.51	3635.30	1036.26	OUTLINE OF WASH PLANT CONCRETE SLAB
39	5648182.82	3635.30	1036.29	OUTLINE OF WASH PLANT CONCRETE SLAB
40	5648182.82	3626.46	1036.44	OUTLINE OF WASH PLANT CONCRETE SLAB
41	5648194.20	3626.46	1036.48	OUTLINE OF WASH PLANT CONCRETE SLAB
42	5648194.20	3638.81	1036.36	OUTLINE OF WASH PLANT CONCRETE SLAB
43	5648192.93	3638.81	1036.34	OUTLINE OF WASH PLANT CONCRETE SLAB
44	5648192.93	3646.43	1036.27	OUTLINE OF WASH PLANT CONCRETE SLAB
45	5648192.93	3650.08	1036.25	OUTLINE OF WASH PLANT CONCRETE SLAB
46	5648194.50	3650.08	1036.28	OUTLINE OF WASH PLANT CONCRETE SLAB
47	5648194.50	3664.06	1036.21	OUTLINE OF WASH PLANT CONCRETE SLAB
48	5648194.50	3667.35	1036.23	OUTLINE OF WASH PLANT CONCRETE SLAB
49	5648199.29	3667.35	1036.28	OUTLINE OF WASH PLANT CONCRETE SLAB
50	5648199.29	3688.72	1036.37	OUTLINE OF WASH PLANT CONCRETE SLAB
51	5648209.29	3667.35	1036.38	OUTLINE OF WASH PLANT CONCRETE TANKS
52	5648209.29	3683.60	1036.45	OUTLINE OF WASH PLANT CONCRETE TANKS
53	5648217.18	3683.60	1036.53	OUTLINE OF WASH PLANT CONCRETE TANKS
54	5648217.18	3707.85	1036.64	OUTLINE OF WASH PLANT CONCRETE TANKS
55	5648159.94	3692.53	1036.42	OUTLINE OF WASH PLANT CONCRETE SLAB
56	5648154.66	3692.53	1036.43	OUTLINE OF WASH PLANT CONCRETE SLAB
57	5648153.73	3691.24	1036.42	OUTLINE OF WASH PLANT CONCRETE SLAB
58	5648154.12	3675.80	1036.34	OUTLINE OF WASH PLANT CONCRETE SLAB
59	5648154.12	3669.20	1036.31	OUTLINE OF WASH PLANT CONCRETE SLAB
60	5648152.05	3669.20	1036.32	OUTLINE OF WASH PLANT CONCRETE SLAB

NOTES:
1. REFER TO SURVEY PLAN K21-100 WASH PLANT LAYOUT BY KLS EARTHWORKS & ENVIRONMENTAL

REV	DATE	DESCRIPTION	DRWN	CHK'D	APP'D	PMCLP A.F.E. NO.
2	2022/XX/XX	RE-ISSUED FOR CONSTRUCTION	DS	SL	RF	
1	2022/01/07	RE-ISSUED FOR CONSTRUCTION	DS	SL	RF	
0	2021/12/20	ISSUED FOR CONSTRUCTION	DS	SL	RF	

PERMIT TO PRACTICE
TEKARRA PROJECT SERVICES LTD.
PERMIT NUMBER: P 10987
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

PROFESSIONAL ENGINEER SHENG (SAM) LIU ALBERTA

PREPARED BY TEKARRA

KLS EARTHWORKS & ENVIRONMENTAL — WORK & LIVE SAFE

DRAWN BY	DS	DATE	2021/10/07
CHCK'D BY	SL	DATE	2021/10/07
APPV'D BY	RF	DATE	2021/10/07
CLIENT APP		DATE	

WASH PLANT

FINISHED GRADING PLAN

KLS-CIV-GRAD-003	FINISHED GRADING DETAILS
KLS-CIV-GRAD-002	FINISHED GRADING SECTIONS

REFERENCE DRAWINGS

DRAWING NUMBER	TITLE/DESCRIPTION

(UNLESS OTHERWISE SPECIFIED)

PERMIT | ENGINEERING
PROFESSIONAL STAMPS

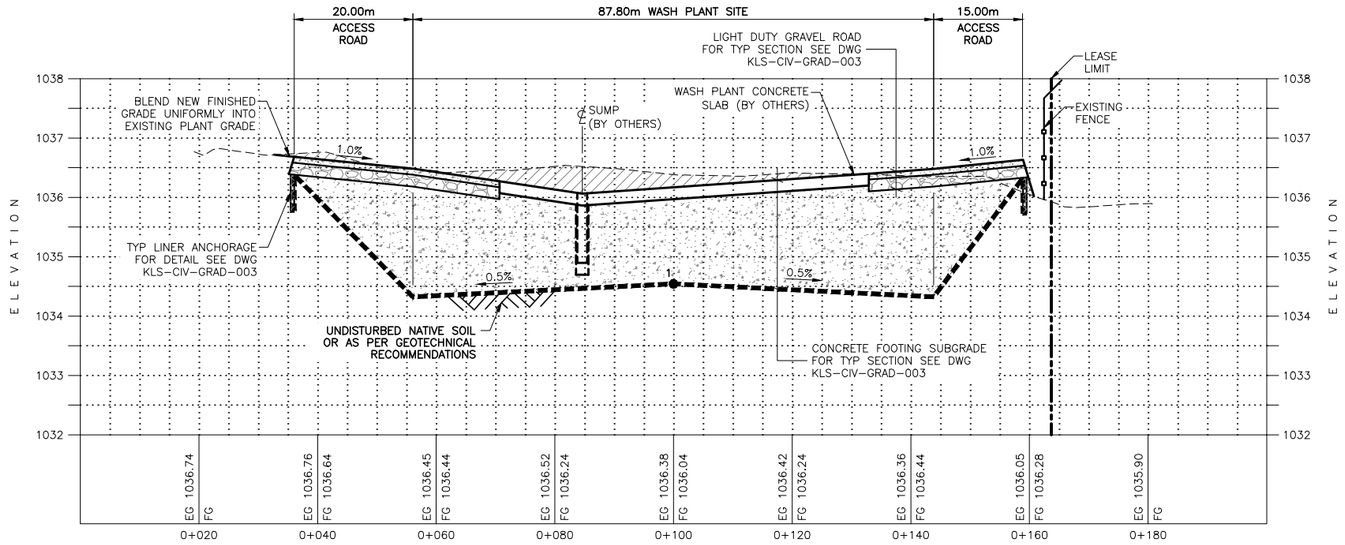
EPCM PROJ# 21-KLS-001
EPCM DRWG#

DRAWING SCALE: AS NOTED

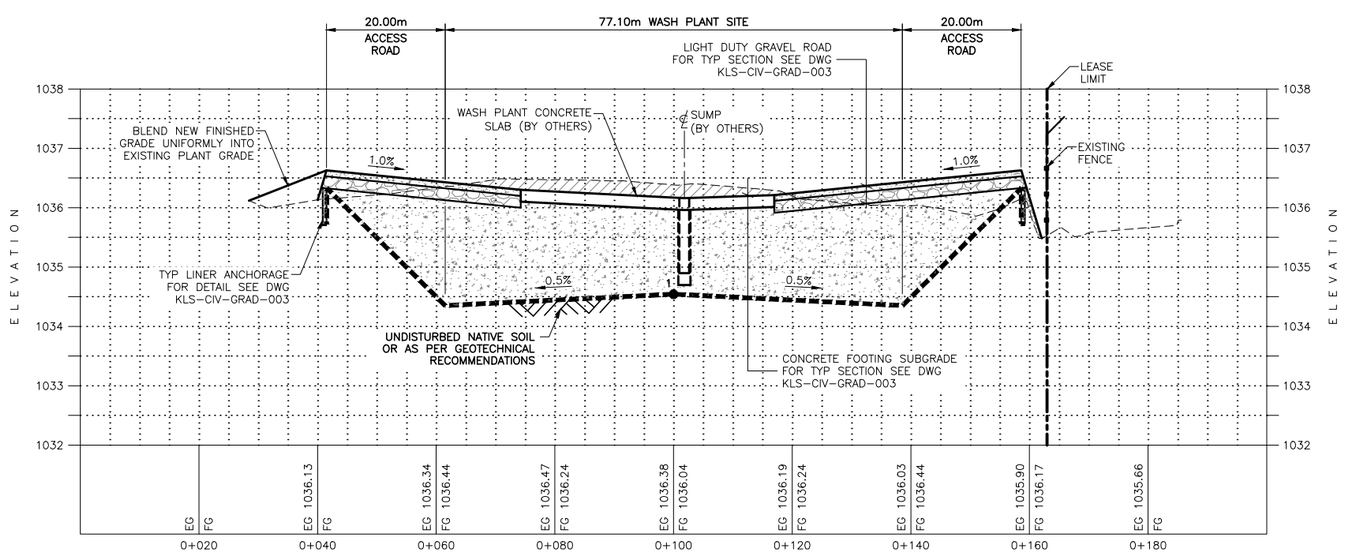
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DRAWING NUMBER: KLS-CIV-GRAD-001

REV: 2



A SECTION
KLS-CIV-GRAD-001 SCALE: 1:500 HORIZONTAL
1:50 VERTICAL



B SECTION
KLS-CIV-GRAD-001 SCALE: 1:500 HORIZONTAL
1:50 VERTICAL

LEGEND:

- EXISTING GRADE
- ROUGH GRADE
- FINISHED GRADE
- HDPE LINER
- CUT
- COMPACTED BACKFILL
- 20mm CRUSHED GRAVEL
- 25mm CRUSHED GRAVEL
- 75mm PITRUN GRAVEL

NOTES:

1. FOR CONSTRUCTION NOTES SEE DWG KLS-CIV-GRAD-001.
2. ALL DISTANCES ARE IN METERS AND ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.

REFERENCE DRAWINGS	
DRAWING NUMBER	TITLE/DESCRIPTION
KLS-CIV-GRAD-003	FINISHED GRADING DETAILS
KLS-CIV-GRAD-001	FINISHED GRADING PLAN

GENERAL NOTES (UNLESS OTHERWISE SPECIFIED)

DRAWING REVISIONS							
REV	DATE	DESCRIPTION	DRWN	CHK'D	APP'D	PMCLP A.F.E. NO.
0	2021/12/20	ISSUED FOR CONSTRUCTION	DS	~~SL~~	RF	

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The Association of Professional Engineers, Geologists and Geophysicists of Alberta

PROFESSIONAL ENGINEER ALBERTA
Dec. 20, 2021

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PREPARED BY TEKARRA

DRAWN BY	DS	DATE 2021/10/07
CHCK'D BY	SL	DATE 2021/10/07
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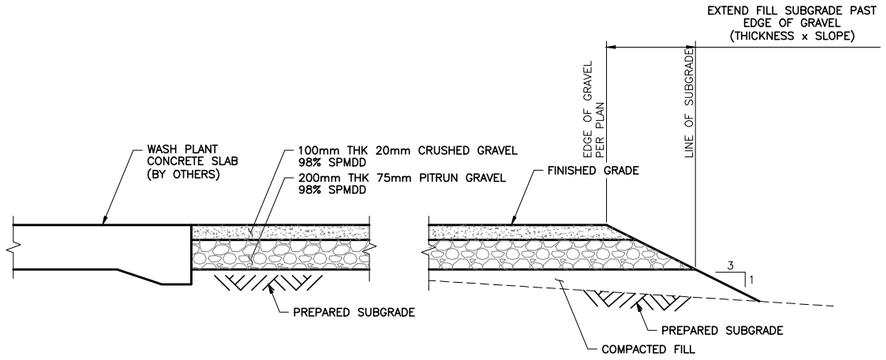
KLS EARTHWORKS & ENVIRONMENTAL — WORK & LIVE SAFE

WASH PLANT

FINISHED GRADING SECTIONS

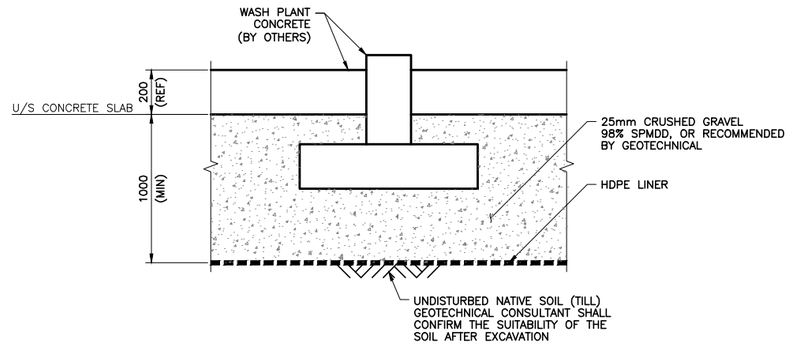
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21-KLS-001	AS NOTED		KLS-CIV-GRAD-002	0

EPCM DRWG#

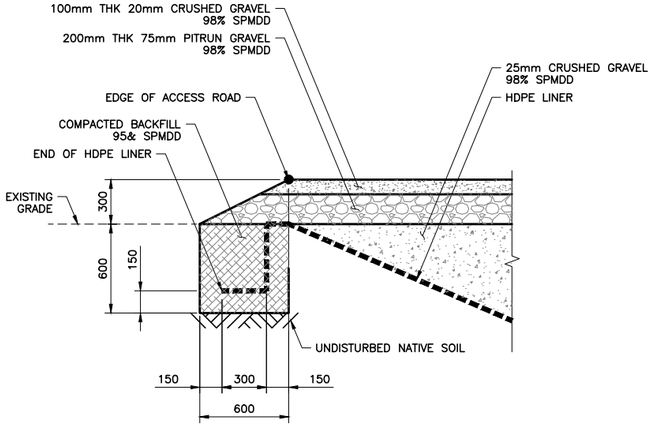


SECTION – AREA ADJOINING CONCRETE SECTION – AREA IN FILL

TYPICAL SECTION – LIGHT DUTY GRAVEL ROAD
NOT TO SCALE



TYPICAL SECTION – CONCRETE FOOTING SUBGRADE
NOT TO SCALE



TYPICAL DETAIL – LINER ANCHORAGE
NOT TO SCALE

KLS-CIV-GRAD-002	FINISHED GRADING SECTIONS
KLS-CIV-GRAD-001	FINISHED GRADING PLAN
DRAWING NUMBER	TITLE/DESCRIPTION
REFERENCE DRAWINGS	

NOTES:

1. FOR CONSTRUCTION NOTES SEE DWG KLS–CIV–GRAD–001.

GENERAL NOTES
(UNLESS OTHERWISE SPECIFIED)

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DRAWING REVISIONS

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PERMIT

PROFESSIONAL ENGINEER ALBERTA SHENG (SAM) LI
Dec. 20, 2021

ENGINEERING

PROFESSIONAL STAMPS

PREPARED BY
TEKARRA

DRAWN BY DS	DATE 2021/10/07
CHCK'D BY SL	DATE 2021/10/07
APPV'D BY RF	DATE 2021/10/07
CLIENT APP	DATE
EPCM PROJ# 21-KLS-001	DRAWING SCALE AS NOTED
EPCM DRWG#	

KLS EARTHWORKS & ENVIRONMENTAL
WORK & LIVE SAFE

WASH PLANT

FINISHED GRADING DETAILS

PREVIOUS DRAWING NUMBER	DRAWING NUMBER	REV
	KLS-CIV-GRAD-003	0

Calgary Aggregate and Recycling
SP1266 Wash Plant Layout



0 20 40 Meters

SCALE = 1 : 750

Notes:

Datum:	North American Datum 1983
Projection:	3TM
Reference Meridian:	114°
Combined Scale Factor:	0.999740

KLS EARTHWORKS & ENVIRONMENTAL
WORK & LIVE SAFE
240039 Frontier Crescent
Rocky View County, Alberta T1X 0W6
Tel: 403-240-3030 Fax: 403-240-9884

CLIENT NAME:	-		
ACAD FILE:	K18-Aggregate 20210701		
DRAFTED BY:	Oleg Igoshev	SURVEY DATE:	-
CHECKED BY:		Page 1 of 1	_

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