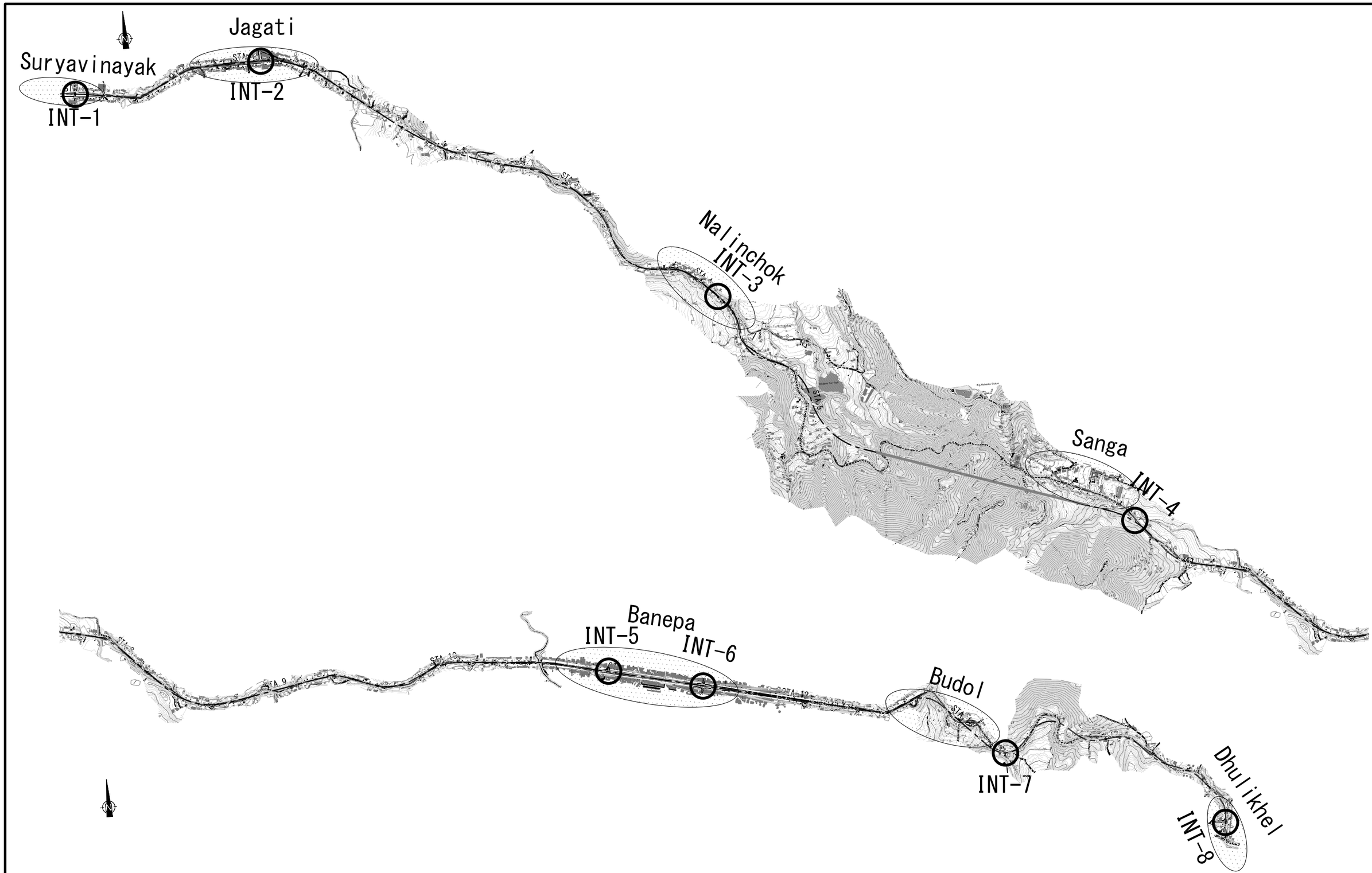
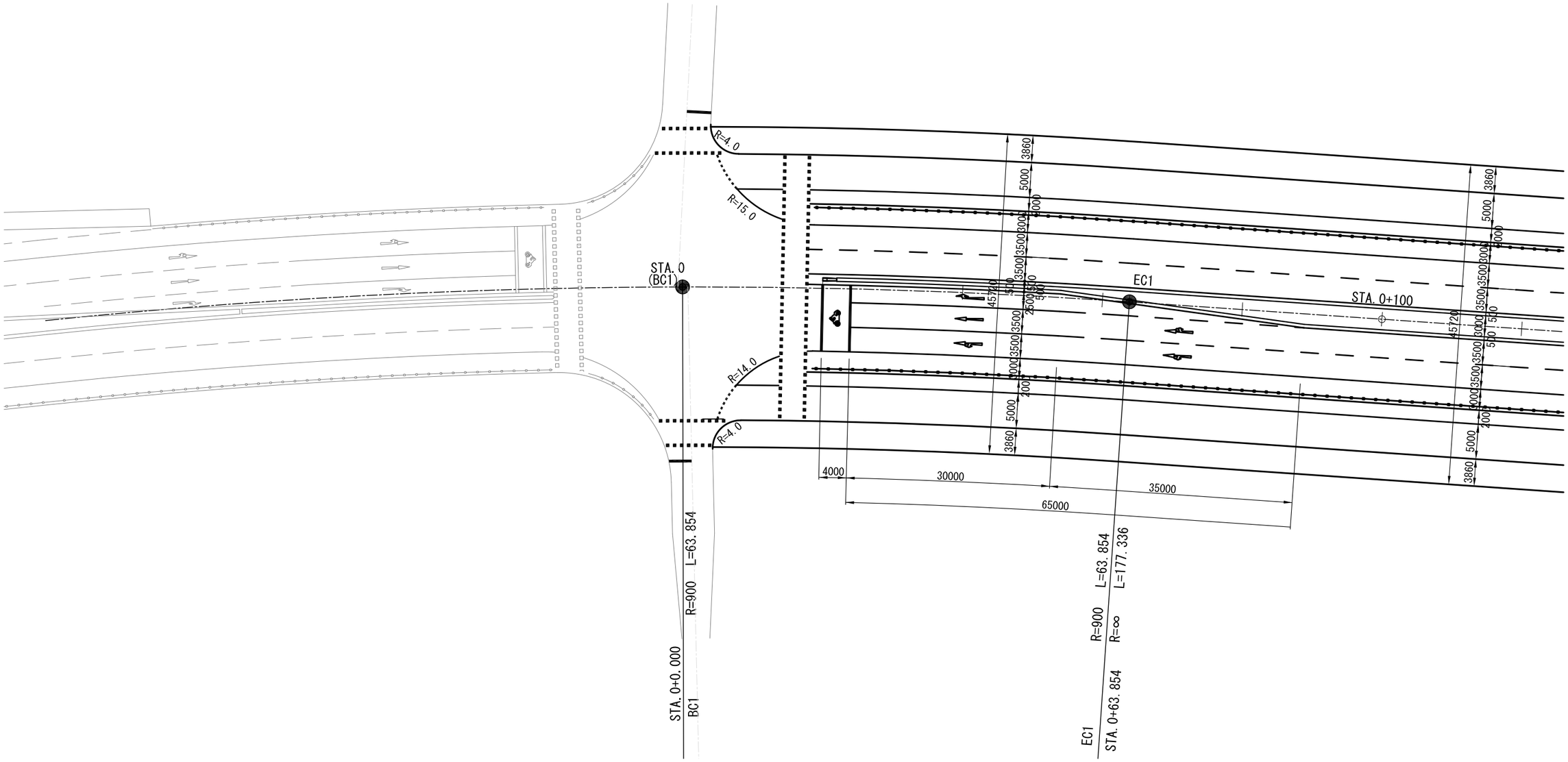


Clients:		Consultants:	Project Title:	Sheet Contents:	Scale: (A1size)	SHT. NO.
Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	LOCATION OF INTERSECTIONS	1:1000 Submission Date March, 2018	IP-01



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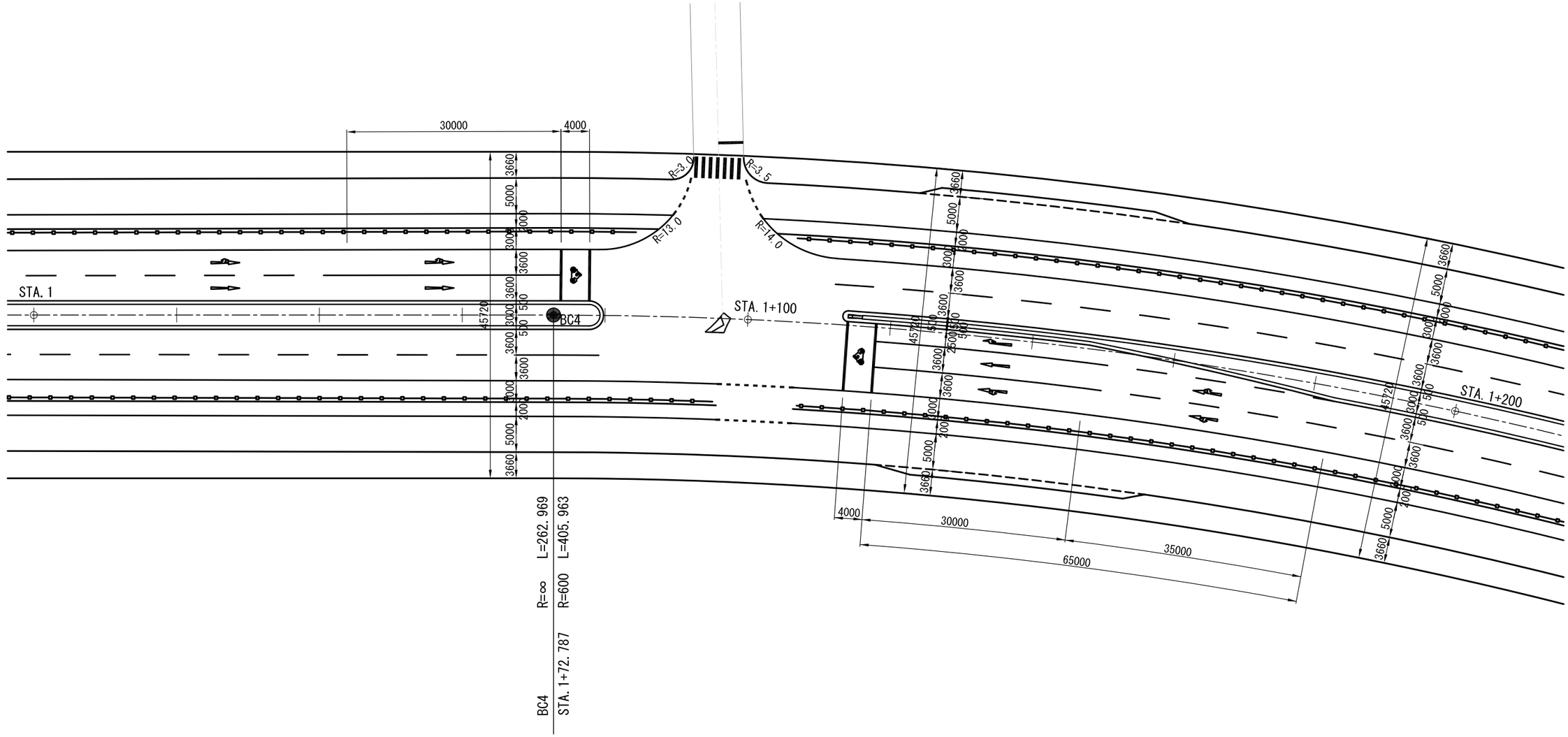
Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	PLAN OF INTERSECTIONS INT-1 (0+000)	1:300 Submission Date March, 2018	IP-02



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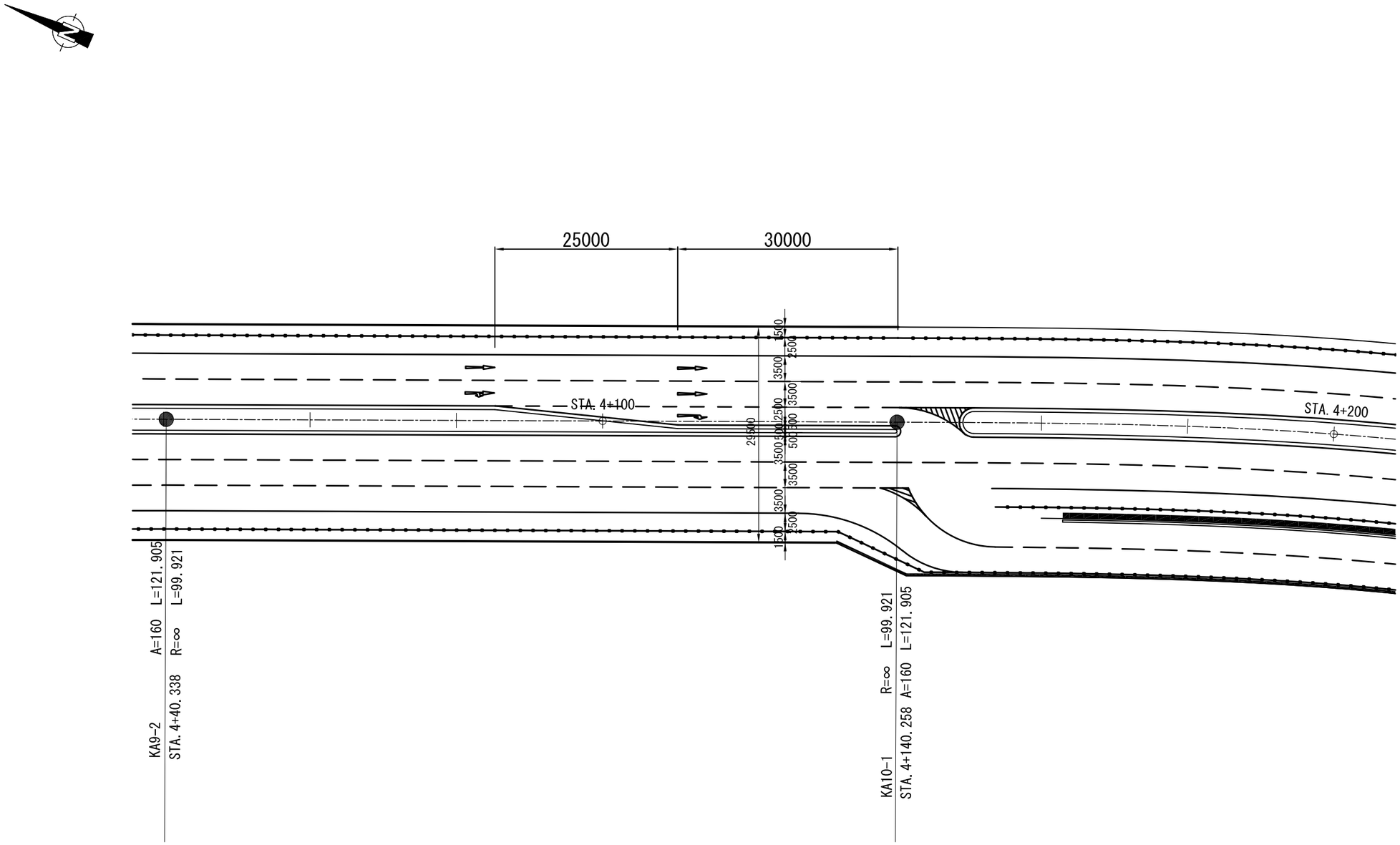
Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	PLAN OF INTERSECTIONS INT-2 (1+099)	1:300 Submission Date March, 2018	IP-03



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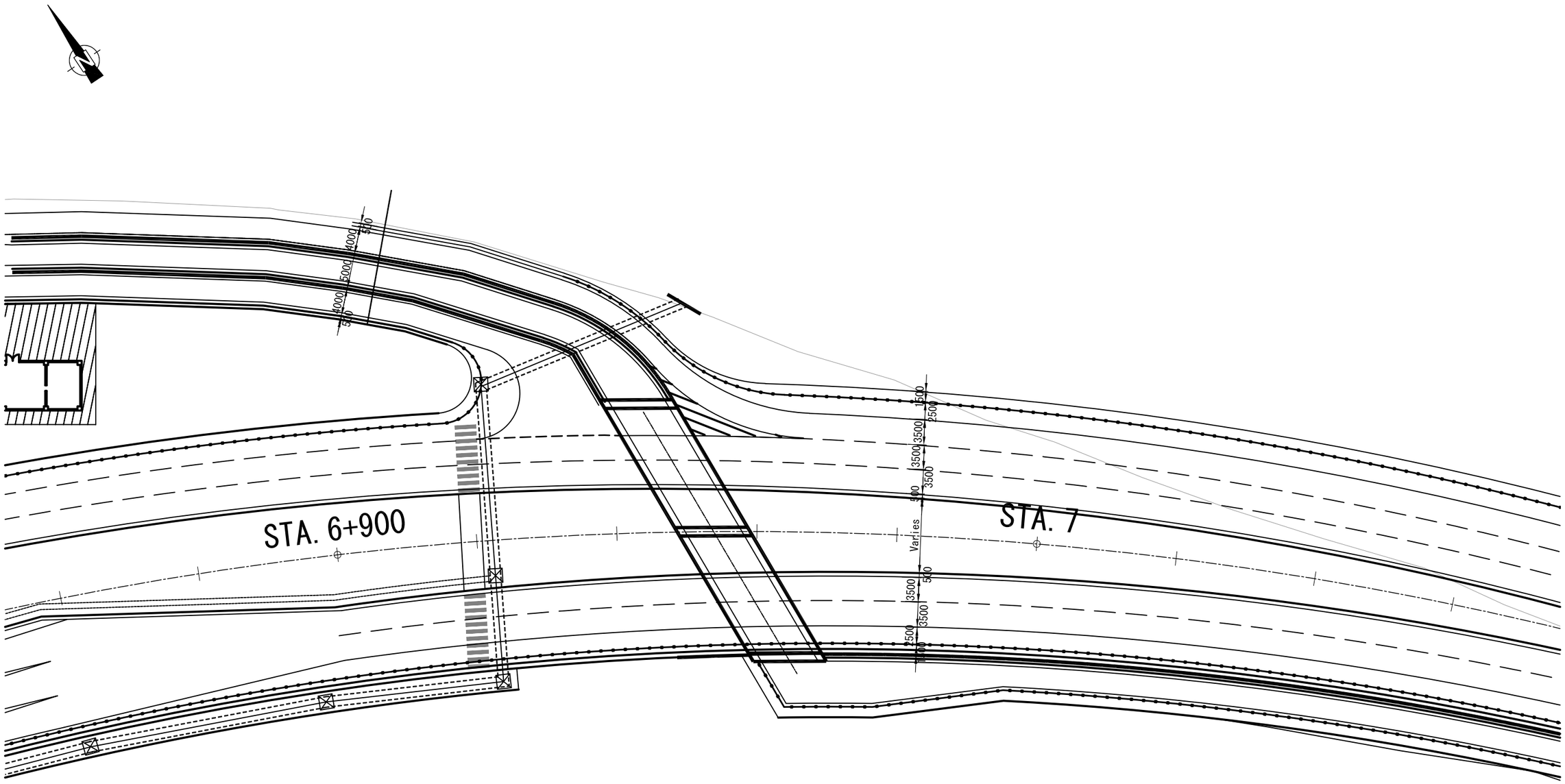
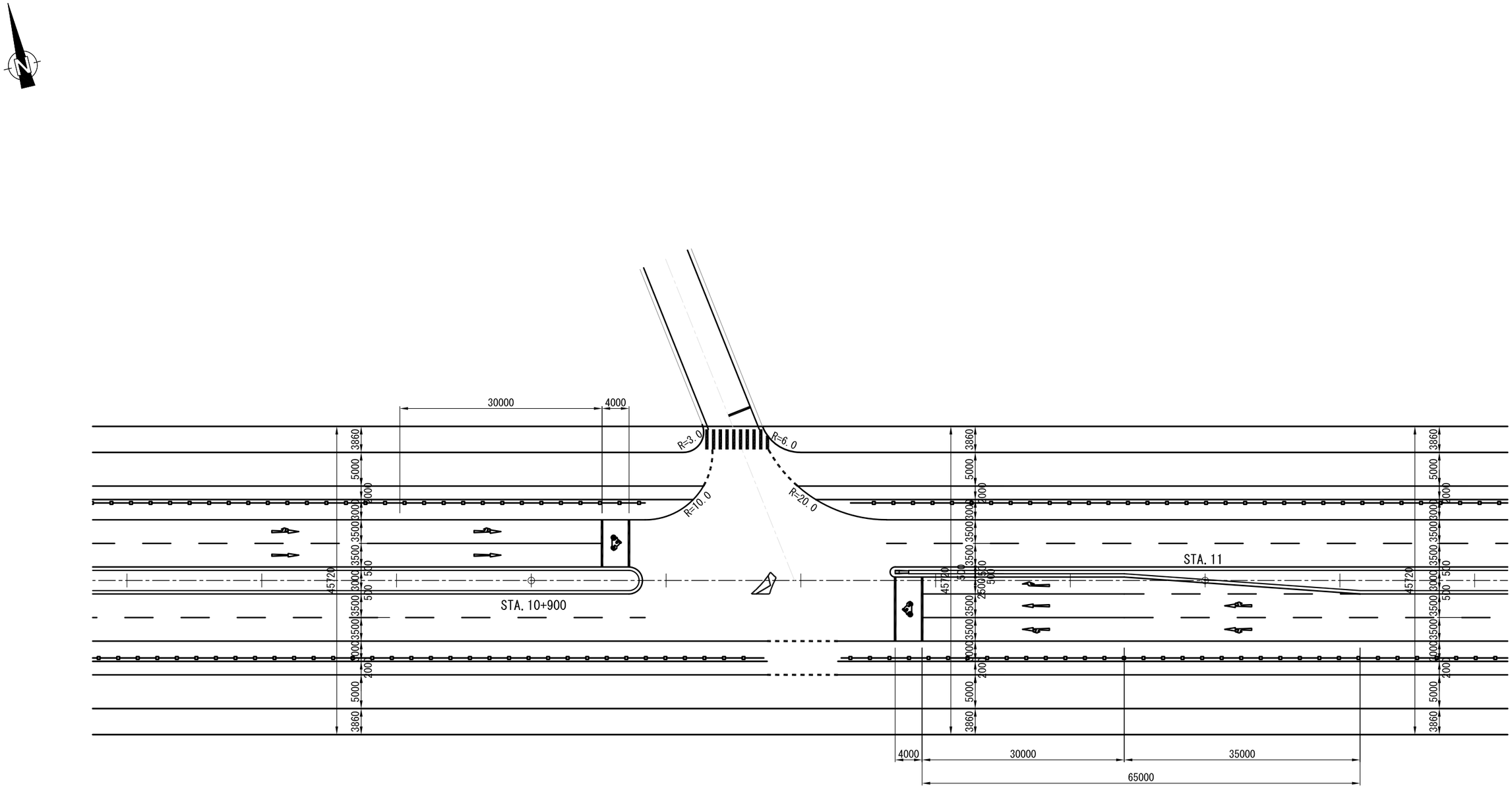
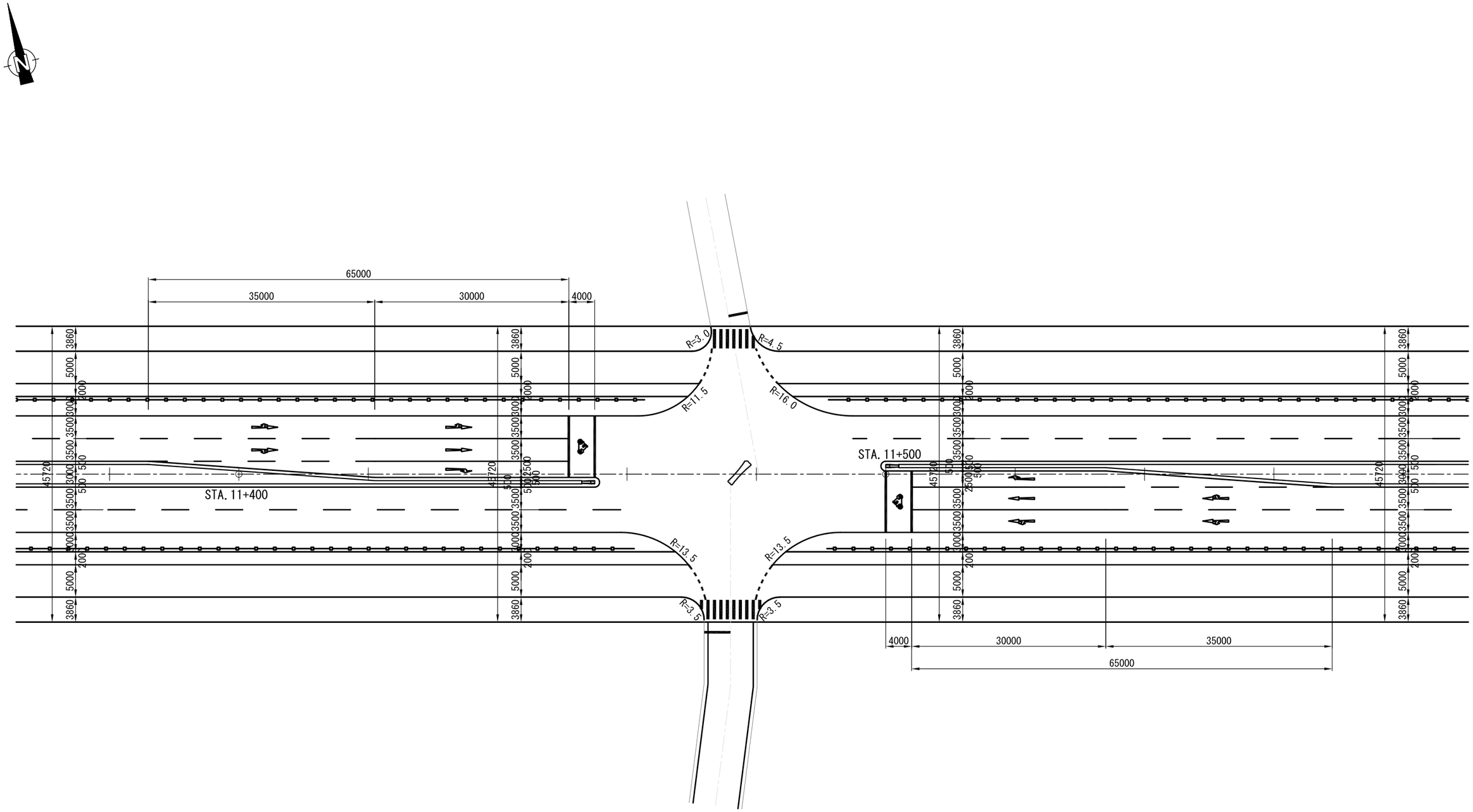
Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	PLAN OF INTERSECTIONS INT-3 (4+140)	1:300 Submission Date March, 2018	IP-04



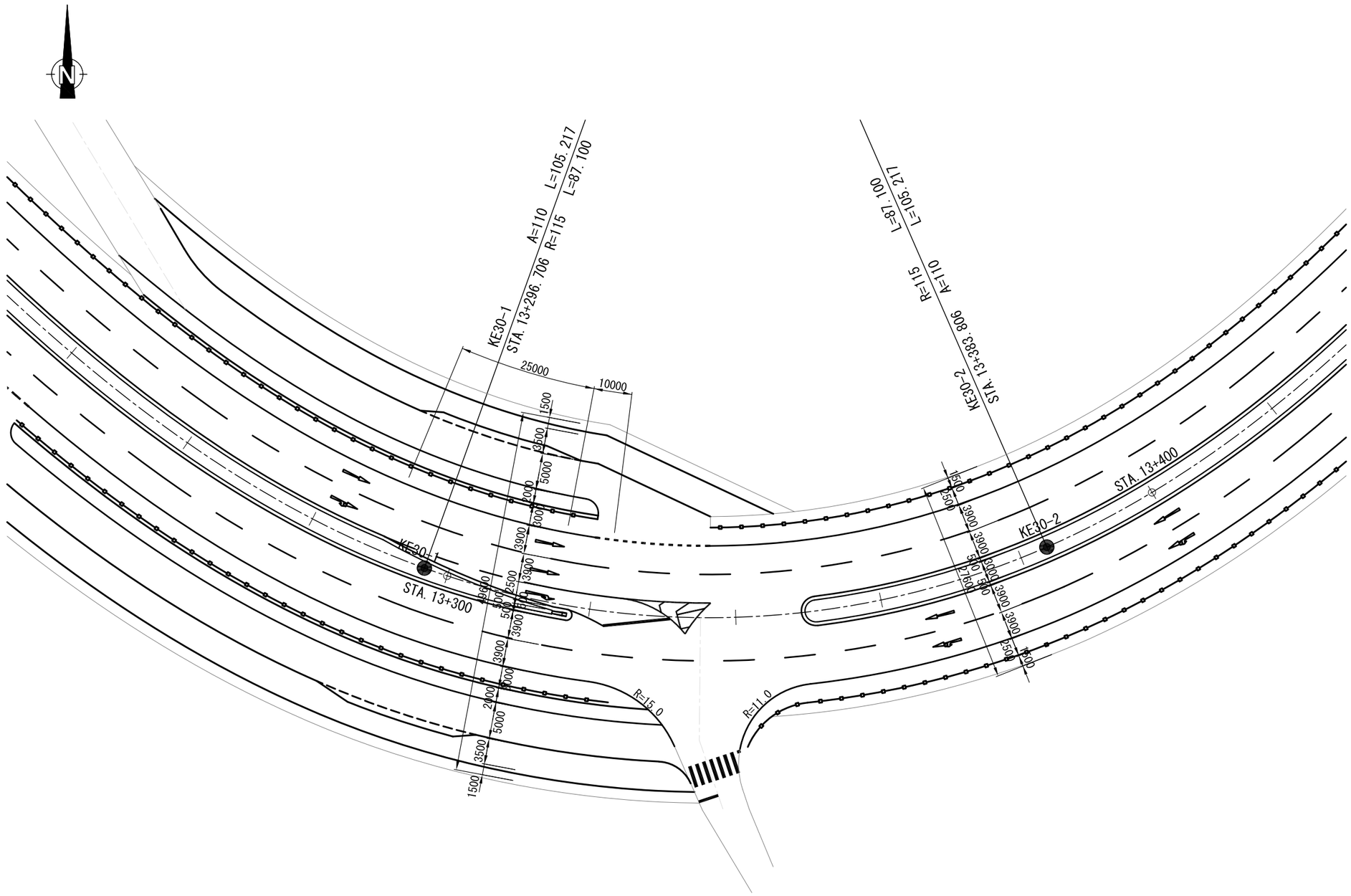
Clients:		Consultants:	Project Title:	Sheet Contents:	Scale: (A1size)	SHT. NO.
Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	PLAN OF INTERSECTIONS INT-4 (6+960)	1:300 Submission Date March, 2018	IP-05



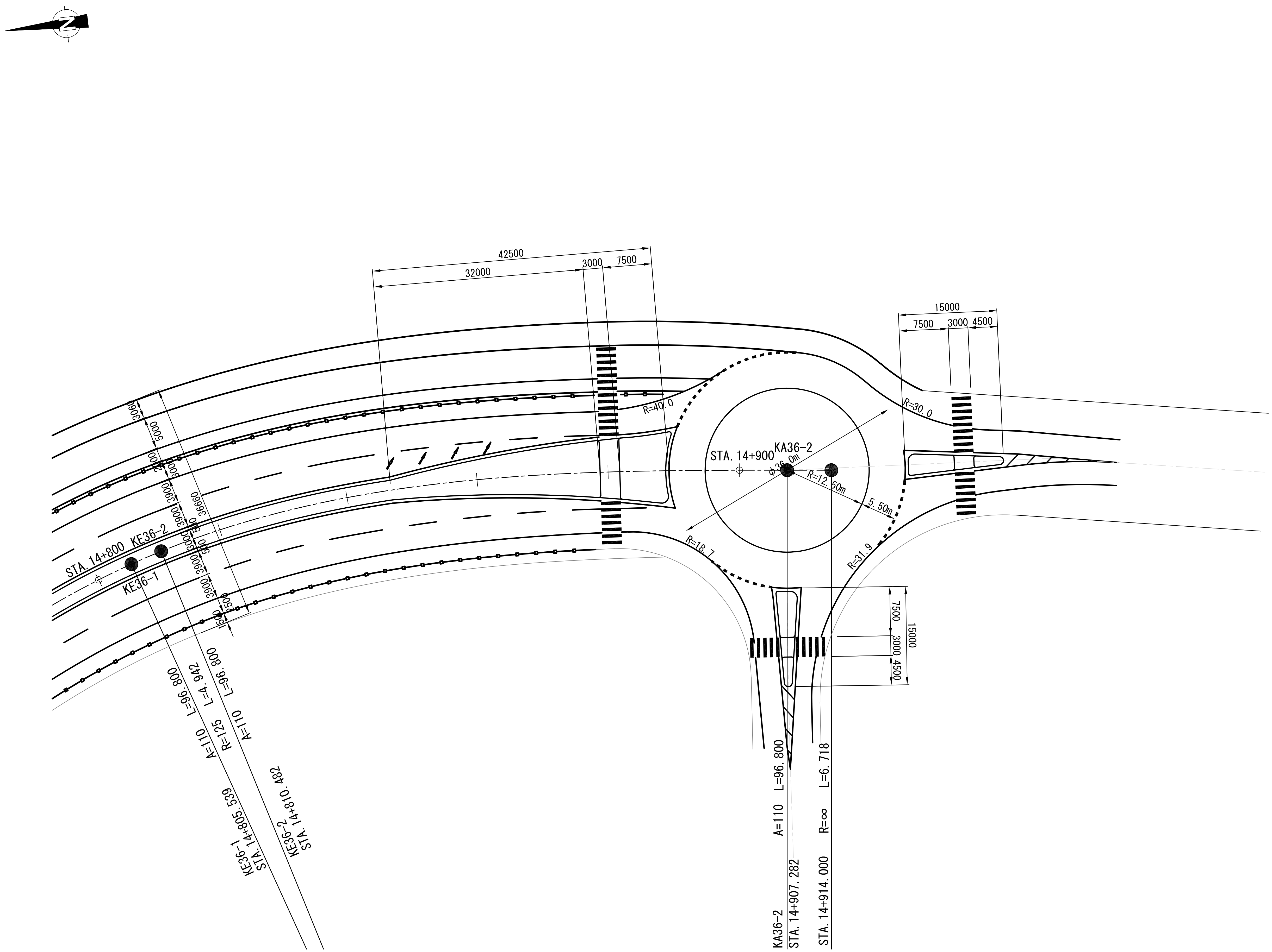
Clients:		Consultants:	Project Title:	Sheet Contents:	Scale: (A1size)	SHT. NO.
Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	PLAN OF INTERSECTIONS INT-5 (10+939)	1:300 Submission Date March, 2018	IP-06



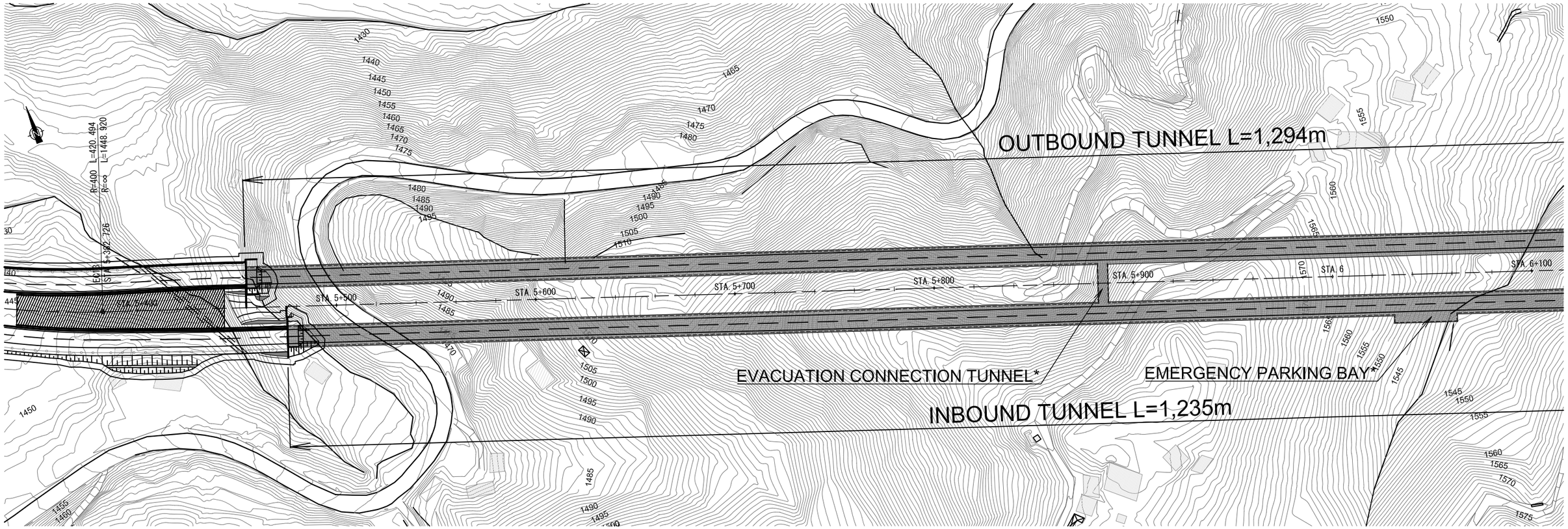
Clients:		Consultants:	Project Title:	Sheet Contents:	Scale: (A1size)	SHT. NO.
Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	PLAN OF INTERSECTIONS INT-6 (11+478)	1:300 Submission Date March, 2018	IP-07

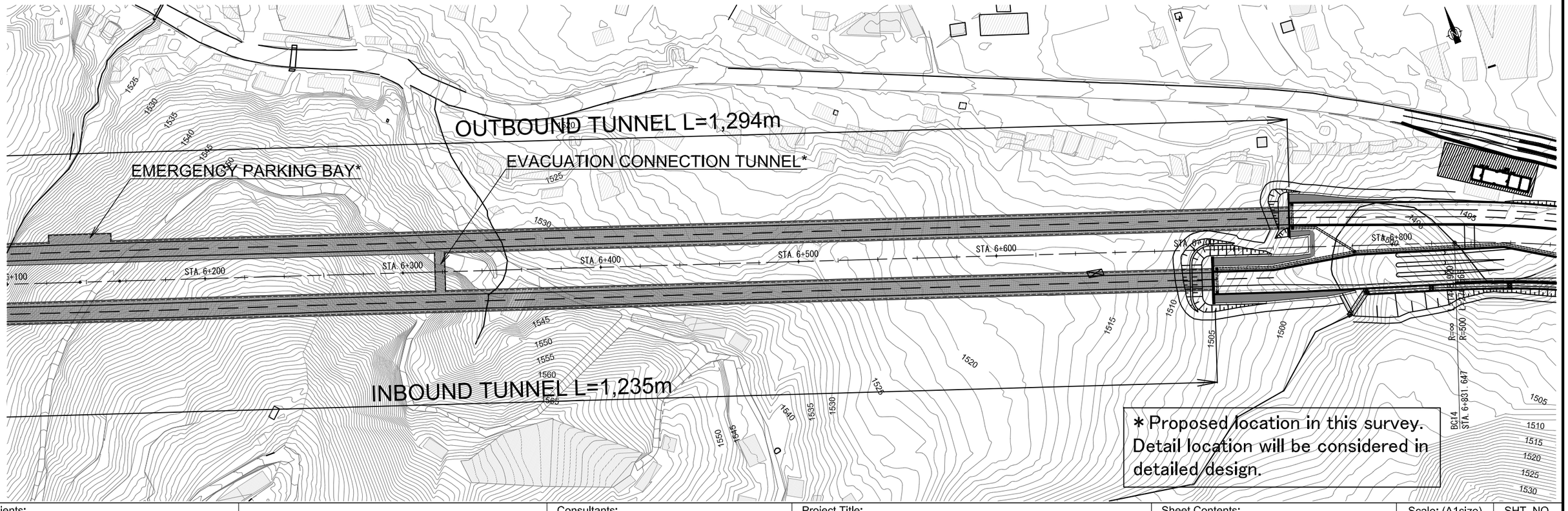


Clients:		Consultants:	Project Title:	Sheet Contents:	Scale: (A1size)	SHT. NO.
Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	PLAN OF INTERSECTIONS INT-7 (13+335)	1:300 Submission Date March, 2018	IP-08

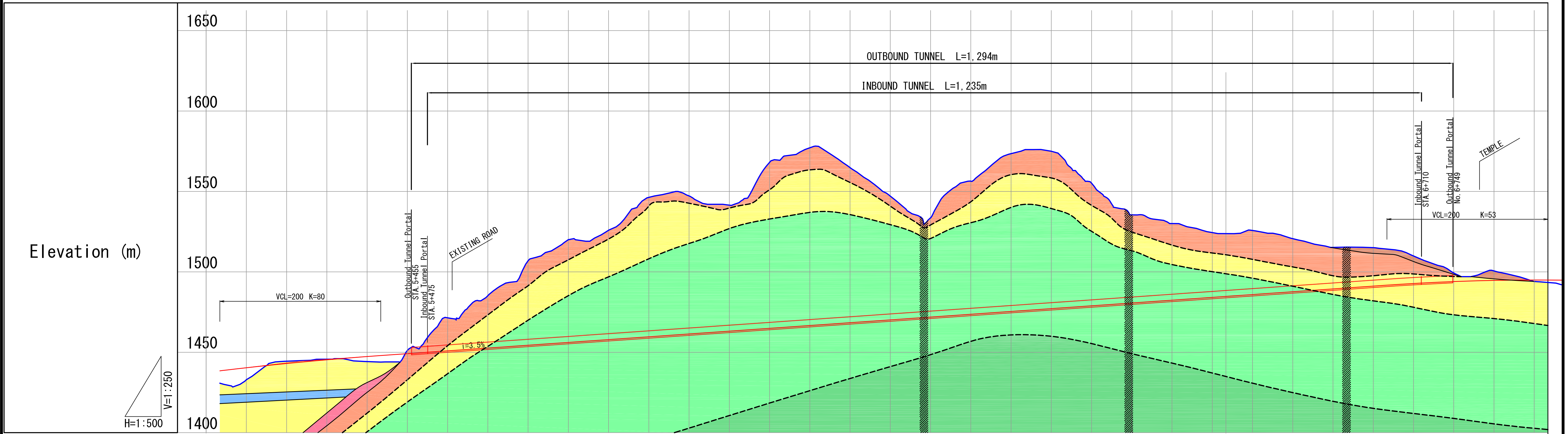


Clients:		Consultants:	Project Title:	Sheet Contents:	Scale: (A1size)	SHT. NO.
Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	PLAN OF INTERSECTIONS INT-8 (14+907)	1:300 Submission Date March, 2018	IP-09





Clients:		Consultants:	Project Title:	Sheet Contents:	Scale: (A1size)	SHT. NO.
Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	TUNNEL PLAN	1:1000 Submission Date March, 2018	TU-01



Station	5+200	5+250	5+300	5+350	5+400	5+450	5+500	5+550	5+600	5+650	5+700	5+750	5+800	5+850	5+900	5+950	6+000
Formation Height	1437.950	1440.894	1443.550	1445.894	1447.925	1449.700	1451.450	1453.200	1454.950	1456.700	1458.450	1460.200	1461.950	1463.700	1465.450	1467.200	1468.950
Ground Height	1435.43	1433.02	1444.68	1445.89	1444.07	1451.26	1471.42	1485.24	1507.03	1520.00	1525.91	1546.34	1547.18	1541.45	1568.09	1577.13	1564.67

Station	6+050	6+100	6+150	6+200	6+250	6+300	6+350	6+400	6+450	6+500	6+550	6+600	6+650	6+700	6+750	6+800	6+850
Formation Height	1470.700	1472.450	1474.200	1475.950	1477.700	1479.450	1481.200	1482.950	1484.700	1486.450	1488.200	1489.950	1491.700	1493.212	1494.250	1494.812	1494.899
Ground Height	1546.96	1533.68	1556.34	1573.62	1574.94	1555.01	1535.44	1530.49	1524.39	1525.63	1520.64	1515.12	1514.97	1509.84	1499.20	1500.62	1493.99

Basic Geology	Kalimati Clay	Phyllite with Sand Stone Presumed Fault	Sand Stone with Phyllite	Phyllite with Sand Stone
Geological Condition	Lacustrine soil, from the bottom with a talus, fine sand, black clay, fine sand. As a foundation of the structure, it is soft ground.	The surface layer is weathered soil, and the lower layer is a rock where cracks develop. In the deep part phyllite and sandstone alternation. The phyllite part is cracky, the sandstone part is hard. The fault surroundings are assumed to be fractured rocks. qu=20~30Mpa	Mainly composed of sandstone and quartzite. in the deep part it is estimated that hard rock is distributed. qu=30~50Mpa	The surface layer is weathered soil, and the lower layer is a rock where cracks develop. In the deep part phyllite and sandstone alternation. qu=20~30Mpa

Excavation Pattern

Outbound	DIIIp 98m	DII 86m	DI 443m	DII 20m	DI 20m	DI-L 31m	DI 194m	DII 20m	DI 76m	DII 152m	DIIIp 154m
Inbound	DIIIp 78m	DII 86m	DI 392m	DI-L 31m	DI 20m	DII 20m	DI 245m	DII 20m	DI 76m	DII 152m	DIIIp 115m

Excavation Method

Outbound	Mechanical Excavation Short-Bench Cut Method
Inbound	Mechanical Excavation Short-Bench Cut Method

Auxiliary Method

Outbound	Long Span Fore-Poling(AGF)	Long Span Fore-Poling(AGF)
Inbound	Long Span Fore-Poling(AGF)	Long Span Fore-Poling(AGF)

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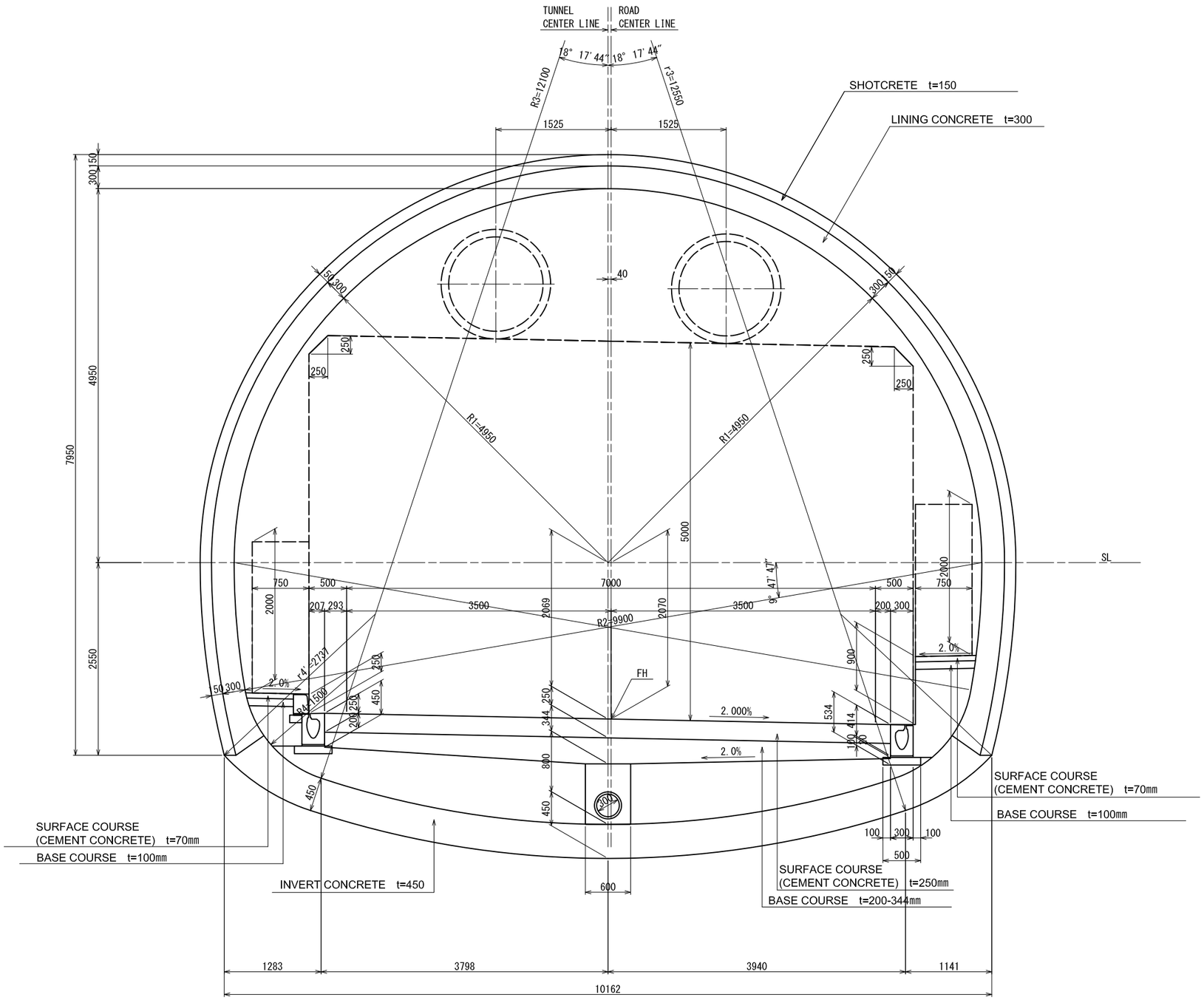
Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	**GEOLOGIC PROFILE**	AS SHOWN Submission Date March, 2018	**TU-02**



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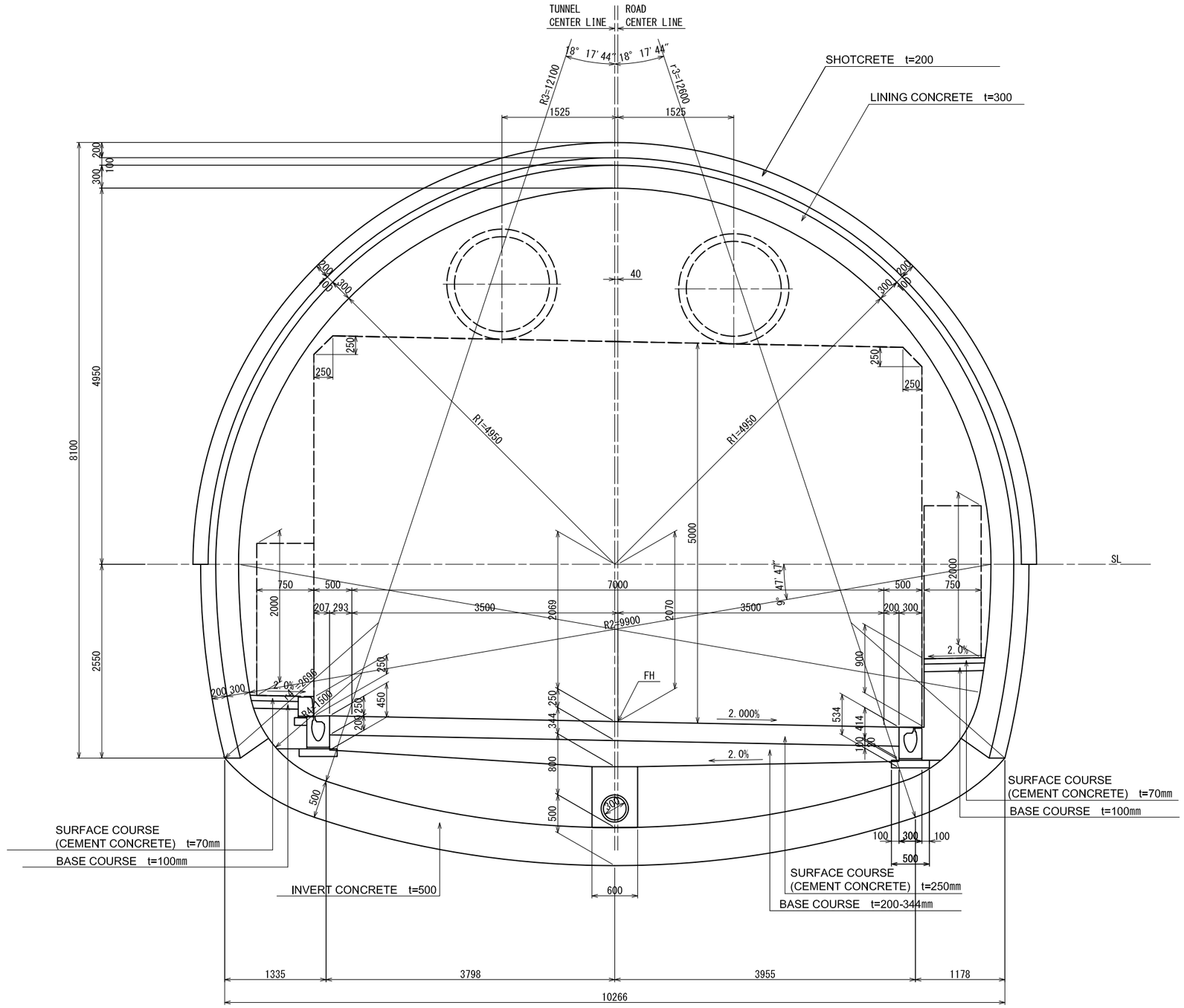
Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	TYPICAL CROSS SECTION SECTION DI	1:30 Submission Date March, 2018	TU-03



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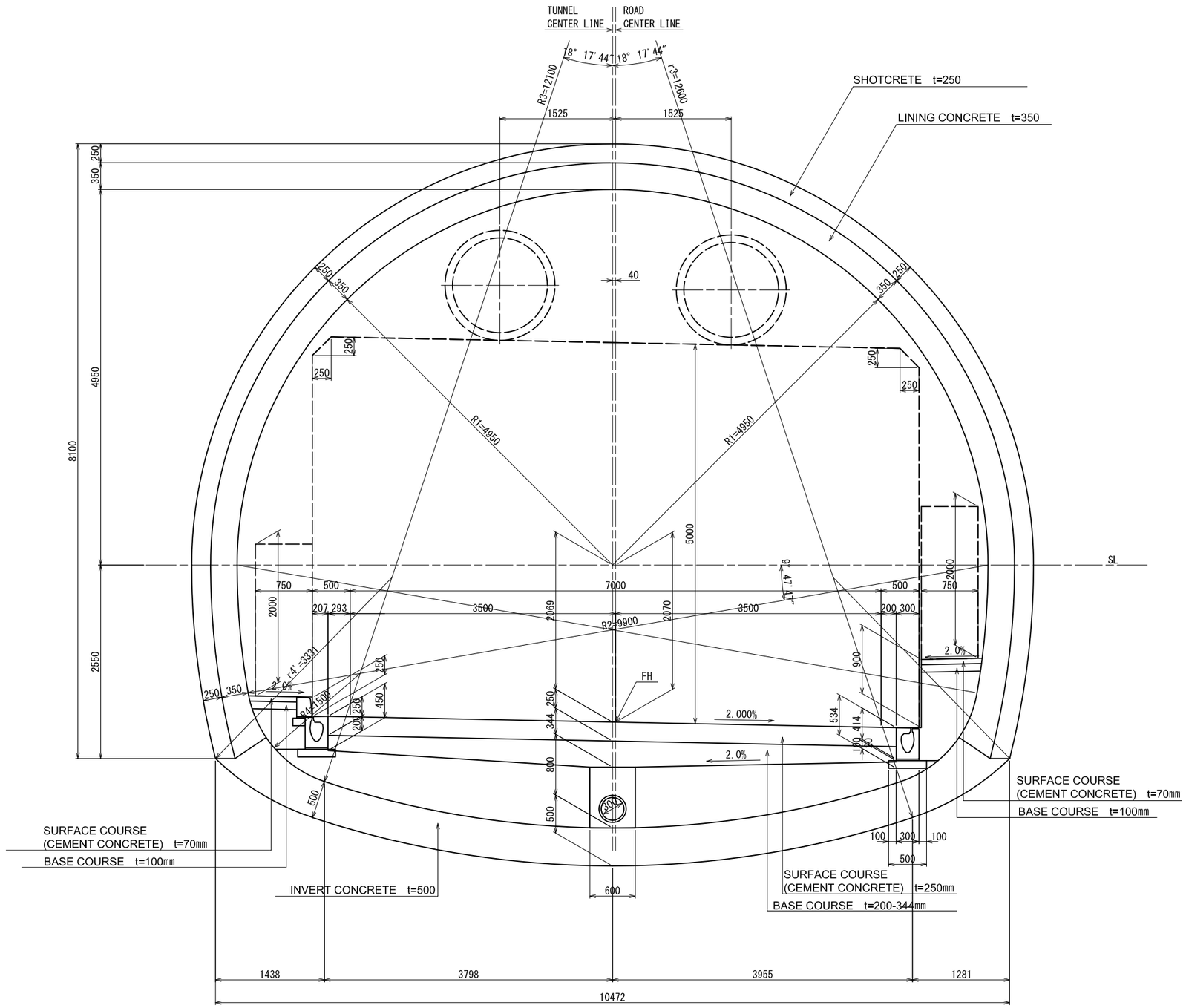
Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	TYPICAL CROSS SECTION SECTION DII	1:30 Submission Date March, 2018	TU-04



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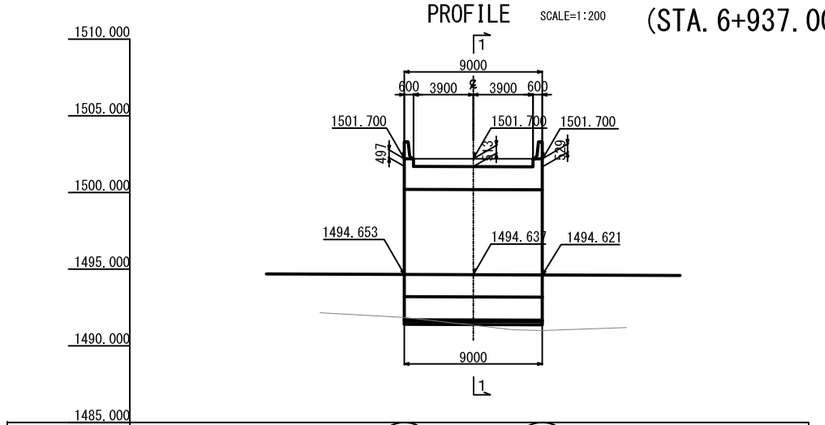
Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	TYPICAL CROSS SECTION SECTION DIII	1:30 Submission Date March, 2018	TU-05

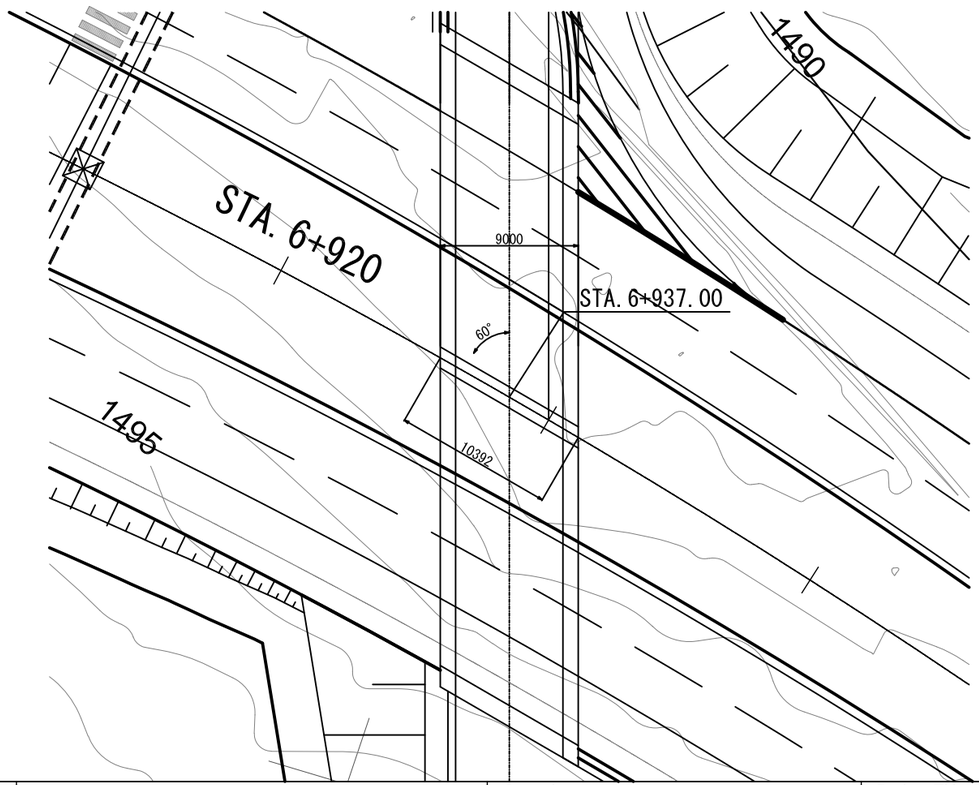
GENERAL VIEW OF C-2 CULVERT(20.0+19.9)×7.0 (1)

PROFILE SCALE=1:200 (STA.6+937.00)



Slope		I=10.392 I=0.301%			
Height of Plan	1494.653	1494.637	1494.628	1494.621	
Height of Ground	1491.85	1491.34	1491.05	1491.00	
Distance	5.000	0.000	3.170	1.830	
Observation Point	6+931.804	6+937.000	6+940.000	6+942.196	

PLAN S=1:200



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Japan International Cooperation Agency	Department of Roads Ministry of Physical Infrastructure and Transport Federal Democratic Republic of Nepal	CTI Engineering International Co., Ltd. CTI Engineering Co., Ltd.	Additional Study of the Suryabinayak-Dhulikhel Road Improvement Project	OUTLINE OF BOX CULVERT (20.0+19.9)×7.0(1) (STA.6+937.00)	1:200 Submission Date March, 2018	BC-01