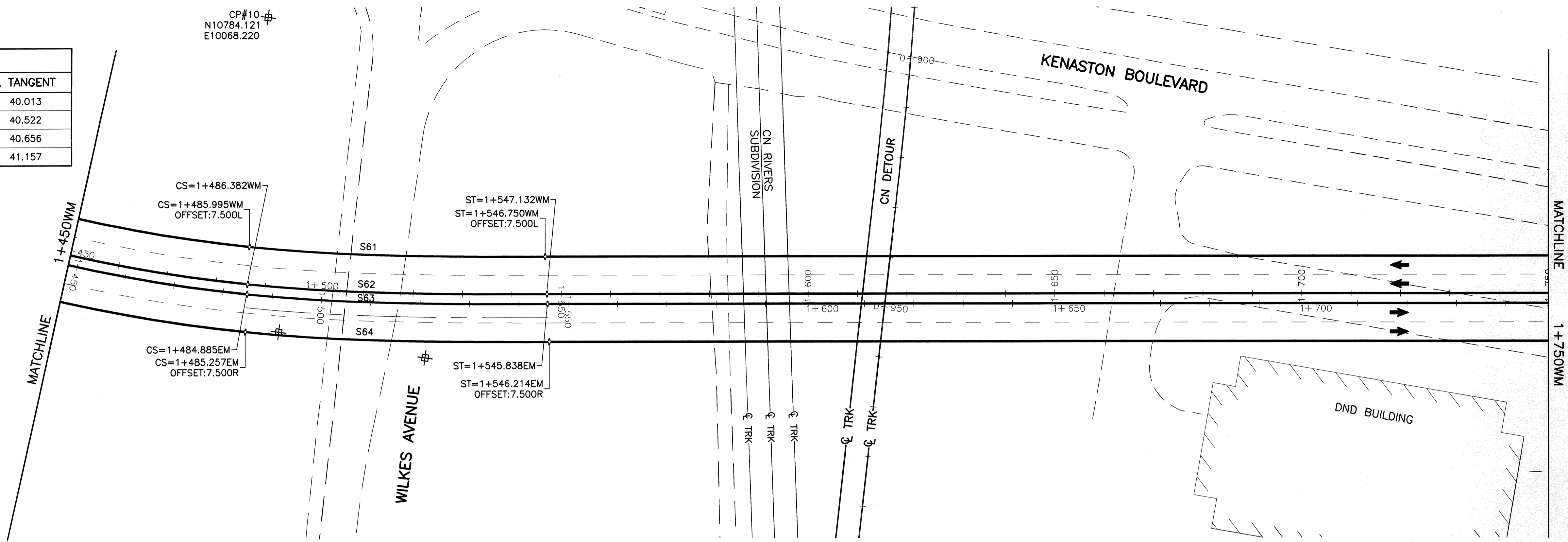


SPIRAL CURVE DATA				
SPIRAL	LENGTH	THETA	S TANGENT	L TANGENT
S61	59.986	5°52'30"	20.015	40.013
S62	60.750	5°48'04"	20.270	40.522
S63	60.952	5°46'55"	20.337	40.656
S64	61.704	5°42'41"	20.587	41.157

KENASTON BOULEVARD DETOUR WEST MEDIAN CONTROL		
POINT	NORTHING	EASTING
CS=1+486.382	10787.069	10121.519
ST=1+547.132	10847.491	10115.483

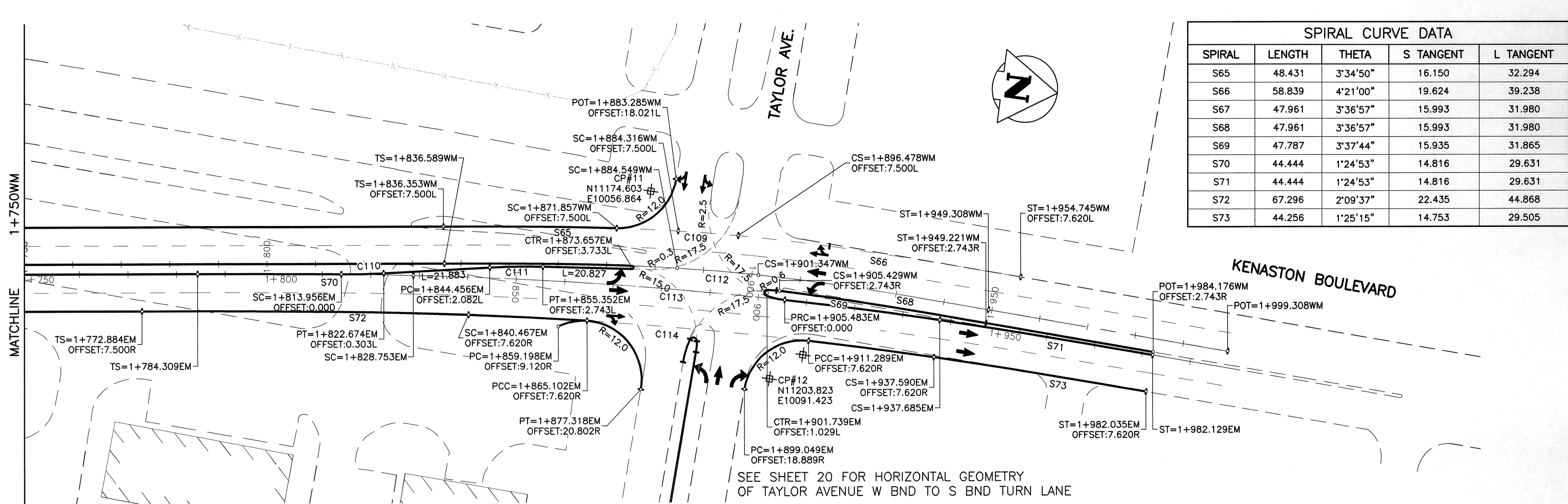
KENASTON BOULEVARD DETOUR EAST MEDIAN CONTROL		
POINT	NORTHING	EASTING
CS=1+484.885	10787.235	10123.515
ST=1+545.838	10847.857	10117.452



KENASTON BOULEVARD DETOUR WEST MEDIAN CONTROL		
POINT	NORTHING	EASTING
TS=1+836.589	11134.379	10077.010
SC=1+884.549	11182.029	10071.637
CS=1+901.347	11198.807	10070.829
ST=1+949.308	11246.753	10071.600
POT=1+999.308	11296.718	10073.455

KENASTON BOULEVARD DETOUR EAST MEDIAN CONTROL		
POINT	NORTHING	EASTING
TS=1+784.309	11084.212	10085.755
SC=1+828.753	11128.308	10080.211
CS=1+937.685	11237.048	10074.976
ST=1+982.129	11281.472	10076.259

CIRCULAR CURVE DATA				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C109	12.402	387.500	1°50'01"	6.201
C110	8.725	140.000	3°34'15"	4.364
C111	10.948	140.000	4°28'50"	5.477
C112	16.798	380.000	2°31'58"	8.400
C113	108.932	900.000	6°56'05"	54.532
C114	96.301	892.380	6°10'59"	48.197



SPIRAL CURVE DATA				
SPIRAL	LENGTH	THETA	S TANGENT	L TANGENT
S65	48.431	3°34'50"	16.150	32.294
S66	58.839	4°21'00"	19.624	39.238
S67	47.961	3°36'57"	15.993	31.980
S68	47.961	3°36'57"	15.993	31.980
S69	47.787	3°37'44"	15.935	31.865
S70	44.444	1°24'53"	14.816	29.631
S71	44.444	1°24'53"	14.816	29.631
S72	67.296	2°09'37"	22.435	44.868
S73	44.256	1°25'15"	14.753	29.505

GEODETIC VERTICAL CONTROL POINTS—PROJECT COORDINATES					NAD83 DATUM		
GBM	LOCATION	NORTHING	EASTING	ELEVATION	NORTHING	EASTING	ELEVATION
67-001	S SIDE WILKES AVE E OF MCCREARY ROAD	10554.718	8426.237	234.148	5522899.108	627228.196	-
67-002	S SIDE WILKES AVE W OF KENASTON BLVD	10771.437	9669.574	233.951	5523115.778	628471.249	-

NOTE: PROJECT DRAWINGS HAVE AN APPLIED SCALE FACTOR OF 1.000196 APPLIED TO LBIS INFORMATION TO MATCH LOCAL PROJECT COORDINATES.

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES



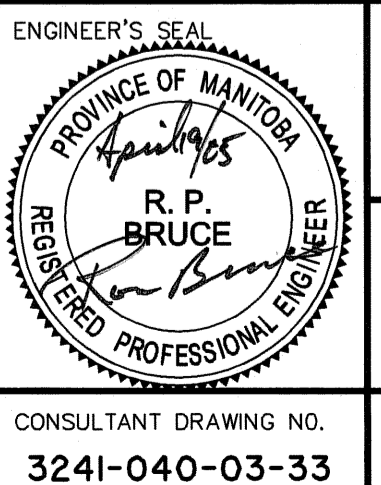
LOCATION APPROVED UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE DATE

NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

B.M. GBM67-002 ELEV. 233.951			
ISSUED FOR CONSTRUCTION	05/04/19	DL	
ISSUED FOR CLIENT REVIEW	05/02/28	DD	
NO. REVISIONS			

UMA An AECOM Company	
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DESIGNED BY: RPB,WRJ	CHECKED BY: JGK
DRAWN BY: DID,CGC	APPROVED BY: [Signature]
HOR. SCALE: 1:500	AUTHORIZED BY: [Signature]
VERTICAL: N/A	R. FINGAS P.ENG.
DATE: 05/04/19	BRIDGE PROJECTS ENGINEER



THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

KENASTON UNDERPASS PROJECT
KENASTON BOULEVARD DETOUR

HORIZONTAL GEOMETRY
STA. 1+450 TO STA. 2+000

SHEET 33 OF 61
CAD FILE DRAWING NUMBER 01-CT1029_RX
CITY DRAWING NUMBER P-3258-93

BID OPPORTUNITY No. 84-2005
Certificate of Authorization UMA Engineering Ltd. No. 256 Expiry: April 30, 2005

CONSULTANT DRAWING NO. 3241-040-03-33