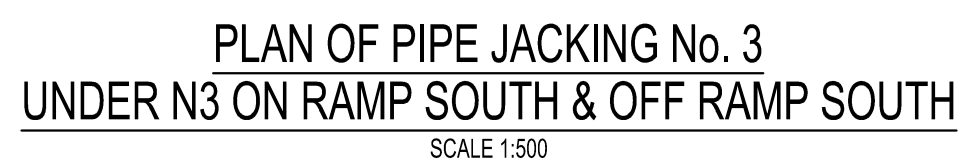
[illegible]

- NOTES:**
1. A MINIMUM CLEAR DISTANCE BETWEEN OTHER SERVICES AND WATER MAINS SHALL BE:
 - * SERVICES AT RIGHT ANGLICES: 300mm
 - * PARALLEL SERVICES: WATER 500mm
SEWER 1000mm
 2. MINIMUM CLEAR DISTANCE BETWEEN ANY BOX, MANHOLE OR SUPPORTING STRUCTURE SHALL BE 500mm
 3. UNDERGROUND SERVICE SHALL HAVE NOT LESS THAN 800mm COVER.
 4. LEVELS AND POSITIONS OF EXISTING SERVICES ARE ESTIMATED. CONTRACTOR SHALL EXPOSE ALL EXISTING SERVICES IN THE VICINITY OF THE PROPOSED JACKING POSITION. SERVICES SHALL BE SURVEYED AND RESULTS REPORTED TO THE EMPLOYER'S AGENT BEFORE ESTIMATING COMMENCE.
 5. CONTRACTOR TO PROVIDE ADEQUATE ROAD SIGNAGE DURING CONSTRUCTION TO THE SATISFACTION OF THE EMPLOYER'S AGENT.
 6. CONTRACTOR TO SURVEY AS BUILT LEVELS OF JACKED LEAVES UNDER ROAD AND FORWARD RESULTS TO THE EMPLOYER'S AGENT.

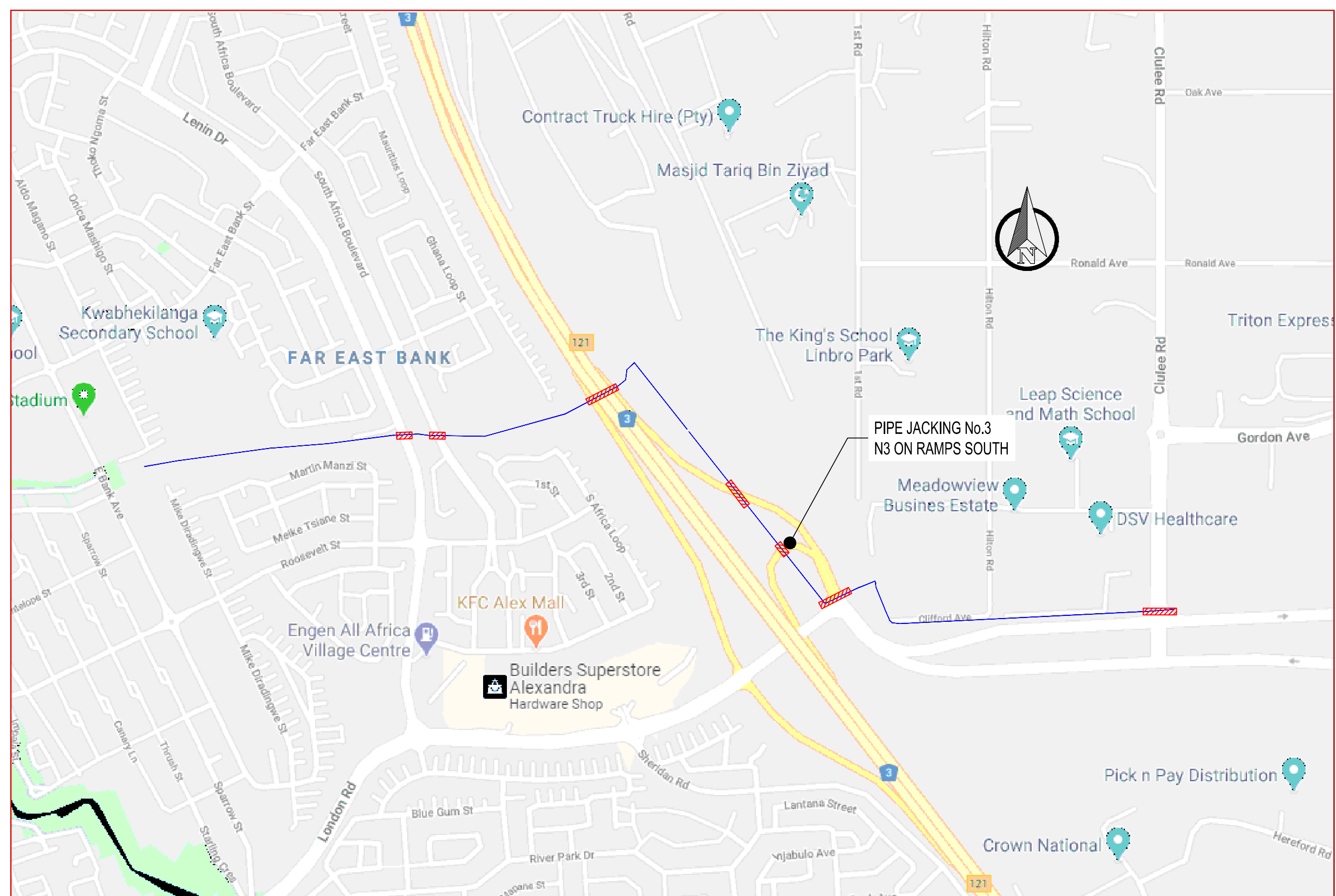


ISSUED FOR TENDER

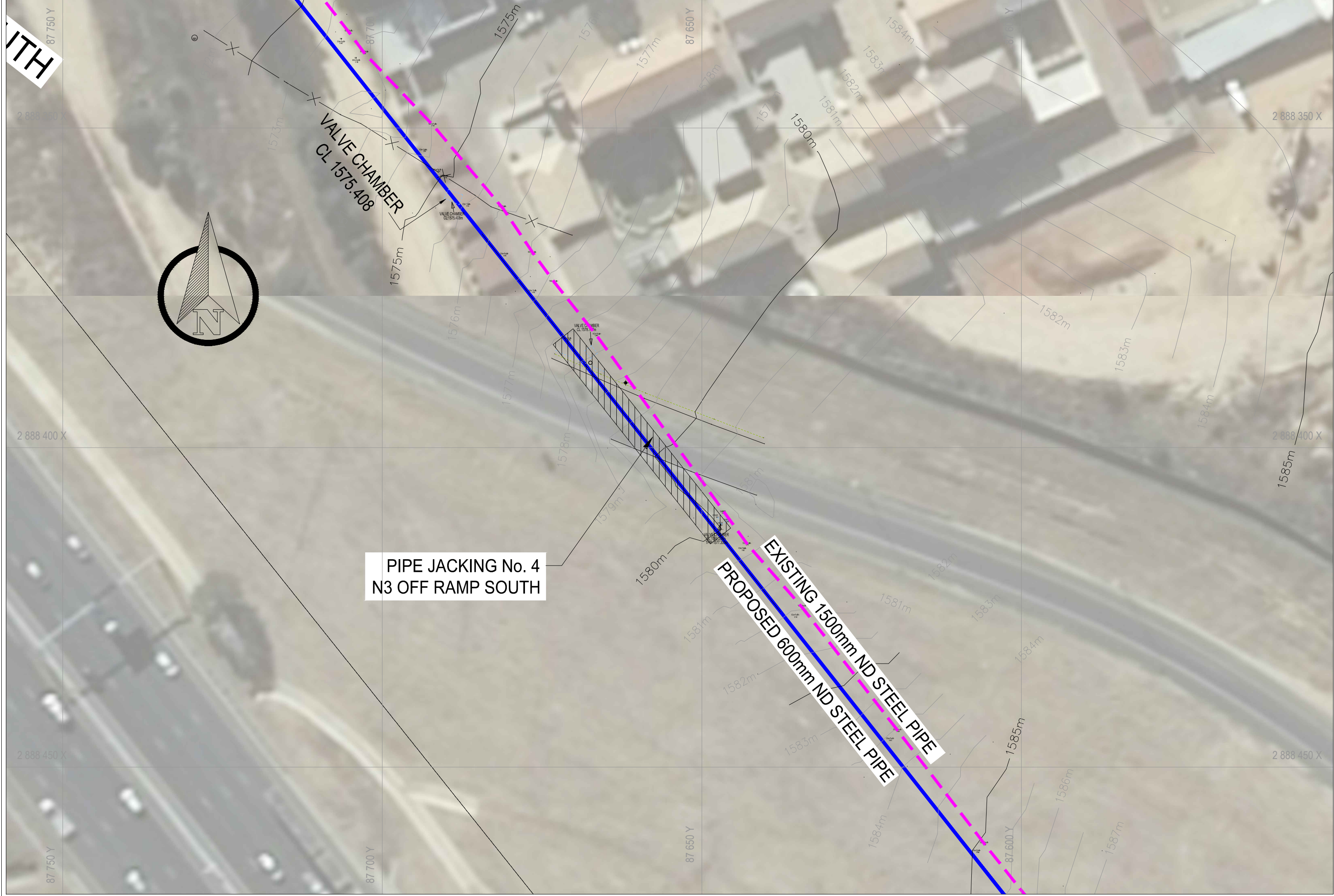


NOTES:

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SEWER 1000mm
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6. CONTRACTOR TO SURVEY AS BUILT LEVELS OF JACKED SLEEVES UNDER ROAD AND FORWARD RESULTS TO THE EMPLOYER'S AGENT.



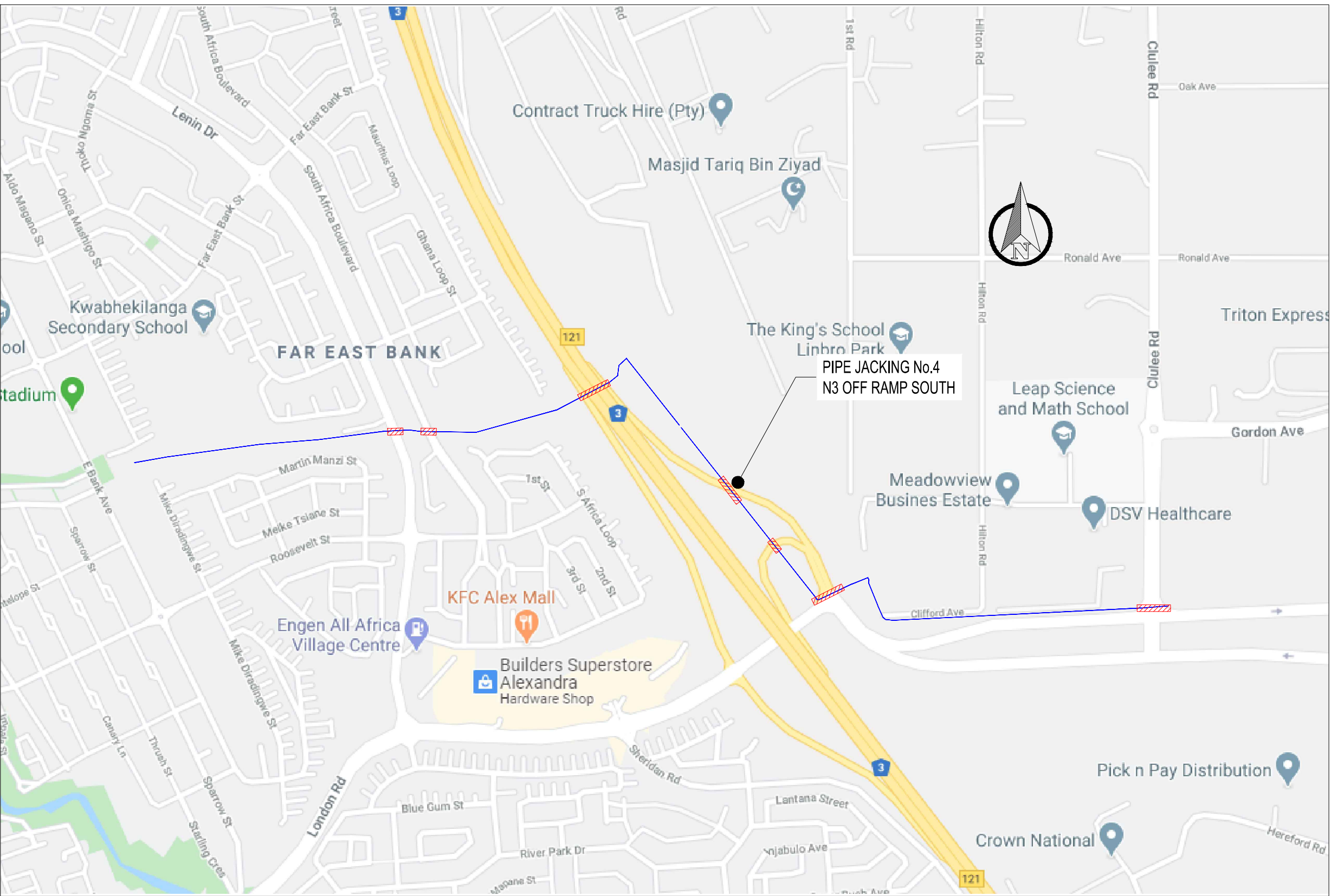
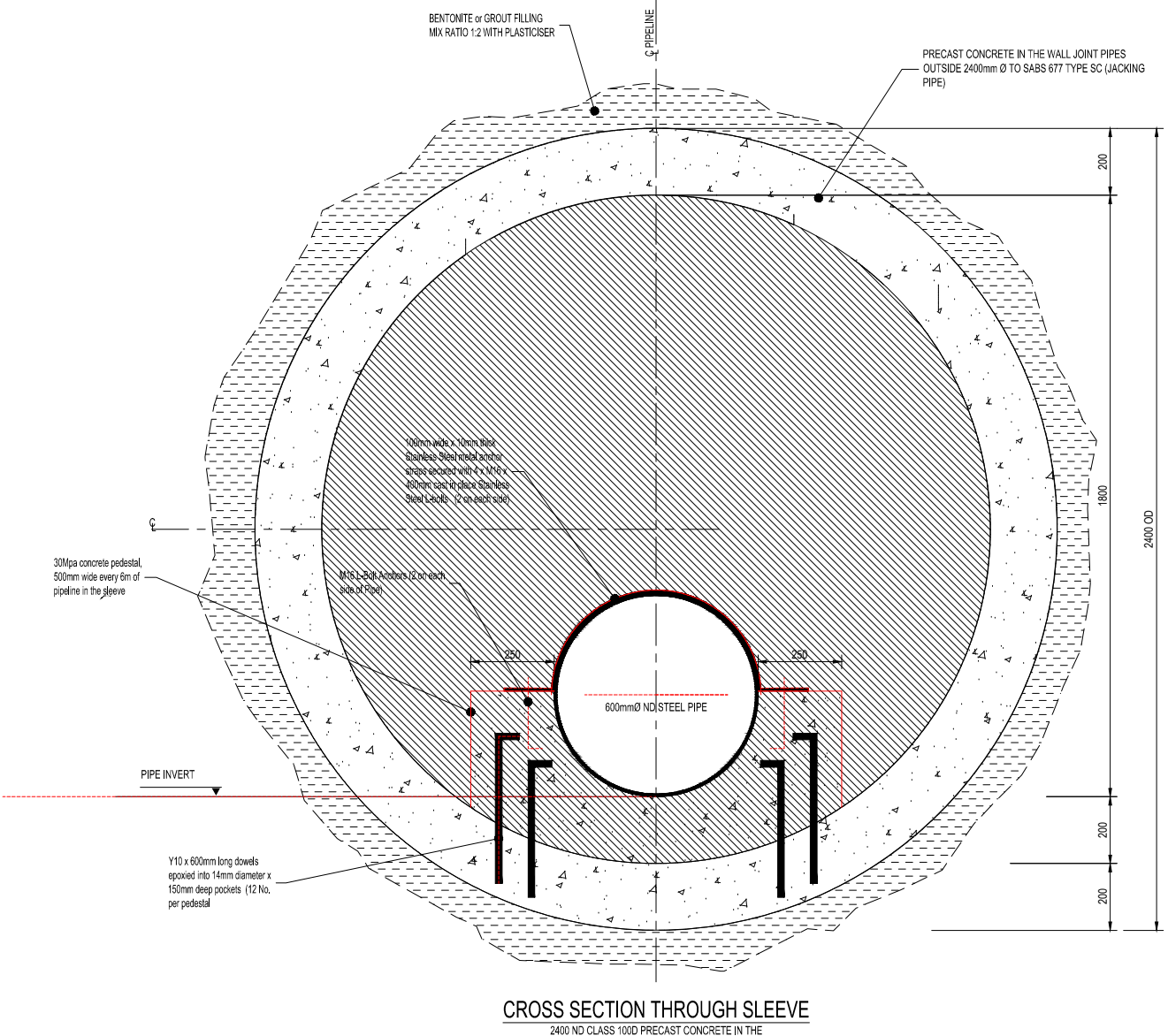
ISSUED FOR TENDER



PLAN OF PIPE JACKING No. 4
UNDER N3 OFF RAMP SOUTH
SCALE 1:500

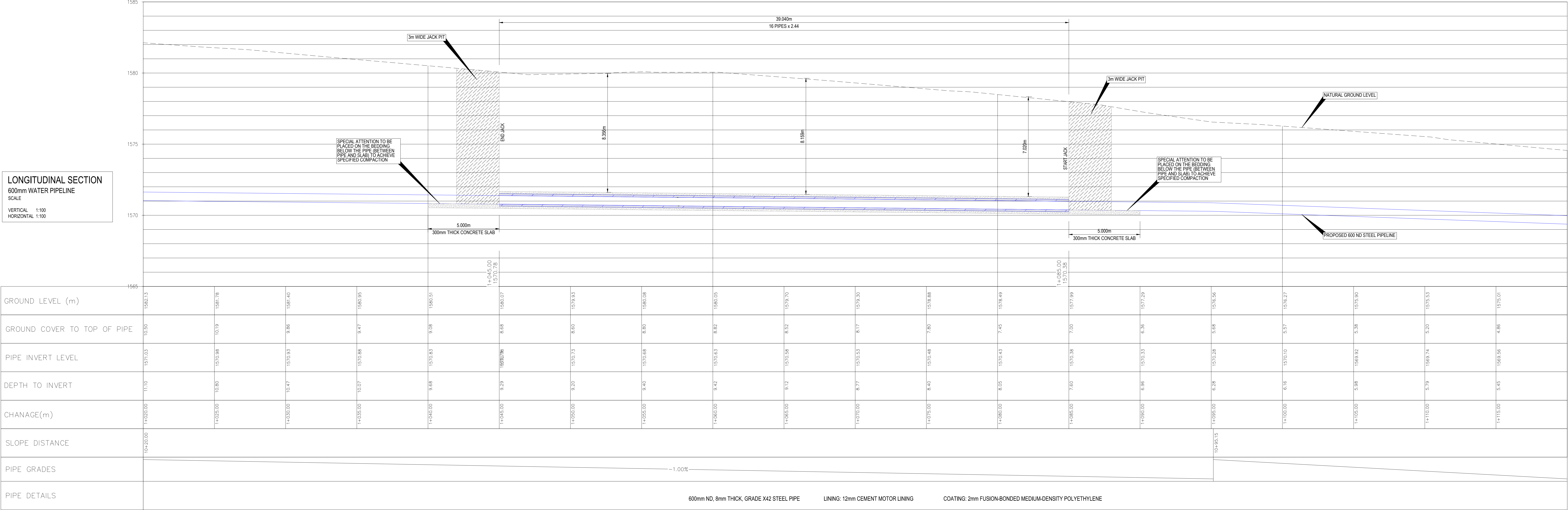
600mm ND STEEL PIPELINE IN ALEXANDRA - PIPE JACKING No.4				
COORDINATES - Lo 29, South African Survey Grid, WGS84 datum: 28 to 30d E				
Name	Y10	X10	Z (m)	Chainage (m)
END JACK	87 647 090	2 888 413.833	1570.780	1+045.00
START JACK	87 671 705	2 888 382.640	1570.380	1+085.00

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SEWER 1000mm
 - MINIMUM CLEAR DISTANCE BETWEEN ANY BOX, MANHOLE OR SUPPORTING STRUCTURE SHALL BE 500mm
 - UNDERGROUND SERVICE SHALL HAVE NOT LESS THAN 800mm COVER.
 - POSITION AND LEVELS OF EXISTING SERVICES ARE ESTIMATED. CONTRACTOR SHALL EXPOSE ALL EXISTING SERVICES IN THE VICINITY OF THE PROPOSED JACKING POSITION. SERVICES SHALL BE SURVEYED AND RESULTS REPORTED TO THE EMPLOYERS AGENT BEFORE JACKING ESTABLISHMENT CAN COMMENCE
 - CONTRACTOR TO PROVIDE ADEQUATE ROAD SIGNAGE DURING CONSTRUCTION TO THE SATISFACTION OF THE EMPLOYERS AGENT.
 - CONTRACTOR TO SURVEY AS BUILT LEVELS OF JACKED SLEEVES UNDER ROAD AND FORWARD RESULTS TO THE EMPLOYERS AGENT.



LOCALITY MAP
N.T.S.

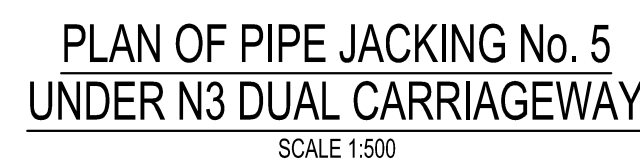
LONGITUDINAL SECTION
600mm WATER PIPELINE
SCALE
VERTICAL 1:100
HORIZONTAL 1:100



PIPE JACKING No. 4: N3 OFF RAMP SOUTH
LONGSECTION ALIGNMENT 600mm ND STEEL PIPELINE
SCALE 1:100

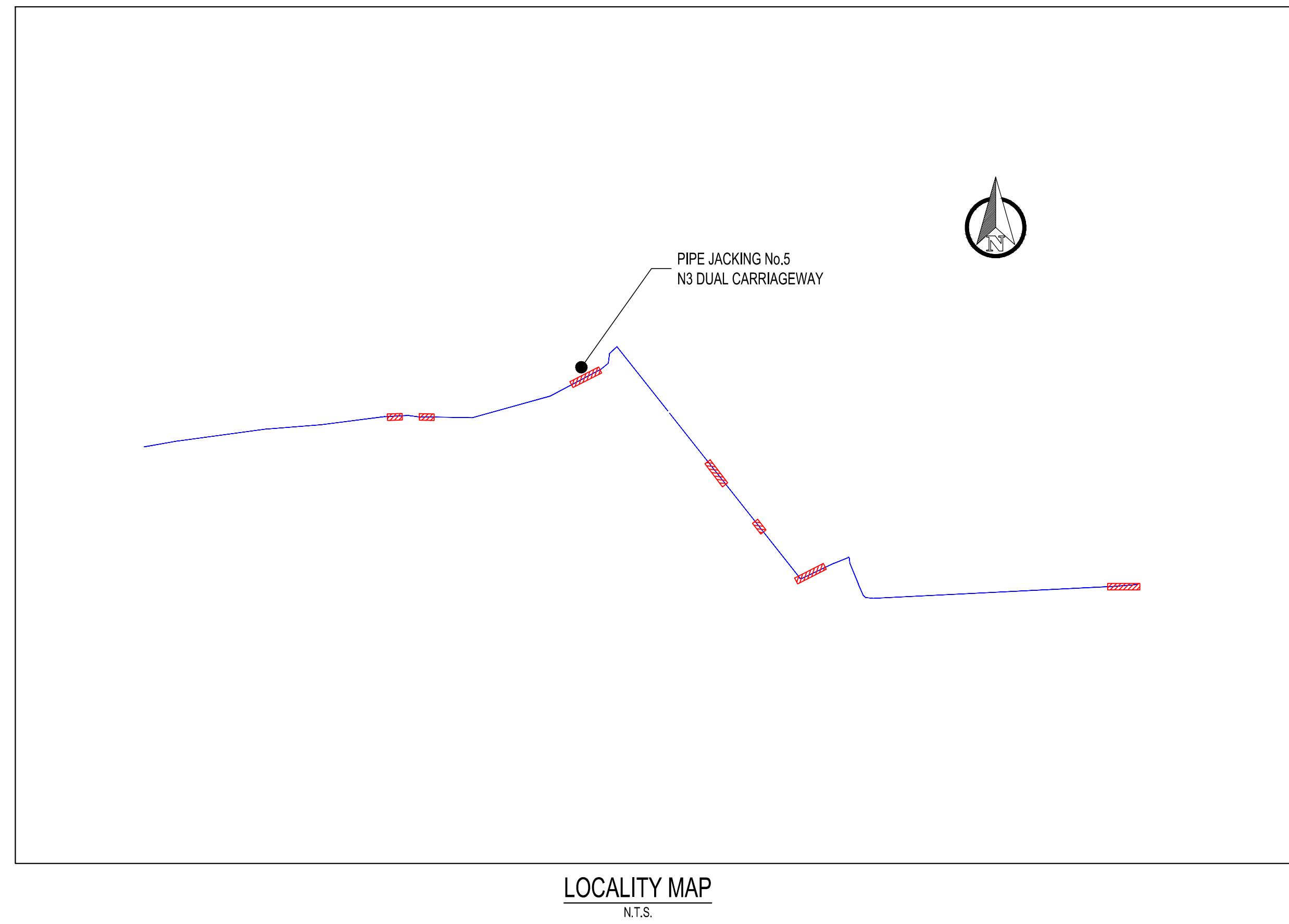
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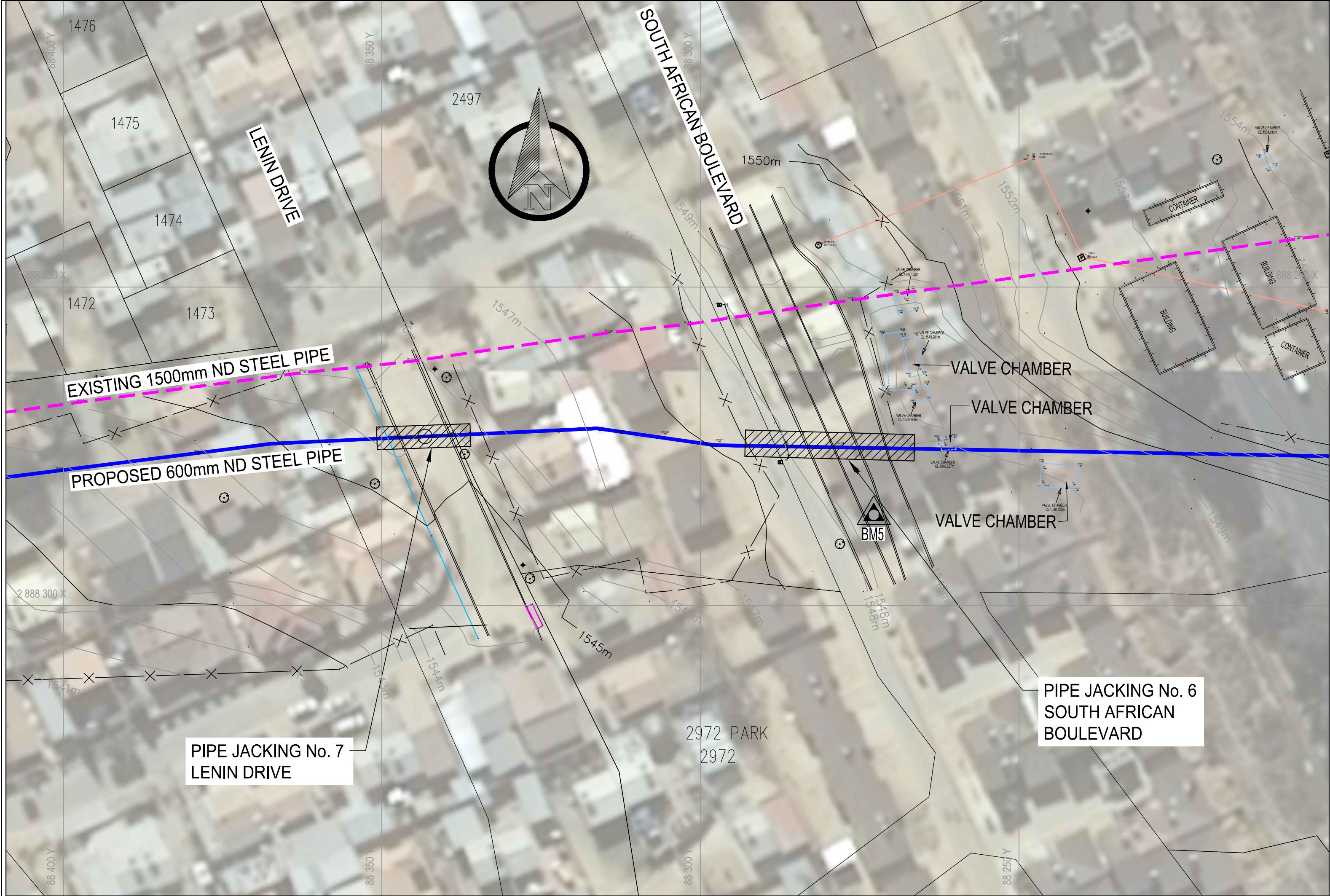
CONSULTING ENGINEERS LIDWALA CONSULTING ENGINEERS (SA) (PTY) LTD if Tel: 081 4001414 081 543 9552 Int: +27 11 793 5486 Postal Suite # 128 Private Bag 921 BRYANSTON, 2021 Corner Main Office Park Block B, 1st Floor, Unit 2 2 Pylon Road Bryanston, 2191 Email: info@lidwala.com Web: www.lidwala.com Offices Botswana, Mozambique, Namibia, South Africa, Tanzania, Zambia, Zimbabwe CLIENT JOHANNESBURG WATER 1 MAIN STREET SWISS HOUSE	DESIGNED: M.MURIGO AUGUST 2022 DRAWN: G.MALINOWSKI AUGUST 2022 CHECKED: M.MURIGO AUGUST 2022 APPROVED BY: SIGNATURE: T.KLEYNHANS DATE: AUGUST 2022 ECSA REG. No.: 20110139 CHECKED BY: SIGNATURE: DATE:	17 HARRISON STREET MARSHALLTOWN 2107 TEL: (011) 688-1400 FAX: (011) 688-1529	REPLACEMENT OF JOHANNESBURG WATER 600mm Ø STEEL PIPELINE FROM LINBRO PARK RESERVOIR TO BHEKILANGA PRV STATION IN ALEXANDRA PIPE JACKING No. 4 N3 OFF RAMP SOUTH	SURVEY INFORMATION PROJECT SURVEYOR: DATE: CCTV COMPANY: DATE: CHECKED: APPROVED BY: SIGNATURE: DATE: CCTV INFORMATION CHECKED: APPROVED BY: SIGNATURE: DATE:	INFORMATION BY JW DEPOT CHECKED: APPROVED BY: SIGNATURE: DATE: APPROVAL BY JW PLANNING CHECKED: APPROVED BY: SIGNATURE: DATE:	SCALE 1 : 5000	AMENDMENTS REV: DESCRIPTION DATE: A ISSUED FOR TENDER PURPOSES ONLY AUGUST 2022	DRAWING No. JW14090R-AL-LAY13-W JW14090R-AL LAY 13 A A0 SHEET 1 OF 1 ORIGINAL PAGE SIZE FILE No.
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NOTES:

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6. CONTRACTOR TO SURVEY AS BUILT LEVELS OF JACKED SLEEVES UNDER ROAD AND FORWARD RESULTS TO THE EMPLOYER'S AGENT

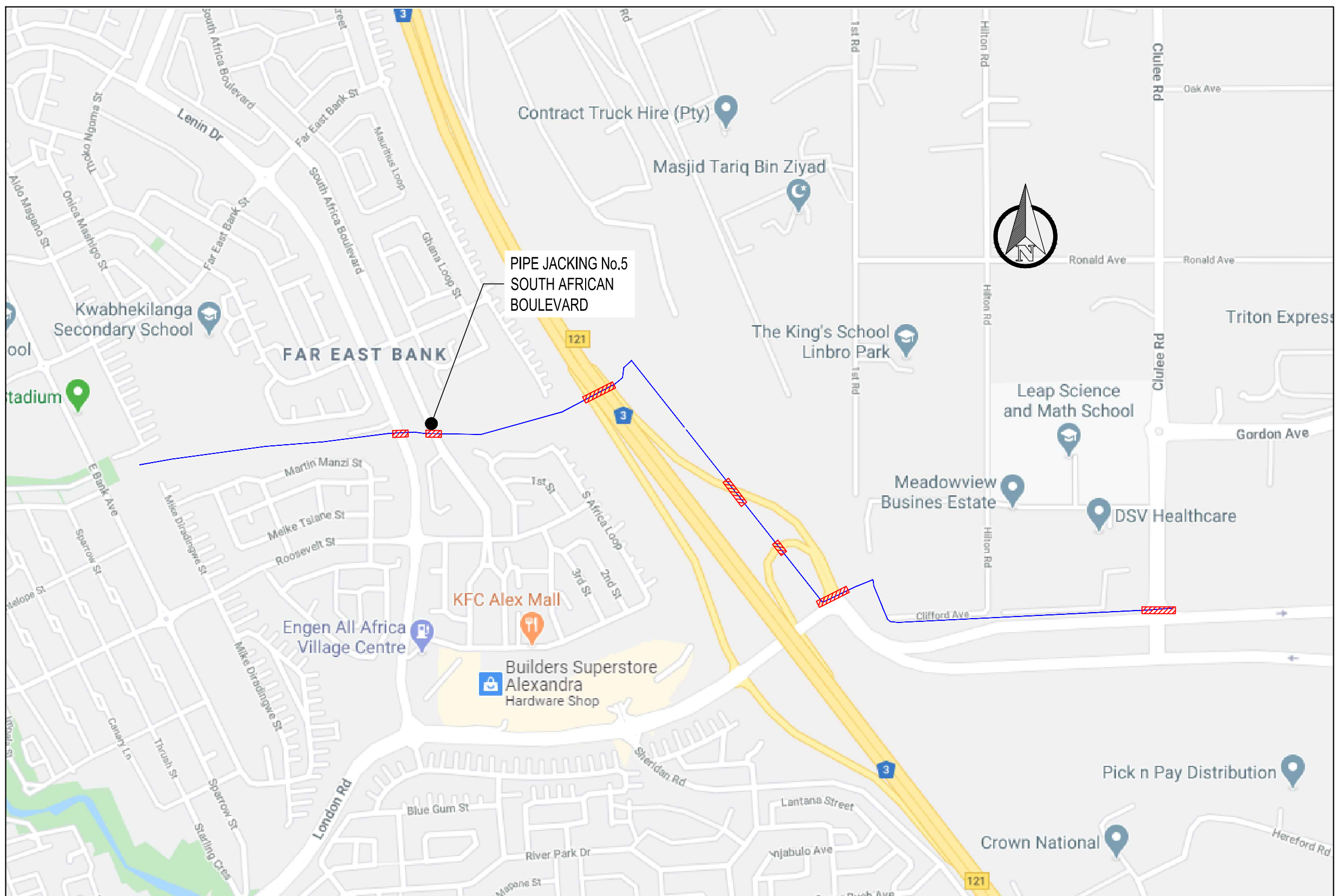
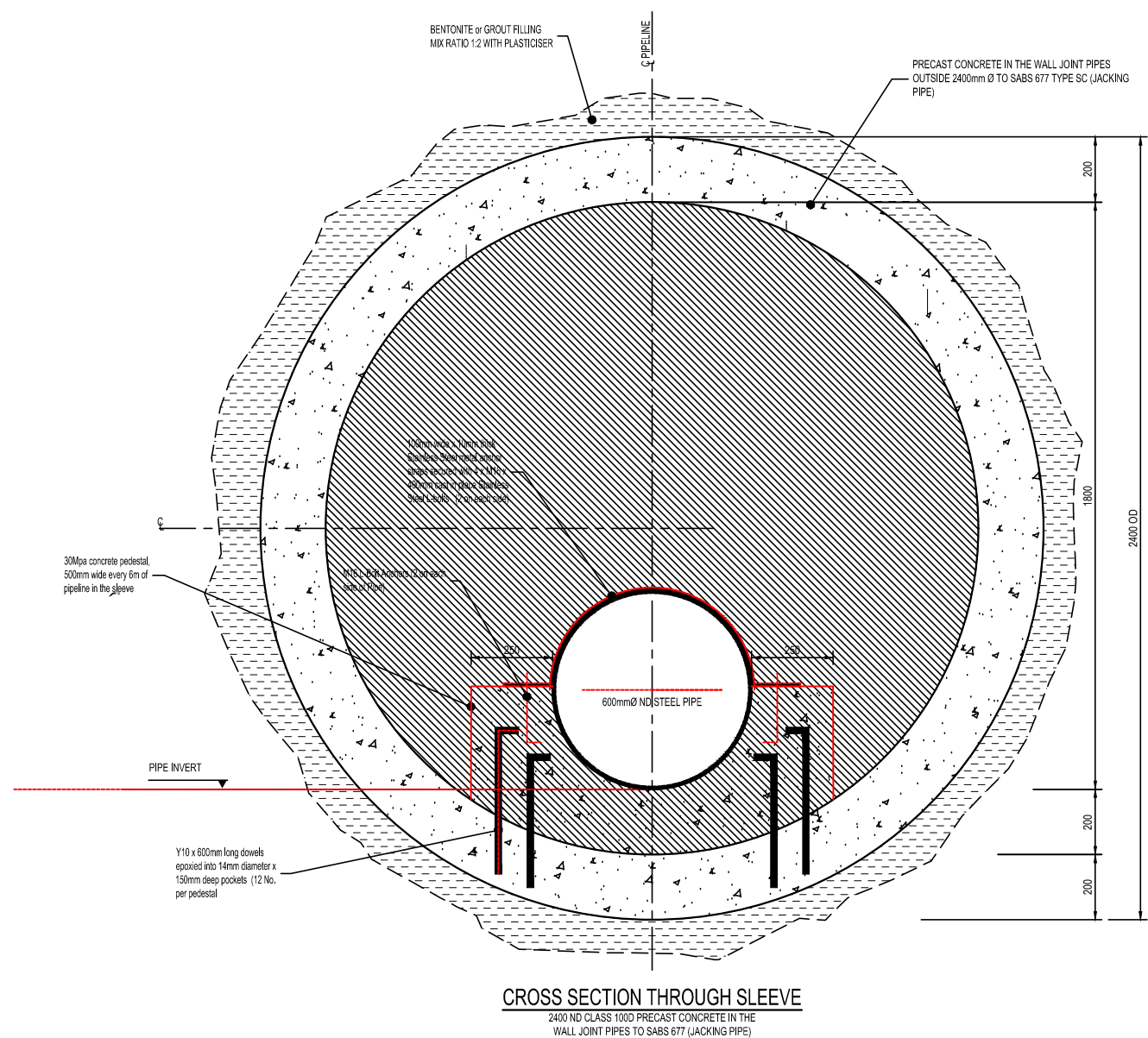




PLAN OF PIPE JACKING No. 6 & 7
UNDER SOUTH AFRICAN BOULEVARD & LENIN DRIVE
SCALE 1:500

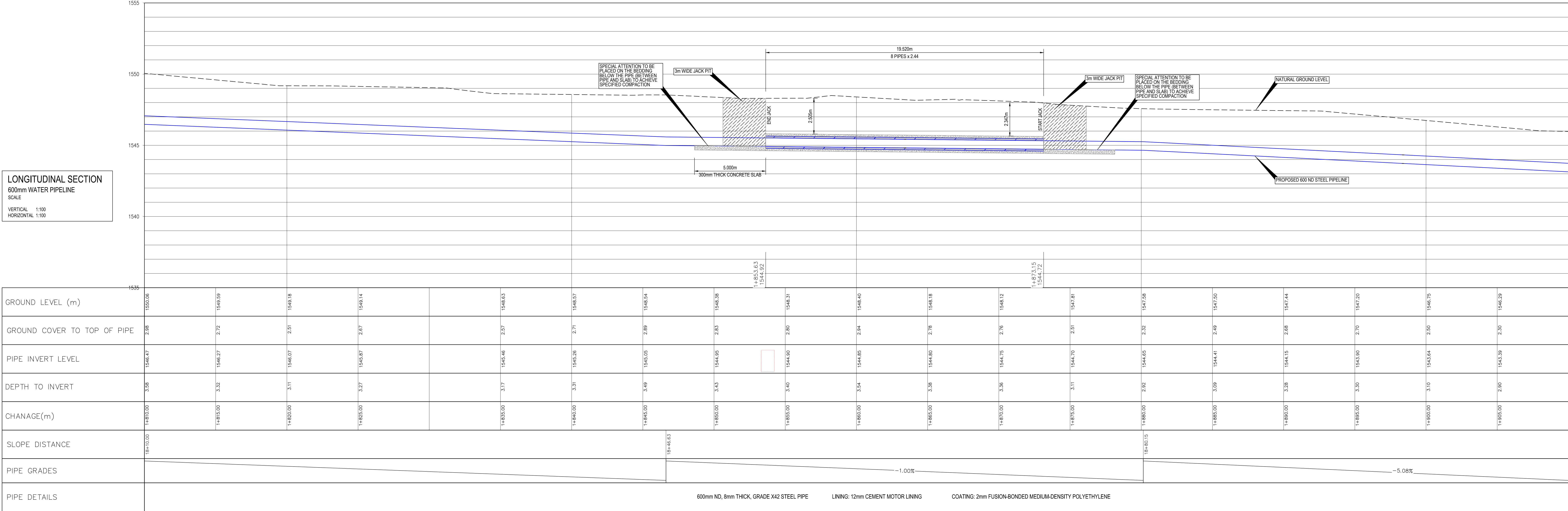
600mm ND STEEL PIPELINE IN ALEXANDRA - PIPE JACKING No.6				
COORDINATES - Lo 29, South African Survey Grid, WGS84 datum: 28 to 30d E				
Name	Y10	X10	Z (m)	Chainage (m)
END JACK	88 266 414	2 888 275.375	1644.920	1+453.63
START JACK	88 292 989	2 888 274.899	1544.720	1+473.15

- NOTES:
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LOCALITY MAP
N.T.S.

LONGITUDINAL SECTION
600mm WATER PIPELINE
SCALE
VERTICAL 1:100
HORIZONTAL 1:100



PIPE JACKING No. 6: SOUTH AFRICAN BOULEVARD
LONGSECTION ALIGNMENT 600mm ND STEEL PIPELINE
SCALE 1:100

ISSUED FOR TENDER

CONSULTING ENGINEERS
LIDWALA CONSULTING ENGINEERS (SA) (PTY) LTD IT
Tel: 081 541 5415
Fax: +27 11 793 5488
Email: info@lidwala.com
Website: www.lidwala.com

CLIENT
JOHANNESBURG WATER
1 MAIN STREET
SWISS HOUSE

DESIGNED: M. MURIGO
DRAWN: G. MALINOWSKI
CHECKED: M. MURIGO
APPROVED BY: T. KLEYNHANS
ECSA REG. NO.: 20110139
CHECKED BY:

AUGUST 2022
AUGUST 2022
AUGUST 2022
DATE
AUGUST 2022
DATE

17 HARRISON STREET
MARSHALLTOWN
2107
TEL: (011) 688-1400
FAX: (011) 688-1529

REPLACEMENT OF JOHANNESBURG WATER
600mm Ø STEEL PIPELINE FROM LINBRO PARK RESERVOIR
TO BHEKILANGA PRV STATION IN ALEXANDRA
PIPE JACKING No. 6
SOUTH AFRICAN BOULEVARD

SURVEY INFORMATION
PROJECT SURVEYOR:
DATE:
CCTV INFORMATION
CCTV COMPANY:
DATE:

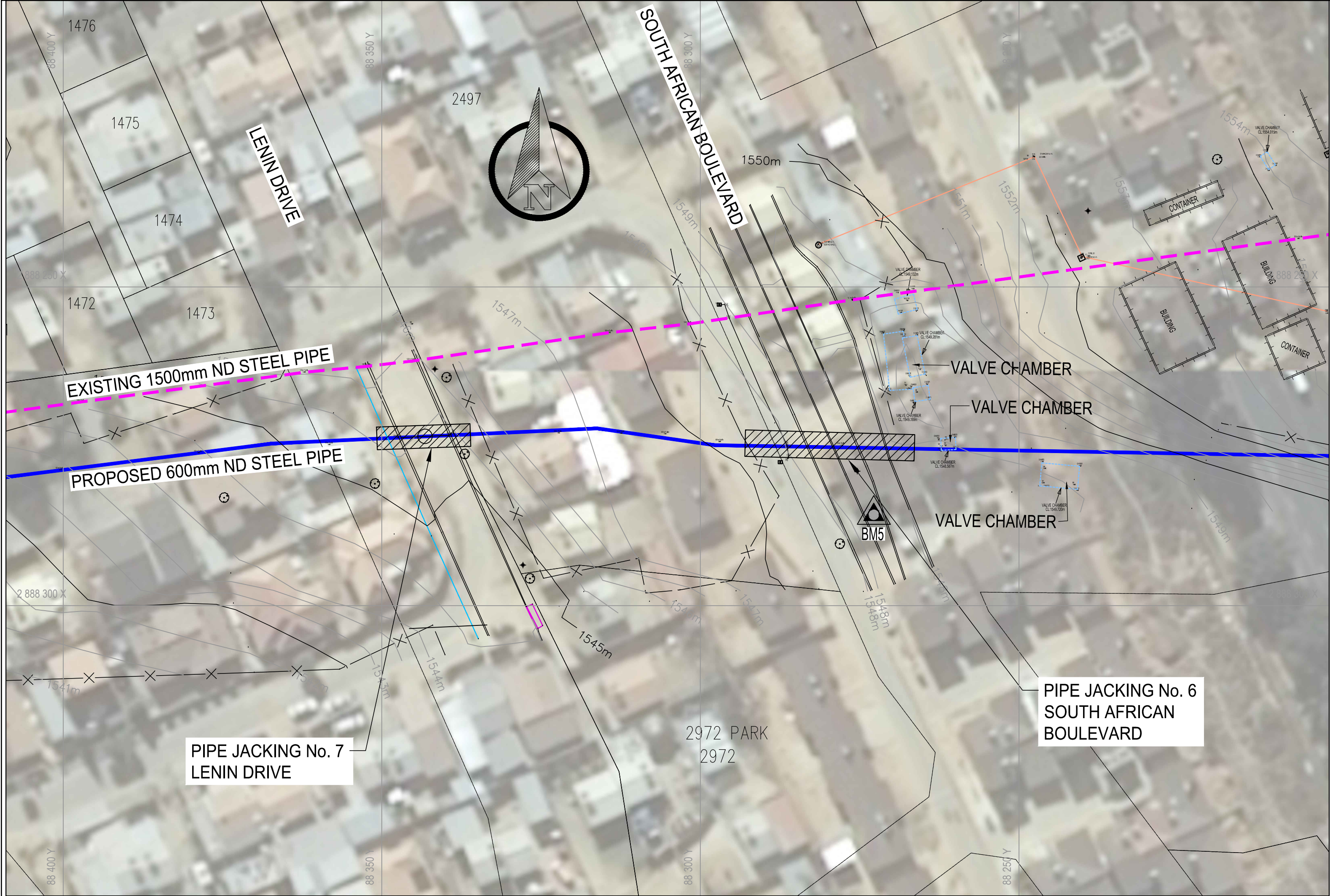
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CHECKED:
APPROVED BY:
SIGNATURE:
DATE:
APPROVAL BY JW PLANNING
CHECKED:
APPROVED BY:
SIGNATURE:
DATE:

SCALE
1 : 5000

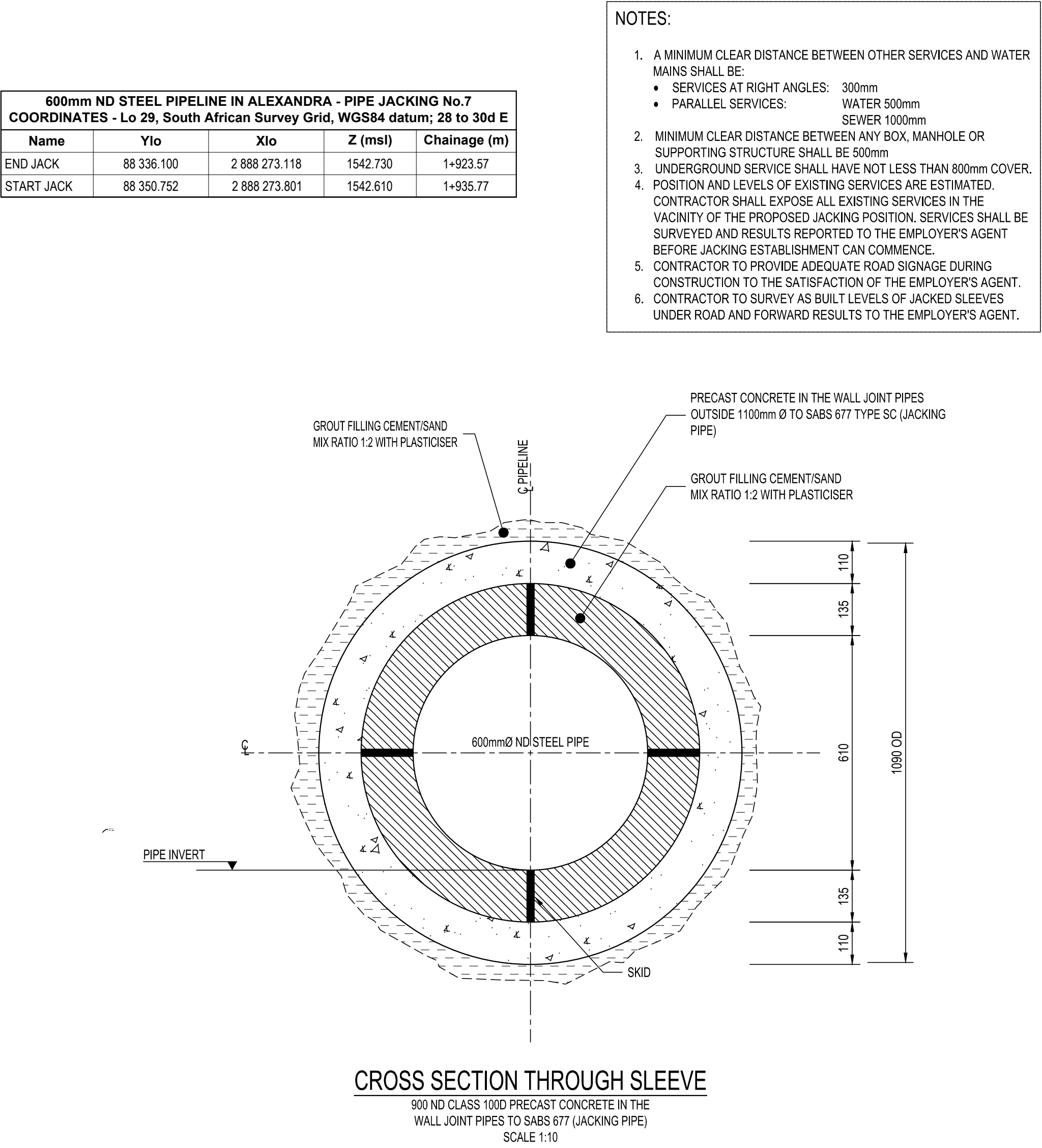
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DATE: AUGUST 2022

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LAY 15
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SHEET 1 OF 1
ORIGINAL PAGE SIZE
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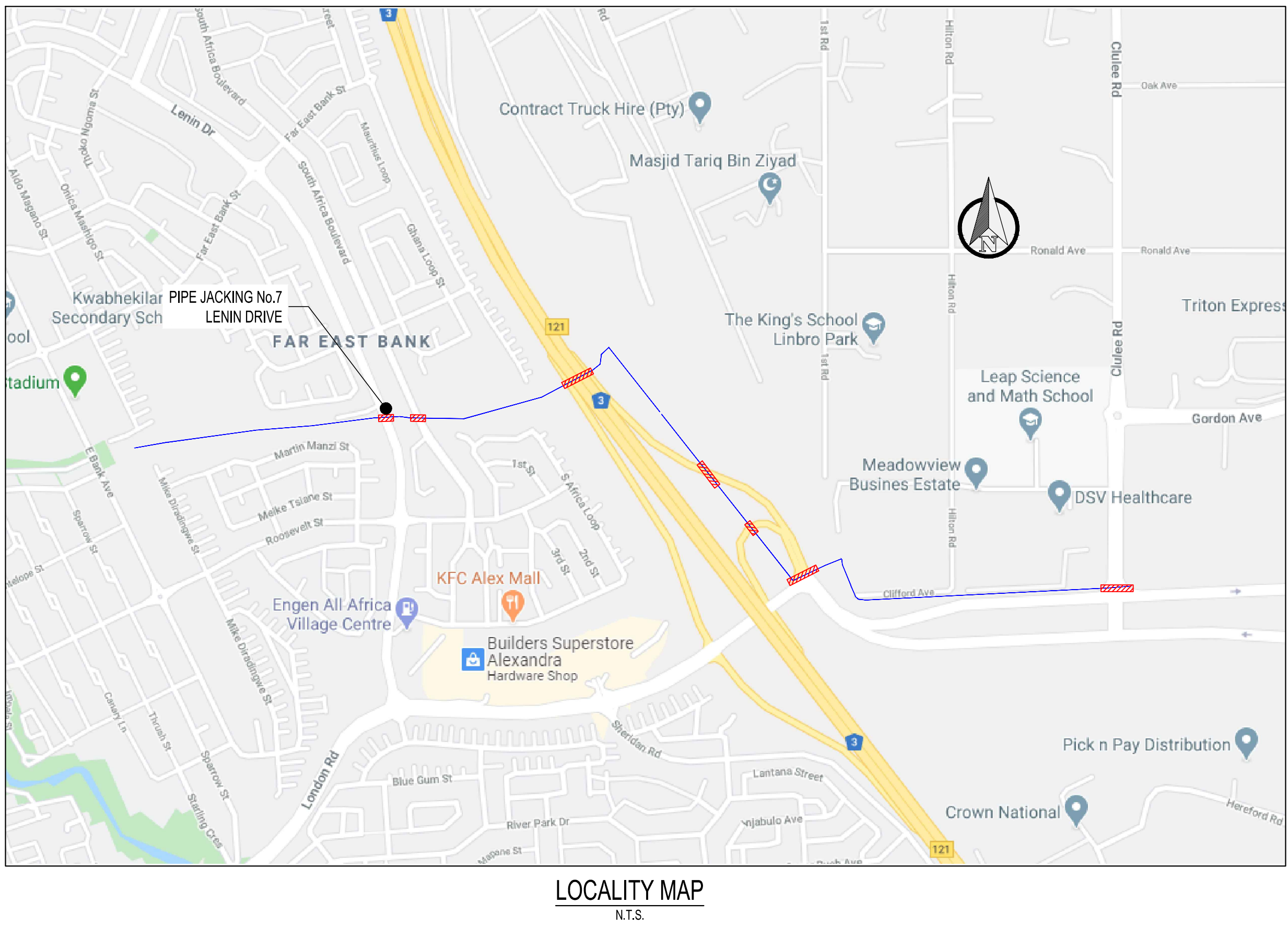
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PLAN OF PIPE JACKING No. 7
UNDER LENIN DRIVE
SCALE 1:500

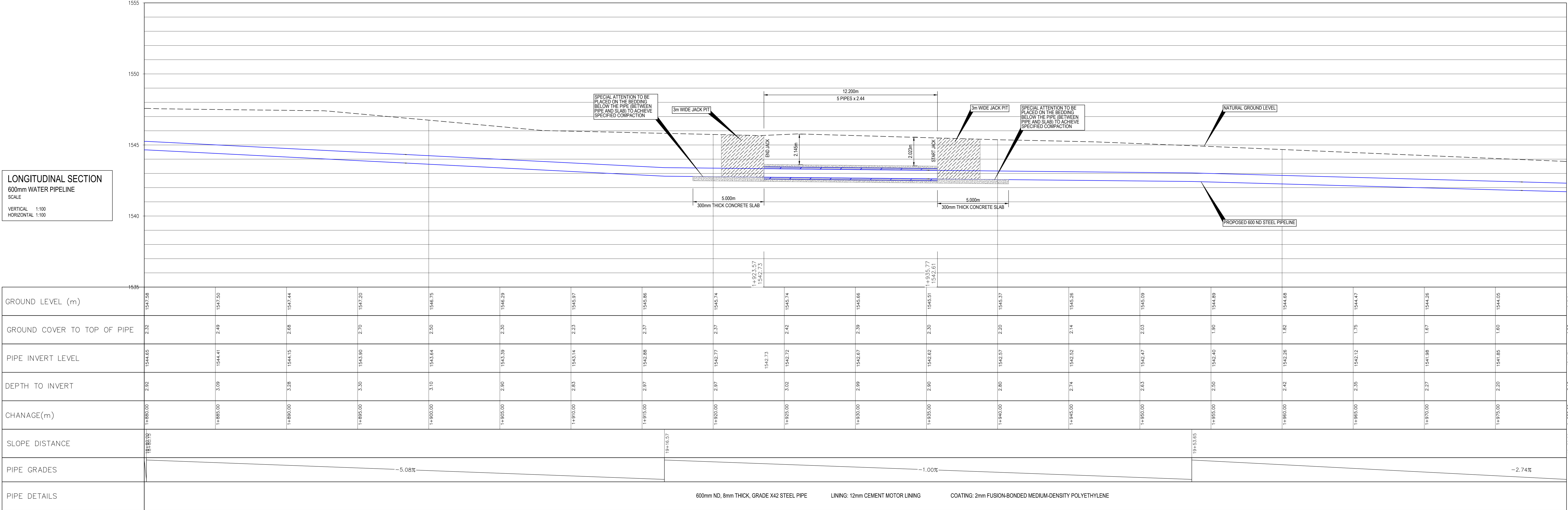


CROSS SECTION THROUGH SLEEVE
800 NO CLASS 1000 PRECAST CONCRETE IN THE
WALL JOINT PIPES TO SABS 677 (JACKING PIPE)
SCALE 1:10



LOCALITY MAP
N.T.S.

LONGITUDINAL SECTION
600mm WATER PIPELINE
SCALE
VERTICAL 1:100
HORIZONTAL 1:100



PIPE JACKING No. 7: LENIN ROAD
LONGSECTION ALIGNMENT 600mm ND STEEL PIPELINE
SCALE 1:100

ISSUED FOR TENDER

CONSULTING ENGINEERS
LIDWALA CONSULTING ENGINEERS (SA) (PTY) LTD If
Tel: 0801 1001111
Fax: +27 11 793 5488
Email: info@lidwala.com
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CLIENT
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SWISS HOUSE

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MARSHALLTOWN
2107

TEL: (011) 688-1400
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REPLACEMENT OF JOHANNESBURG WATER
600mm Ø STEEL PIPELINE FROM LINBRO PARK RESERVOIR
TO BHEKILANGA PRV STATION IN ALEXANDRA
PIPE JACKING No. 7
LENIN DRIVE

SURVEY INFORMATION
PROJECT SURVEYOR:
DATE:
CCTV INFORMATION
CCTV COMPANY:
DATE:

INFORMATION BY JW DEPOT
CHECKED:
APPROVED BY:
SIGNATURE: DATE:
APPROVAL BY JW PLANNING
CHECKED:
APPROVED BY:
SIGNATURE: DATE:

SCALE
1 : 5000

CONSULTANT
DETAIL
REV: A
DESCRIPTION
ISSUED FOR TENDER PURPOSES ONLY
DATE:
AUGUST 2022

AMENDMENTS

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SHEET 1 OF 1
ORIGINAL PAGE SIZE
FILE No.

PRINT DATE: 18.08.2022