GENERAL NOTES AND SPECIFICATIONS

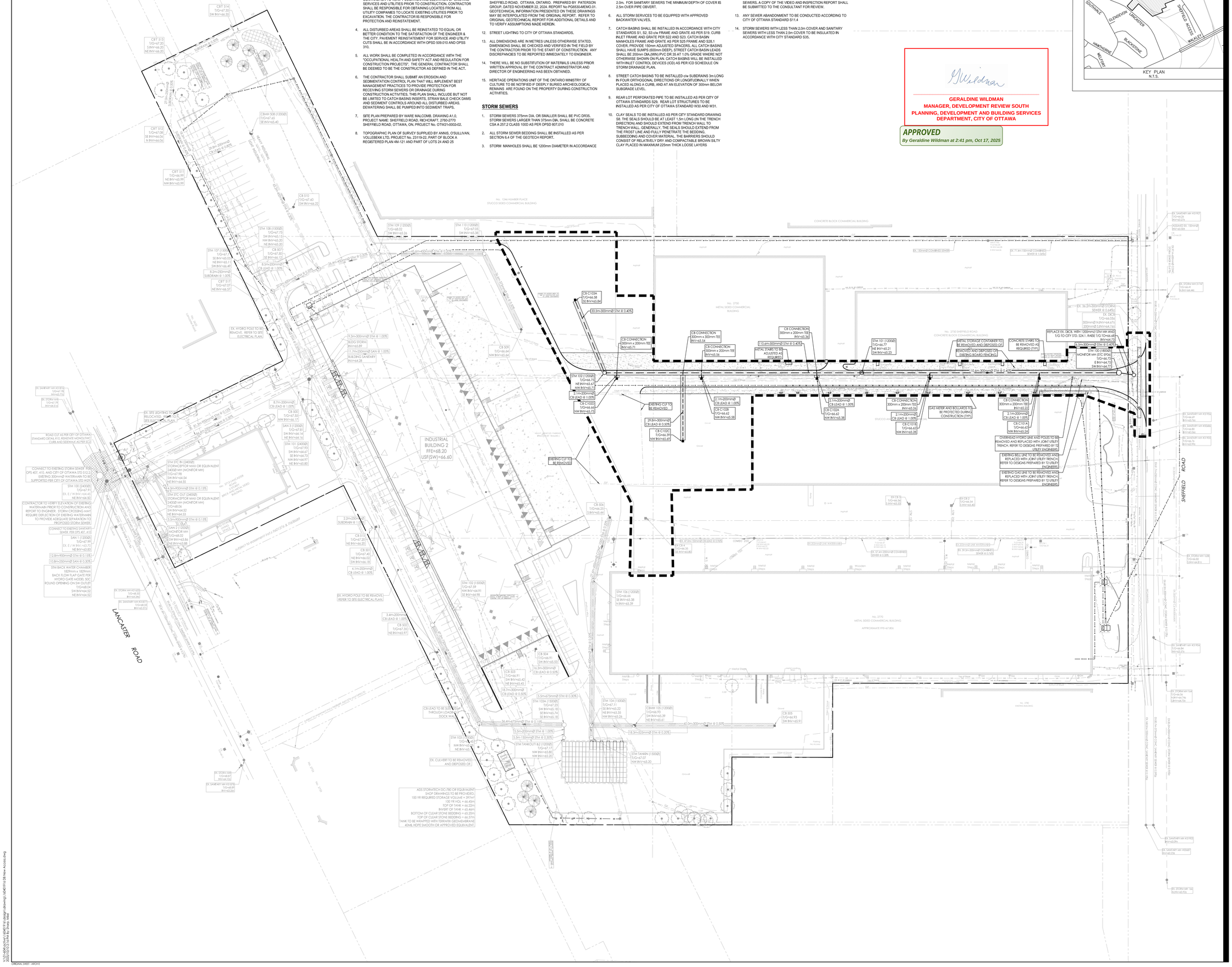
1. ALL MATERIALS AND CONSTRUCTION METHODS TO BE IN ACCORDANCE WITH OPS AND CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS AND OPSD SUPPLEMENT, ONTARIO PROVINCIAL STANDARDS WILL APPLY WHERE NO CITY STANDARDS ARE AVAILABLE.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED AND BEAR COST OF SAME INCLUDING WATER PERMIT AND ASSOCIATED COSTS.
3. SERVICE AND UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING SERVICES AND UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING LOCATES FROM ALL UTILITY COMPANIES TO LOCATE EXISTING UTILITIES PRIOR TO EXCAVATION. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION AND REINSTATEMENT.
4. ALL DISTURBED AREAS SHALL BE REINSTATED TO EQUAL OR BETTER CONDITION TO THE SATISFACTION OF THE ENGINEER & THE CITY. PAVEMENT REINSTATEMENT FOR SERVICE AND UTILITY CUTS SHALL BE IN ACCORDANCE WITH OPSD 509.010 AND OPSS 310.
5. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE "OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATION FOR CONSTRUCTION PROJECTS". THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE CONSTRUCTOR AS DEFINED IN THE ACT.
6. THE CONTRACTOR SHALL SUBMIT AN EROSION AND SEDIMENTATION CONTROL PLAN THAT WILL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE PROTECTION FOR RECEIVING STORM SEWERS OR DRAINAGE DURING CONSTRUCTION ACTIVITIES. THIS PLAN SHALL INCLUDE BUT NOT BE LIMITED TO CATCH BASINS INSERTS, STRAW BALE CHECK DAMS AND SEDIMENT CONTROLS AROUND ALL DISTURBED AREAS. DEWATERING SHALL BE PUMPED INTO SEDIMENT TRAPS.
7. SITE PLAN PREPARED BY WARE MALCOMB. DRAWING A1.0, PROJECT NAME: SHEFFIELD ROAD. RICHCRAFT. 2760-2770 SHEFFIELD ROAD, OTTAWA, ON. PROJECT No. OTW21-0002-02.
8. TOPOGRAPHIC PLAN OF SURVEY SUPPLIED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD. PROJECT No. 23119-22. PART OF BLOCK A REGISTERED PLAN 4M-121 AND PART OF LOTS 24 AND 25 CONCESSION 3 (OTTAWA FRONT), GEOGRAPHIC TOWNSHIP OF GLOUCESTER, CITY OF OTTAWA.
9. UTILITY AS-BUILTS PROVIDED BY T2 UTILITY ENGINEERS. PROJECT: 2760-2770 SHEFFIELD ROAD, OTTAWA, ONTARIO. PROJECT No. 6100294Z. DRAWING NAME: SUBSURFACE UTILITY ENGINEERING MAPPING SERVICES. DATED 4/19/24.
10. REFER TO LANDSCAPE ARCHITECTURE PLAN FOR ALL LANDSCAPING FEATURES (ie. TREES, WALKWAYS, PARK DETAILS, NOISE BARRIERS, FENCES etc.)
11. GEOTECHNICAL INVESTIGATION GEOTECHNICAL RECOMMENDATIONS FOR THE PROPOSED PRIVATE ACCESS, 2760 SHEFFIELD ROAD, OTTAWA, ONTARIO. PREPARED BY PATERSON GROUP. DATED NOVEMBER 22, 2024. REPORT No PG6530-MEMO.01. GEOTECHNICAL INFORMATION PRESENTED ON THESE DRAWINGS MAY BE INTERPOLATED FROM THE ORIGINAL REPORT. REFER TO ORIGINAL GEOTECHNICAL REPORT FOR ADDITIONAL DETAILS AND TO VERIFY ASSUMPTIONS MADE HEREIN.
12. STREET LIGHTING TO CITY OF OTTAWA STANDARDS.
13. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED. DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES TO BE REPORTED IMMEDIATELY TO ENGINEER.
14. THERE WILL BE NO SUBSTITUTION OF MATERIALS UNLESS PRIOR WRITTEN APPROVAL BY THE CONTRACT ADMINISTRATOR AND DIRECTOR OF ENGINEERING HAS BEEN OBTAINED.
15. HERITAGE OPERATIONS UNIT OF THE ONTARIO MINISTRY OF CULTURE TO BE NOTIFIED IF DEEPLY BURIED ARCHEOLOGICAL REMAINS ARE FOUND ON THE PROPERTY DURING CONSTRUCTION ACTIVITIES.

STORM SEWERS

1. STORM SEWERS 375mm DIA. OR SMALLER SHALL BE PVC DR35, STORM SEWERS LARGER THAN 375mm DIA. SHALL BE CONCRETE CSA A 257.2 CLASS 100D AS PER OPSD 807.010
2. ALL STORM SEWER BEDDING SHALL BE INSTALLED AS PER SECTION 6.4 OF THE GEOTECH REPORT.
3. STORM MANHOLES SHALL BE 1200mm DIAMETER IN ACCORDANCE WITH OPSD-701.01 (UNLESS OTHERWISE NOTED) c/w FRAME AND COVER AS PER CITY OF OTTAWA S24, S24.1, AND S25 WHERE APPLICABLE. CATCH BASIN MANHOLE FRAME AND COVERS PER S25 AND S28.1. ALL STORM MANHOLES WITH SEWERS 900mm DIA SEWERS AND OVER IN SIZE SHALL BE BENCHED. ALL OTHER STORM MANHOLES SHALL BE COMPLETED WITH 300mm SUMPS AS PER CITY STANDARDS.
4. ALL SEWERS CONSTRUCTED WITH GRADES 0.50% OR LESS, TO BE INSTALLED WITH LASER AND CHECKED WITH LEVEL INSTRUMENT PRIOR TO BACKFILLING.
5. FOR STORM SEWER INSTALLATION (EXCLUDING CB LEADS) THE MINIMUM DEPTH OF COVER OVER THE CROWN OF THE SEWER IS 2.0m. FOR SANITARY SEWERS THE MINIMUM DEPTH OF COVER IS 2.5m OVER PIPE OBVERT.
6. ALL STORM SERVICES TO BE EQUIPPED WITH APPROVED BACKWATER VALVES.
7. CATCH BASINS SHALL BE INSTALLED IN ACCORDANCE WITH CITY STANDARDS S1, S2, S3 c/w FRAME AND GRATE AS PER S19. CURB INLET FRAME AND GRATE PER S22 AND S23. CATCH BASIN MANHOLES FRAME AND GRATE AS PER S25 FRAME AND S28.1 COVER. PROVIDE 150mm ADJUSTED SPACERS. ALL CATCH BASINS SHALL HAVE SUMPS (600mm DEEP). STREET CATCH BASIN LEADS SHALL BE 200mm DIA.(MIN) PVC DR 35 AT 1.0% GRADE WHERE NOT OTHERWISE SHOWN ON PLAN. CATCH BASINS WILL BE INSTALLED WITH INLET CONTROL DEVICES (ICD) AS PER ICD SCHEDULE ON STORM DRAINAGE PLAN.
8. STREET CATCH BASINS TO BE INSTALLED c/w SUBDRAINS 3m LONG IN FOUR ORTHOGONAL DIRECTIONS OR LONGITUDINALLY WHEN PLACED ALONG A CURB, AND AT AN ELEVATION OF 300mm BELOW SUBGRADE LEVEL.
9. REAR LOT PERFORATED PIPE TO BE INSTALLED AS PER CITY OF OTTAWA STANDARDS S29. REAR LOT STRUCTURES TO BE INSTALLED AS PER CITY OF OTTAWA STANDARD W30 AND W31.
10. CLAY SEALS TO BE INSTALLED AS PER CITY STANDARD DRAWING S8. THE SEALS SHOULD BE AT LEAST 1.5m LONG (IN THE TRENCH DIRECTION) AND SHOULD EXTEND FROM TRENCH WALL TO TRENCH WALL. GENERALLY, THE SEALS SHOULD EXTEND FROM THE FROST LINE AND FULLY PENETRATE THE BEDDING, SUBBEDDING AND COVER MATERIAL. THE BARRIERS SHOULD CONSIST OF RELATIVELY DRY AND COMPACTABLE BROWN SILTY CLAY PLACED IN MAXIMUM 225mm THICK LOOSE LAYERS COMPACTED TO A MINIMUM OF 95% OF THE MATERIAL'S SPMDD. THE CLAY SEALS SHOULD BE PLACED AT THE SITE BOUNDARIES AND AT STRATEGIC LOCATIONS AT NO MORE THAN 60m INTERVALS IN THE SERVICE TRENCHES. FOR DETAILS REFER TO GEOTECHNICAL INVESTIGATION .
11. GRANULAR "A" SHALL BE PLACED TO A MINIMUM THICKNESS OF 300 mm AROUND ALL STRUCTURES WITHIN PAVEMENT AREA AND COMPACTED TO A MINIMUM OF 98% STANDARD PROCTOR DENSITY.
12. CONTRACTOR SHALL PERFORM LEAKAGE TESTING, IN THE PRESENCE OF THE CONSULTANT, FOR SANITARY SEWERS IN ACCORDANCE WITH OPSS 410 AND OPSS 407. CONTRACTOR SHALL PERFORM VIDEO INSPECTION OF ALL STORM AND SANITARY SEWERS. A COPY OF THE VIDEO AND INSPECTION REPORT SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
13. ANY SEWER ABANDONMENT TO BE CONDUCTED ACCORDING TO CITY OF OTTAWA STANDARD S11.4
14. STORM SEWERS WITH LESS THAN 2.0m COVER AND SANITARY SEWERS WITH LESS THAN 2.5m COVER TO BE INSULATED IN ACCORDANCE WITH CITY STANDARD S35.

GERALDINE WILDMAN
MANAGER, DEVELOPMENT REVIEW SOUTH
PLANNING, DEVELOPMENT AND BUILDING SERVICES
DEPARTMENT, CITY OF OTTAWA

APPROVED
By Geraldine Wildman at 2:41 pm, Oct 17, 2025


LANCASTER ROAD
SHEFFIELD ROAD
INDUSTRIAL BUILDING 2
FFE=68.20
USF(SW)=66.60
EXISTING CLF TO BE REMOVED
EX. HYDRO POLE TO BE REMOVED. REFER TO SITE ELECTRICAL PLAN
ADS STORMTECH DC-780 OR EQUIVALENT
SHOP DRAWINGS TO BE PROVIDED
100 YR REQUIRED STORAGE VOLUME = 397m³
100 YR HGL = 66.45m
TOP OF TANK = 66.22m
INVERT OF TANK = 65.46m
BOTTOM OF CLEAR STONE BEDDING = 65.20m
TOP OF CLEAR STONE BEDDING = 66.37m
TANK TO BE WRAPPED WITH TERRAFIX GEOMEMBRANE
42MIL HDPE SMOOTH OR APPROVED EQUIVALENT
EX. CULVERT TO BE REMOVED AND DEPOSED OF
CONNECT TO EXISTING STORM SEWER PER OPS 407, 410, AND CITY OF OTTAWA STD S12.2
EXISTING 300mmØ WATERMAIN TO BE SUPPORTED PER CITY OF OTTAWA STD W27
CONTRACTOR TO VERIFY ELEVATION OF EXISTING WATERMAIN PRIOR TO CONSTRUCTION AND REPORT TO ENGINEER. STORM CROSSING MAY REQUIRE DEFLECTION OF EXISTING WATERMAIN TO PROVIDE ADEQUATE SEPARATION TO PROPOSED STORM SEWER
STM BACK WATER CHAMBER
BACK FLOW FLAP GATE PER HYDRO GATE MODEL 30C
ROUND OPENING ON SW OUTLET
ROAD CUT AS PER CITY OF OTTAWA STANDARD DETAIL R10. REINSTATE MONOLITHIC CURB AND SIDEWALK AS PER SC2
EX. SITE LIGHTING TO BE RELOCATED. REFER TO SITE ELECTRICAL PLAN
EXISTING 110m LONG CONCRETE BARRIER
EXISTING 110m LONG CONCRETE BARRIER
EXISTING 110m LONG CONCRETE BARRIER
EXISTING 110m LONG CONCRETE BARRIER
METAL STORAGE CONTAINER TO BE REMOVED AND DEPOSED OF
CONCRETE STAIRS TO BE REMOVED AS REQUIRED (TYP)
GAS METER AND BOLLARDS TO BE PROTECTED DURING CONSTRUCTION (TYP)
OVERHEAD HYDRO LINE AND POLES TO BE REMOVED AND REPLACED WITH JOINT UTILITY TRENCH. REFER TO DESIGNS PREPARED BY T2 UTILITY ENGINEERS
EXISTING BELL LINE TO BE REMOVED AND REPLACED WITH JOINT UTILITY TRENCH. REFER TO DESIGNS PREPARED BY T2 UTILITY ENGINEERS
EXISTING GAS LINE TO BE REMOVED AND REPLACED WITH JOINT UTILITY TRENCH. REFER TO DESIGNS PREPARED BY T2 UTILITY ENGINEERS
REPLACE EX. DICB, WITH 1200mmØ STM MH AND T/G TO CITY STD. S24.1. RAISE T/G TO=66.68
STM 100 (1800Ø) MONITOR MH (STC EPOL)
T/G=66.75
E INV=64.75
SW INV=64.77
STM TANKIN (1500Ø)
T/G=67.07
INV INV=65.20
STM TANKOUT1&2 (1200Ø)
T/G=67.17
NW INV=65.80
NW INV=65.20
STM 104 (1500Ø)
T/G=67.95
SE INV=65.22
NE INV=65.35
SW INV=65.26
CBMH 105 (1200Ø)
T/G=66.93
SW INV=65.61
CB 505
T/G=66.93
SW INV=65.91
STM 106 (1200Ø)
T/G=66.66
SE INV=65.38
N INV=65.39
STM 102 (1500Ø)
T/G=67.39
NW INV=64.91
SE INV=64.98
CB 304
T/G=66.91
SW INV=65.00
16.3m=300mmØ
CB LEAD @ 0.50%
CB 303
T/G=66.91
SW INV=65.42
NE INV=65.45
18.7m=300mmØ
CB LEAD @ 0.50%
5.5m=675mmØ STM @ 0.30%
STM 103A (1500Ø)
T/G=67.23
SW INV=65.18
SE INV=65.74
SW INV=65.26
36.4m=675mmØ STM @ 0.10%
5.5m=200mmØ STM @ 1.00%
5.5m=150mmØ STM @ 0.30%
18.3m=525mmØ STM @ 0.20%
60.0m=300mmØ STM @ 0.50%
STM 102 (1500Ø)
T/G=67.39
NW INV=64.91
SE INV=64.98
STM 101 (1200Ø)
T/G=66.77
NE INV=65.21
SW INV=65.23
STM 100 (2400Ø)
T/G=67.98
SW INV=64.54
NE INV=64.55
STM STC OUT (2400Ø)
STORMCEPTOR MAX OR EQUIVALENT
2400Ø MH (MONITOR MH)
T/G=68.06
NE INV=64.62
SE INV=64.53
3.5m=900mmØ STM @ 0.13%
STM STC IN (2400Ø)
STORMCEPTOR MAX OR EQUIVALENT
2400Ø MH (MONITOR MH)
T/G=67.98
SW INV=64.54
NE INV=64.55
STM 100 (2400Ø)
T/G=67.91
EX. E / W INV=64.45
NE INV=64.50
SAN 2 (1200Ø)
(MONITOR MH)
T/G=68.02
SW INV=63.86
NE INV=63.88
SAN 1 (1200Ø)
T/G=67.99
EX. E / W INV=63.70
NE INV=63.83
12.8m=900mmØ STM @ 0.15%
10.8m=250mmØ SAN @ 0.30%
STM 101 (2400Ø)
T/G=67.91
SW INV=64.61
NE INV=64.70
SE INV=64.73
NW INV=64.97
NE INV=65.80
CB 501
T/G=67.60
NE INV=66.20
CB 502
T/G=67.48
NE INV=66.02
SW INV=66.18
4.1m=200mmØ
CB LEAD @ 1.00%
CB 503
T/G=67.35
NE INV=66.97
3.4m=200mmØ
CB LEAD @ 1.00%
CB 509
NW INV=65.64
CB C103A
T/G=66.58
SE INV=65.84
33.5m=300mmØ STM @ 0.40%
CB CONNECTION
300mm x 200mm TEE
INV=65.54
CB CONNECTION
300mm x 200mm TEE
INV=65.56
CB CONNECTION
300mm x 200mm TEE
INV=65.71
110.6m=300mmØ STM @ 0.40%
METAL STAIRS TO BE ADJUSTED AS REQUIRED
STM 102 (1200Ø)
T/G=66.75
NE INV=65.67
SW INV=65.67
2.1m=200mmØ
CB LEAD @ 1.00%
CB C102D
T/G=66.66
NW INV=65.75
29.8m=300mmØ
CB LEAD @ 0.50%
CB C102C
T/G=66.39
NW INV=65.69
2.1m=200mmØ
CB LEAD @ 1.00%
CB C102B
T/G=66.62
NW INV=65.58
2.1m=200mmØ
CB LEAD @ 1.00%
CB C102A
T/G=66.62
NW INV=65.38
CB CONNECTION
300mm x 200mm TEE
INV=65.26
2.1m=200mmØ
CB LEAD @ 1.00%
CB C101B
T/G=66.62
NW INV=65.28
CB CONNECTION
300mm x 200mm TEE
INV=65.22
2.1m=200mmØ
CB LEAD @ 1.00%
CB C101A
T/G=66.62
NW INV=65.24
EX. 36.27m=300mmØ STORM SEWER @ 0.64%
EX. DICB
T/G=66.05
300mmØ N INV=64.67
200mmØ S INV=64.76
EX. 1.8m=150mmØ COMBINED SEWER @ 1.06%
EX. 150mmØ COMBINED SEWER
EX. 375mmØ COMBINED SEWER
EX. 1.5m=300mmØ COMBINED SEWER @ 0.20%
EX. 47.0m=150mmØ CB LEAD @ 1.14%
EX. 57.4m=200mmØ COMBINED SEWER @ 0.28%
EX. 59.5m=300mmØ COMBINED SEWER @ 0.28%
EX. 200mmØ UNK WATERLINE
EX. 300mmØ UNK WATERLINE
EX. STORM MH 1X36
T/G=66.82
S INV=64.81
EX. STORM MH 1X4
T/G=66.64
N INV=64.74
S INV=64.76
EX. SANITARY MH #3190
T/G=66.64
INV=63.93
EX. SANITARY MH #3190A
T/G=66.64
INV=63.93
EX. SANITARY MH #3190B
T/G=66.64
INV=63.93
EX. SANITARY MH #3190C
T/G=66.64
INV=63.93
EX. SANITARY MH #3190D
INV=63.93
EX. SANITARY MH #3190E
INV=63.93
EX. STORM MH 1X6
INV=64.50
EX. STORM MH 1X7
T/G=66.41
N INV=64.48
EX. STORM MH 1X8
T/G=66.41
INV=64.48
EX. SANITARY MH #3190F
INV=63.93
EX. SANITARY MH #3190G
INV=63.93
EX. SANITARY MH #3190H
INV=63.93
EX. SANITARY MH #3190I
INV=63.93
EX. SANITARY MH #3190J
INV=63.93
EX. STORM MH 1X9
INV=64.50
EX. STORM MH 1X10
INV=64.50
EX. SANITARY MH #3190K
INV=63.93
EX. SANITARY MH #3190L
INV=63.93
EX. SANITARY MH #3190M
INV=63.93
EX. SANITARY MH #3190N
INV=63.93
EX. SANITARY MH #3190O
INV=63.93
EX. SANITARY MH #3190P
INV=63.93
EX. STORM MH 1X2
INV=64.50
EX. STORM MH 1X3
INV=64.50
EX. SANITARY MH #3190Q
INV=63.93
EX. SANITARY MH #3190R
INV=63.93
EX. STORM MH 1X1
INV=64.50
EX. STORM MH 1X2
INV=64.50
EX. SANITARY MH #3190S
INV=63.93
EX. SANITARY MH #3190T
INV=63.93
EX. SANITARY MH #3190U
INV=63.93
EX. SANITARY MH #3190V
INV=63.93
EX. SANITARY MH #3190W
INV=63.93
EX. SANITARY MH #3190X
INV=63.93
EX. SANITARY MH #3190Y
INV=63.93
EX. SANITARY MH #3190Z
INV=63.93
EX. SANITARY MH #3190AA
INV=63.93
EX. SANITARY MH #3190AB
INV=63.93
EX. SANITARY MH #3190AC
INV=63.93
EX. SANITARY MH #3190AD
INV=63.93
EX. SANITARY MH #3190AE
INV=63.93
EX. SANITARY MH #3190AF
INV=63.93
EX. SANITARY MH #3190AG
INV=63.93
EX. SANITARY MH #3190AH
INV=63.93
EX. SANITARY MH #3190AI
INV=63.93
EX. SANITARY MH #3190AJ
INV=63.93
EX. SANITARY MH #3190AK
INV=63.93
EX. SANITARY MH #3190AL
INV=63.93
EX. SANITARY MH #3190AM
INV=63.93
EX. SANITARY MH #3190AN
INV=63.93
EX. SANITARY MH #3190AO
INV=63.93
EX. SANITARY MH #3190AP
INV=63.93
EX. SANITARY MH #3190AQ
INV=63.93
EX. SANITARY MH #3190AR
INV=63.93
EX. SANITARY MH #3190AS
INV=63.93
EX. SANITARY MH #3190AT
INV=63.93
EX. SANITARY MH #3190AU
INV=63.93
EX. SANITARY MH #3190AV
INV=63.93
EX. SANITARY MH #3190AW
INV=63.93
EX. SANITARY MH #3190AX
INV=63.93
EX. SANITARY MH #3190AY
INV=63.93
EX. SANITARY MH #3190AZ
INV=63.93
EX. SANITARY MH #3190BA
INV=63.93
EX. SANITARY MH #3190BB
INV=63.93
EX. SANITARY MH #3190BC
INV=63.93
EX. SANITARY MH #3190BD
INV=63.93
EX. SANITARY MH #3190BE
INV=63.93
EX. SANITARY MH #3190BF
INV=63.93
EX. SANITARY MH #3190BG
INV=63.93
EX. SANITARY MH #3190BH
INV=63.93
EX. SANITARY MH #3190BI
INV=63.93
EX. SANITARY MH #3190BJ
INV=63.93
EX. SANITARY MH #3190BK
INV=63.93
EX. SANITARY MH #3190BL
INV=63.93
EX. SANITARY MH #3190BM
INV=63.93
EX. SANITARY MH #3190BN
INV=63.93
EX. SANITARY MH #3190BO
INV=63.93
EX. SANITARY MH #3190BP
INV=63.93
EX. SANITARY MH #3190BQ
INV=63.93
EX. SANITARY MH #3190BR
INV=63.93
EX. SANITARY MH #3190BS
INV=63.93
EX. SANITARY MH #3190BT
INV=63.93
EX. SANITARY MH #3190BU
INV=63.93
EX. SANITARY MH #3190BV
INV=63.93
EX. SANITARY MH #3190BW
INV=63.93
EX. SANITARY MH #3190BX
INV=63.93
EX. SANITARY MH #3190BY
INV=63.93
EX. SANITARY MH #3190BZ
INV=63.93
EX. SANITARY MH #3190CA
INV=63.93
EX. SANITARY MH #3190CB
INV=63.93
EX. SANITARY MH #3190CC
INV=63.93
EX. SANITARY MH #3190CD
INV=63.93
EX. SANITARY MH #3190CE
INV=63.93
EX. SANITARY MH #3190CF
INV=63.93
EX. SANITARY MH #3190CG
INV=63.93
EX. SANITARY MH #3190CH
INV=63.93
EX. SANITARY MH #3190CI
INV=63.93
EX. SANITARY MH #3190CJ
INV=63.93
EX. SANITARY MH #3190CK
INV=63.93
EX. SANITARY MH #3190CL
INV=63.93
EX. SANITARY MH #3190CM
INV=63.93
EX. SANITARY MH #3190CN
INV=63.93
EX. SANITARY MH #3190CO
INV=63.93
EX. SANITARY MH #3190CP
INV=63.93
EX. SANITARY MH #3190CQ
INV=63.93
EX. SANITARY MH #3190CR
INV=63.93
EX. SANITARY MH #3190CS
INV=63.93
EX. SANITARY MH #3190CT
INV=63.93
EX. SANITARY MH #3190CU
INV=63.93
EX. SANITARY MH #3190CV
INV=63.93
EX. SANITARY MH #3190CW
INV=63.93
EX. SANITARY MH #3190CX
INV=63.93
EX. SANITARY MH #3190CY
INV=63.93
EX. SANITARY MH #3190CZ
INV=63.93
EX. SANITARY MH #3190DA
INV=63.93
EX. SANITARY MH #3190DB
INV=63.93
EX. SANITARY MH #3190DC
INV=63.93
EX. SANITARY MH #3190DD
INV=63.93
EX. SANITARY MH #3190DE
INV=63.93
EX. SANITARY MH #3190DF
INV=63.93
EX. SANITARY MH #3190DG
INV=63.93
EX. SANITARY MH #3190DH
INV=63.93
EX. SANITARY MH #3190DI
INV=63.93
EX. SANITARY MH #3190DJ
INV=63.93
EX. SANITARY MH #3190DK
INV=63.93
EX. SANITARY MH #3190DL
INV=63.93
EX. SANITARY MH #3190DM
INV=63.93
EX. SANITARY MH #3190DN
INV=63.93
EX. SANITARY MH #3190DO
INV=63.93
EX. SANITARY MH #3190DP
INV=63.93
EX. SANITARY MH #3190DQ
INV=63.93
EX. SANITARY MH #3190DR
INV=63.93
EX. SANITARY MH #3190DS
INV=63.93
EX. SANITARY MH #3190DT
INV=63.93
EX. SANITARY MH #3190DU
INV=63.93
EX. SANITARY MH #3190DV
INV=63.93
EX. SANITARY MH #3190DW
INV=63.93
EX. SANITARY MH #3190DX
INV=63.93
EX. SANITARY MH #3190DY
INV=63.93
EX. SANITARY MH #3190DZ
INV=63.93
EX. SANITARY MH #3190EA
INV=63.93
EX. SANITARY MH #3190EB
INV=63.93
EX. SANITARY MH #3190EC
INV=63.93
EX. SANITARY MH #3190ED
INV=63.93
EX. SANITARY MH #3190EE
INV=63.93
EX. SANITARY MH #3190EF
INV=63.93
EX. SANITARY MH #3190EG
INV=63.93
EX. SANITARY MH #3190EH
INV=63.93
EX. SANITARY MH #3190EI
INV=63.93
EX. SANITARY MH #3190EJ
INV=63.93
EX. SANITARY MH #3190EK
INV=63.93
EX. SANITARY MH #3190EL
INV=63.93
EX. SANITARY MH #3190EM
INV=63.93
EX. SANITARY MH #3190EN
INV=63.93
EX. SANITARY MH #3190EO
INV=63.93
EX. SANITARY MH #3190EP
INV=63.93
EX. SANITARY MH #3190EQ
INV=63.93
EX. SANITARY MH #3190ER
INV=63.93
EX. SANITARY MH #3190ES
INV=63.93
EX. SANITARY MH #3190ET
INV=63.93
EX. SANITARY MH #3190EU
INV=63.93
EX. SANITARY MH #3190EV
INV=63.93
EX. SANITARY MH #3190EW
INV=63.93
EX. SANITARY MH #3190EX
INV=63.93
EX. SANITARY MH #3190EY
INV=63.93
EX. SANITARY MH #3190EZ
INV=63.93
EX. SANITARY MH #3190FA
INV=63.93
EX. SANITARY MH #3190FB
INV=63.93
EX. SANITARY MH #3190FC
INV=63.93
EX. SANITARY MH #3190FD
INV=63.93
EX. SANITARY MH #3190FE
INV=63.93
EX. SANITARY MH #3190FF
INV=63.93
EX. SANITARY MH #3190FG
INV=63.93
EX. SANITARY MH #3190FH
INV=63.93
EX. SANITARY MH #3190FI
INV=63.93
EX. SANITARY MH #3190FJ
INV=63.93
EX. SANITARY MH #3190FK
INV=63.93
EX. SANITARY MH #3190FL
INV=63.93
EX. SANITARY MH #3190FM
INV=63.93
EX. SANITARY MH #3190FN
INV=63.93
EX. SANITARY MH #3190FO
INV=63.93
EX. SANITARY MH #3190FP
INV=63.93
EX. SANITARY MH #3190FQ
INV=63.93
EX. SANITARY MH #3190FR
INV=63.93
EX. SANITARY MH #3190FS
INV=63.93
EX. SANITARY MH #3190FT
INV=63.93
EX. SANITARY MH #3190FU
INV=63.93
EX. SANITARY MH #3190FV
INV=63.93
EX. SANITARY MH #3190FW
INV=63.93
EX. SANITARY MH #3190FX
INV=63.93
EX. SANITARY MH #3190FY
INV=63.93
EX. SANITARY MH #3190FZ
INV=63.93
EX. SANITARY MH #3190GA
INV=63.93
EX. SANITARY MH #3190GB
INV=63.93
EX. SANITARY MH #3190GC
INV=63.93
EX. SANITARY MH #3190GD
INV=63.93
EX. SANITARY MH #3190GE
INV=63.93
EX. SANITARY MH #3190GF
INV=63.93
EX. SANITARY MH #3190GG
INV=63.93
EX. SANITARY MH #3190GH
INV=63.93
EX. SANITARY MH #3190GI
INV=63.93
EX. SANITARY MH #3190GJ
INV=63.93
EX. SANITARY MH #3190GK
INV=63.93
EX. SANITARY MH #3190GL
INV=63.93
EX. SANITARY MH #3190GM
INV=63.93
EX. SANITARY MH #3190GN
INV=63.93
EX. SANITARY MH #3190GO
INV=63.93
EX. SANITARY MH #3190GP
INV=63.93
EX. SANITARY MH #3190GQ
INV=63.93
EX. SANITARY MH #3190GR
INV=63.93
EX. SANITARY MH #3190GS
INV=63.93
EX. SANITARY MH #3190GT
INV=63.93
EX. SANITARY MH #3190GU
INV=63.93
EX. SANITARY MH #3190GV
INV=63.93
EX. SANITARY MH #3190GW
INV=63.93
EX. SANITARY MH #3190GX
INV=63.93
EX. SANITARY MH #3190GY
INV=63.93
EX. SANITARY MH #3190GZ
INV=63.93
EX. SANITARY MH #3190HA
INV=63.93
EX. SANITARY MH #3190HB
INV=63.93
EX. SANITARY MH #3190HC
INV=63.93
EX. SANITARY MH #3190HD
INV=63.93
EX. SANITARY MH #3190HE
INV=63.93
EX. SANITARY MH #3190HF
INV=63.93
EX. SANITARY MH #3190HG
INV=63.93
EX. SANITARY MH #3190HH
INV=63.93
EX. SANITARY MH #3190HI
INV=63.93
EX. SANITARY MH #3190HJ
INV=63.93
EX. SANITARY MH #3190HK
INV=63.93
EX. SANITARY MH #3190HL
INV=63.93
EX. SANITARY MH #3190HM
INV=63.93
EX. SANITARY MH #3190HN
INV=63.93
EX. SANITARY MH #3190HO
INV=63.93
EX. SANITARY MH #3190HP
INV=63.93
EX. SANITARY MH #3190HQ
INV=63.93
EX. SANITARY MH #3190HR
INV=63.93
EX. SANITARY MH #3190HS
INV=63.93
EX. SANITARY MH #3190HT
INV=63.93
EX. SANITARY MH #3190HU
INV=63.93
EX. SANITARY MH #3190HV
INV=63.93
EX. SANITARY MH #3190HW
INV=63.93
EX. SANITARY MH #3190HX
INV=63.93
EX. SANITARY MH #3190HY
INV=63.93
EX. SANITARY MH #3190HZ
INV=63.93
EX. SANITARY MH #3190IA
INV=63.93
EX. SANITARY MH #3190IB
INV=63.93
EX. SANITARY MH #3190IC
INV=63.93
EX. SANITARY MH #3190ID
INV=63.93
EX. SANITARY MH #3190IE
INV=63.93
EX. SANITARY MH #3190IF
INV=63.93
EX. SANITARY MH #3190IG
INV=63.93
EX. SANITARY MH #3190IH
INV=63.93
EX. SANITARY MH #3190II
INV=63.93
EX. SANITARY MH #3190IJ
INV=63.93
EX. SANITARY MH #3190IK
INV=63.93
EX. SANITARY MH #3190IL
INV=63.93
EX. SANITARY MH #3190IM
INV=63.93
EX. SANITARY MH #3190IN
INV=63.93
EX. SANITARY MH #3190IO
INV=63.93
EX. SANITARY MH #3190IP
INV=63.93
EX. SANITARY MH #3190IQ
INV=63.93
EX. SANITARY MH #3190IR
INV=63.93
EX. SANITARY MH #3190IS
INV=63.93
EX. SANITARY MH #3190IT
INV=63.93
EX. SANITARY MH #3190IU
INV=63.93
EX. SANITARY MH #3190IV
INV=63.93
EX. SANITARY MH #3190IW
INV=63.93
EX. SANITARY MH #3190IX
INV=63.93
EX. SANITARY MH #3190IY
INV=63.93
EX. SANITARY MH #3190IZ
INV=63.93
EX. SANITARY MH #3190JA
INV=63.93
EX. SANITARY MH #3190JB
INV=63.93
EX. SANITARY MH #3190JC
INV=63.93
EX. SANITARY MH #3190JD
INV=63.93
EX. SANITARY MH #3190JE
INV=63.93
EX. SANITARY MH #3190JF
INV=63.93
EX. SANITARY MH #3190JG
INV=63.93
EX. SANITARY MH #3190JH
INV=63.93
EX. SANITARY MH #3190JI
INV=63.93
EX. SANITARY MH #3190JJ
INV=63.93
EX. SANITARY MH #3190JK
INV=63.93
EX. SANITARY MH #3190JL
INV=63.93
EX. SANITARY MH #3190JM
INV=63.93
EX. SANITARY MH #3190JN
INV=63.93
EX. SANITARY MH #3190JO
INV=63.93
EX. SANITARY MH #3190JP
INV=63.93
EX. SANITARY MH #3190JQ
INV=63.93
EX. SANITARY MH #3190JR
INV=63.93
EX. SANITARY MH #3190JS
INV=63.93
EX. SANITARY MH #3190JT
INV=63.93
EX. SANITARY MH #3190JU
INV=63.93
EX. SANITARY MH #3190JV
INV=63.93
EX. SANITARY MH #3190JW
INV=63.93
EX. SANITARY MH #3190JX
INV=63.93
EX. SANITARY MH #3190JY
INV=63.93
EX. SANITARY MH #3190JZ
INV=63.93
EX. SANITARY MH #3190KA
INV=63.93
EX. SANITARY MH #3190KB
INV=63.93
EX. SANITARY MH #3190KC
INV=63.93
EX. SANITARY MH #3190KD
INV=63.93
EX. SANITARY MH #3190KE
INV=63.93
EX. SANITARY MH #3190KF
INV=63.93
EX. SANITARY MH #3190KG
INV=63.93
EX. SANITARY MH #3190KH
INV=63.93
EX. SANITARY MH #3190KI
INV=63.93
EX. SANITARY MH #3190KJ
INV=63.93
EX. SANITARY MH #3190KK
INV=63.93
EX. SANITARY MH #3190KL
INV=63.93
EX. SANITARY MH #3190KM
INV=63.93
EX. SANITARY MH #3190KN
INV=63.93
EX. SANITARY MH #3190KO
INV=63.93
EX. SANITARY MH #3190KP
INV=63.93
EX. SANITARY MH #3190KQ
INV=63.93
EX. SANITARY MH #3190KR
INV=63.93
EX. SANITARY MH #3190KS
INV=63.93
EX. SANITARY MH #3190KT
INV=63.93
EX. SANITARY MH #3190KU
INV=63.93
EX. SANITARY MH #3190KV
INV=63.93
EX. SANITARY MH #3190KW
INV=63.93
EX. SANITARY MH #3190KX
INV=63.93
EX. SANITARY MH #3190KY
INV=63.93
EX. SANITARY MH #3190KZ
INV=63.93
EX. SANITARY MH #3190LA
INV=63.93
EX. SANITARY MH #3190LB
INV=63.93
EX. SANITARY MH #3190LC
INV=63.93
EX. SANITARY MH #3190LD
INV=63.93
EX. SANITARY MH #3190LE
INV=63.93
EX. SANITARY MH #3190LF
INV=63.93
EX. SANITARY MH #3190LG
INV=63.93
EX. SANITARY MH #3190LH
INV=63.93
EX. SANITARY MH #3190LI
INV=63.93
EX. SANITARY MH #3190LJ
INV=63.93
EX. SANITARY MH #3190LK
INV=63.93
EX. SANITARY MH #3190LL
INV=63.93
EX. SANITARY MH #3190LM
INV=63.93
EX. SANITARY MH #3190LN
INV=63.93
EX. SANITARY MH #3190LO
INV=63.93
EX. SANITARY MH #3190LP
INV=63.93
EX. SANITARY MH #3190LQ
INV=63.93
EX. SANITARY MH #3190LR
INV=63.93
EX. SANITARY