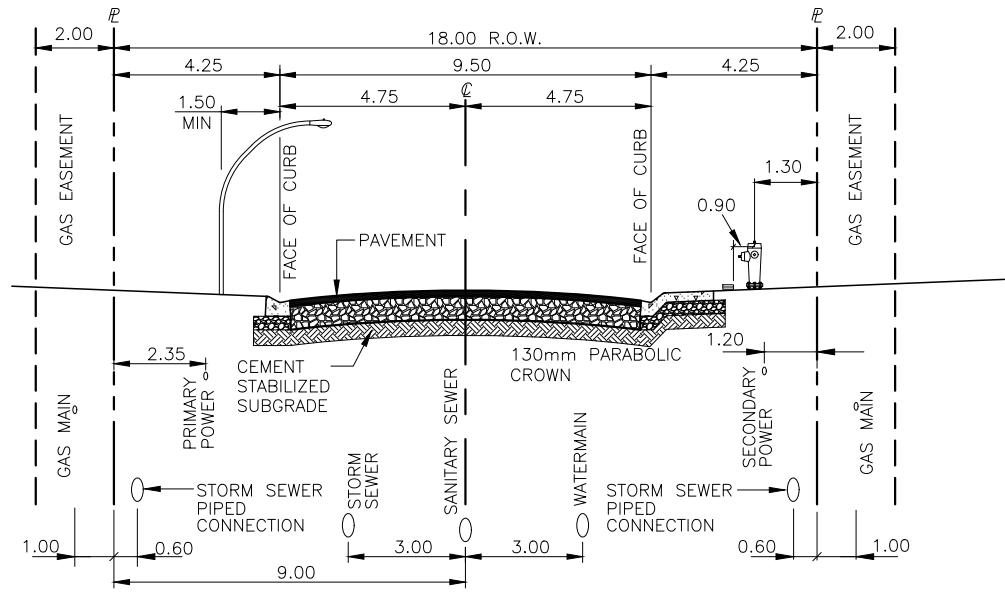


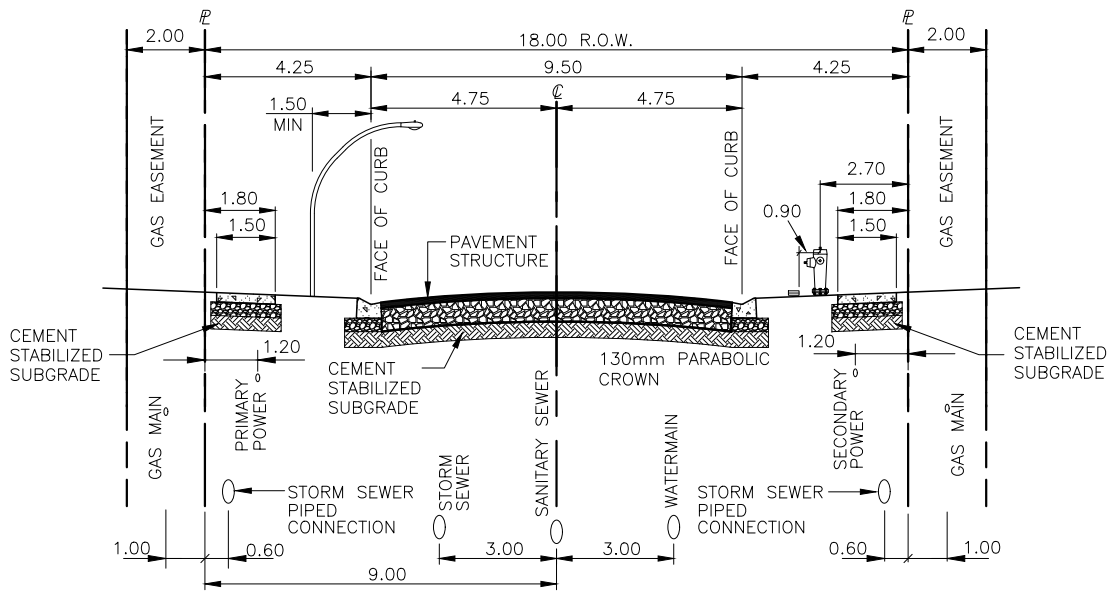
APPENDIX D

DETAILED DRAWINGS

Updated January 2025



MONO-WALK



SEPARATE WALK

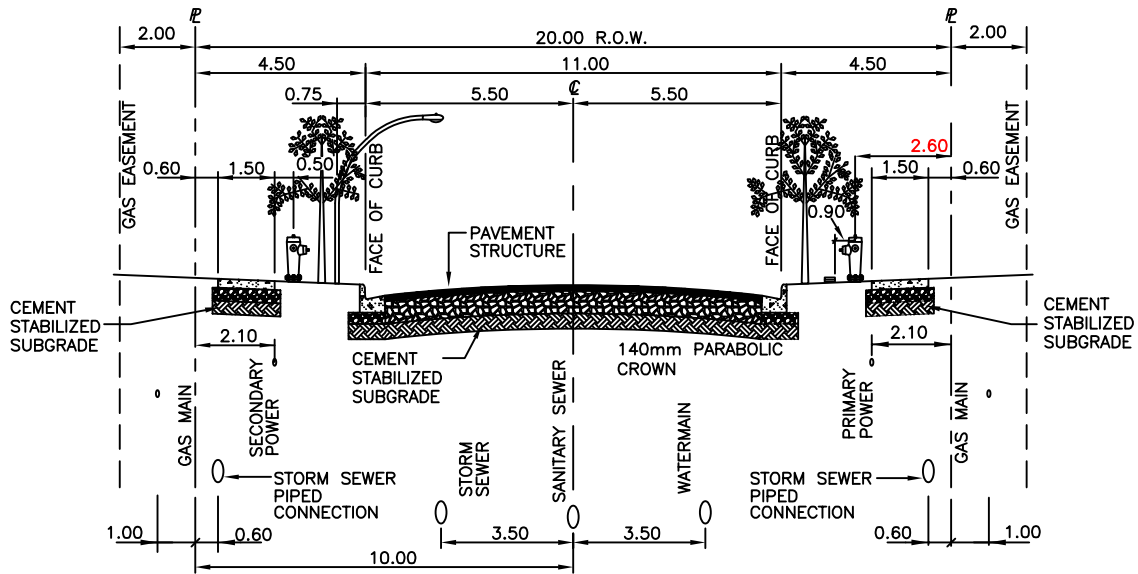
- NOTES:
1. MINIMUM 150mm GRAVEL UNDER ALL CONCRETE STRUCTURES
 2. ENSURE 0.5m CLEARANCE BETWEEN POWER AND HYDRANTS
 3. EXTEND SUBGRADE AND GRAVEL BASE 300mm BEYOND BACK OF CURB OR EDGE OF MONO-WALK
 4. EXTEND SUBGRADE AND GRAVEL BASE 150mm BEYOND EDGE OF SEPARATE WALK

THE CITY OF SPRUCE GROVE PLANNING AND INFRASTRUCTURE

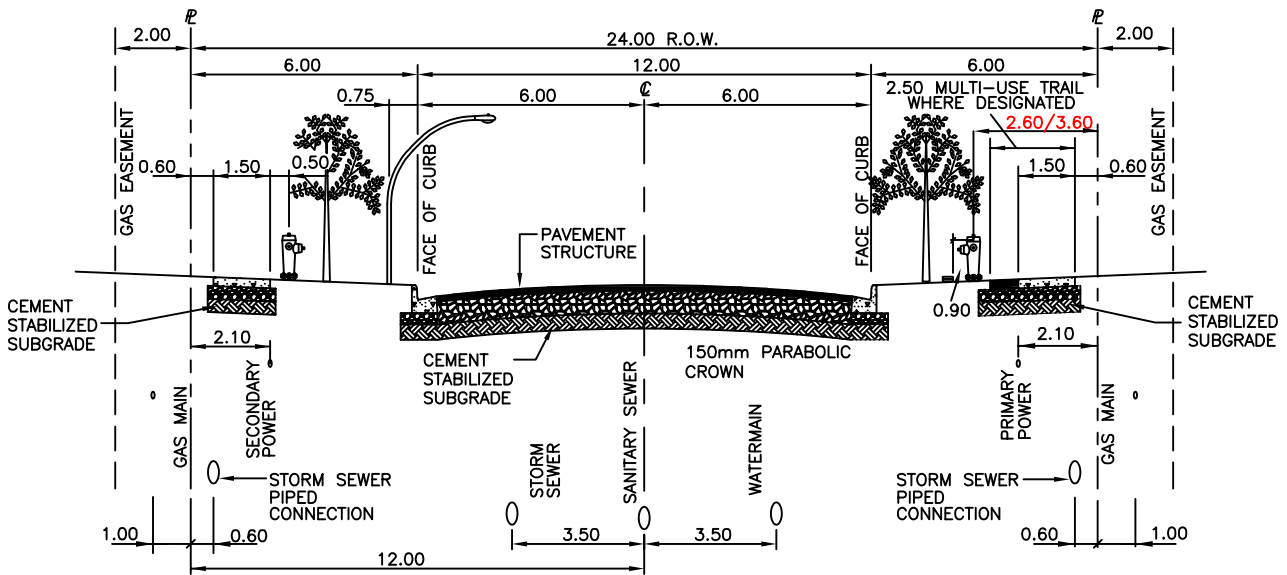
| REVISIONS | | |
|-----------|----------------------------|-------|
| DATE | DETAILS | DRAWN |
| 03/13 | Cement Stabilized Subgrade | SW |
| 02/14 | Additional Notes | RP |
| 02/14 | Location of Primary Power | RP |
| 02/21 | Extend Base & Subgrade | AS |

LOCAL RESIDENTIAL ROADWAYS

| | | |
|--|----------------------|---------------------|
| | DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| | CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| | APPROVED: J. MUSTARD | DRAWING No.: CS-01 |



MINOR COLLECTOR RESIDENTIAL
TRAFFIC VOLUMES < 2500 vpd



MAJOR COLLECTOR RESIDENTIAL
TRAFFIC VOLUMES > 2500 vpd
NO FRONT ACCESS > 4000 vpd

NOTES:

1. MINIMUM 150mm GRAVEL UNDER ALL CONCRETE STRUCTURES
2. ENSURE 0.5m CLEARANCE BETWEEN POWER AND HYDRANTS
3. EXTEND SUBGRADE AND GRAVEL BASE 300mm BEYOND BACK OF CURB
4. EXTEND SUBGRADE AND GRAVEL BASE 150mm BEYOND EDGE OF SEPARATE WALK
5. WHERE MULTI-USE ASPHALT TRAIL IS DESIGNATED, SUBGRADE AND GRAVEL BASE TO BE PREPARED AS PER ASPHALT TRAIL DETAIL LG-07

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|----------------------------|-------|
| 03/13 | Cement Stabilized Subgrade | SW |
| 02/14 | Additional Notes | RP |
| 02/21 | Extend Base & Subgrade | AS |
| 02/25 | Hydrant placement | BD |

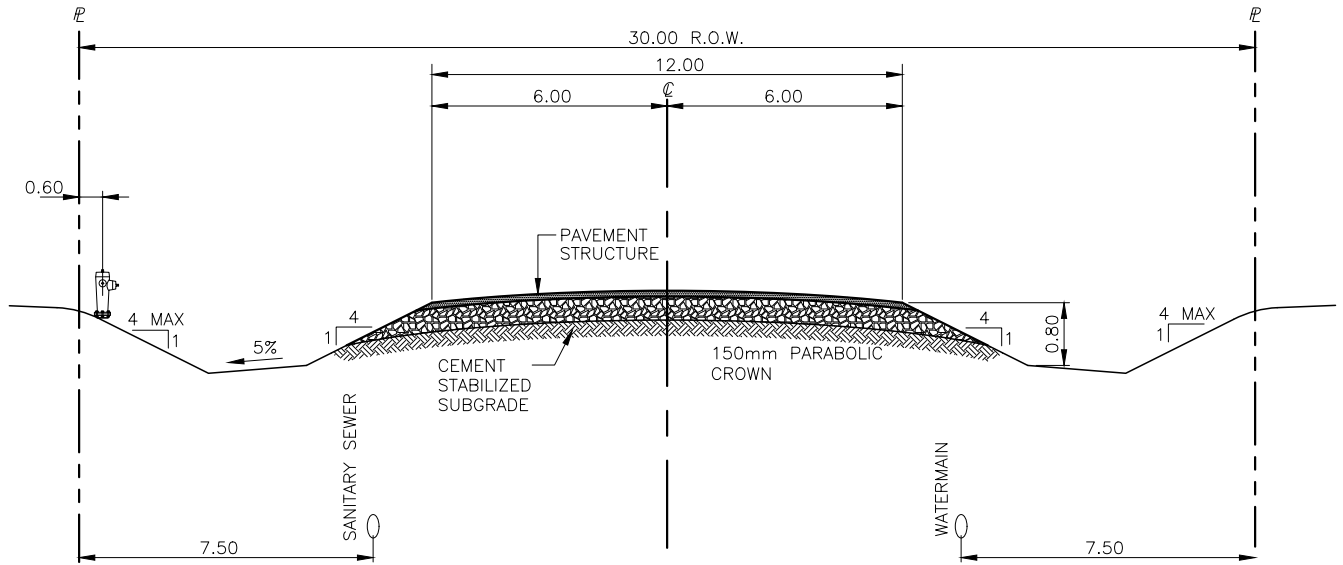
RESIDENTIAL COLLECTOR ROADS



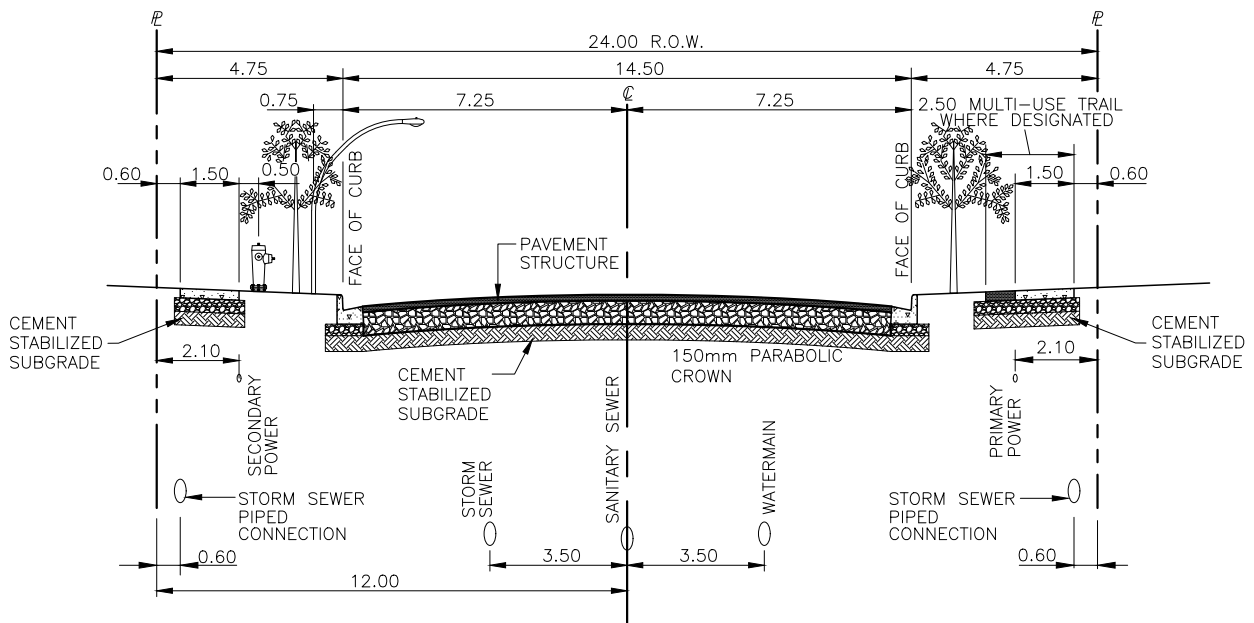
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|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: CS-02 |

XREFS

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RURAL INDUSTRIAL



URBAN INDUSTRIAL/COMMERCIAL

NOTES:

1. MINIMUM 150mm GRAVEL UNDER ALL CONCRETE STRUCTURES
2. ENSURE 0.5m CLEARANCE BETWEEN POWER AND HYDRANTS
3. EXTEND SUBGRADE AND GRAVEL BASE 300mm BEYOND BACK OF CURB
4. EXTEND SUBGRADE AND GRAVEL BASE 150mm BEYOND EDGE OF SEPARATE WALK
5. WHERE MULTI-USE ASPHALT TRAIL IS DESIGNATED, SUBGRADE AND GRAVEL BASE TO BE PREPARED AS PER ASPHALT TRAIL DETAIL LG-07

**THE CITY OF
SPRUCE GROVE**

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|----------------------------|-------|
| 03/13 | Cement Stabilized Subgrade | SW |
| 02/14 | Additional Notes | RP |
| 02/21 | Extend Base & Subgrade | AS |

INDUSTRIAL/COMMERCIAL ROADS



DRAWN: T. CRAWFORD

DATE: MARCH 6, 2006

CHECKED: J. MUSTARD

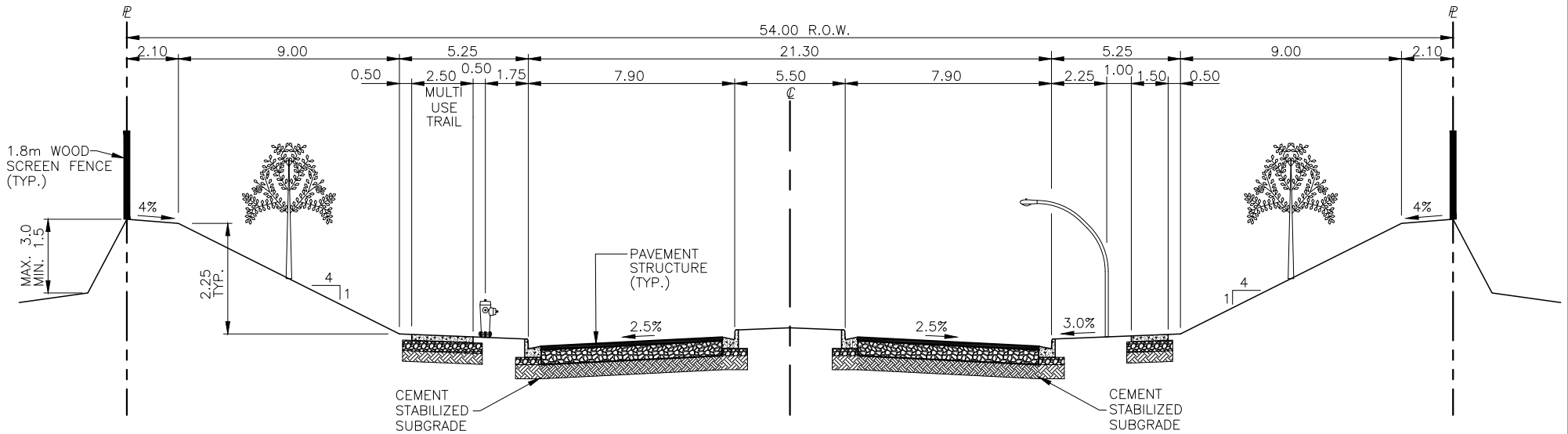
SCALE: NOT TO SCALE

APPROVED: J. MUSTARD

DRAWING No.: CS-03

XREFS

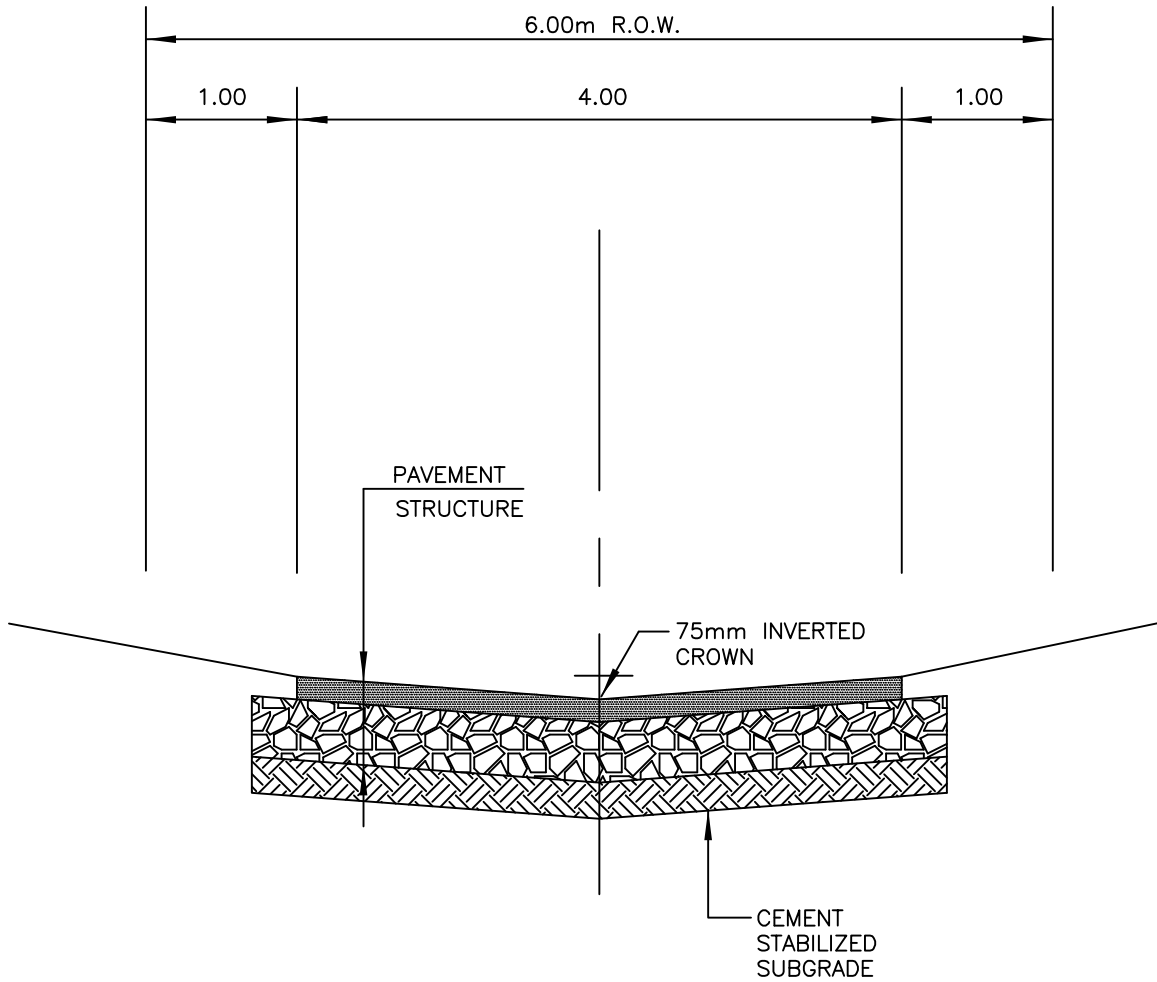
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NOTES:

1. MINIMUM 150mm GRAVEL UNDER ALL CONCRETE STRUCTURES
2. ENSURE 0.5m CLEARANCE BETWEEN POWER AND HYDRANTS
3. EXTEND SUBGRADE AND GRAVEL BASE 300mm BEYOND BACK OF CURB
4. EXTEND SUBGRADE AND GRAVEL BASE 150mm BEYOND EDGE OF SEPARATE WALK
5. WHERE MULTI-USE ASPHALT TRAIL IS DESIGNATED, SUBGRADE AND GRAVEL BASE TO BE PREPARED AS PER ASPHALT TRAIL DETAIL LG-07

| THE CITY OF SPRUCE GROVE | | | PLANNING AND INFRASTRUCTURE | | |
|-----------------------------|----------------------------|-------|-----------------------------|----------------------|---------------------|
| REVISIONS | | | 4 LANE DIVIDED ARTERIAL | | |
| DATE | DETAILS | DRAWN | | DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| 03/13 | Cement Stabilized Subgrade | SW | | CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| 02/14 | Additional Notes | RP | | APPROVED: J. MUSTARD | DRAWING No.: CS-04 |
| 02/21 | Extend Base & Subgrade | AS | | | |



NOTE:
EXTEND SUBGRADE AND GRAVEL BASE 300mm BEYOND EDGE OF ASPHALT

XREFS

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

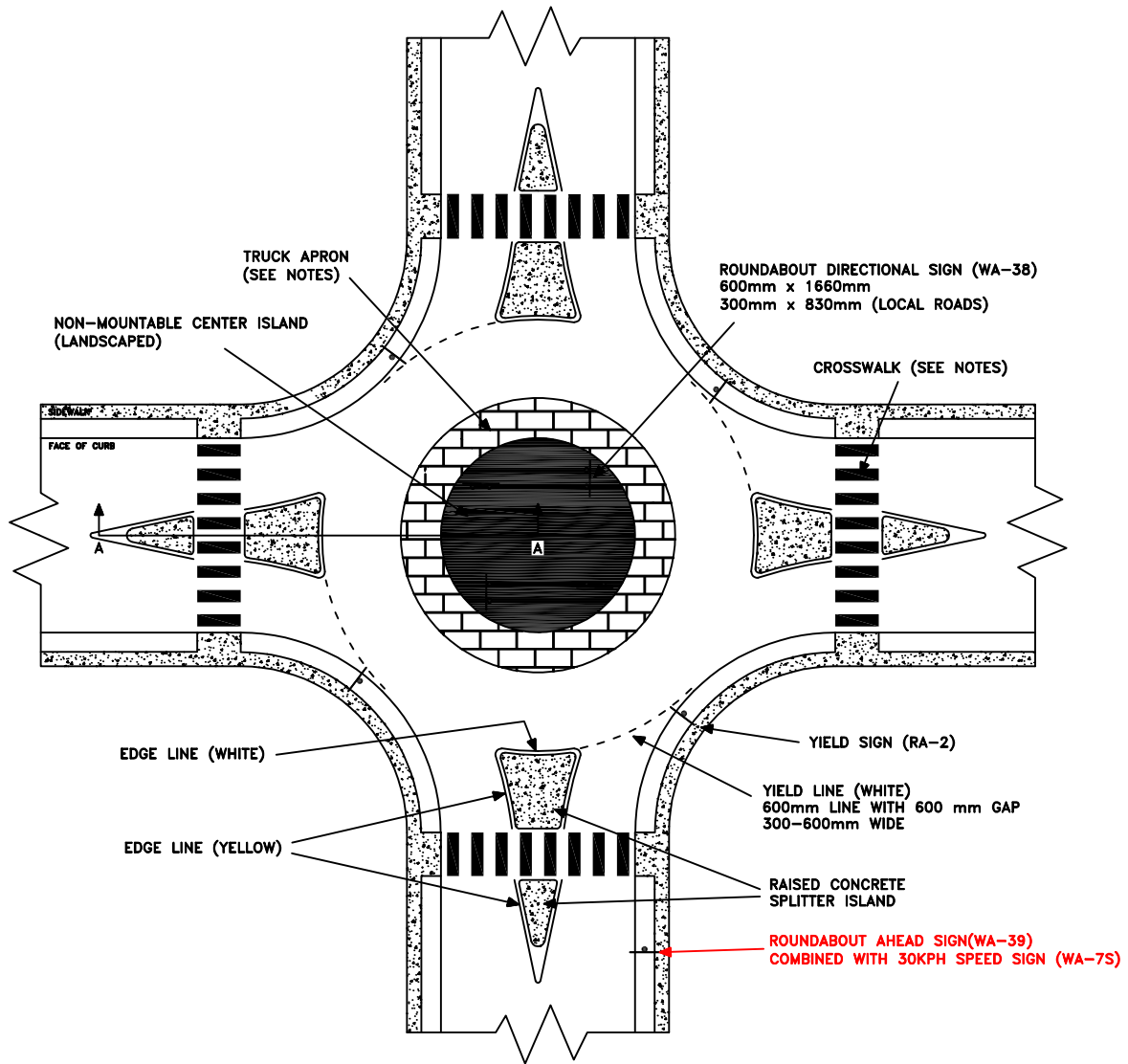
| DATE | DETAILS | DRAWN |
|-------|----------------------------|-------|
| 03/13 | Cement Stabilized Subgrade | SW |
| 02/21 | Extend Base & Subgrade | AS |
| 01/25 | TITLE CHANGE | BD |
| | | |

TYPICAL LANE ALLEY

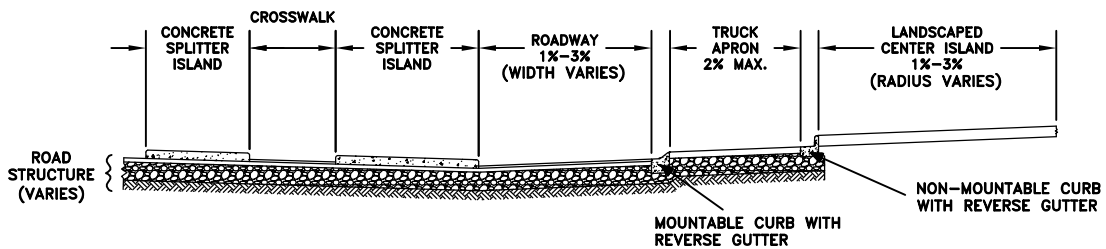


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|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: CS-05 |

C:\DETAILS\SHEET2-TK



SECTION A-A



NOTES:

1. ROUNDABOUT DESIGN SHALL BE IN ACCORDANCE WITH THE TAC CANADIAN ROUNDABOUT DESIGN GUIDE.
2. REFER TO MUTCDC FOR SIGN INSTALLATION AND PAVEMENT MARKING GUIDELINES.
3. TRUCK APRON SHALL BE BRICK INLAY OR OTHER CITY APPROVED MATERIAL.
4. SEE DRAWING DETAIL SN-08 FOR CROSSWALK TREATMENT DETAILS.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

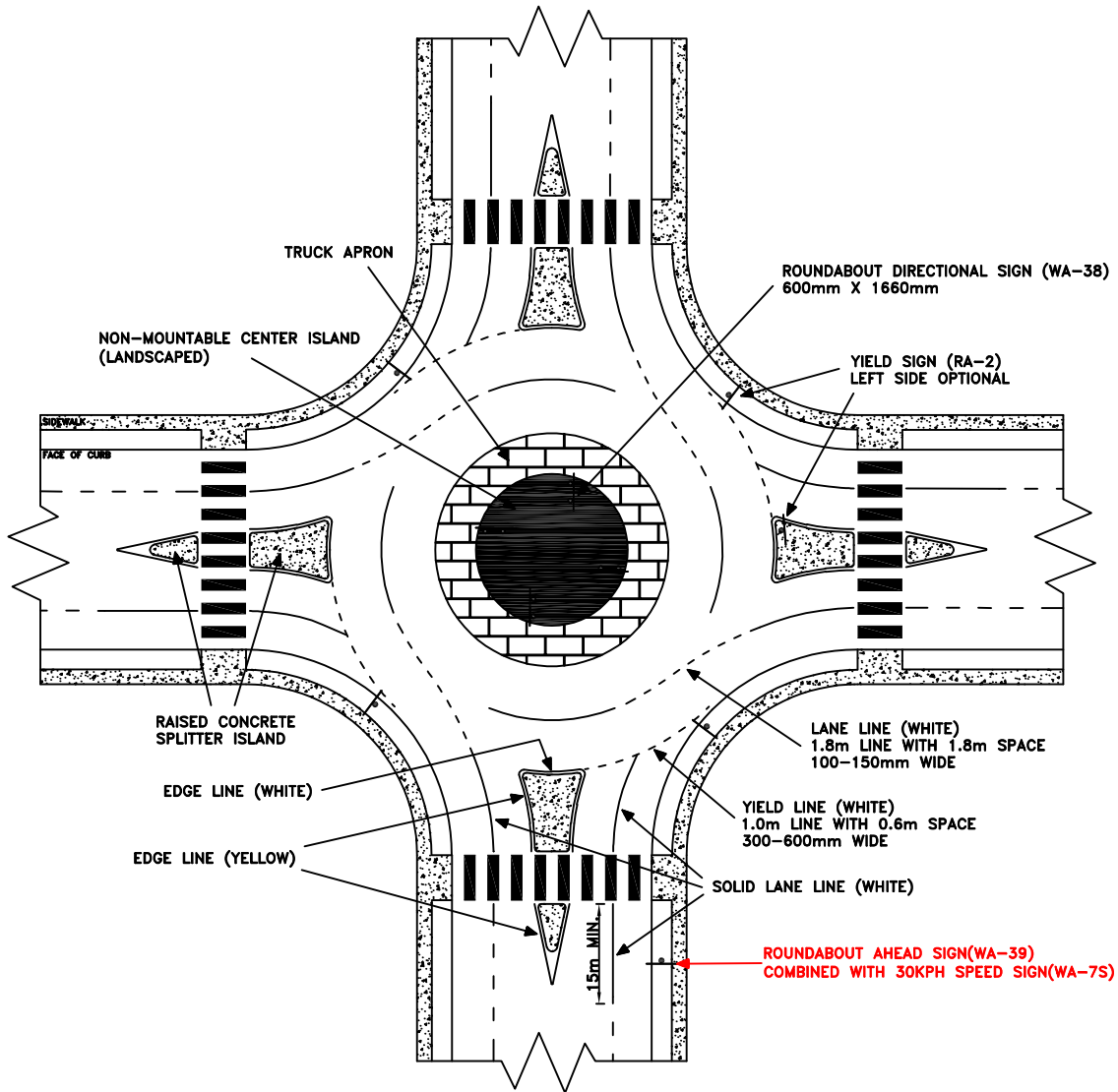
REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 01/28 | SIGNAGE ADDITION | BD |
| | | |
| | | |

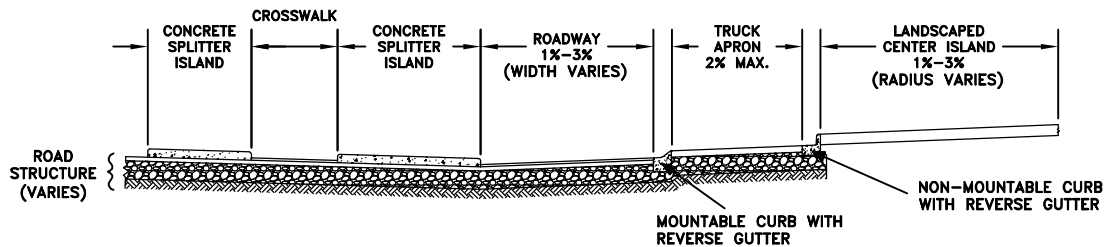
SINGLE LANE ROUNDABOUT



| | |
|--------------------|------------------------|
| DRAWN: H. WHITE | DATE: JANUARY 26, 2022 |
| CHECKED: D. FLYNN | SCALE: NOT TO SCALE |
| APPROVED: D. FLYNN | DRAWING No.: CS-06 |



SECTION A-A



NOTES:

1. ROUNDABOUT DESIGN SHALL BE IN ACCORDANCE WITH THE TAC CANADIAN ROUNDABOUT DESIGN GUIDE.
2. REFER TO MUTCDC FOR SIGN INSTALLATION AND PAVEMENT MARKING GUIDELINES.
3. TRUCK APRON SHALL BE BRICK INLAY OR OTHER CITY APPROVED MATERIAL.
4. SEE DRAWING DETAIL SN-08 FOR CROSSWALK TREATMENT DETAILS.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 01/28 | SIGNAGE ADDITION | BD |
| | | |
| | | |
| | | |

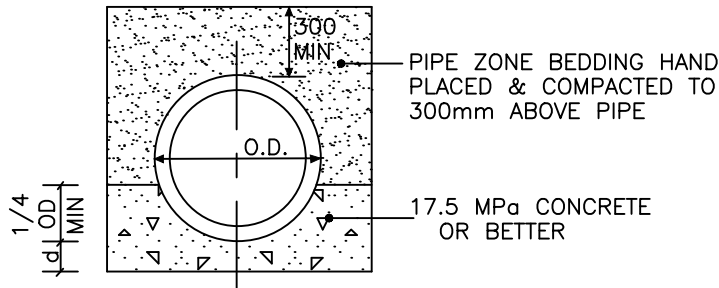
MULTI LANE ROUNDABOUT



| | |
|--------------------|-------------------------|
| DRAWN: H. WHITE | DATE: FEBRUARY 10, 2022 |
| CHECKED: D. FLYNN | SCALE: NOT TO SCALE |
| APPROVED: D. FLYNN | DRAWING No.: CS-07 |

XREFS

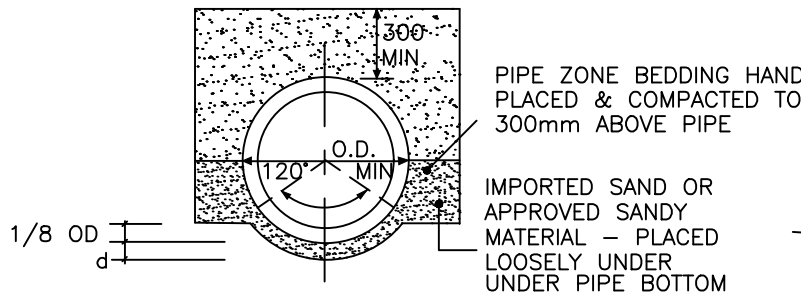
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CONCRETE CRADLE

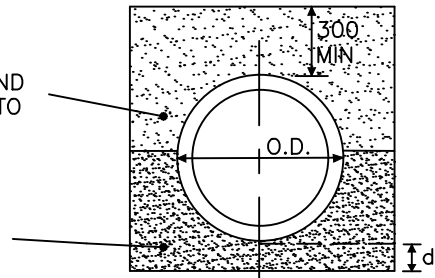
CLASS A

d = DEPTH OF BEDDING BELOW PIPE
 I.D. = 675 OR SMALLER -
 d MIN = 75
 I.D. = 750 TO 1500 -
 d MIN = 100
 I.D. = 1650 & LARGER -
 d MIN = 150
 O.D. = OUTSIDE PIPE DIAMETER

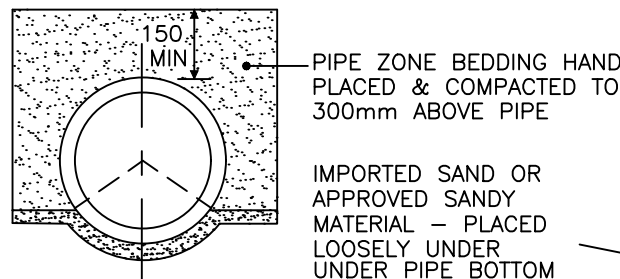


SHAPED SUBGRADE WITH GRANULAR FOUNDATION

CLASS B

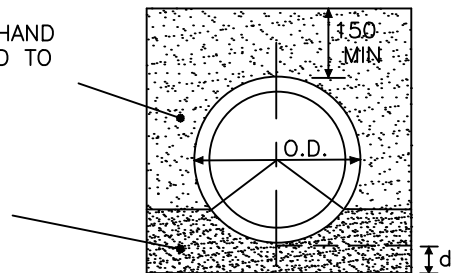


GRANULAR FOUNDATION



SHAPED SUBGRADE WITH GRANULAR FOUNDATION

CLASS C



GRANULAR FOUNDATION

- NOTE: 1. FOR ROCK OR OTHER INCOMPRESSIBLE MATERIALS, THE TRENCH SHOULD BE OVEREXCAVATED A MINIMUM OF 150mm AND REFILLED WITH GRANULAR MATERIAL.
 2. PIPE ZONE SAND MATERIALS MUST BE HAND TAMPED UNDER PIPE HAUNCHES.
 3. PIPE ZONE SAND TO BE COMPACTED TO 97% OF A STANDARD PROCTOR DENSITY.
 4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED

THE CITY OF
 SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 04/19 | Standards Update | WPS |
| 09/20 | Standards Update | CA |
| | | |

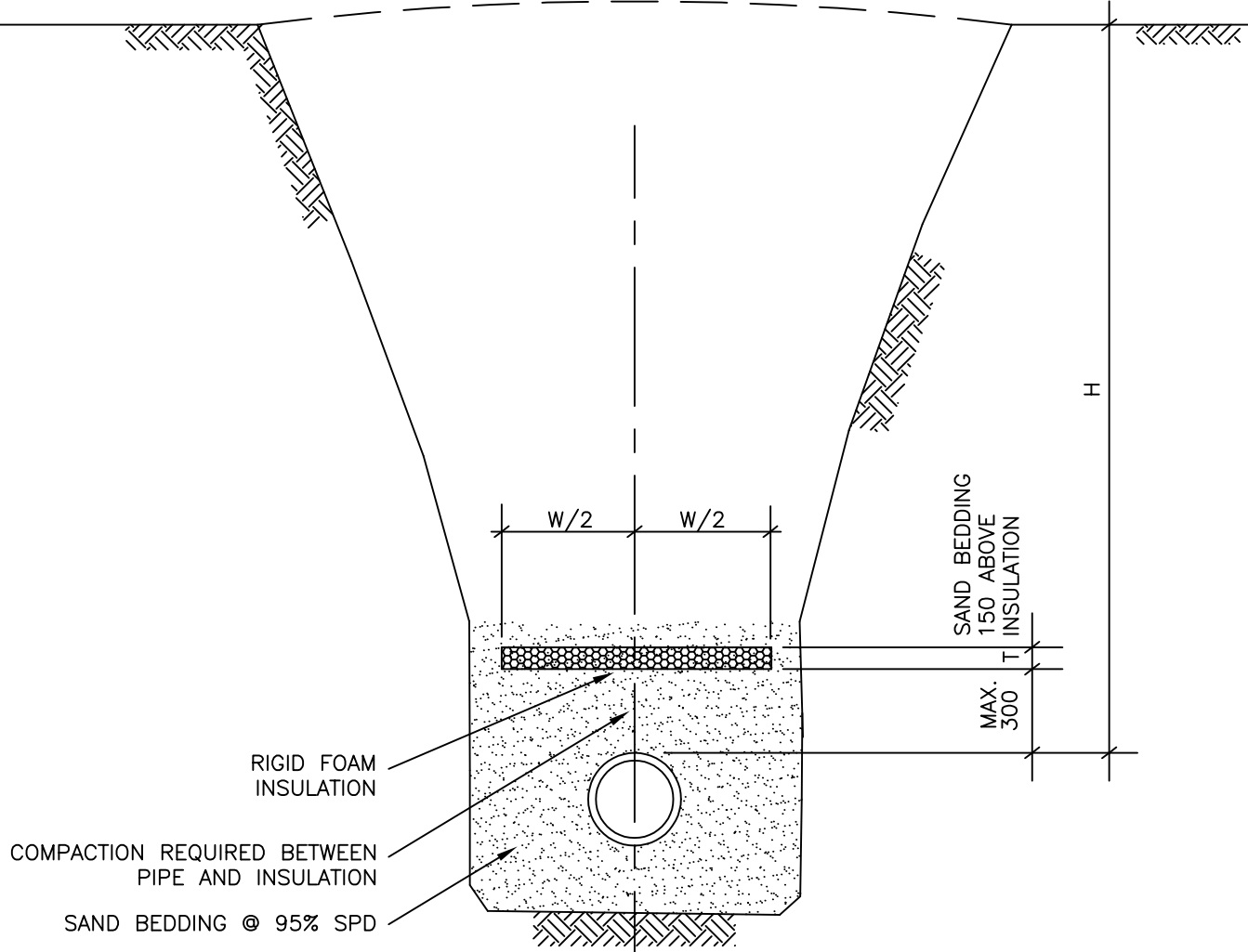
PIPE BEDDING TYPES



| | |
|-------------------------|-------------------------|
| DRAWN: C. ALBARDA | DATE: SEPTEMBER 3, 2020 |
| CHECKED: B HANSEN | SCALE: NOT TO SCALE |
| APPROVED: L. KRUSZEWSKI | DRAWING No.: GL-01 |

XREFS

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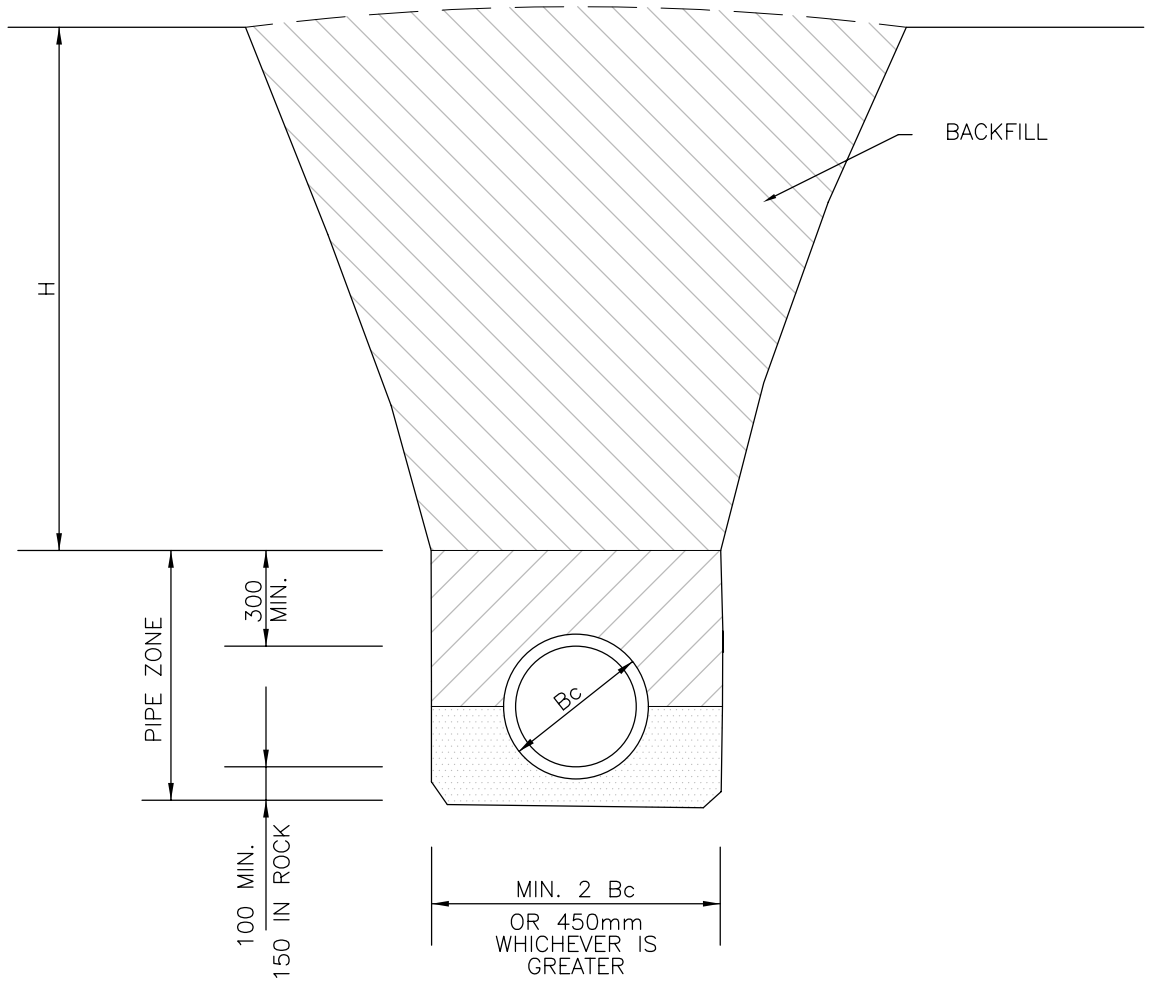
| MAIN DEPTH, GROUND SURFACE TO TOP OF MAIN (H) | THICKNESS (T) | MIN. WIDTH (W) * |
|---|---------------|------------------|
| m | mm | m |
| 0-1.2 | N/R | N/R |
| 1.2-1.5 | 175 | 3.4 |
| 1.5-1.8 | 125 | 2.8 |
| 1.8-2.1 | 125 | 2.2 |
| 2.1-2.4 | 75 | 1.6 |
| 2.4-2.7 2.8 | 50 | 1.0 |
| 2.7-3 | 25 | 1.0 |
| 2.8-3.0 OR MORE | 0 | 0 |

N/R - NOT RECOMMENDED
 * WHERE TRENCH IS LESS THAN MIN. WIDTH, USE FULL TRENCH WIDTH

NOTE:
 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED
 2. FOLLOW MANUFACTURER INSTRUCTIONS IF MORE STRINGENT THAN THIS DETAIL

THE CITY OF SPRUCE GROVE **PLANNING AND INFRASTRUCTURE**

| REVISIONS | | | INSULATION REQUIREMENTS | | |
|-----------|-------------------|-------|-------------------------|-------------------------|-------------------------|
| DATE | DETAILS | DRAWN | | | |
| 04/19 | Standards Update | WPS | | DRAWN: C. ALBARDA | DATE: FEBRUARY 10, 2022 |
| 09/20 | Standards Update | CA | | CHECKED: B. HANSEN | SCALE: NOT TO SCALE |
| 01/25 | Depth Adjustments | BD | | APPROVED: L. KRUSZEWSKI | DRAWING No.: GL-02 |



NOTES:


1. WHEN CUT BACK SLOPES ARE TO BE USED IN LIEU OF CAGES AND SHORING, THESE SLOPES ARE TO MEET REQUIREMENTS OF LOCAL CODES.
2. SEE SPECIFICATIONS FOR MINIMUM COVER ABOVE PIPE.
3. MIN. PIPE ZONE WIDTH IS SPECIFIED TO ALLOW PROPER PIPE ZONE COMPACTION.
4. B_c = OUTSIDE PIPE DIAMETER.
5. FOR UNCOMPACTED BACKFILL, CROWN TRENCH BY $0.1 \times H$.

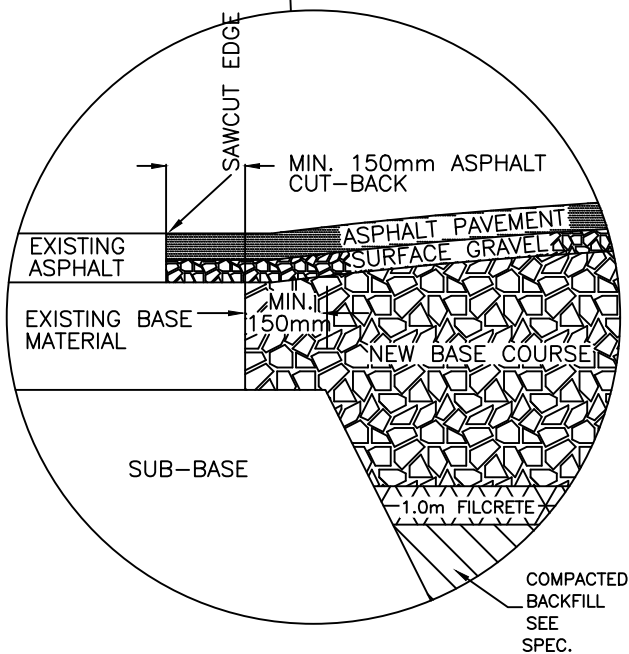
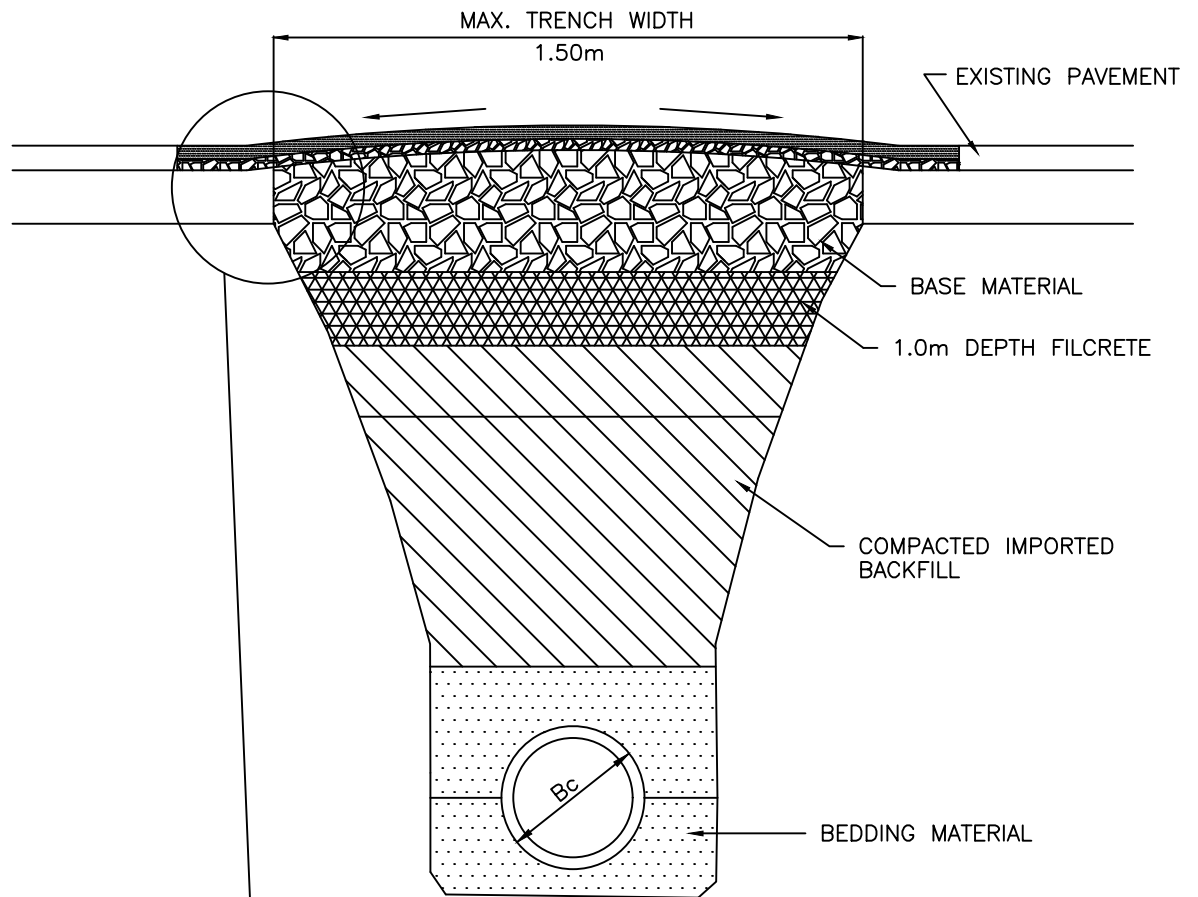
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THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

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| REVISIONS | | | TRENCH DETAIL | | |
|-----------|---------|-------|---|----------------------|---------------------|
| DATE | DETAILS | DRAWN | | | |
| | | |  | DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| | | | | CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| | | | | APPROVED: J. MUSTARD | DRAWING No.: GL-03 |



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THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 02/14 | Added Filcrete | RP |
| 04/19 | Standards Update | WPS |
| 09/20 | Standards Update | CA |

PAVEMENT RESTORATION



| | |
|-------------------------|-------------------------|
| DRAWN: C. ALBARDA | DATE: SEPTEMBER 3, 2020 |
| CHECKED: B HANSEN | SCALE: NOT TO SCALE |
| APPROVED: L. KRUSZEWSKI | DRAWING No.: GL-04 |

CONIFEROUS
LESS THAN 3.0m HEIGHT

DECIDUOUS
LESS THAN 100mm CAL.

NOTES:

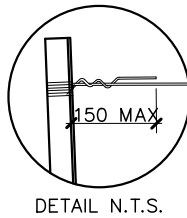
1. IF MINIMUM UTILITY SETBACKS PERMIT, POSITION TREE STAKES INTO DIRECTION OF PREVAILING WINDS (N.W. & S.E.)
2. ALL TREE STAKES TO MAINTAIN 1.0m FROM ALL U.G. POWER, TELEPHONE AND GAS ALIGNMENTS
3. DIG ALL ROOT HOLES BY HAND WHEN CLOSER THAN 1.0m TO U.G. POWER, TELEPHONE AND GAS ALIGNMENTS

RUBBER BLACK HOSE—12mm OR APPROVED EQUAL, POSITION ABOVE FIRST STRONG BRANCHES OF DECIDUOUS TREE AND APPROX. 3/5 HEIGHT FOR CONIFEROUS TREE.

GALVANIZED GUY WIRE No. 12 MIN. LEAVE ENOUGH FLEXIBILITY IN WIRE TO ALLOW SLIGHT MOVEMENT OF TREE

2 STAKES PER TREE, POSITIONED NORTHWEST AND SOUTHEAST OF TREE. ALL EXPOSED PORTIONS OF STAKES MUST BE FREE OF RUST, SCALED, PRIMED AND PAINTED. TREE STAKES MIN. 2.0m LENGTH METAL T-BAR.

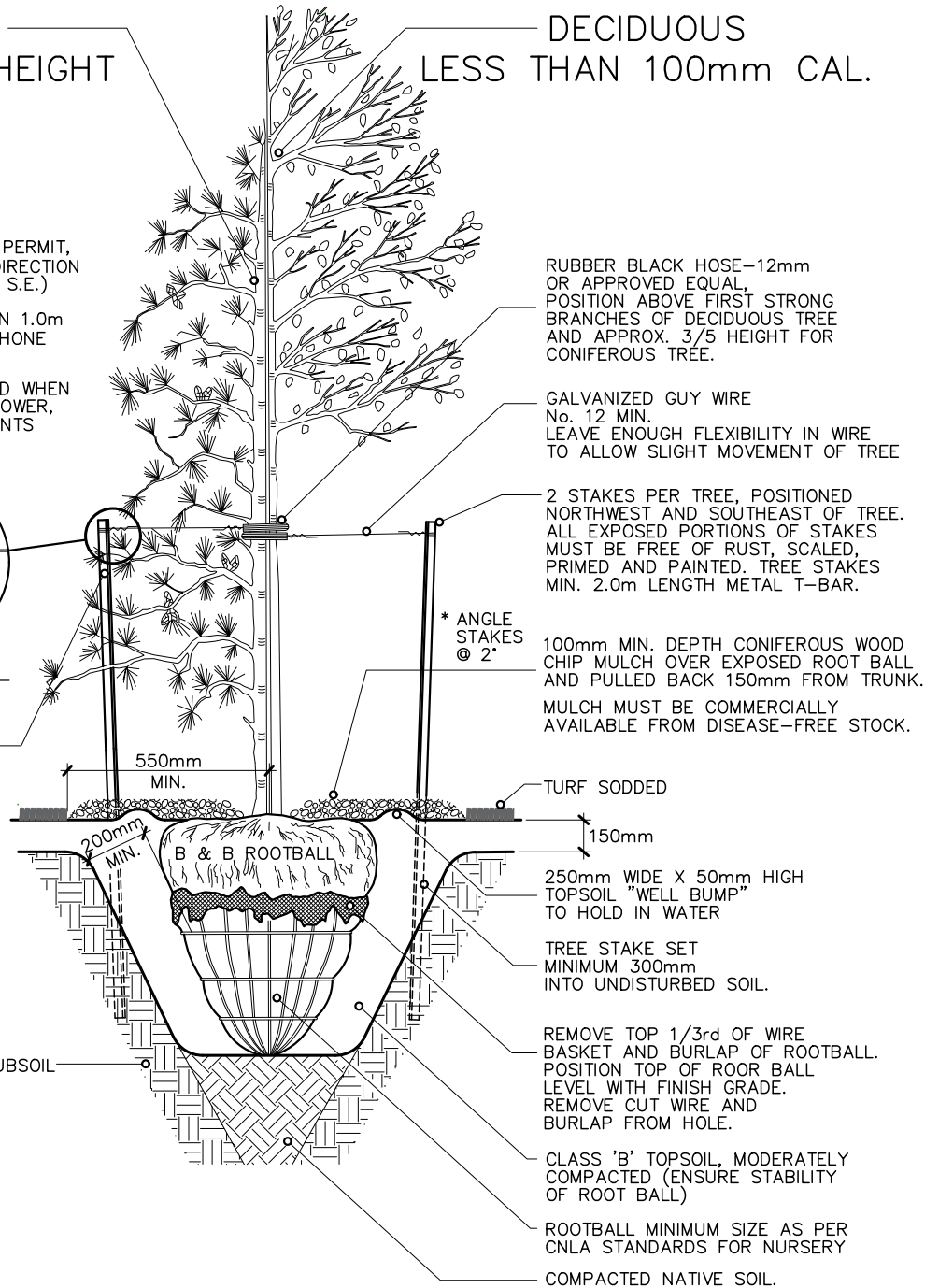
100mm MIN. DEPTH CONIFEROUS WOOD CHIP MULCH OVER EXPOSED ROOT BALL AND PULLED BACK 150mm FROM TRUNK. MULCH MUST BE COMMERCIALY AVAILABLE FROM DISEASE-FREE STOCK.



TOP 300mm ALL TREE STAKES PAINTED TO MATCH ANNUAL COLOR CODES.

- 2020 — GREEN
- 2021 — WHITE
- 2022 — YELLOW
- 2023 — GREEN
- 2024 — BLUE
- 2025 — WHITE
- 2026 — YELLOW
- 2027 — GREEN
- 2028 — BLUE
- 2029 — WHITE
- 2030 — YELLOW

UNDISTURBED NATIVE SUBSOIL



THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

TREE PLANTING

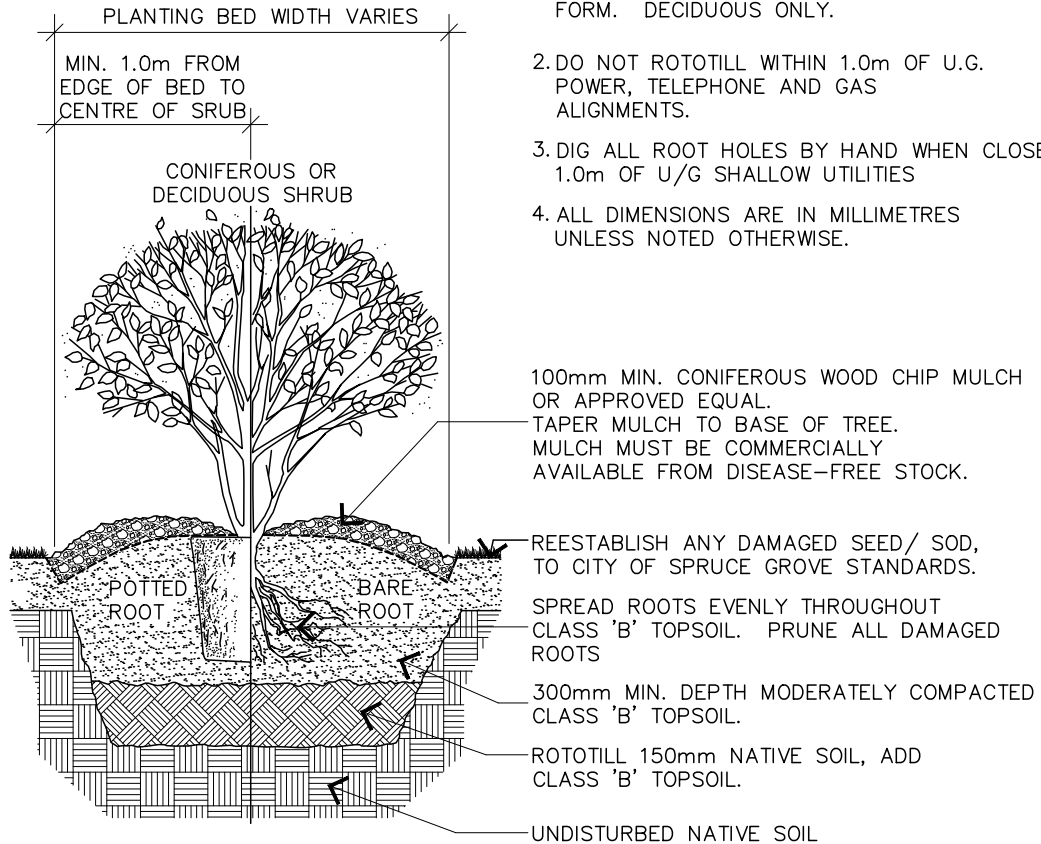
| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
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| | | |



| | |
|---------------------|------------------------|
| DRAWN: A. STACHNIAK | DATE: JANUARY 19, 2021 |
| CHECKED: M. HUSSEY | SCALE: NOT TO SCALE |
| APPROVED: M. HUSSEY | DRAWING No.: LG-01 |

NOTES:

1. PRUNE ONLY DEAD, BROKEN, OR DISEASED BRANCHES TO MAINTAIN PROPER SHRUB FORM. DECIDUOUS ONLY.
2. DO NOT ROTOTILL WITHIN 1.0m OF U.G. POWER, TELEPHONE AND GAS ALIGNMENTS.
3. DIG ALL ROOT HOLES BY HAND WHEN CLOSER THAN 1.0m OF U/G SHALLOW UTILITIES
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.



100mm MIN. CONIFEROUS WOOD CHIP MULCH OR APPROVED EQUAL.
TAPER MULCH TO BASE OF TREE.
MULCH MUST BE COMMERCIALY AVAILABLE FROM DISEASE-FREE STOCK.

REESTABLISH ANY DAMAGED SEED/ SOD, TO CITY OF SPRUCE GROVE STANDARDS.

SPREAD ROOTS EVENLY THROUGHOUT CLASS 'B' TOPSOIL. PRUNE ALL DAMAGED ROOTS

300mm MIN. DEPTH MODERATELY COMPACTED CLASS 'B' TOPSOIL.

ROTOTILL 150mm NATIVE SOIL, ADD CLASS 'B' TOPSOIL.

UNDISTURBED NATIVE SOIL

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

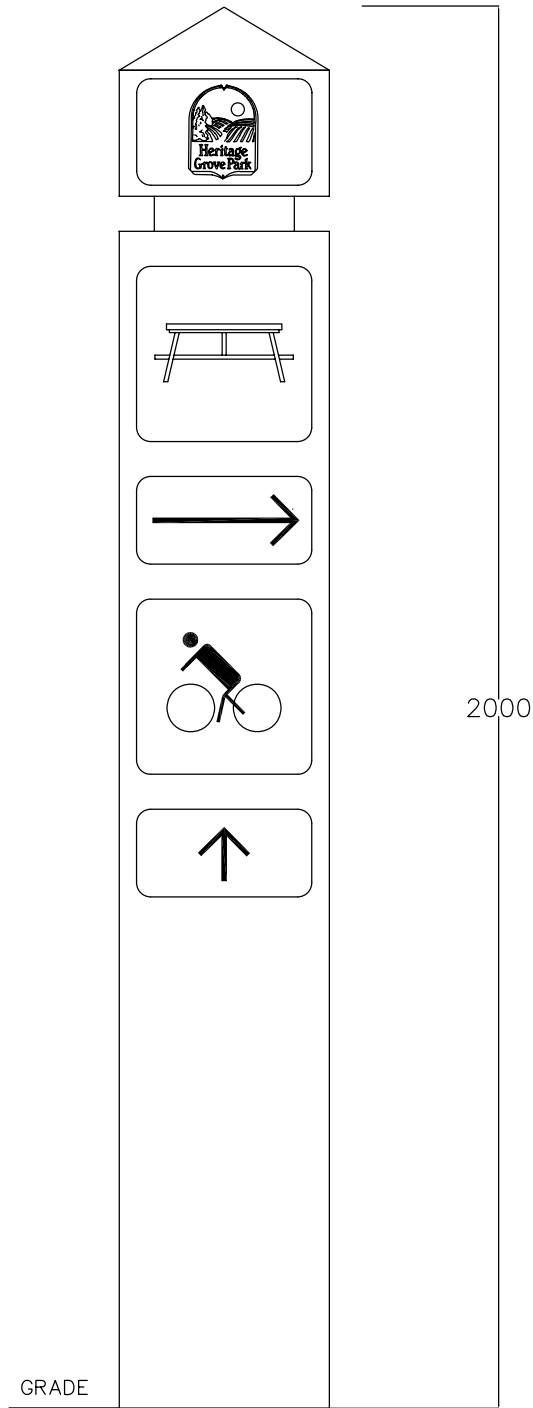
| REVISIONS | | | SHRUB PLANTING | |
|-----------|---------|-------|---------------------|---------------------|
| DATE | DETAILS | DRAWN | DRAWN: | DATE: |
| | | | A. STACHNIAK | FEBRUARY 19, 2020 |
| | | | CHECKED: M. HUSSEY | SCALE: NOT TO SCALE |
| | | | APPROVED: M. HUSSEY | DRAWING No.: LG-02 |

TYPICAL SECTION

300 x 300 x 3000 P.T.
 TIMBER POST
 CHAMFER TOP
 50 DEEP REVEAL
 HGP LOGO TO BE ALUMINUM
 BACKED LOGO ON 2 SIDES
 TREAT ALL CUTS WITH
 TWO COATS GREEN PENTOX
 TWO COATS OLYMPIC
 SEMI-TRANS. STAIN CEDAR

LOGOS, LETTERS & ARROWS
 TO BE ALUMINUM BACKED
 REFLECTIVE DECALS
 AND TO BE RECESSED INTO
 POST FLUSH WITH FACE
 SIGNS TO BE SECURED TO
 POST WITH TAMPER-PROOF
 STAINLESS STEEL SCREWS
 CONSISTENT WITH EXISTING
 CITY STANDARD

PLOT HOLE TO BE
 BACKFILLED WITH COMPACTED
 20mm CRUSHED GRAVEL



XREFS

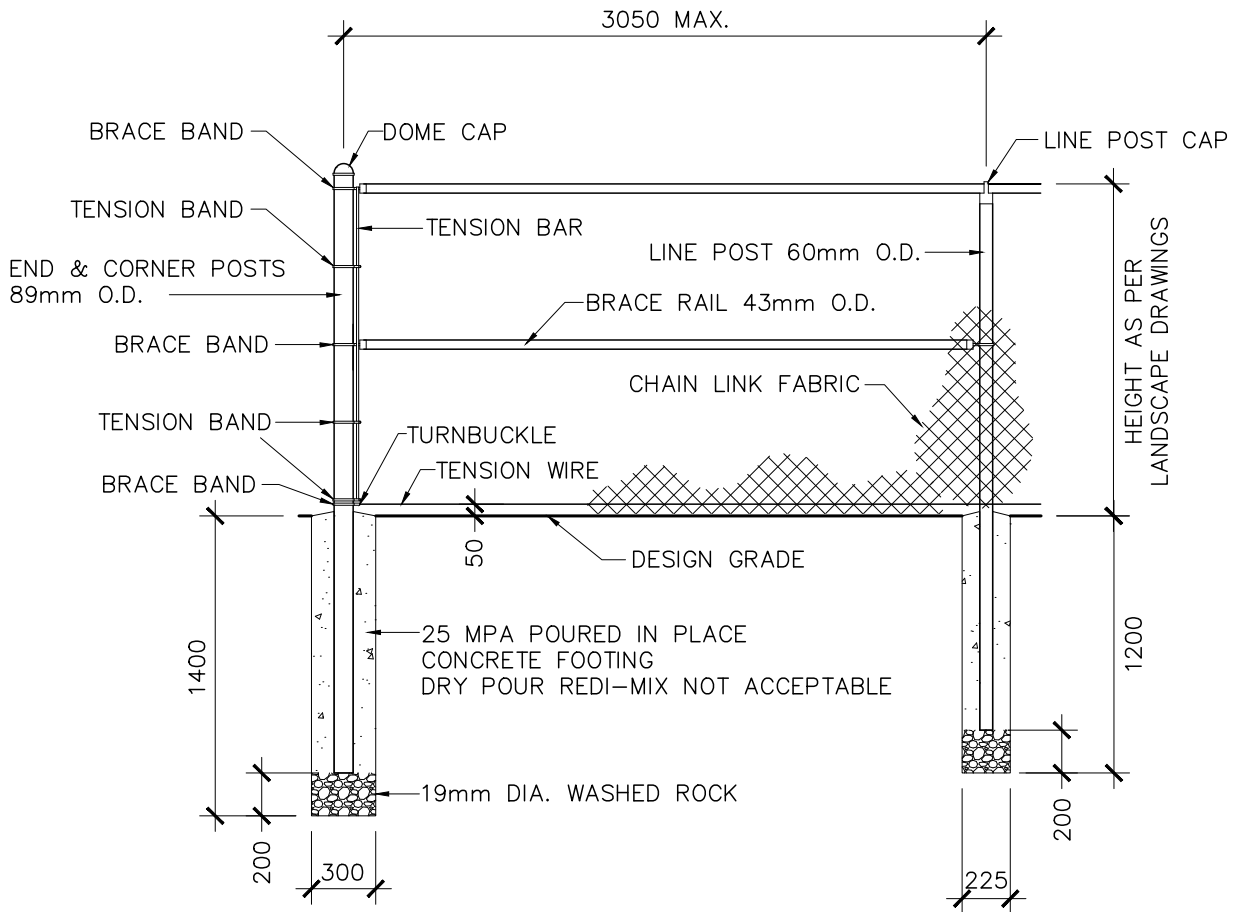
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THE CITY OF
 SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

| REVISIONS | | | DRAWN | | DATE | |
|-----------|---------|-------|----------------------|--|---------------------|--|
| DATE | DETAILS | DRAWN | DRAWN | | DATE | |
| | | | DRAWN: T. CRAWFORD | | DATE: MARCH 6, 2006 | |
| | | | CHECKED: J. MUSTARD | | SCALE: NOT TO SCALE | |
| | | | APPROVED: J. MUSTARD | | DRAWING No.: LG-03 | |





NOTES:

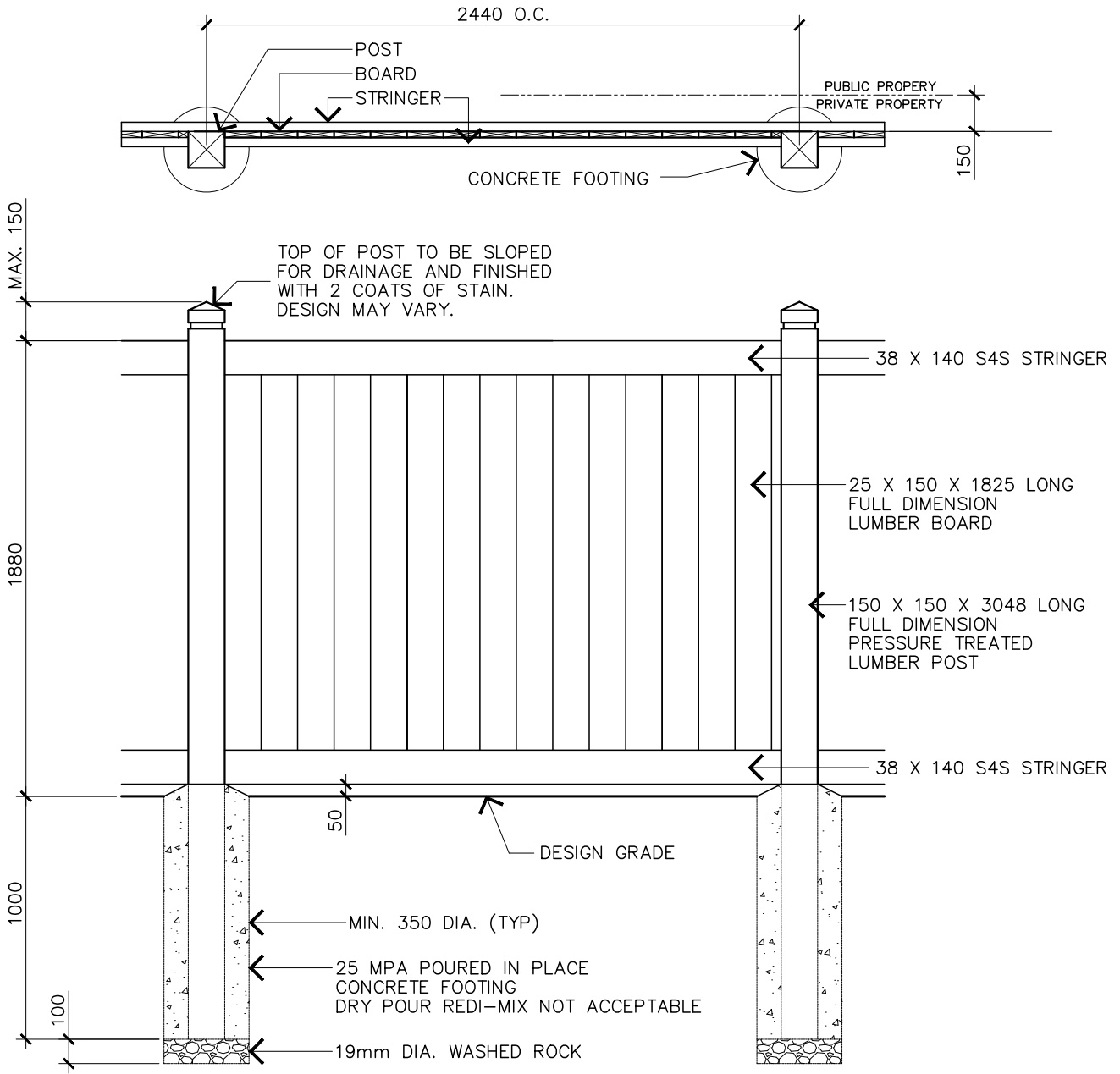
1. NO PORTION OF DEVELOPER FENCE MAY INCLUDE GATES OR PROVISIONS FOR FUTURE GATES UNLESS APPROVED BY THE CITY OF SPRUCE GROVE
2. FENCE MUST BE INSTALLED ENTIRELY WITHIN PRIVATE PROPERTY
3. NO PORTION OF FENCE MAY ENCROACH UTILITY EASEMENTS OR RIGHTS-OF-WAY
4. ALL PIPE SCHEDULE 40 HOT DIPPED GALVANIZED
5. ALL FASTENINGS, WIRE & HARDWARE GALVANIZED STEEL
6. MIDDLE BRACE RAIL REQUIRED AT ALL END SECTIONS
7. TIE-WIRES TO BE SPACED 300 O.C (FOR FABRIC TO LINE POSTS, RAILS & TENSION WIRE)
8. TENSION BANDS TO BE SPACED AT MINIMUM 300 O.C.

**THE CITY OF
SPRUCE GROVE**

PLANNING AND INFRASTRUCTURE

| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
| | | |
| | | |

| CHAIN LINK FENCE | | |
|------------------|---------------------|-------------------------|
| | DRAWN: A. STACHNIAK | DATE: FEBRUARY 13, 2020 |
| | CHECKED: M. HUSSEY | SCALE: NOT TO SCALE |
| | APPROVED: M. HUSSEY | DRAWING No.: LG-04 |



NOTES:

1. NO PORTION OF FENCE MAY ENCROACH UTILITY EASEMENTS OR RIGHTS-OF-WAY
2. ALL LUMBER TO RECEIVE 2 COATS OF STAIN.
3. BOARDS TO BE NAILED TO STRINGERS WITH GALVANIZED ARDOX NAILS MIN. 57 LONG, 3 PER BOARD PER STRINGER
4. MID-STRINGER OPTIONAL

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

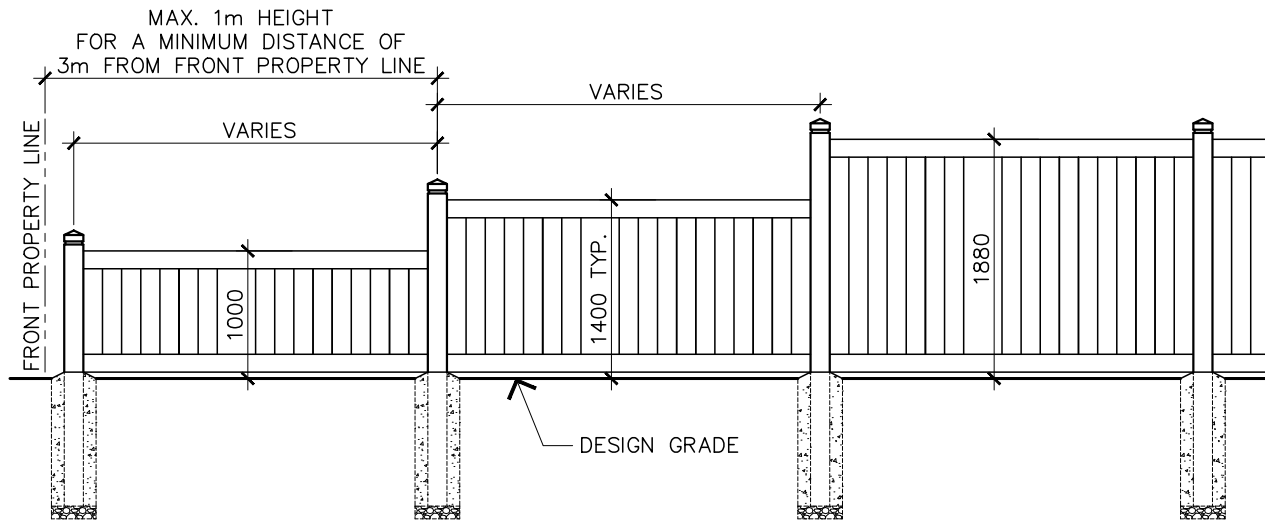
| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
| | | |
| | | |

TYPICAL WOOD SCREEN FENCE

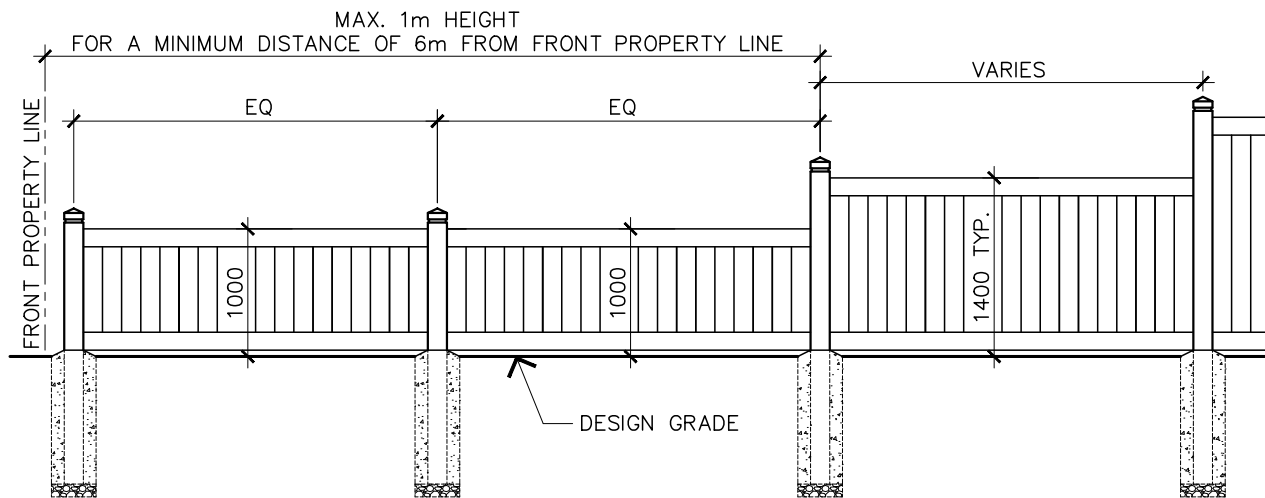
DRAWN: A. STACHNIAK DATE: FEBRUARY 18, 2020

CHECKED: M. HUSSEY SCALE: NOT TO SCALE

APPROVED: M. HUSSEY DRAWING No.: LG-05



CORNER LOT WOOD FENCE STEP-DOWN DETAIL



P.U.L. WOOD FENCE STEP-DOWN DETAIL

NOTES:

1. NO PORTION OF FENCE MAY ENCROACH UTILITY EASEMENTS OR RIGHTS-OF-WAY
2. FENCE MUST BE INSTALLED ENTIRELY WITHIN PRIVATE PROPERTY
3. SEE DETAIL LG-05 FOR SPECIFICATIONS ON FENCE MATERIALS, CONCRETE FOOTINGS, AND REQUIRED CLEARANCES

THE CITY OF
SPRUCE GROVE

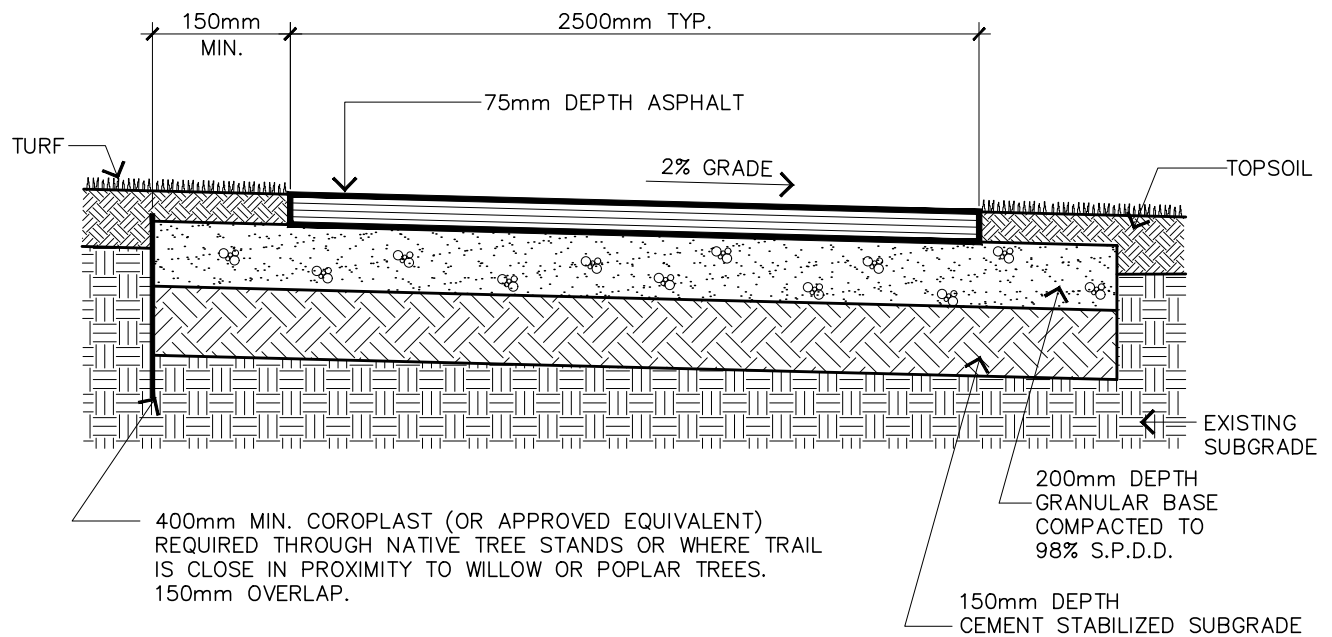
PLANNING AND INFRASTRUCTURE

| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
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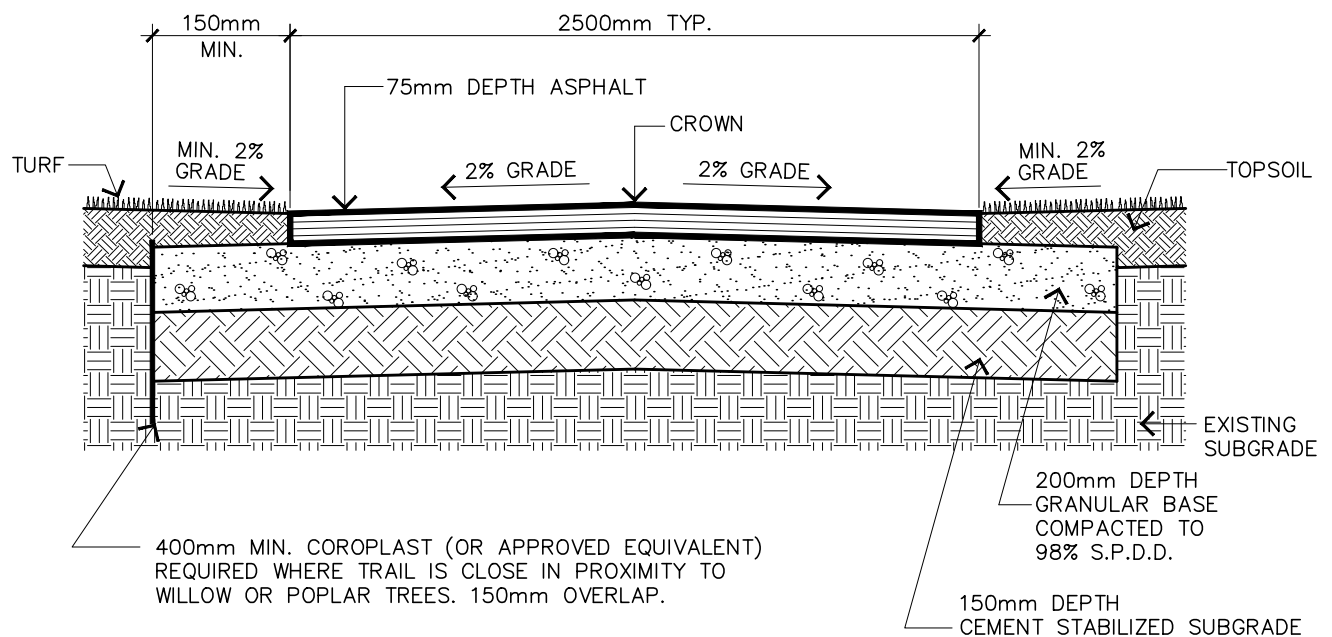
WOOD FENCE STEP-DOWN



| | |
|---------------------|-------------------------|
| DRAWN: A. STACHNIAK | DATE: FEBRUARY 12, 2020 |
| CHECKED: M. HUSSEY | SCALE: NOT TO SCALE |
| APPROVED: M. HUSSEY | DRAWING No.: LG-06 |



STANDARD ASPHALT TRAIL CROSS-SECTION



P.U.L. ASPHALT TRAIL CROSS-SECTION


NOTE:

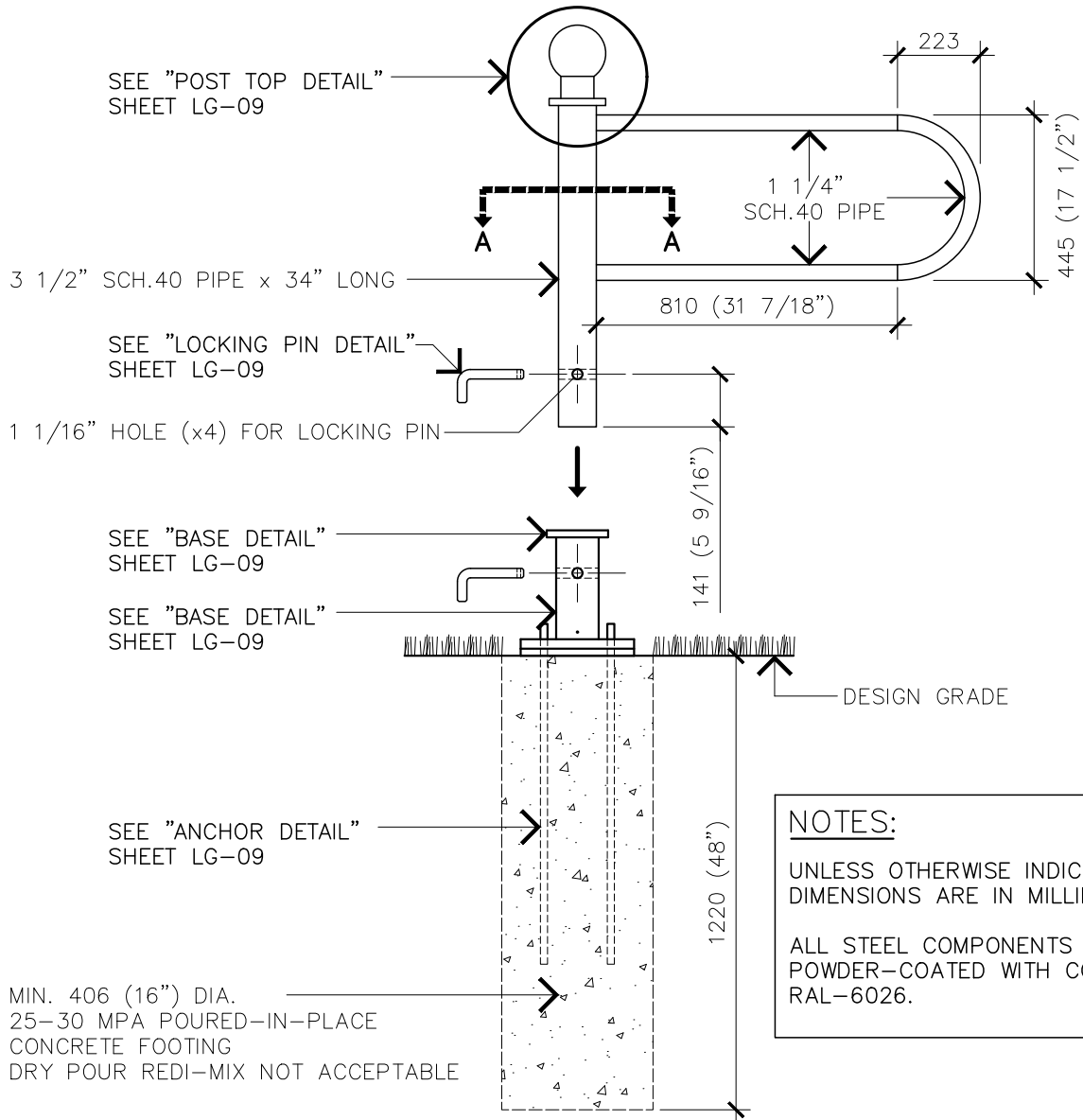
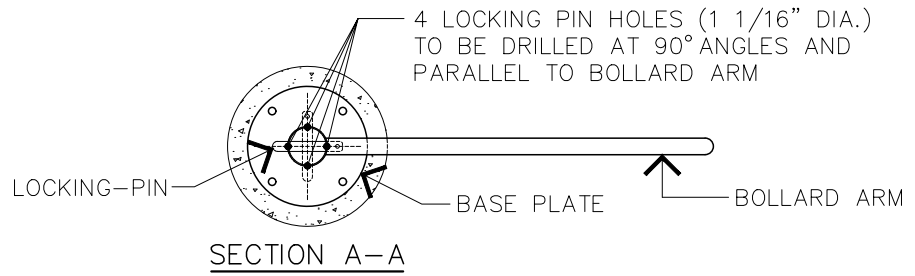
CONTRACTOR IS RESPONSIBLE TO REHABILITATE ALL DISTURBED AREAS ALONG TRAIL EDGE WITH TOPSOIL AND SOD

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
| | | |
| | | |

| ASPHALT TRAIL | | |
|---|---------------------|------------------------|
|  | DRAWN: A. STACHNIAK | DATE: JANUARY 13, 2021 |
| | CHECKED: M. HUSSEY | SCALE: NOT TO SCALE |
| | APPROVED: M. HUSSEY | DRAWING No.: LG-07 |




NOTES:
 UNLESS OTHERWISE INDICATED, ALL DIMENSIONS ARE IN MILLIMETRES
 ALL STEEL COMPONENTS TO BE POWDER-COATED WITH COLOUR RAL-6026.

ELEVATION VIEW

THE CITY OF SPRUCE GROVE PLANNING AND INFRASTRUCTURE

| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
| | | |
| | | |

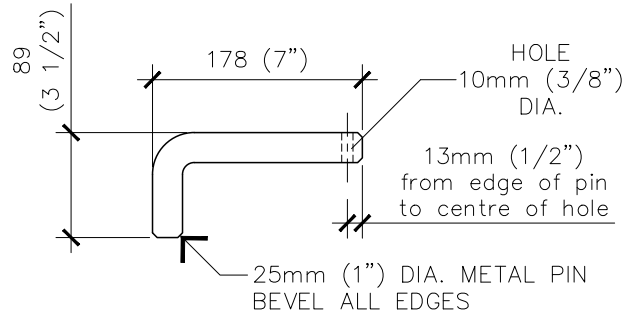
"P" SWING GATE BOLLARD

| | | |
|---|---------------------|----------------------|
|  | DRAWN: A. STACHNIAK | DATE: MARCH 23, 2020 |
| | CHECKED: M. HUSSEY | SCALE: NOT TO SCALE |
| | APPROVED: M. HUSSEY | DRAWING No.: LG-08 |

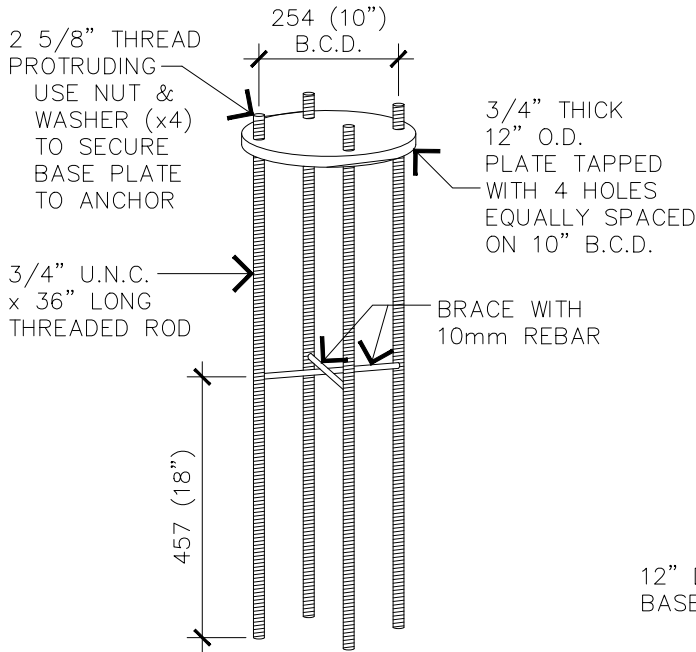
NOTES:

UNLESS OTHERWISE INDICATED, ALL DIMENSIONS ARE IN MILLIMETRES

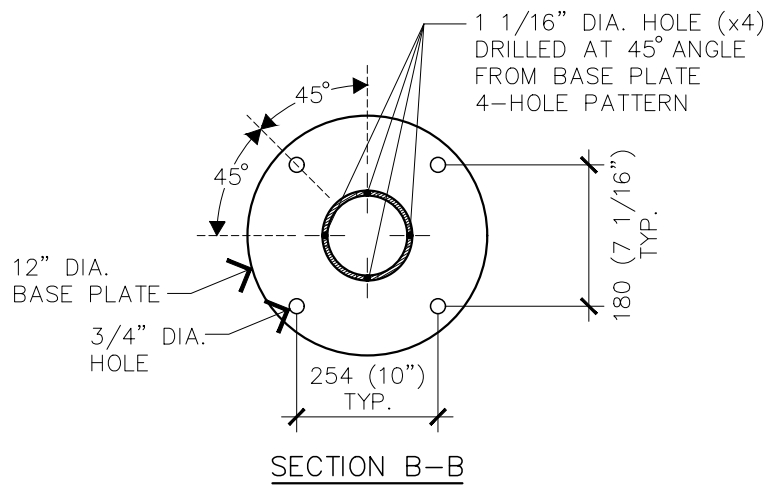
ALL STEEL COMPONENTS TO BE POWDER COATED WITH COLOUR RAL-6026.



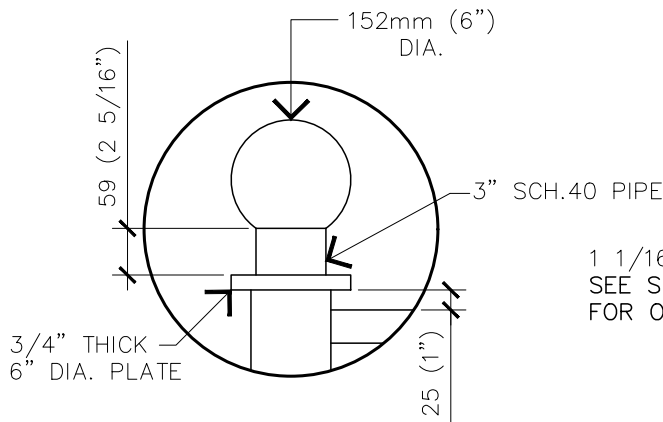
LOCKING PIN DETAIL



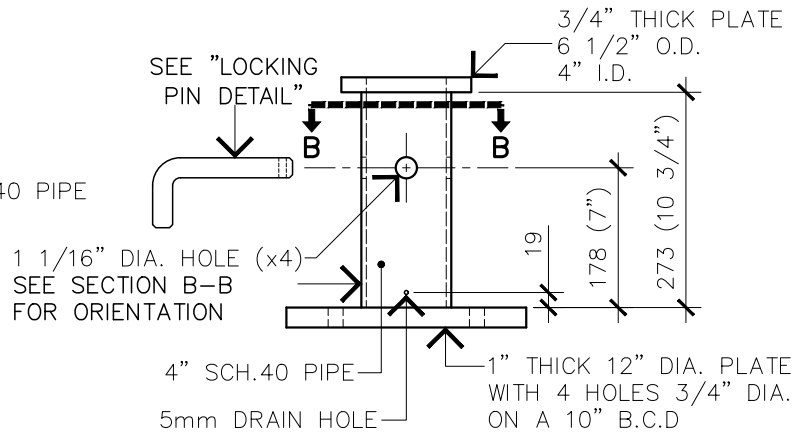
ANCHOR DETAIL



SECTION B-B



POST TOP DETAIL




BASE DETAIL

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
| | | |
| | | |

| "P" SWING GATE BOLLARD | | |
|---|---------------------|----------------------|
|  | DRAWN: A. STACHNIAK | DATE: MARCH 23, 2020 |
| | CHECKED: M. HUSSEY | SCALE: NOT TO SCALE |
| | APPROVED: M. HUSSEY | DRAWING No.: LG-09 |

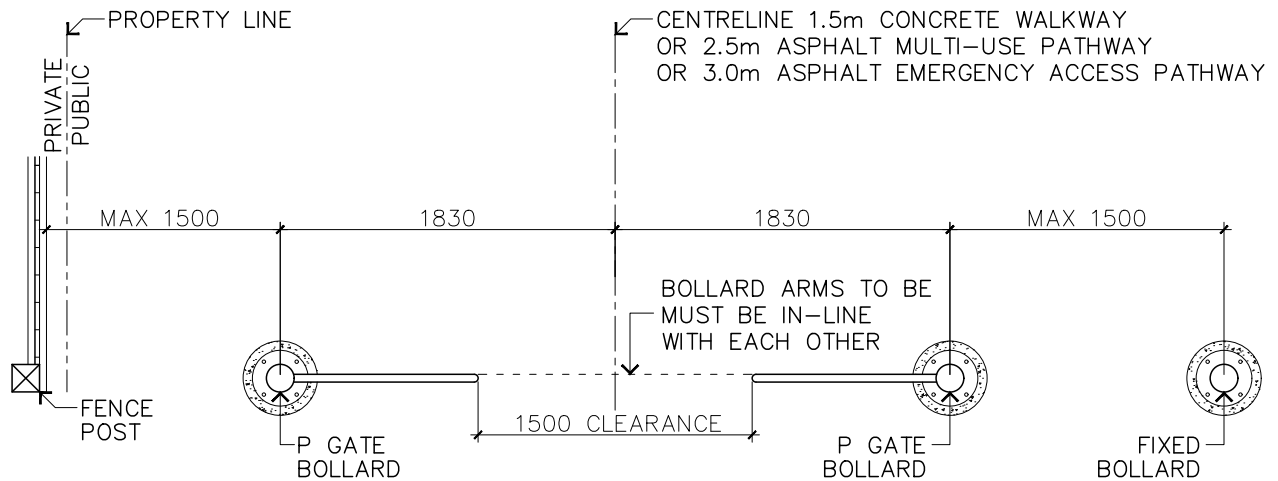
NOTES:

ALL DIMENSIONS ARE IN MILLIMETRES

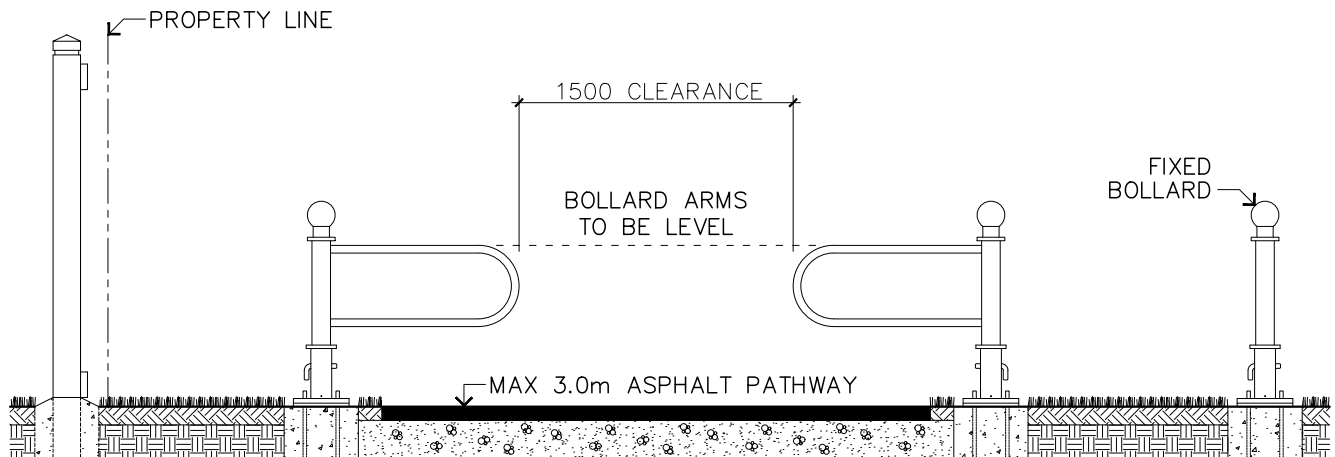
A FIXED BOLLARD IS REQUIRED TO BE INSTALLED WHERE DISTANCE BETWEEN P-GATE BOLLARD AND ADJACENT FENCE EXCEEDS 1.5m.

DISTANCE BETWEEN FIXED BOLLARD AND P-GATE BOLLARD MAY NOT EXCEED 1.5m.

NO PORTION OF BOLLARD MAY ENCROACH UTILITY EASEMENTS OR RIGHTS-OF-WAY



PLAN VIEW



ELEVATION VIEW

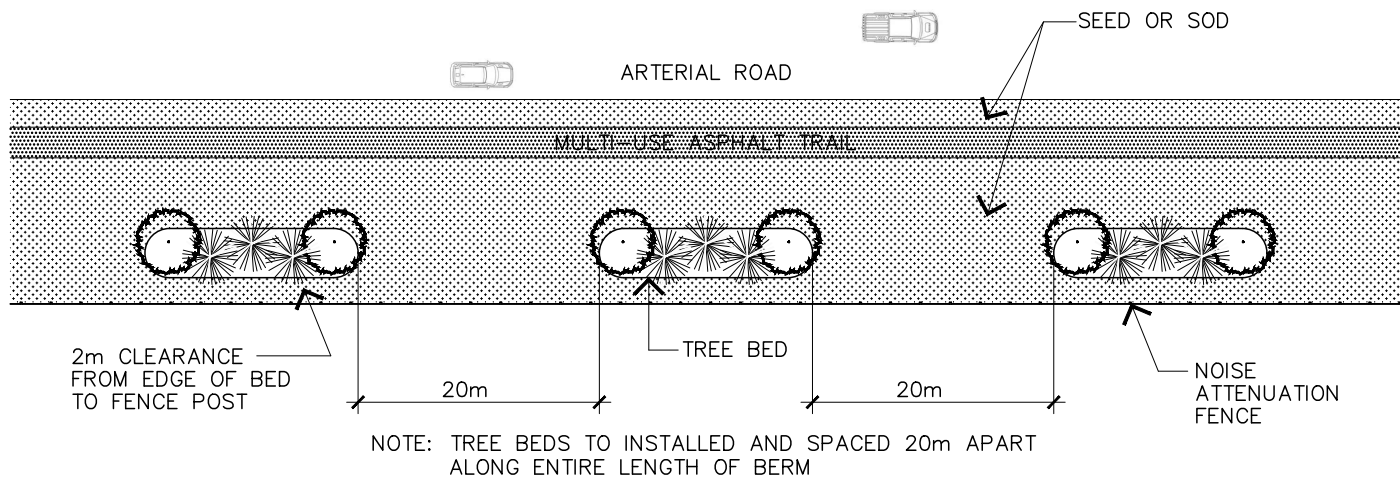
THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

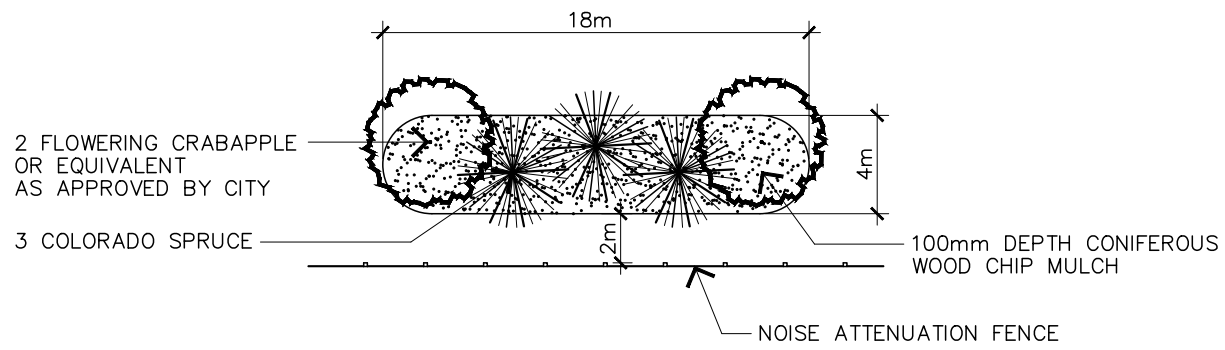
| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
| | | |
| | | |

P-GATE BOLLARD INSTALLATION

| | | |
|--|---------------------|---------------------|
| | DRAWN: A. STACHNIAK | DATE: MAY 27, 2020 |
| | CHECKED: M. HUSSEY | SCALE: NOT TO SCALE |
| | APPROVED: M. HUSSEY | DRAWING No.: LG-10 |



ARTERIAL BERM LANDSCAPE PLAN



TREE BED LAYOUT

NOTES:

1. PLANT TREES AS PER DETAIL LG-01 OF THE CITY OF SPRUCE GROVE'S MUNICIPAL DEVELOPMENT STANDARDS IN ITS LATEST EDITION.
2. EDGES OF TREE BEDS SHALL BE CUT. DO NOT USE LANDSCAPE EDGER.
3. MULCH MUST BE COMMERCIALY AVAILABLE FROM DISEASE-FREE STOCK.
4. TOPSOIL, SEED AND SOD SHALL CONFORM TO "SECTION IX-LANDSCAPING" OF THE CITY OF SPRUCE GROVE'S MUNICIPAL DEVELOPMENT STANDARDS IN ITS LATEST EDITION.

THE CITY OF
SPRUCE GROVE

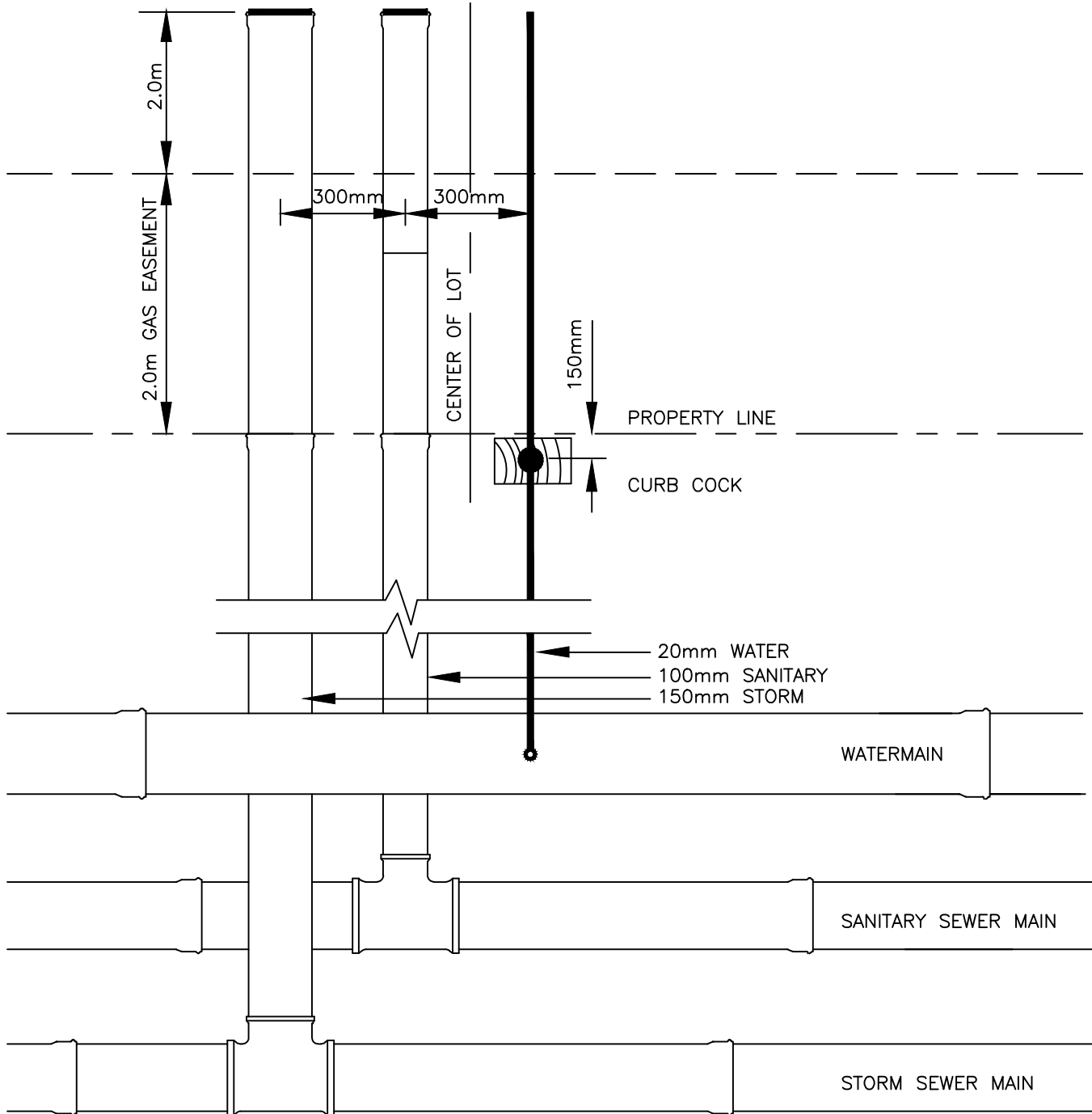
PLANNING AND INFRASTRUCTURE

| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
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ARTERIAL BERM LANDSCAPING

| | |
|---------------------|-------------------------|
| DRAWN: A. STACHNIAK | DATE: FEBRUARY 19, 2021 |
| CHECKED: M. HUSSEY | SCALE: NOT TO SCALE |
| APPROVED: M. HUSSEY | DRAWING No.: LG-11 |

CAP END OF SANITARY (RED PLUG) AND STORM (GREEN PLUG)



NOTES:

- THE CITY ACCEPTS NO RESPONSIBILITY FOR THE CONSTRUCTION OR MAINTENANCE OF THE SERVICES BEYOND PROPERTY LINE
- THE END OF THE WATER SERVICE SHOULD BE CLOSED WITH A PERMEABLE FILTER CLOTH TO PREVENT INTRUSION OF DEBRIS AND TO ALLOW TESTING FLOW OF CURBSTOP.
- MARK CURB COCK WITH A 50x100x750mm STAKE PAINTED RED.
- STORM SERVICE FOR FOUNDATION DRAINS REQUIRED ON ALL NEW DEVELOPMENTS.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

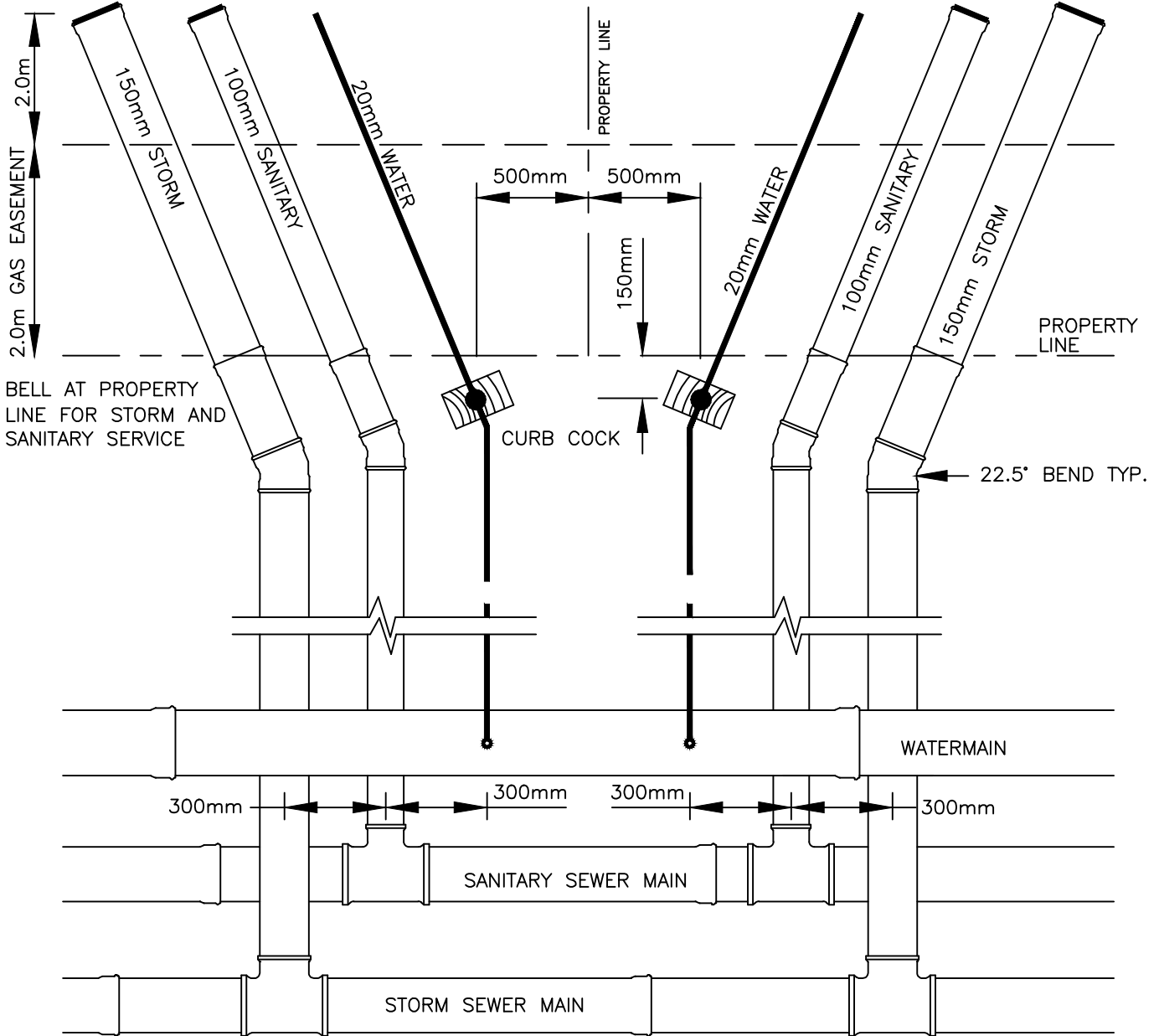
| DATE | DETAILS | DRAWN |
|------|------------------------|-------|
| 4/12 | Add'n of Plug Colors | RP |
| 4/12 | Rev. Extension into PL | RP |
| 4/19 | Standards Update | WPS |
| 2/22 | Standards Update | |

SINGLE SERVICE DETAIL



| | |
|----------------------|-------------------------|
| DRAWN: T. CRAWFORD | DATE: FEBRUARY 10, 2022 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: SE-01 |

CAP END OF SANITARY (RED PLUG) AND STORM (GREEN PLUG)



NOTES:

- THE CITY ACCEPTS NO RESPONSIBILITY FOR THE CONSTRUCTION OR MAINTENANCE OF THE SERVICES BEYOND PROPERTY LINE
- THE END OF THE WATER SERVICE SHOULD BE CLOSED WITH A PERMEABLE FILTER CLOTH TO PREVENT INTRUSION OF DEBRIS AND TO ALLOW TESTING FLOW OF CURBSTOP.
- STORM SERVICE FOR FOUNDATION DRAINS REQUIRED ON ALL NEW DEVELOPMENTS.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|------|------------------------|-------|
| 4/12 | Rev. Distance from PL | RP |
| 4/12 | Rev. Extension into PL | RP |
| 4/19 | Standards Update | WPS |
| 2/22 | Standards Update | |

DOUBLE SERVICE DETAIL



| | |
|----------------------|-------------------------|
| DRAWN: T. CRAWFORD | DATE: FEBRUARY 10, 2022 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: SE-02 |

NOTES:

1. FOR 25mm PIPE DIAMETERS—USE TYPE K COPPER PEX_a (CROSS LINKED POLYETHYLENE), PEX—AL—PEX OR ACCEPTED ALTERNATIVE.
2. FOR 50mm PIPE DIAMETERS—USE TYPE K COPPER PIPE OR ACCEPTED ALTERNATIVE.
3. PIPE CLAMP TO BE ALL BRASS OR ACCEPTED ALTERNATIVE
4. PEX_a PIPE REQUIRES 2" STAINLESS STEEL INSERTS BE PLACED ON BOTH SIDES OF THE "CC" CONNECTION
5. MAINSTOPS TAPS SHALL BE A MINIMUM OF 600MM APART AND NO LESS THAN 300MM TO A COUPLING OR COLLAR.
6. COPPER SERVICE SHALL BE ONE CONTINUOUS PIECE UNLESS LENGTH EXCEEDS 20M AND ONLY THEN WILL A DOUBLE UNION BE ALLOWED.
7. SERVICE CLAMPS REQUIRED WHERE MAIN STOP EXCEEDS 20MM FOR 150MM MAIN AND 25MM FOR 200MM—400MM MAINS.
8. SEWER SERVICE PIPE SHALL BE PVC PIPE, SDR 35, ASTM D3034, AND 100MM DIAMETER (MIN.) UNLESS OTHERWISE SPECIFIED.
9. INVERT ELEVATION AT PL SHALL BE MIN. 2.60M BELOW DESIGN FINISHED GRADE. USE DESIGN INVERT OF SERVICE WHERE INDICATED.

10. (A) SEWER SERVICES TO BE CONNECTED TO PVC MAIN WITH IN-LINE WYES OR TEE-WYES. (B) USE OTHER APPROVED CONNECTION TO OTHER THAN PVC PIPE.
11. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

50x100x100 WOODEN STAKE
PAINTED GREEN SET VERTICAL
FROM INVERT OF STORM

150 2000

50x100 WOODEN STAKE
WITH EXPOSED PORTION
PAINTED RED

CAP

EXTENSION
(IF REQUIRED)

COUPLING

SERVICE BOX, EPOXY COATED
32mm X 160mm TOP SECTION
25mm X 1300mm BOTTOM SECTION

STAINLESS STEEL OPERATING ROD.
16mmØ FOR 25 mm AND 20mm C.C.
FASTEN TO CURB STOP WITH
COPPER COTTER KEY.

PROPERTY LINE

GAS EASEMENT

GREEN
PVC
PLUG
TYP.

2.0m

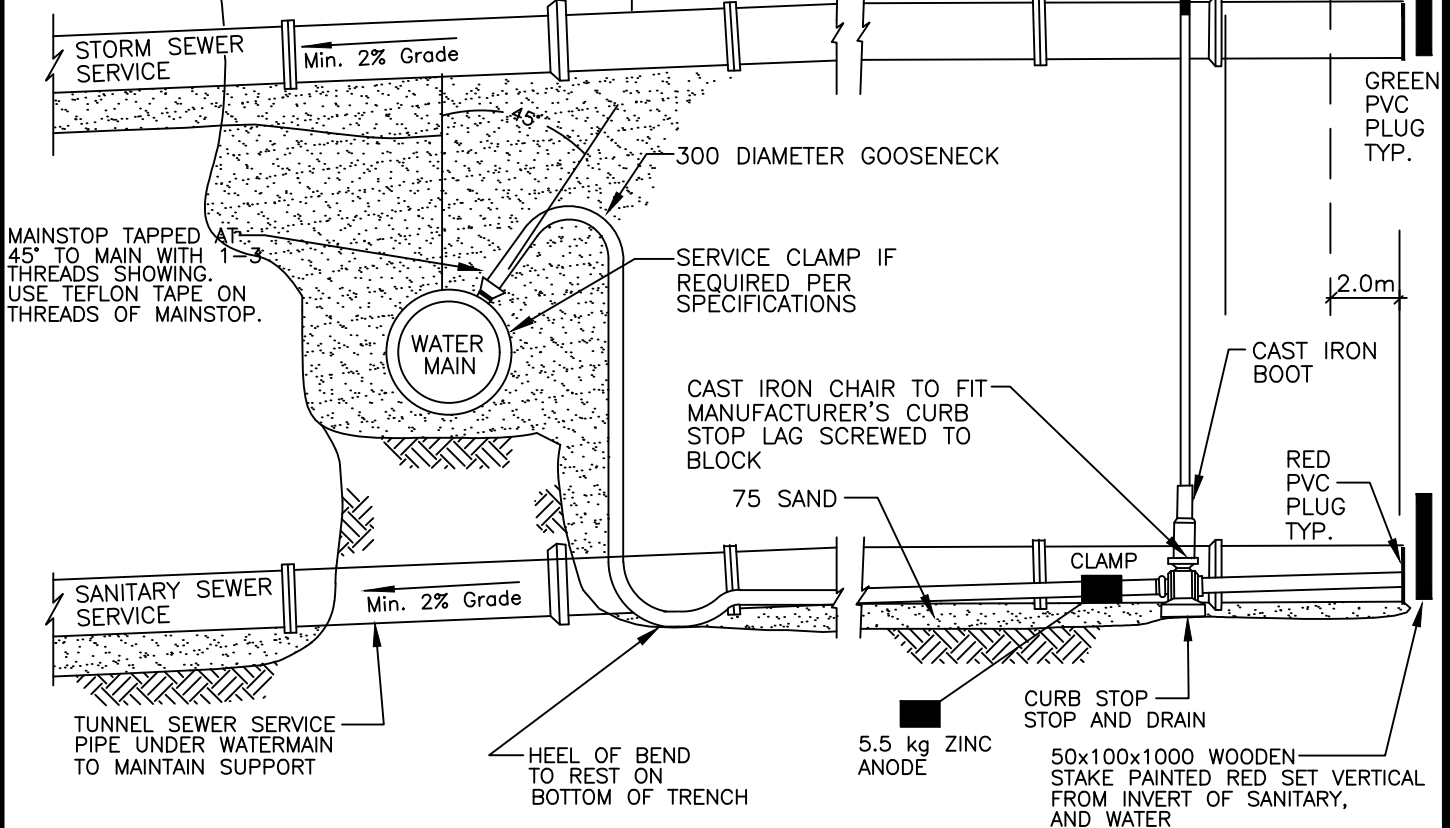
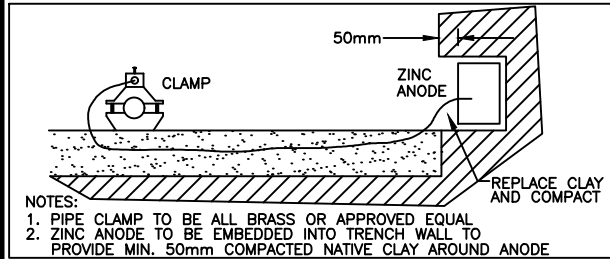
CAST IRON
BOOT

RED
PVC
PLUG
TYP.

CURB STOP
STOP AND DRAIN

5.5 kg ZINC
ANODE

50x100x1000 WOODEN
STAKE PAINTED RED SET VERTICAL
FROM INVERT OF SANITARY,
AND WATER



THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|------|-----------------|-------|
| 4/19 | Standard Update | WPS |
| 9/20 | Standard Update | CA |
| 2/22 | Standard Update | |

SERVICE CONNECTION DETAIL

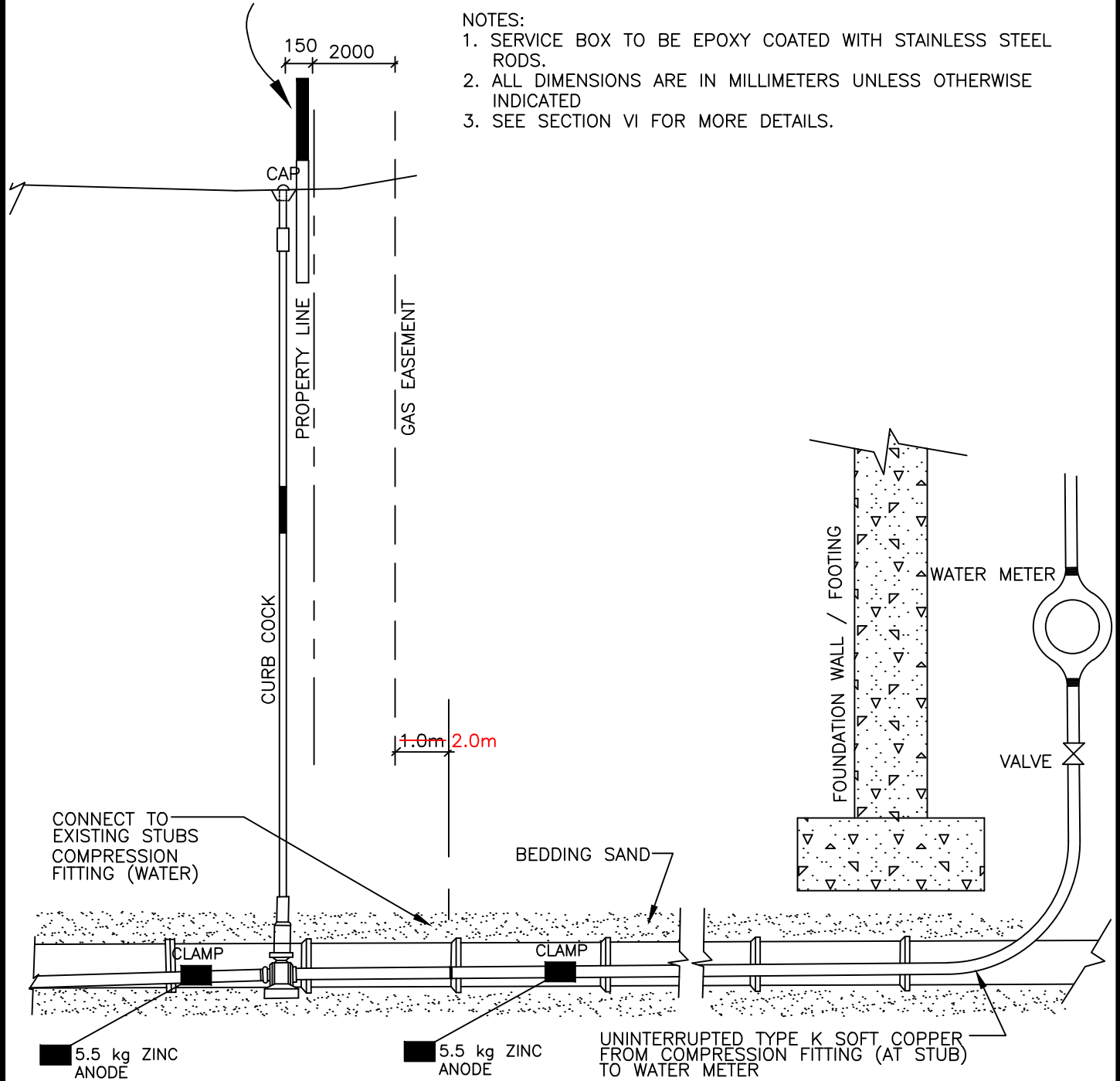


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|-------------------------|-------------------------|
| DRAWN: C. ALBARDA | DATE: FEBRUARY 10, 2022 |
| CHECKED: B. HANSEN | SCALE: NOT TO SCALE |
| APPROVED: L. KRUSZEWSKI | DRAWING No.: SE-03 |

50x100 WOODEN STAKE
WITH EXPOSED PORTION
PAINTED RED.

NOTES:

1. SERVICE BOX TO BE EPOXY COATED WITH STAINLESS STEEL RODS.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED
3. SEE SECTION VI FOR MORE DETAILS.



THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

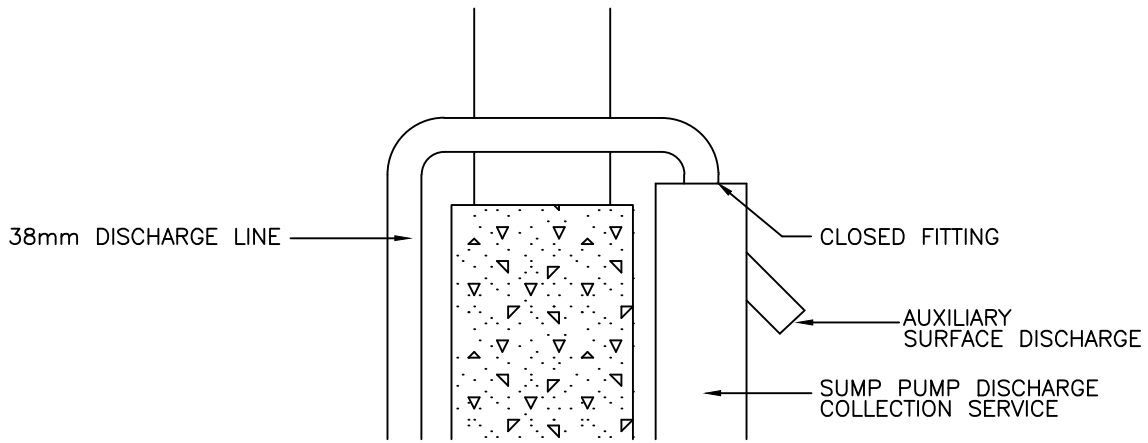
REVISIONS

| DATE | DETAILS | DRAWN |
|------|------------------|-------|
| 4/19 | Standards Update | WPS |
| 9/20 | Standards Update | CA |
| 2/22 | Standards Update | |

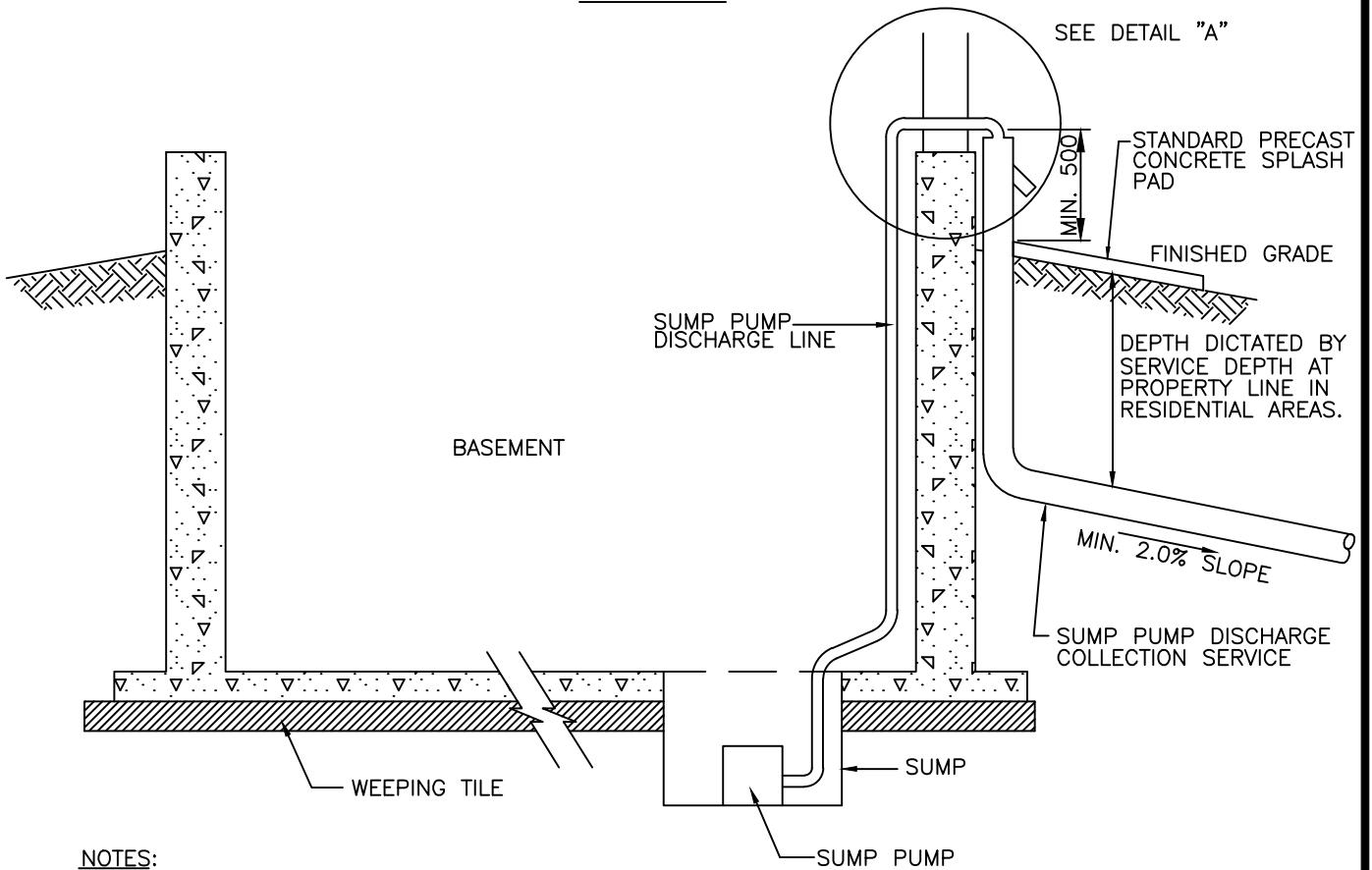
WATER AND SEWER TO HOUSE



| | |
|-------------------------|-------------------------|
| DRAWN: C. ALBARDA | DATE: FEBRUARY 10, 2022 |
| CHECKED: B. HANSEN | SCALE: NOT TO SCALE |
| APPROVED: L. KRUSZEWSKI | DRAWING No.: SE-04 |



DETAIL A



NOTES:

1. ROOF LEADERS (DOWNSPOUTS) OR ANY OTHER STORM WATER SOURCE MUST NOT BE CONNECTED TO THE SUMP DISCHARGE COLLECTION SERVICE LINE. UNLESS SPECIFICALLY REQUESTED BY THE CITY.
2. THE AUXILIARY SURFACE DISCHARGE MUST BE INSTALLED TO PROVIDE AN OVERFLOW IN THE EVENT THAT THE STORM DRAINAGE SYSTEM CANNOT ACCOMMODATE FLOWS DUE TO CAPACITY, FREEZING OR OTHER PROBLEMS.
3. SUMP PUMP BYPASS TO BE USED ONLY WHERE APPROVED BY THE CITY.
4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 4/19 | Standards Update | WPS |
| 09/20 | Standards Update | CA |
| | | |

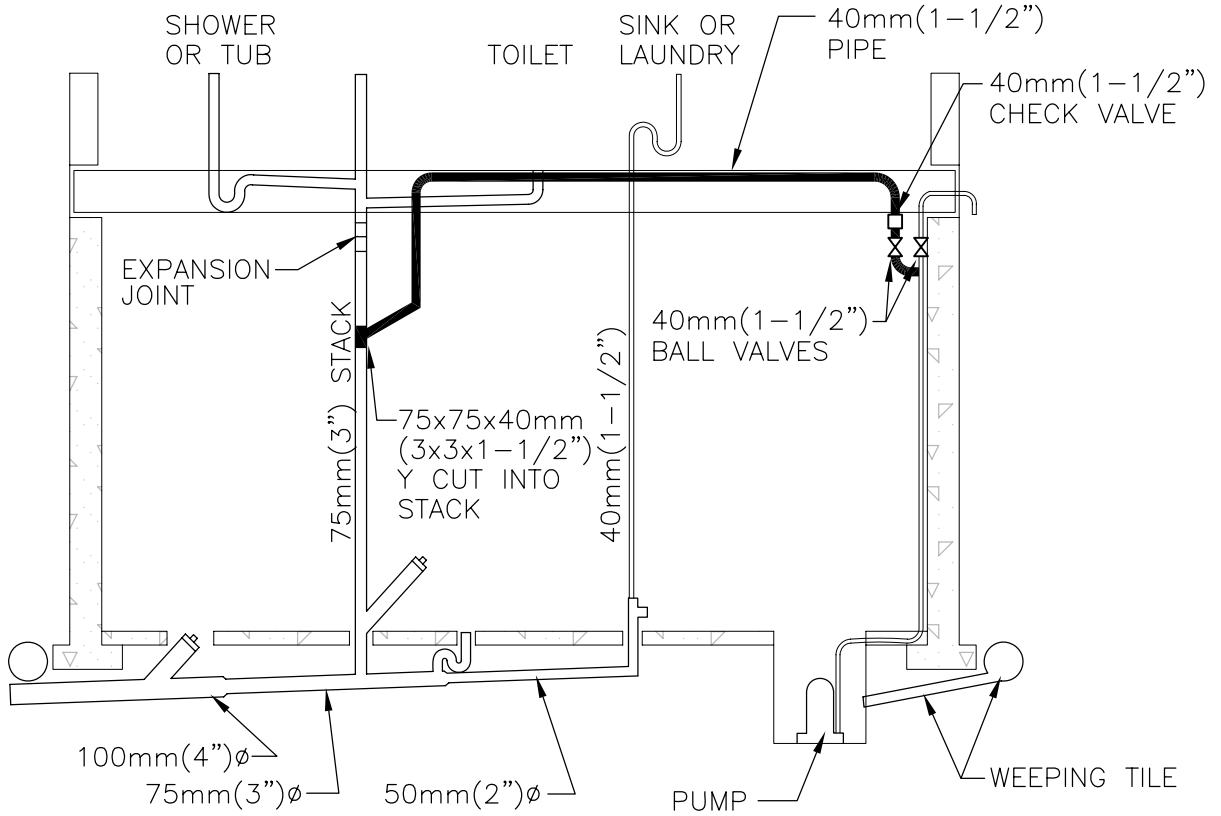
SUMP PUMP CONNECTION



| | |
|-------------------------|-------------------------|
| DRAWN: C. ALBARDA | DATE: SEPTEMBER 3, 2020 |
| CHECKED: B HANSEN | SCALE: NOT TO SCALE |
| APPROVED: L. KRUSZEWSKI | DRAWING No.: SE-05 |

XREFS

C:\DETAILS\SHEET2-TK




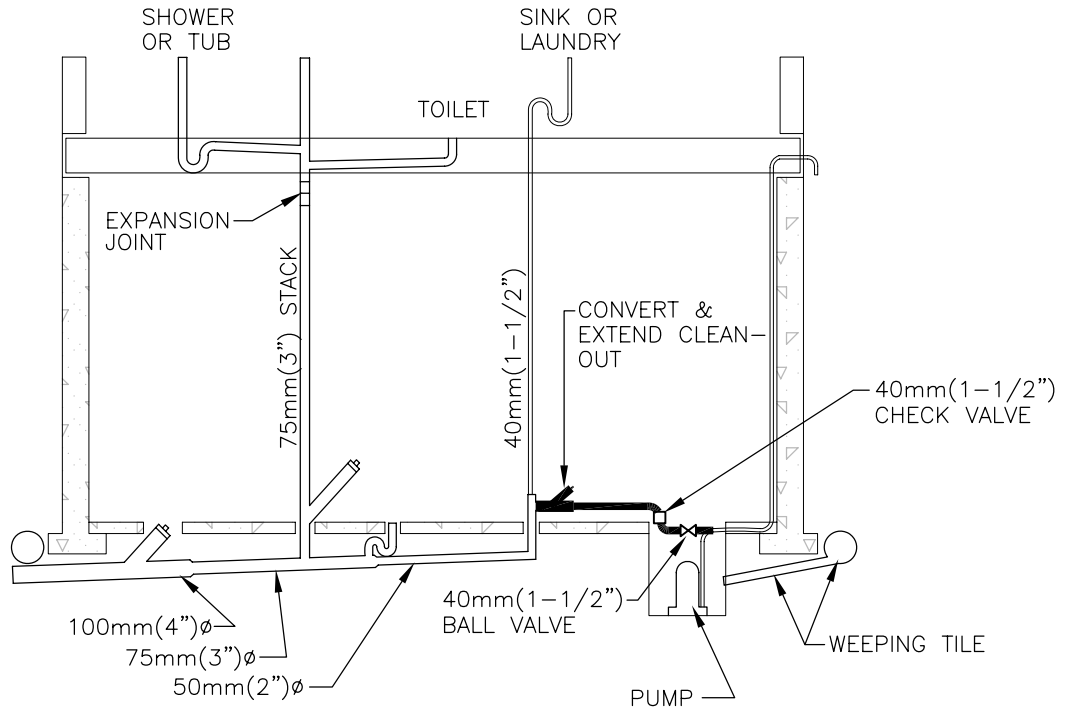
XREFS

THE CITY OF
SPRUCE GROVE

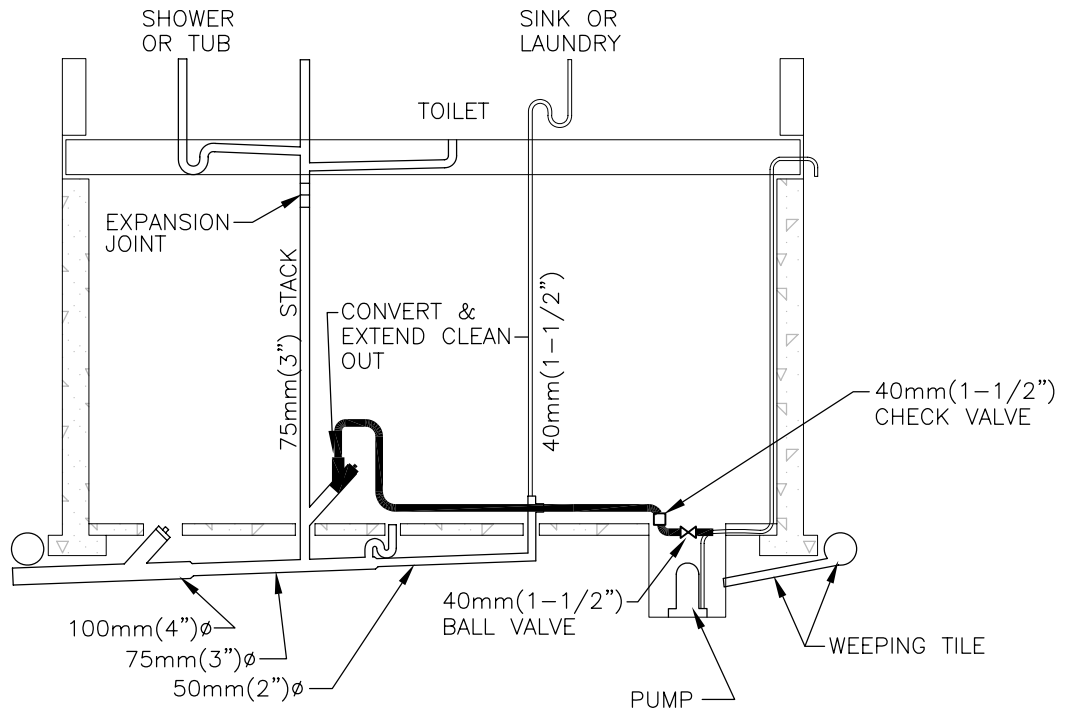
PLANNING AND INFRASTRUCTURE

C:\DETAILS\SHEET2-TK

| REVISIONS | | | SUMP PUMP BYPASS – DUAL BALL VALVE | | |
|-----------|---------|-------|---|----------------------|---------------------|
| DATE | DETAILS | DRAWN | | | |
| | | |  | DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| | | | | CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| | | | | APPROVED: J. MUSTARD | DRAWING No.: SE-06 |



OPTION 1



OPTION 2

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

SUMP PUMP BYPASS – SINGLE BALL VALVE

| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
| | | |
| | | |



DRAWN: T. CRAWFORD

DATE: MARCH 6, 2006

CHECKED: J. MUSTARD

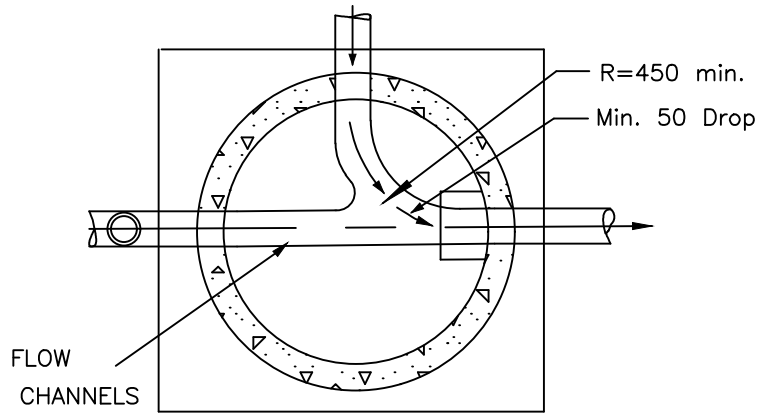
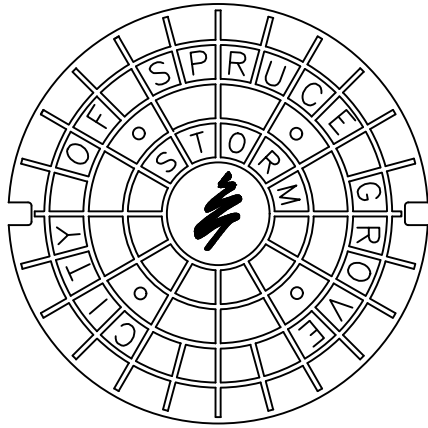
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APPROVED: J. MUSTARD

DRAWING No.: SE-07

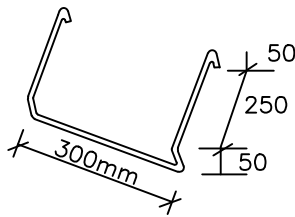
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STANDARD FRAME & COVER

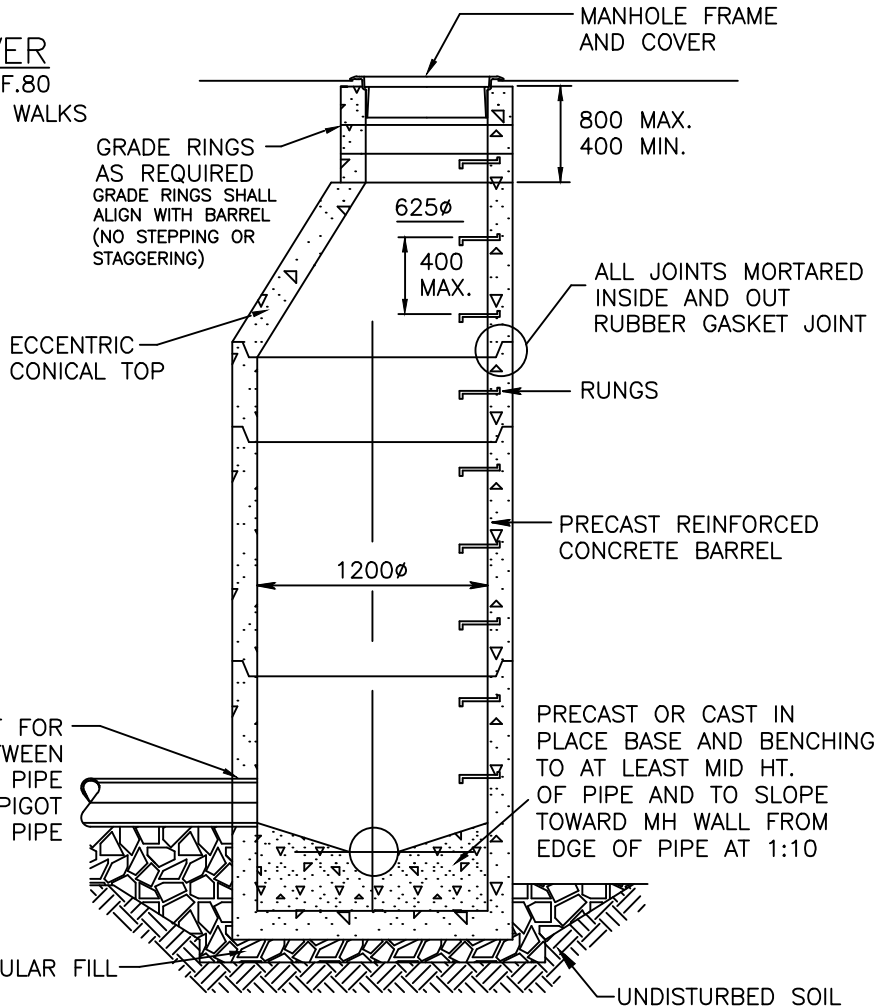
USE NORWOOD N.F.80 OR TROJAN T.F.80 ON ALL MANHOLES IN ROADWAYS OR WALKS (SEE DRAWING SM-06)



SAFETY TYPE M.H. RUNG

ALUMINUM SPACING TO BE 400mm CENTRE TO CENTRE

USE FLEXIBLE BOOT GASKET FOR WATERTIGHT COUPLING BETWEEN MH AND PVC PIPE
USE BELL & SPIGOT ADAPTOR FOR ULTRA-RIB PIPE



NOTES:

1. MANHOLES OF DEPTH GREATER THAN 7m REQUIRE AN ALUMINUM SAFETY PLATFORM.
2. ALL SEWER MAINS TYING INTO TRUNK MANHOLES MUST BE EXTENDED PAST CONCRETE SLAB SO THAT IT IS BOTH VISIBLE AND ACCESSIBLE FROM THE SURFACE.
3. ANY OVER EXCAVATION TO BE FILLED AS PER GEOTECHNICAL ENGINEER.
4. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|------|------------------|-------|
| 4/19 | Standards Update | WPS |
| 9/20 | Standards Update | CA |
| 2/22 | Standards Update | |

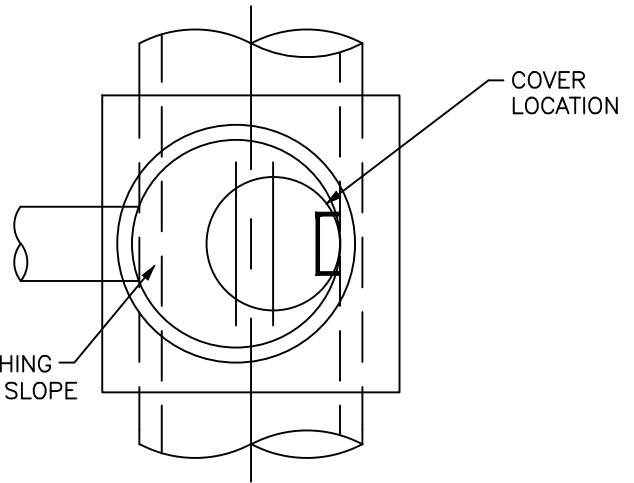
STANDARD STORM MANHOLE



| | | | |
|-----------|---------------|--------------|-------------------|
| DRAWN: | C. ALBARDA | DATE: | FEBRUARY 10, 2022 |
| CHECKED: | B. HANSEN | SCALE: | NOT TO SCALE |
| APPROVED: | L. KRUSZEWSKI | DRAWING No.: | SM-01 |

NOTES

1. SAFETY STEPS TO BE SPACED AT 400 MAX. DISTANCE. FIRST STEP TO BE 150 MAX. BELOW FRAME, LAST STEP TO BE 300 MAX. ABOVE BENCHING.
2. ALL JOINTS TO BE SET WITH RUBBER GASKET AND FINISHED WITH NON-SHRINK GROUT INSIDE AND OUTSIDE FOR FULL CIRCUMFERENCE.
3. CHANNELLING AND BENCHING TO BE FINISHED TO TROWEL SMOOTHNESS.
4. COMPACT BACKFILL AROUND MANHOLES TO A MINIMUM OF 97% STANDARD PROCTOR DENSITY.
5. FOR MANHOLES EXCEEDING 7.0m IN DEPTH A SAFETY PLATFORM SHALL BE INSTALLED.
6. THE DEPTHS OF CONCRETE AND REINFORCEMENT FOR THE CONCRETE BASE MUST BE DESIGNED FOR THE SPECIFIC MANHOLE DEPTH AND SOIL CONDITIONS.
7. JOINTS BETWEEN GRADE RINGS, GRADE RINGS AND CONES, AND BETWEEN RINGS AND FRAMES MUST BE WATERTIGHT.
8. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
9. ANY OVER EXCAVATION TO BE FILLED AS PER GEOTECHNICAL ENGINEER.



FRAME-COVER TO BE NF80/TF80
MANHOLE COVER OR ROUND
CATCH BASIN TOP AS INDICATED

ADJUSTMENT RINGS
400 MIN. 800 MAX.

MANHOLE RUNGS
CAST IN BARRELS
- 400 SPACING

CONNECTED FLUSH
WITH WALL

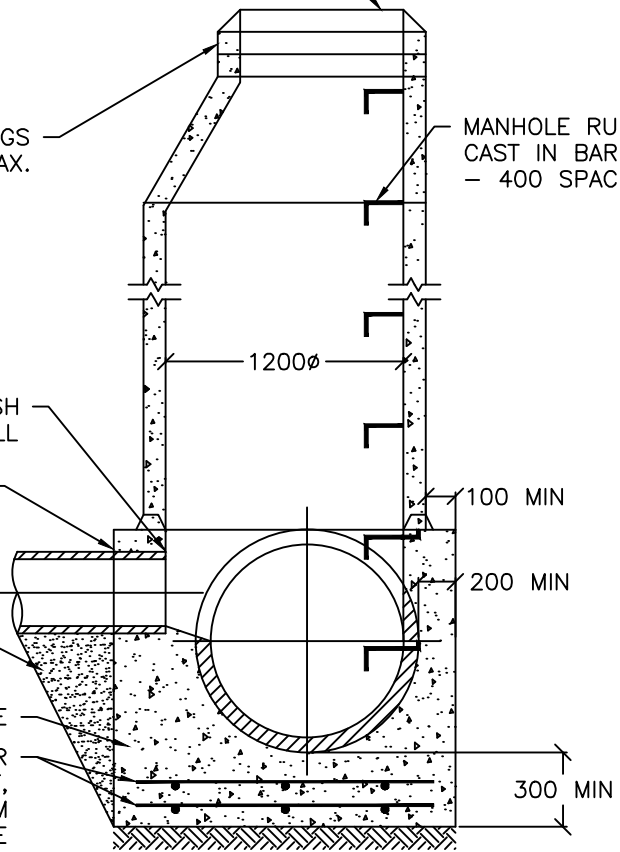
USE FLEXIBLE BOOT GASKET
FOR WATERTIGHT COUPLING
BETWEEN MH AND PVC PIPE
USE BELL & SPIGOT ADAPTER
FOR ULTRA-RIB PIPE

COMPACTED GRANULAR
BACKFILL TO LIMIT OF
EXCAVATION

25.0MPa CONCRETE

TWO LAYERS OF 10M REBAR
EACH WAY, 150mm APART,
75mm SEPARATION FROM
CONCRETE SURFACE

UNDISTURBED SOIL



(625mm TO 1050mm PIPE)

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|------|------------------|-------|
| 4/19 | Standards Update | WPS |
| 9/20 | Standards Update | CA |
| 2/22 | Standards Update | |

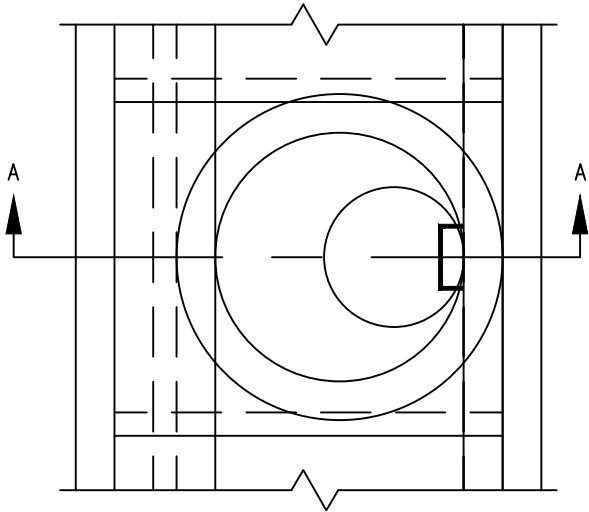
PERCHED MANHOLE



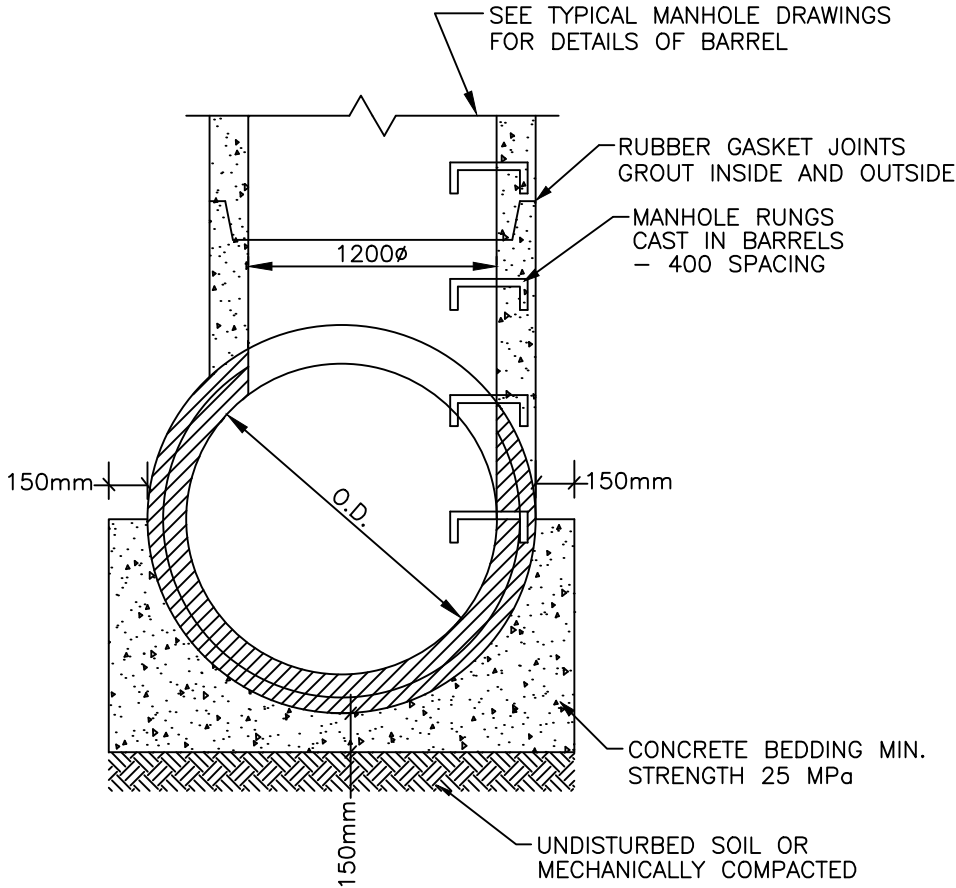
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|-------------------------|-------------------------|
| DRAWN: C. ALBARDA | DATE: FEBRUARY 10, 2022 |
| CHECKED: B. HANSEN | SCALE: NOT TO SCALE |
| APPROVED: L. KRUSZEWSKI | DRAWING No.: SM-02 |

NOTES:

1. THIS TYPE OF MANHOLE IS TO BE BUILT ONLY ON MAINS OF 1200mm DIAMETER OR LARGER AND WHERE THERE IS NO CHANGE IN DIRECTION.
2. SAFETY STEPS TO BE SPACED AT 400 MAX. DISTANCE. FIRST STEP TO BE 150 MAX. BELOW FRAME, LAST STEP TO BE 300 MAX. ABOVE BENCHING.
3. FOR MANHOLES EXCEEDING 7.0m IN DEPTH A SAFETY PLATFORM SHALL BE INSTALLED.
4. WHERE REQUIRED, CATCH BASIN LEADS SHALL ENTER MANHOLE IN PIPEZONE.



SEE TYPICAL MANHOLE DRAWINGS FOR DETAILS OF BARREL



SECTION A-A

(1200mm AND LARGER PIPES)

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|------|---------|-------|
| | | |
| | | |
| | | |

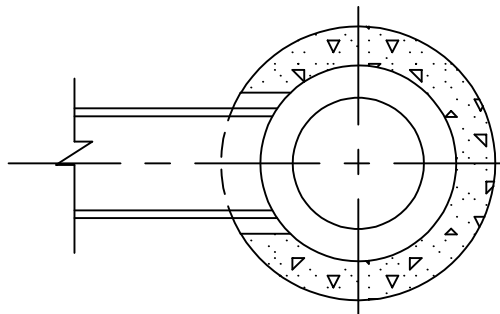
T-RISER MANHOLE



| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: SM-03 |

XREFS

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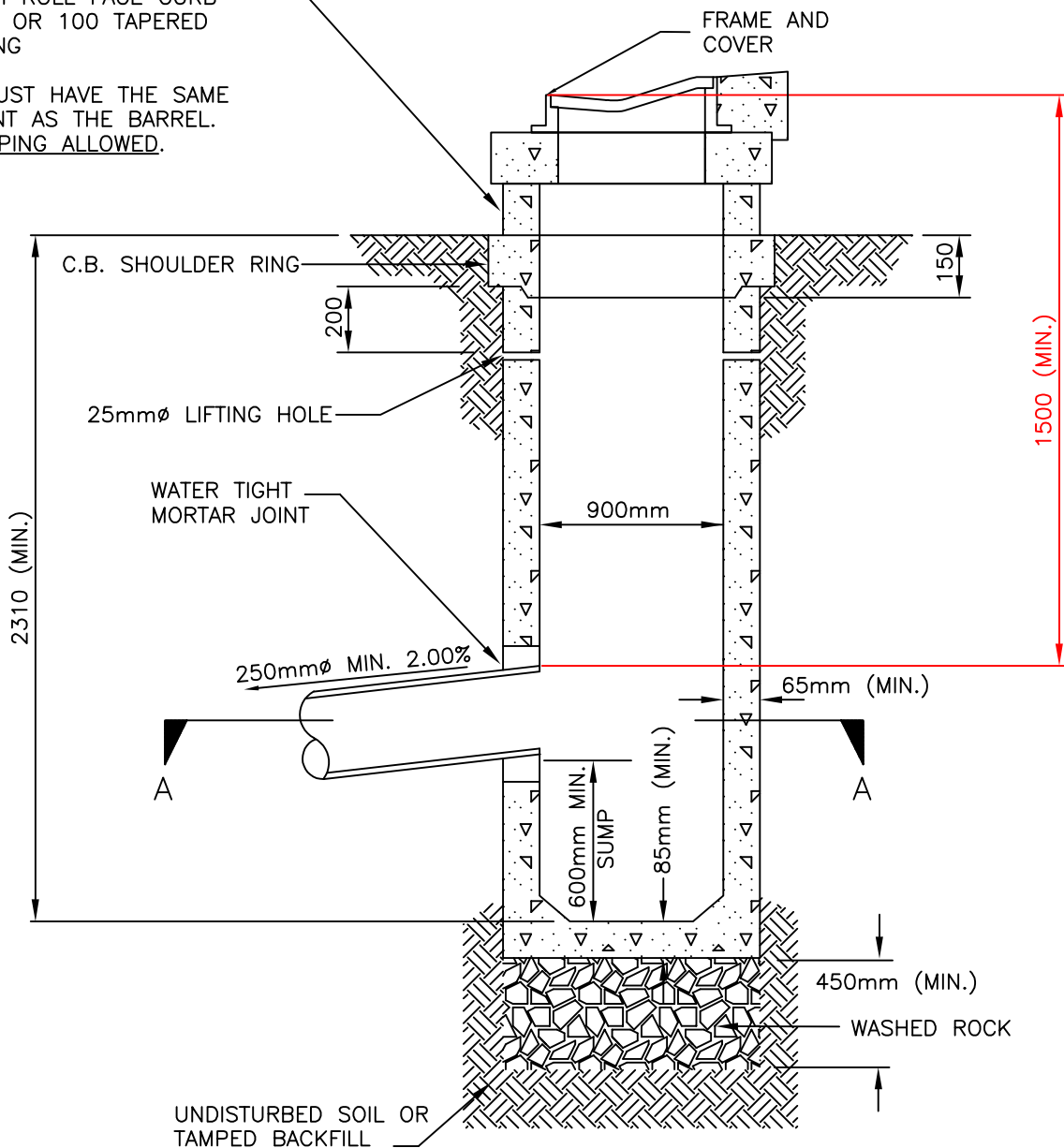


SECTION A-A

100 OR 150 NECK RING TO SUIT SUBGRADE.

FOR HIGH ROLL FACE CURB USE 150 OR 100 TAPERED NECK RING

RINGS MUST HAVE THE SAME ALIGNMENT AS THE BARREL. NO STEPPING ALLOWED.



XREFS

C:\DETAILS\ SHEET2-TK

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

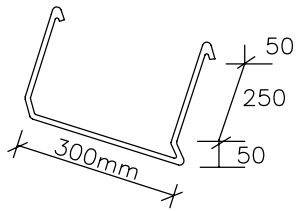
REVISIONS

| DATE | DETAILS | DRAWN |
|-------|--------------------|-------|
| 02/13 | Change to depth | RP |
| 02/13 | Washed rock note | RP |
| 02/14 | Change to notes | RP |
| 01/25 | Specify lead cover | BD |

PRECAST CATCH BASIN

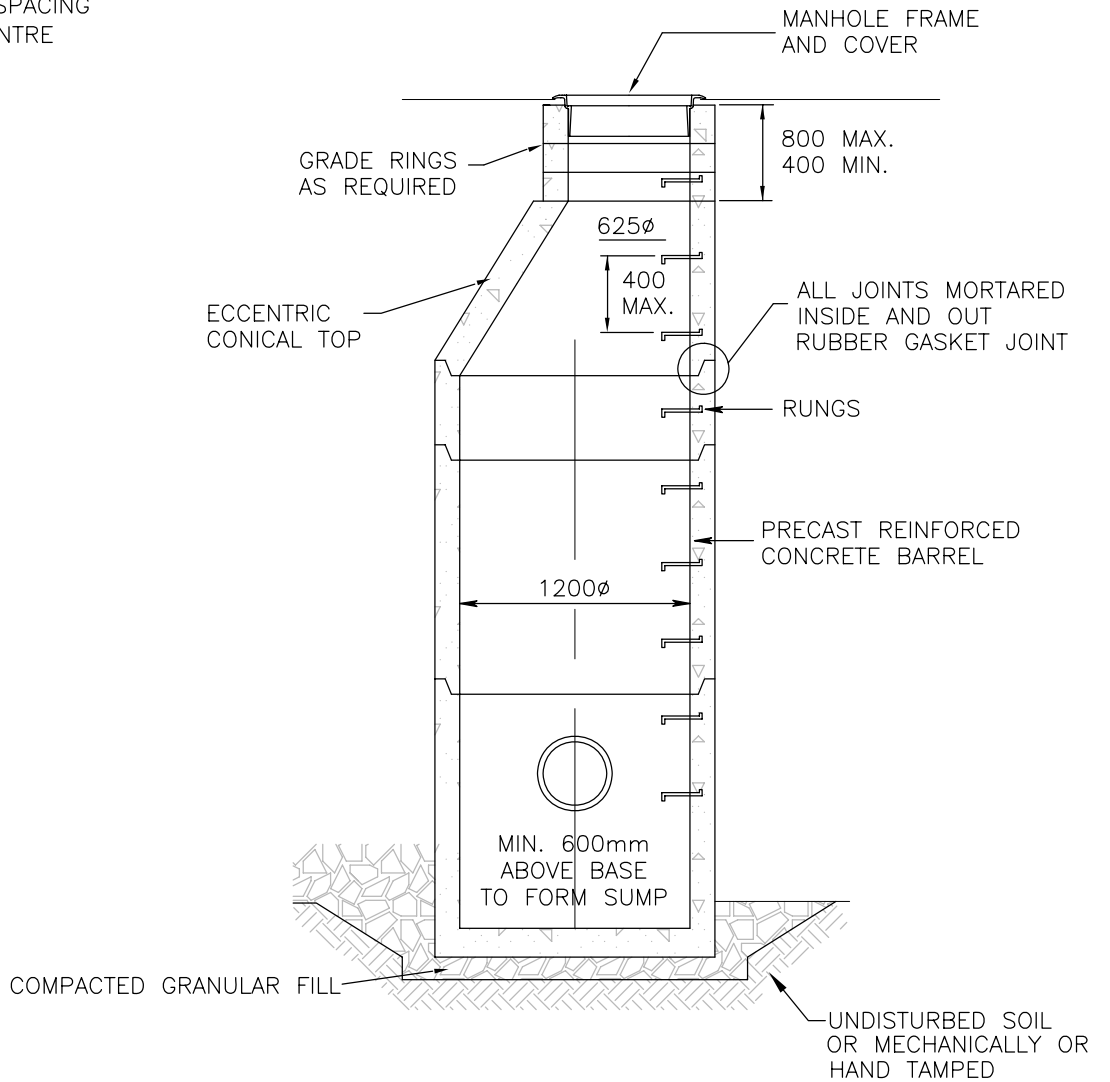


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|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: SM-04 |



SAFETY TYPE M.H. RUNG

GALVANIZED IRON SPACING
TO BE 400mm CENTRE
TO CENTRE



XREFS

C:\DETAILS\SHEET2-TK

THE CITY OF
SPRUCE GROVE

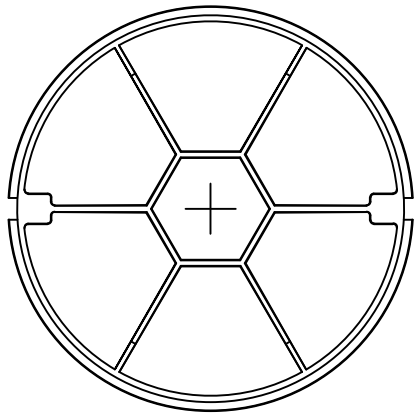
PLANNING AND INFRASTRUCTURE

STANDARD CB MANHOLE

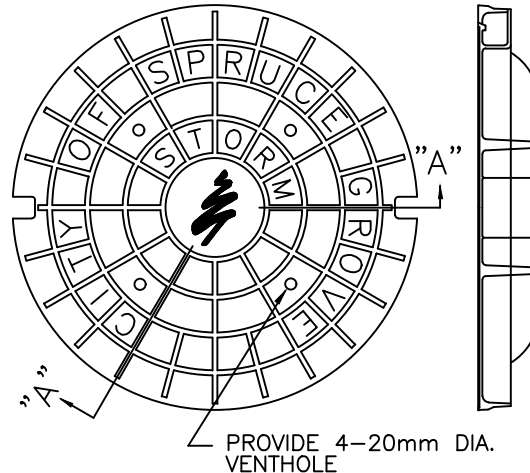
| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
| | | |
| | | |



| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: SM-05 |

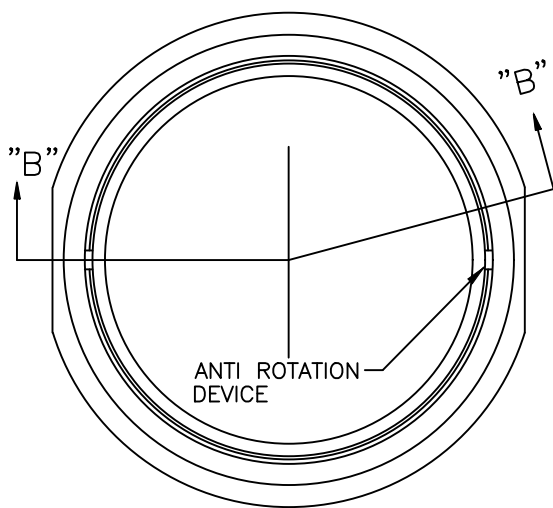


BOTTOM VIEW

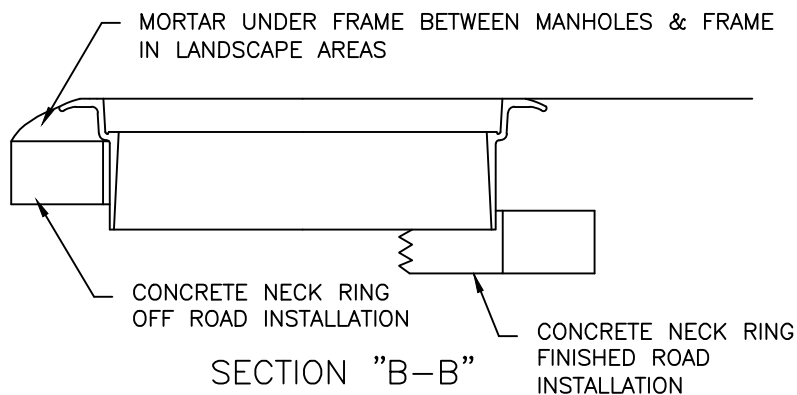


TOP VIEW

SECTION "A-A"



PLAN



SECTION "B-B"

NOTES

1. NORWOOD FOUNDRY TYPE NF80 OR TROJAN FOUNDRY TYPE TF80 GROUT TO BE INSTALLED BETWEEN FLANGE AND MANHOLE BARREL ON RAISED MANHOLES.

XREFS

C:\DETAILS\SHEET2-TK

THE CITY OF
SPRUCE GROVE

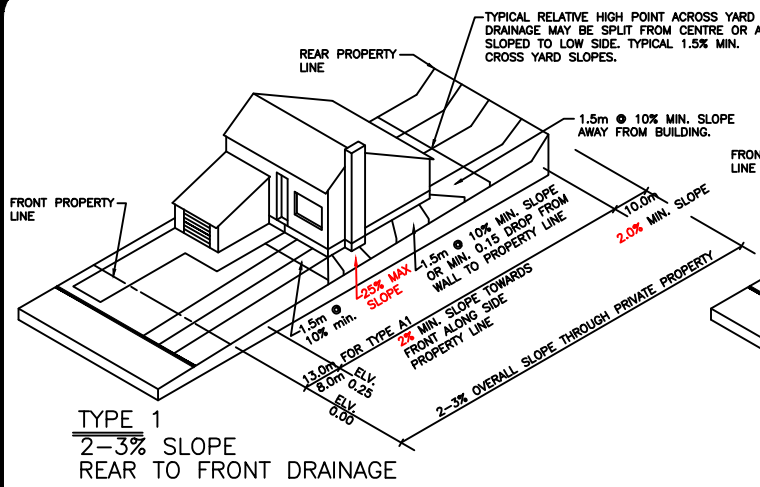
PLANNING AND INFRASTRUCTURE

| REVISIONS | | |
|-----------|------------------|-------|
| DATE | DETAILS | DRAWN |
| 04/12 | Drawing Number | RP |
| 04/19 | Standards Update | WPS |
| 09/20 | Standards Update | CA |

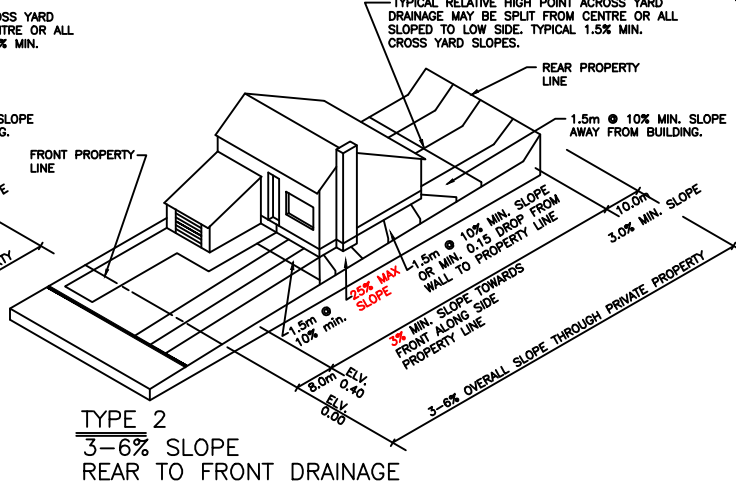
NF/TF-80 FRAME AND COVER - STORM



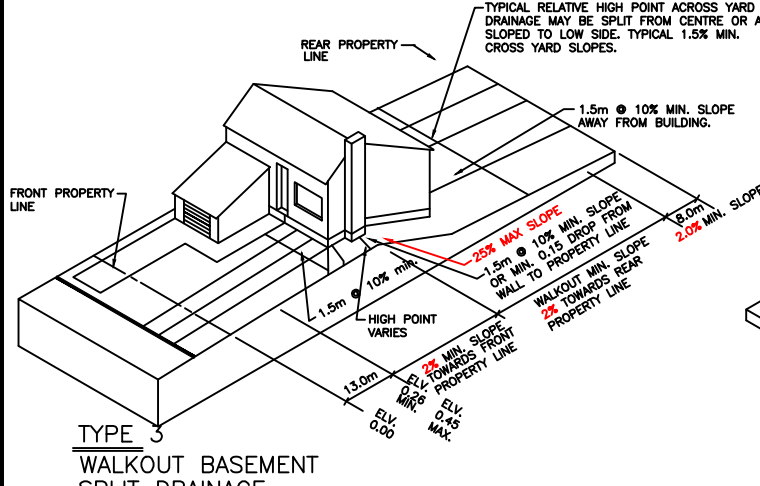
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|-------------------------|-------------------------|
| DRAWN: C. ALBARDA | DATE: September 3, 2020 |
| CHECKED: B. HANSON | SCALE: NOT TO SCALE |
| APPROVED: L. KRUSZEWSKI | DRAWING No.: SM-06 |



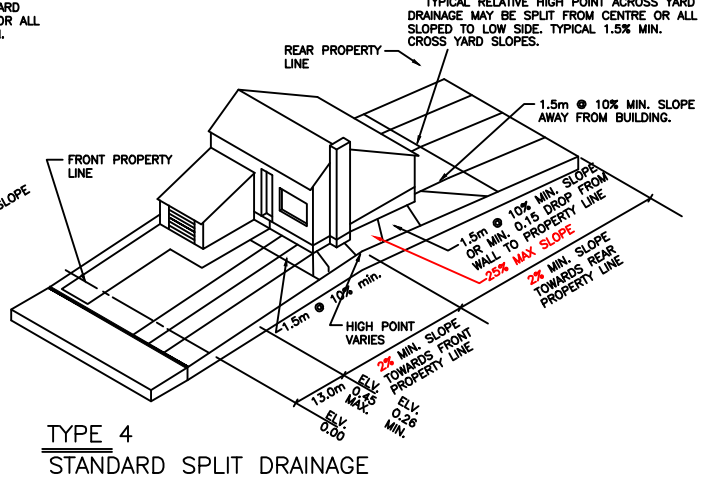
TYPE 1
2-3% SLOPE
REAR TO FRONT DRAINAGE



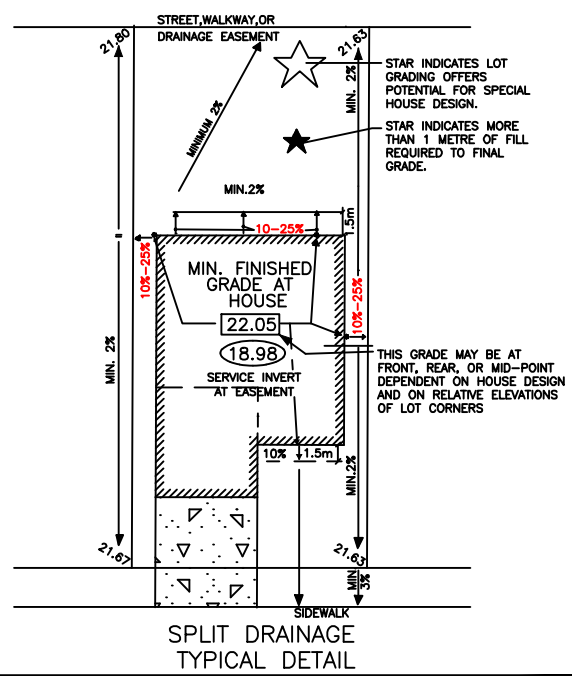
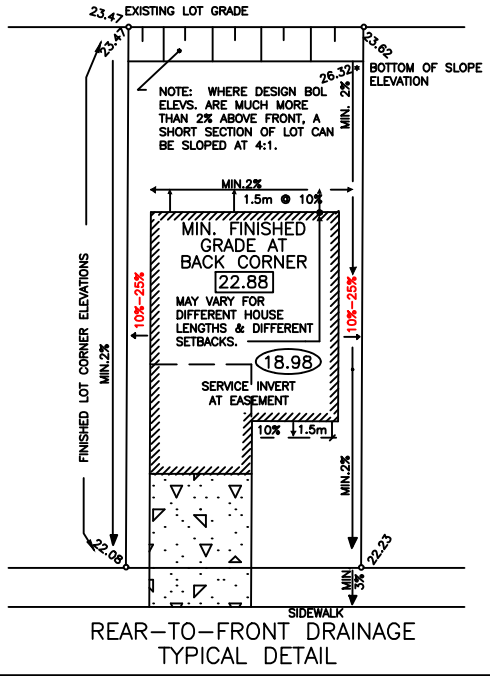
TYPE 2
3-6% SLOPE
REAR TO FRONT DRAINAGE



TYPE 3
WALKOUT BASEMENT
SPLIT DRAINAGE



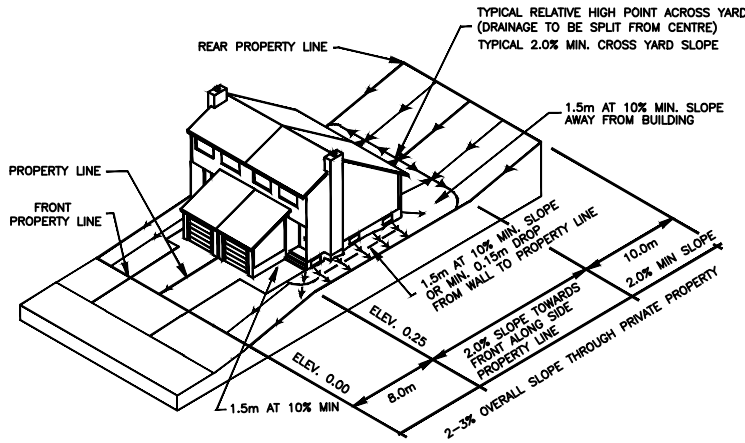
TYPE 4
STANDARD SPLIT DRAINAGE



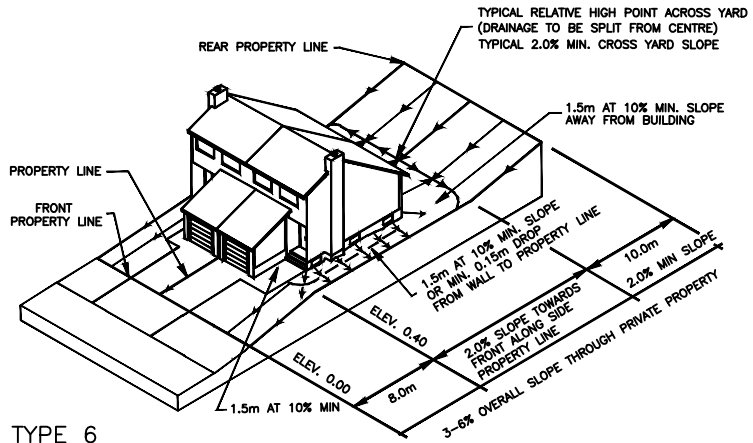
THE CITY OF SPRUCE GROVE **PLANNING AND INFRASTRUCTURE**

| REVISIONS | | |
|-----------|------------------|-------|
| DATE | DETAILS | DRAWN |
| 4/12 | Drawing Number | RP |
| 4/12 | Changes to notes | RP |
| 3/25 | Slope update | BD |

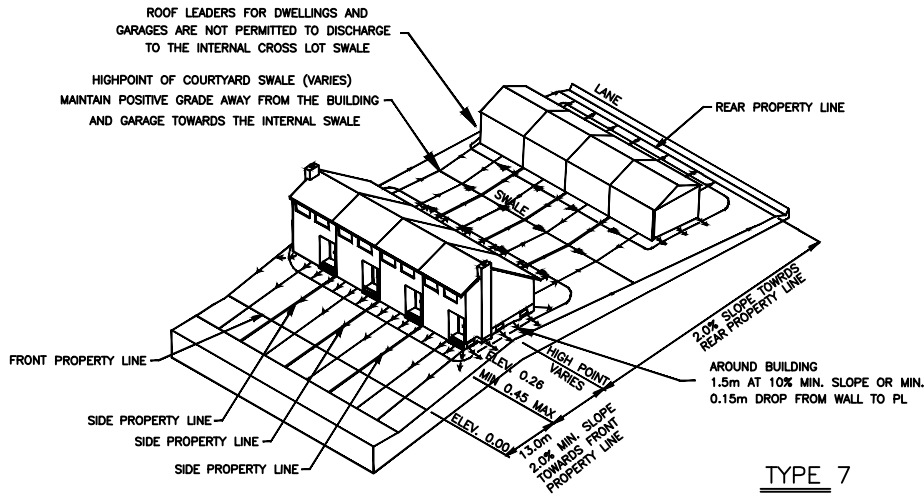
| LOT GRADING | | |
|-------------|----------------------|-------------------------|
| | DRAWN: T. CRAWFORD | DATE: FEBRUARY 18, 2022 |
| | CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| | APPROVED: J. MUSTARD | DRAWING No.: SM-07A |



TYPE 5
 DUPLEX 2-3% SLOPE
 REAR TO FRONT DRAINAGE



TYPE 6
 DUPLEX 3-6% SLOPE
 REAR TO FRONT DRAINAGE



TYPE 7
 FOURPLEX
 SPLIT DRAINAGE

THE CITY OF
 SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

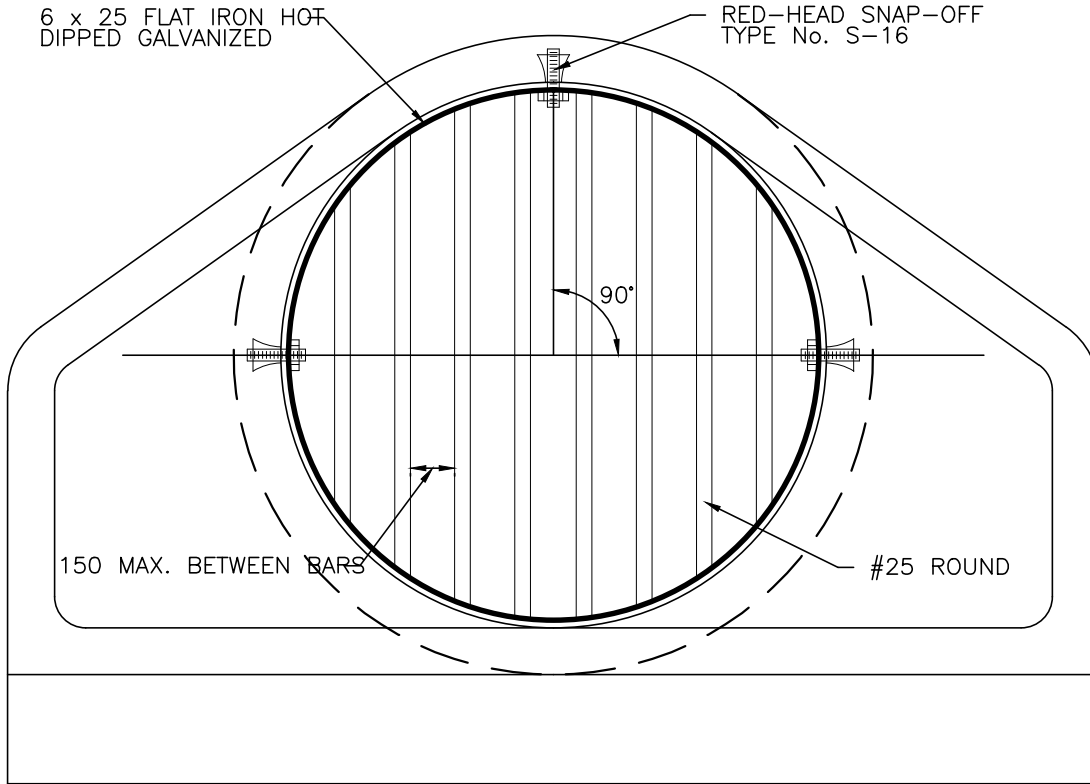
REVISIONS

| DATE | DETAILS | DRAWN |
|------|------------------|-------|
| 2/22 | Standards Update | |
| | | |
| | | |

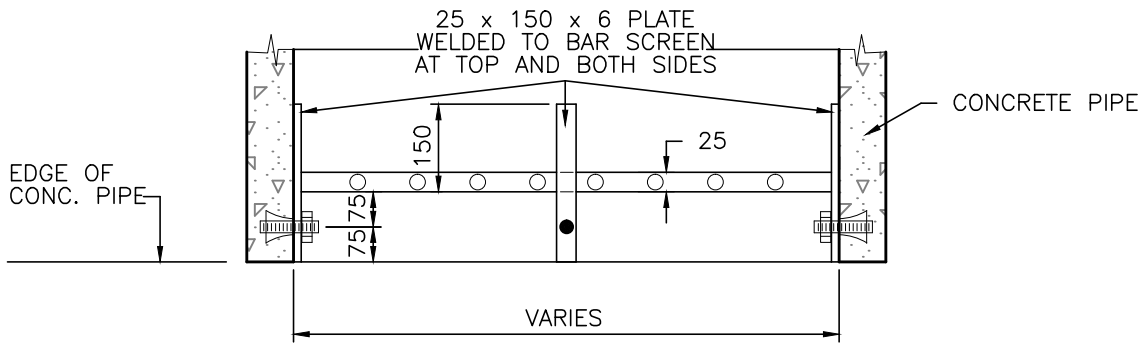
LOT GRADING FOR DUPLEX



| | |
|---------------------|-------------------------|
| DRAWN: | DATE: FEBRUARY 18, 2022 |
| CHECKED: M. HUSSEY | SCALE: NOT TO SCALE |
| APPROVED: M. HUSSEY | DRAWING No.: SM-07B |



FRONT VIEW



TOP VIEW

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS UNLESS SHOWN OTHERWISE.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|----------------|-------|
| 02/14 | Drawing Number | RP |
| | | |
| | | |

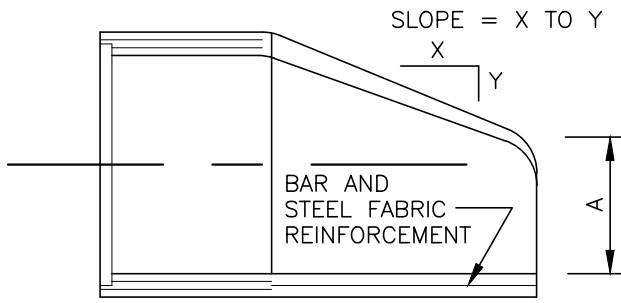
VERTICAL BAR SCREEN



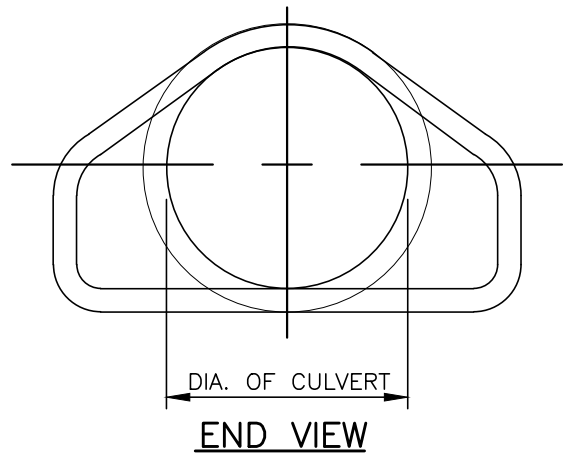
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| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: SM-08 |

XREFS

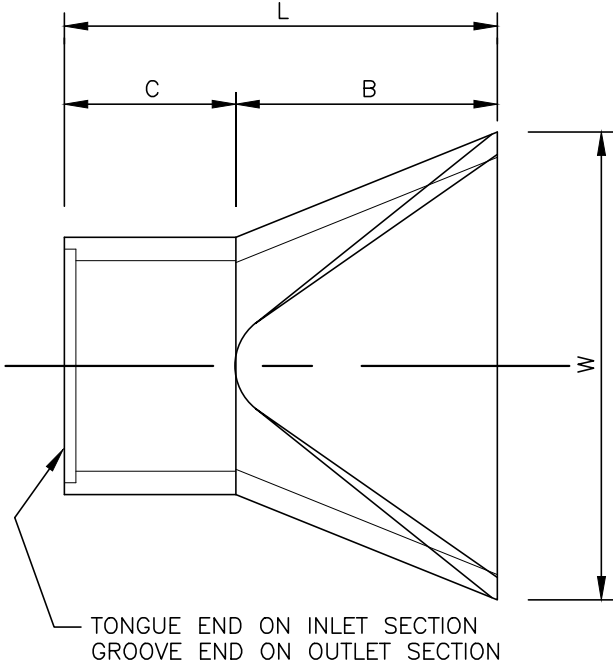
C:\DETAILS\SHEET2-TK



LONGITUDINAL SECTION

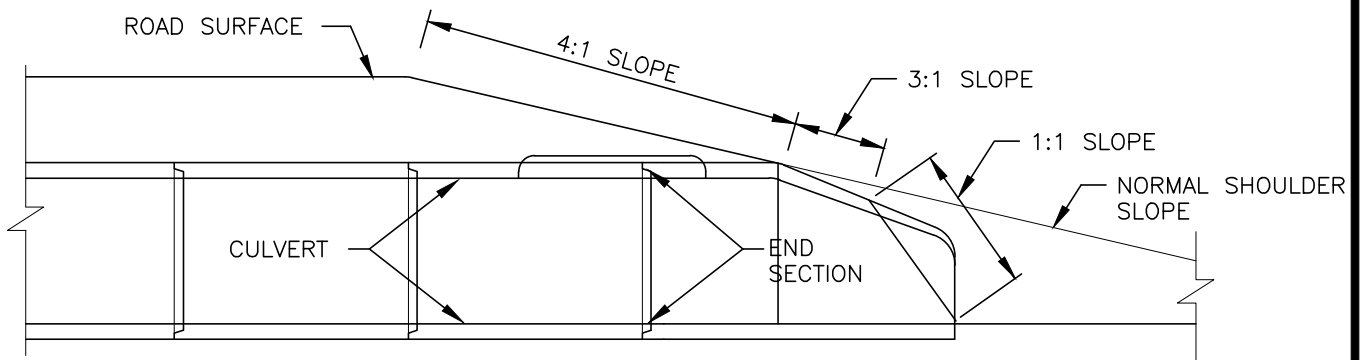


END VIEW



PLAN VIEW

| DIA. (mm) | WT SEC (kg) | SLOPE | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) |
|--------------|-------------------|-------|-----------|-----------|-----------|-----------|-----------|
| 450 | 450 | 3T01 | 225 | 680 | 1150 | 1825 | 900 |
| 600 | 690 | 3T01 | 240 | 940 | 750 | 1850 | 1200 |
| 750 | 990 | 3T01 | 300 | 1090 | 750 | 1830 | 1500 |
| 900 | 1860 | 3T01 | 375 | 1350 | 475 | 2440 | 1800 |
| 1200 | 2900 | 3T01 | 600 | 1800 | 650 | 2450 | 2100 |



TYPICAL SLOPE DETAIL

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|------|----------------|-------|
| 4/12 | Drawing Number | RP |
| | | |
| | | |

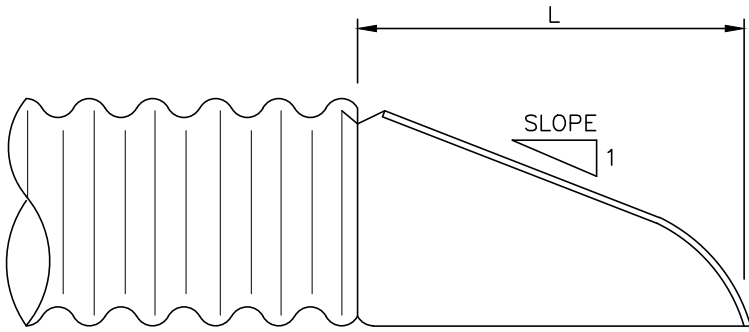
CONCRETE CULVERT



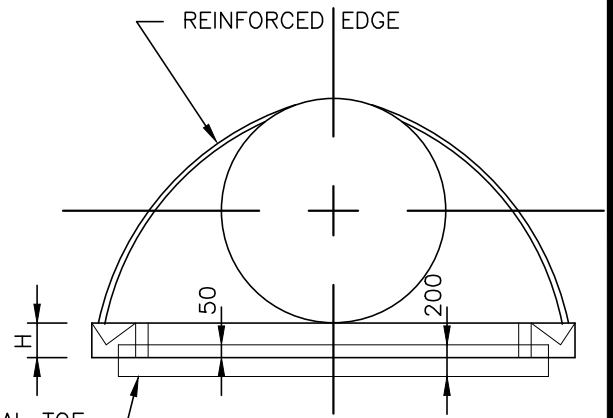
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|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: SM-09 |

XREFS

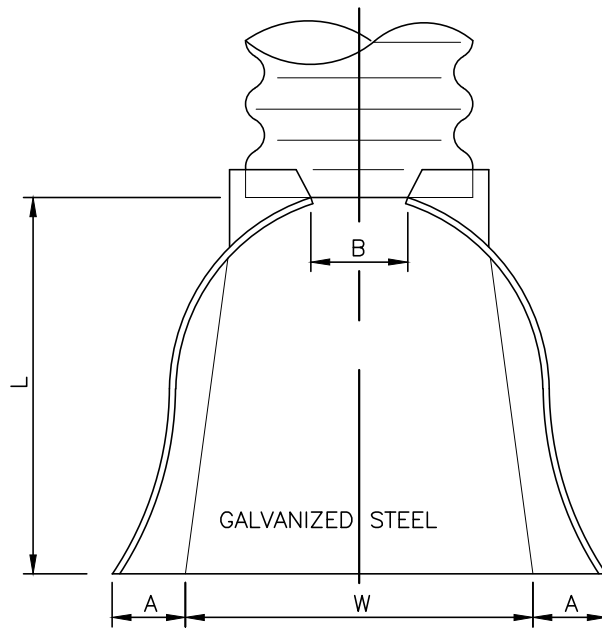
C:\DETAILS\SHEET2-TK



TYPICAL CROSS SECTION



ELEVATION



PLAN

| PIPE DIAMETER "D" mm | GALVANIZED METAL THICKNESS mm | DIMENSIONS, mm | | | | | APPROXIMATE SLOPE | BODY |
|----------------------|-------------------------------|----------------|----------|-----------|-----------|-----------|-------------------|------|
| | | A mm ± | B MAX mm | H 25 mm ± | L 38 mm ± | W 50 mm ± | | |
| 300 | 1.6 | 150 | 140 | 150 | 535 | 610 | 2.5 | 1 Pc |
| 600 | 1.6 | 250 | 300 | 150 | 1040 | 1220 | 2.5 | 1 Pc |
| 1200 | 1.6 | 460 | 625 | 305 | 1980 | 2285 | 2.25 | 2 Pc |

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|----------------|-------|
| 02/14 | Drawing Number | RP |
| | | |
| | | |

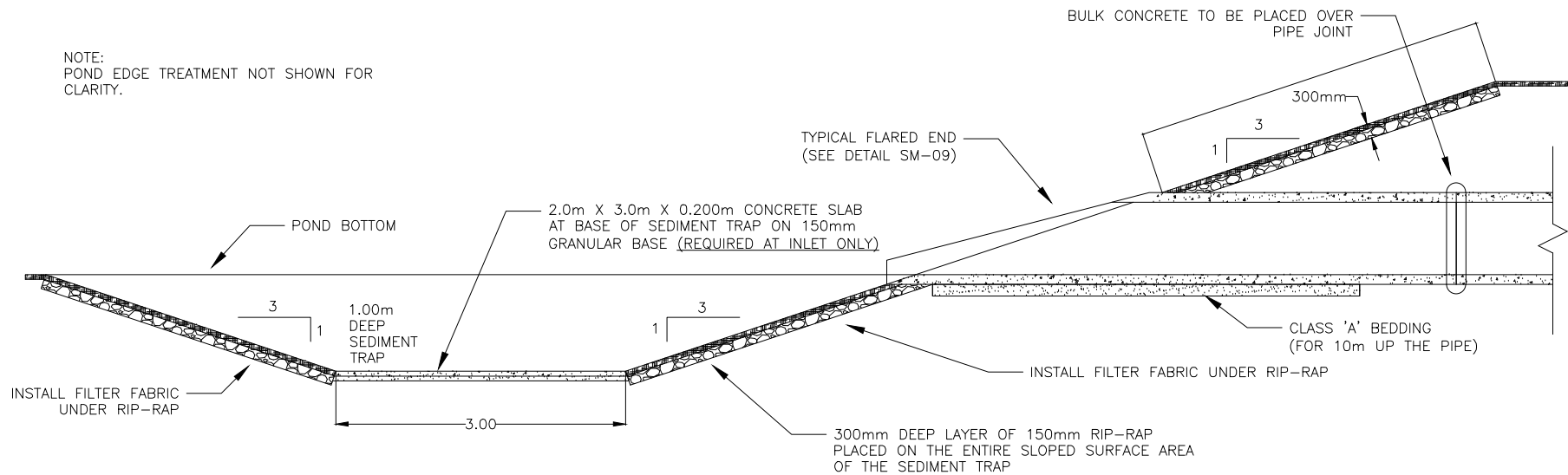
STEEL CULVERT



| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: SM-10 |

XREFS

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THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

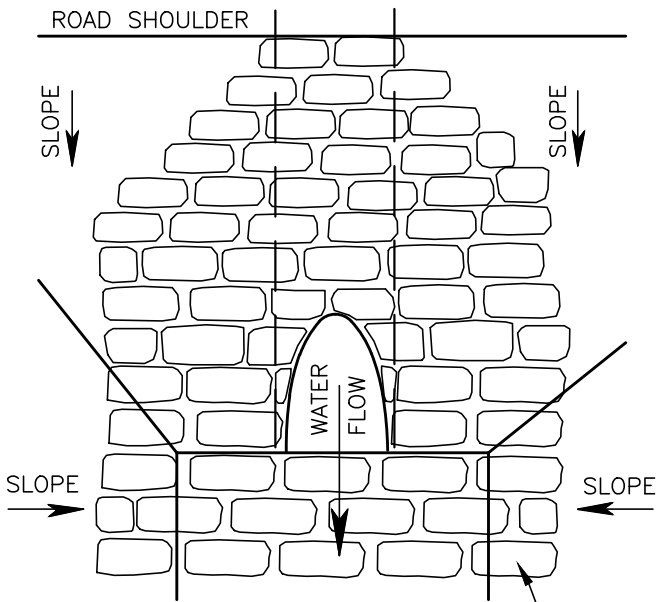
| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
| | | |
| | | |

INLET/OUTLET DETAIL



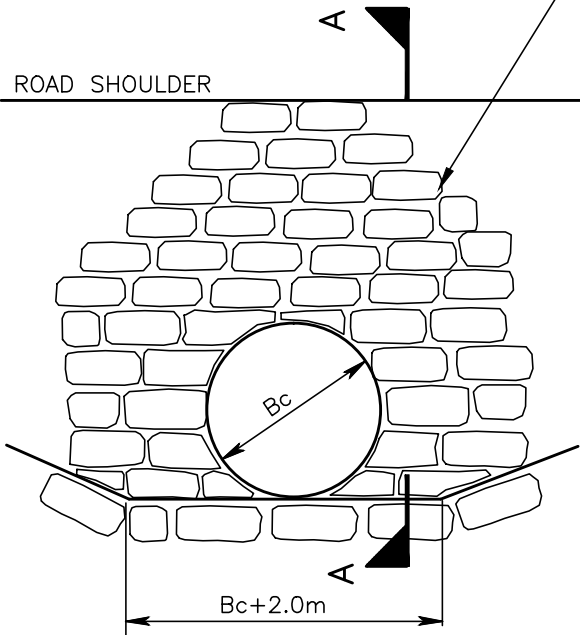
DRAWN: S.WILLIAMS
 CHECKED: J. MUSTARD
 APPROVED: J. MUSTARD

DATE: MARCH 4, 2014
 SCALE: NOT TO SCALE
 DRAWING No.: SM-11

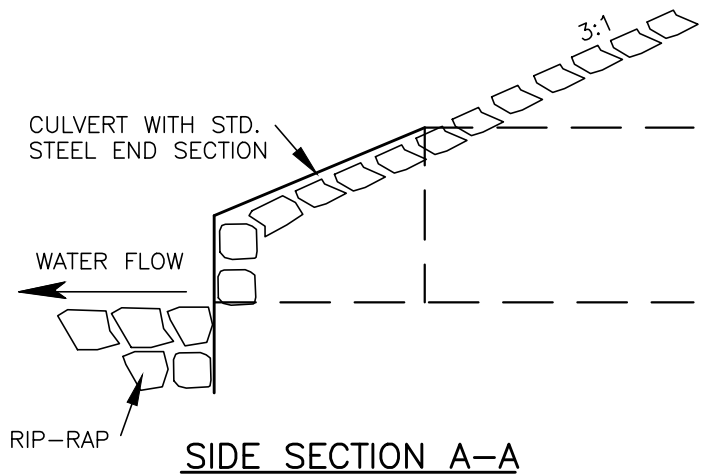


PLAN VIEW

RIP-RAP SLOPE AND
END PROTECTION



FRONT VIEW



SIDE SECTION A-A

XREFS

C:\DETAILS\SHEET2-TK

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

RIP-RAP

| REVISIONS | | |
|-----------|----------------|-------|
| DATE | DETAILS | DRAWN |
| 4/12 | Drawing Number | RP |
| | | |
| | | |
| | | |



DRAWN: T. CRAWFORD

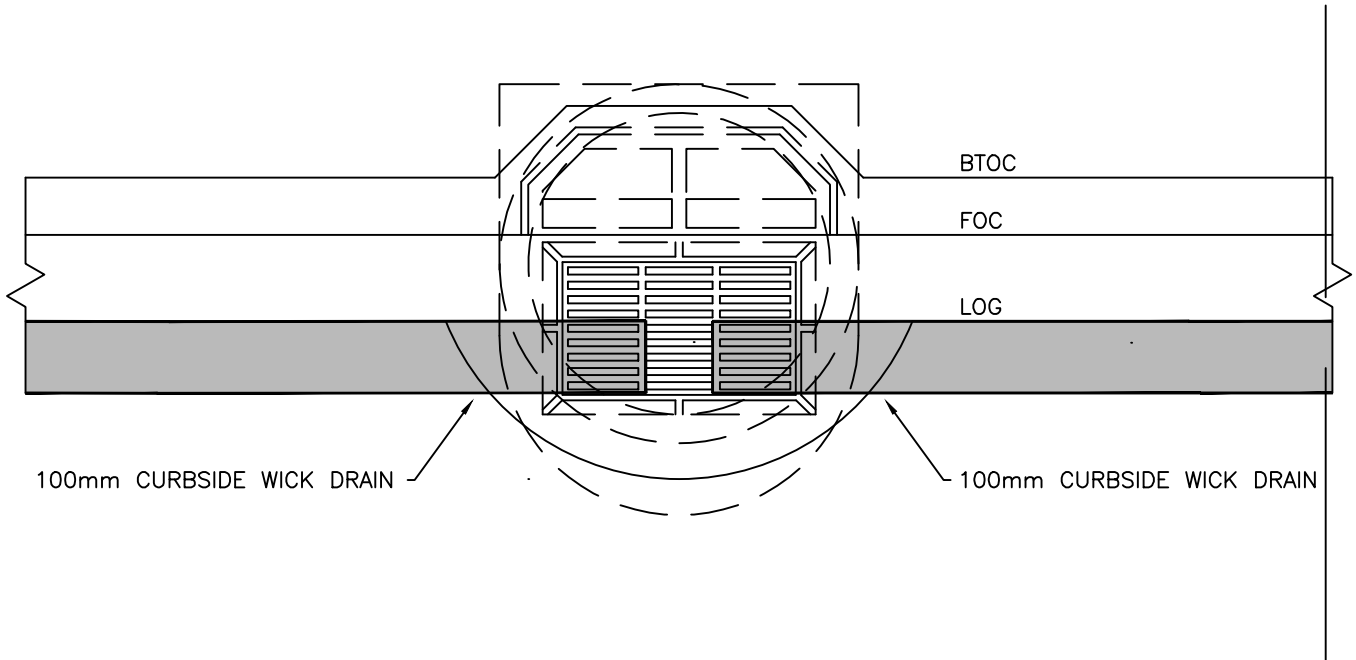
DATE: MARCH 6, 2006

CHECKED: J. MUSTARD

SCALE: NOT TO SCALE

APPROVED: J. MUSTARD

DRAWING No.: SM-12



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. WICK DRAINS TO BE CUT 300mm INSIDE CB AND MUST BE VISIBLE.

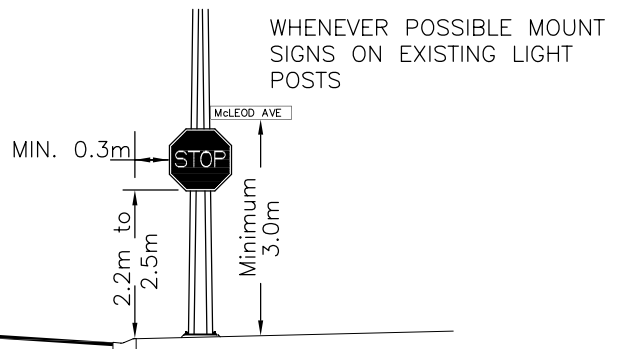
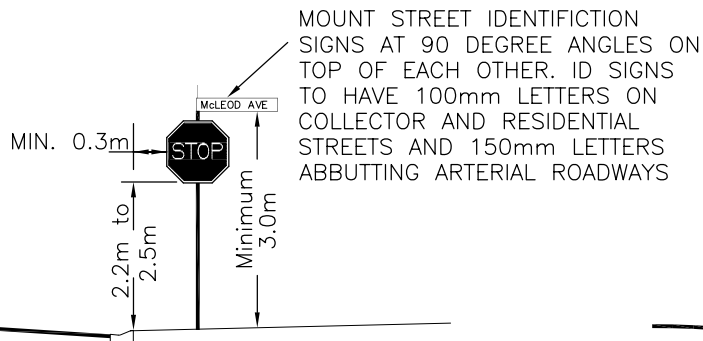
XREFS

THE CITY OF
SPRUCE GROVE

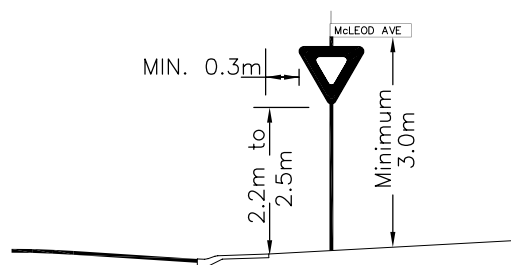
PLANNING AND INFRASTRUCTURE

C:\DETAILS\SHEET2-TK

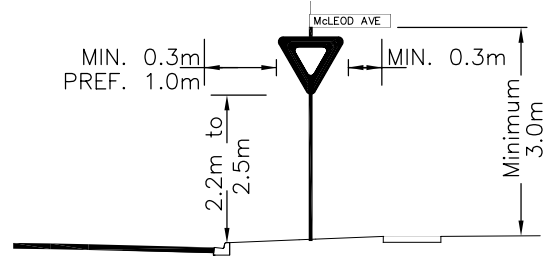
| REVISIONS | | | WICK DRAIN CONNECTION TO CB | | |
|-----------|--------------------------|-------|-----------------------------|----------------------|---------------------|
| DATE | DETAILS | DRAWN | | | |
| 04/12 | Removed Tranv Wick Drain | RP | | DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| 04/12 | Drawing Number | RP | | CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| 02/14 | Additional Note | RP | | | |
| 04/19 | Standards Update | WPS | | APPROVED: J. MUSTARD | DRAWING No.: SM-13 |



LOCAL RESIDENTIAL STREET



LOCAL RESIDENTIAL STREET



COLLECTOR STREET

** WHERE PRACTICAL MOUNT STREET NAME SIGNS:

- 1) ON A STREET LIGHT STANDARD AT THE INTERSECTION.
- 2) ON THE TOP OF A YIELD OR STOP SIGN POST AT THE INTERSECTION.
- 3) ON A SEPARATE POST ONLY IF THE ABOVE 2 LOCATIONS ARE NOT SUITABLE.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|------|---------|-------|
| | | |
| | | |
| | | |

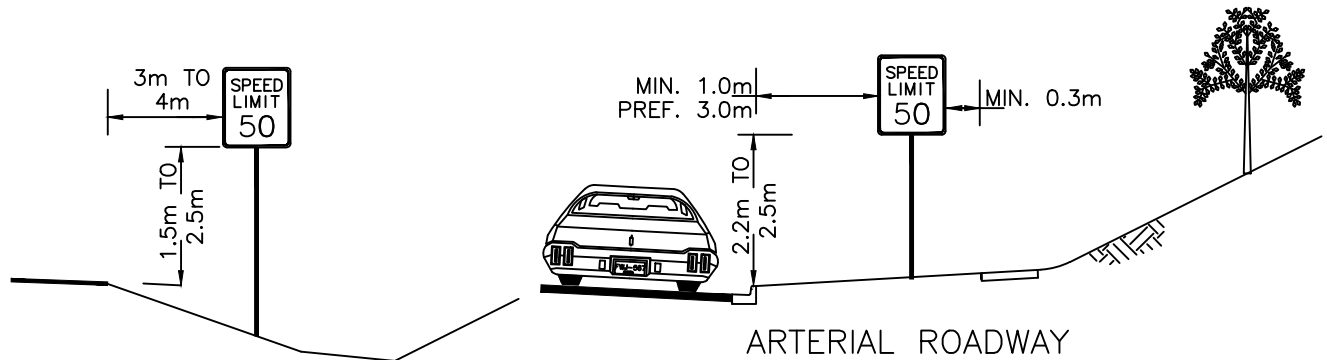
TRAFFIC SIGNAGE



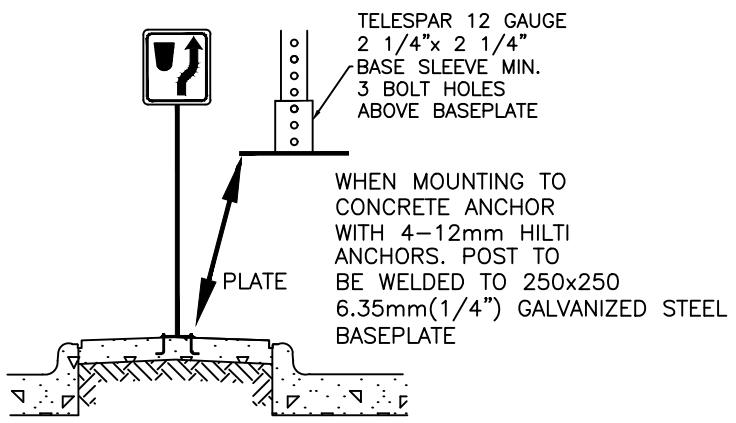
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| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: SN-01 |

XREFS

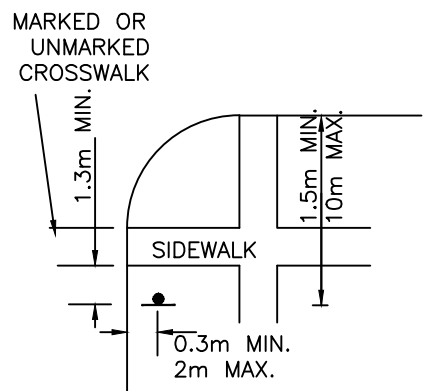
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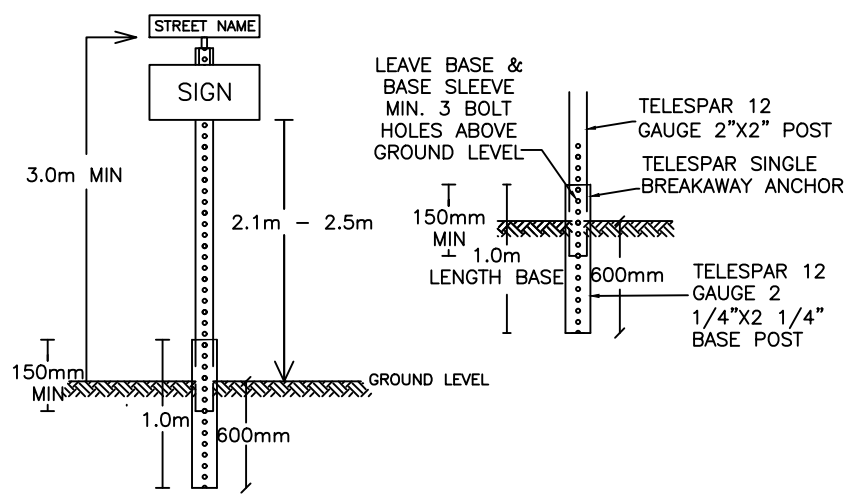
RURAL/INDUSTRIAL



MEDIAN/CONCRETE DETAIL



INTERSECTION DETAIL



MATERIALS DETAIL

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED
2. WHERE SIGN ROTATION DUE TO WIND IS EXPECTED, TELES PAR OMNI-DIRECTIONAL ANCHOR OR APPROVED EQUAL SHALL BE USED.

THE CITY OF SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 02/14 | MATERIAL SIZE | RP |
| 04/15 | ADDT'L MATERIAL | RP |
| 09/20 | STANDARDS UPDATE | WPS |

TRAFFIC SIGNAGE

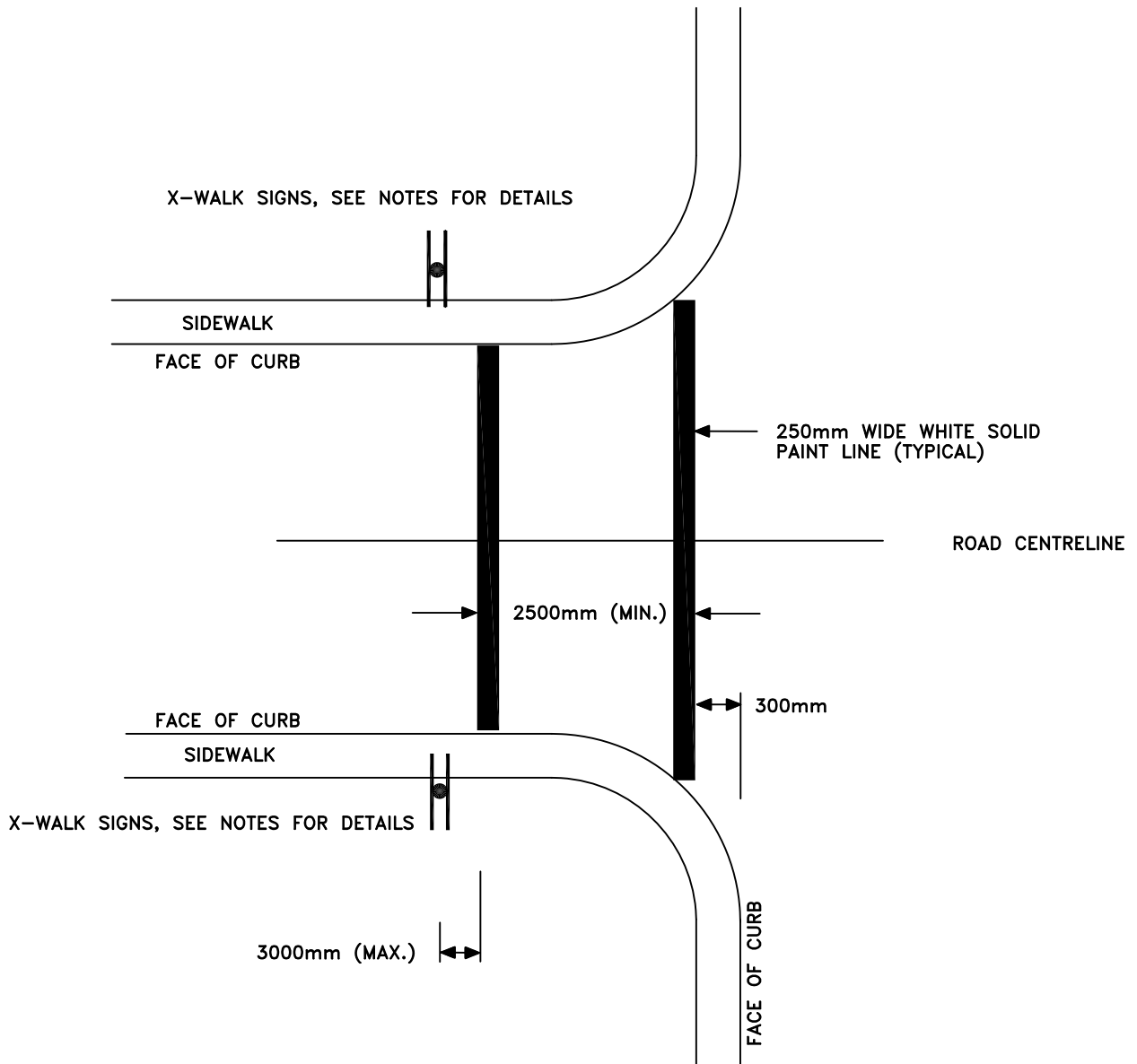


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| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: SN-02 |

XREFS

C:\DETAILS\SHEET2-TK

PARALLEL LINES



NOTES:

1. WHEN WARRANTED, USE AT PASSIVE X-WALKS ON COLLECTOR AND LOCAL ROADS UNLESS SPECIAL CIRCUMSTANCES EXIST (SEE SN-04) IN WHICH CASE, ZEBRA LINES ARE TO BE USED
2. USE FLUORESCENT LIME YELLOW RA-4R/L SIGNS
3. MOUNT SIGNS BACK-TO-BACK ON BOTH SIDES OF AN UNDIVIDED ROAD AND WHEN THE ROAD IS DIVIDED, MOUNT SINGLE SIDED ON THE RIGHT SIDE OF THE ROAD AND BACK-TO BACK ON THE MEDIAN
4. MOUNT SIGNS IN ADVANCE OF THE X-WALK WHERE PRACTICAL

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------------|-------|
| 01/21 | LINE WIDTH & DIST. BTW | HW |
| 01/21 | ADD SIGN | HW |
| 01/21 | UPDATE NOTES | HW |
| 01/21 | TITLE CHANGE | HW |

PASSIVE CROSSWALK – PARALLEL LINES

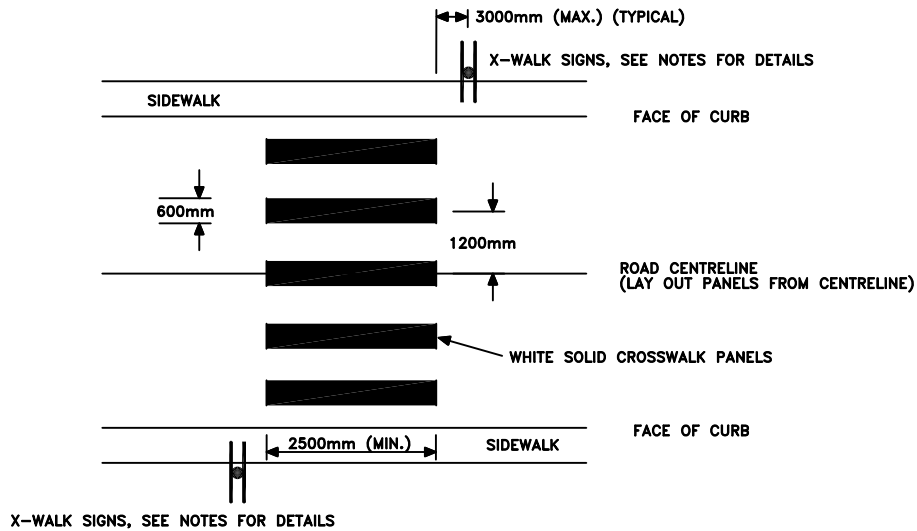


| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: SN-03 |

XREFS

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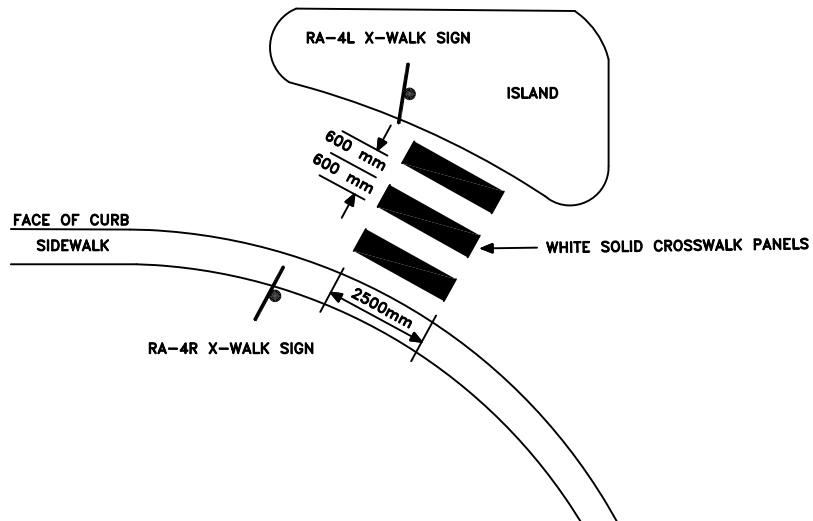
ZEBRA LINES



NOTES:

1. USE FLUORESCENT LIME YELLOW RA-3R/L SIGNS IN NON-SCHOOL AREA/ZONE
2. USE FLUORESCENT LIME YELLOW RA-4R/L SIGNS IN SCHOOL AREA/ZONE
3. USE AT PASSIVE X-WALKS ON ALL ARTERIAL ROADS AND ON COLLECTOR AND LOCAL ROADS WHEN THE FOLLOWING CIRCUMSTANCES EXIST: SCHOOL/PLAYGROUND AREA OR ZONE, WITHIN 100m OF SCHOOL GROUNDS, CONNECTS A PATHWAY, MID-BLOCK, OR FREQUENTLY USED BY ELDERLY & MOBILITY IMPAIRED
4. MOUNT SIGNS BACK-TO-BACK ON BOTH SIDES OF AN UNDIVIDED ROAD AND WHEN THE ROAD IS DIVIDED, MOUNT SINGLE SIDED ON THE RIGHT SIDE OF THE ROAD AND BACK-TO BACK ON THE MEDIAN

CHANNELIZED RIGHT TURN



THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------------|-------|
| 01/21 | LINE LENGTH & DIST BTW | HW |
| 01/21 | ADD SIGNS | HW |
| 01/21 | UPDATE NOTES | HW |
| 01/21 | TITLE CHANGE | HW |

PASSIVE CROSSWALK – ZEBRA LINES



DRAWN: T. CRAWFORD

DATE: MARCH 6, 2006

CHECKED: J. MUSTARD

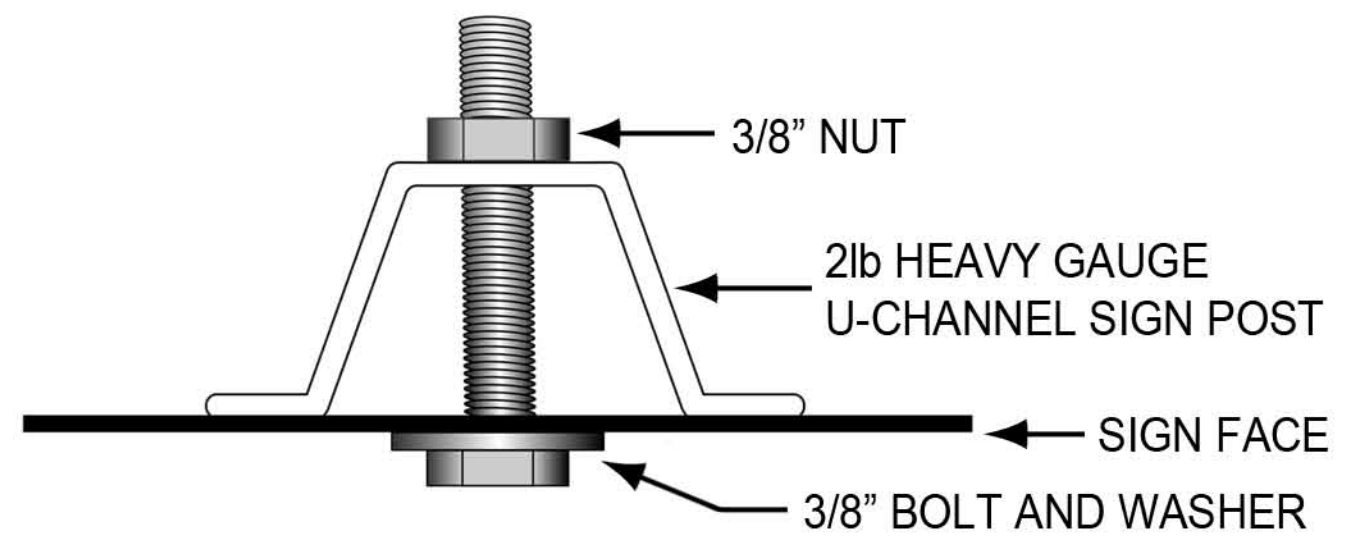
SCALE: NOT TO SCALE

APPROVED: J. MUSTARD

DRAWING No.: SN-04

XREFS

C:\DETAILS\SHEET2-TK



SIGN MOUNTING DETAIL

2.8m

12 ft LENGTH
2lb HEAVY GAUGE
U-CHANNEL SIGN POST

1.0m DEPTH
MIN. 300mm DIA.
25 MPA POURED IN PLACE CONCRETE FOOTING
DRY POUR REDI-MIX NOT ACCEPTABLE

FINISH GRADE

FINISH GRADE

THE CITY OF
SPRUCE GROVE

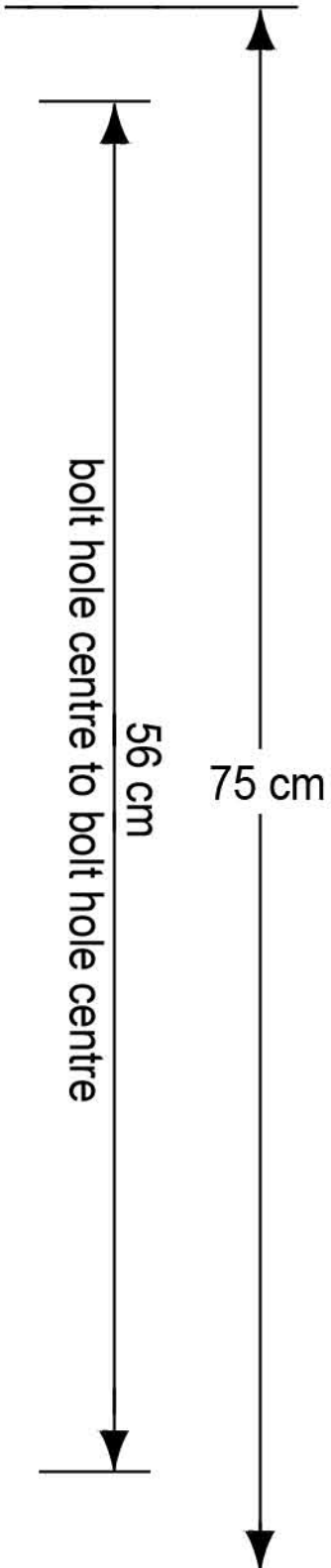
PLANNING AND INFRASTRUCTURE

| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
| | | |
| | | |

SWMF SIGNAGE INSTALLATION



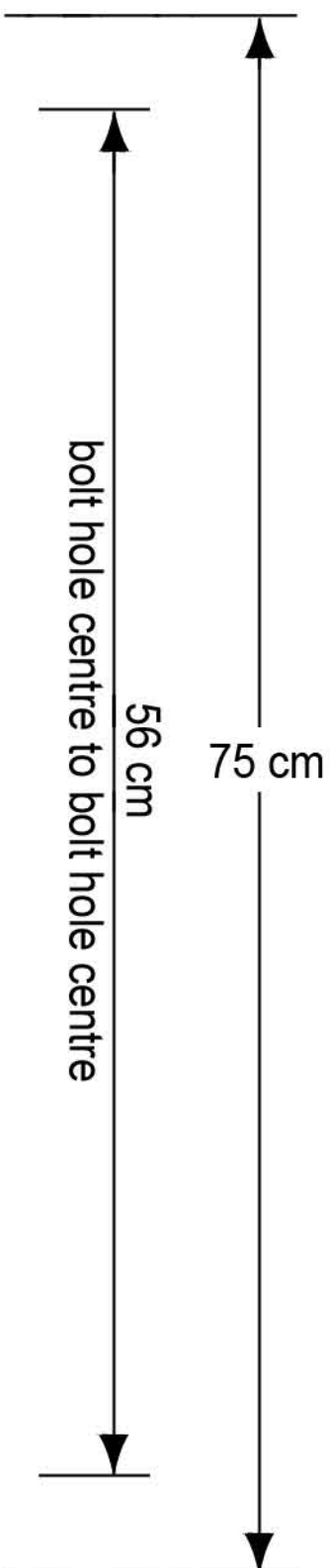
DRAWN: A. STACHNIAK DATE: NOVEMBER 23, 2020
 CHECKED: M. HUSSEY SCALE: NOT TO SCALE
 APPROVED: M. HUSSEY DRAWING No.: SN-05



PROHIBITIVE SIGN SPECIFICATIONS:

BOLT HOLES TO BE 1cm IN DIAMETER TO ACCOMMODATE 3/8" BOLTS

0.08 ALUMINUM APPLIED WITH 3M DIAMOND GRADE WHITE REFLECTIVE SHEETING AND 8150 PRINT WITH OVERLAMINATE OR EQUIVALENT



THE CITY OF SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
| | | |
| | | |

PROHIBITIVE SWMF SIGNAGE



| | |
|---------------------|-------------------------|
| DRAWN: A. STACHNIAK | DATE: NOVEMBER 19, 2020 |
| CHECKED: M. HUSSEY | SCALE: NOT TO SCALE |
| APPROVED: M. HUSSEY | DRAWING No.: SN-06 |



“DOG ON LEASH” SIGN SPECIFICATIONS:

BOLT HOLES TO BE 1cm IN DIAMETER TO ACCOMMODATE 3/8” BOLTS

0.08 ALUMINUM APPLIED WITH 3M DIAMOND GRADE WHITE REFLECTIVE SHEETING AND 1170 SERIES BLUE ELECTRO CUT GRAPHIC FILM OR EQUIVALENT

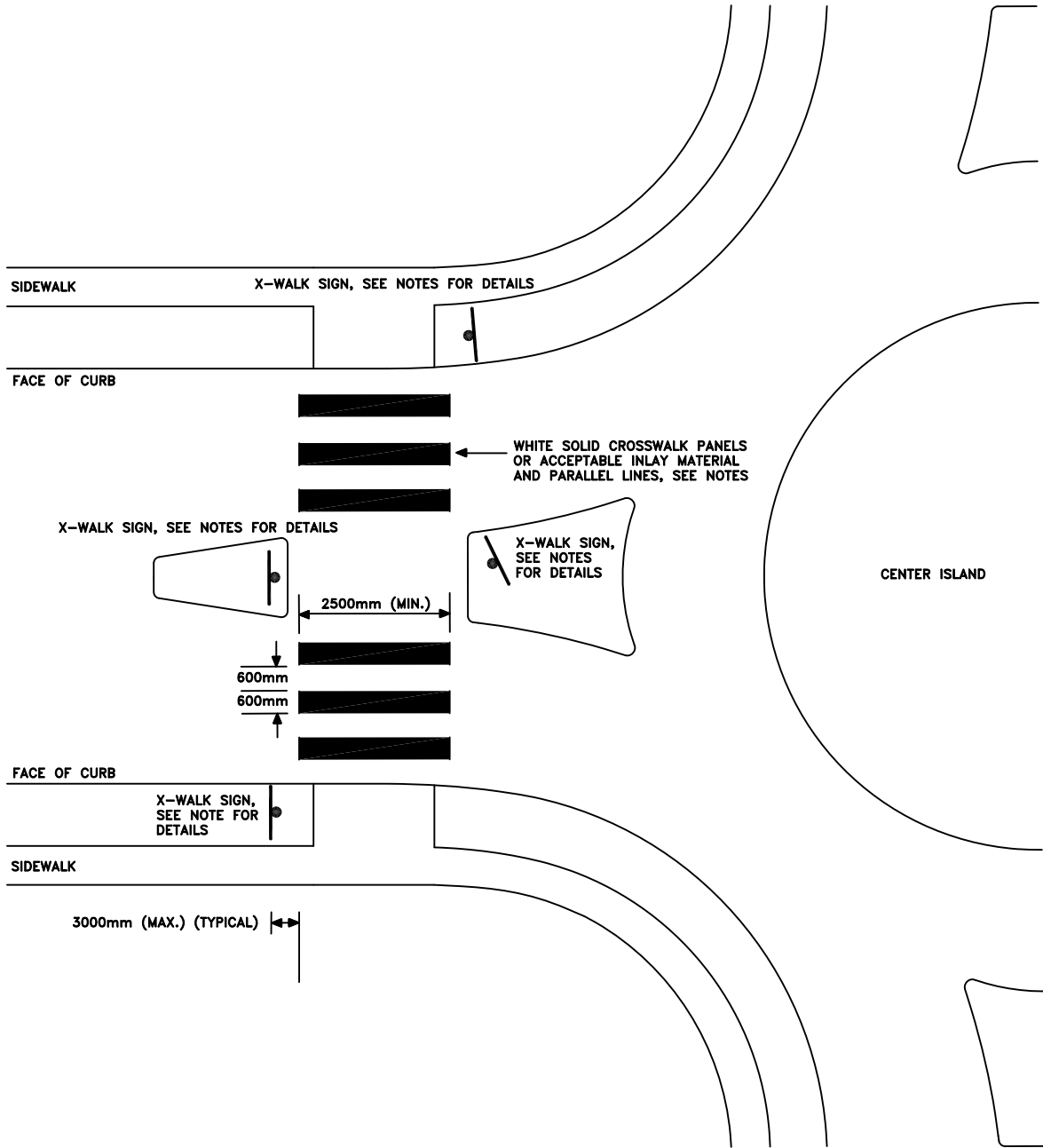
THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
| | | |
| | | |

| “DOG ON LEASH” SWMF SIGNAGE | | |
|-----------------------------|---------------------|---------------------------|
| | DRAWN: A. STACHNIAK | DATE: NOVEMBER 19, 2020 |
| | CHECKED: M. HUSSEY | SCALE: NOT TO SCALE |
| | APPROVED: M. HUSSEY | DRAWING No.: SN-07 |

ROUNDBABOUT



NOTES:

1. USE ZEBRA LINES OR ACCEPTABLE INLAY MATERIAL WITH PARALLEL LINES WHEN ONE OR MORE ROAD ENTERING THE ROUNDABOUT IS AN ARTERIAL OR COLLECTOR ROAD
2. USE PARALLEL LINES WHEN ALL ROADS ENTERING THE ROUNDABOUT ARE LOCAL ROADS
3. USE FLUORESCENT LIME YELLOW RA-3R/L SIGNS IN NON-SCHOOL AREA/ZONE
4. USE FLUORESCENT LIME YELLOW RA-4R/L SIGNS IN SCHOOL AREA/ZONE
5. ACCEPTABLE INLAY MATERIAL INCLUDES BRICK OR EQUIVALENT STAMPED COLORED CONCRETE
6. INLAY MATERIAL IS TO BE PLACED ON THE ENTIRE AREA BETWEEN THE CURB RAMP, ISLAND AND PARALLEL LINES

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|------|---------|-------|
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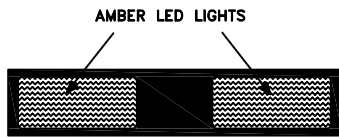
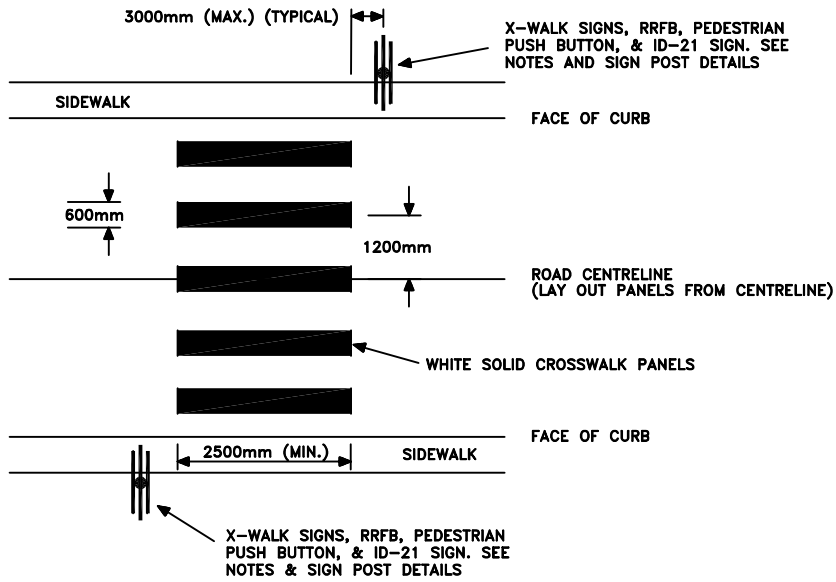
PASSIVE CROSSWALK – ROUNDABOUTS



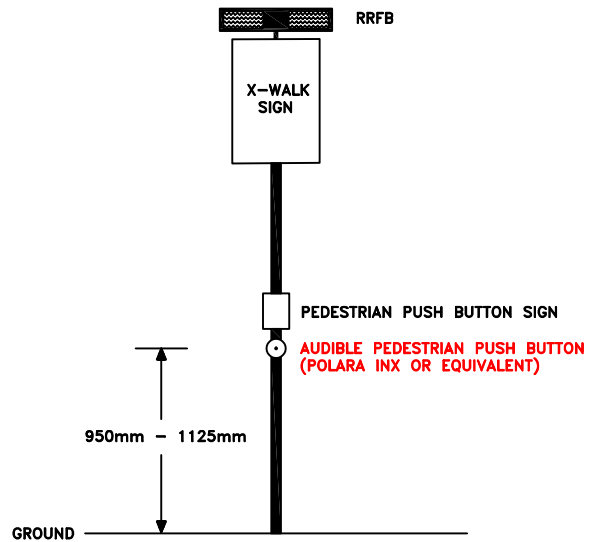
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|--------------------|------------------------|
| DRAWN: H. WHITE | DATE: JANUARY 11, 2021 |
| CHECKED: D. FLYNN | SCALE: NOT TO SCALE |
| APPROVED: D. FLYNN | DRAWING No.: SN-08 |

XREFS

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RRFB DETAIL



SIGN POST DETAIL

NOTES:

1. USE FLUORESCENT LIME YELLOW RA-3R/L SIGNS IN NON-SCHOOL AREA/ZONE
2. USE FLUORESCENT LIME YELLOW RA-4R/L SIGNS IN SCHOOL AREA/ZONE
3. MOUNT X-WALK SIGNS BACK-TO-BACK ON BOTH SIDES OF AN UNDIVIDED ROAD AND WHEN THE ROAD IS DIVIDED, MOUNT SINGLE SIDED ON THE RIGHT SIDE OF THE ROADS AND BACK-TO-BACK ON THE MEDIAN
4. MOUNT RRFB DIRECTLY ABOVE X-WALK SIGN
5. MOUNT PEDESTRIAN PUSHBUTTON SIGN (ID-21) DIRECTLY ABOVE PEDESTRIAN PUSH BUTTON

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

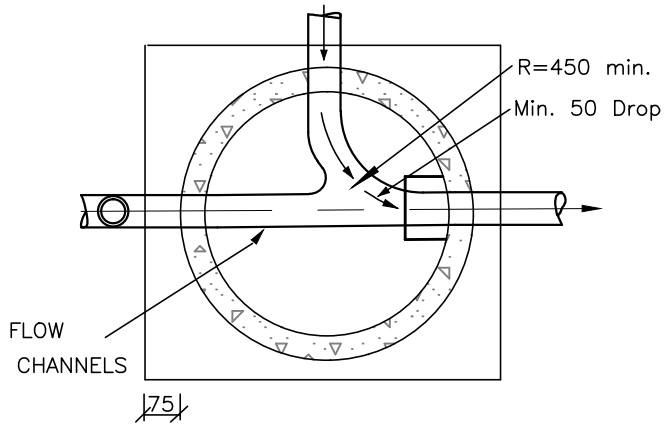
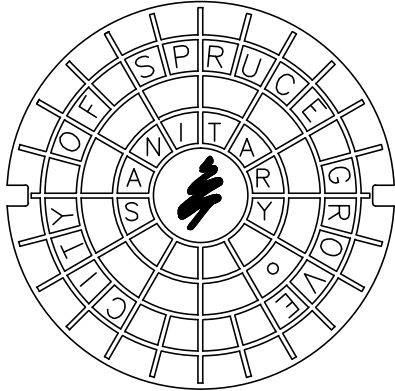
REVISIONS

| DATE | DETAILS | DRAWN |
|-------|----------------------|-------|
| 01/28 | PUSH BUTTON REVISION | BD |
| | | |
| | | |

ACTIVE CROSSWALK - RRFB

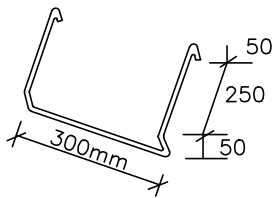


| | |
|--------------------|------------------------|
| DRAWN: H.WHITE | DATE: JANUARY 11, 2021 |
| CHECKED: D. FLYNN | SCALE: NOT TO SCALE |
| APPROVED: D. FLYNN | DRAWING No.: SN-09 |



STANDARD FRAME & COVER

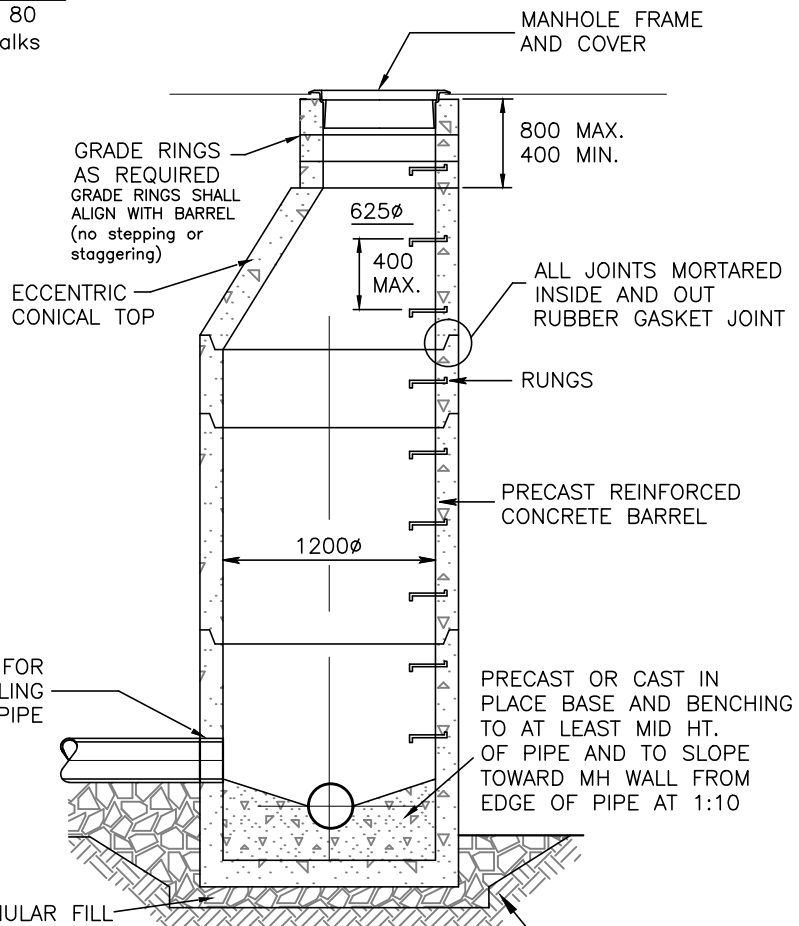
Use Norwood N.F.80 or Trojan T.F 80 on all manholes in roadways or walks (SEE DRAWING SY-05)



SAFETY TYPE M.H. RUNG

ALUMINUM SPACING TO BE 400mm CENTRE TO CENTRE

USE DURASEAL FOR WATERTIGHT COUPLING BETWEEN MH AND PVC PIPE



NOTES:

1. MANHOLES OF DEPTH GREATER THAN 7m REQUIRE AN ALUMINUM SAFETY PLATFORM.
2. ALL SEWER MAINS TYING INTO TRUNK MANHOLES MUST BE EXTENDED PAST CONCRETE SLAB SO THAT IT IS BOTH VISIBLE AND ACCESSIBLE FROM THE SURFACE.

XREFS

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THE CITY OF
SPRUCE GROVE

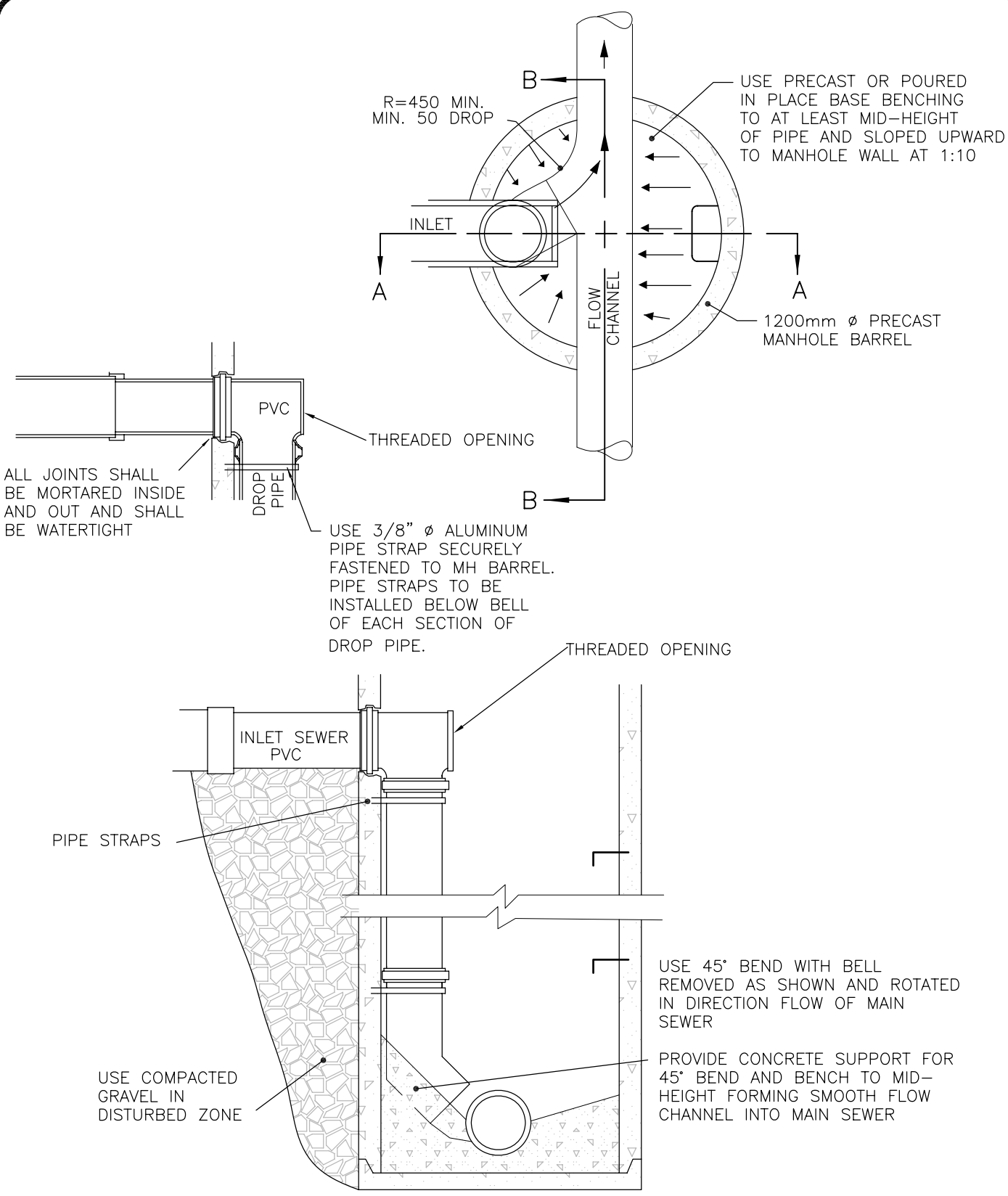
PLANNING AND INFRASTRUCTURE

| REVISIONS | | |
|-----------|------------------|-------|
| DATE | DETAILS | DRAWN |
| 04/15 | ADDITIONAL NOTES | RP |
| | | |
| | | |

STANDARD SANITARY MANHOLE



| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: SY-01 |



THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

INTERIOR DROP MANHOLE

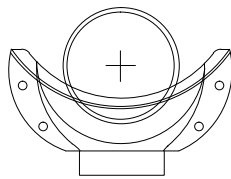
| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
| | | |
| | | |



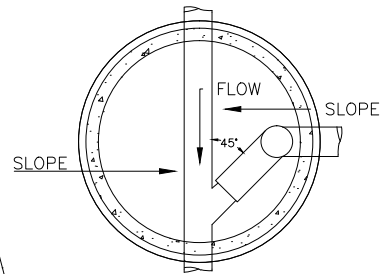
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| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: SY-02 |

XREFS

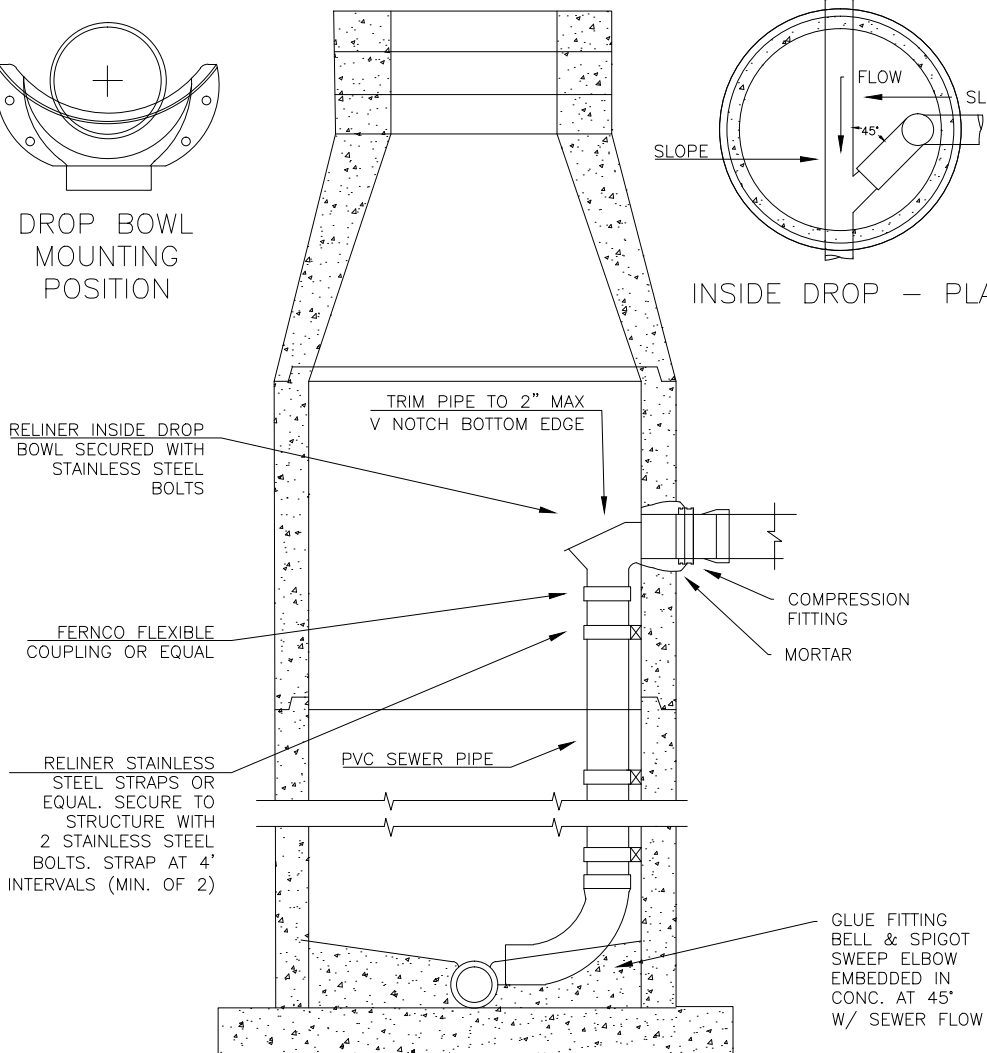
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DROP BOWL
MOUNTING
POSITION



INSIDE DROP - PLAN



NOTES:

1. SECURE DROP PIPE TO MANHOLE WITH RELINER-DURAN INC. STAINLESS STEEL ADJUSTABLE CLAMPING BRACKETS.
2. FOR MORE INFORMATION ON DROP BOWL TYPES, SIZES AND BRACKETS, GO TO WWW.RELINER.COM

XREFS

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THE CITY OF
SPRUCE GROVE

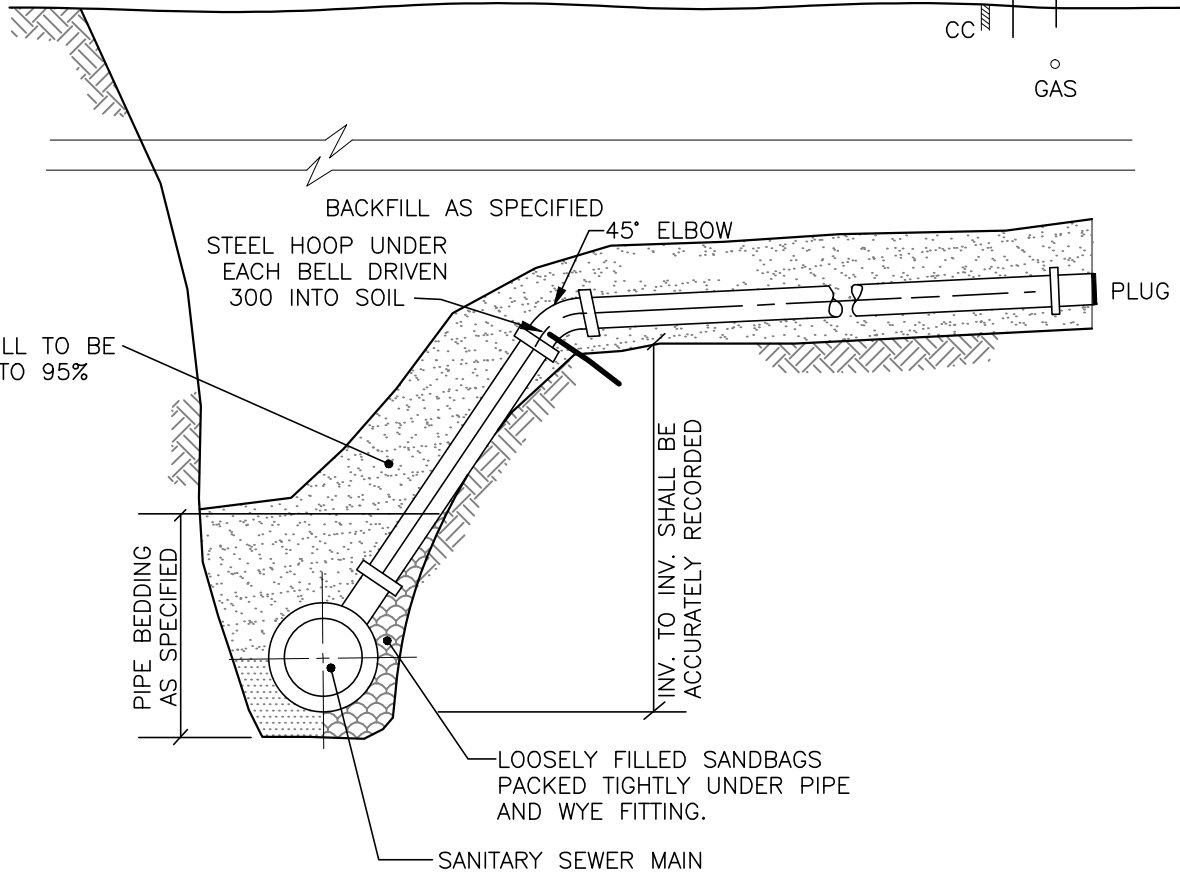
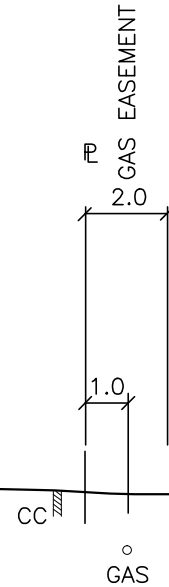
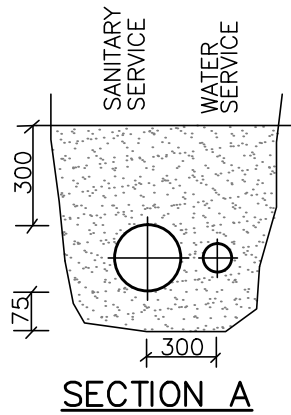
PLANNING AND INFRASTRUCTURE

| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
| | | |
| | | |
| | | |

INTERIOR DROP MANHOLE - ALTERNATIVE



| | |
|----------------------|---------------------|
| DRAWN: S.WILLIAMS | DATE: MARCH 7, 2014 |
| CHECKED: J. MUSTARD | SCALE: |
| APPROVED: J. MUSTARD | DRAWING No.: SY-03 |



THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|------|---------|-------|
| | | |
| | | |
| | | |

SANITARY RISER



DRAWN: T. CRAWFORD

DATE: MARCH 6, 2006

CHECKED: J. MUSTARD

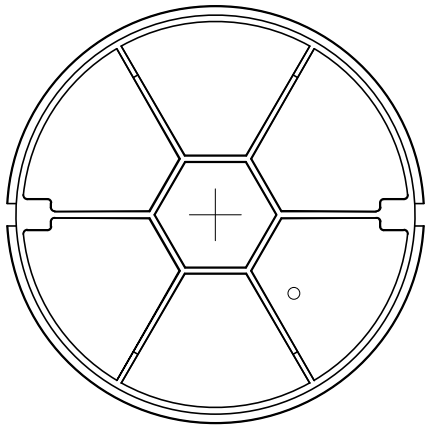
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APPROVED: J. MUSTARD

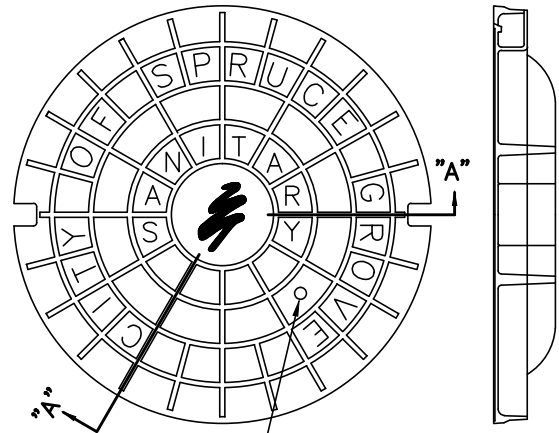
DRAWING No.: SY-04

XREFS

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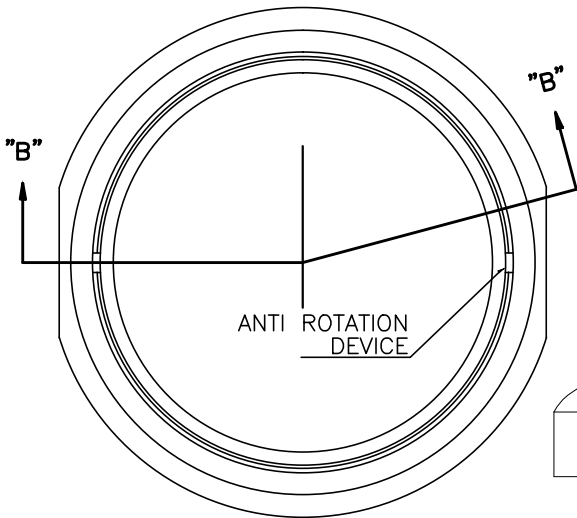


BOTTOM VIEW

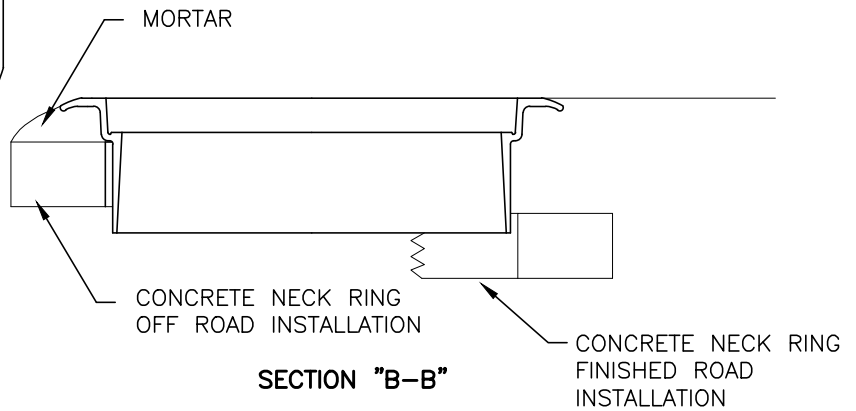


TOP VIEW

SECTION "A-A"



PLAN



SECTION "B-B"

NOTES:

1. NORWOOD FOUNDRY TYPE NF80 OR TROJAN FOUNDRY TYPE TF80
2. GROUT TO BE INSTALLED BETWEEN FLANGE AND MANHOLE BARREL ON RAISED MANHOLES.
3. SINGLE HOLE IN MANHOLE COVER SHALL BE PLUGGED IN ALL LOW AREAS OR POTENTIAL PONDING AREAS.

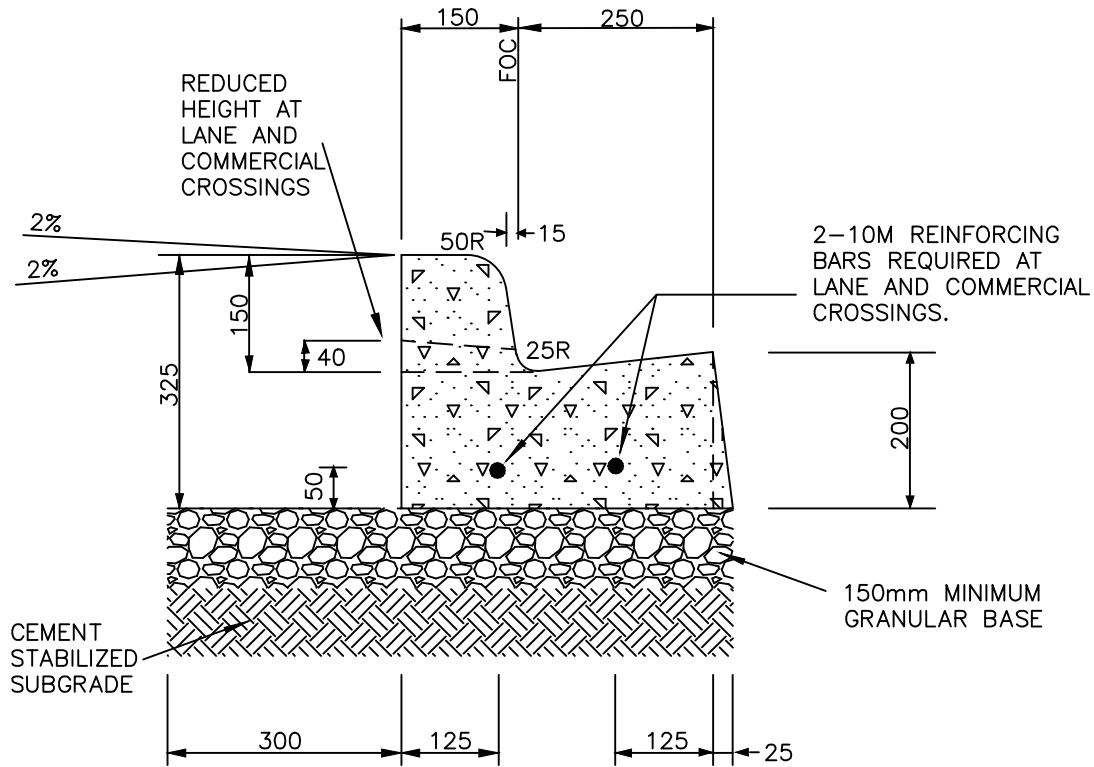
THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

XREFS

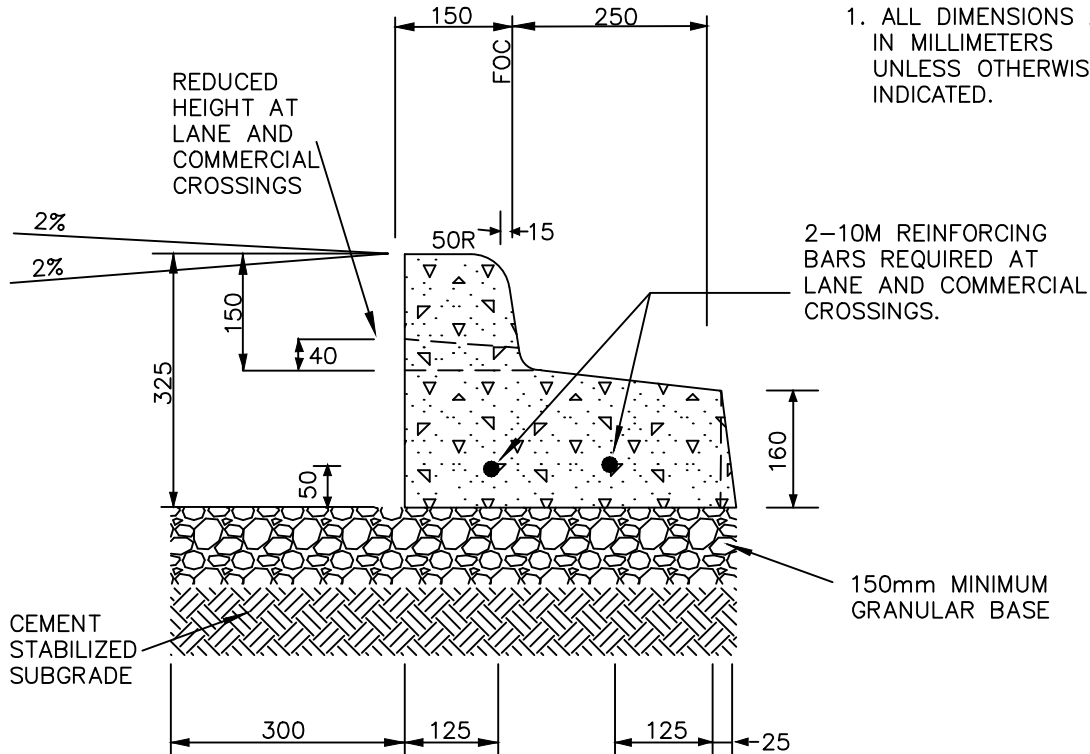
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| REVISIONS | | | NF/TF-80 FRAME AND COVER - SANITARY | | | | |
|-----------|------------------|-------|-------------------------------------|-----------|------------|--------------|--------------|
| DATE | DETAILS | DRAWN | | DRAWN: | DATE: | | |
| 04/15 | ADDITIONAL NOTES | RP | | CHECKED: | J. MUSTARD | SCALE: | NOT TO SCALE |
| | | | | APPROVED: | J. MUSTARD | DRAWING No.: | SY-05 |
| | | | | | | | |



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.



THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 03/13 | GRANULAR BASE | SW |
| 09/20 | STANDARDS UPDATE | WSP |
| | | |
| | | |

STANDARD CURB & GUTTER



DRAWN: T. CRAWFORD

DATE: MARCH 6, 2006

CHECKED: J. MUSTARD

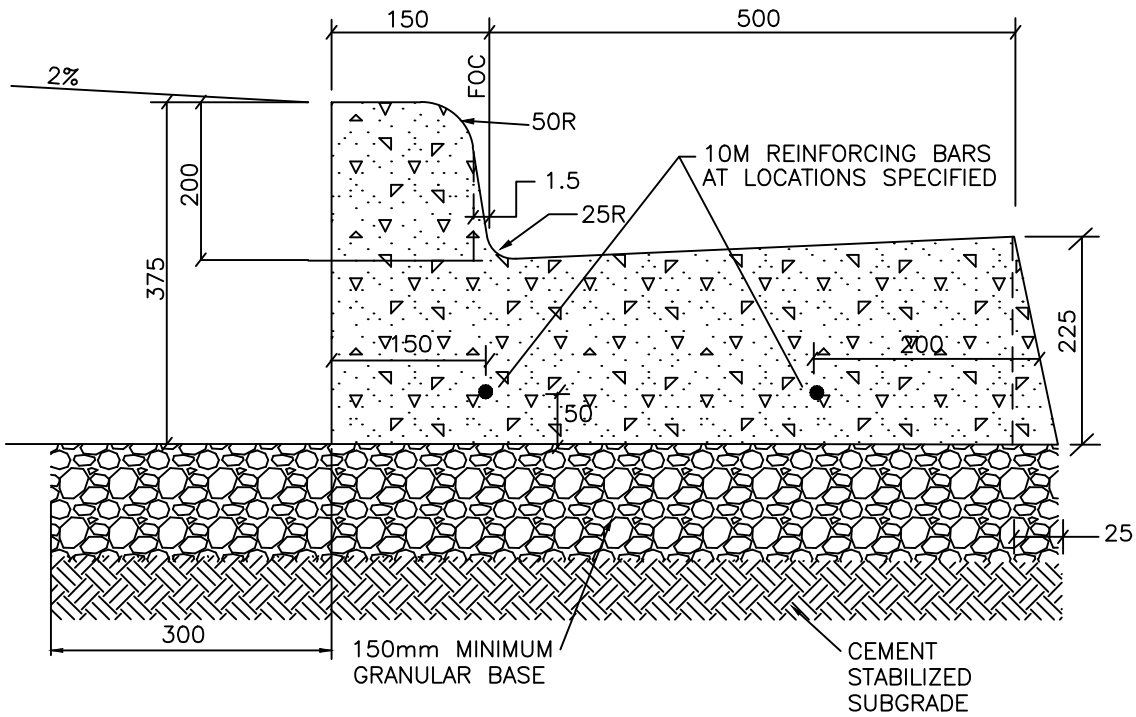
SCALE: NOT TO SCALE

APPROVED: J. MUSTARD

DRAWING No.: TN-01

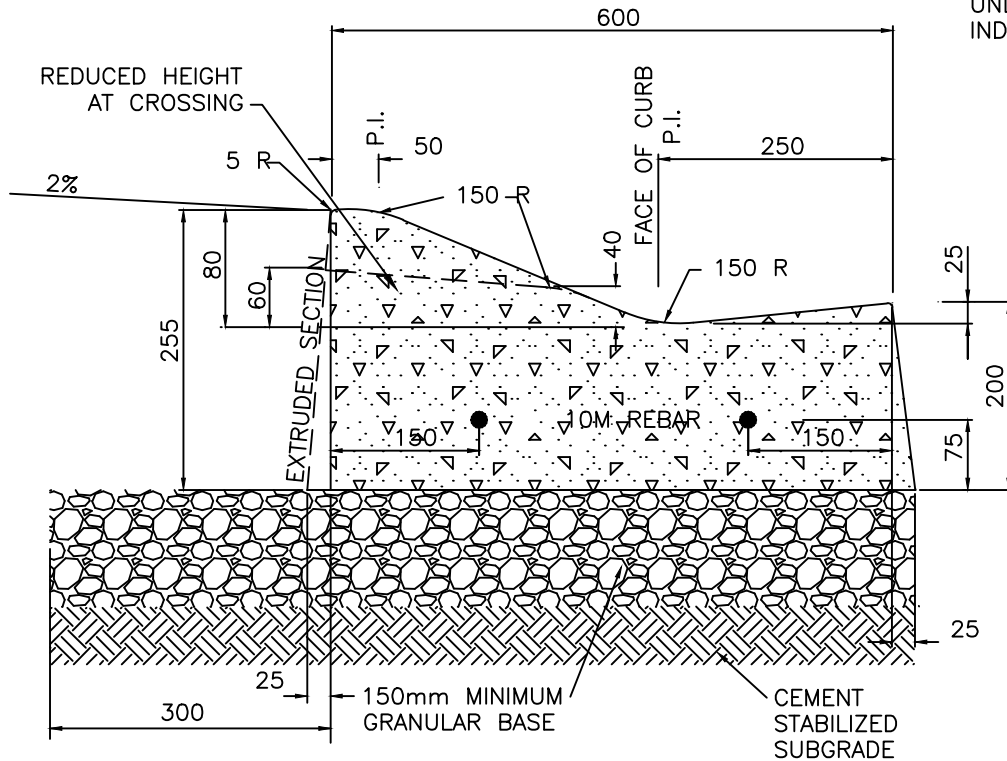
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NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.



THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 03/13 | GRANULAR BASE | SW |
| 09/20 | STANDARDS UPDATE | WPS |
| | | |
| | | |

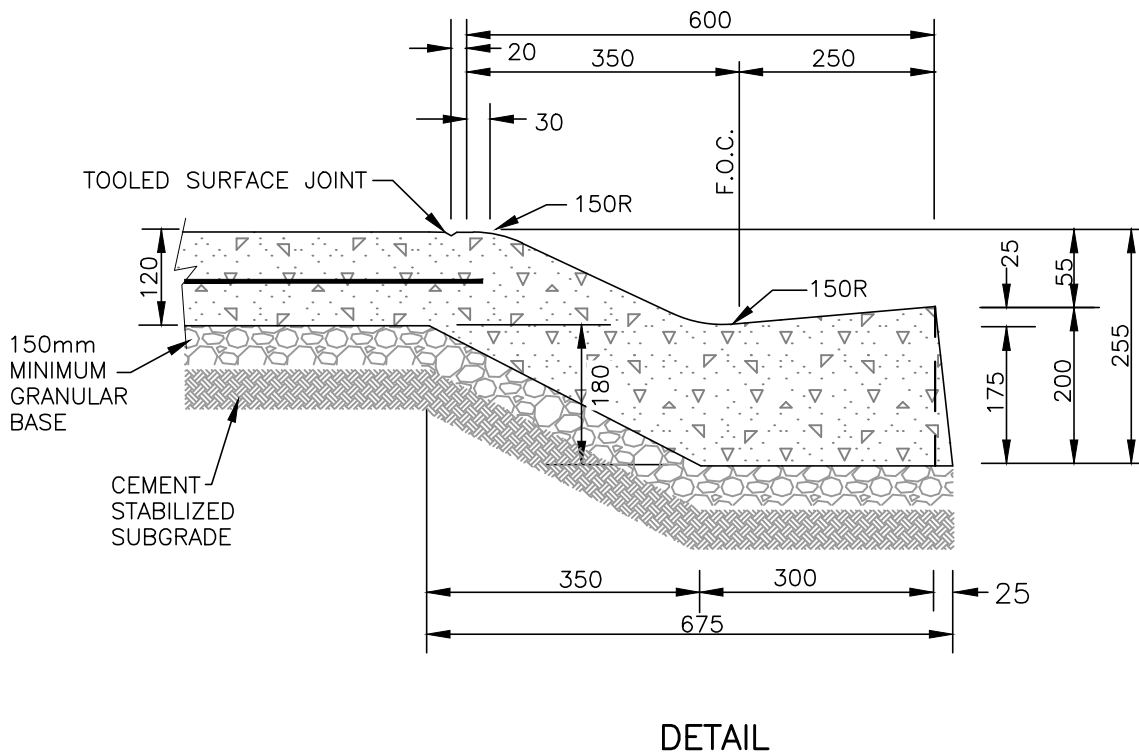
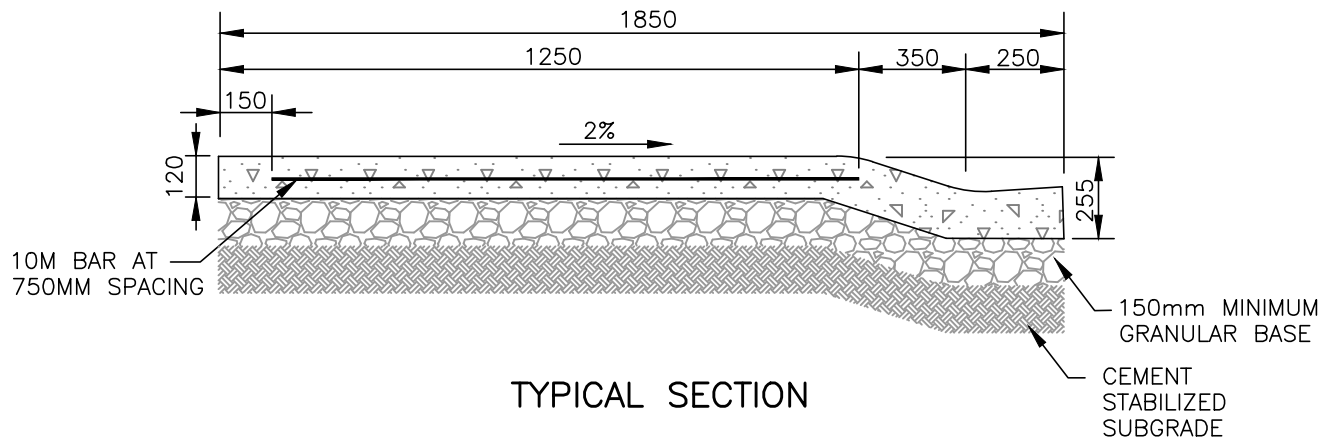
STD. ARTERIAL CURB AND GUTTER
ROLLED CURB AND GUTTER



| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: TN-02 |

XREFS

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XREFS

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THE CITY OF
SPRUCE GROVE

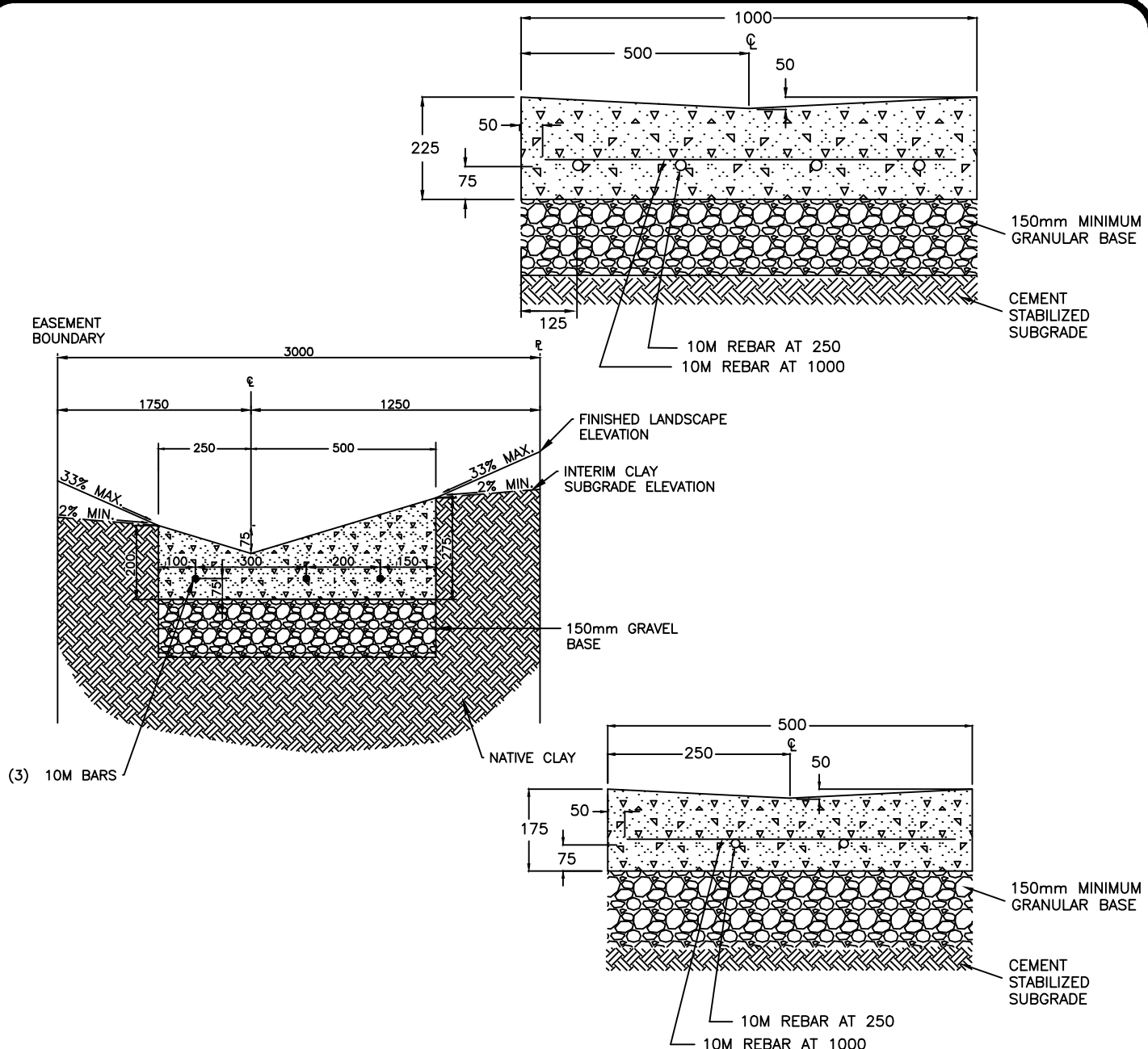
PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|---------------|-------|
| 03/13 | GRANULAR BASE | SW |
| | | |
| | | |

ROLLED MONO CURB & GUTTER

| | | |
|--|----------------------|---------------------|
| | DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| | CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| | APPROVED: J. MUSTARD | DRAWING No.: TN-03 |



NOTES:

- CL SWALE TO MATCH GUTTER ELEVATION AT UPSTREAM END. LOWER GUTTER LIP TO MEET SWALE EDGE.
- SWALE EDGE TO MATCH GUTTER ELEVATION IN DOWNSTREAM END. LOWER GUTTER LIP TO MATCH CL OF SWALE.
- EXPANSION JOINTS TO BE CONSTRUCTED AT ENDS OF SWALE WHERE SWALE ABUTS GUTTERS.
- CONTRACTION JOINTS 50 DEEP AND 5 WIDE TO BE CONSTRUCTED 3m ON CENTERS ALONG SWALE.
- CROWN OF ROAD TO BE TAPERED, STARTING 15m FROM SWALE, TO PROVIDE SMOOTH VEHICULAR CROSSING OF SWALE.
- MINIMUM GRADE - 0.6%
- CONCRETE SWALE TO BE USED WHEN ASPHALT GRADE IS LESS THAN 1%

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

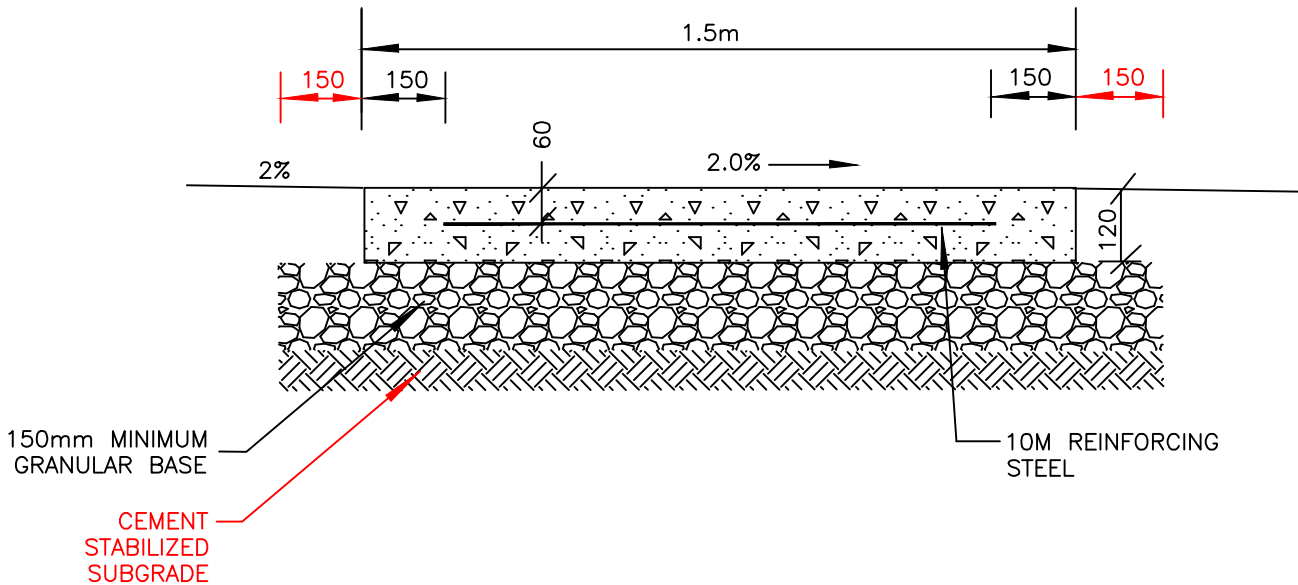
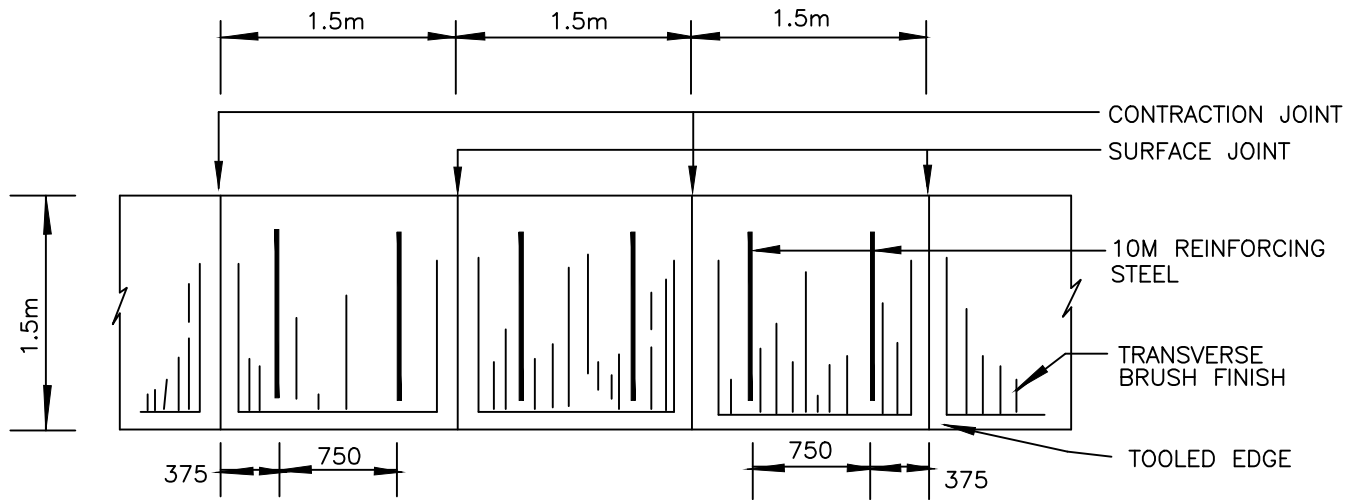
REVISIONS

| DATE | DETAILS | DRAWN |
|------|------------------|-------|
| 4/12 | Rev. CL depth | RP |
| 3/13 | GRANULAR BASE | SW |
| 2/22 | Standards Update | |

CONCRETE SWALE



| | |
|----------------------|-------------------------|
| DRAWN: T. CRAWFORD | DATE: FEBRUARY 18, 2022 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: TN-04 |



THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

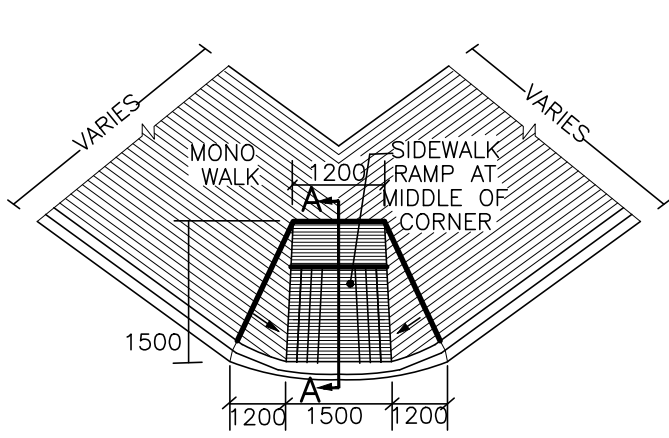
REVISIONS

| DATE | DETAILS | DRAWN |
|-------|-----------------------|-------|
| 03/13 | GRANULAR BASE | SW |
| 1/25 | Base and Subgrade Rev | BD |
| | | |
| | | |

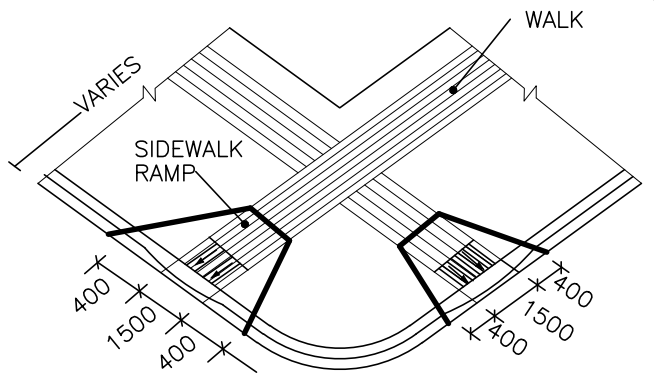
SEPERATE SIDEWALK



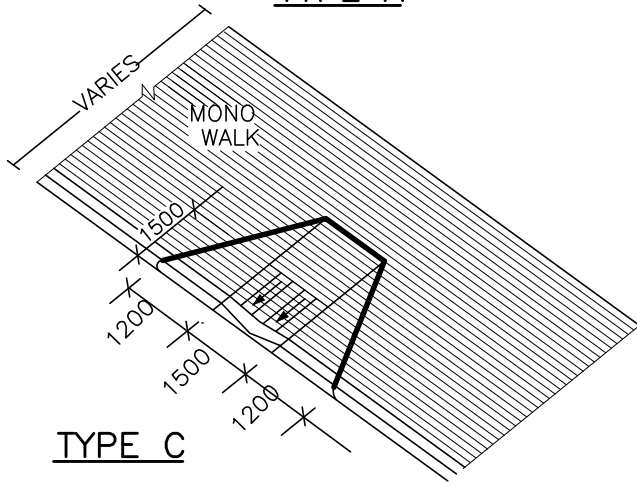
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|----------------------|-------------------------|
| DRAWN: T. CRAWFORD | DATE: FEBRUARY 10, 2022 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: TN-05 |



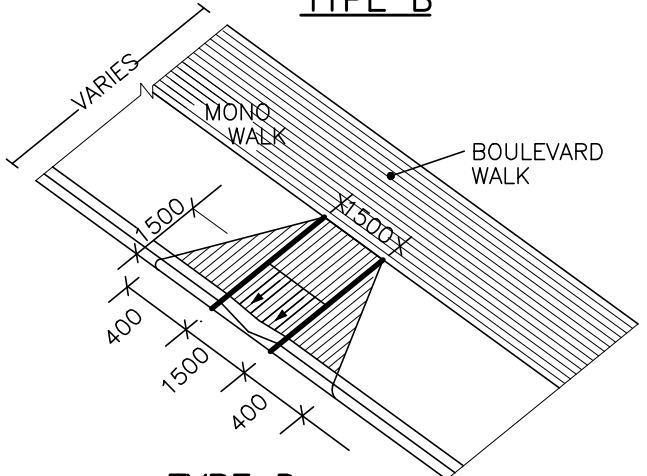
TYPE A



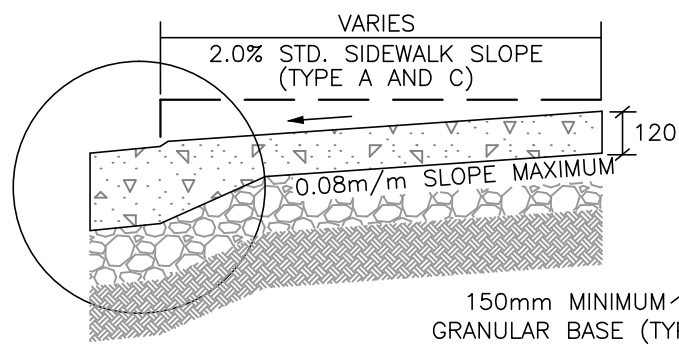
TYPE B



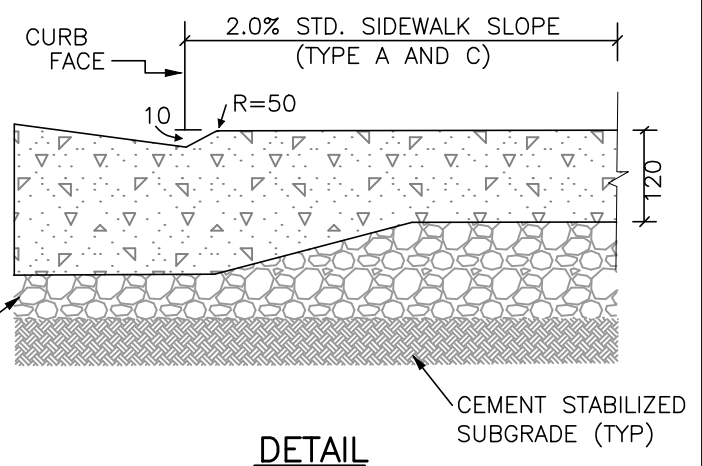
TYPE C



TYPE D



TYPICAL CROSS-SECTION A-A



DETAIL

NOTES:

1. TOOLED GROOVES 5mm WIDE X 10mm DEEP, BROOM FINISH GROOVE SPACING 150mm O.C. ADJACENT TO CURB.
2. WHERE RAMP IS TO BE USED AS A TRANSITION, USE THE CENTRE OF THE 150mm RAMP AS THE CENTRE OF THE TRANSITION.
3. WHERE CURB FACE IS 200mm, DISTANCE OF FLARE SHOULD BE 1600mm.
4. CURBS AND RAMPS TO BE POURED MONOLITHICALLY.
5. 150mm MINIMUM GRAVEL UNDER ALL CONCRETE STRUCTURES.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|---------------|-------|
| 03/13 | GRANULAR BASE | SW |
| | | |
| | | |

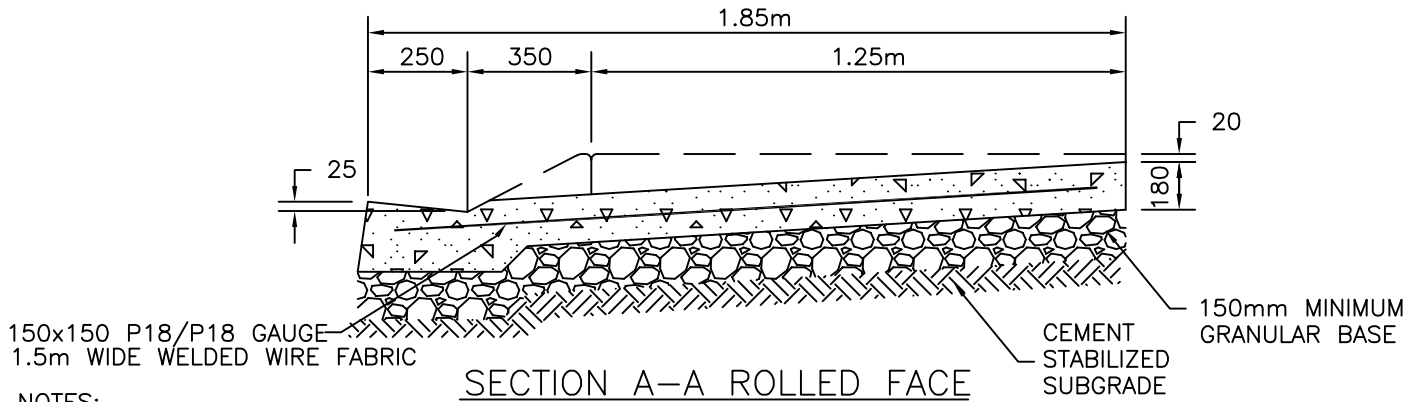
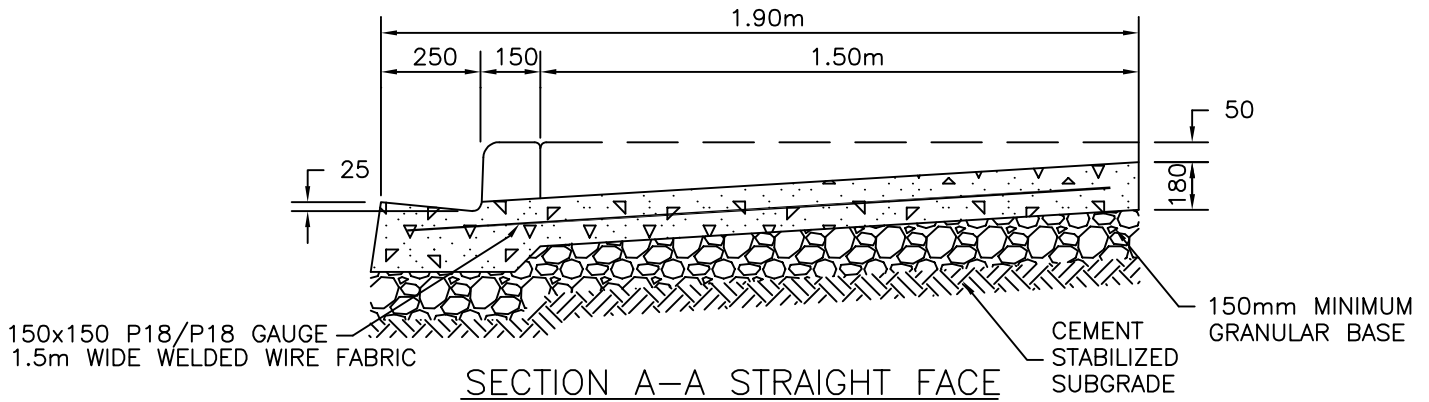
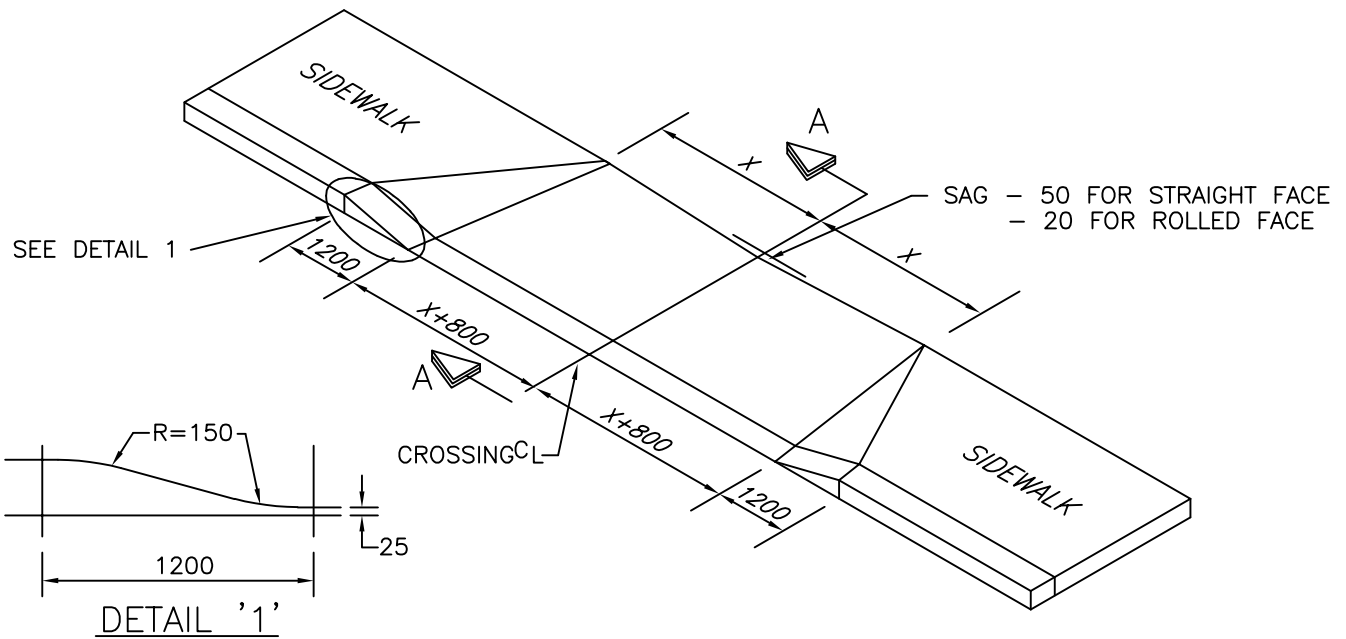
PARA RAMP DETAILS



| | |
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| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: TN-06 |

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NOTES:

1. MAXIMUM SLOPE 8% UNLESS OTHERWISE APPROVED BY ENGINEER.
2. CROSSING TO BE POURED MONOLITHICALLY WITH CURB AND GUTTER.
3. BACK OF CROSSING DROP FOR EXISTING 200mm CURBFACE IS 100mm.
4. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SHOWN.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

COMMERCIAL / ALLEY CROSSINGS

| REVISIONS | | |
|-----------|---------------|-------|
| DATE | DETAILS | DRAWN |
| 03/13 | GRANULAR BASE | SW |
| 01/25 | TITLE UPDATE | BD |
| | | |
| | | |



DRAWN: T. CRAWFORD

DATE: MARCH 6, 2006

CHECKED: J. MUSTARD

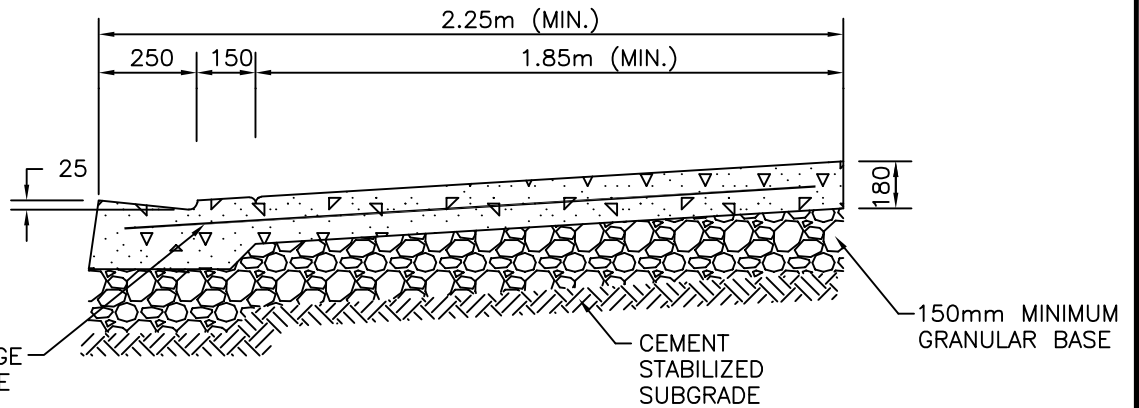
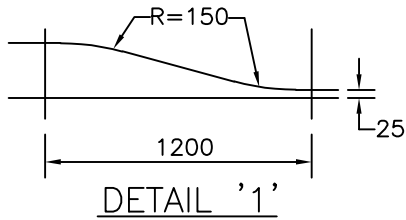
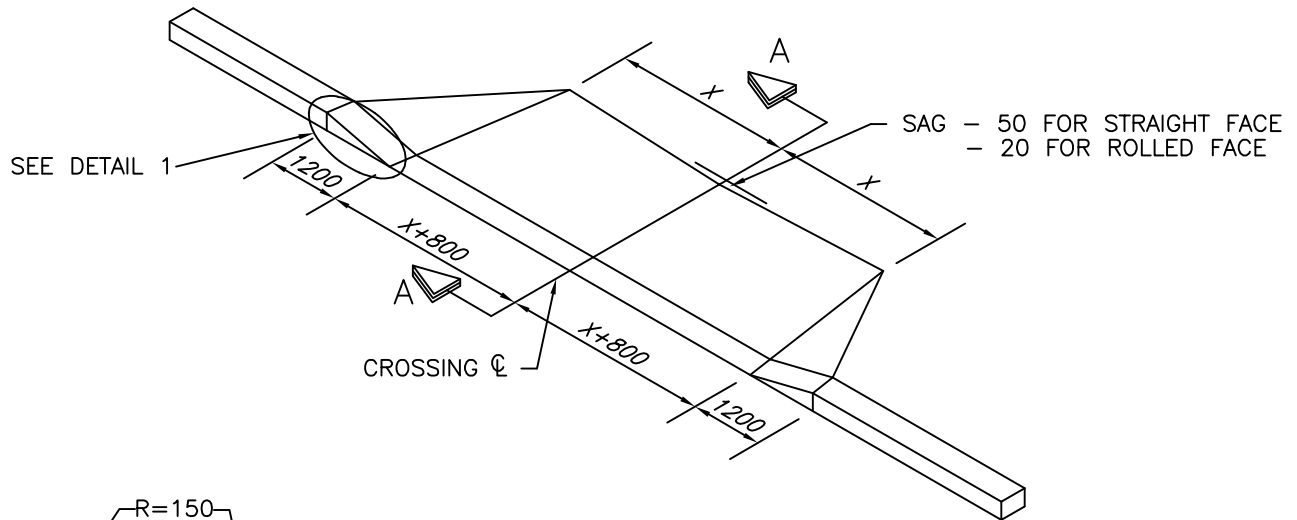
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APPROVED: J. MUSTARD

DRAWING No.: TN-07

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SECTION A-A

NOTES:

1. MAXIMUM SLOPE 8% UNLESS OTHERWISE APPROVED BY ENGINEER.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|---------------|-------|
| 03/13 | GRANULAR BASE | SW |
| 01/25 | TITLE UPDATE | BD |
| | | |
| | | |

COMMERCIAL / ALLEY CROSSING



DRAWN: T. CRAWFORD

DATE: MARCH 6, 2006

CHECKED: J. MUSTARD

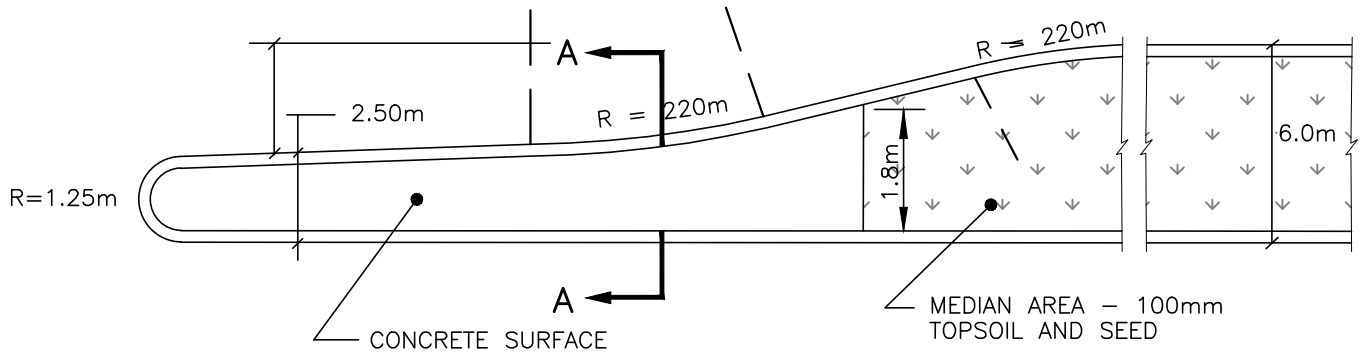
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APPROVED: J. MUSTARD

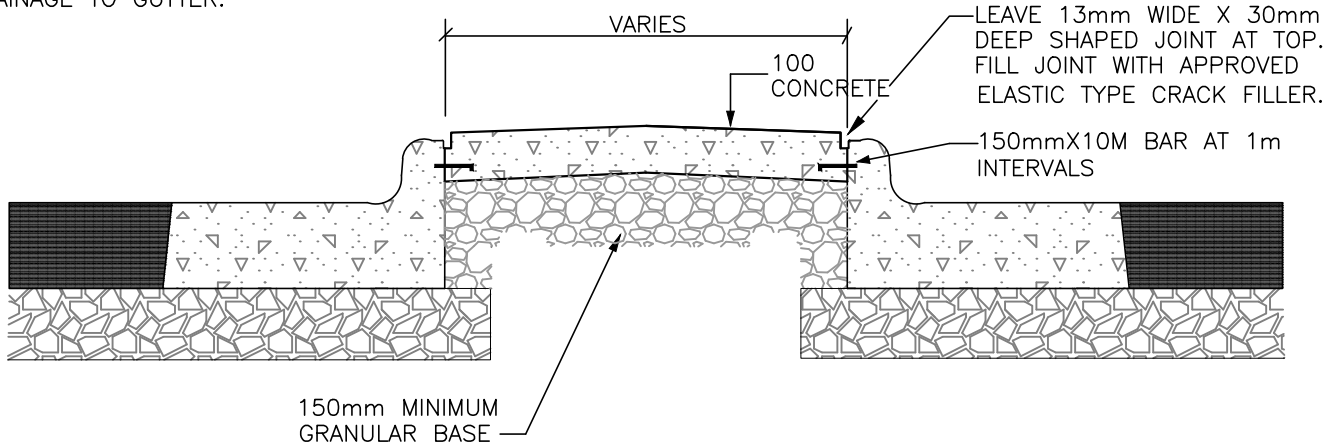
DRAWING No.: TN-08

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NOTE: MEDIANS AND ISLANDS TO BE CROWNED OR SLOPED TO PROVIDE DRAINAGE TO GUTTER.



SECTION A-A

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|---------------|-------|
| 03/13 | GRANULAR BASE | SW |
| | | |
| | | |

TYPICAL MEDIAN

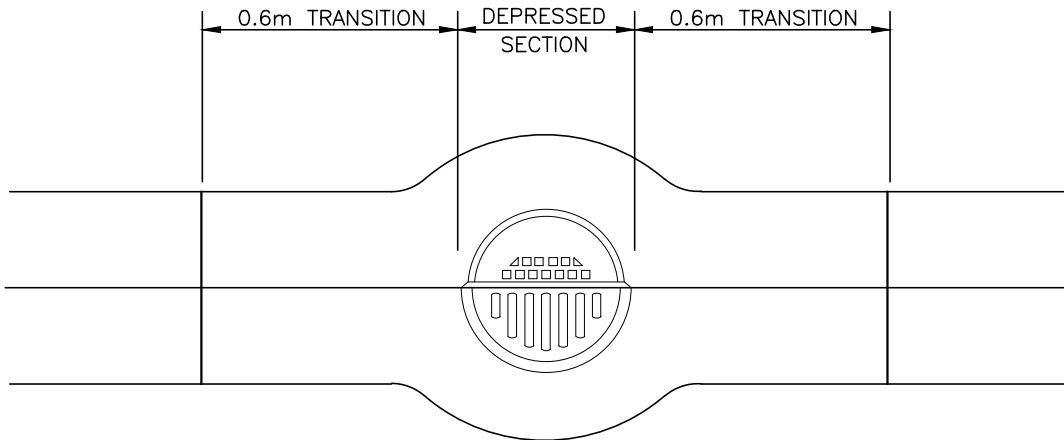
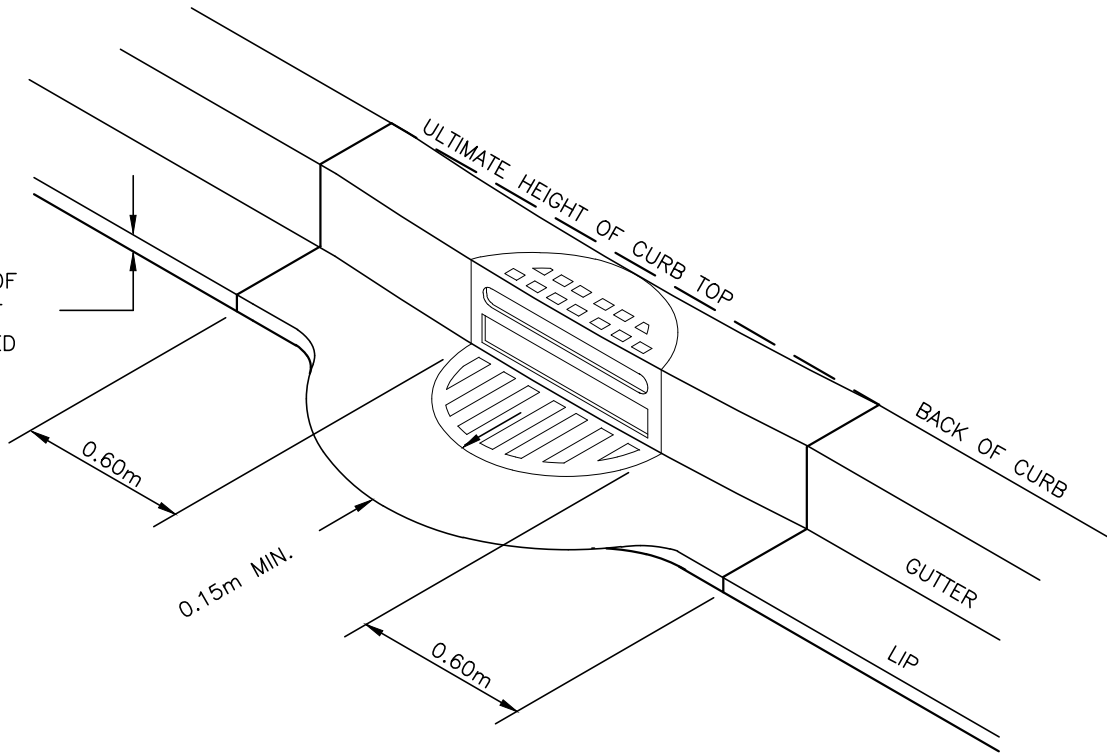


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| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: TN-09 |

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DEPTH OF
TOP LIFT
DEFERRED



PLAN VIEW

- NOTES:
1. TYPICAL CURB & GUTTER TREATMENT AT CATCH BASIN WHEN ASPHALT TOP LIFT IS DEFERRED.
LOCATION TO BE DETERMINED BY ENGINEER.

XREFS

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THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

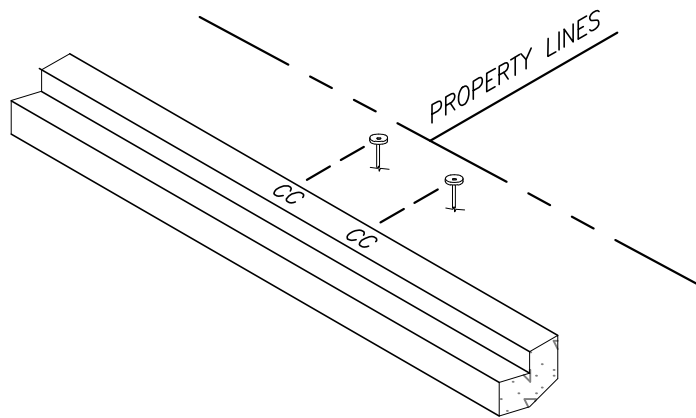
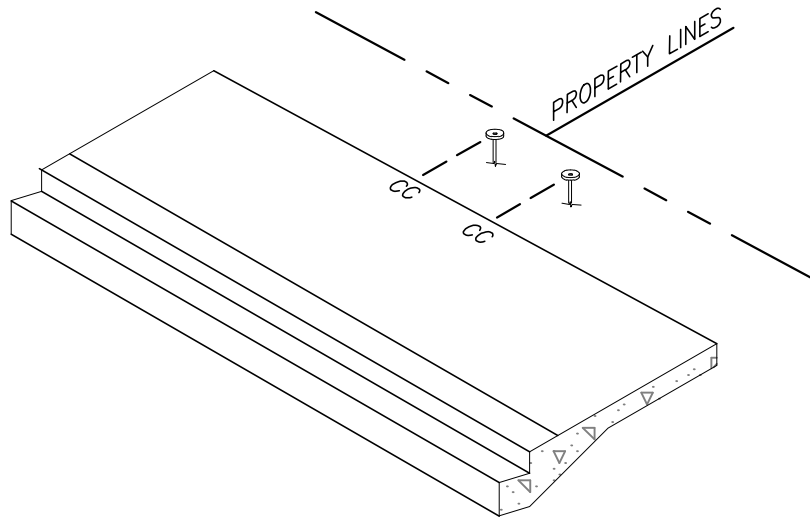
REVISIONS

| DATE | DETAILS | DRAWN |
|------|----------------|-------|
| 4/12 | Drawing Number | RP |
| | | |
| | | |
| | | |

DEPRESSED CURB & GUTTER



| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: TN-10 |



NOTE:


SERVICE BOXES SHALL BE SET VERTICAL - 150mm ABOVE THE SIDEWALK/CURB ELEVATION WHEN THE SERVICE BOX IS IN THE EXTENDED POSITION. AT THE TIME OF SIDEWALK/CURB CONSTRUCTION THE LETTERS "CC" SHALL BE NEATLY MARKED INTO THE MOIST CONCRETE DIRECTLY OPPOSITE EACH SERVICE BOX.

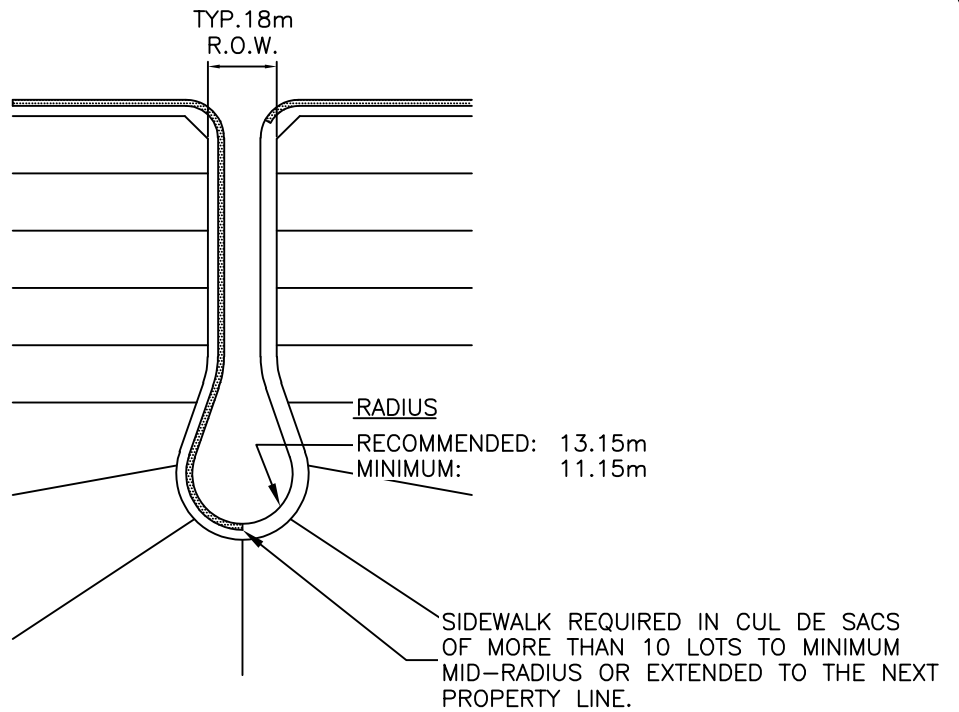
THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

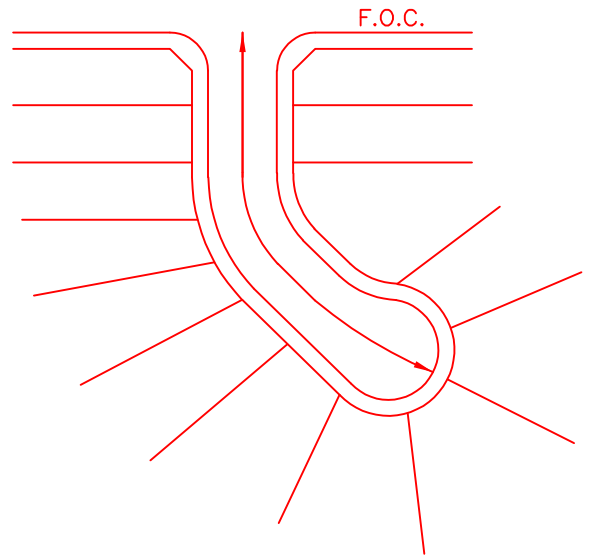
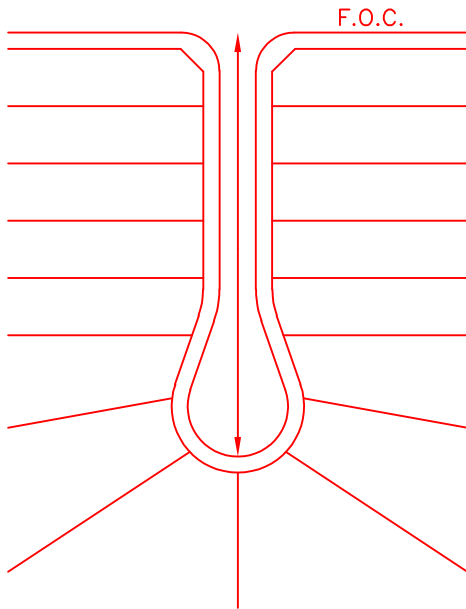
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| REVISIONS | | | "CC" STAMP | | |
|-----------|----------------|-------|---|---|--|
| DATE | DETAILS | DRAWN | | | |
| 4/12 | Drawing Number | RP |  | DRAWN: T. CRAWFORD CHECKED: J. MUSTARD APPROVED: J. MUSTARD | DATE: MARCH 6, 2006 SCALE: NOT TO SCALE DRAWING No.: TN-11 |
| | | | | | |
| | | | | | |
| | | | | | |



REFERENCE POINTS FOR MEASURING CUL-DE-SAC LENGTH



NOTES:

SIDEWALK REQUIRED IN CUL DE SACS OF MORE THAN 10 LOTS TO MINIMUM MID-RADIUS OR EXTENDED TO THE NEXT PROPERTY LINE.

XREFS

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THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

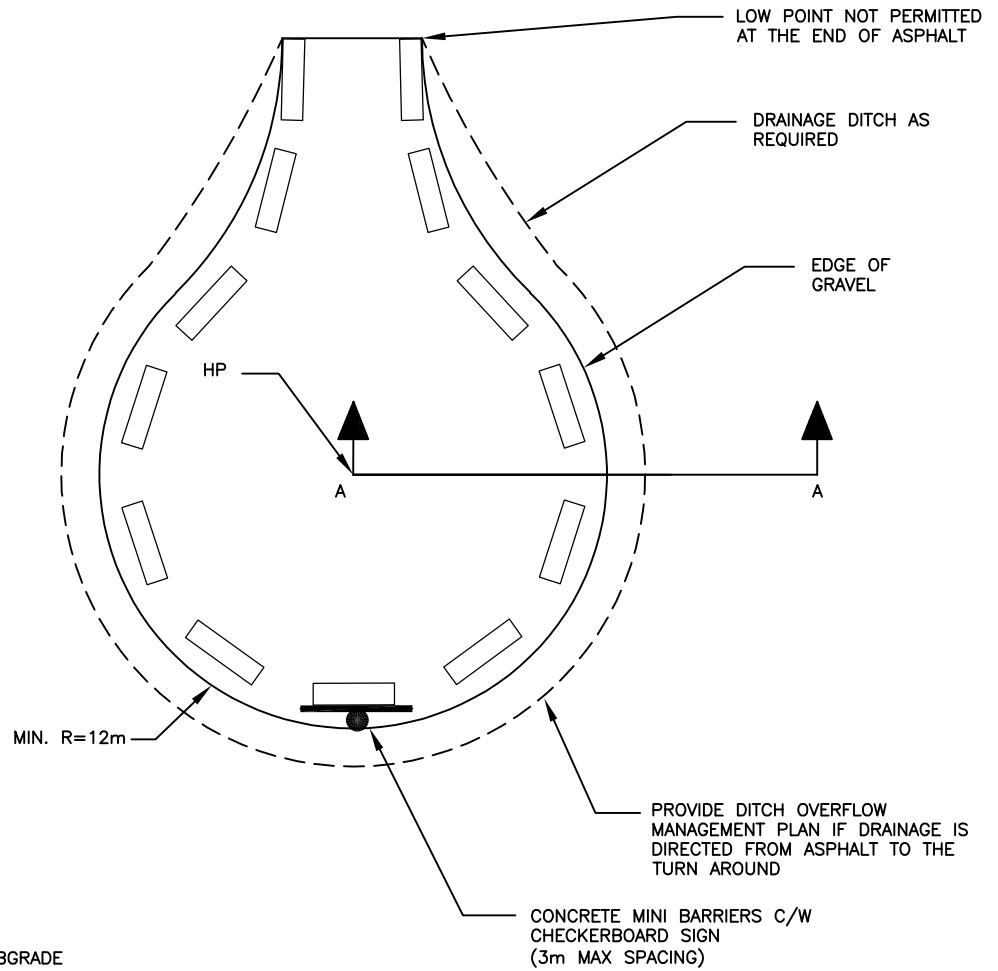
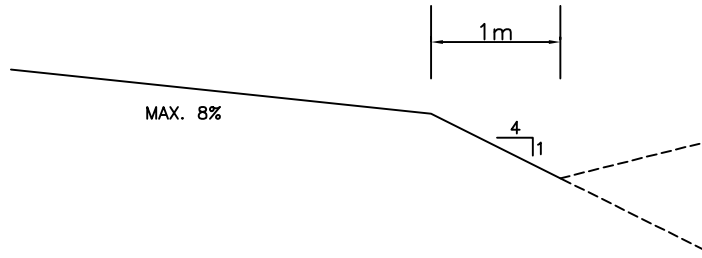
| DATE | DETAILS | DRAWN |
|------|------------------|-------|
| 4/12 | Drawing Number | RP |
| 1/25 | Reference Points | BD |
| | | |
| | | |

TYPICAL CUL DE SAC



| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: TN-12 |

SECTION A-A



NOTE:

- 150MM CEMENT STABILIZED SUBGRADE (10kg/m² MIN. TO BE VERIFIED BY A GEOTECHNICAL ENGINEER AT THE TIME OF CONSTRUCTION)

XREFS

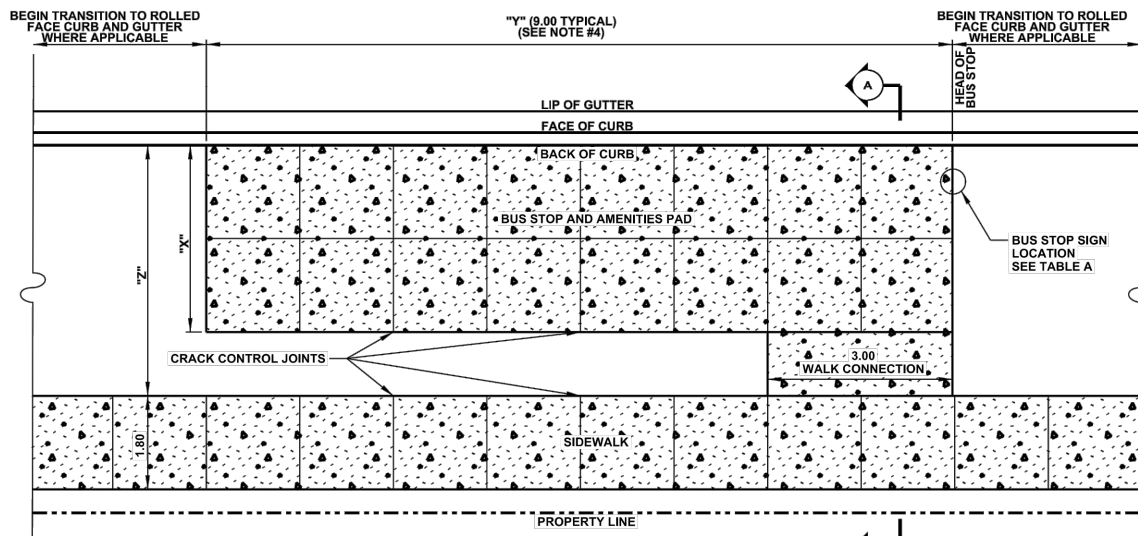
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THE CITY OF
SPRUCE GROVE

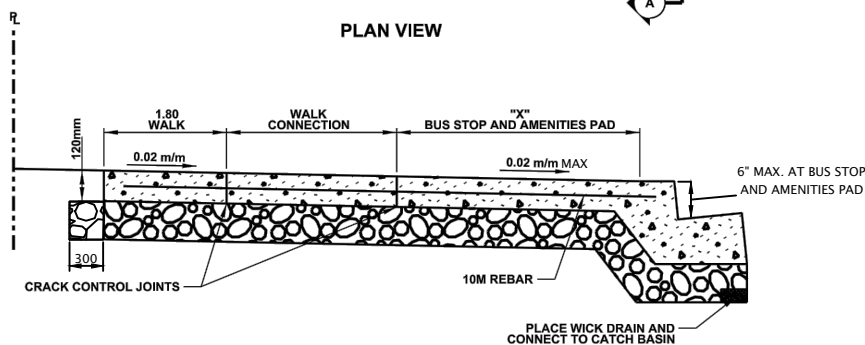
PLANNING AND INFRASTRUCTURE

| REVISIONS | | |
|-----------|---------|-------|
| DATE | DETAILS | DRAWN |
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| TEMPORARY TURN AROUND | | |
|-----------------------|---------------------|------------------------|
| | DRAWN: B. DE LEON | DATE: JANUARY 28, 2025 |
| | CHECKED: R. SPILA | SCALE: NOT TO SCALE |
| | APPROVED: M. HUSSEY | DRAWING No.: TN-12A |



PLAN VIEW



SECTION A-A

TABLE A
BUS STOP AND AMENITIES PAD SIZE

| CONDITION | "Z" DISTANCE TO SIDEWALK | "X" REQUIRED PAD WIDTH | "Y" (SEE NOTE #4) REQUIRED PAD LENGTH | BUS STOP SIGN LOCATION |
|------------------|--------------------------|--------------------------|---------------------------------------|----------------------------|
| OVER CONSTRAINED | "Z" < 2.25 | NOT PERMISSIBLE | NOT PERMISSIBLE | NOT PERMISSIBLE |
| CONSTRAINED | 2.25 ≤ "Z" < 3.60 | "X" = "Z" | 12.00 | 3.00 BACK FROM HEAD OF PAD |
| NOT CONSTRAINED | 3.60 ≤ "Z" | "X" = "Z" 4.10 (MAX.) | 9.00 | HEAD OF PAD |

NOTES:

- PROVIDE BUS STOP AND AMENITIES PAD WITH WIDTH "X" AND LENGTH "Y" IN ACCORDANCE WITH THE DRAWING NOTES AND TABLE A (SEE ABOVE). PROVIDE APPROPRIATE CRACK CONTROL JOINTS THROUGHOUT.
- IF REQUIRED PAD WIDTH "X" IS LESS THAN 1.00m FROM SIDEWALK, POUR THE CONCRETE PAD TO SIDEWALK. OTHERWISE, PROVIDE 3.00m WIDE WALK CONNECTION AT HEAD OF THE PAD.
- STRAIGHT FACE CURB AND GUTTER REQUIRED AT BUS STOP.
- FOR REQUIRED LENGTH:
 - ADD 3.00 FOR MULTIPLE, FREQUENT ROUTES
 - ADD 5.00 FOR ARTICULATED BUS STOP
- IF REQUIRED, USE MAX. 4.0% LONGITUDINAL SIDEWALK GRADE BEFORE AND AFTER BUS STOP AND AMENITIES PAD TO ACHIEVE 6" MAX. CURB HEIGHT AT BUS STOP AND AMENITIES PAD WITH 2.0% LATITUDINAL GRADE.
- CEMENT STABILIZED SUBGRADE AND 150mm MINIMUM GRANULAR BASE UNDER ALL CONCRETE AND EXTENDING 300mm BEYOND EDGE OF CONCRETE")
- ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED

XREFS

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

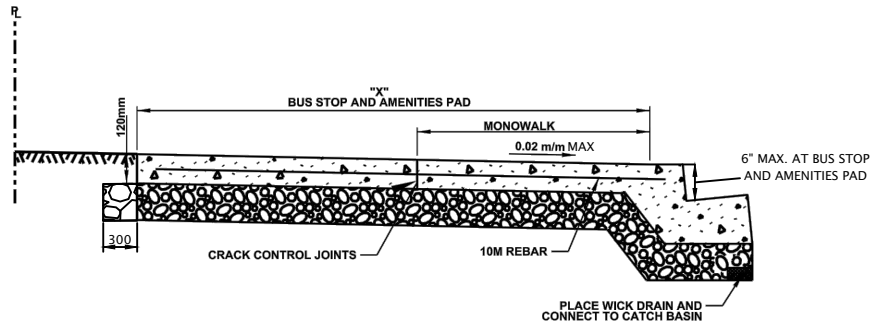
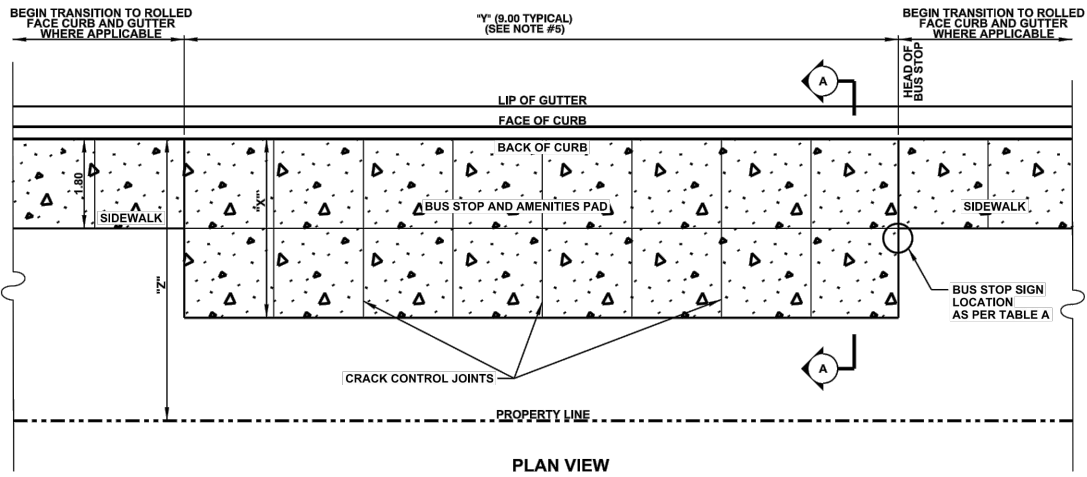
| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 09/20 | STANDARDS UPDATE | WPS |
| | | |
| | | |

TRANSIT STOP – SEP. WALK



| | |
|----------------------|------------------------|
| DRAWN: R. PEDLAR | DATE: FEBRUARY 1, 2013 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: TN-13 |

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SECTION A-A

| TABLE A BUS STOP AND AMENITIES PAD SIZE | | | | |
|--|-------------------------------------|------------------------------|--|--|
| CONDITION | "Z" DISTANCE TO PROPERTY LINE | "X" REQUIRED PAD WIDTH | (SEE NOTE #5) "Y" REQUIRED PAD LENGTH | BUS STOP SIGN LOCATION BEHIND SIDEWALK |
| OVER CONSTRAINED | "Z" < 2.80 | 2.10 | 9.00 | HEAD OF PAD |
| CONSTRAINED | 2.80 ≤ "Z" < 3.90 | "Z" - 0.30 [3.00 (MAX.)] | 12.00 | 3.00 BACK FROM HEAD OF PAD |
| NOT CONSTRAINED | "Z" > 3.90 | "Z" - 0.30 [4.10 (MAX.)] | 9.00 | HEAD OF PAD |

NOTES:

1. PROVIDE BUS STOP AND AMENITIES PAD WITH WIDTH "X" AND LENGTH "Y" IN ACCORDANCE WITH THE DRAWING NOTES AND TABLE A (SEE ABOVE). PROVIDE APPROPRIATE CRACK CONTROL JOINTS THROUGHOUT.
2. MAINTAIN 0.30m (MIN.) CLEARANCE BETWEEN PROPERTY LINE AND AMENITIES PAD.
3. STRAIGHT FACE CURB AND GUTTER REQUIRED AT BUS STOP.
4. BUS STOP AND AMENITIES PAD TO BE POURED MONOLITHICALLY WITH CURB AND GUTTER.
5. FOR REQUIRED LENGTH:
- ADD 3.00 FOR MULTIPLE, FREQUENT ROUTES
- ADD 5.00 FOR ARTICULATED BUS STOP
6. CEMENT STABILIZED SUBGRADE AND 150mm MINIMUM GRANULAR BASE UNDER ALL CONCRETE AND EXTENDING 300mm BEYOND EDGE OF CONCRETE)
7. ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED

XREFS

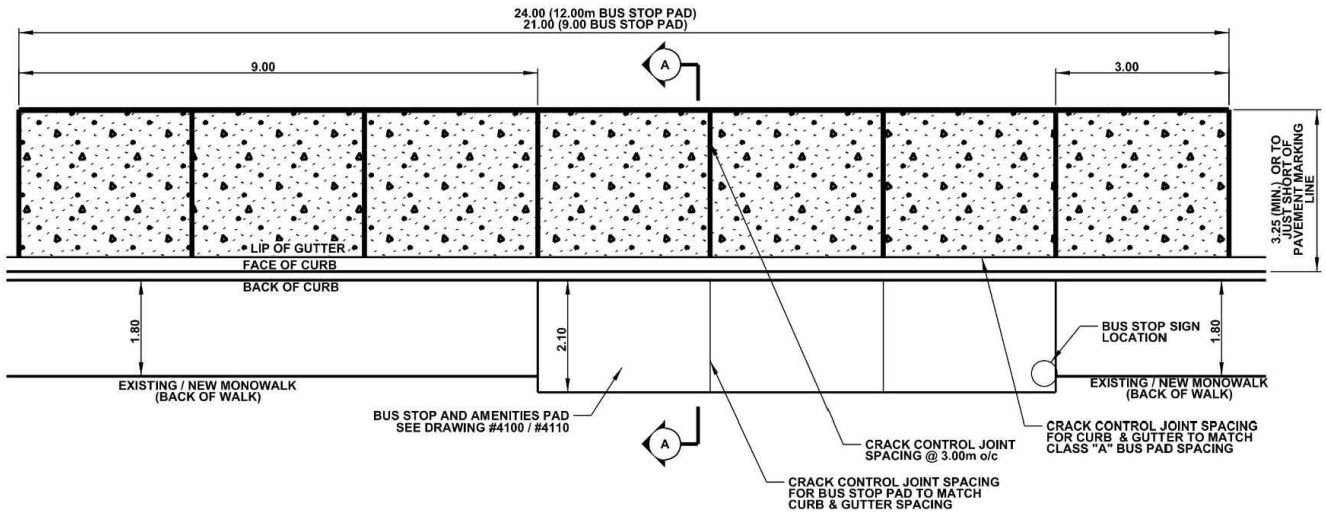
THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

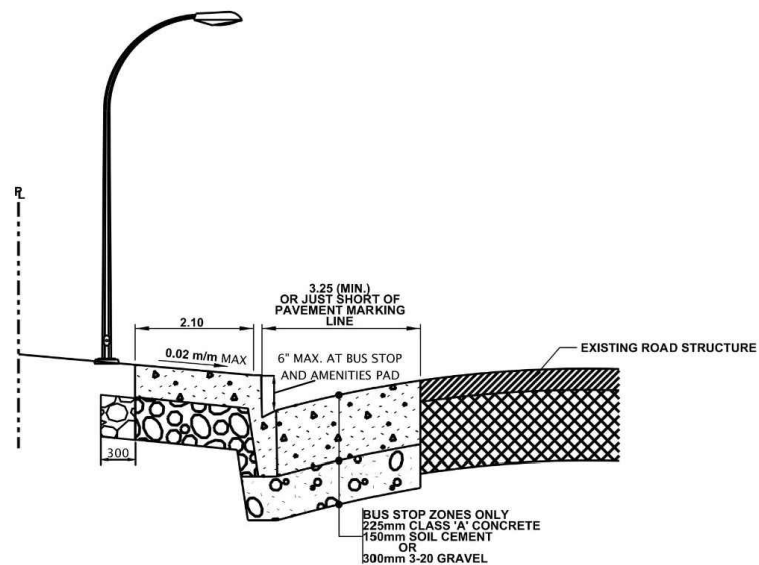
| REVISIONS | | |
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| DATE | DETAILS | DRAWN |
| 09/20 | STANDARDS UPDATE | WPS |
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|--------------------------|----------------------|------------------------|
| TRANSIT STOP – MONO WALK | | |
| | DRAWN: R. PEDLAR | DATE: FEBRUARY 1, 2013 |
| | CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| | APPROVED: J. MUSTARD | DRAWING No.: TN-14 |

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PLAN VIEW



SECTION A-A

- NOTES: 1. STRAIGHT FACE CURB AND GUTTER REQUIRED AT BUS STOP.
 2. CEMENT STABILIZED SUBGRADE AND 150mm MINIMUM GRANULAR BASE UNDER ALL CONCRETE AND EXTENDING 300mm BEYOND EDGE OF CONCRETE
 3. ALL DIMENSIONS IN METERS UNLESS OTHERWISE NOTED.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|------|------------------|-------|
| 4/12 | Rev. CL depth | RP |
| 3/13 | GRANULAR BASE | SW |
| 9/12 | Standards Update | WPS |
| 1/25 | TITLE UPDATE | BD |

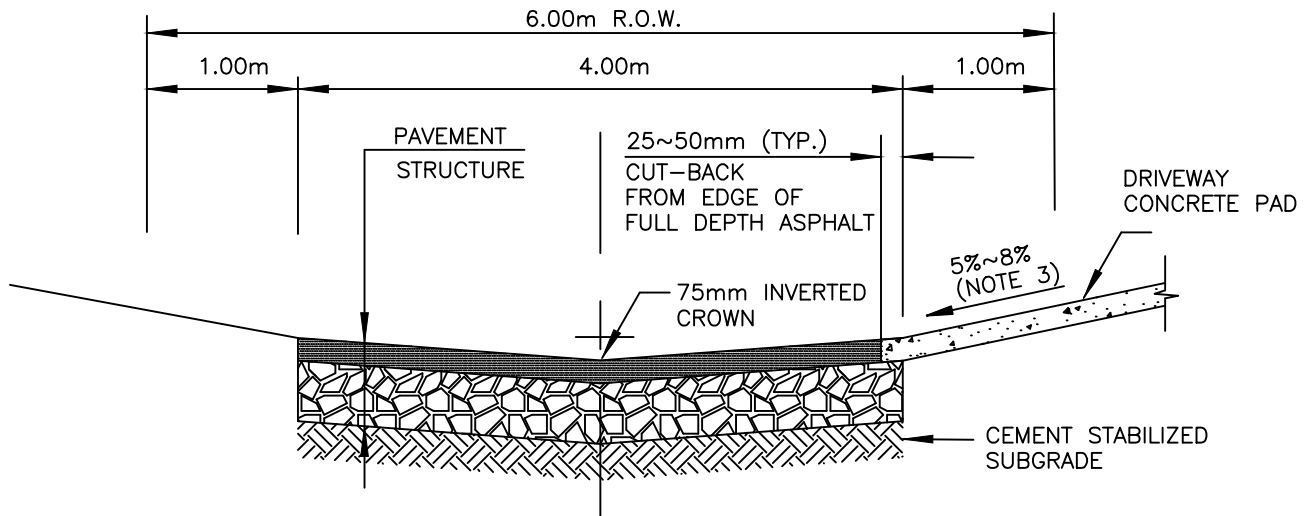
TRANSIT STOP—CURB AND GUTTER



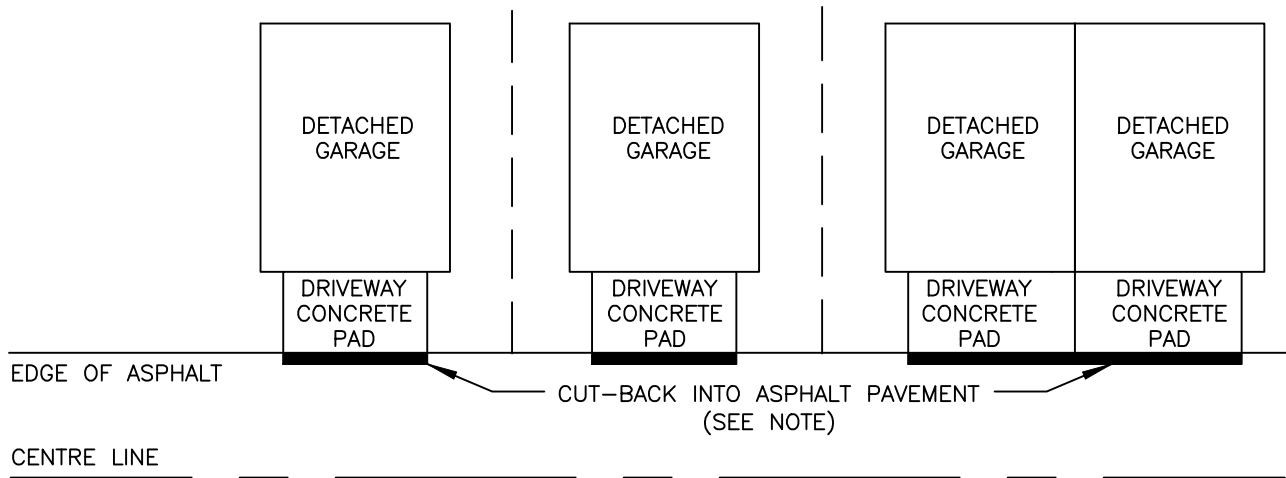
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| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: TN-15 |

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CROSS SECTION



PLAN VIEW

- NOTES: 1. WHERE THE DRIVEWAY CONNECTS TO THE LANE, SAW-CUT 1"~2" (25mm TO 50mm) INTO EDGE OF FULL DEPTH ASPHALT AND CREATE SMOOTH AND STRAIGHT EDGE. TIE CONCRETE FLUSH WITH PROPER EXPANSION JOINT FOAM SEPARATING THE TWO.
2. DRIVEWAYS ADJACENT TO LANES MUST BE FRAMED AND POURED FLUSH IN ELEVATION TO WITHIN ¼" (6mm) OF THE EDGE OF PAVEMENT OF THE LANE. ALL DRIVEWAYS EXCEEDING ½" (12mm) DIFFERENCE IN ELEVATION WILL BE REQUIRED TO BE REMOVED AND REPLACED AS PER MUNICIPAL DEVELOPMENT STANDARDS AND APPROVED DEVELOPMENT AND BUILDING PERMITS.
3. A GRADE OF 5% TO 8% FOR DRIVEWAY AWAY FROM GARAGE IS REQUIRED TO CONFORM TO THE APPROVED LOT GRADING DESIGN.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
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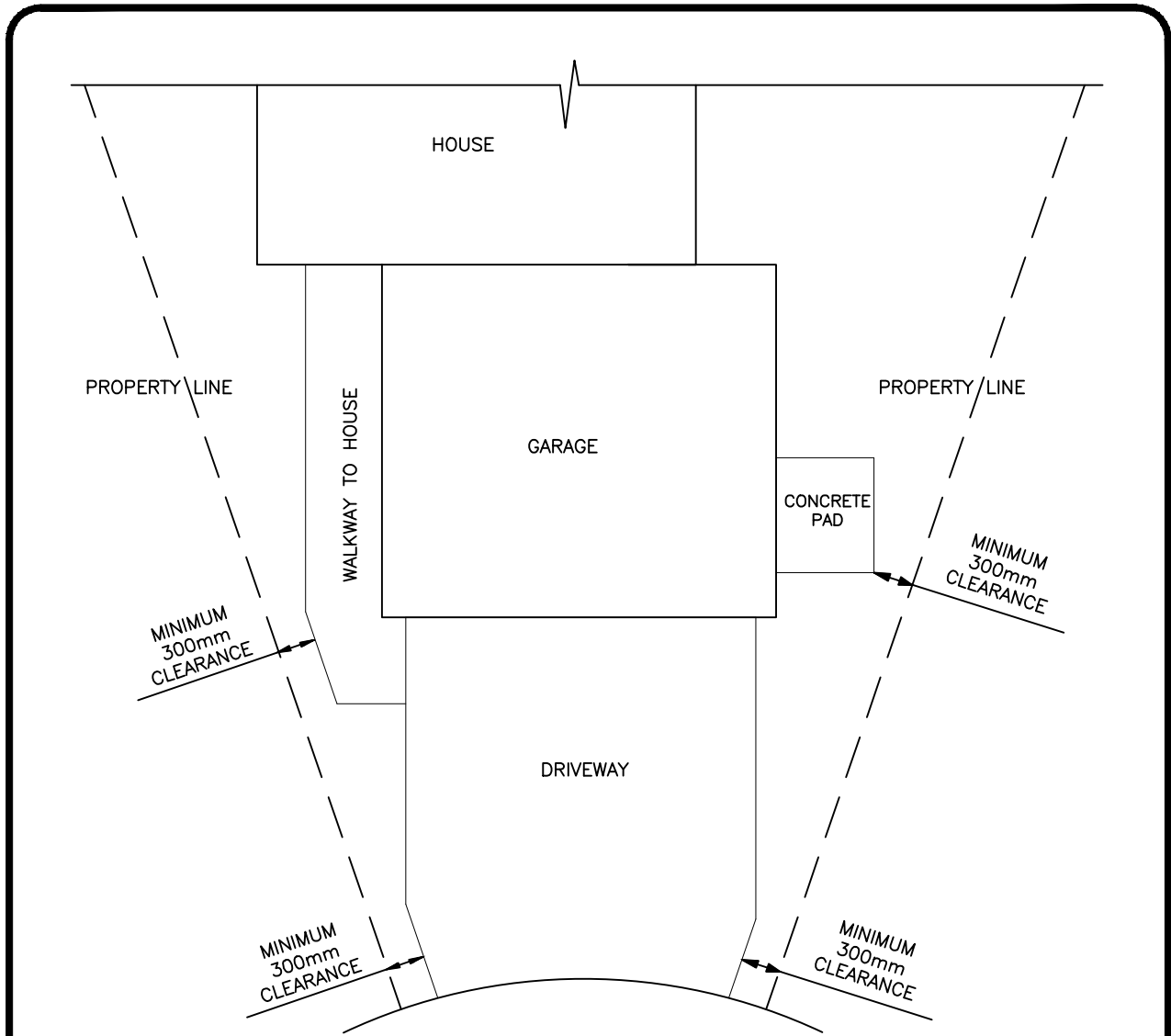
DRIVE WAY / TYPICAL LANE TIE-IN



| | |
|----------------------|--------------------------|
| DRAWN: S. WU | DATE: SEPTEMBER 04, 2015 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: TN-16 |

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PLAN VIEW

- NOTES: 1. FOR ANY CONCRETE PADS, I.E. DRIVEWAYS, WALKWAYS TO HOUSES, STEPS, ETC., A MINIMUM OF 300mm (1 ft.) CLEARANCE AWAY FROM SIDE PROPERTY LINES OR ANY MUNICIPAL FIXTURES IS REQUIRED.
2. IN CULS-DE-SAC, THE DRIVEWAYS OR WALKWAYS TO HOUSES NEED TO BE FORMED/SAW-CUT WITH AN ANGLE TO MEET THE MINIMUM CLEARANCE OF 300mm (1 ft.) AWAY FROM SIDE PROPERTY LINES.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

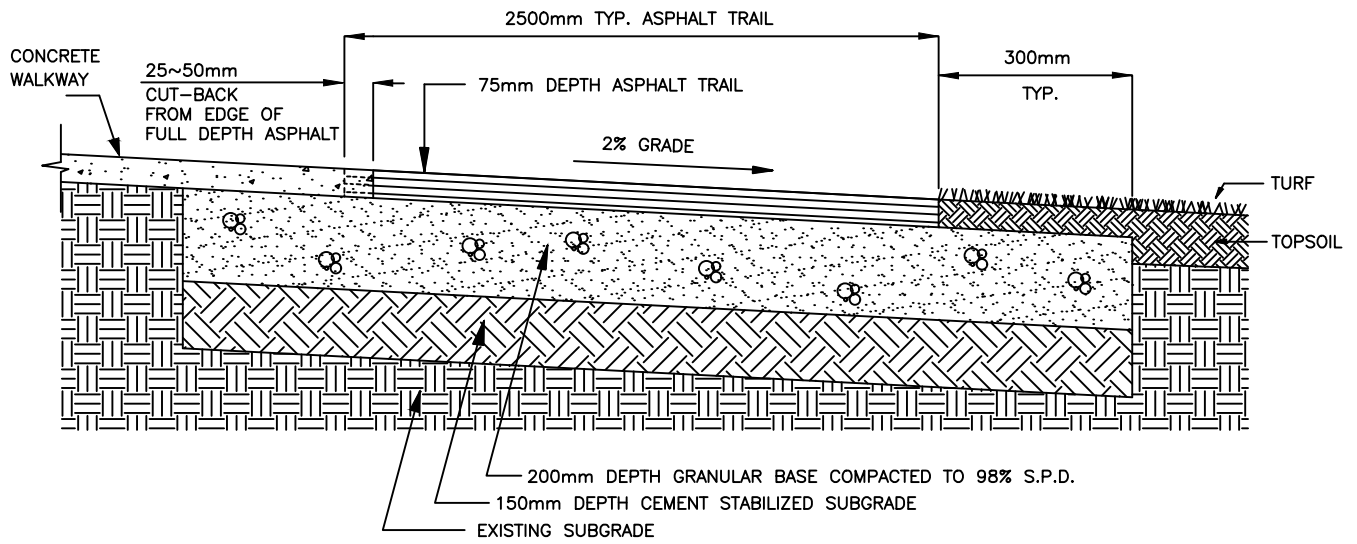
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| DATE | DETAILS | DRAWN |
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CLEARANCE FOR DRIVEWAY/CONCRETE

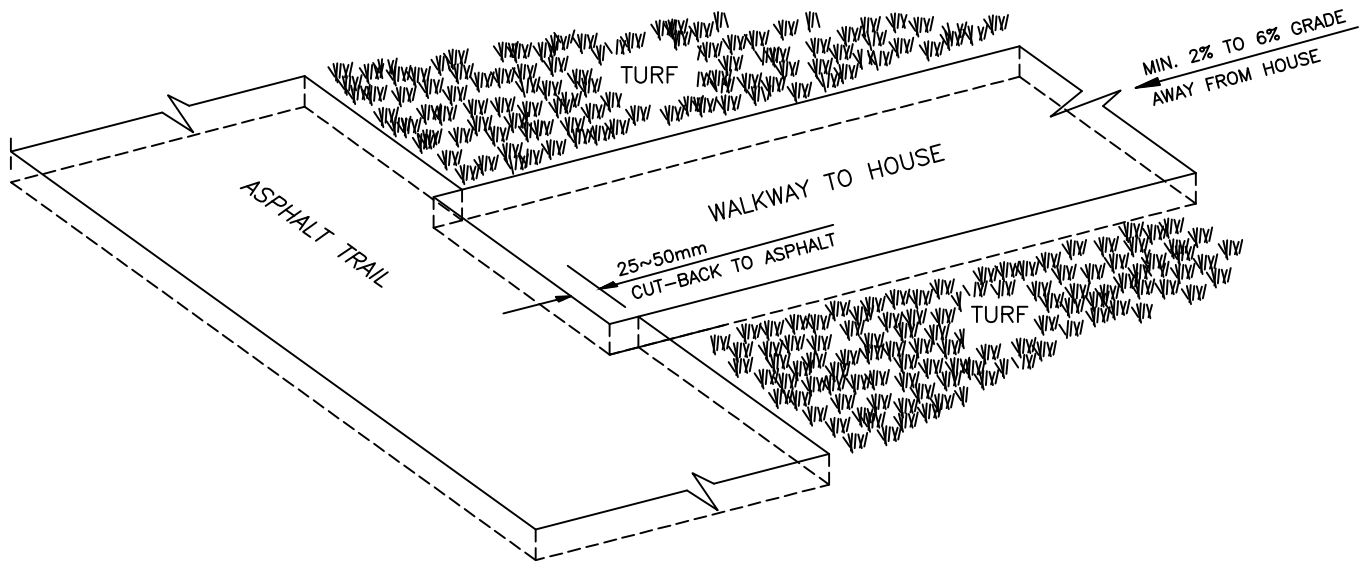
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| | DRAWN: S. WU | DATE: SEPTEMBER 04, 2015 |
| | CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| | APPROVED: J. MUSTARD | DRAWING No.: TN-17 |

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CROSS SECTION



3-DIMENSIONAL VIEW

NOTES:

1. IT IS THE BUILDER'S/CONTRACTOR'S RESPONSIBILITY TO REHABILITATE ALL DISTURBED AREAS ALONG TRAIL EDGE WITH TOPSOIL AND SOD.
2. WHERE THE WALKWAY CONNECTS TO THE TRAIL, SAW-CUT 1"~2" (25mm~50mm) INTO EDGE OF FULL DEPTH ASPHALT AND CREATE SMOOTH AND STRAIGHT EDGE. TIE CONCRETE FLUSH WITH PROPER EXPANSION JOINT FOAM SEPARATING THE TWO.
3. WALKWAYS ADJACENT TO LANES MUST BE FRAMED AND POURED FLUSH IN ELEVATION TO WITHIN 1/4" (6mm) OF THE EDGE OF PAVEMENT OF THE LANE. ALL WALKWAYS EXCEEDING 1/2" (12mm) DIFFERENCE IN ELEVATION WILL BE REQUIRED TO BE REMOVED AND REPLACED AS PER THE MUNICIPAL DEVELOPMENT STANDARDS AND APPROVED DEVELOPMENT AND BUILDING PERMITS.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

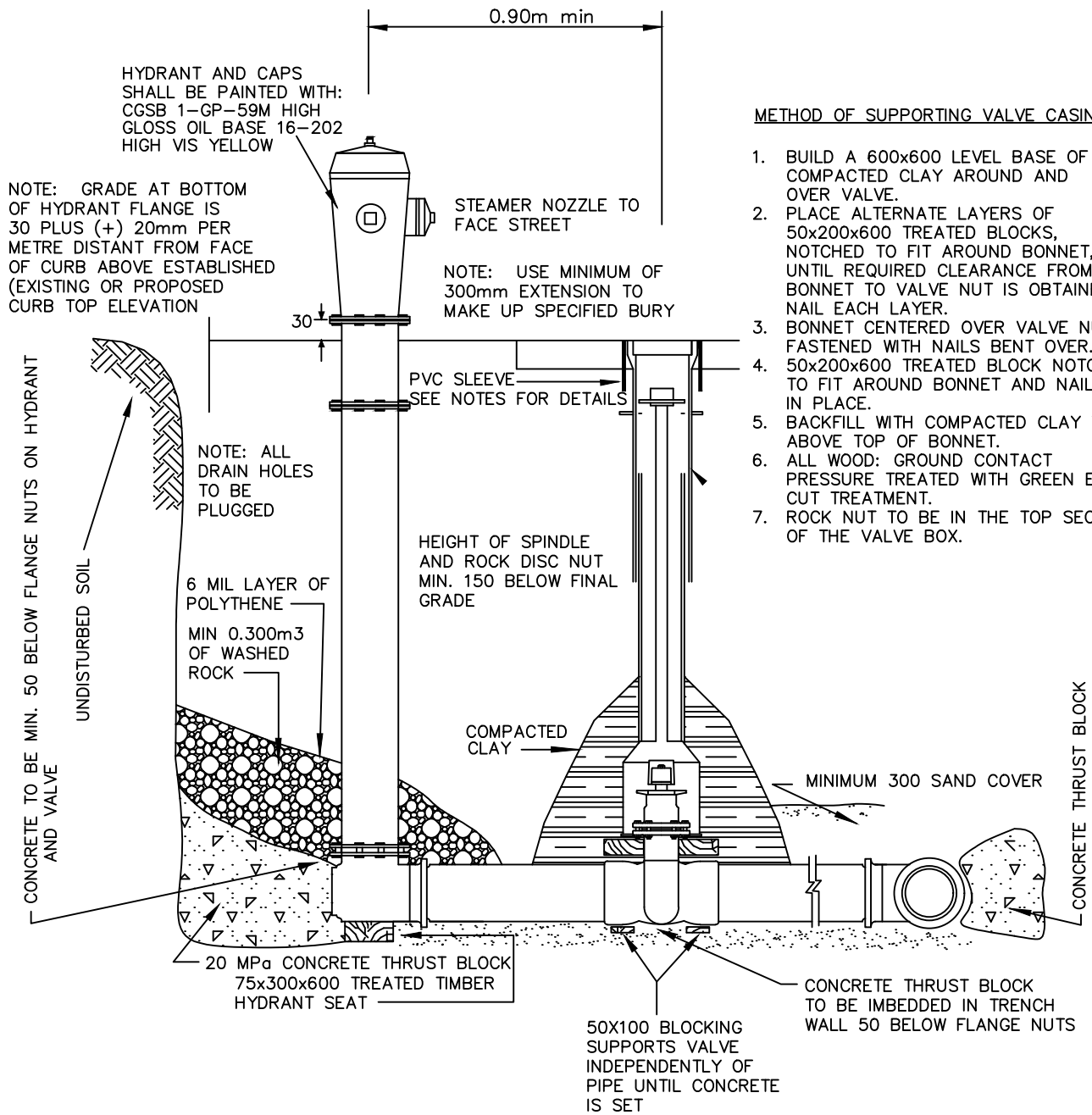
| DATE | DETAILS | DRAWN |
|------|------------------|-------|
| 2/22 | Standards Update | |
| | | |
| | | |

RESIDENTIAL CONCRETE WALKWAY / TRAIL TIE-IN

| | | |
|--|----------------------|-------------------------|
| | DRAWN: S. WU | DATE: FEBRUARY 10, 2022 |
| | CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| | APPROVED: J. MUSTARD | DRAWING No.: TN-18 |

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METHOD OF SUPPORTING VALVE CASING

1. BUILD A 600x600 LEVEL BASE OF COMPACTED CLAY AROUND AND OVER VALVE.
2. PLACE ALTERNATE LAYERS OF 50x200x600 TREATED BLOCKS, NOTCHED TO FIT AROUND BONNET, UNTIL REQUIRED CLEARANCE FROM BONNET TO VALVE NUT IS OBTAINED. NAIL EACH LAYER.
3. BONNET CENTERED OVER VALVE NUT FASTENED WITH NAILS BENT OVER.
4. 50x200x600 TREATED BLOCK NOTCHED TO FIT AROUND BONNET AND NAILED IN PLACE.
5. BACKFILL WITH COMPACTED CLAY TO ABOVE TOP OF BONNET.
6. ALL WOOD: GROUND CONTACT PRESSURE TREATED WITH GREEN END CUT TREATMENT.
7. ROCK NUT TO BE IN THE TOP SECTION OF THE VALVE BOX.

NOTE: GRADE AT BOTTOM OF HYDRANT FLANGE IS 30 PLUS (+) 20mm PER METRE DISTANT FROM FACE OF CURB ABOVE ESTABLISHED (EXISTING OR PROPOSED CURB TOP ELEVATION)

NOTE: USE MINIMUM OF 300mm EXTENSION TO MAKE UP SPECIFIED BURY

NOTE: ALL DRAIN HOLES TO BE PLUGGED

HEIGHT OF SPINDLE AND ROCK DISC NUT MIN. 150 BELOW FINAL GRADE

CONCRETE TO BE MIN. 50 BELOW FLANGE NUTS ON HYDRANT AND VALVE

UNDISTURBED SOIL

6 MIL LAYER OF POLYTHENE
MIN 0.300m³ OF WASHED ROCK

COMPACTED CLAY

MINIMUM 300 SAND COVER

20 MPa CONCRETE THRUST BLOCK
75x300x600 TREATED TIMBER
HYDRANT SEAT

50x100 BLOCKING SUPPORTS VALVE INDEPENDENTLY OF PIPE UNTIL CONCRETE IS SET

CONCRETE THRUST BLOCK TO BE IMBEDDED IN TRENCH WALL 50 BELOW FLANGE NUTS

CONCRETE THRUST BLOCK

NOTES:

1. HYDRANTS ARE TO BE McAVITY OR CANADA VALVE.
2. HYDRANTS TO BE EQUIPPED WITH A 125mm STORZ INTERNAL LUG QUICK CONNECTION NOZZLE OR EQUIVALENT
3. HYDRANT DRAIN HOLES TO BE PLUGGED.
4. ALL BOLTS TO BE 316 STAINLESS STEEL, WITH BELOW GRADE BOLTS WRAPPED WITH DENSO MASTIC AND DENSO TAPE
5. PVC SLEEVE TO BE USED WHEN VALVE IS INCORPORATED WITHIN CONCRETE.
6. CATHODIC PROTECTION REQUIRED. REFER TO DRAWINGS WR-07 & WR-08 FOR EXTERNAL ANODES.
7. INTERNAL ANODE TO BE INSTALLED IN HYDRANT BARREL.
8. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.

**THE CITY OF
SPRUCE GROVE**

PLANNING AND INFRASTRUCTURE

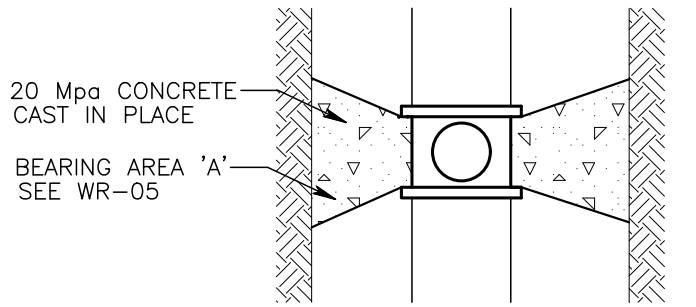
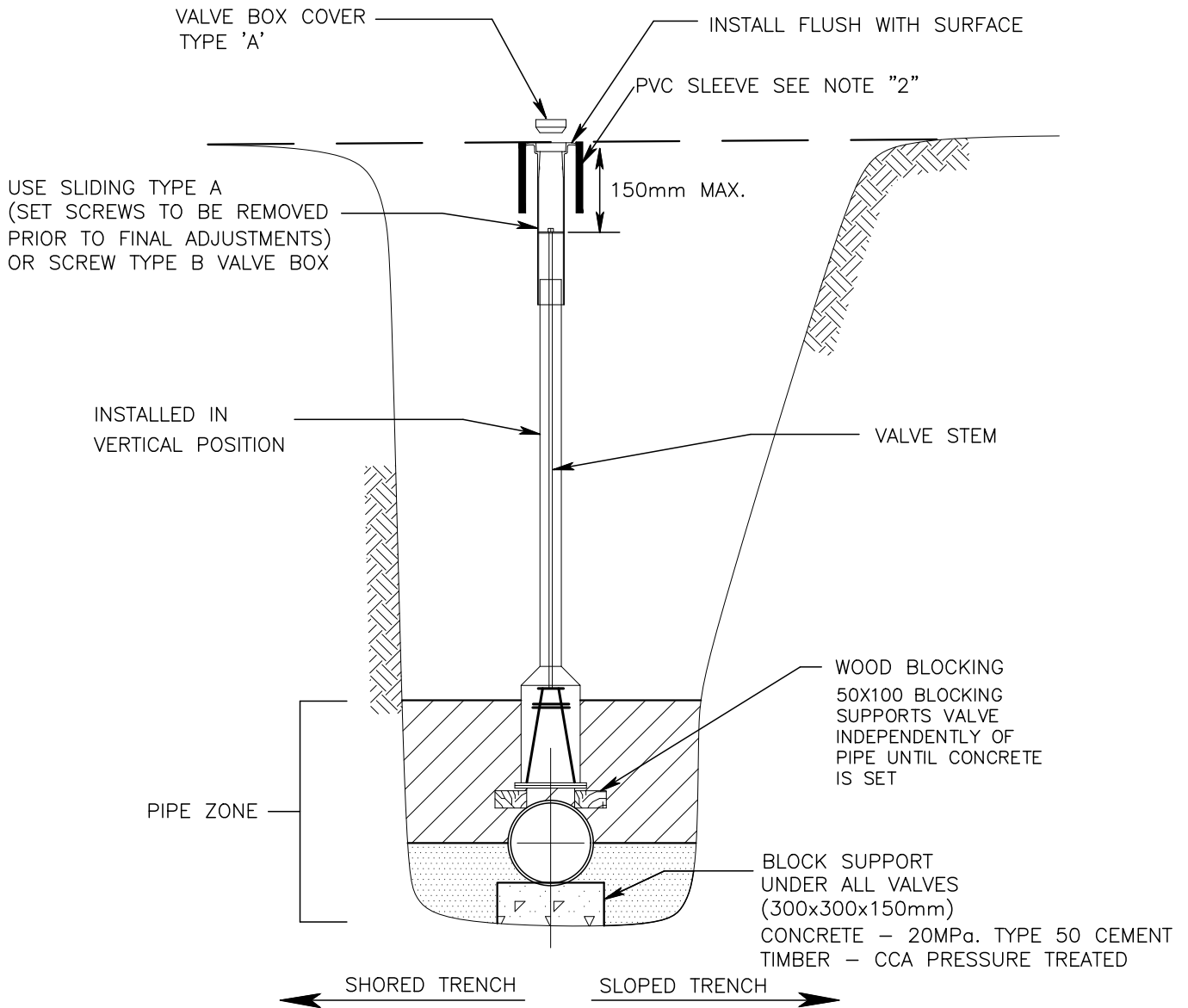
REVISIONS

| DATE | DETAILS | DRAWN |
|------|------------------|-------|
| 4/15 | CHANGES TO NOTES | RP |
| 4/19 | Standards Update | RP |
| 9/20 | Standards Update | WPS |
| 2/22 | Standards Update | |

HYDRANT AND VALVE



| | |
|----------------------|-------------------------|
| DRAWN: T. CRAWFORD | DATE: FEBRUARY 10, 2022 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: WR-01 |



THRUST BLOCK DETAIL

NOTES:

1. ALL BOLTS TO BE STAINLESS STEEL WRAPPED WITH DENSO MASTIC AND DENSO TAPE.
2. PVC SLEEVE TO BE USED WHEN VALVE IS INCORPORATED WITHIN CONCRETE.
3. CATHODIC PROTECTION REQUIRED. REFER TO DRAWINGS WR-07 & WR-08.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|----------------------|-------|
| 04/12 | WOOD BLOCKING DETAIL | RP |
| 02/21 | VALVE BOX NOTE | AS |
| | | |
| | | |

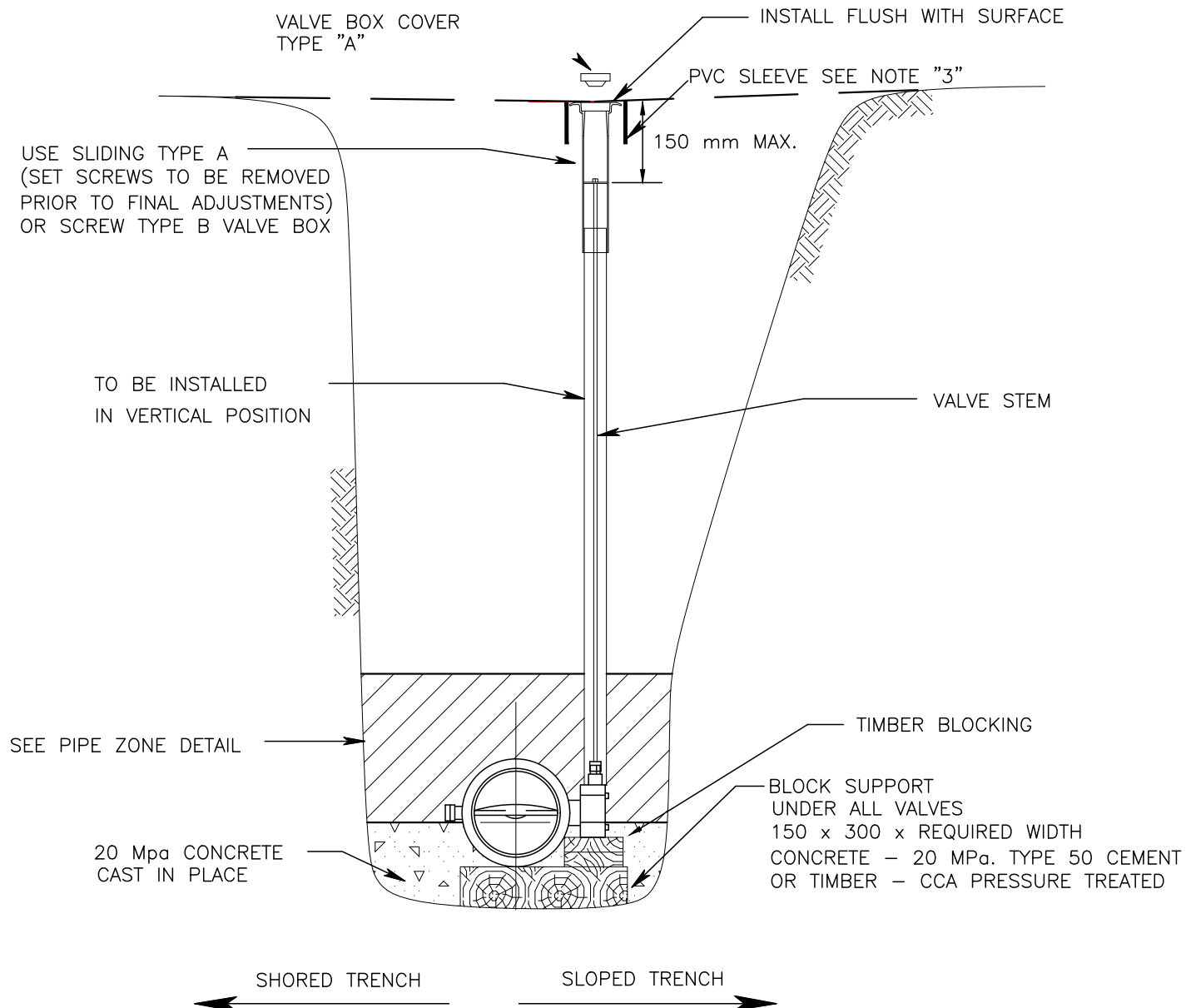
VALVE INSTALLATION (300mm)



| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: WR-02 |

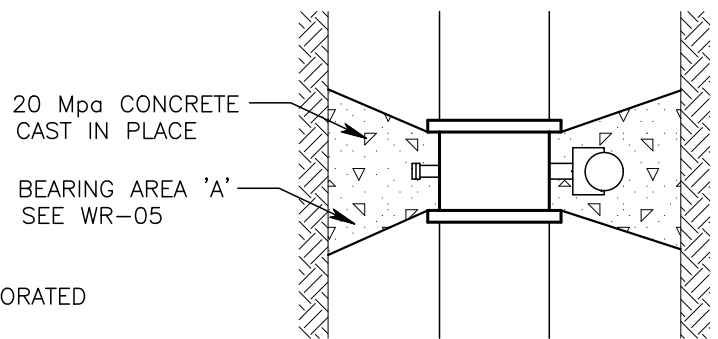
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NOTES:

1. PAINT TOP OF INTERIOR BOX BRIGHT RED AND STAMP CAP 'BV'
2. ALL BOLTS TO BE STAINLESS STEEL WRAPPED WITH DENSO MASTIC AND TAPE.
3. PVC SLEEVE TO BE USED WHEN VALVE IS INCORPORATED WITHIN CONCRETE.
4. CATHODIC PROTECTION REQUIRED. REFER TO DRAWINGS WR-07 & WR-08.



THRUST BLOCK DETAIL

**THE CITY OF
SPRUCE GROVE**

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|----------------|-------|
| 02/21 | VALVE BOX NOTE | AS |
| | | |
| | | |
| | | |

BUTTERFLY VALVE (<300mm)



| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: WR-03 |

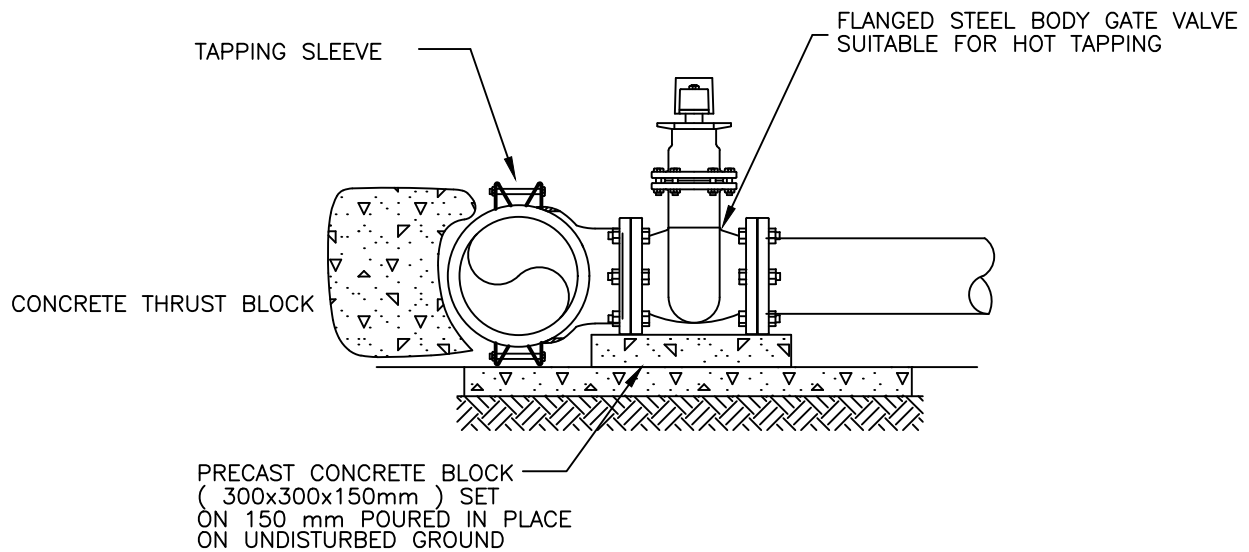
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NOTES:

- 1. ALL BOLTS TO BE STAINLESS STEEL WRAPPED WITH DENSO MASTIC AND DENSO TAPE.
- 2. CATHODIC PROTECTION REQUIRED. REFER TO DRAWINGS WR-07 & WR-08.
- 3. VALVE CASING AND OPERATING ROD FOR A HOT TAP VALVE SHOULD NOT BE INSTALLED.
- 4. THE LOCATION OF THE HOT TAP VALVE SHALL BE IDENTIFIED ON THE AS-BUILT DRAWINGS.



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THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|--------------------------|-------|
| 02/14 | REMOVED VALVE CASING/ROD | RP |
| 02/14 | ADDITIONAL NOTES | RP |
| 04/19 | Standards Update | WPS |

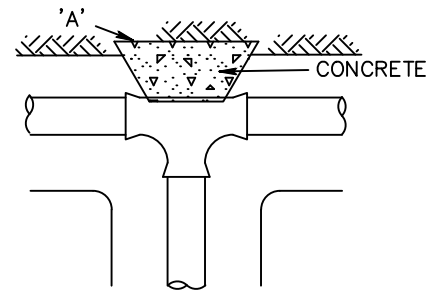
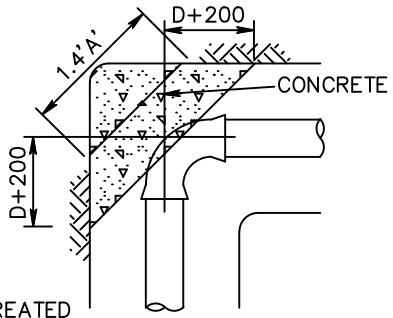
HOT TAP



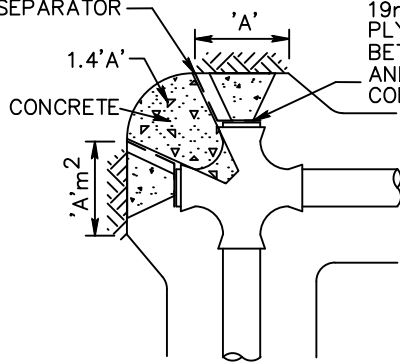
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| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: WR-04 |

BEND DEFLECTION

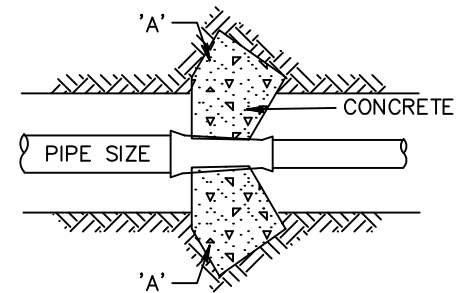
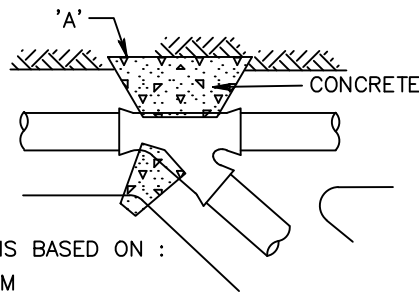
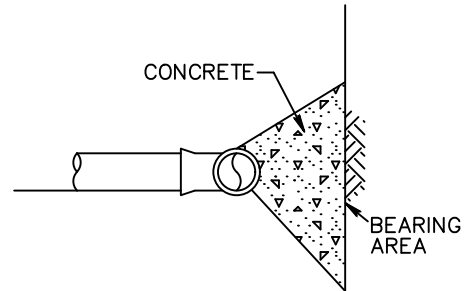
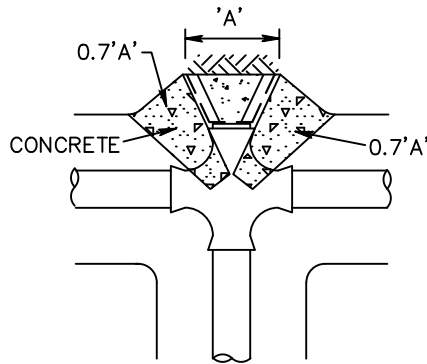
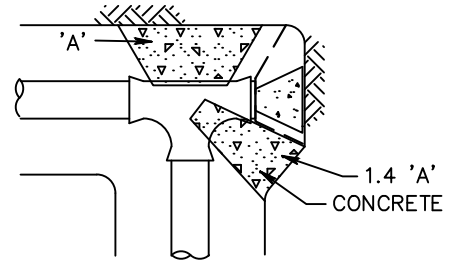
| | |
|---------|-------|
| 90° | 1.4A |
| 45° | 0.7A |
| 22 1/2° | 0.35A |
| 11 1/4° | 0.18A |



19mm PRESSURE TREATED PLYWOOD SEPARATOR



19mm PRESSURE TREATED PLYWOOD SEPARATOR BETWEEN THRUST BLOCK AND PLUG; ADJACENT CONCRETE, TYP.



THRUST BLOCK DESIGN IS BASED ON :

- 1050kPa MAX. SYSTEM PRESSURE OR 700kPa OPERATING PRESSURE PLUS A SURGE ALLOWANCE OF 345kPa (2fps SURGE ALLOWANCE AT 25psi/fps)
- THRUST BLOCK DESIGN ASSUMES A MIN. VERTICAL SOIL BEARING OF 100kPa
- THRUST BLOCK BEARING AREA BASED ON P.V.C. PIPE (AWWA C900 AND C905 DR18)
- CONCRETE 20MPa TYPE HS CEMENT.
- ALL WOOD: GROUND CONTRACT PRESSURE TREATED W/ GREEN END CUT TREATMENT

TABLE - FOR CALCULATION OF BASIC THRUST BLOCK BEARING AREA 'A' (IN SQUARE METRES)

| PIPE SIZE | 150 | 200 | 250 | 300 | 350 | 400 | 450 |
|-----------|------|------|------|------|------|------|------|
| 'A' | 0.40 | 0.68 | 1.06 | 1.54 | 2.08 | 2.72 | 3.44 |

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THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

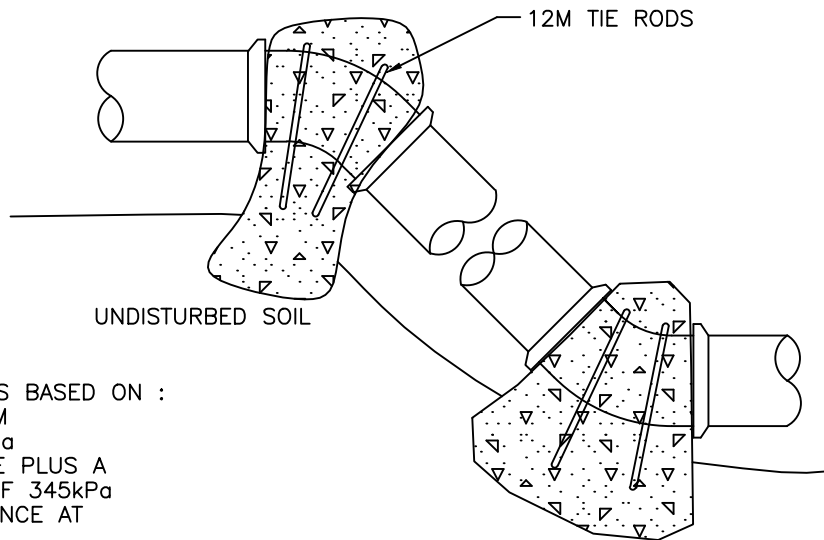
REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 04/19 | Standards Update | WPS |
| | | |
| | | |

THRUST BLOCK



| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: WR-05 |



VERTICAL BEND

THRUST BLOCK DESIGN IS BASED ON :

1. 1050kPa MAX. SYSTEM PRESSURE OR 700kPa OPERATING PRESSURE PLUS A SURGE ALLOWANCE OF 345kPa (2fps SURGE ALLOWANCE AT 25psi/fps)
2. THRUST BLOCK DESIGN ASSUMES A MIN. VERTICAL SOIL BEARING OF 100kPa
3. THRUST BLOCK BEARING AREA BASED ON P.V.C. PIPE (AWWA C900 AND C905 DR18)
4. CONCRETE 20MPa TYPE HS CEMENT.
5. IF THE SOIL CONDITIONS PROVIDE LESS THAN 100kPa BEARING STRENGTH, DETAILED THRUST BLOCK DESIGN MUST BE COMPLETED AND SUBMITTED FOR REVIEW.

UPWARD THRUST (GRAVITY)

TABLE – FOR CALCULATION OF BASIC THRUST BLOCK BEARING AREA (IN SQUARE METRES)
CONCRETE UNIT WEIGHT 2400Kg/cu.m

| BEND \ PIPE SIZE * | 150 | 200 | 250 | 300 | 350 | 400 | 450 |
|--------------------|------|------|------|------|------|------|------|
| 11.25° | 0.16 | 0.28 | 0.45 | 0.64 | 0.87 | 1.14 | 1.44 |
| 22.50° | 0.32 | 0.57 | 0.88 | 1.27 | 1.73 | 2.26 | 2.82 |
| 30° | 0.42 | 0.75 | 1.17 | 1.69 | 2.30 | 3.00 | 3.80 |
| 45° | 0.62 | 1.11 | 1.73 | 2.50 | 3.40 | 4.44 | 5.62 |

DOWNWARD THRUST

TABLE – FOR CALCULATION OF BASIC THRUST BLOCK BEARING AREA (IN SQUARE METRES)
CONCRETE UNIT WEIGHT 2400Kg/cu.m

| BEND \ PIPE SIZE * | 150 | 200 | 250 | 300 | 350 | 400 | 450 |
|--------------------|------|------|------|------|------|------|------|
| 11.25° | 0.04 | 0.07 | 0.11 | 0.15 | 0.21 | 0.27 | 0.34 |
| 22.50° | 0.08 | 0.13 | 0.21 | 0.30 | 0.41 | 0.53 | 0.67 |
| 30° | 0.10 | 0.18 | 0.28 | 0.40 | 0.54 | 0.71 | 0.89 |
| 45° | 0.15 | 0.26 | 0.41 | 0.59 | 0.80 | 1.05 | 1.32 |

* NOMINAL PIPE SIZES ARE IN MILLIMETERS

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THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

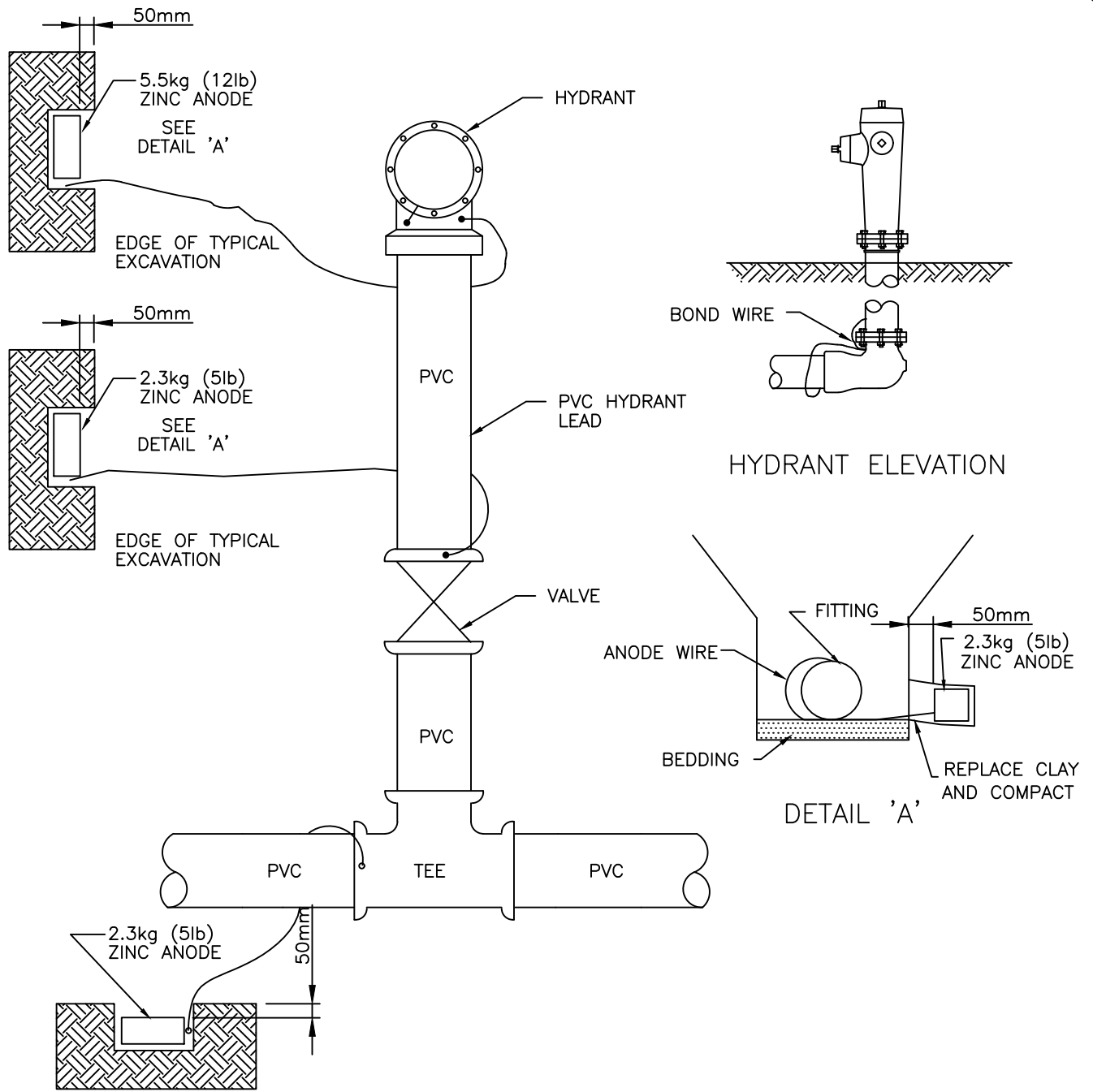
REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 04/19 | Standards Update | WPS |
| 09/20 | STANDARDS UPDATE | WPS |
| | | |

VERTICAL THRUST BLOCK



| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: WR-06 |



NOTES:

1. MINIMUM DISTANCE FROM ANODE TO PIPE, FITTING, VALVE, OR HYDRANT IS 150mm.
2. INSTALL ANODE AT APPROX. PIPE DEPTH IN NATIVE SOIL.
3. ZINC ANODES TO BE EMBEDDED INTO TRENCH WALL TO PROVIDE FOR A MINIMUM OF 50mm OF NATIVE CLAY COMPLETELY SURROUNDING THE ANODE.
4. ANODES TO BE AT LEAST 300mm CLEAR OF THRUST BLOCK.
5. ACTIVATE ANODES BY WATER PRE-SOAKING BEFORE INSTALLATION.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 02/14 | DRAWING NUMBER | RP |
| 04/19 | Standards Update | WPS |
| | | |

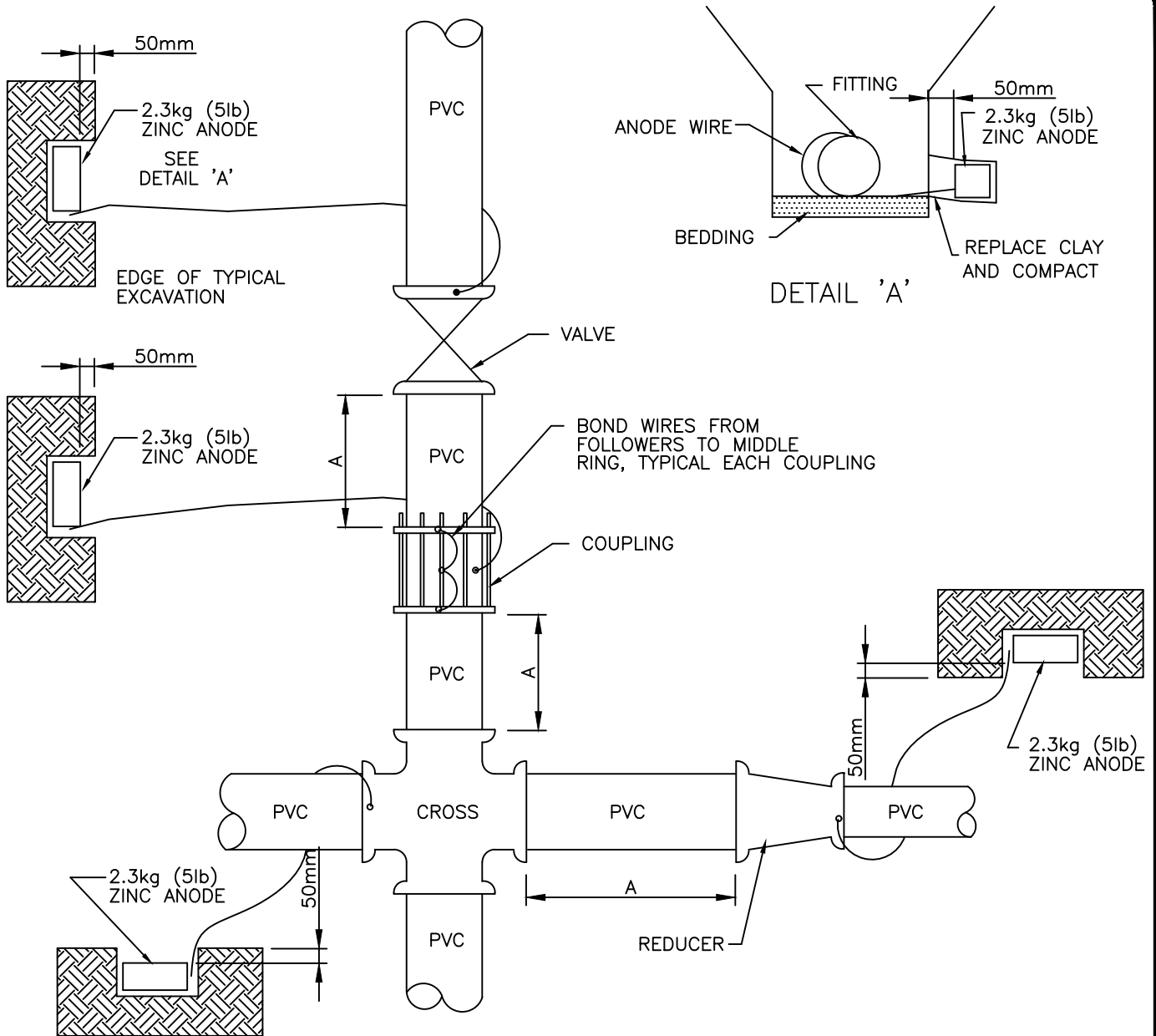
HYDRANT ANODE



| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: WR-07 |

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NOTES:

1. MINIMUM DISTANCE FROM ANODE TO PIPE, FITTING, VALVE, OR HYDRANT IS 150mm.
2. INSTALL ANODE AT APPROX. PIPE DEPTH IN NATIVE SOIL.
3. BOND WIRES MAY BE USED TO PROTECT UP TO TWO FITTINGS WITH ONE ANODE WHEN DIMENSION 'A' DOES NOT EXCEED ONE (1) METER.
4. ALL ZINC ANODES ON FITTINGS AND VALVES ARE 2.3kg (5lb).
5. ZINC ANODES TO BE EMBEDDED INTO TRENCH WALL TO PROVIDE FOR A MINIMUM OF 50mm OF NATIVE CLAY COMPLETELY SURROUNDING THE ANODE.
6. ANODES TO BE AT LEAST 300mm CLEAR OF THRUST BLOCK.
7. ACTIVATE ANODES BY WATER PRE-SOAKING BEFORE INSTALLATION.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 02/14 | DRAWING NUMBER | RP |
| 04/19 | Standards Update | WPS |
| | | |

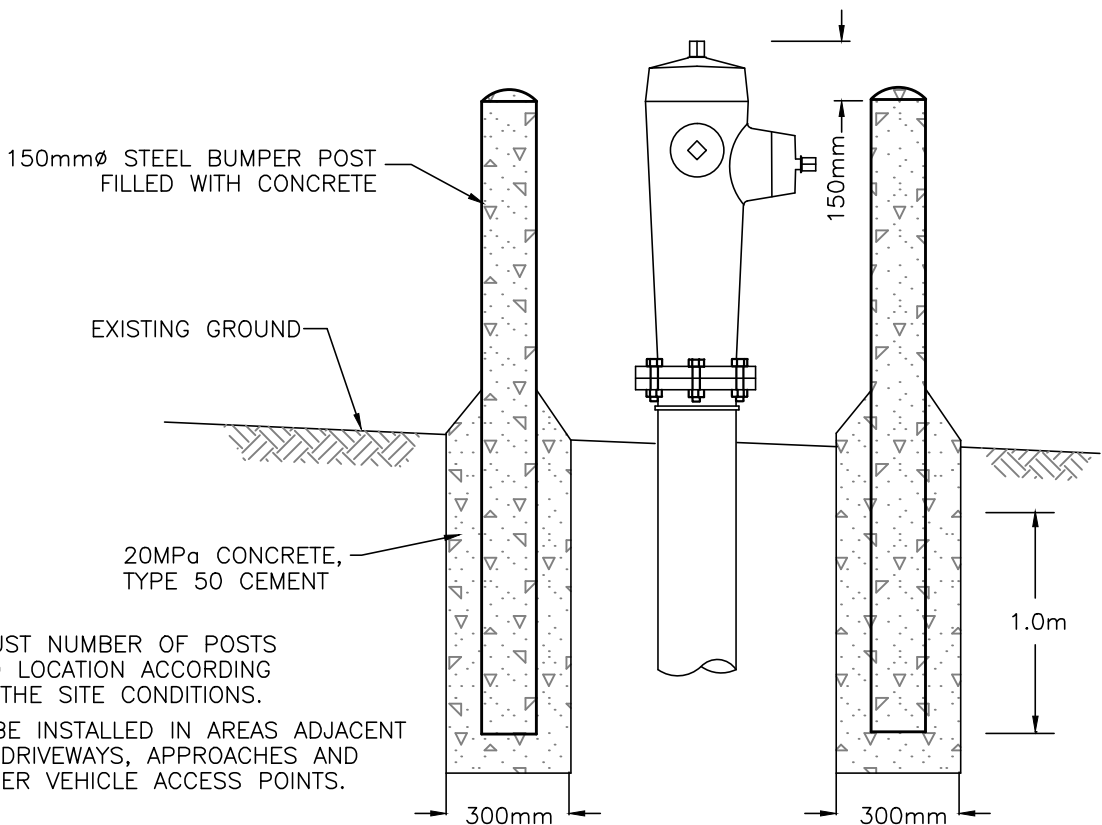
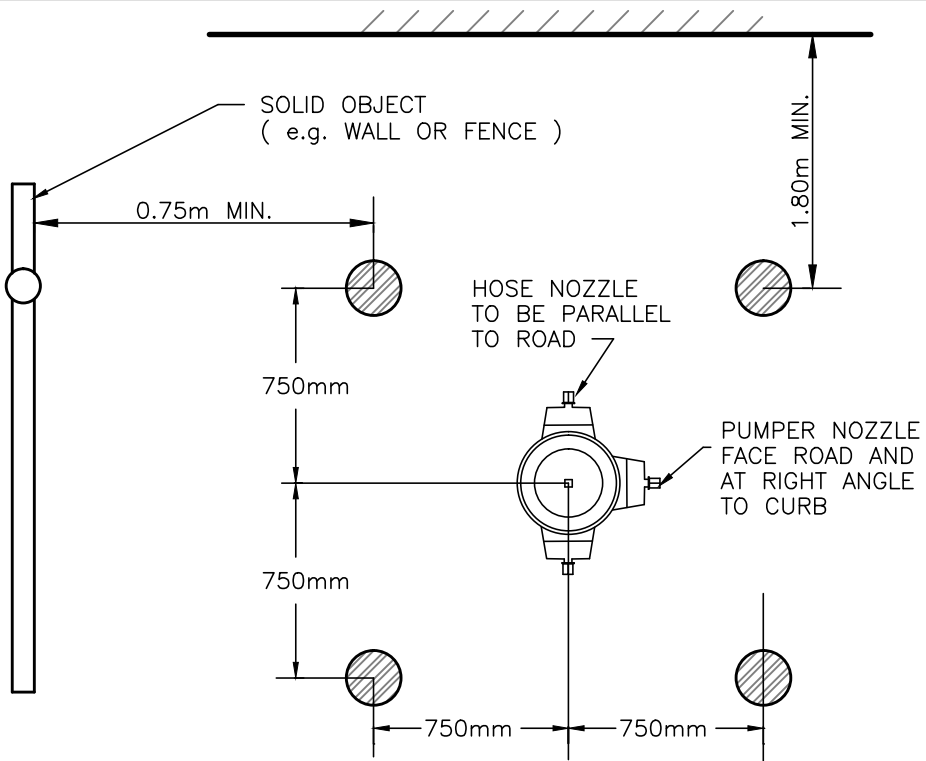
VALVE/FITTING ANODE



| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: WR-08 |

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- NOTE:**
1. ADJUST NUMBER OF POSTS AND LOCATION ACCORDING TO THE SITE CONDITIONS.
 2. TO BE INSTALLED IN AREAS ADJACENT TO DRIVEWAYS, APPROACHES AND OTHER VEHICLE ACCESS POINTS.

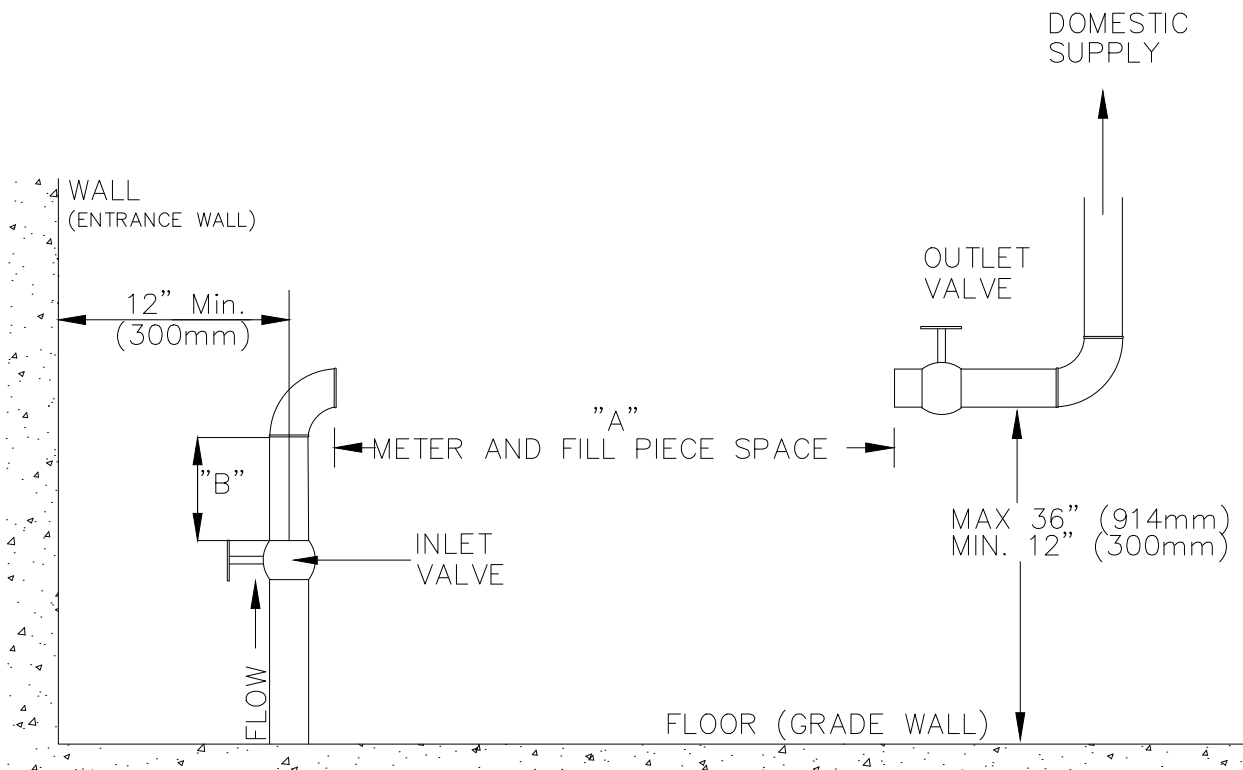
THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

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| REVISIONS | | |
|-----------|----------------|-------|
| DATE | DETAILS | DRAWN |
| 02/14 | DRAWING NUMBER | RP |
| | | |
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| HYDRANT BUMPER | | |
|---|----------------------|---------------------|
|  | DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| | CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| | APPROVED: J. MUSTARD | DRAWING No.: WR-09 |



| METER SIZE | "A" | "B" MAX |
|------------|-------------|-----------|
| 5/8" | 12" (300mm) | 1" (25mm) |
| 3/4" | 14" (356mm) | 1" (25mm) |
| 1" | 16" (400mm) | 2" (50mm) |
| 1.5" | 13" (330mm) | 3" (75mm) |
| 2" | 17" (432mm) | 3" (75mm) |

* NOTE:
1.5" AND 2" METERS
ARE FLANGED END

NOTE:

- METER SETTING CONSTRUCTED USING PLASTIC PIPING ON OUTLET SIDE OF METER SHALL HAVE ADEQUATE ANCHORING CAPABLE OF KEEPING THE PIPE IN ALIGNMENT AND SUPPORTING THE WEIGHT OF THE METER, PIPE AND OTHER COMPONENTS.
- MINIMUM DISTANCE OF CENTERLINE OF PIPING ADJACENT TO METER SETTINGS TO BE 12" (300mm) FROM ANY ENTRANCE, FOUNDATION WALL, INTERIOR WALL OR ANY OTHER POTENTIAL OBSTRUCTION.
- VALVE IS REQUIRED ON THE INLET AND OUTLET SIDE OF METER SETTING ON ALL PIPE.
- PIPING FOR "A" MUST BE IN A HORIZONTAL PLANE.
- VALVES OR FITTINGS ON SIDES CONNECTING TO METER MUST BE 90° FEMALE THREADED IN 1/2" (13mm) FOR 5/8 METER, 3/4" (20mm) FOR 3/4" METER, AND 1" (25mm) FOR 1" METERS.
- BUILDINGS WITH MORE THAN ONE METER MUST HAVE A METAL OR PLASTIC TAG SECURELY ATTACHED TO THE CONTROL VALVE HANDLE OF THE METER IT SERVES. THE TAG MUST HAVE THE SERVICE ADDRESS ENGRAVED ON IT IN LETTERS OR NUMBERS AT LEAST 5mm (3/16") IN HEIGHT.
- METER LOCATION MUST REMAIN ACCESSIBLE FOR FUTURE MAINTENANCE OF METER, FITTINGS OR INSPECTION.
- BACK FLOW PREVENTION DEVICES MAY BE REQUIRED, PHONE THE CITY OF SPRUCE GROVE AT (780) 962-2611.
- NO BY-PASS ALLOWED UNLESS APPROVED BY THE CITY.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

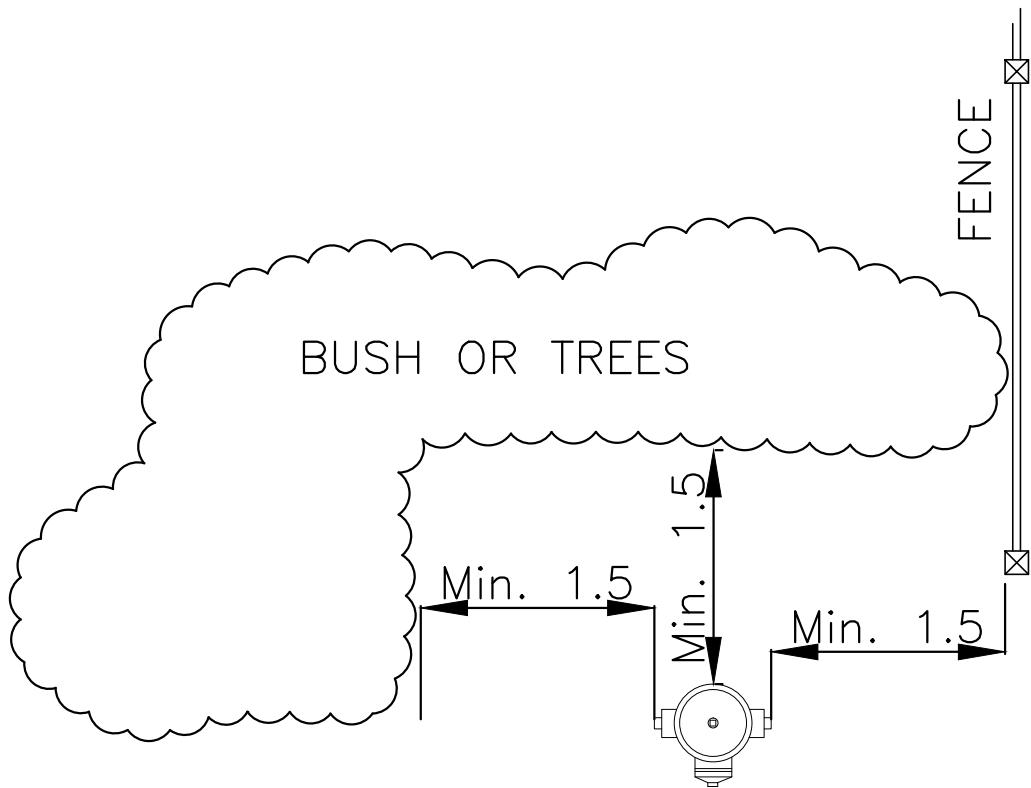
REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 02/14 | DRAWING NUMBER | RP |
| 03/15 | CHANGES TO NOTES | RP |
| | | |
| | | |

METER SETTING GUIDELINES



| | | | |
|-----------|-------------|--------------|---------------|
| DRAWN: | T. CRAWFORD | DATE: | MARCH 6, 2006 |
| CHECKED: | J. MUSTARD | SCALE: | NOT TO SCALE |
| APPROVED: | J. MUSTARD | DRAWING No.: | WR-10 |



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THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|----------------|-------|
| 02/14 | DRAWING NUMBER | RP |
| | | |
| | | |

FIRE HYDRANT CLEARANCE

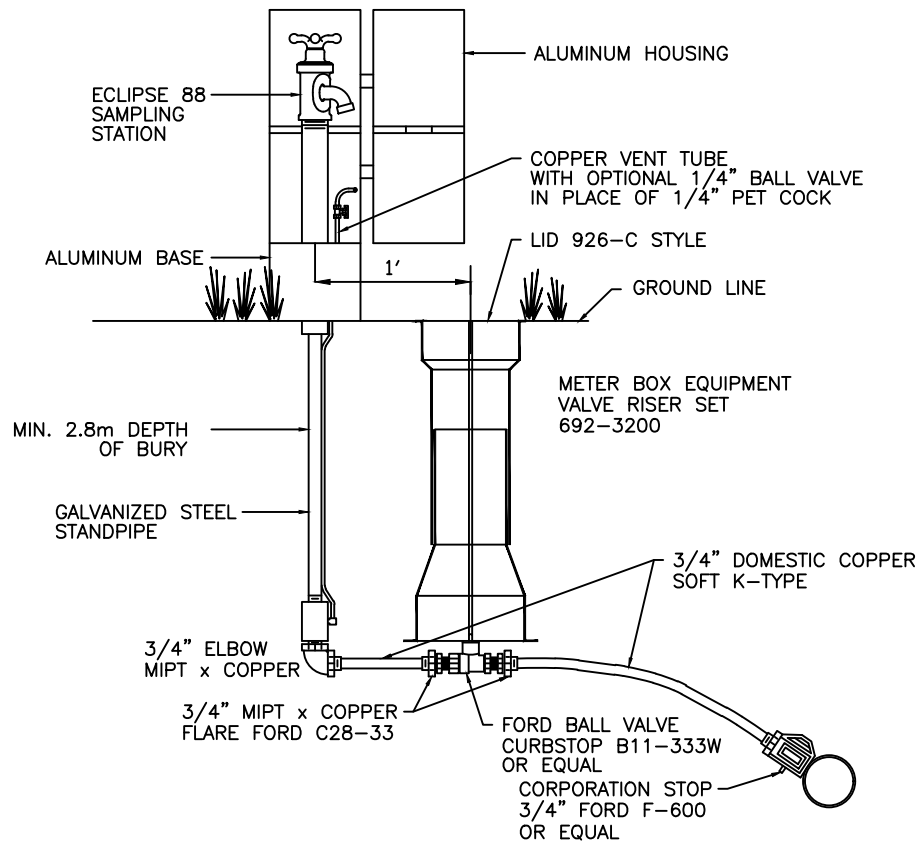


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|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: WR-11 |

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ECLIPSE NO. 88 SAMPLING STATION



1. SAMPLING STATIONS SHALL BE 2.8M MINIMUM BURY, WITH A 3/4" FIP INLET, AND A (3/4" HOSE OR UNTHREADED) NOZZLE.
2. ALL STATIONS SHALL BE ENCLOSED IN A LOCKABLE, NONREMOVABLE, ALUMINUM-CAST HOUSING.
3. WHEN OPENED, THE STATION SHALL REQUIRE NO KEY FOR OPERATION, AND THE WATER WILL FLOW IN AN ALL BRASS WATERWAY.
4. ALL WORKING PARTS WILL ALSO BE OF BRASS AND BE REMOVABLE FROM ABOVE GROUND WITH NO DIGGING. EXTERIOR PIPING SHALL BE GALVANIZED STEEL (BRASS PIPE ALSO AVAILABLE).
5. A COPPER VENT TUBE WILL ENABLE EACH STATION TO BE PUMPED FREE OF STANDING WATER TO PREVENT FREEZING AND TO MINIMIZE BACTERIA GROWTH.
6. ECLIPSE NO. 88 SAMPLING STATION SHALL BE MANUFACTURED BY KUPFERLE FOUNDRY, ST. LOUIS, MO 63102.
7. ALL SAMPLING STATIONS ARE PROVIDED BY THE CITY OF SPRUCE GROVE BUT INSTALLED BY THE DEVELOPER.

THE CITY OF
SPRUCE GROVE

PLANNING AND INFRASTRUCTURE

REVISIONS

| DATE | DETAILS | DRAWN |
|-------|------------------|-------|
| 02/14 | CHG TO NOTES | RP |
| 02/14 | DRAWING NUMBER | RP |
| 04/19 | STANDARDS UPDATE | WPS |
| 09/20 | STANDARDS UPDATE | WPS |

WATER SAMPLING STATION



| | |
|----------------------|---------------------|
| DRAWN: T. CRAWFORD | DATE: MARCH 6, 2006 |
| CHECKED: J. MUSTARD | SCALE: NOT TO SCALE |
| APPROVED: J. MUSTARD | DRAWING No.: WR-12 |

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