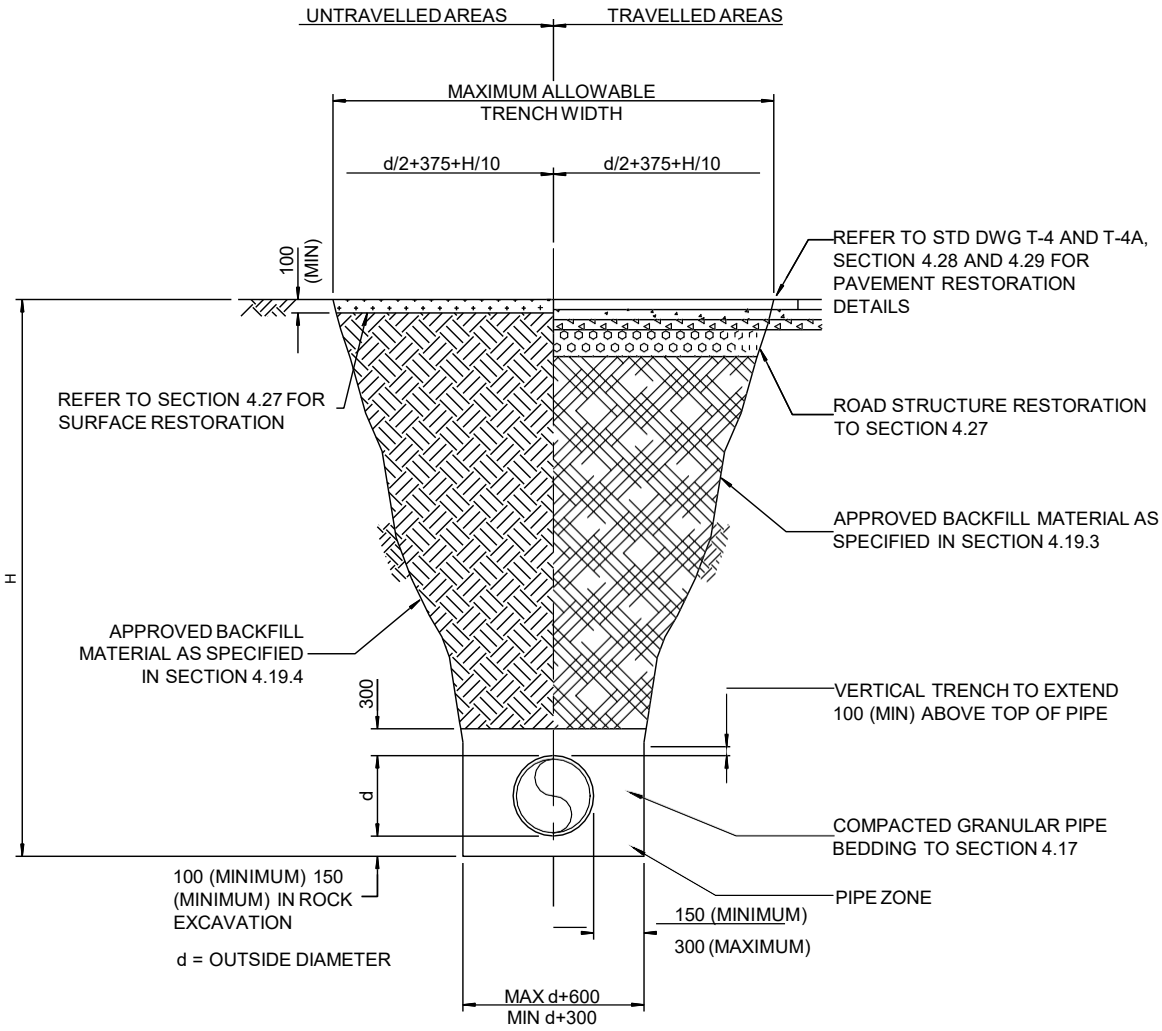


NOTES:

1. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.

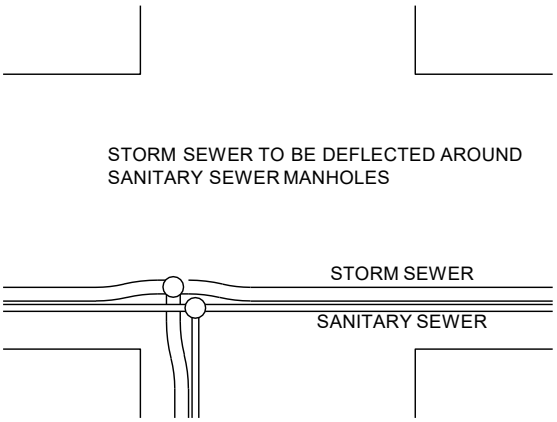
CITY OF NANAIMO
THE HARBOUR CITY

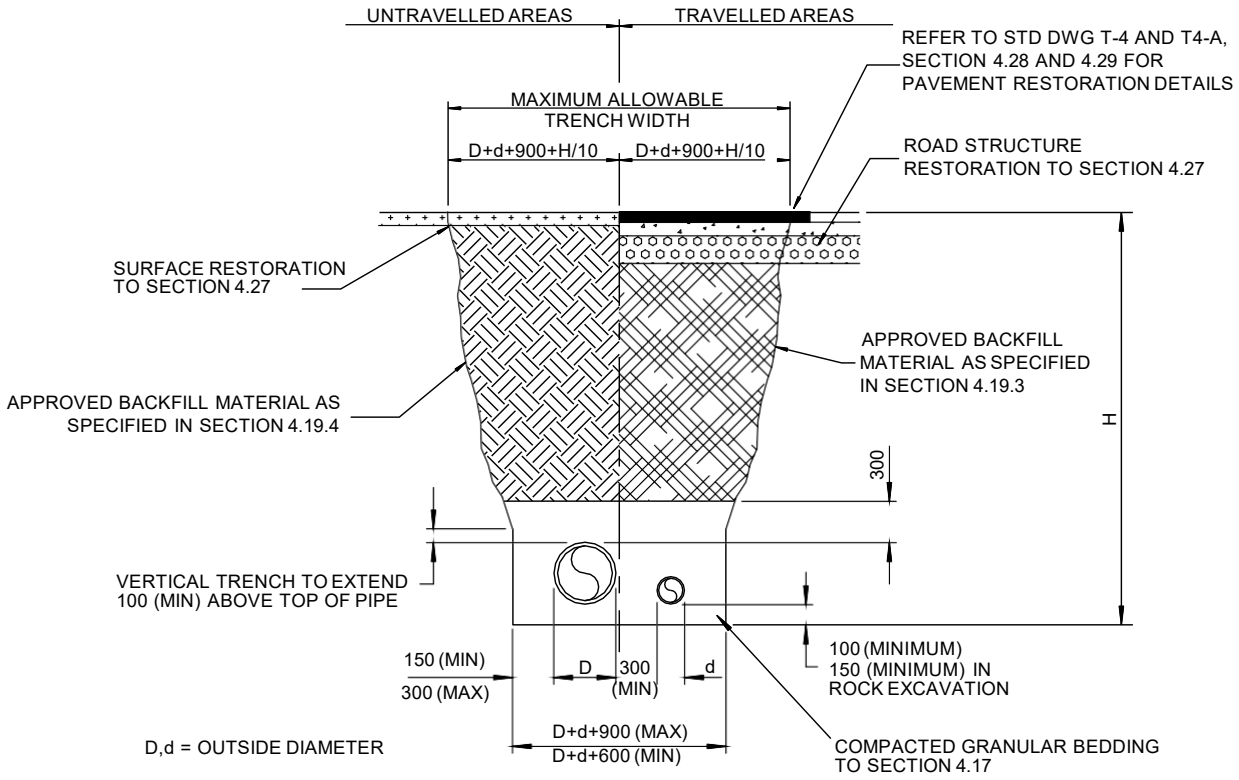
TRENCH DETAILS

Scale: NTS
Created: OCT 2012
Rev Date: MAY 2020
Dwg No: T-1

3.6.2020

G:\INFRASTRUCTURE PLANNING\STANDARDS & PRODUCTS\MOESS\EDITION NO 13 MAY 2020\2019-09-15 REDLINE INCORPORATION - WORKING\2020 DRAWING SECTIONS\FINAL DRAFT\SECTION 4 DWGS\T-1





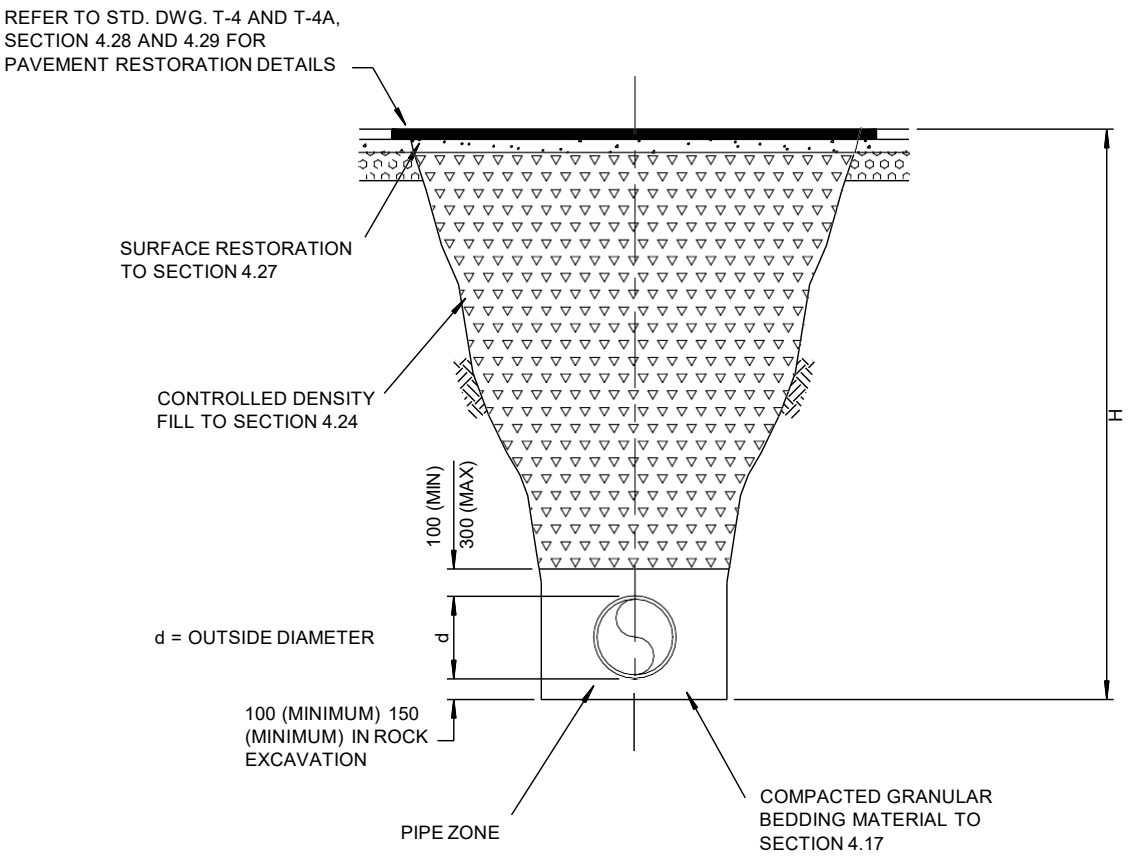
NOTES:

1. REFER TO STANDARD DRAWING T-1 FOR ADDITIONAL TRENCH DETAILS.
2. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.

CITY OF NANAIMO
THE HARBOUR CITY

SANITARY & STORM SEWER
IN COMMON TRENCH

Scale: NTS
Created: OCT 2012
Rev Date: MAY 2020
Dwg No: T-2



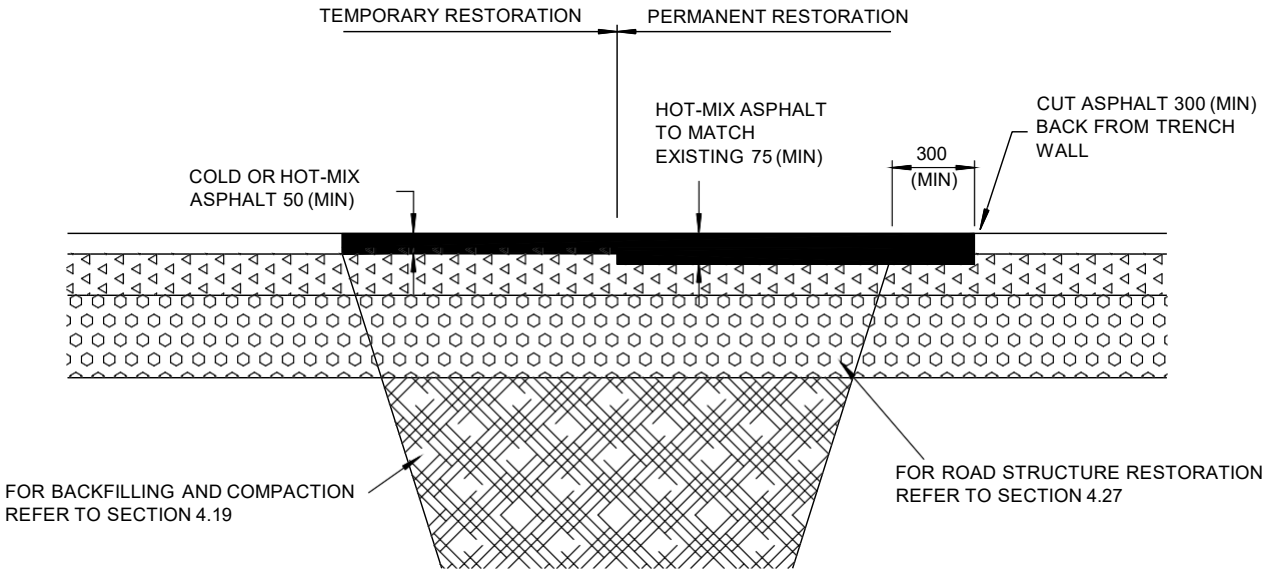
NOTES:

1. REFER TO STANDARD DRAWING T-1 FOR ADDITIONAL TRENCH DIMENSIONS AND DETAILS.
2. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.

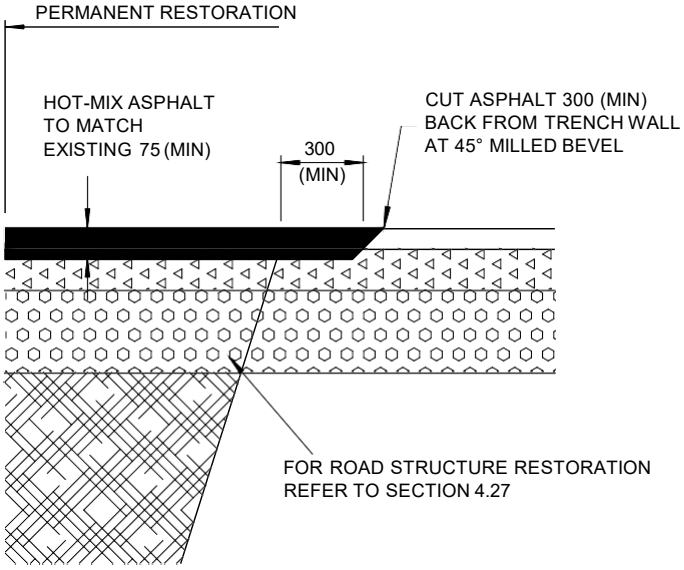
CITY OF NANAIMO
THE HARBOUR CITY

CONTROLLED DENSITY FILL
IN PAVED SURFACE AREA

Scale:	NTS
Created:	MAY 1996
Rev Date:	NOV 2016
Dwg No:	T-3



ALTERNATIVE 1 - STRAIGHT CUT



ALTERNATIVE 2 - BEVEL CUT

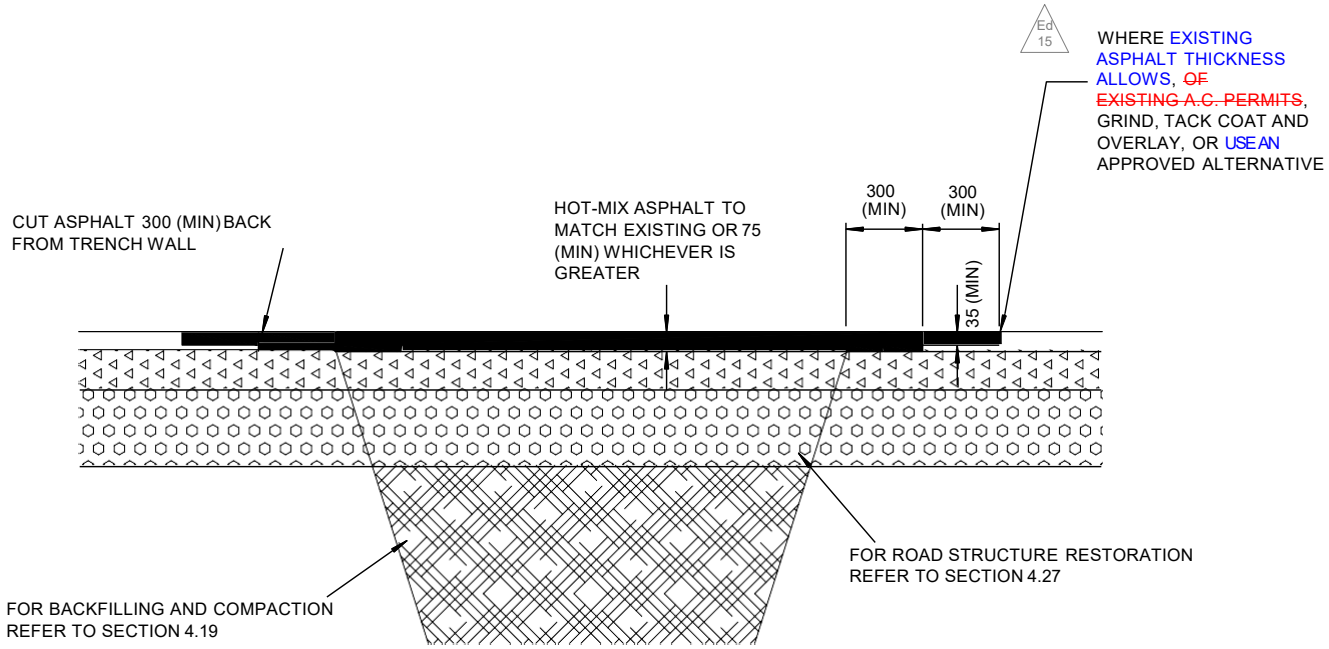
NOTES:

1. REFER TO STANDARD DRAWING T-1 FOR ADDITIONAL TRENCH DIMENSIONS AND DETAILS.
2. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.

CITY OF NANAIMO
THE HARBOUR CITY

PAVEMENT RESTORATION TYPE 1
(ASPHALT THICKNESS < 75mm)

Scale:	NTS
Created:	APR 2016
Rev Date:	MAY 2020
Dwg No:	T-4



PERMANENT RESTORATION

NOTES:

1. REFER TO STANDARD DRAWING T-1 FOR ADDITIONAL TRENCH DIMENSIONS AND DETAILS.
2. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.

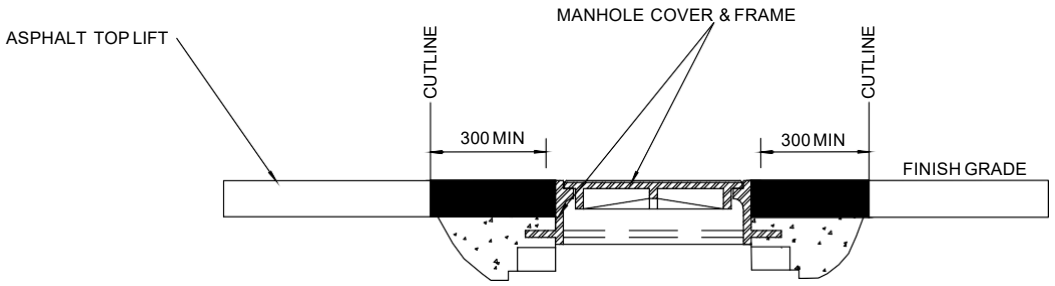
CITY OF NANAIMO
THE HARBOUR CITY

PAVEMENT RESTORATION TYPE 2
(75mm MINIMUM THICKNESS)

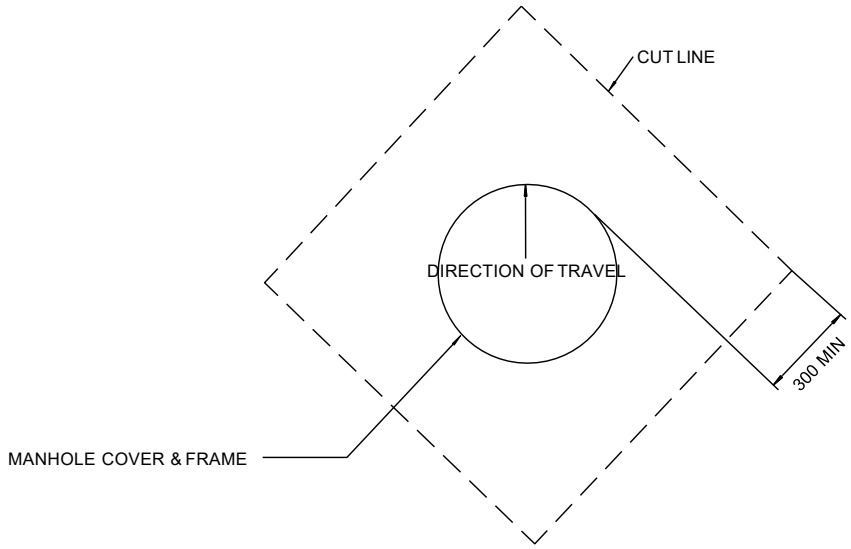
Scale: NTS
Created: OCT 2012
Rev Date: ~~NOV 2016~~
Dwg No: T-4A

Ed 15

3.20.2020



CONCRETE ENCASEMENT
SUPPORT DETAIL



SQUARE CUT PLAN VIEW

NOTES:

1. COVER MANHOLE WITH BUILDING PAPER AND CONSTRUCTION ASPHALT CONCRETE BASE COURSE AND WEARING COURSES.
2. SAW CUT SQUARE EXCAVATING AROUND MANHOLE 300mm MIN FROM MANHOLE FRAME.
3. RAISE MANHOLE COVER AND FRAME TO FINISH GRADE.
4. APPLY TACK COAT TO EDGES OF EXISTING PAVEMENT BEFORE INSTALLING PATCH.
5. FINISH JOINT WITH ASPHALT SEAL AND SAND.
6. REFER TO STANDARD DRAWINGS AS PER RELEVANT SECTIONS 5, 6, OR 7 FOR OTHER MANHOLE REQUIREMENTS.
7. ONLY PRODUCTS APPROVED BY THE CITY ENGINEER AND LISTED IN THE CITY OF NANAIMO APPROVED PRODUCT LIST WILL BE ACCEPTED FOR INSTALLATION.
8. REFER TO STANDARD DRAWING T-1 FOR ADDITIONAL TRENCH DIMENSIONS AND DETAILS.
9. ALL DIMENSIONS IN MILLIMETERS UNLESS SHOWN OTHERWISE.
10. PAVEMENT RESTORATION AREAS OF NEW ASPHALT (5 YEARS OR LESS) WILL REQUIRE FULL LANE WIDTH ASPHALT REPLACEMENT AND UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

Ed 15

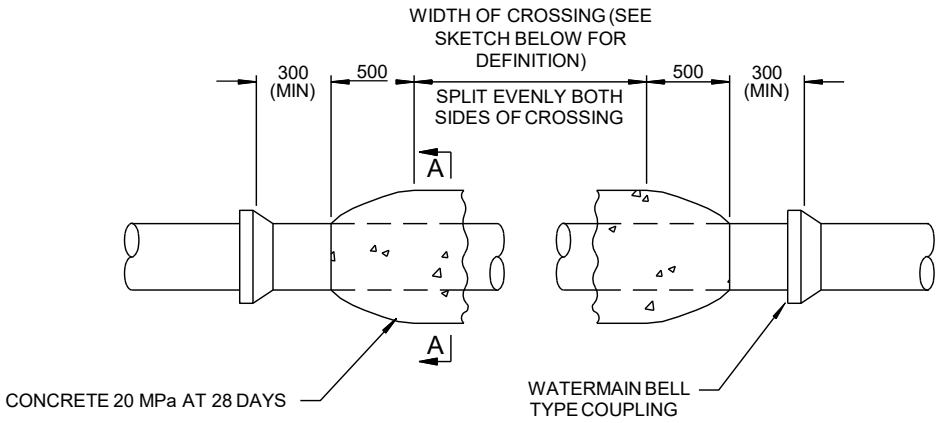
CITY OF NANAIMO
THE HARBOUR CITY

PAVEMENT RESTORATION
ASPHALT CUTTING FOR A MANHOLE

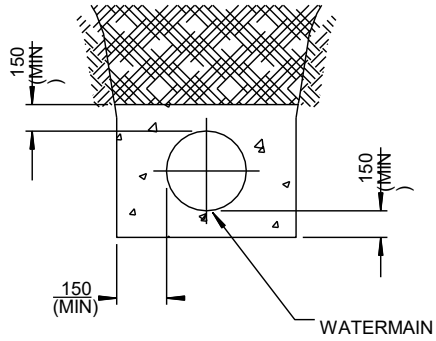
Scale: NTS
Created: NOV 2012
Rev Date: ~~NOV 2016~~
Dwg No: T-4B

Ed 15

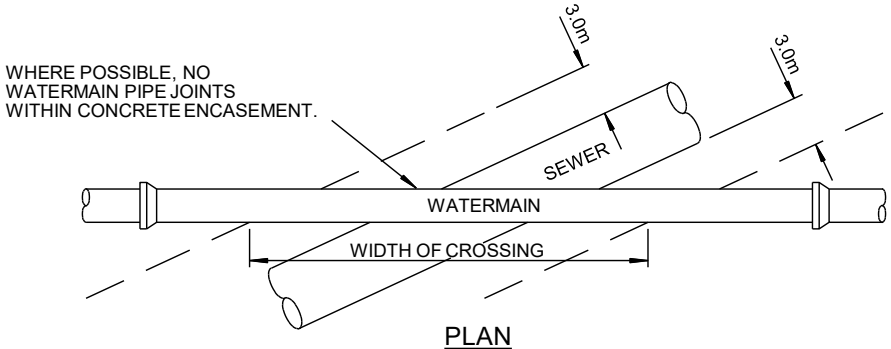
Ed 15



ELEVATION



SECTION A-A



PLAN

NOTES:

1. WHERE WATER AND SEWER SEPARATION OFFSETS CANNOT MEET SECTION 5.10.3, APPLY PROTECTION MEASURES REQUIRED TO OBTAIN PROVINCIAL PERMIT APPROVAL (SEE SECTION 5.10.4). ~~USE OF PETROLATUM TAPE WRAPPING WHERE MINISTRY OF HEALTH'S MINIMUM WATER/SEWER SEPARATION OFFSET CANNOT BE MET, REQUIRES APPROVAL BY THE MINISTRY OF HEALTH.~~
2. FOR PIPE PROTECTION WITH CONCRETE REFER TO STANDARD DRAWING T-6.
3. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.

Ed 15

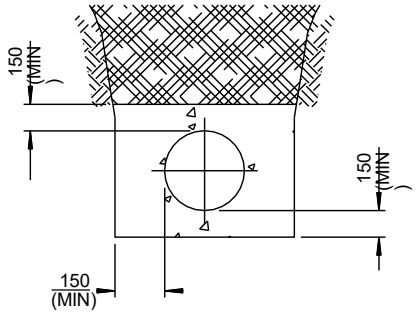
CITY OF NANAIMO
THE HARBOUR CITY

CONCRETE ENCASEMENT FOR WATERMAIN \ SEWER SEPARATION

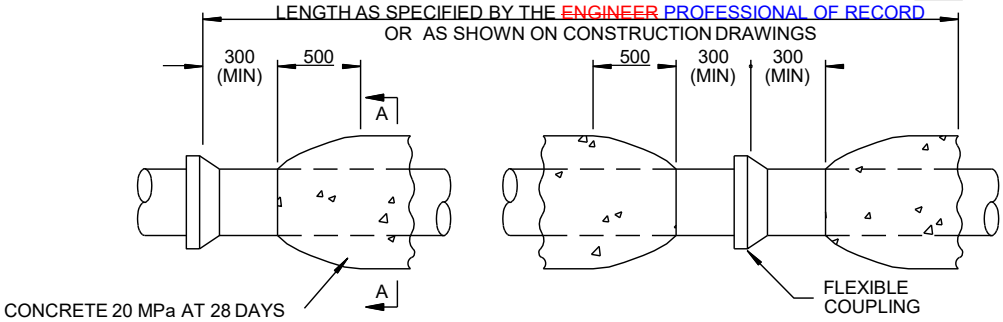
Scale: NTS
Created: OCT 1993
Rev Date: ~~MAY 2020~~
Dwg No: T-5

Ed 15

3.6.2020

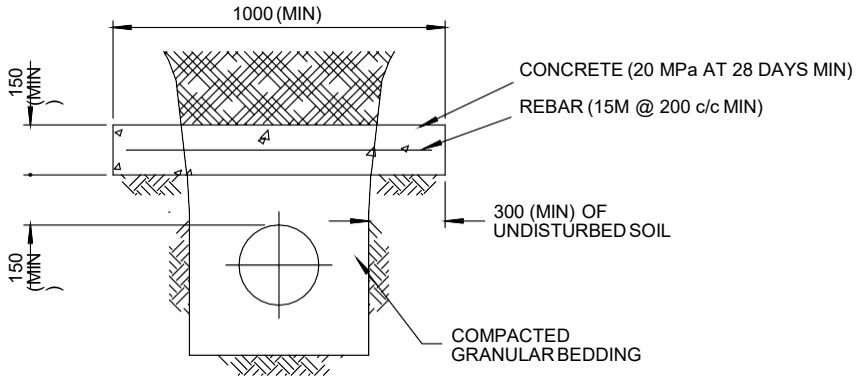


SECTION A-A



ELEVATION

ALTERNATIVE 1 - ENCASEMENT



ALTERNATIVE 2 - PROTECTIVE SLAB

NOTES:

1. THE REQUIREMENT FOR CONCRETE PIPE PROTECTION SHALL BE DETERMINED BY THE ~~ENGINEER~~ PROFESSIONAL OF RECORD. DIMENSIONS SHOWN ARE MINIMUM REQUIREMENTS AND SHALL BE MODIFIED TO SUIT PIPE LOADING CONDITIONS.
2. ~~USE OF CONCRETE BEDDING OR HAUNCHING SHALL NOT BE PERMITTED ON PVC OR OTHER FLEXIBLE PIPE MATERIALS.~~
2 ~~3~~. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.

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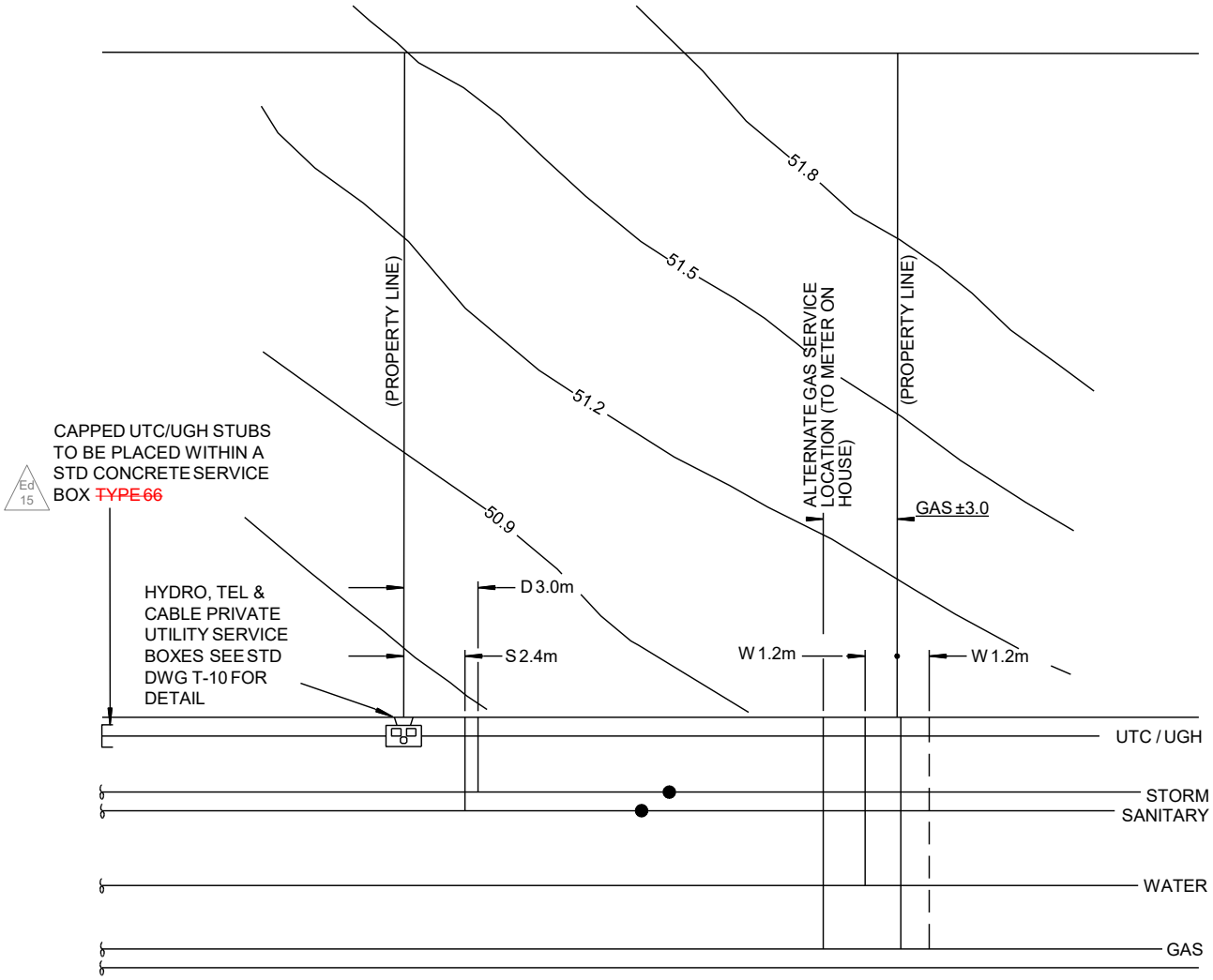
3.20.2020

CITY OF NANAIMO
THE HARBOUR CITY

PIPE PROTECTION
WITH CONCRETE

Scale: NTS
Created: OCT 1993
Rev Date: ~~NOV 2016~~
Dwg No: T-6



NOTES:

1. SANITARY AND STORM SEWER SERVICES TO BE INSTALLED ON THE LOWER SIDE OF THE LOT, AND WHERE POSSIBLE, SHALL BE FROM THE THE FRONT PROPERTY LINE.
2. POLE RESERVE, IF REQUIRED, TO BE AT ALTERNATE LOT CORNER TO WATER SERVICES.
3. GAS SERVICES SHALL BE 1.0m MINIMUM SEPARATION FROM SANITARY, STORM AND WATER UTILITIES.
4. ALL DIMENSIONS IN METERS UNLESS OTHERWISE SHOWN.
5. CAPPED UTH/UGH STUBS MUST BE PLACED WITHIN A STANDARD CONCRETE SERVICE BOX ~~TYPE 66~~. Ed 15
6. ONLY PRODUCTS LISTED IN THE CITY OF NANAIMO APPROVED PRODUCTS LIST WILL BE ACCEPTED FOR INSTALLATION. Ed 15

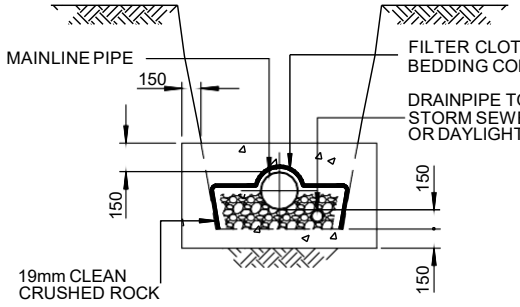
CITY OF NANAIMO
THE HARBOUR CITY

TYPICAL LOCATION OF SERVICE CONNECTIONS TO RESIDENTIAL VACANT LOTS

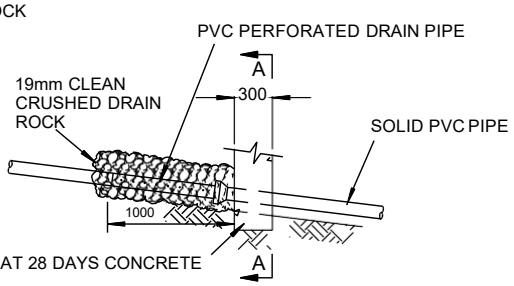
Scale:	NTS
Created:	OCT 2012
Rev Date:	~~NOV 2016~~
Dwg No:	T-7

Ed 15

DETAIL OF DRAIN PIPE



SECTION A-A



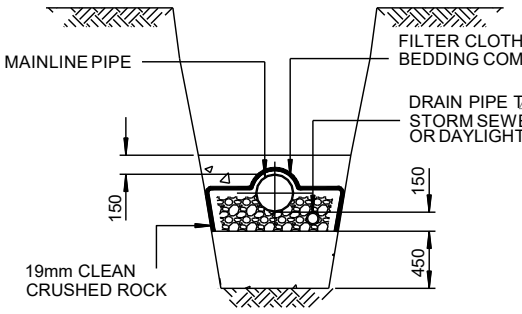
PROFILE

ALTERNATIVE 1

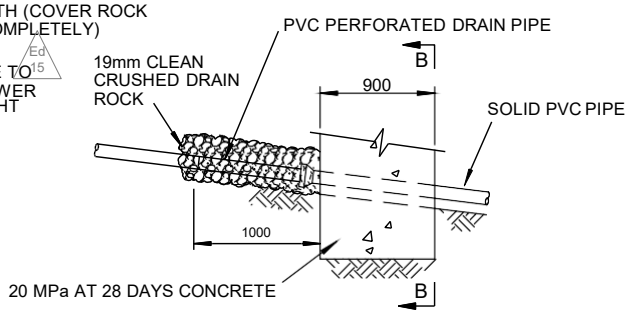
FOR USE IN TILLS AND OTHER STABLE, WELL COMPACTED NATIVE MATERIALS.

NOTE: MAINLINE PIPE & FILTER CLOTH NOT SHOWN FOR CLARITY.

DETAIL OF DRAIN PIPE



SECTION B-B



PROFILE

ALTERNATIVE 2

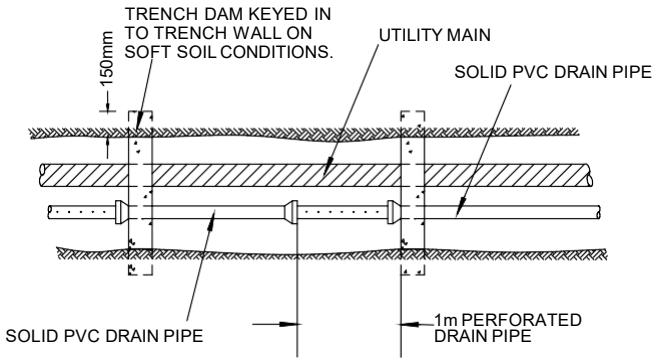
FOR USE IN CLEAN GRAVELS, SANDS AND OTHER LOOSE, PERMEABLE NATIVE MATERIALS.

NOTE: MAINLINE PIPE & FILTER CLOTH NOT SHOWN FOR CLARITY.

NOTES:

1. IF APPROVED BY THE ENGINEER, IN AREAS INACCESSIBLE BY CONSTRUCTION EQUIPMENT, WET, PRE-MIXED CONCRETE FILLED SANDBAGS MAY BE USED.
2. REFER TO SECTION 4.18 FOR TRENCH DAM SPACING.
3. PROVIDE TRENCH DRAINAGE TO AN ACCEPTABLE WATERCOURSE OR STORM COLLECTION SYSTEM FROM EVERY TRENCH DAM. HIGHEST END OF THE TRENCH DAM DRAIN PIPE SHALL BE CAPPED.
4. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.
5. ALL DRAIN PIPE TO BE SDR 35 PVC.

Ed 15



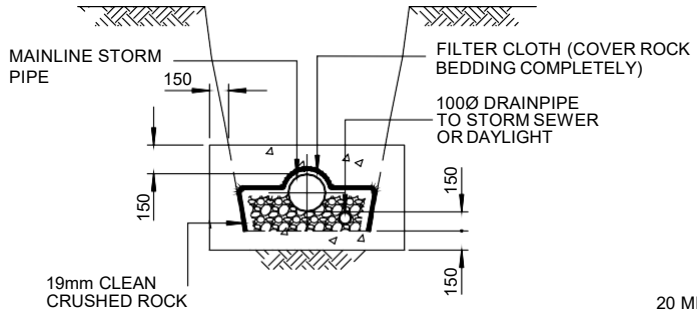
TYPE 1-PLAN VIEW

CITY OF NANAIMO
THE HARBOUR CITY

TRENCH DAMS - TYPE 1
FOR ALL UTILITY MAINS

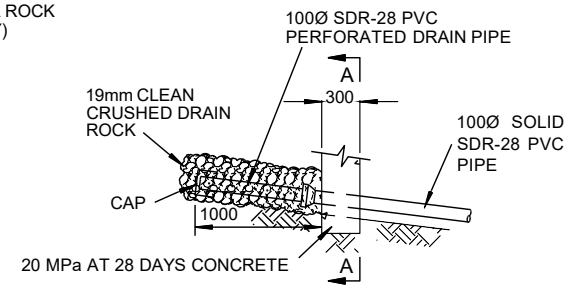
Scale:	NTS
Created:	OCT 2012
Rev Date:	~~MAY 2020~~
Dwg No:	T-8

Ed 15



SECTION A-A

DETAIL OF DRAIN PIPE

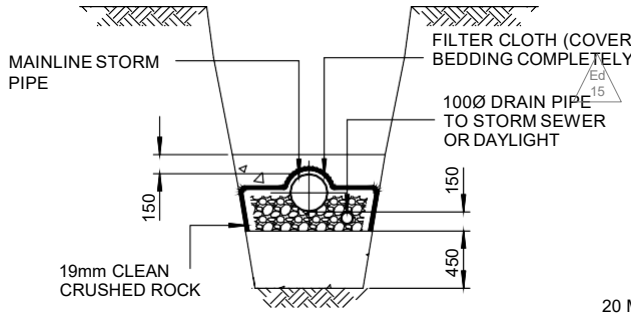


PROFILE

ALTERNATIVE 1

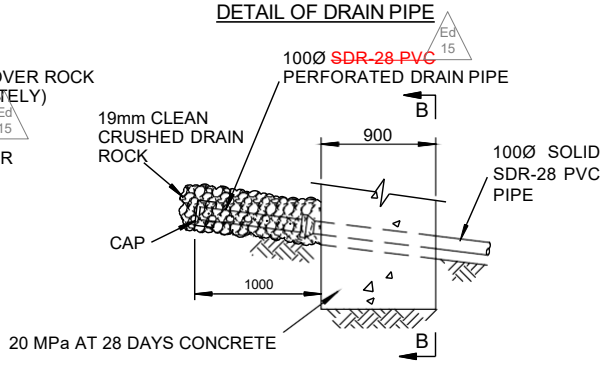
FOR USE IN TILLS AND OTHER STABLE, WELL COMPACTED NATIVE MATERIALS.

NOTE: MAINLINE PIPE & FILTER CLOTH NOT SHOWN FOR CLARITY.



SECTION B-B

DETAIL OF DRAIN PIPE



PROFILE

ALTERNATIVE 2

FOR USE IN CLEAN GRAVELS, SANDS AND OTHER LOOSE, PERMEABLE NATIVE MATERIALS.

NOTE: MAINLINE PIPE & FILTER CLOTH NOT SHOWN FOR CLARITY.

NOTES:

1. IF APPROVED BY THE ENGINEER, IN AREAS INACCESSIBLE BY CONSTRUCTION EQUIPMENT, WET, PRE-MIXED CONCRETE FILLED SANDBAGS MAY BE USED.
2. REFER TO SECTION 4.18 FOR TRENCH DAM SPACING.
3. PROVIDE TRENCH DRAINAGE TO AN ACCEPTABLE WATERCOURSE OR STORM COLLECTION SYSTEM FROM EVERY TRENCH DAM. HIGHEST END OF THE TRENCH DAM DRAIN PIPE SHALL BE CAPPED.
4. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.
5. ALL DRAIN PIPE TO BE SDR 35 PVC.

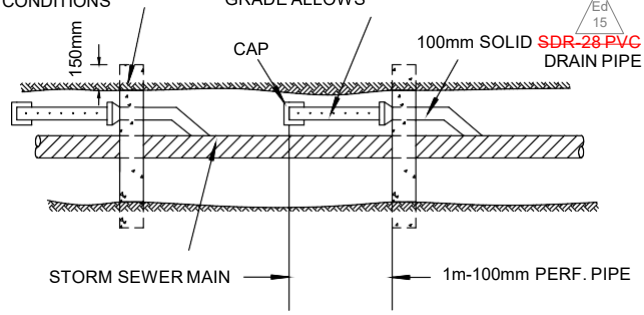
Ed 15

Ed 15

TRENCH DAM KEYED IN TO TRENCH WALL ON SOFT SOIL CONDITIONS

100mm PERFORATED DRAIN ~~SDR-28 PVC~~ PIPE MAY BE TIED INTO STORM MAIN WHEN GRADE ALLOWS

Ed 15



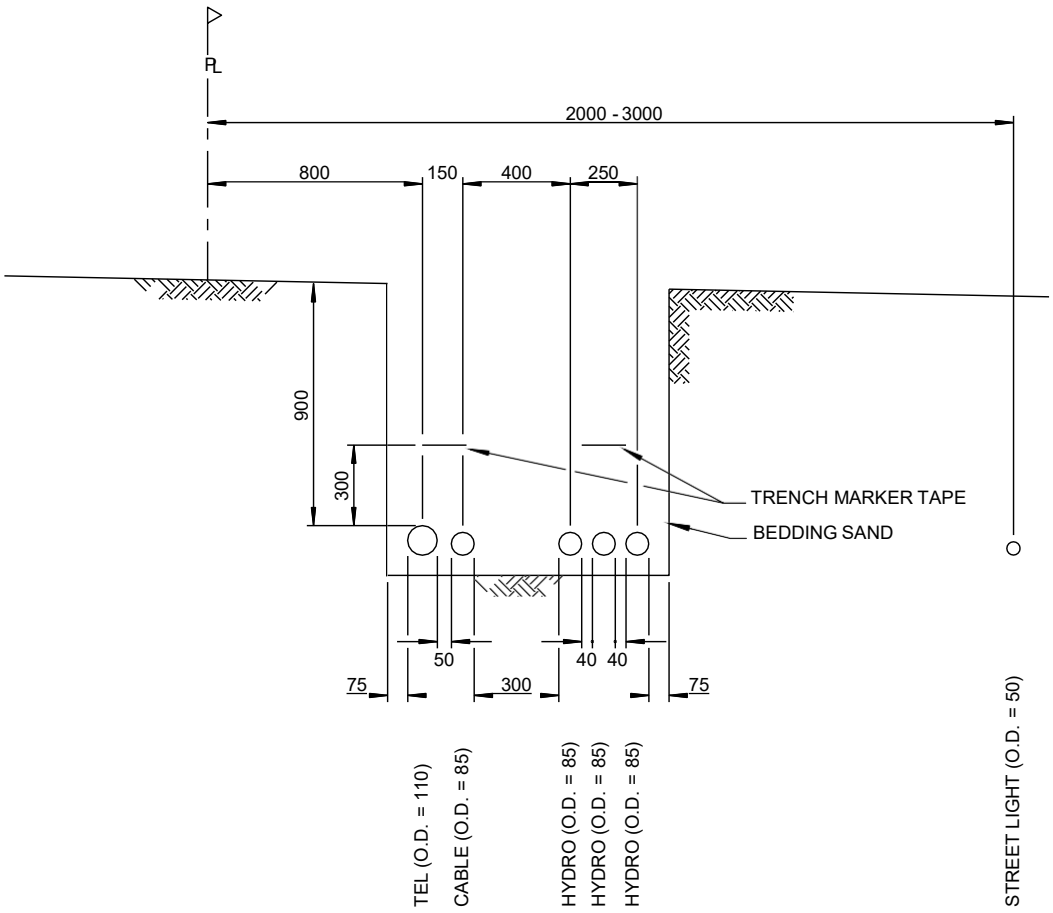
TYPE 2-PLAN VIEW

CITY OF NANAIMO
THE HARBOUR CITY

TRENCH DAMS - TYPE 2
OPTIONAL FOR STORM SEWER MAINS

Scale:	NTS
Created:	OCT 2012
Rev Date:	~~NOV 2016~~
Dwg No:	T-8A

Ed 15



NOTE:

1. DIMENSIONS ARE SUGGESTIONS ONLY, DETAILS ARE TO BE DETERMINED BY PRIVATE UTILITY.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
3. REFER TO UTILITY CONSTRUCTION DRAWINGS FOR DUCT SIZE AND OTHER CONSTRUCTION REQUIREMENTS.
4. ALL UTILITIES SHALL BE TRACEABLE ELECTRONICALLY.

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3.20.2020

CITY OF NANAIMO
THE HARBOUR CITY

PRIVATE UTILITIES
UNDERGROUND ELECTRICAL
COMMON TRENCH DETAIL

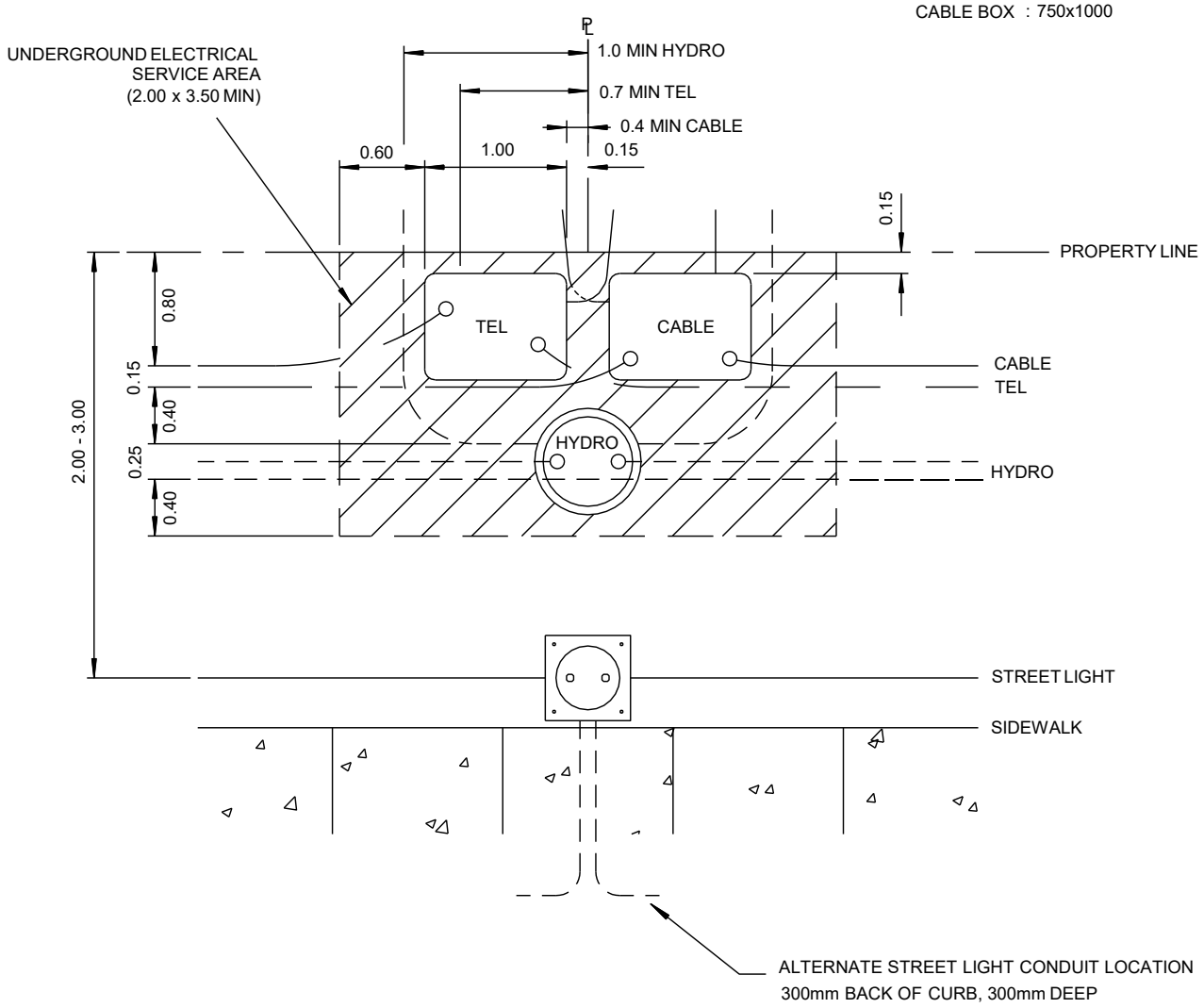
Scale:	NTS
Created:	MAY 2001
Rev Date:	MAY 2020
Dwg No:	T-9

APPROXIMATE DIMENSIONS (mm)

HYDRO BOX : 750Ø

TEL BOX : 750x1000

CABLE BOX : 750x1000



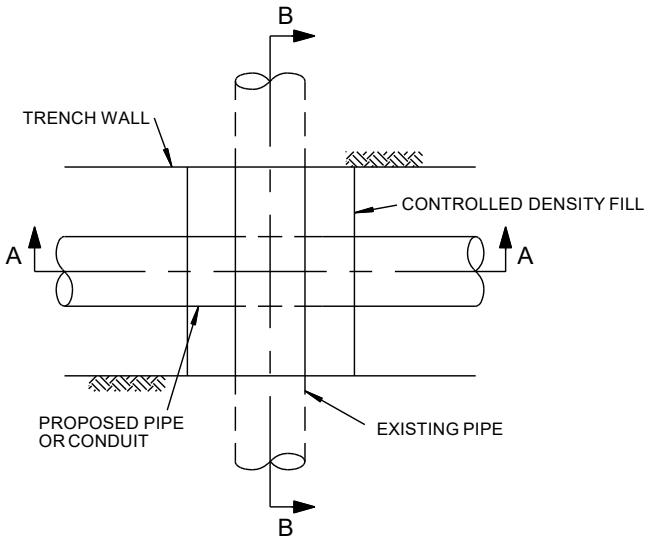
NOTES:

1. REFER TO SECTION 8 FOR STREET LIGHT AND SIDEWALK OFFSETS.
2. REFER TO SECTION 5.07.7 FOR HYDRANT OFFSETS. ~~FOR STREET LIGHT OFFSETS LESS THAN 3.00m, HYDRANTS AND STREET LIGHT POLES SHALL NOT BE LOCATED WITH UNDERGROUND ELECTRICAL SERVICES.~~
3. SERVICE BOXES SHALL HAVE MINIMUM SEPARATION OF 300mm.
4. REFER TO UTILITY CONSTRUCTION DRAWINGS FOR FURTHER DETAILS.
5. ALL UTILITIES SHALL BE TRACEABLE ELECTRONICALLY.
6. DIMENSIONS ARE SUGGESTIONS ONLY, DETAILS TO BE DETERMINED BY PRIVATE UTILITY.
7. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN.

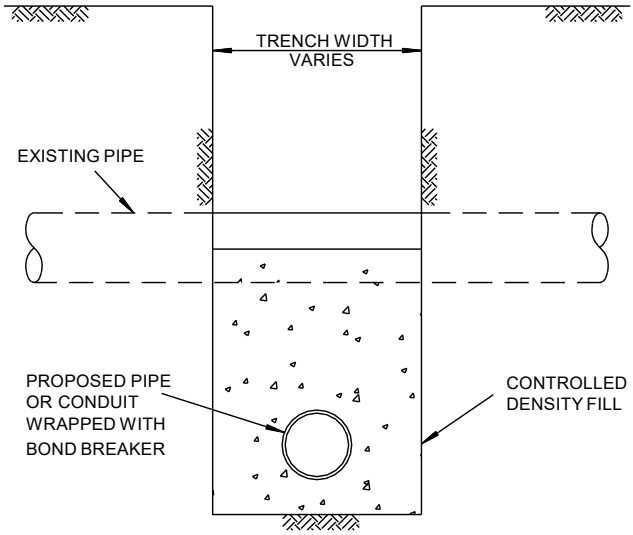
CITY OF NANAIMO
THE HARBOUR CITY

PRIVATE UTILITIES
UNDERGROUND ELECTRICAL
TYPICAL SERVICE BOX LOCATION

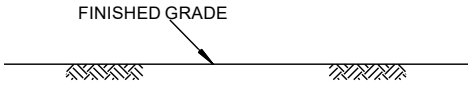
Scale:	NTS
Created:	OCT 2012
Rev Date:	~~MAY 2020~~
Dwg No:	T-10

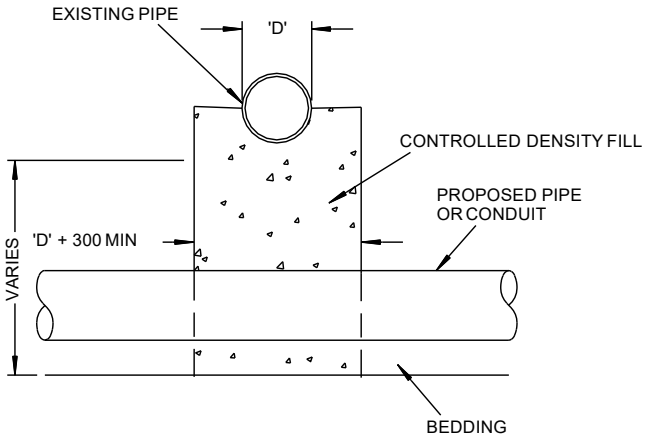


PLAN



SECTION B-B





SECTION A-A

NOTES:

1. 1. ALL DIMENSION IN MILLIMETERS UNLESS SHOWN OTHERWISE.
2. ONLY PRODUCTS LISTED IN THE CITY OF NANAIMO APPROVED PRODUCTS LIST WILL BE ACCEPTED FOR INSTALLATION.
3. CONTROLLED DENSITY FILL AS PER SECTION 4.24

Ed 15 Ed 15

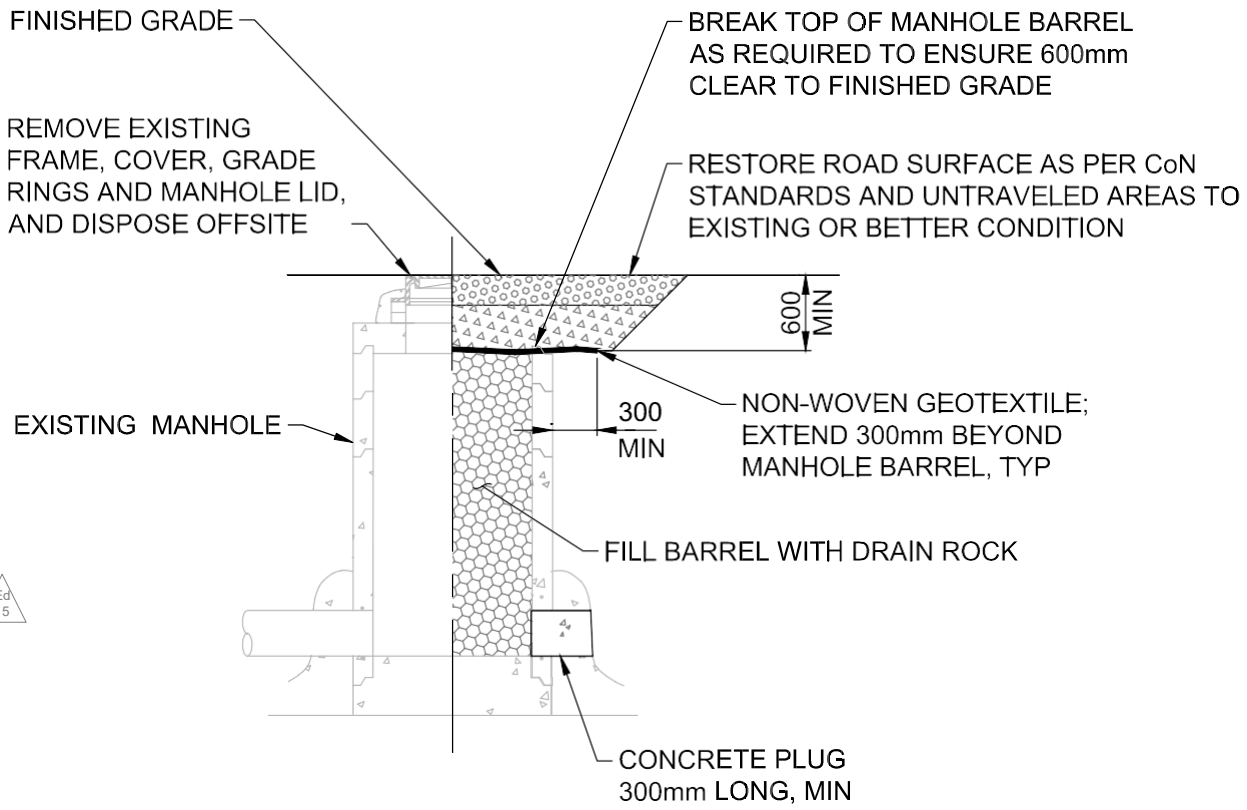
CITY OF NANAIMO
THE HARBOUR CITY

DETAIL OF SUPPORT FOR
EXISTING UTILITIES

Scale: NTS
Created: MAY 1998
Rev Date: ~~NOV 2016~~
Dwg No: T-11

Ed 15

3.6.2020



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ABANDON EXISTING MANHOLE DETAIL

1:50

Ed 15 NOTES:

1. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.
2. ONLY PRODUCTS LISTED IN THE CITY OF NANAIMO APPROVED PRODUCTS LIST WILL BE ACCEPTED FOR INSTALLATION.
3. CONCRETE AS PER SECTION 4.21 AND SECTION 11.31.
4. LANDSCAPING AS PER SECTION 14.0.
5. REFER TO STD. DWG. T-4 AND T-4A, SECTION 4.28 AND 4.29 FOR PAVEMENT RESTORATION DETAILS.
6. PAVED ROADWAY STRUCTURE AS PER SECTION 9.0 BASED ON STREET CLASSIFICATION.

CITY OF NANAIMO
THE HARBOUR CITY

ABANDON EXISTING MANHOLE DETAIL

Ed 15

Scale:	1:50
Drawn:	
Date:	~~2018-08-02~~
Dwg No:	T-12

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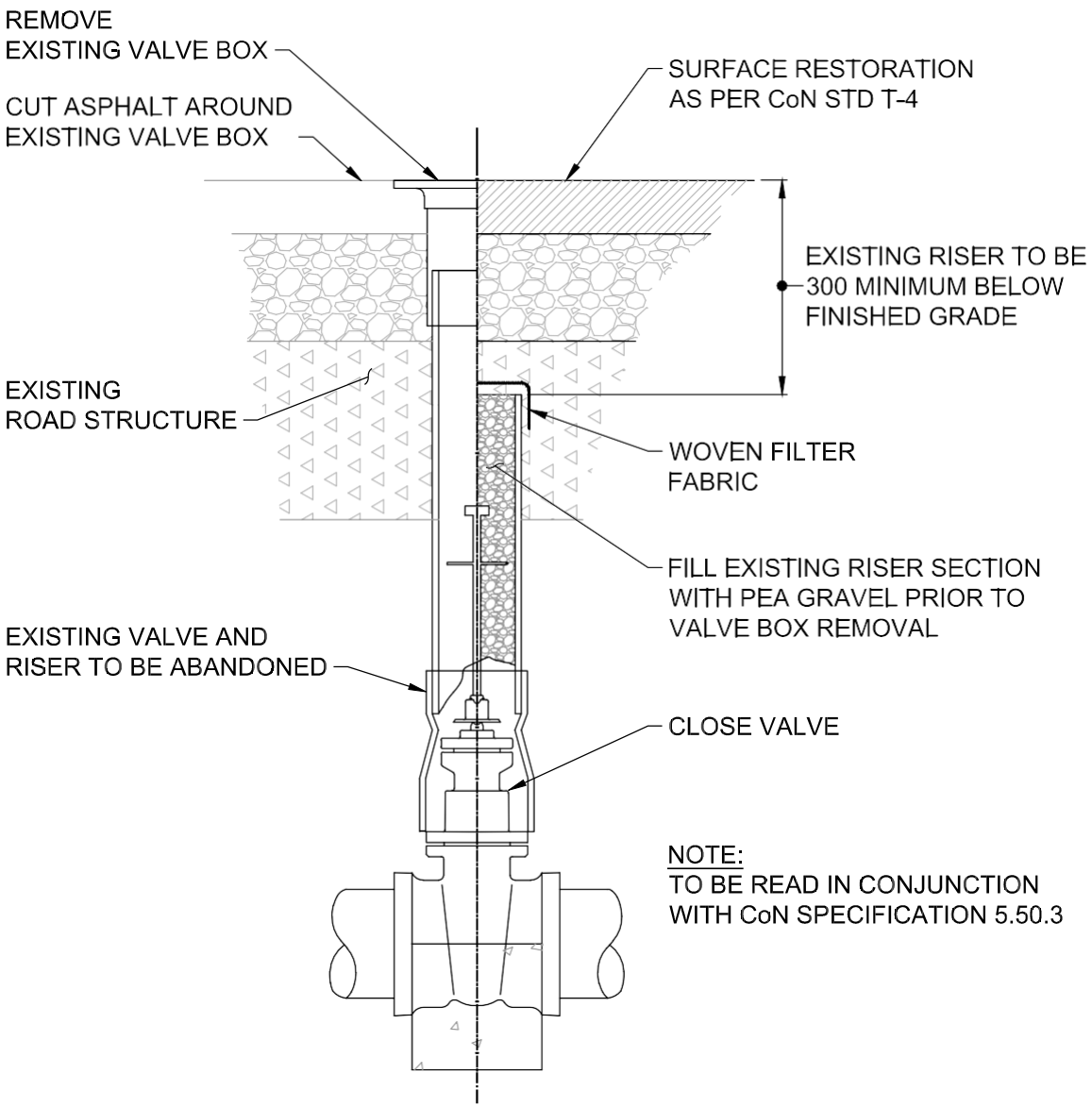

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ABANDON VALVE DETAIL

1:10

NOTES:

1. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.
2. ONLY PRODUCTS LISTED IN THE CITY OF NANAIMO APPROVED PRODUCTS LIST WILL BE ACCEPTED FOR INSTALLATION.
3. CONCRETE AS PER SECTION 4.21 AND SECTION 11.31.
4. LANDSCAPING AS PER SECTION 14.0.
5. REFER TO STD. DWG. T-4 AND T-4A, SECTION 4.28 AND 4.29 FOR PAVEMENT RESTORATION DETAILS.
6. PAVED ROADWAY STRUCTURE AS PER SECTION 9.0 BASED ON STREET CLASSIFICATION.

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G:\DESIGN\STANDARD DWGS - NON MOESS\ABANDONVALVE

1.14.2019

CITY OF NANAIMO
THE HARBOUR CITY

ABANDON VALVE DETAIL

Scale:	1:10
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Date:	~~2019-01-14~~
Dwg No:	T-13

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