TOWN OF READING

ROBERT LeLACHEUR, JR.
TOWN MANAGER

LOCUS

CONTRACT 15-23
WATER MAIN CAPITAL IMPROVEMENTS PHASE B
APRIL 13, 2015

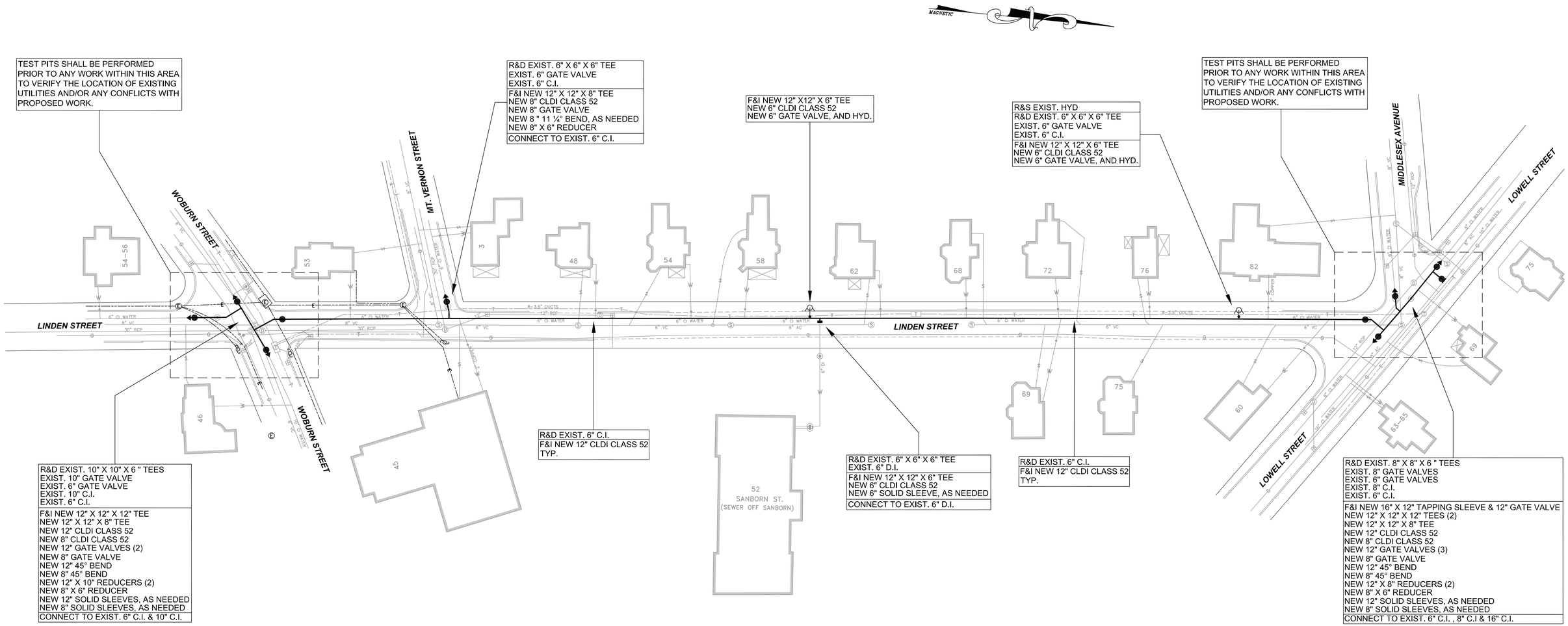
DEPARTMENT OF PUBLIC WORKS

JEFFREY T. ZAGER — **D.P.W. DIRECTOR**

GEORGE J. ZAMBOURAS — **TOWN ENGINEER**

LEGEND:

- EXISTING POLE
- EXISTING WATER CURB STOP
- EXISTING WATER GATE VALVE
- EXISTING HYDRANT / HYDRANT GATE
- EXISTING CATCH BASIN
- EXISTING SEWER MANHOLE
- EXISTING DRAIN MANHOLE
- PROPOSED NEW VALVE
- PROPOSED NEW REDUCER
- PROPOSED NEW HYDRANT
- VERTICAL GRANITE CURB
- EDGE OF PAVEMENT
- EXISTING WATER SERVICE
- EXISTING SEWER SERVICE
- 6" WATER — EXISTING WATER MAIN
- EXISTING SEWER
- EXISTING DRAINAGE
- EXISTING GAS
- PROPOSED WATER MAIN



GENERAL NOTES :

1. REPLACE ALL IRON WATER SERVICES WITH COPPER TO 1' BEYOND PROPERTY LINE. ALL SERVICES CONNECTED TO THE EXIST. 6" CI & 8" CI MAINS SHALL BE TRANSFERRED TO THE NEW 8" CLDI MAIN.
2. THE LOCATION OF ALL UTILITIES AND SUB-SURFACE STRUCTURES ARE FROM SURVEY AND RECORDS OF TOWN, CORPORATIONS, AND UTILITES, ECT. AND ARE INDICATED ON THESE DRAWINGS TO GIVE BIDDERS A GENERAL IDEA OF EXISTING CONDITIONS. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR SHALL RELY UPON THESE DRAWINGS FOR SUCH INFORMATION, BUT SHALL MAKE EXAMINATIONS IN THE FIELD BY VARIOUS AVAILABLE METHODS AND SHALL OBTAIN INFORMATION FROM UTILITY CORPORATIONS AND INDIVIDUALS AS TO THE LOCATION OF ALL SUB-SURFACE STRUCTURES. IT IS NOT WARRANTED THAT ALL PIPES AND UNDERGROUND STRUCTURES ARE SHOWN. BEFORE CONSTRUCTION, ALL UTILITIES, PUBLIC AND PRIVATE, MUST BE NOTIFIED. CALL DIGSAFE AT 1-888-DIG-SAFE. NOTIFY TOWN OF READING ENGINEERING DIVISION 3 DAYS PRIOR FOR DIGSAFE OF PUBLIC UTILITIES.
3. SILT SACKS SHALL BE INSTALLED IN CATCH BASINS WHERE POTENTIAL SILT RUNOFF MAY OCCUR, AND/OR AS DIRECTED BY THE ENGINEER, PRIOR TO ANY WORK.
4. TEST PITS SHALL BE PERFORMED PRIOR TO ANY WORK.
5. ALL CROSS TRENCHES ON SALEM STREET, INCLUDING THE INTERSECTIONS OF LINDEN STREET @ WOBURN STREET AND LINDEN ST. @ LOWELL ST. SHALL BE BACKFILLED WITH CONTROL DENSITY FILL (CDF) AS DIRECTED BY THE ENGINEER.

COMMONWEALTH OF MASSACHUSETTS
GEORGE J ZAMBOURAS CIVIL #36230
REGISTERED PROFESSIONAL ENGINEER

GEORGE J. ZAMBOURAS, P.E.
READING TOWN ENGINEER

LEGEND:

R&D = REMOVE AND DISPOSE
R&S = REMOVE AND SALVAGE
F&I = FURNISH AND INSTALL

WATERMAIN CAPITAL IMPROVEMENTS PHASE B

WATER MAIN REPLACEMENT

SCALE : 1" = 40'	APPROVED BY :	DRAWN BY :
DATE : 04/13/2015	GJZ	RP

TOWN OF READING
DEPARTMENT OF PUBLIC WORKS

LINDEN STREET

DRAWING NUMBER :
1 OF 4

R&D EXIST. 6" X 6" TS & G (2)
EXIST. 4" D.I.
F&I NEW 8" X 8" X 4" TEES (2)
NEW 4" GATE VALVE (2)
NEW 4" CLDI
NEW 4 " SOLID SLEEVE, AS NEEDED

R&S EXIST. HYD
R&D EXIST. 8" X 8" X 6" TEE
EXIST. 6" GATE VALVE
EXIST. 6" C.I.
F&I NEW 8" X 8" X 6" TEE
NEW 6" CLDI CLASS 52
NEW 6" GATE VALVE, AND HYD.

R&D EXIST. 8" C.I.
F&I NEW 8" CLDI CLASS 52
TYP.

R&S EXIST. HYD
R&D EXIST. 8" X 8" X 6" TEE
EXIST. 6" GATE VALVE
EXIST. 6" C.I.
F&I NEW 8" X 8" X 6" TEE
NEW 6" CLDI CLASS 52
NEW 6" GATE VALVE, AND HYD.

R&D EXIST. 8" X 8" X 6" TEE
EXIST. 6" GATE VALVE
EXIST. 8" C.I.
EXIST. 6" C.I.
F&I NEW 8" X 8" X 6" TEE
NEW 8" CLDI CLASS 52
NEW 8" GATE VALVES (2)
NEW 8" X 6" REDUCER
NEW 8" SOLID SLEEVE, AS NEEDED
CONNECT TO EXIST. 6" C.I.

F&I NEW 8" GATE VALVES (2)
NEW 8" 45° VERT. BENDS (4)
NEW 8" CLDI CLASS 52

INSTALL 3/4" COPPER FROM MAIN TO CURB STOP

INSTALL 3/4" COPPER FROM MAIN TO CURB STOP

INSTALL 3/4" COPPER FROM MAIN TO CURB STOP

INSTALL 3/4" COPPER FROM MAIN TO CURB STOP

TEST PITS SHALL BE PERFORMED PRIOR TO ANY WORK WITHIN THIS AREA TO VERIFY THE LOCATION OF EXISTING UTILITIES AND/OR ANY CONFLICTS WITH PROPOSED WORK.

F&I NEW 8" GATE VALVE
CONNECT TO EXIST. 8" C.I.

R&D EXIST. 8" X 8" X 6" TEE
EXIST. 8" GATE VALVE
EXIST. 6" GATE VALVE
EXIST. 8" C.I.
EXIST. 6" C.I.
F&I NEW 8" X 8" X 8" TEE
NEW 8" CLDI CLASS 52
NEW 8" GATE VALVES (3)
NEW 8" X 6" REDUCER
NEW 8" SOLID SLEEVE, AS NEEDED
CONNECT TO EXIST. 6" C.I.

R&D EXIST. 8" C.I.
F&I NEW 8" CLDI CLASS 52
TYP.

R&D EXIST. 8" X 8" X 6" TEE
EXIST. 6" GATE VALVES
EXIST. 8" C.I.
EXIST. 6" C.I.
F&I NEW 8" X 8" X 8" TEE
NEW 8" CLDI CLASS 52
NEW 8" GATE VALVES (2)
NEW 8" X 6" REDUCER
NEW 8" 22½° BEND, AS NEEDED
NEW 8" SOLID SLEEVE, AS NEEDED
CONNECT TO EXIST. 6" C.I.

R&D EXIST. 8" C.I.
F&I NEW 8" CLDI CLASS 52
TYP.

R&D EXIST. 8" X 8" X 6" TEE
EXIST. 8" GATE VALVE
EXIST. 6" GATE VALVE
EXIST. 8" C.I.
EXIST. 6" C.I.
F&I NEW 8" 45° BENDS (2)
NEW 8" CLDI CLASS 52
NEW 8" X 8" X 8" TEE
NEW 8" GATE VALVES (2)
NEW 8" X 6" REDUCER
NEW 8" CAP
NEW 8" SOLID SLEEVE, AS NEEDED
CONNECT TO EXIST. 6" C.I.

INSTALL 3/4" COPPER FROM NEW MAIN TO EXIST. 3/4" COPPER SERVICES FOR #140, #144 & #148

CONNECT SERVICES FOR #143 & 145 TO NEW MAIN

R&D EXIST. 8" X 8" X 6" TEE
EXIST. 8" X 8" X 4" TEE
EXIST. 8" GATE VALVE
EXIST. 6" GATE VALVE
EXIST. 8" C.I.
EXIST. 6" C.I.
EXIST. 4" C.I.
F&I NEW 8" X 8" X 8" TEE
NEW 8" CLDI CLASS 52
NEW 8" GATE VALVES (2)
NEW 8" X 4" REDUCER
NEW 8" SOLID SLEEVE, AS NEEDED
CONNECT TO EXIST. 4" C.I.

R&S EXIST. HYD
R&D EXIST. 8" X 8" X 6" TEE
EXIST. 6" GATE VALVE
EXIST. 6" C.I.
F&I NEW 8" X 8" X 6" TEE
NEW 6" CAP
NEW 6" CLDI CLASS 52
NEW 6" GATE VALVE, AND HYD.

R&D EXIST. 8" X 8" X 6" TEE
EXIST. 6" GATE VALVE
EXIST. 8" C.I.
EXIST. 6" C.I.
F&I NEW 8" X 8" X 8" TEE
NEW 8" CLDI CLASS 52
NEW 8" GATE VALVES (2)
NEW 8" X 6" REDUCER
NEW 8" SOLID SLEEVE, AS NEEDED
CONNECT TO EXIST. 6" C.I.

R&D EXIST. 8" X 8" X 6" TEE
EXIST. 6" GATE VALVE
EXIST. 8" C.I.
EXIST. 6" C.I.
F&I NEW 8" X 8" X 8" TEE
NEW 8" CLDI CLASS 52
NEW 8" GATE VALVES (2)
NEW 8" X 6" REDUCER
NEW 8" SOLID SLEEVE, AS NEEDED
CONNECT TO EXIST. 6" C.I.

R&D EXIST. 8" C.I.
F&I NEW 8" CLDI CLASS 52
TYP.

R&D EXIST. 8" X 8" X 6" TEE
EXIST. 6" GATE VALVE
EXIST. 8" C.I.
EXIST. 6" C.I.
F&I NEW 8" X 8" X 8" TEE
NEW 8" CLDI CLASS 52
NEW 8" GATE VALVES (2)
NEW 8" X 6" REDUCER
NEW 8" SOLID SLEEVE, AS NEEDED
CONNECT TO EXIST. 6" C.I.

GENERAL NOTES :

1. REPLACE ALL IRON WATER SERVICES WITH COPPER TO 1' BEYOND PROPERTY LINE. ALL SERVICES CONNECTED TO THE EXIST. 6" CI & 8" CI MAINS SHALL BE TRANSFERRED TO THE NEW 8" CLDI MAIN.
2. THE LOCATION OF ALL UTILITIES AND SUB-SURFACE STRUCTURES ARE FROM SURVEY AND RECORDS OF TOWN, CORPORATIONS, AND UTILITES, ECT. AND ARE INDICATED ON THESE DRAWINGS TO GIVE BIDDERS A GENERAL IDEA OF EXISTING CONDITIONS. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR SHALL RELY UPON THESE DRAWINGS FOR SUCH INFORMATION, BUT SHALL MAKE EXAMINATIONS IN THE FIELD BY VARIOUS AVAILABLE METHODS AND SHALL OBTAIN INFORMATION FROM UTILITY CORPORATIONS AND INDIVIDUALS AS TO THE LOCATION OF ALL SUB-SURFACE STRUCTURES. IT IS NOT WARRANTED THAT ALL PIPES AND UNDERGROUND STRUCTURES ARE SHOWN. BEFORE CONSTRUCTION, ALL UTILITIES, PUBLIC AND PRIVATE, MUST BE NOTIFIED. CALL DIGSAFE AT 1-888-DIG-SAFE. NOTIFY TOWN OF READING ENGINEERING DIVISION 3 DAYS PRIOR FOR DIGSAFE OF PUBLIC UTILITIES.
3. SILT SACKS SHALL BE INSTALLED IN CATCH BASINS WHERE POTENTIAL SILT RUNOFF MAY OCCUR, AND/OR AS DIRECTED BY THE ENGINEER, PRIOR TO ANY WORK.
4. TEST PITS SHALL BE PERFORMED PRIOR TO ANY WORK.
5. ALL CROSS TRENCHES ON SALEM STREET SHALL BE BACKFILLED WITH CONTROL DENSITY FILL (CDF) AS DIRECTED BY THE ENGINEER.

COMMONWEALTH OF MASSACHUSETTS
GEORGE J. ZAMBOURAS
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LEGEND:

R&D = REMOVE AND DISPOSE
R&S = REMOVE AND SALVAGE
F&I = FURNISH AND INSTALL

WATERMAIN CAPITAL IMPROVEMENTS PHASE B

WATER MAIN REPLACEMENT

SCALE : 1" = 40'	APPROVED BY :	DRAWN BY :
DATE : 04/02/2015	GJZ	RP

TOWN OF READING
DEPARTMENT OF PUBLIC WORKS

SALEM STREET	DRAWING NUMBER : 2 OF 4

R&D EXIST. 8" X 8" X 6" TEE
EXIST. 8" GATE VALVE
EXIST. 6" GATE VALVE
EXIST. 8" C.I.
EXIST. 6" C.I.

F&I NEW 8" 45° BENDS (2)
NEW 8" CLDI CLASS 52
NEW 8" X 8" X 8" TEE
NEW 8" GATE VALVES (2)
NEW 8" X 6" REDUCER
NEW 8" CAP
NEW 8" SOLID SLEEVE, AS NEEDED

CONNECT TO EXIST. 6" C.I.

R&D EXIST. 8" C.I.

F&I NEW 8" CLDI CLASS 52 TYP.

R&S EXIST. HYD

R&D EXIST. 8" X 8" X 6" TEE
EXIST. 6" GATE VALVE
EXIST. 8" C.I.
EXIST. 6" C.I.

F&I NEW 8" X 8" X 6" TEE
NEW 8" CLDI CLASS 52
NEW 6" CLDI CLASS 52
NEW 6" GATE VALVE, AND HYD.

CONNECT TO EXIST. 8" GATE

R&D EXIST. 6" X 6" X 6" TEE
EXIST. 6" GATE VALVES
EXIST. 8" X 6" REDUCER
EXIST. 6" C.I.

F&I NEW 8" X 8" X 8" TEE
NEW 8" CLDI CLASS 52
NEW 8" GATE VALVES (2)
NEW 8" X 6" REDUCER

CONNECT TO EXIST. 6" C.I.

R&D EXIST. 6" C.I.

F&I NEW 8" CLDI CLASS 52 TYP.

R&D EXIST. 6" x 6" T.S. & G
EXIST. 6" GATE VALVE
EXIST. 8" CLDI
EXIST. 6" C.I.

F&I NEW 8" X 8" X 8" TEE
NEW 8" CLDI CLASS 52
NEW 8" GATE VALVES (2)
NEW 8" SOLID SLEEVE, AS NEEDED

CONNECT TO EXIST. 8" CLDI

R&D EXIST. 6" C.I.

F&I NEW 8" CLDI CLASS 52 TYP.

F&I NEW 8" X8" X 6" TEE
NEW 6" CLDI CLASS 52
NEW 6" GATE VALVE, AND HYD.

F&I NEW 8" GATE VALVES (2)

INSTALL 3/4" COPPER FROM MAIN TO CURB STOP

INSTALL 3/4" COPPER FROM MAIN TO CURB STOP

INSTALL 3/4" COPPER FROM MAIN TO CURB STOP

STALL 3/4" COPPER
:OM NEW MAIN TO
:IST. 3/4" COPPER
:RVICES FOR #140,
44 & #148

SERVICES
& 145 TO

BELMONT STREET

MANNING STREET

AZALEA CIRCLE

WINTER STREET

JOHANNA DRIVE

JOHANNA DRIVE
WATER MAIN IS NOT
LOOPED AND IS A
HYDRAULIC DEAD END.
BYPASS NEEDED.

TEST PITS SHALL BE PERFORMED PRIOR TO ANY WORK WITHIN THIS AREA TO VERIFY THE LOCATION OF EXISTING UTILITIES AND/OR ANY CONFLICTS WITH PROPOSED WORK.

R&D EXIST. 6" X 6" X 6 " TEE
EXIST. 6" x 6" T.S. & G
EXIST. 6" GATE VALVE
EXIST. 8" X 6" REDUCER
EXIST. 6" C.I.

F&I NEW 8" X 8" X 8" TEE
NEW 8" X 8" X 6" TEE
NEW 8" CLDI CLASS 52
NEW 6" CLDI CLASS 52
NEW 8" GATE VALVE
NEW 8" & 6" SOLID SLEEVES, AS NEEDED

CONNECT TO EXIST. 8" GATE & 6"CLDI

R&D EXIST. 6" X 6" X 6 " TEE
EXIST. 6" x 6" T.S. & G
EXIST. 6" GATE VALVE
EXIST. 8" X 6" REDUCER
EXIST. 6" C.I.
EXIST. 6" CLDI

F&I NEW 8" X 8" X 8" TEE
NEW 8" X 8" X 6" TEE
NEW 8" CLDI CLASS 52
NEW 6" CLDI CLASS 52
NEW 8" GATE VALVES (2)
NEW 8" X 6" REDUCER
NEW 8" & 6" SOLID SLEEVES, AS NEEDED

CONNECT TO EXIST. 6" C.I. & 6"CLDI

CANTERBURY DRIVE
WATER MAIN IS NOT
LOOPED AND IS A
HYDRAULIC DEAD END.
BYPASS NEEDED.

R&D EXIST. 6" X 6" X 6 " TEE
EXIST. 6" x 6" T.S. & G
EXIST. 6" GATE VALVE
EXIST. 8" X 6" REDUCER
EXIST. 8" C.I.
EXIST. 6" C.I.

F&I NEW 8" X 8" X 8" TEES (2)
NEW 8" CLDI CLASS 52
NEW 8" GATE VALVES (3)
NEW 8" SOLID SLEEVES, AS NEEDED

CONNECT TO EXIST. 8" C.I.

R&S EXIST. HYD

R&D EXIST. 6" X 6" X 6" TEE
EXIST. 6" GATE VALVE
EXIST. 6" C.I.

F&I NEW 8" X 8" X 6" TEE
NEW 6" CLDI CLASS 52
NEW 6" CAPS (2)
NEW 6" GATE VALVE, AND HYD.

DISCONNECT 3/4" COPPER FROM 6" MAIN, CONNECT TO EXIST 12" CLDI MAIN

R&D EXIST. 12" X 6" REDUCER
EXIST. 6" C.I.

F&I NEW 12" CAP
NEW 6" CAP

BAY STATE ROAD

R&D EXIST. 6" C.I.
F&I NEW 8" CLDI CLASS 52 TYP.

R&D EXIST. 6" C.I.

F&I NEW 8" CLDI CLASS 52 TYP.

R&D EXIST. 6" C.I.

F&I NEW 8" CLDI CLASS 52 TYP.

R&D EXIST. 12" X 6" REDUCER
EXIST. 6" D.I.

F&I NEW 12" CLDI CLASS 52
NEW 12" GATE VALVE
NEW 12" X 8" REDUCER

CONNECT TO EXIST. 12" CLDI

R&D EXIST. 6" X 6" X 8" TEE
EXIST. 8" GATE VALVE
EXIST. 8" C.I.

F&I NEW 8" X 8" X 8" TEE
NEW 8" GATE VALVE
NEW 8" CLDI
NEW 8 " SOLID SLEEVE, AS NEEDED

CONNECT TO EXIST. 8" C.I.

GENERAL NOTES :

1. REPLACE ALL IRON WATER SERVICES WITH COPPER TO 1' BEYOND PROPERTY LINE. ALL SERVICES CONNECTED TO THE EXIST. 6" CI & 8" CI MAINS SHALL BE TRANSFERRED TO THE NEW 8" CLDI MAIN.
2. THE LOCATION OF ALL UTILITIES AND SUB-SURFACE STRUCTURES ARE FROM SURVEY AND RECORDS OF TOWN, CORPORATIONS, AND UTILITES, ECT. AND ARE INDICATED ON THESE DRAWINGS TO GIVE BIDDERS A GENERAL IDEA OF EXISTING CONDITIONS. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR SHALL RELY UPON THESE DRAWINGS FOR SUCH INFORMATION, BUT SHALL MAKE EXAMINATIONS IN THE FIELD BY VARIOUS AVAILABLE METHODS AND SHALL OBTAIN INFORMATION FROM UTILITY CORPORATIONS AND INDIVIDUALS AS TO THE LOCATION OF ALL SUB-SURFACE STRUCTURES. IT IS NOT WARRANTED THAT ALL PIPES AND UNDERGROUND STRUCTURES ARE SHOWN. BEFORE CONSTRUCTION, ALL UTILITIES, PUBLIC AND PRIVATE, MUST BE NOTIFIED. CALL DIGSAFE AT 1-888-DIG-SAFE. NOTIFY TOWN OF READING ENGINEERING DIVISION 3 DAYS PRIOR FOR DIGSAFE OF PUBLIC UTILITIES.
3. SILT SACKS SHALL BE INSTALLED IN CATCH BASINS WHERE POTENTIAL SILT RUNOFF MAY OCCUR, AND/OR AS DIRECTED BY THE ENGINEER, PRIOR TO ANY WORK.
4. TEST PITS SHALL BE PERFORMED PRIOR TO ANY WORK.
5. ALL CROSS TRENCHES ON SALEM STREET SHALL BE BACKFILLED WITH CONTROL DENSITY FILL (CDF) AS DIRECTED BY THE ENGINEER.

LEGEND:

R&D = REMOVE AND DISPOSE
R&S = REMOVE AND SALVAGE
F&I = FURNISH AND INSTALL

COMMONWEALTH OF MASSACHUSETTS
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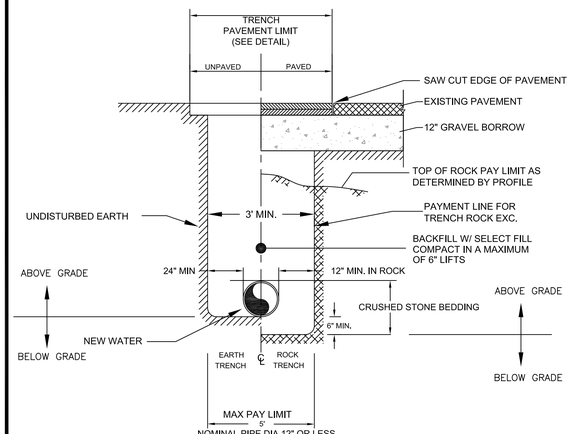
WATERMAIN CAPITAL IMPROVEMENTS PHASE B

WATER MAIN REPLACEMENT

SCALE : 1" = 40'	APPROVED BY :	DRAWN BY :
DATE : 04/02/2015	GJZ	RP

TOWN OF READING
DEPARTMENT OF PUBLIC WORKS

SALEM STREET	DRAWING NUMBER : 3 OF 4



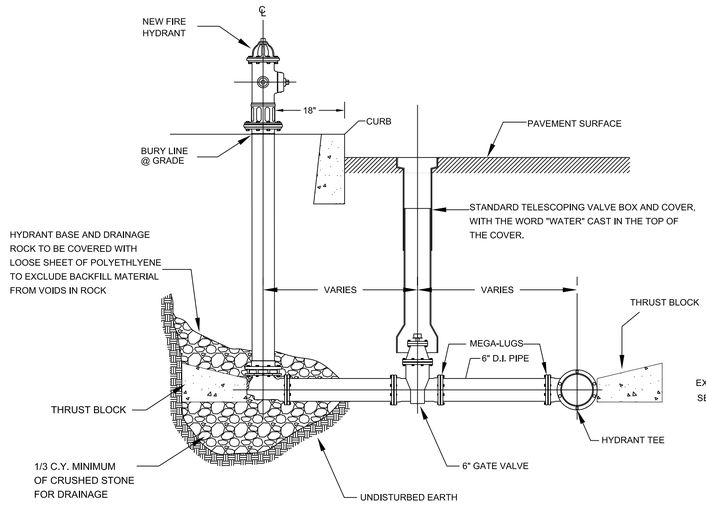
NOTE: WHERE NOMINAL PIPE DIAMETER IS GREATER THAN 12" THE FOLLOWING WILL APPLY:

1.) ROCK EXCAVATION MAXIMUM PAY LIMITS

0-12 FEET DEPTH	ROCK=NOMINAL PIPE DIA + 24"
12-20 FEET DEPTH	ROCK=NOMINAL PIPE DIA + 48"

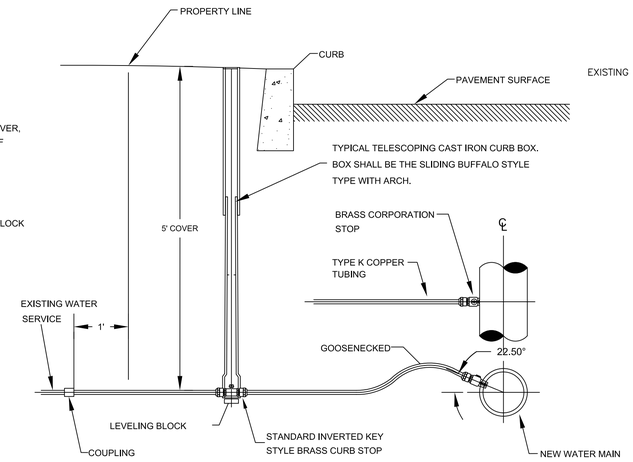
TYPICAL TRENCH DETAIL SECTION VIEW 0–12 FEET

NOT TO SCALE



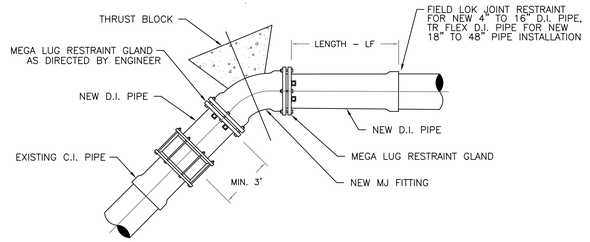
TYPICAL NEW HYDRANT INSTALLATION DETAIL

NOT TO SCALE



TYPICAL NEW SERVICE CONNECTION DETAIL

NOT TO SCALE



RESTRAINT AT FITTINGS

MINIMUM SURFACE AREA OF CONCRETE THRUST BLOCK AGAINST UNDISTURBED EARTH – IN S.F. (SQUARE FEET)

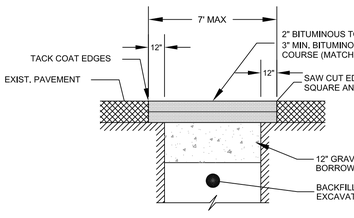
MINIMUM RESTRAINED LENGTH OF PIPE ON EITHER SIDE OF FITTING – IN L.F. (LINEAR FEET)

PIPE SIZE	PLUG SF	PLUG LF	TEE SF	TEE LF	1/4 BEND SF	1/4 BEND LF	1/8 BEND SF	1/8 BEND LF	1/16 BEND SF	1/16 BEND LF	1/32 BEND SF	1/32 BEND LF
4"	1.0	22	1.0	–	1.5	13	1.0	5	1.0	3	1.0	1
6"	2.5	31	2.5	2	3.0	18	2.0	7	1.0	4	1.0	2
8"	4.0	41	4.0	11	5.5	24	3.0	10	1.5	5	1.0	2
10"	6.0	49	6.0	20	8.5	29	5.0	12	2.5	6	1.5	3
12"	9.0	59	9.0	29	12.5	34	7.0	14	3.5	7	2.0	3
16"	15.5	76	15.5	46	22.0	44	12.0	18	6.0	9	3.0	4
18"	19.5	94	19.5	63	24.5	53	15.0	25	8.0	11	4.0	5
20"	24.0	100	24.0	69	26.0	57	19.0	27	10.0	11	5.0	5
24"	32.0	111	32.0	80	28.5	63	26.5	30	13.5	12	7.0	6
36"	50.0	161	50.0	129	76.0	89	41.0	37	21.0	18	11.0	9

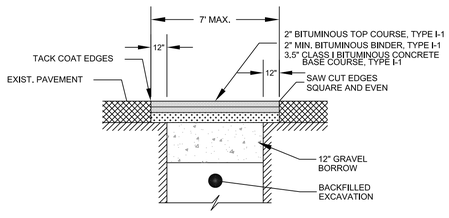
NOTES:
1. ALL CONCRETE TO BE CLASS B (AE)
2. IF SOIL CONDITIONS OR EXCAVATION LIMITS ENCOUNTERED DURING CONSTRUCTION MAKE IT UNFEASABLE TO PLACE THRUST BLOCKS AGAINST UNDISTURBED EARTH OF THE PROPER BEARING CAPACITY, THE CONTRACTOR SHALL DESIGN AND PLACE SPECIAL REACTION BLOCKS OF SUFFICIENT WEIGHT TO RESIST FULL THRUST UNDER ALL CONDITIONS. THE DESIGN SHALL BE SUBJECT TO PWSB APPROVAL.
3. MINIMUM SURFACE AREAS SHALL BE INCREASED BY 50% IF DEEMED NECESSARY BY THE ENGINEER.
4. A MECHANICAL JOINT RESTRAINT SYSTEM MUST BE USED FOR VERTICAL BENDS.
5. AT THE DECRETION OF THE ENGINEER, A JOINT RESTRAINT SYSTEM MAY BE SUBSTITUTED FOR OR USED IN COMBINATION WITH PROPER THRUST BLOCKING.
6. A 48 HR. CURING PERIOD MUST BE GIVEN BEFORE FULL LINE PRESSURE CAN BE APPLIED TO

TYPICAL HORIZONTAL THRUST BLOCK AND JOINT RESTRAINT

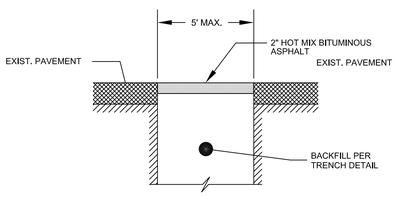
NOT TO SCALE



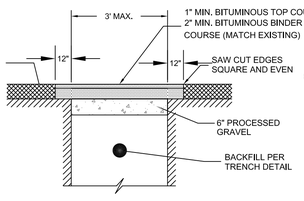
PERMANENT PAVEMENT
(SIDE STREETS)



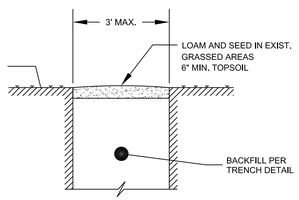
PERMANENT PAVEMENT
(SALEM ST, RT 129, LOWELL STREET RT 129 & WOBURN STREET)



TEMPORARY PAVEMENT



PERMANENT PAVEMENT
(BIT. DRIVEWAYS AND SIDWALKS)



OFF ROAD RESTORATION

NOTE: WHERE NOMINAL PIPE DIAMETER IS GREATER THAN 12" THE FOLLOWING WILL APPLY:

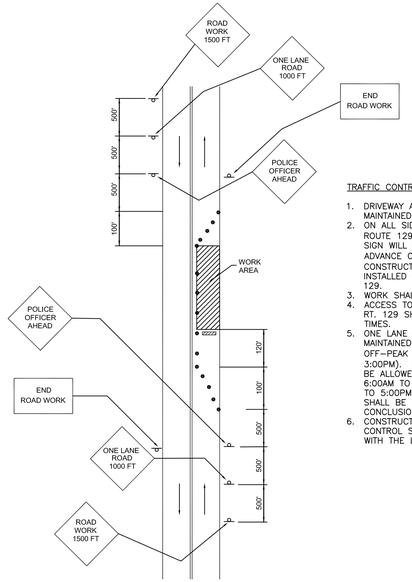
1.) PAVEMENT AND NON-PAVEMENT RESTORATION MAXIMUM PAY LIMITS

0-8 FEET DEPTH	PAVING= 7' MAXIMUM
8-12 FEET DEPTH	PAVING=NOMINAL PIPE DIA + 60"

2.) TEMPORARY PAVEMENT SHALL REMAIN IN PLACE FOR A PERIOD OF NINETY (90) DAYS, OR AS DIRECTED, AT WHICH TIME THE TEMP. PAVEMENT WILL BE REMOVED AND REPLACED WITH A PERMANENT PATCH

TYPICAL PAVEMENT AND NON–PAVEMENT RESTORATION DETAIL

NOT TO SCALE

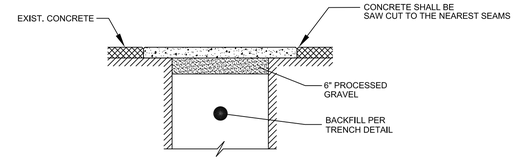


TRAFFIC CONTROL GENERAL NOTES

1. DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES.
2. ON ALL SIDE STREETS INTERSECTING ROUTE 129 ONE "ROAD WORK AHEAD" SIGN WILL BE PLACED 500 FEET IN ADVANCE OF RT. 129 AND ONE "END CONSTRUCTION" SIGN WILL BE INSTALLED 500 FEET AWAY FROM RT. 129.
3. WORK SHALL NOT EXCEED 1200 FEET.
4. ACCESS TO SIDE STREETS INTERSECTING RT. 129 SHALL BE MAINTAINED AT ALL TIMES.
5. ONE LANE OF TRAFFIC SHALL BE MAINTAINED ON RT. 129 DURING OFF–PEAK VOLUME HOURS (9:00AM – 3:00PM). LANE CLOSURES WILL NOT BE ALLOWED ON WEEKDAYS FROM 6:00AM TO 9:00AM AND FROM 3:00PM TO 5:00PM. TWO LANES OF TRAFFIC SHALL BE OPEN TO TRAFFIC AND THE CONCLUSION OF EACH WORK DAY.
6. CONSTRUCTION SIGNING AND TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LASTEST EDITION OF MUTCD.

ONE LANE ONLY TRAFFIC CONTROL

NOT TO SCALE



NOTES:
1. SIDEWALKS SHALL BE 4" THICK @ 4,000 PSI
2. DRIVEWAYS SHALL BE 6" THICK @ 4,000 PSI WITH REINFORCEMENT

TYPICAL CONCRETE SIDEWALK/DRIVEWAY RESTORATION DETAIL

NOT TO SCALE

GEORGE J. ZAMBOURAS, P.E.
READING TOWN ENGINEER

WATERMAIN CAPITAL IMPROVEMENTS PHASE B

WATER MAIN REPLACEMENT

SCALE: N.T.S	APPROVED BY :	DRAWN BY :
DATE : 04/13/2015	GJZ	RP

TOWN OF READING
DEPARTMENT OF PUBLIC WORKS

DETAILS

DRAWING NUMBER :
4 OF 4