

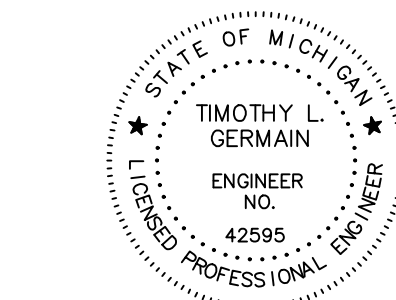


ENGINEERS

CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257
WWW.NOWAKFRAUS.COM

SEAL



PROJECT
City of Madison Heights

CLIENT
City of Madison Heights
300 W. 13 Mile Road
Madison Heights,
MI 48071

PROJECT LOCATION
City of Madison Heights,
Oakland County, MI

SHEET
Water Main Standard
Details - Connection
Details



Know what's below
Call before you dig.

DATE ISSUED/REVISED

DRAWN BY:
J. Lawrey

DESIGNED BY:
B. Brickel

APPROVED BY:
T. Germain

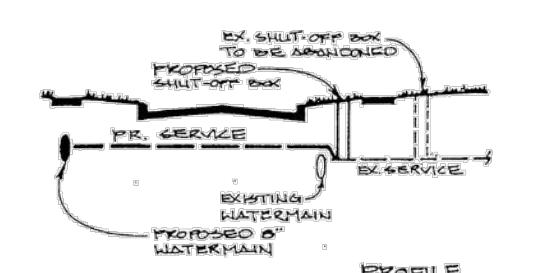
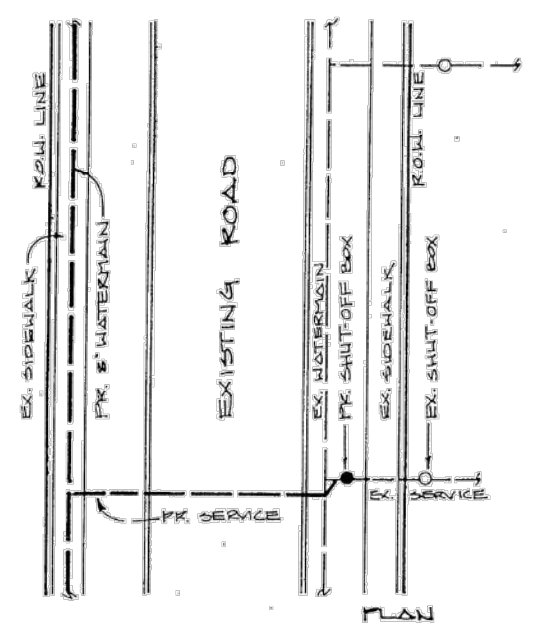
DATE:
December 9, 2019

SCALE: N.T.S.

NFE JOB NO.
L418

SHEET NO.
D2

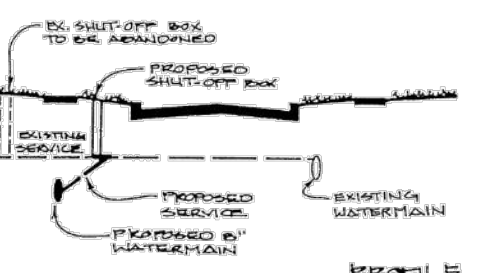
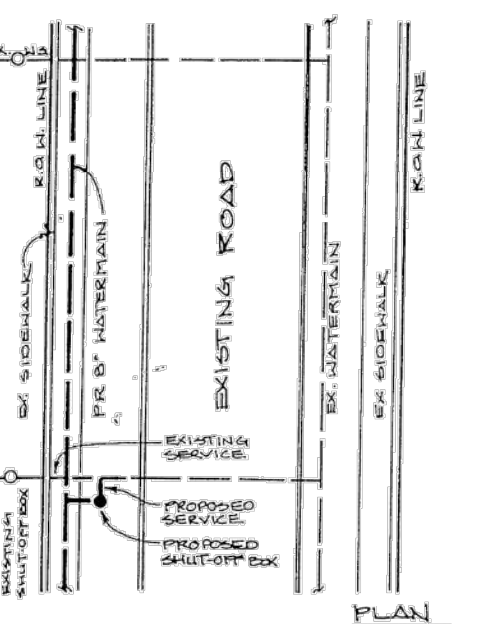
WATER SERVICE CONNECTION TYPE
TO BE DETERMINED BY FIELD ENG.
BASED ON EXISTING CONDITIONS.



LONG SERVICE - DETAIL 'A'

• TO BE UTILIZED WHEN EXISTING SHUT-OFF BOX IS LOCATED OUTSIDE OF ROAD R.O.W.
• NEW VALVE BOX REQS. AS DIRECTED BY ENG.

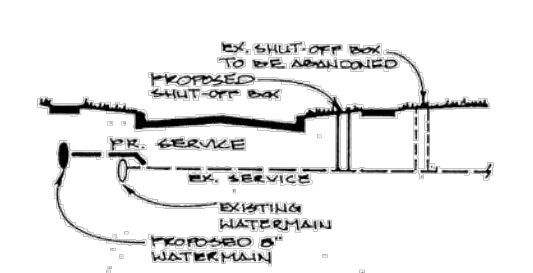
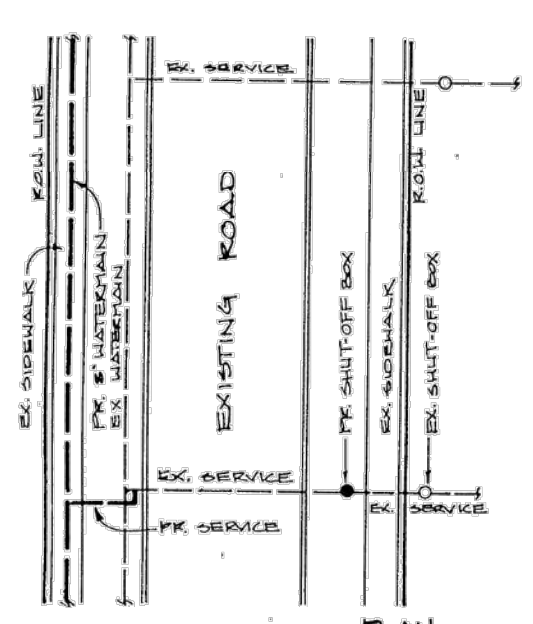
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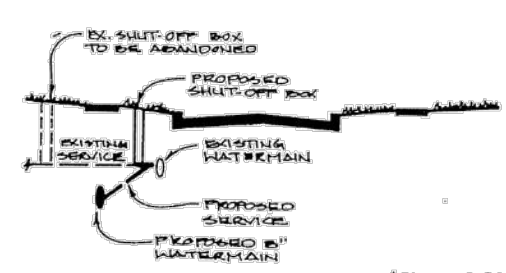
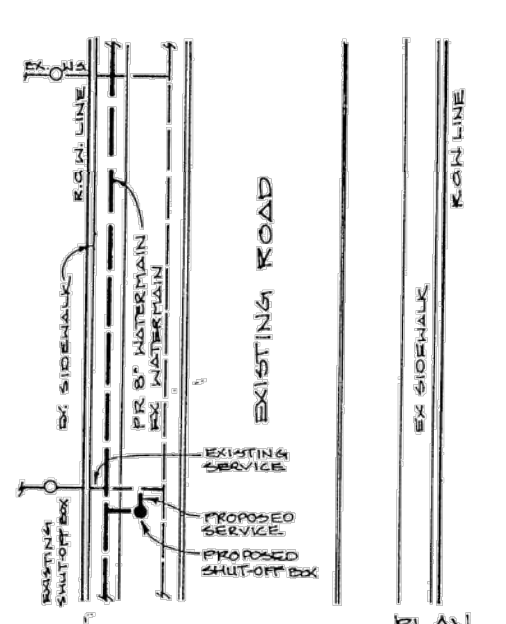
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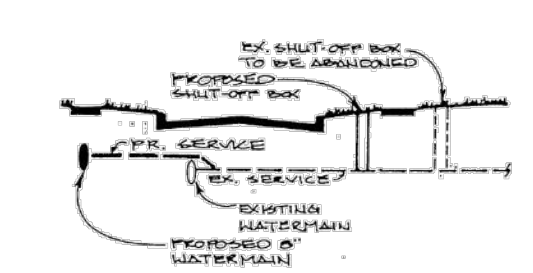
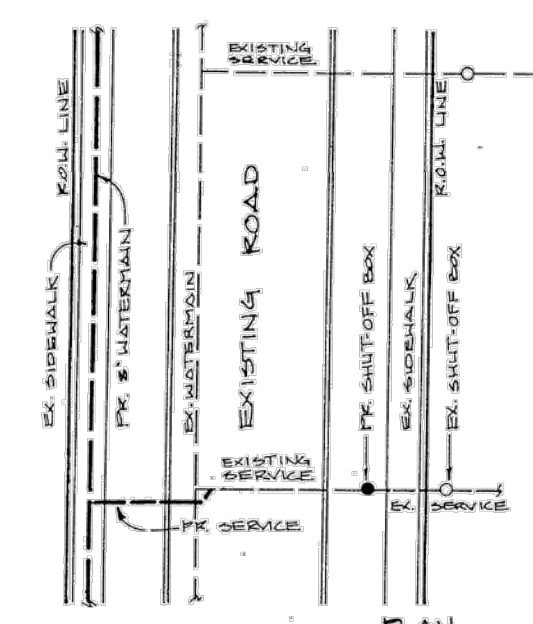
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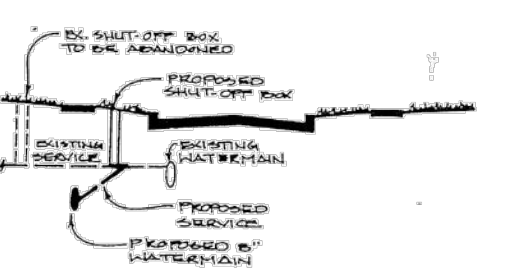
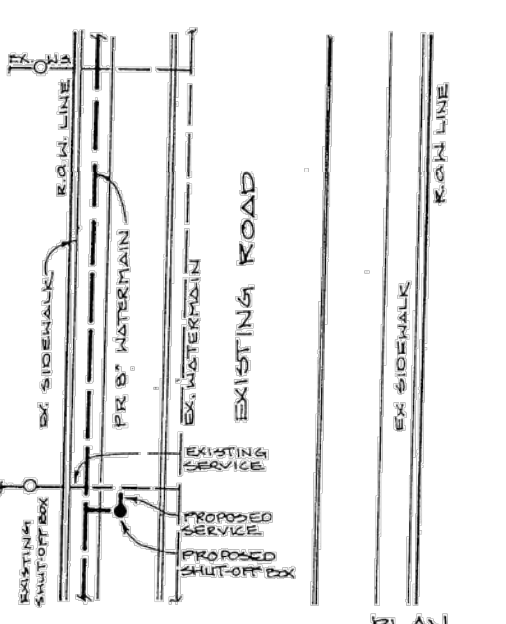
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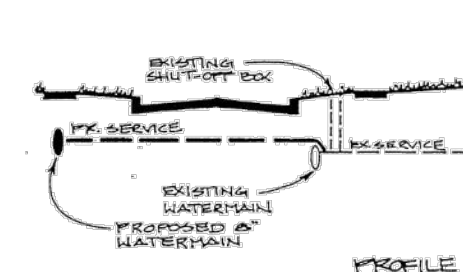
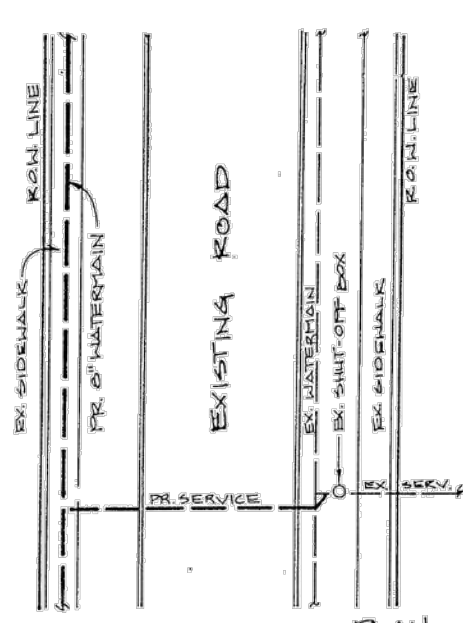
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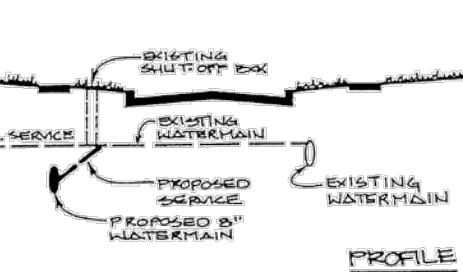
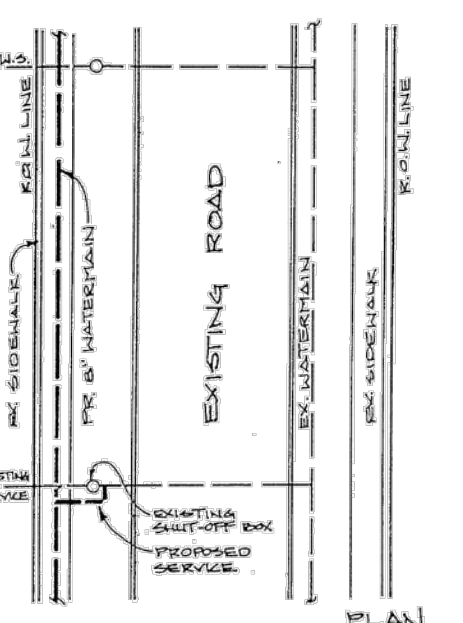
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LONG SERVICE - DETAIL 'B'

• TO BE UTILIZED WHEN EX. SHUT-OFF BOX IS LOCATED BETWEEN BACK OF CURB AND WALK.

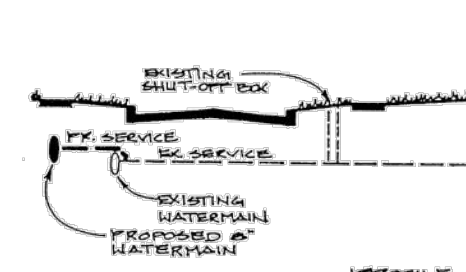
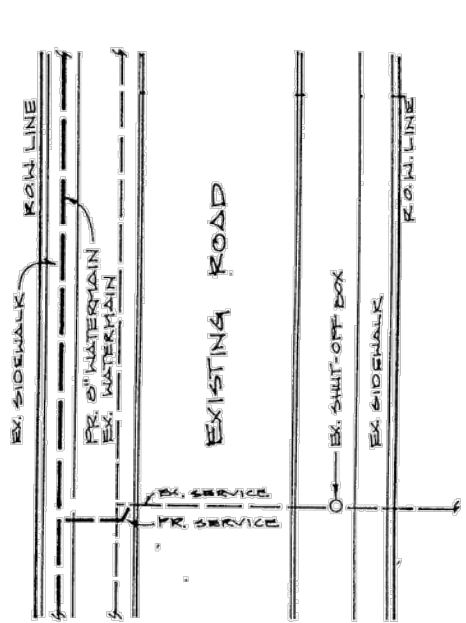
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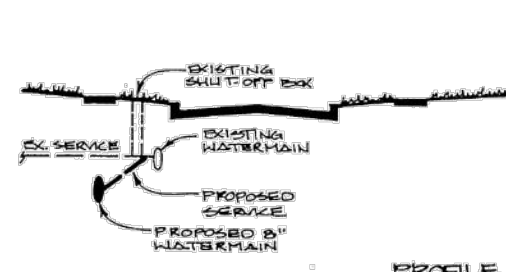
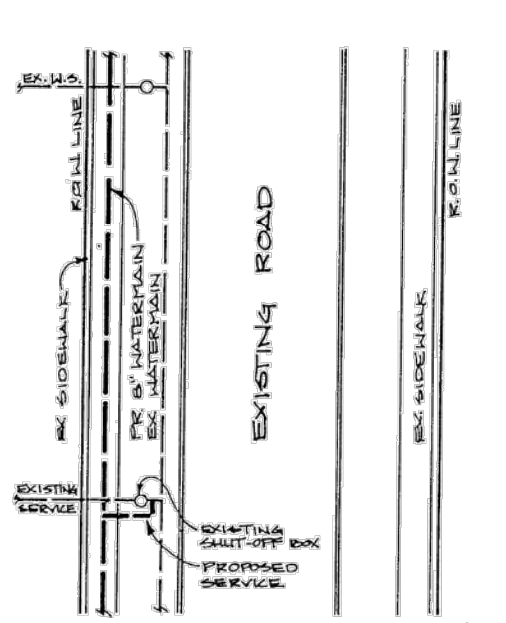
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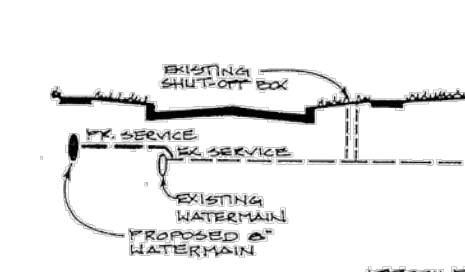
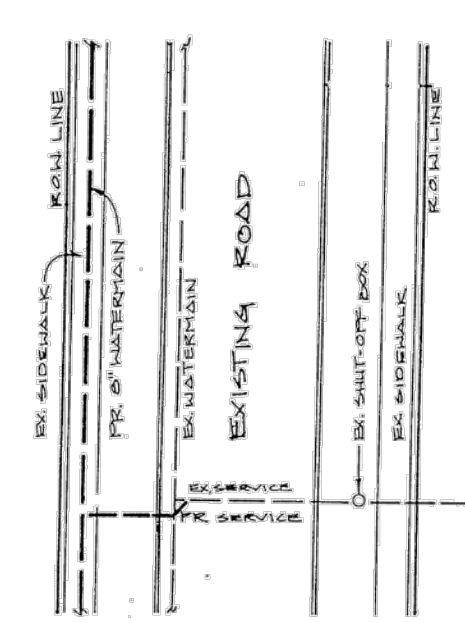
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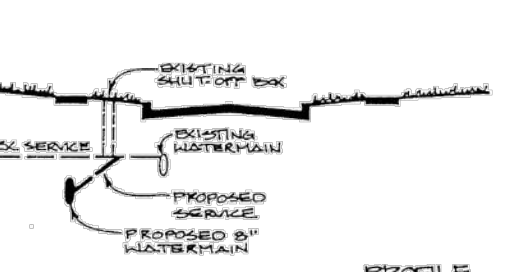
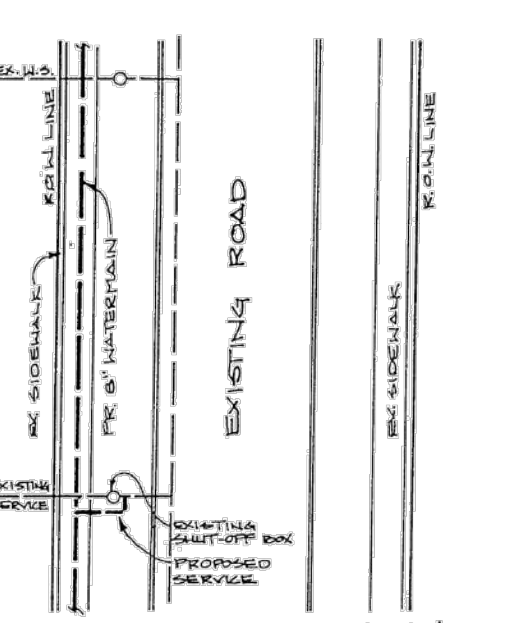
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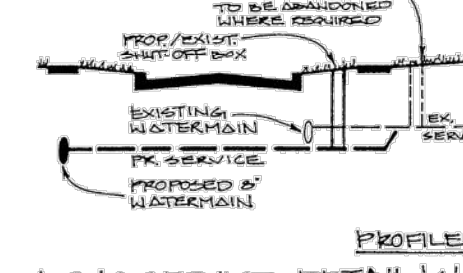
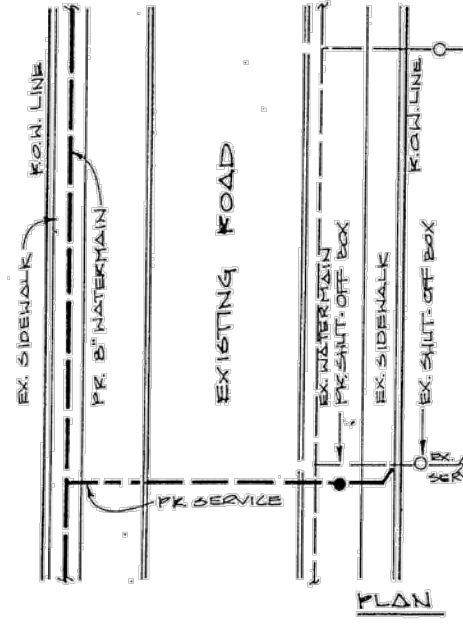
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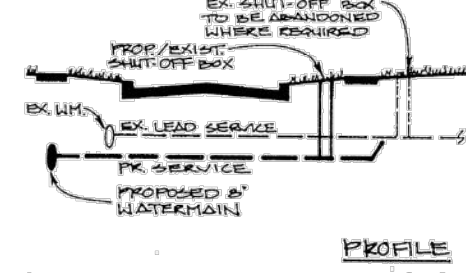
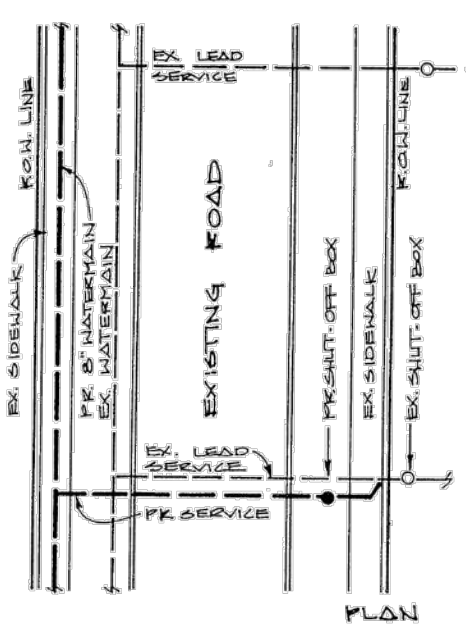


LONG SERVICE - DETAIL 'C'

• LIMITS OF REPLACEMENT EX. LEAD SERVICES (N.T.S.)
• REPLACE EX. LEAD SERVICE WITH NEW VALVE BOX DEPENDING ON LOCATION, DETERMINED BY ENG.

WATER SERV. CONNECTIONS - GROUP I
FOR USE WHEN BOTH PROP. AND EXIST. WATERMAIN ARE OUTSIDE OF ROADWAY AND ARE IN OPPOSITE SIDES OF THE R.O.W.

WATER SERVICE CONNECTION TYPE
TO BE DETERMINED BY FIELD ENG.
BASED ON EXISTING CONDITIONS.

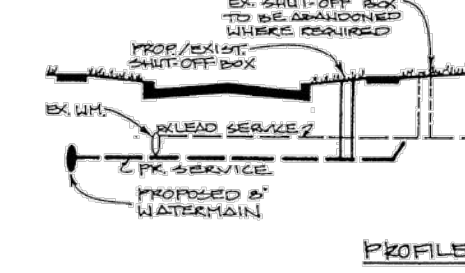
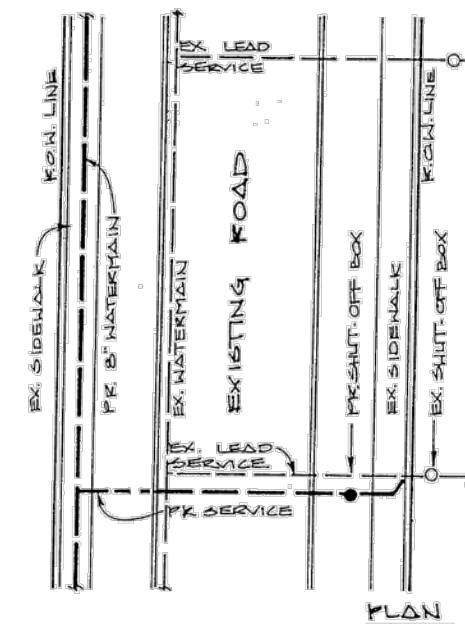


LONG SERVICE - DETAIL 'C'

• LIMITS OF REPLACEMENT EX. LEAD SERVICES (N.T.S.)
• REPLACE EX. LEAD SERVICE WITH NEW VALVE BOX DEPENDING ON LOCATION, DETERMINED BY ENG.

WATER SERV. CONNECTIONS - GROUP II
FOR USE WHEN PROP. AND EXIST. WATERMAIN ARE BOTH OUTSIDE ROADWAY AND ARE IN THE SAME SIDE OF THE R.O.W.

WATER SERVICE CONNECTION TYPE
TO BE DETERMINED BY FIELD ENG.
BASED ON EXISTING CONDITIONS.



LONG SERVICE - DETAIL 'C'

• LIMITS OF REPLACEMENT EX. LEAD SERVICES (N.T.S.)
• REPLACE EX. LEAD SERVICE WITH NEW VALVE BOX DEPENDING ON LOCATION, DETERMINED BY ENG.

WATER SERV. CONNECTIONS - GROUP III
FOR USE WHEN PROP. WATERMAIN IS OUTSIDE ROADWAY AND EXIST. WATERMAIN IS UNDER ROADWAY AND BOTH ARE IN THE SAME SIDE OF THE R.O.W.