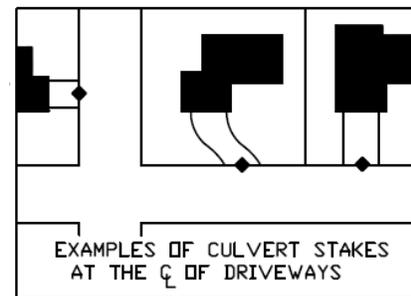


# CULVERT INSTALLATION PERMIT PROCEDURE

Driveway culvert installation within the City Right-of-Way requires a permit and is subject to approval and inspection by the City. Apply for a culvert permit with the Department of Community Development, located on the second floor of City Hall, 3805 S. Casper Drive. **Make sure to fill out the form completely and note any special instructions.** Applicable permit fees shall be paid at the Cashier's Office on the first floor.

## NEW CULVERT

The resident or contractor must indicate where the center of the culvert is to be located by placing a stake in the center of the ditch line. The center stake must be located before the City can provide sizes and stakes. Keep in mind when placing your center stake, the City requires culverts to be a **minimum of five feet** away from side lot lines. You must also meet any specifications pertaining to driveways. If you are replacing an existing culvert of the same length in the same location, no center stake is required.



## FIELD STAKING

Once the permit is received and reviewed, field staking will be scheduled within 3 working days. The installation of the driveway culvert must be completed in a timely matter. This is to eliminate the possibility of the stakes being disturbed, which may cause improper depths to be established in the ditch and the culvert to function improperly. If the driveway culvert does not function properly, it may need to be reinstalled.

1. Wooden stakes will be set in place with grade measurements on them in "**TENTHS**" of a foot, not inches.
2. Also written on the stakes are the **required** culvert size and length. "CMPA" indicates an arch culvert, while "CMP" indicates a round culvert. Arched culverts are to be installed with the flat side down.
3. Once the grade stakes are in place, the culvert is ready to be installed.
4. Please note that the City does not provide materials, nor do they install culverts for individual residents.
5. Please see the detail drawing "Staked Culvert" on the last page.

## DITCH GRADING

In order to assure the proper flow of water through the culvert, the resident or contractor is **required** to dig out, or add fill, where needed in the ditch line. Extensive ditch grading is done at the discretion of the City Streets Department.

## EROSION PROTECTION

Residents and contractors should take steps to prevent soil erosion before, during and after culvert installation. Silt fence, hay bales and erosion mat are some of the many effective methods of preventing soil erosion until the natural ditch vegetation is restored. Be considerate of downstream neighbors by keeping your soil from clogging their culverts.

## DITCH DEPOSITS

A ditch deposit is required for temporary culverts, as well as most new culverts. Temporary culverts must be removed, or permit renewed after the permit expires, or the City will use the deposit to remove the temporary culvert and restore the ditch.

## INSPECTION AND COMPLETION

Once the culvert and endwalls have been installed, please contact the Streets Department at (262) 780-4609 for an inspection **before** the pipe is covered, to verify that proper pitch of the culvert has been established. The inspection is performed for the benefit of the City. Residents will only be informed if unacceptable conditions exist with their installation. Depending on the circumstances, the City will give residents a reasonable amount of time to remedy any problems. If residents are unable or unwilling to meet the requirements for culvert installation, the City will remedy the faulty installation and the property will be assessed the costs involved. Once the culvert installation has passed inspection and the ditch is restored, refunds for any applicable ditch deposits will be returned. Not all culvert installations require a ditch deposit. Please note that a portion of the ditch deposit fee is **non-refundable**.

# CULVERT INSTALLATION SPECIFICATIONS

Please direct questions to the Engineering Division (262) 797-2445 or the Streets Department (262) 780-4609

## PURPOSE

The primary purpose of these specifications are to allow residents uniform access to their property across City Right-of-Way, in such a manner as to maintain or improve existing drainage patterns and conditions within the Right-of-Way. This handout is to help convey to residents and contractors the **minimum** standards, requirements and procedures involved in culvert installation. This handout is not intended to be used as a complete list of all the specifications and requirements that a particular culvert installation may be subject to.

## SCOPE

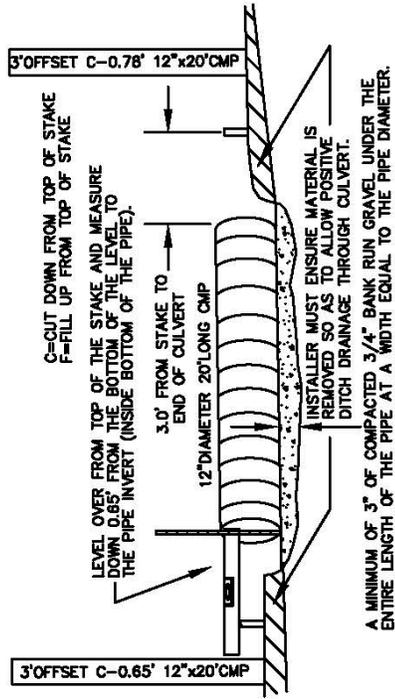
Culvert installation within the City Right-of-Way requires a permit and is subject to approval and inspection by the City. **Residents are ultimately responsible for proper culvert installation and may be assessed for the cost involved if the City has to correct an improperly installed culvert.**

1. **All culverts** shall be corrugated metal pipe (CMP or CMPA).
2. The **maximum length** of culverts used in commercial, manufacturing, quarry, or landfill districts is 40 feet. Residential culverts have a maximum length of 30 feet.
3. Culverts less than 24 feet in length shall consist of one piece of pipe, and in no case shall any installation consist of more than two pieces of pipes that are banded with approved connections.
4. Damaged or rusted culvert pipes should not be reused.
5. Endwalls are required and shall be installed at or below street height. Masonry type endwalls are required for driveway culverts along roads that have a posted speed limit less than 35 MPH. Flared end sections are to be used for roads with speed limits of 35 MPH or greater.
6. Please see the detail drawings "Endwalls" and "Endwall Placement" on the last page.
7. Residents are responsible for making sure contractors follow City Specifications.

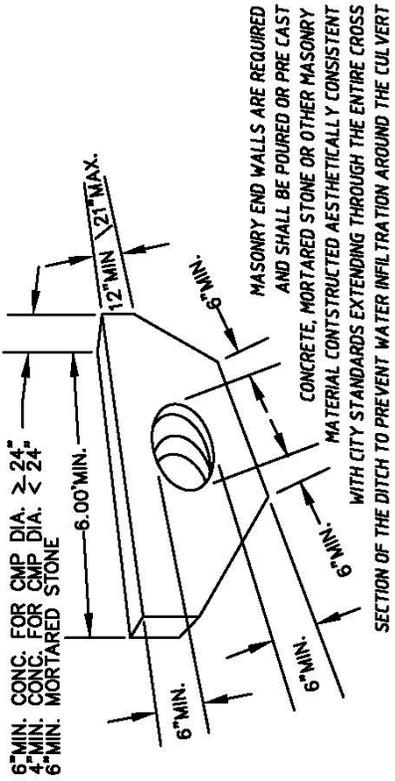
CULVERT SIZE TABLE

ROUND PIPE DIAMETER (CMP)	ARCHED PIPE EQUIVALENT (CMPA)	GAUGE	MINIMUM LENGTH
12"	NONE	16	20'
15"	17"X13"	16	20'
18"	21"X15"	16	20'
21"	24"X18"	16	20'
24"	28"X20"	16	22'
30"	35"X24"	14	22'
36"	42"X29"	14	24'
42"	49"X33"	12	24'
OVER 42"	VARIABLES	12	25'

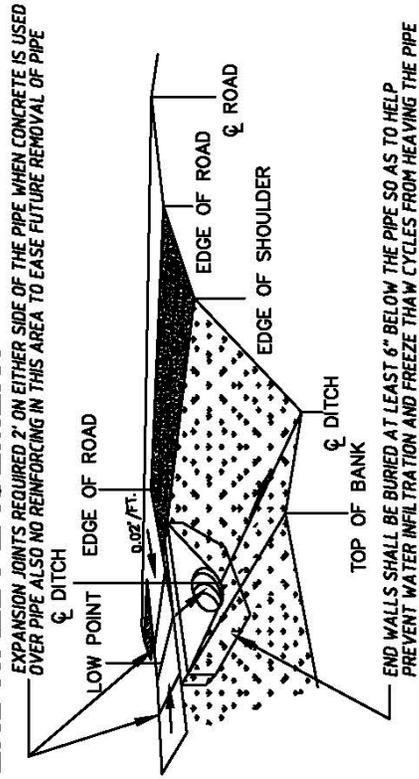
## STAKED CULVERT



## ENDWALLS



## ENDWALL PLACEMENT



## ENDWALL PLACEMENT

