



CITY OF BEVERLY HILLS
PUBLIC WORKS DEPARTMENT
MEMORANDUM

TO: PUBLIC WORKS COMMISSION

FROM: Vince Damasse, Water Resources Manager *W.D.*
Trish Rhay, Assistant Director of Public Works

DATE: October 13, 2016

SUBJECT: UPDATE ON WILL SERVE POLICY GUIDELINES

ATTACHMENTS:

1. Draft Development Guidelines General Design Manual
2. Draft Water Standard Drawings
3. Draft Water Technical Specifications Table of Contents

Staff has updated the Water Will Serve Policy Guidelines based on input received from previous Public Works Commission meetings and the City Council Liaison Committee. The Water Will Serve Policy Guidelines are included as part of the overall Development Guidelines General Design Manual ("Development Guidelines") in Attachment 1. The Development Guidelines are also accompanied by the City's updated Water Standard Drawings (Attachment 2) and an outline of the Water Technical Specifications (Attachment 3).

These three (3) draft documents once finalized will be used as procedural guidelines for implementing the City's Water Will Serve process for new development / redevelopment projects within its water service area both in the City of Beverly Hills and a portion of the City of West Hollywood. Staff will be available to answer any questions at the October 13, 2016 Public Works Commission Meeting.

Attachment 1

DEVELOPMENT
GUIDELINES
GENERAL DESIGN REQUIREMENTS
MANUAL



**Public Works Department
Bureau of Water Planning**

October 3, 2016

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EXHIBIT B – SAMPLE AGREEMENT FOR WATER SERVICE

**DEVELOPMENT GUIDELINES
GENERAL DESIGN REQUIREMENTS MANUAL
CITY OF BEVERLY HILLS**

SECTION 1 - GENERAL INFORMATION

1.1 Purpose

The City of Beverly Hills provides water service for approximately 11,500 metered connections within the City's boundaries and to a portion of the City of West Hollywood. The purpose of these Development Guidelines and General Design Requirements Manual (Guidelines) is to provide applicants for water services including developers and their consultants working on projects within the City of Beverly Hills Water Service Boundary with a guide to procedures for processing domestic water service requests and improvement plans. These Guidelines will also provide a summary of the general design criteria for the water system the City of Beverly Hills operates and maintains.

Per the City of Beverly Hills Municipal Code, applicant(s) must adhere to the City's adopted water ordinances, water capacity, impact, and/or supply fees, groundwater management, urban water management plan, water master plan, and related water conservation policies and goals. If the applicant's development and/or project is outside the City's limits but within its water service area (i.e. within the City of West Hollywood), the applicant shall abide by the more stringent of the conservation policies and procedures.

1.2 Availability of Service

City of Beverly Hills (City) provides domestic water service to all properties within its service area boundaries. Service is provided to all properties within the current City of Beverly Hills boundary and a portion of West Hollywood. Prospective applicants for water service may confirm service availability with the City's Public Works Department, located at 345 Foothill Road, Beverly Hills, CA 90210, or by calling (310) 285-2493.

Projects that require more than a new single 1-inch meter will require the preparation of a Water Service Feasibility Analysis to determine whether the existing City facilities are adequate to serve the needs of the proposed development at buildout or if new City facilities are required to be constructed to accommodate the additional demands and fire flow requirements. The typical type of projects that are subject to hydraulic analysis and planning efforts are as follows:

- ◆ Commercial developments.
- ◆ Industrial developments.
- ◆ Mixed Use developments.
- ◆ Multi-Family residential developments.
- ◆ Institutional developments.

- ◆ Tenant Improvements that require fire suppression systems and/or increased fire flow due to expansion.
- ◆ Residential applicants requesting meters 2-inches or larger.
- ◆ Fire hydrants / Fire Services required by the Fire Marshall.
- ◆ Developments requiring irrigation meters with backflow prevention devices.

In these cases, the developer will be responsible for the full cost of the analysis, if required by the City. The City reserves the right to perform the study for all new developments and/or applicants for water service. The Water Service Feasibility Analysis to be performed shall include a detailed analysis of the proposed development's or project's impact on the City's water system and what mitigation measures are to be utilized to mitigate those impacts.

1.3 Will Serve Policy

The City's water will serve policy serves as a guideline for potential applicants, customers, and/or developers who desire to apply for water service from the City of Beverly Hills Public Works Water Department. For proposed new developments, re-developments (in-fill development), or projects within the City's boundaries and/or within its water service area that will require water service where improvements larger than a 1-inch water service is required, the developer must request a "Will Serve" letter from the City (See Figure 1 for details). This document is required by the City of Beverly Hills Community Services Department and the City of West Hollywood Planning Department for processing Tentative Tract Maps, discretionary, non-discretionary, or other development reviews.

1.4 Application for Water Service

In order to obtain new water service and/or modification to existing water service, an applicant must complete, sign, and submit a Water Will Serve / Water Availability Request application form for water service (Exhibit A) at the time of the initial plan submittal. Included with the application are required documents for processing and determining the conditions for water service for the project. Depending on the nature and complexity of the project, required documents may include but not be limited to site improvement plans, building plans, tentative maps, title reports, water demand calculations, landscape/irrigation plans, fire department plans and requirements, and other conditions and any other documents which may be relevant to providing an applicant water service. The application for water service shall be addressed to the Water Resources Manager, must be accompanied by an 8½" x 11" vicinity map and two (2) copies of the tentative tract map or development plans showing the proposed services and their points of connection to the existing City facilities. Conceptual sizing of the water system improvements should be shown along with dwelling unit densities, proposed ultimate demand, and fire department requirements.

Once an application for water service is received, staff will determine the completeness of the application. The applicant will be notified if additional information is needed to be submitted to the City to complete processing of the application. Requirements may include any or all of the following:

- a. Processing, plan check fees, inspection, and/or other fees and deposits. All fees shall be charged in accordance with the City's current schedule of Fiscal Year Schedule of Taxes, Fees & Charges as adopted by the City Council.

- b. Engineered calculations, plans, specifications, engineer's estimates of the proposed water improvements indicating points and sizes of connections, main line extensions, location of valves, hydrants, fire service lines, backflow prevention devices, and associated water appurtenances. All water improvement plans shall be stamped by a licensed CA Civil Engineer and shall meet the City of Beverly Hills Standard Drawings and Technical Specifications, Standard Specifications for Public Works Construction (latest edition), and American Water Works Association (AWWA) standards, and wherever there is a conflict, the more stringent standard shall apply.
- c. Water demand estimates shall be prepared, stamped and signed by a Professional Engineer at project buildout including proposed Average Day Demand (ADD), Maximum Day Demand (MDD), and Peak Hour Demands (PHD) domestic demands. Demands shall also include all irrigation and fire flow demands. Fire flow demands, requirements, and other conditions of approval shall be provided by the applicant from the local governing Fire Department Authority in writing for the City's review. Fireflow testing data shall be recent and not older than 1-year-old. Any fire flow data older than 1 year, shall require additional fire flow testing and payment of applicable fire flow testing fees.
- d. Grant of easement(s) to the City, where applicable.
- e. Environmental documentation i.e. California Environmental Quality Act (CEQA) compliance.
- f. Other project-related documents as required or as requested by the City.

1.5 Will Serve Letters

A Will Serve Letter issued to an applicant shall be valid for a period of 2 years from the issuance of the Will Serve Letter. If construction has not been completed by that timeline, the Will Serve Letter becomes null and void. Applicant(s) may request an extension of the Will Serve Letter in writing by re-submitting an application for Will Serve or availability of water service including repayment of all applicable processing and plan check fees in effect at the time of the reapplication.

At the request of the applicant, the Will Serve letter for an applicant undergoing the development entitlement process may remain conditionally in effect as long as the entitlement is in effect. However, after 2 years, the City shall re-evaluate the application for availability of water service to ensure the conditions of the original water service application request remain unchanged. Applicant shall be responsible for any re-application processing fees, plan check, permit, capacity, and other related fees in effect at the time.

A developer may request a letter from the City that addresses the feasibility to serve a project and conditional availability of water if such a letter is required before a formal Will Serve letter can be issued. The City may consider issuing this letter to assist the developer in obtaining initial funding and/or processing a project for entitlements. This letter will indicate the project is within the service boundary of the City of Beverly Hills water system and that water supply may be available to serve the project. The letter is only conditional and not a final Will Serve letter. The letter will in no way preclude the developer from finalizing a required planning phase, paying required fees and costs and developing improvements plans for construction of required improvements.

1.6 Water Supply Assessments

Certain projects, depending on the size, may be subject to the latest editions of Senate Bill (SB 610) Water Code Section 10910 et. Seq. “Water Supply Assessments” and SB 221 Government Code Section 66473.7 “Written Verifications of Water Supply”. The owner of the development will bear all costs to have the Water Supply Assessment and/or the Water Supply Verification prepared.

1.6.1 Water Supply Assessment (WSA)

A Water Supply Assessment is required if the development is classified as a “project” as defined in Water Code Section 10912. Section 10912. For the purposes of this part, the following terms have the following meanings:

A. “Project” means any of the following:

- 1) A proposed residential development of more than 500 dwelling units.
- 2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- 3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- 4) A proposed hotel, inn or motel having more than 500 rooms.
- 5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- 6) A mixed use project that includes one or more of the projects listed.
- 7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

1.6.2 Water Supply Verification (WSV)

A “Written Verification of Water Supply” is required if the development requires approval of a tentative tract map (Government Code 66473.7(b)(1).

Section 66473.7(b)(1) The legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove the tentative map, shall include as a condition in any tentative map that includes a subdivision a requirement that a sufficient water supply shall be available. Proof of the availability of a sufficient water supply shall be requested by the subdivision applicant or local agency, at the discretion of the local agency, and shall be based on written verification from the applicable public water system within 90 days of a request.

Section 66473.7(a)(1) “Subdivision means a proposed residential development of more than 500 dwelling units, except that for a public water system that has fewer than 5,000 service connections, “subdivision” means any proposed residential development that would account for an increase of 10 percent or more in the number of the public water system’s existing service connections.

1.7 Water Utility Plan Processing

All proposed water utility improvements to serve a property or development must be reviewed and approved by the City. The utility improvements must be reflected on civil engineering plans and reviewed and approved through the City’s Plan Approval Process. The City Plan Approval Process is shown on the Process Flow Diagram referenced as Figure 1. The specific information required for each of the submittals required during the process is included in Section 2, and the Process Flow Diagram contains appropriate references for each sub-section.

1.7.1 General

The developer and/or applicant for water service shall endeavor to have a “pre-design” meeting with the City’s Public Works Department to review the utility alignment concepts for their project prior to making a first plan submittal. The conceptual plans shall be based on the City’s as-built documents.

1.7.2 Plan Check Submittals

The applicant’s or developer’s engineer shall submit five (5) full sized copies of the utility improvement plans, and one compact disk containing a single PDF file of the entire drawing set. When making subsequent plan submittals (after the first submittal), the engineer shall also return the preceding plan check set with City’s comments. The engineer shall also submit other pertinent information to assist the City in reviewing the plan submittal. Generally, the City endeavors to complete its review of first or second plan check submittals within 15 to 20 working days. Plan check submittal numbers three or more is anticipated to be completed within 10 working days. There may be variances in this schedule due to a number of factors, and the City cannot guarantee these processing intervals, but they are general guidelines.

1.7.3 Fees

The Applicant for a Will Serve letter shall be responsible for all fees and charges imposed by the City as established in the City’s current adopted schedule of taxes, fees & charges based on the date of payment. These fees and charges may include but are not limited to plan check, permit, inspection, water capacity, water supply, water connection, and other related fees as adopted by or in effect by the City based on the date of payment.

The City’s schedule of taxes, fees & charges are adopted every fiscal year having an effective date of July 1, which are applicable to connection of water service to real property being developed in the City or within the City’s water service area. The fees established and adopted by the City shall be applicable to a Will Serve letter for which the applicant will be responsible for payment.

City schedule of taxes, fees & charges are adopted every fiscal year having an effective date of July 1, however may be changed at any time when adopted by the City Council. An applicant for a Will Serve letter shall be responsible at the time that such fees are to be collected to pay the City for all associated and applicable fees and charges for Application Processing as requested by the City, but in no case later than the date of the request for connection.

The City will estimate a project's Planning Phase and plan check fees as part of the first plan check of the utility improvement plans. At the completion of the Planning Phase, an estimate of encroachment permit, capacity, connection water supply, and other related fees will be provided. All fees must be paid prior to City's approval of the plans. All applicable fees shall be paid by the applicant prior to the approval of plans, installation of water services, or at other times as requested by the City (pending further City input).

1.7.4 Agreements

The City will also prepare agreements for transmittal to the developer for the applicant's execution, as necessary. The agreements must be executed and properly endorsed by the applicant and returned to the City before the final plans can be signed by the City. If as a result of the plan checking and water availability analyses, it is determined that a proposed development requires the construction of new or additional City water infrastructure improvements in order to provide the water service requested, the applicant will be required to enter into an Agreement for Water Service ("AWS") between the Applicant and the City (Exhibit B).

The AWS will set forth all terms and conditions of water service for the applicant by the City and will describe in detail the responsibilities of the applicant and the City with respect to the construction of and payment for any required City water infrastructure improvements. Unless otherwise noted or agreed upon, the applicant as a result of the developer impacts to the City's water system shall be responsible for the planning, design, permitting, and construction of the additional water infrastructure improvements required to serve the Development.

In the event that an AWS is required for the applicant's proposed development, the applicant is responsible to execute and deliver the AWS prior to approval of project improvement plans by the City and to pay the City all fees and expenses incurred by the City for its preparation of the AWS.

1.7.5 Approval of Plans

The City's requirements for providing its plan approval include but are not limited to:

- Plan corrections are properly made pursuant to all City plan comments, including appropriate written descriptive responses where it is requested.
- Submittal of a copy of the approved Fire Department Requirements for the project site.
- Payment of the required City fees

1.7.6 Submittal of Approved Water Improvement Plans

Upon City's approval of the plans, they will be returned to the developer's or applicant's engineer. The developer's or applicant's engineer shall submit to the City three (3) full-sized set of prints on bond paper of the approved plans and two (2) compact disks (CD). The first CD will contain the AutoCAD drawing files for the approved plan set. The second CD will contain a single PDF file of the entire approved plan set, i.e. reflecting the City approval signatures. The PDF file will be of a quality high resolution since it will be made a part of City's public electronic library of plans. Other digital submission criteria are described in Section 2.

1.8 Construction of Water Improvements

Prior to the onset of construction activities for the water improvements, The City will strictly enforce the following two requirements:

- ◆ The City will only release the project for construction after the developer's or applicant's engineer makes the submittal of the approved water plans.
- ◆ If determined by the City, the project may be constructed by City forces as an option.
- ◆ If determined by the City, the project may be constructed by an outside contractor and the City will provide inspection that is funded by the developer.

1.9 Meter Installation Requests

Connection of water services as provided in a Will Serve letter shall be contingent upon the City, at the time of request for connection, having sufficient water and shall further be contingent upon the City having sufficient treatment and delivery capacity to comply with all laws and regulations concerning the delivery of domestic water. All City commitments to deliver water shall, during shortage conditions, be subject to the provisions of the then current Water Shortage Contingency Plan and/or adopted Water Shortage Emergency Measures.

If the project and/or development includes commercial, industrial, and landscaping, all such services shall include backflow prevention devices installed by the developer and inspected by the City of Beverly Hills prior to water service activation. All backflow prevention devices shall adhere to the City's cross-connection control program. The property owner shall be responsible for proper testing of backflow prevention devices by the City and/or cross-connection control authority.

Meter requests must be made in writing and be accompanied by the appropriate City-approved plans and required fees. The following information must be included in the letter of meter request:

- ◆ Meter address (physical street address) for each meter requested.
- ◆ Billing address for each meter requested. (Entity responsible for payment of the account).
- ◆ Type of service and purpose of the requested meter, e.g. domestic to building, domestic irrigation, fire line service, fire hydrants, if required by the fire department.
- ◆ Service lateral and meter size for each meter requested.
- ◆ Job site contact person and contact information (to coordinate the meter installation).

SECTION 2 - DEVELOPMENT PLAN AND PERMIT PROCESSING PROCEDURES

2.1 Development Plans

New water infrastructure (including but not limited to pipelines, pump stations, reservoirs, pressure reducing stations, and associated appurtenances) that are required due to development impacts will be considered “development” facilities and the cost of planning, permitting, designing, and constructing these facilities will be the responsibility of the developer. Once all the facilities are completed and accepted for maintenance by the City, they will be formally transferred.

2.1.1 Development Water Plan

Five (5) sets of the preliminary water plans for the proposed development or project shall be submitted to the City for review at least thirty (30) days prior to the filing of the tentative map for the development or other type of improvement project, accompanied by a written request for a water “Will Serve” letter. The plans will be reviewed by the City and the City’s consultant, taking into account the following:

- A. Existing water distribution and transmission main location and sizes.
- B. The proposed points of connection to the City’s existing water system.
- C. The estimated total water demands (domestic, irrigation, and fire flow) calculated by the developer’s engineer.
- D. City and/or County fire flow requirements.
- E. City’s domestic water atlas plans.
- F. City’s design criteria for domestic water systems (Section 3).
- G. City’s water master plan.

Correction comments will be indicated on the development water plans and returned to the developer’s engineer.

2.1.2 Fire Department Approval

The developer’s engineer shall obtain approval from the governing fire department for the existing and proposed fire hydrant spacing. The engineer shall also obtain the fire departments required fireflow at 20 psi residual, required duration in hours and the number of hydrants allowed to achieve the flow. After the initial utility improvement plan check by the City, the developer’s engineer must have the governing fire department sign the plans before submitting them for a second plan check.

Upon approval of the development plans for water, one red-lined copy will be returned to the developer’s engineer showing the City’s comments and corrections.

2.2 Individual Tract Improvement Plans

2.2.1 First plan checks submittal requirements.

The developer/engineer shall submit the following items for first review of any residential, commercial, or industrial development:

- A. Five (5) sets of utility improvement plans (bond paper); maximum size 24" x 36", without exception; plus one (1) set of the plans in electronic (PDF file) format on CD.
- B. One (1) copy of tract/parcel map (bond paper) showing gross acreage, street names, and City easements with provision for City execution; plus one set of the tract/parcel map in electronic (PDF file) format on CD.
- C. One (1) set of grading plans (bond paper); plus one (1) set of the plans in electronic (PDF file) format on CD.
- D. One (1) set of water demand calculations.
- E. Transmittal letter from the developer's engineer requesting the commencement of City plan check procedure.

After first plan check, the City will return one (1) red-lined set of the utility improvement plans and the red-lined tract/parcel map to the developer's engineer for corrections.

2.2.2 Second (& Subsequent) Plan Check Submittal(s)

The developer/engineer shall submit the following items for second (and all subsequent plan-checks) of any residential, commercial, or industrial subdivision:

- A. One (1) set of the revised utility improvement plans (bond paper) and one (1) set tract/parcel map (bond paper). The plans must be approved by the Los Angeles County Fire Marshall or the Beverly Hills Fire Chief prior to the second plan check.
- B. Check print from the first check.

When the plans are substantially complete, with only minor revisions remaining, the City will compute the required water connection fees and any other inspection and engineering fees based on the City's current Rules and Regulations. The developer will be notified when the agreements and the fee invoice are available. One (1) red-lined set of plan check comments will be returned to the developer's engineer for corrections upon completion of any plan check.

The status of plans currently in for plan check can be obtained by contacting the City's Public Works Services Department. The City will make a reasonable effort to meet a standard of twenty-one (21) working days for the first plan check and Water Service Feasibility Analysis, ten (10) working days for the second plan check, and three (3)

working days for each subsequent submittal. However, the City does not guarantee, or imply to guarantee, that these turn-around goals will be met. The feasibility of meeting these turn-around goals will vary on a case by case basis. The extent of the corrections required on a plan set, and the current workload of the City may affect the previously stated time frames.

2.2.3 Required Easements

If an easement to the City is required for construction and/or maintenance of water facilities, the minimum easement width shall be ten (10) feet. Deep water lines will require wider easements equal to twice the facility depth rounded upward to the nearest five (5) feet. Easements shall be contained in single lots and shall not straddle lot lines. In the case of parallel facilities, the easement width shall not overlap.

Two (2) copies of easement legal descriptions with accompanying sketch or plat shall be prepared by the developer's engineer and submitted to the City for review. Easements for facilities which will be transferred to the City may be shown on the tract or parcel map with the correct certificates for City acceptance. The legal description for the easements shall be in a form acceptable to the City and must be accompanied by a current title report to be checked by the City Engineer for accuracy. Dedicated easements must also be shown on the construction plans and the index map, without exception. Improvement plans for the City facilities will not be approved until all required easements have been dedicated to the City along with any necessary reconveyances or subordination agreements. Easement exhibits shall be 8½" x 11", or 8½" x 14" without exception.

Where facilities are to be located in private streets, the easement shall be a minimum of twenty (20) feet wide. In multi-family residential complexes or business parks, the developer may dedicate a "blanket easement" over all internal paved areas to City as long as it covers the minimum area City needs to access the facilities. The appropriate note shall be included on the tract map and the plans. Easements ten (10) feet wide and extending five (5) feet beyond all fire hydrants, water meter locations, and sewer sub-mains with clean-outs will also be required unless waived by the City.

Three (3) to five (5) foot to wide utility easements parallel to public streets may be required depending on street right-of-way width and sidewalk locations, and shall be determined by the City Engineer.

2.2.4 Improvement Plan Approval

Utility improvement plans must be approved by the City Engineer or designee before any construction can start. Approval will be contingent upon satisfying the following requirements:

- A. All required corrections have been made on the utility improvement plans, and all systems are in conformance with the City's Standard Drawings, latest edition.
- B. The Agreement for Water Services, has been executed by the developer and returned to the City.

- C. The plans have been signed by the Los Angeles County Fire Marshal or the City of Beverly Hills Fire Chief.
- D. All required easement documents have been executed and delivered to the City. Tract/parcel maps must be signed by the City prior to plan approval.
- E. All required fees and charges have been paid by the developer.
- F. All submission requirements have been met per section 2.3. of this Manual.

When these requirements have been satisfied, a clean blue-line set of plans and the latest check print shall be submitted to the City for approval. When the plans have been approved, the developer's and / or applicant's engineer will be notified, and will provide the City with three (3) fully approved sets of the utility improvement plans.

2.2.5 Bills of Sale (BOS)

Upon the satisfactory completion of construction and acceptance by the City, the facilities shall be conveyed to the City by means of a properly executed BOS. Forms for the BOS is shown as Figure 2. Completed forms should be submitted to the City within thirty (30) days of the completion of the final inspection and prior to the release of the final dwelling units along with one (1) "RECORD" Mylar of the improvement plans and a CD with a PDF file of the plans plus a CD with the CAD files and plans for the water plans.

2.3 Improvement Plan Requirements

All plans submitted to the City for plan checking and approval of water facilities will be submitted on 24" x 36" sheets and shall conform to the standards of the City of Beverly Hills. The coordinate system of data shall be the California Coordinate System (NAD 83). Digital files are acceptable in either an AutoCAD drawing file (DWG) format or a drawing exchange file (DXF) format. Digital files should be submitted on a Windows formatted CD.

2.4 Non-residential Application Requirements

2.4.1 Domestic Water Services

All services for non-residential developments must be equipped with approved backflow prevention devices; a double detector check assembly for fire lines and a Reduced Pressure Principle Device (RPPD) backflow device for non-residential domestic water service. Refer to the City Cross Connection Program.

Items required to make application for non-residential domestic water service are:

- A. One (1) set of improvement plans with service lateral location highlighted.
- B. One (1) set of plumbing plans showing the number of fixtures units.

- C. A letter from the developer or his agent requesting a (size) meter, not to exceed (quantity) gpm, to serve (company name) at (address) and payment for the cost of installation.

Domestic water service for irrigation requires a site plan and a letter as described above. A request for domestic water service for irrigation must be approved by the Water Resources Manager.

2.4.2 Fire Service Requirements

All fire service connections will be made through a double detector check valve assembly as shown in Standard Drawing W-16 and the plan check submittal package shall include a site utility plan showing:

- A. Property lines and required easements.
- B. Building footprint.
- C. All on-site private fire hydrants.
- D. Stamp or signature of Los Angeles County Fire Marshal or the City of Beverly Hills Fire Chief.
- E. Address of the building.

2.4.3 Public Fire Hydrant Requirements

Application for installation of public fire hydrants shall include a site utility plan showing:

- A. Property lines and required easements.
- B. Building footprint.
- C. Location of public fire hydrant approved by the Los Angeles County Fire Marshall or the City of Beverly Hills Fire Chief.
- D. Payment of plan check and inspection fees. The owner or developer will bear the responsibility and cost of installing the fire hydrant after the plans are approved by City.

2.4.4 Additional Requirements, Standards & Fees for All Non-Residential Applications

- A. All non-residential service applications must be accompanied by the appropriate plans, payment of the installation costs and the signature of the applicant or his authorized agent.
- B. The City will install all domestic water and bypass meters for non-residential services without exception.

- C. The submitted improvement plans must contain the following information and conform to the following criteria:
 - 1) Maximum size is 24" x 36".
 - 2) The appropriate City standard notes must appear on the plans.
 - 3) Signature block for City approval must be provided in the form required by City.
 - 4) Signature of the Los Angeles County Fire Marshall or the City of Beverly Hills Fire Chief, if applicable.
 - 5) Quantity and cost estimates for all proposed improvements.
- D. Fees and charges will be determined by the City for each water service installation by City personnel. These costs will be provided to the applicant so that the fees can be paid before the application is released for installation.
- E. Water meter sizing standards:

Meter Size & Type (inches)	Maximum Demand (gallons per minute)
1" positive displacement	50
1-1/2" positive displacement	100
2" positive displacement	160
3" HP Turbine	450
4" HP Turbine	1,000
6" HP Turbine	2,000

- F. Submission of all improvement plans in accordance with Section 2.3 of this manual.

2.4.5 Utility Plans Signed by City

Three (3) sets of fully approved water plans, as applicable, shall be furnished to City at least two (2) working days prior to the pre-construction conference and commencement of work. Fully approved plans must be approved by both the City and the cognizant agency building authority for the proposed improvements.

2.4.6 Plan Approval Expiration Time Limit

Plans will be valid for a period of two (2) years from the date of City approval. If construction has not been completed within that 2-year period, the approval of the plans becomes null and void. In this event, the City will require that the plans be re-checked and reserves the right to charge additional plan check fees and/or connection fees, at its sole discretion. No modifications will be allowed to the development which increases the number of units to be served by the system without additional approval by the City.

2.5 Inspection

All work shall be subject to inspection by the City and shall be left uncovered until approved by the Public Works Inspector, City Engineer, and/or his respective designee. The contractor shall not proceed with any subsequent phase of work until the previous phase has been inspected and approved by the City.

2.5.1 Notice to Start Construction

Notice shall be given to the Public Works Department Inspector or designated City representative at least 72 hours before starting construction. Signed utility plans must be delivered to the Public Works Department Inspector at least four (4) working days before the contractor will be allowed to start construction.

2.5.2 Pre-Construction Conference

A pre-construction conference must be held at least **forty-eight (48)** hours before the start of construction. The contractor's job foreman and/or job superintendent, the developer's and/or applicant's engineer and the Public Works Department Inspector must be present. The purpose of this meeting will be to answer any questions on City specification requirements, to obtain the contractor's construction schedule and emergency phone numbers, and to discuss any circumstances which may affect job installation.

Water System Inspections

Inspections shall be made at the following critical intervals listed below as well as at other milestones as deemed necessary by the City:

- A. Trench excavation and bedding.
- B. Placing pipe, fittings, and structures; including warning tape on water main and service lines.
- C. Pouring of all concrete anchors and thrust blocks.
- D. Placing and compacting the pipe zone backfill.
- E. Backfilling balance of trench to grade. Compaction test to be performed by cognizant building authority in public right-of-way and by private soils consultant retained by the developer and acceptable to the City in private streets and easements. Copies of test results shall be given to the City by the developer for approval before final acceptance of the work.
- F. Pressure testing of all mains and services.
- G. Disinfecting of domestic systems and flushing of all water systems.
- H. Re-paving trench cuts.
- I. Raising valve box covers to finish grade and painting to City standards.

- J. Fire hydrants painted and pads poured.
- K. Installation of service lines, meter boxes, and water meters.

2.5.3 City Authority

The City shall have access to the work at all times during construction and shall be furnished with every reasonable facility for ascertaining full knowledge of the progress, workmanship, and character of materials used and employed in the work. No pipe, fittings, or other materials shall be installed or backfilled until inspected and approved by the Public Works Department Inspector, City Engineer, and/or his designated representative. The contractor shall give due notice in advance of backfilling to the City Inspector so that proper inspection may be provided.

Inspection of the work shall not relieve the contractor of any obligations to complete the work as prescribed by the standard specifications. Any known defective work shall be corrected before testing or final inspection will be permitted. Unsuitable materials may be rejected even if these materials have been previously overlooked by the Public Works Department Inspector.

The Public Works Department Inspector shall have the authority to suspend the work completely or in part for such time as it may deem necessary if the contractor fails to carry out instructions given by the Public Works Inspector, or to perform any required provisions of the plans and specifications. The contractor shall immediately comply with a written order of the Public Works Department Inspector to suspend the work completely or in part. The work shall be resumed when improper methods or defective work are corrected as ordered and approved in writing by the Public Works Department Inspector.

2.5.4 Water in Service Prior to Acceptance

The Public Works Department Inspector may approve putting newly installed water into service after compaction has been approved by the cognizant building authority and the portions have been pressure tested, chlorinated, flushed, and potable water mains have passed the bacteriological test. This partial acceptance shall be granted only upon written request from the developer and subsequent approval by the City Inspector. Upon this written approval for partial acceptance of facilities, the developer shall be relieved of the duty to maintain the portions so used or placed into operation provided, however, that nothing in this section shall be construed as relieving the developer of full responsibility for completing the work in its entirety, for making good any defective work and materials, for protecting the work from damage, and for being responsible for damage and for work as set forth in the agreement and other contractual documents; nor shall such action by the City be deemed completion and acceptance, and such action shall not relieve the developer of the guarantee provisions of his Agreement for Water Service with the City.

2.5.5 Final Water Facilities Inspection

Before final acceptance, the Public Works Inspector will make a final inspection of all work, accompanied by the contractor's superintendent or foreman, to verify that:

- A. All phases of the job are complete in accordance with plans and specifications.
- B. Valve boxes are raised to finish grade and that all repairs are complete.
- C. Valves are referenced and the inspector has been given all reference measurements.
- D. Right-angle meter stops, meters, and customer service valves are properly positioned and all meter boxes are positioned and raised to proper grade and meters installed.
- E. Fire hydrants are raised to proper grade, are in a vertical position, painted, and concrete pads are poured.
- F. Backfill has passed all compaction testing.
- G. System valves are turned and left open (except those specifically required to be normally closed), turns required for complete open/close cycle are recorded on the record drawings.
- H. Domestic water lines have been chlorinated.
- I. Line pressure testing and flushing have been completed.
- J. The job site is clean and cleared of all the contractor's equipment and materials.
- K. Service lateral locations have been marked on curbs.
- L. Developer's contractor submits to the Public Works Department Inspector or designated representative a copy of the as-built drawings.
- M. After final acceptance of facilities by the City, Developer's or applicant's contractor shall provide a 1-year warranty against materials and installation defects. Bonds to remain in place for 1 year after acceptance. Contractor to perform as needed repairs during this warranty period at no cost to the City.

2.5.6 Interpretation of Specifications and Detail Drawings

Figured dimensions of the drawings shall govern, but work not dimensioned shall be as directed. Work not particularly shown or specified shall be the same as similar parts that are shown or specified or as directed. Full size details shall take precedence over scale drawings as to shape and details of construction. Specifications shall govern as to material. Scale drawings, full-size details, and specifications are intended to be fully cooperative and to agree; but should any discrepancy or apparent difference occur between plans and specifications, or should errors occur in projects being

constructed by others affecting the work, and the contractor proceeds with the work affected without instruction from the City, he shall be fully responsible for any resultant damage or defect.

2.5.7 Release Given to Cognizant Building Authority

After final inspection requirements have been fulfilled, the City will provide notification of its final acceptance to the cognizant building authority to facilitate the release of the developer's bonds for water facilities.

2.6 City's Regulation Regarding Cross-Connections

All potable water services shall be subject to the provisions of the City's Cross Connection Program. The following summarizes those provisions:

Cross connections of any type that permit a backflow condition from any source or system other than that of the City's potable water mains to the potable water system are prohibited. A connection constituting a potential or actual backflow hazard will not be permitted unless a backflow device or air gap, which is approved by the California State Department of Health and local health agency and complies with Title 17 of the California State Administrative Code, is installed. Such an installation shall, at all times, be subject to inspection and regulation by the City for the purpose of avoiding possibility of backflow. The City has a Water System Inspector who oversees the City's cross connection program who can be contacted at (310) 288-2858.

The City will not provide water service to any premises unless the public water supply is protected as required by State, County, and City regulations. Besides special situations, backflow devices are required for the following instances as specified in the City's cross-connection program or as directed by the Water System Inspector.

- a. All irrigation services for domestic use.
- b. All commercial domestic water services.
- c. All industrial domestic water services.
- d. All stand-alone fire lines regardless of the height and use.
- e. All properties having two or more interconnected service connections (i.e. 2 interconnected domestic meters, etc.) to City mains.

Backflow prevention devices shall be approved by the City and shall be installed by, and at the expense of the customer. The customer shall have the device tested at least once a year by a tester certified by the Los Angeles County Health Department and service such devices to maintain them in satisfactory operating condition and shall overhaul or replace such devices if they are found defective. Records of such annual tests, repairs, and overhauling shall be kept by the customer and copies forwarded to the City cross-connection control officer and local health agency.

Water service to any premises may be discontinued by the City, after notice, if a backflow prevention device required by the City Cross Connection Program is not installed, tested, and maintained; if any defect is found in an installed backflow prevention device; if it is found that the backflow prevention

device has been removed or bypassed; or if unprotected cross-connections exist on the premises. Service will be restored only when such conditions or defects are corrected to the satisfaction of the City.

The City's cross-connection program further defines how water lines must be marked where multiple water systems are in use, and outline the duties and responsibilities of a property's water supervisor. Additional references for guidelines as to when, why, and what types of backflow and cross-connection control devices are approved may be found in:

- ◆ Regulations Relating to Cross-Connections, California Administrative Code - Title 17 - Public Health.
- ◆ Manual of Cross-Connection Control, published by Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California, University Park, Los Angeles, California 90007.

2.7 Backflow Device Locations

Any commercial or industrial domestic water service will require that a Reduced Pressure Principle backflow device (RPPD) be installed immediately downstream of the water meter, unless otherwise approved by the Public Works Department (Beverly Hills Water Department). The device must be installed in accordance with City requirements. The assembly must be above ground and cannot be installed in an underground vault.

A fire service must have a Double Check (DC) backflow assembly with bypass meter as required in the City's Standard Drawings. These assemblies can be installed in such a manner as to be screened from view, but must be accessible to City personnel at all times. There must be 5 feet of clearance on all sides of the DC assembly installed above ground. In addition, a 10-foot-wide easement must be dedicated to the City from the public right-of-way to the DC assembly. Double Detector Check assemblies may be installed in an approved vault underground with the appropriate easements.

FIGURE 1 – PROCESS FLOW DIAGRAM FOR DEVELOPMENT PROJECTS

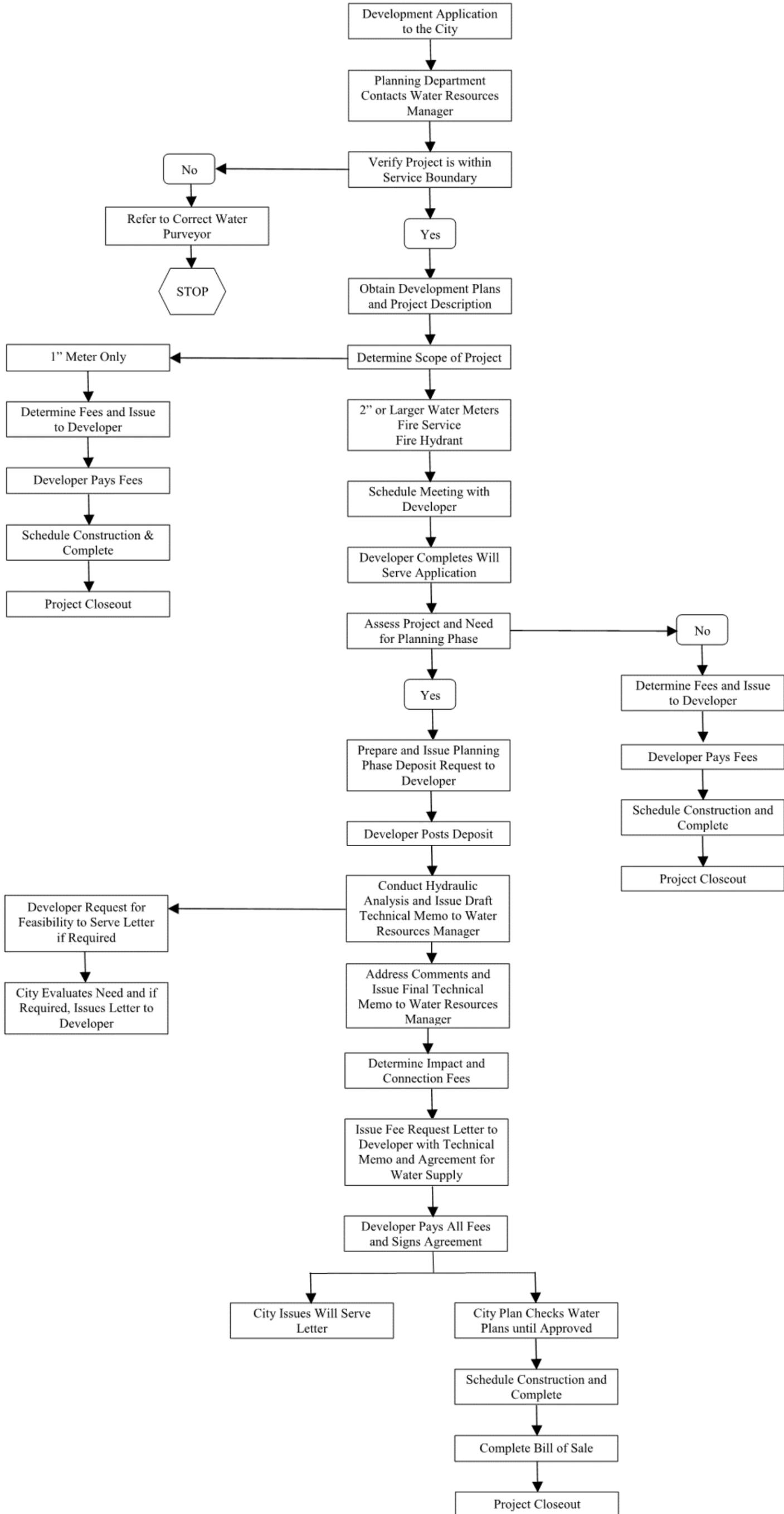


FIGURE 2 – BILL OF SALE (SAMPLE)

Approved by City Council

CITY OF BEVERLY HILLS BILL OF SALE - WATER SYSTEM FACILITIES

For good and valuable consideration, receipt of which is hereby acknowledged, the undersigned does hereby transfer and convey to the City of Beverly Hills, a California City organized under State Law, and its successors and assigns, all rights, title, and interest in and to the water installation, including pipelines, valves, service connections, fire hydrants, meters, and other associated appurtenances to said water installation, constructed, installed, and located in the property described below and further warrants that the same is free and clear of any encumbrances.

Said property is described as follows:

Executed this _____ day of _____, 20_____.

Company or Corporation Name:

By: _____

President

By: _____

Secretary

CERTIFICATE OF ACCEPTANCE

As per Resolution No. **XXX** as set forth in the minutes of a meeting of the City Council of the City of Beverly Hills held on **XXX**, the above Bill of Sale of Water System Facilities, dated _____, is hereby accepted by order of the City Council of the City of Beverly Hills, a California City organized under State Law.

Date of Acceptance _____.

By: _____

City Manager
CITY OF BEVERLY HILLS

SECTION 3 - SECTION 3 - DESIGN CRITERIA, DOMESTIC WATER FACILITIES

The following sections are design criteria to be used in the design of domestic water systems. The developer and his engineer shall be responsible to ensure that designs submitted are consistent with the City's water standards, Section 2 of this manual including any ordinances, codes, rules, and regulations, and generally accepted standards of good engineering practice.

3.1 Main Line Sizes

The typical minimum size distribution main pipes shall be 8-inch AWWA Ductile Iron Pipe, Class 150, unless otherwise noted and approved. On short cul-de-sac dead-end mains 6-inch (with more than six (6) each, 1-inch service lines) lines may be allowed, however, 8-inch size main must be used to the last fire hydrant.

Developer facilities will be designed by the developer and transferred to the City upon satisfactory completion of final inspection by means of a "Bill of Sale".

3.2 Design Flows

All design flows shall be based on the fixture unit demands calculated by the developer's engineer and confirmed by the City. For the purposes of developing demand scenarios in the water system hydraulic analyses included in the Planning Phase, the fixture unit counts and the equivalent flow in gallons per minute shall be considered Peak Hour Demand as defined in the City's Water Master Plan. The Water Master Plan provides conversion factors to calculate Average Day Demands and Maximum Day Demands from the Peak Hour Demand. If fixture unit counts are not available, conservative demands will be developed for projects based upon the Water Master Plan, Urban Water Management Plan and industry standards provided by the American Water Works Association.

The Water System Computer Model will be utilized to determine water system capacity to meet estimated demands. The new development Maximum Day Demands will be added to the water model along with fire hydrant flow requirements as determined by the California Fire Code in order to determine the adequacy of the existing water system. Should water system improvements be required to meet the new demands, alternatives to improve the system will be developed and tested. The developer will be required to construct these new improvements as part of the conditions of approval for the development.

3.3 Depth of Cover

Distribution mains, 10-inch and smaller, shall have a minimum of 42 inches of cover between the top of the pipe and the finished street grade unless shown differently on the improvement plans or otherwise directed by the City Inspector due to unusual field conditions.

Transmission mains, 12-inch and larger, shall have a minimum of 48 inches of cover between the top of the pipe and the finished street surface unless shown differently on the improvement plans or otherwise directed by the City representative due to unusual field conditions. Storm drain systems must be designed with sufficient cover so that the water mains and service laterals can be built over the top of the storm drain mainline and laterals.

3.4 Standard Location

Domestic waterline centerlines shall be located six (6) feet from the face of the curb for all pipelines 12-inches in diameter and smaller; and shall be eight (8) feet from the face of the curb for pipelines 16-inches in diameter and larger. Water lines will not be allowed within easements in residential lots. There must be a separate lettered lot, minimum width 15 feet, if a water line needs to go outside the public street right-of-way from cul-de-sac to cul-de-sac or from cul-de-sac to open space of tract common area.

Where water pipelines are designed to cross perpendicular beneath retaining walls or other structures (specific written permission required for each instance), the pipeline shall be constructed in a steel pipe casing of sufficient size and thickness and with a minimum vertical clearance of at least one (1) foot from the footing or structure itself.

3.5 Valve Arrangements

There shall be at least two isolation valves at each tee intersection of two distribution mains. If the two distribution mains cross there shall be three (3) valves and, at major distribution points, there shall be four (4) valves.

On long blocks, intermediate valves shall be installed so that no more than twenty-eight (28) dwelling units, six hundred (600) feet of main, or two (2) fire hydrants will be out of service at any time. Additional looping of main lines may be necessary to satisfy this condition and the arrangement of valves within the distribution system will be reviewed to identify the optimum network layout.

A valve must be placed at each end of an easement where a water line passes through easements outside the traveled streets.

3.6 Separation Criteria for Water and Sewer

3.6.1 Horizontal Separation

State Health Department regulations require a 10-foot minimum horizontal separation between domestic water and recycled water or sewer lines. There are special construction methods which may be used where this separation cannot be achieved. Refer to the City Standard Drawings therein. Separation other than the Health Department minimums must be approved by the City Engineer.

3.6.2 Vertical Separation

Water and sewer lines are typically located vertically from the street surface down in order of decreasing quality. Water will be the shallowest and sewer mains will be the deepest. Refer to the City Standard Drawings therein.

3.7 Fire Flow Requirements

The design requirements for fire flow will be determined by the Los Angeles County Fire Department or the City of Beverly Hills Fire Department, depending upon the project location and applicable jurisdiction.

Any plan submitted for second plan check must have been reviewed and approved by the Fire Department. The signature of the Fire Marshal or local fire department representative on the plans shall constitute the only form of accepted approval of the fire protection system provided.

3.8 Water Service Materials and Sizes

Approved materials and manufacturers for various service materials and connections are listed in the Standard Specifications sections. The minimum domestic service lateral size shall be 1-inch and made of copper tubing. Service lateral sizes will be shown on the plans. Service lateral sizes available are 2" (which shall be copper), 4", 6", 8" and 10"; no other sizes will be allowed.

3.9 Water Meters

All water meters will be furnished by the City subsequent to payment of all applicable fees.

Temporary water meters (up to 3-inch in diameter) shall be applied for through the City Public Works Department. Larger (4-inch and greater) diameter temporary services shall be requested through the Public Works Department with a proper engineering plan set.

3.10 City Standard Domestic Water Notes

The following Standard Water Notes shall be included on all improvement plans for the installation of domestic water systems:

- A. All water system work shall conform to the City's "Water Standard Drawings and Standard Technical Specifications", as last revised.
- B. A pre-construction conference of representatives from affected utilities, agencies and the contractor shall be held on the job site (or a location approved by the City) at least forty-eight (48) hours prior to the start of work.
- C. The City Public Works Inspector's Office shall be called for inspection forty-eight (48) hours before start of work at (310) 285-2518.
- D. Water meters shall not be located within a driveway or sidewalk. All water service laterals shall be constructed perpendicular to the water main without bends or angles from the connection point on the main.
- E. All main line valves shall be maintained so as to be accessible during construction. All valve stem tops having over 60-inches of cover require an extension meeting City standards.
- F. In residential streets, the top of the pipe, 10-inches and smaller, shall be a minimum of 42-inches below the finished street surface and 48-inches below finished street surface for all pipe 12-inches in diameter and larger.
- G. All fire hydrants shall be set with the bottom flange 4-inches above the concrete pad or sidewalk using one scored-spool as indicated in the Standard Drawings and shall be located a minimum of 3 feet from the ECR or BCR at intersection.

- H. All water mains 6-inches through 12-inches shall be Class 150 DIP or thicker, unless otherwise approved by the City.
- I. No “hot-taps” or other tie-in connections shall be made to existing City water mains prior to conducting and passing an approved pressure test and a bacteriological test on the new water distribution system.
- J. Tapping sleeves, where called for on the plans, shall be pressure tested in an approved manner in the field, in the presence of the City representative, prior to tapping the main line. Tapping of the main line shall not proceed unless a City representative is present. Size on size taps of water mains are not allowed.
- K. Where meters and meter boxes are located within slopes, the angle meter stops shall be located such that the meters and boxes are parallel and flush, with the finished surface. Wherever the surrounding grade exceeds eight (8%) percent, or in the opinion of the City representative, the adjacent slope is too great, a small retaining wall, clear of the meter box, shall be constructed to the satisfaction of the City representative.
- L. Curb faces shall be inscribed with the letter “W” indicating locations of all domestic water services. Letter inscription shall be made using a 4-inch power tool wheel grinder.
- M. Individual pressure regulators are required by the Uniform Plumbing Code if average static pressure in the main is 80 psi or more.
- N. Curbs shall be inscribed with tie downs for all valve locations. Letter inscriptions shall be made using a 4-inch power tool wheel grinder.
- O. The contractor shall expose all points of connection to the existing domestic water system for verification of horizontal and vertical location before construction.
- P. Final Inspection for waterlines must include water samples that will be tested for the presence of bacteria, conductivity, turbidity and odor. The turbidity must be less than 2.5 NTU and the odor must be less than 1.0 TON, not to include chlorine odor, to be acceptable. Two (2) consecutive “passing” samples are required for acceptance.
- Q. The contractor working on City waterlines must have a C-34 license issued by the State Contractor’s License Board or Class “A” General Contractors license (with special approval of the City, based upon actual water and sewer pipeline construction experience.)
- R. Contractor shall obtain and show proof of a construction dewatering permit from the state of California, Regional Water Quality Control Board prior to the start of construction.
- S. All butterfly valves 12-inches in diameter and larger shall be flanged and shall be bi-directionally tested with the operator installed in accordance with the City’s requirements outlined in the Standard Specifications

3.11 Miscellaneous Standard Guidelines

- A. Separate quantity estimates are to be included on the plans to indicate quantity of pipe, number of hydrants, valves, fittings, services, meter boxes, etc.
- B. The Developer's Engineer shall provide a probable opinion of construction cost.
- C. The plans shall show, in plan and profile views, the position of all other known existing underground utilities as well as proposed underground utilities. Vertical clearance at crossings shall be indicated by showing top of pipe and bottom of pipe elevations at the point of intersection.
- D. Minimum vertical separation for utilities crossing over/under water pipeline or other facilities shall be a minimum of 12 inches or as otherwise approved and/or directed by the City.
- E. Temporary flush-out assemblies shall be installed at the end of all mains and large service stub-outs for testing and flushing purposes.
- F. Air and vacuum relief valves shall be installed at all high points of water mains in accordance with the City Standard Drawings.
- G. Water sample stations shall be provided for each contiguous water service area. Where there are separate pressure zones, a separate water sample station shall be provided for each zone in a location approved by the City.



City of Beverly Hills Public Works Services

345 Foothill Road, Beverly Hills, CA 90210

310-285-2467 ■ 310-278-1838 (fax) ■ www.beverlyhills.org

Water Will-Serve/Availability Request

DATE: _____

Delivery of Will-Serve Notice: Mail Pick-up Email Fax#

APN: _____ Property Address: _____

Lot No: _____ Tract or Block: _____

Is there existing service to this parcel? Yes No If so, Account Number: _____

PLANNED USE:

Single-Family Residential

Multi-Family Residential

Commercial Fireline Landscape

Multiple Units: # of Units _____

Apartments

Condos

Hotels/Motels

Type (restaurant, car wash, etc.) _____

Total number of meters requested: _____

Size of Meter(s): _____

Name/Company: _____

Mailing Address: _____

Primary Phone: _____ Secondary Phone: _____

Email Address: _____

Estimated Potable Water Demand*

Average Day Demand* (ADD):

Maximum Day Demand* (MDD):

Peak Hour Demand* (PHD):

Domestic: gpm

Domestic: gpm

Domestic: gpm

Irrigation: gpm

Irrigation: gpm

Irrigation: gpm

Fire: gpm

Fire: gpm

Industrial: gpm

Total: gpm

Total: gpm

Total: gpm

*ATTACH REFERENCES USED AND CALCULATIONS FOR TOTAL WATER DEMAND (INCLUDING SITE PLAN SHOWING PROPOSED CONNECTIONS).

Comments:

I understand that the City of Beverly Hills is willing to supply water to the subject property with the following conditions: (Conditions are subject to change without notice.)

1. This Water Will-Serve Request is not a guarantee of service. All conditions of approvals must be met prior to connection to the public water system.
2. This property is subject to all City of Beverly Hills policies, rates and fees in effect when fees are paid, including, but not limited to, processing, plan check, capacity/exaction, inspection, permitting and all other associated costs.
3. Exact location of the water meter is to be determined by owner and approved by the City of Beverly Hills.
4. Detailed calculations and plans may be required for City approval prior to installation of water services.
5. Once issued, the Will-Serve Letter will remain effective for 1 year from the date approved (subject to the attached conditions).
6. Owner should confirm that mainline pressure is sufficient to serve the planned elevation of any improvements. In some cases, pressure-reducing valves or booster pumps may be required.

Signed: _____

Printed Name: _____

Owner Agent

FOR CITY PERSONNEL USE ONLY

COBH Service Area? Yes No

Capacity & Groundwater Exaction Fee paid? Yes No

Main upsizing required? Yes No

Existing Main Location & Size _____

Comments: _____

APPROVAL:

Signature: _____ Date: _____

SECTION I

SECTION II

SECTION III

Attachment 2

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BH 701	General Notes
BH 702	General Notes
BH 703A	Fire Hydrant Assembly (Typical)
BH 703B	Fire Hydrant Installation with Water Main Behind Curb
BH 705	Lateral Installation (Fire Hydrant)
BH 706	Connection for Upgraded Fire Hydrant Installation
BH 707	Valve Box Detail
BH 708	Typical Caps and Plugs
BH 709	Concrete Thrust Blocks
BH 710	Trench for Water Line
BH 711	Water Meter Box and Lid
BH 712	Water Vault Box and Lid
BH 713	Sewer and Water Main Separation (Parallel and Perpendicular)
BH 714	1" Water Service Connection Replacement Short Service (TBH 102-1)
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BH 721	Fire Service Tee Case "C" and "D" (TBH 107)
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City of Beverly Hills
Added Standards Drawings

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BH 733	Backflow Prevention (W-21c)
BH 734	Large Meter Installation (W-22)
BH 735A	P.R.V. Station Detail (W-25a)
BH 735B	PRV Station Detail

II. WATER NOTES

GENERAL:

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, FIRE AND POLICE DEPARTMENT AT LEAST 72 HOURS PRIOR TO SHUTTING DOWN ANY WATER MAINS, FIRE HYDRANTS OR BLOCKING ACCESS TO ANY AREA. FIRE HYDRANT SHALL NOT BE OUT OF SERVICE FOR MORE THAN FOUR HOURS AND NONE SHALL BE OUT OF SERVICE OVERNIGHT OR DURING WEEKENDS.
2. THE CONTRACTOR SHALL FIELD VERIFY AND PROTECT ALL EXISTING UNDERGROUND UTILITIES. THE CONTRACTOR SHALL DETERMINE THE DEPTH OF GAS ELECTRICAL, TELEPHONE, TELEVISION, STORM DRAIN, SEWER AND WATER AT ALL INTERSECTIONS PRIOR TO CONSTRUCTION AND AS NOTED ON PLANS. DAMAGED UTILITIES SHALL BE REPLACED IN KIND UNDER THE SUPERVISION OF THE OWNER AT CONTRACTORS EXPENSE
3. DUE TO INDIVIDUAL LOT IMPROVEMENTS, THE EXISTING SEWER, GAS LATERALS AND/OR ELECTRICAL UNDERGROUNDING MAY NOT BE AT LOCATIONS SHOWN OR SHOWN IN THEIR ENTIRETY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING.
4. PRIOR TO SHUT DOWN AND CUTTING OF ANY EXISTING WATER MAIN, ALL EXISTING VALVES SHALL BE EXERCISED BY CITY PERSONNEL. THE CONTRACTOR SHALL NOTIFY THE CITY'S DEPARTMENT OF PUBLIC WORKS, WATER DIVISION INSPECTION SUPERVISOR AT 310 925 - 0702 OR 310 285 - 2509 A MINIMUM OF FOUR DAYS PRIOR TO COORDINATE THE SHUT DOWN OF ANY WATER MAIN.
5. ONTRACTOR SHALL PROTECT IN PLACE THE EXISTING SURVEY MONUMENTS DURING WATER MAIN CONSTRUCTION. IF MONUMENTS ARE DESTROYED, THE CONTRACTOR SHALL SURVEY AND RESET RECORDED MONUMENTS.

DUCTILE IRON PIPE:

6. ALL D.I.P. WATER LINES AND FITTINGS SHALL BE CEMENT LINED DOUBLE THICKNESS, CLASS 52 PRESSURE CLASS WITH POLYETHYLENE ENCASEMENT AND COMPLY WITH ANSI A21.51(AWWA C 151).
7. STATIC WATER PRESSURE IN VICINITY IS SHOWN FOR LOW AND HIGH ELEVATIONS ON THE PLANS. (REFER TO TOP OR BOTTOM OF SHEETS).
8. PIPE MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THESE CONSTRUCTION DOCUMENTS AND THE MANUFACTURER'S RECOMMENDATIONS.
9. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF 36 INCHES EXCEPT AT POINTS OF CONNECTION TO EXISTING WATER MAINS. REFER TO STD. DWG BH710.
10. THE CONTRACTOR MAY VARY THE GRADE IN THE ALIGNMENT OF THE WATERLINE IF FIELD CONDITIONS WARRANT WITH THE APPROVAL OF THE ENGINEER.
11. PIPE DEFLECTIONS SHALL NOT EXCEED 80%% OF THE MANUFACTURE'S RECOMMENDED ALLOWABLE DEFLECTIONS FOR DUCTILE IRON PIPE AND FITTINGS INSTALLATION.
12. A MINIMUM OF 12-INCHES CLEARANCE BETWEEN THE EXISTING UTILITIES AND PROPOSED PIPELINES SHALL BE MAINTAINED AT CROSSINGS. UTILITIES SHALL BE SUPPORTED AS REQUIRED BY THE ENGINEER AND IN ACCORDANCE WITH APWA STD. DWG. 224 - 1.
13. THE OPEN ENDS OF ALL ABANDONED WATER LINES SHALL BE PLUGGED WITH CONCRETE PER STD DWG BH 708. THE LOCATION OF THE CONCRETE PLUGS SHALL BE APPROVED BY THE CITY ENGINEER IN THE FIELD.
14. ALL EXCAVATIONS FOR THE INSTALLATION OF THE MAIN LINE PIPE AND SERVICES, INSTALLATION OF COMBINATION AIR VACUUM AND AIR RELEASE VALVES, INSTALLATION OF END OF LINE FLUSH-OUTS, AND ABANDONMENT OF EXISTING WATER MAINS SHALL BE BACKFILLED WITH A 2-SACK CEMENT SAND SLURRY MIX. SLURRY SHALL BE USED WITHIN THE PARKWAY UP TO 4 INCHES BELOW THE FINISHED SURFACE.
15. ALL BACKFILL FOR THE ENTIRE PROJECT SHALL BE A 2 SACK CEMENT SLURRY MIX CONSISTING OF PER S.S.P.W.C. 201-1 AND 200-E-100.

FITTINGS:

16. ALL FITTINGS AND MECHANICAL JOINTS SHALL BE DUCTILE IRON UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER. ALL RESTRAINED JOINTS AS SHOWN SHALL BE CONSTRUCTED WITH RESTRAINTS (MEGALUG FIELD-LOK GASKETS).
17. ALL DUCTILE IRON TEES AND CROSSES SHALL BE CLASS 350 FLANGE FITTINGS UNLESS OTHERWISE NOTED ON PLANS. ALL OTHER DUCTILE IRON FITTINGS SHALL BE CLASSED 350 WITH PUSH-ON JOINTS UNLESS OTHERWISE NOTED PLANS. PROVIDE FITTINGS WITH ENDS THAT ARE COMPATIBLE WITH MECHANICAL RESTRAINTS WHERE RESTRAINED JOINTS ARE REQUIRED.
18. ALL "TEE" INSTALLATIONS SHALL BE PER TYPICAL STD DWG BH 705, UNLESS SHOWN OTHERWISE ON PLANS.
19. CONTRACTOR SHALL FURNISH ALL FITTINGS NECESSARY FOR DEVIATION OF PIPE ALIGNMENT NOT SHOWN ON PLANS.

VALVES:

20. ALL VALVES SHALL BE BUTTERFLY VALVES. VALVE ASSEMBLIES SHALL BE PER TYPICAL STD DWG BH 706 AND 707.
21. BUTTERFLY VALVES SHALL BE PLACED WITH OPERATING NUT EITHER NORTH OR WEST OF THE WATER MAIN.
22. ALL VALVES CONNECTING TO TEES, CROSSES, AND REDUCERS SHALL HAVE FLANGED OR FLANGED X PUSH-ON ENDS.
23. NO VALVE SHALL BE LOCATED WITHIN A GUTTER OR OTHER CONCRETE DRAINAGE DEVICE, ALLEY GUTTERS, DRIVEWAY AND ALLEY APPROACHES OR SIDEWALKS, UNLESS OTHERWISE SPECIFICALLY APPROVED BY THE CITY ENGINEER.
24. THE CONTRACTOR SHALL ADJUST ALL VALVE SLEEVES TO FINISH GRADE UPON COMPLETION OF REPAVING.
25. EXISTING PIPE, TEES, CROSSES AND OTHER FITTINGS WHICH INTERFERE WITH THE PROPOSED WATER SYSTEM IMPROVEMENTS SHALL BE REMOVED AND DISPOSED OF PROPERLY OR SALVAGED AS DIRECTED BY THE ENGINEER.
26. EXISTING VALVES SHALL BE SALVAGED UNDER DIRECTION OF THE ENGINEER. VALVE CANS SHALL BE REMOVED, BACKFILLED AND PAVED OVER.

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(CONTINUOUS) II. WATER NOTES

AIR VALVES AND PUMP WELLS:

- 27. THE CONTRACTOR SHALL CONSTRUCT A COMBINATION AIR/VAC AIR RELEASE VALVE ASSEMBLY PER DETAIL 13 ON SHEET 26 AT ALL HIGH POINTS IN THE ALIGNMENT WHETHER OR NOT SHOWN ON THESE DRAWINGS.
- 28. CONTRACTOR SHALL CONSTRUCT A PUMP WELL ASSEMBLY PER DETAIL 21 OF SHEET 27 AT ALL LOW POINTS IN THE ALIGNMENT WHETHER OR NOT SHOWN ON THESE DRAWINGS.

FIRE HYDRANTS:

- 29. ALL FIRE HYDRANTS, VALVES AND OTHER ASSOCIATED FACILITIES SHALL BE LOCATED IN THE FIELD AS DIRECTED BY THE ENGINEER. THE LOCATION SHOWN ON THESE PLANS ARE APPROXIMATE.
- 30. REMOVAL OF THE EXISTING FIRE HYDRANTS WILL INCLUDE CUTTING FIRE HYDRANT BURY TO TWO FEET (2'-0") BELOW EXISTING GRADE AND BACKFILLING WITH CONCRETE. SALVAGED FIRE HYDRANTS SHALL BE DELIVERED TO THE CITY OF BEVERLY HILLS WATER DIVISION.
- 31. FIRE HYDRANT INSTALLATIONS SHALL INCLUDE NEW 6-INCH LATERALS, VALVES WITH 6"X 6" X 6" OR 8"X 6"X 8" TEE.

WATER SERVICES AND METERS:

- 32. ALL WATER SERVICES AND FIRE LINES SHALL BE REPLACED FROM THE NEW WATER LINE UP TO THE METER PER DETAILS 18 AND 19 ON SHEET 27.
- 33. CONTRACTOR SHALL LOCATE AND FIELD VERIFY ALL WATER SERVICE CONNECTIONS AND FIRE LINE SERVICES SIZES AND LOCATIONS PRIOR TO COMMENCING WORK ON PROJECT.
- 34. THE CONTRACTOR SHALL REPLACE ALL WATER METER BOXES ALONG THE NEW WATER MAIN DURING CONSTRUCTION WITH BOXES AND COVERS AS DEFINED IN THE CONTRACT SPECIFICATIONS AND AS APPROVED BY THE CITY ENGINEER.

POTHOLING/UTILITIES:

- 35. THE CONTRACTOR SHALL POTHOLE ALL TIE IN CONNECTION LOCATIONS, PRIOR TO CONSTRUCTION TO FIELD VERIFY THE ACTUAL SIZE, DEPTH, AND ROUNDNESS OF THE EXISTING WATER SYSTEM. THE TIE IN WILL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
- 36. EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE UNLESS OTHERWISE SHOWN.
- 37. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS A MINIMUM DISTANCE OF 200 FEET IN ADVANCE OF WATER MAIN TRENCHING TO DETERMINE THE EXACT LOCATION AND VERIFY THE MATERIAL, SIZE, DEPTH AND ROUNDNESS OF ALL PARALLEL AND CROSSING UTILITIES WITHIN THE ALIGNMENTS OF THE NEW WATER MAIN. PIPE JOINTS SHALL BE DEFLECTED A MAXIMUM 80% OF MANUFACTURER'S RECOMMENDATION TO CLEAR INTERFERENCES WITH KNOWN OBSTRUCTIONS OR OTHER UTILITIES WHICH ARE SHOWN OR NOT SHOWN ON THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ANY INFORMATION GATHERED DEVIATING FROM PLANS SHALL BE CONVEYED TO THE ENGINEER IN WRITING.
- 38. FAILURE TO COMPLY WITH ANY OF THE ABOVE ITEMS SHALL BE SUFFICIENT CAUSE FOR THE AGENCY TO ARRANGE FOR THE NECESSARY WORK TO BE PERFORMED BY OTHERS. ANY COSTS INCURRED TO COMPLETE THE NECESSARY WORK WILL BE CHARGED TO THE CONTRACTOR.

CONNECTIONS:

- 39. CONTRACTOR SHALL RECONNECT ALL EXISTING SERVICES INCLUDING WATER SERVICE AND FIRE PROTECTION SERVICE CONNECTIONS FROM THE ABANDONED OR REPLACED WATER MAIN TO THE NEW WATER MAIN. THE CONTRACTOR SHALL ALSO PROVIDE ALL REQUIRED TEES, BLIND FLANGES, CAPS, FITTINGS, PIPE AND RESTRAINED JOINT CONNECTIONS REQUIRED TO RECONNECT ALL SERVICES CONNECTIONS TO THE NEW WATER MAIN PER CITY OF BEVERLY HILLS STANDARDS. WATER AND FIRE SERVICE CONNECTIONS HAVE NOT BEEN SHOWN IN DETAIL FOR PLAN CLARITY.
- 40. AT CONNECTION POINTS, THE CONTRACTOR SHALL CUT THE EXISTING PIPE AND INSTALL FITTINGS, VALVES AND MAKE UP SPOOL PIECES AND JOIN PIPE ENDS WITH TRANSITION COUPLINGS.
- 41. WHEN CONNECTING TO EXISTING ASBESTOS CEMENT PIPE, CONTRACTOR SHALL REMOVE FULL PIPE SEGMENTS TO ACCOMMODATE INSTALLATION. CUTTING ASBESTOS PIPE WILL NOT BE ALLOWED.
- 42. CONNECTIONS TO EXISTING WATER MAIN SHALL BE ACCORDING TO TYPICAL DETAILS ON SHEET 25
- 43. REFER TO CONNECTIONS SHOWN ON SHEETS 25

RESTRAINTS/THRUST BLOCKS:

- 44. RESTRAINING DEVICES SHALL BE INSTALLED ON BOTH SIDES OF ALL FITTINGS, VALVES, PLUGS AND DEAD ENDS, AND ALL DIRECTION CHANGES. THE REQUIRED RESTRAINED FITTINGS SHALL BE PER TABLES 1.1, 1.2 AND 1.3 ON SHEET 25, UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.
- 45. THRUST BLOCKS SHALL ONLY BE INSTALLED AT LOCATIONS SPECIFICALLY APPROVED BY THE CITY ENGINEER. WHEN APPROVED BY THE CITY ENGINEER, CONCRETE THRUST BLOCKS SHALL BE CONSTRUCTED PER THE CITY OF BEVERLY HILLS STANDARD DRAWING BH 709.
- 46. ALL NEW AND EXISTING WATER MAINS SHALL BE PROPERLY RESTRAINED BY THE CONTRACTOR DURING CONSTRUCTION AND HYDROSTATIC TESTING.
- 47. ALL FIRE SERVICE CONNECTIONS SHALL BE RESTRAINED.

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(CONTINUOUS) II. WATER NOTES

WATER SAMPLING STATIONS:

- 48. WATER SAMPLING STATIONS SHALL BE PROVIDED BY CITY. ALL APPURTENANCES INCLUDING CONCRETE PAD AND SERVICE LINE TO STATION SHALL BE PROVIDED BY CONTRACTOR. FINAL LOCATION OF THE WATER SAMPLING STATION SHALL BE FIELD APPROVED BY THE ENGINEER AND COORDINATED WITH CITY OF BEVERLY HILLS

TESTING/DISINFECTION:

- 49. THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT ALL WATER MAINS HAVE BEEN RELIEVED OF ENTRAPPED AIR BY HOLDING HYDROSTATIC PRESSURE IN PIPELINES BEING TESTED A MINIMUM OF 4 HOURS PER AWWA C600 OR C605.
- 50. ALL WATER LINE INSTALLATIONS SHALL BE FREE OF DEBRIS AND ORGANIC MATERIALS. THE PIPE SHALL BE PRESSURE AND LEAKAGE TESTED, FLUSHED AND CHLORINATED. CHLORINATING SHALL BE IN ACCORDANCE WITH THE STATE OF CALIFORNIA HEALTH DEPARTMENT, CONSISTING OF NOT LESS THAN 50 PPM INITIAL DOSAGE, WITH NOT LESS THAN 25 PPM RESIDUAL DOSAGE AFTER 24 HOURS. INSTALLATIONS SHALL BE FLUSHED AND A 48 HOUR BACTI TEST SHALL BE REQUIRED PRIOR TO PRESSURE TESTING. THE CONTRACTOR SHALL BE RESPONSIBLE ALL BACTERIOLOGICAL TESTING BY A CERTIFIED LABORATORY. THE CONTRACTOR SHALL NOT HAVE CUSTODY OF THE WATER SAMPLES AT ANY TIME. ALL TESTING METHODS AND RESULTS SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER PRIOR TO CONNECTING THE NEW WATER MAIN TO THE CITY'S WATER SYSTEM.
- 51. ALL BACTI AND PRESSURE TESTS SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO PLACEMENT OF PERMANENT RESURFACING.

HIGH LINING (BY-PASS):

- 52. THE CONTRACTOR SHALL INSTALL BY-PASS LINES PER SPECIFICATIONS SECTION 2511. THE MINIMUM BY-PASS PIPING SIZE SHALL EQUAL THE SIZE OF THE MAIN TO BE REPLACED.
- 53. BY-PASS WATER PLANS SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER FOR ALL WATER MAINS TO BE REMOVED AND REPLACED PER PLAN. ALL BYPASS PLANS SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND COORDINATED AND APPROVED WITH THE CITY FIRE MARSHALL.

ABANDONMENT:

- 54. WHERE THE NEW WATER MAIN REPLACES AN EXISTING MAIN, THE EXISTING MAIN SHALL BE ABANDONED IN PLACE (U.N.O) AND THE ENDS SHALL BE FILLED WITH 2 FEET MINIMUM OF SLURRY, CAPPED OR PLUGGED PROPERLY AND SECURED WITH CONCRETE PRIOR TO BACKFILLING.
- 55. EXISTING WATER SERVICES SHALL BE REMOVED. NEW 1 INCH MINIMUM OR 2-INCH WATER SERVICES SHALL BE CONSTRUCTED TO THE EXISTING METER 3/4" AND 1-1/2" SERVICES SHALL BE REPLACED WITH 1" AND 2" PIPING RESPECT IVEY. CONTRACTOR TO PROVIDE AND CONSTRUCT NECESSARY FITTINGS TO CONNECT TO EXISTING METERS.
- 56. REPLACE METER BOXES AS SHOWN PER PLAN OR DIRECTED BY THE CITY OF BEVERLY HILLS.

SEPARATIONS

- 57. ALL WATER MAIN SEPARATIONS SHALL COMPLY WITH CALIFORNIA DEPARTMENT OF PUBLIC HEALTH GUIDANCE CRITERIA FOR THE SEPARATION OF WATER MAINS AND NON-POTABLE PIPELINES (LATEST ADDITION) AND STANDARD DRAWING BH719.
- 58. WHEREVER A WATER LINE CROSSES A SEWER LINE, SEPARATION SHALL NOT BE LESS THAN 4 INCHES. WHERE THE SEPARATION IS BETWEEN 4 INCHES AND ONE FOOT, THE CONTRACTOR SHALL INSTALL THE WATER MAIN SO THAT A 20 FOOT SECTION OF PIPE IS CENTERED AT THE SEWER LINE, AND THERE SHALL NOT BE A PIPE JOINT WITHIN 8 FEET.
- 59. IN AREAS WHERE THE PIPELINE IS INSTALLED ABOVE AN EXISTING STORM DRAIN, THE CONTRACTOR SHALL MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 12 INCHES BETWEEN THE TOP OF STORM DRAIN AND THE BOTTOM OF THE PIPELINE. IF A 12 INCH CLEARANCE CANNOT BE MAINTAINED, PIPE SHALL BE CONCRETE ENCASED ACROSS THE STORM DRAIN, PLUS 3 FEET ON BOTH SIDES.
- 60. WHERE THE NEW WATER MAIN ENCROACHES WITHIN 4 FEET OF AN EXISTING SEWER OUTER DIAMETER SPECIAL CONSTRUCTION WILL BE REQUIRED BY CONSTRUCTING A CASING PIPE FOR THE NEW WATER MAIN PER BH719.

TRENCHING AND BACKFILLING:

- 61. NO MECHANICAL EQUIPMENT IS PERMITTED TO OPERATE WITHIN THREE FEET OF A GAS LINE AND ANY CLOSER WORK MUST BE DONE BY HAND.

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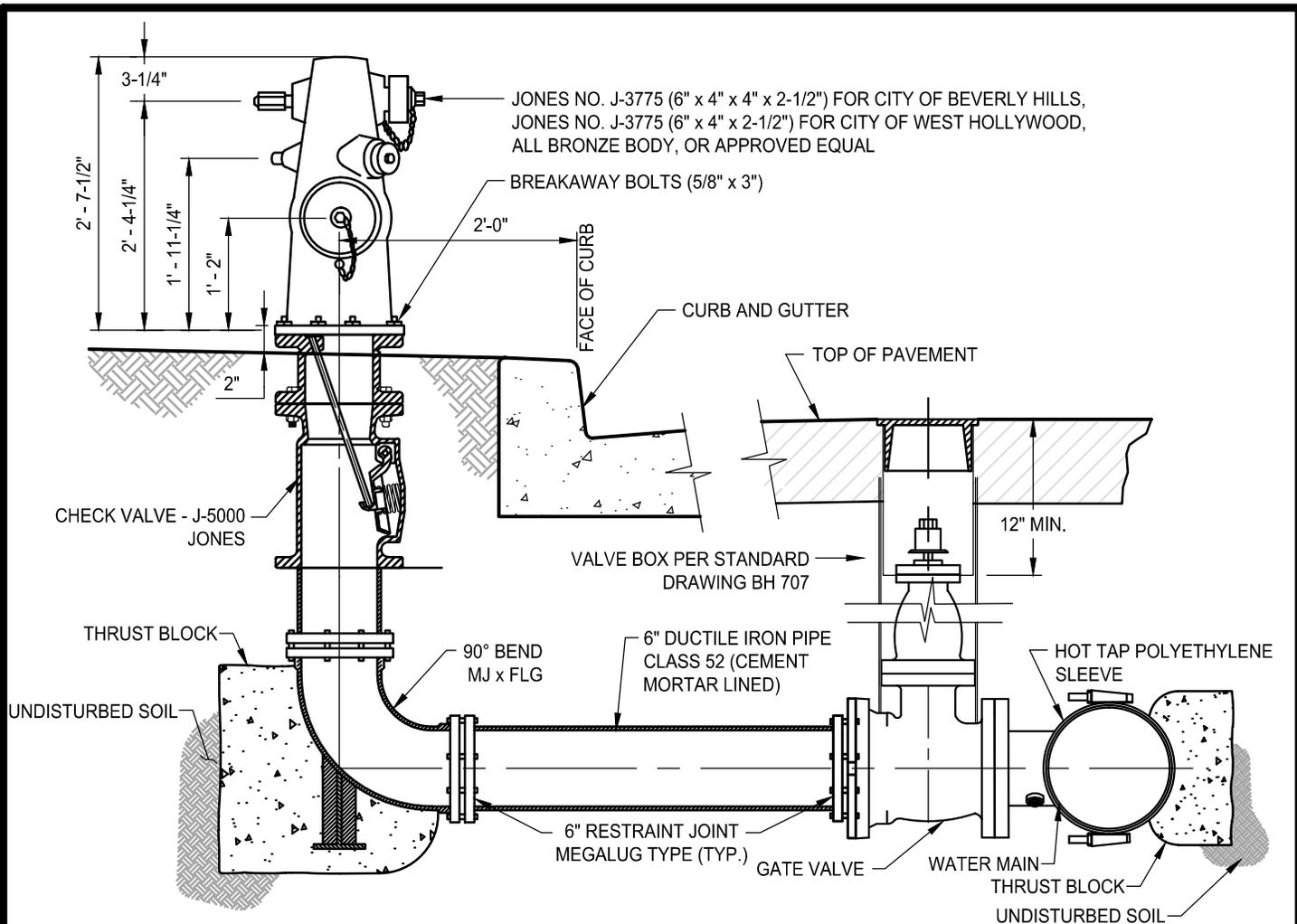
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NOTES:

1. HYDRANT OUTLETS SHALL FACE THE STREET AT 45° OR AS DIRECTED BY THE CITY ENGINEER.
2. FINAL HYDRANT LOCATION TO BE DETERMINED BY THE CITY ENGINEER.
3. CONNECTION OF THE FIRE HYDRANT TO THE WATER MAIN MAY REQUIRE FITTING AND COUPLINGS NOT SHOWN HEREON. THE CONTRACTOR SHALL PROVIDE AND INSTALL AT NO EXTRA COST.
4. BREAKAWAY BOLTS SHALL BE USED TO INSTALL THE HYDRANT HEAD ON THE BURY.
5. THRUST BLOCKS SHALL BE PLACED PER STANDARD DRAWING BH 709 OR AS DIRECTED BY THE CITY ENGINEER.
6. FIRE HYDRANTS SHALL BE PAINTED SILVER FOR BEVERLY HILLS OR SAFETY YELLOW FOR WEST HOLLYWOOD.
7. ALL HYDRANTS WATER OUTLET CAP MATERIAL SHALL BE BRONZE.
8. ALL FITTINGS USED TO CONNECT THE FIRE HYDRANT TO THE WATER MAIN SHALL BE PROPERLY RESTRAINED WITH APPROVED STANDARD METHODS OR AS DIRECTED BY THE CITY ENGINEER.
9. TRENCHES WITHIN THE ROADWAY FOR LATERAL INSTALLATIONS OR REMOVALS SHALL BE BACKFILLED WITH ONE SACK SLURRY MIX AS DIRECTED BY THE CITY ENGINEER.
10. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH TAR BITUMASTIC ENAMEL PRIOR TO BACKFILL.
11. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.
12. ALL PIPES AND FITTINGS SHALL BE WRAPPED WITH POLYETHYLENE SLEEVE.
13. ALL NUTS SHALL BE ZINC COATED.

FIRE HYDRANT ASSEMBLY (TYPICAL)

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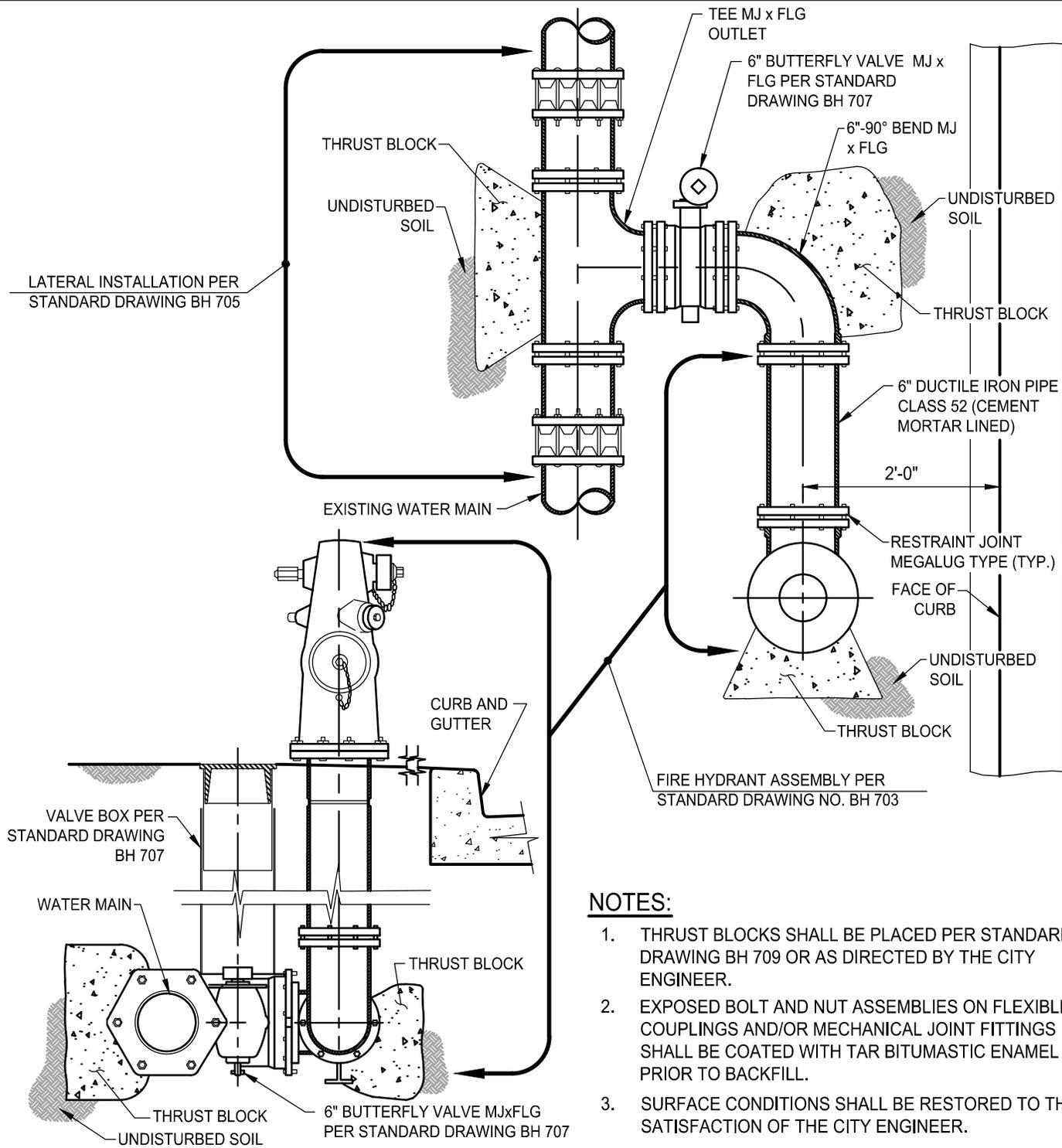
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BH 703A

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NOTES:

1. THRUST BLOCKS SHALL BE PLACED PER STANDARD DRAWING BH 709 OR AS DIRECTED BY THE CITY ENGINEER.
2. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH TAR BITUMASTIC ENAMEL PRIOR TO BACKFILL.
3. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

**FIRE HYDRANT INSTALLATION
WITH WATER MAIN BEHIND THE CURB**

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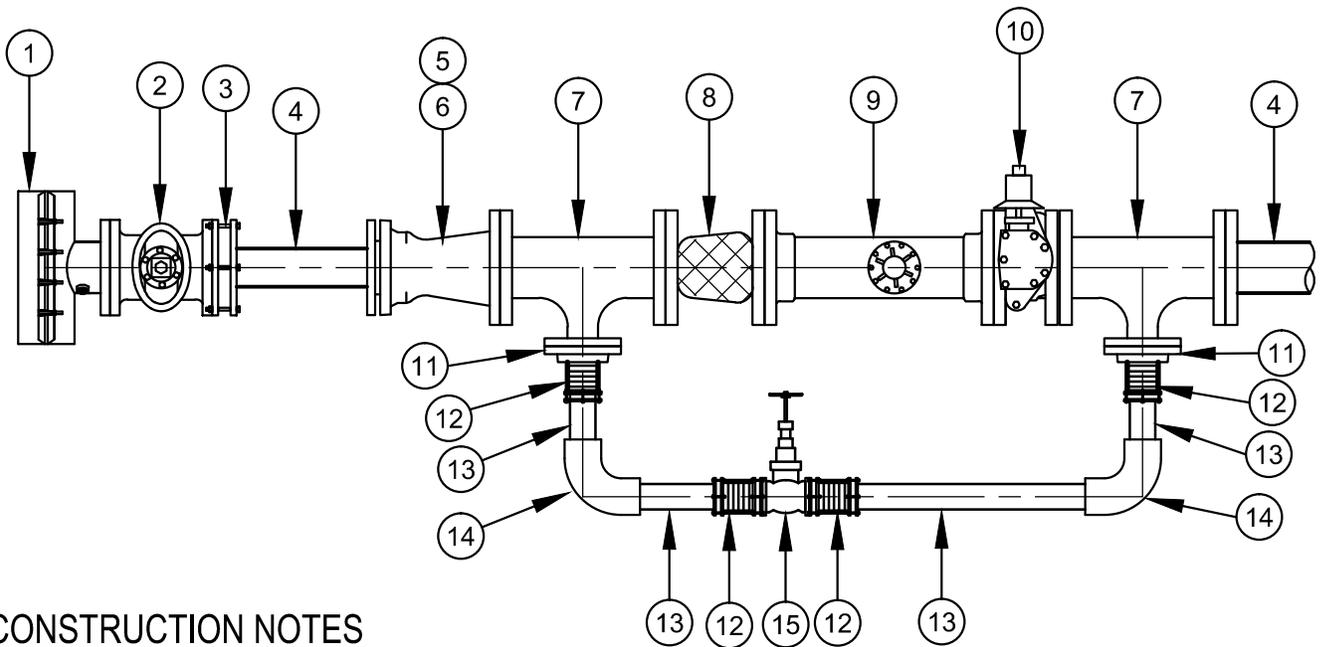
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CONSTRUCTION NOTES

- ① STAINLESS STEEL TAPPING SLEEVE
- ② TAPPING VALVE
- ③ MEGA LUG RETAINER GLAND
- ④ D.I. PIPE
- ⑤ M.J. x FLG. D.I. ADAPTOR
- ⑥ 4" x 3" FLG. D.I. REDUCER, (FOR 3" METER ASSEMBLY ONLY)
- ⑦ FLG. D.I. TEE
- ⑧ FLG. METER SCREEN
- ⑨ METER
- ⑩ BUTTERFLY VALVE
- ⑪ FLG. x 2" F.I.P.
- ⑫ 2" BRASS M.I.P x COMPRESSION ADAPTOR
- ⑬ 2" COPPER TUBING
- ⑭ 2" BRASS COMPRESSION 90 DEGREES
- ⑮ 2" BRASS BALL VLVE

3" & UP WATER SERVICE AND BY-PASS

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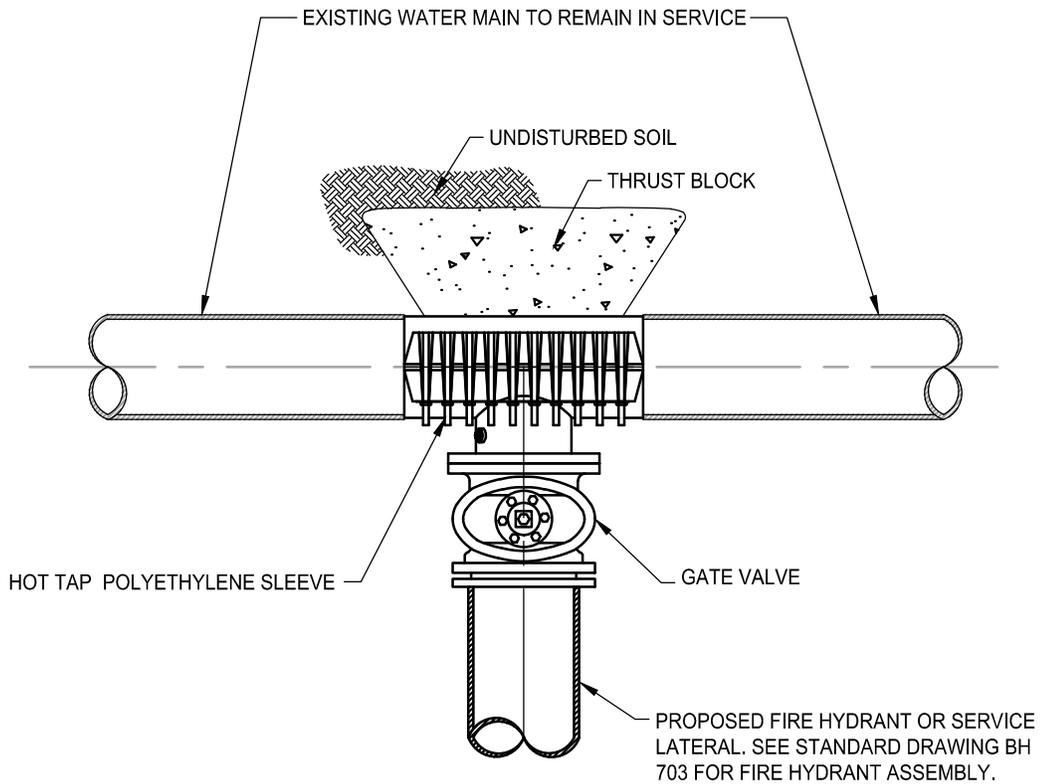
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NOTES:

1. THRUST BLOCKS SHALL BE PLACED PER STANDARD DRAWING BH 709 OR AS DIRECTED BY THE CITY ENGINEER.
2. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH TAR BITUMASTIC ENAMEL PRIOR TO BACKFILL.
3. TRENCHES WITHIN THE ROADWAY FOR LATERAL INSTALLATIONS OR REMOVALS SHALL BE BACKFILLED WITH A SAND SLURRY MIX AS DIRECTED BY THE CITY ENGINEER.
4. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.
5. ALL PIPES AND FITTINGS SHALL BE WRAPPED WITH POLYETHYLENE SLEEVE.

LATERAL INSTALLATION (FIRE HYDRANT)

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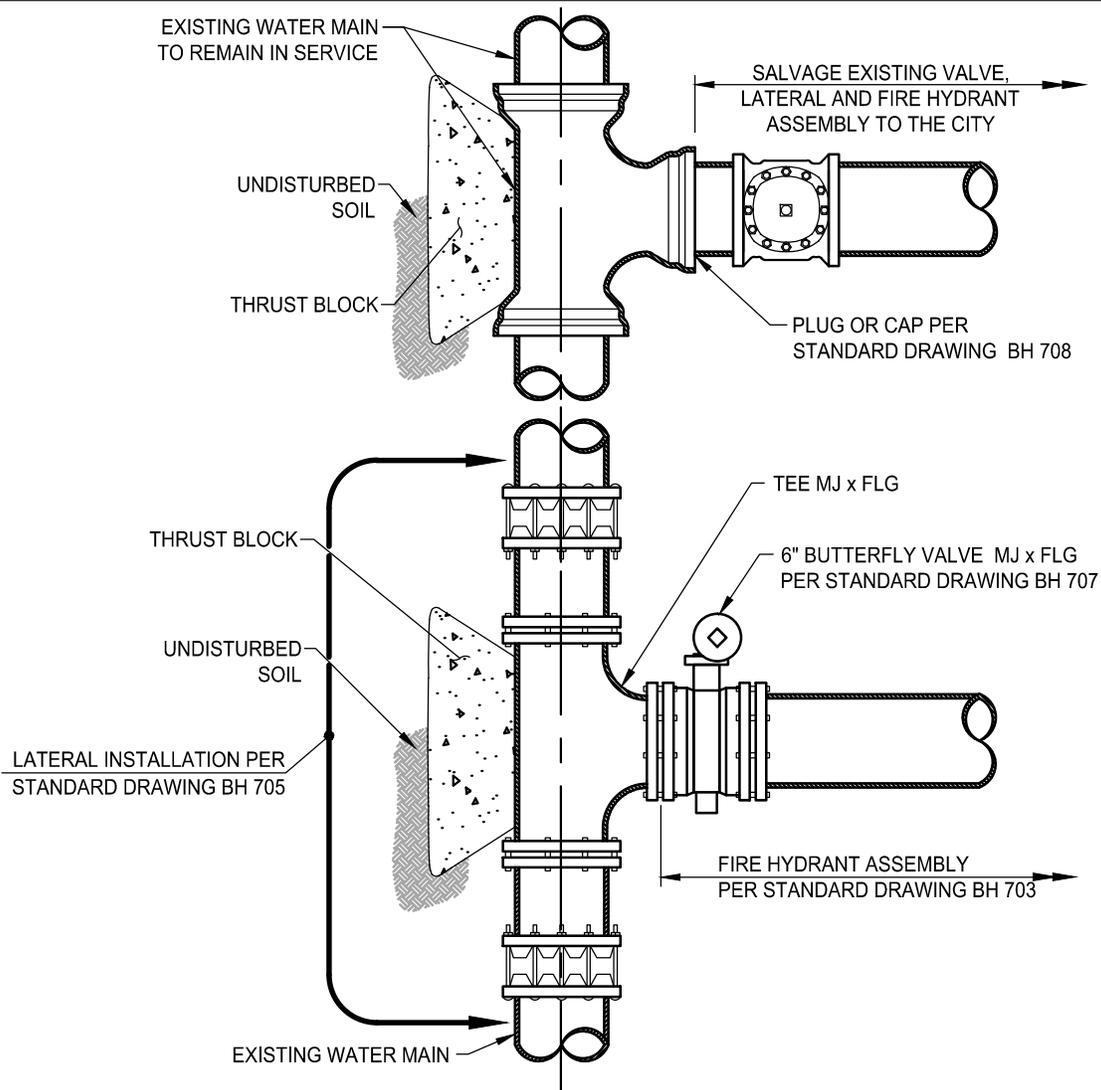
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NOTES:

1. THRUST BLOCKS PER STANDARD DRAWING NUMBER BH 709, ARE REQUIRED AT ALL PLUGS, TEES AND ENDS, OR AS DIRECTED BY THE CITY ENGINEER.
2. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH TAR BITUMASTIC ENAMEL PRIOR TO BACKFILL.
3. ALL PERMANENT PLUGS OR CAPS, PER STANDARD DRAWING NO. BH 708, SHALL BE CAPABLE OF WITHSTANDING A 200 PSI TEST PRESSURE.
4. FINAL FIRE HYDRANT LOCATION TO BE DETERMINED BY THE CITY ENGINEER.
5. REMOVE EXISTING TEE, VALVE, LATERAL AND FIRE HYDRANT ASSEMBLY IF LOCATION REMAINS THE SAME.
6. TRENCHES WITHIN THE ROADWAY FOR LATERAL INSTALLATIONS OR REMOVALS SHALL BE BACKFILLED WITH A SAND SLURRY MIX AS DIRECTED BY THE CITY ENGINEER.
7. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

CONNECTION FOR UPGRADED FIRE HYDRANT INSTALLATION

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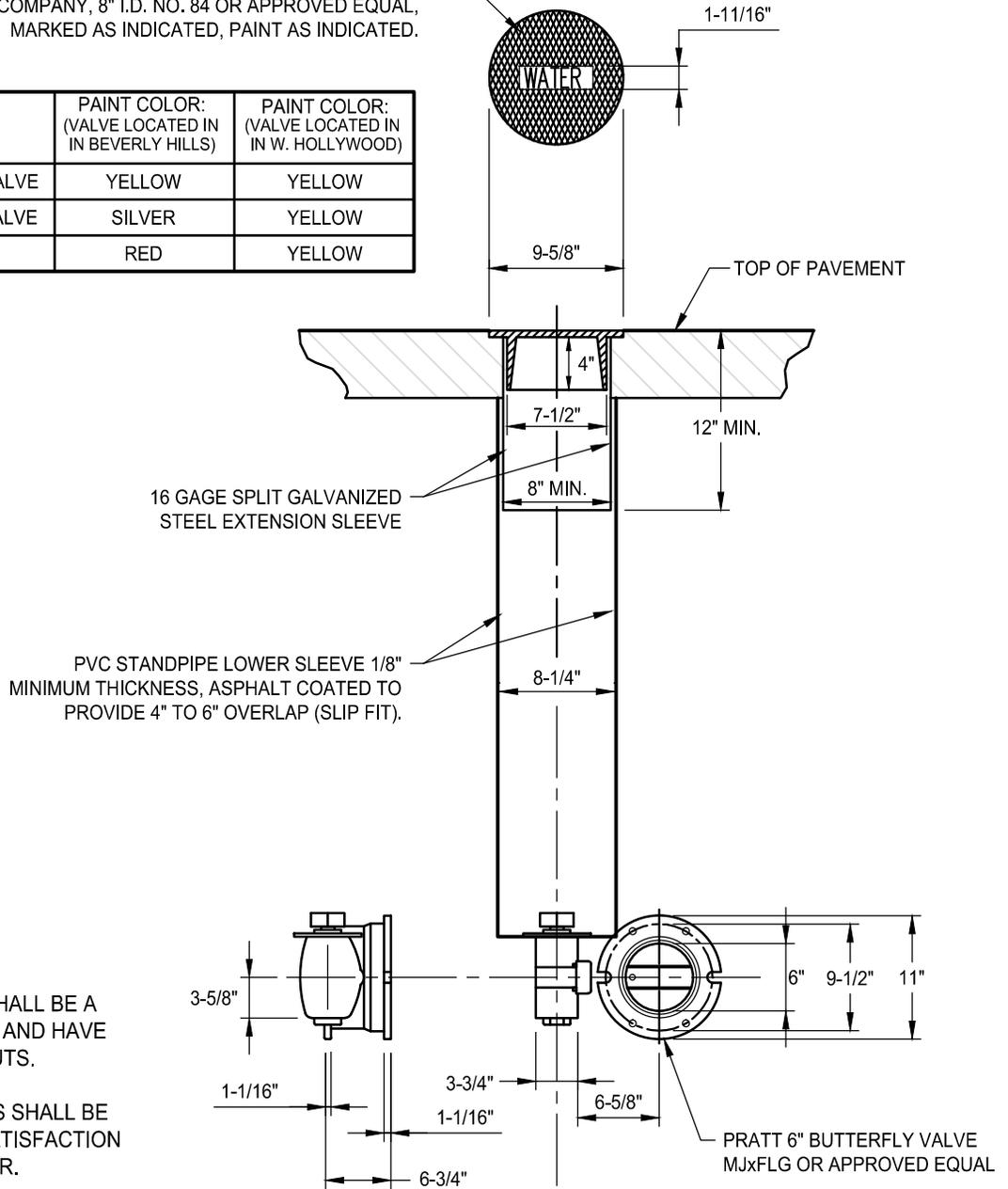
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PROVIDE HEAVY DUTY CAST IRON VALVE BOX CAP, WESTERN WATER WORKS SUPPLY COMPANY, 8" I.D. NO. 84 OR APPROVED EQUAL, MARKED AS INDICATED, PAINT AS INDICATED.

VALVE TYPE:	PAINT COLOR: (VALVE LOCATED IN IN BEVERLY HILLS)	PAINT COLOR: (VALVE LOCATED IN IN W. HOLLYWOOD)
WATER MAIN ISOLATION VALVE	YELLOW	YELLOW
FIRE HYDRANT BRANCH VALVE	SILVER	YELLOW
ZONE VALVE	RED	YELLOW



NOTES:

1. VALVE OPERATORS SHALL BE A TRAVELING NUT TYPE AND HAVE 2-INCH OPERATING NUTS.
2. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

VALVE BOX DETAIL

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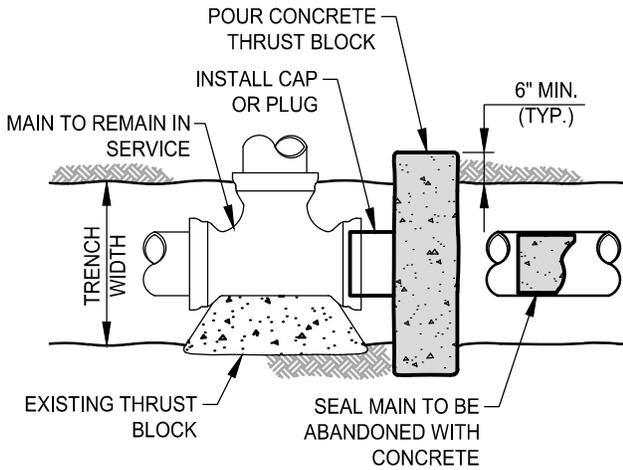
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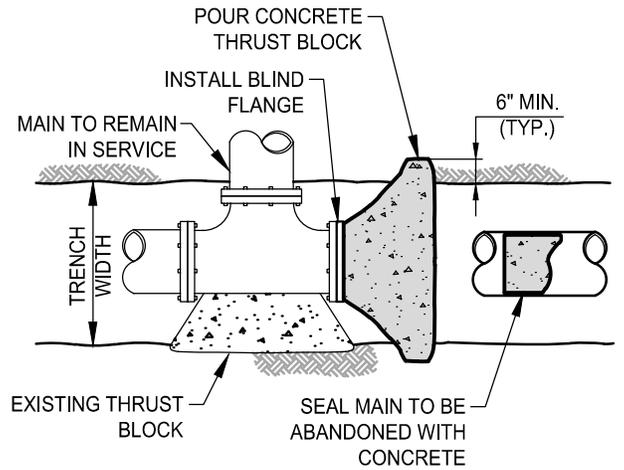
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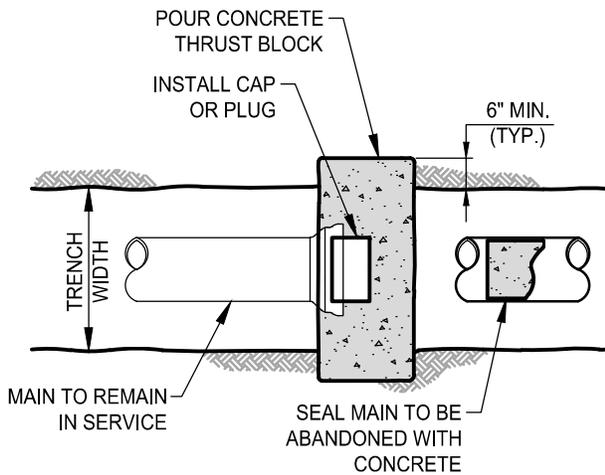
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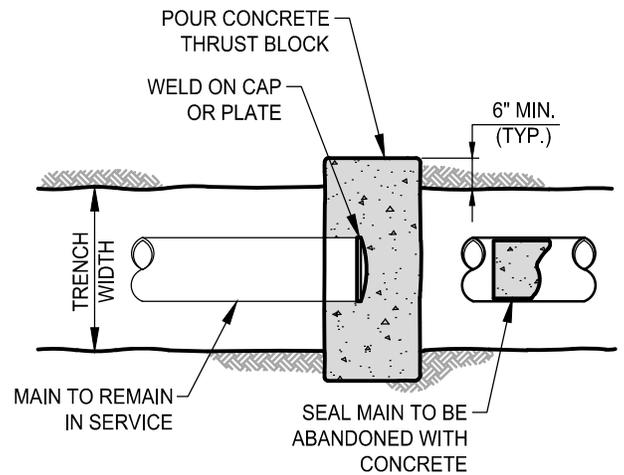
**HUB-END OR RING-TITE
FITTING OR VALVE**



FLANGED FITTING OR VALVE



DUCTILE OR CAST IRON MAIN



STEEL MAIN

NOTES:

1. CONCRETE SHALL BE 2000 P.S.I.
2. POUR CONCRETE THRUST BLOCKS AGAINST UNDISTURBED SOIL.
3. REMOVE INTERFERING PORTIONS OF MAIN TO BE ABANDONED.
4. USE STEEL ANCHOR RODS OR STRAPS ONLY WHERE PERMITTED BY THE ENGINEER.
5. USE BRACE PIPE CLAMP ONLY WHERE PERMITTED BY THE ENGINEER.

TYPICAL CAPS AND PLUGS

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HORIZONTAL BENDS

NOMINAL PIPE SIZE (INCHES)	TEST PRESSURE (P.S.I.)	DEAD ENDS AND TEES			BENDS LESS THAN OR EQUAL TO ANGLE:								ALL BENDS
					11 - 1/4°		22 - 1/2°		45°		90°		
		A	B	C	A	B	A	B	A	B	A	B	
6	200	2'-6"	1'-6"	6"	1'-0"	1'-0"	2'-0"	1'-0"	3'-0"	1'-0"	3'-6"	1'-6"	8"
8	200	4'-6"	1'-6"	8"	1'-6"	1'-0"	3'-0"	1'-0"	3'-6"	1'-6"	5'-0"	2'-0"	10"
10	200	5'-6"	2'-0"	10"	2'-0"	1'-0"	3'-0"	1'-6"	4'-0"	2'-0"	6'-0"	2'-6"	1'-0"
12	200	7'-6"	2'-0"	1'-0"	2'-0"	1'-6"	3'-0"	2'-0"	4'-6"	2'-6"	7'-0"	3'-0"	1'-0"

VERTICAL BENDS

NOMINAL PIPE SIZE (INCHES)	TEST PRESSURE (P.S.I.)	BENDS LESS THAN OR EQUAL TO ANGLE:												ALL BENDS
		11 - 1/4°			22 - 1/2°			45°			90°			
		D	E	F	D	E	F	D	E	F	D	E	F	
6	200	1'-6"	3'-0"	1'-0"	2'-0"	4'-0"	1'-0"	3'-0"	5'-6"	1'-0"	4'-0"	7'-0"	2'-0"	8"
8	200	2'-0"	4'-0"	1'-0"	2'-6"	5'-0"	1'-0"	3'-6"	7'-0"	2'-0"	5'-0"	10'-0"	3'-6"	10"
10	200	2'-0"	4'-6"	1'-0"	3'-0"	6'-0"	1'-6"	4'-0"	9'-0"	3'-0"	6'-0"	12'-0"	5'-0"	1'-0"
12	200	2'-6"	5'-0"	1'-0"	3'-6"	7'-0"	2'-0"	5'-0"	10'-0"	4'-0"	7'-0"	14'-0"	7'-0"	1'-0"

CONCRETE THRUST BLOCK SCHEDULE

NOTE:

1. THRUST BLOCK SIZES ARE BASED ON A BEARING CAPACITY OF 1500 P.S.F., WITH A MINIMUM SOIL COVER OF 3'-0". IF SOIL COVER IS LESS THAN 3'-0", MULTIPLY BEARING AREA BY A FACTOR OF 1.5 FOR SOIL COVER OF 2'-0" TO 3'-0", OR BY A FACTOR OF THREE (3) FOR SOIL COVER OF 1'-0" TO 2'-0".
2. DIMENSIONS SHOWN REFER TO THRUST BLOCK TYPES SHOWN IN DETAIL, AND ARE MINIMUM VALUES ONLY.
3. CONCRETE MIX SHALL BE IN ACCORDANCE WITH SPECIFICATIONS FOR 3000 LBS. STRENGTH AT 28 DAYS WHEN TESTED IS ACCORDANCE WITH ASTM 039.
4. ALL THRUST BLOCKS SHALL BE POURED SOLIDLY AGAINST FIRM, UNDISTURBED SOIL.
5. IF SOILS HAVE BEEN PREVIOUSLY EXCAVATED AND BACKFILLED, CONTRACTOR SHALL NOTIFY CITY ENGINEER, WHO MAY DIRECT THAT THE DIMENSIONS SHOWN SHALL BE INCREASED BY A FACTOR OF 1.5.
6. CONCRETE POURED AGAINST PIPE FITTINGS SHALL NOT EXTEND BEYOND THE FITTING JOINTS WITHOUT THE APPROVAL OF THE CITY ENGINEER.
7. THRUST REACTION BACKING TYPE (SEE DRAWING) SHALL BE AS DIRECTED BY THE CITY ENGINEER.
8. THE ANGLE (Q) SHOWN IN THE DETAILS SHALL BE GREATER THAN 45° IN ALL CASES.

CONCRETE THRUST BLOCKS

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

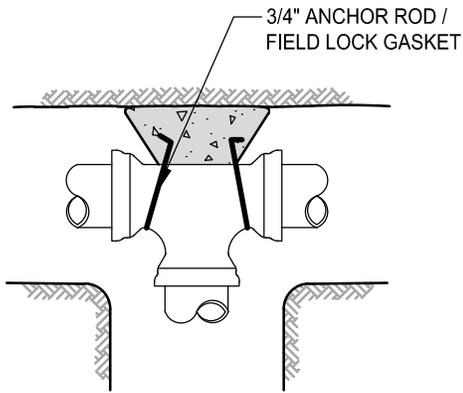
RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

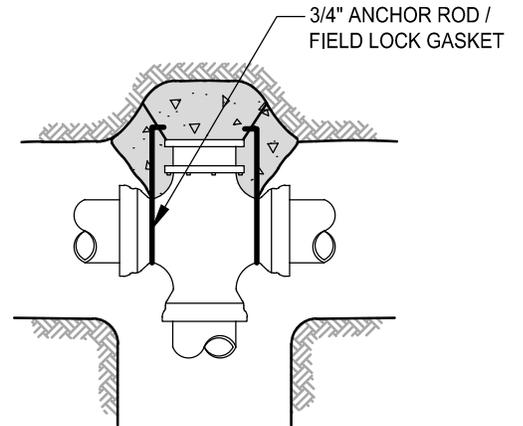
STANDARD DRAWING

BH 709

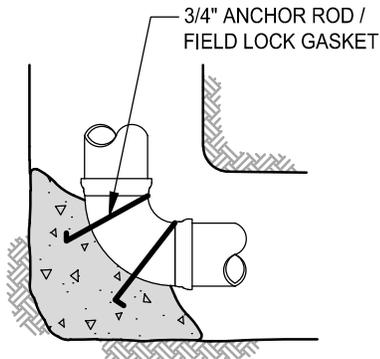
SHEET 1 OF 4



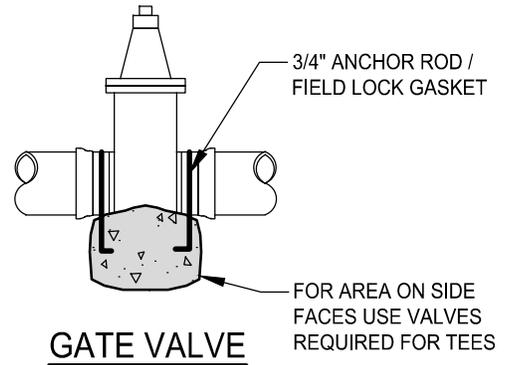
TEE



CROSS



90 DEGREE ELBOW



GATE VALVE

NOTE:

1. CONCRETE FOR THRUST BLOCK TO BE 2000 P.S.I.
2. MIN. RESTRAINED JOINT LENGTH OF 40FT EACH WAY WITH FIELD LOCK GASKET AND RODS.

CONCRETE THRUST BLOCKS

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____

CITY ENGINEER

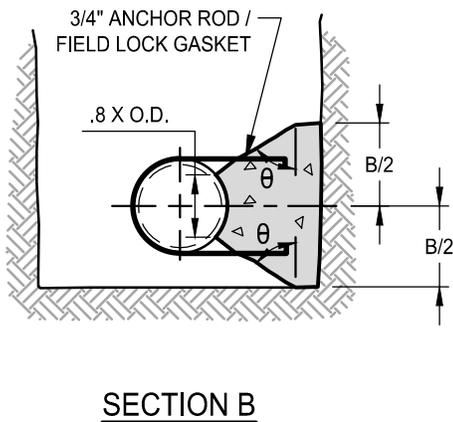
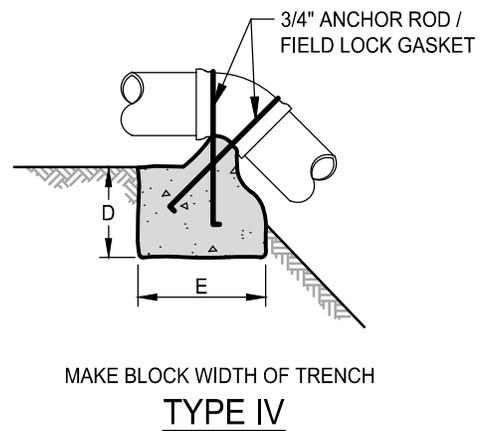
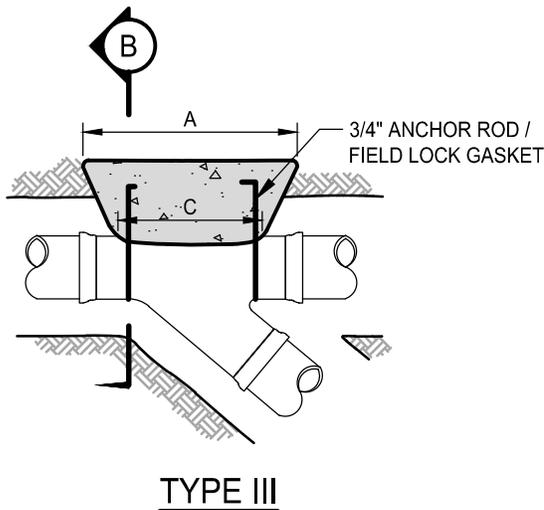
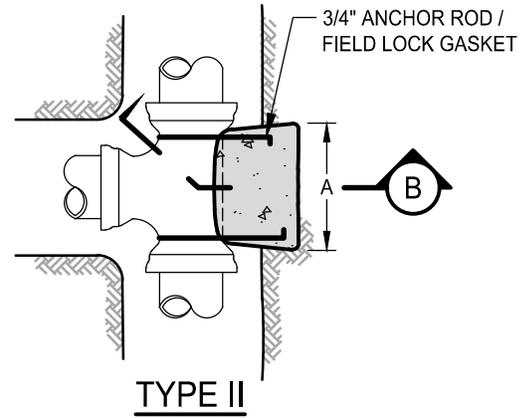
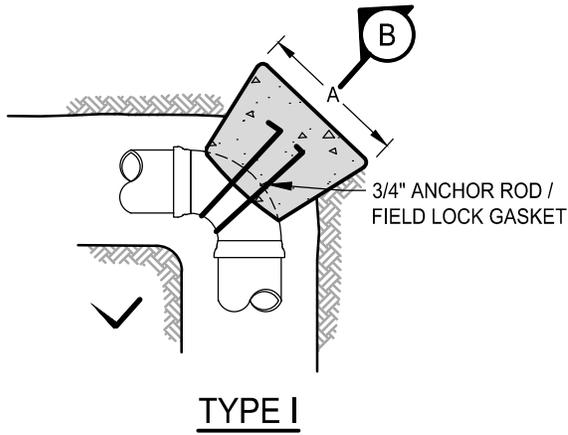
APPROVED _____ DATE _____

PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 709

SHEET 2 OF 4



NOTE:

1. SEE STANDARD DRAWING NO. BH 709, SHT. 1 FOR THRUST BLOCK SCHEDULE AND NOTES.
2. MIN. RESTRAINED JOINT LENGTH OF 40FT EACH WAY WITH FIELD LOCK GASKET AND RODS.

CONCRETE THRUST BLOCKS

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____

CITY ENGINEER

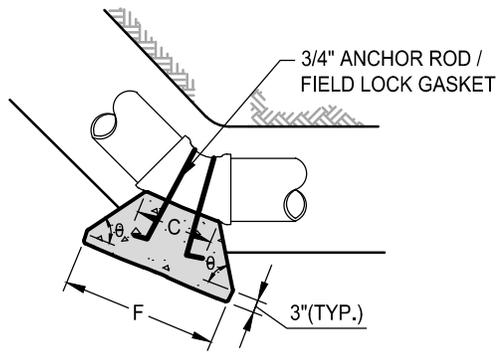
APPROVED _____ DATE _____

PUBLIC WORKS DIRECTOR

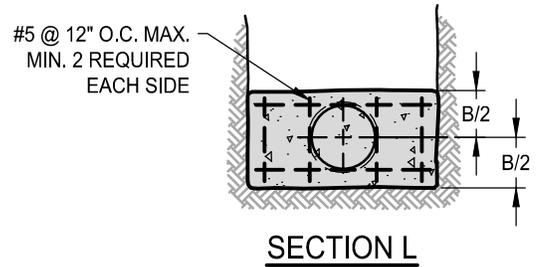
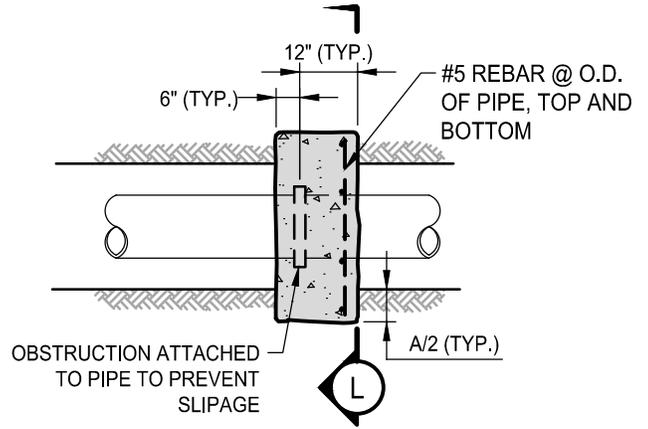
STANDARD DRAWING

BH 709

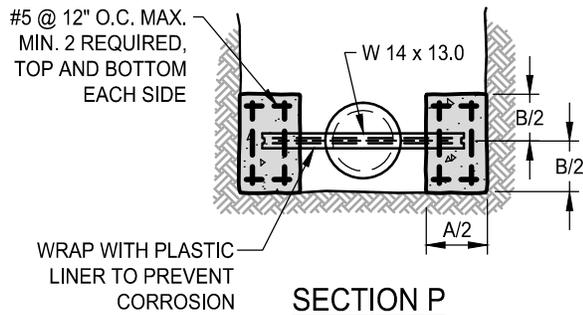
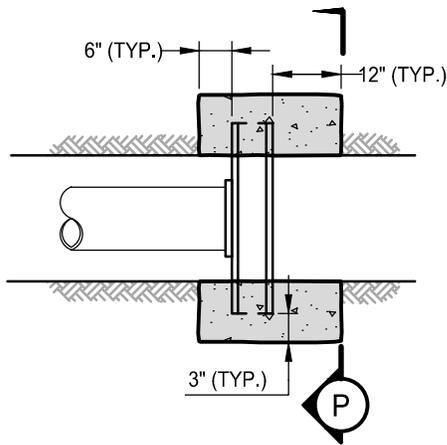
SHEET 3 OF 4



MAKE BLOCK FULL WIDTH OF TRENCH
TYPE V



TYPE VI



TYPE VII

NOTE:

1. SEE STANDARD DRAWING NO. BH 709, SHT. 1 FOR THRUST BLOCK SCHEDULE AND NOTES.
2. MIN. RESTRAINED JOINT LENGTH OF 40FT EACH WAY WITH FIELD LOCK GASKET AND RODS.

CONCRETE THRUST BLOCKS

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

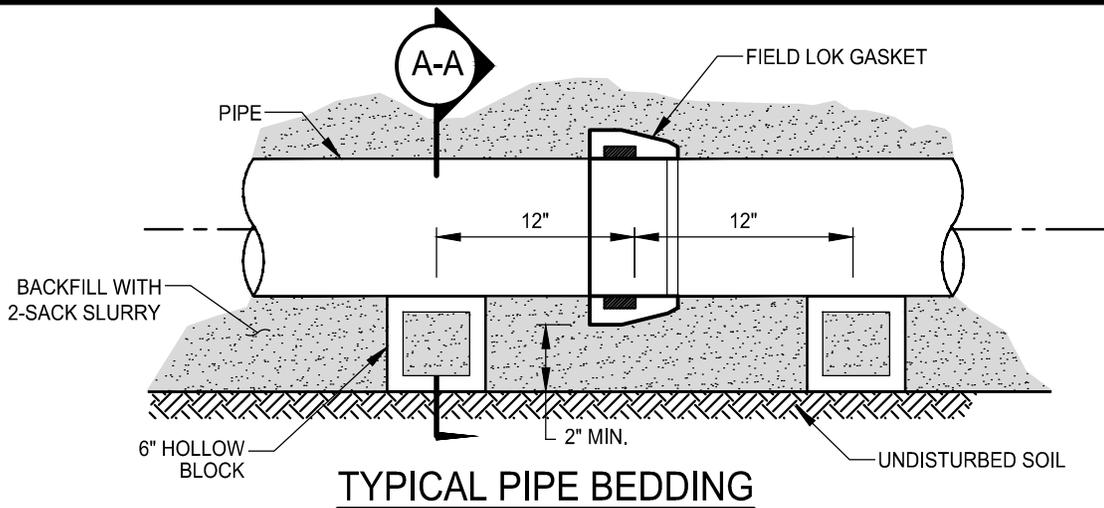
RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

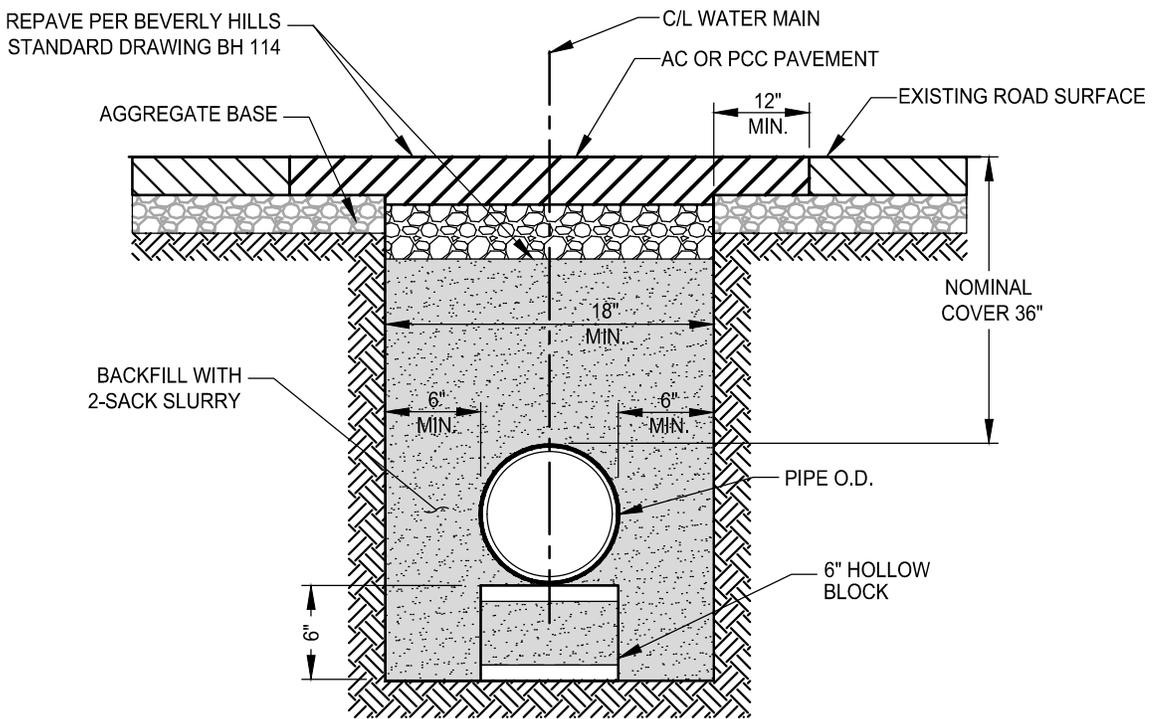
STANDARD DRAWING

BH 709

SHEET 4 OF 4



TYPICAL PIPE BEDDING



TRENCH SECTION "A-A"

NOT TO SCALE

NOTES:

1. WHEN TRENCH WORK CAN NOT BE COMPLETED WITHIN THE SAME WORKING DAY SEE BEVERLY HILLS STANDARD DRAWING BH 113 FOR STEEL PLATE PLACEMENT.
2. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").

TRENCH FOR WATER LINE

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

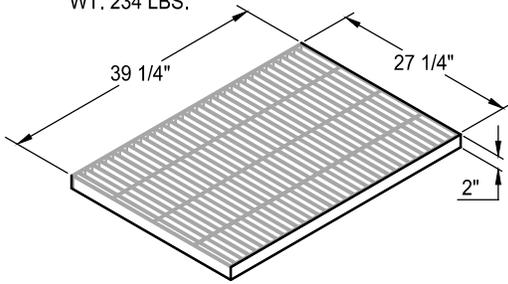
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____
CITY ENGINEER

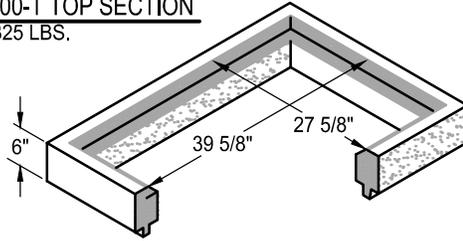
APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH
SHEET 1 OF 1

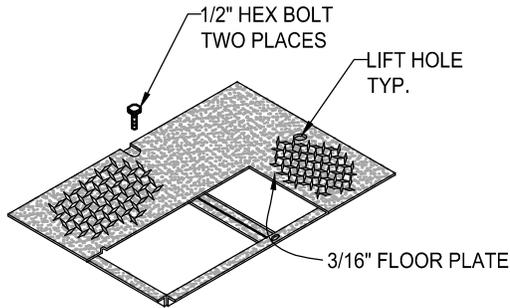
No. 100-30 TRAFFIC GRATE
WT. 234 LBS.



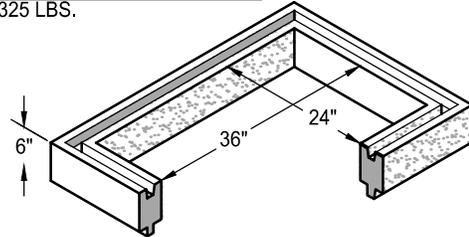
No. 100-T TOP SECTION
WT. 325 LBS.



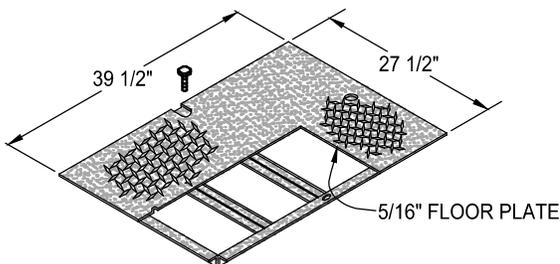
No. 100-33 PARKWAY COVER
WT. 89 LBS.



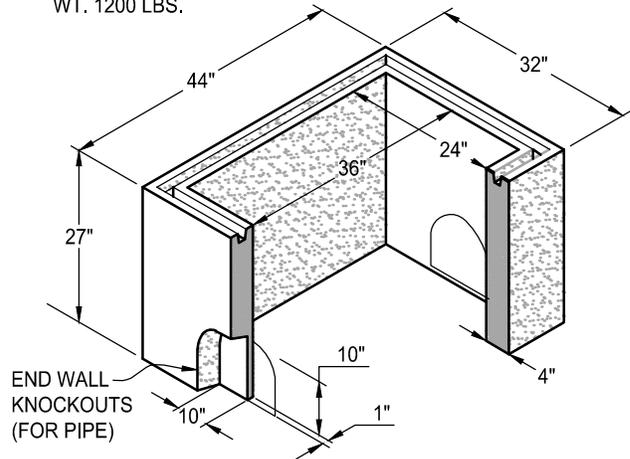
No. 100 EXTENSION SECTION
WT. 325 LBS.



No. 100-34 TRAFFIC COVER
WT. 154 LBS.



No. 100 LOWER SECTION
WT. 1200 LBS.



MINIMUM EXCAVATION SIZE:
3'-2" x 4'-2" x DEPTH REQUIRED.

W-100 SERIES

2'-0" x 3'-0" UTILITY BOX WITH 4" WALLS

WATER METER BOX AND LID

REVISIONS

MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____
CITY ENGINEER

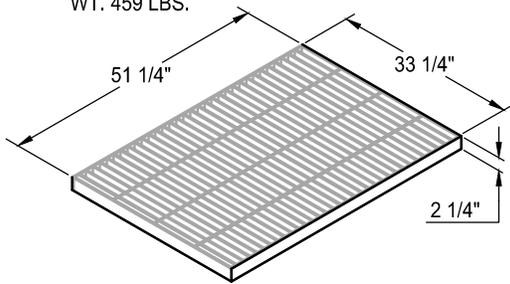
APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

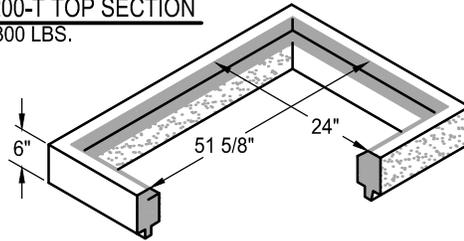
BH 711

SHEET 1 OF 2

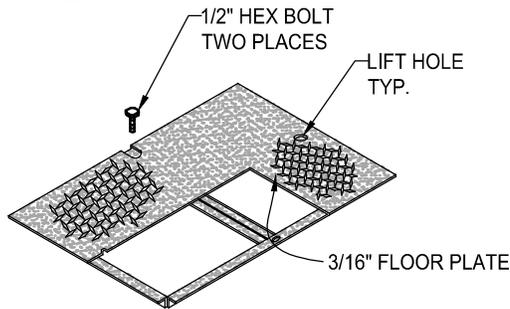
No. 200-30 TRAFFIC GRATE
WT. 459 LBS.



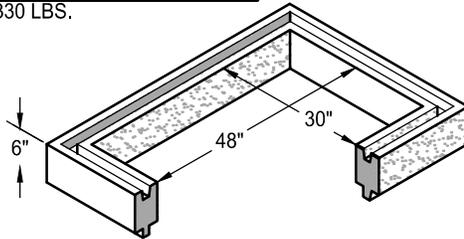
No. 200-T TOP SECTION
WT. 300 LBS.



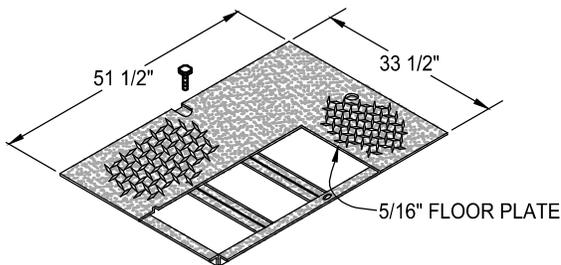
No. 200-33 PARKWAY COVER
WT. 138 LBS.



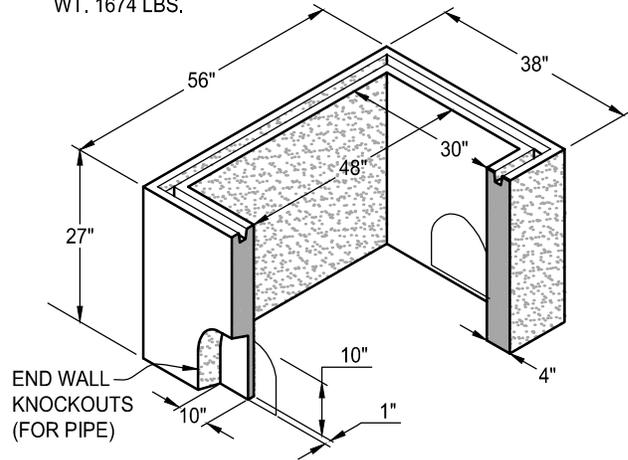
No. 200 EXTENSION SECTION
WT. 330 LBS.



No. 200-34 TRAFFIC COVER
WT. 260 LBS.



No. 200 LOWER SECTION
WT. 1674 LBS.



MINIMUM EXCAVATION SIZE:
3'-8" x 5'-2" x DEPTH REQUIRED.

W-200 SERIES

2'-6" x 4'-0" UTILITY BOX WITH 4" WALLS

WATER METER BOX AND LID

REVISIONS

MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

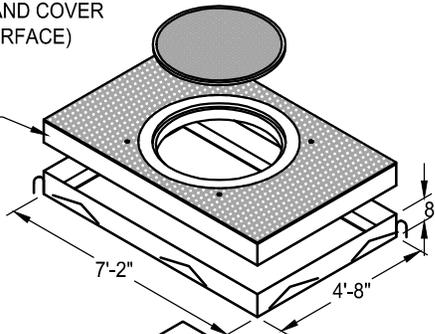
STANDARD DRAWING

BH 711

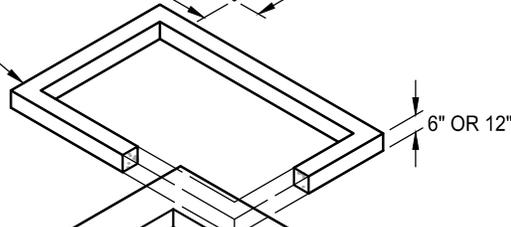
SHEET 2 OF 2

COVER
 REMOVABLE TOP SLAB
 WITH 36" DIA. RING AND COVER
 (DIAMOND PLATE SURFACE)
 H-20 FULL TRAFFIC

APPROX. WEIGHT:
 4100 LBS.

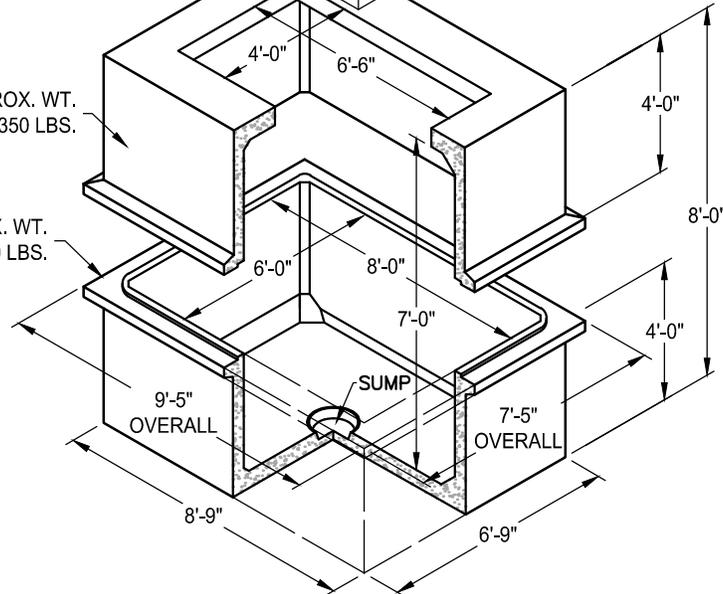


APPROX. WEIGHT:
 6"- 870 LBS.
 12"- 1730 LBS.



APPROX. WT.
 8,350 LBS.

APPROX. WT.
 10,300 LBS.



WATER VAULT BOX AND LID

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

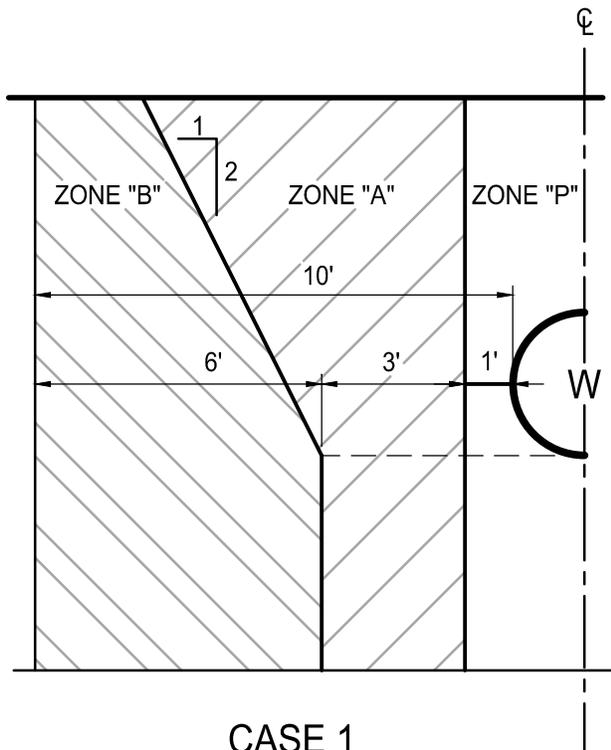
RECOMMENDED _____ DATE _____
 CITY ENGINEER

APPROVED _____ DATE _____
 PUBLIC WORKS DIRECTOR

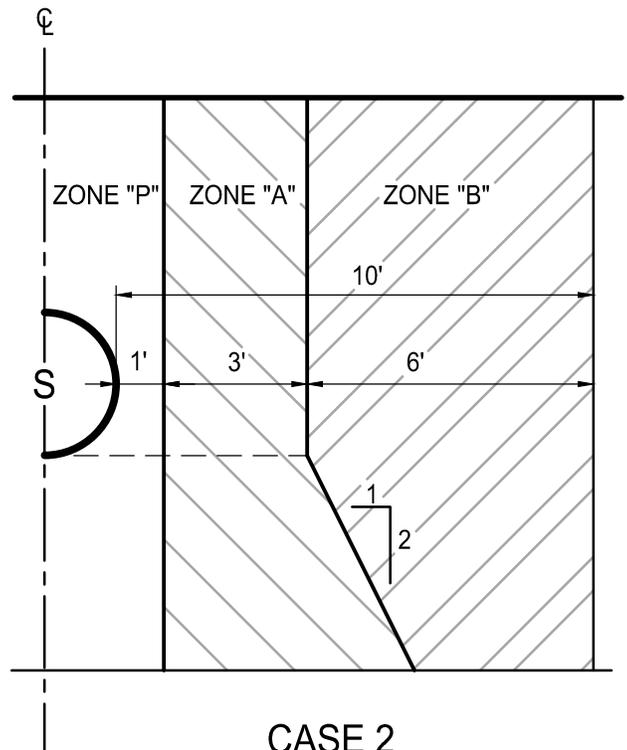
STANDARD DRAWING

BH 712

SHEET 1 OF 1



CASE 1
NEW SEWER



CASE 2
NEW WATER MAIN

ZONE SPECIAL CONSTRUCTION REQUIRED FOR SEWER

- A. SEWER LINES PARALLEL TO WATER MAINS SHALL NOT BE PERMITTED IN THIS ZONE WITHOUT APPROVAL FROM THE CITY OF BEVERLY HILLS.
- B. A SEWER LINE PLACED PARALLEL TO A WATER LINE SHALL BE CONSTRUCTED OF:
 1. EXTRA STRENGTH VITRIFIED CLAY PIPE WITH COMPRESSION JOINTS.
 2. PVC SEWER PIPE WITH RUBBER RING JOINTS (PER ASTM D 3034) OR EQUIVALENT.
 3. CAST OR DUCTILE IRON PIPE WITH COMPRESSION JOINTS.
 4. REINFORCED CONCRETE PRESSURE PIPE WITH COMPRESSION JOINTS (PER AWWA C302-75).
- P. PROHIBITED ZONE - NO SEWER MAINS ARE ALLOWED TO BE INSTALLED IN THIS ZONE.

ZONE SPECIAL CONSTRUCTION REQUIRED FOR SEWER

- A. NO WATER MAINS PARALLEL TO SEWERS SHALL BE CONSTRUCTED WITHOUT APPROVAL FROM THE CITY OF BEVERLY HILLS.
- B. A WATER LINE PLACED PARALLEL TO A SEWER LINE SHALL BE CONSTRUCTED OF STEEL PIPE, CML, AND CMC WITH WELDED JOINTS.
- P. PROHIBITED ZONE - NO WATER MAINS ARE ALLOWED TO BE INSTALLED IN THIS ZONE.

ADDITIONAL NOTES:

1. ZONES IDENTICAL ON EITHER SIDE OF CENTER LINES,
2. WATER MAINS AND SEWER MAINS MUST NOT BE INSTALLED IN THE SAME TRENCH.
3. SEPARATION DISTANCES SPECIFIED SHALL BE MEASURED FROM THE NEAREST EDGE OF FACILITIES.
4. STEEL PIPE SHALL BE A MINIMUM OF 10 GAGE THICKNESS.

SEWER AND WATER MAIN SEPARATION
(PARALLEL & PERPENDICULAR)

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

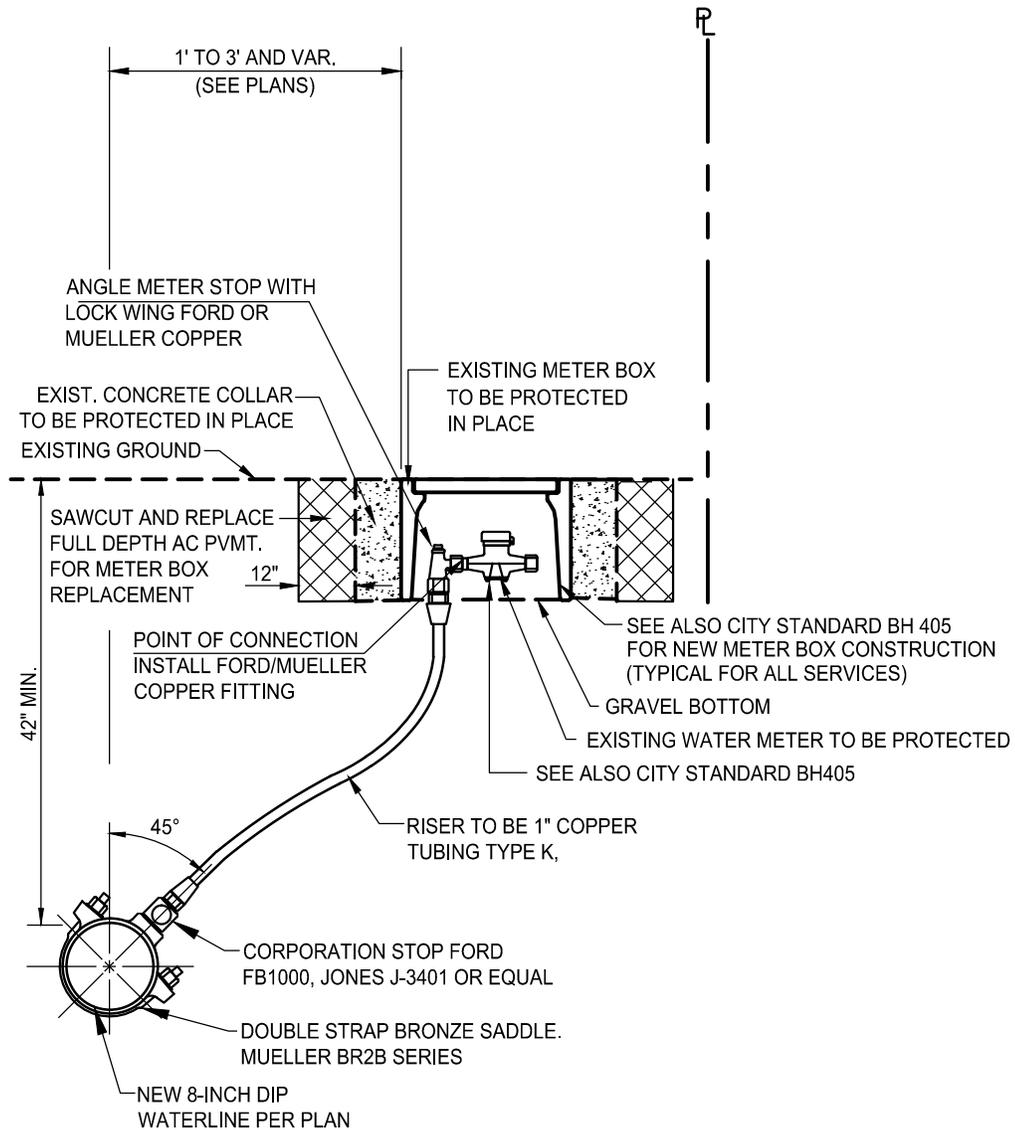
RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 713

SHEET 1 OF 1



ELEVATION
NTS

SHORT SERVICE

1" WATER SERVICE CONNECTION REPLACEMENT

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

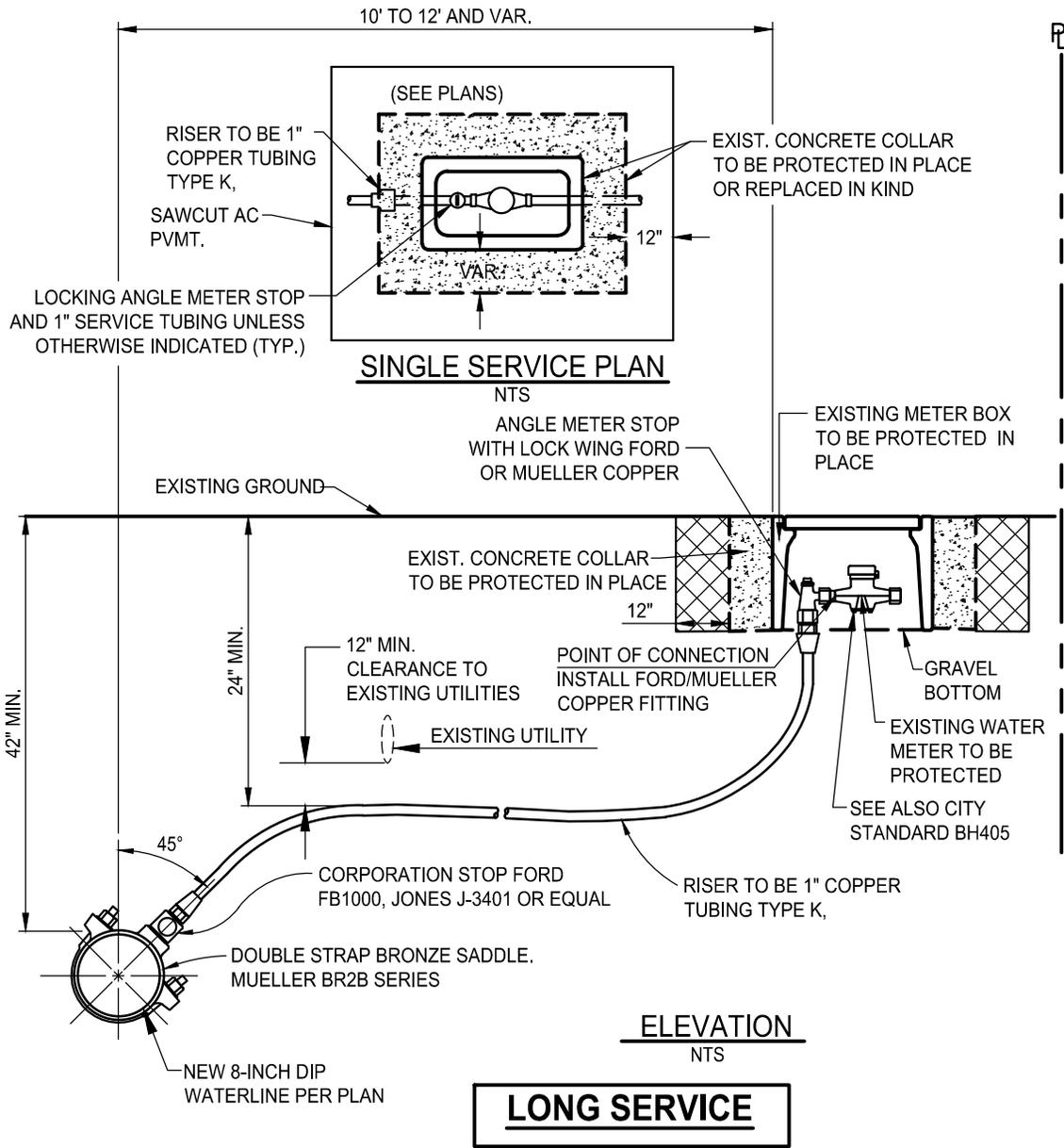
RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 714

SHEET 1 OF 2



NOTES:

1. MATERIALS AND INSTALLATION SHALL CONFORM WITH THE APPLICABLE SECTIONS OF THE CITY OF BEVERLY HILLS. SPECIFICATIONS FOR DOMESTIC WATER SYSTEMS.
2. NEW SERVICES WILL NOT BE SPLICED WHEN DAMAGED, SERVICE WILL BE RENEWED.
3. EXISTING OR DAMAGED METER BOXES SHALL BE REPLACED PER CITY STANDARD DRAWINGS NO. BH 714, 715, 716 AS DIRECTED BY CITY'S FIELD REPRESENTATIVE. INSTALLATION OF NEW METER BOX SHALL INCLUDE A 6" WIDE BY 6" DEEP CONCRETE COLLAR AROUND METER BOX. ALL ASPHALT REPLACEMENT SHALL BE NEATLY SAWCUT.

1" WATER SERVICE CONNECTION REPLACEMENT

REVISIONS		
MARK	DATE	DESCRIPTION



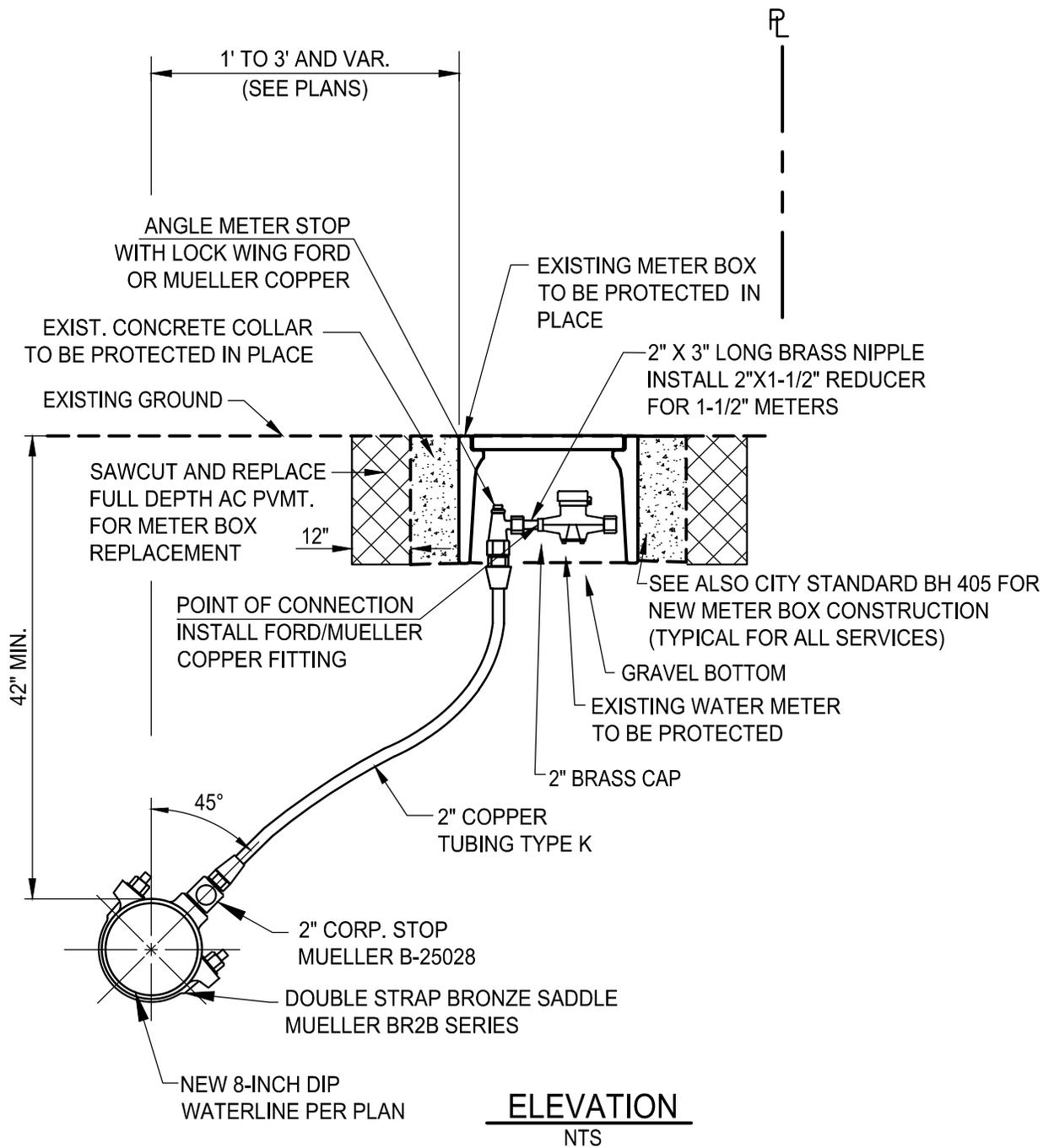
CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 715
SHEET 2 OF 2



SHORT SERVICE

2" WATER SERVICE CONNECTION REPLACEMENT

REVISIONS		
MARK	DATE	DESCRIPTION

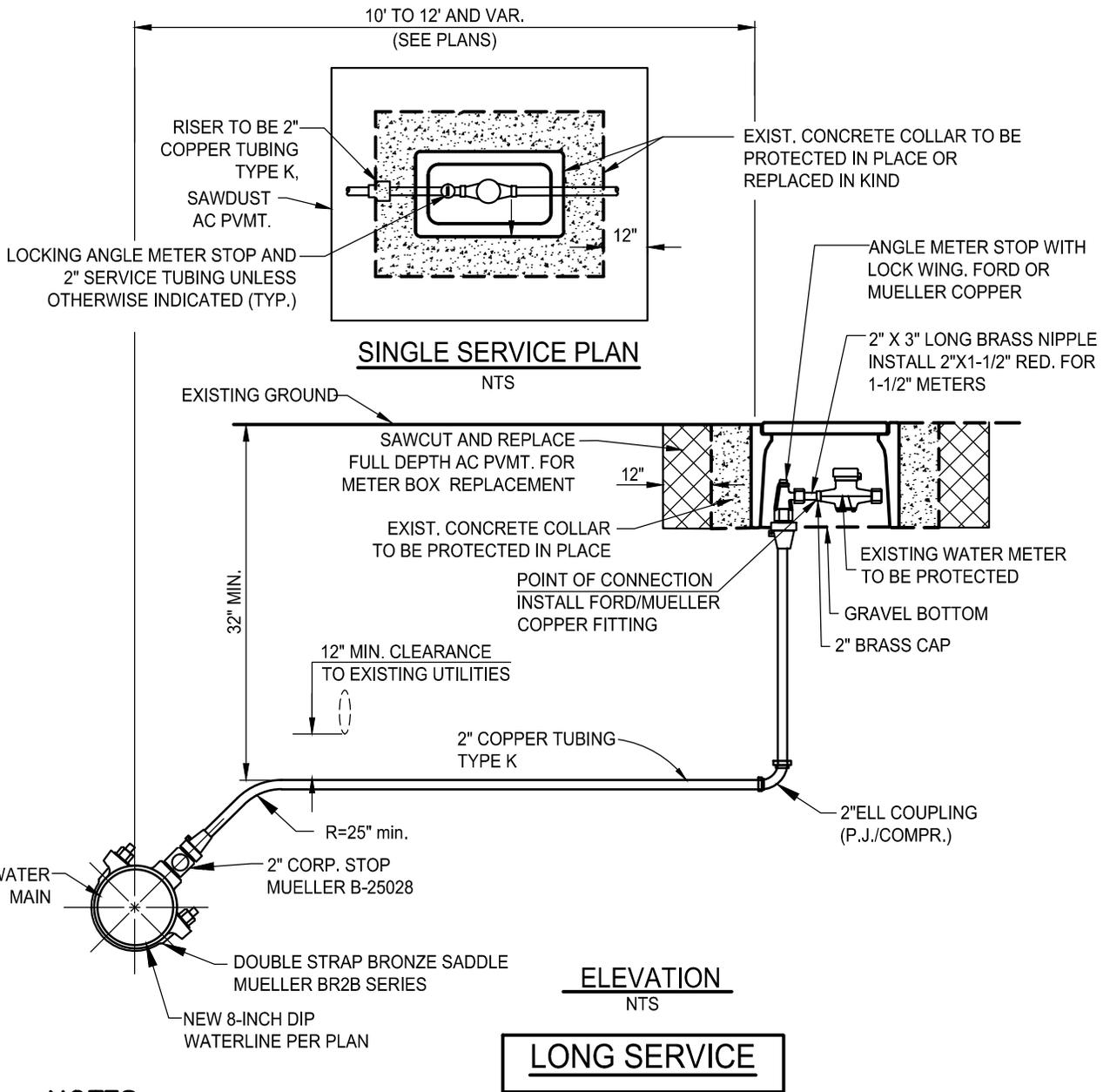


CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 716
SHEET 1 OF 2



NOTES:

1. MATERIALS AND INSTALLATION SHALL CONFORM WITH THE APPLICABLE SECTIONS OF THE CITY OF BEVERLY HILLS. SPECIFICATIONS FOR DOMESTIC WATER SYSTEMS.
2. NEW SERVICES WILL NOT BE SPLICED WHEN DAMAGED, SERVICE WILL BE RENEWED.
3. EXISTING OR DAMAGED METER BOXES SHALL BE REPLACED PER CITY STANDARD DRAWINGS NO. 714, 715, 716 AS DIRECTED BY CITY'S FIELD REPRESENTATIVE. INSTALLATION OF NEW METER BOX SHALL INCLUDE A 6" WIDE BY 6" DEEP CONCRETE COLLAR AROUND METER BOX. ALL ASPHALT REPLACEMENT SHALL BE NEATLY SAWCUT.

2" WATER SERVICE CONNECTION REPLACEMENT

REVISIONS		
MARK	DATE	DESCRIPTION



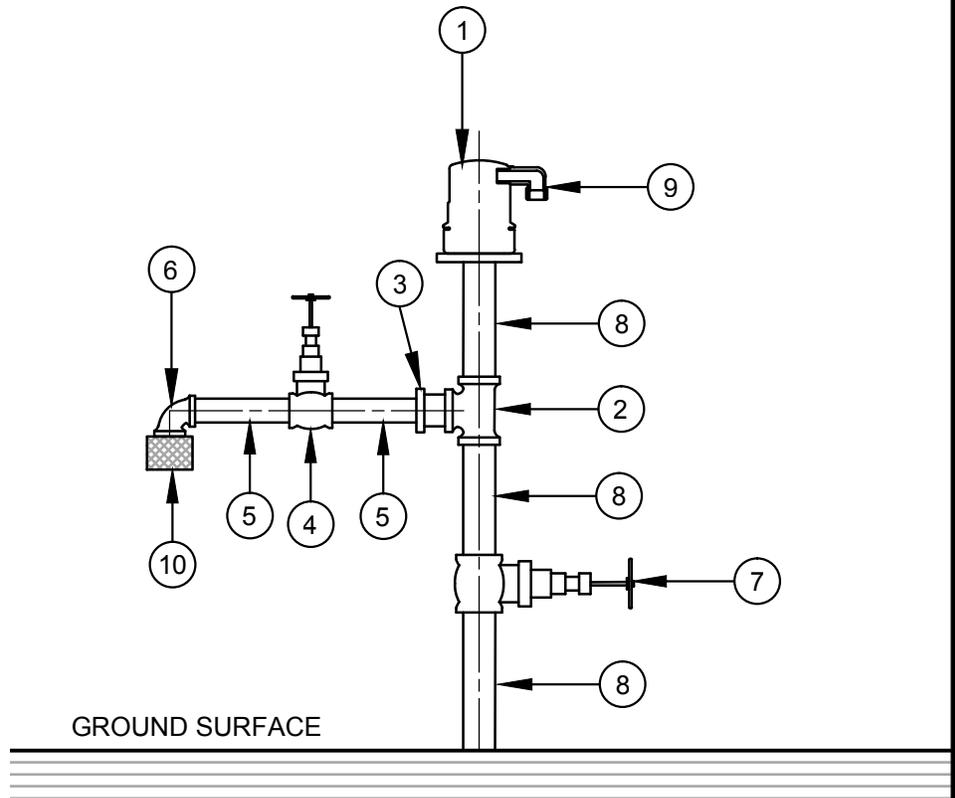
CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 717
SHEET 2 OF 2



CONSTRUCTION NOTES

- ① 1" AIR-VAC COMBO
- ② 1" BRASS TEE
- ③ 1" x 3/4" BRASS BUSHING
- ④ 3/4" BRASS BALL VALVE
- ⑤ 3/4" x BRASS CLOSED NIPPLE
- ⑥ 3/4" BRASS QUARTER BEND
- ⑦ 1" BRASS BALL VALVE
- ⑧ 1" x DESIRED HEIGHT BRASS NIPPLE
- ⑨ 3/4" PLASTIC MIP x SCREEN
- ⑩ 3/4" SCREEN

1" AIR-VAC TESTING ASSEMBLY

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

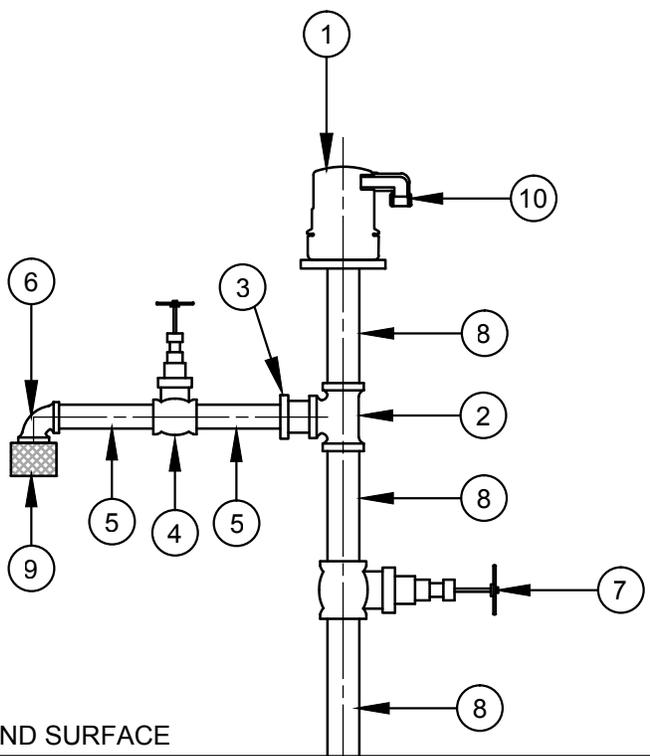
RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 718

SHEET 1 OF 1



CONSTRUCTION NOTES

- ① 2" AIR-VAC COMBO
- ② 2" BRASS TEE
- ③ 2" x 3/4" BRASS BUSHING
- ④ 3/4" BRASS BALL VALVE
- ⑤ 3/4" x BRASS CLOSED NIPPLE
- ⑥ 3/4" BRASS QUARTER BEND
- ⑦ 2" BRASS BALL VALVE
- ⑧ 2" x DESIRED HEIGHT BRASS NIPPLE
- ⑨ 3/4" SCREEN
- ⑩ 2" PLASTIC MIP x SCREEN

2" BLOW-OFF ASSEMBLY WHARF HEAD TYPE

REVISIONS		
MARK	DATE	DESCRIPTION



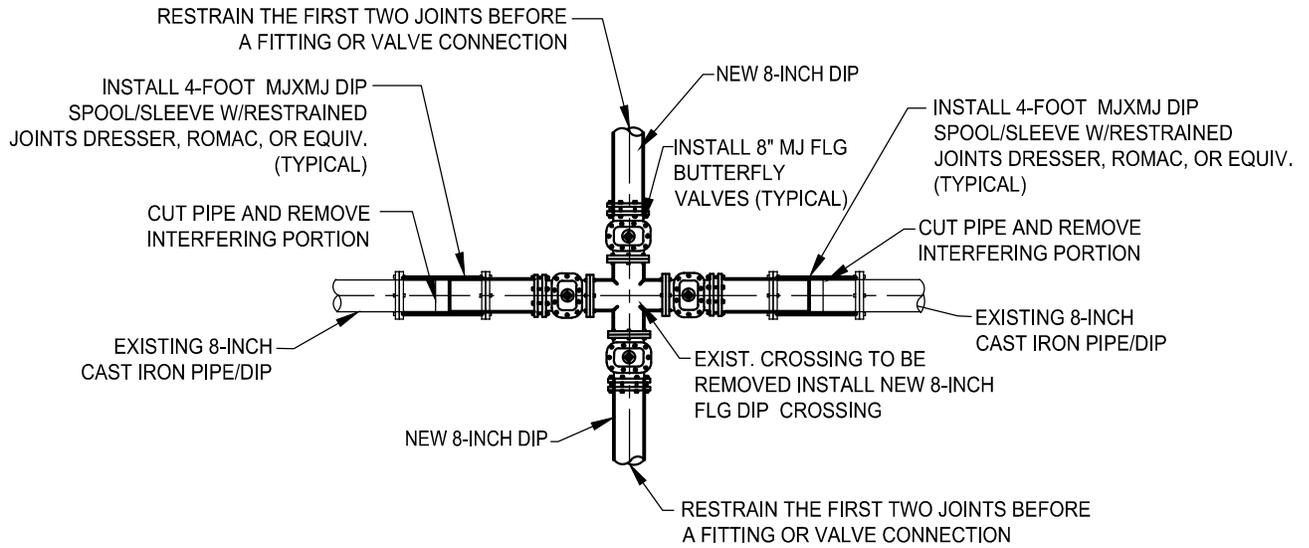
CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 719
SHEET 1 OF 1

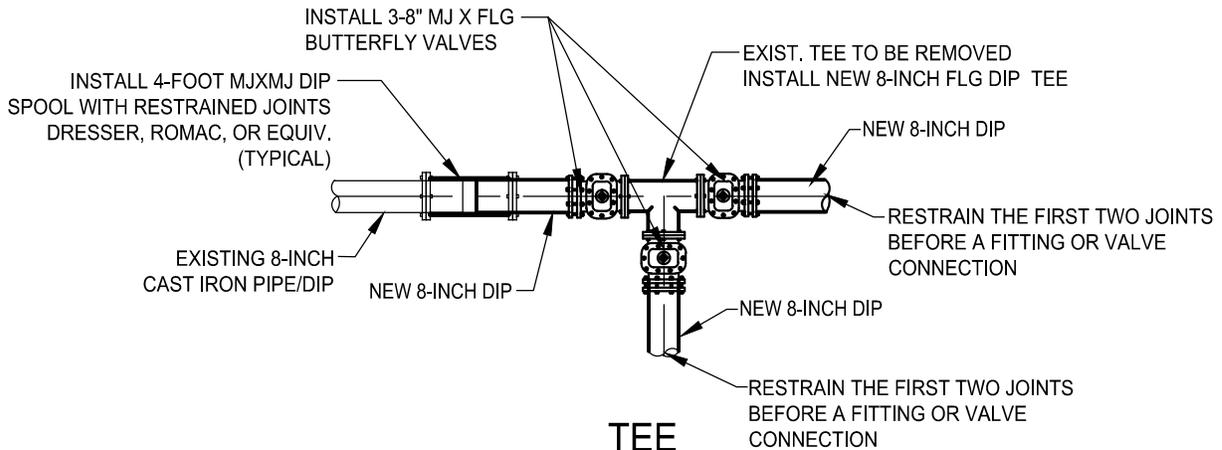


8-INCH DIP CROSSING

NTS

CASE "A"

NTS



TEE

NTS

CASE "B"

NTS

CONNECTIONS TO EXISTING AND PROPOSED WATERLINE

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

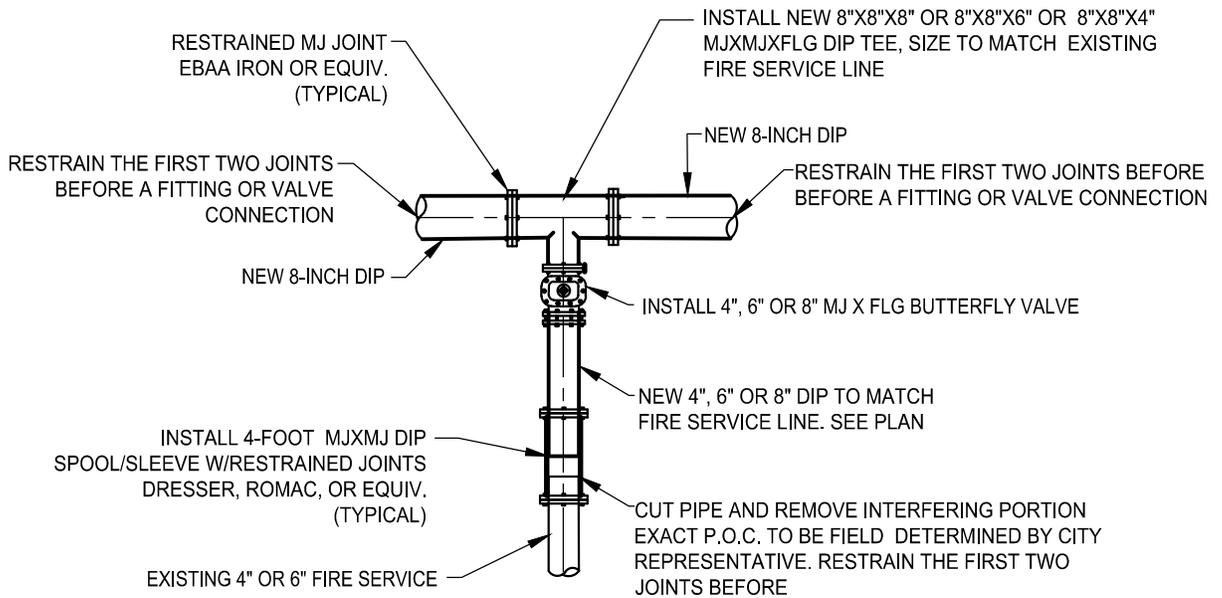
RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 720

SHEET 1 OF 1

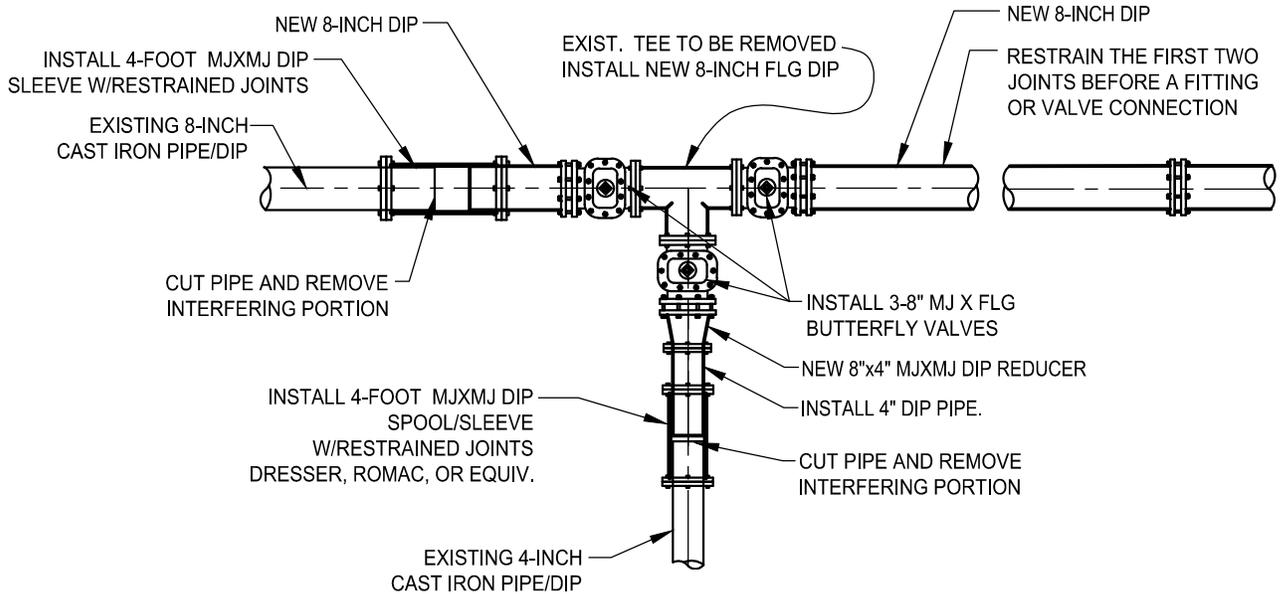


FIRE SERVICE TEE

NTS

CASE "C"

NTS



CASE "D"

NTS

FIRE SERVICE TEE CASE "C" AND "D"

REVISIONS

MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____

CITY ENGINEER

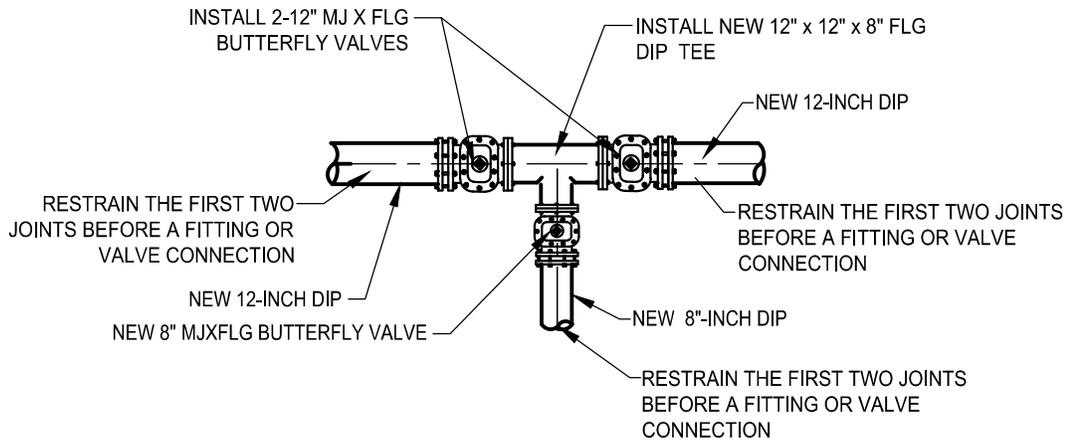
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STANDARD DRAWING

BH 721

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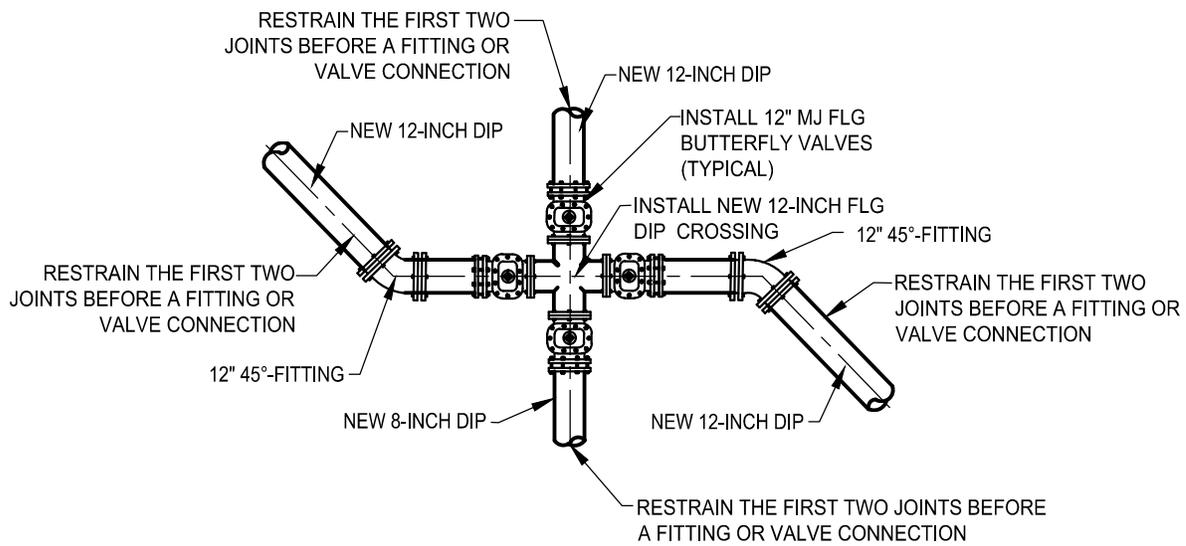


12" x 12" x 8" TEE

NTS

CASE "F"

NTS



CASE "G"

NTS

12-INCH DIP CROSSING

NTS

CROSSING & TYPICAL CONNECTIONS: CASE "F" AND "G"

REVISIONS		
MARK	DATE	DESCRIPTION



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CIVIL ENGINEERING DIVISION

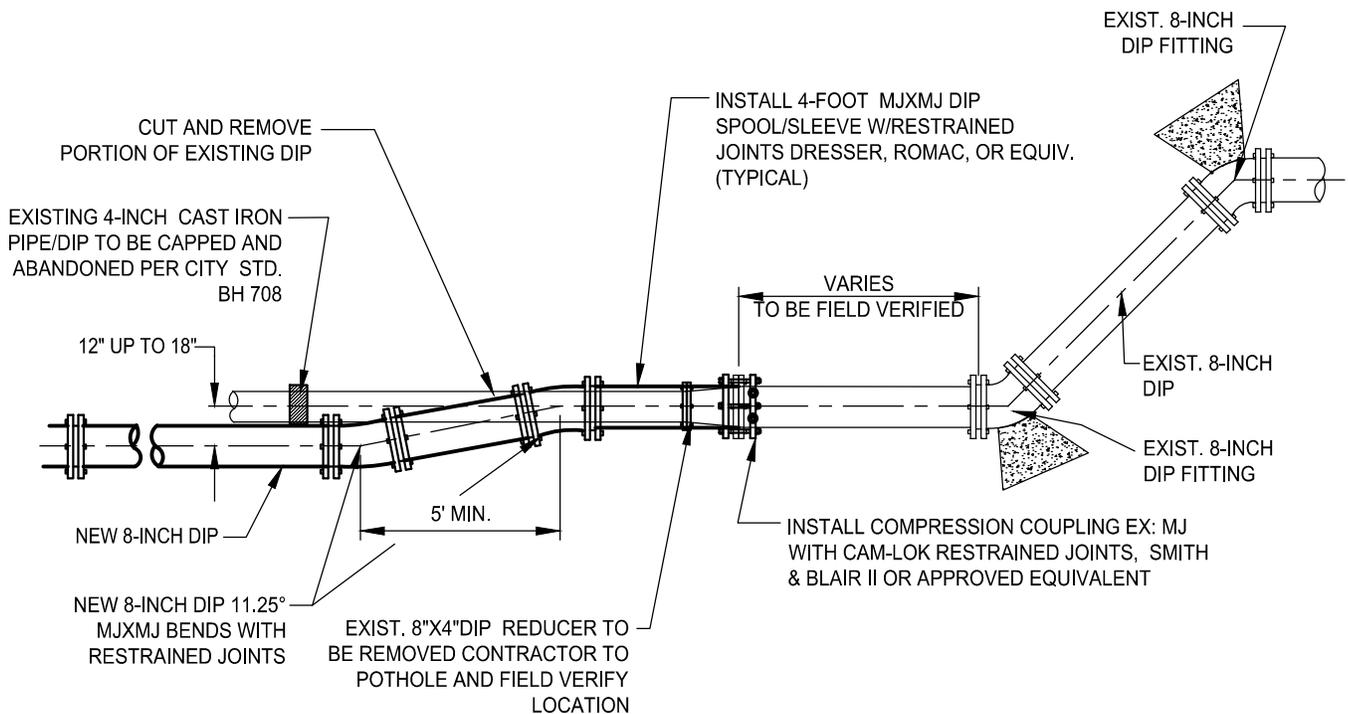
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BH 722

SHEET 1 OF 1



CASE "E"
NTS

TYPICAL CONNECTIONS: PROP/EXIST

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

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CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____

CITY ENGINEER

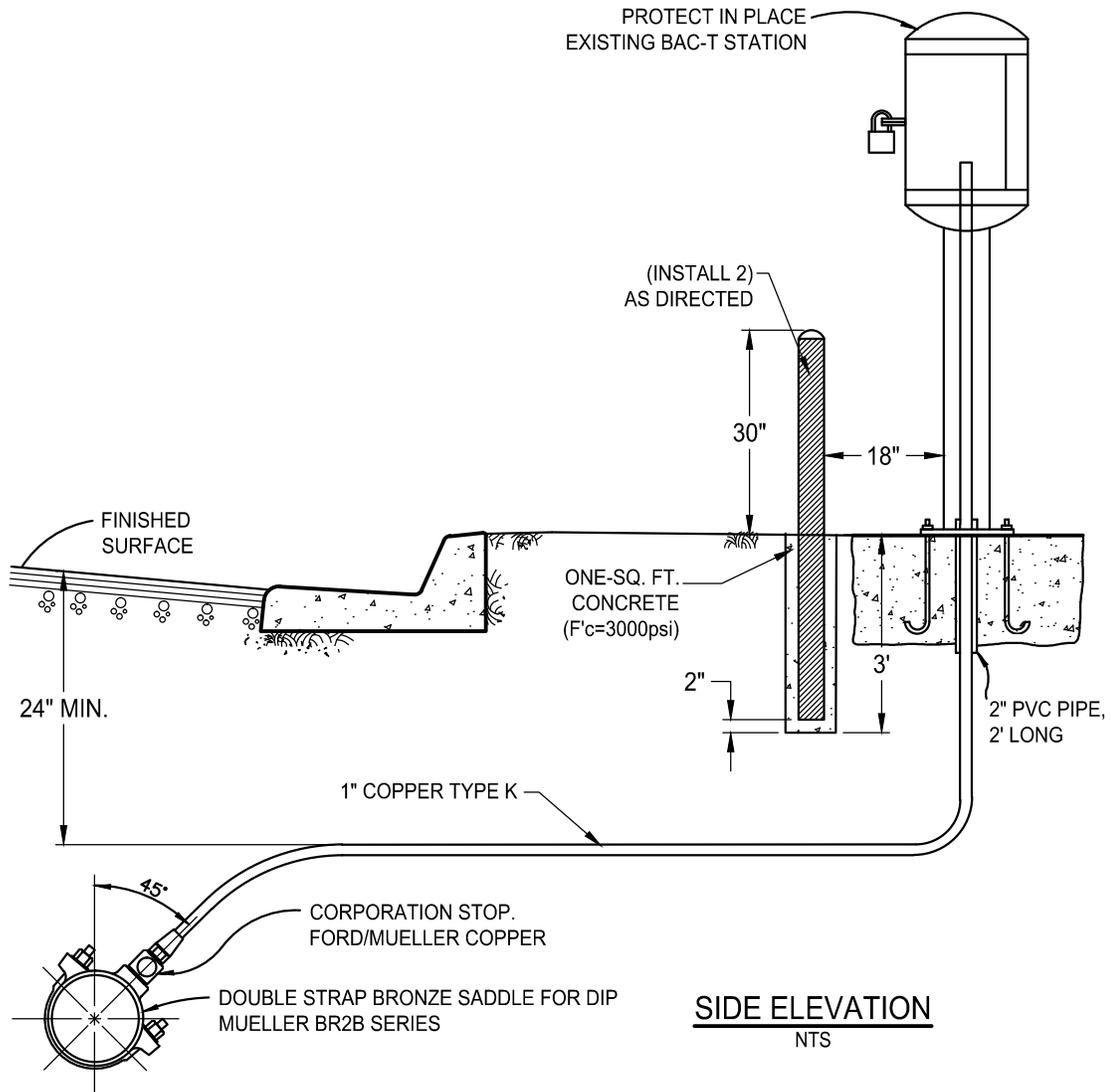
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PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 723

SHEET 1 OF 1



NOTES:

1. PROTECT IN PLACE EXISTING BAC-T SYSTEM. EXACT LOCATION OF BOLLARDS AS DIRECTED BY THE CITY REPRESENTATIVE.

SAMPLE STATION BAC-T ASSEMBLY

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

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CIVIL ENGINEERING DIVISION

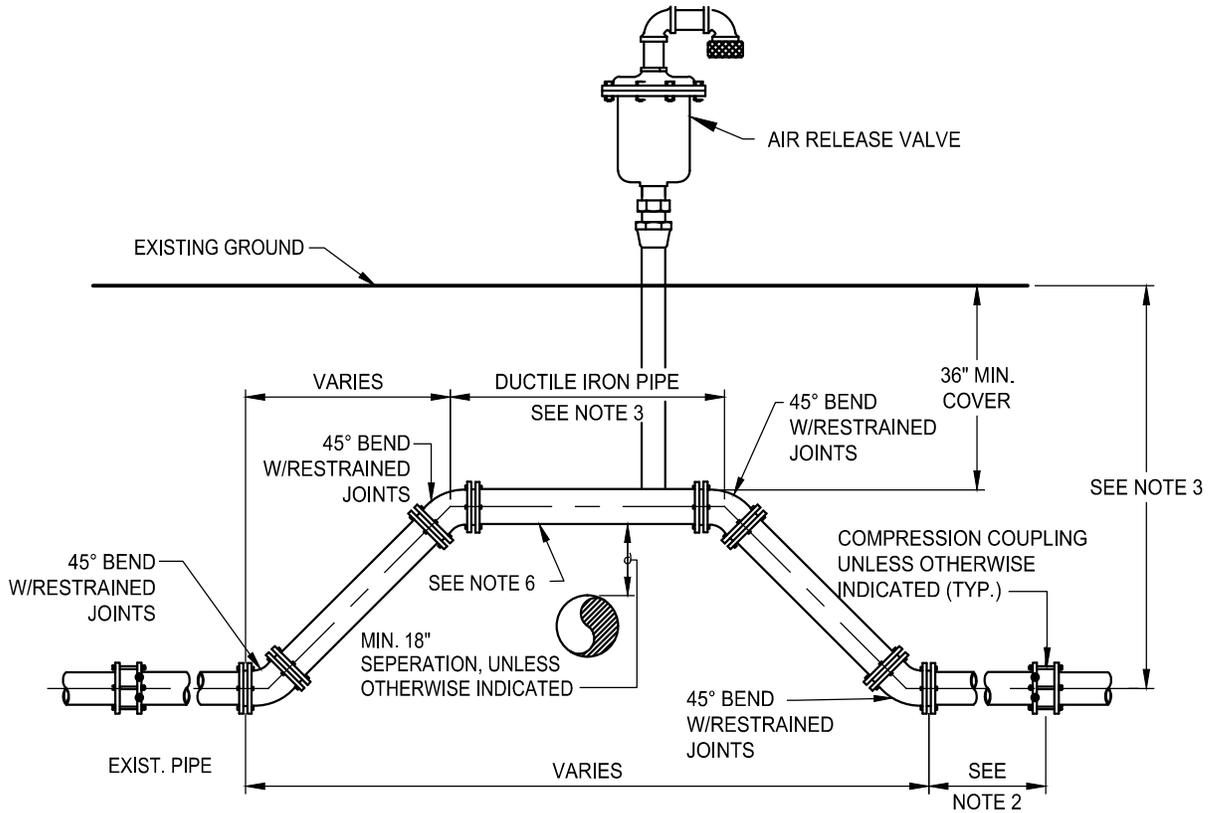
RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 724

SHEET 1 OF 1



SIDE ELEVATION

NTS

NOTES:

1. ALL FITTINGS SHALL BE RESTRAINED WITH MEGALUGS.
2. LENGTH SHALL BE DETERMINED BY NEXT EXISTING JOINT.
3. LENGTH, DEPTH, AND HEIGHT SHALL BE FIELD DETERMINED.
4. APPLY CITY APPROVED COATING TO ALL NUTS AND BOLTS.
5. BACKFILL SHALL BE 90% RELATIVE COMPACTION AND CONFORM TO SPECIFICATIONS.
6. AIR RELEASE VALVES ON OVERCROSSINGS ARE REQUIRED, AND SHALL CONFORM TO DETAIL 3 ON SHEET 45, UNLESS OTHERWISE INDICATED.

OVER CROSSING

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

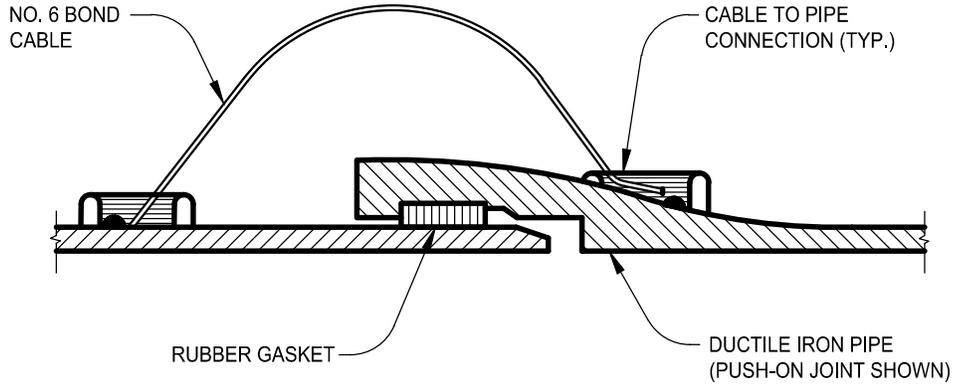
RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 725

SHEET 1 OF 1



NOTES:

1. INSTALL ONE BOND ON TOP OF THE PIPE FOR EACH JOINT.
2. PIPE JOINT CONFIGURATION IS SCHEMATIC ONLY.

PUSH-ON OR MECHANICAL

JOINT BONDING FOR DUCTILE IRON PIPE

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

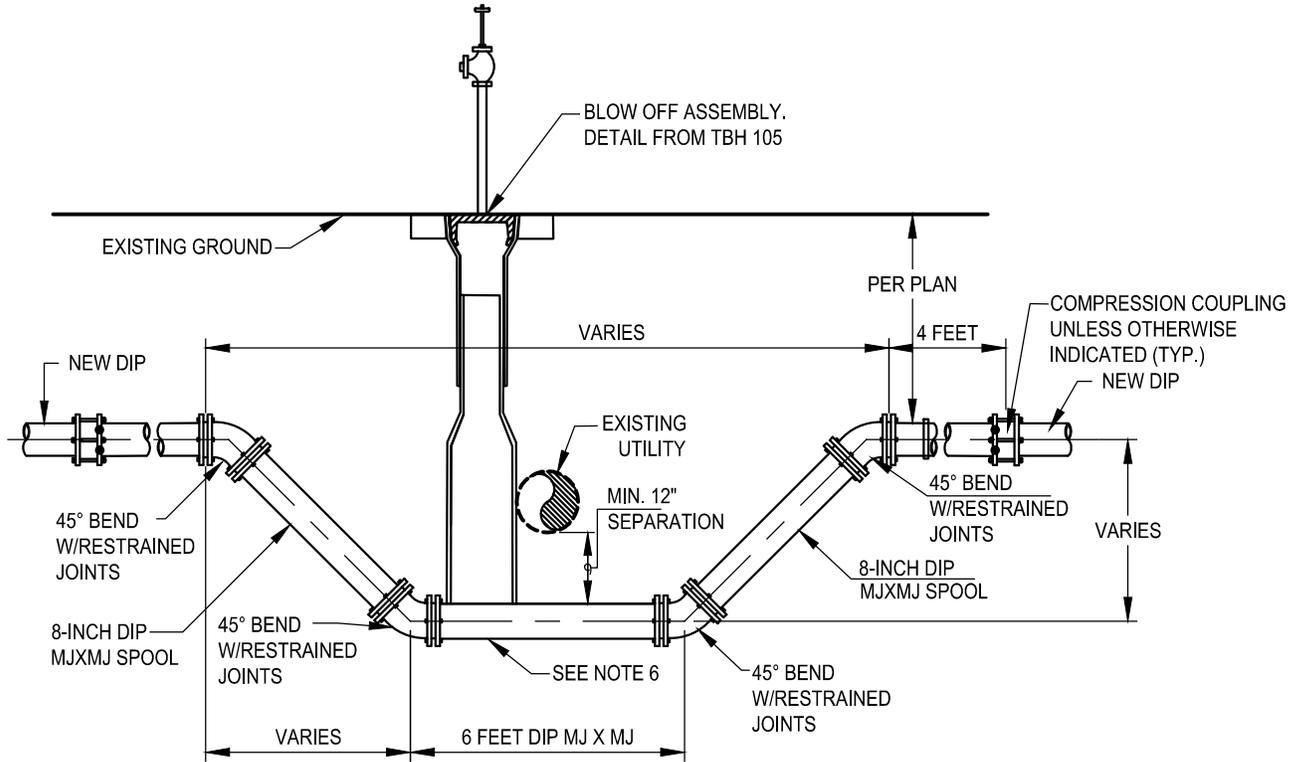
RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 726

SHEET 1 OF 1



NOTES:

1. ALL FITTINGS SHALL BE RESTRAINED WITH MEGALUGS.
2. LENGTH SHALL BE DETERMINED BY NEXT EXISTING JOINT.
3. LENGTH, DEPTH, AND HEIGHT SHALL BE FIELD DETERMINED.
4. APPLY CITY APPROVED COATING TO ALL NUTS AND BOLTS.
5. BACKFILL SHALL BE 90% RELATIVE COMPACTION AND CONFORM TO SPECIFICATIONS.
6. AIR RELEASE VALVES ON UNDERCROSSINGS ARE REQUIRED, AND SHALL CONFORM TO DETAIL 3 ON SHEET 45, UNLESS OTHERWISE INDICATED.

UNDER CROSSING

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

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CIVIL ENGINEERING DIVISION

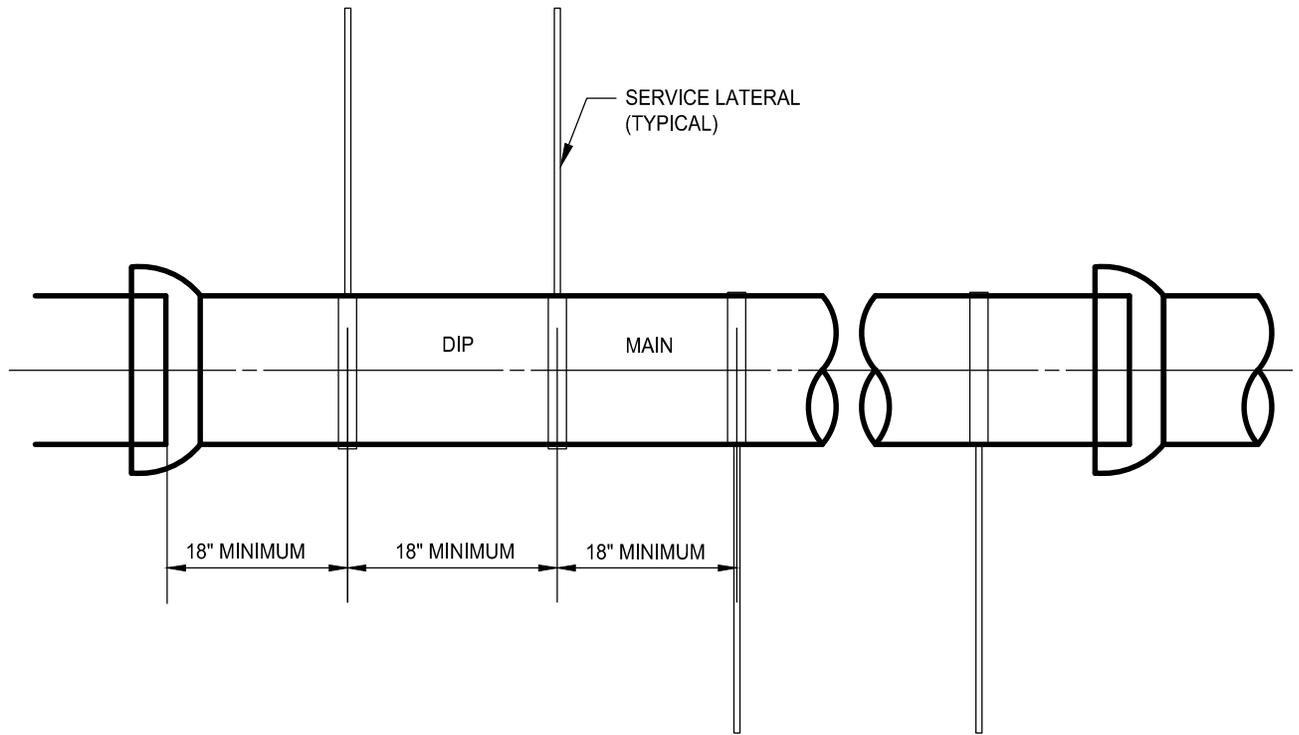
RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
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STANDARD DRAWING

BH 727

SHEET 1 OF 1



SERVICE LAYOUT DETAIL

REVISIONS		
MARK	DATE	DESCRIPTION



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CIVIL ENGINEERING DIVISION

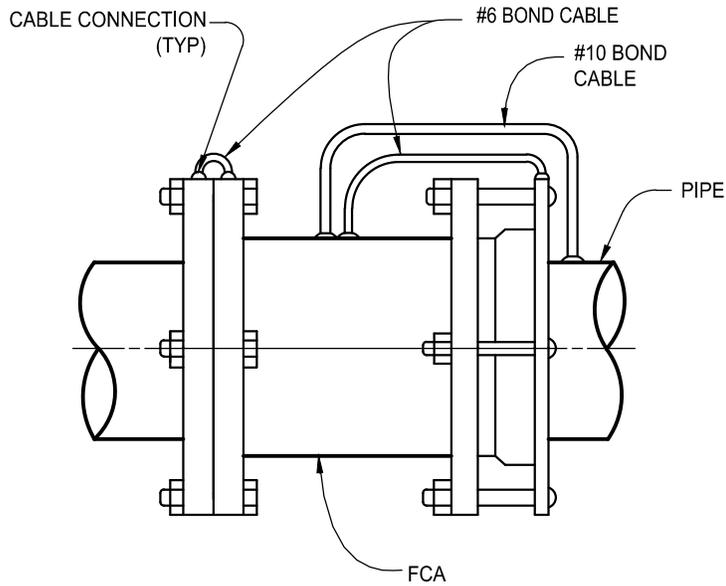
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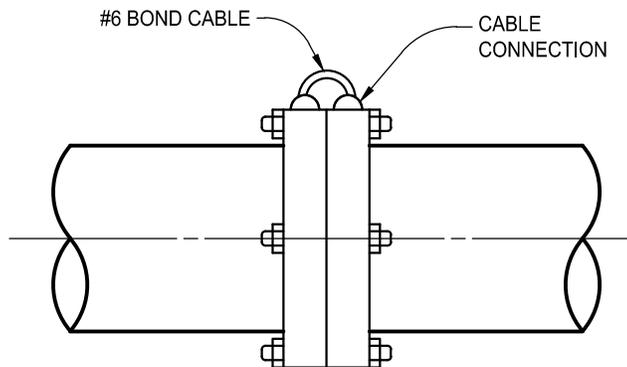
BH 728

SHEET 1 OF 1



**FLANGED COUPLING
ADAPTER BONDING DETAIL**

N.T.S.



FLANGED JOINT BONDING DETAIL

N.T.S.

JOINT BONDING FOR DUCTILE IRON PIPE

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____
CITY ENGINEER

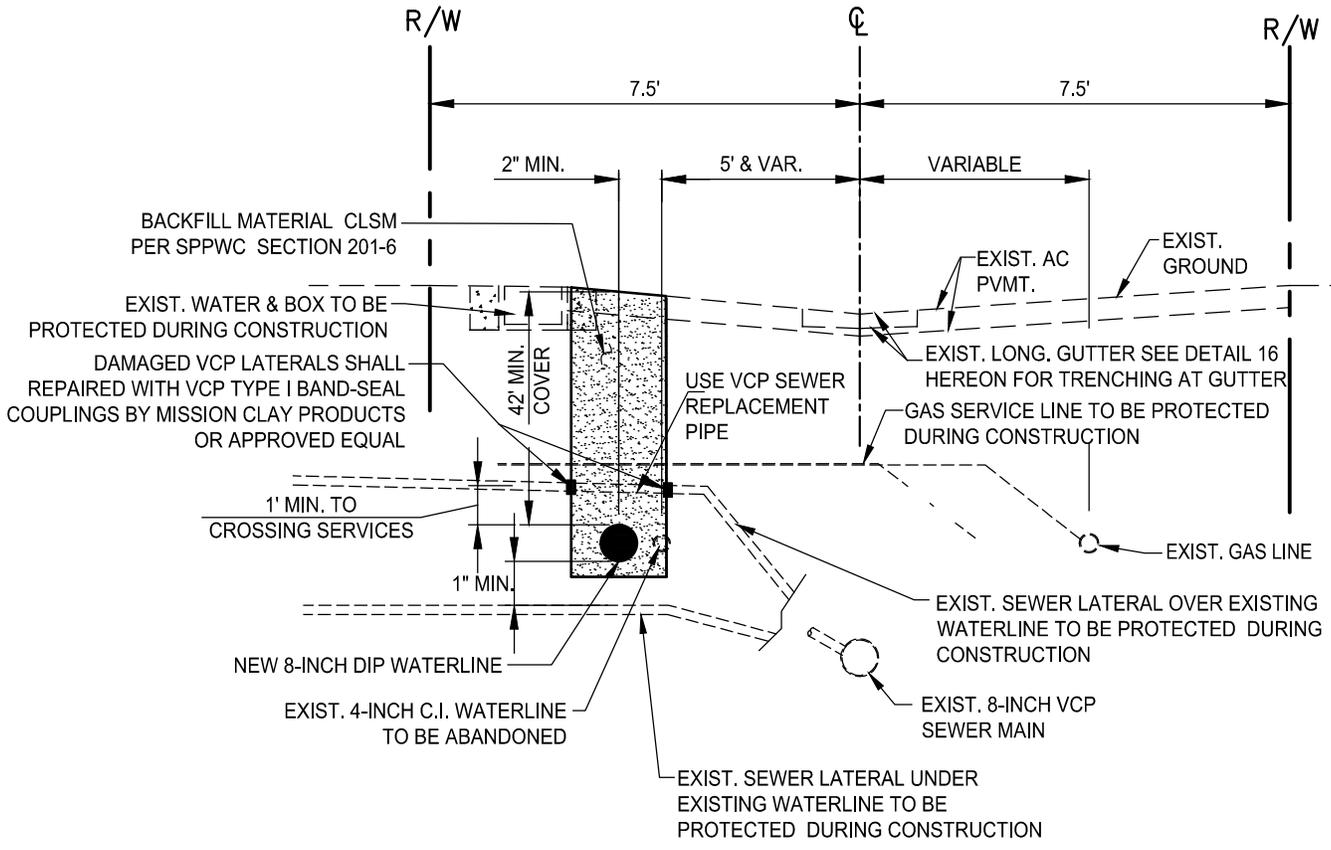
APPROVED _____ DATE _____
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STANDARD DRAWING

BH 729

SHEET 1 OF 1

ALLEY



TYPICAL UTILITY SECTION

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____
CITY ENGINEER

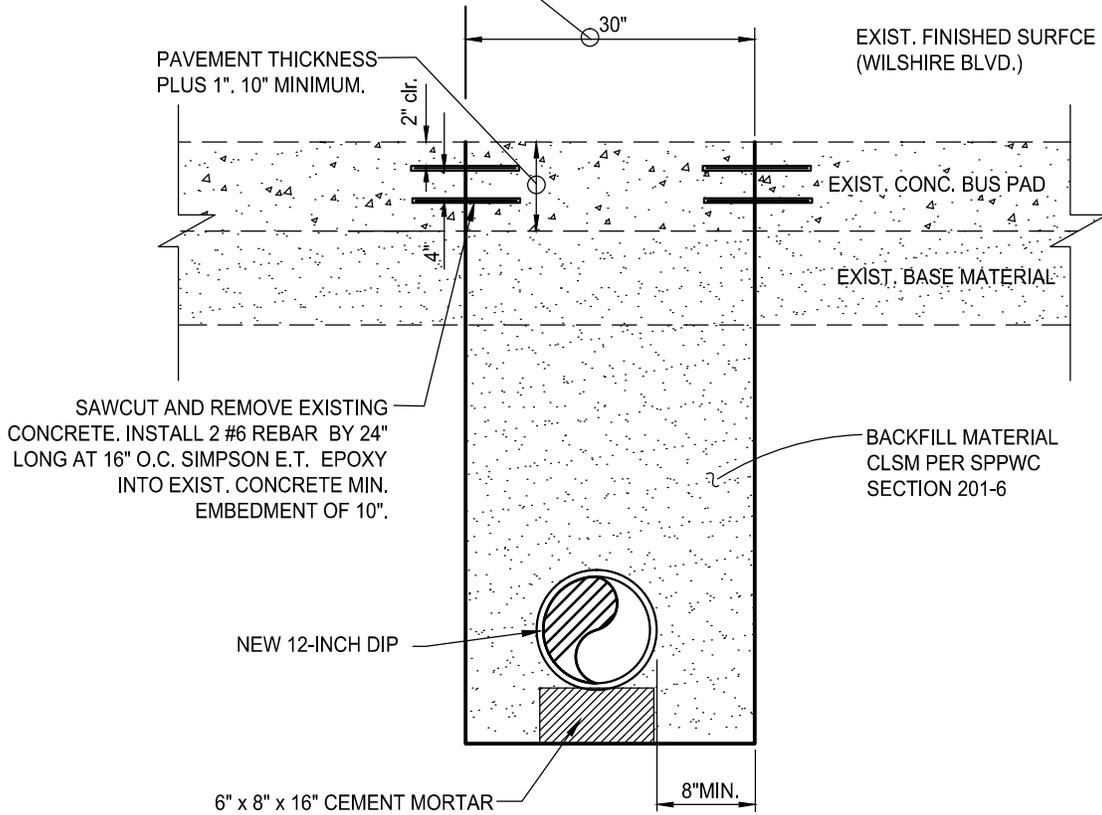
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STANDARD DRAWING

BH 730

SHEET 1 OF 1

SAWCUT & REPLACE ROAD SECTION, PER CITY STANDARDS BH 114 MODIFIED WITH STRAIGHT TRENCH CUT PER THIS DETAIL.



PCC PAVEMENT REPLACEMENT AT BUS PAD

ALL CONCRETE SHALL BE TYPE III, C-520-3250 PER SSPWC

PCC PAVEMENT REPLACEMENT

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

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CIVIL ENGINEERING DIVISION

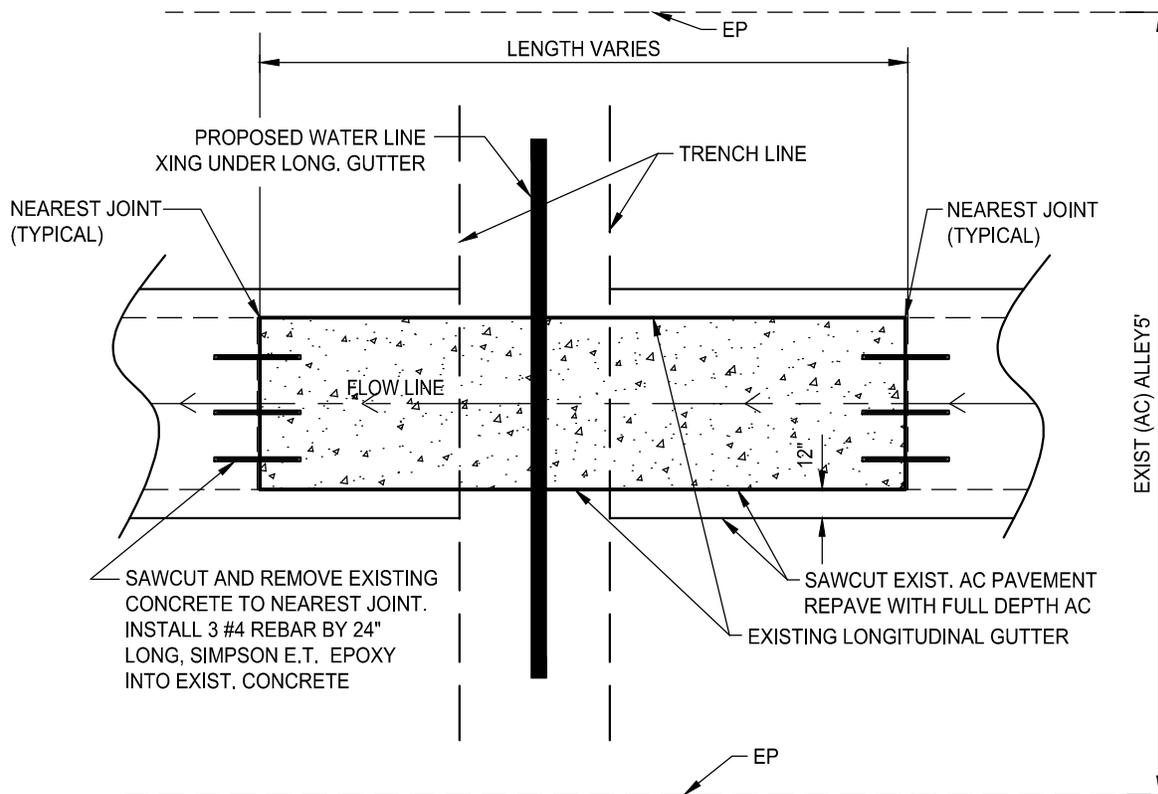
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CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 731

SHEET 1 OF 1



LONGITUDINAL GUTTER

ALL CONCRETE SHALL BE C-520-3250 PER SSPWC

GUTTER RECONSTRUCTION / REPLACEMENT

REVISIONS

MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____

CITY ENGINEER

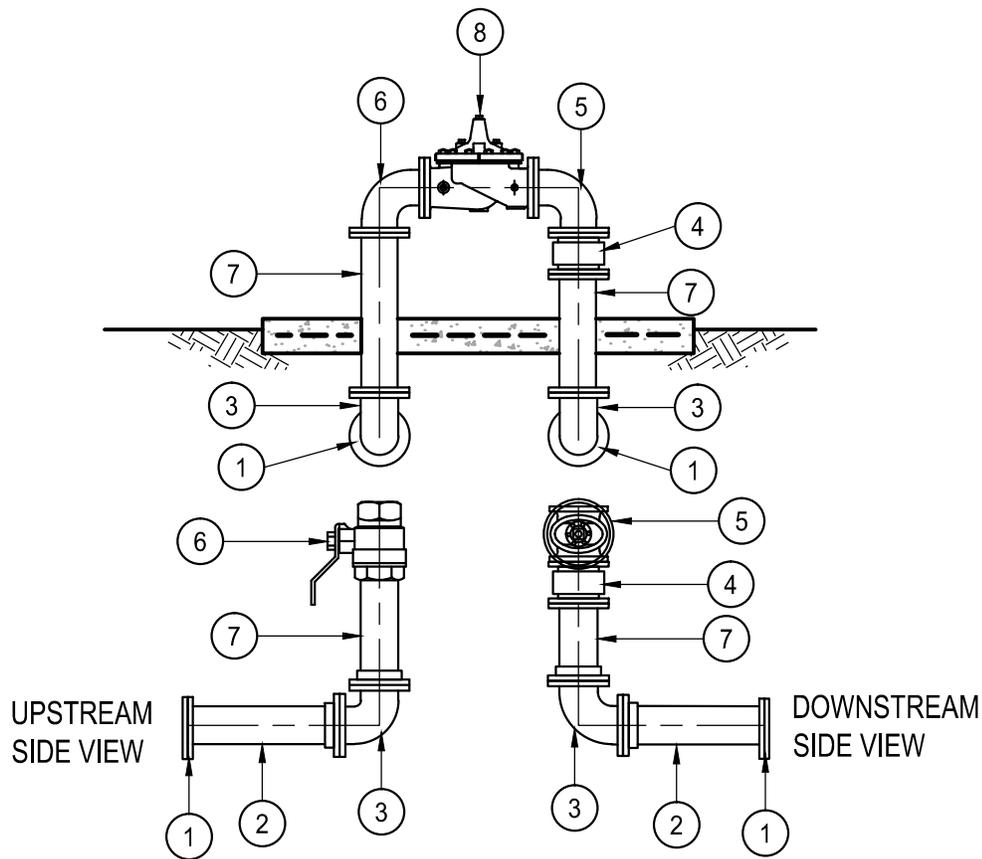
APPROVED _____ DATE _____

PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 732

SHEET 1 OF 1



CONSTRUCTION NOTES

- ① 1" x 3/4" BRASS BUSHING
- ② 3/4" x 3" BRASS NIPPLE
- ③ 3/4" BRASS FIP x COMPRESSION 90 DEGREES
- ④ 3/4" BRASS MIP x COMPRESSION ADAPTOR
- ⑤ 3/4" BRASS ANGLE CHECK VALVE WITH METER CONNECTOR
- ⑥ 3/4" BRASS ANGLE METER STOP
- ⑦ 3/4" COPPER TUBING
- ⑧ 3/4" NEPTUNE METER

FIRE SERVICE CONNECTION

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

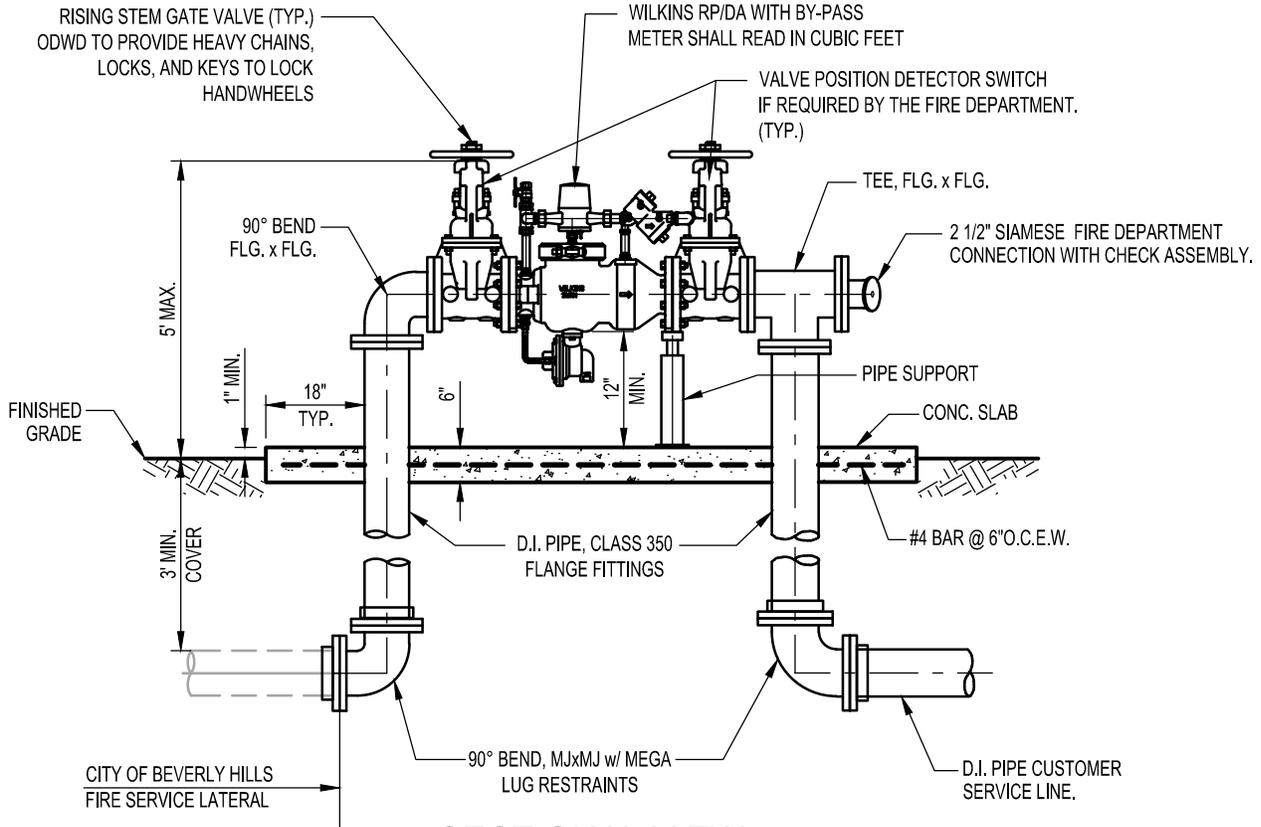
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PUBLIC WORKS DIRECTOR

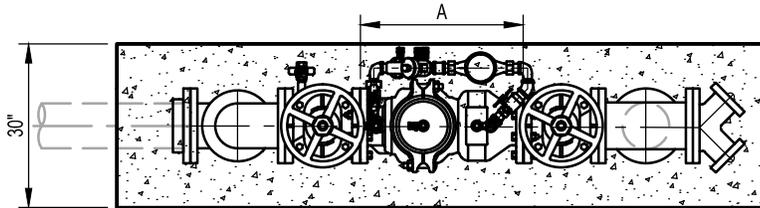
STANDARD DRAWING

BH 733

SHEET 1 OF 1



SECTIONAL VIEW



PLAN VIEW

NOTE:
 ALL ABOVE GROUND PIPING & VALVES SHALL RECEIVE ONE COAT RUSTOLIUM PRIMER AND TWO FINISHING COATS OF ENAMEL PAINT (COLOR SHALL BE DETERMINED BY CITY OF BEVERLY HILLS).

<u>SERVICE</u>	<u>D.A. LENGTH (A)</u>	<u>MIN. / MAX. FLOW</u>	<u>WILKINS</u>	*
2-1/12"	20-1/8"	75 - 224 GPM	MODEL 375ADA	OR USC BACKFLOW FOUNDATION APPROVED DEVICES
3"	20-1/8"	115 - 346 GPM	MODEL 375ADA	
4"	19-7/8"	198 - 595 GPM	MODEL 375ADA	
6"	25-7/8"	450 - 1351 GPM	MODEL 375ADA	
8"	38-1/2"	780 - 2339 GPM	MODEL 375ADA	
10"	38-1/2"	1229 - 3687 GPM	MODEL 375ADA	

LARGE METER INSTALLATION

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
 CIVIL ENGINEERING DIVISION

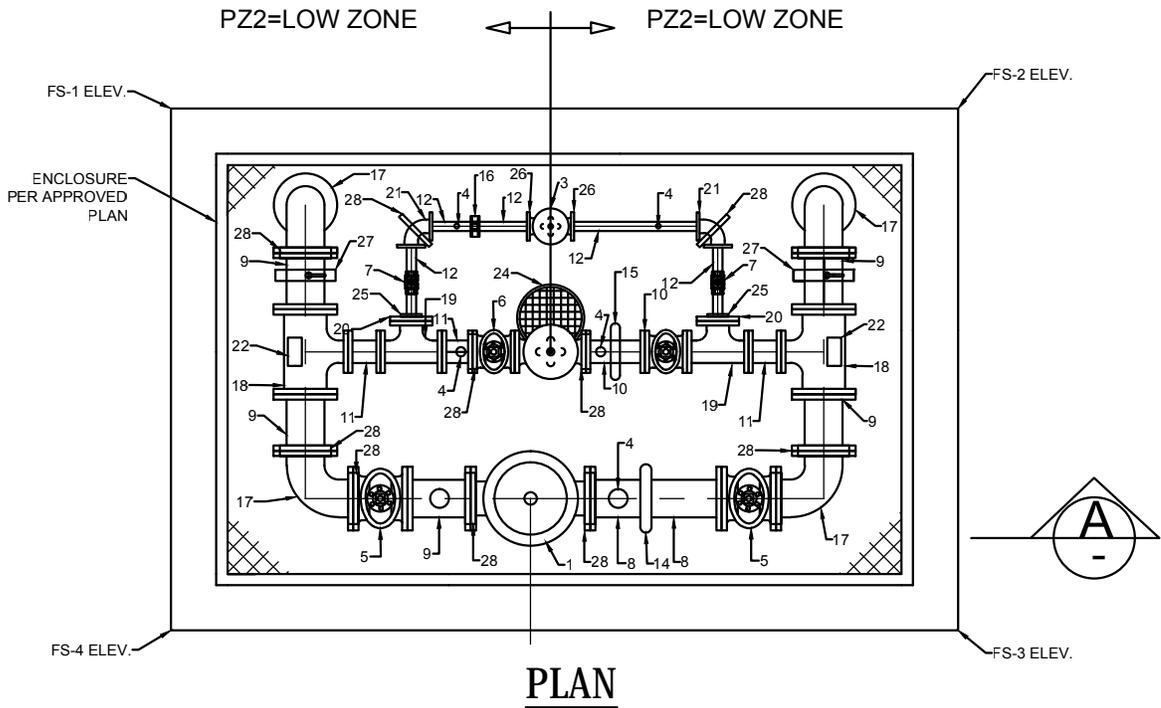
RECOMMENDED _____ DATE _____
 CITY ENGINEER

APPROVED _____ DATE _____
 PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 734

SHEET 1 OF 1



NOTE:

1. CONTRACTOR SHALL CLEARLY AND PERMANENTLY LABEL THE PRESSURE ZONES ON THE INLET AND OUTLET PIPES. METHOD TO BE APPROVED BY THE E.V.M.W.D. INSPECTOR. USE 2" MIN. HIGH NUMERALS AND LETTERS.
2. MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST.
3. FINISH SURFACE (FS) ELEVATIONS SHALL BE SHOWN ON THE PLANS.
4. PIPING SHALL BE PAINTED "SAFETY BLUE" FOR POTABLE WATER AND PANTONE PURPLE FOR RECYCLED WATER.
5. (D1) = LARGE DIA. (D2) = MEDIUM DIA. (D3) SMALL DIA.

ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	(D1) PRESSURE REDUCER CLA-VALVE, FLG	15	(D2) VICTAULIC COUPLING, GROOVED
2	(D2) PRESSURE REDUCER CLA-VALVE, FLG	16	(D3) THREADED BRONZE UNION
3	(D3) PRESSURE REDUCER VALVE, FLG OR THREADED	17	(D1) 90 DEG ELBOW
4	3-1/2" LIQUID FILLED PRESSURE GAUGE (0-160 PSI) ASSEMBLY	18	(D1) x (D2) FL D.I. TEE
5	(D1) GATE VALVE RESILIENT WEDGE TYPE 3.V. MUELLER	19	(D2) FL D.I. TEE
6	(D2) GATE VALVE RESILIENT WEDGE TYPE 3.V. MUELLER	20	(D2) D.I. BLIND FLANGE WITH THREADED OUTLET
7	(D3) BRONZE BALL VALVE	21	(D3) 90 DEG BRONZE ELBOW
8	(D1) FL x GROOVED D.I. SPOOL (LENGTH AS REQ'D)	22	PRESSURE ZONE LABEL
9	(D1) FL x FL D.I. SPOOL	23	4" CONCRETE PAD OVER 12" AGGREGATE BASE
10	(D2) FL x GROOVED D.I. SPOOL (LENGTH AS REQ'D)	24	6" DRAIN GRATE AND ASSEMBLY
11	(D2) FL x FL D.I. SPOOL	25	INSULATING BUSHING
12	(D3) BRONZE PIPE WITH THREADED ENDS	26	FOR FLANGED PRV, (D3) BRONZE FLANGE
13	4" PVC SCH 40 DRAIN PIPE (SEE SECTION)	27	AUTOMATIC COMB. AIR RELEASE & VACUUM RELIEF VALVE
14	(D1) VICTAULIC COUPLING, GROOVED	28	PIPE SUPPORT

PRV STATION DETAIL

REVISIONS		
MARK	DATE	DESCRIPTION



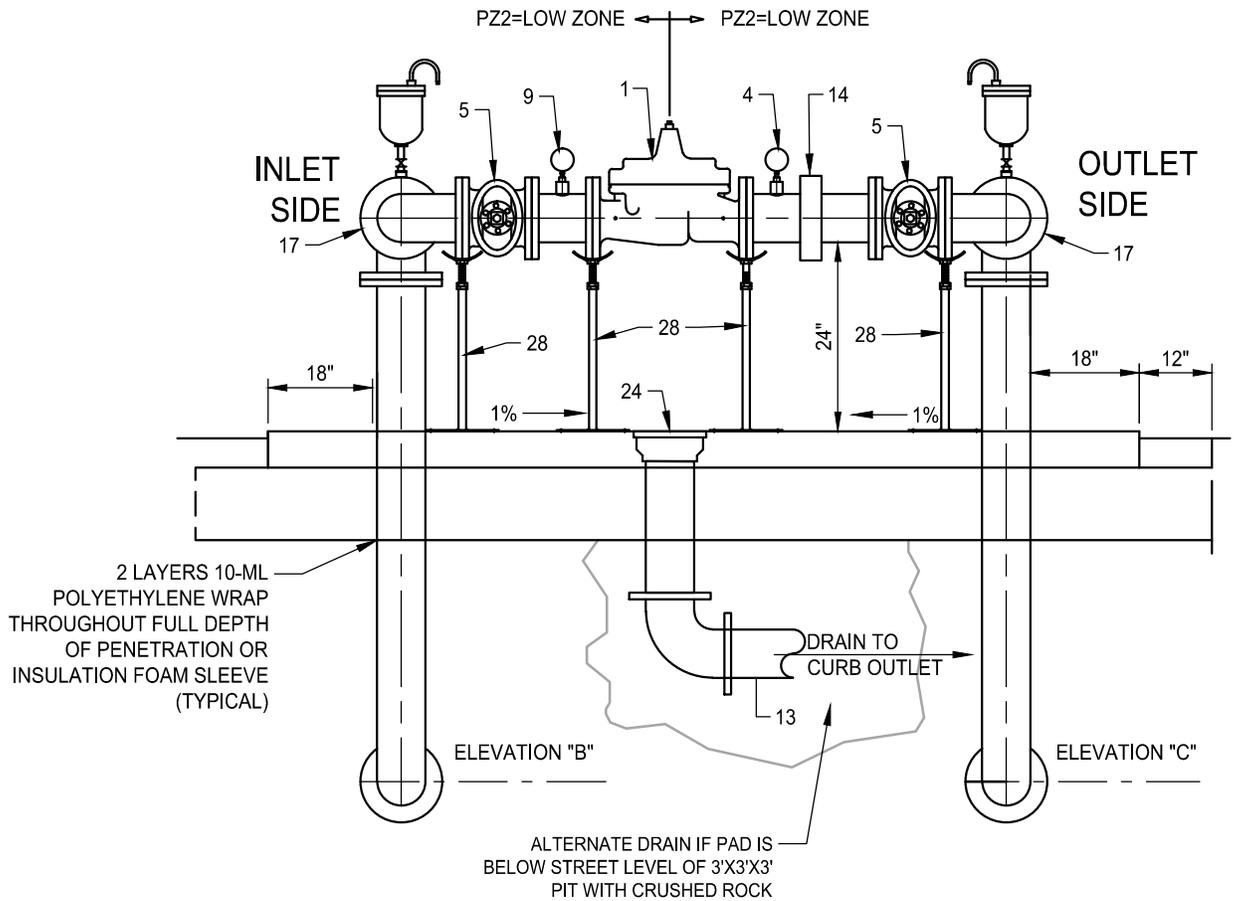
CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____
CITY ENGINEER

APPROVED _____ DATE _____
PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 735A
SHEET 1 OF 1



SECTION A-A

NOTE:

1. CONTRACTOR SHALL CLEARLY AND PERMANENTLY LABEL THE PRESSURE ZONES ON THE INLET AND OUTLET PIPES. METHOD TO BE APPROVED BY THE E.V.M.W.D. INSPECTOR. USE 2" MIN. HIGH NUMERALS AND LETTERS.
2. MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST.
3. FOR LIST OF MATERIALS, SEE STD. DWG. NO. W- 25 SHEET 1 OF 2.
4. PLANS SHALL CALLOUT ELEVATIONS "A", "B" AND "C".
5. FOR PIPE SUPPORT LOCATIONS, SEE CONSTRUCTION NOTE 28 ON STD. DWG. NO. W-25 SHEET 1 OF 2.
6. P.R.V. STATION SHALL HAVE AN EXPANDED METAL ENCLOSURE SURROUNDING THE INSTALLATION, HINGED SO IT CAN BE OPENED FOR MAINTENANCE ACCESS.

PRV STATION DETAIL

REVISIONS		
MARK	DATE	DESCRIPTION



CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED _____ DATE _____
CITY ENGINEER

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PUBLIC WORKS DIRECTOR

STANDARD DRAWING

BH 735B

SHEET 1 OF 1

Attachment 3

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