SURVEY DIVISION

PRELIMINARY / TOPOGRAPHIC

SURVEY PLAN CHECK GUIDELINES

(FOR BUREAU OF ENGINEERING, ENGINEERS)
Preliminary / Topographic Survey Plan Check Guidelines

Survey Department Requirements (From Engineering Department):

1) A Work Order in order to bill SUR time charges

2) Requested time frame for completion of plan check. Please note, that during the current health crisis the Survey Department response times have been impacted by a severe staffing shortfall. Therefore, generally speaking we require a 30-day window for completion.

Survey Department Requirements (From Consulting Engineer):

1) PDF hard copy of the final rendering of the plans to be checked & compared to the CAD drawing.

2) AutoCAD Drawing: Centerline, right-of-way, and proposed construction linework only.

Survey Department Scope of Services:

1) Review of the PDF copy of the final rendering plan set to ensure that the project is tied to the Bureau’s local horizontal and vertical reference frames (Navigate LA). Said plans must tie to existing monuments of record that must be preserved prior to and at the completion of construction activities.

2) Provide direction as necessary to the Consulting Engineer regarding any corrections.
Guidelines for Consulting Engineer

Basis Of Bearings:

The NavigateLA coordinates of the “Origin Monument” shall be held at one end of a recovered or re-established City control line or City Centerline.

The NavigateLA bearing of said recovered or re-established control line or centerline shall serve as the “Basis of Bearings”, (B.O.B.). The origin coordinate is to be held, field measure shall not be altered.

Horizontal Control Points:

The horizontal control points for preliminary surveys are control line survey monuments, generally centerline survey monuments lying within the public roadways. These survey monuments comprise the City's dense horizontal control network of over 100,000 control monuments. The survey monuments are memorialized within City Engineer Field Books, most available online via the Bureau of Engineer’s NavigateLA website. Those Field Books not found on the NavigateLA website can be obtained via the Bureau of Engineer’s Vault.

The street survey monuments in and around the project site must be recovered or re-established. If the record monuments are destroyed, a new permanent survey monument must reset by proper re-establishment methods. The Re-established monuments will require that centerline ties be prepared by the project Surveyor of Record and processed through the local BOE Survey District Office. Centerline ties notes must be prepared on the Bureau approved tie page form; those forms may be obtained from the BOE Vault.

Primary horizontal control monuments must be shown on the preliminary survey map. Project deliverables must include centerlines, right-of-ways and project boundaries established by the recovered or re-established survey monuments. Mapped distances shall note both record City Field Book measure and the field measure made by the project Surveyor of Record.
The basis of the coordinate origin for all projects shall be based upon the City’s NAD83 pseudo coordinate system. This is to say that a local coordinate obtained through the NavigateLA website shall be held at a single recovered or re-set survey monument nearest the project (The Origin Point or Origin Monument). Multiple coordinates cannot be held simultaneously as the City’s pseudo coordinate system is a patchwork of precise historic field measure, once tied to NAD27, later approximated to NAD83 through algorithms. These City Field Books and pseudo NAD83 coordinates can be obtained from the Survey Layer of the NavigateLA website.

**Vertical Control Points:**

The project shall be tied to two City of Los Angeles precise benchmarks (PBM’s) near the project site. The most recent adjustment of the NAVD 1988 datum shall be held unless otherwise agreed upon. A BM level circuit shall be run from one precise benchmark to the other, utilizing all the previously established horizontal control points as turning points (TP). Side shots are not permitted in this level circuit. BM’s (Spikes) will be set on top of curb at every intersection for construction purposes. If spikes are recovered at street intersection curb returns, they shall be utilized. If the block is relatively long (660 feet +/-) an additional BM will be set somewhere mid-block. This procedure essentially determines the elevations at all horizontal control points.