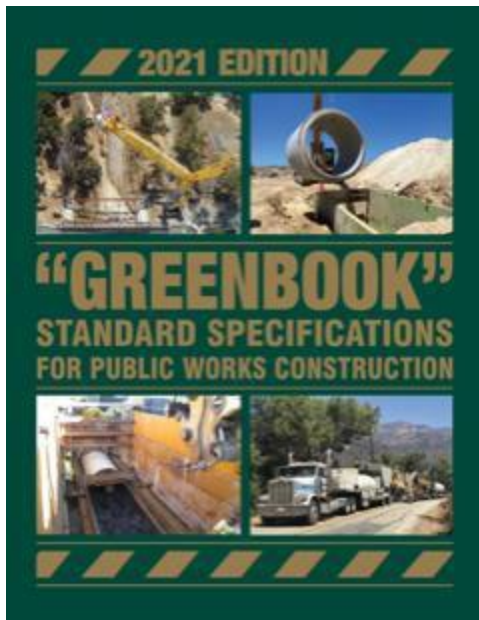


GREENBOOK SEMINAR

April 24, 2024

PART 4 EXISTING IMPROVEMENTS



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SECTION 400 – PROTECTION AND RESTORATION

400-1 GENERAL.

- 1) *“The Contractor shall be responsible for the protection of public and private property adjacent to the Work ...”*
- 2) *“The Contractor shall repair or replace all existing improvements ... which are damaged or removed ... As a result of its operations.”*
- 3) If damaged or removed due to the contractor’s operations, they shall be restored or replaced in as nearly the original condition and location as is reasonably possible.
- 4) *“The Contractor shall give reasonable notice to occupants or owners of adjacent property...”*
- 5) If working with Caltrans/Fed, the owner shall provide provisions in their special provisions as well as address any funding concerns or documenting concerns for audits

400-3 PAYMENT.

1) *“No separate or additional payment will be made ...”*

Comments:

1. *Add a bid item for a pre-video and clause in special provisions to require a pre-video*
2. *As an agency a pre-video for existing conditions protects the owner as contractors and property owners will claim existing damage on property to justify damages to property. The video protects the owner from claims from the contractor and/or property owner.*
3. *This is especially important for projects with multiple property owners involved.*



400-2 Permanent Survey Markers

1. Per Division 3, Chapter 5 of the Business and Professional Code, the contractor shall not disturb survey monuments ... which must be tied out by a Registered Land Surveyor
2. The contractor shall submit to the Engineer a minimum of 7 days prior to start of the work a list of controlling survey monuments which may be disturbed

Comments:

1. Each agency will have its own SOPs for surveying
2. At the City of San Diego as we have a survey section, this is how we deal with tie outs
3. For permit projects and projects such as buildings and facilities private surveyors are responsible for survey mark-outs
4. For projects within the Right of Way the City of San Diego's surveyors will perform the tie outs

401- Removal

401-1 GENERAL

1. Material shall be disposed of outside the work area
2. The work area shall be left with a neat and finished appearance

401-2 ASPHALT CONCRETE IMPROVEMENTS

1. Shall be removed to clean, straight lines.
2. Edges shall be saw-cut full depth if so, stated in Special Provisions
3. Trench edges shall be saw-cut full-depth prior to trench resurfacing



401-3 Concrete and Masonry Improvements

401-3.1 Concrete Pavement

1. Concrete pavement shall be removed with neatly sawed edges a minimum depth of 1 ½”
2. If a sawcut falls within 3 feet of a construction joint, cold joint, expansion joint, or edge the concrete shall be removed to the joint or edge
3. Saw cuts shall be parallel to original saw cuts or on an angle not more than 1 inch in 6 inches

401-3.2 Concrete Curb, walk, gutters, cross gutters, curb ramps, driveway and alley intersections

1. Concrete sidewalk or driveway to be removed shall be parallel to curb or at right angles to alignment of sidewalk
2. No section to be replaced shall be smaller than 30” in length or width
3. If sawcut in sidewalk or driveway would fall within 30” of a construction joint, expansion joint

401-3 Concrete and Masonry Improvements

Comments:

- 1) Include a bid item for removal of non- reinforced concrete as appropriate.
- 2) Include a bid item for reinforced concrete removal as appropriate. This is important as recyclers charge additional for reinforcement and reinforcement needs to be hand sorted.
- 3) Ensure the Plans clearly describe and show what is to be removed without a Bidder having to make assumptions, e.g. thicknesses, presence of reinforcing steel, etc.
- 4) The City of San Diego, has their own coring rig that cores our projects, this coring information is provided on our resurfacing pages of the plans, with the depth and station of location of core
- 5) The coring information is also reflected in the bid items
- 6) Sometimes the property owner will add new concrete to the project, this shall be a separate bid item as demolition and removal is not needed, just grading, compaction and forming, therefore a reduced level of effort of remove and replace

401-4 Composite Pavements

Consist of underlying concrete pavement overlaid with AC.
Removal specified in Special Provisions.

Comment:

1. Specify the basis of measurement and payment for removal of composite pavement.
2. Communication between Contractor and Engineer to happen when presence is known as Composite pavements are more costly to demo than AC or PCC
3. Important for Engineer and Contractor to document via photos/station numbers location of concrete for As-Builts and billing purposes as once section is paved difficult to quantify after the fact



SECTION 402 - UTILITIES

402-1 LOCATION.

- 1) “Known utilities ... are shown on the Plans or specified in the Special Provisions.”
- 2) Where underground utilities are shown on the plans, the contractor shall assume every property parcel will be served by a service connection for each type of utility
- 3) “The Contractor shall provide the subsurface installation location data to the Engineer within the time period specified in the Special Provisions.”



SECTION 402-1 LOCATION



Comment:

1. References Government Code Section 4216. For contacting Regional notification Center a minimum of 2 days prior to starting work. This is Digalert 811.
2. Prior to trenching contractor will mark limits of work and utility locators will mark utilities.
3. Unknown utilities are commonly located within the limits of the project that were not identified on as-builts or when mark outs are performed
4. The contractor can request a new dig alert for the utility in question
5. The contractor can submit a RFI to the Engineer, for additional as-built research based on field conditions
6. Construction shall follow separation distances of utilities based on the asset type and if closer distances are needed a deviation shall be requested from the owner of the utility



402-2 PROTECTION

- 1) Specifies the criteria, circumstances, requirements, and basis of payment for the Contractor to support and protect utilities and repair damaged utilities.



402-4 RELOCATION

1. Specifies utility work to be completed by the owner prior to the start of the Work, *“when feasible.”*
2. Specifies the owner will make arrangements for utility work and protected in their position
3. Protection of the relocation shall be included in bid item for relocation
4. Specifies service connections will be relocated by the utility owner
5. If relocation is done by the Contractor, payment to be 7-3 or 7-4.
6. Payment for changes in the Work to avoid interference with utilities to be per 7-3 or 7-4.

402-5 DELAYS DUE TO UTILITY CONFLICTS.

- 1) Requires the Contractor to notify the Engineer of the affect of the protection, removal, or relocation of utilities upon its construction schedule per 6-1.
- 2) Specifies, if per 402-1, Contractor not entitled to “...*damages or additional payment.*”
- 3) “... *Agency will assume responsibility for ... utilities ... not identified in the Contract Documents.*”
- 4) If not per 402-1, Contractor entitled to “... *such amount as the Engineer may find to be fair and reasonable compensation ... and ... may be granted an extension of time.*”

Comment:

- 1) Responsibility of agency to do as-built research and conflict checks in design with utility companies to properly identify utility conflicts, perform relocations when necessary and prior coordination to reduce/eliminate conflicts and delays
- 2) Best practice to do utility conflict checks at 60 and 90/100% design checks and meet with dry utility companies regularly to address concerns earlier than later

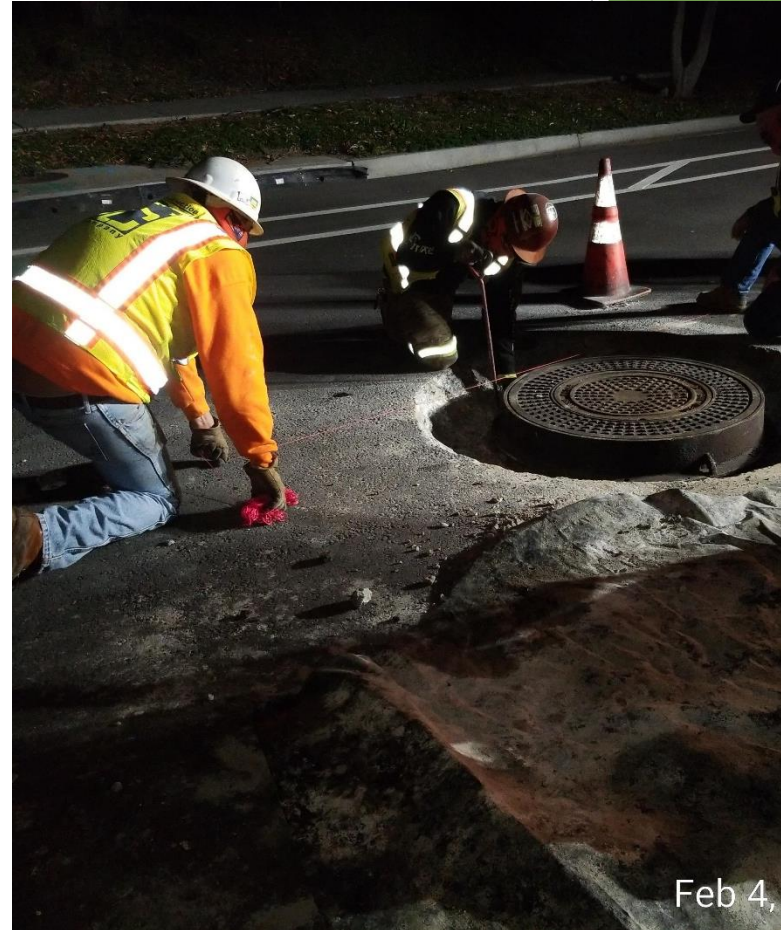
SECTION 403 – MANHOLE ADJUSTMENT AND RECONSTRUCTION

403-1 GENERAL

- 1) Provides for utility manholes and vaults to be set to finish grade by their owner.
- 2) Requires the Contractor to adjust or reconstruct sewer and storm drain manholes to finish grade.

403-5 PAYMENT

- 1) Adjusting manholes (< 15 inches) from lowest point of removal to top of frame) to be at Contract Unit Price for each.
- 2) Reconstructing manholes (≥ 15 inches) from lowest point of removal to top of frame) to be at Contract Unit for each.





Comments:

- 1) Include items in the Bid for “Adjust Manhole” and “Reconstruct Manhole” as appropriate.
- 2) If cold milling full-width, specify the adjustment procedure and respective Bid item.
- 3) Doesn't address manhole adjustment when cold milling full-width. Address in Special Provisions.
- 4) The utility owner if they don't adjust their facility within 10 days of pavement restoration will adjust under a separate permit (403-3), importance of prior coordination for large paving projects.



SECTION 404 - COLD MILLING

404-1 GENERAL.

1. *"The type of pavement and depth to be cold milled shall be as shown on the Plans ..."*
2. *"The presence of pavement fabric or steel reinforcement within the depth to be cold milled shall be as shown on the Plans."*
3. *Whenever cold milling is adjacent to existing concrete curbs, gutters or pavement, the contractor shall protect these improvements.*

404-3 COLD MILLING TO SPECIFIED ELEVATIONS.

- 1) ***“The finished elevations and depth of removal shall be as shown on the Plans.”***



404-4 PROFILE MILLING.

- 1) “... *the controlled removal of a portion of the existing pavement ... using longitudinal grade controls ...*”
- 2) Remove surface irregularities in the pavement and improve ride ability
- 3) “*The grade shall be as shown on the Plans.*”



404-5 FULL-DEPTH MILLING.

- 1) “... *the removal of the full depth of the existing pavement as shown on the Plans ...*”





404-9 TRAFFIC SIGNAL LOOP DETECTORS.

1. The contractor shall not mill within 12" of any existing loop detectors that are shown... protected in place on plans or in Special Provisions.
2. If damaged or removed shall be replaced per 400-1, 700 and 701.

404-11 MEASUREMENT.

- 1) “... will be measured by the ... square foot (square meter) for each thickness or range of thicknesses to be removed ... “
- 2) “The quantity of each type of pavement to be cold milled ... will be measured separately.”

Comments:

- 1) Cold milling is not “grinding.”
- 2) Concrete pavement can be cold milled, but only to a depth of typically 1-1/2” or less, and is very expensive.

SECTION 405 – MICRO-MILLING

- 1) *“... cold milling of existing asphalt concrete pavement with a milling machine equipped with a cutting drum specifically designed and constructed for micro-milling.”(405-1)*
- 2) *“... measured by the square foot for each thickness.” (405-6)*
- 3) *“Payment ... will be made at the Contract Unit Price per square foot for each thickness of micro-milling shown on the Plans.”(405-7)*

Comments:

- 1) *Milling using a special drum with more (approx. 3X) and closer spaced (2/10" apart vs. 5/8" apart) teeth than a standard cold milling drum resulting in a finer pavement texture (more ribs, lower rib height) than cold milling.*
- 2) Typically $\leq 1"$ in depth.
- 3) Performed prior to seal coat application or resurfacing to remove previous surface treatments, improve the bond, and provide a smoother riding surface.
- 4) Both cold milling and micro-milling result in an increase in the pavement surface area necessitating **greater tack coat application rates than specified in 302-5.8.**



Questions?



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