

## Mullan BUILD - England Boulevard Design Changes

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### Project Description

England Boulevard was designed as part of the Mullan BUILD project, has advanced through final design (RFC), and at the time of writing this scope of work (November 2021) is approved for construction. Construction is anticipated to begin in early 2022. During the initial design, it was assumed that high groundwater issues in the area would prohibit the use of groundwater injection (sumps). This assumption was a critical factor in the England Blvd Profile design because it needed to allow for stormwater to be conveyed in a pipe at a minimum slope (0.5%) to a retention facility West of George Elmer. The England BLVD profile was also designed to allow for a pipe with minimum bury depth to convey irrigation water through the existing N/S lateral of the Flynn-Lowney Ditch. As the project continued to progress these two constraints were essentially removed by a groundwater study and subsequent recommendation to allow sumps and the purchase and abandonment of the Flynn-Lowney Ditch.

After the completion of the Mullan BUILD design, IMEG has made substantial progress on the design of the Evergreen Subdivision adjacent to the Eastern half of England Boulevard. With this furthered design, IMEG was able to more accurately assess how the Evergreen Subdivision would tie-in with England Boulevard. It was found that the lots that tie-in with England near the profile high point would have issues and increased costs to catch back into the existing ground on the back side of the lots. Along with this, other conflicts were found with the stormwater design and locations where future roads would tie in with England Boulevard.

This scope of work will allow DJ&A to evaluate a lower elevation England Boulevard profile. While the significant constraints mentioned above have been removed, the England Boulevard profile will still be constrained by the required minimum bury depth of the planned sanitary sewer, stormwater constraints associated with the sump design concepts, over-all Mullan BUILD Project earthwork balances, and other minor factors.

Due to the imminent timing of the Mullan BUILD Project grant funding agreement and construction contract it has been determined that these changes must be incorporated through a contract change order (CCO) process. This will allow for adequate coordination and design time and for the Mullan BUILD project to proceed with now additional delay risk. The CCO process will also allow the City and County to evaluate/negotiate the construction costs associated with this change and potentially still reject that change if it is not in the best interest of the public.



## Task 1: Project Management

**Description:** DJ&A will provide management and oversight of the England Boulevard re-design contract.

**Deliverables:**

- Monthly billing reports and invoices

## Task 2: Roadway Design

**Description:** DJ&A will update the design of England Boulevard to better align with future infrastructure and development along the proposed roadway. This re-design will include:

- Roadway profile design changes
- Intersection design updates to match needs of the proposed development (assume no more than 3 intersections)
- Model updates and surface coordination
- Sheet updates and drafting
- QAQC checks and design basis updates
- Dry utility conflict checks
- Quantity run and estimate updates

**Assumptions:**

- The current design of the Evergreen Subdivision will not have further changes that impact England Boulevard.

**Deliverables:**

- Updated plan sheets for the areas where design changes are made
- Updated Design Basis Report
- Updated Engineers Estimate & Bid Item List

## Task 3: Utilities

**Description:** HDR will update the Stormwater, Water, and Sewer design associated with the re-design of England Boulevard. This will include:

- Stormwater calculations and design
- Stormwater design sheet updates



- Sewer re-design and sheet updates
- Water re-design and sheet updates
- Estimate checks and updates
- MDEQ coordination and re-approval

**Assumptions:**

- Water – The George Elmer Drive design at the England Blvd. Intersection will not change for the water design and profile.
- Water – The West England Blvd. water plan and profile is not expected to change.
- Water – The East England Blvd. water plan and profile will need to be changed with the profile being lowered for minimum cover over the pipeline. The changes could also include lowering under the culvert crossing if that will still be included. Minor fire hydrant location changes will be included. Connection at Flynn Lane will need to be modified for the lowered water line profile.
- Sanitary Sewer – The George Elmer Drive design at the England Blvd. Intersection will not change for the sanitary sewer design and profile.
- Sanitary Sewer – The West England Blvd. sanitary sewer profile cannot be lowered due to minimum grade on the collection system pipelines downstream. The road profile will need to be lowered to fit the new design.
- Sanitary Sewer - The East England Blvd. sanitary sewer profile cannot be lowered due to minimum grade on the collection system pipelines downstream. The road profile will need to be lowered to fit the new design.
- Stormwater - The George Elmer Drive design at the England Blvd. Intersection will not change.
- Stormwater – The West England Blvd. will be a complete redesign (new roadway profile, possibly with added vertical curves).
- Stormwater - The East England Blvd. Road design and profile will generally stay the same, with updates to address conflicts with Evergreen (i.e., adjusting bioswales).

**Deliverables:**

- Updated Stormwater Plan Sheets
- Updated Water Plan Sheets
- Updated Sewer Plan Sheets
- Updated Quantity Take-offs



## Task 4: Deliverable Package

**Description:** DJ&A & HDR will provide final construction change order plans, specifications, and estimate package at the conclusion of this work. This package will be the primary deliverable. This task includes the work to compile and submit for approval.

### **Assumptions:**

- The actual content, organization, and details of this submittal will follow the organization of the previous Mullan BUILD submittals.

### **Deliverables:**

- Plan Package
- Specifications Package
- Estimate
- Supporting documents and files as requested.

## Project Schedule

DJ&A proposes the following schedule:

- Week of December 17<sup>th</sup> (tentative) DJ&A Complete Preliminary England Profile & Surface updates
- Week of January 7<sup>th</sup> (tentative): HDR Complete Preliminary Stormwater, Water, & Sewer Design.
- Week of January 28<sup>th</sup> (tentative): DJ&A and HDR Complete Final Re-design and provide deliverables