SUMMARY (JANUARY 2020):

1) CRITICAL: Pedestrian Bridge design needs to begin in March of 2020 or the 60% submittal will be delayed and will impact the start of Bypass Channel North design.

RECOMMENDED ACTION: TRWD staff plans to submit the design contract to the TRWD Board for approval in February for a March design start, in order to stay on schedule.

2) NEAR CRITICAL: Based on status updates received from CoFW, Sanitary Sewer Part 10 and Storm Drainage Part 3 and Part 2 have become near critical.

RECOMMENDED ACTION: City staff plans to advertise these projects in January for award in May, in order to stay on schedule.

3) NEAR CRITICAL: Any delays in CoFW, Sanitary Sewer Part 10 and Storm Drainage Part 3 and Part 2 may impact the incorporation of as-builts into the final design of USACE Bypass Channel North design.

RECOMMENDED ACTION: City staff plans to advertise these projects in January for award in May, in order to stay on schedule.

Schedule reflects only critical and near critical components of Bypass Channel North. This schedule contains the best information from Project Partners through the end of December 2019 and is subject to change.
Central City Risk Register as of 1/8/2020 for North Bypass Channel

<table>
<thead>
<tr>
<th>Project</th>
<th>Risk Description</th>
<th>Inherent Risk Likelihood of Occurrence</th>
<th>Inherent Risk Impacts</th>
<th>Jurisdictional Agency</th>
<th>Response Timing (If..., Then...)</th>
<th>Risk Management Strategies</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilities in North Bypass Channel</td>
<td>Due to local funding limitations, contracting for utility construction in the North Bypass Channel has been delayed 3 years which impacts the ability to move forward on design and construction of the North Bypass Channel</td>
<td>Certain</td>
<td>Marginal</td>
<td>Critical</td>
<td>COFW; USACE; TXDOT; TRWD</td>
<td>Acceptance; Avoidance; Mitigation; Transference</td>
<td>Active</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td></td>
<td>Mitigation: We may need USACE to allow for ongoing utility construction during Channel construction if we cannot overcome schedule impacts. USACE has not agreed to this at this time.</td>
<td>On Hold; Closed</td>
</tr>
<tr>
<td>Local Funding</td>
<td>Funding mechanisms for local funds are not put in place for FY20.</td>
<td>Board Input Requested</td>
<td>Board Input Requested</td>
<td>Board Input Requested</td>
<td>COFW &amp; TRWD</td>
<td>Avoidance: Funding mechanisms have been identified but not fully implemented by local partners in order to fund the FY20 projects so the USACE remains eligible for Federal funding.</td>
<td>Active</td>
</tr>
<tr>
<td>Project</td>
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</tr>
<tr>
<td>Bypass Channel North Design</td>
<td>The USACE does not receive requested capability for Bypass Channel Design in FY20. ($5M-$10M)</td>
<td>Unlikely</td>
<td>Negligible</td>
<td>USACE</td>
<td>If USACE does not receive approximately $5 to $10 Million by July of 2020, then the 6 month procurement of the Bypass Channel design will be delayed. Design of Bypass Channel North is currently on the critical path and must begin by January of 2021.</td>
<td>Acceptance; Avoidance; Mitigation; Transference</td>
<td>Active</td>
</tr>
<tr>
<td>Bypass Channel Local Share</td>
<td>Failure to execute contract by March of 2020 will delay start of Bypass Channel Design.</td>
<td>Unlikely</td>
<td>Negligible</td>
<td>TRWD</td>
<td>HNTB completed Value Engineering. Design is on hold awaiting resolution of local funding. Design of the local components must be at 60% for USACE to start Bypass Channel design. If HNTB contract is not awarded by March of 2020 then USACE will be delayed in starting design of Bypass Channel. As of January 2020, we have 3 months to execute this contract to prevent delay to the Bypass Channel Design.</td>
<td>Acceptance; Avoidance; Mitigation; Transference</td>
<td>Active</td>
</tr>
<tr>
<td>Federated Funding</td>
<td>The USACE does not receive the entire ($38M) Federal funding request for FY20 which was for design of: Bypass North &amp; South; Rockwood &amp; University; 3 Gates; Storm Water Pump Station; Ecosystem &amp; Adaptive Mitigation</td>
<td>Likely</td>
<td>Negligible</td>
<td>USACE</td>
<td>Over the past three years the USACE has made similar size requests for funds to have designs completed and construction shovel ready. All USACE design activities in the request currently have 7 months or more of float due to other local requirement predecessor activities which must be completed ahead of USACE. Due to float available in the schedule, if USACE does not receive the full funding request for FY20, then the majority of the USACE designs will not be impacted.</td>
<td>Acceptance; Avoidance; Mitigation; Transference</td>
<td>Active</td>
</tr>
</tbody>
</table>
SUMMARY (JANUARY 2020):

1) CRITICAL: If TxDOT Henderson Street Bridge is not re-routed off detour by July of 2021, then construction of CoFW Sanitary Sewer Part 14, Oncor Segment C, and USACE South Bypass Channel will be delayed.

   RECOMMENDED ACTION: TxDOT is working with Texas Sterling to remove traffic from detour by summer of 2021.

2) CRITICAL: Due to delay in funding and revised duration for TRWD Demolition and Environmental of Police and Fire, completion of this project has become critical and will impact the start of CoFW Sanitary Sewer Part 14 project.

   RECOMMENDED ACTION: TRWD staff plans to submit the environmental contract to the TRWD Board for approval in January, in order to stay on schedule.

3) NEAR CRITICAL: As builts for the following projects are near critical and are needed to complete USACE design: Sanitary Sewer Part 13, Storm Drainage Greenleaf, and Franchise AT&T Segment D and Oncor Segment C.

   RECOMMENDED ACTION: City staff plans to progress these projects in accordance with the required schedule.
Central City Risk Register modeled after USACE’s Cost Engineering Center of Expertise Cost and Schedule Risk Analysis template.

### Central City Risk Register as of 1/8/2020 for South Bypass Channel

**Financial Impacts of Occurrence**

<table>
<thead>
<tr>
<th>Likelihood of Occurrence</th>
<th>Negligible</th>
<th>Marginal</th>
<th>Significant</th>
<th>Critical</th>
<th>Crisis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certain</td>
<td>Low</td>
<td>Moderate</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Very Likely</td>
<td>Low</td>
<td>Moderate</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Unlikely</td>
<td>Low</td>
<td>Low</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Very Unlikely</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

**Schedule Impacts of Occurrence**

<table>
<thead>
<tr>
<th>Likelihood of Occurrence</th>
<th>Negligible</th>
<th>Marginal</th>
<th>Significant</th>
<th>Critical</th>
<th>Crisis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certain</td>
<td>Low</td>
<td>Moderate</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Very Likely</td>
<td>Low</td>
<td>Moderate</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Unlikely</td>
<td>Low</td>
<td>Low</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Very Unlikely</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

**Legend**

- Low
- Moderate
- High
- Critical
- Crisis

**Project Managers & Board**

**Assess**

**Strategize & Manage**

<table>
<thead>
<tr>
<th>Project</th>
<th>Risk Description</th>
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<th>Inherent Risk Impacts</th>
<th>Jurisdictional Agency</th>
<th>Response Timing (If..., Then...)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TXDOT</td>
<td>Potential TXDOT bridge delays and change orders, thereby delaying follow on projects and impacting our ability to move forward on construction of utilities and design of South Bypass Channel based on the current finish date in Q4 of FY21.</td>
<td>Very Likely</td>
<td>Marginal</td>
<td>Crisis</td>
<td>TXDOT</td>
</tr>
</tbody>
</table>

As of January 2020, if the traffic shift off of Henderson St Detour does not complete by July of 2021, then construction of Part 14, Oncor Segment C, and South Bypass Channel design will be delayed by the same duration. This will impact cost and schedule.

1. Acceptance and Transference (seeing very little mitigation outside of quality related issues). Need to keep pressure politically on TXDOT.
2. Mitigation: Discuss schedule with TXDOT to shift traffic off of Henderson St. detour sooner to not delay Part 14, Oncor Segment C, and South Bypass Channel design.

Status: Active; On Hold; Closed
<table>
<thead>
<tr>
<th>Project</th>
<th>Risk Description</th>
<th>Inherent Risk Likelihood of Occurrence</th>
<th>Inherent Risk Impacts</th>
<th>Response Timing (If..., Then...)</th>
<th>Risk Management Strategies</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water/ Sewer Part 14</td>
<td>Easement acquisition may require condemnation which may impact the schedule and</td>
<td>Very Likely</td>
<td>Marginal</td>
<td>Design of Part 14 is scheduled to start in February of 2020 to maintain the critical path.</td>
<td>Acceptance; Avoidance; Mitigation; Transference</td>
<td>Active</td>
</tr>
<tr>
<td></td>
<td>may be costly. Work will be installed between USACE hardwall piers with narrow</td>
<td></td>
<td>Critical</td>
<td>Removal of Henderson St. Detour is required before Part 14 work construction can begin. If</td>
<td></td>
<td>On Hold;</td>
</tr>
<tr>
<td></td>
<td>room for error. This project is also in the Henderson St Detour footprint and can</td>
<td></td>
<td></td>
<td>easement is not acquired by November of 2020, then it delays the start of Part 14 construction.</td>
<td></td>
<td>Closed</td>
</tr>
<tr>
<td></td>
<td>only start 2 months prior to the detour removal.</td>
<td></td>
<td></td>
<td>If Part 14 does not complete construction and as-built documents by September of 2023,</td>
<td></td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>then it will delay design and construction of the South Bypass Channel.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>1. Mitigation: Discuss schedule with TXDOT to shift traffic off of Henderson St. detour</td>
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<td></td>
<td></td>
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<td>sooner to not delay Part 14.</td>
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<td></td>
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<td></td>
<td>2. Avoidance &amp; Transference: Part 14 potentially can be done by USACE and money fronted</td>
<td></td>
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<td></td>
<td></td>
<td>by locals.</td>
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<td></td>
</tr>
<tr>
<td>Utilities in South Bypass</td>
<td>Due to local funding limitations, contracting for utility construction in the</td>
<td>Likely</td>
<td>Negligible</td>
<td>If Part 13 and AT&amp;T Segment D design does not begin by April of 2020, then they will become</td>
<td>Mitigation: We may need USACE to allow for</td>
<td>Active</td>
</tr>
<tr>
<td>Channel</td>
<td>South Bypass Channel has been delayed 3 years which impacts the ability to move</td>
<td></td>
<td>Significant</td>
<td>critical and will delay the design of the South Channel.</td>
<td>ongoing utility construction during Channel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>forward on design and construction of the South Bypass Channel</td>
<td></td>
<td></td>
<td></td>
<td>construction if we cannot overcome schedule</td>
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<td></td>
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<td></td>
<td></td>
<td>impacts. USACE has not agreed to this at this</td>
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<td></td>
<td></td>
<td></td>
<td>time.</td>
<td></td>
</tr>
<tr>
<td>Oncor Segment C Crossing</td>
<td>Crossing design has not begun and work impacts completion of South Bypass Channel</td>
<td>Unlikely</td>
<td>Negligible</td>
<td>If the project does not start before Q3 of FY20, then the project will become critical</td>
<td>Avoidance: The COFW to get a commitment from</td>
<td>Active</td>
</tr>
<tr>
<td></td>
<td>Design. This project is also in the Henderson St Detour footprint.</td>
<td></td>
<td></td>
<td>because it will prevent USACE from completing design of the South Bypass Channel.</td>
<td>Oncor to stay on current schedule.</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Remaining Demolition and</td>
<td>Remaining Demolition and Environmental work is on hold waiting for local funding.</td>
<td>Very Unlikely</td>
<td>Negligible</td>
<td>Demolition and environmental work is needed before utility work can begin in the South</td>
<td>Mitigation: Continue to stay ahead of USACE</td>
<td>Active</td>
</tr>
<tr>
<td>Environmental Work</td>
<td>All properties must be demolished and environmentally clean for USACE to start.</td>
<td></td>
<td></td>
<td>Channel. If demolition and environmental work is not started by January of 2020 and</td>
<td>with Bypass Channel relocations so USACE is</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>completion is delayed beyond November of 2020, then it becomes critical and will delay the</td>
<td>shovel ready. Making the project more</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>bidding of Part 14.</td>
<td>competitive and likely to receive federal funds.</td>
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<td>----------------------------</td>
</tr>
<tr>
<td>Bypass Channel South Design</td>
<td>As-builts of Part 14 and Part 13 impact the USACE design completion of the South Bypass Channel.</td>
<td>Unlikely</td>
<td>Negligible</td>
<td>USACE</td>
<td>If USACE does not receive the Part 14 and Part 13 as-builts by September of 2023, then their review and incorporation of the as-builts into the South Bypass Channel Design cannot be completed, which will delay the start of channel construction.</td>
<td>Mitigation: Continue to stay ahead of USACE with Bypass Channel relocations so USACE is shovel ready. Making the project more competitive and likely to receive federal funds.</td>
</tr>
</tbody>
</table>