



NST EXPRESS, LLC

Permit compliance inspection report #2



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EXHIBITS

Exhibit 1: Site Visit Location Map

1 EXECUTIVE SUMMARY

The North Dakota Public Services Commission has contracted with Houston Engineering, Inc. (HEI) to perform permit compliance inspection services for the NST Express, LLC project, (Case No. PU-15-232), a 12-inch crude oil pipeline spanning 23 miles in McKenzie County, North Dakota. This report documents the inspection compliance site visit, which was conducted on July 18, 2016. This site visit represents 50% complete construction for the project and focused on observation of the following activities:

- No grading / construction activity within cultural resource areas;
- Regrading of wetland areas (most wetland areas are within the Right-of-Way (ROW) area);
- Boring under the Yellowstone River;
- Boring under roads; no road cuts;
- Observation of estimated depth of pipe installation; and
- Observation of erosion control issues / need for better erosion control.

The site was inspected by Mr. Andrew Vistad, Civil Engineer, HEI. Mr. Vistad coordinated with Mr. Chris Thompson, the Chief Inspector of Northstar Express, while on site. HEI toured the active construction areas. Topsoil separation activities and methods observed during the first progress report continue to be utilized and are appropriate for the site and site conditions.

Based on our observations of construction onsite, the construction of the pipeline has avoided cultural resource areas. Pipeline construction crossing roadways is being completed using direct bore, as opposed to road-cuts. Direct bore was also used to complete construction under the Yellowstone River. No erosion control issues were identified.

2 INTRODUCTION AND PURPOSE

Houston Engineering, Inc. was contracted by the North Dakota Public Services Commission (NDPSC) to complete construction inspection services, as part of the 12-inch crude oil pipeline known as the NST Express Pipeline project (*PSC. Case No. PU-15-232*). The purpose of the inspection services is to determine compliance with the permit issued by the NDPSC. The following is a summary of the work completed to date, and the anticipated timeframe for the completion of the permit compliance review. Two (2) permit compliance site visits have been completed, and one additional compliance inspection will occur during construction, one immediately after construction is concluded, and one final inspection will occur after construction is complete to review restoration activities.

This field inspection report is for the second site visit, which occurred on July 18, 2016. The site inspection was for the construction activities that occurred on the western side of the project corridor and near the Yellowstone River.

3 SITE VISIT SUMMARY AND CONCLUSION

HEI arrived on site at 8:30 MDT on July 18, 2016. Upon arrival, HEI discussed overall project status and construction locations with staff from Northstar and Loenbro (contractor) staff. The site visit took place on the most western side of the project corridor on the western and eastern sides of the Yellowstone River. Site visit locations are shown in **Exhibit 1**. Currently the entire corridor west of the Yellowstone River

corridor has been constructed with reclamation is complete. All but one landowner has signed off on the reclamation activities. The land owner who has not signed off requested that a low area be regraded to reduce standing water in the field (**Photographs 4 and 5**). Some reclamation areas have been modified since the initial reclamation. These modifications were made by landowners for irrigation of drainage purposes. **Photographs 1 through 5** show reclamation areas in portions of the corridor. **Photograph 6** shows the irrigation trench dug by the landowner post reclamation. It was confirmed that the pipe contractor did not cut the trench and the activity took place after the landowner had accepted reclamation of the pipeline construction. East of the Yellowstone River, staging areas and construction sites were generally clean and well maintained. Staging areas and the east end of the Yellowstone River bore show topsoil removed; there appeared to be no pollution from construction equipment in the area (**Photographs 11 and 12**). **Photograph 13** shows a bound timber mat used by the contractor to build crossings over ditches or wetlands; **Photograph 22** illustrates this in use to minimize impacts to wetlands from vehicle access. The eastern side of the river was observed to have considerably less SPGM. **Photographs 15 and 19** show SPGM piled on the right side of the photograph; the fill material from the installation is piled on the left, separate from the SPGM. SPGM removal appears to be consistent across the project. Erosion during construction activities was not observed to be an issue and no manmade erosion control materials were observed on site. All reclamation observed was located on cropland; there was no seeding or cover crops placed. One reclaimed wetland crossing was not yet replanted with vegetation (**Photographs 20 and 21**). **Photographs 22 and 23** show construction and staging for construction.

Based on the two inspections to date, HEI concludes that the contractors are containing construction activities within the designated easements, and have avoided impacts to cultural resource areas. The contractors have direct bored in areas specified by their permit, including under the Yellowstone River corridor and under roadways. The project has proceeded with no significant erosion issues to date. The project areas where construction has been completed, west of the Yellowstone River, have been reclaimed with reclamation accepted by all except one landowner.

Note: some reclaimed areas have been modified or disturbed after landowners have accepted reclamation.[include bit on recommendations for the one wetland above if we need to]. The contractor will continue their approach to separation and segregation of topsoil material throughout the right-of-way corridor separation activities.

4 FUTURE PLANNED ACTIVITIES

HEI will perform the third permit compliance site visit as construction progresses. Based on the current pace of construction, HEI anticipates that the next site visit will occur during early fall of 2016. HEI will complete a total of three additional site visits: one during construction, one immediately after construction is complete to observe as-built conditions, and one final inspection approximately 1-year after restoration activities have been completed.

5 SITE PHOTOGRAPHY



Photo 1: Reclamation (facing East).



Photo 2: Reclamation (facing West).



Photo 3: Reclamation (facing Northeast).



Photo 4: Reclamation (facing Southwest).



Photo 5: Reclamation (facing Northwest).



Photo 6: Reclamation (facing Southwest). Irrigation trench dug by landowner after landowner accepted reclamation of pipeline construction.



Photo 7: Reclamation (facing East).



Photo 8: Trenching preparation and completed river bore (facing East).



Photo 9: Reclamation (facing West). Reclamation activities modified by landowner; disturbed area (behind sign) close to a road ROW wetland.



Photo 10: Reclamation (facing East).



Photo 11: Pipe laydown (facing East).



Photo 12: Material staging area (facing Southeast).



Photo 13: Timber access and crossing mat (facing Southwest).



Photo 14: Trenching for install (facing North).



Photo 15: Trench with placed pipe (facing South).



Photo 16: Reclamation (facing Southwest).



Photo 17: Reclamation (facing West).



Photo 18: Reclamation (facing East).



Photo 19: Trenching and pipe placement (facing North).



Photo 20: Wetland crossing reclamation (facing Northwest).



Photo 21: Wetland crossing construction (facing Southwest).



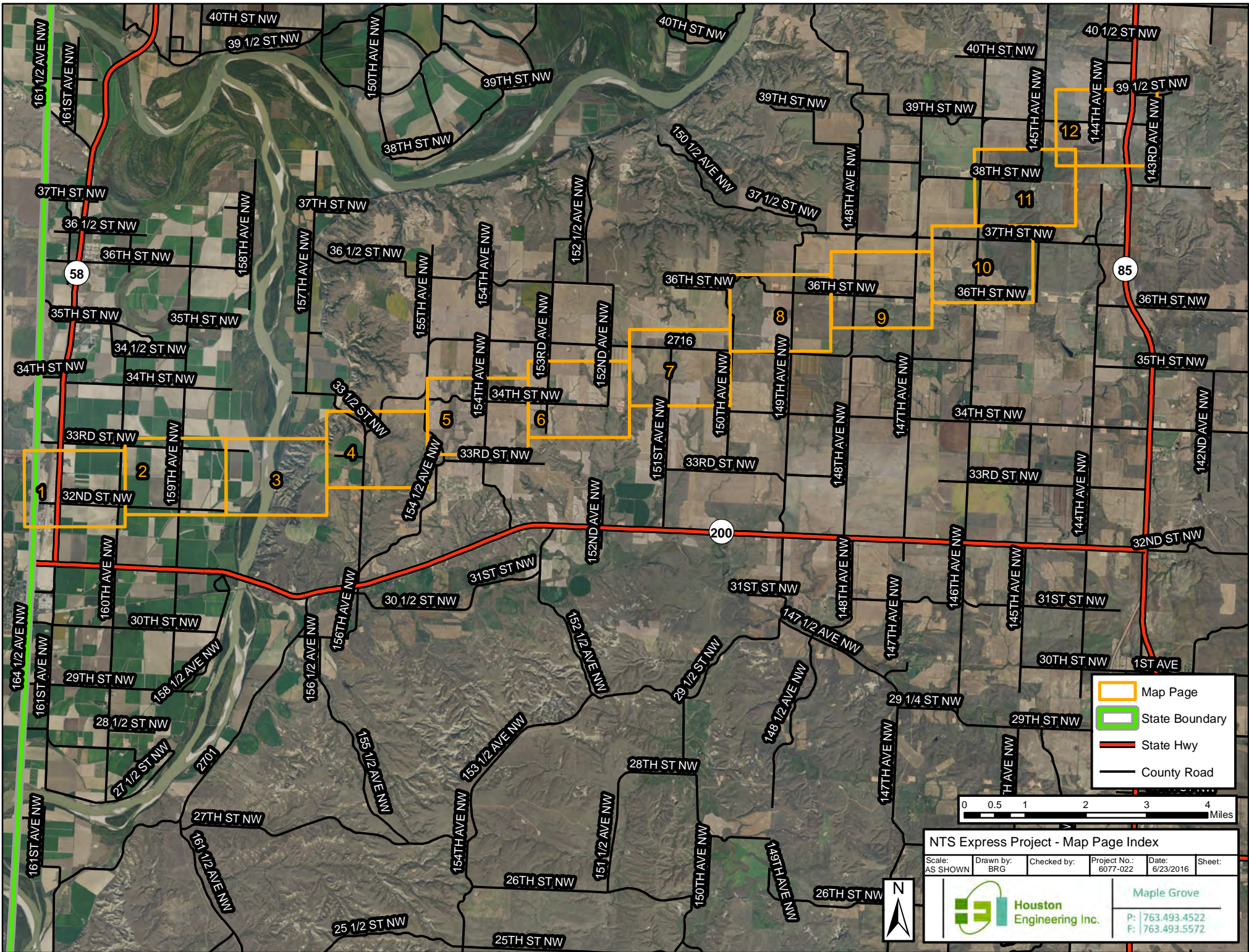
Photo 22: Wetland crossing construction (facing Northeast).



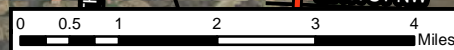
Photo 23: Topsoil pile and corridor preparation (facing West).

EXHIBIT 1





- Map Page
- State Boundary
- State Hwy
- County Road



NTS Express Project - Map Page Index

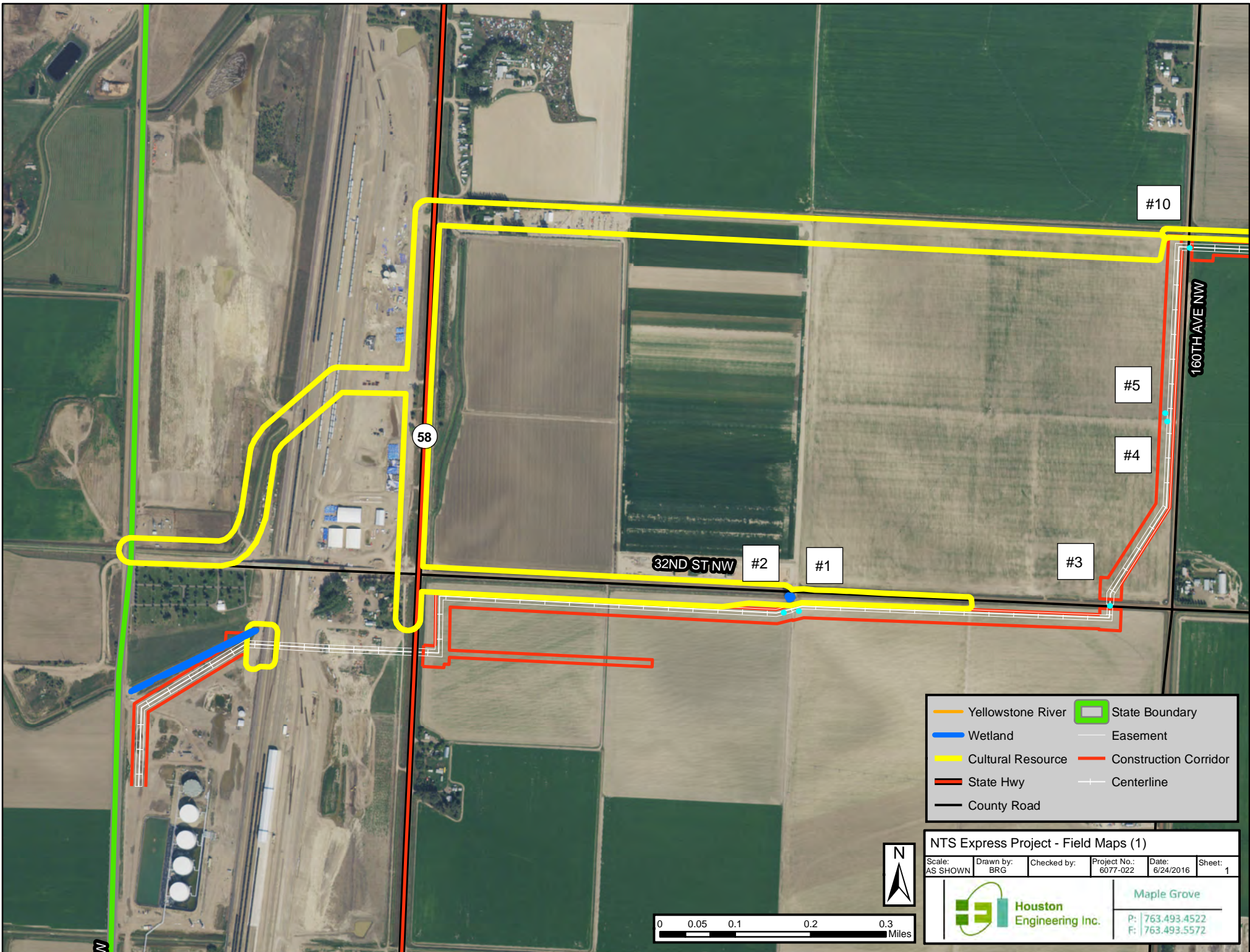
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| Scale: AS SHOWN | Drawn by: BRG | Checked by: | Project No.: | Date: | Sheet: |
| | | | 6077-022 | 6/23/2016 | |

Houston Engineering Inc.

Maple Grove

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F: 763.493.5572





- Yellowstone River
- Wetland
- Cultural Resource
- State Hwy
- County Road
- State Boundary
- Easement
- Construction Corridor
- Centerline

NTS Express Project - Field Maps (1)

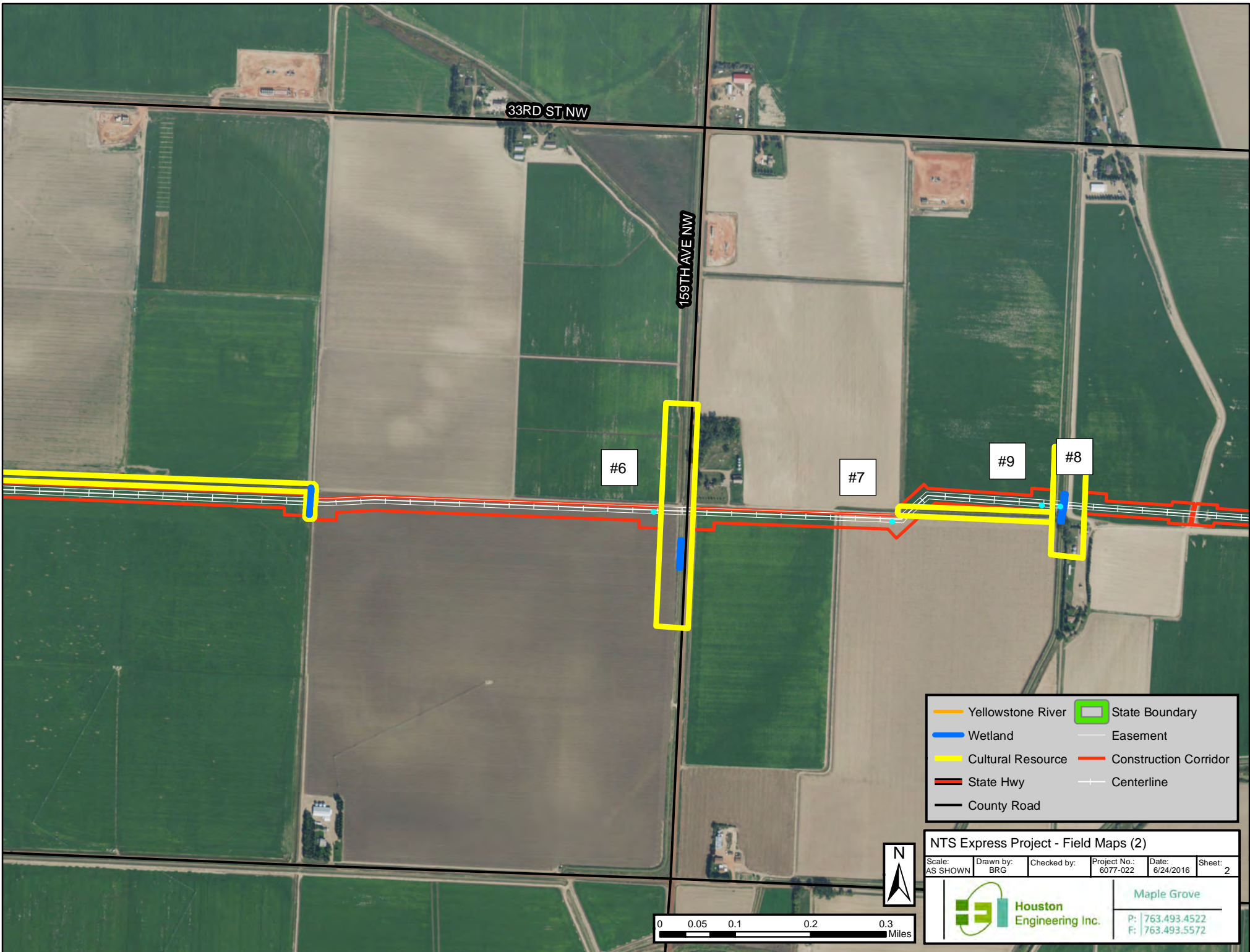
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33RD ST NW

159TH AVE NW

#6

#7

#9

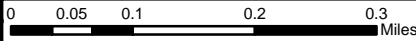
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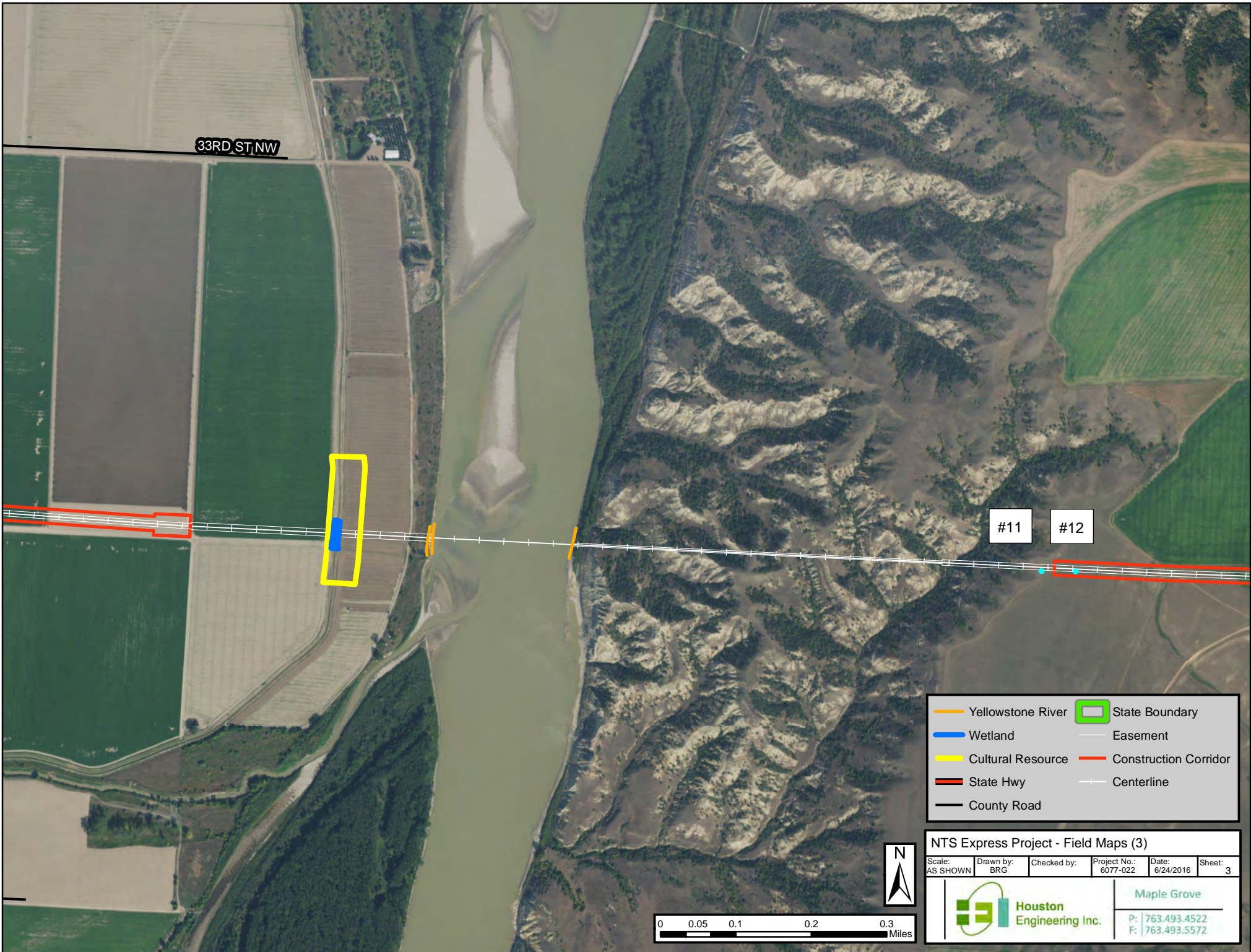
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| Yellowstone River | State Boundary |
| Wetland | Easement |
| Cultural Resource | Construction Corridor |
| State Hwy | Centerline |
| County Road | |

NTS Express Project - Field Maps (2)

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33RD ST,NW

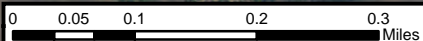
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#12

- Yellowstone River
- Wetland
- Cultural Resource
- State Hwy
- County Road
- State Boundary
- Easement
- Construction Corridor
- Centerline

NTS Express Project - Field Maps (3)

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33 1/2 ST NW

155TH AVE NW

#16

16

#14

33RD ST NW

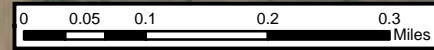
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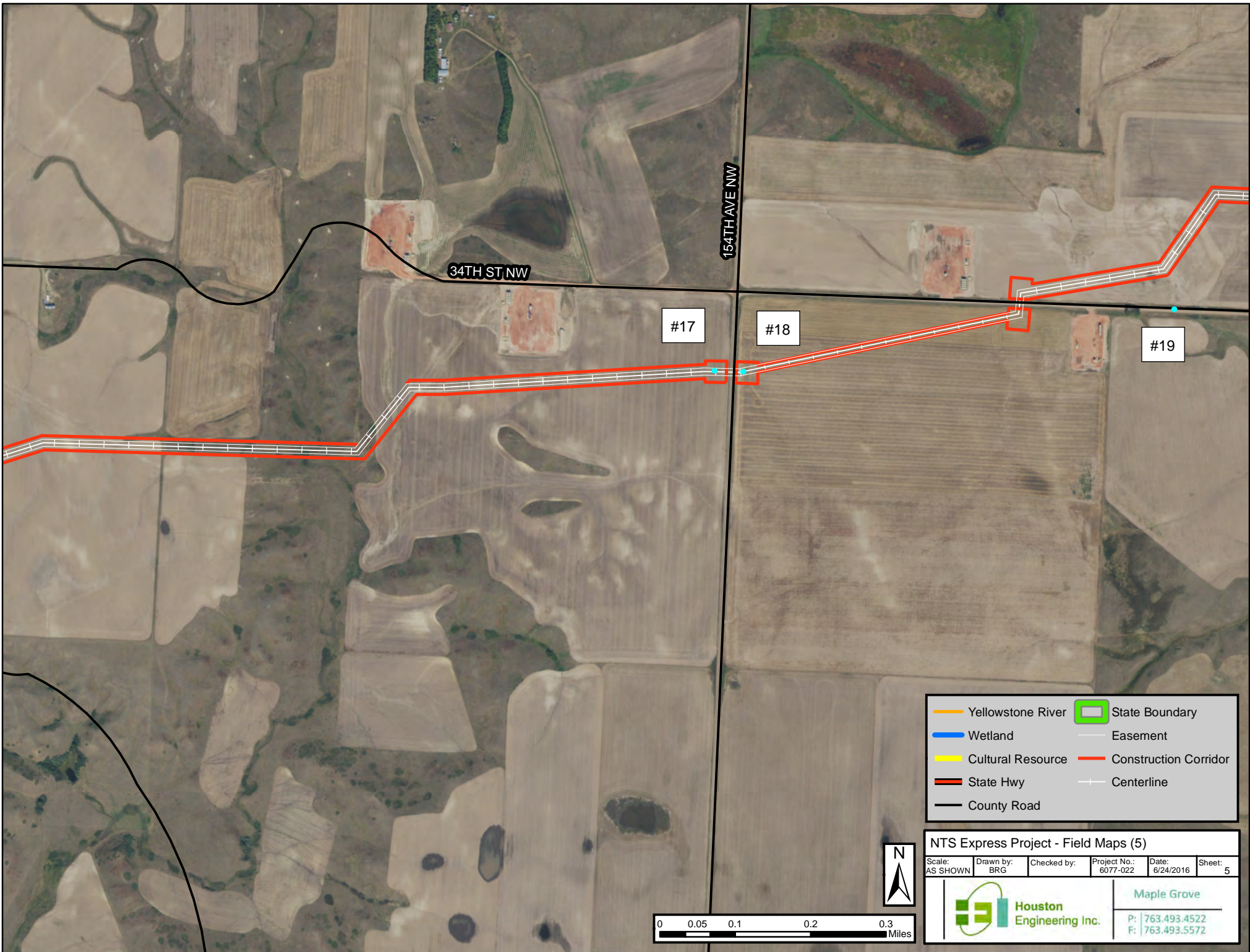
- Yellowstone River
- Wetland
- Cultural Resource
- State Hwy
- County Road
- State Boundary
- Easement
- Construction Corridor
- Centerline

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34TH ST NW

154TH AVE NW

#17

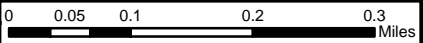
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- Yellowstone River
- Wetland
- Cultural Resource
- State Hwy
- County Road
- State Boundary
- Easement
- Construction Corridor
- Centerline

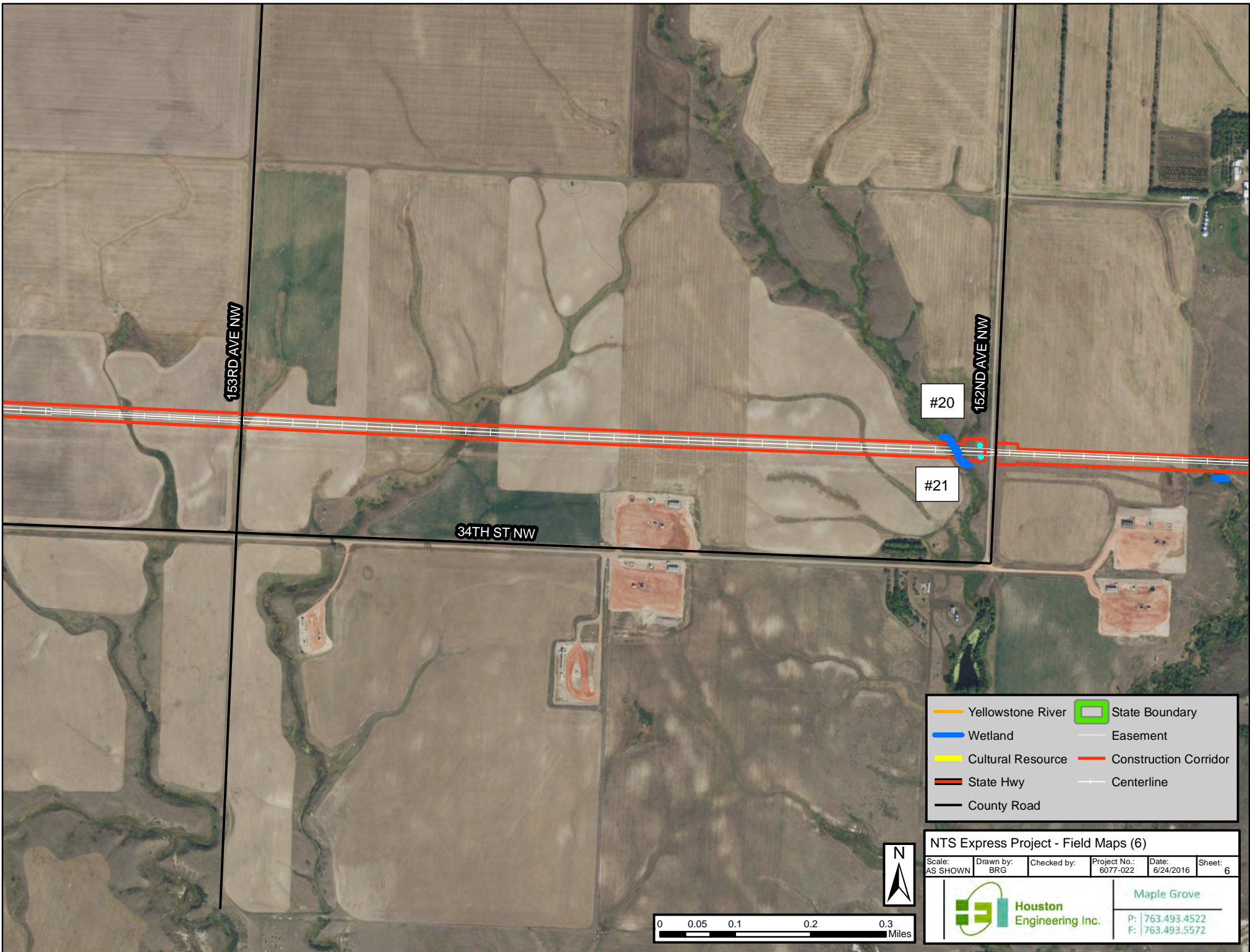
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153RD AVE NW

152ND AVE NW

34TH ST NW

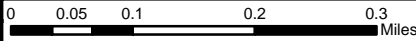
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- Yellowstone River
- Wetland
- Cultural Resource
- State Hwy
- County Road
- State Boundary
- Easement
- Construction Corridor
- Centerline

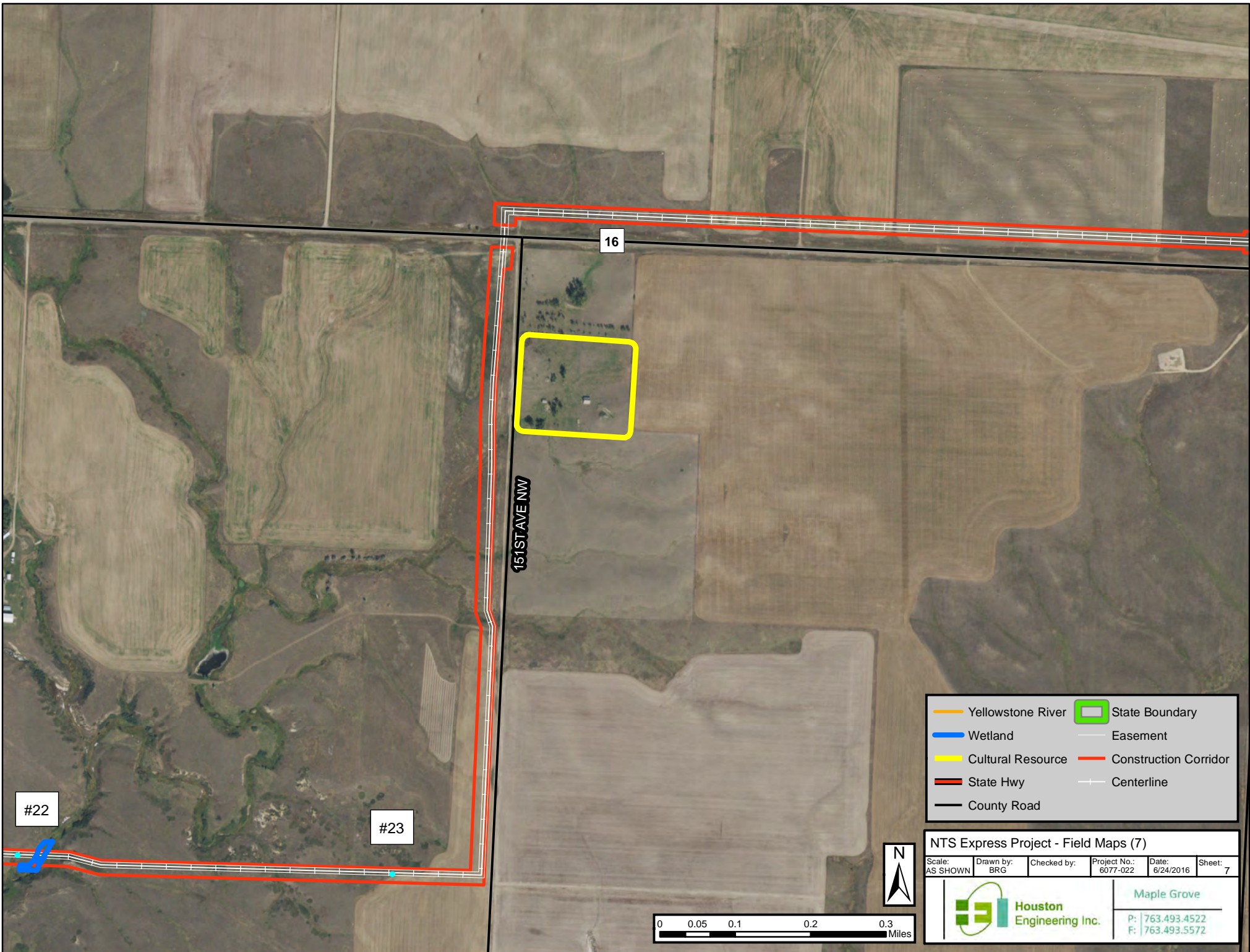
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




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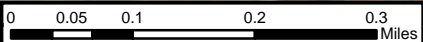
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151ST AVE NW

-  Yellowstone River
-  Wetland
-  Cultural Resource
-  State Hwy
-  County Road
-  State Boundary
-  Easement
-  Construction Corridor
-  Centerline

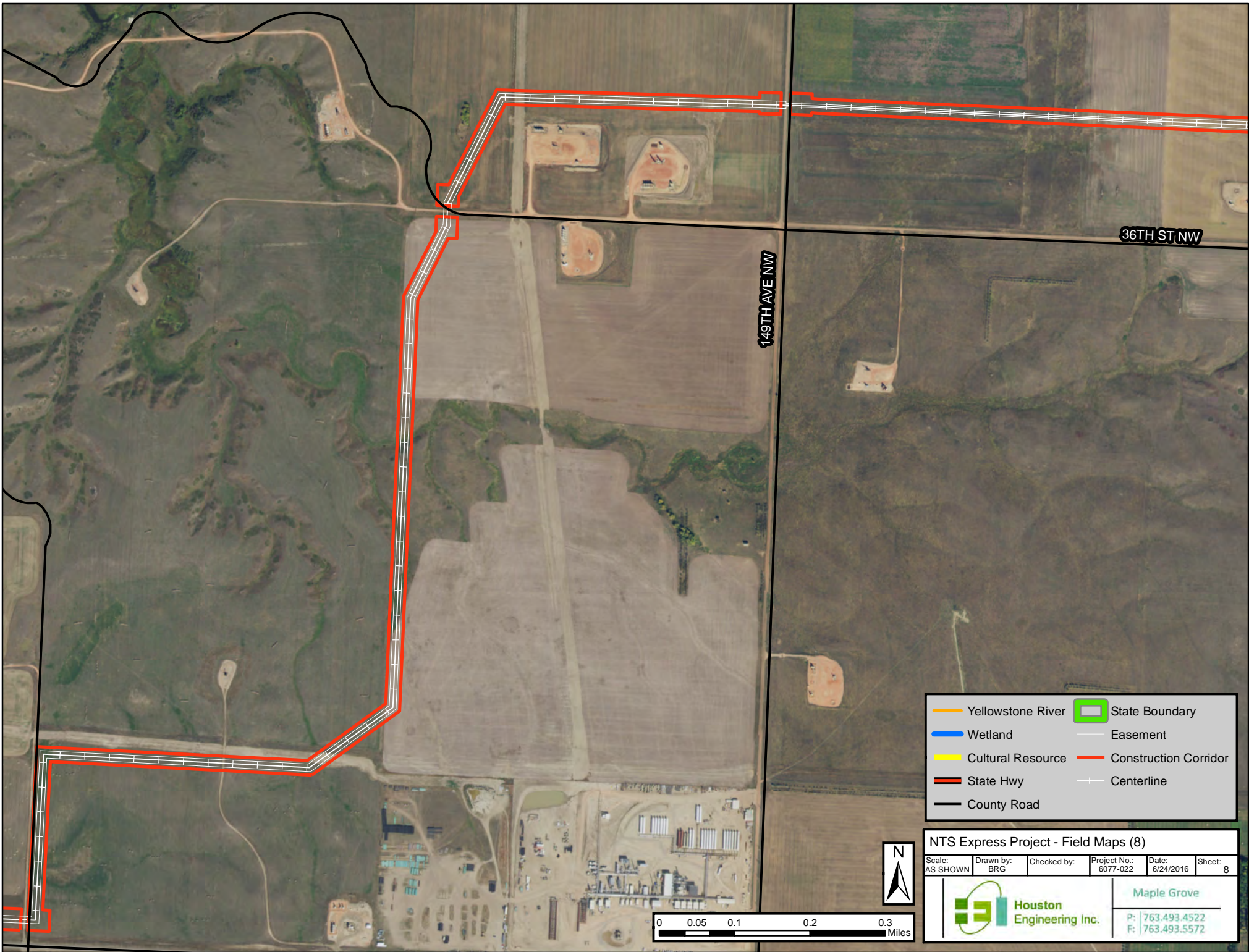
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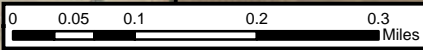
Maple Grove

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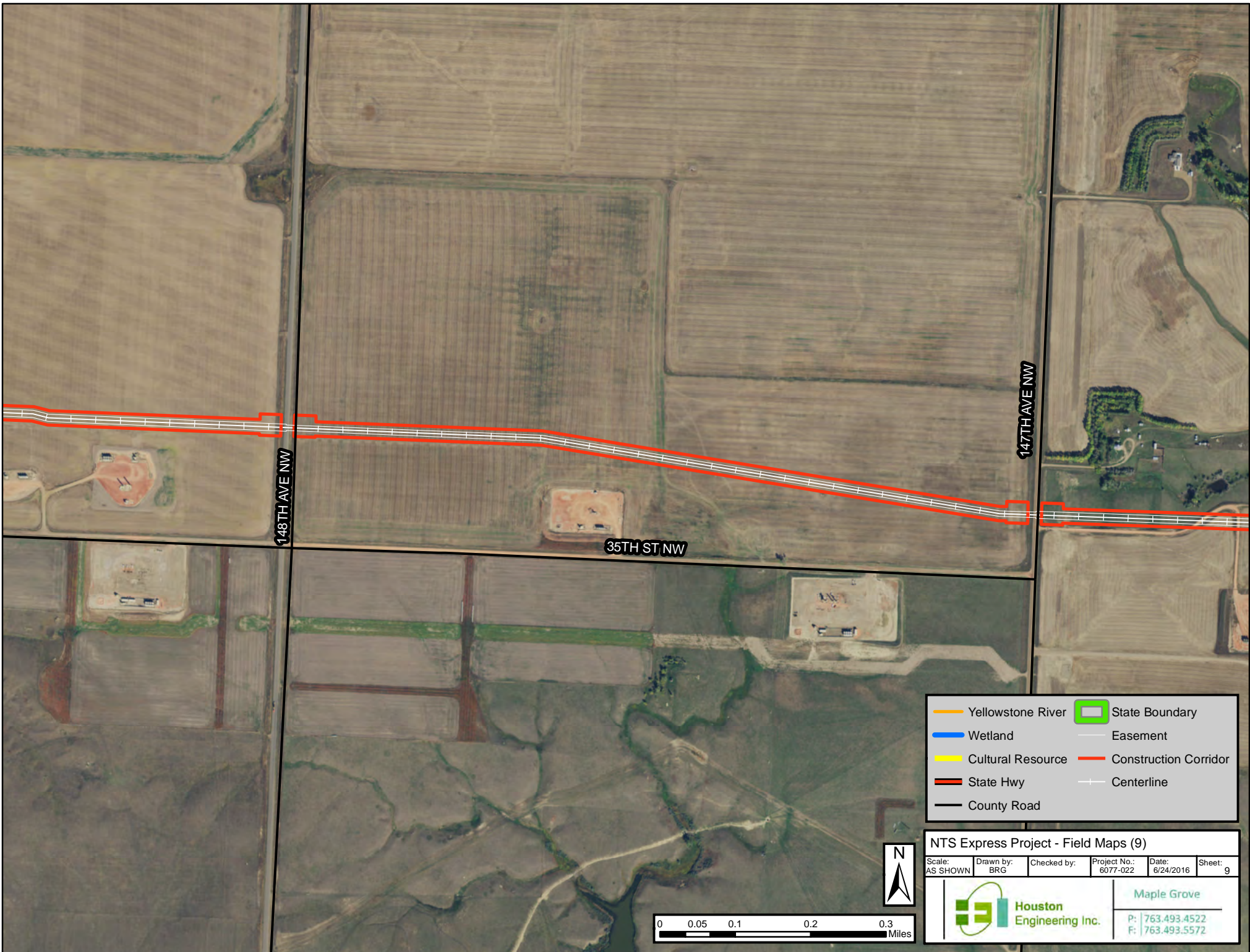


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| Yellowstone River | State Boundary |
| Wetland | Easement |
| Cultural Resource | Construction Corridor |
| State Hwy | Centerline |
| County Road | |

| NTS Express Project - Field Maps (8) | | | | | |
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148TH AVE NW

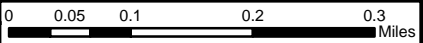
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35TH ST NW

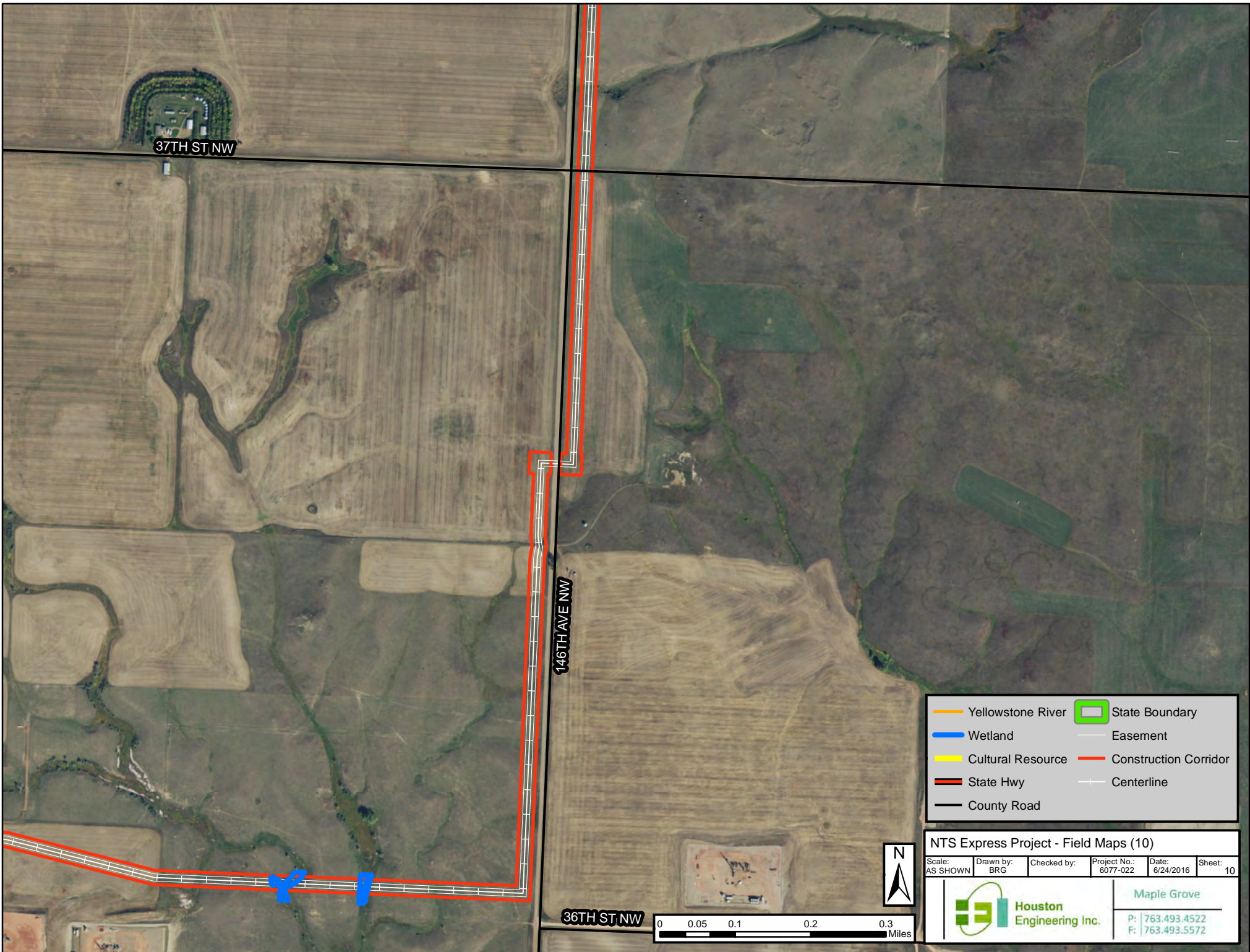
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| | Yellowstone River | | State Boundary |
| | Wetland | | Easement |
| | Cultural Resource | | Construction Corridor |
| | State Hwy | | Centerline |
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NTS Express Project - Field Maps (9)

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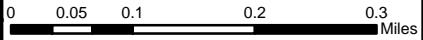
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146TH AVE NW

36TH ST NW

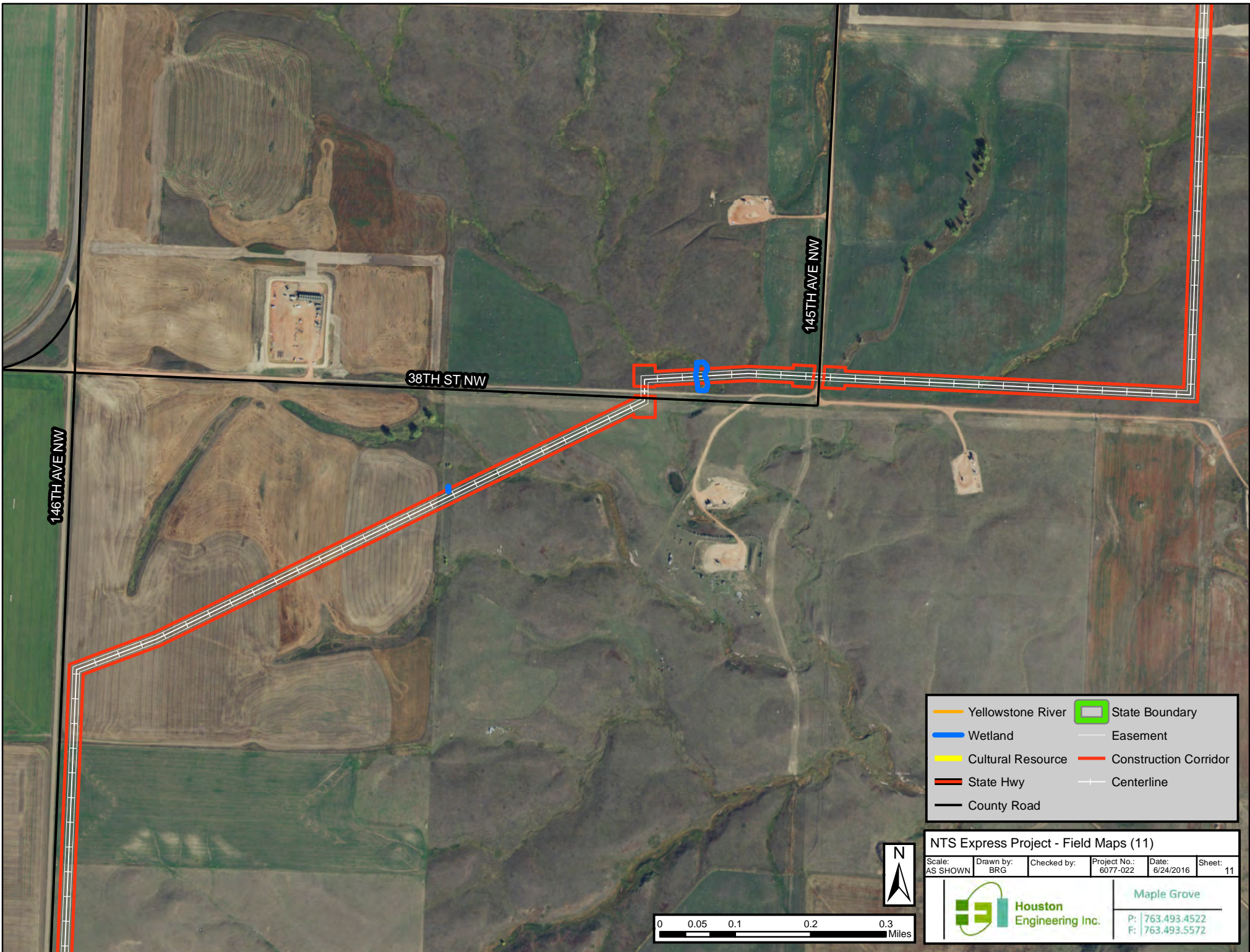
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| | Yellowstone River | | State Boundary |
| | Wetland | | Easement |
| | Cultural Resource | | Construction Corridor |
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| | County Road | | |

| NTS Express Project - Field Maps (10) | | | | | |
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Maple Grove

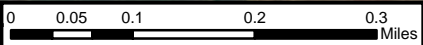
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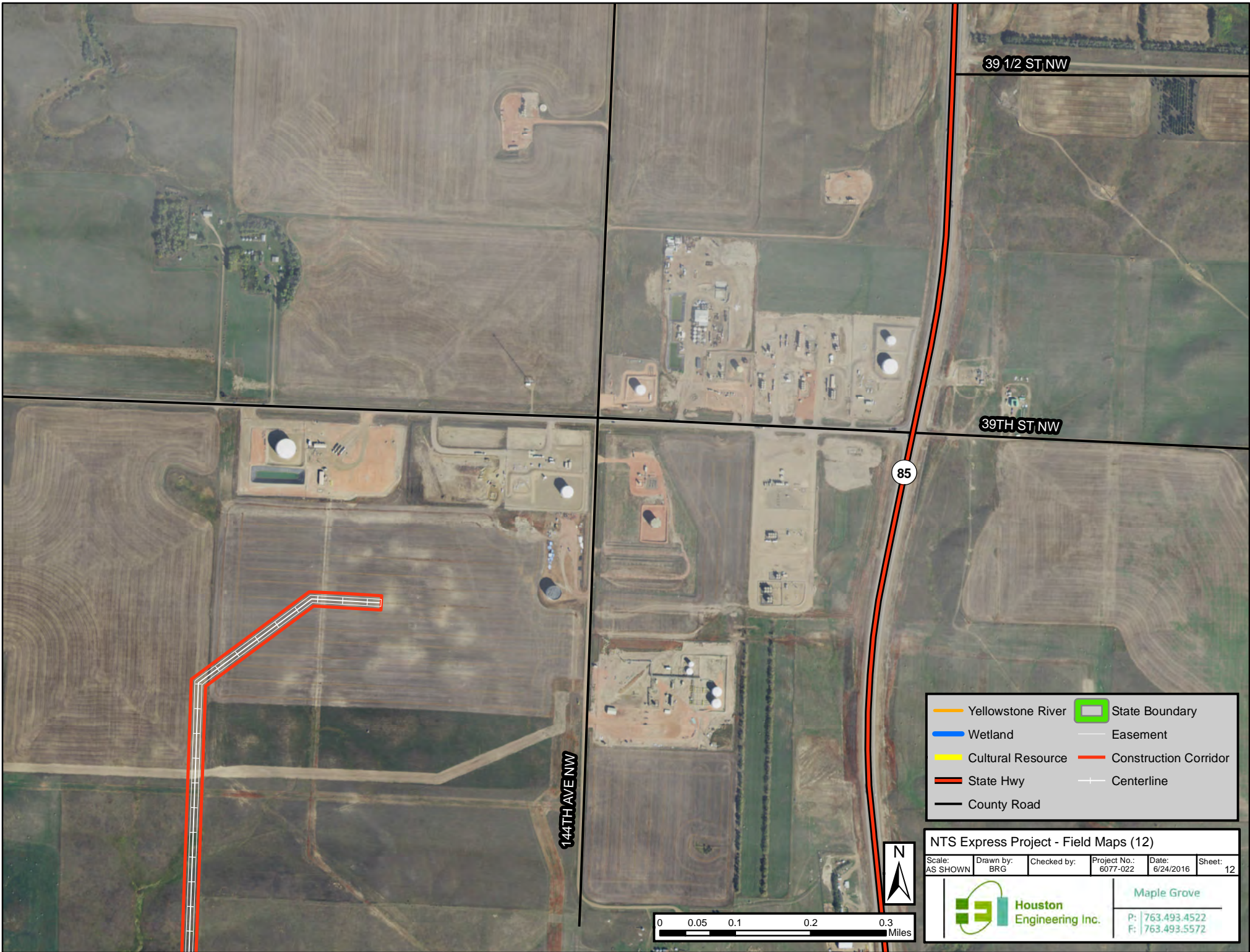
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| Yellowstone River | State Boundary |
| Wetland | Easement |
| Cultural Resource | Construction Corridor |
| State Hwy | Centerline |
| County Road | |

NTS Express Project - Field Maps (11)

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39 1/2 ST NW

39TH ST NW

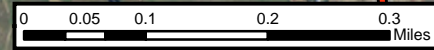
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144TH AVE NW

| | |
|-------------------|-----------------------|
| Yellowstone River | State Boundary |
| Wetland | Easement |
| Cultural Resource | Construction Corridor |
| State Hwy | Centerline |
| County Road | |

NTS Express Project - Field Maps (12)

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| <p>Houston Engineering Inc.</p> | <p>Maple Grove</p> |
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