Roadway Geotechnical Report

Proposed Local Roadway Improvements
Center Street / Chicago Street
IDOT PTB 198-003
FAI-80 (I-80) over Des Plaines River
Will County, Illinois

Prepared for

Illinois Department of Transportation
Contract Number: D-91-204-19

Project Design Engineer Team
WSP USA

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June 20, 2024

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Center Street / Chicago Street
FAI-80 over Des Plaines River
Will County, IL
PTB 198-003

Dear Mr. Skaleski

Attached is a copy of the Roadway Geotechnical Report for the above referenced project. The report provides a description of the site investigation, site conditions and construction recommendations. The site investigation for the roadway reconstruction included advancing fifteen (15) subgrade soil borings to depths of 3 to 10 feet each.

Should you have any questions or require additional information, please call us at 630-994-2600.

Sincerely,

Daniel DiMaggio

Dawn Edgell

Daniel DiMaggio, E.I.T.
Project Engineer

Dawn Edgell, P.E.
Sr. Project Engineer

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1.0 INTRODUCTION

GSG Consultants, Inc. (GSG) completed a geotechnical investigation for the roadway reconstruction projects on Center Street and Chicago Street which are part of the I-80 bridge over the Des Plaines River project in the city of Joliet in Will County, Illinois. The purpose of the investigation was to explore the subsurface conditions, to determine engineering properties of the subsurface soil, and to develop design and construction recommendations for the project. The general project limits are shown in **Exhibit 1**.

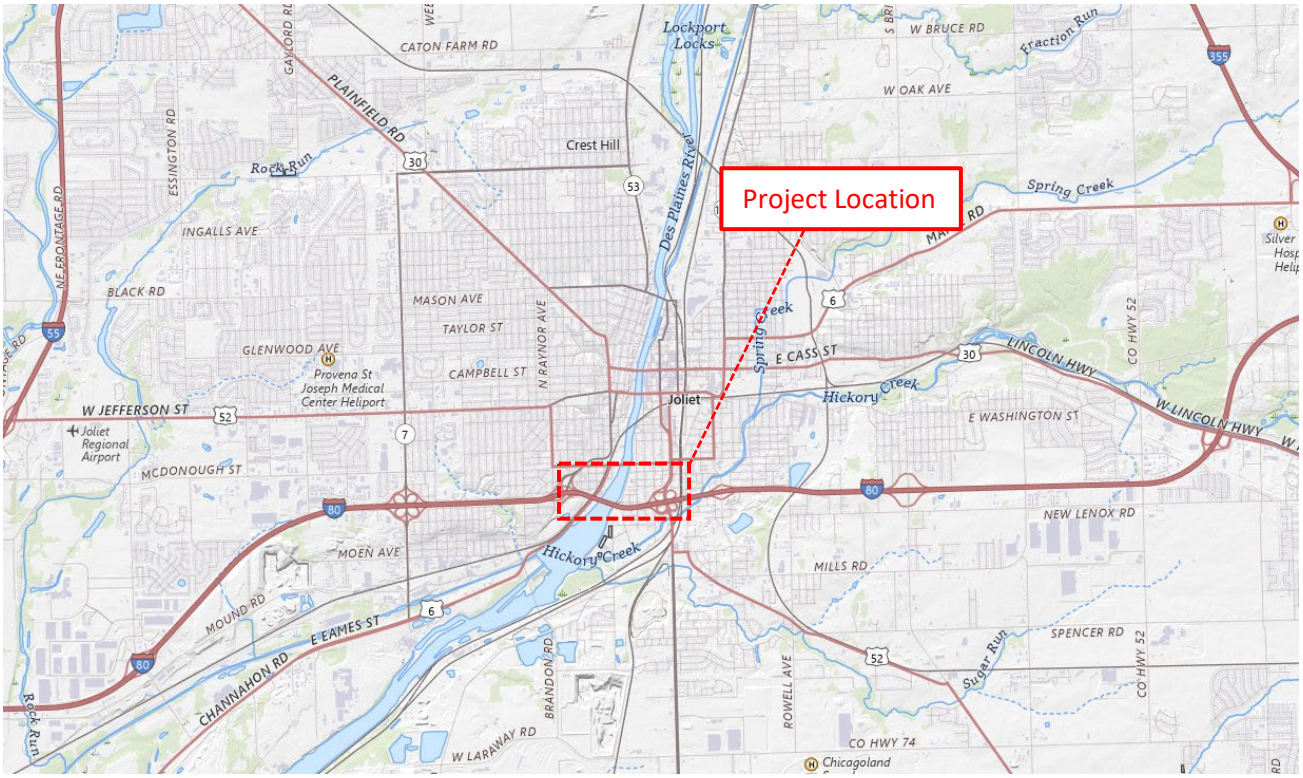


Exhibit 1 – Project Location Map
(Source: USGS Topographic Maps, usgs.gov)

1.1 Proposed Project Information

Based on the preliminary plans provided by the prime consultant WSP USA (**Appendix A**), the proposed project will include roadway improvements to Center Street and Chicago Street near I-80. The improvements for Center Street consist of shifting the new roadway alignment approximately 100 feet east at the existing Center Street over I-80 bridge location. In order to build up the new

embankment for the realigned Center Street bridge over I-80, fill heights of up to 31 feet will be required near the bridge abutments. The recommendations for construction of the new embankment are included in the Center Street bridge SGR.

The improvements for Chicago Street consist of shifting the new roadway alignment approximately 130 feet east from the existing bridge location. This will require excavation of the existing embankment below I-80 for the new bridge and will require a large amount of cuts of approximately 25 feet. Recommendations for the roadway and embankments near the bridge are included in the Chicago Street bridge SGR. It is anticipated that the proposed roadway drainage systems will consist of shallow ditches and curb and gutter along the shoulders.

1.2 Regional Geology

GSG reviewed several published documents to determine the regional geological setting in the area. The site is in central Will County, in Joliet, Illinois. The surficial geologic deposits in this area are typically glacial drift deposited during the Wisconsin Glacial Age and sediments deposited by the various high-level states of the Des Plaines River. The subsurface profile in the area consists of deposits of silty clay, sand, silt, and gravel extending to approximately 5 to 20 feet below ground surface, at which point bedrock is encountered. This is generally consistent with the rock depths encountered in the subsurface investigation. The bedrock consists of the Silurian System, which consists of dolomite that varies from extremely argillaceous, silty and cherty to exceptionally pure.

1.3 Climate Conditions

The geotechnical field exploration was performed between May 23 and May 29, 2024. The climate conditions for the months of February to May of 2024 are summarized in **Table 1**. The data in this table was obtained from the National Weather Service Forecast Office website for Joliet, Illinois and the surrounding area. The data was evaluated to determine any effects of temperature and precipitation on the water table level and soil moisture content that was encountered at the site at the time the borings were performed.

The average monthly temperatures were higher than average in the months of February through May of 2024. The monthly precipitation totals were less than average for the month of February and slightly higher than average in the months of March through May. The monthly snowfall was lower than average for the months of February through May. Considering the net temperature, precipitation and snow averages, it can be expected that the moisture contents of the surficial soils and water levels were lower than normal levels during the drilling in the month of May.

Table 1 – Climate Conditions

Date (M-Y)	Temperature (F°)		Precipitation (in.)		Snowfall (in.)	
	Mean	Departure from Norm.	Total	Departure from Norm.	Total	Departure from Norm.
February - 2024	38.1	11.4	0.62	-1.19	0.2	-6.5
March - 2024	43.1	4.4	2.47	0.07	0.0*	-2.3
April - 2024	50.9	0.9	4.64	0.98	0.0	-0.1
May - 2024	63.4	2.9	7.17	2.24	0.0	0.0

Note: All the field work was completed by May, 29 2024.
*Trace Precipitation

2.0 SITE SUBSURFACE EXPLORATION PROGRAM

This section describes the subsurface exploration program and laboratory testing program completed as part of this project. The subsurface exploration program was performed in accordance with applicable IDOT geotechnical manuals and procedures.

2.1 Subsurface Exploration Program

The roadway subsurface soil investigation was conducted between May 23 and May 29, 2023. Fifteen (15) subgrade soil borings (SGB) were advanced to depths of 3 to 10 feet each. The borings were completed at various locations along the proposed Center Street and Chicago Street alignments. The soil boring locations were selected by GSG in coordination with WSP, then completed at locations based on field conditions and site accessibility. The coordinates and existing ground surface elevations shown on the soil boring logs were obtained by GSG using handheld surveying equipment. The as-drilled locations of the soil borings are shown on the Soil Boring Location Plan (**Appendix B**). **Table 2** presents a list of the borings completed along with their location information.

Table 2 – Summary of Subsurface Exploration Borings

Boring ID	Station	Offset (ft) / Direction	Northing (ft)	Easting (ft)	Depth (ft)	Surface Elevation (ft)
SGB-01	41+18.99*	30.70 / LT	1,766,256.557	1,049,225.825	10.0	607.41
SGB-02	38+14.17*	0.80 / LT	1,766,048.394	1,049,021.486	10.0	608.41
SGB-03	35+08.70*	28.28 / RT	1,765,788.622	1,048,892.753	10.0	604.08
SGB-04	32+03.30*	25.45 / RT	1,765,506.825	1,048,807.075	4.0(1)	592.69
SGB-05	24+68.46*	11.67 / LT	1,764,819.409	1,048,542.566	5.0(1)	591.25
SGB-06	21+49.93*	49.63 / LT	1,764,607.235	1,048,309.473	10.0	602.19
SGB-07	18+63.52*	31.77 / LT	1,764,386.990	1,048,122.172	3.0(1)	590.33
SGB-08	15+53.42*	32.32 / LT	1,764,133.539	1,047,935.956	5.0(1)	586.18
SGB-09	12+52.97*	19.41 / RT	1,763,855.961	1,047,811.028	5.0(1)	585.99
SGB-10	224+05.71**	35.21 / RT	1,765,936.667	1,053,322.400	10.0	529.91
SGB-11	221+65.07**	31.01 / LT	1,765,708.923	1,053,214.973	10.0	531.62
SGB-12	218+39.90**	15.73 / RT	1,765,381.047	1,053,209.951	10.0	536.66
SGB-13	215+07.39**	6.40 / RT	1,765,051.292	1,053,202.201	10.0	540.94
SGB-14	209+05.43**	22.96 / RT	1,764,456.255	1,053,294.501	10.0	541.71
SGB-15	202+65.26**	41.88 / LT	1,763,815.503	1,053,293.336	10.0	531.46

*Based on proposed Center Street Stationing
**Based on proposed Chicago Street Stationing
(1)Auger refusal encountered on limestone bedrock

The soil borings were drilled using a Diedrich D-70 ATV drill rig (efficiency 75%) and an all-terrain GeoProbe 7822DT drill rig (efficiency 112.2%), equipped with 3¼-inch I.D. hollow stem augers and an automatic hammer. Soil sampling was performed according to AASHTO T 206, "Penetration Test and Split Barrel Sampling of Soils." Soil samples were obtained at 2.5-foot intervals to the boring termination depths or encountering auger refusal. Water level measurements were made in each boring when evidence of free groundwater was detected on the drill rods or in the samples. The boreholes were also checked for free water immediately after auger removal, and before filling the open boreholes with soil cuttings and surface patching with asphalt when necessary.

GSG's field representative inspected, visually classified and logged the soil samples during the subsurface exploration activities and performed unconfined compressive strength tests on cohesive soil samples using a calibrated Rimac compression tester and a calibrated hand penetrometer in accordance with IDOT procedures and requirements. Representative soil samples were collected from each sample interval and were placed in jars and returned to the laboratory for further testing and evaluation.

2.2 Laboratory Testing Program

All samples were inspected in the laboratory to verify the field classifications. A laboratory testing program was undertaken to characterize and determine engineering properties of the subsurface soils encountered in the area. The following laboratory tests were performed on representative soil samples:

- Moisture content ASTM D2216 / AASHTO T-265
- Organic Content ASTM D2974
- Atterberg Limits ASTM D4318 / AASHTO T-89 / AASHTO T-90

The laboratory tests were performed in accordance with test procedures outlined in the IDOT Geotechnical Manual (2020), and per ASTM and AASHTO requirements. Based on the laboratory test results, the soils encountered were classified according to the AASHTO and the Illinois Division of Highways (IDH) classification systems. The results of the laboratory testing program are included in the Laboratory Test Results **(Appendix D)** and are also shown along with the field test results in the Soil Boring Logs **(Appendix C)**.

2.3 Subsurface Conditions

This section provides a brief description of the soils encountered in the borings performed in the vicinity of the proposed improvements. Variations in the general subsurface soil profile were noted during the drilling activities. Detailed descriptions of the subsurface soils are provided in the soil boring logs and are shown graphically in the **Boring Location Plan**. The soil boring logs provide specific conditions encountered at each boring location and include soil descriptions, stratifications, penetration resistance, elevations, location of the samples, and laboratory test data. Unless otherwise noted, soil descriptions indicated on boring logs are visual identifications. The stratifications shown on the boring logs represent the conditions only at the actual boring locations and represent the approximate boundary between subsurface materials; however, the actual transition may be gradual.

Center Street (SGB-01 through 09)

Borings SGB-01, 02 and 03 were drilled through the roadway along S. Raynor Avenue/S. Center Street and initially encountered 2 to 3 inches of asphalt; borings SGB-04 through 07 were drilled in the grass landscaping areas and encountered 3 to 6 inches of topsoil; borings SGB-08 and 09 were drilled along the shoulders of S. Raynor Avenue and initially encountered 1 inch of asphalt in SGB-08 and 3 inches of gravel in boring SGB-09. The surface elevations of the borings ranged from 585.9 to 608.4 feet.

Beneath the pavement, most of the borings encountered brown and gray silty clay fill to depths of 2 to 10 feet below grade; the remaining borings did not encounter fill materials beneath the pavement. Beneath the fill materials, the borings generally encountered brown and gray very stiff to very hard silty clay, followed by brown dense to extremely dense sand, with gravel to the auger refusal depths or boring termination depths of 10 feet below grade.

The native brown and gray very stiff to very hard silty clay had unconfined compressive strengths ranging from 2.0 to 8.3 tons per square foot (tsf), with an average strength of 3.3 tsf. The brown dense to extremely dense sand, with gravel had SPT blow count (N) values ranging from 33 blows per foot (bpf) to 82 bpf, with an average of 53 bpf.

Chicago Street (SGB-10 through 15)

Borings SGB-10 and 12 were drilled in the grass landscaping areas along the residential neighborhood east of Chicago Street and initially encountered 3 inches of topsoil; boring SGB-11 was drilled through the pavement of Chicago Street and initially encountered 2 inches of asphalt, followed by 6 inches of concrete and 3 inches of gravel base; borings SGB-13 and 14 were drilled in the landscaping areas

near the I-80 / Chicago street ramps and encountered 3 inches of topsoil; boring SGB-15 was drilled through the pavement of Patterson Road and encountered 2 inches of asphalt, 6 inches of concrete and 6 inches of gravel base. The surface elevations of the borings ranged from 529.9 to 541.7 feet.

Beneath the pavement, several borings encountered dark brown and gray silty clay fill to depths of 2.5 to 3.5 feet below grade; the remaining borings did not encounter fill materials beneath the pavement. Beneath the fill materials, the borings generally encountered brown and gray stiff to very stiff silty clay to depths of 3.5 to 10 feet below grade, followed by brown loose to very dense sand, with gravel to the auger refusal depths or boring termination depths of 10 feet below grade.

The native brown and gray stiff to very stiff silty clay had unconfined compressive strengths ranging from 1.3 to 3.5 tsf, with an average strength of 2.0 tsf. The brown loose to very dense sand, with gravel had SPT blow count (N) values ranging from 3 bpf to 72 bpf, with an average of 27 bpf.

2.4 Groundwater Conditions

Water levels were checked in each boring to determine the general groundwater conditions present at the site and were measured while drilling and after each boring was completed. Groundwater was not encountered during or immediately after drilling at any of the borings. None of the borings were left open after leaving the site due to safety concerns.

Based on the lack of observed water and the lack of soil color change from brown to gray, it is anticipated that the long-term groundwater level may be at the bedrock interface. Perched water may also be present within the existing fill materials observed in some of the borings. Water level readings were made in the boreholes at times and under conditions shown on the boring logs and stated in the text of this report. However, it should be noted that fluctuations in groundwater level may occur due to variations in the rainfall, other climatic conditions, or other factors not evident at the time measurements were made and reported herein.

3.0 GEOTECHNICAL ANALYSES

This section provides GSG's geotechnical analysis and recommendations for the design of the proposed roadway improvements based on the results of the field exploration, laboratory testing, and geotechnical analysis.

3.1 Settlement

It is anticipated that the proposed profiles will require new fill of 5 feet or less for the majority of the proposed reconstruction of Center Street and Chicago Street. However, based on preliminary design information and drawings provided by WSP, a section of the proposed Center Street roadway near the south bridge abutment will require new fill up to 31 feet in order to raise the roadway up to grade to create the new bridge over I-80. Recommendations for the embankment construction and settlement estimates are discussed in the Center Street Bridge SGR dated May 7, 2024. Settlement along the alignment of Chicago Street is anticipated to be minimal due to the majority of the alignment requiring cuts to reach the final grade.

3.2 Global Slope Stability

IDOT requires that slope stability analysis be performed in areas where the cut or fill heights will exceed 15 feet in height. For the proposed improvements, it is anticipated that the proposed grades will generally remain less than 15 feet in height; therefore, no slope stability analysis was required for this report. For the areas near the bridge abutments which are to be replaced requiring large amounts of fill for Center Street and large amounts of cut for Chicago Street, slope stability analyses have been performed as part of the bridge analyses and are included separately in the respective Bridge SGR reports.

3.3 Drainage Characteristics

The drainage characteristics of the site were evaluated per the IDOT Geotechnical Manual (2020), Section 6.3.4.1, based on the subgrade soil type and moisture condition, depth of water table, project topography, the anticipated profile grade line, and depth and grade of drainage ditch along the roadways. It is anticipated that the roadway reconstruction for Center Street and Chicago Street will be supported on subgrade soils consisting of existing silty clay fill, native silty clay or native granular materials.

Based on the preliminary plans and existing conditions, GSG anticipates that the proposed drainage will consist of an enclosed drainage system with curb and gutter and shallow ditches with slopes greater than 0.5%. GSG utilized Table 6.3.4.1-1, Drainage Classification in the IDOT Geotechnical

Manual, to assign the drainage classes for the site. The drainage class should be taken as Fair along the roadways within the project limits.

3.4 Frost Susceptibility

The frost susceptibility of the subgrade soils was evaluated per Section 6.3.2.2.3 of the IDOT Geotechnical Manual. The maximum anticipated frost penetration depth below pavement in northern Illinois is 45 to 60 inches for extreme weather conditions. The frost susceptibility was evaluated for the soils encountered that would be within the proposed roadway subgrade. The frost class for the subgrade soils in these areas was assigned using Table 6.3.2.2.3-1, Frost Susceptibility Classification of Soils, in the IDOT Geotechnical Manual. The subgrade soils along the proposed improvement area were found to have a Frost Class of F2 (low to medium frost susceptibility) for the granular soils and a Frost Class of F3 (High) for the clay soils.

Perched water could be present in the upper soil layers, particularly in existing fill materials and any confined granular layers. Water trapped in the soil layers closer to the pavement section is susceptible to frost action and should be considered when designing the proposed roadway. Treatment measures, such as maintaining proper drainage of the subgrade soils through underdrains could be considered.

3.5 Subgrade Support Rating

The subgrade support rating (SSR) was determined based on the physical properties of in-situ soils present beneath the proposed pavement section. The SSR includes three categories (poor, fair, and granular), and are used to determine the depth of soil treatment to provide a stable working platform that is required to prevent excessive rutting and moisture related problems during construction activities. Granular soils have the highest rating and provide a stable working platform that may require less than a 12-inch improved subgrade layer, while poor subgrade may require more than 12 inches to provide stable subgrade during construction activities. The anticipated subgrade soils encountered in most of the borings at the proposed roadway grades were generally silty clay fill soils. These soils have a Subgrade Support Rating (SSR) of Fair. The native granular soils encountered at the site have a SSR of Granular.

3.6 Illinois Bearing Ratio

The Illinois Bearing Ratio (IBR) is a measure of the support provided by the roadbed soils for the new pavement. On proposed pavements bearing on granular existing soils, it is recommended that an IBR value of ten (10) be used for the roadway pavement design where granular soils are present. It

is recommended that an IBR value of three (3) be used for the roadway pavement design where clay fill soils are present.

3.7 Organic Content

Typically, soils with an organic content in excess of 10 percent are considered unsuitable to remain below proposed pavement areas. Soils were tested for suspected high organic contents when black soils with high moisture contents were encountered in the near surface materials. The results from the organic content tests are displayed in **Table 3**. Highly organic materials were not encountered in any of the samples tested.

Table 3 – Summary of Organic Test Data

Boring ID	Depth (feet)	Soil Description	Organic Content (%)
SGB-05	1.0 – 2.5	Silty Clay Fill	5.6
SGB-07	1.0 – 2.5	Native Silty Clay	3.2
SGB-13	1.0 – 2.5	Silty Clay Fill	1.8
SGB-15	1.0 – 2.5	Native Gravel, with clay	2.4

4.0 GEOTECHNICAL ROADWAY DESIGN RECOMMENDATIONS

This section provides GSG's geotechnical recommendations for the design of the proposed roadway based on the results of the field exploration, laboratory testing, and geotechnical analysis. The proposed pavement sections should be designed according to the IDOT Mechanistic Pavement Design (MPD). IDOT policy requires providing a minimum of 12 inches of improved subgrade beneath the pavement section to ensure a stable construction platform. Subgrade improvements including any undercuts or compaction of existing soils should be completed to the proposed elevations in the design plan and in accordance with the Subgrade Treatment and Recommendations section of this report.

4.1 Subgrade Preparation

It is our understanding that the existing roadway sections for Center Street and Chicago Street are to be completely reconstructed. It is recommended that all existing pavement and base course be stripped within the limits of the proposed improvements, including any existing concrete curbs. Undercuts of the subgrade soils and backfilling should be based on the recommendations provided in this report, and field evaluation of the materials encountered during construction. Any unstable or unsuitable materials encountered during construction activities should be removed and replaced with compacted structural fill.

4.2 Subgrade Treatment and Recommendations

The suitability of the existing subgrade soils for the proposed reconstruction were evaluated in terms of frost susceptibly, stability, settlement, and drainage. The evaluation included determining the presence of unstable, compressible deposits, low-strength soils, high organic content soils, and soils with high-moisture content immediately below the proposed pavement section. Based on the subsurface soil conditions encountered at the boring locations, we do not anticipate any undercutting will be required for the roadway reconstruction.

If unsuitable subgrade is encountered during construction, treatment options for unsuitable subgrade soils generally include mechanical stabilization, chemical stabilization, or soil modification. Mechanical stabilization includes methods such as removal and replacement with select materials or using geosynthetics (geotextiles and/or geogrids). Geosynthetic materials should be selected based on Sections 6.18.1.4 and 6.18.1.6 of the IDOT Geotechnical Manual; aggregate should be selected based on Section 1004, Coarse Aggregates, of the IDOT SSRBC (2022). Chemical stabilization or soil modification includes the use of additives to improve the engineering properties of the in-situ soils. The choice of a specific treatment option depends on several factors, including soil type; required

treatment depth; construction variables (cost, availability, and time); project location; and treatment objective. Based on the subsurface conditions, mechanical stabilization are recommended to remediate any unsuitable soils noted at the site. Based on the project location in residential areas, chemical treatment options should not be used near residential areas. Additional recommendations for the subgrade treatment are included in Section 5.2.

4.3 Drainage Recommendation

The drainage classification of Fair should be used for the project design. The overall groundwater depth is assumed deeper than the anticipated frost depth of 45 to 60 inches for the northern Illinois region. However, pavement systems could become saturated following periods of precipitation. The proposed subgrade and pavement should have proper surface grading to prevent water from accumulating and ponding. GSG recommends installing lateral and longitudinal underdrain systems as recommended in Section 6.3.4.2 of the IDOT Geotechnical Manual to maintain the subgrade from deteriorating. The traverse underdrains should be installed at a spacing of 300 feet at low points and undercut areas. To provide drainage for the proposed pavement, we recommend installing longitudinal pipe underdrains below the pavement for the roadways. The underdrains should tie into the storm water drainage system and should be installed per Article 601 in the IDOT Standard Specifications.

5.0 CONSTRUCTION CONSIDERATIONS

All work performed for the proposed project should conform to the requirements in the IDOT Standard Specifications for Road and Bridge Construction (SSRBC, 2022) and the IDOT Subgrade Stability Manual (2005). Any deviation from the requirements in the manuals above should be approved by the design engineer.

5.1 Site Preparation

GSG recommends removing all existing pavements, concrete, vegetation, topsoil, and any soft or unsuitable/deleterious materials from the proposed construction areas. Site preparation in areas where the new pavements will be constructed will require removal of existing asphalt, concrete and surface gravel. Based on the pavement thickness encountered at the boring locations, it is anticipated that pavement stripping depths of asphalt and/or concrete materials will range from approximately 1 to 3 inches of asphalt and 6 inches of concrete. An average stripping depth of 8 inches should be used for quantity estimates. Based on the topsoil thickness encountered at the boring locations completed in the landscaped areas along the roadways, it is anticipated that stripping depths of topsoil will range from approximately 3 to 6 inches. An average topsoil stripping depth of 6 inches should be used for quantity estimates. Subgrade improvements, including any undercuts or compaction of existing soils should be completed to the proposed elevations in the design plan and in accordance with the recommendations provided herein. The contractor should not mix any existing base course materials with existing subgrade soils during the stripping and stockpiling activities. The subgrade below the base course should be evaluated in accordance with the Subgrade Preparation section of this report. Where possible, the engineer may require proof-rolling of the subgrade with a 20 to 30-ton loaded truck or other pneumatic-tired vehicle of similar size and weight. The purpose of the proof-rolling is to locate soft, weak, or excessively wet soils present at the time of construction. Proof-rolling should be performed during a time of good weather and not while the site is wet, frozen, or severely desiccated. Any unsuitable materials observed during the evaluation and proof-rolling operations should be undercut and replaced with compacted structural fill and/or stabilized in-place. The possible need for, and extent of, undercutting and/or in-place stabilization required can best be determined by the geotechnical engineer at the time of construction.

5.2 Pavement Subgrade Preparation

The stability of the subgrade should be evaluated immediately after excavation and prior to placement of base aggregate in the field in accordance with the IDOT Subgrade Stability Manual (2005) to determine if additional treatment is required. The subgrade soils inspection should include visual inspection and performing a proof roll using heavy equipment or heavily loaded tandem axle

dump truck with a minimum gross weight of 25 tons to check for deflection or rutting. Areas with excessive rutting and deflection shall be evaluated using a dynamic cone penetrometer (DCP) and static cone penetrometer (SCP) to determine the depth of required treatment in accordance with the IDOT Subgrade Stability Manual (2005) and IDOT SSRBC (2022), Section 301. The subgrade should be prepared in accordance with Section 301, Subgrade preparation, of the IDOT SSRBC (2022).

Treatment for unstable and unsuitable soils encountered during proofrolling and subgrade evaluation may include the use of a geotextile fabric, removal, and replacement with approved structural fill for small areas. Subgrade improvements should be based on the recommendations in the Subgrade Treatment and Recommendations Section of this report or based on field evaluation of the materials during construction. Field evaluation of the subgrade soils should be conducted in accordance with the procedures outlined in the IDOT Geotechnical Manual and Subgrade Stability Manual, and under the supervision of a licensed geotechnical engineer.

5.3 Existing Utilities

Before proceeding with construction, all existing underground utility lines that will interfere with construction should be completely relocated from beneath the proposed construction areas. Where possible, existing utility lines that are to be abandoned in place should be removed and/or plugged with cement grout. All excavations resulting from underground utilities removal activities should be cleaned of loose and disturbed materials, including all previously placed backfill, and backfilled with suitable fill materials in accordance with the requirements of this section. During the clearing and stripping operations, positive surface drainage should be maintained to prevent the accumulation of water.

5.4 Site Excavations

Site excavations are expected to encounter various types of soils as described in the Subsurface Exploration section of this report. The contractor will be responsible for providing safe excavation during the construction activities of the project. All excavations should be conducted in accordance with applicable federal, state, and local safety regulations, including, but not limited to the Occupational Safety and Health Administration (OSHA) excavation safety standards. Excavation stability and soil pressures on temporary shoring are dependent on soil conditions, depth of excavations, installation procedures, and the magnitude of any surcharge loads on the ground surface adjacent to the excavation. Excavation near existing structures and underground utilities should be performed with extreme care to avoid undermining existing structures. Excavations should not extend below the level of adjacent existing foundations or utilities unless underpinning or other support is installed. It is the responsibility of the contractor for field determinations of

applicable conditions and providing adequate shoring for all excavation activities.

5.5 Borrow Material and Compaction Requirements

If borrow material is to be used for onsite construction, it should conform to Section 204 "Borrow and Furnish Excavations" of the latest IDOT Construction Manual. GSG recommends that subgrade preparation, and structural fill placement and compaction be inspected by a GSG geotechnical engineer to verify the type and strength of soil materials present at the site and their conformance with the geotechnical recommendations in this report.

The fill material should be free of organic matter and debris and should be placed and compacted in accordance with Section 205, Embankment, of the IDOT SSRBC (2022). Earth-moving operations should be avoided during excessively cold or wet weather to avoid freezing of softening subgrade soils. Fill should be placed in lifts and compacted according to Section 205, Embankment (IDOT, 2022). Backfill materials for undercut areas should be placed in 8-inch loose lifts and should be compacted to 95% of the maximum dry density as determined by AASTHO T 99, Standard Proctor Method.

5.6 Groundwater Management

It is anticipated that the long-term groundwater level is at the bedrock interface. Perched water may be encountered within the existing fill materials encountered at the boring locations. GSG does not anticipate groundwater related issues for the proposed improvements. If rainwater run-off or groundwater is accumulated at the base of excavations, the contractor should remove accumulated water using conventional sump pit and pump procedures and maintain a dry and stable excavation. The location of the sump should be determined by the contractor based on field conditions. During earthmoving activities at the site, grading should be performed to ensure that drainage is maintained throughout the construction period. Water should not be allowed to accumulate in the foundation area either during or after construction. Undercut and excavated areas should be sloped toward one corner to facilitate removal of any collected rainwater or surface run-off. Grades should be sloped away from the excavations to minimize runoff from entering.

If water seepage occurs during excavations or where wet conditions are encountered such that the water cannot be removed with conventional sumping, we recommend placing open grade stone similar to IDOT CA-7 to stabilize the bottom of the excavation below the water table. The CA-7 stone should be placed 12 inches above the water table, in 12-inch lifts, and should be compacted with

the use of a heavy smooth drum roller or heavy vibratory plate compactor until stable. The remaining portion of the excavation beneath the footings should be backfilled using approved structural fill.

6.0 LIMITATIONS

This report has been prepared for the exclusive use of Illinois DOT (IDOT) and its Design Section Engineer. The recommendations provided in the report are specific to the project described herein and are based on the information obtained from the soil borings located within the project limits. The analyses performed and the recommendations provided in this report are based on subsurface conditions determined at the location of the borings. This report does not reflect all variations that may occur between boring locations or at some other time, the nature and extent of which may not become evident until during the time of construction. If variations in subsurface conditions become evident after submission of this report, it will be necessary to evaluate their nature and review the recommendations presented herein.

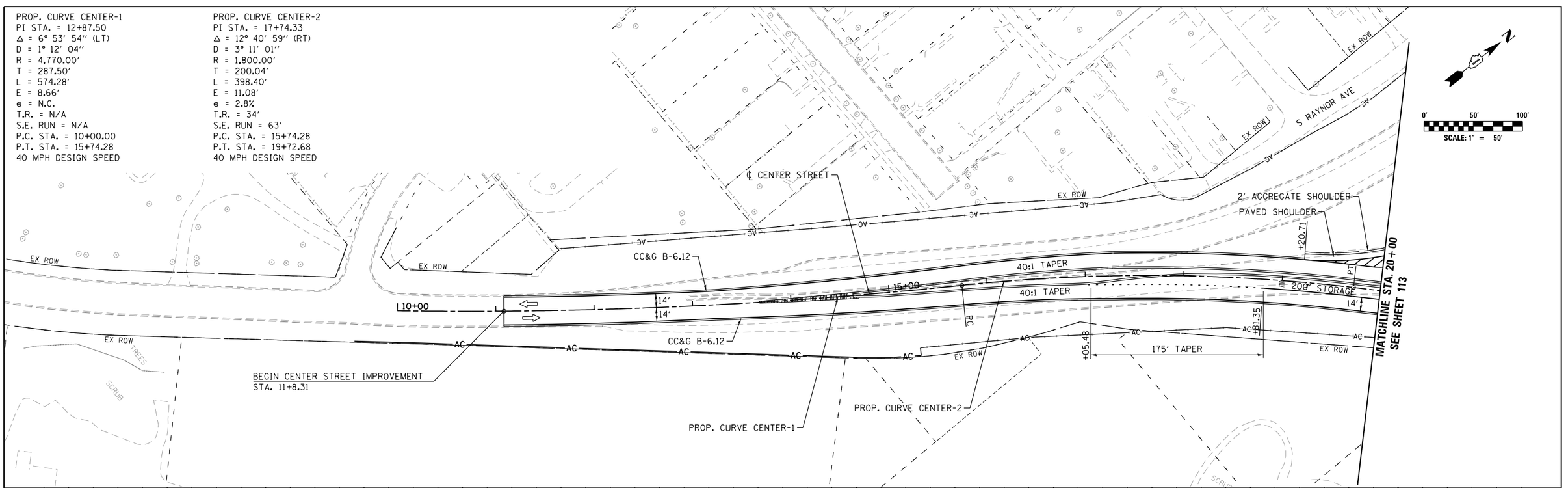
APPENDIX A

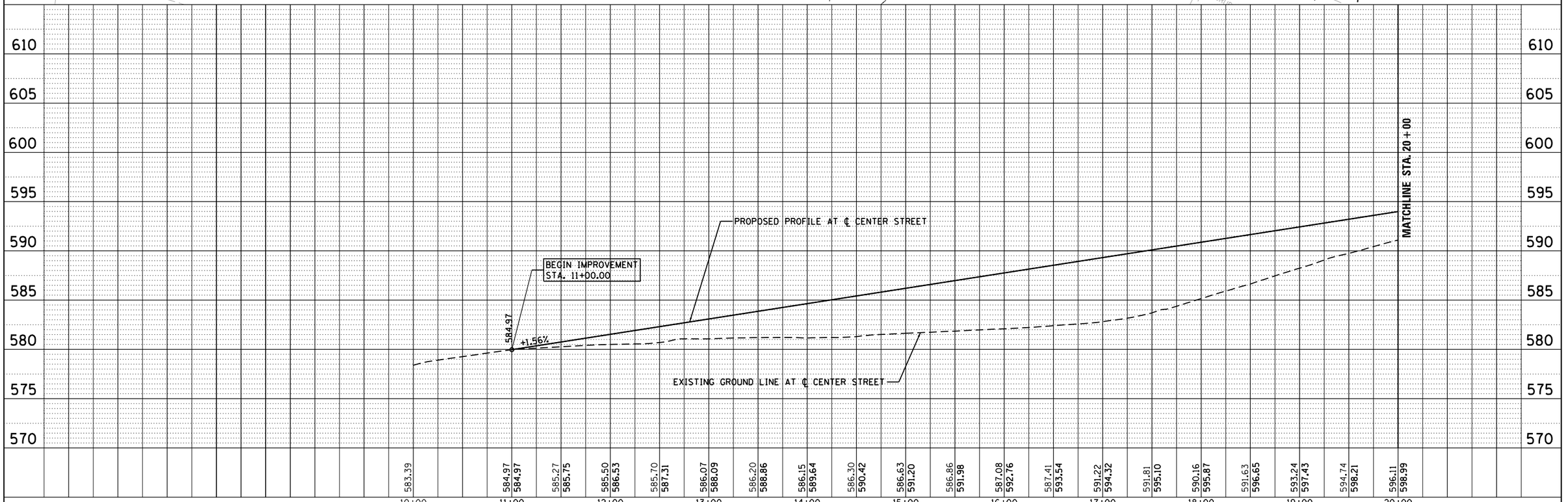
ROADWAY PROFILES

(DATED 3/10/2020)

PROP. CURVE CENTER-1
PI STA. = 12+87.50
Δ = 6° 53′ 54″ (LT)
D = 1° 12′ 04″
R = 4,770.00′
T = 287.50′
L = 574.28′
E = 8.66′
e = N.C.
T.R. = N/A
S.E. RUN = N/A
P.C. STA. = 10+00.00
P.T. STA. = 15+74.28
40 MPH DESIGN SPEED

PROP. CURVE CENTER-2
PI STA. = 17+74.33
Δ = 12° 40′ 59″ (RT)
D = 3° 11′ 01″
R = 1,800.00′
T = 200.04′
L = 398.40′
E = 11.08′
e = 2.8%
T.R. = 34′
S.E. RUN = 63′
P.C. STA. = 15+74.28
P.T. STA. = 19+72.68
40 MPH DESIGN SPEED





PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
PROFILE CHECKED
BAR. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE

FILE NAME = d146314-180-SHT-PLNPRF-CENTER 1.dgn	USER NAME = Bentley-Civil	DESIGNED - JAC	REVISED -
		CHECKED - MJP	REVISED -
	PLOT SCALE = $SCALE$	DRAWN - JAC	REVISED -
	PLOT DATE = 3/11/2020	CHECKED - 03/10/20	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I–80 FROM RIDGE ROAD TO US ROUTE 30
PREFERRED LONG–TERM IMPROVEMENT PLAN
CENTER STREET PLAN AND PROFILE

SCALE: 1" = 50′ | SHEET CEN-2 OF CEN-12 | STA. 10+00 TO STA. 20+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			157	112
		CONTRACT NO.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PROP. CURVE CENTER A-3

℄ CENTER ST RAMP A
2' AGGREGATE SHOULDER

EXISTING RAMP TO BE REMOVED

S RAYNOR AVE

PT

TWO-CENTERED CURVE
120'R-80'R, 0' O/S

15+00

120'R

100'R
80'R

PROP. CURVE CENTER B-1

PROP. CURVE CENTER B-2

PROP. CURVE CENTER B-3

PAVED SHOULDER

℄ CENTER ST RAMP B

80'R

EXISTING RAMP TO BE REMOVED

CC&G B-6.12

175' TAPER

PROP. CURVE CENTER-3

℄ CENTER STREET

145' STORAGE

CENTER STREET

SEE SHEET 112
MATCHLINE STA. 20+00

PROP. CURVE CENTER-3
PI STA. = 25+64.81
Δ = 33° 44' 53" (LT)
D = 5° 43' 55"
R = 1,000.00'
T = 303.33'
L = 588.77'
E = 44.99'
e = 3.6%
T.R. = 43'
S.E. RUN = 104'
P.C. STA. = 22+61.48
P.T. STA. = 28+50.25
40 MPH DESIGN SPEED

85'R
256'R
3'R
2'R

PROP.
RETAINING WALL

EQUATION:
RAMP A ℄ Sta 18+84.92 =
CENTER ST ℄ Sta 20+65.68

EQUATION:
RAMP B ℄ Sta 0+00.00 =
CENTER ST ℄ Sta 21+47.68

CC&G B-6.12

PROP.
RETAINING WALL

EXISTING RAMPS TO BE REMOVED

PROP. CURVE CENTER B-4

WB I-80

EB I-80

PR ROW

℄ CENTER ST RAMP D
TWO-CENTERED CURVE
80'R-200'R

EQUATION:
RAMP C ℄ Sta 15+55.46=
RAMP D ℄ Sta 0+00.00 =
CENTER ST ℄ Sta 31+77.47

85' R

9' R
2' R
6'R
200'R

30+00

145' STORAGE

℄ CENTER ST RAMP C

3-CENTERED CURVE
100'R-75'R-150'R
0' O/S

SEE SHEET 113
MATCHLINE STA. 33+00

0' 50' 100'
SCALE: 1" = 50'

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
R.T. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE

PROPOSED CENTER STREET PROFILE

END RAMP A
RAMP A STA 18+84.92
CENTER STREET STA 20+65.68
EL. 600.01

MATCHLINE STA. 20+00

+1.56%

BEGIN RAMP B
RAMP B STA 0+00.00 =
CENTER STREET STA 21+47.68
EL. 601.29

EXISTING GROUND LINE AT ℄ CENTER STREET

K = 65
150.00' V.C.
45 MPH DESIGN SPEED

+25.00 EL. 613.40

VPI STA. 30+00.00
ELEVATION 614.51

+1.56%
-0.74%

+75.00 EL. 614.01

17'-4" VERT. CLR.

95'
77'

I-80

END RAMP C
RAMP C STA 15+55.46
CENTER STREET STA 31+77.47
EL. 613.25

MATCHLINE STA. 33+00

BEGIN RAMP D
RAMP D STA 0+00.00 =
CENTER STREET STA 31+77.47
EL. 613.25

620
615
610
605
600
595
590
585
580

20+00	21+00	22+00	23+00	24+00	25+00	26+00	27+00	28+00	29+00	30+00	31+00	32+00	33+00
596.11 / 598.99	597.57 / 599.77	599.26 / 600.55	600.48 / 601.33	601.09 / 602.10	600.54 / 602.88	599.19 / 603.66	596.81 / 604.44	594.63 / 605.22	592.19 / 606.00	589.77 / 606.78	587.28 / 607.56	587.88 / 608.34	588.72 / 609.11	586.05 / 609.89	57? / 61C	582.56 / 611.45	591.22 / 612.23	592.50 / 613.01	590.70 / 613.74	597.58 / 614.14	595.51 / 614.15	597.62 / 613.82	602.46 / 613.45	610.45 / 613.08	612.84 / 612.71	613.68 / 612.34

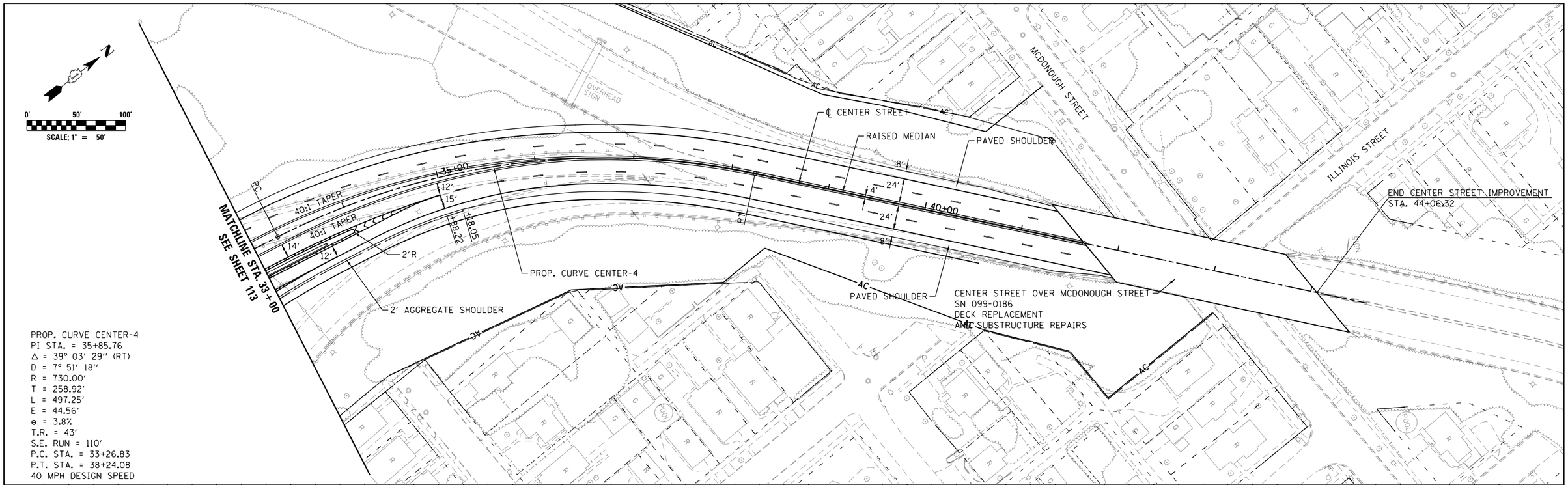
FILE NAME = d146314-180-SHT-PLNPRF-CENTER 2.dgn	USER NAME = Bentley-Civil	DESIGNED - JAC	REVISED -
		CHECKED - MJP	REVISED -
	PLOT SCALE = $SCALE$	DRAWN - JAC	REVISED -
	PLOT DATE = 3/11/2020	CHECKED - 03/10/20	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-80 FROM RIDGE ROAD TO US ROUTE 30
PREFERRED LONG-TERM IMPROVEMENT PLAN
CENTER STREET PLAN AND PROFILE

SCALE: 1" = 50' | SHEET CEN-3 OF CEN-12 | STA. 20+00 TO STA. 33+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			157	113
		CONTRACT NO.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN — SURVEYED; PLOTTED; CROSS SECTIONS CHECKED; ALIGNMENT CHECKED; RT. OF WAY CHECKED; CADD FILE NAME; NOTE BOOK; NO.; BY; DATE

PROFILE — SURVEYED; PLOTTED; CROSS SECTIONS CHECKED; BAR. NOTED STRUCTURE NOTATNS CHKD; NOTE BOOK; NO.; BY; DATE

FILE NAME = d146314-I80-SHT-PLNPRF-CENTER 3.dgn	USER NAME = Bentley-Civil	DESIGNED - JAC	REVISED -
		CHECKED - MJP	REVISED -
	PLOT SCALE = $SCALE$	DRAWN - JAC	REVISED -
	PLOT DATE = 3/11/2020	CHECKED - 03/10/20	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I–80 FROM RIDGE ROAD TO US ROUTE 30
PREFERRED LONG–TERM IMPROVEMENT PLAN
CENTER STREET PLAN AND PROFILE

SCALE: 1" = 50' | SHEET CEN-4 OF CEN-12 | STA. 34+00 TO STA. 41+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			157	114
		CONTRACT NO.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
BM. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE

PATTERSON RD
HICKORY
CHICAGO ST OVER HICKORY CREEK:
SN-099-0083
NEW REALIGNED STRUCTURE
PR ℄ RAMP A
PR ℄ RAMP AA
EXISTING RAMP TO BE REMOVED
EXISTING CHICAGO TO BE REMOVED
PR ℄ CHICAGO
PORTLAND CEMENT CONCRETE
SIDEWALK 5 INCH
COMB CC&G, TYPE B-6.24
IMPROVEMENT LIMIT
STA 202+87.03
IMPROVEMENT LIMIT
STA 202+09.60
℄ RAMP A, STA 620+71.99
℄ CHICAGO ST, STA 207+38.35
℄ RAMP AA, STA 5+00
℄ CHICAGO ST, STA 208+28.35
300' STORAGE
250' STORAGE
200 00
N 1° 32' 15" W
267.98'
PC
700+00
28:1 TAPER
140' TAPER
20:1 TAPER
CURVE CCH1
205+00
PT
+80.3,
4.0' RT
+20.0,
9.0' RT
+70.00,
9.0' RT
+70.59
5+00
210+00
N 7° 18' 11" W
838.80'
500'R
MATCHLINE STA. 211+00
N 1° 39' 43" W
705+00 CURVE PRBC1
PC
PT
2' AGGREGATE SHOULDER
PAVED SHOULDER
COMBINATION CC&G, TYPE B-6.24
EXISTING RAMP TO BE REMOVED
PR ℄ RAMP B
STA 202+67.98, 20' RT
BEGIN RAMP B STA 700+00.04
STA 205+68.86, 33' RT
RAMP B STA 703+03.80
STA 206+22.05, 39.33' RT
RAMP B STA 703+58.03
STA 207+19.92, 49' RT
RAMP B STA 704+56.38
UNION PACIFIC
CANADIAN NATIONAL
BURLINGTON NORTHERN/SANTA FE
CREEK
AC
SIGN
N 23° 47' 1

PR CURVE CCH1
PI STA. = 204+44.22
Δ = 5° 45' 56" (LT)
D = 1° 38' 13"
R = 3,500.00'
T = 176.25'
L = 352.20'
E = 4.43'
e = 2.0%
T.R. = -----
S.E. RUN = 82'
P.C. STA. = 202+67.98
P.T. STA. = 206+20.17
DESIGN SPEED: 40MPH

0' 50' 100'
SCALE: 1" = 50'

VPI STA. 206+60.00
ELEVATION 544.50
+2.81%
-0.93%
RAMP A ℄ STA 207+38.35
RAMP AA ℄ STA 208+28.35
PR CHICAGO PGL
EXISTING GROUND LINE
ALONG ℄ CHICAGO ST
RAMP B ℄ STA 204+04.32
HICKORY CREEK
530.19
+60.00 EL. 536.08
+60.00 EL. 541.72
SSD = 589'
ex = -2.80'
K = 161
600.00' V.C.
EX. CL
PR. PGL

200+00	201+00	202+00	203+00	204+00	205+00	206+00	207+00	208+00	209+00	210+00	211+00
528.43	528.86	529.34	530.20 / 530.19	531.48 / 531.59	532.61 / 532.99	533.36 / 534.40	534.19 / 535.80	527.44 / 537.15	527.87 / 538.35	527.81 / 539.40	536.67 / 540.29	540.23 / 541.02	539.73 / 541.60	539.00 / 542.02	537.66 / 542.29	539.92 / 542.40	545.53 / 542.36	543.07 / 542.16	543.18 / 541.81	544.02 / 541.34	544.65 / 540.88	549.40 / 540.42

545 540 535 530 525 520 515 510 505

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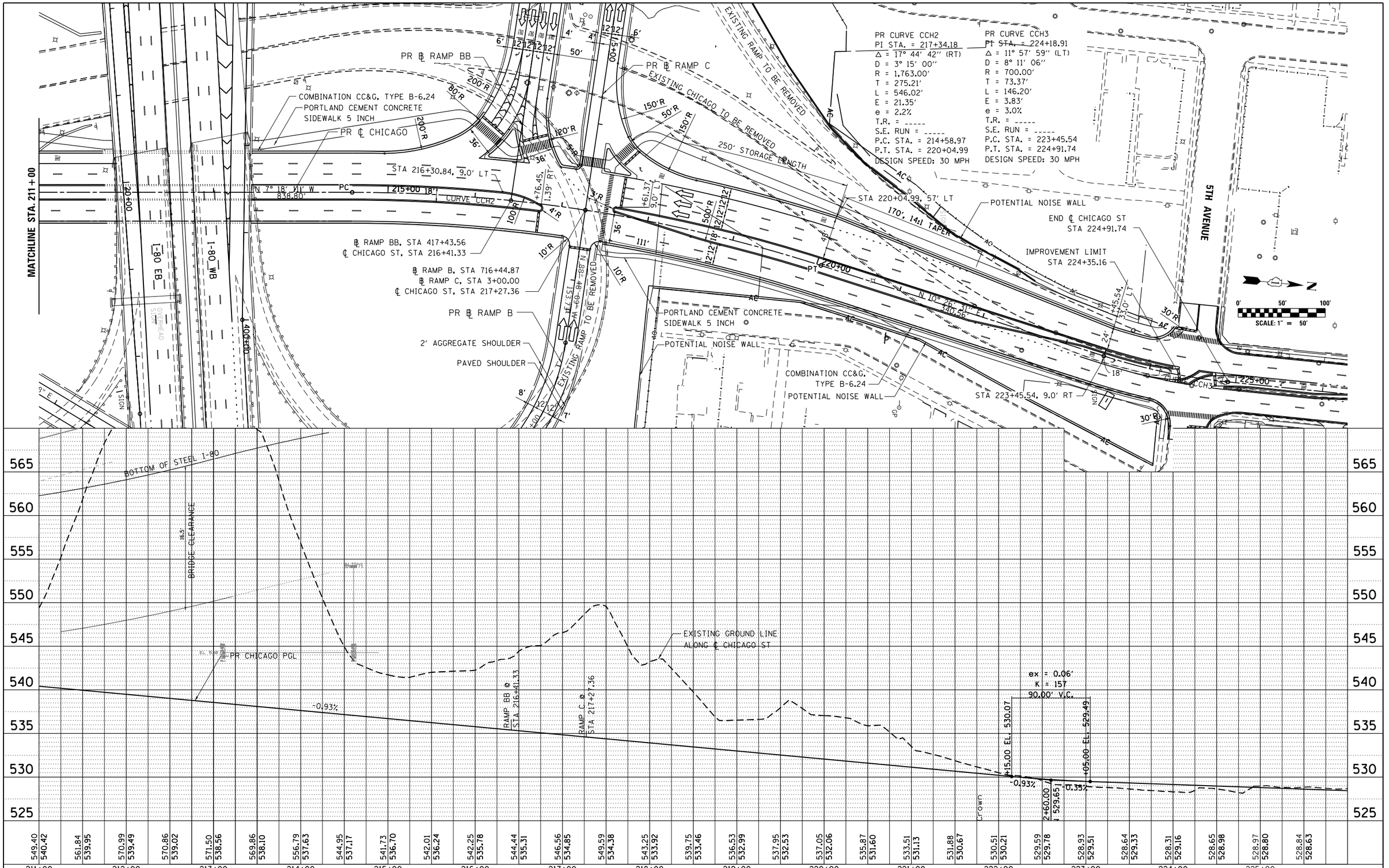
	PLOT DATE = 8/16/2021	DATE - 4/12/2020	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-80 FROM RIDGE ROAD TO US ROUTE 30
PREFERRED LONG-TERM IMPROVEMENT PLAN
CHICAGO STREET INTERCHANGE CHICAGO PLAN & PROFILE
SCALE: 1" = 50' | SHEET $$CHI-20F $CHI-TOT | STA. 200+00 TO STA. 211+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			11	$CHI-2

CONTRACT NO.
ILLINOIS FED. AID PROJECT



PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
BAR. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE

FILE NAME = pw:\\aecom-na-pw.bentley.com:AECOM_DS20_NA_2019\Documents\04191411-IDOTgeometrics\900-CADD\910_CAD\I-80Sheet\d146314-sht-plan&prof02.dgn default	USER NAME = jdove	DESIGNED - RA	REVISED -
	PLOT SCALE = 100.000 ' / in.	DRAWN - RA	REVISED -
	PLOT DATE = 8/16/2021	CHECKED - RR	REVISED -
		DATE - 4/12/2020	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

I-80 FROM RIDGE ROAD TO US ROUTE 30
PREFERRED LONG-TERM IMPROVEMENT PLAN
CHICAGO STREET INTERCHANGE CHICAGO PLAN & PROFILE

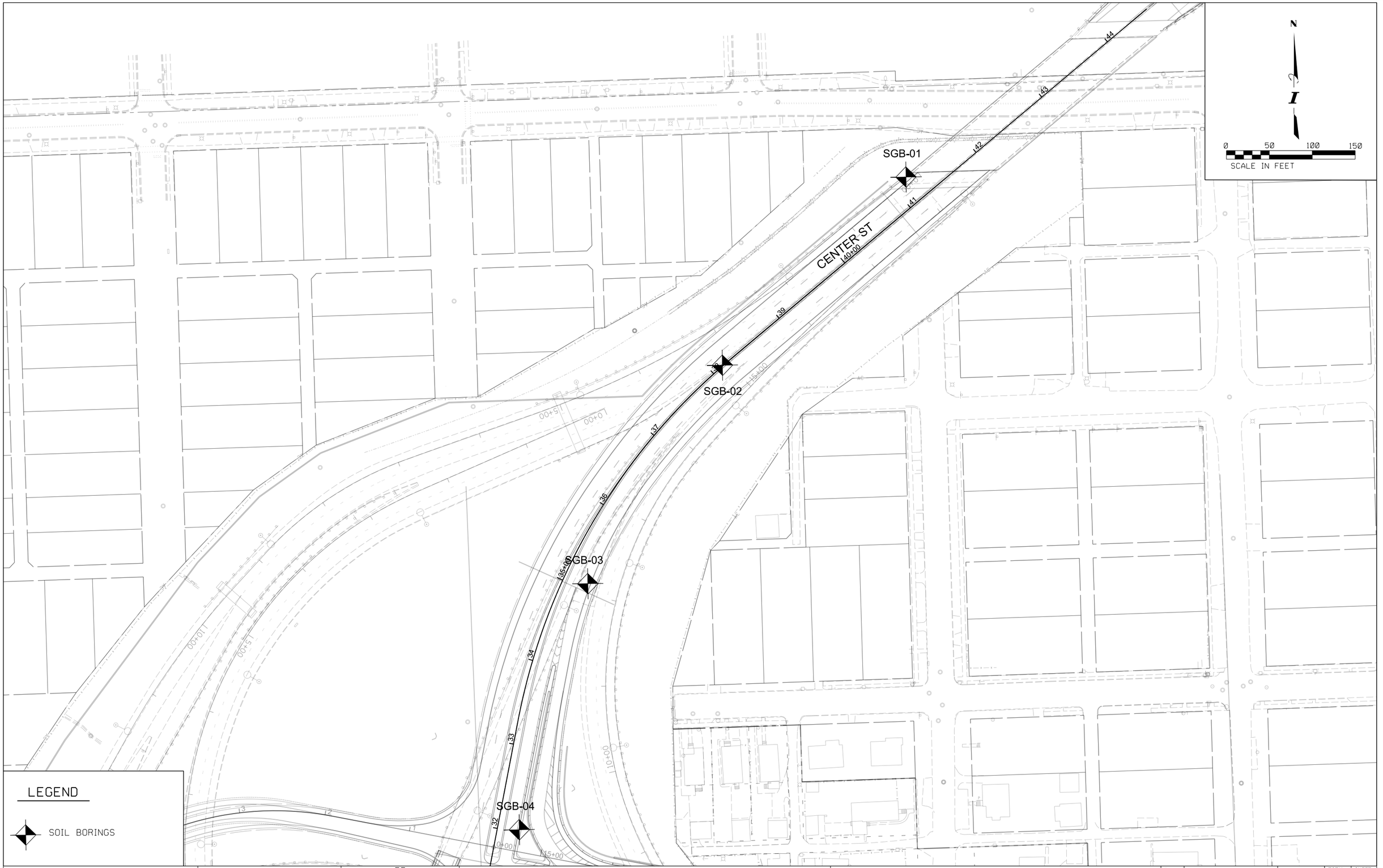
SCALE: 1" = 50' | SHEET $$CHI-30F $CHI-TOT | STA. 211+00 TO STA. 224+35

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			11	$CHI-3
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

APPENDIX B

SOIL BORING LOCATION PLAN

CENTER STREET



LEGEND

SOIL BORINGS

FILE NAME = T:\Illinois DOT\WSP-198-003\Geotechnical\Roadway - Embankment\Chicago Street and Center Street\Exhibits\Center Street\GDNs\Roadway - Embankment - PL_01.dgn
PEN TABLE = $PENTBL$
PLOT DATE = 6/20/2024
TIME = $TIME$
SHEET SIZE= $SHEETSIZE$
PLOT SCALE= 100.0000 ' / in.
USER NAME = $USER$

GSG CONSULTANTS, INC.
735 E. REMINGTON RD. SCHAUMBURG, IL 60173
TEL: +1630.994.2600 | WWW.GSG-CONSULTANTS.COM

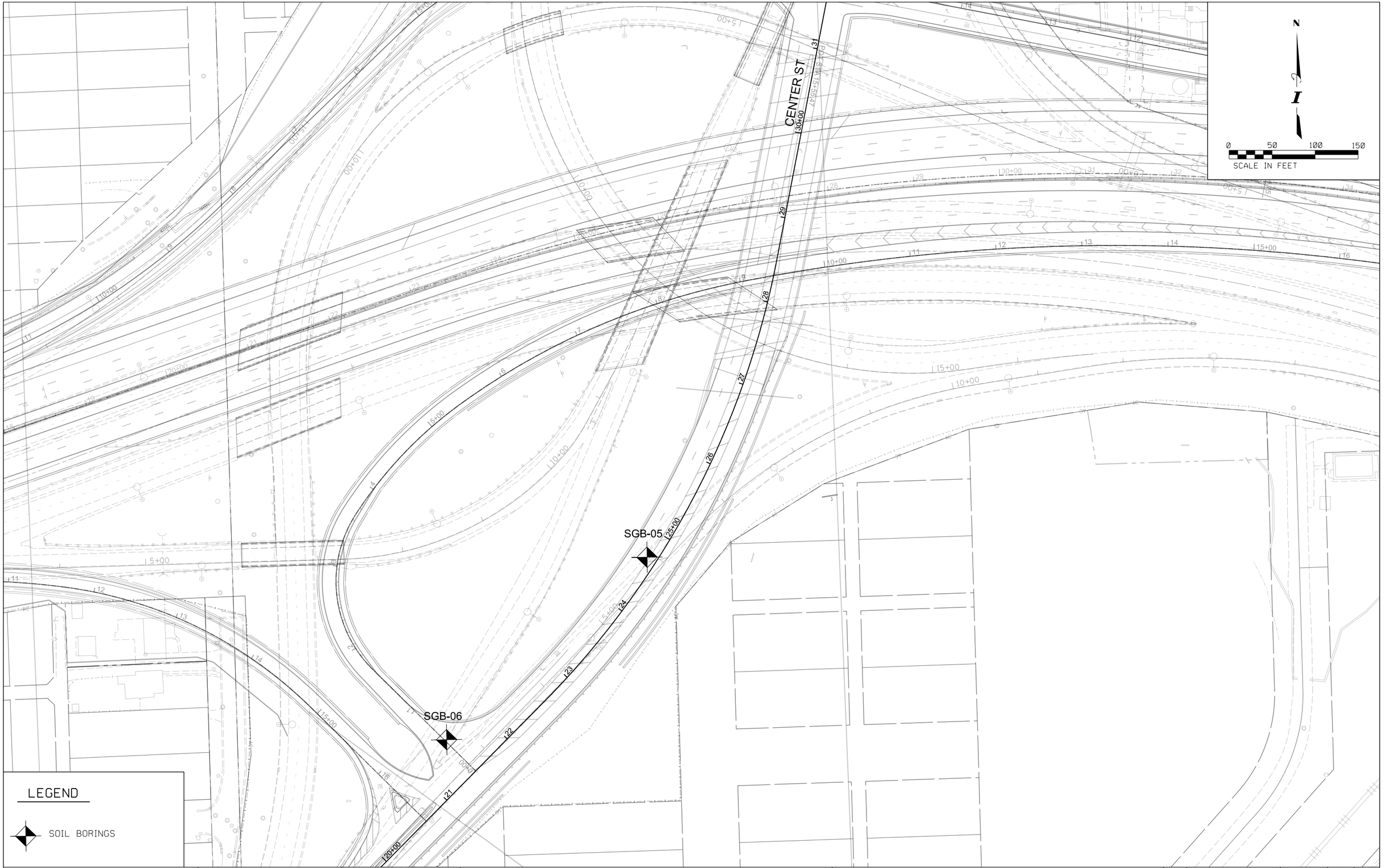
USER NAME	= $USER$	DESIGNED	- DD
SHEET SIZE	= $SHEETSIZE$	DRAWN	- NN
PLOT SCALE	= 100.0000 ' / in.	CHECKED	- DE
PLOT DATE	= 6/20/2024	DATE	- 06/12/2024

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED ROADWAY - CENTER STREET
SOIL BORING LOCATION PLAN
JOLIET, ILLINOIS

SCALE: 1:50 | SHEET 3 OF 3 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		WILL	3	1
		CONTRACT NO. PTB-198-003		
	ILLINOIS	FED. AID PROJECT		



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PEN TABLE = $PENTBL$
PLOT DATE = $DATE$
TIME = $TIME$
SHEET SIZE = $SHEETSIZE$
PLOT SCALE = 100.0000 ' / in.
USER NAME = $USER$

GSG CONSULTANTS, INC.
735 E. REMINGTON RD, SCHAUMBURG, IL 60173
TEL: +1630.994.2600 | WWW.GSG-CONSULTANTS.COM

USER NAME	= $USER$	DESIGNED -	DD
SHEET SIZE	= $SHEETSIZE$	DRAWN -	NN
PLOT SCALE	= 100.0000 ' / in.	CHECKED -	DE
PLOT DATE	= 6/18/2024	DATE -	06/12/2024

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED ROADWAY - CENTER STREET
SOIL BORING LOCATION PLAN
JOLIET, ILLINOIS

SCALE: 1:50 | SHEET 2 OF 3 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		WILL	3	2
		CONTRACT NO. PTB-198-003		
	ILLINOIS	FED. AID PROJECT		

LEGEND

SOIL BORINGS

GSG CONSULTANTS, INC.
735 E. REMINGTON RD, SCHAUMBURG, IL 60173
TEL: +1630.994.2600 | WWW.GSG-CONSULTANTS.COM

USER NAME = $USER$		DESIGNED - DD	
SHEET SIZE = $SHEETSIZE$		DRAWN - NN	
PLOT SCALE = 100.0000 ' / in.		CHECKED - DE	
PLOT DATE = 6/20/2024		DATE - 06/12/2024	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED ROADWAY - CENTER STREET
SOIL BORING LOCATION PLAN
JOLIET, ILLINOIS

SCALE: 1:50 | SHEET 1 OF 3 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		WILL	3	3
		CONTRACT NO. PTB-198-003		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = T:\Illinois DOT\WSP_198-003\Geotechnical\Roadway - Embankment\Chicago Street and Center Street\Exhibits\Center Street\DGNs\Roadway - Embankment - PL_003.dgn
PEN TABLE = $PENTBL$
PLOT DATE = 6/20/2024
TIME = $TIME$
SHEET SIZE = $SHEETSIZE$
PLOT SCALE = 100.0000 ' / in.
USER NAME = $USER$

CHICAGO STREET

LEGEND

SOIL BORINGS

GSG CONSULTANTS, INC.
735 E. REMINGTON RD, SCHAUMBURG, IL 60173
TEL: +1630.994.2600 | WWW.GSG-CONSULTANTS.COM

USER NAME = $USER$	DESIGNED - DD		
SHEET SIZE = $SHEETSIZE$	DRAWN - NN		
PLOT SCALE = 120.0000 ' / in.	CHECKED - DE		
PLOT DATE = 6/20/2024	DATE - 06/12/2024		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED ROADWAY - CHICAGO STREET
SOIL BORING LOCATION PLAN
JOLIET, ILLINOIS

SCALE: 1:60 | SHEET 2 OF 2 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		WILL	2	1
		CONTRACT NO. PTB-198-003		
	ILLINOIS	FED. AID PROJECT		

FILE NAME = I:\Illinois DOT\WSP_198-003\Geotechnical\Roadway - Embankment\Chicago Street and Center Street\Exhibits\Chicago Street\DGNs\Roadway - Chicago Street - PL-02.dgn
PEN TABLE = $PENTBL$
PLOT DATE = 6/20/2024
TIME = $TIME$
SHEET SIZE = $SHEETSIZE$
PLOT SCALE = 120.0000 ' / in.
USER NAME = $USER$

GSG CONSULTANTS, INC.
735 E. REMINGTON RD, SCHAUMBURG, IL 60173
TEL: +1630.994.2600 | WWW.GSG-CONSULTANTS.COM

USER NAME	= $USER$	DESIGNED	- DD
SHEET SIZE	= $SHEETSIZE$	DRAWN	- NN
PLOT SCALE	= 120.0000 ' / in.	CHECKED	- DE
PLOT DATE	= 6/20/2024	DATE	- 06/12/2024

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED ROADWAY - CHICAGO STREET
SOIL BORING LOCATION PLAN
JOLIET, ILLINOIS

SCALE: 1:60 | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		WILL	2	2
		CONTRACT NO. PTB-198-003		
	ILLINOIS	FED. AID PROJECT		

APPENDIX C

SOIL BORING LOGS

Illinois Department of Transportation

Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/23/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Center Street **LOGGED BY** EH

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,

Latitude , **Longitude**

COUNTY Will **DRILLING RIG** GeoProbe 7822DT **HAMMER TYPE** Auto

DRILLING METHOD HSA **HAMMER EFF (%)** 112.2

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-01
Station 41+18.99
Offset 30.70ft LT
Ground Surface Elev. 607.41 **ft**

Surface Water Elev. N/A **ft**
Stream Bed Elev. N/A **ft**

Groundwater Elev.:
First Encounter Dry **ft**
Upon Completion N/A **ft**
After ____ **Hrs.** N/A **ft**

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
2 inches of Asphalt	607.24				
Brown and Gray, Moist FILL: CLAY, trace gravel			2		
			2 4	2.9 B	16
			1		
	602.41	-5	2 1	1.0 B	14
Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)			3		
			3 4	2.9 B	15
			3		
	597.41	-10	4 4	2.5 B	15
End of Boring		-15			
		-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/23/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Center Street **LOGGED BY** EH

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,
Latitude , **Longitude**

COUNTY Will **DRILLING RIG** GeoProbe 7822DT **HAMMER TYPE** Auto
DRILLING METHOD HSA **HAMMER EFF (%)** 112.2

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-02
Station 38+14.17
Offset 0.80ft LT
Ground Surface Elev. 608.41 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion N/A ft
After ____ **Hrs.** N/A ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Asphalt	608.16				
Brown and Gray, Moist FILL: SILTY CLAY, trace gravel			3		
			5 5	6.3 B	15
	604.91				
Very Stiff Brown, Moist SILTY CLAY, trace gravel (CL/ML)		-5	2		
			3 7	2.1 B	17
			3		
			3 5	2.5 P	18
Cobbles at 8.5 feet	599.41		16		
Dense Light Brown, Wet GRAVEL, with sand (GPS)	598.41	-10	20 13		15
End of Boring		-15			
		-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/23/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Center Street **LOGGED BY** EH

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,

Latitude , **Longitude**

COUNTY Will **DRILLING RIG** GeoProbe 7822DT **HAMMER TYPE** Auto
DRILLING METHOD HSA **HAMMER EFF (%)** 112.2

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-03
Station 35+8.70
Offset 28.28ft RT
Ground Surface Elev. 604.08 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion N/A ft
After ____ **Hrs.** N/A ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Asphalt	603.83				
6 inches of Concrete	603.33				
Brown and Gray, Moist FILL: SILTY CLAY, trace gravel			5		
			5 7	6.3 B	13
			6		
		-5	6 7	3.0 B	14
	598.08				
Hard Brown, Moist SILTY CLAY, trace gravel (CL/ML)			5		
			8 13	8.3 P	13
	595.08		10		
Very Dense Light Brown, Moist GRAVEL, with sand (GPS)			37 45		13
	594.08	-10			
End of Boring					
		-15			
		-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/23/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Center Street **LOGGED BY** EH

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,

Latitude , **Longitude**

COUNTY Will **DRILLING RIG** GeoProbe 7822DT **HAMMER TYPE** Auto

DRILLING METHOD HSA **HAMMER EFF (%)** 112.2

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-04
Station 32+3.30
Offset 25.45ft RT
Ground Surface Elev. 592.70 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion N/A ft
After ____ **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
592.45			
3 inches of Topsoil			
Very Stiff Brown, Moist SILTY CLAY (CL/ML)	5 6 7	3.5 P	14
588.95	50/2"		18
588.70			
Very Dense Light Brown, Wet SAND, with gravel (SPG)			
-5			
Auger Refusal at 4 feet End of Boring			
-10			
-15			
-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/23/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Center Street **LOGGED BY** EH

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,

Latitude , **Longitude**

COUNTY Will **DRILLING RIG** GeoProbe 7822DT **HAMMER TYPE** Auto

DRILLING METHOD HSA **HAMMER EFF (%)** 112.2

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-05
Station 24+68.46
Offset 11.67ft LT
Ground Surface Elev. 591.25 **ft**

Surface Water Elev. N/A **ft**
Stream Bed Elev. N/A **ft**

Groundwater Elev.:
First Encounter Dry **ft**
Upon Completion N/A **ft**
After _____ **Hrs.** N/A **ft**

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6 inches of Topsoil 590.75				
Dark Brown and Gray, Moist FILL: SILTY CLAY, trace gravel		6		
		6 6	4.2 B	14
		3		
		8 50/4"	3.5 P	14
586.25	-5			
Auger Refusal at 5 feet End of Boring				
	-10			
	-15			
	-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/23/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Center Street **LOGGED BY** EH

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,

Latitude , **Longitude**

COUNTY Will **DRILLING RIG** GeoProbe 7822DT **HAMMER TYPE** Auto
DRILLING METHOD HSA **HAMMER EFF (%)** 112.2

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-06
Station 21+49.93
Offset 49.63ft LT
Ground Surface Elev. 602.19 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion N/A ft
After ____ **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6 inches of Topsoil 601.69			
Brown, Gray and Dark Brown, Moist FILL: SILTY CLAY, trace gravel, wood fragments	4		
	2 4	3.0 P	19
	4		
-5	4 8	1.0 B	15
	5		
	7 8	2.9 B	17
	5		
592.19 -10	6 7	2.9 B	15
End of Boring			
-15			
-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/23/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Center Street **LOGGED BY** EH

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,

Latitude , **Longitude**

COUNTY Will **DRILLING RIG** GeoProbe 7822DT **HAMMER TYPE** Auto

DRILLING METHOD HSA **HAMMER EFF (%)** 112.2

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-07
Station 18+63.52
Offset 31.77ft LT
Ground Surface Elev. 590.33 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion N/A ft
After ____ **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6 inches of Topsoil 589.83			
Very Stiff Brown and Gray, Moist SILTY CLAY, with gravel, sand (CL/ML)	6 9 50/1"	3.0 P	14
587.33 Auger Refusal at 3 feet End of Boring			
-5			
-10			
-15			
-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/23/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Center Street **LOGGED BY** EH

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,

Latitude , **Longitude**

COUNTY Will **DRILLING RIG** GeoProbe 7822DT **HAMMER TYPE** Auto

DRILLING METHOD HSA **HAMMER EFF (%)** 112.2

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-08
Station 15+53.42
Offset 32.32ft LT
Ground Surface Elev. 586.18 **ft**

Surface Water Elev. N/A **ft**
Stream Bed Elev. N/A **ft**

Groundwater Elev.:
First Encounter Dry **ft**
Upon Completion N/A **ft**
After ____ **Hrs.** N/A **ft**

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
1 inch of Asphalt	586.08				
Very Stiff Brown, Moist SILTY CLAY, with gravel, sand (CL/ML)	584.68		15		
			50/5"	2.0 P	9
Very Dense Light Brown, Moist GRAVEL, with sand (GPS)			18		
			50/1"		5
	581.18	-5			
Auger Refusal at 5 feet End of Boring		-10			
		-15			
		-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/29/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Center Street **LOGGED BY** TS

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,
Latitude , **Longitude**

COUNTY Will **DRILLING RIG** Diedrich D-70 ATV **HAMMER TYPE** Auto
DRILLING METHOD HSA **HAMMER EFF (%)** 75

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-09
Station 12+52.97
Offset 19.41ft RT
Ground Surface Elev. 585.99 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion N/A ft
After ____ **Hrs.** N/A ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Gravel	585.74				
Dark Brown, Moist FILL: SILTY CLAY, trace gravel			7		
	583.99		14 25	2.8 P	11
Very Stiff Brown and Gray, Moist SILTY CLAY, with gravel, sand (CL/ML)	582.49		50/2"		
Very Dense Light Brown, Dry SAND, with gravel (SPG)	580.99	-5			5
Auger Refusal at 5 feet End of Boring		-10 -15 -20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation

Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/29/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Chicago Street **LOGGED BY** TS

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,
Latitude , **Longitude**

COUNTY Will **DRILLING RIG** Diedrich D-70 ATV **HAMMER TYPE** Auto
DRILLING METHOD HSA **HAMMER EFF (%)** 75

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-10
Station 224+5.71
Offset 35.21ft RT
Ground Surface Elev. 529.91 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion N/A ft
After ____ **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Topsoil 529.58				
Dark Brown, Moist FILL: SILTY CLAY, trace gravel		4		
		20 6	0.8 P	6
527.41				
Loose Light Brown, Moist to Wet SAND, with gravel, clay (SPG)		4		
		1 2		13
	-5			
		4		
		4 4		16
521.41				
Medium Dense Brown, Wet		7		
		7 11		15
GRAVEL, with clay, sand (GC) 519.91	-10			
End of Boring				
	-15			
	-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/29/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Chicago Street **LOGGED BY** TS

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,
Latitude , **Longitude**

COUNTY Will **DRILLING RIG** Diedrich D-70 ATV **HAMMER TYPE** Auto
DRILLING METHOD HSA **HAMMER EFF (%)** 75

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-11
Station 221+65.07
Offset 31.01ft LT
Ground Surface Elev. 531.62 **ft**

Surface Water Elev. N/A **ft**
Stream Bed Elev. N/A **ft**

Groundwater Elev.:
First Encounter Dry **ft**
Upon Completion N/A **ft**
After ____ **Hrs.** N/A **ft**

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
2 inches of Asphalt	531.45				
6 inches of Concrete	530.70				
3 inches of Gravel Base	530.42		12		
Medium Dense to Very Dense Brown and Dark Brown, Dry to Moist SAND, with gravel (SPG)			9 12		6
			5		
Silty Clay pockets at 1.0 and 3.5 feet			13 17		7
		-5			
			12		
			22 50/4"		5
			19		
			50/5"		4
	521.62	-10			
End of Boring					
		-15			
		-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/29/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Chicago Street **LOGGED BY** TS

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,
Latitude , **Longitude**

COUNTY Will **DRILLING RIG** Diedrich D-70 ATV **HAMMER TYPE** Auto
DRILLING METHOD HSA **HAMMER EFF (%)** 75

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-12
Station 218+39.90
Offset 15.73ft RT
Ground Surface Elev. 536.67 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion N/A ft
After ____ **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
536.42				3 inches of Topsoil
	21			Stiff Dark Brown and Brown, Moist SILTY CLAY, with gravel, sand (CL/ML)
	50/4	1.3 P	15	
533.17				Cobbles at 1.5 feet
	50/5"			Medium Dense Light Brown, Dry SAND, with gravel (SPG) Cobbles at 4 feet.
-5			5	
	11			
	12 15		4	
	24			
	14 15		4	
526.67 -10				End of Boring
-15				
-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/29/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Chicago Street **LOGGED BY** TS

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,
Latitude , **Longitude**

COUNTY Will **DRILLING RIG** Diedrich D-70 ATV **HAMMER TYPE** Auto
DRILLING METHOD HSA **HAMMER EFF (%)** 75

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-13
Station 215+7.39
Offset 6.40ft RT
Ground Surface Elev. 540.94 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion N/A ft
After ____ **Hrs.** N/A ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Topsoil 540.69				
Dark Brown, Moist FILL: SILTY CLAY, with sand, trace gravel		3		
		4 5	1.3 S	12
537.44				
Very Stiff Dark brown and Gray, Moist SILTY CLAY, trace gravel (CL/ML)		4		
	-5	6 9	3.5 S	13
534.44		14		
Medium Dense Light Brown, Moist SAND, with gravel (SPG)		20 16		17
		15		
530.94	-10	14 13		10
End of Boring				
	-15			
	-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation

Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/29/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Chicago Street **LOGGED BY** TS

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,
Latitude , **Longitude**

COUNTY Will **DRILLING RIG** Diedrich D-70 ATV **HAMMER TYPE** Auto
DRILLING METHOD HSA **HAMMER EFF (%)** 75

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-14
Station 209+5.43
Offset 22.96ft RT
Ground Surface Elev. 541.71 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion N/A ft
After ____ **Hrs.** N/A ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3 inches of Topsoil 541.54			
Very Stiff to Hard Brown and Gray, Moist SILTY CLAY, trace gravel, sand (CL-ML)	2		
	7 11	2.1 B	10
	3		
-5	5 5	5.8 B	20
	3		
	4 5	3.1 B	18
	3		
531.71 -10	4 3	2.1 B	20
End of Boring			
-15			
-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
GSG Consultants, Inc.

SOIL BORING LOG

Date 5/29/24

ROUTE I-80 **DESCRIPTION** Roadway Boring - Chicago Street **LOGGED BY** TS

SECTION C-91-109-22 **LOCATION** , **SEC.** 16, **TWP.** 35 N, **RNG.** 10 E,
Latitude , **Longitude**

COUNTY Will **DRILLING RIG** Diedrich D-70 ATV **HAMMER TYPE** Auto
DRILLING METHOD HSA **HAMMER EFF (%)** 75

STRUCT. NO. N/A
Station N/A

BORING NO. SGB-15
Station 202+65.26
Offset 41.88ft LT
Ground Surface Elev. 531.46 ft

Surface Water Elev. N/A ft
Stream Bed Elev. N/A ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion N/A ft
After ____ **Hrs.** N/A ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
2 inches of Asphalt	531.29				
6 inches of Concrete	530.80				
6 inches of Gravel Base	530.26		12		
Medium Dense Dark Brown and Gray, Moist GRAVEL, with clay, sand (GC)			6 7		15
			2		
		-5	5 6		7
			8		
			10 8		6
	522.96				
Stiff Dark Brown, Very Moist SILTY CLAY, trace gravel, sand (CL/ML)	521.46	-10	3 4 5	1.3 P	26
End of Boring					
		-15			
		-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

APPENDIX D

LABORATORY TEST RESULTS

GSG CONSULTANTS, INC.

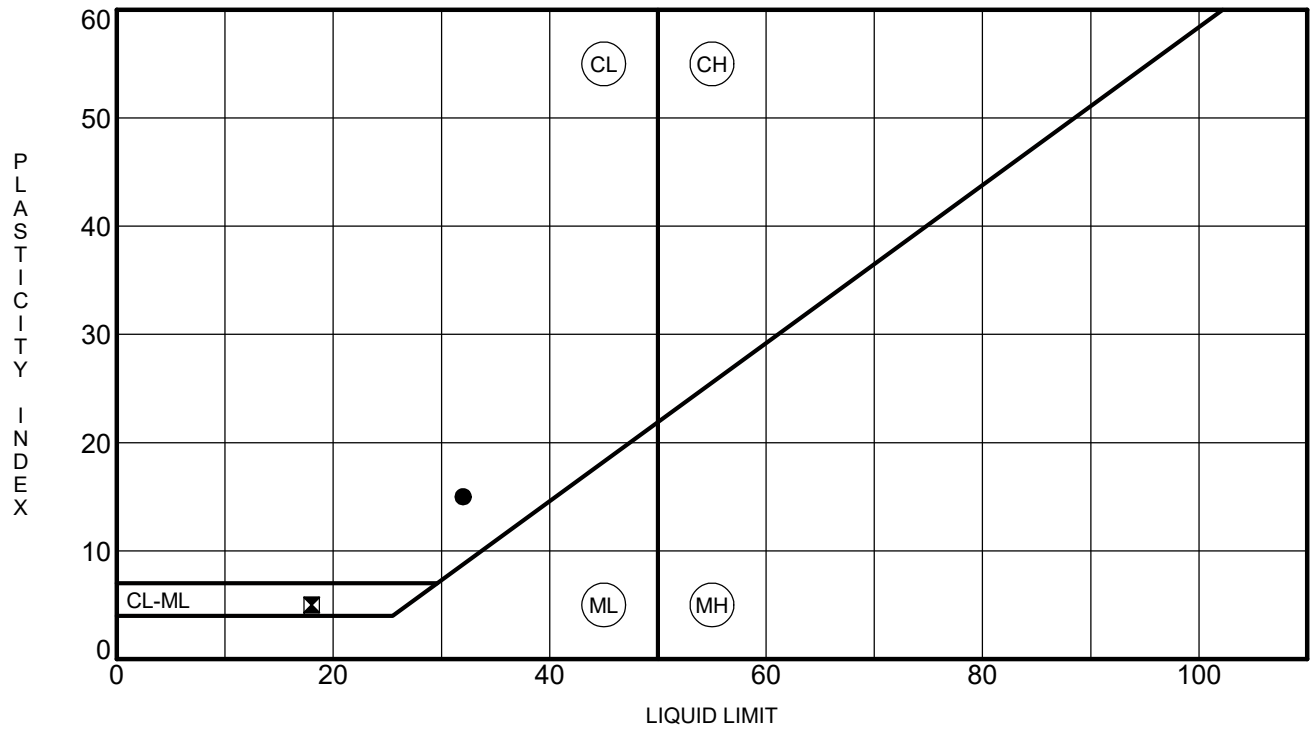
735 Remington Road
Schaumburg, IL 60173
Tel: 630.994.2600
www.gsg-consultants.com

Table D-1 – Atterberg Limits

Boring ID	Sample Depth (ft)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Soil Classification
SGB-01	1.0-2.5	32.0	17.0	15.0	CL
SGB-14	1.0-2.5	18.0	13.0	5.0	CL-ML

Table D-2 – Organic Contents

Boring ID	Sample Depth (ft)	Organic Content (%)
SGB-05	1.0-2.5	5.6
SGB-07	1.0-2.5	3.2
SGB-13	1.0-2.5	1.8
SGB-15	1.0-2.5	2.4



	Specimen Identification		LL	PL	PI	Fines	Classification
●	**SGB-01**	**1.00**	**32.0**	**17.0**	**15.0**		
⊠	**SGB-14**	**1.00**	**18.0**	**13.0**	**5.0**		

Illinois Department of Transportation
Division of Highways
GSG Consultants, Inc.

ATTERBERG LIMITS' RESULTS

Route: I-80

Section: C-91-109-22

County: Will

ATTERBERG LIMITS 198-003 I-80.GPJ IL DOT.GDT 6/18/24