

City of Knoxville  
City Council Meeting  
Monday, February 1, 2016 5:30 p.m.  
Municipal Building Council Chambers

1. Call To Order

**MEMBERS PRESENT:**

Mayor Brian Hatch \_\_\_\_, Council Member Dawn Allspach-Kline \_\_\_\_, Council Member Rick Kingery \_\_\_\_, Council Member James Lane \_\_\_\_, Council Member Cal Stephens \_\_\_\_

2. Citizen/Public Comments  
Discussion

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3. Consent Agenda

3.I. Approve City Council Minutes Of January 4, 2016

Documents: [COUNCIL MINUTES 010416.PDF](#)

3.II. Approve City Council Minutes Of January 18, 2016

Documents: [COUNCIL MINUTES 011816.DOCX](#)

3.III. Accept Housing Board Minutes Of November 19, 2015

Documents: [HOUSING BOARD 111915.PDF](#)

3.IV. Accept Housing Board Minutes Of December 21, 2015

Documents: [HOUSING BOARD 122115.PDF](#)

3.V. Accept Housing Board Minutes Of January 4, 2016

Documents: [HOUSING BOARD 010416.PDF](#), [HOUSING BOARD PH 010416.PDF](#)

3.VI. Accept Library Board Of Trustees Minutes Of January 20, 2016

Documents: [LIBRARY BOARD MINUTES 012016.PDF](#)

3.VII. Accept Recreation Commission Minutes For December 2015

Documents: [DECEMBER 2015 MINUTES FOR COUNCIL.PDF](#)

3.VIII. Approve Class C Beer Permit For Dollar General Store #3540

3.IX. Approve Class C Liquor License For Red Rock Grill And Still

3.X. Approve Class C Liquor License For Sandals Lounge

3.XI. Approve Reappointment To Low Rent Housing Board Of Jody Mansueto Term Expires April 2018

4. Item Agenda

4.I. Set A Public Hearing For February 15, 2016 At 6:15 P.m. To Approve The City Of Knoxville FY17 Budget

4.II. Approve Resolution Setting The Date For A Public Hearing On Proposal To Enter Into A

General Obligation Corporate Purpose And Refunding Loan Agreement And To Borrow Money Thereunder In A Principal Amount Not To Exceed \$2,800,000

Documents: [RES 020516 SET HRG GO CP RFDG LA.PDF](#)

- 4.III. Approve Resolution Approving Plans, Specifications, Form Of Contract, Notice To Bidders. Estimate Of Cost And Ordering Of Bids For The 2016 Street Improvements Contract

Documents: [RES 020416 STREET IMPROVE NOTICE TO BIDDERS.PDF](#), [1150718 COST ESTIMATE\\_FINAL\\_012816.PDF](#), [1150718\\_FINAL PLANS FOR 2016 STREET IMPROVEMENTS\\_01292016.PDF](#), [KNOXVILLE - 2016 STREET IMPROVEMENTS\\_PROJECT MANUAL.PDF](#)

- 4.IV. Authorize Staff To Pay Existing Obligations To Grand Theater And Knoxville Economic Development Corporation In FY 16

- 4.V. Discussion/Possible Action On IT Purchases

- 4.VI. Update From The Fireworks Foundation

- 4.VII. Approve Payment Of Claims

5. Reports

- A. Mayor's Report
- B. City Manager's Report

6. Adjourn To Closed Session According To Section 21.5 (C) (Potential Litigation) Of The Iowa Code

- 6.I. Closed Session

7. Reconvene In Open Session And Council Action As Needed

8. Adjourn To Closed Session According To Section 21.5 (C) (Potential Litigation) Of The Iowa Code

- 8.I. Closed Session

9. Reconvene In Open Session And Council Action As Needed

10. Adjourn To Closed Session According To Section 21.5 (J) (Real Estate) Of The Iowa Code

- 10.I. Closed Session

11. Reconvene In Open Session And Council Action As Needed

12. Adjourn

Motion \_\_\_\_\_ Second \_\_\_\_\_  
Vote \_\_\_\_\_ Time \_\_\_\_\_

\_\_\_\_\_  
Heather Ussery, City Clerk



# COUNCIL MINUTES

## January 4, 2016

The City Council of the City of Knoxville, Iowa convened in regular session Monday, January 4, 2016 at 6:15 p.m. in the City Hall Council Chambers. Mayor Brian Hatch presided and the following Council Members were present: Dawn Allspach-Kline, Rick Kingery, James Lane and Cal Stephens. Staffs present were Interim City Manager Aaron Adams, City Clerk Heather Ussery, Deputy City Clerk Jodi Bassett, Police Chief Dan Losada, Fire Chief Jim Mitchell and Water Reclamation Supervisor Pat Murphy.

Mayor Hatch asked for Citizen/Public Comments regarding items not on the agenda. There were none.

Motion by Allspach-Kline; seconded by Stephens to approve the consent agenda as follows, all ayes.

1. Approve City Council Minutes of December 21, 2015
2. Designate Official Legal Newspaper for the City of Knoxville- Knoxville Journal Express
3. Affirmation of City Attorney Bob Stuyvesant
4. Mayoral Appointment of Mayor Pro Tem Dawn Allspach-Kline
5. Council Appointment of City Clerk Heather Ussery
6. Council Appointment of Deputy City Clerk Jodi Bassett
7. Accept Resignation Letter of Council Member Dave Roozeboom
8. Accept 2016 City Council Meetings Schedule

Oath of Office was administered for City Clerk Heather Ussery and Deputy City Clerk Jodi Bassett.

Reading of National Train Your Dog Month Proclamation. Donna with the Knoxville Veterinary Clinic accepted the proclamation.

A discussion was held on a request from Knoxville Community School District to waive building permit fees. Interim City Manager Adams discussed in 2013 Council stopped waiving nonprofit building permit fees. Adams also discussed government agencies such as the schools are different than nonprofit organizations. The cost for the West Elementary building permit would be \$22,000. The school has requested to only cover the site plan review costs. City Council directed staff to discuss with the school covering city inspector wages.

Motion by Allspach-Kline; seconded by Lane to approve resolution authorizing city manager and city clerk to execute proxy for agreement regarding the revised Iowa Risk Management Agreement with Iowa Communities Assurance Pool, all ayes.

A discussion was held regarding a request from BNSF Railway for closure of at-grade crossings. City Council stated they weren't interested in closing any of the crossings.

Motion by Lane; seconded by Kingery to approve first consideration, waive second and third consideration and adopt an ordinance amending the code of ordinances for the City of Knoxville, Iowa, 2009 by repealing title 2 chapter 8 pertaining to the Parks Advisory Commission; all ayes.

A discussion was held regarding the city council vacancy. Motion by Allspach-Kline; seconded by Stephens to accept resume from Craig Kelley for consideration, all ayes. Council stated they would like to have an application process. The deadline for the applications will be January 25<sup>th</sup>, interviews the week of February 1<sup>st</sup> with an appointment on February 15<sup>th</sup>.

Interim City Manager Adams gave a preliminary budget presentation.

A discussion was held regarding City Council budget priorities. Council's top priorities included: roads, comprehensive and strategic plan, recreation and trails and feasibility study for public safety/city hall building.

Motion by Lane; seconded by Allspach-Kline to approve payment of claims, all ayes.

|          |                               |                               |           |
|----------|-------------------------------|-------------------------------|-----------|
| 81025    | AFLAC                         | AFLAC-DIS/POST                | 196.79    |
| 81026    | COLLECTION SERVICES CENTER    | CHILD SUPPORT                 | 1,606.02  |
| 81027    | ICMA RETIREMENT TRUST         | ICMA                          | 1,035.00  |
| 81028    | MUNICIPAL FIRE & POLICE       | MFPRSI                        | 34,799.75 |
| 81029    | KNOXVILLE FIRE & RESCUE ASSC  | FIRE DUES                     | 3.84      |
| 81030    | COLONIAL LIFE                 | COLONIAL LIFE                 | 22.85     |
| 81031    | ACCO UNLIMITED CORPORATION    | DPD POWDER AND DISPENSER      | 27.40     |
| 81032    | ALLIANT ENERGY                | 1301 E PLEASANT ST-WWTP       | 4,079.18  |
| 81033    | ASSOCIATED COMPUTER SYSTEMS   | CONFIG #DD FOR DELL SERVER    | 212.76    |
| 81034    | BAKER GROUP                   | HVAC CONTROL UPDATE           | 640.00    |
| 81035    | BARCO MUNICIPAL PRODUCTS INC  | (12) 36" STOP SIGNS           | 667.61    |
| 81036    | CANON FINANCIAL SERVICES INC. | COPIER CONTRACT               | 449.85    |
| 81037    | CENTRAL IOWA DISTRIBUTING INC | 6 FRESH AIR DISPENSER         | 290.30    |
| 81038    | INTERNATIONAL CODE COUNCIL    | 09 SOFTCOVER IEBC             | 124.29    |
| 81039    | IOWA RADIO PLUS               | MONTHLY INTERNET ADVERTISING  | 126.55    |
| 81040    | JOHN DEERE FINANCIAL          | SAFETY JACKET-AYERS           | 59.99     |
| 81041    | JOURNAL EXPRESS               | KNOXVILLE LIVING              | 1,300.00  |
| 81042    | KNOXVILLE WATER WORKS         | SEWER RENT COLLECTION         | 4,166.67  |
| 81043    | MENARDS                       | LED CEILING LIGHT             | 63.89     |
| 81045    | MIDAMERICAN ENERGY COMPANY    | 1703 E PLEASANT ST TRT PLT    | 9,423.36  |
| 81046    | ETHAN PAUL MITCHELL           | REIMB ON PK TKT #34144        | 10.00     |
| 81047    | NATIONAL PAPER & SAN SUPPLY   | ENMOTION PAPER TOWELS         | 308.98    |
| 81048    | OFFICE DEPOT                  | STAPLER,FOAM ADESIVE TAPE     | 30.21     |
|          |                               | REIMB WINTER MIXED            |           |
| 81049    | MATTHEW PATTERSON             | VOLLEYBALL                    | 98.00     |
|          |                               | 3 AWARDS-                     |           |
| 81050    | PELLA ENGRAVING COMPANY INC   | PITT,FORMANEK,VERWERS         | 182.97    |
| 81051    | PITNEY BOWES                  | POSTAGE METER RENTAL          | 225.00    |
| 81052    | PROFESSIONAL ID CARDS         | ID CARDS                      | 163.95    |
| 81053    | RAMAEKER SCREEN PRINTING      | BASKETBALL SHIRTS & TANK TOPS | 504.80    |
| 81054    | SNYDER & ASSOCIATES INC       | 2016 STREET IMPROVEMENTS      | 25,110.00 |
| 81055    | SPAHN & ROSE LUMBER           | MATERIALS FOR CABINETS        | 78.26     |
| 81056    | STERLING CODIFIERS INC        | 2016 HOSTING FEE              | 500.00    |
| 81057    | STUYVESANT & BENTON           | MONTHLY RETAINER              | 1,800.59  |
| 81058    | UNITYPOINT CLINIC-            | RANDOM DRUG TEST              | 37.00     |
| 81059    | US CELLULAR                   | GPS CELL PHONE                | 51.77     |
| 81060    | VEENSTRA & KIMM INC           | CBD IMPROVEMENTS PHASE 2      | 324.00    |
| 13168450 | MASSMUTUAL                    | HARTFORD                      | 66.59     |
|          | IA PUBLIC EMPLOYEES           |                               |           |
| 13168451 | RETIREMENT                    | IPERS - REGULAR               | 25,649.68 |
| 13168452 | TREASURER STATE OF IOWA       | STATE TAX                     | 12,034.00 |
| 13168453 | IRS WITHHOLDING PAYMENTS      | FED/FICA TAX                  | 21,107.55 |
| 13168454 | TOTAL ADMINISTRATIVE SERVICES | FLEX- MEDICAL                 | 907.65    |
| 13168455 | TOTAL ADMINISTRATIVE SERVICES | JAN-MARCH ADMIN FEES          | 587.10    |

| <u>FUND NAME</u>     | <u>TOTAL</u> |
|----------------------|--------------|
| GENERAL              | 90,817.21    |
| ROAD USE TAX         | 35,857.53    |
| GO BOND PROJECTS     | 324.00       |
| SEWER UTILITY        | 20,648.74    |
| AIRPORT UTILITY      | 839.62       |
| SELF FUND HEALTH INS | 587.10       |

Under Mayor's Report, Mayor Hatch welcomed the new council members.

Under Manager's Report, Interim City Manager Adams also welcomed the new council members.

Motion by Stephens; seconded by Lane to adjourn at 7:36 pm, all ayes.

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Brian Hatch, Mayor

ATTEST:

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Heather Ussery, City Clerk

# COUNCIL MINUTES

## January 18, 2016

The City Council of the City of Knoxville, Iowa convened in regular session Monday, January 18, 2016 at 6:15 p.m. in the City Hall Council Chambers. Mayor Brian Hatch presided and the following Council Members were present: Dawn Allspach-Kline, Rick Kingery, James Lane and Cal Stephens. Staffs present were Interim City Manager Aaron Adams, City Clerk Heather Ussery, Deputy City Clerk Jodi Bassett, Police Chief Dan Losada, Fire Chief Jim Mitchell, Water Reclamation Supervisor Pat Murphy, Recreation Director Brandon Nemmers and Library Director Roslin Thompson.

Mayor Hatch asked for Citizen/Public Comments regarding items not on the agenda. There were none.

Motion by Allspach-Kline; seconded by Lane to approve the consent agenda as follows, all ayes.

1. Accept Housing Board Minutes of November 16, 2015
2. Accept Airport Commission Minutes of December 12, 2015
3. Accept Tourism Commission Minutes of January 5, 2016 with said changes
4. Accept Water Board Minutes of January 12, 2016
5. Approve Special Class C Liquor License for Deng's Garden
6. Approve Class C Liquor License for Pine Knolls Country Club
7. Approve Resolution Approving Tax Abatement Application for Construction of a New Single Family Dwelling
8. Accept December CSO Report
9. Accept 2015 CSO Yearly Activity Report
10. Accept KPD 2015 Review
11. Approve December 2015 Financials

Motion by Lane; seconded by Stephens to approve senior board consent items as follows, ayes: Allspach-Kline, Stephens, Lane, abstained: Kingery

1. Accept Senior Board Minutes of December 8, 2015
2. Accept Resignation of Maxine Prichard from Senior Board
3. Approve Senior Board November 2015 Financials

A discussion was held regarding a proposal given by Northcote Meats. Representing Northcote Meats, Adam Beal discussed purchasing a portion of the city lot behind their building to use for walk in freezer storage. This would allow more space for seating inside the restaurant. Also would allow a back door for use of the alley for deliveries. Council directed staff to proceed with negotiating a purchase price for the lot requested.

Interim City Manager Adams presented the staff recommended balanced budget. Council requested a work session to discuss the debt schedule and city manager position for January 26<sup>th</sup> or 27<sup>th</sup> depending on Susanne Gerlach, the City's financial advisor's schedule.

Motion by Stephens; seconded by Allspach-Kline to approve purchase of a vehicle for Water Reclamation department from Motor Inn in the amount of \$22,098, all ayes.

Motion by Stephens; seconded by Lane to approve resolution regarding building permit fees for government entities, all ayes.

A discussion was held regarding the police K9 program. Police Chief Losada discussed the different trained dogs the City would be able to purchase and utilize.

A discussion was held regarding city manager recruitment. Council requested this be discussed at the work session previously scheduled.

Motion by Lane; seconded by Kingery to change the February 1, 2016 City Council meeting time to 5:30, all ayes.

A discussion was held regarding meeting time for all City Council meetings. Council agreed to keep the meeting times at 6:15.

Motion by Allspach-Kline; seconded by Lane to approve payment of claims, all ayes.

|       |                                |                               |           |
|-------|--------------------------------|-------------------------------|-----------|
|       |                                |                               | 121,410.6 |
| 81061 | IA COMMUNITIES ASSURANCE POOL  | 16/17 ROAD USE LIABILITY      | 2         |
| 81062 | AFLAC                          | AFLAC-DIS/POST                | 196.79    |
| 81063 | I.U.P.A.T. DC81                | UNION DUES                    | 726.73    |
| 81064 | COLLECTION SERVICES CENTER     | CHILD SUPPORT                 | 1,606.02  |
| 81065 | ICMA RETIREMENT TRUST          | ICMA                          | 1,035.00  |
| 81066 | KNOXVILLE FIRE & RESCUE ASSC   | FIRE DUES                     | 61.44     |
| 81067 | COLONIAL LIFE                  | COLONIAL LIFE                 | 22.85     |
| 81068 | ALLIANT ENERGY                 | 1545 HWY 14-AIRPORT           | 306.94    |
| 81069 | ATWOOD ELECTRIC INC            | REPAIR TO AIRPORT BEACON      | 419.94    |
| 81070 | BRUENING ROCK PRODUCTS INC     | ROCK FOR SNOW PLOW            | 67.28     |
| 81071 | COAST TO COAST STORE           | COFFEE POT FOR AIRPORT        | 26.99     |
| 81072 | DISH NETWORK                   | DISH SERVICE 1/18/16-2/17/16  | 113.56    |
| 81073 | MC CLURE ENGINEERING CO        | TAXILANE PROJECT              | 14,909.75 |
| 81074 | MIDAMERICAN ENERGY COMPANY     | 1545 HIGHWAY 14-AIRPORT       | 81.59     |
| 81075 | RACEWAY TIRE & EXHAUST         | FRONT TIRES FOR AIRPORT CAR   | 196.95    |
| 81076 | ARAMARK UNIFORM SERVICES       | 10 MAT SERVICE                | 112.00    |
| 81077 | ASSOCIATED COMPUTER SYSTEMS    | PEACE OF MIND                 | 1,540.00  |
| 81078 | BACKUP SOLUTIONS INC           | LIVEVAULT 90 DAY RETENTION    | 275.00    |
| 81079 | BARCO MUNICIPAL PRODUCTS INC   | 6 SPEED LIMIT SIGNS           | 182.67    |
| 81080 | VANWALL EQUIPMENT              | LIFT ARM                      | 14.64     |
| 81081 | JANET BEHRENS                  | AETNA YEARLY PREMIUM          | 308.40    |
| 81082 | BOUND TREE MEDICAL LLC         | MEDICAL SUPPLIES              | 366.36    |
| 81083 | BROWN'S SANITATION             | WWTP 12 YD ROLL OFF           | 835.95    |
| 81084 | BRUENING ROCK PRODUCTS INC     | 38.77 TON ROAD STONE          | 381.89    |
| 81085 | CANON FINANCIAL SERVICES INC.  | COPIER CONTRACT               | 85.74     |
| 81086 | CARPENTER UNIFORM & PROMOTIONS | UNIFORM PANTS                 | 185.97    |
| 81087 | CENTRAL IA EMS DIRECTORS ASSOC | 48 HR PARAMEDIC REFRESHER     | 275.00    |
| 81088 | CENTRAL IOWA FASTENERS         | ASSORTED SCREWS AND NUTS      | 4.74      |
| 81089 | CHIEF LAW ENFORCEMENT          | FIRE HELMET                   | 155.53    |
| 81090 | CITY OF KNOXVILLE              | RANDY PUYEAR PREMIUMS         | 143.83    |
| 81091 | CITY OF WEST DES MOINES        | 200 TON OF SALT STORAGE       | 1,000.00  |
| 81092 | COAST TO COAST STORE           | TOILET PAPER, WAX RING        | 18.97     |
| 81093 | CREATIVE LANDSCAPING           | 1 CODE ENFORCEMENT-SNOW RMVL  | 371.00    |
| 81094 | DE RUITER LAWN EQUIPMENT       | REPAIR SNOW BLOWER            | 63.99     |
| 81095 | ELECTRICAL ENGINEERING &       | CONTACTOR                     | 331.38    |
| 81096 | EMS BILLING SERVICES           | EFTS                          | 6,889.21  |
| 81097 | GRITTERS ELECTRIC INC          | RUN NEW WIRES FOR GRIT BLOWER | 553.06    |
| 81098 | GROUP SERVICES INC             | RANDY PUYEAR PREMIUMS         | 18.50     |
| 81099 | HAWKEYE TRUCK EQUIPMENT        | CYLINDER FOR SNOW PLOW        | 391.00    |
| 81100 | HUBES GARAGE                   | FUEL INJECTION CONTROL        | 954.90    |

|         |                              | MODULE                      |           |
|---------|------------------------------|-----------------------------|-----------|
| 81101   | IOWA MUNICIPALITIES WORKERS' | INSTALL 7-WORK COMP 16/17   | 9,450.00  |
| 81102   | IOWA PUMP WORKS              | 2 47 HP PUMPS-REPLACE 5 & 6 | 31,860.56 |
| 81103   | IOWA STATE UNIVERSITY        | FIRE INSTRUCTOR I CERTS     | 50.00     |
| 81104   | WINDSTREAM                   | PHONE BASE/FAX              | 1,184.11  |
|         |                              | TURFGRASS APPLICATOR        |           |
| 81105   | ISU EXTENSION,MARION COUNTY  | TRAINING                    | 70.00     |
| 81106   | KEYSTONE LABORATORIES INC    | LAB TESTING                 | 1,349.00  |
| 81107   | KNIA KRLS INC                | MONTHLY RADIO ADVERTISING   | 1,011.21  |
| 81108   | KNOXVILLE HOSPITAL & CLINICS | NOVEMBER MEDS               | 140.69    |
|         |                              | JANUARY CONTRACTUAL         |           |
| 81109   | KNOXVILLE AVIATION           | SERVICES                    | 3,467.91  |
| 81110   | KNOXVILLE FARM & HOME INC    | (2) 5 GAL PAIL SIMPLE GREEN | 329.13    |
|         |                              | MARK SWANSON INSURANCE-     |           |
| 81111   | KNOXVILLE WATER WORKS        | DEC                         | 1,314.42  |
| 81112   | LAMPERT YARDS, INC           | GARAGE DOOR REPAIR          | 123.05    |
| 81113   | MIDAMERICAN ENERGY COMPANY   | 301 W RENO ST ST DEPT       | 508.88    |
| 81114   | CROSSROADS 5/92 NAPA         | BELT                        | 12.42     |
|         |                              | 2016 INTERNATIONAL DUMP     |           |
| 81115   | O'HALLORAN INTERNATIONAL INC | TRUCK                       | 78,270.00 |
| 81116   | O'REILLY AUTOMOTIVE INC      | 5 GALLON OIL                | 183.38    |
| 81117   | OFFICE DEPOT                 | ADDRESS STAMP               | 27.99     |
| 81118   | OSKALOOSA HERALD INC         | KNOXVILLE LIVING            | 1,794.60  |
|         | PELLA GLASS & HOME           |                             |           |
| 81119   | IMPROVEMENT                  | 48X60 1/4" MIRROR           | 180.00    |
| 81120   | PRAXAIR DISTRIBUTION INC     | OXYGEN                      | 759.69    |
| 81121   | RACEWAY TIRE & EXHAUST       | FIX HEADLIGHT FUSE          | 251.50    |
| 81122   | RAMAEKER SCREEN PRINTING     | SCREEN PRINTING             | 4.00      |
| 81123   | RAY O'HERRON CO INC.         | 2 PAIR PANTS-EYSINK         | 224.34    |
| 81124   | RED ROCK ELECTRIC, LLC       | SERVICE WORK ON BALLAST     | 478.50    |
| 81125   | RICOH USA, INC               | COPIER LEASE                | 148.30    |
| 81126   | ROMAR                        | FIBERGLASS RESIN            | 37.46     |
| 81127   | SHELL                        | 937 TIRES & SERVICE         | 1,739.28  |
| 81128   | SITLER'S SUPPLIES, INC       | 750 LED BULBS               | 42,406.00 |
| 81129   | SOUTHEASTERN EMERGENCY EQUIP | MEDICAL SUPPLIES            | 759.48    |
| 81130   | TNT LANDSCAPING, LLC         | NEW SEAT FOR VINTRAC        | 989.39    |
| 81131   | URBANDALE FIRE DEPT          | (4) 2 DAY CONFERENCE        | 400.00    |
| 81132   | US CELLULAR                  | 937 & 938 CELL PHONES       | 768.52    |
| 81133   | VANCO SERVICES LLC           | MONTHLY PROGRAM FEE-NOV     | 11.15     |
| 81134   | VERIZON                      | WWTP HOT SPOTS              | 160.10    |
| 81135   | VILLAGE CLEANERS             | PATCHES ON 2 SHIRTS-FULLER  | 24.00     |
| 81136   | WALMART COMMUNITY            | 6 DVDS                      | 344.18    |
| 81137   | WELLMARK                     | RANDY PUYEAR PREMIUMS       | 393.17    |
| 81138   | ZEE MEDICAL SERVICE COMPANY  | EYE WASH SOLUTION           | 61.50     |
| 1316845 |                              |                             |           |
| 6       | MASSMUTUAL                   | HARTFORD                    | 61.63     |
| 1316845 |                              |                             |           |
| 7       | IRS WITHHOLDING PAYMENTS     | FED/FICA TAX                | 25,056.76 |
| 1316845 |                              |                             |           |
| 9       | TREASURER-STATE OF IOWA      | SEWER SALES TAX             | 4,712.00  |

FUND NAME

TOTAL

|                           |            |
|---------------------------|------------|
| GENERAL                   | 126,359.87 |
| URBAN DEVELOPMENT         | 16.14      |
| ROAD USE TAX              | 43,983.37  |
| EMPLOYEE BENEFITS         | 8,844.82   |
| CAPITOL PROJECT - LIBRARY | 38.80      |
| EQUIPMENT REPLACEMENT     | 78,270.00  |
| SEWER UTILITY             | 66,826.02  |
| AIRPORT IMPROVEMENTS      | 14,909.75  |
| AIRPORT UTILITY           | 28,511.71  |

Under Mayor’s Report, Mayor Hatch mentioned previous Council Member Verwers was on the tourism commission as an advisory member and also worked with the Chamber on quarterly reports. This position will need to be filled with a current council member. Coaches vs. Cancer is January 23<sup>rd</sup>.

Under Manager’s Report, Interim City Manager Adams stated he will be sending Council an email regarding future IT purchases.

Motion by Stephens; seconded by Kingery to adjourn at 7:53 pm, all ayes.

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Brian Hatch, Mayor

ATTEST:

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Heather Ussery, City Clerk

MINUTES  
Special Housing Board Meeting  
November 19, 2015

Present: Board Chairman Don Croghan and Board Members Jerrold Jordan and Brent Hanna. Also present was Janice Kerner, secretary for the Board.

Absent: Board Member(s) Jody Mansueto and Teresa Higginbotham.

The purpose of the meeting was to select a company to assist the Housing Agency in re-writing its Section 8 Voucher Rental Assistance Program Administrative Plan and the Public Housing Occupancy Plan. These two plans set the Housing Agency's policy in administering these two programs.

The Housing Agency approached three companies for proposals. The Housing Agency would like the same company to assist in development of the plans so that wherever possible the wording between the two policies would be the same. This will simplify learning both policies by the office staff. Only a very few companies provide both model documents.

Board members reviewed and scored the proposals of the respondents. Two of the three companies approached responded. Both proposals were considered responsive. Briefly discussed one firm certified it was a Women-Owned Business and the other certified it was a 100% minority owned business and a Section 3 concern.

Based on the scoring, Jerrold Jordan moved the Housing Agency to first approach Nan McKay with an offer. Should Nan McKay be unable to perform, an offer would be extended to Nelrod. Primary consideration was given to references and the ability of Nan McKay to have a representative at the Housing Office during the draft process. All voted aye.

Motion by Brent Hanna with second by Jerrold Jordan to adjourn the meeting. All voted aye.

for Jody Mansueto, Vice Chr.  
Don Croghan, Chairman

Janice A. Kerner  
Janice A. Kerner, secretary

MINUTES  
Housing Board  
December 21, 2015

Present: Board Chairman Don Croghan and Board members Jerrold Jordan and Teresa Higginbotham. Also present was Executive Director Janice Kerner, Secretary for the Board.

Absent: Board Members Brent Hanna and Jody Mansueto.

A motion was made by Jerrold Jordan with second Teresa Higginbotham by to accept the consent agenda. The consent agenda included the minutes of the regular Housing Board Meeting of November 16, 2015, the occupancy report, and the stop loss monitoring report. The agenda incorrectly called for acceptance of financial statements twice. The Board decided to handle financial statements as listed under the item agenda #9. All voted aye.

Motion by Jerrold Jordan with second by Teresa Higginbotham to approve the payment of claims. All voted aye.

The Board reviewed the score for the Public Housing program issued on October 16, 2015 for the fiscal year ending March 31, 2015. The score was 85 out of 100. The Director briefly discussed there is an emphasis in turning units over quickly. The Housing Agency as part of its strategy to keep units occupied takes extra time when units are vacated to paint, professionally clean carpets, and ensure all necessary repairs are made. In addition, all the Housing Agency's units are family units. Family units typically have a higher turnover rate than units such as elderly.

Motion by Teresa Higginbotham with second by Jerrold Jordan to correct an error on the November 5, 2015 minutes. The minutes as approved on November 16, 2015 had the wrong date for the meeting. The minutes were approved with the correct meeting date. All voted aye.

Resolution 13-12-21-2015 to Adopt Payment Standards for the Section 8 Voucher Rental Assistance Program was moved for adoption by Jerrold Jordan with second by Teresa Higginbotham. The changes were the amounts the Housing Agency needed to maintain its lease-up rate and reflected the higher housing costs for the City of Pella. The proposed payment standards have been posted for a 60 day comment period and no written comments were received. All voted aye.

Resolution 14-12-21-2015 for annual review and update of the Section 8 Voucher Rental Assistance Program Utility Allowance was moved for adoption by Jerrold Jordan with second by Teresa Higginbotham. The proposed allowances have been posted for a 60 day comment period and no written comments were received. Housing and Urban Development requires an annual review of utility allowances. All voted aye.

Resolution 15-12-21-2015 for annual review and update of the Public Housing Utility Allowances was moved for adoption by Teresa Higginbotham with second by Jerrold Jordan. The proposed allowances have been posted for a 60 day comment period and no

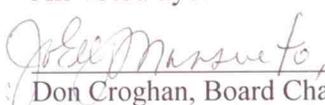
written comments were received. Housing and Urban Development requires an annual review of utility allowances. All voted aye

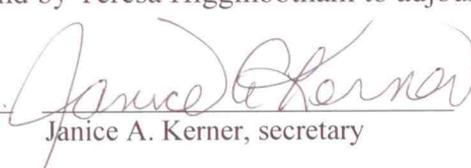
Resolution 16-12-21-2015 to adopt a Flat Rent structure for Public Housing was moved for adoption by Teresa Higginbotham with second by Jerrold Jordan. The proposed changes have been posted for a 60 day comment period and no written comments were received. Housing and Urban Development requires an annual review of the flat rents. The Board added a condition to the approved resolution for the 4 bedroom rate. The Housing Agency has requested Housing and Urban Development (HUD) approve a lower rate for the 4 bedroom units. Using HUD's required formula, the rate set for the 4 bedroom units far exceeds market rate. The unit reviewing exception requests replied on December 16, 2015 that work won't be start until January 2016 at the earliest. The condition allows the 4 bedroom rate to be HUD's exception rate if approved. All voted aye.

The Board reviewed the Executive Director's current wage and the wage proposed for the fiscal year starting April 1, 2016 as required by HUD's PIH Notice 2011-48. The Board compared the compensation with Public Housing Authorities Association 2015 Executive and Deputy Director's compensation survey. It was determined the current salary and proposed salary were consistent with salaries as reported in the survey and no action was needed.

Motion by Jerrold Jordan with second by Teresa Higginbotham to approve the fee accountant's financial statements for the period ending November 30, 2015. All voted aye.

Motion by Jerrold Jordan with second by Teresa Higginbotham to adjourn the meeting. All voted aye.

for:  *Don Croghan, Vice Chm.*  
Don Croghan, Board Chairman

  
Janice A. Kerner, secretary

MINUTES  
Special Housing Board Meeting  
January 4, 2016

Present: Board Chairman Don Croghan and Board Members Jerrold Jordan and Brent Hanna. Also present was Janice Kerner, secretary for the Board.

Absent: Board Member(s) Jody Mansueto and Teresa Higginbotham.

Resolution 01-01-04-2016 to adopt the 2016 Annual Plan Update and the 2016 Comprehensive Funds Budget was moved for adoption by Jerrold Jordan with second by Brent Hanna. No written comments were received. All voted aye.

There was a brief discussion about the siding project at five duplex units which formerly comprised project 003 and were built in 1994. Progress on the project has been slow and the contractor has not been good about staying in contact. No action is needed at this time but may be needed if the current situation continues.

Motion by Jerrold Jordan with second by Brent Hanna to adjourn the meeting. All voted aye.

for: Jody Mansueto, Vice Chm.  
Don Croghan, Chairman

Janice A. Kerner  
Janice A. Kerner, secretary

MINUTES

Public Hearing for the 2016 Annual Plan Update and 2016 Comprehensive Funds Budget  
January 4, 2016

Present: Board Chairman Don Croghan, Board Members Jerrold Jordan and Brent Hanna. Also present were Steve Woodhouse editor of the Knoxville Journal Express and Pella Chronicle and Executive Director Janice Kerner.

The Public Hearing for the 2016 Annual Plan Update and the 2016 Comprehensive Funds Budget convened at 4:40 PM on January 5, 2015 at in the Conference Room of the Public Housing Agency. Board Chairman Don Croghan presided.

No written comments were received. The Executive Director briefly reviewed the components of the plan. No other comments were made.

Motion by Jerrold Jordan to close the Public Hearing with second by Brent Hanna. All voted aye. The Public Hearing concluded at 4:55 PM.

for:   
Don Croghan, Board Chairman

  
Janice A. Kerner, Secretary

**Board of Trustees Meeting  
January 20, 2016**

The Knoxville Public Library Board of Trustees met at the library at 8:00 AM Wednesday, Jan. 20, 2016. Members present were Bob Leonard, Jean McKay, Mary Lane, Pat Wilson, and Scott Ziller. Dave Garcia came in later. Harv Sprafka was absent. Denny Sharp, lead architect with FEH Design, was present for part of the meeting.

The meeting was called to order by Pat Wilson. Mary Lane moved, Scott Ziller seconded to approve the minutes of the December 16, 2015 meeting as mailed. Motion passed unanimously.

Mr. Sharp presented the revised numbers for the building project. The figures can be reviewed again as needed, for example, furniture, artwork, or security systems, but will be the baseline for grant requests or fundraising. He said he would be happy to work with the board as they moved the project forward.

There was no correspondence.

Roslin gave the monthly report for December. Total circulation was 4,364 items. Computer usage for the month was 644 with 618 recorded uses of wireless. The meeting room was used 23 times, with a total attendance of 330. There were a total number of 3,940 visits to the library in December, with an average of 152 visits each day. Roslin reported on programs and activities in December and those upcoming in February. A budget proposal for FY2017 has been submitted to the city council. To commemorate Dr. Martin Luther King Jr.'s birthday, the library is offering Food for Fines where people can pay off library fines with canned foods. The AWE computer has been well-received. Chess Club will commence in February. The Friends of the Library will have its booksale in April. The ILOC (Innovative Computers Online Conference) is Jan. 21 from 9 a.m. to 7:30 p.m. with the theme "Digital Citizenship." Other activities in April and May are also being planned.

Under Media Strategy Plan, the library will publicize the "Blind Date with a Book or Movie" promotion in February. Notices will be sent with the school kids in grades 3 to 7 about chess club.

Pat Wilson moved, Mary Lane seconded that the financial report for December be approved. Motion was unanimous. Scott Ziller moved, Mary Lane seconded the city trust report for December be accepted. Motion was unanimous. Jean McKay moved, Pat Wilson seconded the approval for payment of bills for January. Motion passed unanimously, and a copy is attached to the minutes.

Under Unfinished Business, Roslin reported that the Feasibility Study Committee would have a meeting next week. A list of potential interviewees has been compiled. A survey will be sent out to the Board, while interviews will be conducted with members of the community in the next months.

Under New Business, the board reviewed the by-laws. No action will be taken until the February meeting. Iowa Flag Day will fall on March 29, a weekday (Tuesday) this year so the board agreed to make it a simpler celebration. Roslin has been in touch with Dan Kaercher, a retired founding father of Midwest Living magazine and IPTV personality, to do a program at the library and possibly, the schools.

There being no further business, the meeting was adjourned. The next regular meeting will be held Wednesday, February 17, 2016 at 8:00 AM at the Knoxville Public Library.

Roslin Thompson, secretary

Knoxville Recreation Commission  
Agenda January 11, 2016 5:30 PM  
**Meeting at the Recreation Center**

**1. Roll Call**

\_\_\_\_\_ Ron Huelse \_\_\_\_\_ Jyl DeJong \_\_\_\_\_ Mollie Keitges  
\_\_\_\_\_ Aaron Fuller \_\_\_\_\_ Scott Pitt \_\_\_\_\_ Julie Konrad  
\_\_\_\_\_ Brandon Nemmers \_\_\_\_\_ Angie Jones

**2. Minutes of December 14, 2015 Meeting**

Motion \_\_\_\_\_ Second \_\_\_\_\_ Vote \_\_\_\_\_

**3. Reports**

**4. Adjournment**

Motion \_\_\_\_\_ Second \_\_\_\_\_ Vote \_\_\_\_\_

## Knoxville Recreation Center Commission

Minutes for December 14, 2015 at 5:30 p.m.

**Members present:** Huelse, DeJong, Fuller, Konrad and Nemmers

**Minutes for November 9, 2015:** The minutes were reviewed. A motion was made by Fuller to approve, Huelse seconded the motion and it was passed unanimously.

### **Agenda / Reports:**

- The commission welcomed Julie Conrad to the group.
- Brandon spoke about the swim meet on Dec. 5, the upcoming meet in Jan. and the possible meet in Feb. There are 33 swimmers this year as opposed to 46 swimmers last year.
- Brandon talked about the 25<sup>th</sup> Annual Turkey Trot and how it was a success with 75 participants. The group spoke about how the numbers have declined over the years and the reasons why.
  - Loss of steam over the years
  - Poor weather the last two years
  - Other races around the area

Brandon stated that the expenses were covered with the 75 participants, that the race was well advertised and that the staff have been talking about the future of the race.

- Brandon spoke about K/1<sup>st</sup> grade basketball deadline was Dec. 13 with the program starting in Jan.
- Brandon stated he had submitted the 2016-2017 budget to city staff. He said the more expensive items on the budget is a rooftop unit for the weight room / circuit room / racquetball court, gym curtain, new entry doors and interior doors with push button handicap access.
- Brandon spoke about where the Recreation Center stood at this time with revenue / expenses.
  - Revenue - \$114,458
  - Expenses - \$241,508
  - 47% self-supporting – as opposed to 37% in 2010
- Brandon spoke about the city council speaking about combining the recreation commission with the parks board.

Brandon went over Angie's Wellness Supervisor report:

- The Dec. fitness classes have started off very strong, especially the 3-4-3 class.
- The 4<sup>th</sup> Annual Holiday Fit Fair was a success with very little advertising. 37 people attended the fair and enjoyed refreshments and prizes. There has been a lot of positive feedback about the fair.
- A "Biggest Loser" style event is in the works for the new year.
- Early morning classes are being moved from 5:10 a.m. to 5:30 a.m., which was met with positive results.

- Mid-morning classes are a struggle to fill with the exception of the 10 a.m. class. There will be a 12:10 – 12:50 p.m. classes on a few days
- Numbers continue to grow.

The group also spoke about Active Membership numbers. There are a total of 922 members at this time, which is down somewhat from previous years.

A motion to adjourn was made by Konrad and was seconded by Huelse and all were in favor.

Respectfully submitted,

Aaron Fuller

## *January 2016 Recreation Commission Meeting Monthly Report*

### **Director:**

Kindergarten and first grade basketball will begin this Saturday. We have forty-three participants compared to forty-six last year. This program is held at West Elementary for six weeks.

Registration for February swim lessons is filling up fast. We offer two time slots twice a week for four weeks.

We will host a Swim Meet on January 23. This is a great opportunity for our youth swimmers to swim at home and for the parent group to bring in some money through the concession stand. When we host a swim meet there will not be an 11:30am lap swim.

We offered open swim during the day during the holiday break and had seventy-four swimmers during that three day period.

We have had a couple of after-hour building rentals in the last month and have two more upcoming.

The facility is getting a lot of use right now with it being the beginning of a new year. Membership numbers are on the rise. We are currently at 1,053 members as of January 7. Membership typically will climb for the next couple of months until spring arrives.

Budget preparation is in full swing as I will be attending several meetings over the next month. As of right now I am asking for \$9,000 less this year compared to last year. At this point I have not had to make any cuts.

It is looking like our February meeting will be our first meeting as a combined board with the parks. I am waiting on hearing back from City Staff if the current park board member will be joining our group.

### **Wellness Supervisor:**

As we get into full swing for the New Year it is crazy as expected! Our class numbers are up and the numbers are good so far for the addition of noon classes.

We changed the early morning class time to 5:30am from 5:10am to try and entice new members to exercise. It's only our first week and we are getting a few comments from old members to change it back. We have never changed this time slot before so I wanted to try something to build the morning numbers. We will look at it at the month end to see if we continue to try at 5:30 or change it back.

We added noon classes and class 1, day 1 had 6 people. I would like to point out that this was almost more than TWICE the amount of people we were getting for the last year and a half in the mid-morning time slot. I would like to see 8-12 as an average but I am definitely happy with 6.

10 am continues to be full for the senior fit and beginning fit classes. We made expanded this time slot to all 5 week days and will see how it goes by month end.

Of course, the 5:30pm classes are full. Very full! Monday night had 27 in the 5:30 slot and 15 in the 6:20 water class.

I introduced a new program called FIT IT IN. It is \$25 month and it is mostly an accountability program to get people on track for the New Year. I had hoped for 15 to sign up and ended up with 32. We provide a special fit it in class to attend each week either on Saturday am or Sunday afternoon and they have to sign a contract for how many workouts they will do each week. I send them an email everyday with fun wellness tips and to check in and the response has been great.

I am getting ready to work with Kevin Jones, my main spinning instructor, and he and I are going to put together a proposal to do an Rec Ironman indoor tri in the spring.

The New Year is starting out well and PT has picked up right where it left off at year end so I hope to continue to build that program. I currently have Barb Bacon newly certified and Tamara Alexander and Kate Adkisson are both taking the test this month. I also have a new applicant that Brandon and I will interview this next week.

# MEMBERSHIP DEMOGRAPHICS

## Active Memberships

| Code | Description             | Memberships (Res/NonRes) | Members (Res/NonRes) |
|------|-------------------------|--------------------------|----------------------|
| ADCP | Adult Couple            | 33 (33/0)                | 66 (66/0)            |
| ADLT | Adult Membership        | 179 (179/0)              | 182 (182/0)          |
| CHLD | Child Membership        | 9 (9/0)                  | 9 (9/0)              |
| FAM3 | Family Membership - 3   | 41 (41/0)                | 123 (123/0)          |
| FAM4 | Family Membership - 4   | 42 (42/0)                | 169 (169/0)          |
| FAM5 | Family Membership - 5+  | 37 (37/0)                | 238 (238/0)          |
| HS   | High School Membership  | 8 (8/0)                  | 8 (8/0)              |
| P/CH | Parent/Child Membership | 23 (23/0)                | 46 (46/0)            |
| SEN  | Senior Citizen (60+)    | 93 (93/0)                | 93 (93/0)            |
| SNCP | Senior Citizen Couple   | 28 (28/0)                | 56 (56/0)            |
| SRSP | Senior Couple Split     | 2 (2/0)                  | 4 (4/0)              |

|                                   | Total      | Resident   | Non Resident |
|-----------------------------------|------------|------------|--------------|
| <b>Annual Memberships</b>         | <b>348</b> | <b>348</b> | <b>0</b>     |
| <b>Semi-Annual Memberships</b>    | <b>33</b>  | <b>33</b>  | <b>0</b>     |
| <b>Quarterly Memberships</b>      | <b>66</b>  | <b>66</b>  | <b>0</b>     |
| <b>Monthly Memberships</b>        | <b>48</b>  | <b>48</b>  | <b>0</b>     |
| <b>Daily Use Pass Memberships</b> | <b>0</b>   | <b>0</b>   | <b>0</b>     |
| <b>Total Memberships</b>          | <b>495</b> | <b>495</b> | <b>0</b>     |
| <b>Total Members</b>              | <b>994</b> | <b>994</b> | <b>0</b>     |

MINUTES TO SET DATE FOR HEARING  
ON A LOAN AGREEMENT

420024-35

Knoxville, Iowa

February 1, 2016

The City Council of the City of Knoxville, Iowa, met on February 1, 2016, at \_\_\_\_\_ o'clock \_\_.m., at the \_\_\_\_\_, Knoxville, Iowa. The Mayor presided and the roll was called showing the following members of the City Council present and absent:

Present: \_\_\_\_\_

Absent: \_\_\_\_\_.

Council Member \_\_\_\_\_ introduced the resolution hereinafter next set out and moved its adoption, seconded by Council Member \_\_\_\_\_; and after due consideration thereof by the City Council, the Mayor put the question upon the adoption of the said resolution and the roll being called, the following named Council Members voted:

Ayes: \_\_\_\_\_

Nays: \_\_\_\_\_.

Whereupon, the Mayor declared the resolution duly adopted as hereinafter set out.

• • • •

At the conclusion of the meeting and upon motion and vote, the City Council adjourned.

\_\_\_\_\_  
Mayor

Attest:

\_\_\_\_\_  
City Clerk

RESOLUTION NO. 02-05-16

Resolution setting the date for a public hearing on proposal to enter into a General Obligation Corporate Purpose and Refunding Loan Agreement and to borrow money thereunder in a principal amount not to exceed \$2,800,000

WHEREAS, the City of Knoxville (the “City”), in Marion County, State of Iowa, previously issued its \$1,765,000 General Obligation Refunding Capital Loan Notes, Series 2007A, dated September 19, 2007 (the “2007 Notes”) a portion of which currently remains outstanding maturing on such dates and in such amounts and bearing interest at such rates as follows as follows:

| <u>Year</u> | <u>Principal Amount</u> | <u>Interest Rate</u> |
|-------------|-------------------------|----------------------|
| 2016        | \$140,000               | 3.95%                |
| 2017        | \$150,000               | 4.00%                |
| 2018        | \$150,000               | 4.05%                |
| 2019        | \$160,000               | 4.05%                |

;and

WHEREAS, pursuant to the resolution (the “2007 Note Resolution”) authorizing the issuance of the 2007 Notes, the City reserved the right to call the portion of the 2007 Notes maturing in the years 2016 through 2019 for early redemption on any date on or after June 1, 2015, subject to the provisions of the 2007 Note Resolution; and

WHEREAS, the City now proposes to enter into a Loan Agreement (the “Essential Purpose Loan Agreement”), pursuant to the provisions of Section 384.24A of the Code of Iowa, and to borrow money thereunder in a principal amount not to exceed \$2,100,000 for the purpose of paying the costs, to that extent, of (1) current refunding the 2007 Notes; and (2) constructing street improvements, including incidental water, sanitary sewer, sidewalk and storm water drainage infrastructure (the “Street Project”), and it is necessary to fix a date of meeting of the City Council at which it is proposed to take action to enter into the Essential Purpose Loan Agreement and to give notice thereof as required by such law; and

WHEREAS, the City has heretofore proposed to enter into a General Obligation Recreational Trails Improvement Loan Agreement (the “Rec Trails Loan Agreement”) and to borrow money thereunder in a principal amount not to exceed \$700,000, pursuant to the provisions of Section 384.24A of the Code of Iowa, for the purpose of paying the cost, to that extent, of constructing public recreation trails and related improvements, and in lieu of calling an election upon such proposal, has published notice of the proposed action and has held a hearing thereon, and as of July 20, 2015, no petition had been filed with the City asking that the question of entering into the Rec Trails Loan Agreement be submitted to the registered voters of the City;

NOW, THEREFORE, Be It Resolved by the City Council of the City of Knoxville, Iowa, as follows:

Section 1. The City Council shall meet on February 15, 2016, at the \_\_\_\_\_, Knoxville, Iowa, at \_\_\_\_\_ o'clock \_\_.m., at which time and place a hearing will be held and proceedings will be instituted and action taken to enter into the Essential Purpose Loan Agreement and to combine the same with the Rec Trails Loan Agreement.

Section 2. The City Clerk is hereby directed to give notice of the proposed action on the Essential Purpose Loan Agreement setting forth the amount and purpose thereof, the time when and place where the said meeting will be held by publication at least once and not less than four (4) and not more than twenty (20) days before the date of said meeting, in a legal newspaper which has a general circulation in the City. The notice shall be in substantially the following form:

NOTICE OF PROPOSED ACTION TO INSTITUTE PROCEEDINGS TO  
ENTER INTO A LOAN AGREEMENT AND TO BORROW MONEY  
THEREUNDER IN A PRINCIPAL AMOUNT NOT TO EXCEED \$2,100,000

(GENERAL OBLIGATION)

The City Council of the City of Knoxville, Iowa, will meet on February 15, 2016, at the \_\_\_\_\_, Knoxville, Iowa, at \_\_\_\_\_ o'clock \_\_\_\_m., for the purpose of instituting proceedings and taking action on a proposal to enter into a loan agreement (the "Loan Agreement") and to borrow money thereunder in a principal amount not to exceed \$2,100,000 for the purpose of paying the costs, to that extent of (1) current refunding the outstanding balance of the City's General Obligation Refunding Capital Loan Notes, Series 2007A, dated September 19, 2007; and (2) constructing street improvements, including incidental water, sanitary sewer, sidewalk and storm water drainage infrastructure.

The Loan Agreement is proposed to be entered into pursuant to authority contained in Section 384.24A of the Code of Iowa and will constitute a general obligation of the City.

At that time and place, oral or written objections may be filed or made to the proposal to enter into the Loan Agreement. After receiving objections, the City may determine to enter into the Loan Agreement, in which case, the decision will be final unless appealed to the District Court within fifteen (15) days thereafter.

By order of the City Council of the City of Knoxville, Iowa.

Heather Ussery  
City Clerk

Section 3. Pursuant to Section 1.150-2 of the Income Tax Regulations (the “Regulations”) of the Internal Revenue Service, the City declares (a) that it intends to undertake the Street Project which is reasonably estimated to cost approximately \$1,615,000, (b) that other than (i) expenditures to be paid or reimbursed from sources other than the issuance of bonds, notes or other obligations (the “Bonds”), or (ii) expenditures made not earlier than 60 days prior to the date of this Resolution or a previous intent resolution of the City, or (iii) expenditures amounting to the lesser of \$100,000 or 5% of the proceeds of the Bonds, or (iv) expenditures constituting preliminary expenditures as defined in Section 1.150-2(f)(2) of the Regulations, no expenditures for the Street Project have heretofore been made by the City and no expenditures will be made by the City until after the date of this Resolution or a prior intent resolution of the City, and (c) that the City reasonably expects to reimburse the expenditures made for costs of the City out of the proceeds of the Bonds. This declaration is a declaration of official intent adopted pursuant to Section 1.150-2 of the Regulations.

Section 4. All resolutions or parts of resolutions in conflict herewith are hereby repealed to the extent of such conflict.

Section 5. This resolution shall be in full force and effect immediately upon its adoption and approval, as provided by law.

Passed and approved February 1, 2016.

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Mayor

Attest:

---

City Clerk

**ATTESTATION CERTIFICATE:**

STATE OF IOWA  
COUNTY OF MARION  
SS:  
CITY OF KNOXVILLE

I, the undersigned, City Clerk of the City of Knoxville, do hereby certify that attached hereto is a true and correct copy of the proceedings of the City Council relating to fixing a date for a hearing on the City's proposal to take action in connection with a certain loan agreement, as referred to therein.

WITNESS MY HAND this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
City Clerk

**ORGANIZATION CERTIFICATE:**

STATE OF IOWA  
COUNTY OF MARION                   SS:  
CITY OF KNOXVILLE

I, the undersigned City Clerk, do hereby certify that the City of Knoxville is organized and operating under the provisions of Title IX of the Code of Iowa and not under any special charter and that the City is operating under the Mayor-Council form of government and that there is not pending or threatened any question or litigation whatsoever touching the incorporation of the City, the inclusion of any territory within its limits or the incumbency in office of any of the officials hereinafter named.

And I do further certify that the following named parties are officials of the City as indicated:

- \_\_\_\_\_, Mayor
- \_\_\_\_\_, City Administrator
- \_\_\_\_\_, City Clerk/Treasurer
- \_\_\_\_\_, Council Member/Mayor Pro-Tem
- \_\_\_\_\_, Council Member
- \_\_\_\_\_, Council Member
- \_\_\_\_\_, Council Member
- \_\_\_\_\_, Council Member

WITNESS MY HAND this \_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
City Clerk

**PUBLICATION CERTIFICATE:**

STATE OF IOWA  
COUNTY OF MARION                   SS:  
CITY OF KNOXVILLE

I, the undersigned, City Clerk of the City of Knoxville, do hereby certify that pursuant to the resolution of the City Council fixing a date of meeting at which it is proposed to take action to enter into a certain loan agreement, the notice, of which the printed slip attached to the publisher's affidavit hereto attached is a true and complete copy, was published on the date and in the newspaper specified in such affidavit, which newspaper has a general circulation in the City.

WITNESS MY HAND this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
City Clerk

**(Attach here the publisher's original affidavit with clipping of the notice, as published.)**

**(PLEASE NOTE: Do not date and return this certificate until you have received the publisher's affidavit and have verified that the notice was published on the date indicated in the affidavit but please return all other completed pages to us as soon as they are available.)**

January 29, 2016

**Via Email**

Aaron Adams  
City Administrator/City Hall  
Knoxville, Iowa

Re: General Obligation Corporate Purpose and Refunding Loan Agreement  
Our File No. 420024-35

Dear Aaron:

We have prepared and attach proceedings for the February 1, 2016 City Council meeting to fix February 15, 2016 as the date for a hearing on the proposal to enter into the General Obligation Corporate Purpose and Refunding Loan Agreement.

The documents attached include the following items:

1. Resolution fixing the date, time and place of the meeting at which time it is proposed to hold a hearing and take action to enter into the Loan Agreement. The form of notice of hearing is set out under Section 2 of the resolution. Please print an extra copy for delivery to the publisher. Please insert the time and place of the hearing in both the resolution and the notice.
2. Attestation Certificate attesting to the validity of the transcript.
3. Organization Certificate.
4. Publication Certificate with respect to publication of the notice, to which must be attached the publisher's affidavit of publication with the clipping of the notice as published.

The notice of hearing must be published at least once not less than four (4) and not more than twenty (20) days before the February 15<sup>th</sup> meeting date in a legal newspaper which has a general circulation in Knoxville. As soon as the notice appears in the newspaper, please have a copy faxed to our office at (515) 283-1060, or scan and email a copy to [lemke.susan@dorsey.com](mailto:lemke.susan@dorsey.com).

As soon as possible after the City Council meeting, please return one fully executed copy of these proceedings.

If you have any questions, please contact Emily Hammond or me.

Best regards,

John P. Danos

Attachments

cc: Heather Ussery  
Susanne Gerlach  
Diana Van Vleet

**RESOLUTION NO. 02-04-16**

**RESOLUTION APPROVING PRELIMINARY PLANS, SPECIFICATIONS,  
FORM OF CONTRACT, NOTICE TO BIDDERS AND ESTIMATE OF COST  
AND ORDERING BIDS FOR THE 2016 STREET IMPROVEMENTS  
CONTRACT**

WHEREAS, the preliminary plans, specifications, form of contract and estimate of cost for the 2016 Street Improvements Contract have been filed with the City Clerk of Knoxville, Iowa; and

WHEREAS, said plans and specifications are consistent with and in compliance with the project as envisioned by the City Council and the City Engineer; and

WHEREAS, the form of contract and estimate of cost for said project have been reviewed by the City staff and they are in order and it is necessary to order bids.

NOW, THEREFORE, Be It Resolved by the City Council of the City of Knoxville, Iowa, that the specifications and estimate of cost as prepared by the City's engineers for the 2016 Street Improvements Contract and the form of contract and notice to bidders, as approved by the engineer be and the same are hereby approved, subject to hearing thereon and are hereby ordered placed on file in the office of City Clerk for public inspection.

Passed and approved this 1<sup>st</sup> day of February, 2016.

---

Brian Hatch, Mayor

Attest:

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Heather Ussery, City Clerk

## Engineer's Estimate of Probable Construction Cost

2016 Pavement Improvements

City of Knoxville

**Final Plan Submittal**

Snyder Project Number - 115.0718.01

1/28/2016

| Item No. | Item Code    | Item Description   | Unit | Total Quantities | Unit Price | Total Costs |
|----------|--------------|--|------|------------------|------------|-------------|
| 1        | 2010-108-D-1 | TOPSOIL, ON SITE   | CY   | 1326             | \$ 12      | \$ 15,912   |
| 2        | 2010-108-E-0 | EXCAVATION, CLASS 10   | CY   | 2060             | \$ 10      | \$ 20,600   |
| 3        | 2010-108-G-0 | SUBGRADE PREPARATION, POLYMER GRID   | SY   | 3590             | \$ 4.00    | \$ 14,360   |
| 4        | 2010-108-G-0 | SUBGRADE PREPARATION   | SY   | 12960            | \$ 4       | \$ 51,840   |
| 5        | 2010-108-I-1 | SUBBASE, SPECIAL BACKFILL  | TON  | 200              | \$ 30      | \$ 6,000    |
| 6        | 2010-108-I-1 | SUBBASE, MODIFIED  | CY   | 2036             | \$ 40      | \$ 81,440   |
| 7        | 2010-999-9-9 | EARTH SHOULDER FINISHING   | STA  | 47.45            | \$ 300     | \$ 14,235   |
| 8        | 2010-108-L-0 | COMPACTION TESTING   | LS   | 1                | \$ 7,500   | \$ 7,500    |
| 9        | 3010-108-F-0 | TRENCH COMPACTION TESTING  | LS   | 1                | \$ 5,000   | \$ 5,000    |
| 10       | 4010-108-A-1 | SANITARY SEWER GRAVITY MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 8 IN | LF   | 337              | \$ 65      | \$ 21,905   |
| 11       | 4040-108-A-0 | SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.                              | LF   | 5675             | \$ 12      | \$ 68,100   |
| 12       | 4040-108-C-0 | SUBDRAIN CLEANOUT  | EACH | 12               | \$ 600     | \$ 7,200    |
| 13       | 4040-108-D-0 | SUBDRAIN OUTLET AND CONNECTIONS, DR-303                                    | EACH | 14               | \$ 400     | \$ 5,600    |
| 14       | 6010-108-B-0 | INTAKE, SW-501   | EACH | 6                | \$ 5,000   | \$ 30,000   |
| 15       | 6010-108-B-0 | INTAKE, SW-507 MODIFIED  | EACH | 2                | \$ 6,000   | \$ 12,000   |
| 16       | 6010-108-B-0 | INTAKE, SW-511   | EACH | 4                | \$ 7,000   | \$ 28,000   |
| 17       | 6010-108-C-0 | DROP CONNECTION, SW-307  | EACH | 1                | \$ 3,500   | \$ 3,500    |
| 18       | 6010-108-E-0 | MANHOLE ADJUSTMENT, MINOR  | EACH | 10               | \$ 1,500   | \$ 15,000   |
| 19       | 6010-108-E-0 | INTAKE ADJUSTMENT, MINOR   | EACH | 6                | \$ 1,000   | \$ 6,000    |
| 20       | 6010-108-F-0 | INTAKE ADJUSTMENT, MAJOR   | EACH | 3                | \$ 2,000   | \$ 6,000    |
| 21       | 6010-108-G-0 | CONNECTION TO EXISTING MANHOLE   | EACH | 3                | \$ 1,000   | \$ 3,000    |
| 22       | 6010-108-H-0 | REMOVE INTAKE  | EACH | 12               | \$ 1,000   | \$ 12,000   |
| 23       | 7010-108-A-0 | PAVEMENT, PCC, 6 IN.   | SY   | 1865             | \$ 50      | \$ 93,250   |
| 24       | 7010-108-A-0 | PAVEMENT, PCC, 7 IN.   | SY   | 9027             | \$ 55      | \$ 496,485  |
| 25       | 7010-108-A-0 | DRIVEWAY, PAVED, PCC, 6 IN.  | SY   | 1173             | \$ 45      | \$ 52,785   |
| 26       | 7010-108-I-0 | PCC PAVEMENT SAMPLES AND TESTING   | LS   | 1                | \$ 15,000  | \$ 15,000   |
| 27       | 7020-108-A-0 | OVERLAY, HMA (1,000,000 ESAL)  | TON  | 750              | \$ 90      | \$ 67,500   |
| 28       | 7020-108-H-0 | HMA PAVEMENT SAMPLES AND TESTING   | LS   | 1                | \$ 5,000   | \$ 5,000    |
| 29       | 7030-108-A-0 | REMOVAL OF SIDEWALK  | SY   | 595              | \$ 10      | \$ 5,950    |
| 30       | 7030-108-A-0 | REMOVAL OF DRIVEWAY  | SY   | 993              | \$ 10      | \$ 9,930    |
| 31       | 7030-108-E-0 | SIDEWALK, PCC, 6 INCHES  | SY   | 554              | \$ 40      | \$ 22,160   |

| Item No. | Item Code    | Item Description  | Unit | Total Quantities | Unit Price | Total Costs |
|----------|--------------|---|------|------------------|------------|-------------|
| 32       | 7030-108-G-0 | DETECTABLE WARNINGS                                       | SF   | 336              | \$ 35      | \$ 11,760   |
| 33       | 7040-108-A-0 | FULL-DEPTH PATCHES  | SY   | 1233             | \$ 100     | \$ 123,300  |
| 34       | 7040-108-G-0 | MILLING   | SY   | 5746             | \$ 8.00    | \$ 45,968   |
| 35       | 7040-108-H-0 | PAVEMENT REMOVAL  | SY   | 11006            | \$ 6.00    | \$ 66,036   |
| 36       | 9010-108-B-0 | HYDRAULIC SEEDING, FERTILIZATION, AND MULCHING            | ACRE | 4                | \$ 3,000   | \$ 12,000   |
| 37       | 9010-108-E-0 | WARRANTY  | LS   | 1                | \$ 5,000   | \$ 5,000    |
| 38       | 9040-108-A-2 | SWPPP MANAGEMENT  | LS   | 1                | \$ 4,000   | \$ 4,000    |
| 39       | 9040-108-D-1 | FILTER SOCKS, 6"  | LF   | 775              | \$ 4.00    | \$ 3,100    |
| 40       | 9040-108-D-2 | FILTER SOCKS, REMOVAL                                     | LF   | 775              | \$ 1.00    | \$ 775      |
| 41       | 9040-108-O-1 | STABILIZED CONSTRUCTION ENTRANCE                          | TON  | 150              | \$ 40      | \$ 6,000    |
| 42       | 9040-108-T-1 | INLET PROTECTION DEVICE, WATTLE                           | EACH | 31               | \$ 250     | \$ 7,750    |
| 43       | 9040-108-T-2 | INLET PROTECTION DEVICE, MAINTENANCE                      | EACH | 31               | \$ 100     | \$ 3,100    |
| 44       | 9999-999-9-9 | TRAFFIC CONTROL   | LS   | 1                | \$ 15,000  | \$ 15,000   |
| 45       | 9999-999-9-9 | SAFETY CLOSURE  | EACH | 30               | \$ 250     | \$ 7,500    |
| 46       | 9999-999-9-9 | ADJUSTMENT OF VALVE BOX                                   | EACH | 6                | \$ 500     | \$ 3,000    |
| 47       | 9999-999-9-9 | P.C. CONCRETE PARKING BUMPER                              | EACH | 31               | \$ 350     | \$ 10,850   |
| 48       | 9999-999-9-9 | CLEANING AND PREPARATION OF BASE                          | MILE | 0.4              | \$ 5,000   | \$ 2,000    |
| 49       | 9999-999-9-9 | GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE         | TON  | 420              | \$ 20      | \$ 8,400    |
| 50       | 9999-999-9-9 | BNSF WORK ON RAILROAD RIGHT-OF-WAY AND FLAGGER PROTECTION | LS   | 1                | \$ 10,000  | \$ 10,000   |
| 51       | 9999-999-9-9 | PATCHES BY COUNT  | EACH | 13               | \$ 250     | \$ 3,250    |
| 52       | 11010-108-A  | CONSTRUCTION SURVEY                                       | LS   | 1                | \$ 15,000  | \$ 15,000   |
| 53       | 11020-108-A  | MOBILIZATION  | LS   | 1                | \$ 75,000  | \$ 75,000   |
| 54       | 11030-108-B  | PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT BASED    | STA  | 25.83            | \$ 125     | \$ 3,229    |
| 55       | 11040-108-A  | MAINTENANCE OF POSTAL SERVICE                             | LS   | 1                | \$ 7,500   | \$ 7,500    |
| 56       | 11040-108-B  | MAINTENANCE OF SOLID WASTE AND RECYCLING COLLECTION       | LS   | 1                | \$ 10,000  | \$ 10,000   |
| 57       | 11060-108-A  | CONCRETE WASHOUT  | LS   | 1                | \$ 5,000   | \$ 5,000    |

**Total: \$ 1,667,770**

**CITY OF KNOXVILLE**  
**MARION COUNTY**  
**2016 STREET IMPROVEMENTS**  
**PROJECT #: 115.0718**

This project is covered by the Iowa Department of Natural Resources NPDES General Permit No. 2. The Contractor shall carry out the terms and conditions of General Permit No. 2 and the storm water pollution prevention plan which is a part of these contract documents. Refer Specifications for additional information.

CONSTRUCTION OF THESE IMPROVEMENTS SHALL COMPLY WITH 2016 VERSION OF IOWA STATEWIDE URBAN DESIGN & SPECIFICATIONS (IOWA SUDAS)

| ROADWAY ID | BEGIN STATION | END STATION |
|------------|---------------|-------------|
| JEFFERSON  | 101+50.00     | 103+40.74   |
| JEFFERSON  | 104+70.81     | 108+42.34   |
| WASHINGTON | 201+11.28     | 204+00.00   |
| WASHINGTON | 204+72.88     | 207+22.62   |
| WASHINGTON | 210+73.54     | 216+53.59   |
| 1ST STREET | 500+93.83     | 507+23.00   |
| 1ST STREET | 507+59.25     | 514+21.42   |
| 1ST STREET | 514+54.23     | 517+17.50   |
| 1ST STREET | 518+22.25     | 526+39.55   |
| GEBHARDT   | 700+91.88     | 708+62.36   |
| JACKSON    | 800+93.19     | 807+08.43   |
| JACKSON    | 808+13.28     | 812+63.62   |

EXPANDED PROJECT DESCRIPTION:  
 ON JEFFERSON STREET, FROM DAYTON STREET TO BROBST STREET. ON WASHINGTON STREET FROM KENT STREET TO ROCHE STREET AND 1ST STREET TO 3RD STREET. ON 1ST STREET FROM ROBINSON STREET TO ROCK ISLAND STREET. ON GEBHARDT STREET FROM LARSON STREET TO JACKSON STREET. ON JACKSON STREET FROM NORTH OF STONE DRIVE TO GEBHARDT STREET.

**SUDAS FIGURE LIST**

THE FOLLOWING SUDAS STANDARD FIGURES SHALL BE CONSIDERED APPLICABLE TO CONSTRUCTION WORK ON THIS PROJECT.

| NUMBER   | DATE     | TITLE   |
|----------|----------|---|
| 2010.102 | 10/21/14 | Designation of Roadway Earthwork Items                |
| 3010.101 | 4/21/09  | Trench Bedding and Backfill Zones (SW-101)            |
| 3010.103 | 4/21/09  | Flexible Gravity Pipe Trench Bedding (SW-103)         |
| 3010.901 | 10/21/14 | Sewer Pipe Support Over Existing Utility Line         |
| 4020.211 | 10/16/12 | Special Pipe Connections for Storm Sewer (SW-211)     |
| 4040.231 | 10/21/14 | Subdrains   |
| 4040.232 | 10/21/14 | Subdrain Cleanouts                                    |
| 4040.233 | 10/21/14 | Subdrain Outlets                                      |
| 5010.901 | 10/21/14 | Minimum Clearance Between Water Service and Structure |
| 6010.501 | 10/16/12 | Single Grate Intake (SW-501)                          |
| 6010.507 | 10/21/14 | Single Open-Throat Curb Intake, Small Box (SW-507)    |
| 6010.511 | 4/21/09  | Rectangular Area Intake (SW-511)                      |
| 6010.602 | 4/21/15  | Castings for Storm Manholes (SW-602)                  |
| 6010.603 | 10/15/13 | Castings for Grate Intakes (SW-603)                   |
| 7010.101 | 4/21/15  | Joints (PV-101)                                       |
| 7010.102 | 4/15/14  | PCC Curb Details (PV-102)                             |
| 7010.103 | 4/19/11  | Manhole Boxouts in PCC Pavement (PV-103)              |
| 7010.901 | 10/16/12 | PCC Pavement Jointing                                 |
| 7010.904 | 10/19/10 | Typical Jointing Layout                               |
| 7030.101 | 10/15/13 | Concrete Driveway, Type A                             |
| 7030.103 | 10/21/14 | Driveway Grading                                      |
| 7030.104 | 10/21/14 | Right-of-way Grading                                  |
| 9040.102 | 10/21/14 | Filter Berm and Filter Sock                           |
| 9040.119 | 10/21/14 | Silt Fence  |
| 9040.120 | 10/21/14 | Stabilized Construction Entrance                      |

# CONSTRUCTION PLANS FOR CITY OF KNOXVILLE

## MARION COUNTY, IOWA

# 2016 STREET IMPROVEMENTS

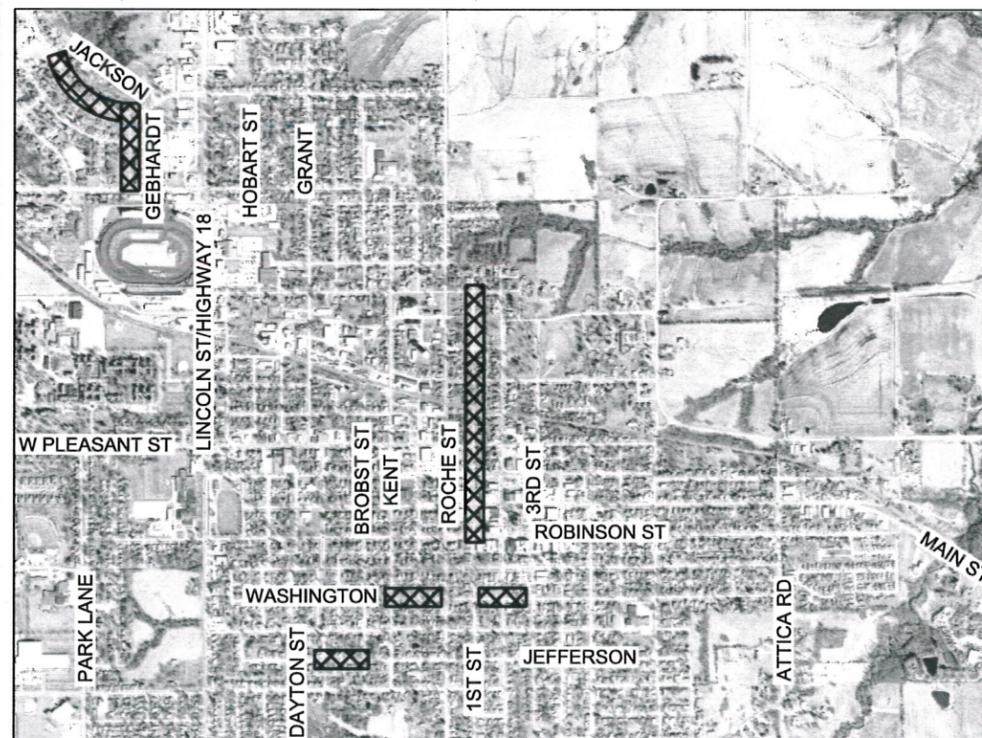
### PAVEMENT REHABILITATION ON JEFFERSON, WASHINGTON, 1ST, GEBHARDT, AND JACKSON STREETS.

REVISIONS

|                               |          |
|-------------------------------|----------|
| TOTAL                         | 86       |
| PROJECT IDENTIFICATION NUMBER |          |
| PROJECT NUMBER                | 115.0718 |
| RAIL CROSSING NUMBER          | 063208M  |

INDEX OF SHEETS

| No.         | Description                   |
|-------------|-------------------------------|
| A.1         | TITLE SHEET                   |
| A.2         | GENERAL AND UTILITY NOTES     |
| B.1 - B.2   | TYPICAL SECTIONS              |
| C.1 - C.8   | QUANTITIES AND TABULATIONS    |
| D.1 - D.12  | PLAN AND PROFILE SHEETS       |
| G.1 - G.2   | HORIZONTAL & VERTICAL CONTROL |
| J.1 - J.8   | TRAFFIC CONTROL AND STAGING   |
| L.1 - L.15  | INTERSECTION DETAILS          |
| M.1         | STORM SEWER TABULATION        |
| S.1 - S.19  | PEDESTRIAN RAMP DETAILS       |
| U.1 - U.3   | SPECIAL DETAILS               |
| W.1 - W.3   | JEFFERSON CROSS SECTIONS      |
| W.4 - W.6   | FIRST STREET CROSS SECTIONS   |
| W.7 - W.9   | GEBHARDT CROSS SECTIONS       |
| W.10 - W.14 | JACKSON CROSS SECTIONS        |



**Legend**

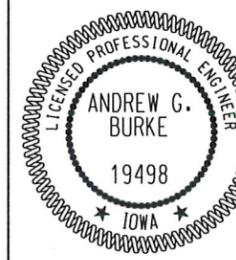
Project Location

**VICINITY MAP**

APPROVED FOR CONSTRUCTION  
CITY OF KNOXVILLE

City Manager \_\_\_\_\_

Date \_\_\_\_\_



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Andrew G. Burke, P.E. Date 01/29/16

License Number 19498

My License Renewal Date is December 31, 2016

Pages or sheets covered by this seal:

A.1-A.2, B.1-B.2, C.1-C.8, D.1-D.12, G.1-G.2, J.1-J.8, L.1-L.15, M.1, S.1-S.19, U.1-U.3, W.1-W.14



ENGLISH

DESIGN TEAM

SNYDER & ASSOCIATES

CITY OF KNOXVILLE

MARION COUNTY

PROJECT NUMBER

115.0718

SHEET NUMBER

A.1

REVISED

**LEGEND**

| Features   | Existing        | Proposed     |
|--|-----------------|--------------|
| Spot Elevation   | 93.0            | 93.0         |
| Contour Elevation  | 93              | 93           |
| Fence (Barbed, Field, Hog)                                 | -x-x-           | -x-x-        |
| Fence (Chain Link)   | -//-            | -//-         |
| Fence (Wood)   | -               | -            |
| Fence (Silt)   | -               | -            |
| Tree Line  | ~               | ~            |
| Tree Stump   | ⊙               | ⊙            |
| Deciduous Tree or Shrub                                    | ⊙               | ⊙            |
| Coniferous Tree or Shrub                                   | ⊙               | ⊙            |
| Communication  | ---C(x)---      | ---C---      |
| Overhead Communication                                     | ---OC(x)---     | ---OC---     |
| Fiber Optic  | ---FO(x)---     | ---FO---     |
| Underground Electric                                       | ---E(x)---      | ---E---      |
| Overhead Electric  | ---OE(x)---     | ---OE---     |
| Gas Main with Size   | ---4" G(x)---   | ---4" G---   |
| High Pressure Gas Main with Size                           | ---4" HPG(x)--- | ---4" HPG--- |
| Water Main with Size                                       | ---8" W(x)---   | ---8" W---   |
| Sanitary Sewer with Size                                   | ---8" S(x)---   | ---8" S---   |
| Duct Bank  | ---DUCT(x)---   | ---DUCT---   |
| Test Hole Location for SUE w/ID                            | ⊙               | ⊙            |
| (x) Denotes the survey quality service level for utilities |                 |              |
| Sanitary Manhole   | ⊙               | ⊙            |
| Storm Sewer with Size                                      | 12" ST          | 12" ST       |
| Storm Manhole  | ⊙               | ⊙            |
| Single Storm Sewer Intake                                  | ⊙               | ⊙            |
| Double Storm Sewer Intake                                  | ⊙               | ⊙            |
| Fire Hydrant   | ⊙               | ⊙            |
| Fire Hydrant on Building                                   | ⊙               | ⊙            |
| Water Main Valve   | ⊙               | ⊙            |
| Water Service Valve  | ⊙               | ⊙            |
| Well   | ⊙               | ⊙            |
| Utility Pole   | ⊙               | ⊙            |
| Guy Anchor   | ⊙               | ⊙            |
| Utility Pole with Light                                    | ⊙               | ⊙            |
| Utility Pole with Transformer                              | ⊙               | ⊙            |
| Street Light   | ⊙               | ⊙            |
| Yard Light   | ⊙               | ⊙            |
| Electric Box   | ⊙               | ⊙            |
| Electric Transformer                                       | ⊙               | ⊙            |
| Traffic Sign   | ⊙               | ⊙            |
| Communication Pedestal                                     | ⊙               | ⊙            |
| Communication Manhole                                      | ⊙               | ⊙            |
| Communication Handhole                                     | ⊙               | ⊙            |
| Fiber Optic Manhole  | ⊙               | ⊙            |
| Fiber Optic Handhole                                       | ⊙               | ⊙            |
| Gas Valve  | ⊙               | ⊙            |
| Gas Manhole  | ⊙               | ⊙            |
| Gas Apparatus  | ⊙               | ⊙            |
| Fence Post or Guard Post                                   | ⊙               | ⊙            |
| Underground Storage Tank                                   | ⊙               | ⊙            |
| Above Ground Storage Tank                                  | ⊙               | ⊙            |
| Sign   | ⊙               | ⊙            |
| Satellite Dish   | ⊙               | ⊙            |
| Mailbox  | ⊙               | ⊙            |
| Soil Boring  | ⊙               | ⊙            |

**UTILITY QUALITY SERVICE LEVELS**

QUALITY LEVELS OF UTILITIES ARE SHOWN IN THE PARENTHESES WITH THE UTILITY TYPE AND WHEN APPLICABLE, SIZE. THE QUALITY LEVELS ARE BASED ON THE CI/ASCE 38-02 STANDARD.

QUALITY LEVEL (D) INFORMATION IS DERIVED FROM EXISTING UTILITY RECORDS OR ORAL RECOLLECTIONS.

QUALITY LEVEL (C) INFORMATION IS OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION WITH QUALITY D INFORMATION.

QUALITY LEVEL (B) INFORMATION IS OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES.

QUALITY LEVEL (A) IS HORIZONTAL AND VERTICAL POSITION OF UNDERGROUND UTILITIES OBTAINED BY ACTUAL EXPOSURE OR VERIFICATION OF PREVIOUSLY EXPOSED SUBSURFACE UTILITIES, AS WELL AS THE TYPE, SIZE, CONDITION, MATERIAL, AND OTHER CHARACTERISTICS.

**UTILITY CONTACT INFORMATION**

UTILITY CONTACT FOR MAPPING INFORMATION SHOWN AS RECEIVED FROM THE IOWA ONE CALL DESIGN REQUEST SYSTEM, TICKET NUMBER 551501663.

**UTILITY NOTES:**

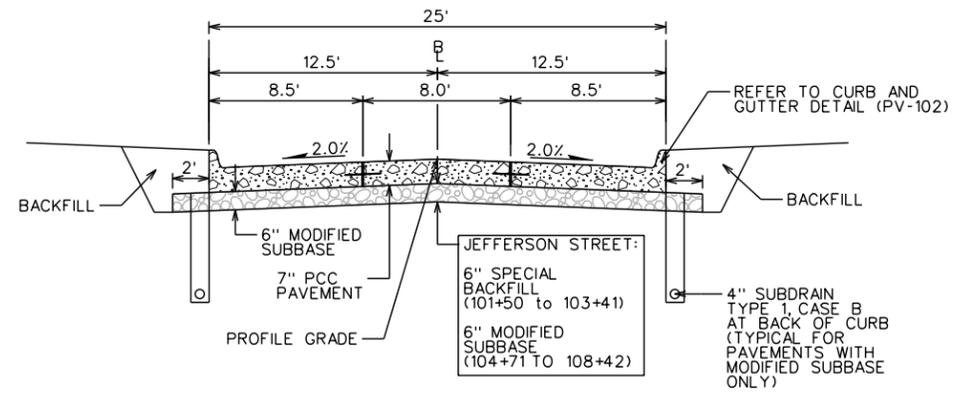
- THE CONTRACTOR SHALL COORDINATE THEIR WORK WITH THE UTILITY COMPANIES WITH RESPECT TO RELOCATING AND CONSTRUCTING THEIR FACILITIES. CALL IOWA ONE CALL FOR UTILITY LOCATIONS 48 HOURS BEFORE CONSTRUCTION, 1-800-292-8989.
- CONTACT THE CITY AND DESIGN ENGINEER AT LEAST 24 HOURS PRIOR TO STARTING WORK.
- BEFORE STARTING CONSTRUCTION IN EACH STAGE, THE CONTRACTOR SHALL EXCAVATE ALL UTILITIES WHICH MAY BE IN CONFLICT WITH PROPOSED CONSTRUCTION. THE CONTRACTOR PROVIDED SURVEYOR SHALL OBTAIN ELEVATIONS OF THE UTILITIES AND NOTIFY THE ENGINEER.
- THE CONTRACTOR SHALL EXERCISE CAUTION AND USE CONSTRUCTION METHODS AND EQUIPMENT TO COMPLETE THE WORK WITHOUT DAMAGING UTILITIES.
- THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES SHALL BE DETERMINED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.
- IT IS ANTICIPATED THAT UTILITY RELOCATION WORK BY VARIOUS UTILITY COMPANIES WILL BE DONE IN CONJUNCTION WITH CONSTRUCTION OF THIS PROJECT. CONTRACTOR IS REQUIRED TO COORDINATE AND COOPERATE WITH THESE UTILITY COMPANIES DURING CONSTRUCTION.

**GENERAL NOTES:**

- THE CONTRACTOR SHALL CONFINE GRADING OPERATIONS TO WITHIN THE GRADING LIMITS AS SHOWN ON THE PLANS UNLESS AUTHORIZED BY THE ENGINEER TO DO OTHERWISE. THE CONTRACTOR SHALL COMPENSATE THE PROPERTY OWNER FOR DAMAGES OUTSIDE OF THE AUTHORIZED GRADING LIMITS.
- DRAINAGE SHALL BE MAINTAINED AT ALL TIMES. EXISTING STORM SEWER THAT IS DESIGNATED TO BE REMOVED SHALL BE REMOVED ONLY WHEN CONSTRUCTION HAS PROGRESSED TO THAT LOCATION.
- THE CONTRACTOR SHALL PROTECT ALL STORM SEWER INLETS AND UTILITY ACCESSES FROM SILTATION AND DEBRIS DURING CONSTRUCTION. REFER TO POLLUTION PREVENTION PLAN.
- ALL REMOVAL AND DISPOSAL OF ABANDONED UTILITY LINES INCLUDING GAS MAINS, WATER MAINS, TELEPHONE CONDUITS, SERVICE LINES, ETC., REQUIRED TO COMPLETE THE WORK SHALL BE INCIDENTAL TO THIS PROJECT.
- ALL HOLES RESULTING FROM OPERATIONS OF THE CONTRACTOR, INCLUDING REMOVAL OF FENCE POSTS AND SIGNAL EQUIPMENT, SHALL BE FILLED AND CONSOLIDATED TO FINISHED GRADE TO PREVENT FUTURE SETTLEMENT. THE VOIDS SHALL BE FILLED AS SOON AS PRACTICAL - PREFERABLY THE DAY CREATED AND NOT LATER THAN THE FOLLOWING DAY. ANY PORTION OF THE RIGHT OF WAY OR PROJECT LIMITS DISTURBED BY ANY SUCH OPERATIONS SHALL BE RESTORED TO AN ACCEPTABLE CONDITION. THESE OPERATIONS SHALL BE CONSIDERED INCIDENTAL TO THIS PROJECT.
- UNLESS OTHERWISE DIRECTED OR AUTHORIZED, ALL REMOVED ASPHALTIC CEMENT CONCRETE AND OTHER BITUMINOUS MATERIALS WHICH ARE NOT SPECIFICALLY ADDRESSED OR DESCRIBED IN THE PLANS SHALL BECOME PROPERTY OF THE CONTRACTOR. THE CONTRACTOR MAY REMOVE THE MATERIAL FROM THE PROJECT AND STOCKPILE FOR FUTURE USE, OR DISPOSE OF THE MATERIAL IN A LICENSED LANDFILL, IN ACCORDANCE WITH CURRENT RULES AND REGULATIONS OF THE IOWA DEPARTMENT OF NATURAL RESOURCES.
- UNLESS OTHERWISE NOTED ON THE PLANS, ALL PARKING AREAS, BACKSLOPES, AND EASEMENT AREAS DISTURBED BY CONSTRUCTION SHALL BE SHAPED TO FINISHED GRADE AND SEEDED. PAYMENT SHALL BE FOR THOSE DISTURBED AREAS WITHIN THE GRADING LIMITS OR EASEMENTS SHOWN ON THE PLANS. THE CONTRACTOR SHALL NOT DISTURB DESIRABLE GRASS AREAS AND DESIRABLE TREES OUTSIDE THE CONSTRUCTION LIMITS. THE CONTRACTOR WILL NOT BE PERMITTED TO PARK OR SERVICE VEHICLES AND EQUIPMENT OR USE THESE AREAS FOR STORAGE OF MATERIALS. STORAGE, PARKING AND SERVICE AREA(S) WILL BE SUBJECT TO THE APPROVAL OF THE RESIDENT ENGINEER.
- UNLESS OTHERWISE APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL ORGANIZE WEEKLY CONSTRUCTION MEETINGS DURING THE DURATION OF THE PROJECT. THIS INCLUDES NOTIFYING SUBCONTRACTORS AND UTILITY COMPANIES AS NECESSARY.
- THE CONTRACTOR WILL BE REQUIRED TO HAVE A REPRESENTATIVE AT THE FINAL INSPECTION AND WILL BE RESPONSIBLE TO OPEN ALL MANHOLES AND INTAKES FOR INSPECTION.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIAL (EXCAVATED MATERIAL OR BROKEN CONCRETE) WHICH IS NOT DESIRABLE TO BE INCORPORATED INTO THE WORK INVOLVED ON THIS PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT AREAS (INCLUDING HAUL ROADS) SELECTED FOR WASTE OR DISPOSAL NOT IMPACT 1) CULTURALLY SENSITIVE SITES OR GRAVES OR 2) WETLANDS OR "WATERS OF THE U.S.", INCLUDING STREAMS OR STREAM BANKS BELOW THE "ORDINARY HIGH WATER MARK", WITHOUT AN APPROVED U.S. ARMY CORPS OF ENGINEERS SECTION 404 PERMIT. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES. NO WASTE MATERIAL SHALL BE PLACED WITHIN THE RIGHT-OF-WAY, UNLESS SPECIFICALLY STATED IN THE PLANS.
- SPECIAL CARE SHALL BE TAKEN WHEN FORMING AT INTERSECTIONS SO THAT THE PROFILES AND ELEVATIONS SHOWN ON THE CROSS SECTIONS, STREET RETURN PROFILE SHEETS, AND STAKING DIAGRAM SHEETS ARE OBTAINED. SHORT LENGTHS OF FORMS OR FLEXIBLE FORMS MAY BE NECESSARY AT THESE LOCATIONS.
- THE TOP SIX (6) INCHES OF THE DISTURBED AREAS SHALL BE FREE OF ROCK AND DEBRIS AND SHALL BE SUITABLE FOR THE ESTABLISHMENT OF VEGETATION, SUBJECT TO THE APPROVAL OF THE ENGINEER.
- THE CONTRACTOR IS EXPECTED TO HAVE MATERIALS, EQUIPMENT, AND LABOR AVAILABLE ON A DAILY BASIS TO INSTALL AND MAINTAIN EROSION CONTROL FEATURES ON THE PROJECT. THIS MAY INVOLVE SEEDING, SILT FENCE, ROCK DITCH CHECKS, SILT BASINS, OR SILT DIKES.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN ACCESS TO INDIVIDUAL PROPERTIES DURING CONSTRUCTION. RELOCATED ACCESS SHALL BE COMPLETED TO INDIVIDUAL PROPERTIES PRIOR TO REMOVAL OF EXISTING ACCESS. IF THE PERMANENT ACCESS CANNOT BE COMPLETED PRIOR TO REMOVAL OF THE EXISTING ACCESS, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN AN ALTERNATE ACCESS. TEMPORARY GRANULAR SURFACING WILL BE PAID FOR AS A CONTRACT ITEM OR BY EXTRA WORK.
- THE CONTRACTOR IS HEREBY NOTIFIED THAT REMOVAL OF ANY EXISTING TRAFFIC MARKERS, WARNING DEVICES OR GUARDRAIL BARRIERS SHALL BE SCHEDULED SUBJECT TO THE APPROVAL OF THE ENGINEER. THE CONTRACTOR MAY BE REQUIRED TO PLACE TEMPORARY WARNING DEVICES AT CERTAIN LOCATIONS WHERE REPLACEMENT FEATURES ARE NOT INSTALLED THE SAME DAY DURING WHICH ANY SUCH REMOVALS TAKE PLACE.
- A PLAN FOR STAGE CONSTRUCTION OF LOCAL ACCESSES WHICH ARE REQUIRED TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION SHALL BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER.
- PROTECT ALL EXISTING UTILITIES UNLESS OTHERWISE NOTED.
- CITY TO REMOVE AND REINSTALL ALL TRAFFIC SIGNAGE. COORDINATE WITH CITY AT LEAST 72 HOURS PRIOR TO REQUIRING SIGNAGE REMOVAL. COORDINATE WITH CITY AT LEAST ONE WEEK PRIOR TO REINSTALLATION OF TRAFFIC SIGNAGE.
- PROTECT ALL EXISTING TREES UNLESS OTHERWISE NOTED.

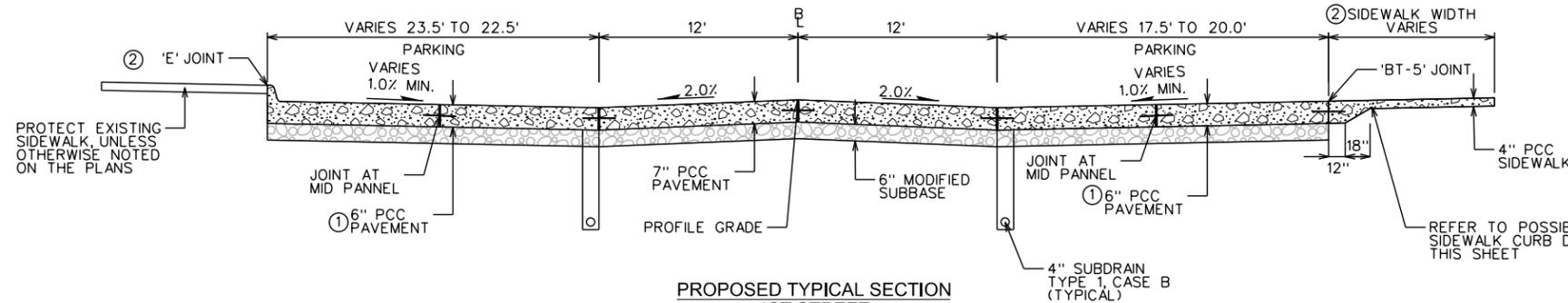
**UTILITY WARNING**

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN COMPRISE ALL SUCH ITEMS IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN ARE IN THE EXACT LOCATION INDICATED EXCEPT WHERE NOTED AS QUALITY LEVEL A.



**PROPOSED TYPICAL SECTION  
JEFFERSON STREET  
STA. 101+50.00 TO 103+40.74  
104+70.81 TO 108+42.34  
JACKSON STREET  
STA. 800+93.19 TO 807+08.43  
STA. 808+13.28 TO 808+12+63.62  
GEBHARDT STREET  
STA. 700+91.88 TO 708+62.36 (DIVISION 2)  
(NOT TO SCALE)**

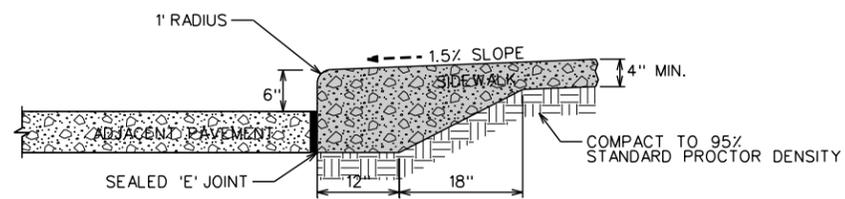
TYPICAL GENERAL NOTES:  
1. LONGITUDINAL JOINTING IS 'L-1'  
2. TRANSVERSE JOINTING IS 'C'  
3. SCARIFY AND RECOMPACT 12" OF SUBGRADE TO 95% STANDARD PROCTOR DENSITY AND WITHIN 2% BELOW AND 4% ABOVE OPTIMUM MOISTURE CONTENT.



**PROPOSED TYPICAL SECTION  
1ST STREET  
STA. 500+93.83 TO 507+23  
(NOT TO SCALE)**

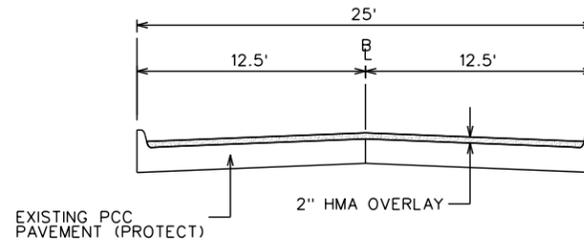
TYPICAL GENERAL NOTES:  
1. LONGITUDINAL JOINTING IS 'L-1'  
2. TRANSVERSE JOINTING IS 'C'  
3. SCARIFY AND RECOMPACT 12" OF SUBGRADE TO 95% STANDARD PROCTOR DENSITY AND WITHIN 2% BELOW AND 4% ABOVE OPTIMUM MOISTURE CONTENT.

KEYED NOTES:  
① REFER TO PLANS FOR AREAS OF PARKING RECONSTRUCTION.  
② REFER TO PLANS FOR SIDEWALK REPLACEMENT LIMITS.



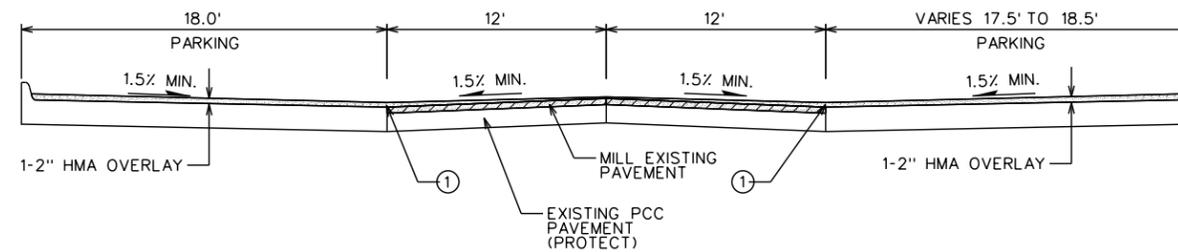
**SIDEWALK CURB DETAIL  
1ST STREET  
(NOT TO SCALE)**

TYPICAL GENERAL NOTES:  
1. REFER TO PLANS FOR LOCATIONS OF SIDEWALK CURB DETAILS.



**PROPOSED TYPICAL SECTION  
WASHINGTON STREET**  
 STA. 201+11.28 TO 204+00.00  
 STA. 204+72.88 TO 207+22.62  
 STA. 210+73.54 TO 216+53.59  
 1ST STREET  
 STA. 510+01.21 TO 514+15.70  
 STA. 514+54.23 TO 517+56.00

- TYPICAL GENERAL NOTES:
1. EXISTING HMA OVERLAY SHALL BE SCARIFIED PRIOR TO PLACEMENT OF NEW OVERLAY. DEPTH VARIES, REFER TO PAVEMENT CORES FOR SAMPLE DEPTHS.
  2. MAINTAIN POSITIVE LONGITUDINAL GUTTER SLOPE.
  3. FINISHED CROSS SLOPE SHALL CLOSELY MATCH EXISTING. MINIMUM ALLOWABLE IS 1.5% AND MAXIMUM ALLOWABLE IS 3.0%, UNLESS APPROVED BY OWNER OR ENGINEER.

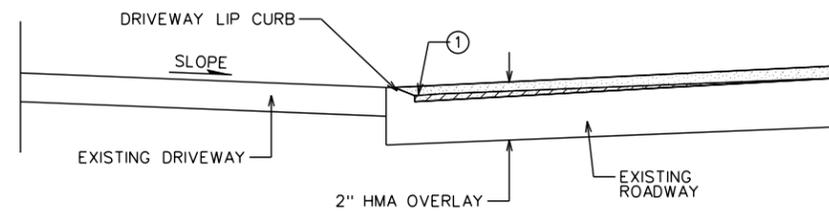


**PROPOSED TYPICAL SECTION  
1ST STREET**  
 STA. 507+59.25 TO 510+01.21

- TYPICAL GENERAL NOTES:
1. EXISTING HMA OVERLAY SHALL BE SCARIFIED PRIOR TO PLACEMENT OF NEW OVERLAY. DEPTH VARIES, REFER TO PAVEMENT CORES FOR SAMPLE DEPTHS.
  2. MAINTAIN POSITIVE LONGITUDINAL GUTTER SLOPE.
  3. FINISHED CROSS SLOPE SHALL CLOSELY MATCH EXISTING. MINIMUM ALLOWABLE IS 1.5% AND MAXIMUM ALLOWABLE IS 3.0%, UNLESS APPROVED BY OWNER OR ENGINEER.

KEYED NOTES:

- ① PROVIDE 1" HMA OVERLAY AT BEGINNING OF PARKING AREA. FLATTEN ROADWAY CROSS SLOPE TO OBTAIN THIS DEPTH. MINIMUM CROSS SLOPE TO BE 1.5%. INCREASE DEPTH AT CENTERLINE TO MAINTAIN THIS CROSS SLOPE.



**HMA DRIVEWAY TRANSITION TYPICAL SECTION**

- TYPICAL GENERAL NOTES:
1. MAINTAIN POSITIVE LONGITUDINAL GUTTER SLOPE.
  2. MAINTAIN SLOPE FROM DRIVEWAY TO GUTTER AND DO NOT DIRECT ROADWAY DRAINAGE INTO DRIVEWAY.
  3. IF NO DRIVEWAY LIP CURB IS PRESENT, PROVIDE HMA WEDGE FILLET AS NEEDED TO MAINTAIN LONGITUDINAL GUTTER SLOPE AND POSITIVE DRIVEWAY TO GUTTER SLOPE.

KEYED NOTES:

- ① MINIMUM DEPTH AT GUTTER LINE IS 2.0". MILL ADDITIONAL DEPTH AS NEEDED TO OBTAIN THIS DEPTH AND MAINTAIN POSITIVE DRAINAGE FROM THE DRIVEWAY TO THE ROADWAY.

| ESTIMATED PROJECT QUANTITIES<br>(1 DIVISION PROJECT) |              |   |      |       | 100-1A<br>MODIFIED |
|--|--------------|---|------|-------|--------------------|
| Item No.   | Item Code    | Item  | Unit | Total | As Built Qty.      |
| 1  | 2010-108-D-1 | TOPSOIL, ON SITE  | CY   | 1326  |                    |
| 2  | 2010-108-E-0 | EXCAVATION, CLASS 10  | CY   | 2060  |                    |
| 3  | 2010-108-G-0 | SUBGRADE PREPERATION, POLYMER GRID  | SY   | 3590  |                    |
| 4  | 2010-108-G-0 | SUBGRADE PREPERATION  | SY   | 12960 |                    |
| 5  | 2010-108-I-1 | SUBBASE, SPECIAL BACKFILL, 6 INCHES   | TON  | 200   |                    |
| 6  | 2010-108-I-1 | SUBBASE, MODIFIED, 6 INCHES   | CY   | 2036  |                    |
| 7  | 2010-999-9-9 | EARTH SHOULDER FINISHING  | STA  | 47.45 |                    |
| 8  | 2010-108-L-0 | COMPATION TESTING   | LS   | 1     |                    |
| 9  | 3010-108-F-0 | TRENCH COMPACTION TESTING   | LS   | 1     |                    |
| 10   | 4010-108-A-1 | SANITARY SEWER GRAVITY MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 8 IN. | LF   | 337   |                    |
| 11   | 4040-108-A-0 | SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.                               | LF   | 5675  |                    |
| 12   | 4040-108-C-0 | SUBDRAIN CLEANOUT   | EACH | 12    |                    |
| 13   | 4040-108-D-0 | SUBDRAIN OUTLET AND CONNECTIONS, DR-303                                     | EACH | 14    |                    |
| 14   | 6010-108-B-0 | INTAKE, SW-501  | EACH | 6     |                    |
| 15   | 6010-108-B-0 | INTAKE, SW-507 MODIFIED   | EACH | 2     |                    |
| 16   | 6010-108-B-0 | INTAKE, SW-511  | EACH | 4     |                    |
| 17   | 6010-108-C-0 | DROP CONNECTION, SW-307   | EACH | 1     |                    |
| 18   | 6010-108-E-0 | MANHOLE ADJUSTMENT, MINOR   | EACH | 10    |                    |
| 19   | 6010-108-E-0 | INTAKE ADJUSTMENT, MINOR  | EACH | 6     |                    |
| 20   | 6010-108-F-0 | INTAKE ADJUSTMENT, MAJOR  | EACH | 3     |                    |
| 21   | 6010-108-G-0 | CONNECTION TO EXISTING MANHOLE  | EACH | 3     |                    |
| 22   | 6010-108-H-0 | REMOVE INTAKE   | EACH | 12    |                    |
| 23   | 7010-108-A-0 | PAVEMENT, PCC, 6 IN.  | SY   | 1865  |                    |
| 24   | 7010-108-A-0 | PAVEMENT, PCC, 7 IN.  | SY   | 9027  |                    |
| 25   | 7010-108-A-0 | DRIVEWAY, PAVED, PCC, 6 IN.   | SY   | 1173  |                    |
| 26   | 7010-108-I-0 | PCC PAVEMENT SAMPLES AND TESTING  | LS   | 1     |                    |
| 27   | 7020-108-A-0 | OVERLAY, HMA (1,000,000 ESAL)   | TON  | 750   |                    |
| 28   | 7020-108-H-0 | HMA PAVEMENT SAMPLES AND TESTING  | LS   | 1     |                    |
| 29   | 7030-108-A-0 | REMOVAL OF SIDEWALK   | SY   | 595   |                    |
| 30   | 7030-108-A-0 | REMOVAL OF DRIVEWAY   | SY   | 993   |                    |
| 31   | 7030-108-E-0 | SIDEWALK, PCC, 6 INCHES   | SY   | 554   |                    |
| 32   | 7030-108-G-0 | DETECTABLE WARNINGS   | SF   | 336   |                    |
| 33   | 7040-108-A-0 | FULL-DEPTH PATCHES  | SY   | 1233  |                    |
| 34   | 7040-108-G-0 | MILLING   | SY   | 5746  |                    |
| 35   | 7040-108-H-0 | PAVEMENT REMOVAL  | SY   | 11006 |                    |
| 36   | 9010-108-B-0 | HYDRAULIC SEEDING, FERTILIZATION, AND MULCHING                              | ACRE | 4     |                    |
| 37   | 9010-108-E-0 | WARRANTY  | LS   | 1     |                    |
| 38   | 9040-108-A-2 | SWPPP MANAGEMENT AND INSPECTIONS  | LS   | 1     |                    |
| 39   | 9040-108-D-1 | FILTER SOCKS, 6"  | LF   | 775   |                    |
| 40   | 9040-108-D-2 | FILTER SOCKS, REMOVAL   | LF   | 775   |                    |
| 41   | 9040-108-O-1 | STABILIZED CONSTRUCTION ENTRANCE  | TON  | 150   |                    |
| 42   | 9040-108-T-1 | INLET PROTECTION DEVICE, WATTLE   | EACH | 31    |                    |
| 43   | 9040-108-T-2 | INLET PROTECTION DEVICE, MAINTENANCE  | EACH | 31    |                    |
| 44   | 9999-999-9-9 | TRAFFIC CONTROL   | LS   | 1     |                    |
| 45   | 9999-999-9-9 | SAFETY CLOSURE  | EACH | 30    |                    |
| 46   | 9999-999-9-9 | ADJUSTMENT OF VALVE BOX   | EACH | 6     |                    |
| 47   | 9999-999-9-9 | P.C. CONCRETE PARKING BUMPER  | EACH | 31    |                    |
| 48   | 9999-999-9-9 | CLEANING AND PREPERATION OF BASE  | MILE | 0.4   |                    |
| 49   | 9999-999-9-9 | GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE                           | TON  | 420   |                    |
| 50   | 9999-999-9-9 | BNSF WORK ON RAILROAD RIGHT-OF-WAY AND FLAGGER PROTECTION                   | LS   | 1     |                    |
| 51   | 9999-999-9-9 | PATCHES BY COUNT  | EACH | 13    |                    |
| 52   | 11010-108-A  | CONSTRUCTION SURVEY   | LS   | 1     |                    |
| 53   | 11020-108-A  | MOBILIZATION  | LS   | 1     |                    |
| 54   | 11030-108-B  | PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT BASED                      | STA  | 25.83 |                    |
| 55   | 11040-108-A  | MAINTENANCE OF POSTAL SERVICE   | LS   | 1     |                    |
| 56   | 11040-108-B  | MAINTENANCE OF SOLID WASTE AND RECYCLING COLLECTION                         | LS   | 1     |                    |
| 57   | 11060-108-A  | CONCRETE WASHOUT  | LS   | 1     |                    |

| INDEX OF TABULATIONS |   |              | 111-25<br>MODIFIED |
|----------------------|---|--------------|--------------------|
| Tabulation           | Tabulation Title  | Sheet No.    |                    |
| C Sheets             |   |              |                    |
| 100-1A               | ESTIMATED PROJECT QUANTITIES (1 DIVISION PROJECT)         | C.1          |                    |
| 100-1C               | ESTIMATED PROJECT QUANTITIES (UP TO A 5 DIVISION PROJECT) | No Sheet No. |                    |
| 100-1D               | PROJECT DESCRIPTION                                       | C.1          |                    |
| 100-4A               | ESTIMATE REFERENCE INFORMATION                            | C.2 - C.3    |                    |
| 100-19               | PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE               | C.3          |                    |
| 102-3                | ACCESS POINTS AND SAFETY RAMPS                            | C.4          |                    |
| 102-6C               | FULL-DEPTH PATCHES  | C.5          |                    |
| 104-9                | LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE              | C.6          |                    |
| 104-10               | ADJUSTMENT OF FIXTURES                                    | C.3          |                    |
| 108-13A              | SAFETY CLOSURES   | C.4          |                    |
| 108-22               | PAVEMENT MARKING LINE TYPES                               | C.5          |                    |
| 110-1                | REMOVAL OF PAVEMENT                                       | C.5          |                    |
| 110-5                | SIDEWALK REMOVAL  | C.6          |                    |
| 110-8                | REMOVAL OF CONCRETE DRIVES                                | C.7          |                    |
| 110-12A              | POLLUTION PREVENTION PLAN                                 | C.8 - C.8    |                    |
| 111-25               | INDEX OF TABULATIONS                                      | C.1          |                    |
| 113-1                | SIDEWALKS   | C.7          |                    |

| PROJECT DESCRIPTION  |  | 100-1D<br>10-18-05 |
|--|--|--------------------|
| This project includes pavement rehabilitation and reconstruction at various locations within the City of Knoxville. Rehabilitation work includes pavement scarification and HMA overlay and PCC full depth patching. |  |                    |

**ESTIMATE REFERENCE INFORMATION**

| Item No. | Item Code    | Description  |
|----------|--------------|--|
| 1        | 2010-108-D-1 | TOPSOIL, ON SITE<br>Quantity is based on cut depths of 6 inches over vegetative disturbed areas. Topsoil placement to be a uniform 6 inches over all disturbed areas. Quantity includes 1,215 CY of strip and 1,579 CY of placement + 30% shrink for a Contractor furnish of 364 CY. All Contractor imported material is considered incidental to this item.   |
| 2        | 2010-108-E-0 | EXCAVATION, CLASS 10<br>Quantity includes 340 CY of cut (Jefferson), 580 CY of cut (1st Street), 400 Cy of cut (Gebhardt, 670 CY of cut (Jackson), and 70 CY of Cut (2" overexcavation for patch) for a total of 2,060 CY of cut. Minimal fill quantity is need and was not calculated. The cut material shall be used for minimal fill required. Waste material shall be hauled and disposed of offsite. No additional compensation for hauling of material offsite.        |
| 3        | 2010-108-G-0 | SUBGRADE PREPERATION, POLYMER GRID<br>To be used when unsuitable or unstable material is encountered. Coordinate with City prior to use of this item. Type 2 Geogrid shall be used.  |
| 4        | 2010-108-G-0 | SUBRADE PREPERATION, SPECIAL COMPACTION OF SUBGRADE<br>Refer to typical sections on B Sheets. Use on all reconstruction segments.  |
| 5        | 2010-108-I-1 | SUBBASE, SPECIAL BACKFILL, 6 INCHES<br>Refer to typical sections on B Sheets and Tab 100-24 for locations.   |
| 6        | 2010-108-I-4 | SUBBASE, MODIFIED, 6 INCHES<br>Refer to typical sections on B Sheets and Tab 100-24 for locations.   |
| 7        | 2010-999-9-9 | EARTH SHOULDER FINISHING<br>Includes backfill and finish grading along all roadway pavement.   |
| 8        | 2010-108-1-0 | COMPACTION TESTING<br>Includes all compaction testing required for pavement per the Specifications.  |
| 9        | 3010-108-F-0 | TRENCH COMPACTION TESTING<br>This item shall be used for all sanitary sewer pipe installation.   |
| 10       | 4010-108-A-1 | SANITARY SEWER GRAVITY MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 8 IN<br>Refer to U Sheets for sanitary sewer locations. Provide solid wall PVC, SDR 35 is not allowed. Class F-3 bedding shall be used. Provide video inspection for this item per the Specifications. Provide inspection video media in digital format (DVD or approved equal).   |
| 11       | 4040-108-A-0 | SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.<br>Refer to Tabulation 104-9 and D sheets for locations. No engineering fabric shall be used. Type 1 shall be used. If corrugated PE is used it shall be AASHTO M252 Type S (corrugated exterior and smooth interior). Type B installation shall be used. Assure rock interaction between porous backfill and subbase.   |
| 12       | 4040-108-C-0 | SUBDRAIN CLEANOUT<br>This item includes construction of a subdrain cleanout at locations noted on tabulation 104-9 on the C Sheets. Refer to U Sheets for detail of cleanout. Item includes all excavation, materials, labor, and equipment required to install the cleanouts according to the detail in the plans. Cleanouts that are installed per the plans will be counted and paid for per each.  |
| 13       | 4040-108-D-0 | SUBDRAIN OUTLET AND CONNECTIONS, DR-303<br>Refer to B Sheets for typical sections. See Tab 104-9 for locations and details.  |
| 14       | 6010-108-B-0 | INTAKE, SW-501   |
| 15       | 6010-108-B-0 | INTAKE, SW-507 MODIFIED  |
| 16       | 6010-108-B-0 | INTAKE, SW-511<br>Refer to D Sheets for locations and additional information. Modified intake shall match existing pipe and flowline elevations. Approximate depths and sizes of existing intakes are shown on the plans. Replacement sizes shall be in resonable close conformance with the existing sizes. Structures shall be cast-in-place type. Precast is allowed if field verification on flowlines are performed by the contractor. Provide steps in all structures. |
| 17       | 6010-108-C-0 | DROP CONNECTION, SW-307<br>Refer to U sheets for locations.  |
| 18       | 6010-108-E-0 | MANHOLE ADJUSTMENT, MINOR<br>Refer to Tab 104-10. Manhole adjustments in pavement shall include replacement with three-piece casting, SW-601 Type B or SW-602 Type F.  |
| 19       | 6010-108-E-0 | INTAKE ADJUSTMENT, MINOR<br>Refer to Tab 104-10. Included is removal and replacement of throat section, if noted in plans. Reuse of existing casting may be used if approved by the City at time of construction.  |
| 20       | 6010-102-F-0 | INTAKE ADJUSTMENT, MAJOR<br>Refer to Tab 104-10. Included is removal and replacement of throat section, if noted in plans. Also included sawcut, removal, and rebuild intake top as indicated. Reuse of existing casting may be used if approved by the City at time of construction.  |
| 21       | 6010-108-G-0 | CONNECTION TO EXISTING MANHOLE<br>This item to be used for connection of sanitary sewer main into existing manholes along 1st Street. Refer to U.2 Sheet for additional information. Connection should be watertight.  |
| 22       | 6010-108-H-0 | REMOVE INTAKE<br>Removal of intakes as noted in the plans.   |

**ESTIMATE REFERENCE INFORMATION**

| Item No. | Item Code    | Description  |
|----------|--------------|--|
| 23       | 7010-108-A-0 | PAVEMENT, PCC, 6 IN.   |
| 24       | 7010-108-A-0 | PAVEMENT, PCC, 7 IN.<br>Refer to typical sections on B Sheets. See B and D Sheets for locations. Class C mix shall be used unless approved by Engineer. Cure all roadway paving.   |
| 25       | 7010-108-A-0 | DRIVEWAY, PAVED, PCC, 6 IN.<br>Refer to Tab 102-3. Class C mix shall be used. Cure all driveway paving.  |
| 26       | 7010-108-I-0 | PCC PAVEMENT SAMPLES AND TESTING<br>Provide testing per the Specification as well as all plastic concrete assurance testing. Plastic concrete testing shall be performed by an independent testing agency hired by the Contractor. Included in this item is testing for driveway and sidewalk paving as noted in Section 7030, 3.11 of the Specifications.   |
| 27       | 7020-108-H-0 | OVERLAY, HMA (1,000,000 ESAL)<br>Refer to typical sections on B Sheets. See B and D Sheets for locations. Milling depth at existing pavement shall be 1 to 1.5 inches.   |
| 28       | 7020-108-H-0 | HMA PAVEMENT SAMPLES AND TESTING   |
| 29       | 7030-108-A-0 | REMOVAL OF SIDEWALK<br>Refer to Tab 110-5. Approximate depth of sidewalk is 4-inches.  |
| 30       | 7030-108-A-0 | REMOVAL OF DRIVEWAY<br>Refer to Tab 110-8. Existing driveway thickness is estimated at 6-inches.   |
| 31       | 7030-108-E-0 | SIDEWALK, PCC, 6 IN.<br>Refer to D and S Sheets for locations and tabulations. Additional work and material required for thickened edge as shown on B.1 is incidental. Class C mix shall be used. Cure all sidewalk paving.  |
| 32       | 7030-108-G-0 | DETECTABLE WARNINGS<br>Refer to D and S Sheets for locations and tabulations. Detectable warnings shall be installed at all pedestrian ramp locations. Material type shall be cast iron.   |
| 33       | 7040-108-A-0 | FULL DEPTH PATCHES<br>See D Sheets and Tab 102-6C for locations and details. Refer to U sheets for details. All patches shall be 8-inch in depth. Patches that are to be overlaid with 2-inches HMA shall maintain 8-inch thickness under the HMA overlay. Coordinate with City prior to removals. City reserves the right to remove or add patches depending on current pavement condition at the time of construction. |
| 34       | 7040-108-G-0 | MILLING<br>This item is used for the milling and overlay of Washington and 1st Streets. Also used for runouts at intersections and project limits. Refer to typical sections on B Sheets and D Sheets for locations. Nominal depth of 2-inches, refer to pavement borings on D sheets.   |
| 35       | 7040-108-H-0 | REMOVAL OF PAVEMENT<br>Refer to Tab 110-1. Refer to pavement core information on D Sheets for pavement depths.   |
| 36       | 9010-108-A-0 | HYDRAULIC SEEDING, FERTILIZATION, AND MULCHING<br>Quantity includes approximately 1 Acre for permanent seeding and 3 Acres To be used for any temporary seeding that is needed to comply with NPDES permit. Mulch shall be Bonded Fiber Matrix Type. Seed Type shall be Type 1 Permanent Lawn Mixture.   |
| 37       | 9010-108-E-0 | WARRANTY<br>Provide 12 month warranty for all permanent seeding per the Specifications.  |
| 38       | 9040-108-A-2 | SWPPP MANAGEMENT AND INSPECTIONS<br>Includes management of SWPPP per the Specifications and inspections required per the Contact Documents to comply with Iowa DNR NPDES Permit.   |
| 39       | 9040-108-D-1 | FILTER SOCKS, 6"<br>Refer to Tab 100-19. This item to be used to minimize the transport of sediment offsite and for protection of intake structures.   |
| 40       | 9040-108-D-2 | FILTER SOCKS, REMOVAL<br>Length of material properly removed from project will be measured for payment. Payment will be made at the contract unit price per linear foot.   |
| 41       | 9040-108-0-1 | STABILIZED CONSTRUCTION ENTRANCE<br>Refer to Tab 102-3 for locations.  |
| 42       | 9040-108-T-1 | INLET PROTECTION DEVICE, WATTLE<br>Refer to Tab 100-19. Removal of device is considered incidental to this item.   |
| 43       | 9040-108-T-2 | INLET PROTECTION DEVICE, MAINTENANCE<br>Removal and off-site disposal of accumulated sediment is considered incidental to this item.   |
| 44       | 9999-999-9-9 | TRAFFIC CONTROL<br>Refer to J Sheets for Traffic Control requirements.   |
| 45       | 9999-999-9-9 | SAFETY CLOSURE<br>Refer to Tab 108-13A and J Sheets for safety closure locations.  |
| 46       | 9999-999-9-9 | ADJUSTMENT OF VALVE BOX<br>To be used for adjustment of water valve boxes within full depth patches, HMA overlay locations, and  |

**ESTIMATE REFERENCE INFORMATION**

| Item No. | Item Code    | Description  |
|----------|--------------|--|
|          |              | reconstruction locations. Item includes all material, labor, and equipment required to adjust the valve box to finished grade. Valve boxes that are properly adjusted to final grade will be counted and paid for per each.  |
| 47       | 9999-999-9-9 | <b>P.C. CONCRETE PARKING CURB</b><br>This item includes construction of P.C. Concrete parking curb bumpers at locations noted in the plans. Removal of existing bumpers is incidental. Item includes all materials, labor, and equipment required to install P.C. concrete parking bumpers secured into pavement as recommended by manufacturer. Parking curbs shall be reinforced along the entire length with at least two reinforcing bars. Parking curb height shall be no more than 6-inch and no less than 4-inch. Parking curb length shall be no more than 8-feet and no less than 6-feet. Parking curbs that are installed will be counted and paid for per each.   |
| 48       | 9999-999-9-9 | <b>CLEANING AND PREPERATION OF BASE</b><br>This item is used for the milling and overlay of Washington and 1st Streets. Refer to typical sections on B Sheets and D Sheets for locations. Refer to Section 2212 in Iowa DOT Specifications for item requirements.  |
| 49       | 9999-999-9-9 | <b>GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE</b><br>This item to be used for temporary roadway and driveway access as required during construction. Refer to J Sheets for locations. This item includes removal of material following temporary use. Coordinate with City prior to using this item.  |
| 50       | 9999-999-9-9 | <b>BNSF WORK ON RAILROAD RIGHT-OF-WAY AND FLAGGER PROTECTION</b><br>Refer to Special Provision for Work on Railroad Right-of-Way (BNSF Railway) for additional information. Item includes flagger protection, insurance requirements, and other requirements noted in the Special Provision.   |
| 51       | 9999-999-9-9 | <b>PATCHES BY COUNT</b><br>Total number of patches will be counted by the Engineer. Payment is full compensation for providing the mobilization required for set up of each patch, installation of dowel bars at patch edge and for traffic control associated with each patch. Patches will be counted and paid per each.   |
| 52       | 11010-108-A  | <b>CONSTRUCTION SURVEY</b><br>Includes the replacement of section corners and property pins, if disturbed.   |
| 53       | 11020-108-A  | <b>MOBILIZATION</b>  |
| 54       | 11030-108-B  | <b>PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED</b><br>Refer to D Sheets for pavement marking locations and Tab 108-22 for pavement marking tabulation.   |
| 55       | 11040-108-A  | <b>MAINTENANCE OF POSTAL SERVICE</b><br>Includes all work associated with the removal, salvage, and relocation of the mailboxes affected by the project. Also included is maintaining temporary mailboxes during construction to a location approved by US Postal Service, location shall be in the direct vicinity of the impacted property owners. Multiple locations for temporary mailboxes will be needed for Jackson Street. As soon as reconstructed segments are complete, reinstall the mailboxes 42-inches above the driving surface and 6-8 inches behind the back of curb. Not less than 72 hours prior to removing any mailbox, notify each property owner in writing notifying them of the move and the location of the temporary mailbox. All mailboxes removed shall be stored on the property to which it belongs and at a sufficient distance from the work area to ensure it will not be damaged. Provide an accessible route to the temporary mailbox location for each property. This item includes all materials, labor, equipment, and coordination to maintain postal service to property owners and properly reinstall mailboxes. Payment will be based on the contract lump sum price. |
| 56       | 11040-108-B  | <b>MAINTENANCE OF SOLID WASTE AND RECYCLING COLLECTION</b><br>Item includes maintaining garbage and recycling services to residents within the project limits throughout the duration of the project while property owners are impacted by construction. Item includes all materials, labor, and equipment required to haul garbage and recycling containers from the property owners home to a local pick-up point and back to the residents home following collection. Contractor shall coordinate a local pick-up point with the garbage and recycling services. A removable sticker shall be placed on each container to ensure that the containers are returned to the appropriate property owner. Contractor shall coordinate with the City, engineer, property owners, and garbage and recycling services. Item measurement shall be on a lump sum basis for completion of this item as described above. Payment will be based on the contract lump sum price.  |
| 57       | 11060-108-A  | <b>CONCRETE WASHOUT</b><br>Coordinate washout location with City and Engineer prior to installation.   |

**PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE**

| Location      |             |      | Length of Installation |            |             |             | Remarks                   |
|---------------|-------------|------|------------------------|------------|-------------|-------------|---------------------------|
| Begin Station | End Station | Side | 6 inch Dia             | 9 inch Dia | 12 inch Dia | 20 inch Dia |                           |
|               |             |      | LF                     | LF         | LF          | LF          |                           |
| Madison       | Dayton      |      | 20.0                   |            |             |             | Offsite intake protection |
| Madison       | Freemont    |      | 20.0                   |            |             |             | Offsite intake protection |
| 104+50.00     | 104+50.00   | LT   | 20.0                   |            |             |             | Intake protection         |
| 104+50.00     | 104+50.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| Madison       | Brobst      |      | 20.0                   |            |             |             | Offsite intake protection |
| 213+75.00     | 213+75.00   | LT   | 20.0                   |            |             |             | Intake protection         |
| 213+75.00     | 231+75.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| 500+80.00     | 500+80.00   | LT   | 20.0                   |            |             |             | Intake protection         |
| 500+80.00     | 500+80.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| 503+15.00     | 503+15.00   | LT   | 20.0                   |            |             |             | Intake protection         |
| 503+15.00     | 503+15.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| 503+50.00     | 503+50.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| 503+50.00     | 503+50.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| 504+05.00     | 504+05.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| 506+70.00     | 506+70.00   | LT   | 20.0                   |            |             |             | Intake protection         |
| 506+70.00     | 506+70.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| 510+44.00     | 510+44.00   | LT   | 20.0                   |            |             |             | Intake protection         |
| 510+44.00     | 510+44.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| 513+65.00     | 513+65.00   | LT   | 20.0                   |            |             |             | Intake protection         |
| 513+65.00     | 513+65.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| 514+50.00     | 514+50.00   | LT   | 20.0                   |            |             |             | Intake protection         |
| 514+50.00     | 514+50.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| 700+91.00     | 700+91.00   | LT   | 20.0                   |            |             |             | Intake protection         |
| 700+91.00     | 700+91.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| 705+60.00     | 705+60.00   | LT   | 20.0                   |            |             |             | Intake protection         |
| 706+80.00     | 706+80.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| 708+60.00     | 708+60.00   | LT   | 20.0                   |            |             |             | Intake protection         |
| 807+13.00     | 807+13.00   | LT   | 20.0                   |            |             |             | Intake protection         |
| 807+13.00     | 807+13.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| 808+06.00     | 808+06.00   | RT   | 20.0                   |            |             |             | Intake protection         |
| 812+65.00     | 812+65.00   | LT   | 20.0                   |            |             |             | Intake protection         |
| Subtotal:     |             |      | 620.0                  |            |             |             |                           |
| 25 Percent    |             |      | 155.0                  |            |             |             |                           |
| Total:        |             |      | 775.0                  |            |             |             |                           |

**ADJUSTMENT OF FIXTURES**

| No.    | Location Station | Type of Fixture  | Adjustment  |
|--------|------------------|------------------|---|
| 1      | 105+16           | SANITARY MANHOLE | MINOR ADJUSTMENT                                      |
| 2      | 108+06           | SANITARY MANHOLE | MINOR ADJUSTMENT                                      |
| 3      | 107+74           | VALVE BOX        |   |
| 4      | 202+14           | SANITARY MANHOLE | MINOR ADJUSTMENT                                      |
| 5      | 213+65           | SANITARY MANHOLE | MINOR ADJUSTMENT                                      |
| 6      | 503+15           | STORM INTAKE     | MINOR ADJUSTMENT                                      |
| 7      | 503+48           | STORM INTAKE     | MINOR ADJUSTMENT                                      |
| 8      | 503+50           | STORM INTAKE     | MINOR ADJUSTMENT                                      |
| 9      | 503+78           | SANITARY MANHOLE | MINOR ADJUSTMENT                                      |
| 10     | 504+06           | STORM INTAKE     | MINOR ADJUSTMENT                                      |
| 11     | 507+15           | SANITARY MANHOLE | MINOR ADJUSTMENT                                      |
| 12     | 510+30           | VALVE BOX (5)    | CLUSTER OF FIVE VALVES                                |
| 13     | 510+22           | SANITARY MANHOLE | MINOR ADJUSTMENT, PCC BOXOUT                          |
| 14     | 513+72           | SANITARY MANHOLE | MINOR ADJUSTMENT, PCC BOXOUT                          |
| 15     | 520+85           | SANITARY MANHOLE | MINOR ADJUSTMENT                                      |
| 16     | 705+58           | STORM INTAKE     | MINOR ADJUSTMENT                                      |
| 17     | 705+95           | SANITARY MANHOLE | MINOR ADJUSTMENT, REPLACE CASTING WITH SW-601, TYPE A |
| 18     | 706+81           | STORM INTAKE     | MINOR ADJUSTMENT                                      |
| Totals |                  | 10               | Manhole, Minor,                                       |
|        |                  | 6                | Intake, Minor   |
|        |                  | 6                | Valve Box   |

### ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

\*Predetermined for access point not constructed with this project.

| Location  |      | Type                                    | Length of Opening |                     |                 | W    | PR | SR | Pipe Culvert |      |             |     |     | Aprons | Driveway Surface Area |        | Construction Entrance | Remarks |
|-----------|------|---|-------------------|---------------------|-----------------|------|----|----|--------------|------|-------------|-----|-----|--------|-----------------------|--------|-----------------------|---------|
| Station   | Side | A, B, C, Safety Ramp, or Predetermined* | Case              | 1 1/2" Dropped Curb | 3" Dropped Curb | FT   | FT | FT | H            | Size | Pipe Length | Lt. | Rt. | No.    | HMA                   | PCC    | TON                   |         |
|           |      |   | 1 or 2            | LF                  | LF              | FT   | FT | FT | IN           | LF   | LF          | LF  | SY  | SY     |                       |        |                       |         |
| 101+77.38 | LT   | C                                       | 2                 |                     | 16.5            | 11.0 |    |    |              |      |             |     |     |        |                       | 8.6    |                       |         |
| 101+82.23 | RT   | C                                       | 2                 |                     | 15.3            | 10.0 |    |    |              |      |             |     |     |        |                       | 7.7    |                       |         |
| 102+16.71 | LT   | C                                       | 2                 |                     | 15.2            | 9.5  |    |    |              |      |             |     |     |        |                       | 7.9    |                       |         |
| 102+54.59 | LT   | C                                       | 2                 |                     | 16.5            | 10.0 |    |    |              |      |             |     |     |        |                       | 9.4    |                       |         |
| 102+84.41 | LT   | C                                       | 2                 |                     | 28.2            | 21.0 |    |    |              |      |             |     |     |        |                       | 19.2   |                       |         |
| 104+77.61 | LT   | C                                       | 2                 |                     | 42.0            | 34.6 |    |    |              |      |             |     |     |        |                       | 33.6   |                       |         |
| 105+49.95 | LT   | C                                       | 2                 |                     | 19.0            | 14.0 |    |    |              |      |             |     |     |        |                       | 9.7    |                       |         |
| 106+12.58 | LT   | C                                       | 2                 |                     | 20.0            | 10.0 |    |    |              |      |             |     |     |        |                       | 15.9   |                       |         |
| 106+22.61 | RT   | C                                       | 2                 |                     | 18.0            | 11.0 |    |    |              |      |             |     |     |        |                       | 11.7   |                       |         |
| 106+35.75 | LT   | C                                       | 2                 |                     | 18.0            | 9.0  |    |    |              |      |             |     |     |        |                       | 14.2   |                       |         |
| 701+73.01 | LT   | C                                       | 2                 | 51.5                |                 | 40.0 |    |    |              |      |             |     |     |        |                       | 60.0   |                       |         |
| 702+44.30 | LT   | C                                       | 2                 | 21.0                |                 | 9.0  |    |    |              |      |             |     |     |        |                       | 20.2   |                       |         |
| 702+91.18 | LT   | C                                       | 2                 | 21.0                |                 | 9.0  |    |    |              |      |             |     |     |        |                       | 19.4   |                       |         |
| 703+12.17 | RT   | C                                       | 2                 | 30.0                |                 | 17.5 |    |    |              |      |             |     |     |        |                       | 34.2   |                       |         |
| 703+18.16 | LT   | C                                       | 2                 | 22.4                |                 | 10.0 |    |    |              |      |             |     |     |        |                       | 22.1   |                       |         |
| 703+68.41 | LT   | C                                       | 2                 | 21.0                |                 | 9.0  |    |    |              |      |             |     |     |        |                       | 20.8   |                       |         |
| 703+93.77 | LT   | C                                       | 2                 | 22.0                |                 | 10.0 |    |    |              |      |             |     |     |        |                       | 20.4   |                       |         |
| 704+42.25 | LT   | C                                       | 2                 | 23.0                |                 | 11.0 |    |    |              |      |             |     |     |        |                       | 21.8   |                       |         |
| 705+45.28 | RT   | C                                       | 2                 | 35.0                |                 | 22.0 |    |    |              |      |             |     |     |        |                       | 41.3   |                       |         |
| 707+23.41 | LT   | C                                       | 2                 | 27.0                |                 | 16.0 |    |    |              |      |             |     |     |        |                       | 26.4   |                       |         |
| 707+54.97 | RT   | C                                       | 2                 | 99.0                |                 | 86.0 |    |    |              |      |             |     |     |        |                       | 134.7  |                       |         |
| 707+76.30 | RT   | C                                       | 2                 | 31.5                |                 | 20.0 |    |    |              |      |             |     |     |        |                       | 33.1   |                       |         |
| 801+13.55 | LT   | C                                       | 2                 | 30.0                |                 | 18.0 |    |    |              |      |             |     |     |        |                       | 32.4   |                       |         |
| 803+20.20 | RT   | C                                       | 2                 |                     | 32.5            | 20.0 |    |    |              |      |             |     |     |        |                       | 35.9   |                       |         |
| 803+29.45 | LT   | C                                       | 2                 | 34.0                |                 | 21.7 |    |    |              |      |             |     |     |        |                       | 38.3   |                       |         |
| 804+19.70 | LT   | C                                       | 2                 | 36.0                |                 | 24.0 |    |    |              |      |             |     |     |        |                       | 40.3   |                       |         |
| 804+49.57 | RT   | C                                       | 2                 |                     | 32.0            | 20.0 |    |    |              |      |             |     |     |        |                       | 35.8   |                       |         |
| 805+02.33 | RT   | C                                       | 2                 |                     | 32.0            | 20.0 |    |    |              |      |             |     |     |        |                       | 33.4   |                       |         |
| 805+64.11 | LT   | C                                       | 2                 | 36.0                |                 | 24.0 |    |    |              |      |             |     |     |        |                       | 42.1   |                       |         |
| 805+90.31 | RT   | C                                       | 2                 |                     | 29.0            | 17.0 |    |    |              |      |             |     |     |        |                       | 31.4   |                       |         |
| 806+43.41 | LT   | C                                       | 2                 | 31.0                |                 | 20.0 |    |    |              |      |             |     |     |        |                       | 31.8   |                       |         |
| 808+28.67 | RT   | C                                       | 2                 | 31.0                |                 | 19.5 |    |    |              |      |             |     |     |        |                       | 33.3   |                       |         |
| 808+75.91 | LT   | C                                       | 2                 | 34.0                |                 | 21.0 |    |    |              |      |             |     |     |        |                       | 41.4   |                       |         |
| 809+54.57 | RT   | C                                       | 2                 | 29.7                |                 | 17.9 |    |    |              |      |             |     |     |        |                       | 30.9   |                       |         |
| 809+82.64 | LT   | C                                       | 2                 | 30.4                |                 | 18.0 |    |    |              |      |             |     |     |        |                       | 34.0   |                       |         |
| 810+37.71 | RT   | C                                       | 2                 | 31.2                |                 | 19.7 |    |    |              |      |             |     |     |        |                       | 32.3   |                       |         |
| 810+65.24 | LT   | C                                       | 2                 | 35.0                |                 | 22.0 |    |    |              |      |             |     |     |        |                       | 42.0   |                       |         |
| 811+34.60 | RT   | C                                       | 2                 | 28.4                |                 | 16.4 |    |    |              |      |             |     |     |        |                       | 29.6   |                       |         |
| 812+35.70 | LT   | C                                       | 2                 | 23.4                |                 | 17.0 |    |    |              |      |             |     |     |        |                       | 14.7   |                       |         |
| Total:    |      |   |                   |                     |                 |      |    |    |              |      |             |     |     |        |                       | 1172.2 |                       |         |

### SAFETY CLOSURES

| Station       | Closure Type |             | Remarks |
|---------------|--------------|-------------|---------|
|               | Road Qty.    | Hazard Qty. |         |
| Jeff/Dayton   | 1            |             |         |
| Jeff/Fremont  | 1            |             |         |
| Jeff/Brobst   | 4            |             |         |
| Wash/Kent     | 4            |             |         |
| Wash/2nd      | 4            |             |         |
| 1st/Robinson  | 1            |             |         |
| 1st/Alley     | 2            |             |         |
| 1st/Main      | 2            |             |         |
| 1st/Alley     | 2            |             |         |
| 1st/Marion    | 1            |             |         |
| 1st/Babbit    | 2            |             |         |
| Jack/Stone    | 2            |             |         |
| Jack/Valley   | 2            |             |         |
| Jack/Gebhardt | 1            |             |         |
| Gebh/Larson   | 1            |             |         |
| Gebh/GrandV   | 1            |             |         |
| Gebh/Jackson  | 1            |             |         |
| <b>Total</b>  | <b>32</b>    |             |         |

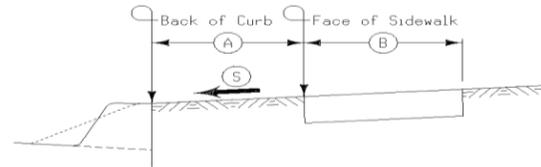




113-1  
MODIFIED

**SIDEWALKS**

SEE S SHEETS



| Road Identification | Station to Station |           | Side | (A)    | (B)    | (S)    | 4" PCC Sidewalk SY | 6" PCC Sidewalk SY | _" PCC Sidewalk SY | Detectable Warnings SF | Remarks   |
|---------------------|--------------------|-----------|------|--------|--------|--------|--------------------|--------------------|--------------------|------------------------|-----------|
|                     |                    |           |      | FT     | FT     | %      |                    |                    |                    |                        |           |
| W Jefferson St      | 107+75.94          | 107+87.50 | LT   | Varies | 4.00   | Varies |                    | 9.3                |                    | 16                     | NW Corner |
| W Jefferson St      | 107+76.42          | 107+80.44 | RT   | Varies | 4.00   | Varies |                    | 4.0                |                    | 8                      | SW Corner |
| W Jefferson St      | 108+18.77          | 108+44.63 | LT   | Varies | 4.00   | Varies |                    | 10.9               |                    | 8                      | NE Corner |
| Washington St       | 201+08.88          | 201+23.38 | RT   | Varies | 4.00   | Varies |                    | 21.2               |                    | 16                     | SW Corner |
| Washington St       | 201+49.75          | 201+69.75 | RT   | Varies | 4.00   | Varies |                    | 8.9                |                    | 8                      | SE Corner |
| Washington St       | 206+89.58          | 207+23.84 | LT   | Varies | 4.00   | Varies |                    | 24.0               |                    | 16                     | NW Corner |
| Washington St       | 206+93.45          | 207+21.09 | RT   | Varies | 4.00   | Varies |                    | 21.7               |                    | 16                     | SW Corner |
| Washington St       | 213+24.23          | 213+28.23 | LT   | Varies | 4.00   | Varies |                    | 4.1                |                    | 8                      | NW Corner |
| Washington St       | 213+24.83          | 213+28.83 | RT   | Varies | 4.00   | Varies |                    | 13.9               |                    | 8                      | SW Corner |
| Washington St       | 216+42.59          | 216+55.98 | LT   | Varies | 4.00   | Varies |                    | 17.3               |                    | 16                     | NW Corner |
| Washington St       | 216+45.22          | 216+49.22 | RT   | Varies | 4.00   | Varies |                    | 10.6               |                    | 8                      | SW Corner |
| 1st Street          | 503+33.00          | 503+48.94 | RT   | Varies | Varies | Varies |                    | 45.7               |                    | 16                     | SE Corner |
| 1st Street          | 503+35.04          | 503+57.21 | LT   | Varies | Varies | Varies |                    | 63.4               |                    | 16                     | SW Corner |
| 1st Street          | 503+98.49          | 504+17.35 | LT   | Varies | Varies | Varies |                    | 52.8               |                    | 20                     | NW Corner |
| 1st Street          | 504+05.17          | 504+29.69 | RT   | Varies | Varies | Varies |                    | 50.1               |                    | 16                     | NE Corner |
| 1st Street          | 506+73.83          | 506+85.83 | LT   | Varies | 4.00   | Varies |                    | 16.8               |                    | 8                      | SW Corner |
| 1st Street          | 506+76.12          | 506+82.12 | RT   | Varies | 6.00   | Varies |                    | 4.0                |                    | 12                     | SE Corner |
| 1st Street          | 517+01.69          | 517+05.36 | LT   | Varies | 4.00   | Varies |                    | 15.4               |                    | 8                      | SW Corner |
| 1st Street          | 517+00.85          | 517+04.97 | RT   | Varies | 4.00   | Varies |                    | 10.0               |                    | 8                      | SE Corner |
| 1st Street          | 521+17.54          | 521+21.54 | RT   | Varies | 4.00   | Varies |                    | 6.4                |                    | 8                      | SE Corner |
| Gebhardt St         | 701+00.27          | 701+12.18 | LT   | Varies | 4.00   | Varies |                    | 11.3               |                    | 8                      | NW Corner |
| Gebhardt St         | 701+01.50          | 701+13.90 | RT   | Varies | 4.00   | Varies |                    | 13.9               |                    | 8                      | NE Corner |
| Gebhardt St         | 705+36.67          | 705+61.85 | LT   | Varies | 4.00   | Varies |                    | 18.4               |                    | 8                      | SW Corner |
| Gebhardt St         | 705+89.66          | 706+08.42 | LT   | Varies | 4.00   | Varies |                    | 14.7               |                    | 16                     | NW Corner |
| Gebhardt St         | 705+95.98          | 706+07.94 | RT   | Varies | 4.00   | Varies |                    | 11.2               |                    | 8                      | NE Corner |
| Jackson St          | 801+33.28          | 801+65.63 | RT   | Varies | 4.00   | Varies |                    | 25.3               |                    | 16                     | SW Corner |
| Jackson St          | 801+35.02          | 801+71.16 | LT   | Varies | 4.00   | Varies |                    | 21.7               |                    | 16                     | NW Corner |
| Jackson St          | 801+95.20          | 802+16.98 | RT   | Varies | 4.00   | Varies |                    | 12.6               |                    | 8                      | SE Corner |
| Jackson St          | 802+00.57          | 802+25.09 | LT   | Varies | 4.00   | Varies |                    | 14.1               |                    | 8                      | NE Corner |
|                     |                    |           |      | Total: |        |        |                    | 553.4              |                    | 336                    |           |

110-8  
MODIFIED

**REMOVAL OF CONCRETE DRIVES**

| Location  |      | Area  | Remarks |
|-----------|------|-------|---------|
| Station   | Side | SY    |         |
| 101+77.38 | LT   | 7.5   |         |
| 101+82.23 | RT   | 9.1   |         |
| 102+16.71 | LT   | 7.3   |         |
| 102+54.59 | LT   | 9.7   |         |
| 102+84.41 | LT   | 18.3  |         |
| 104+82.73 | LT   | 28.6  |         |
| 105+49.95 | LT   | 10.2  |         |
| 106+12.58 | LT   | 13.1  |         |
| 106+22.61 | RT   | 11.1  |         |
| 106+35.75 | LT   | 9.3   |         |
| 701+73.01 | LT   | 55.9  |         |
| 702+44.30 | LT   | 16.8  |         |
| 702+91.18 | LT   | 17.3  |         |
| 703+12.17 | RT   | 28.6  |         |
| 703+18.16 | LT   | 14.0  |         |
| 703+68.41 | LT   | 13.2  |         |
| 703+93.77 | LT   | 14.5  |         |
| 704+42.25 | LT   | 15.4  |         |
| 705+45.28 | RT   | 37.2  |         |
| 707+23.41 | LT   | 20.7  |         |
| 707+54.97 | RT   | 125.0 |         |
| 707+76.30 | RT   | 26.0  |         |
| 801+15.56 | LT   | 30.5  |         |
| 803+20.66 | RT   | 30.9  |         |
| 803+29.67 | LT   | 30.7  |         |
| 804+19.70 | LT   | 32.4  |         |
| 804+49.57 | RT   | 33.9  |         |
| 805+02.33 | RT   | 28.3  |         |
| 805+64.11 | LT   | 36.8  |         |
| 805+90.31 | RT   | 25.5  |         |
| 806+43.41 | LT   | 26.2  |         |
| 808+28.67 | RT   | 32.4  |         |
| 808+75.91 | LT   | 31.4  |         |
| 809+54.57 | RT   | 23.4  |         |
| 809+82.64 | LT   | 25.8  |         |
| 810+37.71 | RT   | 25.2  |         |
| 810+65.24 | LT   | 33.2  |         |
| 811+34.60 | RT   | 22.4  |         |
| 812+35.70 | LT   | 14.2  |         |
| Total     |      | 992.1 |         |

**POLLUTION PREVENTION PLAN**

This Base Pollution Prevention Plan (PPP) includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed per plan revisions or by contract modification, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The prime contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

**I. ROLES AND RESPONSIBILITIES**

**A. Designer:**

1. Prepares Base PPP included in the project plan.
2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
3. Signature authority on the Base PPP and NOI.

**B. Contractor/Subcontractor:**

1. Affected contractors/subcontractors are co-permittees with the City of Knoxville and will sign a certification statement adhering to the requirements of the NPDES permit and this PPP plan. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Submit a detailed schedule according to the Specifications and any additional plan notes.
3. Install and maintain appropriate controls.
4. Supervise and implement good housekeeping practices.
5. Conduct joint required inspections of the site with inspection staff.
6. Signature authority on Co-Permittee Certification Statements and storm water inspection reports.

**C. RCE/Inspector:**

1. Update PPP whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the discharge of pollutants from the project.
2. Maintain an up-to-date list that identifies contractors and subcontractors as co-permittees.
3. Make these plans available to the DNR upon their request.
4. Conduct joint required inspections of the site with the contractor/subcontractor.
5. Complete an inspection report after each inspection.
6. Signature authority on storm water inspection reports and Notice of Discontinuation (NOD).

**II. PROJECT SITE DESCRIPTION**

- A. This Pollution Prevention Plan (PPP) is for the construction of a roadway reconstruction.
- B. This PPP covers approximately 4.5 acres with an estimated 4.5 acres being disturbed. The portion of the PPP covered by this contract has 4.5 acres disturbed.
- C. The PPP is located in an area of Sharpsburg, Shelby, soil association. The estimated average SCS runoff curve number for this PPP after completion will be 83.0.
- D. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including:
  1. Drainage patterns - Plan and Profile sheets and Situation plans.
  2. Proposed Slopes - Cross Sections.
  3. Areas of Soil Disturbance - construction limits shown on Plan and Profile sheets.
  4. Location of Structural Controls - Tabulations on C sheets.
  5. Locations of Non-structural Controls - Tabulations on C sheets.
  6. Locations of Stabilization Practices - generally within construction limits shown on Plan and Profile sheets.
  7. Surface Waters (including wetlands) - Plan and Profile sheets.
  8. Locations where storm water is discharged - Plan and Profile sheets.
- E. The base site map is amended by contract modifications and progress payments of completed erosion control work.
- F. Runoff from this work will flow into White Breast Creek to Lake Red Rock to Des Moines River.

**III. CONTROLS**

- A. The contractor's work plan and sequence of operations for accomplishment of storm water controls should clearly describe the intended sequence of major activities and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Specifications define requirements to implement erosion and sediment control measures. Actual quantities used may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water monitoring inspections. If the work involved is not applicable to any contract items, the work will be paid for according to the Specifications.
  1. EROSION AND SEDIMENT CONTROLS
    - a. Stabilization Practices
      - 1) Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized.
      - 2) Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased.
      - 3) Temporary stabilizing seeding shall be completed as the disturbed areas are constructed. If construction activity is not planned to occur in a disturbed area for at least 21 days, the area shall be stabilized by temporary seeding or mulching within 14 days. Other stabilizing methods shall be used outside the seeding time period.
      - 4) Stabilization measures to be used for this project are located in the Estimated Project Quantities and Estimate Reference Information located on the C sheets of the plan. Additional items may be found in the Inspector's Daily Reports (IDR) or Contract Modifications.
    - b. Structural Practices
      - 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site.
      - 2) Structural items to be used for this project are located in the Estimated Project Quantities and Estimate Reference Information located on the C sheets of the plan, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B sheets of the plan or are referenced in the Standard Road Plans Tabulation.
    - c. Storm Water Management
      - 1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

**POLLUTION PREVENTION PLAN**

**2. OTHER CONTROLS**

- a. Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.
  - 1) Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
  - 2) Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
  - 3) Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
  - 4) Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
  - 5) Spill Prevention and Control - Implement procedures to contain and clean-up spills and prevent material discharges to the storm drain system and waters of the state.
  - 6) Concrete Residuals and Washout Wastes - Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located.
  - 7) Vehicle and Equipment Cleaning - Employ washing practices that prevent contamination of surface and ground water from wash water.
  - 8) Vehicle and Equipment Fueling and Maintenance - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site.
  - 9) Litter Management - Ensure employees properly dispose of litter.

**3. APPROVED STATE OR LOCAL PLANS**

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

**IV. MAINTENANCE PROCEDURES**

The contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

**V. INSPECTION REQUIREMENTS**

- A. Inspections shall be made jointly by the contractor and the contracting authority at least once every seven calendar days. Storm water monitoring inspections will include:
  1. Date of the inspection.
  2. Summary of the scope of the inspection.
  3. Name and qualifications of the personnel making the inspection.
  4. Rainfall amount.
  5. Review erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
  6. Major observations related to the implementation of the PPP.
  7. Identify corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water monitoring inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found and complete all actions within 3 calendar days of the inspection.

**VI. NON-STORM WATER DISCHARGES**

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of patio blocks, Class A stone, erosion stone or other appropriate materials.

**VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION**

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

**VIII. DEFINITIONS**

- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - May include Plan Revisions or Contract Modifications for new items and fieldbook entries made by the inspector.
- C. IDR - Inspector's Daily Report - this contains the inspector's daily diary and item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials.
- E. Signature Authority - Representative from Designer, Contractor/Subcontractor, or RCE/Inspector authorized to sign various storm water documents.

**CERTIFICATION STATEMENT**

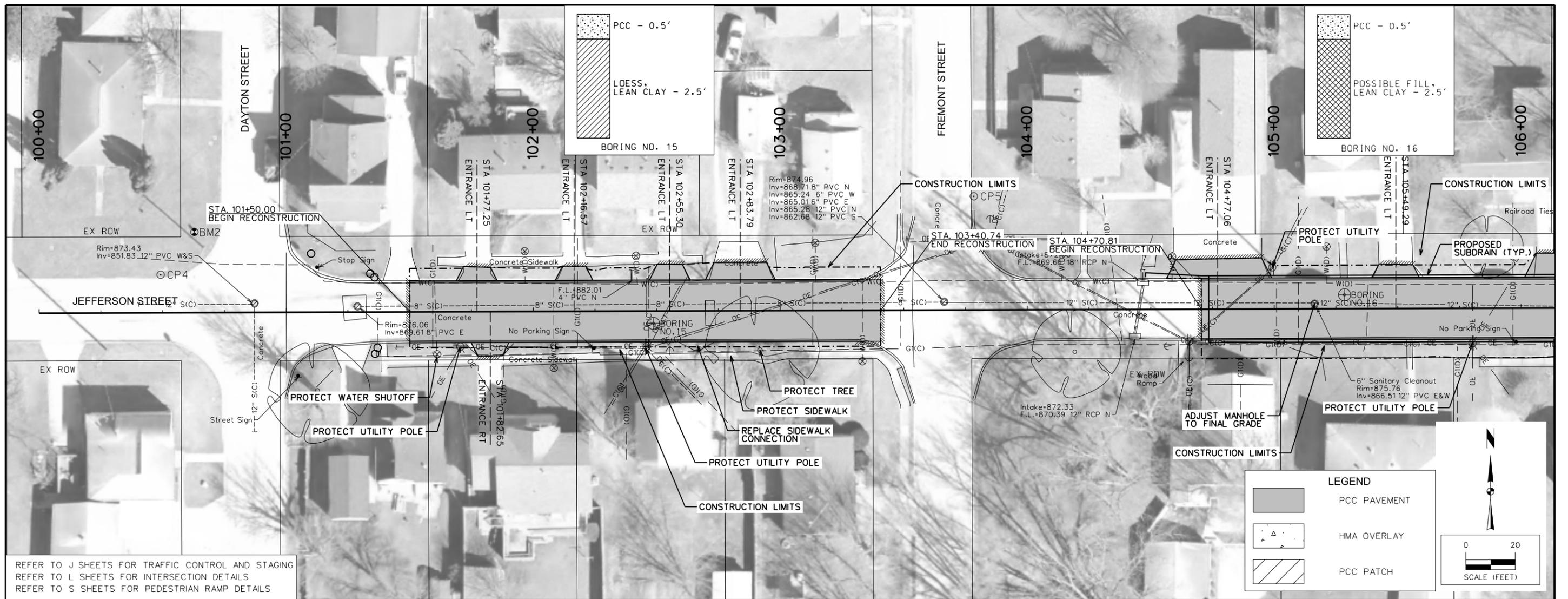
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

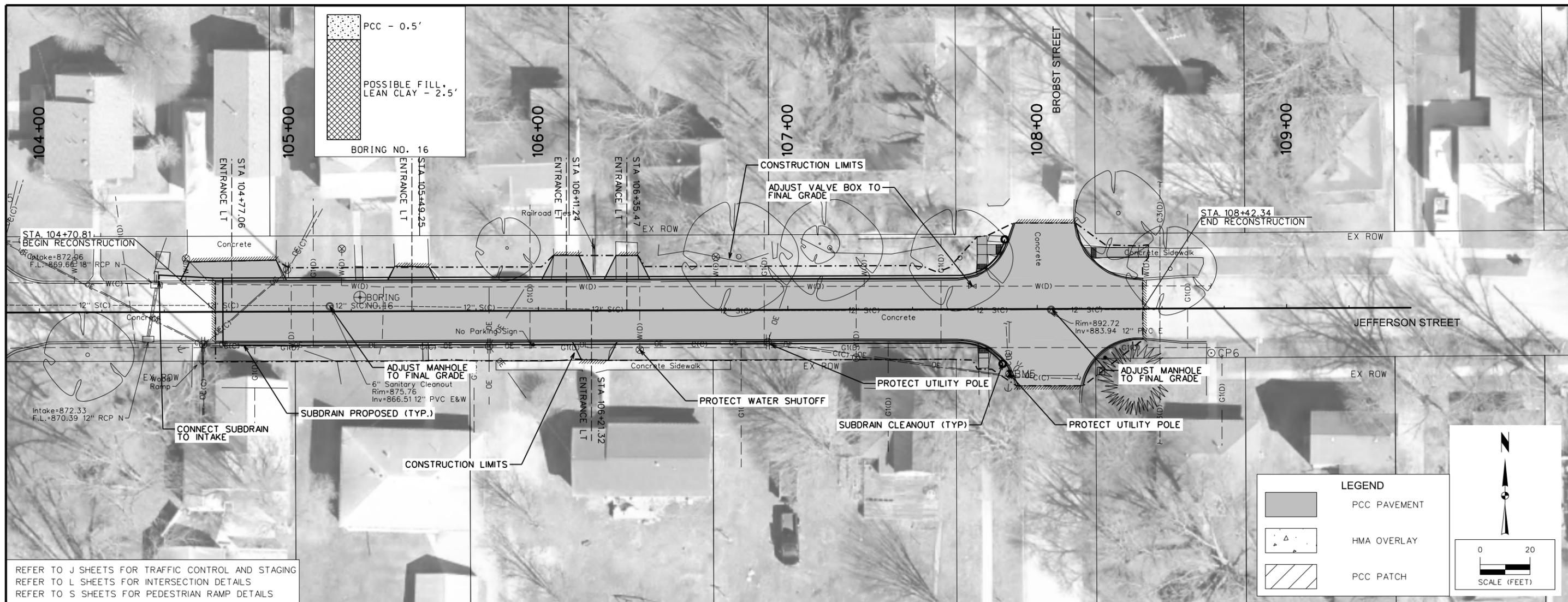
\_\_\_\_\_  
Consultant Signature

\_\_\_\_\_  
Printed or Typed Name

\_\_\_\_\_  
Contracting Authority Signature

\_\_\_\_\_  
Printed or Typed Name



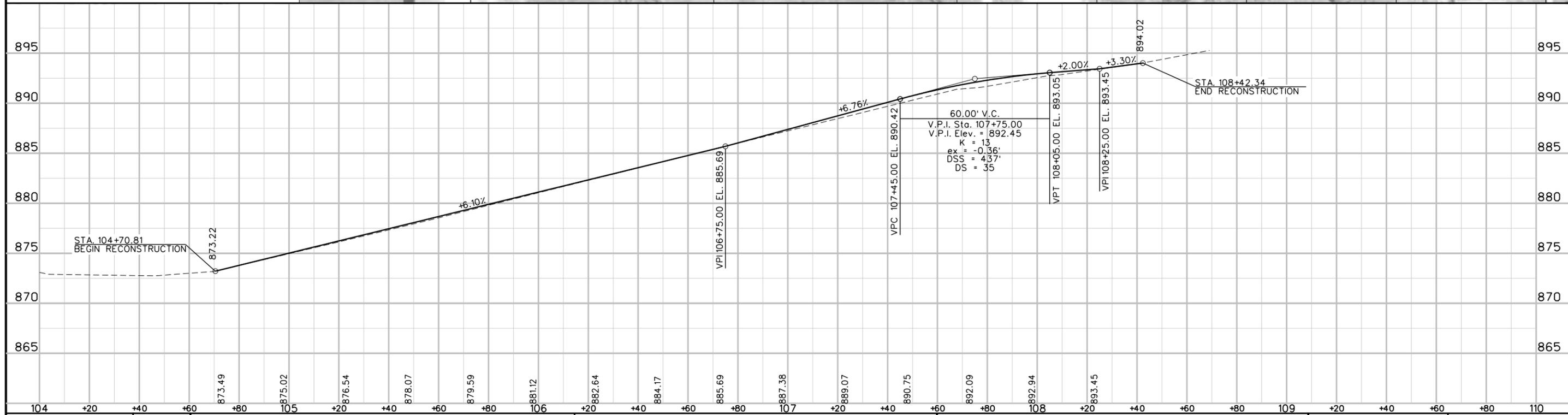


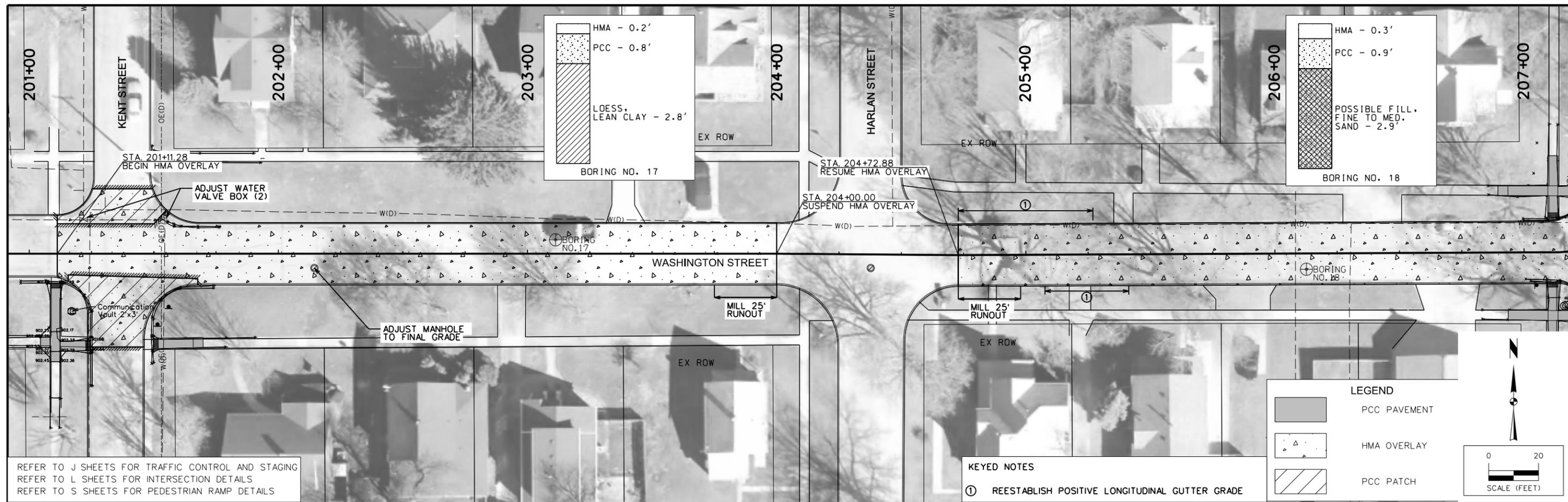
REFER TO J SHEETS FOR TRAFFIC CONTROL AND STAGING  
 REFER TO L SHEETS FOR INTERSECTION DETAILS  
 REFER TO S SHEETS FOR PEDESTRIAN RAMP DETAILS

**LEGEND**

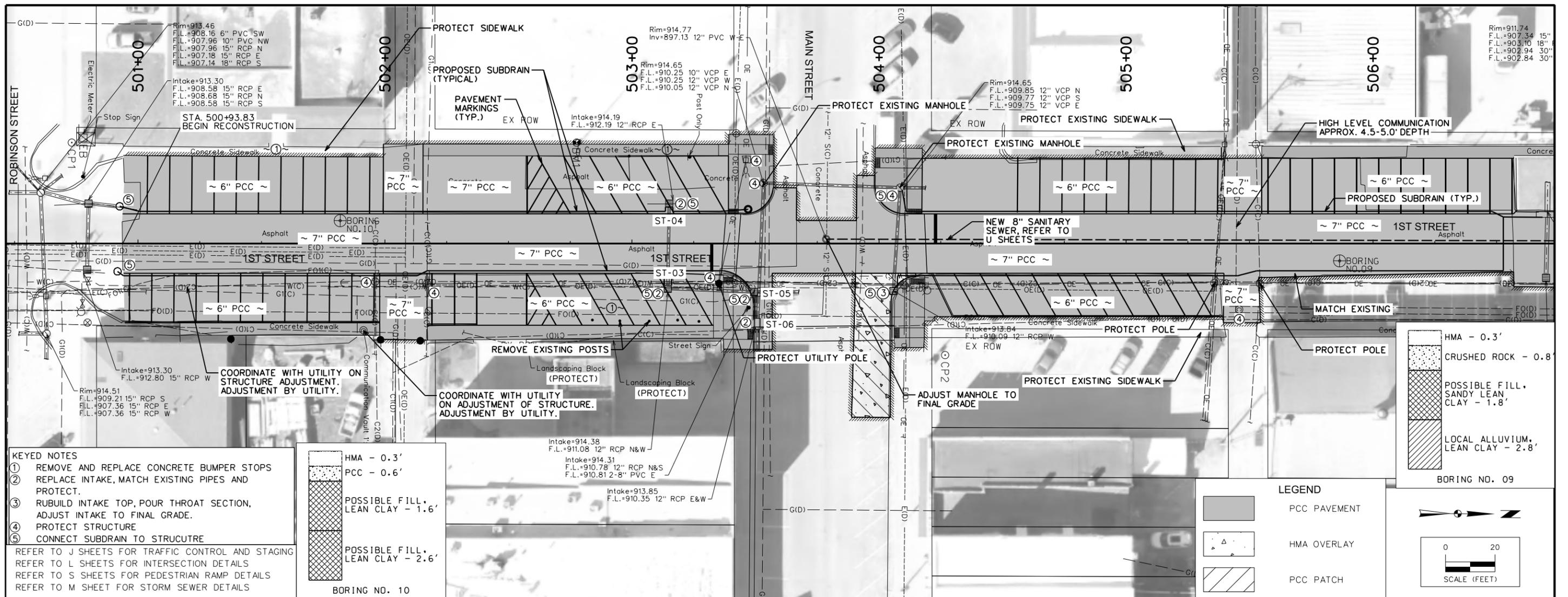
- PCC PAVEMENT
- HMA OVERLAY
- PCC PATCH

0 20  
SCALE (FEET)





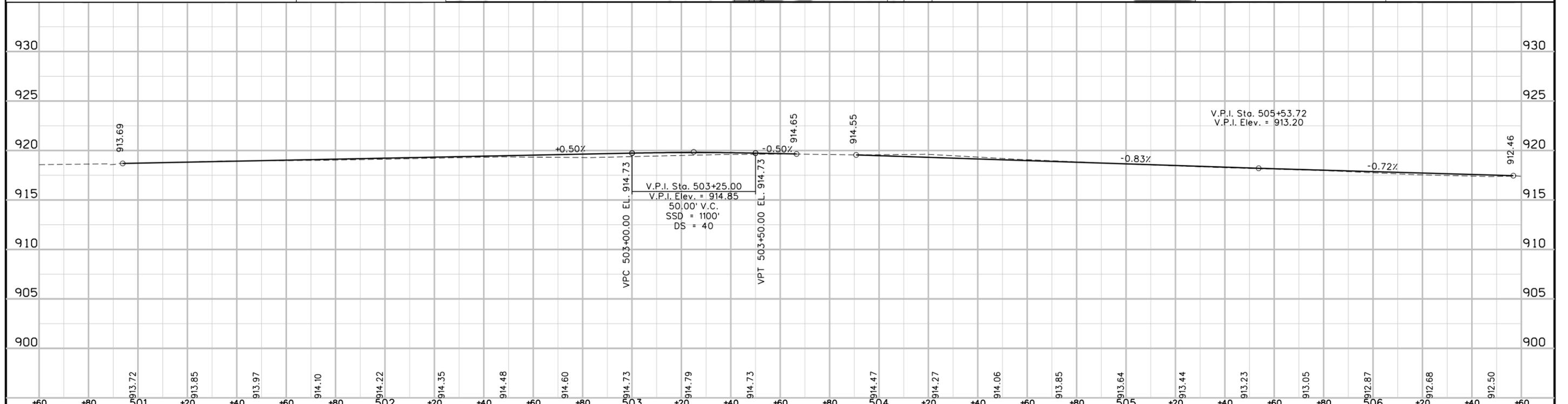
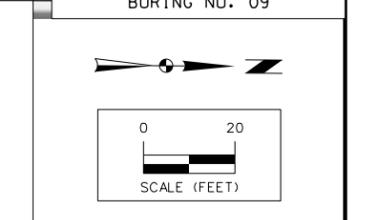
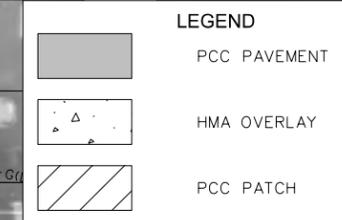
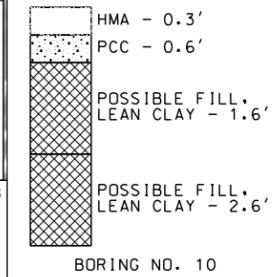




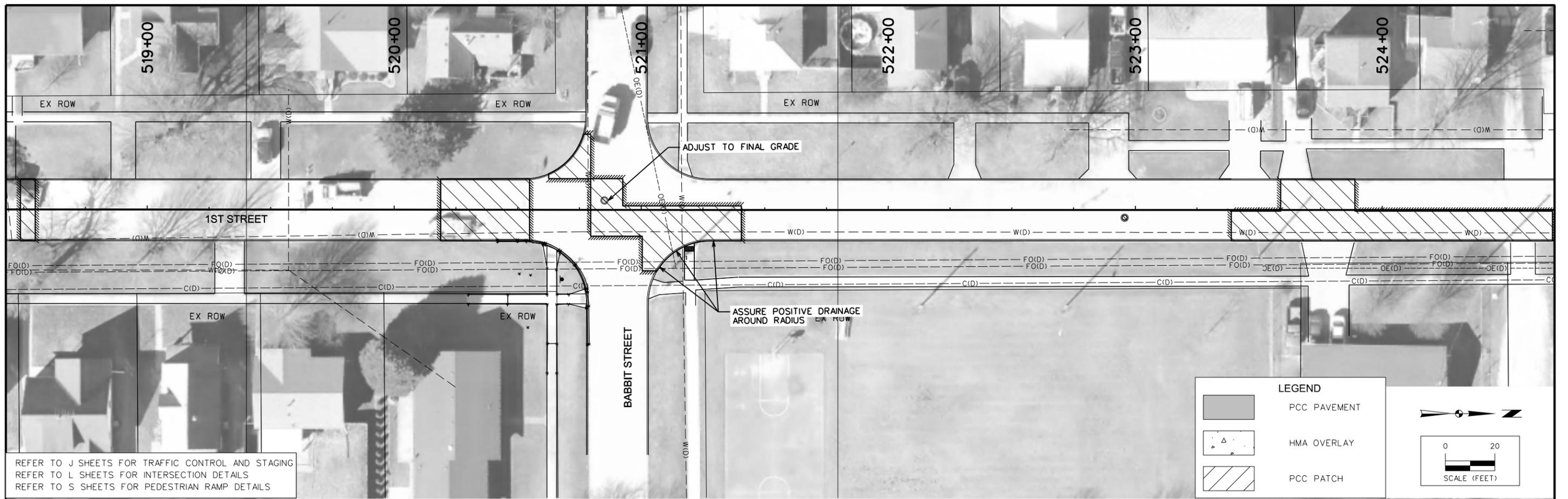
**KEYED NOTES**

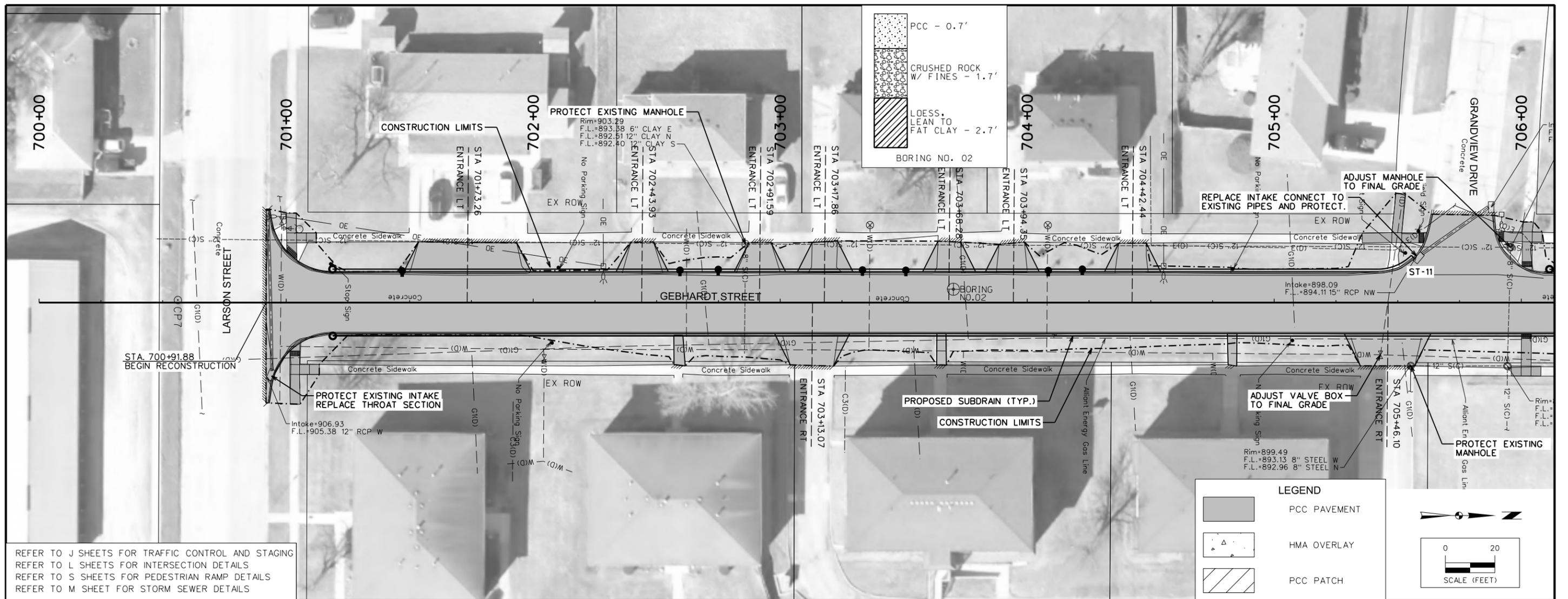
- ① REMOVE AND REPLACE CONCRETE BUMPER STOPS
- ② REPLACE INTAKE, MATCH EXISTING PIPES AND PROTECT.
- ③ RUBUILD INTAKE TOP, POUR THROAT SECTION, ADJUST INTAKE TO FINAL GRADE.
- ④ PROTECT STRUCTURE
- ⑤ CONNECT SUBDRAIN TO STRUCTURE

REFER TO J SHEETS FOR TRAFFIC CONTROL AND STAGING  
 REFER TO L SHEETS FOR INTERSECTION DETAILS  
 REFER TO S SHEETS FOR PEDESTRIAN RAMP DETAILS  
 REFER TO M SHEET FOR STORM SEWER DETAILS

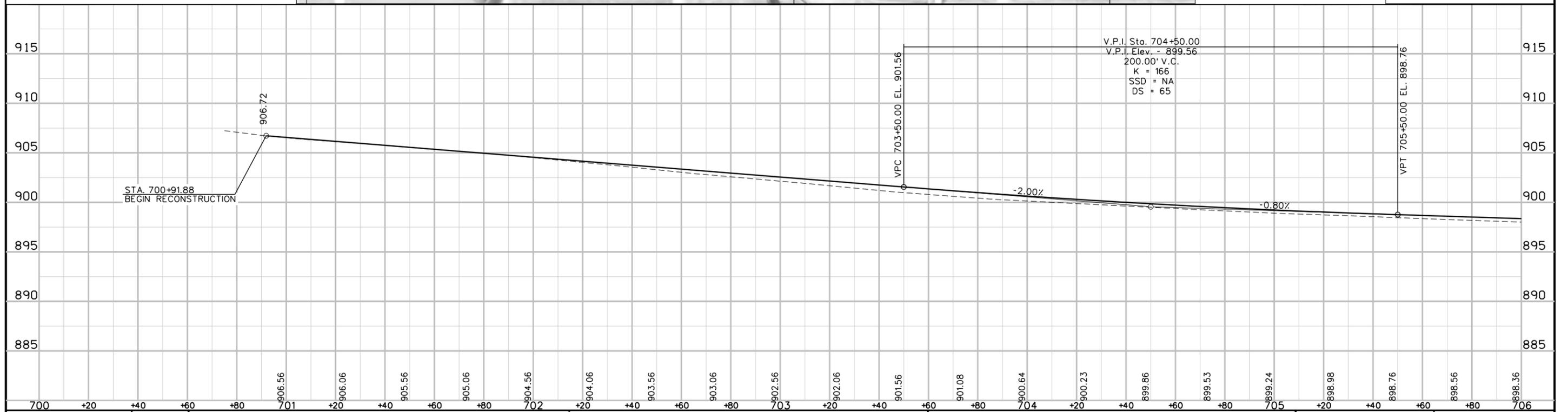


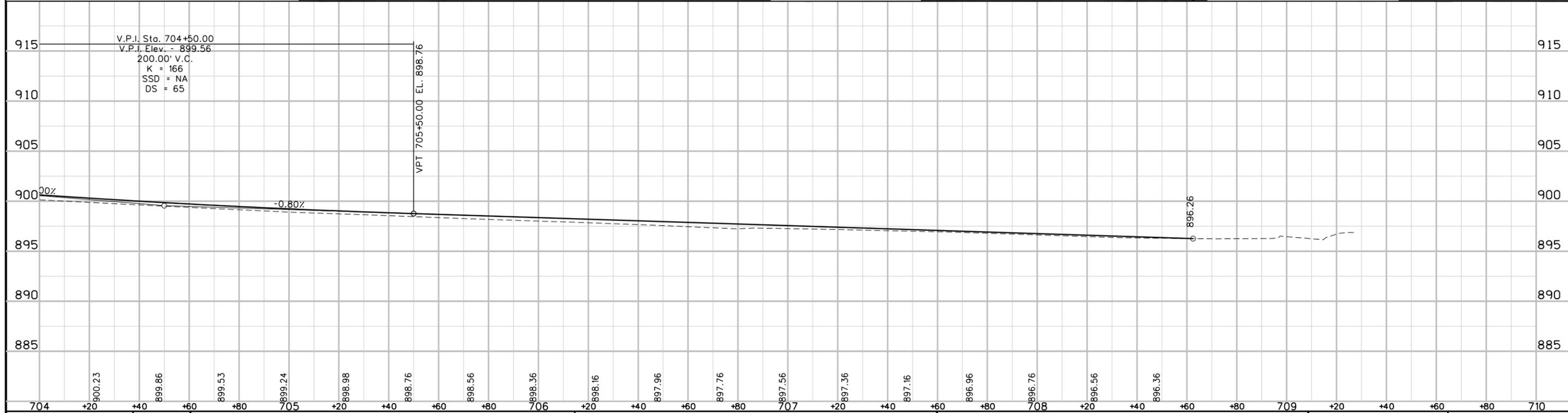
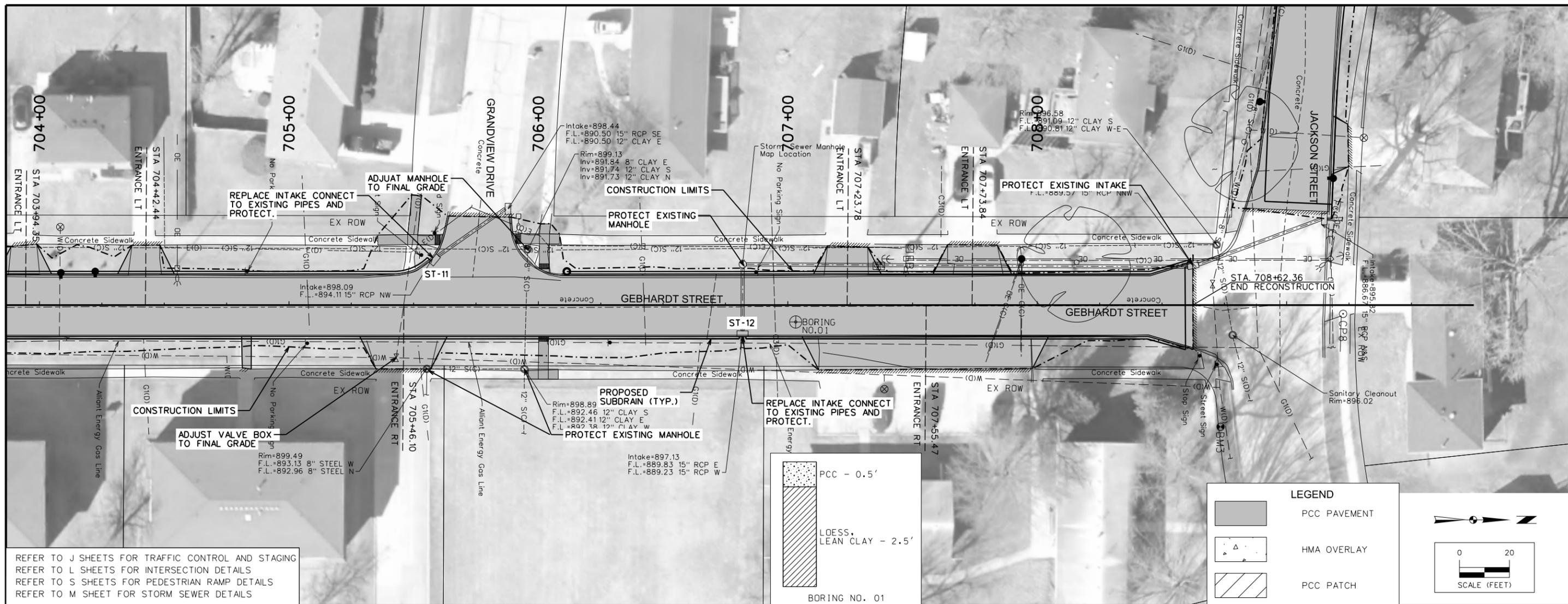




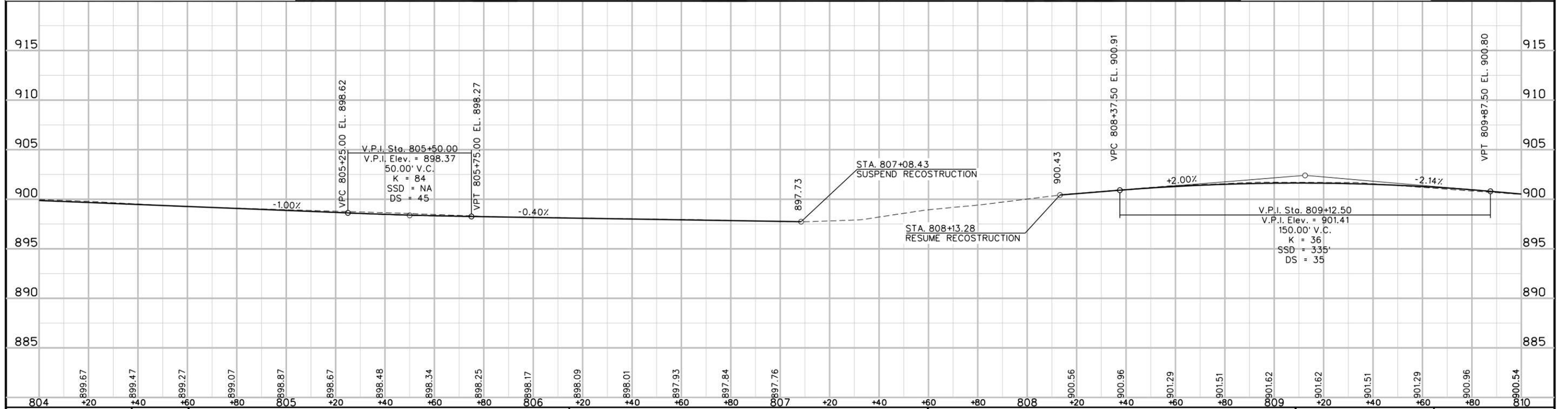
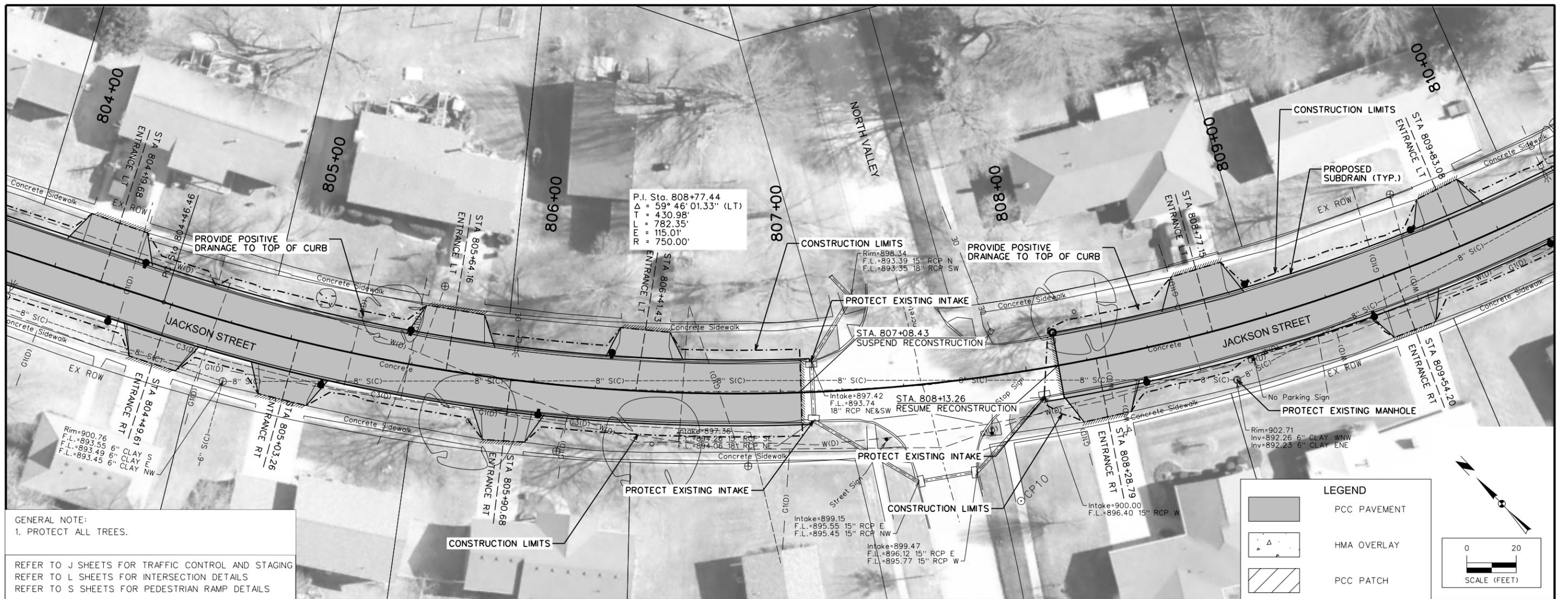


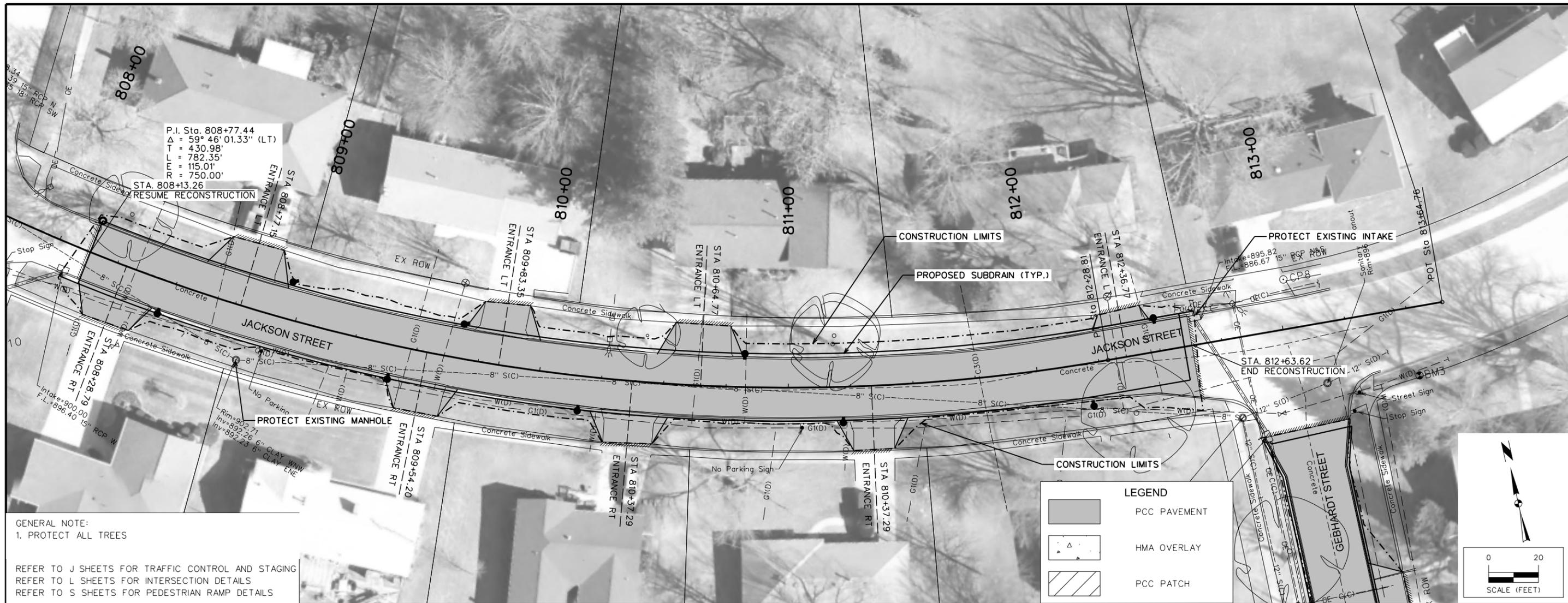
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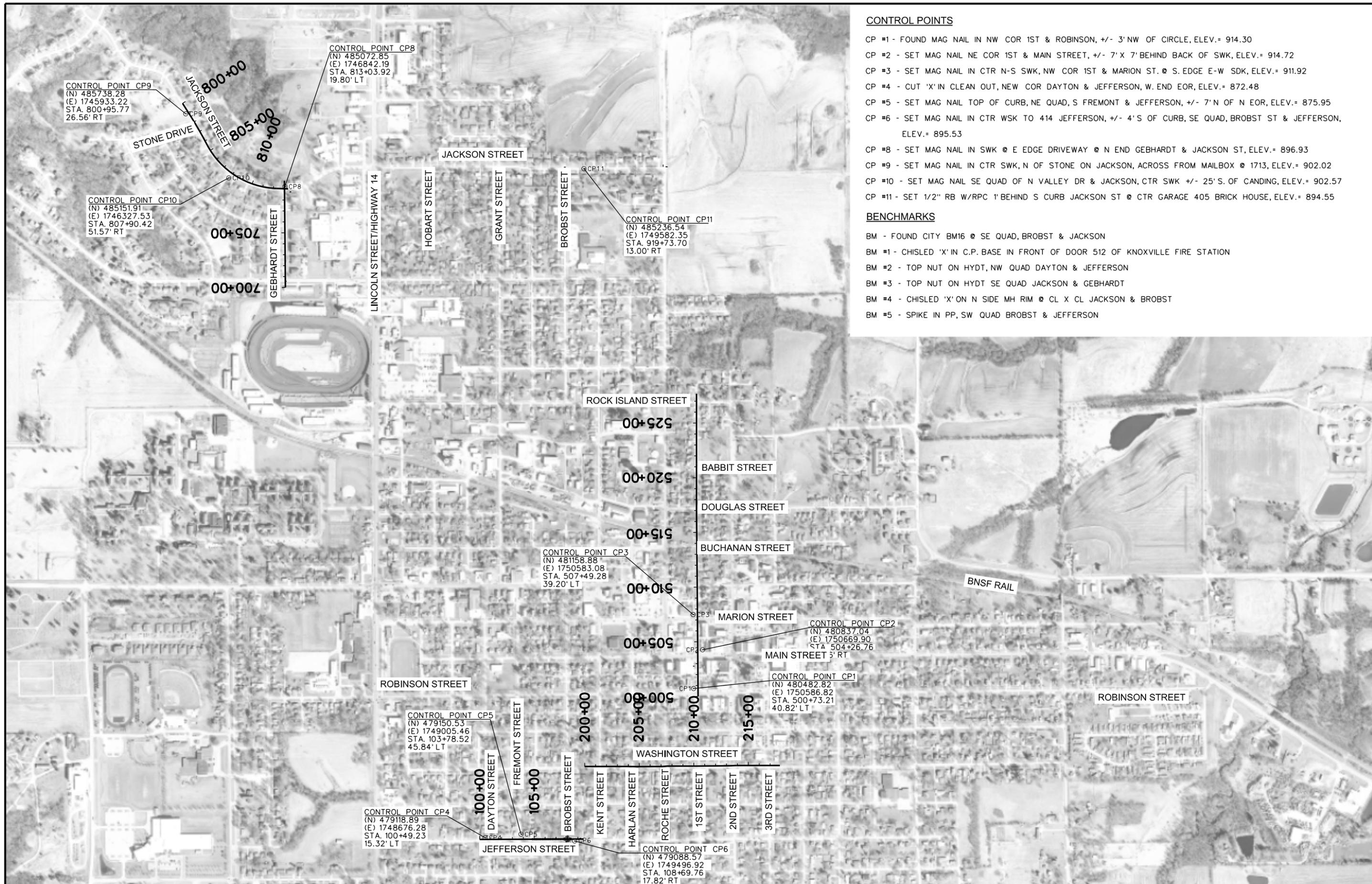




GENERAL NOTE:  
1. PROTECT ALL TREES

REFER TO J SHEETS FOR TRAFFIC CONTROL AND STAGING  
REFER TO L SHEETS FOR INTERSECTION DETAILS  
REFER TO S SHEETS FOR PEDESTRIAN RAMP DETAILS





**CONTROL POINTS**

- CP #1 - FOUND MAG NAIL IN NW COR 1ST & ROBINSON, +/- 3' NW OF CIRCLE, ELEV.= 914.30
- CP #2 - SET MAG NAIL NE COR 1ST & MAIN STREET, +/- 7' X 7' BEHIND BACK OF SWK, ELEV.= 914.72
- CP #3 - SET MAG NAIL IN CTR N-S SWK, NW COR 1ST & MARION ST. @ S. EDGE E-W SDK, ELEV.= 911.92
- CP #4 - CUT 'X' IN CLEAN OUT, NEW COR DAYTON & JEFFERSON, W. END EOR, ELEV.= 872.48
- CP #5 - SET MAG NAIL TOP OF CURB, NE QUAD, S FREMONT & JEFFERSON, +/- 7' N OF N EOR, ELEV.= 875.95
- CP #6 - SET MAG NAIL IN CTR WSK TO 414 JEFFERSON, +/- 4' S OF CURB, SE QUAD, BROBST ST & JEFFERSON, ELEV.= 895.53
- CP #8 - SET MAG NAIL IN SWK @ E EDGE DRIVEWAY @ N END GEBHARDT & JACKSON ST, ELEV.= 896.93
- CP #9 - SET MAG NAIL IN CTR SWK, N OF STONE ON JACKSON, ACROSS FROM MAILBOX @ 1713, ELEV.= 902.02
- CP #10 - SET MAG NAIL SE QUAD OF N VALLEY DR & JACKSON, CTR SWK +/- 25' S. OF CANDING, ELEV.= 902.57
- CP #11 - SET 1/2" RB W/RPC 1' BEHIND S CURB JACKSON ST @ CTR GARAGE 405 BRICK HOUSE, ELEV.= 894.55

**BENCHMARKS**

- BM - FOUND CITY BM16 @ SE QUAD, BROBST & JACKSON
- BM #1 - CHISLED 'X' IN C.P. BASE IN FRONT OF DOOR 512 OF KNOXVILLE FIRE STATION
- BM #2 - TOP NUT ON HYDT, NW QUAD DAYTON & JEFFERSON
- BM #3 - TOP NUT ON HYDT SE QUAD JACKSON & GEBHARDT
- BM #4 - CHISLED 'X' ON N SIDE MH RIM @ CL X CL JACKSON & BROBST
- BM #5 - SPIKE IN PP, SW QUAD BROBST & JEFFERSON

Chain ML\_FIRST contains:  
500 501 502 503 504

Beginning chain ML\_FIRST description

Point 500 N 480,409.9335 E 1,750,628.2257 Sta 500+00.00

Course from 500 to 501 N 0° 27' 16.34" W Dist 1,000.0000

Point 501 N 481,409.9021 E 1,750,620.2926 Sta 510+00.00

Course from 501 to 502 N 0° 31' 00.29" W Dist 704.8591

Point 502 N 482,114.7325 E 1,750,613.9356 Sta 517+04.86

Course from 502 to 503 N 0° 02' 40.13" E Dist 423.0083

Point 503 N 482,537.7406 E 1,750,614.2640 Sta 521+27.87

Course from 503 to 504 Due North Dist 640.6979

Point 504 N 483,178.4385 E 1,750,614.2640 Sta 527+68.57

Ending chain ML\_FIRST description

Chain ML\_GEBHART contains:  
700 701

Beginning chain ML\_GEBHART description

Point 700 N 484,150.2245 E 1,746,846.8489 Sta 700+00.00

Course from 700 to 701 N 0° 30' 16.21" W Dist 975.0000

Point 701 N 485,125.1867 E 1,746,838.2639 Sta 709+75.00

Ending chain ML\_GEBHART description

Chain ML\_JEFFERSON contains:  
100 101

Beginning chain ML\_JEFFERSON description

Point 100 N 479,103.3944 E 1,748,627.1072 Sta 100+00.00

Course from 100 to 101 N 89° 48' 09.75" E Dist 950.0000

Point 101 N 479,106.6656 E 1,749,577.1015 Sta 109+50.00

Ending chain ML\_JEFFERSON description

Chain ML\_JACKSON\_WE contains:  
800 CUR ML\_JACKSON\_WE-1 CUR ML\_JACKSON\_WE-2 801

Beginning chain ML\_JACKSON\_WE description

Point 800 N 485,833.2273 E 1,745,903.8691 Sta 800+00.00

Course from 800 to PC ML\_JACKSON\_WE-1 S 32° 40' 59.43" E Dist 130.6123

Curve Data  
x-----x

Curve ML\_JACKSON\_WE-1

P.I. Station = 802+45.37 N 485,626.7100 E 1,746,036.3653

Delta = 4° 22' 52.11" (RT)

Degree = 1° 54' 35.49"

Tangent = 114.7540

Length = 229.3961

Radius = 3,000.0000

External = 2.1939

Long Chord = 229.3402

Mid. Ord. = 2.1923

P.C. Station = 801+30.61 N 485,723.2949 E 1,745,974.3989

P.T. Station = 803+60.01 N 485,525.6737 E 1,746,090.7723

C.C. = N 484,103.3154 E 1,743,449.3907

Back = S 32° 40' 59.43" E

Ahead = S 28° 18' 07.31" E

Chord Bear = S 30° 29' 33.37" E

Course from PT ML\_JACKSON\_WE-1 to PC ML\_JACKSON\_WE-2 S 28° 18' 07.31" E Dist 86.4513

Curve Data  
x-----x

Curve ML\_JACKSON\_WE-2

P.I. Station = 808+77.44 N 485,070.0940 E 1,746,336.0975

Delta = 59° 46' 01.33" (LT)

Degree = 7° 38' 21.97"

Tangent = 430.9821

Length = 782.3487

Radius = 750.0000

External = 115.0119

Long Chord = 747.3575

Mid. Ord. = 99.7199

P.C. Station = 804+46.46 N 485,449.5568 E 1,746,131.7606

P.T. Station = 812+28.81 N 485,055.5722 E 1,746,766.8349

C.C. = N 485,805.1463 E 1,746,792.1060

Back = S 28° 18' 07.31" E

Ahead = S 88° 04' 08.64" E

Chord Bear = S 58° 11' 07.98" E

Course from PT ML\_JACKSON\_WE-2 to 801 S 88° 04' 08.64" E Dist 135.9530

Point 801 N 485,050.9913 E 1,746,902.7107 Sta 813+64.76

Ending chain ML\_JACKSON\_WE description

Chain ML\_WASHINGTON contains:  
200 201 202 203 204 205 206 207 208

Beginning chain ML\_WASHINGTON description

Point 200 N 479,769.6030 E 1,749,589.0613 Sta 200+00.00

Course from 200 to 201 Due East Dist 400.0000

Point 201 N 479,769.6030 E 1,749,989.0613 Sta 204+00.00

Course from 201 to 202 S 89° 32' 54.51" E Dist 72.8181

Point 202 N 479,769.0292 E 1,750,061.8772 Sta 204+72.82

Course from 202 to 203 N 89° 43' 21.15" E Dist 241.4512

Point 203 N 479,770.1984 E 1,750,303.3255 Sta 207+14.27

Course from 203 to 204 N 86° 11' 35.48" E Dist 40.1855

Point 204 N 479,772.8664 E 1,750,343.4224 Sta 207+54.45

Course from 204 to 205 Due East Dist 259.6560

Point 205 N 479,772.8664 E 1,750,603.0783 Sta 210+14.11

Course from 205 to 206 N 89° 16' 43.84" E Dist 316.8608

Point 206 N 479,776.8545 E 1,750,919.9140 Sta 213+30.97

Course from 206 to 207 N 88° 07' 00.36" E Dist 58.1385

Point 207 N 479,778.7651 E 1,750,978.0211 Sta 213+89.11

Course from 207 to 208 Due East Dist 400.0000

Point 208 N 479,778.7651 E 1,751,378.0211 Sta 217+89.11

Ending chain ML\_WASHINGTON description



**TRAFFIC CONTROL PLAN**

108-23A  
08-01-08

Jefferson Street:  
Phase 1  
Provide Road Closed signage at Dayton Street and Fremont Street. Notify impacted property owners at least one week prior to construction. Provide door hangers to notify the property owners. Coordinate with Engineer and City prior to notification.

Phase 2  
Provide Road Closed signage at Fremont Street and Brobst Street. Notify impacted property owners at least one week prior to construction. Provide door hangers to notify the property owners. Coordinate with Engineer and City prior to notification.

Phase 3  
Provide Road Closed signage at intersection of Jefferson and Brobst Street. Provide advanced Road Closed Ahead signage at South Street, Madison Street, and Kent Street.

Washington Street:  
Provide Road Closed signage at intersection of Washington Street and Kent Street and Washington Street and 2nd Street while patching work is being performed. Provide advanced Road Closed Ahead signage at adjacent intersections for this work. Provide Road Closed to Through Traffic during milling and overlay operations. Removal of this signage should take place as soon as work is complete. Local property owner traffic shall be open at days end during milling operations. Overlay operations may require an additional day of road closures. Notify impacted property owners at least one week prior to construction. Provide door hangers to notify the property owners. Coordinate with Engineer and City prior to notification.

1st Street Between Robinson Street and Marion Street:  
Phase 1:  
Between Robinson Street and Main Street. Provide Road Closed signage at the intersection of 1st Street and Robinson Street and 1st Street and Main Street. Maintain full operation of Main Street. Provide detour signage to route traffic around the construction area using Roche Street. Provide Road Closed signage at the alley intersection within this segment at 2nd Street and Roche Street. Notify impacted property owners and business owners at least one week prior to construction. Provide door hangers to notify the property owners and business owners. Coordinate with Engineer and City prior to notification.

Phase 2:  
Between Main Street and Marion Street. Provide Road Closed signage at the intersection of 1st Street and Main Street and 1st Street and Marion Street. Close Main Street only during sanitary sewer installation and associated patching work. Provide detour signage to route traffic around the construction area using Robinson Street. Provide Road Closed signage at the alley intersection within this segment at 2nd Street and Roche Street. Notify impacted property owners and business owners at least one week prior to construction. Provide door hangers to notify the property owners and business owners. Coordinate with Engineer and City prior to notification.

1st Street Between Marion Street and Douglas Street:  
Provide Road Closed to Through Traffic during milling and overlay operations. Remove this signage as soon as this work is complete. Local property owner access shall be open at days end during milling operations. Overlay operations may require an additional day of closures. Notify impacted property owners and businesses at least one week prior to construction. Provide door hangers to notify the property owners and businesses. Coordinate with Engineer and City prior to notification. Notify City four weeks prior to work to coordinate notification with BNSF Railroad.

1st Street Between Douglas Street and Rock Island Street:  
Provide Road Closed to Through Traffic at the north and south limits of this segment. Provide full access to property owners during this work unless work has progressed to the direct vicinity of driveway access. Re-establish vehicular access as soon as possible. Provide Road Closed signage during full width patching work.

Gebhardt Street:  
Phase 1 (Between Larson Street and GrandView):  
Provide Road Closed signage at Larson Street and south leg of GrandView intersection. Maintain access to north apartment complex on east side of Gebhardt Street during this Phase. Notify impacted property owners and apartment managers at least two weeks, prior to beginning construction. Provide door hangers to notify the property owners and apartment managers. Coordinate with Engineer and City prior to notification. Coordinate with City at least two weeks prior to construction for coordination with apartment manager on parking needs and access for apartment complex.

Phase 2 (Between Grandview and Jackson Street)  
Provide Road Closed signage at north leg of Grandview intersection and Jackson Street. Maintain access to north apartment complex on east side of Gebhardt Street during this Phase. Notify impacted property owners at least one week prior to beginning construction. Provide door hangers to notify property owners. Coordinate with Engineer and City prior to notification.

Jackson Street Between Stone Drive and Valley Drive:  
Provide Road Closed signage at Stone Drive and Valley Drive. Notify impacted property owners at least one week prior to beginning construction. Provide door hangers to notify property owners. Coordinate with Engineer and City prior to notification.

Jackson Street Between Valley Drive and Gebhardt Street:  
Provide Road Closed signage at Valley Drive and Gebhardt Street. Notify impacted property owners at least one week prior to beginning construction. Provide door hangers to notify property owners. Coordinate with Engineer and City prior to notification.

Provide access to emergency vehicles at all times during construction.

**PEDESTRIAN PATH CLOSURES**

113-2  
04-16-13

Refer to TC-601.

\*Assumes 6 foot wide barricade.  
Closures may need to be removed and re-established.

| Location  | Side  | Type III Barricades* | Remarks |
|---|-------|----------------------|---------|
|   |       | No.                  |         |
| Jefferson Street and Brobst Street (NW, SW, and NE) | LT/RT | 3                    |         |
| Washington Street and Kent Street (NW, SW, SE)      | LT/RT | 5                    |         |
| Washington Street and Roche Street (NW and SW)      | LT/RT | 4                    |         |
| Washington Street and 2nd Street (NW and SW)        | LT/RT | 2                    |         |
| Washington Street and 3rd Street (NW and SW)        | LT/RT | 2                    |         |
| 1st Street and Main Street (All 4 quads)            | LT/RT | 8                    |         |
| 1st Street and Marion Street (All 4 quads)          | LT/RT | 8                    |         |
| 1st Street and Douglas Street (SW and SE)           | LT/RT | 2                    |         |
| 1st Street and Babbit Street (NE and NW)            | LT/RT | 2                    |         |
| Gebhardt Street and Larson Street (NE and NW)       | LT/RT | 4                    |         |
| Gebhardt Street and GrandView Drive (NW, SW, NE)    | LT/RT | 5                    |         |
| Jackson Street and Stone Drive (All 4 quads)        | LT/RT | 6                    |         |

**COORDINATED OPERATIONS**

111-01  
04-17-12

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

| Project                                   | Type of Work  |
|---|---|
| City of Knoxville                         | Sanitary Sewer Repair in Various Locations in City  |
| Sprint Car Nationals August 10 - 13, 2016 | No work shall take place during these dates and following streets shall be open to normal operations: 1st Street. |

### STAGING NOTES

**Jefferson Street:**

\*Combining of Phases is allowed following review and approval of revised staging and traffic control plan.  
\*Once roadways are closed to traffic work shall be continuously progressing until substantial completion and normal traffic operations are in effect.

Phase 1  
Between Dayton Street and Fremont Street.

Phase 2  
Between Fremont Street and Brobst Street

Phase 3  
Intersection of Jefferson Street and Brobst Street.

**Washington Street**

\*Stage this segment to maintain local access following daily operations. Overlay work may require an additional day of roadway closures.  
\*During intake rebuild or adjustments maintain local access.

**1st Street Between Robinson Street and Main Street:**

\*Once property owners are impacted by work within this segment, work shall continuously progress until substantial completion and normal traffic operations are in effect.

**1st Street Between Main Street and Marion Street:**

\*Once property owners are impacted by work within this segment, work shall continuously progress until substantial completion and normal traffic operations are in effect.

**1st Street Between Marion Street and Douglas Street:**

\*Stage this work to provide local property vehicular access during construction as much as possible.  
\*Once property owners are impacted by work within this segment, work shall continuously progress until substantial completion and normal traffic operations are in effect.

**1st Street Between Douglas Street and Rock Island Street:**

\*Stage this work to provide local property vehicular access during construction as much as possible. While performing work on full width patching maintaining local impacted property owner vehicular access is not required. Provide vehicular access as soon as possible following construction.  
\*Once property owners are impacted by work within this segment, work shall continuously progress until substantial completion and normal traffic operations are in effect.

**Gebhardt Street:**

Phase 1 (Between Larson Street and GrandView):  
\*Stage this work to provide continuous access to the north apartment complex on the east side of Gebhardt Street. Maintain this access by use of temporary granular surfacing for driveway connection. End this phase at south leg of intersection with GrandView Drive.  
\*Once property owners are impacted by work within this segment, work shall continuously progress until substantial completion and normal traffic operations are in effect.

Phase 2 (Between Grandview and Jackson Street):  
\*Stage this work to provide continuous access to the north apartment complex on the east side of Gebhardt Street. Maintain this access by use of temporary granular surfacing for driveway connection. Substage the intersection of Gebhardt Street and GrandView Street to maintain this access.  
\*Once property owners are impacted by work within this segment, work shall continuously progress until substantial completion and normal traffic operations are in effect.

**Jackson Street Between Stone Drive and Valley Drive:**

\*Once property owners are impacted by work within this segment, work shall continuously progress until substantial completion and normal traffic operations are in effect.

**Jackson Street Between Valley Drive and Gebhardt Street:**

\*Once property owners are impacted by work within this segment, work shall continuously progress until substantial completion and normal traffic operations are in effect.

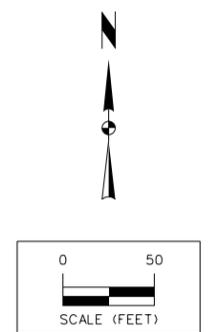
Provide access to emergency vehicles at all times during construction.



NOTES:  
THIS PLAN REPRESENTS GENERAL GRAPHICAL REPRESENTATION OF TRAFFIC CONTROL. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AS ADOPTED BY THE DEPARTMENT PER 761 OF THE IOWA ADMINISTRATIVE CODE (IAC), CHAPTER 130.



| LEGEND |                     |
|--------|---------------------|
| ●      | CHANNELIZING DEVICE |
| X      | DRUM                |
| ←      | DIRECTION OF TRAVEL |
| ----   | SAFETY CLOSURE      |
| ---    | TYPE III BARRICADE  |
| ⊠      | TRAFFIC SIGN        |





NOTES:  
THIS PLAN REPRESENTS GENERAL GRAPHICAL REPRESENTATION OF TRAFFIC CONTROL. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AS ADOPTED BY THE DEPARTMENT PER 761 OF THE IOWA ADMINISTRATIVE CODE (IAC), CHAPTER 130.



**LEGEND**

- CHANNELIZING DEVICE
- ✕ DRUM
- ↑ DIRECTION OF TRAVEL
- \*\*\* SAFETY CLOSURE
- TYPE III BARRICADE
- TRAFFIC SIGN

SCALE (FEET)



NOTES:  
 1. THIS PLAN REPRESENTS GENERAL GRAPHICAL REPRESENTATION OF TRAFFIC CONTROL. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AS ADOPTED BY THE DEPARTMENT PER 761 OF THE IOWA ADMINISTRATIVE CODE (IAC), CHAPTER 130.  
 2. ROAD CLOSURE SIGNAGE SHALL ONLY BE USED FOR FULL WIDTH PATCH WORK IN VICINITY OF WORK BEING PERFORMED.



**LEGEND**

- CHANNELIZING DEVICE
- X DRUM
- ↑ DIRECTION OF TRAVEL
- SAFETY CLOSURE
- T TYPE III BARRICADE
- T TRAFFIC SIGN

SCALE (FEET)



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**LEGEND**

- CHANNELIZING DEVICE
- ✕ DRUM
- ↑ DIRECTION OF TRAVEL
- \*\*\* SAFETY CLOSURE
- ▬ TYPE III BARRICADE
- ⊥ TRAFFIC SIGN

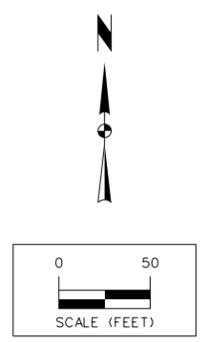
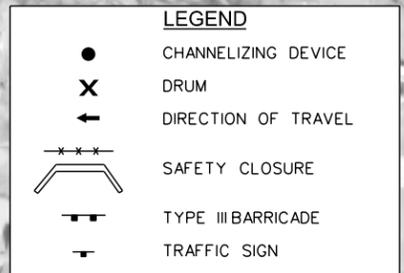
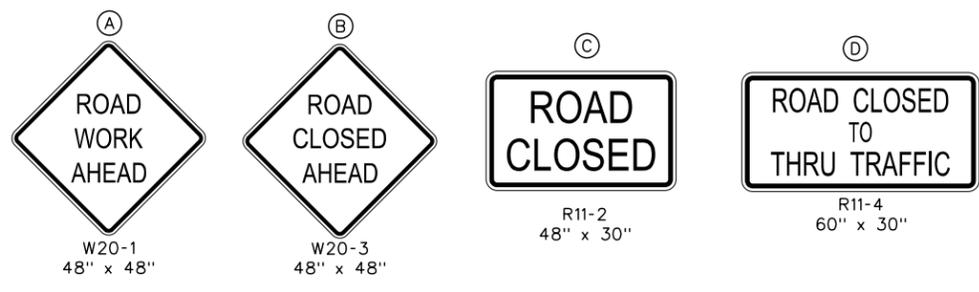
SCALE (FEET)

NOTES:  
 1. THIS PLAN REPRESENTS GENERAL GRAPHICAL REPRESENTATION OF TRAFFIC CONTROL. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AS ADOPTED BY THE DEPARTMENT PER 761 OF THE IOWA ADMINISTRATIVE CODE (IAC), CHAPTER 130.

REMOVE AND REPLACE INTERSECTION PAVEMENT FIRST IN STAGING. OPEN INTERSECTION TO NORMAL TRAFFIC OPERATIONS ONCE COMPLETE.

MAINTAIN ACCESS FOR THIS DRIVEWAY THROUGHOUT CONSTRUCTION UNTIL PAVING WORK

MAINTAIN ACCESS FOR THIS DRIVEWAY THROUGHOUT CONSTRUCTION UNTIL PAVING WORK





NOTES:  
 1. THIS PLAN REPRESENTS GENERAL GRAPHICAL REPRESENTATION OF TRAFFIC CONTROL. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AS ADOPTED BY THE DEPARTMENT PER 761 OF THE IOWA ADMINISTRATIVE CODE (IAC), CHAPTER 130.



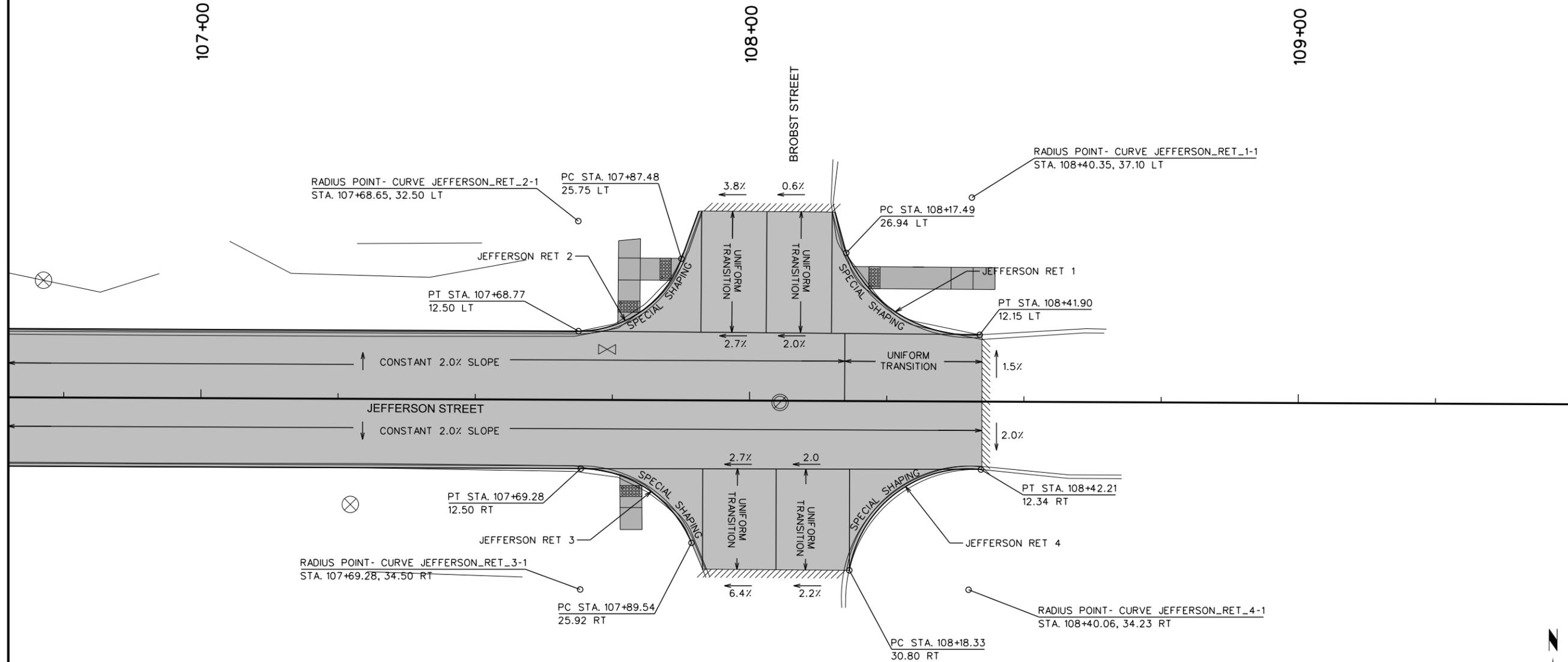
| LEGEND |                     |
|--------|---------------------|
|        | CHANNELIZING DEVICE |
|        | DRUM                |
|        | DIRECTION OF TRAVEL |
|        | SAFETY CLOSURE      |
|        | TYPE III BARRICADE  |
|        | TRAFFIC SIGN        |

107+00

108+00

109+00

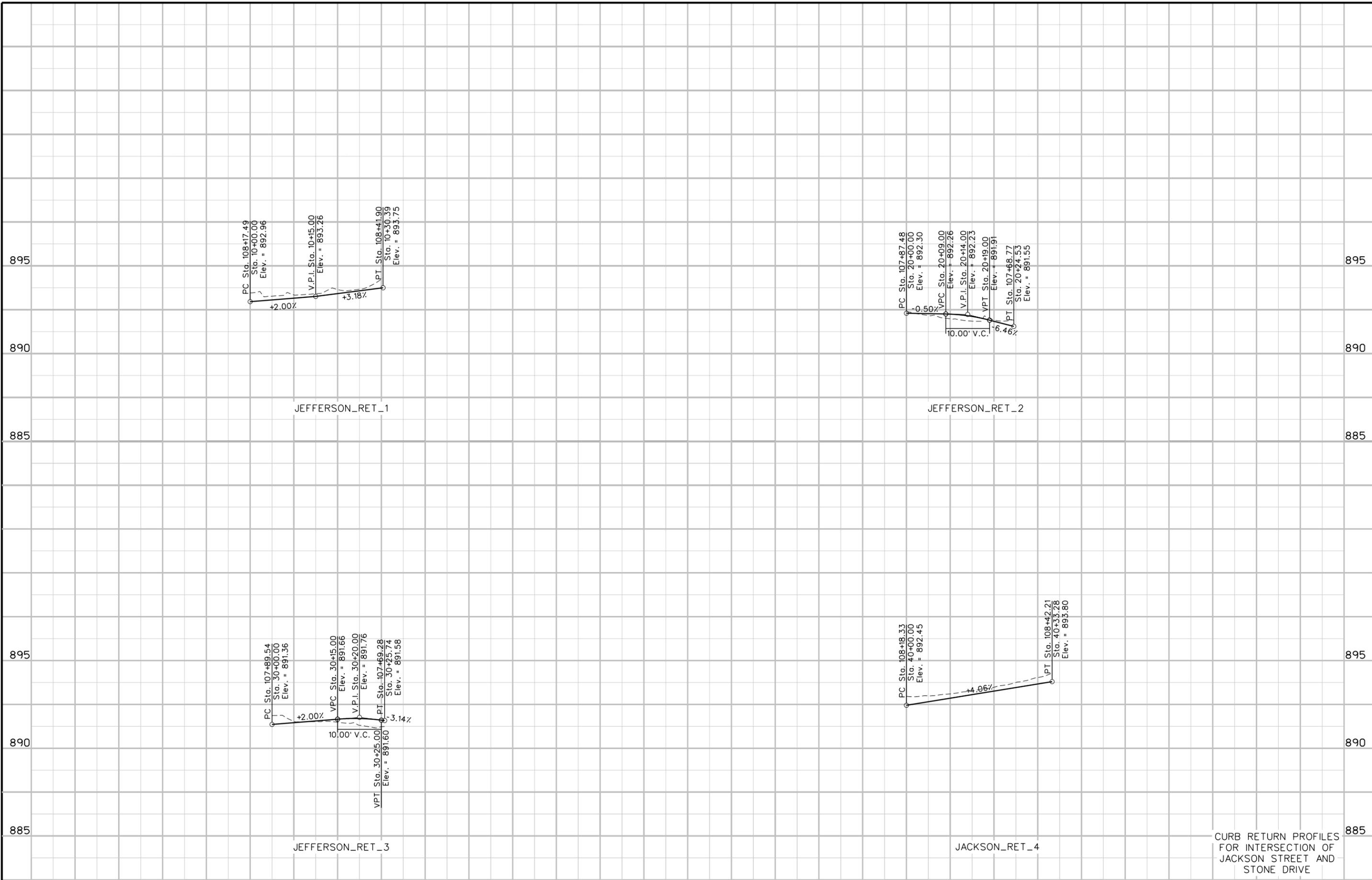
BROBST STREET



CIRCULAR CURVE DATA

| Name       | Δ              | D               | T     | L     | E    | R     |
|------------|----------------|-----------------|-------|-------|------|-------|
| JEFF_RET_1 | 69° 39' 24.16" | 229° 10' 59.22" | 17.39 | 30.39 | 5.45 | 25.00 |
| JEFF_RET_2 | 70° 15' 45.66" | 286° 28' 44.03" | 14.07 | 24.53 | 4.45 | 20.00 |
| JEFF_RET_3 | 67° 02' 27.39" | 260° 26' 07.30" | 14.57 | 25.74 | 4.39 | 22.00 |
| JEFF_RET_4 | 86° 39' 58.04" | 260° 26' 07.30" | 20.76 | 33.28 | 8.25 | 22.00 |

JEFFERSON STREET STAKING



CURB RETURN PROFILES  
FOR INTERSECTION OF  
JACKSON STREET AND  
STONE DRIVE

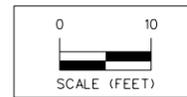
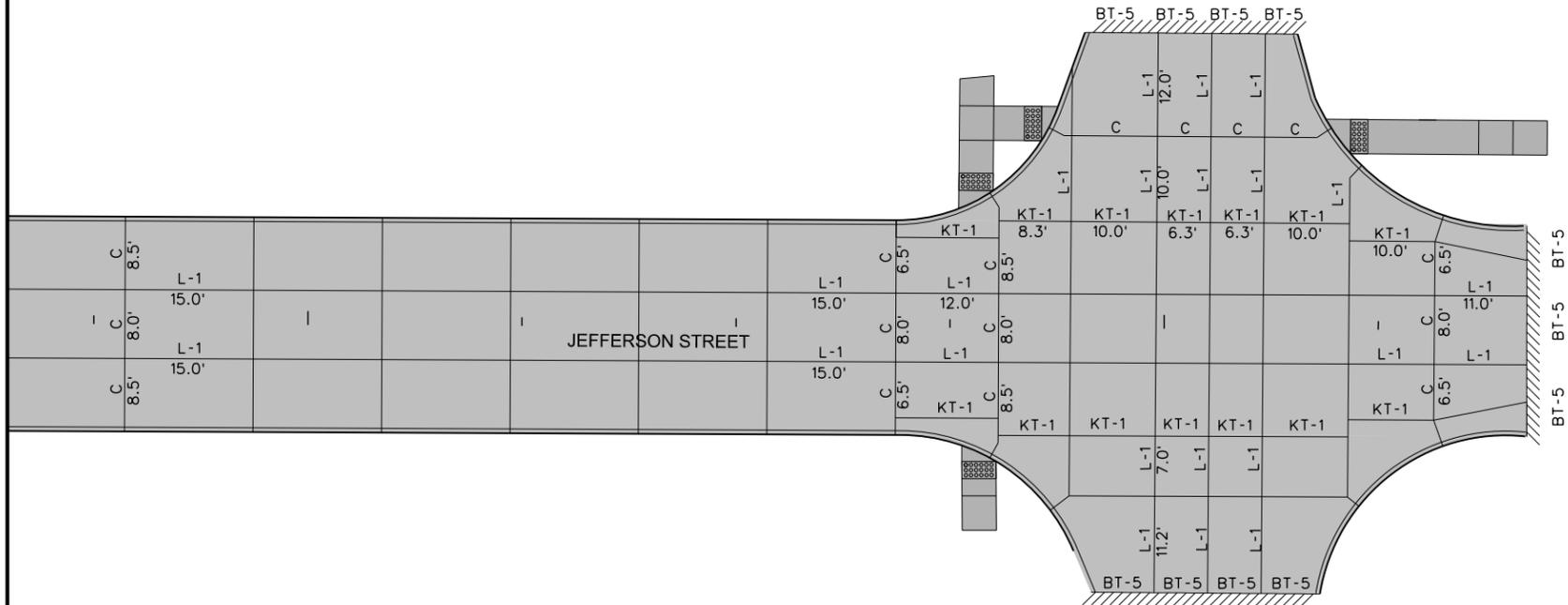
107+00

108+00

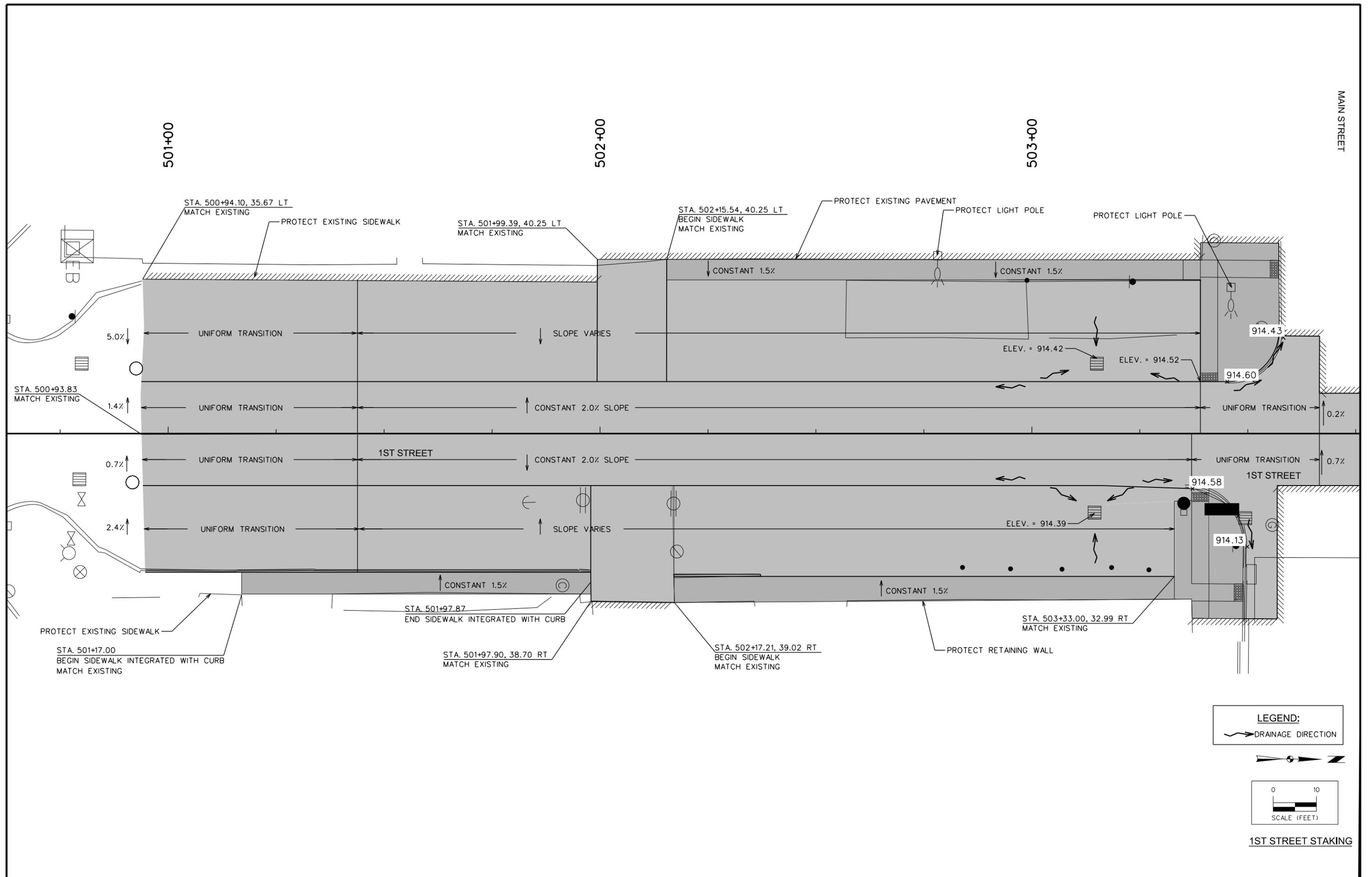
109+00

BROBST STREET

JEFFERSON STREET

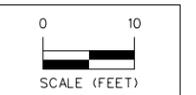


JEFFERSON STREET JOINTING



**LEGEND:**

→ DRAINAGE DIRECTION



**1ST STREET STAKING**

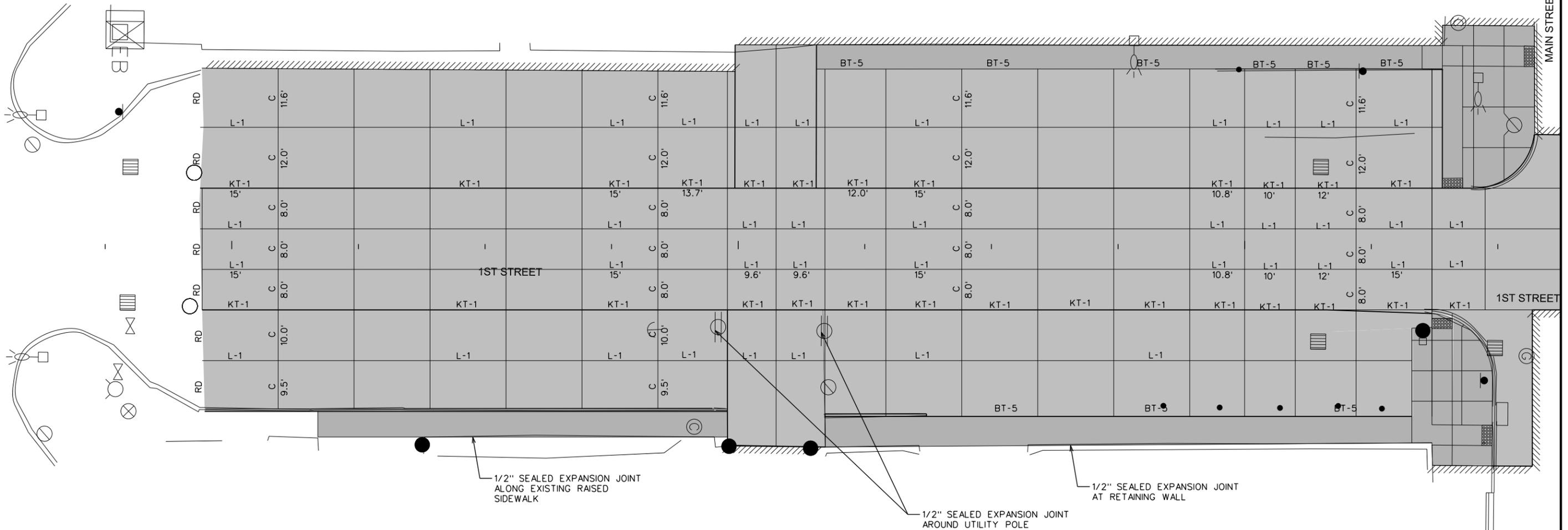
ROBINSON STREET

MAIN STREET

501+00

502+00

503+00

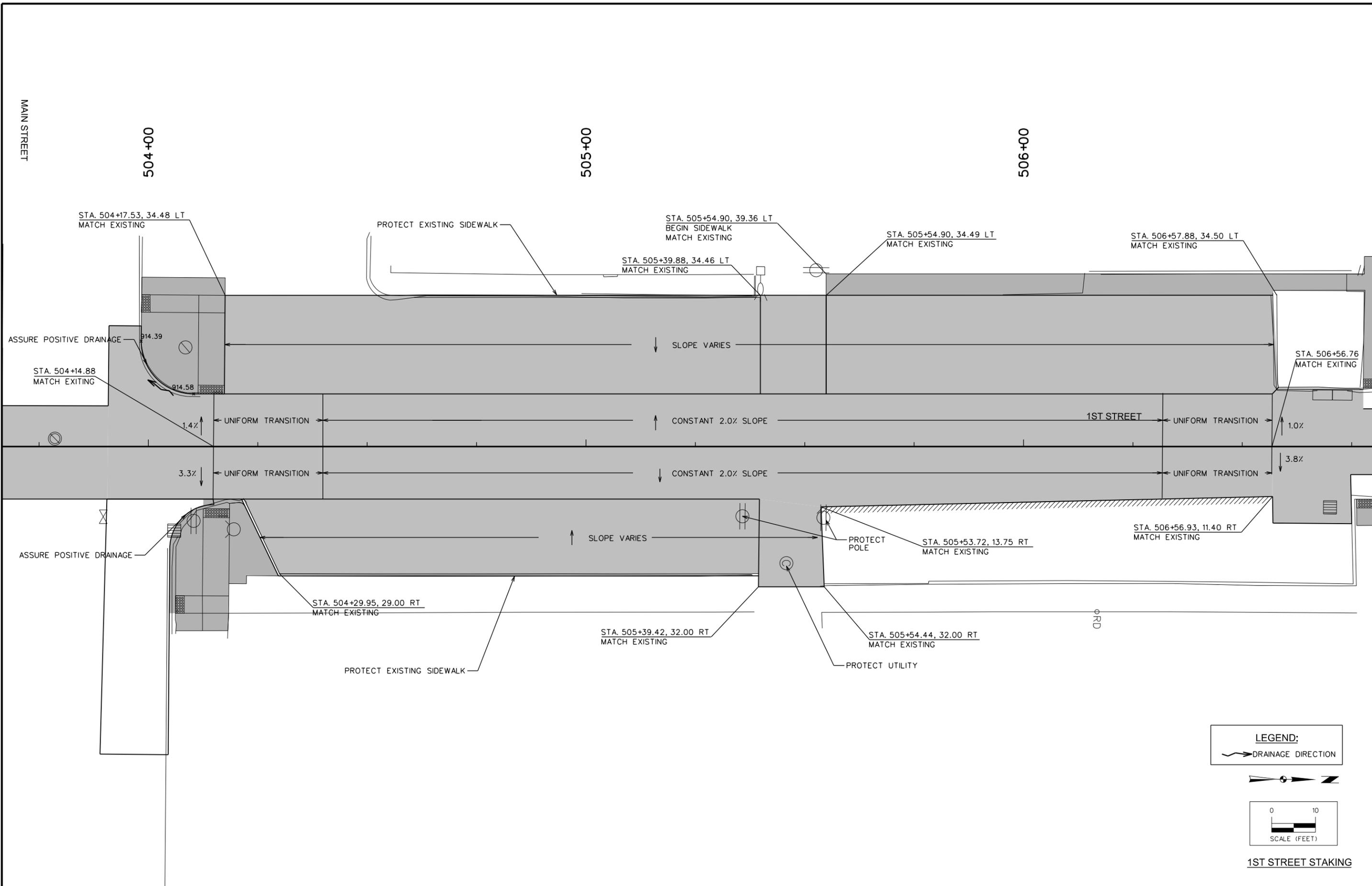


NOTES:

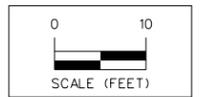
1. 'L' AND 'KT' JOINTS CAN BE USED INTERCHANGABLY DEPENDING ON POURING SEQUENCE.
2. HAND POURS REQUIRE REINFORCING TO BE SECURELY PLACED ON SUPPORTS AND APPROVED BY THE CITY OR ENGINEERING PRIOR TO PAVING.



1ST STREET JOINTING



**LEGEND:**  
 DRAINAGE DIRECTION



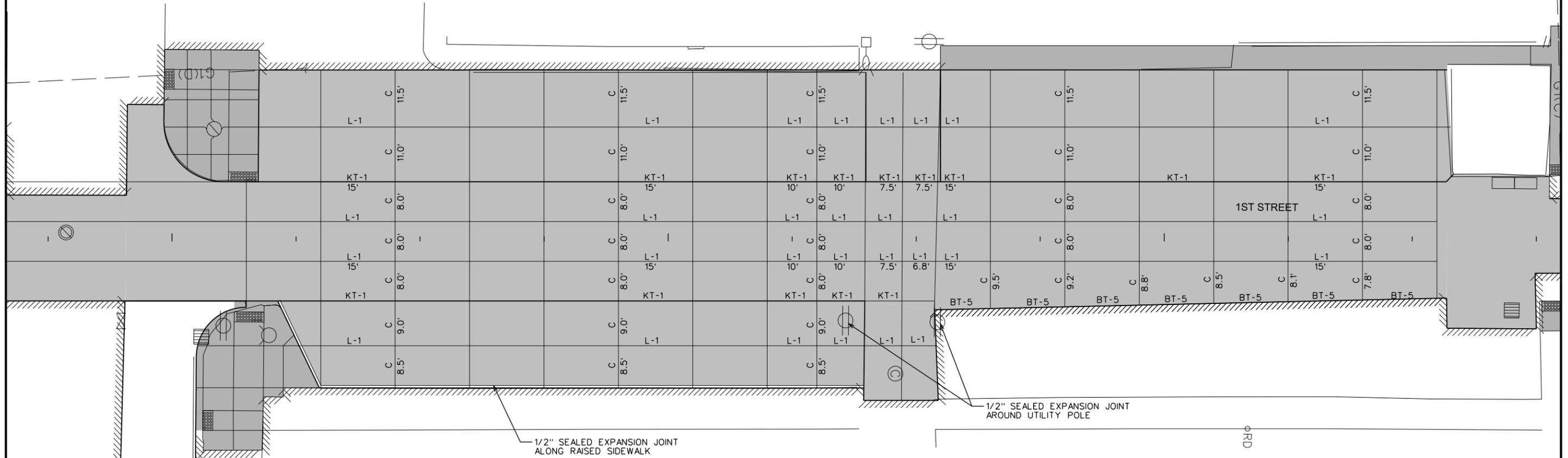
**1ST STREET STAKING**

MAIN STREET

504+00

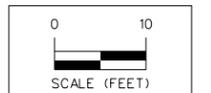
505+00

506+00



NOTES:

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1ST STREET JOINTING

ENGLISH

DESIGN TEAM

SNYDER & ASSOCIATES

CITY OF KNOXVILLE

MARION COUNTY

PROJECT NUMBER

115.0718

SHEET NUMBER

L.7

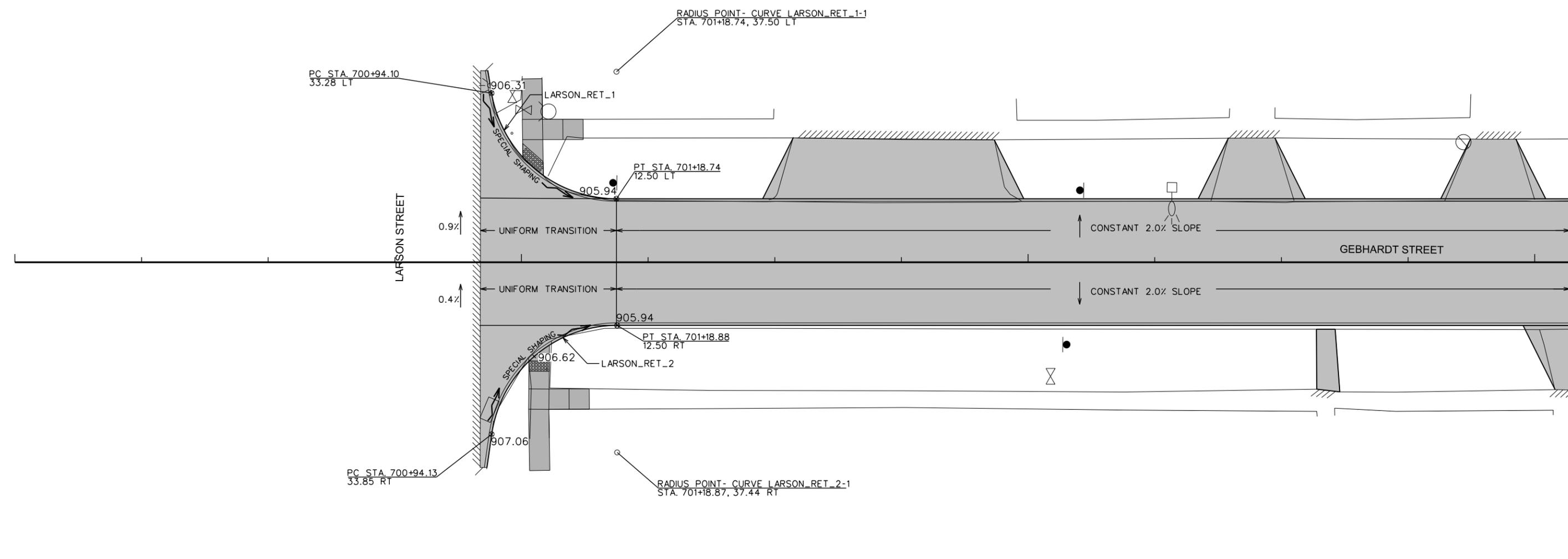
REVISED

700+00

701+00

702+00

703+00



RADIUS POINT- CURVE LARSON\_RET\_1-1  
STA. 701+18.74, 37.50 LT

PC\_STA 700+94.10  
33.28 LT

906.31

LARSON\_RET\_1

PT\_STA 701+18.74  
12.50 LT

905.94

UNIFORM TRANSITION

0.9%

CONSTANT 2.0% SLOPE

GEBHARDT STREET

UNIFORM TRANSITION

0.4%

CONSTANT 2.0% SLOPE

905.94

PT\_STA 701+18.88  
12.50 RT

906.62

LARSON\_RET\_2

907.06

PC\_STA 700+94.13  
33.85 RT

RADIUS POINT- CURVE LARSON\_RET\_2-1  
STA. 701+18.87, 37.44 RT

CIRCULAR CURVE DATA

| Name         | Δ              | D               | T     | L     | E    | R     |
|--------------|----------------|-----------------|-------|-------|------|-------|
| LARSON_RET_1 | 80° 17' 01.51" | 229° 10' 59.22" | 21.08 | 25.03 | 7.70 | 25.00 |
| LARSON_RET_2 | 81° 44' 54.11" | 229° 10' 59.22" | 21.64 | 35.67 | 8.06 | 25.00 |

**LEGEND:**  
 DRAINAGE DIRECTION



GEBHARDT STREET STAKING

700+00

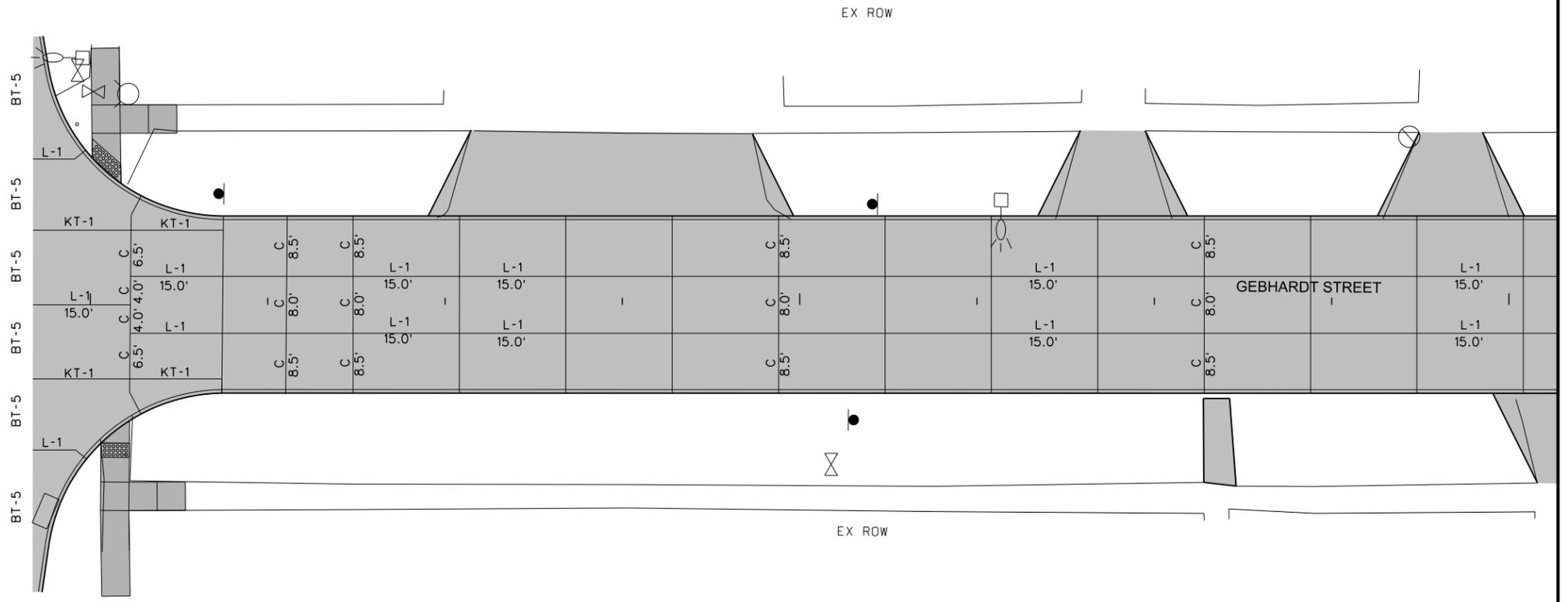
701+00

702+00

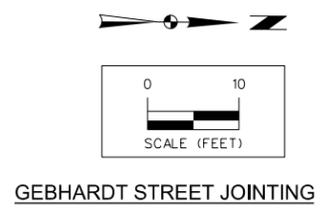
703+00

LARSON STREET

○ CPT 7



- NOTES:**
1. 'L' AND 'KT' JOINTS CAN BE USED INTERCHANGABLY DEPENDING ON POURING SEQUENCE.
  2. HAND POURS REQUIRE REINFORCING TO BE SECURELY PLACED ON SUPPORTS AND APPROVED BY THE CITY OR ENGINEER PRIOR TO PAVING.



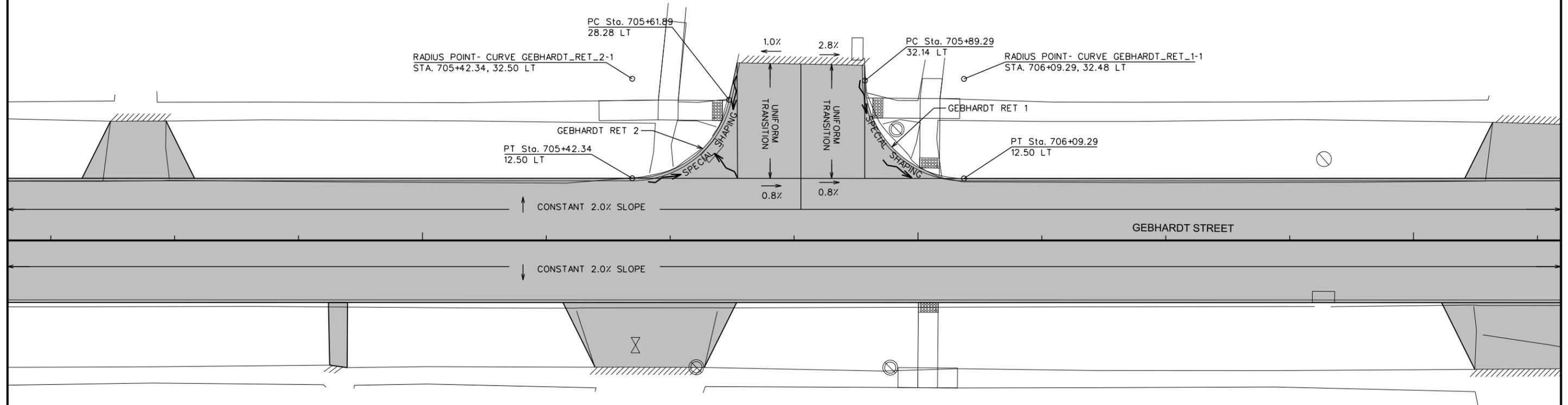
GEBHARDT STREET JOINTING

705+00

GRANDVIEW DRIVE

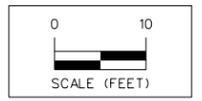
706+00

707+00



**LEGEND:**  

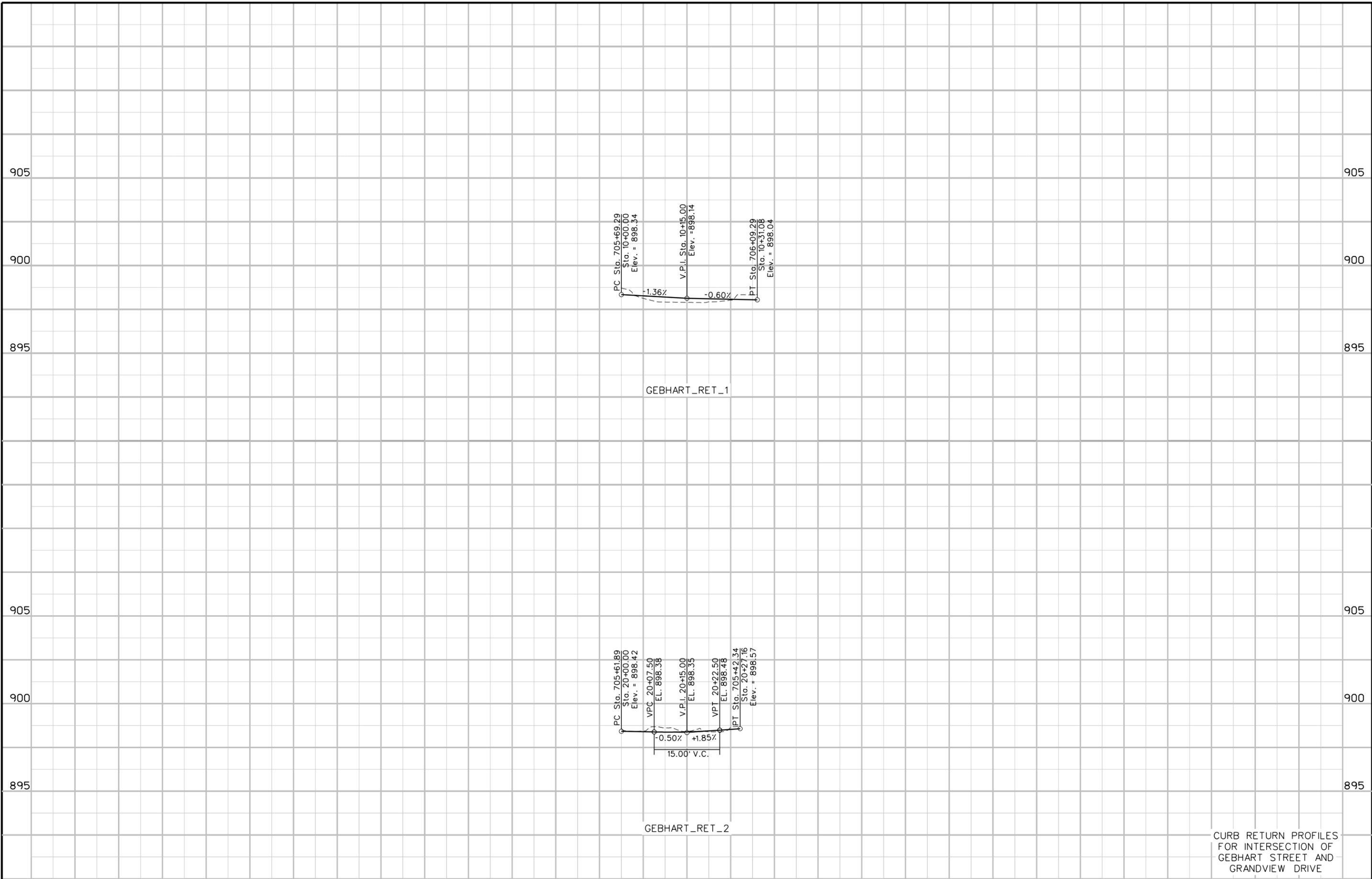
 DRAINAGE DIRECTION



**GEBHARDT STREET STAKING**

**CIRCULAR CURVE DATA**

| Name          | Δ              | D               | T     | L     | E    | R     |
|---------------|----------------|-----------------|-------|-------|------|-------|
| GEBHART_RET_1 | 89° 02' 06.02" | 286° 28' 44.03" | 19.67 | 31.08 | 8.05 | 20.00 |
| GEBHART_RET_2 | 77° 49' 10.75" | 286° 28' 44.03" | 16.14 | 27.16 | 5.70 | 20.00 |



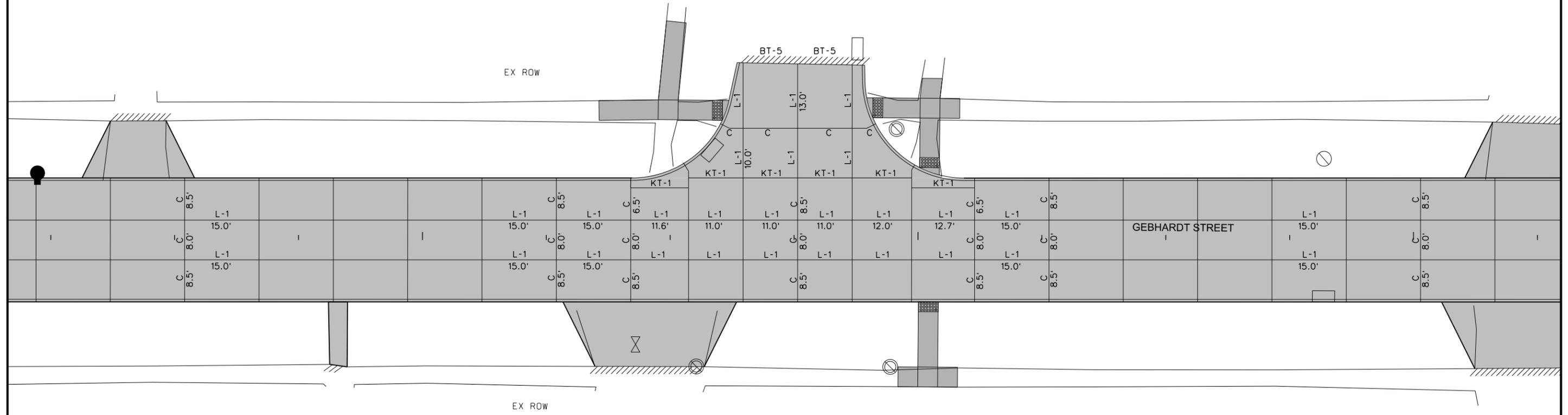
CURB RETURN PROFILES  
FOR INTERSECTION OF  
GEBHART STREET AND  
GRANDVIEW DRIVE

705+00

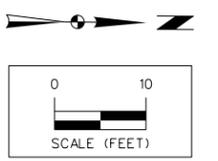
GRANDVIEW DRIVE

706+90

707+00

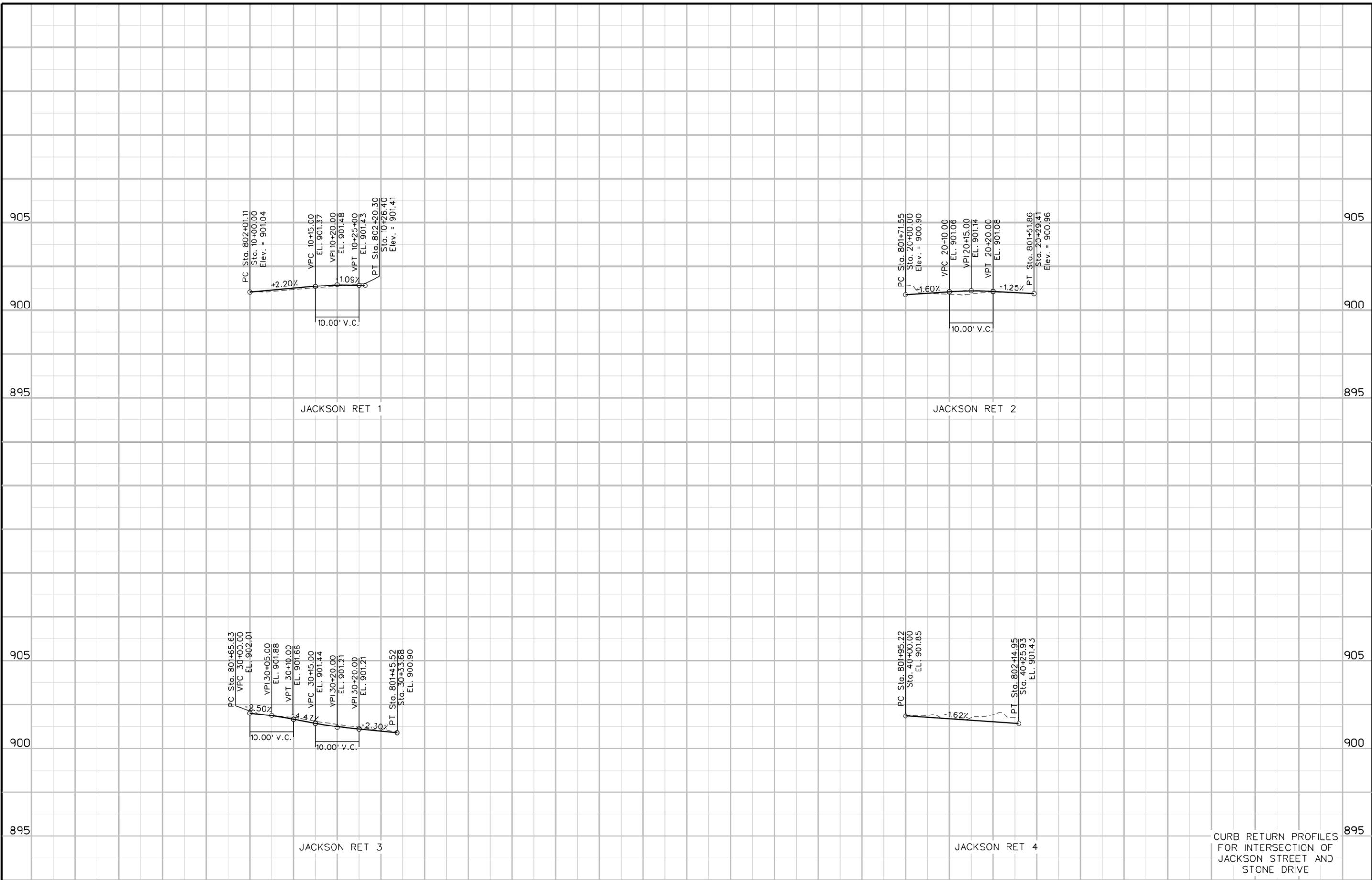


- NOTES:**
1. 'L' AND 'KT' JOINTS CAN BE USED INTERCHANGABLY DEPENDING ON POURING SEQUENCE.
  2. HAND POURS REQUIRE REINFORCING TO BE SECURELY PLACED ON SUPPORTS AND APPROVED BY THE CITY OR ENGINEER PRIOR TO PAVING.

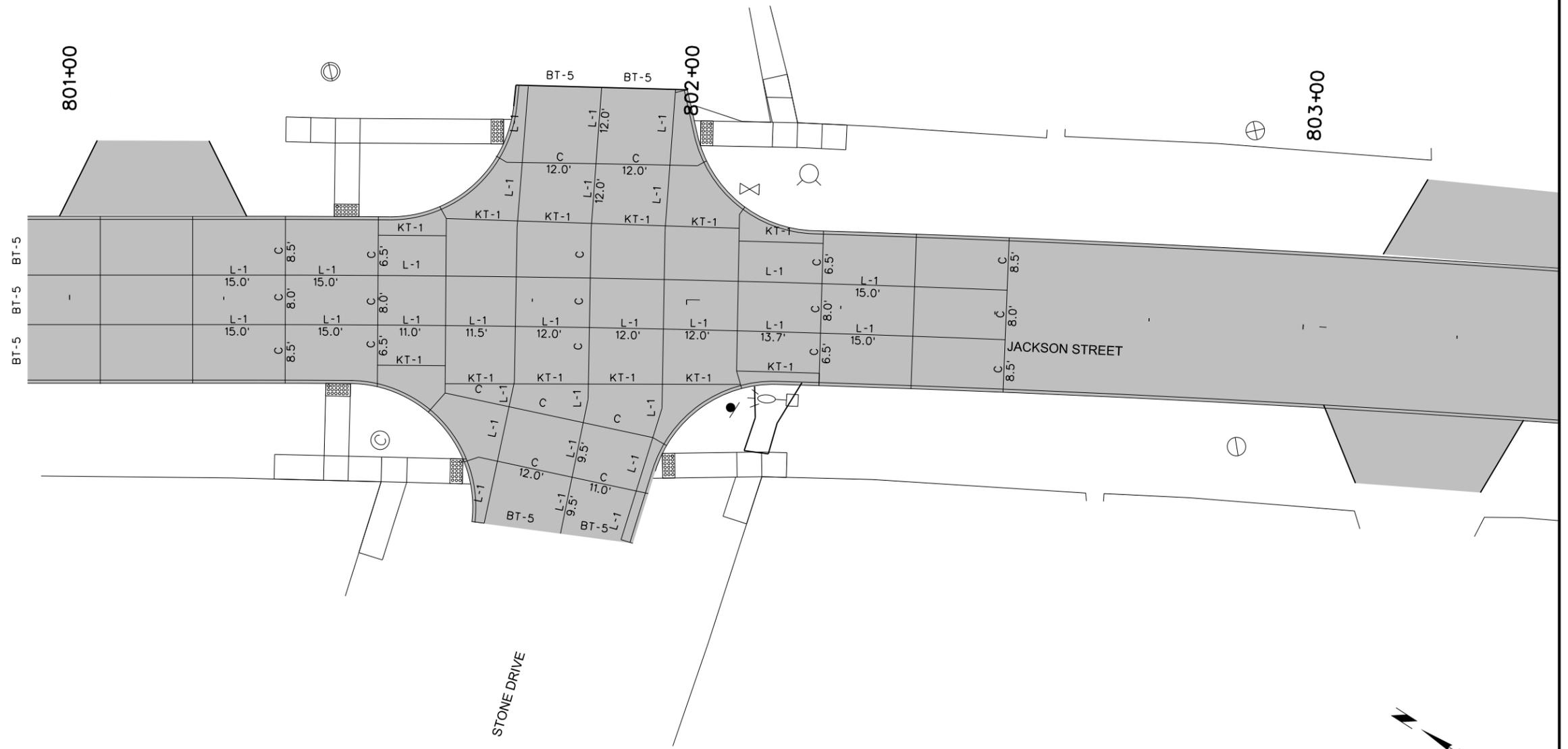


GEBHARDT STREET JOINTING



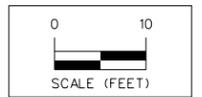


CURB RETURN PROFILES  
FOR INTERSECTION OF  
JACKSON STREET AND  
STONE DRIVE



**NOTES:**

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**JACKSON STREET JOINTING**

# STORM SEWER

\* Bid Item

## INTAKES AND UTILITY ACCESSES

## PIPES

Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 6 ft length is added to Design Length to account for estimated length to center of structures.

| No.   | Location Station and Offset | *Type  | Form Grade | Bottom Well | Extension Length | Notes  | Line Number | Intake/Utility Access No. |    | Class 'D' | Pipe Diameter | Bid* Length | Design Length | Slope % | Flow Lines      |                  |                 | Pipe Profile Sheet No. | Notes |
|-------|-----------------------------|--------|------------|-------------|------------------|--|-------------|---------------------------|----|-----------|---------------|-------------|---------------|---------|-----------------|------------------|-----------------|------------------------|-------|
|       |                             |        | Elev.      | Elev.       | FT               |  |             | From                      | To |           | IN            | FT          | FT            |         | Inlet Elevation | Outlet Elevation | Other Elevation |                        |       |
| ST-01 | 213+80.21, 14.52 RT         | SW-507 | MATCH EX.  |             |                  | Modify SW-507 to match existing pipes (1)                                |             |                           |    |           |               |             |               |         |                 |                  |                 |                        |       |
| ST-02 | 213+87.89, 12.79 LT         | SW-507 | MATCH EX.  |             |                  | Aproximate 45" Depth (2)   |             |                           |    |           |               |             |               |         |                 |                  |                 |                        |       |
| ST-03 | 503+14.50, 19.73 RT         | SW-511 | 914.39     |             |                  | Match existing flowlines protect pipes                                   |             |                           |    |           |               |             |               |         |                 |                  |                 |                        |       |
| ST-04 | 503+15.13, 17.67 LT         | SW-511 | 914.42     |             |                  | Match existing flowlines protect pipes                                   |             |                           |    |           |               |             |               |         |                 |                  |                 |                        |       |
| ST-05 | 503+47.92, 19.50 RT         | SW-501 | MATCH EX.  |             |                  | Match existing flowlines protect pipes                                   |             |                           |    |           |               |             |               |         |                 |                  |                 |                        |       |
| ST-06 | 503+49.72, 32.50 RT         | SW-501 | MATCH EX.  |             |                  | Match existing flowlines protect pipes                                   |             |                           |    |           |               |             |               |         |                 |                  |                 |                        |       |
| ST-07 | 506+70.03, 15.36 RT         | SW-511 | 911.8      |             |                  | Match existing flowlines protect pipes                                   |             |                           |    |           |               |             |               |         |                 |                  |                 |                        |       |
| ST-08 | 506+70.61, 12.85 LT         | SW-501 | 911.83     |             |                  | Match existing flowlines protect pipes                                   |             |                           |    |           |               |             |               |         |                 |                  |                 |                        |       |
| ST-09 | 513+65.62, 15.81 RT         | SW-511 | MATCH EX.  |             |                  | Aprox. 68" Depth, 48" x 36" Structure                                    |             |                           |    |           |               |             |               |         |                 |                  |                 |                        |       |
| ST-10 | 513+65.88, 12.36 LT         | SW-501 | MATCH EX.  |             |                  | Aprox. 72" Depth, 24" x 36" Structure                                    |             |                           |    |           |               |             |               |         |                 |                  |                 |                        |       |
| ST-11 | 705+57.61, 18.82 LT         | SW-501 | 898.37     |             |                  | Match existing flowlines protect pipes                                   |             |                           |    |           |               |             |               |         |                 |                  |                 |                        |       |
| ST-12 | 706+81.82, 12.50 RT         | SW-511 | 897.46     |             |                  | Match existing flowlines protect pipes                                   |             |                           |    |           |               |             |               |         |                 |                  |                 |                        |       |
|       |                             |        |            |             |                  | 1. Approximate Depth 48"   |             |                           |    |           |               |             |               |         |                 |                  |                 |                        |       |
|       |                             |        |            |             |                  | 2. Minimal pipe extension to new intake considered incidental to intake. |             |                           |    |           |               |             |               |         |                 |                  |                 |                        |       |

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

| LINEWORK     | Design Color No. |   |
|--------------|------------------|---|
| Black        | (0)              | Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation |
| SHADING      |                  |   |
|              | Design Color No. |   |
| Brown, Light | (234)            | Proposed Sidewalk Shading   |
| Blue, Light  | (30)             | Proposed Sidewalk Landing Shading                                   |
| Pink, Light  | (160)            | Proposed Sidewalk Ramp Shading                                      |
| Red          | (3)              | Delineates Restricted Areas   |
| Gray, Medium | (253)            | Proposed Pavement Shading   |

Reference Point

|  |                       |
|--|-----------------------|
|  | Survey Line           |
|  | Station               |
|  | Section Corner        |
|  | Ground Line Intercept |
|  | Saw Cut               |
|  | Guardrail             |

RIGHT-OF-WAY LEGEND

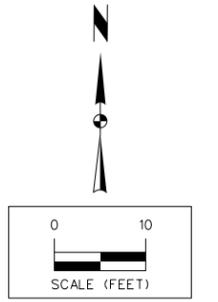
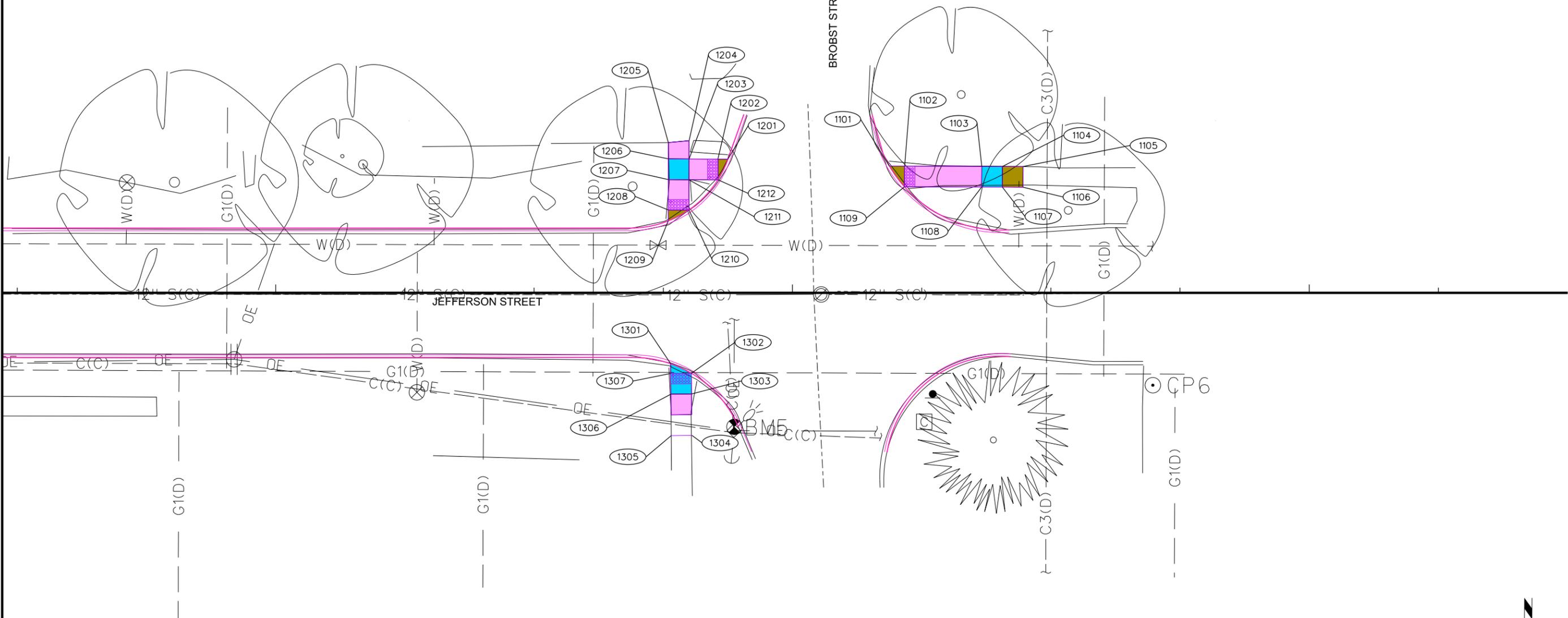
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|--|------------------------------------|
|  | Proposed Right-of-Way              |
|  | Existing and Proposed Right-of-Way |
|  | Easement and Existing Right-of-Way |
|  | Borrow                             |
|  | Easement (Temporary)               |
|  | Easement                           |
|  | Excess                             |
|  | Access Control                     |

SIDEWALK  
LEGEND AND SYMBOL  
INFORMATION SHEET  
(COVERS SHEET SERIES S)

107+00

108+00

109+00



SIDEWALK DETAILS

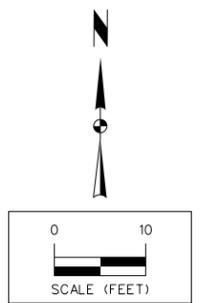
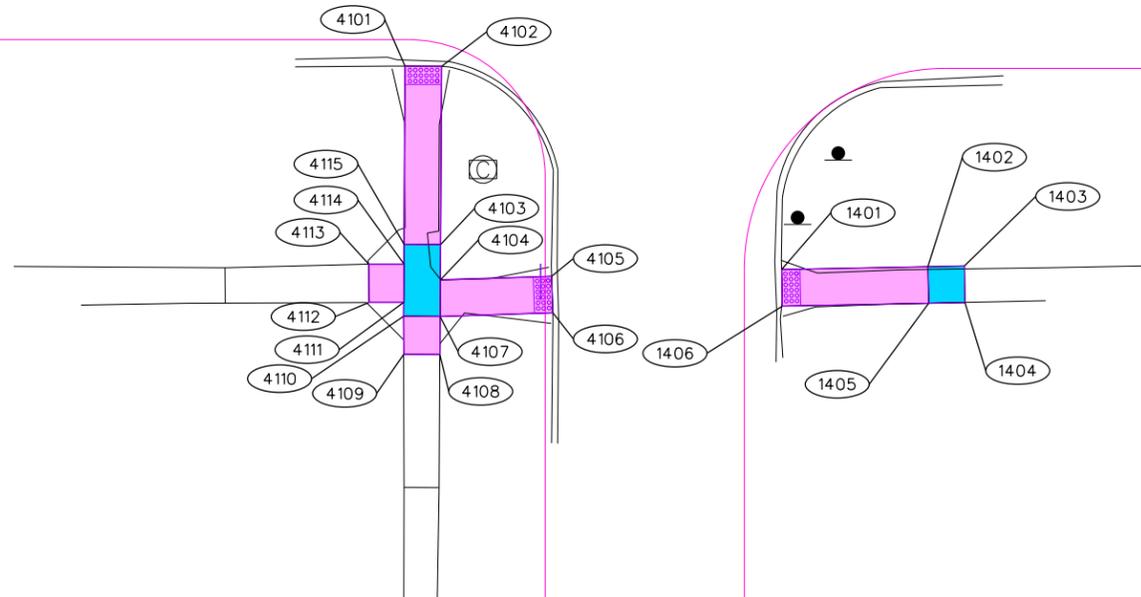
200+00

201+00

KENT STREET

202+00

WASHINGTON STREET



SIDEWALK DETAILS

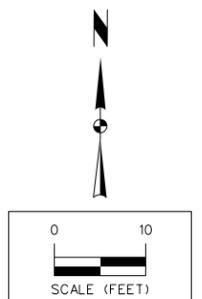
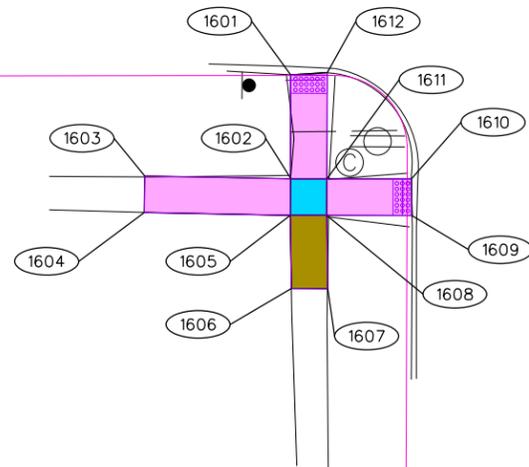
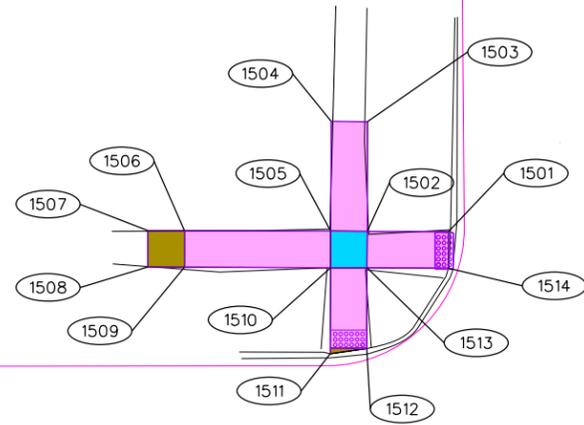
206+00

207+00

208+00

ROCHE STREET

WASHINGTON STREET



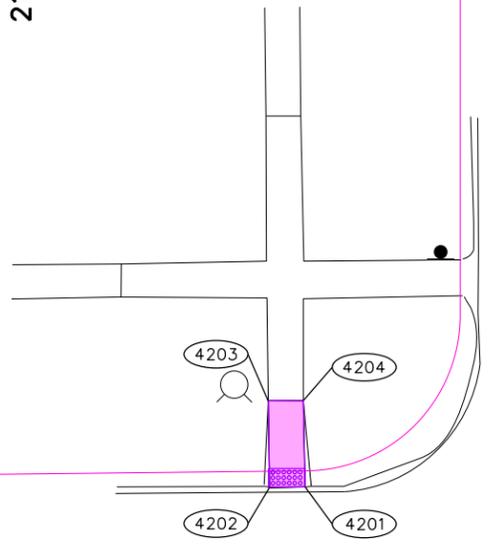
SIDEWALK DETAILS

213+00

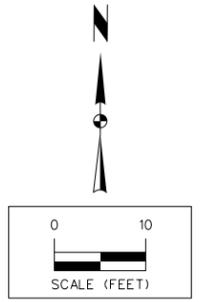
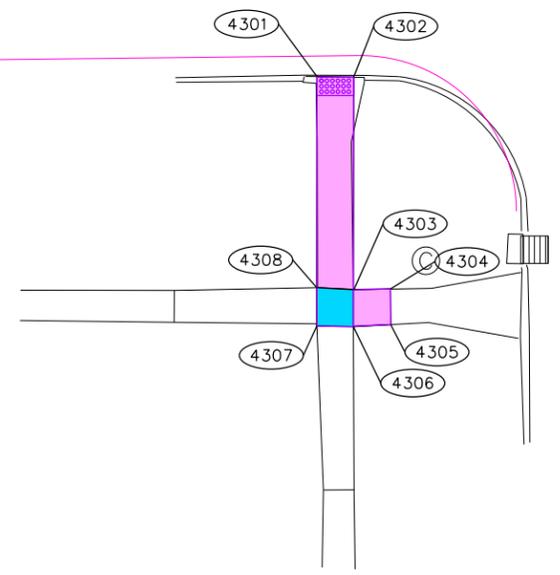
2ND STREET

214+00

215+00



WASHINGTON STREET

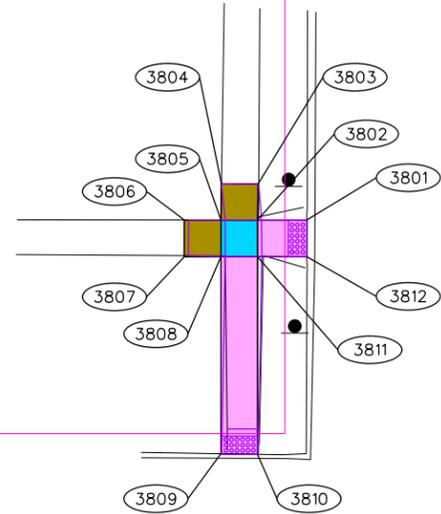


SIDEWALK DETAILS

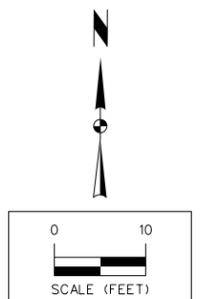
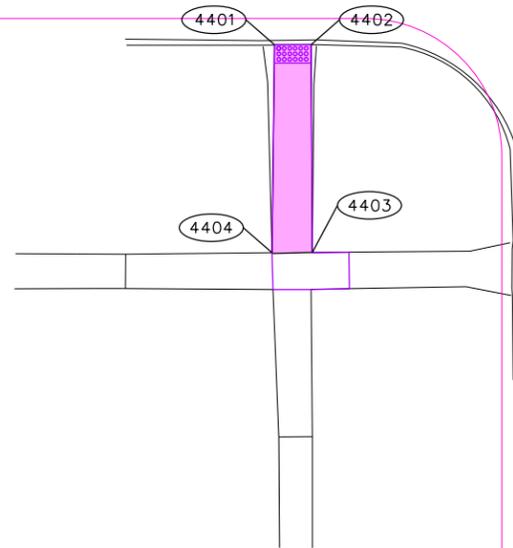
216+00

3RD STREET

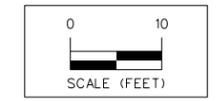
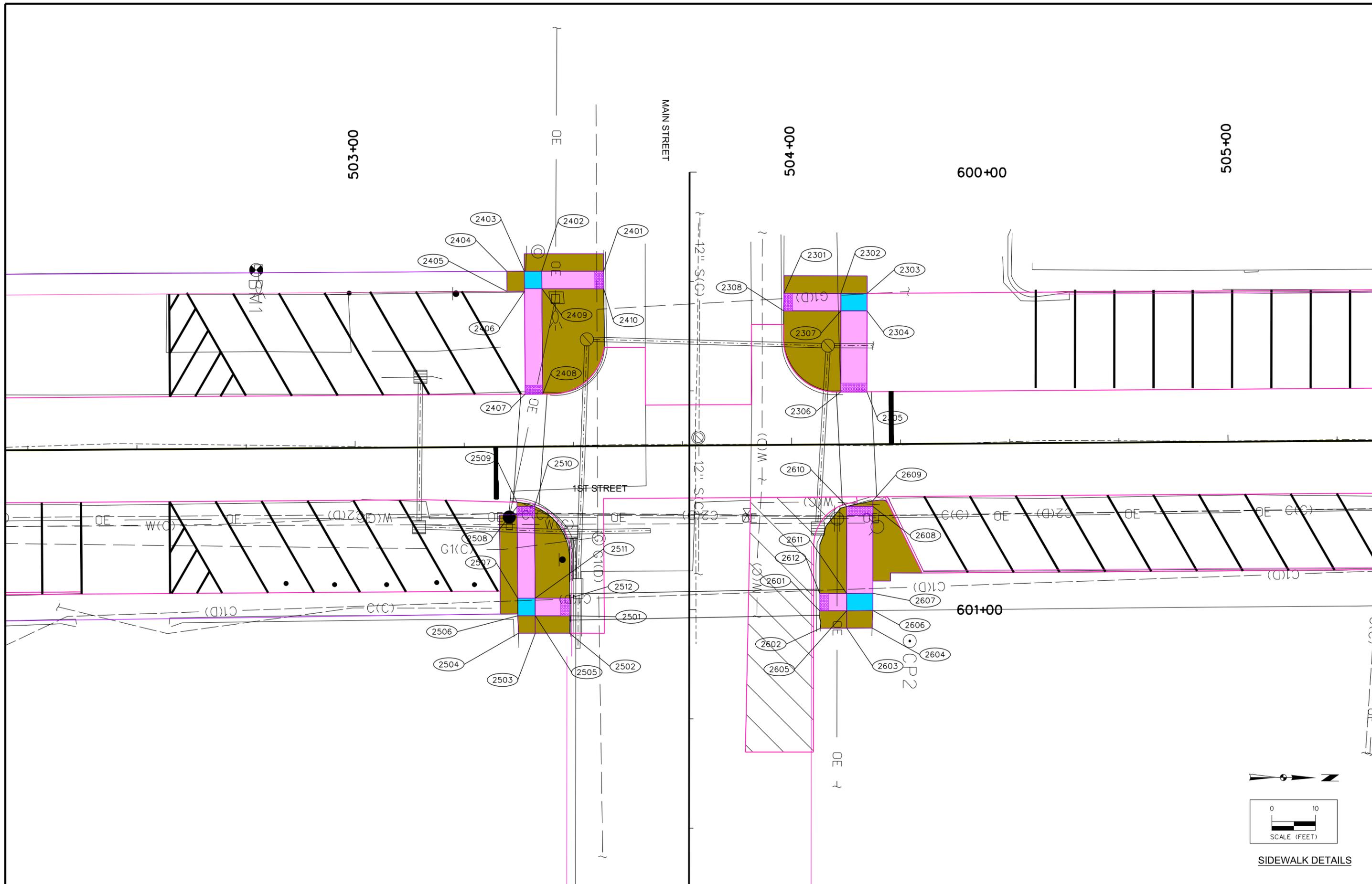
217+00



WASHINGTON STREET



SIDEWALK DETAILS



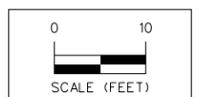
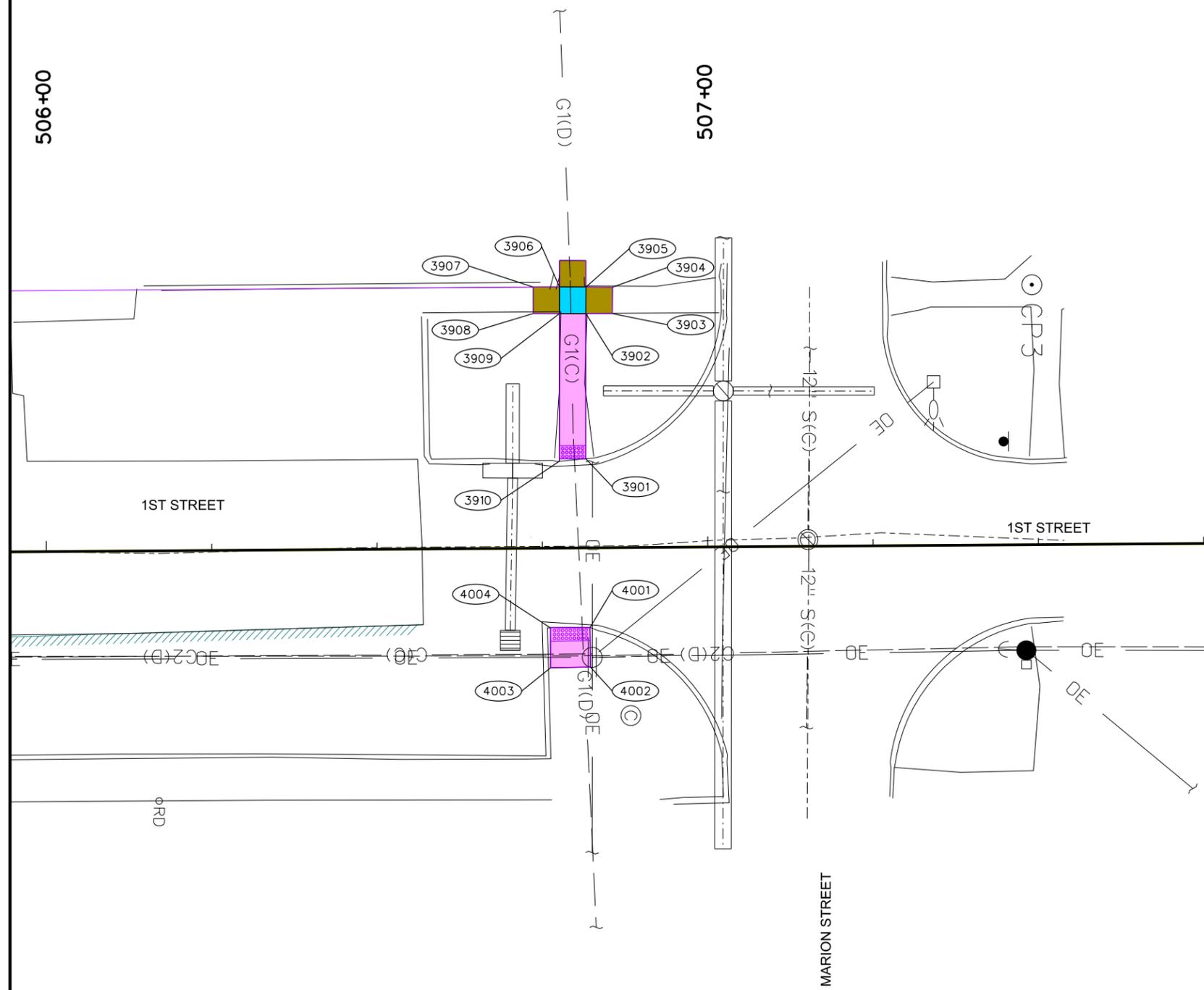
SIDEWALK DETAILS

506+00

507+00

508+00

509+00



SIDEWALK DETAILS

ENGLISH

DESIGN TEAM

SNYDER & ASSOCIATES

CITY OF KNOXVILLE

MARION COUNTY

PROJECT NUMBER

115.0718

SHEET NUMBER

S.8

REVISED

1/27/2016

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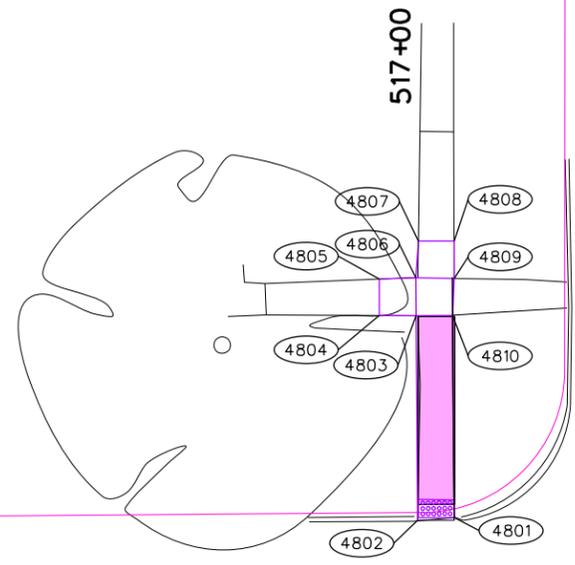
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Project Overview

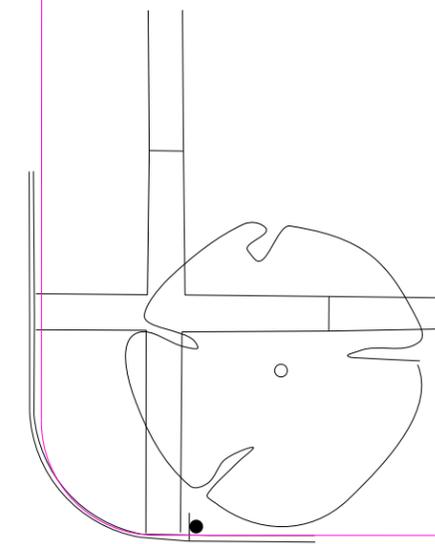
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516+00

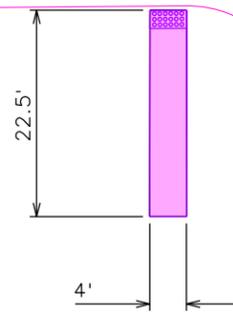


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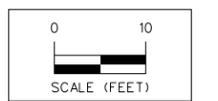
517+00



518+00



DOUGLAS STREET



SIDEWALK DETAILS

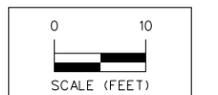
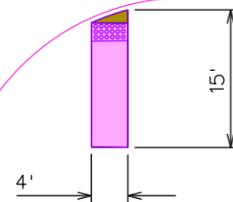
520+00

521+00

522+00

1ST STREET

BABBIT STREET

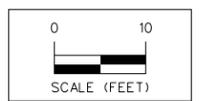
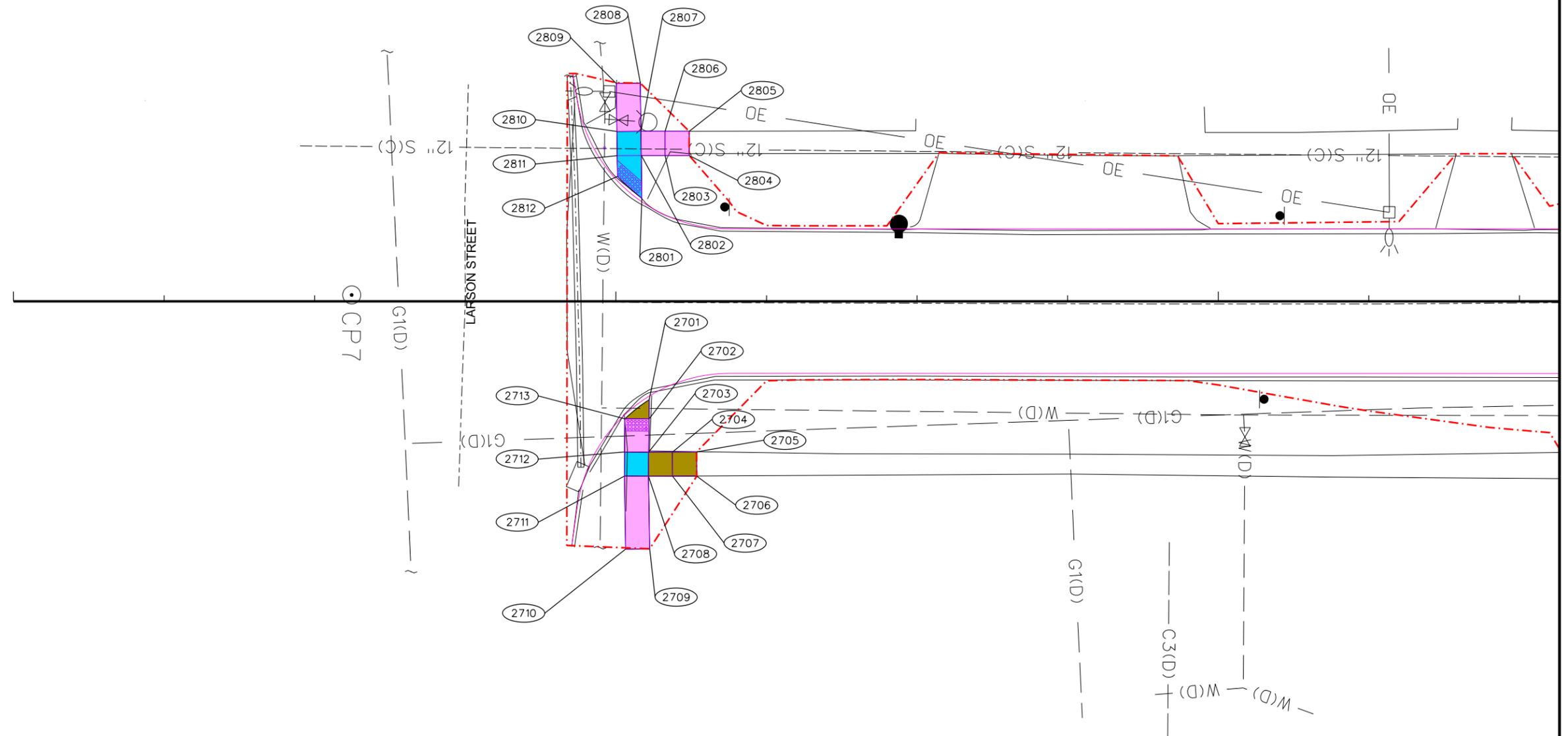


SIDEWALK DETAILS

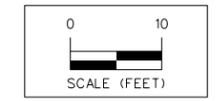
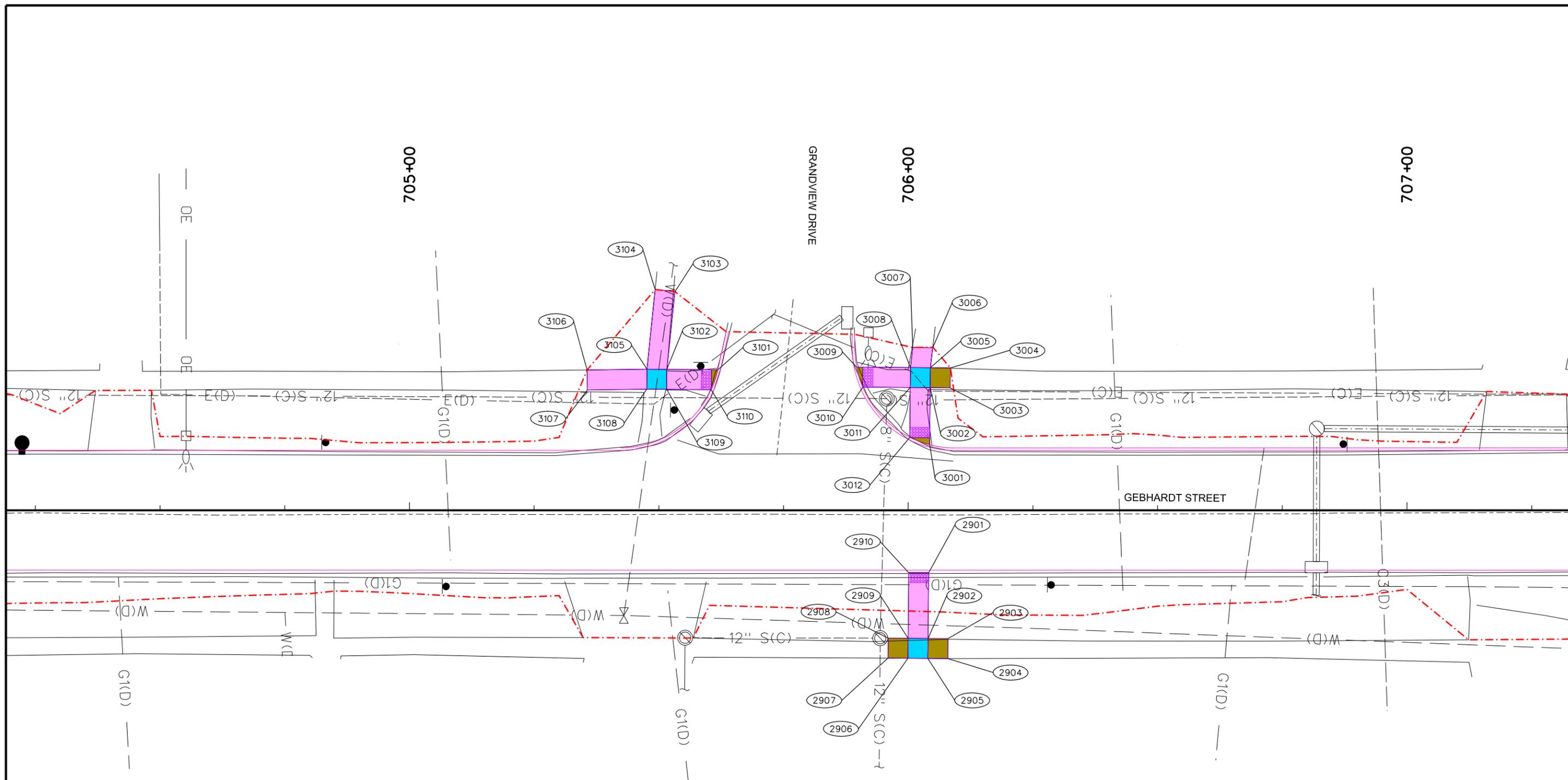
700+00

701+00

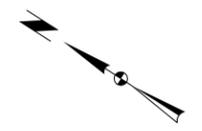
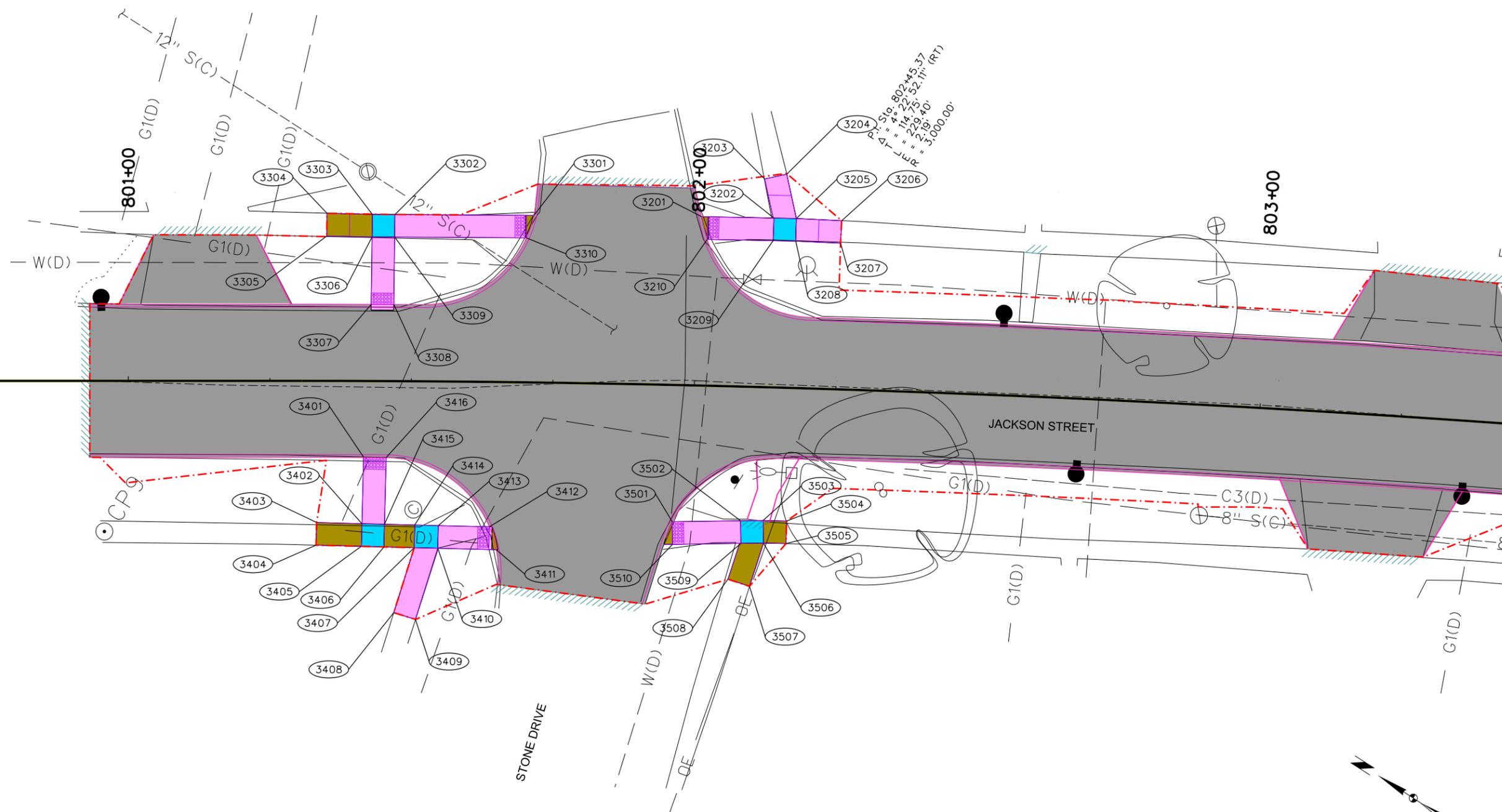
702+00



SIDEWALK DETAILS



SIDEWALK DETAILS



SIDEWALK DETAILS

**SIDEWALK COMPLIANCE**

See S Sheets

\* Does not include curb  
 ① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

| Point to Point | Sidewalk Designation | Distance*                  | Δ Elevation | Slope | Acceptable Constructed Range | Staking Required on this Quadrant?<br>① | Measured Slope | Initials | Remarks   | FOR INFORMATION ONLY:<br>VALUES USED TO DETERMINE DESIGNED SLOPES |           |        |              |
|----------------|----------------------|----------------------------|-------------|-------|------------------------------|---|----------------|----------|---|---|-----------|--------|--------------|
|                |                      |                            |             |       |                              |   |                |          |   | Point   | Station   | Offset | Elevation    |
|                |                      |                            |             |       |                              |   |                |          |   | FT  | FT        | %      | Pos. or Neg. |
| 1101           | 1102                 | Sidewalk Running Slope     | 2.93        | 0.04  | 1.4%                         | 0.5% to 5.0%                            |                |          |   | 1101  | 108+18.72 | -24.48 | 893.01       |
| 1102           | 1103                 | Ramp Running Slope         | 15.00       | 1.51  | 10.1%                        | 0.5% to 11.1%                           |                |          | Length constructed must exceed 15 feet at a uniform running slope | 1102  | 108+21.69 | -24.47 | 893.05       |
| 1102           | 1109                 | Ramp Cross Slope           | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 1103  | 108+36.63 | -24.42 | 894.56       |
| 1103           | 1104                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 1104  | 108+40.63 | -24.41 | 894.62       |
| 1103           | 1108                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 1105  | 108+44.63 | -24.39 | 894.77       |
| 1104           | 1105                 | Sidewalk Running Slope     | 4.00        | 0.15  | 3.7%                         | 0.5% to 5.0%                            |                |          |   | 1106  | 108+44.61 | -20.39 | 894.86       |
| 1104           | 1107                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 1107  | 108+40.61 | -20.41 | 894.68       |
| 1105           | 1106                 | Match Existing Cross Slope | 4.00        | 0.09  | 2.3%                         | Match Existing                          |                |          |   | 1108  | 108+36.61 | -20.42 | 894.62       |
| 1106           | 1107                 | Sidewalk Running Slope     | 4.00        | -0.18 | -4.5%                        | 0.5% to 5.0%                            | Yes            |          | Slope required to match existing conditions                       | 1109  | 108+21.68 | -20.47 | 893.11       |
| 1107           | 1108                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   |           |        |              |
| 1108           | 1109                 | Ramp Running Slope         | 15.00       | -1.51 | -10.1%                       | 0.5% to 11.1%                           |                |          | Length constructed must exceed 15 feet at a uniform running slope |   |           |        |              |
| 1201           | 1202                 | Sidewalk Running Slope     | 1.92        | 0.05  | 2.6%                         | 0.5% to 5.0%                            |                |          |   | 1201  | 107+87.50 | -25.82 | 892.30       |
| 1202           | 1203                 | Ramp Running Slope         | 5.60        | 0.35  | 6.3%                         | 0.5% to 8.3%                            |                |          |   | 1202  | 107+85.58 | -25.82 | 892.35       |
| 1202           | 1212                 | Ramp Cross Slope           | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 1203  | 107+79.98 | -25.84 | 892.70       |
| 1203           | 1204                 | Ramp Running Slope         | 3.51        | 0.53  | 15.1%                        | 0.5% to 16.1%                           |                |          |   | 1204  | 107+80.00 | -29.36 | 893.23       |
| 1203           | 1206                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 1205  | 107+75.99 | -28.30 | 893.23       |
| 1203           | 1211                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 1206  | 107+75.98 | -25.86 | 892.76       |
| 1204           | 1205                 | Match Existing Cross Slope | 4.00        | 0.00  | 0.0%                         | Match Existing                          |                |          |   | 1207  | 107+75.97 | -21.86 | 892.69       |
| 1205           | 1206                 | Ramp Running Slope         | 3.10        | -0.47 | -15.2%                       | 0.5% to 16.2%                           |                |          |   | 1208  | 107+75.95 | -16.01 | 892.21       |
| 1206           | 1207                 | Landing/Turning Space      | 4.00        | -0.07 | -1.7%                        | 0.1% to 2.0%                            | Yes            |          |   | 1209  | 107+75.94 | -13.88 | 892.04       |
| 1207           | 1208                 | Ramp Running Slope         | 5.85        | -0.48 | -8.2%                        | 0.5% to 8.3%                            | Yes            |          |   | 1210  | 107+79.95 | -16.00 | 892.20       |
| 1207           | 1211                 | Landing/Turning Space      | 4.00        | -0.05 | -1.3%                        | 0.1% to 2.0%                            |                |          |   | 1211  | 107+79.97 | -21.84 | 892.64       |
| 1208           | 1209                 | Ramp Running Slope         | 2.10        | -0.17 | -8.1%                        | 0.5% to 8.3%                            | Yes            |          |   | 1212  | 107+85.56 | -21.82 | 892.29       |
| 1208           | 1210                 | Ramp Cross Slope           | 4.00        | -0.01 | -0.2%                        | 0.1% to 2.0%                            |                |          |   |   |           |        |              |
| 1210           | 1211                 | Ramp Running Slope         | 5.85        | 0.44  | 7.5%                         | 0.5% to 8.3%                            | Yes            |          |   |   |           |        |              |
| 1211           | 1212                 | Ramp Running Slope         | 5.60        | -0.35 | -6.3%                        | 0.5% to 8.3%                            |                |          |   |   |           |        |              |
| 1301           | 1307                 | Sidewalk Running Slope     | 1.88        | 0.02  | 1.1%                         | 0.5% to 5.0%                            |                |          |   | 1301  | 107+76.42 | 13.69  | 891.70       |
| 1302           | 1303                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 1302  | 107+80.44 | 15.54  | 891.64       |
| 1302           | 1307                 | Landing/Turning Space      | 4.00        | 0.08  | 2.0%                         | 0.1% to 2.0%                            | Yes            |          |   | 1303  | 107+80.54 | 27.53  | 891.70       |
| 1303           | 1304                 | Ramp Running Slope         | 8.00        | -0.46 | -5.8%                        | 0.5% to 8.3%                            |                |          |   | 1304  | 107+80.51 | 23.53  | 891.24       |
| 1303           | 1306                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 1305  | 107+76.54 | 27.57  | 891.20       |
| 1304           | 1305                 | Match Existing Cross Slope | 4.00        | -0.04 | -1.0%                        | Match Existing                          |                |          |   | 1306  | 107+76.47 | 19.57  | 891.76       |
| 1305           | 1306                 | Ramp Running Slope         | 8.00        | 0.56  | 7.0%                         | 0.5% to 8.3%                            |                |          |   | 1307  | 107+76.44 | 15.57  | 891.72       |
| 1306           | 1307                 | Landing/Turning Space      | 4.00        | -0.04 | -1.0%                        | 0.1% to 2.0%                            |                |          |   |   |           |        |              |
| 1401           | 1402                 | Ramp Running Slope         | 16.00       | 1.93  | 12.1%                        |   |                |          | Length constructed must exceed 15 feet at a uniform running slope | 1401  | 201+49.76 | 33.97  | 901.97       |
| 1401           | 1406                 | Match Existing Cross Slope | 4.00        | 0.01  | 0.2%                         | Match Existing                          |                |          |   | 1402  | 201+65.75 | 33.65  | 903.90       |
| 1402           | 1403                 | Ramp Running Slope         | 4.00        | 0.06  | 1.5%                         | 0.5% to 8.3%                            |                |          |   | 1403  | 201+69.75 | 33.57  | 903.96       |
| 1402           | 1405                 | Landing/Turning Space      | 4.00        | -0.02 | -0.5%                        | 0.1% to 2.0%                            |                |          |   | 1404  | 201+69.83 | 37.57  | 903.94       |
| 1403           | 1404                 | Landing/Turning Space      | 4.00        | -0.02 | -0.5%                        | 0.1% to 2.0%                            |                |          |   | 1405  | 201+65.83 | 37.65  | 903.88       |
| 1404           | 1405                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 1406  | 201+49.74 | 37.97  | 901.98       |
| 1405           | 1406                 | Ramp Running Slope         | 16.00       | -1.90 | -11.9%                       | 0.5% to 12.9%                           |                |          | Length constructed must exceed 15 feet at a uniform running slope |   |           |        |              |
| 1501           | 1502                 | Ramp Running Slope         | 9.11        | 0.76  | 8.3%                         | 0.5% to 8.3%                            | Yes            |          | Proposed slope is maximum allowed                                 | 1501  | 207+24.31 | -26.07 | 908.44       |
| 1502           | 1503                 | Ramp Running Slope         | 12.00       | 0.93  | 7.7%                         | 0.5% to 8.3%                            | Yes            |          | Slope required to match existing conditions                       | 1502  | 207+15.22 | -26.68 | 909.20       |
| 1502           | 1505                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 1503  | 207+16.02 | -38.62 | 910.13       |
| 1502           | 1513                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 1504  | 207+09.64 | -38.68 | 910.18       |
| 1503           | 1504                 | Match Existing Cross Slope | 4.00        | 0.05  | 1.2%                         | Match Existing                          |                |          |   | 1505  | 207+09.58 | -26.70 | 909.26       |
| 1504           | 1505                 | Ramp Running Slope         | 12.00       | -0.92 | -7.7%                        | 0.5% to 8.3%                            | Yes            |          | Slope required to match existing conditions                       | 1506  | 206+93.58 | -26.78 | 910.25       |
| 1505           | 1506                 | Ramp Running Slope         | 16.00       | 0.99  | 6.2%                         | 0.5% to 8.3%                            |                |          |   | 1507  | 206+89.58 | -26.80 | 910.31       |
| 1505           | 1510                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 1508  | 206+89.56 | -22.80 | 910.46       |
| 1506           | 1507                 | Sidewalk Running Slope     | 4.00        | 0.06  | 1.5%                         | 0.5% to 5.0%                            |                |          |   | 1509  | 206+93.56 | -22.78 | 910.31       |
| 1506           | 1509                 | Ramp Cross Slope           | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 1510  | 207+09.56 | -22.70 | 909.20       |
| 1507           | 1508                 | Match Existing Cross Slope | 4.00        | 0.15  | 3.8%                         | Match Existing                          |                |          |   | 1511  | 207+09.51 | -13.31 | 908.63       |
| 1508           | 1509                 | Sidewalk Running Slope     | 4.00        | -0.15 | -3.8%                        | 0.5% to 5.0%                            |                |          |   | 1512  | 207+13.52 | -13.87 | 908.62       |
| 1509           | 1510                 | Ramp Running Slope         | 16.00       | -1.11 | -6.9%                        | 0.5% to 8.3%                            |                |          |   | 1513  | 207+13.56 | -22.68 | 909.14       |
| 1510           | 1511                 | Ramp Running Slope         | 9.39        | -0.57 | -6.1%                        | 0.5% to 8.3%                            |                |          |   | 1514  | 207+23.84 | -22.09 | 908.40       |
| 1510           | 1513                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   |           |        |              |
| 1512           | 1513                 | Ramp Running Slope         | 8.81        | 0.52  | 5.9%                         | 0.5% to 8.3%                            |                |          |   |   |           |        |              |
| 1513           | 1514                 | Ramp Running Slope         | 8.90        | -0.74 | -8.3%                        | 0.5% to 8.3%                            | Yes            |          | Proposed slope is maximum allowed                                 |   |           |        |              |
| 1601           | 1602                 | Ramp Running Slope         | 11.32       | 0.24  | 2.1%                         | 0.5% to 8.3%                            |                |          |   | 1601  | 207+09.53 | 11.94  | 908.36       |
| 1601           | 1612                 | Match Existing Cross Slope | 4.00        | -0.13 | -3.4%                        | Match Existing                          |                |          |   | 1602  | 207+09.47 | 23.26  | 908.60       |
| 1602           | 1603                 | Ramp Running Slope         | 16.00       | 1.10  | 6.8%                         | 0.5% to 8.3%                            |                |          |   | 1603  | 206+93.54 | 22.93  | 909.69       |
| 1602           | 1605                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 1604  | 206+93.45 | 26.93  | 909.77       |
| 1602           | 1611                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 1605  | 207+09.45 | 27.26  | 908.54       |
| 1603           | 1604                 | Match Existing Cross Slope | 4.00        | 0.08  | 2.0%                         | Match Existing                          |                |          |   | 1606  | 207+09.56 | 35.26  | 909.19       |
| 1604           | 1605                 | Ramp Running Slope         | 16.00       | -1.24 | -7.7%                        | 0.5% to 8.3%                            | Yes            |          | Slope required to match existing conditions                       | 1607  | 207+13.56 | 35.28  | 909.11       |
| 1605           | 1606                 | Sidewalk Running Slope     | 8.00        | 0.66  | 8.2%                         | 0.5% to 9.2%                            |                |          | Proposed slope is maximum allowed                                 | 1608  | 207+13.45 | 27.28  | 908.48       |

**SIDEWALK COMPLIANCE**

See S Sheets

\* Does not include curb  
 ① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

| Point to Point | Sidewalk Designation       | Distance* | Δ Elevation | Slope | Acceptable Constructed Range | Staking Required on this Quadrant?<br>① | Measured Slope | Initials | Remarks                                     | FOR INFORMATION ONLY:<br>VALUES USED TO DETERMINE DESIGNED SLOPES |           |        |           |
|----------------|----------------------------|-----------|-------------|-------|------------------------------|---|----------------|----------|---|---|-----------|--------|-----------|
|                |                            |           |             |       |                              |   |                |          |   | Point   | Station   | Offset | Elevation |
|                |                            | FT        | FT          | %     | Pos. or Neg.                 |   | %              |          |   |   |           |        |           |
| 1605 1608      | Landing/Turning Space      | 4.00      | -0.06       | -1.5% | 0.1% to 2.0%                 |   |                |          |   | 1609  | 207+21.09 | 27.80  | 907.70    |
| 1606 1607      | Match Existing Cross Slope | 4.00      | -0.08       | -2.0% | Match Existing               |   |                |          |   | 1610  | 207+21.26 | 23.80  | 907.83    |
| 1607 1608      | Sidewalk Running Slope     | 8.00      | -0.63       | -7.9% | 0.5% to 8.9%                 |   |                |          | Slope required to match existing conditions | 1611  | 207+13.47 | 23.28  | 908.54    |
| 1608 1609      | Ramp Running Slope         | 9.34      | -0.77       | -8.3% | 0.5% to 8.3%                 | Yes                                     |                |          | Proposed slope is maximum allowed           | 1612  | 207+13.53 | 11.70  | 908.22    |
| 1608 1611      | Landing/Turning Space      | 4.00      | 0.06        | 1.5%  | 0.1% to 2.0%                 |   |                |          |   |   |           |        |           |
| 1609 1610      | Match Existing Cross Slope | 4.00      | 0.13        | 3.2%  | Match Existing               |   |                |          |   |   |           |        |           |
| 1610 1611      | Ramp Running Slope         | 9.25      | 0.70        | 7.6%  | 0.5% to 8.3%                 | Yes                                     |                |          | Slope required to match existing conditions |   |           |        |           |
| 1611 1612      | Ramp Running Slope         | 11.58     | -0.31       | -2.7% | 0.5% to 8.3%                 |   |                |          |   |   |           |        |           |
| 2301 2302      | Sidewalk Running Slope     | 13.06     | 0.24        | 1.8%  | 0.5% to 5.0%                 |   |                |          |   | 2301  | 503+98.46 | -34.63 | 914.43    |
| 2301 2308      | Match Existing Cross Slope | 4.00      | 0.02        | 0.5%  | Match Existing               |   |                |          |   | 2302  | 504+10.87 | -34.53 | 914.67    |
| 2302 2303      | Landing/Turning Space      | 6.00      | 0.06        | 1.0%  | 0.1% to 2.0%                 |   |                |          |   | 2303  | 504+17.53 | -34.48 | 914.73    |
| 2302 2307      | Landing/Turning Space      | 4.00      | -0.04       | -1.0% | 0.1% to 2.0%                 |   |                |          |   | 2304  | 504+17.49 | -30.48 | 914.69    |
| 2303 2304      | Landing/Turning Space      | 4.00      | -0.04       | -1.0% | 0.1% to 2.0%                 |   |                |          |   | 2305  | 504+17.35 | -11.95 | 914.62    |
| 2304 2305      | Sidewalk Running Slope     | 18.50     | -0.07       | -0.4% | 0.5% to 5.0%                 |   |                |          |   | 2306  | 504+11.35 | -12.00 | 914.55    |
| 2304 2307      | Landing/Turning Space      | 6.00      | -0.06       | -1.0% | 0.1% to 2.0%                 |   |                |          |   | 2307  | 504+11.49 | -31.53 | 914.63    |
| 2305 2306      | Match Existing Cross Slope | 4.00      | -0.07       | -1.8% | Match Existing               |   |                |          |   | 2308  | 503+98.42 | -30.63 | 914.45    |
| 2306 2307      | Sidewalk Running Slope     | 18.50     | 0.08        | 0.4%  | 0.5% to 5.0%                 |   |                |          |   |   |           |        |           |
| 2307 2308      | Sidewalk Running Slope     | 13.08     | -0.18       | -1.4% | 0.5% to 5.0%                 |   |                |          |   |   |           |        |           |
| 2401 2402      | Sidewalk Running Slope     | 14.15     | 0.31        | 2.2%  | 0.5% to 5.0%                 |   |                |          |   | 2401  | 503+57.18 | -39.98 | 914.38    |
| 2401 2410      | Match Existing Cross Slope | 4.00      | 0.02        | 0.5%  | Match Existing               |   |                |          |   | 2402  | 503+43.04 | -40.09 | 914.69    |
| 2402 2403      | Landing/Turning Space      | 4.00      | 0.03        | 0.7%  | 0.1% to 2.0%                 |   |                |          |   | 2403  | 503+39.04 | -40.12 | 914.72    |
| 2402 2409      | Landing/Turning Space      | 4.00      | 0.03        | 0.7%  | 0.1% to 2.0%                 |   |                |          |   | 2404  | 503+35.04 | -40.12 | 914.75    |
| 2403 2404      | Sidewalk Running Slope     | 4.00      | 0.03        | 0.7%  | 0.5% to 5.0%                 |   |                |          |   | 2405  | 503+35.04 | -35.50 | 914.85    |
| 2403 2406      | Landing/Turning Space      | 4.00      | 0.06        | 1.5%  | 0.1% to 2.0%                 |   |                |          |   | 2406  | 503+39.04 | -36.12 | 914.78    |
| 2404 2405      | Match Existing Cross Slope | 4.62      | 0.10        | 2.2%  | Match Existing               |   |                |          |   | 2407  | 503+39.04 | -12.00 | 914.43    |
| 2405 2406      | Sidewalk Running Slope     | 4.00      | -0.07       | -1.8% | 0.5% to 5.0%                 |   |                |          |   | 2408  | 503+43.04 | -12.00 | 914.43    |
| 2406 2407      | Sidewalk Running Slope     | 24.10     | -0.35       | -1.5% | 0.5% to 5.0%                 |   |                |          |   | 2409  | 503+43.04 | -36.09 | 914.72    |
| 2406 2409      | Landing/Turning Space      | 4.00      | -0.06       | -1.5% | 0.1% to 2.0%                 |   |                |          |   | 2410  | 503+57.21 | -35.97 | 914.40    |
| 2407 2408      | Match Existing Cross Slope | 4.00      | 0.00        | 0.0%  | Match Existing               |   |                |          |   |   |           |        |           |
| 2408 2409      | Sidewalk Running Slope     | 24.10     | 0.29        | 1.2%  | 0.5% to 5.0%                 |   |                |          |   |   |           |        |           |
| 2409 2410      | Sidewalk Running Slope     | 14.17     | -0.32       | -2.3% | 0.5% to 5.0%                 |   |                |          |   |   |           |        |           |
| 2501 2505      | Ramp Running Slope         | 7.84      | 0.64        | 8.2%  | 0.5% to 8.3%                 | Yes                                     |                |          | Proposed slope is maximum allowed           | 2501  | 503+48.83 | 38.74  | 914.22    |
| 2501 2512      | Match Existing Cross Slope | 4.00      | -0.03       | -0.7% | Match Existing               |   |                |          |   | 2502  | 503+48.80 | 42.74  | 914.54    |
| 2502 2503      | Match Existing Cross Slope | 7.84      | 0.29        | 3.7%  | Match Existing               |   |                |          |   | 2503  | 503+40.97 | 42.67  | 914.83    |
| 2503 2504      | Match Existing Cross Slope | 3.86      | 0.13        | 3.4%  | Match Existing               |   |                |          |   | 2504  | 503+37.11 | 42.64  | 914.96    |
| 2503 2505      | Sidewalk Running Slope     | 4.00      | 0.03        | 0.7%  | 0.5% to 5.0%                 |   |                |          |   | 2505  | 503+41.00 | 38.67  | 914.86    |
| 2504 2506      | Sidewalk Running Slope     | 4.00      | -0.04       | -1.0% | 0.5% to 5.0%                 |   |                |          |   | 2506  | 503+37.00 | 38.64  | 914.92    |
| 2505 2506      | Landing/Turning Space      | 4.00      | 0.06        | 1.5%  | 0.1% to 2.0%                 |   |                |          |   | 2507  | 503+37.00 | 34.64  | 914.86    |
| 2505 2511      | Landing/Turning Space      | 4.00      | -0.06       | -1.5% | 0.1% to 2.0%                 |   |                |          |   | 2508  | 503+37.00 | 13.69  | 914.67    |
| 2506 2507      | Landing/Turning Space      | 4.00      | -0.06       | -1.5% | 0.1% to 2.0%                 |   |                |          |   | 2509  | 503+37.00 | 12.70  | 914.66    |
| 2507 2508      | Sidewalk Running Slope     | 21.00     | -0.19       | -0.9% | 0.5% to 5.0%                 |   |                |          |   | 2510  | 503+41.00 | 13.68  | 914.61    |
| 2507 2511      | Landing/Turning Space      | 4.00      | -0.06       | -1.5% | 0.1% to 2.0%                 |   |                |          |   | 2511  | 503+41.00 | 34.67  | 914.80    |
| 2508 2509      | Sidewalk Running Slope     | 1.00      | -0.01       | -1.0% | 0.5% to 5.0%                 |   |                |          |   | 2512  | 503+48.86 | 34.73  | 914.19    |
| 2508 2510      | Sidewalk Cross Slope       | 4.00      | -0.06       | -1.5% | 0.5% to 2.0%                 |   |                |          |   |   |           |        |           |
| 2510 2511      | Sidewalk Running Slope     | 21.00     | 0.19        | 0.9%  | 0.5% to 5.0%                 |   |                |          |   |   |           |        |           |
| 2511 2512      | Ramp Running Slope         | 7.87      | -0.61       | -7.8% | 0.5% to 8.3%                 | Yes                                     |                |          | Proposed slope is maximum allowed           |   |           |        |           |
| 2601 2605      | Ramp Running Slope         | 6.20      | 0.47        | 7.6%  | 0.5% to 8.3%                 | Yes                                     |                |          | Slope required to match existing conditions | 2601  | 504+06.17 | 38.03  | 914.07    |
| 2601 2612      | Match Existing Cross Slope | 4.00      | 0.05        | 1.2%  | Match Existing               |   |                |          |   | 2602  | 504+06.28 | 42.03  | 914.38    |
| 2602 2603      | Match Existing Cross Slope | 6.10      | 0.10        | 1.6%  | Match Existing               |   |                |          |   | 2603  | 504+12.35 | 42.02  | 914.48    |
| 2603 2604      | Match Existing Cross Slope | 5.80      | 0.15        | 2.6%  | Match Existing               |   |                |          |   | 2604  | 504+18.16 | 42.01  | 914.63    |
| 2603 2605      | Sidewalk Running Slope     | 4.00      | 0.06        | 1.5%  | 0.5% to 5.0%                 |   |                |          |   | 2605  | 504+12.35 | 38.02  | 914.54    |
| 2604 2606      | Match Existing Cross Slope | 4.00      | 0.00        | 0.0%  | Match Existing               |   |                |          |   | 2606  | 504+18.35 | 38.01  | 914.63    |
| 2605 2606      | Landing/Turning Space      | 6.00      | 0.09        | 1.5%  | 0.1% to 2.0%                 |   |                |          |   | 2607  | 504+18.38 | 34.07  | 914.57    |
| 2605 2611      | Landing/Turning Space      | 4.00      | -0.06       | -1.5% | 0.1% to 2.0%                 |   |                |          |   | 2608  | 504+18.53 | 14.24  | 914.42    |
| 2606 2607      | Landing/Turning Space      | 4.00      | -0.06       | -1.5% | 0.1% to 2.0%                 |   |                |          |   | 2609  | 504+18.54 | 12.95  | 914.40    |
| 2607 2608      | Sidewalk Running Slope     | 19.78     | -0.15       | -0.8% | 0.5% to 5.0%                 |   |                |          |   | 2610  | 504+12.53 | 14.19  | 914.33    |
| 2607 2611      | Landing/Turning Space      | 6.00      | -0.09       | -1.5% | 0.1% to 2.0%                 |   |                |          |   | 2611  | 504+12.34 | 34.06  | 914.48    |
| 2608 2609      | Sidewalk Running Slope     | 1.29      | -0.02       | -1.6% | 0.5% to 5.0%                 |   |                |          |   | 2612  | 504+06.21 | 34.05  | 914.12    |
| 2608 2610      | Sidewalk Cross Slope       | 6.00      | -0.09       | -1.5% | 0.5% to 2.0%                 |   |                |          |   |   |           |        |           |
| 2610 2611      | Sidewalk Running Slope     | 19.83     | 0.15        | 0.8%  | 0.5% to 5.0%                 |   |                |          |   |   |           |        |           |
| 2611 2612      | Ramp Running Slope         | 6.10      | -0.36       | -5.9% | 0.5% to 8.3%                 |   |                |          |   |   |           |        |           |
| 2701 2702      | Sidewalk Running Slope     | 3.10      | 0.11        | 3.5%  | 0.5% to 5.0%                 |   |                |          |   | 2701  | 701+05.53 | 16.30  | 906.47    |
| 2702 2703      | Ramp Running Slope         | 6.17      | 0.51        | 8.3%  | 0.5% to 8.3%                 | Yes                                     |                |          | Proposed slope is maximum allowed           | 2702  | 701+05.51 | 18.64  | 906.58    |
| 2702 2713      | Ramp Cross Slope           | 4.00      | 0.06        | 1.5%  | 0.1% to 2.0%                 |   |                |          |   | 2703  | 701+05.45 | 24.98  | 907.09    |
| 2703 2704      | Sidewalk Running Slope     | 4.00      | 0.12        | 2.9%  | 0.5% to 5.0%                 |   |                |          |   | 2704  | 701+09.39 | 24.96  | 907.21    |
| 2703 2708      | Landing/Turning Space      | 4.00      | 0.06        | 1.5%  | 0.1% to 2.0%                 |   |                |          |   | 2705  | 701+13.39 | 24.94  | 907.18    |
| 2703 2712      | Landing/Turning Space      | 4.00      | -0.06       | -1.5% | 0.1% to 2.0%                 |   |                |          |   | 2706  | 701+13.41 | 28.94  | 907.34    |

**SIDEWALK COMPLIANCE**

See S Sheets

\* Does not include curb  
 ① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

| Point to Point | Sidewalk Designation | Distance*                  | Δ Elevation | Slope | Acceptable Constructed Range | Staking Required on this Quadrant?<br>① | Measured Slope | Initials | Remarks   | FOR INFORMATION ONLY:<br>VALUES USED TO DETERMINE DESIGNED SLOPES |         |           |           |        |
|----------------|----------------------|----------------------------|-------------|-------|------------------------------|---|----------------|----------|---|---|---------|-----------|-----------|--------|
|                |                      |                            |             |       |                              |   |                |          |   | Point   | Station | Offset    | Elevation |        |
|                |                      | FT                         | FT          | %     | Pos. or Neg.                 |   | %              |          |   |   |         |           |           |        |
| 2704           | 2705                 | Sidewalk Running Slope     | 4.00        | -0.03 | -0.6%                        | 0.5% to 5.0%                            |                |          |   |   | 2707    | 701+09.41 | 28.96     | 907.25 |
| 2704           | 2707                 | Sidewalk Cross Slope       | 4.00        | 0.04  | 1.0%                         | 0.5% to 2.0%                            |                |          |   |   | 2708    | 701+05.39 | 28.98     | 907.15 |
| 2705           | 2706                 | Match Existing Cross Slope | 4.00        | 0.16  | 4.0%                         | Match Existing                          |                |          |   |   | 2709    | 701+05.61 | 40.98     | 907.88 |
| 2706           | 2707                 | Sidewalk Running Slope     | 4.00        | -0.10 | -2.4%                        | 0.5% to 5.0%                            |                |          |   |   | 2710    | 701+01.61 | 41.04     | 907.78 |
| 2707           | 2708                 | Sidewalk Running Slope     | 4.00        | -0.10 | -2.4%                        | 0.5% to 5.0%                            |                |          |   |   | 2711    | 701+04.41 | 28.94     | 907.09 |
| 2708           | 2709                 | Ramp Running Slope         | 12.00       | 0.73  | 6.0%                         | 0.5% to 8.3%                            |                |          |   |   | 2712    | 701+04.45 | 24.94     | 907.03 |
| 2708           | 2711                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   | 2713    | 701+01.51 | 19.47     | 906.64 |
| 2709           | 2710                 | Match Existing Cross Slope | 4.00        | -0.10 | -2.5%                        | Match Existing                          |                |          |   |   |         |           |           |        |
| 2710           | 2711                 | Ramp Running Slope         | 12.00       | -0.68 | -5.7%                        | 0.5% to 8.3%                            |                |          |   |   |         |           |           |        |
| 2711           | 2712                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   |         |           |           |        |
| 2712           | 2713                 | Ramp Running Slope         | 5.48        | -0.39 | -7.1%                        | 0.5% to 8.3%                            |                |          |   |   |         |           |           |        |
| 2801           | 2802                 | Landing/Turning Space      | 7.05        | 0.05  | 0.7%                         | 0.1% to 2.0%                            |                |          |   |   | 2801    | 701+04.32 | -17.08    | 906.34 |
| 2802           | 2803                 | Ramp Running Slope         | 4.00        | 0.25  | 6.3%                         | 0.5% to 8.3%                            |                |          |   |   | 2802    | 701+04.22 | -24.13    | 906.39 |
| 2802           | 2807                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   |   | 2803    | 701+08.18 | -24.14    | 906.64 |
| 2802           | 2811                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   | 2804    | 701+12.18 | -24.15    | 906.81 |
| 2803           | 2804                 | Ramp Running Slope         | 4.00        | 0.17  | 4.2%                         | 0.5% to 8.3%                            |                |          |   |   | 2805    | 701+12.17 | -28.15    | 906.94 |
| 2803           | 2806                 | Ramp Cross Slope           | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   |   | 2806    | 701+08.17 | -28.14    | 906.70 |
| 2804           | 2805                 | Match Existing Cross Slope | 4.00        | 0.13  | 3.3%                         | Match Existing                          |                |          |   |   | 2807    | 701+04.17 | -28.13    | 906.45 |
| 2805           | 2806                 | Ramp Running Slope         | 4.00        | -0.24 | -6.0%                        | 0.5% to 8.3%                            |                |          |   |   | 2808    | 701+04.06 | -36.13    | 907.11 |
| 2806           | 2807                 | Ramp Running Slope         | 4.00        | -0.25 | -6.3%                        | 0.5% to 8.3%                            |                |          |   |   | 2809    | 701+00.06 | -36.08    | 907.05 |
| 2807           | 2808                 | Ramp Running Slope         | 8.00        | 0.66  | 8.3%                         | 0.5% to 8.3%                            | Yes            |          | Proposed slope is maximum allowed                                 |   | 2810    | 701+00.17 | -28.13    | 906.39 |
| 2807           | 2810                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   | 2811    | 701+00.22 | -24.13    | 906.33 |
| 2808           | 2809                 | Match Existing Cross Slope | 4.00        | -0.06 | -1.5%                        | Match Existing                          |                |          |   |   | 2812    | 701+00.27 | -20.66    | 906.28 |
| 2809           | 2810                 | Ramp Running Slope         | 8.00        | -0.66 | -8.3%                        | 0.5% to 8.3%                            | Yes            |          | Proposed slope is maximum allowed                                 |   |         |           |           |        |
| 2810           | 2811                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   |         |           |           |        |
| 2811           | 2812                 | Landing/Turning Space      | 3.47        | -0.05 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   |         |           |           |        |
| 2901           | 2902                 | Ramp Running Slope         | 13.14       | 0.95  | 7.2%                         | 0.5% to 8.3%                            |                |          |   |   | 2901    | 706+04.09 | 12.49     | 898.12 |
| 2901           | 2910                 | Match Existing Cross Slope | 4.00        | 0.03  | 0.7%                         | Match Existing                          |                |          |   |   | 2902    | 706+03.97 | 25.63     | 899.07 |
| 2902           | 2903                 | Sidewalk Running Slope     | 4.00        | -0.01 | -0.3%                        | 0.5% to 5.0%                            |                |          |   |   | 2903    | 706+07.98 | 25.66     | 899.06 |
| 2902           | 2905                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   |   | 2904    | 706+07.94 | 29.66     | 899.16 |
| 2902           | 2909                 | Landing/Turning Space      | 4.00        | -0.03 | -0.8%                        | 0.1% to 2.0%                            |                |          |   |   | 2905    | 706+03.94 | 29.63     | 899.13 |
| 2903           | 2904                 | Match Existing Cross Slope | 4.00        | 0.10  | 2.5%                         | Match Existing                          |                |          |   |   | 2906    | 705+99.94 | 29.61     | 899.10 |
| 2904           | 2905                 | Sidewalk Running Slope     | 4.00        | -0.03 | -0.7%                        | 0.5% to 5.0%                            |                |          |   |   | 2907    | 705+95.94 | 29.57     | 899.06 |
| 2905           | 2906                 | Landing/Turning Space      | 4.00        | -0.03 | -0.7%                        | 0.1% to 2.0%                            |                |          |   |   | 2908    | 705+95.98 | 25.57     | 898.94 |
| 2906           | 2907                 | Sidewalk Running Slope     | 4.00        | -0.04 | -1.0%                        | 0.5% to 5.0%                            |                |          |   |   | 2909    | 705+99.97 | 25.61     | 899.04 |
| 2906           | 2909                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   | 2910    | 706+00.09 | 14.49     | 898.15 |
| 2907           | 2908                 | Match Existing Cross Slope | 4.00        | -0.12 | -3.0%                        | Match Existing                          |                |          |   |   |         |           |           |        |
| 2908           | 2909                 | Sidewalk Running Slope     | 4.00        | 0.10  | 2.5%                         | 0.5% to 5.0%                            |                |          |   |   |         |           |           |        |
| 2909           | 2910                 | Ramp Running Slope         | 13.11       | -0.89 | -6.8%                        | 0.5% to 8.3%                            |                |          |   |   |         |           |           |        |
| 3001           | 3002                 | Ramp Running Slope         | 11.47       | 0.76  | 6.6%                         | 0.5% to 8.3%                            |                |          |   |   | 3001    | 706+04.32 | -13.10    | 898.11 |
| 3002           | 3003                 | Sidewalk Running Slope     | 4.00        | 0.12  | 3.0%                         | 0.5% to 5.0%                            |                |          |   |   | 3002    | 706+04.42 | -24.57    | 898.87 |
| 3002           | 3005                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   |   | 3003    | 706+08.42 | -24.49    | 898.99 |
| 3002           | 3011                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   | 3004    | 706+08.45 | -28.49    | 899.04 |
| 3003           | 3004                 | Match Existing Cross Slope | 4.00        | 0.05  | 1.2%                         | Match Existing                          |                |          |   |   | 3005    | 706+04.45 | -28.53    | 898.93 |
| 3004           | 3005                 | Sidewalk Running Slope     | 4.00        | -0.11 | -2.8%                        | 0.5% to 5.0%                            |                |          |   |   | 3006    | 706+04.92 | -32.52    | 899.24 |
| 3005           | 3006                 | Ramp Running Slope         | 4.00        | 0.31  | 7.8%                         | 0.5% to 8.3%                            | Yes            |          | Slope required to match existing conditions                       |   | 3007    | 706+00.89 | -32.56    | 899.20 |
| 3005           | 3008                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   | 3008    | 706+00.45 | -28.56    | 898.87 |
| 3006           | 3007                 | Match Existing Cross Slope | 4.00        | -0.04 | -1.0%                        | Match Existing                          |                |          |   |   | 3009    | 705+89.66 | -28.66    | 898.33 |
| 3007           | 3008                 | Ramp Running Slope         | 4.00        | -0.33 | -8.3%                        | 0.5% to 8.3%                            | Yes            |          | Proposed slope is maximum allowed                                 |   | 3010    | 705+90.89 | -24.65    | 898.28 |
| 3008           | 3009                 | Ramp Running Slope         | 10.80       | -0.54 | -5.0%                        | 0.5% to 8.3%                            |                |          |   |   | 3011    | 706+00.42 | -24.56    | 898.81 |
| 3008           | 3011                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   | 3012    | 706+00.33 | -14.60    | 898.14 |
| 3010           | 3011                 | Ramp Running Slope         | 9.53        | 0.53  | 5.6%                         | 0.5% to 8.3%                            |                |          |   |   |         |           |           |        |
| 3011           | 3012                 | Ramp Running Slope         | 9.96        | -0.67 | -6.7%                        | 0.5% to 8.3%                            |                |          |   |   |         |           |           |        |
| 3101           | 3102                 | Ramp Running Slope         | 10.24       | 0.79  | 7.7%                         | 0.5% to 8.3%                            | Yes            |          | Slope required to match existing conditions                       |   | 3101    | 705+61.85 | -28.11    | 898.46 |
| 3102           | 3103                 | Ramp Running Slope         | 15.62       | 1.61  | 10.3%                        | 0.5% to 8.3%                            |                |          | Length constructed must exceed 15 feet at a uniform running slope |   | 3102    | 705+51.61 | -28.20    | 899.25 |
| 3102           | 3105                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   |   | 3103    | 705+53.24 | -43.74    | 900.86 |
| 3102           | 3109                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   | 3104    | 705+49.26 | -44.15    | 901.05 |
| 3103           | 3104                 | Match Existing Cross Slope | 4.00        | 0.19  | 4.7%                         | Match Existing                          |                |          |   |   | 3105    | 705+47.61 | -28.24    | 899.31 |
| 3104           | 3105                 | Ramp Running Slope         | 16.00       | -1.74 | -10.9%                       | 0.5% to 11.9%                           |                |          | Length constructed must exceed 15 feet at a uniform running slope |   | 3106    | 705+35.61 | -28.07    | 900.15 |
| 3105           | 3106                 | Ramp Running Slope         | 12.00       | 0.84  | 7.0%                         | 0.5% to 8.3%                            |                |          |   |   | 3107    | 705+35.67 | -24.07    | 900.12 |
| 3105           | 3108                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   | 3108    | 705+47.58 | -24.24    | 899.25 |
| 3106           | 3107                 | Match Existing Cross Slope | 4.00        | -0.03 | -0.7%                        | Match Existing                          |                |          |   |   | 3109    | 705+51.58 | -24.20    | 899.19 |
| 3107           | 3108                 | Ramp Running Slope         | 12.00       | -0.87 | -7.3%                        | 0.5% to 8.3%                            |                |          |   |   | 3110    | 705+60.50 | -24.12    | 898.44 |
| 3108           | 3109                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   |         |           |           |        |
| 3109           | 3110                 | Ramp Running Slope         | 8.95        | -0.75 | -8.3%                        | 0.5% to 8.3%                            | Yes            |          | Proposed slope is maximum allowed                                 |   |         |           |           |        |
| 3201           | 3202                 | Ramp Running Slope         | 12.77       | 0.73  | 5.7%                         | 0.5% to 8.3%                            |                |          | Proposed slope is maximum allowed                                 |   | 3201    | 802+00.57 | -29.77    | 900.94 |
| 3202           | 3203                 | Ramp Running Slope         | 7.00        | 0.23  | 3.3%                         | 0.5% to 8.3%                            |                |          |   |   | 3202    | 802+13.21 | -29.85    | 901.67 |

**SIDEWALK COMPLIANCE**

See S Sheets

\* Does not include curb  
 ① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

| Point to Point | Sidewalk Designation | Distance*                  | Δ Elevation | Slope | Acceptable Constructed Range | Staking Required on this Quadrant?<br>① | Measured Slope | Initials | Remarks                                     | FOR INFORMATION ONLY:<br>VALUES USED TO DETERMINE DESIGNED SLOPES |           |        |           |
|----------------|----------------------|----------------------------|-------------|-------|------------------------------|---|----------------|----------|---|---|-----------|--------|-----------|
|                |                      |                            |             |       |                              |   |                |          |   | Point   | Station   | Offset | Elevation |
|                |                      | FT                         | FT          | %     | Pos. or Neg.                 |   | %              |          |   |   |           |        |           |
| 3202           | 3205                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 3203  | 802+11.42 | -36.68 | 901.90    |
| 3202           | 3209                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 3204  | 802+15.26 | -37.65 | 902.15    |
| 3203           | 3204                 | Match Existing Cross Slope | 4.00        | 0.25  | 6.3%                         | Match Existing                          |                |          |   | 3205  | 802+17.17 | -29.88 | 901.73    |
| 3204           | 3205                 | Ramp Running Slope         | 8.00        | -0.42 | -5.2%                        | 0.5% to 8.3%                            |                |          |   | 3206  | 802+25.09 | -29.74 | 902.32    |
| 3205           | 3206                 | Ramp Running Slope         | 8.00        | 0.59  | 7.4%                         | 0.5% to 8.3%                            | Yes            |          | Slope required to match existing conditions | 3207  | 802+25.03 | -25.74 | 902.27    |
| 3205           | 3208                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 3208  | 802+17.10 | -25.89 | 901.67    |
| 3206           | 3207                 | Match Existing Cross Slope | 4.00        | -0.05 | -1.3%                        | Match Existing                          |                |          |   | 3209  | 802+13.18 | -25.85 | 901.61    |
| 3207           | 3208                 | Ramp Running Slope         | 8.00        | -0.60 | -7.5%                        | 0.5% to 8.3%                            | Yes            |          | Slope required to match existing conditions | 3210  | 802+01.65 | -25.77 | 901.08    |
| 3208           | 3209                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   |           |        |           |
| 3209           | 3210                 | Ramp Running Slope         | 11.64       | -0.53 | -4.6%                        | 0.5% to 8.3%                            |                |          | Slope required to match existing conditions |   |           |        |           |
| 3301           | 3302                 | Ramp Running Slope         | 24.53       | 0.66  | 2.7%                         | 0.5% to 8.3%                            |                |          |   | 3301  | 801+71.24 | -29.46 | 900.93    |
| 3302           | 3303                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 3302  | 801+46.95 | -29.37 | 901.59    |
| 3302           | 3309                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 3303  | 801+42.99 | -29.38 | 901.65    |
| 3303           | 3304                 | Sidewalk Running Slope     | 8.00        | 0.09  | 1.1%                         | 0.5% to 5.0%                            |                |          |   | 3304  | 801+35.06 | -29.55 | 901.74    |
| 3303           | 3306                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 3305  | 801+35.02 | -25.55 | 901.77    |
| 3304           | 3305                 | Match Existing Cross Slope | 4.00        | 0.03  | 0.7%                         | Match Existing                          |                |          |   | 3306  | 801+42.95 | -25.37 | 901.59    |
| 3305           | 3306                 | Sidewalk Running Slope     | 8.00        | -0.18 | -2.2%                        | 0.5% to 5.0%                            |                |          |   | 3307  | 801+42.84 | -12.50 | 900.92    |
| 3306           | 3307                 | Ramp Running Slope         | 12.88       | -0.67 | -5.2%                        | 0.5% to 8.3%                            |                |          |   | 3308  | 801+46.83 | -12.50 | 900.95    |
| 3306           | 3309                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 3309  | 801+46.92 | -25.37 | 901.53    |
| 3307           | 3308                 | Match Existing Cross Slope | 4.00        | 0.03  | 0.8%                         | Match Existing                          |                |          |   | 3310  | 801+69.99 | -25.45 | 901.00    |
| 3308           | 3309                 | Ramp Running Slope         | 12.88       | 0.58  | 4.5%                         | 0.5% to 8.3%                            |                |          |   |   |           |        |           |
| 3309           | 3310                 | Ramp Running Slope         | 23.27       | -0.53 | -2.3%                        | 0.5% to 8.3%                            |                |          |   |   |           |        |           |
| 3401           | 3402                 | Ramp Running Slope         | 11.66       | 0.96  | 8.2%                         | 0.5% to 8.3%                            | Yes            |          | Proposed slope is maximum allowed           | 3401  | 801+41.62 | 13.50  | 900.89    |
| 3401           | 3416                 | Match Existing Cross Slope | 4.00        | 0.03  | 0.7%                         | Match Existing                          |                |          |   | 3402  | 801+41.35 | 25.16  | 901.85    |
| 3402           | 3403                 | Ramp Running Slope         | 8.00        | 0.37  | 4.6%                         | 0.5% to 8.3%                            |                |          |   | 3403  | 801+33.28 | 24.98  | 902.22    |
| 3402           | 3405                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 3404  | 801+33.18 | 28.98  | 902.31    |
| 3402           | 3415                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 3405  | 801+41.26 | 29.16  | 901.91    |
| 3403           | 3404                 | Match Existing Cross Slope | 4.00        | 0.09  | 2.2%                         | Match Existing                          |                |          |   | 3406  | 801+45.30 | 29.24  | 901.85    |
| 3404           | 3405                 | Ramp Running Slope         | 8.00        | -0.40 | -5.0%                        | 0.5% to 8.3%                            |                |          |   | 3407  | 801+50.69 | 29.34  | 901.95    |
| 3405           | 3406                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 3408  | 801+47.12 | 40.81  | 902.88    |
| 3406           | 3407                 | Sidewalk Running Slope     | 5.33        | 0.10  | 1.9%                         | 0.5% to 5.0%                            |                |          |   | 3409  | 801+51.00 | 41.99  | 902.87    |
| 3406           | 3415                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 3410  | 801+54.89 | 29.42  | 902.01    |
| 3407           | 3408                 | Ramp Running Slope         | 12.00       | 0.93  | 7.7%                         | 0.5% to 8.3%                            | Yes            |          |   | 3411  | 801+65.33 | 29.57  | 901.82    |
| 3407           | 3410                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 3412  | 801+64.05 | 25.56  | 901.64    |
| 3408           | 3409                 | Match Existing Cross Slope | 4.00        | -0.01 | -0.2%                        | Match Existing                          |                |          |   | 3413  | 801+54.96 | 25.42  | 901.97    |
| 3409           | 3410                 | Ramp Running Slope         | 13.15       | -0.86 | -6.5%                        | 0.5% to 8.3%                            |                |          |   | 3414  | 801+50.76 | 25.35  | 901.91    |
| 3410           | 3411                 | Ramp Running Slope         | 10.34       | -0.19 | -1.8%                        | 0.5% to 8.3%                            |                |          |   | 3415  | 801+45.38 | 25.25  | 901.79    |
| 3410           | 3413                 | Landing/Turning Space      | 4.00        | -0.04 | -1.0%                        | 0.1% to 2.0%                            |                |          |   | 3416  | 801+45.63 | 13.50  | 900.92    |
| 3412           | 3413                 | Ramp Running Slope         | 9.02        | 0.33  | 3.7%                         | 0.5% to 8.3%                            |                |          |   |   |           |        |           |
| 3413           | 3414                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   |           |        |           |
| 3414           | 3407                 | Landing/Turning Space      | 4.00        | 0.04  | 1.0%                         | 0.1% to 2.0%                            |                |          |   |   |           |        |           |
| 3414           | 3415                 | Sidewalk Running Slope     | 5.34        | -0.12 | -2.2%                        | 0.5% to 5.0%                            |                |          |   |   |           |        |           |
| 3415           | 3416                 | Ramp Running Slope         | 11.75       | -0.87 | -7.4%                        | 0.5% to 8.3%                            | Yes            |          | Slope required to match existing conditions |   |           |        |           |
| 3501           | 3502                 | Ramp Running Slope         | 12.00       | 0.77  | 6.4%                         | 0.5% to 8.3%                            |                |          |   | 3501  | 801+96.63 | 24.10  | 901.80    |
| 3502           | 3503                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 3502  | 802+08.76 | 23.65  | 902.57    |
| 3502           | 3509                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 3503  | 802+12.79 | 23.49  | 902.63    |
| 3503           | 3504                 | Sidewalk Running Slope     | 4.00        | 0.04  | 1.0%                         | 0.5% to 5.0%                            |                |          |   | 3504  | 802+16.98 | 23.47  | 902.67    |
| 3503           | 3506                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 3505  | 802+16.99 | 27.47  | 902.71    |
| 3504           | 3505                 | Match Existing Cross Slope | 4.00        | 0.04  | 1.0%                         | Match Existing                          |                |          |   | 3506  | 802+12.95 | 27.48  | 902.69    |
| 3505           | 3506                 | Sidewalk Running Slope     | 4.00        | -0.02 | -0.5%                        | 0.5% to 5.0%                            |                |          |   | 3507  | 802+10.68 | 35.16  | 903.07    |
| 3506           | 3507                 | Sidewalk Running Slope     | 8.00        | 0.38  | 4.7%                         | 0.5% to 5.0%                            | Yes            |          | Slope required to match existing conditions | 3508  | 802+06.79 | 34.03  | 902.95    |
| 3506           | 3509                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 3509  | 802+08.69 | 27.65  | 902.63    |
| 3507           | 3508                 | Match Existing Cross Slope | 4.00        | -0.12 | -3.0%                        | Match Existing                          |                |          |   | 3510  | 701+95.20 | 28.15  | 901.87    |
| 3508           | 3509                 | Sidewalk Running Slope     | 6.65        | -0.32 | -4.8%                        | 0.5% to 5.0%                            | Yes            |          | Slope required to match existing conditions |   |           |        |           |
| 3509           | 3510                 | Ramp Running Slope         | 13.60       | -0.76 | -5.6%                        | 0.5% to 8.3%                            |                |          |   |   |           |        |           |
| 3801           | 3802                 | Ramp Running Slope         | 5.40        | 0.25  | 4.6%                         | 0.5% to 8.3%                            |                |          |   | 3801  | 216+56.00 | -35.31 | 904.40    |
| 3801           | 3812                 | Match Existing Cross Slope | 4.00        | -0.15 | -3.7%                        | Match Existing                          |                |          |   | 3802  | 216+50.59 | -35.31 | 904.65    |
| 3802           | 3803                 | Sidewalk Running Slope     | 4.00        | 0.18  | 4.5%                         | 0.5% to 5.0%                            | Yes            |          | Slope required to match existing conditions | 3803  | 216+50.65 | -39.24 | 904.83    |
| 3802           | 3805                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 3804  | 216+46.65 | -39.31 | 904.85    |
| 3802           | 3811                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 3805  | 216+46.59 | -35.31 | 904.71    |
| 3803           | 3804                 | Match Existing Cross Slope | 4.00        | 0.02  | 0.5%                         | Match Existing                          |                |          |   | 3806  | 216+42.59 | -35.31 | 904.69    |
| 3804           | 3805                 | Sidewalk Running Slope     | 4.00        | -0.14 | -3.5%                        | 0.5% to 5.0%                            |                |          |   | 3807  | 216+42.59 | -31.31 | 904.59    |
| 3805           | 3806                 | Sidewalk Running Slope     | 4.00        | -0.02 | -0.5%                        | 0.5% to 5.0%                            |                |          |   | 3808  | 216+46.59 | -31.31 | 904.65    |
| 3805           | 3808                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 3809  | 216+46.59 | -9.80  | 903.39    |
| 3806           | 3807                 | Match Existing Cross Slope | 4.00        | -0.10 | -2.5%                        | Match Existing                          |                |          |   | 3810  | 216+50.59 | -9.73  | 903.45    |
| 3807           | 3808                 | Sidewalk Running Slope     | 4.00        | 0.06  | 1.5%                         | 0.5% to 5.0%                            |                |          |   | 3811  | 316+50.59 | -31.31 | 904.59    |
| 3808           | 3809                 | Ramp Running Slope         | 21.50       | -1.26 | -5.9%                        | 0.5% to 8.3%                            |                |          |   | 3812  | 216+55.98 | -31.31 | 904.25    |
| 3808           | 3811                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   |           |        |           |
| 3809           | 3810                 | Match Existing Cross Slope | 4.00        | 0.06  | 1.5%                         | Match Existing                          |                |          |   |   |           |        |           |

**SIDEWALK COMPLIANCE**

See S Sheets

\* Does not include curb  
 ① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

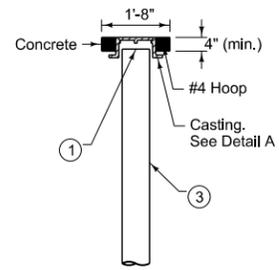
| Point to Point | Sidewalk Designation | Distance*                  | Δ Elevation | Slope | Acceptable Constructed Range | Staking Required on this Quadrant?<br>① | Measured Slope | Initials | Remarks | FOR INFORMATION ONLY:<br>VALUES USED TO DETERMINE DESIGNED SLOPES |           |        |           |
|----------------|----------------------|----------------------------|-------------|-------|------------------------------|---|----------------|----------|---------|---|-----------|--------|-----------|
|                |                      |                            |             |       |                              |   |                |          |         | Point   | Station   | Offset | Elevation |
|                |                      | FT                         | FT          | %     | Pos. or Neg.                 |   | %              |          |         |   |           |        |           |
| 3810           | 3811                 | Ramp Running Slope         | 21.50       | 1.14  | 5.3%                         | 0.5% to 8.3%                            |                |          |         |   |           |        |           |
| 3811           | 3812                 | Ramp Running Slope         | 5.40        | -0.34 | -6.3%                        | 0.5% to 8.3%                            |                |          |         |   |           |        |           |
| 3901           | 3902                 | Ramp Running Slope         | 21.88       | 0.19  | 0.9%                         | 0.5% to 8.3%                            |                |          |         | 3901  | 506+81.66 | -13.44 | 912.14    |
| 3902           | 3903                 | Sidewalk Running Slope     | 4.00        | -0.08 | -2.0%                        | 0.5% to 5.0%                            |                |          |         | 3902  | 506+81.83 | -35.32 | 912.33    |
| 3902           | 3905                 | Landing/Turning Space      | 4.00        | -0.06 | -1.5%                        | 0.1% to 2.0%                            |                |          |         | 3903  | 506+85.83 | -35.29 | 912.25    |
| 3902           | 3909                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |         | 3904  | 506+85.86 | -38.29 | 912.23    |
| 3903           | 3904                 | Match Existing Cross Slope | 4.00        | -0.02 | -0.5%                        | Match Existing                          |                |          |         | 3905  | 506+81.86 | -39.32 | 912.27    |
| 3904           | 3905                 | Sidewalk Running Slope     | 4.00        | 0.04  | 1.0%                         | 0.5% to 5.0%                            |                |          |         | 3906  | 506+77.86 | -39.35 | 912.33    |
| 3905           | 3906                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |         | 3907  | 506+73.86 | -39.38 | 912.36    |
| 3906           | 3907                 | Sidewalk Running Slope     | 4.00        | 0.03  | 0.7%                         | 0.5% to 5.0%                            |                |          |         | 3908  | 506+73.83 | -35.38 | 912.40    |
| 3906           | 3909                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |         | 3909  | 506+77.83 | -35.35 | 912.39    |
| 3907           | 3908                 | Match Existing Cross Slope | 4.00        | 0.04  | 1.0%                         | Match Existing                          |                |          |         | 3910  | 506+77.65 | -13.08 | 912.11    |
| 3908           | 3909                 | Sidewalk Running Slope     | 4.00        | -0.01 | -0.2%                        | 0.5% to 5.0%                            |                |          |         |   |           |        |           |
| 3909           | 3910                 | Ramp Running Slope         | 22.28       | -0.28 | -1.3%                        | 0.5% to 8.3%                            |                |          |         |   |           |        |           |
| 4001           | 4002                 | Ramp Running Slope         | 6.00        | 0.40  | 6.7%                         | 0.5% to 8.3%                            |                |          |         | 4001  | 506+82.12 | 12.00  | 911.93    |
| 4001           | 4004                 | Match Existing Cross Slope | 6.00        | 0.08  | 1.3%                         | Match Existing                          |                |          |         | 4002  | 506+82.14 | 18.00  | 912.33    |
| 4002           | 4003                 | Ramp Cross Slope           | 6.00        | -0.06 | -1.0%                        | 0.1% to 2.0%                            |                |          |         | 4003  | 506+76.14 | 18.00  | 912.27    |
| 4003           | 4004                 | Ramp Running Slope         | 6.00        | -0.26 | -4.3%                        | 0.5% to 8.3%                            |                |          |         | 4004  | 506+76.12 | 12.00  | 912.01    |
| 4101           | 4102                 | Match Existing Cross Slope | 4.00        | 0.00  | 0.0%                         | Match Existing                          |                |          |         | 4101  | 201+08.53 | 11.77  | 901.49    |
| 4101           | 4115                 | Ramp Running Slope         | 19.45       | 0.74  | 3.8%                         | 0.5% to 8.3%                            |                |          |         | 4102  | 201+12.53 | 11.79  | 901.49    |
| 4102           | 4103                 | Ramp Running Slope         | 19.44       | 0.68  | 3.5%                         | 0.5% to 8.3%                            |                |          |         | 4103  | 201+12.42 | 31.24  | 902.17    |
| 4103           | 4104                 | Landing/Turning Space      | 3.85        | 0.06  | 1.6%                         | 0.1% to 2.0%                            | Yes            |          |         | 4104  | 201+12.43 | 35.06  | 902.23    |
| 4103           | 4115                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |         | 4105  | 201+24.57 | 34.70  | 901.68    |
| 4104           | 4105                 | Ramp Running Slope         | 12.15       | -0.55 | -4.5%                        | 0.5% to 8.3%                            |                |          |         | 4106  | 201+24.70 | 38.70  | 901.64    |
| 4104           | 4107                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |         | 4107  | 201+12.38 | 39.09  | 902.29    |
| 4105           | 4106                 | Match Existing Cross Slope | 4.00        | -0.04 | -1.0%                        | Match Existing                          |                |          |         | 4108  | 201+12.33 | 43.25  | 902.36    |
| 4106           | 4107                 | Ramp Running Slope         | 12.33       | 0.65  | 5.3%                         | 0.5% to 8.3%                            |                |          |         | 4109  | 201+08.38 | 43.22  | 902.45    |
| 4107           | 4108                 | Ramp Running Slope         | 4.15        | 0.07  | 1.7%                         | 0.5% to 8.3%                            |                |          |         | 4110  | 201+08.38 | 39.07  | 902.35    |
| 4107           | 4110                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |         | 4111  | 201+08.39 | 37.54  | 902.33    |
| 4108           | 4109                 | Match Existing Cross Slope | 4.00        | 0.09  | 2.3%                         | Match Existing                          |                |          |         | 4112  | 201+04.55 | 37.56  | 902.53    |
| 4109           | 4110                 | Ramp Running Slope         | 4.00        | -0.10 | -2.5%                        | 0.5% to 8.3%                            |                |          |         | 4113  | 201+04.55 | 33.37  | 902.46    |
| 4110           | 4111                 | Landing/Turning Space      | 1.53        | -0.02 | -1.3%                        | 0.1% to 2.0%                            |                |          |         | 4114  | 201+08.41 | 33.37  | 902.26    |
| 4111           | 4112                 | Ramp Running Slope         | 3.86        | 0.20  | 5.2%                         | 0.5% to 8.3%                            |                |          |         | 4115  | 201+08.42 | 31.22  | 902.23    |
| 4112           | 4113                 | Match Existing Cross Slope | 4.00        | -0.07 | -1.7%                        | Match Existing                          |                |          |         |   |           |        |           |
| 4113           | 4114                 | Ramp Running Slope         | 3.86        | -0.20 | -5.2%                        | 0.5% to 8.3%                            |                |          |         |   |           |        |           |
| 4114           | 4115                 | Landing/Turning Space      | 2.15        | -0.03 | -1.4%                        | 0.1% to 2.0%                            |                |          |         |   |           |        |           |
| 4201           | 4202                 | Ramp Cross Slope           | 4.00        | 0.05  | 1.2%                         | 0.1% to 2.0%                            |                |          |         | 4201  | 201+30.44 | -10.25 | 899.12    |
| 4201           | 4204                 | Ramp Running Slope         | 9.43        | 0.27  | 2.9%                         | 0.5% to 8.3%                            |                |          |         | 4202  | 213+26.55 | -10.24 | 899.17    |
| 4202           | 4203                 | Ramp Running Slope         | 9.45        | 0.17  | 1.8%                         | 0.5% to 8.3%                            |                |          |         | 4203  | 213+26.54 | -19.69 | 899.34    |
| 4203           | 4204                 | Ramp Cross Slope           | 3.82        | 0.05  | 1.3%                         | 0.1% to 2.0%                            |                |          |         | 4204  | 213+30.37 | -19.69 | 899.39    |
| 4301           | 4302                 | Ramp Cross Slope           | 4.00        | -0.07 | -1.8%                        | 0.1% to 2.0%                            | Yes            |          |         | 4301  | 213+26.31 | 14.22  | 898.75    |
| 4301           | 4308                 | Ramp Running Slope         | 23.06       | 0.26  | 1.1%                         | 0.5% to 8.3%                            |                |          |         | 4302  | 213+30.31 | 14.35  | 898.68    |
| 4302           | 4303                 | Ramp Running Slope         | 23.19       | 0.36  | 1.6%                         | 0.5% to 8.3%                            |                |          |         | 4303  | 213+30.05 | 37.54  | 899.04    |
| 4303           | 4304                 | Ramp Running Slope         | 4.00        | -0.17 | -4.2%                        | 0.5% to 8.3%                            |                |          |         | 4304  | 213+33.29 | 37.58  | 898.87    |
| 4303           | 4306                 | Landing/Turning Space      | 4.00        | -0.03 | -0.7%                        | 0.1% to 2.0%                            |                |          |         | 4305  | 213+33.17 | 41.46  | 898.94    |
| 4303           | 4308                 | Landing/Turning Space      | 4.00        | -0.03 | -0.7%                        | 0.1% to 2.0%                            |                |          |         | 4306  | 213+29.94 | 41.57  | 899.01    |
| 4304           | 4305                 | Ramp Cross Slope           | 3.88        | 0.07  | 1.8%                         | 0.1% to 2.0%                            | Yes            |          |         | 4307  | 213+25.93 | 41.48  | 898.98    |
| 4305           | 4306                 | Ramp Running Slope         | 4.00        | 0.07  | 1.7%                         | 0.5% to 8.3%                            |                |          |         | 4308  | 213+26.05 | 37.28  | 899.01    |
| 4306           | 4307                 | Landing/Turning Space      | 4.00        | -0.03 | -0.7%                        | 0.1% to 2.0%                            |                |          |         |   |           |        |           |
| 4307           | 4308                 | Landing/Turning Space      | 4.20        | 0.03  | 0.7%                         | 0.1% to 2.0%                            |                |          |         |   |           |        |           |
| 4401           | 4402                 | Ramp Cross Slope           | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |         | 4401  | 216+47.31 | 14.89  | 902.92    |
| 4401           | 4404                 | Ramp Running Slope         | 22.70       | 0.84  | 3.7%                         | 0.5% to 8.3%                            |                |          |         | 4402  | 216+51.31 | 14.89  | 902.98    |
| 4402           | 4403                 | Ramp Running Slope         | 22.71       | 0.78  | 3.4%                         | 0.5% to 8.3%                            |                |          |         | 4403  | 216+51.45 | 37.57  | 903.76    |
| 4403           | 4404                 | Match Existing Cross Slope | 4.00        | 0.00  | 0.0%                         | Match Existing                          |                |          |         | 4404  | 216+47.05 | 37.60  | 903.76    |
| 4501           | 4502                 | Ramp Cross Slope           | 4.64        | 0.04  | 0.9%                         | 0.1% to 2.0%                            |                |          |         | 4501  | 300+96.00 | -13.79 | 911.76    |
| 4502           | 4504                 | Ramp Running Slope         | 12.10       | 0.11  | 0.9%                         | 0.5% to 8.3%                            |                |          |         | 4502  | 300+92.18 | -16.37 | 911.80    |
| 4502           | 4503                 | Ramp Running Slope         | 9.60        | 0.08  | 0.8%                         | 0.5% to 8.3%                            |                |          |         | 4503  | 300+91.99 | -26.00 | 911.88    |
| 4503           | 4504                 | Ramp Cross Slope           | 3.78        | 0.03  | 0.8%                         | 0.1% to 2.0%                            |                |          |         | 4504  | 300+95.76 | -25.90 | 911.91    |
| 4601           | 4602                 | Ramp Cross Slope           | 4.00        | 0.01  | 0.2%                         | 0.1% to 2.0%                            |                |          |         | 4601  | 304+14.67 | -11.47 | 906.76    |
| 4601           | 4608                 | Ramp Running Slope         | 22.80       | 0.20  | 0.9%                         | 0.5% to 8.3%                            |                |          |         | 4602  | 304+10.75 | -12.31 | 906.77    |
| 4602           | 4603                 | Ramp Running Slope         | 23.60       | 0.23  | 1.0%                         | 0.5% to 8.3%                            |                |          |         | 4603  | 304+11.19 | -35.10 | 907.00    |

**SIDEWALK COMPLIANCE**

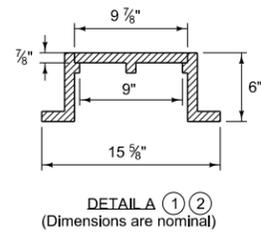
See S Sheets

\* Does not include curb  
 ① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

| Point to Point | Sidewalk Designation | Distance*                  | Δ Elevation | Slope | Acceptable Constructed Range | Staking Required on this Quadrant?<br>① | Measured Slope | Initials | Remarks                                     | FOR INFORMATION ONLY:<br>VALUES USED TO DETERMINE DESIGNED SLOPES |           |        |              |
|----------------|----------------------|----------------------------|-------------|-------|------------------------------|---|----------------|----------|---|---|-----------|--------|--------------|
|                |                      |                            |             |       |                              |   |                |          |   | Point   | Station   | Offset | Elevation    |
|                |                      |                            |             |       |                              |   |                |          |   | FT  | FT        | %      | Pos. or Neg. |
| 4603           | 4604                 | Ramp Running Slope         | 13.67       | -0.94 | -6.9%                        | 0.5% to 8.3%                            |                |          |   | 4604  | 303+97.52 | -35.22 | 906.06       |
| 4603           | 4606                 | Landing/Turning Space      | 4.00        | 0.04  | 1.0%                         | 0.1% to 2.0%                            |                |          |   | 4605  | 303+97.59 | -39.22 | 905.98       |
| 4603           | 4608                 | Landing/Turning Space      | 4.00        | -0.04 | -1.0%                        | 0.1% to 2.0%                            |                |          |   | 4606  | 304+11.27 | -39.10 | 907.04       |
| 4604           | 4605                 | Ramp Cross Slope           | 4.00        | -0.08 | -2.0%                        | 0.1% to 2.0%                            | Yes            |          |   | 4607  | 304+14.91 | -39.07 | 907.00       |
| 4605           | 4606                 | Ramp Running Slope         | 13.66       | 1.06  | 7.8%                         | 0.5% to 8.3%                            | Yes            |          |   | 4608  | 304+14.87 | -35.07 | 906.96       |
| 4606           | 4607                 | Landing/Turning Space      | 4.00        | -0.04 | -1.0%                        | 0.1% to 2.0%                            |                |          |   |   |           |        |              |
| 4607           | 4608                 | Landing/Turning Space      | 4.00        | -0.04 | -1.0%                        | 0.1% to 2.0%                            |                |          |   |   |           |        |              |
| 4701           | 4714                 | Ramp Running Slope         | 7.21        | 0.04  | 0.5%                         | 0.5% to 8.3%                            |                |          |   | 4701  | 313+59.75 | -34.12 | 897.70       |
| 4702           | 4703                 | Ramp Running Slope         | 6.08        | 0.12  | 2.0%                         | 0.5% to 8.3%                            |                |          |   | 4702  | 313+58.43 | -29.21 | 897.54       |
| 4703           | 4704                 | Ramp Running Slope         | 10.73       | -0.89 | -8.3%                        | 0.5% to 8.3%                            | Yes            |          | Slope required to match existing conditions | 4703  | 313+52.38 | -29.70 | 897.66       |
| 4703           | 4707                 | Landing/Turning Space      | 6.00        | -0.09 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 4704  | 313+51.99 | -18.97 | 896.77       |
| 4703           | 4714                 | Landing/Turning Space      | 5.00        | 0.08  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 4705  | 313+45.83 | -14.92 | 896.10       |
| 4704           | 4706                 | Ramp Cross Slope           | 6.00        | -0.09 | -1.5%                        | 0.1% to 2.0%                            |                |          |   | 4706  | 313+45.99 | -19.15 | 896.68       |
| 4705           | 4706                 | Ramp Running Slope         | 4.23        | 0.57  | 13.6%                        | 0.5% to 14.6%                           |                |          | Slope required to match existing conditions | 4707  | 313+46.38 | -29.88 | 897.57       |
| 4706           | 4707                 | Ramp Running Slope         | 10.73       | 0.90  | 8.3%                         | 0.5% to 8.3%                            | Yes            |          | Slope required to match existing conditions | 4708  | 313+43.67 | -29.96 | 897.45       |
| 4707           | 4708                 | Sidewalk Running Slope     | 2.70        | -0.12 | -4.4%                        | 0.5% to 5.0%                            | Yes            |          | Proposed slope is maximum allowed           | 4709  | 313+36.73 | -35.37 | 897.04       |
| 4707           | 4711                 | Landing/Turning Space      | 5.00        | 0.07  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 4710  | 313+40.31 | -39.91 | 897.39       |
| 4708           | 4709                 | Sidewalk Running Slope     | 8.80        | -0.41 | -4.7%                        | 0.5% to 5.0%                            | Yes            |          | Proposed slope is maximum allowed           | 4711  | 313+46.56 | -34.92 | 897.65       |
| 4709           | 4710                 | Match Existing Cross Slope | 5.78        | 0.35  | 6.1%                         | Match Existing                          |                |          |   | 4712  | 313+47.03 | -42.91 | 898.25       |
| 4710           | 4711                 | Sidewalk Running Slope     | 8.00        | 0.25  | 3.2%                         | 0.5% to 5.0%                            |                |          |   | 4713  | 313+52.86 | -42.76 | 898.28       |
| 4711           | 4712                 | Ramp Running Slope         | 8.00        | 0.60  | 7.5%                         | 0.5% to 8.3%                            | Yes            |          | Slope required to match existing conditions | 4714  | 313+52.56 | -34.70 | 897.74       |
| 4711           | 4714                 | Landing/Turning Space      | 6.00        | 0.09  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 4715  |           |        |              |
| 4712           | 4713                 | Match Existing Cross Slope | 5.80        | 0.03  | 0.6%                         | Match Existing                          |                |          |   |   |           |        |              |
| 4713           | 4714                 | Ramp Running Slope         | 8.00        | -0.54 | -6.8%                        | 0.5% to 8.3%                            |                |          |   |   |           |        |              |
| 4801           | 4802                 | Ramp Cross Slope           | 4.00        | -0.01 | -0.2%                        | 0.1% to 2.0%                            |                |          |   | 4801  | 517+05.34 | -11.41 | 908.64       |
| 4801           | 4810                 | Ramp Running Slope         | 22.10       | -0.26 | -1.2%                        | 0.5% to 8.3%                            |                |          |   | 4802  | 517+01.44 | -11.14 | 908.63       |
| 4802           | 4803                 | Ramp Running Slope         | 22.36       | -0.21 | -0.9%                        | 0.5% to 8.3%                            |                |          |   | 4803  | 517+01.46 | -33.50 | 908.42       |
| 4803           | 4804                 | Ramp Running Slope         | 4.00        | 0.04  | 1.0%                         | 0.5% to 8.3%                            |                |          |   | 4804  | 516+97.41 | -33.55 | 908.46       |
| 4803           | 4806                 | Landing/Turning Space      | 4.00        | 0.04  | 1.0%                         | 0.1% to 2.0%                            |                |          |   | 4805  | 516+97.46 | -37.51 | 908.48       |
| 4803           | 4810                 | Landing/Turning Space      | 4.00        | -0.04 | -1.0%                        | 0.1% to 2.0%                            |                |          |   | 4806  | 517+01.46 | -37.64 | 908.46       |
| 4804           | 4805                 | Ramp Cross Slope           | 4.00        | 0.02  | 0.5%                         | 0.1% to 2.0%                            |                |          |   | 4807  | 517+01.76 | -41.63 | 908.48       |
| 4805           | 4806                 | Ramp Running Slope         | 4.00        | -0.02 | -0.5%                        | 0.5% to 8.3%                            |                |          |   | 4808  | 517+05.27 | -41.62 | 908.49       |
| 4806           | 4807                 | Ramp Running Slope         | 4.00        | 0.02  | 0.5%                         | 0.5% to 8.3%                            |                |          |   | 4809  | 517+05.29 | -37.52 | 908.38       |
| 4806           | 4809                 | Landing/Turning Space      | 4.00        | -0.08 | -2.0%                        | 0.1% to 2.0%                            | Yes            |          |   | 4810  | 517+05.13 | -33.53 | 908.38       |
| 4807           | 4808                 | Match Existing Cross Slope | 4.00        | 0.01  | 0.2%                         | Match Existing                          |                |          |   |   |           |        |              |
| 4808           | 4809                 | Ramp Running Slope         | 4.00        | -0.11 | -2.8%                        | 0.5% to 8.3%                            |                |          |   |   |           |        |              |
| 4809           | 4810                 | Match Existing Cross Slope | 4.00        | 0.00  | 0.0%                         | Match Existing                          |                |          |   |   |           |        |              |
| 4901           | 4902                 | Match Existing Cross Slope | 4.00        | 0.00  | 0.0%                         | Match Existing                          |                |          |   | 4901  | 323+55.26 | -11.20 | 908.01       |
| 4901           | 4904                 | Ramp Running Slope         | 22.74       | 1.91  | 8.4%                         |   |                |          |   | 4902  | 323+51.26 | -11.09 | 908.01       |
| 4902           | 4903                 | Ramp Running Slope         | 22.64       | 1.96  | 8.7%                         |   |                |          |   | 4903  | 323+51.30 | -34.22 | 909.97       |
| 4903           | 4904                 | Ramp Cross Slope           | 4.00        | -0.05 | -1.3%                        | 0.1% to 2.0%                            |                |          |   | 4904  | 323+55.49 | -33.94 | 909.92       |
| 5001           | 5002                 | Ramp Cross Slope           | 4.00        | 0.02  | 0.5%                         | 0.1% to 2.0%                            |                |          |   | 5001  | 323+52.03 | 13.74  | 907.99       |
| 5001           | 5018                 | Ramp Running Slope         | 21.70       | 1.59  | 7.3%                         | 0.5% to 8.3%                            |                |          |   | 5002  | 323+56.03 | 13.92  | 908.01       |
| 5002           | 5003                 | Ramp Running Slope         | 21.66       | 1.51  | 7.0%                         | 0.5% to 8.3%                            |                |          |   | 5003  | 323+55.66 | 35.58  | 909.52       |
| 5003           | 5004                 | Ramp Running Slope         | 10.09       | -0.83 | -8.2%                        | 0.5% to 8.3%                            | Yes            |          |   | 5004  | 323+65.72 | 35.94  | 908.69       |
| 5003           | 5006                 | Landing/Turning Space      | 4.00        | 0.03  | 0.7%                         | 0.1% to 2.0%                            |                |          |   | 5005  | 323+65.69 | 39.94  | 908.75       |
| 5003           | 5018                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 5006  | 323+55.59 | 39.58  | 909.55       |
| 5004           | 5005                 | Ramp Cross Slope           | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 5007  | 323+55.54 | 42.56  | 909.60       |
| 5005           | 5006                 | Ramp Running Slope         | 10.02       | 0.80  | 8.0%                         | 0.5% to 8.3%                            | Yes            |          |   | 5008  | 323+55.47 | 46.56  | 909.76       |
| 5006           | 5007                 | Landing/Turning Space      | 3.02        | 0.05  | 1.7%                         | 0.1% to 2.0%                            | Yes            |          |   | 5009  | 323+51.46 | 46.50  | 909.86       |
| 5007           | 5008                 | Ramp Running Slope         | 4.00        | 0.16  | 4.0%                         | 0.5% to 8.3%                            |                |          |   | 5010  | 323+51.53 | 42.50  | 909.66       |
| 5007           | 5010                 | Landing/Turning Space      | 4.00        | 0.06  | 1.5%                         | 0.1% to 2.0%                            |                |          |   | 5011  | 323+45.06 | 48.87  | 910.26       |
| 5008           | 5009                 | Match Existing Cross Slope | 4.00        | 0.10  | 2.5%                         | Match Existing                          |                |          |   | 5012  | 323+43.05 | 46.79  | 910.25       |
| 5009           | 5010                 | Ramp Running Slope         | 4.00        | -0.20 | -5.0%                        | 0.5% to 8.3%                            |                |          |   | 5013  | 323+48.76 | 41.37  | 909.72       |
| 5010           | 5011                 | Ramp Running Slope         | 9.08        | 0.60  | 6.6%                         | 0.5% to 8.3%                            |                |          |   | 5014  | 323+48.81 | 39.85  | 909.70       |
| 5010           | 5013                 | Landing/Turning Space      | 3.00        | 0.06  | 2.0%                         | 0.1% to 2.0%                            | Yes            |          |   | 5015  | 323+44.81 | 39.74  | 910.25       |
| 5011           | 5012                 | Match Existing Cross Slope | 2.92        | -0.01 | -0.3%                        | Match Existing                          |                |          |   | 5016  | 323+44.81 | 35.66  | 910.43       |
| 5012           | 5013                 | Ramp Running Slope         | 8.00        | -0.53 | -6.6%                        | 0.5% to 8.3%                            |                |          |   | 5017  | 323+48.97 | 35.35  | 909.62       |
| 5013           | 5014                 | Landing/Turning Space      | 1.38        | -0.02 | -1.4%                        | 0.1% to 2.0%                            |                |          |   | 5018  | 323+51.66 | 35.44  | 909.58       |
| 5014           | 5015                 | Ramp Running Slope         | 12.00       | 0.55  | 4.6%                         | 0.5% to 8.3%                            |                |          |   | 5019  |           |        |              |
| 5014           | 5017                 | Landing/Turning Space      | 4.50        | -0.08 | -1.8%                        | 0.1% to 2.0%                            | Yes            |          |   |   |           |        |              |
| 5015           | 5016                 | Match Existing Cross Slope | 4.00        | 0.18  | 4.5%                         | Match Existing                          |                |          |   |   |           |        |              |
| 5016           | 5017                 | Ramp Running Slope         | 12.15       | -0.81 | -6.7%                        | 0.5% to 8.3%                            |                |          |   |   |           |        |              |
| 5017           | 5018                 | Landing/Turning Space      | 2.68        | -0.04 | -1.5%                        | 0.1% to 2.0%                            |                |          |   |   |           |        |              |

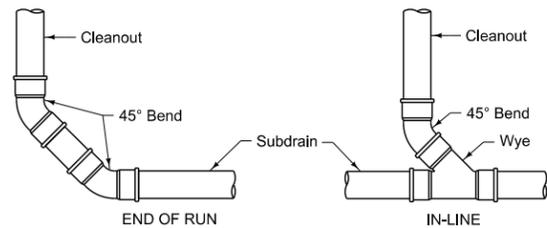


TYPE A-1 CLEANOUT



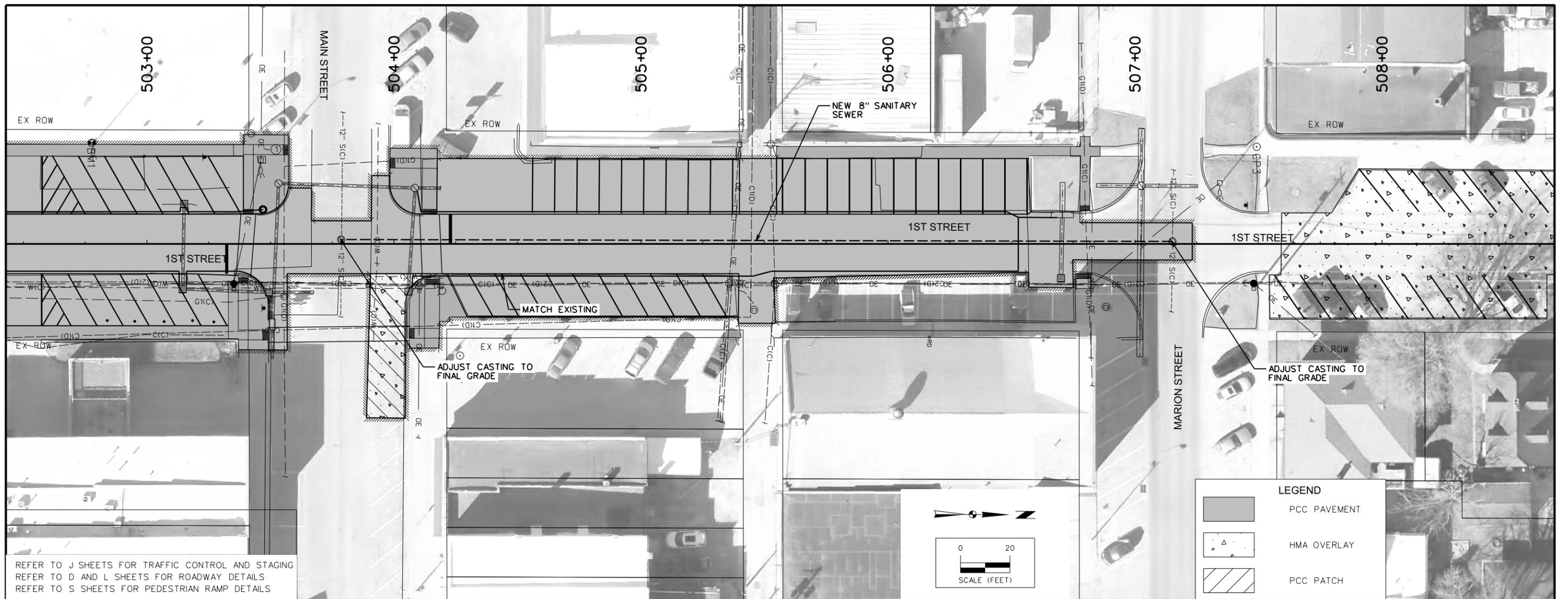
DETAIL A (1) (2)  
(Dimensions are nominal)

- ① Heavy duty casting. Label lid with "Storm" or "Storm C.O."
- ② Design is intended for use in conjunction with 8 inch PVC riser pipe. Other sized caps may be used with smaller pipe, as approved by the Engineer.
- ③ PVC riser pipe; match diameter of subdrain (8 inches maximum).



TYPE A CLEANOUT CONNECTIONS

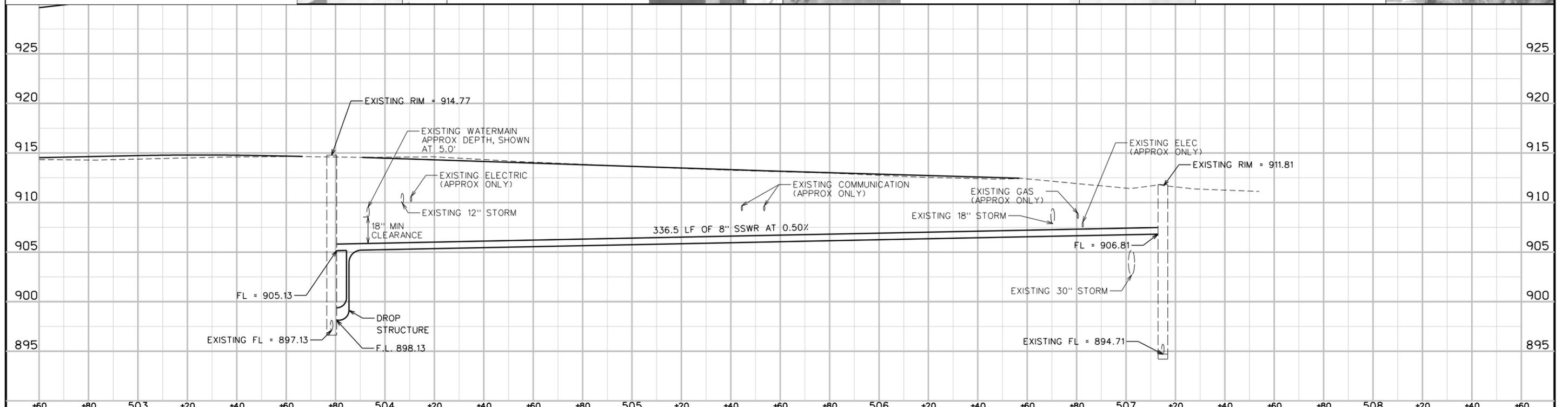
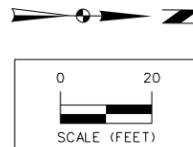
SUBDRAIN CLEANOUT DETAIL

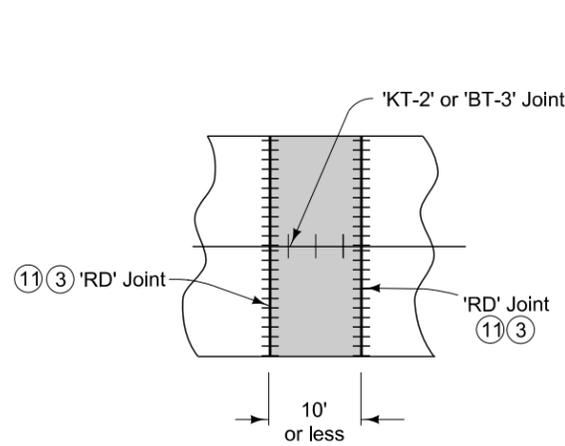


REFER TO J SHEETS FOR TRAFFIC CONTROL AND STAGING  
 REFER TO D AND L SHEETS FOR ROADWAY DETAILS  
 REFER TO S SHEETS FOR PEDESTRIAN RAMP DETAILS

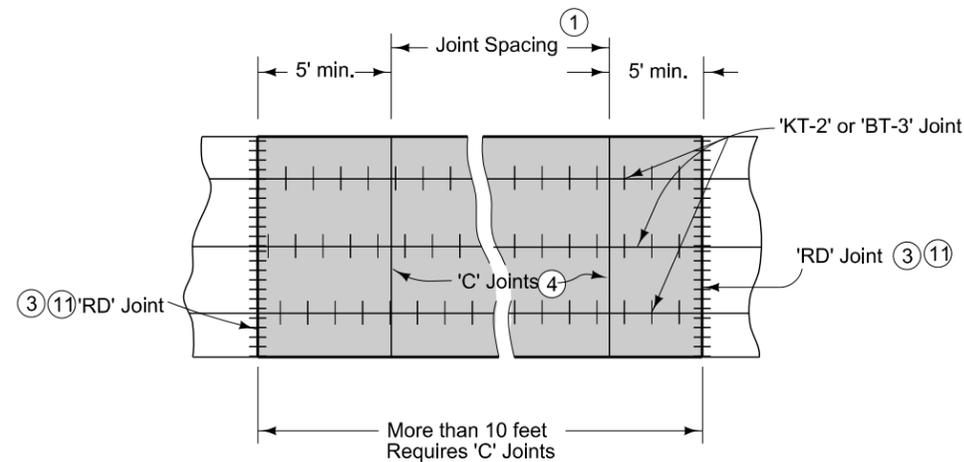
**LEGEND**

-  PCC PAVEMENT
-  HMA OVERLAY
-  PCC PATCH

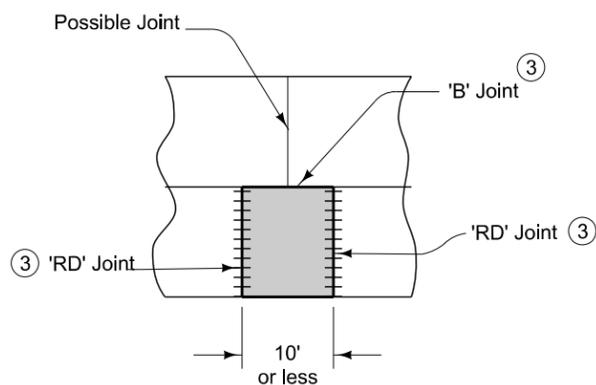




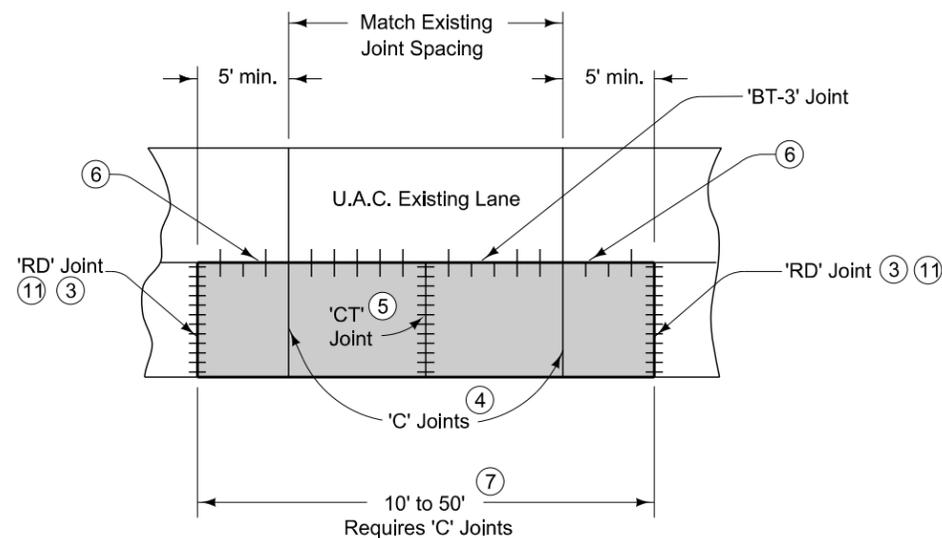
**FULL ROADWAY WIDTH PATCH**



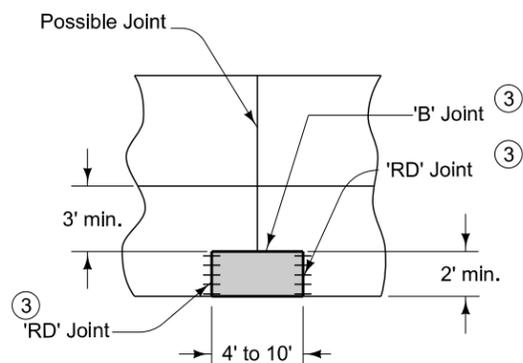
**FULL ROADWAY WIDTH PATCH**



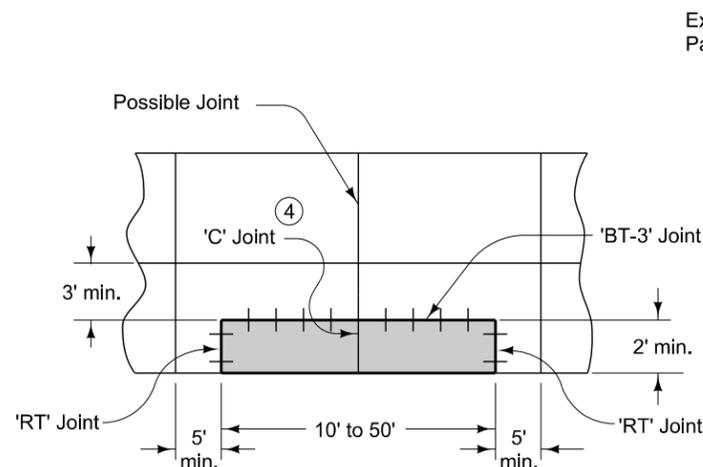
**ONE LANE WIDTH PATCH**



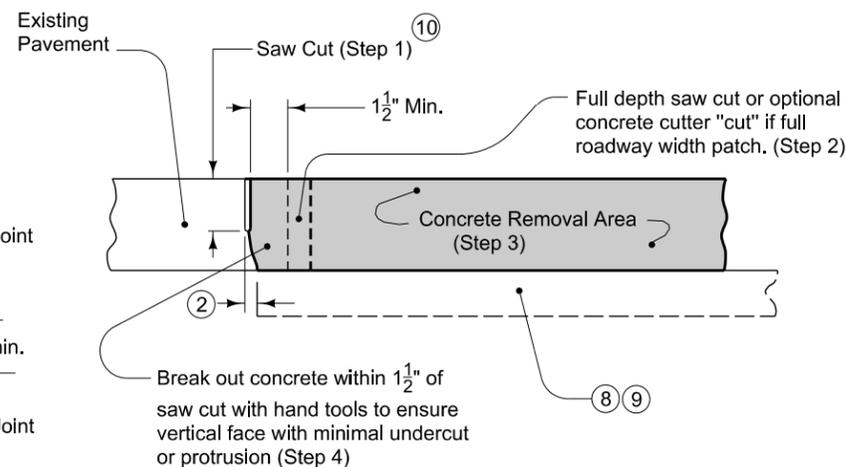
**ONE LANE WIDTH PATCH**



**PARTIAL LANE WIDTH PATCH**



**PARTIAL LANE WIDTH PATCH**



**PAVEMENT REMOVAL**

See PV-101 for joint and bar placement details.

Construct rectangular patches even when existing pavement joints are skewed.

- ① Joint spacing 10 feet minimum, 15 feet maximum, 15 feet optimum.
- ② The face of the patch should be near vertical. Protrusions less than 2 inches need not be removed if uniformly tapered from bottom of saw cut to bottom of patch. A step or ledge on this face will not be allowed.
- ③ If resurfacing is part of the contract, do not saw or seal joint after patching. If patch is not to be surfaced, then saw and seal according to PV-101.
- ④ If resurfacing is part of the contract, saw 'C' joints, but do not seal. If the patch is not to be resurfaced, then saw and seal according to PV-101.
- ⑤ Establish a new joint at approximate mid patch. This joint does not need to align with any existing joint or crack in adjacent pavement.
- ⑥ 'B' joint if end of patch does not match an existing joint or crack in the adjacent lane.
- ⑦ If one lane patch exceeds 50 feet, both lanes should be considered for patching.
- ⑧ Possible Subbase Patch, see PR-140.
- ⑨ If longitudinal subdrain (shoulder) is not to be placed or if it is not present on side of roadway to be patched, then place drain per PR-140.
- ⑩ Saw cut through overlay so that cut is 1 1/2 inches into original pavement.
- ⑪ 'RD' joint if aligns with existing joint & 'RT' joint if does not align with existing joint.

Possible Contract Items:

- CT Joint
- Patches, Full-Depth Repair
- Patches by Count (Repair)
- Patches, Full-Depth Finish, by Count
- Patches, Full-Depth Finish, by Area
- Patches, Full-Depth Finish, by Area (50 feet or greater in length)

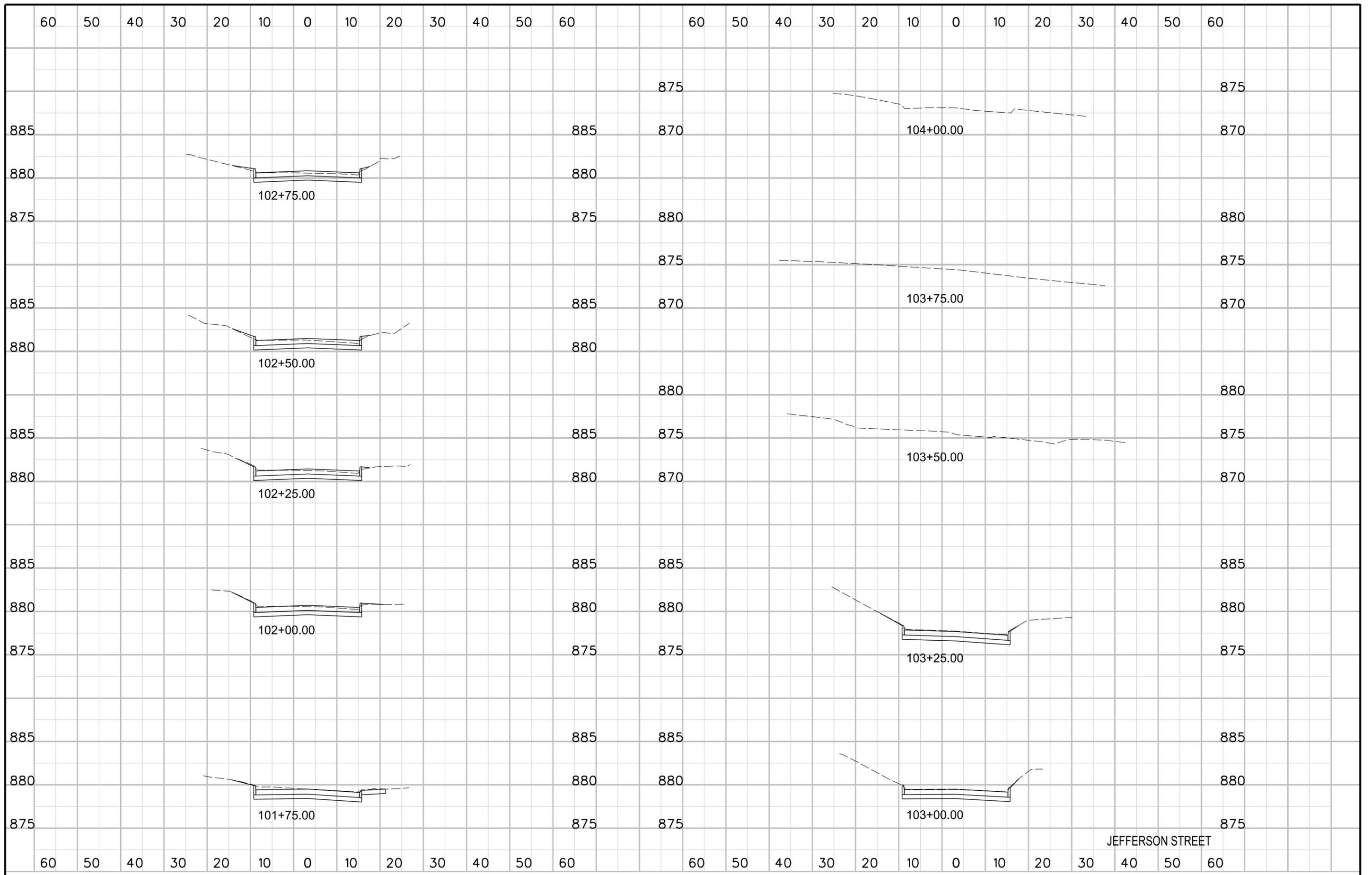
Possible Tabulation:  
102-6C

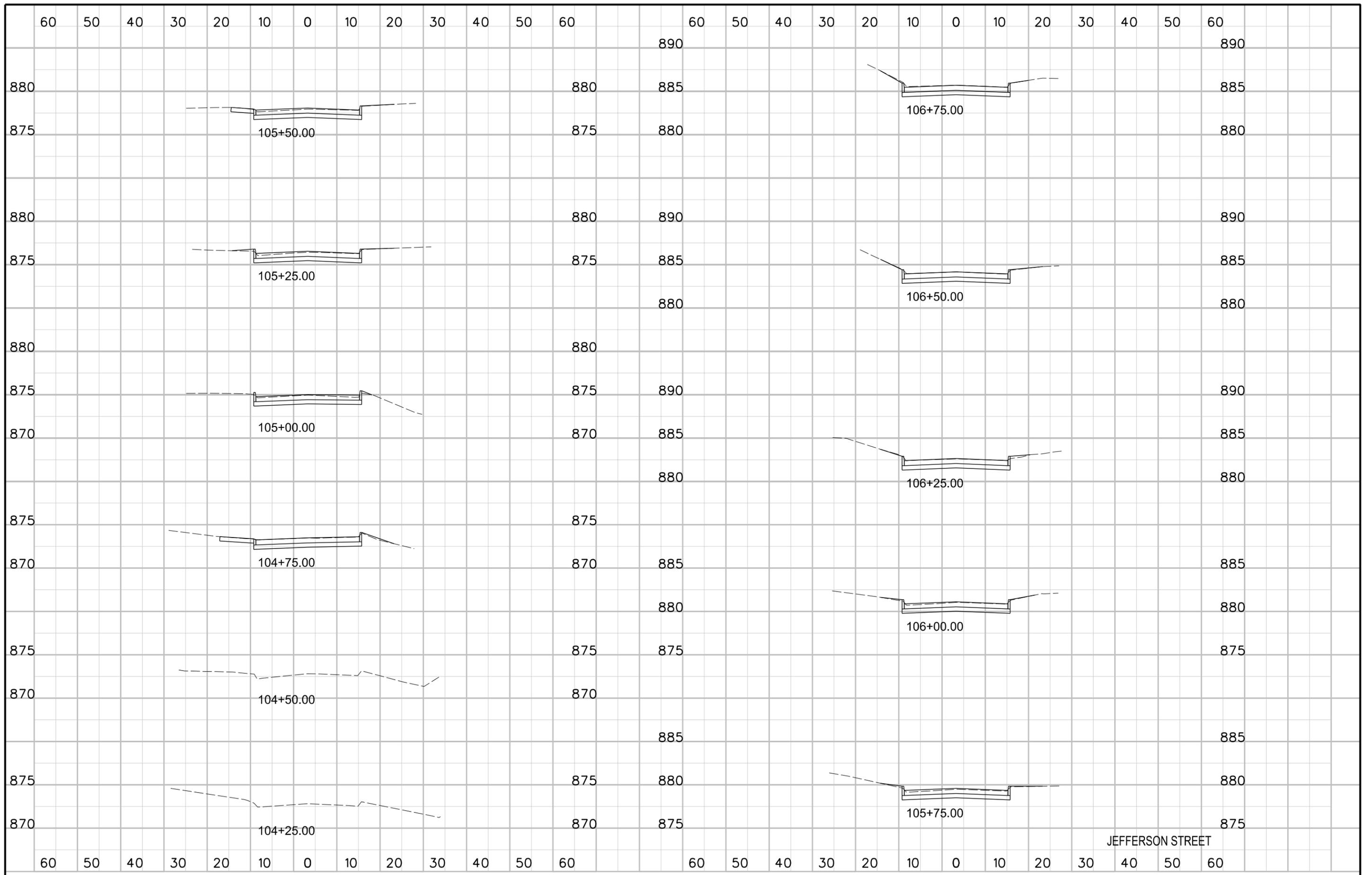
|  |          |              |
|--|----------|--------------|
| <b>MODIFIED<br/>STANDARD ROAD PLAN</b> | REVISION |              |
|  | 1        | 04-21-15     |
| <b>PR-102</b>                          |          | SHEET 1 of 1 |

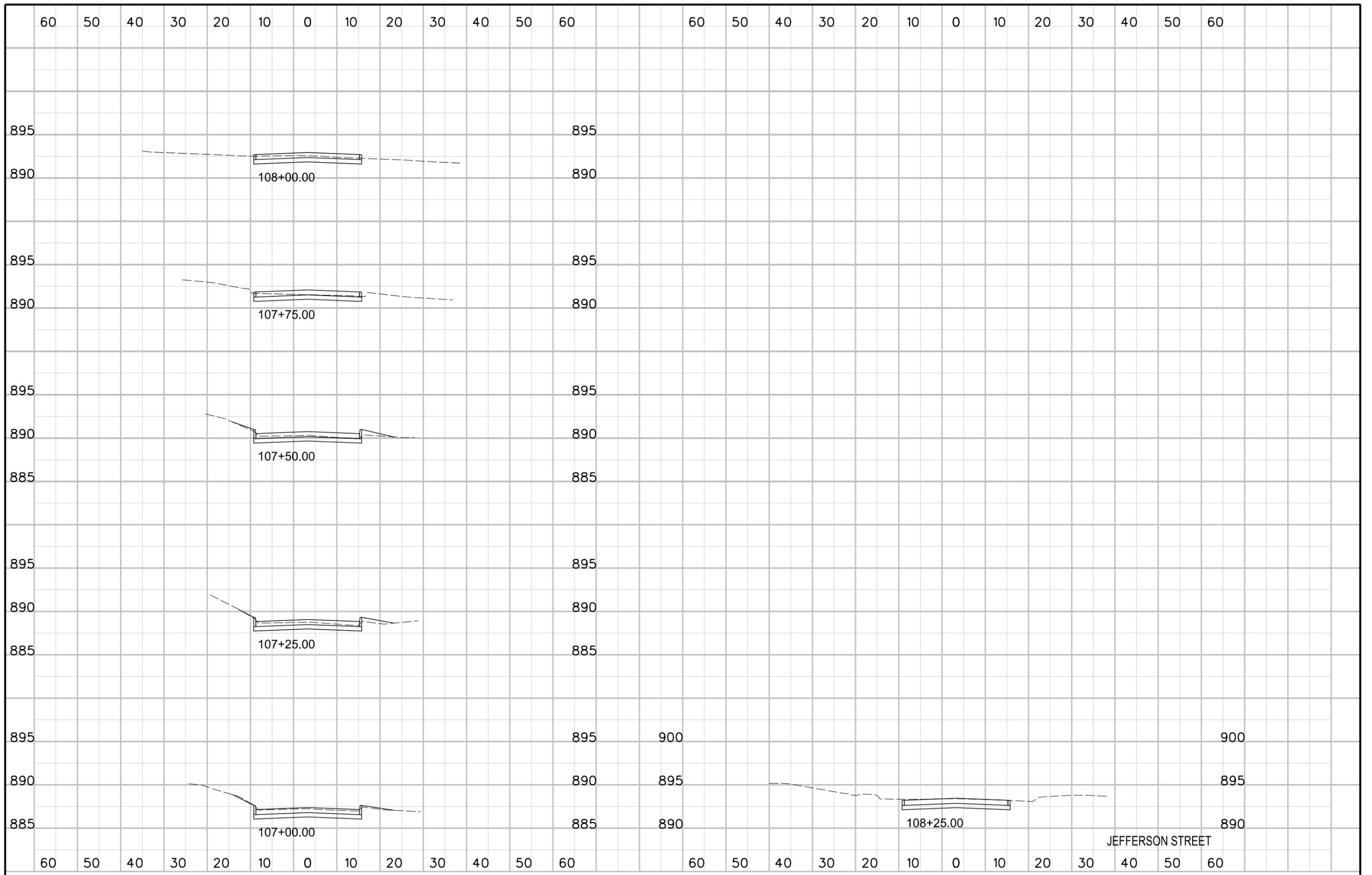
MODIFICATIONS: Removed reference to circle note 3 from 'BT-3' and 'RT' joints in the PARTIAL LANE WIDTH PATCH drawing.

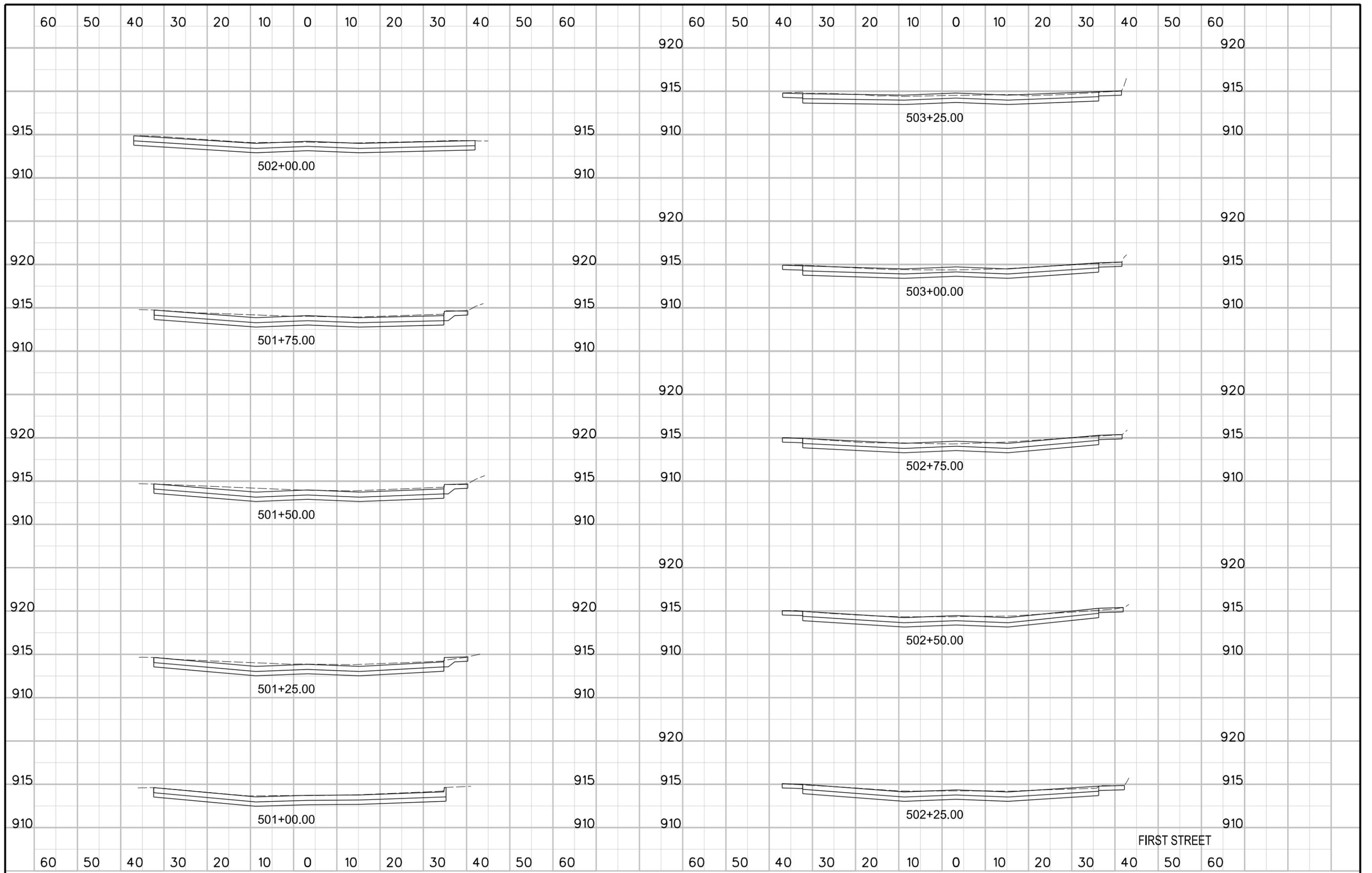
APPROVED BY DESIGN METHODS ENGINEER

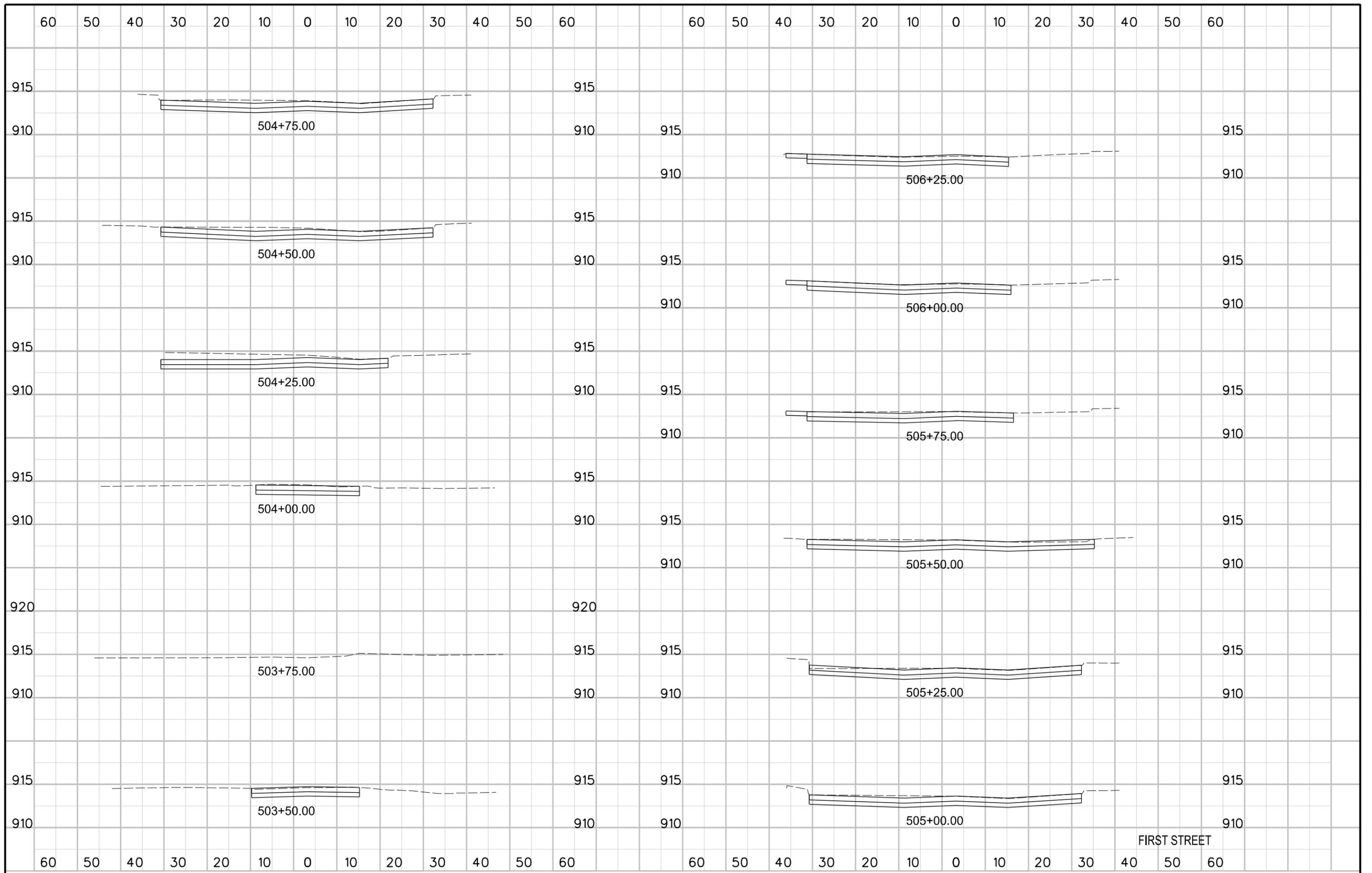
**FULL DEPTH PCC PATCH  
WITHOUT DOWELS**

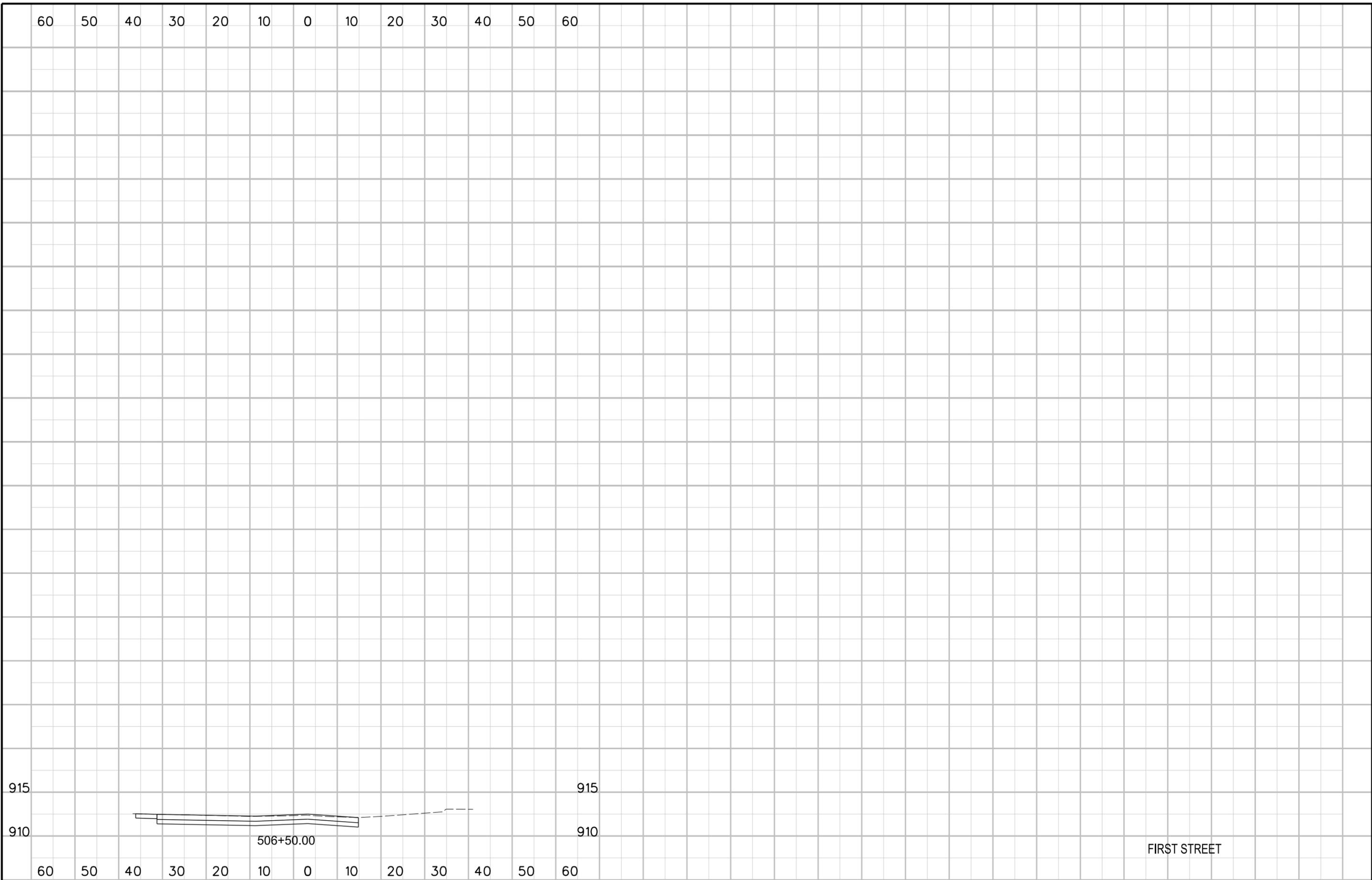


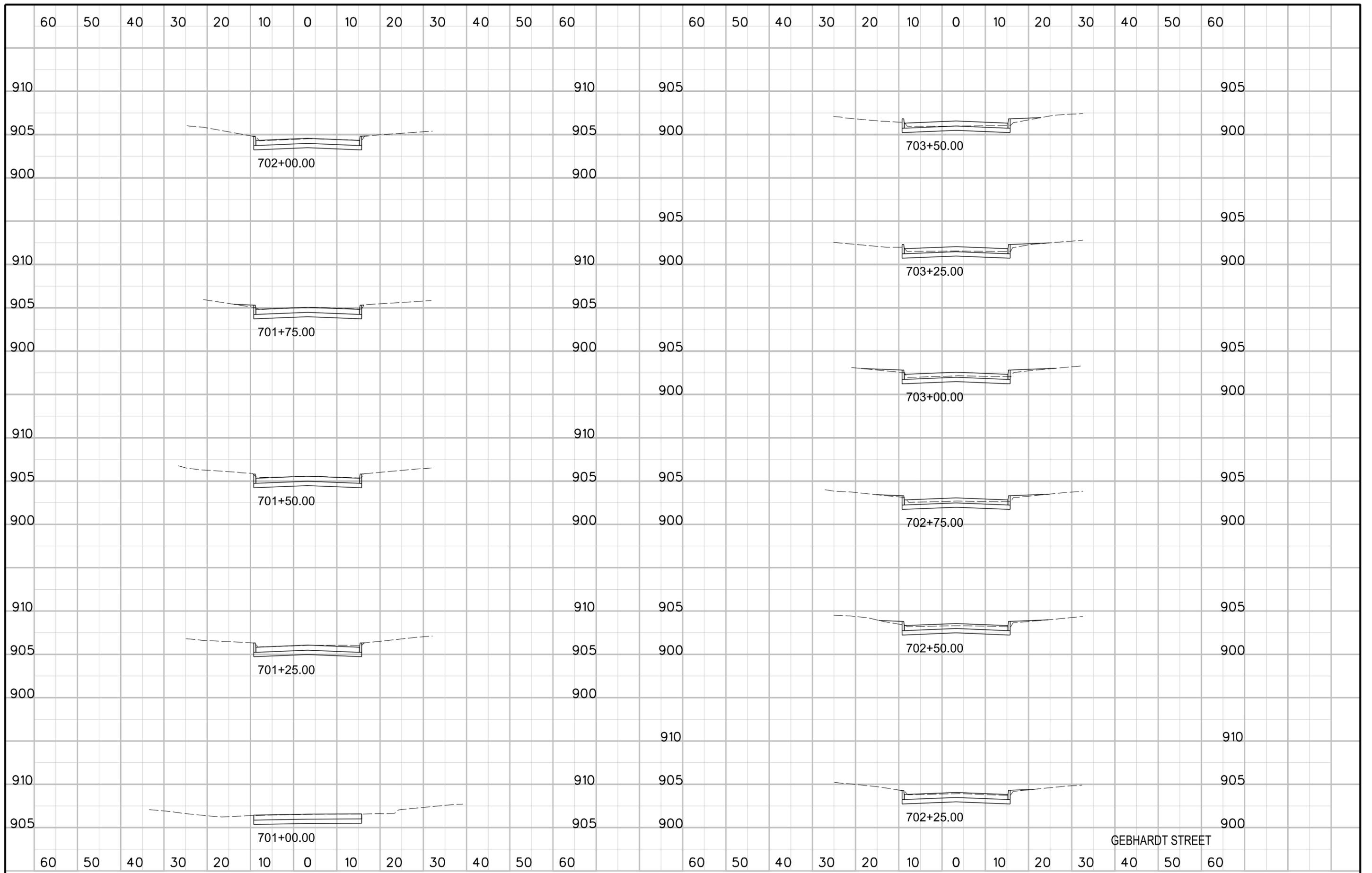


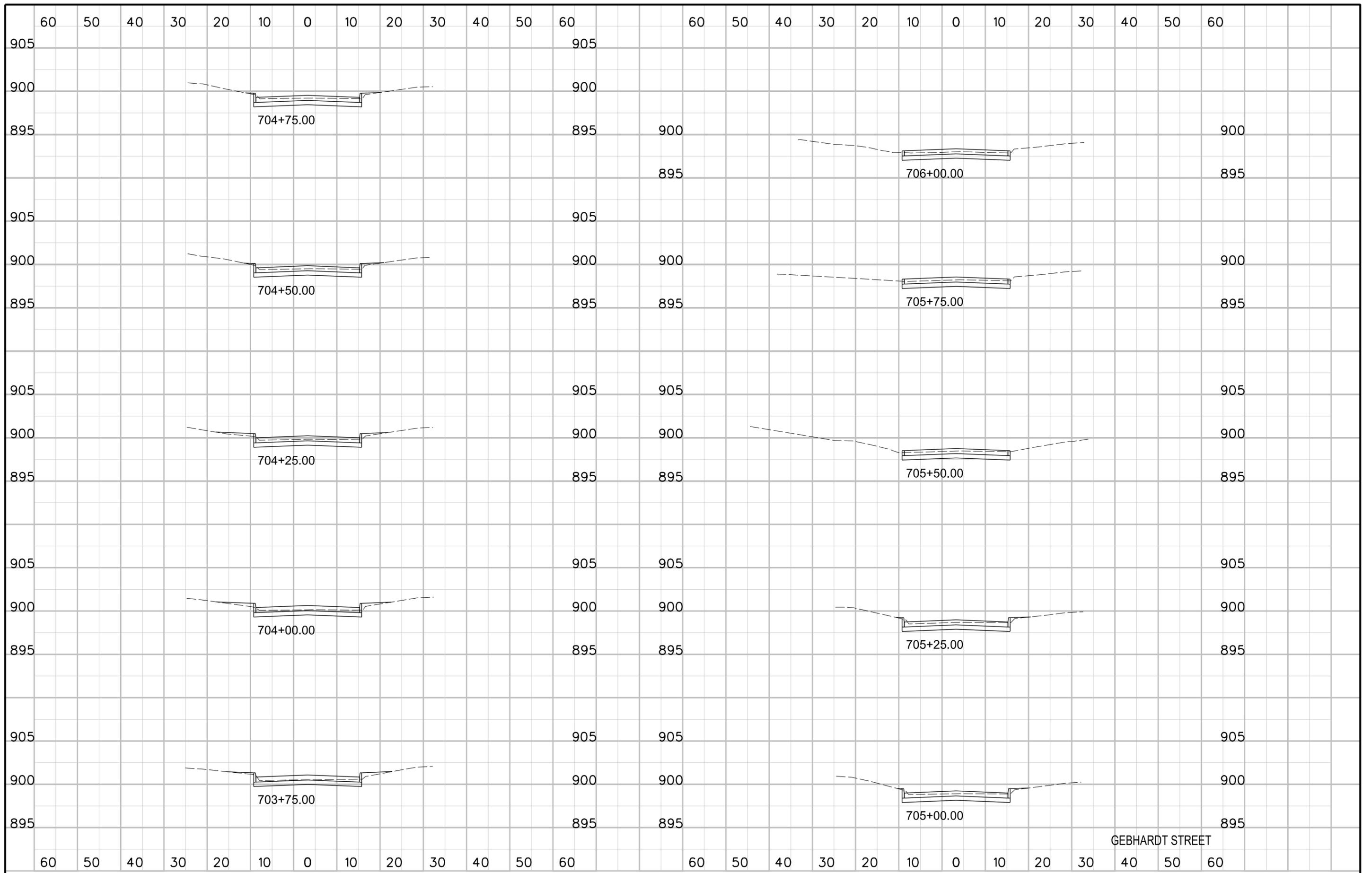


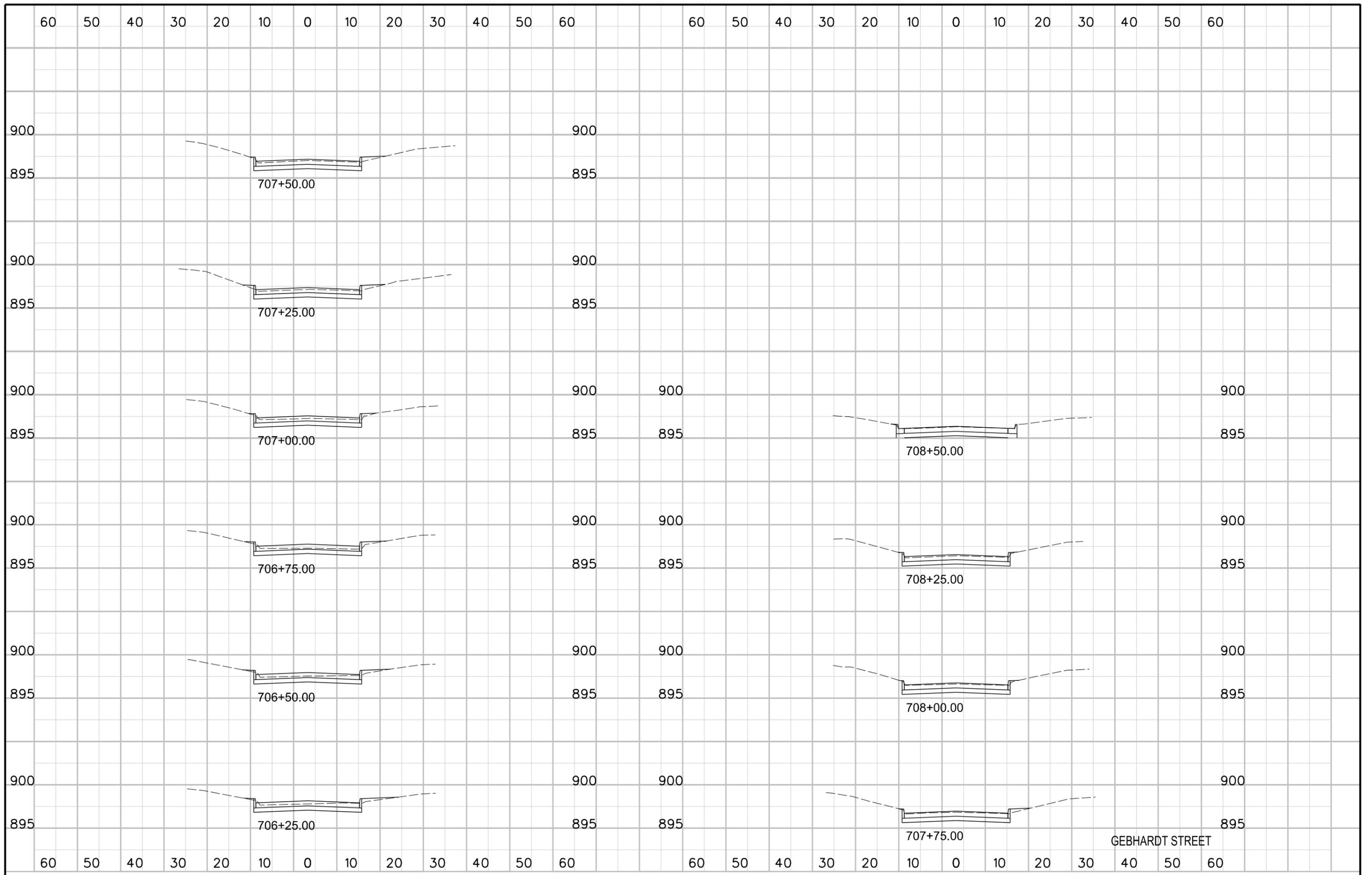


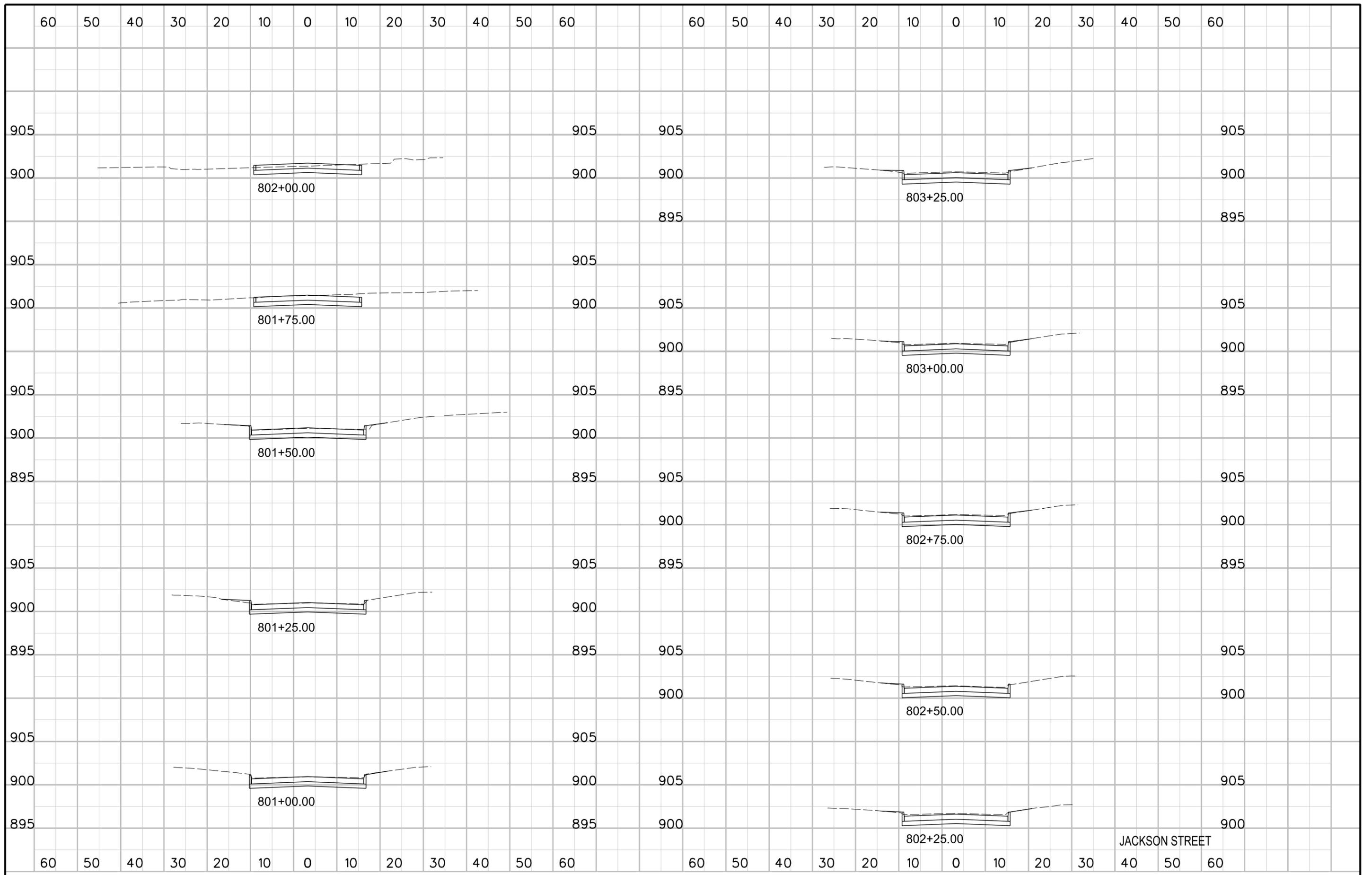


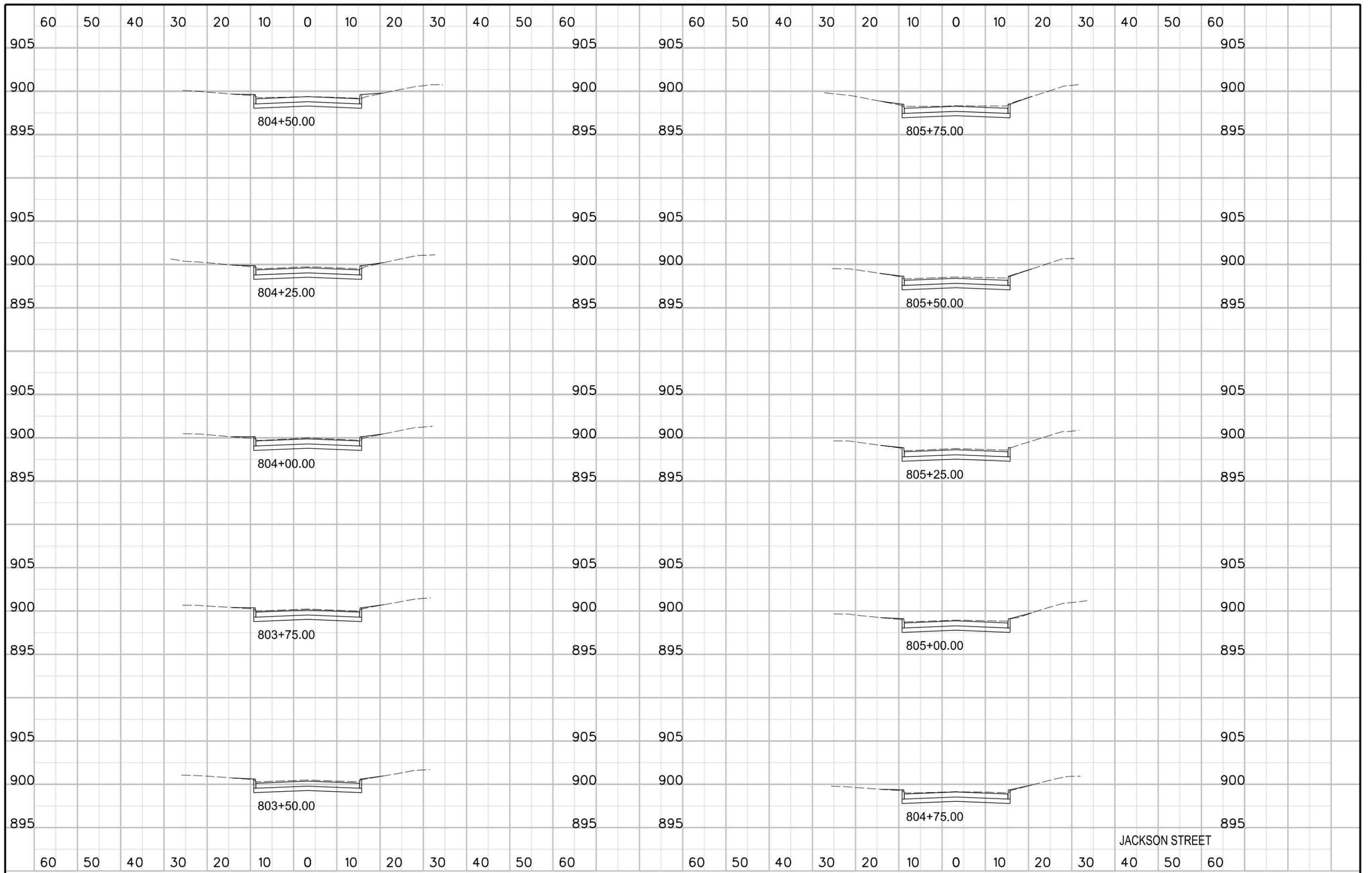


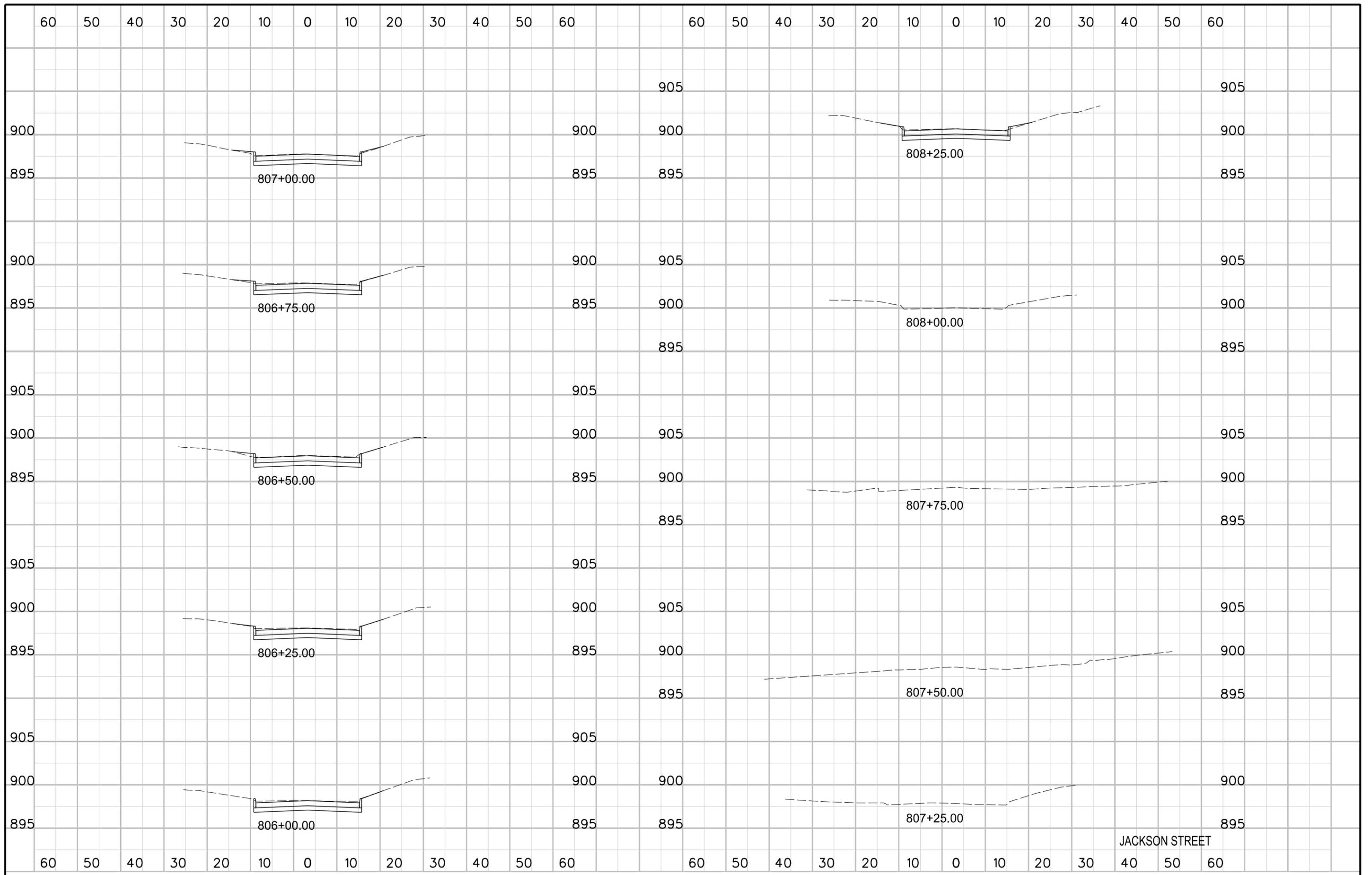


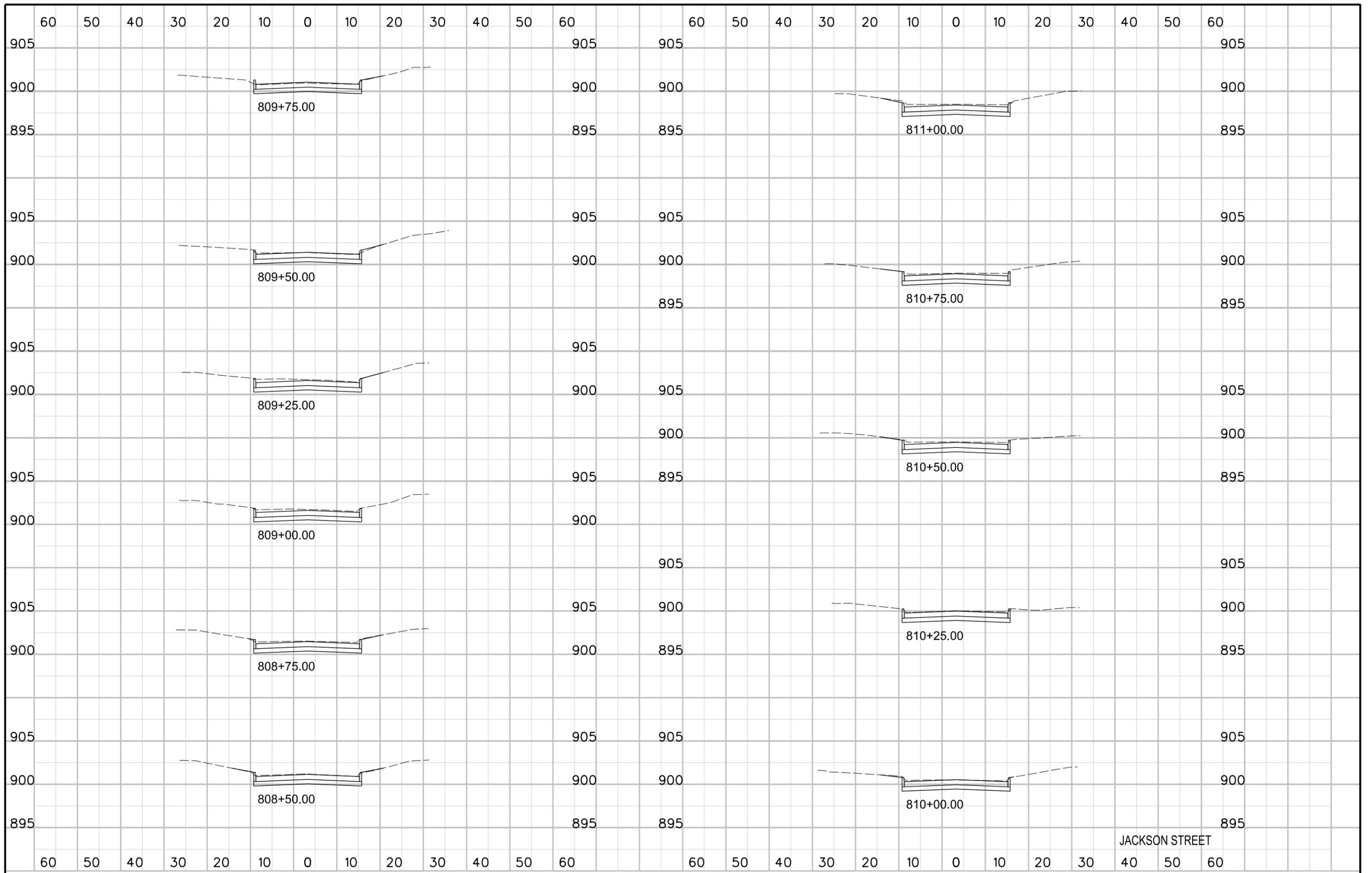


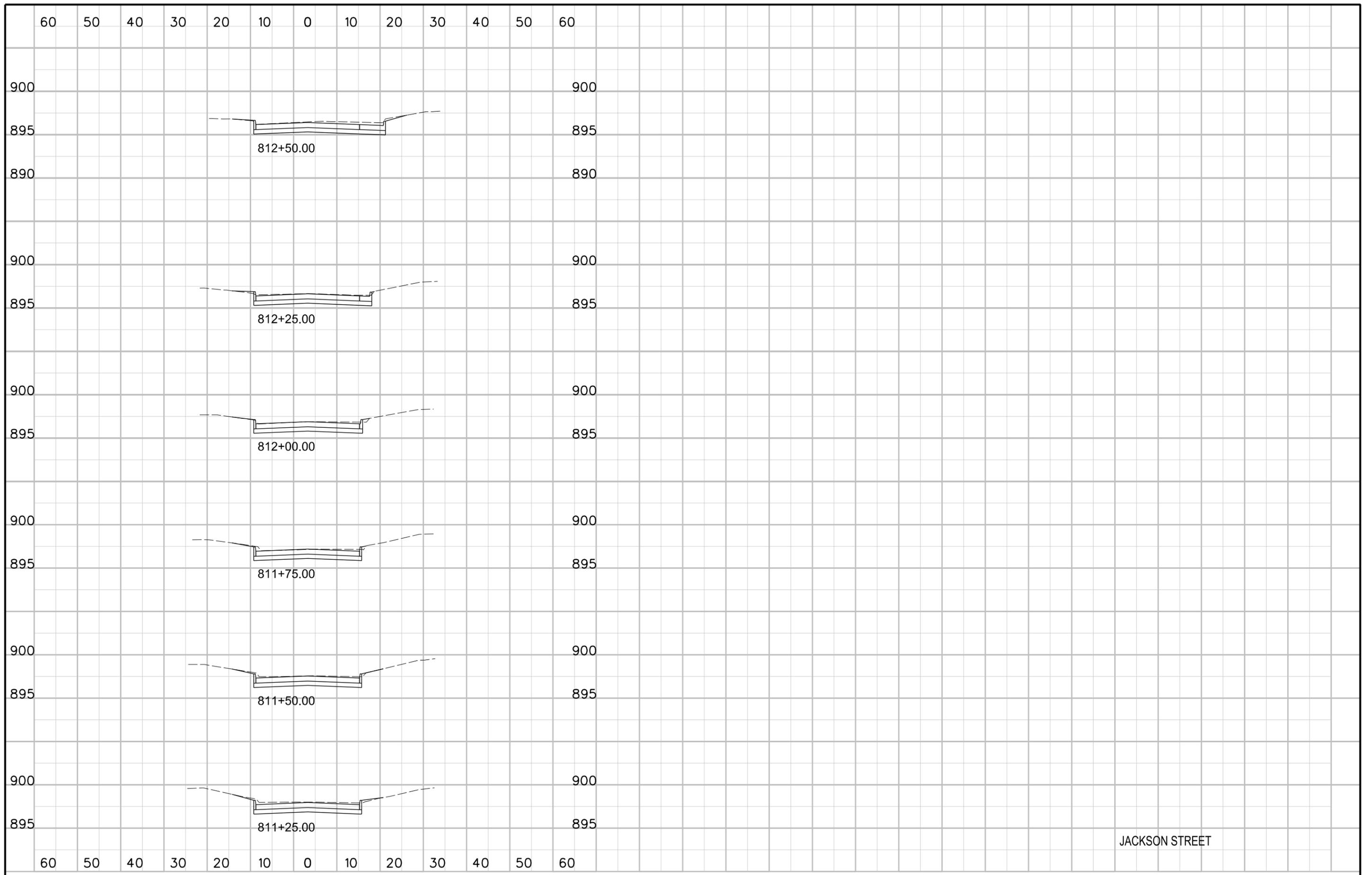










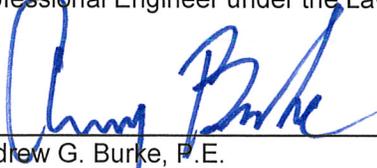


JACKSON STREET

**CITY OF KNOXVILLE**

**2016 STREET IMPROVEMENTS**

**Project No. - 115.0718.01**

|  |  |
|--|--|
|  <p>LICENSED PROFESSIONAL ENGINEER<br/>ANDREW G. BURKE<br/>19498<br/>IOWA</p> | <p>I hereby certify that this Engineering Document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the Laws of the State of Iowa.</p> |
|  | <p><br/>_____<br/>Andrew G. Burke, P.E. <span style="float: right;">01/29/2016</span><br/>Date</p>                      |
|  | <p>License Number 19498</p>  |
|  | <p>My License Renewal Date is December 31, 2016</p>  |
|  | <p>All Sheets _____</p>  |
|  | <p>_____</p>   |
|  | <p>_____</p>   |

SNYDER & ASSOCIATES, INC.  
2727 SW Snyder Blvd  
Ankeny, IA 50023  
515-964-2020

2016 STREET IMPROVEMENTS  
KNOXVILLE, IOWA  
S&A PROJECT NO. 115.0718.01

**The following documents are a part of this contract:**

| <u>Document</u>                                 | <u>Pages</u>       |
|---|--------------------|
| Notice to Bidders .....                         | NTB - 1 to NTB - 2 |
| Instruction to Bidders .....                    | ITB - 1 to ITB - 3 |
| Proposal .....                                  | P - 1 to P - 8     |
| Identity of Subcontractors .....                | P - 9              |
| Bid Bond .....                                  | BB - 1 to BB - 2   |
| Contract .....                                  | C - 1 to C - 8     |
| Performance, Payment and Maintenance Bond ..... | PM - 1 to PM - 5   |
| Notice to Proceed .....                         | NP - 1             |

Special Provisions

|  |                     |
|--|---------------------|
| Part 1 - General Requirements .....              | SP1 - 1 to SP1 - 6  |
| Part 2 - Special Construction.....               | SP2 - 1 to SP2 - 10 |
| Part 3 – BNSF Work on Railroad Right-of Way..... | SP3 – 1 to SP3 - 12 |

Appendix

|                    |            |
|--------------------|------------|
| Soils Report ..... | Appendix A |
|--------------------|------------|

Specifications:

The Iowa Statewide Urban Standard Specifications for Public Improvements, 2016 Edition, referred to in the plans and specifications as SUDAS, shall apply to construction work on this project, except as modified in the plans and special provisions.

**NOTICE TO BIDDERS**  
**NOTICE OF PUBLIC HEARING**  
**CITY OF KNOXVILLE**  
**2016 STREET IMPROVEMENTS**

Time and Place for Filing Sealed Proposals. Sealed bids for the work comprising the improvements as stated below must be filed before 2:00 p.m., Tuesday, March 1, 2016 in the office of the City Clerk, Knoxville City Hall, 305 S Third Street, Knoxville, Iowa 50138.

Time and Place Sealed Proposals Will be Opened and Considered. Sealed proposals will be opened and bids tabulated at 2:00 p.m., Tuesday, March 1, 2016, in the Council Chambers of the City Hall, for consideration by the Knoxville City Council at its meeting on Monday, March 7, 2016. The City of Knoxville reserves the right to reject any and all bids.

Time for Commencement and Completion of Work. Work on the improvements shall begin on or before the date specified in a written Notice to Proceed. The anticipated date for written Notice to Proceed date is March 9, 2016. Work on the project shall be substantially completed by November 15, 2016. All surface restoration work shall be completed by May 31, 2017. Liquidated damages in the amount of Five Hundred Dollars (\$500.00) will be assessed for each calendar day the work is not substantially complete by November 15, 2016. For this project substantial completion shall include completion and approval by City and Engineer of all roadway pavement, HMA overlay, driveways, sidewalks, backfill, and finish grading.

Bid Security. Each bidder shall accompany its bid with bid security as security that the successful bidder will enter into a contract for the work bid upon and will furnish after the award of contract a corporate surety bond, in form acceptable to the City, for the faithful performance of the contract, in an amount equal to one hundred percent of the amount of the contract. The bidder's security shall be in the amount fixed in the Instruction to Bidders and shall be in the form of a cashier's check, a certified check, or a bank money order drawn on a FDIC insured bank in Iowa or on a FDIC insured bank chartered under the laws of the United States; or a certified share draft drawn on a credit union in Iowa or chartered under the laws of the United States; or a bid bond on the form provided in the contract documents with corporate surety satisfactory to the Jurisdiction. The bid shall contain no condition except as provided in the specifications.

Contract Documents. The contract documents are available with the City Manager and may be examined at the Knoxville City Hall, 305 S Third Street, Knoxville, Iowa 50138. Hard copies of the project documents may be obtained from Snyder & Associates, Inc. 2727 SW Snyder Blvd, Ankeny, Iowa 50023 at no charge.

Electronic contract documents are available by clicking on the "BIDS" link at [www.snyder-associates.com](http://www.snyder-associates.com) and choosing the Knoxville 2016 Street Improvements on the left. Project information and planholder information is available at no cost at this website. Downloads require the user to register for a free membership at QuestCDN.com.

Iowa Preference. By virtue of statutory authority, preference will be given to products and provisions grown and coal produced within the State of Iowa, and to Iowa domestic labor, to the extent lawfully required under Iowa statutes.

Sales Tax Exemption. A sales tax exemption certificate will be available for all materials purchased for incorporation in the project.

Public Hearing on Proposed Contract Documents and Estimated Costs for Improvements. A public hearing will be held by the City of Knoxville on the proposed contract documents (plans, specifications and form of contract) and estimated cost for the improvements at its meeting at 6:15 p.m., Monday, March 7, 2016 in said Council Chambers of the City Hall, 305 S Third Street, Knoxville, Iowa 50138.

General Nature of Public Improvement. The work includes all materials, equipment, transportation and labor necessary to complete the improvements. The proposed project includes pavement removal, grading, storm intake replacement, subdrain construction, subgrade preparation, modified subbase, approximately 9,000 square yards of 7-inch PCC paving and 1,870 square yards of 6-inch PCC paving, pavement markings, traffic control, surface restoration, and miscellaneous associated work.

This Notice is given by authority of the City of Knoxville.

---

Heather Ussery, City Clerk

Bid Date March 1, 2016  
Time 2:00 p.m.

**INSTRUCTIONS TO BIDDERS**

Project Name 2016 Street Improvements  
Knoxville, Iowa

S&A Project No. 115.0718.01

The work comprising the above referenced project shall be constructed in accordance with the 2016 edition of the Statewide Urban Design and Specifications (SUDAS), and as further modified by supplemental specifications and special provisions included in the contract documents. The terms used in the contract revision of the documents are defined in said Standard Specifications. The City of Knoxville is the Contracting Authority on this project and shall hereinafter be referred to as the "Jurisdiction". Before submitting your bid, please review the requirements of Division One, General Provisions and Covenants, in particular the sections regarding proposal requirements, bonding, contract execution and insurance requirements. Please be certain that all documents have been completed properly, and submit them to the Knoxville City Clerk, Knoxville City Hall, 305 S Third Street, Knoxville, Iowa 50138.

**I. BID SECURITY**

The bid security must be in the minimum amount of 10% of the total bid. Bid security shall be in the form of a cashier's check, a certified check, or a bank money order drawn on a FDIC insured bank in Iowa or drawn on a FDIC insured bank chartered under the laws of the United States; or a certified share draft drawn on a credit union in Iowa or chartered under the laws of the United States; or a bid bond executed by a corporation authorized to contract as a surety in Iowa or satisfactory to the Jurisdiction. The bid bond must be submitted on the enclosed bid bond form as no other bid bond forms are acceptable. All signatures on the bid bond must be original signatures in ink; facsimile (fax) of any signature on the bid bond is not acceptable. Bid security other than said bid bond shall be made payable to the City of Knoxville, Iowa. "Miscellaneous Bank Checks", and personal checks, as well as "Money Orders" and "Traveler's Checks" issued by persons, firms or corporations licensed under Chapter 533B of the Iowa Code, are not acceptable bid security.

**II. SUBMISSION OF THE PROPOSAL AND IDENTITY OF BIDDER**

A. The proposal shall be sealed in an envelope, properly identified as the Proposal with the project title and the name and address of the bidder, and deposited with the Jurisdiction at or before the time and at the place provided in the Notice to Bidders. It is the sole responsibility of the bidder to see that its proposal is delivered to the Jurisdiction prior to the time for opening bids, along with the appropriate bid security sealed in the separate envelope identified as Bid Security and attached to the outside of the bid proposal envelope. Any proposal received after the scheduled time for the receiving of proposals will be returned to the bidder unopened and will not be considered.

B. The following documents shall be completed, signed and returned in the Proposal envelope. The bid cannot be read if any of these documents are omitted from the Proposal envelope.

1. PROPOSAL – Complete each of the following parts:

- Part B – Acknowledgment of Addenda, if any have been issued;
- Part C – Bid Items, Quantities and Prices;
- Part F – Additional Requirements;

The following documents which are proposal attachments, must be completed and attached:

| <u>ITEM NO.</u> | <u>DESCRIPTION OF ATTACHMENT</u> |
|-----------------|----------------------------------|
| 1.              | Part C – Bid Schedule            |
| 2.              | Identity of Subcontractors       |
| 3.              | _____                            |
| 4.              | _____                            |
| 5.              | _____                            |
| 6.              | _____                            |

- Part G – Identity of Bidder;

Sign the proposal; and have the signature notarized. The signature on the proposal and all proposal attachments must be an original signature in ink signed by the same individual who is the Company Owner or an authorized Officer of the Company; copies or facsimile of any signature will not be accepted.

The following documents must be submitted as printed. No alterations, additions, or deletions are permitted. If the Bidder notes a requirement in the contract documents which the Bidder believes will require a conditioned or unsolicited alternate bid, the Bidder must immediately notify the Jurisdictional Engineer in writing. The Jurisdictional Engineer will issue any necessary interpretation by an addendum.

### III. PROSECUTION AND PROGRESS OF THE WORK

- A. The Work is located in the City of Knoxville. Work on Sundays or legal holidays require approval of the City.
- B. Time is of the essence in this project.
- C. Allowable working hours are between sunrise and sunset.
- D. Work on the improvements shall begin on or before the date specified in a written Notice to Proceed. The anticipated date for written Notice to Proceed date is March 9, 2016. Work on the project shall be substantially completed by November 15, 2016. All surface restoration work shall be completed by May 31, 2017. Liquidated damages in the amount of Five Hundred Dollars (\$500.00) will be assessed for each calendar day the work is not substantially complete by November 15, 2016. For this project substantial completion shall include completion and approval by City and Engineer of all roadway pavement, HMA overlay, driveways, sidewalks, backfill, and finish grading.

## SUBLETTING

- A. The Contractor shall perform, with its own organization and forces, work amounting in no less than 20% of the total contract cost.

## IV. TAXES

- A. The City will issue a sales tax exemption certificate to the Contractor for all materials purchased on the project. The City will issue the appropriate exemption certificates and authorization letters to the Contractor and all subcontractors completing work on the project. Tax exemption certificates are applicable only for the specific project for which the tax exemption certificate is issued.
- B. The Contractor shall provide a listing to the City identifying all appropriate subcontractors qualified for use of the tax exemption certificate. The Contractor and subcontractors may make copies of the certificate and provide to each supplier providing construction material a copy of the tax exemption certificate.

## V. ELECTRONIC DOCUMENTS AND FILES AVAILABILITY

- A. Electronic contract documents are available by clicking on the “BIDS” link at [www.snyder-associates.com](http://www.snyder-associates.com) and choosing the Knoxville 2016 Street Improvements on the left. Project information and planholder information is available at no cost at this website. Downloads require the user to register for a free membership at QuestCDN.com.
- B. Digital CAD files of the proposed project may be requested following the completion and receipt of the ‘Snyder & Associates Electronic Media Transfer Agreement’. Request CAD files directly from Snyder & Associates, Inc.

TO: The Honorable Mayor and  
Members of the City Council  
City of Knoxville, Iowa

**PROPOSAL**

**PROPOSAL: PART A – SCOPE**

The City of Knoxville, hereinafter called the “Jurisdiction”, has need of a qualified contractor to complete the work comprising the below referenced improvements. The undersigned Bidder hereby proposes to complete the work comprising the below referenced improvements as specified in the contract documents, which are officially on file with the Jurisdiction, in the office of the City Manager, at the prices hereinafter provided in Part C of the Proposal, for the following described improvements:

**2016 STREET IMPROVEMENTS**

General Nature of Public Improvement. The work includes all materials, equipment, transportation and labor necessary to complete the improvements. The proposed project includes pavement removal, grading, storm intake replacement, subdrain construction, subgrade preparation, modified subbase, approximately 9,000 square yards of 7-inch PCC paving and 1,870 square yards of 6-inch PCC paving, pavement markings, traffic control, surface restoration, and miscellaneous associated work.

**PROPOSAL: PART B – ACKNOWLEDGEMENT OF ADDENDA**

The Bidder hereby acknowledges that all addenda become a part of the contract documents when issued, and that each such addendum has been received and utilized in the preparation of this bid. The Bidder hereby acknowledges receipt of the following addenda by inserting the number of each addendum in the blanks below:

ADDENDUM NUMBER \_\_\_\_\_ ADDENDUM NUMBER \_\_\_\_\_  
ADDENDUM NUMBER \_\_\_\_\_ ADDENDUM NUMBER \_\_\_\_\_

and certifies that said addenda were utilized in the preparation of this bid.

**PROPOSAL: PART C – BID ITEMS, QUANTITIES AND PRICES**

UNIT BID PRICE CONTRACTS: The Bidder must provide the Unit Bid Prices and Total Bid Price on the Proposal Attachment labeled "BID SCHEDULE". In case of discrepancy, the Unit Bid Price governs. The quantities shown on the Proposal Attachment are approximate only, but are considered sufficiently adequate for the purpose of comparing bids. The Total Base Bid shall be used only for comparison of bids. The Total Bid shall be used for determining the sufficiency of the bid security.

**PROPOSAL: PART D – GENERAL**

The Bidder hereby acknowledges that the Jurisdiction, in advertising for public bids for this project reserves the right to:

1. Reject any or all bids. Award of the contract, if any, to be to the lowest responsible, responsive bidder; and
2. Reject any or all alternates in determining the items to be included in the contract. Designation of the lowest responsible, responsive bidder to be based on comparison of the total base bid; and
3. Make such alterations in the documents or in the proposal quantities as it determines necessary in accordance with the contract documents after execution of the contract. Such alterations shall not be considered a waiver of any conditions of the contract documents, and shall not invalidate any of the provisions thereof; and

The Bidder hereby agrees to:

1. Enter into a contract, if this proposal is selected, in the form approved by the Jurisdiction, provide proof of registration with the Iowa Division of Labor in accordance with Chapter 91C of the Iowa Code, and furnish a performance, maintenance, and payment bond; and
2. Forfeit bid security, not as a penalty but as liquidated damages, upon failure to enter into such contract and/or to furnish said bond; and
3. Commence the work on this project on or before the date specified in a written Notice to Proceed. The anticipated date for written Notice to Proceed date is March 9, 2016.
4. Work on the project shall be substantially completed by November 15, 2016. All surface restoration work shall be completed by May 31, 2017. Liquidated damages in the amount of Five Hundred Dollars (\$500.00) will be assessed for each calendar day the work is not substantially complete by November 15, 2016. For this project substantial completion shall include completion and approval by City and Engineer of all roadway pavement, HMA overlay, driveways, sidewalks, backfill, and finish grading.

**PROPOSAL: PART E – NON-COLLUSION AFFIDAVIT**

The Bidder hereby certifies:

1. That this proposal is not affected by, contingent on, or dependent on any other proposal submitted for any improvement with the Jurisdiction; and
2. That no individual employed by the Bidder has employed any person to solicit or procure the work on this project, nor will any employee of the Bidder make any payment or agreement for payment of any compensation in connection with the procurement of this project; and
3. That no part of the bid price received by the Bidder was or will be paid to any person, corporation, firm, association, or other organization for soliciting the bid, other than the payment of their normal compensation to persons regularly employed by the Bidder whose services in connection with the construction of the project were in the regular course of their duties for the Bidder; and
4. That this proposal is genuine and not collusive or sham; that the Bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any bidder or person, to submit a sham bid or to refrain from bidding, and has not in any manner, directly or indirectly, sought, by agreement or collusion, or communication or conference, with any person, to fix the bid price of the Bidder or of any other bidder, and that all statements in this proposal are true; and
5. That the individual(s) executing this proposal have the authority to execute this proposal on behalf of the Bidder.

**PROPOSAL: PART F – ADDITIONAL REQUIREMENTS**

The Bidder hereby agrees to comply with the additional requirements listed below, which are included in this proposal:

| <u>ITEM NO.</u> | <u>DESCRIPTION OF ATTACHMENT</u> |
|-----------------|----------------------------------|
| 1.              | Part C – Bid Schedule            |
| 2.              | Identity of Subcontractors       |
| 3.              |                                  |
| 4.              |                                  |
| 5.              |                                  |
| 6.              |                                  |

**PROPOSAL: PART G – IDENTITY OF BIDDER**

The Bidder shall indicate whether the bid is Submitted by a/an:

- Individual, Sole Proprietorship
- Partnership
- Corporation
- Joint-venture: all parties must join-in and execute all documents
- Other

By \_\_\_\_\_  
Bidder

\_\_\_\_\_ Signature

\_\_\_\_\_ Name (Print/Type)

\_\_\_\_\_ Title

The Bidder shall enter its Public Registration Number \_\_\_\_\_ - \_\_\_\_\_ issued By the Iowa Commissioner of Labor Pursuant Section 91C.5 of the Iowa Code.

\_\_\_\_\_ Street Address

\_\_\_\_\_ City, State, Zip Code

\_\_\_\_\_ Telephone Number

In the event the above signature is not that of the company's owner, president, CEO, etc., provide the Chief Official's Name and Title below.

\_\_\_\_\_ Name

\_\_\_\_\_ Title

**NOTE: The signature on this proposal must be an original signature in ink; copies or facsimile of any signature will not be accepted.**

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Notary Public in and for

State of \_\_\_\_\_  
County of \_\_\_\_\_

My commission expires \_\_\_\_\_.

**PROPOSAL ATTACHMENT: PART C****BID SCHEDULE**

The Bidder must provide the Unit Bid Prices and the Total Bid; in case of discrepancy, the Unit Bid Price governs. This is a Unit Bid Price Contract. The quantities shown on the Bid Schedule are approximate only, but are considered sufficiently adequate for the purpose of comparing bids. The Total Bid shall be used only for comparison of bids. The Total Bid shall be used for determining the sufficiency of the bid security.

| ITEM | ITEM CODE    | ITEM DESCRIPTION   | QUANTITY | UNIT | UNIT PRICE | TOTAL PRICE |
|------|--------------|--|----------|------|------------|-------------|
| 1    | 2010-108-D-1 | TOPSOIL, ON SITE   | 1326     | CY   | \$         | \$          |
| 2    | 2010-108-E-0 | EXCAVATION, CLASS 10   | 2060     | CY   | \$         | \$          |
| 3    | 2010-108-G-0 | SUBGRADE PREPARATION,<br>POLYMER GRID  | 3590     | SY   | \$         | \$          |
| 4    | 2010-108-G-0 | SUBGRADE PREPARATION   | 12960    | SY   | \$         | \$          |
| 5    | 2010-108-I-1 | SUBBASE, SPECIAL BACKFILL  | 200      | TON  | \$         | \$          |
| 6    | 2010-108-I-1 | SUBBASE, MODIFIED  | 2036     | CY   | \$         | \$          |
| 7    | 2010-999-9-9 | EARTH SHOULDER FINISHING   | 47.45    | STA  | \$         | \$          |
| 8    | 2010-108-L-0 | COMPACTION TESTING   | 1        | LS   | \$         | \$          |
| 9    | 3010-108-F-0 | TRENCH COMPACTION TESTING  | 1        | LS   | \$         | \$          |
| 10   | 4010-108-A-1 | SANITARY SEWER GRAVITY<br>MAIN, TRENCHED, POLYVINYL<br>CHLORIDE PIPE (PVC), 8 IN | 337      | LF   | \$         | \$          |
| 11   | 4040-108-A-0 | SUBDRAIN, LONGITUDINAL,<br>(SHOULDER) 4 IN. DIA.                                 | 5675     | LF   | \$         | \$          |
| 12   | 4040-108-C-0 | SUBDRAIN CLEANOUT  | 12       | EACH | \$         | \$          |
| 13   | 4040-108-D-0 | SUBDRAIN OUTLET AND<br>CONNECTIONS, DR-303                                       | 14       | EACH | \$         | \$          |
| 14   | 6010-108-B-0 | INTAKE, SW-501   | 6        | EACH | \$         | \$          |
| 15   | 6010-108-B-0 | INTAKE, SW-507 MODIFIED  | 2        | EACH | \$         | \$          |
| 16   | 6010-108-B-0 | INTAKE, SW-511   | 4        | EACH | \$         | \$          |
| 17   | 6010-108-C-0 | DROP CONNECTION, SW-307  | 1        | EACH | \$         | \$          |
| 18   | 6010-108-E-0 | MANHOLE ADJUSTMENT, MINOR  | 10       | EACH | \$         | \$          |
| 19   | 6010-108-E-0 | INTAKE ADJUSTMENT, MINOR   | 6        | EACH | \$         | \$          |
| 20   | 6010-108-F-0 | INTAKE ADJUSTMENT, MAJOR   | 3        | EACH | \$         | \$          |

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| 21   | 6010-108-G-0 | CONNECTION TO EXISTING MANHOLE                 | 3        | EACH | \$         | \$          |
| 22   | 6010-108-H-0 | REMOVE INTAKE                                  | 12       | EACH | \$         | \$          |
| 23   | 7010-108-A-0 | PAVEMENT, PCC, 6 IN.                           | 1865     | SY   | \$         | \$          |
| 24   | 7010-108-A-0 | PAVEMENT, PCC, 7 IN.                           | 9027     | SY   | \$         | \$          |
| 25   | 7010-108-A-0 | DRIVEWAY, PAVED, PCC, 6 IN.                    | 1173     | SY   | \$         | \$          |
| 26   | 7010-108-I-0 | PCC PAVEMENT SAMPLES AND TESTING               | 1        | LS   | \$         | \$          |
| 27   | 7020-108-A-0 | OVERLAY, HMA (1,000,000 ESAL)                  | 750      | TON  | \$         | \$          |
| 28   | 7020-108-H-0 | HMA PAVEMENT SAMPLES AND TESTING               | 1        | LS   | \$         | \$          |
| 29   | 7030-108-A-0 | REMOVAL OF SIDEWALK                            | 595      | SY   | \$         | \$          |
| 30   | 7030-108-A-0 | REMOVAL OF DRIVEWAY                            | 993      | SY   | \$         | \$          |
| 31   | 7030-108-E-0 | SIDEWALK, PCC, 6 INCHES                        | 554      | SY   | \$         | \$          |
| 32   | 7030-108-G-0 | DETECTABLE WARNINGS                            | 336      | SF   | \$         | \$          |
| 33   | 7040-108-A-0 | FULL-DEPTH PATCHES                             | 1233     | SY   | \$         | \$          |
| 34   | 7040-108-G-0 | MILLING  | 5746     | SY   | \$         | \$          |
| 35   | 7040-108-H-0 | PAVEMENT REMOVAL                               | 11006    | SY   | \$         | \$          |
| 36   | 9010-108-B-0 | HYDRAULIC SEEDING, FERTILIZATION, AND MULCHING | 4        | ACRE | \$         | \$          |
| 37   | 9010-108-E-0 | WARRANTY                                       | 1        | LS   | \$         | \$          |
| 38   | 9040-108-A-2 | SWPPP MANAGEMENT                               | 1        | LS   | \$         | \$          |
| 39   | 9040-108-D-1 | FILTER SOCKS, 6"                               | 775      | LF   | \$         | \$          |
| 40   | 9040-108-D-2 | FILTER SOCKS, REMOVAL                          | 775      | LF   | \$         | \$          |
| 41   | 9040-108-O-1 | STABILIZED CONSTRUCTION ENTRANCE               | 150      | TON  | \$         | \$          |
| 42   | 9040-108-T-1 | INLET PROTECTION DEVICE, WATTLE                | 31       | EACH | \$         | \$          |
| 43   | 9040-108-T-2 | INLET PROTECTION DEVICE, MAINTENANCE           | 31       | EACH | \$         | \$          |
| 44   | 9999-999-9-9 | TRAFFIC CONTROL                                | 1        | LS   | \$         | \$          |
| 45   | 9999-999-9-9 | SAFETY CLOSURE                                 | 30       | EACH | \$         | \$          |
| 46   | 9999-999-9-9 | ADJUSTMENT OF VALVE BOX                        | 6        | EACH | \$         | \$          |
| 47   | 9999-999-9-9 | P.C. CONCRETE PARKING BUMPER                   | 31       | EACH | \$         | \$          |

| ITEM | ITEM CODE    | ITEM DESCRIPTION  | QUANTITY | UNIT | UNIT PRICE | TOTAL PRICE |
|------|--------------|---|----------|------|------------|-------------|
| 48   | 9999-999-9-9 | CLEANING AND PREPARATION OF BASE                          | 0.4      | MILE | \$         | \$          |
| 49   | 9999-999-9-9 | GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE         | 420      | TON  | \$         | \$          |
| 50   | 9999-999-9-9 | BNSF WORK ON RAILROAD RIGHT-OF-WAY AND FLAGGER PROTECTION | 1        | LS   | \$         | \$          |
| 51   | 9999-999-9-9 | PATCHES BY COUNT  | 13       | EACH |            |             |
| 52   | 11010-108-A  | CONSTRUCTION SURVEY                                       | 1        | LS   | \$         | \$          |
| 53   | 11020-108-A  | MOBILIZATION  | 1        | LS   | \$         | \$          |
| 54   | 11030-108-B  | PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT BASED    | 25.83    | STA  | \$         | \$          |
| 55   | 11040-108-A  | MAINTENANCE OF POSTAL SERVICE                             | 1        | LS   | \$         | \$          |
| 56   | 11040-108-B  | MAINTENANCE OF SOLID WASTE COLLECTION                     | 1        | LS   | \$         | \$          |
| 57   | 11060-108-A  | CONCRETE WASHOUT  | 1        | LS   | \$         | \$          |

**TOTAL BID:** \$ \_\_\_\_\_ (NUMBERS)

**TOTAL BID:** \_\_\_\_\_ DOLLARS (WORDS)

**NOTE:**

IT IS UNDERSTOOD THAT THE ABOVE QUANTITIES ARE ESTIMATED FOR THE PURPOSE OF THIS BID. ALL QUANTITIES ARE SUBJECT TO REVISION BY THE JURISDICTION. QUANTITY CHANGES THAT AMOUNT TO TWENTY (20) PERCENT OR LESS OF THE TOTAL BID SHALL NOT AFFECT THE UNIT BID PRICE.

**PROPOSAL: PART F – ADDITIONAL REQUIREMENTS  
ITEM 2 – IDENTITY OF SUBCONTRACTORS**

In all instances in which the bidder intends to assign, sublet, or subcontract any portion of the work exceeding \$25,000, the Bidder shall mark the appropriate box and shall provide a description of the work to be done by each subcontractor or assignee, the amount of each subcontract or the value of the work to be assigned, and the identity of each subcontractor or assignee below. The Bidder certifies that said subcontractors or assignees shall be utilized on this project, if acceptable to the City of Pleasant Hill. If the Bidder does not intend to utilize any subcontractors or assignees, or if each subcontract or assignment is less than \$25,000; the Bidder shall so indicate by marking the appropriate box below. The Bidder need not identify material suppliers or manufacturers who do not provide labor at the worksite to incorporate such material or manufactured goods into the improvement.

The Bidder shall indicate the proposed use of subcontractors by completing the following:

**The Bidder does not intend to utilize any subcontractors or assignees**, or the value of each subcontract or assignment is less than \$25,000. The Bidder shall so indicate by marking the box at the left.

**The Bidder intends to utilize subcontractors or assignees**, and the value of the subcontract or assignment is \$25,000 or greater. The Bidder shall so indicate by marking the box at the left and shall report below only those subcontracts or assignments with a value of \$25,000 or greater by providing a description of the work to be done by each subcontractor or assignee, the amount of each subcontract or the value of the work to be assigned, and the identity of each subcontractor or assignee in the space provided below. The Bidder certifies that said subcontractors or assignees shall be utilized on this project as stated below, if acceptable to the City of Pleasant Hill. The Bidder need not identify material suppliers or manufacturers who do not provide labor at the worksite to incorporate such material or manufactured goods into the improvement.

| <u>DESCRIPTION</u> | <u>AMOUNT</u> | <u>SUBCONTRACTOR IDENTITY</u><br><u>(name, address, including zip)</u> |
|--------------------|---------------|--|
| _____              | _____         | _____  |
| _____              | _____         | _____  |
| _____              | _____         | _____  |
| _____              | _____         | _____  |
| _____              | _____         | _____  |
| _____              | _____         | _____  |
| _____              | _____         | _____  |
| _____              | _____         | _____  |

The Bidder may attach additional contact sheets, if necessary.

**BID BOND**

KNOW ALL BY THESE PRESENTS:

That we, \_\_\_\_\_, as Principal, and \_\_\_\_\_, as Surety, are held and Firmly bound unto \_\_\_\_\_ the City of Knoxville, Iowa \_\_\_\_\_ As Obligee, (hereinafter referred to as "the Jurisdiction"), in the penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), lawful money of the United States, for which payment said Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

The condition of the above obligation is such that whereas the Principal has submitted to the Jurisdiction a certain proposal, in a separate envelope, and hereby made a part hereof, to enter into a contract in writing, for the following described improvements;

**2016 STREET IMPROVEMENTS**

General Nature of Public Improvement. The work includes all materials, equipment, transportation and labor necessary to complete the improvements. The proposed project includes pavement removal, grading, storm intake replacement, subdrain construction, subgrade preparation, modified subbase, approximately 9,000 square yards of 7-inch PCC paving and 1,870 square yards of 6-inch PCC paving, pavement markings, traffic control, surface restoration, and miscellaneous associated work.

The Surety hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Jurisdiction may accept such bid or execute such Contract; and said Surety does hereby waive notice of any such extension.

In the event that any actions or proceedings are initiated with respect to this bond, the parties agree that the venue thereof shall be Polk County, State of Iowa. If legal action is required by the Jurisdiction against the Surety or Principal to enforce the provisions of the bond or to collect the monetary obligation incurring to the benefit of the Jurisdiction, the Surety or Principal agrees to pay the Jurisdiction all damages, costs, and attorney fees incurred by enforcing any of the provisions of this bond. All rights, powers, and remedies of the Jurisdiction hereunder shall be cumulative and not alternative and shall be in addition to all rights, powers and remedies given to the Jurisdiction, by law. The Jurisdiction may proceed against Surety for any amount guaranteed hereunder whether action is brought against Principal or whether Principal is joined in any such action or actions or not.

NOW, THEREFORE, if said proposal by the Principal be accepted, and the Principal shall enter into a contract with Jurisdiction in accordance with the terms of such proposal, including the provision of insurance and of a bond as may be specified in the contract documents, with good and sufficient surety for the faithful performance of such contract, for the prompt payment of labor and material furnished in the prosecution thereof, and for the maintenance of said improvements as may be required therein, then this obligation shall become null and void; otherwise, the Principal shall pay to the Jurisdiction the full amount of the bid bond, together with court costs, attorney's fees, and any other expense of recovery.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

**SURETY:**

**PRINCIPAL:**

\_\_\_\_\_

Surety Company

BY \_\_\_\_\_

Signature Attorney-in-Fact/Officer

\_\_\_\_\_

Name of Attorney-in-Fact/Officer

\_\_\_\_\_

Company Name

\_\_\_\_\_

Company Address

\_\_\_\_\_

City, State, Zip Code

\_\_\_\_\_

Company Telephone Number

\_\_\_\_\_

Bidder

By \_\_\_\_\_

Signature

\_\_\_\_\_

Name (Print/Type)

\_\_\_\_\_

Title

\_\_\_\_\_

Address

\_\_\_\_\_

City, State, Zip Code

\_\_\_\_\_

Telephone Number

NOTE: All signatures on this bid bond must be original signatures in ink; copies or facsimile of any signature will not be accepted. This bond must be sealed with the Surety's raised, embossing seal. The Certificate or Power of Attorney accompanying this bond must be valid on its face and sealed with the Surety's raised, embossing seal.

**CONTRACT**

DATE \_\_\_\_\_

THIS CONTRACT, made and entered into at Knoxville, Iowa this \_\_\_\_\_ day of \_\_\_\_\_, 2016, by and between the City of Knoxville by its Mayor upon order of its City Council hereinafter Called the "Jurisdiction", and \_\_\_\_\_ Hereinafter called the "Contractor".

**WITNESSETH:**

The Contractor hereby agrees to complete the work comprising the below referenced improvements as specified in the contract documents, which are officially on file with the Jurisdiction, in the office of the City Administrator. This contract includes all contract documents. The work under this contract shall be constructed in accordance with the 2016 edition of the Iowa Statewide Urban Specifications for Public Improvements (SUDAS), and as further modified by supplemental specifications and special provisions included in the contract documents, and the Contract Attachment which is attached hereto. The Contractor further agrees to complete the work in strict accordance with said contract documents, and guarantee the work as required by law, for the time required in said contract documents, after its acceptance by the Jurisdiction.

This contract is awarded and executed for completion of the work specified in the contract documents for the bid prices shown on the Contract Attachment: "Bid Items, Quantities and Prices", which were proposed by the Contractor in its proposal submitted in accordance with the Notice to Bidders and Notice of Public Hearing for the following described improvements:

**2016 STREET IMPROVEMENTS**

General Nature of Public Improvement. The work includes all materials, equipment, transportation and labor necessary to complete the improvements. The proposed project includes pavement removal, grading, storm intake replacement, subdrain construction, subgrade preparation, modified subbase, approximately 9,000 square yards of 7-inch PCC paving and 1,870 square yards of 6-inch PCC paving, pavement markings, traffic control, surface restoration, and miscellaneous associated work.

The Contractor agrees to perform said work for and in consideration of the Jurisdiction's payment of the bid \_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_), which amount shall constitute the required amount of the performance, payment, and maintenance bond. The Contractor hereby agrees to commence work under this contract on or before a date to be specified in a written Notice to Proceed by the Jurisdiction. The anticipated date for written Notice to Proceed date is March 9, 2016. Work on the project shall be substantially completed by November 15, 2016. All surface restoration work shall be completed by May 31, 2017. Liquidated damages in the amount of Five Hundred Dollars (\$500.00) will be assessed for each calendar day the work is not substantially complete by November 15, 2016. For this project substantial completion shall include completion and approval by City and Engineer of all roadway pavement, HMA overlay, driveways, sidewalks, backfill, and finish grading.

IN WITNESS WHEREOF, the Parties hereto have executed this instrument, in triplicate on the date first shown written.

JURISDICTION

CONTRACTOR:

By \_\_\_\_\_  
Mayor

\_\_\_\_\_  
Contractor

(Seal)  
ATTEST:

By \_\_\_\_\_  
Signature

\_\_\_\_\_  
City Manager

\_\_\_\_\_  
Title

FORM APPROVED BY:

\_\_\_\_\_  
Attorney for Jurisdiction

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
City, State, Zip Code

\_\_\_\_\_  
Telephone

CONTRACTOR PUBLIC REGISTRATION INFORMATION to be provided by:

1. All Contractors: The Contractor shall enter its Public Registration Number \_ \_ \_ \_ \_ - \_ \_ issued by the Iowa Commissioner of Labor pursuant to Section 91C.5 of the Iowa Code.
2. Out-of-State Contractors:
  - A. Pursuant to Section 91C.7 of the Iowa Code, an out-of-state contractor, before commencing a contract in excess of five thousand dollars in value in Iowa, shall file a bond with the division of labor services of the department of workforce development. The contractor should contact 515-242-5871 for further information. Prior to contract execution, the City Engineer may forward a copy of this contract to the Iowa Department of Workforce Development as notification of pending construction work. It is the contractor's responsibility to comply with said Section 91C.7 before commencing this work.
  - B. Prior to entering into contract, the designated low bidder, if it be a corporation organized under the laws of a state other than Iowa, shall file with the Jurisdictional Engineer a certificate from the Secretary of the State of Iowa showing that it has complied with all the provisions of Chapter 490 of the Code of Iowa, or as amended, governing foreign corporations. For further information, contact the Iowa Secretary of State Office at 515-281-5204.

NOTE: All signatures on this contract must be original signatures in ink; copies or facsimile of any signature will not be accepted.

CORPORATE ACKNOWLEDGMENT

State of \_\_\_\_\_ )  
 ) SS  
\_\_\_\_\_ County)

On this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned, a Notary Public in and for the State of \_\_\_\_\_, personally appeared \_\_\_\_\_ and \_\_\_\_\_, to me known, who, being by me duly sworn, did say that they are the \_\_\_\_\_, and \_\_\_\_\_, respectively, of the corporation executing the foregoing instrument; that (no seal has been procured by) (the seal affixed thereto is the seal of) the corporation; that said instrument was signed (and sealed) on behalf of the corporation by authority of this Board of Directors; that \_\_\_\_\_ and \_\_\_\_\_ acknowledged the execution of the instrument to be the voluntary act and deed of the corporation, by it and by them voluntarily executed.

\_\_\_\_\_  
Notary Public in and for the State of \_\_\_\_\_  
My commission expires \_\_\_\_\_

INDIVIDUAL ACKNOWLEDGEMENT

State of \_\_\_\_\_ )  
 ) SS  
\_\_\_\_\_ County)

On this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned, a Notary Public in and for the State of \_\_\_\_\_, personally appeared \_\_\_\_\_ and \_\_\_\_\_, to me known, who, being by me duly sworn, did say that they are the \_\_\_\_\_, and \_\_\_\_\_, respectively, of the corporation executing the foregoing instrument; that (no seal has been procured by) (the seal affixed thereto is the seal of) the corporation; that said instrument was signed (and sealed) on behalf of the corporation by authority of this Board of Directors; that \_\_\_\_\_ and \_\_\_\_\_ acknowledged the execution of the instrument to be the voluntary act and deed of the corporation, by it and by them voluntarily executed.

\_\_\_\_\_  
Notary Public in and for the State of \_\_\_\_\_  
My commission expires \_\_\_\_\_

(CON'T – CONTRACT)

S&A Project No. 115.0718.01

LIMITED LIABILITY COMPANY ACKNOWLEDGMENT

State of \_\_\_\_\_ )  
 ) SS  
\_\_\_\_\_ County)

On this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned, a Notary Public in and for the State of \_\_\_\_\_, personally appeared \_\_\_\_\_ and \_\_\_\_\_, to me known, who, being by me duly sworn, did say that they are the \_\_\_\_\_, and \_\_\_\_\_, respectively, of the corporation executing the foregoing instrument; that (no seal has been procured by) (the seal affixed thereto is the seal of) the corporation; that said instrument was signed (and sealed) on behalf of the corporation by authority of this Board of Directors; that \_\_\_\_\_ and \_\_\_\_\_ acknowledged the execution of the instrument to be the voluntary act and deed of the corporation, by it and by them voluntarily executed.

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Notary Public in and for the State of \_\_\_\_\_  
My commission expires \_\_\_\_\_

**CONTRACT ATTACHMENT: PART C****BID SCHEDULE**

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| 4    | 2010-108-G-0 | SUBGRADE PREPARATION   | 12960    | SY   | \$         | \$          |
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| 7    | 2010-999-9-9 | EARTH SHOULDER FINISHING   | 47.45    | STA  | \$         | \$          |
| 8    | 2010-108-L-0 | COMPACTION TESTING   | 1        | LS   | \$         | \$          |
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| ITEM | ITEM CODE    | ITEM DESCRIPTION                               | QUANTITY | UNIT | UNIT PRICE | TOTAL PRICE |
|------|--------------|--|----------|------|------------|-------------|
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| 22   | 6010-108-H-0 | REMOVE INTAKE                                  | 12       | EACH | \$         | \$          |
| 23   | 7010-108-A-0 | PAVEMENT, PCC, 6 IN.                           | 1865     | SY   | \$         | \$          |
| 24   | 7010-108-A-0 | PAVEMENT, PCC, 7 IN.                           | 9027     | SY   | \$         | \$          |
| 25   | 7010-108-A-0 | DRIVEWAY, PAVED, PCC, 6 IN.                    | 1173     | SY   | \$         | \$          |
| 26   | 7010-108-I-0 | PCC PAVEMENT SAMPLES AND TESTING               | 1        | LS   | \$         | \$          |
| 27   | 7020-108-A-0 | OVERLAY, HMA (1,000,000 ESAL)                  | 750      | TON  | \$         | \$          |
| 28   | 7020-108-H-0 | HMA PAVEMENT SAMPLES AND TESTING               | 1        | LS   | \$         | \$          |
| 29   | 7030-108-A-0 | REMOVAL OF SIDEWALK                            | 595      | SY   | \$         | \$          |
| 30   | 7030-108-A-0 | REMOVAL OF DRIVEWAY                            | 993      | SY   | \$         | \$          |
| 31   | 7030-108-E-0 | SIDEWALK, PCC, 6 INCHES                        | 554      | SY   | \$         | \$          |
| 32   | 7030-108-G-0 | DETECTABLE WARNINGS                            | 336      | SF   | \$         | \$          |
| 33   | 7040-108-A-0 | FULL-DEPTH PATCHES                             | 1233     | SY   | \$         | \$          |
| 34   | 7040-108-G-0 | MILLING  | 5746     | SY   | \$         | \$          |
| 35   | 7040-108-H-0 | PAVEMENT REMOVAL                               | 11006    | SY   | \$         | \$          |
| 36   | 9010-108-B-0 | HYDRAULIC SEEDING, FERTILIZATION, AND MULCHING | 4        | ACRE | \$         | \$          |
| 37   | 9010-108-E-0 | WARRANTY                                       | 1        | LS   | \$         | \$          |
| 38   | 9040-108-A-2 | SWPPP MANAGEMENT                               | 1        | LS   | \$         | \$          |
| 39   | 9040-108-D-1 | FILTER SOCKS, 6"                               | 775      | LF   | \$         | \$          |
| 40   | 9040-108-D-2 | FILTER SOCKS, REMOVAL                          | 775      | LF   | \$         | \$          |
| 41   | 9040-108-O-1 | STABILIZED CONSTRUCTION ENTRANCE               | 150      | TON  | \$         | \$          |
| 42   | 9040-108-T-1 | INLET PROTECTION DEVICE, WATTLE                | 31       | EACH | \$         | \$          |
| 43   | 9040-108-T-2 | INLET PROTECTION DEVICE, MAINTENANCE           | 31       | EACH | \$         | \$          |
| 44   | 9999-999-9-9 | TRAFFIC CONTROL                                | 1        | LS   | \$         | \$          |
| 45   | 9999-999-9-9 | SAFETY CLOSURE                                 | 30       | EACH | \$         | \$          |
| 46   | 9999-999-9-9 | ADJUSTMENT OF VALVE BOX                        | 6        | EACH | \$         | \$          |
| 47   | 9999-999-9-9 | P.C. CONCRETE PARKING BUMPER                   | 31       | EACH | \$         | \$          |
| 48   | 9999-999-9-9 | CLEANING AND PREPARATION OF BASE               | 0.4      | EACH | \$         | \$          |

| ITEM | ITEM CODE    | ITEM DESCRIPTION  | QUANTITY | UNIT | UNIT PRICE | TOTAL PRICE |
|------|--------------|---|----------|------|------------|-------------|
| 48   | 9999-999-9-9 | CLEANING AND PREPARATION OF BASE                          | 0.4      | MILE | \$         | \$          |
| 49   | 9999-999-9-9 | GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE         | 420      | TON  | \$         | \$          |
| 50   | 9999-999-9-9 | BNSF WORK ON RAILROAD RIGHT-OF-WAY AND FLAGGER PROTECTION | 1        | LS   | \$         | \$          |
| 51   | 9999-999-9-9 | PATCHES BY COUNT  | 13       | EACH | \$         | \$          |
| 52   | 11010-108-A  | CONSTRUCTION SURVEY                                       | 1        | LS   | \$         | \$          |
| 53   | 11020-108-A  | MOBILIZATION  | 1        | LS   | \$         | \$          |
| 54   | 11030-108-B  | PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT BASED    | 25.83    | STA  | \$         | \$          |
| 55   | 11040-108-A  | MAINTENANCE OF POSTAL SERVICE                             | 1        | LS   | \$         | \$          |
| 56   | 11040-108-B  | MAINTENANCE OF SOLID WASTE COLLECTION                     | 1        | LS   | \$         | \$          |
| 57   | 11060-108-A  | CONCRETE WASHOUT  | 1        | LS   | \$         | \$          |

**TOTAL BID:** \$ \_\_\_\_\_ (NUMBERS)

**TOTAL BID:** \_\_\_\_\_ DOLLARS (WORDS)

**NOTE:**

IT IS UNDERSTOOD THAT THE ABOVE QUANTITIES ARE ESTIMATED FOR THE PURPOSE OF THIS BID. ALL QUANTITIES ARE SUBJECT TO REVISION BY THE JURISDICTION. QUANTITY CHANGES THAT AMOUNT TO TWENTY (20) PERCENT OR LESS OF THE TOTAL BID SHALL NOT AFFECT THE UNIT BID PRICE.

**PERFORMANCE, PAYMENT AND MAINTENANCE BOND**

KNOW ALL BY THESE PRESENTS:

That we, \_\_\_\_\_, as Principal (hereinafter the “Contractor” or “Principal”) and \_\_\_\_\_, as Surety are held and firmly bound unto \_\_\_\_\_, as Obligee (hereinafter referred to as “the Jurisdiction”), and to all persons who may be injured by any breach of any of the conditions of this Bond in the penal sum of \_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_), lawful money of the United States, for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, legal representatives and assigns, jointly or severally, firmly by these presents.

The conditions of the above obligations are such that whereas said Contractor entered into a contract with the Jurisdiction, bearing date the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, hereinafter the “Contract” wherein said Contractor undertakes and agrees to construct the following described improvements:

**2016 STREET IMPROVEMENTS**

General Nature of Public Improvement. The work includes all materials, equipment, transportation and labor necessary to complete the improvements. The proposed project includes pavement removal, grading, storm intake replacement, subdrain construction, subgrade preparation, modified subbase, approximately 9,000 square yards of 7-inch PCC paving and 1,870 square yards of 6-inch PCC paving, pavement markings, traffic control, surface restoration, and miscellaneous associated work.

and to faithfully perform all the terms and requirements of said Contract within the time therein specified, in a good and workmanlike manner, and in accordance with the Contract Documents.

It is expressly understood and agreed by the Contractor and Surety in this bond that the following provisions are a part of this Bond and are binding upon said Contractor and Surety, to-wit:

1. **PERFORMANCE:** The Contractor shall well and faithfully observe, perform, fulfill and abide by each and every covenant, condition and part of said Contract and Contract Documents, by reference made a part hereof, for the above referenced improvements, and shall indemnify and save harmless the Jurisdiction from all outlay and expense incurred by the Jurisdiction by reason of the Contractor’s default of failure to perform as required. The Contractor shall also be responsible for the default or failure to perform as required under the Contract and Contract Documents by all its subcontractors, suppliers, agents, or employees furnishing materials or providing labor in the performance of the Contract.
2. **PAYMENT:** The Contractor and the Surety on this Bond are hereby agreed to pay all just claims submitted by persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the performance of the Contract on account of which this Bond is given, including but not limited to claims for all amounts due for labor, materials, lubricants, oil, gasoline, repairs on machinery, equipment and tools, consumed or used by the Contractor or any subcontractor, wherein the same are not satisfied out of the portion of the contract price which the Jurisdiction is required to retain until completion of the improvement, but the Contractor and

(CON'T – PERFORMANCE, PAYMENT AND MAINTENANCE BOND)

Surety shall not be liable to said persons, firms, or corporations unless the claims of said claimants against said portion of the contract price shall have been established as provided by law. The Contractor and Surety hereby bind themselves to the obligations and conditions set forth in Chapter 573, Code of Iowa, which by this reference is made a part hereof as though fully set out herein.

3. MAINTENANCE: The Contractor and the Surety on this Bond hereby agree, at their own expense:
  - A. To remedy any and all defects that may develop in or result from work to be performed under the Contract within the period four (4) years from the date of acceptance of the work under the Contract, by reason of defects in workmanship or materials used in construction of said work;
  - B. To keep all work in continuous good repair; and
  - C. To pay the Jurisdiction's reasonable costs of monitoring and inspection to assure that any defects are remedied, and to repay the Jurisdiction all outlay and expense incurred as a result of Contractor's and Surety's failure to remedy any defect as required by this section.

Contractor's and Surety's agreement herein made extend to defects in workmanship or materials not discovered or known to the Jurisdiction at the time such work was accepted.

4. GENERAL: Every Surety on this Bond shall be deemed and held bound, any contract to the contrary notwithstanding, to the following provisions:
  - A. To consent without notice to any extension of time to the Contractor in which to perform the Contract;
  - B. To consent without notice to any change in the Contract or Contract Documents, which thereby increases the total contract price and the penal sum of this bond, provided that all such changes do not, in the aggregate, involve an increase of more than twenty percent of the total contract price, and that this bond shall then be released as to such excess increase; and
  - C. To consent without notice that this Bond shall remain in full force and effect until the Contract is completed, whether completed within the specified contract period, within an extension thereof, or within a period of time after the contract period has elapsed and the liquidated damage penalty is being charged against the Contractor.

The Contractor and every Surety on the bond shall be deemed and held bound, any contract to the contrary notwithstanding, to the following provisions:

(CON'T – PERFORMANCE, PAYMENT AND MAINTENANCE BOND)

- D. That no provision of this Bond or of any other contract shall be valid which limits to less than five years after the acceptance of the work under the Contract the right to sue on this Bond.
  
- E. That as used herein, the phrase “all outlay and expense” is not to be limited in any way, but shall include the actual and reasonable costs and expenses incurred by the Jurisdiction including interest, benefits and overhead where applicable. Accordingly, “all outlay and expense” would include but not be limited to all contract or employee expense, all equipment usage or rental, materials, testing, outside experts, attorneys fees (including overhead expenses of the Jurisdiction’s staff attorneys), and all costs and expenses of litigation as they are incurred by the Jurisdiction. It is intended the Contractor and Surety will defend and indemnify the Jurisdiction on all claims made against the Jurisdiction on account of Contractor’s failure to perform as required in the Contract and Contract Documents, that all agreements and promises set forth in the Contract and Contract Documents, in approved change orders, and in this Bond will be fulfilled, and that the Jurisdiction will be fully indemnified so that it will be put into the position it would have been in had the Contract been performed in the first instance as required.

In the event the Jurisdiction incurs any “outlay and expense” in defending itself with respect to any claim as to which the Contractor or Surety should have provided the defense, or in the enforcement of the promises given by the Contractor in the Contract, Contract Documents, or approved change orders, or in the enforcement of the promises given by the Contractor and Surety in this Bond, the Contractor and Surety agree that they will make the Jurisdiction whole for all such outlay and expense, provided that the Surety’s obligation under this bond shall not exceed 125% of the penal sum of this bond.

In the event that any actions or proceedings are initiated with respect to this Bond, the parties agree that the venue thereof shall be Polk County, State of Iowa. If legal action is required by the Jurisdiction to enforce the provisions of this Bond or to collect the monetary obligation incurring to the benefit of the Jurisdiction, the Contractor and the Surety agree, jointly and severally, to pay the Jurisdiction all outlay and expense incurred therefore by the Jurisdiction. All rights, powers, and remedies of the Jurisdiction hereunder shall be cumulative and not alternative and shall be in addition to Surety for any amount guaranteed hereunder whether action is brought against the Contractor or whether Contractor is joined in any such action or actions or not.

NOW THEREFORE, the condition of this obligation is such that if said Principal shall faithfully perform all the promises of the Principal, as set forth and provided in the Contract, in the Contract Documents, and in this Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

(CON'T – PERFORMANCE, PAYMENT AND MAINTENANCE BOND)

When a work, term, or phrase is used in this Bond, it shall be interpreted or construed first as defined in this Bond, the Contract, or the Contract Documents; second, if not defined in the Bond, Contract, or Contract Documents, it shall be interpreted or construed as defined in applicable provisions of the Iowa Code; third, if not defined in the Iowa Code, it shall be interpreted or construed according to its generally accepted meaning in the construction industry; and fourth, if it has no generally accepted meaning in the construction industry, it shall be interpreted or construed according to its common or customary usage.

Failure to specify or particularize shall not exclude terms or provisions not mentioned and shall not limit liability hereunder. The Contract and Contract Documents are hereby made a part of this Bond.

(CON'T – PERFORMANCE, PAYMENT AND MAINTENANCE BOND)

Witness our hands, in triplicate, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

Surety Countersigned By:

**PRINCIPAL:**

\_\_\_\_\_  
Signature of Iowa Resident Commission Agent as  
Prescribed by Chapter 515.52-57, Iowa Code.  
(Require only if Attorney-in-Fact is not also an  
Iowa Resident Commission Agent).

\_\_\_\_\_  
Contractor

By: \_\_\_\_\_

Signature

\_\_\_\_\_  
Name of Resident Commission Agent

\_\_\_\_\_  
Title

\_\_\_\_\_  
Company Name

**SURETY:**

\_\_\_\_\_  
Company Address

\_\_\_\_\_  
Surety Company

\_\_\_\_\_  
City, State, Zip Code

By: \_\_\_\_\_

Signature Attorney-in-Fact

\_\_\_\_\_  
Company Telephone Number

\_\_\_\_\_  
Name of Attorney-in-Fact

\_\_\_\_\_  
Company Name

**FORM APPROVED BY:**

\_\_\_\_\_  
Company Address

\_\_\_\_\_  
Attorney for Jurisdiction

\_\_\_\_\_  
City, State, Zip Code

\_\_\_\_\_  
Company Telephone Number

NOTE: All signatures on this performance, payment & maintenance bond must be original signatures in ink; copies or facsimile of any signature will not be accepted. This bond must be sealed with the Surety's raised, embossing seal. The Certificate or Power of Attorney accompanying this bond must be valid on its face and sealed with the Surety's raised, embossing seal.

NOTICE TO PROCEED

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DATE: \_\_\_\_\_  
PROJECT: 2016 STREET  
IMPROVEMENTS  
KNOXVILLE, IOWA  
Project #115.0718.01

You are hereby notified to commence work in accordance with the Contract dated \_\_\_\_\_, 2016, and you are to begin construction work on or before \_\_\_\_\_, and you are to complete the work as follows: storm sewer intakes, grading, roadway, driveway, surface restoration and erosion control shall work on the project shall be substantially completed by November 15, 2016. All surface restoration work shall be completed by May 31, 2017. Liquidated damages in the amount of Five Hundred Dollars (\$500.00) will be assessed for each calendar day the work is not substantially complete by November 15, 2016. For this project substantial completion shall include completion and approval by City and Engineer of all roadway pavement, HMA overlay, driveways, sidewalks, backfill, and finish grading.

Dated this \_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
CITY OF KNOXVILLE  
By \_\_\_\_\_  
Title \_\_\_\_\_ Project Engineer  
Snyder and Associates, Inc.

ACCEPTANCE OF NOTICE

Receipt of the above Notice to Proceed is hereby acknowledged by \_\_\_\_\_ on this the \_\_\_\_\_ day of \_\_\_\_\_, 2016.

By: \_\_\_\_\_

Title: \_\_\_\_\_

# SPECIAL PROVISIONS

## FOR

### PART 1 - GENERAL REQUIREMENTS

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| 5. | CONSTRUCTION FACILITIES            | 12. | MEASUREMENT AND PAYMENT                          |
| 6. | SUBMITTALS                         | 13. | INCIDENTAL CONTRACT ITEMS                        |
| 7. | STANDARDS AND CODES                |     |  |

#### 1. DEFINITION AND INTENT

A. The Technical Specifications that apply to the materials and construction practices for this project are defined as follows:

1. The 2016 edition of the Iowa Statewide Urban Specifications for Public Improvements (SUDAS), except as modified by these Special Provisions to the Technical Specifications.
2. The intent of the Technical Specifications is to describe the construction desired, performance requirements, and standards of materials and construction.

A. Engineer: Snyder & Associates, Inc., 2727 S.W. Snyder Blvd., Ankeny, Iowa 50023; Phone (515) 964-2020.

#### 2. WORK REQUIRED

A. Work under this contract includes all materials, labor, equipment, transportation, traffic control and associated work for the construction of the 2016 Street Improvements as described in the Official Publication.

B. This project consists of one contract for all work described.

C. Schedule and coordinate the construction work to facilitate timely construction of the improvements.

3. SALVAGE OF MATERIALS AND EQUIPMENT

- A. The City of Knoxville retains first right of refusal for retaining any existing materials removed by the contractor during the course of construction.
- B. The Contractor shall carefully remove, in a manner to prevent damage, all materials and equipment specified or indicated to be salvaged. The Contractor shall protect and store items as specified.
- C. Any items damaged in removal, storage, or handling through carelessness or improper procedures shall be replaced by the Contractor in kind with new items.

4. PLANS AND SPECIFICATIONS

- A. The City will furnish 5 sets of plans and specifications to the Contractor after award of the contract. The Contractor shall compensate the City for printing costs for additional copies required.
- B. Provide one complete set of plans and specifications for each foreman and superintendent in charge of each crew on the job.

5. CONSTRUCTION FACILITIES

- A. Provide telephone numbers where Contractor's representative can be reached during work days and on nights and weekends in the event of an emergency.
- B. Provide and maintain suitable sanitary facilities for construction personnel for duration of work; remove upon completion of work.
- C. Do not store construction equipment, employee's vehicles, or materials on streets open to traffic. Location for storage of equipment by Contractors is subject to approval by the City and Engineer.
- D. The Contractor shall provide suitable storage facilities necessary for proper storage of materials and equipment.
- E. Provide fence, barricades, and/or workers to prevent access of unauthorized persons to site where work is in progress and to ensure the safety of the public when allowed on site. No trenches shall be left open over night and during non-working hours.
- F. Provide an access for EMS vehicles and workers at all times to and through the construction site.
- G. Compressed air, sanitary facilities, storage areas, and other services shall be furnished by the Contractor to meet their own requirements and at their own cost.

## 6. SUBMITTALS

- A. Provide construction schedule showing dates of starting and completing various portions of work.
- B. Provide 3 copies plus copies required by Contractor. This information shall be submitted to the Engineer at the preconstruction conference or at least 14 days prior to utilization of the particular item on this project. Submit the following information for Engineer's review:
  - 1. Testing reports as outlined in Sections 8 & 9.
  - 2. Manufacturer's data for materials that are to be permanently incorporated into the project.
  - 3. Details of proposed methods of any special construction required.
  - 4. Submit purchase orders and subcontracts without prices.
  - 5. Such other information as the Engineer may request to ensure compliance with contract documents.
  - 6. Certificate of Insurance to the Engineer which includes the Jurisdiction and Engineer as additional insured.

## 7. STANDARDS AND CODES

- A. Construct improvements with best present day construction practices and equipment.
- B. Conform with and test in accordance with applicable sections of the following standards and codes.
  - 1. American Association of State Highway and Transportation Officials (AASHTO).
  - 2. American Society for Testing and Materials (ASTM).
  - 3. Iowa Department of Transportation Standard Specifications (Iowa DOT).
  - 4. American National Standards Institute (ANSI).
  - 5. American Water Works Association (AWWA).
  - 6. American Welding Society (AWS).

7. Federal Specifications (FS).
8. Iowa Occupational Safety and Health Act of 1972 (IOSHA).
9. Manual of Accident Prevention in Construction by Associated General Contractors of America, Inc. (AGC).
10. SUDAS Standard Specification, 2016 Edition
11. Iowa DOT Standard Specifications, Most Recent Edition
12. Iowa DOT Materials I.M.s, Most Recent Edition
13. Standards and Codes of the State of Iowa and the ordinances of the City of Knoxville, Iowa.
14. Other standards and codes which may be applicable to acceptable standards of the industry for equipment, materials and installation under the contract.

8. MATERIALS TESTS

- A. Material testing is incidental to construction and will be completed by an independent testing laboratory retained by the Contractor and approved by the Engineer. Testing shall meet the requirements of SUDAS.
- B. Coordinate all material testing with the Engineer.
- C. Provide transportation of all samples to the laboratory.
- D. Do not ship materials to the project site until laboratory tests have been furnished showing compliance of materials with specifications.
- E. Provide gradation and materials certifications for all granular materials. Certify that sources of Portland Cement and aggregates are Iowa DOT approved.
- F. Certify that materials and equipment are manufactured with applicable specifications.

9. FIELD TESTS

- A. Field testing is incidental to construction and will be completed by an independent testing laboratory retained by the Contractor and approved by the Engineer. Testing shall meet the requirements of SUDAS.

- B. Coordinate all field testing with the Engineer.
- C. The Contractor is responsible for meeting the specified testing requirements in the SUDAS for construction relating to Divisions 2, 3, 4, 6, 7, and 9 of said specification, if deemed necessary for the completion of the work specified.
1. Trench backfill: Section 3010, Part 2 and Section 3010, Part 3.06 and Special Provisions of these specifications
    - a. Compact trench and structure backfill to not less than 95% of maximum Standard Proctor Density in a street or road right-of-way and under any granular or paved surfaces.
    - b. Compact to not less than 90% maximum Standard Proctor Density in all other areas.
    - c. Compaction requirements remain in effect during cold weather.
- D. If test results do not meet those specified, the Contractor shall make necessary corrections and repeat testing to demonstrate compliance with the specifications. Contractor shall pay all costs for retesting.

#### 10. MEASUREMENT AND PAYMENT

- A. Contract unit or lump sum prices are full compensation for furnishing all materials, equipment, tools, transportation and labor necessary to construct and complete each item of work as specified. No separate payment will be made for work included in this project except as set forth in the bid item reference notes. Refer to Plans for bid item reference notes. All other items of work are incidental to construction.

#### 11. INCIDENTAL CONTRACT ITEMS

- A. The following list includes major items that are incidental to the project and will not be paid for as separate bid items. Other items may be designated as incidental under certain bid items.
- Cold weather protection for PCC Pavement
  - Construction fencing
  - Construction staging & phasing
  - Coordination and cooperation with utility companies
  - Coordination and cooperation with affected property owners
  - Coordination and cooperation with the City of Knoxville
  - Coordination and cooperation with railroad access, personal and scheduling
  - Curb and pavement backfill

- Dewatering and handling storm water flow during construction
- Dust control measures
- Engineering fabric
- Excavation, verification, and protection of existing utilities (public and private)
- Finish grading
- Flaggers
- Granular backfill and bedding for storm sewer installation
- Granular surfacing removal
- Handbill notification of street closures & utility disruption to affected Residents
- Locate of existing utilities, potholing if necessary
- Maintaining garbage and utility service to users
- Maintenance and watering for seeding and sodding
- All material & field testing
- Monitoring weather conditions
- Mowing – to maintain grass height below 18 inches
- Proof rolling
- Protection of existing utilities and light poles
- Protection of existing trees and plantings not removed
- Repair of field tiles, if encountered
- Reseeding and/or resodding
- Safety closures
- Sawcutting
- Site cleanup/surface restoration and seeding
- Temporary sheeting and shoring
- Watering of seeded and sodded areas
- Working backfill to reduce moisture content
- Special care to protect existing features to remain
- Special backfill and compaction around structures

## SPECIAL PROVISIONS

### FOR

#### PART 2 - SPECIAL CONSTRUCTION

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#### 1. GENERAL

- A. Procedures outlined herein are not intended to fully cover all special construction procedures but are offered as an aid to the Contractor in planning work.
- B. Cooperate with the City of Knoxville and the Engineer to minimize inconvenience to property owners and motorists and to prevent delays in construction and interruption to continuous operation of utility services and site access.
- C. Notify City of Knoxville, impacted residents & businesses, police, and fire department at least three (3) days in advance of closing any street or entrance for construction or interruption of water service.
- D. The Contractor is expected to provide adequate personnel and equipment to perform work within specified time of construction.
- E. Install and maintain orange safety fence around all open trenches or open structures when left unattended. No trenches shall be left open during non-working hours and at night.
- F. Provide an access for EMS vehicles during construction. Existing and temporary sidewalks may be used for access of EMS vehicles during construction.
- G. Provide surface restoration and clean up as construction progresses.

## 2. EXISTING UTILITIES

- A. Location of utility lines, mains, cables and appurtenances shown on plans are from information provided by utility companies and records of the Owner.
- B. Prior to construction, contact all utility companies and have all utility lines and services located. The Contractor is responsible for excavating and exposing underground utilities in order to confirm their locations ahead of the work.
- C. Contractor is solely responsible for damage to utilities or private or public property due to utility disruption.
- D. The Contractor shall notify utility company immediately if utility infrastructure is damaged during construction.
- E. In general, utility companies will relocate utility infrastructure in direct conflict with line and grade of the work during construction. Some utility infrastructure will not be relocated and the Contractor shall support and protect all utilities that are not moved.
- F. Utility services are not generally shown on plans; protect and maintain services during construction. Notify Owner and affected property owners 48 hours prior to any planned utility service interruptions.
- G. If utility work does occur during the construction period, work schedules from the contractor and from the utility companies will be submitted to the Engineer for coordination to obtain mutual acceptable schedules, if possible.
- H. Existing utilities shall remain in substantially continuous operation during construction. Select the order and methods of construction that will not interfere with the operation of the utility systems. Interrupt utility services only with approval of Owner and Engineer.
- I. No claims for additional compensation or time extensions will be allowed to the Contractor for interference or delay caused by utility companies.

## 3. PROJECT SUPERVISION

- A. The Prime Contractor shall be represented in person at the construction site at all times that construction operations are proceeding by a qualified superintendent or other designated, qualified representative capable of providing adequate supervision. The superintendent or representative must be duly authorized to receive and execute instructions, notices and written orders from the Engineer.
- B. Issues that arise during construction relating to traffic control, construction staging, resident notifications, mail service, garbage service, access to residences, etc. are the responsibility of the Prime Contractor.

C. A meeting with the Contractor, Engineer and Owner will be held at the project site before construction to coordinate the construction work.

D. Refer to Division 1 – General Provisions and Covenants, Section 1080 – Contractual Provisions, Prosecution and Progress, Section 1.10 Contractor’s Employees, Methods and Equipment for additional requirements.

4. COORDINATION WITH OTHERS

A. Cooperate and coordinate construction with the City of Knoxville, adjacent businesses, utility companies, affected property owners and other contractors working in vicinity of this project.

B. It is the Contractor’s responsibility to schedule and coordinate work to minimize construction delays and conflicts.

5. CONSTRUCTION LIMITS

A. Confine the construction operations within the construction limits shown on the plans, consisting of public right-of way and temporary easements.

B. Do not store equipment, vehicles or materials within the right-of-way of any streets open to traffic at any time without approval of the City.

6. CONSTRUCTION SCHEDULE

A. The Contractor will prepare and submit to the Engineer for approval a project schedule that will assure the completion of the project within the time specified.

B. The Contractor shall be required to meet the final completion date as specified in the written Notice to Proceed.

C. Notify the City and property owners at least 72 hours prior to any street or driveway closures.

7. CONSTRUCTION STAKING

A. Construction Staking will be provided by the Contractor. The Contractor shall be responsible for the preservation of stakes and marks. The costs of replacing damaged stakes and marks will be solely borne by the Contractor.

8. GARBAGE AND RECYCLING COLLECTION

A. If work does or does not takes place on a normal garbage or recycling collection day, coordinate collection of garbage and recycling from individual properties

with the local collection agencies operating in the project areas.

- B. Refer to Plans for other requirements for coordination of garbage and recycling collection.

9. POSTAL SERVICE

- A. Coordinate delivery of mail with U.S. Postal Service. Coordinate temporary mailbox locations with U.S. Postal Service.
- B. Maintain postal service at all times. Provide access to all residences along the project for mail carriers. If access cannot be maintained, provide and install temporary mail boxes at the end of each street or as required by the U.S. Postal Service so that mail delivery is maintained on a daily basis.

10. DISPOSAL

- A. Remove from project site and dispose of trees, shrubs, vegetation, excess soil excavation, rubbish, concrete, granular materials and other materials encountered as shown on plans and as specified.
- B. Dispose of materials in accordance with applicable laws and ordinances. Disposal sites are subject to the review and approval of the Engineer.
  - 1. Burning of brush and other debris is not permitted. Contractor responsible for selecting disposal site.
  - 2. Dispose of broken concrete, asphalt, granular material, rubble, excess or unsuitable excavated material. Contractor is responsible for selecting disposal site.
  - 2. Cooperate with all applicable City, State and Federal agencies concerning disposal of materials.
  - 3. The Owner has the first right to any excess materials from construction.

11. EROSION/POLLUTION PREVENTION PLAN

- A. The Owner will provide the pollution prevention plan and NPDES permit. The contractor is responsible for maintaining the pollution prevention plan and providing weekly inspections.

12. DEWATERING

- A. Perform all construction work in dry conditions.

- B. Submit dewatering methods to the Engineer for review. Obtain the Engineer's approval on methods prior to construction.
- C. Groundwater levels are subject to variation. No additional compensation will be permitted due to high groundwater conditions.
- D. If excavation encounters only cohesive soils with no wet sand seams or layers, it may be possible to control water seepage by draining groundwater to temporary construction sumps and pumping it outside the perimeter of the excavation.
- E. Do not pump water from open excavation in sand and gravel below the natural ground water level.
- F. Maintain water levels 2 feet or more below the bottom of excavations in saturated cohesionless (sand and/or gravel) soils to prevent upward seepage, which could reduce subgrade support.
  - 1. Install dewatering system (well points or shallow wells) when working in cohesionless soils.
  - 2. Costs of installing and operating dewatering system are incidental.
- G. Provide for handling surface water encountered during construction.
  - 1. Prevent surface water from flowing into excavation, remove water as it accumulates.
  - 1. Divert storm sewer flow around areas of construction.
  - 2. Do not use sanitary sewers for the disposal of trench water.
- H. Backfill pipe and structures prior to stopping dewatering operations. Do not lay pipe or construct concrete structures on excessively wet soils.
- I. The costs of handling both surface water and groundwater are incidental.

13. TRAFFIC CONTROL

- A. Furnish, erect and maintain traffic control devices as specified in the construction drawings and directed by the Engineer including signs, barrels, cones, and barricades to direct traffic and separate traffic from work areas.
- B. Provide traffic control devices in accordance with the Iowa DOT Standard Specification, Section 2528, Traffic Control, and the latest edition of the Manual on Uniform Traffic control Devices (MUTCD).

- C. Adjustments to the traffic control or the addition of flaggers will be required if, in the opinion of the Engineer, undue traffic congestion occurs.
- B. Provide continuous access for police, fire, and other emergency vehicles.
- C. Do not store construction equipment or materials on street open to traffic.
- D. Contractor shall check traffic control devices daily. Repair or replace damaged traffic control devices promptly.

#### 14. REMOVALS

- A. Pavement Removal
  - 1. Includes existing street, driveway, sidewalk and curb & gutter concrete as shown in the construction drawings. Includes temporary street and temporary sidewalk.
  - 2. Full-depth saw-cut the concrete at the removal limits is considered incidental.
- B. Miscellaneous Removals
  - 1. Do not remove any items within the street right-of-way that are not specifically marked for removal on the construction drawings.

#### 15. TEMPORARY FENCES

- A. Install temporary fencing around open excavations or material storage areas and as directed by Engineer to prevent access of unauthorized persons to construction areas.
- B. Provide orange plastic mesh safety fence with a nominal height of 48". Support fence securely on driven posts in vertical position without sagging.
  - 1. Materials: Iowa DOT Section 4188.03.
  - 2. Use unless required otherwise.
- C. Temporary fencing installed around open excavations or material storage areas is incidental to construction and will not be measured for payment.
- D. Remove temporary fencing upon completion of construction.

#### 16. RESPONSIBILITY OF CONTRACTOR

- A. Supervision of the work.
- B. Protection of all property from injury or loss resulting from construction operations.
- C. Replace or repair objects sustaining any such damage, injury or loss to satisfaction of Owner and Engineer.
- D. Cooperate with Owner, Engineer, and representatives of utilities in locating underground utility lines and structures. Incorrect, inaccurate or inadequate information concerning location of utilities or structures shall not relieve the Contractor of responsibility for damage thereto caused by construction operations.
- E. Keep cleanup current with construction operations.
- F. Comply with all Federal, State of Iowa, and City of Knoxville, Iowa laws and ordinances.

17. CONCRETE PAVEMENT (PCC)

- A. Comply with IOWA URBAN STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, Sections 7010 and 7030, except as modified herein.
- B. Coarse Aggregate: USE CLASS 2 DURABILITY LIMESTONE, Iowa DOT, SECTION 4115.04.
- C. Mix Design: Iowa DOT C-4 mix shall be used for all concrete as specified on the construction drawings.
- D. Restore core holes by tamping non-shrink cement grout into hole; finish and texture surface.
- E. The use of maturity testing as per Iowa DOT IM 383 will be allowed with a minimum of one set of cylinders made each day to verify compressive strength.
- F. Each truck load of concrete must be identified by an acceptable plant charge ticket showing plant name, contractor, project name, date, quantity, class, and time batched.
- G. Provide cold weather protection as specified in the Contract Documents. Costs associated with cold weather protection shall be considered incidental.
- H. Special care should be taken when forming at intersections so that the profiles and elevations shown on the cross sections, plan and profile, and intersection detail sheets are obtained. Short lengths of forms or flexible forms may be necessary at these locations.

- I. Maturity testing shall be utilized to expedite street opening.

18. EXCAVATION AND BACKFILL

- A. Comply with IOWA URBAN STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, Sections 2010, 3010, and 3020, except as modified herein.
- B. Excavate all materials encountered to depth indicated or specified; comply with safety rules of the state and federal governments.
- C. Pile excavated material suitable for backfill in an orderly manner sufficient distance back from edge of excavation to avoid slides or cave-ins; 2' minimum clear distance.
- D. Remove excavated material not suitable for backfill; waste at disposal area approved by Engineer; removal is incidental to construction.
- E. Where new work crosses existing utilities or utility services, excavate in advance of pipe laying; determine crossing arrangement including exact construction line and grade.
- F. Storm Sewer: Type R-2 pipe embedment per SUDAS detail 3010.102 is required for all RCP storm sewer pipes within roadway right-of-way, including pipes beneath pavement.
- G. Sanitary Sewer: Type F-3 pipe embedment per SUDAS detail 3010.103 is required for all sanitary sewers.
- I. Compact backfill with pneumatic or mechanical tampers adjacent to or within 12" over pipe. Rollers or vibrating plate compactors may be used after sufficient backfill has been placed to assure that such equipment will not damage or disturb the pipe.

19. SANITARY SEWERS AND STRUCTURES

- A. Comply with IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS, Section 4010 and Division 6, except as modified herein.
- B. The pipe material used for the sanitary sewers shall be Solid Wall PVC in locations shown on the plans.
  - 1. The pipe materials must conform to the material requirements stipulated as follows:
    - 1. Solid Wall PVC: As per Section 4010, 2.01A.

2. Provide bedding for the sanitary sewers and as detailed on the plans.

## 20. STORM SEWERS AND STRUCTURES

- A. Comply with IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS, Section 4020 and Division 6, except as modified herein.
- B. Subdrain: corrugated pipe; corrugated exterior, smooth interior, corrugated PVC or corrugated PE as per Section 4040, 2.02. Subdrain pipe shall be slotted.
- C. Backfill with porous backfill or subdrain and granular material for pipe bedding.
- D. The pipe material used for the storm sewers shall be RCP in locations shown on the plans.
  1. The pipe materials must conform to the material requirements stipulated as follows:
    1. Reinforced Concrete Pipe (RCP): As per Section 4020, 2.01A.
    2. Reinforced Concrete Arch Pipe (RCAP): As per Section 4020, 2.01B.
    3. Bituminous Jointing Material: As per Section 4020, 2.01L.
    4. Bituminous Joint Primer: As per Section 4020, 2.01M.
    5. Reinforced Concrete Flared End Section: As per Section 4030, 2.02.
    6. Apron Guards: As per Section 4030, 2.04.
  2. Provide bedding for the storm sewers and as detailed on the plans.
- E. Intake grates: All roadway intake grates shall be Type "R" (vaned). All SW-512 intake castings shall be Type 3B, unless otherwise noted.
- F. Special compaction around structures shall be performed to minimize settling.

## 21. FIXTURE ADJUSTMENTS

- A. Adjust existing manholes as indicated on the construction drawings to finished grade in accordance with the SUDAS. Adjustments include providing new castings, adjusting rings, and installing a chimney seal.

- B. Adjust existing valve boxes as indicated in the construction drawings to finished grade in accordance with the SUDAS. Utilize the existing valve boxes, or install new valve boxes provided by the Knoxville Water Works. This work is incidental to construction.
- C. Locate the existing water curb stop boxes for the residences along the proposed construction and adjust to finished grade as necessary. This work is incidental to construction.

## 22. SURFACE RESTORATION

- A. Finish grade all disturbed areas to smooth, uniform lines without large clods, lumps, or debris. Remove all debris. Remove all rocks and provide grade for positive drainage.
- B. Prepare the finished surface for seeding. Provide and place additional clean topsoil on any disturbed areas that, in the opinion of the Engineer, are lacking in natural topsoil. Provide organic material that is free of vegetation, rubble or other debris.
- C. All areas to be seeded shall be prepared, fertilized, seeded, mulched, staked, watered, maintained, and warranted in accordance with SUDAS Section 9010.
- D. Any areas disturbed by construction that are outside of the construction limits shall be repaired and restored at the Contractor's expense. No extra payment will be allowed for surface restoration on these areas.
- E. Install silt fences at the locations directed by the Engineer during construction and any locations needed to prevent soil erosion.
- J. Seeding work completed after the specified seeding dates in SUDAS Section 9010, Part 2.02 shall be at the risk of the contractor to maintain.

**SPECIAL PROVISIONS  
FOR  
WORK ON RAILROAD RIGHT-OF-WAY (BNSF RAILWAY)**

**1.01 General**

**1.01.01** The Contractor shall cooperate with the BNSF Railway Company, hereinafter referred to as "Railroad" where work is over, under, on, or adjacent to Railroad property, and/or right-of-way, hereafter referred to as Railroad property, during the work which shall not interfere with the movement of trains on Railroad property.

**1.01.02** The Contractor's right to enter Railroad's property is subject to the absolute right of the Railroad to cause the Contractor's work on Railroad's property to cease if, in the opinion of Railroad, Contractor's activities create a hazard to Railroad's property, employees, and/or operations.

**1.01.03** The Contractor shall notify the Engineer and also the Railroad's Manager Public Projects, Calvin Nutt, BNSF Railway Company, 80-44<sup>th</sup> Avenue NE, Minneapolis, MN 55421, telephone number: 763.782.3495; at least 10 calendar days before commencing work over, under, on, or adjacent to Railroad property. Contractor's notification to Railroad shall refer to Railroad's file numbers.

**1.01.04** Falsework above tracks or excavations located, whichever is greater, within 25 feet of the nearest track or intersecting a slope from the plane of the top of rail on a 1.5 horizontal to 1 vertical slope beginning 11 feet from centerline of the nearest track, both measured perpendicular to center line of track, the Contractor shall furnish the Railroad five sets of working drawings showing details of construction affecting railroad tracks and property. The working drawings shall include the proposed method of installation and removal of falsework, shoring, or cribbing, not included in the contract plans and two sets of structural calculations of any, falsework, shoring, or cribbing. All calculations shall take into consideration railroad surcharge loading and shall be designed to meet American Railway Engineering and Maintenance-of-Way Association Coopers E-80 live loading standard. All drawings and calculations shall be stamped by a registered Professional Engineer licensed in the state of Iowa. The Contractor shall not begin work until notified by the Railroad that plans have been approved. The

Contractor shall use lifting devices such as, cranes and/or winches to place or to remove falsework over Railroad's tracks. The Contractor will not be relieved of responsibility for results obtained by the implementation of said approved plans.

**1.01.05** The Railroad will cooperate with the Contractor such that the work may be handled and performed in an efficient manner.

## **1.02 Railroad Requirements**

**1.02.01** The Contractor shall comply with the rules and regulations of Railroad and the instructions of the Railroad's representatives in relation to the proper manner of protecting the tracks and property of Railroad and the traffic moving on such tracks, as well as the wires, signals, and other property of Railroad, its tenants or licensees, at and in the vicinity of the work area during construction.

**1.02.02** The Contractor shall perform work in such manner and at such times that shall not endanger, delay, or interfere with the safe and timely operation of the tracks and property of Railroad and the traffic moving on such tracks, as well as the wires, signals, and other property of Railroad, its tenants, or licensees.

**1.02.03** The Contractor shall take protective measures as are necessary to keep railroad facilities, including track ballast, free of sand, debris, and other foreign objects and materials resulting from the construction operations. Any damage to Railroad facilities resulting from Contractor's operations will be repaired or replaced by Railroad and the cost of such repairs or replacement shall be paid by the Contractor.

**1.02.04** The Contractor shall notify the Railroad's Division Superintendent at Lincoln, NE, (telephone number: 402.458.7500), and provide blasting plans to the Railroad for review a minimum of 7 calendar days prior to conducting blasting operations adjacent to or on Railroad's property.

**1.02.05** The Contractor shall abide by the following clearances during the course of construction:

- 25.0 feet horizontally from centerline of nearest track,
- 22.5 feet vertically above top of rail (Temporary Falsework Clearance may be reduced to 21.5 feet subject to Railroad and Public Utilities Commission approval),
- 27.0 feet vertically above top of rail for electric wires carrying less than 750 V,
- 28.0 feet vertically above top of rail for electric wires carrying 750 V to 15 kV,
- 30.0 feet vertically above top of rail for electric wires carrying 15 kV to 20 kV, and
- 34.0 feet vertically above top of rail for electric wires carrying more than 20 kV.

**1.02.06** Any desired infringement within clearances due to the Contractor's operations shall be submitted to the Railroad and Engineer and shall not be undertaken until approved in writing by the Railroad and Engineer. No extra compensation will be allowed in the event the Contractor's work is delayed pending approval.

**1.02.07** In the case of impaired vertical clearance above top of rail, Railroad will have the option of installing tell-tales or other protective devices Railroad deems necessary for protection of Railroad employees or rail traffic. The cost of tell-tales or protective devices shall be borne by the Contractor.

**1.02.08** The details of construction affecting the Railroad's tracks and property not included in the contract plans shall be submitted to the Railroad by the Engineer for approval before work is undertaken and this work shall not be undertaken until approved by the Railroad.

**1.02.09** At other than public road crossings, the Contractor shall not move equipment or materials across Railroad's tracks until permission has been obtained from Railroad. Contractor shall obtain a temporary private crossing agreement from Railroad prior to moving equipment or materials across Railroad's tracks. Temporary private crossing shall be gated and locked at all times when not required

for use by the Contractor. Temporary private crossing for use of the Contractor shall be at the expense of the Contractor.

**1.02.10** The Contractor, upon completion of the work, shall promptly remove from the premises of Railroad all of Contractor's tools, implements, and other materials, whether brought upon said premises by said Contractor or any subcontractor, employee, or agent of Contractor or of any subcontractor, and shall cause said premises to be left in a condition acceptable to the Railroad's representative.

### **1.03 Protection of Railroad Facilities and Railroad Flagger Services**

The Railroad shall have the right to provide, at the expense of the Contractor, a flagman or flagmen or other protective services at any time during construction of that portion of the project on or near Railroad right-of-way when, in the opinion of the Railroad, it is necessary as a matter of protection and safety to track and train operations.

**1.03.01** The Contractor shall give a minimum of 30 working days notice to the Railroad's Roadmaster, Jerrod Chapple (telephone number: 402.422.5249), in advance of when flagging services will be required.

**1.03.02** Railroad flagger and protective services and devices will be required and furnished when Contractor's work activities are located over, under, or within 25 feet measured horizontally from center line of the nearest track, and when cranes or similar equipment are positioned outside of 25 feet measured horizontally from the track center line that could foul the track in the event of tip over or other catastrophic occurrence, but not limited thereto, for the following conditions:

**1.03.02a** When in the opinion of the Railroad's Representative it is necessary to safeguard Railroad's employees, trains, engines, facilities, and property.

**1.03.02b** When any excavation is performed below the bottom of tie elevation, if, in the opinion of Railroad's representative, track or other Railroad facilities may be subject to movement or settlement.

**1.03.02c** When work, in any way interferes with the safe operation of trains at timetable speeds.

**1.03.02d** When any hazard is presented to Railroad track, communications, signal, electrical, or other facilities either due to persons, material, equipment, or blasting in the vicinity.

**1.03.02e** Special permission shall be requested from the Railroad before moving heavy or cumbersome objects or equipment which might result in making the track impassable.

**1.03.03** Flagging services will be performed by qualified railroad flaggers. The cost per day for one flagger is approximately \$800.00, which includes vacation allowance, paid holidays, Railroad and Unemployment Insurance, Public Liability and Property Damage Insurance, Health and Welfare Benefits, transportation, meals, lodging, and supervision, for an eight-hour basic day, with time and one-half or double time for overtime, rest days, and holidays. These rates are subject to increases which may result from Railroad Employees-Railroad Management negotiations or which may be authorized by Federal authorities. The Contractor will be billed on actual costs in effect at the time the work is performed.

**1.03.03a** Flagging crew generally consists of one employee. Additional personnel may be required to protect Railroad operations and property, if deemed necessary by the Railroad's Representative.

**1.03.03b** Each time a flagger is called the minimum period for billing will be the eight-hour basic day.

**1.03.03c** The cost of flagger services provided by the Railroad, as deemed necessary by the Railroad's representative, shall be borne by the Contractor.

**1.03.03d** Final payment to the Contractor will not be made by the Engineer until all flagging or other protective services and/or temporary grade crossing expenses have been billed and paid to the Railroad. Contractor shall provide to the Engineer monthly copies of invoices and evidence of payment to the Railroad.

**1.03.04** Railroad will notify the Engineer and Contractor when non-compliance is reported by Railroad train crews or other Railroad employees. Contractor work performed without proper flagging services, when such flagging is required, will be subject to a \$5,000.00 per day price adjustment to Contractor, and may result in the removal of Contractor by Railroad or Engineer from the project.

#### **1.04 Contractor General Safety Requirements**

**1.04.01** Safety is of the utmost importance in performing work on the Railroad's property. The Railroad does not assume the control or responsibility of the Contractor to provide safe working conditions for the Contractor or subcontractors in requiring the Contractor to follow the Railroad's General Safety Requirements.

**1.04.02** Work in the proximity of a railroad track is potentially dangerous. The Contractor, subcontractors, and invitees are governed by the following Safety Rules and General Safety Requirements while on Railroad property. The Contractor is responsible for enforcement of these Safety Rules and Requirements. The Railroad has the right to bar the Contractor, subcontractors, and invitees from working on Railroad property if the Railroad deems such persons are acting in an unsafe manner. If at any time the Engineer or Railroad are of the opinion that work of the Contractor is being or is about to be done or prosecuted without due regard and precaution for safety and security, the Engineer may suspend work until proper protective measures are adopted and provided.

**1.04.03** Before beginning any task on Railroad property, a complete job safety briefing shall be conducted with all individuals involved with the task, and again if the task changes. If the task is within 25 feet of any track, the job briefing shall include the Railroad's flagger and include the procedures the Contractor will use to protect its employees, subcontractors, agents, or invitees from moving any equipment adjacent to or across any railroad tracks.

**1.04.04** The Contractor shall ensure that prior to any employee entering Railroad property they have completed the safety orientation found on the following website: [www.contractororientation.com](http://www.contractororientation.com). This course shall be completed annually for contracts exceeding one year.

**1.04.04a** Employees of the Contractor, subcontractors, agents, and invitees shall receive Safety Orientation from the Contractor's Safety Officer or a qualified Railroad representative prior to the start of any work. The Contractor's Safety Officer shall review the safety guidelines contained below to familiarize their employees with safety issues that exist when working in a railroad environment. This should be reviewed at least weekly, and with any new employee working on Railroad property. It is the responsibility of the Contractor's Supervisor and/or Safety Officer to instruct their employees on the Railroad's Safety guidelines and to require compliance with these guidelines.

**1.04.05** Safety rules cannot be all-inclusive. Workers shall refrain from unsafe and improper practices, including the violation and/or disregard of written rules and regulations, and rules of common sense.

**1.04.05a** The use of alcoholic beverages, intoxicants, narcotics, marijuana, and other controlled substances by employees subject to duty or their possession or use while on duty or on Railroad's property is prohibited. Workers shall not report for duty under the influence of any alcoholic beverage, intoxicant, narcotic, marijuana, or other controlled substance, or medication, including

those prescribed by a doctor, that may in any way adversely affect their alertness, coordination, reaction, response, or safety.

**1.04.05b** Damage to Railroad property, or if a hazard is noticed on passing trains, shall be reported immediately to the Railroad's representative. A vehicle or machine which may come in contact with a track, signal equipment, or structure (bridge) could result in a train derailment and shall be reported by the quickest means possible to the Railroad representative and to the Railroad's Network Operations Center at (telephone number: 800.832.5452). Local emergency numbers shall be obtained from the Railroad representative prior to the start of any work and shall be posted at the job site.

**1.04.05c** All persons are prohibited from having firearms or other deadly weapons, including knives with a blade in excess of three inches, in their possession while working on Railroad's property, except those authorized to have them in the performance of their duties or those given special permission.

**1.04.05d** When working on Railroad's property, the Contractor's employees shall wear eye protection meeting ANSI 287.1, however additional eye protection shall be provided to meet specific job situations such as welding, grinding, burning, etc.; hearing protection which affords enough attenuation to give protection from noise levels that will be occurring on the job site; protective headgear meeting ANSI 289.1; and above-the-ankle, lace-up, hardened toe safety boots with a defined heel, all approved by OSHA. Only waist length shirts with sleeves and trousers covering the entire leg shall be worn. Flare-legged trouser bottoms shall be tied to prevent catching.

High visibility retroreflective orange vests are required in certain locations as specified by the Railroad's representative. Particular attention to footing and the use of proper footwear is essential when working in snow or other slippery conditions. Hearing protection, fall protection, and respirators shall be worn as required by State and Federal regulations.

**1.04.05e** Workers shall not work nearer than 25 feet to the centerline of any track without proper flag/work protection provided by the Railroad, unless the track is protected by track bulletin and work has been authorized by the Railroad. If flag/work protection is provided, every employee shall know: (1) who the Railroad flagger is, and how to contact the flagger, (2) limits of the flag/work protection, (3) the method of communication to stop and resume work, and (4) entry into flag/work limits when designated. Workers or equipment entering flag/work limits that were not previously job briefed shall notify the flagger immediately, and be given a job briefing if working at less than 25 feet from center line of track.

**1.04.05f** Contractor shall not pile or store any materials, or equipment closer than 25 feet to the centerline of the nearest Railroad track.

**1.04.05g** Machines or vehicles shall not be left unattended with the engine running. Parked machines or equipment shall be in gear with brakes set and if equipped with blade, pan, or bucket, they shall be lowered to the ground. All machinery and equipment left unattended on Railroad right-of-way shall be left inoperable and secured against movement. Heavy equipment operating within Railroad right-of-way shall be equipped with audible back-up warning devices. If in the opinion of the Railroad the Contractor's equipment is unsafe for use on Railroad right-of-way, Contractor shall remove such equipment from Railroad right-of-way.

**1.04.05h** Machinery or equipment shall not be stored or left temporarily near a highway/rail at-grade crossing in a manner to interfere with the sight distances of motorists approaching the crossing. Prior to beginning work, the Contractor shall establish a storage area with concurrence of the Railroad's representative.

**1.04.05i** Contaminates shall not be discharged on Railroad property. Should any discharge occur, the Contractor shall report by the quickest means possible to the Railroad's representative. (This includes oils, diesel fuel, gasoline, etc.).

**1.04.05j** Workers shall not create and leave any conditions at the work site that would interfere with water drainage.

**1.04.05k** Safeguards and safety signs shall be kept in place and in good condition. It is the responsibility of the Contractor to provide same.

**1.04.05l** Before excavating, it shall be ascertained by the Contractor if there are any underground pipe lines, electric wires, or cables, including fiber optic cable systems that either cross or run parallel with the track which are located within the project's work area. Excavating on right-of-way could result in damage to buried cables resulting in delay to railroad traffic, including disruption of service to users resulting in business interruptions involving loss of revenue and profits. Before any excavation commences, the Contractor shall provide written notification to the Railroad's Signal Supervisor and Roadmaster at least 10 working days. Underground and overhead wires shall be considered high voltage and dangerous until verified with the company having ownership of the line. The Contractor shall notify any other companies that have underground utilities in the area and arrange for the location of all underground utilities before excavating.

**1.04.05m** The Contractor shall cease work and the Railroad shall be notified immediately before continuing excavation in the area if obstructions are encountered that do not appear on drawings. If the obstruction is a utility, and the owner of the utility can be identified, then the owner should also be notified immediately. If there is any doubt about the location of underground cables or lines of any kind, no work shall be performed until the exact location has been determined. There will be no exceptions to these instructions.

**1.04.05n** Excavations, regardless of depth shall be shored where there is any danger to tracks, structures, or employees.

**1.04.05o** Excavations, holes, or trenches on the Railroad's property shall be covered, guarded, and/or protected when not being worked on. When leaving work site areas at night and over weekends, the areas shall be secured and left in a condition that will ensure that railroad employees who might be working in the area are protected from all hazards. All excavations shall be back filled as soon as possible.

**1.04.05p** All power line wires shall be considered dangerous and of high voltage unless informed to the contrary by proper authority. For lines rated 50 kV or below, minimum clearance between the lines and any part of the equipment or load shall be 10 feet. For lines rated over 50 kV, minimum clearance between the line and any part of equipment or load shall be 10 feet plus 0.4 inches for each 1 kV over 50 kV. If the capacity of the line is not known, minimum clearance of 20 feet shall be maintained. The Contractor shall designate a person to observe clearance of the equipment and give a timely warning for all operations where it is difficult for an operator to maintain the desired clearance by visual means.

**1.04.05q** When Contractor employees are required to work on the Railroad property after normal working hours or on weekends, the Railroad's representative shall be notified. A minimum of two employees shall be present at all times.

**1.04.05r** In all cases of doubt or uncertainty, the safest course shall be taken.

## **1.05 Personal Injury Reporting**

**1.05.01** The Railroad is required to report certain injuries as a part of compliance with Federal reporting requirements. Any personal injury sustained by an employee of the Contractor,

subcontractor, or invitees while on the Railroad's property shall be reported immediately (by phone, mail if unable to contact in person) to the Railroad's representative. The Injury Report Form contained herein shall be completed and sent by Fax to the Railroad (fax number: 817.352.7595), no later than the close of shift on the date of the injury.

#### **1.06 Indemnification.**

As used in this section, Railroad includes other railroad companies using the Railroad's property at or near the location of the Contractor's work and their officers, agents, and employees; "Loss" includes loss, damage, claims, demands, actions, causes of action, penalties, costs, and expenses of whatsoever nature, including court costs and attorneys' fees, which may result from the following:

- Injury to or death of persons whomsoever (including the Railroad's officers, agents, and employees, the Contractor's officers, agents, and employees, as well as any other person); and
- Damage to or loss or destruction of property whatsoever (including Contractor property, damage to the roadbed, tracks, equipment, or other property of the Railroad, or property in its care or custody)

**1.06.01** To the fullest extent permitted by law, the Contractor shall release, indemnify, defend, and hold harmless the Railroad and its affiliated companies, partners, successors, assigns, legal representatives, officers, directors, shareholders, employees and agents (collectively, "indemnitees") for, from and against any and all claims, liabilities, fines, penalties, costs, damages, losses, liens, causes of action, suits, demands, judgments and expenses (including, without limitation, court costs, attorneys' fees and costs of investigation, removal and remediation and governmental oversight costs) environmental or otherwise (collectively, "liabilities") of any nature, kind or description of any person or entity directly or indirectly arising out of, resulting from or related to (in whole or in part):

- (a) this specification, including, without limitation, its environmental provisions,
- (b) any rights or interests granted pursuant to this specification,
- (c) occupation and use of the premises by the Contractors, or anyone directly or indirectly employed by them, or anyone they control or exercise control over,
- (d) the environmental condition and status of the premises caused by or contributed to by the Contractor, or
- (e) any act or omission of the Contractor.

Even if such liabilities arise from or are attributed to, in whole or in part, any negligence of any indemnitee. The only liabilities with respect to which the Contractor's obligation to indemnify the indemnitees does not apply are liabilities to the extent proximately caused by the gross negligence, or willful misconduct of an indemnitee.

**1.06.02** The Contractor shall now and forever waive any and all claims, regardless whether based on strict liability, negligence or otherwise, that the Railroad is an "owner", "operator", "arranger", or "transporter" with respect to the improvements for the purposes of CERCLA or other environmental laws.

**1.06.03** The Contractor shall to the fullest extent permitted by law indemnify and hold harmless the indemnitees against and assume the defense of any liabilities asserted against or suffered by any indemnitee under or related to the Federal Employers' Liability Act (FELA) whenever employees of grantee or any of its agents, invitees, contractors claim or allege that they are employees of any indemnitee or otherwise. This indemnity shall also extend, on the same basis, to FELA claims based on actual or alleged violations of any federal, state or local laws or regulations, including but not limited to the safety appliance act, the boiler inspection act, the occupational health and safety act, the resource conservation and recovery act, and any similar state or federal statute.

### **1.07 Insurance Form and Submittal**

Before the contract is awarded, Contractor shall submit to the Department a certificate of insurance evidencing the coverage. The certificate shall identify the insurance company firm name and address, Contractor firm name, policy period, type of policy, limits of coverage, and scope of work covered (including project number). Policies shall provide no less than 30 calendar days prior written notice to Contracting Authority and Railroad of cancellation or material change in policies. Following award of the Contract, the Contractor shall submit a certificate of insurance evidencing the foregoing coverage to the Railroad and Contracting Authority (if other than the Department), and a certified, true, and complete copy of policy or policies to the Contracting Authority and Railroad. Upon request from either the Contracting Authority or Railroad, a certified duplicate original of any required certificate or policy shall be furnished at no cost to the Contracting Authority or Railroad. The Contractor shall not begin work upon or over Railroad's ROW until the Railroad has notified the Engineer that such insurance provisions are in accordance with the contract documents. The insurance shall be kept in full force and effect during the performance of work and thereafter until the Contractor removes all tools, equipment, and material from Railroad's property and cleans the premises in a manner reasonably satisfactory to Railroad.

**1.07.01** The Contractor shall procure and maintain, from beginning to end of construction work on or about Railroad property, the following insurance coverage types and limits:

#### **1.07.01a Railroad Protective Insurance**

The Contractor shall provide for and on behalf of the Railroad, Railroad Protective Insurance as stated in the Code of Federal Regulations, Title 23, Part 646, and any revisions thereto issued by the Federal Highway Administration for damages due to bodily injury or death of persons, and injury to or destruction of property resulting from the operations of the Contractor, subcontractors, or their agents, officers, or employees on this project.

Railroad Protective Liability Insurance is required if there is any construction or demolition activities. This insurance shall name only the Railway as the Insured with coverage of at least \$5,000,000 per occurrence and \$10,000,000 in the aggregate. The policy shall be issued on a standard ISO form CG 00 35 10 93 and include the following:

- ◆ Endorsed to include the Pollution Exclusion Amendment (ISO form CG 28 31 10 93) and on ISO form CG 28 31 10 93.
- ◆ Endorsed to include the Limited Seepage and Pollution Endorsement.
- ◆ Endorsed to include Evacuation Expense Coverage Endorsement.
- ◆ No other endorsements restricting coverage may be added.
- ◆ The original policy shall be provided to the Engineer and Railway prior to performing work.

If available and in lieu of providing a Railroad Protective Liability Policy, the Contractor may participate in the Railroad's Blanket Railroad Protective Liability Insurance Policy available to the Contractor. The limits of coverage are the same as above.

#### **1.07.01b Commercial General Liability Insurance**

This insurance shall contain broad form contractual liability with a combined single limit of a minimum of \$5,000,000 each occurrence and an aggregate limit of at least \$10,000,000. Coverage shall be purchased on ISO occurrence form CG 00 01 12 04 or a substitute form providing equivalent coverage. This policy shall also contain the following endorsements, which shall be indicated on the certificate of insurance:

- ◆ Contractual Liability Railroads ISO Form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "BNSF Railway Property" as the designated job site.
- ◆ Designated Construction Project(s) General Aggregate Limit ISO Form CG 25 03 03 97 (or a substitute form providing equivalent coverage) showing the project on the form schedule.

#### **1.07.01c Business Automobile Insurance**

This insurance shall be written on ISO Form CA 00 01 (or a substitute form providing equivalent

coverage) and shall contain a combined single limit of at least \$5,000,000 per occurrence. The policy shall contain the following endorsements, which shall be stated on the certificate of insurance:

- ◆ Coverage for Certain Operations in Connection with Railroads ISO Form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing “BNSF Railway Property” as the designated job site
- ◆ Motor Carrier Act Endorsement-Hazardous materials clean up (MCS-90), if required by law

#### **1.07.01d Workers Compensation and Employers Liability Insurance**

Workers Compensation and Employers Liability insurance including coverage for, but not limited to:

- ◆ Contractor’s statutory liability under the worker’s compensation laws of the state(s) in which the work is to be performed. If optional under State law, the insurance shall cover all employees anyway.
- ◆ Employers’ Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 by disease policy limit, \$500,000 by disease each employee.

#### **1.07.01e Umbrella or Excess Insurance**

If the Contractor utilizes umbrella or excess policies, these policies shall “follow form” and afford no less coverage than the primary policy.

#### **1.07.01f Other Requirements**

Where allowable by law, all policies (applying to coverage listed above) shall contain no exclusion for punitive damages and certificates of insurance shall reflect that no exclusion exists.

Any insurance policy shall be written by a reputable insurance company acceptable to Railroad or with a current Best’s Guide Rating of A- and Class VII or better, and authorized to do business in the State of Iowa. If any portion of the operation is to be subcontracted by Contractor, Contractor shall require that the subcontractor shall provide and maintain insurance coverage as set forth herein, naming Railroad as an additional insured, and shall require that the subcontractor shall release, defend and indemnify Railroad to the same extent and under the same terms and conditions as Contractor is required to release, defend and indemnify Railroad herein. Failure to provide evidence as required by this section shall entitle, but not require, Railroad to remove contractor from or deny entry of Contractor to Railroad property immediately. Acceptance of a certificate that does not comply with this section shall not operate as a waiver of Contractor’s obligations hereunder. The fact that insurance (including, without limitation, self-insurance) is obtained by Contractor shall not be deemed to release or diminish the liability of Contractor including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad shall not be limited by the amount of the required insurance coverage.

Contractor agrees to waive its right of recovery against Railroad for all claims and suits against Railroad except in those instances of gross negligence or intentional misconduct. In addition, its insurers, through policy endorsement, to waive their right of subrogation against Railroad for all claims and suits. The certificate of insurance shall reflect waiver of subrogation endorsement. Contractor shall waive its right of recovery, and its insurers also waive their right of subrogation against Railroad for loss of its owned or leased property or property under its care, custody, or control. Contractor’s insurance policies through policy endorsement, shall include wording which states that the policy shall be primary and non-contributing with respect to any insurance carried by Railroad. The certificate of insurance shall reflect that the above wording is included in evidenced policies.

All policy(ies) required above (excluding Workers Compensation and employers Liability), shall include a severability of interest endorsement and shall name Railroad as an additional insured using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent Coverage). The coverage provided to Railroad as additional insured shall, to

the extent provided under ISO Additional Insured Endorsement CG 20 26, and CA 20 48 provide coverage for the Railroad's negligence whether sole or partial, active or passive, and shall not be limited to Contractor's liability under the indemnity provisions contained above. Severability of interest and naming Railroad as an additional insured shall be indicated on the certificate of insurance.

Contractor will not be allowed to self-insure without the prior written consent of Railroad. If granted, any deductible, self-insured retention, or other financial responsibility for claims shall be covered directly by Contractor in lieu of insurance. All Railroad liabilities that would otherwise, in accordance with the provisions of this specification, be covered by Contractor's insurance shall be covered as if Contractor elected not to include a deductible, self-insured retention or other financial responsibility for claims.

Contractor represents that this specification has been thoroughly reviewed by Contractor's insurance agent(s)/broker(s), who have been instructed by Contractor to procure the insurance coverage required by the contract documents. Allocated Loss Expense shall be in addition to all policy limits for coverages referenced above.

For purposes of this section, Railroad shall mean "Burlington Northern Santa Fe Corporation", "BNSF Railway" and the subsidiaries, successors, assigns, and affiliates of each.

**1.07.02** Insurance policy(ies) and a copy of the Certificate of Liability shall be sent to BNSF Risk Management, BNSF Railway Company, 2500 Lou Menk Drive, Building AOB-1, Ft. Worth, Texas 76131. Copy(ies) shall also be sent to the Iowa DOT, Office of Accounting, 800 Lincoln Way, Ames, IA 50010.

### **1.08 Company Operations.**

Contractor shall be advised that trains or equipment are expected on any track, at any time, in either direction. Contractor shall become familiar with train schedules in this location and times when truck traffic increases due to intermodal transfers and structure its bid assuming intermittent track windows in this period, as defined below. All railroad tracks within and adjacent to the work are active and rail traffic over these tracks shall be maintained throughout the contract. Activities may include intermodal transfers, through moves and switching moves to local customers. Railroad traffic and operations may occur continuously throughout the day and night on these tracks and shall be maintained at all times. The Contractor shall coordinate and schedule the work so construction activities do not interfere with Railroad operations. Work windows for this contract shall be coordinated with the Engineer. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:

#### **1.08.01 Conditional Work Window**

A period of time that Railroad operations have priority over construction activities. When construction activities may occur on or adjacent to railroad tracks within 25 feet of the nearest track, a Railroad flagger will be required. At the direction of the Railroad flagger, upon approach of a train, and when trains are present, tracks shall be cleared (i.e., no construction equipment, materials, or personnel within 25 feet, or as directed by the Railroad, from the tracks). Conditional Work Windows are available for the contract.

#### **1.08.02 Absolute Work Window**

A period of time that construction activities are given priority over Railroad operations. During this time frame the designated tracks will be inactive for train movements and may be fouled by the Contractor. At the end of an Absolute Work Window the tracks or signals shall be completely operational for train operations and all Railroad and Federal Railroad Administration requirements, codes, and regulations for operational tracks shall be met. In the situation where the operating tracks or signals have been affected, the Railroad will perform inspections of the work prior to placing back into service. Railroad flaggers will be required for construction activities requiring an Absolute Work Window. Absolute Work Windows will not generally be granted. Any request will require a detailed explanation for Railroad review.

### **1.08.03 Requests**

Contractor shall make requests in writing for both Absolute and Conditional Work Windows, at least two weeks in advance of the work for which the request is being made. The request shall include:

- Exactly what the work entails.
- Days and hours the work will be performed.
- Exact location of work, and proximity to the tracks.
- Type of window requested and amount of time requested.
- The Contractor's designated contact person.

Contractor shall provide written notice to the Railroad at least 48 hours before commencing work in connection with approved work windows when work will be performed within 25 feet of any track center line.

### **1.09 Method of Measurement and Basis of Payment**

Railroad Protective Liability Insurance for BNSF Railway Company will be paid for as a Lump Sum bid item. The Contractor will be paid the Lump Sum bid item price within 30 calendar days after receipt of a signed contract, provided that all necessary certificates of insurance have been submitted

**NON-EMPLOYEE PERSONAL INJURY DATA COLLECTION**

INFORMATION REQUIRED TO BE COLLECTED PURSUANT TO FEDERAL REGULATION. IT SHOULD BE USED FOR COMPLIANCE WITH FEDERAL REGULATIONS ONLY AND IS NOT INTENDED TO PRESUME ACCEPTANCE OF RESPONSIBILITY OR LIABILITY.

1. Accident City/St: \_\_\_\_\_ 2. Date: \_\_\_\_\_ Time: \_\_\_\_\_
- County: \_\_\_\_\_ 3. Temperature: \_\_\_\_\_ 4. Weather: \_\_\_\_\_  
(if non-BNSF location)
5. Social Security #: \_\_\_\_\_
6. Name (last, first, mi): \_\_\_\_\_
7. Address: Street: \_\_\_\_\_ City: \_\_\_\_\_ St: \_\_\_\_ Zip: \_\_\_\_\_
8. Date of Birth: \_\_\_\_\_ and/or Age: \_\_\_\_\_ Gender: \_\_\_\_  
(if available)
9. (a) Injury: \_\_\_\_\_ (b) Body Part: \_\_\_\_\_  
(i.e. (a) Laceration (b) Hand)
10. Description of accident (To include location, action, result, etc.):
  
11. Treatment:
  - First Aid Only
  - Required Medical Treatment
  - Other Medical Treatment
12. Dr. Name: \_\_\_\_\_ 13. Date: \_\_\_\_\_
14. Dr. Address:  
Street: \_\_\_\_\_ City: \_\_\_\_\_ St: \_\_\_\_ Zip: \_\_\_\_\_
15. Hospital Name:
16. Hospital Address:  
Street: \_\_\_\_\_ City: \_\_\_\_\_ St: \_\_\_\_ Zip: \_\_\_\_\_
17. Diagnosis:

## **APPENDIX A**

September 10, 2015

Snyder & Associates  
2727 SW Snyder Blvd.  
P.O. Box 1159  
Ankeny, IA 50023

Attn: Andy Burke, PE

Re: Subsurface Exploration  
Knoxville 2016 Pavement Improvements  
Knoxville, Iowa  
TEAM No. 1-3797

Dear Mr. Burke:

We have completed the subsurface exploration for the Knoxville 2016 Pavement Improvements project in Knoxville, Iowa. The accompanying geotechnical report presents the findings of the subsurface exploration and our geotechnical recommendations concerning the design and construction of the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service to you in any way, please do not hesitate to contact us.

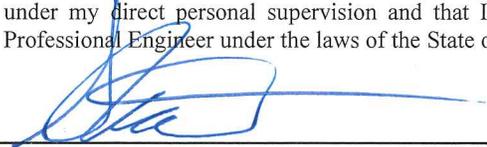
Sincerely yours,  
TEAM Services



Stacy G. Brocka, PE  
Sr. Geotechnical Engineer



Robert E. Doss, PE  
Principal Engineer

|   |  |
|---|--|
|  | I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.  |
|   | <br>Stacy G. Brocka, P.E.      License Number 14203      Date: 9/10/15<br>My license renewal date is December 31, 2015.<br>Pages covered by this seal: <u>    All Pages    </u> . |

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## **PROJECT INFORMATION**

Project information has been provided by Mr. Andy Burke, PE of Snyder & Associates through email correspondence with our Mr. Bob Doss, P.E. The project will consist of mitigation of segments of certain streets in Knoxville, Iowa. Street mitigation will be in the form of full-depth reconstruction or HMA overlay.

## **SITE CONDITIONS**

The project will be located on the following streets consisting of Gebhardt Street, West Jackson Street, South 1<sup>st</sup> Street, East Main Street, West and East Robinson Street, West Jefferson Street, and West and East Washington Street in Knoxville, Iowa. The streets were either surfaced with Portland cement concrete or hot mixed asphalt.

## **FIELD EXPLORATION**

A total of 26 borings and cores were conducted at this site to depths of 2.4 to 7.3 feet below existing grades on August 19 and 25 through 28, 2015. The approximate core locations were provided on a site plan by Snyder and Associates and were staked in the field by TEAM Services referencing the provided site plan. The approximate locations of the borings/cores are shown on the attached Core Location Plan as well as on the Photo Logs in the Appendix. The locations of the borings/cores should be considered accurate only to the degree implied by the means and methods used to define them.

Cores of the existing pavement were obtained all locations. The cores were obtained by diamond bit coring procedures. The cores were labeled and the thicknesses of the pavement sections were measured in the laboratory.

In order to gain additional information on subsurface conditions beneath the pavement sections, hand auger borings were performed. The borings were advanced by manually twisting a sharpened steel auger into the ground. The soils encountered were identified, in the field, from cuttings brought to the surface by the augers.

The strength of the soils was estimated with a static cone penetrometer in some of the borings within about 2 feet of the bottom of the pavement sections. The static cone penetrometer is a dual rod system which enables direct measurement of the cone stress (tip resistance) of the cone located at the end of the penetrometer. As the static cone is pushed into the ground, the tip resistance readings are recorded per 6 to 12 inch increments. The tip resistance reading can then be converted into a shear strength of the soil which is then converted into an estimated bearing capacity of the materials encountered.

The soil consistency was also measured with a cone penetrometer at some locations. The conical point was first seated to penetrate any loose cuttings, then driven additional increments of 1¾ inches with blows from a 15-pound hammer falling 20 inches. The number of hammer blows required to achieve this penetration was recorded, and is an index to the soil strength and consistency.

Field logs of the borings were prepared by the drill crew. These logs included visual classifications of the materials encountered during drilling, as well as the driller's interpretation of the subsurface conditions between samples. Final Boring Logs included with this report represent an interpretation of the field logs and include modifications based on laboratory observation and tests of the samples.

## **LABORATORY TESTING**

Based on the driller's field records and examination of the samples in the laboratory, a soil testing program was developed to collect more information about the soil conditions at the site. The following is a brief description of the specific tasks completed for this project.

**Natural Moisture Content** -- The natural moisture content of selected samples was determined in general accordance with ASTM D 2216. The moisture content of the soil is the ratio, expressed as a percentage, of the weight of water in a given mass of soil to the weight of the soil particles. The results are presented on the Boring Logs at the depths from which the samples were obtained.

## **SUBSURFACE CONDITIONS**

Subsurface conditions encountered during this exploration are indicated on the individual Boring Logs. Based on the results of the borings, subsurface conditions on the project site can be generalized as follows.

Pavement sections were encountered at the ground surface in all boring locations. The pavement sections consisted of just Portland cement concrete or hot mixed asphalt overlying Portland cement concrete. The Portland cement concrete thicknesses ranged from about 4.5 to 10 inches while the hot mixed asphalt ranged from about 1 to 3.5 inches thick. Photos of the pavement sections are provided on the Photo Logs in the Appendix.

Crushed rock with fines was encountered beneath the pavement sections in Borings 2, 7 and 9. The thickness of the crushed rock ranged from 6.5 inches to 4.5 feet.

Fill and possible fill consisting of lean clay, sandy lean clay, and fine to medium sand was encountered beneath the pavement sections or crushed rock in Borings 3, 5, 6, 9, 10, 16, 18, 20, 21, 22, and 23. The lower boundary of the fill and possible fill was encountered near depths of 1.5 to 1.8 feet below existing grades. Most of the above borings terminated in the fill or possible fill near depths of 2.4 to 2.9 feet below existing grades.

Possible local alluvium consisting of lean clay was encountered beneath the pavement sections or possible fill in Borings 4 and 9. These two borings terminated in the possible local alluvium near depths of about 2.5 to 2.8 feet below existing grades.

Loess (wind-blown) soils were encountered beneath the pavement sections, crushed rock or fill in 15 of the borings. The loess consisted of lean clay and lean to fat clay soils. These 15 borings terminated in the loess near depths ranging from about 2.5 to 7.3 feet below existing grades.

Residual soils consisting of lean clay and lean to fat clay was encountered beneath the crushed rock or possible fill in Borings 11 and 23. These two borings terminated on the residual soil near depths of 2.5 to 5.5 feet below existing grades.

The above descriptions provide a general summary of the subsurface conditions encountered. The attached Boring Logs contain detailed information recorded at each boring location. These Boring Logs represent our interpretation of the field logs based on engineering examination of the field samples. The lines designating the interfaces between various strata represent approximate boundaries, and the transition between strata may be gradual. It should be noted that the soil conditions will vary between the boring locations.

## **GROUNDWATER CONDITIONS**

The borings were monitored while drilling for the presence and level of groundwater accumulation. Groundwater levels observed in the borings are noted on the Boring Logs.

During drilling operations no groundwater seepage was observed in any of the borings. These groundwater level observations provide an approximate indication of the groundwater conditions existing on this site at the time of drilling operations. Longer-term observations may be necessary for a groundwater level to develop and stabilize in the borehole. Longer-term monitoring in cased holes or piezometers would be required for a more accurate evaluation of the groundwater conditions at this site.

Fluctuation of groundwater levels can occur due to seasonal variations in the amount of rainfall, runoff, surface drainage, subsurface drainage, site topography, irrigation practices, ground cover (pavement or vegetation), and other factors not evident at the time the borings were conducted.

Normally, the highest groundwater levels occur in late winter and spring time while the lowest levels occur in late summer and fall time. The fluctuation of the groundwater levels should be considered when developing the design and construction plans for this project.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Site Preparation**

Site preparation should begin with removal of the pavement sections and any loose, soft, or otherwise unsuitable materials where full reconstruction of the street will be performed. Any site strippings and any near surface soils with organics could be used for landscaping purposes in non-critical areas where support for pavements is not required.

After stripping and pavement removal, the exposed grade should be proofrolled and inspected by TEAM Services personnel. Proofrolling should be performed at the lowest cut grade. Proofrolling should be conducted with a fully loaded tandem axle dump truck having a minimum gross weight of 25 tons. Any unsuitable soils identified during this process should be removed and replaced with suitable engineered compacted and tested fill which meets or exceeds the Class 1 Construction Application requirement in Table A in the following **Fill Placement** report section.

It should be noted that initial subgrade preparation for some soil types, such as very moist or softer soils, may not be suitable under repeated heavy construction vehicle loads and may require stabilization to greater depths or stabilization with fly ash, cement or lime. The use of crushed rock with or without geogrid could also be considered in-lieu of the additional stabilization methods. Contract allowances should be made for some remedial work at the site related to subgrade preparation. The amount of such work cannot be defined at this time; therefore, the owner should be informed of these cost variables.

## **Fill Placement**

Fill and backfill placed for support of the proposed pavement sections should consist of approved materials which are free of organic matter and debris. Brick, concrete, rocks or other solid pieces with a maximum dimension of 3 inches or larger should not be placed in the newly placed fill sections. We recommend that low-plasticity cohesive soil or granular soil be used for general fill placement. By our definition, low-plasticity cohesive soil would have a liquid limit of 45 or less and a plasticity index of 25 or less. In our opinion, most of the on-site soils appear to meet these criteria and can be used as newly placed engineered compacted and tested fill. Any off site potential borrow materials should be evaluated by TEAM Services prior to their use as engineered compacted and tested fill.

The following Table A lists recommended minimum compaction requirements for cohesive and cohesionless fill materials for specific applications. For low-plasticity (CL and ML) cohesive soils, moisture contents within a range of -2 to +3 percent of the material's optimum moisture content (as determined by Standard Proctor ASTM D 698) are necessary to achieve the desired fill qualities for general grading and utility backfill while granular soils should be placed within 3 percent of the material's optimum moisture content.

**TABLE A**  
**RECOMMENDED DEGREE OF COMPACTION GUIDELINES**

| <b>Construction Application</b> |   | <b>Standard Proctor (ASTM D698) Cohesive Soil</b> | <b>Standard Proctor (ASTM D698) Cohesionless Soil</b> | <b>Relative Density (ASTM D4253 &amp; D4254) Cohesionless Soil <sup>1</sup></b> |
|---------------------------------|---|---|---|---|
| Class 1                         | Subgrade preparation for foundations, pavements and other critical backfill areas                           | 95%   | 98%   | 70%   |
| Class 2                         | Backfill adjacent to structures not supporting other structures or pavements.<br>Minor subsidence possible. | 90%   | 93%   | 45%   |
| Class 3                         | Backfill in non-critical areas.<br>Moderate subsidence possible.  | 85%   | 88%   | 20%   |

1. Use Relative Density technique (ASTM D4253 & D4254) where Standard Proctor technique (ASTM D698) does not result in a definable maximum dry density and optimum moisture content.

The on-site soils can be excavated utilizing conventional excavation equipment. Granular soils can generally be suitably compacted with vibratory compaction equipment. Proper compaction of cohesive soils can be achieved with sheepsfoot or pneumatic type compactors within the above moisture content ranges. The soils should be placed in a maximum loose thickness of 12 inches or at a thickness compatible with the equipment being utilized. Sufficient density tests should be performed on each lift of engineered compacted fill placed to verify that adequate compaction is achieved. Care should be taken to prevent unnecessary disturbance of subgrade soils. Disturbed areas should be removed and replaced with engineered compacted and tested fill in accordance with the recommendations of this report.

Upon completion of the grading operations, care should be taken to maintain the subgrade moisture content prior to construction of pavement sections. If the subgrade should become desiccated, frozen or otherwise disturbed, the affected material should be removed or these materials should be scarified, moistened, recompacted and retested prior to concrete placement. As a general guideline, fills which dry to a moisture content less than 2/3 of their optimum moisture content as determined by the Standard Proctor Test (ASTM D 698) in their upper 2 inches are candidates for reconditioning as described above.

### **Temporary Excavation Support**

All excavations should comply with the requirements of OSHA 29 CFR, Part 1926, Subpart P, "Excavations and Trenches" and other applicable codes. This document states that excavation safety is the responsibility of the contractor. Reference to this OSHA requirement should be included in the job specifications.

### **Construction Dewatering**

During construction activities, care should be taken to maintain positive drainage at the site to ensure that drainage is directed away from any excavations. Where construction is performed during wet weather periods or where groundwater is anticipated to be high during construction, we recommend that construction groundwater control be established prior to excavating the final 2 feet of soils. It is expected that the water seepage can be controlled by permitting it to drain into temporary construction sumps and be pumped outside the perimeter of the excavations.

If groundwater control is lost during construction, disturbance of the upper few inches to few feet below grade is possible in the soils at the site. In these circumstances, it will be necessary to reestablish groundwater control and remove the disturbed soils. TEAM Services should be consulted regarding the extent of remedial action which is necessary.

### **Pavement Subdrains Considerations**

Based on the drainage characteristics of the on-site soils, higher moisture content of some of the soils and potential seasonal high groundwater levels, subsurface drainage would be beneficial along the streets. Depending upon irrigation practices, a shallow subsurface drainage system directly behind the curb may be necessary to intercept this surface water prior to saturating the pavement subgrade. Subsurface drainage may be accomplished with installation of drain lines as discussed in the following paragraphs. We are available to field evaluate the necessity for subsurface drainage as suspect areas become evident during construction.

An acceptable subsurface drainage system should consist of a 4-inch-diameter, perforated, high-density polyethylene (HDPE), corrugated pipe placed in a trench with a minimum width of 10 inches. The pipe should be centered horizontally within the trenches and the perforations should be sized to prevent infiltration of fine grained soils. The trenches should be backfilled with free draining granular material meeting the criteria of IDOT Specification No. 4131 (Gradation No. 29) or IDOT Spec No. 4115. Cleanouts should be provided on approximate 300 to 400 feet intervals to allow periodic flushing of the drain lines.

Subdrains should be placed at either side of the street. The subdrains should be placed approximately 42 inches below the bottom of the pavement section and sloped to drain to a suitable gravity outfall, such as a storm sewer.

Constructing flexible or rigid pavement sections on a drainable granular subbase can improve long-term performance and lower maintenance costs of the pavement sections. Therefore, consideration may be given to implementing the granular subbase connected to subdrains.

If utilized, the granular base should be relatively free-draining meeting the requirements of IDOT Specification No. 4121 (Gradation No. 12) or IDOT Specification No. 4123 (Gradation No. 14). The granular subbase should be compacted in accordance to Class I Construction Application requirement given in Table A in the **Fill Placement** section of the report. The free-draining granular subbase should be at least 6 inches thick and be hydraulically connected to subdrains.

### **Pavement Subgrade Preparation**

We expect the soils which will be encountered to support the pavement sections will consist of fill, possible fill, local alluvium, and loess soils. In order to provide satisfactory pavement performance, it is important that the subgrade support be relatively uniform with no abrupt changes in the subgrade support. Therefore, we recommend that the prepared subgrade depth be at least 12 inches deep after fine grading or trimming and extend 2 feet beyond the edge of the pavements.

It is recommended that the pavement subgrade area be cut to design subgrade level and that the exposed subgrade be scarified to a minimum depth of 12 inches, moisture conditioned (if needed), and compacted. We recommend that reworked existing soils and newly placed engineered compacted non-expansive cohesive soils be placed and compacted in accordance with the **Fill Placement** section of this report. Suitable engineered compacted cohesive subgrade would provide a design support capability equivalent to a CBR value of 3 or a modulus of subgrade reaction value of 100 pounds per cubic inch.

Where construction traffic is required on the proposed subgrade, the subgrade should be proofrolled immediately prior to pavement placement with a fully loaded, tandem axle dump truck. Areas that yield should be removed and replaced with engineered compacted and tested fill.

Surface drainage around the pavement sections is important to long-term pavement performance. Curbs should be backfilled as soon as possible, once adequate pavement strength is achieved. The backfill should be compacted and sloped to prevent water from ponding and infiltrating under the pavement. Water allowed to pond adjacent to the pavement could saturate the subgrade and contribute to premature pavement deterioration.

It should be noted that initial subgrade preparation for some soil types, such as very moist or softer soils, may not be suitable under repeated heavy construction vehicle loads and may require stabilization to greater depths or stabilization with fly ash, cement or lime. The use of crushed rock with or without geogrid could also be considered in-lieu of the additional stabilization methods. Contract allowances should be made for some remedial work at the site related to subgrade preparation. The amount of such work cannot be defined at this time; therefore, the owner should be informed of these cost variables.

## **QUALIFICATION OF REPORT**

Our evaluation of subsurface conditions has been based on our understanding of the site and project information and the data obtained in our exploration. The general subsurface conditions

utilized in our evaluation have been based on interpolation of subsurface data between the borings. In evaluating the boring data, we have examined previous correlations between soil properties and bearing pressures observed in soil conditions similar to those at your site. The discovery of any site or subsurface conditions during construction which deviate from the data outlined in this exploration should be reported to us for our evaluation. The assessment of site environmental conditions or the presence of pollutants in the soil, rock, and groundwater of the site was beyond the scope of this exploration.

It is recommended that the geotechnical engineer be retained to review the plans and specifications so that comments can be provided regarding the interpretation and implementation of the geotechnical recommendations in the design and specifications.

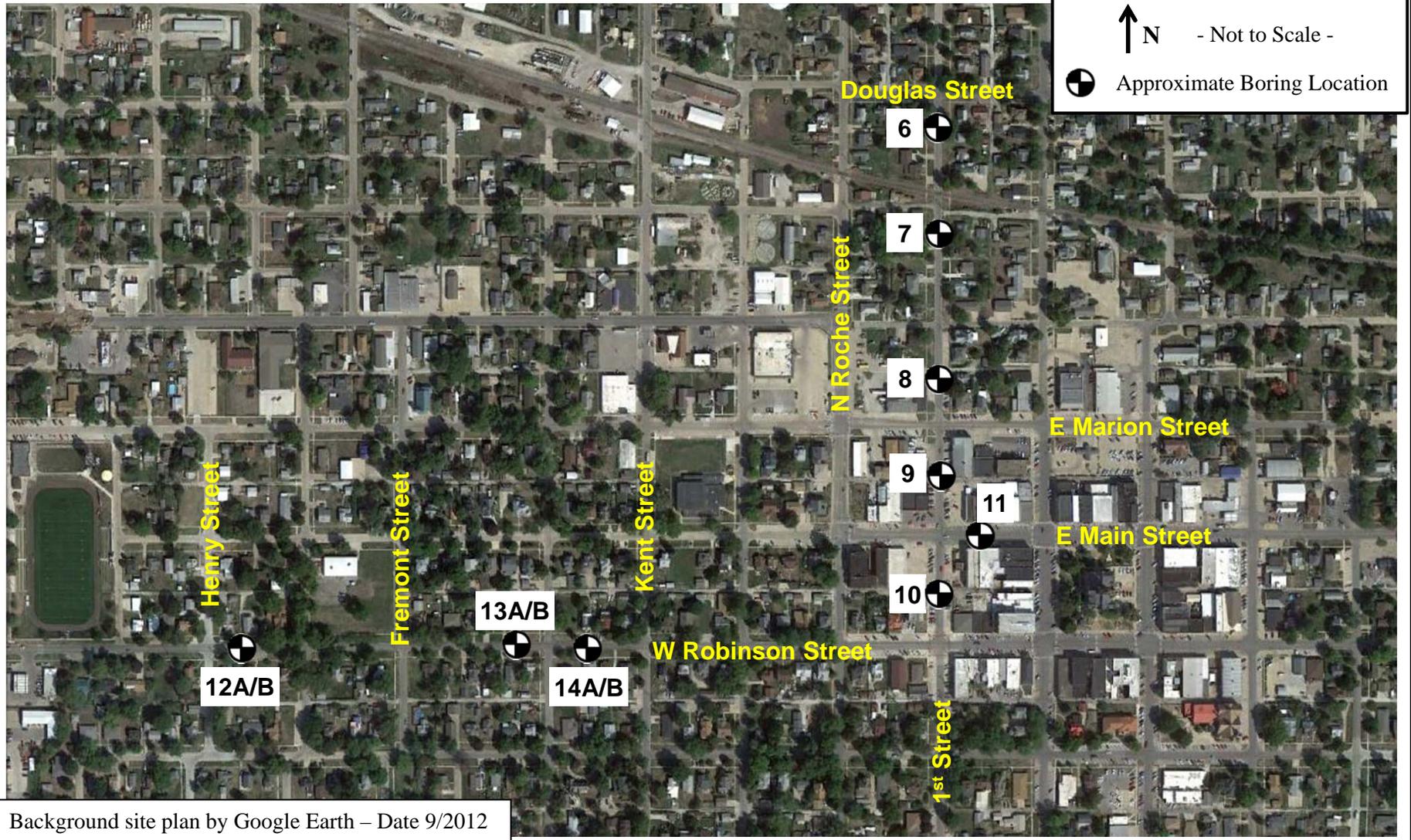
This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No other warranty is provided. In the event that any changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report modified or verified in writing by the geotechnical engineer.



**TEAM Services, Inc.**  
 717 SE 6<sup>th</sup> Street  
 Des Moines, IA 50309

**2016 Pavement Improvements**  
 Knoxville, Iowa  
**BORING PLAN**

Project No. 1-3797  
 September 10, 2015



↑ N - Not to Scale -  
 ⊕ Approximate Boring Location

Background site plan by Google Earth – Date 9/2012

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↑ N - Not to Scale -  
 ⊕ Approximate Boring Location

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Background site plan by Google Earth – Date 9/2012

**TEAM Services, Inc.**

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Des Moines, IA 50309

**2016 Pavement Improvements**

Knoxville, Iowa

**BORING PLAN**

Project No. 1-3797

September 10, 2015

## PHOTO LOG



Core 1 Looking North



Core 2 Looking South

PHOTO LOG



Core 3 Looking East



Core 4 Looking East

## PHOTO LOG



**Core 5** Looking East



**Core 6** Looking South

PHOTO LOG



Core 7 Looking South



Core 8 Looking South

## PHOTO LOG



Core 9 Looking South



Core 9 (Log) Looking South

**PHOTO LOG**



**Core 10** Looking South



**Core 11** Looking East

## PHOTO LOG



Core 12 Looking East



Core 13 Looking West

PHOTO LOG



Core 14 Looking East



Core 15 Looking East

## PHOTO LOG



Core 16 Looking West



Core 17 Looking West

PHOTO LOG



Core 18 Looking East



Core 19 Looking East

## PHOTO LOG



Core 20 Looking East



Core 21 Looking East

PHOTO LOG



Core 22 Looking East



Core 23 Looking East

# LOG OF BORING NO. 1

|                        |  |   |             |         |      |                     |             |                 |                         |
|------------------------|--|---|-------------|---------|------|---------------------|-------------|-----------------|-------------------------|
| OWNER                  |  | ARCHITECT/ENGINEER                          |             |         |      |                     |             |                 |                         |
| SITE                   |  | PROJECT                                     |             |         |      |                     |             |                 |                         |
| <b>Knoxville, Iowa</b> |  | <b>Knoxville 2016 Pavement Improvements</b> |             |         |      |                     |             |                 |                         |
| GRAPHIC LOG            | DESCRIPTION                                      | SAMPLES                                     |             |         |      | TESTS               |             |                 |                         |
|                        |  | DEPTH (FT.)                                 | USCS SYMBOL | NUMBER  | TYPE | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.5                    | PCC (6.5"+/-)                                    |   |             |         |      |                     |             |                 |                         |
| 2.5                    | Loess -- <u>Lean CLAY</u> , olive brown and gray | CL  | 1           | HA - SC | 6    | 29.8                |             |                 |                         |
|                        | Bottom of boring                                 | CL  | 2           | HA - SC | 7    | 29.2                |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-19-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-19-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 2

|                        |                                 |   |             |         |      |                     |             |                 |                         |
|------------------------|---------------------------------|---|-------------|---------|------|---------------------|-------------|-----------------|-------------------------|
| OWNER                  |                                 | ARCHITECT/ENGINEER                          |             |         |      |                     |             |                 |                         |
| SITE                   |                                 | PROJECT                                     |             |         |      |                     |             |                 |                         |
| <b>Knoxville, Iowa</b> |                                 | <b>Knoxville 2016 Pavement Improvements</b> |             |         |      |                     |             |                 |                         |
| GRAPHIC LOG            | DESCRIPTION                     | SAMPLES                                     |             |         |      | TESTS               |             |                 |                         |
|                        |                                 | DEPTH (FT.)                                 | USCS SYMBOL | NUMBER  | TYPE | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.7                    | PCC (8.25"+/-)                  |   |             |         |      |                     |             |                 |                         |
| 1.7                    | Crushed rock with fines, gray   |   | 1           | HA - SC | 6    | 13.0                |             |                 |                         |
| 2.7                    | Loess -- Lean to Fat CLAY, gray | CL-CH                                       | 2           | HA - SC | 8    | 25.4                |             |                 |                         |
| 2.7                    | Bottom of boring                |   |             |         |      |                     |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-19-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-19-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 3

|                        |  |   |             |        |         |                     |             |                 |                         |
|------------------------|--|---|-------------|--------|---------|---------------------|-------------|-----------------|-------------------------|
| OWNER                  |  | ARCHITECT/ENGINEER                          |             |        |         |                     |             |                 |                         |
| SITE                   |  | PROJECT                                     |             |        |         |                     |             |                 |                         |
| <b>Knoxville, Iowa</b> |  | <b>Knoxville 2016 Pavement Improvements</b> |             |        |         |                     |             |                 |                         |
| GRAPHIC LOG            | DESCRIPTION  | SAMPLES                                     |             |        |         | TESTS               |             |                 |                         |
|                        |  | DEPTH (FT.)                                 | USCS SYMBOL | NUMBER | TYPE    | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.4                    | PCC (5.25"+/-)   |   |             |        |         |                     |             |                 |                         |
| 2.4                    | <b>Fill -- Lean CLAY</b> , dark olive brown and yellowish brown<br><br>-- becomes very dark brown, gray and olive after 1.438' | 11  | CL          | 1      | HA - SC |                     |             |                 |                         |
| 2.4                    | Bottom of boring   | 16  | CL          | 2      | HA - SC | 25.3                |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-25-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-25-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 4

|                        |   |   |             |         |      |                     |             |                 |                         |
|------------------------|---|---|-------------|---------|------|---------------------|-------------|-----------------|-------------------------|
| OWNER                  |   | ARCHITECT/ENGINEER                          |             |         |      |                     |             |                 |                         |
| SITE                   |   | PROJECT                                     |             |         |      |                     |             |                 |                         |
| <b>Knoxville, Iowa</b> |   | <b>Knoxville 2016 Pavement Improvements</b> |             |         |      |                     |             |                 |                         |
| GRAPHIC LOG            | DESCRIPTION   | SAMPLES                                     |             |         |      | TESTS               |             |                 |                         |
|                        |   | DEPTH (FT.)                                 | USCS SYMBOL | NUMBER  | TYPE | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.5                    | PCC (5.5"+/-)   |   |             |         |      |                     |             |                 |                         |
| 0.5                    | <b>Possible Local Alluvium -- Lean CLAY</b> , trace organic matter, very dark gray and yellowish brown<br><br>-- becomes very dark brown after 1.458' | CL  | 1           | HA - SC | 11   | 32.1                |             |                 |                         |
| 2.5                    |   | CL  | 2           | HA - SC | 12   | 32.9                |             |                 |                         |
| 2.5                    | Bottom of boring  |   |             |         |      |                     |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-25-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-25-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 5

|                        |   |   |             |        |         |                     |             |                 |                         |
|------------------------|---|---|-------------|--------|---------|---------------------|-------------|-----------------|-------------------------|
| OWNER                  |   | ARCHITECT/ENGINEER                          |             |        |         |                     |             |                 |                         |
| SITE                   |   | PROJECT                                     |             |        |         |                     |             |                 |                         |
| <b>Knoxville, Iowa</b> |   | <b>Knoxville 2016 Pavement Improvements</b> |             |        |         |                     |             |                 |                         |
| GRAPHIC LOG            | DESCRIPTION   | SAMPLES                                     |             |        |         | TESTS               |             |                 |                         |
|                        |   | DEPTH (FT.)                                 | USCS SYMBOL | NUMBER | TYPE    | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.5                    | PCC (6.25"+/-)  |   |             |        |         |                     |             |                 |                         |
| 0.5                    | <b>Fill -- Sandy Lean CLAY</b> , trace organic matter, olive brown and gray |   | CL          | 1      | HA - SC | 13                  | 19.0        |                 |                         |
| 2.5                    | -- becomes olive brown, very dark brown and yellowish brown after 1'        |   | CL          | 2      | HA - SC | 15                  | 24.4        |                 |                         |
| 2.5                    | Bottom of boring  |   |             |        |         |                     |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-25-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-25-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 6

| OWNER                          |   | ARCHITECT/ENGINEER                                     |             |         |      |                     |             |                 |
|--------------------------------|---|--|-------------|---------|------|---------------------|-------------|-----------------|
| SITE<br><b>Knoxville, Iowa</b> |   | PROJECT<br><b>Knoxville 2016 Pavement Improvements</b> |             |         |      |                     |             |                 |
| GRAPHIC LOG                    | DESCRIPTION   | SAMPLES  |             |         |      | TESTS               |             |                 |
|                                |   | DEPTH (FT.)  | USCS SYMBOL | NUMBER  | TYPE | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF |
| 0.2                            | HMA (2.25"+/-)  |  |             |         |      |                     |             |                 |
| 0.6                            | PCC (4.75"+/-)  |  |             |         |      |                     |             |                 |
| 1.6                            | <b>Possible Fill -- Lean CLAY</b> , trace organic matter, dark olive brown and olive brown  | CL   | 1           | HA - SC | 7    | 33.3                |             |                 |
| 2.6                            | <b>Possible Fill -- Lean CLAY</b> , trace sand and gravel, dark olive brown and olive brown | CL   | 2           | HA - SC | 14   | 28.4                |             |                 |
|                                | Bottom of boring  |  |             |         |      |                     |             |                 |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-26-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-26-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 7

| OWNER                  |   | ARCHITECT/ENGINEER                          |             |         |      |                         |             |                 |                         |
|------------------------|---|---|-------------|---------|------|-------------------------|-------------|-----------------|-------------------------|
| SITE                   |   | PROJECT                                     |             |         |      |                         |             |                 |                         |
| <b>Knoxville, Iowa</b> |   | <b>Knoxville 2016 Pavement Improvements</b> |             |         |      |                         |             |                 |                         |
| GRAPHIC LOG            | DESCRIPTION                                   | DEPTH (FT.)                                 | USCS SYMBOL | SAMPLES |      |                         | TESTS       |                 |                         |
|                        |   |   |             | NUMBER  | TYPE | AVG BLOWS / INCREMENT * | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.2                    | HMA (3"+/-)<br>PCC (6.75"+/-)                 |   |             |         |      |                         |             |                 |                         |
| 0.8                    | <u>Crushed rock with fines, gray</u>          |   |             | 1       | HA   |                         | 5.8         |                 |                         |
|                        |   |   |             | 2       | HA   |                         | 6.5         |                 |                         |
| 5.3                    | <u>Loess -- Lean CLAY</u> , light olive brown |   |             |         |      |                         |             |                 |                         |
|                        |   |   | CL          | 3       | HA   |                         | 28.0        |                 |                         |
| 7.3                    | Bottom of boring                              |   |             |         |      |                         |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Dynacone Standard Penetration\*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-28-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-28-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 8

| OWNER                  |  | ARCHITECT/ENGINEER                          |             |         |            |                         |             |                 |                         |
|------------------------|--|---|-------------|---------|------------|-------------------------|-------------|-----------------|-------------------------|
| SITE                   |  | PROJECT                                     |             |         |            |                         |             |                 |                         |
| <b>Knoxville, Iowa</b> |  | <b>Knoxville 2016 Pavement Improvements</b> |             |         |            |                         |             |                 |                         |
| GRAPHIC LOG            | DESCRIPTION                                | DEPTH (FT.)                                 | USCS SYMBOL | SAMPLES |            |                         | TESTS       |                 |                         |
|                        |  |   |             | NUMBER  | TYPE       | AVG BLOWS / INCREMENT * | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.1                    | HMA (1.25"+/-)                             |   |             |         |            |                         |             |                 |                         |
|                        | PCC (6.5"+/-)                              |   |             |         |            |                         |             |                 |                         |
| 0.6                    | <b>Loess -- Lean CLAY</b> , very dark gray |   | CL          | 1       | HA -<br>DC | 4<br>4<br>5             |             |                 |                         |
|                        | -- becomes dark olive brown after 1.625'   |   | CL          | 2       | HA -<br>DC | 4<br>4<br>5             | 39.4        |                 |                         |
| 2.6                    | Bottom of boring                           |   |             |         |            |                         |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Dynacone Standard Penetration\*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-28-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-28-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 9

| OWNER                  |  | ARCHITECT/ENGINEER                          |         |         |                         |             |                 |                         |  |
|------------------------|--|---|---------|---------|-------------------------|-------------|-----------------|-------------------------|--|
| SITE                   |  | PROJECT                                     |         |         |                         |             |                 |                         |  |
| <b>Knoxville, Iowa</b> |  | <b>Knoxville 2016 Pavement Improvements</b> |         |         |                         |             |                 |                         |  |
| GRAPHIC LOG            | DEPTH (FT.)  | USCS SYMBOL                                 | SAMPLES |         |                         | TESTS       |                 |                         |  |
|                        |  |   | NUMBER  | TYPE    | AVG BLOWS / INCREMENT * | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |  |
| 0.3                    | HMA (3.5"+/-)  |   |         |         |                         |             |                 |                         |  |
| 0.8                    | Crushed rock with fines (6.5"+)  |   |         |         |                         |             |                 |                         |  |
| 1.8                    | <b>Possible Fill -- <u>Sandy Lean CLAY</u>, trace gravel, very dark gray</b> | CL  | 1       | HA - DC | 2<br>4<br>7             | 21.7        |                 |                         |  |
| 2.8                    | <b>Local Alluvium -- <u>Lean CLAY</u>, very dark gray</b>                    | CL  | 2       | HA - DC | 4<br>4<br>5             | 32.8        |                 |                         |  |
| 2.8                    | Bottom of boring   |   |         |         |                         |             |                 |                         |  |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Dynacone Standard Penetration\*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-28-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-28-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 10

| OWNER                          |  | ARCHITECT/ENGINEER                                     |             |         |         |                         |             |                 |                         |
|--------------------------------|--|--|-------------|---------|---------|-------------------------|-------------|-----------------|-------------------------|
| SITE<br><b>Knoxville, Iowa</b> |  | PROJECT<br><b>Knoxville 2016 Pavement Improvements</b> |             |         |         |                         |             |                 |                         |
| GRAPHIC LOG                    | DESCRIPTION  | DEPTH (FT.)  | USCS SYMBOL | SAMPLES |         |                         | TESTS       |                 |                         |
|                                |  |  |             | NUMBER  | TYPE    | AVG BLOWS / INCREMENT * | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
|                                | 0.3 HMA (3"+/-)  |  |             |         |         |                         |             |                 |                         |
|                                | 0.6 PCC (4.5"+/-)  |  |             |         |         |                         |             |                 |                         |
|                                | <b>Possible Fill -- Lean CLAY</b> , dark brown, trace organic matter |  | CL          | 1       | HA - DC | 3<br>5<br>7             | 29.9        |                 |                         |
|                                | <b>Possible Fill -- Lean CLAY</b> , trace sand, dark olive brown     |  | CL          | 2       | HA - DC | 4<br>5<br>6             | 34.3        |                 |                         |
|                                | 2.6 Bottom of boring   |  |             |         |         |                         |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Dynacone Standard Penetration\*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-28-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-28-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 11

| OWNER                          |  | ARCHITECT/ENGINEER                                     |             |         |      |                         |             |                 |                         |
|--------------------------------|--|--|-------------|---------|------|-------------------------|-------------|-----------------|-------------------------|
| SITE<br><b>Knoxville, Iowa</b> |  | PROJECT<br><b>Knoxville 2016 Pavement Improvements</b> |             |         |      |                         |             |                 |                         |
| GRAPHIC LOG                    | DESCRIPTION  | DEPTH (FT.)  | USCS SYMBOL | SAMPLES |      |                         | TESTS       |                 |                         |
|                                |  |  |             | NUMBER  | TYPE | AVG BLOWS / INCREMENT * | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.1                            | HMA (1.5"+/-)<br>PCC (10"+/-)  |  |             |         |      |                         |             |                 |                         |
| 1.0                            | <u>Crushed gravel with fines</u> , reddish brown   |  |             | 1       | HA   |                         | 9.0         |                 |                         |
| 4.5                            | <b>Residual Soil -- Lean CLAY</b> , trace sand and gravel, reddish brown and light olive brown |  | CL          | 2       | HA   |                         | 28.7        |                 |                         |
| 5.5                            | Bottom of boring   |  |             |         |      |                         |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Dynacone Standard Penetration\*

|                          |   |                     |                                 |                     |
|--------------------------|---|---------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | TEAM Services, Inc. | BORING STARTED <b>8-28-15</b>   |                     |
| WL                       | ▽ |                     | BORING COMPLETED <b>8-28-15</b> |                     |
| WL                       |   |                     | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                     | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 12A

| OWNER                          |   | ARCHITECT/ENGINEER                                     |             |         |         |                         |             |                 |                         |
|--------------------------------|---|--|-------------|---------|---------|-------------------------|-------------|-----------------|-------------------------|
| SITE<br><b>Knoxville, Iowa</b> |   | PROJECT<br><b>Knoxville 2016 Pavement Improvements</b> |             |         |         |                         |             |                 |                         |
| GRAPHIC LOG                    | DESCRIPTION                                   | DEPTH (FT.)  | USCS SYMBOL | SAMPLES |         |                         | TESTS       |                 |                         |
|                                |   |  |             | NUMBER  | TYPE    | AVG BLOWS / INCREMENT * | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.2                            | HMA (2"+/-)                                   |  |             |         |         |                         |             |                 |                         |
| 0.8                            | PCC (7"+/-)                                   |  |             |         |         |                         |             |                 |                         |
| 0.8                            | <b>Loess -- Lean CLAY</b> , light olive brown |  | CL          | 1       | HA - DC | 3<br>6<br>6             | 34.4        |                 |                         |
| 2.8                            |   |  | CL          | 2       | HA - DC | 3<br>4<br>5             |             |                 |                         |
|                                | Bottom of boring                              |  |             |         |         |                         |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Dynacone Standard Penetration\*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-27-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-27-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 12B

| OWNER                          |   | ARCHITECT/ENGINEER                                     |             |         |             |                         |             |                 |                         |
|--------------------------------|---|--|-------------|---------|-------------|-------------------------|-------------|-----------------|-------------------------|
| SITE<br><b>Knoxville, Iowa</b> |   | PROJECT<br><b>Knoxville 2016 Pavement Improvements</b> |             |         |             |                         |             |                 |                         |
| GRAPHIC LOG                    | DESCRIPTION                                   | DEPTH (FT.)  | USCS SYMBOL | SAMPLES |             |                         | TESTS       |                 |                         |
|                                |   |  |             | NUMBER  | TYPE        | AVG BLOWS / INCREMENT * | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.2                            | HMA (2.25"+/-)                                |  |             |         |             |                         |             |                 |                         |
|                                | PCC (6.5"+/-)                                 |  |             |         |             |                         |             |                 |                         |
| 0.7                            | Loess -- <u>Lean CLAY</u> , light olive brown |  |             |         |             |                         |             |                 |                         |
|                                |   | CL   | 1           | HA - DC | 3<br>3<br>4 | 28.7                    |             |                 |                         |
|                                |   |  |             |         |             |                         |             |                 |                         |
|                                |   |  |             |         |             |                         |             |                 |                         |
|                                |   |  |             |         |             |                         |             |                 |                         |
| 2.7                            | Bottom of boring                              |  |             |         |             |                         |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Dynacone Standard Penetration\*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-27-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-27-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 13A

| OWNER                          |   | ARCHITECT/ENGINEER                                     |             |         |         |                         |             |                 |                         |
|--------------------------------|---|--|-------------|---------|---------|-------------------------|-------------|-----------------|-------------------------|
| SITE<br><b>Knoxville, Iowa</b> |   | PROJECT<br><b>Knoxville 2016 Pavement Improvements</b> |             |         |         |                         |             |                 |                         |
| GRAPHIC LOG                    | DESCRIPTION                             | DEPTH (FT.)  | USCS SYMBOL | SAMPLES |         |                         | TESTS       |                 |                         |
|                                |   |  |             | NUMBER  | TYPE    | AVG BLOWS / INCREMENT * | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
|                                | 0.2 HMA (2.75"+/-)                      |  |             |         |         |                         |             |                 |                         |
|                                | PCC (6.75"+/-)                          |  |             |         |         |                         |             |                 |                         |
|                                | 0.8                                     |  |             |         |         |                         |             |                 |                         |
|                                | <b>Loess -- Lean CLAY</b> , olive brown |  | CL          | 1       | HA - DC | 3<br>7<br>7             | 32.4        |                 |                         |
|                                |   |  |             |         |         |                         |             |                 |                         |
|                                |   |  | CL          | 2       | HA - DC | 6<br>6<br>6             | 27.8        |                 |                         |
|                                | 2.8                                     |  |             |         |         |                         |             |                 |                         |
|                                | Bottom of boring                        |  |             |         |         |                         |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Dynacone Standard Penetration\*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-27-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-27-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 13B

| OWNER                  |   | ARCHITECT/ENGINEER                          |             |         |         |                         |             |                 |                         |
|------------------------|---|---|-------------|---------|---------|-------------------------|-------------|-----------------|-------------------------|
| SITE                   |   | PROJECT                                     |             |         |         |                         |             |                 |                         |
| <b>Knoxville, Iowa</b> |   | <b>Knoxville 2016 Pavement Improvements</b> |             |         |         |                         |             |                 |                         |
| GRAPHIC LOG            | DESCRIPTION   | DEPTH (FT.)                                 | USCS SYMBOL | SAMPLES |         |                         | TESTS       |                 |                         |
|                        |   |   |             | NUMBER  | TYPE    | AVG BLOWS / INCREMENT * | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.1                    | HMA (1"+/-)   |   |             |         |         |                         |             |                 |                         |
| 0.6                    | PCC (5.75"+/-)  |   |             |         |         |                         |             |                 |                         |
| 1.5                    | <b>Loess -- Lean CLAY</b> , olive brown                 |   | CL          | 1       | HA - DC | 3<br>5<br>5             | 29.3        |                 |                         |
| 1.562                  | -- becomes olive brown and yellowish brown after 1.562' |   | CL          | 2       | HA - DC | 4<br>4<br>4             | 25.7        |                 |                         |
| 2.6                    | Bottom of boring  |   |             |         |         |                         |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Dynacone Standard Penetration\*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-27-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-27-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 14A

| OWNER                          |  | ARCHITECT/ENGINEER                                     |             |         |         |                         |             |                 |                         |
|--------------------------------|--|--|-------------|---------|---------|-------------------------|-------------|-----------------|-------------------------|
| SITE<br><b>Knoxville, Iowa</b> |  | PROJECT<br><b>Knoxville 2016 Pavement Improvements</b> |             |         |         |                         |             |                 |                         |
| GRAPHIC LOG                    | DESCRIPTION  | DEPTH (FT.)  | USCS SYMBOL | SAMPLES |         |                         | TESTS       |                 |                         |
|                                |  |  |             | NUMBER  | TYPE    | AVG BLOWS / INCREMENT * | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.2                            | HMA (2.5"+/-)  |  |             |         |         |                         |             |                 |                         |
| 0.8                            | PCC (7"+/-)  |  |             |         |         |                         |             |                 |                         |
| 0.8                            | <b>Loess -- lean CLAY</b> , trace sand and gravel, olive brown |  | CL          | 1       | HA - DC | 3<br>3<br>4             | 29.7        |                 |                         |
|                                |  |  |             | CL      | 2       | HA - DC                 | 4<br>5<br>5 | 32.8            |                         |
| 2.8                            | Bottom of boring   |  |             |         |         |                         |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Dynacone Standard Penetration\*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-27-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-27-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 14B

| OWNER                          |   | ARCHITECT/ENGINEER                                     |             |         |         |                         |             |                 |                         |
|--------------------------------|---|--|-------------|---------|---------|-------------------------|-------------|-----------------|-------------------------|
| SITE<br><b>Knoxville, Iowa</b> |   | PROJECT<br><b>Knoxville 2016 Pavement Improvements</b> |             |         |         |                         |             |                 |                         |
| GRAPHIC LOG                    | DESCRIPTION   | DEPTH (FT.)  | USCS SYMBOL | SAMPLES |         |                         | TESTS       |                 |                         |
|                                |   |  |             | NUMBER  | TYPE    | AVG BLOWS / INCREMENT * | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.1                            | HMA (1"+/-)   |  |             |         |         |                         |             |                 |                         |
| 0.6                            | PCC (5.75"+/-)  |  |             |         |         |                         |             |                 |                         |
| 1.0                            | <b>Loess -- Lean CLAY</b> , light olive brown and olive brown |  | CL          | 1       | HA - DC | 3<br>5<br>4             | 28.8        |                 |                         |
| 1.6                            |   |  | CL          | 2       | HA - DC | 3<br>4<br>4             | 32.3        |                 |                         |
| 2.6                            | Bottom of boring  |  |             |         |         |                         |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Dynacone Standard Penetration\*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-28-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-28-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 15

|                                |   |  |             |         |      |                     |             |                 |                         |
|--------------------------------|---|--|-------------|---------|------|---------------------|-------------|-----------------|-------------------------|
| OWNER                          |   | ARCHITECT/ENGINEER                                     |             |         |      |                     |             |                 |                         |
| SITE<br><b>Knoxville, Iowa</b> |   | PROJECT<br><b>Knoxville 2016 Pavement Improvements</b> |             |         |      |                     |             |                 |                         |
| GRAPHIC LOG                    | DESCRIPTION   | SAMPLES  |             |         |      | TESTS               |             |                 |                         |
|                                |   | DEPTH (FT.)  | USCS SYMBOL | NUMBER  | TYPE | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.5                            | PCC (6.5"+/-)   |  |             |         |      |                     |             |                 |                         |
| 0.5                            | Loess -- <u>Lean CLAY</u> , light olive brown and yellowish brown | CL   | 1           | HA - SC | 13   | 23.0                |             |                 |                         |
| 2.5                            |   | CL   | 2           | HA - SC | 12   | 26.2                |             |                 |                         |
|                                | Bottom of boring  |  |             |         |      |                     |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-25-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-25-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 16

|                        |  |   |             |        |         |                     |             |                 |                         |
|------------------------|--|---|-------------|--------|---------|---------------------|-------------|-----------------|-------------------------|
| OWNER                  |  | ARCHITECT/ENGINEER                          |             |        |         |                     |             |                 |                         |
| SITE                   |  | PROJECT                                     |             |        |         |                     |             |                 |                         |
| <b>Knoxville, Iowa</b> |  | <b>Knoxville 2016 Pavement Improvements</b> |             |        |         |                     |             |                 |                         |
| GRAPHIC LOG            | DESCRIPTION  | SAMPLES                                     |             |        |         | TESTS               |             |                 |                         |
|                        |  | DEPTH (FT.)                                 | USCS SYMBOL | NUMBER | TYPE    | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.5                    | PCC (6"+/-)  |   |             |        |         |                     |             |                 |                         |
| 0.5                    | Possible Fill -- Lean CLAY, with gravel and sand, very dark brown and dark olive brown |   | CL          | 1      | HA - SC | 25+                 | 27.3        |                 |                         |
| 2.5                    |  |   | CL          | 2      | HA - SC | 25+                 | 23.2        |                 |                         |
| 2.5                    | Bottom of boring   |   |             |        |         |                     |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-25-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-25-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 17

|                        |   |   |             |         |       |                     |             |                 |
|------------------------|---|---|-------------|---------|-------|---------------------|-------------|-----------------|
| OWNER                  |   | ARCHITECT/ENGINEER                          |             |         |       |                     |             |                 |
| SITE                   |   | PROJECT                                     |             |         |       |                     |             |                 |
| <b>Knoxville, Iowa</b> |   | <b>Knoxville 2016 Pavement Improvements</b> |             |         |       |                     |             |                 |
| GRAPHIC LOG            | DESCRIPTION                                   | SAMPLES                                     |             |         | TESTS |                     |             |                 |
|                        |   | DEPTH (FT.)                                 | USCS SYMBOL | NUMBER  | TYPE  | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF |
|                        | 0.2 HMA (2.25"+/-)                            |   |             |         |       |                     |             |                 |
|                        | PCC (6.75"+/-)                                |   |             |         |       |                     |             |                 |
|                        | 0.8   |   |             |         |       |                     |             |                 |
|                        | <b>Loess -- Lean CLAY</b> , light olive brown | CL  | 1           | HA - SC | 18    | 32.1                |             |                 |
|                        |   | CL  | 2           | HA - SC | 18    | 35.4                |             |                 |
|                        | 2.8   |   |             |         |       |                     |             |                 |
|                        | Bottom of boring                              |   |             |         |       |                     |             |                 |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-26-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-26-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 18

|                                |   |  |             |         |       |                     |             |                 |
|--------------------------------|---|--|-------------|---------|-------|---------------------|-------------|-----------------|
| OWNER                          |   | ARCHITECT/ENGINEER                                     |             |         |       |                     |             |                 |
| SITE<br><b>Knoxville, Iowa</b> |   | PROJECT<br><b>Knoxville 2016 Pavement Improvements</b> |             |         |       |                     |             |                 |
| GRAPHIC LOG                    | DESCRIPTION   | SAMPLES  |             |         | TESTS |                     |             |                 |
|                                |   | DEPTH (FT.)  | USCS SYMBOL | NUMBER  | TYPE  | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF |
|                                | 0.3 HMA (3.25"+/-)  |  |             |         |       |                     |             |                 |
|                                | PCC (7.5"+/-)   |  |             |         |       |                     |             |                 |
|                                | 0.9   |  |             |         |       |                     |             |                 |
|                                | <b>Possible Fill -- Fine to medium SAND,</b><br>light olive brown | SP   | 1           | HA - SC | 25+   | 7.0                 |             |                 |
|                                |   |  |             |         |       |                     |             |                 |
|                                |   | SP   | 2           | HA - SC | 25+   | 5.3                 |             |                 |
|                                |   |  |             |         |       |                     |             |                 |
|                                | 2.9   |  |             |         |       |                     |             |                 |
|                                | Bottom of boring  |  |             |         |       |                     |             |                 |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-26-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-26-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 19

|                                |   |  |             |         |       |                     |             |                 |
|--------------------------------|---|--|-------------|---------|-------|---------------------|-------------|-----------------|
| OWNER                          |   | ARCHITECT/ENGINEER                                     |             |         |       |                     |             |                 |
| SITE<br><b>Knoxville, Iowa</b> |   | PROJECT<br><b>Knoxville 2016 Pavement Improvements</b> |             |         |       |                     |             |                 |
| GRAPHIC LOG                    | DESCRIPTION   | SAMPLES  |             |         | TESTS |                     |             |                 |
|                                |   | DEPTH (FT.)  | USCS SYMBOL | NUMBER  | TYPE  | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF |
|                                | 0.2 HMA (2.5"+/-)   |  |             |         |       |                     |             |                 |
|                                | PCC (5.5"+/-)   |  |             |         |       |                     |             |                 |
|                                | 0.7   |  |             |         |       |                     |             |                 |
|                                | <b>Loess -- Lean CLAY</b> , light olive brown and yellowish brown | CL   | 1           | HA - SC | 7     | 29.8                |             |                 |
|                                |   | CL   | 2           | HA - SC | 7     | 33.5                |             |                 |
|                                | 2.7   |  |             |         |       |                     |             |                 |
|                                | Bottom of boring  |  |             |         |       |                     |             |                 |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-26-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-26-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 20

| OWNER                          |   | ARCHITECT/ENGINEER                                     |             |         |       |                     |             |                 |
|--------------------------------|---|--|-------------|---------|-------|---------------------|-------------|-----------------|
| SITE<br><b>Knoxville, Iowa</b> |   | PROJECT<br><b>Knoxville 2016 Pavement Improvements</b> |             |         |       |                     |             |                 |
| GRAPHIC LOG                    | DESCRIPTION   | SAMPLES  |             |         | TESTS |                     |             |                 |
|                                |   | DEPTH (FT.)  | USCS SYMBOL | NUMBER  | TYPE  | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF |
| 0.2                            | HMA (2.25"+/-)  |  |             |         |       |                     |             |                 |
| 0.6                            | PCC (5"+/-)   |  |             |         |       |                     |             |                 |
| 1.6                            | <b>Possible Fill</b> -- <u>Lean CLAY</u> , trace sand, dark olive brown | CL   | 1           | HA - SC | 17    | 34.2                |             |                 |
| 2.6                            | <b>Loess</b> -- <u>Lean CLAY</u> , light olive brown                    | CL   | 2           | HA - SC | 17    | 27.7                |             |                 |
|                                | Bottom of boring  |  |             |         |       |                     |             |                 |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-26-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-26-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 21

|                        |   |   |             |        |         |                     |             |                 |                         |
|------------------------|---|---|-------------|--------|---------|---------------------|-------------|-----------------|-------------------------|
| OWNER                  |   | ARCHITECT/ENGINEER                          |             |        |         |                     |             |                 |                         |
| SITE                   |   | PROJECT                                     |             |        |         |                     |             |                 |                         |
| <b>Knoxville, Iowa</b> |   | <b>Knoxville 2016 Pavement Improvements</b> |             |        |         |                     |             |                 |                         |
| GRAPHIC LOG            | DESCRIPTION   | SAMPLES                                     |             |        |         | TESTS               |             |                 |                         |
|                        |   | DEPTH (FT.)                                 | USCS SYMBOL | NUMBER | TYPE    | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.5                    | PCC (6"+/-)   |   |             |        |         |                     |             |                 |                         |
| 0.5                    | <b>Possible Fill -- Sandy Lean CLAY,</b><br>trace gravel, very dark brown |   | CL          | 1      | HA - SC | 23                  | 20.3        |                 |                         |
| 1.5                    | -- becomes dark olive brown after 1.5'                                    |   | CL          | 2      | HA - SC | 20                  | 26.0        |                 |                         |
| 2.5                    | Bottom of boring  |   |             |        |         |                     |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-25-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-25-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 22

|                        |  |   |             |         |      |                     |             |                 |                         |
|------------------------|--|---|-------------|---------|------|---------------------|-------------|-----------------|-------------------------|
| OWNER                  |  | ARCHITECT/ENGINEER                          |             |         |      |                     |             |                 |                         |
| SITE                   |  | PROJECT                                     |             |         |      |                     |             |                 |                         |
| <b>Knoxville, Iowa</b> |  | <b>Knoxville 2016 Pavement Improvements</b> |             |         |      |                     |             |                 |                         |
| GRAPHIC LOG            | DESCRIPTION  | SAMPLES                                     |             |         |      | TESTS               |             |                 |                         |
|                        |  | DEPTH (FT.)                                 | USCS SYMBOL | NUMBER  | TYPE | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.5                    | PCC (5.75"+/-)   |   |             |         |      |                     |             |                 |                         |
| 1.5                    | Possible Fill -- Lean CLAY, trace sand and gravel, very dark brown |   | 1           | HA - SC | 12   | 33.6                |             |                 |                         |
| 2.5                    | Loess -- Lean CLAY, light olive brown                              | CL  | 2           | HA - SC | 14   | 40.0                |             |                 |                         |
| 2.5                    | Bottom of boring   |   |             |         |      |                     |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-25-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-25-58</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |

# LOG OF BORING NO. 23

|                        |   |   |             |        |         |                     |             |                 |                         |
|------------------------|---|---|-------------|--------|---------|---------------------|-------------|-----------------|-------------------------|
| OWNER                  |   | ARCHITECT/ENGINEER                          |             |        |         |                     |             |                 |                         |
| SITE                   |   | PROJECT                                     |             |        |         |                     |             |                 |                         |
| <b>Knoxville, Iowa</b> |   | <b>Knoxville 2016 Pavement Improvements</b> |             |        |         |                     |             |                 |                         |
| GRAPHIC LOG            | DESCRIPTION   | SAMPLES                                     |             |        |         | TESTS               |             |                 |                         |
|                        |   | DEPTH (FT.)                                 | USCS SYMBOL | NUMBER | TYPE    | STATIC CONE READING | MOISTURE, % | DRY DENSITY PCF | UNCONFINED STRENGTH PSF |
| 0.5                    | PCC (6"+/-)   |   |             |        |         |                     |             |                 |                         |
| 1.5                    | <b>Possible Fill</b> -- <u>Lean CLAY</u> , trace organic matter, olive brown and gray |   | CL          | 1      | HA - SC | 15                  | 27.6        |                 |                         |
| 2.5                    | <b>Residual Soil</b> -- <u>Lean to Fat CLAY</u> , olive brown                         |   | CL-CH       | 2      | HA - SC | 17                  | 27.6        |                 |                         |
|                        | Bottom of boring  |   |             |        |         |                     |             |                 |                         |

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL AND ROCK TYPES: IN-SITU, THE TRANSITION MAY BE GRADUAL. Calibrated Hand Penetrometer \*

|                          |   |                            |                                 |                     |
|--------------------------|---|----------------------------|---------------------------------|---------------------|
| WATER LEVEL OBSERVATIONS |   | <b>TEAM Services, Inc.</b> | BORING STARTED <b>8-25-15</b>   |                     |
| WL                       | ▽ |                            | BORING COMPLETED <b>8-25-15</b> |                     |
| WL                       |   |                            | RIG                             | FOREMAN <b>TEAM</b> |
| WL                       |   |                            | APPROVED <b>SGB</b>             | JOB # <b>1-3797</b> |