

Colbern Road Investments, Lots 1 & 2  
STREET AND STORM CONSTRUCTION PLANS  
Section 29, Township 48, Range 31  
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

CONSTRUCTION AND DESIGN NOTES:

STREET & STORM SEWERS:

1 ~ STREET PAVEMENT SHALL CONSIST OF TYPE CG-1 AND CG-2 CURBS WITH PAVEMENT PER TABLE LS-2 OF THE LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.

COMMERCIAL / INDUSTRIAL COLLECTOR STREET FOR NE RICE PARKWAY, NE HAROLD DR, NE COLBERN ROAD SEE BELOW FOR TYPICAL SECTION.  
OPTION 1) 7.5" TYPE 5-01 ASPHALT BASE AND 2" TYPE 5-01 or 6-01 ASPHALT SURFACE OVER A 6" MoDOT TYPE 5 BASE AND A SUBGRADE MIXTURE OF 9" FLY ASH STABILIZED SUBGRADE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.  
OPTION 2) 7.5" TYPE 5-01 ASPHALT BASE AND 2" TYPE 5-01 or 6-01 ASPHALT SURFACE OVER 12" MoDOT TYPE 5 BASE OVERTOP A BIAXIAL GEOGRID MEETING THE CITY'S APPROVED PRODUCT LIST.

2 ~ STORM SEWER PIPE SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) AS APPROVED BY CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.

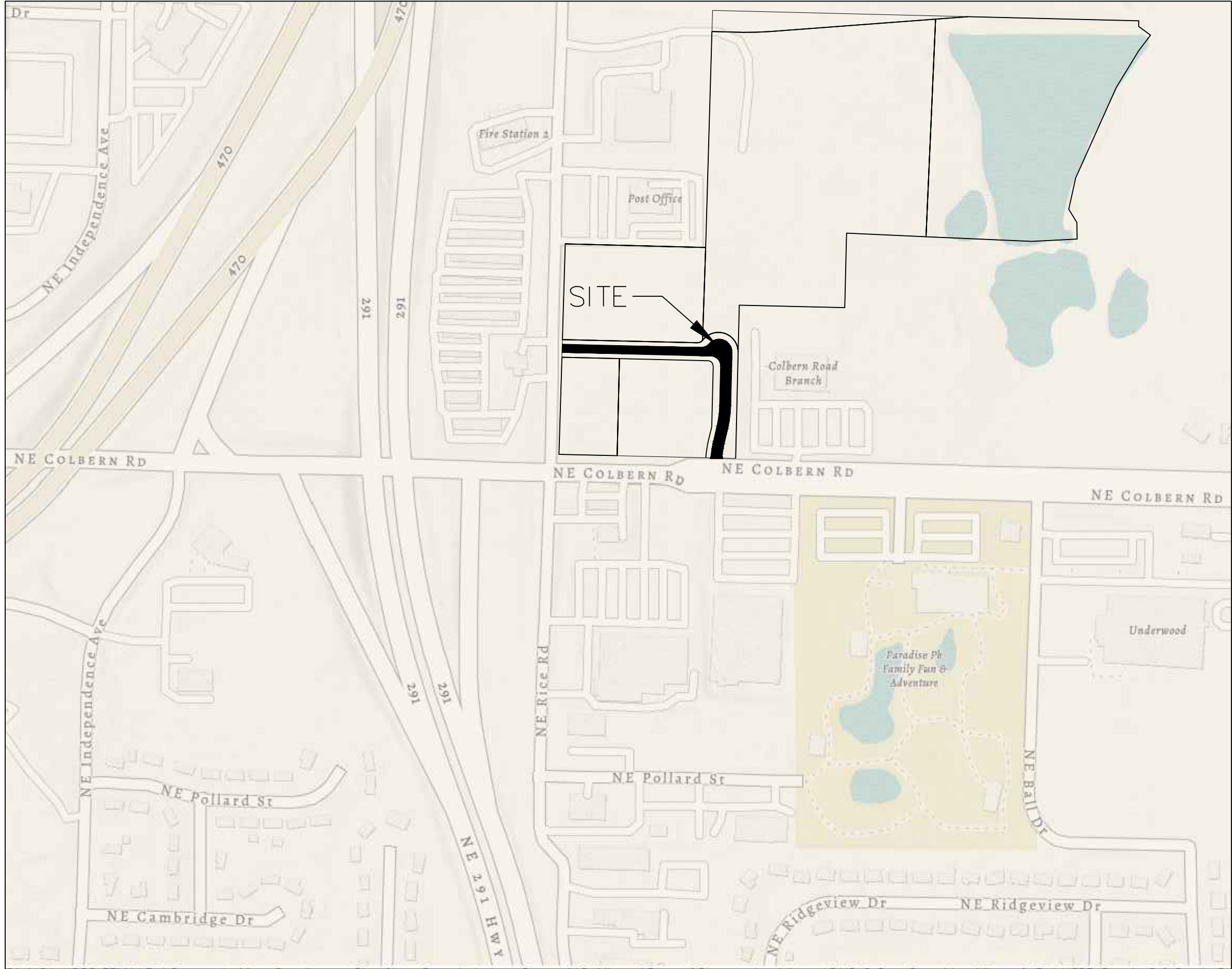
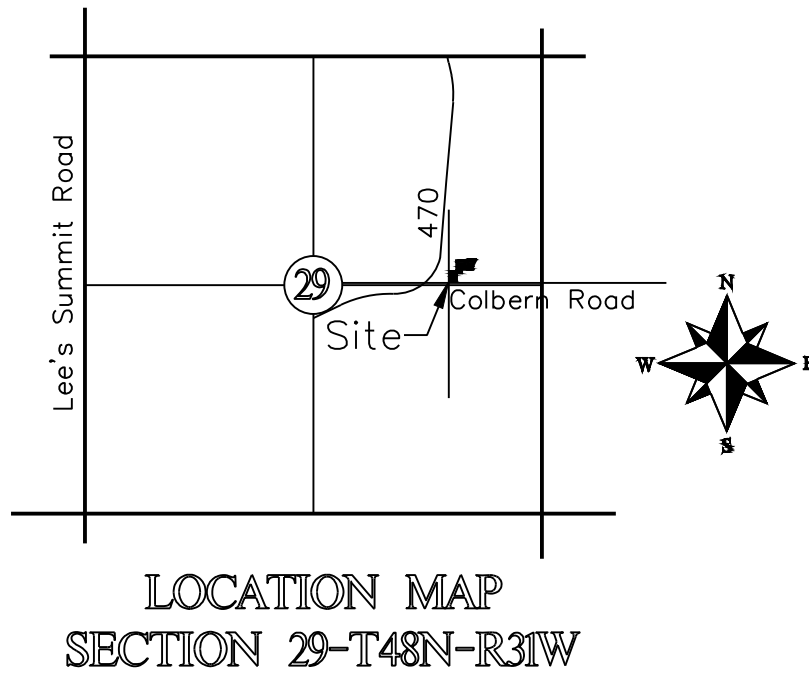
3 ~ JUNCTION BOXES SHALL BE PER CITY OF LEE'S SUMMIT STANDARD DRAWING NO. STM-3. FIELD INLETS SHALL BE PER CITY OF LEE'S SUMMIT STANDARD DRAWING STM-2. TOEWALLS SHALL BE PER CITY OF LEE'S SUMMIT DRAWING NO. STM-5. JUNCTION BOXES SHALL BE PER CITY OF LEE'S SUMMIT STM-3. ROCK LINING AND RIP RAP SHALL BE PER CITY OF LEE'S SUMMIT.

GENERAL NOTES:

1 ~ ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.  
2 ~ ALL REQUIRED EASEMENTS WITHIN THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED FOR ON THE FINAL PLAT.  
3 ~ ANY REQUIRED EASEMENT LOCATED OUTSIDE OF THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED FOR BY SEPARATE INSTRUMENT PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS.  
4 ~ THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.  
5 ~ THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH THE IMPROVEMENTS PROPOSED BY THESE PLANS AND SITE CONDITIONS.  
6 ~ THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND OBTAIN THE APPROPRIATE BLASTING PERMITS FOR A REQUIRED BLASTING. IF BLASTING IS ALLOWED, ALL BLASTING SHALL CONFORM TO STATE REGULATIONS AND LOCAL ORDINANCES.

**OIL - GAS WELLS**  
ACCORDING TO EDWARD ALTON MAY JR'S ENVIRONMENTAL IMPACT STUDY OF ABANDONED OIL AND GAS WELLS IN LEE'S SUMMIT, MISSOURI IN 1995, THERE ARE NOT OIL AND GAS WELLS WITHIN 185 FEET OF THE PROPERTY AS SURVEYED HEREON.

**FLOOD INFORMATION:**  
THE SUBJECT PROPERTY SURVEYED LIES WITHIN A FLOOD ZONE DESIGNATED ZONE (X), AREAS LOCATED OUTSIDE THE 100 YEAR FLOOD PLAIN, PER F.E.M.A. MAP, COMMUNITY PANEL NO. 2909SC0531G EFFECTIVE DATE: JANUARY 20, 2017.



Developer:  
COLBERN ROAD INVESTORS LLC  
1325 FAIR MARKET DR  
WENTZVILLE, MO 63385

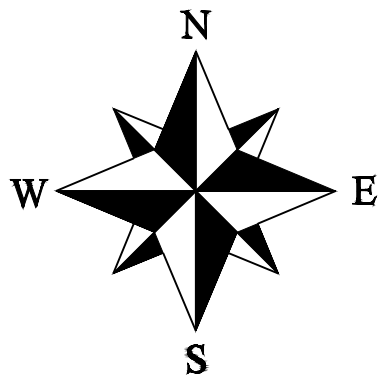
INDEX OF SHEETS:

- C.001 ~ STREET & STORM COVER SHEET
- C.100 ~ SITE PLAN
- C.200 ~ GRADING PLAN
- C.201 ~ SPOT ELEVATIONS
- C.202 ~ STREET PLAN & PROFILE
- C.203 ~ STREET PLAN & PROFILE
- C.204 ~ SIDEWALK AND INTERSECTION PLAN
- C.251 ~ EXISTING SITE CONDITIONS
- C.252 ~ PROPOSED ROAD IMPROVEMENTS
- C.253 ~ ROAD DIMENSION PLANS
- C.254 ~ ISLAND DIMENSION PLANS
- C.255 ~ TRAFFIC CONTROL PLAN GENERAL LAYOUT
- C.256 ~ TRAFFIC CONTROL STANDARD DETAILS
- C.257 ~ PAVEMENT MARKING DETAILS
- C.300 ~ STORM SEWER GENERAL LAYOUT
- C.301 ~ STORM SEWER PLAN & PROFILE
- C.302 ~ DETENTION BASIN AND RIPRAP APRON DETAILS
- C.600 ~ CONSTRUCTION DETAILS
- C.601 ~ CONSTRUCTION DETAILS

UTILITY COMPANIES:

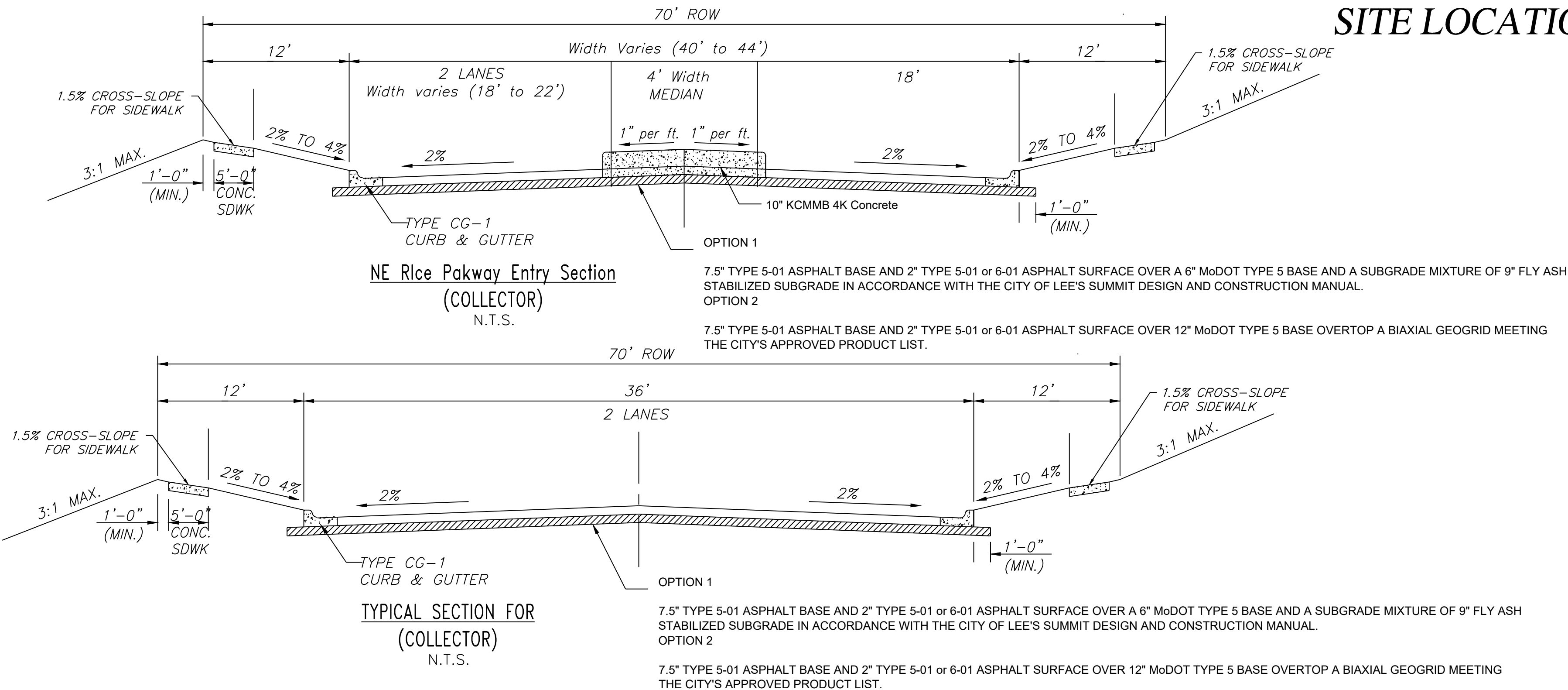
THE FOLLOWING LIST OF UTILITY COMPANIES IS PROVIDED FOR INFORMATION ONLY. WE DO NOT OFFER ANY GUARANTEE OR WARRANTY THAT THIS LIST IS COMPLETE OR ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES THAT MAY BE AFFECTED BY THE PROPOSED CONSTRUCTION AND VERIFYING THE ACTUAL LOCATION OF EACH UTILITY LINE. THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH PROPOSED IMPROVEMENTS.

EVERGY ~ 298-1196  
MISSOURI GAS ENERGY ~ 756-5261  
SOUTHWESTERN BELL TELEPHONE ~ 761-5011  
COMCAST CABLE ~ 795-1100  
WILLIAMS PIPELINE ~ 422-6300  
CITY OF LEE'S SUMMIT PUBLIC WORKS ~ 969-1800  
CITY OF LEE'S SUMMIT DEVELOPMENT ENGINEERING INSPECTION AT 816.969.1200  
CITY OF LEE'S SUMMIT WATER UTILITIES ~ 969-1900  
MISSOURI ONE CALL (DIG RITE) ~ 1-800-344-7483



- LEGEND:
- B/L - BUILDING SET-BACK
  - C/A - COMMON AREA
  - D/E - DRAINAGE EASEMENT
  - FND - FOUND
  - L/E - LANDSCAPE EASEMENT
  - L.N.A. - LIMITS OF NO ACCESS
  - R/W - RIGHT OF WAY
  - SAN - SANITARY SEWER LINE
  - S/W - SIDEWALK
  - U/E - UTILITY EASEMENT
  - W - WATER LINE
  - ST - STORM SEWER LINE

SITE LOCATION MAP



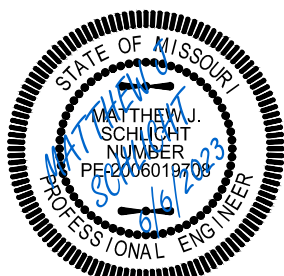
Summary of Quantities:

|                                   |      |          |
|-----------------------------------|------|----------|
| ASPHALT PAVING                    | S.Y. | 3,126.00 |
| CURBING                           | FT   | 1,758.00 |
| 5' SIDEWALK                       | S.F. | 8,792.00 |
| MoDOT Type 5 Base                 | S.Y. | 3,516.00 |
| GEOGRID                           | S.Y. | 3,516.00 |
| ADA SIDEWALK RAMP                 | UNIT | 6        |
| GRADING                           | LS   | 1        |
| STORM                             |      |          |
| 30" HDPE                          | FT   | 243.15   |
| 24" HDPE                          | FT   | 23.70    |
| 15" HDPE                          | FT   | 209.25   |
| 15" FLARED END-SECTION W/ RIP RAP | UNIT | 2        |
| 18" FLARED END-SECTION            | UNIT | 1        |
| 30" HDPE END SECTION W/ RIP RAP   | LS   | 1.00     |
| 5' x 4' STORM CURB INLET          | EA   | 3.00     |

ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PROJECT HAS BEEN DESIGNED AND THESE PLANS PREPARED IN ACCORDANCE WITH THE CURRENT DESIGN CRITERIA OF THE CITY OF LEE'S SUMMIT, MISSOURI AND THE STATE OF MISSOURI. I FURTHER CERTIFY THAT THESE PLANS WERE DESIGNED IN ACCORDANCE TO AASHTO STANDARDS.

Street & Storm Cover Sheet  
Construction Plans for:  
Colbern Road Investments  
Lee's Summit, Jackson County, Missouri



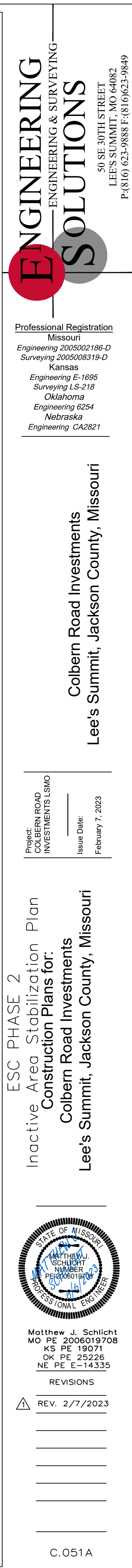
Matthew J. Schlicht  
MO PE 2006019708  
KS PE 19071  
OK PE 25226  
NE PE E-14335

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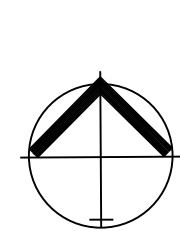
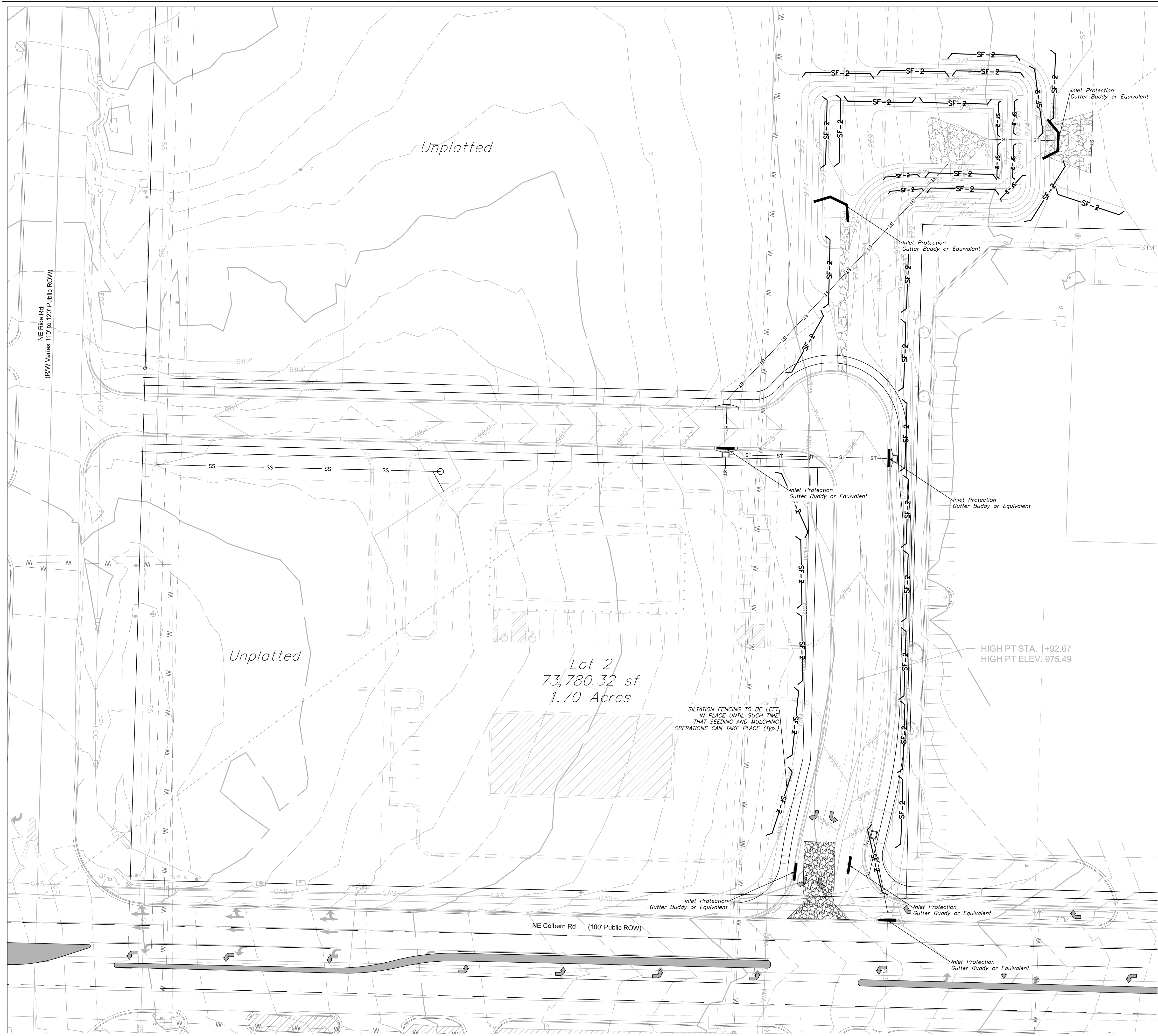












ESC PHASE FINAL

SCALE: 1" = 30'



SILT FENCE PROTECTION  
TO BE MAINTAINED BY CONTRACTOR

LEGEND

- PHASE 1 SILT FENCE ——— SF-1 ——— SF-1 ———
- PHASE 2 SILT FENCE ——— SF-2 ——— SF-2 ———
- INLET PROTECTION ———

DURING ALL PHASES OF CONSTRUCTION, INACTIVE AREA STABILIZATION METHODS AS DESCRIBED IN APWA SECTION 5111.3 SHALL BE USED TO CONTROL EROSION AND SILTATION.

NOTES: The Land Disturbance Plans indicates the Final placement of erosion control devices. The contractor(s) may proceed with construction prior to the final placement of these devices by providing additional devices to control erosion on their items of work. These devices shall be maintained until the final devices are in place.

SEED AND MULCH NOTES:

All areas disturbed by construction activities shall be seeded and mulched. Seeding shall be done before the proposed seedbed becomes eroded, crusted over, or dried out and shall not be done when the ground is frozen, or covered with snow. The seed shall comply with the requirements of the Missouri Seed Law and the Federal Seed Act. Also, it shall contain no seed of any plant on the Federal Noxious Weed List. Other weed seeds shall not exceed one percent by weight of mix.

Seed and Fertilizer Rate:

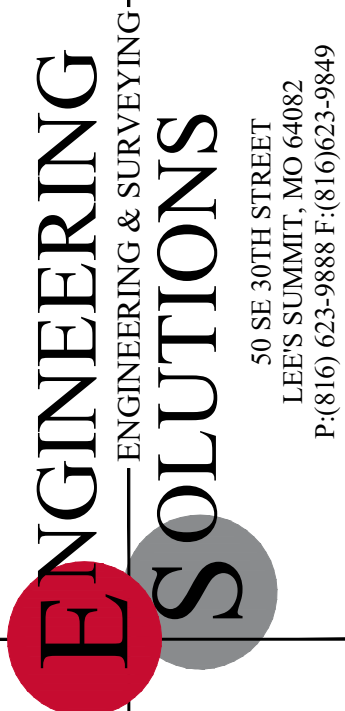
Mix I - Rye Grass / Blue Grass -----  
100 lbs. per Acre  
Mix II - Tall Fescue / Blue Grass ----- 195  
lbs. per Acre  
Lime -----

| lbs per Acre (50 Fertilizer) | lbs. per 1000 sq. ft.)                  |
|------------------------------|-----------------------------------------|
| -----                        | -----2000                               |
| to 1200 lbs per ft.)         | Acre (25 lbs per 1000 sq. ft.) -----800 |

During the dates December 15th through May 31 ALL lime fertilizer, seed and mulch shall be applied to finished slopes of disturbed areas. During the months of June, July, October and November 1st through December 15th, lime fertilizer, seed and mulch shall be applied at the following rates:  
Lime - 100% of specified quantity  
Fertilizer - 75% of the specified quantity  
Seed - 50% of the specified quantity  
Mulch - 100% of the specified quantity

Mulch shall be Vegetative type, cereal straw from stalks of oats, rye, or barley, or approved equal. The straw shall be free of prohibited weed seed and relatively free of all other noxious and undesirable seed. Mulch shall be applied at the rate of 2 tons per acre, (70 to 90 lbs per 1000 sq. ft.). Mulch shall be embedded by a mulch anchoring tool or disk type roller having flat serrated disks spaced not more than 10 inches apart and cleaning scrapers shall be provided

ONCE SITE IS 90% VEGETATED ALL ESC DEVICES SHALL BE REMOVED AND ANY DISTURBED AREAS SHALL BE RESTORED

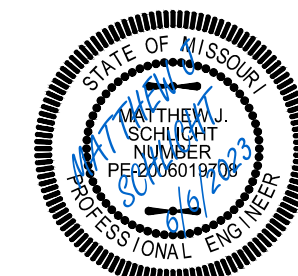


Professional Registration  
Missouri  
Engineering 2005002186-D  
Surveying 2005008319-D  
Kansas  
Engineering E-1695  
Surveying LS-218  
Oklahoma  
Engineering 6254  
Nebraska  
Engineering CA2821

Colbern Road Investments  
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD  
INVESTMENTS L&MO  
Issue Date:  
February 7, 2023

ESC PHASE 3 - Final Restoration Plan  
Construction Plans for:  
Colbern Road Investments  
Lee's Summit, Jackson County, Missouri

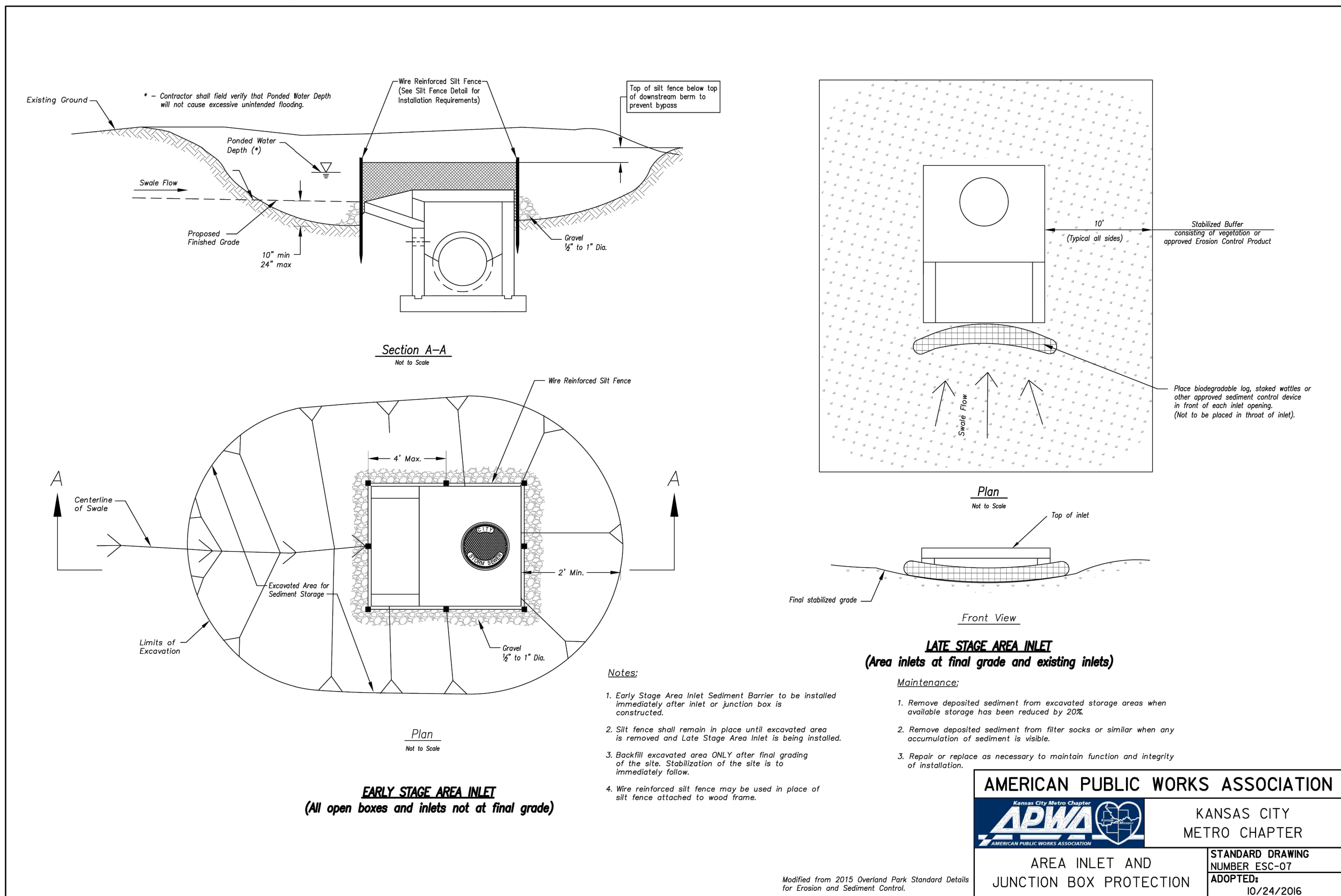
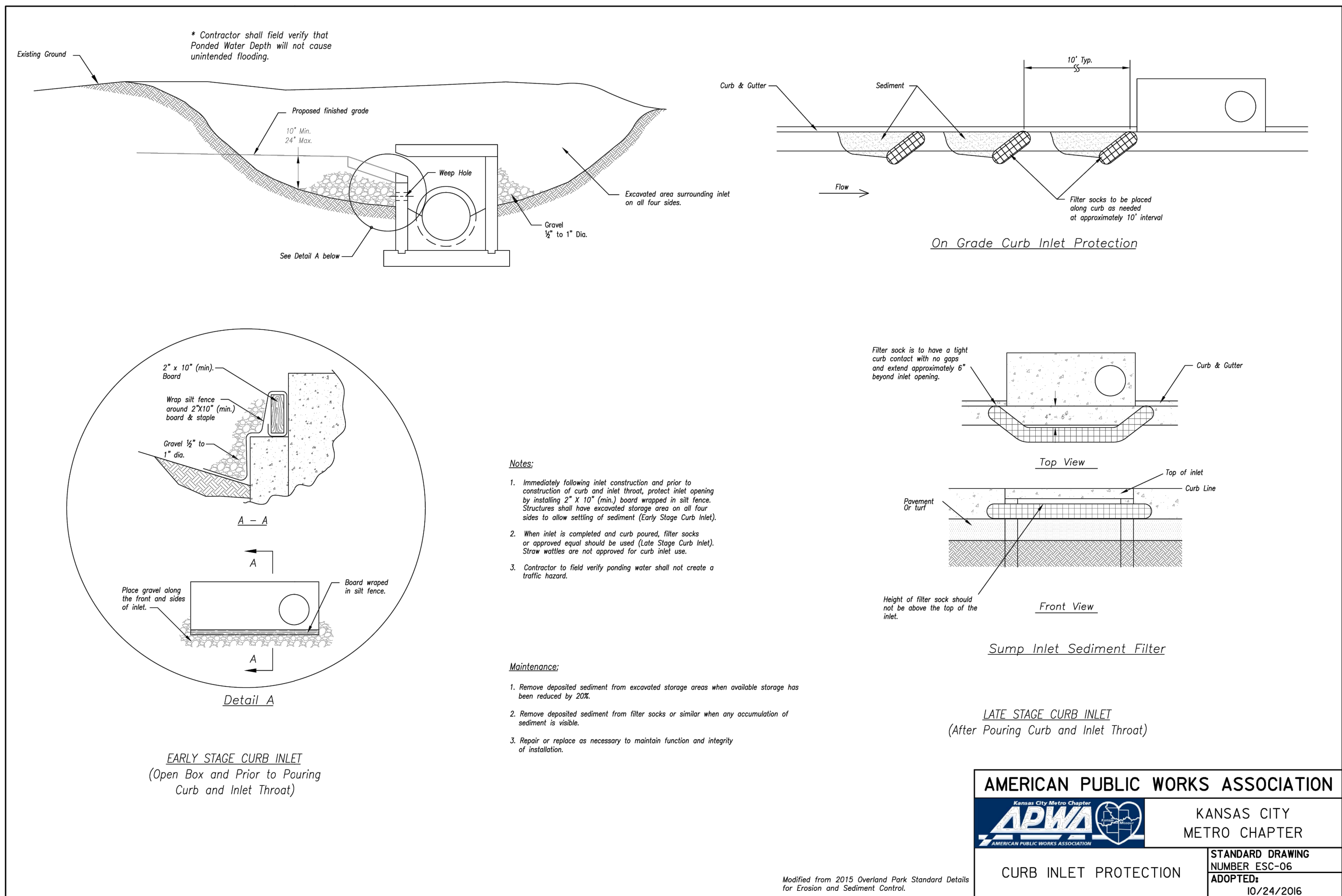
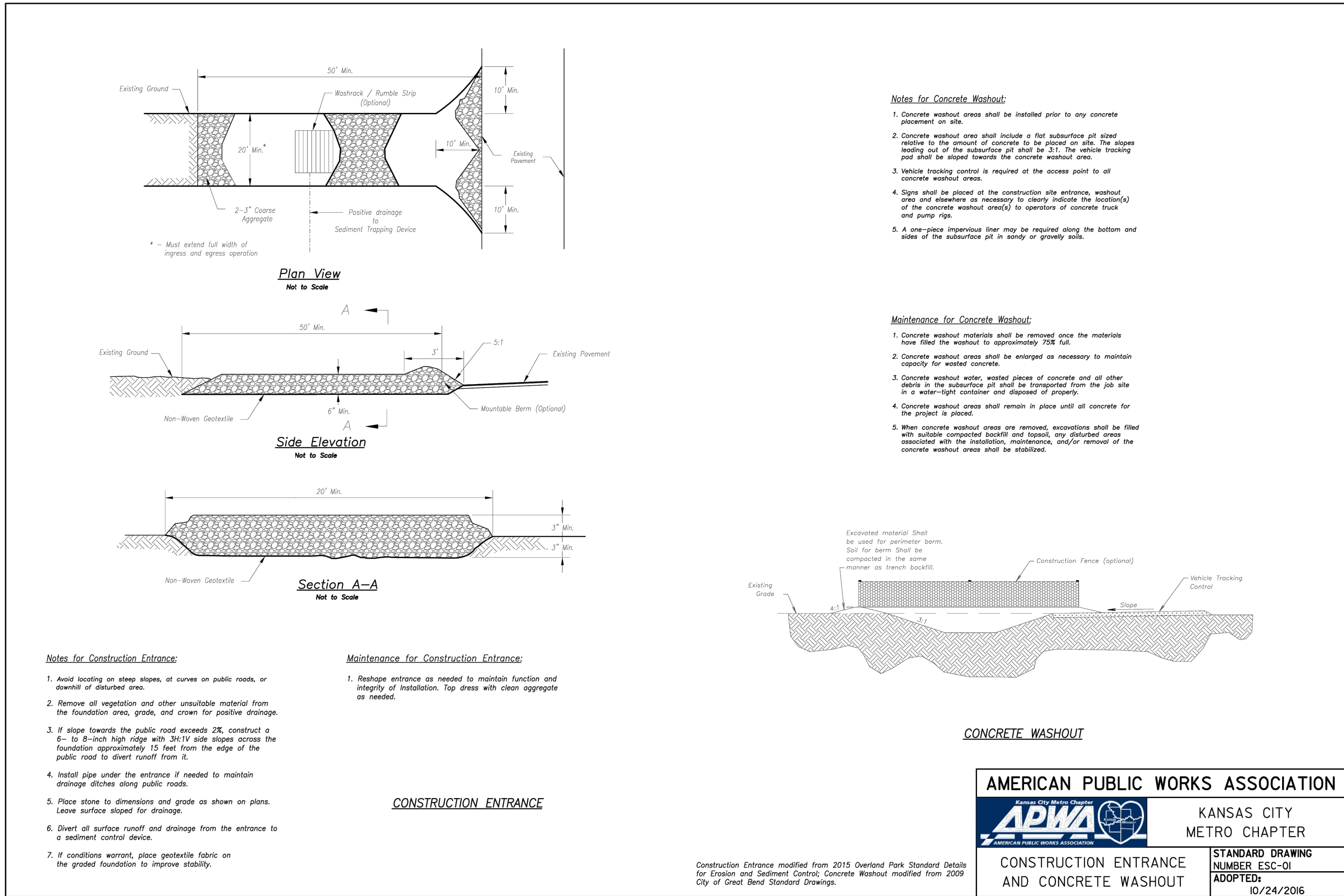
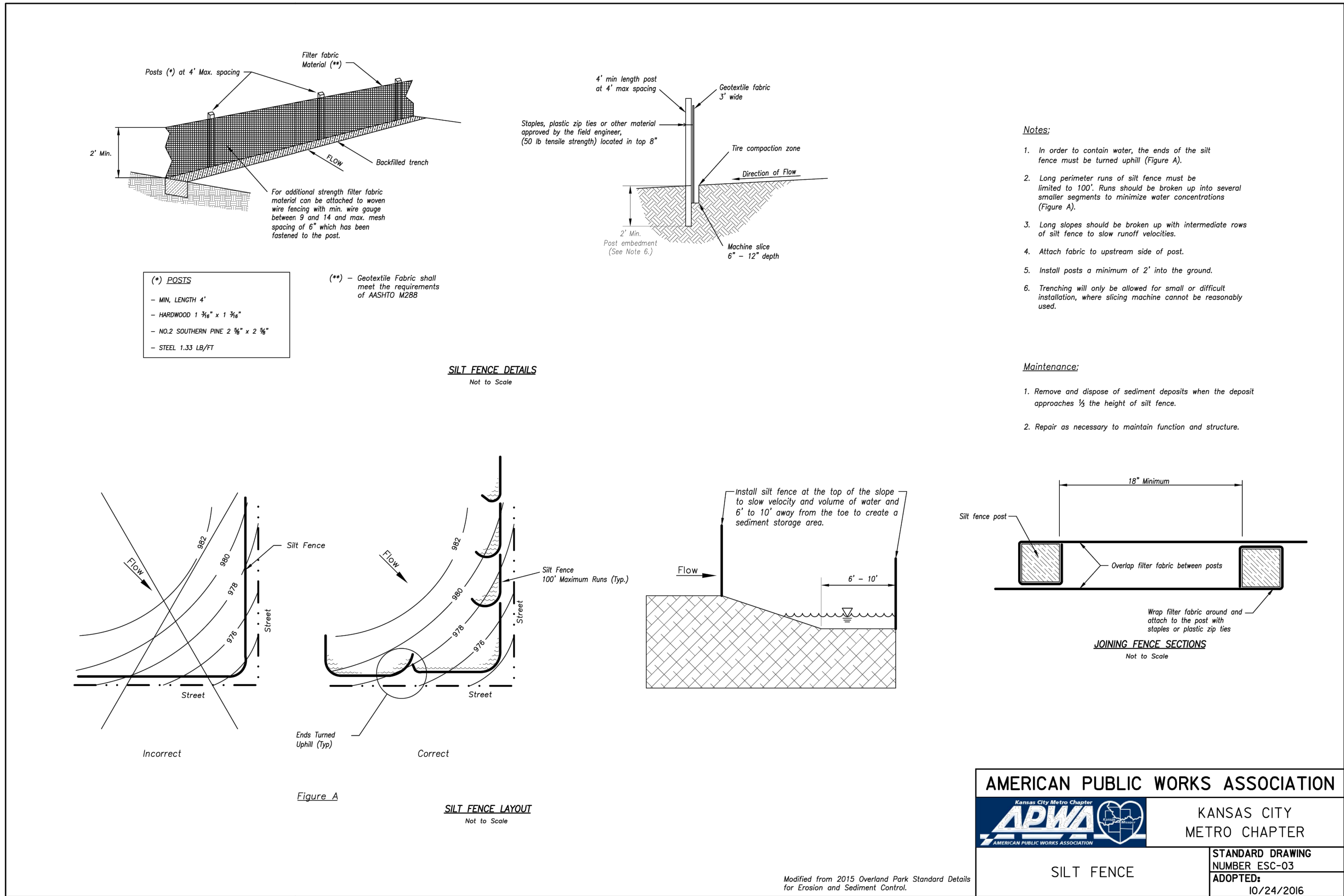


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OK PE 25226  
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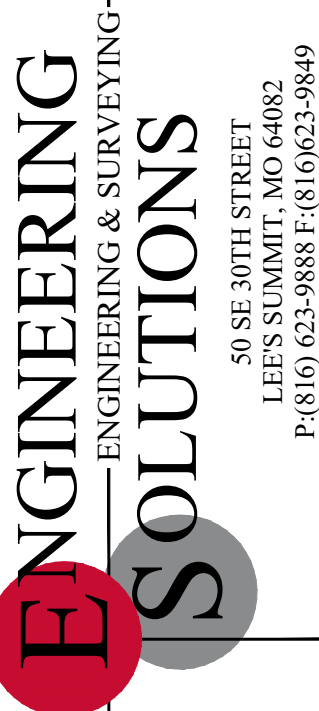
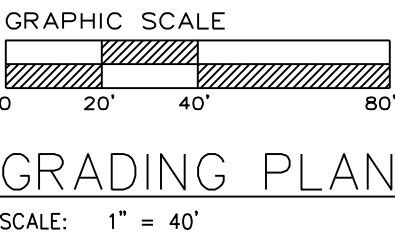
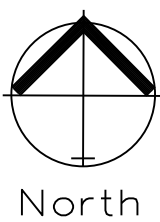
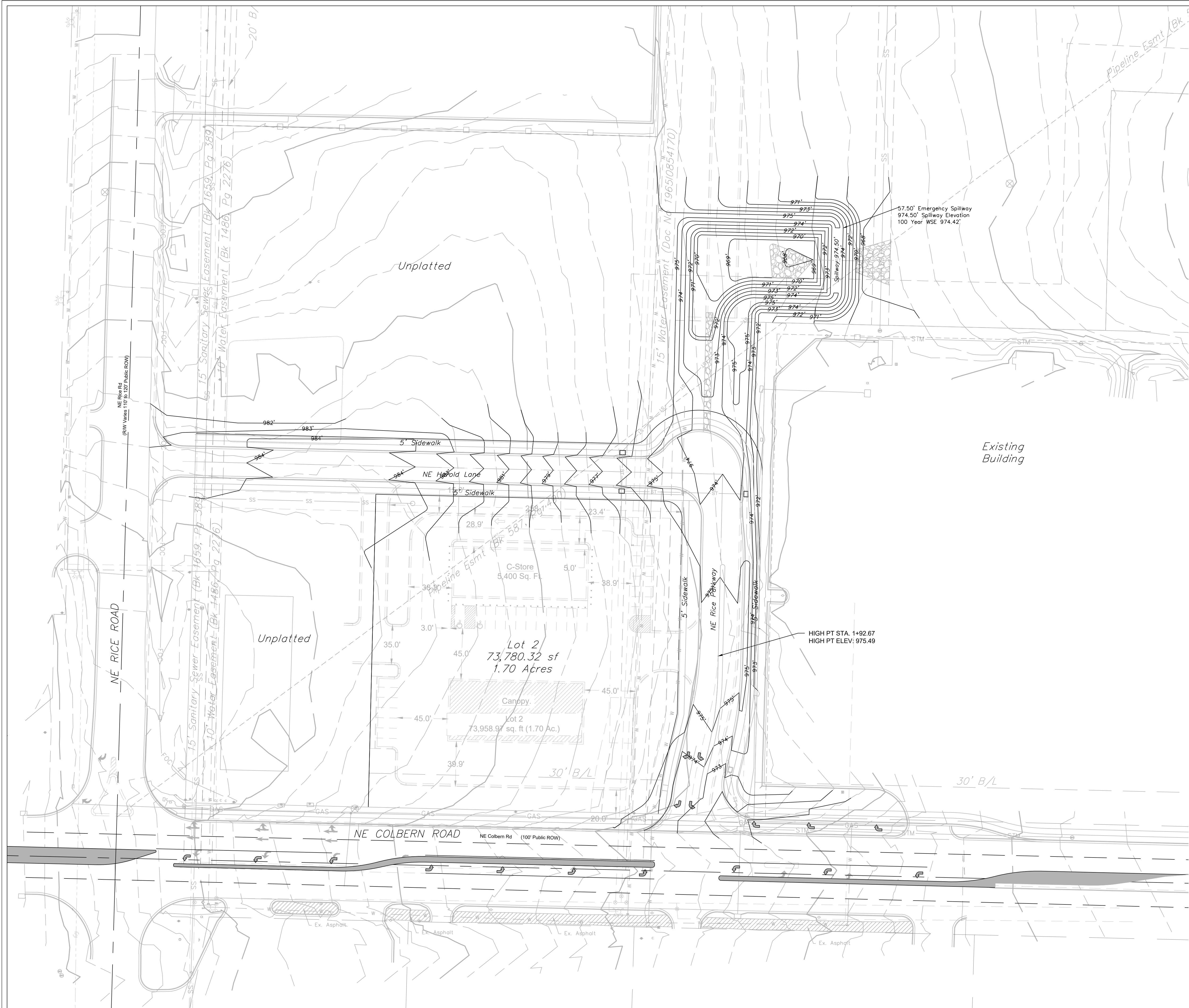










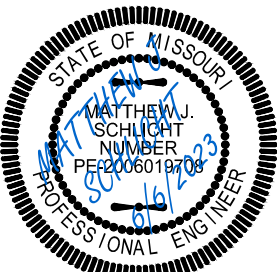


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Missouri  
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Kansas  
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Surveying LS-218  
Oklahoma  
Engineering 6254  
Nebraska  
Engineering CA2821

Colbern Road Investments  
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD  
INVESTMENTS LMO  
Issue Date:  
February 7, 2023

Grading Plan  
Construction Plans for:  
Colbern Road Investments  
Lee's Summit, Jackson County, Missouri



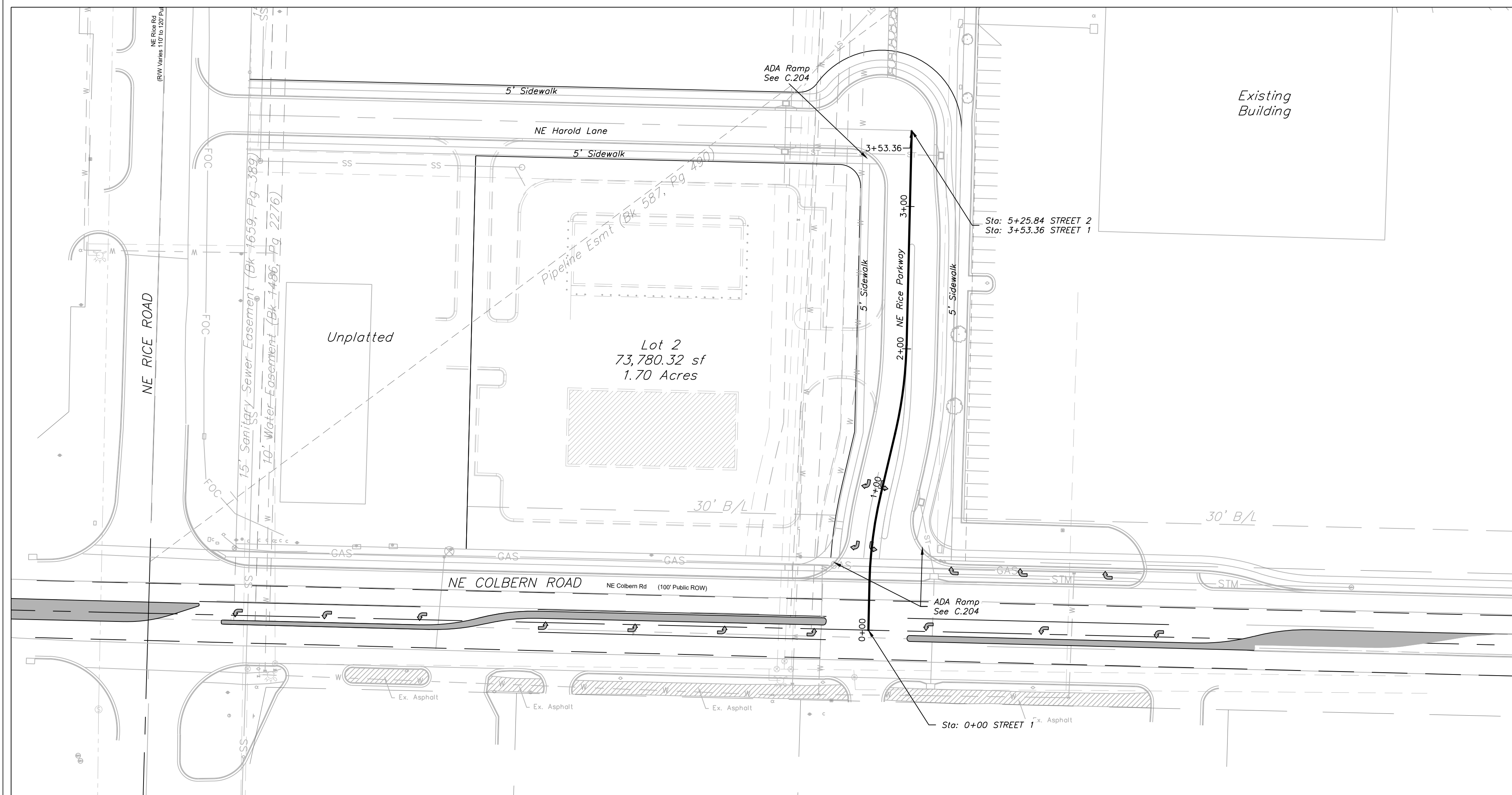
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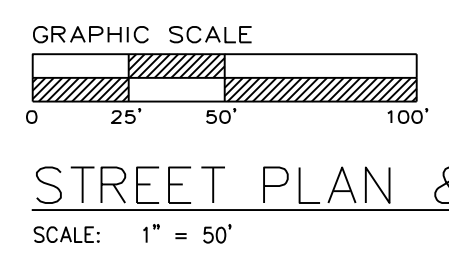
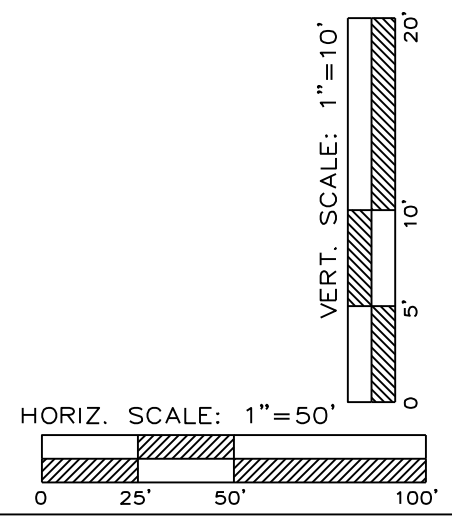
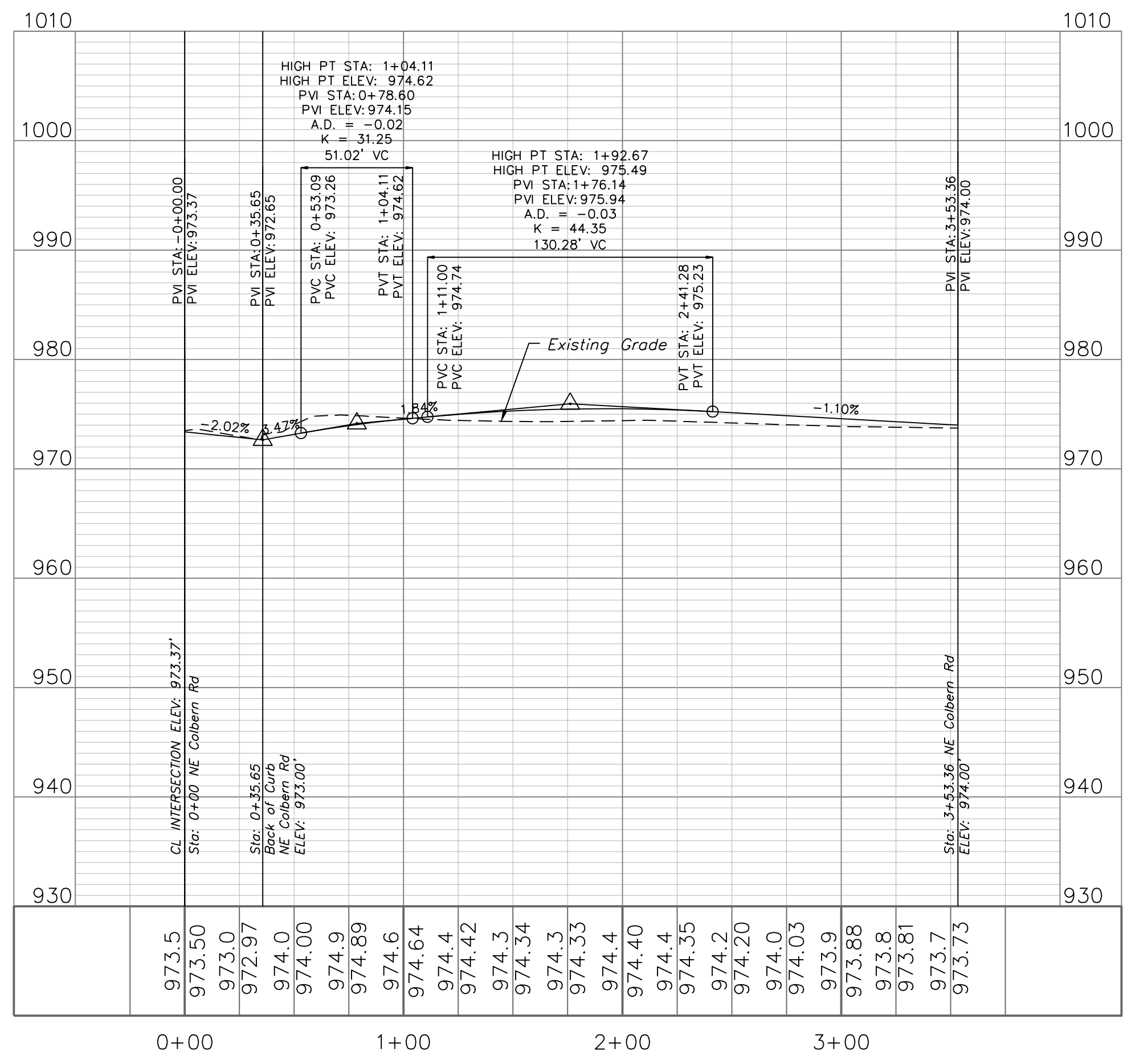








NE Rice Parkway



STREET PLAN & PROFILE

SCALE: 1" = 50'

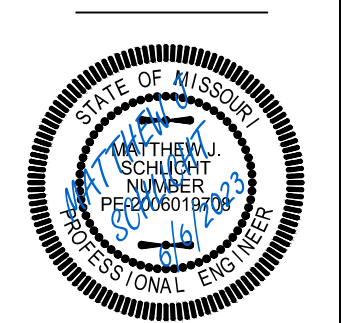


Professional Registration  
 Missouri  
 Engineering 2005002186-D  
 Surveying 2005008319-D  
 Kansas  
 Engineering E-1685  
 Surveying LS-218  
 Oklahoma  
 Engineering 6254  
 Nebraska  
 Engineering CA2821

Colbern Road Investments  
 Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD INVESTMENTS L&MO  
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Street Plan and Profile  
 Construction Plans for:  
 Colbern Road Investments  
 Lee's Summit, Jackson County, Missouri

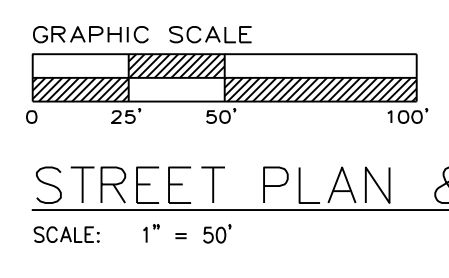
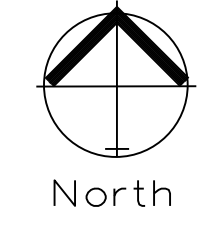
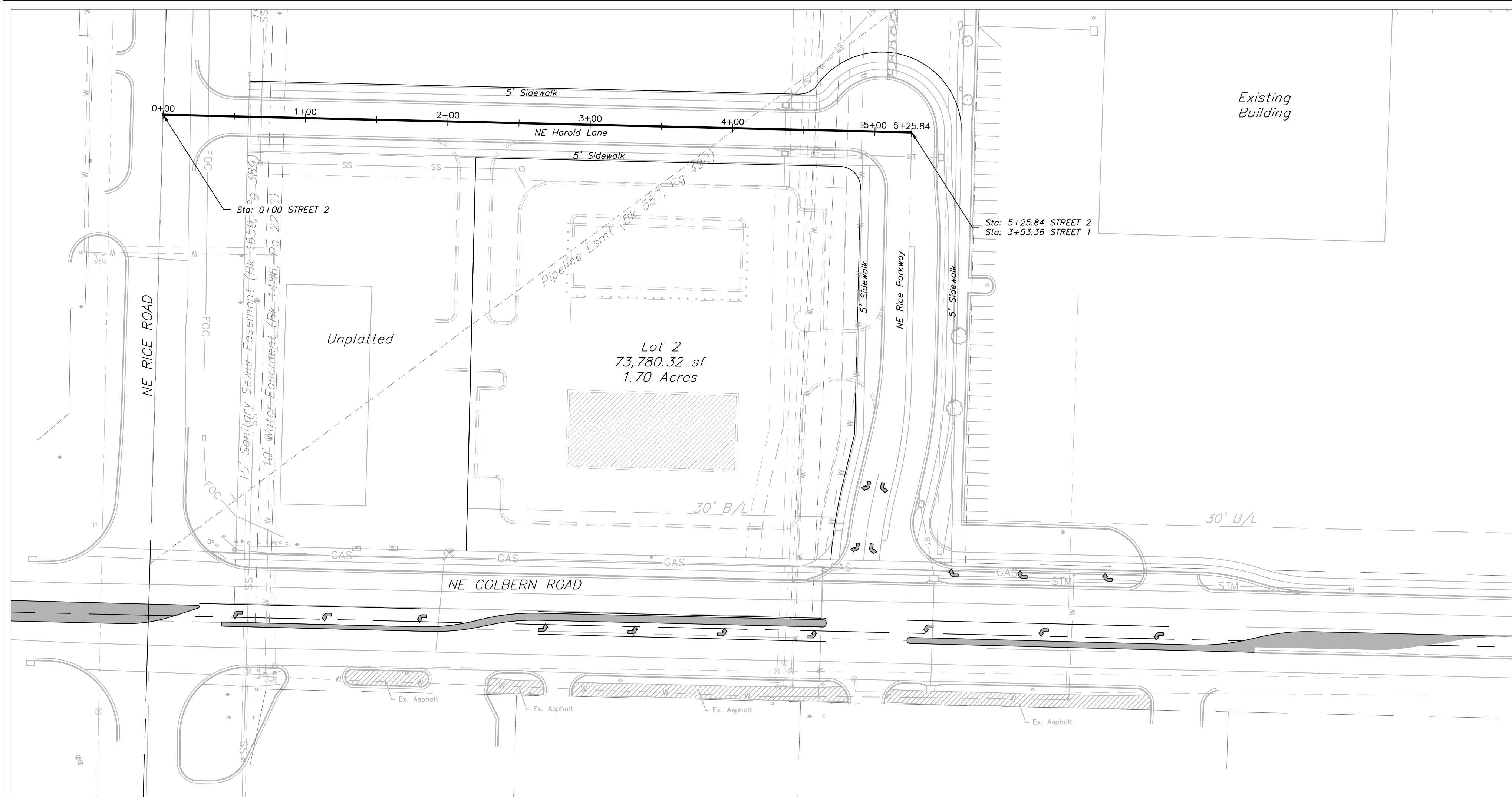


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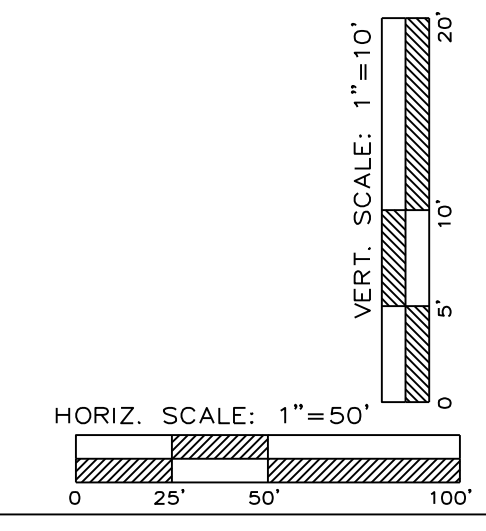
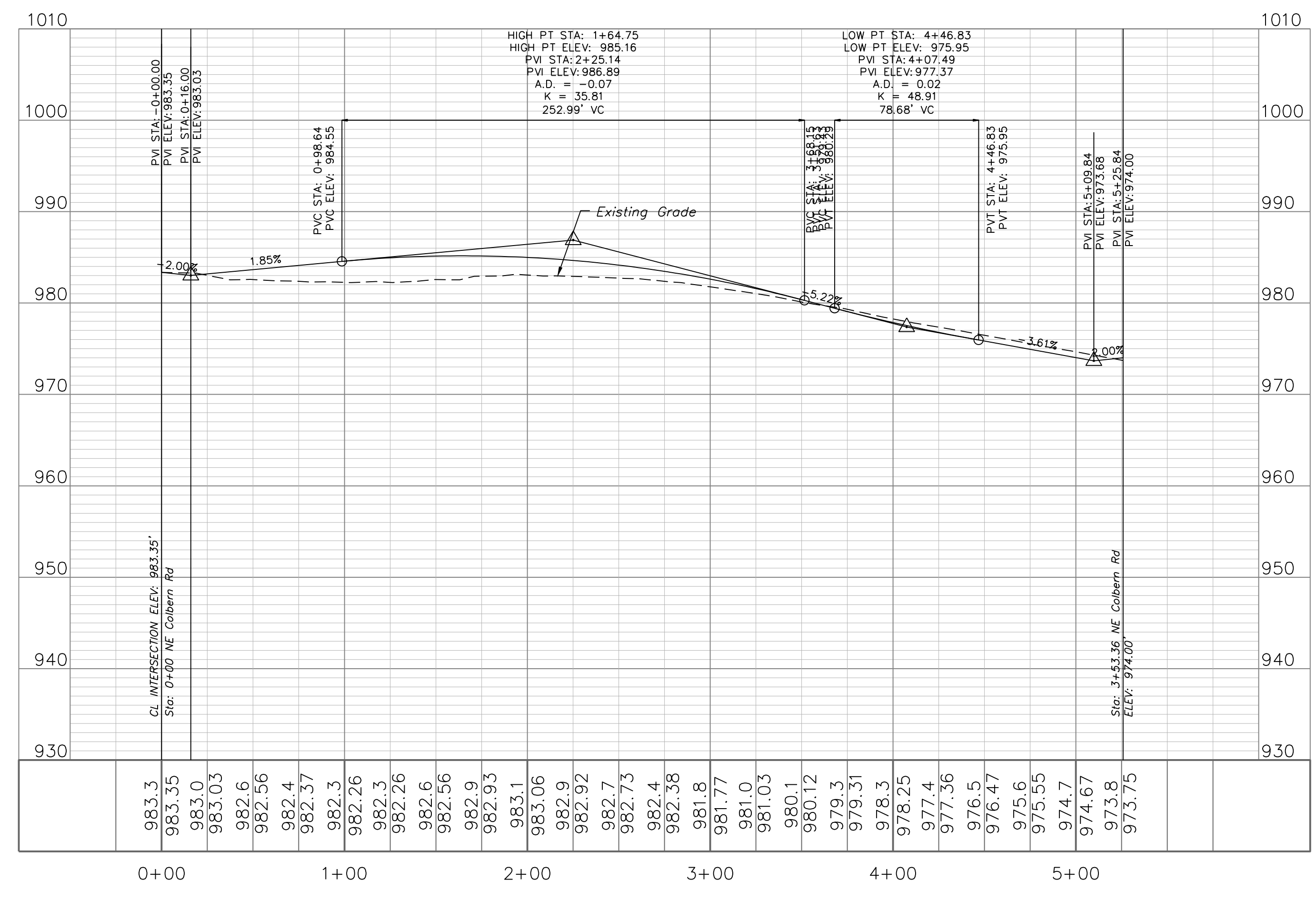
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STREET PLAN & PROFILE

NE Harold Lane



NOT FOR  
CONSTRUCTION

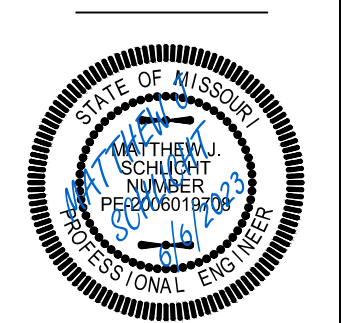


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Colbern Road Investments  
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD INVESTMENTS LIMO  
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Street Plan and Profile  
Construction Plans for:  
Colbern Road Investments  
Lee's Summit, Jackson County, Missouri

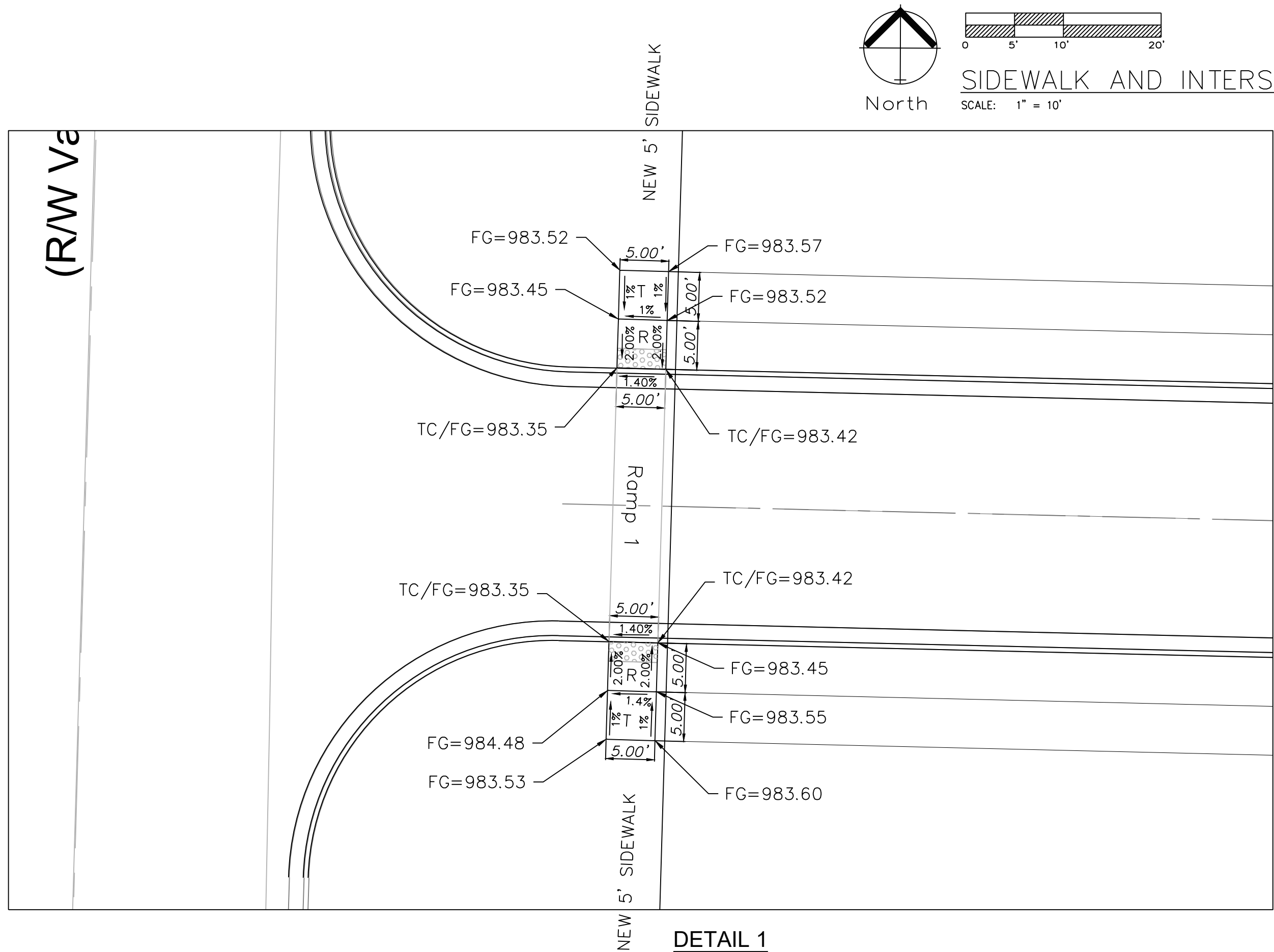


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**Legend:**

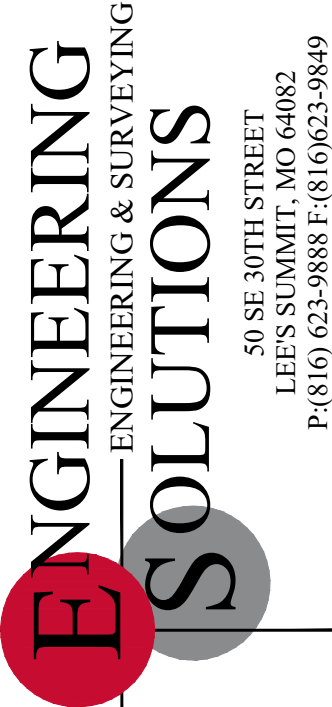
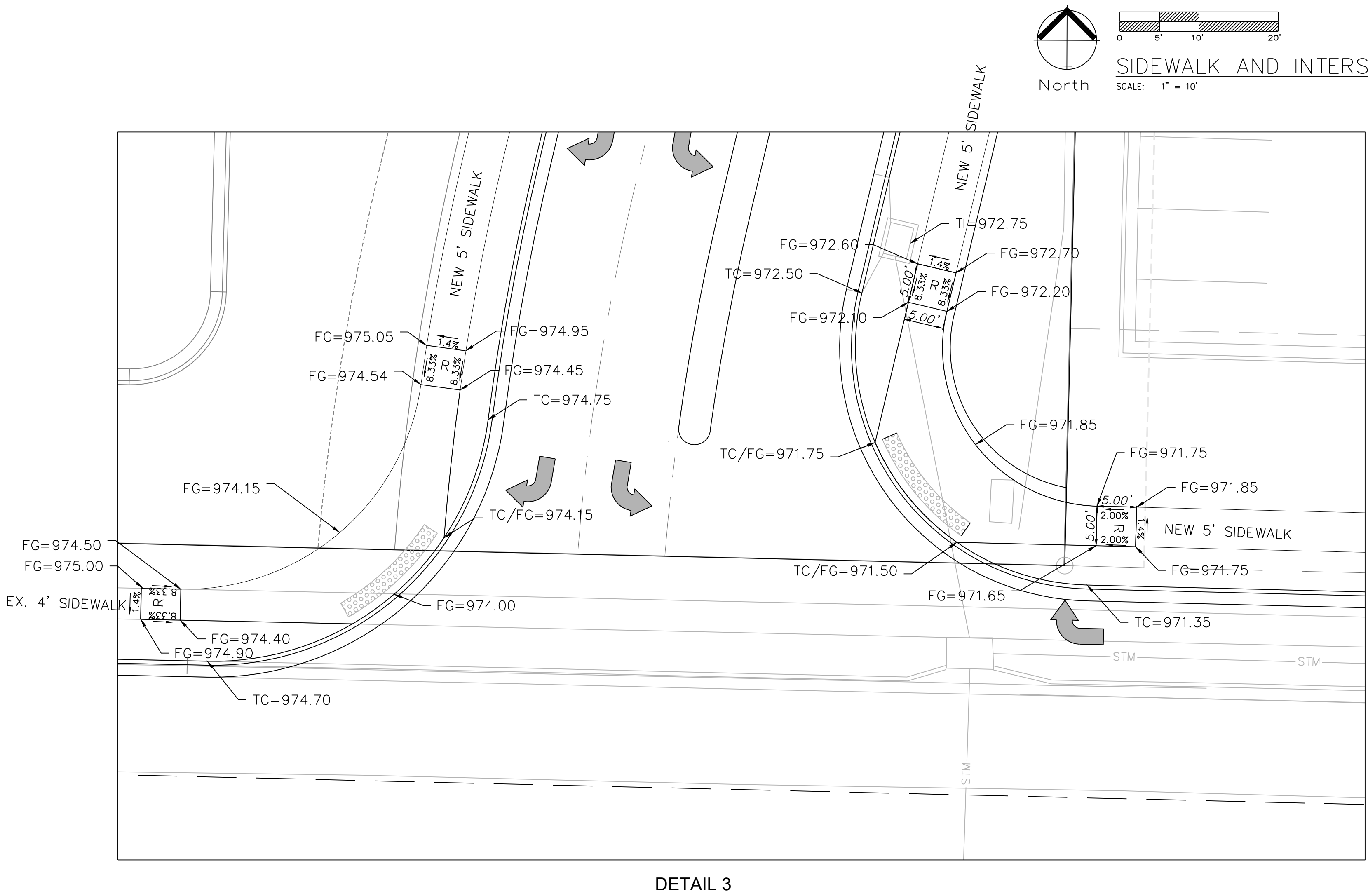
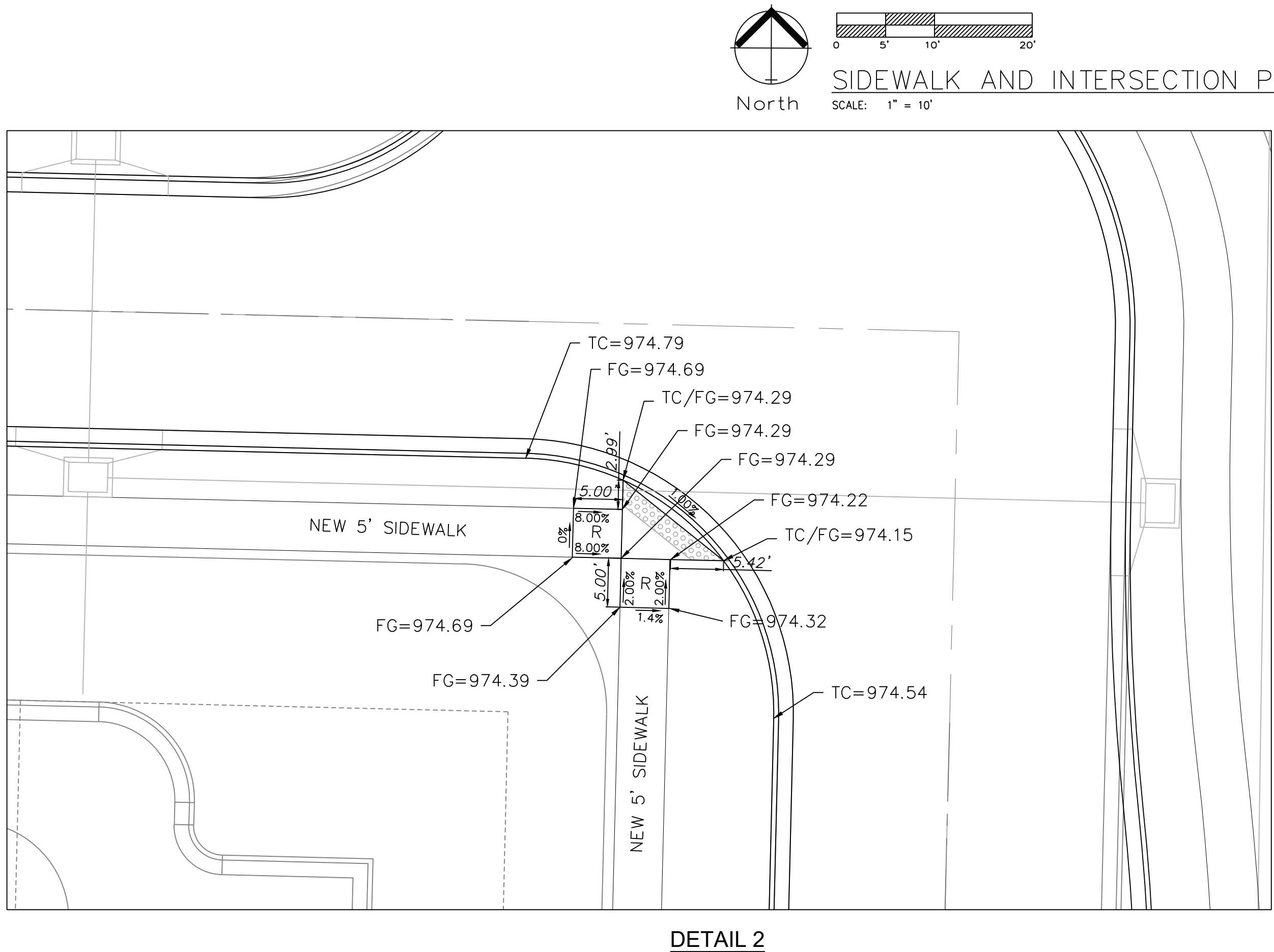
EX TC = Existing Top of Curb

EX FG = Existing Finished Grade

FG = Finished Grade

TC = Top of Curb

TC/FG = Top of Curb/Finished Grade



**Professional Registration**

Missouri  
Engineering 2005002186-D  
Surveying 2005008319-D

Kansas  
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Surveying LS-218

Oklahoma  
Engineering 6254

Nebraska  
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**Colbern Road Investments**

Lee's Summit, Jackson County, Missouri

**Project:** COLBERN ROAD INVESTMENTS LIMO

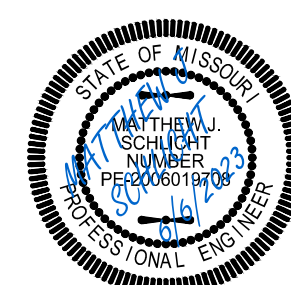
**Issue Date:** February 7, 2023

**SIDEWALK AND INTERSECTION PLAN**

Construction Plans for:

**Colbern Road Investments**

Lee's Summit, Jackson County, Missouri



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OK PE 25226  
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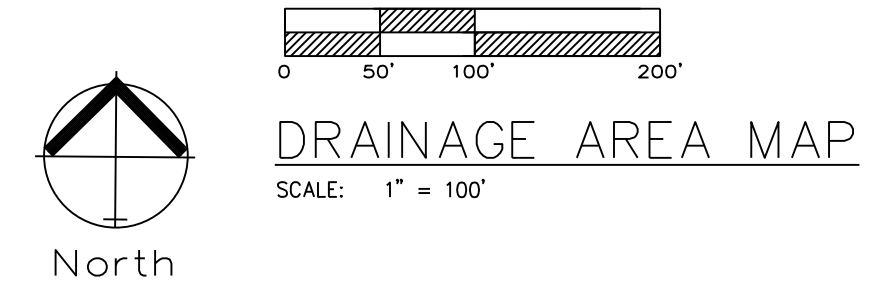
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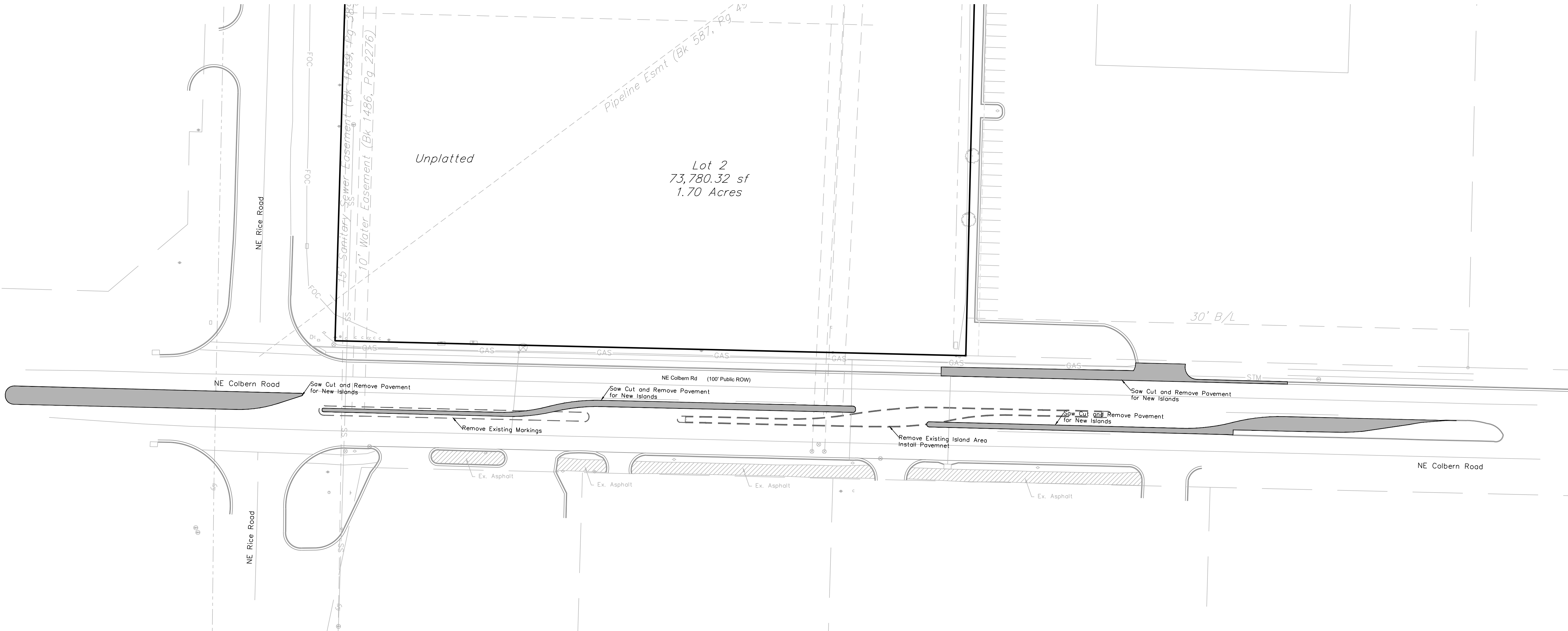
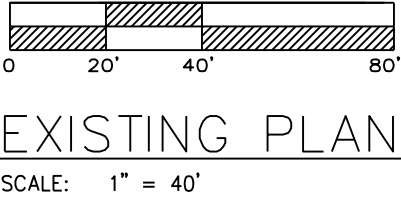
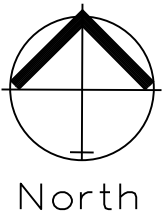




| Line      | ToLine    | LineLength | Incr.Area | TotalArea | RunoffCoeff. | IncrC x A | TotalC x A | InletTime | TimeConc | RnfallInt | TotalRunoff | TotalFlow | CapacFull | Veloc  | PipeSize | PipeSlope | Inv ElevDn | Inv ElevUp | HGLDn  | HGLUp  | Grnd/RimDn | Grnd/RimUp |
|-----------|-----------|------------|-----------|-----------|--------------|-----------|------------|-----------|----------|-----------|-------------|-----------|-----------|--------|----------|-----------|------------|------------|--------|--------|------------|------------|
|           |           | (ft)       | (ac)      | (ac)      | (C)          |           |            | (min)     | (min)    | (in/hr)   | (cfs)       | (cfs)     | (cfs)     | (ft/s) | (in)     | (%)       | (ft)       | (ft)       | (ft)   | (ft)   | (ft)       | (ft)       |
| Inlet 2-1 | Inlet 2-2 | 209.15     | 0.13      | 3.07      | 0.9          | 0.12      | 2.76       | 5         | 5.4      | 9.7       | 26.74       | 26.74     | 39.21     | 6.99   | 30       | 0.55      | 968.25     | 969.4      | 969.92 | 971.11 | 975        | 976.41     |
| Inlet 2-2 | Inlet 2-3 | 34         | 0.13      | 2.94      | 0.9          | 0.12      | 2.65       | 5         | 5.4      | 9.7       | 25.68       | 25.68     | 40.55     | 6.99   | 30       | 0.59      | 969.65     | 969.85     | 971.24 | 971.53 | 976.41     | 976.41     |
| Inlet 2-3 | Inlet 2-4 | 23.7       | 1.97      | 1.97      | 0.9          | 1.77      | 1.77       | 5         | 5        | 9.8       | 17.43       | 17.43     | 44.08     | 7.07   | 24       | 3.8       | 970.1      | 971        | 971.53 | 972.5  | 976.41     | 977        |
| Inlet 2-3 | Inlet 3-1 | 109.73     | 0.84      | 0.84      | 0.9          | 0.76      | 0.76       | 5         | 5        | 9.8       | 7.43        | 7.43      | 7.77      | 5      | 18       | 0.55      | 970.35     | 970.95     | 971.53 | 972.13 | 976.41     | 974.29     |



NOTE:  
SEE TRAFFIC CONTROL DETAIL SHEET, C.206 FOR SIGNS, LANE CLOSURE, CHANNELIZERS AND OTHER TRAFFIC CONTROL DEVICES.

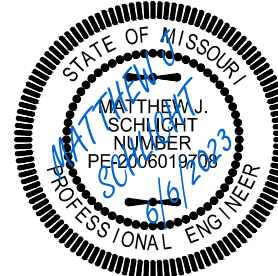


Professional Registration  
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Surveying 2005008319-D  
Kansas  
Engineering E-1685  
Surveying LS-218  
Oklahoma  
Engineering 6254  
Nebraska  
Engineering CA2821

Colbern Road Investments  
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD INVESTMENTS L&MO  
Issue Date: February 7, 2023

Existing Site Conditions  
Construction Plans for:  
Colbern Road Investments  
Lee's Summit, Jackson County, Missouri

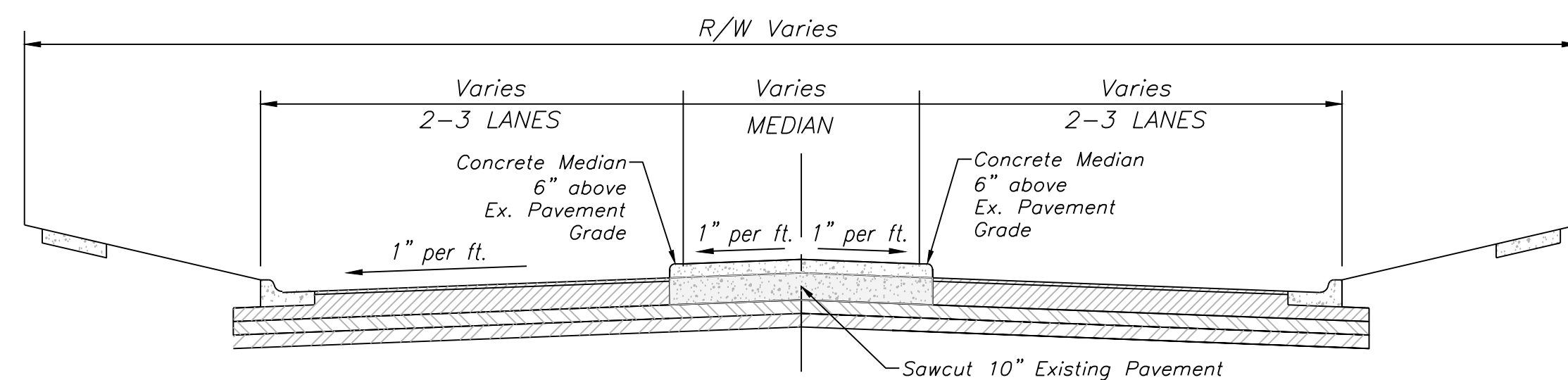


Matthew J. Schlicht  
MO PE 2006019708  
KS PE 19071  
OK PE 25226  
NE PE E-14335

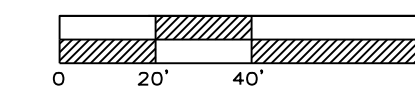
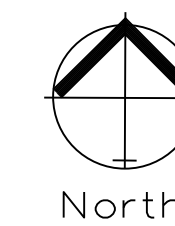
| REVISIONS |               |
|-----------|---------------|
| △         | REV. 2/7/2023 |
|           |               |
|           |               |
|           |               |
|           |               |
|           |               |



SEE TRAFFIC CONTROL DETAIL SHEET, C.206 FOR SIGNS, LANE CLOSURE, CHANNELIZERS AND OTHER TRAFFIC CONTROL DEVICES



| STA. OFFSET TABLE |          |           |
|-------------------|----------|-----------|
| LABEL             | STA:     | OFFSET FT |
| 1                 | 0+00     | 3.88 L    |
| 2                 | 1+84.34  | 2.57 R    |
| 3                 | 2+36.77  | 10.84 L   |
| 4                 | 2+52.53  | 1.06 R    |
| 5                 | 3+92.14  | 0.72 L    |
| 6                 | 3+99.46  | 2.36 R    |
| 7                 | 4+33.32  | 6.60 L    |
| 8                 | 4+37.48  | 2.55 L    |
| 9                 | 4+74.44  | 12.47 L   |
| 10                | 4+75.16  | 7.48 L    |
| 11                | 6+77.15  | 10.59 L   |
| 12                | 7+34.11  | 0.24 L    |
| 13                | 9+36.60  | 2.41 L    |
| 14                | 9+77.65  | 8.16 L    |
| 15                | 10+18.37 | 13.91 L   |
| 16                | 10+59.59 | 2.56 L    |
| 17                | 11+47.26 | 14.17 L   |

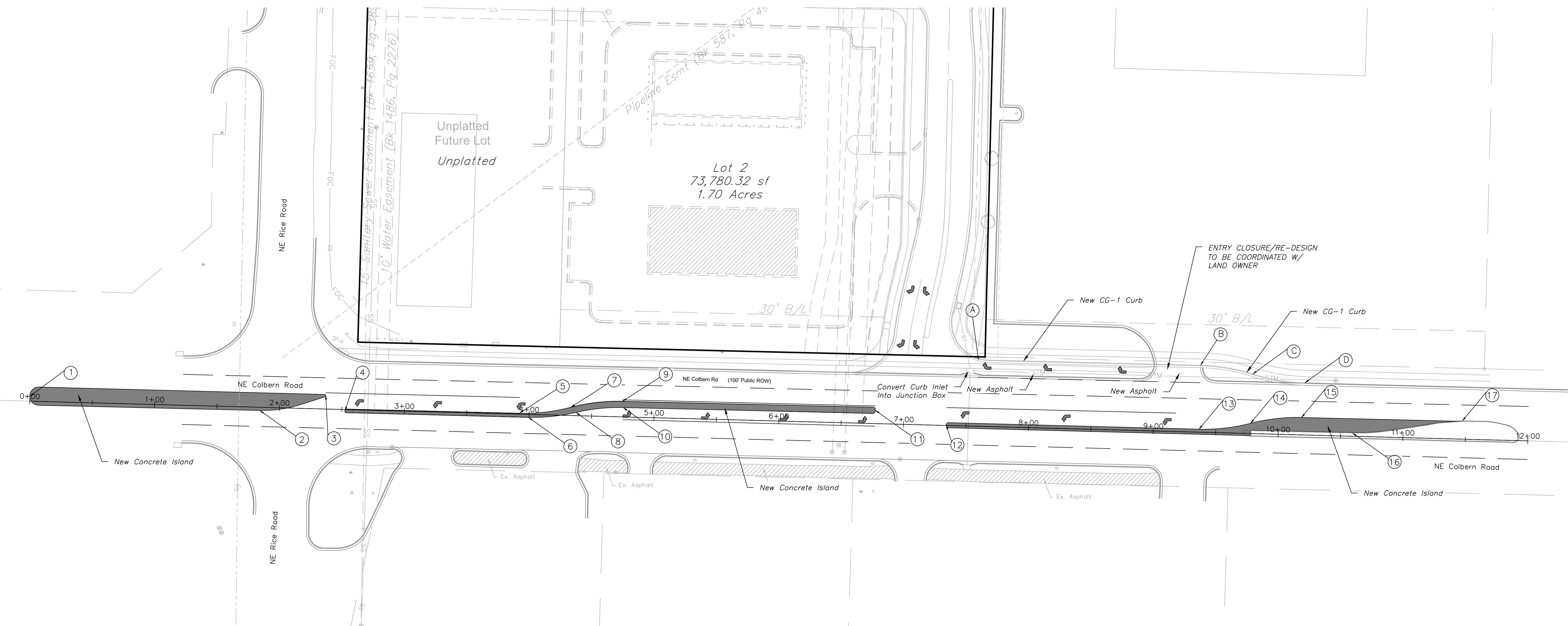
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PROPOS

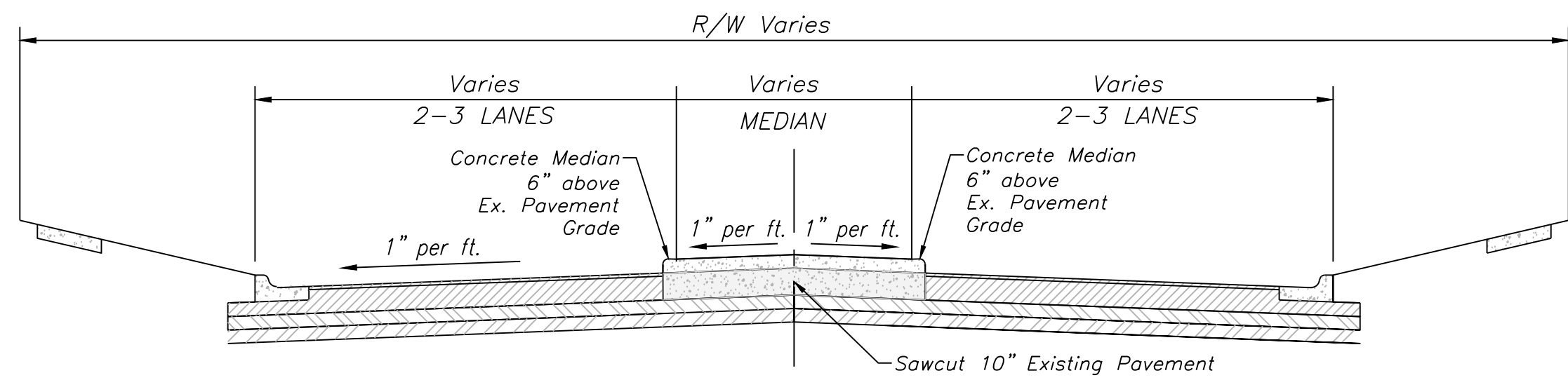
SCALE: 1" = 40'

Notes:

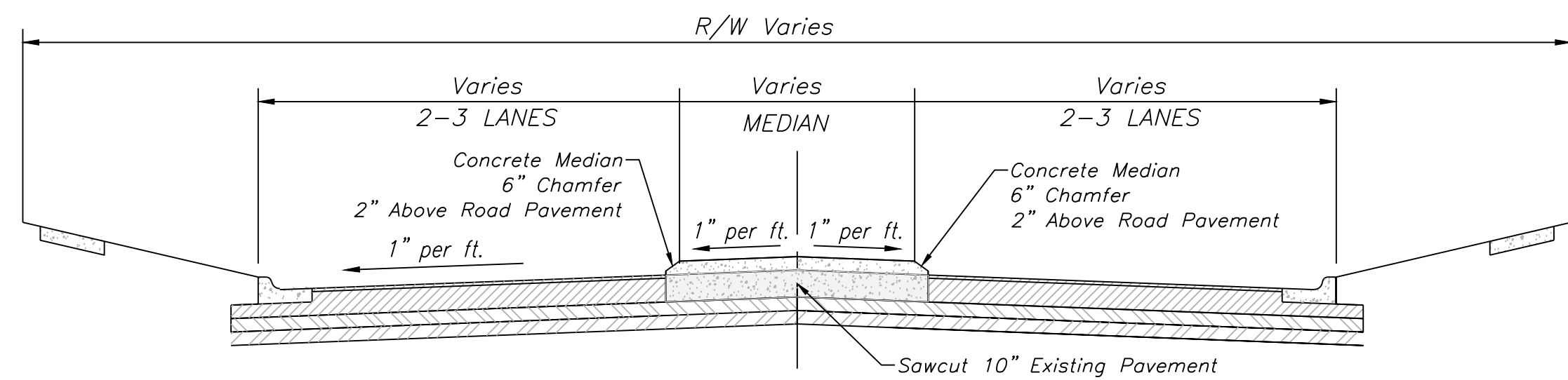
1. New Arrows Shall Be Preformed Thermoplastic.
2. New Paint Stripes Shall Be High Build Paint In Accordance With City Standards and Specifications.





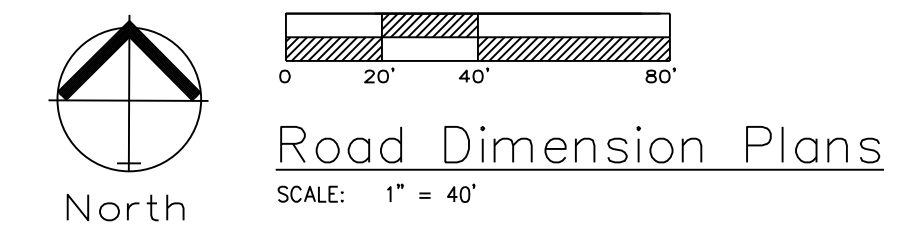


TYPICAL MEDIAN SECTION FOR  
NE COLBERN ROAD

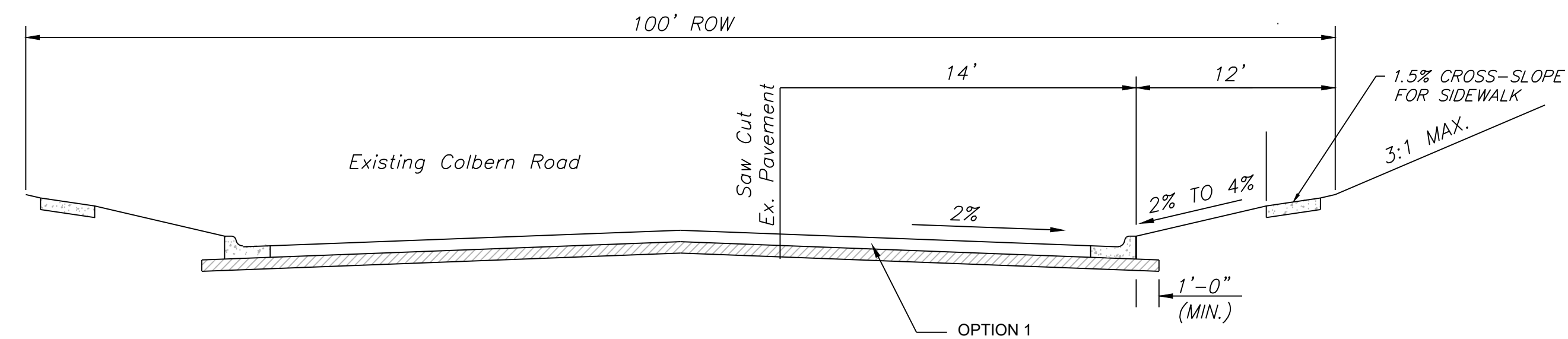


MEDIAN SECTION FOR  
NE COLBERN ROAD Sta 1+50 to 2+00  
Fire Access Median

NOTE:  
SEE TRAFFIC CONTROL DETAIL SHEET, C.206 FOR SIGNS, LANE CLOSURE, CHANNELIZERS AND OTHER TRAFFIC CONTROL DEVICES.

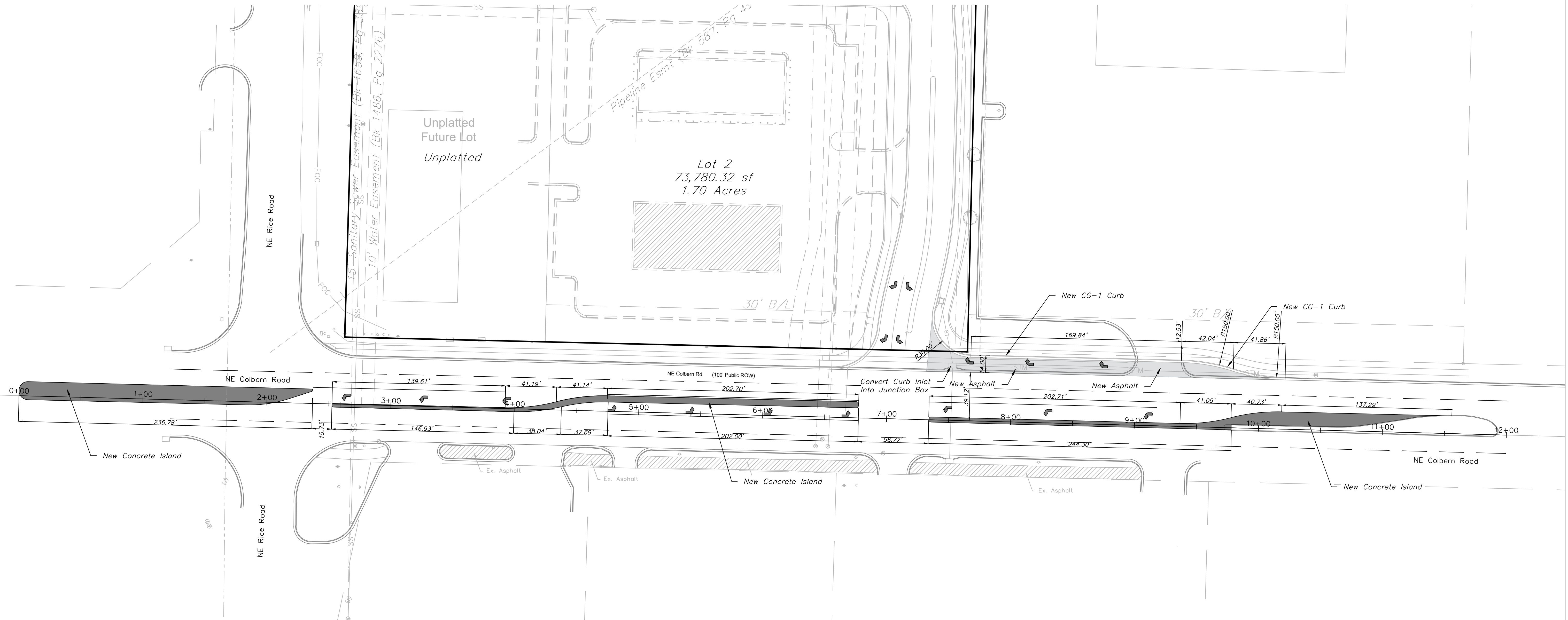


Notes:  
1. New Arrows Shall Be Preformed Thermoplastic.  
2. New Point Stripes Shall Be High Build Paint In Accordance With City Standards and Specifications.



West Bound Right Turn Lane  
NE Colbern Road & NE Rice Parkway  
N.T.S.

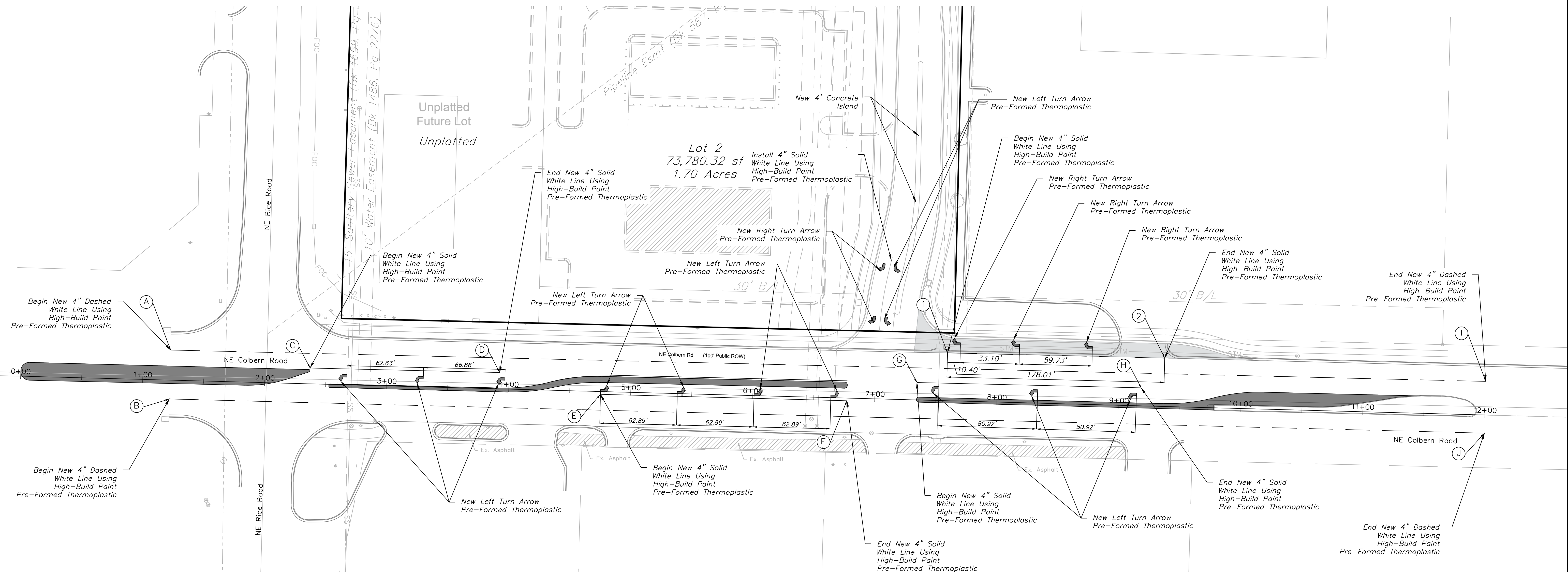
OPTION 1  
7.5" TYPE 5-01 ASPHALT BASE AND 2" TYPE 5-01 or 6-01 ASPHALT SURFACE OVER A 6" MoDOT TYPE 5 BASE AND A SUBGRADE MIXTURE OF 9" FLY ASH STABILIZED SUBGRADE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.  
OPTION 2  
7.5" TYPE 5-01 ASPHALT BASE AND 2" TYPE 5-01 or 6-01 ASPHALT SURFACE OVER 12" MoDOT TYPE 5 BASE OVERTOP A BIAXIAL GEOGRID MEETING THE CITY'S APPROVED PRODUCT LIST.





1. New Arrows Shall Be Performed Thermoplastic.
2. New Point Stripes Shall Be High Build Paint In Accordance With City Standards and Specifications.

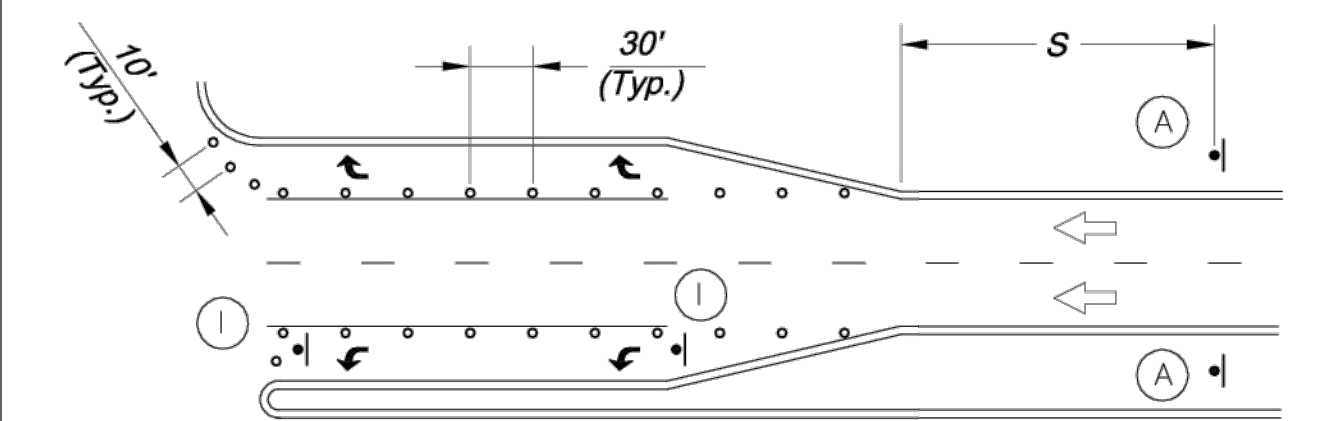
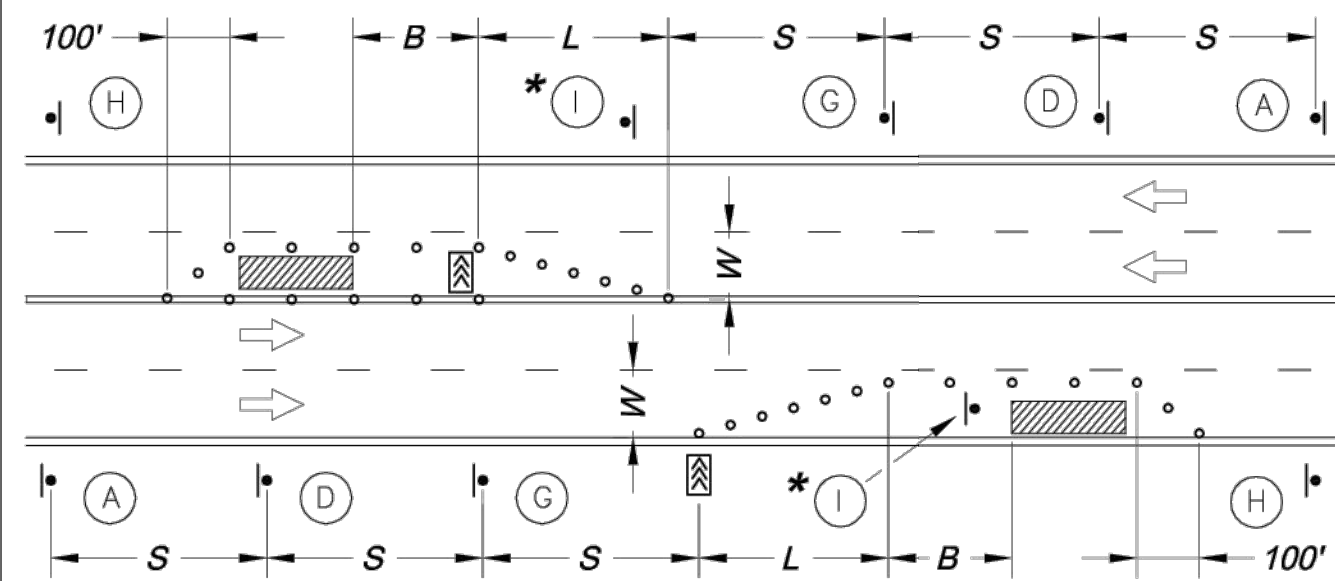
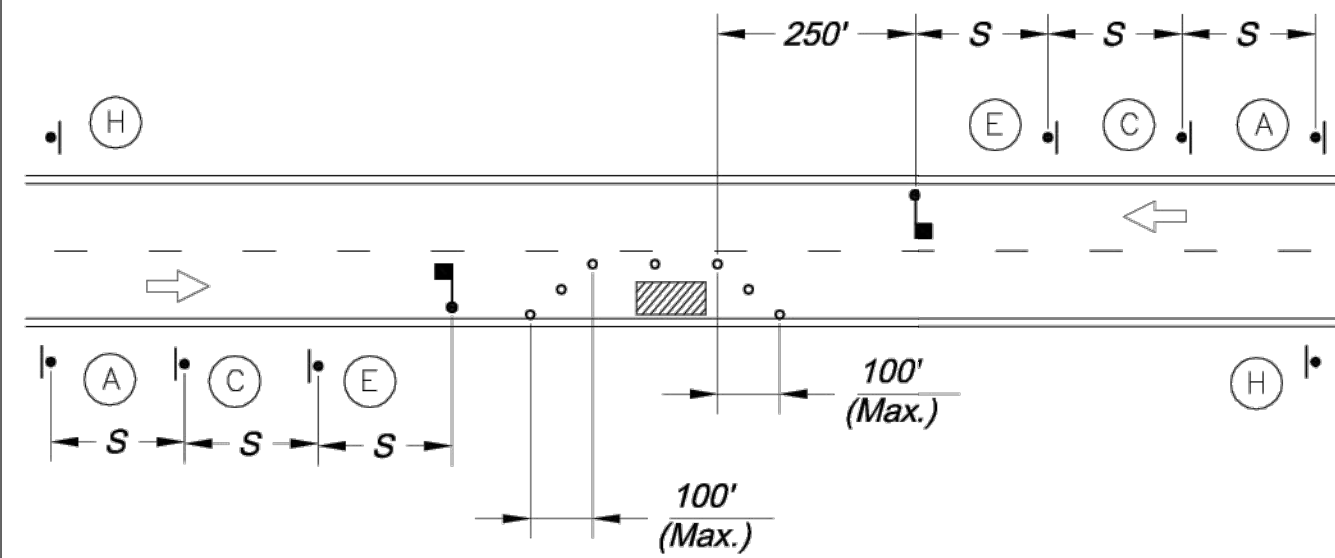
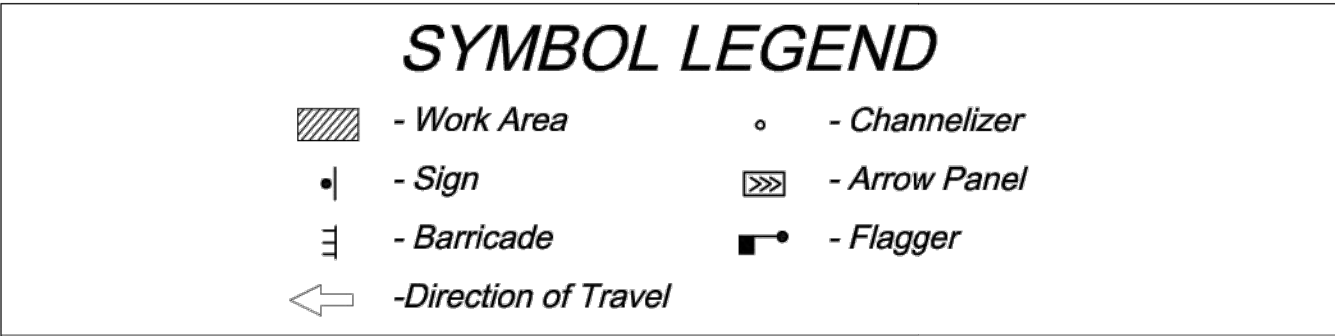
| STA. OFFSET TABLE |          |          |
|-------------------|----------|----------|
| LABEL             | STA:     | OFFSET F |
| A                 | 1+22.20  | 24.68    |
| B                 | 1+22.20  | 15.42    |
| C                 | 2+36.77  | 12.98    |
| D                 | 2+36.77  | 12.98    |
| E                 | 4+75.16  | 2.24     |
| F                 | 6+77.15  | 2.14     |
| G                 | 7+34.10  | 14.30    |
| H                 | 9+17.86  | 14.79    |
| I                 | 12+00.00 | 27.54    |
| J                 | 12+00.00 | 14.87    |
|                   |          |          |
|                   |          |          |
|                   |          |          |
|                   |          |          |
|                   |          |          |

[illegible]







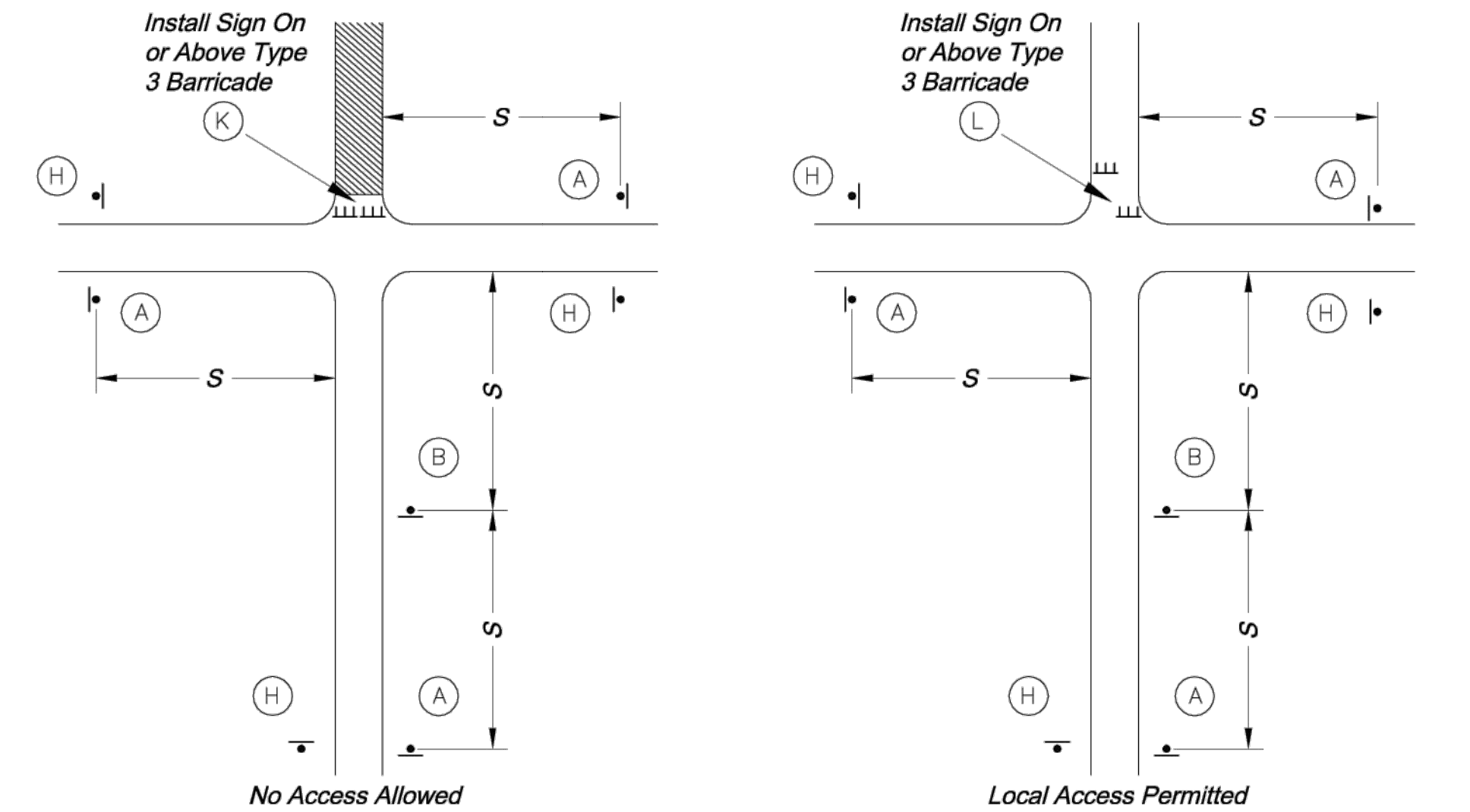
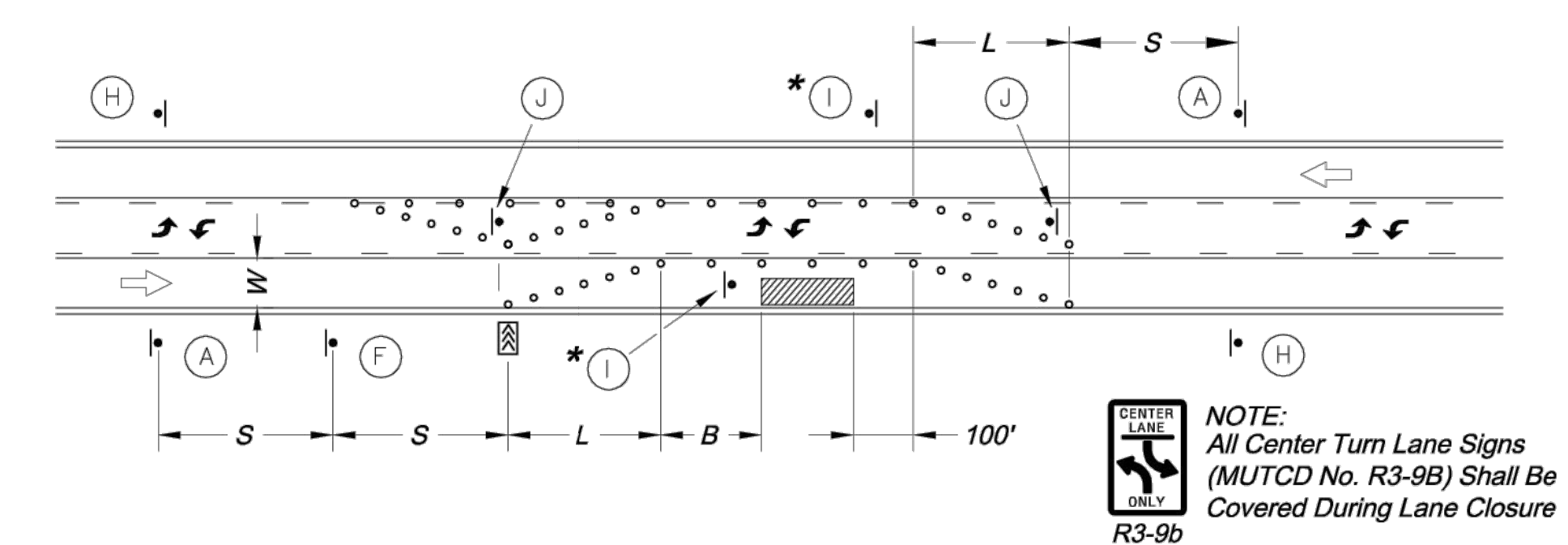
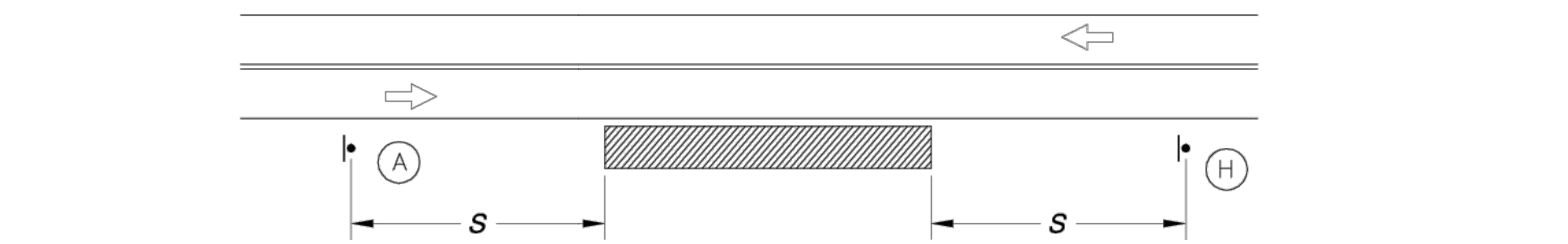
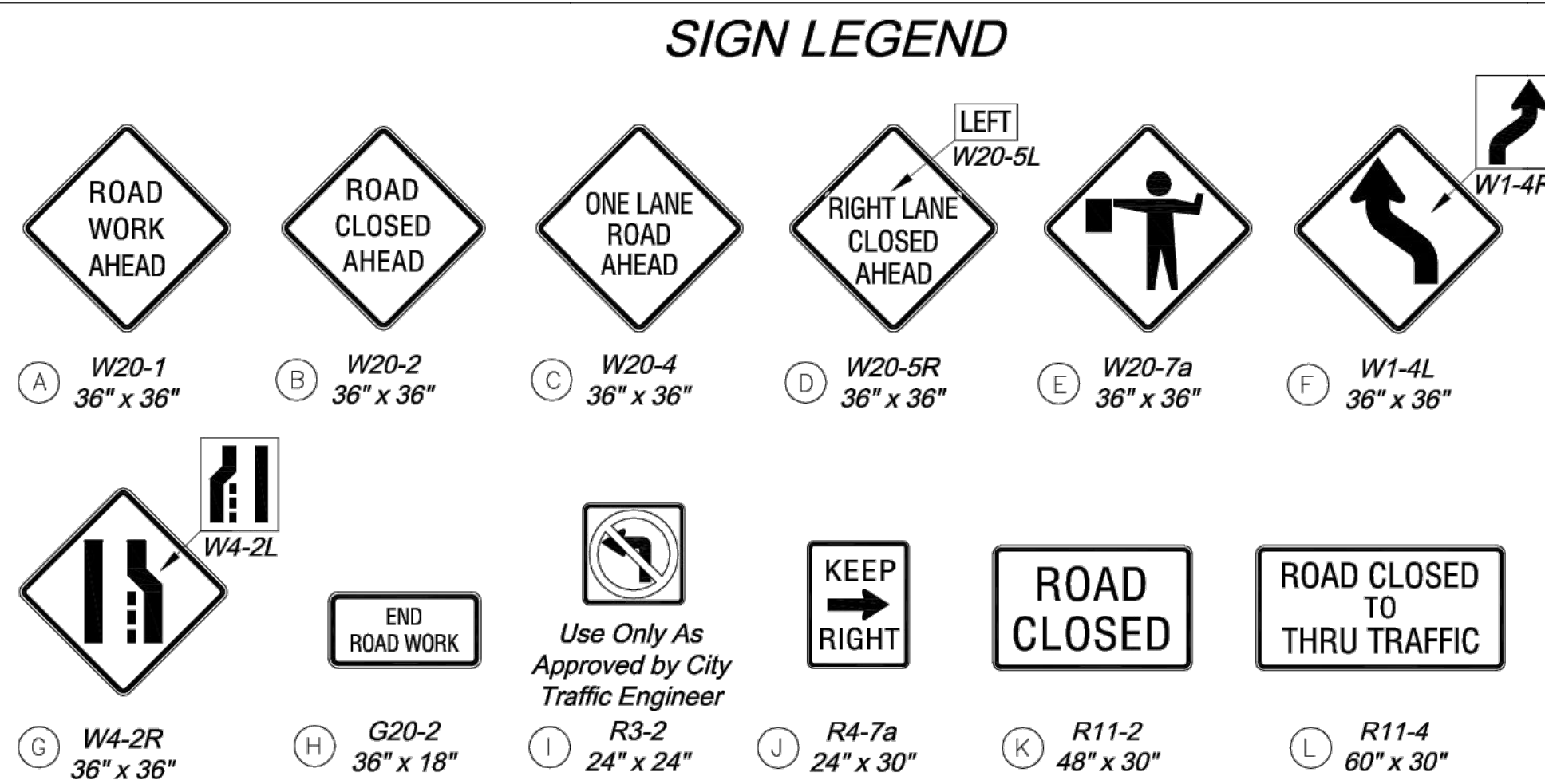


| Sign Spacing "S"  |                |
|-------------------|----------------|
| Speed Limit (mph) | Spacing (Feet) |
| 25                | 100            |
| 30 - 35           | 250            |
| ≥ 40              | 350            |

| Taper Dimensions (Feet) |                                              |     |     |                                |
|-------------------------|----------------------------------------------|-----|-----|--------------------------------|
| Speed Limit (mph)       | Minimum Taper Length "L", per Lane Width "W" |     |     | Minimum Number of Channelizers |
|                         | 10                                           | 11  | 12  |                                |
| 25                      | 105                                          | 115 | 125 | 6                              |
| 30                      | 150                                          | 165 | 180 | 7                              |
| 35                      | 205                                          | 225 | 245 | 8                              |
| 40                      | 270                                          | 295 | 320 | 9                              |
| 45                      | 450                                          | 495 | 540 | 13                             |

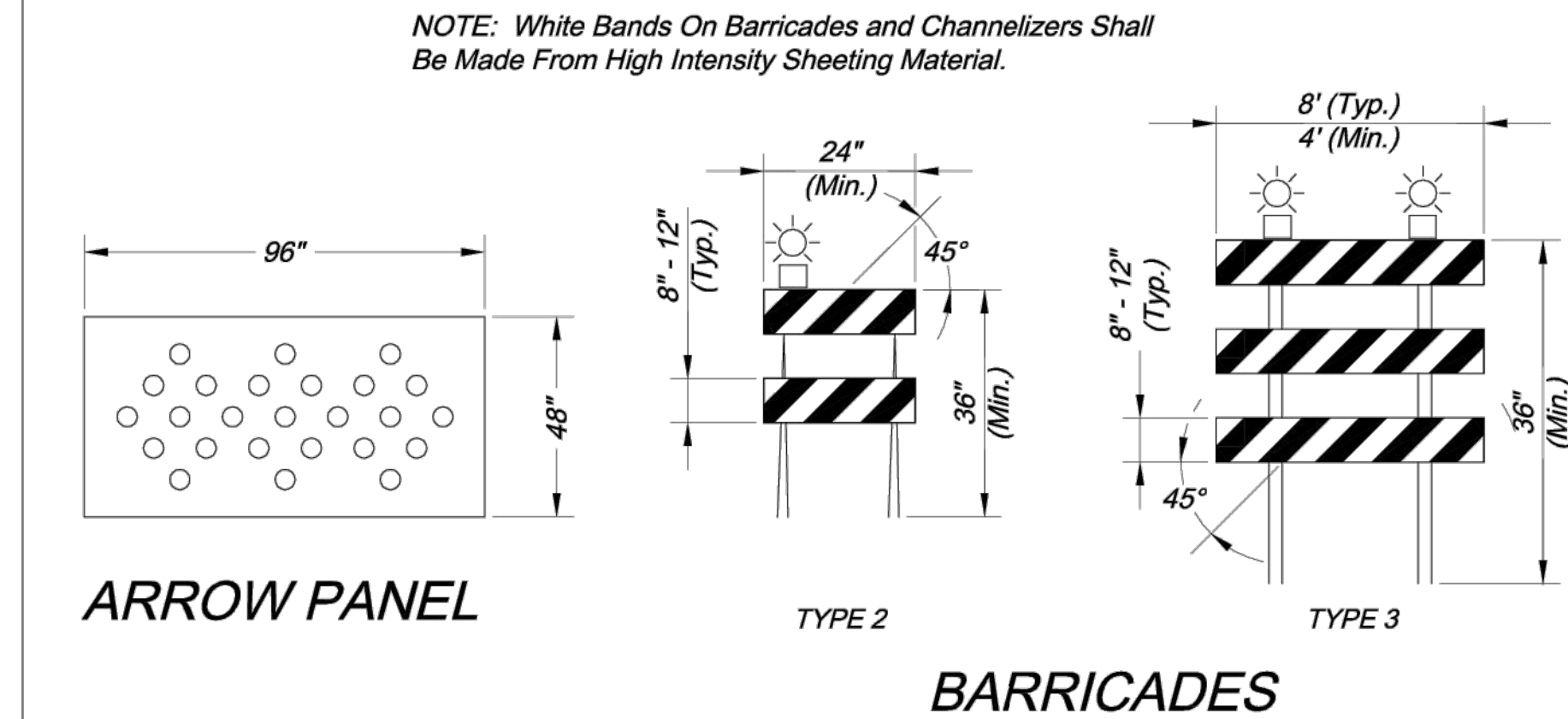
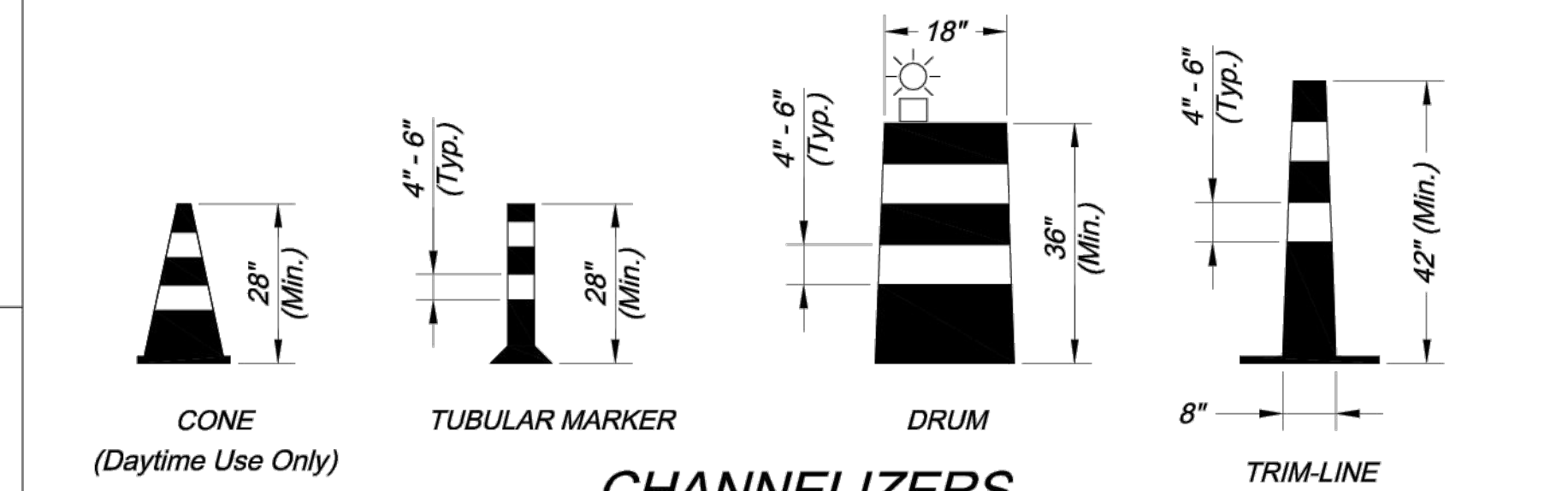
| Guidelines for Length of Longitudinal Buffer Space "B" |               |
|--------------------------------------------------------|---------------|
| Speed Limit (mph)                                      | Length (Feet) |
| 25                                                     | 35            |
| 30                                                     | 55            |
| 35                                                     | 85            |
| 40                                                     | 120           |
| 45                                                     | 170           |

| Maximum Channelizer Spacing |                     |                      |
|-----------------------------|---------------------|----------------------|
| Speed Limit (mph)           | Within Taper (Feet) | Outside Taper (Feet) |
| 25                          | 25                  | 50                   |
| 30                          | 30                  | 60                   |
| 35                          | 35                  | 70                   |
| 40                          | 40                  | 80                   |
| 45                          | 45                  | 90                   |



**GENERAL NOTES:**

- All signs, barricades, channelizers, markings and other traffic control devices shall conform to the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
- All traffic control devices shall be standard in size, shape, color, and message, in good condition, and retro-reflectorized. All signs shall be securely mounted with height and lateral location as described in the MUTCD.
- Warning lights shall be used on barricades in place at night and on warning signs which alert drivers about a change in alignment, traffic control, lane closure, or road closure.
- Flaggers shall be used where indicated on the plans, where construction vehicles interact with normal traffic, or where construction activities impose a restriction on traffic, as directed by the City Traffic Engineer. Where flaggers are used, advance signing shall be erected as shown in the details or as specified in the MUTCD. Flaggers shall meet the requirements in the MUTCD in regard to character, training, attire, and behavior.
- Trim-lines are the City's preferred channelizing device. Cones may not be used at nighttime.
- Traffic control devices not in use or not applicable shall be either covered or removed from the work area.
- The Contractor shall use barricades, street plates, or fencing as needed to effectively shield pedestrian and vehicular traffic from exposed objects, excavations, and construction activities.
- Access shall be maintained to all driveways and side streets unless noted otherwise on the plans.
- No street shall be closed without the approval of the City Traffic Engineer. The Contractor shall notify the City Traffic Engineer at least 7 days in advance of any street closure. If a detour route around the closure is to be provided, all detour signing shall be as shown on a plan approved by the City Traffic Engineer.
- Construction vehicles parked along streets shall be located within the work area (traffic control) or where otherwise normally permitted. Construction materials, including traffic control and vehicles shall not restrict sight distance for vehicles exiting at streets or drives.
- Construction materials shall be kept off of sidewalks, consolidated in one location within City right-of-way, and removed daily unless otherwise approved by the Inspector. Dirt, mud, and other construction debris on streets and sidewalks shall be removed immediately.
- The Contractor shall not perform any work that will restrict vehicular traffic in any way between the hours of 7:00 a.m. and 9:00 a.m. and 4:00 p.m. and 6:00 p.m. Monday through Friday unless otherwise indicated in the specifications.
- All travel lanes should be at least 11 feet wide unless otherwise authorized by the City Traffic Engineer. A "Narrow Lanes" sign shall be installed in advance of a lane width reduction to less than 11 feet.
- All edge drop-offs of more than 2 inches and less than 4 inches should be protected by a wedge or barrier and all edge drop-offs greater than 4 inches shall have edge protection (see Traffic Control Specifications for edge treatment requirements).
- The "Workers" symbolic sign (MUTCD No. W21-1a) may be used instead of the "Road Work Ahead" sign for work with a duration of 12 hours or less. The "End Road Work" sign is not required to be installed after the "Workers" sign.
- No traffic signal shall be altered or modified in any way without a plan approved by the City Traffic Engineer.
- The Contractor shall be responsible for maintaining all traffic control devices on an around-the-clock basis, whether or not work is actively being pursued and any deficiencies noted shall be corrected immediately.
- The traffic control requirements shown on these plans are minimum requirements only and do not attempt to address in depth the variety of situations that may occur once construction has started. In no way do the requirements shown on these plans relieve the Contractor of his responsibility for selecting the proper traffic control devices and implementation procedures that will assure the safety of drivers, pedestrians, and workers at all times.
- Should the contractor fail to enforce the traffic control plan or fail to clean, replace or otherwise maintain the traffic control devices when directed to do so by the City Traffic Engineer or representative, the City may take one or more of the following actions:
  - Employ another agency to correct deficiencies in traffic control devices and deduct the cost from the Contractor's pay estimate,
  - Stop the work until deficiencies are corrected,
  - Suspend all pay estimates until deficiencies are corrected, or
  - Place the Contractor in default.



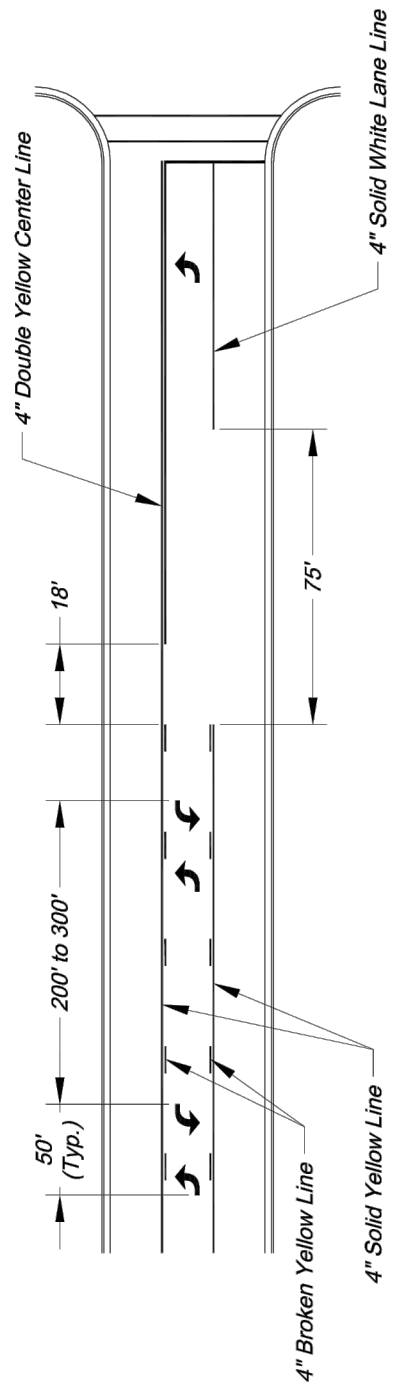
Project: CITY OF LEE'S SUMMIT  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION  
220 SE GREEN STREET  
LEE'S SUMMIT, MISSOURI 64063  
PHONE: (816) 969-1800 FAX: (816) 969-1809

TRAFFIC CONTROL DETAILS  
STANDARD DRAWING TC-1

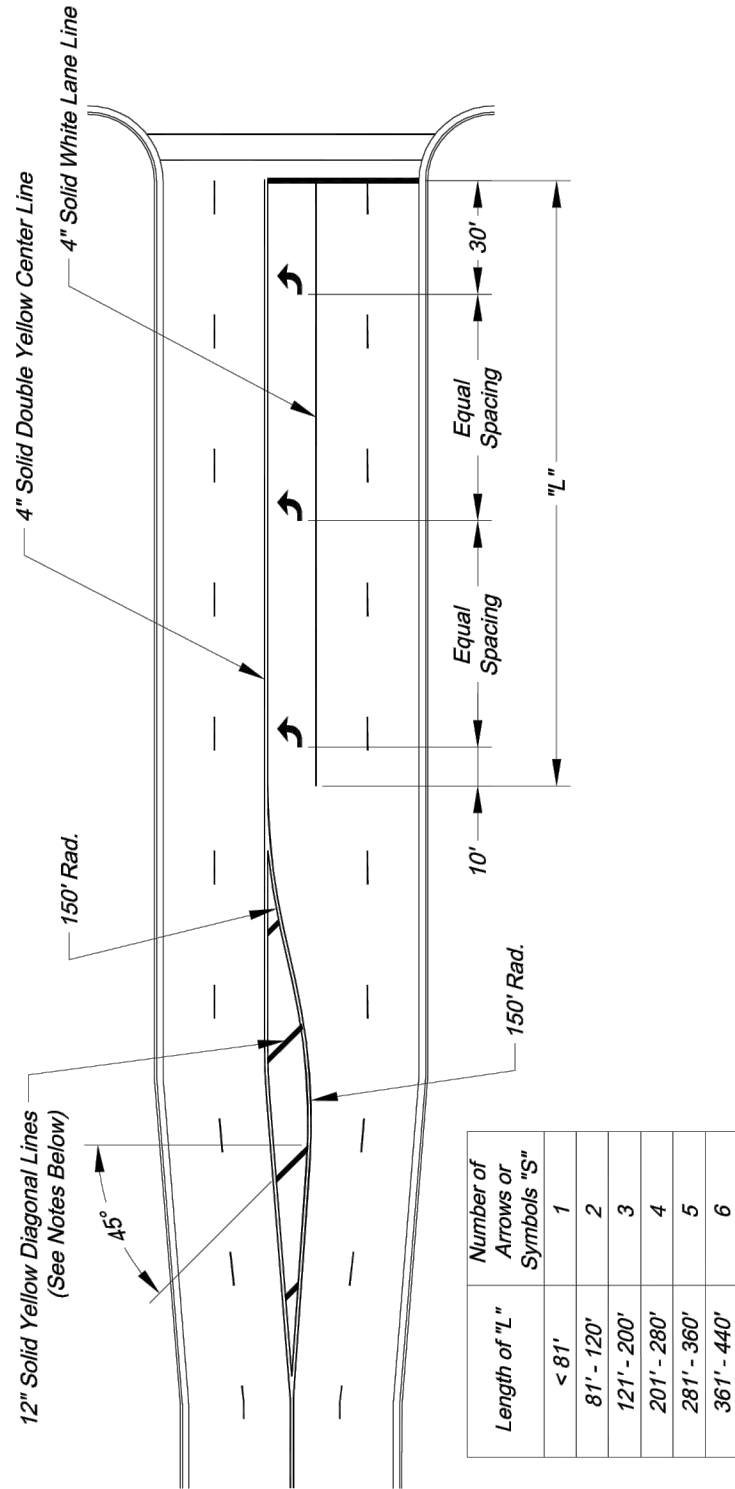
Sheet Name: x OF x

Drawn By: JJW  
Checked By: MP  
Date: 12-10-2008  
Project No.: X



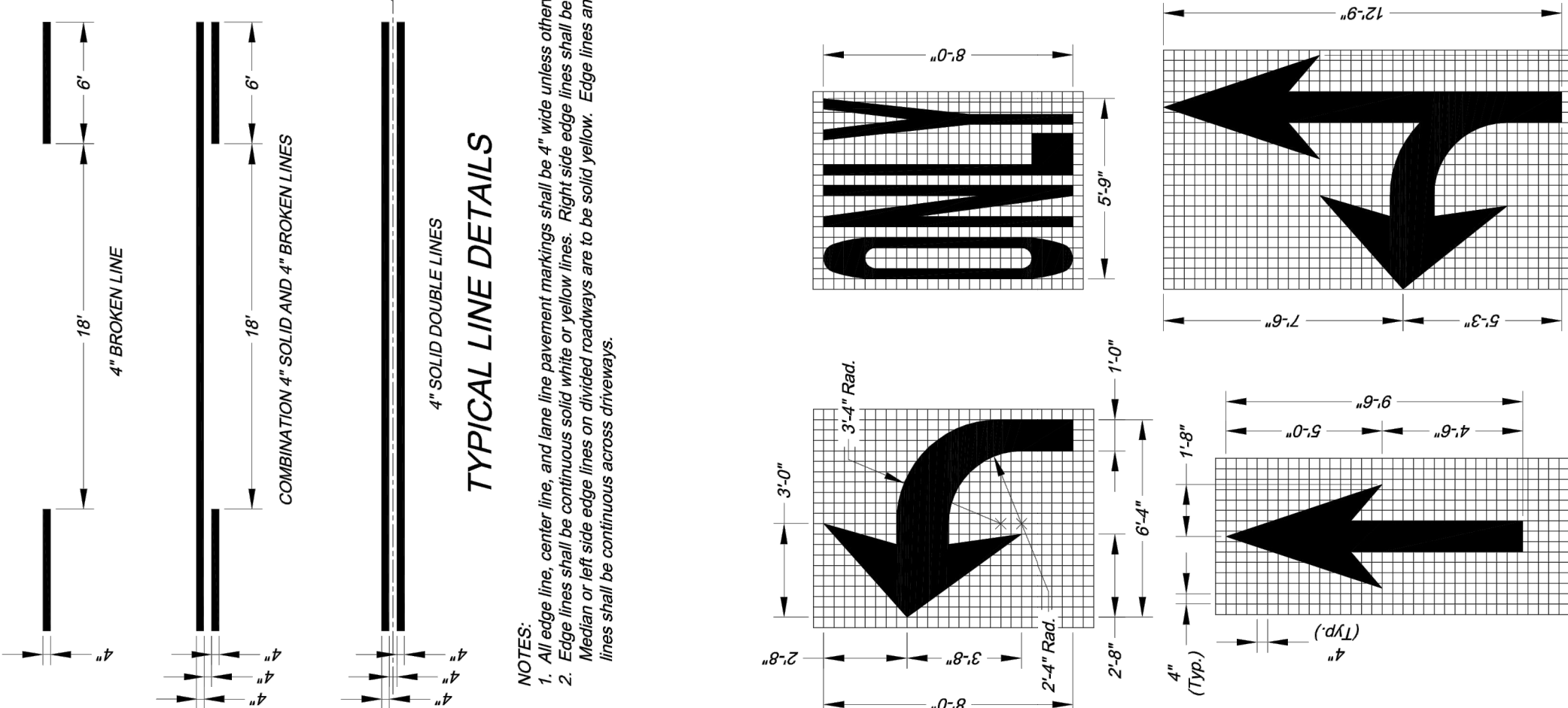


TYPICAL MARKINGS FOR TWO-WAY LEFT-TURN LANE



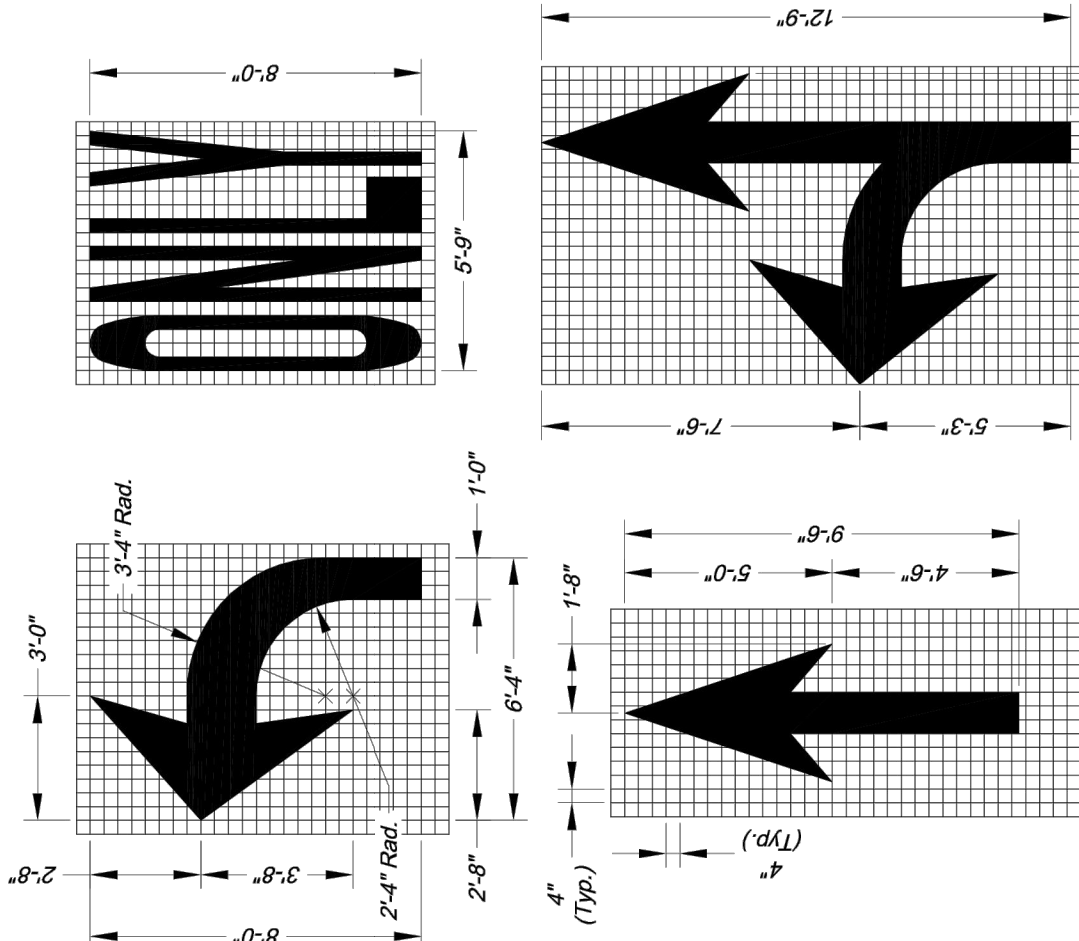
TYPICAL TURN LANE MARKINGS

- NOTES:
1. Diagonal lines are required between centerlines if the width of the area between the center lines is greater than 120 feet. The width of the area between the center lines is greater than 120 feet.
  2. Diagonal lines should be spaced at 5' intervals, equal to the posted speed limit.
  3. Equal Spacing is calculated as  $(L - 40) / (S - 1)$ .
  4. When a through lane of traffic terminates as a mandatory turn lane, Arrow and "ONLY" symbols should be marked in the turn lane. In alternating order. The first and last symbols should be Arrows.



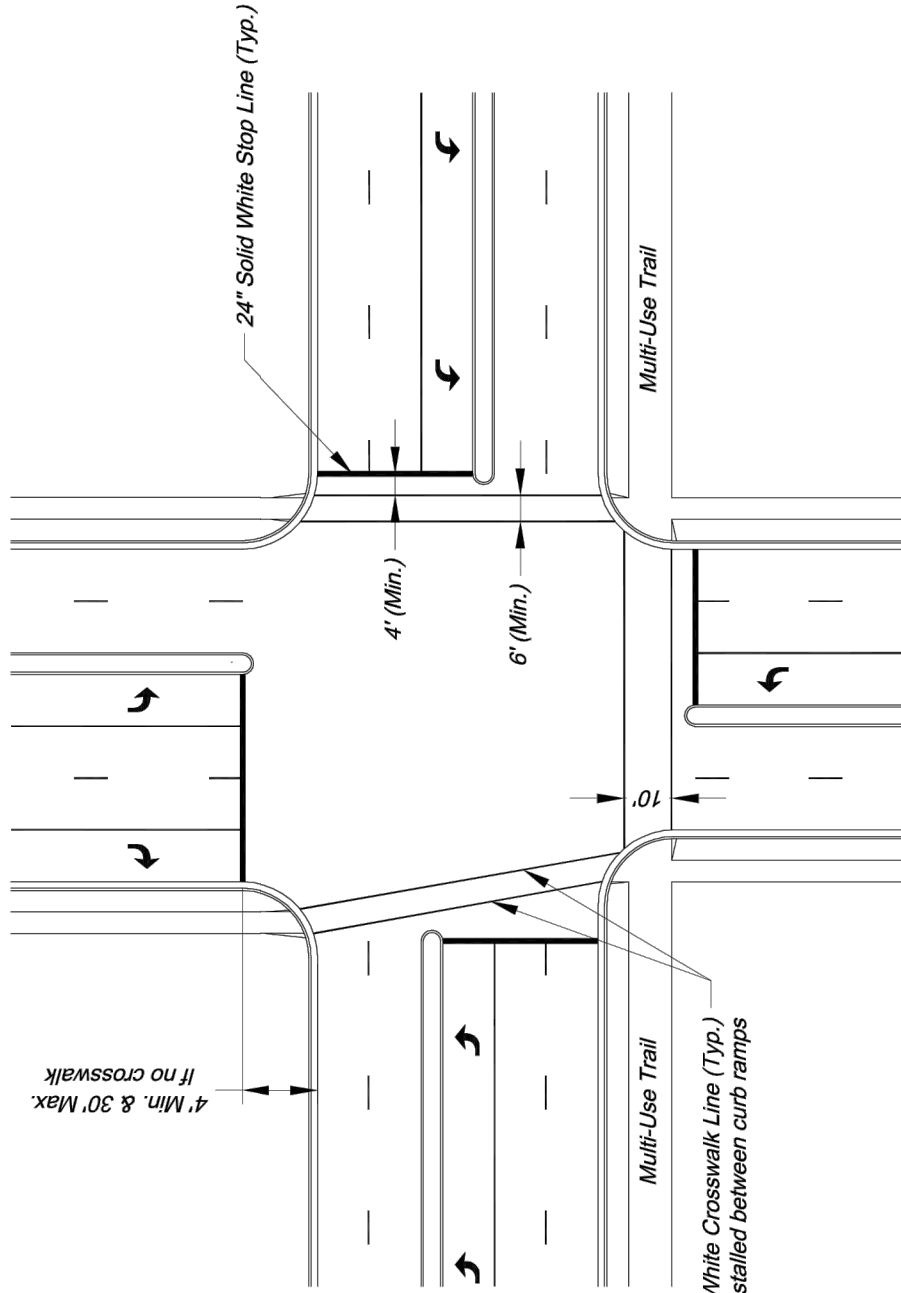
TYPICAL LINE DETAILS

- NOTES:
1. All arrow and symbol markings shall be white, and shall be centered in their respective traffic lanes.
  2. Right-turn and combination right-turn/straight arrows are reverse of arrows shown.



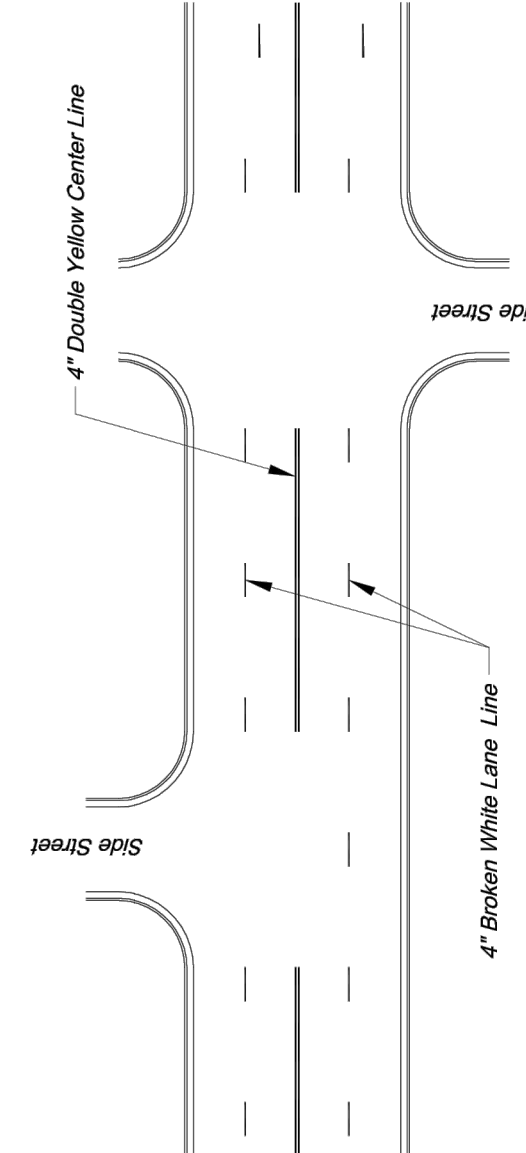
ARROW AND SYMBOL DETAILS

- NOTES:
1. All arrow and symbol markings shall be white, and shall be centered in their respective traffic lanes.
  2. Right-turn and combination right-turn/straight arrows are reverse of arrows shown.



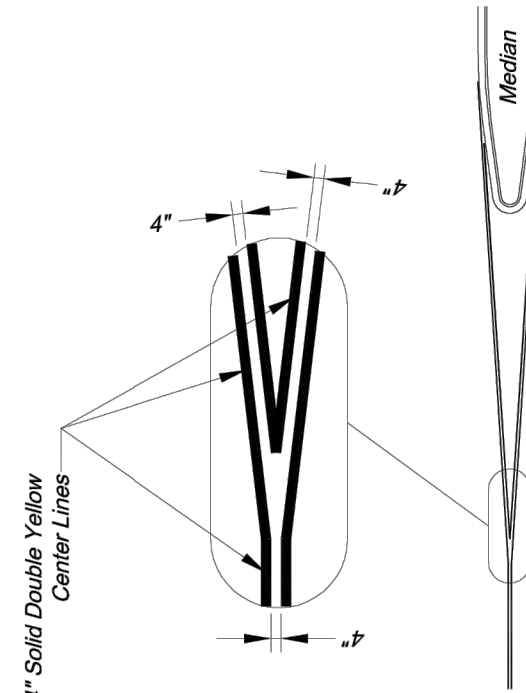
TYPICAL INTERSECTION MARKINGS

- NOTES:
1. Transverse crosswalk lines shall be installed such that the distance between lines is at least 6 or 10 feet.
  2. Stop lines are required at signalized intersections, on multi-lane stop controlled approaches, or in front of crosswalks at controlled intersections.

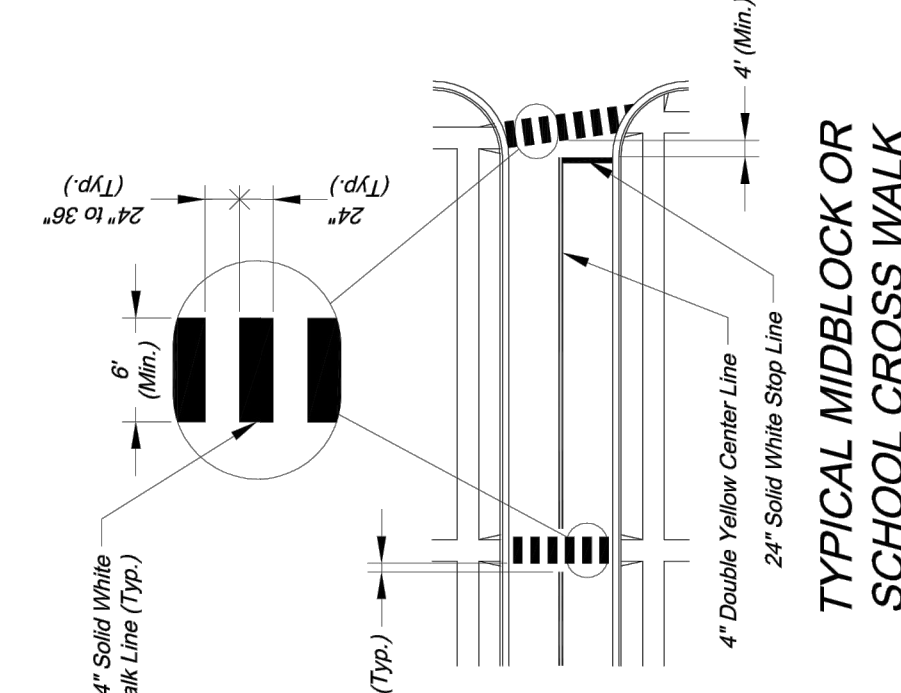


TYPICAL MARKINGS FOR FOUR-LANE UNDIVIDED ROADWAY

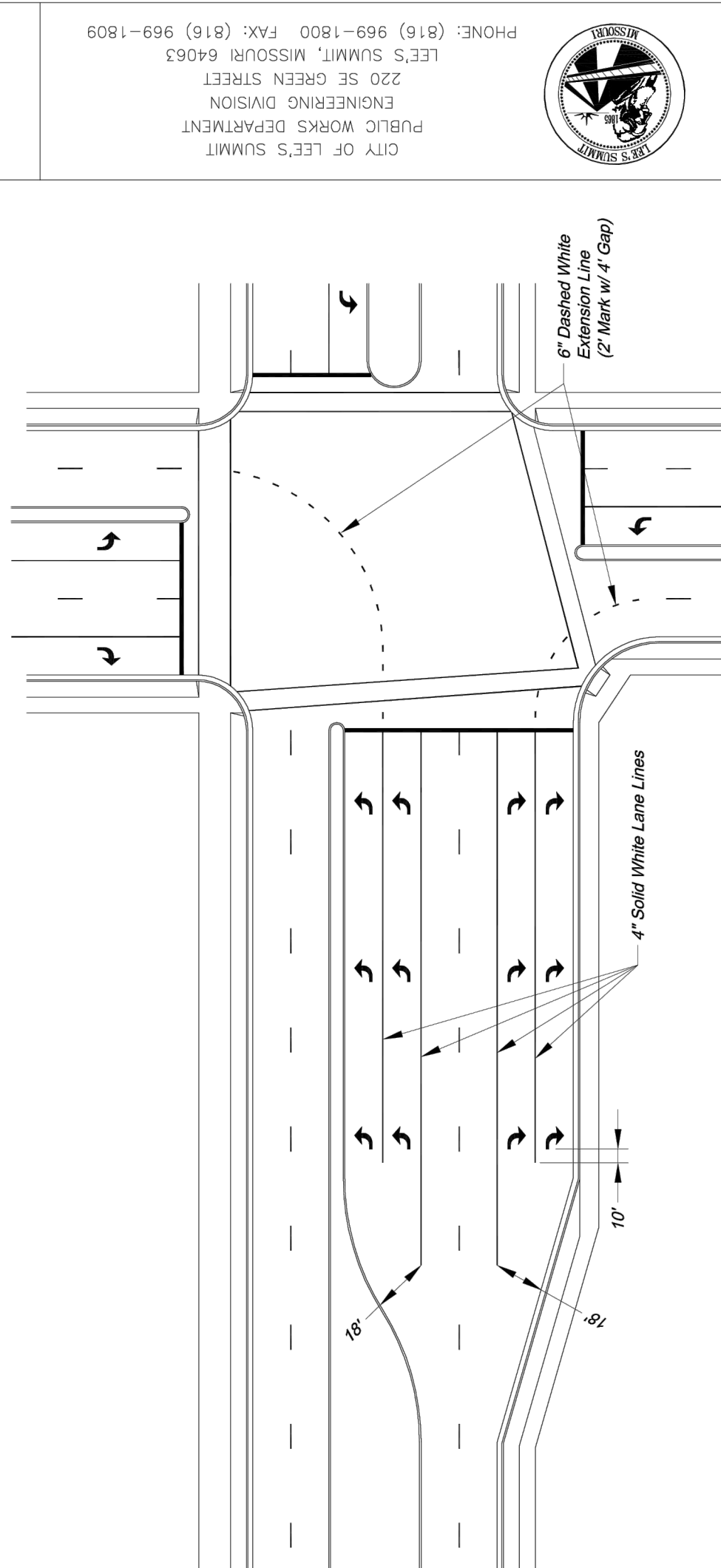
- PAVEMENT MARKING GENERAL NOTES:
1. All markings shall be white, and shall be centered in their respective traffic lanes.
  2. All words and symbols shall conform to the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
  3. Pavement markings, other temporary or permanent are required at all times if the roadway is open to traffic.
  4. Any surface scarred with an image that misleads traffic. Any excess damage or scarring of pavement, shall be repaired at the Contractor's expense.
  5. The proposed pavement markings shall be laid out by the Contractor in advance of the marking installation. Markings shall not be installed until the pavement is prepared and ready for use.
  6. Center lines shall be marked on all undivided arterial streets, and any other undivided street with more than two lanes and/or a speed limit of 30 mph or more.
  7. Edge lines shall be marked on all non-curbed streets.



TYPICAL MEDIAN NOSE CENTER LINE DETAIL

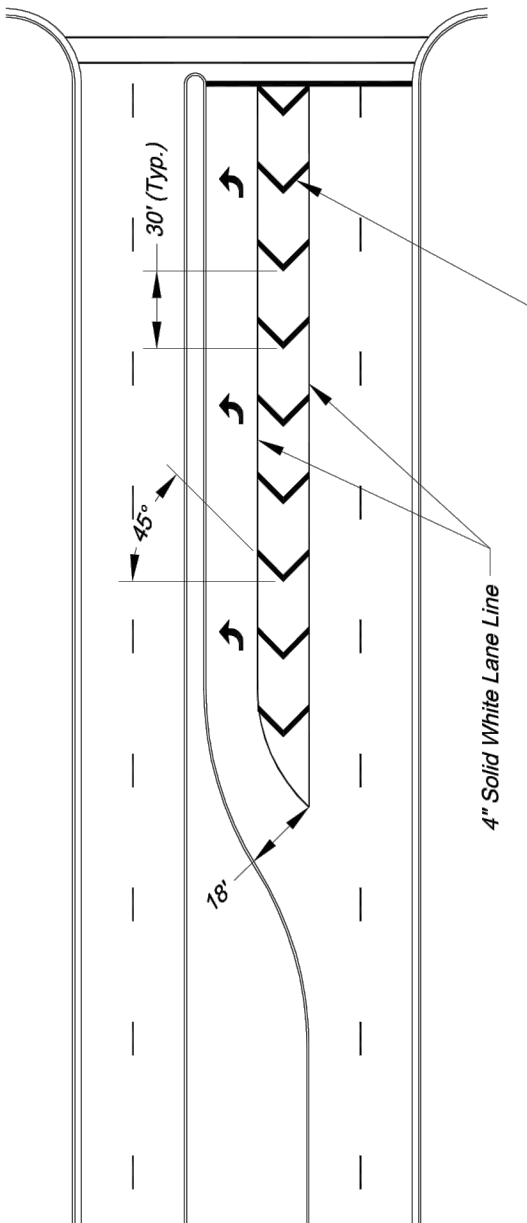


TYPICAL MIDBLOCK OR SCHOOL CROSS WALK



TYPICAL DUAL TURN LANE MARKINGS

- NOTE:
1. Dashed extension lines shall not extend through crosswalks.

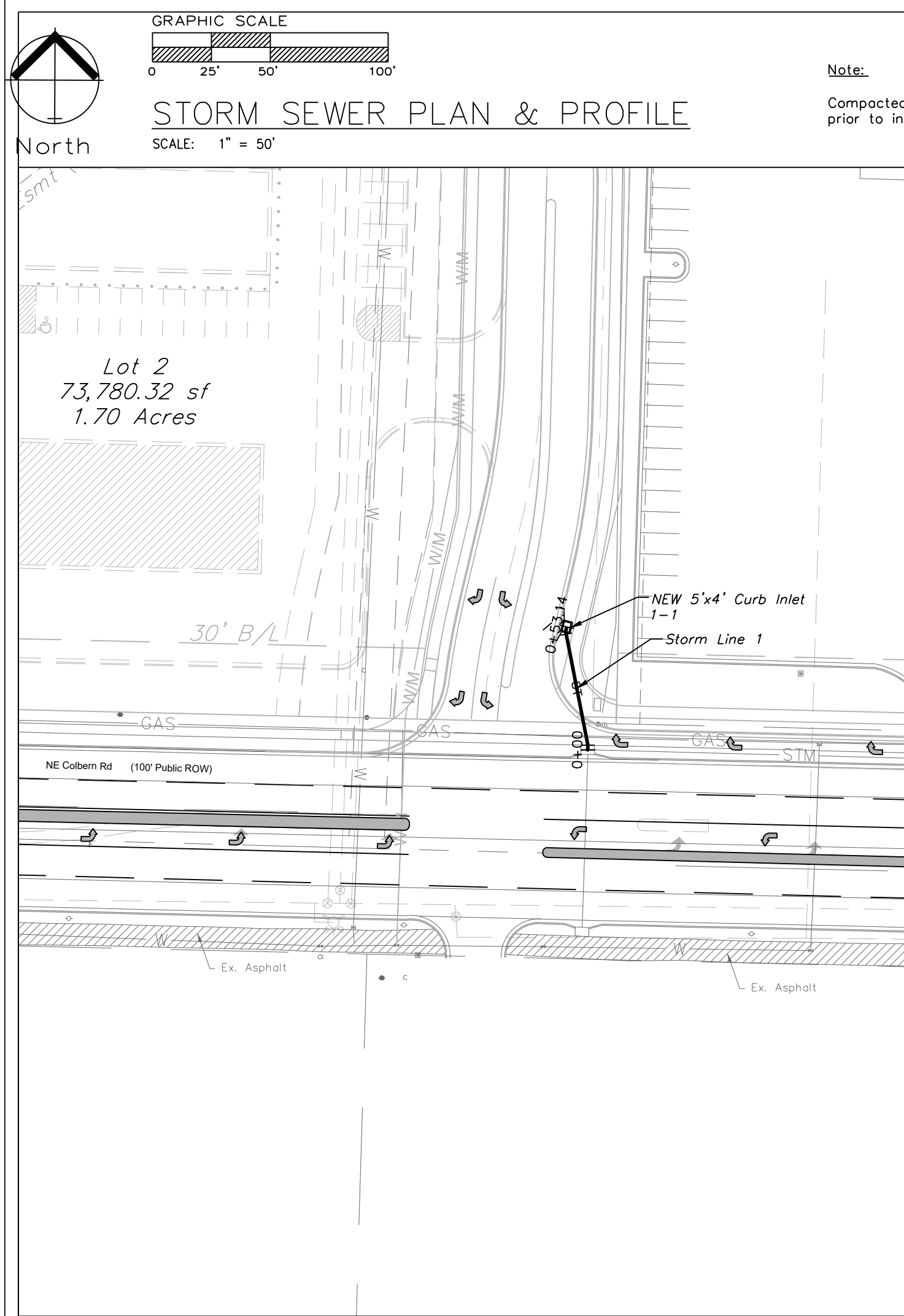


TYPICAL STRIPED OUT TURN LANE MARKINGS



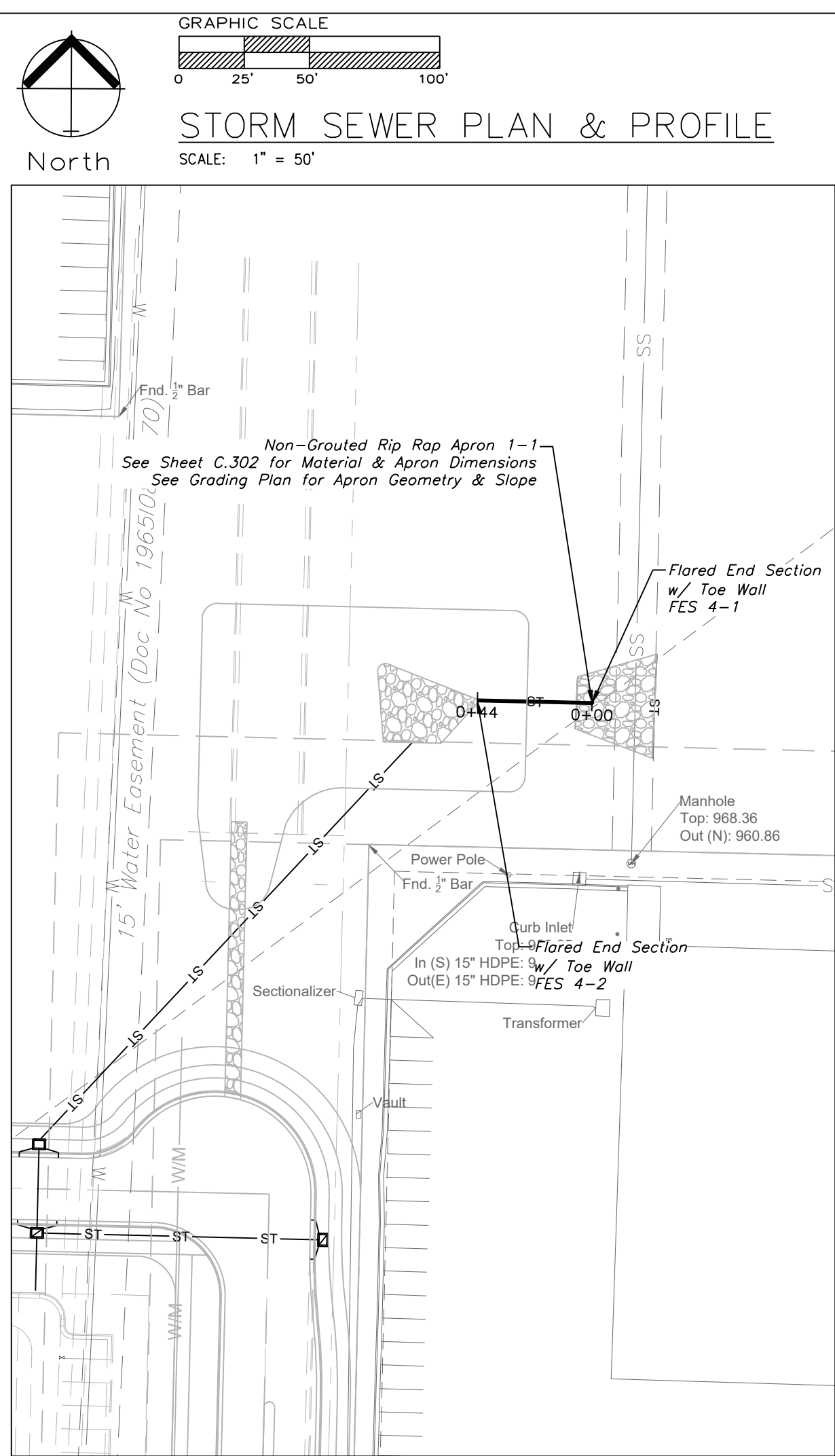
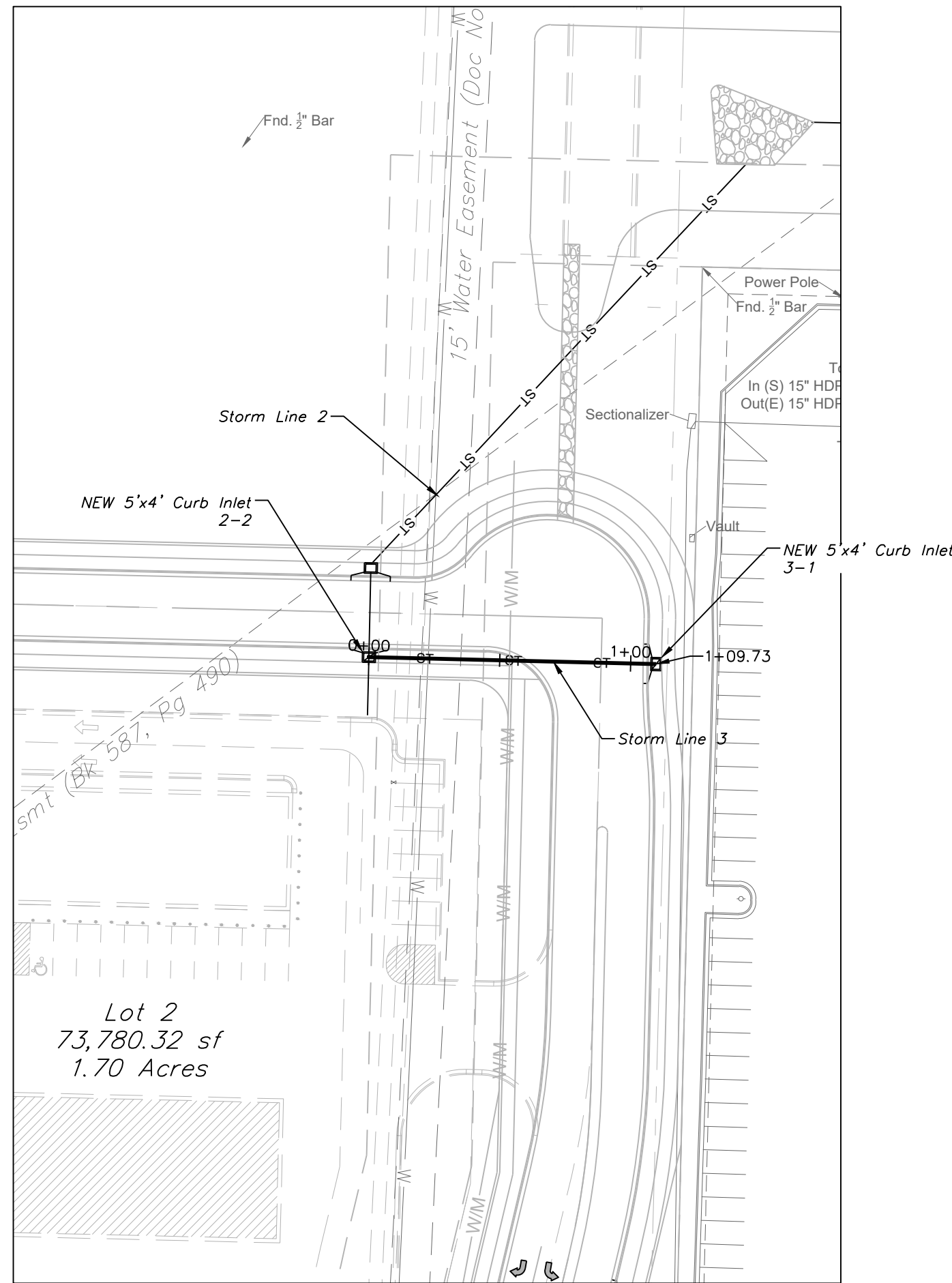
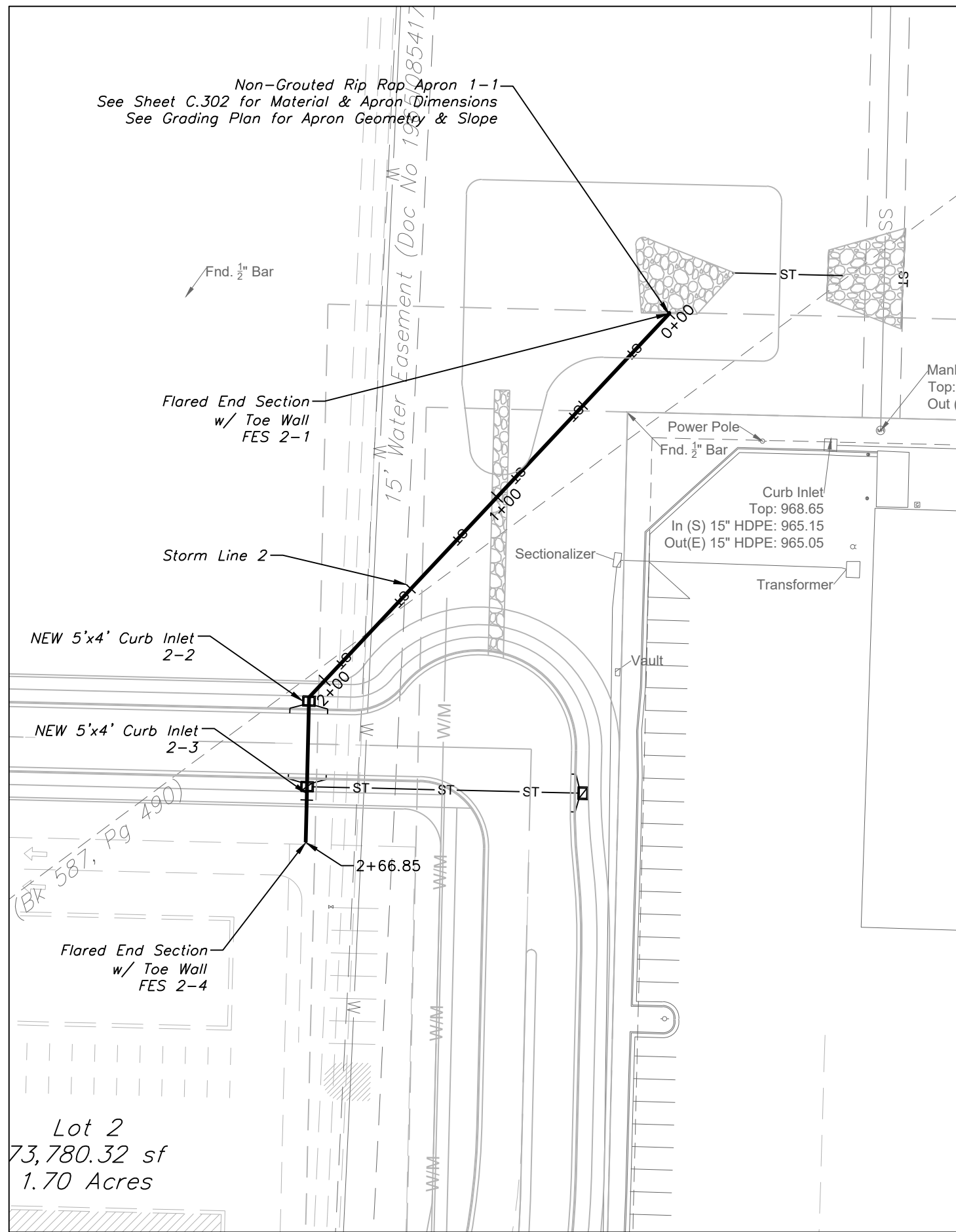




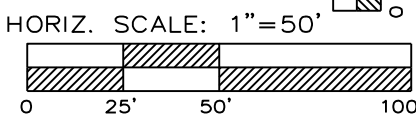
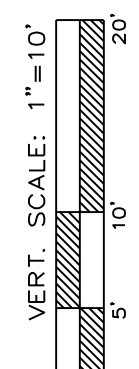
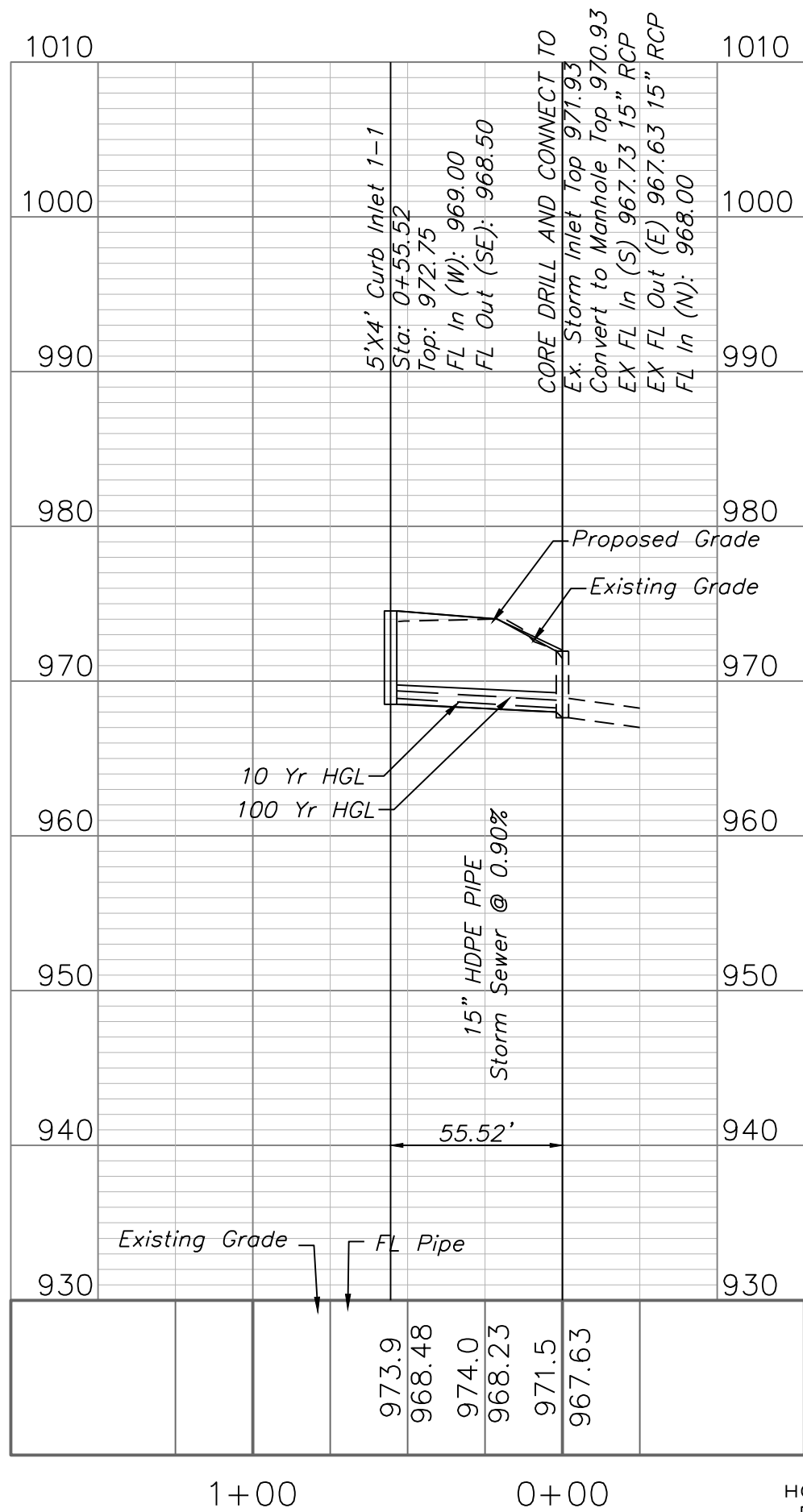


Note:

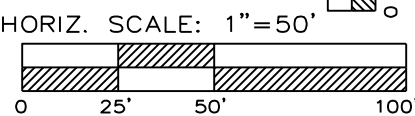
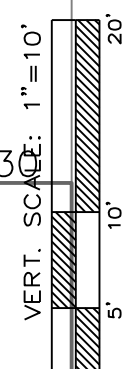
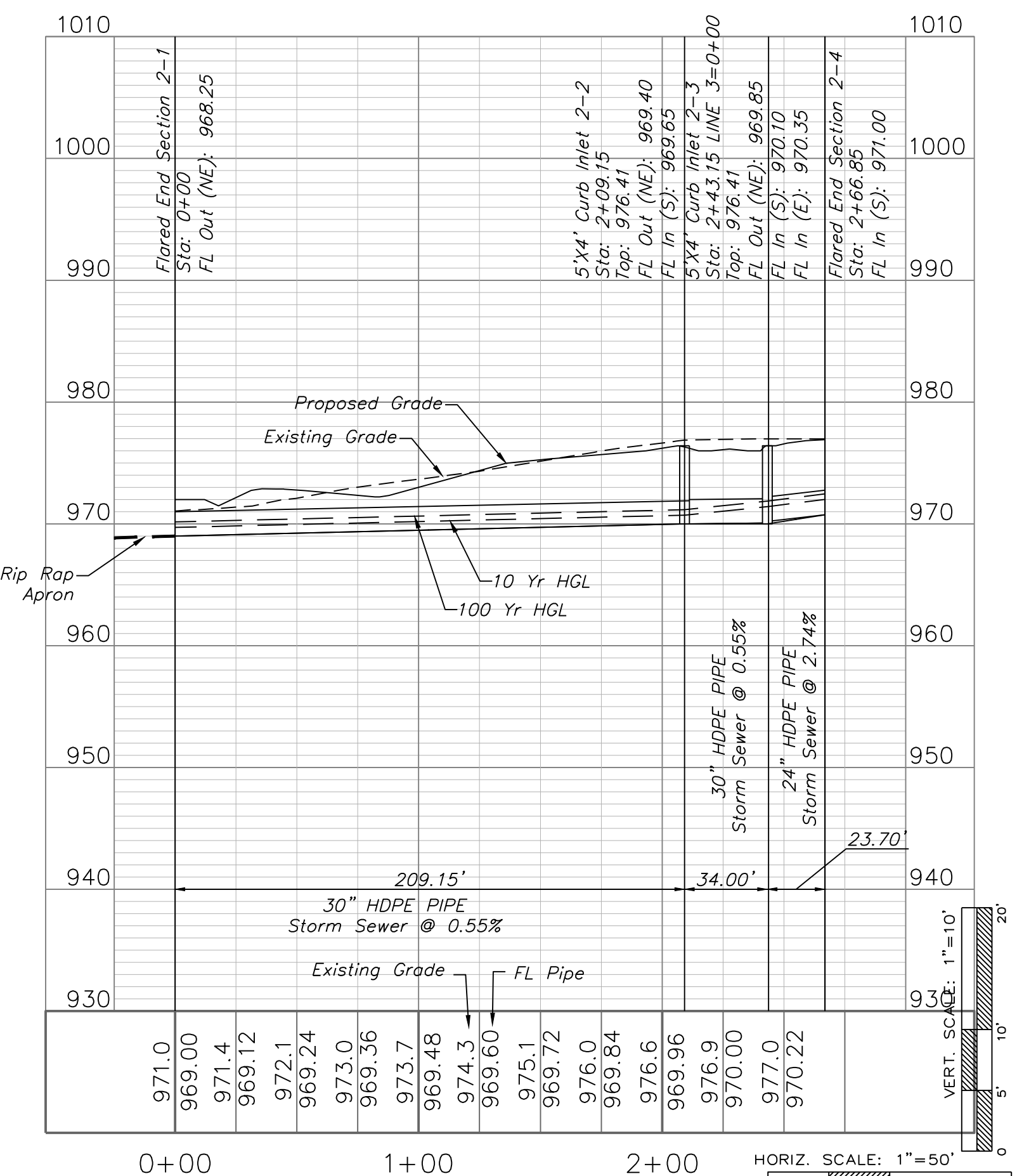
Compacted Fill shall be placed to a minimum 18" above the top of the pipe prior to installation.



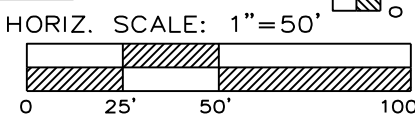
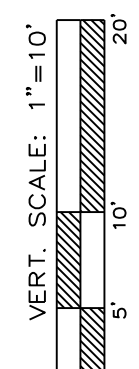
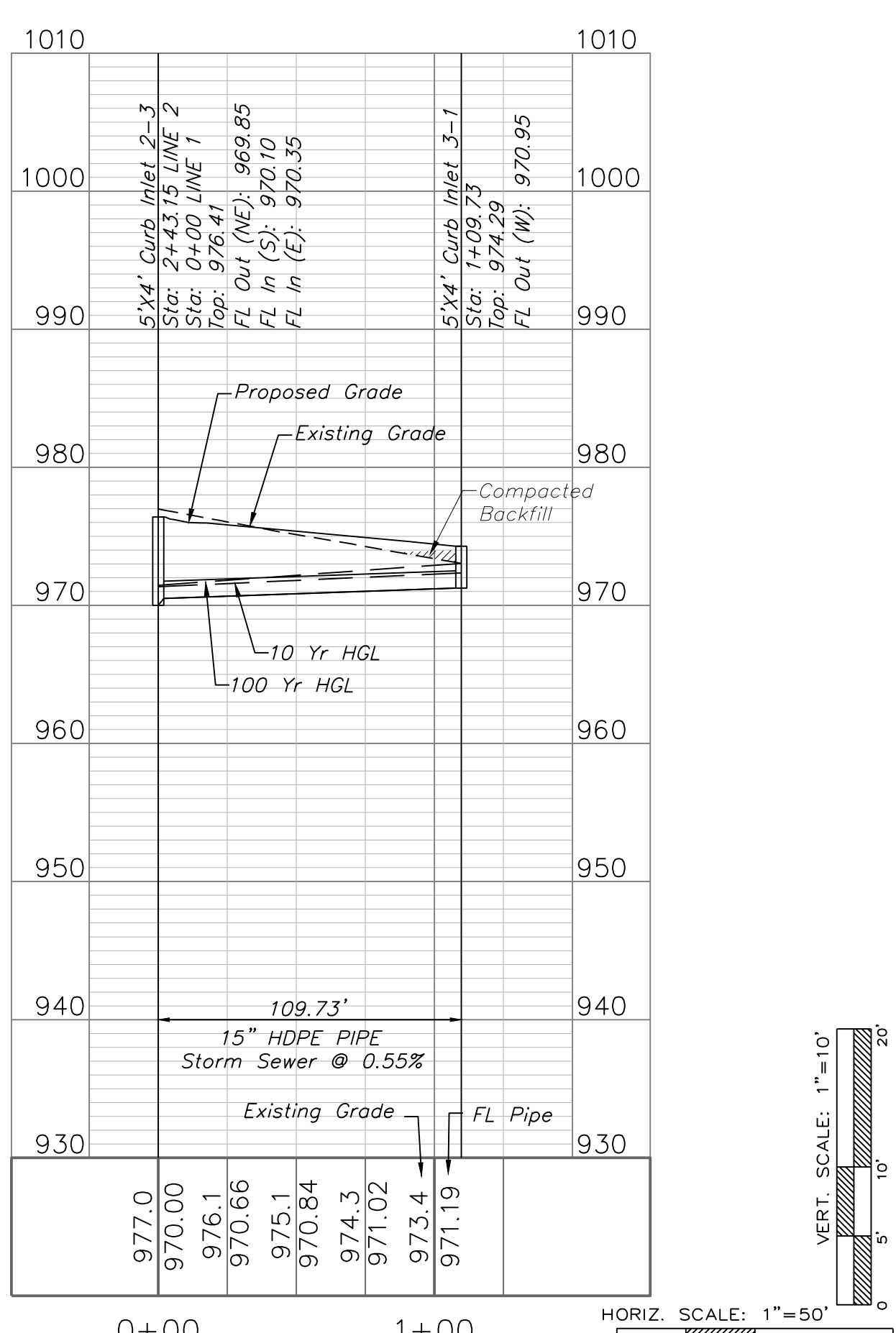
STORM LINE 1



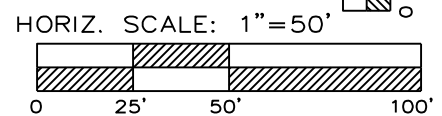
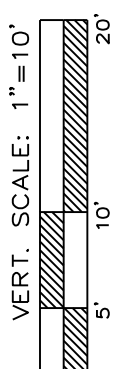
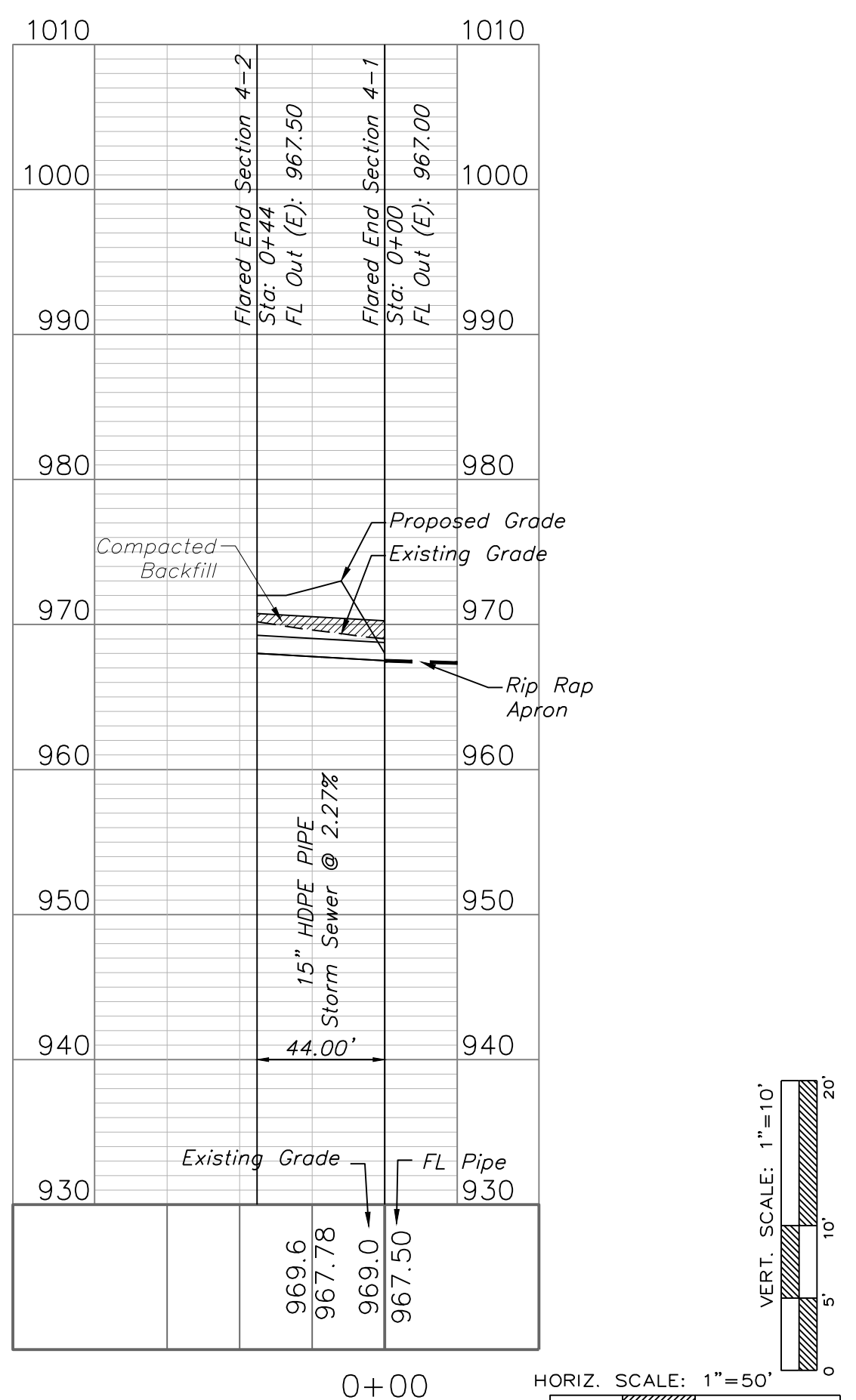
STORM LINE 2



STORM LINE 3



STORM LINE 4



**ENGINEERING SOLUTIONS**  
ENGINEERING & SURVEYING  
50 SE 30TH STREET  
LEE'S SUMMIT, MO 64082  
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Professional Registration  
Missouri  
Engineering 2005002186-D  
Surveying 2005008319-D  
Kansas  
Engineering E-1685  
Surveying LS-218  
Oklahoma  
Engineering 6254  
Nebraska  
Engineering CA2821

Colbern Road Investments  
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD  
INVESTMENTS L&M  
Issue Date:  
February 7, 2023

Storm Sewer Plan and Profile  
Construction Plans for:  
Colbern Road Investments  
Lee's Summit, Jackson County, Missouri

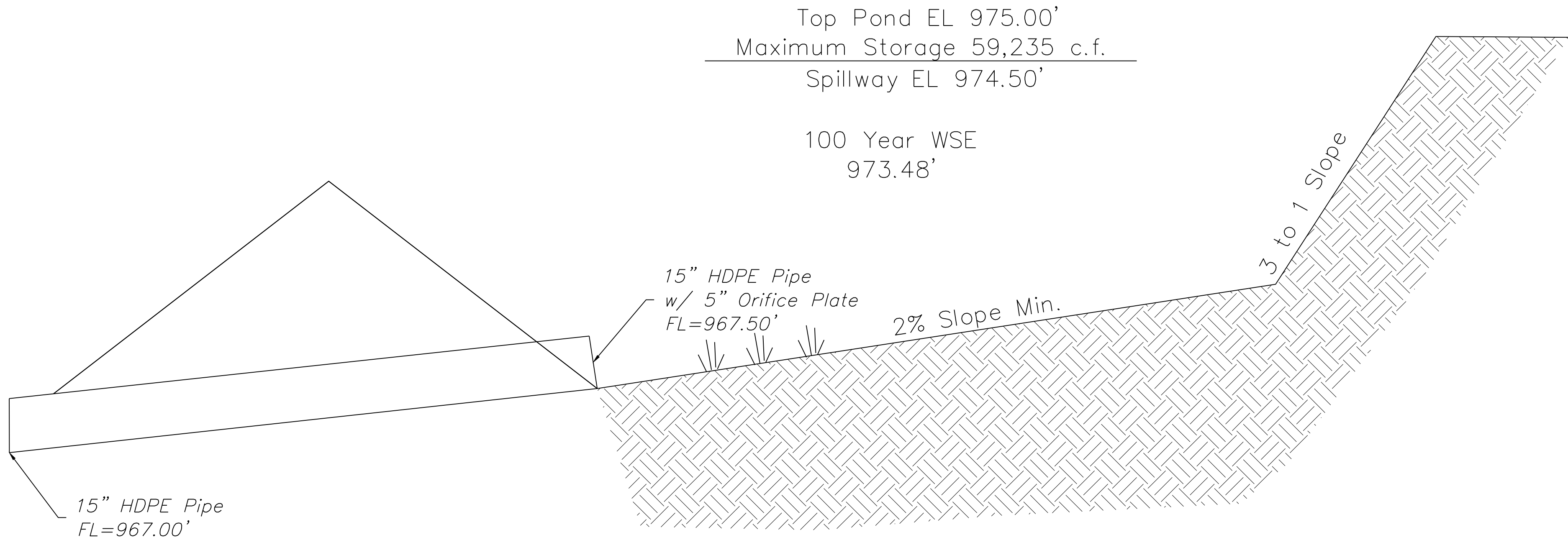
STATE OF MISSOURI  
MATTHEW J. SCHLICHT  
REGISTERED PROFESSIONAL ENGINEER  
No. 000000000  
EXPIRATION DATE 12/31/2025

Matthew J. Schlicht  
MO PE 2006019708  
KS PE 19071  
OK PE 25226  
NE PE E-14335

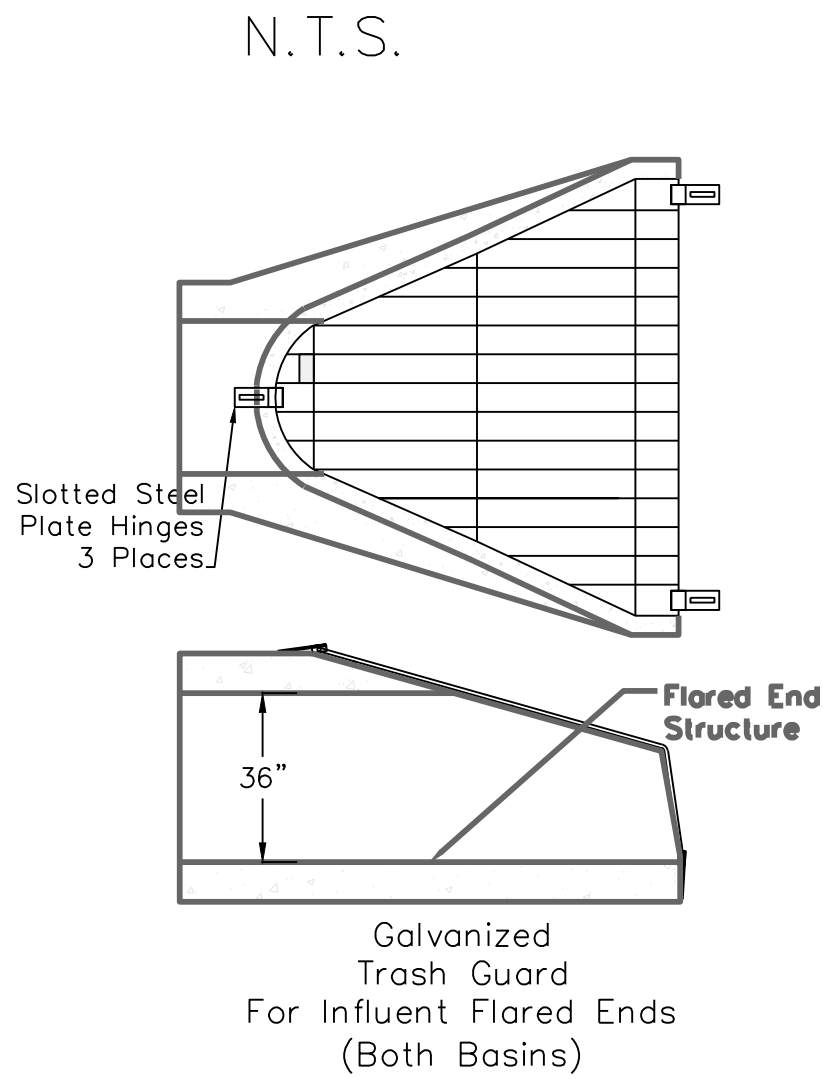
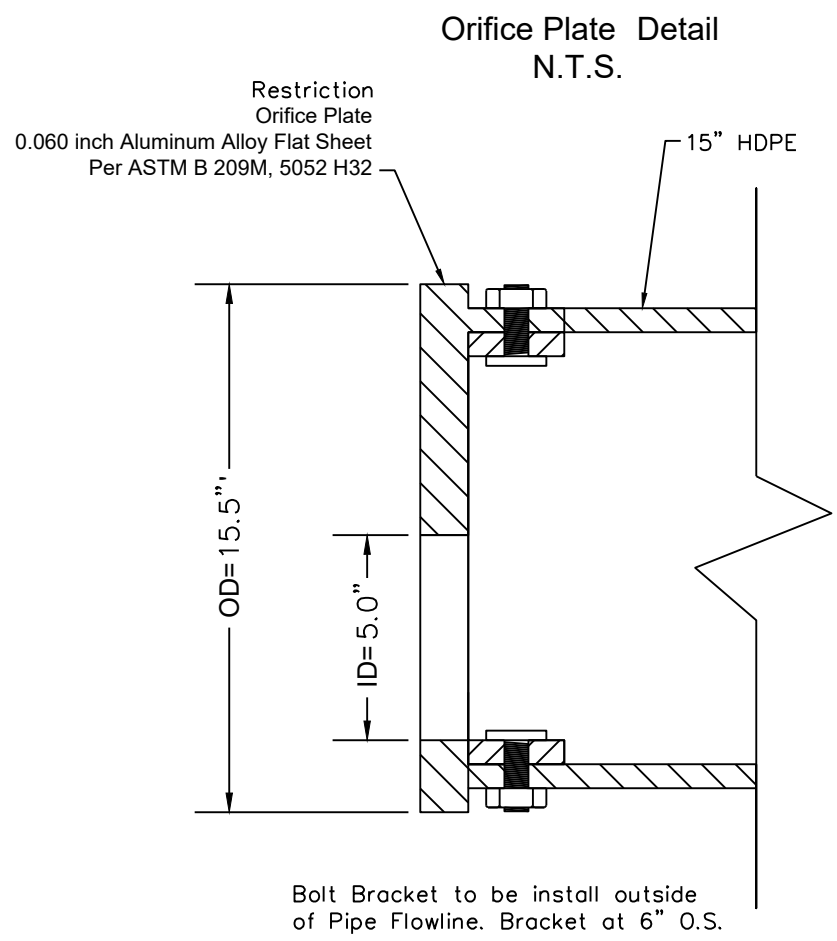
REVISIONS  
REV. 2/7/2023

C.301





SECTION VIEW – BASIN



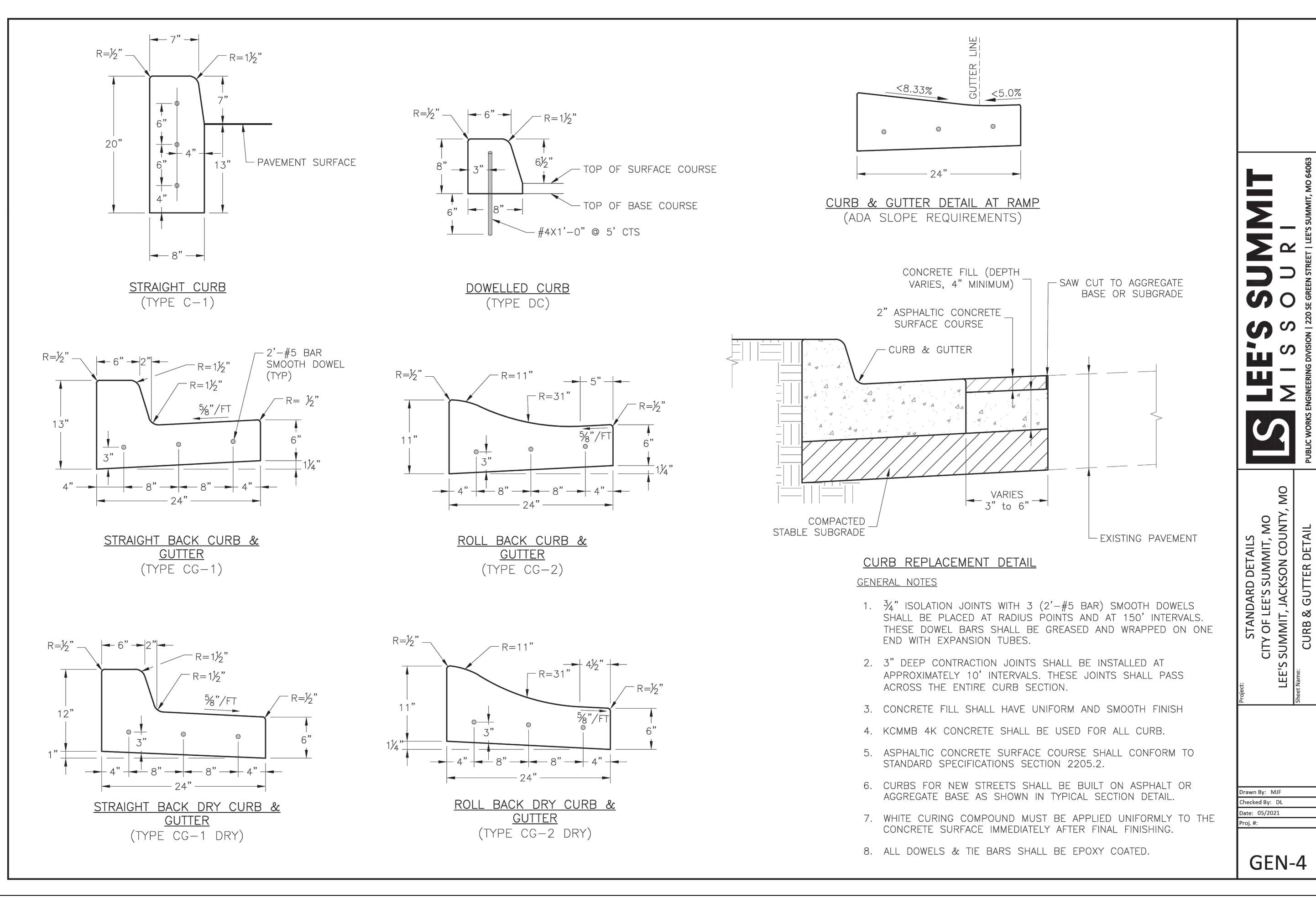
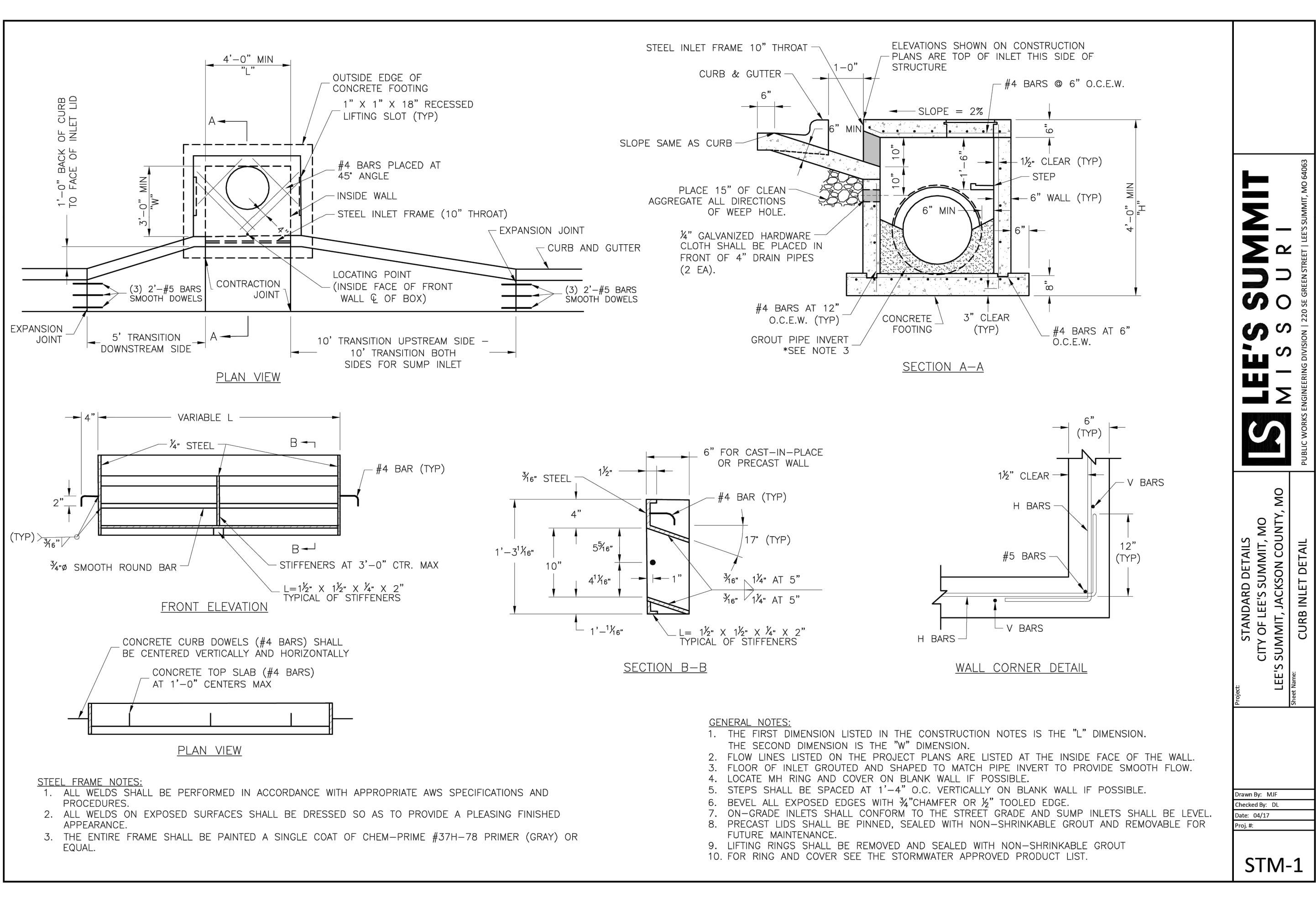
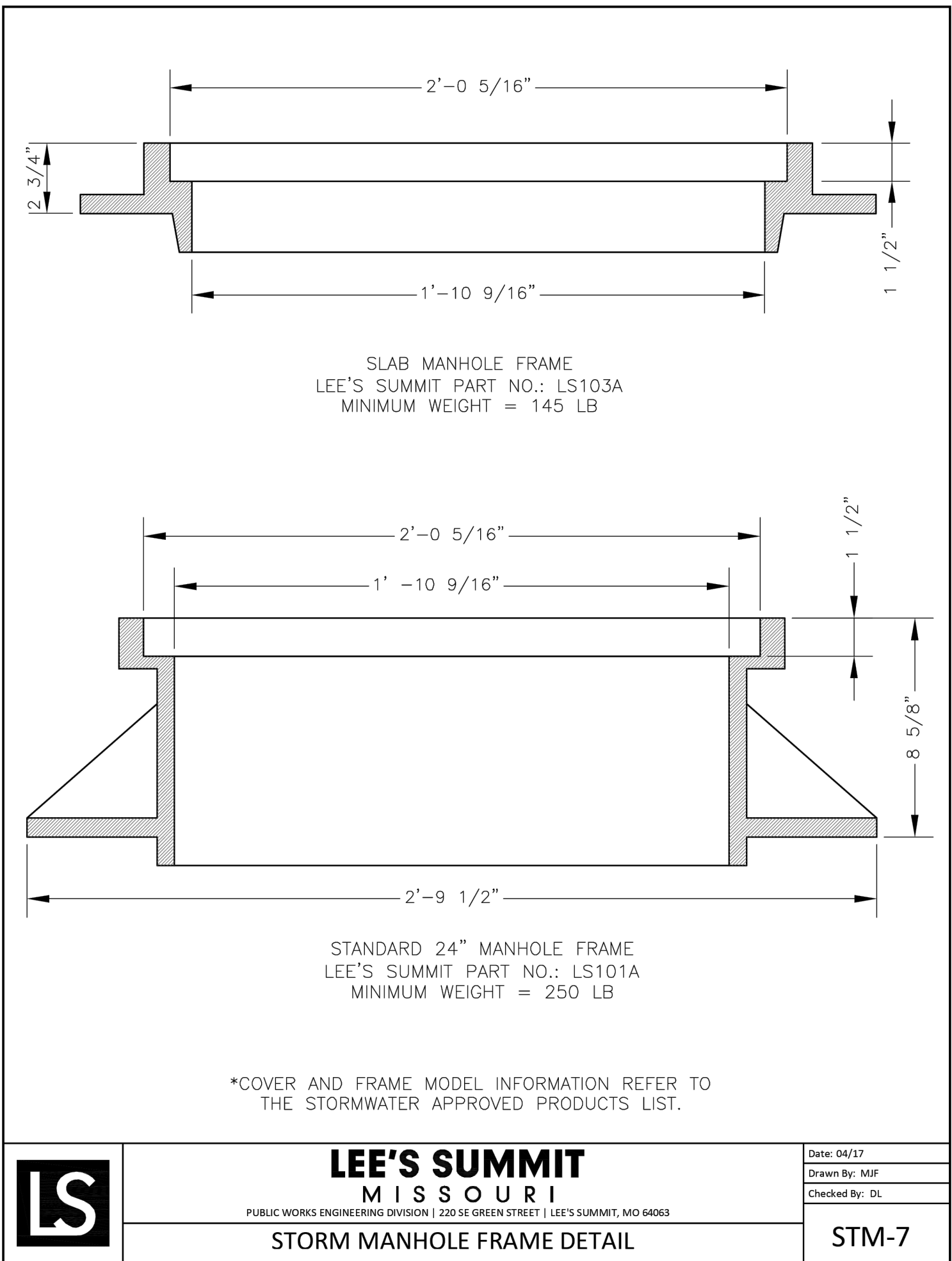
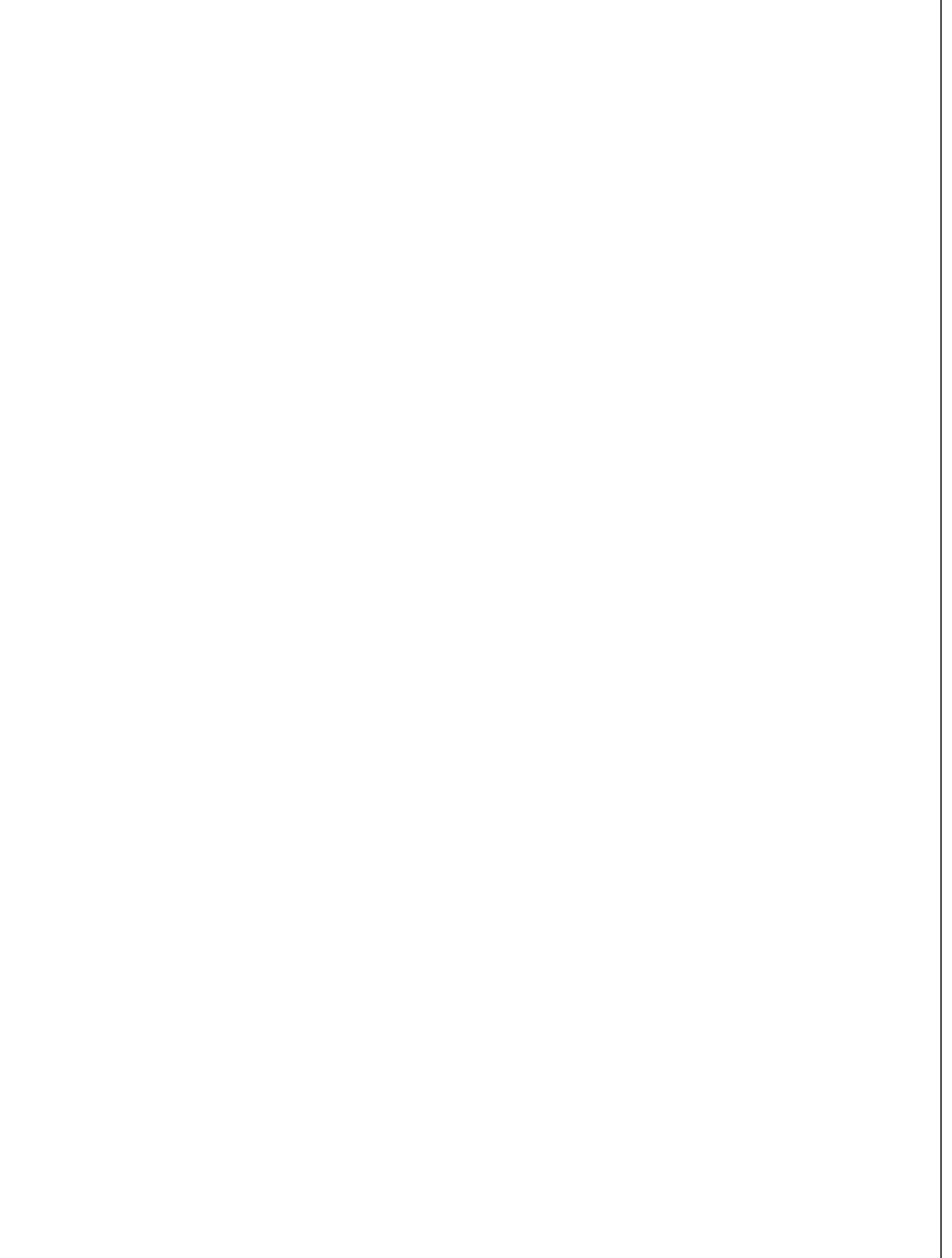
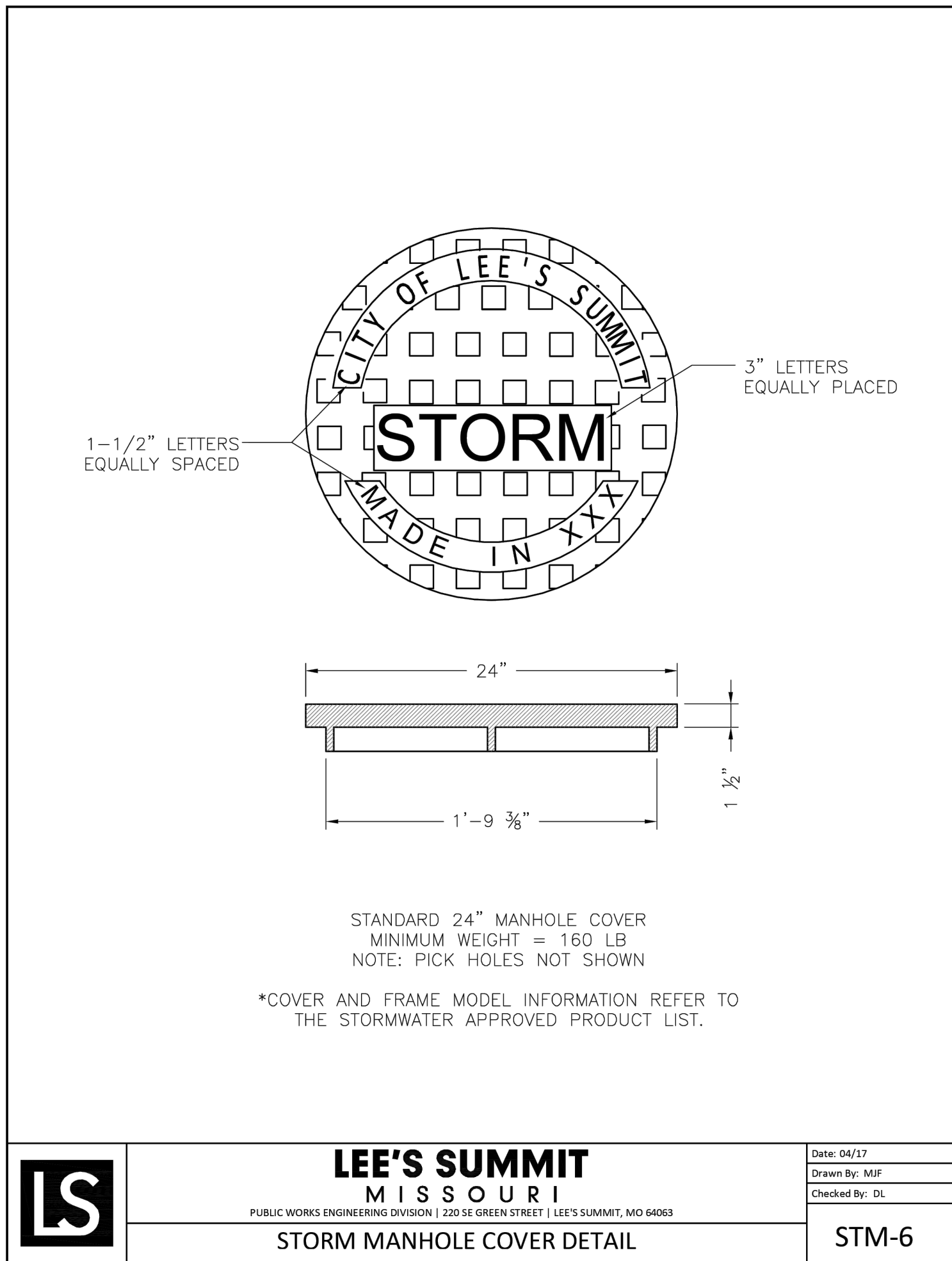
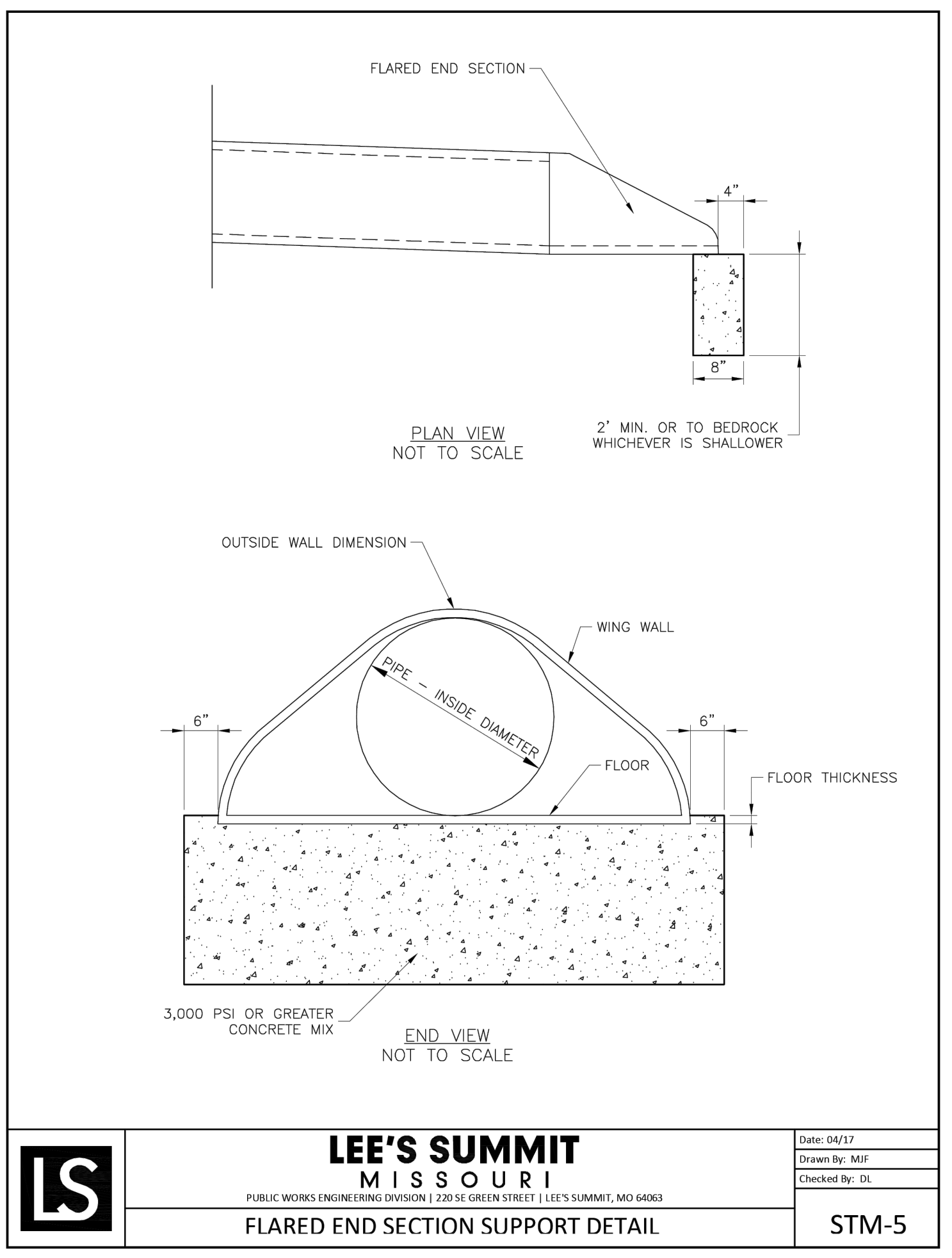
| Field             | End Section #       | 1-1          |     |                                                         |
|-------------------|---------------------|--------------|-----|---------------------------------------------------------|
| Q =               | 25.35               | cfs          |     | D <sub>50</sub> = riprap size, m(ft)                    |
| D =               | 3                   | ft           |     | Q = design discharg, m³/s (ft³/s)                       |
| Tw =              | 1.2                 | ft           |     | D = culvert diameter (circular), m(ft)                  |
| g =               | 32.2                | ft/s²        |     | Tw = tailwater depth, m(ft)                             |
|                   |                     |              |     | g = acceleration due to gravity, 9.81 m/s² (32.2 ft/s²) |
| D <sub>50</sub> = | 3.4                 | inches       |     |                                                         |
| Use               | 5                   | inches       |     |                                                         |
|                   |                     |              |     | *Taken From Publication No. FHWA-NHI-06-086             |
|                   |                     |              |     | Hydraulic Engineering Circular No. 14, 3rd Edition      |
| <b>Class 1</b>    |                     |              |     |                                                         |
| Apron Length =    | 4*D                 | 12.00 ft     | use | 12.00 ft                                                |
| Apron Depth =     | 3.5*D <sub>50</sub> | 17.50 inches | use | 18.00 inches                                            |
| Apron Width =     | 3*D+(2/3)L          | 17.00 ft     | use | 17.00 ft                                                |

| RipRap Apron |            |            |           |       |                      |             |            |            |           |
|--------------|------------|------------|-----------|-------|----------------------|-------------|------------|------------|-----------|
| RipRap Apron | Area (ac.) | Q100 (cfs) | Dia. (ft) | Class | D <sub>50</sub> (in) | Length (ft) | Depth (in) | Width (ft) | Slope (%) |
| 1-1          | 5.83       | 25.35      | 3         | 1     | 5                    | 12          | 18         | 17         | 2.00      |

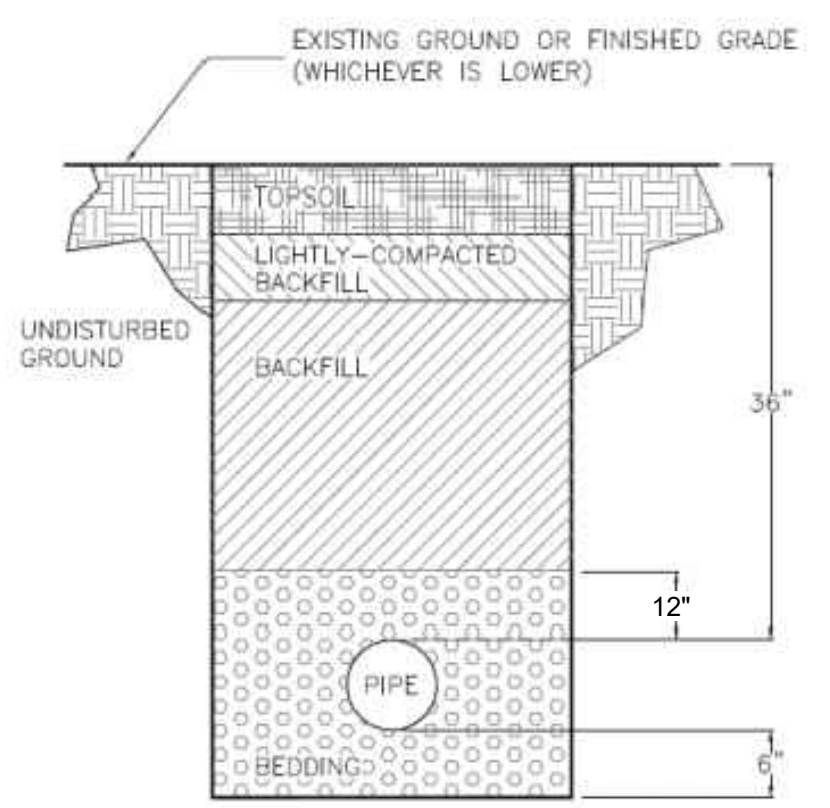
STANDARD RIPRAP APRON DETAIL

- NOTES:
1. ALL RIPRAP APRONS SHALL CONFORM TO THE STANDARD CONFIGURATION SHOWN IN THE STANDARD DETAIL ABOVE UNLESS OTHERWISE NOTED. PLAN VIEW DIMENSIONS SHOWN SHALL BE MET OR EXCEEDED INCLUDING AREAS OF LONGITUDINAL AND/OR TRANSVERSE SLOPE.
  2. DIMENSIONS FOR EACH RIPRAP APRON AND ASSOCIATED RIPRAP ARE DETAILED IN THE TABLE ABOVE.
  3. WIDTH REFERS TO DIMENSION OPPOSITE PIPE AND DEPTH IS DIMENSION H.
  4. GEOTEXTILE SHALL BE "GEI WORKS 4 OUNCE" NON-WOVEN FILTER FABRIC DESIGNED FOR FILTRATION, STABILIZATION AND SEPARATION WRAPPED CONTINUOUSLY ALONG THE SIDEWALLS AND BOTTOM OF THE PREPARED AREA OR SLOPE.
    - WATER FLOW = 120 GPM/SF
    - GRAB STRENGTH (MIN) = 400 N
    - PUNCTURE STRENGTH (MIN) = 178 N
    - TRAPEZOIDAL TEAR (MIN) = 133 N
    - ELONGATION (MIN) = 15%









TRENCH AND BACKFILL DETAIL  
N.T.S.

