



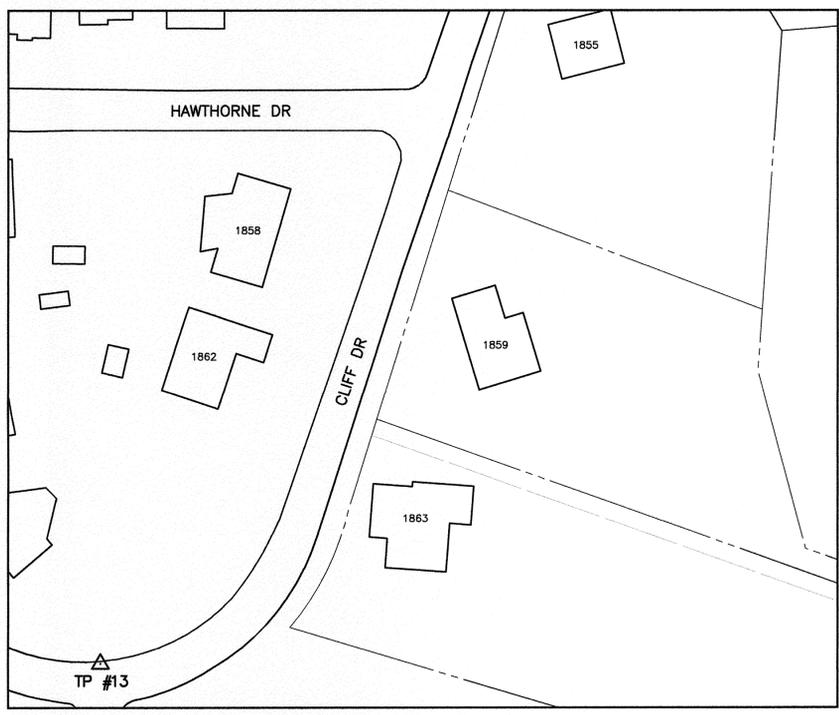
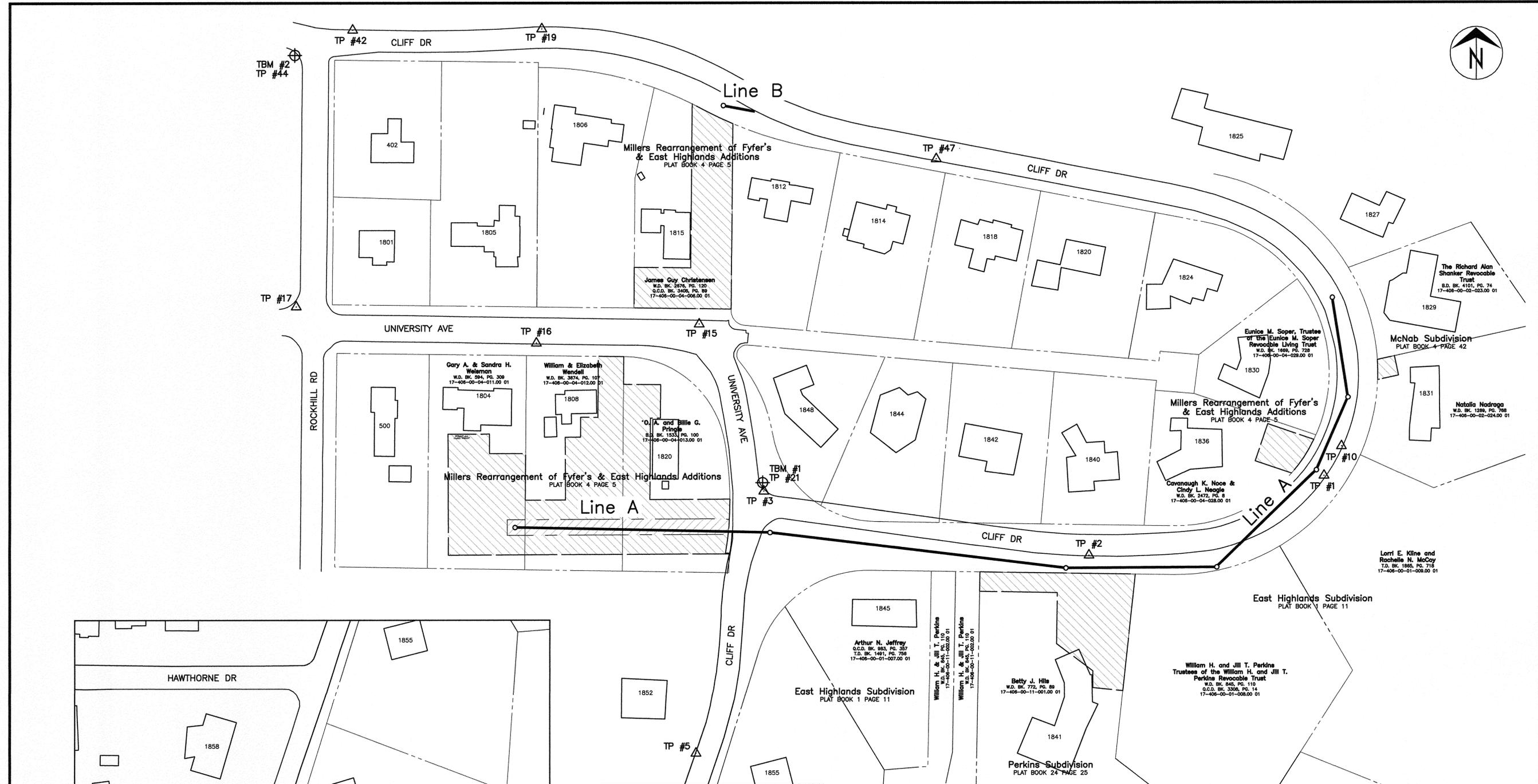
No.	Date	By	Revision

PCCE #14 - Cliff Drive
Easements & Survey Control

City of Columbia, Missouri
Department of Public Works



Scale:	1"=50'
Date:	6/27/2014
Des.:	A.A.A.
Dwn.:	J.K.M.
Chk.:	



INSET

See Inset at Left

TRAVERSE POINTS

PT. NO.	NORTHING	EASTING	DESCRIPTION
1	1133357.4080	1694855.0610	PK
2	1133275.8794	1694613.3188	PK
3	1133341.6306	1694278.8010	PK
5	1133073.1574	1694209.1315	PK
10	1133387.6567	1694872.9867	PK
13	1132684.8505	1694001.5453	PK
15	1133512.9632	1694212.2300	PK
16	1133493.6649	1694044.6853	PK
17	1133531.0837	1693797.7355	PK
19	1133815.4938	1694050.2954	PK
21	1133350.4096	1694277.5341	TBM #1 CHSQ
42	1133814.3183	1693855.7733	PK
44	1133788.6197	1693796.3073	TBM #2 CHSQ
47	1133681.9761	1694456.1177	PK

BENCHMARKS:

TBM #1 (POINT #21) CHISELED SQUARE ON THE TOP OF CURB ON THE NORTHEAST CORNER OF CLIFF DRIVE AND UNIVERSITY AVE NEXT TO "NO OUTLET" SIGN.
NORTHING = 1133350
EASTING = 1694278
ELEVATION = 743.37

TBM #2 (POINT #44) CHISELED SQUARE ON THE TOP OF CURB ON THE SOUTHWEST CORNER OF CLIFF DRIVE AND ROCKHILL ROAD NEXT TO THE STREET NAME SIGN.
NORTHING = 1133789
EASTING = 1693796
ELEVATION = 738.23

Permanent Sanitary Sewer Easement (PSSE)
 Temporary Construction Easement (TCE)



SCALES:
1" = 20' HOR
1" = 5' VER

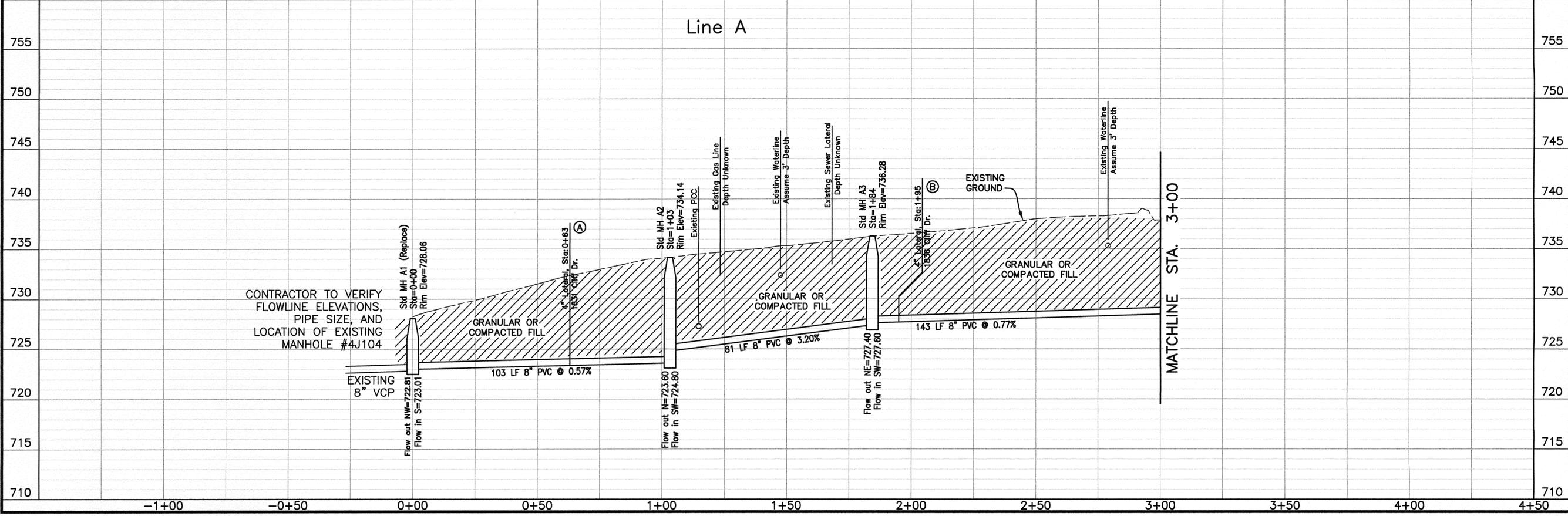
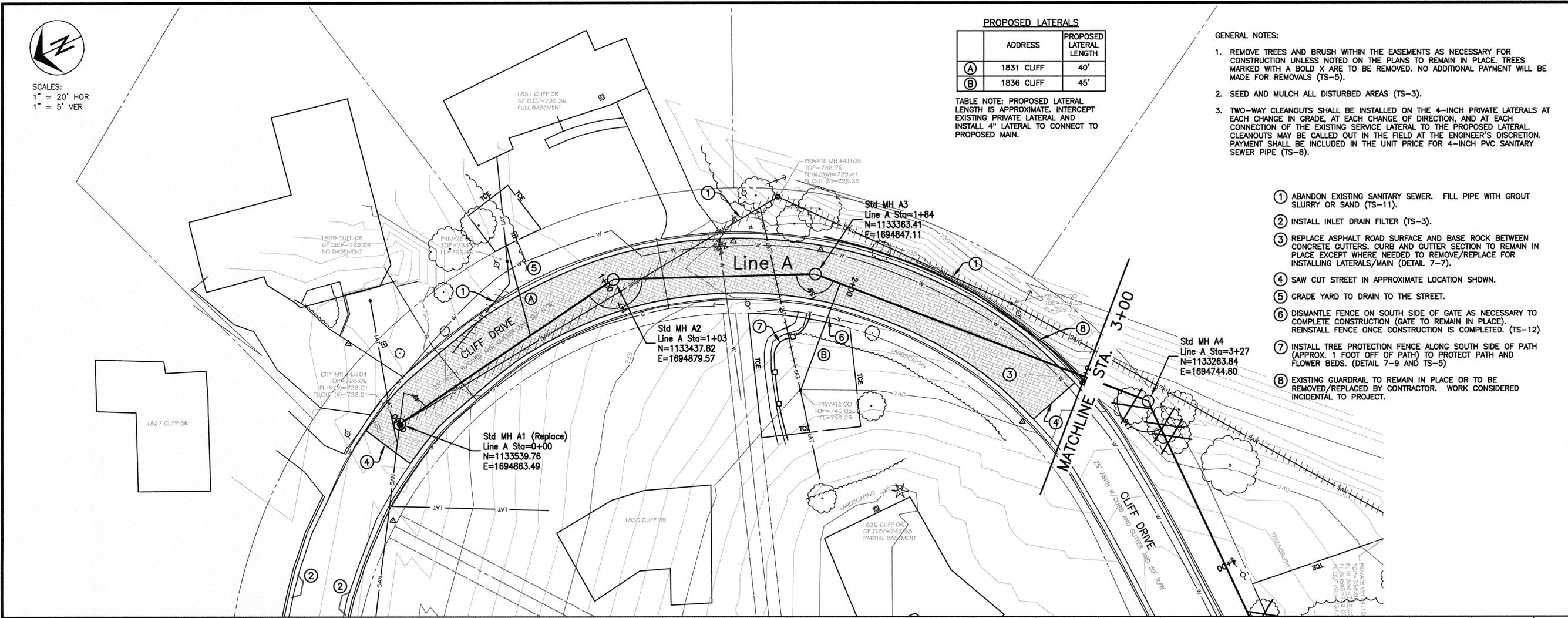
PROPOSED LATERALS		
	ADDRESS	PROPOSED LATERAL LENGTH
(A)	1831 CLIFF	40'
(B)	1836 CLIFF	45'

TABLE NOTE: PROPOSED LATERAL LENGTH IS APPROXIMATE. INTERCEPT EXISTING PRIVATE LATERAL AND INSTALL 4" LATERAL TO CONNECT TO PROPOSED MAIN.

GENERAL NOTES:

- REMOVE TREES AND BRUSH WITHIN THE EASEMENTS AS NECESSARY FOR CONSTRUCTION UNLESS NOTED ON THE PLANS TO REMAIN IN PLACE. TREES MARKED WITH A BOLD X ARE TO BE REMOVED. NO ADDITIONAL PAYMENT WILL BE MADE FOR REMOVALS (TS-5).
- SEED AND MULCH ALL DISTURBED AREAS (TS-3).
- TWO-WAY CLEANOUTS SHALL BE INSTALLED ON THE 4-INCH PRIVATE LATERALS AT EACH CHANGE IN GRADE, AT EACH CHANGE OF DIRECTION, AND AT EACH CONNECTION OF THE EXISTING SERVICE LATERAL TO THE PROPOSED LATERAL. CLEANOUTS MAY BE CALLED OUT IN THE FIELD AT THE ENGINEER'S DISCRETION. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE FOR 4-INCH PVC SANITARY SEWER PIPE (TS-8).

- ABANDON EXISTING SANITARY SEWER. FILL PIPE WITH GROUT SLURRY OR SAND (TS-11).
- INSTALL INLET DRAIN FILTER (TS-3).
- REPLACE ASPHALT ROAD SURFACE AND BASE ROCK BETWEEN CONCRETE GUTTERS. CURB AND GUTTER SECTION TO REMAIN IN PLACE EXCEPT WHERE NEEDED TO REMOVE/REPLACE FOR INSTALLING LATERALS/MAIN (DETAIL 7-7).
- SAW CUT STREET IN APPROXIMATE LOCATION SHOWN.
- GRADE YARD TO DRAIN TO THE STREET.
- DISMANTLE FENCE ON SOUTH SIDE OF GATE AS NECESSARY TO COMPLETE CONSTRUCTION (GATE TO REMAIN IN PLACE). REINSTALL FENCE ONCE CONSTRUCTION IS COMPLETED. (TS-12)
- INSTALL TREE PROTECTION FENCE ALONG SOUTH SIDE OF PATH (APPROX. 1 FOOT OFF OF PATH) TO PROTECT PATH AND FLOWER BEDS. (DETAIL 7-9 AND TS-5)
- EXISTING GUARDRAIL TO REMAIN IN PLACE OR TO BE REMOVED/REPLACED BY CONTRACTOR. WORK CONSIDERED INCIDENTAL TO PROJECT.



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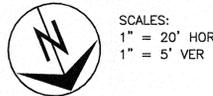
PCCE #14 - Cliff Drive
Plan and Profile - Line A - Sta 0+00 to Sta 3+00

City of Columbia, Missouri
Department of Public Works

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
JOHN D. GLASCOCK
NUMBER E-26800

File No. _____
Scale: As Shown
Date: 6/27/2014
Des. A.A.A.
Dwn. J.K.M.
Chk. _____

Sheet
3 of 8



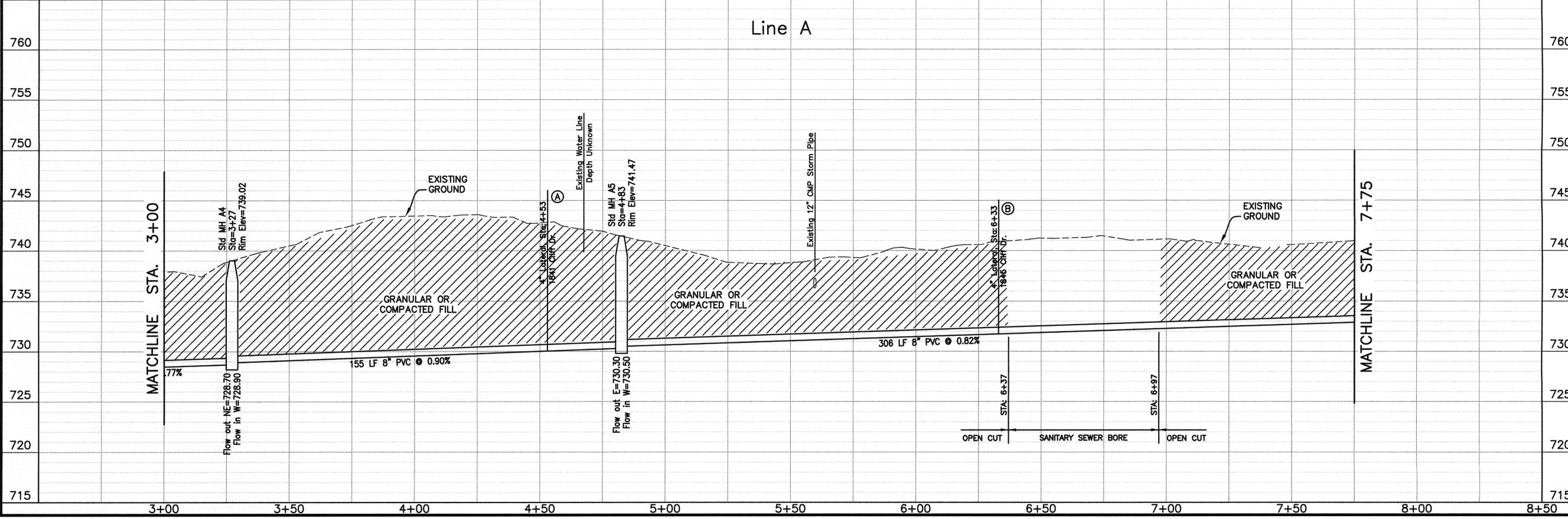
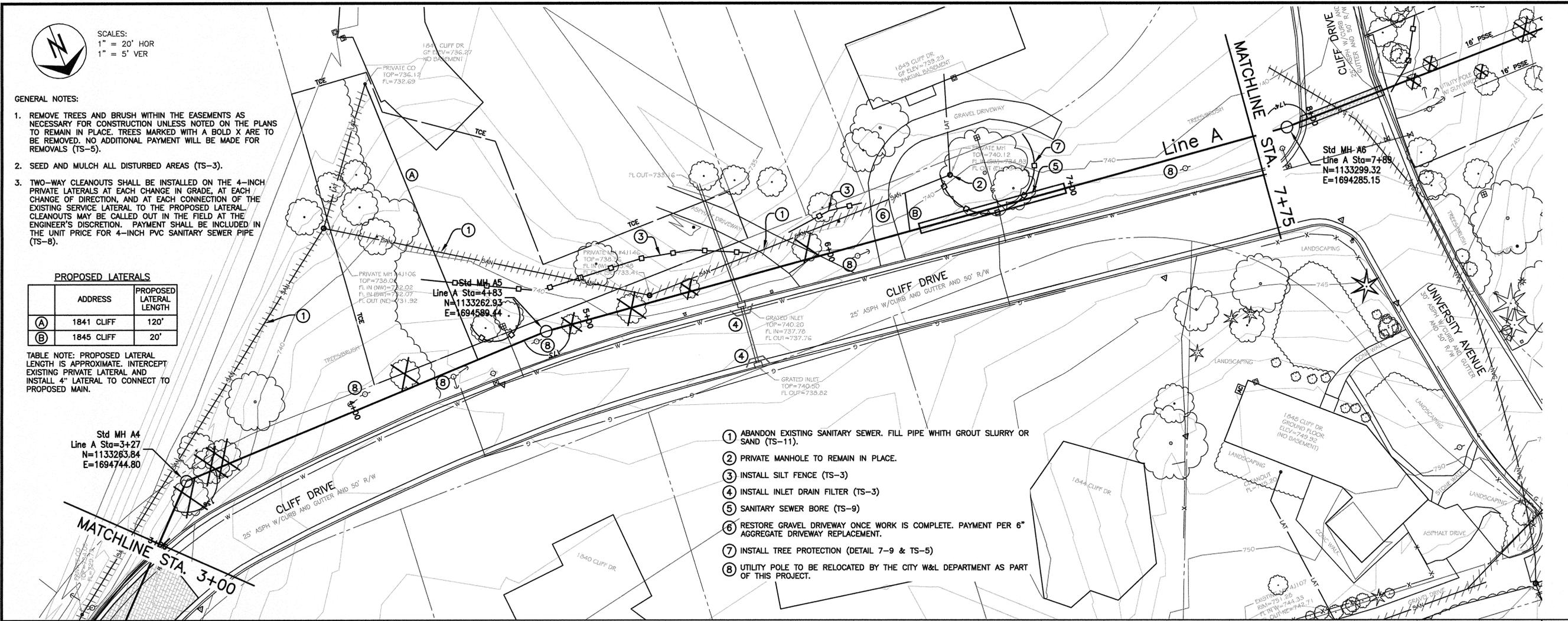
- GENERAL NOTES:**
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 - SEED AND MULCH ALL DISTURBED AREAS (TS-3).
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PROPOSED LATERALS

ADDRESS	PROPOSED LATERAL LENGTH
(A) 1841 CLIFF	120'
(B) 1845 CLIFF	20'

TABLE NOTE: PROPOSED LATERAL LENGTH IS APPROXIMATE. INTERCEPT EXISTING PRIVATE LATERAL AND INSTALL 4" LATERAL TO CONNECT TO PROPOSED MAIN.

- ABANDON EXISTING SANITARY SEWER. FILL PIPE WITH GROUT SLURRY OR SAND (TS-11).
- PRIVATE MANHOLE TO REMAIN IN PLACE.
- INSTALL SILT FENCE (TS-3)
- INSTALL INLET DRAIN FILTER (TS-3)
- SANITARY SEWER BORE (TS-9)
- RESTORE GRAVEL DRIVEWAY ONCE WORK IS COMPLETE. PAYMENT PER 6" AGGREGATE DRIVEWAY REPLACEMENT.
- INSTALL TREE PROTECTION (DETAIL 7-9 & TS-5)
- UTILITY POLE TO BE RELOCATED BY THE CITY W&L DEPARTMENT AS PART OF THIS PROJECT.



Revision	By	Date	No.

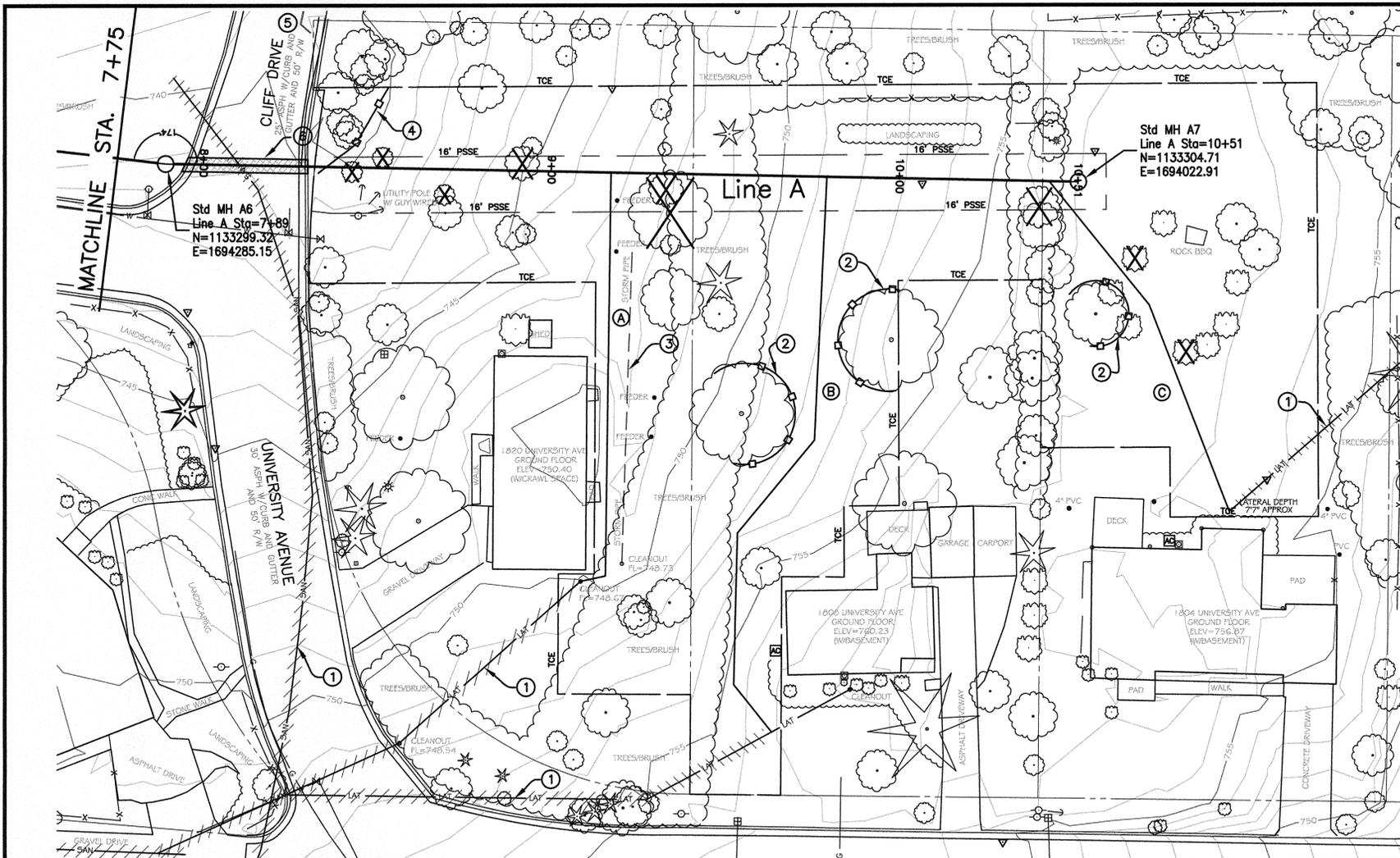
PCCE #14 - Cliff Drive
Plan and Profile - Line A - Sta 3+00 to Sta 7+75

City of Columbia, Missouri
Department of Public Works

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
JOHN D. GLASCOCK
NUMBER E-26800

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Dwn. J.K.M.
Chk. _____

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 SCALES:
 1" = 20' HOR
 1" = 5' VER

NOTES:

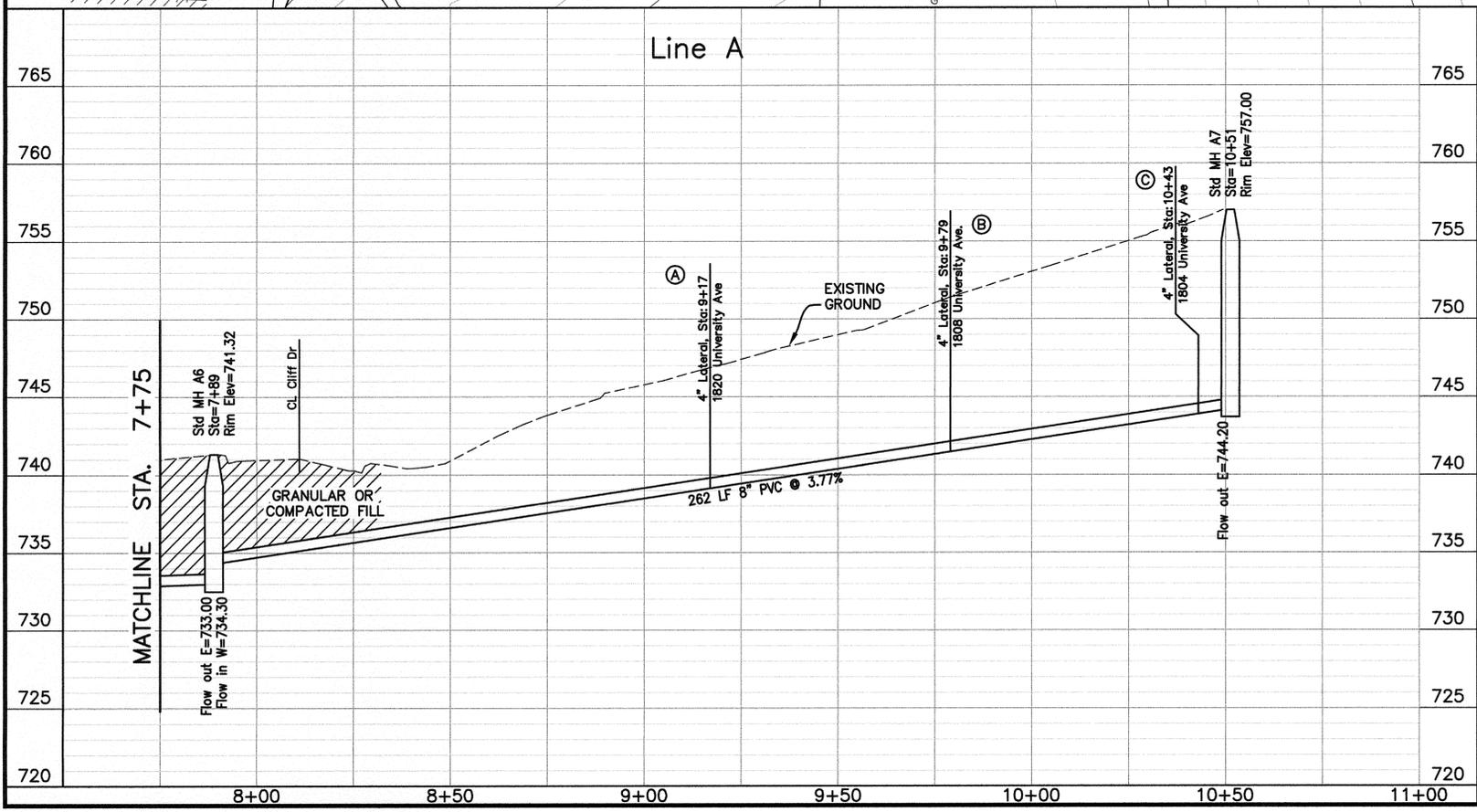
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PROPOSED LATERALS

	ADDRESS	PROPOSED LATERAL LENGTH
(A)	1820 UNIVERSITY	120'
(B)	1808 UNIVERSITY	170'
(C)	1804 UNIVERSITY	110'

TABLE NOTE: PROPOSED LATERAL LENGTH IS APPROXIMATE. INTERCEPT EXISTING PRIVATE LATERAL AND INSTALL 4" LATERAL TO CONNECT TO PROPOSED MAIN.

- ABANDON EXISTING SANITARY SEWER. FILL PIPE WITH GROUT SLURRY OR SAND (TS-11).
- INSTALL TREE PROTECTION (DETAIL 7-9 AND TS-5)
- EXISTING PERFORATED STORMWATER DRAIN PIPE (APPROX LOCATION).
- INSTALL SILT FENCE (TS-3)
- INSTALL INLET DRAIN FILTER (TS-3)
- PATCH ASPHALT PAVEMENT (DETAIL 7-5) AND REPLACE CONCRETE CURB AND GUTTER (DETAIL 7-7). PAYMENT PER SY OF CONCRETE ROAD PATCH/STREET REPAIR AND PER LF CONCRETE CURB AND GUTTER.



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By		Date		No.		<h2 style="margin: 0;">PCCE #14 - Cliff Drive</h2> <p style="margin: 0;">Plan and Profile - Line A - Sta 7+75 to Sta 10+49</p>																																																															
City of Columbia, Missouri					Department of Public Works																																																																
																																																																					
<table border="0" style="width: 100%; font-size: small;"> <tr> <td>Fig. No.</td> <td colspan="9"></td> </tr> <tr> <td>Scale:</td> <td colspan="9">As Shown</td> </tr> <tr> <td>Date:</td> <td colspan="9">6/27/2014</td> </tr> <tr> <td>Des.:</td> <td colspan="9">AAA</td> </tr> <tr> <td>Dwn.:</td> <td colspan="9">J.K.M.</td> </tr> <tr> <td>Chk.:</td> <td colspan="9"></td> </tr> </table>										Fig. No.										Scale:	As Shown									Date:	6/27/2014									Des.:	AAA									Dwn.:	J.K.M.									Chk.:									
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SCALES:
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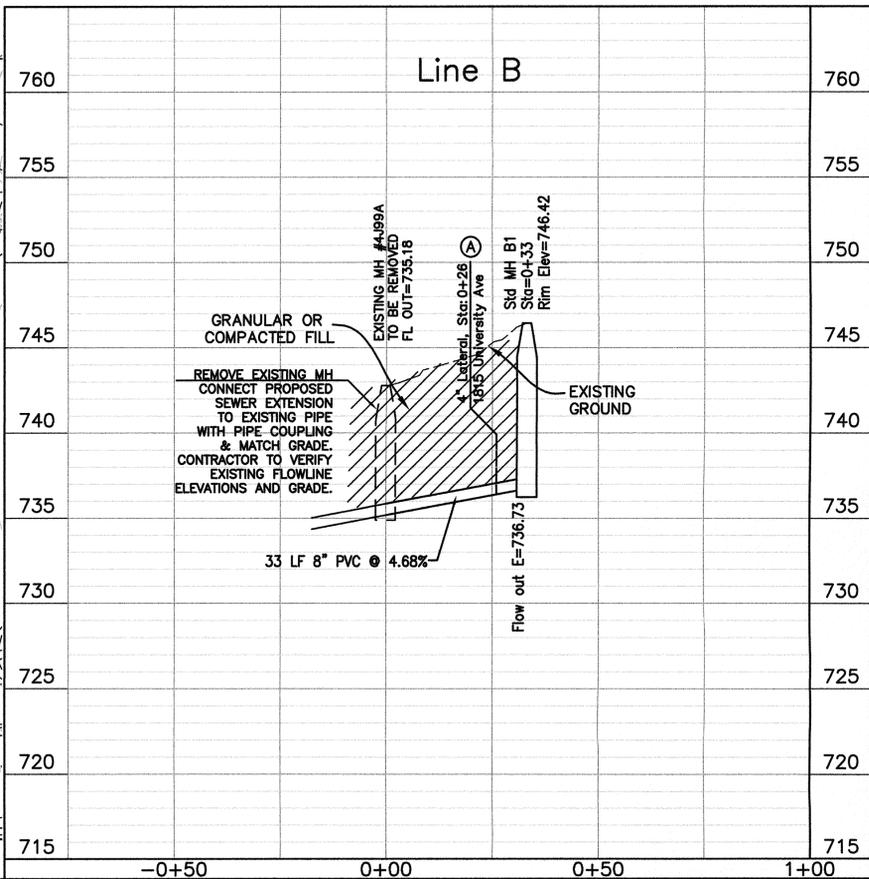
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PROPOSED LATERALS

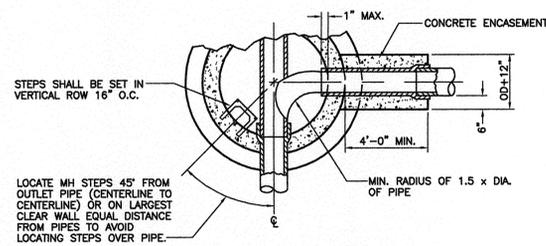
ADDRESS	PROPOSED LATERAL LENGTH
(A) 1815 UNIVERSITY	165'

TABLE NOTE: PROPOSED LATERAL LENGTH IS APPROXIMATE. INTERCEPT EXISTING PRIVATE LATERAL AND INSTALL 4" LATERAL TO CONNECT TO PROPOSED MAIN.

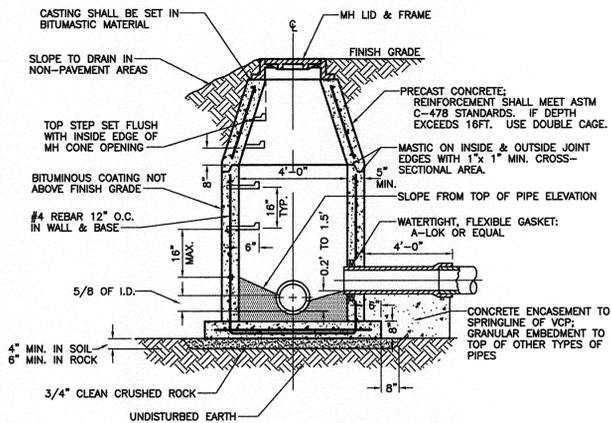
- 1 INSTALL TEMPORARY FENCE FOR DOG (TS-13).
- 2 INSTALL TREE PROTECTION (DETAIL 7-9)
- 3 DISMANTLE FENCE NECESSARY TO COMPLETE CONSTRUCTION AND REINSTALL FENCE ONCE CONSTRUCTION IS COMPLETED (TS-12).
- 4 ABANDON EXISTING PRIVATE SANITARY SEWER. FILL PIPE WITH GROUT SLURRY OR SAND (TS-11).
- 5 PLUG/ABANDON PRIVATE SEWER UPSTREAM OF LATERAL SERVING 1848 CLIFF DRIVE. LATERAL FOR 1848 CLIFF DRIVE TO REMAIN IN SERVICE AS IS CONNECTED TO CITY MH #4107. CONTRACTOR TO CONTACT PROPERTY OWNERS WHO'S DRIVEWAYS CONNECT TO GRAVEL DRIVE OF DATE/TIME WHEN GRAVEL DRIVE WILL BE CLOSED TO ABANDON PCC. PAYMENT PER LS OF ABANDONMENT OF EXISTING SANITARY SEWER.
- 6 INSTALL CURB/INLET DRAIN FILTER (TS-3).
- 7 REMOVE EXISTING MANHOLE. CONNECT PROPOSED SEWER EXTENSION TO THE EXISTING PIPE WITH PIPE COUPLING & MATCH GRADE. PAYMENT FOR MANHOLE REMOVAL PER LS OF ABANDONMENT OF EXISTING SANITARY SEWER.
- 8 RESTORE GRAVEL DRIVEWAY ONCE WORK IS COMPLETE. PAYMENT PER 6" AGGREGATE DRIVEWAY REPLACEMENT.
- 9 PATCH ASPHALT PAVEMENT (DETAIL 7-5) AND REPLACE CONCRETE CURB AND GUTTER (DETAIL 7-7). PAYMENT PER SY OF CONCRETE ROAD PATCH/STREET REPAIR AND PER LF OF CONCRETE CURB AND GUTTER.



Revision				
By				
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PCCE #14 - Cliff Drive				
Plan and Profile - Line B - Sta 0+00 to Sta 0+33				
City of Columbia, Missouri		Department of Public Works		
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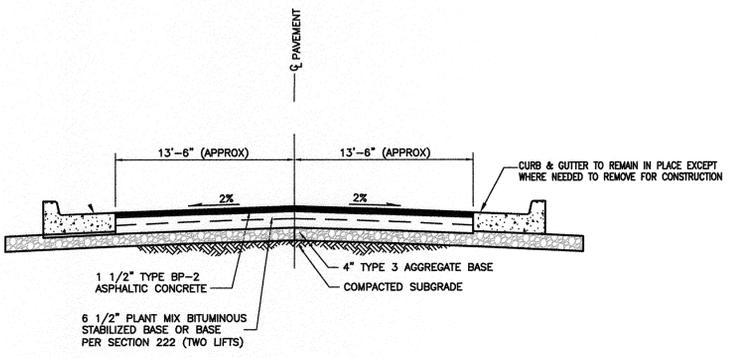


HORIZONTAL SECTION

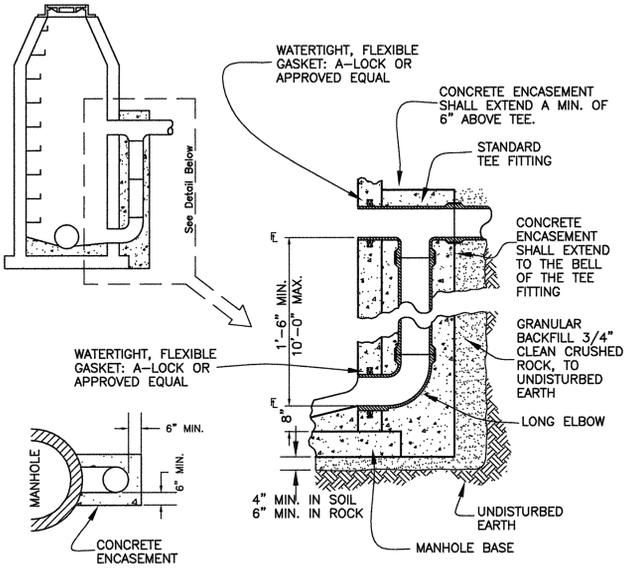


VERTICAL SECTION

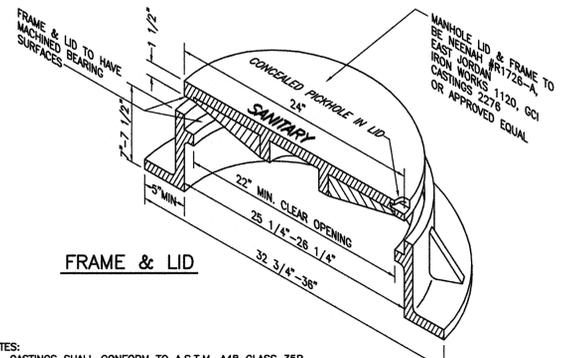
**STANDARD MANHOLE
DETAIL 7-1**



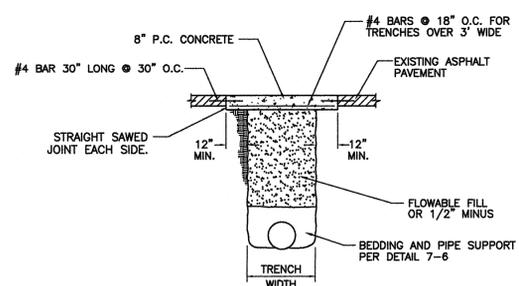
**ASPHALT PAVEMENT REPLACEMENT
DETAIL 7-7**



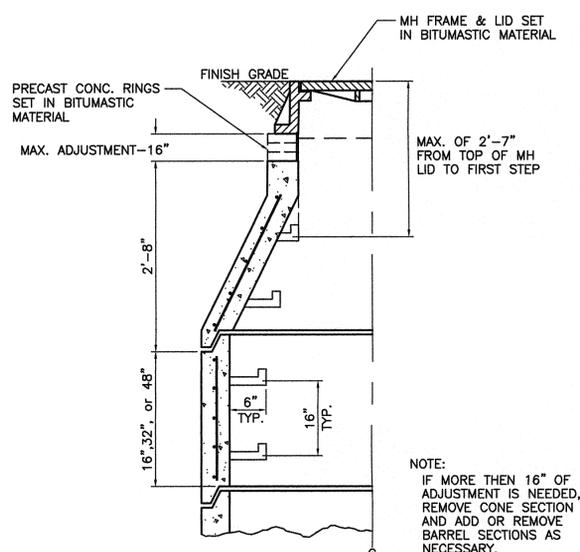
**STANDARD DROP MANHOLE
DETAIL 7-2**



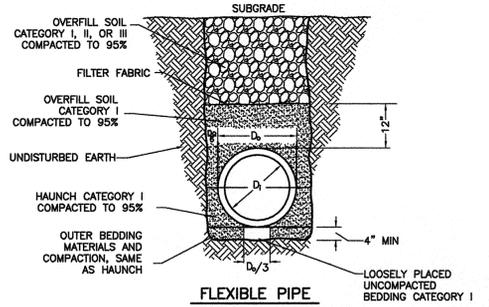
**MANHOLE CASTINGS
DETAIL 7-3**



**PATCHING PAVED STREETS
DETAIL 7-5**

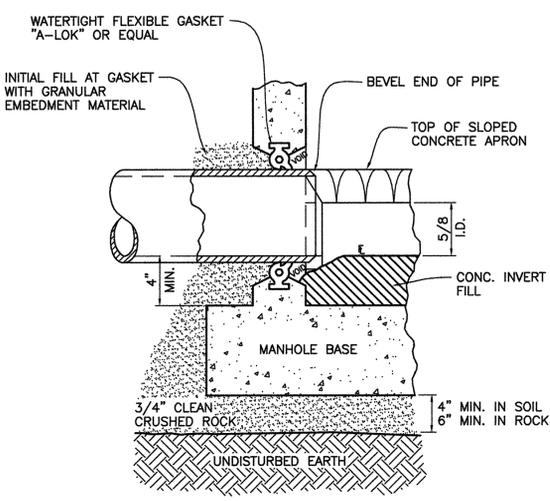


**BARREL SECTION
MANHOLE ADJUSTMENT
DETAIL 7-4**

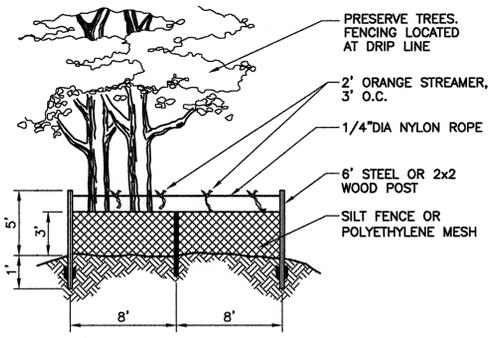


**PIPE EMBEDMENT
DETAIL 7-6**

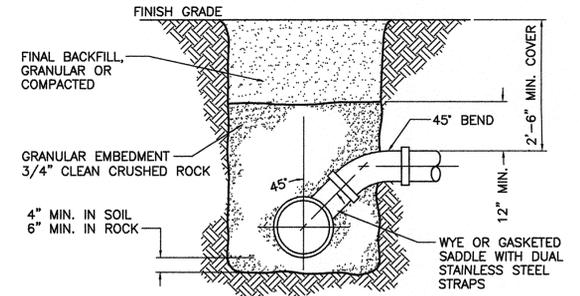
PIPE DIAMETER	PAYLINE/ MIN. TRENCH WIDTH	MAX. TRENCH WIDTH
8"-36"	D _s +12"	D _s +24"
42"-72"	D _s + (D _s /3)	D _s +30"
72"+	D _s + (D _s /3)	D _s +48"



**MANHOLE GASKET
DETAIL 7-8**



**TREE PROTECTION DETAIL
DETAIL 7-9**



**STANDARD SERVICE CONNECTION
DETAIL 7-10**

- NOTES:
- DROP INLET PIPE TO BE SAME SIZE AND MATERIAL AS SEWER MAIN.
 - ALIGNMENT OF TEE: DROP INLET PIPE AND LONG ELBOW MAY BE ADJUSTED TO MAXIMUM OF 5% DEFLECTION TO COMPENSATE FOR SLOPE OF SEWER LINE.

- NOTES:
- CASTINGS SHALL CONFORM TO A.S.T.M. A48 CLASS 35B.
 - LIDWEIGHT 135 lbs. ±5%. TOTAL MINIMUM WEIGHT OF 350 lbs.
 - WATERTIGHT LID AND FRAME TO BE NEENAH #R-1916-F, OR APPROVED EQUAL.
 - MANHOLE STEP AMERICAN STEP ML-10-NCR OR APPROVED EQUAL.
 - BOLT DOWN LIDS SHALL HAVE FRAMES BOLTED TO THE CONE SECTION.

- NOTES:
- ALL P.C. CONCRETE SHALL BE CLASS A.
 - INSTALL 1/2" EXPANSION JOINTS IN CURB AND GUTTER SECTION AT P.C. AND P.T. OF CURB RADIUS OF INTERSECTIONS AND EVERY 150'.
 - INSTALL SAW JOINTS IN CURB AND GUTTER SECTION AT 10 FT. MAXIMUM SPACING, SEAL WITH BITUMASTIC JOINT SEALANT.
 - 4% PARABOLIC CROWN IS ACCEPTABLE IN LIEU OF 2% NORMAL CROWN.

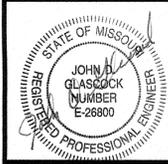
- NOTE:
- BITUMINOUS COATING ON EXTERIOR SURFACE OF MANHOLE SHALL NOT COME IN CONTACT WITH PIPE GASKET.
 - FOR CAST-IN-PLACE CONCRETE MANHOLES OR PRE-CAST WITH BOX-OUTS, THE PIPE GASKET SHALL BE A RUBBER LABYRINTH WATERSTOP WITH STAINLESS STEEL CLAMPING BANDS LOCATED AT CENTER OF WALL AND THE SPACE BETWEEN PIPE & WALL COMPLETELY GROUTED WITH NONSHRINKING MORTAR.
 - PIPE MAY PROJECT 1" MAXIMUM PAST INSIDE WALL OF MANHOLE, BUT NO CONTACT BETWEEN PIPE & INVERT.

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**PCCE #14 - Cliff Drive
Details**

City of Columbia, Missouri

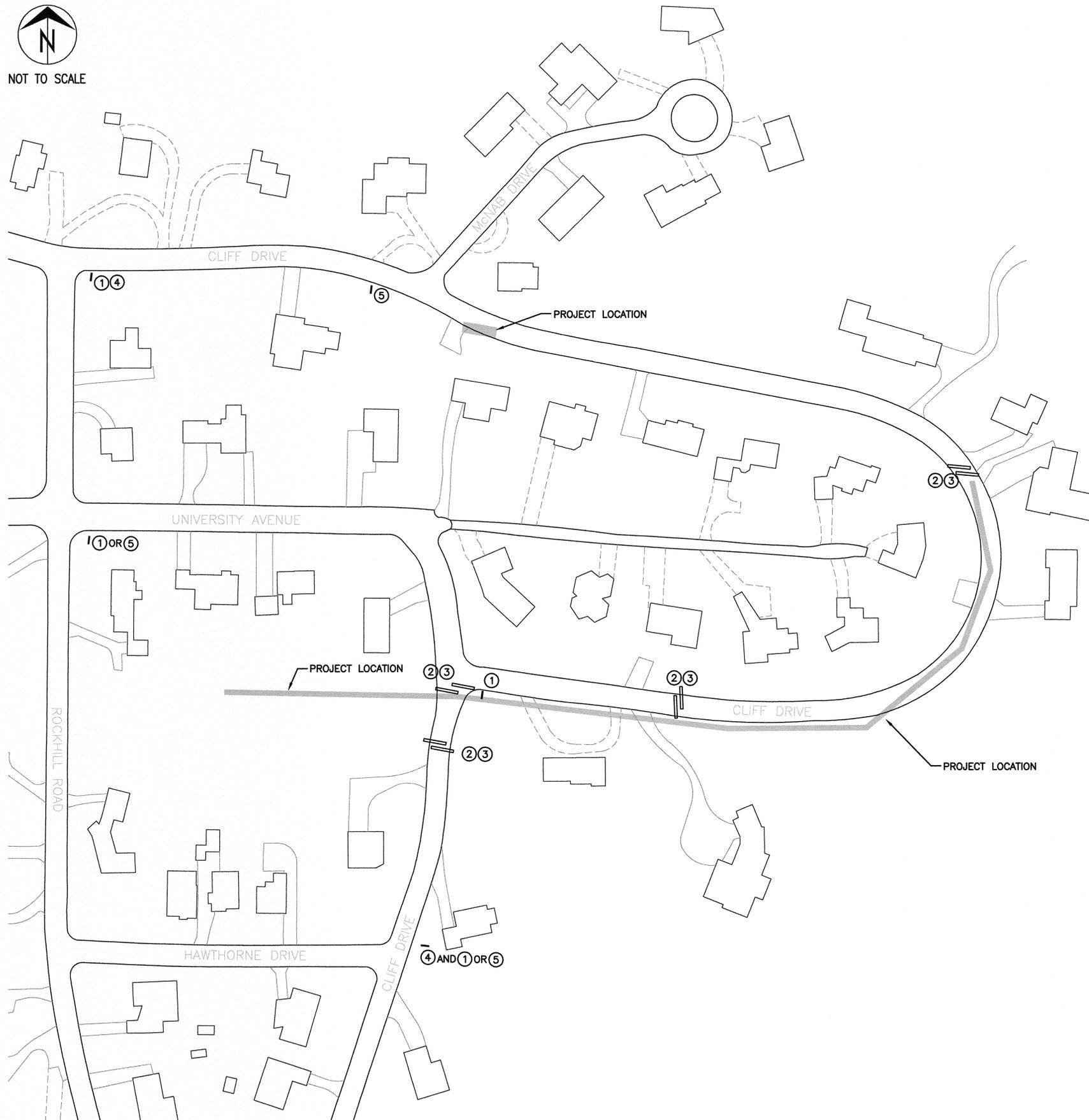
Department of Public Works



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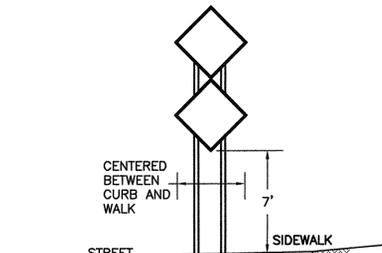


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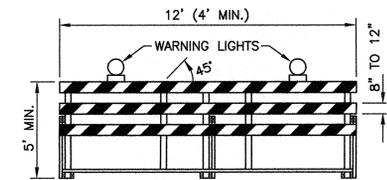


TRAFFIC CONTROL NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT ALL BARRICADES, SIGNS, OTHER TRAFFIC CONTROL DEVICES AND PLACEMENT THEREOF SHALL CONFORM TO THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. THE CONTRACTOR SHALL NOTIFY THE CITY JOINT COMMUNICATIONS OFFICE OF ALL ROAD CLOSURES OR LANE REDUCTIONS IN ADVANCE AND EVERY MORNING ROAD IS CLOSED. JOINT COMMUNICATIONS PHONE NUMBER IS 874-7400.
3. TRAFFIC CONTROL DEVICES TO BE IN PLACE PRIOR TO BEGINNING CONSTRUCTION. ACTUAL QUANTITIES WILL DEPEND ON THE CONTRACTOR'S CONSTRUCTION SEQUENCE AND PROGRESS. NO MEASUREMENT WILL BE MADE OF ACTUAL QUANTITIES. QUANTITIES SHOWN ARE APPROXIMATE.
4. CONTRACTOR SHALL ALLOW ACCESS TO ALL PROPERTIES IN THE CONSTRUCTION ZONE.
5. NO OPEN TRENCHES WILL BE ALLOWED OVERNIGHT.
6. WHEN WORKING IN STREET RIGHT-OF-WAY, USE CHANNELIZATION DEVICES (CONES OR DRUMS) AS NECESSARY TO PROTECT WORKERS.



SIGN MOUNTING



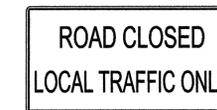
NOTES:

1. NOMINAL LUMBER DIMENSIONS ARE SATISFACTORY FOR BARRICADE RAIL WIDTH DIMENSIONS.
2. RAIL STRIPE WIDTHS SHALL BE 6". THE SIDES OF BARRICADES FACING TRAFFIC SHALL HAVE RETROREFLECTIVE RAIL FACES.
3. ALL TYPE III BARRICADES SHALL HAVE TWO TYPE B WARNING LIGHTS.
4. STRIPES ON BARRICADE RAILS SHALL BE ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION ROAD USERS ARE TO PASS.

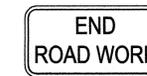
TYPE III BARRICADE



W20-3
①



R11-3
②



G20-2
④



W21-7
⑤

TRAFFIC CONTROL		
MUTCD	LEGEND	SIZE
① W20-3	"ROAD CLOSED AHEAD"	36"X36"
② R11-3	"ROAD CLOSED - LOCAL TRAFFIC ONLY" BARRICADE MOUNTED	60"X30"
③	TWO TYPE III BARRICADES, STAGGERED & LIGHTED	12 ft.
④ G20-2	"END ROAD WORK"	36"X18"
⑤ G21-7	"UTILITY WORK AHEAD"	36"X18"

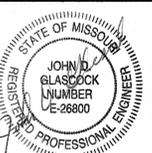
TRAFFIC CONTROL PLAN

Revision	
By	
Date	
No.	

PCCE #14 - Cliff Drive
Traffic Control

City of Columbia, Missouri

Department of Public Works



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