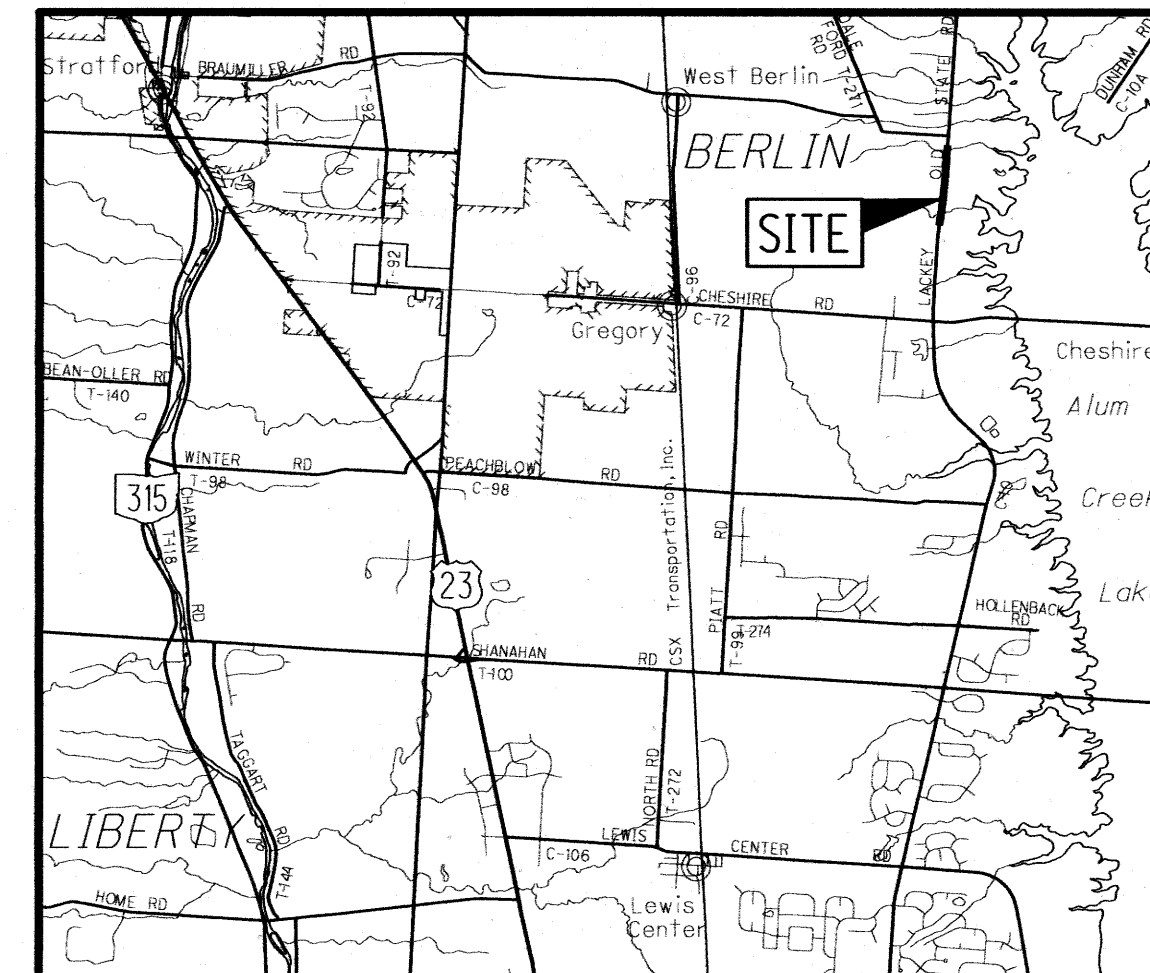


SHEET INDEX

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FARM LOTS 8 & 28, QUARTER TOWNSHIP 1 & 4, TOWNSHIP 4, RANGE 18 UNITED STATES MILITARY LANDS TOWNSHIP OF BERLIN, COUNTY OF DELAWARE, STATE OF OHIO FOR **LACKEY OLD STATE IMPROVEMENTS** AT THE PINES



LOCATION MAP
1" = 1 MILE

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF ASPHALT PAVEMENT WIDENING AND RESURFACING OF LACKEY OLD STATE ROAD (CR10) INCLUDING EARTHWORK, ADDED TURN LANES, STORM WATER DRAINAGE, AND TRAFFIC CONTROL DEVICES.

HORIZONTAL DATUM

THE COORDINATES SHOWN ON THIS MAP ARE BASED ON THE OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NAD 83 (2011). SAID COORDINATES ORIGINATED FROM A FIELD TRAVERSE WHICH WAS TIED (REFERENCED) TO SAID COORDINATE SYSTEM BY POSITIONAL SOLUTIONS DERIVED BY THE NATIONAL GEODETIC SURVEY'S ONLINE POSITIONING USERS SERVICE SOFTWARE USING GPS OBSERVATIONS AT TRAVERSE CONTROL POINTS NUMBERED 201, 202, 203 AND 204 AND OBSERVATIONS OF SELECTED CORS BASE STATIONS IN THE NATIONAL SPATIAL REFERENCE SYSTEM. THE GRID TO GROUND COMBINED SCALE FACTOR (0.999999019367688) WAS APPLIED AT THE LOCATION OF POINT NUMBER 202.

VERTICAL DATUM

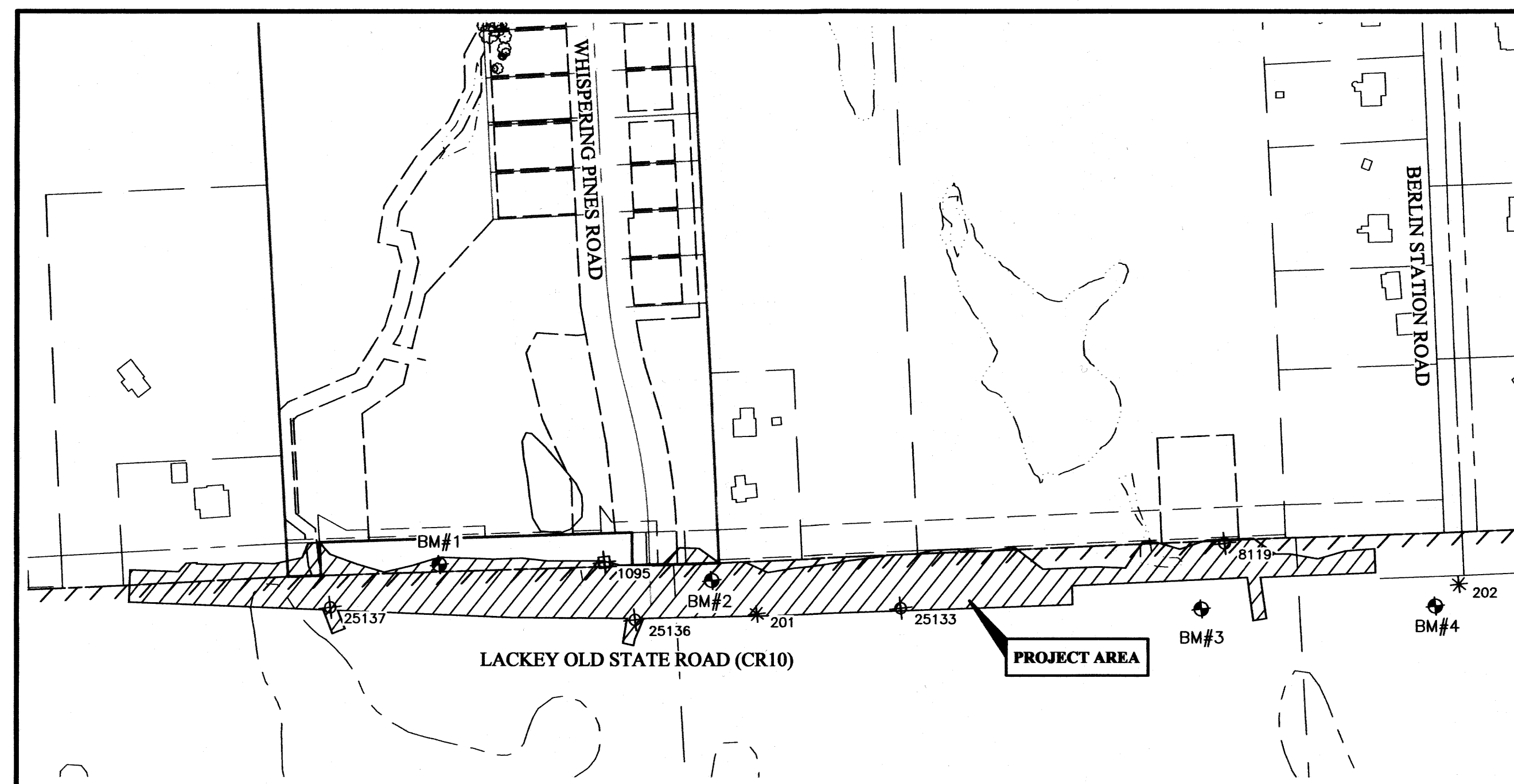
THE ELEVATIONS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988. SAID ELEVATIONS ORIGINATED FROM POSITIONAL SOLUTIONS DERIVED INDEPENDENTLY FROM GPS OBSERVATIONS AT TRAVERSE CONTROL POINTS 201, 202, 203 AND 204 AND OBSERVATIONS OF SELECTED CORS BASE STATIONS IN THE NATIONAL SPATIAL REFERENCE SYSTEM AND PROCESSED BY THE NATIONAL GEODETIC SURVEY'S ONLINE POSITIONING USER SERVICE SOFTWARE AND THE GEOID12B MODEL.

DESIGN DESIGNATION

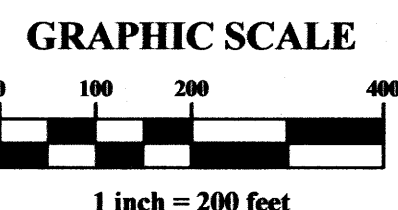
LEGAL SPEED	LACKEY OLD STATE ROAD (CR10)	55 MPH
DESIGN SPEED		55 MPH
DELAWARE COUNTY ROAD CLASSIFICATION		RURAL MINOR ARTERIAL

BENCH MARKS
(NAVD 1988)

- BM#1** CHISELED "X" ON THE WEST FLANGE BOLT OF A FIRE HYDRANT, LOCATED ON THE WEST SIDE OF LACKEY OLD STATE ROAD AND BEING APPROXIMATELY 1800 FEET SOUTH OF THE INTERSECTION OF LACKEY OLD STATE ROAD WITH BERLIN STATION ROAD.
ELEV. = 919.10
- BM#2** RAILROAD SPIKE SET IN THE EAST SIDE OF A WOODEN UTILITY POLE, LOCATED ON THE WEST SIDE OF LACKEY OLD STATE ROAD AND THE SOUTH SIDE OF THE PAVED DRIVEWAY OF RESIDENCE #2000.
ELEV. = 921.16
- BM#3** CHISELED "X" ON THE TOP BOLT ON THE SOUTH END OF A GUARD RAIL, LOCATED ON THE EAST SIDE OF LACKEY OLD STATE ROAD APPROXIMATELY 500 FEET SOUTH OF THE INTERSECTION OF LACKEY OLD STATE ROAD WITH BERLIN STATION ROAD.
ELEV. = 913.65
- BM#4** CHISELED "X" ON THE WEST FLANGE BOLT OF A FIRE HYDRANT, LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF LACKEY OLD STATE ROAD WITH BERLIN STATION ROAD.
ELEV. = 919.31



INDEX MAP
Scale: 1" = 200'



DEVELOPER/OWNER

M/I HOMES
DOUG TAILFORD
3 EASTON OVAL, SUITE 540
COLUMBUS, OHIO 43219
TEL: (614) 418-8000
FAX: (614) 418-8030

HORIZONTAL CONTROL					
POINT NO.	NORTHING (GROUND)	EASTING (GROUND)	ELEVATION	STATION/OFFSET	DESCRIPTION
201	212771.8610	1832795.4320	917.74	STA. 111+78.58, 19.18' RT.	IRON PIN SET W/ CAP
202	214044.6660	1832882.8910	916.58	STA. 124+54.40, 15.47' RT.	IRON PIN SET W/ CAP
1095	212506.8820	1832672.2800	920.60	STA. 109+01.84, 76.97' LT.	IRON REBAR SET W/ CAP
8119	213629.6290	1832763.0820	912.36	STA. 120+31.72, 74.03' LT.	IRON REBAR SET W/ CAP
25133	213032.6480	1832814.2110	917.62	STA. 114+39.73, 18.44' RT.	IRON PIN SET W/ CAP
25136	212550.9480	1832781.6320	915.98	STA. 109+57.87, 26.83' RT.	IRON PIN SET W/ CAP
25137	212003.2310	1832698.4550	911.19	STA. 104+04.89, 17.67' RT.	IRON REBAR SET W/ CAP

STANDARD CONSTRUCTION DRAWINGS					
ODOT			DELAWARE COUNTY		
BP-3.1	TC-42.20		THE COUNTY STANDARD DRAWINGS ARE AVAILABLE AT THE FOLLOWING WEBSITES: http://www.co.delaware.oh.us/engineer/Development/StdRoadwayDrawings.htm http://www.co.delaware.oh.us/engineer/Development/StdSewerDrawings.htm		
BP-7.1	TC-52.10		R100	S102	S150
DM-1.1	TC-71.10		R1100	S106	S151
DM-1.2			R1441	S107	S152
DM-4.2	MT-97.10		R1450	S112	S165
DM-4.4	MT-101.60		R1451	S116	S167
	MT-101.90		R2020	S117	S168
CB-2.1	MT-105.10		R2130	S119	
			R2120	S128	
GR-1.1			R2185		
			R2202		
			R2300		
				SUPPLEMENTAL SPECIFICATIONS	
				ODOT SS-800	
				ODOT SS-832	
				ODOT SS-836	

SPECIFICATIONS

THE REGULATIONS AND CONSTRUCTION STANDARDS OF THE COUNTY OF DELAWARE, TOGETHER WITH THE CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE CITY OF COLUMBUS, 2012 EDITION, AND THE OHIO DEPARTMENT OF TRANSPORTATION, 2016 EDITION, INCLUDING ALL SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS THAT ARE A PART OF THIS PLAN UNLESS OTHERWISE NOTED.

DELAWARE COUNTY APPROVAL

THE DELAWARE COUNTY ENGINEER'S SIGNATURE ON THIS PLAN SIGNIFIES ONLY CONCURRENCE WITH THE GENERAL PURPOSE AND LOCATION OF THE PROPOSED IMPROVEMENTS. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER WHO PREPARED AND CERTIFIED THESE PLANS.

Chris Bannerman
DELAWARE COUNTY ENGINEER
3-12-18
DATE

DESIGN ENGINEER'S CERTIFICATION

THIS IS TO CERTIFY THAT GOOD ENGINEERING PRACTICES HAVE BEEN UTILIZED IN THIS PROJECT AND THAT ALL OF THE MINIMUM STANDARDS AS DELINEATED IN THE DELAWARE COUNTY ENGINEER'S DESIGN, CONSTRUCTION AND SURVEYING STANDARDS MANUAL HAVE BEEN MET, INCLUDING THOSE STANDARDS GREATER THAN MINIMUM WHERE, IN MY OPINION, THEY ARE NEEDED TO PROTECT THE SAFETY OF THE PUBLIC. ANY VARIANCES TO THE ABOVE STANDARDS ARE CONSISTENT WITH SOUND ENGINEERING PRACTICES AND ARE NOT DETRIMENTAL TO THE PUBLIC SAFETY AND CONVENIENCE. THESE VARIANCES HAVE BEEN LISTED HEREIN AND HAVE BEEN APPROVED BY THE DELAWARE COUNTY ENGINEER.

Michael R. B...
REGISTERED ENGINEER NO. 72766
03-01-2018
DATE

REVISIONS
MARK DATE DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
DELAWARE COUNTY
FOR
**LACKEY OLD STATE
IMPROVEMENTS**
TITLE SHEET



DATE

SCALE

As Noted

JOB NO.

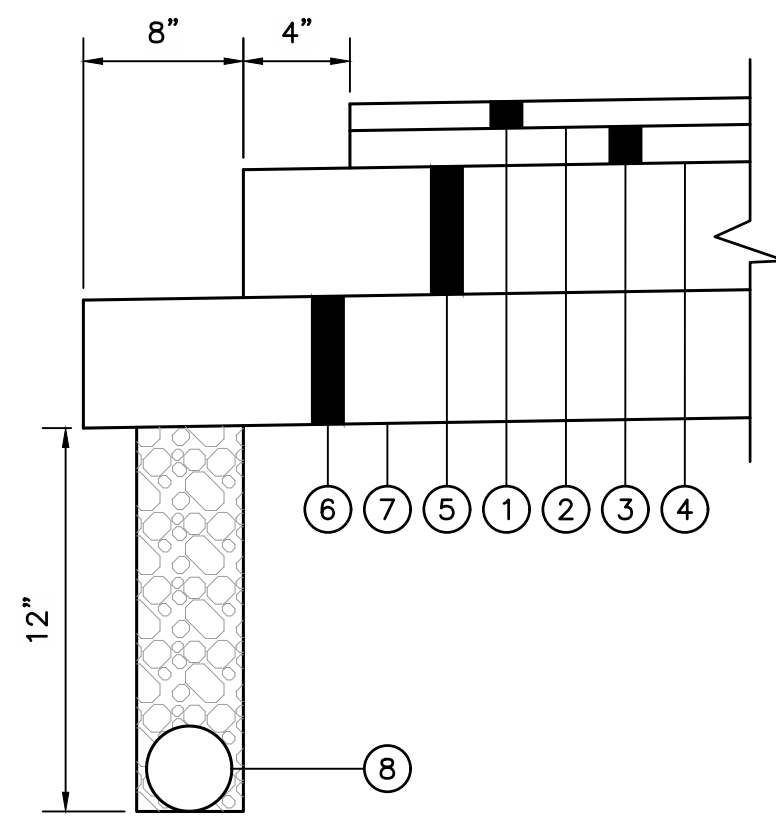
20170824

SHEET

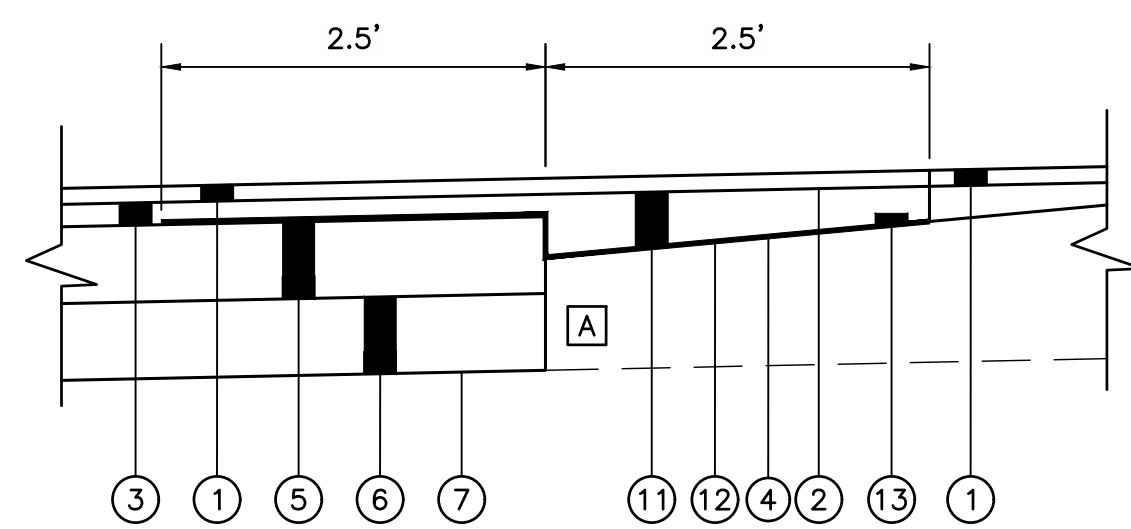
1/42

PREPARED BY:
EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43254
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

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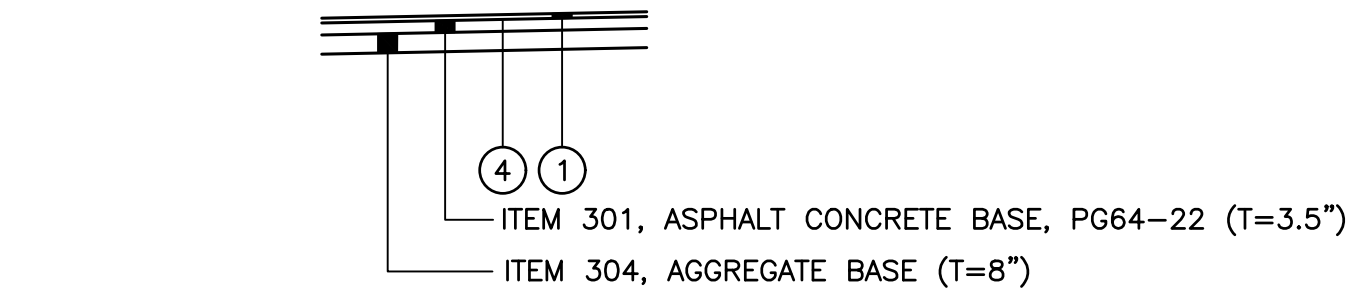
PAVEMENT STEP DETAIL



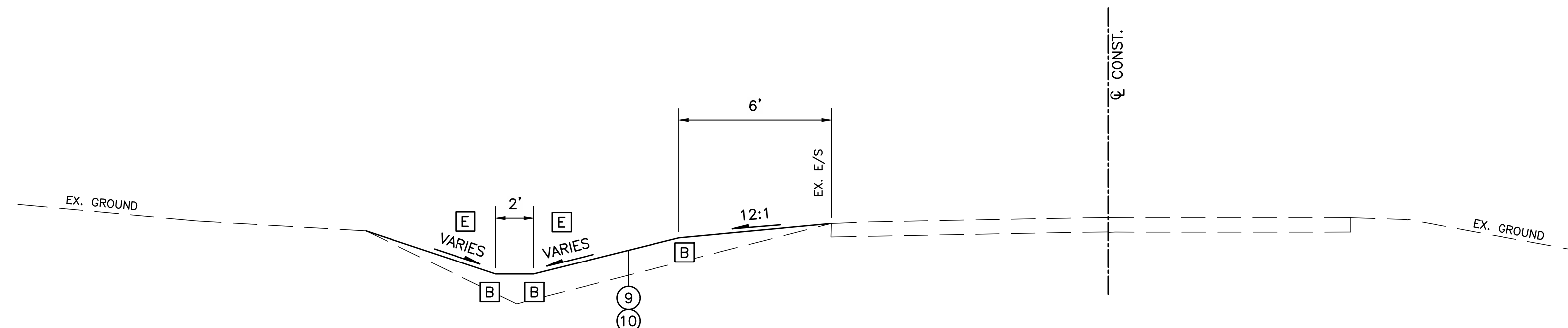
PAVEMENT REINFORCEMENT
(PER DCED-R1451)

LEGEND

- ① ITEM 441 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, (448), PG64-22 (T=1.5")
- ② ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.055 GAL/SY)
- ③ ITEM 441 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, (448), PG64-22 (T=1.5")
- ④ ITEM 407 - TACK COAT (0.085 GAL/SY)
- ⑤ ITEM 301 - ASPHALT CONCRETE BASE, PG64-22 (T=8")
- ⑥ ITEM 304 - AGGREGATE BASE (T=6")
- ⑦ ITEM 204 - SUBGRADE COMPACTION
- ⑧ ITEM 605 - 6" BASE PIPE UNDERDRAIN
- ⑨ ITEM 659 - SEEDING AND MULCHING, AS PER PLAN
- ⑩ ITEM 659 - TOPSOIL, AS PER PLAN (T=3")
- ⑪ ITEM 441 - VARIABLE THICKNESS ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, (448), PG64-22 [D]
- ⑫ ITEM SPECIAL - PAVEMENT OVERLAY FABRIC (GLASGRID 8502 OR OTHER APPROVED EQUAL)
- ⑬ ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (T=1.5")
- [A] EXISTING PAVEMENT (T=UNKNOWN)
- [A] FULL DEPTH SAWCUT IS TO BE 2' INSIDE EXISTING EDGE OF TRAVELED WAY OR AS DIRECTED BY THE DELAWARE COUNTY ENGINEER
- [B] 2' ROUNDING SHALL APPLY TO ALL BREAKS IN GRADE
- [C] PAVED SHOULDER
- [D] VARIABLE INTERMEDIATE COURSE USED TO ESTABLISH 2.08% PAVEMENT CROSS-SLOPE. SEE PAVEMENT DETAILS SHEETS 26-29.
- [E] SEE CROSS SECTIONS FOR VARIABLE GRADING
- [F] INCLUDE ITEM 670 - SLOPE EROSION PROTECTION WITHIN VEGETATED FILTER STRIP AREAS. SEE CROSS SECTIONS FOR LOCATIONS
- [G] IF DURING CONSTRUCTION THE EXISTING ROAD SUBBASE IS FOUND TO BE LOWER THAN THE PROPOSED ROAD BASE, THE THICKNESS OF THE PROPOSED ROAD AGGREGATE BASE SHALL BE INCREASED TO ALLOW FOR ADEQUATE DRAINING OF THE EXISTING ROAD SUBBASE.

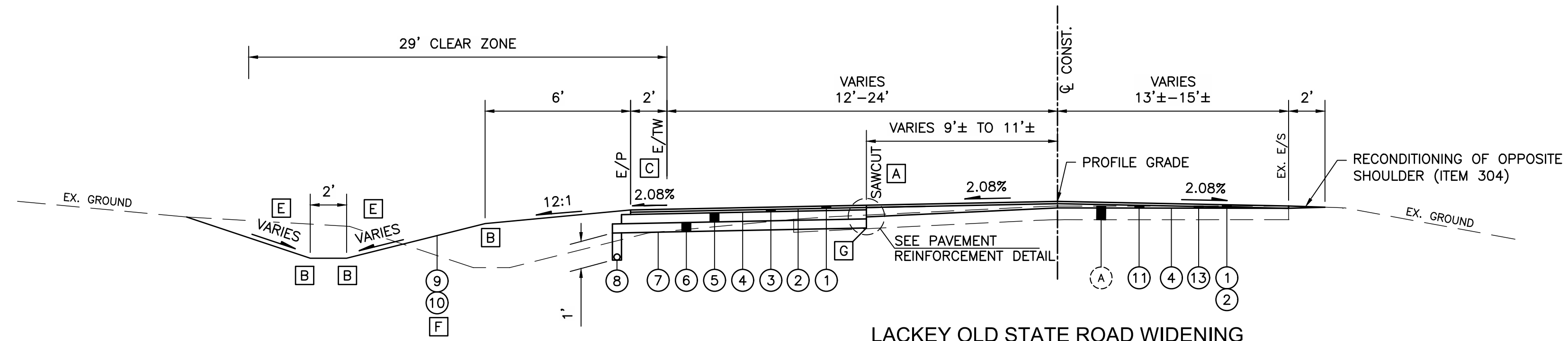


RESIDENTIAL DRIVES PAVEMENT SECTION



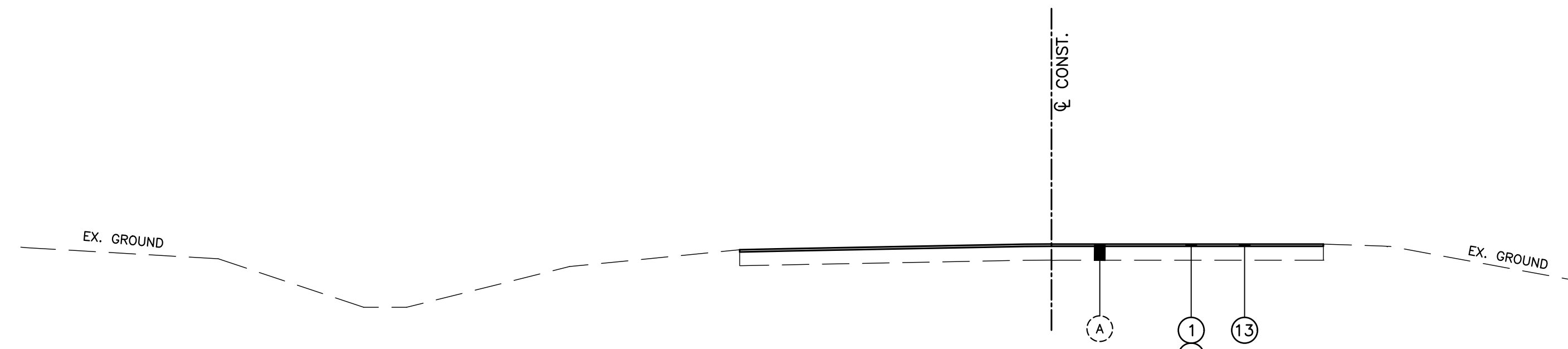
LACKEY OLD STATE ROAD SHOULDER IMPROVEMENTS

APPLIES:
STA. 117+42.10 TO STA. 123+03.43
(NO SCALE)



LACKEY OLD STATE ROAD WIDENING

APPLIES:
STA. 100+73.50 TO STA. 109+27.00
STA. 109+27.00 TO STA. 110+43.96 (SEE INTERSECTION DETAIL - SHEET 30)
STA. 110+43.96 TO STA. 116+86.07
(NO SCALE)



LACKEY OLD STATE ROAD RESURFACING

APPLIES:
STA. 100+44.00 TO STA. 100+73.50
STA. 116+86.07 TO STA. 117+42.10
(NO SCALE)

MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
DELAWARE COUNTY
FOR
**LACKEY OLD STATE
IMPROVEMENTS
TYPICAL SECTIONS**

DATE
MARCH, 2018

SCALE
None

JOB NO.
20170824

SHEET
2/42

ITEM 614: MAINTAINING TRAFFIC, AS PER PLAN

GENERAL

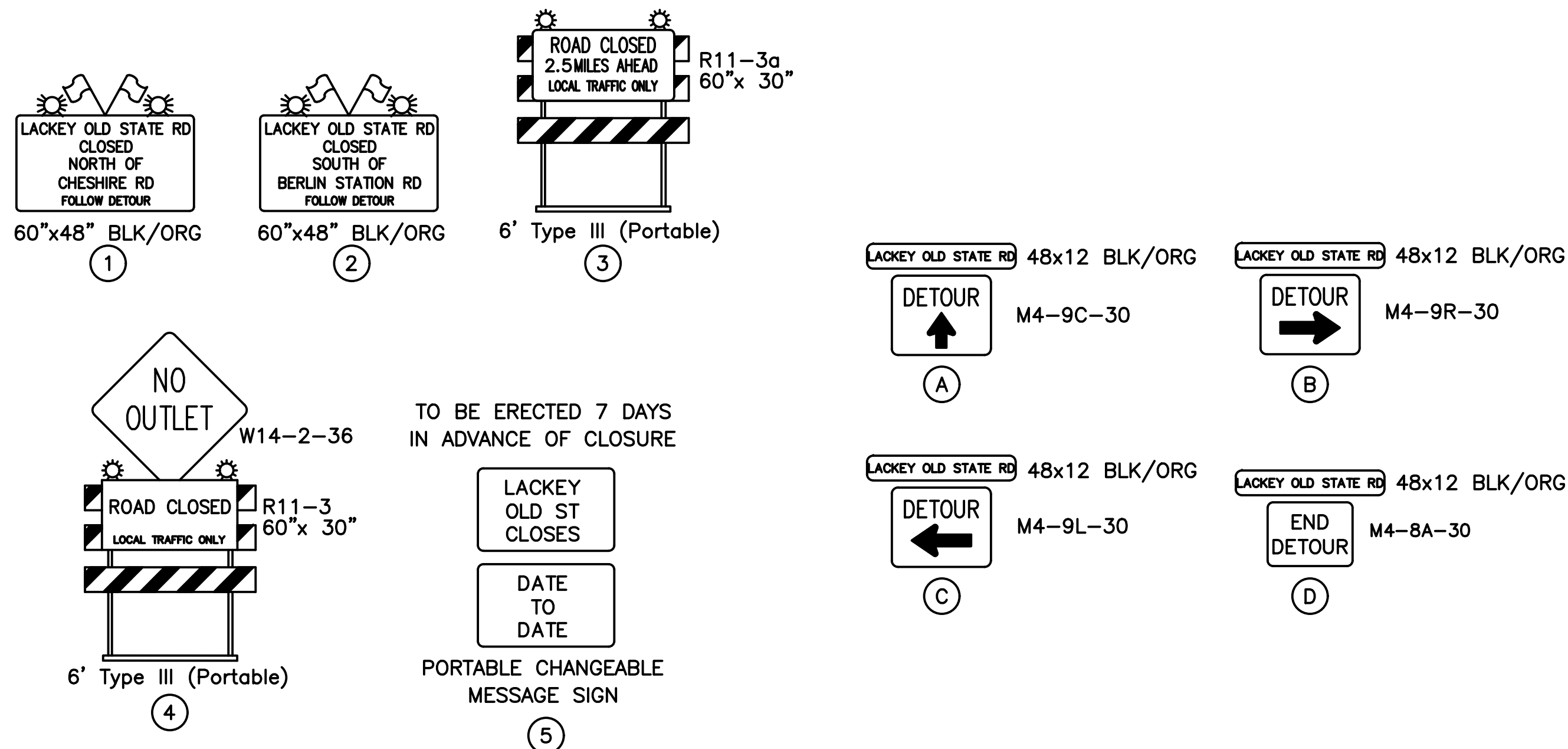
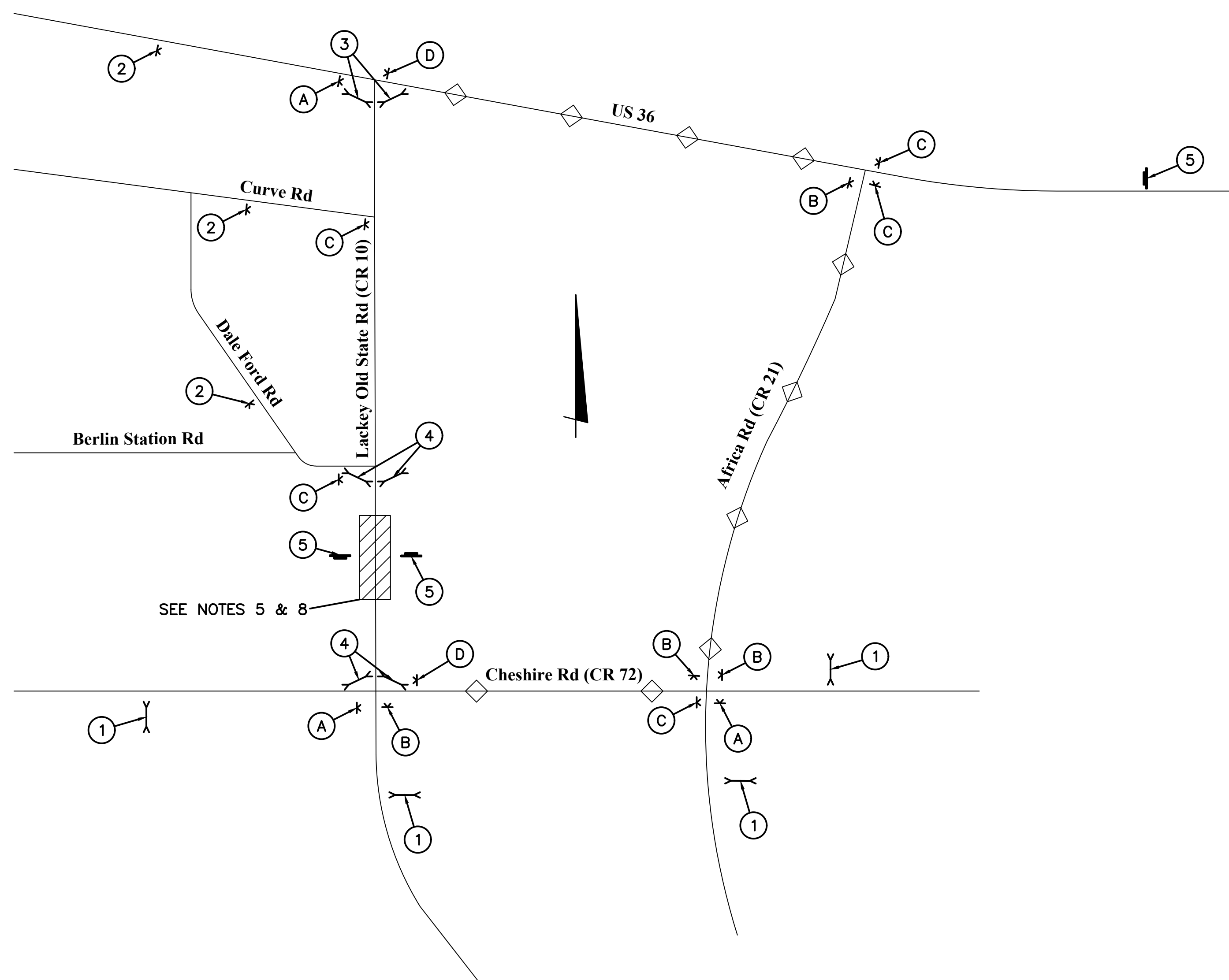
1. THE COUNTY ENGINEER SHALL BE NOTIFIED A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE STARTING WORK AND/OR PRIOR TO EACH PHASE OR MAJOR CHANGE IN TRAFFIC PATTERNS, EITHER PERMANENT OR TEMPORARY WITHIN THE ROADWAY RIGHT-OF-WAY.
2. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CONSTRUCTION AND MAINTENANCE OPERATIONS (OMUTCD) CURRENT EDITION, COPIES OF WHICH ARE AVAILABLE FROM THE OHIO DEPARTMENT OF TRANSPORTATION BUREAU OF TRAFFIC, 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223.
3. CONSTRUCTION OPERATIONS SHALL NOT BEGIN UNTIL ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE IN PLACE AND APPROVED BY THE COUNTY ENGINEER.
4. DURING NIGHT TIME HOURS, COMPACTED TEMPORARY BACKFILL SHALL BE MAINTAINED AT A 3:1 SLOPE AT THE SAW CUT LINE IN THE WORK ZONE.
5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE CONSTRUCTION ACTIVITIES WITH THE COUNTY ENGINEER AND WITH THE OWNERS OF ADJUTING PROPERTIES IN ADVANCE OF ANY OPERATIONS THAT AFFECT ACCESS. PRIOR TO TOTAL STREET CLOSURE, THE OWNER SHALL GIVE WRITTEN NOTIFICATION ON THE OWNER'S LETTERHEAD TO ALL PROPERTY OWNERS AT LEAST TWO (2) WEEKS PRIOR TO THE FIRST DAY OF WORK, INFORMING THEM THAT WORK WILL BE DONE IN THEIR AREA. THE NOTIFICATION LETTER SHALL BE SENT BY REGISTERED MAIL WITH A COPY OF THE RECEIPTS SUBMITTED TO THE COUNTY ENGINEER PRIOR TO ANY WORK BEING PERFORMED.
6. ALL TEMPORARY SIGNS SHALL CONFORM TO ODOT TYPE H, REFLECTIVE SHEETING REQUIREMENTS.
7. ALL TRENCHES WITHIN THE RIGHT-OF-WAY SHALL BE BACKFILLED OR SECURELY PLATED AS DIRECTED BY THE COUNTY ENGINEER DURING NON-WORKING HOURS. THE CONTRACTOR SHALL INCLUDE IN HIS/HER BASE BID FOR ITEM 614-MAINTAINING TRAFFIC, AS PER PLAN STEEL PLATES TO MAINTAIN TRAFFIC AT ALL TIMES WHERE OPEN TRENCHES ARE REQUIRED. STEEL PLATES SHALL BE INSTALLED PER DELAWARE COUNTY STANDARD DRAWING R-1441. STEADY BURNING, TYPE "C" LIGHTS SHALL BE REQUIRED ON ALL BARRICADES, DRUMS, AND SIMILAR TRAFFIC CONTROL DEVICES IN USE AT NIGHT.
8. ACCESS TO ALL ADJOINING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL PHASE CONSTRUCTION ACTIVITIES TO MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES FROM EITHER THE NORTH OR SOUTH END OF THE PROJECT AT ALL TIMES. ACCESS SHALL BE MAINTAINED FOR OWNER/OCCUPANTS, REFUGE COLLECTION, MAIL SERVICE AND EMERGENCY VEHICLES.
9. THE CONTRACTOR SHALL MAINTAIN ALL PERMANENT TRAFFIC CONTROLS NOT IN CONFLICT WITH THE TEMPORARY TRAFFIC CONTROLS THROUGHOUT THE PROJECT. PERMANENT TRAFFIC CONTROLS MAY BE TEMPORARILY RELOCATED, AS APPROVED BY THE COUNTY ENGINEER. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR MISSING, DAMAGED, OR IMPROPERLY PLACED SIGNS.
10. MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES INCLUDING DRUMS, SIGNS, BARRICADES, SIGN BOARDS, ETC. SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
11. IF THE CONTRACTOR ELECTS, HE/SHE MAY SUBMIT ALTERNATE PLANS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THESE PROVISIONS ARE FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THERE FROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL THE COUNTY ENGINEER HAS GRANTED APPROVAL.
12. PERMANENT STRIPING SHALL BE INSTALLED IMMEDIATELY AFTER THE FINISH-PAVING COURSE IS COMPLETED. ALL PRE-MARKING MATERIALS AND ASSOCIATED COSTS SHALL BE INCLUDED WITHIN ITEM 614.
13. DRUMS SHALL BE PLACED AT 20 FEET CENTER-TO-CENTER ON TAPERS, 35 FEET CENTER-TO-CENTER ON TANGENTS, AND 8 FEET CENTER-TO-CENTER ON RADIUS OR DRIVEWAYS. ACCESS FOR MAIL AND EMERGENCY SERVICES SHALL BE MAINTAINED AT ALL TIMES.
14. THE PROPER ADVANCED WARNING SIGNING IN ACCORDANCE WITH THE OHIO MUTCD CURRENT EDITION SHALL BE PLACED ALONG THE ROAD AND ALL ADJOINING ROADS APPROACHING THE PROJECT LIMITS. ALL SIGNS NINE SQUARE FT (36"x36") AND OVER SHALL HAVE YELLOW TYPE A LOW INTENSITY FLASHING WARNING LIGHTS AND THREE FLAGS.
15. THE CONTRACTOR SHALL PROVIDE THE COUNTY ENGINEER, A CONTACT NAME, AND A 24-HOUR TELEPHONE NUMBER TO BE USED IN CASE OF AN EMERGENCY.
16. THE SAFETY OF PEDESTRIAN TRAFFIC SHALL BE CONSIDERED AT ALL TIMES IN THE PROVISION OF TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS AND NOTES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LIGHTS, SIGNS, BARRICADES, AND OTHER DEVICES TO WARN OF AND PHYSICALLY SEPARATE THE PEDESTRIAN FROM HAZARDS INCIDENTAL TO THE CONSTRUCTION AND DEMOLITION OPERATIONS, AS DIRECTED BY THE COUNTY ENGINEER.

PAYMENT

PAYMENT FOR ANY LABOR OR MATERIALS RELATED TO MAINTAINING TRAFFIC SHALL BE INCIDENTAL TO ITEM 614 MAINTAINING TRAFFIC, AS PER PLAN, UNLESS SEPARATELY ITEMIZED IN THIS PLAN.

Item	Estimated Quantity	Unit	Item Description
614	1	Lump	Maintaining Traffic, As Per Plan

CLOSURE DURATION
 THE LACKEY OLD STATE ROAD CLOSURE SPECIFIED WITHIN SHALL HAVE A MAXIMUM DURATION OF 45 DAYS AND MUST BE COMPLETED BY AUGUST 1.



- LEGEND**
- = WORK ZONE
 - = DETOUR ROUTE
 - = TYPE III BARRICADE
 - = TEMPORARY SIGN SUPPORT
 - = PORTABLE CHANGEABLE MESSAGE BOARD
 - = SIGN REFERENCE NUMBER

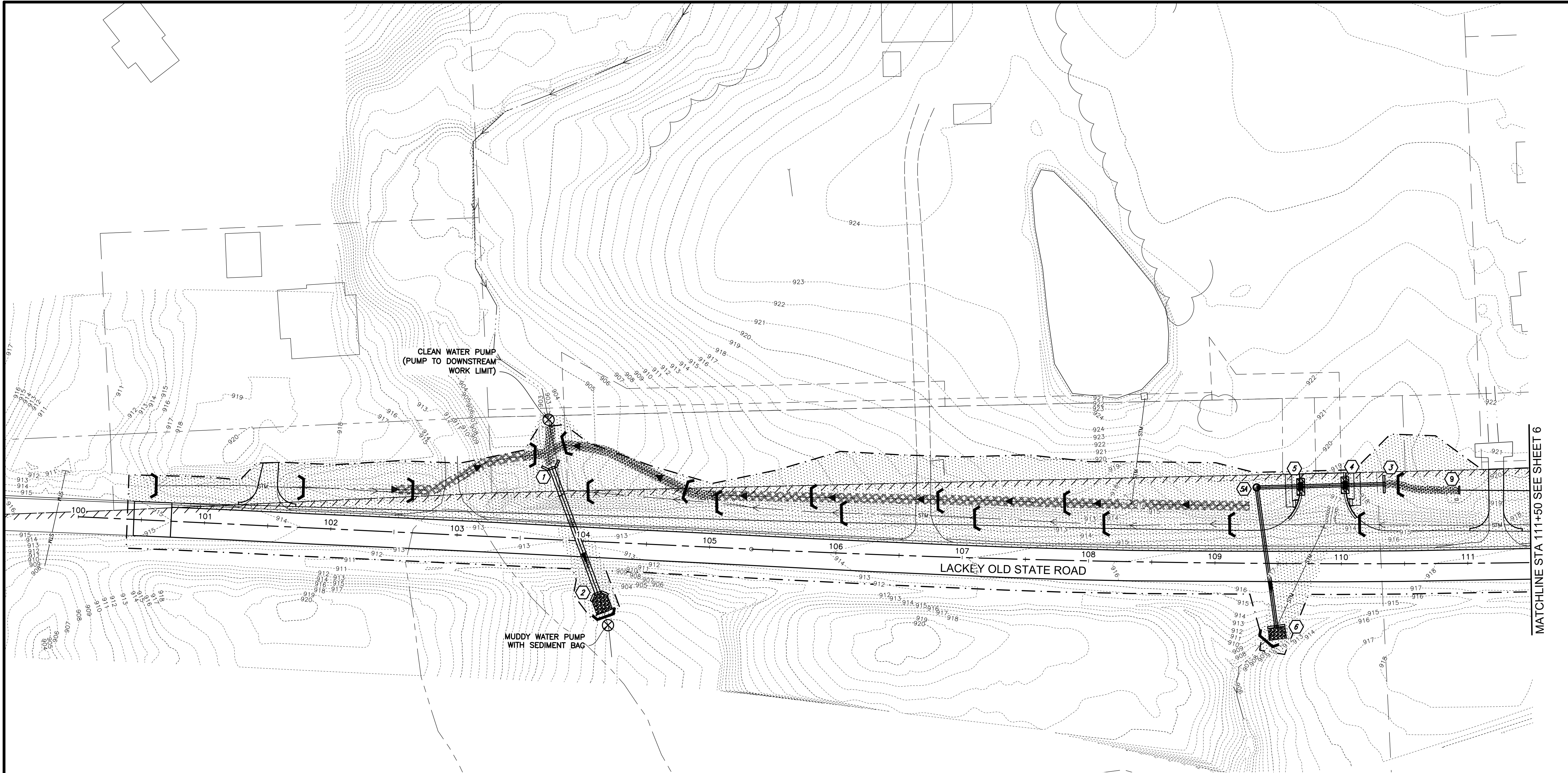
MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 STREET PLAN
**LACKEY OLD STATE
 IMPROVEMENTS**
 MAINTENANCE OF TRAFFIC NOTES AND
 DETOUR PLAN

DATE	MARCH, 2018
SCALE	As Noted
JOB NO.	20170824
SHEET	4/42

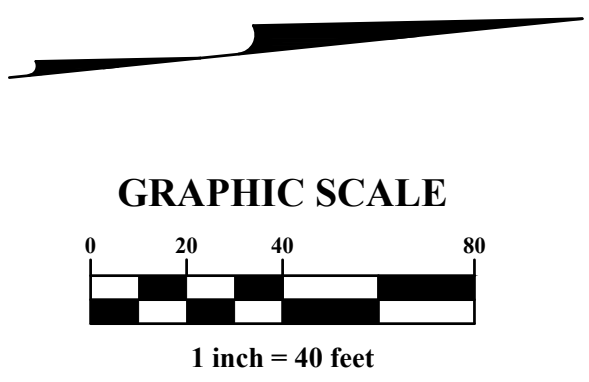
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PROJECT DATA			
TOTAL AREA (CONSTRUCTION LIMITS):	4.18 ACRES	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE:	0.55
PROJECT EARTH DISTURBED AREA:	2.77 ACRES	RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE:	0.59
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25 ACRES	IMMEDIATE RECEIVING WATERS:	ROADSIDE DITCHES
NOTICE OF INTENT EARTH DISTURBED AREA:	4.90 ACRES	SUBSEQUENT RECEIVING WATERS:	ALUM CREEK
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE:	1.26 ACRES		
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE:	1.58 ACRES		

- LEGEND**
- PROPOSED DITCH
 - EXISTING DITCH
 - DITCH CHECK **A**
 - LIMITS OF DISTURBANCE
 - FILTER FABRIC SEDIMENT FENCE
 - STORM SEWER INLET PROTECTION
 - WATER PUMP
 - DITCH EROSION PROTECTION MAT, TYPE A (W=7.5')
 - SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (W=7.5')

A FILTER FABRIC DITCH CHECKS TO BE USED IN EXISTING DITCHES. ROCK DITCH CHECKS TO BE USED IN PROPOSED DITCHES AND DOWNSTREAM OF CULVERTS



MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
DELAWARE COUNTY
FOR
**LACKEY OLD STATE
IMPROVEMENTS**
SEDIMENT AND EROSION CONTROL PLAN



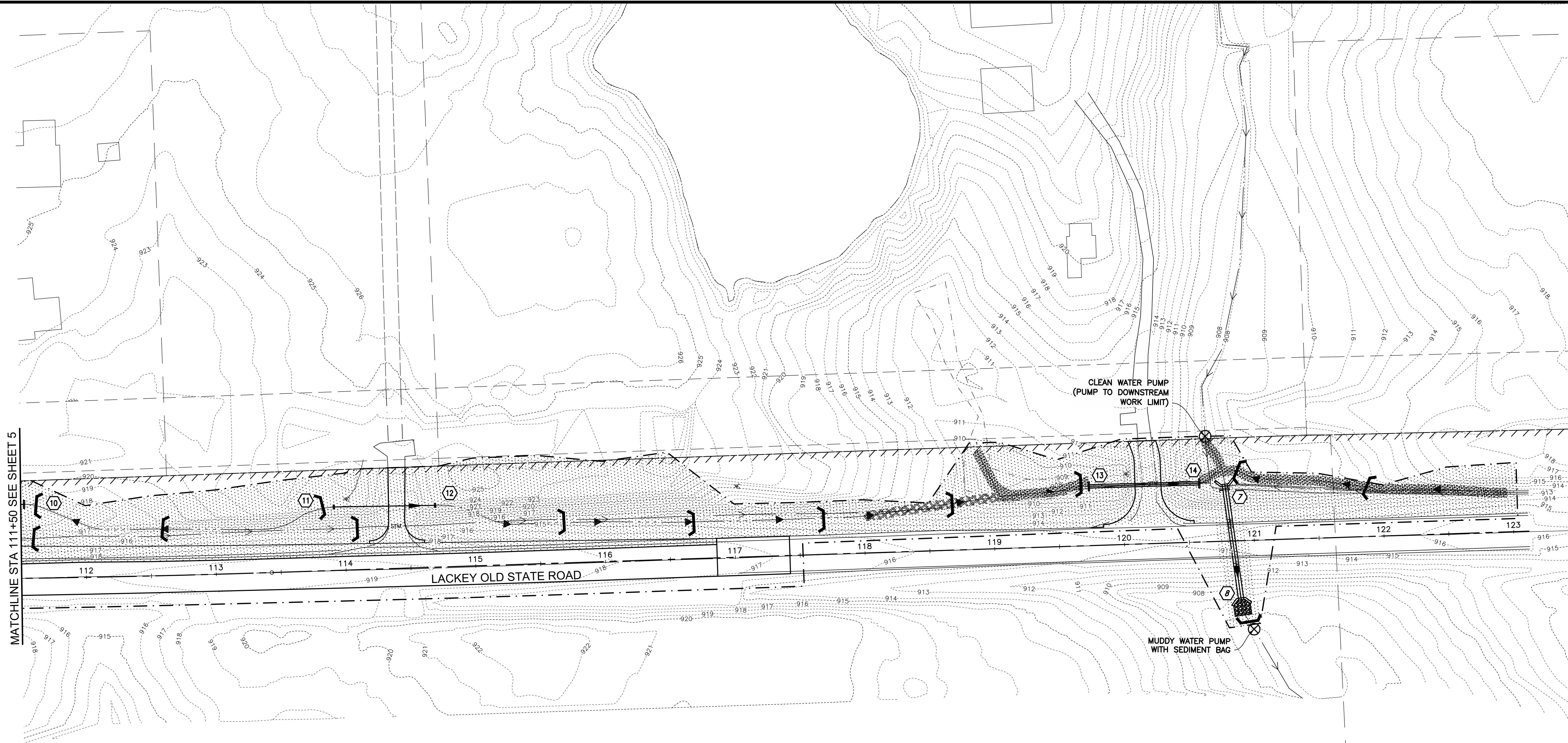
DATE
MARCH, 2018

SCALE
1" = 40'

JOB NO.
20170824

SHEET
5/42

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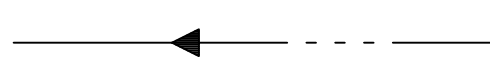
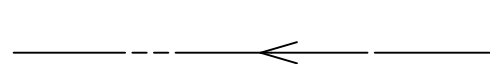

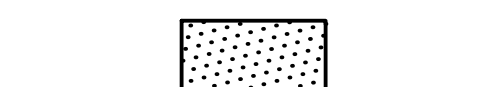




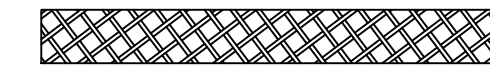

MATCHLINE STA 111+50 SEE SHEET 5

CLEAN WATER PUMP
(PUMP TO DOWNSTREAM
WORK LIMIT)

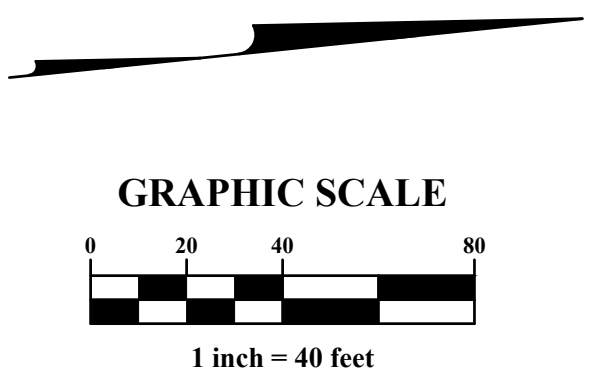
MUDDY WATER PUMP
WITH SEDIMENT BAG

LACKEY OLD STATE ROAD

LEGEND

-  PROPOSED DITCH
-  EXISTING DITCH
-  DITCH CHECK **A**
-  LIMITS OF DISTURBANCE
-  FILTER FABRIC SEDIMENT FENCE
-  STORM SEWER INLET PROTECTION
-  STORM SEWER INLET PROTECTION
-  WATER PUMP
-  DITCH EROSION PROTECTION MAT, TYPE A (W=7.5')
-  SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1 (W=7.5')

A FILTER FABRIC DITCH CHECKS TO BE USED IN EXISTING DITCHES. ROCK DITCH CHECKS TO BE USED IN PROPOSED DITCHES AND DOWNSTREAM OF CULVERTS



MARK	DATE	DESCRIPTION

REVISIONS

M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS**
 SEDIMENT AND EROSION CONTROL PLAN



DATE
 MARCH, 2018

SCALE
 1" = 40'

JOB NO.
 20170824

SHEET
 6/42

EROSION & SEDIMENT CONTROL NOTES

PRIOR TO CONSTRUCTION OPERATIONS IN A PARTICULAR AREA, ALL SEDIMENTATION AND EROSION CONTROL FEATURES SHALL BE IN PLACE. FIELD ADJUSTMENTS WITH RESPECT TO LOCATIONS AND DIMENSIONS MAY BE MADE BY THE ENGINEER.

THE CONTRACTOR SHALL PLACE INLET AND CHANNEL PROTECTION FOR EROSION CONTROL IMMEDIATELY AFTER CONSTRUCTION OF THE INLETS OR CHANNELS WHICH ARE NOT TRIBUTARY TO A SEDIMENT BASIN OR DAM.

IT MAY BECOME NECESSARY TO REMOVE PORTIONS OF THE BARRIER DURING CONSTRUCTION TO FACILITATE THE GRADING OPERATIONS IN CERTAIN AREAS. HOWEVER, THE BARRIER SHALL BE IN PLACE IN THE EVENING OR DURING ANY INCLEMENT WEATHER.

ALL SOIL STOCKPILES, INCLUDING TRENCH EXCAVATION STOCKPILES SHALL BE PROTECTED FROM EROSION BY PERIMETER CONTROL DEVICES SUCH AS STRAW BALE DIKES OR SILT FENCES. THESE PERIMETER CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT. EXCAVATED MATERIALS SHALL NOT BE STORED ON EXISTING PUBLIC ROADWAY PAVEMENTS. THIS INCLUDES EXCESS OR UNUSABLE EXCAVATED SOIL.

THE LIMITS OF SEEDING AND MULCHING ARE ALL AREAS WITHIN THE GRADING LIMITS. THOSE AREAS DISTURBED OUTSIDE THE SEEDING LIMITS SHALL BE SEEDING AND MULCHING AT THE CONTRACTOR'S EXPENSE.

CMSC ITEM 207 - CONSTRUCTION SEEDING: ANY AREA WHICH WILL BE LEFT DORMANT (UNDISTURBED) FOR MORE THAN 21 DAYS SHALL BE SEEDING WITHIN 7 DAYS OF TERMINATED WORK. IF PERMANENT SEEDING IS NOT APPLIED AT THIS TIME, CONSTRUCTION SEEDING SHALL BE DONE WHICH SHALL CONSIST OF FERTILIZING, WATERING AND SEEDING AT THE RATES INDICATED UNDER ITEMS 207 AND 659.

THE REQUIREMENTS OF COLS 207 AND ODOT ITEM 659 SHALL GOVERN THE CONSTRUCTION OF THIS WORK, EXCEPT AS NOTED. THIS WORK SHALL CONSIST OF ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PERMANENTLY SEED DISTURBED AREAS.

MAINTENANCE: IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE SEDIMENT CONTROL FEATURES USED ON THIS PROJECT. THE SITE SHALL BE INSPECTED AT A MINIMUM OF EVERY SEVEN DAYS AND WITHIN 24 HOURS OF A ONE-HALF INCH (0.5") OR GREATER RAIN EVENT. RECORDS OF THESE INSPECTIONS SHALL BE KEPT AND MADE AVAILABLE TO JURISDICTIONAL AGENCIES IF REQUESTED, ANY SEDIMENT OR DEBRIS WHICH HAS REDUCED THE EFFICIENCY OF A STRUCTURE SHALL BE REMOVED IMMEDIATELY. SHOULD A STRUCTURE OR FEATURE BECOME DAMAGED, THE CONTRACTOR SHALL REPAIR OR REPLACE AT NO ADDITIONAL COST TO THE OWNER OR THE MUNICIPALITY. NOT ALL DETAILS SHOWN ON THIS SHEET MAY BE REQUIRED FOR THIS PROJECT.

SCHEDULE: THE CONTRACTOR SHALL PROVIDE A SCHEDULE OF OPERATIONS TO THE COUNTY ENGINEER. SEDIMENTATION AND EROSION CONTROL FEATURES SHALL BE PLACED IN ACCORDANCE WITH THIS SCHEDULE.

THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT OFF-SITE TRACKING OF SEDIMENTS BY VEHICLES AND EQUIPMENT IS MINIMIZED. ALL SUCH OFF-SITE SEDIMENT SHALL BE CLEANED UP DAILY. CONSTRUCTION AND MAINTENANCE OF STABILIZED CONSTRUCTION ENTRANCES ARE A PART OF THAT RESPONSIBILITY.

THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT NO SOLID OR LIQUID WASTE IS DISCHARGED INTO STORMWATER RUNOFF. SEDIMENT-LADEN WATER SHALL BE FILTERED THROUGH THE USE OF SEDIMENT FILTERING FENCES OR SEDIMENTATION BASINS PRIOR TO DISCHARGE TO SURFACE WATERS. CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE INTO OR ALONG-SIDE RIVERS, STREAMS, AND CREEKS OR INTO NATURAL OR MAN-MADE CHANNELS OR SWALES LEADING THERETO. CONCRETE TRUCK WASH WATER AND SURPLUS CONCRETE SHALL BE CONFINED TO AREAS APPROVED BY THE ENGINEER; AFTER SOLIDIFYING, THESE WASTE MATERIALS SHALL BE REMOVED FROM THE SITE.

THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE THE CURRENT "PLAN", INCLUDING THIS NARRATIVE, IMMEDIATELY AVAILABLE OR POSTED ON THE SITE.

THE CONTRACTOR SHALL BE RESPONSIBLE TO DELINEATE, ON THE "PLAN", ALL EROSION AND SEDIMENTATION CONTROL WORK ACTUALLY PERFORMED; AND TO AMEND THE "PLAN" AS REQUIRED AS A RESULT OF HIS WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM THE REQUIRED MAINTENANCE PROCEDURES AND DOCUMENT THEM AS REQUIRED BY THE GENERAL PERMIT AND THE "PLAN".

THE FOLLOWING ESTIMATED QUANTITIES ARE INCLUDED FOR USE BY THE CONTRACTOR TO CONTROL SEDIMENTATION AND EROSION:

ITEM 207	- CONSTRUCTION SEEDING AND MULCHING	1,200	SQ. YD.
ITEM 207	- FILTER FABRIC DITCH CHECKS	20	EACH
ITEM 207	- ROCK DITCH CHECKS	20	EACH
ITEM 207	- STORM SEWER INLET PROTECTION	2	EACH
ITEM 670	- SLOPE EROSION PROTECTION	1,270	SQ. YD.
ITEM 670	- DITCH EROSION PROTECTION MAT, TYPE A	531	SQ. YD.
ITEM 836	- SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1	504	SQ. YD.
ITEM SPECIAL	- CONCRETE WASHOUT AREA	1	EACH

EROSION & SEDIMENT CONTROL PRACTICES SUBJECT TO FIELD MODIFICATION AT THE DIRECTION OF THE DELAWARE COUNTY ENGINEER AND/OR OHIO EPA.

EROSION & SEDIMENT CONTROL NARRATIVE

PLAN DESIGNER: EMH&T, INC.
ENGINEERS, SURVEYORS, PLANNERS, SCIENTISTS
5500 NEW ALBANY ROAD
COLUMBUS, OHIO 43054
PH: 614-775-4500 FAX: 614-775-4800

DEVELOPER: M/I HOMES
3 EASTON OVAL, SUITE 540
COLUMBUS, OHIO 43219
TEL: (614) 418-8000

OEP PERMIT NUMBER: 4GC06054*AG
PROJECT DESCRIPTION: THE PROJECT CONSISTS OF WIDENING OF LACKEY OLD STATE ROAD FOR NEW NORTHBOUND LEFT TURN LANE.

EXISTING SITE CONDITIONS: THE SITE CURRENTLY CONSISTS OF EXISTING ROADWAY, DITCHES, FOREST, AND RESIDENTIAL LAND.

AREAS OF DISTURBANCE: THE WESTERN ROADSIDE AREA OF LACKEY OLD STATE ROAD WILL BE DISTURBED FOR ROAD WIDENING AND GRADING.

RECEIVING STREAM: THE SITE RUNOFF DRAINS TO EXISTING ROADSIDE DITCHES AND STORM SEWER TO ALUM CREEK.

ADJACENT AREAS: THE PROJECT IS BOUNDED BY THE PINES SUBDIVISION TO THE WEST AND THE ALUM CREEK STATE PARK TO THE EAST.

CRITICAL AREAS: NONE.

EROSION AND SEDIMENT MEASURES: EROSION AND SEDIMENT WILL BE CONTROLLED BY THE USE OF INLET PROTECTION AT EXISTING AND PROPOSED STORM SEWER STRUCTURES, FILTER FABRIC CHECK DAMS AND ROCK CHECK DAMS.

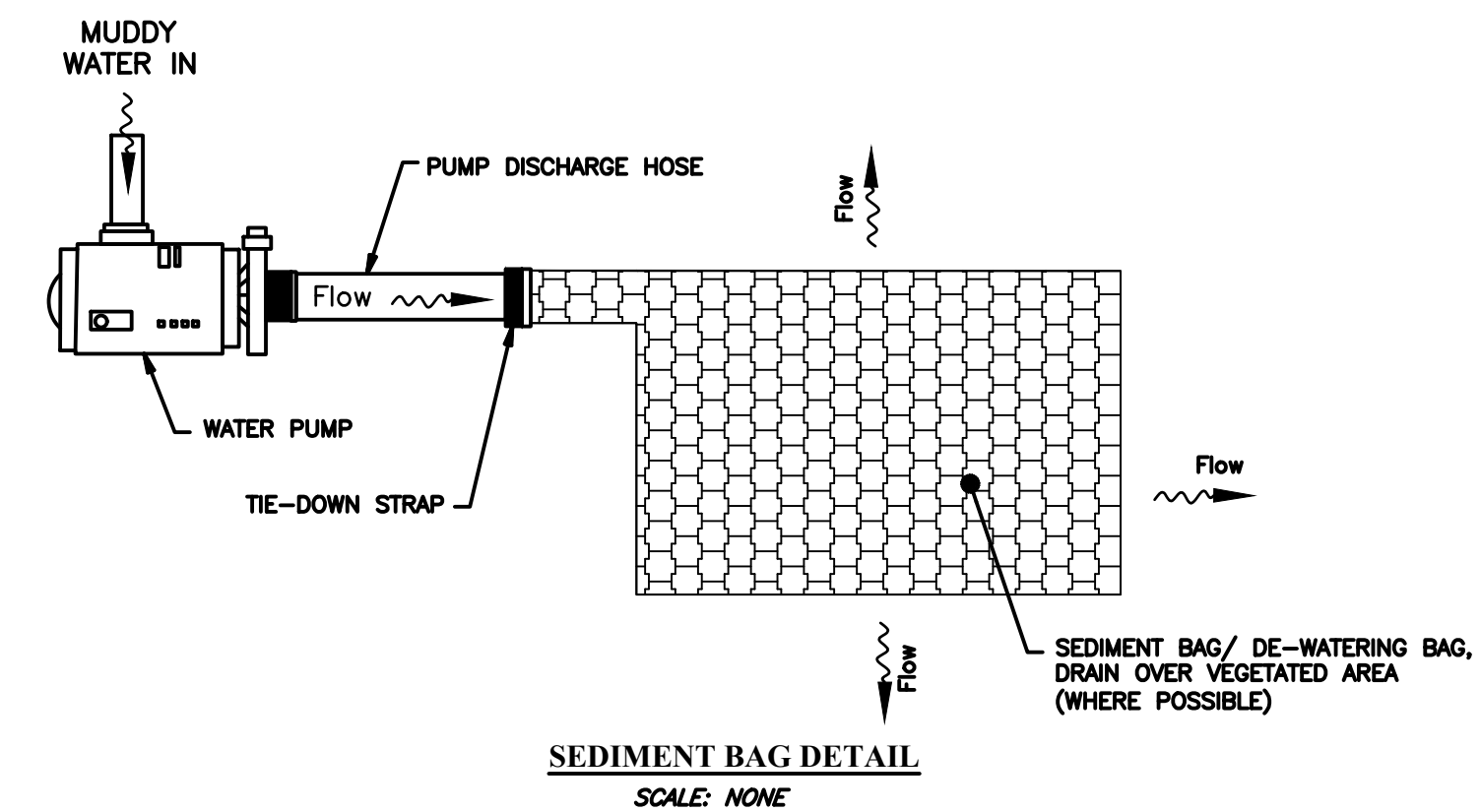
PERMANENT STABILIZATION MAINTENANCE: ALL DISTURBED AREAS SHALL BE SEEDING AND MULCHING. ALL EROSION CONTROL DEVICES ARE TO BE INSPECTED BY THE CONSTRUCTION SUPERINTENDENT DAILY AND AFTER RAINFALLS. ANY DAMAGED FACILITIES ARE TO BE REPLACED/REPAIRED IMMEDIATELY AS MAY BE NECESSARY.

CONSTRUCTION SEQUENCE:
-INSTALL INLET CONTROL ON EXISTING STRUCTURES AND FABRIC CHECK DAMS ON EXISTING DITCHES THAT WILL REMAIN IN USE DURING GRADING OPERATIONS.
-INSTALL INLET CONTROL ON PROPOSED STRUCTURES AND ROCK CHECK DAMS IN PROPOSED DITCH LINES AS THEY ARE CONSTRUCTED.
-DURING CULVERT REPLACEMENTS, PUMP CLEAN OFFSITE WATER AROUND WORK LIMITS & PUMP MUDDY WATER FROM CULVERT EXCAVATION FOOTPRINT INTO A FILTER BAG.
-STABILIZE DISTURBED AREAS ACCORDING TO THE TEMPORARY AND PERMANENT SEEDING REQUIREMENTS. INSTALL EROSION CONTROL MATTING.
-REMOVE TEMPORARY EROSION CONTROLS UPON ESTABLISHMENT OF PERMANENT VEGETATION.

SCHEDULE: THE CONTRACTOR SHALL PROVIDE A SCHEDULE OF OPERATIONS TO THE COUNTY ENGINEER. SEDIMENTATION AND EROSION CONTROL FEATURES SHALL BE PLACED AND MAINTAINED IN ACCORDANCE WITH THIS SCHEDULE.

SITE CONTACT: SAME AS DEVELOPER.

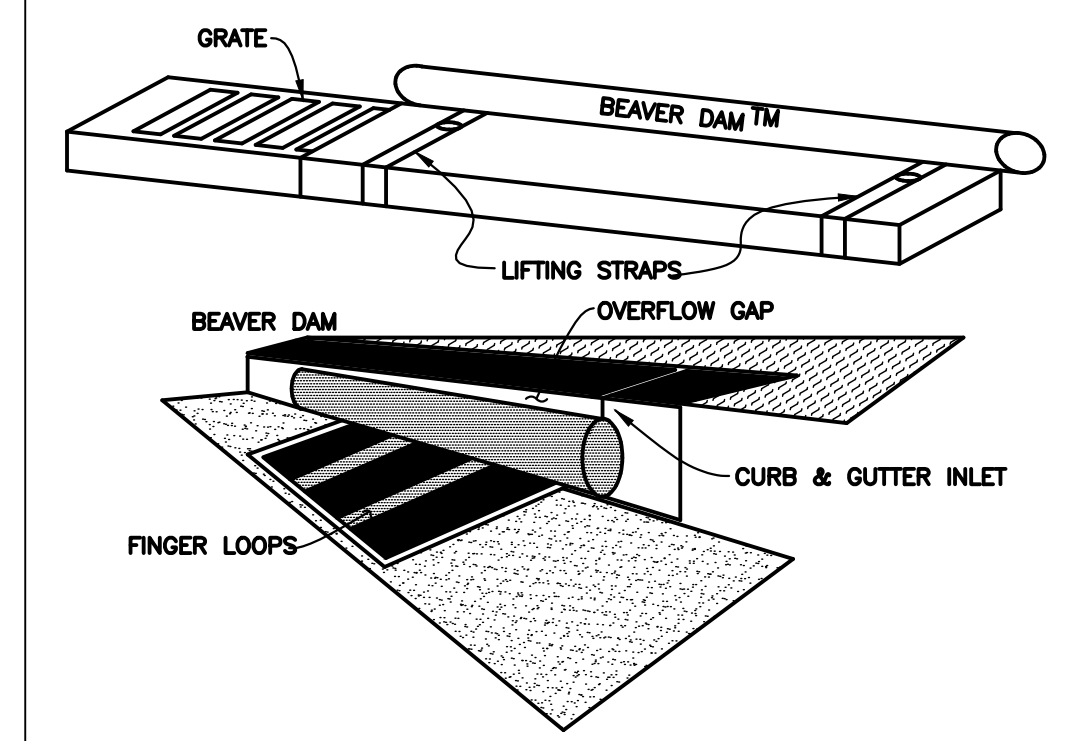
POST CONSTRUCTION WATER QUALITY: POST CONSTRUCTION WATER QUALITY IS PROVIDED BY PROPOSED VEGETATED FILTER STRIPS PROPOSED IN THIS PLAN.



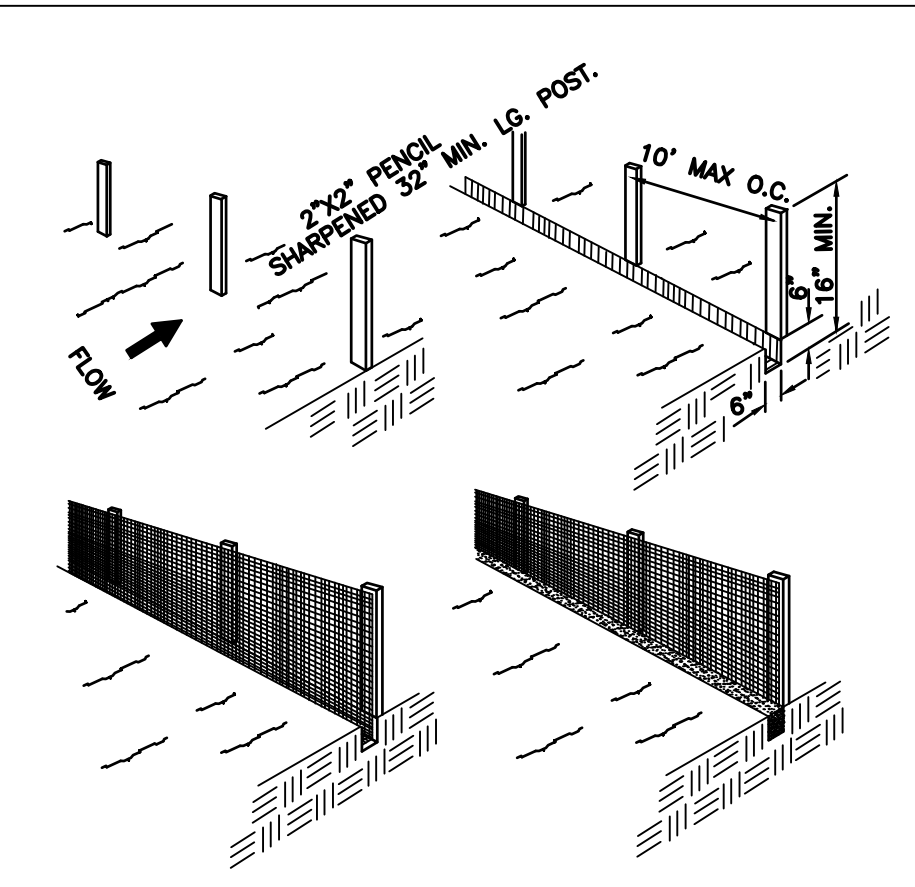
NOTICE: THE PUMPING OR DIRECT DISCHARGE OF SEDIMENT-LADEN (MUDDY) WATER TO THE COUNTY'S SEWER SYSTEM OR A RECEIVING STREAM IS A VIOLATION OF OHIO EPA REGULATIONS.

ALL INLETS RECEIVING FLOW FROM RUNOFF, PUMPING ACTIVITIES, OR OTHER DIRECT DISCHARGES SHALL BE FITTED WITH AN INLET PROTECTION DEVICE THAT IS PROPERLY SIZED AND SECURED TO REDUCE THE DISCHARGE OF SEDIMENT INTO THE STORM SEWER SYSTEM AND RECEIVING STREAM. INLET PROTECTION IS REQUIRED ON ALL INLETS RECEIVING DISCHARGE REGARDLESS OF WHETHER OR NOT-THE INLET IS TRIBUTARY TO ANY DOWNSTREAM EROSION AND SEDIMENT CONTROLS.

DISCHARGE HOSES USED DURING PUMPING ACTIVITIES SHALL BE FITTED WITH SEDIMENT BAGS THAT ARE PROPERLY SITED PER MANUFACTURER'S RECOMMENDATIONS REGARDLESS OF WHAT OTHER SEDIMENT CONTROLS ARE IN PLACE FURTHER DOWNSTREAM. SEDIMENT BAGS MUST BE PROPERLY SECURED TO THE DISCHARGE HOSE AND PLACED OVER VEGETATED AREAS, WHERE FEASIBLE, DURING DISCHARGE. SEE DETAIL ABOVE OF A TYPICAL SEDIMENT BAG INSTALLATION.



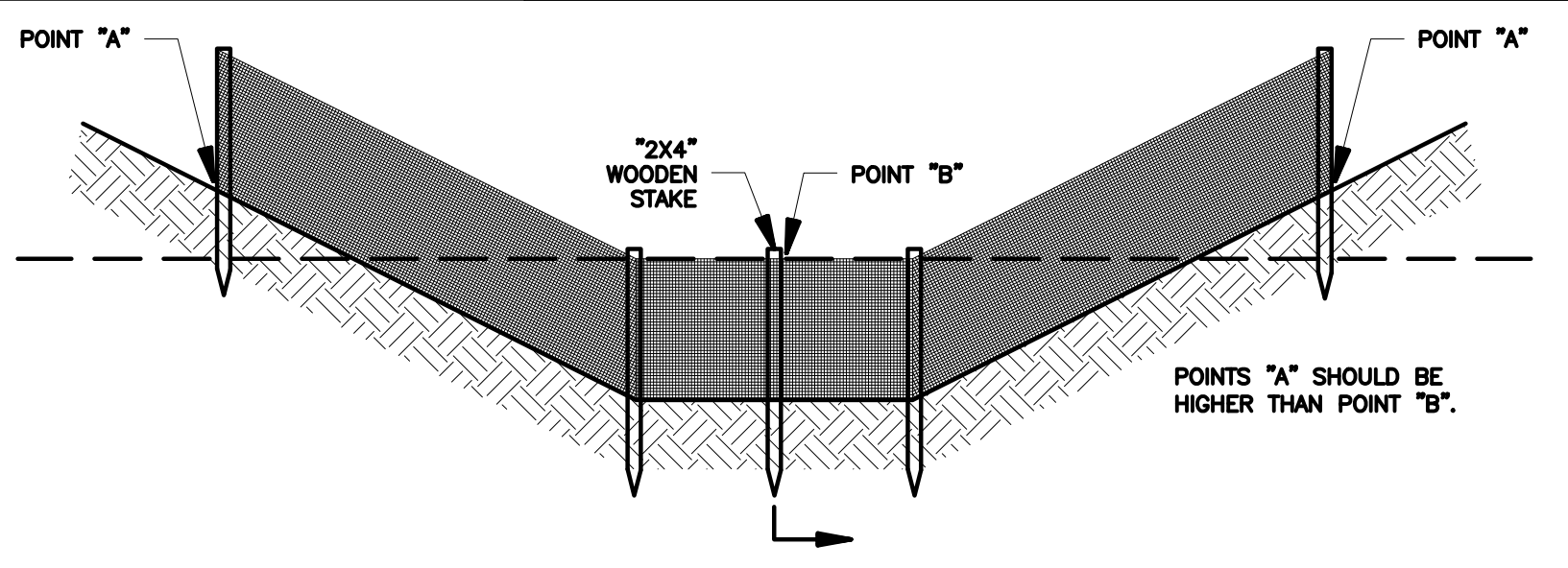
ITEM 207 - INLET PROTECTION (BEAVER DAM)
INSTALLATION: STAND GATE ON END. SLIDE THE BEAVER DAM BAG ON WITH DAM ON TOP OF THE GRATE. PULL ALL EXCESS DOWN. LAY UNIT ON ITS SIDE. CAREFULLY TUCK FLAP IN. PRESS VELCRO STRIPS TOGETHER. INSTALL THE UNIT MAKING SURE FRONT EDGE OF GRATE IS INSERTED IN FRAME FIRST THEN LOWER BACK INTO PLACE. PRESS VELCRO DOTS TOGETHER WHICH ARE LOCATED UNDER LIFTING STRAPS. THIS INSURES STRAPS REMAIN FLUSH WITH GUTTER.
MAINTENANCE: WITH A STIFF BRISTLE BROOM SWEEP SILT AND OTHER DEBRIS OFF SURFACE AFTER EACH EVENT.



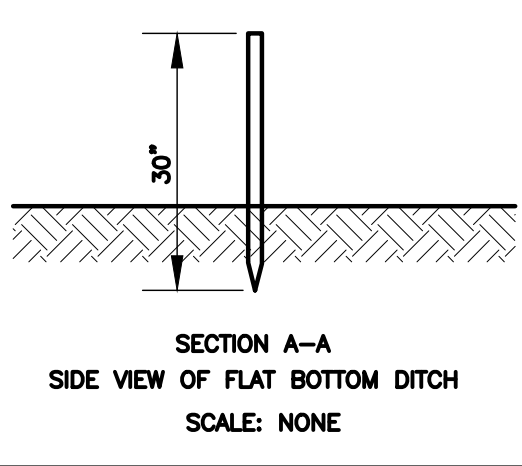
ITEM 207 - PERIMETER FILTER FABRIC FENCE DETAIL
NOT TO SCALE
MINIMUM CRITERIA FOR SILT FENCE FABRIC

1. THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE).
2. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM OF A 6-INCH OVERLAP, AND SECURELY SEALED.
3. POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES).
4. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 6 INCHES WIDE AND 6 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
5. THE FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8-INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
6. THE TRENCH SHALL BE BACKFILLED AND SOIL COMPACTED OVER THE FILTER FABRIC.
7. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

MAINTENANCE:
SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDING.

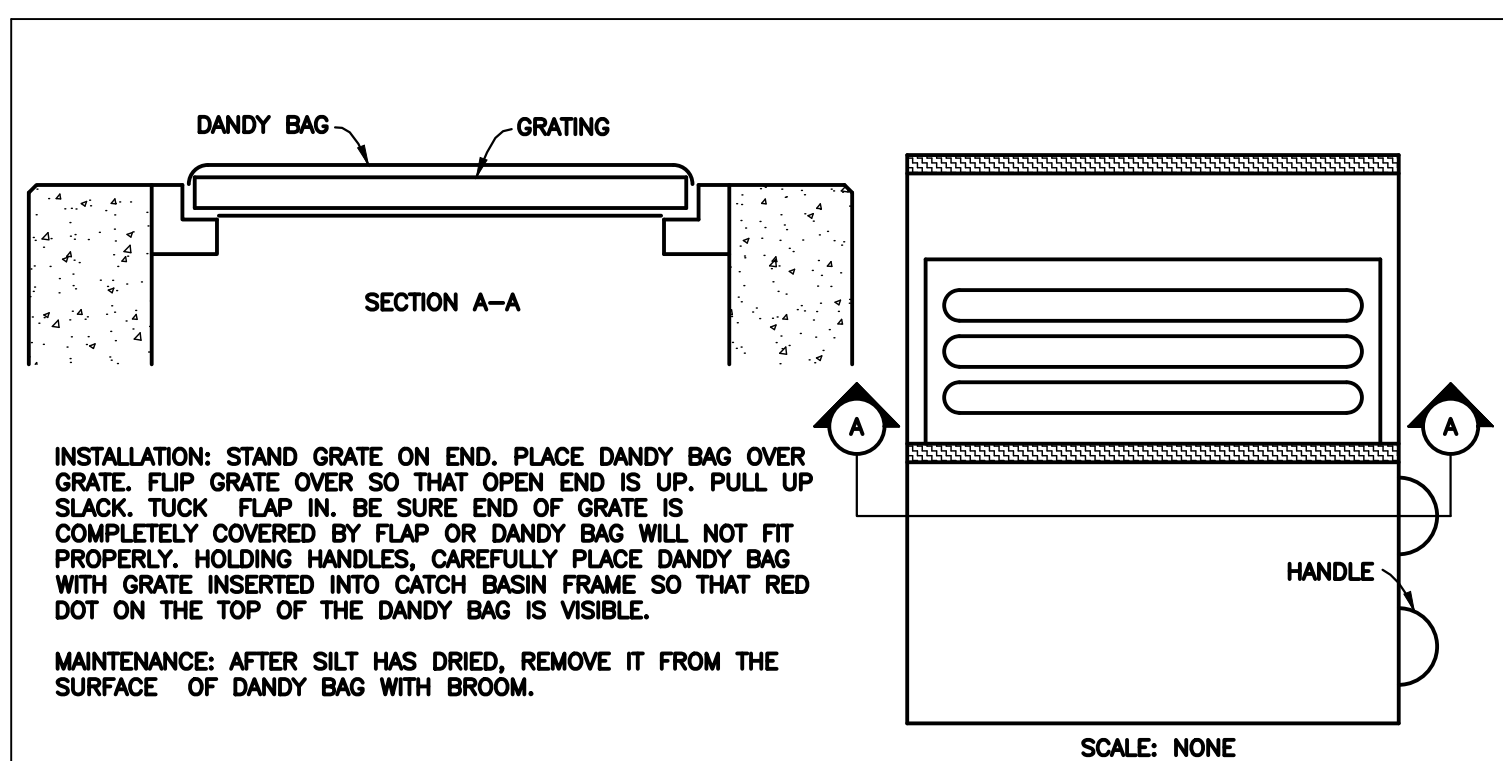


ELEVATION VIEW OF FLAT BOTTOM DITCH
SCALE: NONE



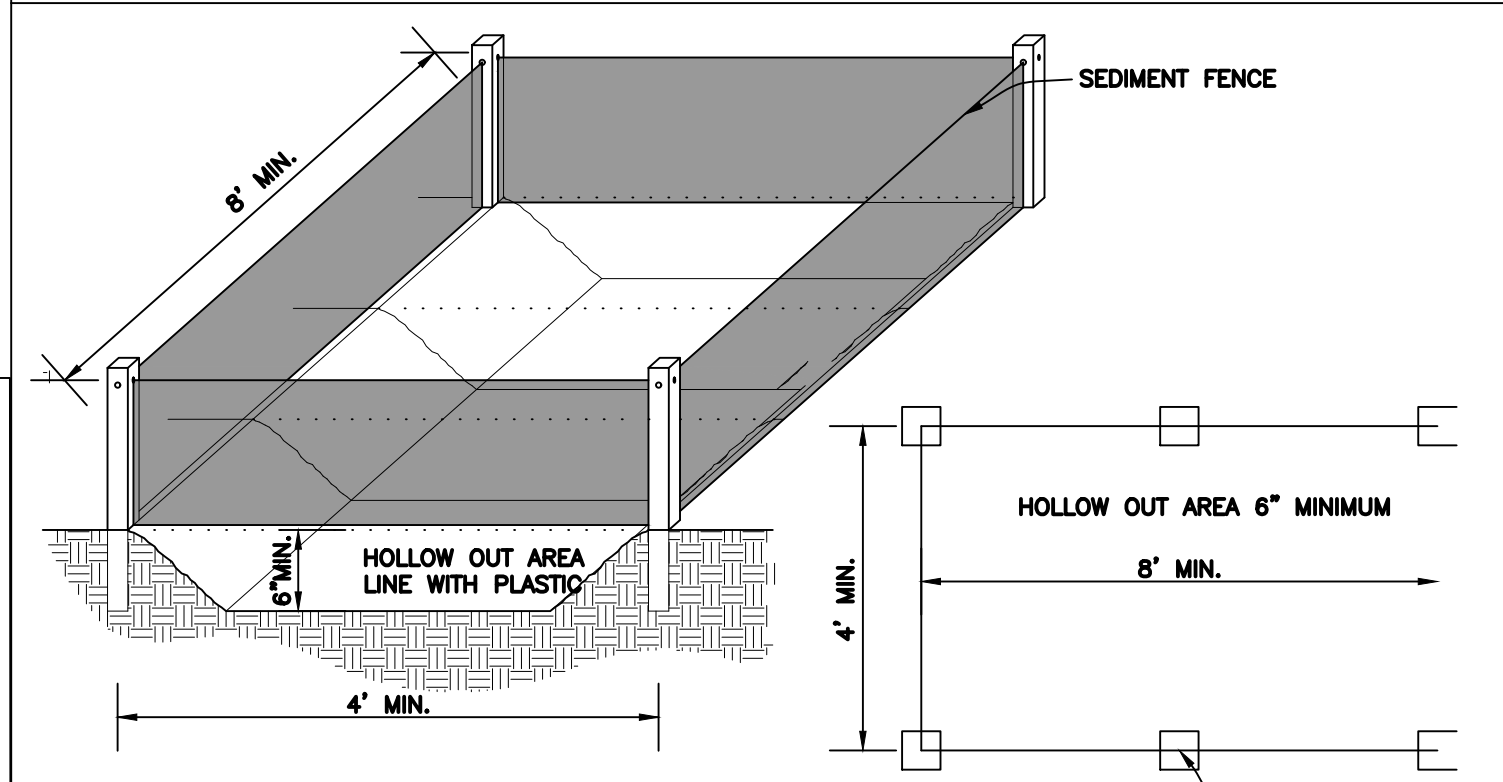
SECTION A-A
SIDE VIEW OF FLAT BOTTOM DITCH
SCALE: NONE

ITEM 207 - FILTER FABRIC DITCH CHECK
MATERIALS: FURNISH FILTER FABRIC DITCH CHECKS CONSISTING OF THE FOLLOWING MATERIALS:
1. 30" WIDE FILTER FABRIC WITH SOUND WOOD SUPPORTS WITH MAXIMUM ON-CENTER SPACING OF 10'. USE FILTER FABRIC CONFORMING TO 712.09 TYPE C.
2. A VERTICALLY DRIVEN "2x4" STAKE THE CENTER OF THE DITCH.
CONSTRUCTION:
• TRENCH THE FILTER FABRIC FENCE AS DETAILED FOR PERIMETER FILTER FABRIC FENCE. PLACE A VERTICAL "2x4" STAKE IN THE CENTER OF THE DITCH WITH THE TOP LEVEL TO THE TOP OF THE FENCE AND AT LEAST 6" BELOW THE BOTTOM OF THE DITCH. FILTER FABRIC DITCH CHECKS SHALL BE PROVIDED IN EXISTING DITCHES.



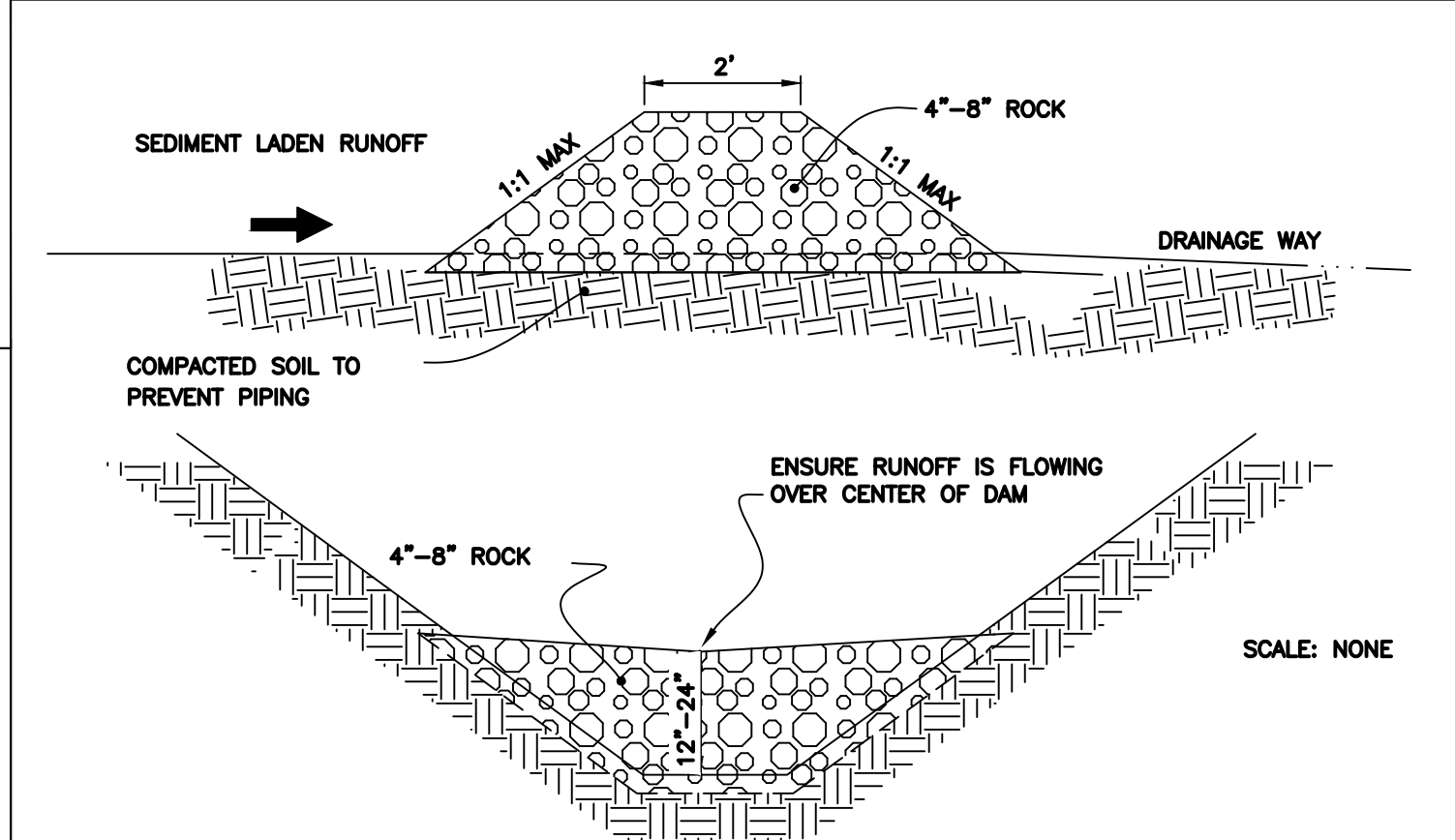
INSTALLATION: STAND GRATE ON END. PLACE DANDY BAG OVER GRATE. FLIP GRATE OVER SO THAT OPEN END IS UP. PULL UP SLACK. TUCK FLAP IN. BE SURE END OF GRATE IS COMPLETELY COVERED BY FLAP OR DANDY BAG WILL NOT FIT PROPERLY. HOLDING HANDLES. CAREFULLY PLACE DANDY BAG WITH GRATE INSERTED INTO CATCH BASIN FRAME SO THAT RED DOT ON THE TOP OF THE DANDY BAG IS VISIBLE.
MAINTENANCE: AFTER SILT HAS DRIED, REMOVE IT FROM THE SURFACE OF DANDY BAG WITH BROOM.

ITEM 207 - STORM SEWER INLET PROTECTION
• PAYMENT FOR ITEM 207 - STORM SEWER INLET PROTECTION SHALL INCLUDE ALL EQUIPMENT, MATERIAL, LABOR, AND INCIDENTALS NECESSARY TO FURNISH, INSTALL, MAINTAIN, AND REMOVE THE INLET PROTECTION IN ACCORDANCE WITH CMSC ITEM 207 AND THE NOTES AND DETAILS ABOVE. MEASUREMENT AND PAYMENT SHALL BE IN ACCORDANCE WITH CMSC 207.



ITEM SPECIAL - CONCRETE WASHOUT AREA
NOTES: CONCRETE TRUCKS SHALL UTILIZE AREAS TO WASHOUT TRUCKS. ACCUMULATED CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
CONTRACTOR TO DETERMINE LOCATION OF CONCRETE WASHOUT AREA.

CONTRACTOR RESPONSIBILITY: DETAILS HAVE BEEN PROVIDED ON THE PLANS IN AN EFFORT TO HELP THE CONTRACTOR PROVIDE EROSION AND SEDIMENTATION CONTROL. THE DETAILS SHOWN ON THE PLAN SHALL BE CONSIDERED A MINIMUM. ADDITIONAL OR ALTERNATE DETAILS MAY BE FOUND IN THE O.D.N.R. MANUAL "RAINWATER AND LAND DEVELOPMENT". THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING NECESSARY AND ADEQUATE MEASURES FOR PROPER CONTROL OF EROSION AND SEDIMENT RUNOFF FROM THE SITE ALONG WITH PROPER MAINTENANCE AND INSPECTION IN COMPLIANCE WITH THE NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY.



MAINTENANCE: ROCK CHECK DAMS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.

CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED CHECK DAMS, END RUNS AND UNDERCUTTING BENEATH DAMS.

NECESSARY REPAIRS TO CHECK DAMS SHALL BE ACCOMPLISHED PROMPTLY.

SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE AGGREGATE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDING.

ITEM 207 - ROCK DITCH CHECK
• PAYMENT FOR ITEM 207 - ROCK DITCH CHECK SHALL INCLUDE ALL EQUIPMENT, MATERIAL, LABOR, AND INCIDENTALS NECESSARY TO FURNISH, INSTALL, MAINTAIN, AND REMOVE THE ROCK DITCH CHECK IN ACCORDANCE WITH CMSC ITEM 207 AND THE NOTES AND DETAILS ABOVE. PAYMENT SHALL BE PER EACH. ROCK DITCH CHECKS SHALL BE PROVIDED IN PROPOSED DITCHES.

MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
DELAWARE COUNTY
FOR
LACKEY OLD STATE IMPROVEMENTS
SEDIMENT AND EROSION CONTROL PLAN



DATE: MARCH, 2018

SCALE: None

JOB NO.: 20170824

SHEET: 7/42

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ITEM NO.	ESTIMATED QUANTITY	UNIT	DESCRIPTION	SEE SHEET
Roadway				
201	1	L. Sum	Clearing and Grubbing, As Per Plan	3
202	250	Ft	Pipe Removed, 24" and Under	
202	258	Ft	Pipe Removed, Over 24"	
202	939	Ft	Guardrail Removed	
202	4	Each	Headwall Removed	
202	1	Each	Private Sign, Removed and Reset, As Per Plan	3
203	3,903	Cu Yd	Excavation, As Per Plan	3
203	2,307	Cu Yd	Embankment Construction	3
204	2,310	Sq Yd	Subgrade Compaction	
204	2	Hour	Proof Rolling	
204	150	Cu Yd	Undercutting and Disposal of Unsuitable Materials	3
204	75	Cu Yd	Embankment (Replacement of Unsuitable Material)	3
204	75	Cu Yd	Granular Material, Type B (Replacement of Unsuitable Material)	3
204	225	Sq Yd	Geotextile Fabric, Type D	3
606	88	Ft	Guardrail, Type 5	
608	302	Sq Ft	Concrete Walk (T=4")	
608	2	Each	Curb Ramp	
608	20	Sq Ft	Detectable Warning	
638	1	Each	Fire Hydrant, Adjusted to Grade	
SPEC	2	Each	Mailbox, Removed and Reset	
Sediment & Erosion Control				
CMSC 207	1,200	Sq Yd	Construction Seeding and Mulching	
CMSC 207	20	Each	Filter Fabric Ditch Checks	7
CMSC 207	20	Each	Rock Ditch Checks	7
CMSC 207	2	Each	Storm Sewer Inlet Protection	7
659	920	Cu Yd	Topsoil, As Per Plan (T=3")	3
659	1.49	Ton	Commercial Fertilizer	
659	560	Sq Yd	Repair Seeding and Mulching, As Per Plan	3
659	11,030	Sq Yd	Seeding and Mulching, As Per Plan	3
659	60	M Gal	Water	
670	1,270	Sq Yd	Slope Erosion Protection	
670	531	Sq Yd	Ditch Erosion Protection Mat, Type A	
836	504	Sq Yd	Seeding and Erosion Control with Turf Reinforcing Mat, Type 1	
SPEC	1	Each	Concrete Washout Area	7
Pavement				
252	1,668	Ft	Full Depth Pavement Sawing	
253	128	Sq Yd	Pavement Repair	
254	5,039	Sq Yd	Pavement Planing, Asphalt Concrete (T=1.5")	
301	440	Cu Yd	Asphalt Concrete Base, PG64-22 (T=6")	
301	15	Cu Yd	Asphalt Concrete Base, PG64-22 (Driveways) (T=3.5")	
304	380	Cu Yd	Aggregate Base (T=6")	
304	33	Cu Yd	Aggregate Base (Driveways) (T=8")	
304	20	Cu Yd	Aggregate Base (Reconditioning Opposite Shoulder)	
407	540	Gal	Tack Coat (0.085 Gal/SY)	
407	13	Gal	Tack Coat (Driveways) (0.085 Gal/SY)	
407	300	Gal	Tack Coat for Intermediate Course (0.055 Gal/SY)	
423	1,668	LF	Crack Sealing	
441	120	Cu Yd	Asphalt Concrete, Intermediate Course, Type 2, (448), PG64-22 (T=1.5")	
441	181	Cu Yd	Variable Thickness Asphalt Concrete, Intermediate Course, Type 2, (448), PG64-22	
441	290	Cu Yd	Asphalt Concrete, Surface Course, Type 1, (448), PG64-22 (T=1.5")	
441	7	Cu Yd	Asphalt Concrete, Surface Course, Type 1, (448), PG64-22 (Driveways) (T=1.5")	
609	77	Ft	6" Concrete Combined Curb & Gutter Per Std Dwg DCED-R2020	
SPEC	896	Sq Yd	Pavement Overlay Fabric (Glasgrid 8502 or Other Approved Equal)	3

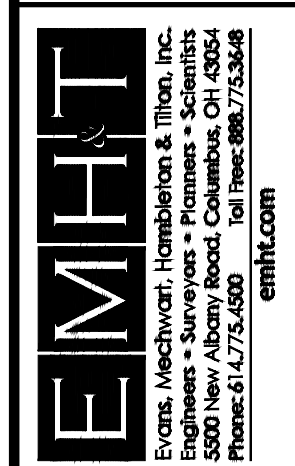
ITEM NO.	ESTIMATED QUANTITY	UNIT	DESCRIPTION	SEE SHEET
Maintenance of Traffic				
614	1	L. Sum	Maintaining Traffic, As Per Plan	4
616	1	L. Sum	Dust Control, As Per Plan	3
Drainage				
601	24	Cu Yd	Rock Channel Protection Type C, with Filter Fabric	
602	38	Cu Yd	Concrete Masonry (DCED-S169)	
611	1	Each	Type "C" Manhole (DCED-S102) (60" Base I.D.)	
611	2	Each	Catch Basin, No. 3	
611	2	Each	Precast Headwall for 30" Pipe (DCED-S168)	
611	2	Each	Precast Endwall for 12" Pipe (DCED-S169)	
611	2	Each	Precast Endwall for 21" Pipe (DCED-S169)	
611	2	Each	Precast Endwall for 30" Pipe (DCED-S169)	
611	1,633	Ft	6" Pipe Underdrain	
611	49	Ft	6" Conduit, Type F for Underdrain Outlet	
611	78	Ft	12" Conduit, Type B	
611	60	Ft	21" Conduit, Type B	
611	300	Ft	30" Conduit, Type B	
611	90	Ft	48" Conduit, Type A	
611	107	Ft	54" Conduit, Type A	
CMSC 912	290	Cu Yd	Compacted Granular Material	
Traffic Control				
630	2	Each	Signing Misc.: Street Name Brackets, As Per Plan	
630	2	Each	Sign, Double Faced, Street Name	
630	4	LF	Ground Mounted Supports, As Per Plan	
630	29.5	Sq Ft	Sign, Flat Sheet, As Per Plan	
644	0.62	Mile	Edge Line	
644	0.30	Mile	Center Line	
644	220	Ft	Channelizing Line	
647	17	Ft	Stop Line	
644	206	Ft	Transverse Line	
647	3	Each	Lane Arrow	
647	75	Ft	Crosswalk Line	
Miscellaneous				
623	1	L. Sum	Construction Layout Stakes	
624	1	L. Sum	Mobilization	
SPEC	1	L. Sum	Video Taping of Project Site	3

REVISIONS

MARK DATE DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
DELAWARE COUNTY
FOR
**LACKEY OLD STATE
IMPROVEMENTS**
GENERAL SUMMARY



DATE

MARCH, 2018

SCALE

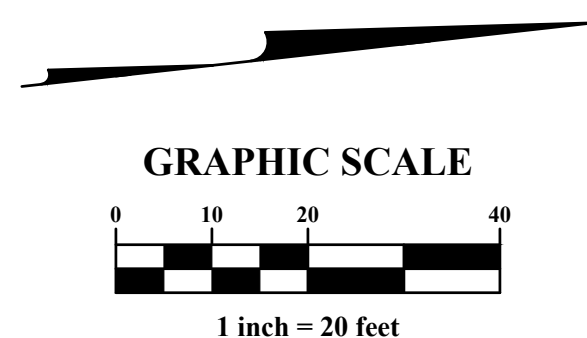
None

JOB NO.

20170824

SHEET

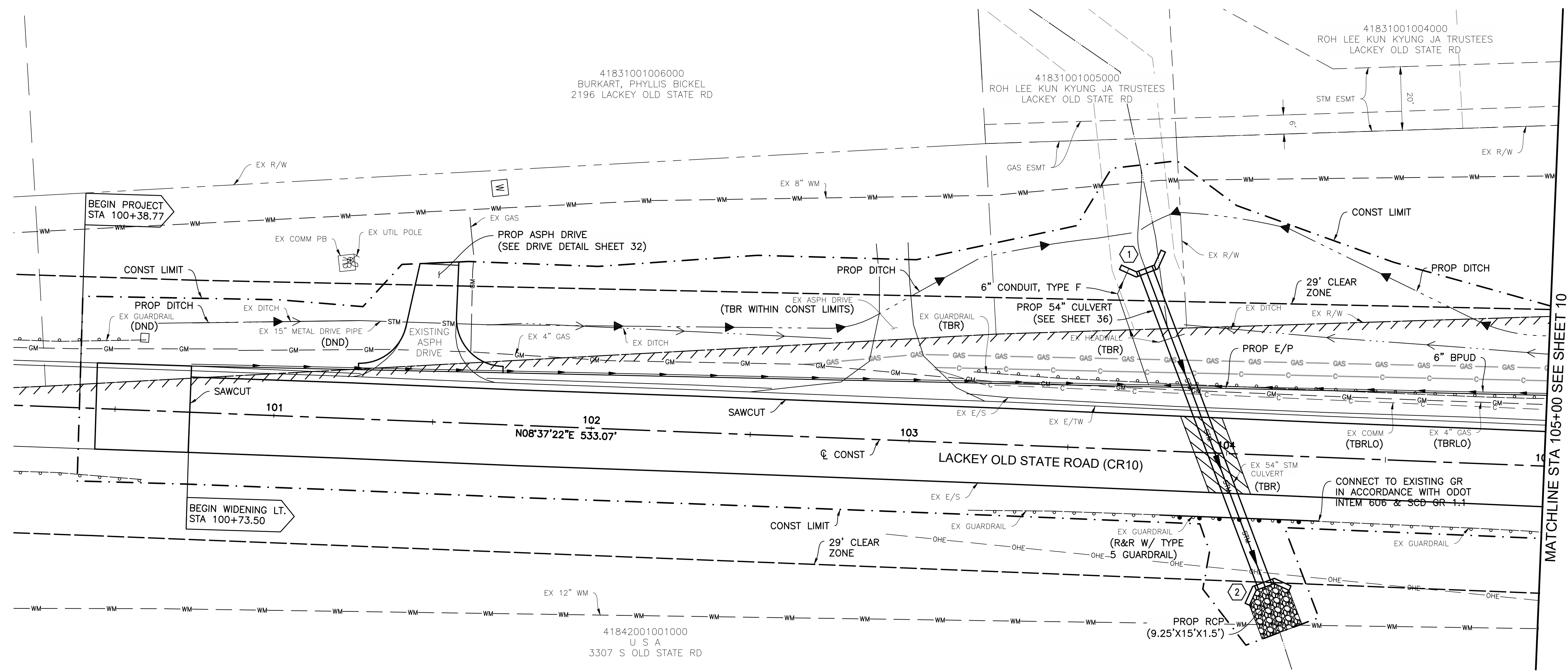
8/42



NOTE: CLEARING AND GRUBBING SHALL BE PERFORMED WITHIN THE CONSTRUCTION LIMITS

TBA = TO BE ABANDONED
 TBR = TO BE REMOVED
 TBRL = TO BE RELOCATED BY THIS PLAN
 TBRL0 = TO BE RELOCATED BY OTHERS
 BO = BY OTHERS
 TBRO = TR BE REMOVED BY OTHERS
 ATG = ADJUST TO GRADE
 E/TW = EDGE OF TRAVELED WAY
 E/P = EDGE OF PAVEMENT
 E/S = EDGE OF SHOULDER
 BPUD = BASE PIPE UNDERDRAIN
 R&R = REMOVE AND REPLACE
 (XX) = STORM STRUCTURE NUMBER

PAVEMENT REPAIR PER R1441



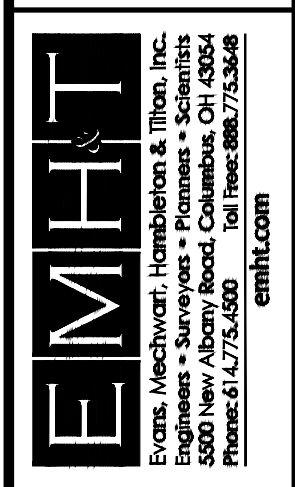
Prop Grade	915	910	905	900	895
925					
920					
915					
910					
905					
900					
895					
Existing Grade @ Q Const. 915.36	915.22	914.98	914.70	914.43	914.21
	914.00	913.78	913.57	913.40	913.26
	913.20	913.00	912.80	912.60	912.40
	912.20	912.00	911.80	911.60	911.40
	911.20	911.00	910.80	910.60	910.40
	910.20	910.00	909.80	909.60	909.40
	909.20	909.00	908.80	908.60	908.40
	908.20	908.00	907.80	907.60	907.40
	907.20	907.00	906.80	906.60	906.40
	906.20	906.00	905.80	905.60	905.40
	905.20	905.00	904.80	904.60	904.40
	904.20	904.00	903.80	903.60	903.40
	903.20	903.00	902.80	902.60	902.40
	902.20	902.00	901.80	901.60	901.40
	901.20	901.00	900.80	900.60	900.40
	900.20	900.00	899.80	899.60	899.40
	899.20	899.00	898.80	898.60	898.40
	898.20	898.00	897.80	897.60	897.40
	897.20	897.00	896.80	896.60	896.40
	896.20	896.00	895.80	895.60	895.40

Labels on diagram: EX GROUND @ Q CONST, PROP GROUND @ Q CONST, EX 54" STM (TBR), PROP 54" STM.

REVISIONS	MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 PUBLIC ORDER
 FOR
**LACKY OLD STATE
 IMPROVEMENTS**
 PLAN AND PROFILE
 STA. 100+35.60 TO STA. 105+00



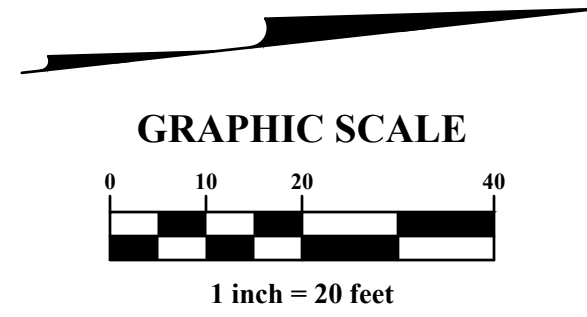
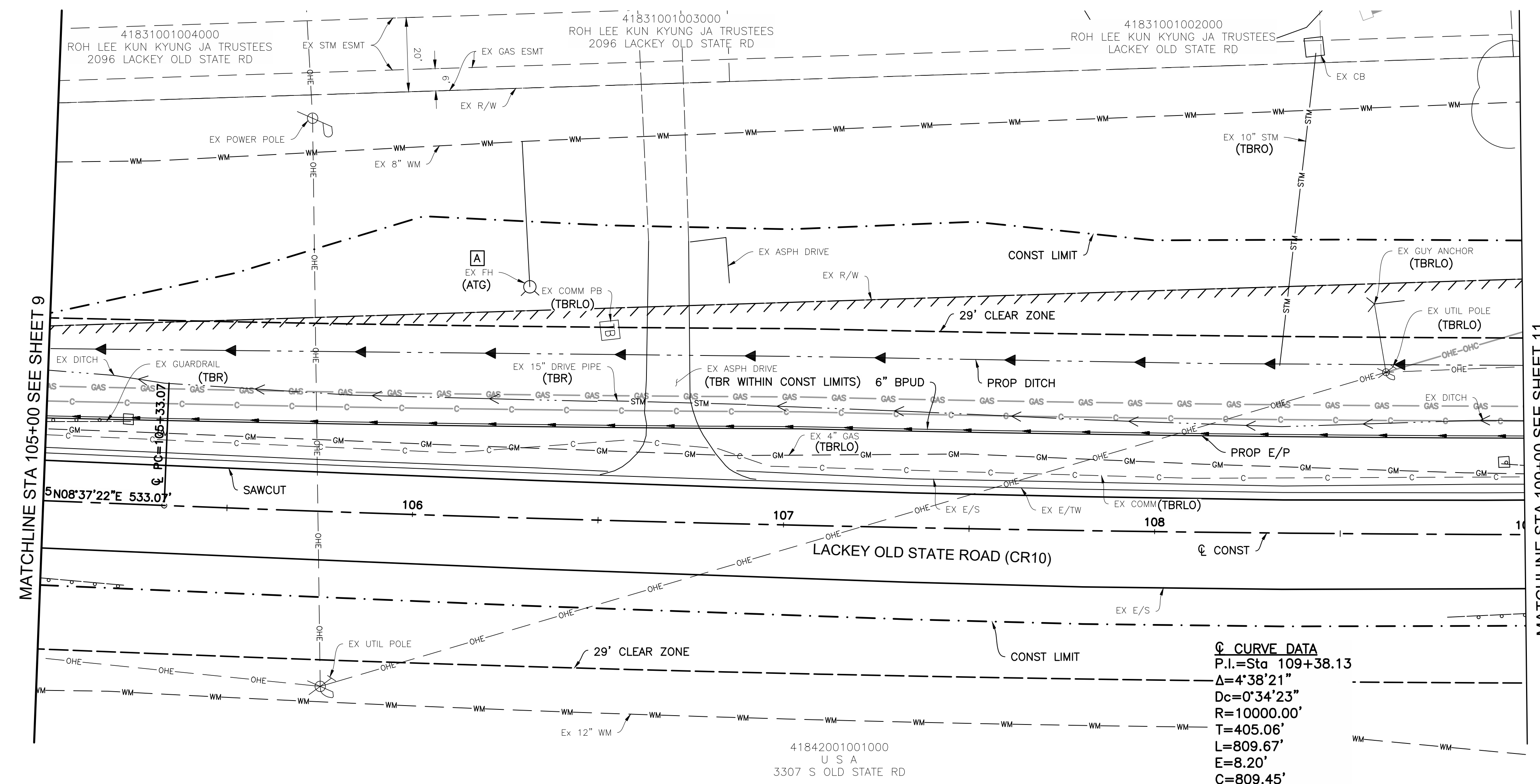
DATE
MARCH, 2018

SCALE
 HORIZ: 1" = 20'
 VERT: 1" = 5'

JOB NO.
 20170824

SHEET
9/42

J:\20170824\Drawings\Widearea\20170824\F001.dwg, Last Saved By: jbelzano, 3/2/2018 8:38 AM, Last Printed By: Scheer, Matthew, 3/2/2018 9:22 AM
 Xrefs: 20170824-F001.dwg, 20170824-F002.dwg, 20170824-F003.dwg



NOTE: CLEARING AND GRUBBING SHALL BE PERFORMED WITHIN THE CONSTRUCTION LIMITS

- TBA = TO BE ABANDONED
- TBR = TO BE REMOVED
- TBRL = TO BE RELOCATED BY THIS PLAN
- TBRL0 = TO BE RELOCATED BY OTHERS
- BO = BY OTHERS
- TBRO = TR BE REMOVED BY OTHERS
- ATG = ADJUST TO GRADE
- E/TW = EDGE OF TRAVELED WAY
- E/P = EDGE OF PAVEMENT
- E/S = EDGE OF SHOULDER
- BPUD = BASE PIPE UNDERDRAIN
- XX = STORM STRUCTURE NUMBER

A EXISTING FIRE HYDRANT TO BE ADJUSTED TO GRADE BY THE CONTRACTOR AT THE DIRECTION OF DEL-CO WATER'S INSPECTION DEPARTMENT.

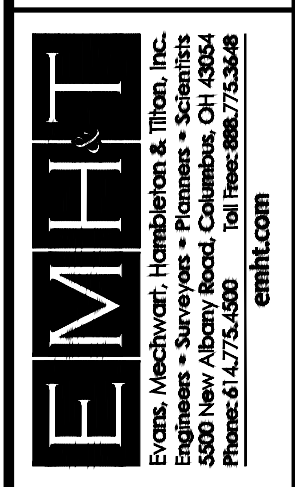
☉ CURVE DATA
P.I.=Sta 109+38.13
Δ=4°38'21"
Dc=0°34'23"
R=10000.00'
T=405.06'
L=809.67'
E=8.20'
C=809.45'
CB=N6°18'12"E

Prop Grade	913.51	913.63	913.77	913.91	914.13	914.39	914.64	914.90	915.16	915.42	915.66	915.89	916.11	916.32	916.53	916.74	916.96	917.17	917.39	925
Existing Grade @ Const.	913.49	913.60	913.72	913.84	914.03	914.25	914.47	914.69	914.91	915.12	915.34	915.54	915.74	915.96	916.18	916.40	916.59	916.75	916.92	895
	105		106		107		108		109											

REVISIONS	MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
DELAWARE COUNTY
PUBLIC HEARING
FOR
**LACKEY OLD STATE
IMPROVEMENTS**
PLAN AND PROFILE
STA. 105+00 TO STA. 109+00



DATE
MARCH, 2018

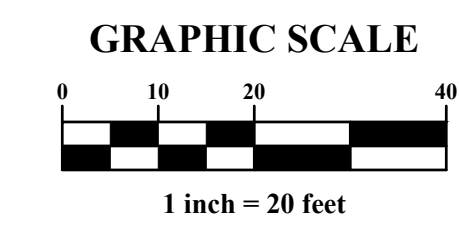
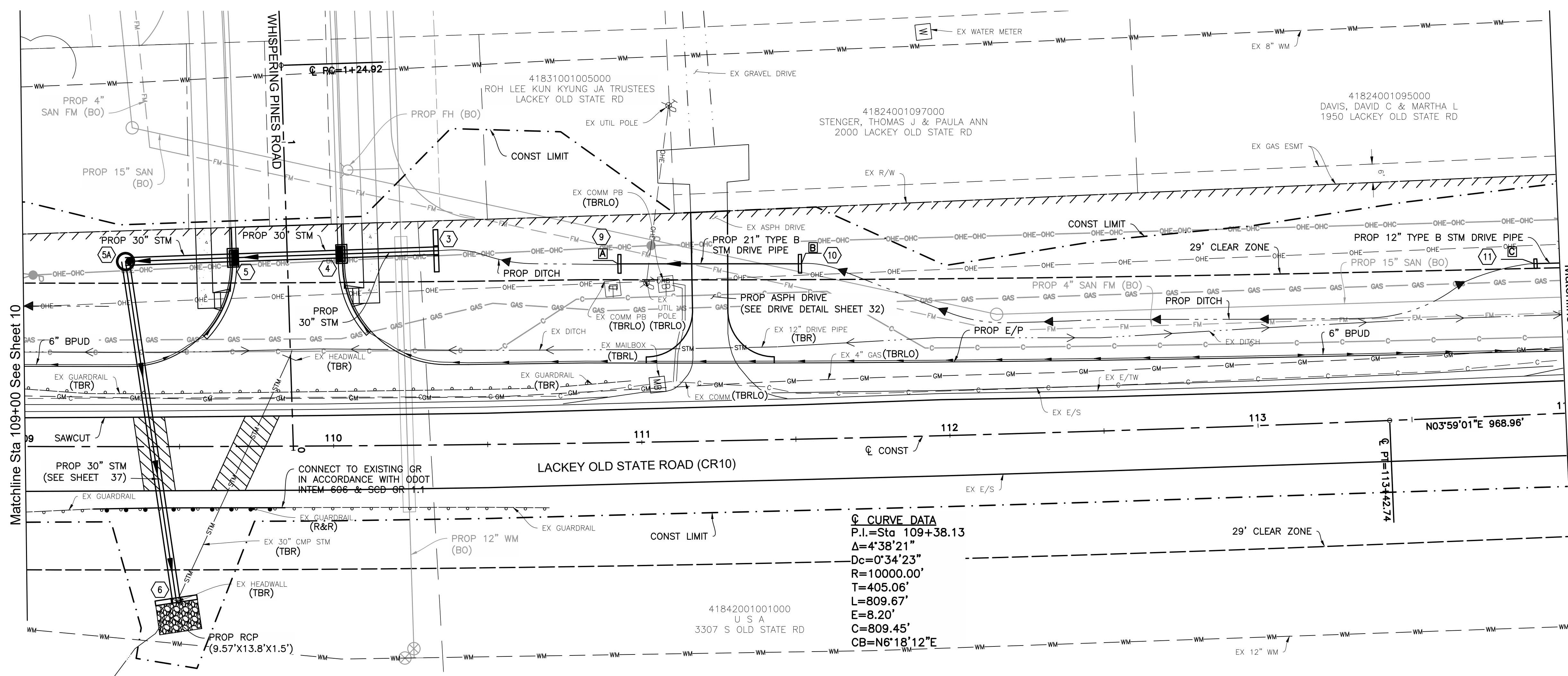
SCALE
HORIZ: 1" = 20'
VERT: 1" = 5'

JOB NO.
20170824

SHEET
10/42

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NOTE: CLEARING AND GRUBBING SHALL BE PERFORMED WITHIN THE CONSTRUCTION LIMITS

- TBA = TO BE ABANDONED
- TBR = TO BE REMOVED
- TBRL = TO BE RELOCATED BY THIS PLAN
- TBRLO = TO BE RELOCATED BY OTHERS
- BO = BY OTHERS
- TBRO = TR BE REMOVED BY OTHERS
- ATG = ADJUST TO GRADE
- E/TW = EDGE OF TRAVELED WAY
- E/P = EDGE OF PAVEMENT
- E/S = EDGE OF SHOULDER
- BPUD = BASE PIPE UNDERDRAIN
- R&R = REMOVE AND REPLACE
- XX = STORM STRUCTURE NUMBER

- CONCRETE WALK (T=4")
- PAVEMENT REPAIR PER R1441

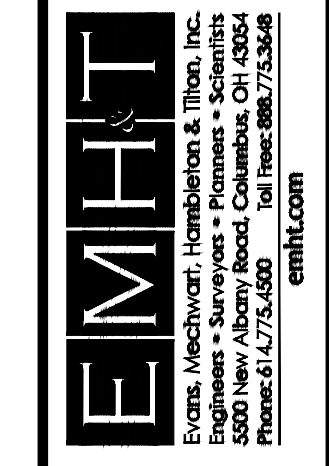
- A 110+93, 58' LT.
INV=915.25
INCLUDE PRECAST ENDWALL
PER DCED-S169
- B 111+53, 57' LT.
INV=915.75
INCLUDE PRECAST ENDWALL
PER DCED-S169
- C 113+92, 49' LT.
INV=916.66
INCLUDE PRECAST ENDWALL
PER DCED-S169

930	916.96	917.17	917.39	917.62	917.83	918.01	918.18	918.35	918.53	918.67	918.82	918.92	919.03	919.10	919.18	919.24	919.30	919.29	919.28	919.24	919.20	930
925																						925
920																						920
915																						915
910																						910
905																						905
900	916.59	916.75	916.92	917.12	917.33	917.56	917.79	917.99	918.20	918.39	918.56	918.75	918.91	919.03	919.15	919.20	919.25	919.27	919.28	919.26	919.23	900
	109				110					111				112								114

REVISIONS	MARK	DATE	DESCRIPTION

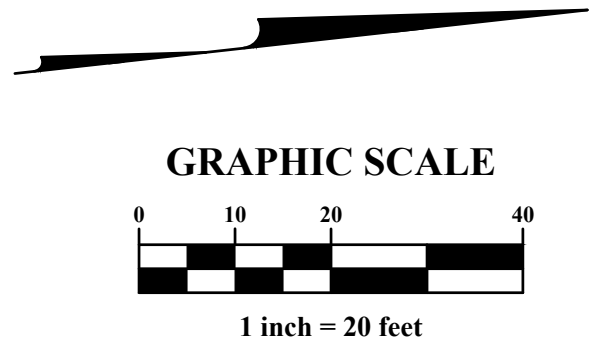
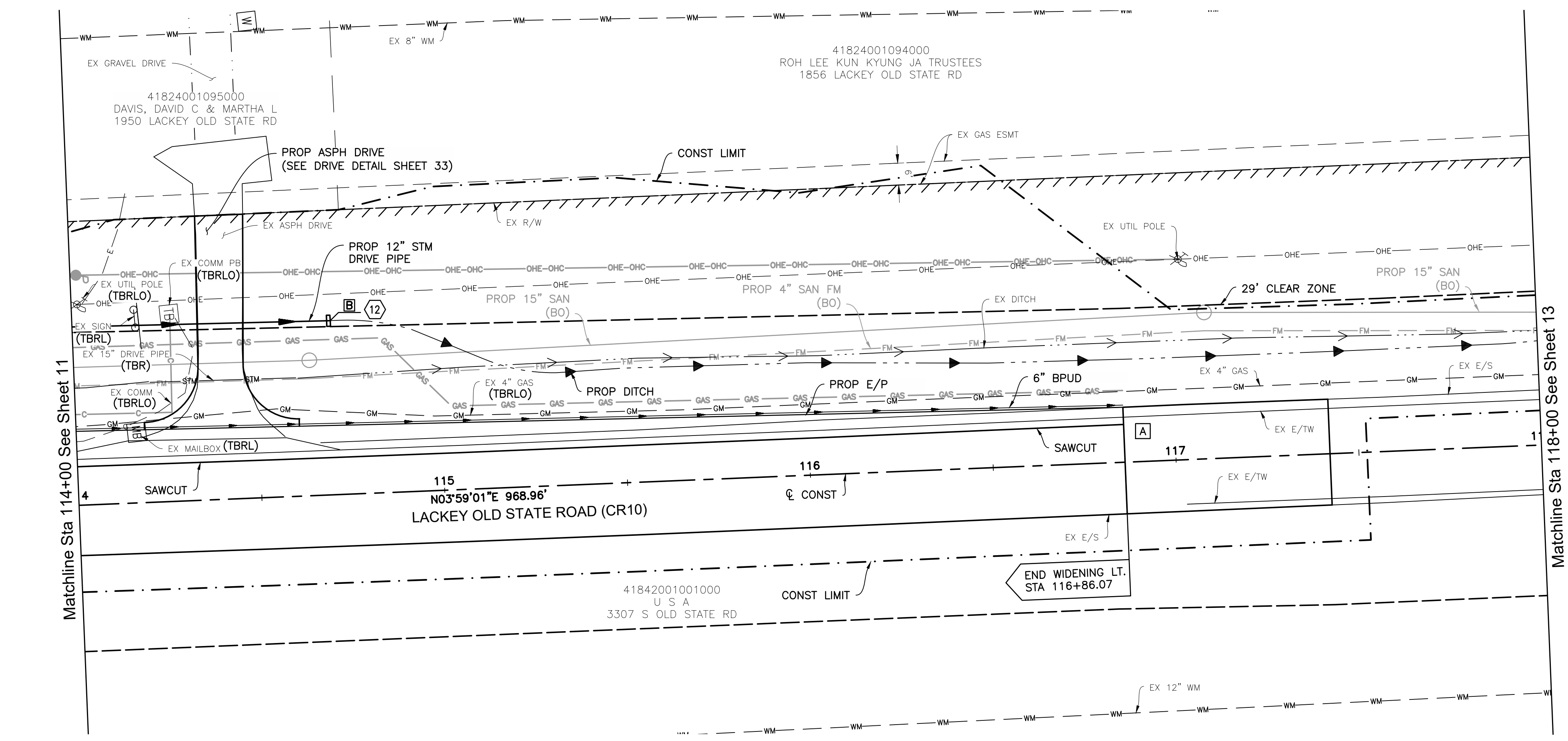
M/I HOMES

BERLIN TOWNSHIP
DELAWARE COUNTY
PUBLIC WORKS
FOR
**LACKEY OLD STATE
IMPROVEMENTS**
PLAN AND PROFILE
STA. 109+00 TO STA. 114+00



DATE	
HORIZ: 1" = 20'	
VERT: 1" = 5'	
SCALE	As Noted
JOB NO.	20170824
SHEET	11/42

J:\20170824\Drawings\Wide\20170824\01.dwg, Last Saved By: jbalzano, 3/2/2018 8:38 AM Last Printed By: Scheer, Matthew, 3/2/2018 9:22 AM
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NOTE: CLEARING AND GRUBBING SHALL BE PERFORMED WITHIN THE CONSTRUCTION LIMITS

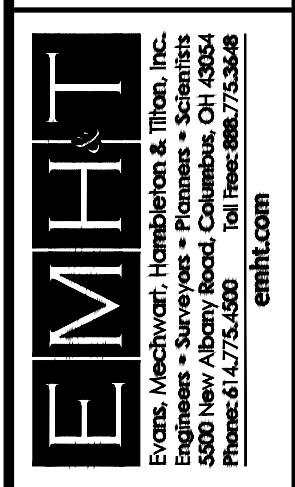
- TBA = TO BE ABANDONED
 - TBR = TO BE REMOVED
 - TBRLO = TO BE RELOCATED BY THIS PLAN
 - TBRLO = TO BE RELOCATED BY OTHERS
 - BO = BY OTHERS
 - TBRO = TR BE REMOVED BY OTHERS
 - ATG = ADJUST TO GRADE
 - E/TW = EDGE OF TRAVELED WAY
 - E/P = EDGE OF PAVEMENT
 - E/S = EDGE OF SHOULDER
 - BPUD = BASE PIPE UNDERDRAIN
 - XX = STORM STRUCTURE NUMBER
- [A] TIE INTO EXISTING BPUD. CONTRACTOR TO EXPOSE AND VERIFY EXISTING BPUD. IF THERE IS NOT AN EXISTING BPUD, OUTLET TO DITCH WITH 6\" CONDUIT, TYPE F AND INCLUDE REINFORCED OUTLET & TIED CONCRETE BLOCK MAT IN ACCORDANCE W/ DM-1.1
- [B] 114+70, 48' LT. INV=916.25 INCLUDE PRECAST ENDWALL PER DCED-S169

Prop Grade	919.20	919.10	919.00	918.91	918.81	918.66	918.51	918.28	918.03	917.82	917.60	916.97									930	
																						925
																						920
																						915
																						910
																						905
																						900
Existing Grade @ Const.	919.23	919.15	919.06	918.95	918.83	918.66	918.52	918.30	918.07	917.86	917.66	917.47	917.28	917.03	916.77	916.53					900	

MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 PUBLIC HIGHWAY
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS**
 PLAN AND PROFILE
 STA. 114+00 TO STA. 118+00

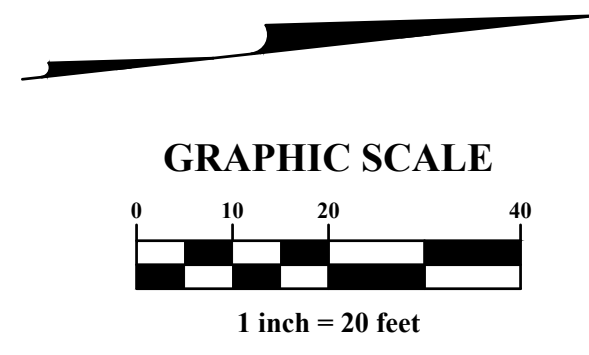
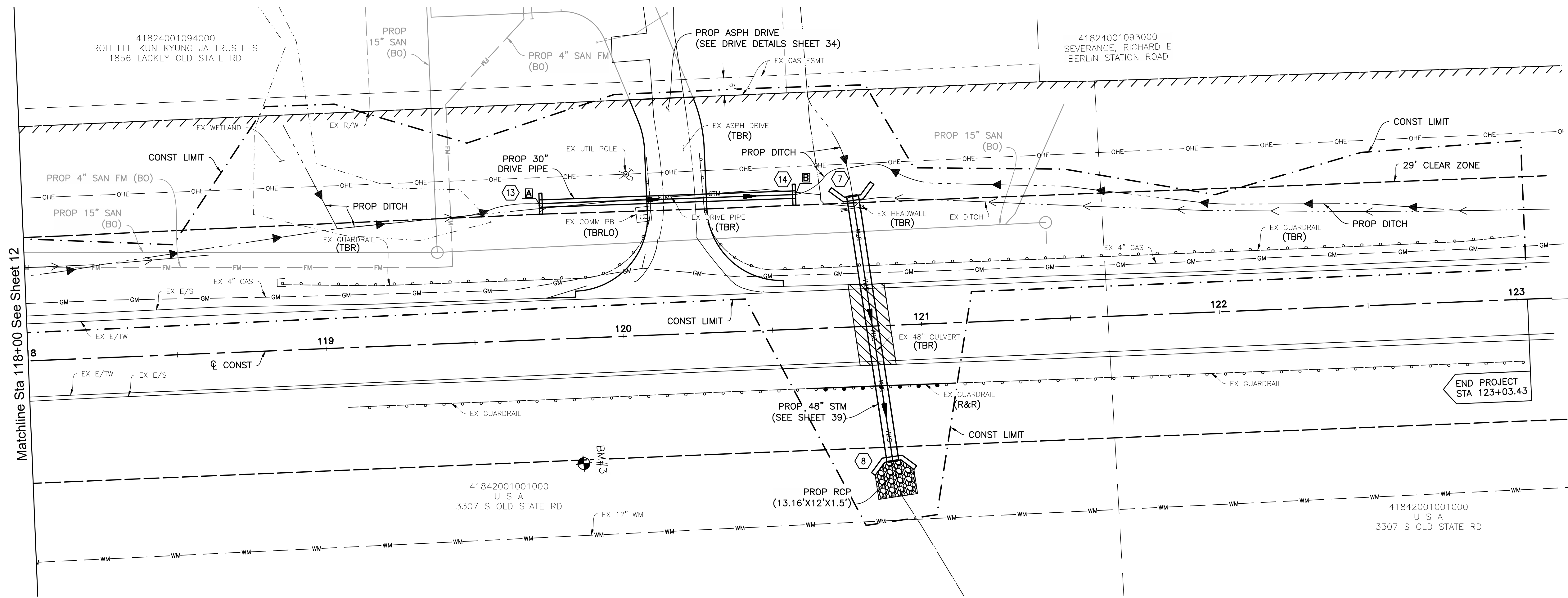


DATE
 MARCH, 2018

SCALE
 HORIZ: 1" = 20'
 VERT: 1" = 5'

JOB NO.
 20170824

SHEET
 12/42



NOTE: CLEARING AND GRUBBING SHALL BE PERFORMED WITHIN THE CONSTRUCTION LIMITS

- TBA = TO BE ABANDONED
- TBR = TO BE REMOVED
- TBRLO = TO BE RELOCATED BY THIS PLAN
- TBRLO = TO BE RELOCATED BY OTHERS
- BO = BY OTHERS
- TBRLO = TR BE REMOVED BY OTHERS
- ATG = ADJUST TO GRADE
- E/TW = EDGE OF TRAVELED WAY
- E/P = EDGE OF PAVEMENT
- E/S = EDGE OF SHOULDER
- BPUD = BASE PIPE UNDERDRAIN
- R&R = REMOVE AND REPLACE
- XX = STORM STRUCTURE NUMBER

- A 119+75, 46' LT.
INV=908.50
INCLUDE PRECAST ENDWALL
PER DCED-S169
- B 120+59, 46' LT.
INV=906.75
INCLUDE PRECAST ENDWALL
PER DCED-S169

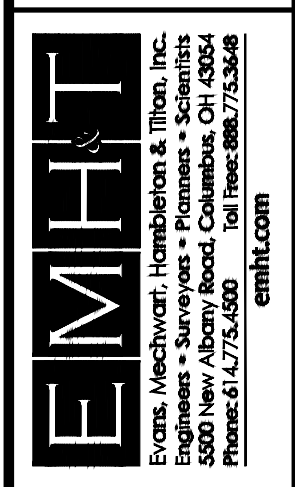


Prop Grade																930																
925																925																
920																920																
915	EX GROUND @ CONST															915																
910																910																
905																905																
900																900																
Existing Grade @ Const.	916.09	916.91	915.73	915.56	915.40	915.27	915.15	915.10	915.05	915.09	915.15	915.22	915.29	915.40	915.59	915.77																
118	119															120	121															122

REVISIONS	MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
DELAWARE COUNTY
PUBLIC WORKS
FOR
**LACKEY OLD STATE
IMPROVEMENTS**
PLAN AND PROFILE
STA. 114+00 TO STA. 118+00



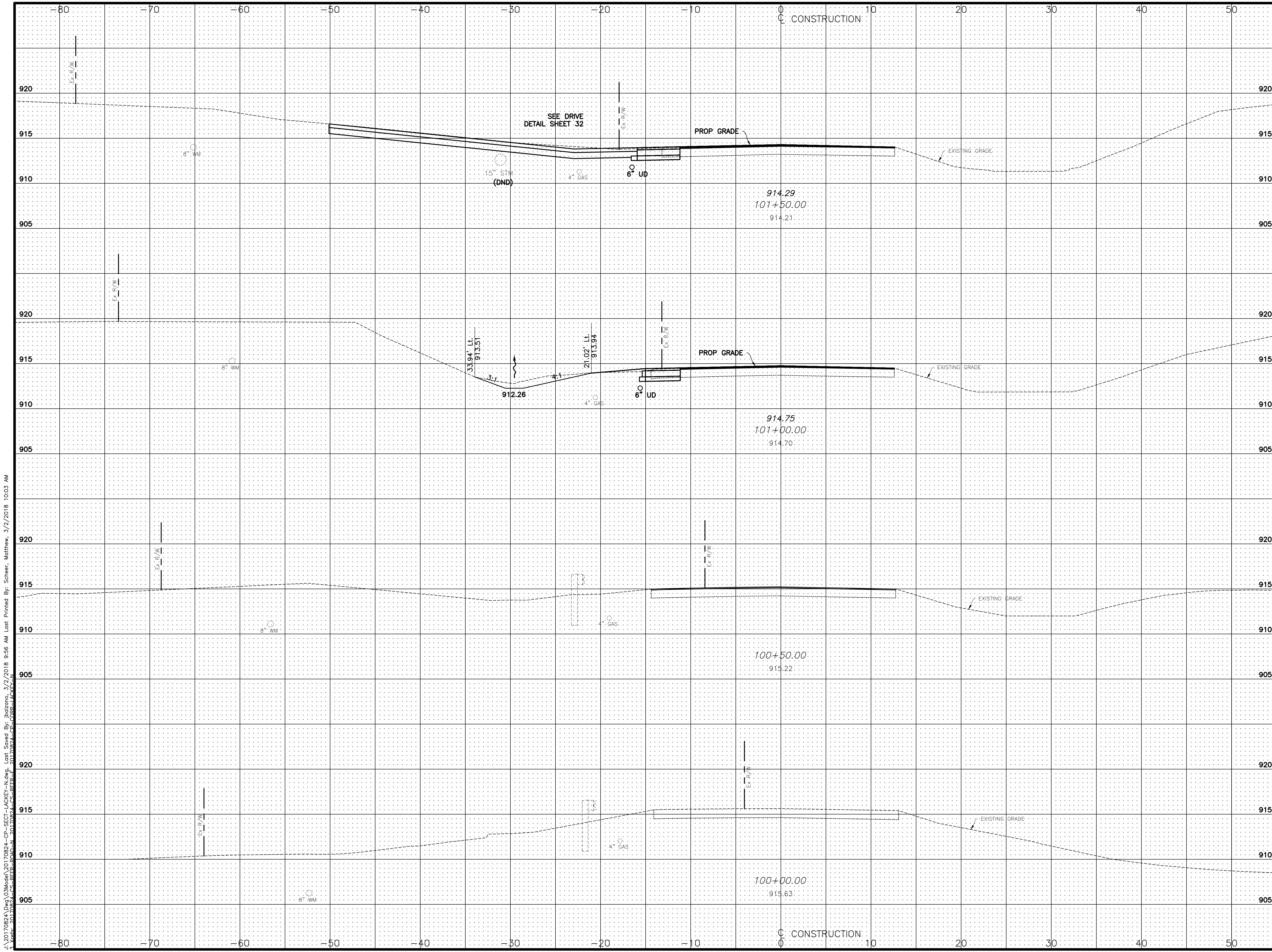
DATE
MARCH, 2018

SCALE
HORIZ: 1" = 20'
VERT: 1" = 5'

JOB NO.
20170824

SHEET
13/42

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Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
915+00.00	31	0		
910+00.00			34	1
905+00.00				
915+00.00	6	1		
910+00.00			6	1
905+00.00				
915+00.00	0	0		
910+00.00			0	0
905+00.00				
915+00.00	0	0		
910+00.00			0	0
905+00.00				
Sheet Total			40	2

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES

LACKEY OLD STATE IMPROVEMENTS CROSS SECTIONS
 STA 100+00 TO STA 101+50

EMHT
 ENGINEERS, ARCHITECTS, SURVEYORS & PLANNERS
 5000 New Albany Road, Columbus, OH 43254
 Phone: 614.753.5000 Fax: 614.753.5001 emht.com

DATE: MARCH, 2018

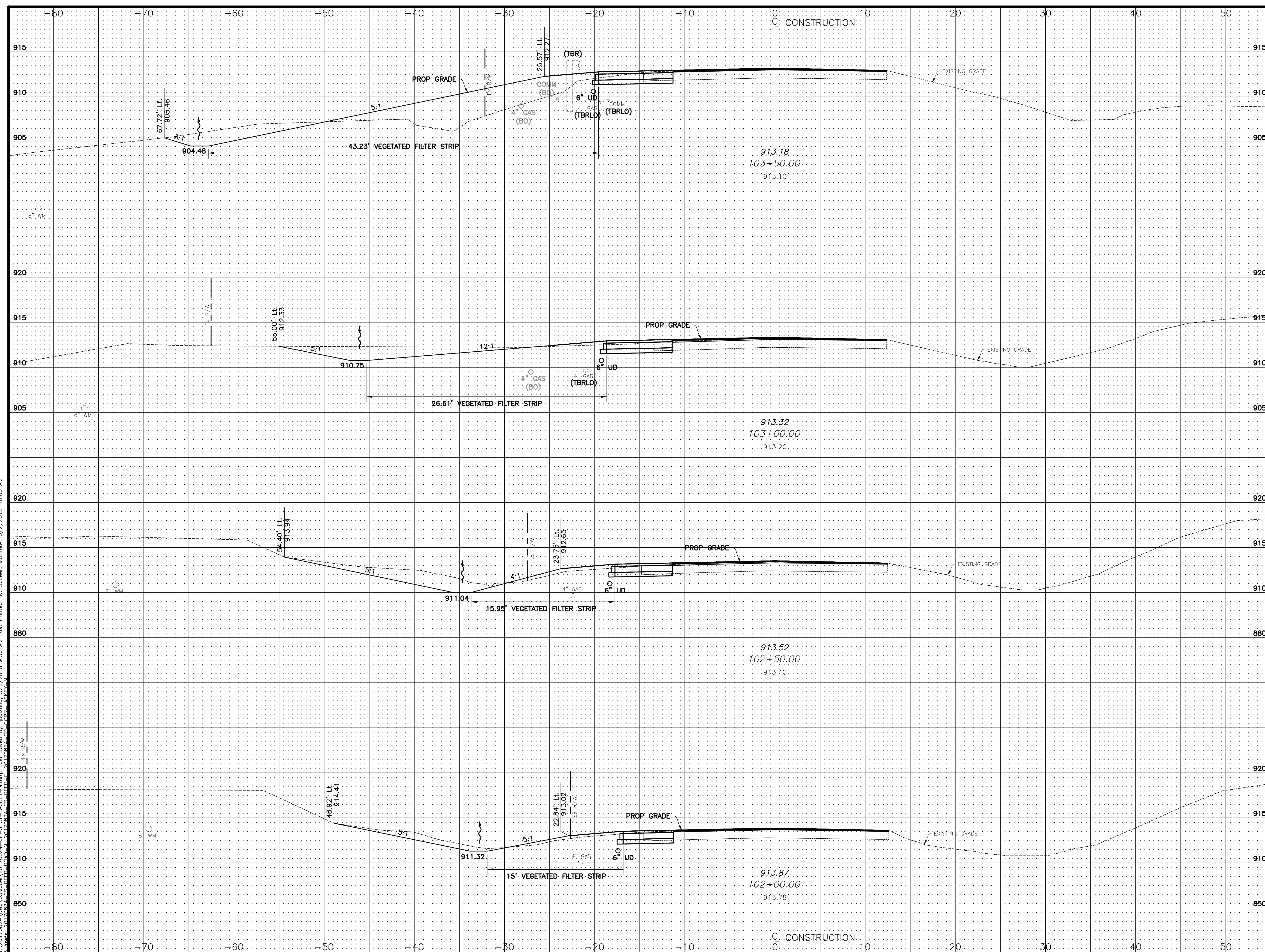
SCALE: Horiz: 1" = 5'
 Vert: 1" = 5'

JOB NO.: 20170824

SHEET: 14/42

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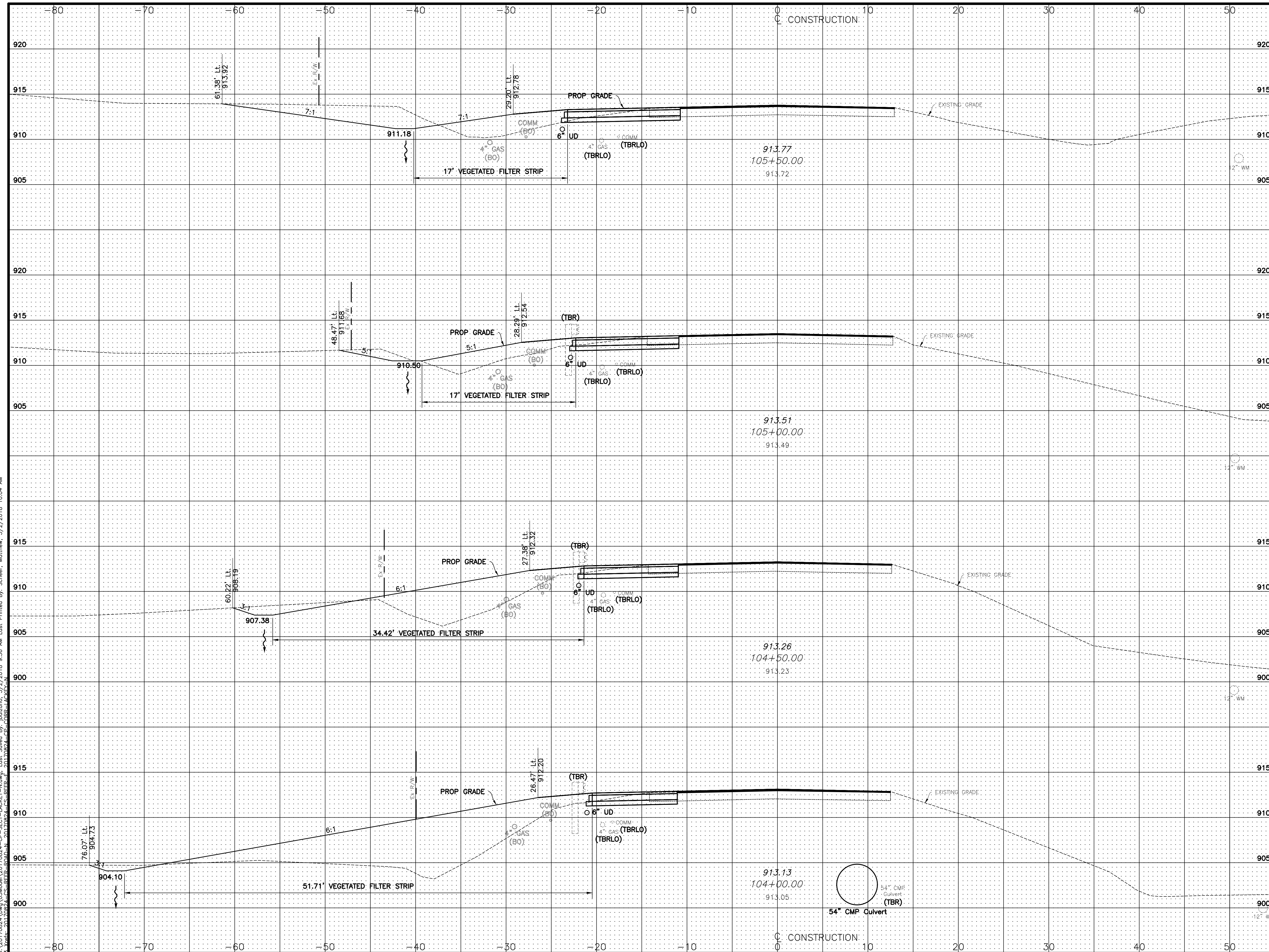
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 U:\20170824\DWG\03Model\20170824-CP-SECT-LACKEY-N.dwg, Last Saved By: jbalzano, 3/2/2018 9:56 AM, Last Printed By: Scheer, Matthew, 3/2/2018 10:03 AM




Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
103+50.00	26	60		
103+00.00		2		
102+50.00		4		
Sheet Total	176	73		

REVISIONS	
MARK	DATE
M/I HOMES	
LACKEY OLD STATE IMPROVEMENTS CROSS SECTIONS STA 102+00 TO STA 103+50	
 <small>EMHT Evans, Weichart, Hensler & Thra, Inc. 5300 New Albany Road, Columbus, OH 43254 Phone: 614.775.6500 Fax: 614.775.3488 emht.com</small>	
DATE	MARCH, 2018
SCALE	Horiz: 1" = 5' Vert: 1" = 5'
JOB NO.	20170824
SHEET	15/42

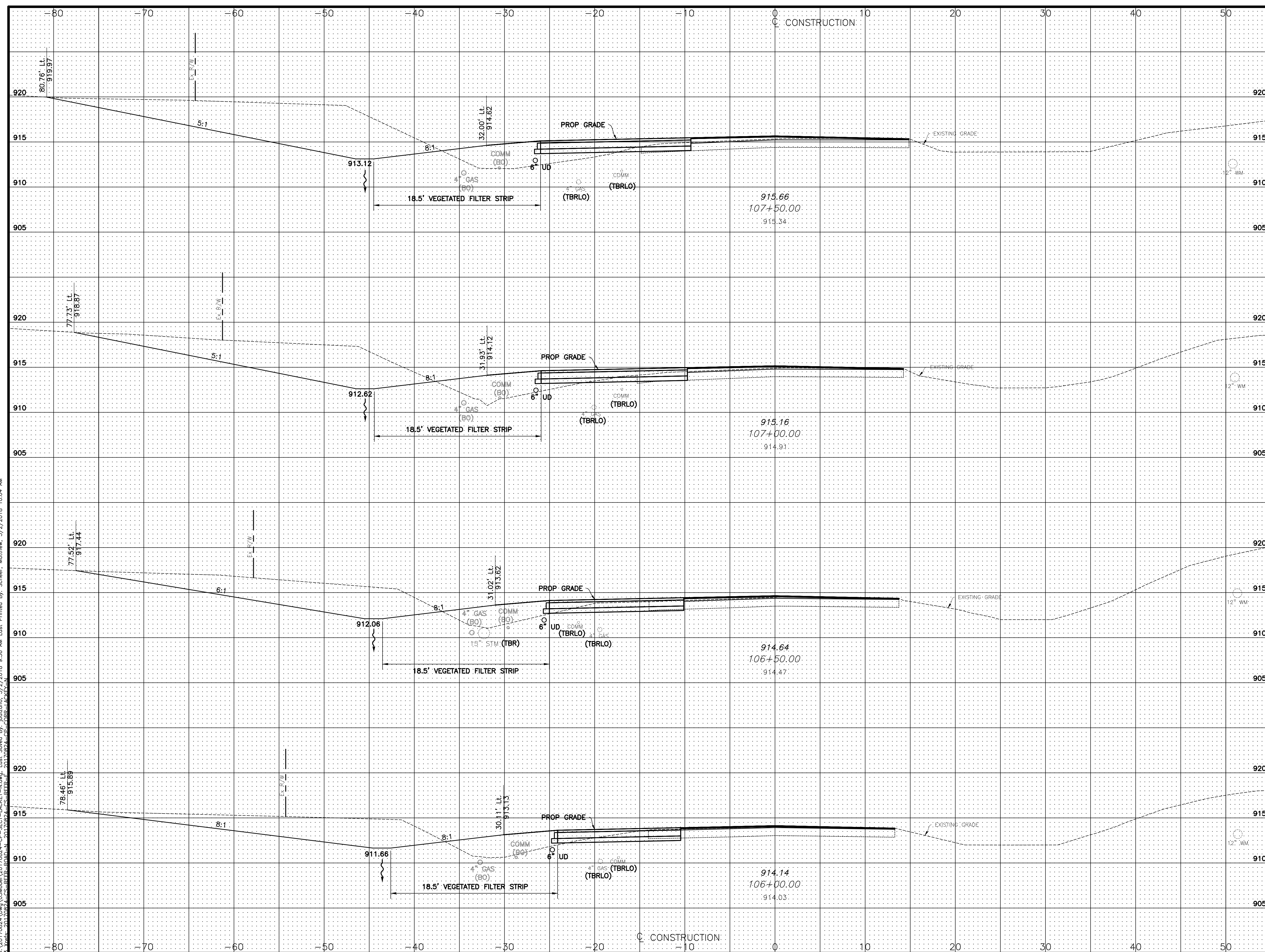
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Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
104+00.00	41	24	53	44
104+50.00	16	23	33	77
105+00.00	19	59	29	189
105+50.00	12	144	36	189
Sheet Total			151	499

REVISIONS MARK DATE DESCRIPTION	
M/I HOMES	
BERLIN TOWNSHIP PUBLIC STREETS FOR LACKEY OLD STATE IMPROVEMENTS CROSS SECTIONS STA 104+00 TO STA 105+50	
 EMHT Evans, Mechwart, Hensler & Triss, Inc. 5300 New Albany Road, Columbus, OH 43254 Phone: 614.775.6900 Fax: 614.775.3468 emht.com	
DATE	MARCH, 2018
SCALE	Horiz: 1" = 5' Vert: 1" = 5'
JOB NO.	20170824
SHEET	16/42

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Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
107+50.00	134	30		
107+00.00	102	28	219	53
106+50.00	95	21	183	45
106+00.00	76	23	158	41
Sheet Total			669	183

MARK	DATE	DESCRIPTION

M/I HOMES

LACKEY OLD STATE IMPROVEMENTS CROSS SECTIONS
 STA 106+00 TO STA 107+50



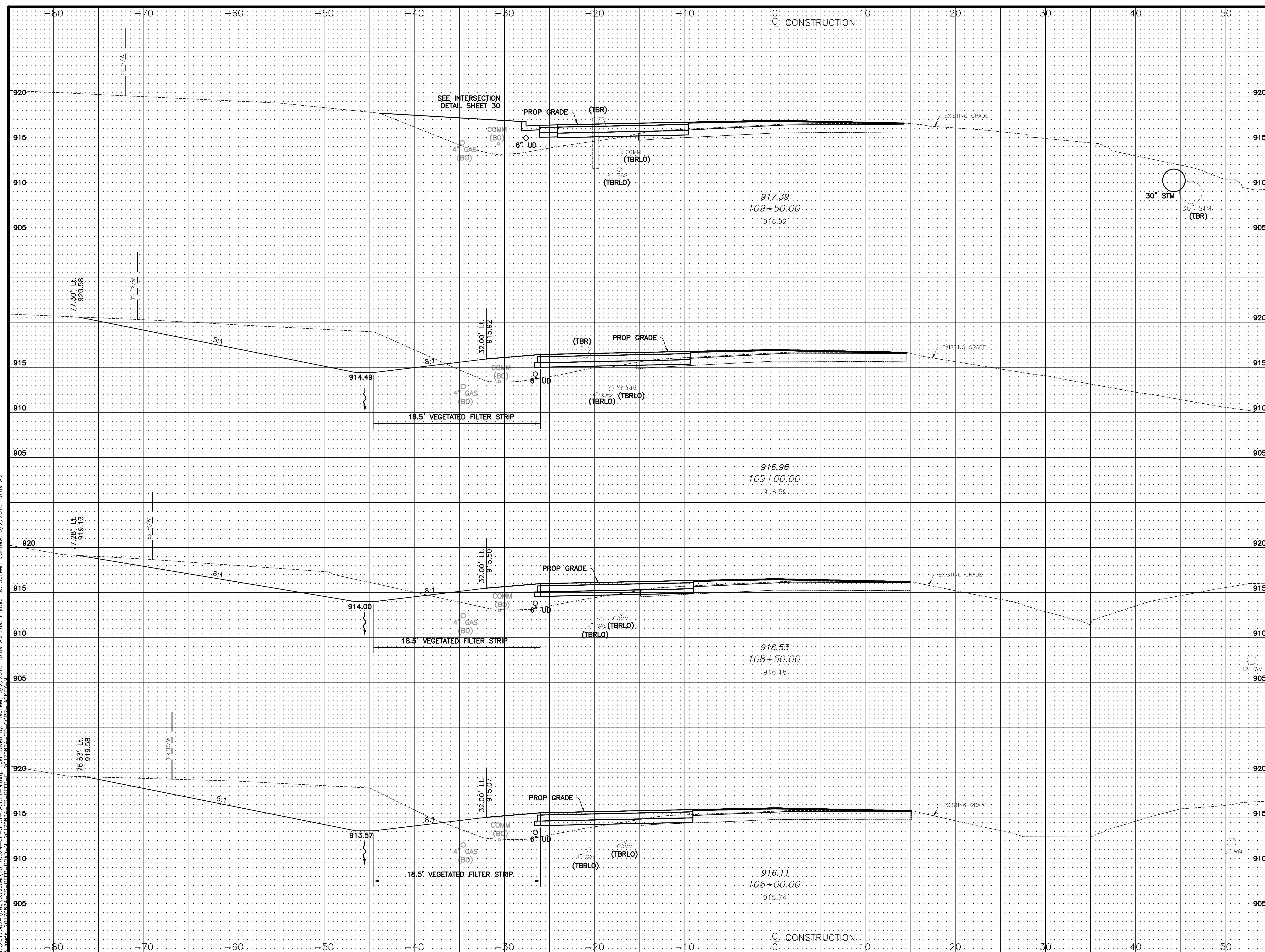
DATE
MARCH, 2018

SCALE
Horiz: 1" = 5'
Vert: 1" = 5'


JOB NO.
20170824

SHEET
17/42

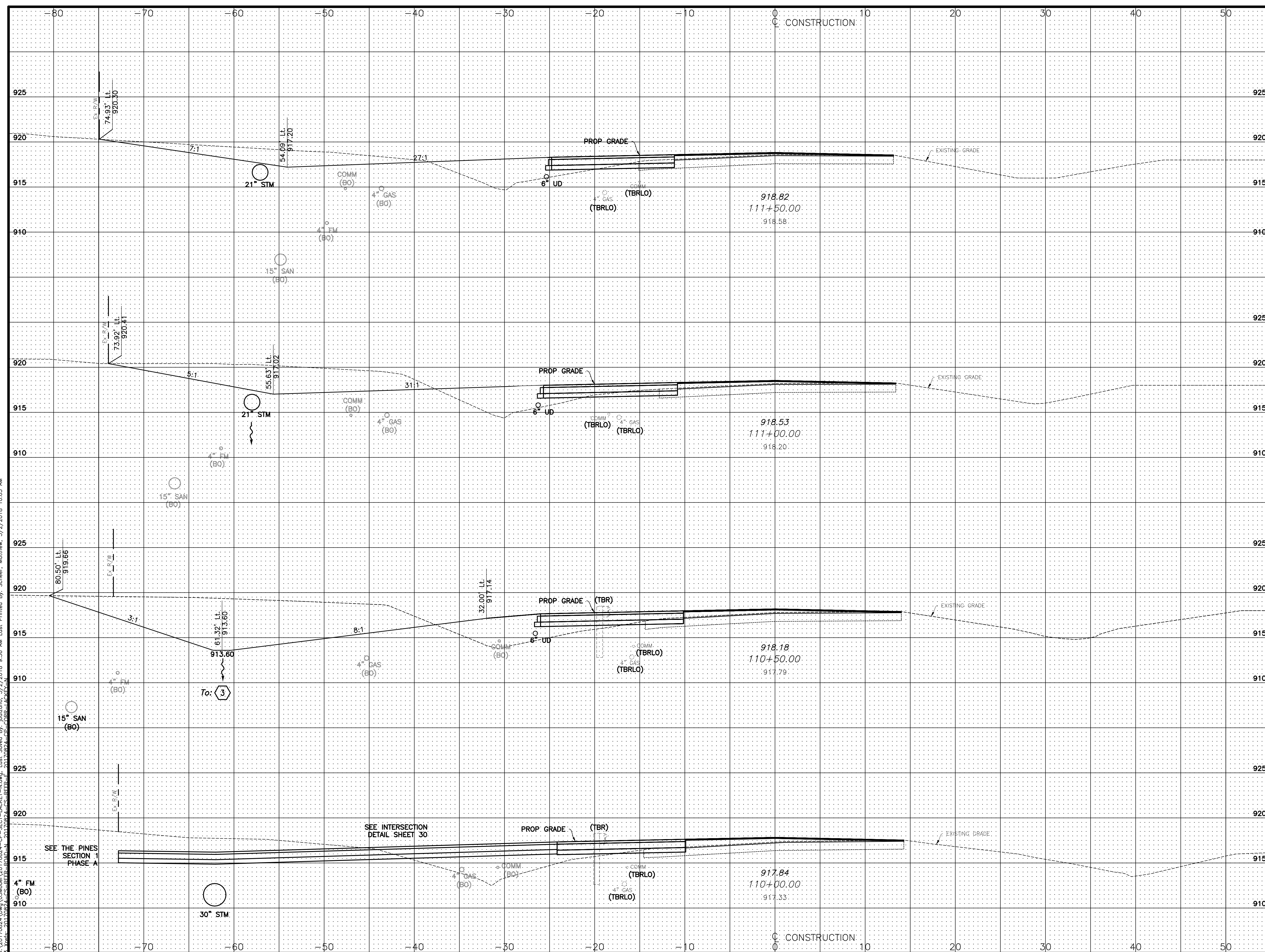
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Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
104		27		
101			101	69
104		27		
112			112	51
64		28		
158			158	51
107		27		
223			223	53
Sheet Total			638	225

REVISIONS	MARK	DATE	DESCRIPTION
M/I HOMES			
BERLIN TOWNSHIP PUBLIC STREETS FOR LACKEY OLD STATE IMPROVEMENTS CROSS SECTIONS STA 108+00 TO STA 109+50			
 EMHT Evans, Meecham, Henselton & Thra, Inc. 5300 New Albany Road, Columbus, OH 43254 Phone: 614.775.6500 Fax: 614.775.3468 emht.com			
DATE	MARCH, 2018		
SCALE	Horiz: 1" = 5' Vert: 1" = 5'		
JOB NO.	20170824		
SHEET	18/42		

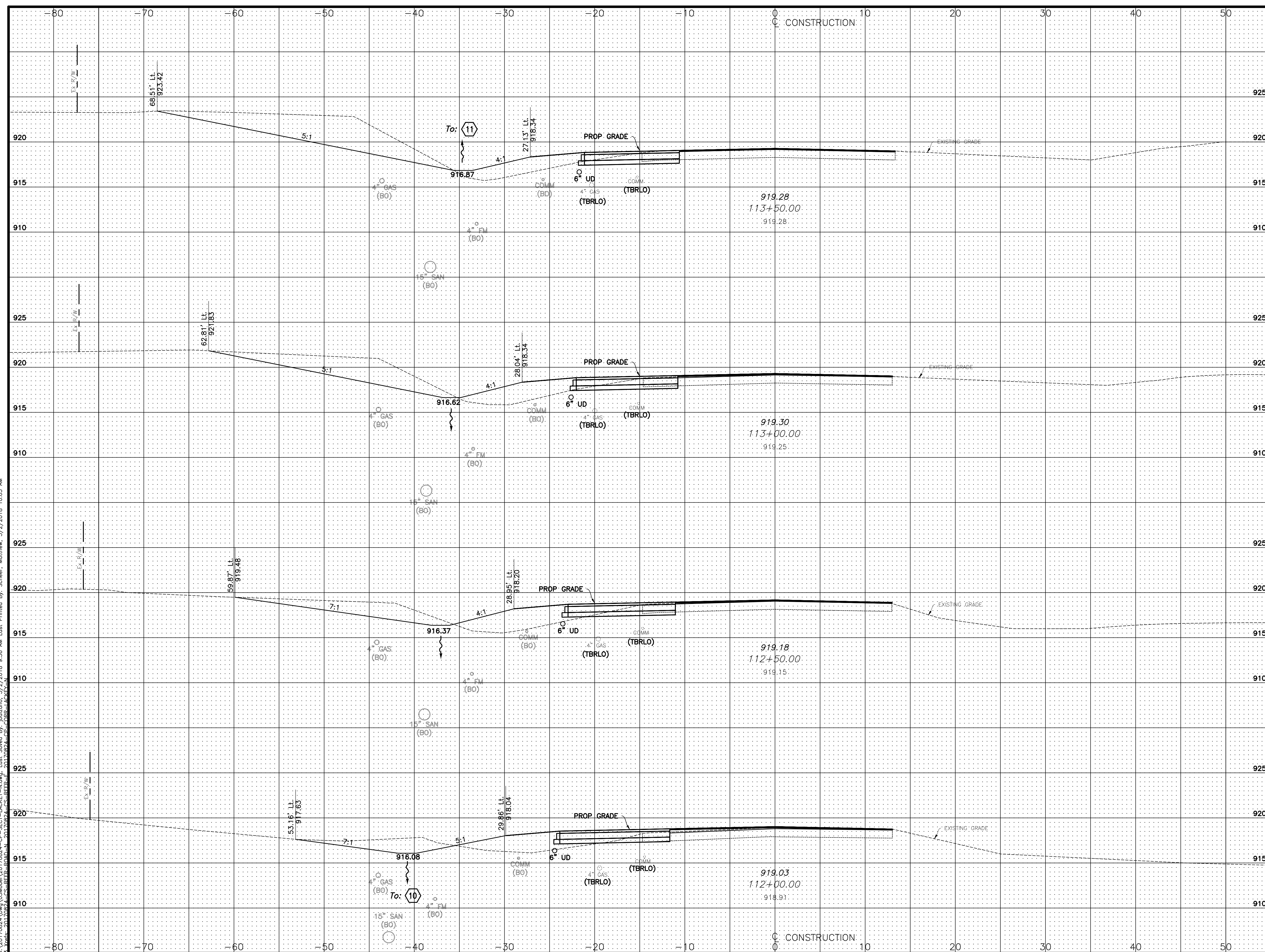
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 Xrefs: 20170824-CP-SECT-LACKEY-N.dwg, 20170824-CP-SECT-LACKEY-N.dwg, 20170824-CP-SECT-LACKEY-N.dwg, 20170824-CP-SECT-LACKEY-N.dwg, 20170824-CP-SECT-LACKEY-N.dwg




Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
925				
920	41	31		
915				
910			106	55
925				
920	73	29		
915				
910			208	59
925				
920	151	34		
915				
910				
925				
920	78	31		
915				
910			77	73
Sheet Total			603	248

REVISIONS MARK DATE DESCRIPTION	M/I HOMES
BERLIN TOWNSHIP PUBLIC STREETS LACKEY OLD STATE IMPROVEMENTS CROSS SECTIONS STA 110+00 TO STA 111+50	
	
DATE: MARCH, 2018	
SCALE: Horiz: 1" = 5' Vert: 1" = 5'	
JOB NO.: 20170824	
SHEET: 19/42	

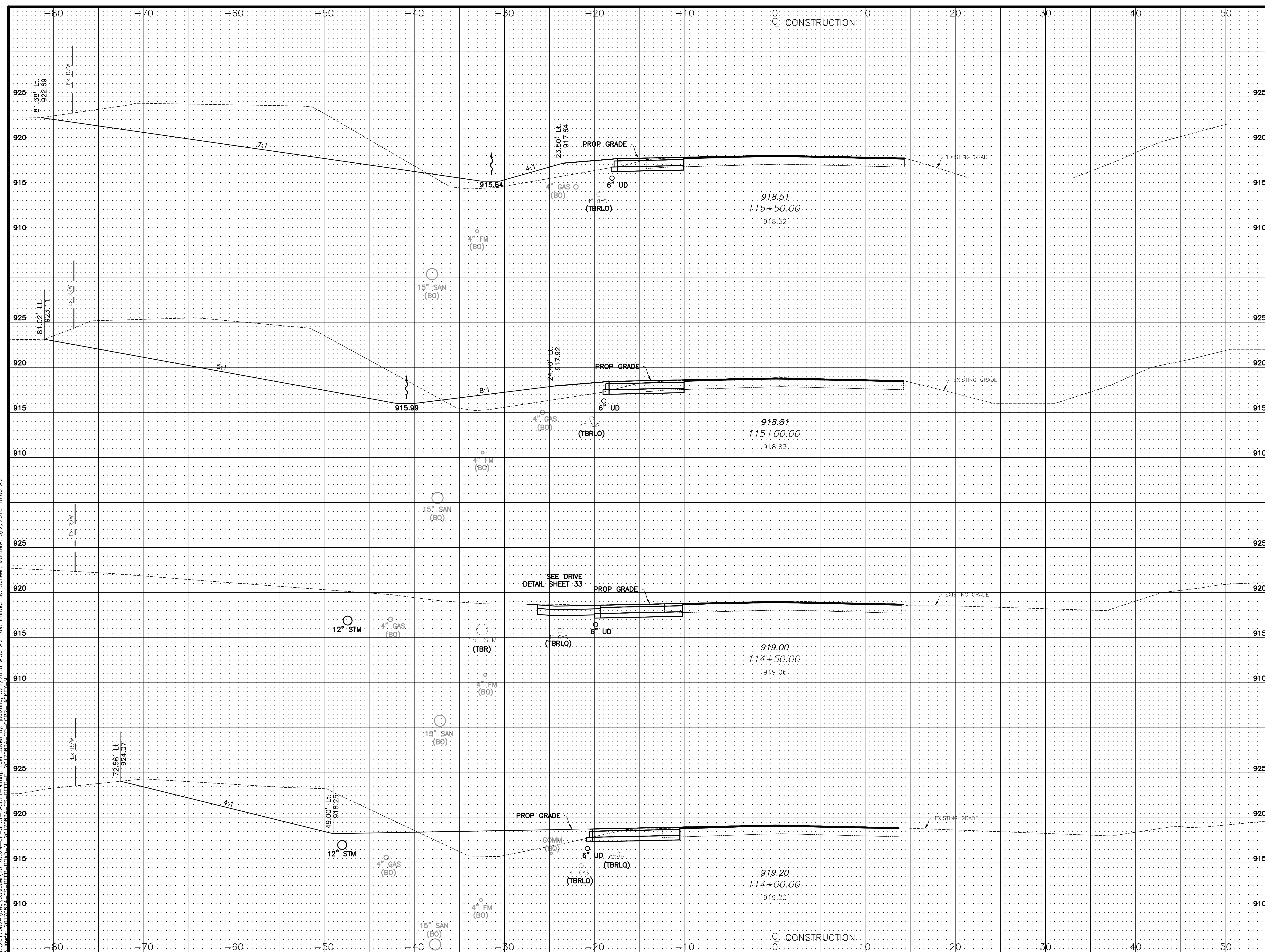
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Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
925				
920	73	19		
915				
910			114	37
925				
920	50	21		
915				
910			76	41
925				
920	32	24		
915				
910			47	40
925				
920	20	19		
915				
910			56	46
Sheet Total			294	164

REVISIONS MARK DATE DESCRIPTION	M/I HOMES
BERLIN TOWNSHIP PUBLIC STREETS FOR LACKEY OLD STATE IMPROVEMENTS CROSS SECTIONS STA 112+00 TO STA 113+50	
 EMHT Evans, Meecham, Henderson & Thra, Inc. 5300 New Albany Road, Columbus, OH 43254 Phone: 614.775.6900 Fax: 614.775.3488 emht.com	
DATE	MARCH, 2018
SCALE	Horiz: 1" = 5' Vert: 1" = 5'
JOB NO.	20170824
SHEET	20/42

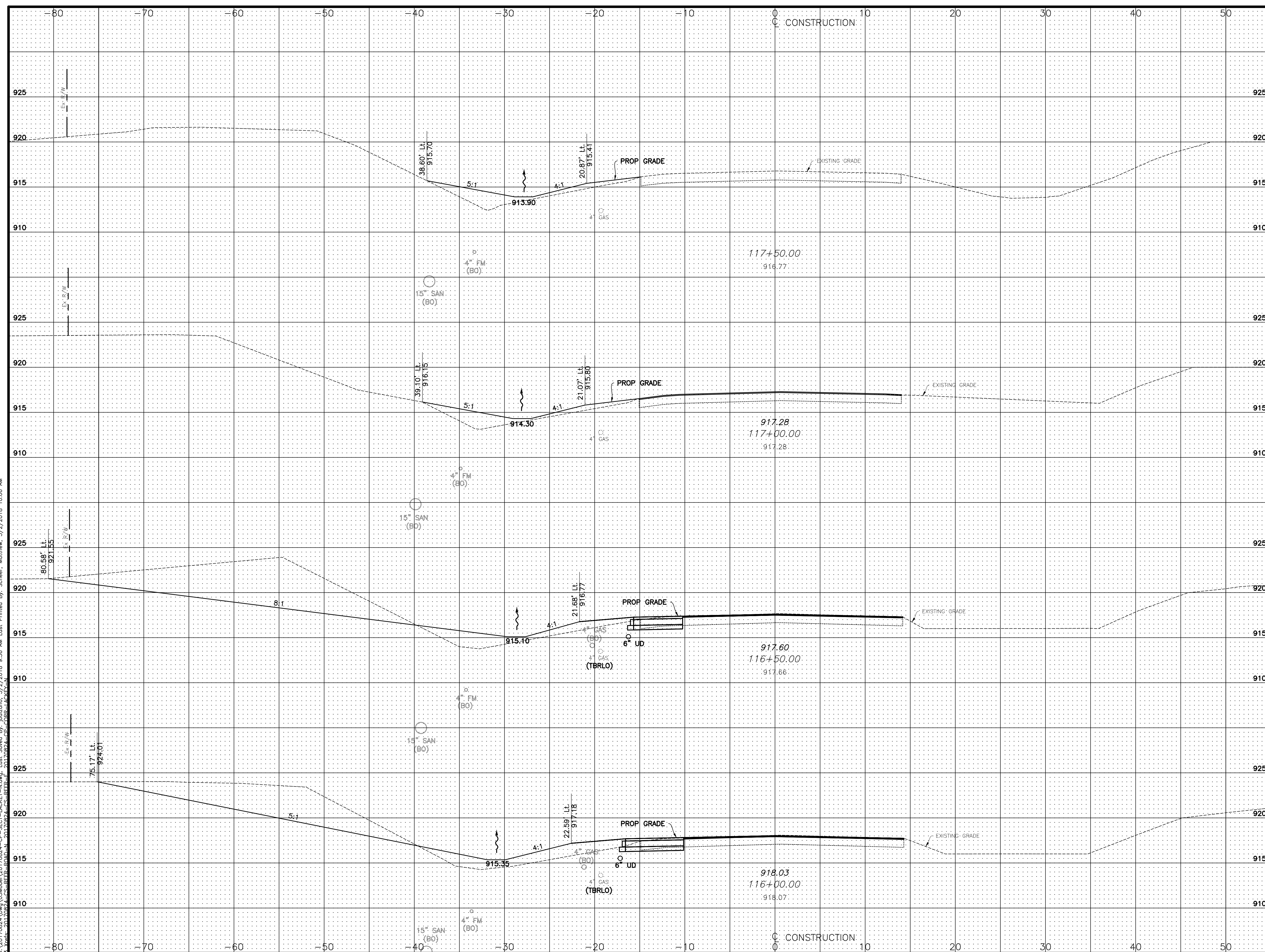
I:\20170824\DWG\03Model\20170824-CP-SECT-LACKEY-N.dwg, Last Saved By: jbalzano, 3/2/2018 9:56 AM, Last Printed By: Scheer, Matthew, 3/2/2018 10:06 AM
 X:\Info-20170824-CP-SECT-LACKEY-N.dwg, 20170824-CP-SECT-LACKEY-N, 20170824-CP-SECT-LACKEY-N, 20170824-CP-SECT-LACKEY-N



Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
113+00.00				
113+50.00	144	21		
114+00.00	196	26		
114+50.00	18	0		
115+00.00	91	39		
115+50.00	152	53		
Sheet Total			767	156

M/I HOMES	REVISIONS
LACKEY OLD STATE IMPROVEMENTS CROSS SECTIONS STA 114+00 TO STA 115+50	MARK DATE DESCRIPTION
 <small>EMHT Evans, Meecham, Henderson & Troup, Inc. 5300 New Albany Road, Columbus, OH 43254 Phone: 614.775.6500 Fax: 614.775.3468 emht.com</small>	DATE MARCH, 2018
	SCALE Horiz: 1" = 5' Vert: 1" = 5'
	JOB NO. 20170824
	SHEET 21/42

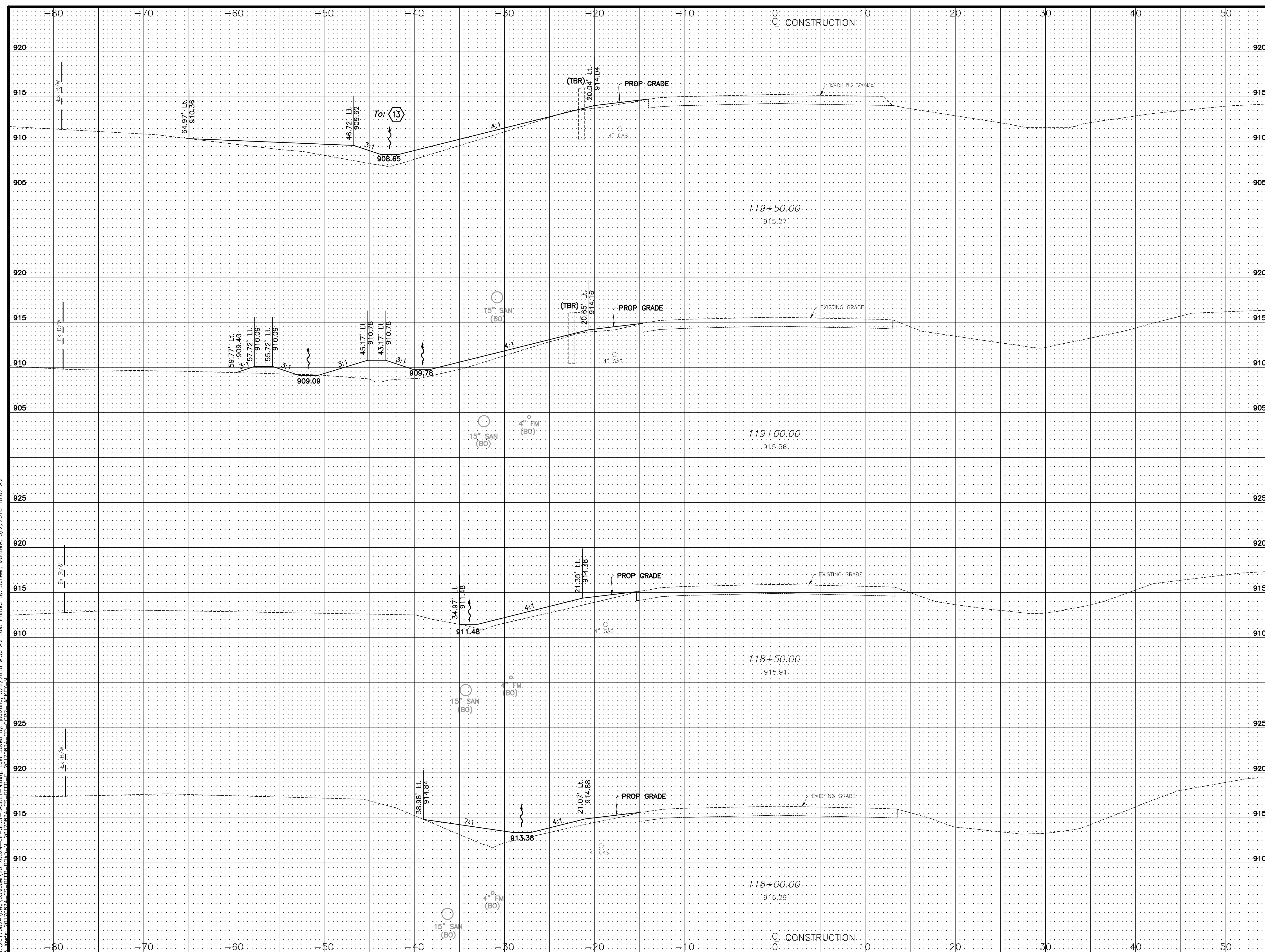
I:\20170824\Drawings\20170824-CP-SECT-LACKEY-N.dwg, Last Saved By: jbalzano, 3/2/2018 9:56 AM, Last Printed By: Scheer, Matthew, 3/2/2018 10:06 AM
 1: Mds - 20170824 - CS - BEIR - 50AD - N - 20170824 - CS - BEIR - F - 20170824 - CP - CORR - LACKEY - N



Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
925				
920				
915	0	16		
910				
925			0	30
920				
915	0	16		
910				
925			113	35
920				
915	122	21		
910				
925			189	42
920				
915	82	24		
910				
Sheet Total			513	149

REVISIONS MARK DATE DESCRIPTION	M/I HOMES
BERLIN TOWNSHIP PUBLIC STREETS LACKEY OLD STATE IMPROVEMENTS CROSS SECTIONS STA 116+00 TO STA 117+50	
 <small>EMHT Evans, Meechert, Henselton & Thra, Inc. 5300 New Albany Road, Columbus, OH 43254 Phone: 614.775.6500 Fax: 614.775.3448 emht.com</small>	
DATE	MARCH, 2018
SCALE	Horiz: 1" = 5' Vert: 1" = 5'
JOB NO.	20170824
SHEET	22/42

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 U:\20170824\DWG\03Model\20170824-CP-SECT-LACKEY-N.dwg Last Saved By: jbalzano, 3/2/2018 9:56 AM Last Printed By: Scheer, Matthew, 3/2/2018 10:07 AM



Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
920				
915	0	32		
910				
905			0	58
920				
915	0	30		
910				
905			0	38
925				
920				
915	0	11		
910				
925			0	27
920				
915	0	18		
910				
	Sheet Total		0	154

MARK	DATE	DESCRIPTION

REVISIONS

M/I HOMES

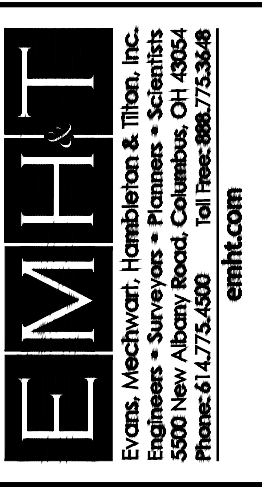
BERLIN TOWNSHIP
 PUBLIC STREETS
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS
 CROSS SECTIONS**
 STA 118+00 TO STA 119+50

DATE
MARCH, 2018

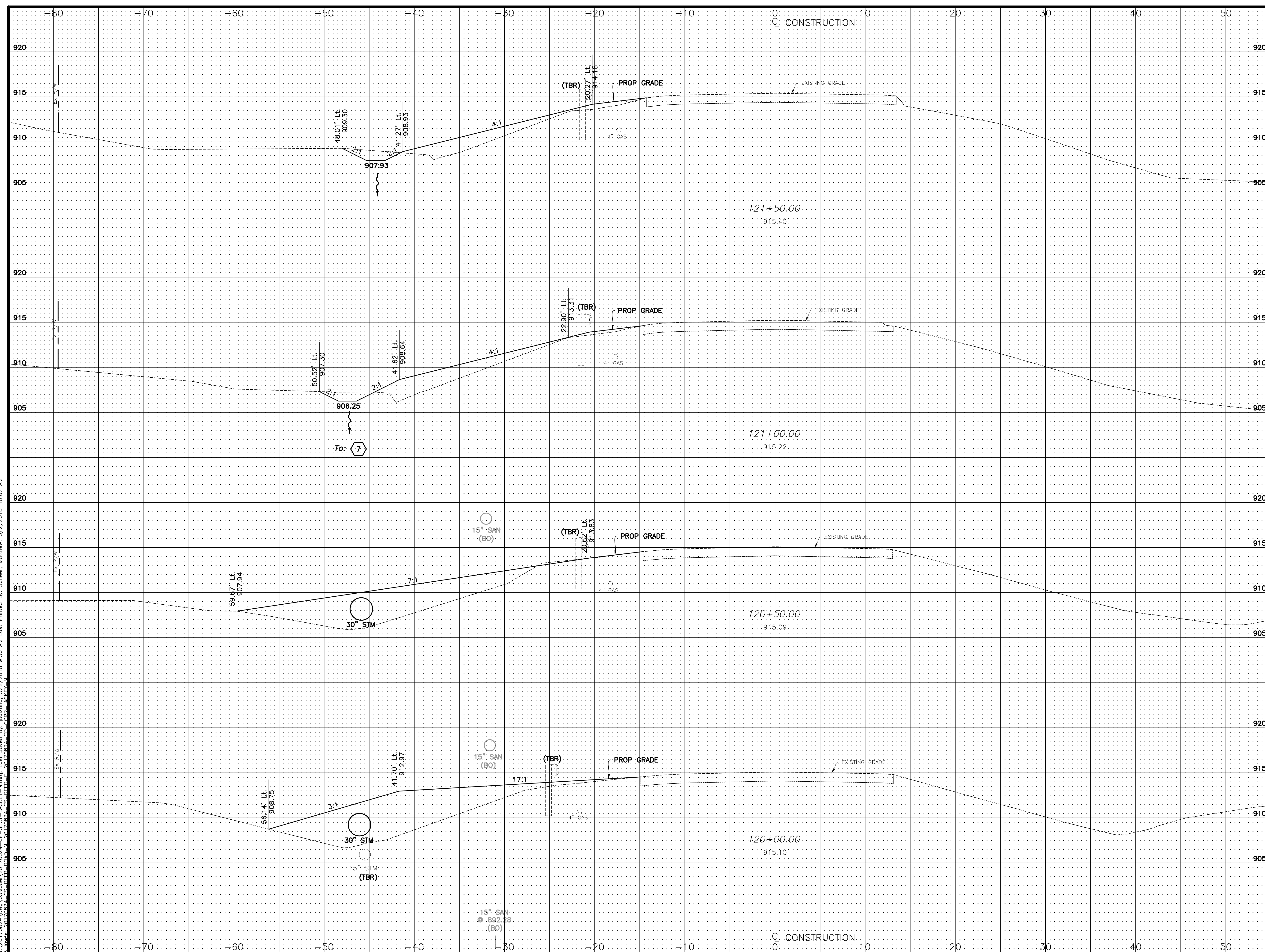
SCALE
 Horiz: 1" = 5'
 Vert: 1" = 5'

JOB NO.
20170824

SHEET
23/42

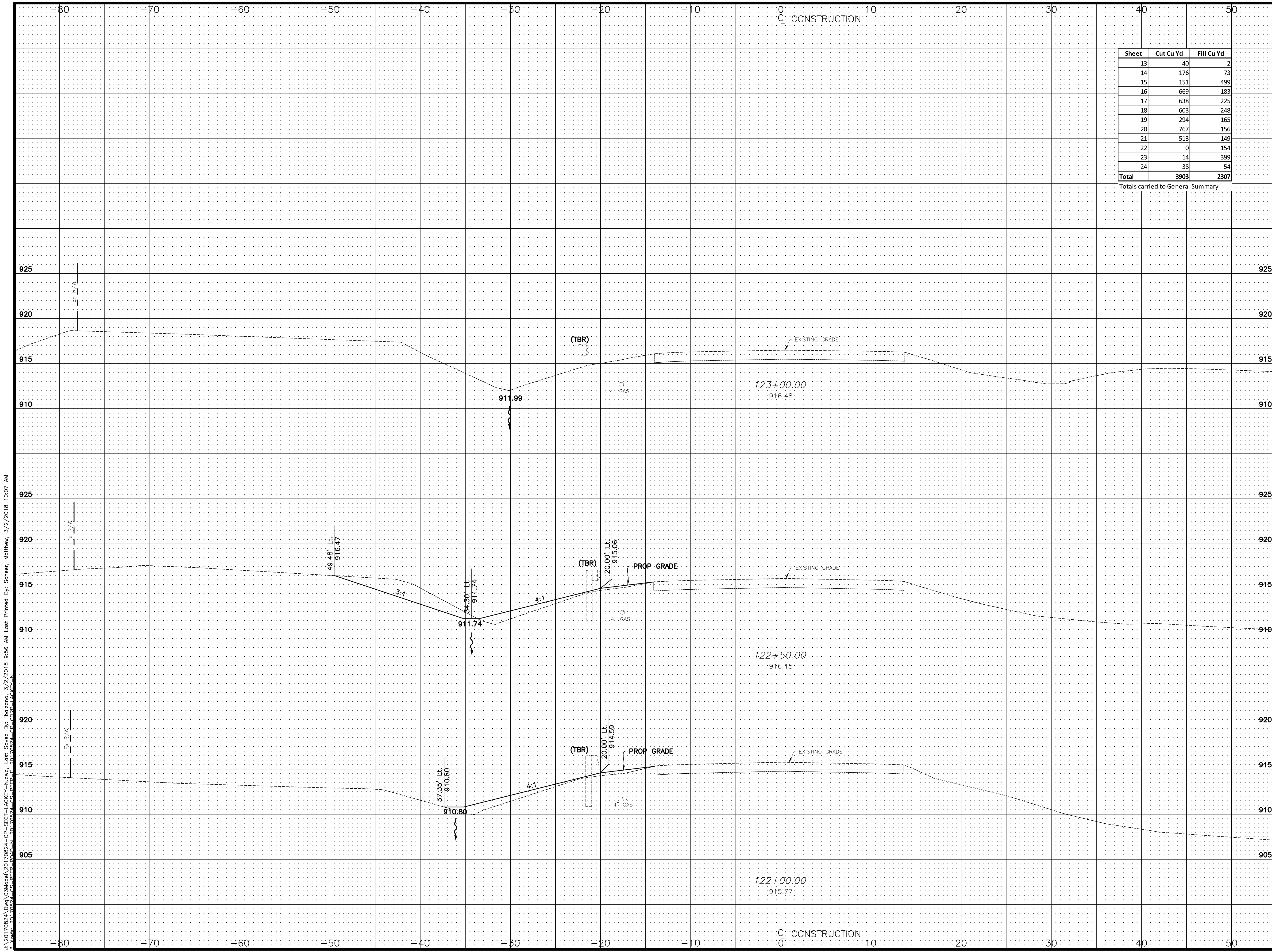


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 1: Xrefs: 20170824-CP-SECT-LACKEY-N, 20170824-CP-SECT-LACKEY-N, 20170824-CP-SECT-LACKEY-N



Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
121+50.00	5	22		
121+00.00	4	27	8	45
120+50.00	1	75	4	96
120+00.00	0	84	1	150
Sheet Total			14	399

M/I HOMES	REVISIONS <small>MARK DATE DESCRIPTION</small>
BERLIN TOWNSHIP PUBLIC STREETS FOR LACKEY OLD STATE IMPROVEMENTS CROSS SECTIONS STA 120+00 TO STA 121+50	
 <small>EMHT Evans, Meecham, Henderson & Thon, Inc. 5300 New Albany Road, Columbus, OH 43254 Phone: 614.775.6500 Fax: 614.775.3488 emht.com</small>	
DATE MARCH, 2018	
SCALE Horiz: 1" = 5' Vert: 1" = 5'	
JOB NO. 20170824	
SHEET 24/42	



Sheet	Cut Cu Yd	Fill Cu Yd
13	40	2
14	176	73
15	151	499
16	669	183
17	638	225
18	603	248
19	294	165
20	767	156
21	513	149
22	0	154
23	14	399
24	38	54
Total	3903	2307

Totals carried to General Summary

End Area	Volume	
	Cut (Sq.Ft.)	Fill (Cu.Yd.)
0	0	0
18	8	8
0	10	10
Sheet Total	38	54

REVISIONS

MARK	DATE	DESCRIPTION

M/HOMES

LACKEY OLD STATE IMPROVEMENTS CROSS SECTIONS
 STA 122+00 TO STA 123+00

EMHT
 ENGINEERS, MECHANICAL, ELECTRICAL & THERMAL, INC.
 ENGINEERS • SURVEYORS • PLANNERS • SCIENTISTS
 5000 New Albany Road, Columbus, OH 43264
 Phone: 614.752.5500 Fax: 614.752.5500 emht.com

DATE: **MARCH, 2018**

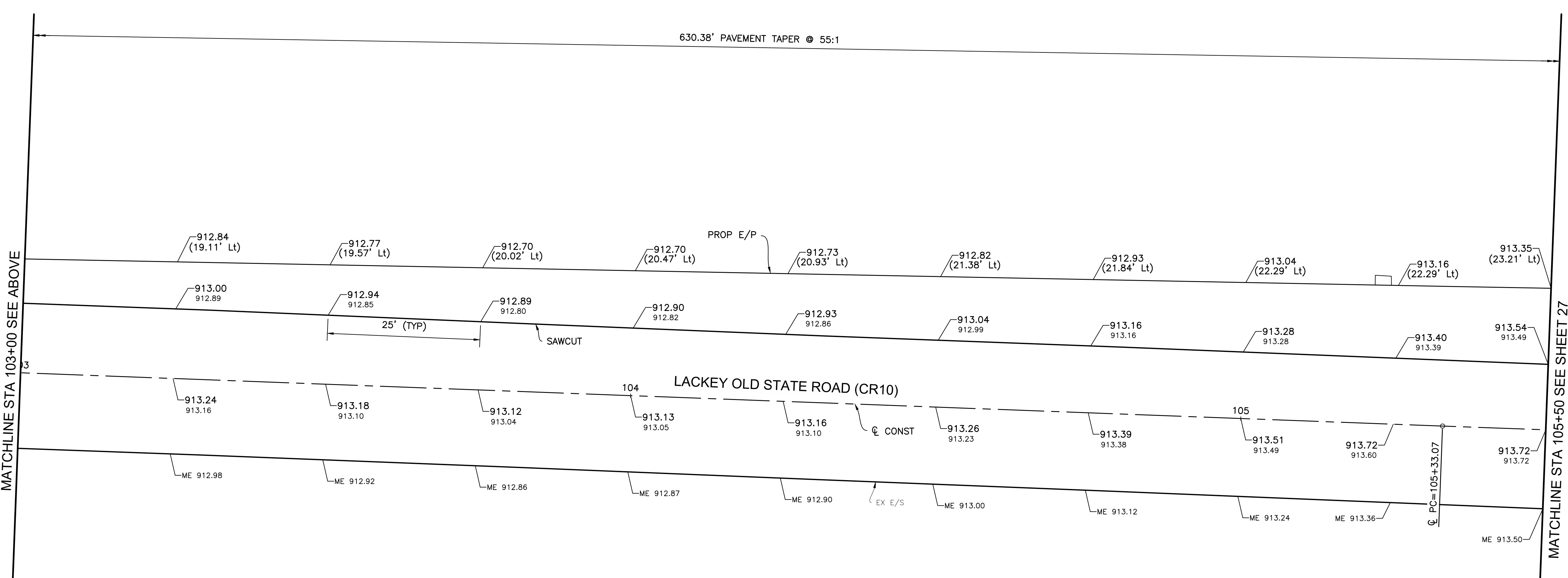
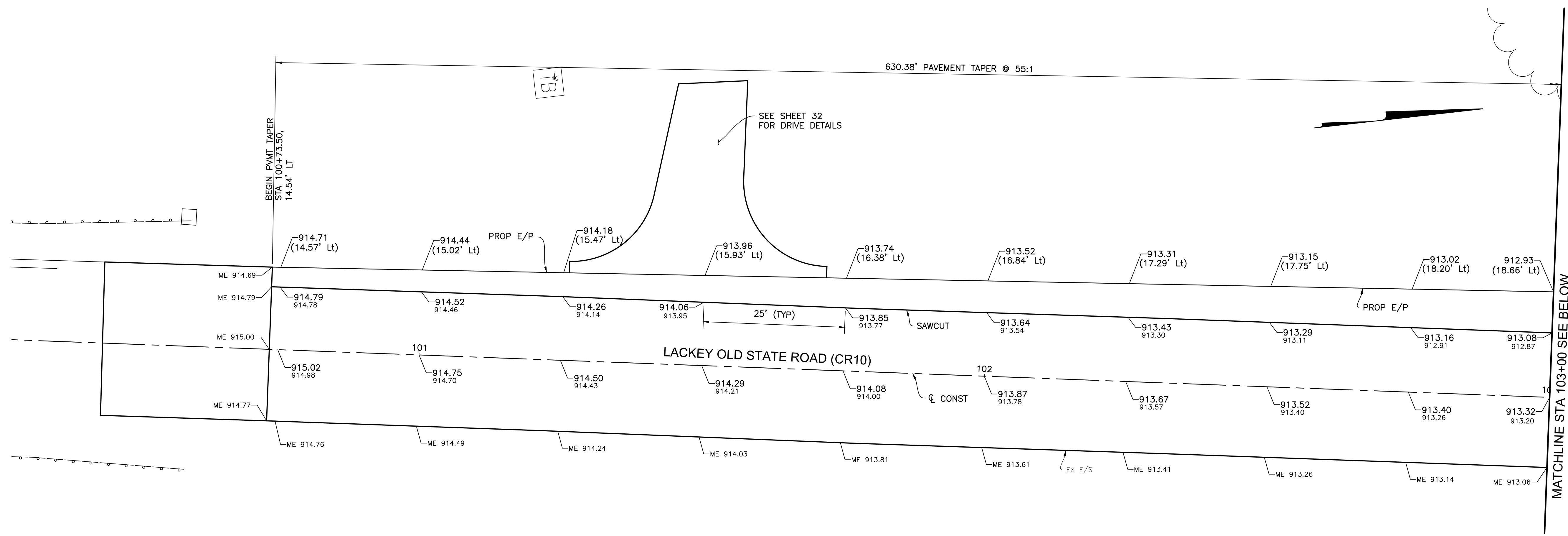
SCALE: **Horiz: 1" = 5'**
Vert: 1" = 5'

JOB NO.: **20170824**

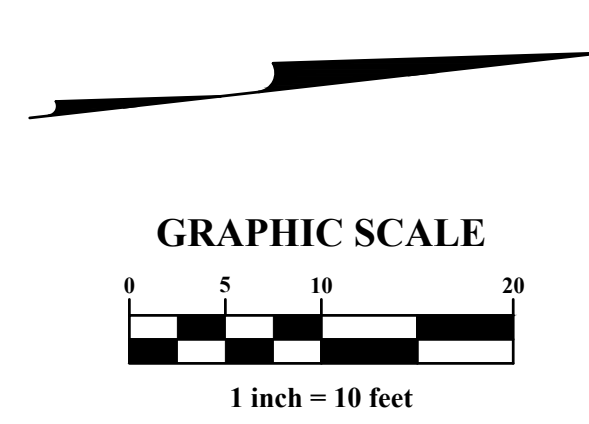
SHEET: **25/42**

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C:\20170824\Draw\05Sheets\Widening\20170824\001.dwg - Last Saved By: jbaizano_3/1/2018 2:31 PM - Last Printed By: jbaizano_3/2/2018 9:26 AM (No Xrefs)



-XXX.XX PROPOSED PAVEMENT ELEVATION
 -XXX.XX EXISTING PAVEMENT ELEVATION



MARK	DATE	DESCRIPTION

REVISIONS
 M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 STREET PLAN
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS**
 PAVEMENT DETAILS



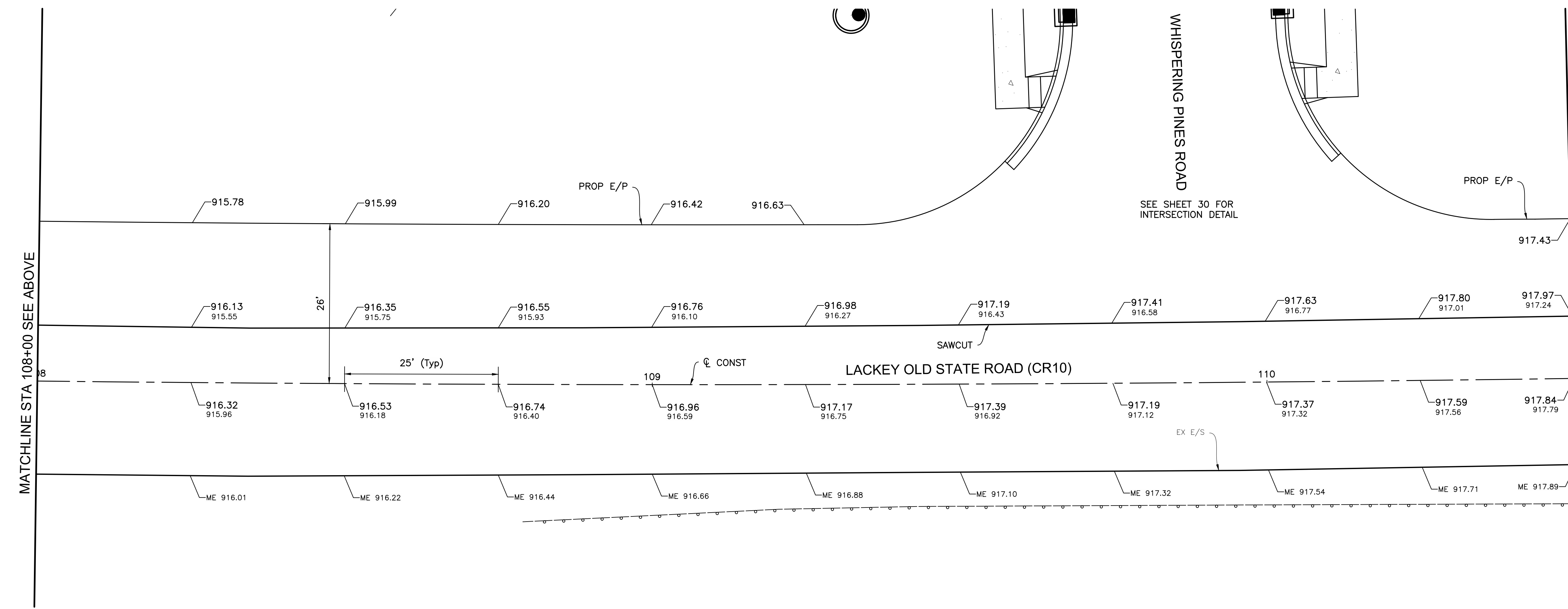
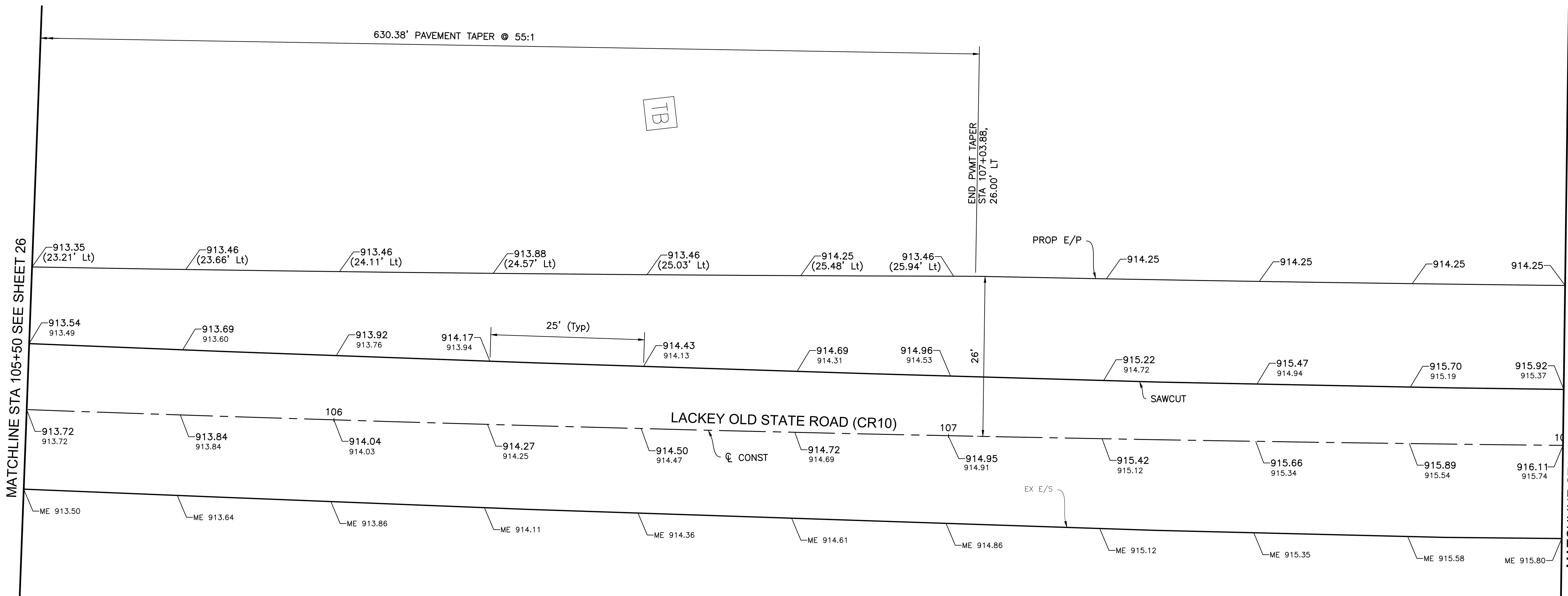
DATE: MARCH, 2018

SCALE: As Noted

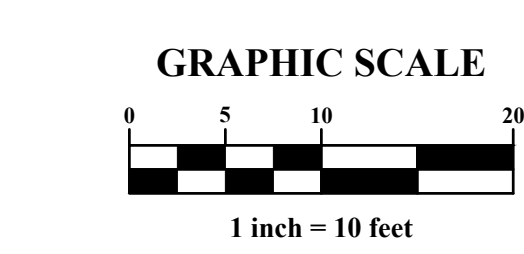
JOB NO.: 20170824

SHEET: 26/42

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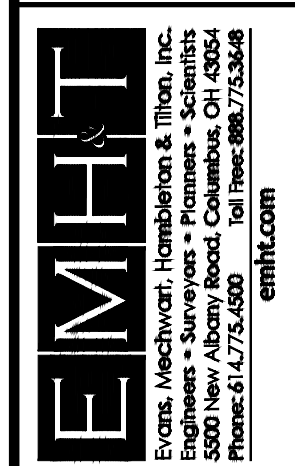
XXX.XX PROPOSED PAVEMENT ELEVATION
 XXX.XX EXISTING PAVEMENT ELEVATION



MARK	DATE	DESCRIPTION

REVISIONS
 M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 STREET PLAN
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS**
 PAVEMENT DETAILS



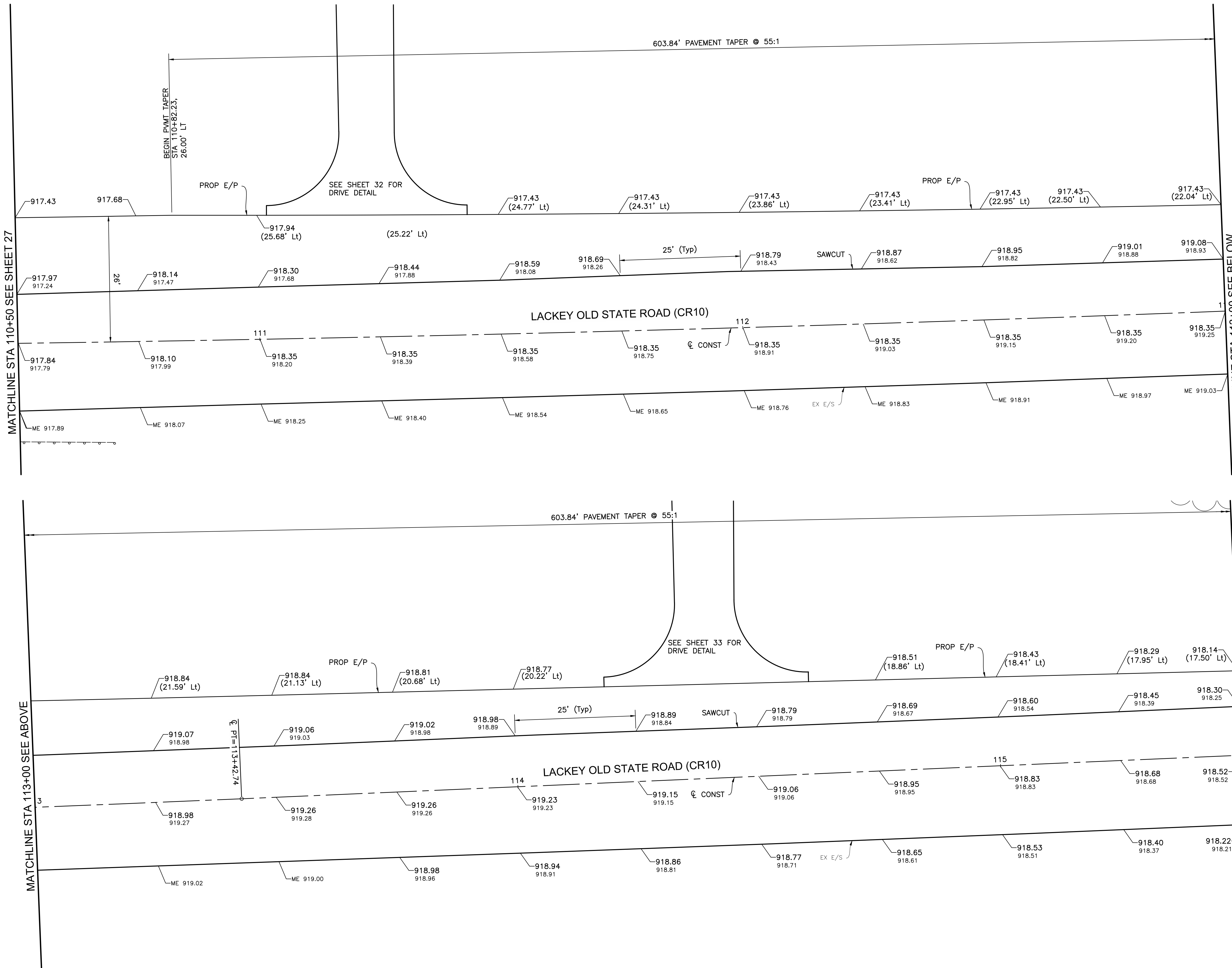
DATE
 MARCH, 2018

SCALE
 As Noted

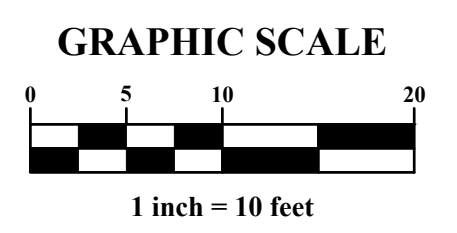
JOB NO.
 20170824

SHEET
 27/42

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XXX.XX PROPOSED PAVEMENT ELEVATION
 xxx.xx EXISTING PAVEMENT ELEVATION



MARK	DATE	DESCRIPTION

REVISIONS
 M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 STREET PLAN
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS**
 PAVEMENT DETAILS



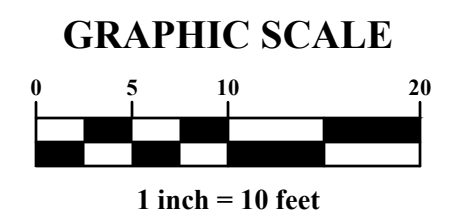
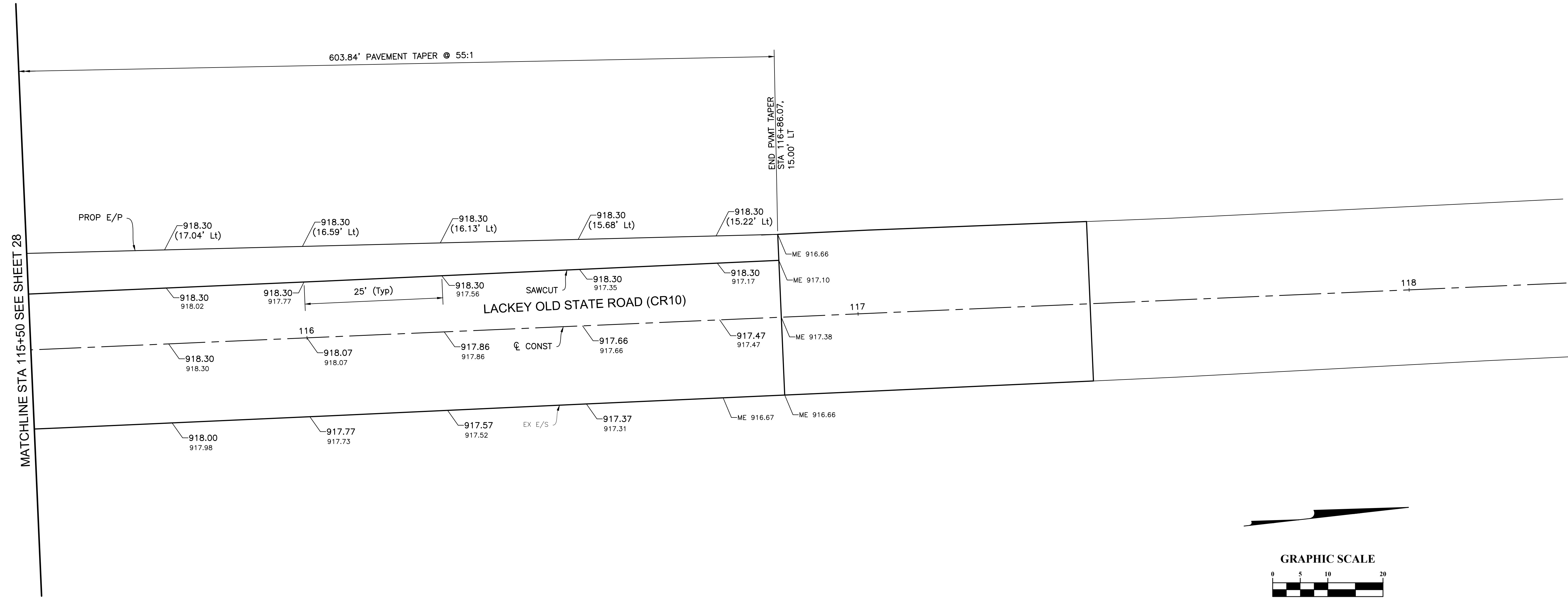
DATE
 MARCH, 2018

SCALE
 As Noted

JOB NO.
 20170824

SHEET
 28/42

I:\20170824\Drawings\Sheets\Widening\20170824\001.dwg - Last Saved By: baizano_3/2/2018 9:44 AM - Last Printed By: Baizano_3/2/2018 9:44 AM (No Xrefs)



-XXX.XX PROPOSED PAVEMENT ELEVATION
 -XXX.XX EXISTING PAVEMENT ELEVATION

MATCHLINE STA 115+50 SEE SHEET 28

603.84' PAVEMENT TAPER @ 55:1

END PAVT. TAPER
STA 116+86.07
15.00' LT

MARK	DATE	DESCRIPTION	REVISIONS

M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 STREET PLAN
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS**
 PAVEMENT DETAILS

Evans, Meecham, Henselton & Thra, Inc.
 5300 New Albany Road, Columbus, OH 43254
 Phone: 614.775.6500 Fax: 614.775.3448
 emht.com

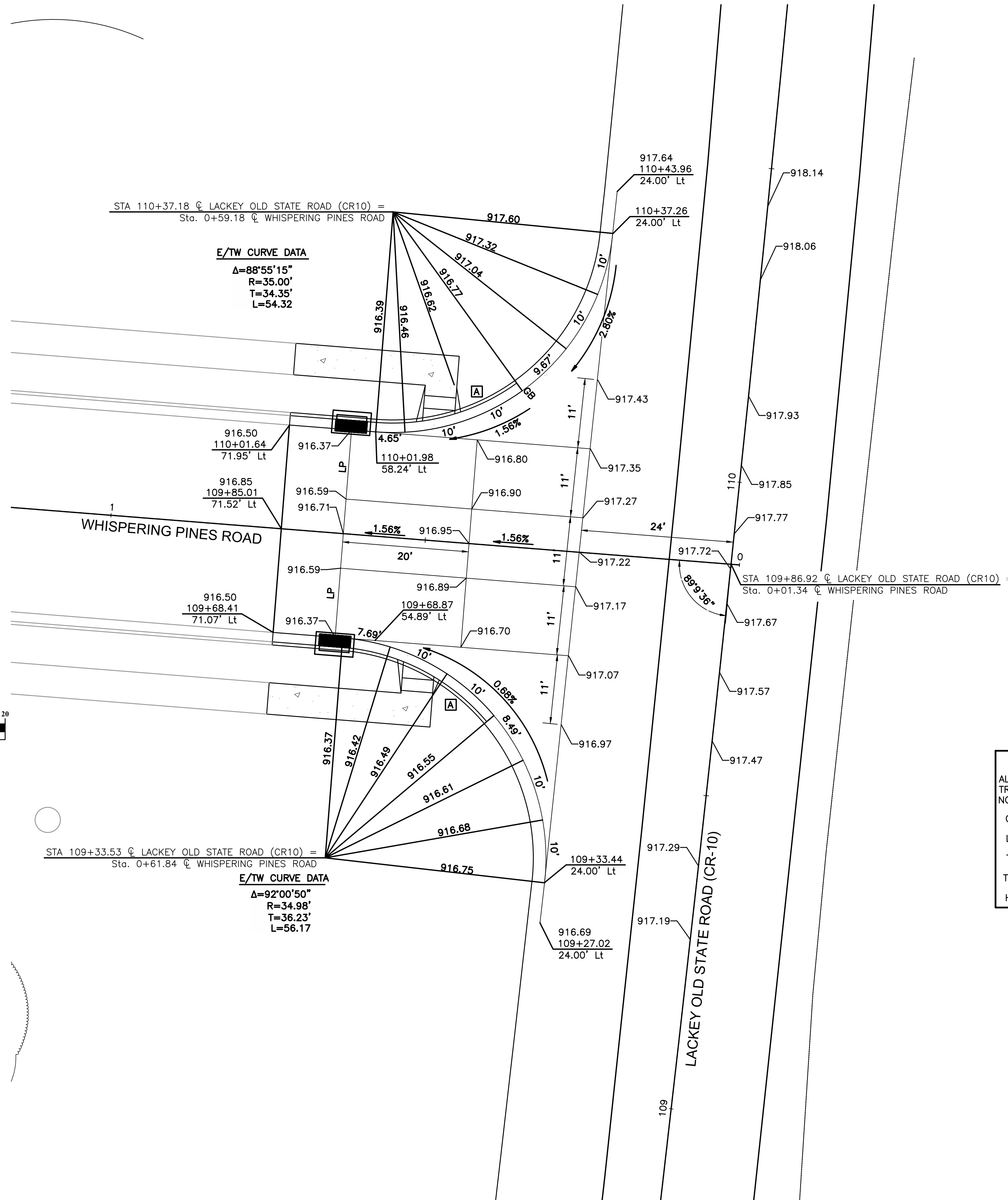
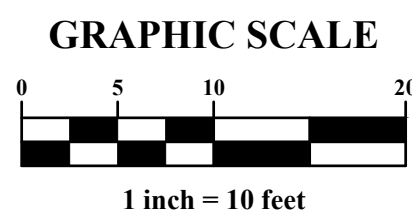
DATE
MARCH, 2018

SCALE
As Noted

JOB NO.
20170824

SHEET
29/42

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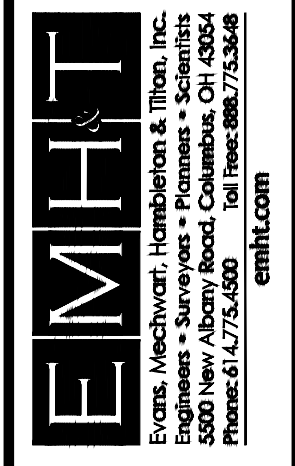
A TRANSITION CURB HEIGHT FROM 6" TO 0" IN 10 FEET

LEGEND	
ALL SPOT ELEVATIONS ARE EDGE OF TRAVELED WAY UNLESS OTHERWISE NOTED:	
GB	GRADE BREAK
LP	LOW POINT
TC	TOP OF CURB
TDC	TOP OF DEPRESSED CURB
HP	HIGH POINT

MARK	DATE	DESCRIPTION

M/HOMES

BERLIN TOWNSHIP
DELAWARE COUNTY
STREET PLAN
FOR
**LACKEY OLD STATE
IMPROVEMENTS
INTERSECTION DETAILS**



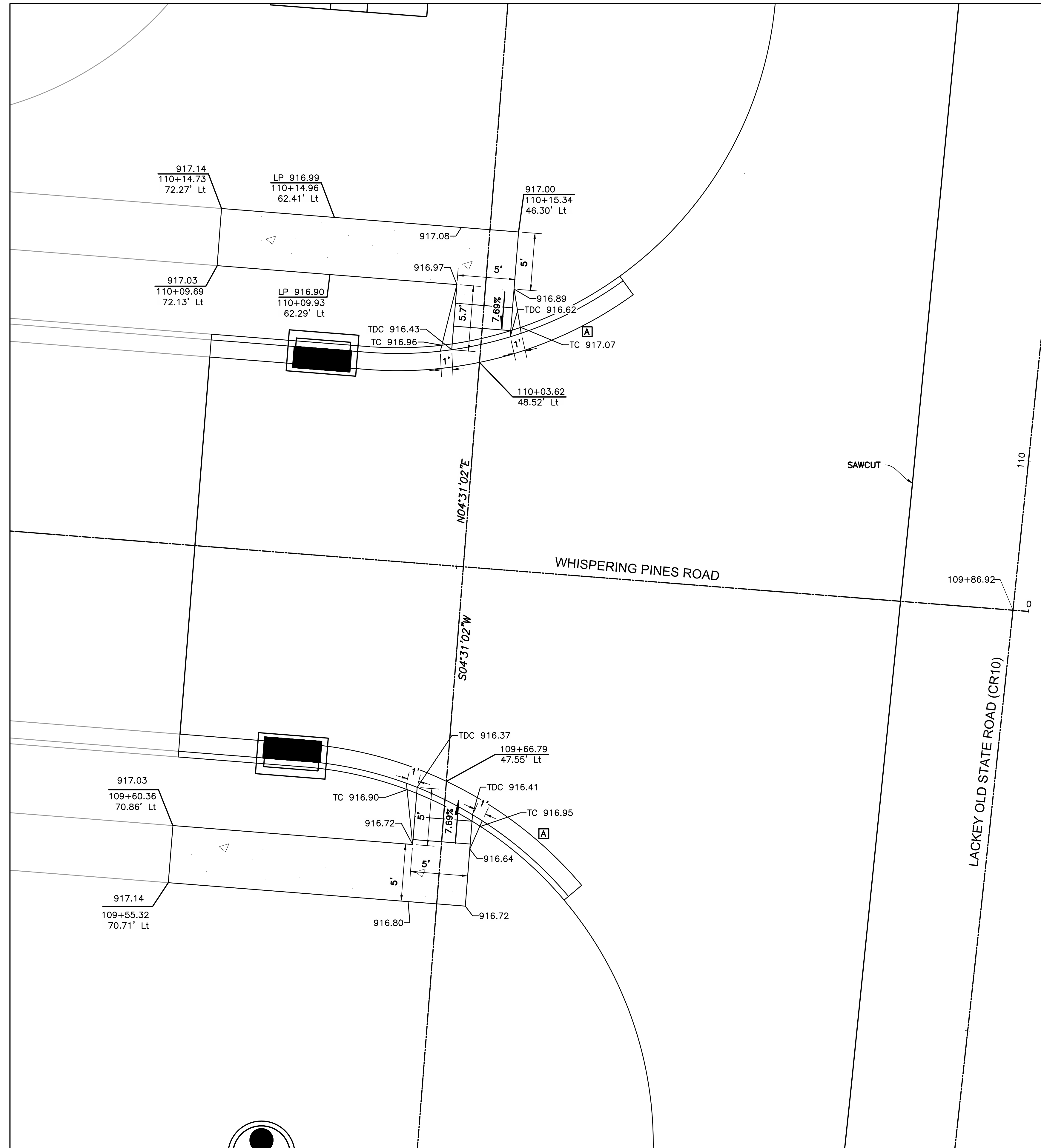
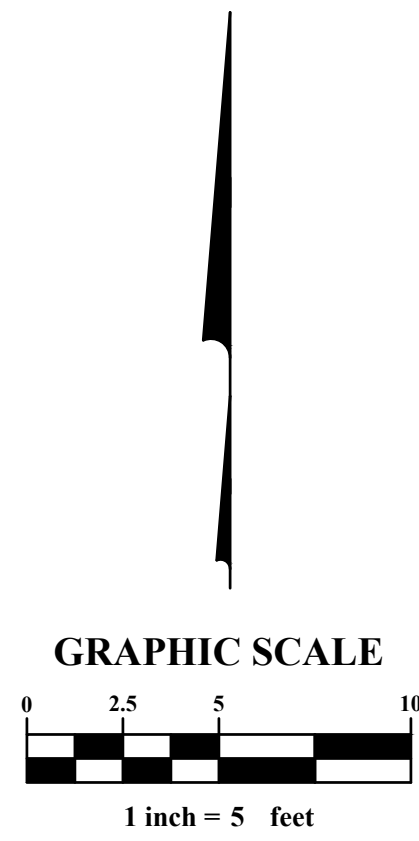
DATE
MARCH, 2018

SCALE
As Noted

JOB NO.
20170824

SHEET
30/42

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 3: Works - 20170824 - CS - BEER - 20170824 - CS - BEER - F - 20170824 - CS - BEER - N



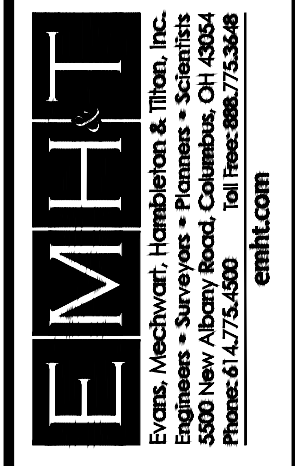
A PER DCED-R2020, TOP OF PAVEMENT MUST BE FLUSH TO GUTTER AT ALL HANDICAP RAMPS. SLOPE OF THE GUTTER PAN SHALL NOT EXCEED 1.5% AT ALL HANDICAP RAMPS. TRANSITION GUTTER CROSS SLOPE OVER THE NECESSARY LENGTH TO MAINTAIN DRAINAGE TO STRUCTURES WEST OF CURB RAMPS.

LEGEND
 ALL SPOT ELEVATIONS ARE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED:
 GB GRADE BREAK
 LP LOW POINT
 TC TOP OF CURB
 TDC TOP OF DEPRESSED CURB
 HP HIGH POINT

MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 STREET PLAN
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS**
 CURB RAMP DETAILS

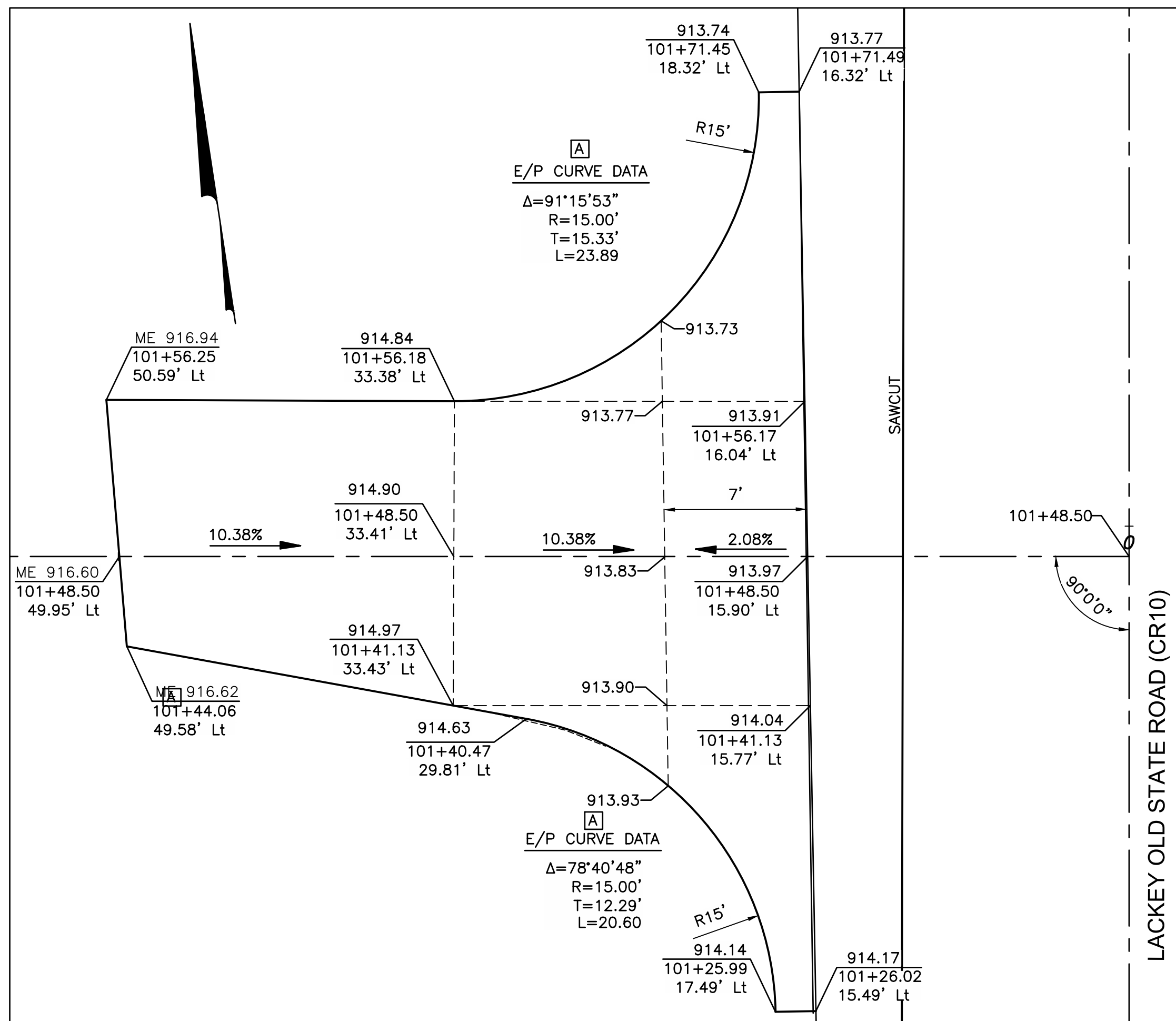


DATE
 MARCH, 2018

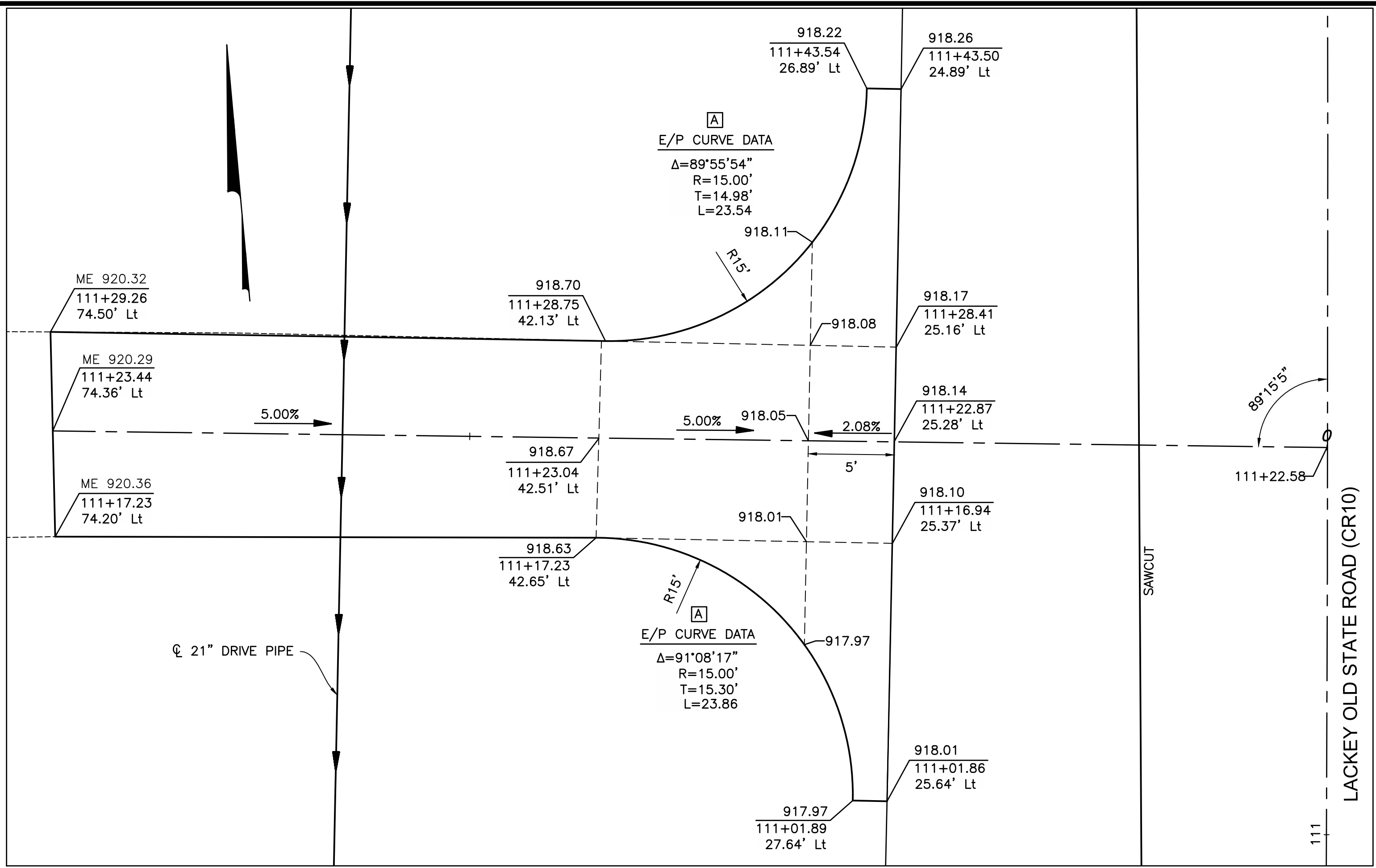
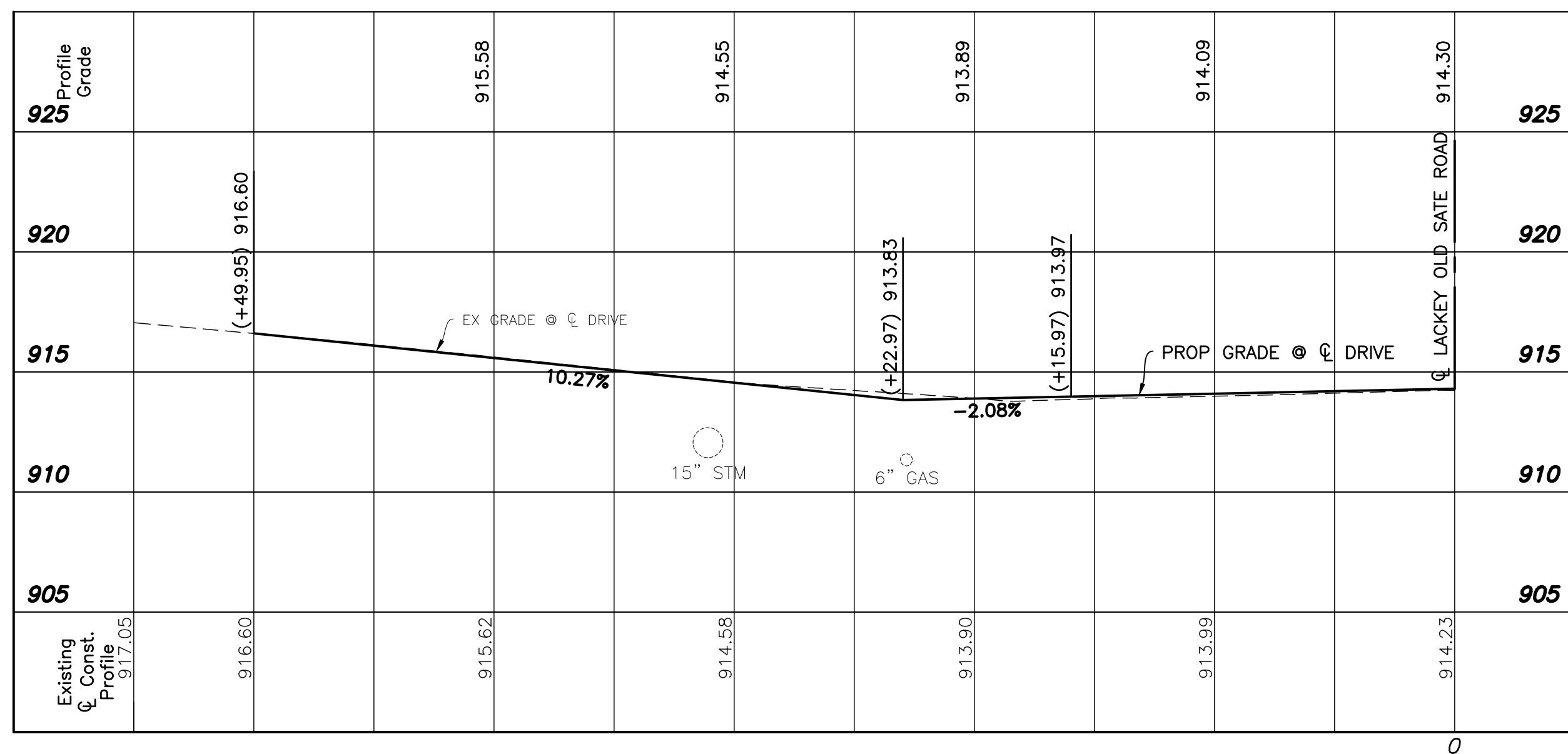
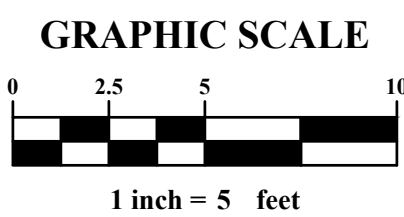
SCALE
 As Noted

JOB NO.
 20170824

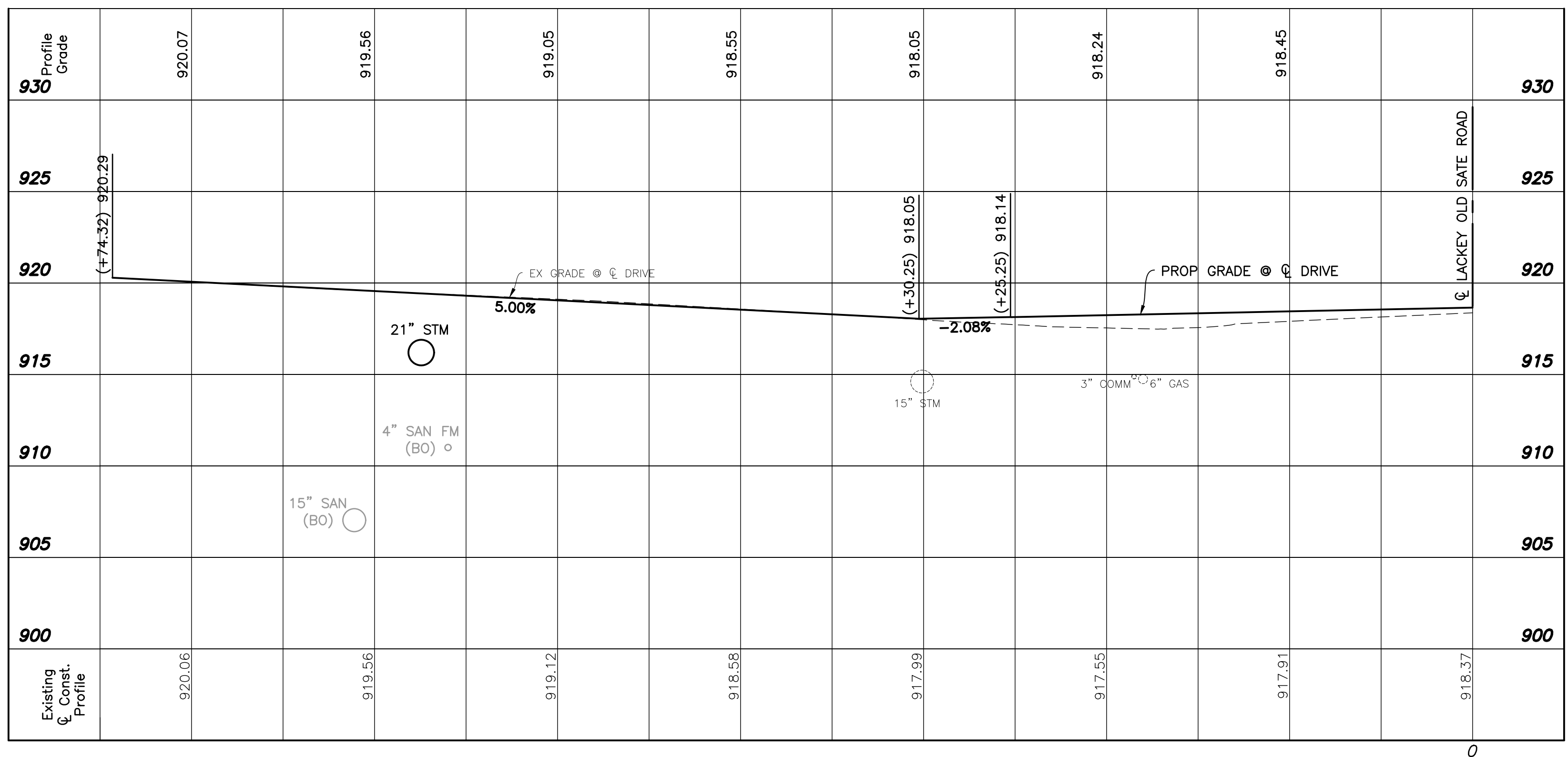
SHEET
 31/42



2196 LACKEY OLD STATE ROAD (CR10)
STA 101+48.50



2000 LACKEY OLD STATE ROAD (CR10)
STA 111+22.66

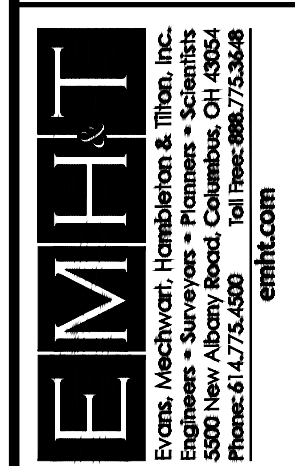


REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
DELAWARE COUNTY
PUBLIC ORDER
FOR
**LACKEY OLD STATE
IMPROVEMENTS**
DRIVE DETAILS



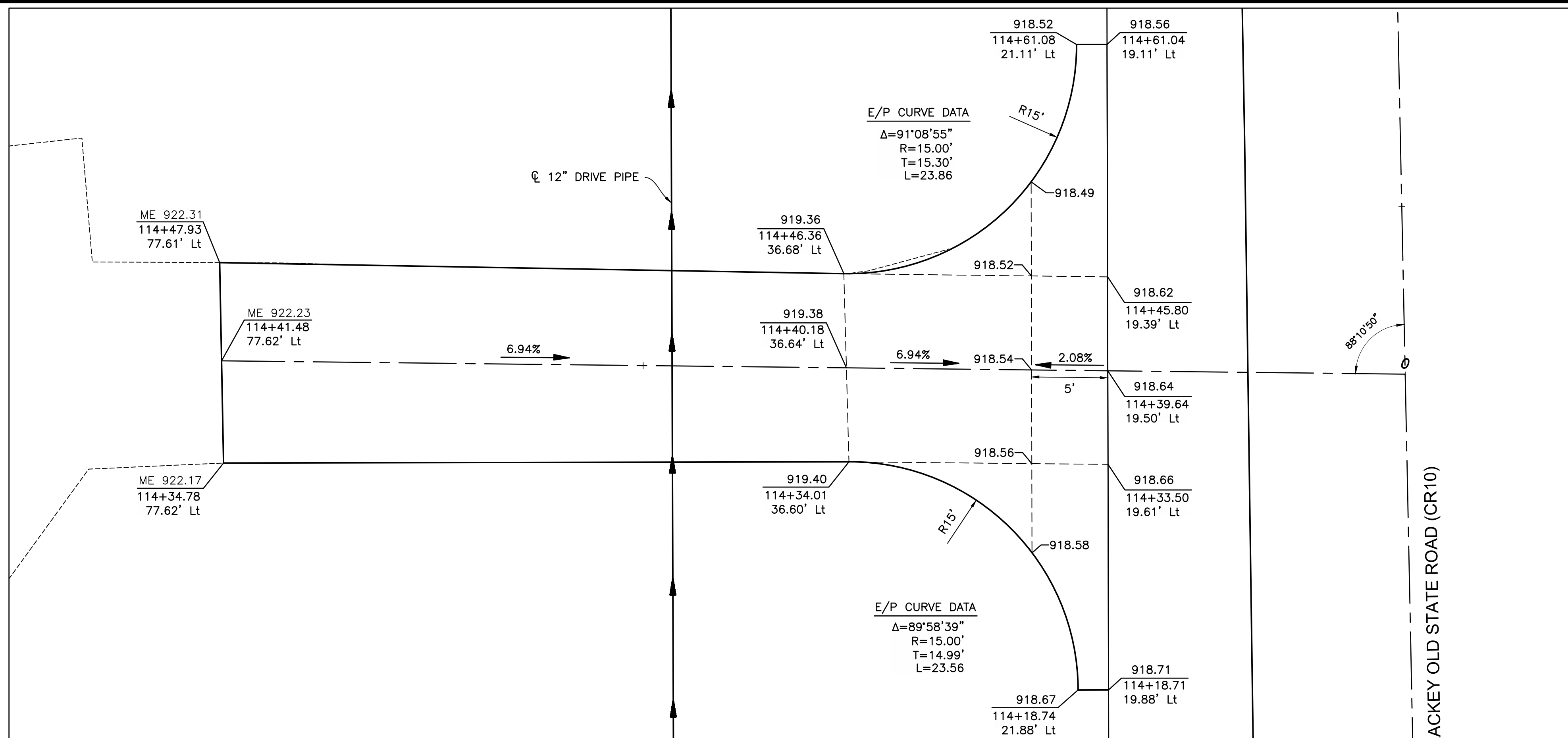
DATE
MARCH, 2018

SCALE
Horiz: 1" = 5'
Vert: 1" = 5'

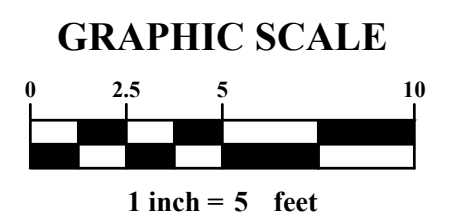
JOB NO.
20170824

SHEET
32/42

3/23/2018 9:40 AM Plot: 20170824.dwg, User: schaefer, Plotter: HP DesignJet 3600PS, Plot Size: 36x48, Scale: 1/8" = 1', Date: 3/23/2018 9:40 AM, User: schaefer, Plotter: HP DesignJet 3600PS, Plot Size: 36x48, Scale: 1/8" = 1', Date: 3/23/2018 9:40 AM



1950 LACKEY OLD STATE ROAD (CR10)
STA 114+39.09



Profile Grade	921.70	921.00	920.31	919.62	918.92	918.63	918.84	914.05
930								930
925	(+77.66) 922.23					(+4.51) 918.54		925
920			EX GRADE @ DRIVE 6.94%			(+9.51) 918.64	PROP GRADE @ DRIVE -2.08%	920
915			12" STM		15" STM	6" GAS		915
910					4" SAN (BO)			910
905				15" SAN (BO)				905
900								900
Existing Const. Profile	921.79	921.05	920.35	919.64	918.91	918.61	918.82	919.10

MARK	DATE	DESCRIPTION

REVISIONS

M/I HOMES

DRIVE DETAILS

BERLIN TOWNSHIP
DELAWARE COUNTY
TOWNSHIP
FOR
**LACKEY OLD STATE
IMPROVEMENTS**

EMHT
Ernst, McEwen, Henselton & Trost, Inc.
5300 New Albany Road, Columbus, OH 43254
Phone: 614.775.6900 Fax: 614.775.3468
emht.com

DATE

MARCH, 2018

SCALE

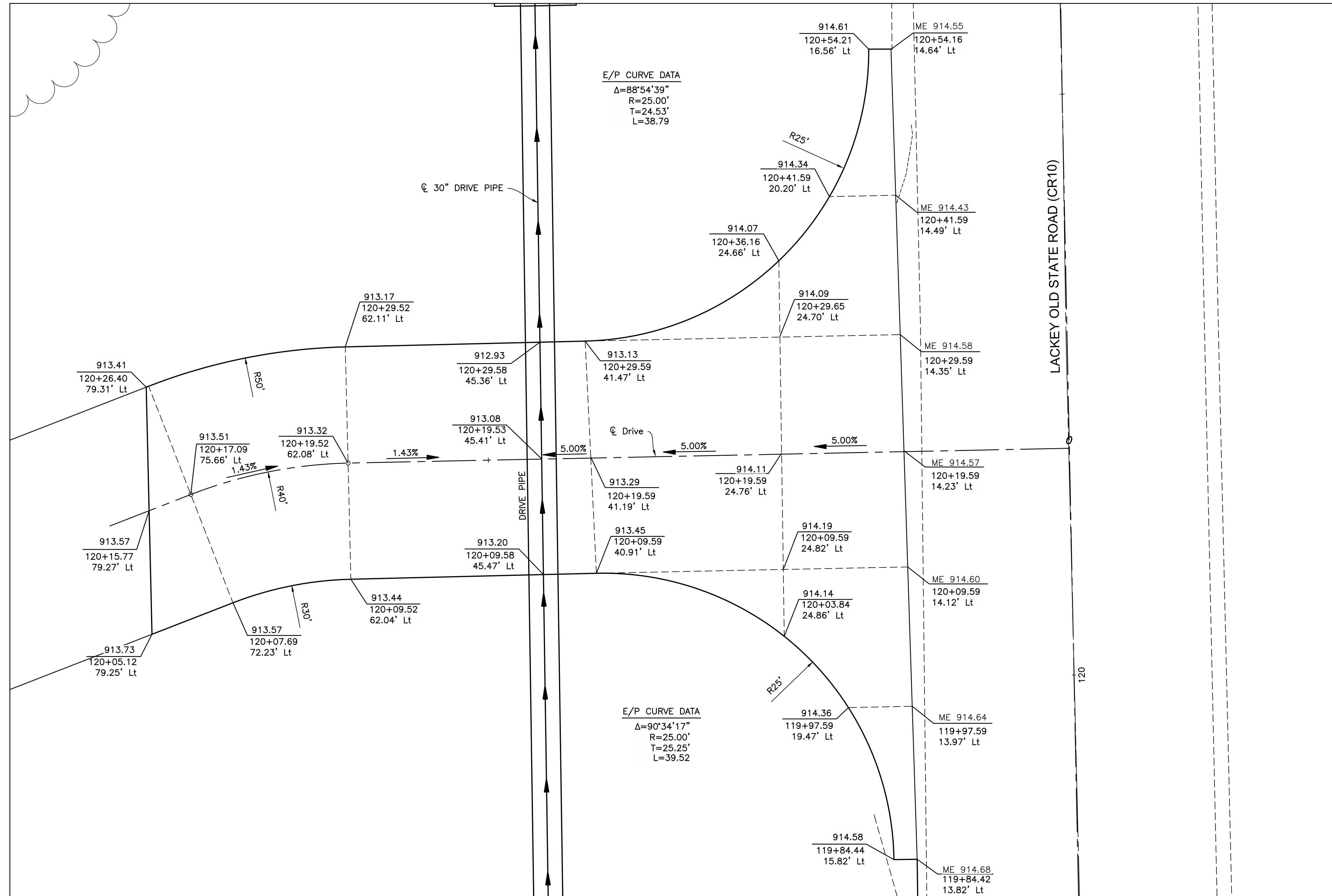
Horiz: 1" = 5'
Vert: 1" = 5'

JOB NO.

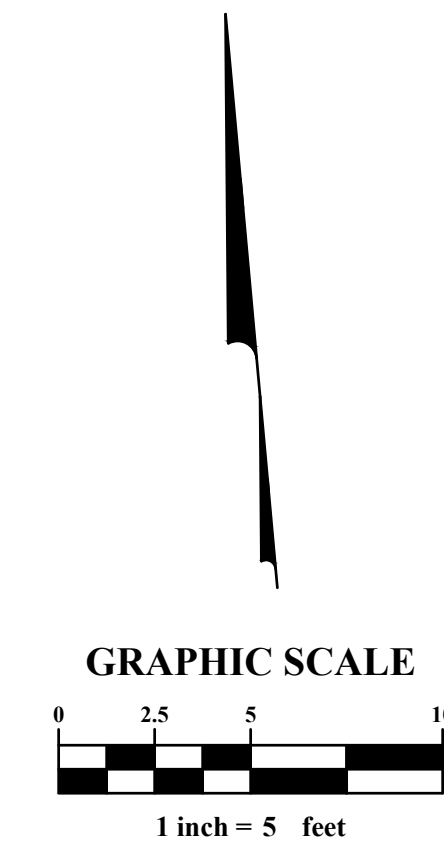
20170824

SHEET

33/42



1856 LACKEY OLD STATE ROAD (CR10)
 STA 120+19.52

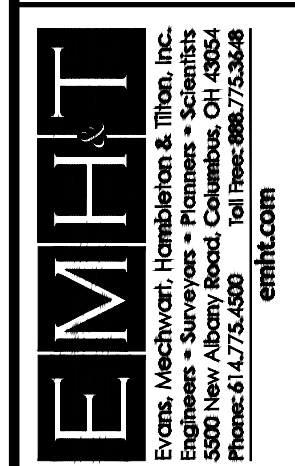


MARK	DATE	DESCRIPTION

REVISIONS

M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 TOWN OF
**LACKEY OLD STATE
 IMPROVEMENTS**
 DRIVE DETAILS



DATE
 MARCH, 2018

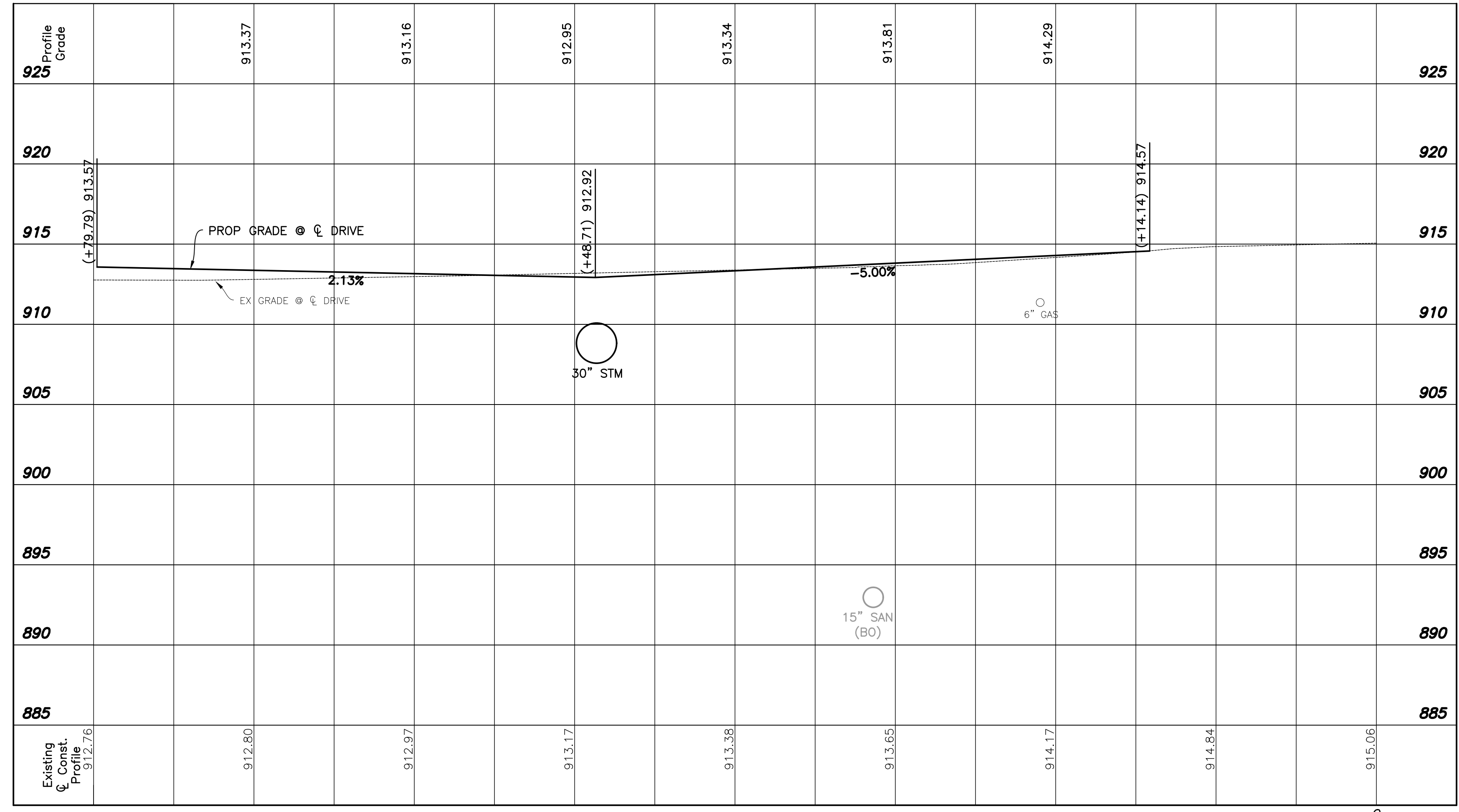
SCALE
 As Noted

JOB NO.
 20170824

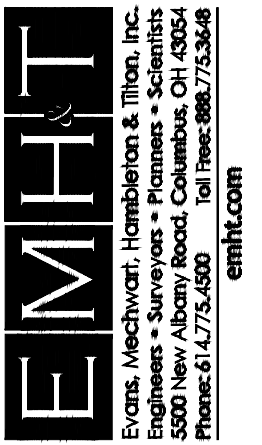
SHEET
 34/42

3/22/2018 9:40 AM User: Pineda By: Scherer, Matthew 3/22/2018 9:40 AM

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 Plot Date: 3/22/2018 9:41 AM, Plot Scale: 1"=5', Plot Size: 36" x 48"



1856 LACKEY OLD STATE ROAD (CR10)
 STA 120+19.52



DATE
 MARCH, 2018

SCALE
 Horiz: 1" = 5'
 Vert: 1" = 5'

JOB NO.
 20170824

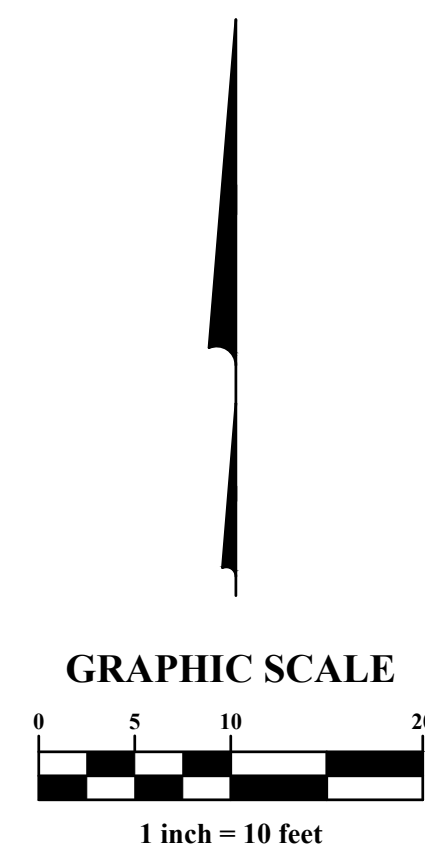
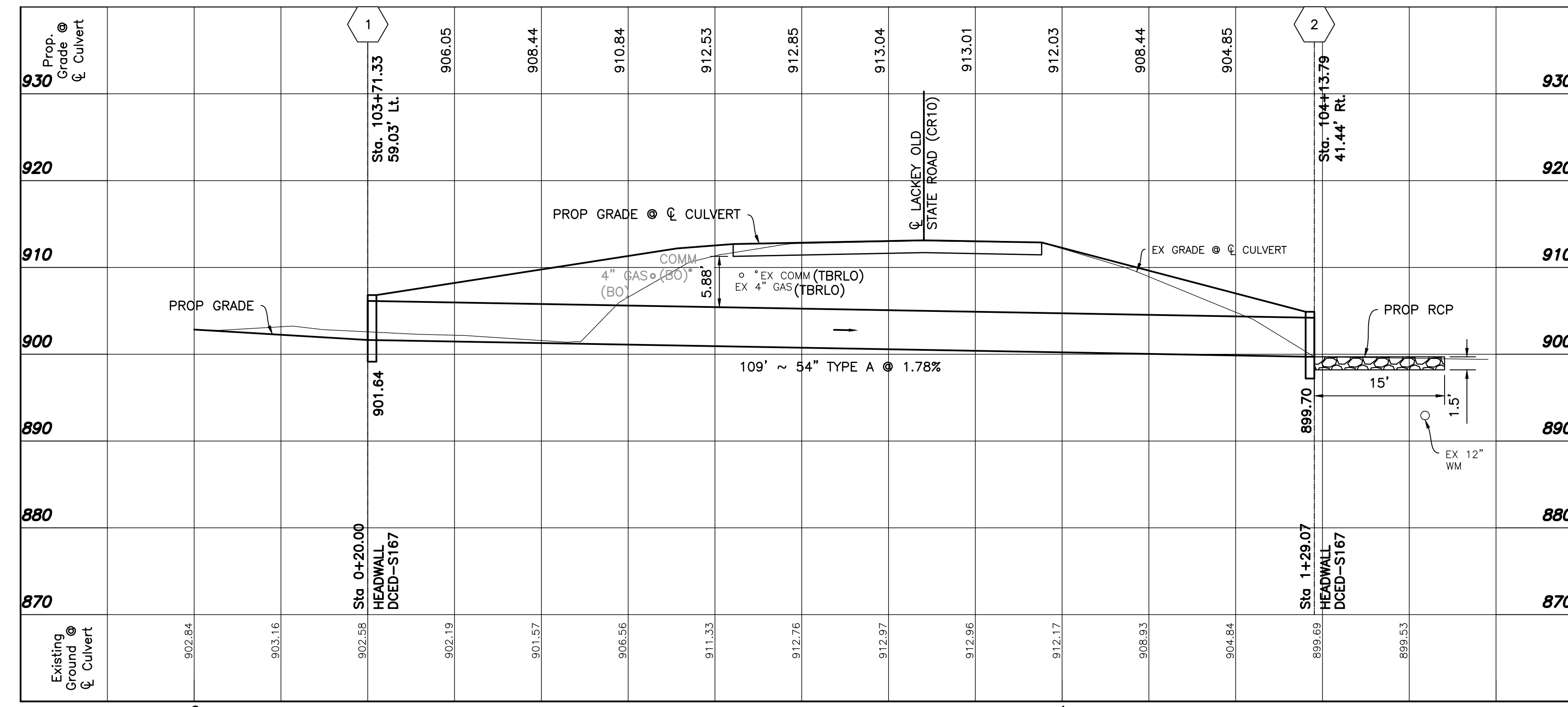
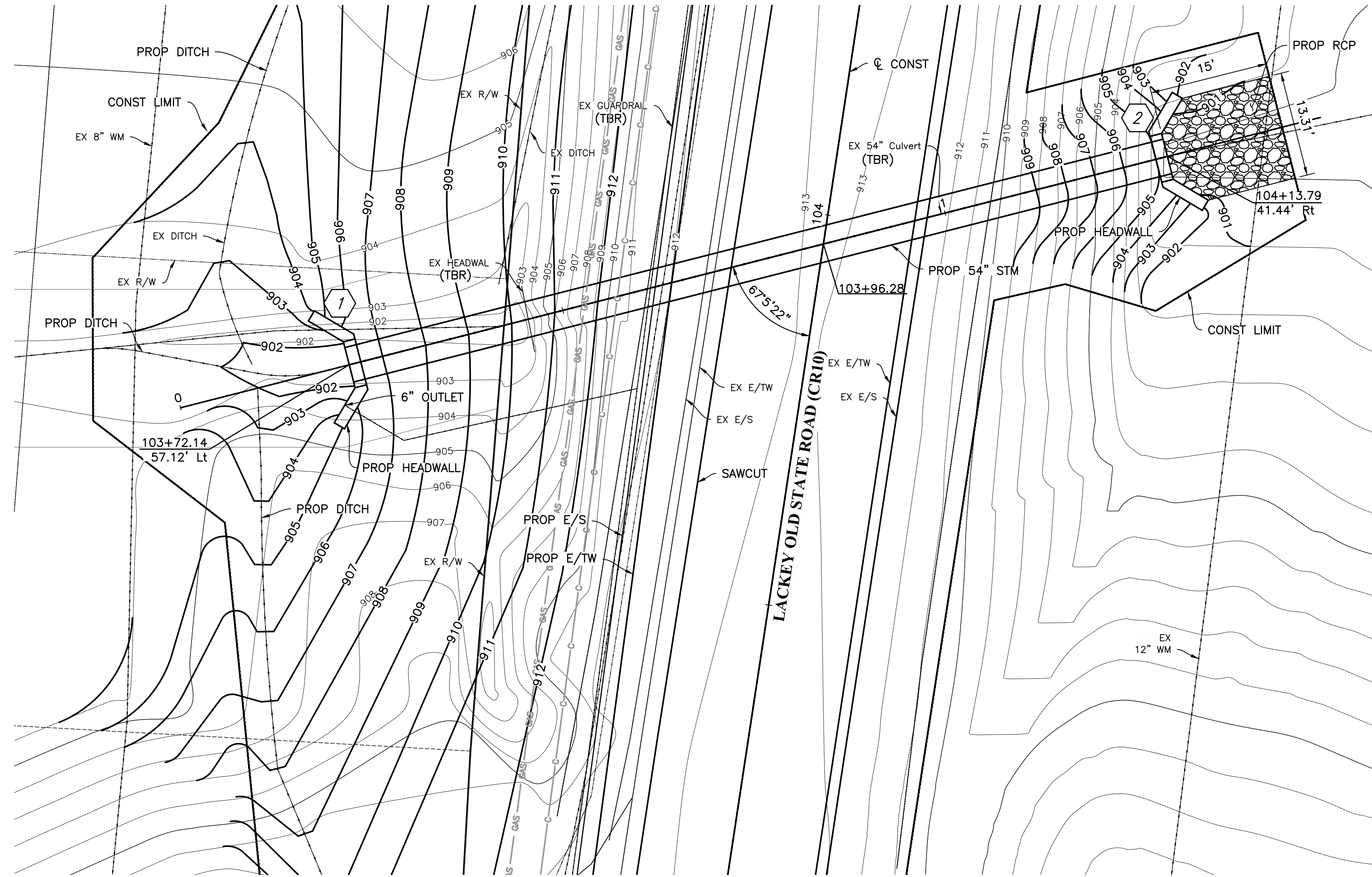
SHEET
 35/42

BERLIN TOWNSHIP
 DELAWARE COUNTY
 PUBLIC WORKS
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS**
 DRIVE DETAILS

M/I HOMES

MARK	DATE	DESCRIPTION	REVISIONS

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MARK	DATE	DESCRIPTION

BERLIN TOWNSHIP
 DELAWARE COUNTY
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS**
 CULVERT AND GRADING PLAN
 STA 103+96.28

EMHIT
 Evans, Mechwart, Henselton & Inoué, Inc.
 5300 New Albany Road, Columbus, OH 43254
 Phone: 614.775.6500 Fax: 614.775.3548
 emhit.com

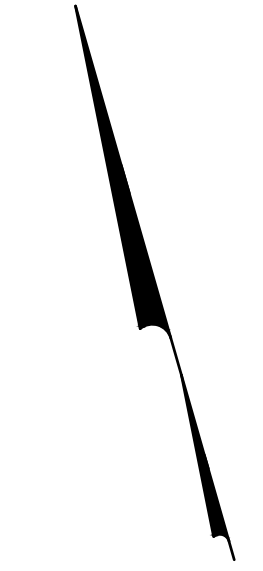
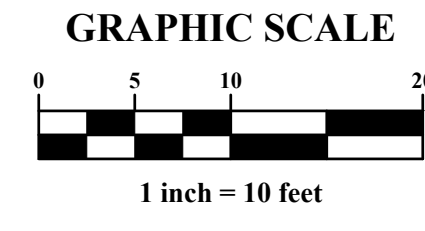
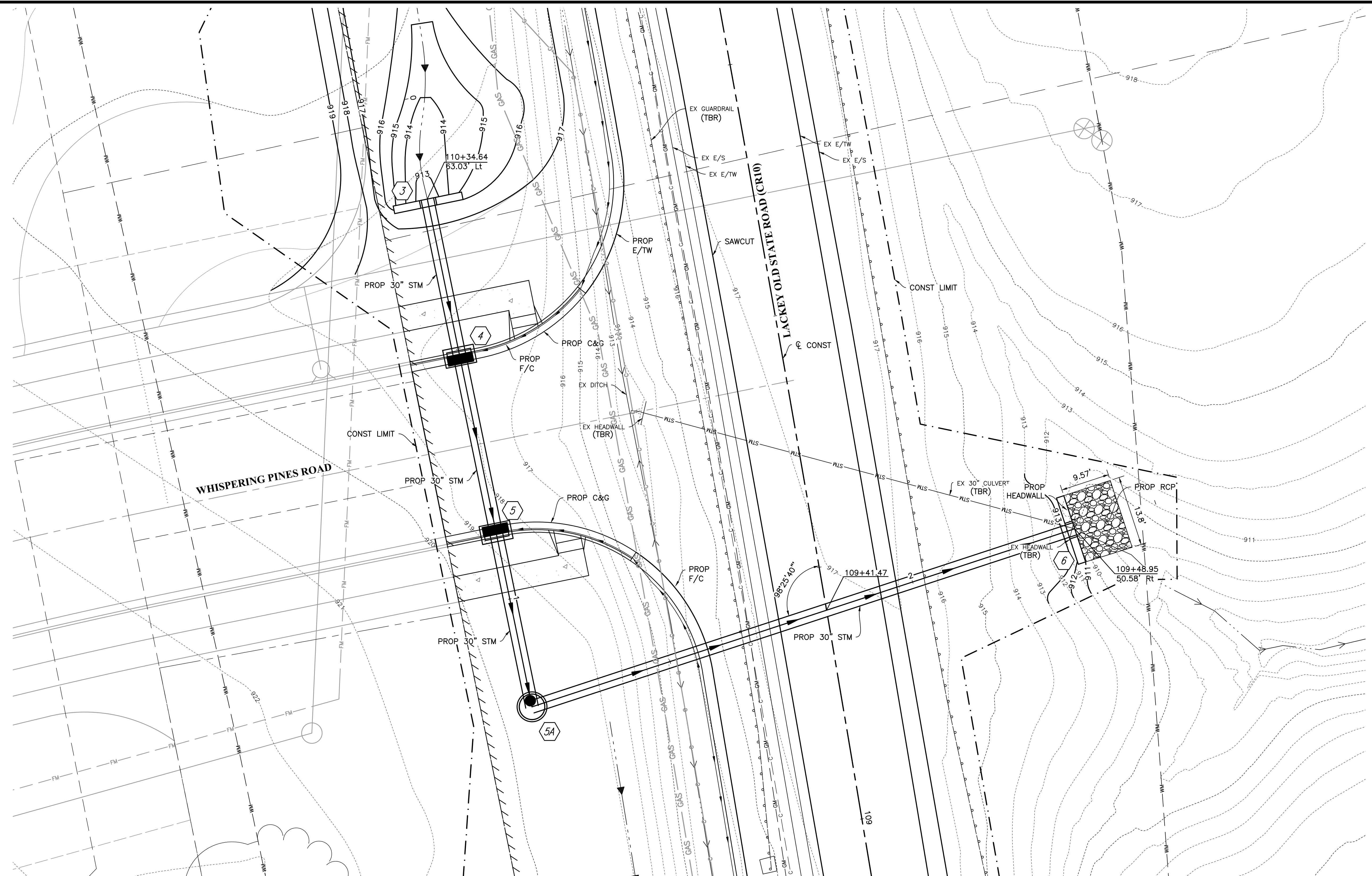
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JOB NO.
20170824

SHEET
36/42

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SEE NEXT SHEET FOR PROFILE VIEW

MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS**
 CULVERT AND GRADING PLAN
 STA 103+96.28



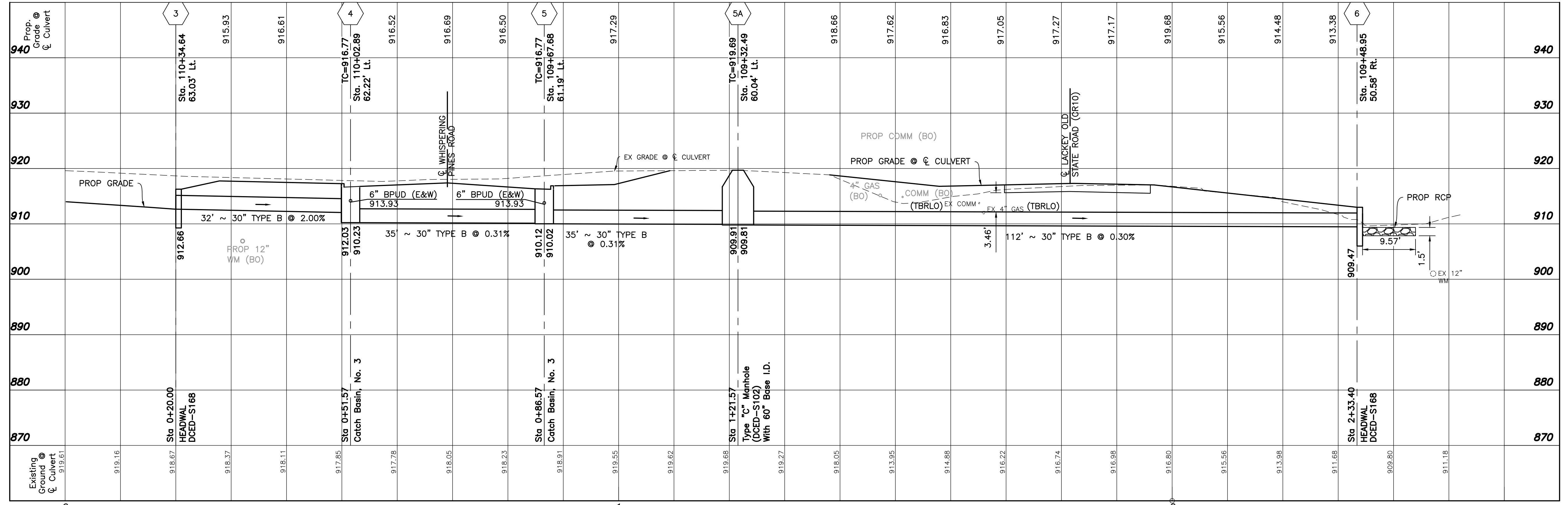
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JOB NO.
20170824

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37/42

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M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS**
 CULVERT AND GRADING PLAN
 STA 103+96.28



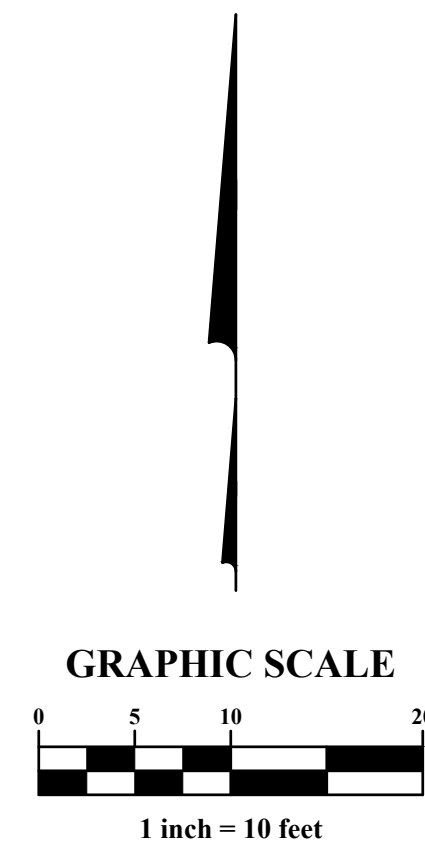
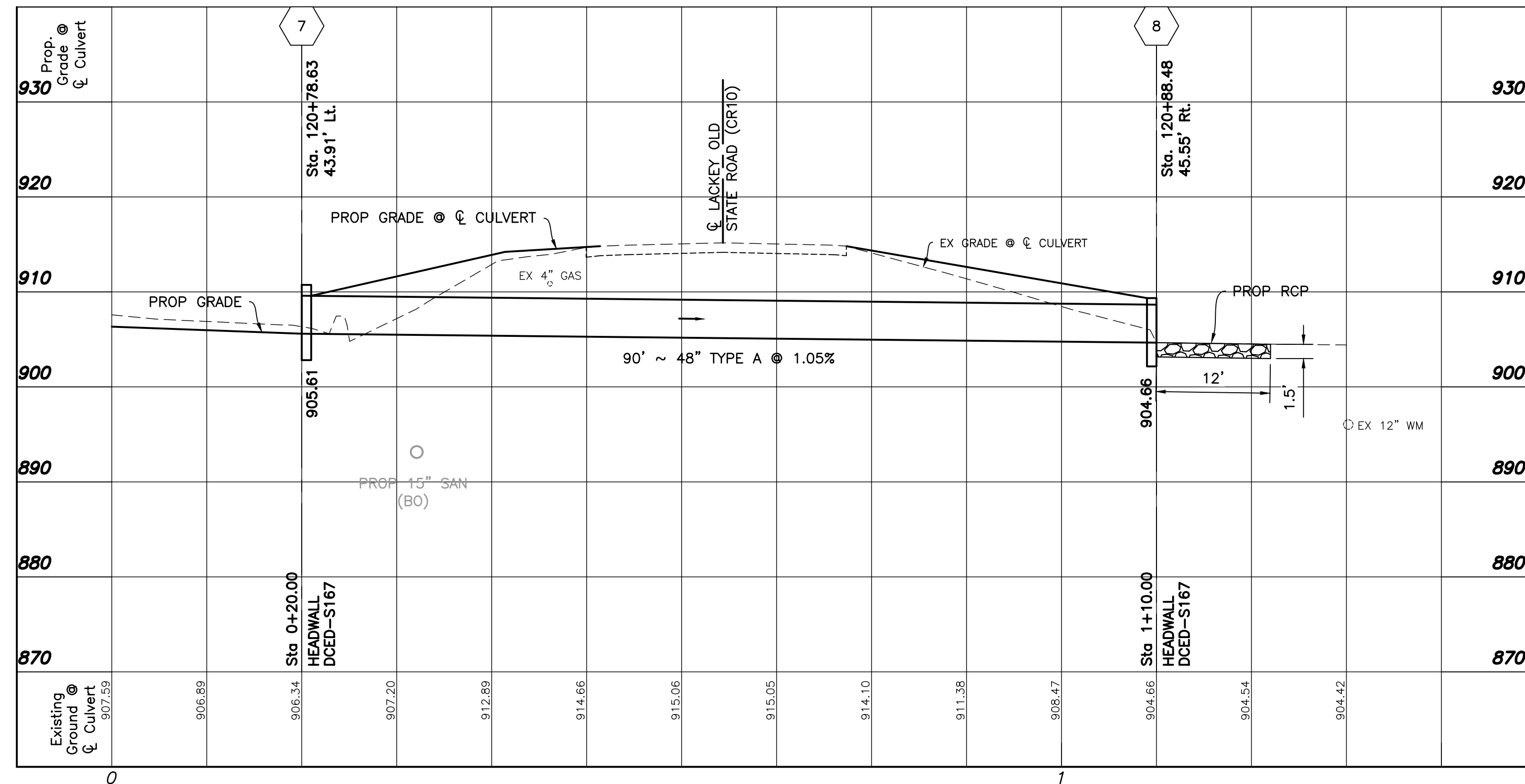
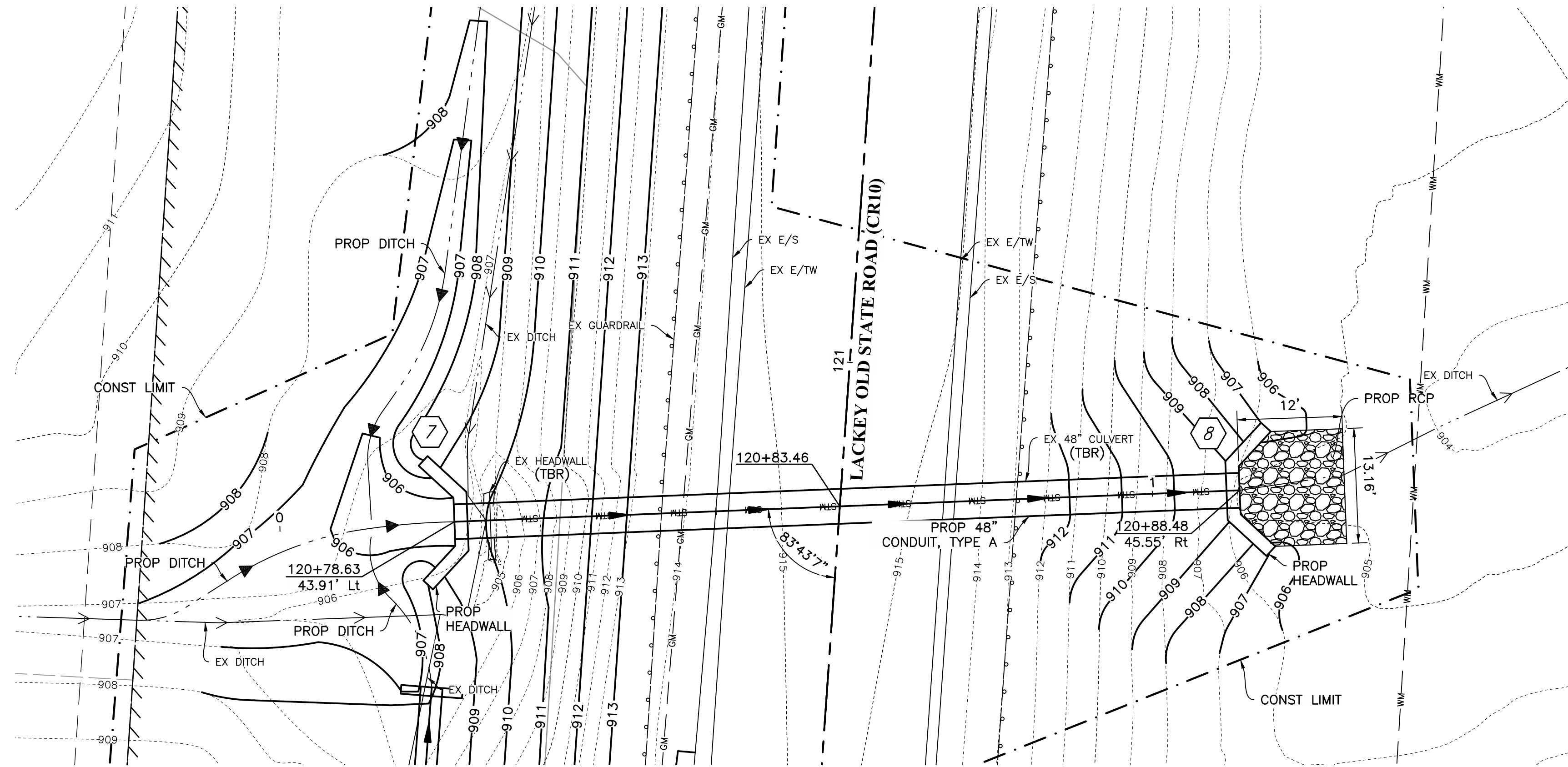
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JOB NO.
20170824

SHEET
38/42

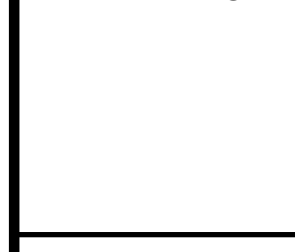
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MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS**
 CULVERT AND GRADING PLAN
 STA 103+96.28



EMHT
 Evans, Mechwart, Henselton & Thra, Inc.
 5300 New Albany Road, Columbus, OH 43254
 Phone: 614.775.6500 Fax: 614.775.3348
 emht.com

DATE
MARCH, 2018

SCALE
Horiz: 1" = 10'
Vert: 1" = 10'

JOB NO.
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GENERAL

These specifications, together with the accompanying plans, are intended to describe the type, size, and location of the products and materials to be provided and installed under various bid items related to traffic control. The Contractor shall furnish and install traffic control devices and related materials in compliance with these plans and specifications, as well as the 2016 Ohio Department of Transportation Construction and Material Specifications, the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways, and the Standard Construction Drawings issued by the Ohio Department of Transportation. These specifications set forth the minimum performance and operating requirements of the traffic control items referred to herein.

ITEM 630 GROUND MOUNTED SIGN SUPPORTS, AS PER PLAN

Ground mounted post supports shall be a square post with anchor base as per detail on ODOT Standard Drawing TC-41.20. All posts shall be 2 in. x 2 in., 12 gauge square tubing with open holes and all anchor bases shall be 2 1/4 in. x 2 1/4 in., 12 gauge square tubing with open holes.

Payment shall be per Item 630.

ITEM 630 SIGNING MISC.: STREET NAME BRACKETS, AS PER PLAN

Street name brackets shall be manufactured by Signfix or equal. The 36", 42", and 48" sign brackets shall be Signfix SS O/S with HDTE or equal. The 54", 60", 66", or 72" sign brackets shall be Signfix DBL O/S with HDTE or equal. Bracket lengths are determined by the size of the street name sign (see DCEO Standard Drawing R2185).

All banding material used to install the street name signs shall be stainless steel (bands and brackets). The bonding shall be Ultra-Lok 200 series, 3/4" width with a thickness of 0.030" or approved equal.

All attachment hardware shall be painted black to match the signal supports.

Payment will be made at the unit bid price for each CMS Item 630, Signing Misc.: Street Name Brackets, As Per Plan.

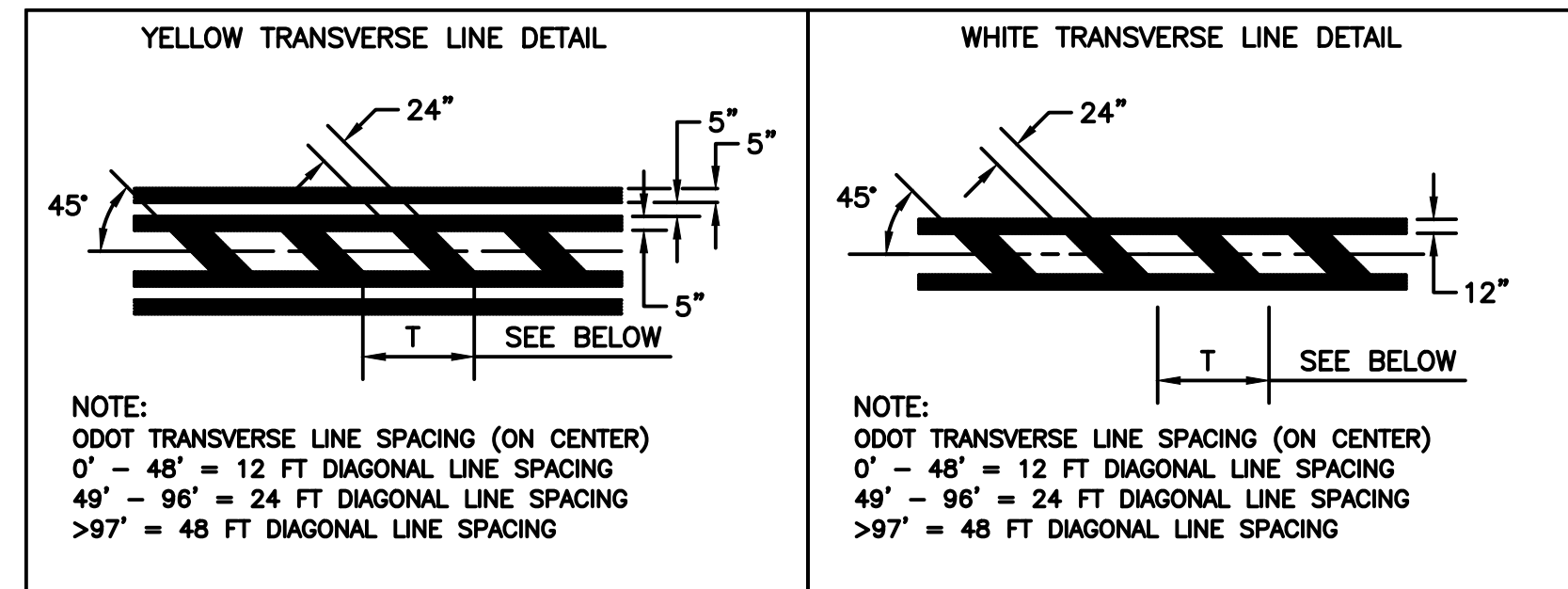
ITEM 630 SIGN FLAT SHEET, AS PER PLAN

In addition to requirements of Item 630, all sign sheet material shall be Diamond Grade DG3 manufactured by the 3M Company or an approved equal.

Payment shall be per Item 630.

Item	Estimated Quantity	Unit	Item Description
630	2	EA	Signing Misc.: Street Name Brackets, As Per Plan
630	2	EA	Sign, Double Faced, Street Name
630	4	LF	Ground Mounted Sign Support, As Per Plan
630	29.5	SF	Sign, Flat Sheet, As Per Plan
644	0.62	MI	Edge Line
644	0.30	MI	Center Line
644	220	LF	Channelizing Line
644	206	LF	Transverse Line
647	75	LF	Crosswalk Line
647	3	EA	Lane Arrow
647	17	LF	Stop Line

LINE SPECIFICATIONS	
WE	EDGE LINE, 5" WHITE (ITEM 644)
YE	EDGE LINE, 5" YELLOW (ITEM 644)
YT	TRANSVERSE LINE, 24" YELLOW (ITEM 644)
WT	TRANSVERSE LINE, 24" WHITE (ITEM 644)
LL	LANE LINE, 5" DASHED WHITE (ITEM 644)
DY	CENTER LINE, 5" SOLID DOUBLE YELLOW (ITEM 644)
CSD	CENTER LINE, 5" SOLID & DASHED YELLOW (ITEM 644)
XW	CROSSWALK LINE, 24" WHITE (ITEM 647)
CH	CHANNELIZING LINE, 8" WHITE (ITEM 644)
SL	STOP LINE, 24" WHITE (ITEM 647)
WD	DOTTED LINE, 4" WHITE (ITEM 644)
LA	LANE ARROW (ITEM 647)



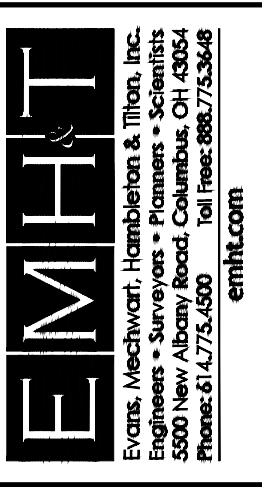
- XX PROPOSED PAVEMENT MARKINGS
- XX EXISTING PAVEMENT MARKINGS (ITEM 644)
- XX PROPOSED PAVEMENT MARKINGS - BY SEPARATE PROJECT

REVISIONS

MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 STREET PLAN
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS**
 TRAFFIC CONTROL NOTES



DATE
 MARCH, 2018

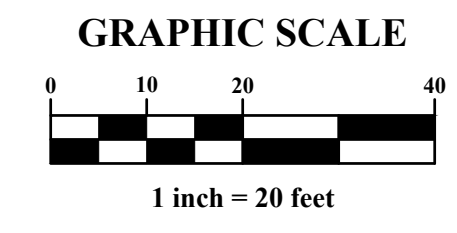
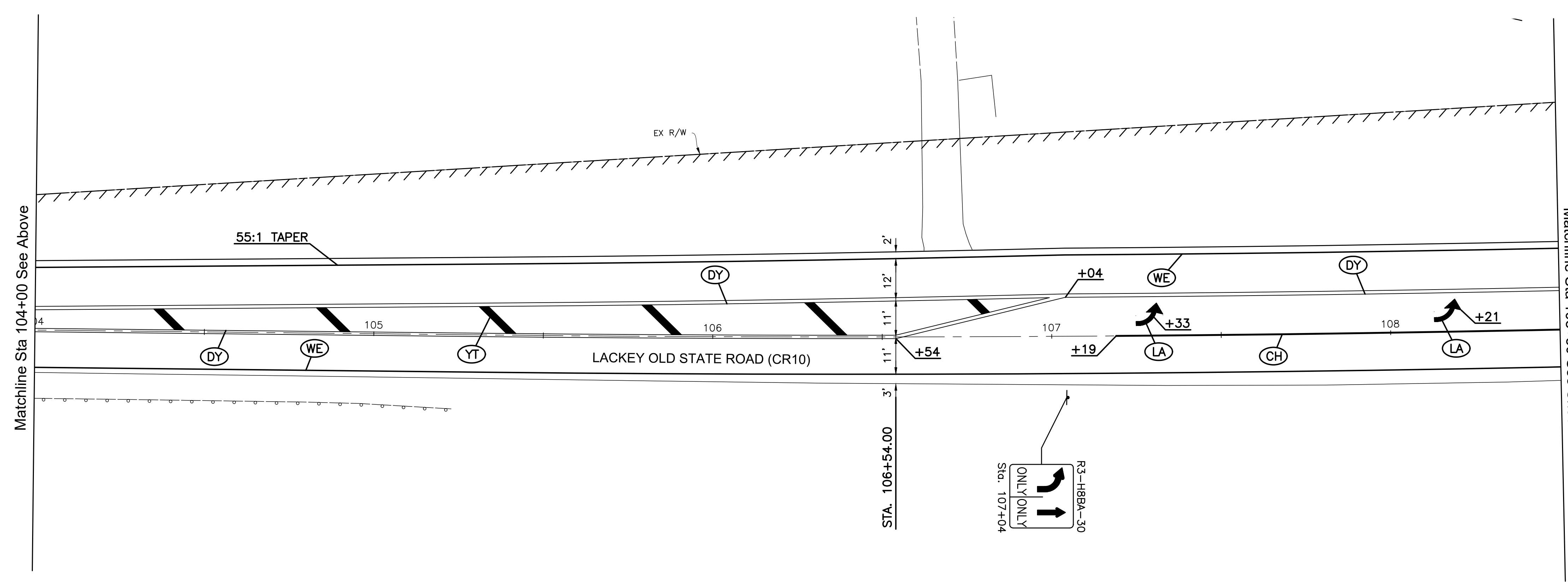
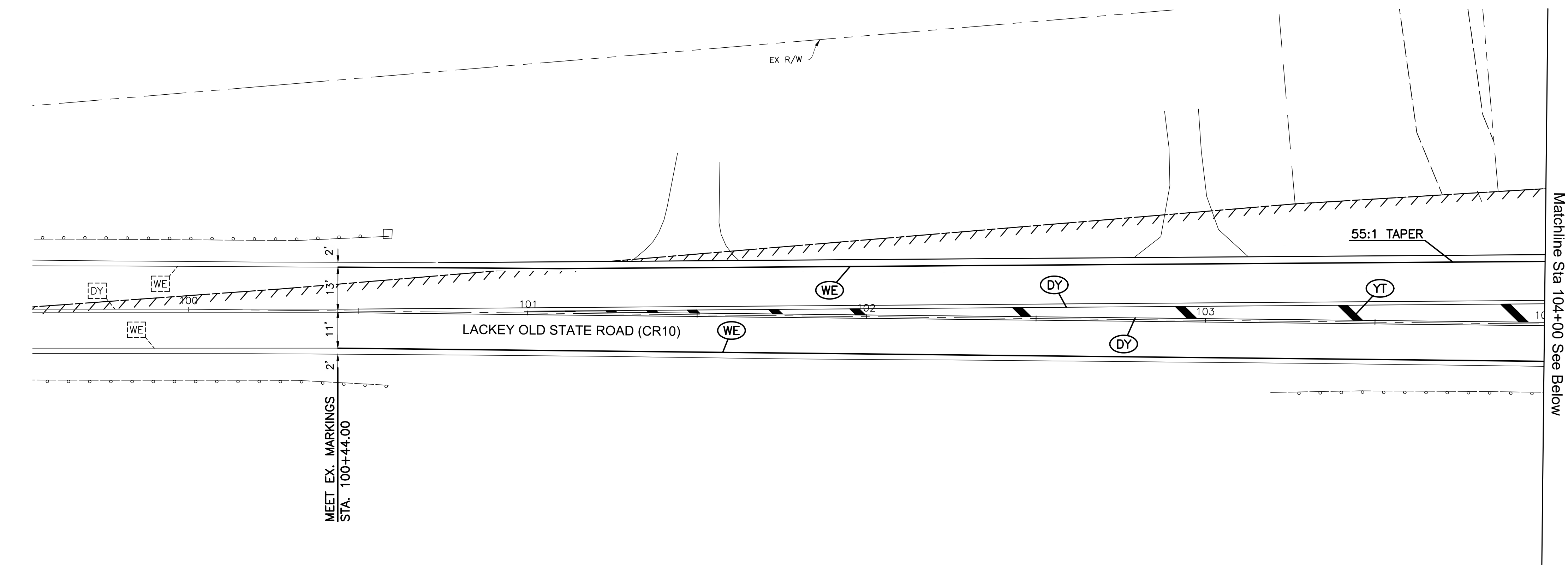
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JOB NO.
 20170824

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- NOTES
- FOR CLARITY, UNDERGROUND UTILITIES HAVE NOT BEEN SHOWN ON THIS SHEET. THE CONTRACTOR SHALL REFERENCE THE APPROPRIATE PLAN AND PROFILE SHEET FOR UTILITY LOCATIONS PRIOR TO PLACING SIGN POSTS.

MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
DELAWARE COUNTY
STREET PLAN
FOR
**LACKEY OLD STATE
IMPROVEMENTS**
TRAFFIC CONTROL



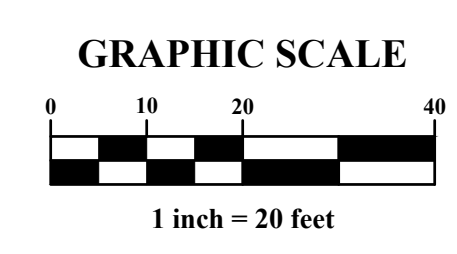
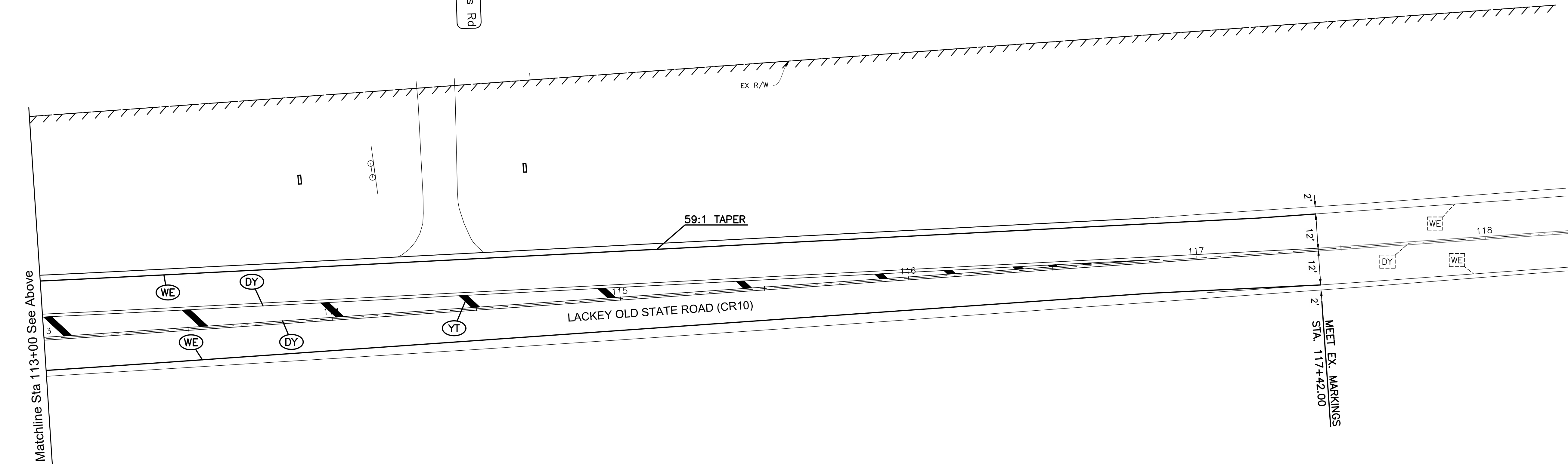
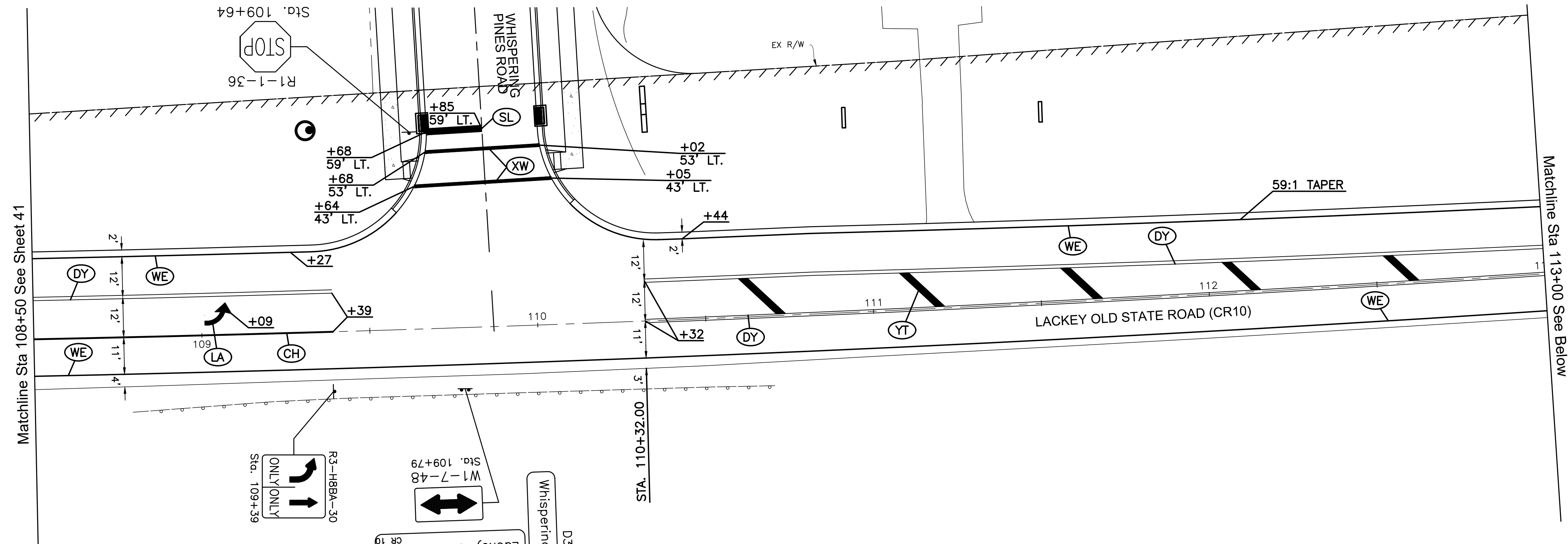
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As Noted

JOB NO.
20170824

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- NOTES
1. FOR CLARITY, UNDERGROUND UTILITIES HAVE NOT BEEN SHOWN ON THIS SHEET. THE CONTRACTOR SHALL REFERENCE THE APPROPRIATE PLAN AND PROFILE SHEET FOR UTILITY LOCATIONS PRIOR TO PLACING SIGN POSTS.
 2. SEE STANDARD DRAWING DCED-R2185 FOR LETTERING REQUIREMENTS.

Matchline Sta 108+50 See Sheet 41

Matchline Sta 113+00 See Below

Matchline Sta 113+00 See Above

MEET EX. MARKINGS
 STA. 117+42.00

MARK	DATE	DESCRIPTION

M/I HOMES

BERLIN TOWNSHIP
 DELAWARE COUNTY
 STREET PLAN
 FOR
**LACKEY OLD STATE
 IMPROVEMENTS**
 TRAFFIC CONTROL



DATE
 MARCH, 2018

SCALE
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 20170824

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