LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENT
FOR
LIC-16-9.30
2020

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STANDARD CONSTRUCTION DRAWINGS

The Standard Construction Drawings listed on these plans shall be considered a part thereof.

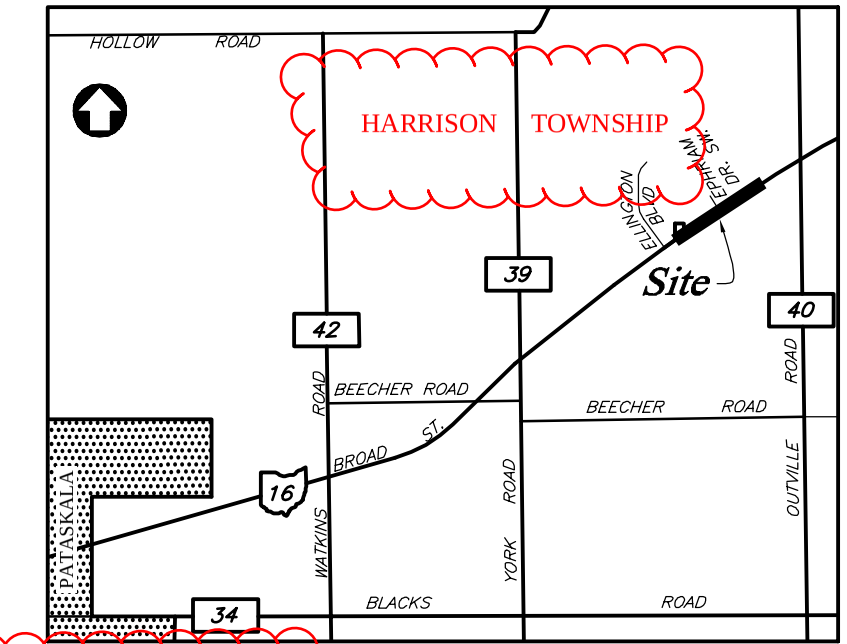
S.W. Licking Community Sewer & Water	ODOT
W–18	CB–1.2
W–20	DM–1.1 (Pg 1 & 2)
W–21	DM–1.2
W–23	

ADD DATES TO STD. DWG.'S
CB-1.2 (1-15-16)
DM-1.1 (7-21-17)
DM-1.2 (1-18-13)

ADD: BP-3.1 (7-18-14)
BP-3.2 (1-18-19)
MT-101.60 (1-20-17)
MT-101.90 (7-21-17)

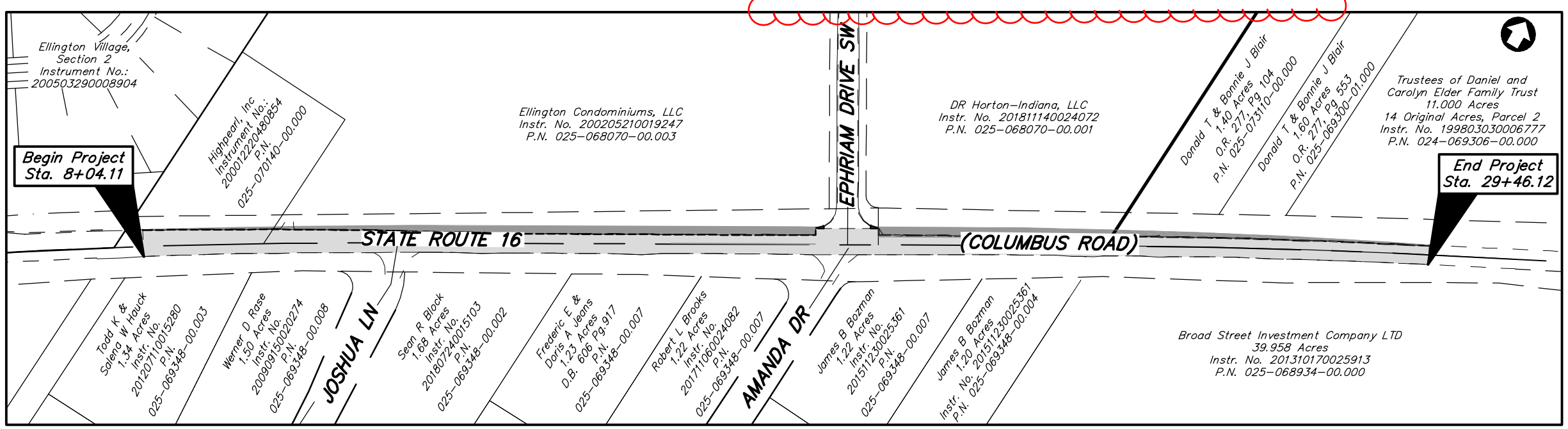
DESIGN DESIGNATION

Current ADT	8,450 VPD
Design Year ADT	9,295 VPD
Design Hourly Volume	977 VPH
Directional Distribution	55%
Trucks (24 Hr B&C)	3.0%
Design Speed	55 MPH
Legal Speed	55 MPH
Design Functional Classification	Rural Principal Arterial



LOCATION MAP
NTS

ADD LATTITUDE AND LONGITUDE FOR CENTER OF THE PROJECT



INDEX MAP
SCALE: 1"=200'

BENCH MARKS
N.A.V.D. 88

Source Bench Mark:

Licking County 1998 Geodetic Control Monument Harrison Twp 2 Survey Disk Set in Round Concrete Monument Located at the Northwest Corner of the Intersection of Columbus Rd (SR. 16) and York Rd. (CR 39) approximately 30' North of the e/p of SR. 16 and 85' West of the West Edge of CR 39.
Elevation = 1160.55

Site Bench Marks:

BM #1:
Being a Mag Nail at the centerline intersection of Ambrosia Drive and Mannaseh Drive. Located at State Plane Coordinates Ohio North, Northing: 738628.6440, Easting: 1936866.9340
Elevation = 1196.30 (NAVD 88)

BM #2:
Being a Mag Nail at the centerline intersection of Ellington Boulevard and Ambrosia Drive. Located at State Plane Coordinates Ohio North, Northing: 738662.8770, Easting: 1937265.3840
Elevation = 1196.30 (NAVD 88)

BM #3:
Being a Mag Nail at the centerline intersection of Ellington Boulevard and Mannaseh Drive. Located at State Plane Coordinates Ohio North, Northing: 739335.3050, Easting: 1937257.2930
Elevation = 1196.30 (NAVD 88)

Ohio Utilities Protection Service
Call 811 before you dig

STATE OF OHIO
JAMES T. WATKINS
57855
REGISTERED
PROFESSIONAL ENGINEER

Registered Engineer — Date

2019 SPECIFICATIONS

The current State of Ohio "Construction and Material Specifications" together with the requirements of Licking County including all supplements thereto shall govern all materials and workmanship involved in this improvement.

I hereby approve these plans and declare that making of this improvement will not require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

LICKING COUNTY

The signatures of the Licking County Planning Commission Director, Licking County Engineer, and Southwest Licking Community Water & Sewer District on these plans signify concurrence with the purpose and general location of the project. All technical details remain the responsibility of the Engineer preparing the plans.

Ohio Department of Transportation — Date

Licking County Planning Commission — Date

Licking County Engineer — Date

APPROVED:

Southwest Licking Community Water and Sewer District — Date

SCALE: 1"=100'
0 100 200

DATE	INITIAL	SHT(S)	REVISION DESCRIPTION	REV. INITIAL

507 Executive Center Dr. Suite 100 Westerville, Ohio 43082

Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder

Prepared By: TAT WATCON
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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16
(COLUMBUS ROAD)
TITLE PAGE

DRFT CKD
NEW JRF

Z:\ELLINGTON VILLAGE SEC 5-10\DRAWINGS\3-BROAD STREET WIDENING\BROAD ST WIDENING - TITLE PAGE-NOTES-TYP SEC-QUANTITIES.DWG - 1 XREFS: EV S5-6 Engineering Base - PLOTTED BY CAMERON - September 04, 2019 - 12:24 PM

CONTRACT SPECECATONS
All contract specifications accompanying these plans are to be considered a part thereof.

PRROPOSAL
No extra compensation will be paid to the contractor by reason of compliance with any of the requirements indicated in the Specifications, but payment shall be deemed to be included among the several items, as bid upon, unless otherwise specifically provided.

MISCELLANEOUS WORK ITEMS
All items of work called for on the plans for which no specific method of payment is provided shall be performed by the contractor and the cost of same shall be included in the price for the various related items.

CONTINGENCY QUANTITIES
The contractor shall not order materials or perform work for items designated by plan notes to be used "As Directed by the Engineer" unless authorized by the Engineer. The actual work locations and quantities used for such items shall be incorporated into the final change order governing completion of this project.

PERMITS
The contractor shall obtain all necessary ODOT or Licking County permits prior to construction.

SAFETY REQUIREMENTS
The contractor and sub-contractor shall be solely responsible for all federal, state and local safety requirements, together with exercising precautions at all times for the protection of persons (including employees) and property. It is also the sole responsibility of the contractor and sub-contractor to initiate, maintain and supervise all safety requirements, precautions and programs in connection with the work.

SITE VISIT
The contractor is required to visit the site and fully inform himself concerning all conditions affecting the scope of the work. Failure to visit the site shall not relieve him from any responsibility in the performance of this contract.

RIGHT-OF-WAYS
In addition to direct requirements of the contract specifications, the contractor shall observe and conform to the specific requirements of all right-of-way including easements, court entries, right-of-entry or action filed in court in accordance with the code of applicable governing agency. The cost of the operations necessary to fulfill such requirements shall be included in the price bid of the various items of the contract unless specific provision is made in the contract specifications.

WORK LIMITS
The work limits shown on these plans are for physical construction only. The installation and operation of all work zone traffic control and work zone traffic control devices required by these plans whether inside or outside these work limits.

ELEVATION DATUM
All elevations are based on the NGVD 29 Datum.

ROCK
No extra compensation shall be paid for any excavation required in rock or shale.

DEWATERING
The contractor is responsible to provide all dewatering operations as required to accomplish the proposed cut and fill operations, for the construction of the waterline and storm sewers. Cost shall be included in the price bid for the various roadway items.

ROUNDING
The rounding at slopes breakpoints on the typical sections apply to all cross-sections even though otherwise shown.

PROOF ROLLING
The following quantity is provided in the general summary to address location requiring proof rolling. Item 204 - Proof Rolling

EXISTING UTILITIES
The identity and location of the existing underground utility facilities known to be located in the construction area have been shown on the plans as accurately as provided by the owners of the underground utility. State of Ohio, Licking County and/or the Engineer assumes no responsibility to the accuracy or the depths of the underground facilities whether or not shown on the plans. Investigation, location, support, protection and restoration of all existing utilities and appurtenances shall be the responsibility of the contractor. Additionally, the contractor is responsible to coordinate this construction activity along with the relocation of any utilities as required by the plan with the owner of the affected utility. Private utility manholes within the work limits and in conflict with the project construction shall be relocated by the owner of the utility (Columbia Gas of Ohio and /or National Gas & Oil Corporation).

EXISTING UTILITIES (Continued)
Utility poles within the influence of the water line and storm line trenches or earthwork operations shall be reinforced by utility company prior to these construction activities. Notification of the utility company prior to construction shall be the responsibility of the contractor. The Contractor shall expose any utility line or structure (public or private) sufficiently in advance of laying pipe or dust in order that the engineer may determine the exact elevation and make any necessary adjustments. Cost of the above, if any, shall be included in the price bid for the various items in the contract. The contractor shall cause notice to be given to the Ohio Utilities Protection Service (telephone 811, toll free) and to the owners of the underground utilities who are not members of a registered underground protection service in accordance with Section 153.64 of the Revised Code. The above mentioned notice shall be given at least 48 hours prior to start of construction.

ELECTRIC: AMERICAN ELECTRIC POWER
850 TECH CENTER DRIVE
GAHANNA, OHIO 43230
(800) 672-2231

GAS: THE ENERGY COOPERATIVE
1500 GRANVILLE ROAD
P.O. BOX 4970
NEWARK, OHIO 43058
(800) 255-6815

TELEPHONE: CENTURY LINK
6185 HUNTLEY ROAD
COLUMBUS, OHIO 43229
(800) 407-5411

CABLE: TIME WARNER
COMMUNICATIONS
1980 ALUM CREEK DRIVE
COLUMBUS, OHIO 43207
(614) 481-5050

SANITARY & WATER: SOUTHWEST
LICKING COMMUNITY WATER AND
SEWER DISTRICT
69 ZELLERS LANE,
P.O. BOX 215
ETNA, OHIO 43018
(740) 927-0410

ITEM 201: CLEARING AND GRUBBING
All trees, brush and stumps specifically marked for removal within the construction limits of this project shall be removed under the lump sum price bid for Item 201, Clearing and Grubbing.

The State of Ohio reserves the right to order the removal of additional trees or stumps outside of the limits of the right-of-way and/or easement lines but within the work limits. Payment for the removal of these additional trees or stumps shall be included in the lump sum price bid for Item 201, Clearing and Grubbing.

UNSUITABLE FOUNDATION SOILS
Unsuitable foundation soils that are encountered in the areas of the proposed roadbed shall be removed and replaced with suitable material meeting the requirements of 203.02.R. In addition to the roadbed, other locations and dimensions will be as determined by the Engineer. The following quantities have been included in the General Summary for use as directed by Engineer.

Item 204 Excavation of Subgrade	300 Cu. Yd.
Item 204 Granular Material, Type B	300 Cu. Yd.

PROJECT SITE PLAN IS REQUIRED FOR BMP'S SEE ODOT'S L&D, VOL. 3, 1308

TRAFFIC MAINTENANCE
All 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 (current edition), copies of which are available from the Ohio Department of Transportation, Bureau of Traffic, 1980 West Broad Street, Columbus, Ohio 43223.

In addition to the requirements for maintaining traffic as indicated in the Ohio Manual of Uniform Traffic Control Devices for Street and Highways, (current edition), a Traffic Maintenance and Control Plan has been provided for this improvement and is included as a part of this plan. Reference Sheet Nos. 28-29 for additional details and notes.

All Construction Signs, Barricades, Vertical Panels and Drums shall conform to OMUTCD and the latest revision of ODOT Construction and Material Specification.

All Construction Signage shall be installed and covered before construction shall begin.

Faces of Construction Signs and Reflective Sheeting on Barricades shall be Type H (VIP). All Orange Construction Signs shall be Florescent Orange. All Sheeting will be tested for Reflectivity per ODOT 730.192. Vertical Panels and Drum Bands shall be Reflectorized with Type G (High Intensity) Sheeting complying with the requirements of 730.19.

All Signs and Barricades, Vertical Panels, and Drums will be like new and in good condition in conformance with "Quality Standards for Work Zone Traffic Control Devices" published by ATSSA.

Maintenance of all contractor supplied Signs, Barricades, Vertical Panels and Drums is the contractor's responsibility. If the contractor fails to correct deficiencies within four (4) hours of notification, ODOT shall correct or hire someone to correct the deficiencies. The contractor shall then be back charged per ODOT Specification 614.04. In the case that back charging the contractor is not applicable, ODOT will rescind and withhold all permits issued to the contractor to work within the ODOT right-of-way until the issue is settled.

TRAFFIC MAINTENANCE (Continued)
These provisions shall not in any way relieve the contractor of any of his legal responsibilities or liabilities for the safety of the public.

All Barricades at Closures shall have Yellow Type C steady burn lights. All barrels shall have Yellow Type C steady burn lights. All Signs nine (9) sq. Ft. (36"x36") and over shall have Yellow Type A low intensity flashing warning lights and three (3) flags.

Drums shall be placed as follows: 35' C/C on tangents, 25' C/C on tapers, and 10' C/C in radii.

Full road closures shall conform to MT-101.60 with Type C warning lights in lieu of Type B lights. If full closure is not practical, enough Type III Barricades shall be provided to close all lanes as directed by the Engineer.

Payment for all maintenance operations described above shall be included in the Lump Sum Contract Price for Item 614, Maintaining Traffic, as Per Plan.

EROSION CONTROL
This contract is subject to National Pollutant Discharge Elimination System (NPDES) provisions, federal, state and local laws pertaining to pollution control. The contractor will be required to co-sign the OEPA permit and Notice of Intent (NOI) as per NPDES requirements. It is the contractor's responsibility to notify his subcontractor of the OEPA requirements, have those sign affidavits that they understand those requirements, and furnish copies to ODOT. If contractors will be hauling to a dumpsite or from a barrow area that is larger than 1 Acre, then they shall get their own permit and NOI for those areas and furnish copies to ODOT. The contractor shall install a rain gauge close to the project trailer. The erosion and sediment control features (Temporary and/or Permanent) shall be installed in an acceptable manner so that the device will prevent erosion of soils and deposits of sediment into the receiving watersheds. Stripped areas shall have soils stabilization applied within 7 days if they are to remain dormant for more than 21 days. Permanent or Temporary soil stabilization shall be applied to denuded areas within 7 days after final grade is reached on any portion of the site, and shall also be applied within 7 days to denuded areas which may not be at final grade, but will remain dormant (undisturbed) for longer than 21 days. When deficiencies are found in the project erosion and sediment control system, EPA will notify the contractor of such noncompliance. The contractor shall correct the deficiencies using the contractor items set-up for this purpose. If the contractor fails to remedy unsatisfactory stabilization within 24 hours after receipt of such notice, EPA may invoke the provision of ODOT CMS Section 105.15, correct the stabilization, and deduct the entire cost of the correction from monies due or to become due the contractor on the contract. Failure of the contractor to take corrective measures may result in enforcement actions and penalties as provided by NPDES, federal, state and local law. Any fines for noncompliance will be passed onto the contractor. Payment for all work associated with ERROSION AND SEDDIMENT CONTROL shall be included in the unit bid prices for all temporary and permanent erosion control bid items.

REVIEW OF DRAINAGE FACILITIES
Before any work is started on the project, and again before final acceptance by the ODOT, representatives of the ODOT and the contractor, along with local representatives, shall make an inspection of the existing sewers within the work limits which are to remain in service and which may be affected by the work. The condition of existing conduits and their appurtenances shall be determined from field observations. Records of the inspections shall be kept in writing by ODOT.

All existing sewers inspected initially by the above-mentioned parties shall be maintained and left in a condition reasonably comparable to that determined by the original inspection. Any changes in the condition resulting from contractor's operations shall be corrected by the contractor to the satisfaction of the Engineer.

All new conduits, inlets, catch basins and manholes constructed as part of the project shall be free of all foreign matter and in a clean condition before the project will be accepted by the State of Ohio.

Payment for all the operations described above shall be included in the contract price for the pertinent 603 conduit items.

POST CONSTRUCITON STORM WATER TREATMENT
This plan utilizes Structural Best Management Practices (BMP'S) for post construction storm water treatment.

CROSSING AND CONNECTING TO EXISITING PIPES AND UTILITIES
Where plans provide for a proposed conduit to be connected to, or cross over or under an existing sewer or underground utility, the contractor shall locate the existing pipes or utilities both as to line and grade before starting to lay the proposed conduit.
If it is determined the elevation of the existing conduit, or existing appurtenance to be connected, differs from the plan elevation or results in a change in the plan conduit slope, the Engineer shall be notified before starting construction of any portion of the proposed conduit which will be affected by the variance in the existing elevations.

Payment for all the operations described above shall be included in the contract price for the pertinent 603 conduit item.

TRENCH FOR WIDENING
Trench excavation for base widening shall be only on one side of the pavement at a time. The open trench shall be adequately maintained and protected with drums or barricades at all times. Placement of proposed subbase and base material shall follow as closely as possible behind excavation operations. The length of widening trench which is open at any one time shall be held to a minimum and shall at all times be subject to approval of the Engineer.

OVERNIGHT TRENCH CLOSING
The base widening shall be completed to a depth of no more than 5 inches below the existing pavement by the end of each work day. No trench shall be left open overnight. In case work must be suspended because of inclement weather or other reasons, the trench for the uncompleted base widening shall be backfilled at the direction of the Engineer.

SCALE: 1"=40'
0 20 40

REV. NUMB.	REVISION DESCRIPTION	SHT(S)	INITIAL	DATE

507 Executive Campus Dr. Suite 100 Westerville, Ohio 43082

Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder

Prepared By: WATCON CONSULTING ENGINEERS & SURVEYORS
83 Shull Avenue Ph.
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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16
(COLUMBUS ROAD)
NOTES

DRFT CKD
NEW JRF

FARM DRAINS

All farm drains, which are encountered during construction, shall be provided with unobstructed outlets. Existing collectors which are located below the roadway ditch elevations, and which cross the roadway, shall be replaced within the construction limits by Item 603 conduit, Type B, One commercial size larger than the existing conduit.

Existing collectors and isolated farm drains, which are encountered above the elevation of roadway ditches, shall be outletted into the roadway ditch 603 Type F conduit. The optimum outlet elevation shall be one foot above the flowline elevation of the ditch. Lateral field tiles which cross the roadway shall be intercepted by 603, Type C conduit, and carried in a longitudinal direction to an adequate outlet or roadway crossing.

The location, Type, Size and Grade of replacements shall be determined by the Engineer and payment shall be made on final measurements.

Erosion control pads and animal guards shall be provided at the outlet end of all farm drains as per standard construction drawing DM-1.1, except when they outlet into a drainage structure. Payment for the erosion control pads and animal guards and any necessary bends or branches shall be included for payment in the pertinent conduit item.

The following estimated quantities have been included in the General Summary for the work noted above.

603 8" Conduit, Type B 50 Lin. Ft.
603 6" Conduit, Type C 50 Lin. Ft.
603 4" Conduit, Type F 50 Lin. Ft.

RESTORATION AND CLEAN UP

It is the intent of the State of Ohio and Licking County to keep inconvenience to the property owners to an absolute minimum. All work prescribed and described in these Specifications is situated in improved areas. All work is to continue on a uniform basis and on schedule, particularly the restoration and clean up of disturbed areas after construction.

The tracking of mud, dirt, debris or spillage of same upon State or County streets and residential drives or sidewalks, is prohibited and any such occurrence shall be cleaned up immediately by the contractor. Failure to remove said mud, dirt, debris or spillages may result in the State of Ohio or Licking County, providing that service and the cost of that service withheld from monies which may become due to the contractor.

All fences, signs, concrete steps, drainage structures, or other physical features removed, disturbed or damage during work under the contract shall be restored to their original conditions by the contractor unless otherwise specified. Payment for the same shall be included in the price bid for the various roadway items.

SANITARY FACILITIES

The contractor shall furnish and maintain sanitary convenience facilities for the workmen and inspectors for the duration of the work. Cost shall be included in the unit price bid for the various roadway items.

STORAGE OF EQUIPMENT AND MATERIALS

No materials, including pipe, shall be stored within the right-of-way or within twenty (20) feet of any intersecting street or driveway. During non-working hours, storage of equipment shall comply with these same requirements. Compliance with these requirements shall not in any way relieve the contractor of his legal responsibilities or liabilities for the safety of the public. The contractor shall indicate his intent with regards to storage of material at the preconstruction meeting.

CONDUIT END TREATMENT

Immediately after placement of any conduits, the contractor shall construct the end treatments required by the plans at both the outlet and inlet ends. This shall include headwalls, concrete riprap, rock channel protection, sodding, etc.

MAINTAINING MAIL SERVICE

The contractor shall be responsible for maintaining mail service in the construction area. Prior to disturbing any mail boxes the contractor shall contact the postal authorities and shall temporarily relocate mail boxes in accordance with the requirements. The contractor shall restore mail boxes to their original conditions and location unless otherwise specified. Cost of same shall be included in the unit price bid for Item 203.

REPLACEMENT OF DRAIN TILE AND STORM SEWER

All drain tile and storm sewers damaged, disturbed, or removed as a result of the contractor's operations shall be replaced with the same quality pipe or better, as determined by the Engineer, maintaining the same gradient as existing. The drain tile and/or storm sewer shall be connected to the curb subdrain, storm sewer system or outletted into the roadway ditch as applicable. Replaced drain tile/storm sewer shall be laid on compacted bedding equal in density to surrounding stratum. Replacement shall be done at the time of the backfill operation. Cost of this work to be included in the unit price bid for the conduit items.

MAINTIAN DRAINAGE

The flow in all sewers, drains, field tiles and watercourses encountered shall be maintained by the contractor at his own expense, and whenever such watercourses and drains are disturbed or destroyed during the prosecution of the work, they shall be restored by the contractor at his own cost and expense to a condition satisfactory to the Engineer.

ITEM 659 SEEDING AND MULCHING

The work under this item shall be in accordance with ODOT CMSC Item 659 except as modified as follows:

ITEM 659 SEEDING AND MULCHING (Continued)

Permanent Seeding Dates

3/15-6/15, 8/15-10/15

Prior to seeding, the contractor shall provide supplier certification that the seed mix meets the requirements of this specification.

All other areas disturbed or destroyed by the contractor shall be restored and seeded and mulched by the contractor at his own expense. Final site restoration, in accordance with the plans and specifications, shall be completed as the project progresses.

The following quantities are provided to promote growth and care of permanent seeded areas:

659, Seeding and Mulching, Class 1	5,600 Sq Yd
659, Repair Seeding and Mulching	245 Sq Yd.
659, Inter-seeding	245 Sq. Yd.
659, Commercial Fertilizer	0.82 Ton
659, Lime	1.26 Acres
659, Water	32.9 M. Gal.

Seeding and mulching shall be applied to all areas of exposed soil between the right-of-way lines, and within the construction limits for areas outside the right-of-way lines covered by work agreement or slopes easement. Quantity calculations for seeding and mulching are based on these limits.

ITEM 653: TOPSOIL FURNISHED AND PLACED

At all locations, the contractor shall remove three (3) inches of earth and replace it with Topsoil. Any areas outside the limits shown on the cross sections that are disturbed or destroyed by the contractor shall be repaired with topsoil by the contractor at no additional cost to the State of Ohio or the project. Quantities for excavation, not including embankment construction and embankment shown in the plans have been estimated to the final grade lines and the contractor should adjust his estimated cost to accommodate the use of topsoil.

Item 653, Topsoil, Furnished and Placed 412 Cu. Yd.

Payment for Item 653 Topsoil Furnished and Placed, shall be the unit price bid per cubic yard and shall include any necessary excavation to place the topsoil, and any incidentals necessary to complete work. This material shall be pulverized topsoil as manufactured at a processing plant. Existing topsoil or topsoil from another project will not be acceptable.

ITEM 207: EROSION & SEDIMENTATION CONTROL

The contractor shall be solely responsible for providing necessary and adequate measures for proper control of Erosion & Sedimentation Runoff throughout the project limits in accordance with the standards and specifications of the "Rainwater and Land Development" Manual of the Ohio Department of Natural Resources.

The contractor shall provide adequate measure for the proper control of Erosion and Sediment Runoff along with the proper maintenance and inspection to insure compliance to the NPDES General Permit for storm water discharges associated with construction activity.

Prior to construction operations in a particular area, all Sedimentation and Erosion Control measures shall be in place. Field adjustments with respect to locations and dimensions may be made by the Engineer as required.

Temporary Erosion Control features shall be acceptably maintained and shall be removed or replaced when directed by the Engineer at no additional cost to the State of Ohio, Licking County, owner or the project. All work shall be performed in accordance with Item 207 of the Construction and Materials Specifications.

Payment for all Erosion Control Items needed shall be included n the Lump Sum Price Bid for Item 207, Temporary Erosion and Sediment Control.

A Storm Water Pollution Prevention Plan has been provided for this improvement. Reference Sheets 33-36.

ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN

In addition to the requirements of ODOT CMS Item 617 Compacted Aggregate, this item shall include for payment any Item 617 Water or Item 617 Shoulder Preparation necessary to complete this item per the specifications and to the satisfaction of the Engineer. Additionally, the aggregate used for this item shall conform to the gradation of Type A per ODOT CMS 703.18.

ITEM 203 - RAISED PAVEMENT PARKER REMOVED

Prior to placing any permanent or temporary traffic control markings, the contractor shall remove and dispose of all conflicting raised pavement markers in accordance with 202.10. All tools, materials, labor and incidentals necessary to perform this work shall be included in the cost of this item. No separate payment shall be made, the following quantity has been carried to the General Summary.

Item 202 Raised Pavement Marker Removed 30 Each

~~ITEM 203 - EMBANKMENT~~

~~ITEM 203 - EXCAVATION, AS PER PLAN~~

In addition to ODOT CMS Section 203, removal and disposal of asphalt pavement, concrete pavement, asphalt curb, topsoil and/or brick materials on this project has been included within Item 203 - Excavation, as per plan.

ITEM 203 - EXCAVATION, AS PER PLAN (Continued)

The Contractor may reuse or stockpile the topsoil on site for future work at the contractor's expense. All material excavated for construction including topsoil and debris shall be removed from the site and disposed of at the expense of the contractor. No materials excavated are to be reused without prior written permission by the Engineer.

All soil stockpiles, including trench excavation stockpiles shall be protected from erosion by perimeter control devices such as straw bale dikes or silt fence. These perimeter control devices shall be maintained throughout the life of the project. This includes excess or unusable excavated soil.

Please note, that the State, County, or owner shall not enter into any contracts with the contractor or private owner for the disposal of materials. The State, County or owner shall not be responsible for any damages done to private property within or outside of the project limits during disposal.

All material to be disposed of off-site must be disposed of in an environmentally sound manner in accordance with local, state and federal regulations. No excess materials are to be disposed of in any wetland, flood plain, or other environmentally sensitive areas, erosion control measures at the disposal site must be installed and maintained until disposal is complete and the disposal site permanently stabilized. For disposal outside the limits of the project the contractor shall provide a copy of the signed, written agreement and indicate the landowner's permission for such use. The acquisition of this site is the contractor's responsibility. No separate payment will be made.

The contractor shall be responsible to over excavate and dispose of any unusable or unsuitable material deemed necessary to obtain acceptable subgrade compaction, by the geotechnical engineer and an acceptable proof roll.

PLACING FEATHERED AREAS

Items, such as wearing course removal or asphalt cement coating, that are necessary to construction butt joints or taper edge type feathered areas per ODOT Standard Construction Drawing BP-3.1 are to be considered incidental to construction and are to be included with associated pavement items for payment unless otherwise quantified for payment.

COORDINATION WITH UTILITIES

The contractor is advised that some utility facilities may not be clear of the construction area during the time of construction. These utility facilities may remain in place or be relocated within the construction limits. The contractor shall not wait on the relocations to be completed, but instead shall cooperate with the utilities including their contractors, and work around the existing facilities. Section 105.07 and 107.16 of the Ohio Department of Transportation Construction and Material Specifications require that the contractor cooperate with all utilities located within the limits of this construction project and take responsibility for the protection of the utility property and services. No separate payment shall be made for the contractor to coordinate with Utility Companies.

The contractor shall exercise caution when working in the proximity of existing and/or relocated utility facilities. Cost to expose conduit shall be included in the items of work affected. The contractor is reminded to keep their OUPS ticket updated according to industry practices.

CONSTRUCTION LAYOUT STAKES

Basic construction layout staking will be performed once by the owner or owner's representative at no cost to the contractor. Any additional staking or restaking by the contractor will be paid for by the contractor.

SCALE: 1"=40'

NO.	REVISION DESCRIPTION	SHT(S)	INITIAL	DATE

Prepared For: WESTPORT HOMES A DIVISION OF D.R.HORTON America's Builder
507 Executive Campus Dr. Suite 100 Westerville, Ohio 43082

Prepared By: WATCON CONSULTING ENGINEERS & SURVEYORS
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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
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NOTES

DRFT CKD
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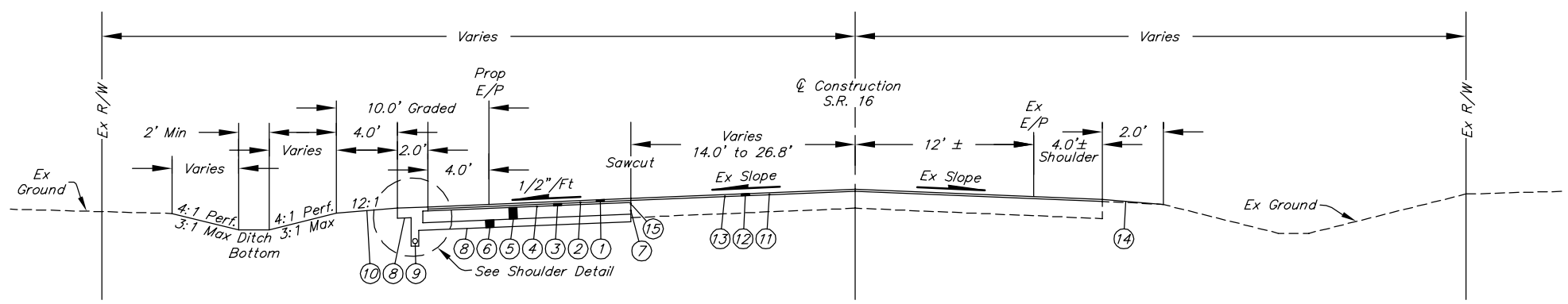
Z:\ELLINGTON VILLAGE SEC 5-10\DRAWINGS\3-BROAD STREET WIDENING\BROAD ST WIDENING - TITLE PAGE-NOTES-TYP SEC-QUANTITIES.DWG - 1 XREFS: EV S5-6 Engineering Base - PLOTTED BY CAMERON - September 04, 2019 - 12:24 PM

1. Recommend using Non-Tracking, Tack Coat.
2. Surface Course must use PG 70-22M binder.

STREET SECTION LEGEND

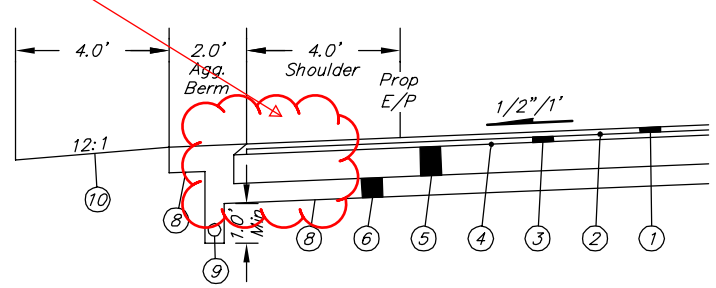
1. Item 441, 1 1/2" Asphalt Concrete, (448), Type 1, Pg 64-22
2. Item 407, Tack Coat, Bituminous (0.05 Gal/S.Y.)
3. Item 441, 1 3/4" Asphalt Concrete, (448), Type 2, Pg 64-22
4. Item 407, Tack Coat, Bituminous (0.10 Gal/S.Y.)
5. Item 301, 9" Bituminous Aggregate Base
6. Item 304, 6" Aggregate Base
7. Item 407, Tack Coat, Bituminous (0.25 Gal/S.Y.)
8. Item 204, Subgrade Compaction
9. Item 605, 4" Pipe Underdrain, (See Detail this Sheet)
10. Item 659, Seeding & Mulching, Item 659
11. Item 254 – Pavement Planing (1-1/2" average)
12. Item 441 – 1 1/2" (Min.) Asphalt Concrete Intermediate Leveling Course
13. Item 407, Tack Coat, Bituminous (0.15 Gal/S.Y.)
14. Item 617, Compacted Aggregate, As Per Plan
15. Item 252, Full Depth Sawcut
    Sta. 8+54.00 to Sta. 19+61.68
    Sta. 20+37.41 to Sta. 29+46.15



TYPICAL SECTION

S.R. 16 (Columbus Road)
Scale: None

Need to detail the edge course design (steps) and safety edge is required BP-3.2



SHOULDER DETAIL

S.R. 16 (Columbus Road)
Scale: None

Provide minimum of 2 foot widening for compaction.

Provide cut lines on a straight taper or offset from centerline.

Begin with 28 foot section and 26 foot cut line, do not taper from 27.8 feet to 28 feet. Cut line should taper from Sta. 8+54 to 14+70 +/- at or near a straight line.

Cut line should stay at 14 foot from Sta. 14+70 +/- to Sta. 29+46.12.

Do not taper pavement from 16.2 feet to 15.2 feet at the end of the project. Finish widening taper at Sta. 29+46.12 at 16 foot.

Provide better details on the pavement widening tapers including stations.

SCALE: 1"=40'

REV. NUM.	REVISION DESCRIPTION	SHT(S)	INITIAL	DATE

Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder
507 Executive Campus Dr. Suite 100 Westerville, Ohio 43082

Prepared By: WATCON CONSULTING ENGINEERS & SURVEYORS
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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS FOR:
STATE ROUTE 16 (COLUMBUS ROAD)
TYPICAL SECTIONS

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ESTIMATE OF QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
			STREET
201	Lump	L.S.	Clearing and Grubbing
203	2,415	C.Y.	Excavation, Including Embankment Construction (Streets Only)
204	2,135	S.Y.	Subgrade Compaction
252	2,055	L.F.	Full Depth Sawcut
254	325	C.Y.	Pavement Planing (1 1/2" average)
301	535	C.Y.	Bituminous Aggregate Base (9")
304	360	C.Y.	Aggregate Base (6")
407	107	Gals	Tack Coat (0.05 Gal per SqYd)
407	214	Gals	Tack Coat (0.10 Gal per SqYd)
407	1,165	Gals	Tack Coat (0.15 Gal per SqYd)
407	90	Gals	Tack Coat (0.25 Gal per SqYd)
441	90	C.Y.	1 1/2" Asphalt Concrete Surface Course, Type 1, Pg 64-22
441	105	C.Y.	1 3/4" Asphalt Concrete Intermediate Course, Type 2, Pg 64-22
441	325	C.Y.	1 1/2" Asphalt Concrete Intermediate Leveling Course, Type 2, Pg 64-22 (Planed Areas)
605	2,020	L.F.	4" Pipe Underdrain, O.D.O.T. 707.33
605	-----	L.F.	4" Type F Underdrain Pipe, O.D.O.T. 707.33
			MAINTENANCE OF TRAFFIC
614	2,225	L.F.	Work Zone Edge Line, Class I, 642 Paint
614	2,225	L.F.	Work Zone Center Line, Class I, 642 Paint
614	Lump	L.S.	Maintaining Traffic, As Per Plan
			TRAFFIC CONTROL
621	14	Each	Type A, Channelizing Line 2-Way (White/Red) Pavement Marker
621	44	Each	Type B, Center Line 2-Way (Yellow/Yellow) Pavement Marker
630	30	S.F.	Flat Sheet (Straight & Left Turn, R3-H8bh)
630	55	L.F.	Support Post No. 3
644	4,031	L.F.	4" Solid Double Yellow Center Line
644	4,037	L.F.	4" White Edge Line
644	470	L.F.	8" White Channelizing line
644	387	L.F.	20" Yellow Transverse Line
644	4	Each	Lane Arrow
644	2	Each	96" Word on Pavement "ONLY"
			TRAFFIC CONTROL
204	235	S.Y.	Subgrade Compaction
304	40	C.Y.	Aggregate Base (6")
441	20	C.Y.	3" Asphalt Concrete Surface Course, Type 1, Pg 64-22

ITEM	QUANTITY	UNIT	DESCRIPTION
			STORM
202	65	L.F.	Removal of Ex 6" Storm Pipe
202	35	L.F.	Removal of Ex 18" Storm Pipe
202	1	Each	Removal of Ex Storm Structure
601	15	S.Y.	Flex-A-Mat, or approved equal
611	320	Lin.Ft.	18" Conduit, Type B, RCP per 706.02 only, Class IV
611	375	Lin.Ft.	24" Conduit, Type B, RCP per 706.02 only, Class IV
611	5	Each	Catch Basin (ODOT CB 2-3) (3'x3')
			WATER
202	4	L.F.	Relocate Existing Fire Hyd.
Spec	1	Each	Convert Existing Fire Hyd. from Type A to Type B Fire Hyd.
			EROSION CONTROL
207	5,460	S.Y.	Temporary Seeding
659	5,460	S.Y.	Seeding & Mulching
Spec	13	Each	Ditch Check
Spec	5	Each	Frye Flow Filters for Catch Basins, or Approved Equal

Calculated By: NEW Date: 7/23/19

Checked By: CAB Date: 9/4/19

SCALE: 1"=40'

SHT(S)	INITIAL	DATE	REVISION DESCRIPTION

REV. INIT.

Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder
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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16 (COLUMBUS ROAD)
QUANTITIES

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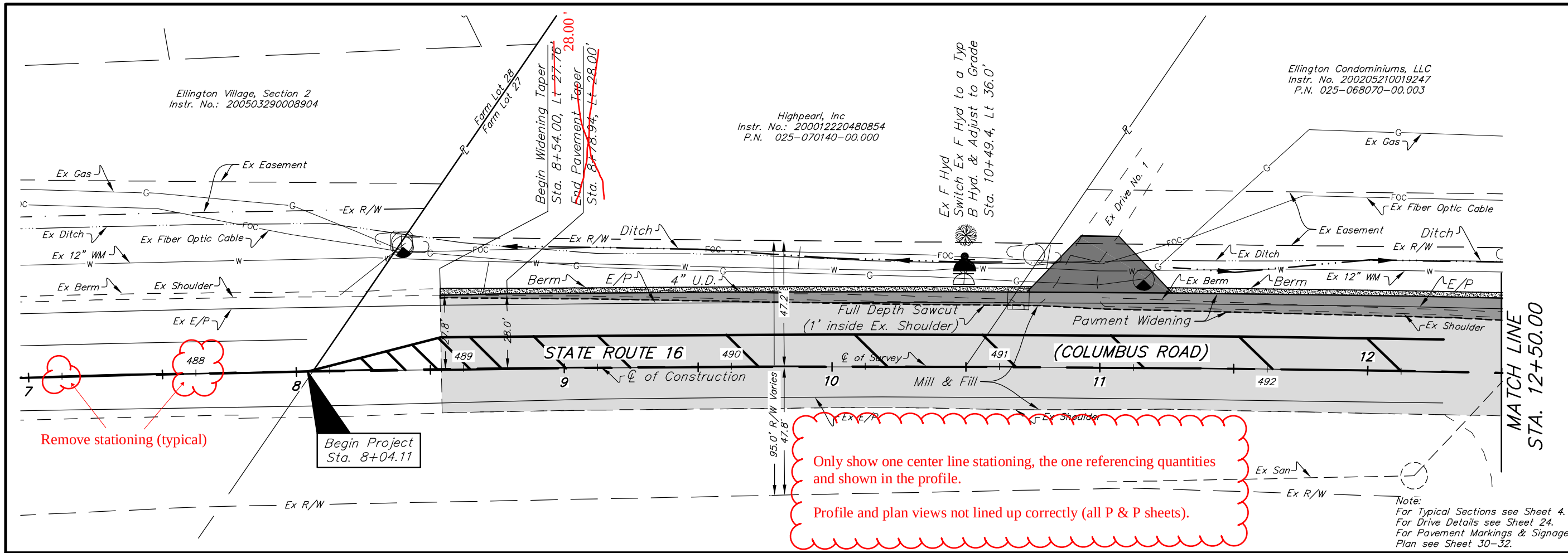

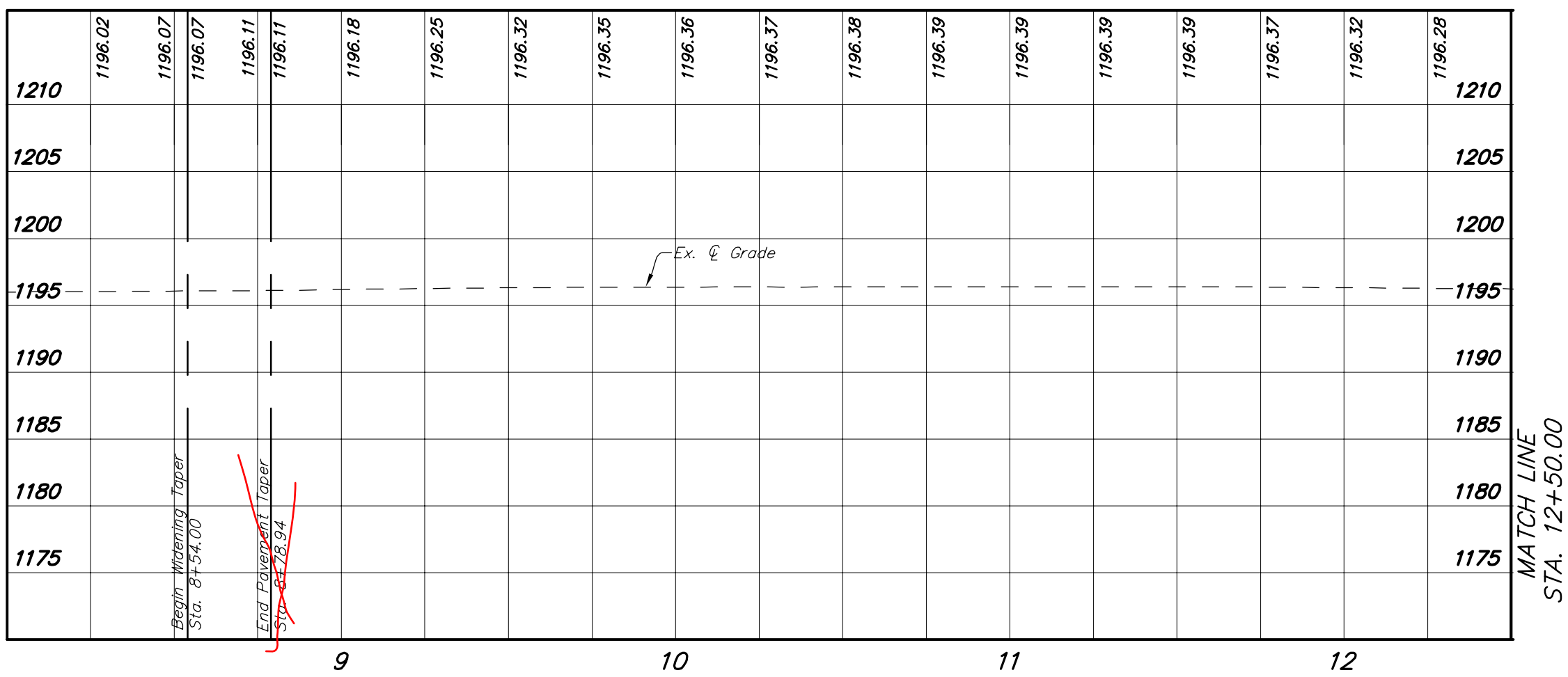

SCALE: 1"=40'(H) 1"=10'(V)

DATE	INITIAL	SHT(S)	REVISION DESCRIPTION	REV. INITIAL

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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16
(COLUMBUS ROAD)
PLAN & PROFILE

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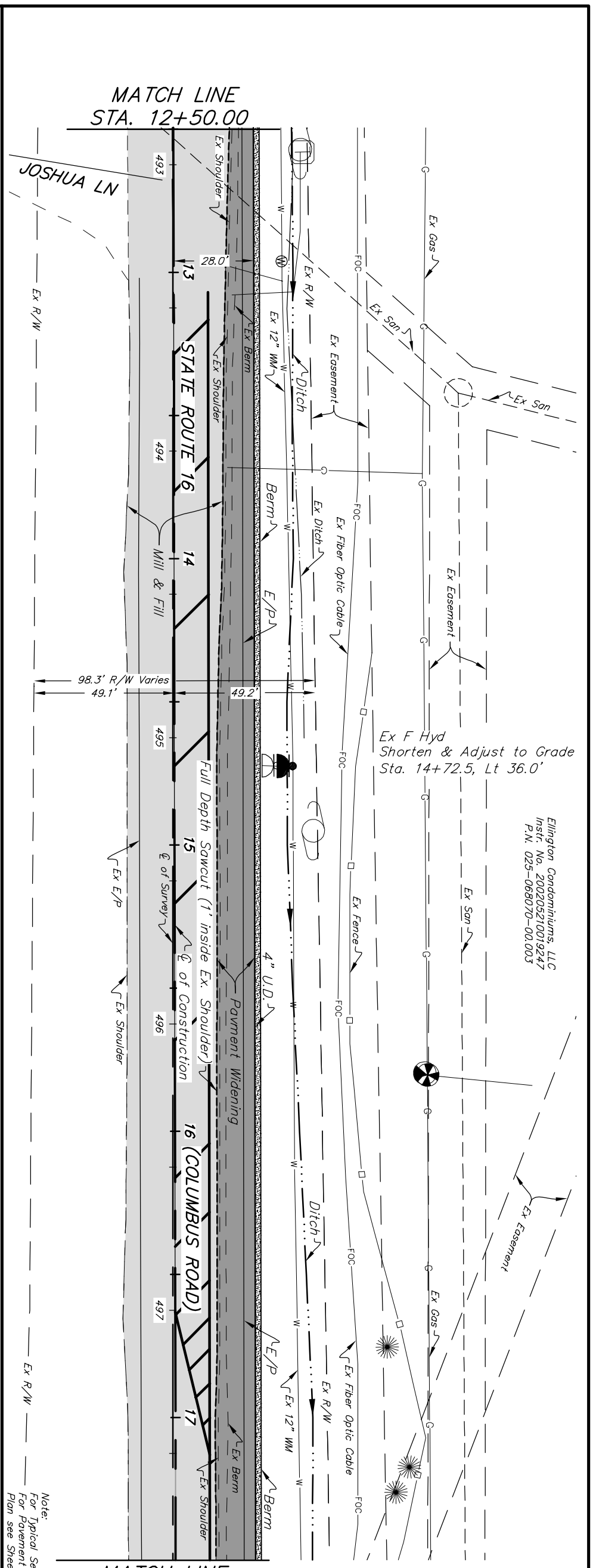

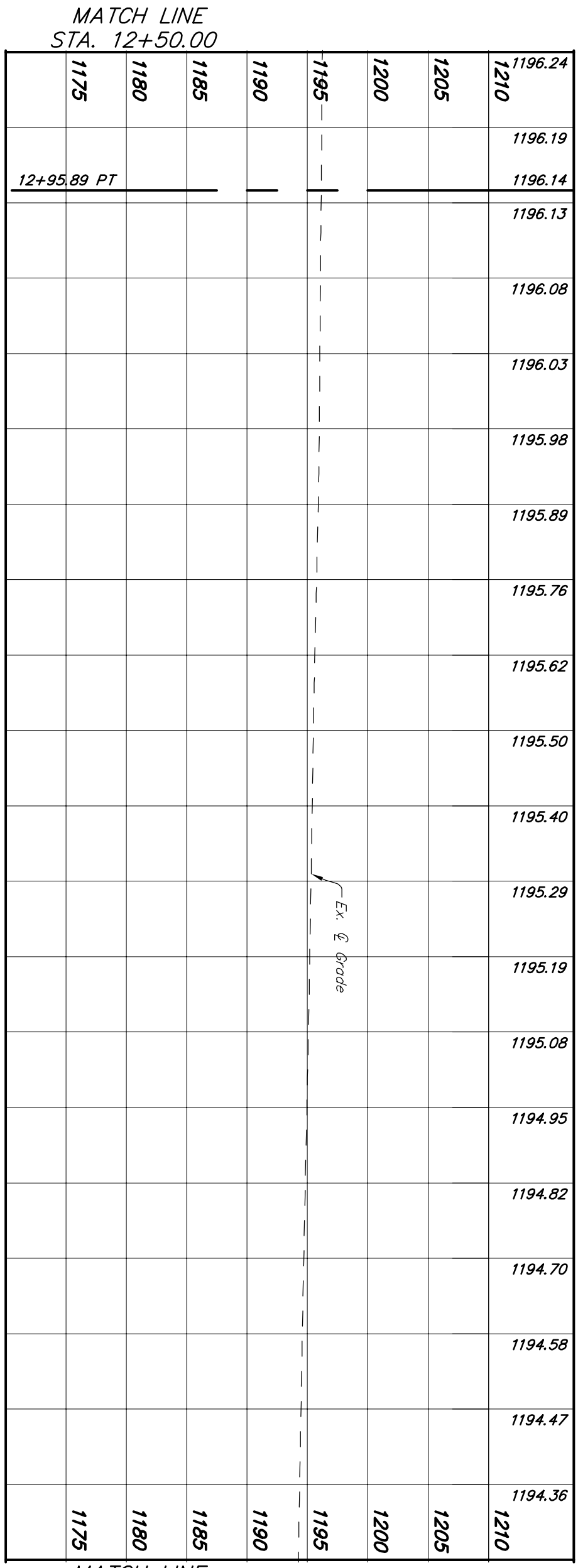

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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16
(COLUMBUS ROAD)
PLAN & PROFILE

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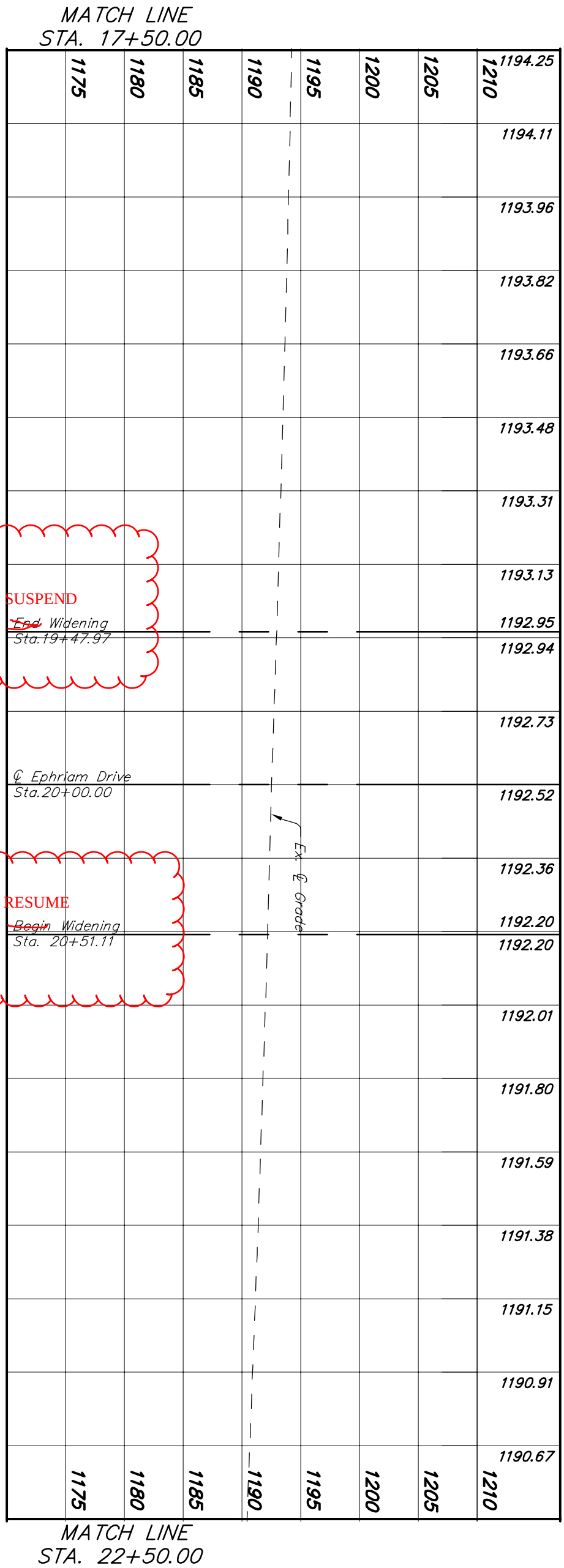

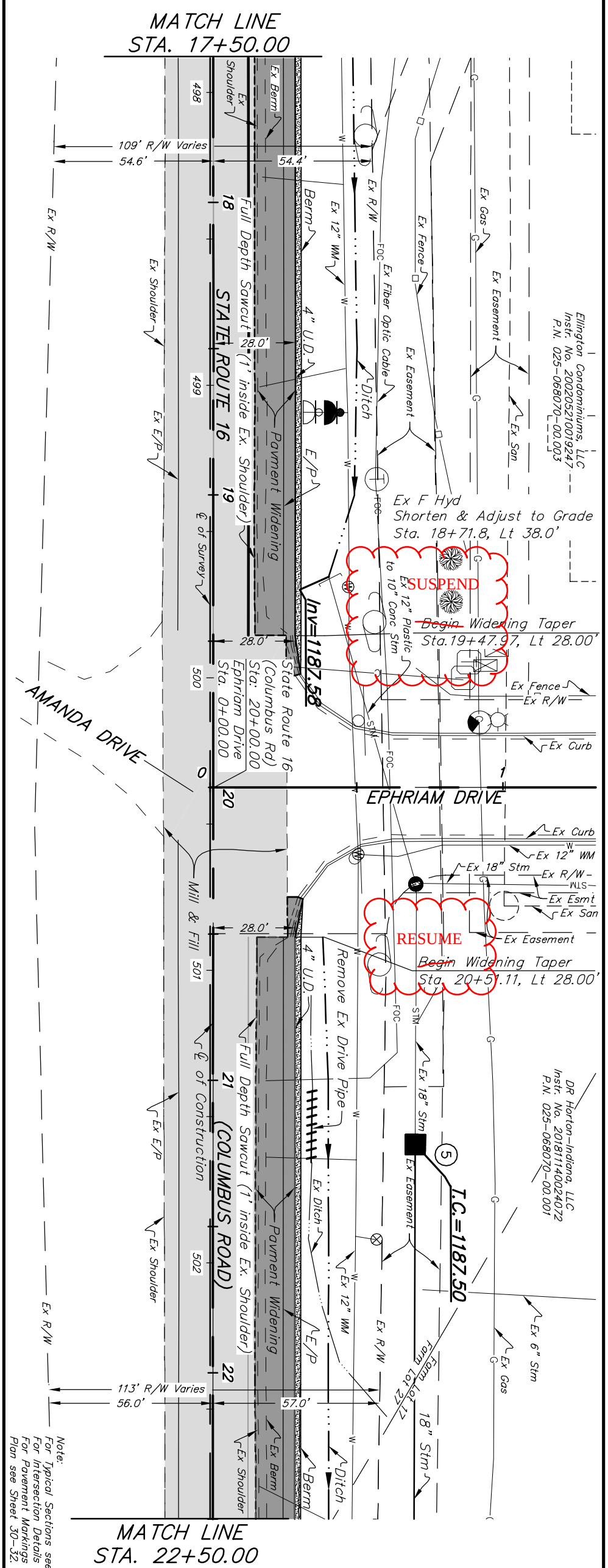

Note:
For Typical Sections see Sheet 4.
For Intersection Details see Sheet 23.
For Pavement Markings & Signage Plan see Sheet 30-32.

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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16
(COLUMBUS ROAD)
PLAN & PROFILE

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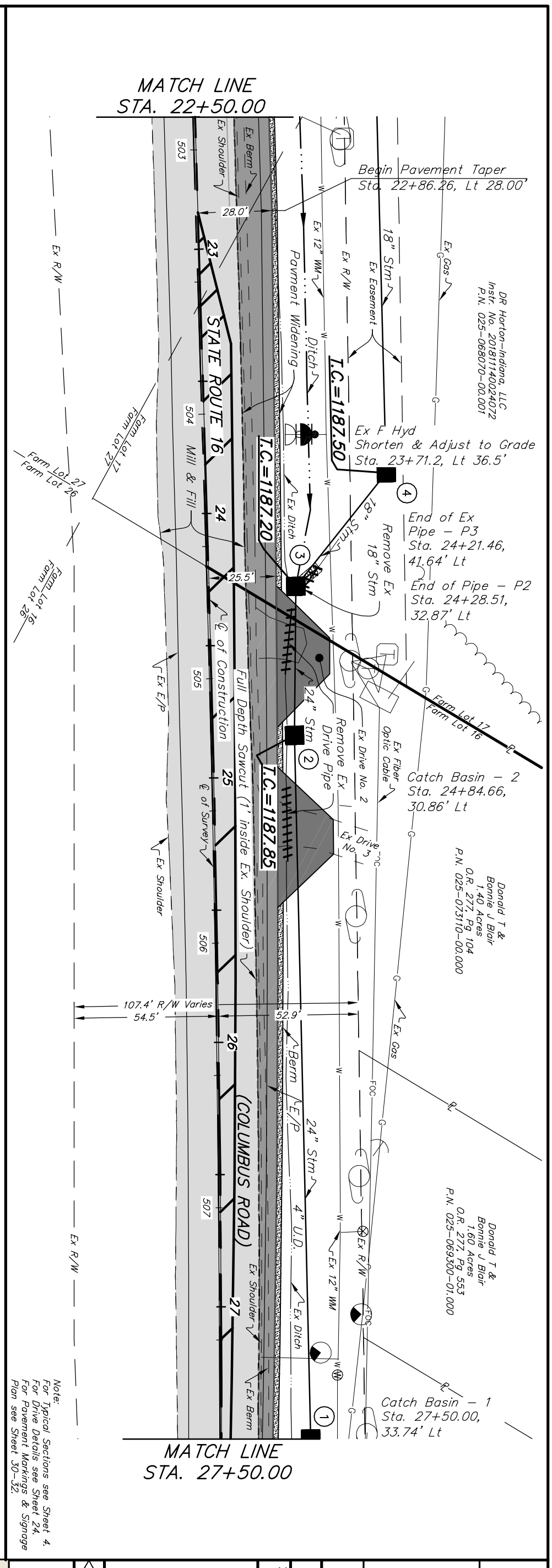
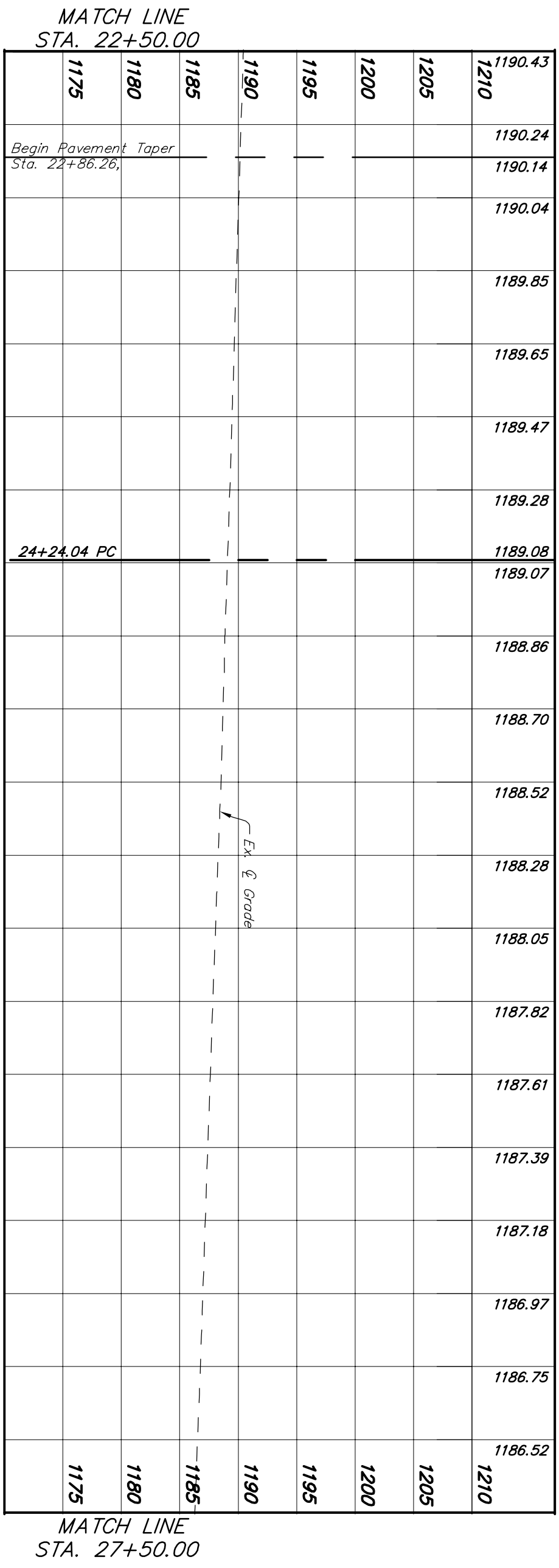


Note:
For Typical Sections see Sheet 4.
For Drive Details see Sheet 24.
For Pavement Markings & Signage Plan see Sheet 30-32.



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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
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PLAN & PROFILE

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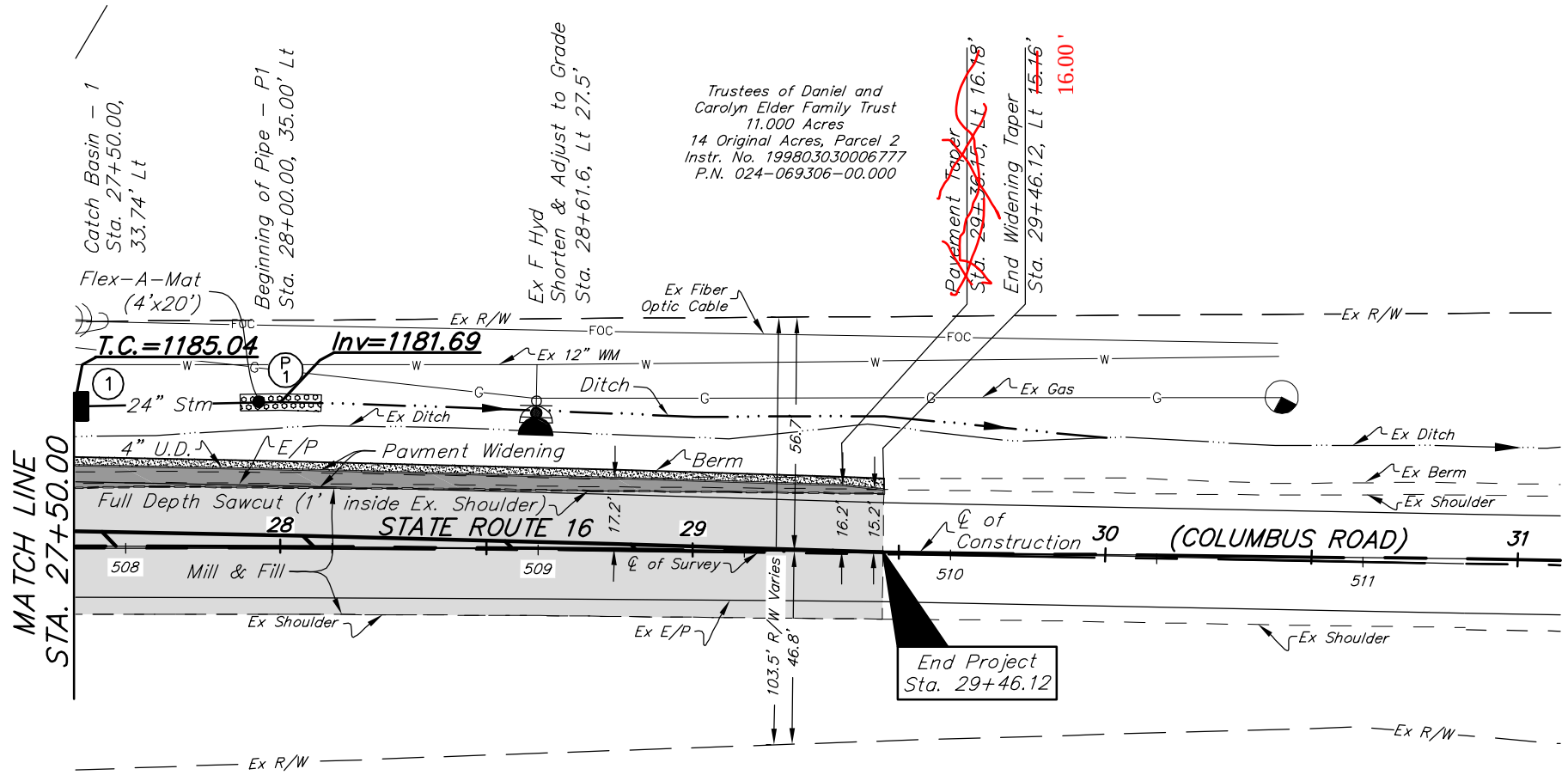
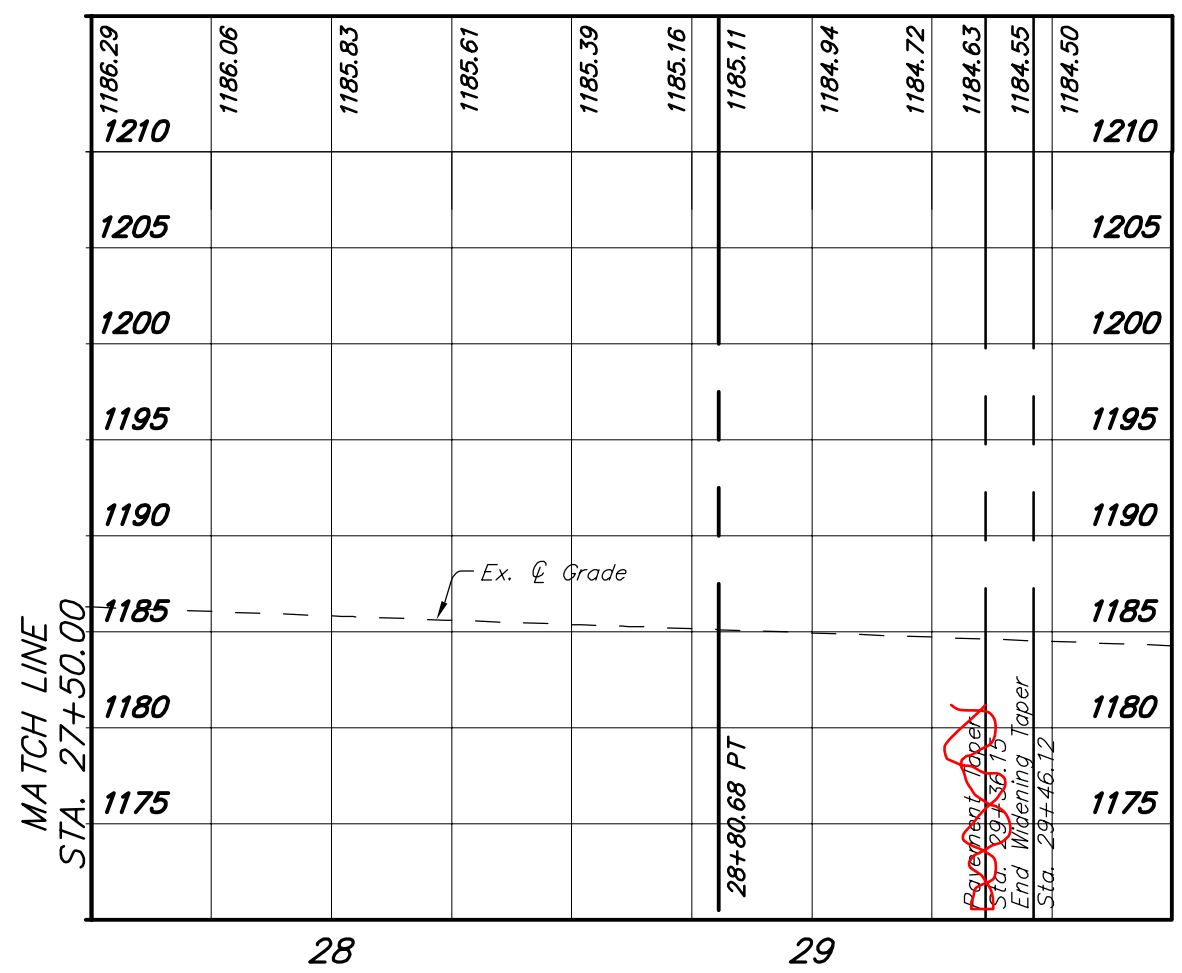


Note:
For Typical Sections see Sheet 4.
For Pavement Markings & Signage
Plan see Sheet 30–32.



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REVISION DESCRIPTION

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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
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STATE ROUTE 16
(COLUMBUS ROAD)
PLAN & PROFILE

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39

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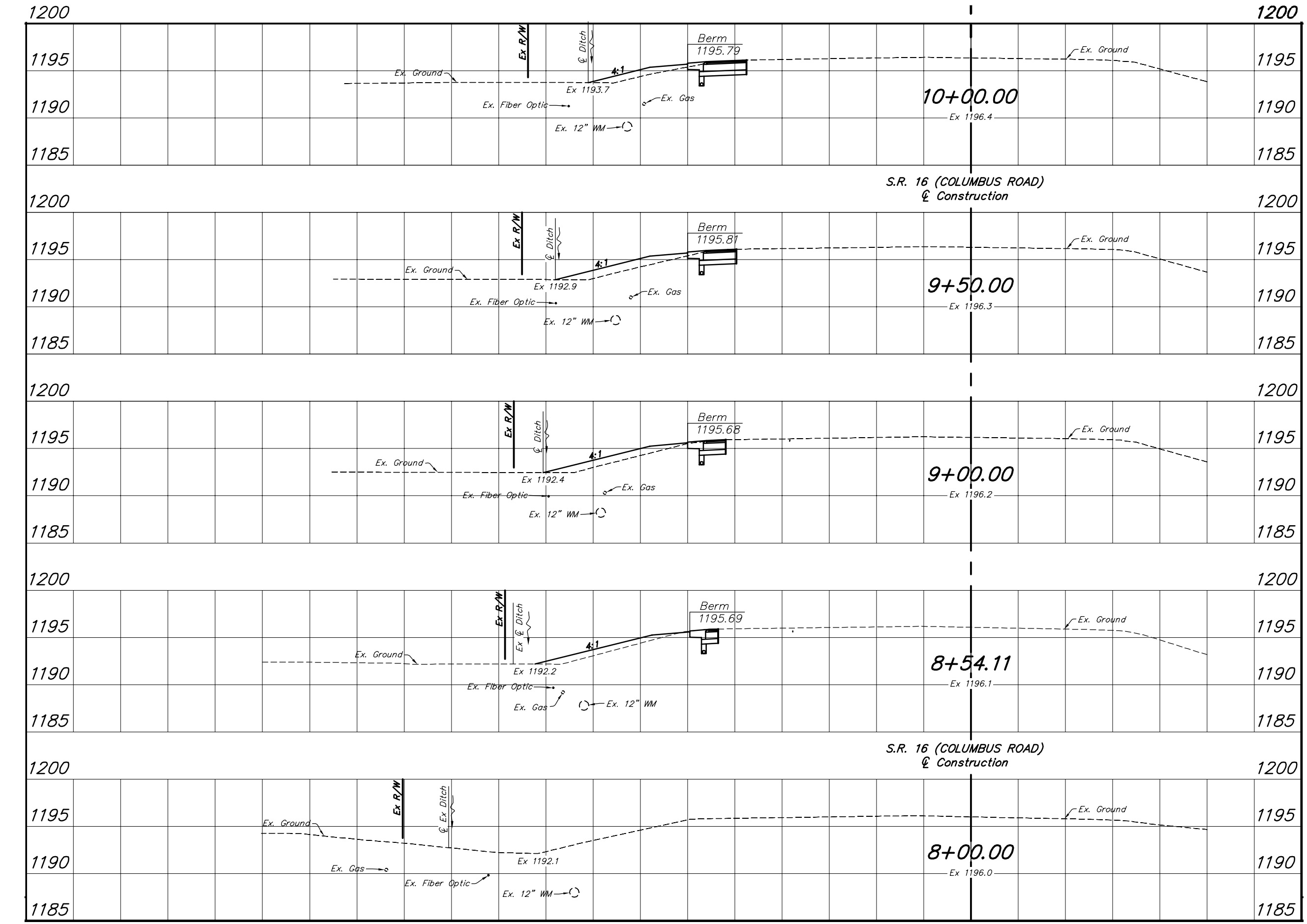

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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS FOR:
STATE ROUTE 16 (COLUMBUS ROAD)
CROSS SECTIONS

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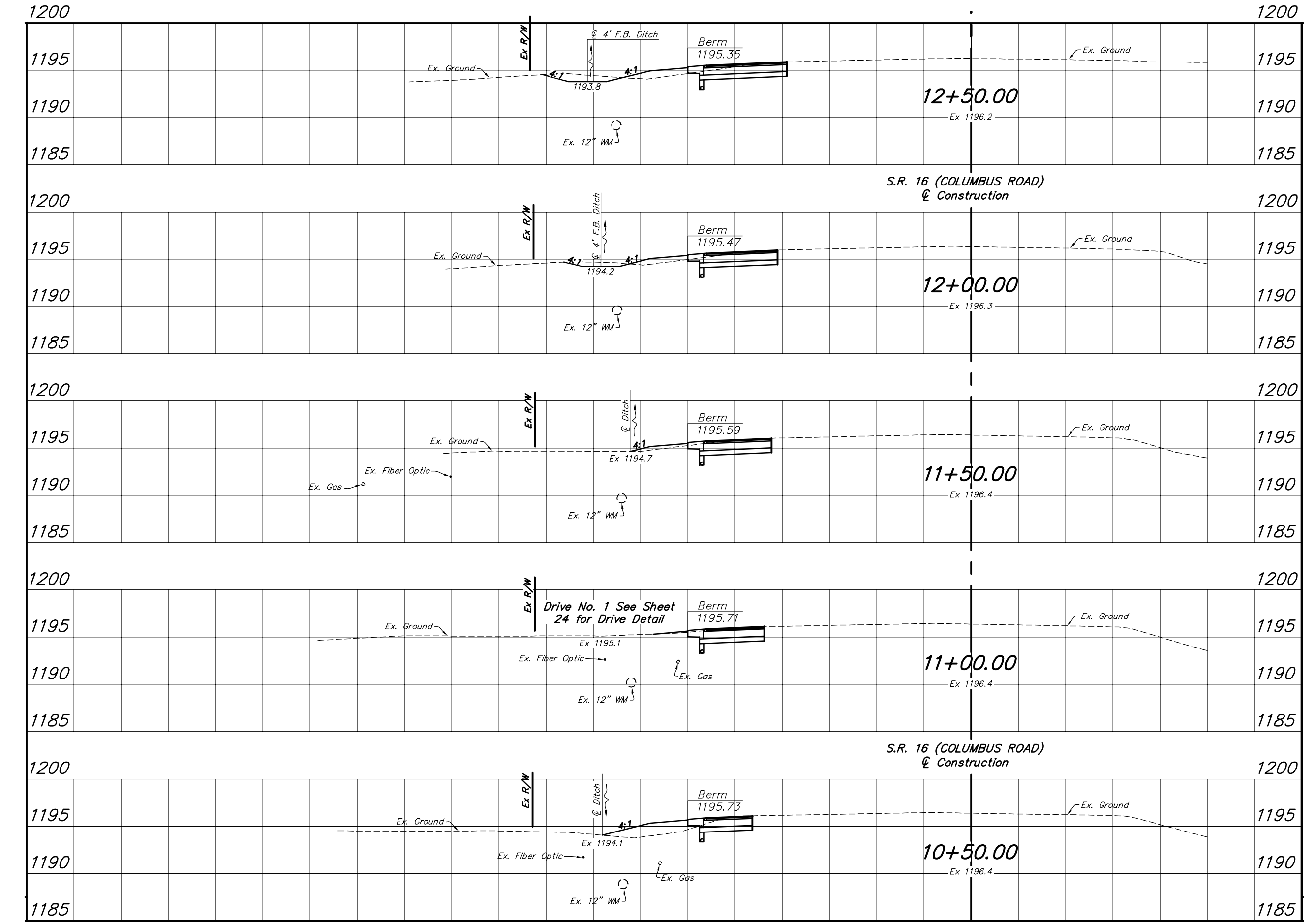

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(COLUMBUS ROAD)
CROSS SECTIONS

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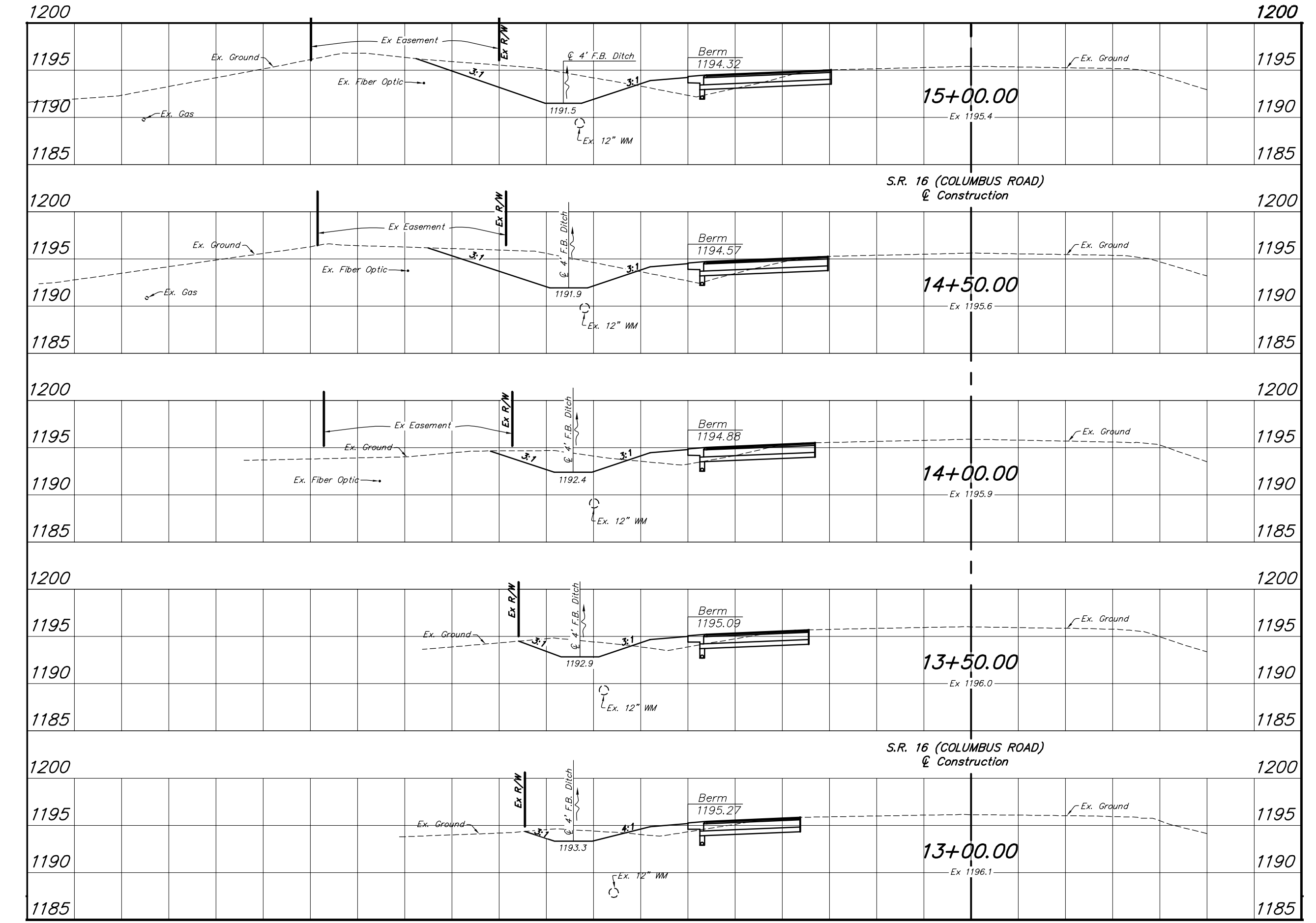

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LICKING COUNTY, OHIO
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CROSS SECTIONS

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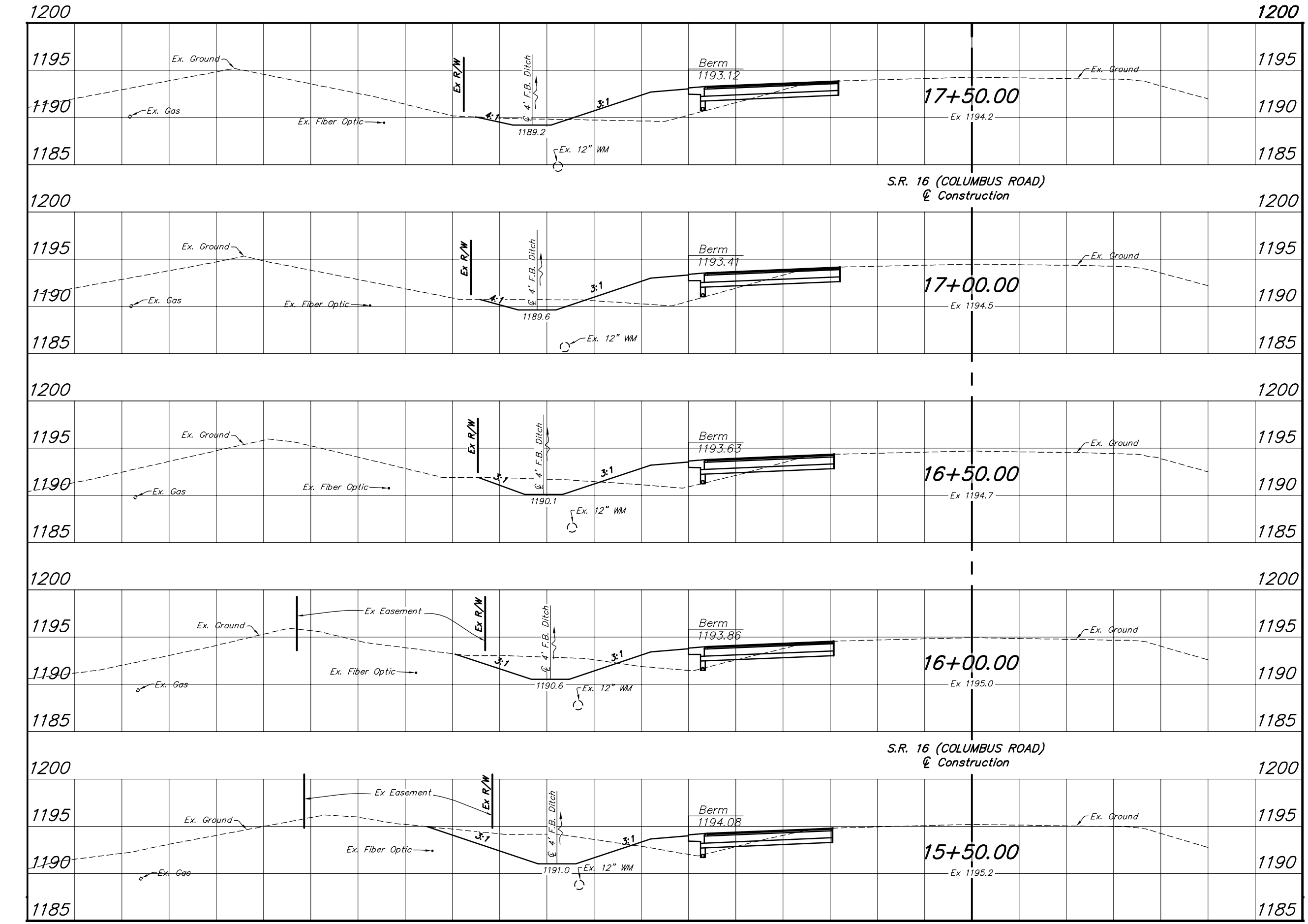

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LICKING COUNTY, OHIO
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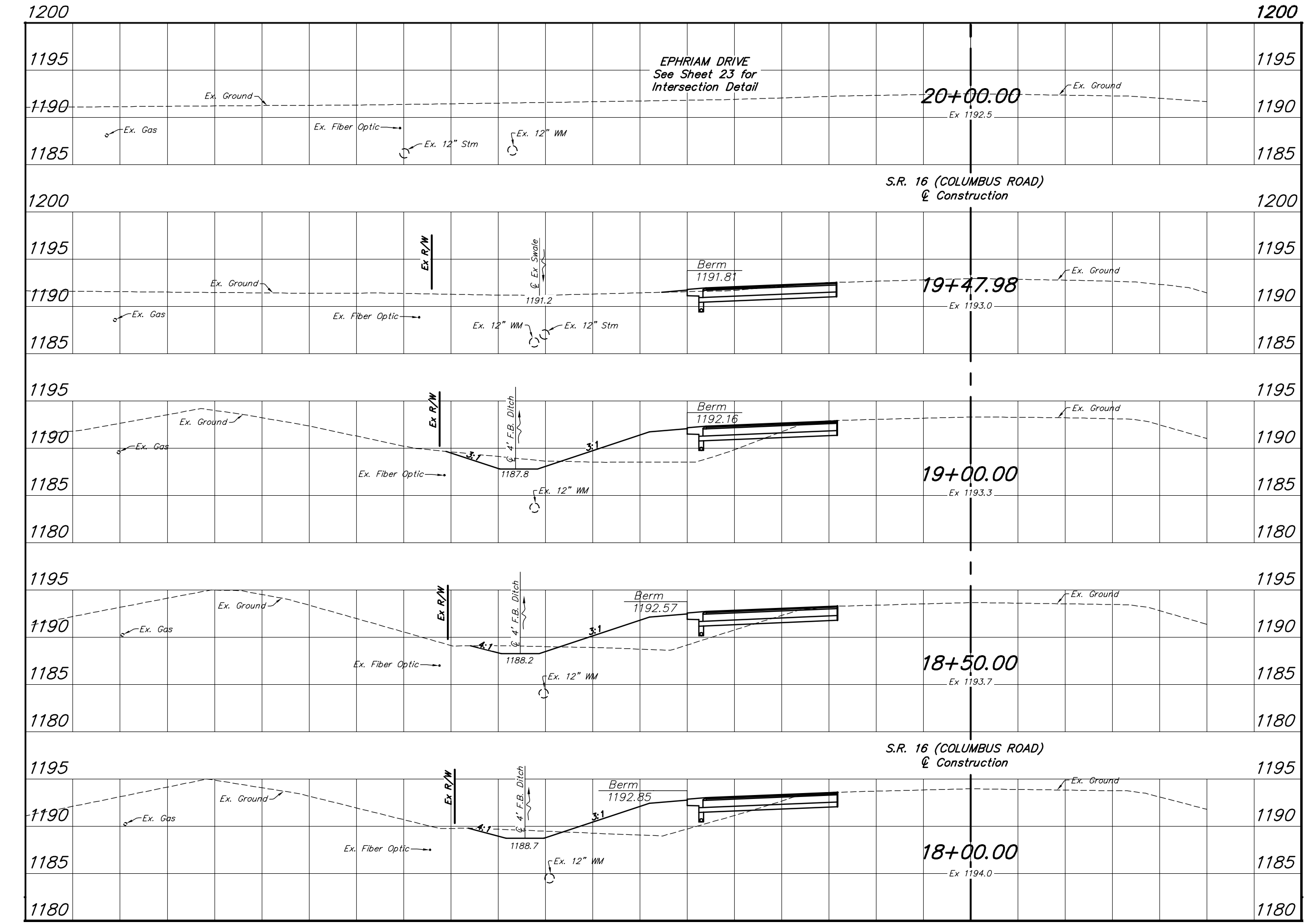

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LICKING COUNTY, OHIO
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(COLUMBUS ROAD)
CROSS SECTIONS

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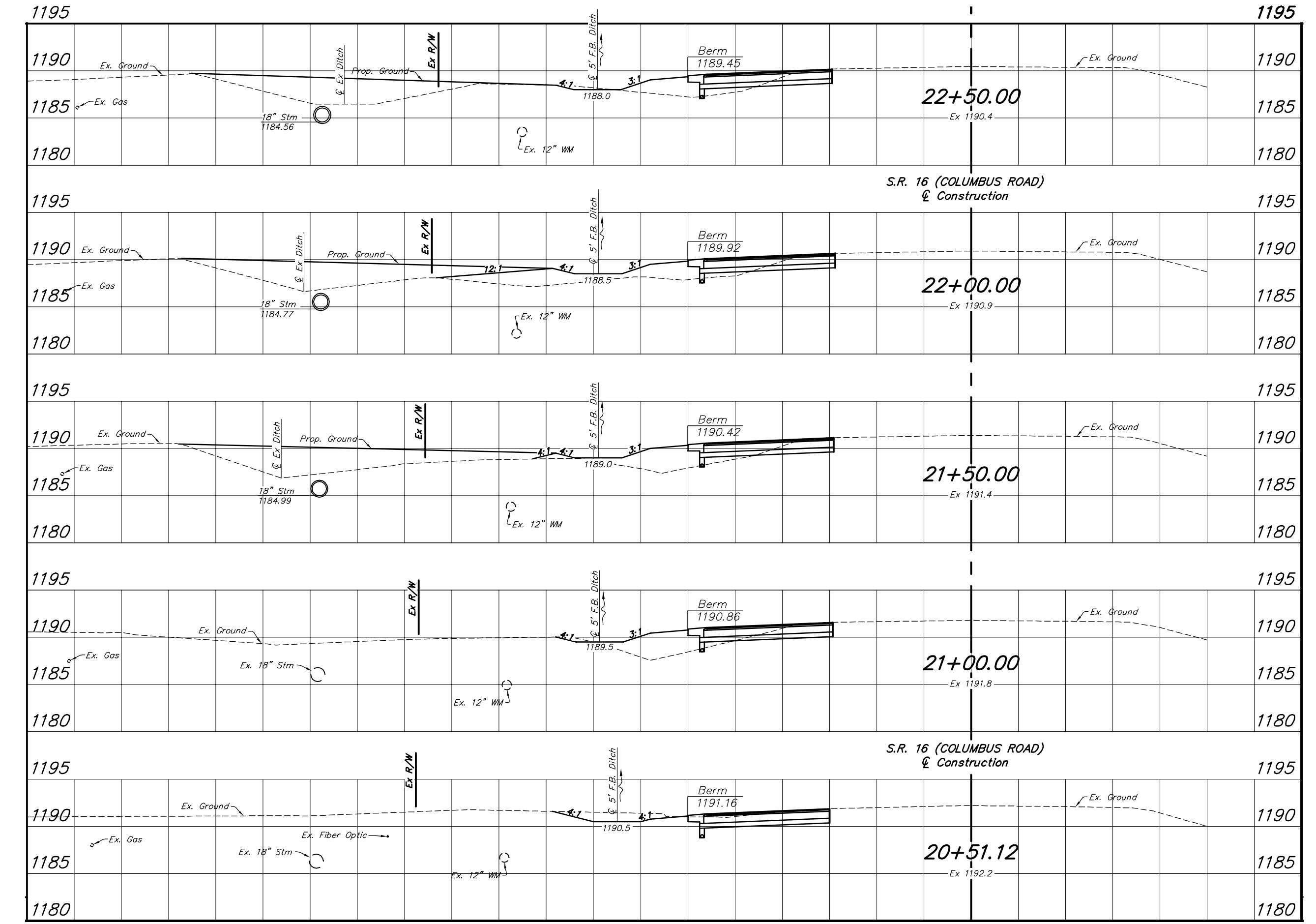

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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS FOR:
STATE ROUTE 16 (COLUMBUS ROAD)
CROSS SECTIONS

DRFT CKD NEW JRF

16 / 39

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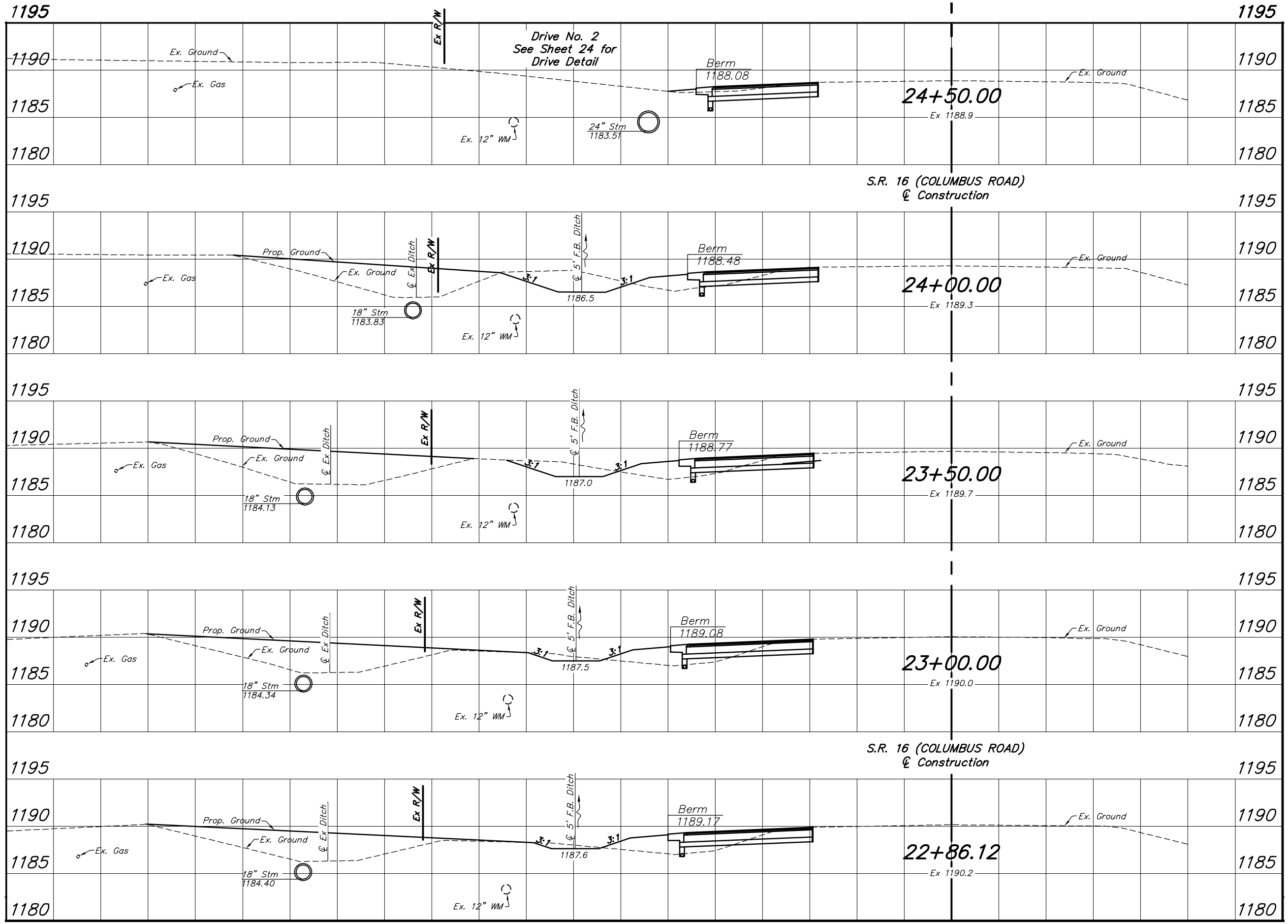

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CROSS SECTIONS

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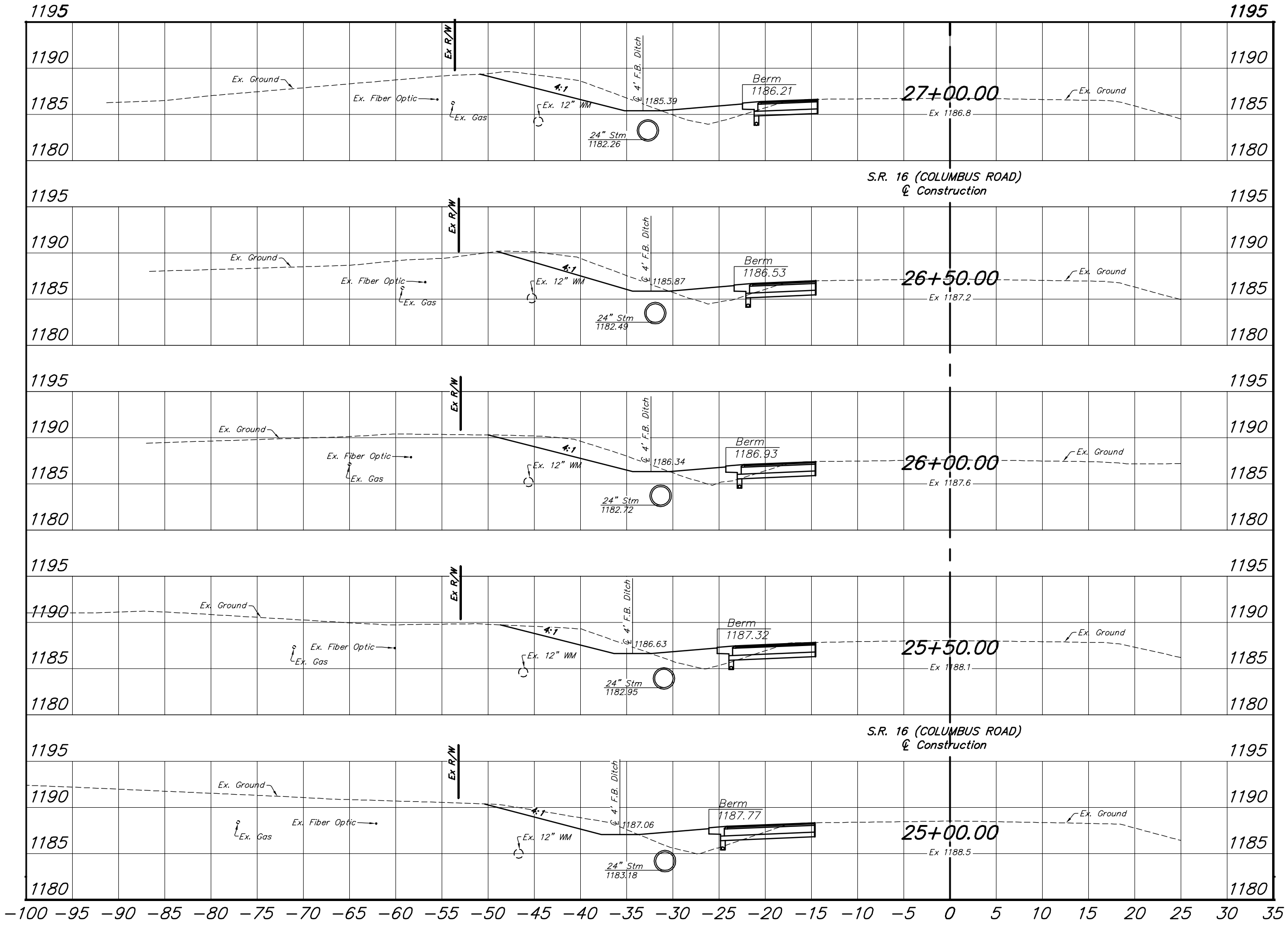
17
39

Z:\ELLINGTON VILLAGE SEC 5-10\DRAWINGS\3-BROAD STREET WIDENING\BROAD ST WIDENING-PROFILE & X-SEC.DWG - 1 XREFS: EV S5-6 Engineering Base - PLOTTED BY CAMERON - September 04, 2019 - 12:31 PM



SCALE: 1"=10'(H) 1"=10'(V)

SHT(S)	INITIAL	DATE

REV. NUM.	REVISION DESCRIPTION

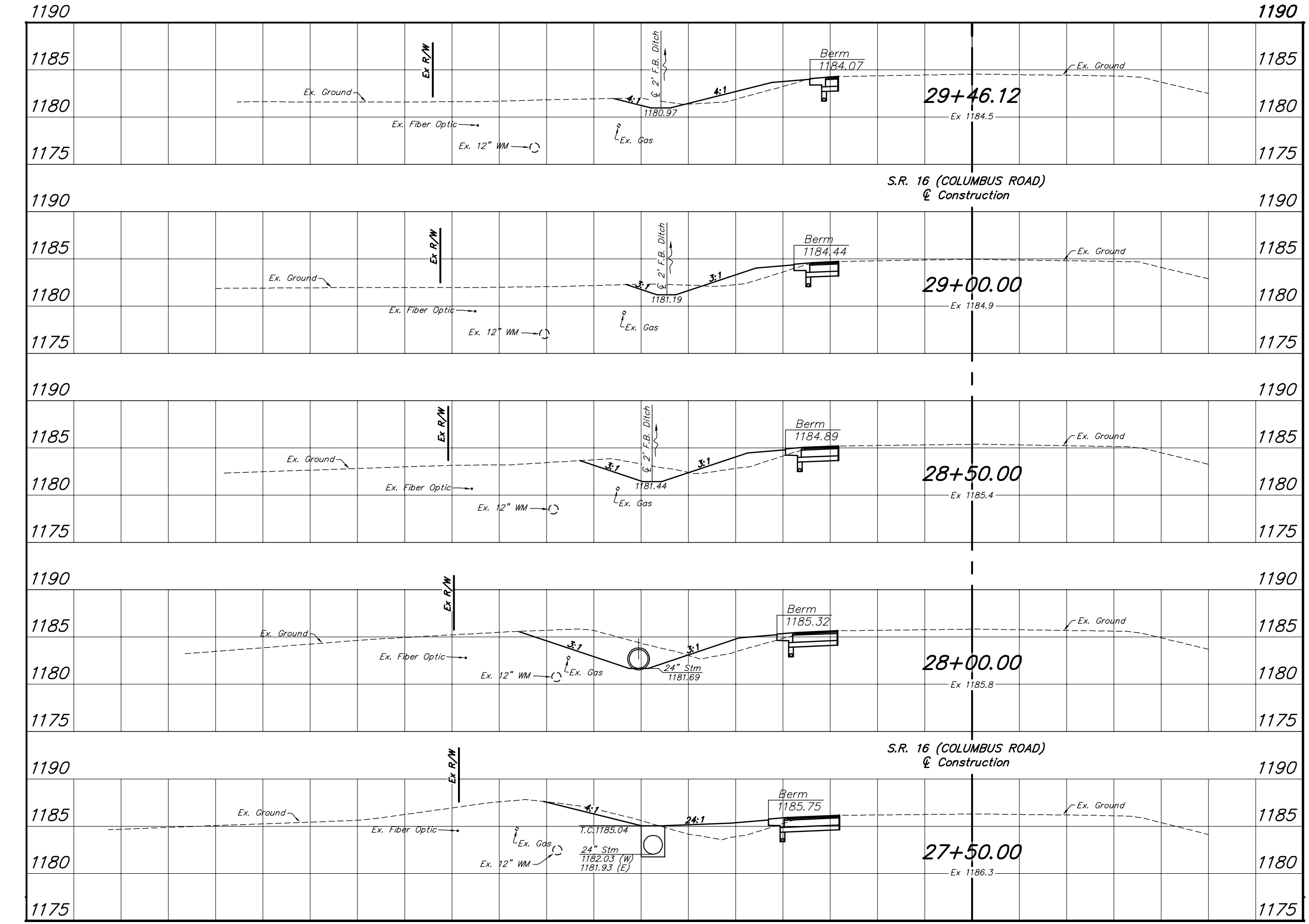
Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder
507 Executive Campus Dr. Suite 100 Westerville, Ohio 43082

Prepared By: TAT WATCON
CONSULTING ENGINEERS & SURVEYORS
83 Shull Avenue Ph. Gahanna, Ohio 43230 (614) 414-7979

LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16 (COLUMBUS ROAD)
CROSS SECTIONS

DRFT CKD
NEW JRF

Z:\ELLINGTON VILLAGE SEC 5-10\DRAWINGS\3-BROAD STREET WIDENING\BROAD ST WIDENING-PROFILE & X-SEC.DWG - 1 XREFS: EV S5-6 Engineering Base - PLOTTED BY CAMERON - September 04, 2019 - 12:31 PM



SCALE: 1"=10'(H) 1"=10'(V)

SHT(S)	INITIAL	DATE

REVISION DESCRIPTION

REV. INITIAL

507 Executive Campus Dr. Suite 100 Westerville, Ohio 43082

Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder

Prepared By: WATCON CONSULTING ENGINEERS & SURVEYORS 83 Shull Avenue Ph. Gahanna, Ohio 43230 (614) 414-7979

LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16
(COLUMBUS ROAD)
CROSS SECTIONS

DRFT CKD
NEW JRF

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39

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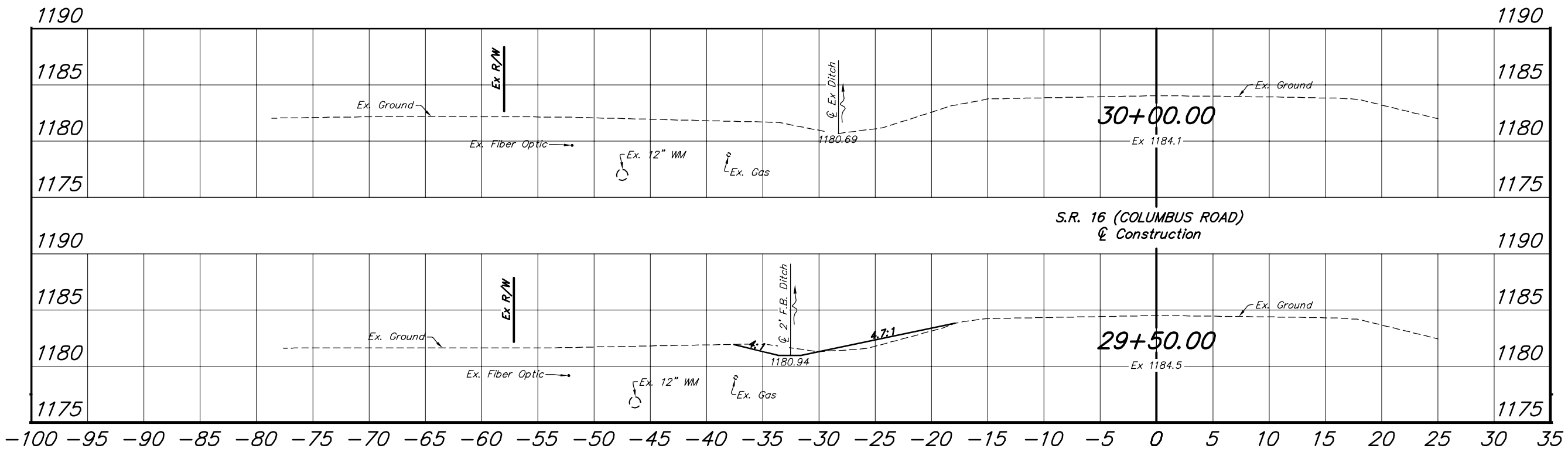

SCALE: 1"=10'(H) 1"=10'(V)

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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16 (COLUMBUS ROAD)
CROSS SECTIONS

DRFT CKD
NEW JRF

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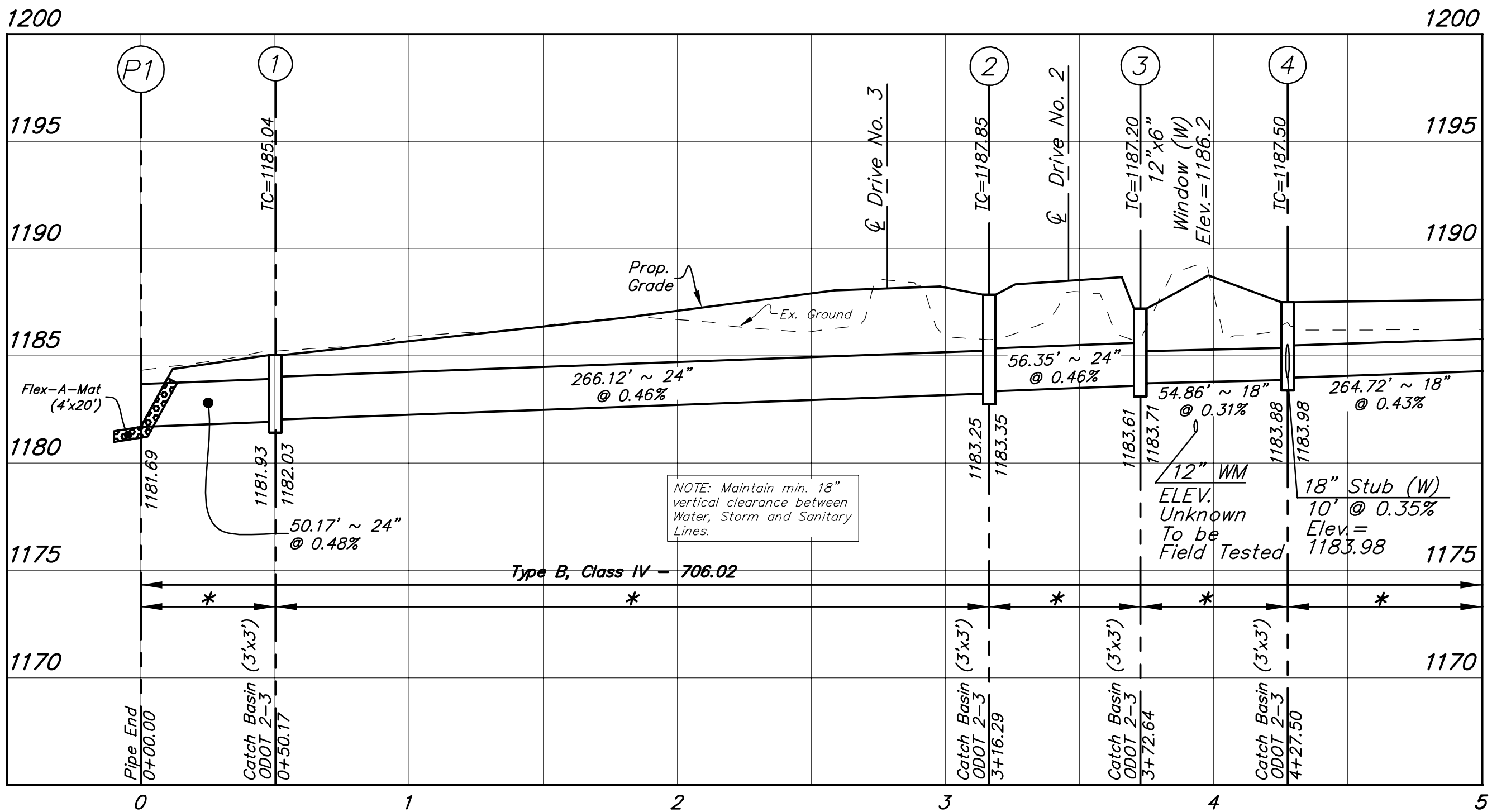
* Compacted Granular Backfill, Item 304.
Granular backfill of the utility trenches shall be required under and within five (5) feet of all paved areas. Compaction to meet the requirements of Item 203 (ODOT CMS). Type A

** Backfill shall be compacted in horizontal lifts, with loose thicknesses not exceeding 8 inches. Each lift shall be compacted to at least 95% of the maximum dry density as determined in accordance with Item 203 (ODOT CMS). Type B

*** Backfill shall be compacted in horizontal lifts, with loose thicknesses not exceeding 8 inches. Each lift shall be compacted to at least 90% of the maximum dry density as determined in accordance with Item 203 (ODOT CMS). Type C



SCALE: 1"=40' (H) 1"=5' (V)

REV. NUMB.	REVISION DESCRIPTION	SHT(S)	INITIAL	DATE

Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder

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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16 (COLUMBUS ROAD)
STORM PROFILES

DRFT CKD
NEW JRF

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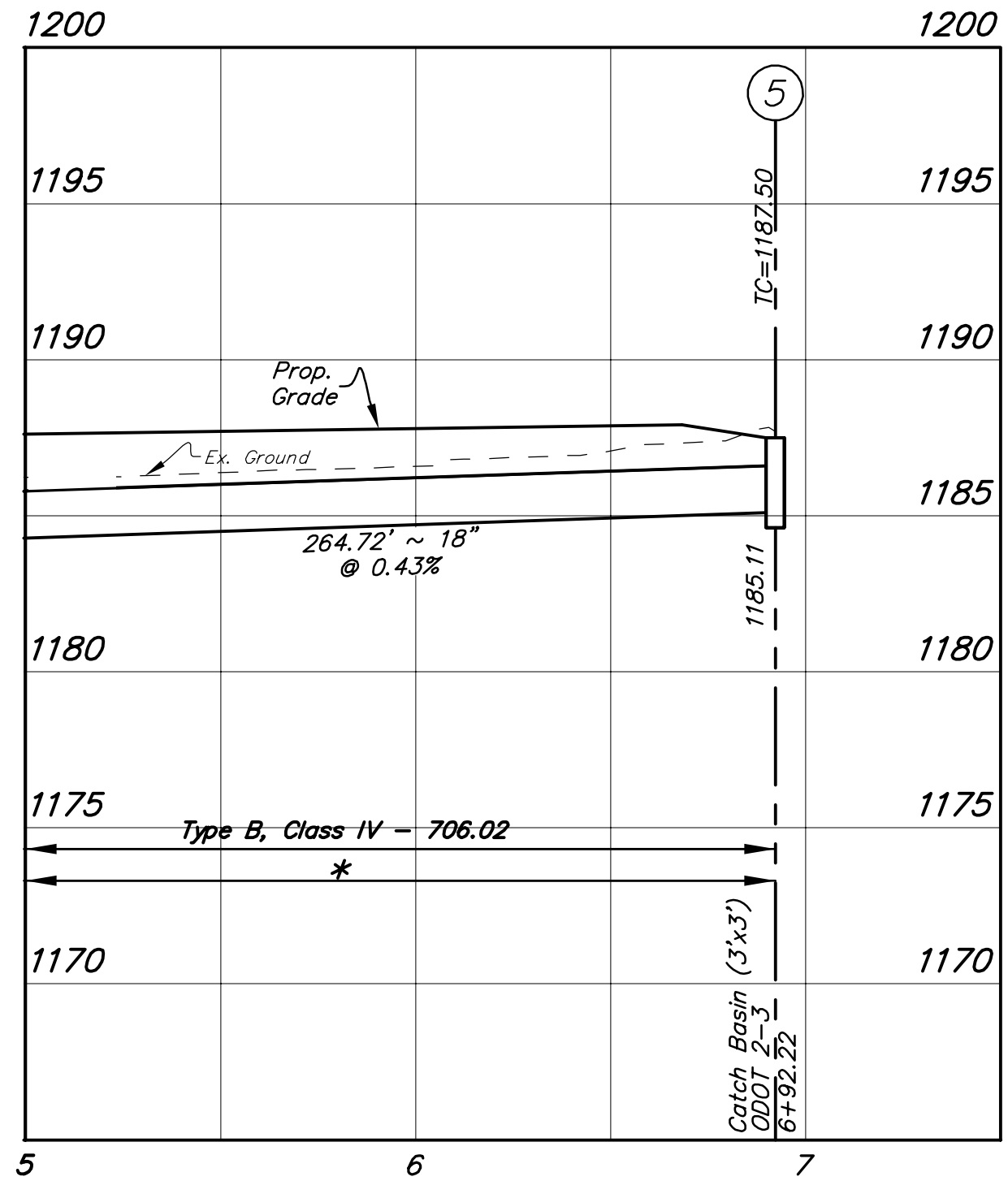
* Compacted Granular Backfill, Item 304.
Granular backfill of the utility trenches shall be required under and within five (5) feet of all paved areas. Compaction to meet the requirements of Item 203 (ODOT CMS).
Type A

** Backfill shall be compacted in horizontal lifts, with loose thicknesses not exceeding 8 inches. Each lift shall be compacted to at least 95% of the maximum dry density as determined in accordance with Item 203 (ODOT CMS).
Type B

*** Backfill shall be compacted in horizontal lifts, with loose thicknesses not exceeding 8 inches. Each lift shall be compacted to at least 90% of the maximum dry density as determined in accordance with Item 203 (ODOT CMS).
Type C

NOTE: Maintain min. 18" vertical clearance between Water, Storm and Sanitary Lines.



SCALE: 1"=40' (H) 1"=5' (V)

DATE	INITIAL	SHT(S)	REVISION DESCRIPTION	REV. INITIAL

507 Executive Campus Dr, Suite 100, Westerville, Ohio 43082

Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder

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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16
(COLUMBUS ROAD)
STORM PROFILES

DRFT CKD
NEW JRF

22/39

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STATE ROUTE 16 / EPHRIAM DRIVE INTERSECTIN DETAIL

SCALE: 1"=10'

SCALE: 1"=10'

SHT(S)	INITIAL	DATE

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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16 (COLUMBUS ROAD)
INTERSECTION DETAIL

DRFT CKD
NEW JRF

23/39

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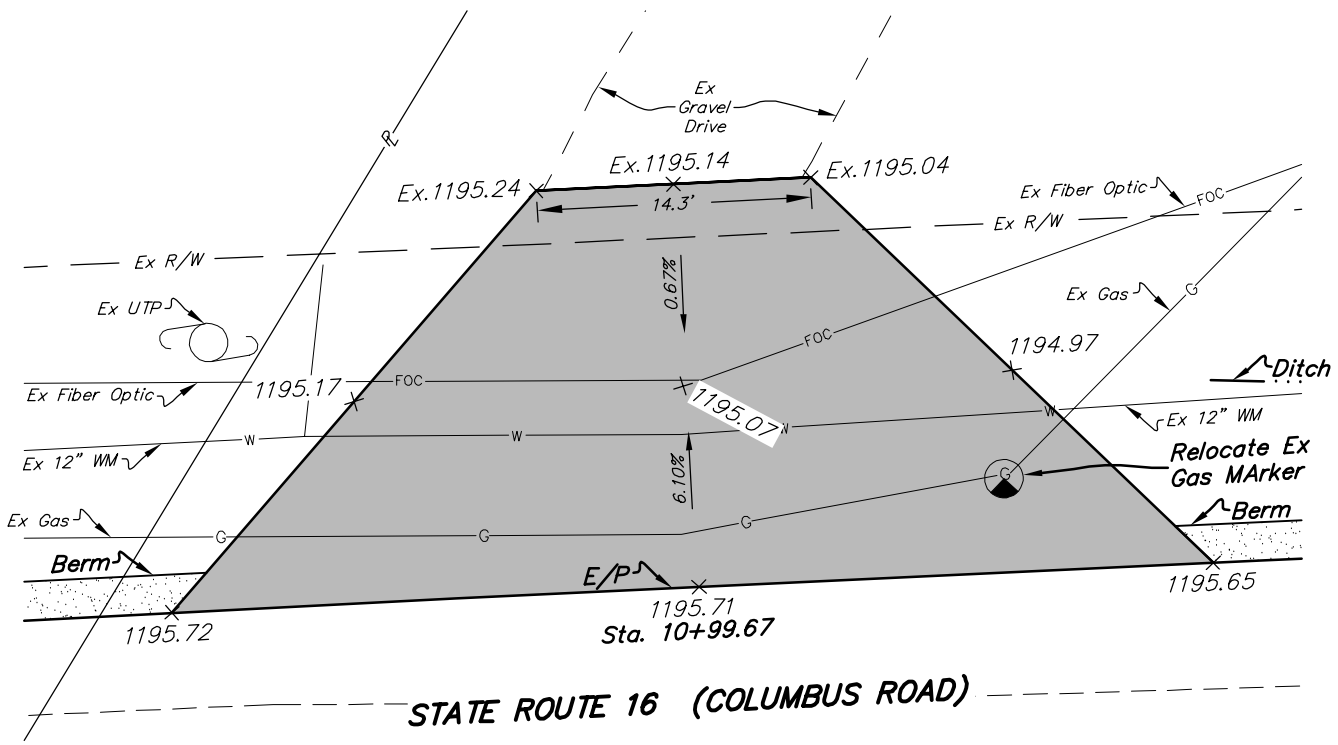
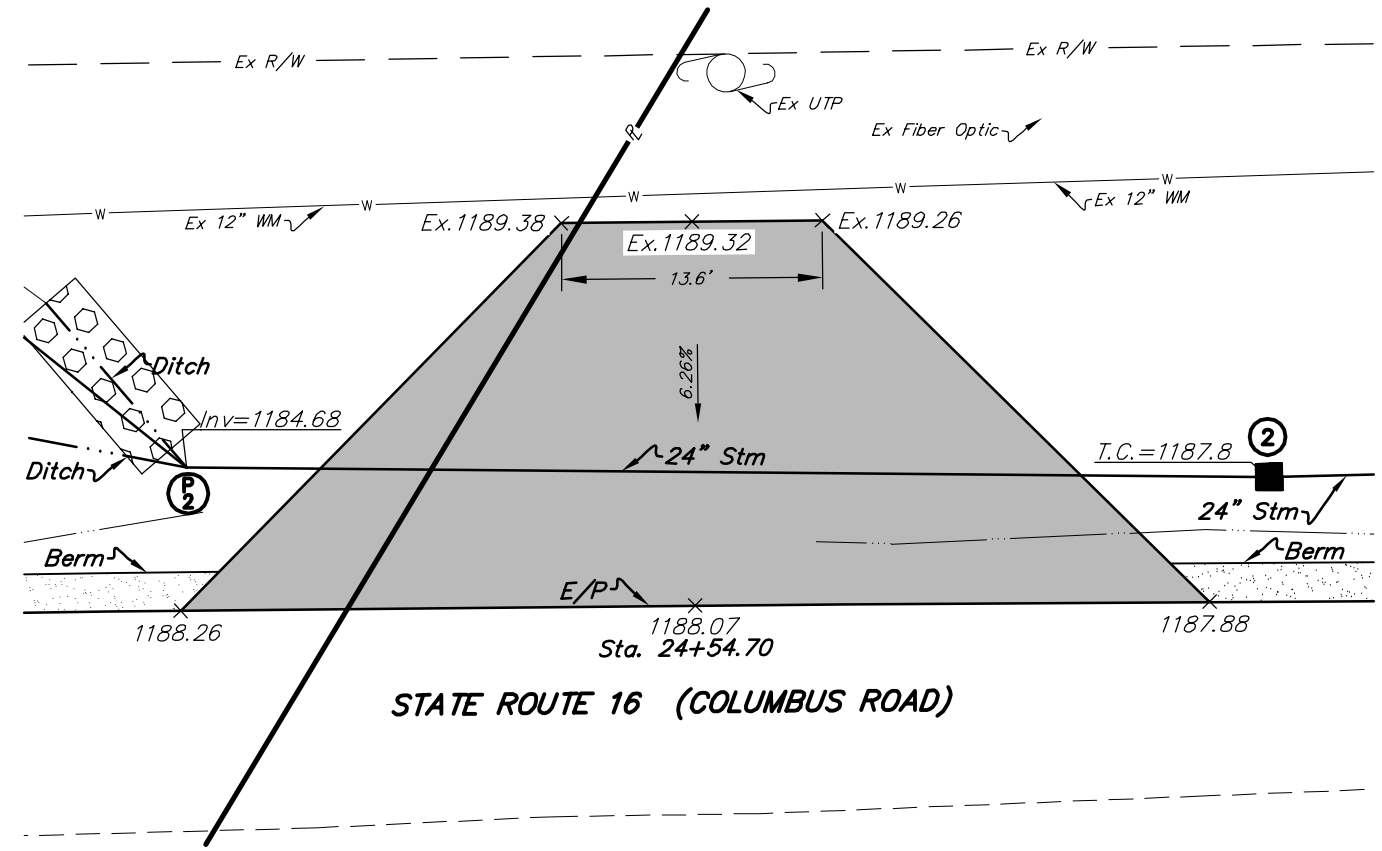


DRIVE NO. 1 DETAIL

SCALE: 1"=10'

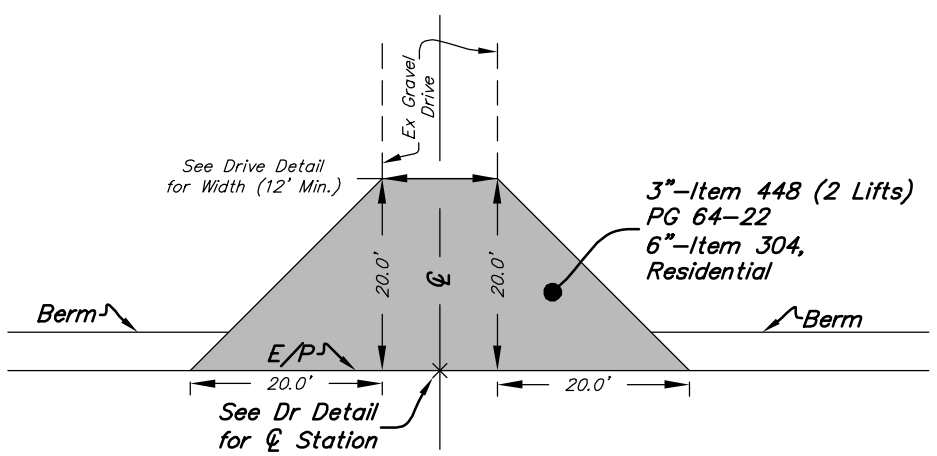


DRIVE NO. 2 DETAIL

SCALE: 1"=10'

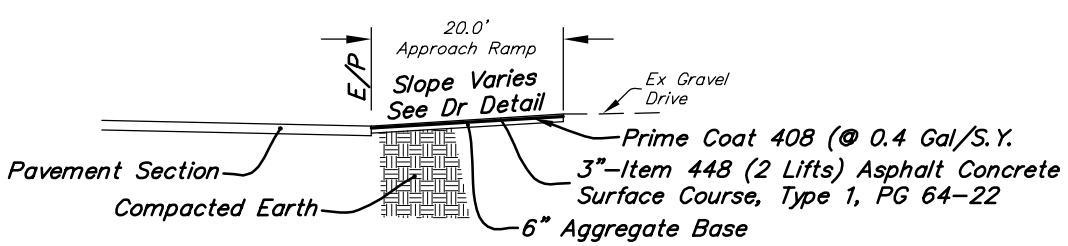
RESIDENTIAL DRIVE ACCESS
Ingress and egress for all drives and parking areas shall be maintained at all times. Areas with multiple drives shall have at least one drive open at all times. Notification shall be giving to adjoining properties a minimum of 48 hours in advance of access interruption. Total denial of ingress and/or egress shall be at the approval of the Engineer.

A contingency quantity of 100 cubic yards of item 410 Traffic Compacted Surface, Type A or B has been included in the estimate of quantities to be used as directed by the Engineer.



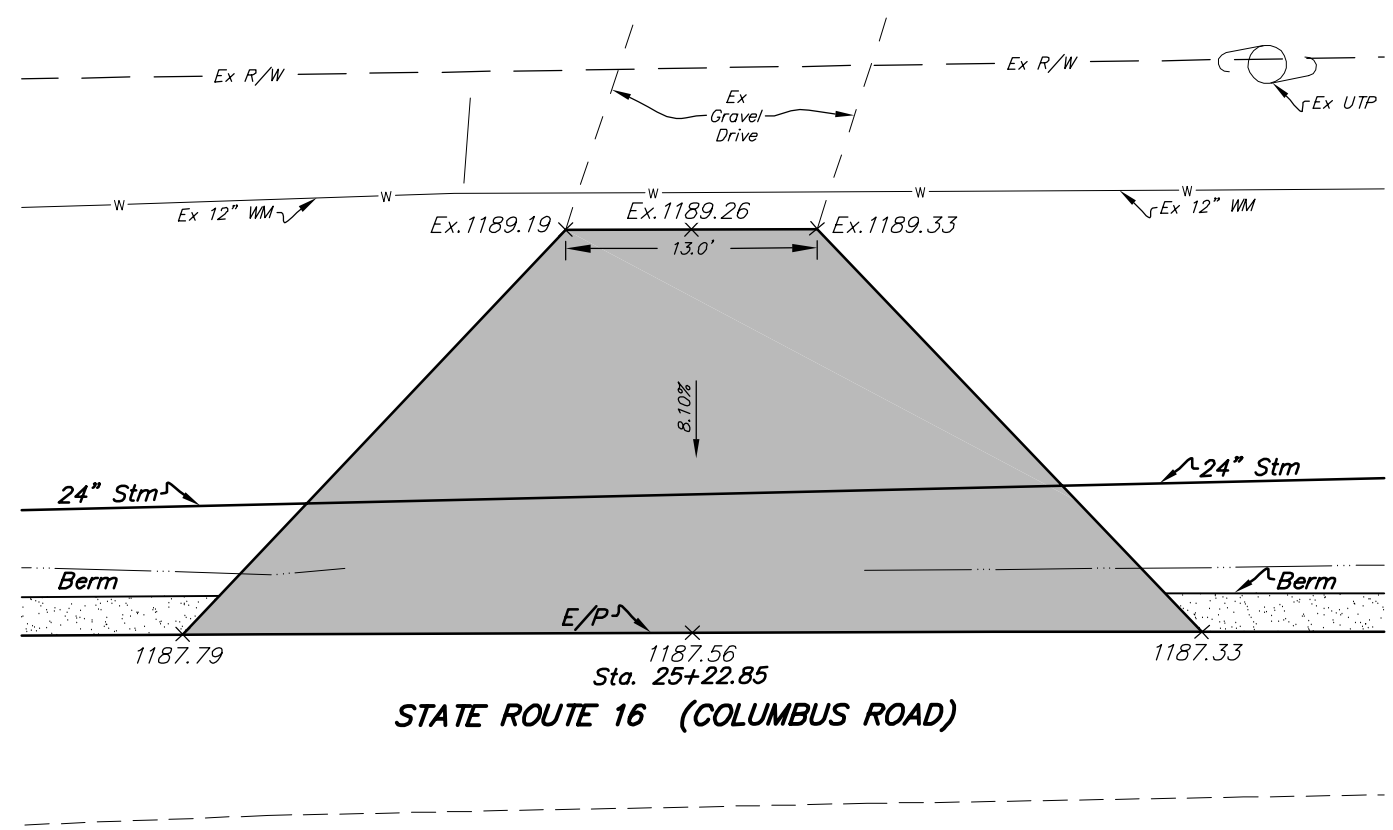
DRIVE APPROACH DETAIL

SCALE: 1"=20'



DRIVE APPROACH SECTION

SCALE: 1"=20'



DRIVE NO. 3 DETAIL

SCALE: 1"=10'

SCALE: 1"=10'

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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16 (COLUMBUS ROAD)
DRIVE DETAILS

DRFT CKD
NEW JRF

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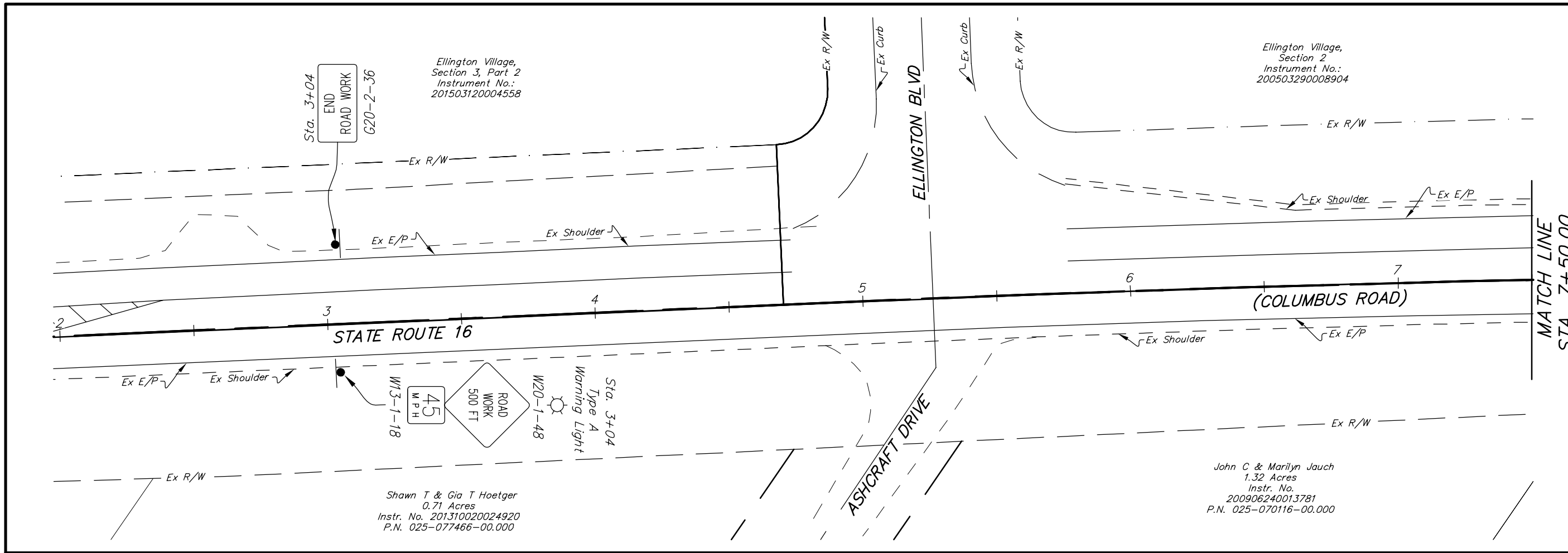

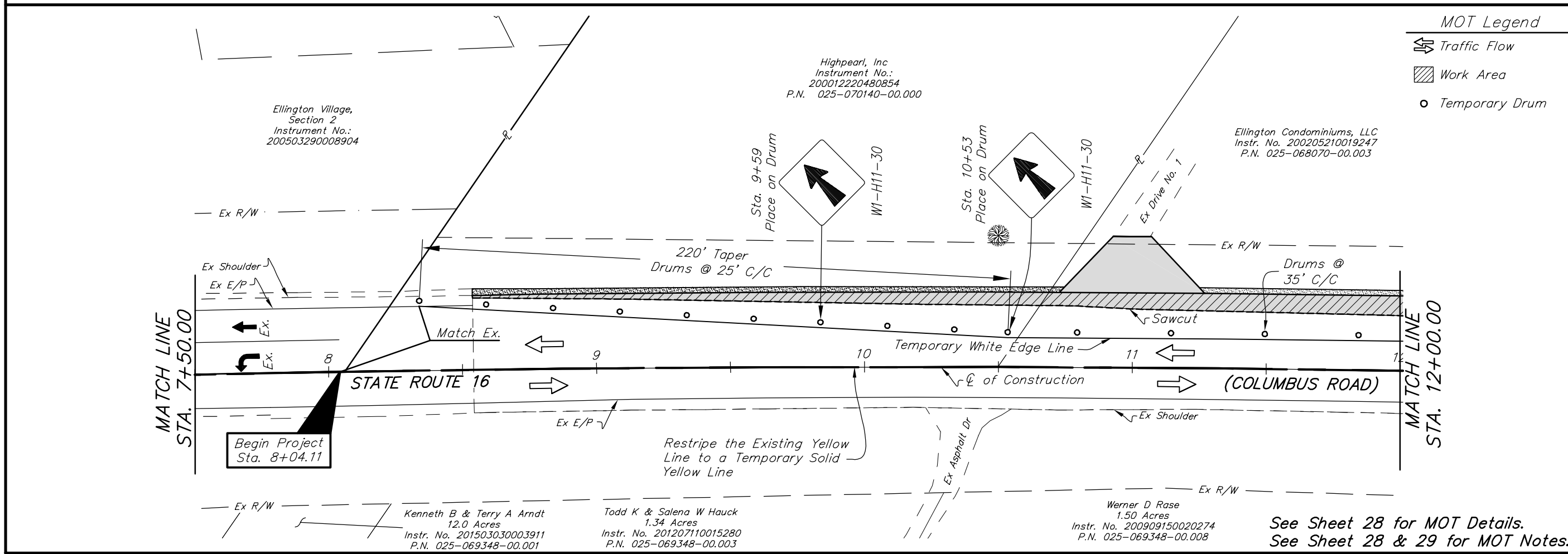

SCALE: 1"=40'

SHT(S)	INITIAL	DATE

REVISION DESCRIPTION

REV. MARK

507 Executive Campus Dr. Suite 100 Westerville, Ohio 43082

Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder

Prepared By: WATCON CONSULTING ENGINEERS & SURVEYORS 83 Shull Avenue Ph. Gahanna, Ohio 43230 (614) 414-7979

LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS FOR:
STATE ROUTE 16 (COLUMBUS ROAD)
MAINTENANCE OF TRAFFIC PLAN

CKD JRF
DRFT NEW

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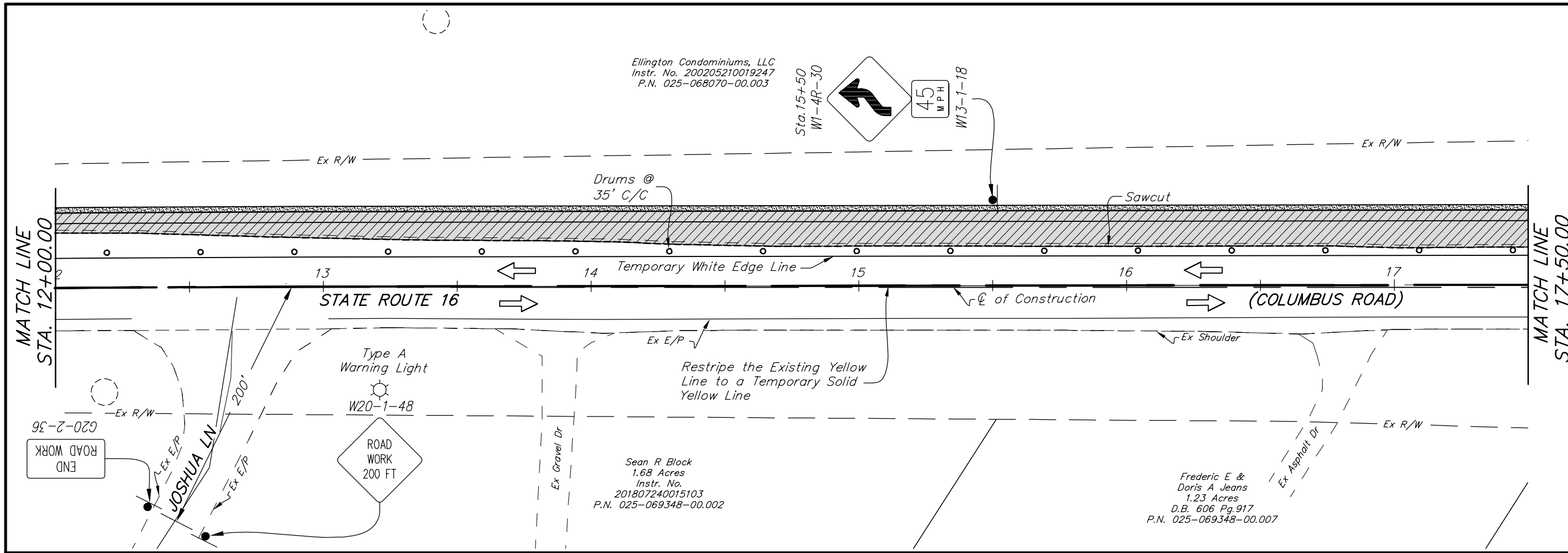

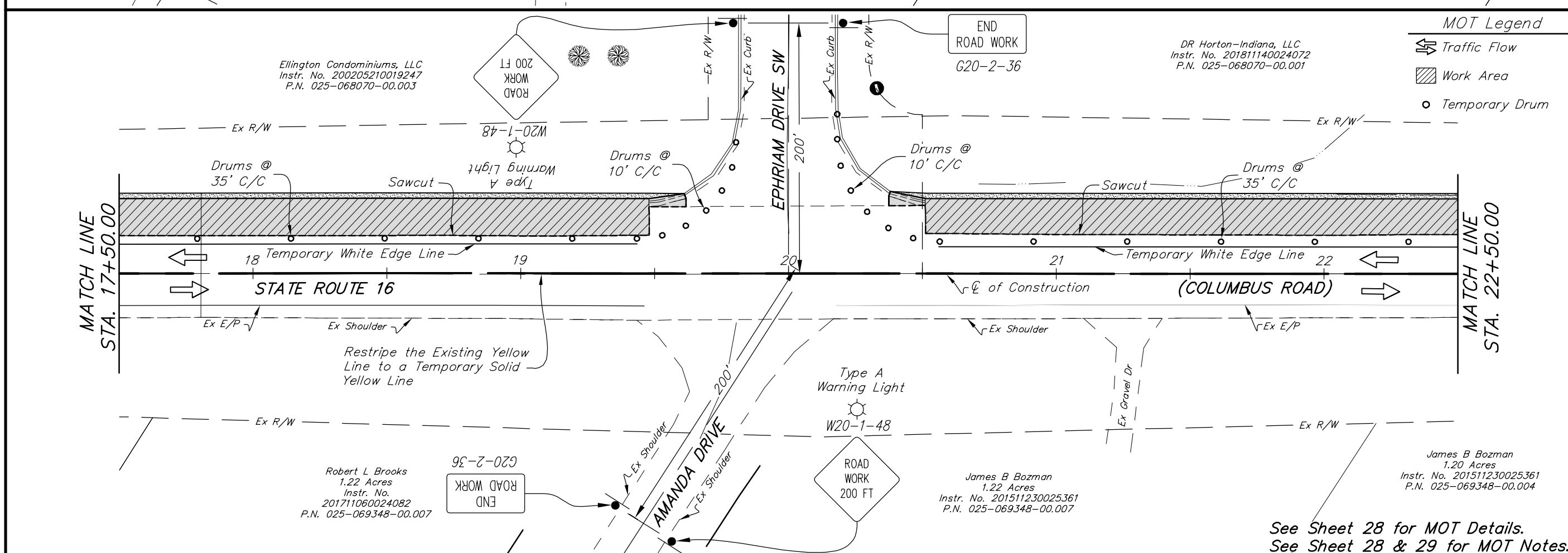

SCALE: 1"=40'

SHT(S)	INITIAL	DATE

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REV. MARK

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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16
(COLUMBUS ROAD)
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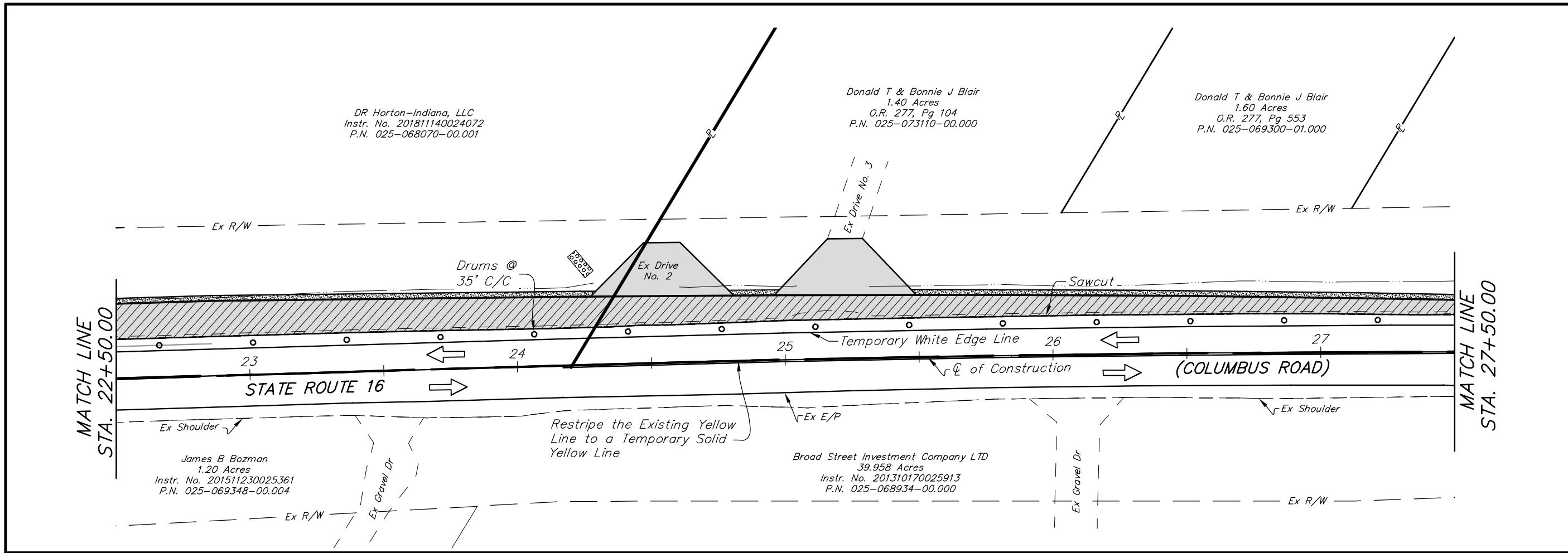

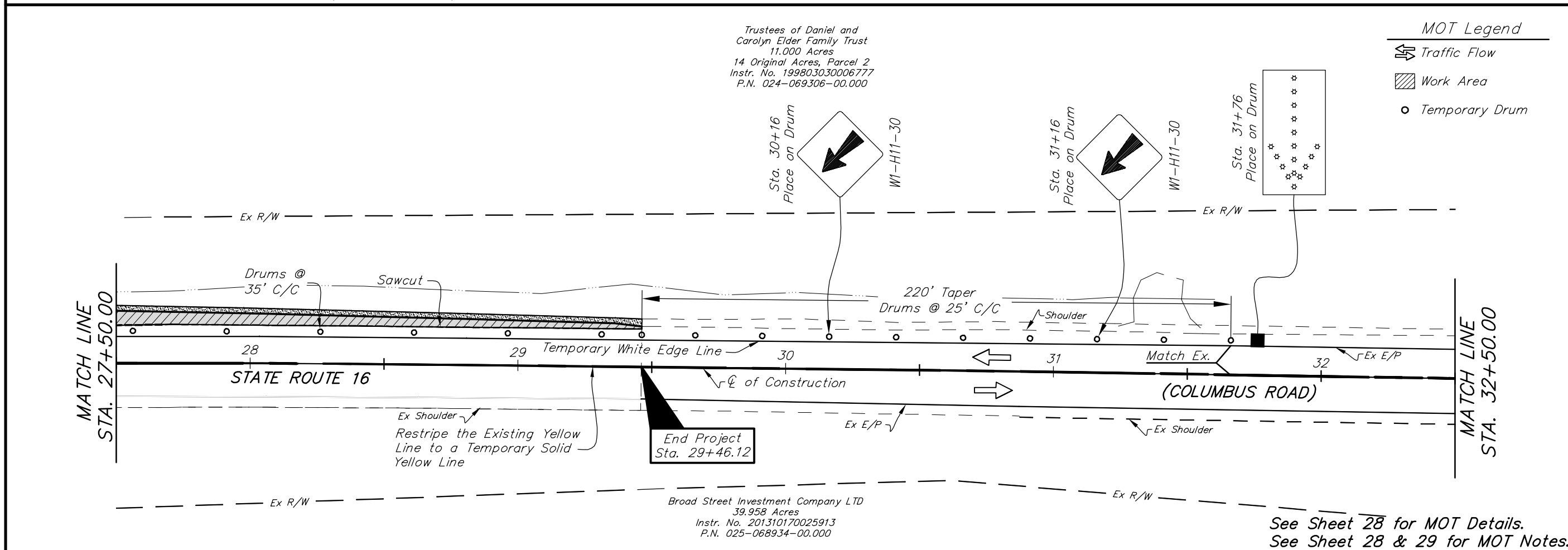

See Sheet 28 for MOT Details.
See Sheet 28 & 29 for MOT Notes.

SCALE: 1"=40'

SHT(S)	INITIAL	DATE

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507 Executive Campus Dr.
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LICKING COUNTY, OHIO
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STATE ROUTE 16
(COLUMBUS ROAD)
MAINTENANCE OF TRAFFIC PLAN

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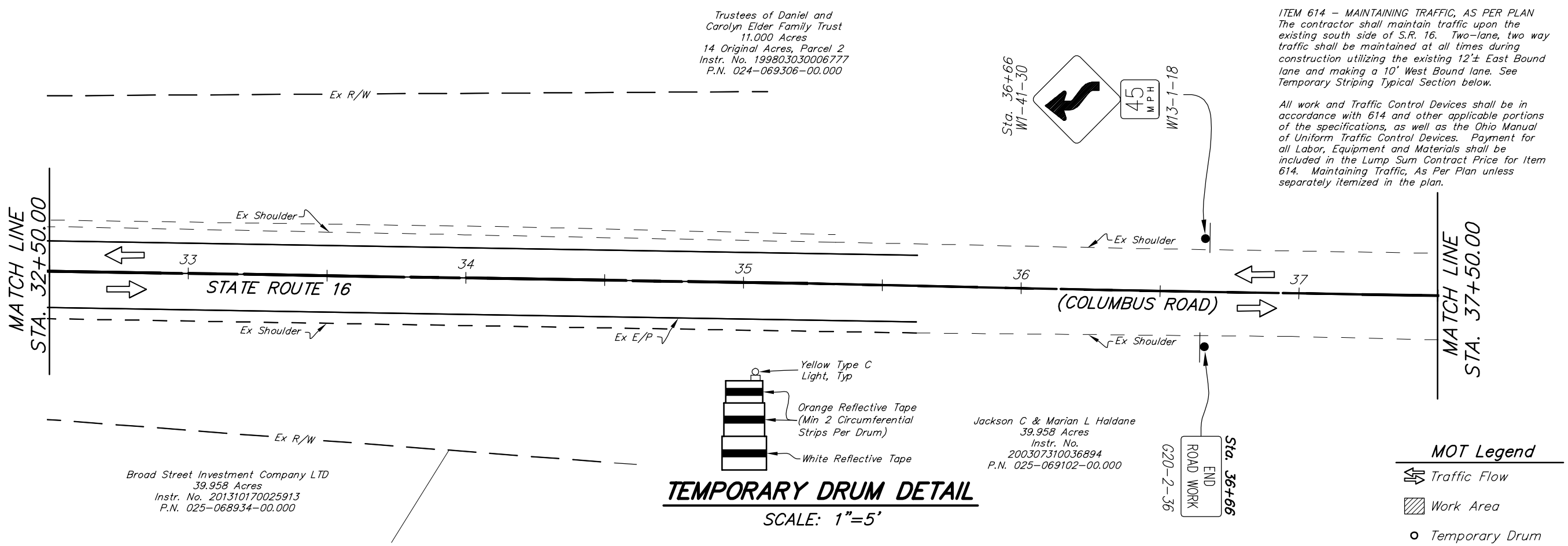
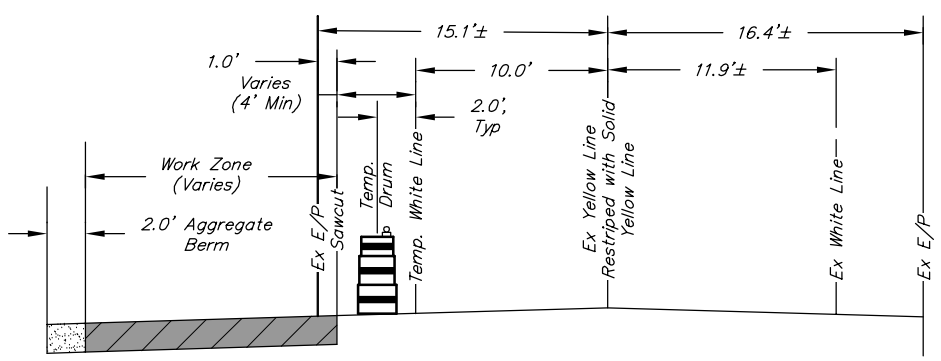


ITEM 614 – MAINTAINING TRAFFIC, AS PER PLAN
The contractor shall maintain traffic upon the existing south side of S.R. 16. Two-lane, two way traffic shall be maintained at all times during construction utilizing the existing 12'± East Bound lane and making a 10' West Bound lane. See Temporary Striping Typical Section below.

All work and Traffic Control Devices shall be in accordance with 614 and other applicable portions of the specifications, as well as the Ohio Manual of Uniform Traffic Control Devices. Payment for all Labor, Equipment and Materials shall be included in the Lump Sum Contract Price for Item 614. Maintaining Traffic, As Per Plan unless separately itemized in the plan.

TEMPORARY DRUM DETAIL

SCALE: 1"=5'

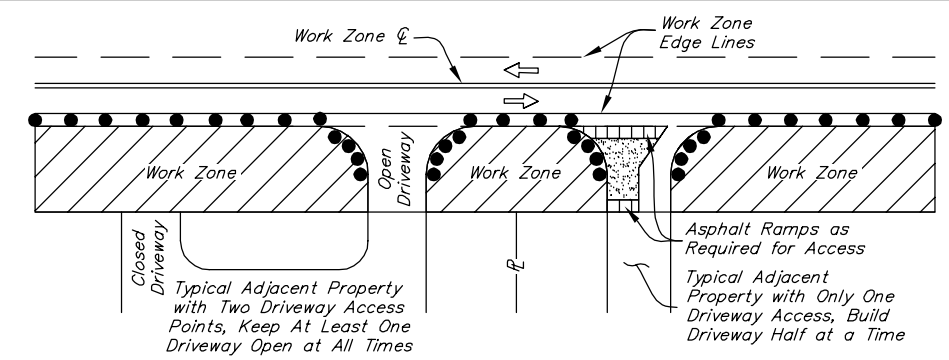


TEMPORARY STRIPING TYPICAL SECTION

SCALE: 1"=10'

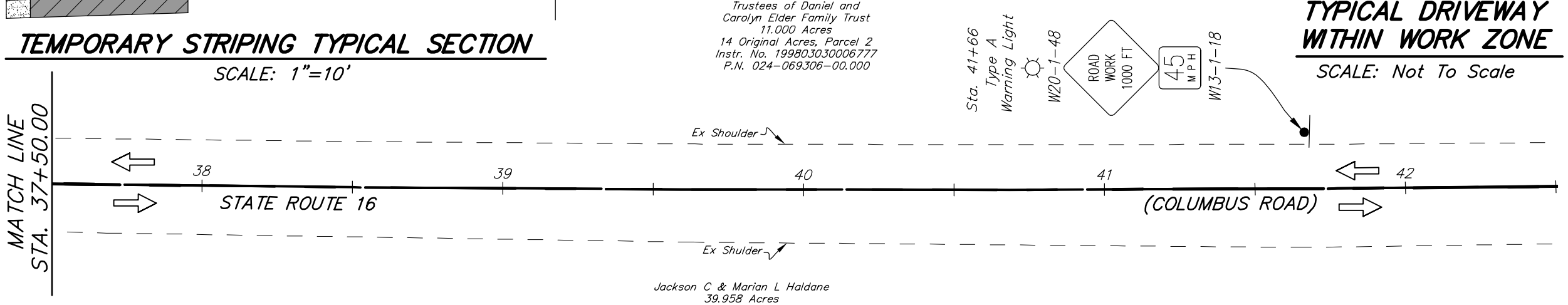
RESIDENTIAL DRIVE ACCESS
Ingress and egress for all drives and parking areas shall be maintained at all times. Areas with multiple drives shall have at least one drive open at all times. Notification shall be given to adjoining properties a minimum of 48 hours in advance of access interruptions. Total denial of ingress and/or egress shall be at the approval of the Engineer.

A Contingency Quantity of 100 cubic yards of Item 410, Traffic Compacted Surface Type A or B has been included in the estimated quantities to be used as directed by the Engineer.



TYPICAL DRIVEWAY WITHIN WORK ZONE

SCALE: Not To Scale



See This Sheet for MOT Details.
See This Sheet & 29 for MOT Notes.

SCALE: 1"=40'

REV. NUMB.	REVISION DESCRIPTION	SHT(S)	INITIAL	DATE

Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder
507 Executive Campus Dr, Suite 100, Westerville, Ohio 43082

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CONSULTING ENGINEERS & SURVEYORS
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Gahanna, Ohio 43230
(614) 414-7979

LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16
(COLUMBUS ROAD)
MAINTENANCE OF TRAFFIC PLAN

DRFT CKD
NEW JRF

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MOT GENERAL NOTES

1. It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified hereon, they shall be included for payment in the lump sum bid for Item 614 – Maintaining Traffic.

2. While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.

3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.

4. The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.

5. Where concrete barrier is specified it shall be in accordance with Standard Construction Drawing RM-4.2 and Item 622.

6. When drums are specified for a drop-off condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.

7. When W8-9 (Low Shoulder) signs or W8-11 (Uneven Lanes) and W8-9a signs are required, they shall be placed 750' in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all intersecting roadways within the limits of the condition. When the drop-off condition extends more than one-half mile, additional signs should be erected at intervals of one mile or less.

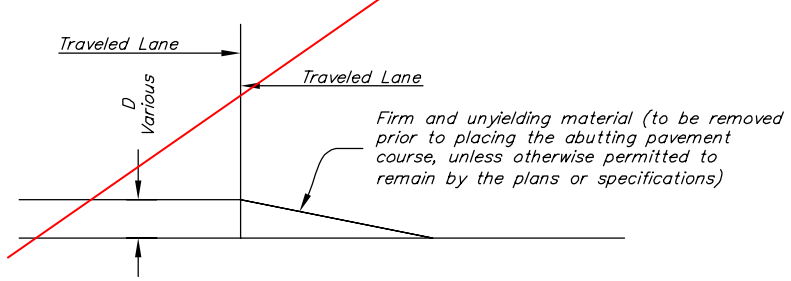
8. For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate any difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.

9. Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10', drums may be placed on the opposite level from that of traffic provided the drop-off depth does not exceed 5" and approval is granted by the Project Engineer.

10. Pavement Repairs (or similar work):
    a. Lengths greater than 60 feet – utilize appropriate treatment from Condition I.
    b. Lengths of 60 feet or less – repairs shall be effected in accordance with 255.08 Drums may be used as a separator adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT (MILLING OR RESURFACING)

1. This treatment may be used when permitted for Condition I only.
2. W8-11 sign required.

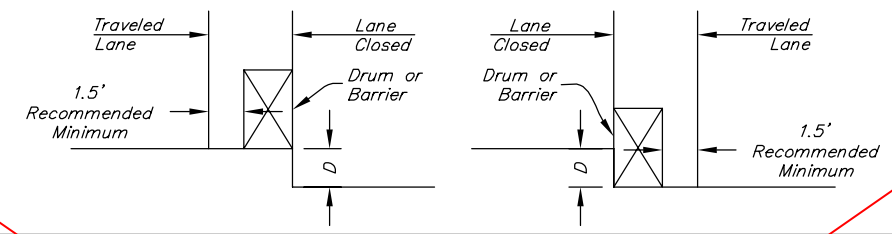


CONDITION I
DROP-OFFS BETWEEN TRAVELED LANES

These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

D (in)	Treatment
≤1 1/2	Erect W8-11 sign
>1 1/2-3	1) Lane closure utilizing drums * as shown below OR 2) Optional Wedge Treatment
>3-5	Lane closure utilizing drums as shown below
>5	Lane closure utilizing portable concrete barrier as shown below

* Cones may be used for daytime only conditions.

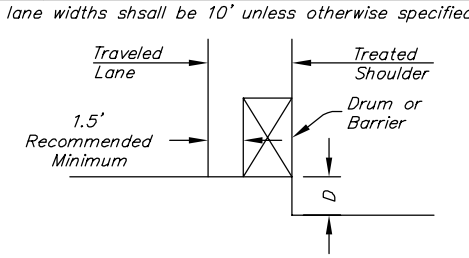


CONDITION II
DROP-OFFS WITHIN GRADED SHOULDER AREA

1. The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
2. The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveled lane and the more steeply sloping ditch foreslope or embankment slope. Its surface may be soil or turf, and/or it may be inclusive of a "treated" area (improved with aggregates, asphaltic materials, or concrete). For the purposes herein, its maximum width shall be considered to be twelve (12) feet.

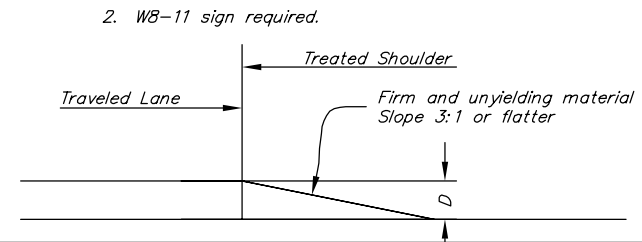
D (in)	Treatment
≥1 1/2-3	1) Lane closure utilizing drums * as shown below OR 2) Optional Wedge Treatment
>1 1/2-5	1) If min. lane width requirements can be met, maintain lanes utilizing drums as shown below OR 2) If min. lane width * requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment
>5-12 Daylight Only	If. min. lane width * requirements can be met, maintain lanes utilizing drums as shown below.
>5-24	1) If min. lane width requirements can be met, maintain lanes utilizing portable concrete barrier as shown below OR 2) If min. lane width * requirements cannot be met, close adjacent lane utilizing drums
>24	Lane closure utilizing portable concrete barrier as shown below..

* Minimum lane widths shsall be 10' unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

1. This treatment may not be used within a bituminous shoulder where a hot longitudnal joint per 401.15 is required.
2. W8-11 sign required.

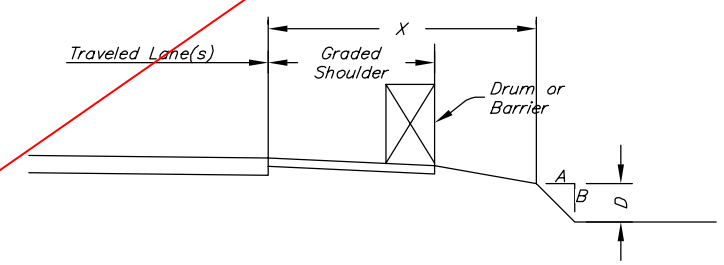


CONDITION III
DROP-OFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. See Note 2 under Condition II.
2. Use Chart A or B below, as applicable.

CHART A

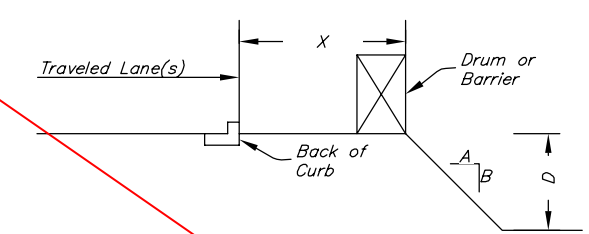
USE FOR:
1. Uncurbed Facilities.
2. Curbed Facilities, where:
   a. Curbs are less than 6" in heigth.
   b. Curbs are 6" or greater in height and the legal speed is greater than 40 mph.



X (Ft)	D (In)	A/B	Treatment Required	
			Day	Night
0-4	Any	Any	(a)	(a)
4-30	Any	3:1 or Flatter	None	None
4-12	<3	Steeper than 3:1	None	None
4-12	>3-≤12	Steeper than 3:1	Drum	Drum
4-12	>12	Steeper than 3:1	Drum	Barrier
>12-20	≤12	Steeper than 3:1	None	None
>12-20	>12-≤24	Steeper than 3:1	Drum	Drum
>12-20	>24	Steeper than 3:1	Drum	Barrier
>20-30	≤24	Steeper than 3:1	None	None
>20-30	>24	Steeper than 3:1	Drum	Barrier
>30	Any	Any	Any	None
(a) Use treatment specified under Condtion II				

CHART B

USE FOR: Curbed Facilities, where the curb is 6" or greater in heigth and the legal speed is 40 mph or less.



X (Ft)	D (In)	A/B	Treatment Required	
			Day	Night
0-10	<12	Any	None	Drum
0-10	>12	Any	Drum	Drum
>10	Any	Any	None	None

USE CURRENT STD. DRAWING FOR DROP-OFFS
MT-101.90 DATED 7-21-2017

SCALE: 1"=40'

SHT(S)	INITIAL	DATE

REVISION DESCRIPTION

REV. INITIAL

Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder
507 Executive Campus Dr. Suite 100 Westerville, Ohio 43082

Prepared By: WATCON CONSULTING ENGINEERS & SURVEYORS
83 Shull Avenue Ph. Gahanna, Ohio 43230 (614) 414-7979

LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16 (COLUMBUS ROAD)
MAINTENANCE OF TRAFFIC PLAN

DRFT CKD
NEW JRF

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CONDITION I

DROP-OFFS BETWEEN ADJACENT TRAVELED LANE(S) / PAVED SHOULDER
(Freeways, Expressways, other Roadways ≥ 45 mph)

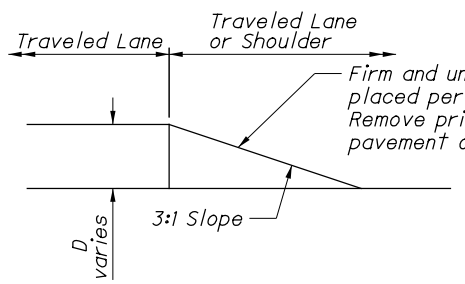
These treatments are to be used for resurfacing or pavement planing, etc. where a drop-off is located between or within traveled lanes and/or shoulder.

D	Treatment
≤ 1-½″	Erect W8-11 or W8-9 sign as appropriate.
> 1-½″ - ≤ 3″	1) Optional Wedge Treatment; or, 2) Close a lane and/or shoulder per Condition II.
> 3″	Close a lane and/or shoulder per Condition II.

OPTIONAL WEDGE TREATMENT

(MILLING OR RESURFACING)

1. W8-9/W8-11 sign shall be used as appropriate.
2. This treatment shall not be used where a hot longitudinal joint per CMS 446 is required.



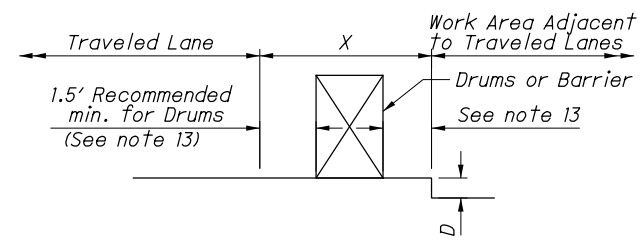
All labor, equipment, materials, and incidentals to provide and subsequently remove the pavement wedge shall be included and paid for under the lump sum bid for CMS 614 - Maintaining Traffic.

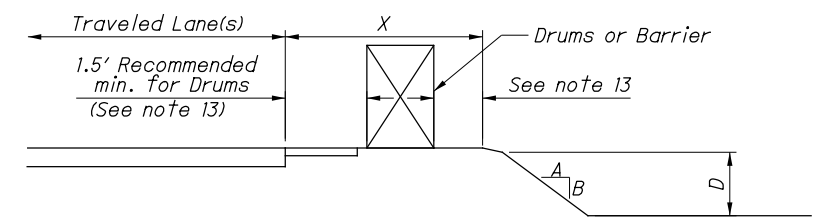
CONDITION II

DROP-OFFS BEYOND EDGE OF TRAVELED LANES / PAVED SHOULDER
(Freeways, Expressways, other Roadways ≥ 45 mph and minimal driveways)

1. The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations located beyond the edge line of the traveled lanes.
2. The treatments indicated below are applicable for pavement/shoulder drop-offs and for locations where foreslopes "A/B" are steeper than 3:1.
3. Where the drop-off is located outside the clear zone, no treatment is necessary (see Table II and SCDs MT-95.30, 95.40, or 102.10).
4. Where foreslopes "A/B" are 3:1 or flatter, no treatment is necessary.

D	Method of Drop-off Protection to be used to separate the traffic from the drop-off						
	Drop-off location "X" from traveled lane <4′	Drop-off location "X" from traveled lane 4′ - 12′		Drop-off location "X" from traveled lane > 12′ - 20′		Drop-off location "X" from traveled lane > 20′ -30′	
		Daytime Only	Night	Daytime Only	Night	Daytime Only	Night
≤ 3″	DRUMS or OPTIONAL WEDGE TREATMENT	NONE	NONE	NONE	NONE	NONE	NONE
> 3″ - ≤ 5″	DRUMS or OPTIONAL WEDGE TREATMENT	DRUMS	DRUMS	NONE	NONE	NONE	NONE
> 5″ - ≤ 12″	PB	DRUMS	DRUMS	NONE	NONE	NONE	NONE
> 12″ - ≤ 24″	PB	DRUMS	PB	DRUMS	DRUMS	NONE	NONE
> 24″	PB	DRUMS	PB	DRUMS	PB	DRUMS	PB



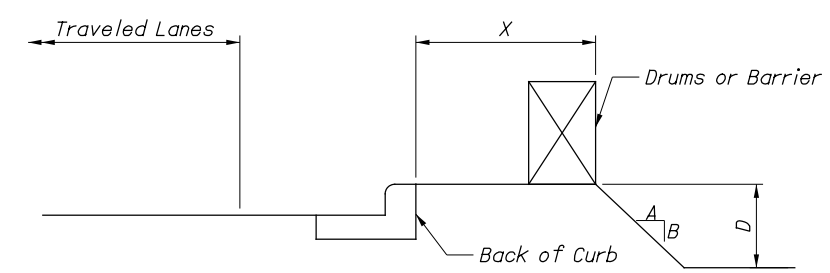


NOTES:

1. It is intended that this drawing be used for treatment of drop-offs that develop during construction operations and that are not otherwise provided for in the construction plans. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified herein, they shall be included for payment in the lump sum bid for CMS 614 - Maintaining Traffic.
2. Minimum lane widths shall be 10′ unless otherwise specified in the plans.
3. While the need for certain advisory signing is noted herein, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.
4. In urban or otherwise heavily developed areas where intersections, driveways, pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown herein may be required.
5. The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
6. Where portable barrier is specified, it shall be in accordance with SCD RM-4.1 or 4.2 and with CMS 622.
7. For locations such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate a difference in elevation between pavements, the Optional Wedge Treatment shall be provided.
8. Pavement Repairs (or similar work):
   a) Lengths greater than 60′ - utilize appropriate treatment from Condition I.
   b) Lengths of 60′ or less - repairs shall be effected in accordance with CMS 255.08. Drums may be used as a separator adjacent to the traveled lane.
9. When drums are specified for a drop-off condition, a minimum number of 4 drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD. Provisions shall be made to stabilize the drums (cones) to prevent them from blowing over.
10. When UNEVEN LANES (W8-11) signs or LOW SHOULDER (W8-9) signs are required, they shall be placed 750′ in advance of the condition on all intersecting entrance ramps within the limits of the condition. When the drop-off condition extends more than 0.5 miles, additional signs should be erected at intervals of 1.0 mile or less.
11. Cones may be substituted for drums as follows:
    a) Cones used for daytime traffic control shall have a minimum height of 28″.
    b) Cones used for nighttime traffic control shall have a minimum height of 42″.
    c) Cones used at night shall be reflectorized.
    d) Use of cones at night shall be prohibited along tapers.
    e) Intermixing of drums and cones within the same run of barrier protection shall not be permitted.
12. Where drums are used and their presence would reduce traveled lane widths to less than 10′, drums may be placed on the opposite level from that of traffic, provided the drop-off depth does not exceed 5″ and approval is granted by the Project Engineer.
13. Portable barrier shall be placed on the same level as the traffic surface and shall not encroach on width(s) designated as the minimum required for traffic use. Offset from the travel way to the barrier toe shall be a minimum of 2′. Offset from the back side of the barrier toe to the work area shall be a minimum of 2′ unless otherwise specified in the plans due to anchoring.

CONDITION III

DROP-OFFS BEHIND CURB WHERE CURB IS 6″ OR GREATER
IN HEIGHT AND THE LEGAL SPEED IS 40 MPH OR LESS



X	D	A/B	Treatment Required	
			Day	Night
0′ - 10′	≤ 12″	Any	None	Drums
0′ - 10′	> 12″	Any	Drums	Drums
>10′	Any	Any	None	None

THIS DRAWING REPLACES MT-101.90 DATED 07-17-2015.

REVISION DATE 07-21-2017

STATE OF OHIO DEPARTMENT OF TRANSPORTATION ADMINISTRATOR David L. Holstein

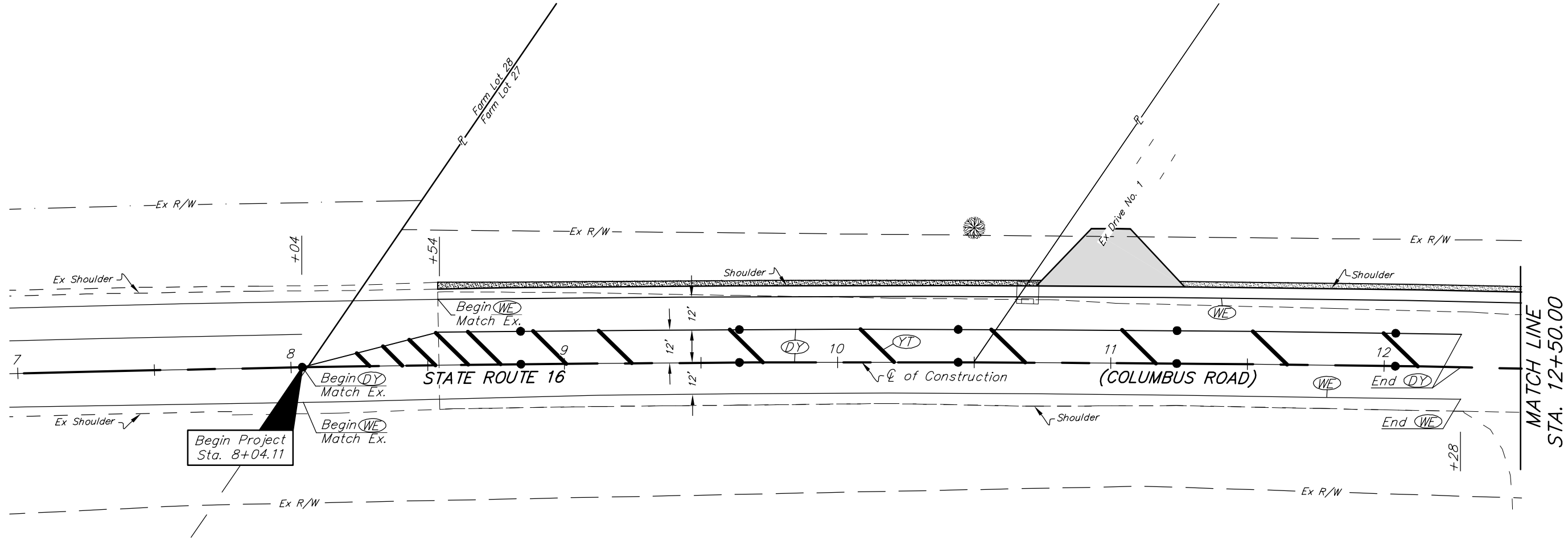
STDS. ENGINEER Soisson

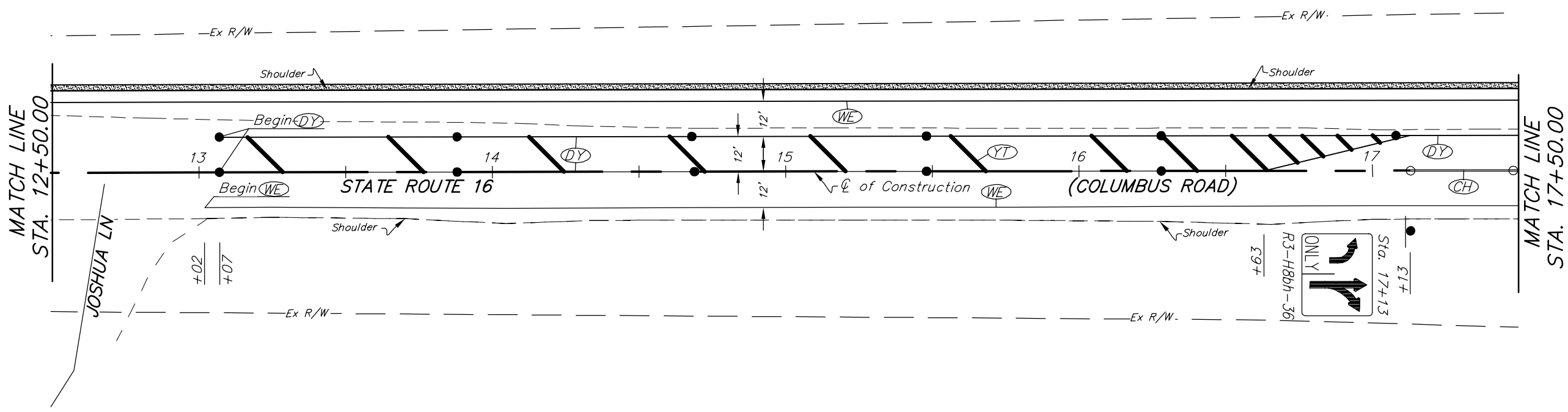
OFFICE OF ROADWAY ENGINEERING

STANDARD ROADWAY CONSTRUCTION DRAWING

DROP-OFFS IN WORK ZONES

SCD NUMBER MT-101.90





See Sheet 32 for Legends & Striping Tables

SCALE: 1"=40'

REV. NUM.	REVISION DESCRIPTION	SHT(S)	INITIAL	DATE

507 Executive Campus Dr.
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Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder

Prepared By: TAT WATCON
CONSULTING ENGINEERS & SURVEYORS
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(614) 414-7979

LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16
(COLUMBUS ROAD)
SIGNAGE & STRIPING

DRFT CKD
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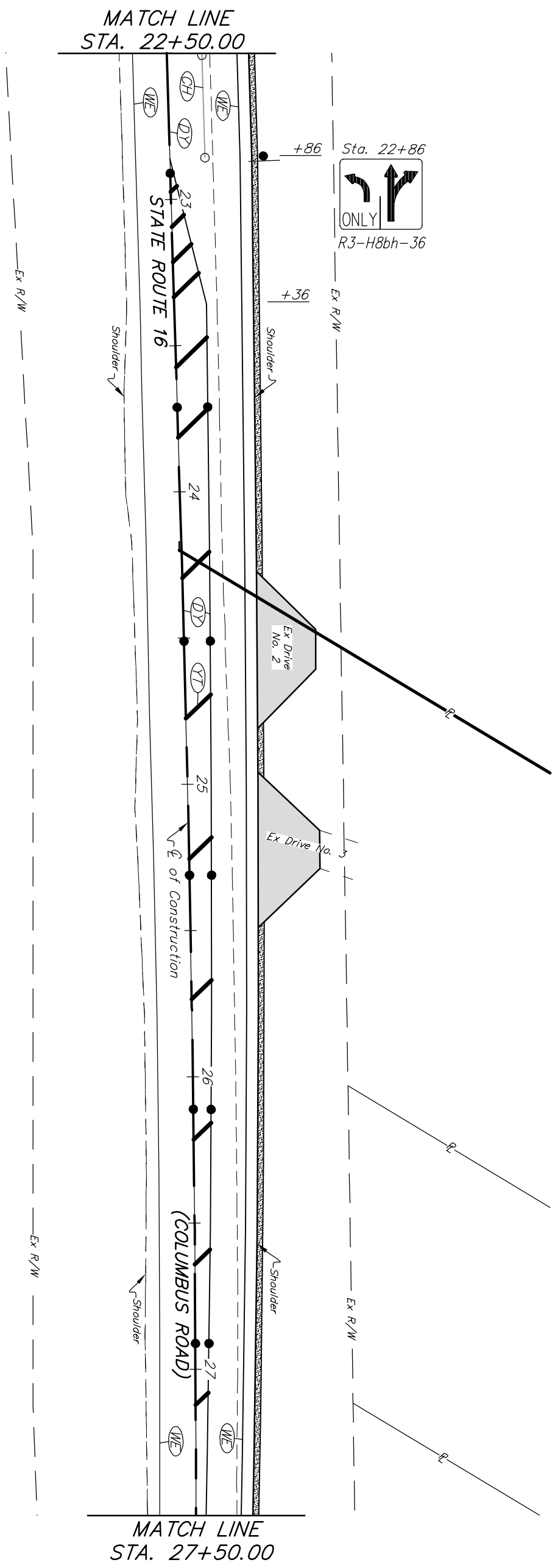

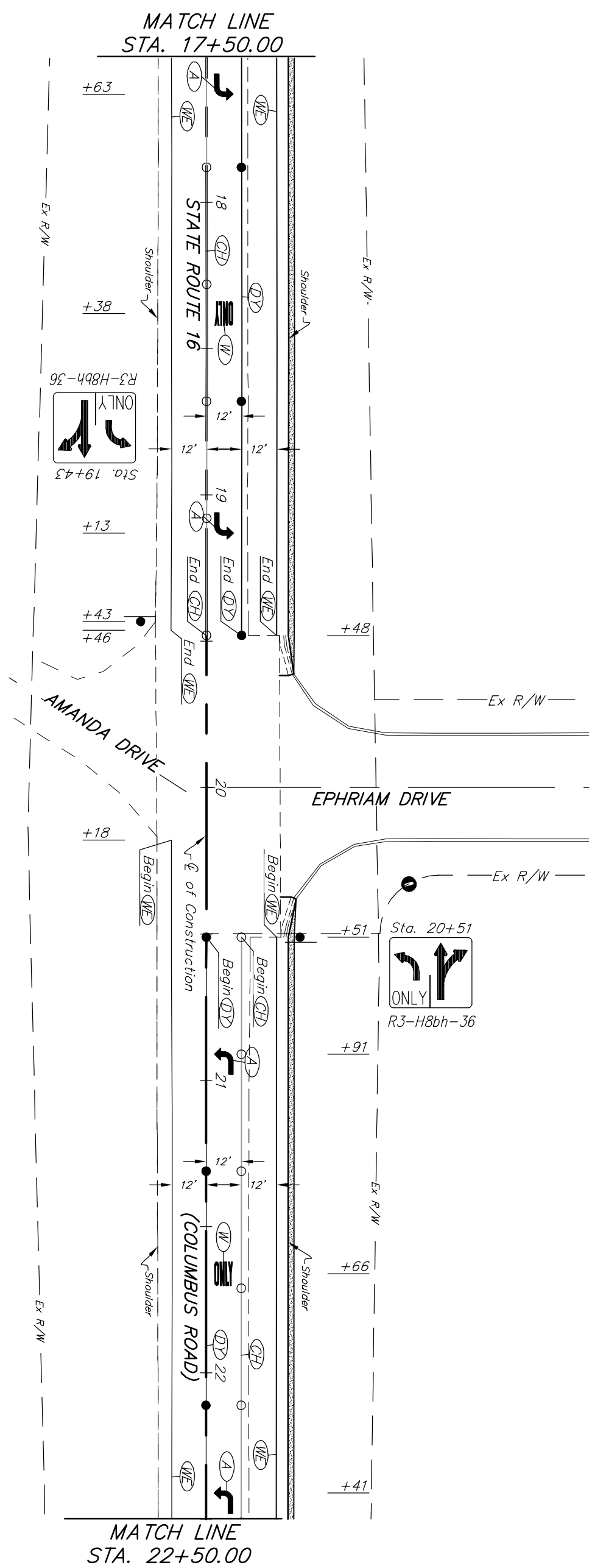

See Sheet 32 for Legends & Striping Tables

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NEW	JRF

31/39

LICKING COUNTY, OHIO
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SIGNAGE & STRIPING

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0 20 40
SCALE: 1"=40'

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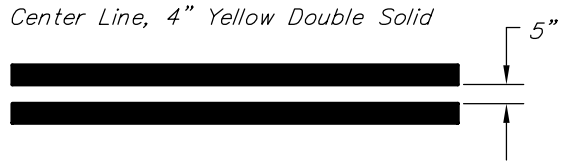
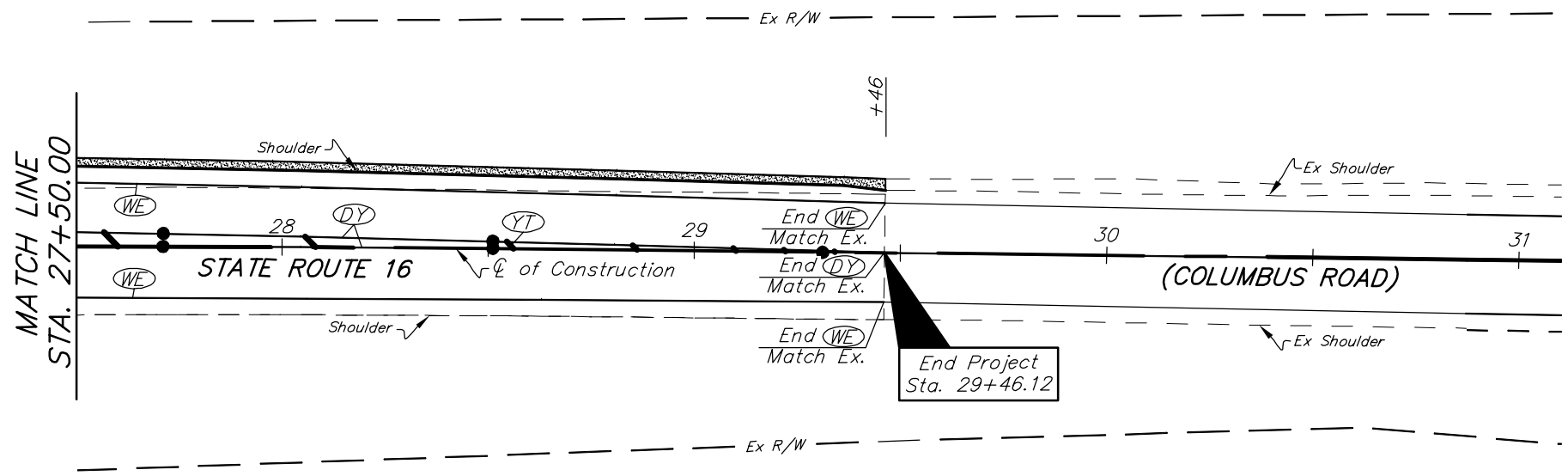
LEGEND

A	Lane Arrow, White (ODOT)
W	Word on Pavement, ONLY, 96" White
DY	Center Line, 4" Yellow Double Solid 
CH	Channelizing Line, 8" White
WE	Edge Line, 4" White
YT	Transverse Line 20", Yellow

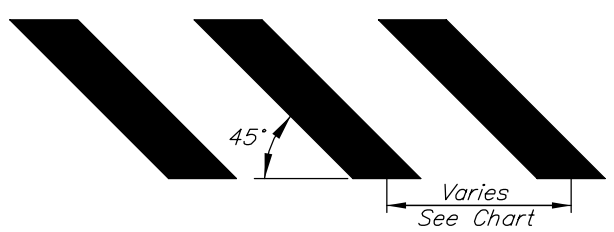


SIGNING – ITEM 630

STATION	SIDE	TYPE	SIZE (IN)	FLAT SHEET S.F.	NO 3 POST L.F.
17+13	RT	R3-H8bh	36"x30"	7.5	13.5
19+43	RT	R3-H8bh	36"x30"	7.5	13.5
20+51	LT	R3-H8bh	36"x30"	7.5	13.5
22+86	LT	R3-H8bh	36"x30"	7.5	13.5
Totals Carried to Quanitites				30	54

RAISED PAVEMENT MARKERS

○	Type A : Channelizing Line, 2-Way (White/Red) @ 40' Spacing
●	Type B : Center Line, 2-Way (Yellow/Yellow) 80' Spacing



DIAGONAL TRANSVERSE LINES SPACING TABLE

FROM	TO	DIAGONAL LINES SPACING
0 Feet	48 Feet	12 Feet on Center
49 Feet	96 Feet	24 Feet on Center
97 Feet	Greater than 96 Feet	48 Feet on Center

PAVEMENT MARKINGS – ITEM 644 / RAISED PAVEMENT MARKINGS – ITEM 621

STATION FROM	STATION TO	Solid Double Yellow Center Line	Edge Line	Channelizing Line	Yellow Transverse Line	Lane Arrow	96" Word on Pavement "ONLY"	Raised Pavement Markings – Item 621: Type A	Raised Pavement Markings – Item 621: Type B
		FT	FT	FT	FT	Each	Each	Each	Each
S.R. 16									
8+04	12+28	850	848	–	135	–	–	–	11
12+28	13+02	–	74	–	–	–	–	–	–
13+02	19+48	1,048	1,292	235	128	2	1	7	14
20+18	29+46	2,133	1,823	235	124	2	1	7	19
Totals Carried to Quanitites		4,031	4,037	470	387	4	2	14	44

SCALE: 1"=40'

SHT(S)	INITIAL	DATE

REVISION DESCRIPTION

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LICKING COUNTY, OHIO
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FOR:
STATE ROUTE 16
(COLUMBUS ROAD)
SIGNAGE & STRIPING

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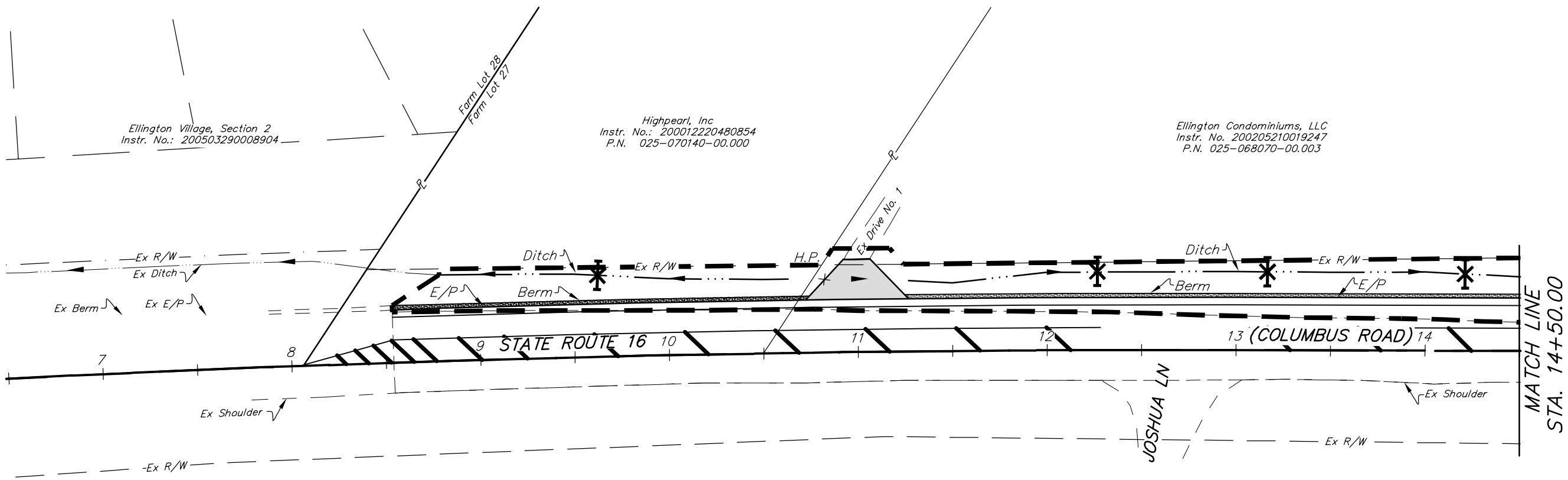

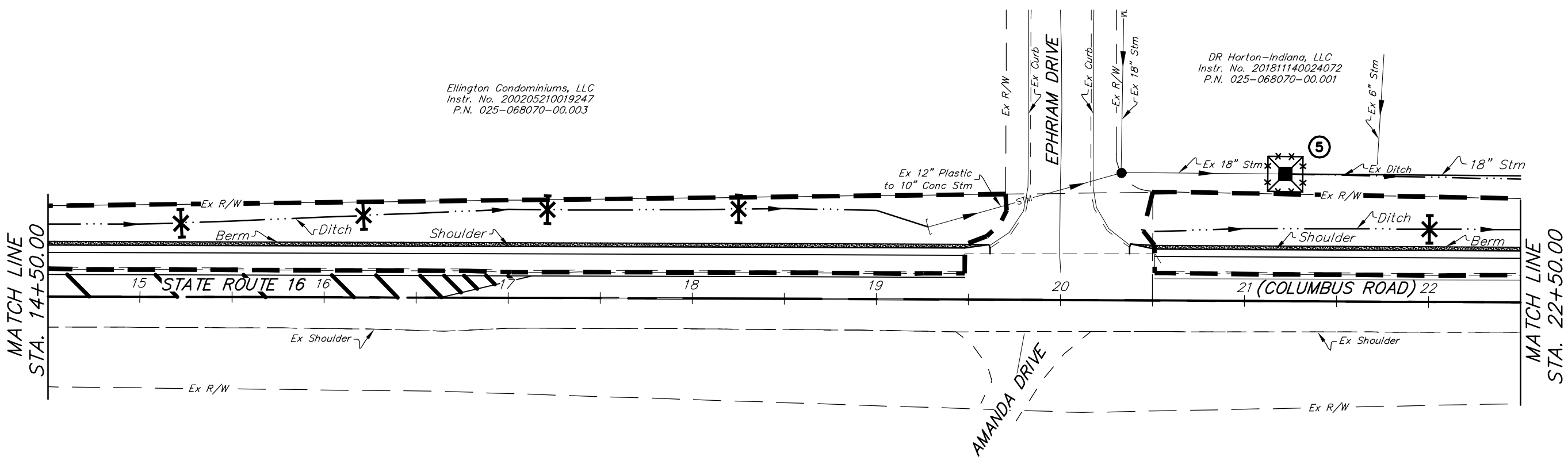

See Sheet 34 for Legend & Details
See Sheet 36 for Notes

SCALE: 1"=60'

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STREET WIDENING IMPROVEMENTS
FOR:
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(COLUMBUS ROAD)
SWPPP

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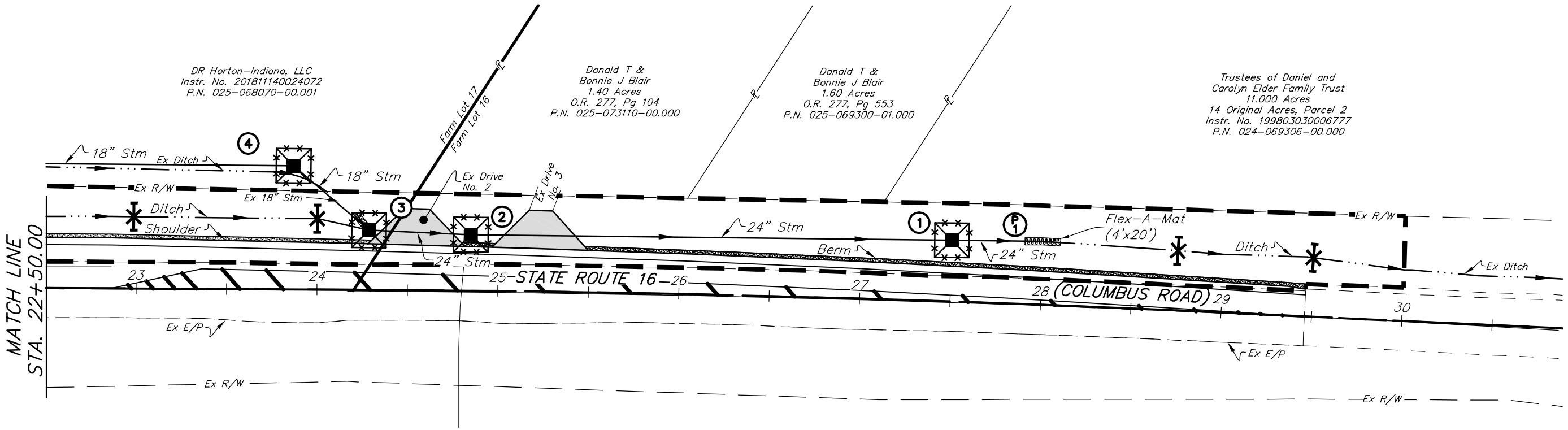
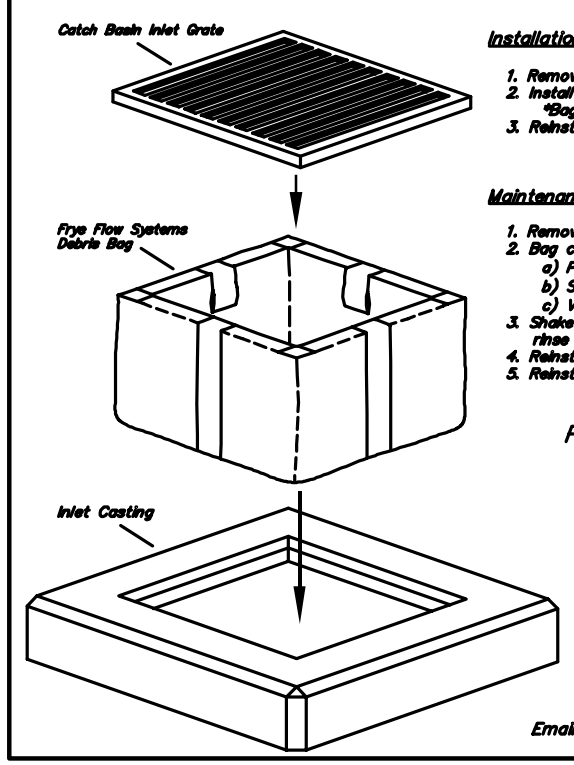


EROSION & SEDIMENTATION CONTROL FEATURE LEGEND

- FryeFlow Systems Catch Basin Protection, approved equal Sediment Control Assembly, or approved equal
- Ditch Dheck
- Grading Limits

NOTE: New Pavement Area = 19,179 S.F. < 1.0 Acre. Therefore, water quantity control is not required.

FRYEFLOW SYSTEMS CATCH BASIN SEDIMENT CONTROL ASSEMBLY



Installation

1. Remove Grate
2. Install FryeFlow Systems debris bag *Bag rests on lip of casting
3. Reinstall grate

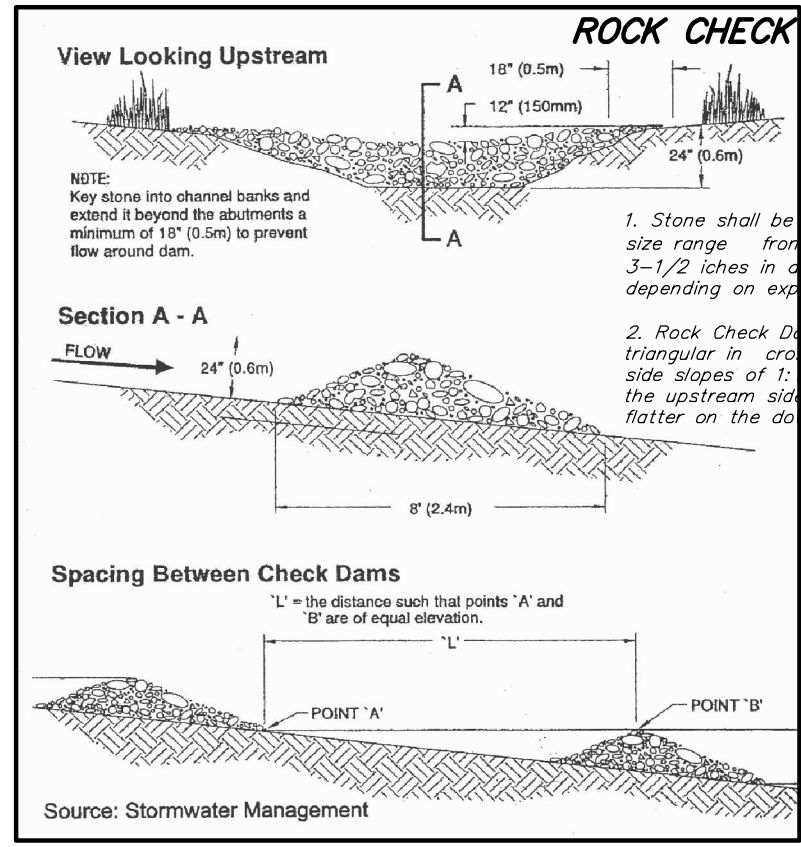
Maintenance

1. Remove grate
2. Bag can be cleaned several ways
   a) Pick up bag and dump it
   b) Shoveling debris out of bag
   c) Vac-Unit
3. Shake loose debris out of bag or rinse with water
4. Reinstall FryeFlow Systems bag
5. Reinstall grate

For Structures: 1 2

Available from:
FryeFlow Systems
P.O. Box 622
Granville, OH 43023
Ph. 740-788-9150
Fax 740-788-9185
Email: mike@fryeflowsystems.com

ROCK CHECK DAM



1. Stone shall be graded with size range from 1-1/2 to 3-1/2 iches in diameter depending on expected flows.

2. Rock Check Dams should be triangular in cross section with side slopes of 1: or flatter on the upstream side and 2:1 or flatter on the downstream side.

See Sheet 36 for Notes

SCALE: 1"=60'

REV. NUM.	REVISION DESCRIPTION	SHT(S)	INITIAL	DATE

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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS FOR:
STATE ROUTE 16 (COLUMBUS ROAD)
SWPPP & DETAILS

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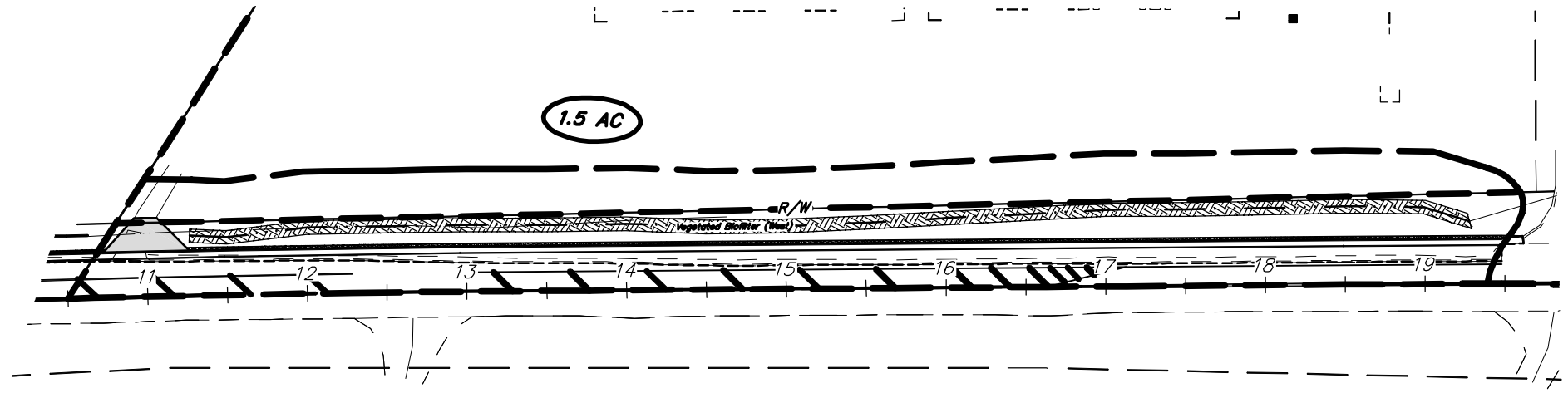
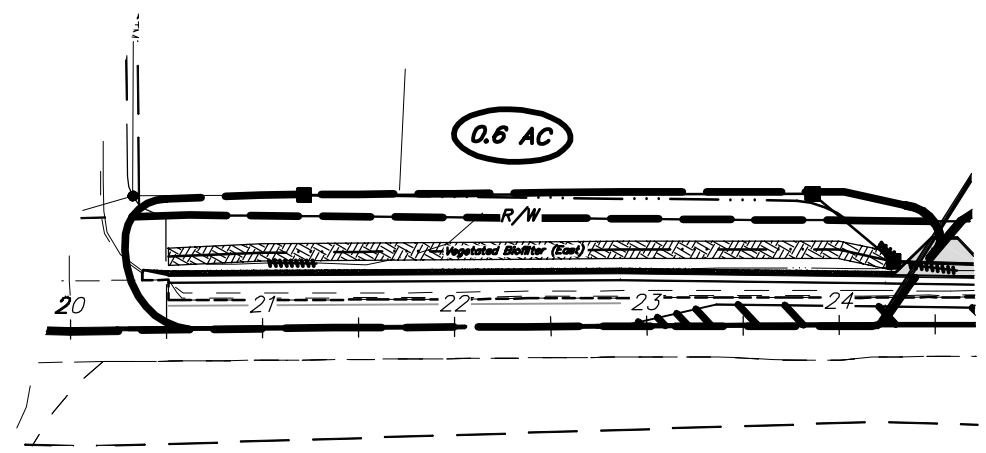
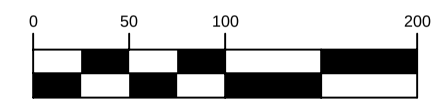


West Side



East Side

GRAPHIC SCALE



1 inch = 100 feet

VEGETATED BIOFILTERS

Item	West Side Value	East Side Value	Units
BMP Tributary Area	1.5	0.6	Ac.
Area within R/W Draining to BMP (C=0.9)	1.0	0.5	Ac.
Area outside R/W (C=0.3)	0.5	0.1	Ac.
Weighted Coefficient of Runoff	0.7	0.8	
Water Quality Flow (WQ_F) (i=0.65 in/hr)	0.68	0.31	cfs
Channel Bottom Width	4.0	5.0	ft
Channel Fore Slope	3:1	3:1	ft: ft
Channel Back Slope	Mostly 4:1	Mostly 4:1	ft: ft
Longitudinal Channel Slope	0.009	0.011	ft: ft
Normal Depth of Flow during WQ_F (N=0.15)	0.34	0.18	in
Velocity of Flow during WQ_F (N=0.15)	0.39	0.30	fps
Length of Vegetated Biofilter	800	350	ft
Design Storm Flow Rate (5yr)(i=4.0 in/hr.) (N=0.3)	4.20	1.92	cfs
Item 670 Slope Protection Analysis, Required? Yes/No	<0.70, Yes	<0.51, Yes	lbs/ft^2
Limits of Item 659, Topsoil, Shown on Plans? Yes/No	Yes	Yes	

SCALE: 1"=100'

SHT(S)	INITIAL	DATE

REVISION DESCRIPTION

REV. INITIAL

507 Executive Campus Dr, Suite 100, Westerville, Ohio 43082

Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder

Prepared By: TAT WATCON CONSULTING ENGINEERS & SURVEYORS 83 Shull Avenue Ph. Gahanna, Ohio 43230 (614) 414-7979

LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16
(COLUMBUS ROAD)
SWPPP - BIOFILTERS

DRFT CKD
GMA JRF

Z:\ELLINGTON VILLAGE SEC 5-10\DRAWINGS\3-BROAD STREET WIDENING\BROAD ST WIDENING - SWPPP.DWG - 1 XREFS: EV S5-6 Engineering Base - PLOTTED BY CAMERON - September 04, 2019 - 1:03 PM

SITE NARRATIVE

PLAN DESIGNER: Watcon Consulting Engineers & Surveyors
83 Shull Avenue
Gahanna, Ohio 43230
Phone: 614-414-7979
Fax: 614-414-7980

OWNER: Westport Homes
507 Executive Campus Dr., Suite 100
Westerville, Ohio 43082
Phone: 614-891-8545
Fax: 614-891-8654

DEVELOPER: Same

PROJECT DESCRIPTION: This project will consist of constructing approximately 2,148 linear feet of new roadway improvements on State Route 16 (Columbus Road) and to provide the necessary left turn lanes at the existing intersection of S.R. 16 and Ephriam Drive.
soil disturbing activities will include: clearing and grubbing; perimeter, and other erosion and sediment controls; grading; excavation and embankment, storm sewer, curb & gutter, asphalt paving and final planting and seeding.

EXISTING SITE CONDITIONS: The natural watershed of the site drains from a Southwesterly direction to a Northeasterly direction. The drainage consists of mostly sheet flow and shallow concentrated flow.

RECEIVING STREAM: Unnamed water way to Ramp Creek

ADJACENT AREAS: The site is bordered to the North and South by private property owners.

SOILS: This site consists of the following soils:
BeA – Bennington silt loam, 0 to 2 percent slopes
BeB – Bennington silt loam, 2 to 6 percent slopes
Cen1B1 – Centerburg silt loam, 2 to 6 percent slopes
Cn – Condit silt loam, 0 to 1 percent slopes

CRITICAL AREAS: None

EROSION AND SEDIMENT MEASURES: Erosion and sediment will be controlled by placing Flax-A-Mat at the storm outlets and both catch basins will be protected by Frye Flow Sediment Barriers or approved equal. Open channel ditches along State Route 16 (Columbus Road) shall be protected by ditch checks, seeding & mulching. No area for which grading has been completed shall be left unseeded or unmulched for longer than seven (7) days.

PERMANENT STABILIZATION/ WATER QUALITY: The site will be stabilized by permanent seeding and mulching. A concrete washout has been included. See plan for exact location.

MAINTENANCE: All erosion and sediment control devices are to be inspected by the construction superintendent daily and after significant rainfalls. Any damaged devices are to be replaced/repaired immediately.

SEQUENCE: CONSTRUCTION The contractor shall rough grade work area, build ditches and storm sewer. Next, the contractor to install Rock Check Dams as shown and all storm sewer outlets must be protected by Flex-A-Mat protection and all catch basins to be installed with Frye Flow Sediment Barriers or approved equal. Any areas left unseeded or unmulched for more than 7 days must be protected by temporary or permanent seeding and mulching. Only after areas have been seeded and mulched may the erosion and sediment control devices be removed and storm sewer pipe and inlets cleaned of all sediment incurred during construction.

SEDIMENT AND EROSION CONTROL

Erosion and sediment control measures are required as a part of this project. The erosion and sediment control plan reflects a schematic diagram of the intended measures for compliance with the required standards. General practice and/or site field conditions may warrant variation in the placement or use of the specific controls. Any variations shall be approved by the Village Engineer.

The contractor in compliance with the NPDES General Permit for Storm Water Discharge associated with construction activity and in accordance with Village Ordinances, will be responsible for providing adequate erosion and sediment control measures along with proper maintenance and inspection. A SWPPP maintenance log shall be kept on site in compliance with OEPA regulations. The log shall be available for public inspection.

SEDIMENT AND EROSION CONTROL (CONTINUED)

If permanent seed is not applied at this time, temporary seeding shall be done at the following rates:

March 1 to August 15

Seed:	Oats	2lbs./1,000 sq. ft.
Fertilizer:	(12:12:12)	12 1/2 lbs./1,000 sq. ft.
Mulch:	(Straw or Hay)	2 tons/acre

August 15 to November 1

Seed:	Annual Rye	2 lbs./1,000 sq. ft.
Fertilizer:	(12:12:12)	12 1/2 lbs./1,000 sq. ft.
Mulch:	(Straw or Hay)	2 tons/acre

November 1 to March 1

Mulch (ONLY):	(Straw or Hay)	2 tons/acre

"Permanent seeding" shall be done between March 15 and September 15. If seeding is done between September 15 and March 15, it shall be classified as "Temporary Seeding". Permanent seed shall be 40% Kentucky Bluegrass, 40% Creeping Red Fescue, 20% Annual Ryegrass.

Permanent seeding shall consist of fertilizing, watering and seeding rates indicated under Item 659. Seeding shall be applied after final grading or following seed bed preparation.

Rates of application of Item 659:

Seed:	Mixture	2 lbs./1,000 sq. ft.
Fertilizer:	(12:12:12)	25 lbs./1,000 sq. ft.
Mulch:	(Straw or Hay)	2 tons/acre

Soil Stabilization– Stabilization of disturbed areas shall, at a minimum, be initiated in accordance with the time frames specified in the following tables.

Table 1: Permanent Stabalization

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
Any areas that will lie dormant for 1 year or more	Within seven days of the most recent disturbance
Any areas within 50 feet of a stream	Within two days of reaching final grade
Any other areas at final grade	Within seven days of reaching final grade

Table 2: Temporary Stabalization

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
Any disturbed areas within 50 feet of a stream	Within 2 days of the most recent disturbance if the area will remain idle for more than 14 days.
For all construction activities, any disturbed areas that will be dormant for more than 14 days but less than one year, and not within 50 feet of a stream	For residential subdivisions, disturbed areas must be stabilized at least 7 days prior to transfer of permit coverage for the individual lots.
Disturbed areas that will be idle over winter.	Prior to the onset of winter.

Sheet flow runoff from denuded areas shall be filtered or diverted to a setting facility.

Sediment Barriers such as sediment fence or diversions to settling facilities shall protect adjacent properties and water resources from sediment transported by sheet flow.

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 protection for the erosion control immediately after construction of the catch basins or inlets, 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.

It is the Contractor's responsibility to maintain the sediment control features used on this project. The site shall be inspected periodically and within 24 hours of a significant rainfall. Records of these inspections shall be kept and made available to jurisdictional agencies if requested. Any sediment or debris which as 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.

All Erosion and Sediment Control practices are subject to Field Modification at the direction of the Village Engineer and/or Ohio EPA.

The onsite contacts responsible for sediment and erosion control on this site are:

BMP Installation	Terry Andrews	Cell Phone: 614-365-0066
BMP Maintenance	Same as above	Same as above
Site Stabilization and BMP removal	Same as above	Same as above

SCALE: 1"=60'

SHT(S)	INITIAL	DATE	REVISION DESCRIPTION	REV. INITIAL

507 Executive Campus Dr., Suite 100, Westerville, Ohio 43082

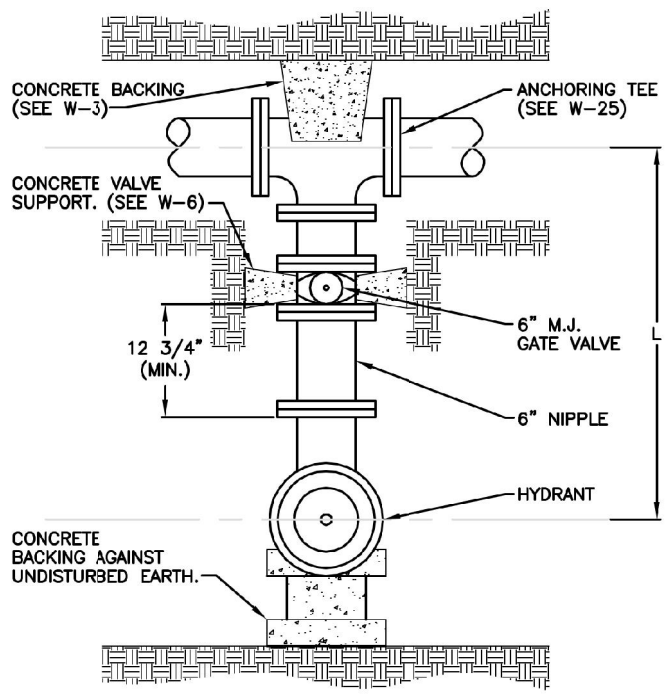
Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder

Prepared By: WATCON CONSULTING ENGINEERS & SURVEYORS
83 Shull Avenue Ph.
Gahanna, Ohio 43230
(614) 414-7979

LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16
(COLUMBUS ROAD)
SWPPP - NOTES

DRFT CKD
NEW JRF

Z:\ELLINGTON VILLAGE SEC 5-10\DRAWINGS\3-BROAD STREET WIDENING\BROAD ST WIDENING - SWPPP.DWG - 1 XREFS: EV S5-6 Engineering Base - PLOTTED BY CAMERON - September 04, 2019 - 1:03 PM



SIZE OF PIPE	MINIMUM L
6"	35"
8"	36"
12"	39"
16"	42"

PLAN VIEW

NOTES:

1. ALL JOINTS TO BE RESTRAINED WITH MEGALUG RESTRAINED JOINT FITTINGS.

APPROVED: 5-15-17
DATE

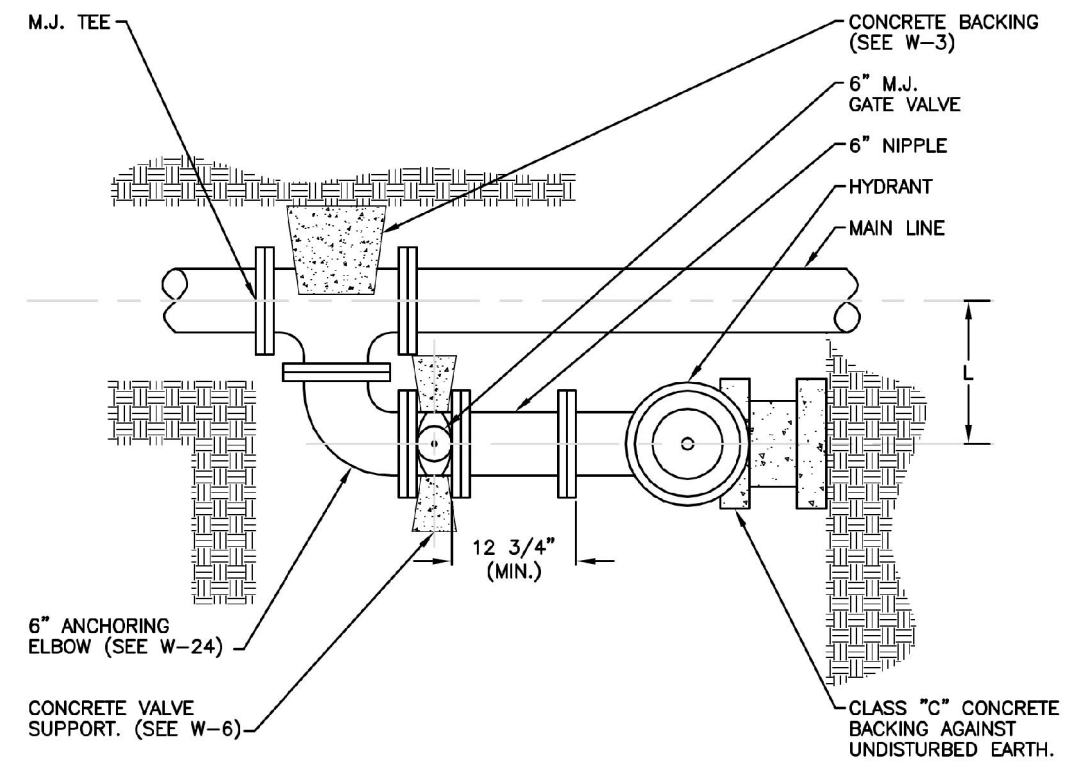
REGISTERED ENGINEER

TYPICAL HYDRANT SETTING (TYPE "A")

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

REVISED:	DRAWING NO.
05/2017	W-21



MAIN LINE	MINIMUM L	
	TYPE B	TYPE B MODIFIED
6"	24"	19"
8"	25"	20"
10"	26"	21"
12"	28"	23"
16"	31"	26"

NOTES:

1. TYPE B: LONG SIDE OF BEND TO TEE. TYPE B MODIFIED: SHORT SIDE OF BEND TO TEE.
2. FIRE HYDRANTS SHALL HAVE A MAXIMUM BURY OF 7'-0". MODIFICATION OF THE HYDRANT LEAD TO MEET THIS REQUIREMENT SHALL BE IN THE SECTION FROM THE VALVE TO THE HYDRANT PER W-22.
3. ALL JOINTS TO BE RESTRAINED WITH MEGALUG RESTRAINED JOINT FITTINGS.

APPROVED: 5-15-17
DATE

REGISTERED ENGINEER

TYPICAL HYDRANT SETTING (TYPES "B" AND "B" MODIFIED)

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

REVISED:	DRAWING NO.
05/2017	W-23

SCALE: 1"=40'

REV. NUMB.	REVISION DESCRIPTION	SHT(S)	INITIAL	DATE

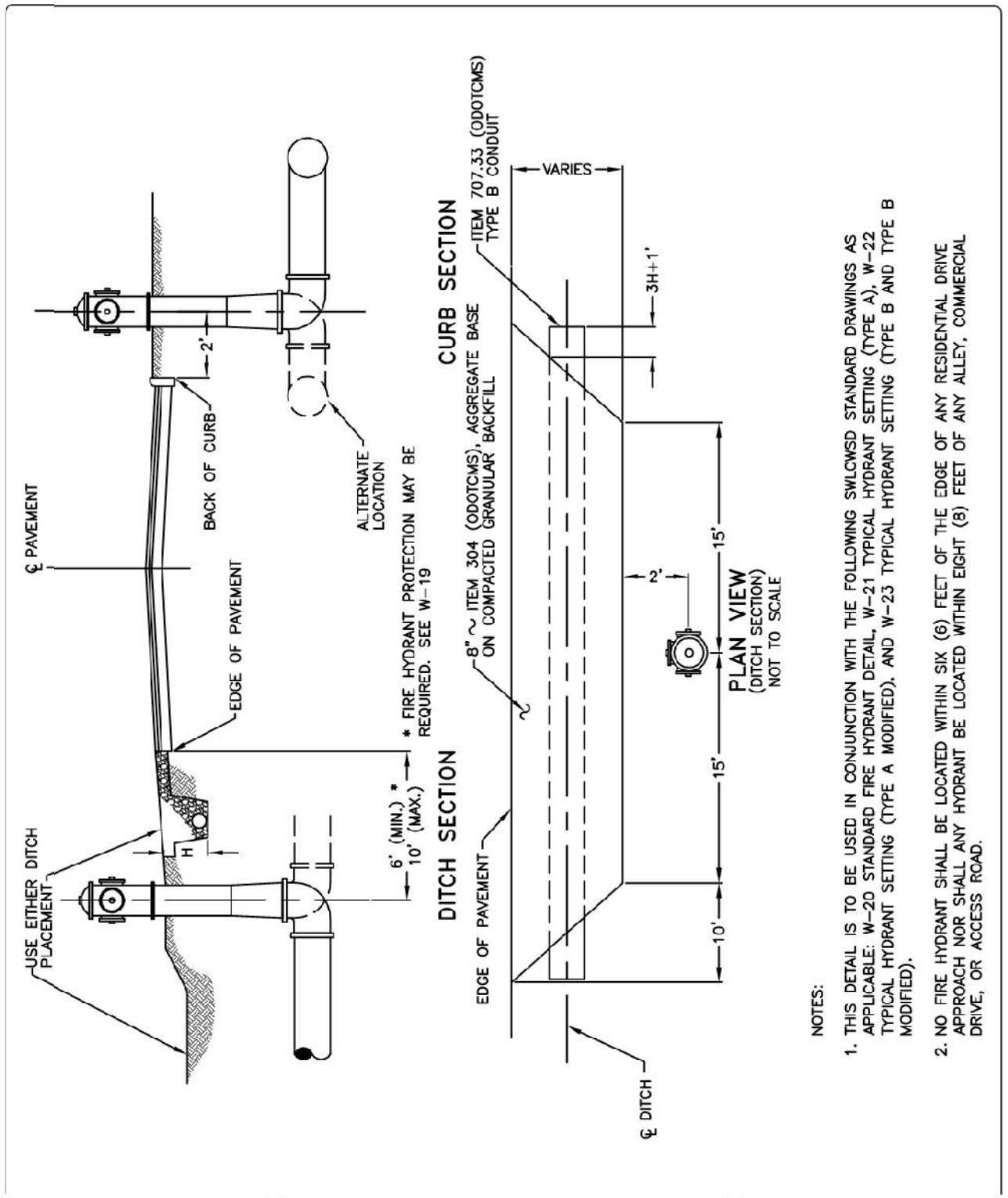
Prepared For: WESTPORT HOMES A DIVISION OF D.R. HORTON America's Builder
507 Executive Campus Dr. Suite 100 Westerville, Ohio 43082

Prepared By: TAT WATCON CONSULTING ENGINEERS & SURVEYORS
83 Shull Avenue Pn. Gahanna, Ohio 43230 (614) 414-7979

LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16 (COLUMBUS ROAD)
WATER LINE STANDARD DRAWINGS

DRFT CKD
NEW JRF

37/39



NOTES:

1. THIS DETAIL IS TO BE USED IN CONJUNCTION WITH THE FOLLOWING SWLCWSD STANDARD DRAWINGS AS APPLICABLE: W-20 STANDARD FIRE HYDRANT SETTING (TYPE A), W-22 TYPICAL HYDRANT SETTING (TYPE B AND TYPE B MODIFIED).
2. NO FIRE HYDRANT SHALL BE LOCATED WITHIN SIX (6) FEET OF THE EDGE OF ANY RESIDENTIAL DRIVE APPROACH NOR SHALL ANY HYDRANT BE LOCATED WITHIN EIGHT (8) FEET OF ANY ALLEY, COMMERCIAL DRIVE, OR ACCESS ROAD.

APPROVED: 5-15-17
DATE

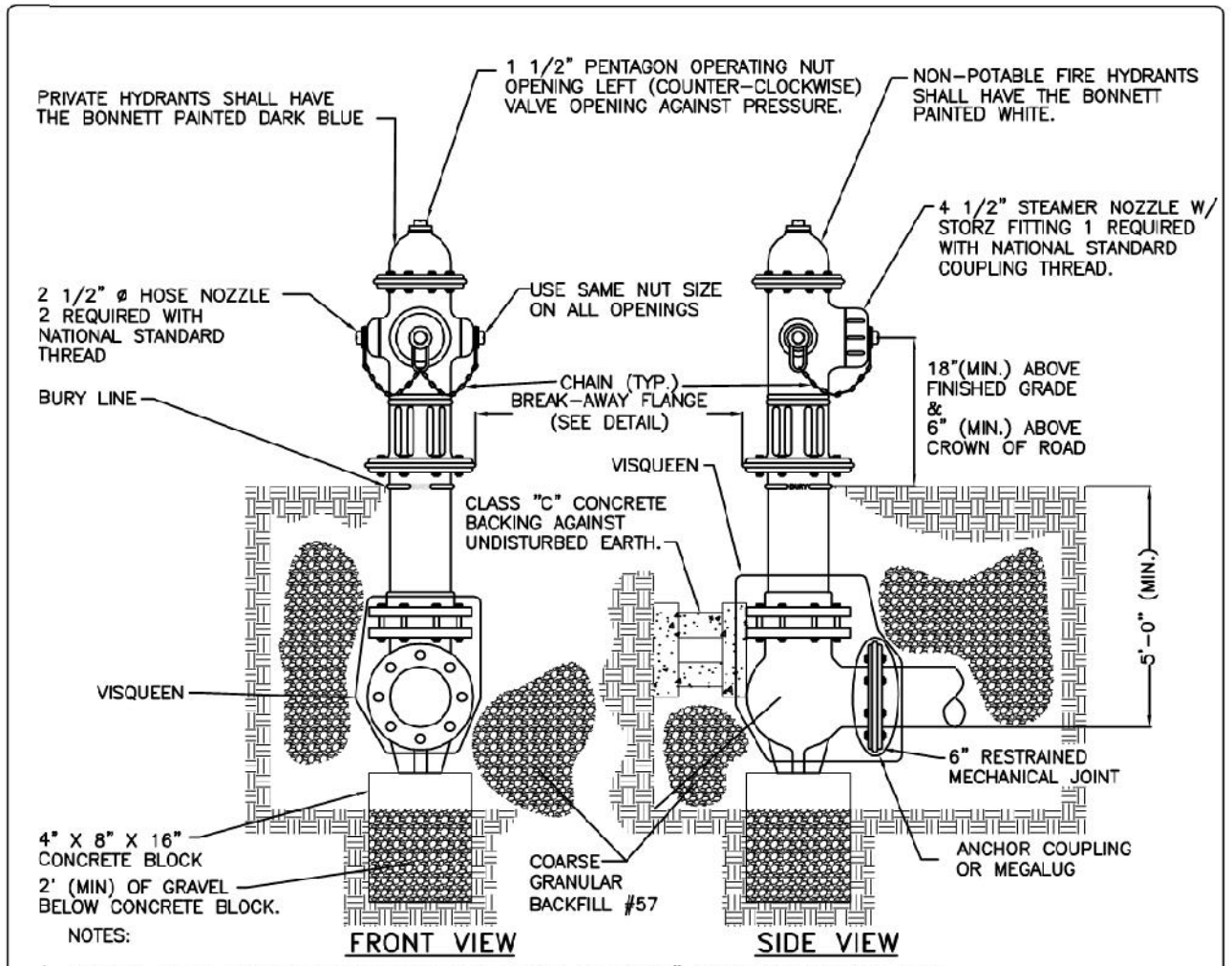
REGISTERED ENGINEER

FIRE HYDRANT LOCATION DETAIL

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

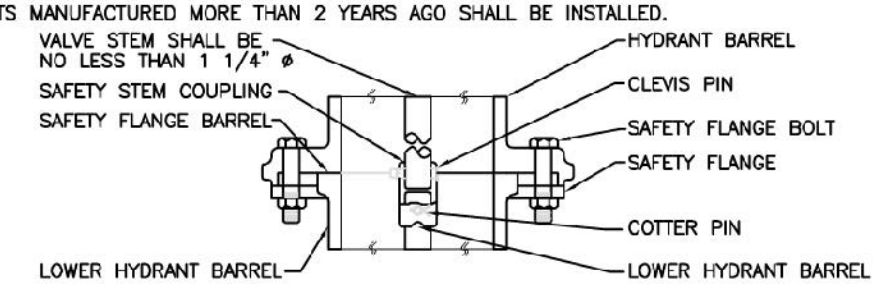
STANDARD CONSTRUCTION DWG.

REVISED:	DRAWING NO.
05/2017	W-18



NOTES:

1. BACKFILL SHALL EXTEND FROM THE BOTTOM OF THE PIT TO 12" ABOVE THE HYDRANT SHOE. COST OF FURNISHING AND PLACING BACKFILL SHALL BE INCLUDED IN THE PRICE BID FOR EACH FIRE HYDRANT.
2. ALL FIRE HYDRANTS SHALL BE INSTALLED WITH CLASS "C" CONCRETE BACKING AGAINST UNDISTURBED EARTH.
3. ALL FIRE HYDRANTS SHALL BE OF THE DRY-BARREL TYPE.
4. ALL FIRE HYDRANTS SHALL HAVE A STORZ FITTING, HARRINGTON HIHS OR EQUAL.
5. NO FIRE HYDRANTS MANUFACTURED MORE THAN 2 YEARS AGO SHALL BE INSTALLED.



BREAK-AWAY FLANGE & SAFETY COUPLING SECTION

APPROVED: 5-15-17
DATE

REGISTERED ENGINEER

STANDARD FIRE HYDRANT DETAIL

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

REVISED:	DRAWING NO.
05/2017	W-20 1 OF 3

SCALE: 1"=40'

REV. NUM.	REVISION DESCRIPTION	SHT(S)	INITIAL	DATE

507 Executive Campus Dr. Suite 100 Westerville, Ohio 43082

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LICKING COUNTY, OHIO
STREET WIDENING IMPROVEMENTS
FOR:
STATE ROUTE 16 (COLUMBUS ROAD)
WATER LINE STANDARD DRAWINGS

DRFT CXD
NEW JRF

38 39

Z:\ELLINGTON VILLAGE SEC 5-10\DRAWINGS\3-BROAD STREET WIDENING\BROAD ST WIDENING - WATER LINE DETAILS.DWG - 0 XREFS: - PLOTTED BY CAMERON - September 04, 2019 - 1:16 PM

FIRE HYDRANT NOTES

TYPE OF HYDRANT: THE HYDRANT SHALL BE THE POST TYPE TRAFFIC MODEL MADE OF CAST IRON AS SHOWN HEREON, AMERICAN FLOW CONTROL MK 73-5 CLOW MEDALLION, MUELLER SUPER CENTURION 250 MODEL A-421. IT SHALL HAVE A BREAKING CONNECTION THAT PREVENTS LOSS OF WATER WHEN THE UPPER AND LOWER SECTIONS ARE SEPARATED BY A SMASHING IMPACT. THE HYDRANT SHALL BE OF THE COMPRESSION TYPE WITH THE VALVE OPENING IN A COUNTERCLOCKWISE DIRECTION AGAINST THE PRESSURE AND CLOSING WITH THE PRESSURE. THE VALVE END OF THE STEM OR VALVE ROD SHALL BE SO CONSTRUCTED AS TO ELIMINATE CONTACT OF DISSIMILAR METALS IN THE PRESENCE OF MOISTURE.

THE STEM OR VALVE ROD SHALL BE CONSTRUCTED IN ONE CONTINUOUS LENGTH FROM THE VALVE TO THE BREAKING COUPLING OR TO THE BOTTOM OF THE EXTENSION PIECE WHERE EXTENSIONS ARE REQUIRED. THE STEM OR VALVE ROD BETWEEN THE VALVE AND OPERATING NUT SHALL BE MADE OF STEEL STOCK AND HAVE A 1 1/4 INCH MINIMUM DIAMETER AFTER MACHINING. THE BREAKING COUPLING SHALL FIT OVER THE VALVE ROD AND BE LOCATED AT THE PROPER POINT TO CONFORM TO THE BREAKING CONNECTION IN THE STANDPIPE.

THE BARREL SHALL HAVE AN AREA OF NOT LESS THAN 120 PERCENT OF THE VALVE OPENING. THE TYPE OF VALVE SEAL SHALL BE RUBBER WITH THE DIAMETER OF THE PORT IN THE SEAL RING BEING A MINIMUM OF 4 1/4 INCH.

ALL INTERIOR WORKING PARTS OF THE HYDRANT INCLUDING THE VALVE AND VALVE SEAT SHALL BE SUCH THAT THEY CAN BE REMOVED THROUGH THE TOP OF THE STANDPIPE WITHOUT EXCAVATION. THE UPPER SECTION OF THE STANDPIPE ABOVE THE GROUND LINE SHALL BE ADJUSTABLE SO THAT THE NOZZLES CAN BE ROTATED TO ANY DESIRED POSITION.

REFERENCE SPECIFICATIONS: ALL FIRE HYDRANTS SHALL CONFORM TO THE LATEST AMERICAN WATER WORKS ASSOCIATION SPECIFICATIONS C502, THE REQUIREMENTS OF THE DISTRICT AND APPLICABLE LOCAL FIRE DEPARTMENT. ALL SPECIFICATIONS SHALL BE THE LATEST EDITION IN EFFECT ON THE DATE THE CONSTRUCTION DRAWINGS ARE APPROVED (SIGNED) BY THE DISTRICT, UNLESS OTHERWISE NOTED.

APPROVALS AND CERTIFICATION: THE SUPPLIER OR MANUFACTURER SHALL SUBMIT TO THE DISTRICT SIX (6) COPIES OF THE RESULTS OF CERTIFIED FLOW TESTS RUN BY AN INDEPENDENT TESTING LABORATORY AND SHOP DRAWINGS WITH DIMENSIONS, MATERIALS AND NOMENCLATURE OF PARTS FOR EACH TYPE OR MODEL OF HYDRANT PROPOSED FOR USE IN THE PROJECT AREA.

UPON APPROVAL OF THE ABOVE INFORMATION BY THE DISTRICT, IT SHALL REMAIN ON FILE WITH THE DISTRICT. SUBMISSION OF THE ABOVE MATERIALS WITH EACH ORDER OF FIRE HYDRANTS IS NOT NECESSARY IF APPROVED MATERIAL IS ALREADY ON FILE. SUBMISSION OF NEW MATERIAL IS REQUIRED WHEN A DEVIATION IN THE PRODUCT, ITS MANUFACTURER, OR THE STANDARDS IS REQUESTED.

ANY FIRE HYDRANTS DELIVERED TO A PROJECT WHICH FAIL TO CONFORM TO THE APPROVED INFORMATION ON FILE WITH THE DISTRICT SHALL BE REJECTED.

WITH EACH DELIVERY SHIPMENT OF FIRE HYDRANTS, THE HYDRANT MANUFACTURER SHALL CERTIFY THAT THE HYDRANTS CONFORM TO THE INFORMATION APPROVED AND ON FILE WITH THE DISTRICT. THIS CERTIFICATE SHALL INCLUDE THE MODEL OR IDENTIFICATION NUMBERS OF THE HYDRANTS BEING DELIVERED AND THE APPROVAL DATE OF THE INFORMATION ON FILE WITH THE DISTRICT. THIS DOCUMENTATION DOES NOT CONSTITUTE APPROVAL OF FINAL ACCEPTANCE OF THE SPECIFIC HYDRANTS DELIVERED.

APPROVED: 5-15-17
DATE

REGISTERED ENGINEER

STANDARD FIRE HYDRANT DETAIL

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

REVISED:	DRAWING NO.
05/2017	W-20 2 OF 3

FIRE HYDRANT NOTES (CONTINUED)

INSPECTION: PRIOR TO INSTALLATION, ALL FIRE HYDRANTS SHALL BE INSPECTED BY THE DISTRICT AND BY THE CHIEF OF THE APPLICABLE FIRE DEPARTMENT OR HIS REPRESENTATIVE. THE HYDRANTS SHALL RECEIVE EITHER A CONDITIONAL ACCEPTANCE OR A REJECTION. CONDITIONAL ACCEPTANCE SHALL MEAN THAT THE HYDRANTS MAY BE INSTALLED.

UPON INSTALLATION, EACH HYDRANT SHALL BE TESTED FOR OPERATION AND LEAKS WITH A MEMBER OF THE APPLICABLE FIRE DEPARTMENT PRESENT DURING THE TEST AND SHALL RECEIVE EITHER OPERATIONAL ACCEPTANCE OR A REJECTION.

THE DISTRICT RESERVES THE RIGHT TO REJECT ANY AND ALL FIRE HYDRANTS FOUND TO BE IN NON-COMPLIANCE WITH ANY OF THE REQUIREMENTS STATED HEREIN AT ANY TIME DURING THE ACCEPTANCE OR ABOVE DESCRIBED APPROVAL PROCESS. ANY HYDRANTS WHICH ARE REJECTED AND WHICH CANNOT BE BROUGHT INTO COMPLIANCE WITH THE REQUIREMENTS AS STATED HEREIN SHALL BE REMOVED FROM THE PROJECT SITE, STORAGE SITE OR THE WORK SITE AT NO EXPENSE TO THE DISTRICT.

THE FINAL FIELD ACCEPTANCE SHALL GOVERN OVER ANY DOCUMENT APPROVAL AND SHALL BE BASED ON ALL WORK BEING COMPLETED INCLUDING INSTALLATION, TESTING, OPERATION, PAINTING AND LUBRICATION.

INSTALLATION: THE FIRE HYDRANTS SHALL BE INSTALLED AS SPECIFIED HEREIN AND IN ACCORDANCE WITH STANDARD DRAWING W-20, STANDARD FIRE HYDRANT DETAIL, W-21, TYPICAL HYDRANT SETTING (TYPE "A"); W-22, TYPICAL HYDRANT SETTING (TYPE "A" MODIFIED); W-23, TYPICAL HYDRANT SETTING (TYPES "B" AND "B" MODIFIED); W-24, 6"~90° HYDRANT BEND OR AS SPECIFIED BY THE DISTRICT.

THE BASE SECTION OF ALL FIRE HYDRANTS SHALL BE SET TO AN ELEVATION WHICH WILL BE CORRECT FOR THE PROPOSED GRADE OF THE STREET. THE ELEVATION OF THE TOP BARREL SECTION SHALL BE SET SO THAT THE GRADE LINE OF THE HYDRANT IS AT THE ESTABLISHED OR PROPOSED FINISHED GRADE AS INDICATED ON THE CONSTRUCTION DRAWINGS, THROUGH THE INSTALLATION OF HYDRANT EXTENSION SECTIONS AS NEEDED.

PRIOR TO OPERATIONAL ACCEPTANCE, THE HYDRANT NOZZLES SHALL BE TURNED AWAY FROM THE STREET. UPON RECEIVING OPERATIONAL ACCEPTANCE, THE HYDRANT SHALL BE TURNED WITH THE STEAMER NOZZLE FACING THE ROAD OR STREET AND THE HYDRANT EXERCISED TO CHECK THE OPERATION AND FOR LEAKS.

PAINTING: FINAL PAINT COLOR SHALL BE FIRE PROTECTION RED ENAMEL FROM THE MANUFACTURE. PRIOR TO PAINTING, SAMPLES SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL. AFTER OPERATIONAL ACCEPTANCE, ALL HYDRANT SURFACES ABOVE THE GROUND LINE SHALL BE CLEANED, WASHED AND WIRE BRUSHED. ALL SURFACES OR SPOTS THAT REQUIRE TOUCHING UP SHALL HAVE TWO (2) COATS OF ZINC CHROMATE PRIMER. WHEN ALL THE SURFACES HAVE BEEN PRIMED AND ARE DRY, ALL HYDRANT SURFACES SHALL RECEIVE ONE (1) COAT OF THE APPROVED ENAMEL.

MATERIALS AND WORKMANSHIP: ALL MACHINED PARTS SHALL BE TRUE TO GAUGE SO THAT THEY WILL BE INTERCHANGEABLE BETWEEN HYDRANTS OF THE SAME MAKE AND SIZE. WHEN REQUIRED, NON-ADJUSTABLE HYDRANT WRENCHES, PROPERLY SIZED TO THE SPECIFIED OPERATING NUT DIMENSIONS AND FABRICATED BY THE HYDRANT MANUFACTURER, SHALL BE SUPPLIED.

LUBRICATION: ALL HYDRANT NOZZLE THREADS SHALL BE LUBERICATED WITH A FDA APPROVED FOOD GRADE LUBRICANT (PERMATEX SUPER LUBE OR EQUAL).

APPROVED: 5-15-17
DATE

REGISTERED ENGINEER

STANDARD FIRE HYDRANT DETAIL

SOUTHWEST LICKING COMMUNITY WATER AND SEWER DISTRICT

STANDARD CONSTRUCTION DWG.

REVISED:	DRAWING NO.
05/2017	W-20 3 OF 3

SCALE: 1"=40'

SHT(S)	INITIAL	DATE

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STREET WIDENING IMPROVEMENTS
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WATER LINE STANDARD DRAWINGS

DRFT CKD
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39/39