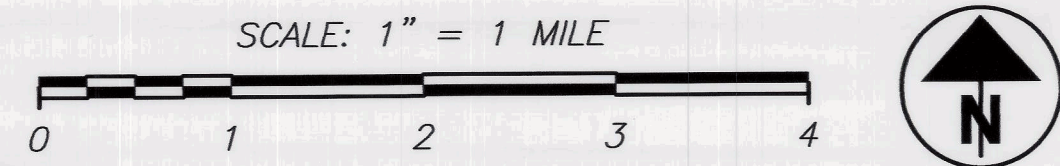


LOCATION MAP

LATITUDE: 40°07'29"N LONGITUDE: 82°44'18"W



PORTION TO BE IMPROVED	Symbol
INTERSTATE HIGHWAY	[Symbol: Double lines with a shield]
STATE & FEDERAL ROUTES	[Symbol: Single line with a shield]
COUNTY & TOWNSHIP ROADS	[Symbol: Dashed line]
OTHER ROADS	[Symbol: Solid line]

DESIGN DESIGNATION GREEN CHAPEL ROAD

PHASE 1 ADT	8,654
FULL BUILD ADT	27,970
DESIGN SPEED	35 MPH
LEGAL SPEED	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	LOCAL

US ROUTE 62

PHASE 1 ADT	12,970
FULL BUILD ADT	35,224
DESIGN SPEED	55 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	PRINCIPAL ARTERIAL

STORMWATER NOTE:

STORMWATER QUALITY AND QUANTITY CONTROLS FOR THE ROADWAY WILL BE PROVIDED BY RETENTION BASINS. REFER TO SHEETS 121-124 FOR STORMWATER CONTROL FACILITY INFORMATION. ADDITIONAL INFORMATION CAN BE FOUND IN THE GREEN CHAPEL PHASE 2 - STORMWATER MANAGEMENT PLAN.

CITY OF NEW ALBANY JERSEY TOWNSHIP, MONROE TOWNSHIP LICKING COUNTY, OHIO PUBLIC ROADWAY IMPROVEMENTS

FOR GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

FROM US ROUTE 62 TO 1250' WEST OF CLOVER VALLEY ROAD
AND US ROUTE 62 FROM 260' EAST OF BEECH ROAD TO 1480'
EAST OF GREEN CHAPEL ROAD
2024

INDEX OF SHEETS:

TITLE SHEET	1	CROSS SECTIONS - GREEN CHAPEL ROAD	69-98
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TYPICAL SECTION	5-6	DRIVE DETAILS	102-105
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SEDIMENT AND EROSION CONTROL PLAN	12-22	CULVERT DETAIL PLAN	120
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PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF APPROXIMATELY 6,000' OF GREEN CHAPEL ROAD RE-CONSTRUCTION. THE PROJECT ALSO CONSISTS OF APPROXIMATELY 2,100' OF JOHNSTOWN UTICA ROAD (US-62) WIDENING. THE PROJECT INCLUDES ASPHALT PAVING, ROLLER COMPACTED CONCRETE BASE, ASPHALT PATHS, CURB, LANDSCAPING, STORM SEWER, TRAFFIC SIGNAL, COMMUNICATION DUCT BANK, LIGHTING, AND TRAFFIC CONTROL DEVICES.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	17.40 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	3.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	20.40 ACRES

SPECIFICATIONS

THE CITY OF COLUMBUS AND OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITIONS, TOGETHER WITH THE CITY OF NEW ALBANY SPECIFICATIONS INCLUDING ALL SUPPLEMENTS THERETO (HEREAFTER REFERRED TO AS STANDARD SPECIFICATIONS), SHALL GOVERN ALL CONSTRUCTION ITEMS OF THESE PLANS UNLESS OTHERWISE NOTED. IF CONFLICT BETWEEN SPECIFICATIONS IS FOUND, THE MORE STRICT SPECIFICATION WILL APPLY AS DECIDED BY THE CITY ENGINEER. CMSC ITEM NUMBERS LISTED REFER TO THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS.

CITY OF NEW ALBANY APPROVALS

THE SIGNATURES BELOW SIGNIFY ONLY CONCURRENCE WITH THE GENERAL PURPOSE OF THIS PROJECT. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE ENGINEER AT EVANS, MECHWART, HAMBLETON & TILTON, INC. CONSULTING ENGINEERS AND SURVEYORS. THE EXTENT OF CITY ENGINEER REVIEW AND APPROVAL IS BASED ONLY ON COMPLIANCE WITH CITY ORDINANCES 1181, 1183, 1187, AND OTHER APPLICABLE CITY POLICIES.

MAINTENANCE AGREEMENT:

UPON COMPLETION, THE CITY OF NEW ALBANY WILL OPERATE AND MAINTAIN GREEN CHAPEL ROAD WITHIN THE LIMITS OF THE PROJECT INCLUDING BOTH STORMWATER RETENTION BASINS. MAINTENANCE OF THE TRAFFIC SIGNAL AT ROUTE 62 AND GREEN CHAPEL ROAD WILL BE MAINTAINED BY THE OHIO DEPARTMENT OF TRANSPORTATION.

FINANCE DIRECTOR,
CITY OF NEW ALBANY, OHIO

DATE

CITY ENGINEER, CITY OF NEW ALBANY, OHIO

DATE

CITY MANAGER, CITY OF NEW ALBANY, OHIO

DATE

LICKING COUNTY APPROVALS

THE SIGNATURES BELOW SIGNIFY CONCURRENCE WITH THE GENERAL PURPOSES AND GENERAL LOCATION OF THE PROJECT. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE ENGINEER PREPARING THE PLAN.

LICKING COUNTY ENGINEER

DATE

LICKING COUNTY COMMISSIONER

DATE

LICKING COUNTY COMMISSIONER

DATE

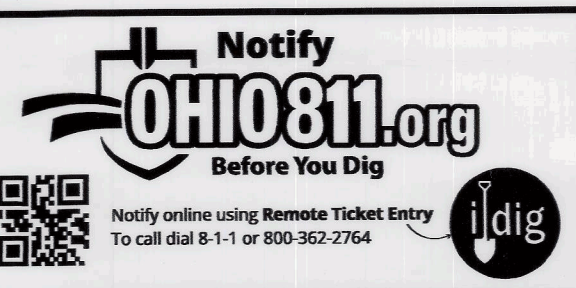
LICKING COUNTY COMMISSIONER

DATE

ENGINEERS SEAL:	STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS
	COLUMBUS			ODOT			
ENGINEERS SEAL: For Sheets: (1-148, 155-164) SIGNED: <i>Matt Scheer</i> DATE: 11-8-24	2000		AA-S150	CB-2-5	MT-101.60	TC-52.10	
	2156	AA-S112	AA-S151		MT-101.70	TC-52.20	
	2160	AA-S113	AA-S167		MT-101.75	TC-61.30	
	2170	AA-S114	AA-S168	HL-10.11	MT-101.90	TC-65.10	
	2175	AA-S117	AA-S169	HL-30.11	MT-105.10	TC-65.11	
		AA-S119		HL-30.21	MT-110.10	TC-71.10	800 825
	2179		MIS-54	HL-30.22	MT-120.00	TC-74.10	809 913
	2201	AA-S121		ITS-15.11	RM-7.1	TC-81.10	813 921
	2202	AA-S125A	MIS-201	MT-95.31	TC-21.21	TC-81.11	821
	2319	AA-S125B	MIS-305		TC-41.20	TC-83.10	
	4001	AA-S128	MIS-404	MT-97.10	TC-41.40	TC-83.20	
		AA-S130	MIS-501	MT-99.20	TC-42.10	TC-84.20	
		AA-S102			TC-42.20	TC-84.21	
		AA-S105	AA-S133A	MIS-700		TC-85.10	
		AA-S106	AA-S133B			TC-85.21	
		AA-S107	AA-S141			TC-85.22	
	AA-S108	AA-S142					
		AA-S149					
	NEW ALBANY			USDOT FLH			
	NA-SNS-1	NA-SNS-3		617-60			
		NA-SNS-4		617-61			

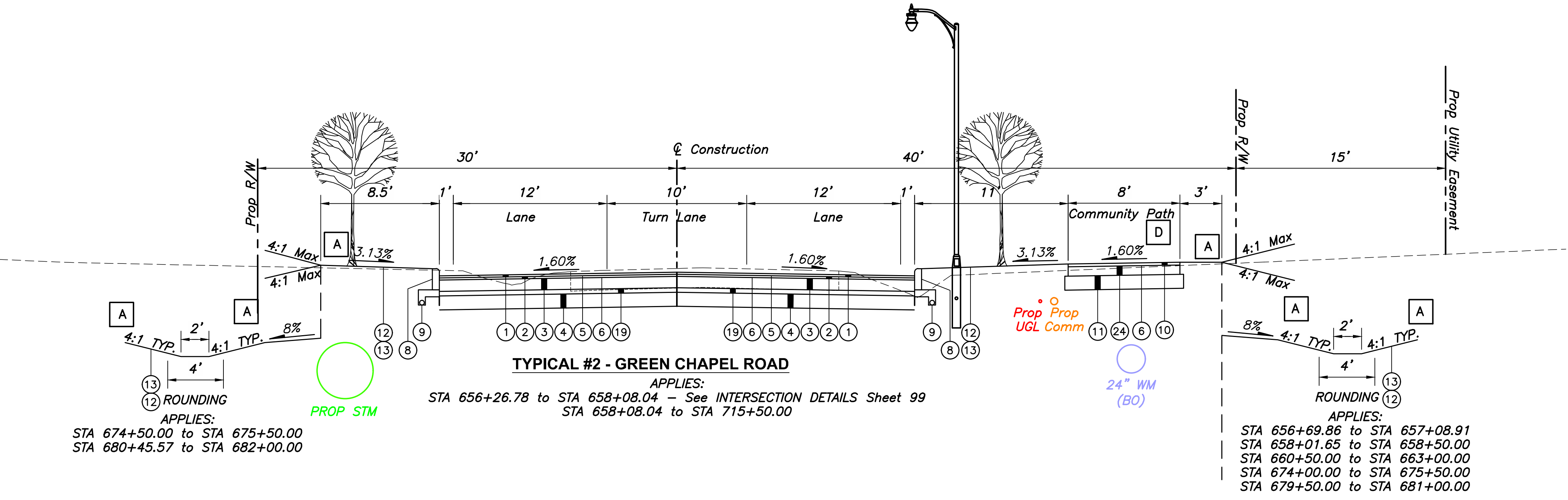
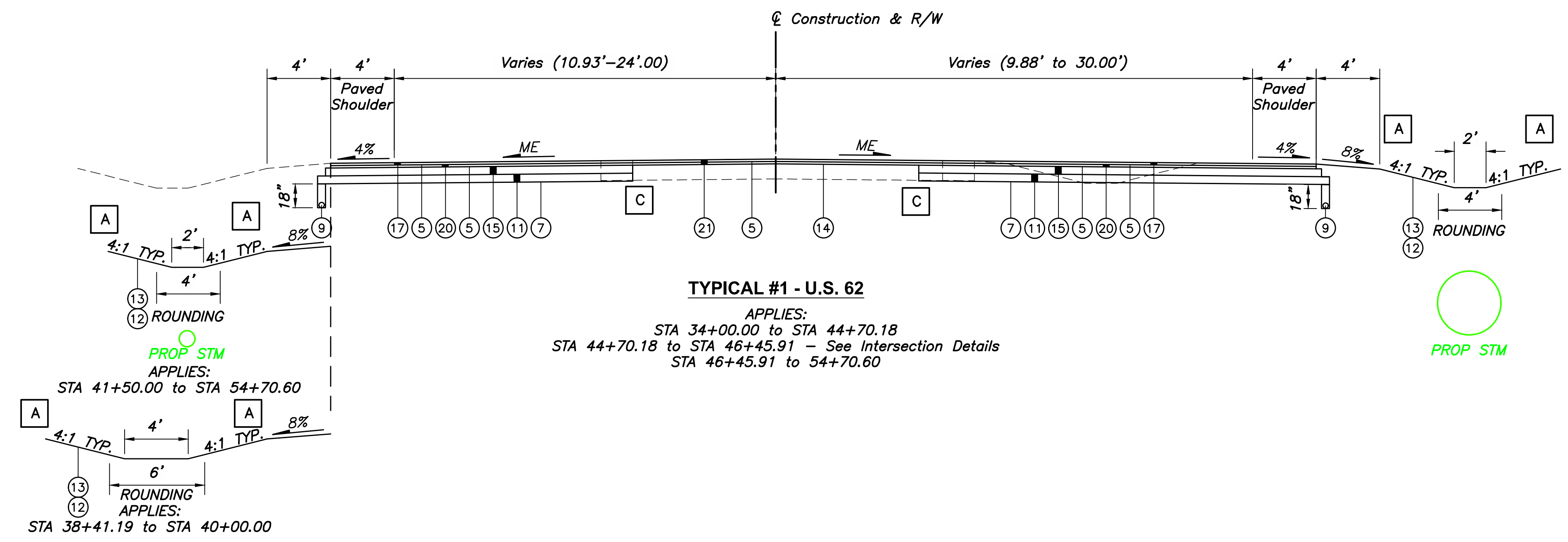
ENGINEERS SEAL:
For Sheets: (149-153)

SIGNED: *Tyler Adams*
DATE: 11-8-24



TITLE SHEET

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2



LEGEND

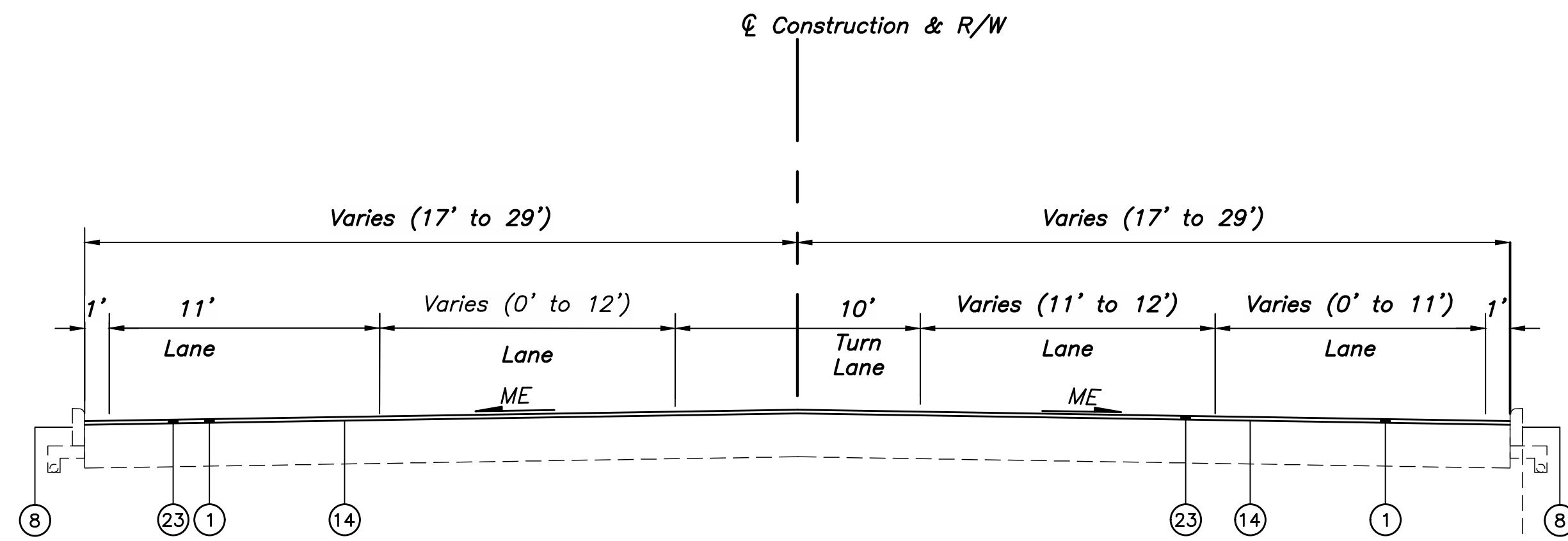
- ① Item 442 - 1.25" Asphalt Concrete Surface Course, 12.5mm, Type A (448)
- ② Item 442 - 1.75" Asphalt Concrete Intermediate Course, 19mm, Type A (448)
- ③ Item 307 - 12 Inch Roller Compacted Concrete Base [B]
- ④ Item 206 - Cement Stabilized Subgrade, 12 Inches Deep
- ⑤ Item 407 - Non-Tracking Tack Coat (0.06 Gal/SY)
- ⑥ Item 407 - Tack Coat, Type SBR Asphalt Emulsion (702.13) (0.07 Gal/SY)
- ⑦ Item 204 - Subgrade Compaction and Proof Rolling
- ⑧ Item 609 - Curb, Straight 18 Inch
- ⑨ Item 605 - 6" Pipe Underdrain (with #57 Aggregate Included in cost of Underdrain)
- ⑩ Item 441 - 2.50" Asphalt Concrete Surface Course, Type 1, (448), PG64-22
- ⑪ Item 304 - 6" Aggregate Base
- ⑫ Item 653 - Topsoil (T=4")
- ⑬ Item 659 - Seeding and Mulching, Class I
- ⑭ Item 407 - Non-Tracking Tack Coat (0.09 Gal/SY)
- ⑮ Item 301 - 6" Asphalt Concrete Base, PG64-22
- ⑯ Item 304 - 2" Aggregate Base, As Per Plan (No. 8 Stone)
- ⑰ Item 441 - 1.25" Asphalt Concrete Surface Course, Type 1, (448), PG70-22M
- ⑱ Item 441 - 1.75" Asphalt Concrete Intermediate Course, Type 2, (448), PG64-22
- ⑲ Item 304 - 4" Aggregate Base
- ⑳ Item 441 - 1" Asphalt Concrete Intermediate Course, Type 1, (448), PG64-22
- ㉑ Item 254 - Pavement Planing, Asphalt Concrete (T=2.25")
- ㉒ Item 452 - Non-Reinforced Concrete (T=8")
- ㉓ Item 254 - Pavement Planing, Asphalt Concrete (T=2.25" for US62 and T=1.25" for Green Chapel Road)
- ㉔ Item 307 - 8 Inch Roller Compacted Concrete Base [B]
- ㉕ Item 408 - Prime Coat (0.400 Gal/SY)

- [A] 2' Rounding shall apply to all breaks in grade
- [B] Substitute Item 305 - Portland Cement Concrete Base for RCC where unable to achieve proper compaction based upon width of paving. Payment for PCC Base shall be included in Item 307 - Roller Compacted Concrete Base. Longitudinal joints shall follow longitudinal pavement markings. Contractor shall prepare and submit a Pavement Jointing Plan for review to the City. Jointing Plan must be approved by City prior to construction. Transverse contraction joints shall be spaced per Columbus Standard Drawing 2170. Longitudinal and Transverse pavement joints shall be included with Item 307 - Roller Compacted Concrete. Pavement Relief Joints are shown on the Plan and Profile Sheets and shall be paid under Item 454 - Pavement Relief Joint. Pavement Relief Joints shall be installed per Columbus Standard Drawing 2175.
- [C] If during construction the existing road subbase is found to be lower than the proposed road base, the thickness of the proposed road aggregate base shall be increased to allow for adequate draining of the existing road subbase.
- [D] Community path to be initially constructed as 12' wide where shown on the Maintenance of Traffic Plan. After the temporary roadway is no longer in use, the community path shall be reduced to its final width of 8' as shown throughout the rest of the Plan. Asphalt concrete surface course and tack coat shall not be installed until after path is no longer maintaining traffic. Traffic to be maintained on roller compacted concrete.

TYPICAL SECTION

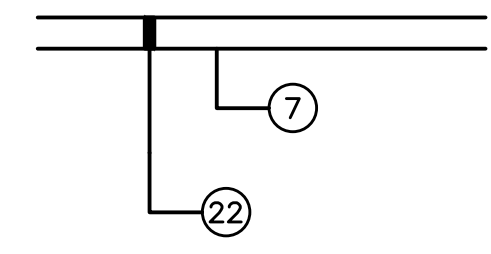
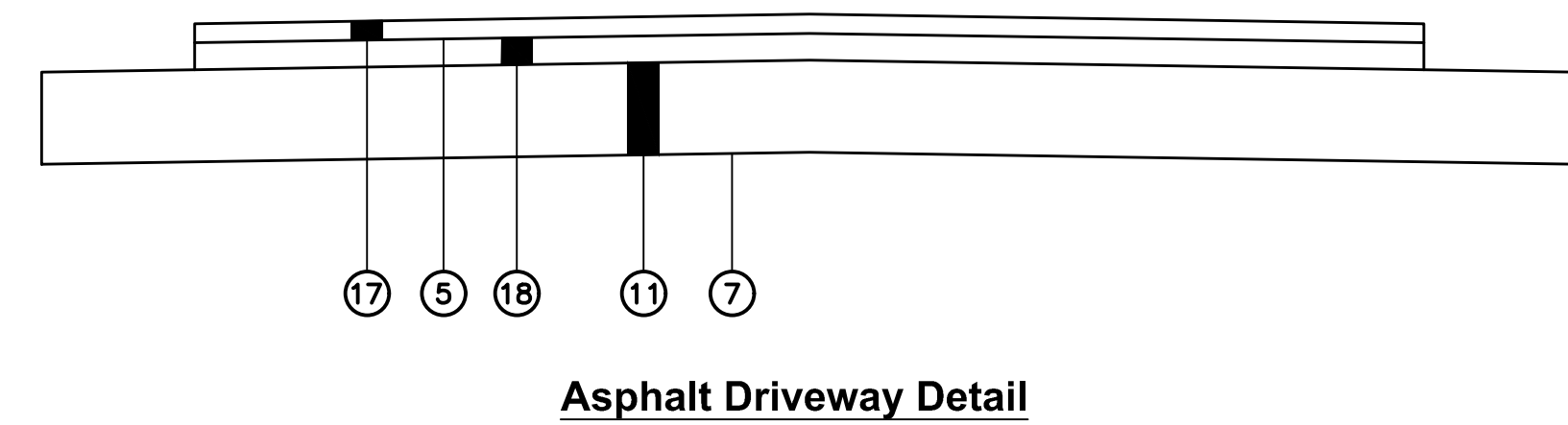
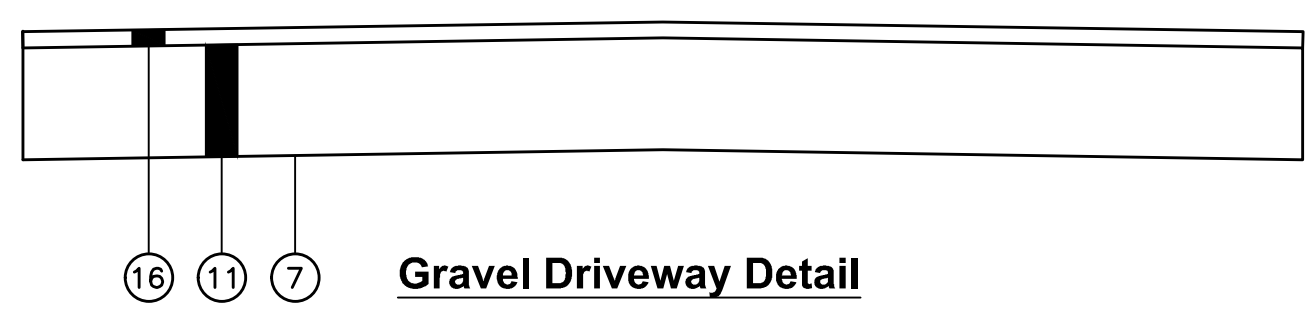
GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

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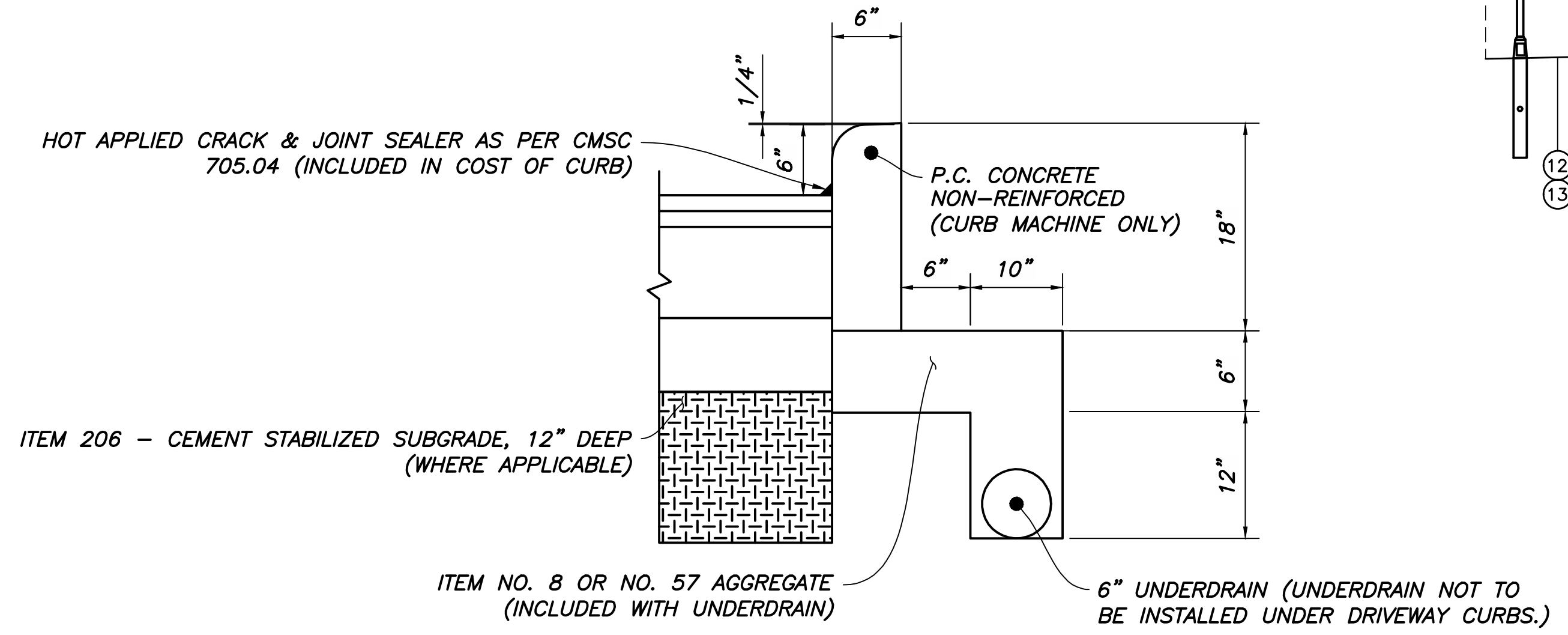


TYPICAL #3 - GREEN CHAPEL ROAD RESURFACING

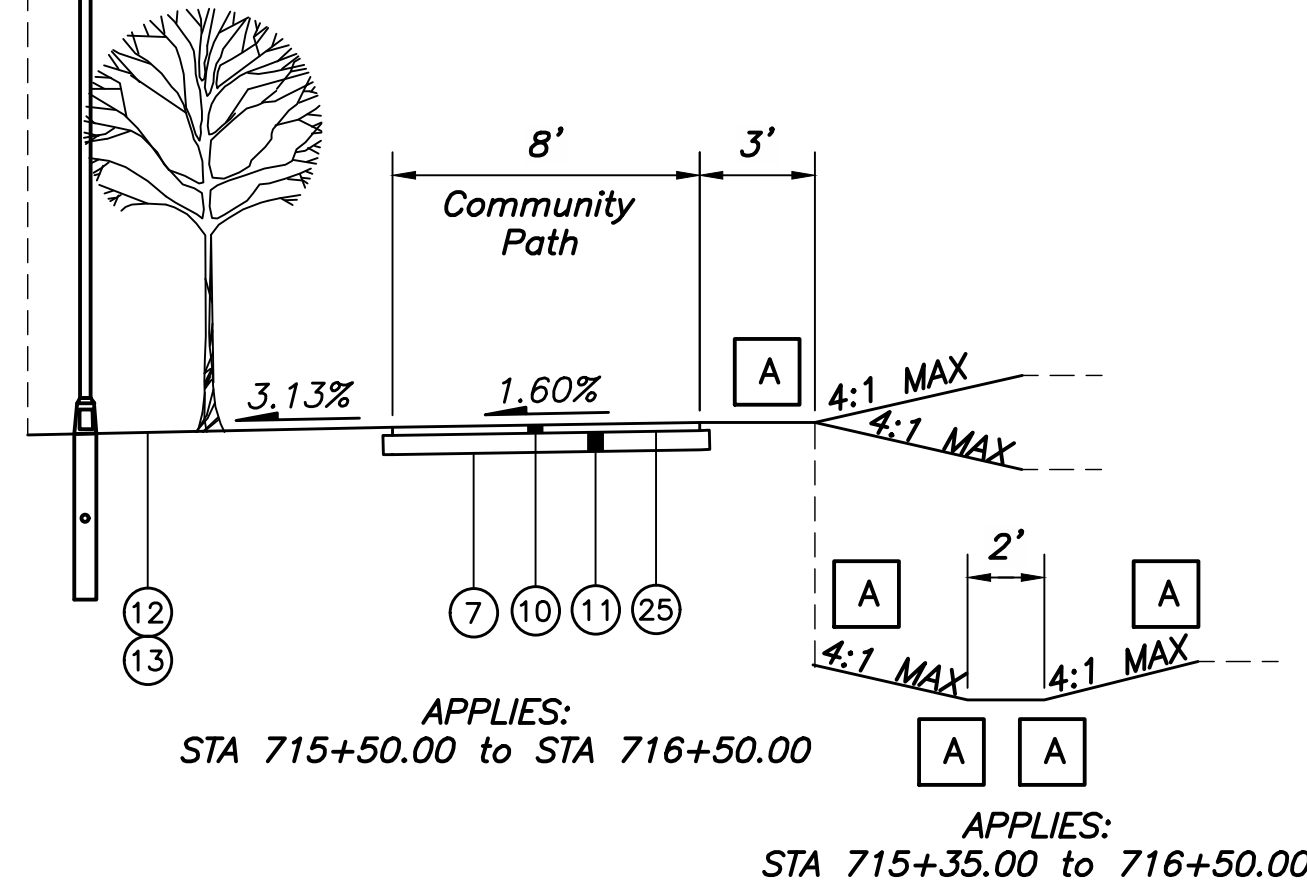
APPLIES:
STA 715+50.00 to STA 721+71.11



Concrete Drive Apron Build-up

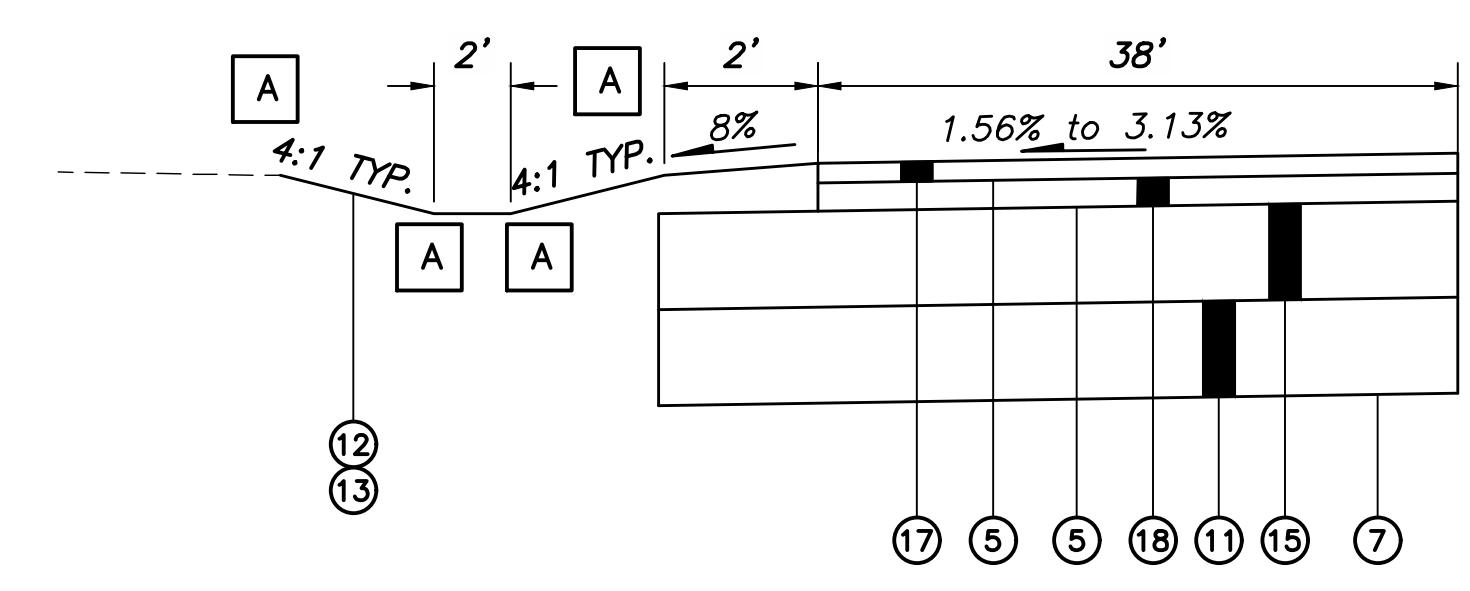


STRAIGHT 18" CONCRETE CURB



APPLIES:
STA 715+50.00 to STA 716+50.00

APPLIES:
STA 715+35.00 to 716+50.00



Cul-De-Sac Detail

LEGEND

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- ⑲ Item 304 - 4" Aggregate Base
- ⑳ Item 441 - 1" Asphalt Concrete Intermediate Course, Type 1, (448), PG64-22
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TYPICAL SECTION

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

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1.0	<u>GENERAL</u>	1.7.9	When mail boxes, road or street name signs and supports interfere with construction, the Contractor shall remove and erect them in temporary locations during construction in a manner satisfactory to the City Engineer and U.S. Postal Service. After completion of the construction and before final acceptance of the project the Contractor shall erect the mailboxes, road or street name signs and supports in a permanent location in accordance with the plans unless otherwise directed by the City Engineer. Removal, temporary erection and permanent erection of mailboxes shall be in accordance with U.S. Postal regulations. This work shall be performed at no additional cost to the City or the property owners.	1.17	<u>STREET LIGHTING</u> See Sheet 140-141 for Street Lighting Notes.	3.2	<u>STREET PRE-CONSTRUCTION CONFERENCE</u> Prior to street construction a pre-construction conference shall be held at the City Hall with the Owner and superintendent/foremen of the base, curb and asphalt sub-contractors. The pre-construction conference shall be scheduled by the contractor for 48 hours prior to the pouring of the curb. The purpose of the meeting is to ensure a 6" curb height is provided upon the completion of the street system.
1.1	<u>STANDARDS</u> The City of Columbus and Ohio Department of Transportation Construction and Material Specifications, current editions, together with the City of New Albany specifications including all supplements thereto (hereafter referred to as Standard Specifications), shall govern all construction items of these plans unless otherwise noted. If conflict between specifications is found, the more strict specification will apply as decided by the City Engineer. CMSC item numbers listed refer to the City of Columbus Construction and Material Specifications.	1.7.10	Trenches along roadways shall be protected in accordance with the ODOT "Drop offs in Work Zones" policy copies of which are available from the Ohio Department of Transportation, Bureau of Traffic, 1980 E. Broad Street, Columbus, Ohio 43215.	1.18	<u>PERMITS</u> The Contractor shall be responsible to obtain all necessary permits unless otherwise noted.	3.3	<u>TRANSVERSE & LONGITUDINAL JOINTS</u> 3.3.1 Transverse contraction and longitudinal joints shall be constructed as per 305.01 paragraph (C) & (D). (Including 26' pavement)
1.2	<u>PLAN MODIFICATIONS</u> Any modifications to the work as shown on these drawings must have prior written approval by the City Engineer, City of New Albany. Inspectors have no authority to approve revisions in the field.	1.8	<u>EQUIPMENT ON PUBLIC ROADS</u> Non-rubber tired vehicles shall not be moved on public streets. The City Engineer may grant exceptions where short distances and special circumstances are involved. Granting exceptions must be in writing, and any damages must be repaired to the satisfaction of the City of New Albany.	1.18.1	A tap permit for domestic and commercial waterline services must be obtained from the City of Columbus and the City of New Albany prior to making the tap into the public waterline.	3.3.2	No transverse joints shall be permitted adjacent to a new pavement surface which is more than 24 hours old, weather permitting, except for joints which have existed over weekends and holidays. The surface course shall be continuous to the existing pavement surface.
1.3	<u>NOT USED</u>	1.9-1.11	<u>MAINTENANCE OF TRAFFIC</u> See Sheet 23-35 for Maintenance of Traffic Notes	1.18.2	No service connection permits shall be issued or connections made to any service taps until waterlines have been disinfected (chlorinated).	3.3.3	The Contractor shall provide a written procedure on how he/she intends to construct the final two courses of asphalt prior to construction for approval by the City Engineer. The procedure should include specifics for construction of intersections.
1.4	<u>PRE-CONSTRUCTION CONFERENCE</u> A pre-construction conference involving a representative of the City of New Albany, the Owner, the Principle Contractor, ODOT, District 5, and all available Sub-Contractors will be held prior to the start of construction.	1.12	<u>DUST CONTROL</u> The Contractor shall be responsible for providing Dust Control measures in accordance with CMSC Item 616. Dust control operations shall be performed on a periodic basis and/or as directed by the City Engineer to alleviate or prevent a dust nuisance originating within the project limits. Calcium chloride on areas to be seeded and mulched will not be permitted. The cost for all dust control measures shall be included in the price bid for the project improvements unless otherwise quantified.	1.18.3	Excavation and Driveway Permit(s) for work within the public right-of-way limits shall be obtained from the City as warranted.	3.4	<u>CURB HEIGHT</u> When constructing the pavement (concrete base to asphalt courses) the Contractor shall ensure that a 6" reveal curb is available upon completion of street construction. The City may require this curb to be removed and reconstructed if this reveal deviates more or less than 1/2" of the 6" required height. All costs associated with the above shall be borne by the contractor.
1.4.1	Not applicable.	1.13	<u>MAINTAIN DRAINAGE</u> The flow in all sewers, drains, field tiles and watercourses encountered shall be maintained by the Contractor. Whenever such watercourses and drains are disturbed or destroyed during the prosecution of the work, they shall be restored by the Contractor to a condition satisfactory to the City Engineer.	1.18.4	No building permits will be issued until all punch list items are completed to the satisfaction of the City of New Albany. Domestic waterline taps for potable use and fire supply and sanitary sewer connection permits must be coordinated with the City of Columbus and the City of New Albany and all associated fees must be paid prior to making the tap. Water service will not be provided until all lines have been chlorinated.	3.5	<u>CRACK SEALING</u> The Contractor, thirty (30) days prior to project acceptance by City Council or as directed by the City Engineer and weather permitting shall crack seal all pavement cracks as directed by the City Engineer. The crack seal shall be in accordance with Item 423. If acceptance occurs in winter months, crack seal may be delayed until weather permits.
1.4.2	During the conference the Contractor shall submit his construction schedule, proposed schedule for controlling siltation and erosion, and for temporary and permanent seeding for the project.	1.14	<u>REPLACEMENT OF DRAIN TILE AND STORM SEWER</u> 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, maintaining the same gradient as existing. The drain tile and/or storm sewer shall be connected to the curb sub-drain, storm sewer system or provided with an outlet into the roadway ditch as applicable. Replaced drain tile/storm sewer shall be laid on bedding compacted to 98% maximum density.	1.19-1.21	<u>NOT USED</u>	3.6	<u>NOT APPLICABLE</u>
1.4.3	<u>NOT APPLICABLE - SEE SPECIAL PROVISIONS FOR WORKING HOURS</u>	1.15	<u>DEWATERING</u> Contractors installing any well, well point, pit, or other device(s) used for the purpose of removing ground water from an aquifer shall complete and file a Well Log and Drilling Report with the Ohio Department of Natural Resources within 30 days of the well completion in accordance with the Ohio Revised Code Section 1521.16 and 1524.05. In addition, any such facility shall be completed in accordance with Section 1521.15 of the Ohio Revised Code. For copies of the necessary well log, drilling report, or registration forms, contact: Ohio Department of Natural Resources Division of Water Fountain Square Columbus, Ohio 43224-1387 (614) 265-6717	1.22	<u>CONSTRUCTION LAYOUT</u> General Field layout control is provided on the Schematic Plan. Provisions for all other construction staking required to accomplish the improvements shall be performed by a State of Ohio Licensed Professional Surveyor in accordance with Contract Documents.	3.7	<u>CURB STAMPS</u> During installation, curb shall be stamped with the following symbols at the noted utilities: "X" - Utility Crossing "T" - Sump Pump Junction Box "W" - Water Service "WV" - Water Valve "S" - Sanitary Sewer Crossing
1.5	<u>INSPECTION</u> Inspection on this project will be provided by the representatives of the City of New Albany and ODOT, District 5.	1.15.1	The Contractor shall be responsible for providing Dust Control measures in accordance with CMSC Item 616. Dust control operations shall be performed on a periodic basis and/or as directed by the City Engineer to alleviate or prevent a dust nuisance originating within the project limits. Calcium chloride on areas to be seeded and mulched will not be permitted. The cost for all dust control measures shall be included in the price bid for the project improvements unless otherwise quantified.	1.22.1	All construction layout stakes (placed at intervals not to exceed 50') are to be set on the opposite side of the trench from where the excavated soil is placed. Stakes are to be preserved by the Contractor. If the above is not followed, work shall be suspended until the Contractor has requested re-staking, stakes have been replaced, and revised cut sheets have been approved.	3.8	<u>NOT APPLICABLE</u>
1.6	<u>NOT USED</u>	1.15.2	The Contractor shall be responsible to the ODNR for registry, maintenance and abandonment of any withdrawal device used in the construction of this project.	1.22.2	Construction shall not be initiated until cut sheets have been submitted to the City Engineer's office in digital format.	3.9	<u>DETECTABLE WARNINGS, TYPE A</u> Type A detectable warning shall be installed as per COC Std. Dwg. 2319. Material shall be pre-cast manufactured 4"x8"x2.25" red clay brick.
1.6.1	The Contractor shall notify the City Engineer at least 48 hours prior to construction.	1.15.3	Any well, well point, pit, or device installed for the purpose of lowering the ground water to facilitate construction of this project shall be properly abandoned in accordance with the provisions of Section 3745.9.10 of the Ohio Administrative Code or in accordance with the provisions of this plan.	1.22.3	Construction shall not be initiated until cut sheets have been submitted to the City Engineer's office in digital format.		
1.6.2	The Contractor shall notify the City Engineer at least 48 hours prior to construction.	1.15.4	The outlet for the well shall be directed into a suitable erosion control device as approved by the City Engineer.	1.23	<u>NOT APPLICABLE</u>		
1.6.3	<u>WORK WITHIN PUBLIC RIGHT-OF-WAYS</u> All trenches within public right-of-way shall be backfilled according to the approved construction drawings or securely plated during non-working hours. Trenches outside these areas shall be backfilled or shall be protected by approved temporary fencing or barricades during non-working hours. Clean up shall follow closely behind the trenching operation. Trenches within City right of way shall be backfilled per Item 911, City of Columbus Construction and Material specification. Item 912 (Type 1 Only) compacted granular backfill shall be used within the 45 degree influence plane of paved surfaces.	1.15.5	If during construction of the sewer, the water wells belonging to nearby residences are dewatered, the Contractor shall provide potable water to the residents. Bottled water will be provided in 4 hours and a 500 gallon water tank hooked up to the existing plumbing system will be provided within 48 hours should well service become dewatered. If the well is unable to be re-commissioned after construction, a tap to a water line shall be provided if available or another well dug, at no extra cost to the residents.	1.24	<u>AGGREGATE BASE AND BACKFILL MATERIAL</u> Aggregate base and backfill material shall be free of recycled concrete, reclaimed asphalt pavement, brick, wood or any other deleterious material that would prevent proper compaction from being achieved.		
1.7	<u>WORK WITHIN PUBLIC RIGHT-OF-WAYS</u> All trenches within public right-of-way shall be backfilled according to the approved construction drawings or securely plated during non-working hours. Trenches outside these areas shall be backfilled or shall be protected by approved temporary fencing or barricades during non-working hours. Clean up shall follow closely behind the trenching operation. Trenches within City right of way shall be backfilled per Item 911, City of Columbus Construction and Material specification. Item 912 (Type 1 Only) compacted granular backfill shall be used within the 45 degree influence plane of paved surfaces.	1.15.5	If during construction of the sewer, the water wells belonging to nearby residences are dewatered, the Contractor shall provide potable water to the residents. Bottled water will be provided in 4 hours and a 500 gallon water tank hooked up to the existing plumbing system will be provided within 48 hours should well service become dewatered. If the well is unable to be re-commissioned after construction, a tap to a water line shall be provided if available or another well dug, at no extra cost to the residents.	1.25	<u>PROHIBITED CONSTRUCTION ACTIVITIES</u> The Contractor shall not use construction proceedings, activities or operations that may unnecessarily impact the natural environment or the public health and safety. Prohibited construction proceedings, activities or operations include, but are not limited to: (a) Disposing of excess or unsuitable excavated material in wetlands or floodplains, even with the permission of the property owner. (b) Indiscriminate, arbitrary, or capricious operation of equipment in any stream corridors, any wetlands, any surface waters, or outside the easement limits. (c) Pumping of sediment-laden water from trenches or other excavations into any surface waters, any stream corridors, any wetlands or storm drains. (d) Discharging pollutants such as chemicals, fuel, lubricants, bituminous materials, raw sewage, and other harmful waste into or alongside of rivers, streams, impoundments or into natural or man-made channels leading thereto. (e) Permanent or unspecified alteration of flow line of a stream. (f) Damaging vegetation outside of the construction area. (g) Disposal of trees, brush and other debris in any stream corridors, an wetlands, and surface water, or at unspecified locations. (h) Open burning of project debris without a permit. (i) Storing construction equipment and vehicles and/or stock piling construction materials on property, public or private, not previously specified by the City Engineer for said purpose.		
1.7.1	All trenches within public right-of-way shall be backfilled according to the approved construction drawings or securely plated during non-working hours. Trenches outside these areas shall be backfilled or shall be protected by approved temporary fencing or barricades during non-working hours. Clean up shall follow closely behind the trenching operation. Trenches within City right of way shall be backfilled per Item 911, City of Columbus Construction and Material specification. Item 912 (Type 1 Only) compacted granular backfill shall be used within the 45 degree influence plane of paved surfaces.	1.15.5	If during construction of the sewer, the water wells belonging to nearby residences are dewatered, the Contractor shall provide potable water to the residents. Bottled water will be provided in 4 hours and a 500 gallon water tank hooked up to the existing plumbing system will be provided within 48 hours should well service become dewatered. If the well is unable to be re-commissioned after construction, a tap to a water line shall be provided if available or another well dug, at no extra cost to the residents.	2.0	<u>NOT APPLICABLE</u>		
1.7.2	The Contractor shall be responsible for the condition of trenches within the right-of-way and public easements for a period of 2 (two) years from the final acceptance of the work, and shall make any necessary repairs at no cost to the City of New Albany. The Contractor shall provide a letter to the City indicating any settlement of the trenches will be repaired at their expense for a period of 5 (five) years from the date of acceptance of the subdivision or site (whichever applicable).	1.16	<u>BLASTING</u> If the Contractor intends to use blasting during excavation, the blasting shall be in accordance with the City of a New Albany Ordinance 1505.	3.0	<u>STREETS</u>		
1.7.3	Non-rubber tired vehicles shall not be moved on public streets. The City Engineer may grant exceptions where short distances and special circumstances are involved. Granting exceptions must be in writing, and any damages must be repaired to the satisfaction of the City of New Albany.			3.1	<u>CONCRETE BASE CONSTRUCTION</u> In addition to the requirements set forth in the City of Columbus Specifications, the following shall apply: a) No water shall be added to the concrete while in the mixers unless specifically authorized by the City Engineer or his representative. b) Subgrade shall be at proper moisture content prior to base construction. Water shall be added to the subbase if necessary. c) Concrete exceeding a 4" slump or being on the truck for 60 minutes or more will be rejected from the project.		
1.7.4	No materials, including pipe, shall be stored within the public right-of-way or within one hundred (100) feet of any intersecting street or driveway. During non-working hours, storage of equipment shall comply with these same requirements. Compliance with these requirements along with additional provisions of the contract specifications shall not relieve the Contractor of their legal responsibility to maintain job safety.						
1.7.5	Any deteriorated pavement due to construction operations shall be saw cut and removed and replaced as per City of Columbus Standard Drawing 2130. The location of the saw cut shall be determined by the City Engineer in the field.						
1.7.6	When a new roadway is to adjoin an existing roadway any existing underdrain is to be maintained, or replaced if not functional. A relief joint shall be constructed at the intersection of the existing and new road.						
1.7.7	Ingress and egress shall be maintained at all times to public and private property. Access to all adjoining properties shall be maintained at all times.						
1.7.8	Access to the site shall be provided through the construction access drive (only) as shown on the erosion control plan.						

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	4.2.5	8.3.3	
	5.0	8.3.4	
	6.0	8.3.5	
	7.0	8.3.6	
	8.0	8.4	
4.1.2	8.0.1	8.4.1	
4.1.3	8.1	9.0	
4.1.4	8.1.1	10.0	
4.1.5	8.1.2	11.0	
4.1.6	8.2	11.1	
4.1.7	8.2.1	11.1.1	
4.1.8		11.1.2	
4.1.9		11.1.3	
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13.0 **BENCHMARKS AND SURVEY MONUMENTS**

13.1 Do not disturb any Licking County Certified Benchmarks (vertical and/or horizontal) located within the working limits of the project. Contractor shall contact the Licking County survey department (740) 670-5280, prior to construction, to coordinate the proper procedures for resetting, relocation, or replacement of any Licking County Certified Benchmark or Survey Monument.

13.2 The Contractor shall reference all iron pins and monuments before excavating at or near said iron pins or monuments. The contractor shall not disturb existing right-of-way or property corner markers that are required to remain after construction. If any pins or monuments are disturbed, destroyed, or damaged by the Contractor that have not been designated to be removed in these plans, they shall be accurately replaced by a Registered Surveyor at the completion of the project or at the direction of the City Engineer and at the Contractor's expense as per the City of Columbus Construction and Materials Specifications, Section 107.12. If replacement of pins or monuments is required, the Engineer, Developer, or Contractor shall provide an exhibit during the final punch list inspection verifying that monuments have been placed at all property corners.

14.0 **PROJECT-SPECIFIC NOTES**

14.1 **PROCEDURE FOR CONSTRUCTION AND STABILIZATION OF SUBGRADE**
Construct the subgrade as follows and in the following sequence:

1. After clearing and grubbing, strip Topsoil.
2. Following site stripping, excavate the subgrade to within 0.2 of a foot of the plan subgrade elevation.
3. Remove any remaining vegetation, topsoil, organic material, existing asphalt and granular base, and any other unsuitable materials (e.g., A-4B, A-2-5, A-5, A-7-5, coal, shale, rock) as determined by the Engineer from the proposed pavement areas. These materials are to be removed prior to proofrolling. Areas of over excavation for removed unsuitable materials shall be filled in a controlled manner as per plan.
4. Once the subgrade is exposed and prior to the placement of any pavement materials or new fill in embankment areas, the entire exposed subgrade is to be proofrolled per CMSC 204.06 and Item 204 of the ODOT Construction Inspection Manual of Procedures, in order to detect any soft, wet or weak zones.
5. If any soft, wet or weak zones are present, as determined by the Engineer, the materials in these zones are to be either scarified, dried, and thoroughly recompacted in place in accordance with CMSC Item 204, or chemically stabilized, or be removed and the over excavation filled in a controlled manner as per plan as directed by the Engineer.
6. Construct embankment per CMSC Item 203 to plan grades and compact the subgrade according to CMSC 204.03.
7. Proof roll the compacted subgrade according to CMSC 204.06 to verify the uniformity of the subgrade compaction. Based on the proofrolling results, the Engineer will identify the actual location and limits of any soft soils.
8. After the soft soil areas have been determined, the Engineer will adjust the plan width and depth by utilizing test pits according to the ODOT Construction Inspection Manual.
9. As directed by the Engineer, chemically stabilize or undercut the Engineer identified soft soil areas. Replace undercut areas with the specified materials and in accordance with CMSC 204.07. Undercuts are to extend 18 inches beyond the edge of the surface of the pavement, paved shoulders, or paved medians.
10. Proof roll the undercut areas according to CMSC 204.06 to verify stability of the undercut areas.

14.2 **CHEMICALLY STABILIZED SUBGRADE**
The work shall consist of furnishing all labor, equipment, materials and incidentals necessary to construct a chemically stabilized subgrade, 12 inches deep, using the ODOT Item 206 specification for Cement Stabilized Subgrade. The spreading percentage rate of the selected chemical shall be per ODOT CMS 206.05.

This item shall include test rolling and all necessary materials such as cement, water, curing coat or other materials necessary to complete the item to the satisfaction of the Engineer. The Contractor shall account for possible swell either before or after application of treatment under this item. The final pavement plan grades and proposed pavement buildup per the plan shall be maintained. No extra payment will be made for the accounting of and/or adjustments for possible swell material.

The following quantities have been carried to the General Summary:

Item 206 – Cement Stabilized Subgrade, 12 Inches Deep 22826 SY
 Item 206 – Cement 690 Ton
 Item 206 – Curing Coat 22826 SY
 Item 206 – Mixture Design for Chemically Stabilized Subgrade 1 LS
 Item 206 – Test Rolling 12 Hr.

14.3 **REMOVAL AND REPLACEMENT OF SOFT OR UNSUITABLE MATERIALS**
Areas requiring over excavation or undercut, as determined by the Engineer, shall be excavated in accordance with ODOT Item 204 Excavation of Subgrade. The over excavated or undercut areas are to be filled as directed by the Engineer in a controlled manner in accordance with ODOT CMS 204.07 and as follows.

Prior to placement of any new fill or pavement construction, areas of over excavation or undercut are to be replaced with fill comprised of Geo-Grid Tensar (BX-1200 or structurally and Engineer approved equal) and Granular Material consisting of No. 2 Stone or No. 4 Stone meeting the requirements of ODOT CMS 703.01; or with fill comprised of Geo-Grid Tensar (BX-1300 or structurally and Engineer approved equal) ODOT Item 204 Granular Material, Type B; or with properly compacted new fill meeting the requirements of ODOT Item 204 Embankment; or with excavations scarified to permit drying and recompacted to the appropriate design unit weight at the discretion of the Engineer.

Geo-Grid shall be placed in accordance with the manufacturer's recommendations and then overlaid with a minimum of 12 inches of Granular Material, Type B, or No. 2 Stone or No. 4 Stone as directed by the Engineer.

The following estimated contingency quantities are carried to the General Summary for use as directed by the Engineer for removal and replacement of soft or unsuitable materials as described above:

Item 204 – Excavation of Subgrade 1200 CY
 Item 204 – Granular Material, Type B 600 CY
 Item 204 – Granular Material, No. 2 Stone or No. 4 Stone 600 CY
 Item 204 – Geo-Grid Tensar (BX-1200 or Equal) 1000 SY
 Item 204 – Geo-Grid Tensar (BX-1300 or Equal) 1000 SY

14.4 **DRAINAGE CONNECTIONS**
All 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 611 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 by 611 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 611, Type E 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 items.

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

ODOT Item 611 – Cleanout (CMSC 915) 8 Each
 ODOT Item 611 – 4" Conduit, Type E for Drainage Connection 100 Ft.
 ODOT Item 611 – 6" Conduit, Type E for Drainage Connection 100 Ft.
 ODOT Item 611 – 8" Conduit, Type E for Drainage Connection 100 Ft.
 ODOT Item 611 – 12" Conduit, Type E for Drainage Connection 100 Ft.

14.5 **SOIL INFORMATION**
Subsurface investigation information is available in the following reports:
To be provided with a future submittal.

14.6 **ITEM SPECIAL – CLAY LINER**
This items of work shall include construction of a clay liner as part of the stormwater management basin at the location indicated on the Plan.

The bottom and sides of the basin shall be overexcavated to an 18" minimum depth and replaced with a compacted clay liner. The liner shall extend to the limits shown on the Plans.

Material for the liner shall be approved by the Engineer prior to the placement of the material.

The Contractor shall be responsible for verifying the integrity of the liner upon completion and acceptance of all items (pipes, headwalls, endwalls, rock channel protection, etc.) that penetrate and/or abut the liner.

The Contractor shall be responsible for verifying the integrity of the liner upon completion and acceptance of all items of work (duct banks, conduits, wiring, etc.) performed by other contractors that penetrate and/or abut the liner.

Payment shall be per cubic yard and shall include all overexcavation, equipment, materials, labor, incidentals, and disposal of materials as necessary to construct the clay liner to the satisfaction of the Engineer.

14.7 **ITEM SPECIAL – DETENTION OUTLET STRUCTURE**
This item of work shall be performed according to CMSC Item 604 and the Plan details. Payment shall be per each and shall include all equipment, labor, materials, and incidentals, including but not limited to catch basin structure, grate, low strength mortar backfill, internal pipe riser, cap, and inlet pipe with associated endwall. Outlet pipe will be paid for under Item Special – Detention Outlet Structure.

14.8 **MONUMENT ASSEMBLIES**
Construct monument assemblies in accordance with the details shown on the standard construction drawings and at the locations shown on the Schematic Plan.

14.9 **WORK LIMITS**
The work limits shown on these Plans are for physical construction only. Provide 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.

14.10 **CLEARING AND GRUBBING, AS PER PLAN**
The City has not marked individual trees and stumps for removal. Unless specifically designated as "do not disturb" in the Plans, all trees and stumps within the grading limits shall be cleared. Clearing and Grubbing, As Per Plan shall include removing and returning to Owners any personal items within the clearing limits including, but not limited to, security signs, address signs, decorative stakes, driveway reflectors, and flags.

14.11 **PROOF ROLLING**
The following quantity is provided in the General Summary to address locations requiring proof rolling.

Item 204 – Proof Rolling 4 Hours

14.12 **REVIEW OF DRAINAGE FACILITIES**
Before any work is started on the project and again before final acceptance by the City, representatives of the County and the Contractor shall make an inspection of all existing sewers which are to remain in service and which may be affected by the work. The condition of the existing conduits and their appurtenance shall be determined from field observations. Records of the inspection shall be kept in writing by the City.

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

All existing sewer 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 change in the condition resulting from the Contractor's operations shall be corrected by the Contractor to the satisfaction of the Engineer.

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

14.13 **SEEDING AND MULCHING**
The following quantities are provided to promote growth and care of permanent seeded areas:

Item 659 – Topsoil (T=4") 5260 Cu Yd
 Item 659 – Commercial Fertilizer 7 Ton
 Item 659 – Seeding and Mulching, Class 1 47340 Sq Yd
 Item 659 – Lime 10 Acre
 Item 659 – Water 256 M Gal
 Item 659 – Mowing 2400 M Sq Ft

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 slope easement. Quantity calculations for seeding and mulching are based on these limits.

14.14 **EXTENDED DETENTION BASIN**
This Plan utilizes an extended detention basin for post construction storm water treatment. The detention basin may be used as sediment control devices during construction. Following stabilization of the tributary area, final grading of the detention basin must match the Plans. The basin outlet structure items used for construction sediment control must be removed and the outlet structure must be made to match the design shown in the Plans.

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14.15 ITEM 202 – BUILDING DEMOLISHED, AS PER PLAN

This work shall consist of removing entirely and disposing of the building at 13641 and 13703 Johnstown–Utica Road and backfilling the resulting holes and pits. This work shall conform to CMSC Item 202 with the following supplemental requirements:

Contractor Project Responsibilities/Requirements:

- Obtain any necessary Ohio EPA Permits
- Obtain a Licking County Removal Permit
- Submit EPA approved landfill dumping certificate of each load dumped with the final invoice
- Maintain a safe and clean worksite at the completion of each day of work, keep roadway free of debris and free of hazards
- Demonstrate safety program and training needed for project
- Demonstrate compliance with Prevailing Wage
- Conduct all work between hours of 7:00 a.m. and 7:00 p.m. in compliance with the City of New Albany's noise ordinance.
- On-site supervisor during contracted work.
- Emergency numbers available and on site containing Fire, Ambulance, Police, Utility Companies, and Company contacts.
- Provide the City with a copy of an appropriate Certificate of Insurance for a comprehensive general liability policy (occurrence form) including personal injury liability, broad form property damage, operations liability, and contractual liability in an amount not less than One Million Dollars which covers the direct and indirect acts and omissions of the Service Provider, their agents, contractors, employees, members, or guests.
- Provide current certificate of Workers' Compensation.

Utility Services:

- Based on information provided from the Licking County Auditor's Website, the following utility services are identified as present on the property and require verification of abandonment will be required by the contractor.
XXX – Natural Gas Service
American Electric Power – Electrical Service
Multiple cable/internet providers have service to this property.
- If a utility shut-down is required, notify the utility owner and all affected parties in writing 2 weeks prior to beginning work. Obtain approval from utility owner prior to shut-down.
- All utilities and services terminated below grade are to be cut and capped on the site. Each utility will require being staked in the field so the locations can be easily identified. This includes but is not limited to: UG lighting conduit/cable, electric, gas service lines, water service lines, cable, phone, internet lines.

Project Demolition includes, but is not limited to, the following:

- The complete removal of all structures found at the project address 13641 Green Chapel Road in their entirety.
- Perform an asbestos survey. All asbestos found in the survey will require abatement and removal prior to demolition of the structures. Prior to removal of asbestos-containing material, Contractor shall complete and submit to OEPA a Notification of Demolition and Renovation Form.
- Dispose of all asbestos containing material at a solid waste or Construction and Demolition Debris facility that is licensed by the Local Health Department and permitted by the OEPA for the acceptance of asbestos containing material.
- The Contractor will be responsible to haul off all demolished/abated material and dispose of all materials properly.
- Removal of foundations, walls, patios, floors and footers.
- Backfill, tamp and grade all ground openings with clean fill dirt and grade to promote positive drainage.
- Remove sidewalk on existing property – where noted.
- Remove all Furniture, Fixtures, and Equipment (FF&E) remaining in the property.
- Remove building structures in entirety including home, shed, and garage.
- Remove septic tank and propane tank.
- Remove and properly dispose of all debris associated with this demolition.
- Temporary inlet protection.
- Seeding in accordance with CMSC Item 659.
- Protect existing survey control. Provide additional control as necessary to perform construction operations.
- Ensure that all erosion and sediment control measures are in place prior to beginning demolition.
- Protect all existing site features to remain. Repair any damages to the satisfaction of the City at no additional cost to the project.

Payment:

Lump Sum payment shall be considered full compensation for equipment, labor, materials, and incidentals necessary to complete the work described above to the satisfaction of the Engineer. Payment will be provided for each address separately.

Well abandonment will be paid separately under Item Special – Drilled Water Well Abandoned (RM-7.1)

14.16 ITEM 203 – EXCAVATION

ITEM 203 – EMBANKMENT

The excavation of asphalt pavement not otherwise itemized on this project are included with CMSC Item 203 – Excavation quantities for payment. The Contractor may reuse or stockpile topsoil on Site for future work at the Contractor's expense. All material excavated for construction, including debris, shall be removed from the Site and disposed of at the expense of the Contractor unless otherwise instructed by the Engineer. No materials excavated are to be reused without prior written permission by the Engineer.

All stockpiles, including trench excavation stockpiles, shall be protected from erosion by perimeter control devices such as filter sock. These perimeter control devices shall be maintained throughout the life of the project. Excavated materials shall not be stored on existing public roadway pavements. This includes excess or unusable excavated soil.

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

All materials 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 between the Contractor and the off-site landowner before such disposal occurs. This written agreement shall clearly state the purpose of the 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.

No extra compensation will be paid for any excavation required in rock or shale. The Contractor shall examine the soils report prior to bidding to determine if any rock or shale excavation will be required and adjust the unit price bid for this item accordingly.

Per the geotechnical reports listed in note 14.5, certain areas of the project will require over-excavation of topsoil in order to properly compact subgrade or embankment. The following contingency quantities, to be used at the direction of the Engineer, for Item 203 – Excavation (Topsoil Removal) and Item 203 – Embankment (Topsoil Replacement) have been provided for over-excavation of topsoil.

Item 203 – Excavation (Topsoil Removal)	20000 Cu Yd
Item 203 – Embankment (Topsoil Replacement)	20000 Cu Yd

14.17 ITEM 304 – AGGREGATE BASE, AS PER PLAN (NO. 8 STONE)

This work consists of furnishing, placing, and compacting one course of uniformly graded No. 8 stone base per City of Columbus Specification 304.

14.18 ITEM 604 – CURB AND GUTTER INLET, AA-S125A

Inlet casting shall be East Jordan 7505 with bicycle compatible grate, or approved equal.

14.19 ITEM SPECIAL – PERMANENT EROSION CONTROL MATTING

This work consists of furnishing and placing erosion control matting in accordance with CMSC Item 671, as modified herein. (North American Green SC250 or approved equal – https://nagreen.com/sites/default/files/2020-03/GEN_EC_BRO_3.20.pdf).

Preparation: Complete fine grading of the retention basin emergency spillway. Apply Topsoil as indicated on the Plans.

Construction: Install erosion control matting per the manufacturer's specifications and installation guidelines. After the erosion control matting has been installed, then apply the seeding and fertilize.

Method of Measurement: The City will measure Item Special – Permanent Erosion Control Matting by the number of square yards completed and accepted. The City will determine the area based on the surface area covered by the erosion control matting.

The City will pay for accepted quantities at the contract price as follows:

Item Special – Permanent Erosion Control Matting Square Yard

14.20 ITEM SPECIAL – MAILBOX REMOVED AND RESET

This work shall consist of removing existing mailbox and supports and furnishing and erecting new mailbox supports and any associated mounting hardware (which may require temporary relocation during construction and replacement to original location upon completion of construction) in accordance with plan details, and attaching an owner-supplied mailbox at locations specified in the Plan or otherwise established by the Engineer. This work shall also include removal of the existing mailbox and mailbox support during construction.

MATERIALS

Wood posts shall be nominal 4" x 4" square or 4-1/2" diameter round, and conform to Section 710.14. Steel posts shall be nominal pipe size 2" I.D., and conform to AASHTO M 181.

HARDWARE

Plates, screws, bolts, etc. Shall be commercial-grade galvanized steel.

SETTING POSTS

Posts shall be set per the first paragraph of Section 606.03, and shall in no instance be encased in concrete.

MOUNTING BOXES

Supports hardware shall accommodate either a single or a double installation, and no more.

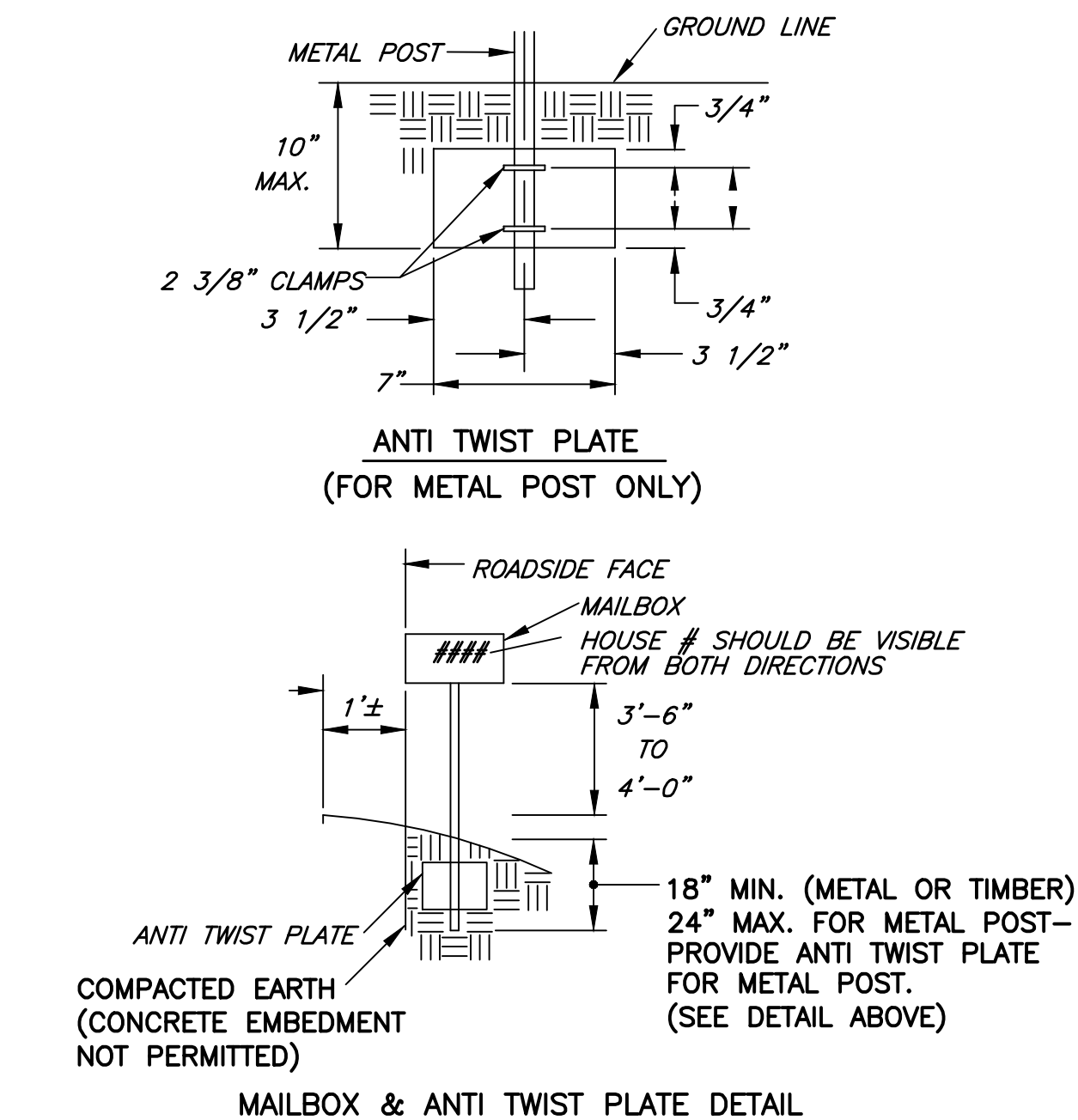
The mailbox shall be securely and neatly attached by the Contractor to the new support. The Contractor shall furnish all necessary attachment hardware (nuts, bolts, plates, spacers and washers) as necessary to accommodate the complete installation.

In the absence of a new box supplied by the Owner, the Contractor shall salvage the existing box and place it on the new support. Due care shall be exercised in such an operation, and the Contractor shall be responsible for repairing or replacing any box damaged by improper handling on his part, as judged and directed by the Public Service Director.

The Contractor shall be responsible for coordinating with the local post master regarding the timing of the movement of any mailbox to a new location.

Payment under this item shall be limited to final permanent installations. Temporary installations shall be in accordance with section 107.12. However, the same material and size limitations as for permanent installations shall apply.

All tools, labor materials, and incidentals necessary to install, remove, replace and temporarily relocate mailboxes, as stated above, in addition to coordination with landowners or the postal service, shall be included within Item Special – Mailbox Removed and Reset.



14.21 SPECIAL CONDITIONS FOR THE NATIONWIDE PERMIT NO. 14 VERIFICATION GREEN CHAPEL ROAD IMPROVEMENTS PROJECT XXX-2023-XXX-XXX

All work will be conducted in accordance with the submitted pre-construction notification information for the Green Chapel Road Improvements Project received in this office on XXXXXXXX XX, XXXX.

A copy of Nationwide Permit 14 will be kept at the site during construction. A copy of the nationwide permit verification, special conditions, and the submitted construction plans must be kept at the site during construction. The permittee will supply a copy of these documents to their project engineer responsible for construction activities.

The permittee must obtain a Director's Authorization from the Ohio Environmental Protection Agency for the project. No work in waters of the United States in association with this project may commence until the required Director's Authorization is obtained. All conditions attached to or contained within the Director's Authorization are hereby incorporated by reference as being special conditions of the Corps Nationwide Permit 14 verification.

Construction activities will be performed during low flow conditions. Additionally, appropriate site specific best management practices for sediment and erosion control will be fully implemented during construction activities at the site.

Upon completion of the activity authorized by this Nationwide Permit verification, the enclosed certification must be signed and returned to this office along with as-built drawings showing the location and configuration, as well as all pertinent dimensions and elevations of the activity authorized under this Nationwide Permit verification.

No area for which grading has been completed will be unseeded or unmulched for longer than 14 days. All disturbed areas will be seeded and/or revegetated with native species and approved seed mixes (where practicable) after completion of construction activities for stabilization and to help preclude the establishment of non-native invasive species

Should new information regarding the scope and/or impacts of the project become available that was not submitted to this office during our review of the proposal, the permittee will submit written information concerning proposed modification(s) to this office for review and evaluation, as soon as practicable.

In the event any previously unknown historic or archaeological sites or human remains are uncovered while accomplishing the activity authorized by this nationwide permit authorization, the permittee must cease all work in waters of the United States immediately and contact local, state and county law enforcement offices (only contact law enforcement on findings of human remains), the Corps at 304-399-5210 and Ohio State Historic Preservation Office at 614-298-2000. The Corps will initiate the Federal, state and tribal coordination required to comply with the National Historic Preservation Act and applicable state and local laws and regulations. Federally recognized tribes are afforded a government-to-government status as sovereign nations and consultation is required under Executive Order 13175 and 36 CFR Part 800.

Section 7 obligations under Endangered Species Act must be reconsidered if new information reveals impacts of the project that may affect federally listed species or critical habitat in a manner not previously considered, the proposed project is subsequently modified to include activities which were not considered during Section 7 consultation with the United States Fish and Wildlife Service, or new species are listed or critical habitat designated that might be affected by the subject project.

The Contractor shall not clear trees between April 1st and September 30th without prior written approval from the U.S. Fish and Wildlife Service. Any costs or delays to the schedule to obtain permits for tree clearing between April 1st and September 30th are the responsibility of the Contractor. All trees, whether shown or not shown on the plans, are to be preserved unless approved to remove is given in writing by the Engineer or their removal has been designated on the plan. The Contractor shall use special precautions to avoid damage to all other trees. Trees damaged or destroyed that were not designated for removal or approved by the Engineer for removal shall be replaced at the Contractor's expense.

Temporarily disturbed areas within 25 feet of each stream bank at each stream crossing shall be restored and permanently seeded with a native upland seed mix: Ernst Construction Seed Mix 213 (Ernst PA Riparian Mix) or approved equal. The Ernst seed mix is available from: Ernst Conservation Seeds, 884 Mercer Pike, Meadville, PA 16334. Seed mix shall be applied in accordance with manufacturer's application rates and specifications. All seed mixes shall be planted with an appropriate over seed. All seeding, mulching, and fertilizer shall be paced by utilizing hydro-seeding/ hydro-mulching, methods. Show shall not be allowed without explicit permission from the City of New Albany. All seeding along the restored streams shall be stabilized using erosion control matting.

CALCULATED
JUB
CHECKED
M/S

GENERAL NOTES

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

14.22 DEWATERING

Removal of groundwater is incidental to pipe installation and included in the description of work per CMSC Item 901.01 and 901.16 as defined as all water entering the excavation. This is defined as dewatering of an excavation for sewer installation by means of dewatering equipment consisting of a 4" pump or smaller.

The use of equipment larger than 4" pump or utilizing well points and/or well pits shall be approved by Owner's Representative prior to implementation. Prior to enhanced dewatering operations, the Contractor shall prepare a dewatering plan, which shall include the number and location of wells or pumps and their discharge outlet(s), to be installed in association with any site dewatering of the working area and/or trenches. This plan shall also illustrate erosion control measures. The plan shall be approved by the Engineer before any dewatering device is made operational.

The cost for providing the necessary labor, materials, and equipment for the proper dewatering of the project as defined above, shall be included in the price bid and no additional payment will be made.

14.23 STEEL-BACKED TIMBER GUARDRAIL, TYPE A

This work consists of constructing steel-backed timber guardrail and related guardrail posts, terminal sections, and related appurtenances. The work shall include the furnishing, assembling, and erecting of all component parts, materials, and incidentals. Complete and in place, in accordance with the standard drawings and at the locations shown in the plans, or as directed by the City Engineer, and accordance to the Manufacturer's recommendations, where applicable.

MATERIALS

The Contractor shall furnish materials in accordance with the following requirements:

Timber rail, posts, and blockouts: furnish timber conforming to AASHTO M 168. Fabricate the timber rail, blockouts, and posts from dry, well seasoned, and dressed rough sawn Douglas Fir, Southern Pine, or other species having a stress grade of at least 1,500 pounds per square inch. Treat the timber rail, blockout elements, and posts according to AASHTO M 133.

Steel backing and hardware: fabricate the steel backing elements from 3/8-inch structural steel that conforms to the high-strength, low-alloy requirements of ASTM A 242. The steel backing elements and fastener hardware shall be galvanized in accordance with ODOT 711.02.

Concrete anchors and curbing: shall be class C conforming to ODOT 499, ODOT 511, and ODOT 609.

Reinforcing steel: shall conform to ODOT 509, 709.01 (ASTM A 615)

Dowel Bars: shall conform to ODOT 709.13

CONSTRUCTION REQUIREMENTS

The following requirements shall supplement, and in cases of perceived conflict, replace the requirement of ODOT 606.

Posts: all posts shall be driven to grade. Augering and/or excavation of post hole before placing post is not an approved method of installation.

Posts: treat field cuts for wood posts with two coats of preservative applied with a brush or sprayer. Do not place field cuts in contact with the ground.

Where the pavement surface is within 3 feet of the guardrail face, install posts before placing the pavement surface.

Where it is not possible to maintain a 24-inch minimum distance between the back of the guardrail post and the top of a 1v:2h or steeper slope, increase the standard post length by 12 inches as directed by the Engineer.

Where an impenetrable object is encountered, use a short post with a concrete anchor, decrease the post spacing, or nest two rail elements as approved by the engineer. Do not change the post lengths and spacings in terminal sections.

Rail Elements: do not modify specified hole diameters or slot dimensions.

Erect rail elements in a smooth continuous line with the laps in the direction of traffic flow. Ease bolts that extend at least 1/4 inch but not more than 1 inch beyond the nuts.

Tighten all bolts.

Paint all scrapes on galvanized surfaces that are through to the metal with 2 coats of zinc-oxide paint.

Equally space bolts along the front face of the timber rail to match the holes in the steel backing. Align timber guardrail along the top and front of the timber rail.

Field cut timber rails to produce a close fit at joints. Treat field cuts with 2 coats of chromated copper arsenate.

When required, field drill holes in the steel backing on curbed sections to correspond to the field cut wood rails at the joints. Do not use a torch to cut holes.

Terminal Sections: construct terminal sections at the locations shown in the plans. Terminal sections consist of posts, railing, hardware, and anchorage assembly necessary to construct the type of terminal section specified.

Where concrete anchors are installed, construct either cast-in-place or precast units. Do not connect the guardrail to cast-in-place anchors until the concrete has cured 7 days. Install end anchor cables tightly without slack.

Guardrail reflection tabs: install in accordance with the requirements of ODOT 626 pertinent to type A, one-way guardrail blackout reflectors.

MEASUREMENT

Steel-backed timber rail of the type and post length specified in the plans will be measured by the number of feet from center-to-center of end posts furnished and erected complete, excluding terminal sections as shown in the standard drawings.

Terminal sections of the type specified shall be measured by the number of each furnished and erected complete.

PAYMENT

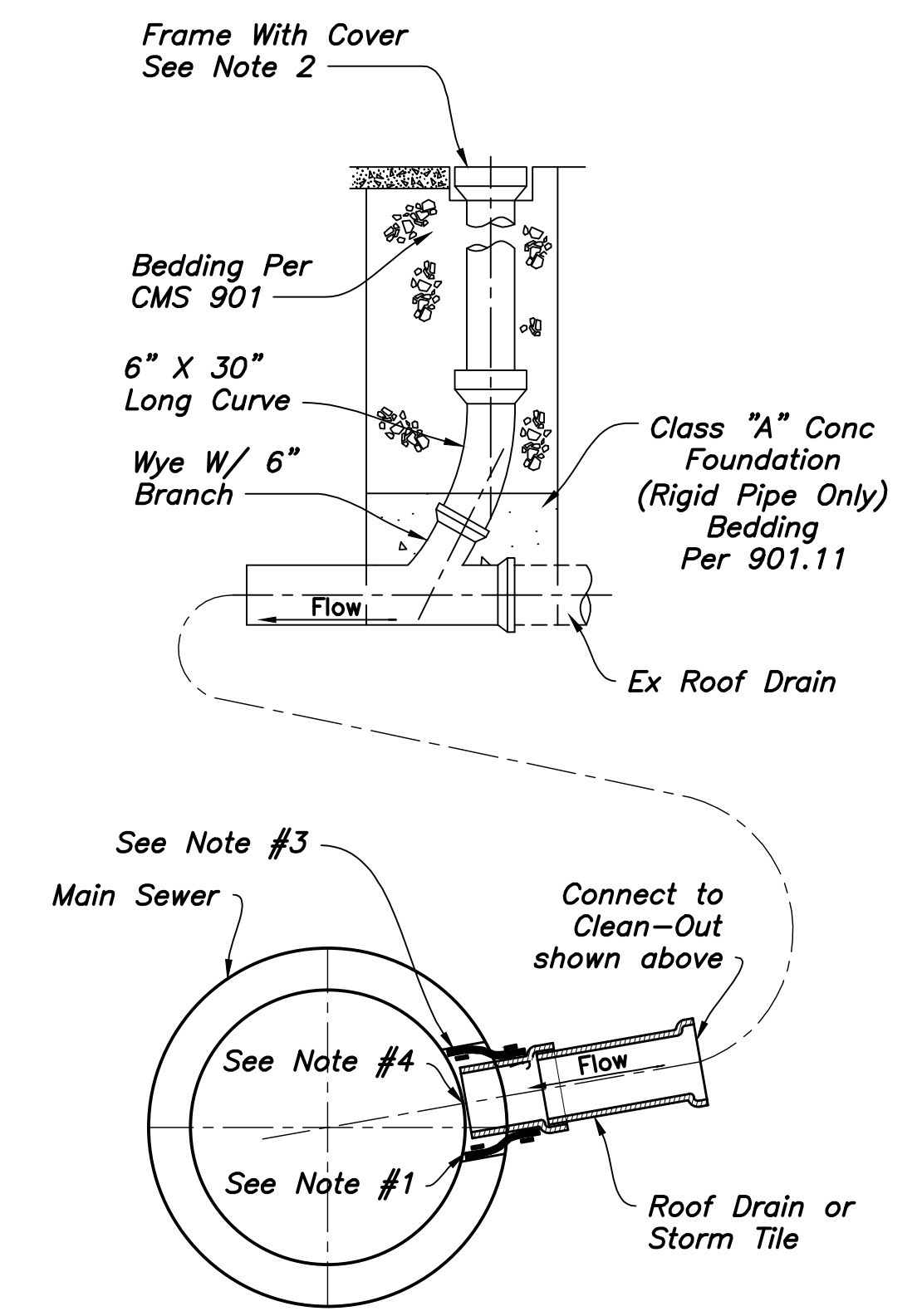
All cost associated with furnishing and installing guardrail posts, providing reductions to the standard post spacing (as needed/directed), and painting the guardrail system are considered incidental to the contract unit price of the respective steel-backed timber guardrail, and terminal section.

Accepted quantities will be paid at the contract price per unit as follows:

Item	Unit	Description
Special	Foot	Steel-Backed Timber Guardrail, Type A
Special	Each	Steel-Backed Timber Guardrail Terminal Section, Type SBT-FAT

Payment will be full compensation for the work prescribed in this section.

CLEAN-OUT AND BLIND TAP DETAIL



- NOTES:
1. THE PENETRATION IN THE MAIN SEWER SHALL BE CORED FOR THE DIAMETER REQUIRED FOR THE INSERT-A-TEE (OR APPROVED EQUAL) FLEXIBLE CONNECTOR. DOES NOT APPLY TO FABRICATED OR MOLDED FITTINGS.
 2. PIPE MATERIALS SHALL BE IN CONFORMANCE WITH 901.02.
 3. BEGINNING OF BELL SECTION OF STUB PIPE TO BE FLUSH WITH END OF FLEXIBLE CONNECTOR.
 4. STUB PIPE SHALL NOT EXTEND INTO MAIN SEWER.
 5. FOR LOCATION OF CLEAN-OUT SEE PLAN AND PROFILES SHEETS XX AND XX.

LEGEND

EXISTING ABBREVIATIONS	EXISTING CONDITIONS	EXISTING UTILITY SYMBOLS	PROPOSED ABBREVIATIONS	PROPOSED LAYOUT	
WM WATER MAIN WS WATER SERVICE WSV WATER SERVICE VALVE SAN SANITARY SEWER FM SANITARY FORCE MAIN SS SANITARY SERVICE GM GAS MAIN GS GAS SERVICE RD ROOF DRAIN OHE OVERHEAD ELECTRIC OHC OVERHEAD COMMUNICATIONS UGC UNDERGROUND COMMUNICATIONS UGD UNDERGROUND DUCT BANK CATV CABLE TELEVISION CO CLEAN OUT E/TW EDGE OF TRAVELED WAY E/P EDGE OF PAVEMENT E/S EDGE OF SHOULDER F/C FACE OF CURB C&G CURB & GUTTER	CENTERLINE SURVEY CENTERLINE EXIST. DRIVE EDGE OF PAVEMENT CURB SHOULDER DRIVEWAY PARKING LOT CONC. WALK PARKING LOT CONC. WALK RIGHT OF WAY PROPERTY LINE PROPERTY LINE EXTENDED LOT LINE (SAME OWNER BOTH SIDES) RAILROAD RIGHT OF WAY STORM SANITARY WATER MAIN GAS MAIN ELECTRIC CONDUIT TELEPHONE CONDUIT FIBER OPTIC CONDUIT ELECTRIC DUCT BANK CATV CONDUIT TEL/COMM CONDUIT ELECTRIC / COMMUNICATION (OVERHEAD)	DITCH / STREAM CORPORATION LINE FENCE WOOD FENCE GUARDRAIL CONC. WALL ROCK TREELINE TREES BUSHES HEDGE/SHRUB STUMP CONC. PAD WOOD POST POST/BOLLARD MAILBOX FLAGPOLE PARKING BLOCK BUILDING	STM. MH STM. MH (OPEN GRATE) CURB & GUTTER INLET CURB INLET SAN. MH CATCH BASIN WATER VALVE WATER SERVICE VALVE FIRE HYDRANT GAS METER GAS VALVE GAS MARKER LIGHT POLE TELEPHONE POLE TELEPHONE LIGHT POLE TELEPHONE ELECTRIC LIGHT POLE TELEPHONE ELECTRIC POLE ELECTRIC POLE LIGHT POLE GUY ANCHOR PULLBOX ELEC. PULLBOX TEL. PEDESTAL TEL/COMM MH LIGHTING CONTROLLER SIGNAL POLE MOUNT SIGNAL CONTROLLER PEDESTRIAN PUSH BUTTON SIGNS	(DND)DO NOT DISTURB (TBA)TO BE ABANDONED (TBR)TO BE REMOVED (TBR/L)TO BE RELOCATED BY THIS PROJECT (TBR/L/O)TO BE RELOCATED (BY OTHERS) (TBR/O)TO BE REMOVED (BY OTHERS) (APP)AS PER PLAN (ATG)ADJUST TO GRADE (RTG)RECONSTRUCT TO GRADE (R&R)REMOVE AND RESET (BO)BY OTHERS (BSP)BY SEPARATE PLAN (SUP)SHARED USE PATH (PA)PREVIOUSLY ABANDONED E/TWEDGE OF TRAVELED WAY E/PEDGE OF PAVEMENT E/SEDGE OF SHOULDER F/CFACE OF CURB C&GCURB & GUTTER	CENTERLINE CONSTRUCTION CENTERLINE PROP. DRIVE EDGE OF PAVEMENT BACK OF CURB FACE OF CURB CONC. WALK/ASPH. BIKEPATH RIGHT-OF-WAY STORM EASEMENT UTILITY EASEMENT SLOPE EASEMENT TEMPORARY EASEMENT PROPERTY LINE CONSTRUCTION LIMITS CHAIN LINK / WIRE WOVEN FENCE WOOD FENCE GUARDRAIL 12" STORM 12" SANITARY 12" WATER MAIN 8" GAS MAIN TRAFFIC INTERCONNECT COMMUNICATION UNDERGROUND LIGHTING CENTERLINE OF DITCH
		EXISTING SURVEY SYMBOLS O.I.P.F. ○ IRON PIN FND./METAL BAR FND. ○ P.X.F. ○ PK NAIL FND. M RIGHT-OF-WAY MON. FND. O.I.P.F. ○ IRON ROD FND./RR SPIKE FND. ● BENCHMARK ● I.P.S. ● IRON PIN SET/MAG NAIL SET/PK NAIL SET/RR SPIKE SET/TRVERSE DRILL HOLE	PROPOSED UTILITY SYMBOLS STM. MH CURB & GUTTER INLET CURB INLET SAN. MH END WALL END OF PIPE CATCH BASIN WATER VALVE FIRE HYDRANT LIGHT POLE	CROSS SECTIONS Proposed Grade ● Const. 806.32 109+50.00 — Station 797.08 Ex. Grade ● Const.	

Erosion & Sediment Control Narrative

Plan Engineer: Evans, Mechwart, Hambleton & Tilton, Inc.
5500 New Albany Road
Columbus, OH 43054
Phone: (614) 775-4500
Fax: (614) 775-4800

Property Owner: City Of New Albany
99 W. Main Street
New Albany, Ohio 43054
(614) 855-3913
FAX: (614) 855-8583

Existing Site Description: This site consists of roadway with roadside ditch.

Existing Site Drainage Condition: Stormwater runoff flows through storm sewer and ditches to five separate outlets, Duncan Run, three unnamed tributaries to Duncan Run, and north along Route 62 to another unnamed stream tributary to Duncan Run.

Adjacent Areas: The site is adjacent to agricultural / open fields, wooded areas, residential properties, & commercial development.

Soils: The predominant soils on site consist of:
BeA - Bennington silt loam, 0-2% slopes
BeB - Bennington silt loam, 2-6% slopes
Cen1B1 - Centerburg silt loam, 2-6% slopes
Cen1C2 - Cenerburg silt loam, 6-12% slopes
Pe - Pewamo silty clay loam, 0-2% slopes

Critical Areas: Direct runoff to residential or commercial properties and streams.

Site Area: The Site is approximately 18.38 acres. A total NOI disturbance of 20.47 acres will be disturbed by construction activities associated with roadway improvements.

Erosion & Sediment Stormwater runoff will be primarily managed by perimeter controls, ditch checks, inlet protection, and a proposed sediment basins.

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.

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.

The limits of seeding and mulching have been established as 5'-0" outside the grading limits. All areas not designated to be seeded shall remain under natural ground cover. Those areas disturbed outside the seeding limits shall be seeded and mulched at the Contractor's expense. "Temporary seeding" No area for which grading has been completed shall be left unseeded or unmulched for longer than 14 days. Note that areas within 25 Ft of streams shall be stabilized within 3 days. 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 14 lbs./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
Seed: Annual Rye 14 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 October 15. If seeding is done between October 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 within two(2) days after final grading or following seed bed preparation.

Rates of application of Item 659:
Seed: 14 lbs./1,000 Sq.Ft.
Fertilizer: (12:12:12) 25 lbs./1,000 Sq.Ft.
Mulch: (Straw or Hay) 2 tons/acre

The cost for inspections, temporary channels, sediment dams, sediment basins, and other appurtenant earthmoving operations shall be included in the price bid for erosion and sedimentation control quantities.

Maintenance:

It is the Contractor's responsibility to maintain the sediment control features used on this project. The site shall be inspected at a minimum of once per every 7 days and within 24 hours of 0.5" or greater rain event over a 24 hour period. Records of these inspections shall be kept and made available to jurisdictional agencies if requested. Any sediment or debris which has reduced the efficiency of a structure shall be removed immediately. Should a structure or feature become damaged, the Contractor shall repair or replace at no additional cost to the Owner. Not all details shown on this sheet may be required for this project.

Construction Sequence:

1. The Contractor shall install the stabilized construction entrances and staging area. Provide construction entrance ahead signage in accordance with the OMTDC.
2. Install perimeter controls. Compost filter socks are recommended in areas where the relocation of perimeter controls will be required due to proposed grading activities.
3. The Contractor shall confirm permit issuance with the Owner prior to any tree clearing or disturbance of areas permitted for stream and wetland impacts.
4. Install check dams on existing ditches and inlet protection on existing inlets
5. Begin site clearing and grading activities.
6. Stabilize disturbed areas utilizing permanent and temporary seeding procedures. Install check dams within proposed swales.
7. Install the proposed storm sewer.
8. Where indicated on the Plans, install inlet controls on proposed sewers.
9. Construct pavement, curbs, and related utilities.
10. Fine grade roadside areas in preparation of permanent seeding.
11. Permanently seed disturbed areas.
12. Remove temporary sediment controls upon stabilization of the site and approval by the City.

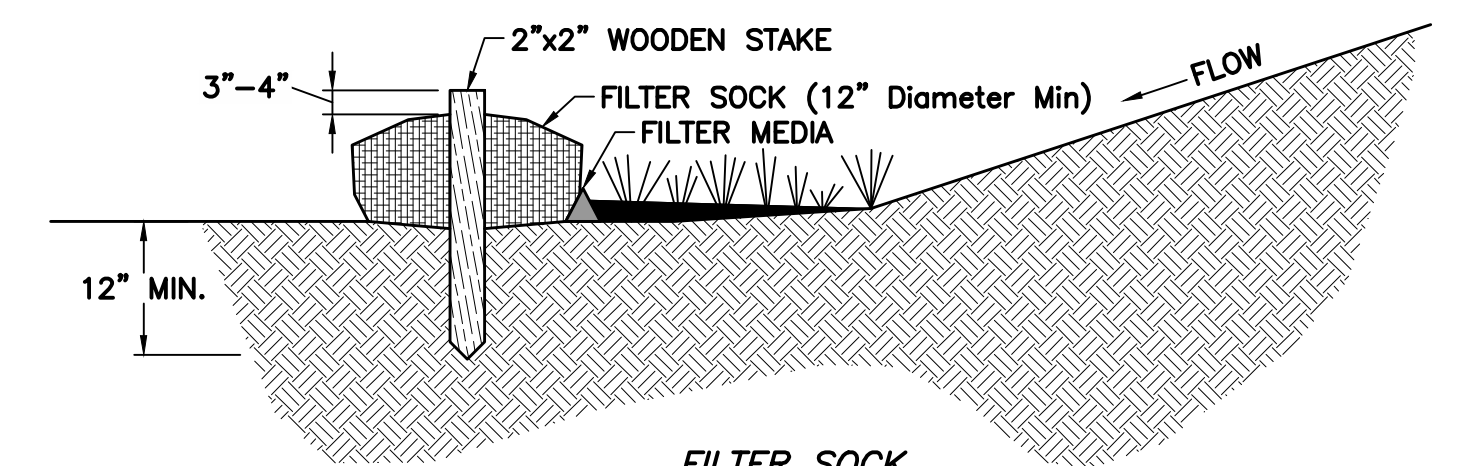
APPROVED OEPA NOI NUMBER: XXXXXXXXXXXXXXXXXXXX

For additional sediment and erosion control notes, see General Notes Section 8.0 on Sheet 8.

PROJECT DATA*			
Total Area (Construction Limits):	19.16 Acres	Runoff Coefficient for Pre-Construction Site:	0.53
Project Earth Disturbed Area:	17.40 Acres	Runoff Coefficient for Post-Construction Site:	0.65
Estimated Contractor Earth Disturbed Area:	3.00 Acres	Immediate Receiving Waters:	Sewers and Roadside Ditches
Notice of Intent Earth Disturbed Area:	20.40 Acres	Subsequent Receiving Waters:	Duncan Run
Impervious (Paved) Area for Pre-Construction Site:	4.76 Acres	Post Construction BMP:	Retention Basin
Impervious (Paved) Area for Post-Construction Site:	8.75 Acres		

CONTRACTOR RESPONSIBILITY: Details have been provided on the plans in an effort to help the Contractor provide erosion and sedimentation control. The details shown on the plan shall be considered a minimum. Additional or alternate details may be found in the Ohio EPA Manual "Rainwater and Land Development." The Contractor shall be solely responsible for providing necessary and adequate measures for proper control of erosion and sediment runoff from the site along with proper maintenance and inspection in compliance with the NPDES General Permit for Storm Water Discharges Associated with Construction Activity.

All Erosion & Sediment Control practices are subject to Field Modification at the direction of the City Of New Albany and/or Ohio EPA.



FILTER SOCK
Scale: Not to Scale

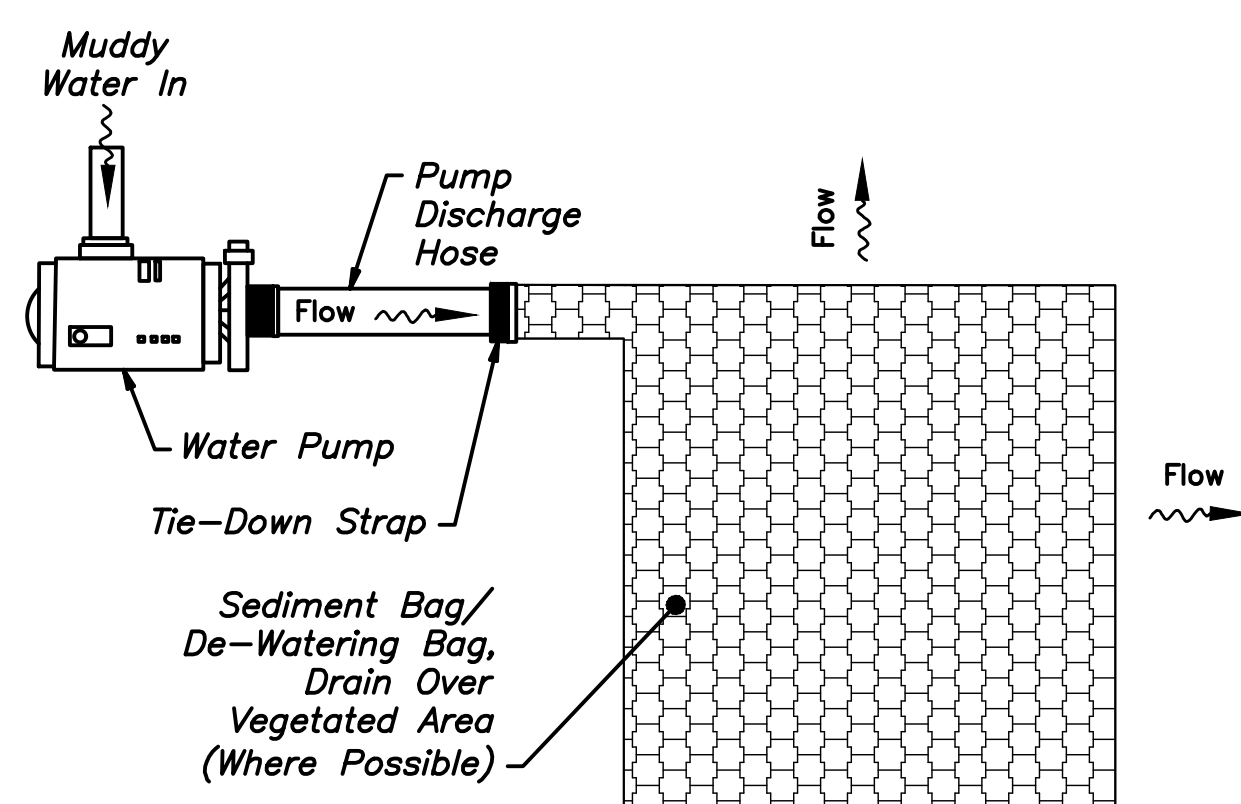
1. **Materials** – compost used for filter socks shall be weed, pathogen and insect free and free of any refuse, contaminants or other materials toxic to plant growth. They shall be derived from a well-decomposed source of organic matter and consist of a particles ranging from 3/8" to 2".
2. Filter socks shall be 3 or 5 mil continuous, tubular, hdpe 3/8" knitted mesh netting material, filled with compost passing the above specifications for compost products.

Installation:

3. Filter socks will be placed on a level line across slopes, generally parallel to the base of the slope or other affected area. On slopes approaching 2:1, additional socks shall be provided at the top and as needed midslope.
4. Upon installation of the filter sock, additional filter media (matching the media inside of the sock) shall be placed on the upland side of the filter sock. Filter media shall extend halfway up the sock and slope at a maximum of 45 degrees to existing ground elevation.
5. Filter socks intended to be left as a permanent filter or part of the natural landscape, shall be seeded at the time of installation for establishment of permanent vegetation.

Maintenance:

7. Routinely inspect filter socks after each significant rain, maintaining filter socks in a functional condition at all times.
8. Remove sediments collected at the base of the filter socks when they reach 1/3 of the exposed height of the practice.
9. Where the filter sock deteriorates or fails, it will be repaired or replaced with a more effective alternative.
10. Removal – filter socks will be dispersed on site when no longer required in such as way as to facilitate and not obstruct seedings.

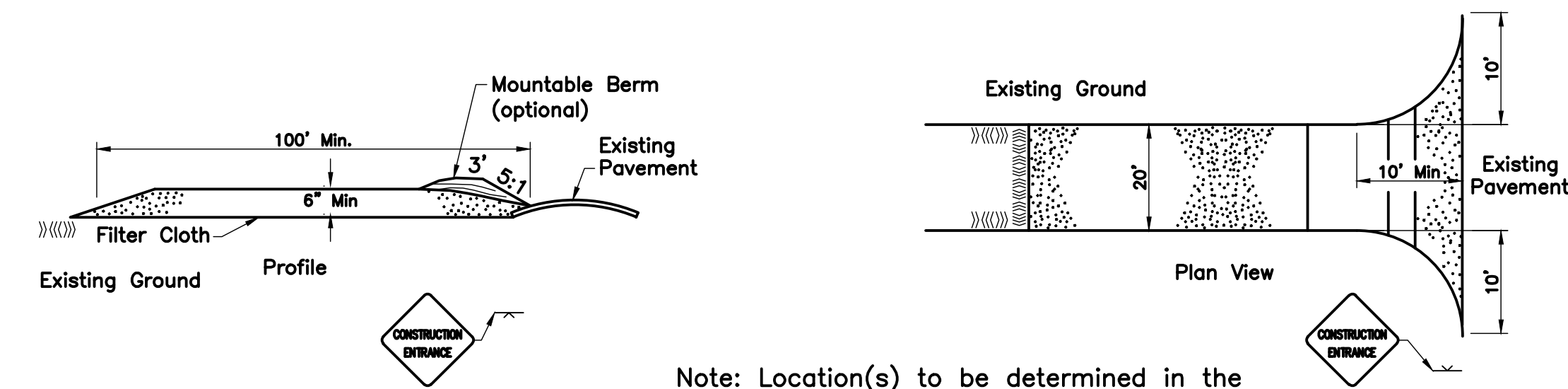


SEDIMENT BAG DETAIL
SCALE: NONE

The pumping or direct discharge of sediment-laden (muddy) water to the City's sewer system or a receiving stream is a violation of Ohio EPA and City of Columbus regulations.

All inlets receiving flow from runoff, pumping activities, or other direct discharges shall be fitted with an inlet protection device that is properly sized and secured to reduce the discharge of sediment into the storm sewer system and receiving stream. Inlet protection is required on all inlets receiving discharge regardless of whether or not the inlet is tributary to any downstream erosion and sediment controls.

Discharge hoses during pumping activities shall be fitted with sediment bags that are properly sized per manufacturer's recommendations regardless of what other sediment controls are in place further downstream. Sediment bags must be properly secured to the discharge hose and placed over vegetated areas, where feasible.



Note: Location(s) to be determined in the field-coordinate with Construction Manager.

CMSC ITEM 207 – STABILIZED CONSTRUCTION ENTRANCE
Not to Scale

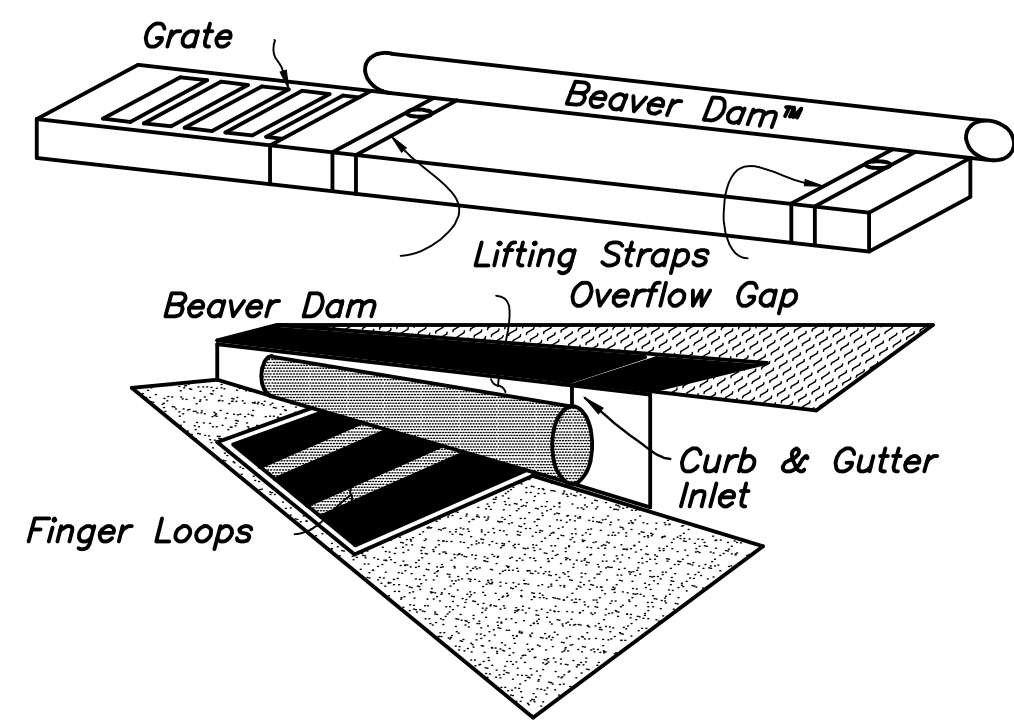
Construction Specifications

1. Stone Size – Use 2" Stone, or Reclaimed or Recycled Concrete Equivalent.
2. Length – 100' Minimum.
3. Thickness – not Less than Six (6) Inches.
4. Width – Twenty (20) Foot Minimum, but not Less than the Full Width at Points where Ingress or Egress Occurs.
5. Filter Cloth – will be Placed Over the Entire Area Prior to Placing of Stone.
6. Surface Water – All Surface Water Flowing or Diverted Toward Construction Entrances shall be Piped Across the Entrance. If Piping is Impractical, a Mountable Berm with 5:1 Slopes will be Permitted. Cost of Pipe shall be Included in the Price Bid for the Stabilized Construction Entrance.
7. Maintenance – The Entrance shall be Maintained in a Condition which will Prevent Tracking or Flowing of Sediment onto Public Right-of-Way. This may Require Periodic Top Dressing with Additional Stone as conditions Demand and Repair and/or Cleanout of any Measures used to Trap Sediment. All Sediment Spilled, Dropped, Washed or Tracked onto Public Rights-of-Way must be Removed Immediately.
8. Washing – It shall be the responsibility of the Contractor to insure sediment is not tracked onto public rights-of-way. If any soil or mud is tracked into the street, wheel washing will be required as directed by the Village Engineer. When washing is requested, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device. Wheel wash stations shall be installed at the Contractor's expense.
9. Periodic Inspection and Needed Maintenance shall be Provided After Each Rain.

CONCRETE WASHOUT

Specifications for concrete washout

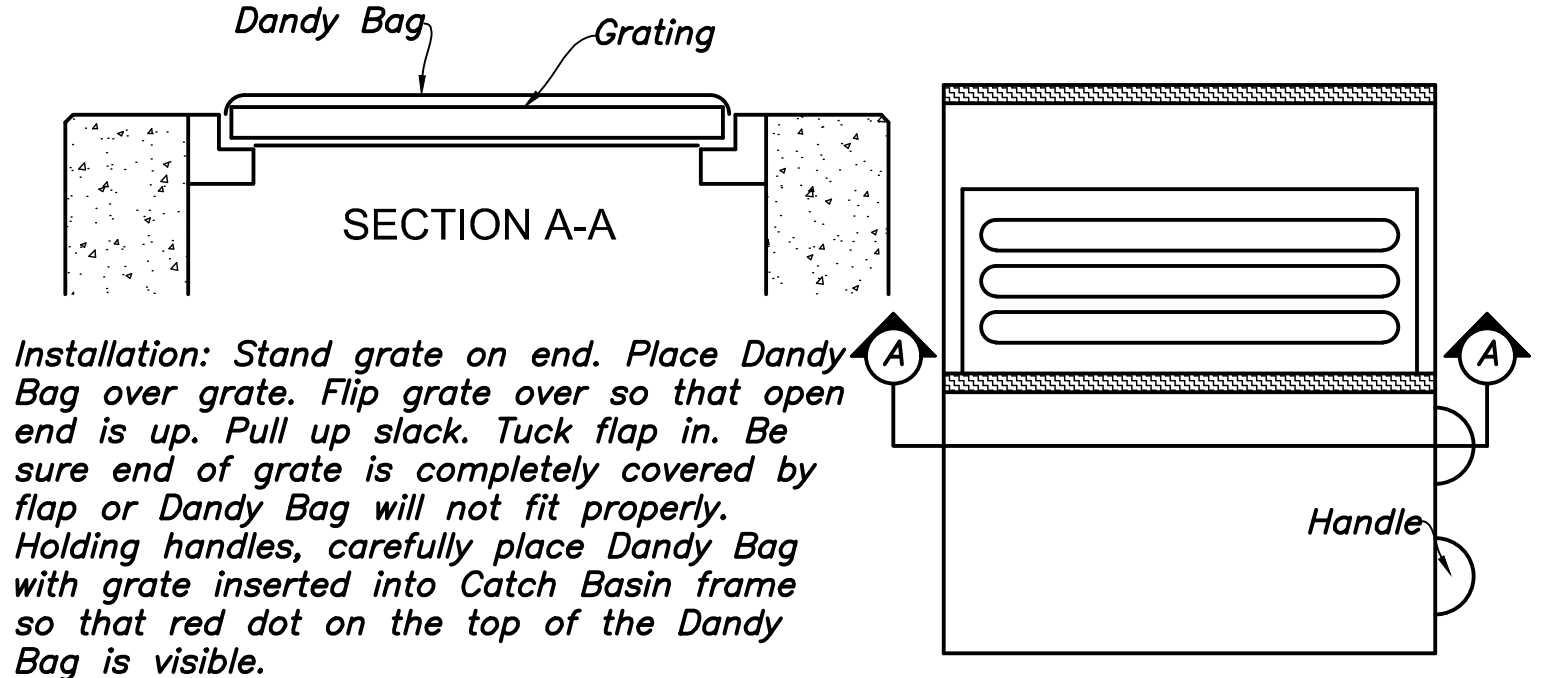
1. The residue or contents of all concrete mixers, dump trucks, other conveyance equipment and finishing tools shall be washed into concrete clean-out structures consisting of a straw bale barrier with gravel backfill. The length and width of these structures shall be as determined by the contractor to facilitate the particular equipment used. These structures shall be constructed on level ground at least 100' from the nearest watercourse, drainage swale or inlet. At no time shall the structure be allowed to be more than 50% full. The contractor shall maintain these ponds until all concrete placement is complete for the project.
2. Embed the straw bales 4" into the soil. Provide two rows of bales, as shown on the detail, with ends and corners tightly abutting. Orient the straw bales lengthwise around the sides of the bales so the wire does not contact the soil. Drive 2"x2" wood stakes through each bale, to securely anchor the bale and connect adjacent bales. Gravel backfill shall be provided and tamped around the outside perimeter of the bales to prevent erosion and flow around the bales.
3. The intent of these structures is to collect all concrete wash out water and allow it to dry to a solid material. After drying, the solid material can be removed with a loader or excavator for proper disposal. Wash out will not be permitted in any other areas.
4. Use the minimum amount of water to wash the vehicles and equipment. Never dispose of wash out into the street, storm inlet, drainage swale or watercourse. Dispose of small amounts of excess dry concrete, grout and mortar in the trash. Any soaps that are utilized shall be phosphate-free and biodegradable.
5. Additional concrete clean-out structures shall be constructed within the specified area as needed based upon the volume of wash out generated daily.



Installation: Stand grate on end. Slide the Beaver Dam Bag on with Dam on top of the grate. Pull all excess down. Lay unit on its side. Carefully tuck flap in. Press Velcro strips together. Install the unit making sure front edge of grate is inserted in frame first then lower back into place. Press Velcro dots together which are located under lifting straps. This insures straps remain flush with gutter.

Maintenance: With a stiff bristle broom sweep silt and other debris off surface after each event.

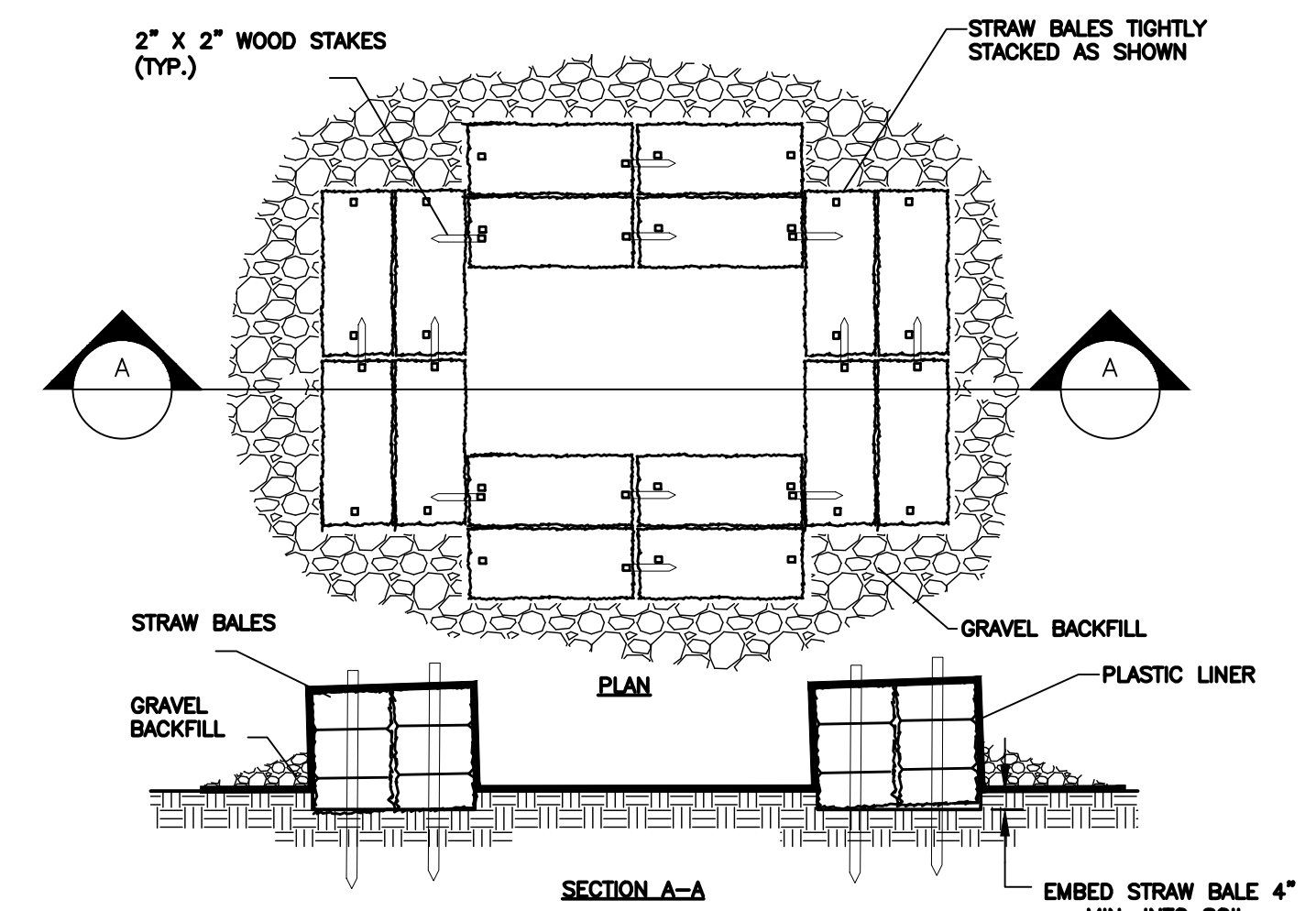
ITEM 207 – INLET PROTECTION – THE DANDY CURB BAG
Scale: NONE



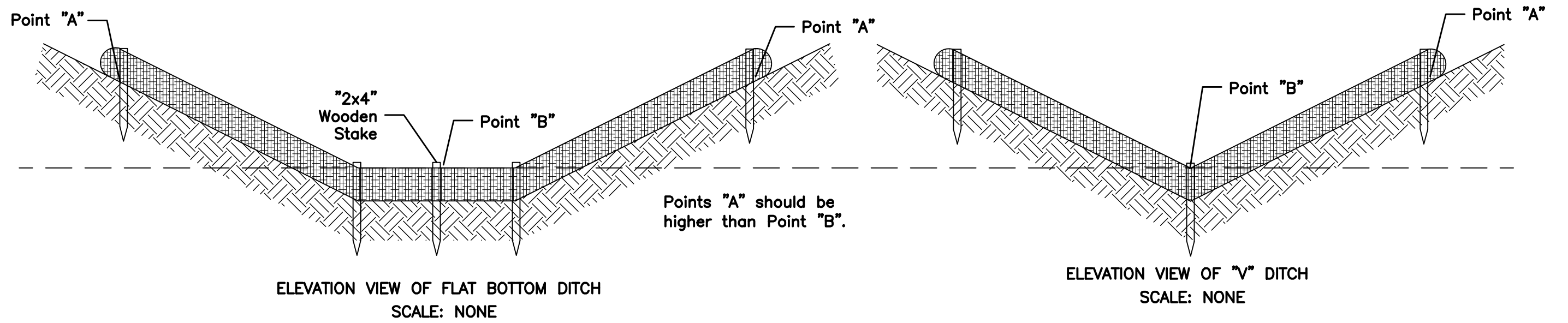
Installation: Stand grate on end. Place Dandy Bag over grate. Flip grate over so that open end is up. Pull up slack. Tuck flap in. Be sure end of grate is completely covered by flap or Dandy Bag will not fit properly. Holding handles, carefully place Dandy Bag with grate inserted into Catch Basin frame so that red dot on the top of the Dandy Bag is visible.

Maintenance: After silt has dried, remove it from the surface of Dandy Bag with broom.

ITEM 207 – INLET PROTECTION (DANDY BAG)
SCALE: NONE



CONCRETE WASHOUT
Not to Scale



NOTES

MATERIALS: Furnish Compost filter sock ditch checks consisting of the following materials:

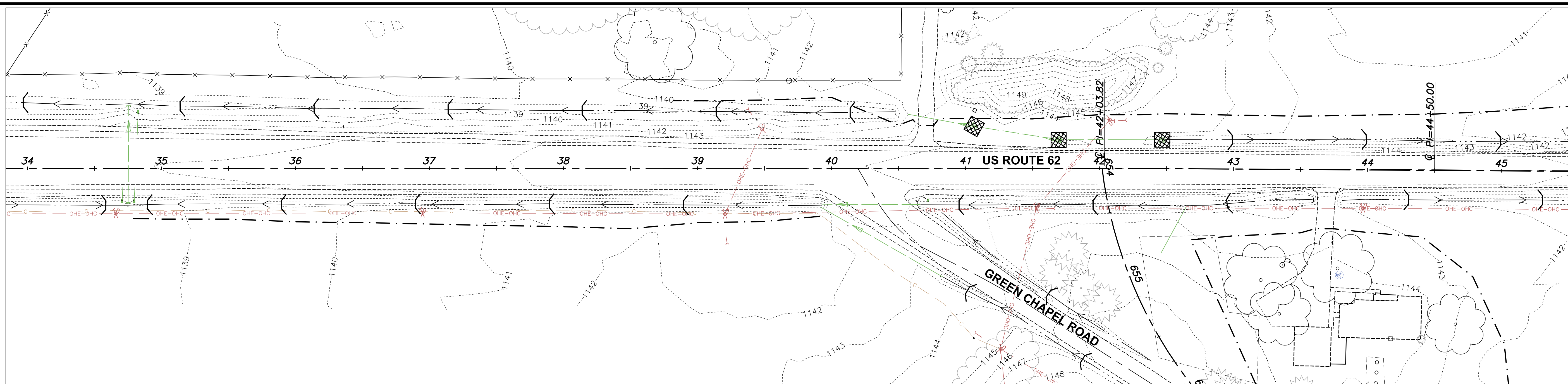
1. 30" wide Compost filter sock with sound wood supports with maximum on-center spacing of 10'. Use filter fabric conforming to ODOT Item 712.09 Type C.
2. A vertically driven "2x4" stake the center of the ditch.

CONSTRUCTION:

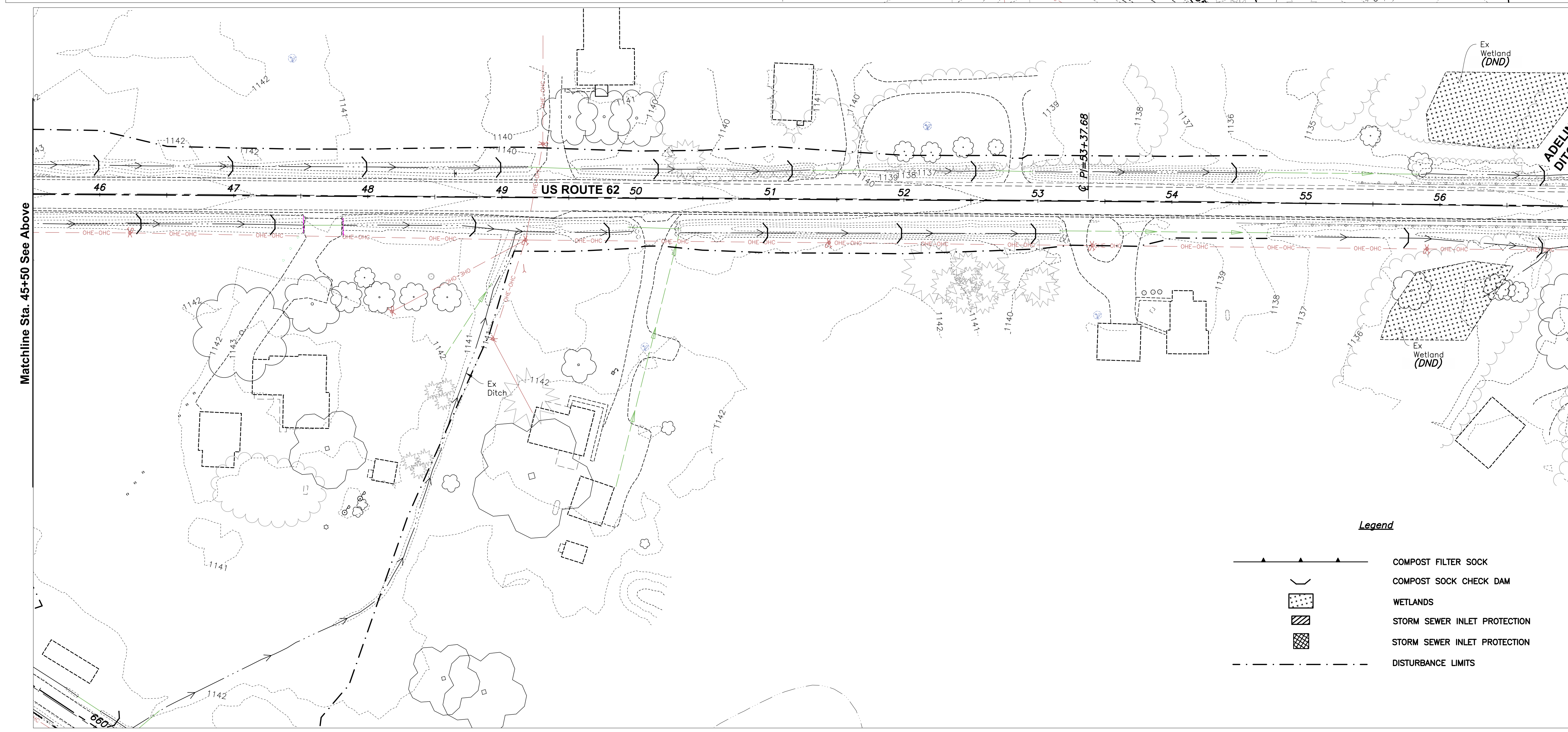
Trench the filter fabric fence as detailed for PERIMETER COMPOST FILTER SOCK FENCE/SEDIMENT FENCE. Place a vertical "2x4" stake in the center of the ditch with the top level to the top of the fence and at least 6" below the bottom of the ditch.

CMSC ITEM 207 – FILTER SOCK CHECK DAM

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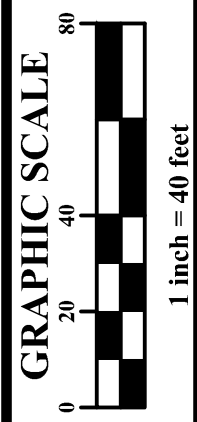
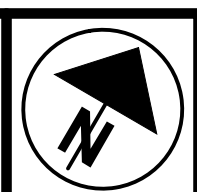
Matchline Sta. 45+50 See Below



Matchline Sta. 45+50 See Above

Legend

	COMPOST FILTER SOCK
	COMPOST SOCK CHECK DAM
	WETLANDS
	STORM SEWER INLET PROTECTION
	STORM SEWER INLET PROTECTION
	DISTURBANCE LIMITS



CALCULATED
JJB
CHECKED
MJS

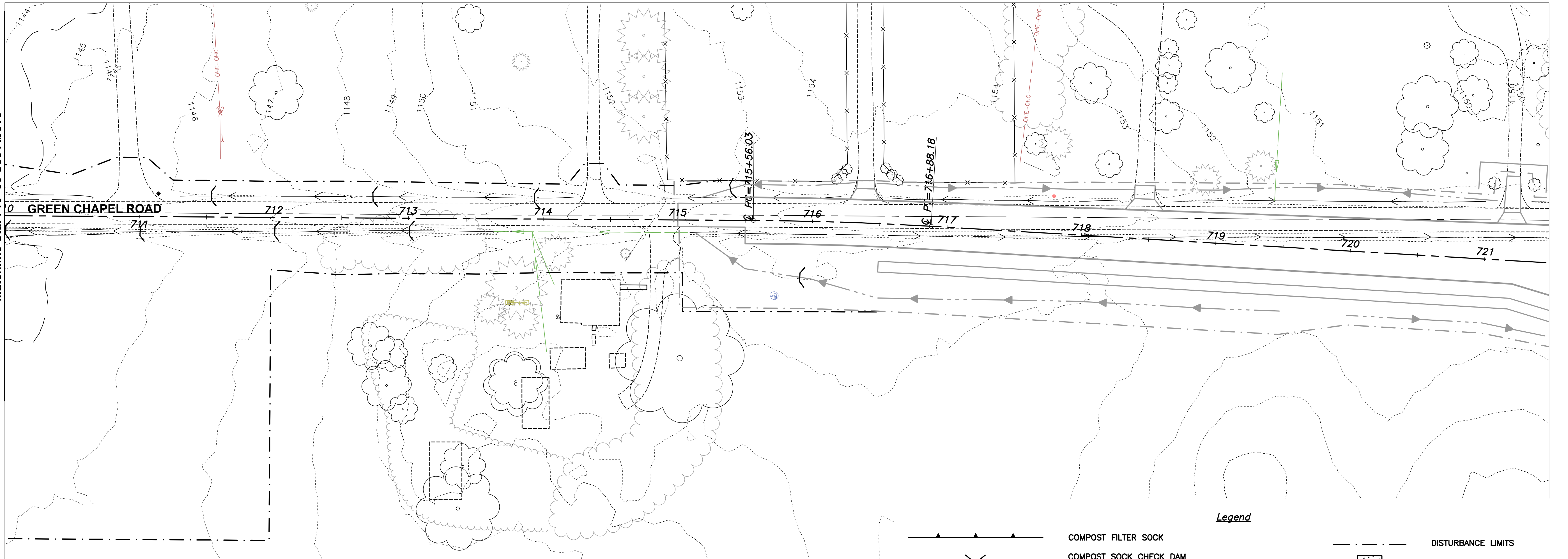
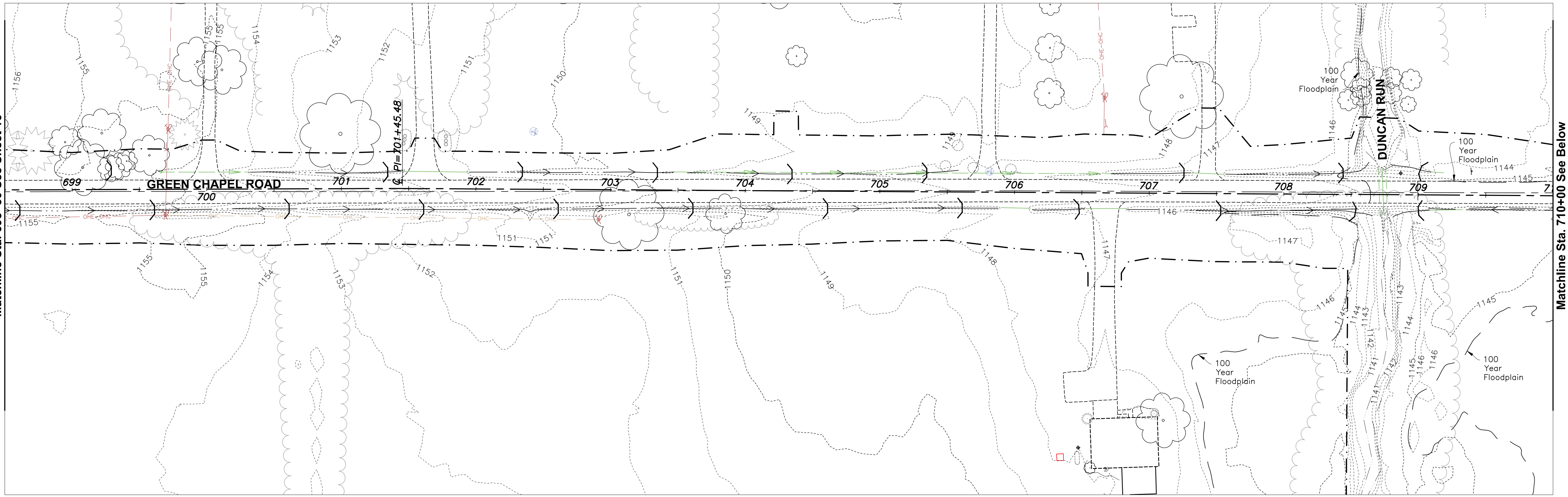
SEDIMENT AND EROSION CONTROL PLAN - EXISTING CONDITIONS

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

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Matchline Sta. 698+50 See Sheet 16

Matchline Sta. 710+00 See Above



- Legend**
- COMPOST FILTER SOCK
 - COMPOST SOCK CHECK DAM
 - STORM SEWER INLET PROTECTION
 - STORM SEWER INLET PROTECTION
 - DISTURBANCE LIMITS
 - WETLANDS

Matchline Sta. 710+00 See Below



CALCULATED
JVB
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MJS

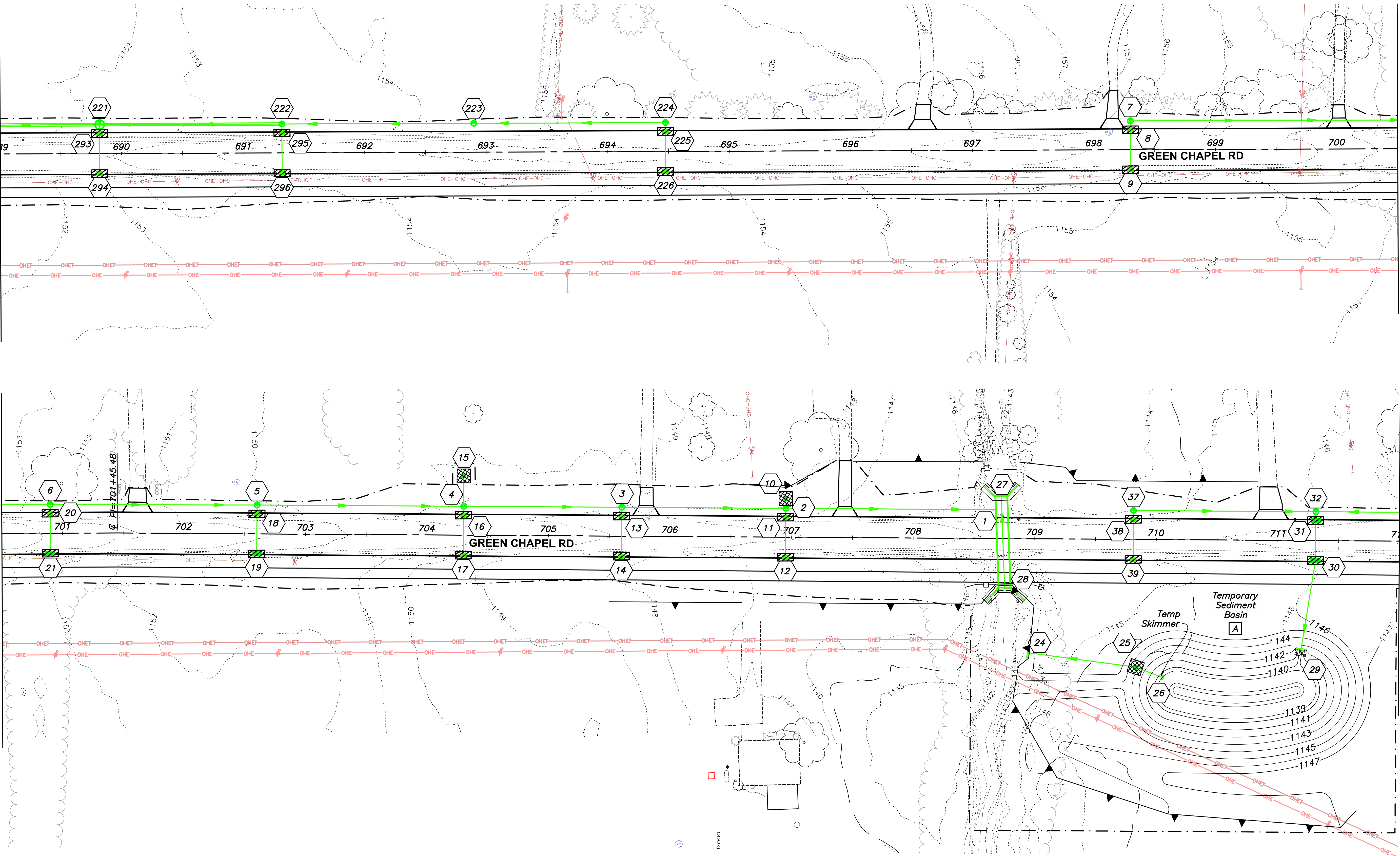
SEDIMENT AND EROSION CONTROL PLAN - EXISTING CONDITIONS

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

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Matchline Sta. 689+00 See Sheet 20

Matchline Sta. 700+50 See Above



Matchline Sta. 700+50 See Below

Matchline Sta. 712+00 See Sheet 22

- Legend**
- COMPOST FILTER SOCK
 - COMPOST SOCK CHECK DAM
 - STORM SEWER INLET PROTECTION
 - STORM SEWER INLET PROTECTION
 - DISTURBANCE LIMITS
 - WETLANDS
 - TEMPORARY SEDIMENT BASIN GRADING SHOWN MEETS THE REQUIREMENTS SHOWN ON SHEET 124
- * INSTALLED WITH THE EXISTING CONDITIONS SHEET 14-17.

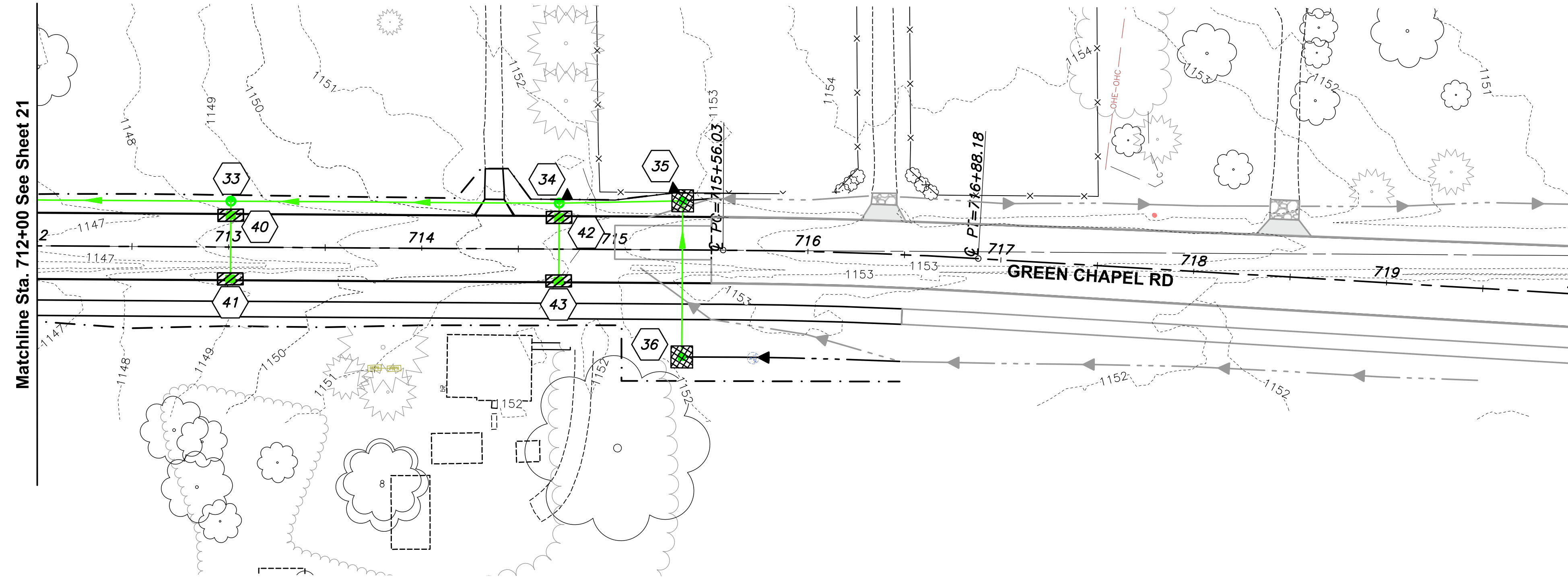
CALCULATED
JJB
CHECKED
M/S

GRAPHIC SCALE
0 20 40 80
1 inch = 40 feet

SEDIMENT AND EROSION CONTROL PLAN - PROPOSED CONDITIONS

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

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Matchline Sta. 712+00 See Sheet 21

Legend

- | | | | |
|--|------------------------------|--|--------------------|
| | COMPOST FILTER SOCK | | DISTURBANCE LIMITS |
| | COMPOST SOCK CHECK DAM | | WETLANDS |
| | STORM SEWER INLET PROTECTION | | |
| | STORM SEWER INLET PROTECTION | | |
- * INSTALLED WITH THE EXISTING CONDITIONS SHEET 14-17.

CALCULATED
JJB
CHECKED
M/S

GRAPHIC SCALE
0 20 40 80
1 inch = 40 feet

SEDIMENT AND EROSION CONTROL PLAN - PROPOSED CONDITIONS

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

NOTIFICATION OF CONSTRUCTION INITIATION

At least fourteen days prior to starting initial construction activities, the Contractor shall advise the District Office of Communications via email at D05.PIO@DOT.OHIO.GOV, the District Work Zone Traffic Manager via email at D05.MOT@DOT.OHIO.GOV and the central office special haul permits section via email at HAULING.PERMITS@DOT.OHIO.GOV of the anticipated start date of any construction activities including but not limited to the placing of work zone signs. The notification shall also include the project number, PID, name and phone number of the Contractor, a point of contact and the anticipated impact on traffic. The Contractor will immediately inform the District Office of Communications and the District Work Zone Traffic Manager of any and all delays and/or changes regarding the construction initiation date.

NOTIFICATION OF TRAFFIC RESTRICTIONS

Throughout the duration of the project, the Contractor shall notify the Project Engineer in writing of all traffic restrictions and upcoming maintenance of traffic changes. The Contractor shall ensure the written notification is submitted in a timely manner to allow the Project Engineer to meet the required time frames set forth in the table below to inform the special hauling permits section (HAULING.PERMITS@DOT.OHIO.GOV) and the District Public Information Office (PIO). This notification shall be received by the Project Engineer prior to the physical setup of any applicable signs or message boards.

Information should include, but is not limited to, all construction activities that impact or interfere with traffic and shall list the specific location, type of work, road status, date and time of restriction, duration of restriction, number of lanes maintained, number of lanes closed, minimum vertical clearance, minimum width of drivable pavement, detour routes, if applicable, and any other information requested by the Project Engineer.

Notification Time Table		
Item	Duration of Closure	Notice Due to Office of Communications
Ramp & Road Closures	>= 2 weeks	21 calendar days prior to closure
	> 12 hours & < 2 weeks	14 calendar days prior to closure
	<= 12 hours	4 business days prior to closure
Lane Closures & Restrictions	>= 2 weeks	14 calendar days prior to closure
	< 2 weeks	5 business days prior to closure
Start of Construction & Traffic Pattern Changes	NA	14 calendar days prior to implementation

ITEM 614. WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (BIDIRECTIONAL OR UNIDIRECTIONAL)

This item shall consist of furnishing and installing a non-gating impact attenuator. Furnish an impact attenuator from the Office of Roadway Engineering's approved list for work zone impact attenuators, from the roadway standards approved products web page.

Installation shall be at the locations specified in the plans in accordance with the Manufacturer's specifications.

The Contractor shall repair or replace a damaged unit within 24 hours of a damaging impact.

When bidirectional designs are specified, the Contractor shall supply appropriate transitions.

When gating impact attenuators are desired, the Contractor shall submit documentation to the Engineer for acceptance.

The cost for the additional barrier required for a gating impact attenuator shall be included in the cost of the gating impact attenuator.

Payment for the above work shall be made at the unit price bid and shall include all labor, tools, equipment and materials necessary to construct and maintain a complete and functional impact attenuator system, including all related backups, transitions, leveling pads, hardware and grading, not separately specified, as required by the Manufacturer.

ITEM 614 SPECIAL – WORK ZONE TRAFFIC SIGNAL

Under this item of work, the Contractor shall furnish, install, relocate, modify and subsequently remove: signal cable, signal heads, and covering of vehicular signal heads as needed to render a fully functional signalized intersection.

As detailed within, traffic signal modifications to accommodate individual maintenance of traffic phases shall be installed at the intersections listed below.

- Green Chapel Road at Clover Valley

All temporary traffic signal equipment shall comply with the specifications outlined for the permanent signal installation including grounding and bonding and "traffic signal plan and specification compliance". All methods of traffic control shall be approved by the Engineer and shall be in place and operating prior to the deactivation and removal and/or relocation of any existing signal equipment. Reference is made to the requirements of Item 614. All modifications to signalization shall be done under the protection of a Law Enforcement Officer. Reference is made to item 614 maintaining traffic, as per plan.

Any vehicular traffic signal head that will be out of operation shall be covered in accordance with 632.25. Any existing vehicular or pedestrian head that is not functional shall be removed immediately or covered. Any pedestrian buttons not in use shall also be covered.

Detection shall be maintained at all times and during all phases of construction using existing radar detectors.

This item of work shall include all labor, equipment and materials necessary to furnish, install, modify, remove, store, erect, relocate, adjust and repair temporary traffic signal items as described above.

All costs for the above work shall be included in the price bid for item 614 work zone traffic signal, as per plan and shall be per each intersection.
3/24/20

ITEM 615. PAYMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

Temporary pavement shall be per Item 615, Except pavement buildup shall be as detailed in the typical section on Sheet 27.

Maintenance of Traffic Estimate of Quantities			
Item No.	Quantity	Unit	Description
ODOT 614	1	LS	Maintaining Traffic, As Per Plan
ODOT 614	50	Hour	Law Enforcement Officer with Patrol Car for Assistance During Construction Operations, As Per Plan
ODOT 614	1	LS	Detour Signage
ODOT 614	1	LS	Work Zone Markings, As Per Plan
ODOT 614	1	LS	Dust Control
ODOT 614	4	Each	Work Zone Impact Attenuator 24" Wide Hazards (Bidirectional or Unidirectional)
ODOT 614	1	Each	Special - Work Zone Traffic Signal
ODOT 615	1	LS	Roads for Maintaining Traffic, As Per Plan
ODOT 615	2,783	SY	Pavement for Maintaining Traffic, Class A, As Per Plan
ODOT 622	1,890	LF	Portable Barrier, Unanchored
ODOT 626	19	Each	Barrier Reflector, Type 1

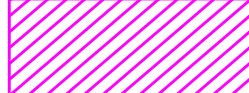
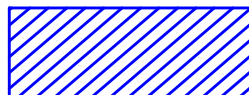

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JCR
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MAINTENANCE OF TRAFFIC NOTES

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

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LEGEND

-  PHASE 1A WORK ZONE
-  PHASE 1B WORK ZONE
-  PHASE 1C WORK ZONE

PHASE 1B TO INCLUDE ITEM 301 - PAVEMENT REPAIR FOR STORM CROSSING OF EXISTING GREEN CHAPEL ROAD IN ORDER TO MAINTAIN TRAFFIC UNTIL TRAFFIC IS ROUTED TO THE COMMUNITY PATH IN PHASE 2. PAYMENT TO BE INCLUDED IN ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN.

SEQUENCE OF CONSTRUCTION

PHASE 1A - SHALL CONSTRUCT THE PROPOSED STORMWATER MANAGEMENT BASINS, THE PROPOSED STORM TRUNK LINES ALONG THE NORTH SIDE OF GREEN CHAPEL ROAD, AND THE STORM TRUNK LINE ALONG THE SOUTHEAST SIDE OF US-62. DETAILED MOT SHEETS ARE NOT SHOWN FOR PHASE 1 BECAUSE THESE IMPROVEMENTS ARE OUTSIDE OF THE EXISTING TRAVELED WAY. IF NEEDED, CONTRACTOR MAY IMPLEMENT FLAGGER CONTROL ON GREEN CHAPEL RD AND US-62 DURING WORKING HOURS PER ODOT SCD MT-97.10. WORKING HOURS SHALL BE 9AM TO 3PM M-F. ALL LANES SHALL BE OPEN DURING NIGHTTIME AND NON-WORKING HOURS. DURING NON-WORKING HOURS, ALL TRENCHES SHALL BE BACKFILLED/PLATED.

PHASE 1B - SHALL CONSTRUCT THE PROPOSED CULVERT AND STORM PIPE CROSSINGS OF GREEN CHAPEL ROAD. GREEN CHAPEL ROAD SHALL BE CLOSED TO THROUGH TRAFFIC. GREEN CHAPEL ROAD SHALL BE CLOSED AT ONLY ONE LOCATION AT A TIME. SEE DETOUR PLAN ON SHEET 26.

PHASE 1C - INSTALLATION OF SHARED USE PATH AND TEMPORARY PAVEMENT ALONG THE SOUTH SIDE OF GREEN CHAPEL RD. DETAILED MOT SHEETS ARE NOT SHOWN FOR PHASE 1C BECAUSE THESE IMPROVEMENTS ARE OUTSIDE OF THE EXISTING TRAVELED WAY. IF NEEDED, CONTRACTOR MAY IMPLEMENT FLAGGER CONTROL ON GREEN CHAPEL RD DURING NON-WORKING HOURS PER ODOT SCD MT-97.10. WORKING HOURS SHALL BE 9AM TO 3PM M-F. ALL LANES SHALL BE OPEN DURING NIGHTTIME AND NON-WORKING HOURS. PHASE 1C WORK MAY BE CONSTRUCTED CONCURRENTLY WITH PHASE 1B. THE DROP-OFF ADJACENT TO THE TRAVEL LANE SHALL MEET THE CRITERIA OUTLINED IN STANDARD DRAWING MT-101.90. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR MATERIALS, LABOR OR EQUIPMENT NECESSARY TO MEET THE REQUIREMENTS OF MT-101.90.

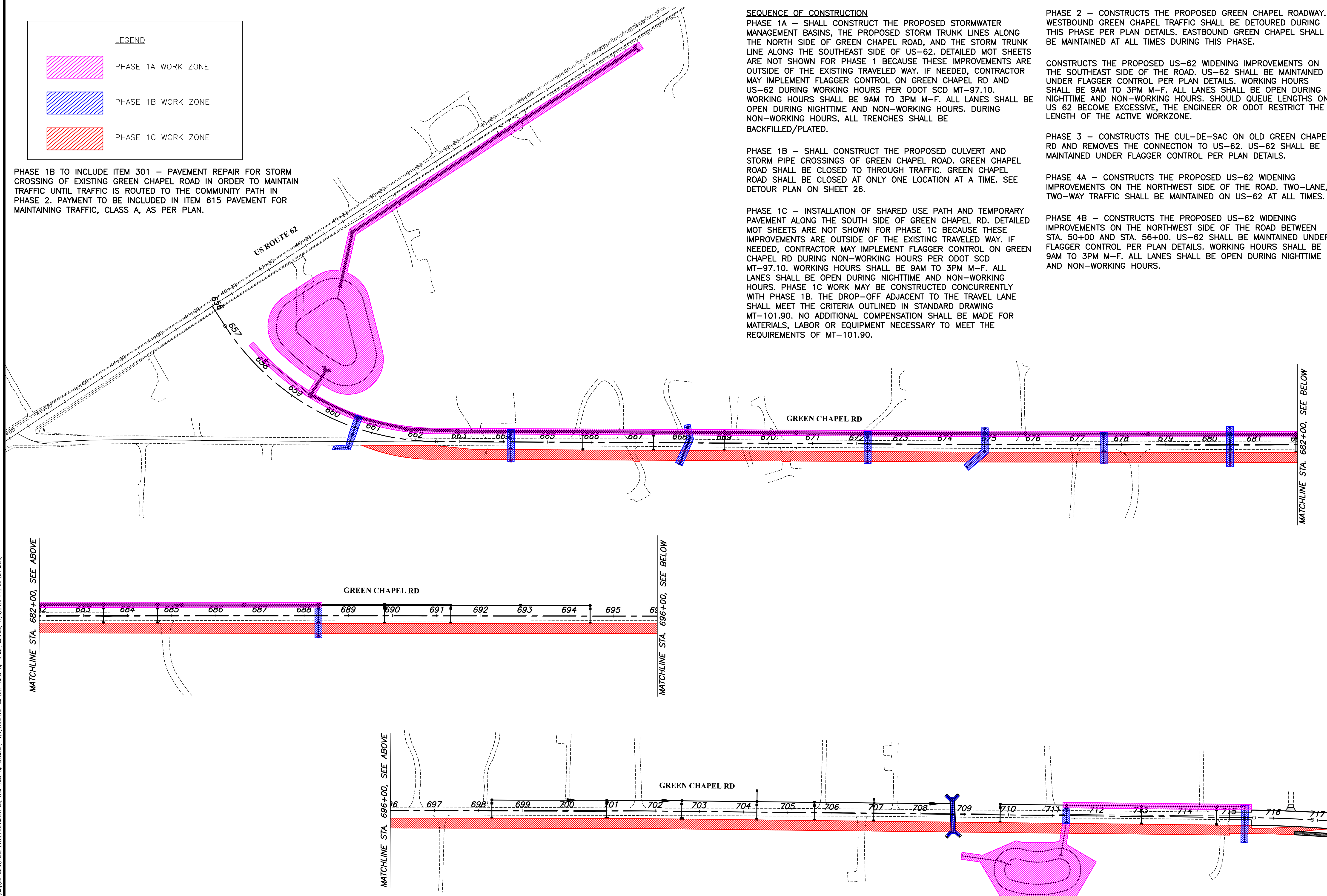
PHASE 2 - CONSTRUCTS THE PROPOSED GREEN CHAPEL ROADWAY. WESTBOUND GREEN CHAPEL TRAFFIC SHALL BE DETOURED DURING THIS PHASE PER PLAN DETAILS. EASTBOUND GREEN CHAPEL SHALL BE MAINTAINED AT ALL TIMES DURING THIS PHASE.

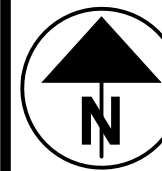
CONSTRUCTS THE PROPOSED US-62 WIDENING IMPROVEMENTS ON THE SOUTHEAST SIDE OF THE ROAD. US-62 SHALL BE MAINTAINED UNDER FLAGGER CONTROL PER PLAN DETAILS. WORKING HOURS SHALL BE 9AM TO 3PM M-F. ALL LANES SHALL BE OPEN DURING NIGHTTIME AND NON-WORKING HOURS. SHOULD QUEUE LENGTHS ON US 62 BECOME EXCESSIVE, THE ENGINEER OR ODOT RESTRICT THE LENGTH OF THE ACTIVE WORKZONE.

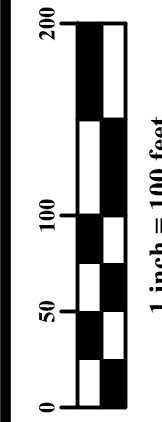
PHASE 3 - CONSTRUCTS THE CUL-DE-SAC ON OLD GREEN CHAPEL RD AND REMOVES THE CONNECTION TO US-62. US-62 SHALL BE MAINTAINED UNDER FLAGGER CONTROL PER PLAN DETAILS.

PHASE 4A - CONSTRUCTS THE PROPOSED US-62 WIDENING IMPROVEMENTS ON THE NORTHWEST SIDE OF THE ROAD. TWO-LANE, TWO-WAY TRAFFIC SHALL BE MAINTAINED ON US-62 AT ALL TIMES.

PHASE 4B - CONSTRUCTS THE PROPOSED US-62 WIDENING IMPROVEMENTS ON THE NORTHWEST SIDE OF THE ROAD BETWEEN STA. 50+00 AND STA. 56+00. US-62 SHALL BE MAINTAINED UNDER FLAGGER CONTROL PER PLAN DETAILS. WORKING HOURS SHALL BE 9AM TO 3PM M-F. ALL LANES SHALL BE OPEN DURING NIGHTTIME AND NON-WORKING HOURS.







 1 inch = 100 feet

CALCULATED: JCR
 CHECKED: KRB/JDS

**MAINTENANCE OF TRAFFIC
PHASE 1 OVERVIEW**

**GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2**




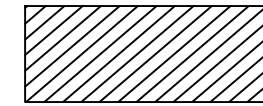
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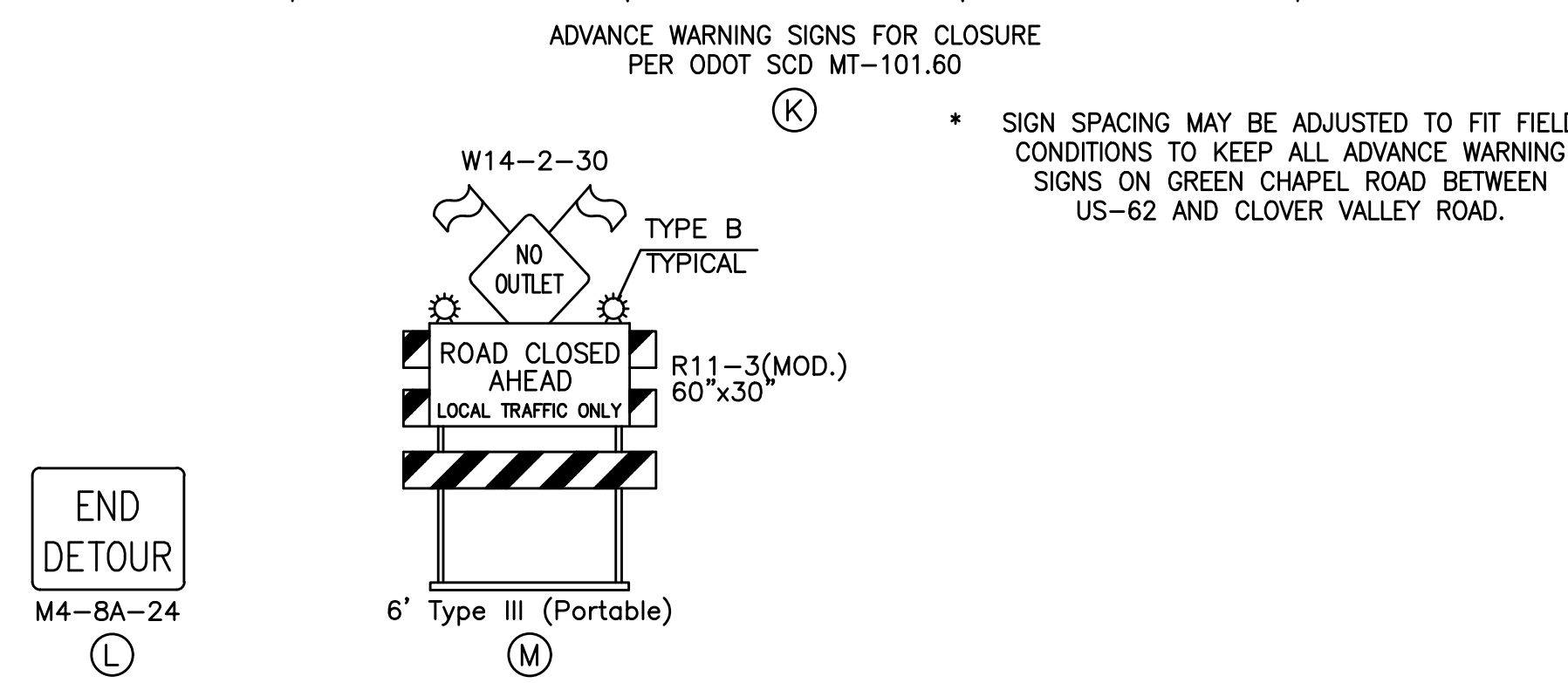
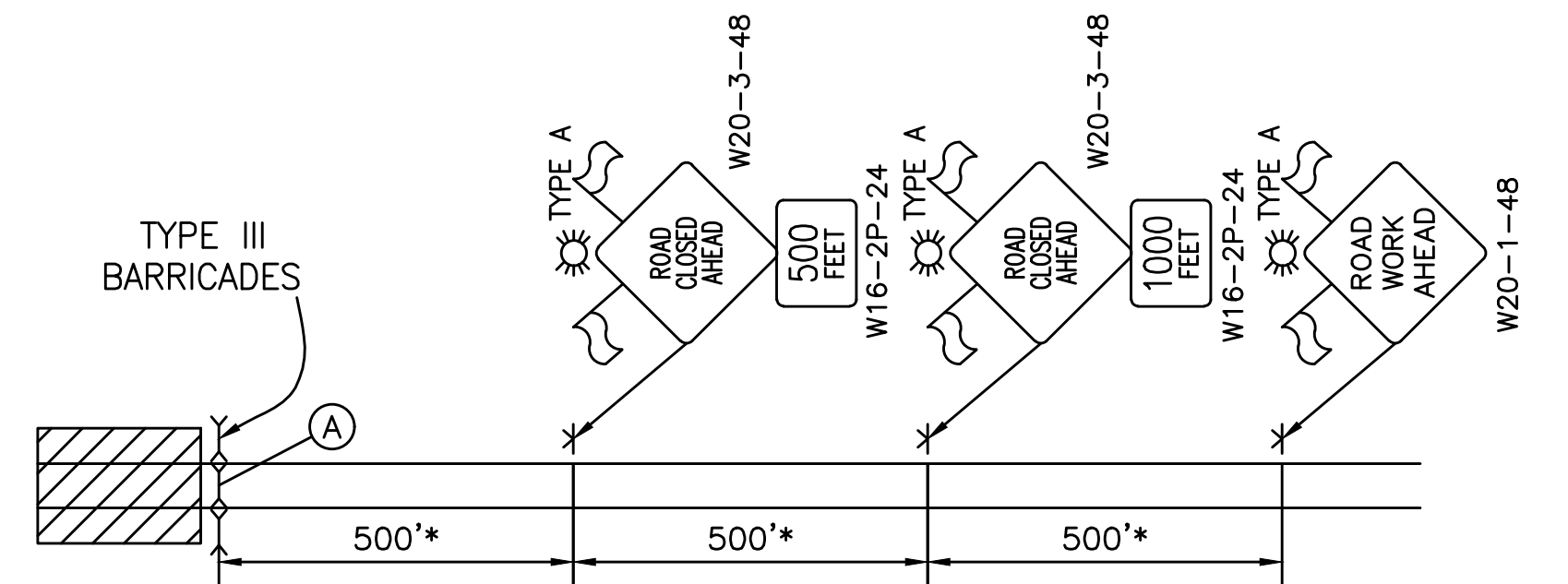
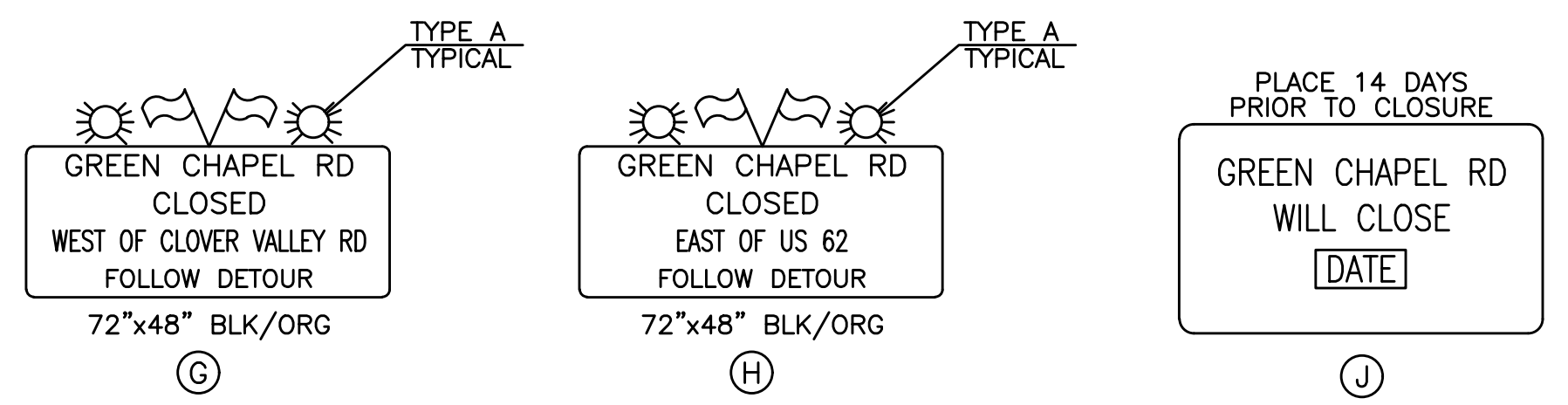
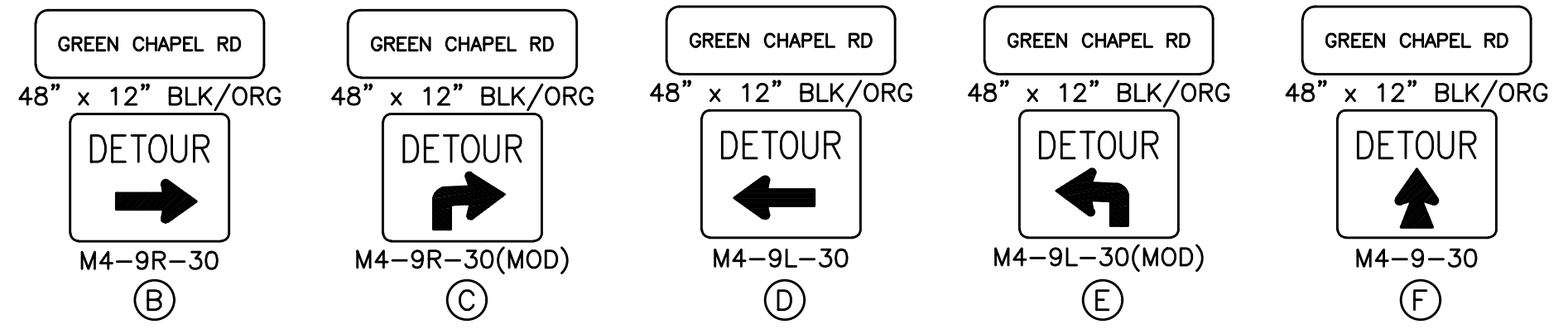
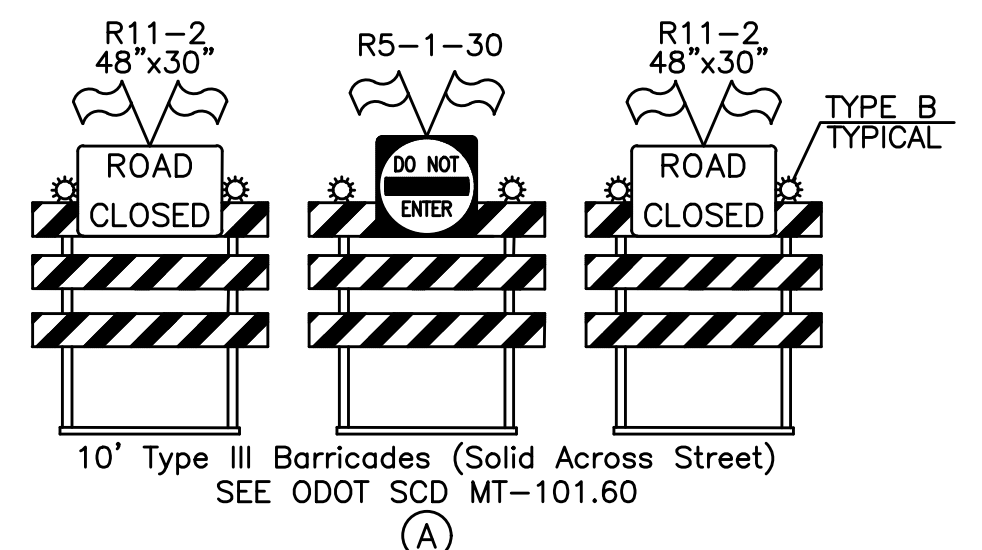
MAINTENANCE OF TRAFFIC
PHASE 1B DETOUR

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

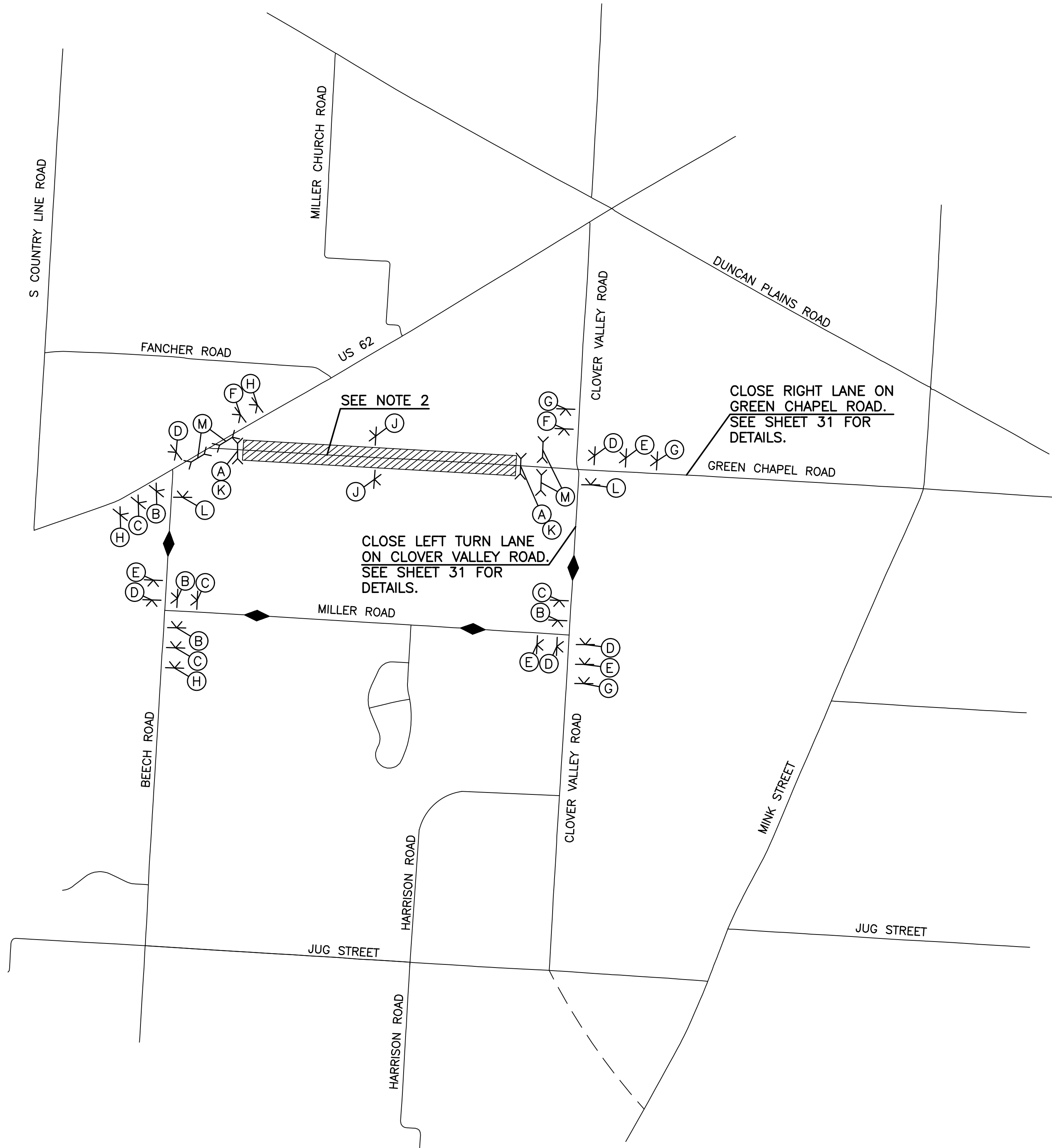
- LEGEND**
-  TYPE III BARRICADES
 -  DETOUR ROUTE
 -  TEMPORARY SIGN SUPPORT
 -  WORK ZONE

- NOTE:**
1. THIS DETOUR IS TO CONSTRUCT THE PROPOSED CULVERTS AND STORM PIPES NEAR STA. 660+50, STA. 664+00, STA. 668+00, STA. 672+00, STA. 675+00, STA. 677+50, STA. 680+50, STA. 688+00, STA. 709+00, 711+00, AND STA. 715+00. THIS DETOUR SHALL NOT BE IMPLEMENTED CONCURRENTLY WITH THE OTHER DETOURS IN THIS PLAN. CONTRACTOR TO COORDINATE WITH OTHER NEAR BY CONSTRUCTION PROJECT VERIFY THE DETOUR ROUTE IS CLEAR.
 2. ACCESS TO ALL DRIVEWAYS ON GREEN CHAPEL ROAD SHALL BE MAINTAINED AT ALL TIMES DURING CLOSURES. TO MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.
 3. ONLY ONE CULVERT/STORM PIPE MAY BE CONSTRUCTED AT A TIME.

SIGN LEGEND



* SIGN SPACING MAY BE ADJUSTED TO FIT FIELD CONDITIONS TO KEEP ALL ADVANCE WARNING SIGNS ON GREEN CHAPEL ROAD BETWEEN US-62 AND CLOVER VALLEY ROAD.



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


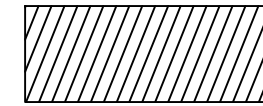


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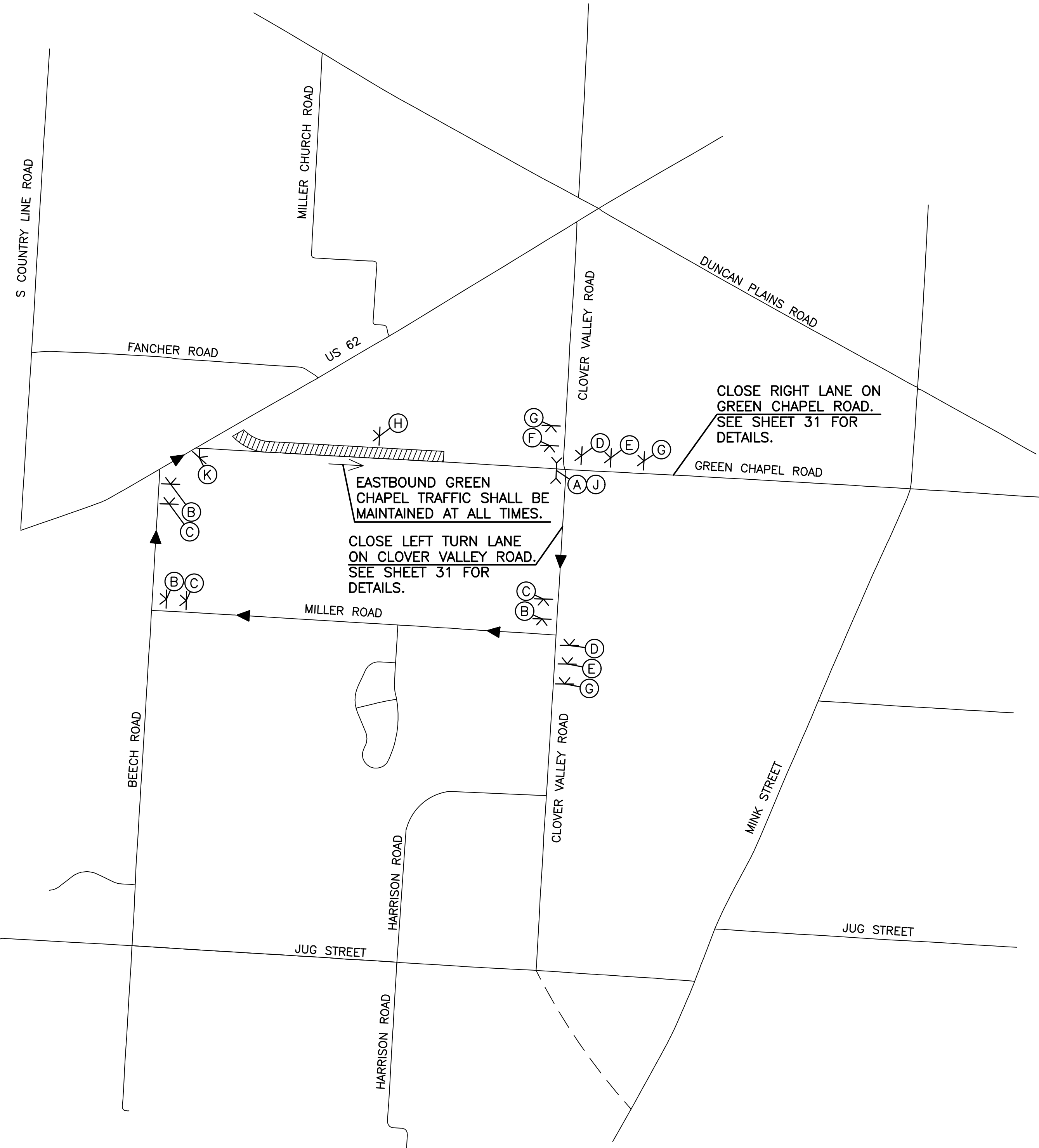
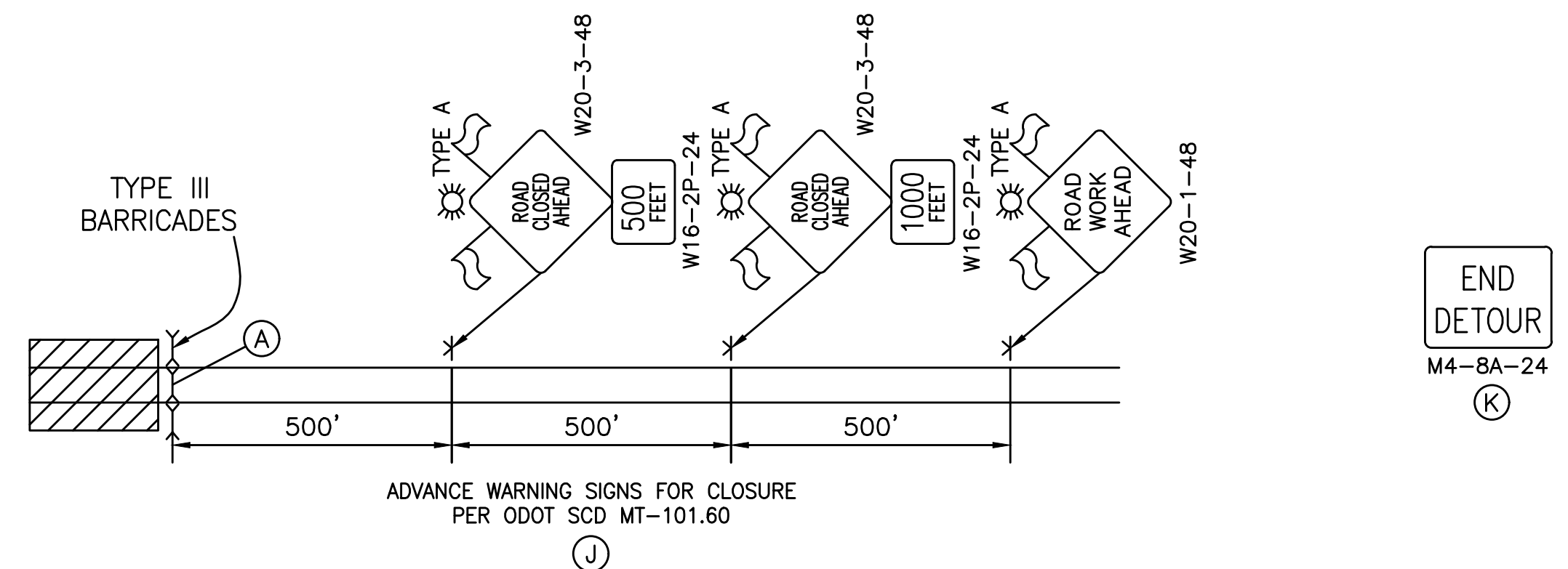
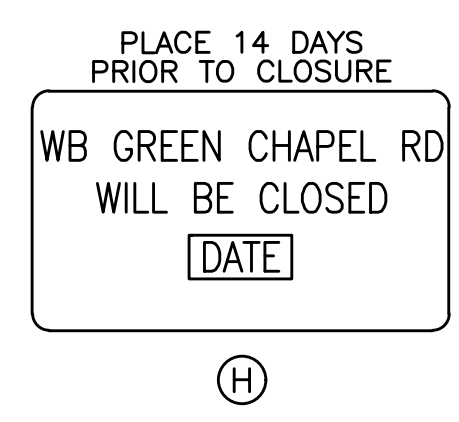
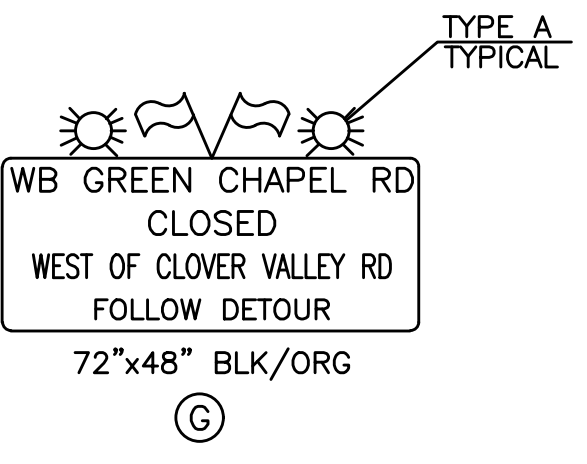
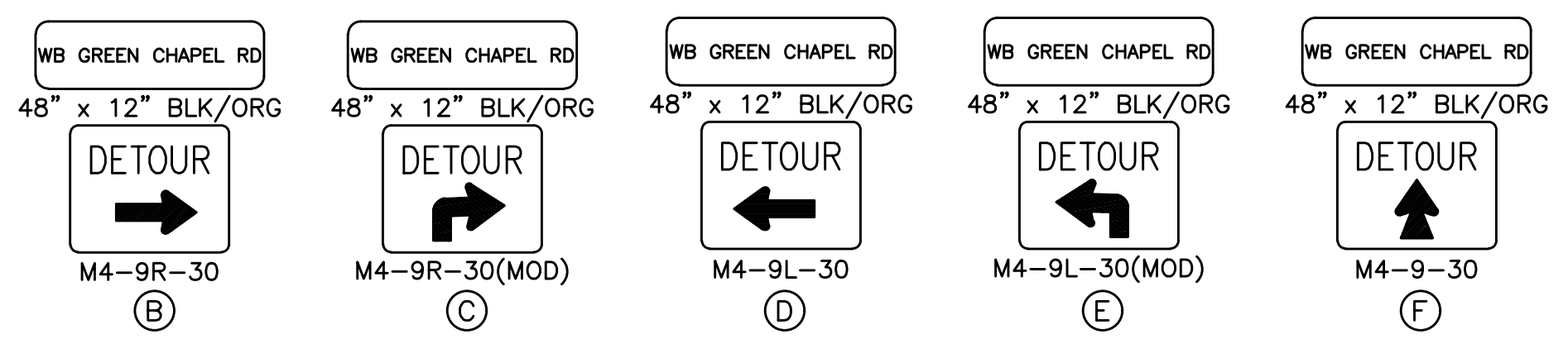
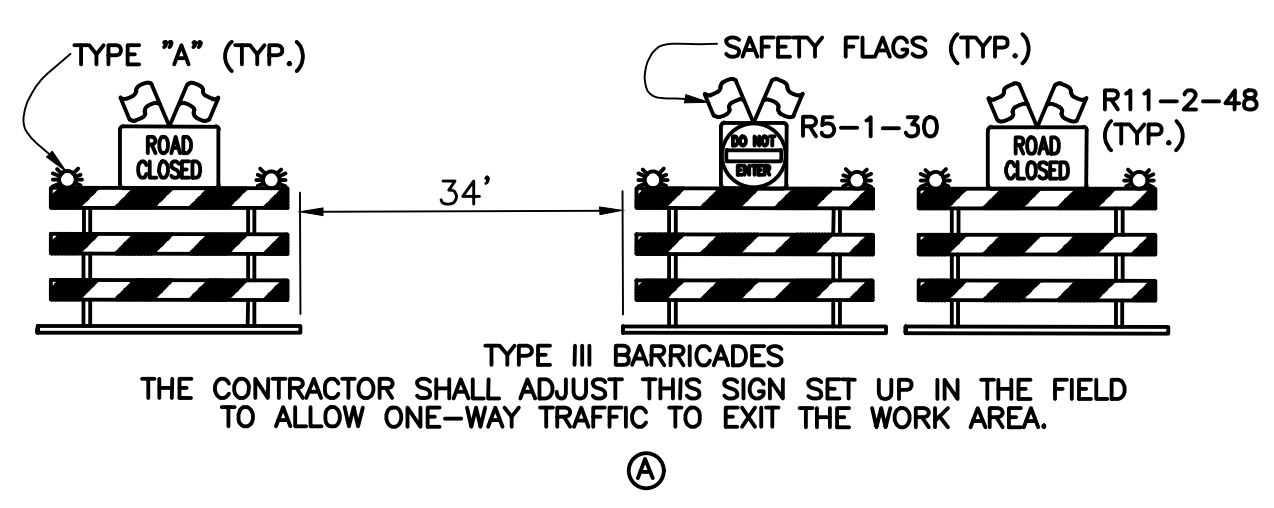
**MAINTENANCE OF TRAFFIC
PHASE 2 DETOUR**

**GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2**

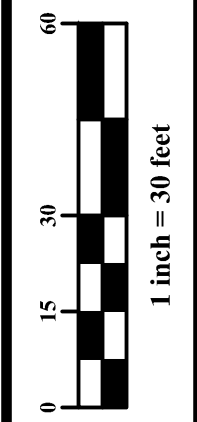
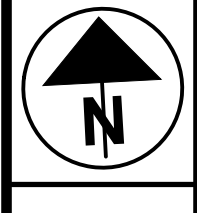
LEGEND

-  TYPE III BARRICADES
-  DETOUR ROUTE
-  TEMPORARY SIGN SUPPORT
-  WORK ZONE

SIGN LEGEND



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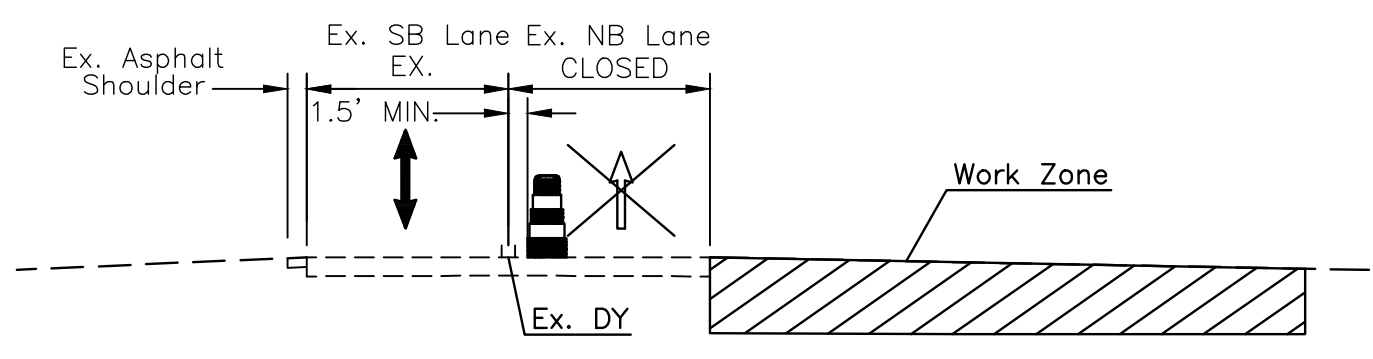


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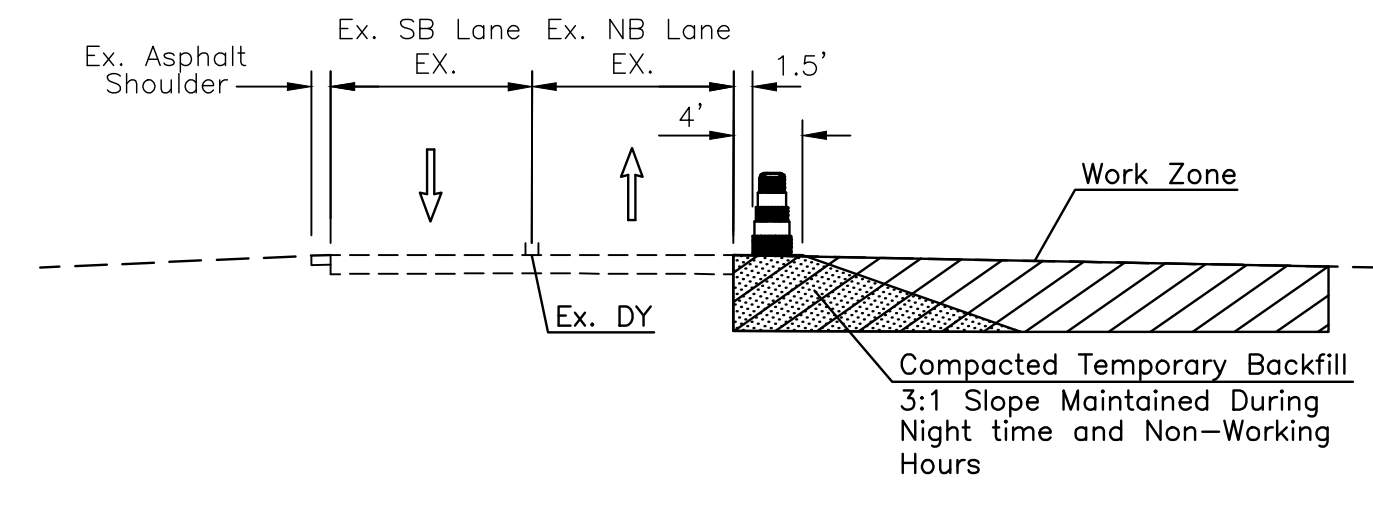
MAINTENANCE OF TRAFFIC
PHASE 2

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

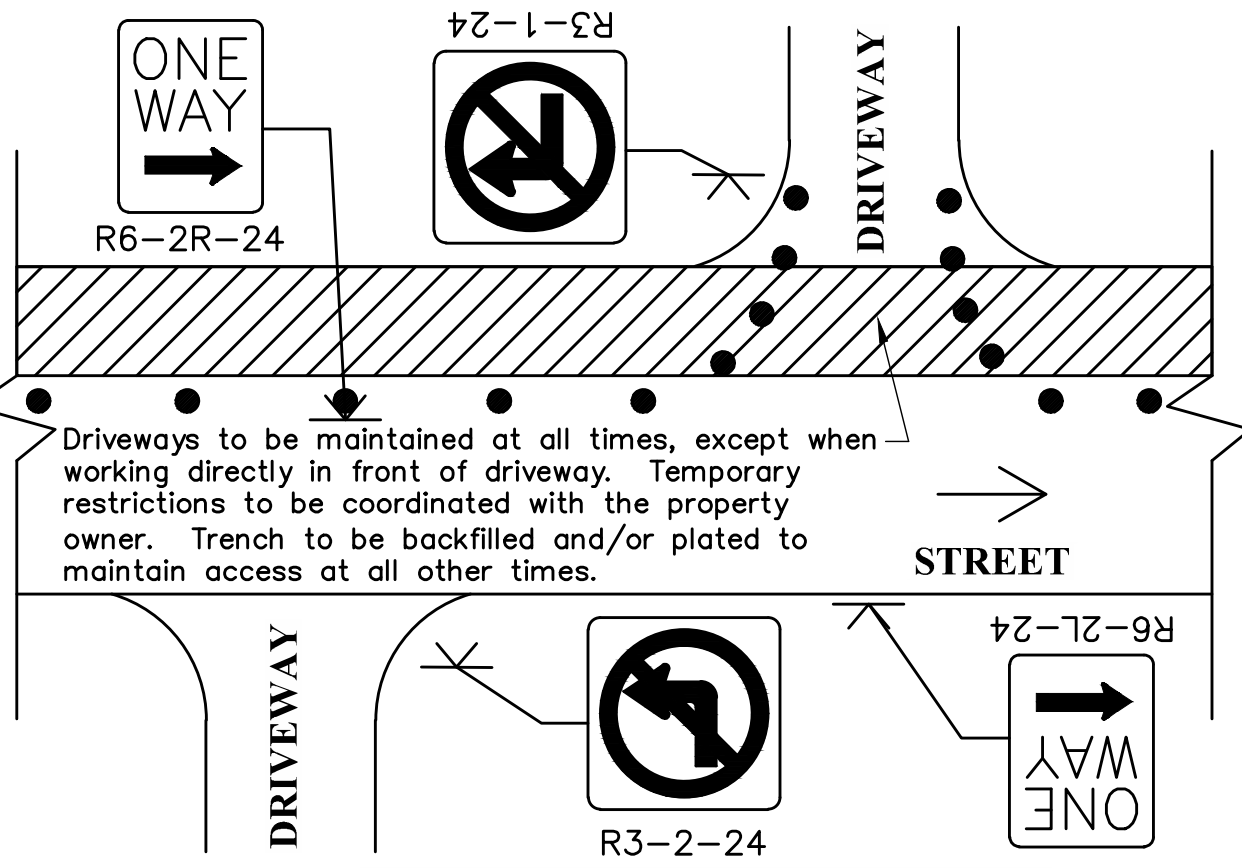
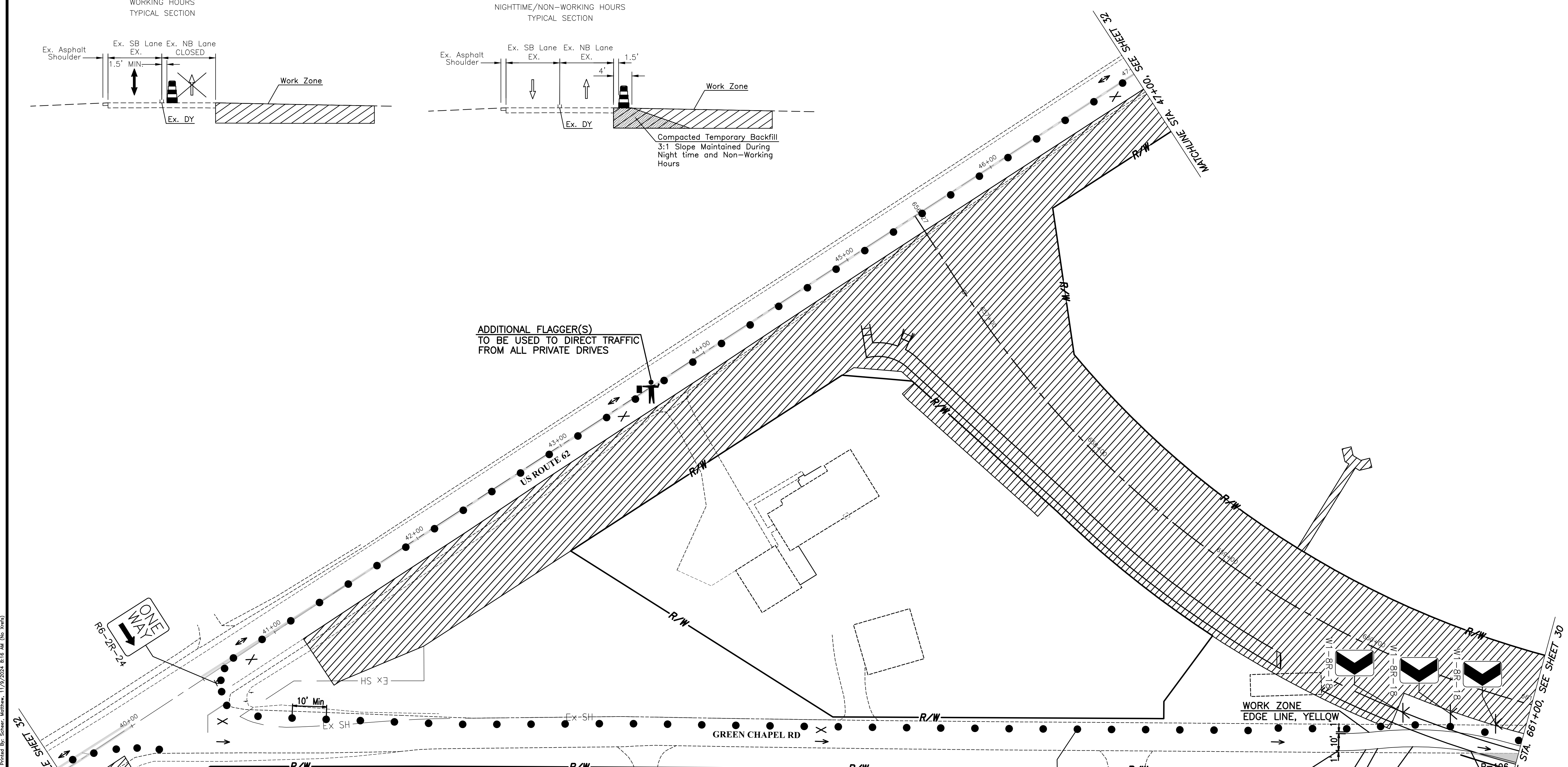
US-62
WORKING HOURS
TYPICAL SECTION



US-62
NIGHTTIME/NON-WORKING HOURS
TYPICAL SECTION



ADDITIONAL FLAGGER(S)
TO BE USED TO DIRECT TRAFFIC
FROM ALL PRIVATE DRIVES



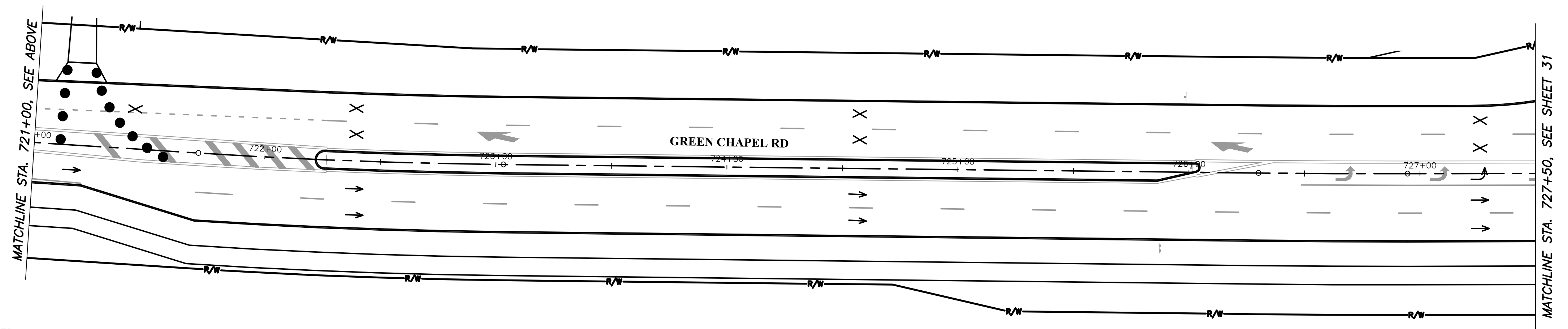
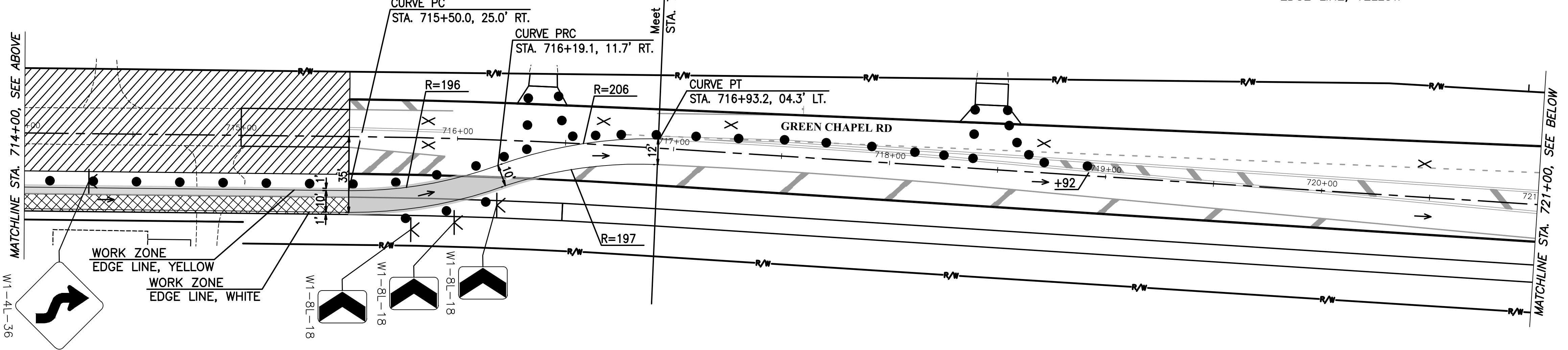
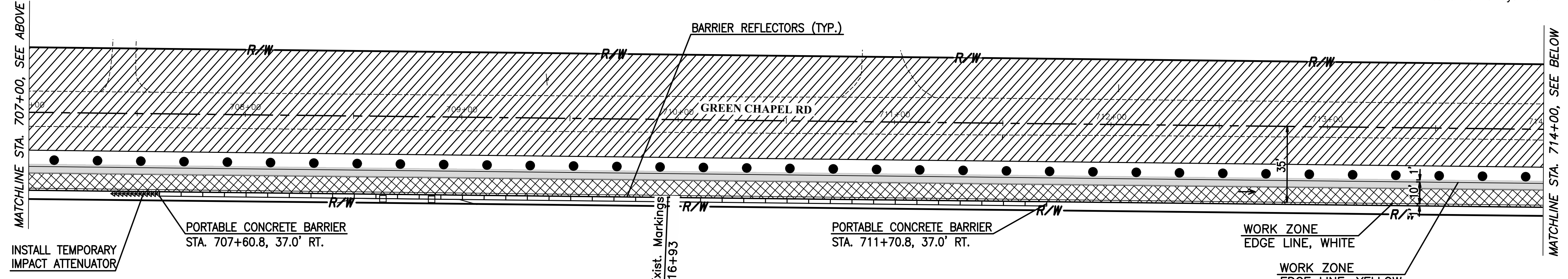
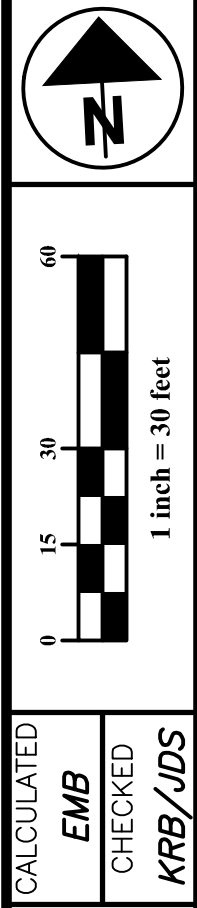
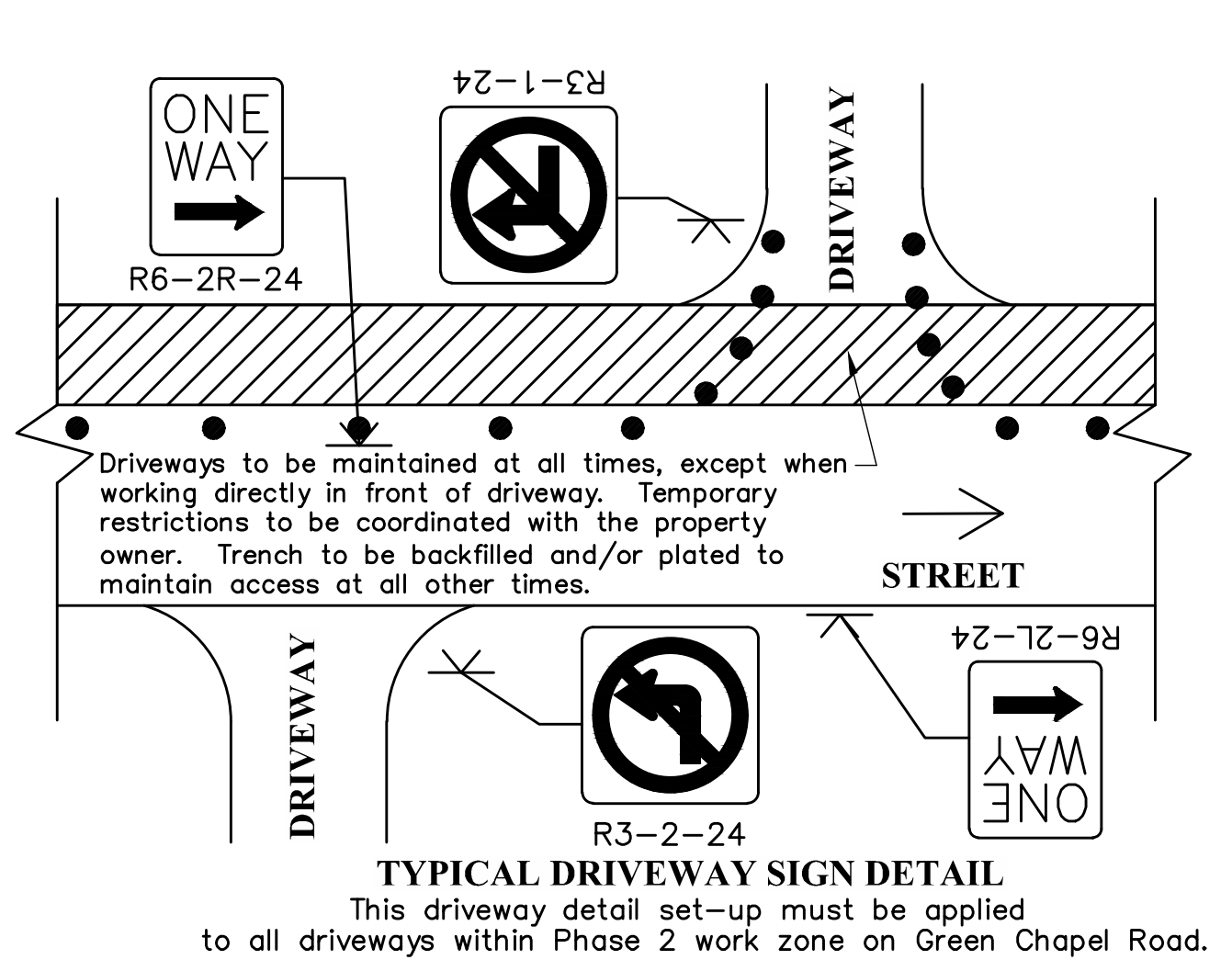
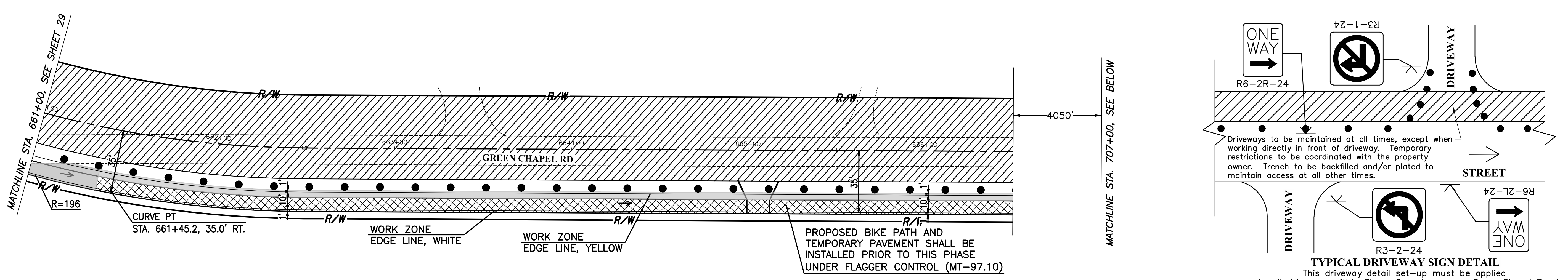
TYPICAL DRIVEWAY SIGN DETAIL
This driveway detail set-up must be applied
to all driveways within Phase 2 work zone on Green Chapel Road.

- LEGEND
- Temporary Pavement
 - Work Zone
 - Direction of Travel
 - Orange Traffic Drum
 - Temporary Sign Support
 - Lane Closed

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NOTES:
1. DRIVEWAY ACCESS TO BE MAINTAINED AT ALL TIMES. TEMPORARY RESTRICTIONS TO BE COORDINATED WITH PROPERTY OWNER.

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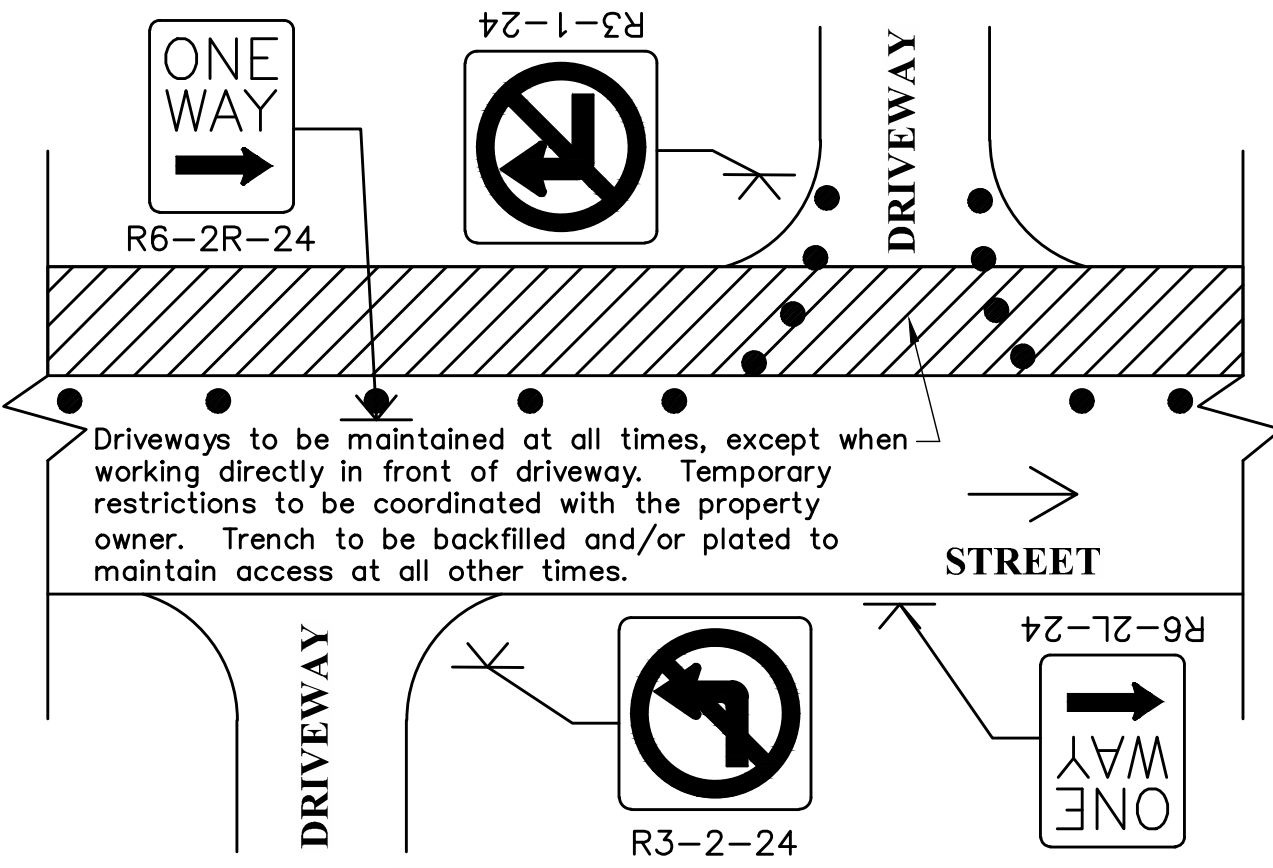
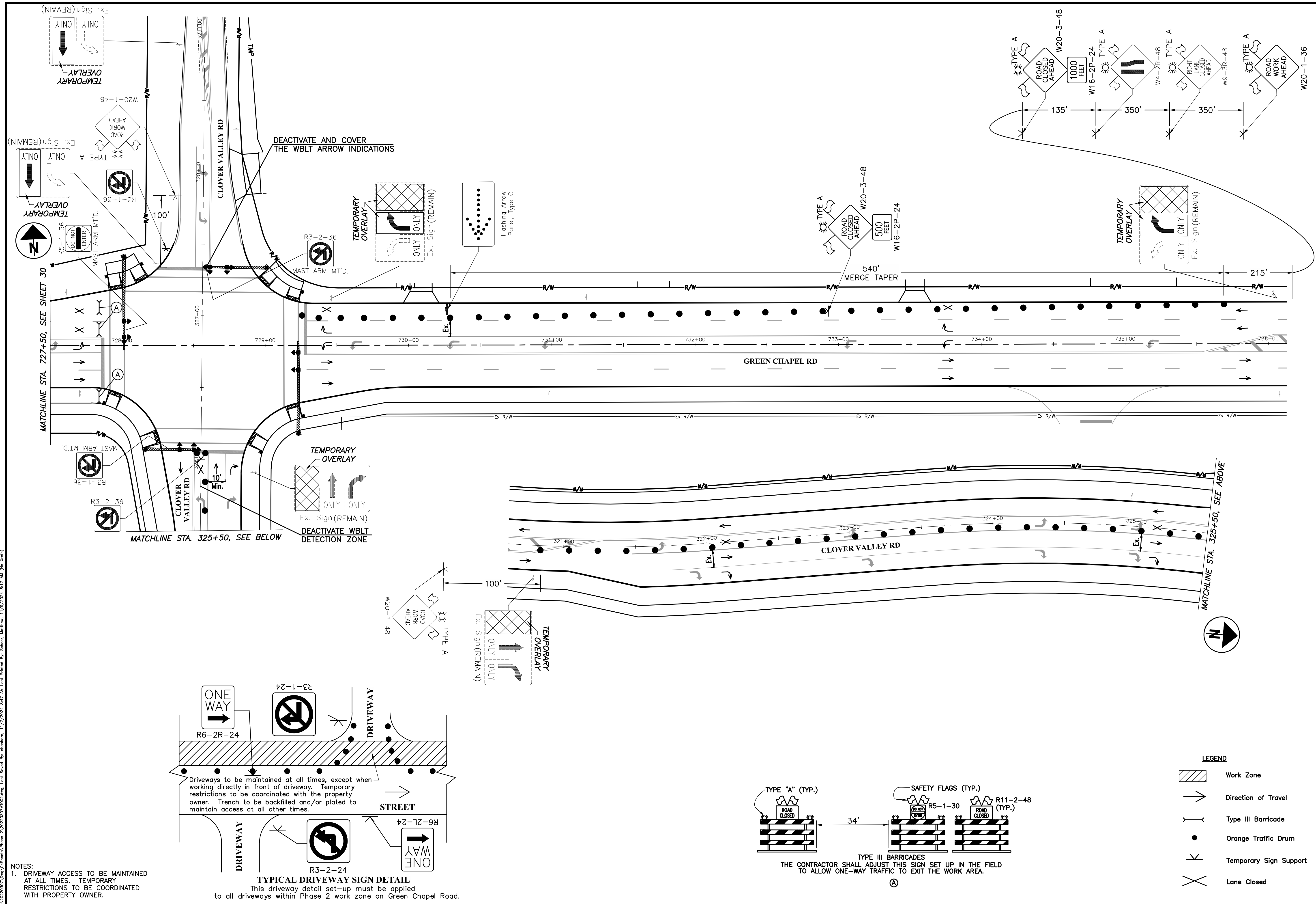
- LEGEND**
- Temporary Pavement
 - Work Zone
 - Shared Use Path
 - Direction of Travel
 - Orange Traffic Drum
 - Temporary Sign Support
 - Lane Closed
 - Portable Concrete Barrier

NOTES:
 1. DRIVEWAY ACCESS TO BE MAINTAINED AT ALL TIMES. TEMPORARY RESTRICTIONS TO BE COORDINATED WITH PROPERTY OWNER.

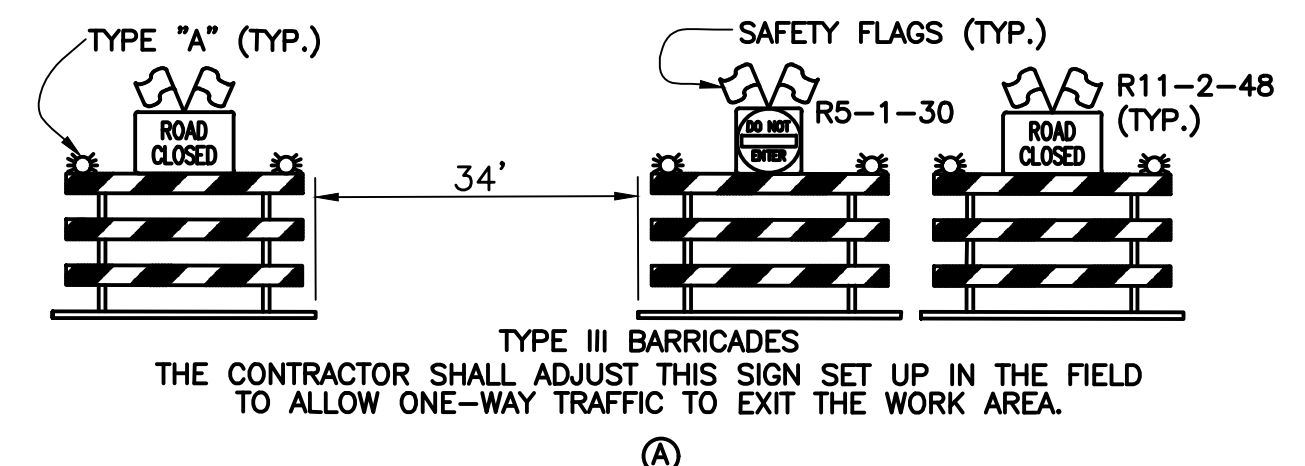
MAINTENANCE OF TRAFFIC PHASE 2

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

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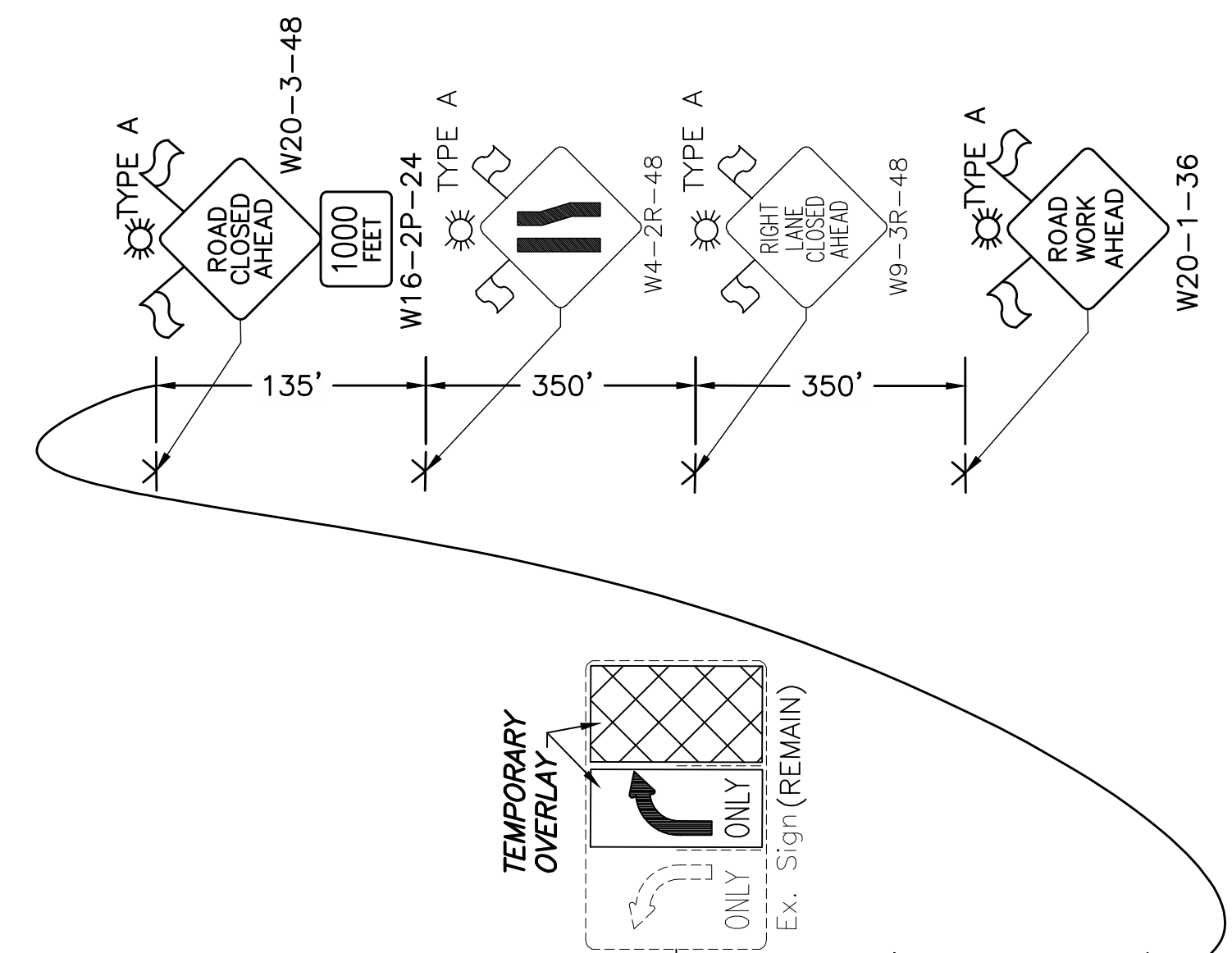


TYPICAL DRIVEWAY SIGN DETAIL
 This driveway detail set-up must be applied to all driveways within Phase 2 work zone on Green Chapel Road.



- LEGEND**
- Work Zone
 - Direction of Travel
 - Type III Barricade
 - Orange Traffic Drum
 - Temporary Sign Support
 - Lane Closed

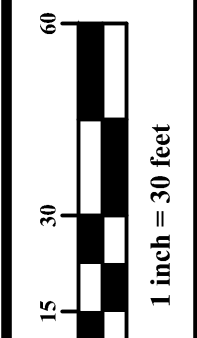
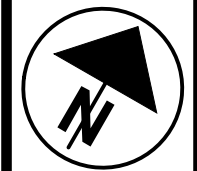
NOTES:
 1. DRIVEWAY ACCESS TO BE MAINTAINED AT ALL TIMES. TEMPORARY RESTRICTIONS TO BE COORDINATED WITH PROPERTY OWNER.



CALCULATED
 EMB
 CHECKED
 KRB/JDS

**MAINTENANCE OF TRAFFIC
 PHASE 2**

**GREEN CHAPEL ROAD
 IMPROVEMENTS PHASE 2**

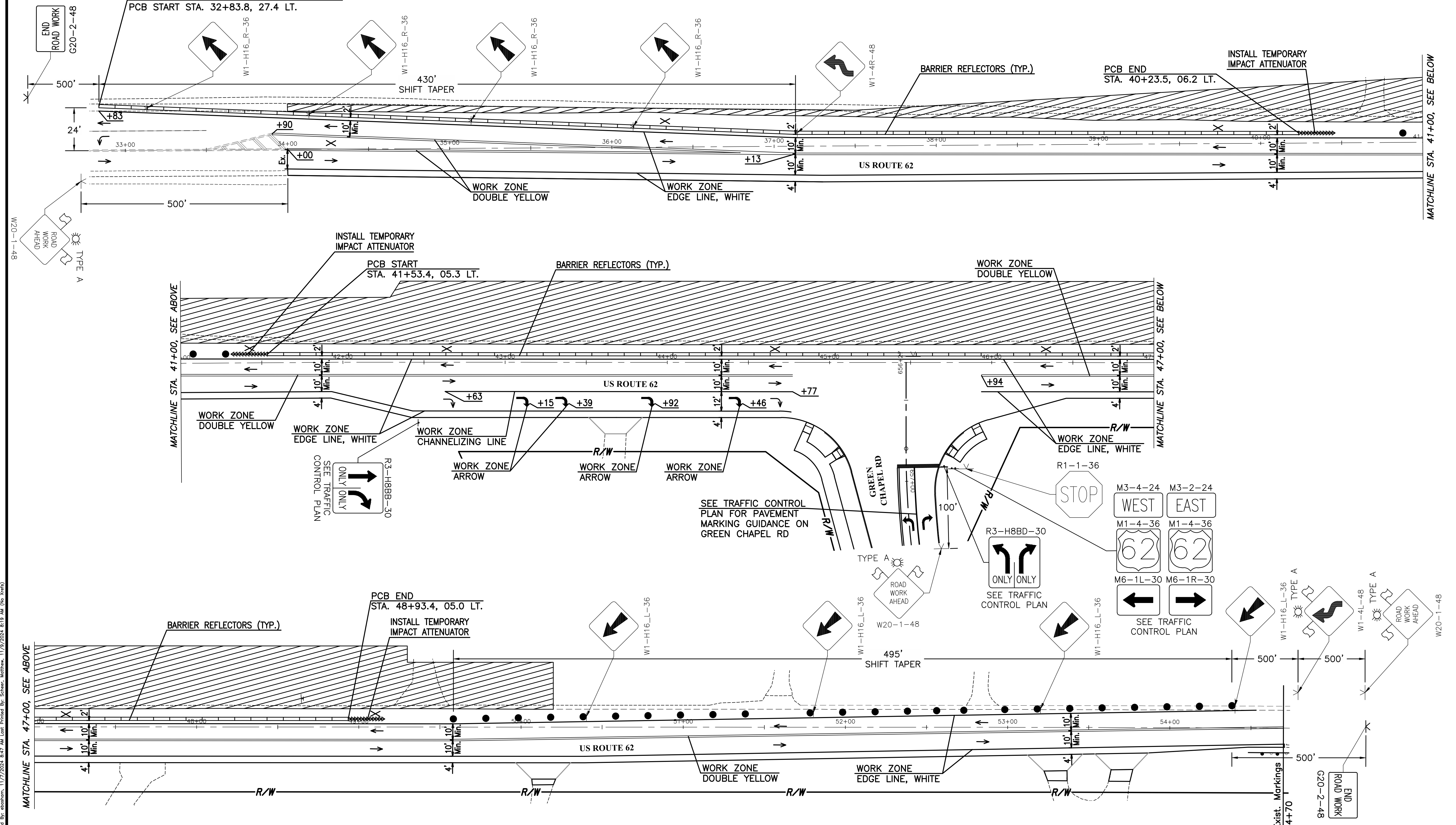


CALCULATED
EMB
CHECKED
KRB/JDS

MAINTENANCE OF TRAFFIC
PHASE 4A

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

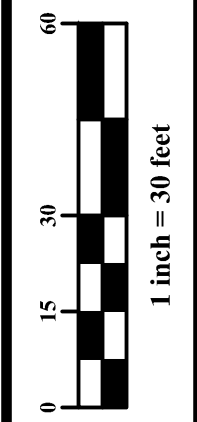
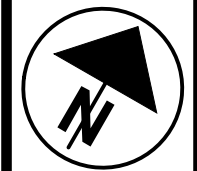
NOTE: The end of the PCB shall be a minimum of 24' west of the existing double yellow center line
PCB START STA. 32+83.8, 27.4 LT.



- LEGEND
- Work Zone
 - Direction of Travel
 - Orange Traffic Drum
 - Temporary Sign Support
 - Lane Closed
 - Portable Concrete Barrier

NOTES:
1. DRIVEWAY ACCESS TO BE MAINTAINED AT ALL TIMES. TEMPORARY RESTRICTIONS TO BE COORDINATED WITH PROPERTY OWNER.

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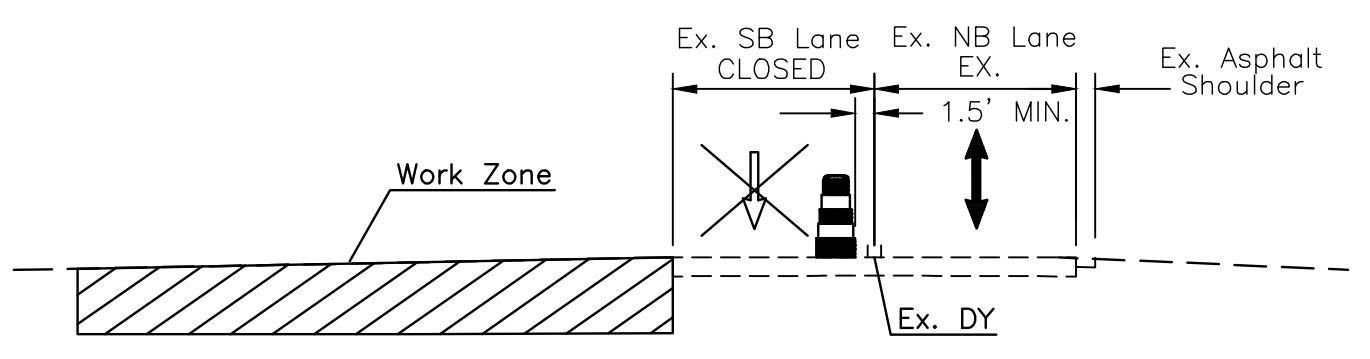


CALCULATED
EMB
CHECKED
KRB/JDS

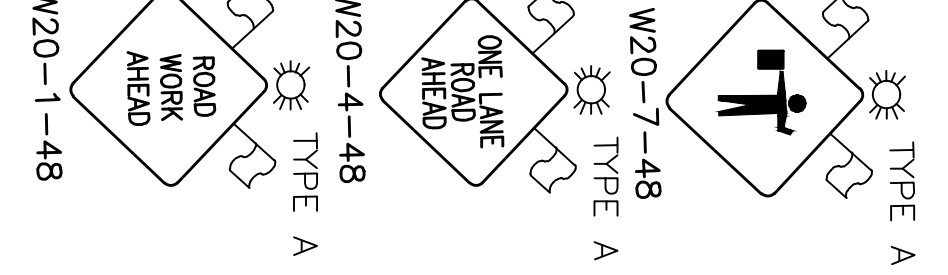
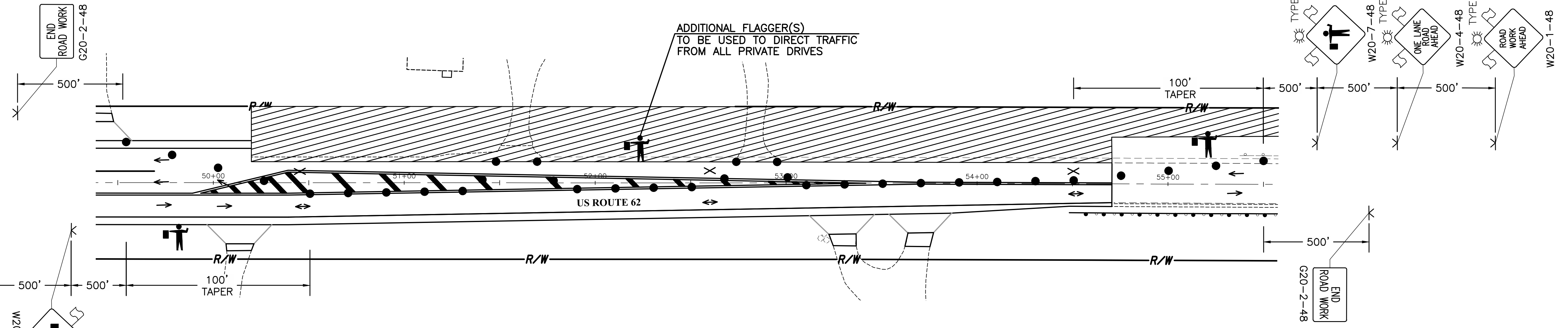
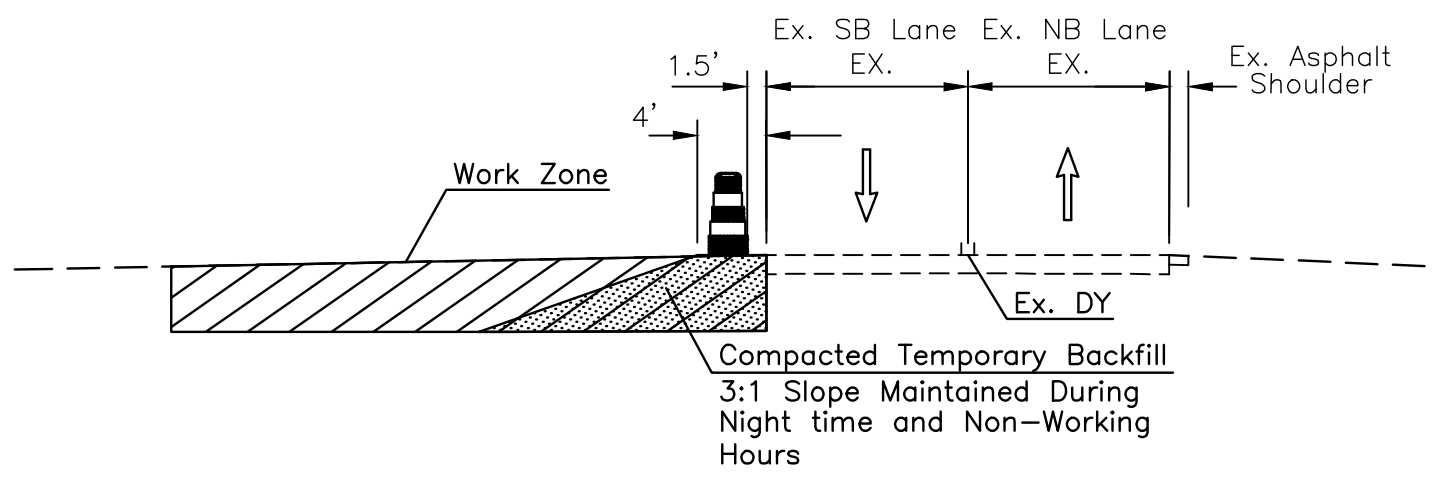
**MAINTENANCE OF TRAFFIC
PHASE 4B**

**GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2**

US-62
WORKING HOURS
TYPICAL SECTION



US-62
NIGHTTIME/NON-WORKING HOURS
TYPICAL SECTION



- LEGEND**
- Work Zone
 - Direction of Travel
 - Orange Traffic Drum
 - Temporary Sign Support
 - Lane Closed
 - Flagger/LEO

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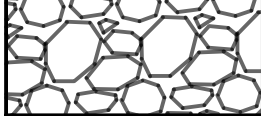

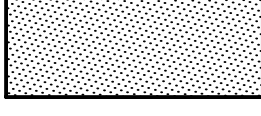
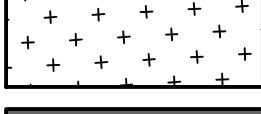



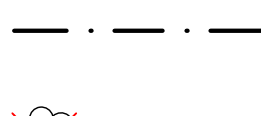
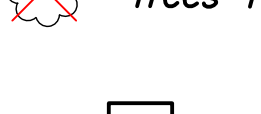
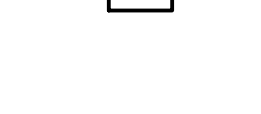

NOTES:
1. DRIVEWAY ACCESS TO BE MAINTAINED AT ALL TIMES. TEMPORARY RESTRICTIONS TO BE COORDINATED WITH PROPERTY OWNER.

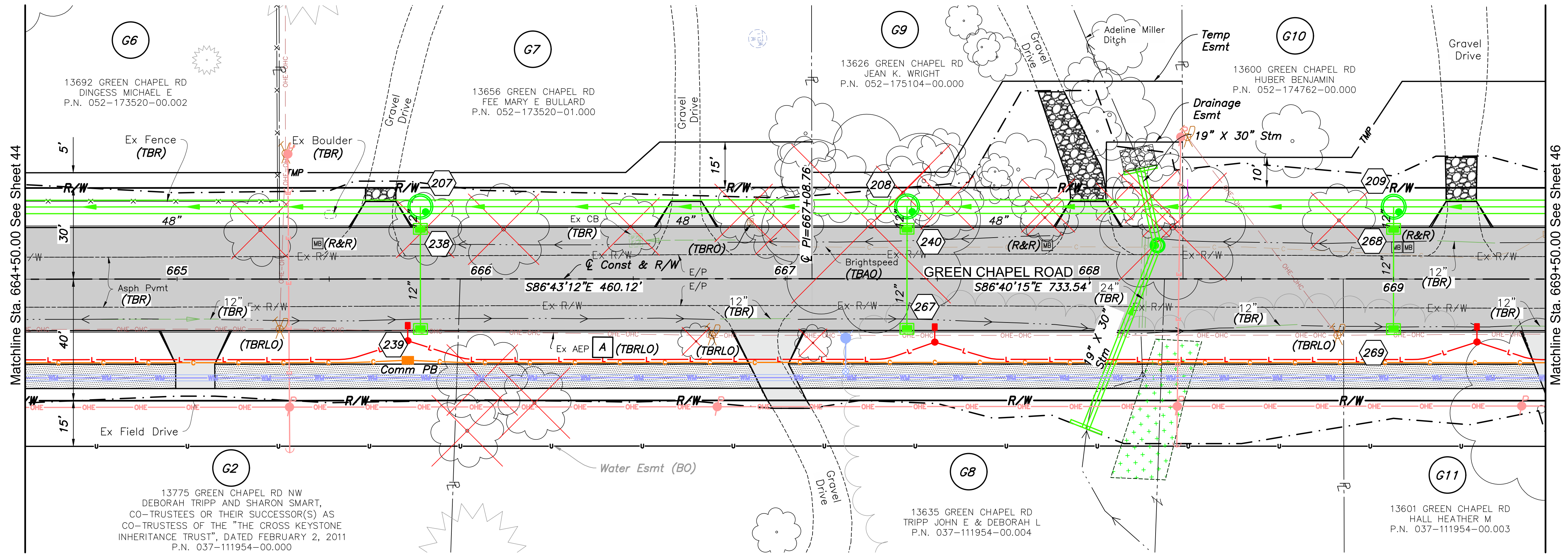
ITEM NO.	ESTIMATED QUANTITY	UNIT	DESCRIPTION	SEE SHEET
Roadway				
201	1	L. Sum	Clearing and Grubbing, As Per Plan	9
202	1,983	Ft	Pipe Removed, 24" and Under	
202	36	Ft	Pipe Removed, 66"	
202	2	Each	Underdrain Outlet Removed	
202	2	Each	Headwall Removed	
202	5	Each	Catch Basin Removed	
202	1,154	Ft	Fence Removed	
202	1	L. Sum	Building Demolished (13703 Johnstown-Utica Rd NW), As Per Plan	10
202	1	L. Sum	Building Demolished (13641 Johnstown-Utica Rd), As Per Plan	10
202	2	Each	Mailbox Removed	
202	21	Each	Landscape Boulder Removed	
202	25	Ft	Landscape Bed Paver Border Removed	
202	252	Ft	Guardrail Removed	
203	41,053	Cu Yd	Excavation	
203	8,682	Cu Yd	Embankment	
203*	20,000	Cu Yd	Excavation (Topsoil Removal)	10
203*	20,000	Cu Yd	Embankment (Topsoil Replacement)	10
204	6,904	Sq Yd	Subgrade Compaction	
204	4	Hour	Proof Rolling	9
204*	1,200	Cu Yd	Excavation of Subgrade	9
204*	600	Cu Yd	Granular Material, Type B	9
204*	600	Cu Yd	Granular Material, No. 2 Stone or No. 4 Stone	9
204*	900	Sq Yd	Geogrid Tensor (BX-1200 or Equal)	9
204*	900	Sq Yd	Geogrid Tensor (BX-1300 or Equal)	9
206	22,826	Sq Yd	Cement Stabilized Subgrade, 12 Inches Deep	9
206	690	Ton	Cement	9
206	22,826	Sq Yd	Curing Coat	9
206	1	L. Sum	Mixture Design for Chemically Stabilized Subgrade	9
206	12	Hour	Test Rolling	9
604	6	Each	Monument Assembly, Type C	
606	252	Ft	Guardrail, Type MGS	
606	1	Each	Anchor Assembly, MGS Type T	
608	310	Sq Ft	Concrete Walk (T=8")	
608	2	Each	Curb Ramps	
608	136	Sq Ft	Detectable Warning, Type A	7
Special	329	Ft	Guardrail, Type Steel-Backed Timber Guardrail (FLH 617-60)	10
Special	2	Each	Anchor Assembly, Steel-Backed Timber Guardrail Terminal System Type SBT-FAT (FLH 617-61)	10
Special	3	Each	Special - Drilled Water Well Abandoned (RM-7.1)	
Special	27	Each	Mailbox Removed and Reset	10
Sediment & Erosion Control				
207*	23,670	Sq Yd	Construction Seeding and Mulching	
207	1,570	Ft	Filter Sock Check Dam	12
207	3,200	Ft	Filter Sock	12
207	82	Each	Inlet Protection	12
207	2	Each	Designated Concrete Washout Area	12
207	1	L. Sum	Stabilized Construction Entrance	12
659	5,260	Cu Yd	Topsoil (T=4")	9
659	7	Ton	Commercial Fertilizer	9
659	47,340	Sq Yd	Seeding and Mulching, Class 1	9
659	2,400	M Sq Ft	Mowing	9
659	10	Acre	Line	9
659	256	M Gal	Water	9
Special	2	Each	Temporary Sediment Basin Dewatering Skimmer	122
Special	300	Sq Yd	Permanent Erosion Control Matting	10
Drainage				
601	13	Cu Yd	Rock Channel Protection, Type C with Fabric Filter	
603	1,240	Ft	6" Conduit, Type F	
604	19	Each	Catch Basin (AA-S133A)	
604	3	Each	Catch Basin (AA-S133B)	
604	3	Each	Catch Basin No. 2-5 CB-2.5	
604	3	Each	Curb Inlet Manhole (AA-S121)	
604	44	Each	Curbs and Gutter Inlet (AA-S125A)	10
604	7	Each	Curbs and Gutter Inlet (AA-S125B)	
604	33	Each	Manhole, Type C (AA-S102)	
604	1	Each	Manhole Type "F" AA-S105	
604	1	Each	15" Precast Concrete Endwall (AA-S169)	
604	1	Each	48" Precast Concrete Endwall (AA-S169)	
604	2	Each	18" Precast Concrete Headwall (AA-S168)	
604	2	Each	19"x30" Precast Concrete Headwall (AA-S168)	
604	1	Each	48" Concrete Headwall (AA-S167)	
605	15,810	Ft	6" Pipe Underdrain	
ODOT 611	2	Each	Precast Reinforced Concrete Outlet	
ODOT 611*	100	Ft	4" Conduit, Type E	9
ODOT 611*	100	Ft	6" Conduit, Type E	9
ODOT 611*	100	Ft	8" Conduit, Type E	9
ODOT 611*	100	Ft	12" Conduit, Type E	9
901	1,038	Lin Ft	12" Pipe, with Type 1 Bedding, with Item 911 Compacted Backfill	
901	774	Lin Ft	12" Pipe, with Type 1 Bedding, with Item 912 Compacted Granular Material (703.11, Type 1)	
901	1,730	Lin Ft	15" Pipe, with Type 1 Bedding, with Item 911 Compacted Backfill	
901	66	Lin Ft	15" Pipe, with Type 1 Bedding, with Item 912 Compacted Granular Material (703.11, Type 1)	
910	171	Lin Ft	18" Pipe, with Type 1 Bedding, with Item 911 Compacted Backfill	
901	66	Lin Ft	18" Pipe, with Type 1 Bedding, with Item 912 Compacted Granular Material (703.11, Type 1)	
901	1,377	Lin Ft	24" Pipe, with Type 1 Bedding, with Item 911 Compacted Backfill	
901	33	Lin Ft	24" Pipe, with Type 1 Bedding, with Item 912 Compacted Granular Material (703.11, Type 1)	
901	825	Lin Ft	36" Pipe, with Type 1 Bedding, with Item 911 Compacted Backfill	
901	33	Lin Ft	36" Pipe, with Type 1 Bedding, with Item 912 Compacted Granular Material (703.11, Type 1)	
901	286	Lin Ft	42" Pipe, with Type 1 Bedding, with Item 911 Compacted Backfill	
901	2,772	Lin Ft	48" Pipe, with Type 1 Bedding, with Item 911 Compacted Backfill	
901	91	Lin Ft	19"x30", with Type 1 Bedding, with Item 910 Concrete Encasement	
915	2	Each	Clean-Out	
915*	8	Each	Clean-Out	9
Special	987	Cu Yd	Clay Liner	9
Special	2	Each	Detention Outlet Structure	9

ITEM NO.	ESTIMATED QUANTITY	UNIT	DESCRIPTION	SEE SHEET
Pavement				
301	846	Cu Yd	Asphalt Concrete Base, PG64-22 (T=6")	
254	2,706	Sq Yd	Pavement Planing, Asphalt Concrete (T=1.25")	
254	5,796	Sq Yd	Pavement Planing, Asphalt Concrete (T=2.25")	
304	4,396	Cu Yd	Aggregate Base	
304	30	Cu Yd	Aggregate Base, As Per Plan (No. 8 Stone) (T=2") (Gravel Drives)	10
307	22,826	Sq Yd	12" Roller Compacted Concrete Base	
307	4,822	Sq Yd	8" Roller Compacted Concrete Base	
407	2,300	Gal	Non-Tracking Tack Coat (0.060 Gal/SY)	
407	766	Gal	Non-Tracking Tack Coat (0.090 Gal/SY)	
407	1,936	Gal	Tack Coat, Type SBR Asphalt Emulsion (702.13) (0.07 Gal/SY)	
408	160	Gal	Prime Coat (0.400 Gal/SY)	
423	80	Pound	Crack Sealing	
441	44	Cu Yd	Asphalt Concrete, Intermediate Course, Type 2, (448), PG64-22 (T=1.75")	
441	184	Cu Yd	Asphalt Concrete, Surface Course, Type 1, (448), PG70-22M (T=1.25")	
441	122	Cu Yd	Asphalt Concrete Intermediate Course, Type 1, (448), PG64-22 (T=1.00")	
441	370	Cu Yd	Asphalt Concrete, Surface Course, Type 1, (448), PG64-22 (T=2.50")	
442	1,110	Cu Yd	Asphalt Concrete, Intermediate Course, 19mm, Type A (448) (T=1.75")	
442	887	Cu Yd	Asphalt Concrete, Surface Course, 12.5mm, Type A (448) (T=1.25")	
452	700	Sq Yd	Non-Reinforced Concrete Pavement (T=8")	
454	238	Lin Ft	Pavement Relief Joint	
609	11,755	Fr	Curbs, Straight 18"	
Lighting				
COC 1001	5,951	Feet	2" Conduit Encased In Trench (MIS-700)	
COC 1001	33	Each	Luminaire, Decorative, 73W LED, As Per Plan	140
COC 1001	33	Each	Light Pole, Decorative, As Per Plan	140
COC 1001	33	Each	Street Light Foundation, 6' (MIS-201)	
COC 1001	2	Each	Pull Box, Heavy Duty, 25"x16"x18", As Per Plan (MIS-54)	140
COC 1001	6,187	Cir. Feet	Circuit Cable-Street Light Circuit, Three #4, 3 kV Cables, As Per Plan (MIS-404)	140
COC 1001	34	Each	Pole to be Wired, As Per Plan (MIS-501)	141
Interconnect				
ODOT 625	8	Each	Pull Box, Misc.: 48" x 30" x 36" Deep Communication Manhole	
ODOT 625	5,873	Lin Feet	Conduit, 4", TC-2, SCH 40, Encased, As Per Plan	142
ODOT 625	5,873	Lin Feet	Trench	
ODOT 625	6,673	Lin Feet	Tracing Wire, As Per Plan	142
Traffic Control				
ODOT 621	71	Each	Raised Pavement Marker Removed (US-62 Only)	
ODOT 621	147	Each	RPM (US-62 Only)	
ODOT 626	6	Each	Barrier Reflector, Type 2, Bi-Directional	
ODOT 630	19	Each	Removal of Ground Mounted Sign and Storage	
ODOT 630	15	Each	Removal of Ground Mounted Post Support and Disposal	
ODOT 630	18	Each	Ground Mounted Support, Wood, As Per Plan (NA-SNS-4)	125
ODOT 630	168	Lin Ft	Ground Mounted Support, Type S, As Per Plan (US-62 Only)	125
ODOT 630	2	Each	Sign Post Reflector (US-62 Only)	
ODOT 630	2	Each	Street Name Sign, As Per Plan (NA-SNS-1)	125
ODOT 630	1	Each	Street Name Sign Support, As Per Plan (NA-SNS-1)	125
ODOT 630	74	Each	Sign, Flat Sheet (US-62 Only)	
ODOT 630	145	Sq Ft	Sign, Flat Sheet, As Per Plan (NA-SNS-4)	125
ODOT 630	6	Each	Sign Support Assembly, Pole Mounted, As Per Plan	125
ODOT 644	1	Mile	Edge Line	
ODOT 644	3	Mile	Center Line	
OFOT 644	549	Lin Ft	Dotted Line	
ODOT 644	577	Lin Ft	Transverse/Diagonal Line	
ODOT 644	64	Lin Ft	Crosswalk Line	
ODOT 644	107	Lin Ft	Stop Line	
ODOT 644	1,027	Lin Ft	Channelizing Line	
ODOT 644	2	Each	Word on Pavement	
ODOT 644	37	Each	Lane Arrow	
ODOT 647	330	Lin Ft	Crosswalk Line, 24"	

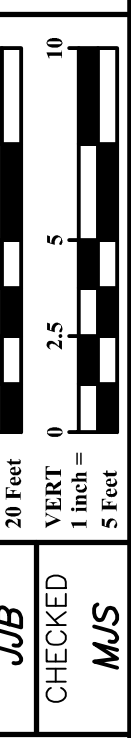
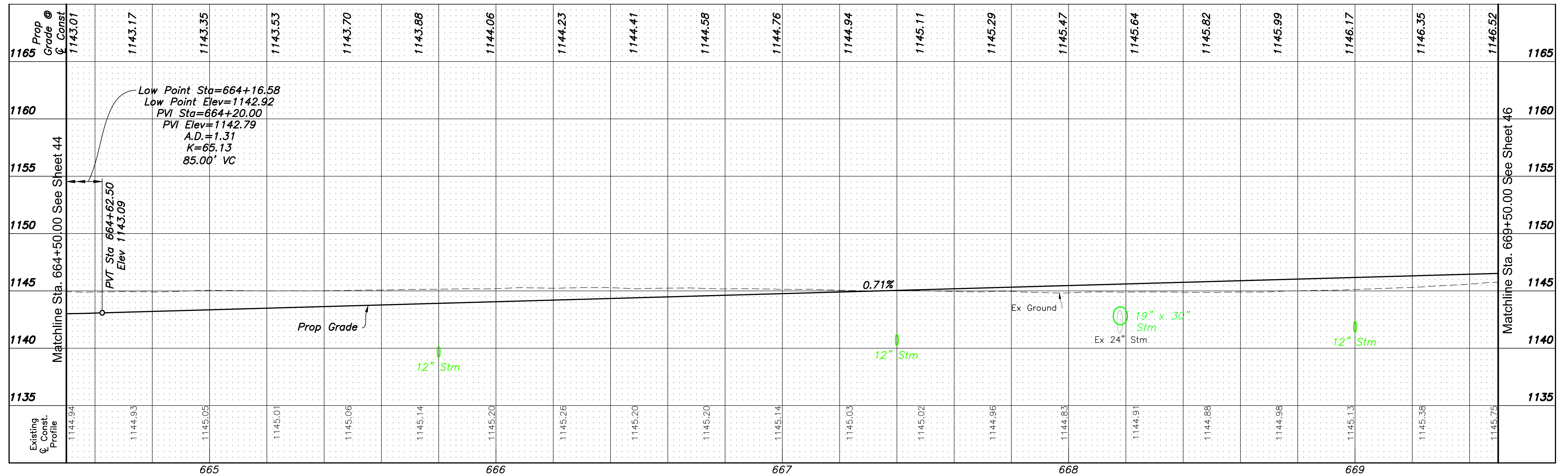
ITEM NO.	ESTIMATED QUANTITY	UNIT	DESCRIPTION	SEE SHEET
Traffic Signals				
ODOT 625	234	Lin Ft	Conduit, 2", 725.051	
ODOT 625	15	Lin Ft	Conduit, 3", 725.051	
ODOT 625	15	Lin Ft	Conduit, 4", 725.051	
ODOT 625	20	Lin Ft	Conduit, Concrete Encased, 2", 725.051	
ODOT 625	5	Each	Pull Box, 725.08, 24"	
ODOT 625	156	Lin Ft	Trench	
ODOT 625	11	Each	Ground Rod	
ODOT 625	2	Each	Bracket Arm, 20'	
ODOT 625	2	Each	Luminaire, Conventional, Solid State (LED), 120V, Type III, As Per Plan	132
ODOT 625	1	Each	Arc Flash Calculations and Label, As Per Plan	132
ODOT 625	1	Each	Power Service, As Per Plan	132
ODOT 625	238	Lin Ft	No. 4 AWG 600 Volt Distribution Cable (Grounding & Bonding)	
ODOT 625	716	Lin Ft	No. 8 AWG 600 Volt Distribution Cable (Lighting)	
ODOT 630	2	Each	Sign Support Assembly, Pole Mounted	
ODOT 630	2	Each	Sign, Street Name	
ODOT 632	5	Each	Vehicular Signal Head, LED, Polycarbonate, 3-Section, 12" Lens, 1-Way, With Backplate, As Per Plan	132
ODOT 632	2	Each	Vehicular Signal Head, LED, Polycarbonate, 5-Section, 12" Lens, 1-Way, With Backplate, As Per Plan	132
ODOT 632	6	Each	Pedestrian Signal Head (LED), Type D2, Countdown	
ODOT 632	7	Each	Covering of Vehicular Signal Head	
ODOT 632	6	Each	Covering of Pedestrian Signal Head	
ODOT 632	4	Each	Covering of Pedestrian Pushbutton	
ODOT 632	4	Each	Pedestrian Pushbutton	
ODOT 632	1,836	Lin Ft	Signal Cable, 7 Conductor, No. 14 AWG	
ODOT 632	912	Lin Ft	Loop Detector Lead-In Cable	
ODOT 632	72	Lin Ft	Power Cable, 2 Conductor, No. 6 AWG	
ODOT 632	74	Lin Ft	Service Cable, 3 Conductor, No. 4 AWG	
ODOT 632	1	Each	Conduit Riser, 1.5" Diameter, SCH 80	
ODOT 632	2	Each	Strain Pole, Type TC-B1.11, Design 12, As Per Plan	132
ODOT 632	2	Each	Combination Strain Pole, Type TC-B1.11, Design 12, As Per Plan	132
ODOT 632	4	Each	Signal Support Foundation, As Per Plan	132
ODOT 632	4	Each	Pedestal, 11', Transformer Base	
ODOT 632	4	Each	Pedestal Foundation, As Per Plan	132
ODOT 632	1	Each	Wood Pole	
ODOT 632	1	Each	Down Guy	
ODOT 632	386	Lin Ft	Messenger Wire, 7 Strand, 1/2" Diameter With Accessories	
ODOT 632	386	Lin Ft	Tether Wire, With Accessories	
ODOT 633	1	Each	Cabinet, Type 332, As Per Plan	133
ODOT 633	1	Each	Uninterruptible Power Supply (UPS), 1000 Watt, As Per Plan	133
ODOT 633	1	Each	Cabinet Foundation, As Per Plan	133
ODOT 633	1	Each	Controller Work Pad, As Per Plan	133
ODOT 809	2	Each	Advance Radar Detection, As Per Plan	133
ODOT 809	2	Each	Stop-Line Radar Detection, As Per Plan	133
ODOT 809	1	Each	ATC Controller, As Per Plan	133
Landscaping				
661	41	Each	Deciduous Tree, Somerset Red Maple, 2" Cal, B&B, As Per Plan	157
661	34	Each	Deciduous Tree, Sugar Maple, 3" Cal, B&B, As Per Plan	157
661	18	Each	Deciduous Tree, Heritage® River Birch, 3" Cal, B&B, As Per Plan	157
661	113	Each	Deciduous Tree, Common Hackberry, 3" Cal, B&B, As Per Plan	157
661	2	Each	Deciduous Tree, Winter King Hawthorn, 2" Cal, B&B, As Per Plan	157
661	8	Each	Deciduous Tree, Kentucky Coffeetree, 2" Cal, B&B, As Per Plan	157
661	15	Each	Deciduous Tree, Tulip Poplar, 3" Cal, B&B, As Per Plan	157
661	3	Each	Deciduous Tree, Northern Advance American Sycamore, 3" Cal, B&B, As Per Plan	157
661	21	Each	Deciduous Tree, Swamp White Oak, 3" Cal, B&B, As Per Plan	157
661	120	Each	Deciduous Tree, Red Oak, 3" Cal, B&B, As Per Plan	157
661	7	Each	Deciduous Tree, Black Locust, 3" Cal, B&B, As Per Plan	157
661	32	Each	Deciduous Tree, American Linden, 3" Cal, B&B, As Per Plan	157
Maintenance of Traffic				
ODOT 614	1	LS	Maintaining Traffic, As Per Plan	23
ODOT 614	50	Hour	Law Enforcement Officer with Patrol Car for Assistance During Construction Operations, As Per Plan	23
ODOT 614	1	LS	Detour Signage	
ODOT 614	1	LS	Work Zone Markings, As Per Plan	23

Legend

-  Gravel Driveway
-  Concrete Driveway
-  Asphalt Community Path
-  Existing Wetland
-  Full Depth Pavement
-  Mill And Overlay
-  24" WM (BO)
-  AEP (BO)
-  Grading Limits
-  Trees To Be Removed
-  Joint Users:
Spectrum
Horizon
Everstream



Contractor to note that septic system and leach field is located due east of the dwelling on G8.

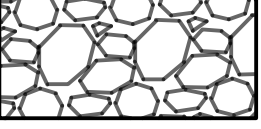
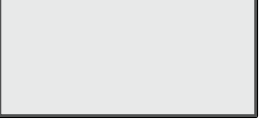
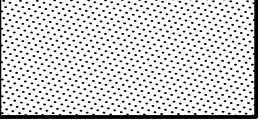


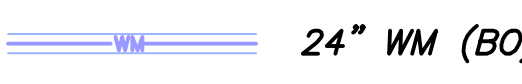

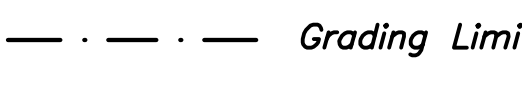
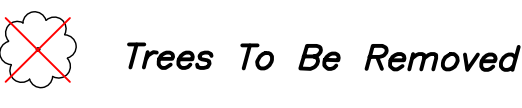



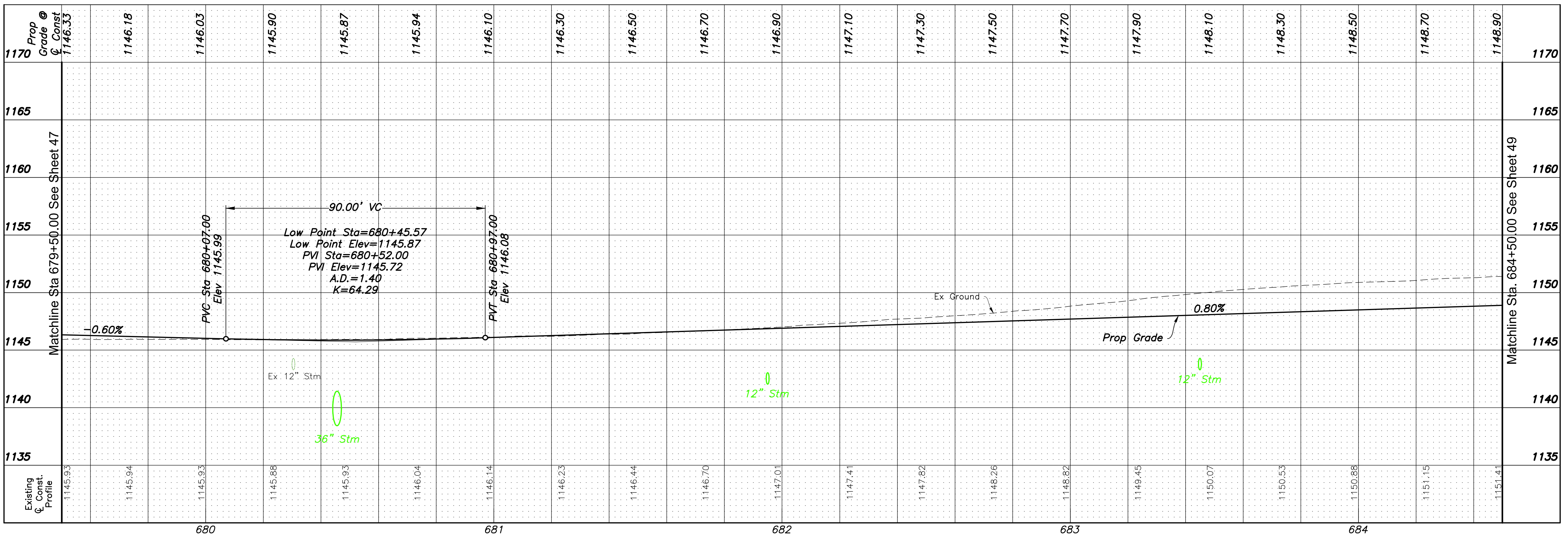
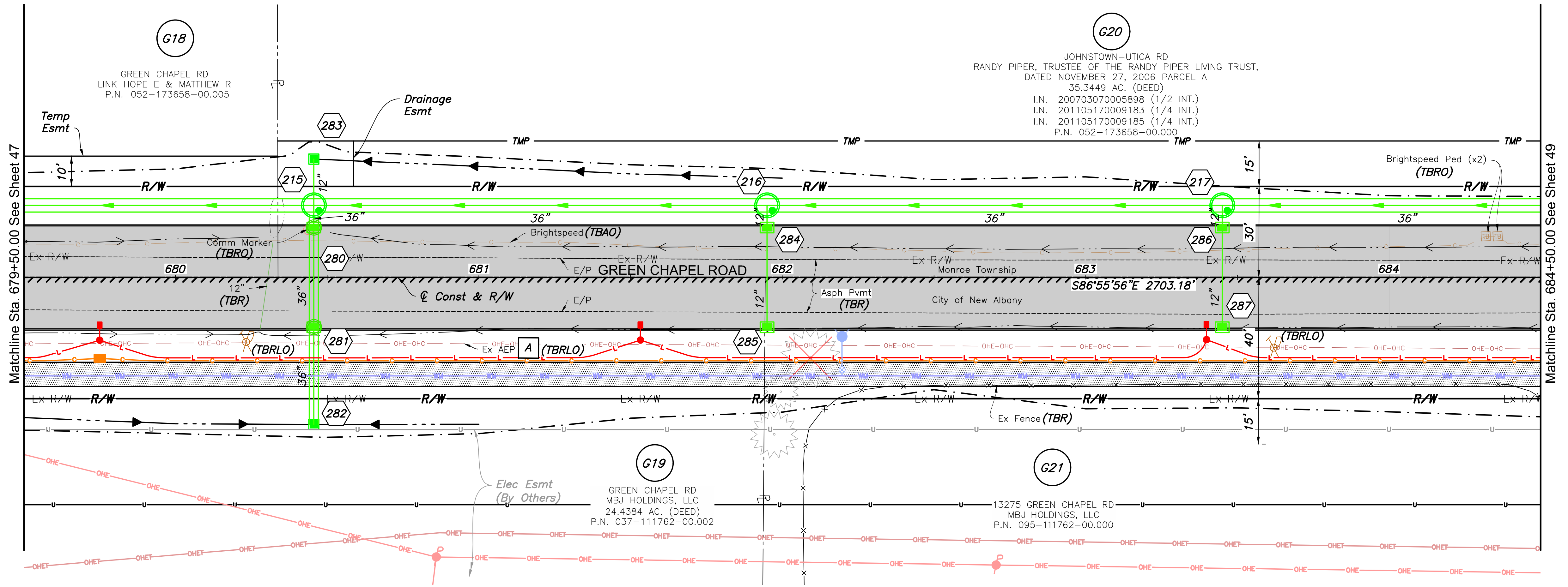
CALCULATED: JVB
 CHECKED: MJS

PLAN AND PROFILE - GREEN CHAPEL ROAD

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

Legend

-  Gravel Driveway
-  Concrete Driveway
-  Asphalt Community Path
-  Full Depth Pavement
-  Mill And Overlay
-  24" WM (BO)
-  AEP (BO)
-  Grading Limits
-  Trees To Be Removed
-  Joint Users:
Spectrum
Horizon
Everstream



J:\2022\307\Drawings\Sheet\Phase 2\20220709\19.dwg, Last Saved By: [Name], 11/9/2024, 10:37 AM, Last Printed By: [Name], 11/9/2024, 8:31 AM
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N

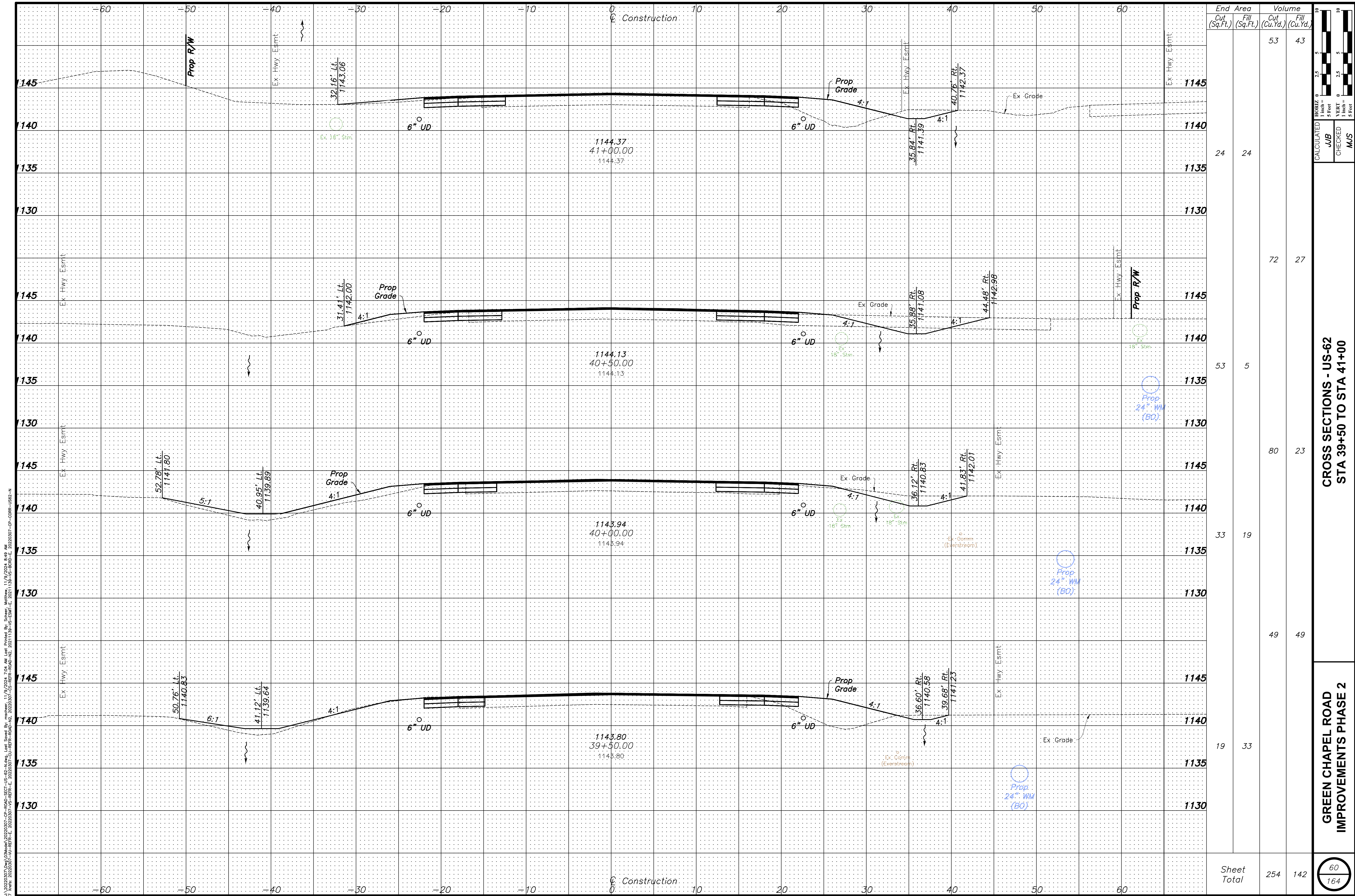
VERTICAL SCALE
1 inch = 5 Feet

HORIZONTAL SCALE
1 inch = 20 Feet

CALCULATED
JVB
CHECKED
MJS

PLAN AND PROFILE - GREEN CHAPEL ROAD

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

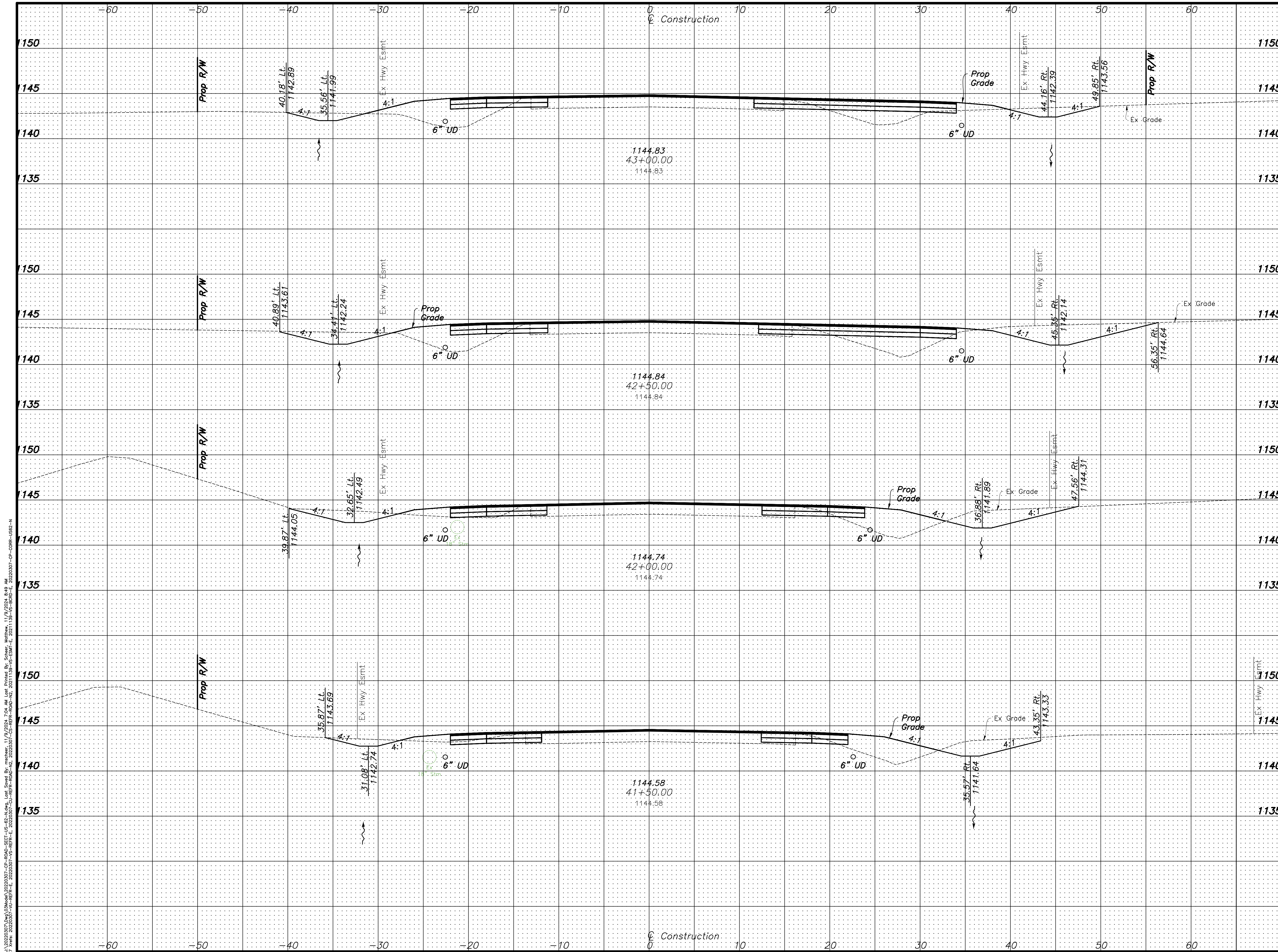


Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
39+50			53	43
40+00	24	24		
40+50			72	27
41+00	53	5		
Total	77	29	125	70

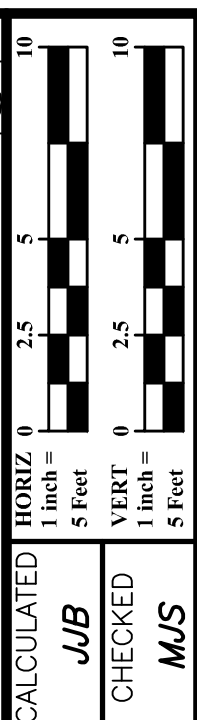
**CROSS SECTIONS - US-62
STA 39+50 TO STA 41+00**

**GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2**

11/09/2024 7:04 AM Job: Plan: B, Sheets: 11/09/2024 7:04 AM Job: Plan: B, Sheets: 11/09/2024 7:04 AM
 11/09/2024 7:04 AM Job: Plan: B, Sheets: 11/09/2024 7:04 AM Job: Plan: B, Sheets: 11/09/2024 7:04 AM
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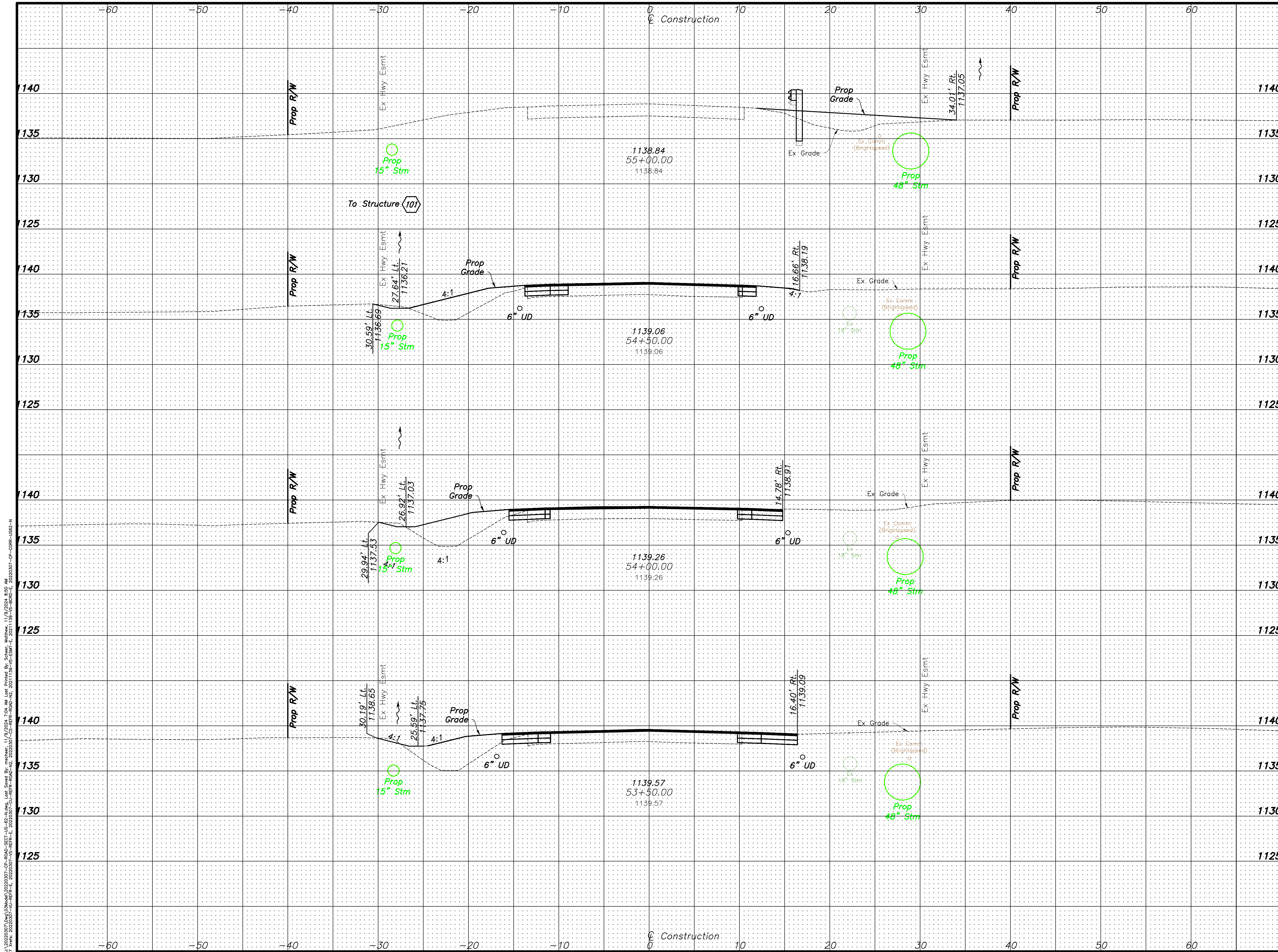
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	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
43+00.00			36	75
42+50.00			47	11
42+00.00			37	25
41+50.00			33	22
Sheet Total			244	198



CROSS SECTIONS - US-62
STA 41+50 TO STA 43+00

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

11/20/2024 10:54 AM 202407-CP-Road-ESMT-US-62-Phase 11/20/2024 7:04 AM 202407-CP-Road-ESMT-US-62-Phase 11/20/2024 8:49 AM
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 11/20/2024 10:54 AM 202407-CP-Road-ESMT-US-62-Phase 11/20/2024 7:04 AM 202407-CP-Road-ESMT-US-62-Phase 11/20/2024 8:49 AM



Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
1140			0	54
1135				
1130	0	20		
1125				
1140			10	37
1135				
1130	10	19		
1125				
1140			22	40
1135				
1130	13	24		
1125				
1140			25	45
1135				
1130	14	24		
1125				
Sheet Total			57	176

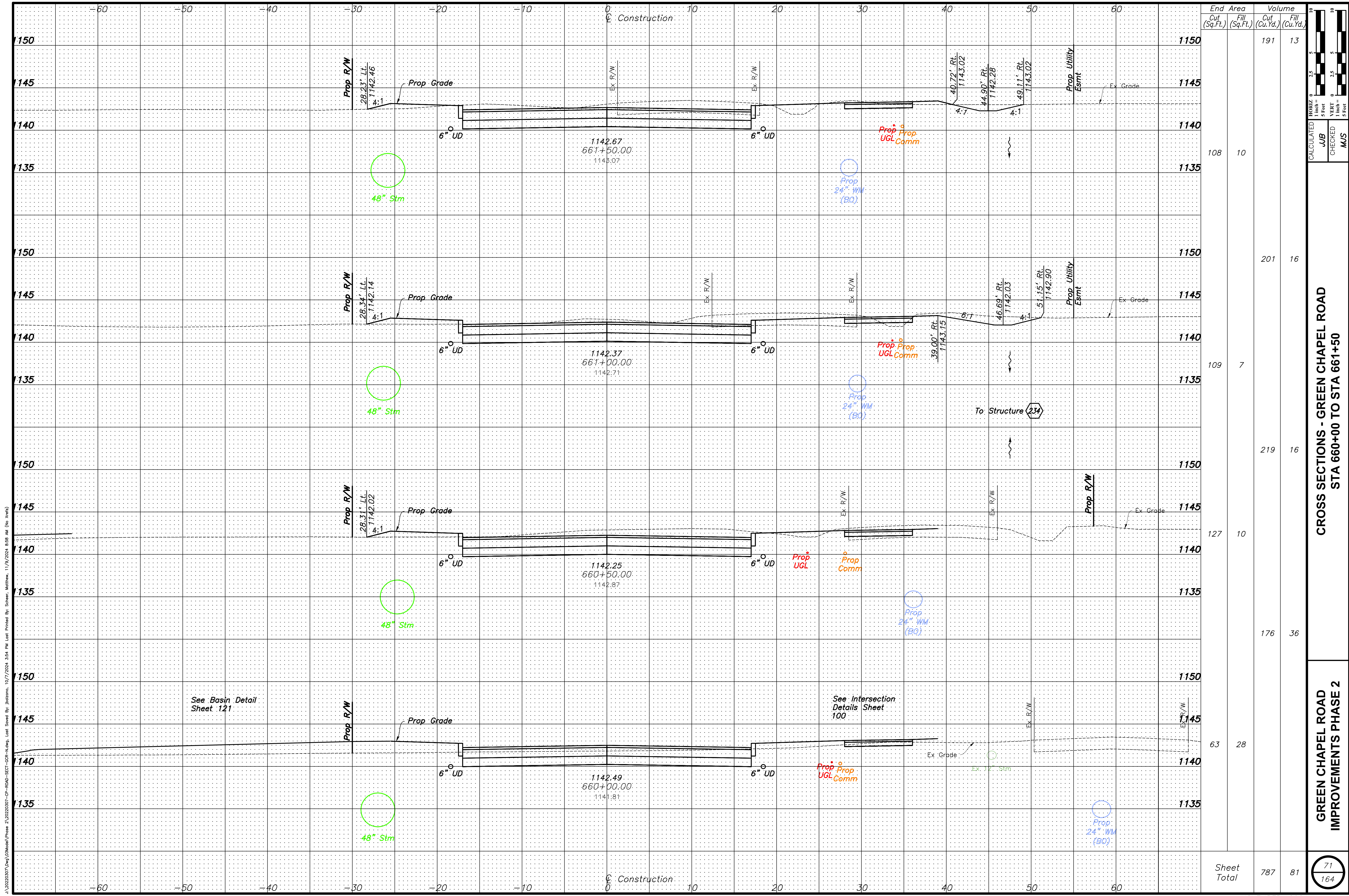
**CROSS SECTIONS - US-62
STA 53+50 TO STA 55+00**

**GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2**

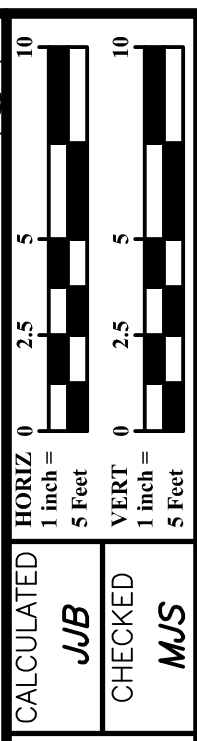
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CHECKED: M/S

67
164

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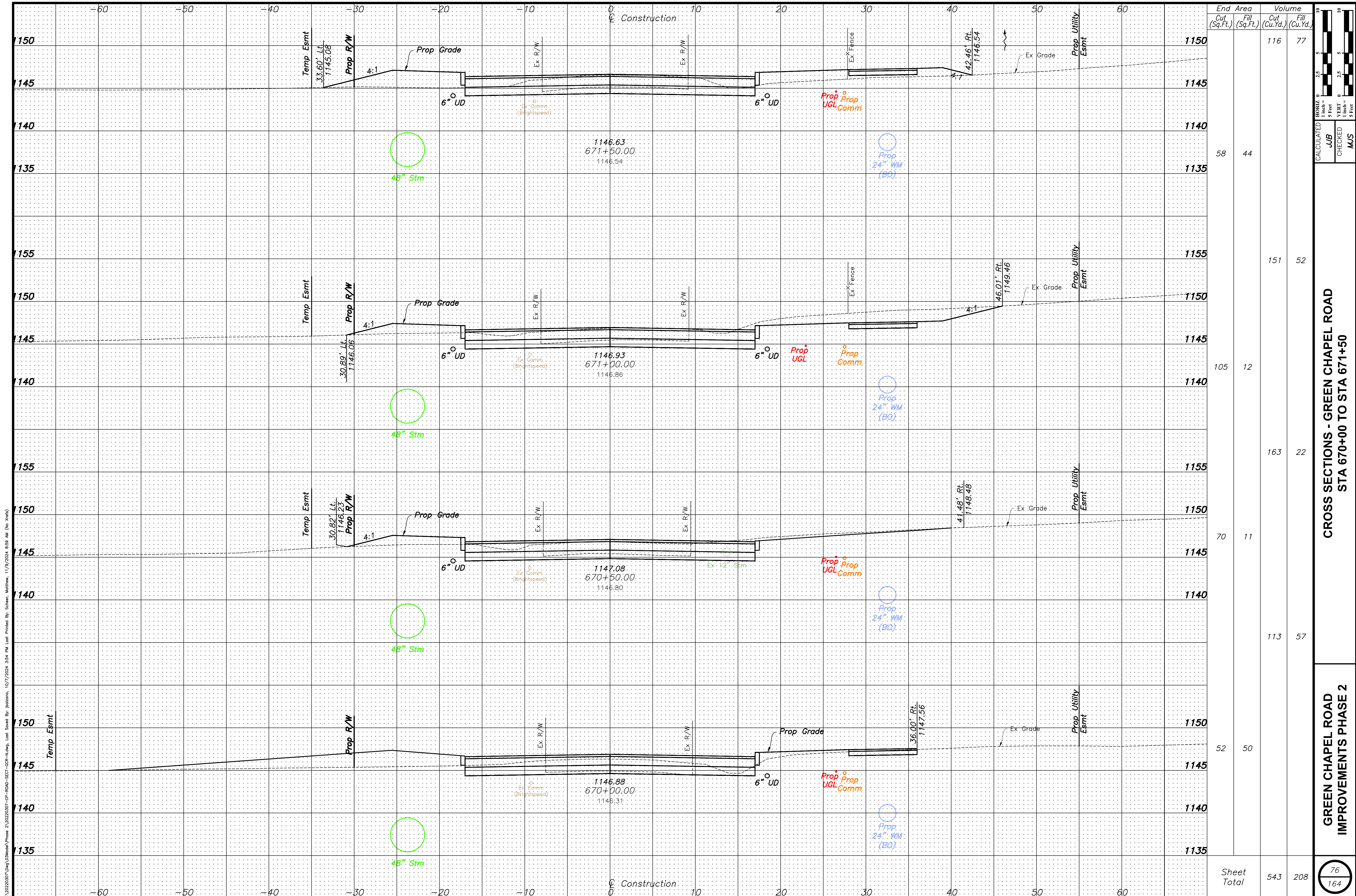
Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
1150			191	13
1145				
1140				
1135	108	10		
1150			201	16
1145				
1140				
1135	109	7		
1150			219	16
1145				
1140				
1135				
1150			127	10
1145				
1140				
1135				
1150			176	36
1145				
1140				
1135				
1150			63	28
1145				
1140				
1135				
Sheet Total			787	81



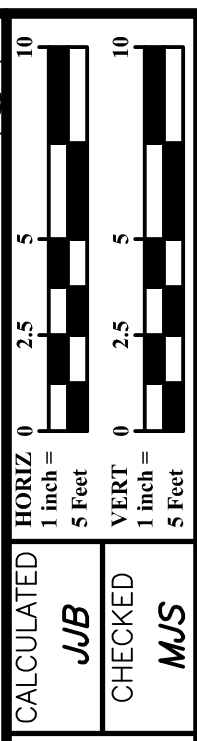
CROSS SECTIONS - GREEN CHAPEL ROAD
STA 660+00 TO STA 661+50

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

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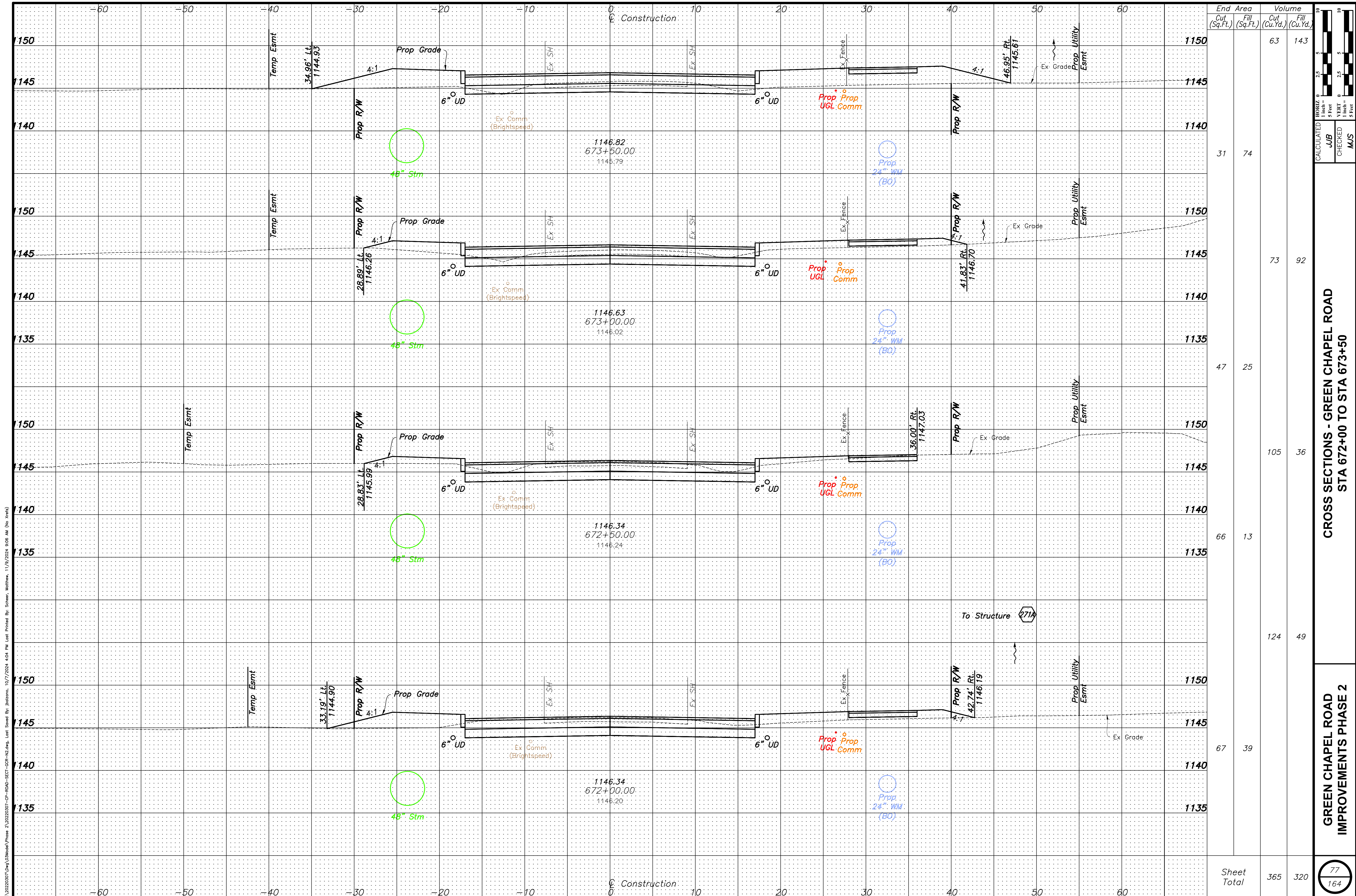


Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
1150			116	77
1145				
1140				
1135	58	44		
1155			151	52
1150				
1145				
1140	105	12		
1155			163	22
1150				
1145				
1140				
1135			70	11
1150				
1145				
1140				
1135			113	57
1150				
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1140				
1135			52	50
Sheet Total			543	208

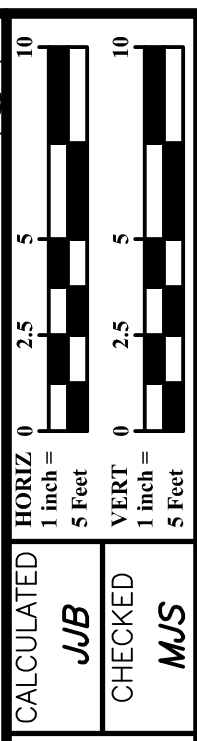


**CROSS SECTIONS - GREEN CHAPEL ROAD
STA 670+00 TO STA 671+50**

**GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2**



Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
673+50.00			63	143
673+00.00	31	74		
672+50.00			73	92
672+00.00	47	25		
672+00.00			105	36
672+00.00	66	13		
672+00.00			124	49
672+00.00			67	39
672+00.00				
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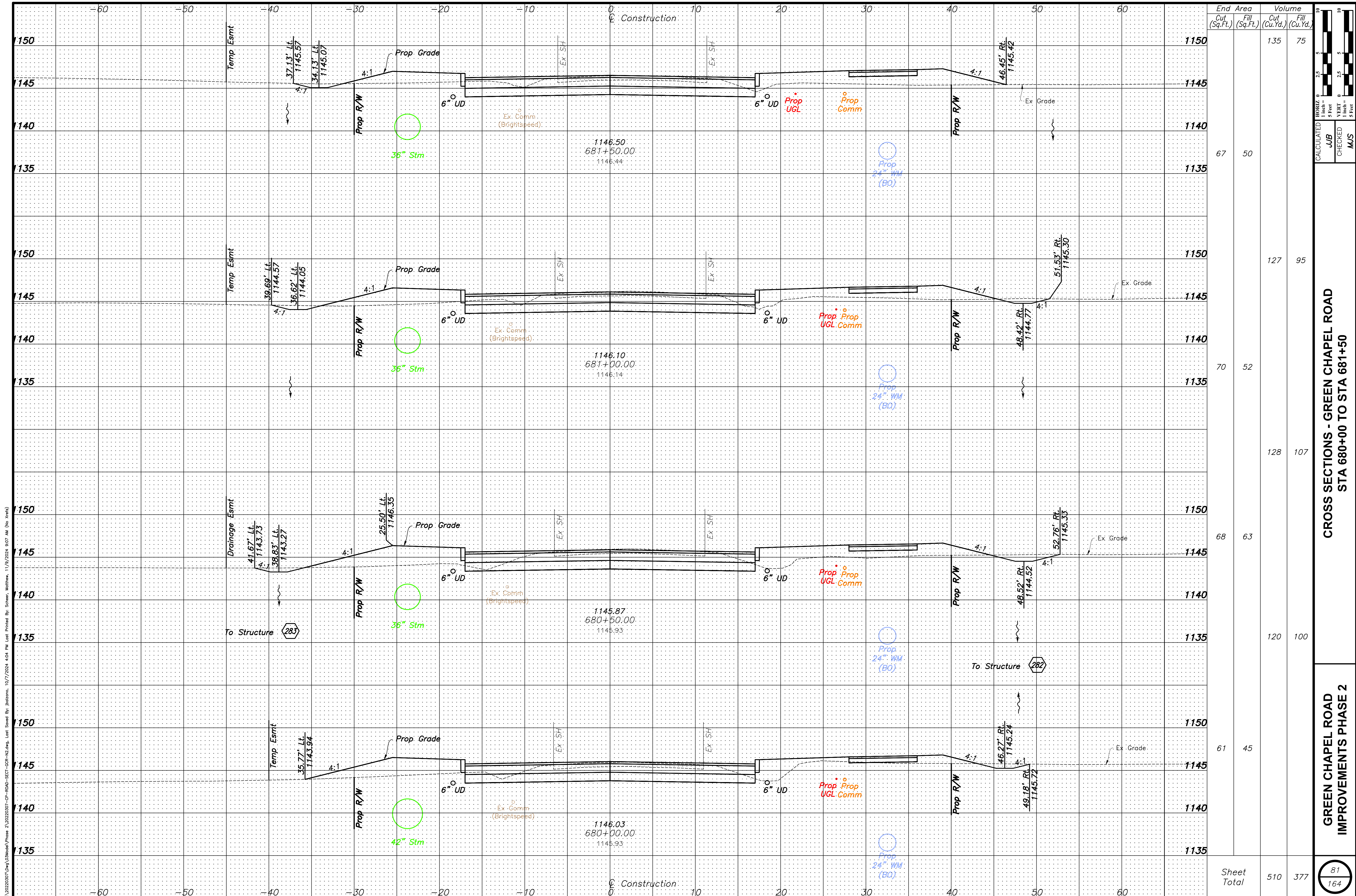


CALCULATED
JJB
CHECKED
M/S

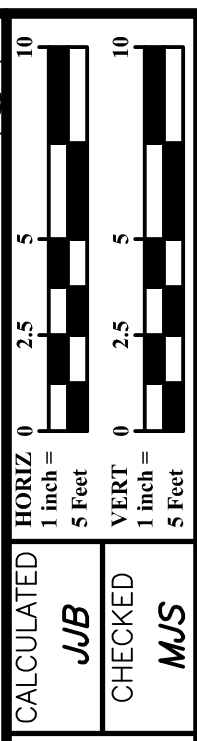
**CROSS SECTIONS - GREEN CHAPEL ROAD
STA 672+00 TO STA 673+50**

**GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2**

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Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
1150			135	75
1145				
1140				
1135			67	50
1150				
1145			127	95
1140				
1135			70	52
1150				
1145			128	107
1140				
1135			68	63
1150				
1145			120	100
1140				
1135			61	45
Sheet Total			510	377

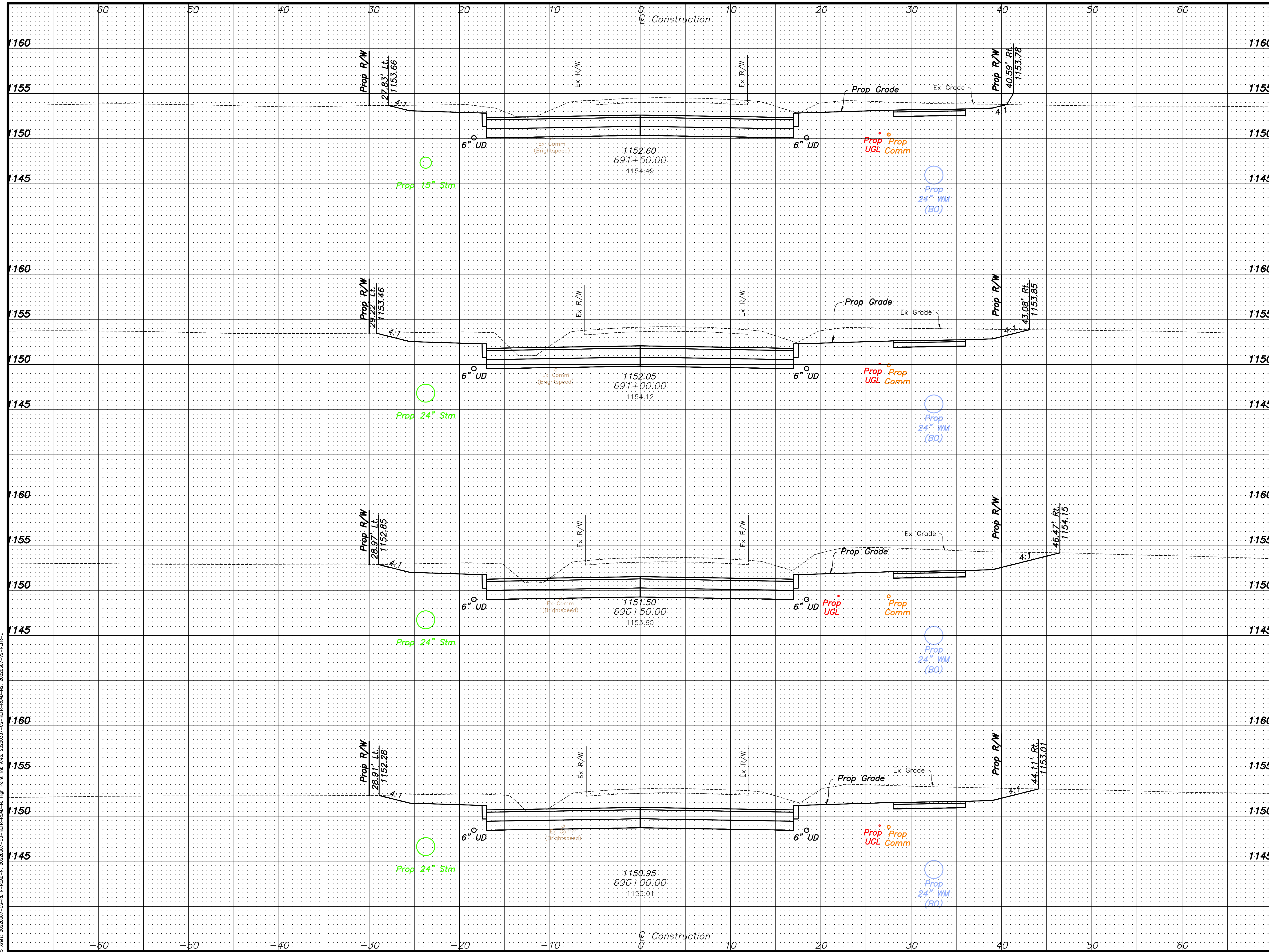


**CROSS SECTIONS - GREEN CHAPEL ROAD
STA 680+00 TO STA 681+50**

**GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2**

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 Plotted By: Schaefer, Matthew
 11/17/2024 9:10 AM
 5 Views: 202307-CP-ROAD-N, 202307-CP-ROAD-S, 202307-CP-ROAD-E, 202307-CP-ROAD-W, 202307-CP-ROAD-Plan, 202307-CP-ROAD-Profile



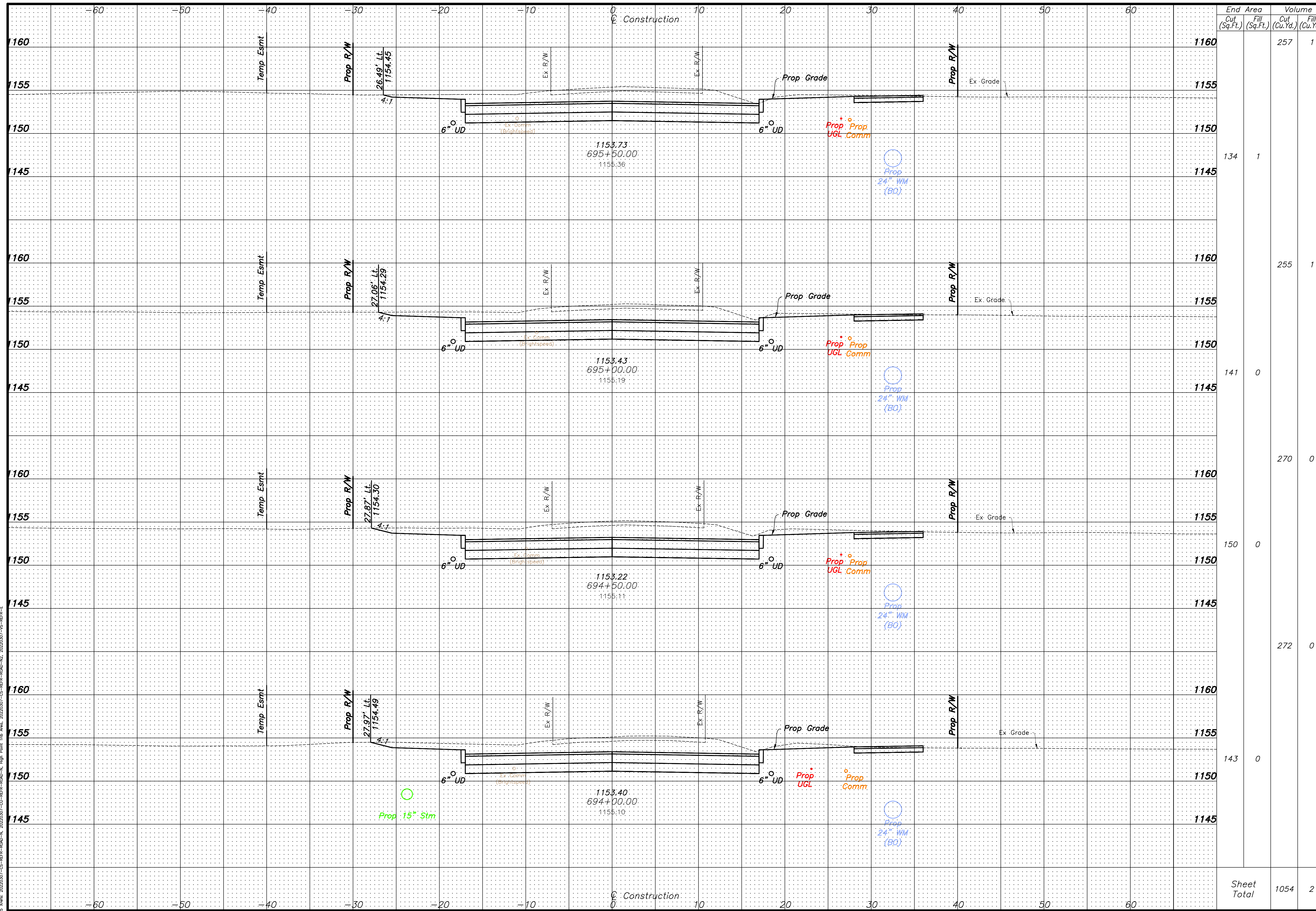
Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
1160			269	0
1155				
1150				
1145	156	0		
1160			308	0
1155				
1150				
1145	176	0		
1160			357	0
1155				
1150				
1145	209	0		
1160				
1155				
1150				
1145	371	0		
1160				
1155				
1150				
1145	191	0		
Sheet Total			1305	0

CALCULATED
JJB
CHECKED
M/S

CROSS SECTIONS - GREEN CHAPEL ROAD
 STA 690+00 TO STA 691+50

GREEN CHAPEL ROAD
 IMPROVEMENTS PHASE 2

I:\2023\2023\Drawings\Phase 2\202307-CP-ROAD-SEC-CR-AL-Res. List Sheet_10/17/2024_3:53 PM.dwg
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 Plotted By: Schaefer, Matthew
 11/19/2024 9:10 AM
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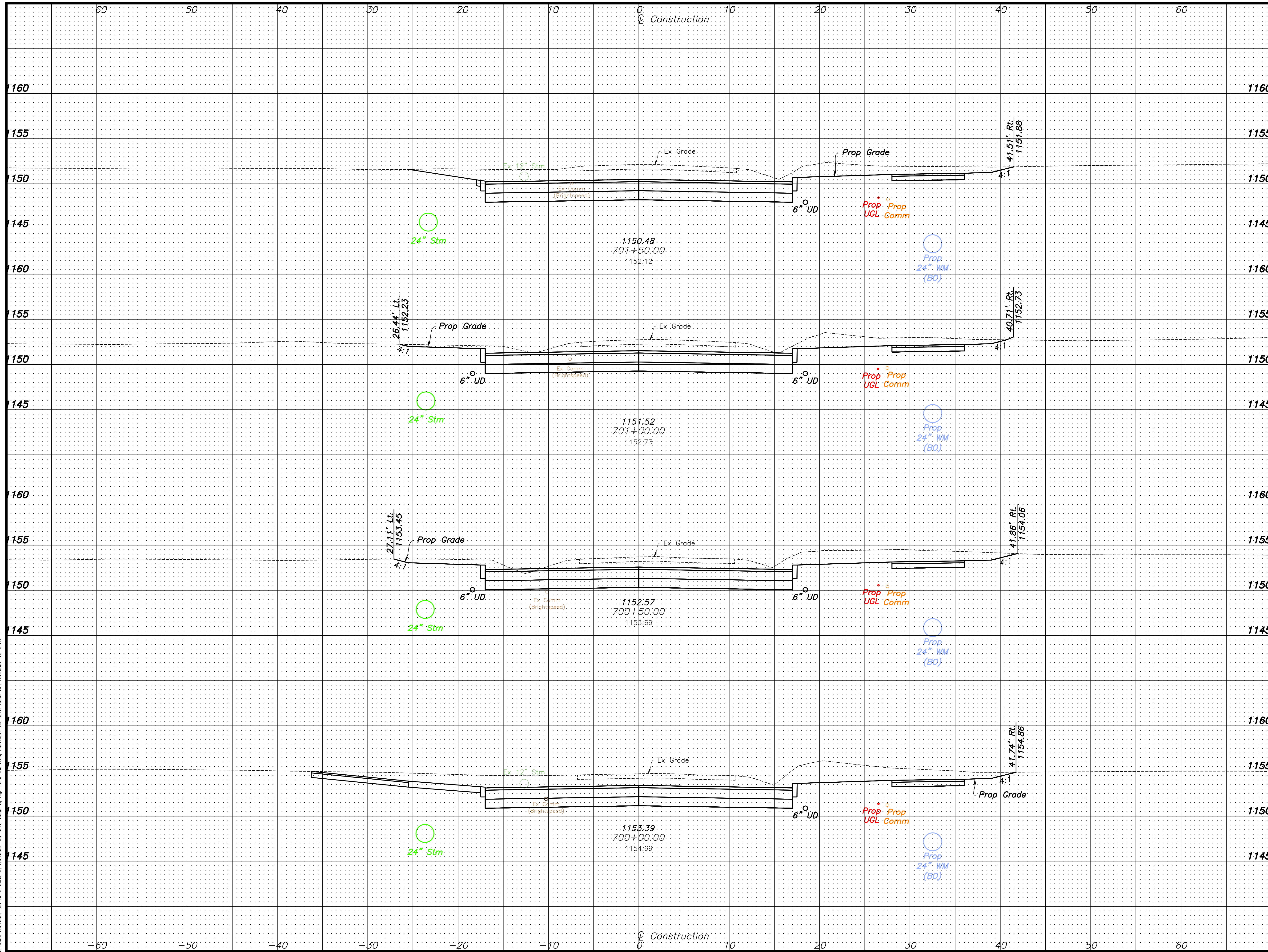
Station	End Area		Volume	
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1160			257	1
1155				
1150				
1145	134	1		
1160			255	1
1155				
1150				
1145	141	0		
1160			270	0
1155				
1150			150	0
1145				
1160			272	0
1155				
1150				
1145	143	0		
Sheet Total			1054	2

CALCULATED
 JJB
 CHECKED
 M/S

CROSS SECTIONS - GREEN CHAPEL ROAD
 STA 694+00 TO STA 695+50

GREEN CHAPEL ROAD
 IMPROVEMENTS PHASE 2

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Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
1160			304	0
1155				
1150			161	0
1145				
1160			276	0
1155				
1150			137	0
1145				
1160			262	0
1155				
1150			145	0
1145				
1160			291	0
1155				
1150			169	0
1145				
Sheet Total			1133	0

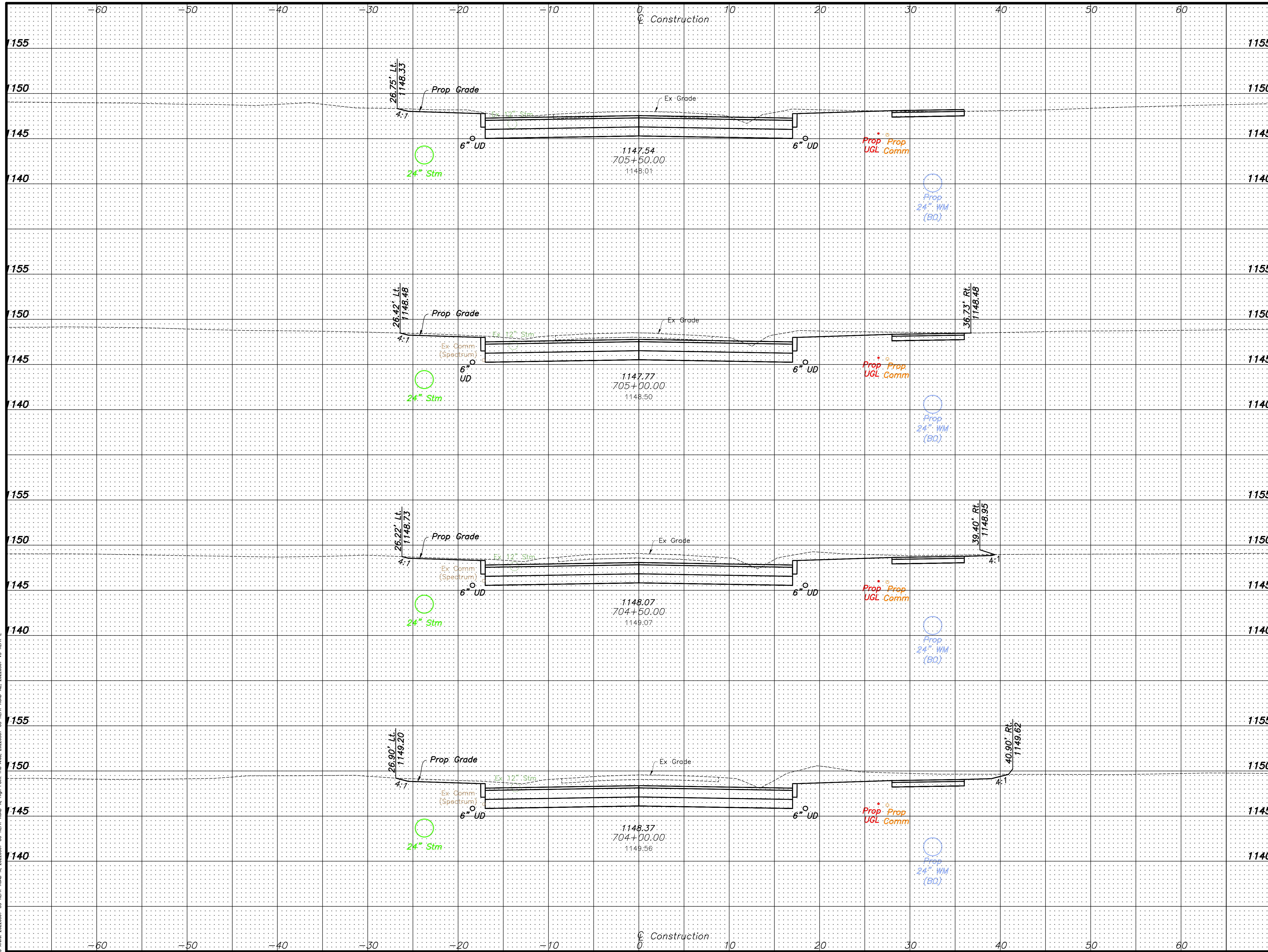
CALCULATED
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 CHECKED
 M/S

CROSS SECTIONS - GREEN CHAPEL ROAD
 STA 700+00 TO STA 701+50

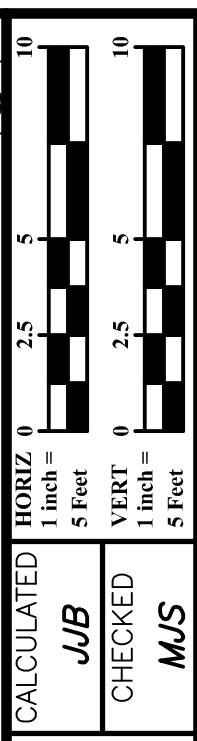
GREEN CHAPEL ROAD
 IMPROVEMENTS PHASE 2

91
 164

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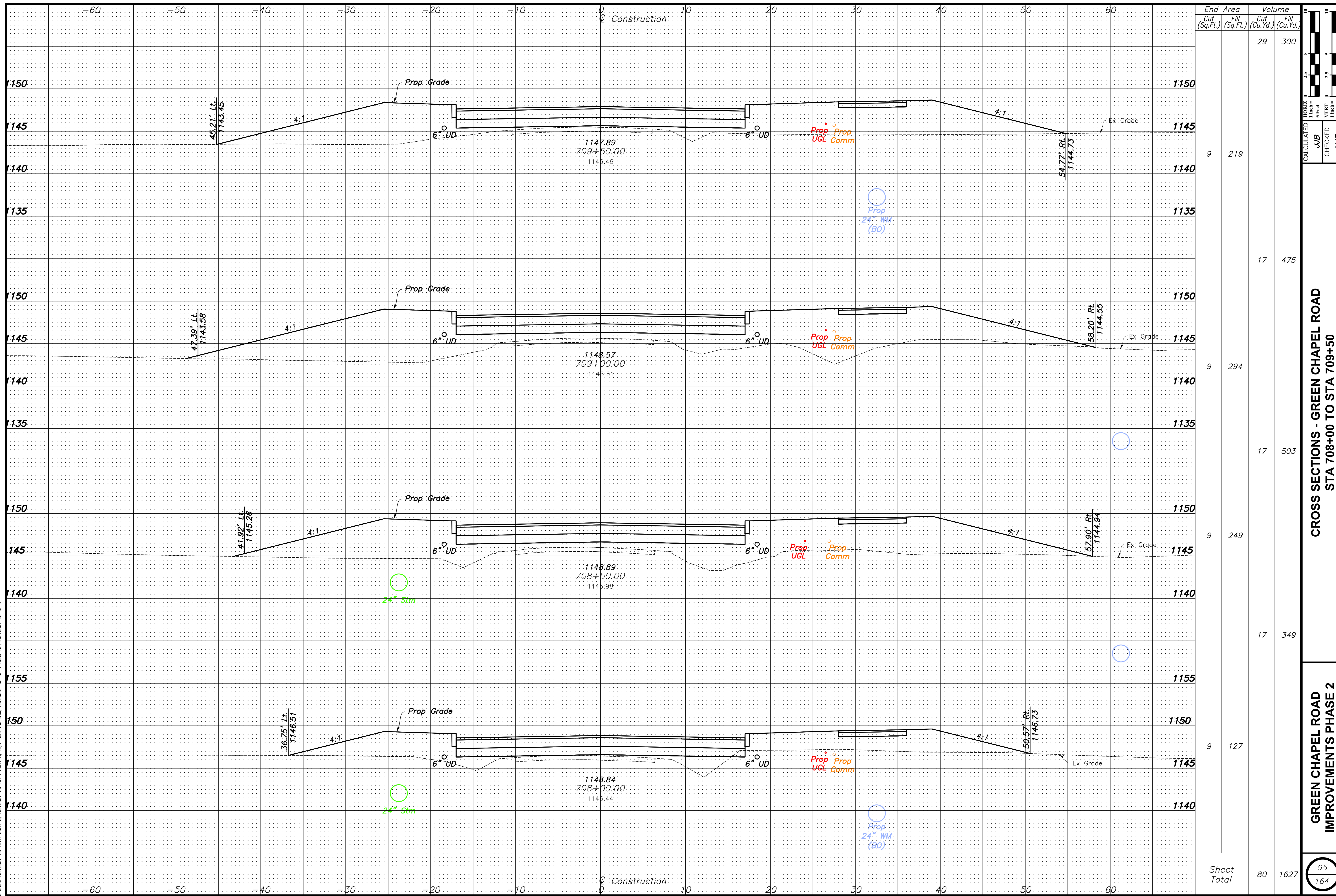
Station	End Area		Volume	
	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Cut (Cu.Yd.)	Fill (Cu.Yd.)
1155			163	10
1150				
1145				
1140	99	1		
1155			194	1
1150				
1145				
1140	110	0		
1155			211	0
1150				
1145				
1140	117	0		
1155			239	0
1150				
1145				
1140	141	0		
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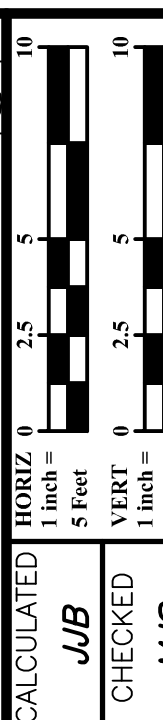
**CROSS SECTIONS - GREEN CHAPEL ROAD
 STA 704+00 TO STA 705+50**

**GREEN CHAPEL ROAD
 IMPROVEMENTS PHASE 2**

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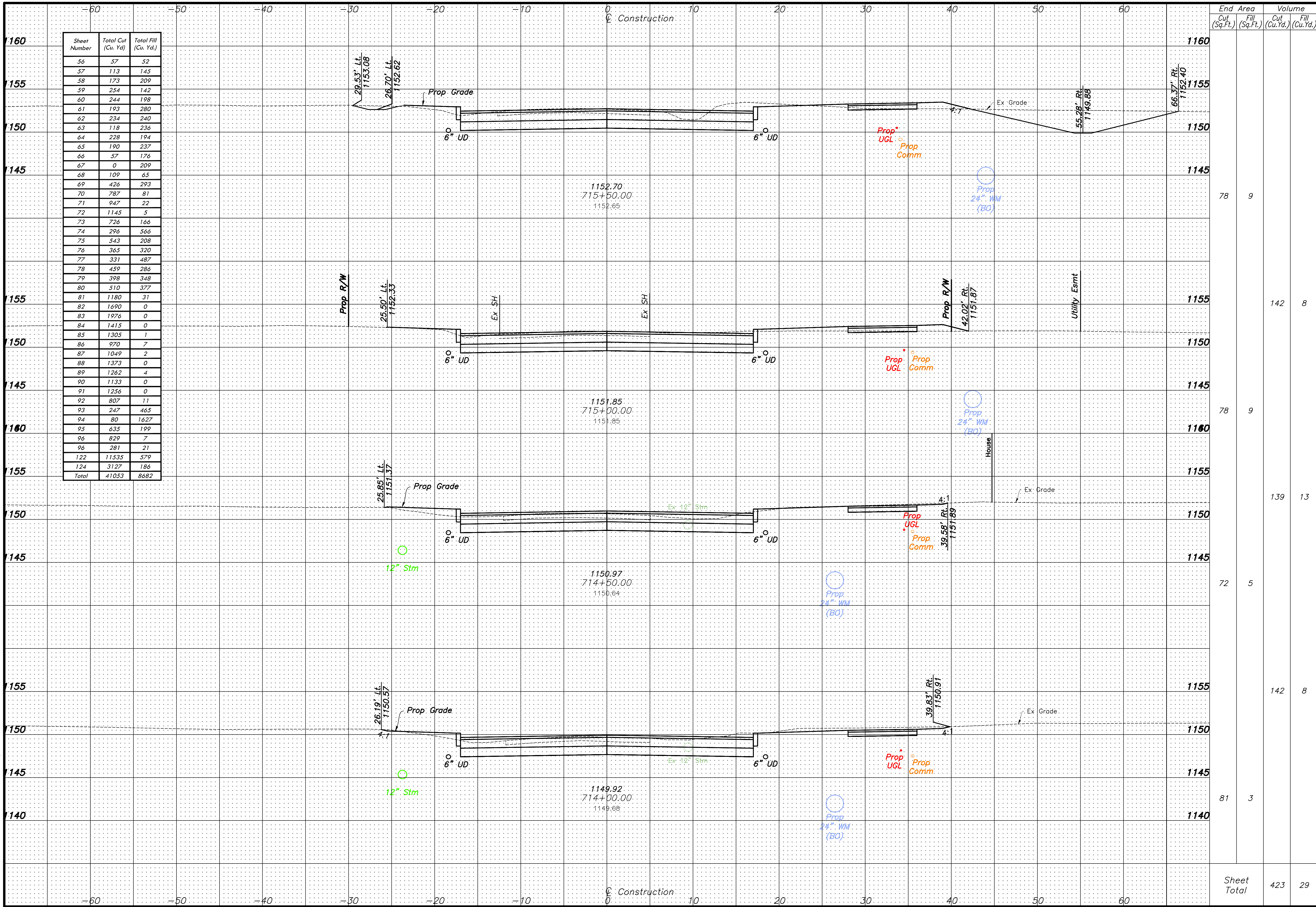
Station	End Area		Volume	
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709+50.00			29	300
709+00.00			9	219
708+50.00			17	475
708+00.00			9	294
			17	503
			9	249
			17	349
			9	127
Sheet Total			80	1627



**CROSS SECTIONS - GREEN CHAPEL ROAD
 STA 708+00 TO STA 709+50**

**GREEN CHAPEL ROAD
 IMPROVEMENTS PHASE 2**

A:\2023\2023\Drawings\Phase 2\202307-CP-ROAD-REFR-CR-MK-MS-LSH-SHOW-PL-10/24/2024 9:49 AM Last Printed By: Scher, Matthew, 11/09/2024 9:19 AM
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Sheet Number	Total Cut (Cu. Yd.)	Total Fill (Cu. Yd.)
56	57	52
57	113	145
58	173	209
59	254	142
60	244	198
61	193	280
62	234	240
63	118	236
64	228	194
65	190	237
66	57	176
67	0	209
68	109	65
69	426	293
70	787	81
71	947	22
72	1145	5
73	726	166
74	296	566
75	543	208
76	365	320
77	331	487
78	459	286
79	398	348
80	510	377
81	1180	31
82	1690	0
83	1976	0
84	1415	0
85	1305	1
86	970	7
87	1049	2
88	1373	0
89	1262	4
90	1133	0
91	1256	0
92	807	11
93	247	465
94	80	1627
95	635	199
96	829	7
96	281	21
122	11535	579
124	3127	186
Total	41053	8682

Station	Cut (Sq.Ft.)	Fill (Sq.Ft.)	Volume (Cu.Yd.)	
			Cut	Fill
714+00				
714+50.00				
715+00				
715+50.00				
716+00				
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CROSS SECTIONS - GREEN CHAPEL ROAD
 STA 714+00 TO STA 715+00

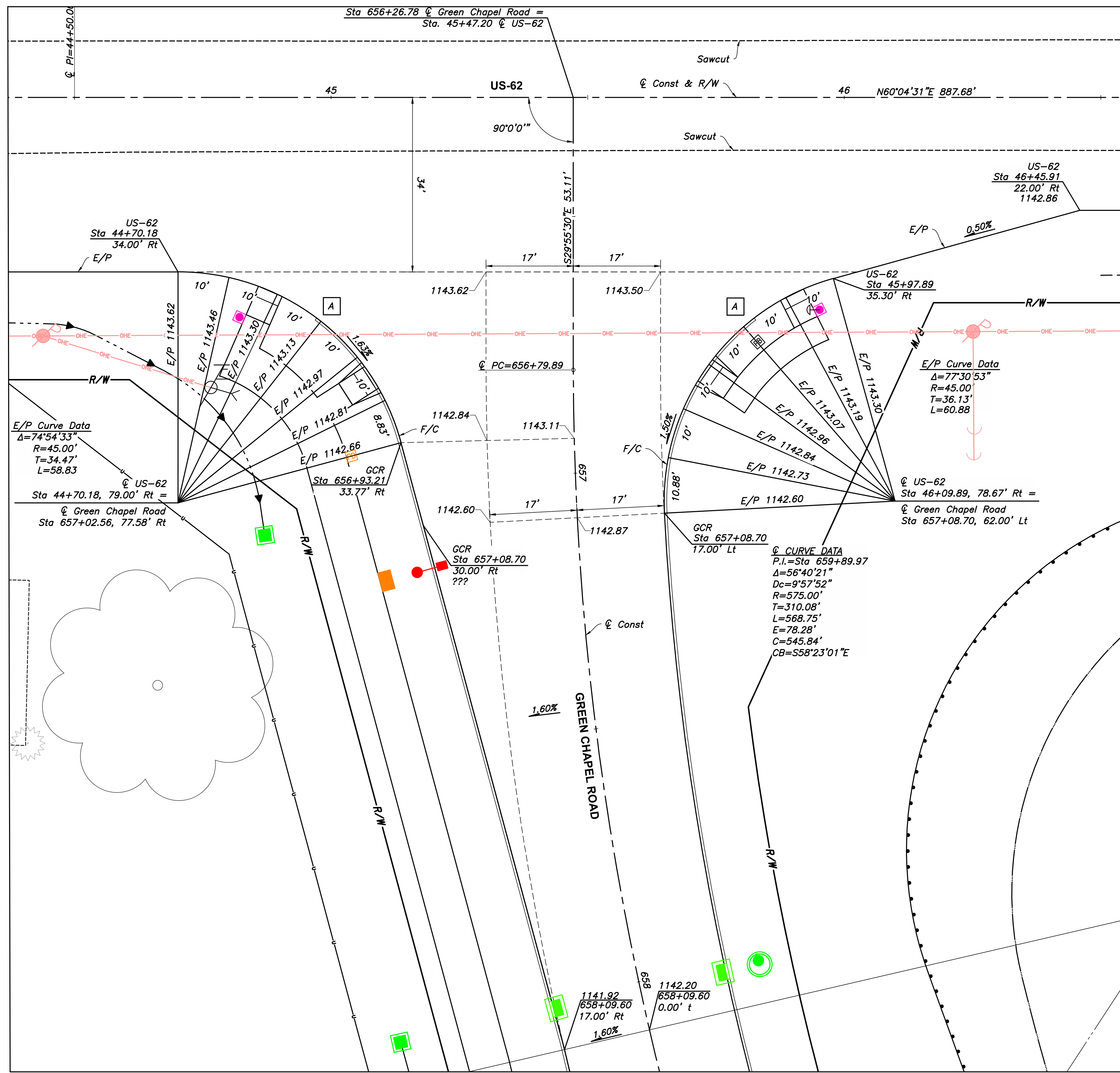
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 CHECKED: M/S

1" = 5' VERT
 1" = 5' HORIZ

98

164

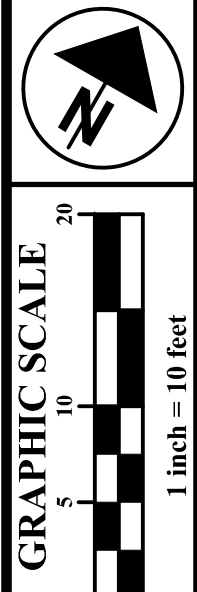
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 3 Xref: 20211131-VS-BORD-E, 20220307-VS-REFR-E, 20220307-VS-REFR-ROAD-ANZ



NOTES
 See Sheet 101 for Curb Ramp Details
 Elevations represent top of pavement unless otherwise noted.
 All curb ramps and landing areas shall be constructed utilizing Class C concrete.

Legend
 GCR = Green Chapel Road
 E/P = Edge of Pavement
 F/C = Face of Curb
 A Taper curb reveal from 6" to 0" over 10'

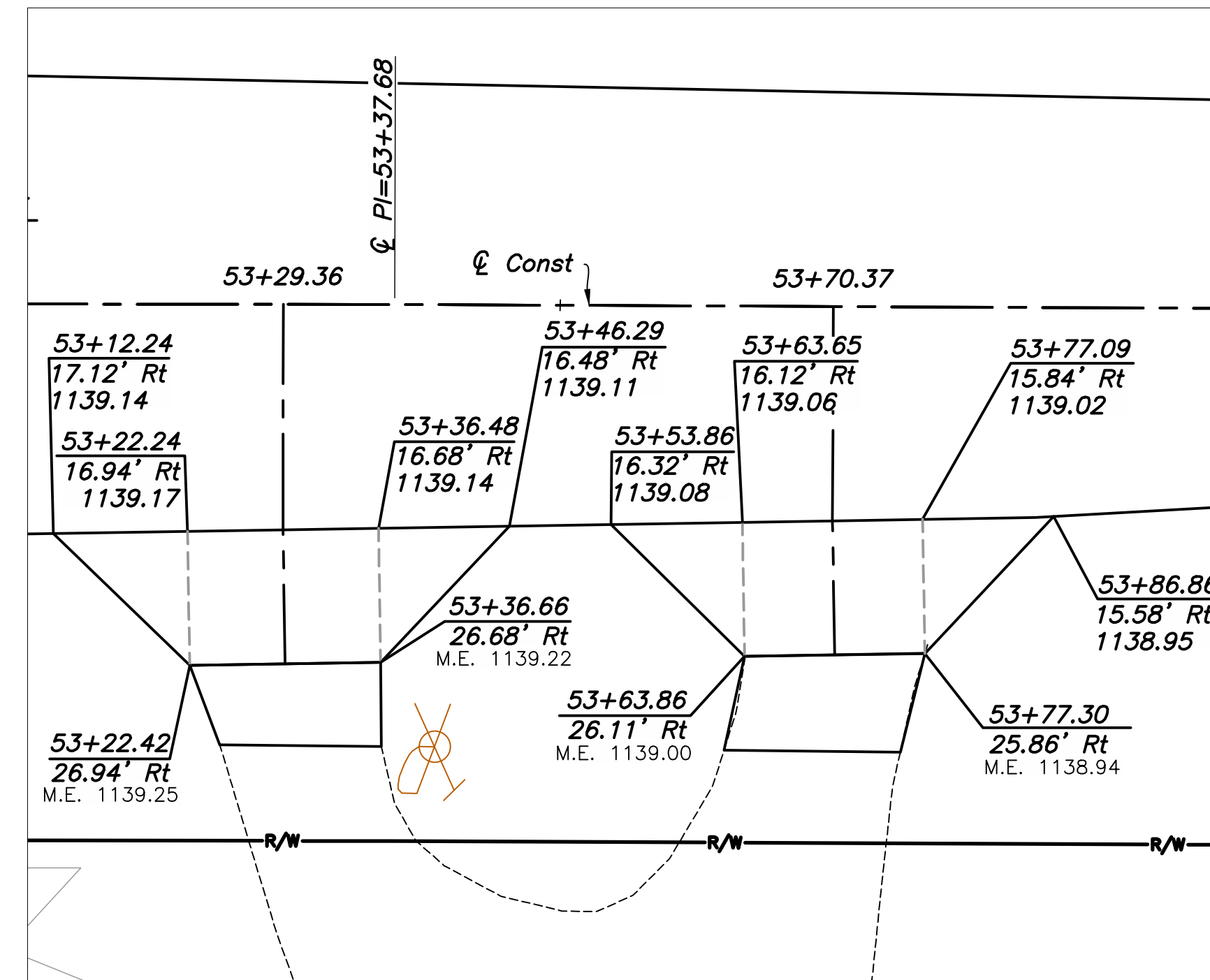
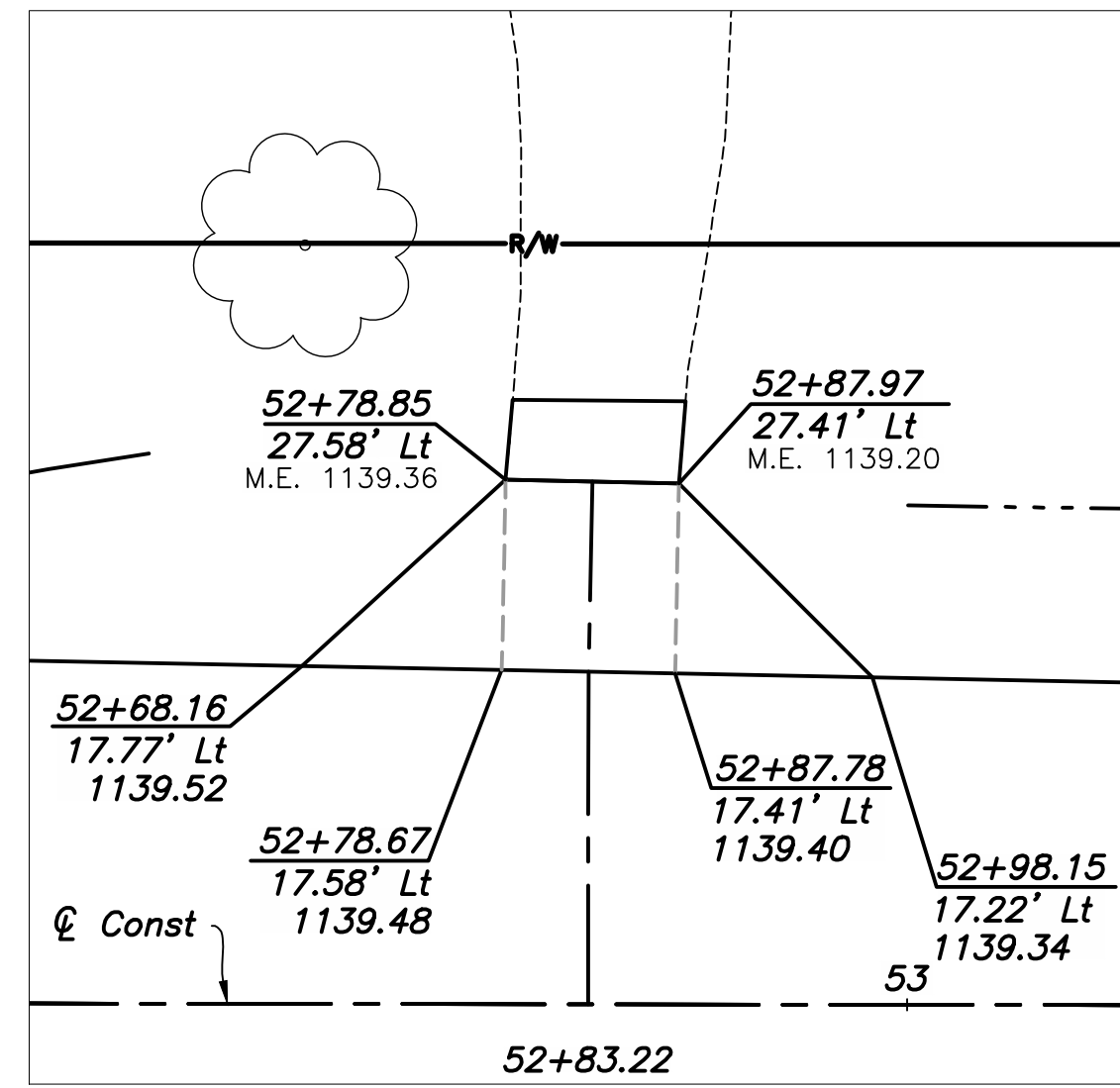
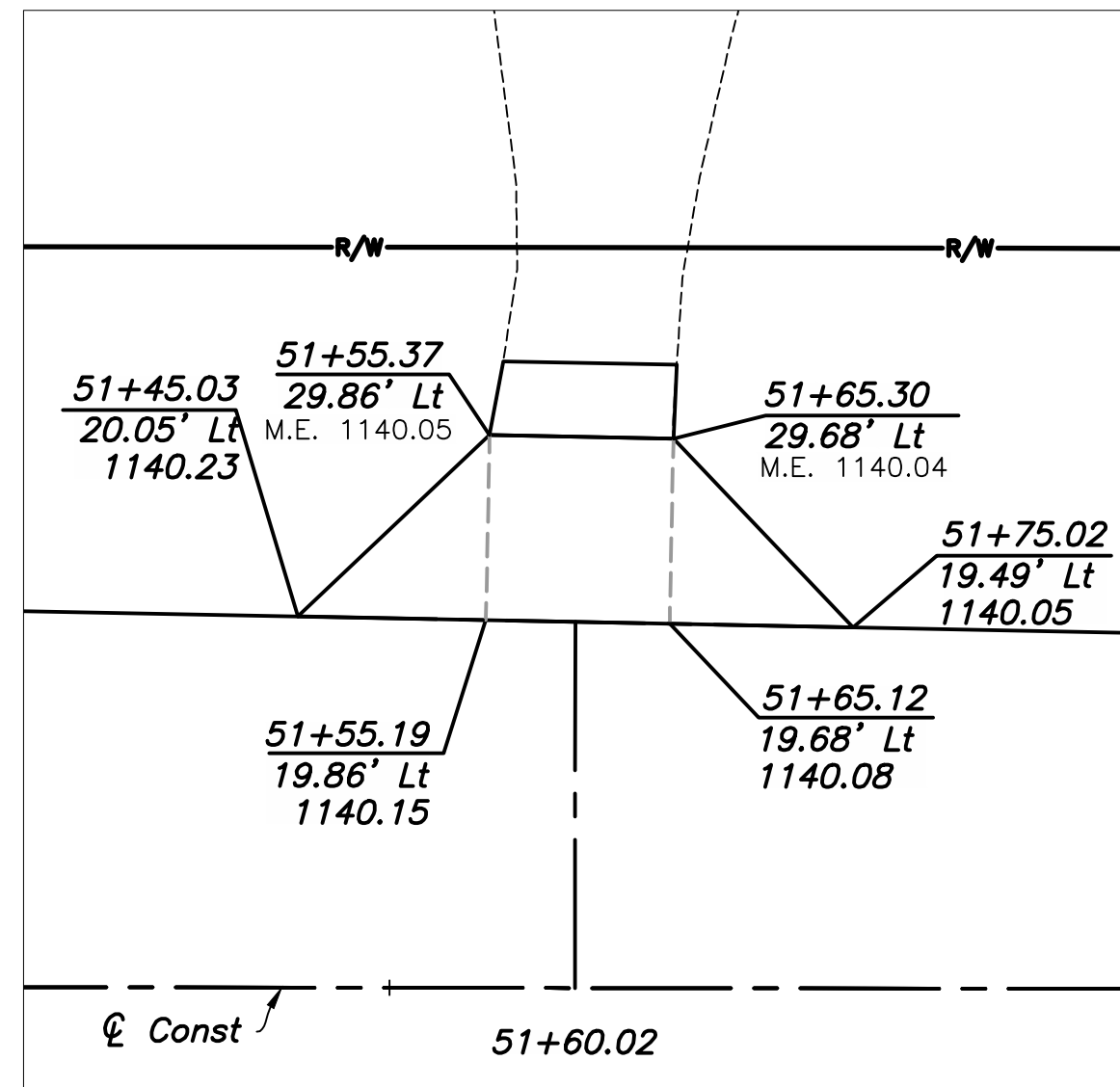
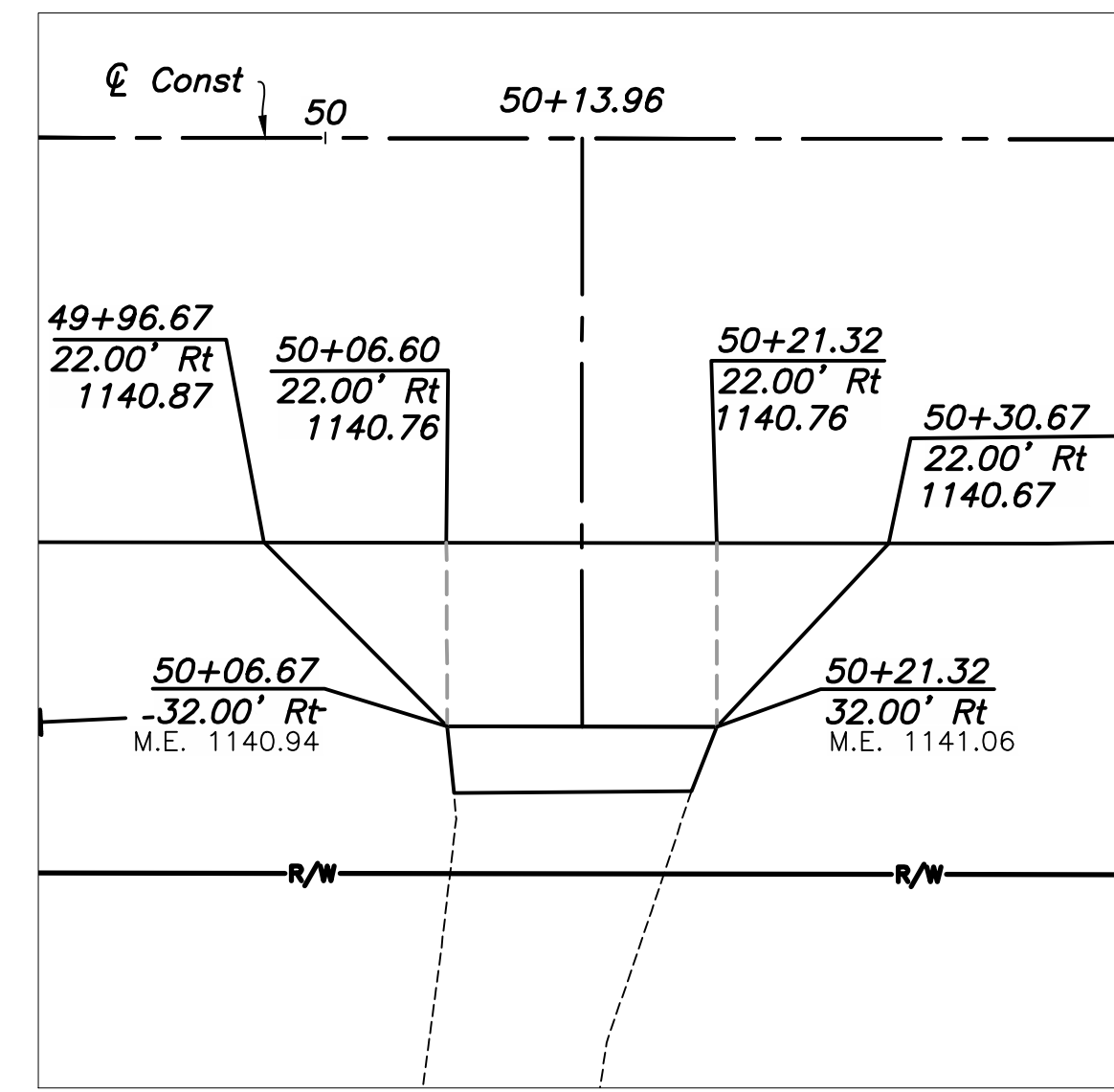
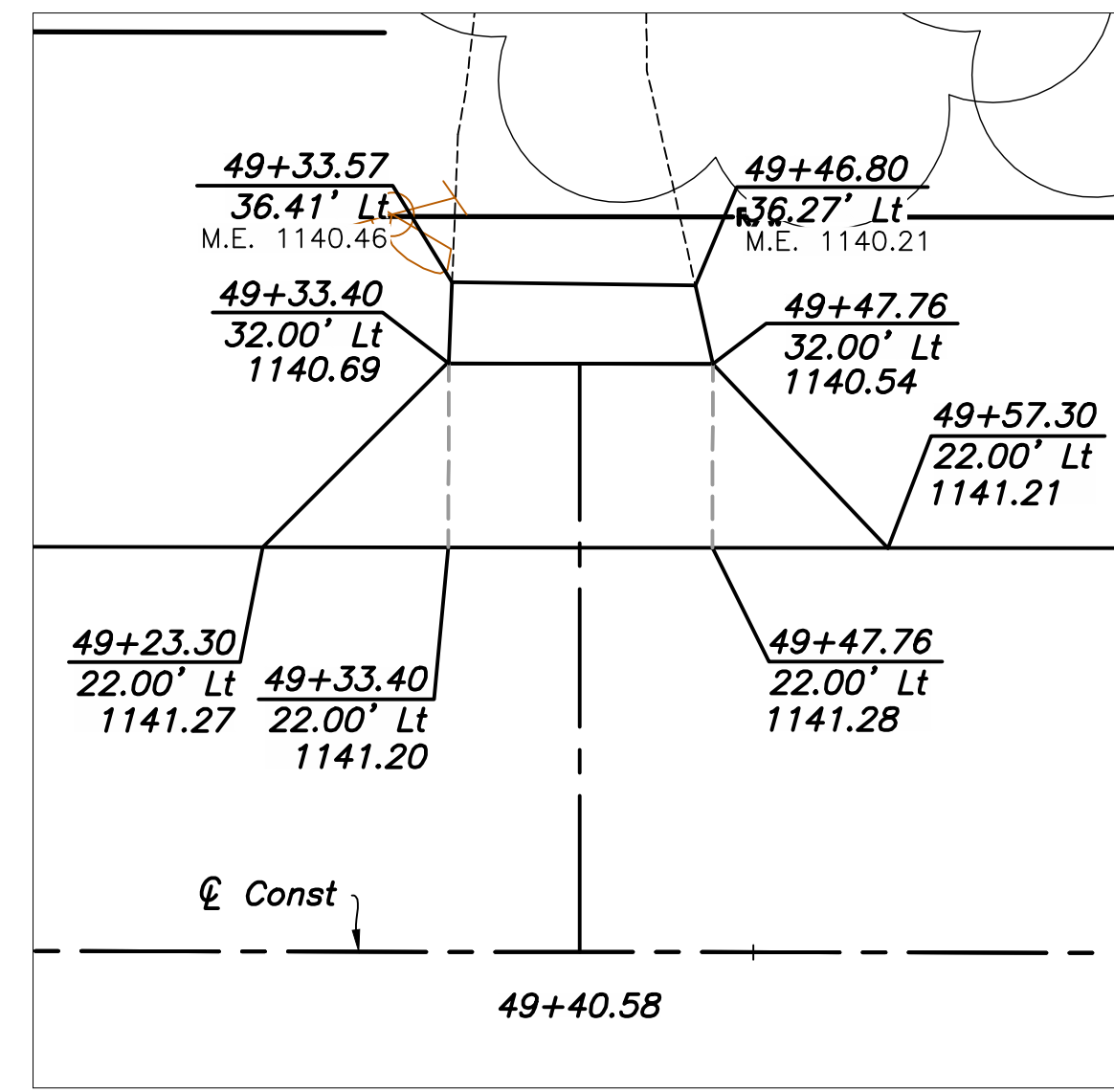
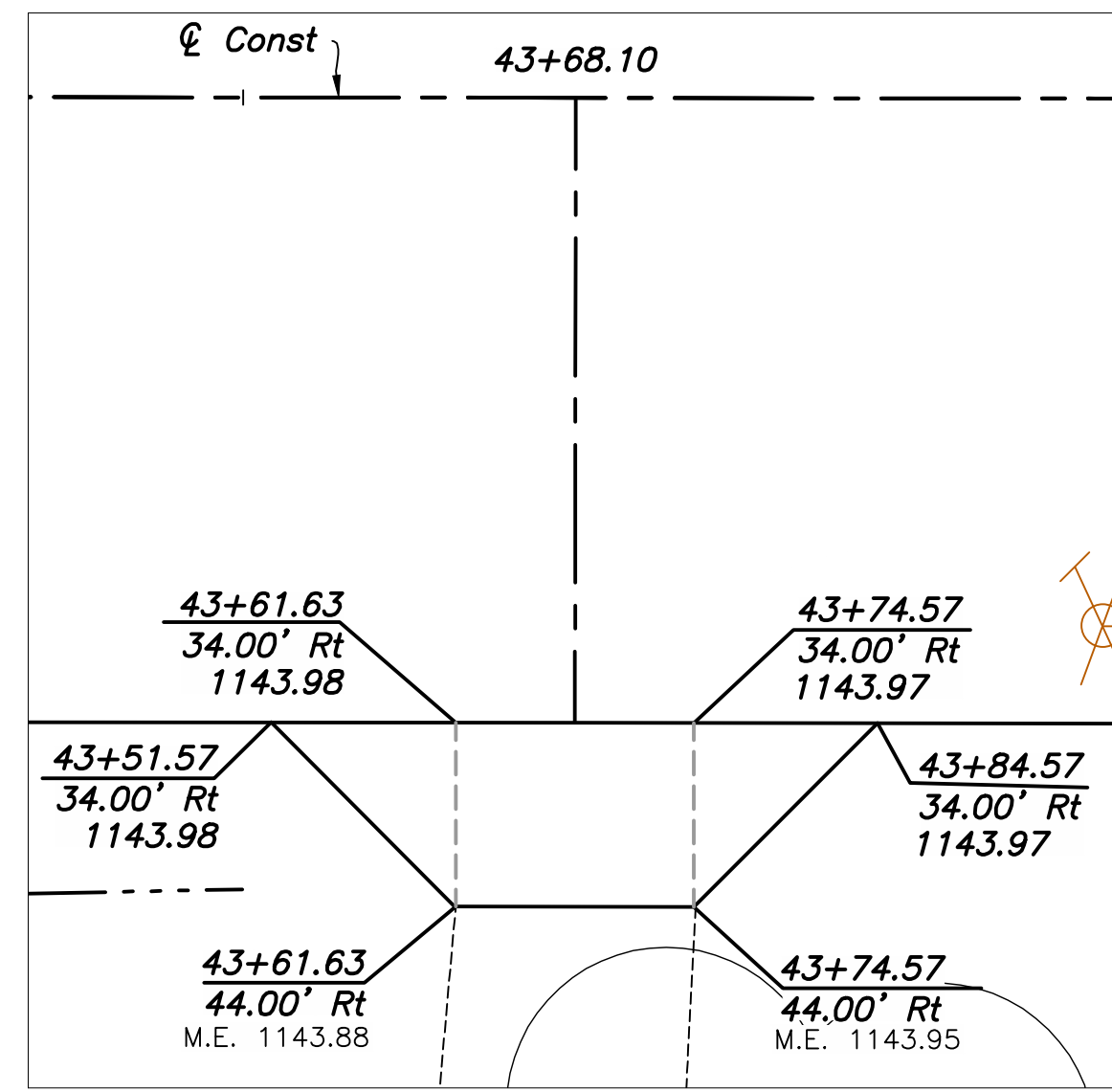
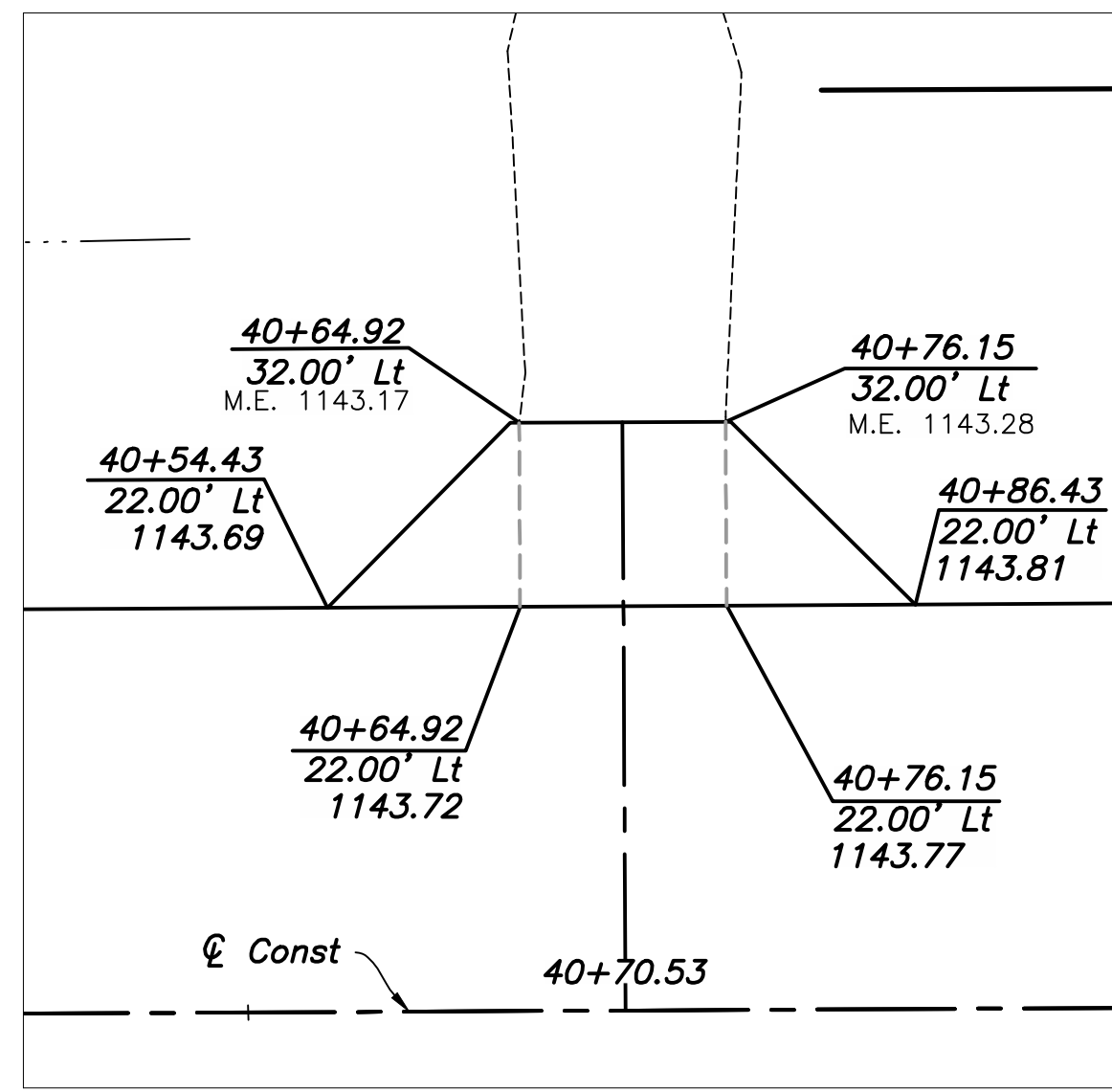
CALCULATED
 JJB
 CHECKED
 M/S



INTERSECTION DETAILS
US-62

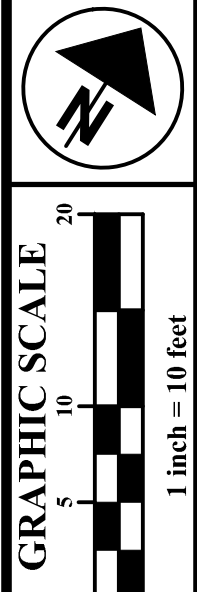
GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

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 4 Xref: 20230701-C5=REF-ROAD-W2, 20230701-C0=REF-ROAD-W2, 20230701-VS=REF-E, 20230701-VL=REF-E



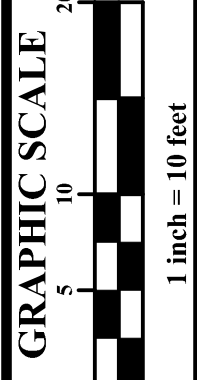
NOTES:
 M.E. = Match Existing
 Elevations represent top of pavement unless otherwise noted.

CALCULATED
 JJB
 CHECKED
 M/S



DRIVE DETAILS - US-62

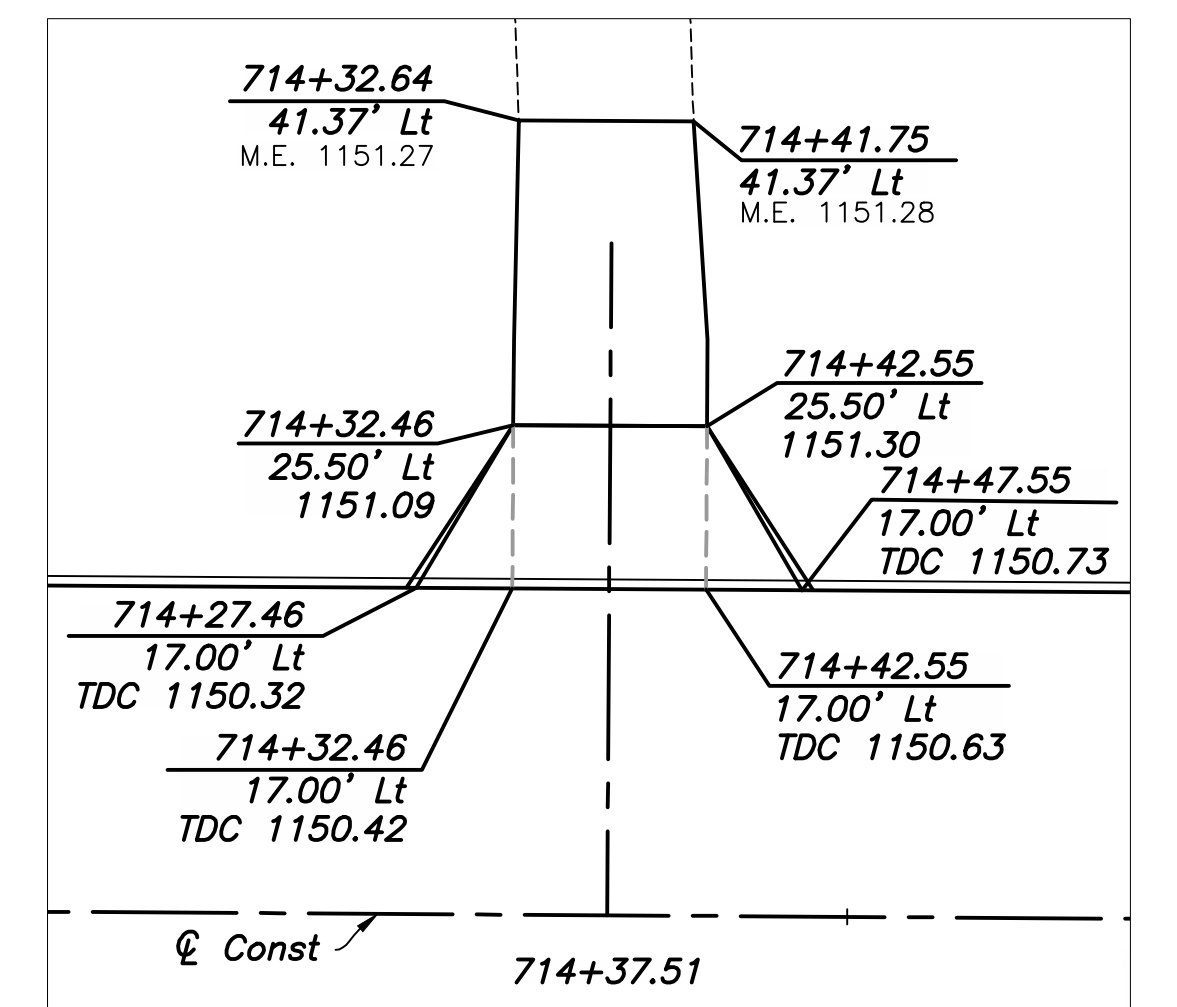
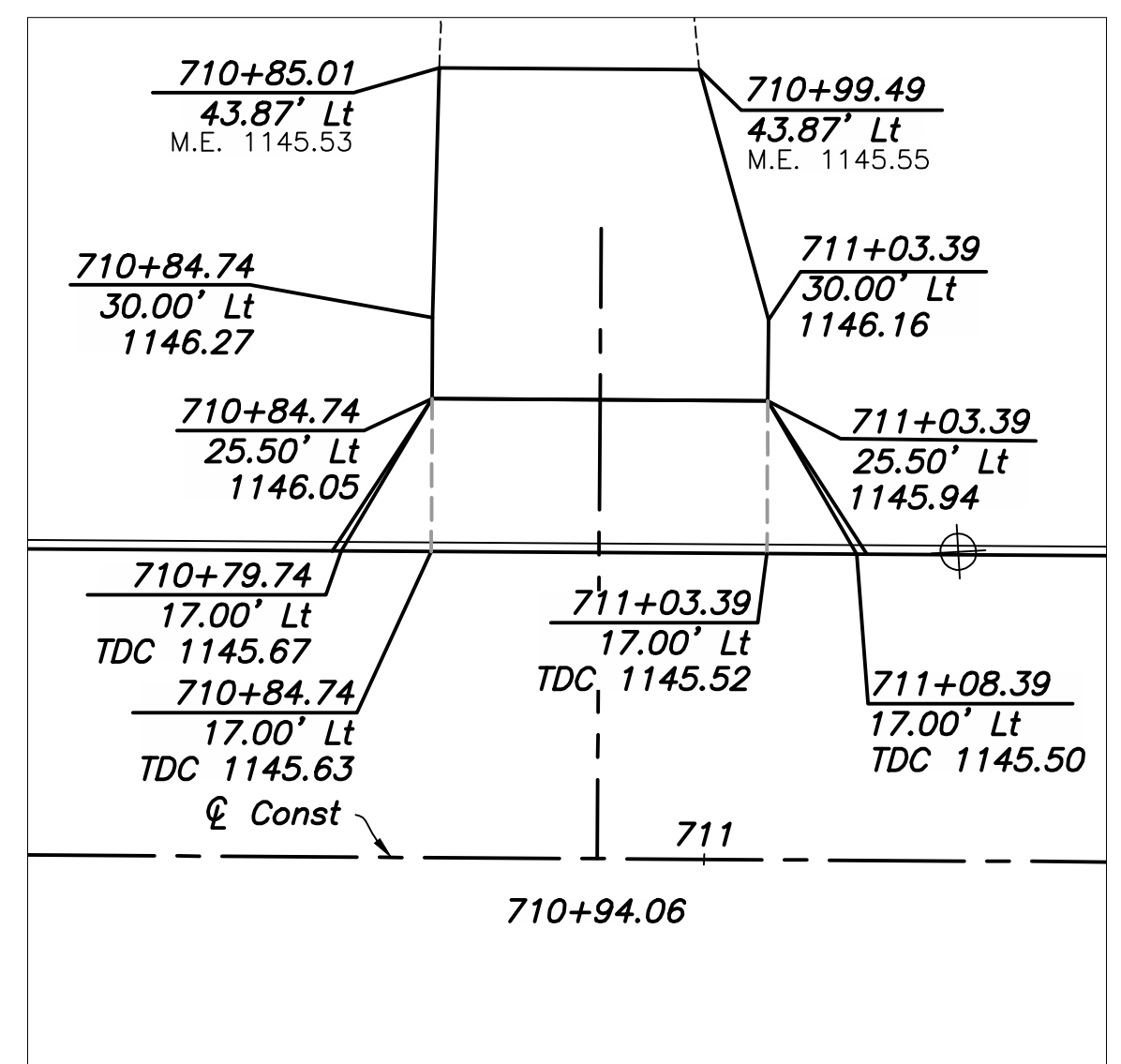
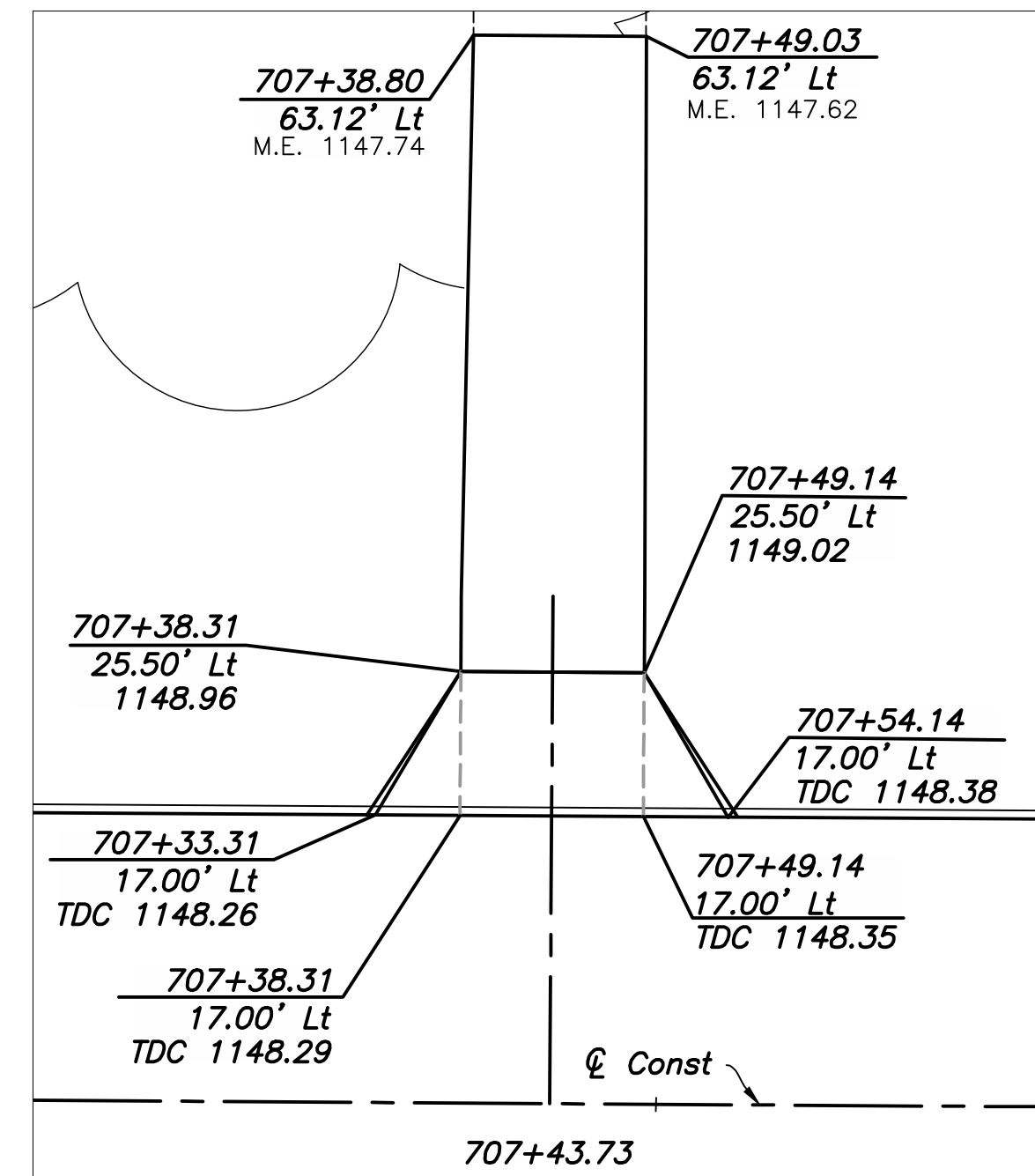
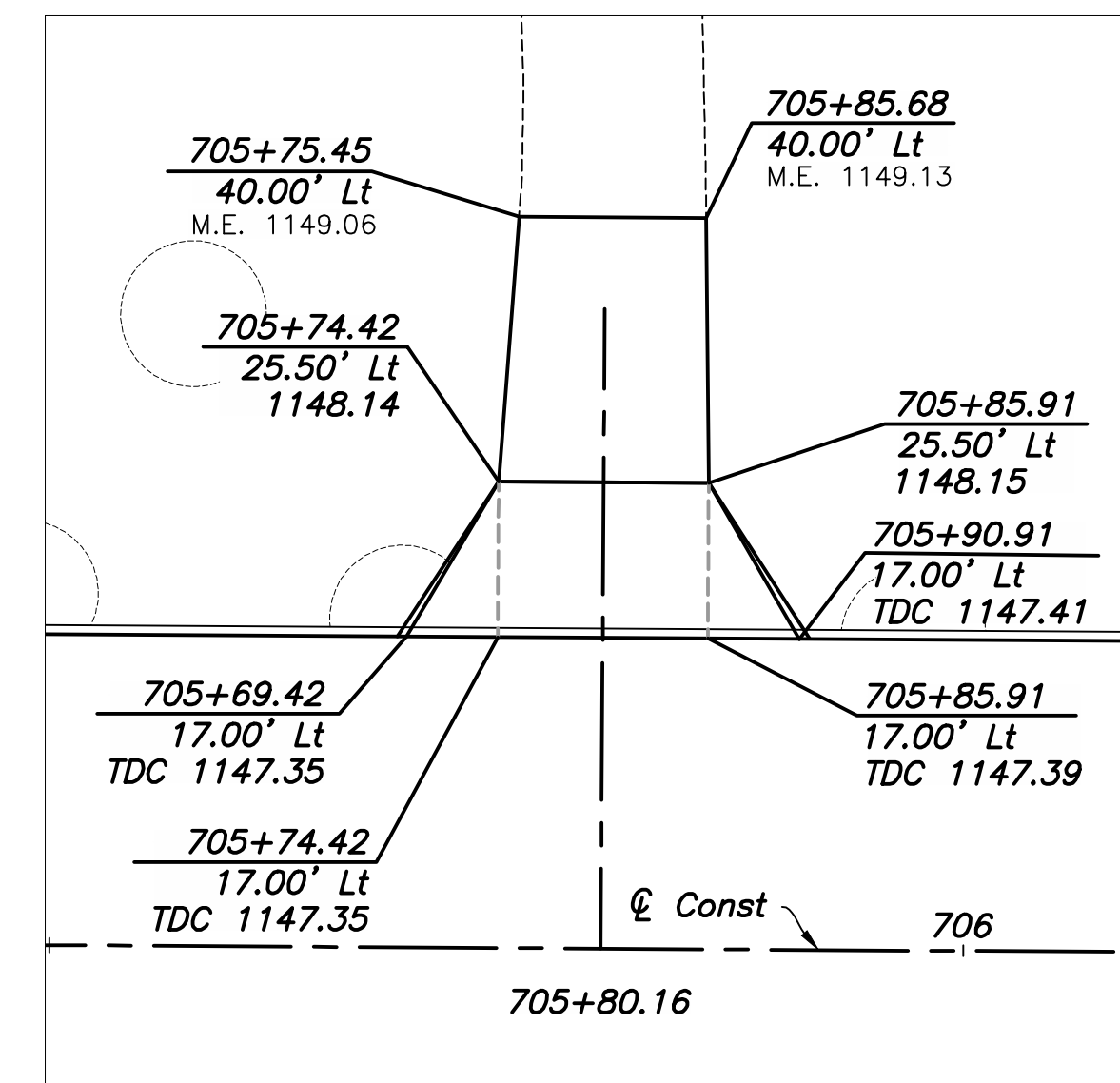
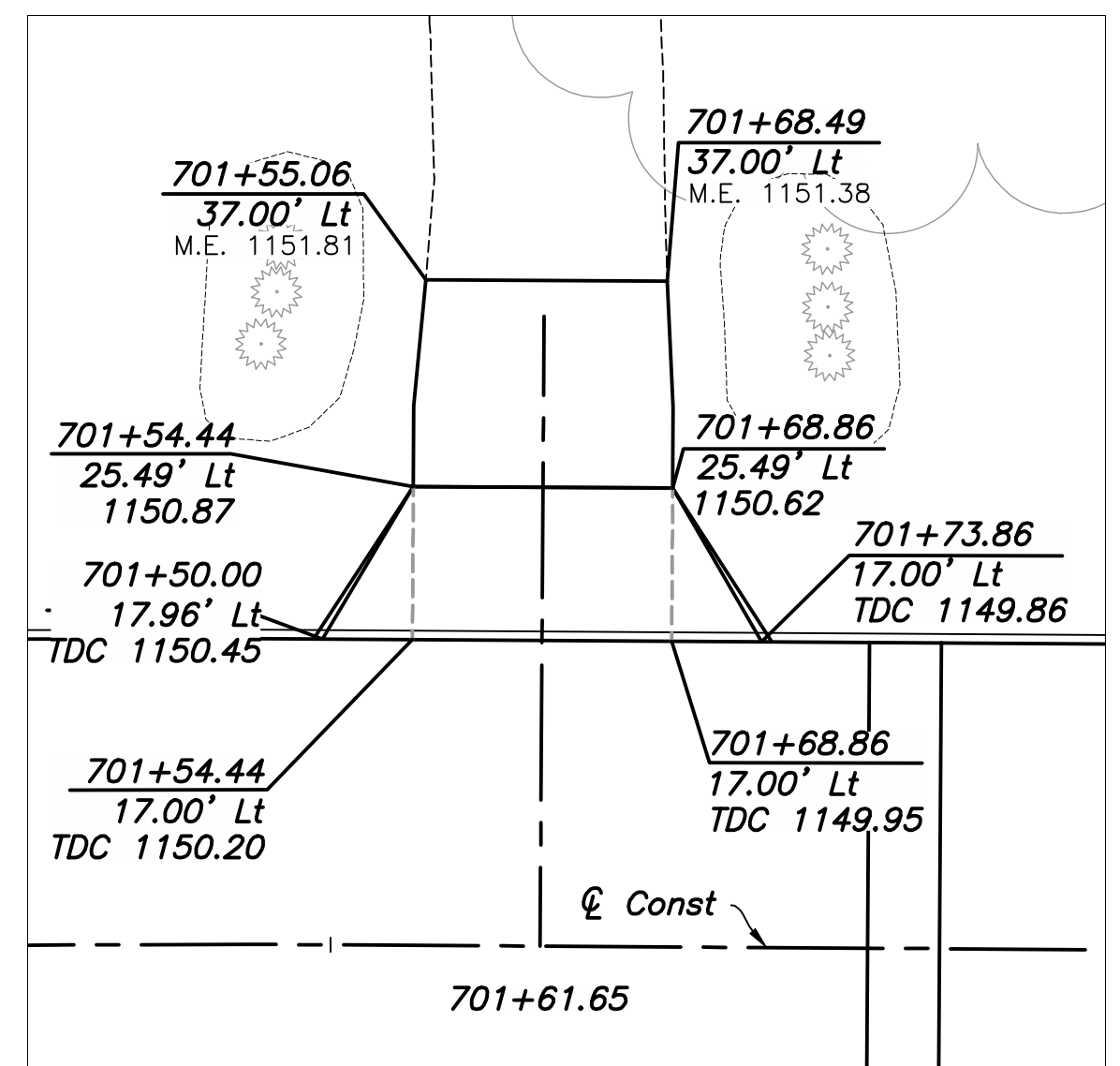
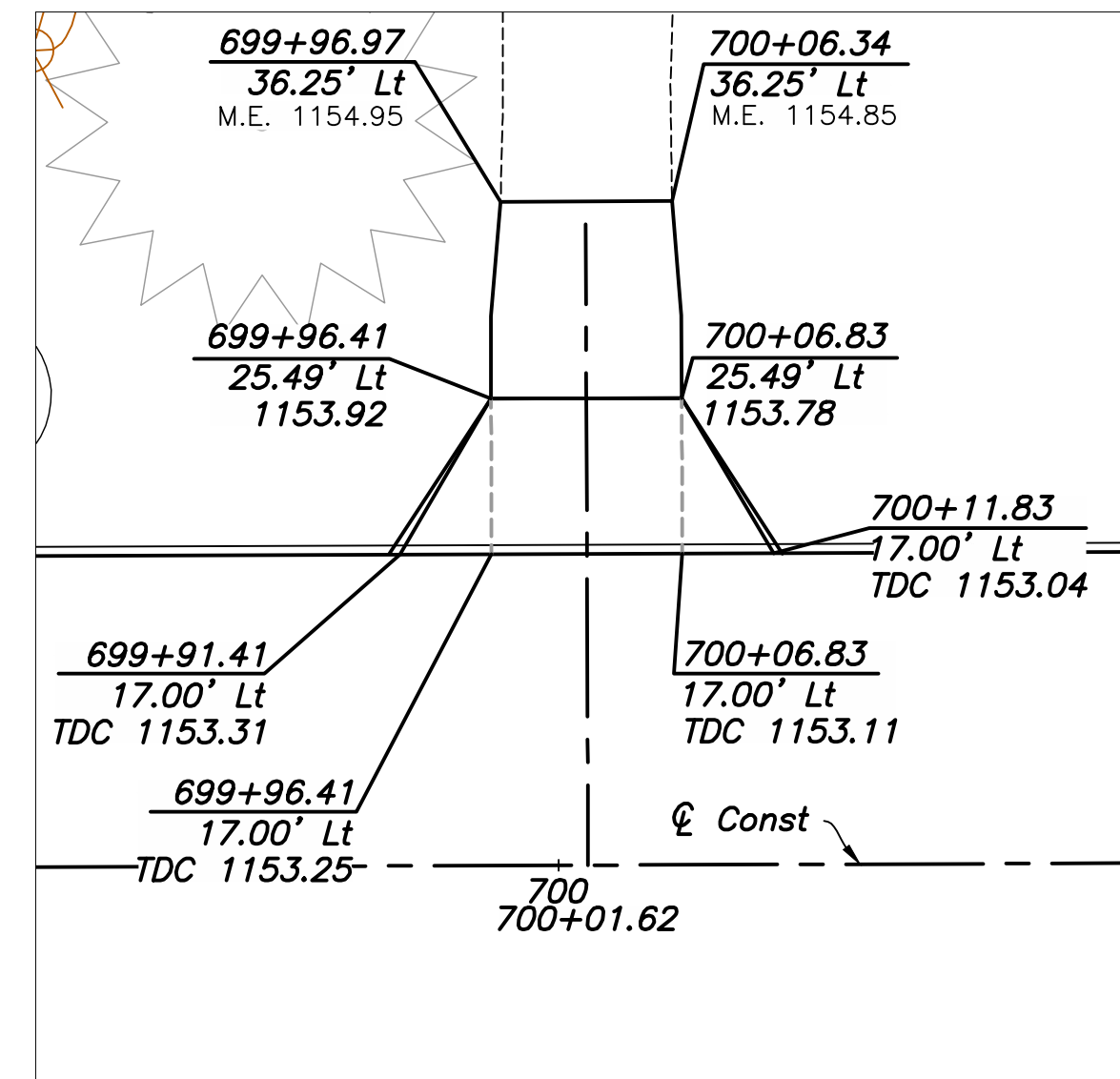
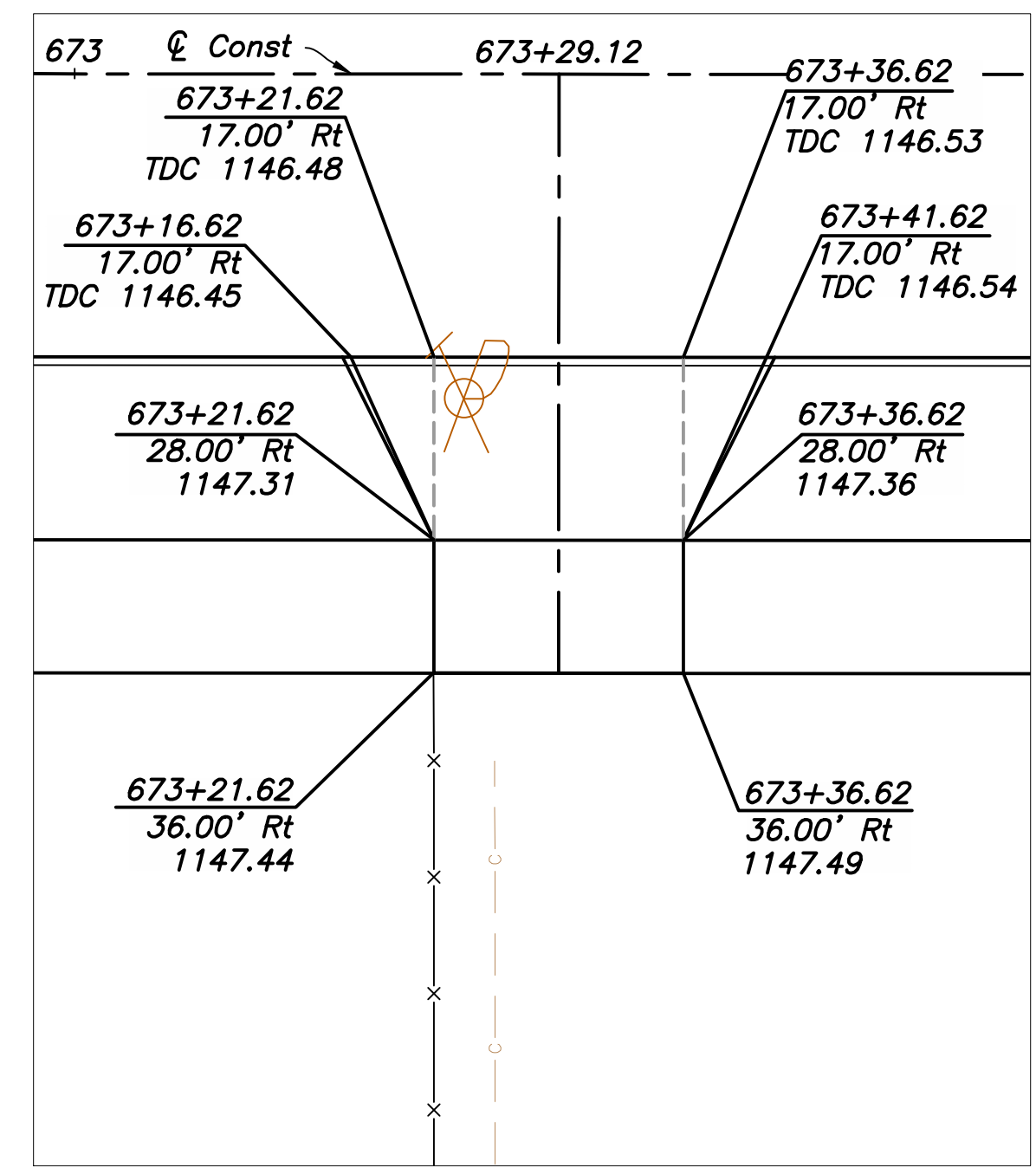
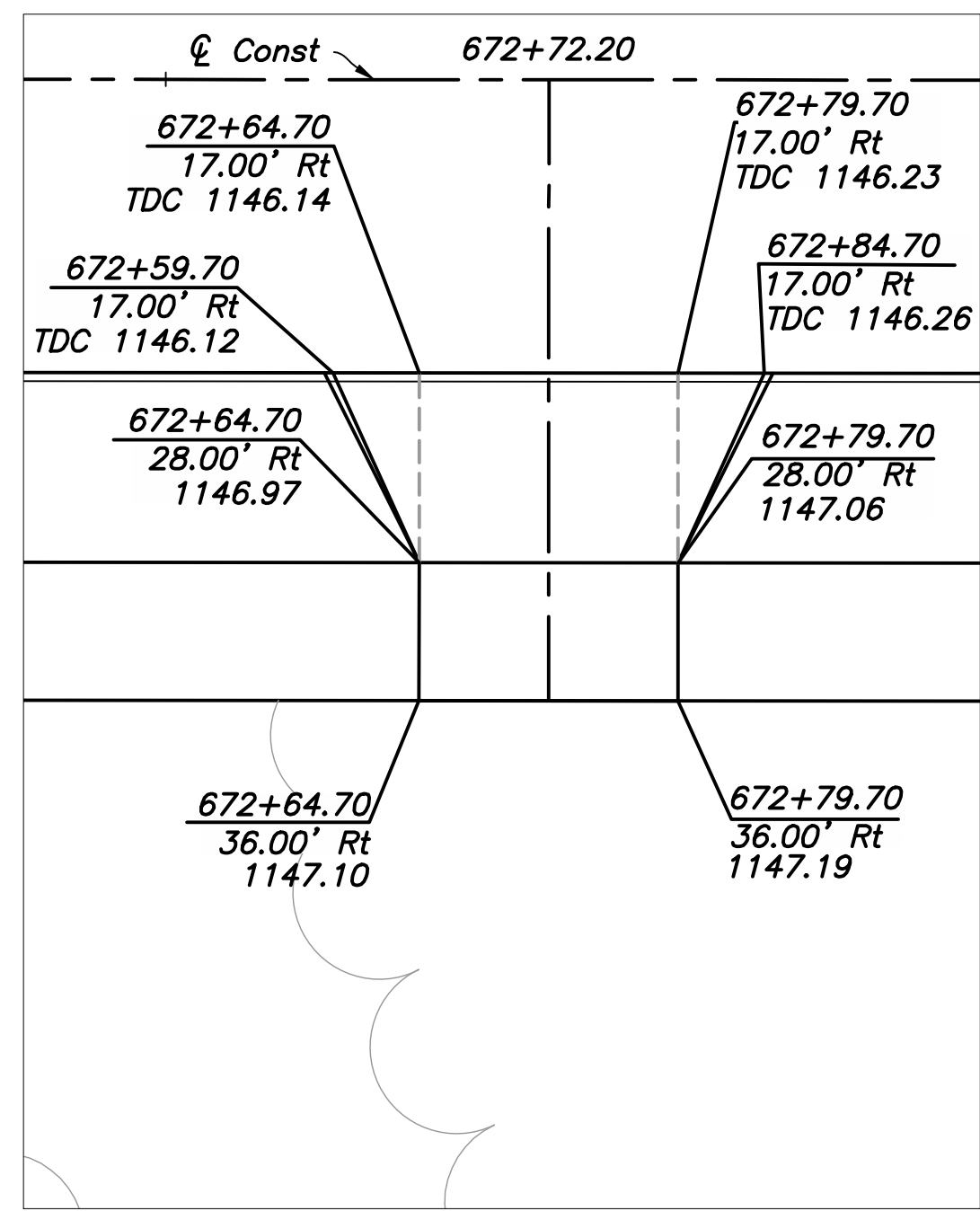
GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2



CALCULATED
JJB
CHECKED
M/S

DRIVE DETAILS - GREEN CHAPEL ROAD

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2



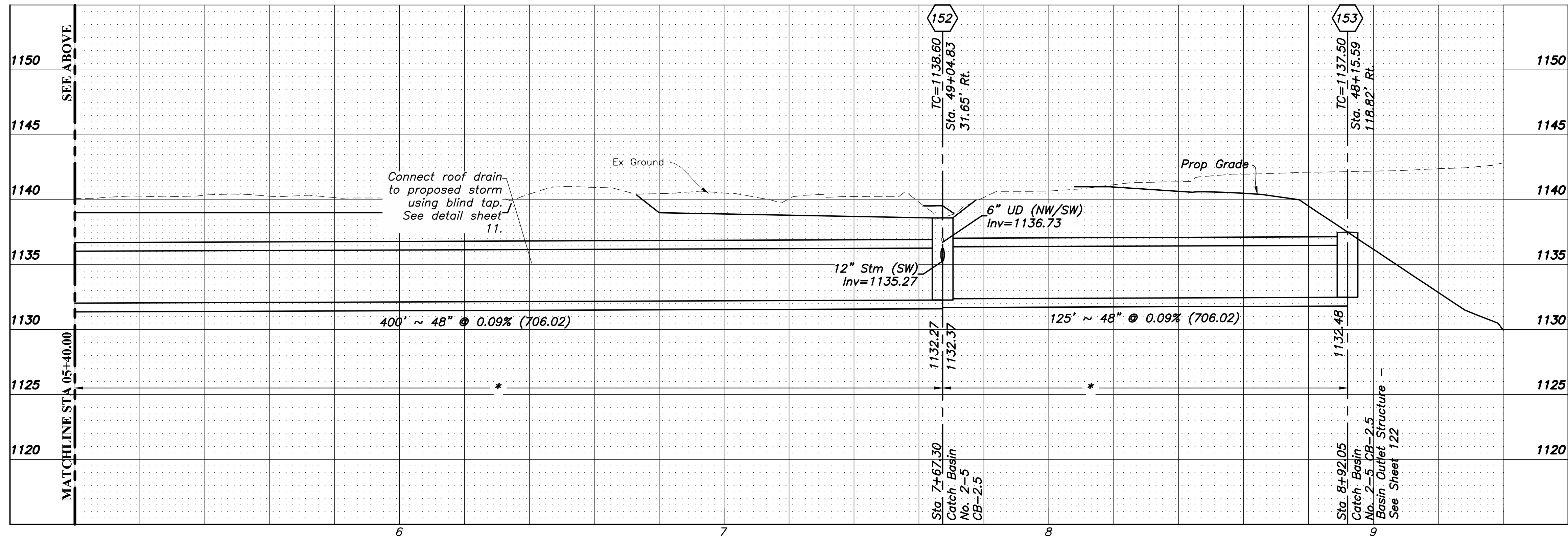
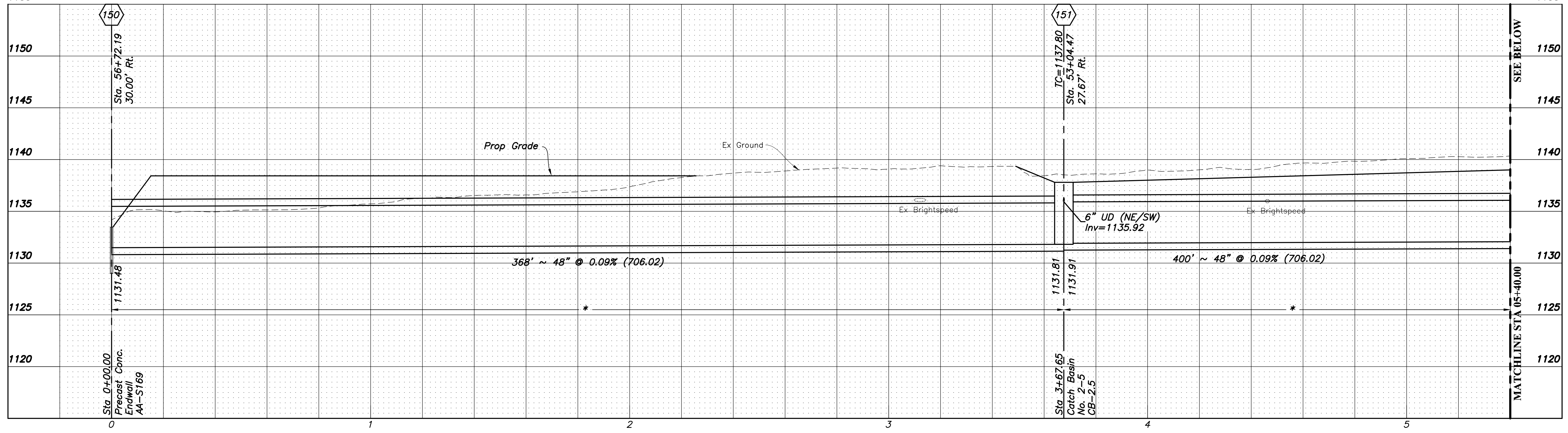
NOTES:
 TDC = Top of Depressed Curb
 M.E. = Match Existing

 Elevations represent top of pavement unless otherwise noted.

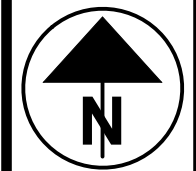
 Taper curb reveal at end of driveway flares from 6" to 1" in 0.5 feet per Columbus Standard Drawing 2201.

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- Legend**
- NOTES:**
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- ** = Type 1 Bedding, with Item 912 - Compacted Granular Material (703.11, Type 1)
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4. Curb and Gutter Inlet, AA-S125A: Inlet casting shall be East Jordan 7505 with bicycle compatible grate, or approved equal.
- Curb and Gutter Inlet, AA-S125B: Inlet casting shall be per AA-S128.
5. Contractor shall take care to orient manhole lids to the center of lane, outside of wheel path where applicable.



STORM SEWER PROFILES

CALCULATED: JJB

CHECKED: MJS

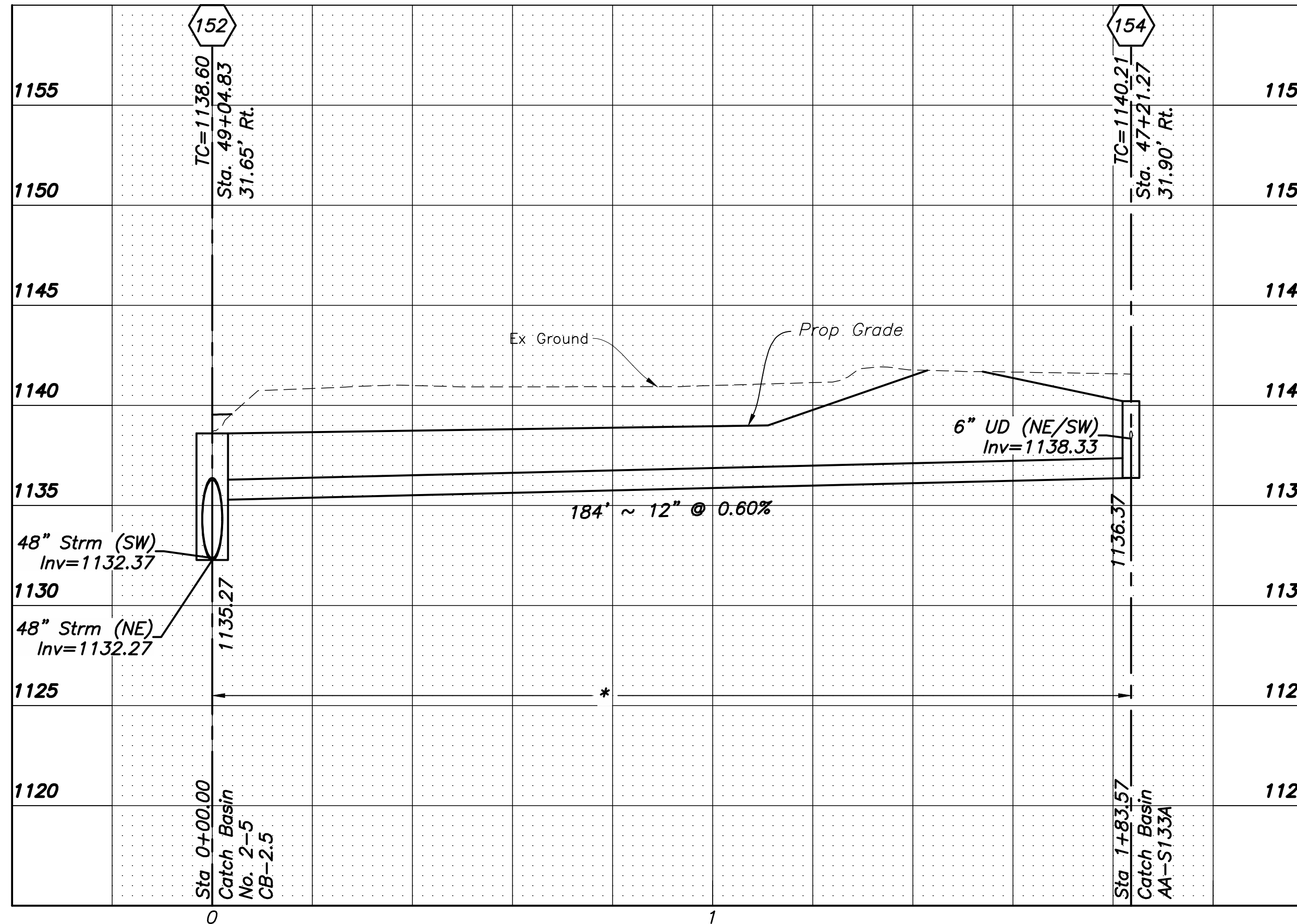
HORIZ 1 inch = 20 Feet

VERT 1 inch = 5 Feet

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

107

164



Legend

NOTES:

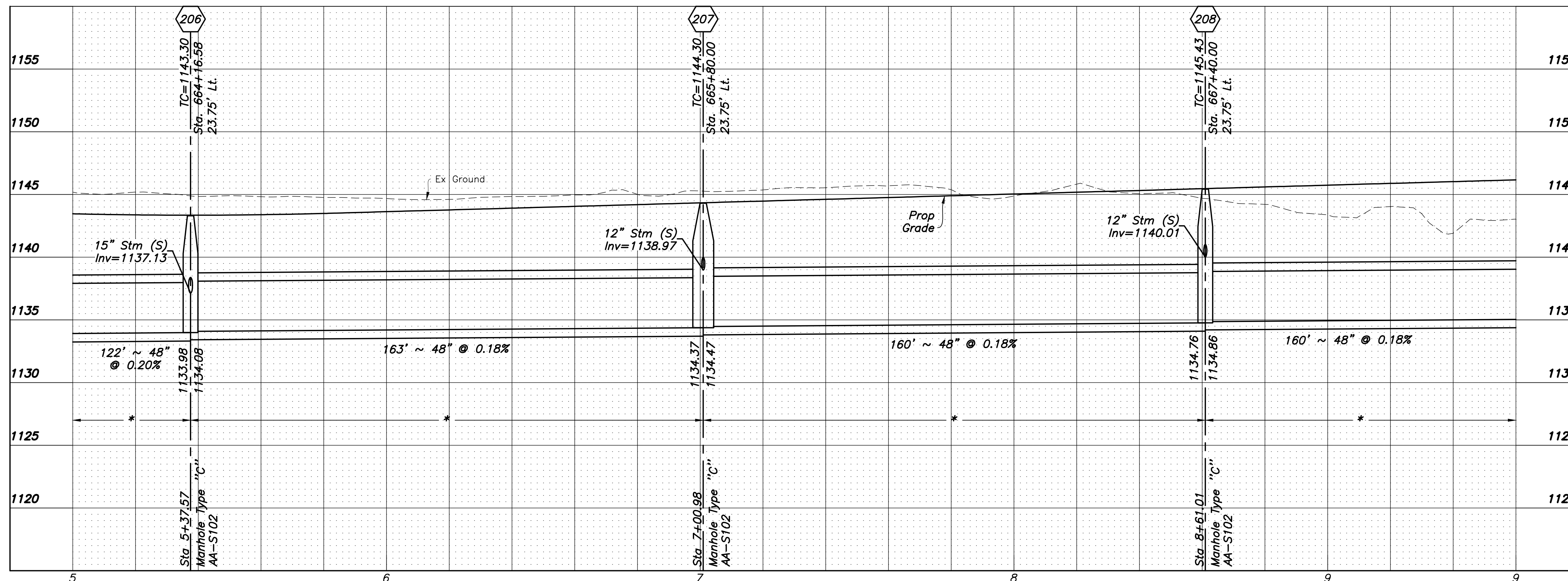
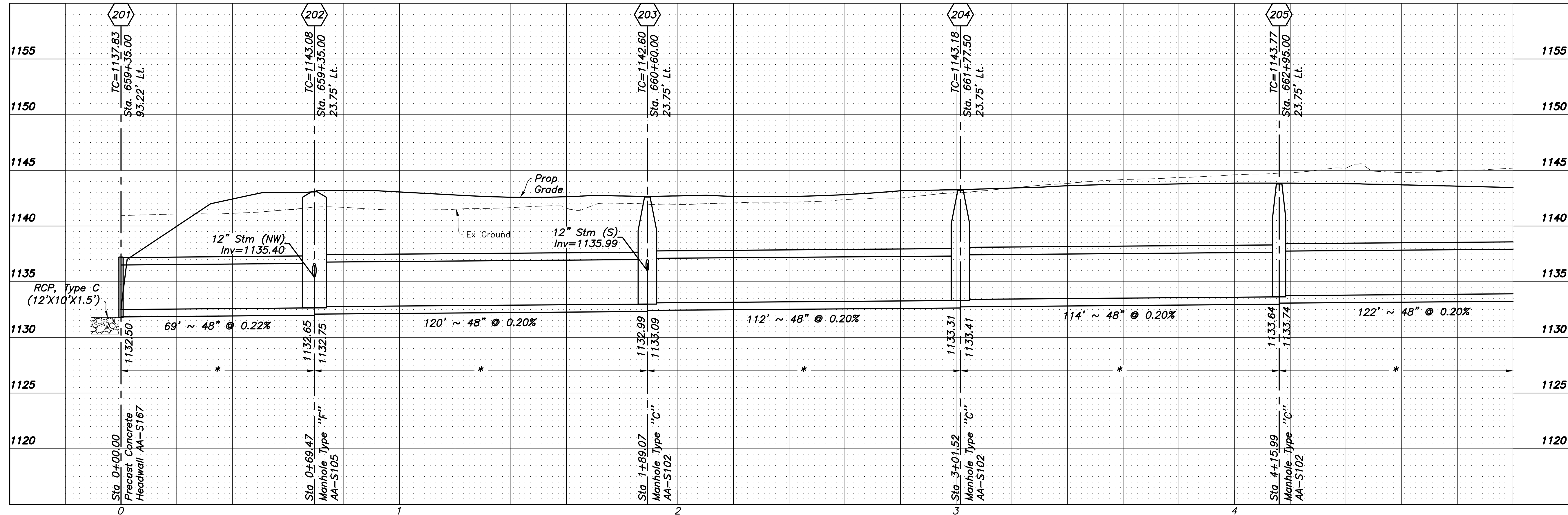
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CALCULATED
 HORIZ 1 inch = 20 Feet
 VERT 1 inch = 5 Feet

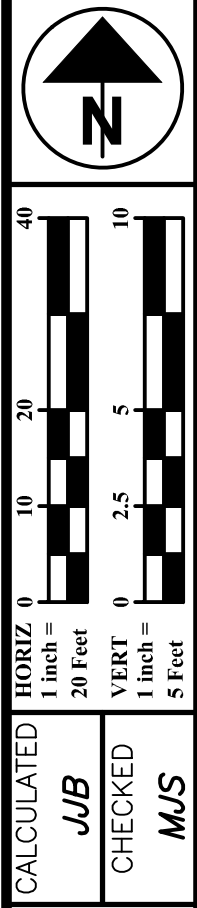
CHECKED
 JJB
 MJS

STORM SEWER PROFILES

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2



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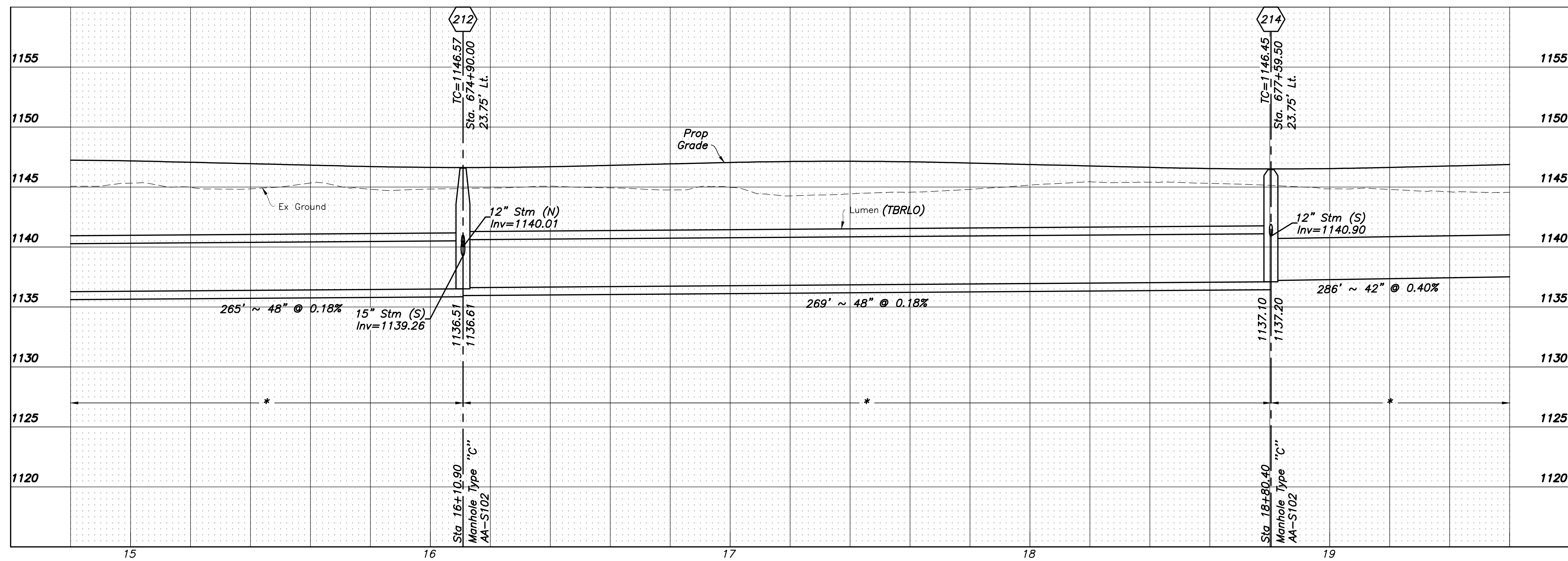
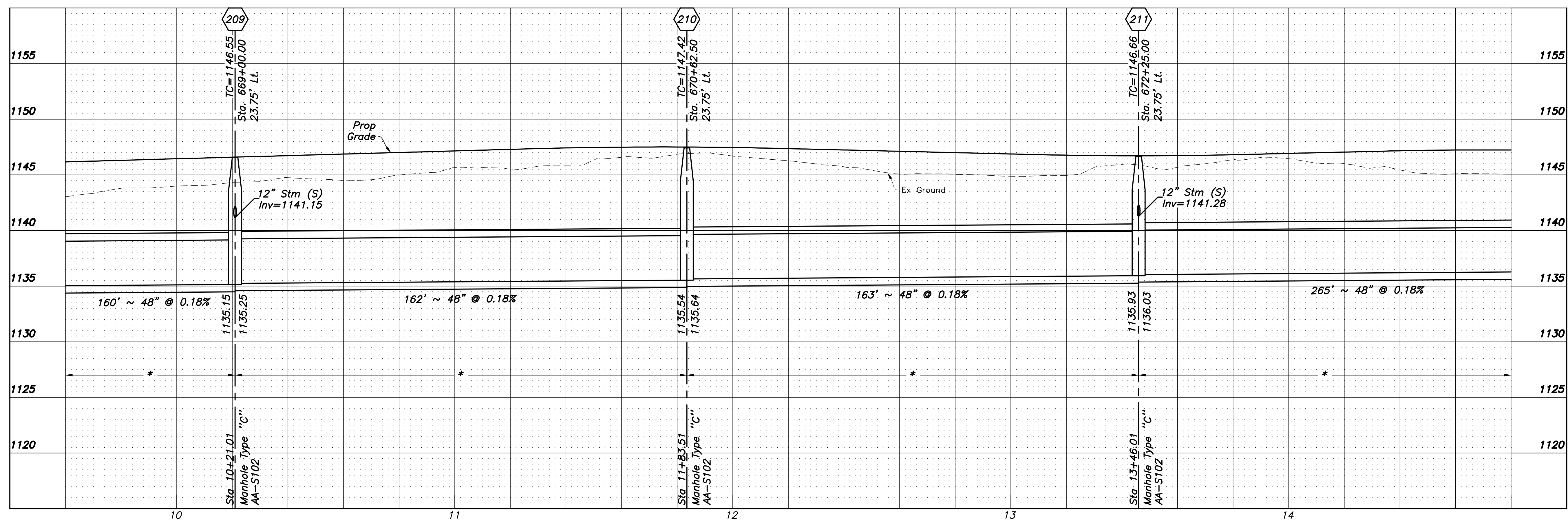


STORM SEWER PROFILES


GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

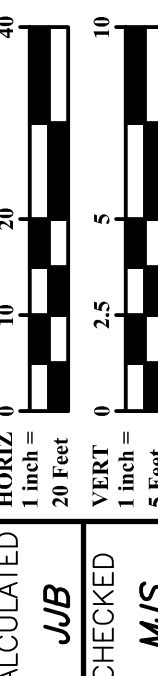
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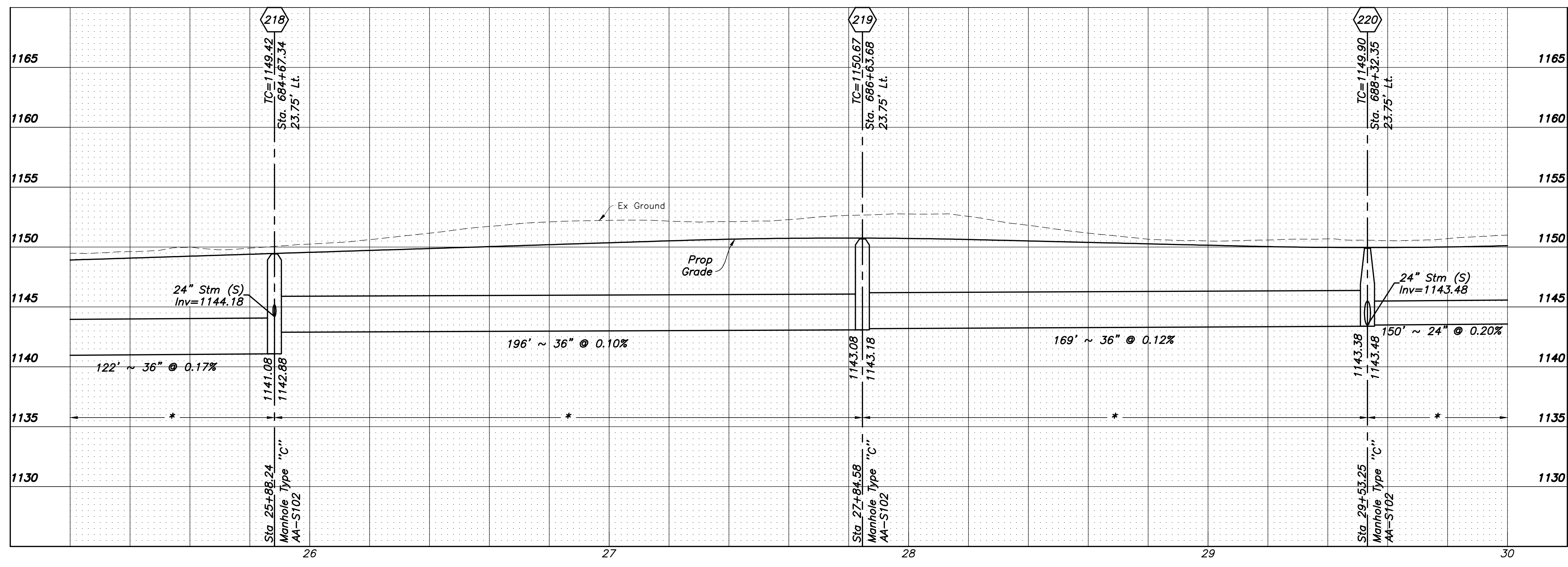
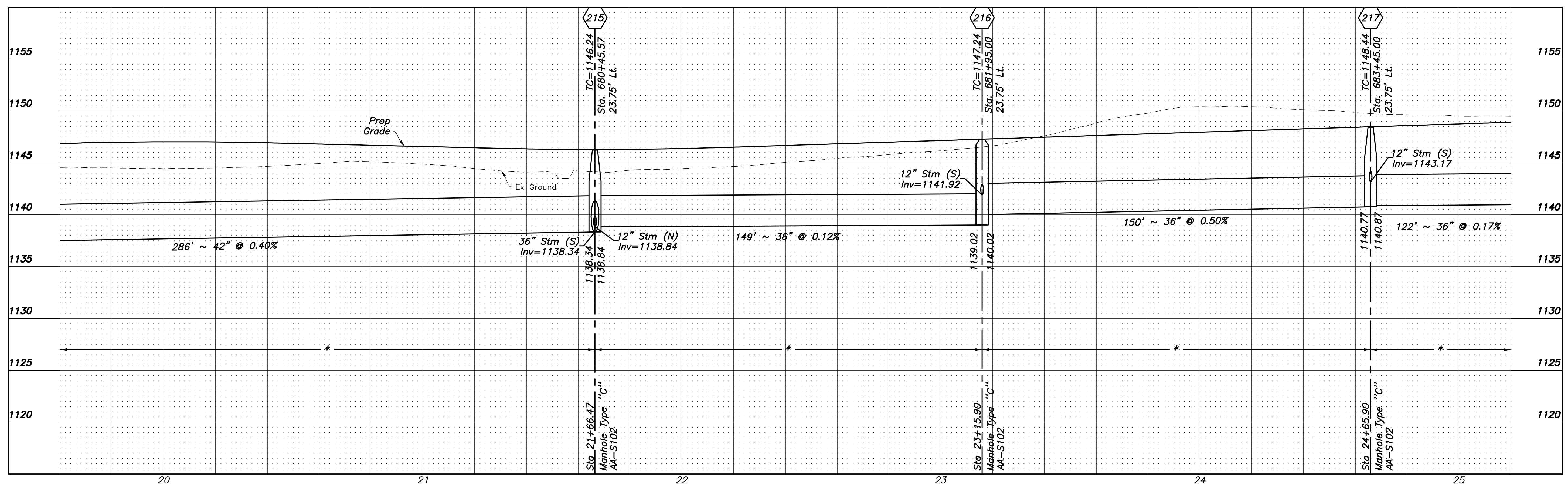


STORM SEWER PROFILES

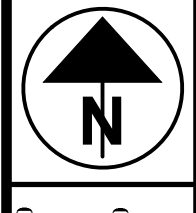
GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

110
164

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STORM SEWER PROFILES

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

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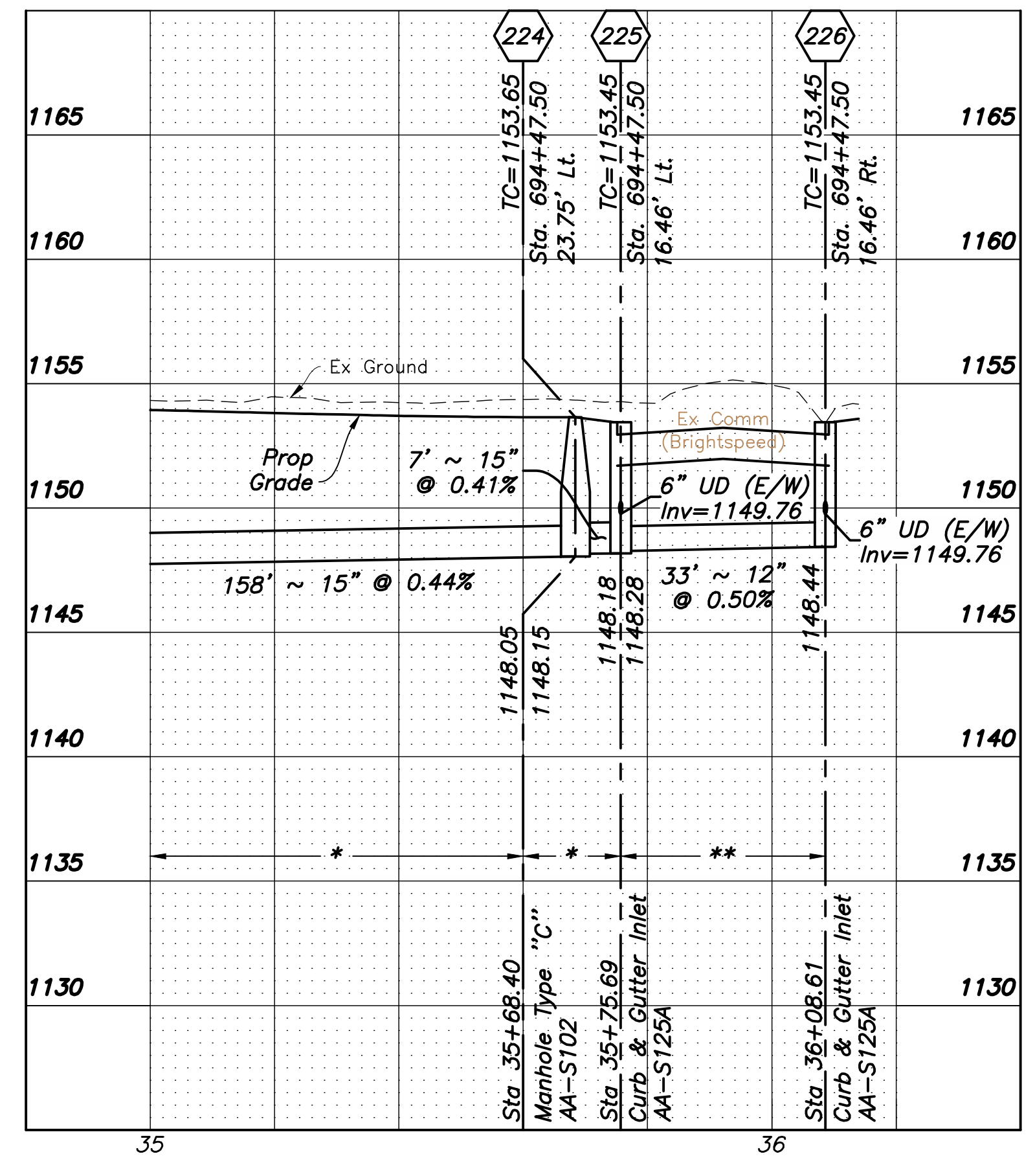
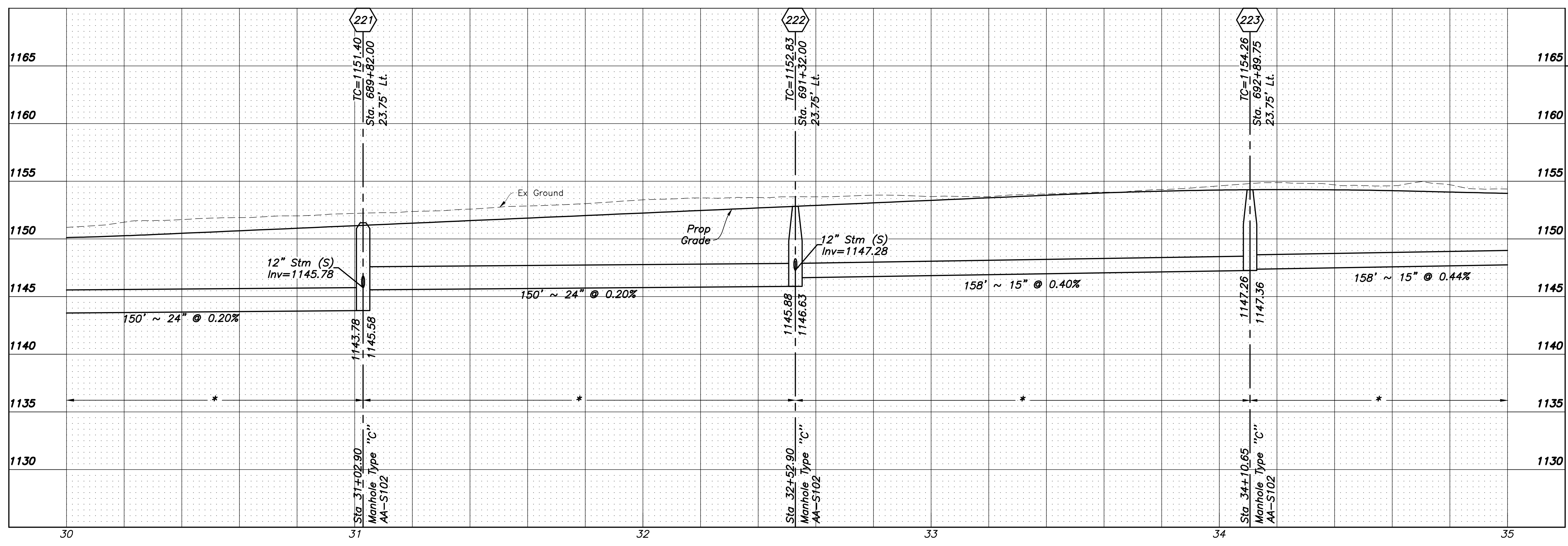
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CHECKED: MJS

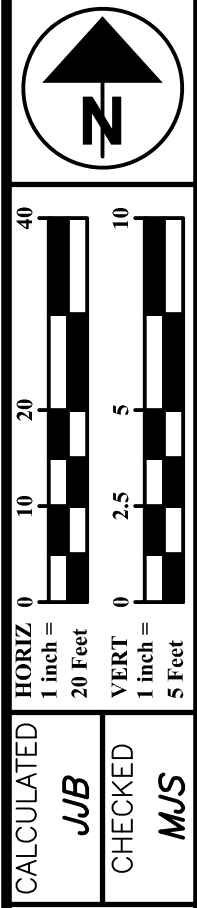
HORIZ: 1 inch = 20 Feet

VERT: 1 inch = 5 Feet

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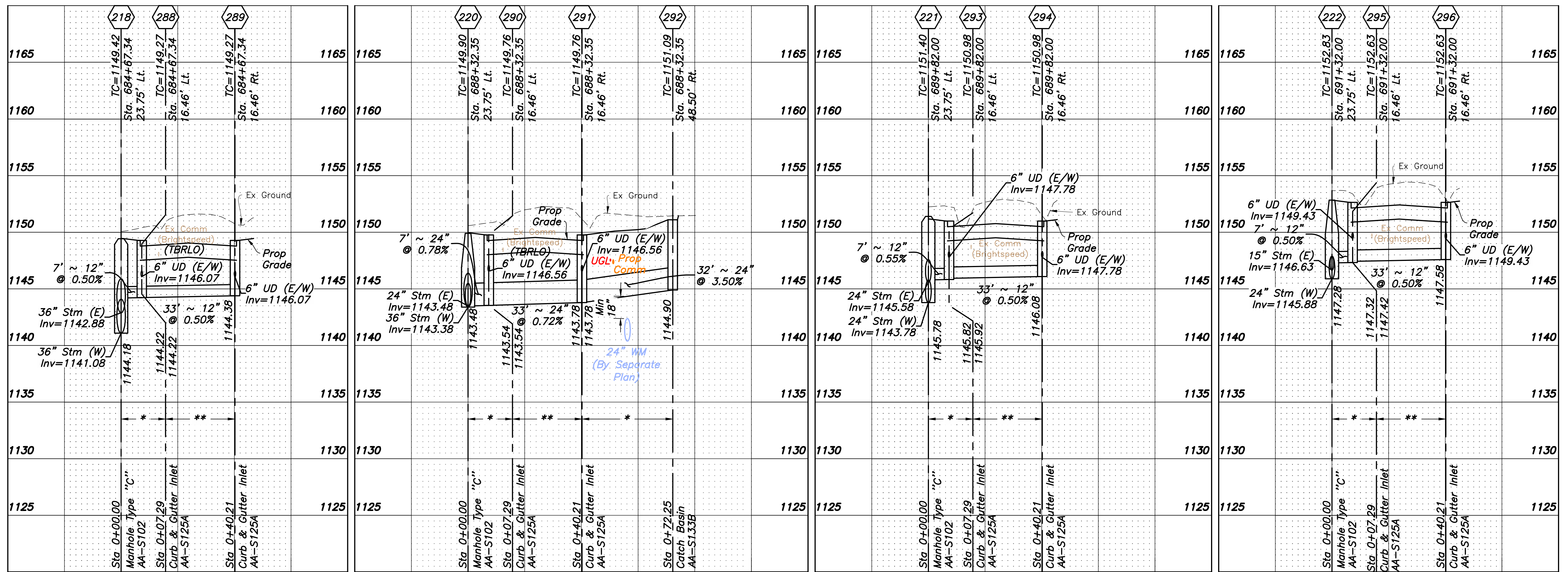


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STORM SEWER PROFILES

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2



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115
164

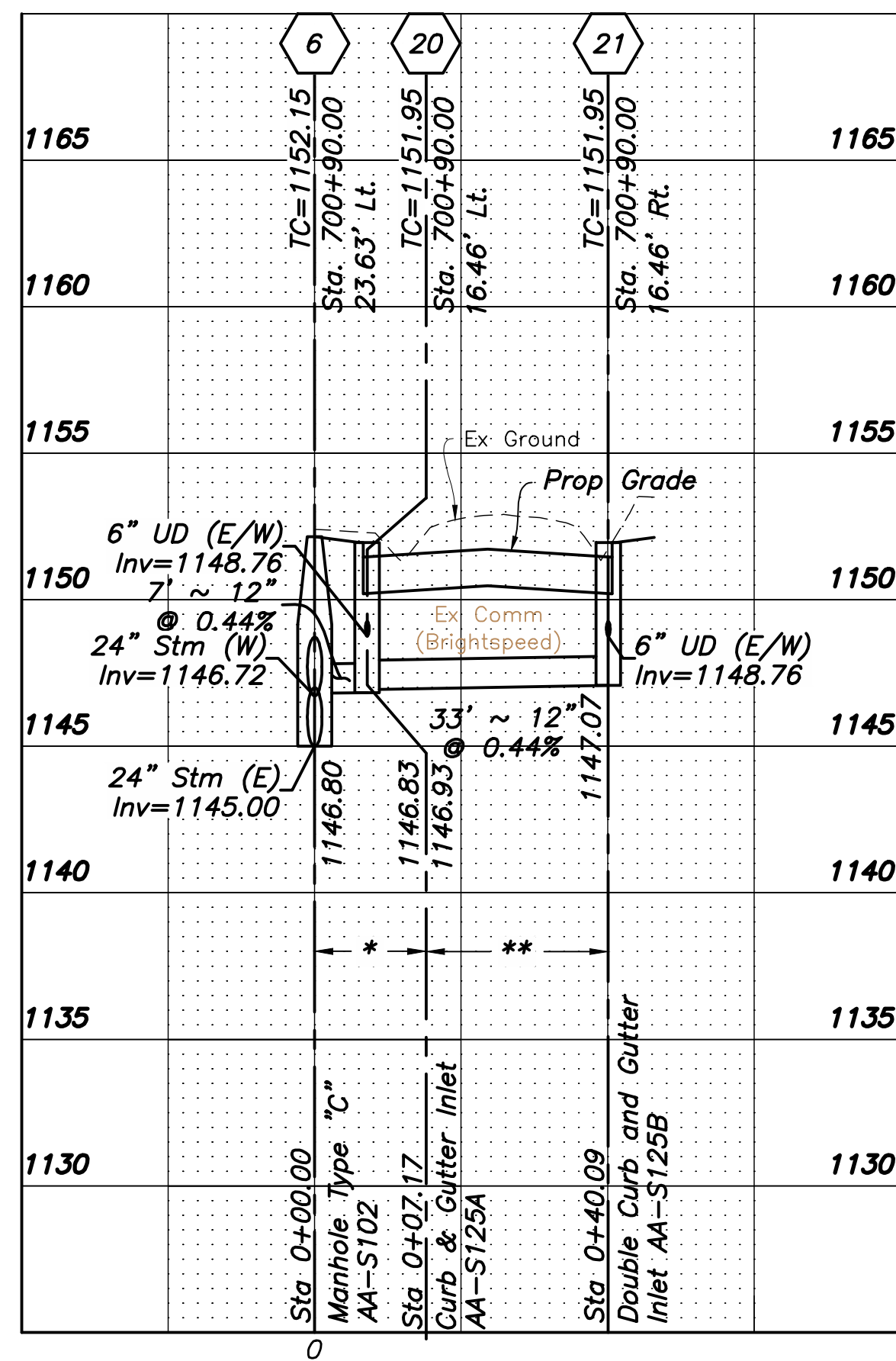
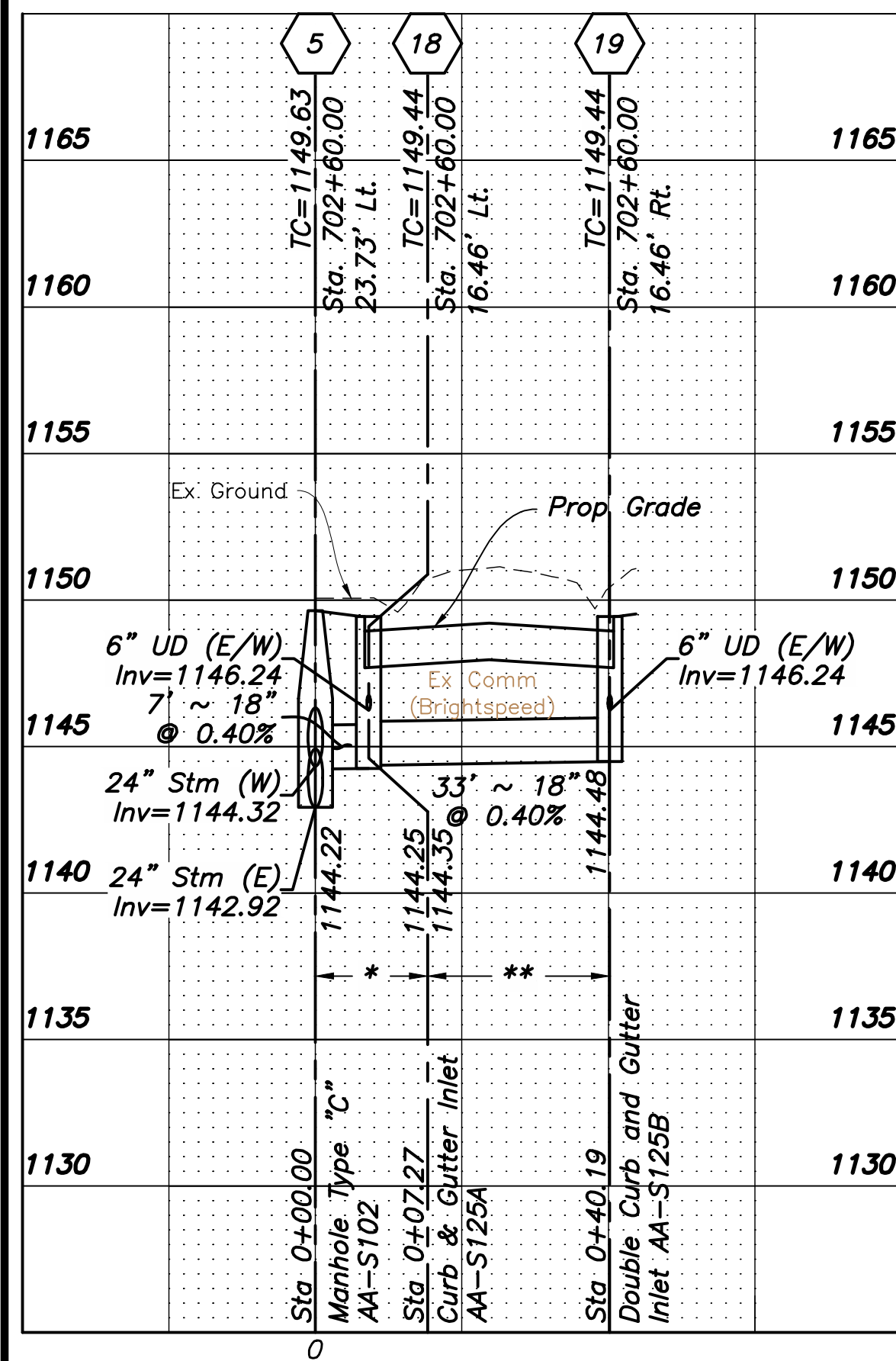
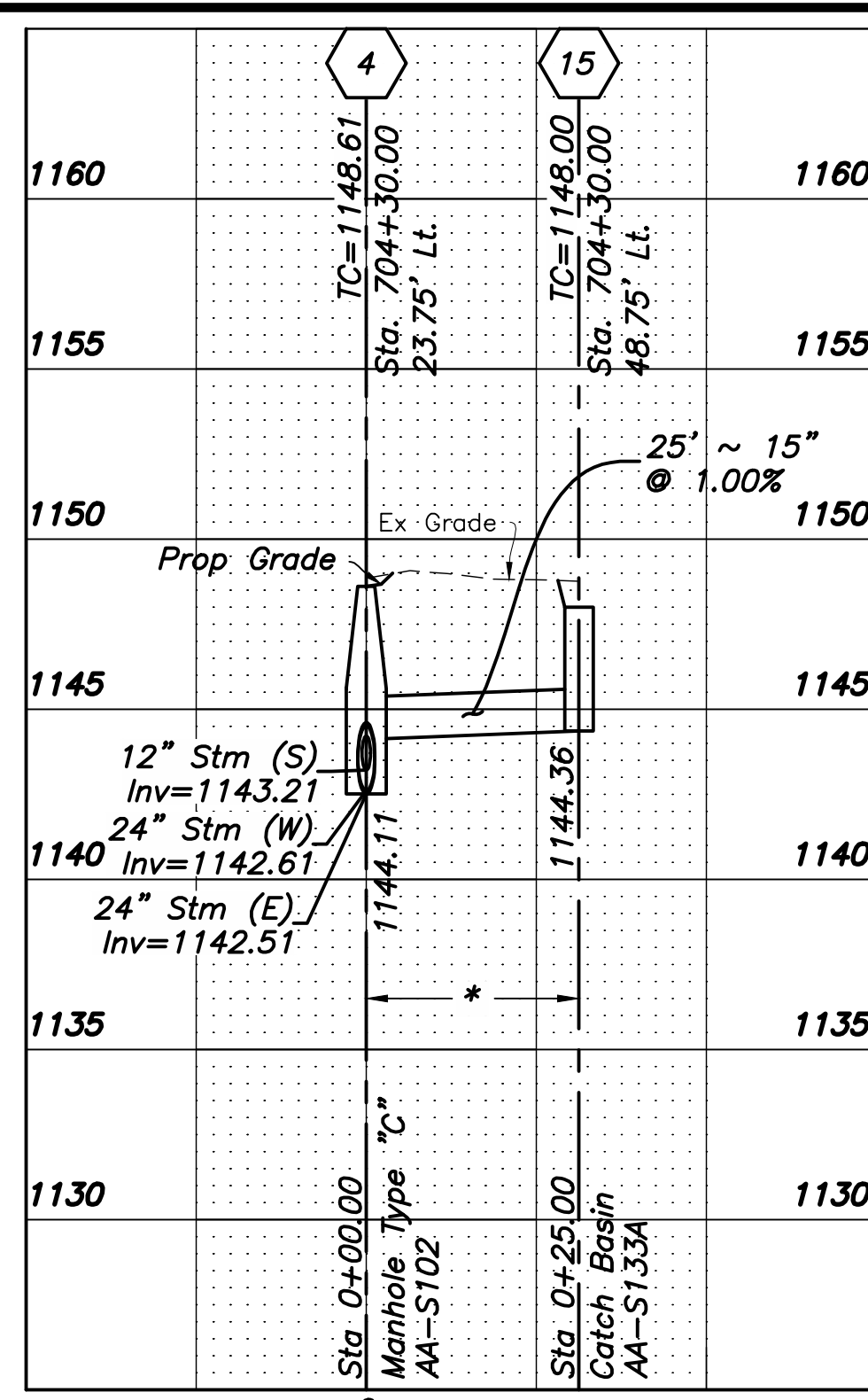
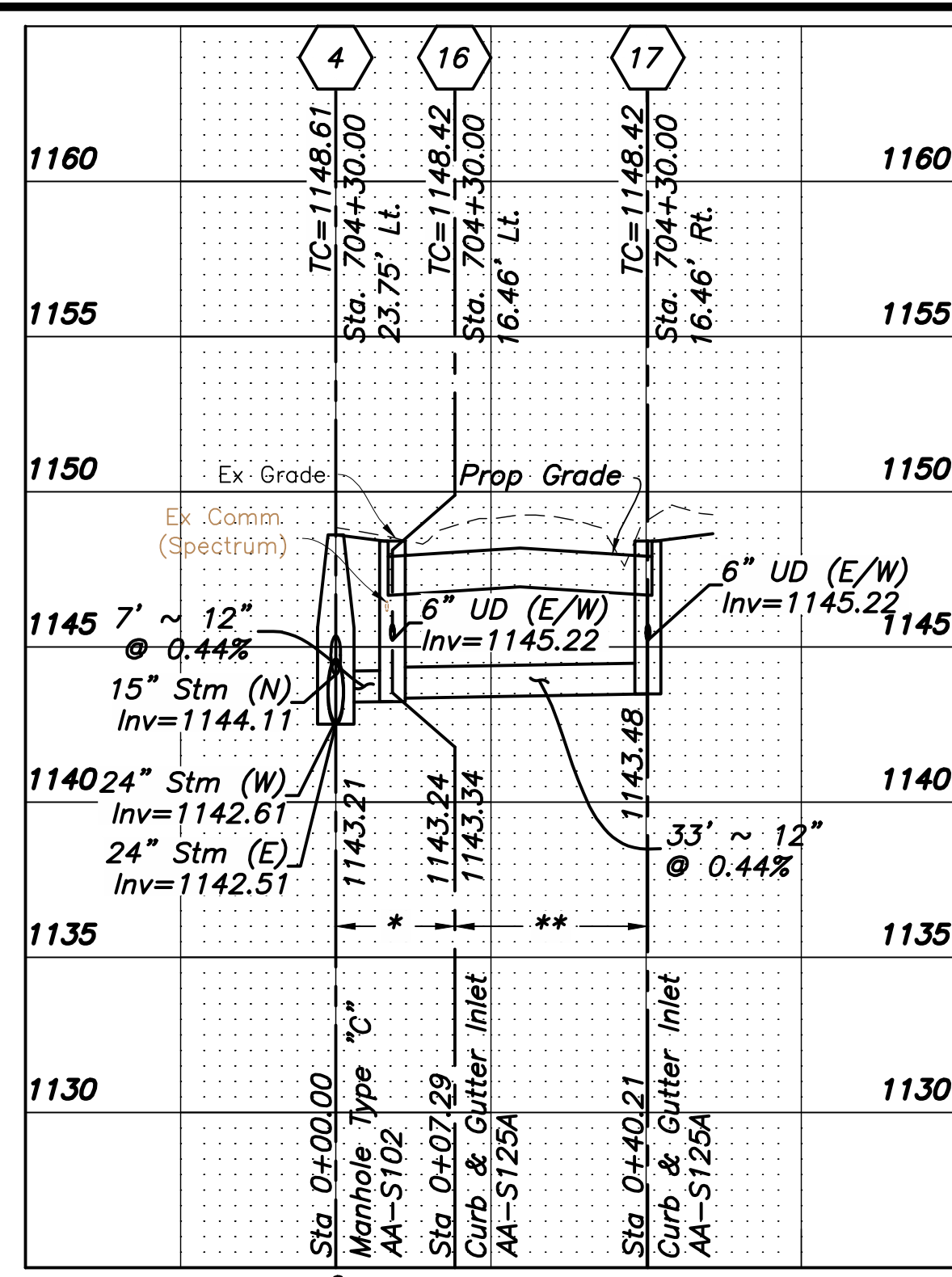
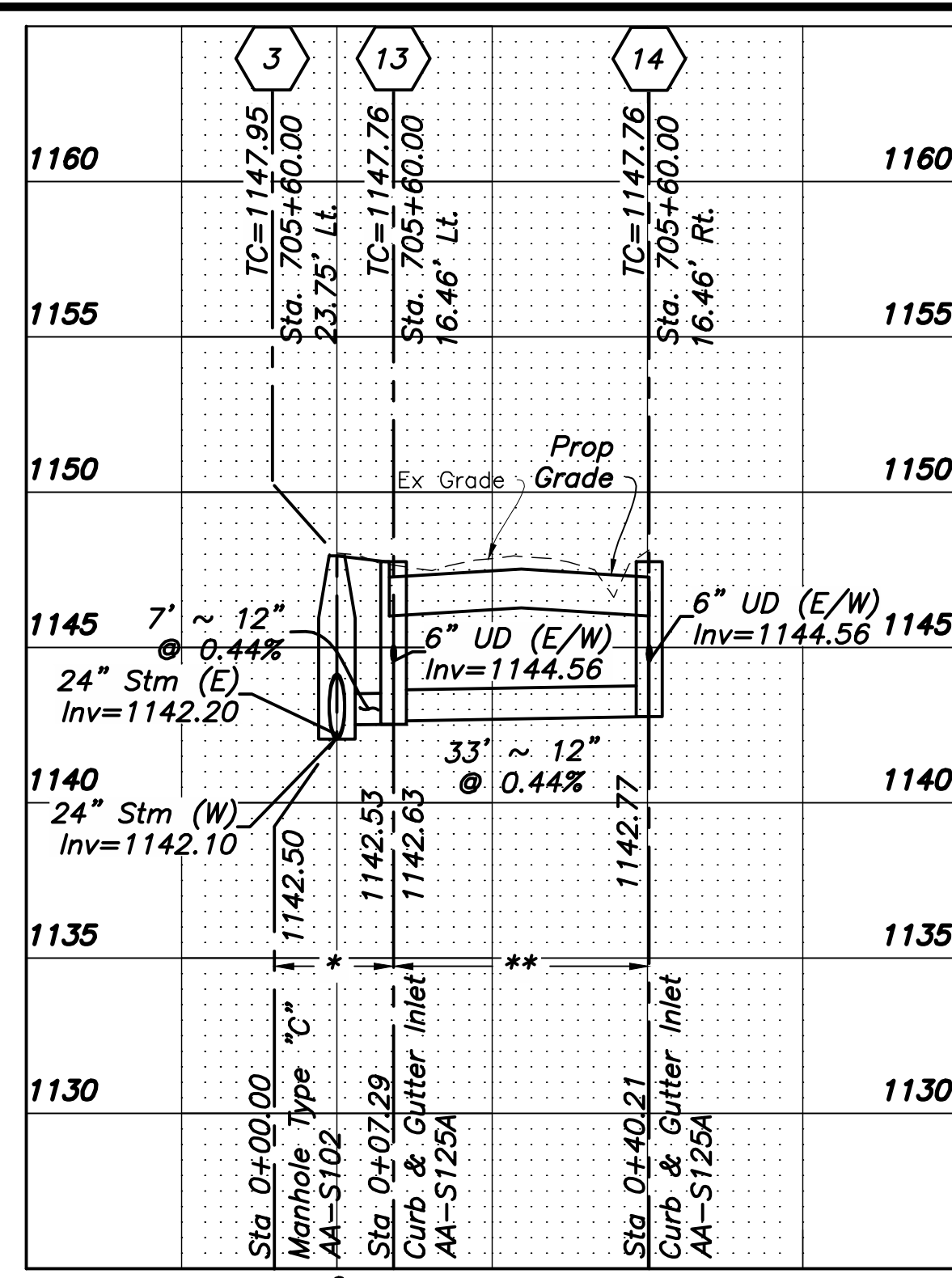
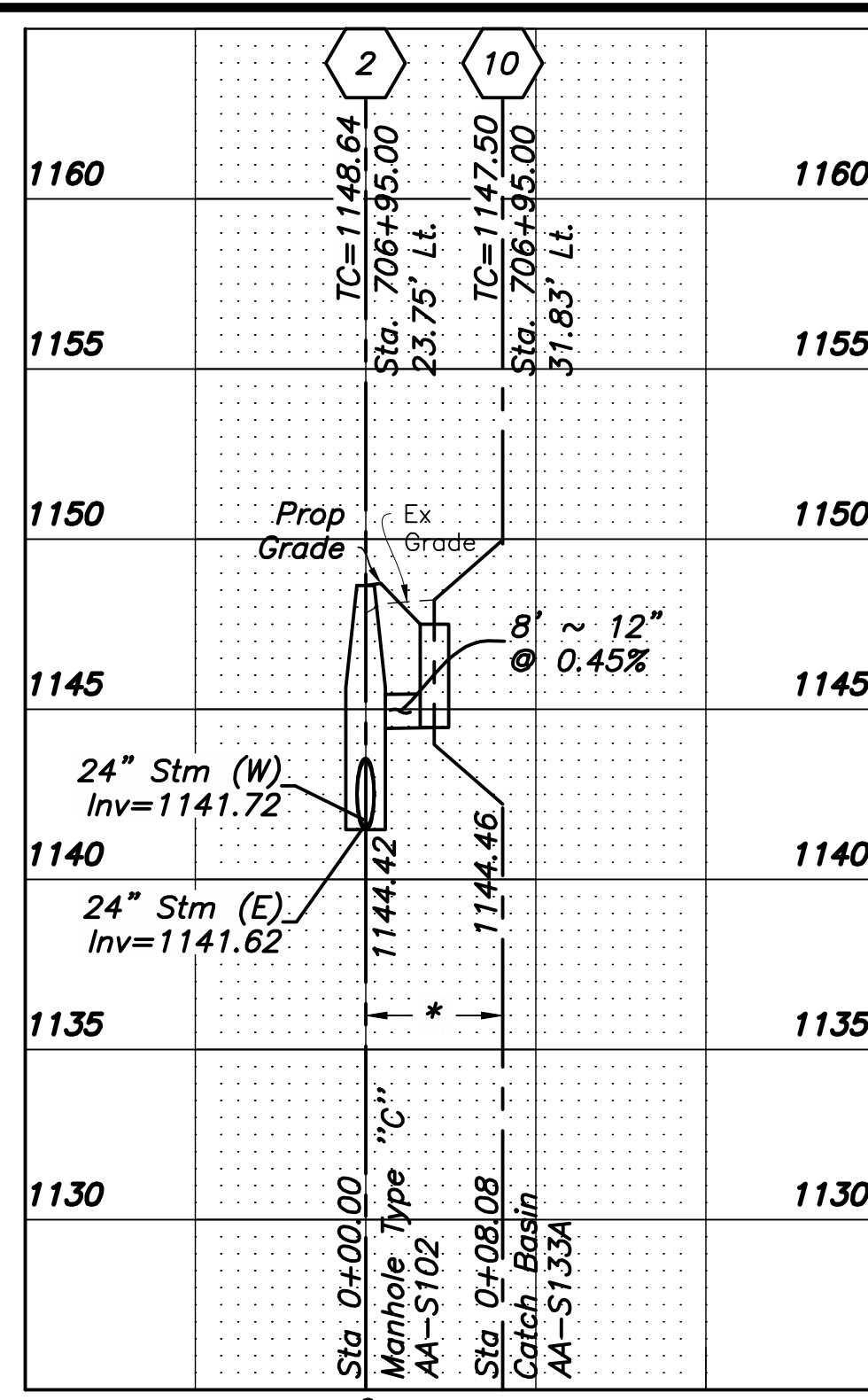
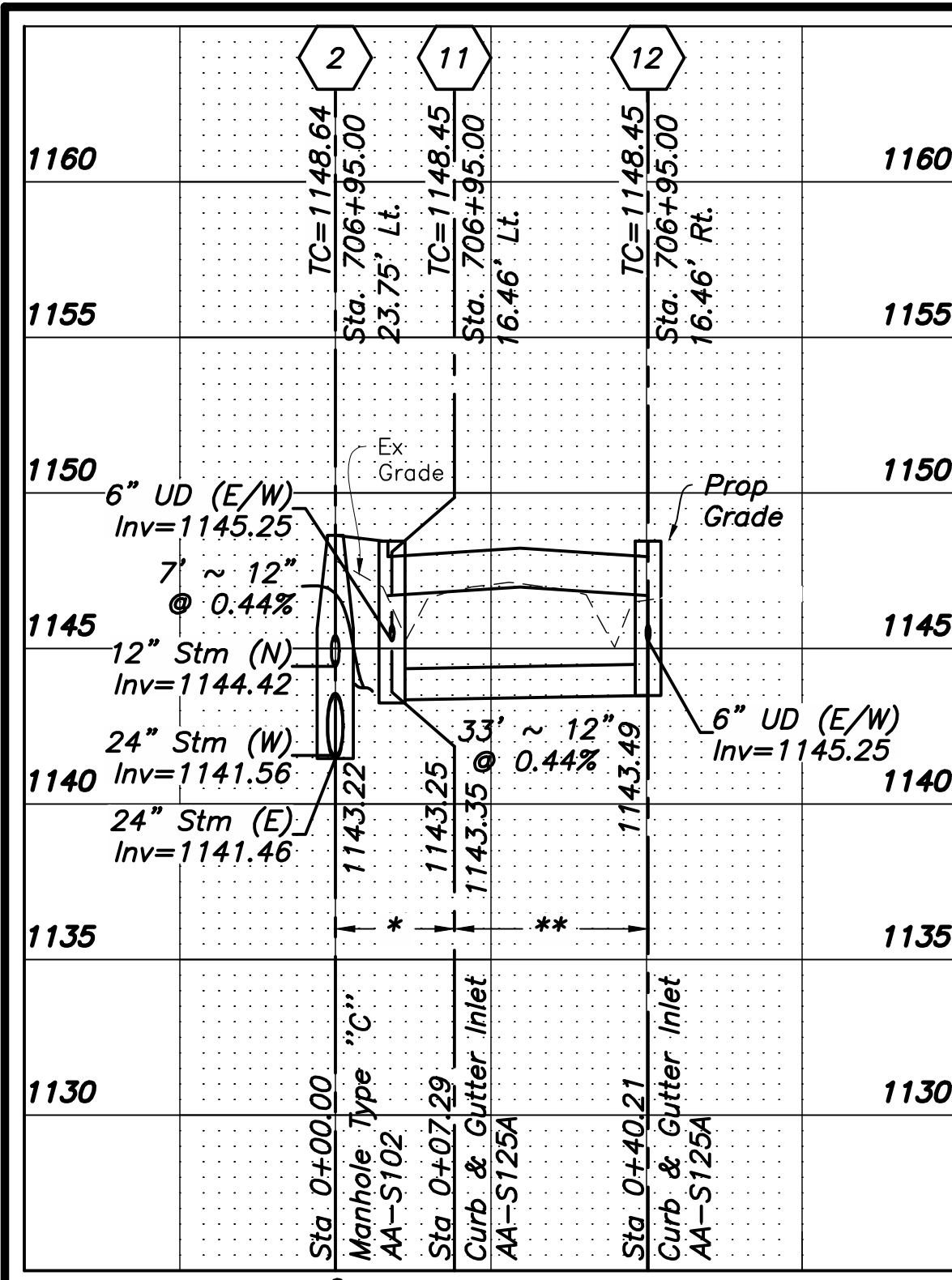
STORM SEWER PROFILES

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

CALCULATED JVB CHECKED MJS

1 inch = 20 Feet
1 inch = 5 Feet

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Legend

- NOTES:**
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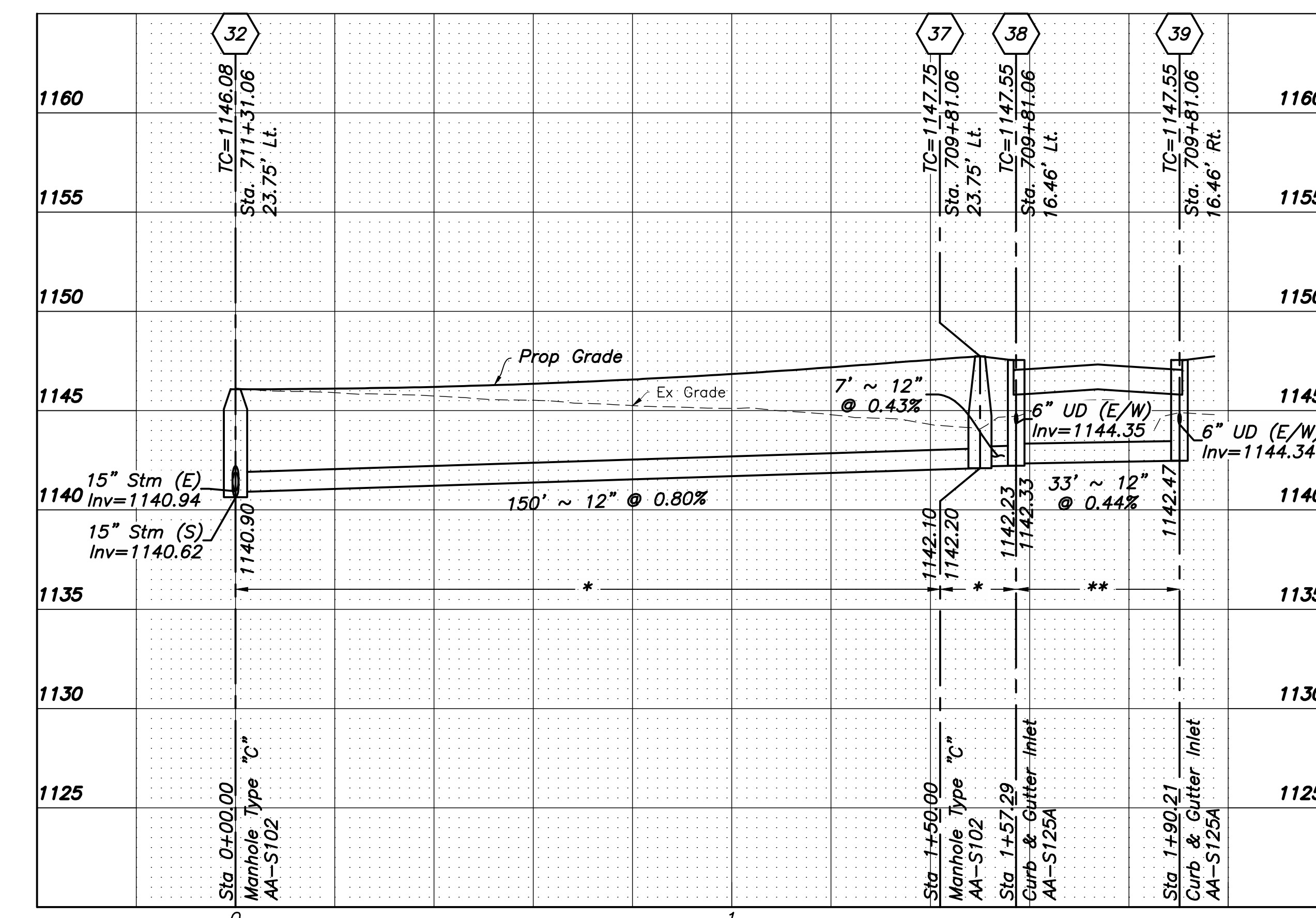
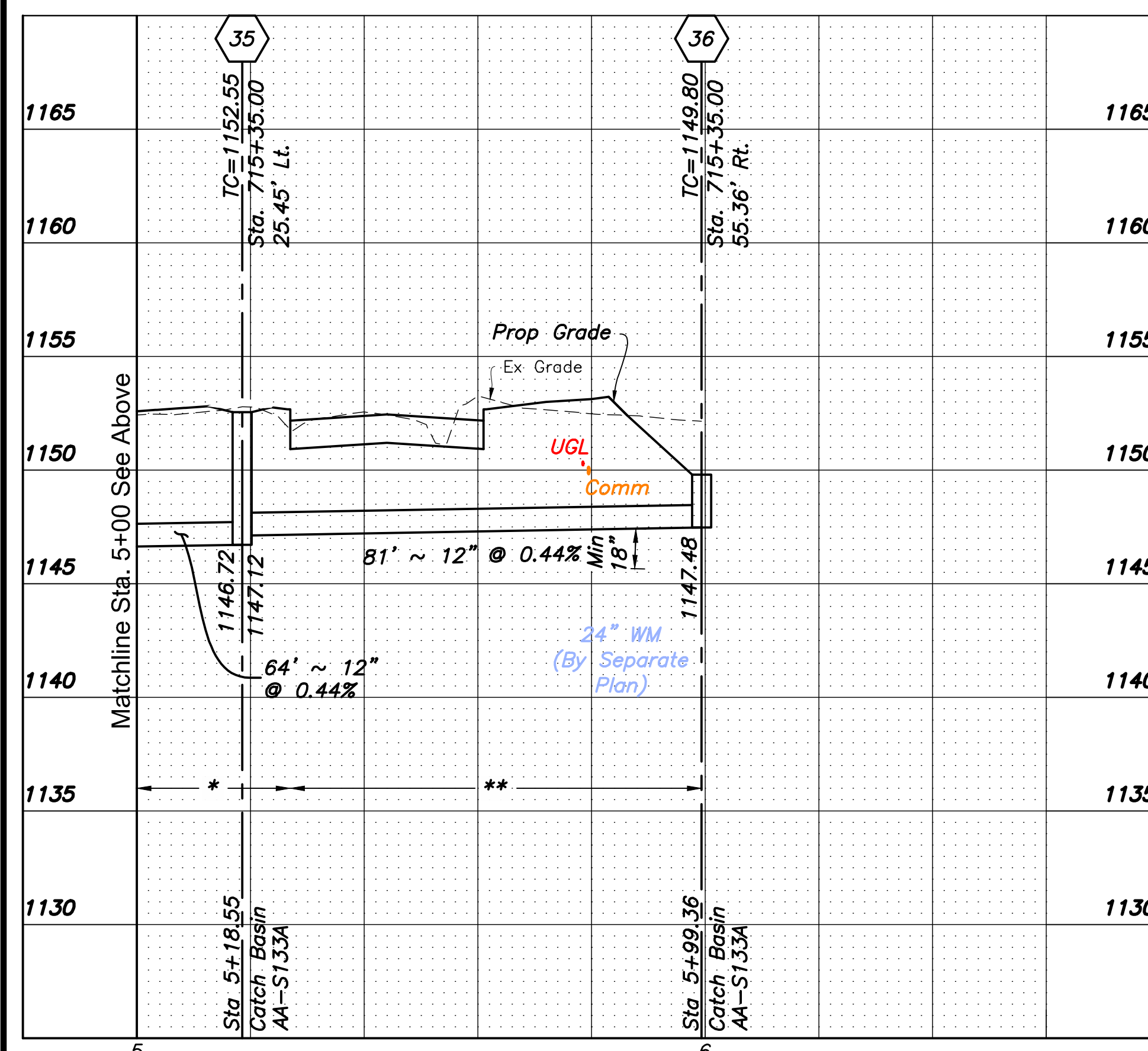
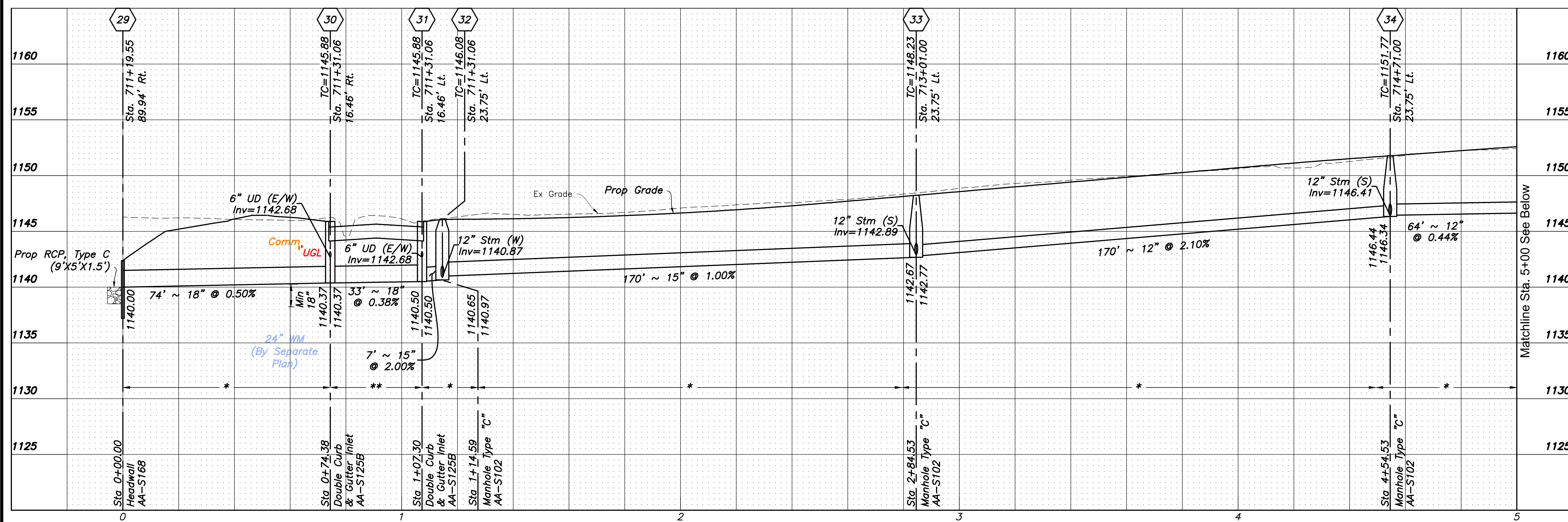
STORM SEWER PROFILES

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

117
164

NOVEMBER, 2024

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- Legend**
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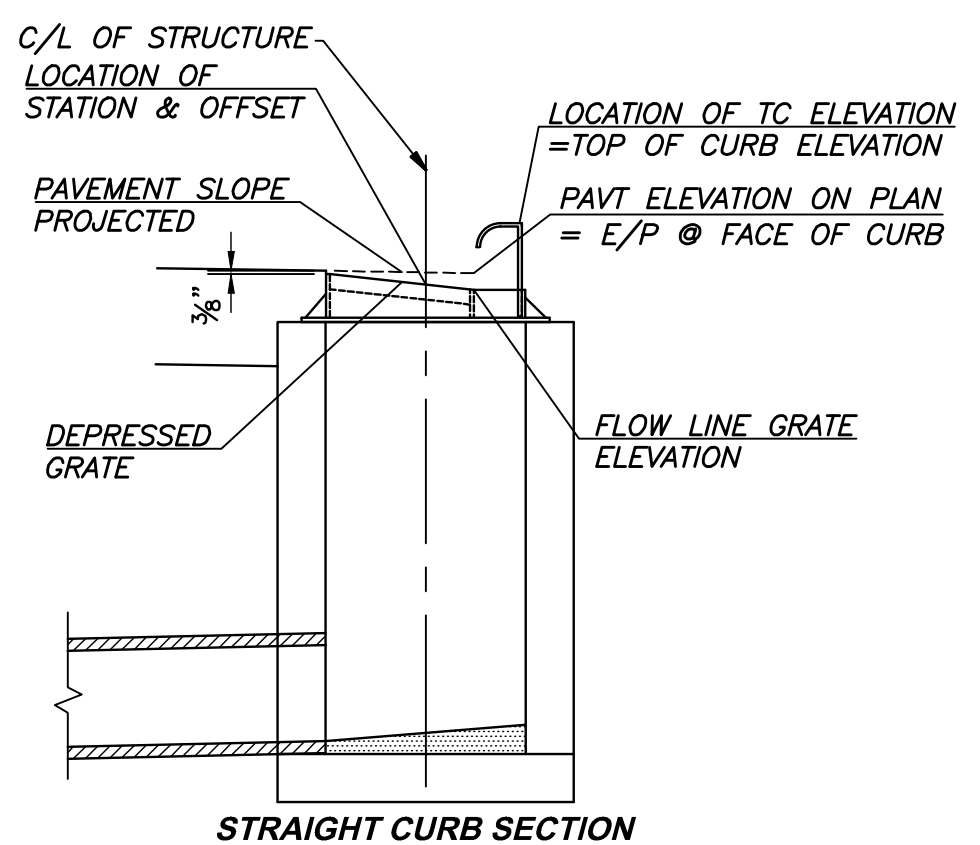
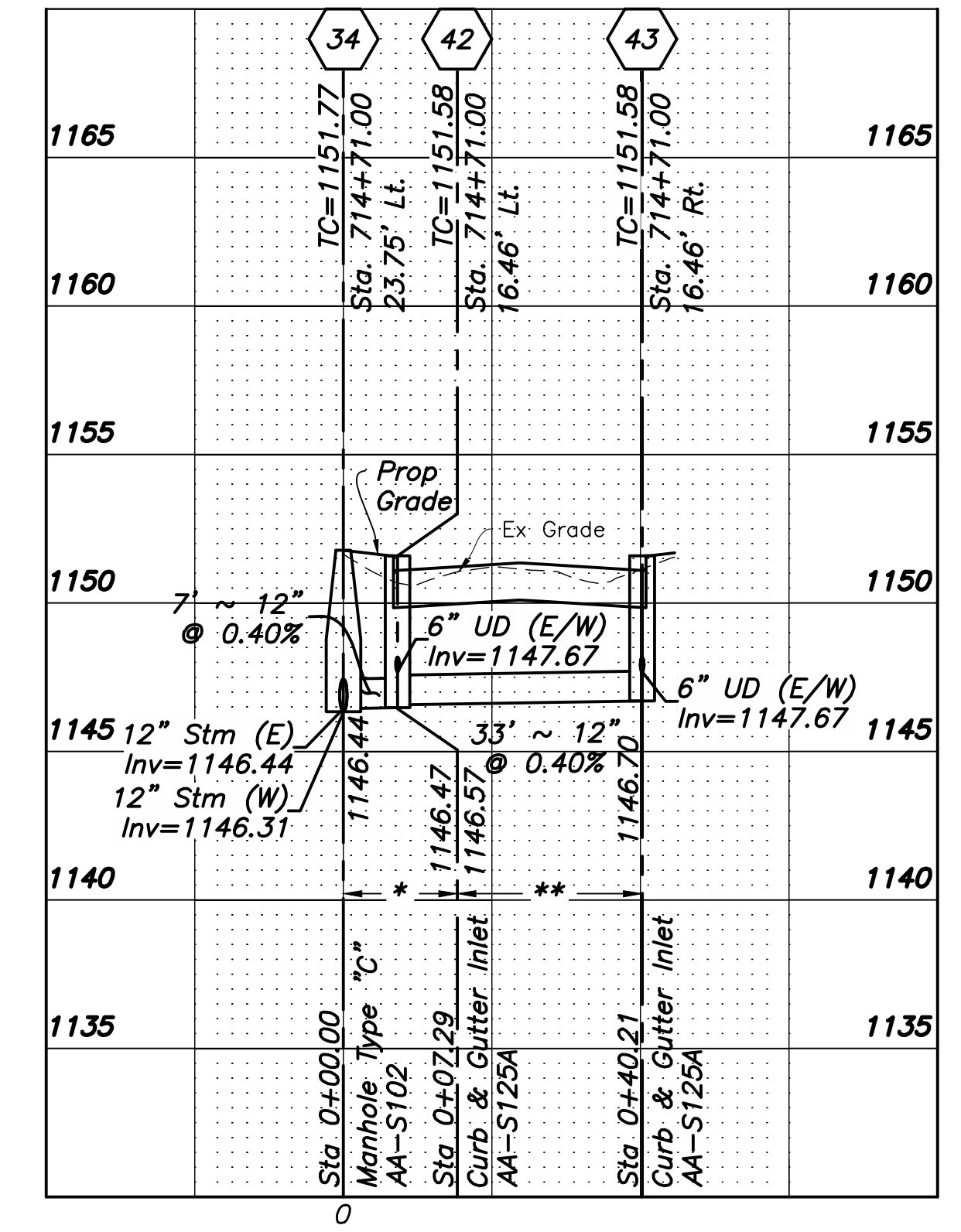
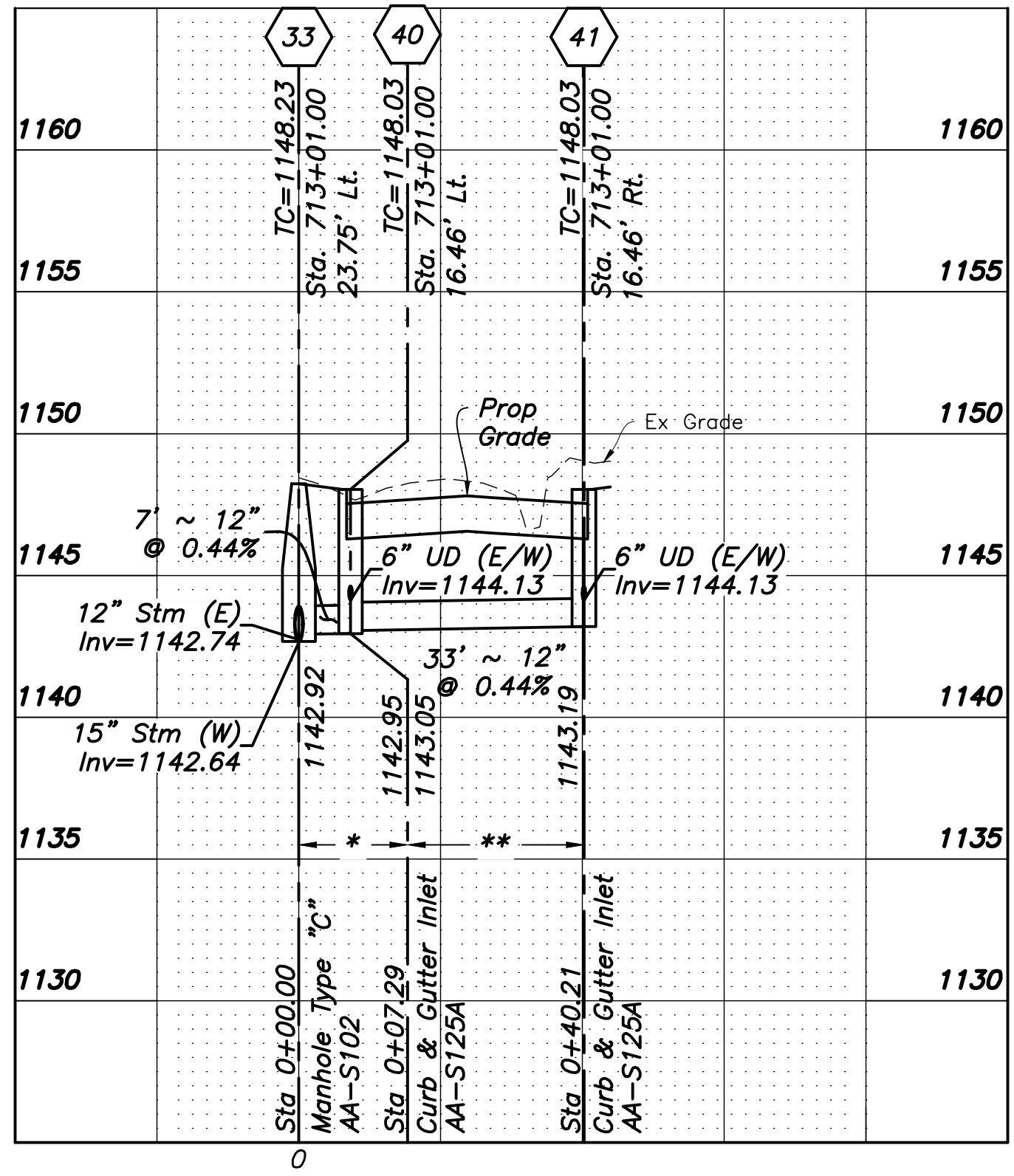
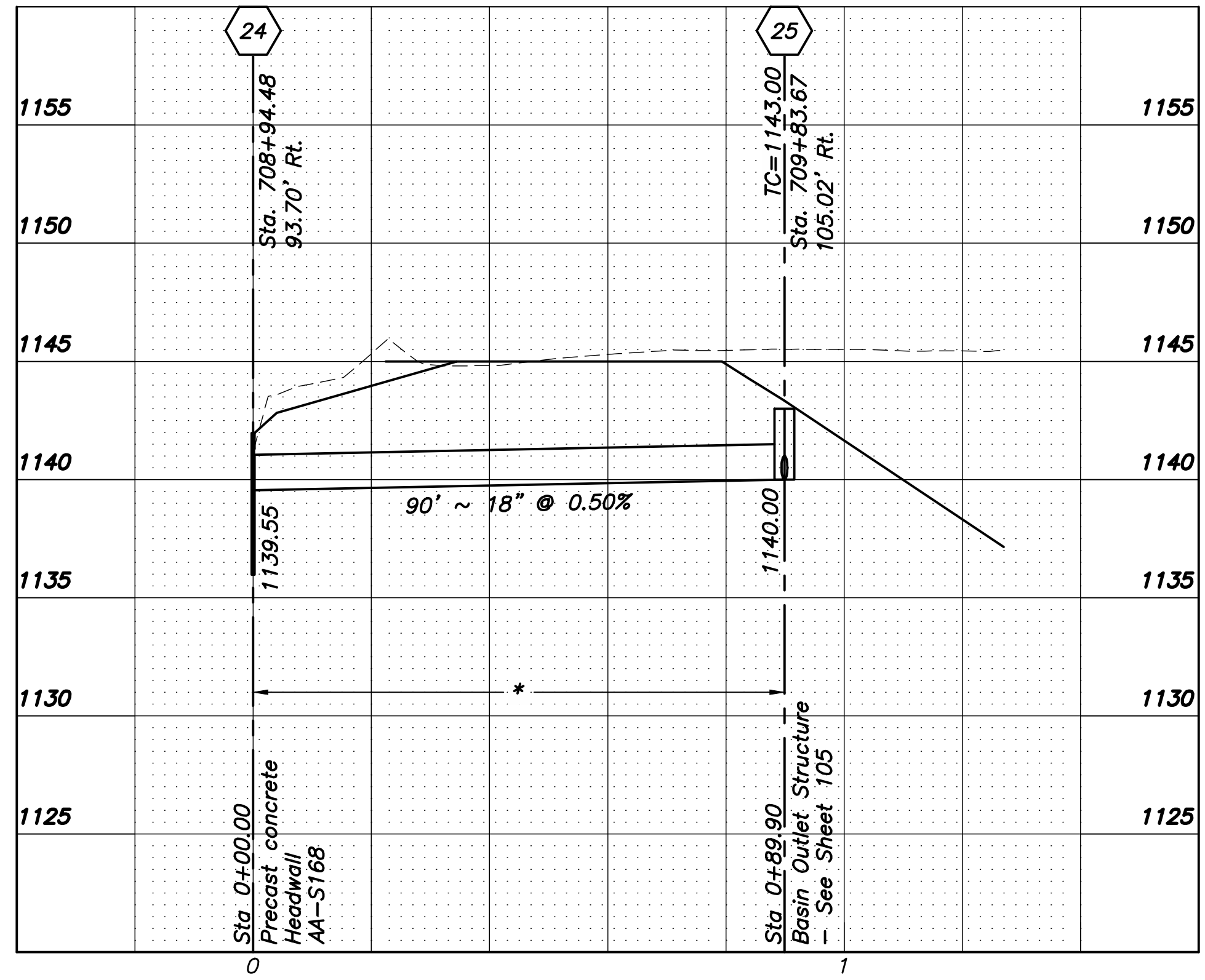
1" = 20 Feet
1" = 5 Feet

CALCULATED: JJB
CHECKED: MJS

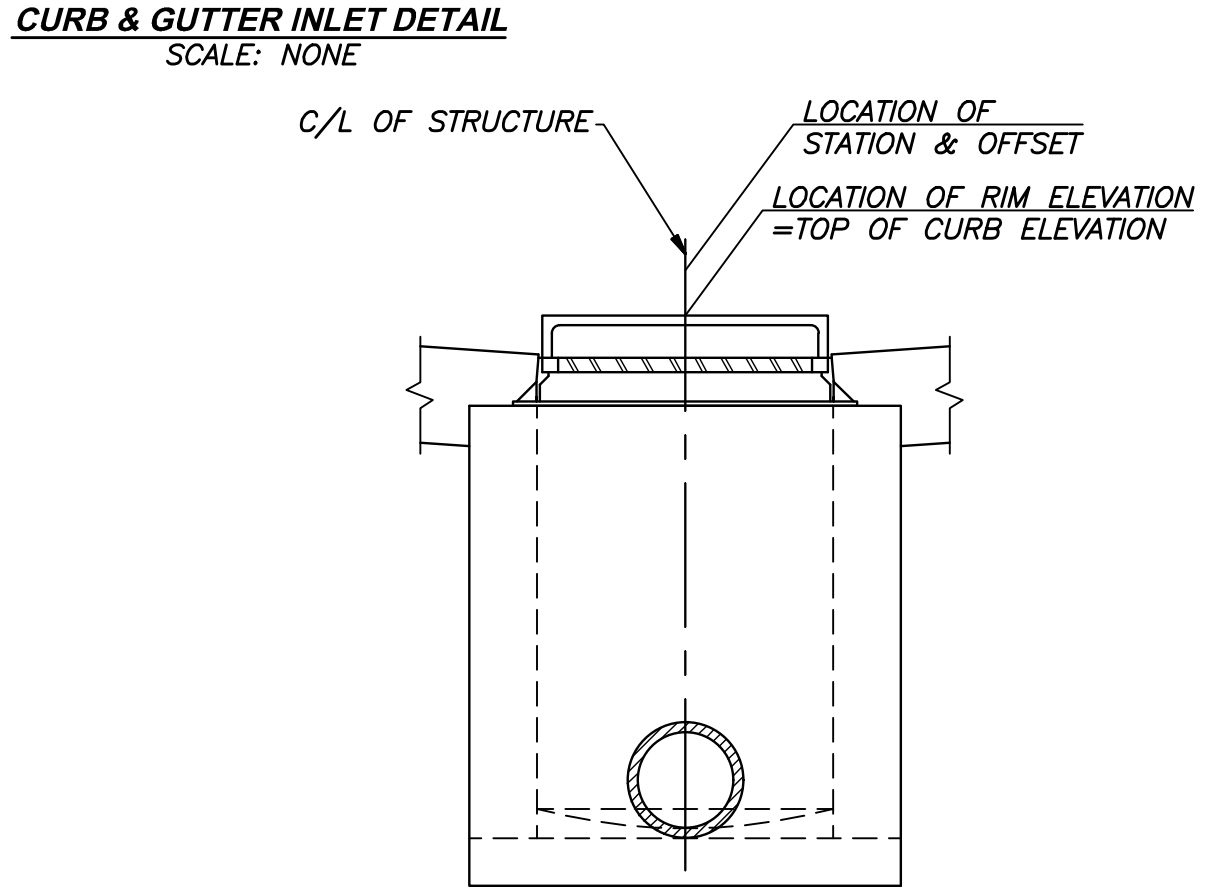
STORM SEWER PROFILES

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

118
164



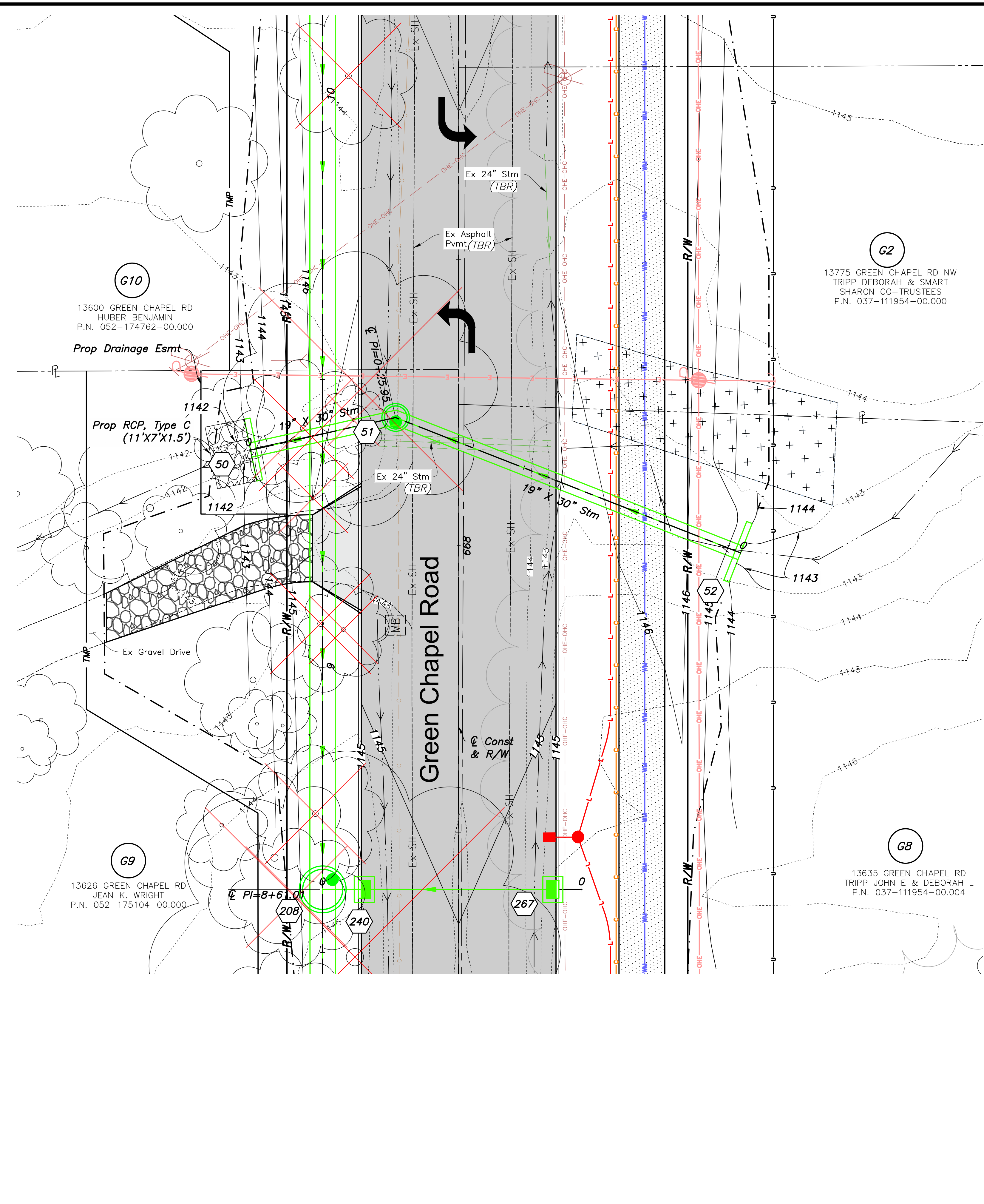
- STRAIGHT CURB SECTION**
- SEE CITY OF COLUMBUS STD. DWGS. AA-S125A AND AA-S125B FOR ADDITIONAL INFORMATION.
 - THE TOP OF BONNET SHALL BE THE SAME AS THE TOP OF CURB ELEVATION. THE EDGE OF PAVEMENT SHALL BE 3/8" HIGHER THAN THE GRATE WHENEVER THEY MEET/TOUCH.



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 - All station / offsets are from CL Construction of Green Chapel Road unless otherwise noted.
- * = Type 1 Bedding, with Item 911 - Compacted Backfill
- ** = Type 1 Bedding, with Item 912 - Compacted Granular Material (703.11, Type 1)
- # = Type 1 Bedding with Item 910 Concrete Encasement
4. Curb and Gutter Inlet, AA-S125A: Inlet casting shall be East Jordan 7505 with bicycle compatible grate, or approved equal.
- Curb and Gutter Inlet, AA-S125B: Inlet casting shall be per AA-S128.
5. Contractor shall take care to orient manhole lids to the center of lane, outside of wheel path where applicable.

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1155	50	51	52	1155
1150	Sta. 668+16.70 36.32' Lt.	TC=1145.44 Sta. 668+22.36 11.00' Lt.		1150
1145	19" X 30" @ 0.24%	Ex. Comm. (Brightspeed) (TBRLO)	Prop Grade	1145
1140	48" Stm (E/W) Inv=1135.01	65' ~ 19" X 30" Prop Comm @ 0.24% UGL	Ex. Comm. (Brightspeed) (TBRLO)	1140
1135				1135
1130	Sta. 0+00.00 Precast Concrete Headwall AA-S168	Sta. 0+09.92 Manhole Type "C" PAA-S102	24" WM (By Separate Plan)	1130
	0		1	

A Blind tap UD per Detail in the General Notes

Legend

- Gravel Driveway
- Concrete Driveway
- Asphalt Community Path
- Existing Wetland
- Full Depth Pavement
- 24" WM (BO)
- AEP (BO)
- Grading Limits
- Trees To Be Removed

- NOTES:**
- For all structures, station offset references center of base of structure.
 - TC references top of casting at finished grade. TC references top of curb box or top of curb for curb and gutter inlets.
 - All station / offsets are from CL Construction of Green Chapel Road unless otherwise noted.
 - *= Type 1 Bedding, with Item 911 - Compacted Backfill
 - **= Type 1 Bedding, with Item 912 - Compacted Granular Material (703.11, Type 1)
 - #= Type 1 Bedding with Item 910 Concrete Encasement
 - Curb and Gutter Inlet, AA-S125A: Inlet casting shall be East Jordan 7505 with bicycle compatible grate, or approved equal.
 - Curb and Gutter Inlet, AA-S125B: Inlet casting shall be per AA-S128.
 - Contractor shall take care to orient manhole lids to the center of lane, outside of wheel path where applicable.

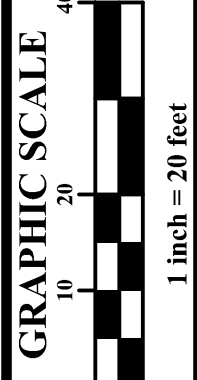
1" = 20 Feet
1" = 5 Feet

CALCULATED
JVB
CHECKED
MJS

CULVERT DETAIL PLAN

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

120
164

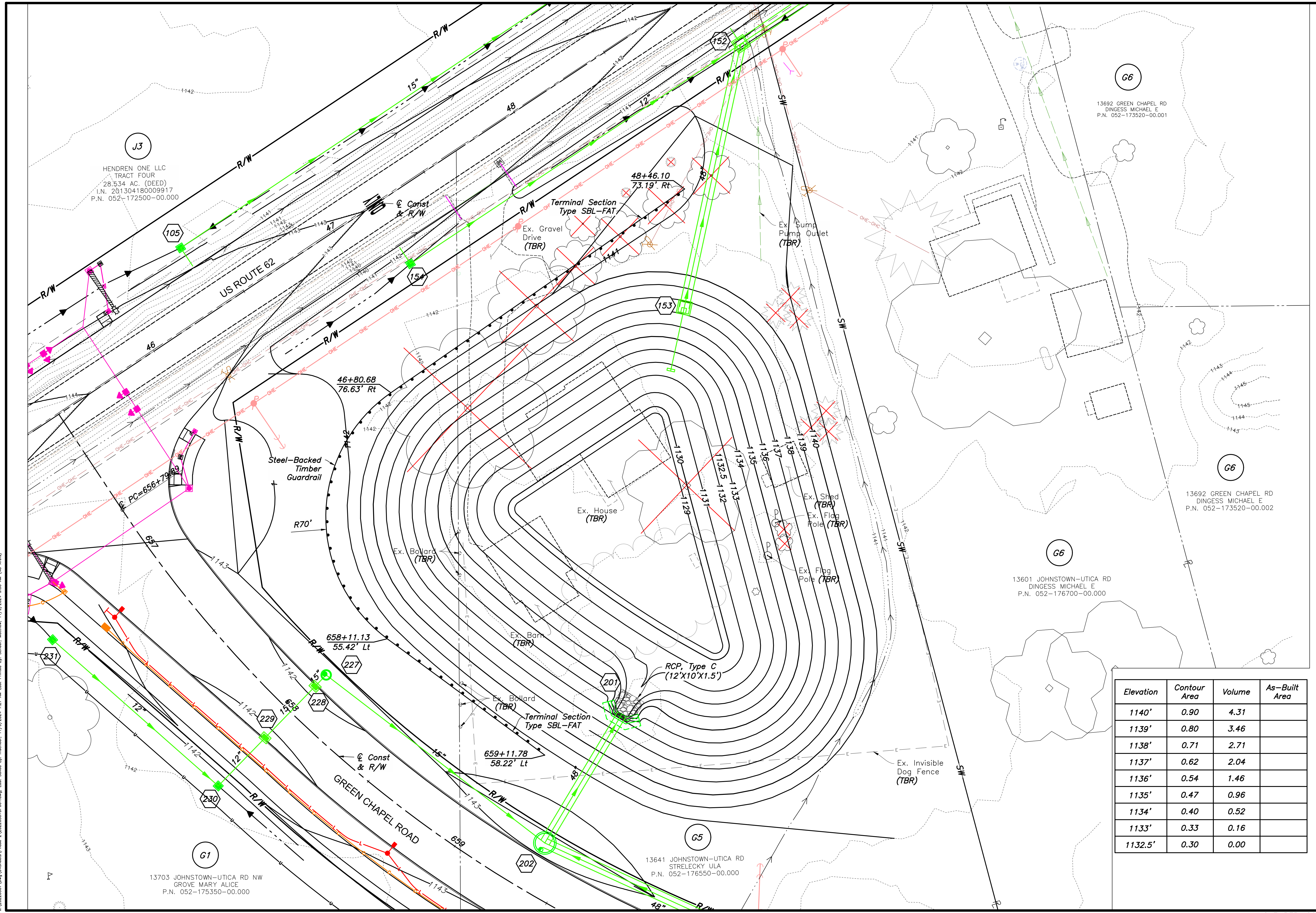


CALCULATED
D/D
CHECKED
M/S

BASIN 02 PLAN

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

121
164



J3
HENDREN ONE LLC
TRACT FOUR
28.534 AC. (DEED)
I.N. 201304180009917
P.N. 052-172500-00.000

G6
13692 GREEN CHAPEL RD
DINGESS MICHAEL E.
P.N. 052-173520-00.001

G6
13692 GREEN CHAPEL RD
DINGESS MICHAEL E.
P.N. 052-173520-00.002

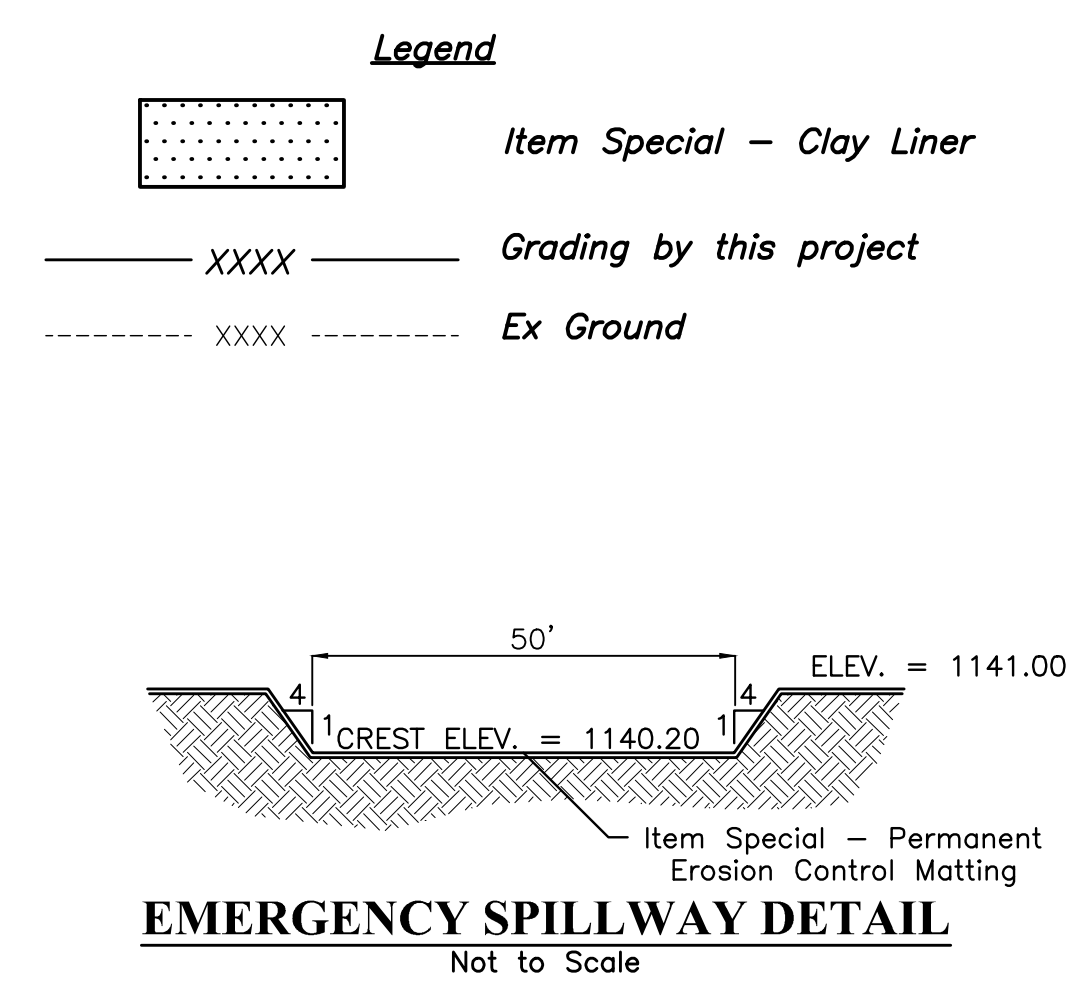
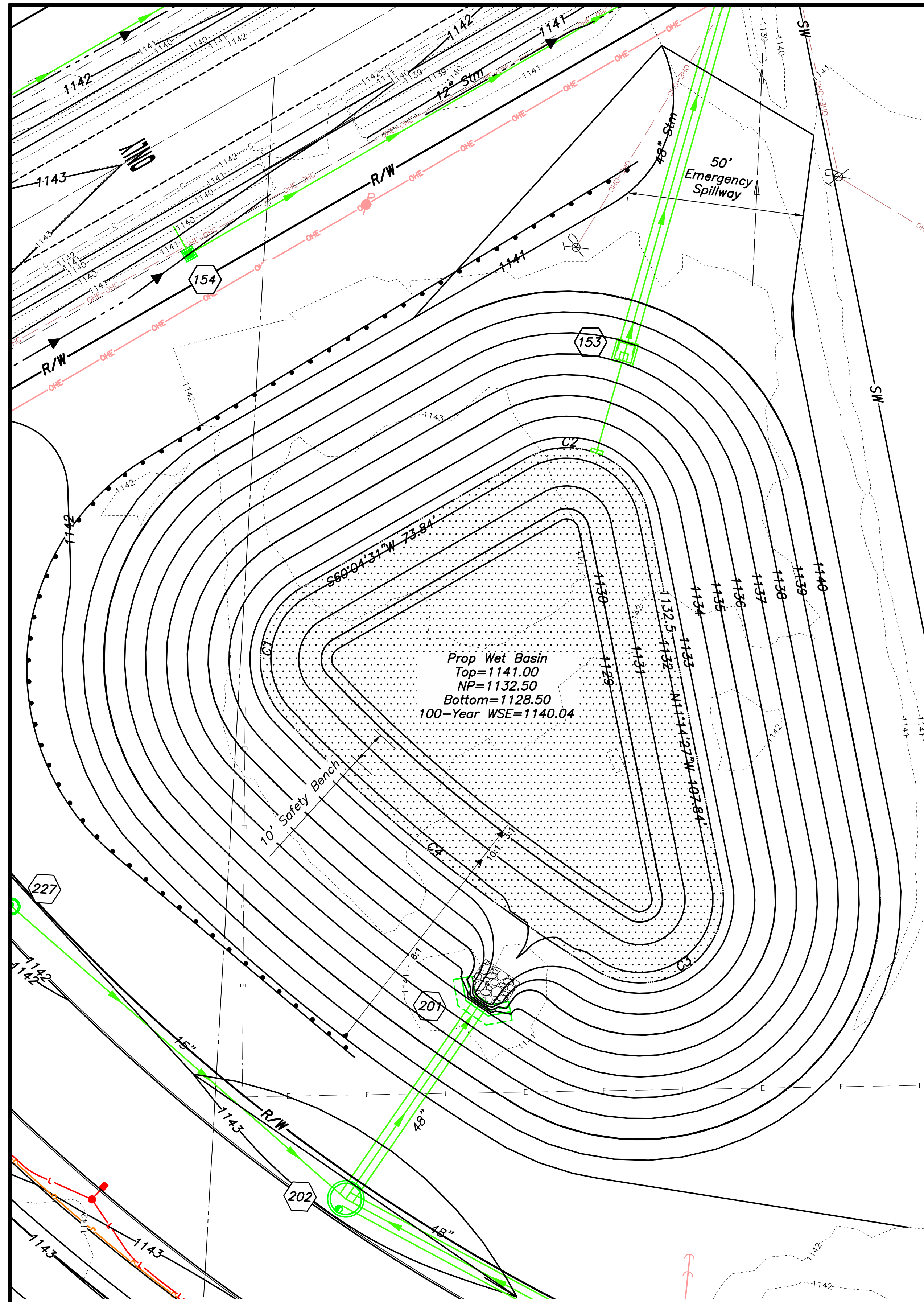
G6
13601 JOHNSTOWN-UTICA RD
DINGESS MICHAEL E.
P.N. 052-176700-00.000

G1
13703 JOHNSTOWN-UTICA RD NW
GROVE MARY ALICE
P.N. 052-175350-00.000

G5
13641 JOHNSTOWN-UTICA RD
STRELECKY ULA
P.N. 052-176550-00.000

Elevation	Contour Area	Volume	As-Built Area
1140'	0.90	4.31	
1139'	0.80	3.46	
1138'	0.71	2.71	
1137'	0.62	2.04	
1136'	0.54	1.46	
1135'	0.47	0.96	
1134'	0.40	0.52	
1133'	0.33	0.16	
1132.5'	0.30	0.00	

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CURVE TABLE

CURVE NO.	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD DISTANCE
C1	103°46'39"	24.00'	43.47'	S 08°11'12" W	37.77'
C2	108°41'02"	24.00'	45.53'	N 65°34'58" W	39.00'
C3	133°01'01"	24.00'	55.72'	N 55°16'04" E	44.02'
C4	14°31'17"	457.00'	115.83'	S 50°57'47" E	115.52'

WET BASIN INSPECTION & MAINTENANCE

Inspection Item	Maintenance Procedures	Frequency of Inspection
Outlet Structure & Side Slopes	Do not fertilize vegetation surrounding basin. Remove accumulated sediment and debris from inlet and outlet structure. Mow side slopes.	Monthly
Basin Embankment	Repair undercut/eroded areas and stabilize.	Every 6 months
Storm Sewer System	Remove debris from the sewer system to ensure positive flow through the system.	Every 6 months
Stormwater Basin	Inspect for damage, paying particular attention to the outlet control structure. Check for signs of eutrophic conditions (algae buildup). Note signs of hydrocarbon build-up, remove appropriately. Monitor sediment accumulation in facility. Examine to ensure inlet and outlet devices are free of debris and operational. Inspect for invasive vegetation if wetland components included.	Annually

The Owner shall be responsible for the inspection and maintenance of the stormwater basin, associated outlet structure and all other maintenance procedures listed above. Inspections and maintenance that are conducted shall be documented and filed for future reviews by the City of New Albany.

Stormwater Basins treat incoming stormwater runoff by physical, biological, and chemical processes. The primary removal mechanism is the gravitational settling of particulates, organic matter, metals, bacteria and organics as stormwater runoff resides in the forebay and micropool. Another mechanism for pollutant removal is uptake by algae and wetland plants in the micropool, particularly removing nutrients. Other contaminants such as hydrocarbons are broken down and eliminated by volatilization and chemical activity. Stormwater Basins are utilized to remove 80% of the total suspended solids load in typical urban post-development runoff when designed and maintained properly.

Stormwater basins naturally collect sediment, including gravel, sand, and mud, as well as other debris like litter. To maintain its capacity and function, a basin should be kept free of excessive debris, litter, and sediment. The micropool for the proposed basin is designed to be 3 feet. This design depth should be verified every 3-7 years to ensure that the basin will continue to function properly. Property owners or contracted personnel shall position themselves in the middle of the stormwater basin and several measurements around center of the stormwater basin shall be taken using a Stadia Rod to determine the depth. It is recommended that sediment excavated from stormwater basins be tested prior to sediment disposal. Sediment removed from the stormwater basin should be stored properly until disposal to ensure no exposure to stormwater runoff.

Maintenance and Inspection:
Post Construction Stormwater BMP Owner: City of New Albany
Contact Information: 99 W. Main Street, New Albany, OH 43054
Mailing Address: (614) 855-3913
Phone Number: (614) 855-8583
Fax:

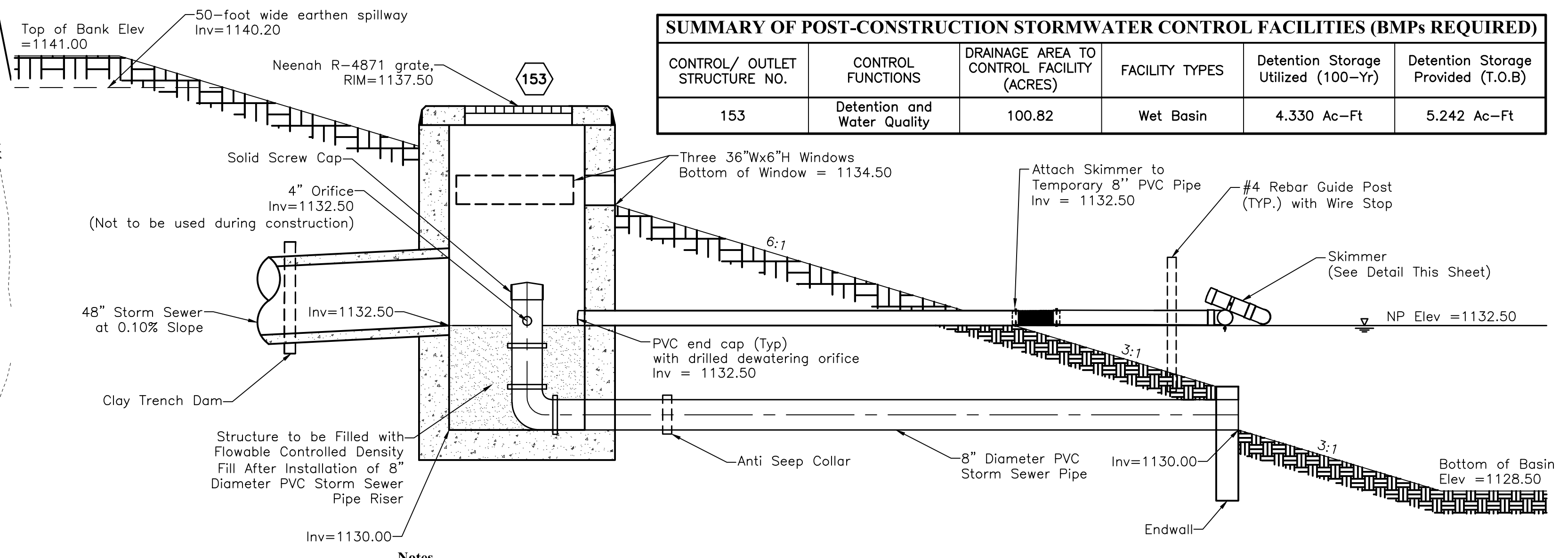
Plan Designer:
EMH&T, INC
Matt Scheer, ME, PE
5500 New Albany Road
Columbus, Ohio 43054
Tel: (614) 775-4500
Fax: (614) 775-4800

100 Year Detention Table

Description	Volume Required	Volume Provided	Required Elevation	Provided Elevation
Basin 02	4.330 Ac-Ft	5.242 Ac-Ft	1140.04 ft	1041.00 ft

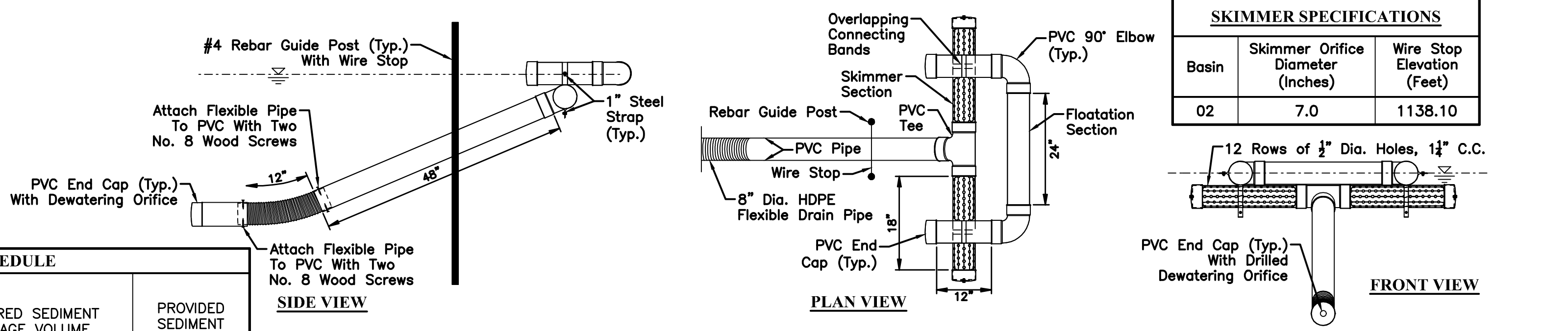
SUMMARY OF POST-CONSTRUCTION STORMWATER CONTROL FACILITIES (BMPs REQUIRED)

CONTROL/ OUTLET STRUCTURE NO.	CONTROL FUNCTIONS	DRAINAGE AREA TO CONTROL FACILITY (ACRES)	FACILITY TYPES	Detention Storage Utilized (100-Yr)	Detention Storage Provided (T.O.B)
153	Detention and Water Quality	100.82	Wet Basin	4.330 Ac-Ft	5.242 Ac-Ft



Notes
1. Remove all sediment and flush entire outlet when site is stabilized.
2. Temporary 4" PVC Pipe and Skimmer to be removed upon removal of sediment and erosion controls.

ITEM SPECIAL - DETENTION OUTLET STRUCTURE DETAIL
Scale: Not to Scale



ITEM SPECIAL - TEMPORARY SEDIMENT BASIN DEWATERING SKIMMER
Scale: Not to Scale

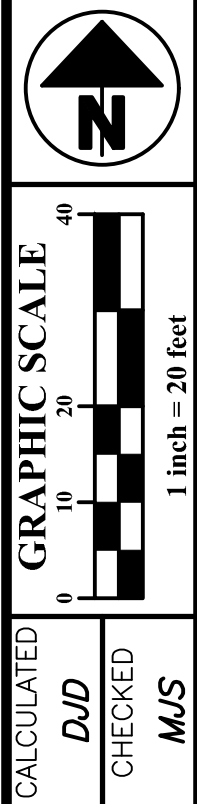
TEMPORARY SEDIMENT CONTROL STRUCTURE SCHEDULE

BASIN	TRIBUTARY ACREAGE	DISTURBED ACREAGE	REQUIRED BASIN DEWATERING VOLUME (67 CY/TRIBUTARY AC)	PROVIDED BASIN DEWATERING VOLUME	REQUIRED SEDIMENT STORAGE VOLUME (37 CY/DISTURBED A.C.)	PROVIDED SEDIMENT STORAGE VOLUME
02	100.82 Ac	11.87 Ac	4.19 Ac-Ft	4.19 Ac-Ft	0.27 Ac-Ft	0.73 Ac-Ft

Sediment Basin Required Dewatering Volume Drawdown = 48 Hrs.
Sediment Basin Provided Dewatering Volume Drawdown > 48 Hrs.

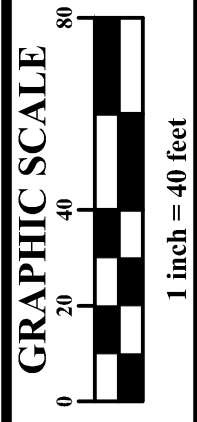
ITEM SPECIAL - TEMPORARY SEDIMENT BASIN DEWATERING SKIMMER
This item of work shall include furnishing, constructing, and removing a Temporary Sediment Basin Dewatering Skimmer located at the permanent basin outlet control structure in accordance with the plan details on this sheet.

Payment shall be made per each and shall include all equipment, materials, labor and incidentals necessary to construct the temporary sediment basin dewatering control structure to the satisfaction of the Engineer.



BASIN 02 DETAIL

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

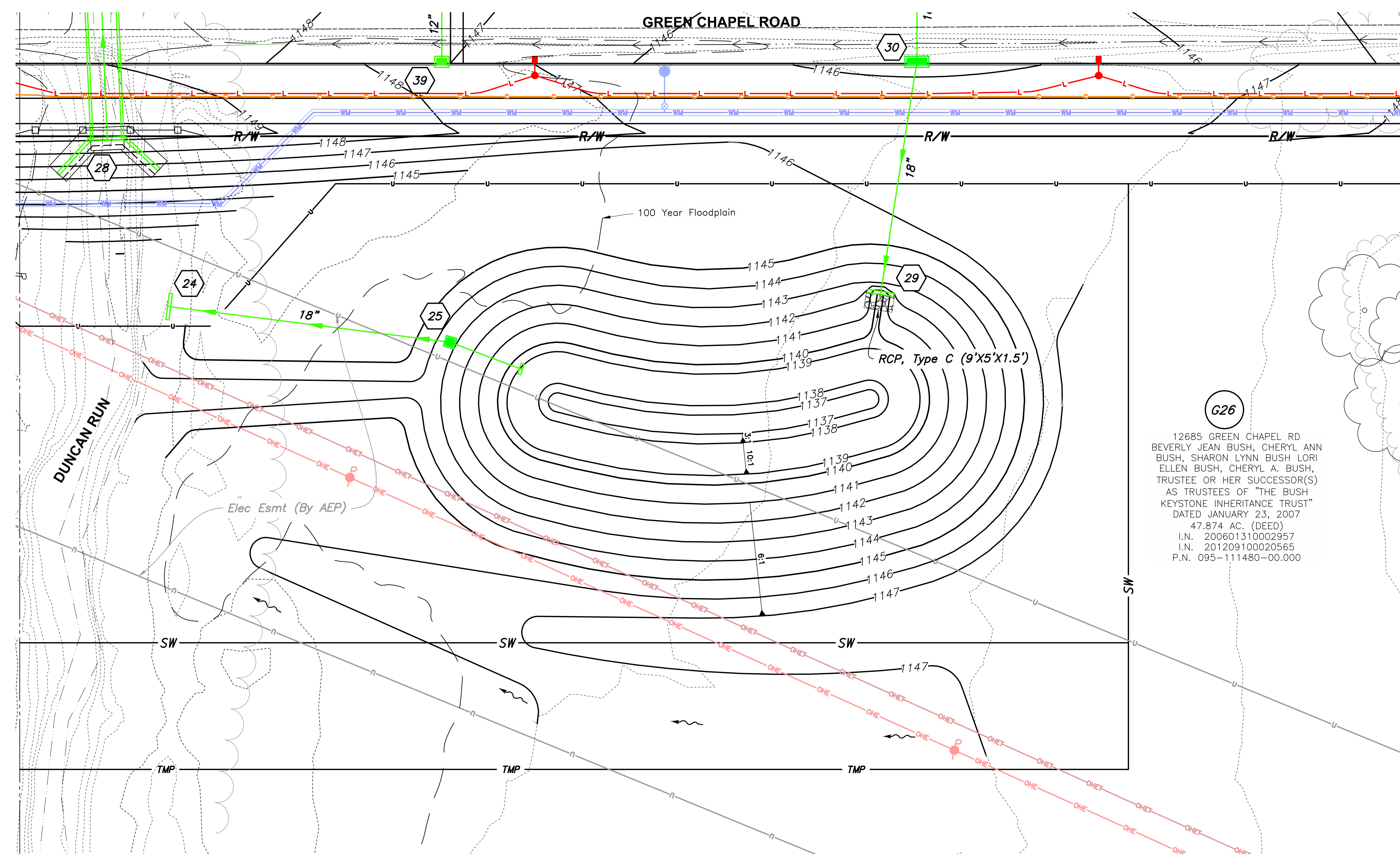


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M/S

BASIN 01 PLAN

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

123
164



G26

12685 GREEN CHAPEL RD
 BEVERLY JEAN BUSH, CHERYL ANN
 BUSH, SHARON LYNN BUSH LORI
 ELLEN BUSH, CHERYL A. BUSH,
 TRUSTEE OR HER SUCCESSOR(S)
 AS TRUSTEES OF "THE BUSH
 KEYSTONE INHERITANCE TRUST"
 DATED JANUARY 23, 2007
 47.874 AC. (DEED)
 I.N. 200601310002957
 I.N. 201209100020565
 P.N. 095-111480-00.000

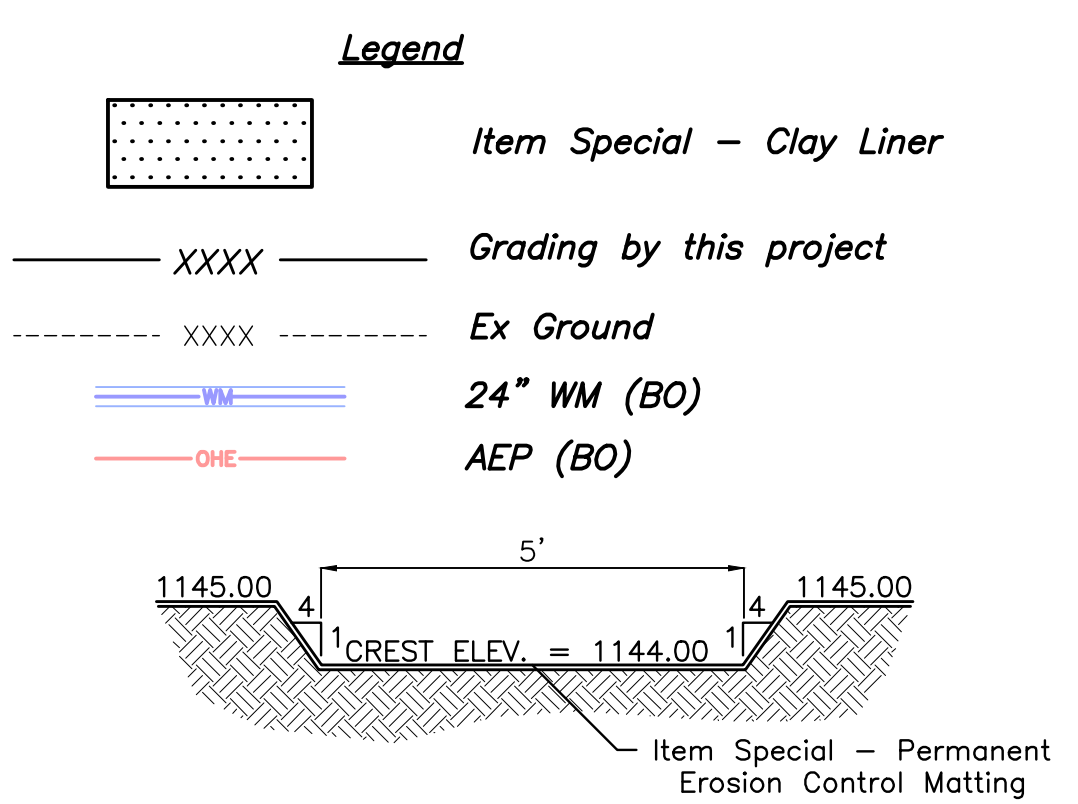
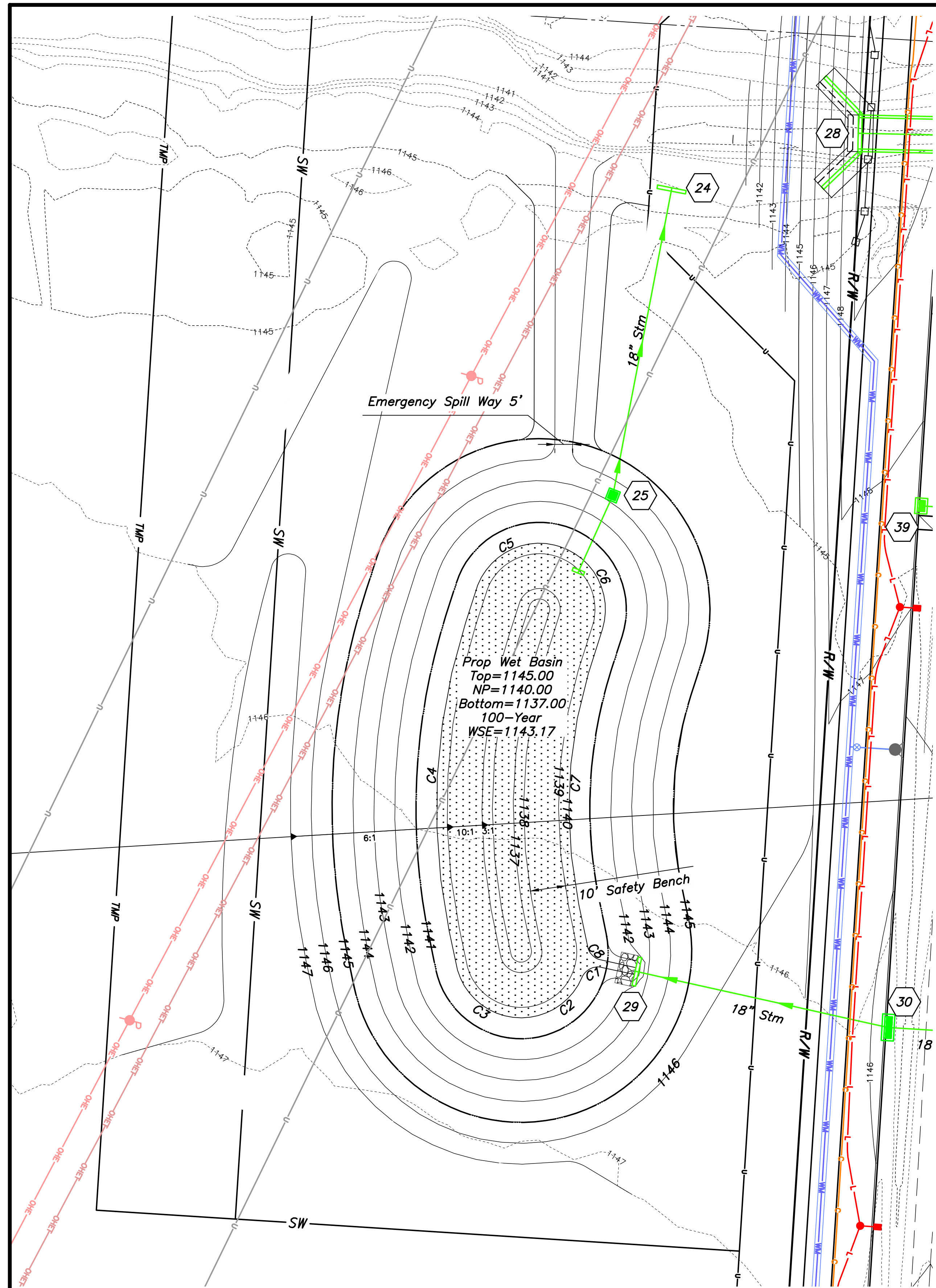
Elevation	Contour Area	Volume	As-Built Area
1145'	0.43	1.26	
1144'	0.35	0.87	
1143'	0.27	0.56	
1142'	0.21	0.32	
1141'	0.16	0.13	
1140'	0.11	0.00	

Legend

WM 24" WM (BO)

AEP AEP (BO)

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CURVE TABLE

CURVE NO.	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD DISTANCE
C1	79°33'55"	5.00'	6.94'	S 27°14'12" E	6.40'
C2	55°18'01"	19.00'	18.34'	S 39°22'09" E	17.63'
C3	90°00'00"	19.00'	29.85'	S 33°16'52" W	26.87'
C4	29°32'28"	174.00'	89.71'	N 86°56'54" W	88.72'
C5	90°00'00"	19.00'	29.85'	N 27°10'40" W	26.87'
C6	90°00'00"	19.00'	29.85'	N 62°49'20" E	26.87'
C7	29°32'28"	136.00'	70.12'	S 86°56'54" E	69.35'
C8	65°44'06"	5.00'	5.74'	N 45°24'49" E	5.43'

WET BASIN INSPECTION & MAINTENANCE

Inspection Item	Maintenance Procedures	Frequency of Inspection
Outlet Structure & Side Slopes	Do not fertilize vegetation surrounding basin. Remove accumulated sediment and debris from inlet and outlet structure. Mow side slopes.	Monthly
Basin Embankment	Repair undercut/eroded areas and stabilize.	Every 6 months
Storm Sewer System	Remove debris from the sewer system to ensure positive flow through the system.	Every 6 months
Stormwater Basin	Inspect for damage, paying particular attention to the outlet control structure. Check for signs of eutrophic conditions (algae buildup). Note signs of hydrocarbon build-up, remove appropriately. Monitor sediment accumulation in facility. Examine to ensure inlet and outlet devices are free of debris and operational. Inspect for invasive vegetation if wetland components included.	Annually

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Maintenance and Inspection:
Post Construction Stormwater BMP Owner: City of New Albany
Contact Information: 99 W. Main Street
Mailing Address: New Albany, OH 43054
Phone Number: (614) 855-3913
Fax: (614) 855-8583

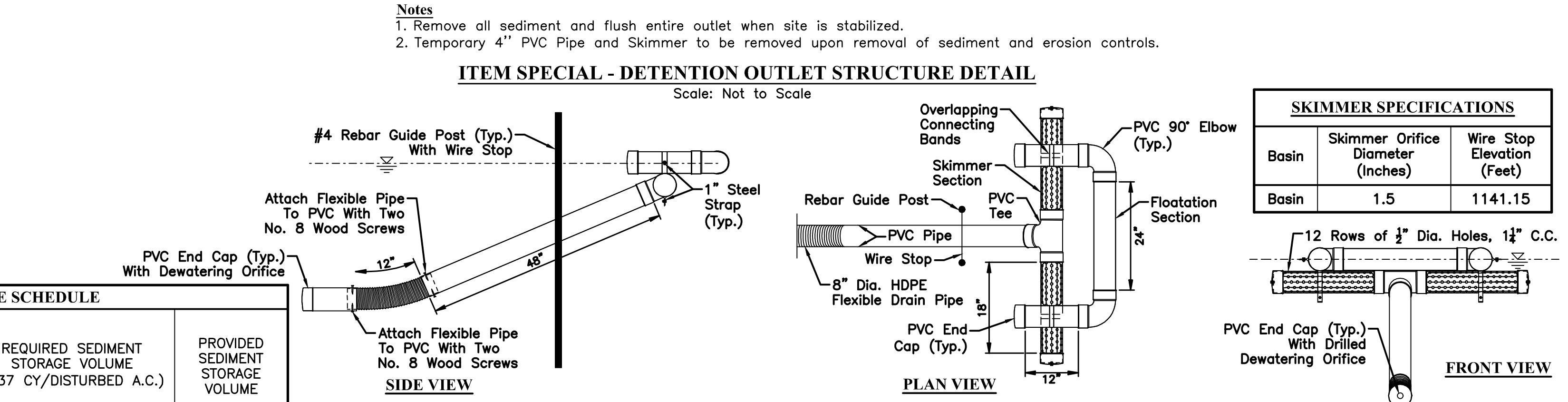
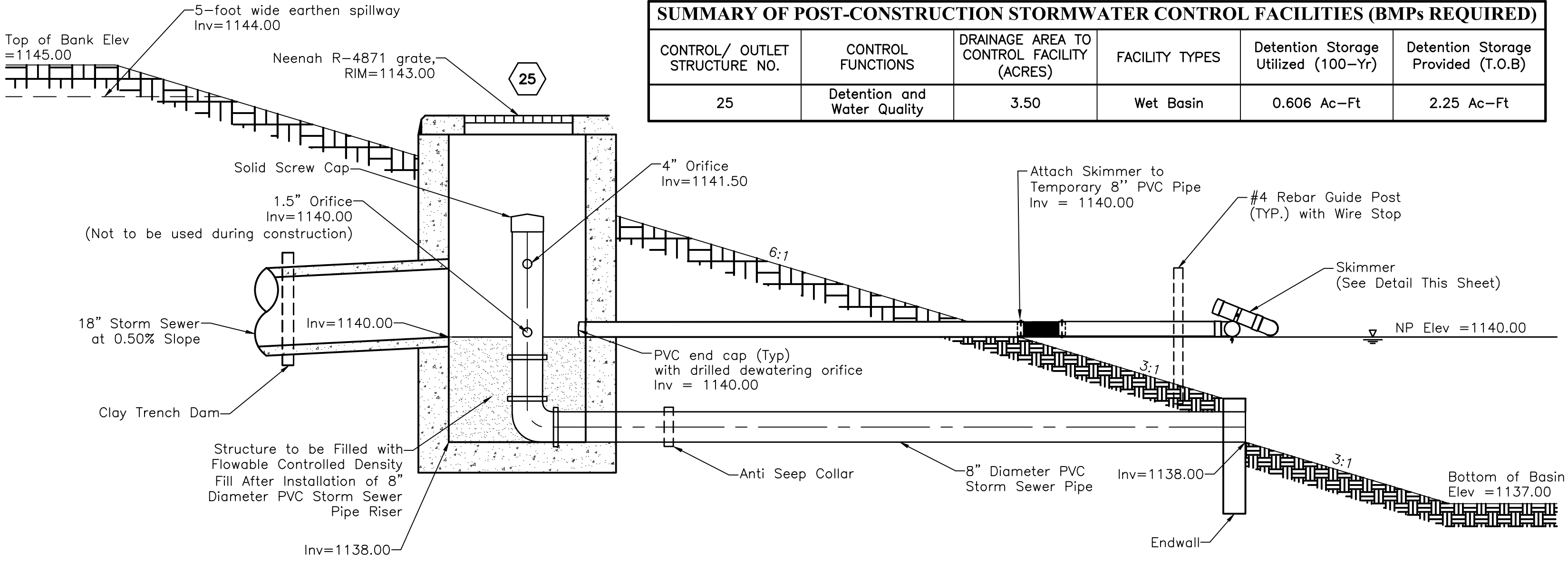
Plan Designer:
EMH&T, INC
Matt Scheer, ME, PE
5500 New Albany Road
Columbus, Ohio 43054
Tel: (614) 775-4500
Fax: (614) 775-4800

100 Year Detention Table

Description	Volume Required	Volume Provided	Required Elevation	Provided Elevation
Basin 01	0.615 Ac-Ft	2.25 Ac-Ft	1143.17 ft	1145.00 ft

SUMMARY OF POST-CONSTRUCTION STORMWATER CONTROL FACILITIES (BMPs REQUIRED)

CONTROL/ OUTLET STRUCTURE NO.	CONTROL FUNCTIONS	DRAINAGE AREA TO CONTROL FACILITY (ACRES)	FACILITY TYPES	Detention Storage Utilized (100-Yr)	Detention Storage Provided (T.O.B)
25	Detention and Water Quality	3.50	Wet Basin	0.606 Ac-Ft	2.25 Ac-Ft



ITEM SPECIAL - TEMPORARY SEDIMENT BASIN DEWATERING SKIMMER
This item of work shall include furnishing, constructing, and removing a Temporary Sediment Basin Dewatering Skimmer located at the permanent basin outlet control structure in accordance with the plan details on this sheet.

Payment shall be made per each and shall include all equipment, materials, labor and incidentals necessary to construct the temporary sediment basin dewatering control structure to the satisfaction of the Engineer.

TEMPORARY SEDIMENT CONTROL STRUCTURE SCHEDULE

BASIN	TRIBUTARY ACREAGE	DISTURBED ACREAGE	REQUIRED BASIN DEWATERING VOLUME (67 CY/TRIBUTARY AC)	PROVIDED BASIN DEWATERING VOLUME	REQUIRED SEDIMENT STORAGE VOLUME (37 CY/DISTURBED A.C.)	PROVIDED SEDIMENT STORAGE VOLUME
01	3.94 Ac	2.71 Ac	0.16 Ac-Ft	0.16 Ac-Ft	0.06 Ac-Ft	0.14 Ac-Ft

Sediment Basin Required Dewatering Volume Drawdown = 48 Hrs.
Sediment Basin Provided Dewatering Volume Drawdown > 48 Hrs.

GENERAL

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

ITEM 630 – GROUND MOUNTED SIGN SUPPORT, TYPE S, AS PER PLAN

Sign support shall be per ITEM 630, except support shall be #3 post, type S with anchor (2" x 2" square post with a 42" x 2.5" x 2.5" stub).

Payment shall be per ITEM 630.

NOTES BELOW APPLY ONLY TO SIGNS ON GREEN CHAPEL ROAD

ALL SIGNS ON US 62 SHALL BE INSTALLED PER ODOT STANDARD DRAWINGS AS SPECIFIED ABOVE UNDER ITEM 630 – GROUND MOUNTED SIGN SUPPORT, TYPE S, AS PER PLAN

ITEM 630 – SIGN, FLAT SHEET, AS PER PLAN (NA-SNS-4)

ITEM 630 – GROUND MOUNTED SUPPORT, WOOD, AS PER PLAN (NA-SNS-4)

ITEM 630 – STREET NAME SIGN, AS PER PLAN (NA-SNS-1)

ITEM 630 – STREET NAME SIGN SUPPORT, AS PER PLAN (NA-SNS-1)

ITEM 630 – SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN

Flat sheet signs shall conform to the Ohio Manual of Uniform Traffic Control Devices. All signs shall be provided with accessories, and all ground mounted supports shall be wood, in accordance with New Albany Standard Construction Drawings. Sign identification decals shall not be installed. The support manufacturer shall certify that the sign posts, anchors, connections and parts furnished meet all applicable federal, state and local requirements for break away or yielding supports.

All visible elements of sign mounting systems, e.g. sign backing assemblies, etc., shall be painted as described herein whenever payment for those items is made under this item of work. Nuts and bolts need not be painted.

Posts and backer panels shall be painted green, PMS 5535. Painting shall be performed under controlled environmental conditions and in accordance with all manufacturer's recommendations pertaining to surface preparation, material handling and application.

Paint chips shall be submitted to New Albany for review and approval.

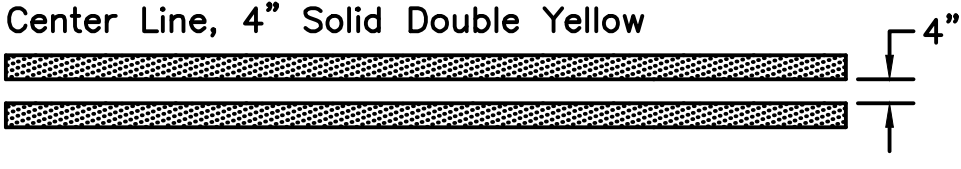

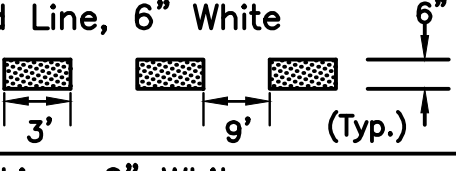
Payment for ITEM 630 – SIGN, FLAT SHEET, AS PER PLAN (NA-SNS-4) shall be per square feet measured from the regulatory signage square feet. Regulatory and Warning signs shall be furnished with a backer panel per NA-SNS-4 and shall be considered incidental to this item of work.

Payment for ITEM 630 – GROUND MOUNTED SUPPORT, WOOD, AS PER PLAN (NA-SNS-4) shall be per each furnished and installed, including foundation.

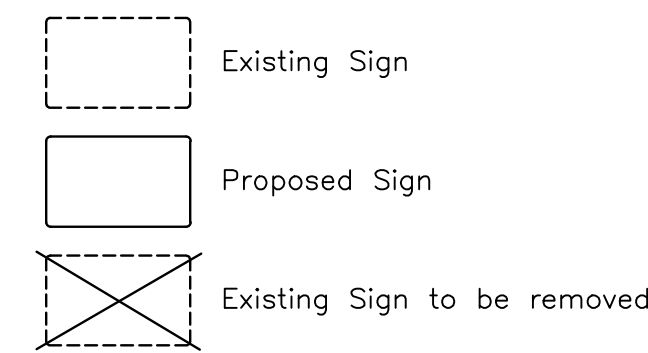
Payment for ITEM 630 – STREET NAME SIGN, AS PER PLAN (NA-SNS-1) shall be per each street name sign furnished and installed.

Payment for ITEM 630 – STREET NAME SIGN SUPPORT, AS PER PLAN (NA-SNS-1) shall be per each street name sign support furnished and installed, including foundation.

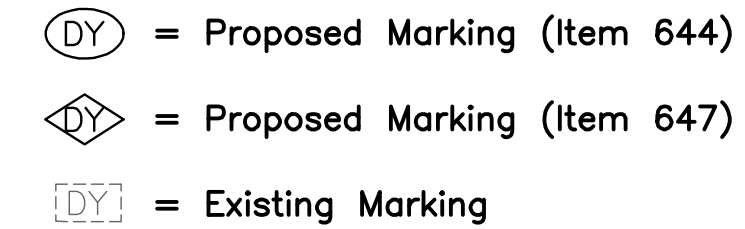
Payment for ITEM 630 – SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN shall be per each furnished and installed, including all mounting hardware and paint coatings required to match the color of the pole.

LINE SPECIFICATIONS		ITEM
DY	Center Line, 4" Solid Double Yellow 	644
CSD	Center Line, 4" Solid Dashed Yellow 	644
WD	Dotted Line, 6" White 	644
WE	Edge Line, 6" White	644
CH	Channelizing Line, 8" White	644
SL	Stop Line, 24" White	644
YT	Transverse/Diagonal Line, 24" Yellow	644
LA	Lane Arrow	644
WOP	Word on Pavement, 48"	644
XW	Crosswalk Line, 12" White	644
XW2	Crosswalk Line, 24" White	647-B90

SIGN LEGEND



PAVEMENT MARKING LEGEND



Traffic Control Estimate of Quantities			
Item No.	Quantity	Unit	Description
ODOT 621	71	Each	Raised Pavement Marker Removed (US-62 Only)
ODOT 621	147	Each	RPM (US-62 Only)
ODOT 626	6	Each	Barrier Reflector, Type 2, Bi-Directional
ODOT 630	19	Each	Removal of Ground Mounted Sign and Storage
ODOT 630	15	Each	Removal of Ground Mounted Post Support and Disposal
ODOT 630	18	Each	Ground Mounted Support, Wood, As Per Plan (NA-SNS-4)
ODOT 630	168	Lin Ft	Ground Mounted Support, Type S, As Per Plan (US-62 Only)
ODOT 630	2	Each	Sign Post Reflector (US-62 Only)
ODOT 630	2	Each	Street Name Sign, As Per Plan (NA-SNS-1)
ODOT 630	1	Each	Street Name Sign Support, As Per Plan (NA-SNS-1)
ODOT 630	74	Each	Sign, Flat Sheet (US-62 Only)
ODOT 630	145	Sq Ft	Sign, Flat Sheet, As Per Plan (NA-SNS-4)
ODOT 630	6	Each	Sign Support Assembly, Pole Mounted, As Per Plan
ODOT 644	0.8	Mile	Edge Line
ODOT 644	3.1	Mile	Center Line
OFOT 644	549	Lin Ft	Dotted Line
ODOT 644	577	Lin Ft	Transverse/Diagonal Line
ODOT 644	64	Lin Ft	Crosswalk Line
ODOT 644	107	Lin Ft	Stop Line
ODOT 644	1,027	Lin Ft	Channelizing Line
ODOT 644	2	Each	Word on Pavement
ODOT 644	37	Each	Lane Arrow
ODOT 647	330	Lin Ft	Crosswalk Line, 24"

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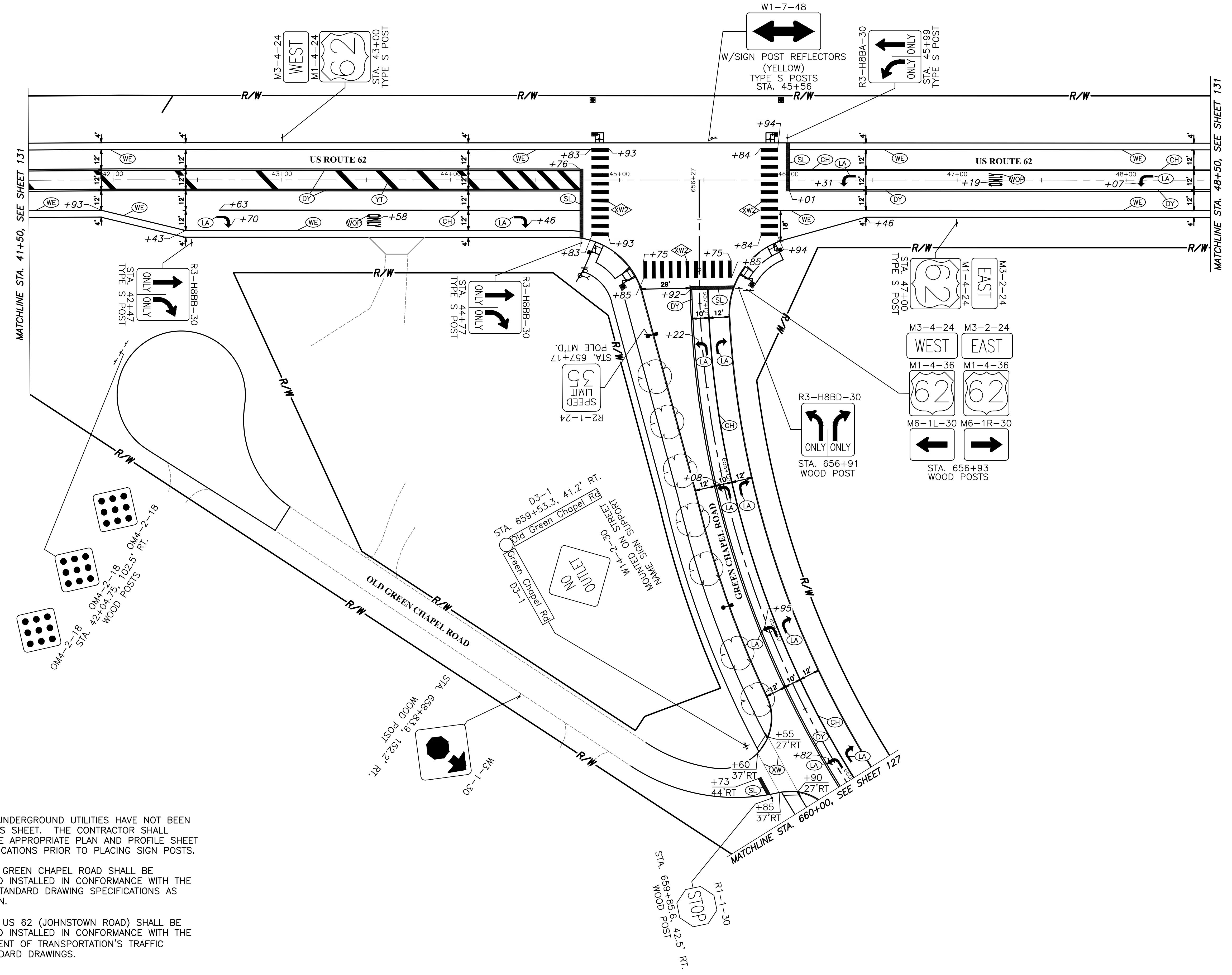
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TRAFFIC CONTROL NOTES

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

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- NOTES:**
- FOR CLARITY, UNDERGROUND UTILITIES HAVE NOT BEEN SHOWN ON THIS SHEET. THE CONTRACTOR SHALL REFERENCE THE APPROPRIATE PLAN AND PROFILE SHEET FOR UTILITY LOCATIONS PRIOR TO PLACING SIGN POSTS.
 - ALL SIGNS ON GREEN CHAPEL ROAD SHALL BE FURNISHED AND INSTALLED IN CONFORMANCE WITH THE NEW ALBANY STANDARD DRAWING SPECIFICATIONS AS DETAILED WITHIN.
 - ALL SIGNS ON US 62 (JOHNSTOWN ROAD) SHALL BE FURNISHED AND INSTALLED IN CONFORMANCE WITH THE OHIO DEPARTMENT OF TRANSPORTATION'S TRAFFIC CONTROL STANDARD DRAWINGS.



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GRAPHIC SCALE
 0 15 30 60
 1 inch = 30 feet

TRAFFIC CONTROL PLAN

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

GENERAL

These specifications, together with the accompanying plans are intended to describe the type, size and location of the products and materials to be provided and installed under the various bid items related to traffic control. The Contractor shall furnish and install traffic control devices and related materials in compliance with these plans and specifications, as well as the 2023 Ohio Department of Transportation Construction and Material Specifications, the Ohio Manual of Uniform Traffic Control Devices and the Standard Construction Drawings issued by and the Ohio Department of Transportation. These specifications set forth the minimum performance and operating requirements of the traffic control items referred to herein.

All incidental work items called for in these plans for which no specific method of payment is provided shall be performed by the Contractor and the total cost of said items shall be included in the price of its associated bid item.

GUARANTEE

The Contractor shall guarantee that the traffic control system installed as part of this contract shall operate satisfactorily for a period of 180 days following completion of the 10-day performance test. In the event of unsatisfactory operation, the Contractor shall correct faulty installations, make repairs and replace defective parts with new parts of equal or better quality.

Equipment, material and labor costs incurred in correcting an unsatisfactory operation shall be borne by the Contractor.

The guarantee shall cover the following items of the traffic control system: controller, cabinet, uninterruptible power supply, vehicle detection equipment, LED lamp units, network and communication/interconnect equipment.

Customary Manufacturer's guarantees for the foregoing items shall be turned over to the state or the maintaining agency following acceptance of the equipment.

The cost of guaranteeing the traffic control system will be incidental to and included in the contract unit price of the various items making up the system.

WORK INSPECTION

The Contractor shall provide the Project Engineer and District Traffic Engineer with 72-hour notice of any signal work to be performed at the intersection site(s) so that inspection services can be supplied.

SIGNAL ACTIVATION

Prior to activating the new traffic signal to stop-and-go mode and/or removing the existing traffic signal from service, all items in the proposed signal plan shall be fully completed, (i.e., vehicle detection, pedestrian signal heads, etc.). If there are constructability issues (i.e., roadway widening, etc.) that prevent the signal from being completed prior to activation, it shall be brought to the attention of the Project Engineer and District Traffic Engineer. The District Traffic Engineer will then review, approve or reject proposals to activate the traffic signal prior to completion.

The Contractor shall notify the Project Engineer and District Traffic Engineer at least 10 working days prior to scheduling the final inspection of the signal installation. Final inspection is not considered complete until designated district traffic personnel inspect the traffic signal and issue written approval. If issues are found during the final inspection that effect the safety of the traveling public and/or the efficiency of the intersection, the signal shall not be activated on the proposed date. Any punch list items that are found shall be corrected and reinspected by district traffic personnel prior to final acceptance. ODOT forces shall only assume day to day maintenance of the traffic signal after final written acceptance has been issued.

SIGNAL SUPPORT FOUNDATION ELEVATIONS

Elevations shown in the plans for signal support foundations are for computational purposes only. The actual elevation of the foundation shall be in accordance with Traffic SCD TC-21.21 provided the existing slope is less than 6:1.

At locations where the existing slope is 6:1 or greater, the buried depth of foundation, as shown in SCD TC-21.21 shall apply to the low side of the slope. The top of the foundation shall be set 2 inches above the existing surface on the high side of the slope. The additional depth of foundation necessary to meet these requirements shall be added to the formed top.

GROUNDING AND BONDING

The requirements of the Construction and Material Specifications (C&MS) and the TC series of Standard Construction Drawings are modified as follows:

- a. All metallic parts containing electrical conductors shall be permanently joined to form an Effective Ground Fault Current Path back to the grounded conductor in the power service disconnect switch. Provide an equipment grounding conductor in metallic conduits (725.04) in addition to the conductors specified and bond the conduit to this grounding conductor.
- b. When an equipment grounding conductor is required in plastic conduit (725.05), the installation shall include a separate equipment grounding conductor in addition to the conductors specified.

c. Metallic conduit carrying the loop wires from in the pavement to the pull box splice location will only be bonded at the pull box end, and will not contain an equipment grounding conductor.

d. If multiple conduit runs begin and end at the same points, only one equipment grounding conductor is required.

e. If an equipment grounding conductor is needed in conduit between signalized intersections for underground interconnect cable, the grounding system for each signalized intersection will be separated about midway between the intersections.

f. The messenger wire at signalized intersections will be used as the conductive path from corner to corner if conduit is not provided under the roadway. When conduit connects the corners of an intersection, an equipment grounding conductor shall be used in the conduit.

2. Conduits.

a. The 725.04 conduit shall have grounding bushings installed at all termination points. The bushing material shall be compatible with galvanized steel conduit and the grounding lug material shall be compatible for use with copper wire. Threaded or compression type bushings may be used.

b. The 725.05 conduit shall have the inside and outside diameters of the conduit deburred at all termination points.

c. Both ends of metallic conduit shall be bonded to the equipment grounding conductor.

d. Metallic conduit may be bonded to metallic boxes through the use of conduit fittings UL approved for this type of connection, with the box bonded to the equipment grounding conductor.

3. Wire for grounding and bonding.

a. Use insulated, copper wire for the equipment grounding conductor. Bonding jumpers in boxes and enclosures may be bare or insulated copper wire. Wire size shall be as follows:

i. Use 4 AWG between the power service and supports, poles, pedestals, controller or flasher cabinets.

ii. Use a minimum 8 AWG between loop detector pull boxes and the first conduit that requires a larger size as specified in 3.a.i above.

iii. Use a minimum 8 AWG between the "Prepare to Stop When Flashing" installation (including support) and the first conduit that requires a larger size as specified in 3.a.i above.

iv. The insulation shall be green or green with yellow stripe(s). For 4 AWG or larger, insulation may also be black with green tape/labels installed at all access points.

v. In a highway lighting system, the equipment grounding conductor shall be the same wire size as the duct cable or distribution cable circuit conductors, with the minimum conductor size of 4 AWG. Bonding jumpers will be minimum size 4 AWG.

4. Ground rod.

a. A 3/4-inch Schedule 40 PVC conduit will be used in foundations and concrete walls for the grounding conductor (ground wire) raceway to the ground rod. Should metallic conduit be used, both ends of the conduit shall be bonded to the grounding conductor.

b. The typical grounding conductor (ground wire) shall be 4 AWG insulated, copper.

5. The green conductor in signal cables (conductor #4) shall not be used to supply power to a signal indication. It will be connected to the signal body as an equipment ground in aluminum heads and it will be unused in plastic heads. Unused conductors shall be grounded in the cabinet. Typical use of conductors is as follows:

Cond.

No.	Color	Vehicle signal	Pedestrian signal
1	Black	Green ball	#1 Walk
2	White	AC neutral	AC neutral
3	Red	Red ball#1	DW/FDW
4	Green	Equipment ground	Equipment ground
5	Orange	Yellow ball#2	DW/FDW
6	Blue	Green arrow#2	Walk
7	White/black stripe	Yellow arrow	Not used

6. Power Service and Disconnect Switch.

a. At the power service location, the grounding conductor (ground wire) from the disconnect switch neutral (AC-) bar to the ground rod shall be a continuous, unspliced conductor. If spliced, it shall be an exothermic weld butt splice.

b. The service neutral (AC-) shall only be connected to ground at the Main power service disconnect switch and in the controller cabinet with UPS and generator connections.

c. Equipment grounding conductors shall be brought to the primary switch, but shall be grounded at both secondary and main switches.

7. Payment

All materials and work required to complete the Effective Ground Fault Current Path system are incidental to the conductors installed by contract.

ITEM 625 POWER SERVICE, AS PER PLAN

In addition to the requirements of the Specifications, the following is added.

The power supplying agency for this project is:

American Electric Power
Solution Center
Phone: 1-800-672-2231

The Engineer shall ensure that each power service electrical energy account is in the name of and that the billing address is to the maintaining agency noted in the plans. This shall be done not only for each new power service established by this project but also for each existing power service, since there may be a reassignment of the responsibility for an existing service as a result of the work performed by this project.

Power service for the traffic signal installation shall be per ODOT Standard Construction Drawing ITS-15.11, except two disconnect switches shall be furnished, one for traffic signal operation and one for street lighting. The voltage supplied shall be 120/240 volts, 120 volts per circuit with one circuit for traffic signals and one circuit for street lighting. A common photo electric relay and contactor with HAND/OFF/AUTO switch shall control all street lighting. The photoelectric relay shall be located on the closest signal pole. Power conductors shall be copper. The neutral of the power cable shall be grounded in the main power service disconnect switch and in the controller cabinet with UPS and generator connections.

Provide an available fault current sign on the outside of the front door of the power service disconnect switches in accordance with the National Electrical Code paragraph 110.24.

Payment will be made at the unit bid price for each C&MS Item 625, "Power Service, As Per Plan" which shall be full compensation for all labor, materials and incidentals required to complete this item in a satisfactory and workmanlike manner.

ITEM 625 LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), 120V, TYPE III, AS PER PLAN

In addition to the requirements of Item 625, SS 813, and SS 913, the luminaire supplied shall be a 120V, 4000K LED Cobra style fixture assembly and shall be:

Cooper Navion, NVN-SA2B-730-U-T3-AP.
Or Approved Equal

All luminaires at a signalized intersection shall be controlled by a single photocell. The photocell and all photocell wiring shall be incidental to this item.

Payment for this item shall include all material, labor, and equipment for a complete and fully operational luminaire, tested and accepted.

ITEM 625 ARC FLASH CALCULATIONS AND LABEL, AS PER PLAN

Under this item of work, the Contractor shall calculate the arc flash hazard for new electrical enclosures at the location provided, providing documentation of the calculations, and applying the appropriate external arc flash hazard equipment label per the requirements of supplemental specification 825.

Payment shall be per supplemental specification 825.

ITEM 632 SIGNAL SUPPORT FOUNDATION, AS PER PLAN

ITEM 632 PEDESTAL FOUNDATION, AS PER PLAN

The formed top of the anchor base pole foundation shall be oriented parallel to the sidewalk or back-of-curb or edge-of-pavement as shown on the signal plans. The top of the foundation shall be flush with any adjacent sidewalk or concrete area. A minimum of two conduit ells, used or unused, shall be installed in each pole foundation.

Contractor shall vacuum excavate proposed foundation locations prior to installation. The signal support foundations shall be excavated or vacuum excavated to test for conflicts prior to shop drawings approval. Foundation voids shall be temporary backfilled, securely covered, or the foundations installed while signal supports are manufactured. If utility conflicts are encountered during excavation, the Engineer shall be notified. Modifications to the foundation location may be required. Vacuum excavation, and foundation location adjustments shall be incidental to this item of work. Payment shall be as per Item 632.

ITEM 632 VEHICULAR SIGNAL HEAD, (LED), BY SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN

In addition to the requirements of CMS 632 & 732, the following shall apply:

- 1. Vehicular signal heads and visors shall be constructed of Polycarbonate plastic.
- 2. Proper exterior colors shall be obtained by use of colored plastic material rather than painting.
- 3. Aluminum backplates shall be in accordance with CMS 732.22 and include a 2" fluorescent yellow reflective border.
- 4. All vehicular signal heads shall be furnished with cut away tunnel visors.

Payment shall be made at the unit price bid for each complete signal head, furnished and installed, including all labor, equipment, materials, and new attachment hardware.

ITEM 632 (COMBINATION) STRAIN POLE, TYPE TC-81.11, (BY SIZE), AS PER PLAN

The (combination) strain pole foundations shall be excavated or vacuum excavated to test for conflicts prior to shop drawings approval. Foundation voids shall be temporary backfilled, securely covered, or the foundations installed while strain poles are manufactured. If utility conflicts are encountered during excavation, the Engineer shall be notified. Modifications to the foundation location may be required. Vacuum excavation, and foundation location adjustments shall be incidental to Item 632 Signal Support Foundation, As Per Plan.

Traffic strain poles shall be as per Item 632 except that the support poles shall have a circular cross section and shall be tapered tubes having a true and continuous taper. Multi-sided or fluted poles and poles having a tapered effect accomplished with the use of reducers will not be accepted.

VARMINT GUARDS

Varmint guards shall be installed on all strain poles as shown on SCD HL-10.31 except as modified herein. Varmint guards shall consist of 1/8" (minimum) stainless steel sheeting. Attach sheeting with 3/4" stainless steel bars with a minimum of 2" overlap. Payment shall be considered incidental to the cost of the strain pole and include all labor, equipment, and materials.

Payment

This item of work shall be measured as each complete strain pole, in place in essentially a vertical position under full plan loading. All labor, equipment, and materials necessary to pickup, transport, store, erect, adjust, and repair the signal support and anchor bolts shall be included for payment in the bid item.

Payment shall be as per Item 632.

ITEM 633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN

In addition to the requirements of C&MS 633 and 733, a cabinet riser (12-inch) and anchor bolts shall be furnished and installed. Before performing the work, the Contractor, the District Traffic Engineer and the Project Engineer will perform a site inspection to establish the location of the UPS cabinet and foundation. The BBU shall be integral with the cabinet foundation and controller work pad.

The uninterruptible power supply unit shall be Model FXM HP 1100 as manufactured by Alpha.

The UPS cabinet shall include a generator power panel with a heavy-duty power relay versus the line voltage generator switch. The generator inlet shall be a recessed panel with a door that is flush with the external side of the UPS cabinet. It shall include a recessed plug, automatic transfer switch and a door that securely closes over the power cord.

The cabinet shall have a door stop mechanism and thermostatically controlled fan.

The cabinet shall include a Battery Balancing device that regulates the batteries and optimizes performance.

After four (4) hours of battery runtime, the system shall be programmed to switch the intersection from full operation to controller automatic flash operation through the monitor. The controller shall be programmed so that flash operation shall begin once the intersection runs minor street green (typ. Ph.8), all-red clearance, and then flash operation.

The UPS output notifications for on battery, battery 2-hour timer, and low battery shall be wired into the traffic signal cabinet back panel or through the controller with a C11 to provide special status alarms for each output into the signal controller.

This item shall include a red and green LED status indicator lamp to allow maintenance personnel and law enforcement to quickly assess whether a traffic signal cabinet is being powered by a UPS. The LED housing shall be NEMA 4X, IP65 or IP66, rated for outdoor use and be tamper/shatter resistant. They shall be domed enclosures containing a red (or green) lens with LED that is visible from 100 foot minimum. The enclosures and LED modules should be placed on the side of the UPS cabinet facing towards the mainline roadway and sealed from water intrusion. They should be wired using minimum 20GA stranded, insulated hookup wire to the status relay outputs of the UPS. The wires shall be terminated by lugs at the display end and permanently labeled "BACKUP POWER STATUS DISPLAY," with wire polarity indicated. The red LED shall only illuminate to indicate the cabinet is operating under UPS backup power (the "backup" operating condition). The green LED shall be illuminated under normal power conditions. This item includes programming the UPS status relay outputs to produce the lamp status displays. These status displays will be solid 100% duty cycle (not flashing) displays. The operating voltage of the LED lamps shall be 120V AC unless otherwise indicated.

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TRAFFIC SIGNAL NOTES

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

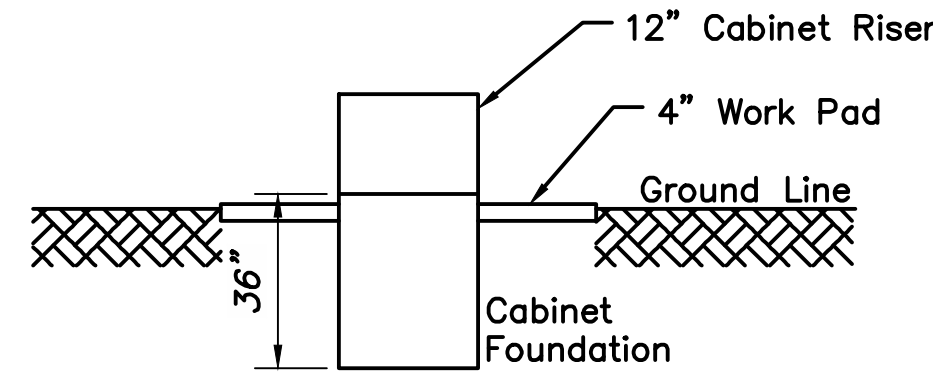
132
164

ITEM 633 CABINET FOUNDATION, AS PER PLAN

This Item shall include the additional excavation and concrete necessary to extend the controller cabinet foundation in order to support the uninterruptible power supply (UPS) cabinet.

The controller and UPS cabinet foundation shall be in accordance with CMS 633.10, TC-83.20, PIS 208320, and the details shown below. See PIS 208320 for concrete foundation quantity.

Payment shall be made at the unit price bid and include all labor, equipment, materials, and incidentals necessary to construct the foundation, including conduit ells and anchor bolts, rebar of disturbed area and disposal of surplus material as per CMS 104.04.



WORK PAD PLAN VIEW
96"W x 128"L x 4"D

Notes

- The size of the UPS foundation may vary based on the cabinet size provided.
- UPS foundation elevation should match cabinet foundation elevation.
- The UPS cabinet shall be mounted flush up against the signal cabinet and sealed.
- Conduit and wiring from the signal cabinet to the UPS shall be installed through the cabinet riser.
- 1/2" P.E.J.F shall be installed between Cabinet/UPS foundation and work pad per CMS 705.03.
- The 24" pull box shall be placed on opposite side of door hinge.

ITEM 633 CONTROLLER WORK PAD, AS PER PLAN

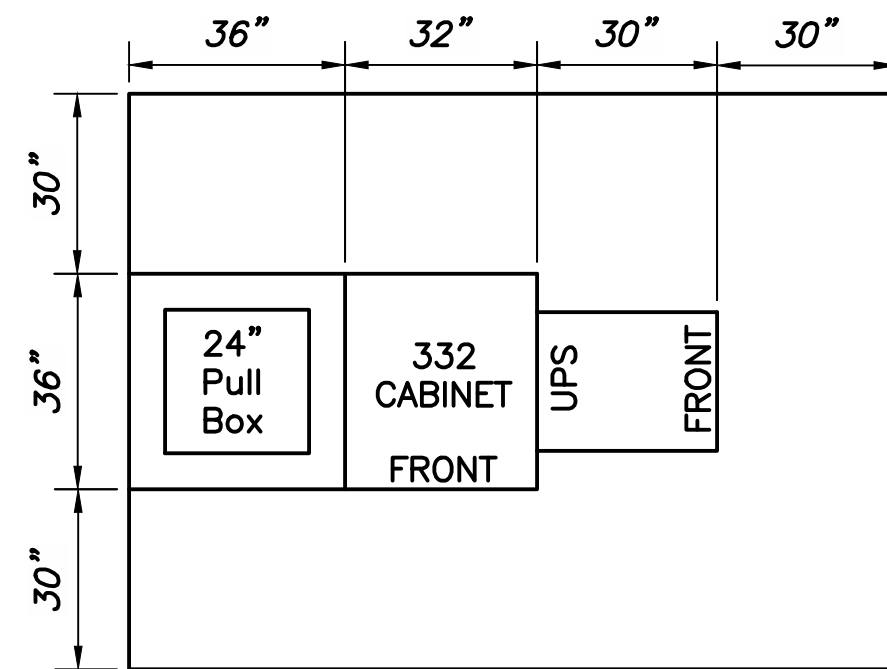
This Item shall include the additional excavation, embankment, and concrete necessary to extend the controller work pad to the dimensions shown below and provide level work pad.

The controller work pad shall be in accordance with CMS 633.11, TC-83.20, PIS 208320, and the details on this sheet.

The Contractor shall construct the work pad as follows:

- Excavate a minimum of 9" below grade.
- Place and compact 6" of material conforming to CMS 304.02.
- Install a cast-in-place work pad that is a minimum of 4" thick.

Payment shall be made at the unit price bid and include all labor, equipment, materials, and incidentals necessary to construct the concrete work pad.



WORK PAD PLAN VIEW
96"W x 128"L x 4"D

ITEM 633 CABINET, TYPE 332, AS PER PLAN

The cabinet shall be furnished and installed according to CMS 633 and 733 and be listing on the Traffic Authorized Products List (TAP).

The cabinet shall be furnished with EDI 2010ECLP Monitor as allowed on the TAP.

A cabinet riser (12-inch) and anchor bolts shall be furnished and installed.

The Contractor shall not reassign the cabinet detector inputs in order to reduce the number of 2-channel detector units supplied and shall use the standard Caltrans Input File designations following Plan Insert Sheet 203.324.

Payment for Item 633 Cabinet, Type 332, As Per Plan will be at the contract bid price per each complete and in place including all connections tested and accepted.

ITEM 809 ATC CONTROLLER, AS PER PLAN

The controller unit shall be furnished and installed per SS 809 and be listed on the Traffic Authorized Products (TAP) List.

The controller shall be a Rack Mounted Econolite Cobalt with the latest version of EOS software installed.

Payments shall be made at the unit price bid for each unit complete in place, including all labor, equipment, material, cabinet & mounting hardware, and all other incidentals necessary for a fully operational controller cabinet. All connections tested and accepted.

ITEM 809 STOP-LINE RADAR DETECTION, AS PER PLAN

This Item of work shall consist of furnishing and installing a Wavetronix Smartsensor matrix detection unit. The detection unit shall include the following:

- Power shall be provided from the traffic cabinet.
- All required inputs cards shall be included in the traffic cabinet and shall be compatible with Caltrans, NEMA TS1 and NEMA TS2 detector racks. The cards shall provide true presence detector calls or contact closure to the traffic controller.
- The unit shall be mounted directly to a pole or mast arm, as recommended by the manufacturer. Cable(s) shall be provided as required and recommended by the manufacturer.
- Surge protection devices, as recommended by the manufacturer shall be included both at the pole where the unit is located to protect the unit and in the traffic cabinet to protect the cabinet electronics.
- The manufacturer's representative shall be on site during installation and testing and shall provide onsite training on the setup, operation and maintenance of the unit.
- A serial to Ethernet communications module and Ethernet cable (minimum 7 feet).
- The power supply and communication modules shall be secured to a single panel that can be mounted interior to the traffic cabinet. The panel shall include modular-plug style connections for up to four (4) sensor cables. Additional sensors may be hard-wired to the communication modules, as necessary.
- The Contractor shall install the radar detection prior to milling/disabling existing loops.
- The installation shall include all controller programming for complete installation, which includes modifications for removal of existing detection.
- In addition to furnishing and installing Click units needed to facilitate detection needs, Click 301 units shall also be furnished and installed in the cabinet to allow for remote access to the cabinet Wavetronix devices. The Click 301 unit shall be incidental to this Item.

Payment for Item 809 Stop-Line Radar Detection, As Per Plan shall be made at the contract unit price for each unit, complete and in place including all required cabinet hardware, mounting brackets, cables, conduit and connections tested and accepted.

ITEM 809 ADVANCE RADAR DETECTION, AS PER PLAN

This Item of work shall consist of furnishing and installing a Wavetronix Smartsensor advance detection unit (Model SS-200E). The detection unit shall include the following:

- Power shall be provided from the traffic cabinet.
- All required inputs cards shall be included in the traffic cabinet and shall be compatible with Caltrans, NEMA TS1 and NEMA TS2 detector racks. The cards shall provide true presence detector calls or contact closure to the traffic controller.
- The unit shall be mounted directly to a pole or mast arm, as recommended by the manufacturer. Cable(s) shall be provided as required and recommended by the manufacturer.
- Surge protection devices, as recommended by the manufacturer shall be included both at the pole where the unit is located to protect the unit and in the traffic cabinet to protect the cabinet electronics.
- The manufacturer's representative shall be on site during installation and testing and shall provide onsite training on the setup, operation and maintenance of the unit.
- A serial to Ethernet communications module and Ethernet cable (minimum 7 feet).
- The power supply and communication modules shall be secured to a single panel that can be mounted interior to the traffic cabinet. The panel shall include modular-plug style connections for up to four (4) sensor cables. Additional sensors may be hard-wired to the communication modules, as necessary.
- The Contractor shall install the radar detection prior to milling/disabling existing loops.
- The installation shall include all controller programming for complete installation, which includes modifications for removal of existing detection.
- In addition to furnishing and installing Click units needed to facilitate detection needs, Click 301 units shall also be furnished and installed in the cabinet to allow for remote access to the cabinet Wavetronix devices. The Click 301 unit shall be incidental to this Item.

Payment for Item 809 Advance Radar Detection, As Per Plan shall be made at the contract unit price for each unit, complete and in place including all required cabinet hardware, mounting brackets, cables, conduit, connections tested and accepted, and any other necessary hardware to establish a fully functional detection system.

Traffic Signal Estimate of Quantities			
Item No.	Quantity	Unit	Description
ODOT 625	234	Lin Ft	Conduit, 2", 725.051
ODOT 625	15	Lin Ft	Conduit, 3", 725.051
ODOT 625	15	Lin Ft	Conduit, 4", 725.051
ODOT 625	20	Lin Ft	Conduit, Concrete Encased, 2", 725.051
ODOT 625	5	Each	Pull Box, 725.08, 24"
ODOT 625	156	Lin Ft	Trench
ODOT 625	11	Each	Ground Rod
ODOT 625	2	Each	Bracket Arm, 20'
ODOT 625	2	Each	Luminaire, Conventional, Solid State (LED), 120V, Type III, As Per Plan
ODOT 625	1	Each	Arc Flash Calculations and Label, As Per Plan
ODOT 625	1	Each	Power Service, As Per Plan
ODOT 625	238	Lin Ft	No. 4 AWG 600 Volt Distribution Cable (Grounding & Bonding)
ODOT 625	716	Lin Ft	No. 8 AWG 600 Volt Distribution Cable (Lighting)
ODOT 630	2	Each	Sign Support Assembly, Pole Mounted
ODOT 630	2	Each	Sign, Street Name
ODOT 632	5	Each	Vehicular Signal Head, LED, Polycarbonate, 3-Section, 12" Lens, 1-Way, With Backplate, As Per Plan
ODOT 632	2	Each	Vehicular Signal Head, LED, Polycarbonate, 5-Section, 12" Lens, 1-Way, With Backplate, As Per Plan
ODOT 632	6	Each	Pedestrian Signal Head (LED), Type D2, Countdown
ODOT 632	7	Each	Covering of Vehicular Signal Head
ODOT 632	6	Each	Covering of Pedestrian Signal Head
ODOT 632	4	Each	Covering of Pedestrian Pushbutton
ODOT 632	4	Each	Pedestrian Pushbutton
ODOT 632	1836	Lin Ft	Signal Cable, 7 Conductor, No. 14 AWG
ODOT 632	912	Lin Ft	Loop Detector Lead-In Cable
ODOT 632	72	Lin Ft	Power Cable, 2 Conductor, No. 6 AWG
ODOT 632	74	Lin Ft	Service Cable, 3 Conductor, No. 4 AWG
ODOT 632	1	Each	Conduit Riser, 1.5" Diameter, SCH 80
ODOT 632	2	Each	Strain Pole, Type TC-81.11, Design 12, As Per Plan
ODOT 632	2	Each	Combination Strain Pole, Type TC-81.11, Design 12, As Per Plan
ODOT 632	4	Each	Signal Support Foundation, As Per Plan
ODOT 632	4	Each	Pedestal, 11", Transformer Base
ODOT 632	4	Each	Pedestal Foundation, As Per Plan
ODOT 632	1	Each	Wood Pole
ODOT 632	1	Each	Down Guy
ODOT 632	386	Lin Ft	Messenger Wire, 7 Strand, 1/2" Diameter With Accessories
ODOT 632	386	Lin Ft	Tether Wire, With Accessories
ODOT 633	1	Each	Cabinet, Type 332, As Per Plan
ODOT 633	1	Each	Uninterruptible Power Supply (UPS), 1000 Watt, As Per Plan
ODOT 633	1	Each	Cabinet Foundation, As Per Plan
ODOT 633	1	Each	Controller Work Pad, As Per Plan
ODOT 809	2	Each	Advance Radar Detection, As Per Plan
ODOT 809	2	Each	Stop-Line Radar Detection, As Per Plan
ODOT 809	1	Each	ATC Controller, As Per Plan

William C. Mess
 William C. Mess, Date 10/9/2024
 For Power Distribution and Grounding Only on Sheets 132 through 148.

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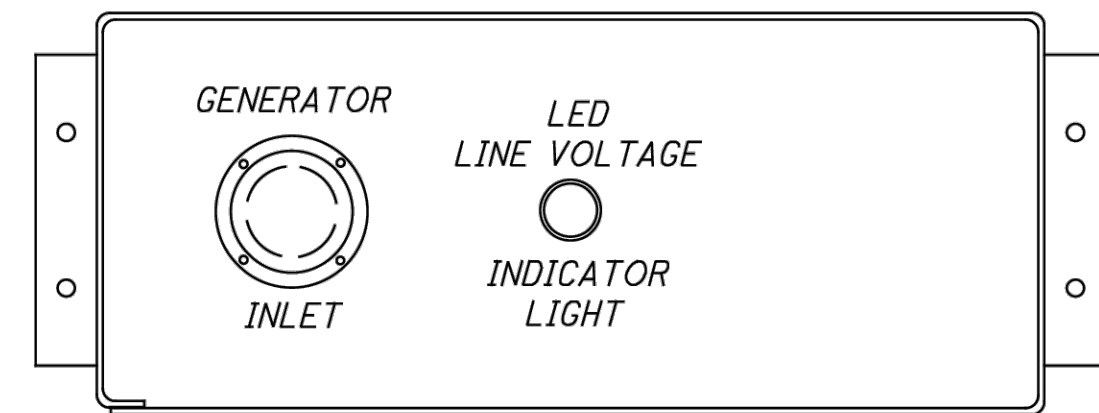
TRAFFIC SIGNAL NOTES

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

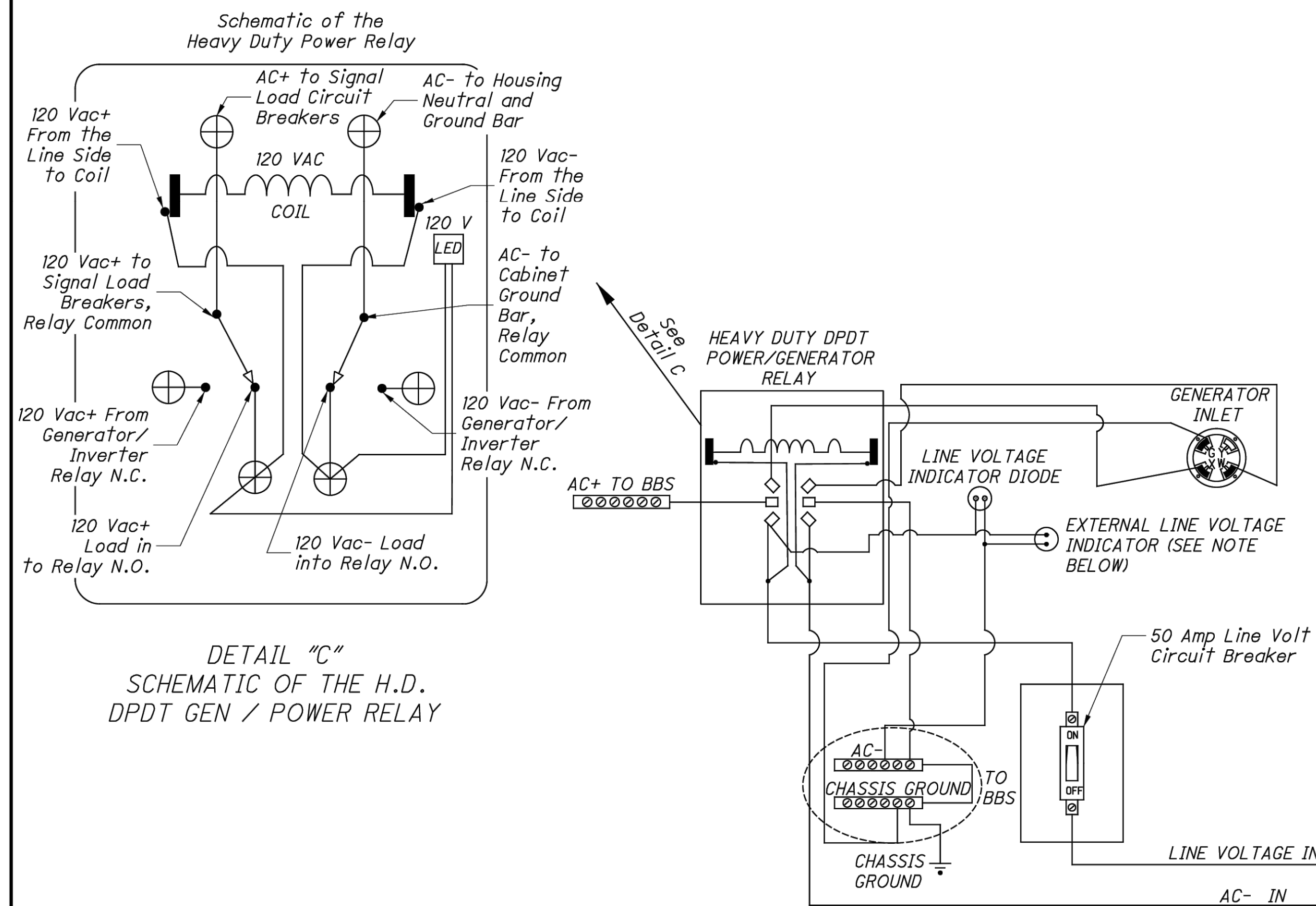
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MATERIAL SPECIFICATIONS FOR BBS GENERATOR POWER PANEL EQUIPMENT

- GENERATOR INLET** - The inlet shall be 30 amp, 125/250V, locking, four (4) wire grounding and meet the NEMA configuration number L14-30-P 30A 125/250V specification. The inlet shall be a Hubbell catalog #2715.
- LINE VOLTAGE GENERATOR SWITCH** - The switch shall be 30 amp, 125/250V AC, two (2) pole, three (3) position (On, Off, On). The switch shall be a Hubbell catalog #1388.
- LINE VOLTAGE INDICATOR LIGHT** - The indicator light shall be 125V AC light emitting diode with a red lens.
- LINE VOLTAGE CIRCUIT BREAKER** - The circuit breaker shall be single pole single throw and a minimum of 30 amps. The amperage shall be increased to accommodate greater loads, if necessary. The gauge of the power cable shall be of proper size per N.E.C.
- EXTERNAL LINE VOLTAGE INDICATOR LIGHT** - The indicator light shall be a 1" waterproof NEMA 4X or IP66 LED lamp with a green lens.



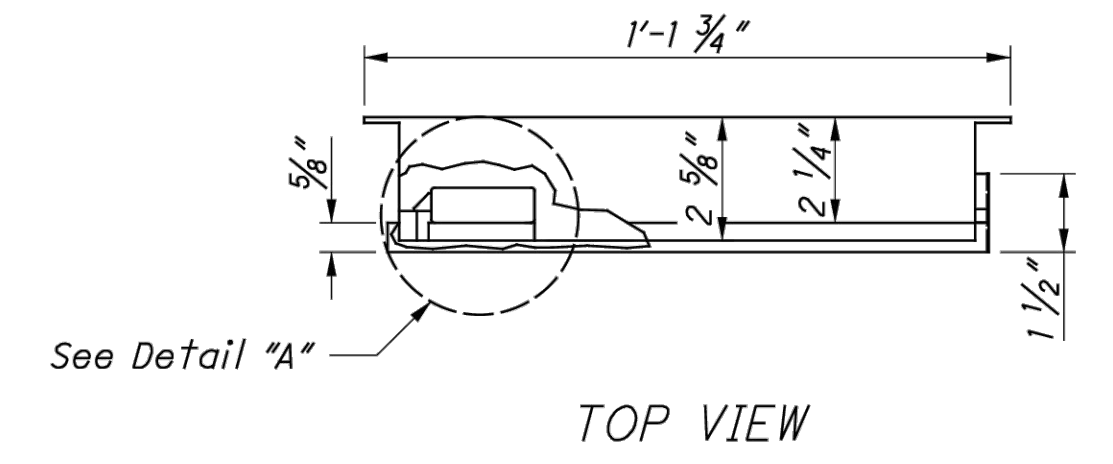
FRONT VIEW OF GENERATOR POWER PANEL



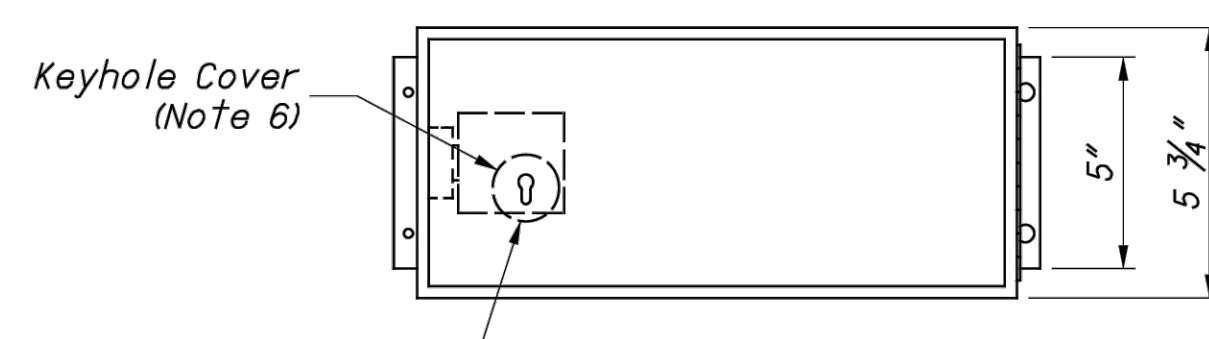
ELECTRICAL HOOKUP DETAIL FOR THE BBS GENERATOR POWER PANEL

NOTE: EXTERNAL LINE VOLTAGE INDICATOR LIGHT required when called for in the plans.
 EXTERNAL LINE VOLTAGE INDICATOR LIGHT shall be located on the enclosure exterior for visibility from the adjacent roadway when all cabinet, and generator panel doors are closed.

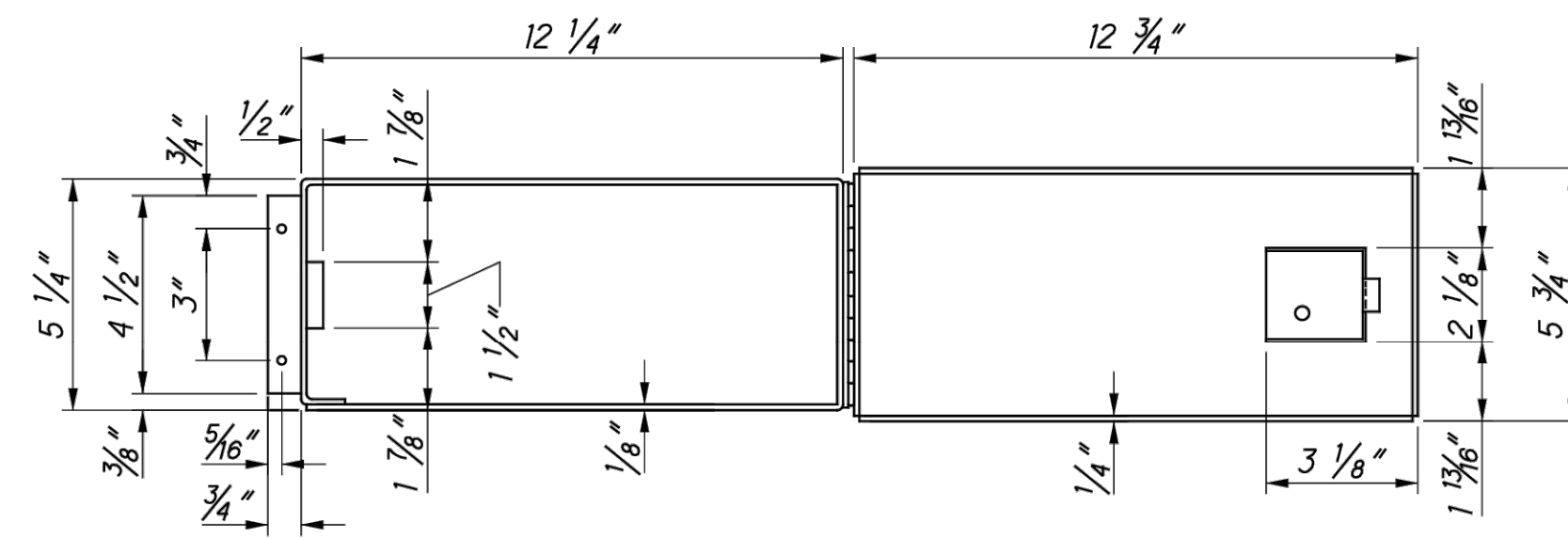
GENERATOR POWER PANEL ENCLOSURE



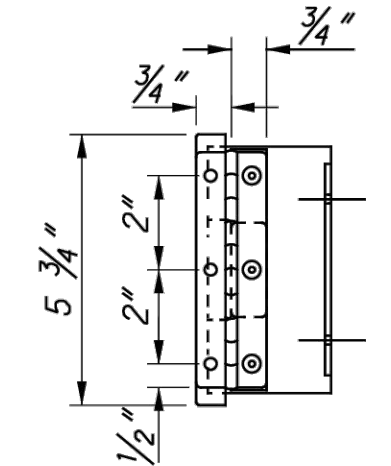
TOP VIEW



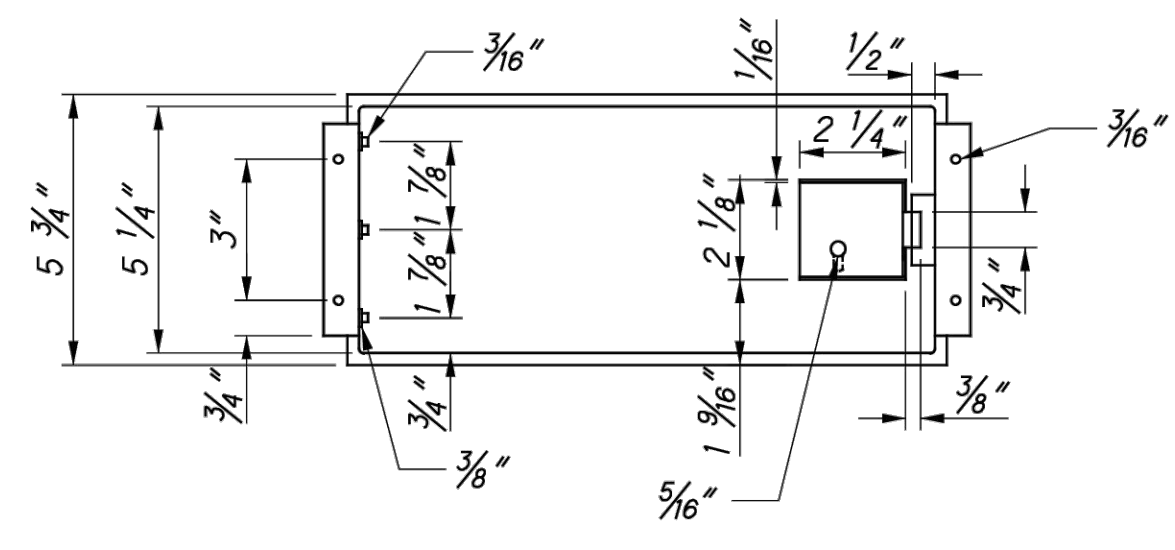
FRONT VIEW CLOSED DOOR



FRONT VIEW OPEN DOOR



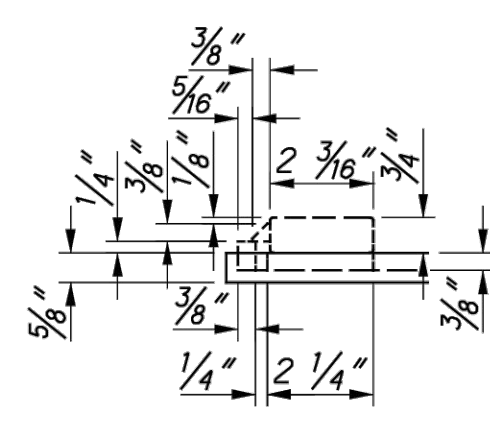
RIGHT SIDE VIEW CLOSED DOOR



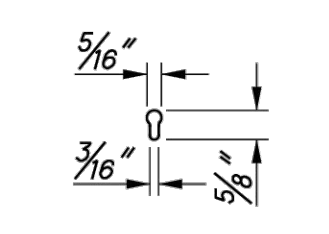
BACK VIEW CLOSED DOOR

NOTES:

- The enclosure shall be constructed of 1/8" thick aluminum.
- The lock shall be the standard police door type, keyed with the standard flasher door skeleton key.
- The door shall be sealed with a foam rubber gasket to prevent moisture from entering the enclosure.
- The enclosure shall be mounted onto the outside of the controller cabinet with non-accessible bolts and sealed with a high quality silicon caulk at all surfaces touching the cabinet.
- The hinge shall be of stainless steel or equivalent corrosive-resistant material.
- Keyhole shall be covered with a movable circular aluminum or brass cover with top pivot pin.



DETAIL "A"



DETAIL "B"

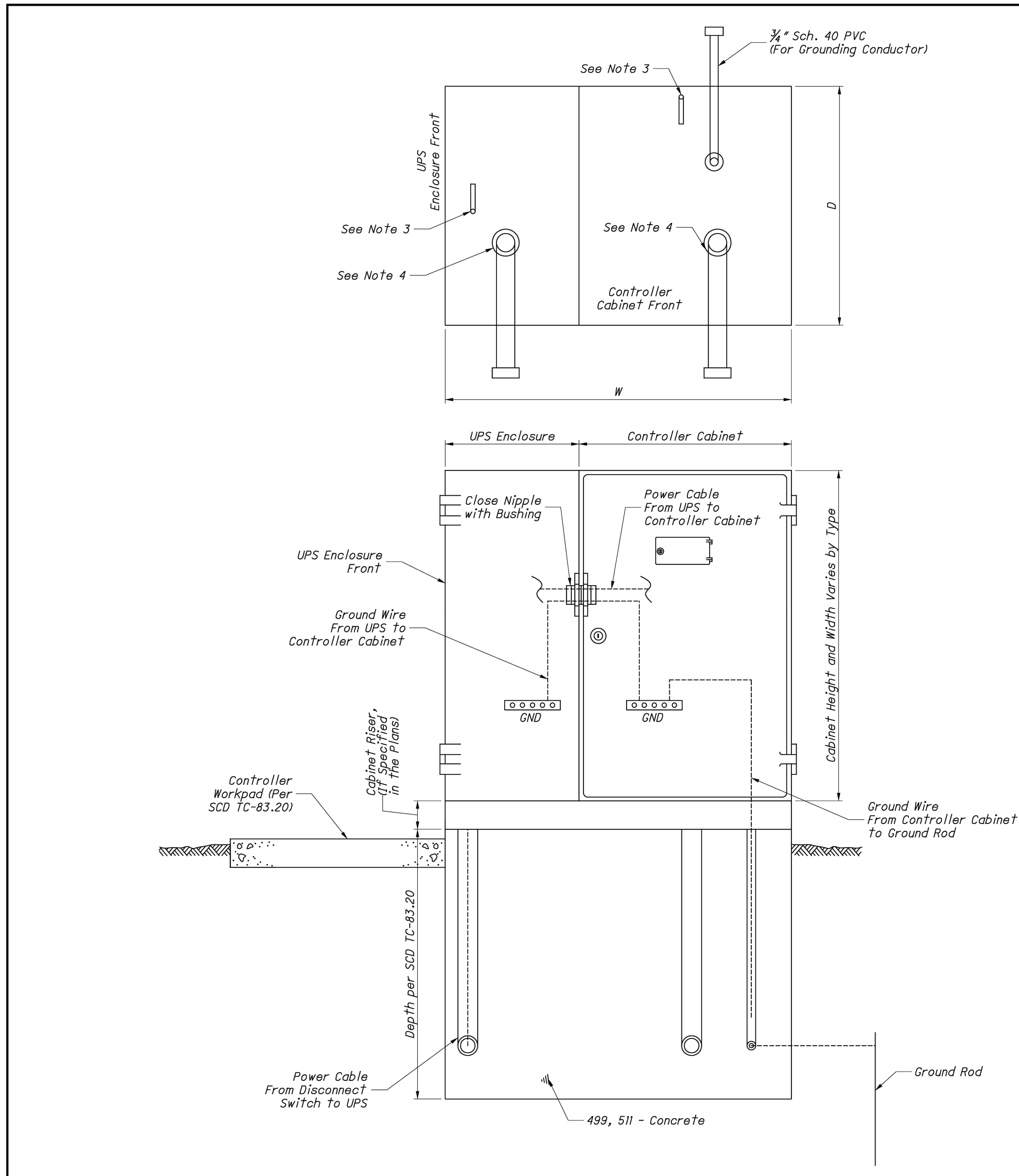
OFFICE OF ROADWAY ENGINEERING	
DESIGNED XXX	CHECKED XXX
REVISION DATE 07-18-2014	REVIEWED XXX
CHECKED XXX	CHECKED XXX
PLAN INSERT SHEET	
BATTERY BACKUP SYSTEM (BBS) GENERATOR POWER PANEL	
PIS 203012	
THIS DRAWING REPLACES PIS 203012 DATED 04-20-2012.	
1 / 1	

TRAFFIC SIGNAL NOTES

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

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NOTES:

1. The Uninterruptible Power Supply (UPS) enclosure shall be mounted flush up against the traffic signal cabinet and sealed with silicone. The Contractor shall be responsible for providing the necessary power cable between the UPS unit and signal cabinet.
2. The UPS should be placed on the opposite side of the pull box on a 332/336 cabinet (per Standard Construction Drawing (SCD) TC-83.20). The UPS placement for a NEMA cabinet varies, placement should provide adequate access with respect to slope, guardrail spacing, etc.
3. The size, number, and location of anchor bolts shall be in accordance with the manufacturer's recommendations.
4. The size, number, and orientation of conduit ells shall be as shown in the plan, except that a 3/4" schedule 40 PVC shall be installed in each foundation.
5. 1/2" preformed joint filler as per CMS 705.03 shall be used between foundations and adjacent paved areas.
6. See SCD TC-83.20 for further details.

TYPE	W (IN.)	D (IN.)	FOUNDATION CONCRETE (CU. YD.)
TS-1	60	24	1.23
TS-2	70	36	2.16
2070/170	50	36	1.54

THIS DRAWING REPLACES PIS 208320 DATED 04-20-2012.

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">DESIGNED XXX</td> <td style="text-align: center;">REVIEWED XXX</td> </tr> <tr> <td style="text-align: center;">CHECKED XXX</td> <td style="text-align: center;">CHECKED XXX</td> </tr> </table>	DESIGNED XXX	REVIEWED XXX	CHECKED XXX	CHECKED XXX	OFFICE OF ROADWAY ENGINEERING						
DESIGNED XXX	REVIEWED XXX										
CHECKED XXX	CHECKED XXX										
PLAN INSERT SHEET UNINTERRUPTIBLE POWER SUPPLY (UPS) AND CONTROLLER CABINET FOUNDATION	PIS 208320										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">/</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">/</td> <td style="text-align: center;">0</td> </tr> </table>	1	/	1	0	/	0	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">CALCULATED</td> <td style="text-align: center;">JCR</td> </tr> <tr> <td style="text-align: center;">CHECKED</td> <td style="text-align: center;">KRB/JDS</td> </tr> </table>	CALCULATED	JCR	CHECKED	KRB/JDS
1	/	1									
0	/	0									
CALCULATED	JCR										
CHECKED	KRB/JDS										

**GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2**

TRAFFIC SIGNAL NOTES

SEPAC AND ASC/3 INPUT FILE INFORMATION FOR THE 332 CABINET

UPPER INPUT FILE (FILE=I)

C	PHASE	1	2	2	2	3	4	4	4	1	MANUAL CONTROL ADV.	2	6	FLASH	
U	DEFAULT FUNCTION	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	SPARE	PED	PED	SENSE	
P	SEPAC DETECTOR NO.	VEH 1	VEH 3	VEH 5	VEH 7	VEH 9	VEH 11	VEH 13	VEH 15	VEH 17		PED 2	PED 6		
A	ASC/3 DETECTOR NO.	VEH 1	VEH 2	VEH 3	VEH 4	VEH 5	VEH 6	VEH 7	VEH 8	VEH 9		PED 2	PED 6		
P	CI PIN NUMBER	56	39	63	47	58	41	65	49	60	80	67	68	81	
N	FIELD TERMINALS	1-D,E	2-D,E	3-D,E	4-D,E	5-D,E	6-D,E	7-D,E	8-D,E	9-D,E	10-D,E	11-D,E	12-D,E	13-D,E	14-D,E
E															
R															
L															
SLOT NUMBER		1	2	3	4	5	6	7	8	9	10	11	12	13	14
C	PHASE	1	2	2	2	3	4	4	4	3	ADV.	4	8	STOP	
L	DEFAULT FUNCTION	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	SPARE	ENABLE	PED	PED	TIME
H	SEPAC DETECTOR NO.	VEH 1	VEH 4	VEH 6	VEH 7	VEH 9	VEH 12	VEH 14	VEH 15	VEH 18			PED 4	PED 8	
O	ASC/3 DETECTOR NO.	VEH 1	VEH 10	VEH 11	VEH 4	VEH 5	VEH 14	VEH 15	VEH 8	VEH 13			PED 4	PED 8	
A	CI PIN NUMBER	56	43	76	47	58	45	78	49	62	53	69	70	82	
W	FIELD TERMINALS	1-J,K	2-J,K	3-J,K	4-J,K	5-J,K	6-J,K	7-J,K	8-J,K	9-J,K	10-J,K	11-J,K	12-J,K	13-J,K	14-J,K
N															
E															
R															
L															

LOWER INPUT FILE (FILE=J)

C	PHASE	5	6	6	6	7	8	8	8	5	SPARE	SPARE	EV - A	EV - B	RR - 1
U	DEFAULT FUNCTION	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	SPARE	SPARE	EV - A	EV - B	RR - 1
P	SEPAC DETECTOR NO.	VEH 19	VEH 21	VEH 23	VEH 25	VEH 29	VEH 31	VEH 33	VEH 35	VEH 37					
A	ASC/3 DETECTOR NO.	VEH 17	VEH 18	VEH 19	VEH 20	VEH 21	VEH 22	VEH 23	VEH 24	VEH 25					
P	CI PIN NUMBER	55	40	64	48	57	42	66	50	59	54	71	72	51	
N	FIELD TERMINALS	1-D,E	2-D,E	3-D,E	4-D,E	5-D,E	6-D,E	7-D,E	8-D,E	9-D,E	10-D,E	11-D,E	12-D,E	13-D,E	14-D,E
E															
R															
L															
SLOT NUMBER		1	2	3	4	5	6	7	8	9	10	11	12	13	14
C	PHASE	5	6	6	6	7	8	8	8	7	SPARE	SPARE	EV - C	EV - D	RR - 2
L	DEFAULT FUNCTION	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	SPARE	SPARE	EV - C	EV - D	RR - 2
H	SEPAC DETECTOR NO.	VEH 19	VEH 22	VEH 24	VEH 25	VEH 29	VEH 32	VEH 34	VEH 35	VEH 38					
O	ASC/3 DETECTOR NO.	VEH 17	VEH 26	VEH 27	VEH 20	VEH 21	VEH 30	VEH 31	VEH 24	VEH 29					
A	CI PIN NUMBER	55	44	77	48	57	46	79	50	61	75	73	74	52	
W	FIELD TERMINALS	1-J,K	2-J,K	3-J,K	4-J,K	5-J,K	6-J,K	7-J,K	8-J,K	9-J,K	10-J,K	11-J,K	12-J,K	13-J,K	14-J,K
N															
E															
R															
L															

SEPAC AND ASC/3 INPUT FILE INFORMATION FOR THE 336 CABINET

C	PHASE	1	2	3	4	5	6	7	8	RR - 1	EV - A	EV - B	2	6	FLASH
U	DEFAULT FUNCTION	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	RR - 1	EV - A	EV - B	PED	PED	SENSE
P	SEPAC DETECTOR NO.	VEH 1	VEH 3	VEH 9	VEH 11	VEH 19	VEH 21	VEH 29	VEH 31				PED 2	PED 6	
A	ASC/3 DETECTOR NO.	VEH 1	VEH 2	VEH 5	VEH 6	VEH 17	VEH 18	VEH 21	VEH 22				PED 2	PED 6	
P	CI PIN NUMBER	56	39	58	41	55	40	57	42	51	71	72	67	68	81
N	FIELD TERMINALS	1-D,E	2-D,E	3-D,E	4-D,E	5-D,E	6-D,E	7-D,E	8-D,E	9-D,E	10-D,E	11-D,E	12-D,E	13-D,E	14-D,E
E															
R															
L															
SLOT NUMBER		1	2	3	4	5	6	7	8	9	10	11	12	13	14
C	PHASE	2	2	4	4	6	6	8	8	RR - 2	EV - C	EV - D	4	8	STOP
L	DEFAULT FUNCTION	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	EXT-CALL	RR - 2	EV - C	EV - D	PED	PED	TIME
H	SEPAC DETECTOR NO.	VEH 7	VEH 4	VEH 15	VEH 12	VEH 25	VEH 22	VEH 35	VEH 32				PED 4	PED 8	
O	ASC/3 DETECTOR NO.	VEH 4	VEH 10	VEH 8	VEH 14	VEH 20	VEH 26	VEH 24	VEH 30				PED 4	PED 8	
A	CI PIN NUMBER	47	43	49	45	48	44	50	46	52	73	74	69	70	82
W	FIELD TERMINALS	1-J,K	2-J,K	3-J,K	4-J,K	5-J,K	6-J,K	7-J,K	8-J,K	9-J,K	10-J,K	11-J,K	12-J,K	13-J,K	14-J,K
N															
E															
R															
L															

OFFICE OF
ROADWAY
ENGINEERING

DESIGNED
XXX
REVIEWED
XXX
CHECKED
XXX

PLAN INSERT SHEET
SEPAC AND ASC/3 INPUT FILE INFORMATION
FOR 332 AND 336 CABINETS

PIS 203324
1/1

0/0

CALCULATED
JCR
CHECKED
KRB/JDS

TRAFFIC SIGNAL NOTES

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

136
164

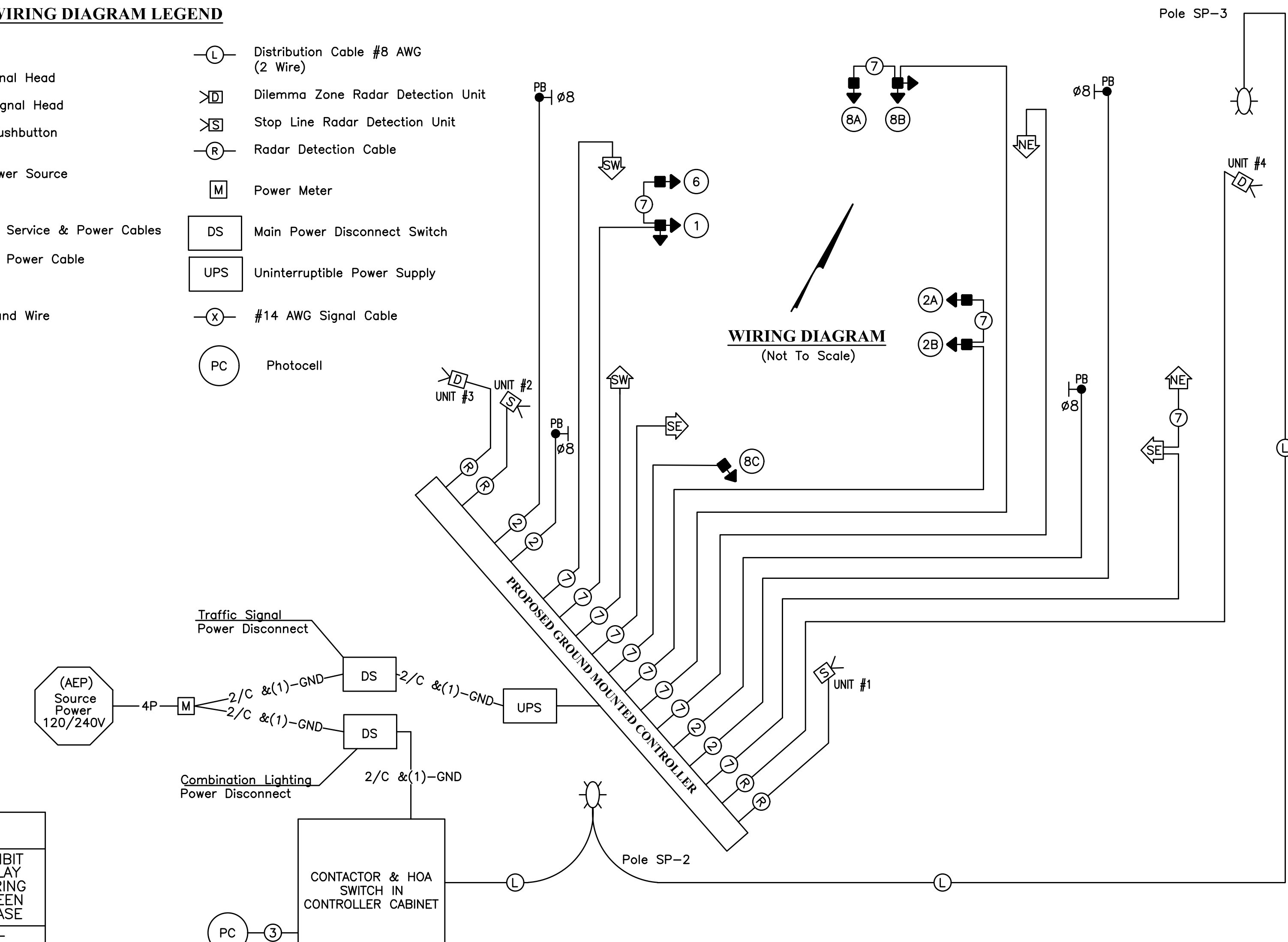
THIS DRAWING REPLACES PIS 203324 DATED 10-18-2013.

TIMING CHART

INTERSECTION: US ROUTE 62 & GREEN CHAPEL ROAD									
START UP		DUAL ENTRY: YES	PHASES: 2 & 6						
REST IN RED: -		RING 1	RING 2				-		
OVERLAP		A	B	C	D				
PHASES		1	-	-	-				
INTERVAL OR FEATURE	CONTROLLER MOVEMENT NO.								
INTERSECTION MOVEMENT (PHASE)	1	2	3	4	5	6	7	8	
DIRECTION	SWLT	NEB	-	-	-	SWB	-	NWB	
MINIMUM GREEN (INITIAL) (SEC.)	7	20	-	-	-	20	-	10	
ADDED INITIAL (SEC./ACTUATION)	-	-	-	-	-	-	-	-	
MAXIMUM INITIAL (SEC.)	-	-	-	-	-	-	-	-	
PASSAGE TIME (PRESET GAP) (SEC.)	3.7	1.0	-	-	-	1.0	-	3.7	
TIME BEFORE REDUCTION (SEC.)	-	-	-	-	-	-	-	-	
MINIMUM GAP (SEC.)	-	-	-	-	-	-	-	-	
TIME TO REDUCE (SEC.)	-	-	-	-	-	-	-	-	
MAXIMUM GREEN I (SEC.)	15	45	-	-	-	45	-	25	
MAXIMUM GREEN II (SEC.)	15	45	-	-	-	45	-	25	
YELLOW CHANGE (SEC.)	4.7	5.6	-	-	-	5.6	-	4.1	
ALL RED CLEARANCE (SEC.)	2.0	1.0	-	-	-	1.0	-	2.1	
DELAYED GREEN (LPI) (SEC.)	-	-	-	-	-	-	-	-	
WALK (SEC.)	-	7	-	-	-	-	-	7	
FLASHING YELLOW ARROW DELAY (SEC.)	-	-	-	-	-	-	-	-	
PEDESTRIAN CLEARANCE (SEC.)	-	13	-	-	-	-	-	14	
RECALL	MAXIMUM (ON/OFF)	OFF	OFF	-	-	OFF	-	OFF	
	MINIMUM (ON/OFF)	OFF	ON	-	-	ON	-	OFF	
	PEDESTRIAN (ON/OFF)	OFF	ON	-	-	OFF	-	ON	
MEMORY (ON/OFF)	OFF	ON	-	-	-	ON	-	OFF	

WIRING DIAGRAM LEGEND

- Vehicular Signal Head
- Pedestrian Signal Head
- Pedestrian Pushbutton
- Proposed Power Source
- 3/C #4 AWG Service & Power Cables
- 2/C #6 AWG Power Cable
- Luminaire
- #4 AWG Ground Wire
- Distribution Cable #8 AWG (2 Wire)
- Dilemma Zone Radar Detection Unit
- Stop Line Radar Detection Unit
- Radar Detection Cable
- Power Meter
- Main Power Disconnect Switch
- Uninterruptible Power Supply
- #14 AWG Signal Cable
- Photocell



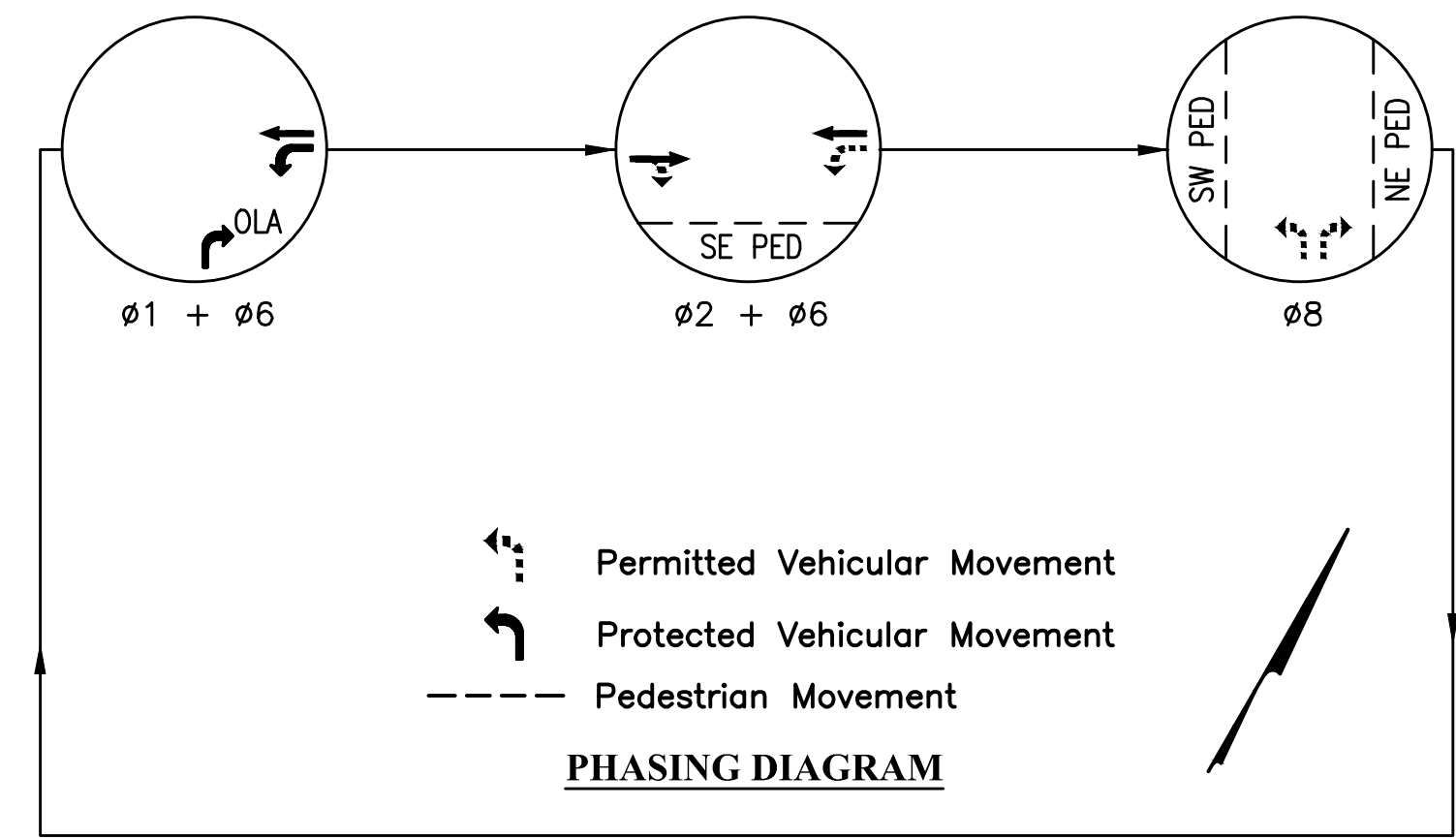
FIELD WIRING HOOK-UP CHART

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
1 (SWLT)	R	ø6 R	R
	Y	ø6 Y	
	G	ø6 G	
	←	ø1 Y	
6 (SWB)	R	ø6 R	R
	Y	ø6 Y	
	G	ø6 G	
	←	ø1 G	
8A&8C (NWB)	R	ø8 R	R
	Y	ø8 Y	
	G	ø8 G	
8B (NWBRT)	R	ø8 R	R
	Y	ø8 Y	
	G	ø8 G	
	←	OLA Y	
2A&2B (NEB)	R	ø2 R	R
	Y	ø2 Y	
	G	ø2 G	
SW	WALK	G ø8-W	OFF
	DON'T WALK	R ø8-DW	
SE	WALK	G ø2-W	OFF
	DON'T WALK	R ø2-DW	
NE	WALK	G ø8-DW	OFF
	DON'T WALK	R ø8-DW	

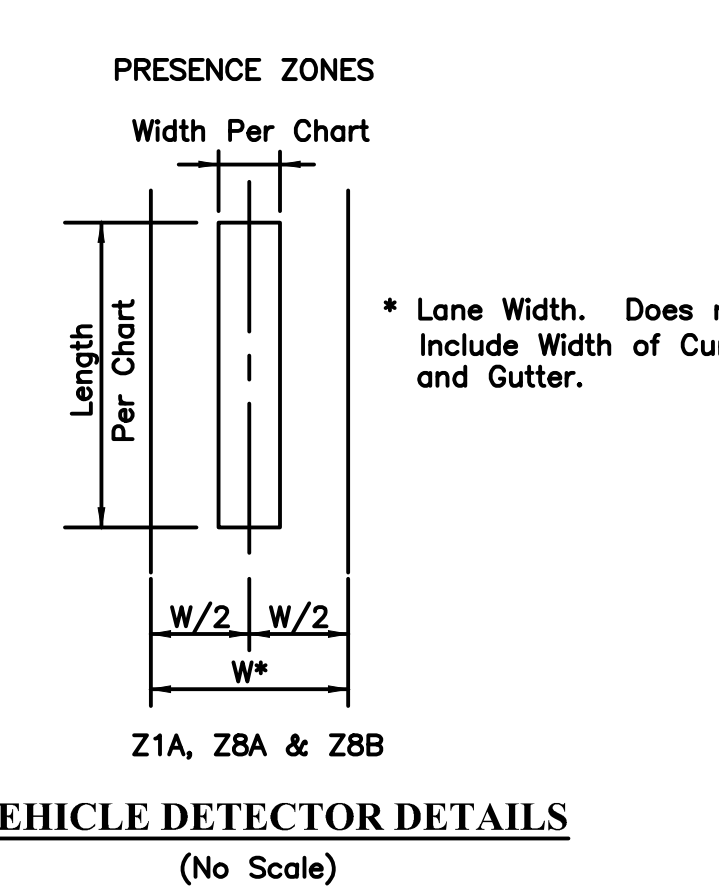
OLA = ø1
OLA = LS13

RADAR DETECTION ASSIGNMENTS

DETECTOR	RADAR	PHASE	SIZE	PRESENCE	PURPOSE	DELAY DATA	
						DELAY (SEC.)	INHIBIT DELAY DURING GREEN PHASE
Z1A	1	1	6'x40'	X	CALL/EXTEND	-	-
Z8A	2	8	5'x40'	X	CALL/EXTEND	3	8
Z8B	2	8	6'x40'	X	CALL/EXTEND	12	8
NEB ADV.	3	2	1 LANE X 600'		DYNAMIC		
SWB ADV.	4	6	1 LANE X 600'		DYNAMIC		



PHASING DIAGRAM



VEHICLE DETECTOR DETAILS (No Scale)

CALCULATED
JCR
CHECKED
KRB/JDS

TRAFFIC SIGNAL DETAILS
GREEN CHAPEL AT US 62

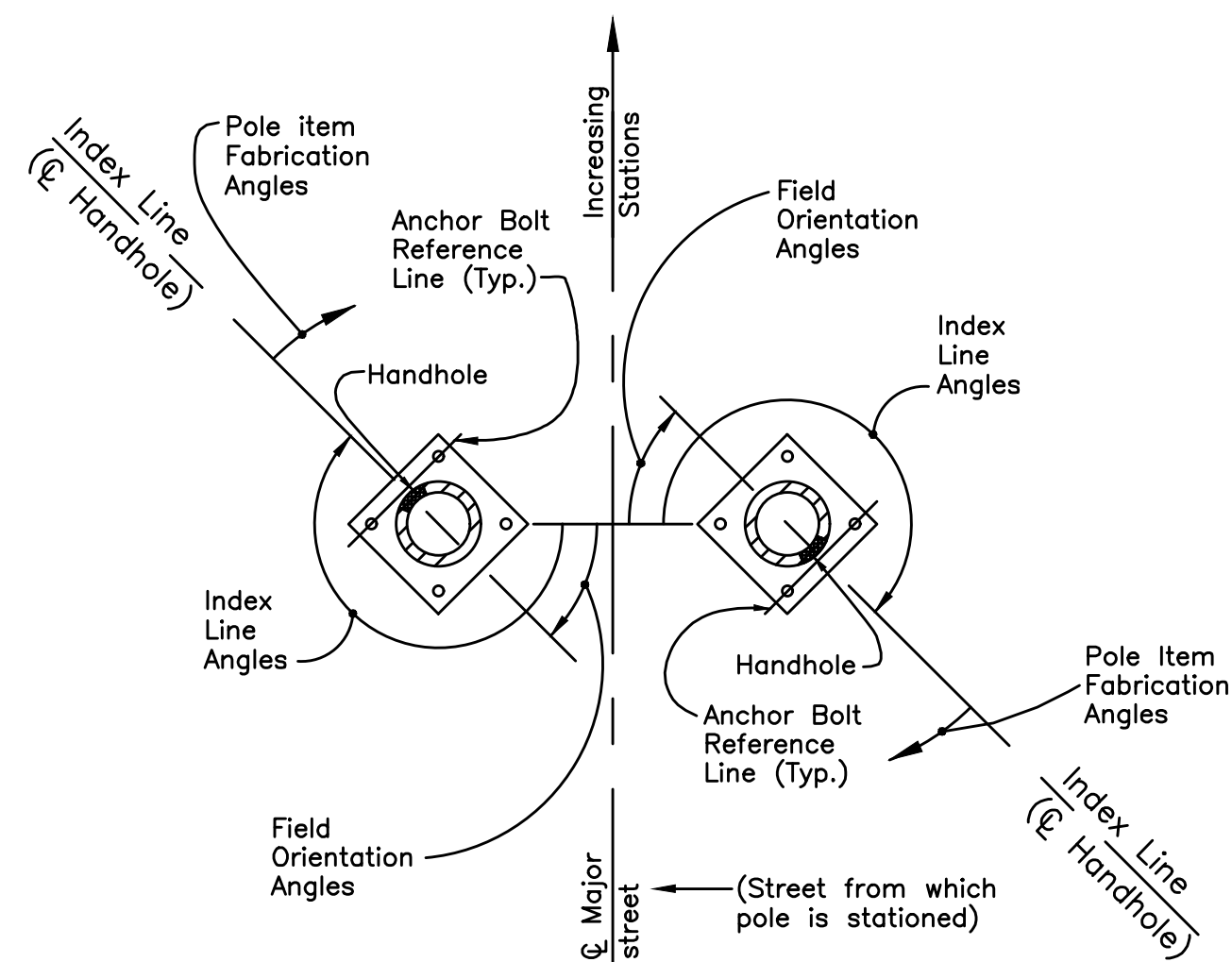
GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

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INTERSECTION	SHEET NO.	STATION & OFFSET	SUPPORT DESIGNATION	ODOT STANDARD DRAWING	DESIGN NO.	POLE HT. (FT.)	FOUNDATION ELEVATION	SPAN WIRE ATTACHMENT HEIGHT (FT.)	CABLE ENTRANCE DISTANCE FROM TOP (FT.)	POLE FABRICATION DATA—CLOCKWISE FROM MAST ARM A AT 0 DEGREES					FIELD ORIENTATION			
										ANCHOR BOLT REFERENCE LINE	PED. SIGNALS **	PUSHBUTTON	AUXILIARY SIGNAL HEAD	BRACKET ARM	HANDHOLE	INDEX LINE ANGLE	ANCHOR BOLT REF. LINE	2" CAPPED
US-62 AND GREEN CHAPEL ROAD	137	44+84.0, 47.5' LT.	SP-1	TC-81.11	12	34	1141.9	29.0	6	90°	-	-	-	-	0°	139°	229°	270°
		44+84.5, 27.0' LT.	PS-1	TC-83.20	PEDESTAL	11	FLUSH W/ WALK	-	-	90°	180°	180°	-	-	0°	90°	180°	-
		45+02.1, 63.1' RT.	SP-2	TC-81.11	12	30.5	FLUSH W/ WALK	24.5 (To SP-1) 25.5 (To SP-4)	7	90°	131°	-	283°	135°	0°	225°	315°	150°
		44+82.1, 42.8' RT.	PS-2	TC-83.20	PEDESTAL	11	FLUSH W/ WALK	-	-	90°	159°	157°	-	-	0°	294°	204°	-
		45+95.7, 47.5' LT.	SP-3	TC-81.11	12	36.0	1142.5	28.5	8	90°	-	-	-	140°	0°	220°	310°	90°
		45+92.7, 27.0' LT.	PS-3	TC-83.20	PEDESTAL	11	FLUSH W/ WALK	-	-	90°	180°	180°	-	-	0°	270°	180°	-
		45+78.5, 61.8' RT.	SP-4	TC-81.11	12	27.5	FLUSH W/ WALK	24.5 (To SP-3) 25.5 (To SP-2)	4	90°	227°	-	-	-	0°	135°	225°	214°
		45+95.2, 41.4' RT.	PS-4	TC-83.20	PEDESTAL	11	FLUSH W/ WALK	-	-	90°	207°	205°	-	-	0°	62°	152°	-

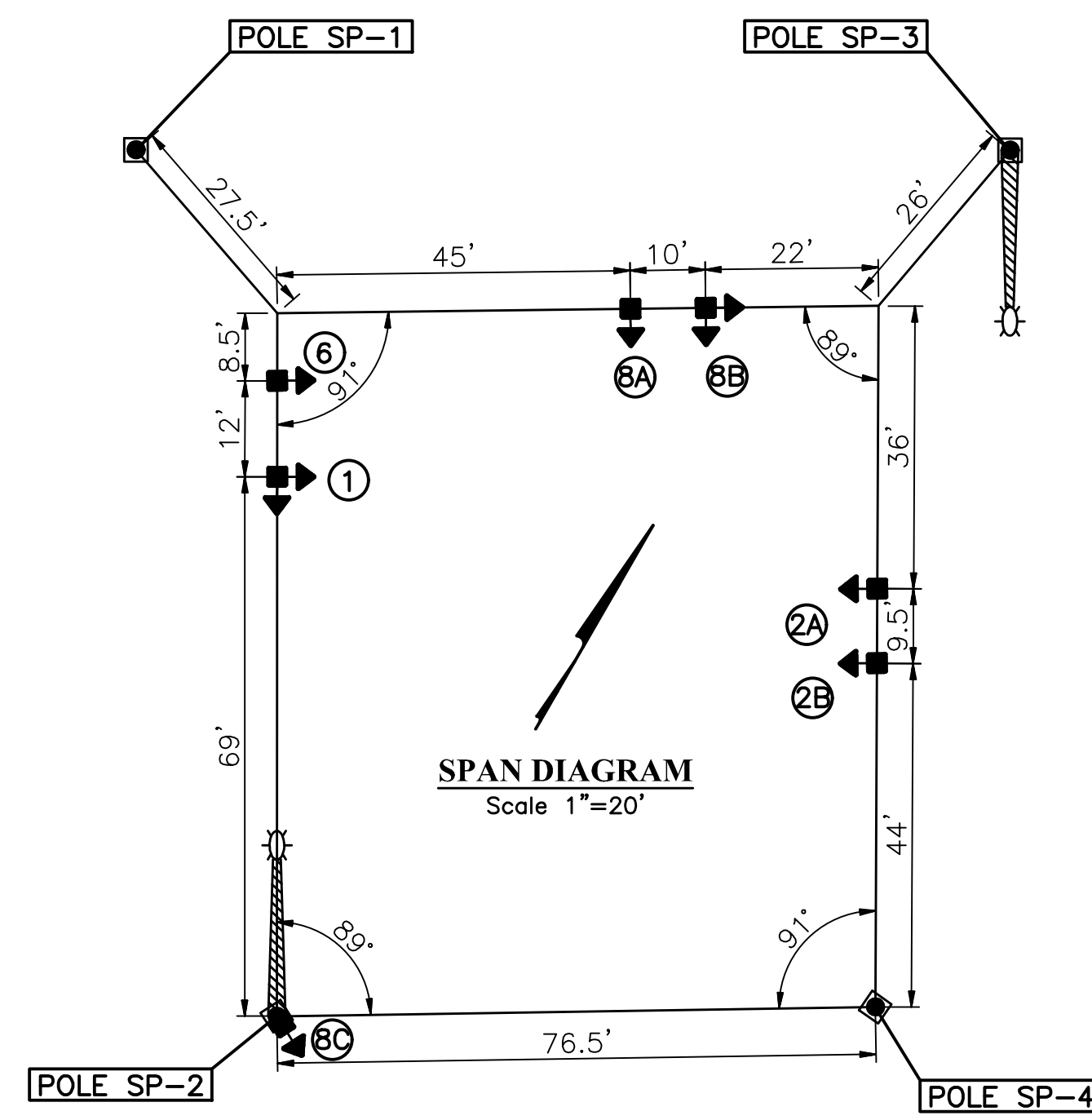
NOTES:

** Two-piece brackets shall be provided for pedestrian signals as per plan and at the orientation noted in the above table.

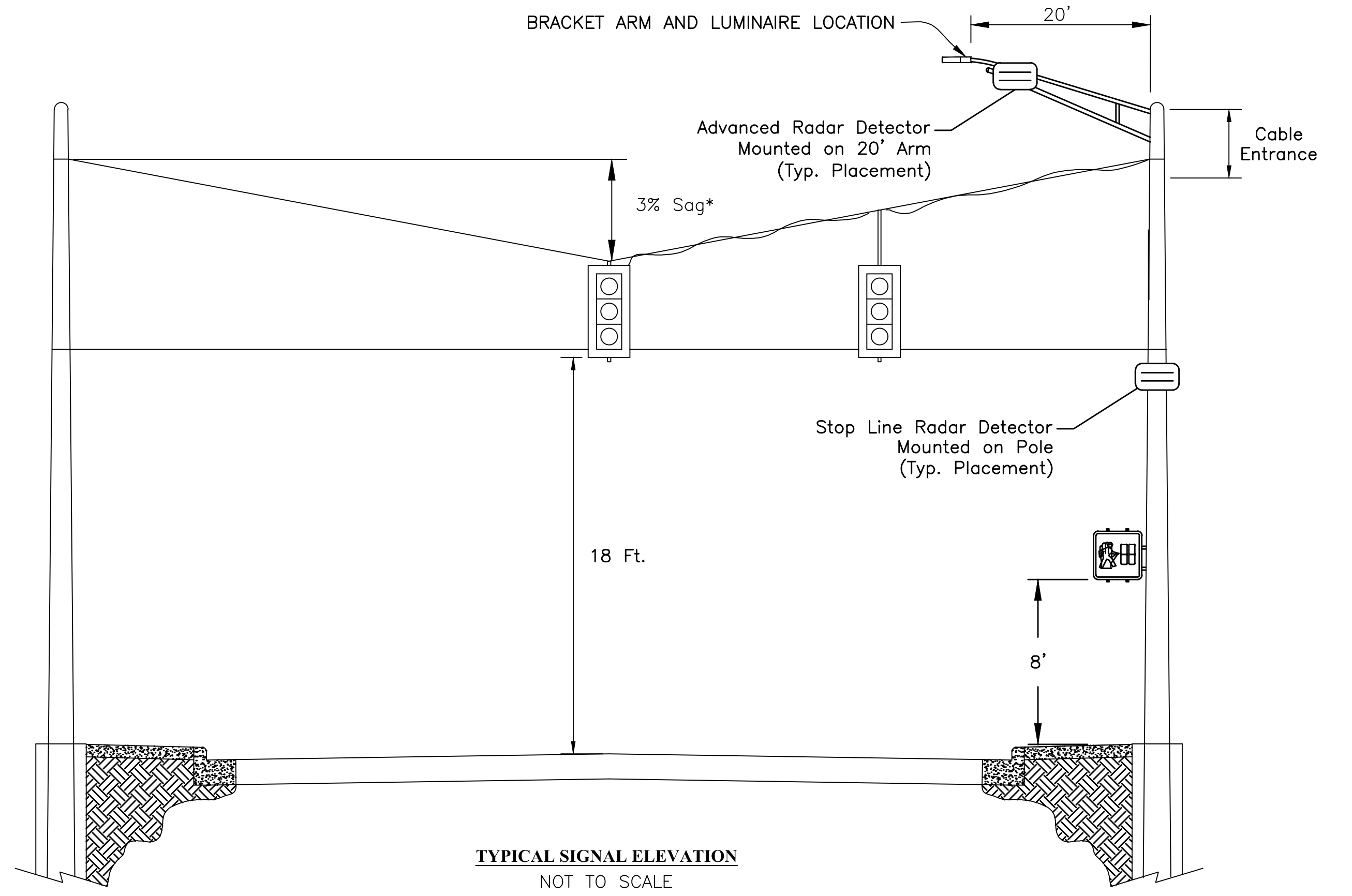


TYPICAL STRAIN POLE PEDESTAL ORIENTATION DETAIL NOT TO SCALE

NOTES:
All angles measured clockwise.
Index line goes through the center of the handhole.



SPAN DIAGRAM Scale 1"=20"



TYPICAL SIGNAL ELEVATION NOT TO SCALE

*Span tension shall not exceed 3%

CALCULATED
JCR
CHECKED
KRB/JDS

POLE ORIENTATION AND FABRICATION DATA

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

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STREET LIGHTING GENERAL NOTES

- Street lighting shall be constructed in accordance with the City of Columbus Construction and Material Specifications (CMS) (Current Edition), except as modified by Notes 1189.02 through 1189.07. This document shall govern all materials and workmanship involved in the improvements shown on these plans, except as such specifications are modified by the following specifications or by the construction details set forth herein.
- The plan details shall be considered supplemental to the City of Columbus, Ohio Street Lighting MIS Specifications.
- Pole base wiring is 480 Volt single phase, the reference to MIS-501 is for Materials and Methods to the extent applicable and as modified on the plans.
- In addition to the requirements of MIS-404, circuit cable furnished for this project shall contain three (3) 5 kV cables as detailed within.
- Poles, arms and luminaires have not been coordinated with any existing or future overhead electrical, telephone or cable T.V. work. Provide National Electrical Safety Code (ANSI C2) clearances. Failure to do so may result in bodily injury, including death.
- Pull boxes shall be located approximately where shown on plans with exact locations to be determined in the field after consideration is given to the location of utilities, pavements, and grades.
- Centerline of light pole concrete foundations to be placed in accordance with plan details, or as coordinated with the Engineer in the field.
- No splices shall be made to circuit cables except in pull boxes at noted locations.
- The centerline of the trench shall be located in accordance with the plan details.
- Conduit location may be deflected around obstacles as approved by the Engineer.
- Where the trench is offset from the centerline of the foundations the conduit shall be directed toward the ell of the foundation at approximately 45 degree angles. The foundation ells may be aimed out of foundation at approximately 45 degree angles to facilitate connection to conduit with the least amount of bends.
- The Contractor shall be responsible for all construction staking. The Contractor shall stake all street light foundation locations for review by the City. Cost to be included in the various items.
- Pole foundations shall be as per City of Columbus MIS-201 and the details provided herein.
- All conduit placed under sidewalks, driveways, and street pavement shall be installed prior to the placement of any new pavement or placement of any sub-base.

1189.02 CONTRACTOR REQUIREMENTS

- The Contractor must register with the City of New Albany and show evidence of liability insurance and a copy of their State of Ohio license.
- Obtain required permits through the New Albany Service Department and Community Development Department.

1189.03 STREET LIGHT SUBMITTALS

- A site development plan must be submitted by an Ohio Registered Engineer to the City of New Albany Service Department for preliminary review. The plans need to show the following information:
 - Property lines.
 - Utility and drainage easements.
 - Storm drains and catch basins.
 - Street light layout.
- Submit three (3) copies of the standard construction drawings to Community Development for review to receive approval. Permit must be received prior to beginning work.
- Information on the construction drawings are to include:
 - Location of light poles, controller, and power source.
 - Voltage drop calculations, loads, wire size, and over-current protection.
 - Photo cell location shown at first pole.
 - Foundation and rebar placement details for pole bases.

1189.04 INSPECTION REQUIREMENTS

- The Contractor must schedule inspections through the Community Development.
- The following inspections from the Community Development Department are required:

Rough inspections

- Conduit Depth. (100% of conduit must be inspected before burial)
- Ground rod and rebar connections.
- Rebar reinforcement of light pole foundation.

Final inspection

- Final connections at controller and light poles.
- Demonstrate 25 OHMS or less to the ground or add a second ground rod.
- Light pole finish (scratches, dents or paint defects) shall be repaired if damaged.
- Final inspection demonstrating the operation of all lights.

1189.05 INSTALLATION REQUIREMENTS

- This work shall consist of furnishing and installing electrical materials and equipment complete and ready for service, in reasonably close conformity with locations, dimensions, and grades shown on the plans or as directed by the City Engineer. This work shall also include necessary excavation and backfill, and disposal of discarded materials, and restoration of disturbed areas.
- Foundations shall have a sleeve for the grounding electrode conductor. The connection to the ground rod shall be by exothermic welding or listed pressure connector. The ground rod shall be driven 8 feet into undisturbed earth next to the pole base.
- Trenches adjacent to the pavement shall be excavated in a manner that will prevent the curb from moving or separating from the road base. Minimum distance from the curb to the ditch shall be 2 feet.
- Where conduit crosses the street, a pull-box shall be installed on

both sides of the street (unless conduit terminates directly in the light pole) and at directional changes more than 45 degrees. No conduit runs to exceed 200' between junction points.

- Conduit shall be schedule 40 PVC and shall be at a depth of at least 24".
- Where, in the opinion of the Engineer, an excavation for a foundation has revealed an unstable condition at the bottom of the excavation, the foundation shall be deepened or enlarged in size as directed by the Engineer. Payment for additional quantities of excavation and foundation concrete required by the Engineer for this purpose shall be made by the Contractor. If a cave-in should occur during the excavation, the Contractor may continue excavation with use of a casing, sleeves, or other methods, with the approval of the Engineer.
- Anchor bolts for light poles shall be installed in the foundations in accordance with approved shop drawings and anchor bolt setting templates. The tops of foundations shall be finished smooth and level. Anchor bolt settings for light poles shall provide that light poles predominantly illuminating a mainline roadway shall be positioned with the arm of the pole perpendicular to the longitudinal centerline of the roadway at that location. After forms have been removed, excavated spaces around the foundations shall be backfilled with suitable materials placed and tamped in thin layers as directed by the Engineer.
- When pull boxes are installed in paved areas, an adequate area shall be removed by saw cutting on the sides, or by removal back to an expansion joint. The cover surface shall be adjusted to be slightly above the surrounding pavement.

1189.06 GENERAL REQUIREMENTS

- Street lighting illumination and installation shall meet the New Albany Standards.
 - This work shall consist of furnishing and installing electrical materials and equipment complete and ready for service, in conformity with the locations, dimensions, and grades shown on the plans or as directed by the Engineer. This work shall also include necessary excavation and backfill, and disposal of discarded materials, and restoration of disturbed facilities and surfaces.
 - Each system shall be as specified by design. The voltage, amperage, frequency, and type of system shall be as specified. The Contractor shall furnish and install all incidentals necessary to provide a complete and practical working unit or system. All installations shall be in accordance with the National Electrical Code and shall also conform to local laws and codes governing such work. The Contractor shall obtain and pay for all permits required.
 - Light poles conforming to approved shop drawings shall be set on the completed concrete foundations. Light poles shall be vertically plumb. Each light pole shall be adequately grounded and shall have access covers and transformer base doors fastened in place. After erection, painted poles shall be inspected for defects in the painted surfaces. Minor scratches shall be given two coats of matching paint. The second coats shall not be applied until after the first coat has adequately dried. Poles having major scratches or defects in the painted surfaces will not be accepted.
 - The Contractor shall furnish all of the materials in accordance with the listed specifications.
 - N/A
 - Street lights shall be controlled to operate at the same time when in close proximity or on the same street in the areas they serve.

1189.07 MATERIAL SPECIFICATIONS

- Wiring inside poles shall be # 10 AWG stranded copper wire. The ungrounded lead shall have black insulation, the neutral lead shall have white insulation, and the # 10 AWG equipment ground shall have green insulation.
- Each electrical circuit shall have a fuse in the pole base. The fuse holder must be capable of accepting #4 AWG on line side and #10 AWG on load side. 480 volt circuits must be capable of passing power to another pole on the line side of the fuse holder.
- Pull boxes in residential areas shall be 25 inches long, 16 inches wide and 18 inches deep in size or equivalent. All 480 volt circuit pull boxes shall be traffic rated. All pull boxes must have the word "ELECTRIC" embossed on the cover of the box. All pull boxes must be a minimum of curb height or final grade.

ITEM 1001 LUMINAIRE, DECORATIVE, 73W LED, AS PER PLAN

The teardrop style luminaires shall be manufactured by Holophane and be model:

#ESL3-P20S-40K-HVOLT-TG3-QSM.

The luminaire shall be LED, 73 Watt, 4000K with 347-480V auto-sensing voltage. Luminaires shall be coated New Albany Green (Paint Reference Number PMS 5535) to match light poles.

Shop drawings and a paint chip, furnished by Holophane, shall be submitted for luminaire for Engineer's review prior to ordering any equipment. Failure to do so may result in the City not accepting the work. A New Albany Green color sample can be obtained from the New Albany Service Director for spectrum analysis. The sample must be returned.

Payment shall be as per Item 1001.

ITEM 1001 LIGHT POLE, DECORATIVE, AS PER PLAN

The poles shall be manufactured by Hapco and be model #B74135, Design 74135-001.

The poles shall be coated New Albany Green (Paint Reference Number PMS 5535) and shall match luminaires.

Light poles provided and installed by the Contractor shall be design 74135-001 and shall be of the style and dimensions shown in the details included in this plan. All aluminum surfaces on the pole and base shall be rotary sanded to a satin ground finish and brackets shall be etched to a matte finish. Shafts and brackets shall be treated with an alcoholic-phosphoric acid solution at 70 degrees F for approximately five minutes followed by a cold water rinse. Shafts and brackets shall be Dark Green with a Polyester Powder Coat Finish. The finish coat shall be 2 mils dry thickness. All finishing shall be completed by the manufacturer and all materials shall be approved by the Engineer. Minor touch-ups, due to damage caused by transportation or installation may be necessary and may be completed in the field as approved by the Engineer. Special care must be taken to properly finish any touch-ups on poles in the field. Any pole that is not touched up properly in the field, as determined by the Engineer, shall be re-finished by the Contractor to the aforementioned standard at no additional cost to the project.

Shop drawings and a paint chip, furnished by Hapco, shall be submitted for light poles for Engineer's review prior to ordering any equipment. Failure to do so may result in the City not accepting the work.

It shall be the Contractor's responsibility to ensure that the light pole bolt circle matches the bolt pattern of the proposed foundation.

Payment shall be as per Item 1001.

ITEM 1001 PULL BOX, HEAVY DUTY, 25" X 16" X 18", AS PER PLAN (MIS-54)

Pull boxes shall be as per MIS-54, except that it shall be sized 25"x16"x18". Pull box and lid shall be ANSI T-22 rated. Identification "ELECTRIC" shall be permanently molded on the top surface of the pull box cover. The lettering shall be raised and cast during the lid manufacturing process.

Payment shall be as per Item 1001.

ITEM 1001 CIRCUIT CABLE - STREET LIGHT CIRCUIT, THREE #4, 5 KV CABLES, AS PER PLAN (MIS-404)

Circuit cable shall be as per MIS-404, except that it shall be three (3) #4 AWG, 5kV cables and pole base connections shall be made as detailed herein.

Payment shall be as per Item 1001.

PAINT CHIP SUBMITTAL

Prior to any painting, the Contractor shall submit paint samples to the Engineer and the City of New Albany officials. Paint samples shall be representative of the color, type and manufacture that will be used for finishing the various items. The Engineer and City officials shall review the paint samples prior to the commencement of the finishing process. Paint samples shall be submitted for all proposed street lighting items called for in this plan set, including lighting poles and luminaires. Any cost associated with providing paint samples shall be incidental to the individual items to be painted.

GROUNDING AND BONDING

The requirements of the State of Ohio Department of Transportation Construction and Material Specifications (C&MS) and the HL series of Standard Construction Drawings are modified as follows:

- All metallic parts containing electrical conductors shall be permanently joined to form an Effective Ground Fault Current Path back to the grounded conductor in the power service disconnect switch.
 - Provide an equipment grounding conductor in metallic conduits (725.04) in addition to the conductors specified and bond the conduit to this grounding conductor.
 - When an equipment grounding conductor is required in plastic conduit (725.05), the installation shall include a separate equipment grounding conductor in addition to the conductors specified.
 - Metal pull box lids shall be bonded by attachment of the equipment grounding conductor to the frame diagonal as provided on HL-30.11.
- Conduits.
 - The 725.04 conduit shall have grounding bushings installed at all termination points. The bushing material shall be compatible with galvanized steel conduit and the grounding lug material shall be compatible for use with copper wire. Threaded or compression type bushings may be used.
 - The 725.05 conduit shall have the inside and outside diameters of the conduit deburred at all termination points.
 - Both ends of metallic conduit shall be bonded to the equipment grounding conductor.
 - Metallic conduit may be bonded to metallic boxes through the use of conduit fittings UL approved for this type of connection, with the box bonded to the equipment grounding conductor.
- Wire for grounding and bonding.
 - Use insulated, copper wire for the equipment grounding conductor. Bonding jumpers in boxes and enclosures may be bare or insulated copper wire. Wire size shall be as follows: The insulation shall be green or green with yellow stripe(s). For 4 AWG or larger, insulation may also be black with green tape/labels installed at all access points.
 - In a highway lighting system, the equipment grounding conductor shall be the same wire size as the duct cable or distribution cable circuit conductors, with the minimum conductor size of 4 AWG. Bonding jumpers will be minimum size 4 AWG.
- Ground rod.
 - A 3/4 inch Schedule 40 PVC conduit will be used in foundations and concrete walls for the grounding conductor (ground wire)

- raceway to the ground rod. Should metallic conduit be used, both ends of the conduit shall be bonded to the grounding conductor.
 - The typical grounding conductor (ground wire) shall be 4 AWG bare solid copper.
- Power Service and Disconnect Switch.
 - At the power service location, the grounding conductor (ground wire) from the disconnect switch neutral (AC-) bar to the ground rod shall be a continuous, unspliced conductor. If spliced, it shall be an exothermic weld butt splice.
 - The service neutral shall only be connected to ground at the main power service disconnect switch.
 - Payment

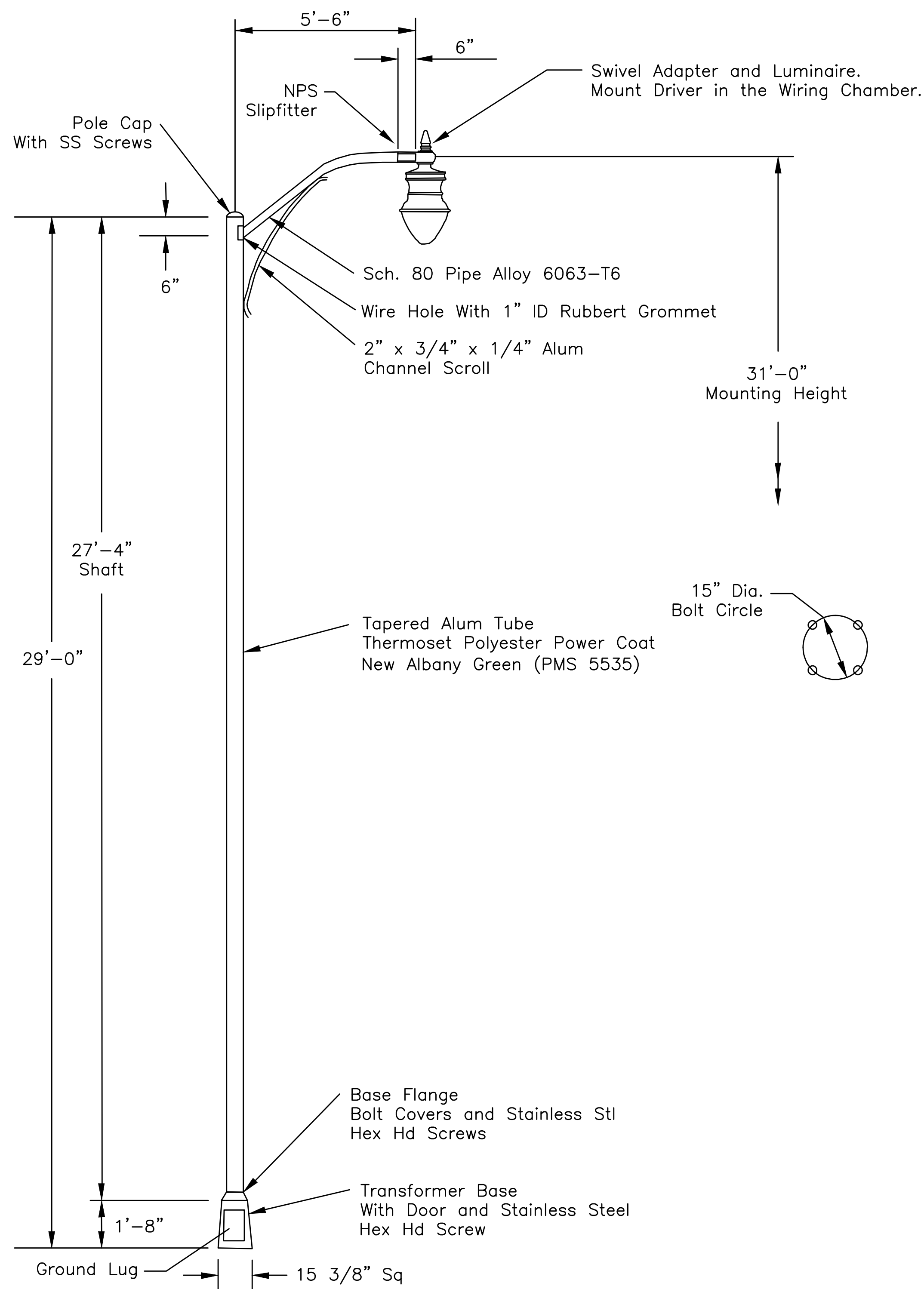
All materials and work required to complete the effective ground fault current path system are incidental to the conductors installed by the contract.

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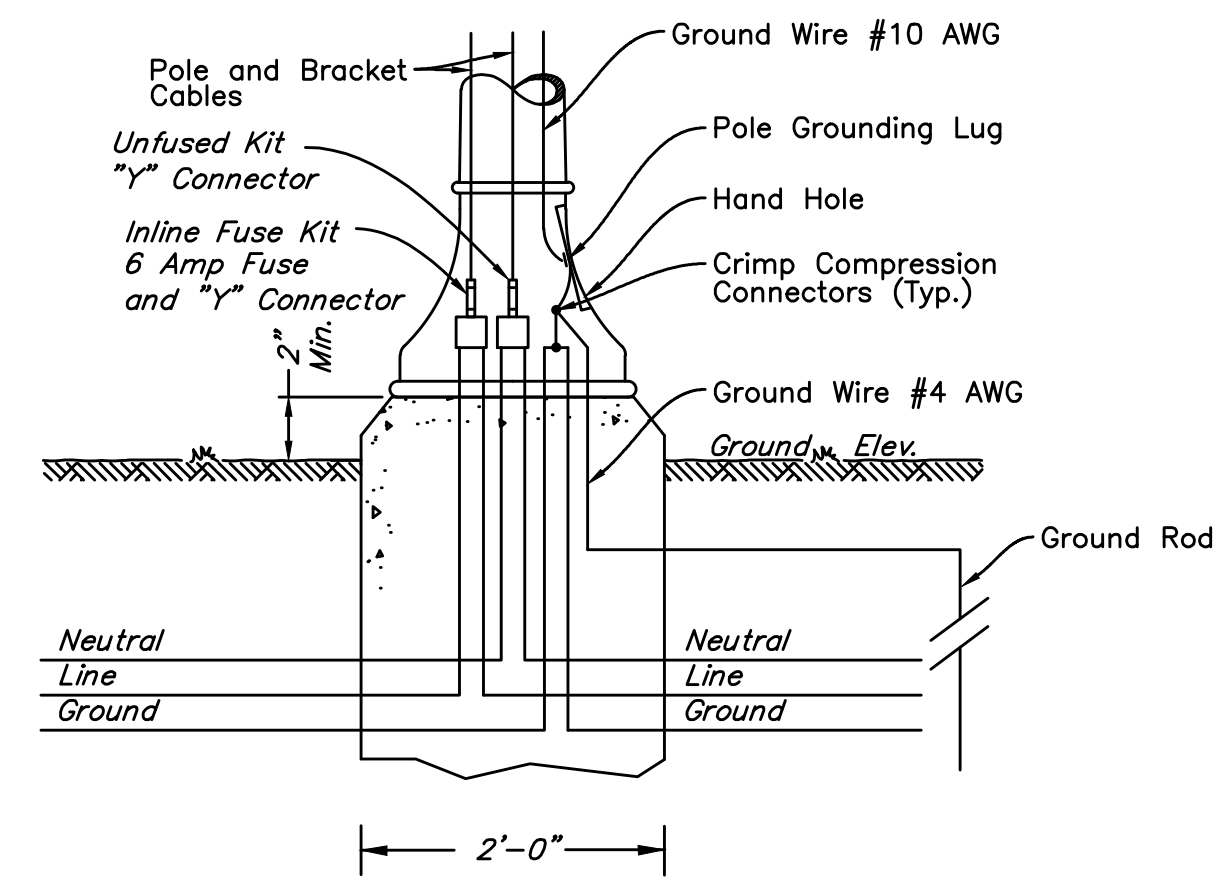
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STREET LIGHTING NOTES

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2



TYPICAL LIGHT POLE DETAILS
(LED Teardrop Style Luminaire)
NO SCALE



ITEM 1001 - POLE TO BE WIRED AS PER PLAN (MIS-501)
(480 VOLT, THREE-WIRE WITH GROUND AND NEUTRAL)
STREET LIGHT CIRCUIT, 3 - #4 AWG, 5KV
NO SCALE

NOTE:

- Poles shall be wired per MIS-501, except as modified above.
- Conductors shall be color coded and tagged for identification.
- The Contractor shall use "Y-Type Street Light" kits in accordance with HOMAC Manufacturing "Flood Seal" FYU-M & DYU-M or approved equal. The New Albany Service Director shall determine if a kit is acceptable. The Contractor shall submit a sample kit to the Service Director for acceptance, examination and approval. Any additional cost to use these kits shall be included in the Cost for Bid Item Item 1001 Pole To Be Wired, As Per Plan for "Flood Seal" street light kits.

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STREET LIGHTING DETAILS

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

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CITY COMMUNICATION CONDUIT BANK NOTES

These specifications, together with the accompanying plans are to describe the type, size and location of the products and materials to be provided and installed under the various bid items related to the communication duct bank. The Contractor shall furnish and install duct bank and related materials in compliance with these plans and specifications, as well as the 2023 Ohio Department of Transportation Construction and Material Specifications, and the Standard Construction Drawings issued by the Ohio Department of Transportation. These specifications set forth the minimum performance and operating requirements of the traffic control items referred to herein.

Duct bank equipment shall meet or exceed the standards specified in the following documents:

- (A) Specifications listed in this plan.
- (B) 2023 ODOT Construction and Material Specifications.

In case of a conflicting specification statement, the specification document hierarchy shall be in the order listed from (A), highest, to (B), lowest.

EXISTING UTILITIES

The location of the underground utilities shown on these plans are as obtained from the owners of the utility as required by Ohio Revised Code section 153.64. It shall be the Contractor's responsibility to notify the Ohio Utilities Protection Service (OUPS) and the utilities named in the general notes so their respective facilities can be marked prior to construction. Support, protection, and restoration of all existing utilities and appurtenances shall be the Contractor's responsibility. The cost of this work shall be included in the bid price for the various items of work.

MATERIAL INFORMATION SUBMITTAL

Before any equipment is ordered or work is started the Contractor shall submit the following to the Engineer for approval:

1. A complete schedule of equipment he intends to furnish including that which has been specifically listed in these plan quantities and that which has not been identified.
2. A detailed list of all variances from ODOT specifications and from the specifications contained herein for each item that he intends to furnish that does not comply 100% with these specifications. Unless otherwise stated by the contractor the supplied items will be considered as being in strict accordance with all specifications.
3. Three complete sets of catalog cuts, diagrams, shop drawings, brochures or other descriptive material for the duct bank items the contractor intends to furnish. One copy of these documents will be returned marked "APPROVED" if found satisfactory. The Contractor may order the material upon receiving the approved copies.
4. A written work schedule not less than two weeks in advance of starting work.

ITEM 625 PULL BOX, MISC.: 48" x 30" x 36" DEEP COMMUNICATION MANHOLE

—(1) In addition the requirements of Item 625, the communication manhole shall be furnished and installed by the Contractor in accordance with American Electric Power Drawing No. TDS-321-1 (see detail on this sheet).

Payment shall be per each manhole furnished and installed, and include the locate post and wire.

ITEM 625 CONDUIT, 4" TC-2, SCH 40, ENCASED, AS PER PLAN

Under this item of work the Contractor shall furnish and install a complete communications conduit system. This item shall include all excavation required to install the conduit at the specified depth and to maintain proper clearance requirements from both existing and proposed facilities.

Protection and temporary support of existing utilities shall also be included.

Where feasible, the 4" communications conduit shall be located in the same trench as proposed street lighting conduit. Maintain a minimum of 3" separation between conduits. When sharing a trench with the encased street lighting conduit, the communications conduit may also be encased.

A pull string shall be installed in the empty 4" conduit.

All unused conduits shall be capped and the caps secured to the conduit with tape.

The location of the underground conduit shall be marked by the use of a continuous identifying tape buried in the trench above the conduit. The identification tape shall be an inert material, approximately six inches wide, composed of polyethylene plastic, highly resistant to alkalis acids and other chemical components likely to be encountered in the soils. The tape shall be bright yellow with identifying printing "COMMUNICATION" in black letters on one side only. Tape shall be supplied on continuous rolls with the identifying marking repeated continuously the full length of the tape. Identifying tape shall be buried in the trench with one strip placed approximately 8" to 12" below the finish grade with lettering facing up. The tape shall be placed parallel with the finished surface. The Contractor shall take necessary precautions to insure that the tape is not pulled, distorted or otherwise misplaced in the completing the trench backfill. Furnishing and installing the tape shall be considered incidental to this item of work.

This item of work shall include furnishing and installing, conduit, backfill, trench, identifying tape, and pull strings as specified.

ITEM 625 TRACING WIRE, AS PER PLAN

Tracing wire shall be no smaller than #10 AWG wire. The wire shall be insulated, orange in color, and constructed of copper clad steel (stranded). Tracing wire jacket shall be HDPE or HMWPE. Tracing wire shall be installed through the 1-1/2 inch conduit within a duct bank.

Approximately 100 ft. of slack tracing wire shall be left inside the manhole structures.

Label and terminate tracing wire to terminal blocks in the manholes. Moisture displacement connectors shall be used at all connection points. 3M DBR connectors, copperhead snakebite connectors, or approved equal shall be used. After all connections are completed the contractor shall contact the Engineer for a locate or conductivity test.

The tracing wire shall enter a manhole on one side and be routed around the inside perimeter to the other side and then exit the opposing side. The tracing wire shall be continuously run between manholes (absolutely no splices except in a manhole). Conduit that branches off the main conduit run shall have its tracing wire terminated in a pull box or controller cabinet. The wire shall be tagged as "TRACING WIRE", coiled (10 feet in length) and left disconnected at each end (open circuit).

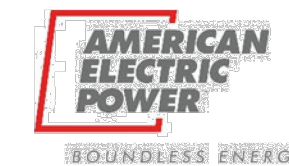
Payment for all tracing wire shall be made per linear feet of wire furnished and installed by the contractor.

Lighting Estimate of Quantities			
Item No.	Quantity	Unit	Description
COC 1001	5,951	Feet	2" Conduit Encased In Trench (MIS-700)
COC 1001	33	Each	Luminaire, Decorative, 73W LED, As Per Plan
COC 1001	33	Each	Light Pole, Decorative, As Per Plan
COC 1001	33	Each	Street Light Foundation, 6' (MIS-201)
COC 1001	2	Each	Pull Box, Heavy Duty, 25"x16"x18", As Per Plan (MIS-54)
COC 1001	6,187	Cir. Feet	Circuit Cable-Street Light Circuit, Three #4, 5 kV Cables, As Per Plan (MIS-404)
COC 1001	34	Each	Pole to be Wired, As Per Plan (MIS-501)

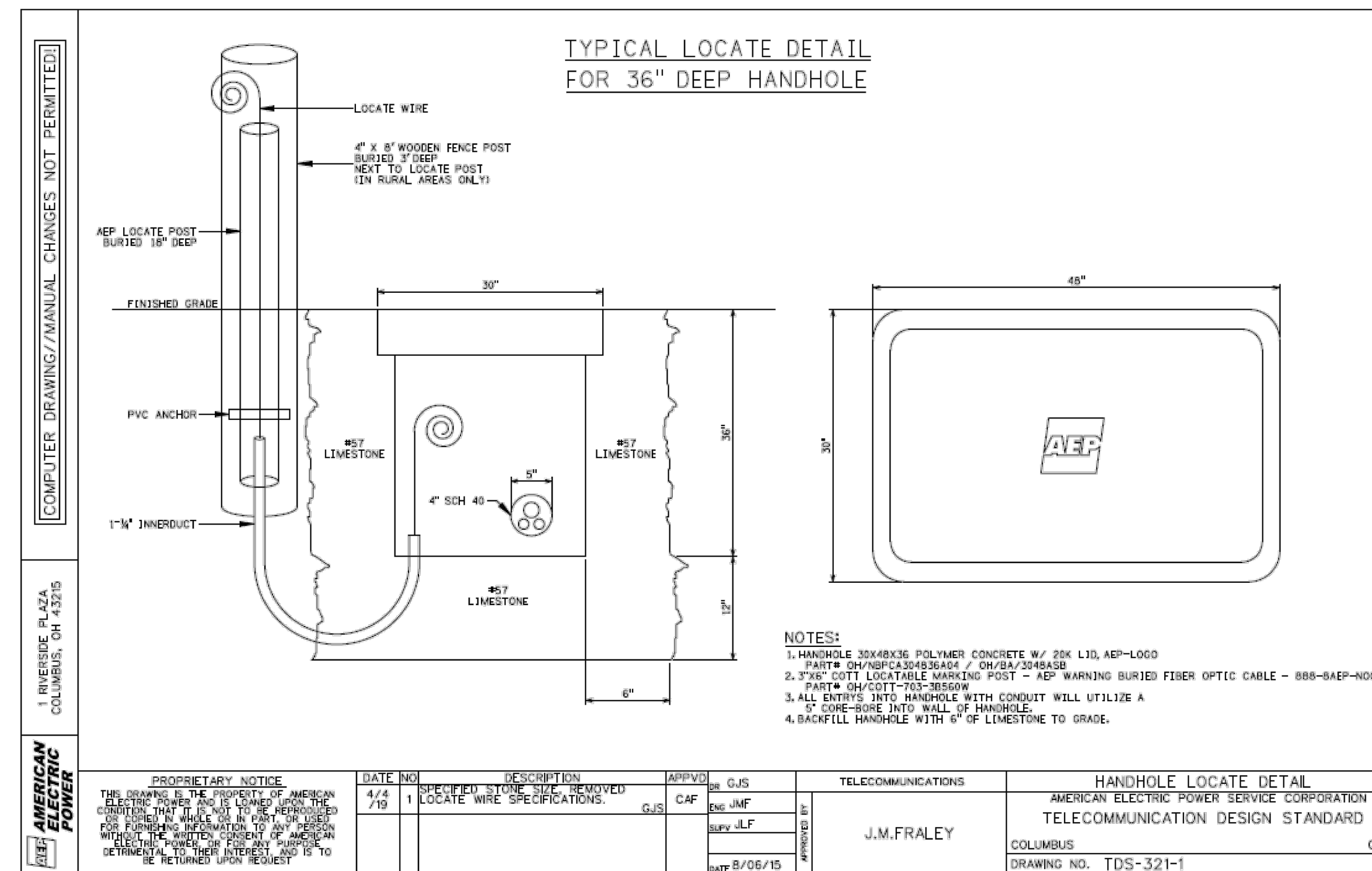
Interconnect Estimate of Quantities			
Item No.	Quantity	Unit	Description
ODOT 625	8	Each	Pull Box, Misc.: 48" x 30" x 36" Deep Communication Manhole
ODOT 625	5,873	Lin Feet	Conduit, 4", TC-2, SCH 40, Encased, As Per Plan
ODOT 625	5,873	Lin Feet	Trench
ODOT 625	6,673	Lin Feet	Tracing Wire, As Per Plan

AEP IT Telecom Construction

TC-100 – Fiber Optic Cable Guide



Fiber Storage Vault
Handhole Detail TDS-321D








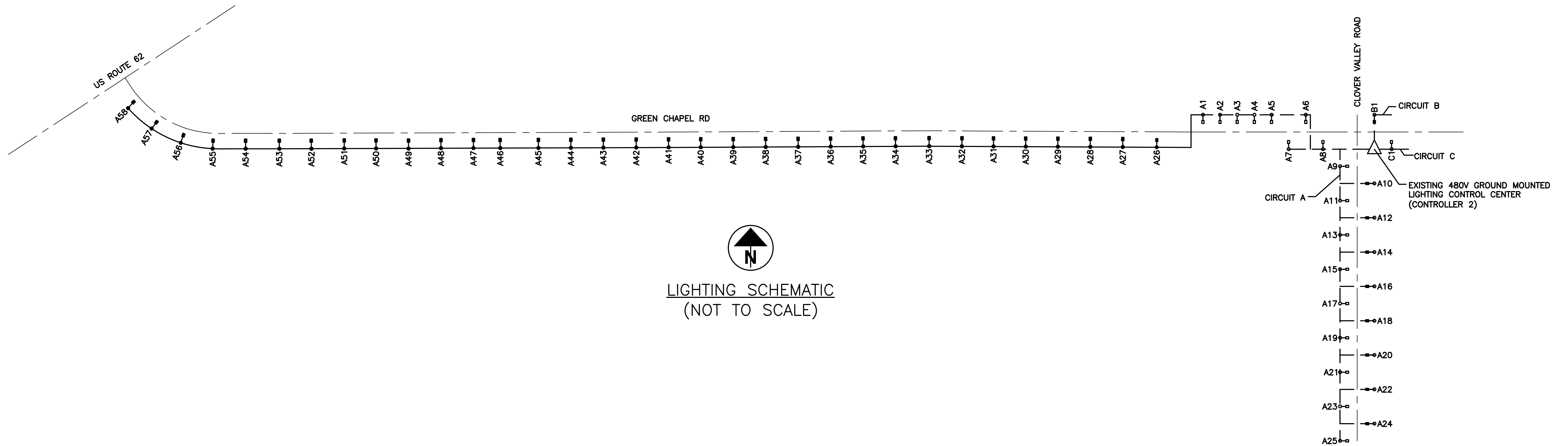
COMMUNICATION NOTES AND DETAILS

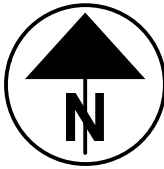
GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

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SCHEMATIC LEGEND

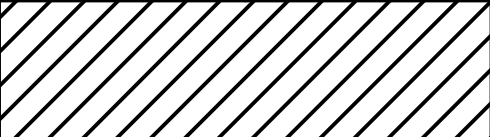
-  PROPOSED DECORATIVE LIGHT POLE AND TEARDROP LED LUMINAIRE
-  PROPOSED 3 WIRE LIGHTING CIRCUIT CABLE
-  EXISTING DECORATIVE LIGHT POLE AND EXISTING TEARDROP LED LUMINAIRE
-  EXISTING 3 WIRE LIGHTING CIRCUIT CABLE
-  EXISTING 480V, 3 WIRE GROUND MOUNTED LIGHTING CONTROLLER




LIGHTING SCHEMATIC
 (NOT TO SCALE)

STREET LIGHTING EXPECTED PHOTOMETRIC STATISTICS					
Description	Avg	Max	Min	Max/Min	Avg/Min
GREEN CHAPEL ROAD (PHASE 2)	0.6 fc	1.4 fc	0.2 fc	7.0:1	3.0:1

EXISTING LIGHTING CONTROLLER SCHEDULE

CONTROL CENTER	LEG	PROPOSED LUMINAIRES	LOAD		EXISTING CIRCUIT FUSE	EXISTING CIRCUIT CABLE SIZE (AWG)
			WATTS	AMPS		
EXISTING 480V CONTROLLER #2	A	(33)-73W	Ex. 1981 Prop. 2409	10.2	15 A	4
	B	N/A	Ex. 2912	Ex. 6.8	15 A	4
	C	N/A	Ex. 3024	Ex. 7.0	15 A	4
TOTAL		(33)-73W	10326	24.0		

STREET LIGHTING CIRCUIT SCHEMATIC

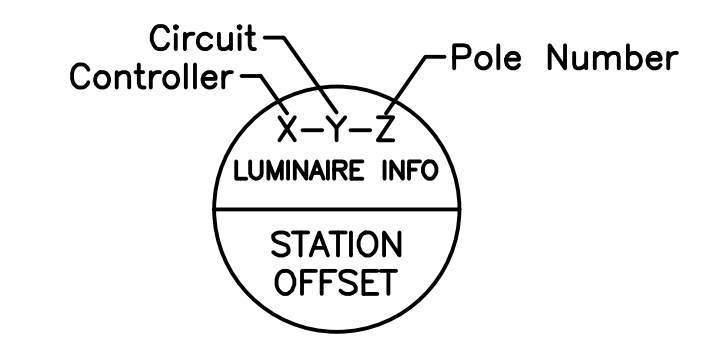
GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

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LIGHT POLE LEGEND

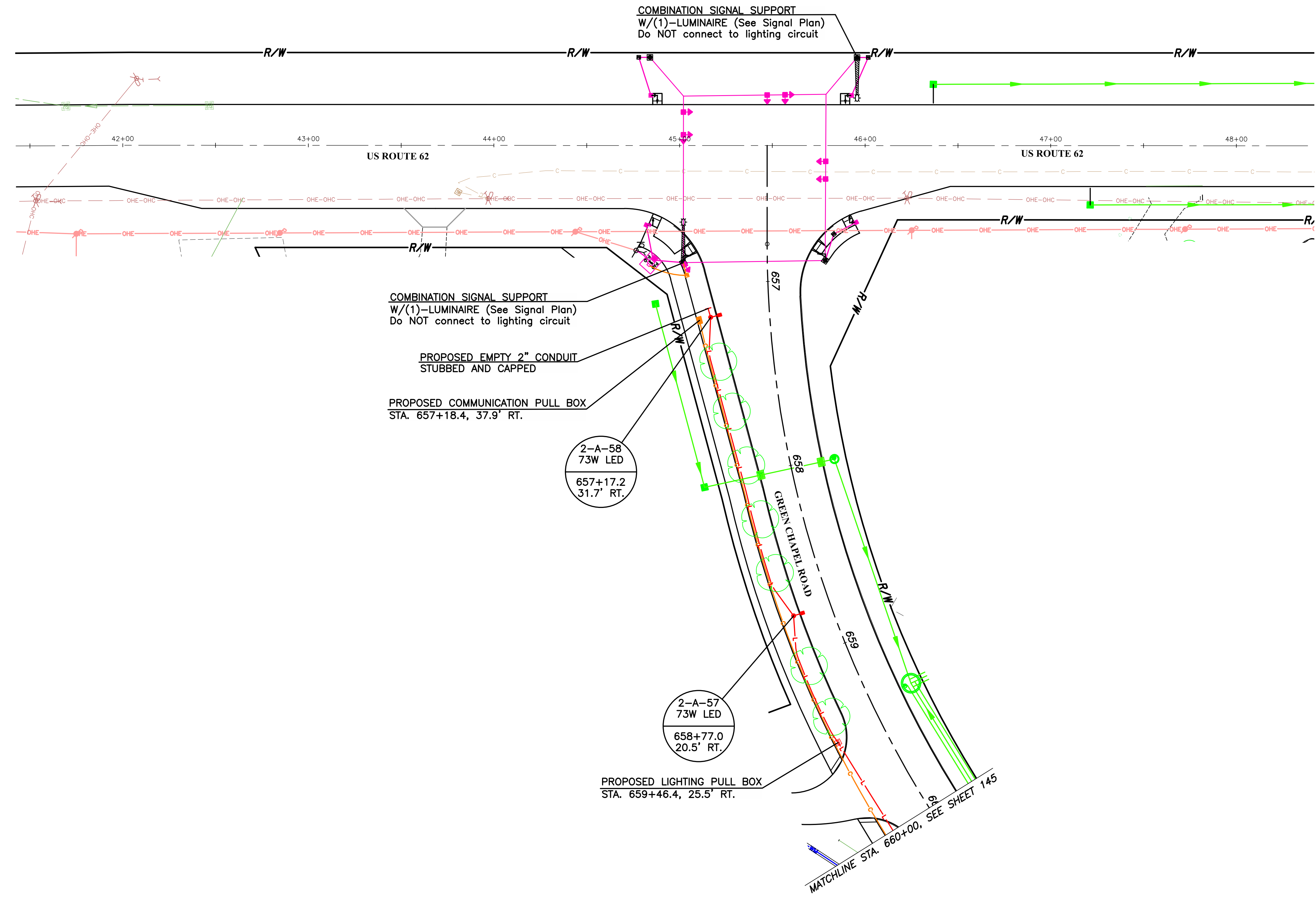


PLAN LEGEND

- PROPOSED SIGNAL CONDUIT (BY SIGNAL PLAN)
- PROPOSED 2" PVC LIGHTING CONDUIT W/ (3)-#4 5KV CIRCUIT CABLES, ENCASED IN TRENCH
- PROPOSED 4" PVC COMMUNICATION CONDUIT W/ TRACER WIRE, ENCASED IN LIGHTING TRENCH
- PROPOSED DECORATIVE LIGHT POLE AND LED TEARDROP LUMINAIRE
- PROPOSED LIGHTING PULL BOX
- PROPOSED COMMUNICATION PULL BOX

CALCULATED: JCR
 CHECKED: KRB/JDS

GRAPHIC SCALE
 0 10 20 30 40 50
 1 inch = 30 feet

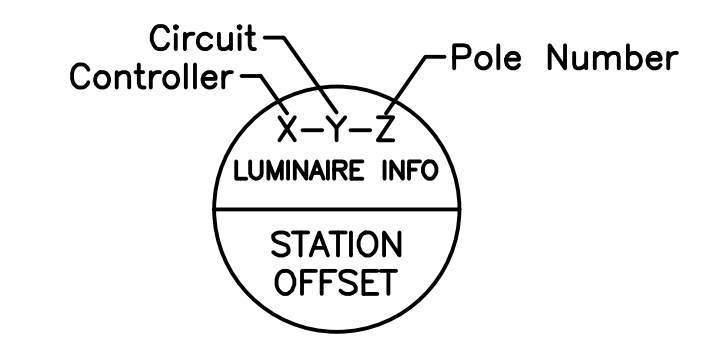


STREET LIGHTING AND COMMUNICATION PLAN

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

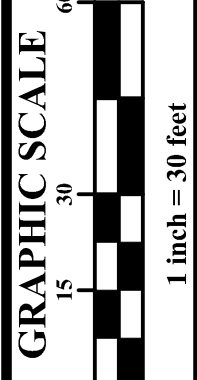
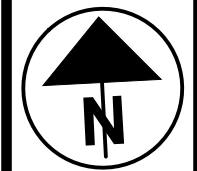
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LIGHT POLE LEGEND



PLAN LEGEND

- PROPOSED 2" PVC LIGHTING CONDUIT W/ (3)-#4 5KV CIRCUIT CABLES, ENCASED IN TRENCH
- PROPOSED 4" PVC COMMUNICATION CONDUIT W/ TRACER WIRE, ENCASED IN LIGHTING TRENCH
- PROPOSED DECORATIVE LIGHT POLE AND LED TEARDROP LUMINAIRE
- PROPOSED LIGHTING PULL BOX
- PROPOSED COMMUNICATION PULL BOX

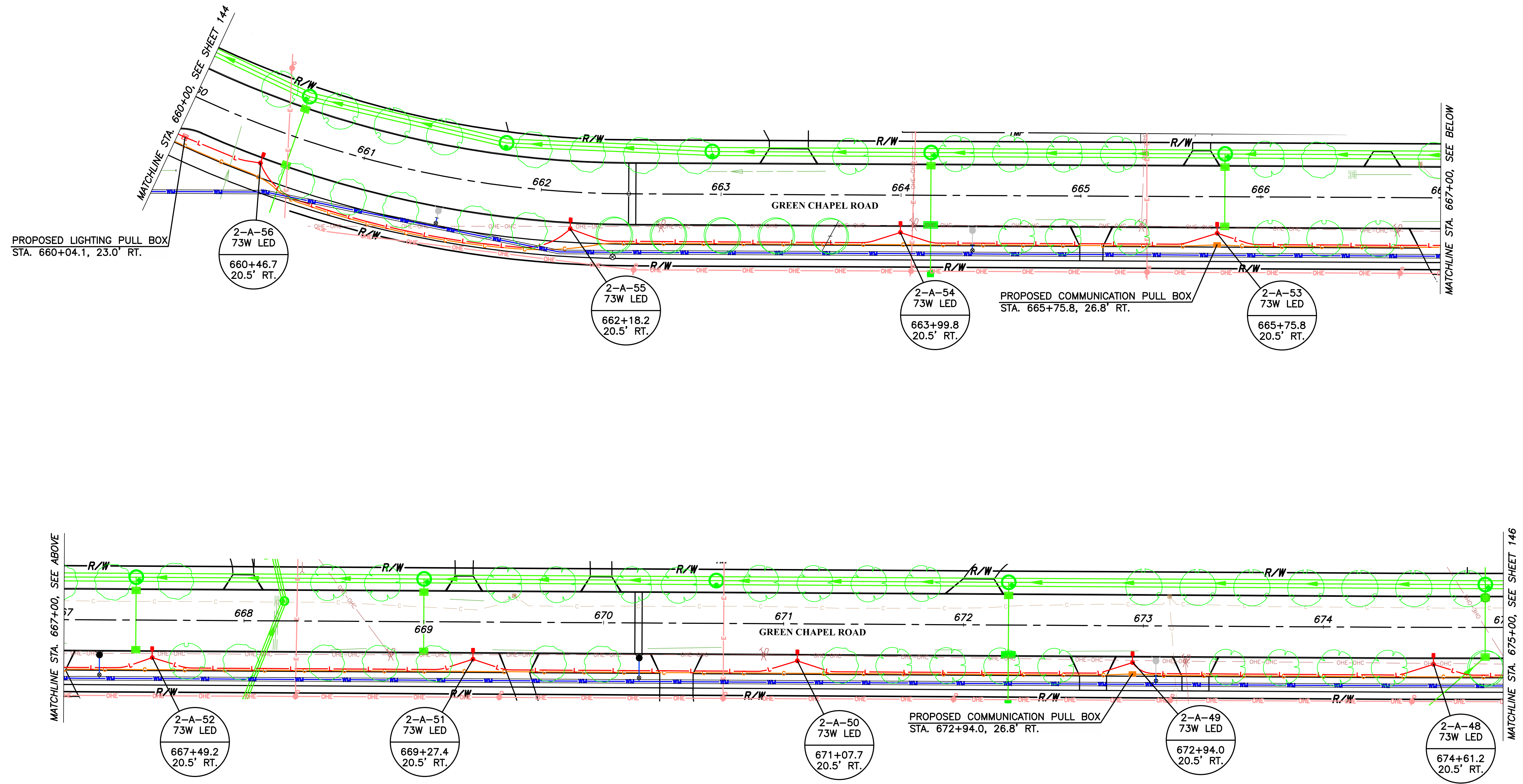


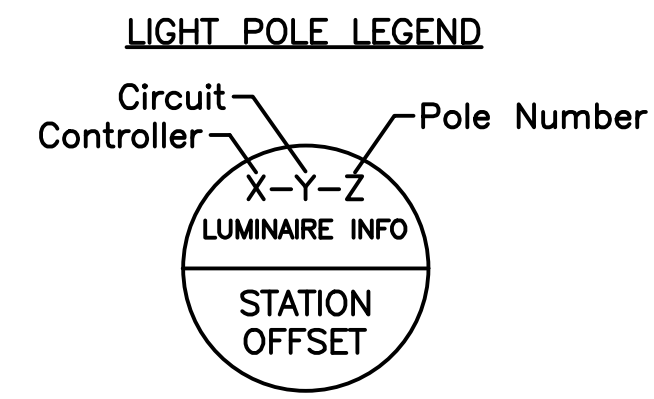
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STREET LIGHTING AND COMMUNICATION PLAN

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

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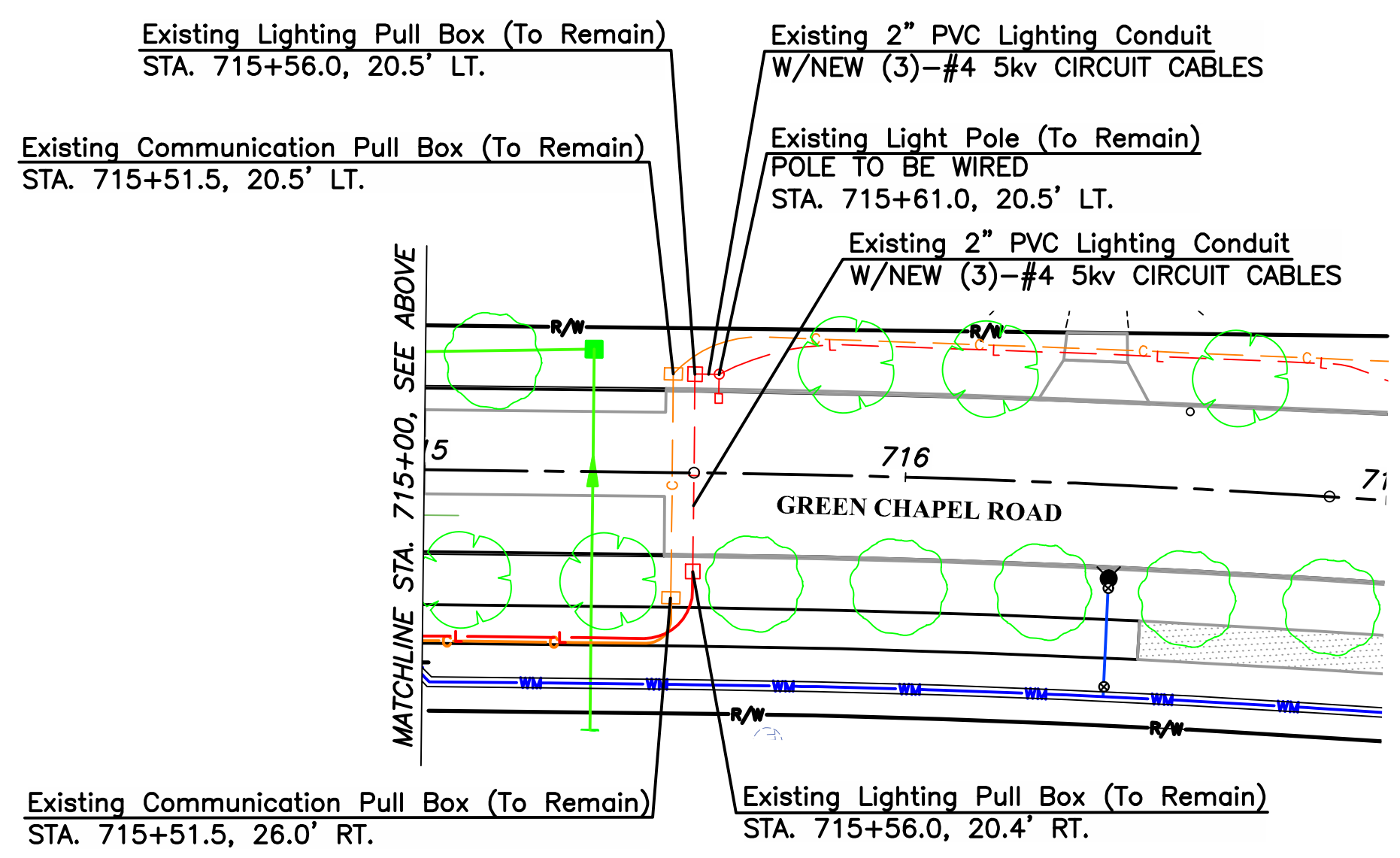
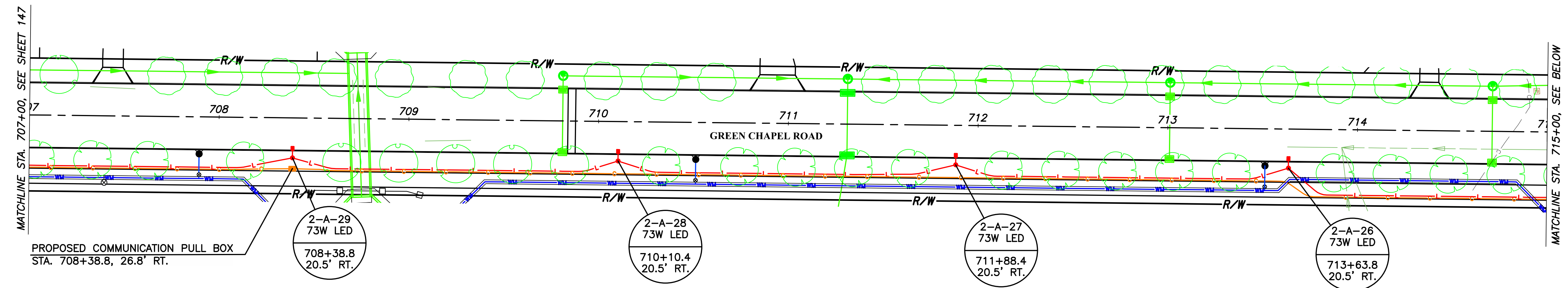




- PLAN LEGEND**
- L --- EXISTING 2" PVC LIGHTING CONDUIT W/ EXISTING (3)-#4 5KV CIRCUIT CABLES
 - L --- PROPOSED 2" PVC LIGHTING CONDUIT W/ (3)-#4 5KV CIRCUIT CABLES, ENCASED IN TRENCH
 - C --- PROPOSED 4" PVC COMMUNICATION CONDUIT W/ TRACER WIRE, ENCASED IN LIGHTING TRENCH
 - C --- EXISTING 4" PVC COMMUNICATION CONDUIT W/ TRACER WIRE, ENCASED IN LIGHTING TRENCH
 - PROPOSED DECORATIVE LIGHT POLE AND LED TEARDROP LUMINAIRE
 - EXISTING DECORATIVE LIGHT POLE AND LED TEARDROP LUMINAIRE
 - EXISTING LIGHTING PULL BOX
 - PROPOSED COMMUNICATION PULL BOX
 - EXISTING COMMUNICATION PULL BOX

GRAPHIC SCALE
1 inch = 30 feet

CALCULATED JCR
CHECKED KRB/JDS



STREET LIGHTING AND COMMUNICATION PLAN

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

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DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY BRIDGES AND TRANSPORTATION OFFICIALS, THE 2020 ODOT BRIDGE DESIGN MANUAL, THE 2018 CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), AND THE 2023 OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS (CMS).

DESIGN DATA: THE FOLLOWING DATA IS ASSUMED

INTERNAL ANGLE OF BACKFILL SOIL, $\phi_{BF} = 30^\circ$
 TOTAL UNIT OF BACKFILL SOIL = 130 PCF
 INTERNAL ANGLE FRICTION (DRAINED), FOUNDATION SOIL, $\phi_f = 28^\circ$
 UNIT WEIGHT OF CONCRETE = 150 PCF
 SLOPE OF BACKFILL = 2:1

MINIMUM DESIGN EARTH COVER IS 2'-0" AND MAXIMUM DESIGN EARTH COVER IS 4'-6" ON TOP OF BOX SECTION.

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
 (FOOTING, WINGWALL AND HEADWALL)

CONCRETE REINFORCEMENT:
 EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI

DESIGN LOADING:

HL-93
 FUTURE WEARING SURFACE (FWS) OF 60 PSF

FOUNDATION BEARING RESISTANCE

THE WINGWALL FOOTINGS, AS DESIGNED PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 1.89 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH OF 2.75 KIPS PER SQUARE FOOT. THE FACTORED BEARING PRESSURE RESISTANCE IS 4.00 KIPS PER SQUARE FOOT.

ITEM 511 - CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN:

ITEM 511- CLASS QC1 CONCRETE, HEADWALL, AS PER PLAN

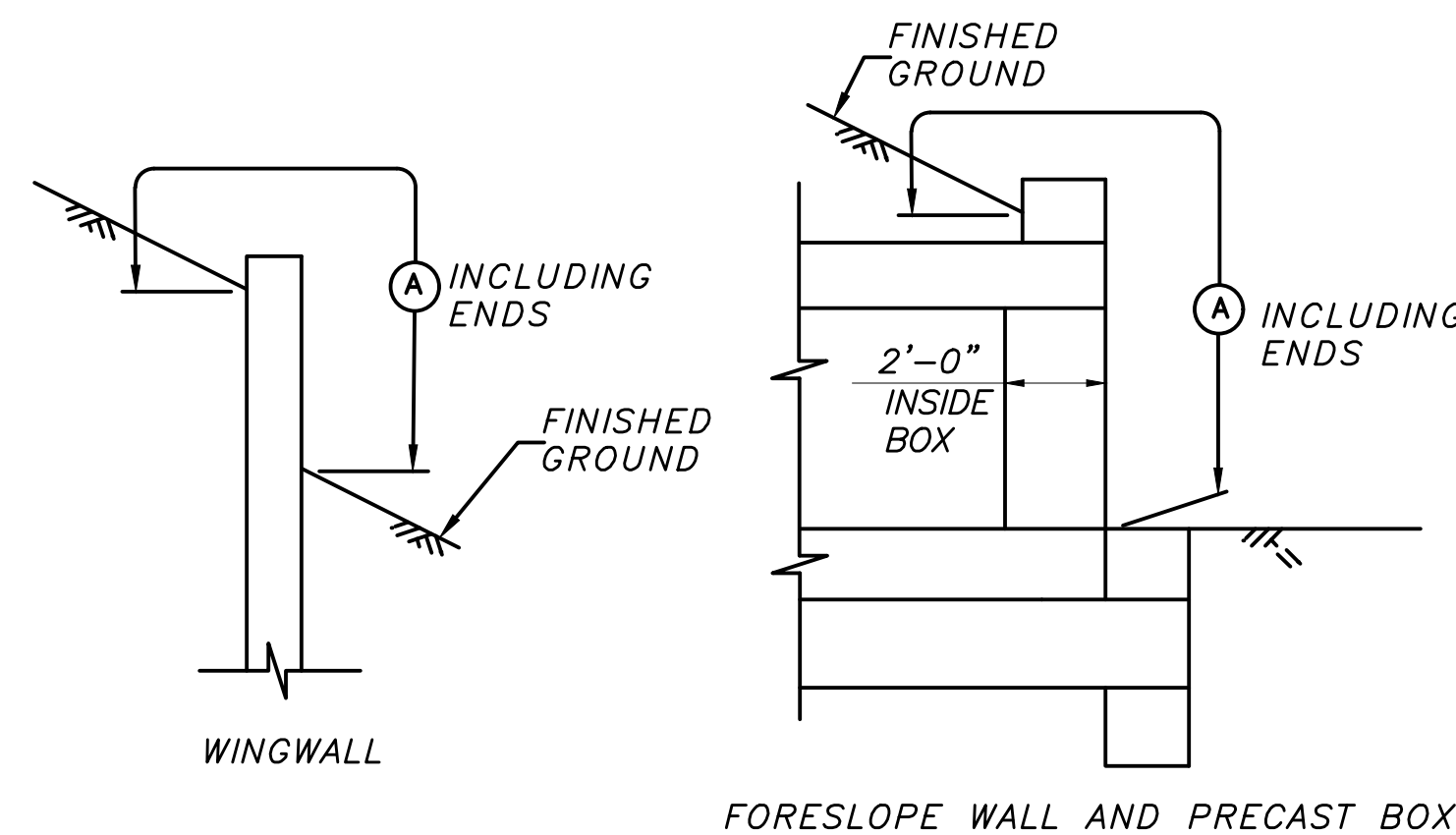
THE CITY WILL PERMIT THE USE OF PRECAST CONCRETE IN LIEU OF CAST-IN-PLACE CONCRETE FOR HEADWALLS AND WINGWALLS IN ACCORDANCE WITH ODOT SUPPLEMENTAL SPECIFICATION 851. INSTALLATION OF PRECAST WINGWALLS AND HEADWALLS SHALL TAKE INTO CONSIDERATION THE PLACEMENT OF THE PRECAST UNITS BENEATH THE PROPOSED OVERHEAD ELECTRIC LINES AND JOINT USERS THAT WILL BE IN SERVICE AND ACTIVE ABOVE THE HEADWALLS AND WINGWALLS.

SHOP DRAWINGS

THE FABRICATOR SHALL FURNISH A COMPLETE SET OF SHOP DRAWINGS FOR ANY PRECAST STRUCTURES TO EMH&T AND THE CITY OF NEW ALBANY FOR REVIEW. CULVERT SECTIONS WILL BE ACCEPTED BY THE CITY AFTER ALL SHOP DRAWINGS AND FABRICATION INSPECTIONS HAVE BEEN DEEMED ACCEPTABLE.

ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY):

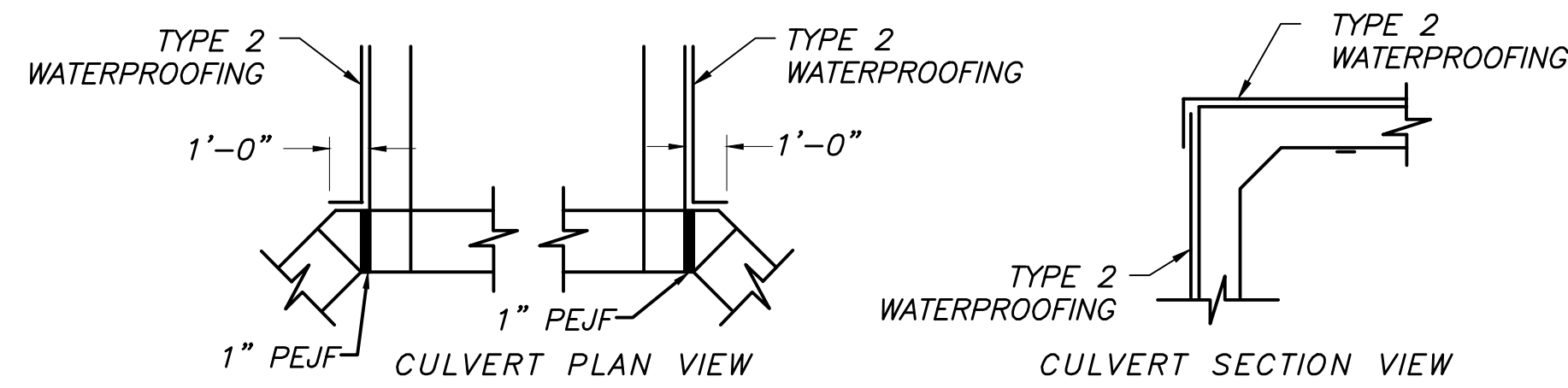
ALL EXPOSED FORESLOPE WALL AND WINGWALL CONCRETE SHALL BE SEALED WITH A NON-EPOXY SEALER. THE LIMITS SHALL BE AS SHOWN IN THE DIAGRAMS BELOW. PAYMENT FOR THE NON-EPOXY SEALER SHALL BE PER ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY).



LIMITS OF ITEM 512-SEALING CONCRETE SURFACES
 (A) - SEAL ENTIRE CONCRETE SURFACE AREA

ITEM 512 - WATERPROOFING:

TYPE 2 WATERPROOFING, PER CMS 512.08G AND 711.25, SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS AND ALONG THE FULL LIMITS OF THE TOP FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.



WATERPROOFING DETAILS

ITEM 516 - PREFORMED EXPANSION JOINT FILLER:

PREFORMED EXPANSION JOINT FILLER (PEJF) CONFORMING TO CMS 705.03, 1 INCH THICK, SHALL BE PLACED ABOVE THE FOOTING BETWEEN THE SIDES OF THE BOX CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED WITH ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER.

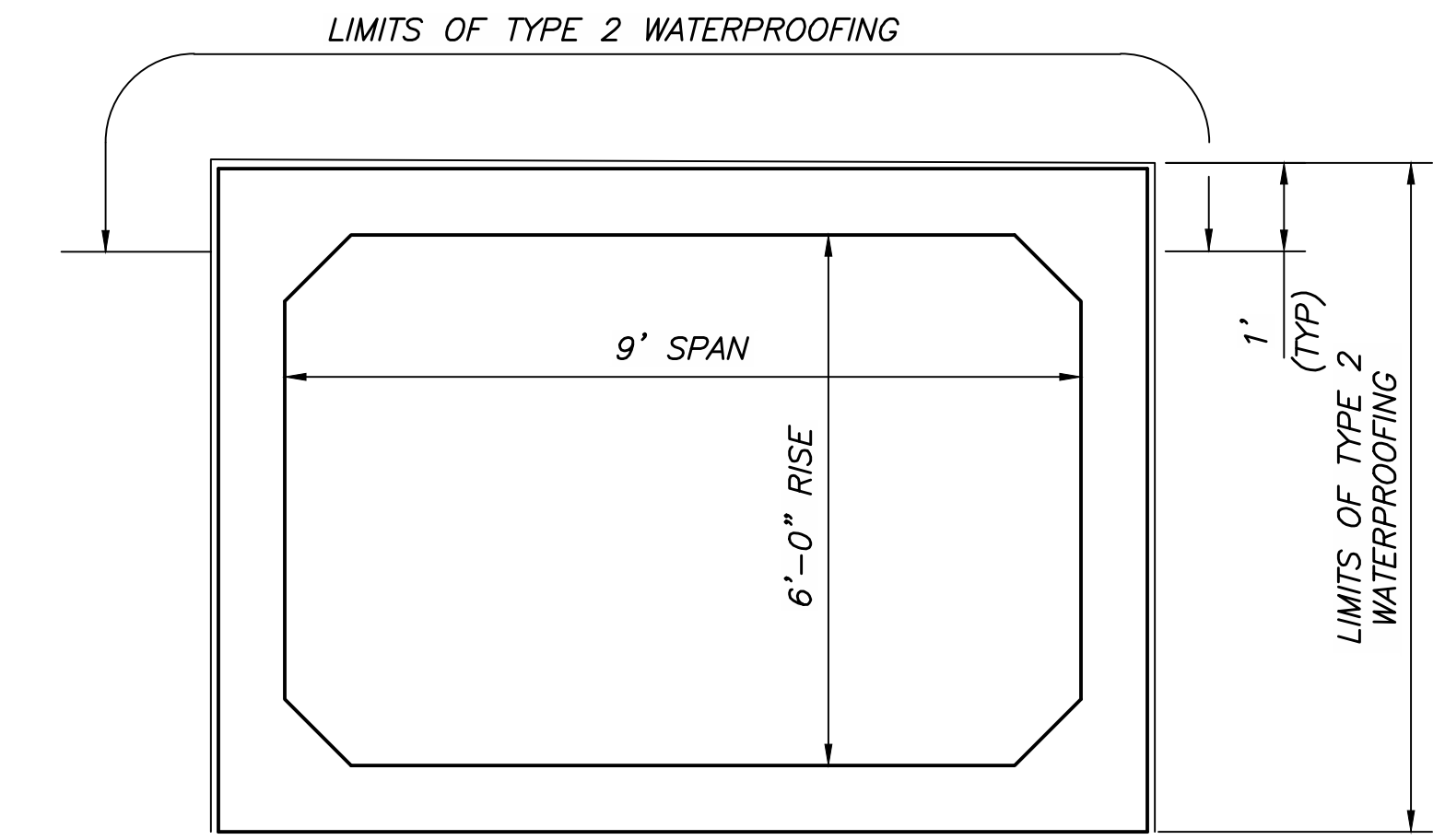
ITEM 518 - POROUS BACKFILL WITH GEOTEXTILE FABRIC

1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOP ELEVATION OF THE WEEPHOLE.

WEEPHOLES SHALL BE PLACED 6" TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'-0". A MINIMUM OF ONE WEEPHOLE SHALL BE PROVIDED PER WINGWALL.

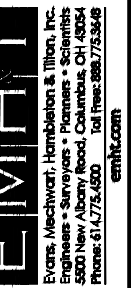
ABBREVIATION LEGEND

- C : CENTERLINE
- ∅ : DIAMETER
- BO : BY OTHERS
- BOF : BOTTOM OF FOOTING
- C/C : CENTER TO CENTER
- CIP : CAST-IN-PLACE
- CLR : CLEAR
- CMS : CONSTRUCTION & MATERIAL SPECIFICATION
- COMM : COMMUNICATION
- CJ : CONSTRUCTION JOINT
- EF : EACH FACE
- ELEC : ELECTRIC
- EL : ELEVATION
- EX : EXISTING
- F/F : FACE TO FACE
- FF : FAR FACE
- FL : FLOWLINE
- (I) : INLET
- LT : LEFT
- MIN : MINIMUM
- NF : NEAR FACE
- (O) : OUTLET
- O/O : OUT TO OUT
- PEJF : PREFORMED EXPANSION JOINT FILLER
- RT : RIGHT
- SAN : SANITARY
- SPA : SPACED
- STA : STATION
- T/T : TOE TO TOE
- TBR : TO BE REMOVED
- TBRL : TO BE RELOCATED
- TOW : TOP OF WALL
- TYP : TYPICAL
- W/ : WITH



CULVERT TYPICAL SECTION

ESTIMATED QUANTITIES				CALCULATED: JGM CHECKED: AJH	
ITEM NO.	TOTAL	UNIT	DESCRIPTION	SHEET #	
503	1	LS	COFFERDAMS AND EXCAVATION BRACING		
503	160	CY	UNCLASSIFIED EXCAVATION		
509	7,486	LB	EPOXY COATED STEEL REINFORCEMENT		
ODOT 511	19	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN	2/6	
ODOT 511	42	CY	CLASS QC1 CONCRETE, FOOTING		
ODOT 511	4	CY	CLASS QC1 CONCRETE, HEADWALL, AS PER PLAN	2/6	
512	61	SY	SEALING OF CONCRETE SURFACES		
512	236	SY	TYPE 2 WATERPROOFING		
516	46	SF	1" PREFORMED EXPANSION JOINT FILLER		
518	15	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC		
601	57	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER		
607	64	FT	FENCE, TIMBER, AS PER PLAN	3/6	
611	77	FT	9' X 6' CONDUIT, TYPE A, 706.05		



Date	10/31/24
Reviewed	CAS
Structure File Number	N/A
Drawn	JGM
Designed	JGM
Checked	TDA

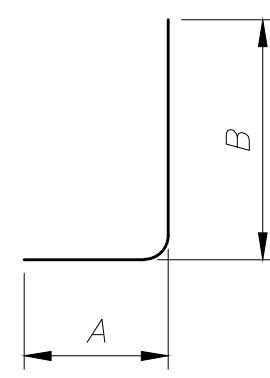
GENERAL NOTES
 GREEN CHAPEL ROAD OVER DUNCAN RUN

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

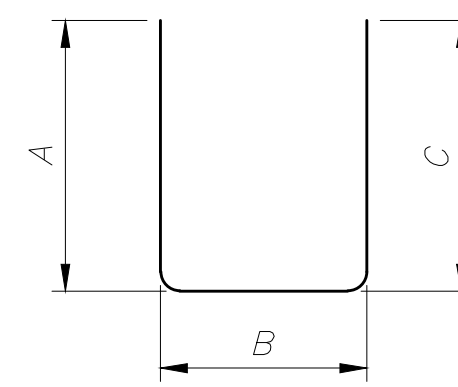
2/6

150
164

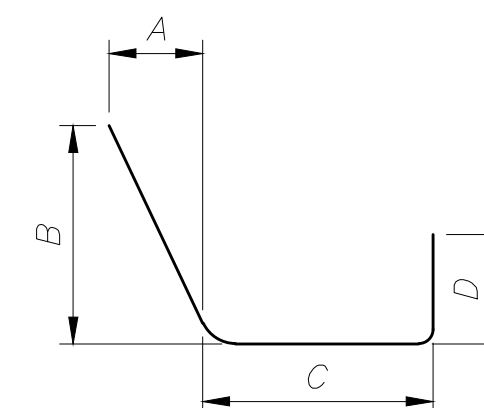
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS				
	INLET	OUTLET	TOTAL				A	B	C	D	E
CULVERT FOUNDATION REINFORCEMENT											
F501	8		8	13'-0"	108	STR					
F502		8	8	10'-6"	88	STR					
F503	2	2	4	13'-8"	57	20	1'-9"	1'-9"	8'-9"	1'-9"	1'-9"
F504	2	2	4	15'-0"	63	20	2'-1"	2'-1"	9'-2"	2'-1"	2'-1"
F505	4 SER OF 8		4 SER OF 8	13'-0" TO 15'-11"	483	STR					0'-5"
F506	2 SER OF 8	2 SER OF 8	4 SER OF 8	13'-7" TO 18'-10"	541	20	1'-9" TO 1'-9"	1'-9" TO 1'-9"	8'-8" TO 13'-11"	1'-9" TO 1'-9"	1'-9" TO 1'-9"
F507		4 SER OF 8	4 SER OF 8	10'-6" TO 13'-5"	399	STR					0'-5"
F508	74	62	136	6'-11"	981	STR					
F509	37	31	68	8'-0"	567	2	3'-7"	1'-1"	3'-7"		
F510	11	11	22	4'-9"	109	1	2'-2"	2'-8"			
F511	3	3	6	10'-2"	64	STR					
F512	58	48	106	4'-7"	507	1	0'-10"	3'-10"			
F513	12	14	26	7'-0"	190	STR					
F514	14	16	30	5'-8"	177	STR					
SUB-TOTAL					4,334						



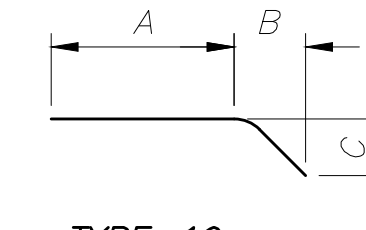
TYPE-1



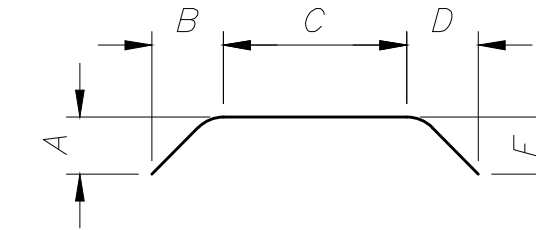
TYPE-2



TYPE-10

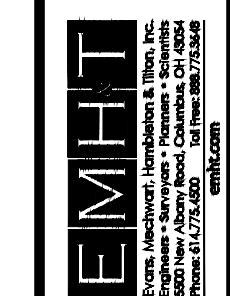


TYPE-19



TYPE-20

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS				
	INLET	OUTLET	TOTAL				A	B	C	D	E
CULVERT HEADWALL AND WINGWALL REINFORCEMENT											
W501	24	22	46	3'-2"	152	10	1'-8 1/2"	1'-8 1/2"	0'-2"	0'-8"	
W502	32		32	14'-2"	473	STR					
W503	4		4	11'-4"	47	STR					
W504	4		4	8'-5"	35	STR					
W505	4		4	5'-6"	23	STR					
W506	2		2	2'-8"	6	STR					
W507	2		2	15'-0"	31	STR					
W508	2		2	15'-3"	32	19	15'-0"	0'-3"	0'-1"		
W509	2 SER OF 15		2 SER OF 15	7'-2" TO 12'-0"	300	STR					0'-4 1/8"
W510	2 SER OF 29		2 SER OF 29	7'-2" TO 12'-0"	580	STR					0'-2 1/16"
W511	12	8	20	10'-2"	212	STR					
W512	22		22	4'-4"	99	STR					
W513		28	28	11'-8"	341	STR					
W514		4	4	10'-0"	42	STR					
W515		4	4	6'-7"	27	STR					
W516		2	2	3'-2"	7	STR					
W517		2	2	12'-2"	25	STR					
W518		2	2	12'-6"	26	19	12'-2"	0'-3"	0'-2"		
W519		2 SER OF 13	2 SER OF 13	6'-7" TO 10'-0"	225	STR					0'-3 7/16"
W520		2 SER OF 24	2 SER OF 24	6'-7" TO 10'-0"	415	STR					0'-1 13/16"
W521		22	22	2'-4"	54	STR					
SUB-TOTAL					3,152						



Date	10/31/24
Reviewed	CAS
Structure	File Number
Drawn	JGM
Checked	TDA
Structure	N/A

REINFORCEMENT TABLE
GREEN CHAPEL ROAD OVER DUNCAN RUN

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

NOTES

- THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, W501 IS A NO. 5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT. ALL REINFORCING SHALL BE EPOXY COATED.

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STREET TREE PLANTING, AS PER PLAN

ALL PLANTING OPERATIONS AND MATERIALS SHALL BE PER ITEM 661 OF THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), CURRENT EDITION, UNLESS OTHERWISE MODIFIED. IN CASE OF ANY CONFLICT BETWEEN THE CMS AND THESE PLANS, THE GREATER REQUIREMENT, AS DETERMINED BY THE CITY, SHALL TAKE PRECEDENCE.

PRIOR TO INSTALLATION, THE LANDSCAPE CONTRACTOR SHALL INSPECT THE GENERAL SITE CONDITIONS AND VERIFY THE SUBGRADE, ELEVATIONS, UTILITY LOCATIONS AND TOPSOIL PROVIDED BY ROADWAY CONTRACTOR. THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE CITY OF ANY UNSATISFACTORY CONDITIONS AND WORK SHALL NOT PROCEED UNTIL SUCH CONDITIONS HAVE BEEN CORRECTED AND ARE ACCEPTABLE TO THE LANDSCAPE CONTRACTOR. THE START OF PLANTING INSTALLATION SHALL SIGNIFY THAT SITE CONDITIONS ARE ACCEPTABLE TO THE LANDSCAPE CONTRACTOR.

TREES LOCATED IN LAWN AREAS BETWEEN STREET CURBS AND SIDEWALKS OR PATHS SHALL BE CENTERED IN THE LAWN AREA. TREES LOCATED IN MEDIAN ISLANDS SHALL BE CENTERED IN THE MEDIAN ISLAND.

ITEM 661.11 – BACKFILL MIX SHALL CONSIST OF ONE (1) PART TOPSOIL, (1) PART COMPOST AND ONE (1) PART SAND. THE SOIL COMPONENT SHALL MEET THE REQUIREMENTS OF ASTM D5268, PH RANGE OF 5.5 TO 6.8, MINIMUM 4 PERCENT ORGANIC MATERIAL, FREE OF STONES 1 INCH AND LARGER. THE COMPOST COMPONENT SHALL BE EPA RATED CLASS IV COMPOST OR COM-TIL COMPOST FROM THE CITY OF COLUMBUS DEPARTMENT OF PUBLIC UTILITIES. PEAT MOSS SHALL NOT BE USED. THE SAND COMPONENT SHALL BE NATURAL FINE AGGREGATE SAND MEETING THE REQUIREMENTS OF ASTM C33. SOIL FROM THE TREE PIT EXCAVATION SHALL NOT BE USED AS BACKFILL MIX. DISPOSE OF SOIL FROM TREE PIT EXCAVATION.

SUBMIT SOIL TESTS INDICATING THE SUITABILITY OF THE BACKFILL MIX TO BE USED FOR TREE PLANTING. SOIL TEST SHALL BE COMPLETED NO MORE THAN 30 DAYS PRIOR TO THE START OF PLANTING. SUBMIT SOURCE OF BLENDED SOIL AND SOURCE OF SOIL COMPONENTS; TOPSOIL, COMPOST, AND SAND.

TRANSPORT ALL TREES FROM NURSERY SOURCES TO THE PROJECT SITE WITH THE ENTIRE LOAD COMPLETELY COVERED FOR PROTECTION FROM DRYING WINDS. SUBMIT PHOTOS FOR VERIFICATION OF ALL LOADS COVERED FOR TRANSPORTATION.

CONTRACTOR SHALL DETERMINE PLANT LIST QUANTITIES FROM THE PLAN. GRAPHIC REPRESENTATION ON PLAN SUPERSEDES IN CASE OF DISCREPANCY WITH QUANTITIES ON GENERAL SUMMARY OR SCHEDULES.

LIMIT SOURCES OF PLANT MATERIAL TO THE STATES OF OHIO, PENNSYLVANIA, KENTUCKY, WEST VIRGINIA, INDIANA AND MICHIGAN, AND TO USDA ZONES 5A, 5B AND 6A. SUBMIT TO THE CITY A LIST INDICATING SOURCES OF ALL PLANT MATERIAL FOR APPROVAL. NOTIFY CITY OF SOURCES OF PLANTING MATERIALS WITHIN FIFTEEN DAYS AFTER RECEIVING THE NOTICE OF AWARD OF THE CONTRACT. SUBMIT LOCATION AND SOURCE OF SUPPLY PER ITEM 661, LOCATION AND SOURCE OF SUPPLY.

TREES OF THE SAME SPECIES, CULTIVAR OR VARIETY MAY BE SUPPLIED FROM VARIOUS NURSERIES. MARK ALL TREES FROM SEPARATE NURSERIES WITH DISTINCT FLAGS OR TAGS INDICATING THE NURSERY SOURCE.

THE CITY MAY OBSERVE PLANT MATERIAL EITHER AT THE PLACE OF GROWTH OR AT THE PROJECT SITE BEFORE, DURING OR AFTER PLANT INSTALLATION FOR COMPLIANCE WITH REQUIREMENTS FOR GENUS, SPECIES, VARIETY, CULTIVAR, SIZE, AND QUALITY. THE CITY MAY SELECT AND TAG TREES AT PLACE OF GROWTH FOR INSTALLATION ON THIS PROJECT. THE CITY RETAINS RIGHT TO OBSERVE TREES FURTHER FOR SIZE AND CONDITION OF ROOTBALLS

AND ROOT SYSTEMS, PESTS, DISEASE SYMPTOMS, INJURIES, AND LATENT DEFECTS, DAMAGE DURING TRANSPORTATION, AND TO REJECT UNSATISFACTORY OR DEFECTIVE MATERIAL AT ANY TIME DURING THE PROGRESS OF WORK. REMOVE REJECTED TREES IMMEDIATELY FROM PROJECT SITE.

ALL PLANTS SHALL MEET OR EXCEED STANDARDS SET IN THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1, CURRENT EDITION. ALL PLANTS SHALL EQUAL OR EXCEED THE MEASUREMENTS AND SIZES SPECIFIED IN THE SCHEDULE AS MEASURED PER ANSI Z60.1, 2014, INCLUDING MINIMUM SIZE OF ROOT BALL, TRUNK CALIPER AND HEIGHT. THE LOWEST MAIN BRANCH OF TREES SHALL BE NO LESS THAN 7 FEET FROM TOP OF ROOT BALL. TREES INSTALLED WITH BRANCHES BELOW 7 FEET FROM TOP OF ROOT BALL SHALL BE PRUNED TO 7 FEET AT NO ADDITIONAL COST TO THE CITY.

TREES SHALL BE LOCATED NOT LESS THAN 15 FEET FROM FIRE HYDRANTS, LIGHTING AND UTILITY POLES.

PRIOR TO PLANTING THE CONTRACTOR SHALL FIELD LOCATE, WITH STAKES OR FLAGS, EACH TREE PER THE PLAN STATIONS FOR APPROVAL BY THE CITY. CLEARLY LABEL EACH STAKE OR FLAG WITH A UNIQUE LETTER CODE INDICATING THE SCIENTIFIC OR COMMON NAME OF THE TREE. THE CITY MAY CHOOSE TO MOVE STAKES OR FLAGS PRIOR TO INSTALLATION. NOTIFY CITY OF COMPLETION OF FIELD LOCATION AT LEAST 10 DAYS PRIOR TO TREE PLANTING.

OAK TREES SHALL BE PLANTED IN SPRING, FROM MARCH 1 TO MAY 31. ALL OTHER TREES SHALL BE PLANTED IN SPRING, FROM MARCH 1 TO MAY 31, OR FALL, FROM SEPTEMBER 1 THROUGH NOVEMBER 30.

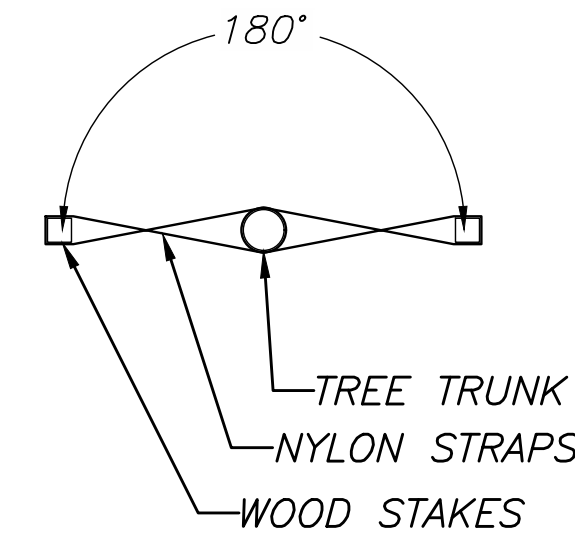
THE PERIOD OF ESTABLISHMENT AS DEFINED IN 661.18 SHALL BE MODIFIED SO THAT THE PERIOD OF ESTABLISHMENT BEGINS AT PLANT INSTALLATION AND ENDS ONE YEAR FROM FINAL ACCEPTANCE TO COINCIDE WITH THE GUARANTEE PERIOD AS STATED IN 661.19.

DURING THE PERIOD OF ESTABLISHMENT, FOLLOW STANDARD HORTICULTURAL PRACTICES TO ENSURE THE VIGOR AND GROWTH OF THE TRANSPLANTED MATERIAL. WATER, REMULCH, RESTAKE, AND CULTIVATE AS NECESSARY. PERFORM AT LEAST TWO WEEDING AND MOWING PROGRAMS (AROUND TREES) OF SUCH INTENSITY AS TO COMPLETELY RID THE MULCHED AREAS OF WEEDS AND GRASSES. EDGE MULCH RINGS AROUND TREES TO CREATE AND MAINTAIN A CLEAN AND WELL DEFINED EDGE. PRUNE BRANCHES OF DECIDUOUS PLANTS TO PRESERVE THE NATURAL CHARACTERISTICS OF THE SPECIES ACCORDING TO ANSI PRUNING STANDARDS (ANSI A300). REMOVE BROKEN, DAMAGED, AND DEAD BRANCHES. DO NOT TRIM THE CENTRAL LEADER OF TREES.

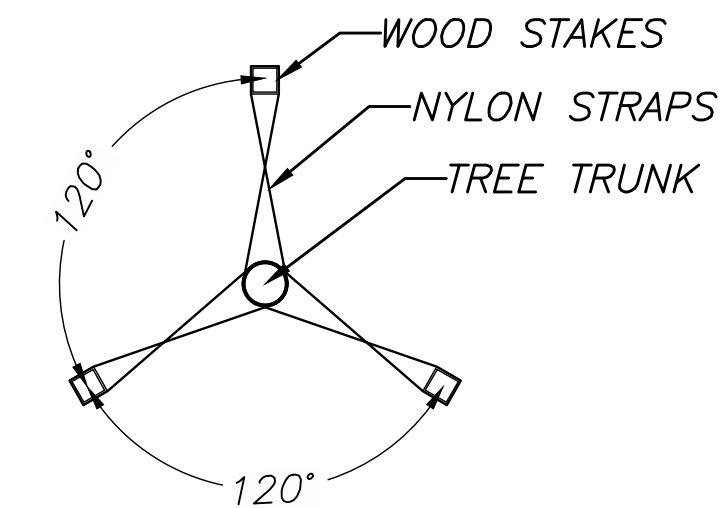
WATER ALL TREES PER ITEM 661.14 – WATERING AND AS MODIFIED. INCLUDE 1 APPLICATIONS PER WEEK STARTING IMMEDIATELY AT INSTALLATION AND CONTINUING THROUGH THE PERIOD OF ESTABLISHMENT. THE USE OF WATERING BAGS (I.E. TREE GATOR, TREE DIAPER) IS ACCEPTABLE. IF USING WATERING BAGS, THE BAGS SHALL BE REMOVED ON OR AROUND DECEMBER 1. REINSTALL AND RECOMMENCE WATERING NO LATER THAN MARCH 1 THE FOLLOWING YEAR. COSTS ASSOCIATED WITH WATERING IS INCLUDED IN THE UNIT PRICE BID FOR EACH TREE. NO ADDITIONAL COMPENSATION WILL BE MADE FOR WATERING.

REFER TO ITEM 661, BASIS OF PAYMENT FOR PAYMENT SCHEDULE AND FOR WARRANTY REPLACEMENT REQUIREMENTS FOR TREES THAT DO NOT SURVIVE THROUGH THE PERIOD OF ESTABLISHMENT.

ALL LAYOUT, EXCAVATION, ROOT BALL PREPARATION, PLANTING MIX, MULCH, WATERING, STAKING, STAKE REMOVAL, STRAIGHTENING, RESETTING, REPLACEMENT, LAWN REPAIR, STAGING, STREET CLEANING, MAINTENANCE OF TRAFFIC, WEED REMOVAL, EDGING, MAINTENANCE, PRUNING, FERTILIZATION, PEST MANAGEMENT, AND ANY OTHER APPURTENANCES OR MISCELLANEOUS WORK REQUIRED FOR A COMPLETE INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR EACH PLANT. NO SEPARATE PAYMENTS WILL BE MADE.



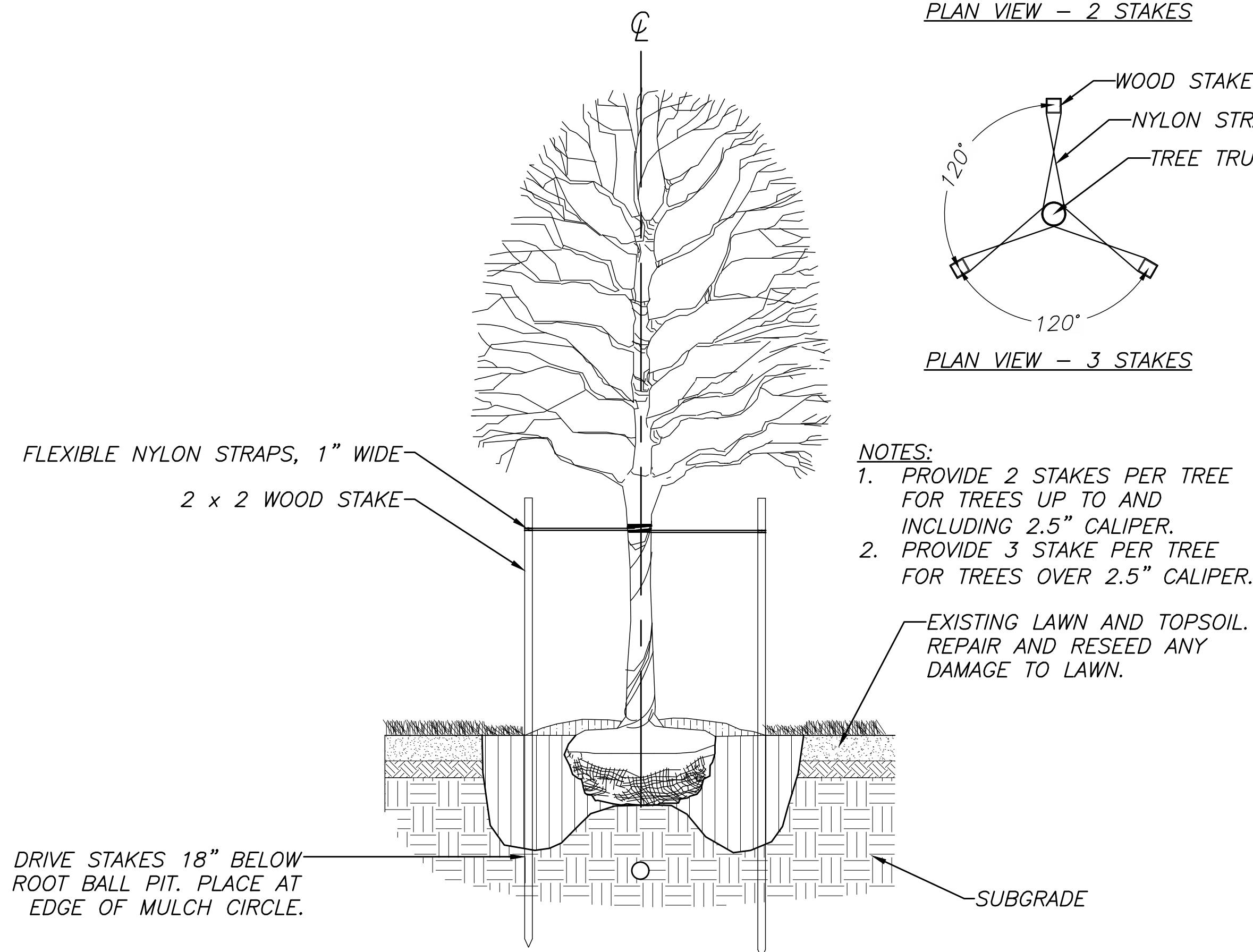
PLAN VIEW – 2 STAKES



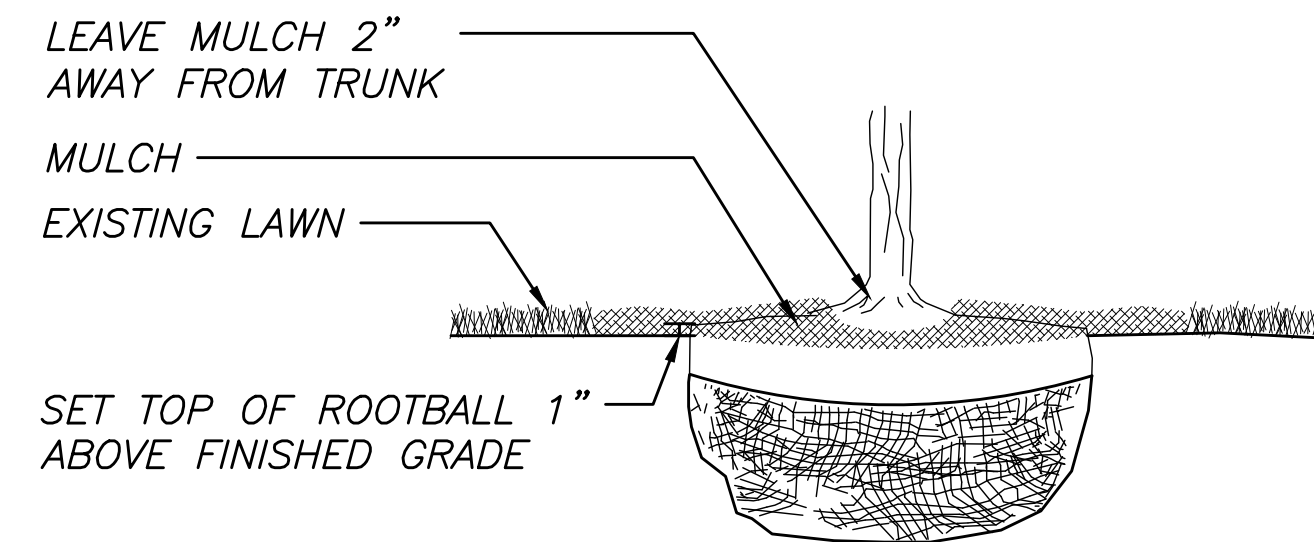
PLAN VIEW – 3 STAKES

NOTES:

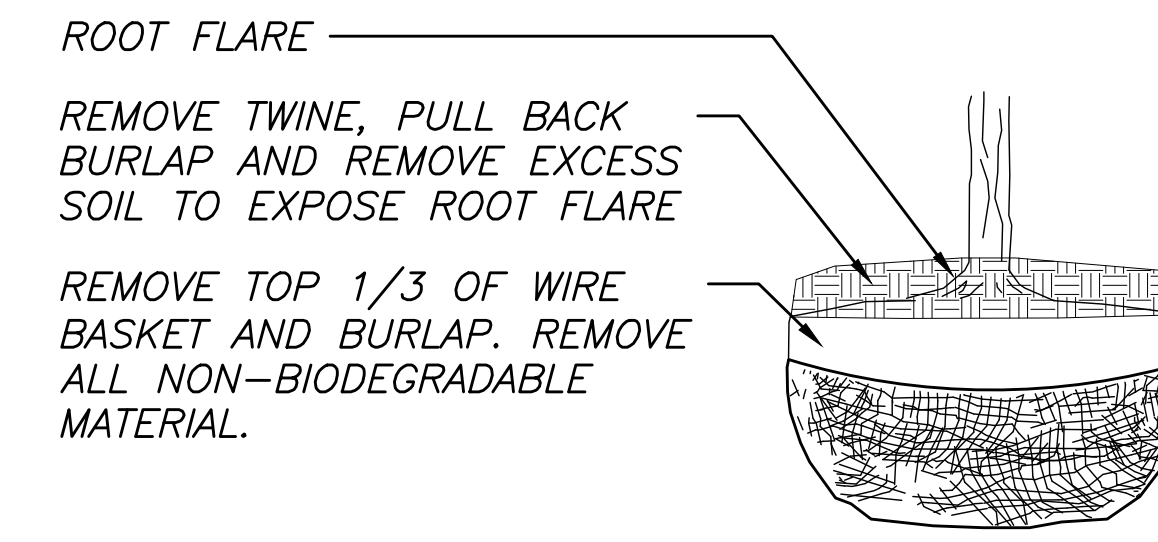
1. PROVIDE 2 STAKES PER TREE FOR TREES UP TO AND INCLUDING 2.5" CALIPER.
2. PROVIDE 3 STAKE PER TREE FOR TREES OVER 2.5" CALIPER.



TYPICAL TREE STAKING IN TREE LAWN AND ROADWAY MEDIAN
NO SCALE



ROOTBALL SETTING
NO SCALE



ROOTBALL PREPARATION
NO SCALE

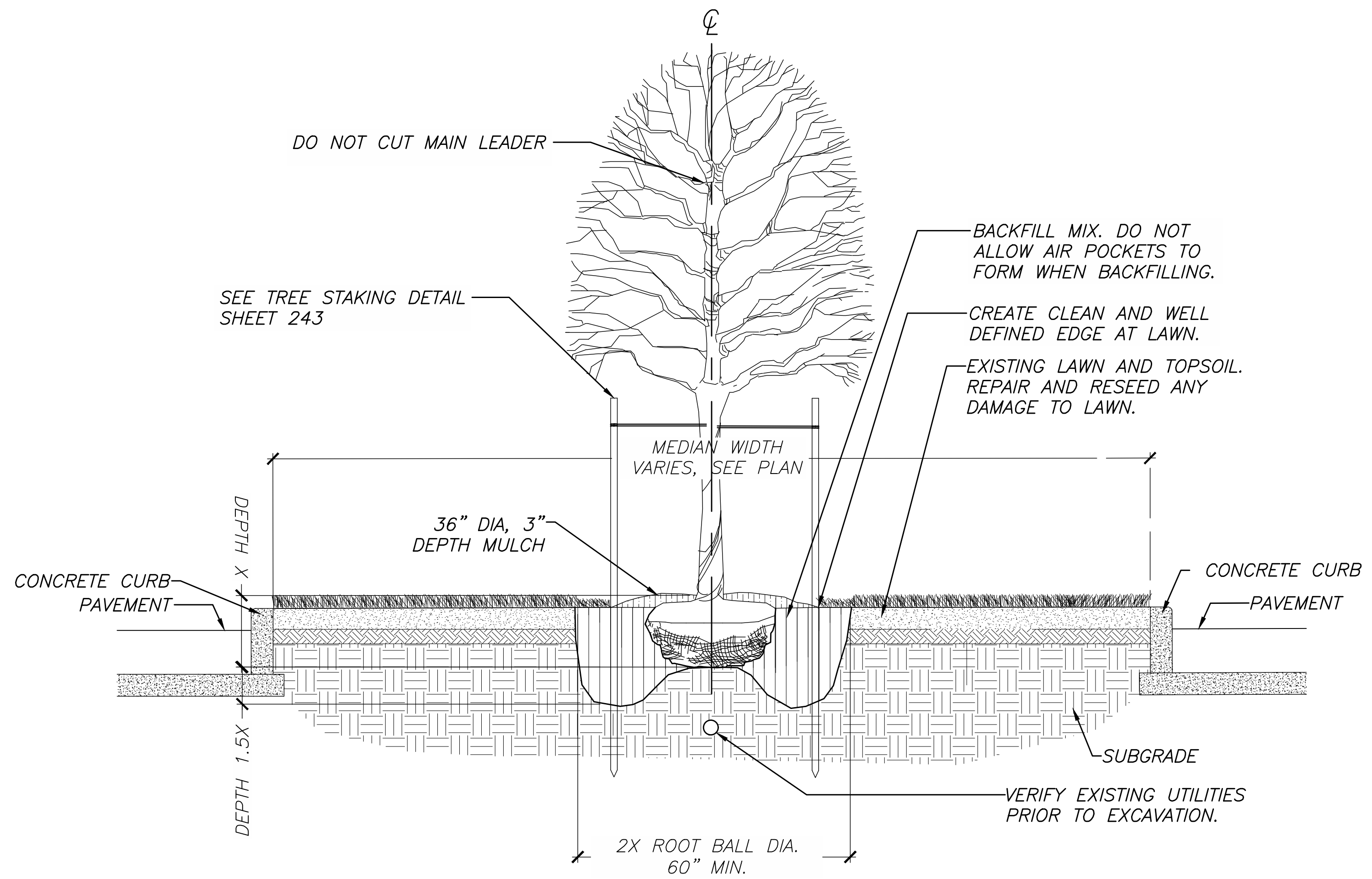
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LANDSCAPE DETAILS & NOTES

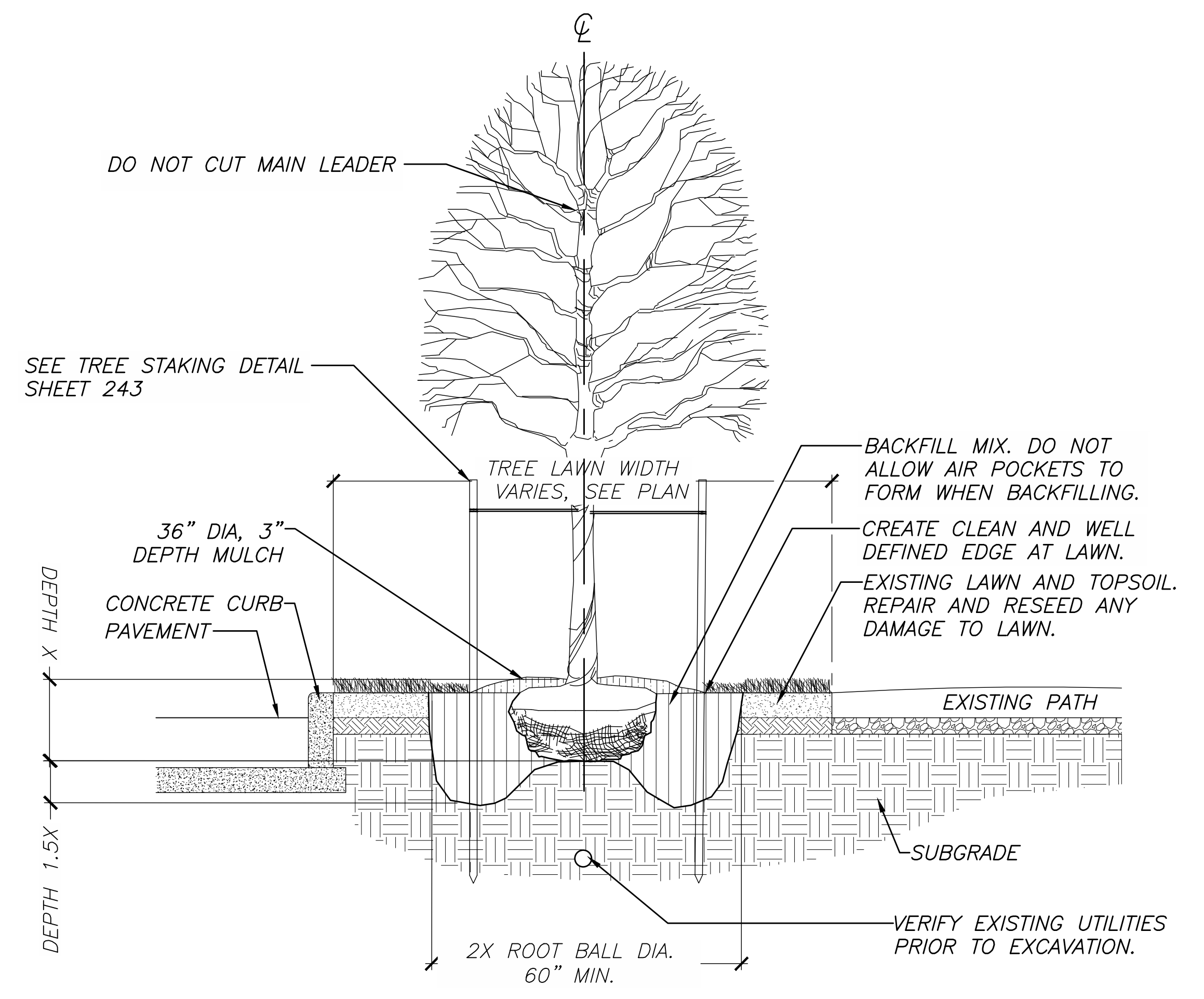
GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

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NOTE: TREES TO BE PLANTED IN THE CENTER OF ALL TREE LAWNS AND MEDIANS EXCEPT WHERE OTHERWISE INDICATED.

TYPICAL TREE PLANTING IN ROADWAY MEDIAN
NO SCALE



NOTE: TREES TO BE PLANTED IN THE CENTER OF ALL TREE LAWNS AND MEDIANS EXCEPT WHERE OTHERWISE INDICATED.

TYPICAL TREE PLANTING IN TREE LAWN
NO SCALE

CALCULATED
JCR
CHECKED
KRB/JDS

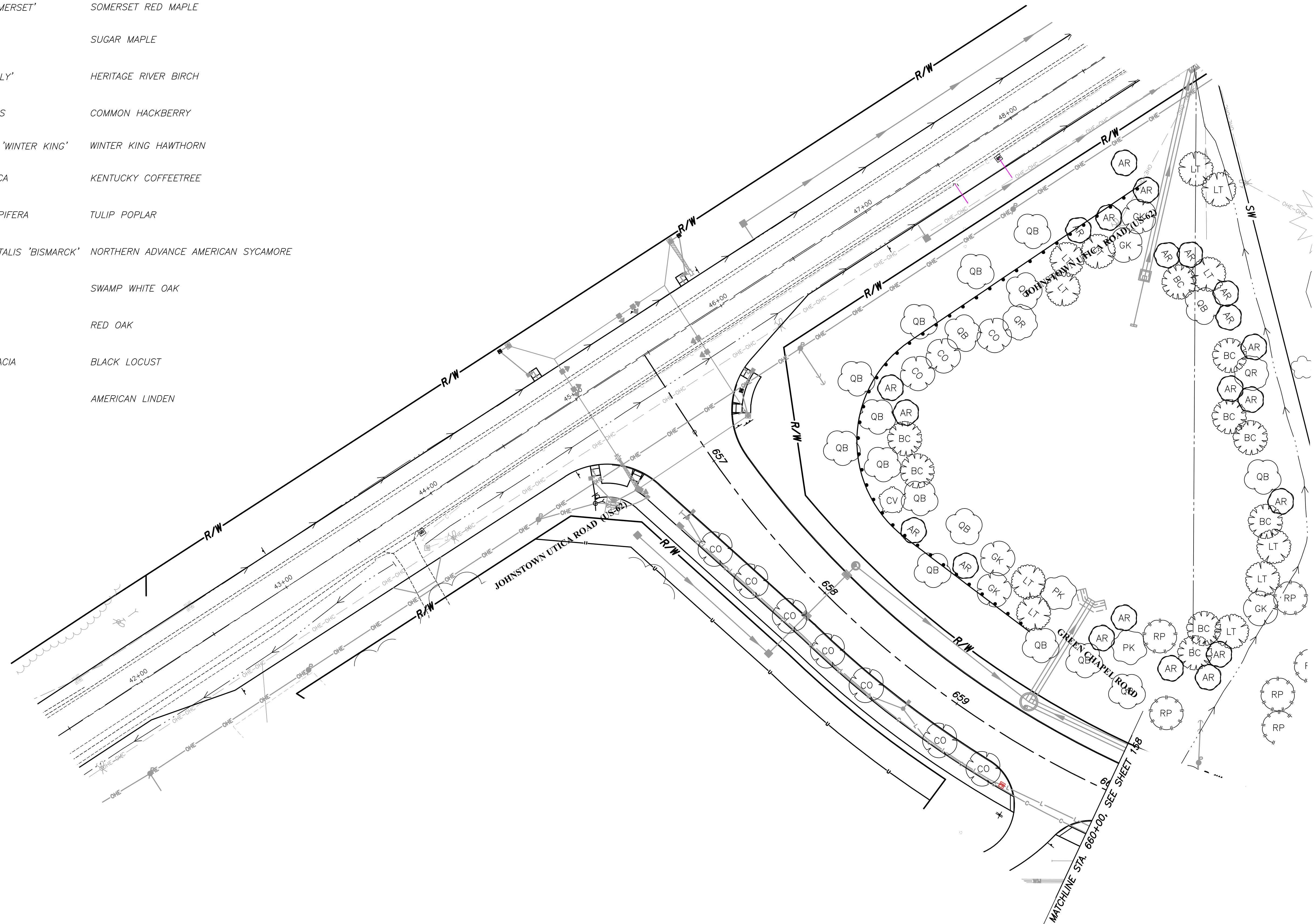
LANDSCAPE DETAILS & NOTES

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

156
164

PLANT SCHEDULE PHASE 2 TOTAL

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME
TREES			
AR	41	ACER RUBRUM 'SOMERSET'	SOMERSET RED MAPLE
AS	34	ACER SACCHARUM	SUGAR MAPLE
BC	18	BETULA NIGRA 'CULLY'	HERITAGE RIVER BIRCH
CO	113	CELTIS OCCIDENTALIS	COMMON HACKBERRY
CV	2	CRATAEGUS VIRIDIS 'WINTER KING'	WINTER KING HAWTHORN
GK	8	GYMNOCLADUS DIOICA	KENTUCKY COFFEETREE
LT	15	LIRIODENDRON TULIPIFERA	TULIP POPLAR
PK	3	PLATANUS OCCIDENTALIS 'BISMARCK'	NORTHERN ADVANCE AMERICAN SYCAMORE
QB	21	QUERCUS BICOLOR	SWAMP WHITE OAK
QR	120	QUERCUS RUBRA	RED OAK
RP	7	ROBINIA PSEUDOACACIA	BLACK LOCUST
TA	32	TILIA AMERICANA	AMERICAN LINDEN



CALCULATED
JCR
CHECKED
KRB/JDS

GRAPHIC SCALE
1 inch = 30 feet

LANDSCAPE PLAN

GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

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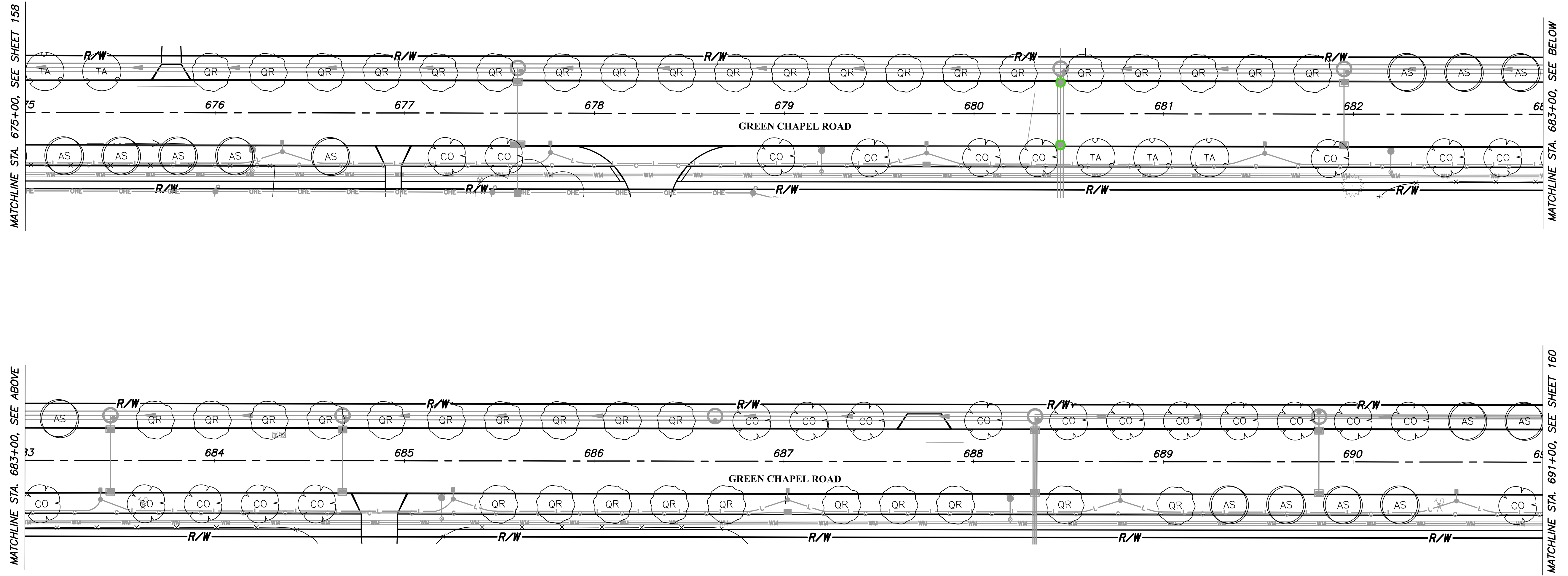
PLANT LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME
<i>TREES</i>		
AR	ACER RUBRUM 'SOMERSET'	SOMERSET RED MAPLE
AS	ACER SACCHARUM	SUGAR MAPLE
BC	BETULA NIGRA 'CULLY'	HERITAGE RIVER BIRCH
CO	CELTIS OCCIDENTALIS	COMMON HACKBERRY
CV	CRATAEGUS VIRIDIS 'WINTER KING'	WINTER KING HAWTHORN
GK	GYMNOCLADUS DIOICA	KENTUCKY COFFEETREE
LT	LIRIODENDRON TULIPIFERA	TULIP POPLAR
PK	PLATANUS OCCIDENTALIS 'BISMARCK'	NORTHERN ADVANCE AMERICAN SYCAMORE
QB	QUERCUS BICOLOR	SWAMP WHITE OAK
QR	QUERCUS RUBRA	RED OAK
RP	ROBINIA PSEUDOACACIA	BLACK LOCUST
TA	TILIA AMERICANA	AMERICAN LINDEN

CALCULATED
VAM
CHECKED
FSM

GRAPHIC SCALE
0 10 20 30
1 inch = 30 feet

LANDSCAPE PLAN



GREEN CHAPEL ROAD
IMPROVEMENTS PHASE 2

PLANT LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME
<i>TREES</i>		
AR	ACER RUBRUM 'SOMERSET'	SOMERSET RED MAPLE
AS	ACER SACCHARUM	SUGAR MAPLE
BC	BETULA NIGRA 'CULLY'	HERITAGE RIVER BIRCH
CO	CELTIS OCCIDENTALIS	COMMON HACKBERRY
CV	CRATAEGUS VIRIDIS 'WINTER KING'	WINTER KING HAWTHORN
GK	GYMNOCLADUS DIOICA	KENTUCKY COFFEETREE
LT	LIRIODENDRON TULIPIFERA	TULIP POPLAR
PK	PLATANUS OCCIDENTALIS 'BISMARCK'	NORTHERN ADVANCE AMERICAN SYCAMORE
QB	QUERCUS BICOLOR	SWAMP WHITE OAK
QR	QUERCUS RUBRA	RED OAK
RP	ROBINIA PSEUDOACACIA	BLACK LOCUST
TA	TILIA AMERICANA	AMERICAN LINDEN

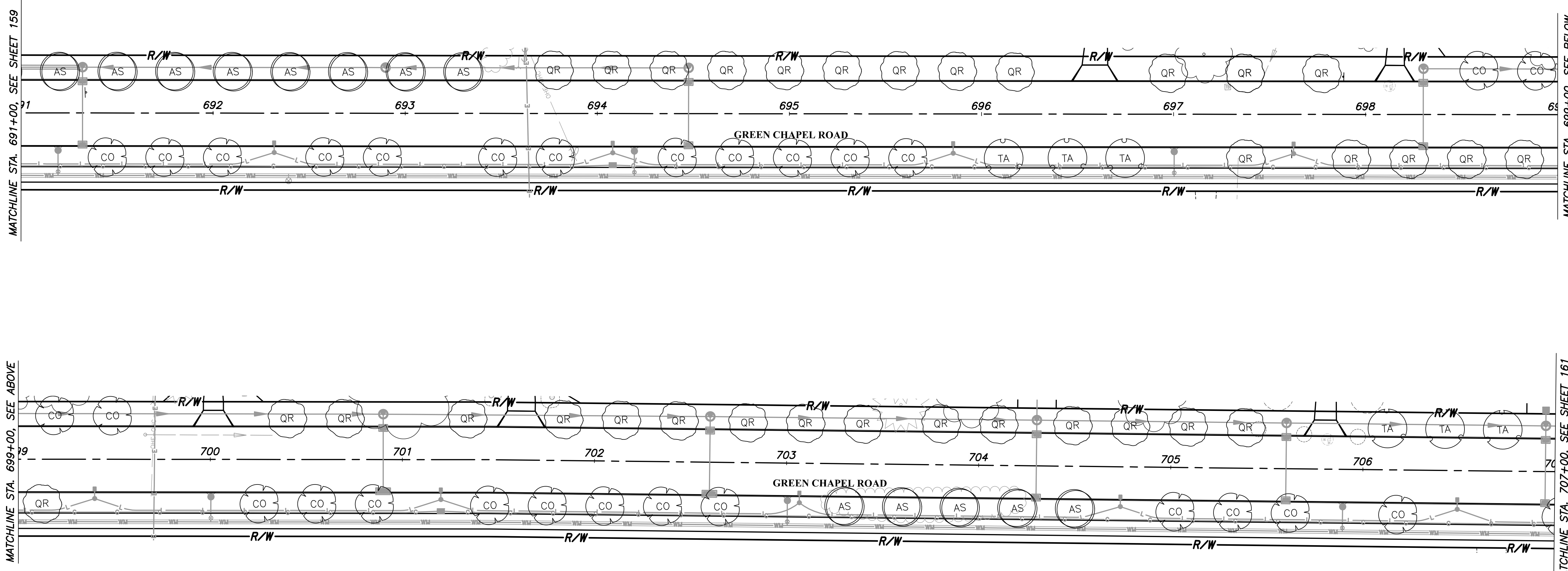
CALCULATED
VAM
CHECKED
FSM

GRAPHIC SCALE
0 10 20 30
1 inch = 30 feet

LANDSCAPE PLAN

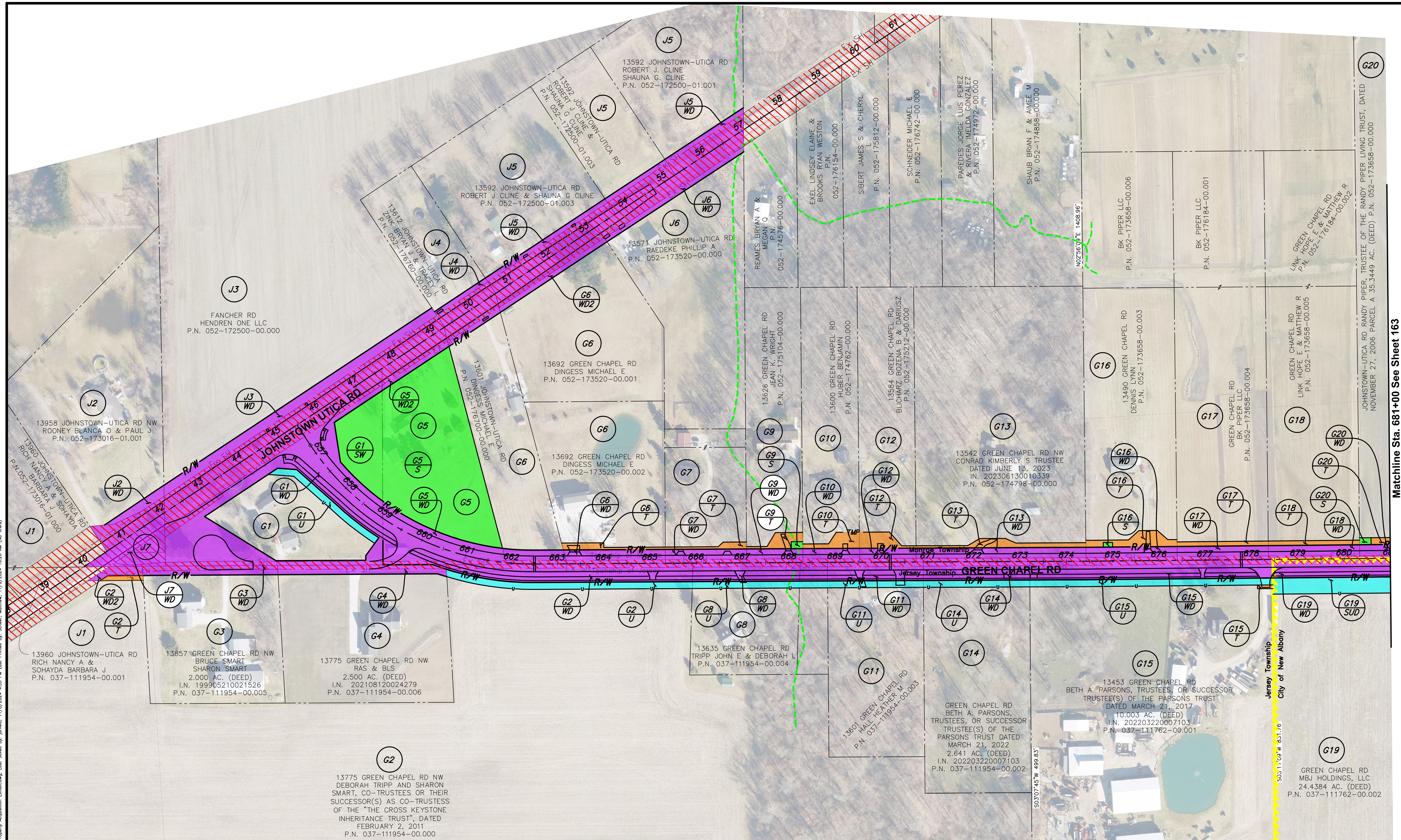
GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

160
164








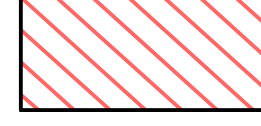

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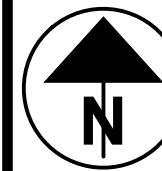
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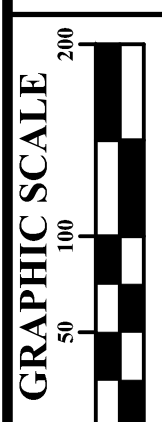
- G1** 13703 JOHNSTOWN-UTICA RD NW
CITY OF NEW ALBANY
P.N. 052-175350-00.000
- G5** 13641 JOHNSTOWN-UTICA RD
CITY OF NEW ALBANY
P.N. 052-176550-00.000
- G7** 13656 GREEN CHAPEL RD
FEE MARY E BULLARD
P.N. 052-173520-01.000
- J7** C. EDWARD VENARD

Legend

	Proposed Warranty Deed (WD)		Proposed Stormwater Drainage Esmt (SW)		Ex Stream
	Proposed Highway Easement (SH)		Proposed Utility Esmt (U), Proposed Streetscape, Utility, and Drainage Esmt (SUD)		
	Existing Highway Easement		Temporary Construction Easement (T)		



GRAPHIC SCALE



1 inch = 100 feet

CALCULATED

JJB

CHECKED

M/S

Matchline Sta. 681+00 See Sheet 163

PROPERTY MAP

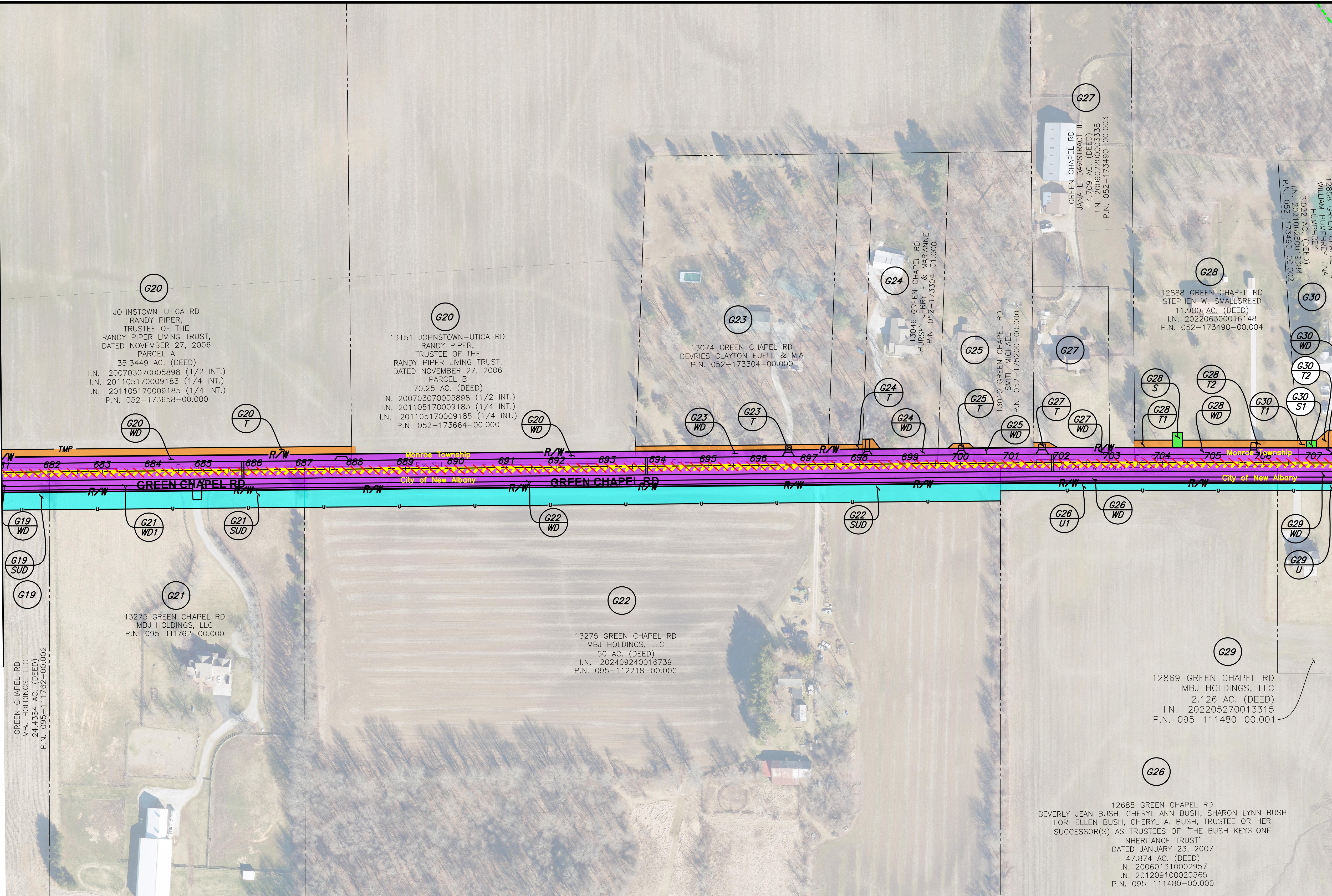
GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2

162

164

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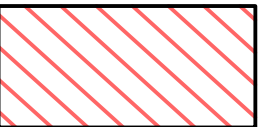



Matchline Sta. 681+00 See Sheet 162

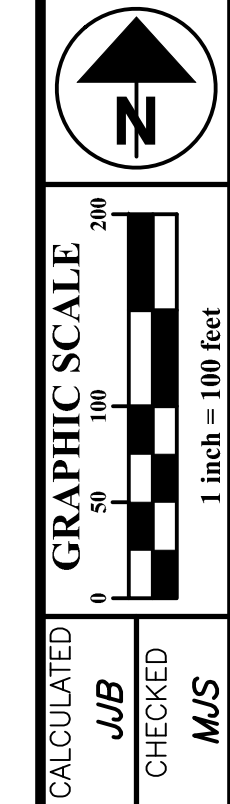


Matchline Sta. 707+50 See Sheet 164

G27 12982 GREEN CHAPEL RD
 STEVEN E. MORTON AND JANA L. MORTON, CO-TRUSTEES, OR THEIR
 SUCCESSOR(S) AS TRUSTEE(S) OF "THE MORTON FAMILY TRUST, DATE
 MAY 1, 2024"
 1.205 AC. (DEED)
 I.N. 200902200003338
 P.N. 052-173490-01.000

Legend

	Proposed Warranty Deed (WD)		Proposed Stormwater Drainage Esmt (SW)
	Existing Highway Easement		Proposed Utility Esmt (U), Proposed Streetscape, Utility, and Drainage Esmt (SUD)
	Existing Stream		Temporary Construction Easement (T)



CALCULATED
 JJB
 CHECKED
 M/S

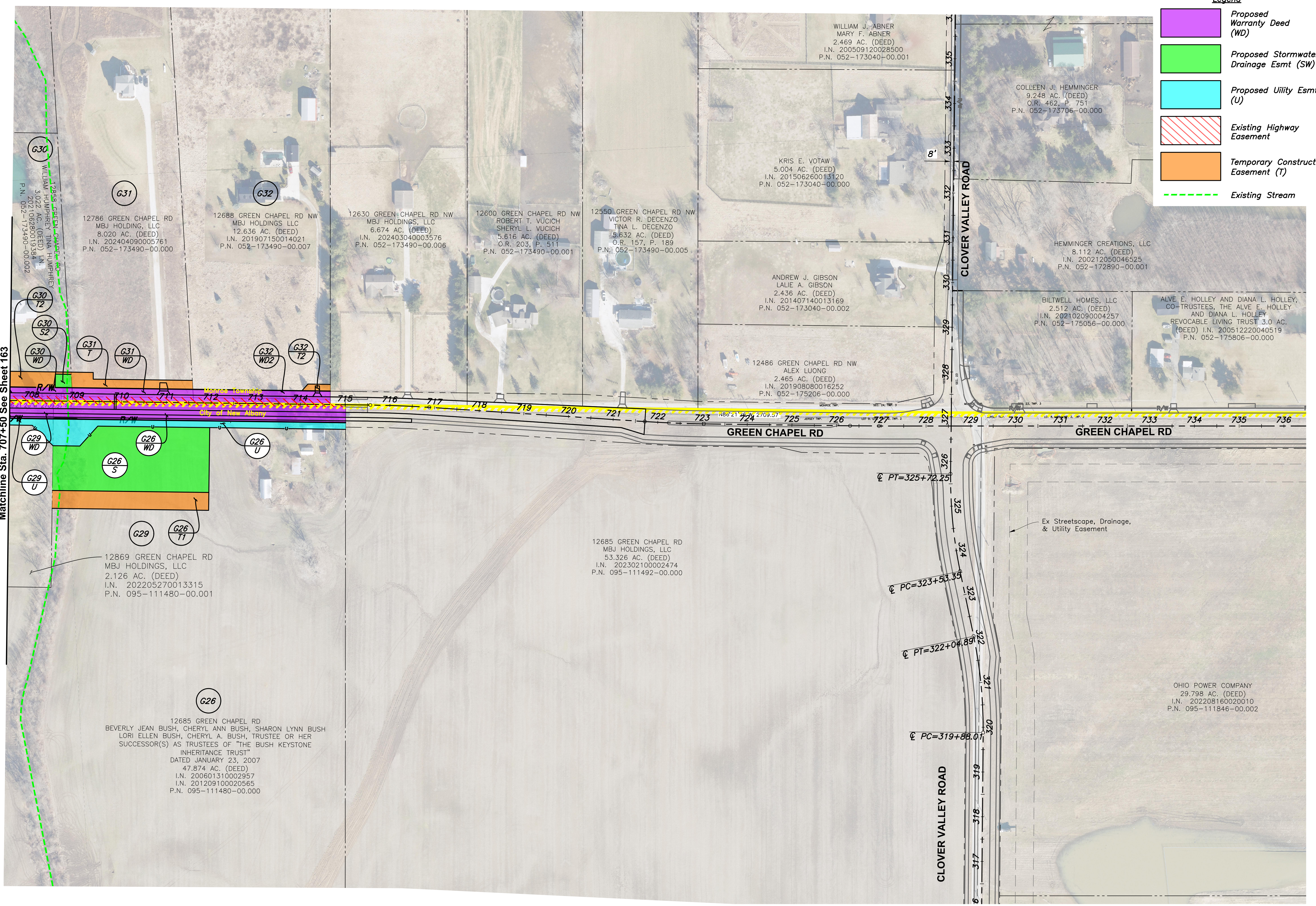
PROPERTY MAP

GREEN CHAPEL ROAD
 IMPROVEMENTS PHASE 2

163
 164

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Matchline Sta. 707+50 See Sheet 163



Legend

- Proposed Warranty Deed (WD)
- Proposed Stormwater Drainage Esmt (SW)
- Proposed Utility Esmt (U)
- Existing Highway Easement
- Temporary Construction Easement (T)
- Existing Stream

CALCULATED
JJB
CHECKED
M/S

GRAPHIC SCALE
0 50 100 200
1 inch = 100 feet

PROPERTY MAP

GREEN CHAPEL ROAD IMPROVEMENTS PHASE 2